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All data, including phase data, are available on CD-ROM/DVD-ROM and from the internet - http://www.isc.ac.uk

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

HEL 01 00:22:19.4, 67°.82N×19°.93E, h0km, ML1.7, Explosion
UPP 01 00:22:20.9±0.4**, 67°.84N×20°.19E, h1**km±4km**, ML2.5, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**26**	P	Pg	00 22 23.5	+0.2
KUA				S	Sg	00 22 25.4	+0.4
KUA	**Kurravaara**	**0.13**	**26**	P	Pg	00 22 26.9	+3.5
KUA				S	Sg	00 22 28.8	+3.8
KUA	**Kurravaara**	**0.13**	**26**	*i* P	Pg	00 22 23.5	+0.2
KUA				*i* S	Sg	00 22 25.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**266**	P	Pg	00 22 25.4	+0.1
RATU				S	Sg	00 22 28.7	+0.5
RATU	**Laukkuluspa**	**0.23**	**266**	P	Pg	00 22 28.5	+3.3
RATU	**Laukkuluspa**	**0.23**	**266**	*i* P	Pg	00 22 25.4	+0.1
RATU				*i* S	Sg	00 22 28.7	+0.5
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	00 22 29.3	0.0
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	00 22 29.3	0.0
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 22 34.3	-0.2
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 22 34.4	-0.1
	baz=267						
LANU				*e*S	Sg	00 22 43.9	+0.2
DUNU	**Dundret**	**0.74**	**168**	P	Pg	00 22 34.7	-0.3
DUNU	**Dundret**	**0.74**	**168**	*i* P	Pg	00 22 34.7	-0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 22 35.7	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 22 35.7	-0.4
SALU	**Saltoluokta**	**0.79**	**235**	P	Pg	00 22 35.7	-0.4
SALU	**Saltoluokta**	**0.79**	**235**	*i* P	Pg	00 22 35.7	-0.4
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pg	00 22 43.9	+0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PB	Pb	00 22 44.0	-0.2
	baz=184						
KIF				MSG		00 22 58.0	
	comp=Z,7.1nm,0.2s						
KIF				*e*SB	Sb	00 22 59.6	-0.5
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 22 46.2	-1.3
PAJU	**Pajala**	**1.39**	**125**	P	Pb	00 22 49.5	+1.8
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 22 46.2	-1.3
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	00 22 47.0	-0.8
HEF	**Hetta**	**1.42**	**65**	*e*PG	Pn	00 22 47.1	-0.7
	baz=247						
HEF				MSG		00 23 05.0	
	comp=Z,6.2nm,0.2s						
HEF				*e*SN	Sn	00 23 10.2	+3.1
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	00 22 48.7	-0.3
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*P	Pn	00 22 48.4	-0.6
	baz=318						
KALU	**Kalix**	**2.35**	**146**	*e*P	Pn	00 23 01.6	+1.1
	baz=316						
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	00 23 02.7	+1.4
	baz=306						
TOF				MSG		00 23 32.0	
	comp=Z,3.1nm,0.2s						
TOF				*e*SG	Sg	00 23 36.5	-1.4
SGF	**Sodankyl**	**2.46**	**96**	*e*PB	Pb	00 23 04.1	-1.6
	baz=287						
SGF				*e*SG	Sb	00 23 37.3	+0.8
RNF	**Rovaniemi**	**2.58**	**116**	*e*SG	Sb	00 23 40.6	+0.5
KU6	**Riekki**	**4.23**	**111**	*e*P	Pn	00 23 24.9	-1.5
	baz=298						

NORS 01 00:22:38.2±0.0, 42°.55N×48°.17E, h24km, MPVA3.5
MOS 01 00:22:38.4±0.0, 42°.54N×48°.16E, h14km, MPVA3.6
DRS 01 00:22:38.5±0.0**, 42°.64N×48°.30E, h15**km**, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.61**	**178**	*i* Pg	Pb	00 22 50.6	-0.2
DRN				*e*Sg	Sb	00 22 59.5	+0.3
MAK	**Makhachkala**	**0.67**	**299**	*e*Pg	Pb	00 22 52.2	+0.3
MAK				*e*Sg	Sn	00 23 02.9	-0.8
URKR	**Urkarakh**	**0.69**	**227**	*i* Pg	Pg	00 22 50.8	-1.2
URKR				*e*Sg	Sg	00 22 59.9	-1.1
GNBR	**Gunib**	**1.02**	**256**	*i* Pg	Pb	00 22 56.9	-1.0
GNBR				*e*Sg	Sb	00 23 10.5	-0.7
KMKR	**Kumukh**	**1.03**	**241**	*i* Pg	Pb	00 22 57.5	-0.6
KMKR				*e*Sg	Sb	00 23 10.5	-1.0
KSMR	**Kasumkent**	**1.04**	**187**	*e*Pg	Pb	00 22 58.0	-0.3
KSMR				*e*Sg	Sb	00 23 12.0	+0.2
KRNR	**Karanay**	**1.05**	**281**	*e*Pg	Pn	00 22 59.0	+0.3
KRNR				*e*Sg	Sn	00 23 14.0	+0.9
DBC	**Dubki**	**1.15**	**290**	*i* Pg	Pb	00 22 59.5	-0.6
DBC				*e*Sg	Sb	00 23 14.8	-0.1
XNZR	**Khunzakh**	**1.18**	**266**	*e*Pg	Pn	00 23 00.4	-0.3
XNZR				*e*Sg	Sb	00 23 15.9	-0.1
AKT	**Akhty**	**1.23**	**200**	*i* Pg	Pn	00 23 00.4	-0.9
AKT				*e*Sg	Sb	00 23 16.0	-1.3
DLMR	**Dylym**	**1.30**	**290**	*e*Pg	Pb	00 23 02.5	-0.2
DLMR				*e*Sg	Sg	00 23 21.0	+0.4
BTLR	**Botlikh**	**1.54**	**272**	*i* Pg	Pb	00 23 06.1	-0.6
BTLR				*e*Sg	Sb	00 23 26.0	0.0
DVE	**Vedeno**	**1.63**	**282**	*e*Pg	Pn	00 23 07.0	+0.2
DVE				*e*Sg	Sb	00 23 28.9	+0.1
LACR	**Lac**	**2.96**	**275**	*e*Pn	Pn	00 23 26.4	+1.4
LACR				*e*Sn	Sn	00 24 02.7	+2.4

ISCJB 01 00:34:29.3±0.3, 55°.52S±0°.06×27°.20W±0°.09, h10km, mb4.8/30, MS3.9/12, Error ellipse: s-maj=8.6km s-min=6.7km az=37.2
NEIC 01 00:34:34.5±1.9, 55°.61S×27°.24W, h35km±13km, mb4.9/24, Error ellipse: s-maj=9.1km s-min=7.0km az=189.0
IDC 01 00:34:36.7±2.7, 55°.54S×27°.26W, h54km±22km, mb4.4/12, mb1 4.5/12, mb1mx4.3/23, mbtmp4.7/12, MS3.8/11, Ms1 3.8/11, ms1mx3.7/19, Error ellipse: s-maj=20.3km s-min=16.3km az=169.0
BJI 01 00:34:36.0, 55°.60S×27°.50W, h39km, mB5.0/1, Ms4.9/1, Ms7 4.8/1
ISC 01 00:34:30.8±0.4**, 55°.50S**±0°.08×**27°.39W**±0°.06**, h10**km**, n101, σ1s.91**/85**, mb4.8**/29**, MS3.8**/12**, 1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.39**	**279**	*e*Pn	**Pn**	**00 35 52.7**	**+1.6**
HOPE				*e*Sn	**Sn**	**00 36 48.8**	**-4.3**
VNA1	**Neumayer--Stat**	**17.35**	**159**	P	**Pn**	**00 38 32.7**	**0.0**
VNA3	**Neumayer Olymp**	**17.55**	**161**	P	**Pn**	**00 38 35.0**	**-0.2**
VNA2	**Neumayer--Watz**	**17.75**	**158**	P	**P**	**00 38 38.6**	**+0.2**
	baz=317,slow=14						
SNAA	**Sanae**	**19.29**	**157**	P	**P**	**00 38 55.3**	**-0.1**
SNAA	**Sanae**	**19.29**	**157**	*e*P	**P**	**00 38 55.0**	**-0.5**
	46nm,0.6s						
PMSA	**Palmer Station**	**20.18**	**228**	P	**P**	**00 39 07.0**	**+2.0**
	60nm,1.1s						
PMSA	**Palmer Station**	**20.18**	**228**	P	**P**	**00 39 07.0**	**+2.0**
	57nm,1.1s,baz=32,slow=9.5,SNR=7.7						
PMSA				LR	LR	00 46 12.4	
	comp=Z,348nm,19.1s,baz=17,slow=34						
USHA	**Ushuaia**	**23.21**	**255**	LR	LR	00 46 28.1	
	comp=Z,221nm,18.9s,baz=110,slow=31						
GO09	**Cerro Castillo**	**26.77**	**260**	*e*P	**P**	**00 40 08.7**	**-1.8**
	8.0nm,0.9s						
TRQA	**Tornquist**	**29.00**	**292**	*e*P	**P**	**00 40 31.5**	**+1.0**
	5.4nm,0.6s						
PLCA	**Paso Flores**	**31.79**	**279**	P	**P**	**00 40 57.3**	**+2.0**
	1.4nm,0.8s,baz=100,slow=6.4,SNR=3.5						
SYO	**Syowa Base**	**32.09**	**141**	⇑*e*P	**P**	**00 40 55.0**	**-2.4**
QSPA	**South Pole Qui**	**34.75**	**180**	*e*P	**P**	**00 41 20.3**	**-0.6**
	41nm,0.6s						
CPUP	**Villa Florida**	**36.36**	**311**	*e*P	**P**	**00 41 36.3**	**+1.4**
	3.7nm,0.9s						
CPUP	**Villa Florida**	**36.36**	**311**	P	**P**	**00 41 35.8**	**+0.9**
	2.2nm,0.5s,baz=156,slow=7.9,SNR=6.8						
CPUP				LR	LR	00 57 58.5	
	comp=Z,24nm,18.1s,baz=172,slow=38						
PEL	**Peldehue**	**37.35**	**289**	*e*P	**P**	**00 41 45.6**	**+2.3**
	17nm,1.0s						
ROC1	**El Roble**	**37.66**	**288**	*e*P	**P**	**00 41 49.8**	**+3.6**
	12nm,0.6s						
GO04	**Tololo Observa**	**39.72**	**291**	*e*P	**P**	**00 42 04.7**	**+1.2**
	12nm,0.8s						
SUR	**Sutherland**	**40.61**	**76**	P	**P**	**00 42 10.8**	**0.0**
	12nm,0.8s,baz=186,slow=9.1,SNR=5.1						
MAW	**Mawson**	**40.66**	**144**	LR	LR	00 58 34.7	
	comp=Z,82nm,20.2s,baz=222,slow=35						
GO03	**Copiap**	**41.48**	**294**	*e*P	P	00 42 22.9	+5.0
	20nm,0.8s						
BDFB	**Brasilia**	**42.83**	**330**	LR	LR	00 57 53.7	
	comp=Z,151nm,19.4s,baz=143,slow=33						
GO02	**Mina Guanaco**	**43.14**	**297**	*e*P	**P**	**00 42 32.6**	**+1.0**
	15nm,0.5s						
LVC	**Limon Verde**	**44.92**	**300**	*e*P	**P**	**00 42 47.4**	**+1.3**
	9.9nm,0.7s						
BOSA	**Boshof**	**45.95**	**77**	*e*P	**P**	**00 42 53.9**	**0.0**
	29nm,0.8s						
BOSA	**Boshof**	**45.95**	**77**	P	**P**	**00 42 53.5**	**-0.4**
	33nm,0.8s,baz=214,slow=6.6,SNR=42						
BOSA				LR	LR	00 57 57.4	
	comp=Z,151nm,19.5s,baz=210,slow=30						
PB01	**IPOC Station P**	**46.53**	**300**	*e*P	**P**	**00 42 59.5**	**+1.1**
	19nm,0.6s						
VNDA	**Vanda**	**47.12**	**183**	*e*P	**P**	**00 43 01.9**	**-0.4**
	25nm,0.8s						
VNDA	**Vanda**	**47.12**	**183**	P	**P**	**00 43 02.2**	**-0.1**
	22nm,0.7s,baz=187,slow=6.5,SNR=88						
VNDA				LR	LR	01 03 43.2	
	comp=Z,82nm,18.1s,baz=164,slow=37						
H10S2	**ASCENSION HYDR**	**47.51**	**17**	T	T	01 35 10.3	
	baz=190,slow=75,SNR=70						
H10S3	**ASCENSION HYDR**	**47.51**	**17**	T	T	01 35 10.5	
	baz=190,slow=75,SNR=69						
H10S1	**ASCENSION HYDR**	**47.52**	**17**	T	T	01 35 11.6	
	baz=190,slow=75,SNR=62						
PB11	**IPOC Station P**	**47.70**	**301**	*e*P	**P**	**00 43 11.2**	**+3.5**
	13nm,0.9s						
MNMC	**Minye Minye**	**48.21**	**302**	*e*P	**P**	**00 43 11.9**	**+0.2**
	13nm,0.8s						
H10N1	**ASCENSION HYDR**	**48.62**	**17**	T	T	01 36 34.4	
	baz=185,slow=74,SNR=19						
H10N3	**ASCENSION HYDR**	**48.63**	**17**	T	T	01 36 34.7	
	baz=185,slow=74,SNR=48						
H10N2	**ASCENSION HYDR**	**48.64**	**17**	T	T	01 36 35.5	
	baz=185,slow=74,SNR=35						
LBTB	**Lobatse**	**48.96**	**74**	*e*P	**P**	**00 43 17.3**	**0.0**
	31nm,0.9s						
TSUM	**Tsumeb**	**49.52**	**61**	*e*P	**P**	**00 43 22.0**	**+0.3**
	9.9nm,0.8s						
LPAZ	**La Paz**	**49.97**	**305**	*e*P	**P**	**00 43 26.5**	**+0.8**
	11nm,0.8s						
LPAZ	**La Paz**	**49.97**	**305**	P	**P**	**00 43 26.4**	**+0.8**
	7.0nm,0.7s,baz=160,slow=5.1,SNR=22						
LSZ	**Lusaka**	**58.28**	**69**	*e*P	**P**	**00 44 25.2**	**-0.5**
	6.8nm,1.0s						
LIC	**Lamto**	**64.24**	**25**	*e*P	**P**	**00 45 04.9**	**-1.0**
	56nm,1.2s						
KIC	**Kosan Boka**	**64.44**	**25**	*e*P	**P**	**00 45 06.2**	**-1.0**
	42nm,1.4s						
TIC	**Toumodi**	**64.65**	**25**	*e*P	**P**	**00 45 07.5**	**-1.1**
DBIC	**Dimbokro**	**64.71**	**25**	P	**P**	**00 45 08.2**	**-0.7**
	2.7nm,0.6s,baz=166,slow=6.7,SNR=6.0						
DBIC				LR	LR	01 06 21.1	
	comp=Z,130nm,20.5s,baz=195,slow=29						
OTAV	**Otavalo**	**69.25**	**304**	*e*P	P	00 45 57.3	+19
OTAV	**Otavalo**	**69.25**	**304**	*e*P	P	00 45 57.3	+19
SOTA	**Rioblanco**	**70.06**	**306**	*e*P	**P**	**00 45 45.4**	**+1.9**
SOTA	**Rioblanco**	**70.06**	**306**	*e*P	**P**	**00 45 45.4**	**+1.9**
PRAC	**Prado**	**70.69**	**309**	*e*P	**P**	**00 45 45.4**	**-1.3**
PRAC	**Prado**	**70.69**	**309**	*e*P	**P**	**00 45 45.4**	**-1.3**
YOTC	**Yotoco, Valle**	**71.58**	**308**	*e*P	P	00 46 03.1	+11
YOTC	**Yotoco, Valle**	**71.58**	**308**	*e*P	P	00 46 03.1	+11
RUSC	**La Rusia**	**71.85**	**311**	*e*P	**P**	**00 45 51.3**	**-3.0**
RUSC	**La Rusia**	**71.85**	**311**	*e*P	**P**	**00 45 51.3**	**-3.0**
TOA0	**Torodi Ar. Sit**	**72.63**	**30**	*e*P	**P**	**00 45 58.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**	**00 45 57.8**	**-0.5**
	1.9nm,0.7s,baz=200,slow=6.5,SNR=57						
TORD				LR	LR	01 13 15.5	
	comp=Z,36nm,19.0s,baz=305,slow=32						
PTBC	**PUERTO BERRIO,**	**73.02**	**310**	*e*P	**P**	**00 45 57.2**	**-3.5**
PTBC	**PUERTO BERRIO,**	**73.02**	**310**	*e*P	**P**	**00 45 57.2**	**-3.5**
SDV	**Santo Domingo**	**73.54**	**315**	*e*P	**P**	**00 46 03.9**	**0.0**
	6.6nm,0.9s						
SMLC	**San Martn de**	**74.88**	**312**	*e*P	**P**	**00 46 08.2**	**-3.3**
SMLC	**San Martn de**	**74.88**	**312**	*e*P	**P**	**00 46 08.2**	**-3.3**
KMBO	**Kilima Mbogo**	**74.95**	**69**	P	**P**	**00 46 12.5**	**+0.2**
	1.3nm,0.9s						
KMBO	**Kilima Mbogo**	**74.95**	**69**	P	**P**	**00 46 13.4**	**+1.1**
	1.3nm,0.7s,baz=288,slow=4.9,SNR=4.4						
RKT	**Rikitea**	**80.63**	**243**	*e*T	T	02 15 02.0	
	1.1nm,0.3s						
TAM	**Tamanrasset**	**82.88**	**30**	*e*P	**P**	**00 46 56.4**	**+1.0**
	7.1nm,1.1s						
TBI	**Tubuai**	**87.34**	**231**	*e*LR	LR	01 14 55.3	
	comp=Z,209nm,30.5s						
PPT2	**Papeete2**	**92.41**	**234**	*e*LR	LR	01 17 15.1	
	comp=Z,165nm,29.8s						
STKA	**Stephens Creek**	**92.46**	**171**	LR	LR	01 28 13.8	
	comp=Z,80nm,18.7s,baz=196,slow=35						
KEST	**Kesra**	**96.15**	**29**	LR	LR	01 24 47.0	
	comp=Z,94nm,19.9s,baz=250,slow=31						
ESDC	**Sonseca Array**	**96.89**	**18**	P	**P**	**00 48 03.3**	**+1.7**
	0.9nm,0.7s,baz=186,slow=4.2,SNR=6.1						
ES19	**SONSECA Array**	**96.93**	**18**	*e*P	**P**	**00 48 03.2**	**+1.5**
ASAR	**Alice Springs**	**99.55**	**163**	P	**Pdif**	**00 48 12.3**	**-1.8**
	1.5nm,0.9s,baz=188,slow=4.6,SNR=8.9						
ASAR				PP	**PP**	**00 52 20.1**	**+3.2**
	1.3nm,0.8s,baz=186,slow=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**103.27**	**162**	Pdiff	**Pdif**	**00 48 28.9**	**-1.8**
	0.3nm,0.6s,baz=195,slow=4.5,SNR=3.6						
WRAB	**Tennant Creek**	**103.28**	**162**	*e*Sdif	Sdif	01 00 15.1	-3.1
VYHS	**Vyhne**	**110.62**	**31**	*e*PDIF	**Pdif**	**00 49 09.1**	**+6.6**
FINES	**FINESS Array B**	**123.95**	**28**	PKP	**PKPdf**	**00 53 26.5**	**-1.1**
	3.1nm,0.6s,baz=134,slow=1.6,SNR=17						
CMAR	**Chiang Mai Arr**	**125.37**	**110**	PKP	**PKPdf**	**00 53 30.6**	**-1.1**
	0.6nm,0.3s,baz=229,slow=2.8,SNR=4.8						
ABKAR	**Akbulak array**	**127.15**	**55**	*e*PKPdf	**PKPdf**	**00 53 33.5**	**-0.7**
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP	**PKPdf**	**00 53 39.2**	**-0.7**
	7.0nm,0.9s,baz=189,slow=2.2,SNR=15						
YKA	**Yellowknife Ar**	**135.68**	**318**	PKP	**PKPdf**	**00 53 48.5**	**-1.4**
	0.7nm,0.6s,baz=123,slow=2.3,SNR=9.4						
YKA				SKPbc	**SKPbc**	**00 57 15.2**	**-5.8**
	0.5nm,0.8s,baz=128,slow=3.0,SNR=4.4						
YKB5	**Yellowknife Ar**	**135.68**	**318**	*e*PKPdf	**PKPdf**	**00 53 48.6**	**-1.2**
GYA	**Guiyang**	**135.98**	**112**	*e*Pdif	**Pdif**	**00 50 56.0**	**0.0**
GYA				PP	**PP**	**00 56 35.4**	**+4.3**
WMQ	**Urumqi**	**137.91**	**78**	*e*PKP	**PKiKP**	**00 53 55.7**	**-1.0**
CD2	**Chengdu**	**137.92**	**105**	PKP	**PKPdf**	**00 53 55.0**	**-0.1**
LZH	**Lanzhou**	**141.82**	**100**	*e*PKP	**PKPdf**	**00 54 01.5**	**-0.7**
LZH				sPKP		00 54 18.2	
LZH				LR	LR		
	comp=E,120nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.1s						
INK	**Inuvik**	**145.30**	**321**	*e*PKPbc	**PKPbc**	**00 54 06.4**	**-0.5**
EPYK	**Eagle Plains**	**145.94**	**317**	*e*PKPdf	**PKPdf**	**00 54 08.2**	**-0.1**
DAWY	**Dawson**	**146.34**	**313**	*e*PKPdf	**PKPdf**	**00 54 09.2**	**+0.2**
NJ2	**Nanjing**	**146.72**	**121**	*e*PKPbc	**PKPbc**	**00 54 12.7**	**+0.4**
NRIK	**Noril'sk**	**148.65**	**38**	PKPbc	**PKPbc**	**00 54 16.0**	**-0.4**
	5.8nm,0.8s,baz=350,slow=1.4,SNR=11						
FYU	**Fort Yukon**	**149.31**	**316**	*e*PKPbc	**PKPbc**	**00 54 18.4**	**+0.3**
HHC	**Hu-ho-hao-te**	**149.47**	**101**	*e*PKPbc	**PKPdf**	**00 54 16.2**	**+1.2**
KDAK	**Kodiak Island**	**150.47**	**297**	PKPbc	**PKPbc**	**00 54 20.6**	**-0.5**
	3.0nm,0.4s,baz=171,slow=3.1,SNR=11						
SONM	**Songino Array**	**150.81**	**86**	PKPbc	**PKPbc**	**00 54 21.7**	**-0.8**
	6.2nm,0.6s,baz=221,slow=3.8,SNR=44						
SONA1	**Songino Array**	**150.82**	**86**	*e*PKPbc	**PKPbc**	**00 54 21.6**	**-1.0**
TOLK	**Toolik Lake Re**	**151.19**	**320**	*e*PKPbc	**PKPbc**	**00 54 22.2**	**-0.5**
ULN	**Ulaanbaatar**	**151.19**	**86**	*e*PKPbc	**PKPbc**	**00 54 22.7**	**-0.7**
IM3	**Indian Mountai**	**152.67**	**314**	*e*PKPdf	**PKPdf**	**00 54 18.4**	**-0.5**

ISCJB 01 00:35:36.1±2.0, 20°.1S±0°.8×178°.4W±0°.4, h602km, mb3.6/7, Error ellipse: s-maj=117.7km s-min=17.8km az=156.6
IDC 01 00:35:40.2±13.0, 20°.12S×178°.43W, h641km±178km, mb3.0/7, mb1 3.3/7, mb1mx3.1/30, mbtmp4.0/7, Error ellipse: s-maj=120.9km s-min=58.3km az=152.0
ISC 01 00:35:37.2±2.2**, 20°.1S**±0°.8×**178°.3W**±0°.4**, h602**km**, n7, σ0s.31**/7**, mb3.4**/7**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.21**	**264**	P	**P**	**00 41 26.5**	**+0.2**
	5.2nm,0.4s,baz=90,slow=11,SNR=14						
ASAR	**Alice Springs**	**44.30**	**256**	P	**P**	**00 42 55.3**	**-0.1**
	2.1nm,0.6s,baz=92,slow=7.7,SNR=22						
WRA	**Warramunga Arr**	**44.34**	**262**	P	**P**	**00 42 55.6**	**-0.2**
	0.9nm,0.3s,baz=96,slow=7.5,SNR=75						
NVAR	**Mina Array Bea**	**80.94**	**44**	P	**P**	**00 46 50.8**	**+0.4**
	0.6nm,0.7s,baz=224,slow=9.4,SNR=4.1						
TXAR	**Lajitas Array**	**87.10**	**57**	P	**P**	**00 47 20.7**	**0.0**
	0.3nm,0.6s,baz=224,slow=5.0,SNR=3.6						
ILAR	**Eielson Array**	**87.98**	**13**	P	**P**	**00 47 23.6**	**-0.1**
	0.5nm,0.8s,baz=218,slow=5.4,SNR=4.9						
PDAR	**Pinedale Array**	**88.88**	**43**	P	**P**	**00 47 28.4**	**-0.4**
	0.3nm,0.5s,baz=197,slow=2.8,SNR=3.1						

IDC 01 00:40:44.6±1.6**, 11°.56S×164°.85E, h0**km**, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.8**/30**, mbtmp3.9**/5**, ML3.6**/1**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.5**/27**, Error ellipse: s-maj=50.5km s-min=34.1km az=106.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.27**	**293**	LR	LR	00 44 18.0	
	comp=Z,120nm,18.8s,baz=116,slow=40						
DZM	**Mont Dzumac**	**10.56**	**172**	Pn	Pn	00 43 17.3	-0.1
	0.4nm,0.3s,baz=312,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**30.49**	**250**	P	P	00 46 59.2	-0.4
	0.8nm,0.8s,baz=78,slow=8.4,SNR=5.6						
SONM	**Songino Array**	**78.56**	**324**	P	P	00 52 48.6	+0.4
	0.5nm,0.8s,baz=142,slow=7.2,SNR=4.3						
ILAR	**Eielson Array**	**84.28**	**19**	P	P	00 53 17.6	-0.4
	0.4nm,0.8s,baz=235,slow=5.2,SNR=4.9						
MKAR	**Makanchi Array**	**93.30**	**317**	P	P	00 54 01.7	+0.2
	0.7nm,0.6s,baz=103,slow=6.5,SNR=8.4						

IDC 01 01:00:34.1±0.8, 50°.40N×177°.17E, h0km, mb3.7/13, mb1 4.0/15, mb1mx3.8/56, mbtmp3.7/15, ML3.1/2, Error ellipse: s-maj=28.1km s-min=14.5km az=171.0
ISCJB 01 01:00:37.4±0.6, 50°.50N±0°.08×177°.16E±0°.05, h33km, mb3.7/13, Error ellipse: s-maj=11.6km s-min=4.4km az=177.2
NEIC 01 01:00:37.8±0.0, 50°.34N×177°.03E, h35km, ML3.5(AEIC), After AEIC.
ISC 01 01:00:39.5±0.8**, 50°.5N**±0°.1×**177°.14E**±0°.05**, h35**km**, n28, σ0s.73**/34**, mb3.8**/13**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**2.90**	**62**	P	**Pn**	**01 01 23.1**	**0.0**
SMY	**Shemya**	**2.93**	**321**	P	**Pn**	**01 01 22.7**	**-0.9**
SMY				S	**Sn**	**01 01 56.8**	**-0.8**
TASE	**Tanaga Southea**	**3.32**	**64**	P	**Pn**	**01 01 28.9**	**0.0**
TASE				S	**Sn**	**01 02 07.1**	**-0.1**
TAFP	**Tanaga Falls P**	**3.38**	**63**	P	**Pn**	**01 01 29.5**	**-0.2**
TAFP				S	**Sn**	**01 02 08.3**	**-0.2**
KIMD	**Kanaga Island**	**3.76**	**68**	P	**Pn**	**01 01 34.3**	**-0.7**
KIMD				S	**Sn**	**01 02 17.3**	**-0.7**
KIKV	**Kanaga Island**	**3.84**	**67**	P	**Pn**	**01 01 35.7**	**-0.3**
ADK	**Adak**	**4.13**	**68**	P	**Pn**	**01 01 39.4**	**-0.6**
ADK				S	**Sn**	**01 02 25.8**	**-1.1**
ADAG	**Mount Adagdak**	**4.21**	**67**	P	**Pn**	**01 01 41.2**	**+0.1**
ETKA	**Kagalaska Isla**	**4.29**	**69**	P	**Pn**	**01 01 41.5**	**-0.6**
GSTD	**Great Sitkin T**	**4.50**	**67**	P	**Pn**	**01 01 44.5**	**-0.6**
GSTD				S	**Sn**	**01 02 37.2**	**+1.0**
GSMY	**Great Sitkin M**	**4.54**	**67**	P	**Pn**	**01 01 45.1**	**-0.6**
GSIG	**Igitkin Island**	**4.61**	**68**	P	**Pn**	**01 01 45.8**	**-0.8**
KOFP	**Korovin Flat P**	**5.77**	**69**	P	**Pn**	**01 02 02.3**	**-0.3**
PETK	**Petropavlovsk-**	**12.31**	**290**	Pn	**Pn**	**01 03 32.9**	**+0.8**
	0.3nm,0.3s,baz=103,slow=19,SNR=2.8						
SEY	**Seymchan**	**18.28**	**322**	P	**P**	**01 04 51.1**	**+1.3**
	0.1nm,0.3s,baz=94,slow=15,SNR=5.2						
ILAR	**Eielson Array**	**23.55**	**39**	P	**P**	**01 05 44.5**	**-1.8**
	0.6nm,0.6s,baz=226,slow=8.1,SNR=12						
MJAR	**Matsushiro Arr**	**31.10**	**258**	P	**P**	**01 06 53.8**	**-0.6**
	0.9nm,0.5s,baz=69,slow=10,SNR=2.6						
YKA	**Yellowknife Ar**	**37.69**	**45**	P	**P**	**01 07 51.1**	**+0.1**
	0.4nm,0.4s,baz=284,slow=7.8,SNR=9.8						
NEW	**Newport**	**41.60**	**67**	P	**P**	**01 08 23.9**	**+0.1**
	2.1nm,0.8s,baz=311,slow=9.3,SNR=4.0						
SONM	**Songino Array**	**44.72**	**295**	P	**P**	**01 08 50.3**	**+1.1**
	0.4nm,0.8s,baz=61,slow=9.0,SNR=3.3						
NVAR	**Mina Array Bea**	**46.23**	**79**	P	**P**	**01 09 01.0**	**-0.3**
	0.5nm,0.6s,baz=295,slow=7.1,SNR=4.9						
ELK	**Elko**	**46.76**	**75**	P	**P**	**01 09 06.0**	**+0.6**
	1.2nm,0.8s,baz=251,slow=6.7,SNR=4.7						
PDAR	**Pinedale Array**	**49.03**	**69**	P	**P**	**01 09 23.6**	**+0.6**
	0.9nm,0.8s,baz=289,slow=4.0,SNR=10						
FRB	**Frobisher Bay**	**55.10**	**30**	P	**P**	**01 10 07.2**	**-0.2**
	1.1nm,0.5s,baz=322,slow=10.0,SNR=4.6						
MKAR	**Makanchi Array**	**58.54**	**307**	P	**P**	**01 10 32.0**	**-0.1**
	0.2nm,0.6s,baz=64,slow=3.7,SNR=3.1						
TXAR	**Lajitas Array**	**61.34**	**78**	P	**P**	**01 10 52.2**	**+0.5**
	0.7nm,0.8s,baz=294,slow=5.3,SNR=7.3						
HFS	**Hagfors**	**68.92**	**351**	P	**P**	**01 11 40.6**	**+0.3**
	6.6nm,1.1s,baz=65,slow=8.5,SNR=4.8						
WRA	**Warramunga Arr**	**79.63**	**221**	P	**P**	**01 12 42.1**	**-1.0**
	0.4nm,0.7s,baz=31,slow=5.7,SNR=3.3						

ISCJB 01 01:02:30.7±0.8, 53°.5N±0°.2×35°.1W±0°.1, h12km, mb3.5/9, MS3.5/8, Error ellipse: s-maj=27.2km s-min=11.3km az=13.2
IDC 01 01:02:30.7±1.1, 53°.50N×35°.09W, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.5/58, mbtmp3.6/11, ML3.0/2, MS3.5/11, Ms1 3.5/11, ms1mx3.2/44, Error ellipse: s-maj=36.0km s-min=17.2km az=20.0
ISC 01 01:02:32.5±1.0**, 53°.5N**±0°.2×**35°.1W**±0°.1**, h12**km**, n20, σ0s.80**/12**, mb3.6**/9**, MS3.6**/8**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.51**	**337**	LR	LR	01 10 27.0	
	comp=Z,76nm,20.5s,baz=144,slow=31						
SCHQ	**Schefferville**	**18.54**	**287**	P	**P**	**01 06 47.5**	**-1.2**
	0.2nm,0.3s,baz=82,slow=7.1,SNR=4.4						
SCHQ				LR	LR	01 12 06.1	
	comp=Z,137nm,21.8s,baz=316,slow=31						
EKA	**Eskdalemuir Ar**	**18.61**	**71**	P	**Pn**	**01 06 49.5**	**-0.2**
	baz=280,slow=9.8,SNR=3.0						
FRB	**Frobisher Bay**	**19.96**	**314**	LR	LR	01 13 03.3	
	comp=Z,97nm,21.4s,baz=96,slow=32						
ESDC	**Sonseca Array**	**25.23**	**111**	P	**P**	**01 07 58.0**	**-0.1**
	1.2nm,0.8s,baz=300,slow=7.9,SNR=4.7						
NOA	**NORSAR Array B**	**25.68**	**54**	LR	LR	01 16 11.4	
	comp=Z,58nm,21.5s,baz=290,slow=32						
HFS	**Hagfors**	**26.99**	**56**	LR	LR	01 17 35.2	
	comp=Z,178nm,18.5s,baz=300,slow=34						
DAVOX	**Davos/Dischmat**	**29.21**	**85**	LR	LR	01 18 45.1	
	comp=Z,134nm,19.2s,baz=286,slow=33						
SADO	**Sadowa**	**29.68**	**271**	LR	LR	01 19 26.3	
	comp=Z,139nm,19.7s,baz=96,slow=34						
ULM	**Lac du Bonnet**	**36.66**	**290**	LR	LR	01 22 42.6	
	comp=Z,105nm,19.9s,baz=346,slow=33						
AKASG	**Malin Array Be**	**38.44**	**67**	P	**P**	**01 09 53.9**	**+0.3**
	0.2nm,0.3s,baz=304,slow=8.5,SNR=2.8						
YKA	**Yellowknife Ar**	**40.48**	**315**	P	**P**	**01 10 11.4**	**+0.9**
	0.1nm,0.4s,baz=61,slow=8.9,SNR=4.0						
BRTR	**Keskin Array B**	**47.36**	**78**	P	**P**	**01 11 07.2**	**+1.0**
	1.1nm,0.9s,baz=299,slow=5.4,SNR=4.3						
BRTR				LR	LR	01 30 33.4	
	comp=Z,20nm,20.5s,baz=268,slow=36						
PDAR	**Pinedale Array**	**48.66**	**289**	P	**P**	**01 11 17.0**	**+0.6**
	0.5nm,0.7s,baz=52,slow=7.1,SNR=4.2						
PDAR				LR	LR	01 31 24.7	
	comp=Z,71nm,18.1s,baz=335,slow=36						
TORD	**Torodi Ar. Bea**	**49.66**	**130**	P	**P**	**01 11 23.9**	**-0.1**
	1.2nm,0.8s,baz=334,slow=11,SNR=8.2						
ILAR	**Eielson Array**	**51.00**	**329**	P	**P**	**01 11 33.5**	**0.0**
	0.3nm,0.8s,baz=33,slow=5.5,SNR=3.4						
DBIC	**Dimbokro**	**52.75**	**141**	LR	LR	01 31 11.6	
	comp=Z,64nm,19.7s,baz=316,slow=33						
MKAR	**Makanchi Array**	**66.83**	**42**	P	**P**	**01 13 22.5**	**-1.3**
	0.3nm,0.7s,baz=328,slow=4.4,SNR=4.1						
SONM	**Songino Array**	**73.91**	**26**	P	**P**	**01 14 07.0**	**-0.1**
	0.6nm,0.8s,baz=330,slow=6.4,SNR=5.9						
ASAR	**Alice Springs**	**149.09**	**20**	PKPbc	**PKPbc**	**01 22 19.7**	**-0.7**
	0.6nm,0.6s,baz=359,slow=2.3,SNR=6.2						

IDC 01 01:16:29.2±3.5, 36°.61N×141°.92E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/43, mbtmp3.2/3, ML2.2/1, Error ellipse: s-maj=87.0km s-min=18.5km az=166.0
ISCJB 01 01:16:34.2±1.7, 36°.96N±0°.05×141°.53E±0°.10, h24km±9km, mb3.2/2, Error ellipse: s-maj=13.8km s-min=7.5km az=24.5
JMA 01 01:16:35.5±0.1, 36°.97N×141°.45E, h36km±1km, M3.2
ISC 01 01:16:33.4±1.8**, 37°.02N**±0°.07×**141°.49E**±0°.08**, h11**km±10km**, n13, σ0s.84**/22**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.56**	**278**	P	**Pn**	**01 16 46.5**	**-0.9**
ONAJ				S	**Sb**	**01 16 54.2**	**+1.0**
JFK	**Kawauchi**	**0.60**	**305**	P	**Pn**	**01 16 47.4**	**-0.5**
JFK				S	**Sn**	**01 16 55.9**	**-1.8**
JFFD	**Fukushimafurud**	**0.74**	**276**	P	**Pn**	**01 16 49.0**	**-0.9**
JFFD				S	**Sb**	**01 16 58.9**	**+0.3**
JHO	**Hitachi**	**0.84**	**241**	P	**Pb**	**01 16 50.1**	**0.0**

JHO S **Sg** 01 17 00.8 +0.2
JMM Marumori 1.01 327 P **Pn** 01 16 54.0 +0.5
JMM *eS* **Sn** 01 17 07.4 -0.3
JFT Otama 1.04 299 P **Pn** 01 16 54.9 +0.9
JFT S **Sn** 01 17 08.6 0.0
JIO Ouri 1.43 356 P **Pg** 01 17 00.6 -0.3
JIO S **Sn** 01 17 18.8 +0.6
JFY Yanaizu 1.47 286 P **Pg** 01 17 01.5 -0.2
JOU Okura 1.49 334 P **Pg** 01 17 02.2 +0.2
MJAR Matsushiro Arr 2.67 261 Pn **Pn** 01 17 17.1 +0.6
0.3nm,0.3s,baz=89,slow=14,SNR=10
MJAR Pg **Pg** 01 17 24.0 -0.7
0.3nm,0.3s,baz=86,slow=14,SNR=11
MJAR Lg Lg 01 18 04.1
0.2nm,0.3s,baz=45,slow=31,SNR=6.5
MAT Matsushiro 2.67 261 P **Pn** 01 17 18.4 +1.9
MAT *eS* **Sn** 01 17 49.1 +0.2
MKAR Makanchi Array 44.17 302 P **P** 01 24 42.5 +0.3
0.2nm,0.7s,baz=90,slow=8.6,SNR=3.3
ILAR Eielson Array 49.47 32 P **P** 01 25 22.7 -0.7
0.4nm,0.8s,baz=266,slow=7.0,SNR=3.0

IDC 01 01:19:35.8±2.3, 6.71S×129.70E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/45, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=105.0km s-min=28.0km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.00**	**199**	Pn	Pn	01 22 29.0	+0.9
	0.5nm,0.3s,baz=16,slow=9.2,SNR=27						
FITZ				Sn	Sn	01 24 31.4	-11
	0.5nm,0.3s,baz=220,slow=5.5,SNR=3.4						
WRA	**Warramunga Arr**	**13.91**	**162**	Pn	Pn	01 22 53.5	-0.8
	0.3nm,0.3s,baz=334,slow=13,SNR=18						
WRA				Sn	Sn	01 25 16.3	-13
	0.9nm,0.3s,baz=337,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.34**	**167**	P	Pn	01 23 39.3	-0.1
	0.1nm,0.3s,baz=340,slow=8.7,SNR=4.8						
ASAR				S	Sn	01 26 37.5	-16
	0.2nm,0.3s,baz=346,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	01 30 35.8	0.0
	0.3nm,0.4s,baz=118,slow=8.0,SNR=7.0						

*IDC **01** 01:27:23.3±0.9, 1.54S×99.23E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/50, mbtmp3.9/14, ML4.2/1, MS3.2/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=35.9km s-min=15.9km az=53.0*
*DJA **01** 01:27:27.5±0.2, 1°S±2°×9°9E±1°, h10km, M4.0/13, mb4.0/1, mB4.5/1, MLv4.1/13, Mw(mB)3.7/1*
*ISCJB **01** 01:27:28.0±0.5, 1.38S±0.04×99.32E±0.04, h42km±4km, mb4.0/14, MS3.7/1, Error ellipse: s-maj=7.7km s-min=5.0km az=36.6*
*NEIC **01** 01:27:28.8±0.4, 1.49S×99.30E, h35km, mb4.2/2, Error ellipse: s-maj=18.7km s-min=7.7km az=57.0*
ISC 01 01:27:28.1±1.0, 1.40S±0.05×99.36E±0.06, h27km±8km, n43, σ1°s15/44, mb4.1/14, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.28**	**284**	P	**Pb**	01 27 34.6	-0.4
SISI				S	**Sb**	01 27 39.6	-0.1
PDSI	**Padang**	**1.20**	**66**	P	**Pn**	01 27 47.9	-1.2
PDSI				S	**Sn**	01 28 03.4	-1.1
PPI	**Padang Panjang**	**1.39**	**48**	P	**Pn**	01 27 51.3	-0.4
PPI				S	**Sn**	01 28 09.1	-0.2
PPSI	**Pulau Pagai**	**1.50**	**155**	P	**Pn**	01 27 53.1	-0.2
PPSI				S	**Sb**	01 28 14.3	+0.3
PBSI	**Pulau Batu**	**1.72**	**321**	P	**Pb**	01 27 58.3	-0.7
PBSI				S	**Sb**	01 28 20.2	+0.1
SDSI	**Sungai Dareh**	**2.12**	**77**	P	**Pn**	01 28 02.5	+0.8
MNSI	**Mandailing Nat**	**2.19**	**6**	P	**Pn**	01 28 04.4	+1.7
KRJI	**Kerinci**	**2.21**	**108**	P	**Pn**	01 28 04.4	+1.3
KRJI				S	**Sn**	01 28 31.4	+1.8
BKNI	**Bangkinang**	**2.40**	**44**	P	**Pn**	01 28 06.4	+0.9
RGRI	**Rengat**	**3.15**	**71**	P	**Pn**	01 28 17.7	+1.8
GSI	**Gunungsitoli**	**3.22**	**326**	P	**Pn**	01 28 18.3	+1.4
MASI	**Maura Aman, Be**	**3.36**	**121**	P	**Pn**	01 28 19.9	+1.1
MASI				S	**Sn**	01 28 59.9	+2.1
PSI	**Prapat**	**4.19**	**354**	Pn	**Pn**	01 28 30.2	-0.2
	0.3nm,0.3s,baz=180,slow=14,SNR=2.5						
MNAI	**Manna**	**4.64**	**129**	S	**Sn**	01 29 28.2	-1.3
LHSI	**Lahat**	**4.81**	**120**	P	**Pn**	01 28 40.4	+1.7
KCSI	**Kotacane, Aceh**	**5.14**	**342**	P	**Pn**	01 28 46.9	+3.6
CMAR	**Chiang Mai Arr**	**19.73**	**359**	P	**P**	01 31 55.8	-0.1
	0.3nm,0.3s,baz=187,slow=9.5,SNR=7.2						
CMAR				LR	LR	01 40 03.9	
	comp=Z,30nm,20.4s,baz=210,slow=38						
H08S2	**Diego Garcia H**	**27.48**	**256**	T	T	02 01 05.1	
	baz=78,slow=76,SNR=52						
H08S3	**Diego Garcia H**	**27.49**	**256**	T	T	02 01 10.6	
	baz=78,slow=76,SNR=83						
H08S1	**Diego Garcia H**	**27.50**	**256**	T	T	02 01 06.5	
	baz=78,slow=76,SNR=40						
H01W3	**Cape Leeuwin H**	**36.05**	**159**	T	T	02 12 24.5	
	baz=334,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**36.06**	**159**	T	T	02 12 13.0	
	baz=334,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**36.07**	**159**	T	T	02 12 15.8	
	baz=334,slow=76,SNR=9.9						
WRA	**Warramunga Arr**	**38.85**	**121**	P	**P**	01 34 50.2	-1.1
	1.4nm,0.5s,baz=303,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**38.85**	**121**	*eP*	**P**	01 34 50.8	-0.6
	2.3nm,0.4s						
ASAR	**Alice Springs**	**40.12**	**126**	P	**P**	01 35 02.0	+0.1
	0.7nm,0.6s,baz=297,slow=7.8,SNR=5.6						
AAK	**Ala-Archa**	**49.23**	**336**	*eP*	**P**	01 36 14.8	+0.3
	0.7nm,0.4s						
SONM	**Songino Array**	**49.41**	**6**	P	**P**	01 36 16.7	+1.0
	0.4nm,0.4s,baz=189,slow=10,SNR=4.7						
SONM				PcP	**PcP**	01 37 38.0	+0.3
	0.4nm,0.6s,baz=180,slow=4.7,SNR=2.8						
STKA	**Stephens Creek**	**50.02**	**132**	P	**P**	01 36 20.4	-0.1
	1.2nm,0.6s,baz=316,slow=7.9,SNR=3.7						
MKAR	**Makanchi Array**	**50.28**	**345**	P	**P**	01 36 23.1	+1.0
	2.5nm,0.7s,baz=149,slow=8.2,SNR=32						
USRK	**Ussuriysk Ar.**	**53.93**	**29**	P	**P**	01 36 48.9	-0.5
	1.0nm,0.7s,baz=240,slow=4.6,SNR=3.7						
GEYT	**Alibeck**	**54.58**	**320**	P	**P**	01 36 54.8	+0.5
	1.6nm,0.8s,baz=114,slow=9.9,SNR=3.9						
KURK	**Kurchatov**	**54.85**	**344**	*eP*	**P**	01 36 56.6	+0.7
ZALV	**Zalesovo Beam**	**56.46**	**350**	P	**P**	01 37 07.4	0.0
	1.4nm,0.4s,baz=168,slow=4.6,SNR=6.6						
BRVK	**Borovoye**	**59.47**	**340**	*eP*	**P**	01 37 27.9	-0.6
KBZ	**Khabaz**	**67.44**	**319**	P	**P**	01 38 20.8	-0.6
	2.0nm,0.8s,baz=107,slow=6.3,SNR=6.9						
BRTR	**Keskin Array B**	**72.45**	**312**	P	**P**	01 38 50.2	-2.3
	0.2nm,0.7s,baz=137,slow=8.3,SNR=4.0						
TSUM	**Tsumeb**	**81.78**	**251**	LR	LR	02 12 05.0	
	comp=Z,34nm,18.4s,baz=176,slow=33						
FINES	**FINESS Array B**	**83.28**	**332**	P	**P**	01 39 52.1	0.0
	4.6nm,0.9s,baz=132,slow=2.8,SNR=6.1						
GERES	**GERESS Array B**	**88.18**	**319**	P	**P**	01 40 16.8	0.0
	0.7nm,0.8s,baz=72,slow=4.3,SNR=5.4						
CPUP	**Villa Florida**	**144.42**	**218**	PKP	**PKPdf**	01 47 01.9	-0.7
	3.0nm,0.7s,baz=174,slow=4.7,SNR=9.0						
TXAR	**Lajitas Array**	**144.60**	**36**	PKP	**PKPdf**	01 47 02.7	-0.4
	1.1nm,0.7s,baz=287,slow=2.0,SNR=16						
JCT	**Junction City**	**145.84**	**30**	*e*PKPbc	**PKPab**	01 47 06.3	+0.3

*IDC **01** 01:28:16.2±1.2, 31.66S×177.76W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/41, mbtmp4.1/5, MS3.6/1, Ms1 3.5/1, ms1mx2.9/20, Error ellipse: s-maj=40.6km s-min=28.7km az=34.0*
*NEIC **01** 01:28:17.5±1.0, 32.10S×177.87W, h10km, mb4.4/1, Error ellipse: s-maj=25.5km s-min=21.3km az=106.0*
*ISCJB **01** 01:28:20.8±1.8, 32.14S±0.10×178.2W±0.3, h24km, mb4.1/6, MS3.5/1, Error ellipse: s-maj=32.1km s-min=13.5km az=8.6*
ISC 01 01:28:20.7±1.2, 32.1S±0.1×178.0W±0.2, h24km, n13, σ1°s56/14, mb4.2/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.37**	**212**	Pn	**Pn**	01 30 04.4	-2.3
	0.8nm,0.3s,baz=238,slow=19,SNR=3.8						
URZ				Sn	**Sn**	01 31 29.6	0.0
	4.4nm,0.3s,baz=172,slow=20,SNR=9.3						
CTA	**Charters Tower**	**34.12**	**282**	P	**P**	01 35 04.7	+0.9
	3.0nm,0.7s,baz=128,slow=13,SNR=3.7						
CTAO	**Charters Tower**	**34.12**	**282**	*eP*	**P**	01 35 03.2	-0.6
STKA	**Stephens Creek**	**34.16**	**259**	P	**P**	01 35 06.5	+2.5
	2.8nm,0.8s,baz=131,slow=10,SNR=3.0						
STKA				LR	LR	01 48 31.9	
	comp=Z,85nm,18.2s,baz=27,slow=35						
ASAR	**Alice Springs**	**43.07**	**269**	P	**P**	01 36 19.6	+0.7
	2.1nm,1.0s,baz=106,slow=7.6,SNR=7.4						
WRAB	**Tennant Creek**	**44.20**	**274**	*eP*	**P**	01 36 27.8	-0.3
	1.5nm,0.3s						
WRA	**Warramunga Arr**	**44.20**	**274**	P	**P**	01 36 27.1	-1.0
	2.0nm,0.7s,baz=111,slow=8.0,SNR=23						
QSPA	**South Pole Qui**	**58.05**	**180**	P	**P**	01 38 13.6	+2.1
	1.2nm,1.0s,baz=120,slow=8.1,SNR=4.8						
KBZ	**Khabaz**	**146.03**	**302**	PKPbc	**PKPdf**	01 47 57.2	-0.2
	3.1nm,1.1s,baz=46,slow=5.2,SNR=4.5						
FINES	**FINESS Array B**	**146.71**	**339**	PKPbc	**PKPbc**	01 47 59.0	-0.8
	3.4nm,0.8s,baz=46,slow=4.0,SNR=8.8						
AKASG	**Malin Array Be**	**152.62**	**321**	PKPbc	**PKPbc**	01 48 13.0	-1.7
	0.3nm,0.4s,baz=48,slow=2.8,SNR=3.0						
BRTR	**Keskin Array B**	**153.37**	**296**	PKPbc	**PKPbc**	01 48 15.2	-1.8
	1.3nm,1.1s,baz=20,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**161.16**	**179**	PKPab	**PKPab**	01 49 04.0	+1.1
	0.6nm,0.9s,baz=172,slow=4.5,SNR=3.3						

*ISK **01** 01:31:04.7, 35.21N×36.43E, h6km, ML3.2/5*
*GRAL **01** 01:31:06.6±0.3, 35.09N×36.47E, h3km±2km, MD3.2*
*DDA **01** 01:31:26.1, 36.51N×37.49E, h7km±6km, ML2.4*
ISC 01 01:31:04.5±1.6, 35.15N±0.03×36.44E±0.06, h6km±13km, n24, σ0°s96/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	**0.96**	**205**	*eP*	**Pg**	01 31 23.1	+0.2
HWQ				*eS*	**Sg**	01 31 35.2	-0.1
BHL	**Bhannes**	**1.40**	**208**	*eP*	**Pn**	01 31 30.5	-0.1
BHL				*eS*	**Sb**	01 31 48.3	-0.9
DQRL	**Deir Qamar**	**1.61**	**207**	*eP*	**Pn**	01 31 34.0	+0.5
DQRL				*eS*	**Sn**	01 31 54.1	-0.5
KUZU	**Kuzuini**	**1.70**	**17**	*i* P	**Pn**	01 31 36.1	+1.3
KUZU				IAML_P			
	comp=Z,2μm,0.1s						
RCY	**Rachaya**	**1.72**	**197**	*eP*	**Pn**	01 31 35.5	+0.4
RCY				*eS*	**Sn**	01 31 57.0	-0.5
YURE	**YUREGIR**	**1.80**	**339**	PN	**Pn**	01 31 36.9	+0.8
YURE				SN	**Sn**	01 31 59.0	-0.3
CEYT	**Ceyhan**	**1.94**	**343**	PN	**Pn**	01 31 38.3	+0.3
GAZ	**Gaziantep**	**2.12**	**17**	PN	**Pn**	01 31 40.9	+0.4
HCB	**Kahramanmara**	**2.23**	**10**	*i* P	**Pn**	01 31 44.0	+2.0
HCB				IAML_P			
	comp=Z,527nm,0.2s						
KIZK	**Mersin**	**2.29**	**306**	PN	**Pn**	01 31 43.4	+0.6
KIZK				SN	**Sn**	01 32 11.6	+0.2
MERS	**Mersin**	**2.32**	**318**	PN	**Pn**	01 31 43.6	+0.3
KOZT	**Kozan**	**2.38**	**348**	PN	**Pn**	01 31 44.2	+0.1
GZT	**Gaziantep**	**2.38**	**22**	*i* P	**Pb**	01 31 47.0	-1.0
GZT				IAML_P			
	comp=Z,470nm,0.2s						
LFK	**Lefkose**	**2.38**	**274**	PN	**Pn**	01 31 45.4	+1.2
KARA	**Karaisali**	**2.39**	**332**	PN	**Pn**	01 31 44.4	+0.2
SURC	**SANLIURFA_SURC**	**2.47**	**45**	*i* P	**Pn**	01 31 45.7	+0.4
SURC				IAML_P			
	comp=Z,89nm,0.1s						
IKL	**Isikli**	**2.49**	**297**	PN	**Pn**	01 31 46.4	+0.8
CSS	**Mathiatis**	**2.56**	**267**	PN	**Pn**	01 31 48.2	+1.7
AKKU	**Akkuyu-Mersin**	**2.56**	**294**	PN	**Pn**	01 31 47.3	+0.8
KEBE	**Keben-Mersin**	**2.57**	**301**	PN	**Pn**	01 31 47.2	+0.5
MMLI	**Mount Malkishu**	**2.83**	**198**	PN	**Pn**	01 31 52.4	+2.1
BERE	**Bereket-Mersin**	**2.88**	**296**	PN	**Pn**	01 31 51.9	+0.9
TEKE	**Tekeli-Mersin**	**2.89**	**291**	PN	**Pn**	01 31 52.1	+1.1
SANL	**SANLIURFA_Merk**	**2.89**	**45**	*i* P	**Pn**	01 31 52.5	+1.4
SANL				IAML_P			
	comp=Z,159nm,0.2s						

IDC 01 01:35:57.9±3.8, 1.84S×99.28E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.3/4, ML3.6/1, Error ellipse: s-maj=156.5km s-min=25.0km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**4.62**	**356**	Pn	Pn	01 37 09.4	+0.2
	3.0nm,0.3s,baz=180,slow=3.7,SNR=4.4						
H08S2	**Diego Garcia H**	**27.30**	**257**	T	T	02 09 50.7	
	baz=79,slow=76,SNR=9.0						
H08S3	**Diego Garcia H**	**27.31**	**257**	T	T	02 09 52.4	
	baz=79,slow=76,SNR=15						
H08S1	**Diego Garcia H**	**27.32**	**257**	T	T	02 09 57.1	
	baz=79,slow=76,SNR=4.5						
H01W3	**Cape Leeuwin H**	**35.87**	**159**	T	T	02 20 47.8	
	baz=334,slow=76,SNR=4.3						
H01W2	**Cape Leeuwin H**	**35.69**	**159**	T	T	02 20 47.2	
	baz=334,slow=76,SNR=4.3						
H01W1	**Cape Leeuwin H**	**35.69**	**159**	T	T	02 20 54.3	
	baz=334,slow=76,SNR=4.2						
WRA	**Warramunga Arr**	**38.69**	**120**	P	P	01 43 23.4	-0.5
	0.2nm,0.6s,baz=302,slow=9.2,SNR=4.6						
ASAR	**Alice Springs**	**39.93**	**126**	P	P	01 43 34.6	+0.4
	0.1nm,0.3s,baz=295,slow=8.3,SNR=3.1						
MKAR	**Makanchi Array**	**50.68**	**345**	P	P	01 44 58.6	-0.6
	0.2nm,0.4s,baz=65,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**145.00**	**36**	PKPbc	PKPab	01 55 36.2	-1.1
	0.1nm,0.5s,baz=287,slow=3.7,SNR=3.6						

*IDC **01** 01:45:09.4±2.5, 51.13N×174.99E, h0km, mb3.5/5, mb1 3.9/7, mb1mx3.6/42, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=73.4km s-min=23.4km az=179.0*
*ISCJB **01** 01:45:10.4±1.0, 51.10N±0.1×175.04E±0.08, h29km, mb3.5/5, Error ellipse: s-maj=15.1km s-min=6.6km az=16.4*
*NEIC **01** 01:45:11.9±0.0, 51.04N×175.11E, h25km, ML3.1(AEIC), After AEIC.*
ISC 01 01:45:13.4±1.2, 51.1N±0.1×175.03E±0.07, h29km, n14, σ0°s90/17, mb3.6/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**1.71**	**341**	P	Pn	01 45 41.4	+0.2
SMY				S	**Sb**	01 46 04.3	-0.7
TASE	**Tanaga Southea**	**4.39**	**78**	P	**Pn**	01 46 17.8	-0.2
TAFP	**Tanaga Falls P**	**4.43**	**77**	P	**Pn**	01 46 18.2	-0.4
TAFP				S	**Sn**	01 47 07.9	-1.2
KIMD	**Kanaga Island**	**4.88**	**80**	P	**Pn**	01 46 24.7	0.0
KIKV	**Kanaga Island**	**4.93**	**78**	P	**Pn**	01 46 25.4	-0.1
ADK	**Adak**	**5.23**	**78**	P	**Pn**	01 46 28.4	-1.1
ADK				S	**Sn**	01 47 30.4	+1.7
GSMY	**Great Sitkin M**	**5.63**	**77**	P	**Pn**	01 46 34.5	-0.6
PETK	**Petropavlovsk-**	**10.84**	**287**	Pn	**Pn**	01 47 46.1	-0.4
	1.8nm,0.3s,baz=102,slow=18,SNR=23						
KDAK	**Kodiak Island**	**19.82**	**58**	P	**P**	01 49 40.0	-1.4
	0.6nm,0.3s,baz=249,slow=5.3,SNR=8.0						
ILAR	**Eielson Array**	**23.30**	**41**	P	**P**	01 50 24.3	-0.1
	0.3nm,0.5s,baz=252,slow=6.7,SNR=17						
YKA	**Yellowknife Ar**	**38.18**	**45**	P	**P**	01 52 31.3	+1.4
	0.9nm,0.6s,baz=286,slow=6.7,SNR=16						
NVAR	**Mina Array Bea**	**47.41**	**78**	P	**P**	01 53 45.7	+0.5
	0.3nm,0.5s,baz=303,slow=8.4,SNR=3.1						
PDAR	**Pinedale Array**	**50.04**	**68**	P	**P**	01 54 05.8	+0.5
	0.6nm,0.7s,baz=288,slow=3.2,SNR=6.6						
MKAR	**Makanchi Array**	**57.08**	**305**	P	**P**	01 54 56.3	-0.3
	0.3nm,0.6s,baz=44,slow=5.4,SNR=4.9						

IDC 01 01:46:43.8±8.6, 1.28S×99.69E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.2/44, mbtmp3.2/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/17, Error ellipse: s-maj=446.4km s-min=33.2km az=52.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**27.83**	**256**	T	T	02 20 25.4	
	baz=78,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**27.84**	**256**	T	T	02 20 25.8	
	baz=78,slow=76,SNR=29						
H08S1	**Diego Garcia H**	**27.85**	**256**	T	T	02 20 26.8	
	baz=78,slow=76,SNR=9.2						
WRA	**Warramunga Arr**	**38.62**	**121**	P	P	01 54 09.1	-0.1
	0.2nm,0.5s,baz=297,slow=7.4,SNR=5.0						
ASAR	**Alice Springs**	**39.92**	**127**	LR	LR	02 10 44.1	
	comp=Z,37nm,20.8s,baz=84,slow=36						
KSRS	**Korea Array**	**46.57**	**31**	LR	LR	02 15 35.6	
	comp=Z,13nm,18.1s,baz=5.0,slow=37						
MKAR	**Makanchi Array**	**50.26**	**344**	P	P	01 55 41.8	-0.1
	0.3nm,0.7s,baz=144,slow=7.9,SNR=3.3						
TXAR	**Lajitas Array**	**144.31**	**36**	PKP	PKPdf	02 06 22.0	-0.8
	0.1nm,0.7s,baz=250,slow=1.8,SNR=2.9						

KRSC 01 01:48:43.0±10.0, 50.00N×156.98E, h62km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.88**	**322**	P	Pn	01 49 00.5	+0.9
SKR				S	Sn	01 49 12.6	+0.8
ALID	**Alaid**	**1.27**	**314**	P	Pn	01 49 04.8	+0.1
PAU	**Pauzhetka**	**1.48**	**356**	P	Pn	01 49 09.5	+2.1
PAU				S	Sn	01 49 28.3	+2.6
KDTR	**Khodutka, Kamc**	**1.94**	**20**	P	Pn	01 49 16.3	+2.7
KDTR				S	Sn	01 49 40.2	+3.2
RUS	**Russkaya**	**2.62**	**21**	P	Pn	01 49 25.2	+2.3
RUS				S	Sn	01 49 55.6	+2.0
KRMR	**Karymshinskiy**	**2.93**	**14**	P	Pn	01 49 29.8	+2.8
KRMR				S	Sn	01 50 03.7	+2.7
APC	**Apacha**	**2.94**	**2**	P	Pn	01 49 29.9	+2.8
DALK	**Dalny**	**3.24**	**19**	P	Pn	01 49 34.4	+3.2
DALK				S	Sn	01 50 12.3	+3.8
UGLR	**Uglovaya**	**3.42**	**19**	P	Pn	01 49 37.4	+3.6
AVH	**Avacha**	**3.45**	**18**	P	Pn	01 49 38.2	+3.9
AVH				S	Sn	01 50 18.6	+4.6
KOK	**Koryaka**	**3.46**	**17**	P	Pn	01 49 38.7	+4.3
SMAR	**Somma**	**3.46**	**18**	P	Pn	01 49 38.0	+3.4
SDLR	**Sedlovina**	**3.50**	**19**	P	Pn	01 49 38.2	+3.3
SDLR				S	Sn	01 50 18.7	+3.6
NLC	**Nalytchevo**	**3.51**	**24**	P	Pn	01 49 36.9	+2.0
NLC				S	Sn	01 50 16.9	+1.8
KRX	**Arik**	**3.53**	**16**	P	Pn	01 49 38.8	+3.5
SPN	**Mys Shipunski**	**3.64**	**30**	P	Pn	01 49 39.8	+3.0
SPN				S	Sn	01 50 22.2	+3.8
GNL	**Ganaly**	**3.75**	**9**	P	Pn	01 49 41.7	+3.3
KZV	**Kizimen**	**5.51**	**20**	P	Pn	01 50 07.1	+4.6
KBTR	**Krutoberegovo**	**7.14**	**27**	P	Pn	01 50 26.6	+1.9

ATH 01 02:01:13.7, 38.32N×22.07E, h7km±3km, ML1.0/2, Error ellipse: s-maj=3.2km s-min=1.1km az=12.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**4**	P	Pg	02 01 15.0	-0.2
TRIZ				S	Sg	02 01 16.1	-0.1
KALE	**Kalithea**	**0.09**	**38**	P	Pg	02 01 15.9	0.0
KALE				S	Sg	02 01 17.7	+0.3
KALE				AML	AML	02 01 17.9	
	comp=N,240μm,0.2s						
KALE				AML	AML	02 01 17.9	
	comp=E,234μm,0.2s						
SERG	**Sergoula**	**0.10**	**354**	P	Pg	02 01 15.9	-0.1
SERG				S	Sg	02 01 17.6	+0.2
SERG				AML	AML	02 01 17.9	
	comp=N,371μm,0.2s						
SERG				AML	AML	02 01 17.9	
	comp=E,249μm,0.1s						
LAKA	**Lakka**	**0.11**	**222**	P	Pg	02 01 16.2	+0.2
LAKA				S	Sg	02 01 18.0	+0.3
EFP	**Efpalio**	**0.17**	**310**	P	Pg	02 01 17.1	0.0
EFP				S	Sg	02 01 20.0	+0.6
DSF	**Desfina**	**0.37**	**76**	P	Pg	02 01 20.8	-0.2

IDC 01 02:22:19.4±2.1, 1.46S×129.27E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/31, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=137.3km s-min=25.7km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.03**	**165**	P	P	02 26 41.9	-1.2
	0.1nm,0.3s,baz=345,slow=12,SNR=6.1						
ASAR	**Alice Springs**	**22.53**	**169**	P	P	02 27 21.6	+0.6
	0.5nm,0.5s,baz=351,slow=12,SNR=7.1						
MKAR	**Makanchi Array**	**63.24**	**326**	P	P	02 32 49.8	+0.1
	0.1nm,0.6s,baz=107,slow=7.7,SNR=2.5						

*IDC **01** 02:50:13.0±1.7, 3.29S×147.07E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/25, mbtmp3.9/7, MS3.4/9, Ms1 3.4/9, ms1mx3.2/28, Error ellipse: s-maj=53.6km s-min=22.2km az=107.0*
*ISCJB **01** 02:50:15.6±1.5, 3.3S±0.1×146.9E±0.3, h25km, mb3.8/6, MS3.4/7, Error ellipse: s-maj=44.5km s-min=17.1km az=17.5*
ISC 01 02:50:17.1±1.7, 3.3S±0.2×147.0E±0.3, h25km, n14, σ0°s67/8, mb3.8/6, MS3.4/7, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**14.22**	**116**	LR	LR	02 58 56.7	
	comp=Z,106nm,20.7s,baz=298,slow=37						
GUMO	**Guam**	**16.93**	**353**	LR	LR	03 00 50.4	
	comp=Z,107nm,18.2s,baz=91,slow=38						
WRA	**Warramunga Arr**	**20.64**	**216**	P	**P**	02 54 54.3	-0.7
	5.4nm,0.8s,baz=40,slow=11,SNR=25						
WRA				LR	LR	03 03 09.8	
	comp=Z,95nm,19.4s,baz=55,slow=38						

DJR				Lg	Lg	02 55 06.4		
	8.2nm,0.7s							
DJR	**Jarkent**	**3.17**	**319**	*eP*	**Pb**	**02 54 21.3**	**+1.5**	
DJR	2.1nm,0.2s			*eS*	**Sg**	**02 55 06.4**	**+1.2**	
	8.2nm,0.7s							
SATY	**Saty**	**3.34**	**291**	Pg	**Pb**	**02 54 23.2**	**+0.5**	
SATY	13nm,0.5s			Lg	Lg	02 55 09.8		
	28nm,0.5s							
SATY	**Saty**	**3.34**	**291**	*eP*	**Pb**	**02 54 23.1**	**+0.5**	
SATY	4.0nm,0.2s			*eS*	**Sg**	**02 55 09.8**	**-0.8**	
	28nm,0.5s							
KURS	**Kuram**	**3.65**	**296**	Pg	**Pg**	**02 54 30.9**	**-2.3**	
KURS	4.9nm,0.8s			Lg	Lg	02 55 23.0		
	7.2nm,0.6s							
KURS	**Kuram**	**3.65**	**296**	*eP*	**Pg**	**02 54 30.9**	**-2.3**	
KURS	1.9nm,0.8s			⇓*eS*	**Sg**	**02 55 23.0**	**+2.5**	
	8.9nm,0.5s							
KAPS	**Kapalarasan**	**4.11**	**325**	Pg	**Pb**	**02 54 38.0**	**+2.3**	
KAPS	7.7nm,0.4s			Lg	Lg	02 55 35.1		
	12nm,0.9s							
KAPS	**Kapalarasan**	**4.11**	**325**	*eP*	**Pb**	**02 54 38.0**	**+2.3**	
KAPS	7.7nm,0.4s			*eS*	**Sg**	**02 55 35.1**	**0.0**	
	12nm,0.9s							
ARXS	**Arharly**	**4.20**	**304**	Pg	**Pb**	**02 54 38.7**	**+1.4**	
ARXS	3.4nm,0.6s			Lg	Lg	02 55 36.9		
	17nm,0.3s							
ARXS	**Arharly**	**4.20**	**304**	*eP*	**Pb**	**02 54 38.7**	**+1.4**	
ARXS	3.4nm,0.6s			*eS*	**Sg**	**02 55 36.9**	**-1.3**	
	17nm,0.3s							
KOTS	**Kotyrbulak**	**4.30**	**289**	Pg	**Pb**	**02 54 40.1**	**+1.1**	
KOTS	5.4nm,0.4s			Lg	Lg	02 55 39.1		
	15nm,0.5s							
KOTS	**Kotyrbulak**	**4.30**	**289**	*eP*	**Pb**	**02 54 40.1**	**+1.1**	
KOTS	5.4nm,0.4s			*eS*	**Sg**	**02 55 39.1**	**-2.2**	
	15nm,0.5s							
TNSS	**Tian-Shan**	**4.37**	**286**	Pg	**Pg**	**02 54 44.6**	**-2.4**	
TNSS	7.7nm,0.2s			Lg	Lg	02 55 46.3		
	11nm,0.4s							
TNSS	**Tian-Shan**	**4.37**	**286**	*eP*	**Pg**	**02 54 44.6**	**-2.4**	
TNSS	7.7nm,0.2s			*eS*	**Sg**	**02 55 46.3**	**+2.8**	
	11nm,0.4s							
CHKK	**Chushkaly**	**4.58**	**296**	Pg	**Pb**	**02 54 44.7**	**+0.9**	
CHKK	0.9nm,0.1s			Lg	Lg	02 55 47.0		
	9.2nm,0.3s							
CHKK	**Chushkaly**	**4.58**	**296**	*eP*	**Pb**	**02 54 44.7**	**+0.9**	
CHKK	0.9nm,0.1s			*eS*	**Sg**	**02 55 47.0**	**-3.5**	
	9.2nm,0.3s							
IZV	**Izvestkoviy**	**4.61**	**286**	Pg	**Pb**	**02 54 46.7**	**+2.4**	
IZV	5.0nm,0.2s			Lg	Lg	02 55 50.3		
	24nm,0.3s							
IZV	**Izvestkoviy**	**4.61**	**286**	*eP*	**Pb**	**02 54 46.7**	**+2.4**	
IZV	5.0nm,0.2s			*eS*	**Sg**	**02 55 50.3**	**-0.8**	
	24nm,0.3s							
KTBS	**Karatobe**	**4.74**	**294**	Pg	**Pg**	**02 54 50.8**	**-3.2**	
KTBS	2.8nm,0.5s			Lg	Lg	02 55 57.3		
	13nm,0.4s							
KTBS	**Karatobe**	**4.74**	**294**	*eP*	**Pg**	**02 54 50.9**	**-3.2**	
KTBS	2.8nm,0.5s			*eS*	**Sg**	**02 55 57.2**	**+1.8**	
	13nm,0.4s							
MK31	**Makanchi Array**	**4.85**	**357**	Pn	**Pn**	**02 54 36.1**	**-0.2**	
	0.1nm,0.2s,baz=181,slow=12,SNR=5.6							
MK31				Pg	Pg	02 54 50.6	-5.5	
	2.4nm,0.6s,baz=168,slow=15,SNR=13							
MK31				⇑Lg	Lg	02 55 55.7		
	5.3nm,0.6s,baz=169,slow=28,SNR=5.7							
MAKZ	**Makanchi**	**4.88**	**354**	⇓Pn	**Pn**	**02 54 36.8**	**+0.1**	
MAKZ	1.3nm,0.7s			⇓Pg	**Pb**	**02 54 51.0**	**+2.2**	
	3.3nm,0.9s							
MAKZ				⇑Sn	**Sn**	**02 55 34.9**	**+1.6**	
	2.3nm,0.5s							
MAKZ				⇓Lg	Lg	02 55 57.8		
	6.9nm,1.0s							
KUU	**Kurty**	**5.03**	**295**	Pg	**Pb**	**02 54 54.3**	**+2.8**	
KUU	5.3nm,0.1s			Lg	Lg	02 56 03.3		
	6.5nm,0.6s							
KUU	**Kurty**	**5.03**	**295**	*eP*	**Pb**	**02 54 54.3**	**+2.8**	
KUU	5.3nm,0.1s			*eS*	**Sg**	**02 56 03.3**	**-1.6**	
	6.5nm,0.6s							
KST	**Kastek**	**5.07**	**285**	Pg	**Pb**	**02 54 54.3**	**+2.0**	
KST	7.8nm,0.6s			Lg	Lg	02 56 03.6		
	8.7nm,0.6s							
KST	**Kastek**	**5.07**	**285**	*eP*	**Pb**	**02 54 54.3**	**+2.0**	
KST	7.8nm,0.6s			*eS*	**Sg**	**02 56 03.6**	**-2.6**	
	8.7nm,0.6s							
TKM2	**Tokmak 2**	**5.32**	**283**	⇑Pn	**Pn**	**02 54 44.4**	**+1.4**	
TKM2	3.3nm,0.9s			⇓Lg	Lg	02 56 14.9		
	6.7nm,0.9s							
ZSN	**Zaisan**	**5.71**	**15**	Pg	Pg	02 55 05.6	-7.1	
ZSN	1.5nm,0.3s			Lg	Lg	02 56 22.8		
	3.9nm,0.3s							
ZSN	**Zaisan**	**5.71**	**15**	*eP*	**Pb**	**02 55 05.4**	**+2.3**	
ZSN	0.9nm,0.2s			*eS*	**Sg**	**02 56 22.9**	**-3.8**	
	4.5nm,0.6s							

*ISCJB **01** 02:54:31.8±0.4,24.˝58N±0.˝02×121.˝89E±0.˝02, h67km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=40.5*
*JMA **01** 02:54:31.4±0.1,24.˝53N×121.˝87E, h64km±2km, M2.7*
*TAP **01** 02:54:31.9,24.˝58N×121.˝83E, h66km, ML3.6,B*
ISC 01 02:54:32.2±1.3,24.˝58N±0.˝03×121.˝88E±0.˝02, h66km±5km, n80, σ0s59/144, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	**Suao**	**0.04**	**313**	*i* P		**Pn**	**02 54 41.9**	**+0.1**
TWC	baz=43			*i* S		**Sn**	**02 54 49.1**	**+0.3**
	baz=43							
NANB	**Nanao**	**0.19**	**218**	P		**Pn**	**02 54 42.1**	**-0.2**
NANB	baz=206			*eS*		**Sn**	**02 54 49.5**	**-0.1**
	baz=206							
ENA	**Nanau**	**0.20**	**220**	*eP*		**Pn**	**02 54 42.1**	**-0.2**
ENA	baz=206			*eS*		**Sn**	**02 54 49.8**	**+0.1**
	baz=206							
ILA	**Ilan**	**0.22**	**327**	*eP*		**Pn**	**02 54 42.5**	**0.0**
ILA	baz=338			*eS*		**Sn**	**02 54 51.3**	**+1.5**
	baz=338							
EOS1	**EOS1**	**0.23**	**98**	P		**Pn**	**02 54 43.1**	**+0.7**
EOS1	baz=97			S		**Sn**	**02 54 51.5**	**+1.7**
	baz=97							
TWE	**Neicheng**	**0.24**	**306**	P		**Pn**	**02 54 42.6**	**+0.1**
TWE	baz=314			*eS*		**Sn**	**02 54 50.4**	**+0.4**
	baz=314							
EGS		**0.27**	**10**	*eP*		**Pn**	**02 54 43.2**	**+0.5**
NTC	**Toucheng**	**0.28**	**350**	P		**Pn**	**02 54 43.1**	**+0.3**
NTC	baz=359			S		**Sn**	**02 54 50.9**	**+0.5**
	baz=359							
SLBB	**Yuanshan**	**0.28**	**308**	P		**Pn**	**02 54 43.0**	**+0.1**
SLBB	baz=313			*eS*		**Sn**	**02 54 50.5**	**-0.1**
	baz=313							
ENTT	**Nioudou**	**0.29**	**282**	P		**Pn**	**02 54 42.8**	**-0.1**
ENTT	baz=282			*eS*		**Sn**	**02 54 50.1**	**-0.5**
NDT	**Datong Townshi**	**0.34**	**274**	*eP*		**Pn**	**02 54 43.1**	**-0.1**
NDT	baz=273			*eS*		**Sn**	**02 54 50.9**	**-0.3**
	baz=273							
TIPB	**Shuangxi**	**0.39**	**353**	*i* P		**Pn**	**02 54 44.0**	**+0.2**
TIPB	baz=358			S		**Sn**	**02 54 52.4**	**+0.3**
	baz=358							
NWLT	**Wulai**	**0.40**	**300**	P		**Pn**	**02 54 43.5**	**-0.2**
NWLT	baz=302			S		**Sn**	**02 54 51.5**	**-0.6**
	baz=302							
TWB1	**Santiao Chiao**	**0.44**	**13**	*i* P		**Pn**	**02 54 44.0**	**0.0**
TWB1	baz=19			S		**Sn**	**02 54 52.6**	**-0.1**
	baz=19							
TWA	**Mucha**	**0.48**	**326**	P		**Pn**	**02 54 44.4**	**-0.1**
TWA	baz=330			S		**Sn**	**02 54 53.2**	**-0.2**
	baz=330							
NNS	**Nan Shan**	**0.48**	**253**	P		**Pn**	**02 54 44.4**	**-0.2**
NNS	baz=250			S		**Sn**	**02 54 53.2**	**-0.5**
	baz=250							
NSK	**Sanguang**	**0.48**	**281**	P		**Pn**	**02 54 44.1**	**-0.5**
NSK	baz=281			*eS*		**Sn**	**02 54 52.9**	**-0.7**
	baz=281							
NWF	**Wu-fen Shan**	**0.50**	**349**	P		**Pn**	**02 54 44.9**	**+0.1**
NWF	baz=354			S		**Sn**	**02 54 54.0**	**+0.2**
	baz=354							
NHDH	**Xindian Distri**	**0.50**	**320**	P		**Pn**	**02 54 44.4**	**-0.2**
NHDH	baz=323			S		**Sn**	**02 54 53.5**	**-0.2**
	baz=323							
ETLH	**Xiulin Townshi**	**0.52**	**224**	P		**Pn**	**02 54 44.4**	**-0.6**
ETLH	baz=220			S		**Sn**	**02 54 53.0**	**-1.3**
	baz=220							
TATO	**Taipei**	**0.53**	**318**	P		**Pn**	**02 54 44.6**	**-0.3**
TATO	baz=321			*eS*		**Sn**	**02 54 53.6**	**-0.7**
	baz=321							
TWD	**Chiawan**	**0.56**	**208**	P		**Pn**	**02 54 44.4**	**-0.9**
TWD	baz=202			S		**Sn**	**02 54 53.6**	**-1.3**
	baz=202							
TAP	**Taipei**	**0.57**	**323**	*eP*		**Pn**	**02 54 45.2**	**-0.1**
TAP	baz=327			*eS*		**Sn**	**02 54 55.1**	**+0.1**
	baz=327							
YM01	**YM01**	**0.63**	**333**	P		**Pn**	**02 54 45.9**	**-0.2**
YM01	baz=336			S		**Sn**	**02 54 56.4**	**+0.1**
	baz=336							
WLTB	**Daxi**	**0.63**	**295**	P		**Pn**	**02 54 45.9**	**-0.1**
WLTB	baz=296			*eS*		**Sn**	**02 54 56.3**	**+0.1**
	baz=296							
YM07	**YM07**	**0.64**	**338**	P		**Pn**	**02 54 46.1**	**-0.1**
YM07	baz=341			*eS*		**Sn**	**02 54 56.5**	**+0.1**
	baz=341							
YM10	**YM10**	**0.64**	**333**	P		**Pn**	**02 54 46.0**	**-0.2**
YM10	baz=336			*eS*		**Sn**	**02 54 56.2**	**-0.3**
	baz=336							
YM11	**YM11**	**0.65**	**334**	*eP*		**Pn**	**02 54 46.0**	**-0.3**
YM11	baz=337			*eS*		**Sn**	**02 54 56.5**	**-0.1**
	baz=337							
YM05	**YM05**	**0.65**	**334**	P		**Pn**	**02 54 46.0**	**-0.3**
YM05	baz=337			*eS*		**Sn**	**02 54 56.4**	**-0.2**
	baz=337							
YM04	**YM04**	**0.65**	**331**	*eP*		**Pn**	**02 54 45.5**	**-0.8**
YM04	baz=334			*eS*		**Sn**	**02 54 56.6**	**0.0**
	baz=334							
HWA	**Hwalien**	**0.65**	**203**	*eP*		**Pn**	**02 54 46.2**	**-0.1**
HWA	baz=198			*eS*		**Sn**	**02 54 56.5**	**0.0**
	baz=198							
YM08	**YM08**	**0.66**	**336**	*eP*		**Pn**	**02 54 46.0**	**-0.4**
YM08	baz=339			*eS*		**Sn**	**02 54 56.3**	**-0.5**
	baz=339							
TWS1	**Kuangyinshan**	**0.67**	**321**	P		**Pn**	**02 54 46.5**	**0.0**
TWS1	baz=324			S		**Sn**	**02 54 57.7**	**+0.8**
	baz=324							
YM03	**YM03**	**0.67**	**333**	*eP*		**Pn**	**02 54 46.4**	**-0.2**
YM03	baz=335			*eS*		**Sn**	**02 54 57.0**	**-0.1**
	baz=335							
ANP	**Anpu**	**0.69**	**332**	*eP*		**Pn**	**02 54 46.4**	**-0.4**
ANP	baz=335			*eS*		**Sn**	**02 54 57.2**	**-0.3**
	baz=335							
NTST	**Danshui**	**0.70**	**326**	P		**Pn**	**02 54 46.7**	**-0.1**
NTST	baz=328			S		**Sn**	**02 54 57.9**	**+0.4**
	baz=328							
WHF	**Hehuan Shan**	**0.71**	**232**	*eP*		**Pn**	**02 54 47.0**	**-0.4**
WHF	baz=229			*eS*		**Sn**	**02 54 57.4**	**-1.0**
	baz=229							
ENLB	**Shoufeng**	**0.72**	**201**	P		**Pn**	**02 54 47.1**	**+0.1**
ENLB	baz=197			*eS*		**Sn**	**02 54 59.2**	**+1.2**
	baz=197							
TWT	**Tachien**	**0.72**	**243**	*eP*		**Pn**	**02 54 47.6**	**+0.3**
TWT	baz=241			S		**Sn**	**02 54 58.2**	**-0.1**
	baz=241							
TWY	**Chenhua**	**0.74**	**340**	P		**Pn**	**02 54 47.7**	**+0.4**
TWY	baz=343			*eS*		**Sn**	**02 54 59.5**	**+1.2**
	baz=343							
NCU	**National Centr**	**0.74**	**302**	P		**Pn**	**02 54 46.9**	**-0.4**
NCU	baz=303			S		**Sn**	**02 54 58.5**	**+0.1**
	baz=303							
NCUH	**Zhongli**	**0.74**	**301**	*eP*		**Pn**	**02 54 46.9**	**-0.4**
NCUH	baz=302			*eS*		**Sn**	**02 54 58.2**	**-0.2**
	baz=302							
LIOB	**Emei**	**0.79**	**275**	P		**Pn**	**02 54 46.3**	**-1.6**
LIOB	baz=274			*eS*		**Sn**	**02 54 58.0**	**-1.4**
	baz=274							
NSTT	**Nanjuang**	**0.80**	**274**	*i* P		**Pn**	**02 54 47.6**	**-0.4**
NSTT	baz=273			S		**Sn**	**02 54 59.2**	**-0.5**
	baz=273							
ESL	**Shilin**	**0.87**	**208**	*eP*		**Pn**	**02 54 47.2**	**-1.7**
	baz=205							
OWD	**Renai**	**0.90**	**226**	P		**Pn**	**02 54 49.0**	**-0.3**
OWD	baz=223			S		**Sn**	**02 55 00.8**	**-1.2**
	baz=223							
WHP	**Taichung City**	**0.90**	**251**	P		**Pn**	**02 54 49.8**	**+0.4**
WHP	baz=249			S		**Sn**	**02 55 02.3**	**+0.3**
	baz=249							
JYNG	**Yonagunijimaku**	**0.98**	**97**	P		**Pn**	**02 54 49.7**	**-0.5**
JYNG				*eS*		**Sn**	**02 55 02.6**	**-0.9**
NMLH	**Miaoli**	**0.99**	**268**	P		**Pn**	**02 54 50.3**	**-0.1**
NMLH	baz=267			*eS*		**Sn**	**02 55 03.5**	**-0.4**
	baz=267							
EGFH	**Guangfu**	**1.00**	**205**	*eS*		**Sn**	**02 55 03.6**	**-0.5**
	baz=202							
NSY	**Sanyi**	**1.03**	**261**	*eP*		**Pn**	**02 54 50.7**	**-0.2**
NSY	baz=260			*eS*		**Sn**	**02 55 05.2**	**+0.4**
	baz=260							
TWQ1	**Liyutan**	**1.04**	**257**	*eP*		**Pn**	**02 54 50.6**	**-0.4**
TWQ1	baz=256			*eS*		**Sn**	**02 55 04.4**	**-0.5**
	baz=256							
YOJ	**Yonaguni jima**	**1.04**	**96**	P		**Pn**	**02 54 50.5**	**-0.4**
YOJ	baz=96			S		**Sn**	**02 55 04.6**	**-0.3**
	baz=96							
YOJ	**Yonaguni jima**	**1.04**	**96**	P		**Pn**	**02 54 50.5**	**-0.4**
YOJ				S		**Sn**	**02 55 04.4**	**-0.5**
PCYT	**Pengchaiyu**	**1.06**	**9**	P		**Pn**	**02 54 51.4**	**+0.1**
PCYT	baz=12			*eS*		**Sn**	**02 55 05.8**	**+0.4**
	baz=12							
PTSB	**Yuanli**	**1.08**	**263**	*eP*		**Pn**	**02 54 51.3**	**-0.2**
	baz=262							
SMLT	**Sun Moon Lake**	**1.13**	**232**	*eP*		**Pn**	**02 54 53.2**	**+0.8**
SMLT	baz=230			*eS*		**Sn**	**02 55 08.7**	**+1.4**
	baz=230							
TYC	**Yuchr**	**1.15**	**234**	*eP*		**Pn**	**02 54 53.0**	**+0.6**
	baz=232							
WDJ	**Dajia District**	**1.15**	**259**	*eP*		**Pn**	**02 54 52.3**	**-0.2**
WDJ	baz=257			*eS*		**Sn**	**02 55 07.2**	**-0.4**
	baz=257							
EHY	**Hungye**	**1.19**	**206**	*eP*		**Pn**	**02 54 52.4**	**-0.6**
	baz=203							
WHYT	**Xinyi Township**	**1.29**	**227**	*eP*		**Pn**	**02 54 55.0**	**+0.7**
WHYT	baz=225			*eS*		**Sn**	**02 55 11.9**	**+1.1**
	baz=225							
WJS	**Zhushan**	**1.30**	**235**	*eS*		**Sn**	**02 55 11.4**	**+0.5**
	baz=233							
WNT	**Mingjian**	**1.30**	**238**	*eS*		**Sn**	**02 55 11.2**	**+0.3**
	baz=235							
TWF1	**Yuli**	**1.33**	**204**	*eP*		**Pn**	**02 54 55.1**	**+0.2**
TWF1	baz=201			*eS*		**Sn**	**02 55 12.2**	**+0.3**
	baz=201							
ALS	**Alishan**	**1.45**	**223**	P		**Pn**	**02 54 57.6**	**+0.9**
ALS	baz=221			*eS*		**Sn**	**02 55 16.2**	**+1.2**
	baz=221							
FULB	**Fuli**	**1.48**	**201**	*eP*		**Pn**	**02 54 56.6**	**-0.2**
	baz=199							
WDLH	**Douliu**	**1.52**	**234**	*eP*		**Pn**	**02 54 56.5**	**-0.7**
WDLH	baz=233			*eS*		**Sn**	**02 55 16.3**	**+0.2**
	baz=233							
ELDTW	**Lidau**	**1.60**	**210**	*eP*		**Pn**	**02 54 57.9**	**-0.5**
	baz=208							
CHN4	**Tsaushan**	**1.70**	**224**	P		**Pn**	**02 55 01.0**	**+1.2**
	baz=222							
IRIF	**Iriomote-Funau**	**1.70**	**98**	P		**Pn**	**02 54 59.3**	**-0.5**
WTP	**Ta-pu**	**1.76**	**221**	*eP*		**Pn**	**02 55 01.3**	**+0.6**
	baz=219							
WSF	**Szhu**	**1.78**	**239**	*eS*		**Sn**	**02 55 22.6**	**+0.1**
	baz=237							
TWK	**Hsinying**	**1.83**	**225**	*eP*		**Pn**	**02 55 02.1**	**+0.6**
TWK	baz=222			*eS*		**Sn**	**02 55 24.2**	**+0.5**
	baz=222							
SNST	**Tainan City**	**1.85**	**223**	*eP*		**Pn**	**02 55 01.9**	**0.0**
SNST	baz=222			*eS*		**Sn**	**02 55 24.2**	**-0.1**
	baz=222							
CHN1	**Nanshi**	**1.86**	**222**	*eP*		**Pn**	**02 55 02.5**	**+0.5**
CHN1	baz=220			*eS*		**Sn**	**02 55 25.1**	**+0.6**
	baz=220							
SLGT	**Liugui**	**1.94**	**216**	*eP*		**Pn**	**02 55 03.7**	**+0.7**
SLGT	baz=214			*eS*		**Sn**	**02 55 27.7**	**+1.2**
	baz=214							
JKRS	**Kuro-shima**	**1.97**	**100**	P		**Pn**	**02 55 03.4**	**0.0**
JKRS				S		**Sn**	**02 55 27.1**	**0.0**
JIJ	**Ishigaki jima**	**2.07**	**96**	P		**Pn**	**02 55 04.1**	**-0.7**
JIJ				*eS*		**Sn**	**02 55 28.7**	**-0.9**
JISG	**Ishigakijimahi**	**2.21**	**89**	P		**Pn**	**02 55 06.3**	**-0.3**
JTJ	**Tarama**	**2.57**	**88**	P		**Pn**	**02 55 12.1**	**+0.6**

*NIED **01** 03:08:00,36.˝70N×141.˝80E, h35km, Mw3.7 Best double couple: M0=4.34000×10^14 NP1:φs=220.00000°,δ=24.00000°, λ=101.00000°. NP2:φs=28.00000°,δ=67.00000°,λ=85.00000°.*
*IDC **01** 03:08:45.2±6.8,36.˝60N×142.˝03E, h0km, mb3.6/2, mb1 3.6/3,mb1mx3.4/35,mbtmp3.6/3,ML3.0/1,Error ellipse: s-maj=124.5km s-min=51.7km az=153.0*
*JMA **01** 03:08:50.1±0.2,36.˝75N×141.˝77E, h53km±3km, M3.5*
ISC 01 03:08:48.1±3.2,36.˝74N±0.˝09×141.˝8E±0.˝1, h8km±13km, n18, σ0s90/24, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.89**	**294**	P		**Pb**	**03 09 05.8**	**+0.1**
JFK	**Kawauchi**	**0.97**	**310**	P		**Pg**	**03 09 07.0**	**+0.2**
JHO	**Hitachi**	**1.01**	**263**	P		**Pn**	**03 09 07.4**	**-1.1**
JHO				S		**Sg**	**03 09 20.4**	**-0.2**
JFFD	**Fukushimafurud**	**1.06**	**289**	P		**Pb**	**03 09 08.3**	**-0.4**
JHYU	**Hitachinakayam**	**1.07**	**248**	P		**Pn**	**03 09 08.8**	**-0.5**
JHYU				*eS*		**Sb**	**03 09 22.5**	**-0.3**
JMM	**Marumori**	**1.38**	**324**	P		**Pn**	**03 09 13.3**	**-0.3**
JMM				S		**Sn**	**03 09 30.4**	**-1.7**
JFT	**Otama**	**1.41**	**304**	P		**Pb**	**03 09 14.2**	**-0.4**
JIO	**Ouri**	**1.75**	**348**	P		**Pn**	**03 09 18.5**	**-0.1**
JFY	**Yanaizu**	**1.81**	**292**	P		**Pn**	**03 09 19.7**	**+0.2**
JOU	**Okura**	**1.86**	**331**	P		**Pn**	**03 09 20.7**	**+0.5**
JAG	**Ashikaga**	**1.93**	**261**	P		**Pn**	**03 09 21.0**	**-0.1**
JMK	**Ichinoseki**	**2.25**	**348**	P		**Pn**	**03 09 26.2**	**+0.6**
JYK	**Kaneyama**	**2.46**	**332**	P		**Pn**	**03 09 28.6**	**+0.2**
JRY	**Ryogami san**	**2.46**	**254**	P		**Pn**	**03 09 28.5**	**0.0**
JRY				S		**Sn**	**03 09 57.1**	**-1.6**
MJAR	**Matsushiro Arr**	**2.91**	**267**	Pn		**Pn**	**03 09 35.7**	**+1.1**
	1.9nm,0.3s,baz=90,slow=14,SNR=33							
MJAR				Sn		**Sn**	**03 10 11.5**	**+1.8**
	0.4nm,0.3s,baz=77,slow=27,SNR=5.3							
MAT	**Matsushiro**	**2.91**	**267**	P		**Pn**	**03 09 36.1**	**+1.5**
MAT				S		**Sn**	**03 10 10.8**	**+1.1**
SONM	**Songino Array**	**28.21**	**304**	P		**P**	**03 14 41.6**	**+0.3**
	0.3nm,0.6s,baz=106,slow=7.9,SNR=5.2							
MKAR	**Makanchi Array**	**44.54**	**302**	P		**P**	**03 17 00.2**	**0.0**
	0.4nm,0.8s,baz=84,slow=10,SNR=5.0							

IDC 01 03:13:09.8±1.9,0.˝97S×128.˝24E, h0km, mb3.4/2, mb1 3.7/4,mb1mx3.5/31,mbtmp3.5/4,ML3.5/2,Error ellipse: s-maj=111.6km s-min=24.0km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**17.21**	**188**	P		P	03 17 13.1	-0.3
	0.1nm,0.3s,baz=23,slow=13,SNR=1.9							
WRA	**Warramunga Arr**	**19.77**	**163**	P		P	03 17 40.6	-1.1
	0.2nm,0.3s,baz=340,slow=12,SNR=15							
ASAR	**Alice Springs**	**23.22**	**167**	P		P	03 18 18.9	+0.3
	1.2nm,0.4s,baz=342,slow=9.2,SNR=15							
MKAR	**Makanchi Array**	**62.27**	**326**	P		P	03 23 33.7	0.0
	0.2nm,0.8s,baz=126,slow=7.3,SNR=2.3							

*IDC **01** 03:15:30.0±2.2, 1.˝38N×126.˝77E, h0km, mb3.5/3, mb1 3.8/3,mb1mx3.4/30,mbtmp3.6/3,Error ellipse: s-maj=178.9km s-min=26.1km az=66.0*
*ISCJB **01** 03:15:35.9±1.3, 1.˝3N±0.˝2×126.˝29E±0.˝06, h47km, mb3.5/3, Error ellipse: s-maj=23.6km s-min=7.8km az=7.2*
*DJA **01** 03:15:37.2±1.3, 1.˚N±13.˝×12.˚6E±.˚, h40km±32km, M4.0/4, MLv4.0/4*
ISC 01 03:15:37.5±1.3, 1.˝2N±0.˝2×126.˝30E±0.˝06, h47km, n5, σ1s24/7, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**1.14**	**110**	P		**Pn**	**03 15 57.2**	**+0.2**
TNTI				S		**Sn**	**03 16 12.9**	**+1.5**
KMSI	**Cibinong**	**2.39**	**256**	P		**Pn**	**03 16 14.5**	**+0.3**
KMSI				S		**Sn**	**03 16 43.3**	**+1.1**
WRA	**Warramunga Arr**	**22.40**	**160**	P		**P**	**03 20 30.7**	**-1.5**
	1.1nm,0.4s,baz=340,slow=11,SNR=15							
ASAR	**Alice Springs**	**25.76**	**164**	P		**P**	**03 21 03.4**	**-0.6**
	0.4nm,0.3s,baz=342,slow=7.2,SNR=6.7							
MKAR	**Makanchi Array**	**59.43**	**326**	P		**P**	**03 25 35.1**	**-0.3**
	0.1nm,0.3s,baz=121,slow=8.1,SNR=5.0							

*SOME **01** 03:17:52.9, 42.˝38N×76.˝43E, h0km*
*NNC **01** 03:17:52.5±1.9, 42.˝30N×76.˝38E, h5km±11km, mb2.6, mpv2.5, Error ellipse: s-maj=13.0km s-min=7.8km az=168.0*
*ISCJB **01** 03:17:53.6±0.6, 42.˝33N±0.˝03×76.˝44E±0.˝03, h5km±4km, Error ellipse: s-maj=4.5km s-min=3.2km az=154.8*

*KRNET **01** 03:17:53.7±0.1,42˚.28N×76˚.44E,h20km,mb2.0*
ISC 01 03:17:53.6±1.0,42˚.34N±0˚.03×76˚.40E±0˚.02,h15km±8km,
n32,σ0°94/58,20C-7D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.15**	**229**	⇑	*i*P	**Pg**	**03 17 57.9**	**+0.1**
	baz=58							
ULHL				⇑	*i*S	**Sb**	**03 18 01.1**	**-0.2**
	baz=58							
BOOM	**Boomskoye usch**	**0.37**	**294**	⇓	*i*P	**Pb**	**03 18 02.2**	**+0.2**
	baz=0.0							
BOOM				⇓	*i*S	**Sb**	**03 18 08.4**	**+0.8**
	baz=0.0							
KDJ	**Kajisay**	**0.62**	**110**	⇑	*i*P	**Pg**	**03 18 05.4**	**-0.5**
	baz=5.0							
KDJ				⇑	*i*S	**Sg**	**03 18 13.2**	**-1.0**
	baz=5.0							
IZV	**Izvestkoviy**	**0.71**	**13**	Lg		Lg	03 18 18.0	
	11nm,0.1s							
IZV	**Izvestkoviy**	**0.71**	**13**	*e*P		**Pg**	**03 18 07.2**	**-0.4**
	baz=9.0							
IZV				*e*S		**Sn**	**03 18 19.3**	**-0.7**
	baz=9.0							
IZV	**Izvestkoviy**	**0.71**	**13**	*e*P		**Pg**	**03 18 07.6**	**+0.1**
	0.9nm,0.1s							
IZV				*e*S		**Sb**	**03 18 19.1**	**+1.6**
	12nm,0.2s							
KST	**Kastek**	**0.77**	**336**	P		**Pg**	**03 18 06.6**	**-2.1**
	1.6nm,0.1s							
KST				S		**Sg**	**03 18 18.1**	**-0.7**
	2.7nm,0.2s							
MTBS	**Maitube**	**0.79**	**2**	P		**Pg**	**03 18 07.6**	**-1.3**
	3.7nm,0.1s							
MTBS				S		**Sg**	**03 18 20.0**	**+0.6**
	11nm,0.3s							
TKM2	**Tokmak 2**	**0.82**	**315**	⇓	P	**Pb**	**03 18 10.6**	**+0.8**
	0.4nm,0.2s							
TKM2				⇑	S	**Sn**	**03 18 22.6**	**-0.3**
	2.5nm,0.3s							
TKM2	**Tokmak 2**	**0.82**	**315**	⇑	*i*P	**Pn**	**03 18 10.7**	**-0.2**
	baz=16							
TKM2				⇑	*i*S	**Sn**	**03 18 22.9**	**0.0**
	baz=16							
KZA	**Kyzart**	**0.89**	**253**	⇓	*i*P	**Pg**	**03 18 10.8**	**-0.2**
	baz=58							
KZA				⇓	*i*S	**Sb**	**03 18 23.3**	**+0.4**
	baz=58							
DGS	**Degeres**	**1.01**	**333**	P		**Pb**	**03 18 10.2**	**-2.7**
	1.1nm,0.1s							
DGS				S		**Sb**	**03 18 24.3**	**-1.7**
	1.9nm,0.1s							
DGS	**Degeres**	**1.01**	**333**	*e*P		**Pb**	**03 18 11.2**	**-1.6**
	1.1nm,0.1s							
DGS				*e*S		**Sb**	**03 18 25.8**	**-0.2**
	1.9nm,0.1s							
KOTS	**Kotyrbulak**	**1.03**	**30**	P		**Pb**	**03 18 13.1**	**-0.2**
	3.3nm,0.3s							
KOTS				S		**Sn**	**03 18 29.0**	**+0.9**
	12nm,0.2s							
KOTS	**Kotyrbulak**	**1.03**	**30**	*e*P		**Pb**	**03 18 13.1**	**-0.2**
	baz=27							
KOTS				*e*S		**Sn**	**03 18 28.9**	**+0.9**
	baz=27							
KOTS	**Kotyrbulak**	**1.03**	**30**	*e*P		**Pb**	**03 18 12.8**	**-0.5**
	1.8nm,0.3s							
KOTS				*e*S		**Sn**	**03 18 28.8**	**+0.8**
	12nm,0.2s							
KBK	**Karagaybulak**	**1.11**	**287**	⇑	*i*P	**Pg**	**03 18 15.6**	**+0.4**
	baz=89							
KBK				⇑	*i*S	**Sn**	**03 18 31.2**	**+1.2**
	baz=89							
UCH	**Uchtor**	**1.40**	**266**	⇑	*i*P	**Pg**	**03 18 20.5**	**-0.2**
	baz=69							
UCH				⇑	*i*S	**Sg**	**03 18 39.5**	**+0.5**
	baz=69							
AAK	**Ala-Archa**	**1.44**	**282**	⇑	Pg	**Pn**	**03 18 17.3**	**-2.0**
	0.7nm,0.6s							
AAK				⇓	Lg	Lg	03 18 37.9	
	1.3nm,0.4s							
AAK	**Ala-Archa**	**1.44**	**282**	⇑	*i*P	**Pb**	**03 18 20.9**	**+0.7**
	baz=85							
AAK				⇑	*i*S	**Sg**	**03 18 40.6**	**+0.6**
	baz=85							
KUU	**Kurty**	**1.55**	**358**	Lg		Lg	03 18 45.0	
	3.5nm,0.2s							
KUU	**Kurty**	**1.55**	**358**	*e*P		**Pb**	**03 18 22.4**	**+0.4**
	baz=57							
KUU				⇓	*i*S	**Sg**	**03 18 45.1**	**+1.5**
	baz=57							
KUU	**Kurty**	**1.55**	**358**	*e*P		**Pb**	**03 18 21.9**	**-0.1**
	0.4nm,0.1s							
KUU				*e*S		**Sg**	**03 18 44.2**	**+0.6**
	4.0nm,0.2s							
CHKK	**Chushkaly**	**1.57**	**16**	P		**Pb**	**03 18 22.6**	**+0.3**
	1.2nm,0.1s							
CHKK				S		**Sg**	**03 18 45.6**	**+1.3**
	10.0nm,0.1s							
CHKK	**Chushkaly**	**1.57**	**16**	*e*P		**Pb**	**03 18 22.6**	**+0.3**
	baz=14							
CHKK				*e*S		**Sg**	**03 18 45.6**	**+1.3**
	baz=14							
CHKK	**Chushkaly**	**1.57**	**16**	*e*P		**Pb**	**03 18 22.7**	**+0.3**
	1.2nm,0.1s							
CHKK				*e*S		**Sg**	**03 18 45.6**	**+1.3**
	10.0nm,0.1s							
ARLS	**Aral**	**1.62**	**253**	⇑	*i*P	**Pb**	**03 18 23.1**	**-0.1**
	baz=56							
ARLS				⇑	*i*S	**Sg**	**03 18 44.8**	**-0.9**
	baz=56							
SATY	**Saty**	**1.65**	**64**	P		**Pn**	**03 18 22.0**	**-0.1**
	1.4nm,0.1s							
SATY				S		**Sb**	**03 18 44.7**	**+0.4**
	3.9nm,0.1s							
USP	**Ospenovka**	**1.67**	**304**	⇑	*i*P	**Pb**	**03 18 25.2**	**+1.1**
	baz=5.0							
USP				⇑	*i*S	**Sg**	**03 18 48.0**	**+0.5**
	baz=5.0							
SGDS	**Sogindy**	**1.71**	**311**	P		**Pn**	**03 18 22.6**	**-0.3**
	1.3nm,0.3s							
SGDS				S		**Sn**	**03 18 45.5**	**+1.1**
	1.6nm,0.2s							
AML	**Almayashu**	**2.02**	**265**	⇑	*i*P	**Pb**	**03 18 30.1**	**-0.1**
	baz=67							
AML				⇑	*i*S	**Sb**	**03 18 55.9**	**+0.7**
	baz=67							
ARXS	**Arharly**	**2.14**	**29**	Pg		**Pb**	**03 18 32.1**	**0.0**
	0.6nm,0.3s							
ARXS				Lg		Lg	03 19 01.8	
	3.0nm,0.1s							

*BJI **01** 03:29:46.4,21˚.87N×143˚.99E,h161km,mb5.7/82, mB5.6/60*
*NEIC **01** 03:29:46.8±0.1,21˚.76N×143˚.98E,mb5.3/294,MW5.4, Error ellipse: s-maj=1.8km s-min=1.7km az=143.0, Moment Tensor Solution. s26 Moment tensor: Scale 10^{17}Nm; M_{rr}0.10; $M_{\theta\theta}$-0.53; $M_{\phi\phi}$0.44; $M_{r\theta}$1.22; $M_{\theta\phi}$0.17; $M_{\phi r}$1.21; Best double couple: $M_0$1.80000×10^{17} NP1: ϕ_s316.00000°,δ16.00000°,λ179.00000°. NP2: ϕ_s48.00000°,δ90.00000°,λ74.00000°. Principal axes: T 1.8800, Plg43.0000°, Azm302.0000°; N -0.1900, Plg16.0000°, Azm48.0000°; P -1.6900, Plg42.0000°, Azm153.0000°;*
*GCMT **01** 03:29:47.8±0.1,21˚.86N±0˚.01×144˚.22E±0˚.01, h152km,MW5.5/136,Moment Tensor Solution. s111,c195; s136,c279; Duration: 1§3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.71±.02; $M_{\theta\theta}$-1.32±.03; $M_{\phi\phi}$0.61±.03; $M_{r\theta}$1.01±.02; $M_{\theta\phi}$0.49±.03; $M_{\phi r}$1.39±.02; Best double couple: $M_0$2.05200×10^{17} NP1:ϕ_s60.00000°,δ77.00000°, λ54.00000°. NP2:ϕ_s313.00000°,δ38.00000°,λ159.00000°. Principal axes: T 2.3640, Plg45.0000°, Azm294.0000°; N -0.6200, Plg35.0000°, Azm69.0000°; P -1.7400, Plg24.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*ISCJB **01** 03:29:47.6±0.4,21˚.82N±0˚.02×143˚.99E±0˚.02, h169km±3km,mb5.3/465 Error ellipse: s-maj=2.9km s-min=2.5km az=157.9*
*MOS **01** 03:29:48.2±0.9,21˚.75N×143˚.86E,h180km,mb5.5/115, Error ellipse: s-maj=6.5km s-min=3.6km az=112.3*
*IDC **01** 03:29:48.1±0.5,21˚.78N×144˚.02E,h164km±3km,mb5.1/34, mb1 5.2/39,mb1mx5.1/42,mbtmp5.6/39,MS4.2/17,*

Ms1 4.2/17,ms1mx3.9/45,Error ellipse: s-maj=9.8km s-min=7.4km az=78.0
ISC 01 03:29:47.6±0.3,21˚.81N±0˚.03×144˚.08E±0˚.04,h163km±1km,
h163km:pP-P,n1215,σ1§39/1385,mb5.3/464,97C-21D,
Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**5.33**	**162**	*e*	Pn	**Pn**	**03 31 05.5**	**-0.3**
CBIJ	**Chichi jima**	**5.54**	**342**		P	**Pn**	**03 31 08.2**	**0.0**
CBIJ					S	**Sn**	**03 32 07.8**	**-3.7**
CBIJ	**Chichi jima**	**5.54**	**342**		P	**Pn**	**03 31 07.6**	**-0.7**
JCJ	**Chichijima**	**5.54**	**342**		P	**Pn**	**03 31 08.2**	**0.0**
	672nm,0.3s,baz=276,slow=23,SNR=282							
JCJ					S	**Sn**	**03 32 07.8**	**-3.7**
	688nm,0.3s,baz=129,slow=24,SNR=16							
JCJ					LR	LR	03 32 26.9	
	comp=Z,2μm,21.3s,baz=140,slow=29							
ANA2	**Anatahan**	**5.66**	**164**	*e*	Pn	**Pn**	**03 31 08.7**	**-1.3**
ANA2				*e*	Sn	**Sn**	**03 32 11.9**	**-2.6**
GUMO	**Guam**	**8.21**	**175**	*e*	Pn	**Pn**	**03 31 44.3**	**+0.4**
GUMO	**Guam**	**8.21**	**175**		P	**Pn**	**03 31 45.1**	**+1.2**
	20nm,0.3s,baz=177,slow=3.4,SNR=32							
GUMO					LR	LR	03 34 03.0	
	comp=Z,2μm,20.2s,baz=3.0,slow=31							
JHJ2	**Mitsune**	**11.87**	**342**	*e*	Pn	**Pn**	**03 32 31.8**	**0.0**
JHJ2	**Mitsune**	**11.87**	**342**		P	**Pn**	**03 32 32.8**	**+1.0**
JHJ	**Hachijo jima 2**	**11.89**	**342**		P	**Pn**	**03 32 32.4**	**+0.3**
	40nm,0.3s,baz=59,slow=22,SNR=12							
JMZ	**Minamidaito 2**	**12.42**	**291**		P	**Pn**	**03 32 39.5**	**+0.5**
JSG	**Sagara**	**13.82**	**339**		P	**Pn**	**03 32 56.7**	**0.0**
JOD2	**Odawara 2**	**14.10**	**343**		P	**Pn**	**03 33 00.2**	**0.0**
JIE	**Ise**	**14.11**	**334**		P	**Pn**	**03 33 01.0**	**+0.6**
JAM	**Amami Oshima**	**14.66**	**300**		P	**P**	**03 33 09.9**	**+0.7**
JYT	**Yasato**	**14.76**	**348**		P	**Pn**	**03 33 08.7**	**+0.3**
INU	**Inuyama**	**14.84**	**337**	*e*	Pn	**Pn**	**03 33 09.3**	**-0.1**
JRY	**Ryogami san**	**14.86**	**343**		P	**Pn**	**03 33 08.8**	**-0.9**
JRY					S	**Sn**	**03 35 47.0**	**-8.0**
JMN	**Monobe**	**14.90**	**325**		P	**P**	**03 33 13.0**	**+1.1**
JGF	**Kuroka**	**14.94**	**338**		P	**Pn**	**03 33 10.8**	**0.0**
JOW	**Kunigami**	**15.24**	**292**	*e*	Pn	**Pn**	**03 33 13.9**	**-0.6**
	397nm,1.5s							
JOW	**Kunigami**	**15.24**	**292**		P	**P**	**03 33 15.9**	**+0.2**
JOW	**Kunigami**	**15.24**	**292**		P	**P**	**03 33 15.2**	**-0.5**
	4.0nm,0.3s,baz=122,slow=14,SNR=40							
JWT	**Wachi**	**15.42**	**332**		P	**Pn**	**03 33 17.1**	**+0.5**
JGN	**Niukaw**	**15.52**	**339**		P	**P**	**03 33 18.4**	**-0.4**
JGN					S	**Sn**	**03 36 03.4**	**-7.6**
MJAR	**Matsushiro Arr**	**15.54**	**342**		P	**Pn**	**03 33 17.3**	**-0.8**
	3.3nm,0.3s,baz=159,slow=9.8,SNR=107							
MJAR					S	**Sn**	**03 36 06.1**	**-5.2**
	0.1nm,0.3s,baz=98,slow=22,SNR=4.6							
MJAR					ScP	**ScP**	**03 41 26.7**	**-1.9**
	0.1nm,0.3s,baz=186,slow=3.4,SNR=25							
MAJO	**Matsushiro**	**15.54**	**342**	*e*	Pn	**Pn**	**03 33 17.6**	**-0.5**
MAJO				*e*	S	**Sn**	**03 36 05.8**	**-5.6**
MAJO	**Matsushiro**	**15.54**	**342**	*c*	*i*P	**Pn**	**03 33 16.9**	**-1.2**
MAT	**Matsushiro**	**15.54**	**342**		P	**Pn**	**03 33 16.7**	**-1.4**
MAT					S	**Sn**	**03 36 02.2**	**-9.2**
MAT	**Matsushiro**	**15.54**	**342**		P	**Pn**	**03 33 17.5**	**-0.6**
MJB9	**Matsu-Tunnel**	**15.55**	**342**	*e*	Pn	**Pn**	**03 33 17.9**	**-0.3**
	628nm,1.1s							
JAD	**Aida**	**15.71**	**329**		P	**P**	**03 33 20.7**	**0.0**
JNU	**Nakatsue**	**16.23**	**317**		P	**P**	**03 33 27.2**	**+0.6**
JNU	**Nakatsue**	**16.23**	**317**		P	**P**	**03 33 28.0**	**+1.4**
	25nm,0.3s,baz=113,slow=5.9,SNR=140							
JNU					ScP	**ScP**	**03 41 28.8**	**-1.2**
	0.2nm,0.3s,baz=49,slow=1.9,SNR=4.6							
JMM	**Marumori**	**16.25**	**351**		P	**P**	**03 33 27.7**	**+1.0**
JHS	**Saijyo**	**16.28**	**326**		P	**Pn**	**03 33 28.8**	**+1.7**
JSD	**Sado**	**16.93**	**344**		P	**P**	**03 33 34.1**	**-0.1**
JYA	**Atsumi**	**17.14**	**348**		P	**Pn**	**03 33 37.8**	**+0.4**
JFU	**Fukue jima 2**	**17.37**	**312**		P	**P**	**03 33 37.9**	**-1.2**
JOM	**Ohasama**	**17.77**	**353**		P	**Pn**	**03 33 46.0**	**+1.1**
JOM					S	**S**	**03 36 58.1**	**-1.2**
JTU	**Tsushima**	**18.08**	**318**		P	**Pn**	**03 33 47.8**	**-0.8**
JTM	**Tenmabayashi**	**19.09**	**353**		P	**Pn**	**03 34 00.2**	**-0.2**
YOJ	**Yonaguni jima**	**19.55**	**282**	*e*	P	**P**	**03 34 02.0**	**-0.9**
	602nm,1.1s							
YOJ	**Yonaguni jima**	**19.55**	**282**	*e*	P	**P**	**03 34 02.0**	**-0.9**
YOJ					pmax	pmax		
	comp=Z,602nm,1.1s							
JOT	**Ohata**	**19.68**	**353**		P	**Pn**	**03 34 06.5**	**-0.8**
ERM	**Erimo**	**20.16**	**358**	*e*	P	**P**	**03 34 10.5**	**+1.2**
	comp=Z,300nm,1.1s							
ERM	**Erimo**	**20.16**	**358**	*c*	eP	Pn	03 34 11.8	-1.2
ERM					pmax	pmax		
	comp=Z,450nm,1.7s							
JEM	**Erimo**	**20.16**	**358**		P	Pn	03 34 12.9	-0.1
PATS	**Pohnpei**	**20.27**	**135**	*e*	P	**P**	**03 34 11.1**	**+0.4**
	comp=Z,211nm,0.7s							
PATS				*e*	S	**S**	**03 37 52.7**	**+3.5**
TJN	**Taejon**	**20.54**	**319**	*c*	eP	**P**	**03 34 12.1**	**-1.3**
KSRS	**Korea Array**	**20.93**	**322**		P	**P**	**03 34 18.2**	**+0.7**
	comp=Z,533nm,0.8s,baz=164,slow=6.5,SNR=149							
KSRS					S	**S**	**03 38 06.4**	**+4.8**
	comp=Z,38nm,1.2s,baz=148,slow=15,SNR=9.6							
KSRS					LR	LR	03 41 25.3	
	comp=Z,539nm,19.3s,baz=135,slow=33							
KSRS					ScP	**ScP**	**03 41 39.5**	**-0.6**
	comp=Z,13nm,0.9s,baz=124,slow=2.6,SNR=20							
KS15	**Wonju Array Si**	**20.94**	**322**	*e*	P	**P**	**03 34 18.1**	**+0.5**
KSAR	**Wonju Array Be**	**20.94**	**322**		P	**P**	**03 34 18.2**	**+0.5**
KSAR					S	**S**	**03 38 06.4**	**+4.5**
KSAR					ScP	**ScP**	**03 41 39.5**	**-0.7**
KSAR	**Wonju Array Be**	**20.94**	**322**		P	**P**	**03 34 18.2**	**+0.5**
PALP	**Palanan**	**20.95**	**261**	*e*	P	**P**	**03 34 18.7**	**+0.7**
KS01	**Wonju Array Si**	**20.96**	**322**	*e*	P	**P**	**03 34 18.3**	**+0.4**
TATO	**Taipei**	**20.96**	**283**	*e*	P	**P**	**03 34 18.0**	**0.0**
	comp=Z,97nm,1.0s							
JSH	**Shimam**	**21.05**	**352**		P	**P**	**03 34 20.7**	**+2.0**
YHNB	**Yeheng**	**21.05**	**282**	*e*	P	**P**	**03 34 18.4**	**-0.7**
	comp=Z,465nm,1.2s							
JEW	**Eniwo**	**21.08**	**355**		P	**P**	**03 34 20.8**	**+1.7**
TWG	**Pinlang**	**21.30**	**277**	*e*	P	**P**	**03 34 21.2**	**-0.5**
	comp=Z,543nm,1.1s							
SSLB	**Suanglung**	**21.40**	**280**	*e*	P	**P**	**03 34 22.9**	**+0.1**
	comp=Z,350nm,0.7s							
H11N1	**WAKE ISLAND Hy**	**21.43**	**91**		T	T	03 57 17.5	
	baz=283,slow=74,SNR=11							
H11N2	**WAKE ISLAND Hy**	**21.44**	**91**		T	T	03 57 34.7	
	baz=283,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hy**	**21.45**	**91**		T	T	03 57 33.5	
	baz=283,slow=74,SNR=7.4							
H11S3	**WAKE ISLAND Hy**	**21.48**	**95**		T	T	03 57 35.1	
	baz=284,slow=74,SNR=13							
H11S1	**WAKE ISLAND Hy**	**21.49**	**95**		T	T	03 57 27.5	
	baz=284,slow=74,SNR=9.2							
H11S2	**WAKE ISLAND Hy**	**21.50**	**95**		T	T	03 57 16.8	
	baz=284,slow=74,SNR=8.8							
CAUP	**Cauayan**	**21.54**	**261**	*e*	P	**P**	**03 34 26.0**	**+1.8**
TPUB	**Ta-pu**	**21.70**	**278**	*e*	P	**P**	**03 34 25.4**	**-0.6**
	comp=Z,247nm,1.2s							
MSLP	**Maasin**	**21.79**	**241**	*e*	P	**P**	**03 34 27.6**	**+0.7**
APYP	**Conner**	**21.83**	**264**	*e*	P	**P**	**03 34 27.7**	**+0.5**
AUQP	**San Andres**	**22.06**	**251**	*e*	P	**P**	**03 34 33.5**	**+3.9**
BALP	**Baler**	**22.13**	**258**	*e*	P	**P**	**03 34 30.3**	**+0.1**
JMP	**Maruseppu**	**22.14**	**359**		P	**P**	**03 34 32.0**	**+1.8**
YUK	**Yuzh-Kuril'sk**	**22.21**		*c*	*i*P	**P**	**03 34 31.6**	**+0.8**
YUK					*e*S	**S**	**03 38 27.8**	**+4.5**
YUK					*i* *SS	**sS**	**03 39 21.2**	**+7.3**
YUK					pmax	pmax		
	comp=Z,481nm,1.9s							
YUK					pmax	pmax		
	comp=E,235nm,1.4s							
YUK					pmax	pmax		
	comp=Z,388nm,1.4s							
YUK					pmax	pmax		
	comp=N,210nm,1.5s							
ASAJ	**Asahikawa**	**22.28**	**357**		P	**P**	**03 34 33.0**	**+1.6**
ASAJ	**Asahikawa**	**22.28**	**357**		P	**P**	**03 34 32.5**	**+1.0**
	comp=N,91nm,0.8s,baz=213,slow=13,SNR=42							
ASAJ					ScP	**ScP**	**03 41 42.1**	**-1.3**
	comp=N,11nm,1.0s,baz=268,slow=24,SNR=3.7							
ABRA	**Dolores**	**22.37**	**263**	*e*	P	**P**	**03 34 31.9**	**-0.7**
SSE	**Sheshan**	**22.45**	**299**		P	**P**	**03 34 32.6**	**-0.6**
SSE					pmax	pmax		
	comp=N,200nm,1.0s							
SSE					pmax	pmax		
	comp=N,2μm,3.5s							
SSE					LR	LR		
	comp=N,420nm,14.7s							
SSE	**Sheshan**	**22.45**	**299**	*e*	P	**P**	**03 34 33.1**	**-0.1**
	comp=N,2μm,1.0s							
BOAC	**Boac**	**22.73**	**252**	*e*	P	**P**	**03 34 36.5**	**+0.5**
RCP	**Roxas**	**22.80**	**247**	⇑	*e*P	**P**	**03 34 37.6**	**+1.0**
SMPP	**San Manuel, Pa**	**22.82**	**260**	*e*	P	**P**	**03 34 36.0**	**-0.8**
BUKP	**Musuan**	**22.97**	**236**	*e*	P	**P**	**03 34 38.9**	**+0.6**
OTRP	**Odiongan**	**23.05**	**250**	*e*	P	**P**	**03 34 41.6**	**+2.7**
TGY	**Tagaytay City**	**23.29**	**255**		P	**P**	**03 34 41.7**	**+0.6**
	comp=N,370nm,0.4s,baz=90,slow=2.2,SNR=36							
MSHR	**Mys Shultsa**	**23.36**	**335**	*i*	P	**P**	**03 34 42.6**	**+1.2**
BOLP	**Bolinao**	**23.45**	**261**	*e*	P	**P**	**03 34 42.3**	**-0.2**
KCP	**Kidapawan**	**23.51**	**234**	⇓	*i*P	**P**	**03 34 44.3**	**+1.2**
VLA	**Vladivostok**	**23.56**	**337**	*i*	P	**P**	**03 34 45.2**	**+2.0**
VLA					pmax	pmax		
	comp=Z,457nm,1.1s							
KUR	**Kuril'sk**	**23.57**	**7**	*e*	P	**P**	**03 34 45.7**	**+2.4**
KUR				*e*	S	**S**	**03 38 45.7**	**+0.5**
KUR					pmax	pmax		
	comp=Z,175nm,1.5s							
QZH	**Quanzhou**	**23.59**	**283**	⇑	*i*P	**P**	**03 34 43.1**	**-0.6**
QZH					sP	**sP**	**03 35 32.6**	**-1.4**
QZH					pmax	pmax		
	comp=Z,79nm,1.0s							
QZH					pmax	pmax		
	comp=Z,830nm,5.5s							
QZH					LR	LR		
	comp=Z,380nm,9.7s							
SJMP	**San Jose**	**23.80**	**251**	*e*	P	**P**	**03 34 48.2**	**+2.5**
MANU	**Manus Island**	**23.93**	**172**	*e*	P	**P**	**03 34 45.9**	**-1.0**
	comp=Z,414nm,0.6s							
TEY	**Ternei**	**23.97**	**347**	⇑	*e*P	**P**	**03 34 48.5**	**+1.6**
TEY					pmax	pmax		
	comp=Z,100nm,0.9s							
TEY					pmax	pmax		
	comp=E,40nm,1.0s							
TEY					pmax	pmax		
	comp=N,70nm,0.9s							
TEY					pmax	pmax		
	comp=Z,800nm,1.7s							
TEY					pmax	pmax		
	comp=N,300nm,2.8s							
SKMP	**Bagumbayan, Su**	**24.23**	**234**	*e*	P	**P**	**03 34 50.5**	**+0.8**
PAGZ	**Pagadian**	**24.30**	**238**	*e*	P	**P**	**03 34 50.7**	**+0.5**
JAY	**Jayapura**	**24.40**	**188**		P	**P**	**03 34 47.9**	**-3.3**
USA0B	**Ussuriysk Arra**	**24.47**	**339**	*e*	P	**P**	**03 34 52.1**	**+0.7**
	comp=N,256nm,1.3s							
USRK	**Ussuriysk Ar.**	**24.47**	**339**		P	**P**	**03 34 52.9**	**+1.4**
	comp=N,50nm,0.7s,baz=141,slow=7.2,SNR=49							
USRK					ScP	**ScP**	**03 41 48.2**	**-1.0**
	comp=N,3.4nm,0.7s,baz=144,slow=2.7,SNR=6.9							
GENI	**Genyem**	**24.55**	**189**		P	**P**	**03 34 50.2**	**-2.3**
NJ2	**Nanjing**	**24.64**	**300**	*e*	P	**P**	**03 34 52.7**	**-0.5**
NJ2					pP	**pP**	**03 35 24.5**	**-0.8**
NJ2					S	**S**	**03 39 03.0**	**+0.4**
NJ2					sS	**sS**	**03 39 54.5**	**-5.9**
NJ2					pmax	pmax		
	comp=N,330nm,1.2s							
NJ2					pmax	pmax		
	comp=N,1μm,4.0s							
NJ2					LR	LR		
	comp=N,1μm,17.9s							
NJ2					LR	LR		
	comp=N,880nm,16.3s							
NJ2					LR	LR		
	comp=N,1μm,13.0s							
YSS	**Yuzh-Sakhalins**	**25.11**	**358**	*e*	P	**P**	**03 34 57.1**	**-0.1**
	comp=N,58nm,0.8s							
YSS	**Yuzh-Sakhalins**	**25.11**	**358**	⇑	*i*P	**P**	**03 34 58.7**	**+1.5**
YSS					*e**PP	**pP**	**03 35 30.8**	**+1.4**
YSS					*e*S	**S**	**03 39 08.2**	**-1.4**
YSS					pmax	pmax		
	comp=Z,60nm,0.7s							
YSS					MLR	MLR		
	comp=N,500nm,18.0s							
YSS					MLR	MLR		
	comp=Z,400nm,18.0s							
YSS					MLR	MLR		
	comp=E,700nm,15.0s							
DL2	**Dalian**	**25.69**	**317**	⇑	*i*P	**P**	**03 35 04.6**	**+2.0**
DL2					sP	**sP**	**03 35 52.7**	**-0.9**
DL2					PcP	**PcP**	**03 38 29.4**	**+0.8**
DL2					S	**S**	**03 39 25.8**	**+6.8**
DL2					ScP	**ScP**	**03 41 46.8**	**-6.0**
DL2					ScS	**ScS**	**03 45 40.7**	**-1.6**
DL2					pmax	pmax		
	comp=E,3μm,3.6s							
MDJ	**Mudanjiang**	**25.69**	**336**		P	**P**	**03 35 03.7**	**+1.1**
MDJ					S	**S**	**03 39 23.5**	**+4.5**
MDJ					pmax	pmax		
	comp=E,45nm,1.1s							
MDJ					pmax	pmax		
	comp=E,150nm,4.9s							
MDJ	**Mudanjiang**	**25.69**	**336**	*e*	P	**P**	**03 35 03.3**	**+0.8**
	comp=E,127nm,1.4s							
SNY	**Shenyang**	**26.37**	**324**	⇑	P	**P**	**03 35 07.9**	**-0.7**
SNY					pmax	pmax		
	comp=E,250nm,0.9s							
SNY					pmax	pmax		
	comp=E,770nm,3.6s							
SNY					LR	LR		
	comp=E,750nm,19.7s							
SNY					LR	LR		
	comp=E,1μm,12.1s							
SNY					LR	LR		
	comp=E,1μm,12.0s							
CN2	**Changchun**	**26.82**	**329**	*e*	P	**P**	**03 35 12.8**	**+0.1**
CN2				*e*	sP	sP	03 36 04.7	+1.2
CN2				*e*	S	**S**	**03 39

BJI pP **pP** **03 36 10.3 -2.8**
BJI PcP **PcP** **03 38 39.7 +0.9**
BJI S **S** **03 40 26.6 +1.9**
BJI ScP **ScP** **03 42 04.5 -1.2**
BJI pmax pmax
comp=Z,33nm,1.5s
BJI pmax pmax
comp=Z,480nm,4.0s
KDM Kudat 30.18 245 P **P** **03 35 45.2 +2.4**
MRSI Marisa 30.25 228 P **P** **03 35 44.7 +1.3**
comp=Z,17nm,0.7s
SDKM Sandakan 30.57 242 P **P** **03 35 49.0 +2.6**
KKM Kota Kinabalu 31.16 244 P **P** **03 35 54.0 +2.4**
TIY Taiyuan 31.52 307 *e*P **P** **03 35 54.3 -0.2**
TIY pP **pwP** **03 36 31.6 +1.2**
TIY sP **sP** **03 36 47.2 +0.5**
TIY PP **PP** **03 37 08.2 -0.7**
TIY S **S** **03 40 53.6 +2.7**
TIY sS **sS** **03 41 53.6 +3.9**
TIY pmax pmax
comp=Z,64nm,0.7s
TIY LR LR
comp=Z,330nm,11.2s
TIY LR LR
comp=Z,290nm,5.2s
TIY LR LR
comp=Z,360nm,14.5s
ENH Enshi 32.10 292 *e*P **P** **03 35 59.5 0.0**
comp=Z,146nm,1.3s
QIZ Qiongzhong 32.16 271 P **P** **03 35 59.8 -0.4**
QIZ PP **PP** **03 37 15.6 -0.6**
QIZ S **S** **03 40 59.7 -1.4**
QIZ pmax pmax
comp=Z,29nm,2.1s
QIZ LR LR
comp=Z,580nm,15.6s
QIZ LR LR
comp=Z,180nm,6.9s
QIZ LR LR
comp=Z,430nm,28.4s
PETK Petropavlovsk- 32.95 15 P **P** **03 36 07.8 +1.2**
comp=Z,10nm,1.0s,baz=191,slow=6.8,SNR=8.6
PETK PcP **PcP** **03 38 47.1 +0.2**
comp=Z,6.7nm,0.8s,baz=164,slow=5.8,SNR=3.7
PETK ScP **ScP** **03 42 13.9 -1.9**
comp=Z,14nm,1.1s,baz=197,slow=4.5,SNR=6.7
PET Petropavlovsk 33.11 16 *e*P **P** **03 36 09.6 +1.6**
comp=Z,117nm,1.4s
PET Petropavlovsk 33.11 16⇓ *i*P **P** **03 36 10.2 +2.3**
PET *e**PP **pwP** **03 36 47.1 -1.1**
PET *e*S **S** **03 41 16.1 +1.3**
PET pmax pmax
comp=Z,65nm,1.4s
PET MLR MLR
comp=Z,500nm,16.0s
XAN Xi'an 33.20 299 P **P** **03 36 08.7 -0.4**
XAN pP pP 03 36 42.4 -0.3
XAN sP sP 03 37 00.8 -0.2
XAN ScS ScS 03 46 16.9 -1.3
XAN pmax pmax
comp=Z,84nm,1.2s
XAN pmax pmax
comp=Z,630nm,4.2s
XAN LR LR
comp=Z,480nm,13.0s
XAN LR LR
comp=Z,370nm,13.0s
XAN LR LR
comp=Z,410nm,14.1s
XAN Xi'an 33.20 299 *e*P **P** **03 36 08.9 -0.2**
comp=Z,172nm,1.3s
XAN *e*PcP **PcP** **03 38 47.8 -0.3**
XAN Xi'an 33.20 299 *e*P **P** **03 36 08.9 -0.2**
XAN *e* 03 38 47.8
XAN pmax pmax
comp=Z,172nm,1.3s
HHC Hu-ho-hao-te 33.37 312 *e*P **P** **03 36 10.9 +0.3**
HHC pP pwP 03 36 46.6 -0.9
HHC S **S** **03 41 18.4 -1.1**
HHC sS ScP 03 42 17.1 -0.6
HHC pmax pmax
comp=Z,84nm,0.9s
HHC pmax pmax
comp=Z,320nm,5.2s
HIA Hailar 33.51 331 *e*P **P** **03 36 11.8 +0.2**
comp=Z,176nm,1.1s
HIA *e*PcP **PcP** **03 38 47.9 -0.7**
HIA Hailar 33.51 331 *e*P **P** **03 36 11.8 +0.2**
HIA *e* 03 38 47.9
HIA pmax pmax
comp=Z,176nm,1.1s
TTSI Tana Toraja 34.25 227 P **P** **03 36 21.6 +3.3**
comp=Z,26nm,0.9s,comp=Z,2μm
BTO Baotou 34.34 311 *e*P **P** **03 36 18.8 -0.2**
ZEA Zeya 34.35 342 *ce*P **P** **03 36 19.6 +0.9**
ZEA *e*S **S** **03 41 32.0 -2.1**
ZEA pmax pmax
comp=N,190nm,1.0s
ZEA pmax pmax
comp=E,71nm,1.0s
ZEA pmax pmax
comp=Z,280nm,1.0s
ZEA smax smax
comp=E,400nm,6.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
GYA Guiyang 34.37 285⇓ *i*P **P** **03 36 20.1 +0.7**
GYA pP pwP 03 36 55.7 -2.2
GYA sP sP 03 37 13.9 +3.0
GYA PP **PP** **03 37 44.4 +3.8**
GYA PcP **PcP** **03 38 53.0 +1.4**
GYA S **S** **03 41 39.2 +3.9**
GYA ScP **ScP** **03 42 21.8 +0.3**
GYA sS sS 03 42 36.6 +2.0
GYA pmax pmax
comp=Z,70nm,1.0s
GYA pmax pmax
comp=Z,270nm,7.3s
GYA LR LR
comp=Z,470nm,18.0s
GYA LR LR
comp=Z,470nm,13.2s
GYA LR LR
comp=Z,480nm,13.7s
SPSI Sidrap Palu 34.96 226 P **P** **03 36 25.2 +0.8**
comp=Z,41nm,0.7s,comp=Z,603nm
BNSI Bone 35.06 225 P **P** **03 36 28.4 +3.1**
comp=Z,41nm,0.8s,comp=Z,2μm
BTM Bintulu 35.33 243 P **P** **03 36 29.4 +1.9**
COEN Coen 35.56 182 *e*P **P** **03 36 29.2 -0.2**
comp=Z,358nm,0.6s
MTKI Muara Teweh, K 36.37 235 P **P** **03 36 39.4 +3.0**
comp=Z,82nm,0.4s,comp=Z,8μm
SBUM Sibu 36.46 243 P **P** **03 36 39.0 +1.8**
MTN Manton Dam 36.71 201 *e*P **P** **03 36 38.4 -0.7**
comp=Z,60nm,0.6s
SOEI Soe 36.91 214 *e*P **P** **03 36 40.7 -0.4**
comp=Z,40nm,0.7s
CD2 Chengdu 37.08 293 P **P** **03 36 41.8 -0.6**
CD2 pP pP 03 37 13.7 -2.2
CD2 PP **PP** **03 38 10.5 +0.2**
CD2 S **S** **03 42 15.8 -0.6**
CD2 sS sS 03 43 13.1 -3.0
CD2 pmax pmax
comp=Z,430nm,0.9s
CD2 pmax pmax
comp=Z,1μm,7.6s
LZH Lanzhou 37.70 301⇑ P **P** **03 36 48.8 +1.2**
LZH pP pwP 03 37 24.7 -0.2
LZH sP sP 03 37 42.6 +2.5
LZH PP **PnPn** **03 38 23.2 +3.1**
LZH PcP **PcP** **03 39 03.0 +1.6**
LZH S **S** **03 42 26.3 +0.5**
LZH sS sS 03 43 28.0 +2.4
LZH pmax pmax
comp=Z,1μm,1.3s
LZH pmax pmax
comp=Z,3μm,4.9s
LZH LR LR
comp=Z,1μm,14.2s
LZH LR LR
comp=Z,1μm,14.3s
LZH LR LR
comp=Z,1μm,17.0s
KMI Kunming 37.96 283 P **P** **03 36 50.7 +0.7**
KMI pP pP 03 37 24.3 +0.3
KMI sP sP 03 37 45.1 +3.2
KMI PP **PnPn** **03 38 22.0 -1.4**
KMI S **S** **03 42 28.6 -1.5**
KMI sS sS 03 43 32.1 +2.1
KMI pmax pmax
comp=Z,120nm,0.9s
KMI pmax pmax
comp=Z,470nm,5.0s
KMI LR LR
comp=Z,340nm,15.4s
KMI LR LR
comp=Z,350nm,15.7s
KMI LR LR
comp=Z,420nm,17.0s
KMI Kunming 37.96 283 *e*P **P** **03 36 49.6 -0.4**
comp=Z,155nm,1.1s
KMI Kunming 37.96 283 *e*P **P** **03 36 49.6 -0.4**
KMI pmax pmax
comp=Z,155nm,1.1s
MA2 Magadan 38.03 6 *e*P **P** **03 36 50.8 +0.9**
comp=Z,62nm,1.0s
MA2 *e*PcP **PcP** **03 39 01.7 -0.1**
MA2 ScP **ScP** **03 42 32.5 -1.7**
MA2 Magadan 38.03 6 *ce*P **P** **03 36 51.5 +1.7**
MA2 pmax pmax
comp=Z,47nm,1.0s
MA2 Magadan 38.03 6 P **P** **03 36 51.5 +1.7**
comp=Z,33nm,0.8s,baz=180,slow=7.2,SNR=45
MA2 ScP **ScP** **03 42 32.5 -1.7**
comp=Z,3.4nm,0.4s,baz=88,slow=12,SNR=6.4
SKNT Sakolnakorn 38.05 270 P **P** **03 36 51.6 +1.0**
comp=Z,33nm,1.8s,comp=Z,953nm
CIT Chita 38.27 330 *e*P **P** **03 36 53.2 +1.1**
CIT *e* 03 37 30.0
CIT *e* 03 38 26.6
CIT *e* 03 39 01.7
CIT pmax pmax
comp=Z,917nm,1.0s
ULN Ulaanbaatar 39.40 320 *e*P **P** **03 37 01.8 +0.1**
comp=Z,84nm,0.9s
ULN *e*PcP **PcP** **03 39 06.5 -0.1**
ULN Ulaanbaatar 39.40 320 *ce*P **P** **03 37 02.2 +0.5**
ULN pmax pmax
comp=Z,91nm,0.9s
ULN Ulaanbaatar 39.40 320 P **P** **03 37 02.2 +0.5**
SNR=65
SONM Songino Array 39.78 320 P **P** **03 37 05.6 +0.8**
comp=Z,33nm,0.4s,baz=133,slow=8.2,SNR=263
SONM PcP **PcP** **03 39 07.9 +0.1**
comp=Z,12nm,0.8s,baz=134,slow=4.7,SNR=5.6
SONM ScP **ScP** **03 42 40.6 -0.8**
comp=Z,3.1nm,0.8s,baz=138,slow=5.4,SNR=4.6
SONA1 Songino Array 39.78 320 *e*P **P** **03 37 04.4 -0.4**
UTTA Uttaradit 41.06 272 P **P** **03 37 16.5 +1.1**
comp=Z,28nm,1.0s,comp=Z,234nm
KMMI Kalianget 41.16 229 P P 03 37 25.9 +10
YAK Yakutsk 41.40 350 *c* *i*P **P** **03 37 18.1 +0.5**
YAK *e* 03 38 56.2
YAK *e* 03 39 06.5
YAK *e*PPP PPP 03 39 31.5
YAK *e*S **S** **03 43 17.7 -2.2**
YAK *e* 03 46 56.6
YAK pmax pmax
comp=Z,2μm,0.9s
YAK pmax pmax
comp=E,201nm,0.9s
YAK pmax pmax
comp=N,788nm,1.1s
YAK pmax pmax
comp=Z,69nm,0.6s
YAK pmax pmax
comp=E,31nm,0.7s
YAK pmax pmax
comp=N,135nm,0.9s
YAK smax smax
comp=N,829nm,1.4s
YAK smax smax
comp=E,1μm,1.8s
YAK smax smax
comp=E,14nm,0.9s
YAK smax smax
comp=N,25nm,1.0s
YAK smax smax
comp=N,55nm,1.1s
YAK smax smax
comp=E,73nm,1.0s
GTA Gaotai 41.48 305⇑ P **P** **03 37 19.2 +0.4**
GTA pP pwP 03 37 56.7 +0.5
GTA sP sP 03 38 13.1 +1.1
GTA ScP **ScP** **03 42 50.0 +1.7**
GTA S **S** **03 43 21.8 -0.4**
GTA sS sS 03 44 25.1 +2.4
GTA ScS **ScS** **03 47 02.9 -2.3**
GTA pmax pmax
comp=E,250nm,1.2s
GTA pmax pmax
comp=E,890nm,7.2s
GTA LR LR
comp=E,390nm,14.9s
GTA LR LR
comp=E,370nm,12.7s
GTA LR LR
comp=E,480nm,15.1s
SEY Seymchan 41.48 6 P **P** **03 37 20.3 +2.0**
comp=E,39nm,0.7s,baz=181,slow=6.7,SNR=133
SEY ScP **ScP** **03 42 46.4 -1.2**
comp=E,4.5nm,0.8s,baz=173,slow=6.1,SNR=4.4
CTAO Charters Tower 41.70 177 *e*P **P** **03 37 20.7 +0.1**
CTAO Charters Tower 41.70 177 *e*P **P** **03 37 20.7 +0.1**
SUKH Sukhothai 41.97 272 P **P** **03 37 24.5 +1.6**
comp=E,17nm,0.8s
PATY Pattaya 42.06 265 P **P** **03 37 26.1 +2.5**
comp=E,34nm,1.1s,comp=E,2μm
BOD Bodaibo 42.06 336 *e*P **P** **03 37 23.4 +0.3**
BOD pmax pmax
comp=Z,48nm,1.7s
CMMT Chiang Mai 42.32 274 P **P** **03 37 26.2 +0.5**
comp=Z,62nm,1.1s,comp=Z,1μm
CHTO Chiang Mai 42.32 274 *e*P **P** **03 37 25.1 -0.7**
comp=Z,78nm,1.1s
CHTO *e*PcP **PcP** **03 39 16.1 -0.3**
CHTO Chiang Mai 42.32 274 *e*P **P** **03 37 25.1 -0.7**
CHTO *e* 03 39 16.1
CHTO pmax pmax
comp=Z,78nm,1.1s
CHTO Chiang Mai 42.32 274 P **P** **03 37 25.8 +0.1**
SNR=29
CHTO Chiang Mai 42.32 274 P **P** **03 37 26.3 +0.6**
comp=Z,262nm,1.1s,comp=Z,5μm
CM01 Chiang Mai Arr 42.39 274 *e*P **P** **03 37 25.2 -1.1**
CM01 *e*PcP **PcP** **03 39 18.3 +1.7**
CM31 Chiang Mai Arr 42.40 274 *e*P **P** **03 37 25.7 -0.7**
CMAR Chiang Mai Arr 42.40 274 P **P** **03 37 26.8 +0.4**
comp=Z,12nm,0.4s,baz=59,slow=7.9,SNR=54
CMAR PcP **PcP** **03 39 17.1 +0.5**
comp=Z,8.5nm,0.9s,baz=117,slow=1.7,SNR=6.5
CMAR ScP **ScP** **03 42 51.5 -0.7**
comp=Z,2.1nm,0.7s,baz=98,slow=2.1,SNR=8.1
CMAR LR LR 03 56 16.1
comp=Z,101nm,19.1s,baz=70,slow=38
WRAB Tennant Creek 42.56 194 *e*P **P** **03 37 26.9 -0.6**
comp=Z,161nm,1.3s
WRAB *e*ScP **ScP** **03 42 51.1 -1.4**
WRAB Tennant Creek 42.56 194 *ce*P **P** **03 37 27.2 -0.4**
WRAB pmax pmax
comp=Z,43nm,0.8s
WB2 Warramunga Arr 42.57 194 *e*P **P** **03 37 26.4 -1.3**
WRA Warramunga Arr 42.58 194 P **P** **03 37 27.4 -0.3**
comp=Z,42nm,0.4s,baz=18,slow=8.9,SNR=112
WRA pP **pP** **03 38 03.0 +0.8**
comp=Z,24nm,0.7s,baz=14,slow=8.9,SNR=3.3
WRA ScP **ScP** **03 42 53.0 +0.4**
comp=Z,6.6nm,0.9s,baz=13,slow=4.5,SNR=8.9
WRA S **S** **03 43 35.7 -2.5**
comp=Z,15nm,1.1s,baz=13,slow=14,SNR=7.9
ADK Adak 42.61 35 *e*P **P** **03 37 28.0 +0.4**
comp=Z,62nm,1.0s
ADK Adak 42.61 35 *e*P **P** **03 37 28.0 +0.4**
ADK pmax pmax
comp=Z,62nm,1.0s
UTHA Uthaitani 42.62 270 P **P** **03 37 29.6 +1.4**
comp=Z,19nm,1.2s,comp=Z,273nm
ZAK Zakamensk 42.76 322 *e*P **P** **03 37 28.8 -0.2**
ZAK pmax pmax
comp=Z,593nm,1.0s
KTGM Kuala Trenggan 42.86 254 P **P** **03 37 32.8 +2.7**
UMPA Umpang Tak 43.00 271 P **P** **03 37 33.2 +2.0**
comp=Z,22nm,1.0s
IRK Irkutsk 43.09 325 *e*P **P** **03 37 32.0 +0.5**
IRK pmax pmax
comp=Z,242nm,2.7s
TLY Talaya 43.16 324 *e*P **P** **03 37 32.3 +0.3**
comp=Z,93nm,1.1s
TLY *e*ScP **ScP** **03 42 53.8 -0.8**
TLY Talaya 43.16 324 *e*P **P** **03 37 33.3 +1.2**
TLY *e* 03 39 21.2
TLY *e*PPP PPP 03 39 51.3
TLY *e*S **S** **03 43 53.5 +7.3**
TLY *e*SS **ScS** **03 47 11.9 -3.0**
TLY pmax pmax
comp=Z,238nm,1.1s
TLY MLR MLR
comp=Z,365nm,14.0s
TLY Talaya 43.16 324 P **P** **03 37 32.8 +0.7**
SNR=28
PHET Kaeng Krachan 43.21 266 P **P** **03 37 34.6 +1.7**
comp=Z,49nm,0.9s,comp=Z,419nm
SRDT SRDT 43.25 268 P **P** **03 37 34.4 +1.1**
comp=Z,123nm,0.8s,comp=Z,2μm
PWJI Pagerwojo 43.37 230 P **P** **03 37 36.8 +2.7**
comp=Z,67nm,0.8s
FITZ Fitzroy Crossi 43.58 206 *e*P **P** **03 37 35.5 -0.2**
comp=Z,26nm,0.6s
FITZ ScP **ScP** **03 42 57.0 +0.3**
FITZ Fitzroy Crossi 43.58 206 ScP **ScP** **03 42 57.0 +0.3**
comp=Z,2.8nm,0.7s,baz=146,slow=1.0,SNR=3.5
MYKOM Kota Tinggi 43.89 249 P **P** **03 37 41.2 +2.8**
KGM Kluang 44.24 249 P **P** **03 37 44.0 +2.9**
SKLT Songkhla 44.34 258 P **P** **03 37 44.0 +2.0**
comp=Z,314nm,0.9s,comp=Z,3μm
MOY Mondy 44.62 323 *e*P **P** **03 37 44.2 +0.3**
MOY pmax pmax
comp=Z,135nm,2.8s
TRTT Trang 44.92 259 P **P** **03 37 48.2 +1.6**
comp=Z,68nm,1.3s,comp=Z,871nm
KPJI Karang Pucung 45.02 234 P **P** **03 37 49.0 +1.8**
comp=Z,52nm,0.9s
KULM Kulim 45.10 255 P **P** **03 37 50.2 +2.2**
IPM Ipoh 45.12 254 P **P** **03 37 49.9 +1.8**
FRIM Kepong 45.15 252 P **P** **03 37 50.3 +2.0**
KRAB Krabi 45.23 260 P **P** **03 37 51.4 +2.4**
comp=Z,2μm,0.7s
PKDT Phuket 46.14 260 P **P** **03 37 58.0 +1.9**
comp=Z,86nm,1.0s,comp=Z,964nm
KNGR Kungurtug, Tuv 46.22 320 *c* *i*P **P** **03 37 56.2 -0.2**
AS01 Alice Springs 46.26 193 *e*P **P** **03 37 56.0 -0.9**
AS31 Alice Springs 46.27 193 *e*P **P** **03 37 56.9 -0.1**
comp=Z,11nm,0.6s
ASAR Alice Springs 46.27 193 P **P** **03 37 56.5 -0.4**
comp=Z,15nm,0.5s,baz=16,slow=9.5,SNR=142
ASAR pP **pP** **03 38 32.6 +0.4**
comp=Z,9.1nm,0.6s,baz=14,slow=8.8,SNR=2.1
ASAR PcP **PcP** **03 39 30.7 +1.0**
comp=Z,11nm,0.9s,baz=17,slow=4.2,SNR=5.7
ASAR ScP **ScP** **03 43 08.2 +0.5**
comp=Z,3.3nm,0.7s,baz=13,slow=4.1,SNR=6.9
ASAR S **S** **03 44 29.1 -2.5**
comp=Z,9.6nm,0.9s,baz=19,slow=20,SNR=21
ASAR LR LR 03 56 56.7
comp=Z,294nm,19.8s,baz=288,slow=35
BKNI Bangkinang 47.05 249 P **P** **03 38 06.8 +3.6**
EIDS Eidsvold 47.39 171 *e*P **P** **03 38 04.8 -0.7**
comp=Z,20nm,0.6s
SHL Shillong 47.70 285 *e*P **P** **03 38 07.8 -0.5**
comp=Z,375nm,1.5s
SHL Shillong 47.70 285 *e*P **P** **03 38 07.8 -0.5**
SHL pmax pmax
comp=Z,375nm,1.5s
SHL Shillong 47.70 285 *e*P **P** **03 38 08.2 -0.1**
SHL *ex* x 03 39 52.1
PSI Prapat 47.74 253 *e*P **P** **03 38 08.7 0.0**
comp=Z,182nm,1.2s
PSI Prapat 47.74 253 *e*P **P** **03 38 08.7 0.0**
PSI pmax pmax
comp=Z,182nm,1.2s
MASI Maura Aman, Be 47.84 244 P **P** **03 38 12.6 +3.3**
LSA Lhasa 47.97 291 P **P** **03 38 12.0 +1.3**
LSA pmax pmax
comp=Z,120nm,1.1s
LSA Lhasa 47.97 291 *e*P **P** **03 38 10.3 -0.4**
comp=Z,220nm,1.1s
LSA Lhasa 47.97 291 P **P** **03 38 11.9 +1.3**
LSA Lhasa 47.97 291 *e*P **P** **03 38 10.3 -0.4**
LSA pmax pmax
comp=Z,220nm,1.1s
MNSI Mandalling Nat 48.10 250 P **P** **03 38 12.0 +0.7**
comp=Z,132nm,1.1s
BILL Bilibino 48.25 11 *e*P **P** **03 38 12.7 +1.0**
comp=Z,76nm,1.1s
BILL Bilibino 48.25 11 *ce*P **P** **03 38 12.8 +1.1**
BILL *e* 03 40 07.0
BILL *e*S **S** **03 45 02.5 +4.0**
BILL *e*SS **SS** **03 48 24.9 -4.8**
BILL pmax pmax
comp=Z,56nm,1.1s
SPIA Saint Paul Isl 48.44 31 *e*P **P** **03 38 13.8 +0.6**
comp=Z,108nm,0.8s
KCSI Kotacane, Aceh 48.45 255 P **P** **03 38 13.7 -0.3**
comp=Z,130nm,1.3s,comp=Z,1μm
LHMI Lhok Sumawe 48.46 257 *e*P **P** **03 38 13.8 -0.3**
comp=Z,553nm,1.1s
LHMI Lhok Sumawe 48.46 257 P **P** **03 38 16.3 +2.2**
comp=Z,506nm,1.1s,comp=Z,5μm
DZM Mont Dzumac 48.77 152 *e*P **P** **03 38 15.9 -0.4**
comp=Z,94nm,0.8s
DZM *e*pP **pP** **03 38 49.9 -2.3**
comp=Z,97nm,0.9s
DZM *e*S **S** **03 45 06.6 -0.3**
comp=Z,202nm,26.6s
DZM *e*LQ LQ 03 50 17.8
comp=Z,2μm,31.9s
DZM *e*LR LR 03 52 18.0
comp=Z,704nm,26.4s
ONTNC Ouen Toro 48.98 152 *e*P **P** **03 38 17.4 -0.3**
comp=Z,32nm,0.7s
MLSI Meulaboh, Aceh 49.36 256 P **P** **03 38 20.6 -0.3**
comp=Z,142nm,0.8s
SISI Saibi 49.56 248 P **P** **03 38 23.2 +0.7**
comp=Z,69nm,1.3s
GSI Gunungsitoli 49.62 252 *e*P **P** **03 38 22.4 -0.5**
comp=Z,365nm,1.4s
GSI Gunungsitoli 49.62 252 P **P** **03 38 23.4 +0.5**
PBA Port Blair 49.99 267 *e*P P 03 38 25.8 +0.1
WMQ Urumqi 51.15 309 P **P** **03 38 35.6 +1.5**
WMQ pP pP 03 39 08.4 -2.0
WMQ sP sP 03 39 26.5 -1.7
WMQ S **S** **03 45 45.1 +5.5**
WMQ pmax pmax
comp=Z,880nm,1.7s
WMQ pmax pmax
comp=Z,3μm,3.6s
WMQ LR LR
comp=Z,920nm,29.5s
WMQ LR LR
comp=Z,470nm,19.5s
WMQ LR LR
comp=Z,420nm,17.1s
WMQ Urumqi 51.15 309 *e*P **P** **03 38 34.4 +0.3**
WMQ Urumqi 51.15 309 *e*P **P** **03 38 34.4 +0.3**
GAMB Gambell 51.19 23 *e*P **P** **03 38 34.5 +0.6**
comp=Z,34nm,1.0s
MSVF Nonsavu 51.49 137 *e*P **P** **03 38 37.6 +0.7**
comp=Z,50nm,0.9s
MSVF Nonsavu 51.49 137 *i*P **P** **03 38 38.3 +1.4**
MSVF pmax pmax
comp=Z,40nm,0.9s
ODAN Odare 51.54 288 *e*P **P** **03 38 37.9 +0.4**
comp=Z,253nm,0.6s
DGZ Jazzator, Alta 52.22 317 *c* *i*P **P** **03 38 42.6 +0.6**
DGZ pmax pmax
comp=Z,110nm,0.9s
RAMN Ramite 52.23 288 *e*P **P** **03 38 42.9 +0.3**
comp=Z,309nm,0.9s
ARMA Armidale 52.43 172 *e*P **P** **03 38 43.8 +0.2**
comp=Z,17nm,0.6s
JIRN Jiri 52.50 289 *e*P **P** **03 38 45.3 +0.6**
GUN Gumba 52.74 289 *e*P **P** **03 38 47.0 +0.6**
SDPT Sand Point 52.83 36 *e*P **P** **03 38 46.5 +0.3**
comp=Z,109nm,0.8s

PKI **Pulchoki** 53.20 289 *e*P P 03 38 49.7 -0.1
PKIN **Phulchoki** 53.21 289 *e*P P 03 38 49.7 -0.1
comp=Z,78nm,0.6s
KKN **Kakani** 53.28 289 *e*P P 03 38 50.6 +0.4
STKA **Stephens Creek** 53.44 183 *e*P P 03 38 50.5 -0.4
comp=Z,26nm,0.7s
STKA **Stephens Creek** 53.44 183 *e*P P 03 38 50.5 -0.4
STKA pmax pmax
comp=Z,26nm,0.7s
STKA **Stephens Creek** 53.44 183 P P 03 38 50.4 -0.4
comp=Z,124nm,0.7s,baz=349,slow=8.1,SNR=202
DMN **Daman** 53.46 289 *e*P P 03 38 51.8 +0.2
ZSN **Zaisan** 53.55 314 *ce*P P 03 38 49.7 -1.9
ZSN pmax pmax
comp=Z,392nm,1.3s
ZSN **Zaisan** 53.55 314⇑ *e*P P 03 38 49.7 -1.9
comp=Z,392nm,1.3s
ANM **Nome** 53.97 24 *e*P P 03 38 55.3 +0.9
comp=Z,48nm,1.2s
ANM **Nome** 53.97 24 *e*P P 03 38 55.3 +0.9
ANM pmax pmax
comp=Z,48nm,1.2s
CHGN **Chignik** 54.20 35 *e*P P 03 38 56.5 +0.4
comp=Z,54nm,0.6s
FORT **Forrest** 54.50 197 *e*P P 03 38 58.7 +0.1
comp=Z,200nm,0.6s
DANN **Dangsing** 54.54 290 *e*P P 03 39 00.1 +0.6
comp=Z,480nm,0.4s
ZAA0 **Zalesovo Array** 54.64 321 *e*P P 03 38 59.0 -0.3
comp=Z,121nm,1.0s
ZALV **Zalesovo Beam** 54.64 321 *e*P P 03 38 58.5 -0.8
ZALV PcP **PcP** 03 39 59.1 -1.0
ZALV **Zalesovo Beam** 54.64 321 P P 03 38 59.2 -0.1
comp=Z,41nm,0.4s,baz=101,slow=6.4,SNR=191
ZALV PcP **PcP** 03 39 59.1 -1.0
comp=Z,35nm,0.9s,baz=116,slow=3.0,SNR=5.3
ZALV LR LR 04 01 54.3
comp=Z,208nm,19.9s,baz=74,slow=35
KOLN **Koldanda** 54.76 289 *e*P P 03 39 01.2 +0.3
BBOO **Buckleboo** 54.85 188 *e*P P 03 39 00.7 -0.3
comp=Z,102nm,0.6s
MK01 **Makanchi Array** 55.22 312 *e*P P 03 39 03.3 -0.5
MK31 **Makanchi Array** 55.23 313 *e*P P 03 39 04.2 +0.4
MK31 **Makanchi Array** 55.23 313 *e*P P 03 39 04.2 +0.4
MKAR **Makanchi Array** 55.23 313 P P 03 39 04.2 +0.4
comp=Z,36nm,0.5s,baz=89,slow=9.2,SNR=619
MKAR PcP **PcP** 03 40 02.3 -0.4
comp=Z,28nm,0.6s,baz=77,slow=4.1,SNR=11
MKAR PKP2bc 04 09 14.4
comp=Z,0.9nm,0.9s,baz=298,slow=2.6,SNR=5.1
PYUN **Piuthan** 55.25 290 *e*P P 03 39 04.7 +0.3
comp=Z,880nm,1.2s
MAKZ **Makanchi** 55.45 313 *e*P P 03 39 05.2 -0.2
comp=Z,156nm,0.9s
MAKZ **Makanchi** 55.45 313 *e*P P 03 39 05.2 -0.2
MAKZ pmax pmax
comp=Z,156nm,0.9s
NVS **Novosibirsk** 55.72 322 *i* P P 03 39 07.6 +0.5
NVS pmax pmax
comp=N,40nm,1.5s
NVS pmax pmax
comp=E,146nm,1.5s
NVS pmax pmax
comp=Z,219nm,1.5s
RDOG **Red Dog Mine** 56.47 21 *e*P P 03 39 13.6 +1.4
comp=Z,45nm,0.9s
SII **Sitkinak Islan** 56.55 36 *e*P P 03 39 14.0 +1.0
comp=Z,101nm,0.6s
SVW2 **Sparrevohn** 56.89 30 *e*P P 03 39 16.4 +1.1
comp=Z,30nm,0.9s
SEM **Semipalatinsk** 56.90 317 *e*P P 03 39 13.3 -2.5
SEM *e**PP **pP** 03 39 50.2 -2.1
SEM pmax pmax
comp=Z,3μm,0.9s
SEM **Semipalatinsk** 56.90 317 *e*P P 03 39 13.3 -2.5
comp=Z,3μm,0.9s
SEM *e*pP **pP** 03 39 50.2 -2.1
SHLS **Shalkode** 57.09 308 *ce*P P 03 39 12.8 -4.4
SHLS pmax pmax
comp=Z,2μm,1.2s
SHLS **Shalkode** 57.09 308⇑ *e*P P 03 39 12.8 -4.4
comp=Z,2μm,1.2s
OHAK **Old Harbor** 57.16 35 *e*P P 03 39 17.8 +0.7
comp=Z,38nm,0.7s
MORW **Morawa** 57.35 209 *e*P P 03 39 18.4 -0.5
comp=Z,14nm,0.6s
UZB **Uzynbulak** 57.41 308 *ce*P P 03 39 17.3 -2.2
UZB pmax pmax
comp=Z,1μm,1.3s
UZB **Uzynbulak** 57.41 308⇑ *e*P P 03 39 17.3 -2.2
comp=Z,1μm,1.3s
KDAK **Kodiak Island** 57.64 35 *e*P P 03 39 21.6 +1.1
comp=Z,27nm,0.6s
KDAK **Kodiak Island** 57.64 35 *e*P P 03 39 21.6 +1.1
KDAK pmax pmax
comp=Z,27nm,0.6s
KPKS **Kokpek** 57.66 308 *c* *i*P P 03 39 18.7 -2.4
KPKS pmax pmax
comp=Z,2μm,1.0s
KPKS **Kokpek** 57.66 308⇑ *i*P P 03 39 18.8 -2.4
comp=Z,2μm,1.0s
ZHN **Zhinishke** 57.84 308 *ce*P P 03 39 20.1 -2.3
ZHN pmax pmax
comp=Z,1μm,1.5s
ZHN **Zhinishke** 57.84 308⇑ *e*P P 03 39 20.2 -2.3
comp=Z,1μm,1.5s
TDK **Taldyqorghan** 57.86 310 *e*P P 03 39 21.6 -0.8
TDK pmax pmax
comp=Z,4μm,1.2s
TDK **Taldyqorghan** 57.86 310 *e*P P 03 39 21.7 -0.8
comp=Z,4μm,1.2s
SATY **Saty** 57.87 308 *ce*P P 03 39 20.5 -2.1
SATY pmax pmax
comp=Z,4μm,1.4s
SATY **Saty** 57.87 308⇑ *e*P P 03 39 20.6 -2.1
comp=Z,4μm,1.4s
KURK **Kurchatov** 57.96 317 *e*P P 03 39 22.7 -0.2
KURK **Kurchatov** 57.96 317 *ce*P P 03 39 22.7 -0.2
KURK pmax pmax
comp=Z,198nm,0.9s
KURK **Kurchatov** 57.96 317 P P 03 39 23.3 +0.4
SNR=88
KURBB **Kurchatov Arra** 58.01 317 P P 03 39 23.1 -0.1
comp=Z,153nm,0.4s,baz=92,slow=7.8,SNR=1386
NRIK **Noril'sk** 58.18 340 P P 03 39 24.2 +0.1
comp=Z,83nm,1.0s,baz=112,slow=7.7,SNR=84
NRIK ScP **ScP** 03 43 57.5 -1.0
comp=Z,11nm,0.8s,baz=133,slow=3.8,SNR=4.9
NRIK LR LR 04 04 01.2
comp=Z,333nm,18.3s,baz=108,slow=35
MDOK **Medeo** 58.86 308 *d* *i*P P 03 39 28.1 -1.4
MDOK pmax pmax
comp=Z,3μm,1.2s
MDOK **Medeo** 58.86 308⇓ *i*P P 03 39 28.1 -1.4
comp=Z,3μm,1.2s
BRLK **Bradley Lake** 58.86 32 *e*P P 03 39 29.3 +0.2
comp=Z,39nm,0.7s
CHKK **Chushkaly** 58.88 309 *e*P P 03 39 27.6 -1.9
CHKK pmax pmax
comp=Z,1μm,1.3s
CHKK **Chushkaly** 58.88 309 *e*P P 03 39 27.6 -1.9
comp=Z,1μm,1.3s
PPLA **Purkeypile** 58.89 29 *e*P P 03 39 30.2 +0.9
comp=Z,18nm,0.7s
TNSS **Tian-Shan** 58.94 308⇓ *e*P P 03 39 29.6 -0.7
TNSS pmax pmax
comp=Z,2μm,1.2s
TNSS **Tian-Shan** 58.94 308⇓ *e*P P 03 39 29.6 -0.7
comp=Z,2μm,1.2s
AAA **Alma-Ata** 58.95 308 *e*P P 03 39 30.7 +0.6
AAA pmax pmax
comp=Z,900nm,1.5s
AAA **Alma-Ata** 58.95 308 *e*P P 03 39 29.7 -0.3
comp=Z,2μm,1.3s
IM3 **Indian Mountai** 59.03 25 *e*P P 03 39 30.6 +0.5
CAST **Castle Rocks** 59.05 28 *e*P P 03 39 31.2 +0.8
comp=Z,68nm,0.8s
TOO **Toolangi** 59.08 179 *e*P P 03 39 30.9 +0.1
comp=Z,36nm,0.8s
TOO **Toolangi** 59.08 179 *e*P P 03 39 30.9 +0.1
TOO pmax pmax
comp=Z,36nm,0.8s
DDI **Dehra Dun** 59.19 293 *e*P P 03 39 32.6 +0.7
DDI IAmb IAmb 03 39 34.2
comp=Z,51nm,0.8s
SUA **Susitna One** 59.25 30 *e*P P 03 39 32.5 +0.7
comp=Z,26nm,0.7s

KUU **Kurty** 59.35 309 *c* *i*P P 03 39 30.4 -2.3
KUU pmax pmax
comp=Z,2μm,1.0s
KUU **Kurty** 59.35 309⇑ *i*P P 03 39 30.5 -2.3
comp=Z,2μm,1.0s
ULHL **Ulahol** 59.48 307 P P 03 39 35.4 +1.5
SNR=10
SEW **Seward** 59.63 32 *e*P P 03 39 34.9 +0.6
comp=Z,67nm,0.9s
RC01 **Rabbit Creek A** 59.66 31 *e*P P 03 39 35.3 +0.8
comp=Z,50nm,0.8s
SMLA **Simla** 59.83 294 *e*P P 03 39 36.4 +0.3
TRF **Thorofare Moun** 59.85 28 *e*P P 03 39 36.5 +0.5
comp=Z,82nm,0.8s
KSH **Kashi** 59.85 304 P P 03 39 40.1 +3.7
KSH pP PcP 03 40 20.9 -0.3
KSH PP **PP** 03 41 56.8 +6.6
KSH S **S** 03 47 33.8 -1.6
KSH ScS **ScS** 03 49 06.2 -4.8
KSH pmax pmax
comp=Z,560nm,1.0s
KSH pmax pmax
comp=Z,540nm,6.6s
KSH LR LR
comp=Z,260nm,6.4s
KSH LR LR
comp=Z,220nm,7.9s
KSH LR LR
comp=Z,630nm,9.6s
TKM2 **Tokmak 2** 59.93 308 P P 03 39 38.0 +1.1
SNR=168
MLY **Manley** 60.00 26 *e*P P 03 39 37.8 +1.0
comp=Z,41nm,1.0s
PMR **Palmer** 60.03 30 *e*P P 03 39 36.1 -0.9
comp=Z,50nm,0.9s
PMR **Palmer** 60.03 30 *e*P P 03 39 36.1 -0.9
PMR pmax pmax
comp=Z,50nm,0.9s
NGP **Nagpur** 60.08 283 *e*P P 03 39 38.5 +0.4
NGP IAmb IAmb 03 39 39.5
GHO **Glory Hole Cre** 60.16 30 *e*P P 03 39 38.4 +0.5
comp=Z,56nm,0.7s
NWAO **Narrogin (SRO)** 60.17 206 *e*P P 03 39 38.9 +0.7
NDI **New Delhi** 60.18 291 *e*P P 03 39 36.0 -2.6
KZA **Kyzart** 60.23 307 P P 03 39 41.0 +1.8
SNR=162
KNK **Knik Glacier** 60.32 31 *e*P P 03 39 39.4 +0.3
comp=Z,78nm,0.7s
BWN **Browne** 60.35 28 *e*P P 03 39 40.7 +1.5
comp=Z,113nm,1.0s
DHRM **DHARAMSHALA** 60.40 296 *e*P P 03 39 40.4 +0.1
KBK **Karagaybulak** 60.42 308 P P 03 39 41.9 +1.7
SNR=7.0
BHK **Bhakra** 60.42 295 *e*P P 03 39 39.8 -0.4
BHK *ex* **pP** 03 40 17.2 -0.1
SML **Sawmill** 60.44 30 *e*P P 03 39 40.6 +0.8
comp=Z,121nm,0.8s
RND **Reindeer** 60.48 28 *e*P P 03 39 40.5 +0.4
comp=Z,20nm,0.8s
RND **Reindeer** 60.48 28 *e*P P 03 39 40.5 +0.4
RND pmax pmax
comp=Z,20nm,0.8s
MCK **McKinley** 60.50 28 *e*P P 03 39 40.8 +0.6
comp=Z,53nm,1.0s
MCK **McKinley** 60.50 28 *e*P P 03 39 40.8 +0.6
MCK pmax pmax
comp=Z,53nm,1.0s
CHMS **Chumysh** 60.55 308 P P 03 39 42.1 +1.2
SNR=70
USP **Ospenovka** 60.71 308 P P 03 39 43.4 +1.4
SNR=10
COLD **Coldfoot** 60.73 24 *e*P P 03 39 42.5 +0.9
comp=Z,13nm,1.0s
AAK **Ala-Archa** 60.76 308 P P 03 39 43.9 +1.4
SNR=22
AAK **Ala-Archa** 60.76 308 *e*P P 03 39 42.6 +0.2
comp=Z,144nm,1.2s
AAK **Ala-Archa** 60.76 308 *i* P P 03 39 43.1 +0.6
SNR=13
AAK **Ala-Archa** 60.76 308 *ce*P P 03 39 43.1 +0.6
AAK pmax pmax
comp=Z,92nm,1.2s
AAK **Ala-Archa** 60.76 308 P P 03 39 43.4 +1.0
SNR=52
AAK **Ala-Archa** 60.76 308 P P 03 39 43.0 +0.5
comp=Z,32nm,0.4s,baz=108,slow=5.2,SNR=129
UCH **Uchtor** 60.77 307 P P 03 39 44.2 +1.3
SNR=268
SCM **Sheep Creek Mo** 60.92 30 *e*P P 03 39 44.2 +1.1
comp=Z,108nm,0.8s
SCM **Sheep Creek Mo** 60.92 30 *e*P P 03 39 44.2 +1.1
SCM pmax pmax
comp=Z,108nm,0.8s
BTLS **Baital** 60.95 310 *e*P P 03 39 41.1 -2.4
BTLS *e* 03 41 55.2
BTLS pmax pmax
comp=Z,2μm,1.3s
BTLS **Baital** 60.95 310 *e*P P 03 39 41.2 -2.4
comp=Z,2μm,1.2s
BTLS *e*PP **PP** 03 41 55.2 -4.4
WRH **Wood River Hil** 61.00 27 *e*P P 03 39 44.0 +0.5
comp=Z,37nm,1.2s
MDM **Murphy Dome** 61.03 27 *e*P P 03 39 44.3 +0.6
comp=Z,15nm,0.6s
BHPL **Bhopal** 61.07 285 *e*P P 03 39 44.2 -0.5
BHPL IAmb IAmb 03 39 45.1
comp=Z,36nm,0.8s
DHY **Denali Highway** 61.08 29 *e*P P 03 39 45.1 +0.8
comp=Z,17nm,0.6s
CCB **Clear Creek Bu** 61.15 27 *e*P P 03 39 44.9 +0.4
comp=Z,37nm,1.5s
MDRS **Chennai** 61.16 273 *e*P P 03 39 44.8 -0.6
MDRS IAmb IAmb 03 39 47.4
comp=Z,43nm,0.5s
TCOL **CIGO, UAF Yank** 61.17 27 P P 03 39 45.3 +0.7
baz=260
COLA **College** 61.17 27 *e*P P 03 39 45.8 +1.2
comp=Z,34nm,0.8s
COLA **College** 61.17 27 *e*P P 03 39 45.8 +1.2
COLA pmax pmax
comp=Z,34nm,0.8s
EKS2 **Erkin-Say** 61.28 308 P P 03 39 47.5 +1.5
SNR=9.7
TOLK **Toolik Lake Re** 61.30 22 *e*P P 03 39 46.4 +0.8
comp=Z,86nm,1.0s
TOLK **Toolik Lake Re** 61.30 22 P P 03 39 47.1 +1.6
baz=256
AML **Almayashu** 61.38 307 P P 03 39 48.4 +1.4
SNR=205
POKR **Poker Plat Res** 61.39 27 P P 03 39 46.2 +0.1
baz=260
HDA **Harding Lake** 61.48 27 *e*P P 03 39 46.4 -0.3
comp=Z,34nm,0.8s
HDA **Harding Lake** 61.48 27 P P 03 39 46.4 -0.3
baz=261
HYB **Hyderabad** 61.48 279 *i* P P 03 39 47.5 0.0
comp=Z,100nm,1.2s
HYB *e*PcP **pwP** 03 40 29.0 +0.1
HYB **Hyderabad** 61.48 279 *e*P P 03 39 47.6 0.0
HYB IAmb IAmb 03 39 49.8
comp=Z,36nm,0.9s
EYAK **Cordova Ski Ar** 61.52 32 *e*P P 03 39 48.1 +1.1
comp=Z,52nm,0.8s
KLU **Klutina** 61.54 31 *e*P P 03 39 48.5 +1.2
comp=Z,44nm,0.8s
ILAR **Eielson Array** 61.56 27 P P 03 39 46.9 -0.4
ILAR *PP **PcP** 03 40 26.6 -0.8
ILAR pmax pmax
comp=Z,40nm,0.7s
ILAR pmax pmax
comp=Z,21nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR **Eielson Array** 61.56 27 P P 03 39 46.9 -0.4
comp=Z,39nm,0.7s,baz=258,slow=5.1,SNR=386
ILAR pP **PcP** 03 40 26.6 -0.8
comp=Z,21nm,1.0s,baz=262,slow=5.7,SNR=4.6
ILAR LR LR 04 05 06.7
comp=Z,138nm,20.5s,baz=256,slow=34
ILAR PKP2bc 04 09 05.2
comp=Z,1.2nm,1.1s,baz=77,slow=3.6,SNR=5.1
ILB **Eielson Array** 61.56 27 *e*P P 03 39 46.8 -0.5
IL1 **Eielson Array** 61.56 27 *e*P P 03 39 46.4 -0.8
DIV **Divide** 61.57 31 *e*P P 03 39 48.4 +0.9
comp=Z,28nm,0.7s
BRZS **Berezniki** 61.74 316 *e*P P 03 39 45.7 -3.0
BRZS *e*PP **pP** 03 40 21.9 -4.2
BRZS pmax pmax
comp=Z,1μm,0.7s
BRZS **Berezniki** 61.74 316 *e*P P 03 39 45.8 -3.0
comp=Z,1μm,0.7s
BRZS *e*pP **pP** 03 40 21.9 -4.2
PAX **Paxson** 61.92 29 *e*P P 03 39 50.7 +0.8
comp=Z,31nm,0.7s
PAX **Paxson** 61.92 29 *e*P P 03 39 50.7 +0.8
PAX pmax pmax
comp=Z,31nm,0.7s
HARP **HAARP** 62.00 30 *e*P P 03 39 51.3 +1.0
comp=Z,123nm,0.7s
PRP **Porcupine Dome** 62.25 26 *e*P P 03 39 51.4 -0.6
comp=Z,16nm,0.7s
RIDG **Independ'e Rid** 62.30 28 *e*P P 03 39 52.9 +0.6
comp=Z,67nm,0.7s
FYU **Fort Yukon** 62.52 25 *e*P P 03 39 55.2 +1.6
comp=Z,58nm,0.8s
DOT **Dot Lake** 62.63 29 *e*P P 03 39 55.1 +0.6
comp=Z,43nm,0.7s
PALK **Pallekele** 62.64 267 *e*P P 03 39 54.6 -0.7
comp=Z,62nm,1.0s
PALK **Pallekele** 62.64 267 *i* P P 03 39 55.5 +0.2
SNR=9.1
PALK **Pallekele** 62.64 267 *e*P P 03 39 54.6 -0.7
PALK pmax pmax
comp=Z,62nm,1.0s
SCRK **Sand Creek** 62.70 28 *e*P P 03 39 55.7 +0.6
comp=Z,78nm,0.7s
MENT **Mentasta** 62.72 29 *e*P P 03 39 52.2 -2.8
DZA **Taraz** 63.06 308 *e*P P 03 39 57.3 -0.3
DZA pmax pmax
comp=Z,1μm,1.4s
DZA **Taraz** 63.06 308 *e*P P 03 39 57.4 -0.3
comp=Z,1μm,1.4s
BVAR **Borovoye Array** 63.12 319 P P 03 39 58.0 +0.1
BVAR pmax pmax
comp=Z,101nm,0.5s
BVAR **Borovoye Array** 63.12 319 P P 03 39 58.0 +0.1
comp=Z,101nm,0.5s,baz=93,slow=7.1,SNR=634
BRVK **Borovoye** 63.19 320 *e*P P 03 39 58.5 +0.2
BRVK **Borovoye** 63.19 320 *e*P P 03 39 58.5 +0.2
BRVK **Borovoye** 63.19 320 P P 03 39 58.6 +0.2
SNR=64
BALM **Baldy** 63.22 32 *e*P P 03 39 59.3 +0.8
comp=Z,42nm,0.8s
BALM **Baldy** 63.22 32 *e*P P 03 39 59.3 +0.8
BALM pmax pmax
comp=Z,42nm,0.8s
KK31 **Karatay Array** 63.63 308 *e*P P 03 40 01.3 -0.1
KK31 **Karatay Array** 63.63 308 *i* P P 03 40 01.7 +0.2
KK31 pmax pmax
comp=Z,257nm,1.2s
KKAR **Karatay Array** 63.63 308 *e*P P 03 40 01.5 0.0
KKAR **Karatay Array** 63.63 308 *e*P P 03 40 01.5 0.0
EGAK **Eagle** 64.00 27 *e*P P 03 40 04.3 +0.9
comp=Z,19nm,0.8s
IUG **Iuzhnay** 64.09 307 *e*P P 03 40 03.5 -1.1
IUG pmax pmax
comp=Z,2μm,1.3s
IUG **Iuzhnay** 64.09 307 *e*P P 03 40 03.5 -1.1
comp=Z,2μm,1.3s
GAR **Garm** 64.28 304 *e*P P 03 40 05.6 -0.2
comp=Z,610nm,1.1s
GAR **Garm** 64.28 304 *e*P P 03 40 05.6 -0.2
GAR pmax pmax
comp=Z,610nm,1.1s
CHM **Chimkent** 64.39 308 *e*P P 03 40 05.0 -1.3
CHM pmax pmax
comp=Z,2μm,1.4s
CHM **Chimkent** 64.39 308 *e*P P 03 40 05.1 -1.3
comp=Z,2μm,1.4s
TAU **Tasmania Unive** 64.47 177 *e*P P 03 40 06.6 0.0
comp=Z,17nm,0.6s
TAU **Tasmania Unive** 64.47 177 *e*P P 03 40 06.6 0.0
TAU pmax pmax
comp=Z,17nm,0.6s
DAWY **Dawson** 64.73 28 *e*P P 03 40 09.5 +1.2
comp=Z,29nm,0.8s
CHGR **Chuyangaron** 65.22 304 *e*P P 03 40 11.7 -0.2
comp=Z,866nm,0.9s
POO **Poona** 65.48 281 *e*P P 03 40 14.0 +0.2
HYT **Haines Junctio** 65.58 32 *e*P P 03 40 15.5 +1.6
comp=Z,60nm,1.1s
TRD **Trivandrum** 65.69 270 *e*P P 03 40 15.4 +0.3
EPYK **Eagle Plains** 65.91 26 *e*P P 03 40 16.4 +0.6
comp=Z,66nm,0.8s
EPYK **Eagle Plains** 65.91 26 P P 03 40 16.7 +1.0
baz=269
KBL **Kabul** 66.01 299 *e*P P 03 40 16.9 -0.3
comp=Z,573nm,1.0s
KBL **Kabul** 66.01 299 *e*P P 03 40 16.9 -0.3
KBL pmax pmax
comp=Z,573nm,1.0s
GOA **Goa** 66.37 278 *e*P P 03 40 19.5 +0.1
GOA IAmb IAmb 03 40 20.8
comp=Z,45nm,0.9s
SKAG **Skagway** 66.72 33 *e*P P 03 40 21.6 +0.7
comp=Z,21nm,0.6s
WHY **Whitehorse** 66.88 32 *e*P P 03 40 23.3 +1.2
comp=Z,26nm,0.8s
BESE **Bessie Mountai** 67.03 34 *e*P P 03 40 23.9 +0.9
comp=Z,42nm,0.7s
INK **Inuvik** 67.13 24 *e*P P 03 40 23.8 +0.4
comp=Z,57nm,0.9s
INK **Inuvik** 67.13 24 *e*P P 03 40 23.8 +0.4
INK pmax pmax
comp=Z,57nm,0.9s
JIS **Juneau Island** 67.30 35 *e*P P 03 40 26.1 +1.5
comp=Z,42nm,0.8s
URZ **Urewera** 67.33 152 LR LR 04 09 56.4
comp=Z,74nm,18.4s,baz=324,slow=36
BKZ **Black Stump Fm** 67.82 153 *e*P P 03 40 27.8 -0.4
comp=Z,30nm,1.1s
BHJ **Bhuj** 68.00 287 *e*P P 03 40 31.0 +1.3
SVE **Sverdlovsk** 68.47 324 *d* *i*P P 03 40 32.5 +0.5
SVE *e*S **S** 03 49 21.9 +1.4
SVE pmax pmax
comp=Z,131nm,1.3s
THZ **Tophouse** 68.66 157 *e*P P 03 40 33.7 +0.4
comp=Z,15nm,0.7s
H02S1 **DAWSON INLET T** 68.97 40 T T 04 55 56.5
SNR=18
MNCY **Minicoy** 69.42 271 *e*P P 03 40 39.0 +0.4
DLBC **Dease Lake** 69.56 34 *e*P P 03 40 40.0 +1.2
comp=Z,47nm,0.9s
ARU **Arti** 69.66 324 *e*P P 03 40 38.9 -0.4
comp=Z,112nm,1.0s
ARU **Arti** 69.66 324 *c* *i*P P 03 40 39.3 0.0
ARU 03 40 58.3
ARU *PP **pP** 03 41 17.6 +0.4
ARU S **S** 03 49 37.5 +3.0
ARU pmax pmax
comp=Z,117nm,1.0s
OXZ **Oxford** 69.73 159 *e*P P 03 40 39.1 -0.7
comp=Z,26nm,0.7s
RPZ **Rata Peaks** 69.75 159 *e*P P 03 40 39.3 -0.6
comp=Z,37nm,0.8s
RPZ **Rata Peaks** 69.75 159 LR LR 04 06 19.1
comp=Z,192nm,21.8s,baz=298,slow=31
AB31 **Akbulak array** 70.04 316 *i* P P 03 40 41.4 -0.4
AB31 pmax pmax
comp=Z,63nm,0.5s
ABKAR **Akbulak array** 70.04 316 *e*P P 03 40 41.5 -0.3
LBZ **Lake Benmore** 70.08 160 *e*P P 03 40 41.4 -0.5
comp=Z,24nm,0.8s
AKTO **Aktyubinsk** 71.04 318 P P 03 40 47.6 -0.3
comp=Z,21nm,0.8s,baz=95,slow=6.5,SNR=7.3
GEYT **Alibeck** 73.86 305 P P 03 41 05.7 +0.8
comp=Z,71nm,0.9s,baz=56,slow=2.7,SNR=118
GEYT LR LR 04 18 15.6
comp=Z,146nm,18.5s,baz=85,slow=39
GYA0B **ALIBECK ARRAY** 73.86 305 *e*P P 03 41 04.9 +0.1
comp=Z,204nm,1.2s
HOPEN **Hopen** 75.34 348 *e*P P 03 41 12.0 -0.6
NLWA **Neilton Lookou** 75.62 45 *e*P P 03 41 15.2 +0.5
comp=Z,82nm,1.3s
PPT **Papeete** 75.83 116 LR LR 04 08 08.8
comp=Z,276nm,20.2s,baz=277,slow=30
PPT2 **Papeete2** 75.84 116 *e*S S 03 50 47.6 +1.9
comp=Z,213nm,28.2s
PPT2 **Papeete2** 75.84 116 *e*LR LR 04 05 05.1
comp=Z,922nm,29.8s
SPA0 **Spitsbergen Ar** 75.86 350 *e*P P 03 41 15.6 +0.1
SPA0 **Spitsbergen Ar** 75.86 350 *e*P P 03 41 15.9 +0.4
LLLB **Lillooet** 75.94 41 *e*P P 03 41 17.3 +0.8

comp=Z,35nm,0.8s
YKW3 Yellowknife Ar 75.94 28 *e*P **P 03 41 16.1 0.0**
comp=Z,37nm,0.7s
YKA Yellowknife Ar 75.97 28 P **P 03 41 16.9 +0.5**
comp=Z,33nm,0.6s,baz=291,slow=5.7,SNR=520
YKA pP **pP 03 41 56.4 +1.6**
comp=Z,23nm,1.0s,baz=292,slow=5.5,SNR=4.2
YKA PKKPbc **PKKPbc 04 00 29.8 -2.8**
comp=Z,0.2nm,0.7s,baz=108,slow=2.3,SNR=5.3
YKA PKPPKP **P'P'df 04 08 35.5 +0.8**
comp=Z,0.1nm,0.5s,baz=102,slow=3.2,SNR=4.6
YKA LR LR 04 13 47.7
comp=Z,9.2nm,20.9s,baz=274,slow=35
YKB5 Yellowknife Ar 75.97 28 *e*P **P 03 41 15.9 -0.4**
A04D Lummi Island 75.98 43 P **P 03 41 18.7 +2.0**
baz=287
KBS Kingsbay 76.00 352 *e*P **P 03 41 17.2 +0.9**
comp=Z,54nm,0.8s
KBS Kingsbay 76.00 352 *e*P **P 03 41 17.2 +0.9**
KBS pmax pmax
comp=Z,54nm,0.8s
KBS Kingsbay 76.00 352 *e*P **P 03 41 15.0 -1.3**
TIAR Tiarei 76.02 116 *e*P **P 03 41 19.1 +1.7**
comp=Z,22nm,1.2s
PMOR Pomariorio Ree 76.06 113 *e*P **P 03 41 19.0 +1.4**
comp=Z,118nm,1.3s
PMOR Pomariorio Ree 76.06 113 *e*T T 05 04 47.5
comp=Z,4.4nm,0.2s
D03D Eldon 76.08 44 P **P 03 41 19.2 +1.9**
baz=287
D04E Lakebay 76.39 44 P **P 03 41 21.6 +2.5**
baz=287
B05A Bryant 76.50 43 P **P 03 41 21.2 +1.5**
baz=288
F04D Rainier, OR 76.56 46 P **P 03 41 21.7 +1.6**
baz=288
I02D Swisshome 76.59 48 P **P 03 41 22.0 +1.7**
baz=287
G03D McMinnville, O 76.66 47 P **P 03 41 22.2 +1.6**
baz=288
E04D Cinebar 76.72 45 P **P 03 41 22.7 +1.8**
baz=288
RES Resolute Bay 76.77 14 *e*P **P 03 41 21.3 +0.6**
comp=Z,57nm,0.8s
RES Resolute Bay 76.77 14 *e*P **P 03 41 21.3 +0.6**
RES pmax pmax
comp=Z,57nm,0.8s
HSPB Hornsund (broa 76.78 350 *e*P **P 03 41 20.9 +0.2**
HSPB Hornsund (broa 76.78 350 *e*P **P 03 41 21.6 +0.9**
J01E Myrtle Point 76.81 49 P **P 03 41 23.5 +2.0**
baz=288
B06A Marblemount 76.81 43 *e*P **P 03 41 22.8 +1.4**
comp=Z,27nm,1.2s
D05A Enumclaw 76.90 44 *e*P **P 03 41 23.2 +1.3**
comp=Z,43nm,0.9s
I03D Drain, OR 77.06 48 P **P 03 41 25.0 +2.1**
baz=288,SNR=6.5
K02D Willamette Mer 77.14 49 P **P 03 41 25.1 +1.6**
baz=288,SNR=7.1
LON Longmire 77.15 45 *e*P **P 03 41 24.5 +1.1**
comp=Z,12nm,0.9s
LON Longmire 77.15 45 *e*P **P 03 41 24.5 +1.1**
LON pmax pmax
comp=Z,13nm,0.9s
H04D Lebanon 77.22 47 P **P 03 41 25.3 +1.5**
baz=288
TMCR Tamitsa 77.32 334 *e*P **P 03 41 22.9 -1.0**
TMCR pmax pmax
comp=Z,96nm,0.8s
L02E Cave Junction 77.35 50 P **P 03 41 26.5 +1.9**
baz=288,SNR=6.5
JLN Jalan Bani Buh 77.37 289 P **P 03 41 25.7 +0.6**
SNR=12
C06D Leavenworth 77.38 43 P **P 03 41 26.0 +1.4**
baz=288
H04A Detroit Lake 77.55 47 *e*P **P 03 41 26.8 +1.2**
APA Apatity 77.57 338⇑ *i*P **P 03 41 24.5 -0.7**
APA *i* 03 41 39.1
APA pmax pmax
comp=Z,72nm,0.9s
KHMM Horse Mountain 77.65 51 *e*P **P 03 41 27.3 +0.8**
comp=Z,40nm,0.9s
F05D White Salmon 77.65 45 P **P 03 41 27.4 +1.2**
baz=289
HUMO Hull Mountain 77.67 49 *e*P **P 03 41 27.5 +1.2**
comp=Z,25nm,0.7s
I04A Tendick Farm, 77.67 48 P **P 03 41 27.6 +1.2**
baz=288,SNR=12
WSAR Wadi Sarin 77.71 290 P **P 03 41 27.1 +0.2**
SNR=10.0
LTY Liberty 77.73 44 *e*P **P 03 41 27.7 +1.0**
comp=Z,20nm,0.9s
KMRM Mail Ridge 77.87 51 *e*P **P 03 41 29.0 +1.4**
comp=Z,30nm,1.0s
G05D Wamic, OR 77.95 46 P **P 03 41 29.1 +1.2**
baz=289
KLMR Klimovskoe 78.01 331 *e*P **P 03 41 24.7 -3.0**
KLMR *e**PP **pP 03 42 08.7 +2.3**
KLMR *e* 03 44 23.1
KLMR pmax pmax
comp=Z,61nm,1.1s
KLMR Klimovskoe 78.01 331 *e*P **P 03 41 24.8 -3.0**
KLMR AMP 03 41 29.0
comp=Z,61nm,1.1s
KLMR *e*pP **pP 03 42 08.7 +2.3**
KLMR *e*PP **PP 03 44 23.1 -2.6**
J04D Umpqua Nationa 78.06 48 P **P 03 41 29.9 +1.2**
baz=289,SNR=16
BIDO Bidbid 78.06 291 P **P 03 41 29.4 +0.6**
SNR=19
YBH Yreka Blue Hor 78.11 50 *e*P **P 03 41 29.8 +0.9**
comp=Z,33nm,0.8s
YBH Yreka Blue Hor 78.11 50 *e*P **P 03 41 29.8 +0.9**
YBH pmax pmax
comp=Z,33nm,0.8s
M02C Callahan 78.12 50 P **P 03 41 30.8 +1.9**
baz=289,SNR=20
KCPM Cahto Peak 78.13 52 *e*P **P 03 41 30.2 +1.1**
comp=Z,53nm,0.8s
B08A Colville Reser 78.22 43 *e*P **P 03 41 30.4 +1.1**
comp=Z,28nm,0.8s
I05D Terrebonne, OR 78.23 47 P **P 03 41 30.6 +1.2**
baz=289
L04D Klamath Falls 78.25 49 P **P 03 41 31.0 +1.3**
baz=289,SNR=16
N02D Trinity Center 78.36 51 P **P 03 41 32.0 +1.7**
baz=289,SNR=17
E07A Sunnyside 78.49 44 *e*P **P 03 41 32.0 +1.2**
comp=Z,60nm,1.4s
K04D Chiloquin, OR 78.50 49 P **P 03 41 32.6 +1.5**
baz=289,SNR=15
KEV Kevo 78.52 342 *e*P **P 03 41 30.8 +0.4**
comp=Z,112nm,1.3s
KEV Kevo 78.52 342 *e*P **P 03 41 30.8 +0.4**
KEV pmax pmax
comp=Z,112nm,1.3s
O02D Mt. Diablo Mer 78.56 51 P **P 03 41 33.2 +1.8**
baz=289,SNR=18
WDC Whiskeytown Da 78.60 51 *e*P **P 03 41 33.0 +1.5**
comp=Z,34nm,1.1s
WDC Whiskeytown Da 78.60 51 *e*P **P 03 41 33.0 +1.5**
WDC pmax pmax
comp=Z,34nm,1.1s
J05D Fort Rock, OR 78.64 48 P **P 03 41 33.6 +1.7**
baz=289,SNR=52
F07A Phinny Hill Vi 78.66 45 *e*P **P 03 41 32.8 +1.1**
comp=Z,39nm,1.2s
PINE Pine Mountain 78.68 47 *e*P **P 03 41 33.1 +1.0**
comp=Z,104nm,0.8s
M04C Macdoel 78.72 50 P **P 03 41 33.7 +1.4**
baz=289,SNR=42
TBI Tubuai 78.73 121 *e*S **S 03 51 18.4 +1.9**
comp=Z,475nm,25.8s
TBI Tubuai 78.73 121 *e*LR LR 04 05 55.8
comp=Z,460nm,34.8s
HOQ Hoqain 78.75 291 P **P 03 41 33.7 +1.0**
SNR=7.6
HAWA Hanford 78.75 45 *e*P **P 03 41 33.3 +1.1**
comp=Z,39nm,1.4s
BANOM Banah 78.87 293 *i* P **P 03 41 34.1 +0.9**
SNR=20
BANOM Banah 78.87 293 P **P 03 41 33.9 +0.7**
SNR=27
HAMF Hammerfest 78.96 343 *e*P **P 03 41 32.7 -0.1**
SHME Shamm 78.96 294 *i* P **P 03 41 34.4 +0.6**
SNR=35
GDXM Geysers 78.99 53 *e*P **P 03 41 34.8 +1.0**
comp=Z,32nm,1.1s
MHTO MHTO 79.02 288 P **P 03 41 34.1 0.0**
SNR=24
E08A Dider Farm, El 79.03 44 *e*P **P 03 41 34.8 +1.1**
comp=Z,45nm,1.4s
MDH Madha 79.07 293 P **P 03 41 33.8 -0.6**
MDH Madha 79.07 293 P **P 03 41 33.8 -0.6**
ARCES ARCESS Array B 79.08 342 P **P 03 41 34.0 +0.5**
ARCES pmax pmax
comp=Z,28nm,0.6s
ARCES ARCESS Array B 79.08 342 P **P 03 41 34.0 +0.5**
comp=Z,28nm,0.6s,baz=71,slow=7.4,SNR=151
ARE0 ARCESS Array S 79.08 342 *e*P **P 03 41 34.1 +0.6**
comp=Z,6.0nm,1.3s
ARE0 ARCESS Array S 79.08 342 *e*P **P 03 41 33.7 +0.2**
C09A Chrisman Ranch 79.08 43 *e*P **P 03 41 34.6 +0.6**
comp=Z,46nm,1.3s
MSFE Esma-Masafi 79.17 293 *i* P **P 03 41 35.6 +0.7**
SNR=19
O03E Paynes Creek 79.23 51 P **P 03 41 35.9 +0.9**
baz=289,SNR=44
SOHO SOHO 79.25 292 P **P 03 41 35.4 +0.2**
SNR=22
HATD Hatta, Dubai 79.36 292 *i* P **P 03 41 36.4 +0.4**
SNR=20
HATD Hatta, Dubai 79.36 292 P **P 03 41 36.3 +0.3**
SNR=19
ASHO Ashiyiah 79.47 292 *i* P **P 03 41 37.0 +0.4**
SNR=29
ASHO Ashiyiah 79.47 292 P **P 03 41 36.9 +0.4**
SNR=19
G08A Pilot Rock 79.51 45 *e*P **P 03 41 37.7 +1.2**
comp=Z,24nm,1.1s
ARQ Araqi 79.52 291 P **P 03 41 38.1 +1.3**
SNR=26
I07A Izee 79.56 47 *e*P **P 03 41 38.0 +1.3**
comp=Z,16nm,0.9s
E09A Wood Farm, Sta 79.61 44 *e*P **P 03 41 38.3 +1.4**
comp=Z,29nm,0.8s
NEW Newport 79.64 42 *e*P **P 03 41 38.2 +1.2**
comp=Z,33nm,0.8s
NEW Newport 79.64 42 *e*P **P 03 41 38.2 +1.2**
NEW pmax pmax
comp=Z,33nm,0.8s
NEW Newport 79.64 42 P **P 03 41 37.9 +0.9**
baz=291
ORV Oroville 79.70 52 *e*P **P 03 41 38.3 +0.8**
comp=Z,33nm,0.9s
ORV Oroville 79.70 52 *e*P **P 03 41 38.3 +0.8**
ORV pmax pmax
comp=Z,33nm,0.9s
NAZ Nazwa, Dubai 79.72 293 *i* P **P 03 41 38.0 +0.2**
SNR=31
NAZ Nazwa, Dubai 79.72 293 P **P 03 41 38.0 +0.2**
SNR=23
DQM DQM 79.75 287 P **P 03 41 38.0 -0.1**
SNR=6.2
MOD Modoc Plateau 79.76 49 *e*P **P 03 41 38.6 +0.6**
comp=Z,24nm,0.8s
FAQ Al Faqa, Dubai 79.86 293 *i* P **P 03 41 38.6 +0.1**
SNR=14
FAQ Al Faqa, Dubai 79.86 293 P **P 03 41 38.7 +0.1**
SNR=15
ALNE Al Ain 79.95 292 *i* P **P 03 41 39.6 +0.5**
SNR=15
KTK1 Kautkeino 80.04 342 *e*P **P 03 41 38.6 -0.1**
MAK Makhachkala 80.05 312 *e*P **P 03 41 37.8 -1.4**
MAK *e* 03 44 41.4
MAK *e*PPP PPP 03 46 31.2
MAK *e*S **S 03 51 29.4 -0.6**
MAK *e**SS **sS 03 52 38.9 +0.5**
MAK *e*SS **SS 03 56 42.7 -0.5**
MAK pmax pmax
comp=Z,128nm,1.1s
AFDM Forest Hills D 80.29 52 *e*P **P 03 41 41.8 +1.1**
comp=Z,25nm,1.0s
F10A Beach Ranch, E 80.40 44 *e*P **P 03 41 42.0 +0.8**
comp=Z,9.7nm,0.6s
BEKR Beckworth 80.42 51 *e*P **P 03 41 42.6 +1.0**
comp=Z,67nm,0.8s
AJN Ajban 80.44 293 *i* P **P 03 41 41.9 +0.2**
SNR=9.1
AJN Ajban 80.44 293 P **P 03 41 41.8 +0.2**
SNR=16
J08A Circle Bar Ran 80.51 47 *e*P **P 03 41 42.6 +0.7**
comp=Z,48nm,0.8s
VRH Novokhopyorsk 80.67 321 *e*P **P 03 41 41.9 -0.5**
VRH pmax pmax
comp=Z,150nm,0.6s
WVOR Wild Horse Val 80.73 48 *e*P **P 03 41 43.6 +0.5**
comp=Z,32nm,0.9s
WVOR Wild Horse Val 80.73 48 *e*P **P 03 41 43.6 +0.5**
WVOR pmax pmax
comp=Z,32nm,0.9s
BMO Blue Mountains 80.76 45 *e*P **P 03 41 44.0 +0.8**
comp=Z,40nm,0.9s
BMO *e*pP **pP 03 42 20.9 -1.1**
BMO Blue Mountains 80.76 45 *e*P **P 03 41 44.0 +0.8**
BMO pmax pmax
comp=Z,39nm,0.9s
RUBR Rubicon Trail 80.85 52 *e*P **P 03 41 44.6 +0.7**
comp=Z,52nm,0.8s
TRO Tromso 80.87 343 *e*P **P 03 41 43.0 -0.1**
CMB Columbia Colle 81.03 53 *e*P **P 03 41 45.9 +1.2**
comp=Z,55nm,0.8s
CMB Columbia Colle 81.03 53 *e*P **P 03 41 45.9 +1.2**
CMB pmax pmax
comp=Z,55nm,0.8s
MOS Moscow 81.04 327 *e*P **P 03 41 42.4 -1.8**
MOS *e**PP **pP 03 42 23.2 0.0**
MOS *e* 03 44 49.8
MOS *e*S **S 03 51 41.6 +1.8**
MOS *e**SS **sS 03 52 49.2 +2.0**
MOS pmax pmax
comp=Z,152nm,1.5s
DAG Danmarks Havn 81.08 356⇑ *i*P **P 03 41 44.1 0.0**
comp=Z,38nm,1.0s
DAG Danmarks Havn 81.08 356⇑ *i*P **P 03 41 44.1 0.0**
DAG pmax pmax
comp=Z,38nm,1.0s
VCNR Virginia City 81.13 51 *e*P **P 03 41 46.5 +1.2**
comp=Z,25nm,0.8s
GROC Groznyy 81.13 313 *e*P **P 03 41 41.5 -3.5**
GROC *e**PP **pP 03 42 23.4 -0.8**
GROC *e* 03 44 47.3
GROC *e*S **S 03 51 38.9 -2.4**
GROC *e**SS **sS 03 52 55.4 +6.0**
GROC pmax pmax
comp=Z,128nm,1.0s
PAHR Pah Rah Range 81.18 51 *e*P **P 03 41 46.6 +1.1**
comp=Z,26nm,0.9s
PNTR Pine Nut 81.24 52 *e*P **P 03 41 47.0 +1.0**
comp=Z,66nm,0.7s
WALA Waterton Lakes 81.31 41 *e*P **P 03 41 46.8 +0.8**
comp=Z,31nm,0.8s
YERR Yerington 81.54 51 *e*P **P 03 41 48.2 +0.7**
comp=Z,44nm,0.7s
WAKR Walker 81.57 52 *e*P **P 03 41 48.7 +1.0**
comp=Z,39nm,0.7s
LPSR Galich'ya Gora 81.68 323 *e*P **P 03 41 47.4 -0.3**
LPSR pmax pmax
comp=Z,310nm,1.0s
OBN Obninsk 81.85 326 *e*P **P 03 41 48.1 -0.4**
comp=Z,395nm,1.3s
OBN Obninsk 81.85 326*c**e*P **P 03 41 48.7 +0.2**
OBN *e* 03 44 58.5
OBN *e*S **S 03 51 49.4 +1.2**
OBN *e*SS **SS 03 57 03.4 -5.8**
OBN pmax pmax
comp=Z,117nm,1.2s
VORR Voronezh 81.92 323 P **P 03 41 47.0 -2.0**
VORR pmax pmax
comp=Z,250nm,2.2s
PAGB Antelope Grade 81.95 55 *e*P **P 03 41 50.2 +0.7**
comp=Z,44nm,0.8s
VSR Storozhevoye 82.14 322*c**i*P **P 03 41 50.2 +0.1**
VSR pmax pmax
comp=Z,467nm,0.9s
MDPB Devils Postpil 82.14 53 *e*P **P 03 41 51.5 +0.7**
comp=Z,35nm,1.1s
MSO Missoula 82.18 43 *e*P **P 03 41 51.5 +0.9**
MSO Missoula 82.18 43 P **P 03 41 51.1 +0.5**
baz=294
RYN Ryan 82.19 52 *e*P **P 03 41 51.8 +0.9**
comp=Z,38nm,0.8s
OMMB Old Mammoth Mi 82.21 53 *e*P **P 03 41 52.4 +1.1**
comp=Z,31nm,1.1s
GOF Gofitskoye 82.27 315⇑ *i*P **P 03 41 51.7 +0.8**
GOF *e*S **S 03 51 51.0 -1.9**
GOF pmax pmax
comp=Z,230nm,1.1s
GOF smax smax
comp=E,70nm,1.8s
SMMC Simmler 82.30 55 P **P 03 41 52.7 +1.3**
baz=291
MLAC Mammoth, Mammo 82.33 53 P **P 03 41 53.2 +1.4**
baz=292,SNR=8.8
KVN Kaiserville 82.34 51 *e*P **P 03 41 52.5 +0.9**
comp=E,35nm,0.9s
KVN Kaiserville 82.34 51 *e*P **P 03 41 52.6 +0.9**
KVN pmax pmax
comp=Z,35nm,0.9s
VOG Valley Oaks Go 82.40 54 P **P 03 41 52.1 +0.3**
baz=291
TBLG Delisi 82.41 312 *e*P **P 03 41 52.0 +0.2**
comp=Z,202nm,1.0s
TBLG Delisi 82.41 312 *e*P **P 03 41 52.0 +0.2**
TBLG pmax pmax
comp=Z,202nm,1.0s
TBLG Delisi 82.41 312 *i* P **P 03 41 53.3 +1.6**
NV01 Mina Array Sit 82.42 52 *e*P **P 03 41 53.0 +0.8**
NVAR Mina Array Bea 82.42 52 P **P 03 41 53.4 +1.2**
comp=Z,54nm,0.7s,baz=274,slow=5.5,SNR=344
BMN Battle Mountai 82.45 50 *e*P **P 03 41 53.5 +1.3**
comp=Z,20nm,0.8s
BMN Battle Mountai 82.45 50 *e*P **P 03 41 53.5 +1.3**
BMN pmax pmax
comp=Z,21nm,0.8s
NV11 Mina Array Sit 82.53 52 *e*P **P 03 41 53.5 +0.9**
comp=Z,2.5nm,0.8s
ZEI Tsey 82.58 313 *e*P **P 03 41 48.9 -4.0**
ZEI pmax pmax
comp=Z,189nm,0.9s
PKM Mcpherson Peak 82.59 56 P **P 03 41 54.0 +1.0**
baz=291
VES Vestal, Richgr 82.80 54 P **P 03 41 53.9 0.0**
baz=292,SNR=21
DMTO DMTO 82.81 286 P **P 03 41 54.1 -0.1**
SNR=9.4
SBC Santa Barbara 82.83 56 P **P 03 41 54.8 +0.8**
baz=292
KULLO Kullorsuaq 82.86 6⇑ *i*P **P 03 41 54.5 +1.1**
comp=Z,130nm,1.0s
KULLO Kullorsuaq 82.86 6⇑ *i*P **P 03 41 54.5 +1.1**
KULLO pmax pmax
comp=Z,130nm,1.0s
KBZ Khabaz 82.89 314 P **P 03 41 55.2 +1.1**
comp=Z,239nm,0.9s,baz=86,slow=3.0,SNR=351
KBZ LR LR 04 22 42.8
comp=Z,138nm,19.1s,baz=66,slow=38
KIV Kislovodsk 82.94 314 *e*P **P 03 41 54.6 0.0**
comp=Z,272nm,1.0s
KIV Kislovodsk 82.94 314⇓ *i*P **P 03 41 55.7 +1.1**
KIV Kislovodsk 82.94 314 *i* P **P 03 41 55.0 +0.4**
baz=21
KIV Kislovodsk 82.94 314 *e*P **P 03 41 54.8 +0.2**
KIV *e*S **S 03 52 00.2 +0.3**
KIV pmax pmax
comp=Z,291nm,1.1s
KIV pmax pmax
comp=Z,185nm,3.3s
KIV Kislovodsk 82.94 314 P **P 03 41 55.0 +0.4**
SNR=46
TIN Tinemaha, Big 82.99 53 P **P 03 41 56.5 +1.5**
baz=292,SNR=19
STEI Steigen 83.00 343 *e*P **P 03 41 54.4 +0.1**
GNI Garni 83.01 310 *e*P **P 03 41 55.4 +0.3**
comp=Z,230nm,1.2s
GNI Garni 83.01 310 *i* P **P 03 41 56.2 +1.1**
SNR=18
GNI Garni 83.01 310*ce*P **P 03 41 56.2 +1.1**
GNI pmax pmax
comp=Z,415nm,1.1s
GNI Garni 83.01 310 P **P 03 41 56.1 +1.0**
SNR=50
HLID Hailey 83.17 46 *e*P **P 03 41 56.8 +0.9**
comp=Z,12nm,0.8s
HLID Hailey 83.17 46 P **P 03 41 56.8 +0.9**
baz=294
NEY Neytrino 83.19 314*d* *i*P **P 03 41 56.3 +0.3**
NEY pmax pmax
comp=Z,29nm,1.0s
ARVC Arvin 83.25 55 P **P 03 41 57.4 +1.2**
baz=292,SNR=5.7
ISA Isabella, Lake 83.32 54 *e*P **P 03 41 57.1 +0.4**
comp=Z,17nm,0.9s
ISA Isabella, Lake 83.32 54 P **P 03 41 57.1 +0.4**
baz=292,SNR=19
CWC Cottonwood Cre 83.33 54 P **P 03 41 57.5 +0.7**
baz=292
SNCC San Nicolas Is 83.41 57 P **P 03 41 57.8 +0.8**
baz=292
FIA1 FINESS Array S 83.43 335 *e*P **P 03 41 55.9 -0.7**
FINES FINESS Array B 83.43 335 P **P 03 41 55.5 -1.1**
comp=Z,49nm,0.4s,baz=69,slow=4.8,SNR=541
FINES LR LR 04 21 43.5
comp=Z,138nm,19.0s,baz=42,slow=37
BLG Laguna Peak, P 83.45 56 P **P 03 41 57.8 +0.5**
baz=292
LRM Limekiln Ridge 83.53 43 *e*P **P 03 41 56.6 -1.2**
RBK Rabkut 83.55 286 P **P 03 41 58.5 +0.4**
SNR=5.8
HRY Holter Researc 83.55 42 *e*P **P 03 41 58.9 +1.2**
EAK Akyaka 83.60 311 *i* P **P 03 42 00.2 +2.1**
DLMT Dillon 83.63 44 *e*P **P 03 41 59.2 +1.1**
comp=Z,17nm,1.2s
GRAC Grapevine Rang 83.65 53 P **P 03 41 59.4 +1.1**
baz=292,SNR=13
MCMT McKenzie Canyo 83.69 44 *e*P **P 03 41 59.5 +0.9**
ELK Elko 83.73 49 *e*P **P 03 41 59.6 +0.8**
comp=Z,28nm,0.9s
ELK Elko 83.73 49 *e*P **P 03 41 59.7 +0.8**
ELK pmax pmax
comp=Z,28nm,0.9s
DAC Darwin (Calif) 83.75 54 *e*P **P 03 41 59.8 +0.8**
comp=Z,25nm,0.8s
DAC Darwin (Calif) 83.75 54 *e*P **P 03 41 59.8 +0.8**
DAC pmax pmax
comp=Z,25nm,0.8s
DIGO Kars 83.87 311 *i* P **P 03 42 01.3 +1.7**
EPOS Posof 83.89 312 *i* P **P 03 42 01.4 +1.9**
MPMC Manual Prospec 83.92 54 P **P 03 42 00.6 +0.8**
baz=292,SNR=72
DECC Green Verdugo 83.96 56 P **P 03 42 00.3 +0.4**
baz=292
EDW2 Edwards Air Fo 83.98 55 P **P 03 42 00.9 +0.8**
baz=292,SNR=22
CLDR Caldiran 83.98 310 *i* P **P 03 42 02.3 +2.1**
LRMC Laurel Mtn Rad 83.99 54 P **P 03 42 00.8 +0.6**
baz=292,SNR=64
PASC Pasadena Art C 84.10 56 *e*P **P 03 42 01.8 +1.2**
comp=Z,16nm,0.7s
BOZ Bozeman (W) 84.15 43 *e*P **P 03 42 01.6 +0.8**
comp=Z,15nm,0.8s
BOZ Bozeman (W) 84.15 43 *e*P **P 03 42 01.6 +0.8**
BOZ pmax pmax
comp=Z,15nm,0.8s
BOZ Bozeman (W) 84.15 43 P **P 03 42 01.3 +0.5**
baz=295
MWC Mount Wilson 84.18 56 *e*P **P 03 42 01.6 +0.4**
comp=Z,18nm,0.8s
MWC Mount Wilson 84.18 56 *e*P **P 03 42 01.6 +0.4**
MWC pmax pmax
comp=Z,18nm,0.8s
CIS Catalina Islan 84.21 56 P **P 03 42 01.7 +0.5**
baz=292,SNR=5.1
FURC Furnace Creek, 84.22 53 P **P 03 42 02.0 +0.9**
baz=293,SNR=24
EGMT Eagleton 84.26 40 *e*P **P 03 42 02.0 +0.8**
comp=Z,22nm,0.9s
EGMT Eagleton 84.26 40 P **P 03 42 01.9 +0.8**
baz=296
YOVA Hakkari_Yksek 84.32 308 *i* P **P 03 42 02.8 +0.9**
ABTO Aybut 84.41 286 P **P 03 42 03.6 +1.2**
SNR=6.1
R11A Troy Canyon, C 84.43 51 *e*P **P 03 42 03.1 +0.7**
comp=Z,51nm,1.4s
R11A Troy Canyon, C 84.43 51 P **P 03 42 03.4 +1.0**
baz=293,SNR=49
MOR8 Moi Rana 84.45 342 *e*P **P 03 41 59.9 -1.8**
BFSC Mount Baldy Ra 84.48 55 P **P 03 42 02.9 +0.2**
baz=293,SNR=8.2
TPNV Topopah Spring 84.49 53 *e*P **P 03 42 03.2 +0.5**

comp=Z,38nm,0.8s
TPNV Topopah Spring 84.49 53 eP P 03 42 03.2 +0.5
TPNV pmax pmax
comp=Z,38nm,0.8s
TPNV Topopah Spring 84.49 53 P P 03 42 03.6 +0.8
baz=293,SNR=42
QLMT Earthquake Lak 84.60 44 eP P 03 42 04.4 +1.2
DAGI Agillar 84.62 312 i P P 03 42 04.2 +1.0
DBOC Borcka 84.68 312 i P P 03 42 04.4 +1.1
GSC Goldstone, Bar 84.72 54 eP P 03 42 04.9 +1.1
comp=Z,32nm,0.8s
GSC Goldstone, Bar 84.72 54 eP P 03 42 04.9 +1.1
GSC pmax pmax
comp=Z,32nm,0.8s
GSC Goldstone, Bar 84.72 54 P P 03 42 04.6 +0.8
baz=293,SNR=32
YHB Horse Butte 84.79 44 eP P 03 42 05.0 +0.9
comp=Z,45nm,0.9s
DBAD Bademkaya 84.79 312 i P P 03 42 05.6 +1.5
VSU Vasula 84.84 332 ceP P 03 42 03.2 -0.6
VSU pmax pmax
comp=Z,192nm,1.1s
VSU Vasula 84.84 332 eP P 03 42 03.1 -0.6
VSU IAmb IAmb 03 42 03.6
comp=Z,222nm,1.0s
SHOC Shoshone, Teco 84.88 53 P P 03 42 05.3 +0.8
baz=293,SNR=22
CUKT Cukurca 84.96 308 i P P 03 42 06.0 +1.0
YHH Holmes Hill 84.99 44 eP P 03 42 06.9 +1.7
comp=Z,39nm,1.3s
HVU Hansel Valley 85.00 47 eP P 03 42 05.9 +0.7
comp=Z,47nm,1.1s
HVU Hansel Valley 85.00 47 eP P 03 42 05.9 +0.7
HVU pmax pmax
comp=Z,47nm,1.1s
BBRC Big Bear Solar 85.03 55 P P 03 42 06.1 +0.6
baz=293
HOMI Horasan 85.05 311 i P P 03 42 06.8 +1.3
SOC Sochi 85.05 315 eP P 03 42 02.2 -2.9
SOC e 03 45 19.8
SOC eS SKSac 03 52 10.6 -3.9
SOC eSS SS 03 57 54.1 -3.0
SOC eSSS SSS 04 01 28.1
SOC pmax pmax
comp=Z,25nm,0.9s
MURC Murrieta 85.08 56 P P 03 42 06.0 +0.5
baz=293,SNR=10
YNR Norris Junctio 85.14 44 eP P 03 42 06.7 +0.8
comp=Z,50nm,1.0s
YFT Old Faithful 85.15 44 eP P 03 42 07.1 +1.2
comp=Z,36nm,0.9s
BGU Big Grassy Mou 85.19 48 eP P 03 42 06.8 +0.7
comp=Z,17nm,0.7s
YPP Pitchstone Pla 85.25 44 eP P 03 42 07.3 +0.8
comp=Z,12nm,1.2s
HEC Hector,Ludlow 85.26 54 P P 03 42 07.0 +0.5
baz=293,SNR=9.3
FFC Flin Flon 85.29 32 eP P 03 42 06.8 +0.7
comp=Z,69nm,0.8s
FFC epP pP 03 42 44.0 -1.4
FFC Flin Flon 85.29 32 eP P 03 42 06.8 +0.7
FFC pmax pmax
comp=Z,69nm,0.8s
GCMT Greycliff 85.30 42 eP P 03 42 07.1 +0.5
IMW Indian Meadow 85.32 44 eP P 03 42 07.8 +1.0
comp=Z,37nm,0.8s
TUQ Turquoise Moun 85.33 54 P P 03 42 07.5 +0.7
baz=293,SNR=30
H17A Grant Village 85.34 44 eP P 03 42 07.9 +1.0
comp=Z,26nm,1.0s
H17A Grant Village 85.34 44 P P 03 42 09.3 +2.4
baz=296
FXWY Fox Creek 85.38 45 eP P 03 42 07.6 +0.5
comp=Z,19nm,0.9s
LKWY Lake 85.38 44 eP P 03 42 08.9 +1.9
comp=Z,25nm,0.8s
LKWY Lake 85.38 44 eP P 03 42 09.0 +1.9
LKWY pmax pmax
comp=Z,25nm,0.8s
FLWY Flagg Ranch 85.40 44 eP P 03 42 07.7 +0.6
comp=Z,50nm,0.7s
SPUT South Promonto 85.42 47 eP P 03 42 07.7 +0.4
comp=Z,32nm,0.9s
109C Camp Elliot, M 85.42 57 P P 03 42 07.7 +0.5
baz=293
CPE Camp Elliot 85.42 57 eP P 03 42 08.0 +0.8
comp=Z,35nm,1.1s
SHPR Sheep Range 85.47 53 eP P 03 42 08.8 +1.2
comp=Z,27nm,0.9s
TPAW Teton Pass 85.49 45 eP P 03 42 08.1 +0.4
comp=Z,18nm,0.8s
MOOW Moose Ponds 85.52 45 eP P 03 42 08.8 +1.0
comp=Z,16nm,0.8s
PSUT Pine Spring 85.60 50 eP P 03 42 08.5 +0.3
comp=Z,56nm,0.9s
REDW Red Top Meadow 85.61 45 eP P 03 42 09.0 +0.8
comp=Z,11nm,0.8s
SNOW Snow King Moun 85.63 45 eP P 03 42 09.2 +0.8
comp=Z,14nm,0.7s
DUG Dugway, Tooele 85.64 48 eP P 03 42 09.1 +0.7
comp=Z,51nm,0.7s
DUG Dugway, Tooele 85.64 48 eP P 03 42 09.1 +0.7
DUG pmax pmax
comp=Z,51nm,0.7s
DUG Dugway, Tooele 85.64 48 P P 03 42 09.0 +0.7
baz=295
PFO Pinyon Flats O 85.64 56 eP P 03 42 09.2 +0.8
PFO Pinyon Flats O 85.64 56 eP P 03 42 09.2 +0.8
PFO Pinyon Flats O 85.64 56 P P 03 42 09.1 +0.6
baz=293,SNR=27
XPFO Pion Flat 85.64 56 eP P 03 42 09.2 +0.8
comp=Z,42nm,0.9s
LOHW Long Hollow 85.67 45 eP P 03 42 09.2 +0.7
comp=Z,13nm,0.8s
AHID Auburn Hatcher 85.71 46 eP P 03 42 09.2 +0.5
comp=Z,26nm,0.8s
SIRN Sirnak 85.73 309 i P P 03 42 09.3 +0.6
GMRC Granite Mounta 85.79 54 P P 03 42 09.8 +0.6
baz=294,SNR=27
SUMG Summit 85.84 1 eP P 03 42 09.8 +0.8
comp=Z,134nm,1.0s
SUMG Summit 85.84 1⇑ iP P 03 42 10.5 +1.5
comp=Z,326nm,1.0s
SUMG Summit 85.84 1⇑ iP P 03 42 10.5 +1.5
SUMG pmax pmax
comp=Z,330nm,1.0s
BELC Belle Mtn. Jos 85.84 55 P P 03 42 09.7 +0.3
baz=294,SNR=19
BAR Barrett 85.84 57 eP P 03 42 10.4 +1.0
comp=Z,16nm,1.0s
RLMT Red Lodge 85.85 43 eP P 03 42 10.7 +1.3
comp=Z,50nm,0.7s
RLMT Red Lodge 85.85 43 P P 03 42 10.3 +0.9
baz=297
SRTM Siirt_Merkez 85.88 309 i P P 03 42 10.1 +0.6
HWUT Hardware Ranch 85.90 47 eP P 03 42 10.2 +0.6
comp=Z,33nm,0.8s
MONP2 Monument Peak 85.95 56 P P 03 42 10.5 +0.4
baz=293,SNR=16
ANN Arnapa 85.99 317 eP P 03 42 08.6 -1.1
ANN eS SKSac 03 52 17.8 -2.5
ANN pmax pmax
comp=Z,49nm,0.9s
LDFC Landfair 86.08 54 eP P 03 42 10.7 +0.1
comp=Z,80nm,0.9s
CTU Camp Tracy 86.17 48 eP P 03 42 11.7 +0.7
comp=Z,46nm,1.0s
TCUT Toone Canyon 86.22 47 eP P 03 42 12.3 +1.0
comp=Z,59nm,0.8s
NLU North Lily Min 86.26 48 eP P 03 42 12.5 +1.0
comp=Z,33nm,0.8s
IKP In-Ko-Pah, Jac 86.29 56 P P 03 42 12.0 +0.4
baz=294,SNR=9.3
CCUT Cedar City 86.36 51 eP P 03 42 12.8 +0.7
comp=Z,27nm,0.8s
BC3 Big Chuckawall 86.39 55 P P 03 42 12.7 +0.6
baz=294,SNR=36
JLU Jordanelle 86.41 48 eP P 03 42 13.3 +1.1
comp=Z,51nm,0.8s
SWSC Sam W. Stewart 86.41 56 P P 03 42 12.6 +0.6
baz=294,SNR=5.6
IRM Iron Mountain 86.43 55 P P 03 42 12.9 +0.7
baz=294,SNR=23
MICGM Minsk 86.51 328 e P 03 42 13.0 +0.9
SZCU Shurtz Canyon 86.54 51 eP P 03 42 13.8 +0.9
comp=Z,22nm,0.9s
FCC Fort Churchill 86.57 26 eP P 03 42 12.4 +0.1
comp=Z,58nm,0.8s
FCC Fort Churchill 86.57 26 eP P 03 42 12.4 +0.1
FCC pmax pmax
comp=Z,58nm,0.8s
NEE2 Needles Airpor 86.58 54 P P 03 42 13.7 +0.9
baz=294,SNR=5.4
IZAR Zarasai 86.59 330 eP P 03 42 11.9 -0.5
IZAR IAmb IAmb 03 42 13.7
comp=Z,29nm,1.2s
IDID Didziasalis 86.61 329 eP P 03 42 11.9 -0.6
IDID IAmb IAmb 03 42 13.7
comp=Z,17nm,1.0s
LCMT Little Creek M 86.67 51 eP P 03 42 13.9 +0.5
comp=Z,39nm,0.8s
BW06 Boulder Array 86.73 45 eP P 03 42 14.6 +0.9
comp=Z,6.8nm,0.8s
BW06 Boulder Array 86.73 45 P P 03 42 13.8 0.0
baz=297
PD31 Pinedale Array 86.73 45 eP P 03 42 14.2 +0.4
PDAR Pinedale Array 86.73 45 eP P 03 42 13.5 -0.2
PDAR Pinedale Array 86.73 45 P P 03 42 13.9 +0.2
comp=Z,6.8nm,0.7s,baz=251,slow=2.6,SNR=42
ISAL Salakas 86.75 330 eP P 03 42 12.7 -0.5
ISAL IAmb IAmb 03 42 14.4
comp=Z,26nm,1.1s
MSU Marysvale 86.80 50 eP P 03 42 14.7 +0.6
MSU Marysvale 86.80 50 eP P 03 42 14.7 +0.6
NACGM Naroch 86.82 329 e P 03 42 12.0 -1.6
IIGN Ignalina 86.83 330 eP P 03 42 13.1 -0.5
IIGN IAmb IAmb 03 42 14.8
comp=Z,11nm,0.8s
KNB Kanab 86.97 51 eP P 03 42 15.7 +0.8
comp=Z,116nm,0.8s
KNB Kanab 86.97 51 eP P 03 42 15.7 +0.8
KNB pmax pmax
comp=Z,116nm,0.8s
W13A Hualapai Mount 86.99 53 eP P 03 42 15.8 +0.7
comp=Z,20nm,0.8s
MTPU Mount Pierson 87.00 50 eP P 03 42 16.0 +0.7
comp=Z,19nm,0.8s
LAO LASA Array 87.00 40 eP P 03 42 15.4 +0.6
comp=Z,55nm,0.8s
LAO epP pP 03 42 52.6 -1.6
LAO LASA Array 87.00 40 P P 03 42 15.4 +0.6
baz=299
Y12C Blythe 87.06 55 eP P 03 42 15.7 +0.5
comp=Z,29nm,0.8s
Y12C Blythe 87.06 55 P P 03 42 16.1 +0.9
baz=294,SNR=19
GLA Glamis 87.12 56 eP P 03 42 16.8 +1.2
comp=Z,47nm,0.8s
GLA Glamis 87.12 56 eP P 03 42 16.8 +1.2
GLA pmax pmax
comp=Z,47nm,0.8s
GLA Glamis 87.12 56 P P 03 42 16.3 +0.7
baz=294,SNR=14
PDMCI Parker Dam,Lak 87.13 54 P P 03 42 16.5 +1.0
baz=294,SNR=8.8
TMUT Trail Mountain 87.14 49 eP P 03 42 16.9 +1.0
comp=Z,18nm,0.8s
PKCU Pink Cliffs 87.16 51 eP P 03 42 16.8 +0.8
comp=Z,27nm,1.1s
DGMT Dagmar 87.32 38 P P 03 42 16.6 +0.4
baz=300
Q16A Castle Valley 87.33 49 eP P 03 42 17.1 +0.5
comp=Z,39nm,0.8s
P17A Butcher Ranch, 87.39 48 eP P 03 42 17.4 +0.5
comp=Z,32nm,0.8s
SCO Scoresbysund 87.43 355 eP P 03 42 17.1 +0.9
comp=Z,67nm,1.5s
SCO Scoresbysund 87.43 355 iP P 03 42 16.8 +0.6
SCO Scoresbysund 87.43 355 eP P 03 42 17.1 +0.9
SCO pmax pmax
comp=Z,67nm,1.5s
U15A North Rim 87.61 52 eP P 03 42 18.8 +0.6
comp=Z,43nm,0.8s
SRU San Rafael Swe 87.70 49 eP P 03 42 19.1 +0.7
comp=Z,46nm,0.7s
KEMA Kemaliye 87.76 312 i P P 03 42 19.7 +1.2
KEMA IAML_P
comp=Z,975nm,0.5s
AKASG Malin Array Be 87.89 325 i P P 03 42 17.7 -1.1
AKASG pmax pmax
comp=Z,26nm,0.7s
AKASG Malin Array Be 87.89 325 P P 03 42 17.6 -1.1
comp=Z,8.9nm,0.4s,baz=51,slow=4.8,SNR=114
AKASG PP PP 03 45 46.7 +0.1
comp=Z,2.1nm,0.7s,baz=52,slow=8.8,SNR=5.6
AKASG LR LR 04 22 53.6
comp=Z,185nm,19.0s,baz=55,slow=36
AKBB Malin Array Si 87.89 325 eP P 03 42 17.8 -1.0
comp=Z,48nm,0.9s
KIEV Kiev 87.91 325 eP P 03 42 17.3 -1.5
comp=Z,46nm,0.9s
KIEV Kiev 87.91 325⇑ iP P 03 42 17.8 -1.0
KIEV Kiev 87.91 325 i P P 03 42 17.6 -1.3
SNR=29
KIEV Kiev 87.91 325 d iP P 03 42 18.4 -0.4
KIEV pmax pmax
comp=Z,48nm,1.0s
AK11 Malin Array Si 87.94 325 eP P 03 42 18.1 -0.9
CUZAR Zara_SIVAS 87.98 312 i P P 03 42 20.0 +0.3
SIM Simferopol' 88.00 318 i P P 03 42 19.2 -0.2
SIM pmax pmax
comp=Z,68nm,0.8s
113A Mohawk Valley, 88.05 55 eP P 03 42 20.7 +0.8
comp=Z,25nm,0.9s
Y14A Wickenburg 88.14 54 eP P 03 42 21.4 +1.0
comp=Z,67nm,0.8s
HEKM Malatya_Hekimh 88.31 311 i P P 03 42 22.5 +1.3
HEKM IAML_P
comp=Z,1μm,0.5s
ERBA Erbaa 88.31 313 i P P 03 42 20.1 -0.9
ERBA IAML_P
comp=Z,99nm,0.5s
CUKAN kangal_SIVAS 88.45 312 i P P 03 42 22.7 +0.8
ILULI Ilulissat 88.57 5 eP P 03 42 21.9 +0.3
comp=Z,33nm,0.9s
ILULI Ilulissat 88.57 5⇑ iP P 03 42 22.1 +0.5
comp=Z,30nm,0.9s
ILULI Ilulissat 88.57 5⇑ iP P 03 42 22.1 +0.5
ILULI pmax pmax
comp=Z,30nm,0.9s
WUAZ Wupatki 88.67 52 eP P 03 42 23.8 +0.8
comp=Z,43nm,0.8s
WUAZ Wupatki 88.67 52 P P 03 42 24.2 +1.2
baz=296
K22A Casper 88.76 44 eP P 03 42 24.1 +0.8
comp=Z,12nm,0.9s
K22A Casper 88.76 44 P P 03 42 23.5 +0.2
baz=299
O20A White River Ci 88.81 47 eP P 03 42 24.2 +0.6
comp=Z,27nm,0.8s
O20A White River Ci 88.81 47 P P 03 42 23.9 +0.3
baz=298
RAYN Ar Rayn 88.89 295 eP P 03 42 23.6 -0.4
comp=Z,78nm,1.0s
RAYN Ar Rayn 88.89 295 iP P 03 42 23.8 -0.3
SNR=70
NC405 NORSAR Array S 88.92 339 eP P 03 42 22.5 -0.9
PV09 Paradox Valley 88.95 49 eP P 03 42 24.7 +0.3
NC303 NORSAR Array S 88.95 339 eP P 03 42 22.9 -0.7
PV21 Cone Mtn., Par 89.03 49 eP P 03 42 25.4 +0.7
comp=Z,44nm,0.8s
SUW Suwalki 89.05 330 eP P 03 42 23.7 -0.4
SUW Suwalki 89.05 330 eP P 03 42 23.2 -0.9
comp=Z,231nm,1.1s
SUW Suwalki 89.05 330 eP P 03 42 23.7 -0.4
PV23 Carpenter Ridg 89.06 49 eP P 03 42 25.6 +0.7
comp=Z,67nm,0.7s
PV10 Paradox Valley 89.07 49 eP P 03 42 25.5 +0.6
comp=Z,67nm,1.0s
PV14 Lion Creek, Pa 89.08 49 eP P 03 42 25.9 +0.9
comp=Z,74nm,0.7s
X16A Lo Mia Camp, P 89.10 53 eP P 03 42 25.8 +0.7
comp=Z,21nm,1.2s
NC204 NORSAR Array S 89.11 339 eP P 03 42 23.6 -0.8
214A Organ Pipe Nat 89.12 56 P P 03 42 26.1 +1.1
baz=295
PV20 West Nyswonger 89.14 49 eP P 03 42 25.9 +0.8
comp=Z,60nm,0.8s
NB2 NORSAR Subarra 89.14 339 P P 03 42 23.0 -1.5
comp=Z,11nm,0.8s,baz=47,slow=4.6
NB2 NORSAR Subarra 89.14 339 P P 03 42 23.0 -1.5
baz=47,slow=4.6
NOA NORSAR Array B 89.14 339 P P 03 42 23.3 -1.2
NOA 03 45 57.9
NOA pmax pmax
comp=Z,14nm,0.8s
NOA pmax pmax
comp=Z,7.0nm,1.0s
NOA MLR MLR
comp=Z,182nm,19.2s
NOA NORSAR Array B 89.14 339 P P 03 42 23.3 -1.2
comp=Z,17nm,0.8s,baz=45,slow=5.7,SNR=54
NOA PP PP 03 45 57.9 +1.6
comp=Z,6.6nm,1.0s,baz=45,slow=7.8,SNR=5.5
NOA LR LR 04 25 59.8
comp=Z,182nm,19.1s,baz=45,slow=38
PV19 Morning Glory 89.14 49 eP P 03 42 26.1 +0.9
comp=Z,48nm,0.8s
PV04 Paradox Valley 89.16 49 eP P 03 42 26.1 +0.9
comp=Z,36nm,0.8s
PV17 East Wray Mesa 89.17 49 eP P 03 42 25.9 +0.6
comp=Z,54nm,0.8s
PV16 Nyswonger Mesa 89.19 49 eP P 03 42 26.4 +0.9
comp=Z,43nm,0.8s
PV11 David Mesa, Pa 89.22 49 eP P 03 42 26.4 +0.8
comp=Z,68nm,0.7s
CUSAR Sarkisla-SIVAS 89.24 312 i P P 03 42 26.6 +1.0
NC602 NORSAR Array S 89.25 339 eP P 03 42 23.8 -1.2
PV03 Paradox Valley 89.26 49 eP P 03 42 26.2 +0.4
comp=Z,32nm,0.8s
PV12 Saucer Basin, 89.26 49 eP P 03 42 26.5 +0.7
comp=Z,50nm,1.0s
PV07 Paradox Valley 89.31 49 eP P 03 42 26.6 +0.6
comp=Z,11nm,1.0s
PV13 Radium Mtn., P 89.32 49 eP P 03 42 26.8 +0.7
comp=Z,40nm,0.7s
PV02 Paradox Valley 89.36 49 eP P 03 42 27.1 +0.8
comp=Z,34nm,0.7s
NAO01 NORSAR Array S 89.39 339 eP P 03 42 24.8 -0.9
PV15 Paradox Valley 89.47 49 eP P 03 42 27.7 +0.9
comp=Z,17nm,0.9s
PV01 Paradox Valley 89.51 49 eP P 03 42 27.7 +0.8
comp=Z,30nm,0.7s
RSSD Black Hills 89.61 42 eP P 03 42 27.7 +0.4
comp=Z,10nm,0.7s
RSSD Black Hills 89.61 42 eP P 03 42 27.7 +0.4
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD Black Hills 89.61 42 P P 03 42 27.5 +0.2
baz=300
COAL Corum-Alaca 89.70 314 i P P 03 42 26.7 -1.0
COAL IAML_P
comp=Z,188nm,0.8s
HCB Kahramanmara 89.74 310 i P P 03 42 28.4 +0.7
HCB IAML_P
comp=Z,608nm,0.7s
MVCO Mesa Verde 89.98 50 eP P 03 42 29.9 +0.7
comp=Z,16nm,1.0s
MVCO Mesa Verde 89.98 50 P P 03 42 29.8 +0.5
baz=298
N23A Red Feather La 89.99 45 eP P 03 42 29.9 +0.7
comp=Z,31nm,0.8s
N23A Red Feather La 89.99 45 P P 03 42 30.3 +1.1
baz=299
ANDN Andirin 90.03 311 i P P 03 42 29.4 +0.2
ANDN IAML_P
comp=Z,882nm,0.9s
SAIM ADANA 90.03 311 i P P 03 42 30.4 +1.2
SAIM IAML_P
comp=Z,26nm,0.1s
SIRC Yozgat 90.03 313 i P P 03 42 29.3 0.0
SIRC IAML_P
comp=Z,260nm,0.6s
W18A Petrified Fore 90.05 52 P P 03 42 30.1 +0.6
baz=297
PHWY Pilot Hill 90.11 45 eP P 03 42 30.2 +0.4
comp=Z,12nm,1.1s
KIS Kishinev 90.12 322 e P 03 42 27.0 -2.3
KIS Kishinev 90.12 322 ⇓ iP P 03 42 27.0 -2.3
SMCO Snowmass 90.12 47 eP P 03 42 30.9 +0.8
comp=Z,30nm,0.8s
X18A Snowflake 90.16 53 eP P 03 42 31.0 +1.0
comp=Z,15nm,0.8s
MDND Maddock 90.26 37 eP P 03 42 30.9 +0.9
comp=Z,35nm,0.8s
MDND Maddock 90.26 37 P P 03 42 30.6 +0.6
baz=304
CDAG Cicekdag 90.42 313 i P P 03 42 30.9 -0.1
CDAG IAML_P
comp=Z,705nm,0.9s
YAHY KAYSERI_Yahyal 90.47 312 i P P 03 42 31.7 +0.4
YAHY IAML_P
comp=Z,421nm,0.8s
AVNS Nevsehir-Avano 90.49 312 i P P 03 42 31.6 +0.3
AVNS IAML_P
comp=Z,363nm,0.5s
TUC Tucson 90.52 55 eP P 03 42 32.5 +0.9
comp=Z,19nm,1.1s
TUC epP pP 03 43 09.5 -1.7
TUC Tucson 90.52 55 P P 03 42 32.7 +1.1
baz=296
DELI KIRIKKALE 90.54 314 i P P 03 42 31.5 -0.1
DELI IAML_P
comp=Z,27nm,0.3s
AKO Adana 90.72 311 i P P 03 42 31.5 -0.9
AKO IAML_P
comp=Z,24nm,0.4s
ISCO Idaho Springs 90.74 46 eP P 03 42 33.2 +0.4
comp=Z,19nm,0.8s
ISCO Idaho Springs 90.74 46 eP P 03 42 33.2 +0.4
ISCO pmax pmax
comp=Z,19nm,0.8s
ISCO Idaho Springs 90.74 46 P P 03 42 33.6 +0.8
baz=300
SFJD Kangerlussuaq 90.78 6 eP P 03 42 32.3 +0.4
comp=Z,21nm,0.9s
SFJD Kangerlussuaq 90.78 6 iP P 03 42 32.0 +0.1
comp=Z,17nm,0.9s
SFJD Kangerlussuaq 90.78 6 eP P 03 42 32.3 +0.4
SFJD pmax pmax
comp=Z,21nm,0.9s
BR131 Keskin Array S 90.86 314 eP P 03 42 32.4 -0.8
BR131 Keskin Array S 90.86 314 P P 03 42 32.9 -0.2
SNR=8.3
BRTR Keskin Array B 90.86 314 P P 03 42 32.3 -0.8
BRTR 03 46 09.6
BRTR pmax pmax
comp=Z,16nm,0.8s
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR MLR MLR
comp=Z,67nm,20.7s
BRTR Keskin Array B 90.86 314 P P 03 42 32.3 -0.8
comp=Z,17nm,0.8s,baz=90,slow=3.6,SNR=66
BRTR PP PP 03 46 09.6 -1.2
comp=Z,4.1nm,1.1s,baz=86,slow=6.3,SNR=3.6
BRTR LR LR 04 27 00.6
comp=Z,67nm,20.7s,baz=50,slow=38
ULM Lac du Bonnet 90.89 34 eP P 03 42 33.7 +0.9
comp=Z,13nm,0.8s
ULM Lac du Bonnet 90.89 34 eP P 03 42 33.7 +0.9
ULM pmax pmax
comp=Z,13nm,0.8s
ULM Lac du Bonnet 90.89 34 P P 03 42 32.6 -0.2
comp=Z,9.7nm,0.8s,baz=310,slow=4.6,SNR=20
S22A 4UR Ranch, Cre 90.91 49 eP P 03 42 34.1 +0.5
comp=Z,16nm,0.8s
S22A 4UR Ranch, Cre 90.91 49 P P 03 42 34.4 +0.9
baz=299
TLCR 91.10 320⇑ iP P 03 42 33.3 -0.6
TLCR 91.10 320⇑ P P 03 42 33.3 -0.6
LVV L'vov 91.14 326 eP P 03 42 32.8 -1.2
GULE Gulek 91.27 311 i P P 03 42 35.8 +0.7
GULE IAML_P
comp=Z,842nm,0.8s
BBAL Bala 91.30 314 i P P 03 42 35.4 +0.2
BBAL IAML_P
comp=Z,314nm,0.6s
AKSY AKSARAY - Alti 91.31 313 i P P 03 42 34.5 -0.6
AKSY IAML_P
comp=Z,146nm,0.4s
ANTO Ankara 91.36 314 eP P 03 42 35.0 -0.3
comp=Z,19nm,0.8s
ANTO Ankara 91.36 314 eP P 03 42 35.0 -0.3
ANTO pmax pmax
comp=Z,19nm,0.8s
PRAR RASCA 91.39 323⇑ iP P 03 42 34.1 -1.1
Q24A Divide 91.47 47 P P 03 42 36.8 +0.6
baz=300
CFR Carcaliu 91.51 320⇑ iP P 03 42 35.0 -0.8
CFR Carcaliu 91.51 320⇑ P P 03 42 35.0 -0.8

BEL Belsk 91.53 329 *eP* **P 03 42 35.7 0.0**
BEL Belsk 91.53 329 *eP* **P 03 42 35.7 0.0**
KKUL Konya-Kulu 91.62 314 *i P* **P 03 42 36.5 -0.1**
KKUL IAML_P
comp=Z,192nm,0.5s
TESR Tescani 91.63 322⇑ *i P* **P 03 42 35.3 -1.0**
BIZ Bicaz 91.70 323⇑ *i P* **P 03 42 36.3 -0.3**
TIRR Tirgusor 91.74 320⇑ *i P* **P 03 42 36.1 -0.7**
TIRR Tirgusor 91.74 320⇑ *i P* **P 03 42 36.1 -0.7**
BUR08 Bucovina Ar. S 91.79 324 *eP* **P 03 42 37.1 -0.1**
BURAR Bucovina Array 91.80 324⇑ *i P* **P 03 42 36.9 -0.3**
BURAR Bucovina Array 91.80 324⇑ *i P* **P 03 42 36.9 -0.3**
BUR04 Bucovina Ar. S 91.80 324 *eP* **P 03 42 36.2 -1.1**
SDCO Great Sand Dun 91.83 48 *eP* **P 03 42 38.2 +0.4**
comp=Z,13nm,0.8s
SDCO Great Sand Dun 91.83 48 P **P 03 42 38.6 +0.7**
baz=300
TLB Topalu 91.89 320⇑ *i P* **P 03 42 37.2 -0.3**
TLB Topalu 91.89 320⇑ *i P* **P 03 42 37.2 -0.3**
HARR Harsova 91.90 320⇑ *i P* **P 03 42 37.1 -0.5**
HARR Harsova 91.90 320⇑ *i P* **P 03 42 37.1 -0.5**
KWP Kalwaria Pacla 91.94 326 *eP* **P 03 42 37.6 -0.1**
KWP Kalwaria Pacla 91.94 326 *eP* **P 03 42 37.6 -0.1**
VRI Vrincioaia 91.95 322⇑ *i P* **P 03 42 38.0 +0.2**
VRI Vrincioaia 91.95 322⇑ *i P* **P 03 42 38.1 +0.2**
BSD Bornholm Skovb 92.00 334 *i P* **P 03 42 36.6 -1.2**
comp=Z,93nm,1.2s
BSD Bornholm Skovb 92.00 334 *i* P **P 03 42 36.6 -1.2**
BSD pmax pmax
comp=Z,93nm,1.2s
PLOR Plostina 92.00 322⇑ *i P* **P 03 42 38.1 0.0**
PLOR Plostina 92.00 322⇑ *i P* **P 03 42 38.1 0.0**
AGMN Agassiz Nation 92.06 35 *eP* **P 03 42 38.5 +0.2**
comp=Z,19nm,0.9s
AGMN Agassiz Nation 92.06 35 P **P 03 42 38.0 -0.2**
baz=306
319A Douglas 92.08 55 *eP* **P 03 42 39.0 +0.2**
comp=Z,18nm,0.8s
LAZ Ladron 92.27 52 *eP* **P 03 42 41.2 +1.4**
PGOR Pogoanele 92.34 321⇑ *i P* **P 03 42 40.2 +0.6**
KDHN Kadinhani 92.49 313 *i P* **P 03 42 40.0 -0.6**
KDHN IAML_P
comp=Z,206nm,0.4s
LENM Lemitar 92.51 52 *eP* **P 03 42 41.4 +0.5**
ANMO Albuquerque 92.51 51 *eP* **P 03 42 41.5 +0.6**
comp=Z,16nm,0.9s
ANMO *ep*P **pP 03 43 19.1 -1.5**
ANMO Albuquerque 92.51 51 *ce*P **P 03 42 41.5 +0.6**
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 92.51 51 P **P 03 42 42.2 +1.3**
baz=299
OGNE Ogallala 92.52 44 *eP* **P 03 42 41.5 +0.8**
OGNE Ogallala 92.52 44 P **P 03 42 41.2 +0.5**
baz=302
SUSD Miller 92.53 40 P **P 03 42 40.3 -0.2**
baz=304
ARCR ARCALIA 92.59 324⇓ *iP* **P 03 42 41.1 +0.3**
MLR Muntele Rosu 92.61 322 *eP* **P 03 42 40.7 -0.3**
comp=Z,10nm,1.1s
MLR Muntele Rosu 92.61 322⇑ *i P* **P 03 42 41.5 +0.4**
MLR Muntele Rosu 92.61 322⇑ *i P* **P 03 42 41.5 +0.4**
DOPR Dopca 92.66 322⇑ *i P* **P 03 42 40.9 -0.2**
121A Cookes Peak, D 92.68 53 P **P 03 42 43.2 +1.5**
baz=298
BMR Baia Mare 92.71 324⇑ *i P* **P 03 42 41.5 +0.2**
BMR Baia Mare 92.71 324⇑ *i P* **P 03 42 41.5 +0.2**
BNM Barren Site 92.77 52 *eP* **P 03 42 42.9 +0.7**
T25A Trinidad 92.88 48 *eP* **P 03 42 43.2 +0.6**
comp=Z,10nm,0.9s
T25A Trinidad 92.88 48 P **P 03 42 43.5 +0.9**
baz=300
TRPA Tarpa 92.94 325⇑ *eP* **P 03 42 41.1 -1.2**
OJC Ojcow 93.04 328 *eP* **P 03 42 42.7 -0.1**
OJC Ojcow 93.04 328 *eP* **P 03 42 42.5 -0.3**
comp=Z,62nm,1.5s
OJC Ojcow 93.04 328 *eP* **P 03 42 42.7 -0.1**
KSCO Kaye Shedlock' 93.14 46 *eP* **P 03 42 44.2 +0.6**
comp=Z,28nm,0.9s
KSCO Kaye Shedlock' 93.14 46 P **P 03 42 43.9 +0.3**
baz=301
VOIR 93.16 322⇑ *i P* **P 03 42 43.2 -0.3**
VOIR 93.16 322⇑ *i P* **P 03 42 43.2 -0.3**
NIE Niedzica 93.30 327 *eP* **P 03 42 43.7 -0.3**
NIE *eP*P **PP 03 46 31.0 +1.6**
NIE Niedzica 93.30 327 *eP* **P 03 42 43.7 -0.3**
NIE *e* 03 46 31.0
CSS Mathiatis 93.42 310 *eP* **P 03 42 43.5 -1.4**
comp=Z,26nm,1.0s
ARR Arges 93.44 322⇑ *i P* **P 03 42 44.7 -0.1**
DRGR 93.67 324⇓ *i P* **P 03 42 45.2 -0.6**
DRGR 93.67 324⇓ *i P* **P 03 42 45.2 -0.6**
LANS Liptovska Anna 93.89 327 *eP* **P 03 42 47.6 +0.8**
LANS *e* 03 46 35.6
LANS Liptovska Anna 93.89 327 *eP* **P 03 42 47.6 +0.8**
LANS *eP*P **PP 03 46 35.6 +1.6**
KSP Ksiaz 94.32 330 *eP* **P 03 42 48.7 +0.1**
KSP *eP*P **PP 03 46 37.8 +0.7**
KSP Ksiaz 94.32 330 *eP* **P 03 42 48.7 +0.1**
KSP *e* 03 46 37.8
ECSD EROS Data Cent 94.32 39 *eP* **P 03 42 49.4 +0.6**
comp=Z,17nm,1.3s
ECSD EROS Data Cent 94.32 39 P **P 03 42 48.5 -0.3**
baz=306
VLAD Vladila 94.38 321⇑ *i P* **P 03 42 48.2 -0.8**
MORC Moravsky Berou 94.44 329 *eP* **P 03 42 48.6 -0.6**
comp=Z,27nm,1.5s
MORC Moravsky Berou 94.44 329⇑ *i P* **P 03 42 49.1 -0.2**
MORC Moravsky Berou 94.44 329⇑ *i P* **P 03 42 49.1 -0.2**
MORC Moravsky Berou 94.44 329 *eP* **P 03 42 49.0 -0.2**
PSZ Piszkesteto 94.46 326 *eP* **P 03 42 48.4 -1.0**
comp=Z,23nm,1.2s
PSZ Piszkesteto 94.46 326 *eP* **P 03 42 48.4 -1.0**
PSZ pmax pmax
comp=Z,23nm,1.2s
PSZ Piszkesteto 94.46 326⇑ *eP* **P 03 42 47.1 -2.4**
SIRR Siria 94.56 324⇑ *i P* **P 03 42 49.3 -0.5**
DPC Dobruska-Polom 94.64 329 *eP* **P 03 42 50.3 +0.1**
DPC *eP*P **PP 03 46 37.9 -1.8**
DPC Dobruska-Polom 94.64 329 *eP* **P 03 42 50.3 +0.1**
DPC *e* 03 46 37.9
VYHS Vyhne 94.64 327 *eP* **P 03 42 49.3 -0.8**
VYHS pmax pmax
comp=Z,18nm,1.4s
VYHS Vyhne 94.64 327 *eP* **P 03 42 49.3 -0.8**
VYHS *eP*P **PP 03 46 41.1 +1.4**
UPC Upice 94.68 330 *eP* **P 03 42 50.2 -0.1**
BSEG Bad Segeberg 94.71 335 *eP* **P 03 42 49.4 -0.9**
comp=Z,36nm,1.3s,baz=44,slow=4.3
BGNE Belgrade 94.72 42 *eP* **P 03 42 50.7 0.0**
comp=Z,17nm,0.6s
BGNE Belgrade 94.72 42 P **P 03 42 50.4 -0.4**
baz=304
MNTX Cornudas Mount 94.86 53 *eP* **P 03 42 52.2 +0.6**
comp=Z,9.5nm,0.8s
MNTX Cornudas Mount 94.86 53 P **P 03 42 51.9 +0.3**
baz=299
JAVC Velka Javorina 94.98 328 *eP* **P 03 42 52.6 +0.8**
BZS Buzias 94.98 324⇑ *i P* **P 03 42 50.6 -1.2**
BZS Buzias 94.98 324⇑ *i P* **P 03 42 50.6 -1.2**
VRAC Vranov 95.21 329⇓ *i P* **P 03 42 52.4 -0.3**
VRAC Vranov 95.21 329⇓ *i P* **P 03 42 52.4 -0.3**
VRAC Vranov 95.21 329 *eP* **P 03 42 52.8 +0.1**
BRG Berggiesshubel 95.38 331 *eP* **P 03 42 52.7 -0.7**
comp=Z,21nm,1.3s
BRG *ep*P **pwP 03 43 37.2 -0.2**
comp=Z,4.1nm,0.8s
BRG *eP*P **PP 03 46 45.4 +0.2**
comp=Z,61nm,1.8s
BRG Berggiesshubel 95.38 331 *eP* **P 03 42 52.7 -0.7**
comp=Z,21nm,1.3s,baz=44,slow=4.3
BRG Berggiesshubel 95.38 331 *eP* **P 03 42 52.7 -0.7**
BRG *e**PP **pwP 03 43 37.2 -0.2**
BRG *e* 03 46 45.4
BRG pmax pmax
comp=Z,21nm,1.3s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,61nm,1.8s
MDVR Moldovita 95.45 323⇑ *i P* **P 03 42 52.8 -1.2**
KRUC Moravsky 95.47 328 *eP* **P 03 42 53.6 -0.3**
CLL Collm 95.49 332 *eP* **P 03 42 53.0 -1.0**
comp=Z,26nm,1.2s
CLL Collm 95.49 332 *eP* **P 03 42 53.0 -1.0**
comp=Z,20nm,1.0s,baz=44,slow=4.3
CLL Collm 95.49 332⇑ *iP* **P 03 42 52.9 -1.0**
comp=Z,20nm,1.0s
CLL *ep*P **pP 03 43 32.0 -1.7**
CLL *eP*P **PP 03 46 47.0 +0.9**
CLL *ep*PP 03 47 23.0
CLL *e*SKSac **SKSac 03 53 13.0 -1.5**
CLL *e* 03 54 26.0
CLL *eP*S **PS 03 55 36.0 +1.0**
CLL *eP*PS PPS 03 56 14.0
CLL *eSS* **SS 04 00 27.0 +0.3**
CLL *es*SS 04 01 28.0
CLL *eS*SSS 04 07 42.0
CLL LmV 04 27 00.0
comp=Z,200nm,18.0s
CLL Collm 95.49 332⇑ *i P* **P 03 42 52.9 -1.0**
CLL *e* 03 53 13.0
CLL pmax pmax
comp=Z,20nm,1.0s
MODS Modra-Piesok 95.50 328 *eP* **P 03 42 53.9 -0.2**
MODS pmax pmax
comp=Z,30nm,1.6s
MODS Modra-Piesok 95.50 328 *eP* **P 03 42 53.9 -0.2**
MODS *eP*P **PP 03 46 47.9 +1.5**
SPMN Marine on St. 95.59 36 *eP* **P 03 42 55.4 +0.8**
comp=Z,12nm,0.8s
SPMN Marine on St. 95.59 36 P **P 03 42 54.5 0.0**
baz=309
FBE Freiberg 95.61 331 *eP* **P 03 42 54.1 -0.4**
comp=Z,35nm,1.1s,baz=44,slow=4.3
F38A Pierce - Schro 95.64 36 P **P 03 42 54.8 0.0**
baz=309
GOPC GO Pecny, Ondr 95.66 330 *eP* **P 03 42 54.6 -0.2**
GOPC GO Pecny, Ondr 95.66 330 *eP* **P 03 42 54.6 -0.2**
ZST Bratislava 95.70 328 *eP* **P 03 42 54.4 -0.6**
ZST *e* 03 46 47.6
ZST Bratislava 95.70 328 *eP* **P 03 42 54.4 -0.6**
ZST *eP*P **PP 03 46 47.6 -0.3**
NRDL Niedersach Rie 95.86 334 *eP* **P 03 42 54.7 -0.8**
comp=Z,15nm,1.3s,baz=44,slow=4.3
VTS Vitosha 95.88 320 *eP* **P 03 42 56.2 +0.1**
comp=Z,18nm,1.1s
VTS Vitosha 95.88 320⇓ *iP* **P 03 42 56.0 -0.1**
VTS Vitosha 95.88 320 ⇓P **P 03 42 56.0 -0.1**
AMTX Amarillo 95.94 49 *eP* **P 03 42 57.2 +0.7**
comp=Z,15nm,0.8s
AMTX Amarillo 95.94 49 P **P 03 42 56.7 +0.2**
baz=302
RETH Rethem/Aller, 95.98 334 *eP* **P 03 42 55.2 -0.9**
comp=Z,19nm,1.4s,baz=44,slow=4.3
NEUB Neuenburg 96.10 332 *eP* **P 03 42 56.0 -0.7**
comp=Z,29nm,1.2s,baz=44,slow=4.3
G38A Ridgeland 96.15 36 P **P 03 42 55.5 -1.6**
baz=309
F39A Loretta 96.18 35 P **P 03 42 55.9 -1.4**
baz=310
CLZ Clausthal 96.23 333 *eP* **P 03 42 56.6 -0.7**
comp=Z,24nm,1.3s,baz=44,slow=4.3
TANN Tannenbergstha 96.37 331 *eP* **P 03 42 57.1 -0.9**
comp=Z,22nm,1.2s,baz=44,slow=4.3
PLN Plauen 96.45 331 *eP* **P 03 42 57.6 -0.8**
comp=Z,16nm,1.2s,baz=44,slow=4.3
GUNZ Gunzen 96.46 331 *eP* **P 03 42 57.8 -0.6**
comp=Z,16nm,1.0s,baz=44,slow=4.3
WERN Wernitzgruen 96.50 331 *eP* **P 03 42 58.1 -0.5**
comp=Z,19nm,1.1s,baz=44,slow=4.3
CONA Conrad Observa 96.50 328 *i* PcP **P 03 42 58.5 -0.2**
comp=Z,18nm,1.5s
CONA *i* PP **PP 03 46 54.6 +0.4**
comp=Z,17nm,1.4s
NKC Novy Kostel 96.50 331 *eP* **P 03 42 58.0 -0.6**
NKC Novy Kostel 96.50 331 *eP* **P 03 42 58.0 -0.6**
MOX Moxa 96.58 332 *eP* **P 03 42 58.2 -0.7**
comp=Z,16nm,1.2s,baz=44,slow=4.3
KHC Kasperske Hory 96.77 330 *eP* **P 03 42 59.3 -0.6**
comp=Z,7.4nm,1.3s
KHC Kasperske Hory 96.77 330 *eP* **P 03 42 59.4 -0.5**
KHC *eP*P **PP 03 46 55.6 -0.5**
KHC Kasperske Hory 96.77 330 *eP* **P 03 42 59.4 -0.5**
KHC *e* 03 46 55.6
H39A Augusta 96.78 36 P **P 03 42 57.9 -2.0**
baz=310
MANZ Manzenberg 96.83 331 *eP* **P 03 42 59.4 -0.7**
comp=Z,16nm,1.5s,baz=44,slow=4.3
DIVS Divibare 96.84 323 *eP* **P 03 42 59.7 -0.6**
comp=Z,11nm,1.1s
GEC2 GERESS Array S 96.91 330 *eP* **P 03 42 60.0 -0.6**
comp=Z,14nm,1.3s
GEC2 GERESS Array S 96.91 330 *eP* **P 03 42 59.4 -1.2**
comp=Z,13nm,1.3s,baz=44,slow=4.3
GEC2 GERESS Array S 96.91 330 *eP* **P 03 43 00.0 -0.6**
GEC2 pmax pmax
comp=Z,14nm,1.3s
GERES GERESS Array B 96.91 330 P **P 03 42 59.7 -0.9**
comp=Z,2.0nm,0.7s,baz=57,slow=4.9,SNR=21
GERES PP **PP 03 46 57.4 +0.1**
comp=Z,9.5nm,1.1s,baz=54,slow=6.8,SNR=16
GEA0 GERESS Array S 96.92 330 *eP* **P 03 42 59.2 -1.4**
ROTZ Rotzenmuhle 96.95 331 *eP* **P 03 42 59.6 -1.0**
comp=Z,41nm,1.7s,baz=44,slow=4.3
KSU1 Kansas State U 97.01 43 *eP* Pdif 03 43 01.5 +0.4
comp=Z,11nm,0.8s
KSU1 Kansas State U 97.01 43 P **P 03 43 00.3 -0.8**
baz=305
VAY Valandovo 97.05 320 *i P* **P 03 43 00.4 -0.9**
STIP Stip 97.06 320 *i P* **P 03 42 59.6 -1.7**
WET Wettzell 97.08 330 *eP* **P 03 43 00.7 -0.6**
comp=Z,9.5nm,1.4s,baz=44,slow=4.3
ARSA Arzberg 97.13 328 *i* PcP **P 03 43 01.1 -0.4**
comp=Z,9.2nm,1.2s
ARSA *i* PP **PP 03 47 00.0 +1.1**
comp=Z,8.3nm,1.3s
UBBA Unterbreizbach 97.15 333 *eP* **P 03 43 00.4 -0.9**
comp=Z,11nm,1.4s,baz=44,slow=4.3
TX31 Lajitas Ar. Si 97.31 55 *eP* Pdif 03 43 03.4 +0.6
TXAR Lajitas Array 97.31 55 P Pdif 03 43 03.2 +0.4
comp=Z,2.9nm,0.9s,baz=324,slow=2.4,SNR=22
TXAR pP pP 03 43 44.6 +2.0
comp=Z,3.3nm,1.1s,baz=306,slow=4.5,SNR=3.0
TXAR PKKPbc **PKKPdf 03 59 41.3 -0.5**
comp=Z,0.9nm,0.6s,baz=136,slow=6.3,SNR=12
MOA Molln 97.34 329 *i* PcP **P 03 43 02.1 -0.3**
comp=Z,11nm,1.6s
MOA *i* PP **PP 03 46 59.9 -0.5**
comp=Z,18nm,1.4s
GRA1 Grafenberg Arr 97.44 331 *eP* **P 03 43 01.9 -1.0**
comp=Z,31nm,1.2s
GRF Grafenberg Arr 97.44 331 *eP* **P 03 43 02.3 -0.5**
comp=Z,45nm,1.4s,baz=44,slow=4.3
GRF *eP*P **PP 03 47 00.6 -0.6**
GRF Grafenberg Arr 97.44 331 *eP* **P 03 43 01.9 -1.0**
GRF pmax pmax
comp=Z,31nm,1.2s
GRFO Grafenberg 97.44 331 *eP* **P 03 43 02.0 -0.9**
comp=Z,36nm,0.6s
GRFO Grafenberg 97.44 331 *eP* **P 03 43 02.0 -0.9**
GRFO pmax pmax
comp=Z,7.0nm,0.6s
SOKA Soboth 97.77 327 *i* PcP **P 03 43 03.6 -0.8**
comp=Z,14nm,1.4s,SNR=7.5
SOKA *i* PP **PP 03 47 01.5 -2.4**
comp=Z,11nm,1.7s
BUG Bochum-Univer 97.81 334 *eP* **P 03 43 03.2 -1.2**
comp=Z,23nm,1.5s,baz=44,slow=4.3
LIT Litokhoron 97.83 319 *eP* **P 03 43 03.8 -1.0**
comp=Z,36nm,1.0s
LIT Litokhoron 97.83 319 *eP* **P 03 43 03.8 -1.0**
LIT pmax pmax
comp=Z,36nm,1.0s
BLY Banja Luka 97.95 325 *eP* **P 03 43 04.9 -0.3**
comp=Z,8.7nm,1.0s
WMOK Wichita Mounta 98.03 48 *eP* Pdif 03 43 06.6 +0.8
comp=Z,5.6nm,1.1s
WMOK Wichita Mounta 98.03 48 P **P 03 43 05.3 -0.5**
baz=304
OBKA Obir 98.12 327 *i P* P 03 43 00.2 -5.8
comp=Z,4.3nm,1.2s
OBKA *i* PP **PP 03 47 05.9 -0.7**
comp=Z,18nm,1.0s,SNR=5.8
OHR Ohrid 98.24 320 *i P* **P 03 43 05.7 -1.0**
TNS Taunus Mts 98.25 333 *eP* **P 03 43 05.6 -0.9**
comp=Z,15nm,1.4s,baz=44,slow=4.3
PDG Podgorica 98.31 322⇑ *i P* **P 03 43 06.1 -0.7**
TTG Podgorica 98.31 322 *eP* **P 03 43 06.3 -0.5**
comp=Z,12nm,0.9s
TTG Podgorica 98.31 322 *eP* **P 03 43 06.3 -0.5**
TTG pmax pmax
comp=Z,12nm,0.9s
KBA Koelnbreinsper 98.32 328 *i* Pdiff **P 03 43 06.1 -1.0**
comp=Z,5.0nm,0.9s
KBA *i* PP **PP 03 47 06.7 -1.5**
comp=Z,14nm,1.0s
FUR Furstenfeldbru 98.53 330 *eP* **P 03 43 07.1 -0.6**
comp=Z,46nm,1.4s,baz=44,slow=4.3
ABTX Abilene, Hawle 98.57 50 *eP* Pdif 03 43 09.2 +0.9
comp=Z,7.9nm,0.9s
ABTX Abilene, Hawle 98.57 50 P **P 03 43 07.8 -0.5**
baz=303
AHRW Bad Neuenahr-A 98.58 334 *eP* **P 03 43 07.4 -0.4**
comp=Z,14nm,1.2s,baz=44,slow=4.3
ABTA Abfaltersbach 98.96 329 *i* Pdiff **P 03 43 07.7 -2.1**
comp=Z,8.1nm,1.1s,SNR=5.3
ABTA *i* PP **PP 03 47 13.1 +0.1**
comp=Z,7.2nm,1.1s
WATA Walderalm 98.99 329 *i* PP **PP 03 47 13.3 +0.1**
comp=Z,14nm,1.0s,SNR=6.5
WTTA Wattenberg 99.01 329 *i* Pdiff **Pdif 03 43 07.7 -2.4**
comp=Z,8.3nm,1.2s
WTTA *i* PP **PP 03 47 13.7 +0.3**
comp=Z,18nm,1.1s
STU Stuttgart 99.02 332 *eP* **Pdif 03 43 09.4 -0.5**
comp=Z,37nm,1.3s,baz=44,slow=4.3
MOTA Moosalm 99.20 330 *i* Pdiff **Pdif 03 43 10.1 -0.9**
comp=Z,2.9nm,0.8s
MOTA *i* PP **PP 03 47 14.2 -0.6**
comp=Z,14nm,1.1s
SCHQ Schefferville 99.21 18 P **Pdif 03 43 10.4 -0.2**
comp=Z,2.7nm,0.8s,baz=290,slow=8.5,SNR=5.6
SQTA Sankt Quirin 99.24 330 *i* Pdiff **Pdif 03 43 09.8 -1.3**
comp=Z,2.9nm,0.8s
SQTA *i* PP **PP 03 47 13.9 -1.2**
comp=Z,19nm,1.2s
RETA Reutte 99.26 330 *i* Pdiff **Pdif 03 43 10.0 -1.1**
comp=Z,11nm,1.7s
RETA *i* PP **PP 03 47 16.1 +0.9**
comp=Z,11nm,1.2s
JCT Junction City 99.60 52 *e*Pdif **Pdif 03 43 13.7 +0.7**
comp=Z,5.5nm,0.8s
JCT Junction City 99.60 52 P **Pdif 03 43 12.9 0.0**
baz=302
FETA Feichten 99.61 330 *i* Pdiff **Pdif 03 43 10.9 -1.9**
comp=Z,5.2nm,1.1s
FETA *i* PP **PP 03 47 16.5 -1.4**
comp=Z,17nm,1.2s
WLF Walferdange 99.64 334 *e*Pdif **Pdif 03 43 12.7 +0.1**
comp=Z,97nm,1.1s
WLF Walferdange 99.64 334⇑Pdif **Pdif 03 43 12.6 0.0**
comp=Z,16nm,1.3s
BFO Black Forest 99.73 332 *e*Pdif **Pdif 03 43 12.5 -0.7**
comp=Z,13nm,1.1s
BFO Black Forest 99.73 332 *eP* **Pdif 03 43 12.2 -0.9**
comp=Z,14nm,1.2s,baz=44,slow=4.3
BFO Black Forest 99.73 332 *i P* **Pdif 03 43 13.0 -0.1**
DAVA Damuels 99.81 330 *i* Pdiff **Pdif 03 43 12.9 -0.8**
comp=Z,13nm,1.2s
DAVA *i* PP **PP 03 47 15.8 -3.7**
comp=Z,8.7nm,1.1s
DOU Dourbes 99.93 335⇑Pdif **Pdif 03 43 09.8 -4.1**
comp=Z,10.0nm,2.5s
FUORN Ofenpass-Fuorn 100.12 330 *e*Pdif **Pdif 03 43 14.9 -0.3**
CHGQ Chibougamau 100.88 24 P **Pdif 03 43 17.2 -0.9**
baz=324
N44A Piper City 101.06 38 P **Pdif 03 43 18.1 -1.1**
baz=312
T41A Mountain View 101.30 42 P **Pdif 03 43 19.6 -0.7**
baz=308
S42A Caledonia 101.45 41 P **Pdif 03 43 20.1 -0.9**
baz=309
AQU L'Aquila 101.59 325 *e*Pdif **Pdif 03 43 22.1 +0.5**
AQU L'Aquila 101.59 325 *eP* **Pdif 03 43 22.1 +0.5**
D53A Lac Vacive, Po 101.77 28 P **Pdif 03 43 21.1 -1.1**
baz=321
TIP Timpagrande 101.86 321 *e*Pdif **Pdif 03 43 22.9 +0.1**
TIP Timpagrande 101.86 321⇓ *iP* **Pdif 03 43 22.9 +0.1**
OXF Oxford 104.38 43 P **Pdif 03 43 31.1 -2.9**
baz=310
O51A Pataskala 104.56 35 P **Pdif 03 43 33.6 -1.2**
baz=316
K55A Perry 104.95 31 P **Pdif 03 43 35.5 -0.9**
baz=320
T54A Tazewell 107.33 37 P **PKiKP 03 47 54.9 -0.3**
baz=316
ESDC Sonseca Array 111.94 334 PP PP 03 48 36.6 -12
comp=Z,2.5nm,1.0s,baz=25,slow=6.6,SNR=5.4
ESDC PKKPbc **PKKPab 03 59 04.9 -3.5**
comp=Z,2.8nm,0.8s,baz=217,slow=4.8,SNR=13
LSZ Lusaka 119.23 264 *i P* **PKiKP 03 48 18.8 +0.4**
LSZ Lusaka 119.23 264 *e*PKPdf **PKPdf 03 48 18.3 -0.1**
LSZ Lusaka 119.23 264 *e*PKiKP **PKPdf 03 48 18.3 -0.1**
LSZ Lusaka 119.23 264 *i P* **PKiKP 03 48 18.8 +0.4**
TAM Tamanrasset 120.03 315 *e*PKPdf **PKPdf 03 48 19.3 -0.6**
TAM Tamanrasset 120.03 315 *e*PKiKP **PKPdf 03 48 19.3 -0.6**
LBTB Lobatse 123.87 254 *i P* **PKiKP 03 48 27.6 +0.2**
LBTB Lobatse 123.87 254 *e*PKPdf **PKPdf 03 48 26.5 -0.5**
LBTB Lobatse 123.87 254 *e*PKiKP **PKPdf 03 48 26.5 -0.5**
LBTB Lobatse 123.87 254 *i P* **PKiKP 03 48 27.6 +0.2**
BOSA Boshof 124.74 250 PKP **PKPdf 03 48 28.4 -0.2**
comp=Z,6.7nm,0.8s,baz=64,slow=2.6,SNR=7.6
SNAA Sanae 126.64 192 P **PKPdf 03 48 30.9 0.0**
SNAA Sanae 126.64 192 *e*PKPdf **PKPdf 03 48 31.2 +0.3**
SNAA Sanae 126.64 192 *e*PKiKP **PKPdf 03 48 31.2 +0.3**
VNA2 Neumayer--Watz 128.12 192 P **PKiKP 03 48 34.4 +0.1**
VNA3 Neumayer Olymp 128.25 190 P **PKPdf 03 48 33.5 -0.4**
VNA1 Neumayer--Stat 128.51 191 P **PKiKP 03 48 35.4 +0.4**
TORD Torodi Ar. Bea 129.31 310 PKhKP PKPpre 03 48 27.8
comp=Z,0.3nm,0.5s,baz=17,slow=2.2,SNR=6.5
TORD PKP **PKPdf 03 48 36.9 -0.7**
comp=Z,7.2nm,0.6s,baz=4.6,slow=2.3,SNR=20
TORD PP **PP 03 50 44.4 -3.4**
comp=Z,4.0nm,1.0s,baz=36,slow=7.9,SNR=5.3
TORD SKPbc SKPab 03 51 42.0 -1.4
comp=Z,4.1nm,0.7s,baz=99,slow=1.9,SNR=9.6
TORD SKKPbc **SKKPbc 04 01 29.1 +0.9**
comp=Z,0.7nm,0.9s,baz=290,slow=5.7,SNR=3.8
TSUM Tsumeb 130.02 263 *e*PKPdf **PKiKP 03 48 39.4 -0.4**
SJG San Juan 130.50 39 PKiKP **PKPdf 03 48 40.0 +0.2**
SJG pmax pmax
comp=N,32nm,1.0s
SJG San Juan 130.50 39 PKP **PKPdf 03 48 40.0 +0.2**
baz=254,slow=7.4
SJG SKPbc **SKPbc 03 51 47.3 -1.0**
comp=N,32nm,1.0s,baz=282,slow=2.3,SNR=8.8
ZARC Zaragoza, Cauc 131.98 57 *eP* **PKPdf 03 48 41.5 -1.2**
ZARC Zaragoza, Cauc 131.98 57 *eP* **PKPdf 03 48 41.5 -1.2**
OCAC Ocana 132.70 55 *eP* **PKPdf 03 48 44.4 +0.2**
OCAC Ocana 132.70 55 *eP* **PKPdf 03 48 44.4 +0.2**
YOTC Yotoco, Valle 132.87 62 *eP* **PKPdf 03 48 41.2 -3.4**
YOTC Yotoco, Valle 132.87 62 *eP* **PKPdf 03 48 41.2 -3.4**
OTAV Otavalo 133.10 68 *e*PKPdf **PKPdf 03 48 45.1 -0.3**
GCUF Volcan Galeras 133.54 66 *eP* **PKPdf 03 48 46.4 +0.1**
GCUF Volcan Galeras 133.54 66 *eP* **PKPdf 03 48 46.4 +0.1**
SOTA Rioblanco 133.67 64 *eP* **PKPdf 03 48 46.7 +0.2**
SOTA Rioblanco 133.67 64 *eP* **PKPdf 03 48 46.7 +0.2**
CRUC La Cruz 133.69 65 *eP* **PKiKP 03 48 47.3 -0.3**
CRUC La Cruz 133.69 65 *eP* **PKiKP 03 48 47.3 -0.3**
ROSC El Rosal 134.01 59 PKP **PKPdf 03 48 47.5 +0.5**
comp=N,2.3nm,0.4s,baz=106,slow=14,SNR=3.6
PRAC Prado 134.21 61 *eP* PKPpre 03 48 35.4
PRAC Prado 134.21 61 *eP* PKPpre 03 48 35.4
SDV Santo Domingo 134.28 52 PKP **PKPdf 03 48 47.6 +0.4**
comp=N,12nm,0.7s,baz=307,slow=6.4
SDV SKPbc **SKPbc 03 52 00.9 -0.9**
comp=N,20nm,1.0s,baz=281,slow=3.6,SNR=14
FLOC Florencia 134.77 64 *eP* **PKPdf 03 48 47.7 -0.3**
FLOC Florencia 134.77 64 *eP* **PKPdf 03 48 47.7 -0.3**
ATAH Atahualpa 136.54 77 PKP **PKiKP 03 48 52.8 -0.7**
comp=N,7.5nm,0.8s,baz=59,slow=2.3,SNR=4.3
ATAH SKPbc **SKPbc 03 52 08.3 -0.8**
comp=N,7.3nm,0.9s,baz=277,slow=3.2,SNR=11
DBIC Dimbokro 138.42 309 PKhKP PKPpre 03 48 42.2
comp=N,1.5nm,0.4s,baz=27,slow=4.6,SNR=7.4
DBIC PKP **PKPdf 03 48 54.4 -0.3**
comp=N,14nm,0.7s,baz=10,slow=2.8,SNR=13
DBIC SKPbc **SKPbc 03 52 12.8 -1.3**
comp=N,30nm,1.0s,baz=39,slow=3.1,SNR=13
KIC Kosan Boka 138.55 309 *eP* PKPpre 03 48 43.7
comp=N,31nm,0.6s
TIC Toumodi 138.56 310 *eP* PKPpre 03 48 44.9
LIC Lamto 138.85 309 *eP* PKPpre 03 48 45.3
comp=N,44nm,0.8s
USHA Ushuaia 139.00 152 SKPbc **SKPbc 03 52 13.6 -0.8**

comp=N,23nm,1.1s,baz=8.9,slow=0.7,SNR=5.2
NNA Nana 139.76 83 *i* PKIKP **PKiKP 03 48 58.4 -1.2**
NNA Nana 139.76 83 PKP **PKPdf 03 48 56.8 -0.3**
comp=N,8.0nm,0.8s,baz=347,slow=10,SNR=3.6
GO06 Curarrehue 144.96 129 *e*PKPbc PKPbc 03 49 05.3 -0.2
PLCA Paso Flores 145.21 131 *e*PKPdf **PKPdf 03 49 06.2 +0.1**
PLCA SKPbc **SKPbc 03 52 30.2 -0.3**
PLCA Paso Flores 145.21 131 PKPbc **PKPab 03 49 06.5 +0.1**
comp=N,45nm,0.8s,baz=263,slow=3.6,SNR=196
PLCA SKPbc **SKPbc 03 52 30.2 -0.3**
comp=N,2.4nm,0.5s,baz=279,slow=2.2,SNR=3.4
EFI East Falkland 145.59 155 *e*PKPdf **PKPab 03 49 07.6 +0.3**
EFI East Falkland 145.59 155 *e*PKP2 **PKPab 03 49 07.6 +0.3**
ROC1 El Roble 147.06 117 *e*PKPbc **PKPbc 03 49 12.5 +0.4**
PEL Peldehue 147.30 118 *e*PKPbc **PKPbc 03 49 12.8 +0.4**
PEL Peldehue 147.30 118 *e*PKP2 **PKPbc 03 49 12.8 +0.4**
HOPE Hope Point 147.57 179 *e*PKPbc **PKPbc 03 49 12.7 +0.4**
GO04 Tololo Observa 147.66 112 *e*PKPbc **PKPbc 03 49 13.0 -0.8**
LCO Las Campanas 147.87 110 *e*PKPbc **PKPbc 03 49 14.5 +0.1**
LCO Las Campanas 147.87 110 *e*PKP2 **PKPbc 03 49 14.5 +0.1**
PB04 IPOC Station P 148.32 97 *e*PKPbc **PKPbc 03 49 15.9 +0.3**
GO03 Copiap 148.37 107 *e*PKPbc **PKPbc 03 49 16.0 +0.5**
MNMC Minye Minye 148.38 91 *e*PKPdf **PKPdf 03 49 12.1 -0.2**
MNMC *e*PKPbc **PKiKP 03 49 16.8 -0.6**
PB11 IPOC Station P 148.43 93 *e*PKPdf **PKPdf 03 49 12.2 0.0**
PB11 *e*PKPbc **PKPbc 03 49 16.6 +0.6**
PTGA Pitinga 148.57 51 PKP **PKPdf 03 49 13.0 +0.5**
comp=N,27nm,0.6s,baz=302,slow=1.6,SNR=15
PTGA PKPbc **PKPbc 03 49 16.5 +0.3**
comp=N,27nm,0.6s,baz=313,slow=3.4,SNR=45
MDP Montagnes des 148.64 33 PKPbc **PKPbc 03 49 16.3 -0.1**
comp=N,49nm,0.7s,baz=280,slow=1.5,SNR=22
PB01 IPOC Station P 148.78 95 *e*PKPdf **PKPdf 03 49 12.4 -0.3**
PB01 *e*PKPbc **PKiKP 03 49 17.6 -0.4**
GO02 Mina Guanaco 148.99 103 *e*PKPbc **PKiKP 03 49 18.1 -0.5**
LPAZ La Paz 149.10 85 *e*PKPdf **PKPdf 03 49 14.6 +0.7**
LPAZ *e*PKPbc **PKiKP 03 49 19.6 +0.2**
LPAZ La Paz 149.10 85 *e*PKHKP PKPpre 03 49 14.6
LPAZ *e* 03 49 19.6
LPAZ La Paz 149.10 85 PKP **PKPdf 03 49 15.1 +1.2**
comp=N,35nm,0.7s,baz=294,slow=2.0,SNR=30
LPAZ PKPbc **PKiKP 03 49 19.1 -0.4**
comp=N,35nm,0.7s,baz=344,slow=3.5,SNR=62
LVC Limon Verde 149.49 98 *e*PKPbc **PKiKP 03 49 19.4 -0.4**
LVC Limon Verde 149.49 98 *e*PKP2 **PKiKP 03 49 19.4 -0.4**
LVC Limon Verde 149.49 98 PKPbc **PKiKP 03 49 19.6 -0.1**
comp=N,24nm,0.8s,baz=315,slow=2.7,SNR=22
TRQA Tornquist 152.35 132 *e*PKPbc **PKiKP 03 49 24.8 0.0**
TRQA Tornquist 152.35 132 *e*PKIKP **PKiKP 03 49 24.8 0.0**
CPUP Villa Florida 159.95 107 *e*PKPdf **PKPdf 03 49 28.4 +0.6**
CPUP *e*PKPab **PKPab 03 50 08.0 -0.2**
CPUP Villa Florida 159.95 107 PKP **PKPdf 03 49 28.1 +0.3**
comp=N,2.9nm,0.9s,baz=341,slow=1.7,SNR=6.3
CPUP PKPab **PKPab 03 50 08.3 +0.1**
comp=N,9.0nm,0.8s,baz=276,slow=5.3,SNR=13
RCBR Riachuelo 164.11 360 PKP **PKPdf 03 49 31.6 -0.9**
comp=N,40nm,0.5s,baz=218,slow=0.1,SNR=2.4
RCBR pPKP **pPKPdf 03 50 13.6 -1.1**
comp=N,154nm,0.9s,baz=96,slow=0.1,SNR=7.2
BDFB Brasilia 167.01 64 PKP **PKPdf 03 49 35.2 +0.3**
comp=N,111nm,1.1s,baz=40,slow=2.5,SNR=8.1
BDFB pPKP **pPKPdf 03 50 16.7 -0.5**
comp=N,3.1nm,0.9s,baz=144,slow=6.0,SNR=2.1
BDFB PKPab **PKPab 03 50 39.8 +0.2**
comp=N,7.6nm,0.7s,baz=297,slow=5.2,SNR=8.2

*IDC **01** 03:41:49.2±0.9, 47.35N×84.86E, h0km, mb3.8/12, mb1 4.0/18, mb1mx3.8/53, mbtmp3.8/18, ML3.6/6, Error ellipse: s-maj=14.0km s-min=9.2km az=148.0*
*ISCJB **01** 03:41:53.4±0.5, 47.49N±0.04×84.78E±0.05, h38km±4km, mb3.9/12, Error ellipse: s-maj=6.9km s-min=5.9km az=163.6*
*SOME **01** 03:41:53.9, 47.23N×84.30E, h5km, MS3.4*
*NEIC **01** 03:41:53.5±1.5, 47.33N×84.85E, h31km±12km, mb4.1/2, Error ellipse: s-maj=7.4km s-min=5.6km az=157.0*
*BJI **01** 03:41:54.1, 47.29N×84.69E, h10km, mb4.1/2, ML4.0/7*
*NNC **01** 03:41:56.5±0.8, 47.50N×84.21E, h0km, mb4.6, mpv4.4, Error ellipse: s-maj=9.0km s-min=4.3km az=172.0*
ISC 01 03:41:53.6±0.8, 47.33N±0.04×84.71E±0.04, h26km±6km, n76, σ1§99/88, mb4.0/12, **15C-3D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**0.16**	**42**	**P**		**Pb**	**03 41 58.8**	**-0.2**
	462nm,0.2s							
ZSN				S		**Sb**	**03 42 02.9**	**+0.3**
	6μm,0.2s							
ZSN	**Zaisan**	**0.16**	**42**	*e*P		**Pb**	03 41 58.8	-0.2
	462nm,0.2s							
ZSN				*e*S		**Sb**	**03 42 02.9**	**+0.3**
	6μm,0.2s							
MK31	**Makanchi Array**	**1.74**	**253**	*e*Pn		**Pb**	**03 42 23.7**	**-1.1**
MK31	**Makanchi Array**	**1.74**	**253**	↑P		**Pb**	**03 42 23.9**	**-0.9**
	237nm,0.4s,baz=54,slow=8.0,SNR=1583							
MK31				↑S		**Sb**	**03 42 45.0**	**-1.2**
	623nm,0.3s,baz=75,slow=42,SNR=5.0							
MK32	**Makanchi Array**	**1.74**	**253**	*e*Pn		**Pb**	**03 42 24.0**	**-0.8**
MK32				*e*Sn		**Sb**	**03 42 46.7**	**+0.5**
MKAR	**Makanchi Array**	**1.74**	**253**	Pg		**Pb**	**03 42 24.0**	**-0.8**
	160nm,0.3s,baz=95,slow=7.7,SNR=495							
MKAR				Lg		Lg	03 42 46.7	
	517nm,0.3s,baz=73,slow=32,SNR=36							
MK01	**Makanchi Array**	**1.74**	**252**	*e*Pn		**Pb**	**03 42 23.6**	**-1.3**
MAKZ	**Makanchi**	**1.94**	**255**	*e*Pn		**Pb**	**03 42 27.5**	**-0.7**
MAKZ	**Makanchi**	**1.94**	**255**	↓P		**Pb**	**03 42 27.4**	**-0.9**
	231nm,0.5s							
MAKZ				↑S		**Sb**	**03 42 50.7**	**-1.3**
	1μm,0.5s							
WMQ	**Urumqi**	**4.09**	**148**	*e*Pn		**Pn**	**03 42 56.9**	**+2.4**
WMQ				Sn		**Sn**	**03 43 45.2**	**+3.7**
WMQ				smax		smax		
	comp=N,350nm,0.9s							
WMQ				smax		smax		
	comp=E,460nm,0.7s							
WMQ	**Urumqi**	**4.09**	**148**	*e*Pn		**Pn**	**03 42 54.2**	**-0.3**
KAPS	**Kapalarasan**	**4.24**	**243**	Pg		**Pb**	**03 43 06.7**	**-0.7**
	60nm,0.9s							
KAPS				Lg		Lg	03 43 59.1	
	207nm,1.1s							
KAPS	**Kapalarasan**	**4.24**	**243**	*e*P		**Pb**	**03 43 06.7**	**-0.7**
	60nm,0.9s							
KAPS				*e*S		**Sb**	**03 43 59.1**	**+1.0**
	207nm,1.1s							
SEM	**Semipalatinsk**	**4.26**	**318**	Pg		**Pb**	**03 43 09.4**	**+1.5**
	26nm,0.4s							
SEM				Lg		Lg	03 44 04.1	
	618nm,0.3s							
SEM	**Semipalatinsk**	**4.26**	**318**	*e*P		**Pb**	**03 43 09.4**	**+1.5**
	29nm,0.2s							
SEM				*e*S		**Sb**	**03 44 04.1**	**+5.2**
	618nm,0.3s							
DJR	**Jarkent**	**4.56**	**231**	Pg		**Pb**	**03 43 12.5**	**-0.5**
	9.4nm,0.4s							
DJR				Lg		Lg	03 44 09.1	
	94nm,0.7s							
DJR	**Jarkent**	**4.56**	**231**	*e*P		**Pb**	**03 43 12.5**	**-0.5**
	9.4nm,0.4s							
DJR				*e*S		**Sb**	**03 44 09.1**	**+1.7**
	94nm,0.7s							
KTMS	**Ketmen**	**4.95**	**220**	Pg		**Pb**	**03 43 19.9**	**+0.3**
	6.5nm,0.1s							
KTMS				Lg		Lg	03 44 21.9	
	91nm,0.4s							
KTMS	**Ketmen**	**4.95**	**220**	*e*P		**Pb**	**03 43 19.9**	**+0.3**
	6.5nm,0.1s							
KTMS				*e*S		**Sb**	**03 44 21.9**	**+3.2**
	91nm,0.4s							
TDK	**Taldyqorghan**	**4.96**	**244**	Pg		**Pb**	**03 43 19.5**	**-0.2**
	114nm,0.3s							
TDK				Lg		Lg	03 44 21.1	
	676nm,0.5s							
TDK	**Taldyqorghan**	**4.96**	**244**	*e*P		**Pb**	**03 43 19.5**	**-0.2**
	114nm,0.3s							
TDK				*e*S		**Sb**	**03 44 21.1**	**+2.3**
	676nm,0.5s							
KURBB	**Kurchatov Arra**	**5.24**	**311**	Pn		**Pn**	**03 43 10.1**	**-0.1**
	1.7nm,0.3s,baz=125,slow=10,SNR=21							
KURBB				Lg		Lg	03 44 34.3	
	4.9nm,0.3s,baz=253,slow=18,SNR=7.8							
KURK	**Kurchatov**	**5.25**	**312**	*e*Pn		**Pn**	**03 43 09.9**	**-0.4**
KURK				Lg		Lg	03 44 34.3	
KURK	**Kurchatov**	**5.25**	**312**	↑Pn		**Pn**	**03 43 10.2**	**-0.1**
	10nm,0.4s							
KURK				↑Lg		Lg	03 44 31.6	
	200nm,0.6s							
ARXS	**Arharly**	**5.73**	**240**	Pg		**Pb**	**03 43 35.2**	**+2.3**
	17nm,0.5s							
ARXS				Lg		Lg	03 44 47.5	
	150nm,0.6s							
ARXS	**Arharly**	**5.73**	**240**	*e*P		**Pb**	**03 43 35.2**	**+2.3**
	17nm,0.5s							
ARXS				*e*S		**Sb**	**03 44 47.5**	**+6.3**
	150nm,0.6s							
SATY	**Saty**	**6.17**	**228**	Pg		**Pb**	**03 43 42.8**	**+2.4**
	35nm,0.3s							
SATY				Lg		Lg	03 45 02.4	
	146nm,0.3s							
CHKK	**Chushkaly**	**6.43**	**240**	Pg		**Pb**	**03 43 48.5**	**+3.7**
	11nm,0.6s							
CHKK				Lg		Lg	03 45 10.7	
	74nm,0.3s							
ZAA0	**Zalesovo Array**	**6.63**	**1**	*e*Pn		**Pn**	**03 43 30.3**	**+1.0**
ZAA0	**Zalesovo Array**	**6.63**	**1**	↑Pn		**Pn**	**03 43 29.7**	**+0.4**
	4.4nm,0.5s							
ZAA0				↓Pg		Pb	03 43 54.4	+6.4
	8.3nm,0.5s							
ZAA0				↑Sn		**Sn**	**03 44 47.6**	**+3.7**
	18nm,0.4s							
ZAA0				↑Lg		Lg	03 45 23.7	
	111nm,0.8s							
ZALV	**Zalesovo Beam**	**6.63**	**1**	*e*Pn		**Pn**	**03 43 30.2**	**+0.9**
ZALV				Sn		**Sn**	**03 44 48.3**	**+4.4**
ZALV				Lg		Lg	03 45 15.0	
ZALV	**Zalesovo Beam**	**6.63**	**1**	Pn		**Pn**	**03 43 29.5**	**+0.2**
	1.9nm,0.3s,baz=181,slow=13,SNR=9.6							
ZALV				Sn		**Sn**	**03 44 48.3**	**+4.4**
	7.1nm,0.3s,baz=181,slow=20,SNR=4.9							
ZALV				Lg		Lg	03 45 15.0	
	6.3nm,0.3s,baz=187,slow=23,SNR=3.6							
ZAA1	**Zalesovo Array**	**6.63**	**1**	*e*Pn		**Pn**	**03 43 29.5**	**+0.1**
KTBS	**Karatobe**	**6.70**	**240**	Pg		**Pb**	**03 43 52.4**	**+3.1**
	22nm,0.6s							
KTBS				Lg		Lg	03 45 18.2	
	84nm,0.6s							
KOTS	**Kotyrbulak**	**6.74**	**235**	Pg		**Pb**	**03 43 52.0**	**+1.9**
	11nm,0.3s							
KOTS				Lg		Lg	03 45 17.1	
	85nm,0.3s							
KUU	**Kurty**	**6.80**	**243**	Pg		**Pb**	**03 43 54.4**	**+3.4**
	9.2nm,0.7s							
KUU				Lg		Lg	03 45 22.2	
	114nm,0.9s							
MDOK	**Medeo**	**6.82**	**235**	↑Lg		Lg	03 45 26.2	
	80nm,0.9s							
MTBS	**Maitube**	**7.20**	**237**	Pg		Pb	03 44 03.0	+5.2
	11nm,0.2s							
MTBS				Lg		Lg	03 45 35.9	
	51nm,0.3s							
DGS	**Degeres**	**7.51**	**240**	Pg		**Pb**	**03 44 06.5**	**+3.3**
	16nm,0.3s							
DGS				Lg		Lg	03 45 42.0	
	62nm,0.3s							
KST	**Kastek**	**7.52**	**238**	Pg		Pb	03 44 08.5	+5.2
	21nm,0.5s							
KST				Lg		Lg	03 45 45.0	
	37nm,0.8s							
TKM2	**Tokmak 2**	**7.80**	**239**	↑Pn		**Pn**	**03 43 46.2**	**+0.6**
	6.9nm,0.4s							
TKM2				↑Lg		Lg	03 45 56.3	
	36nm,0.8s							
AAK	**Ala-Archa**	**8.62**	**241**	↑Lg		Lg	03 46 23.9	
	56nm,0.9s							
AAK	**Ala-Archa**	**8.62**	**241**	Pn		**Pn**	**03 43 57.6**	**+0.8**
	0.5nm,0.3s,baz=98,slow=9.4,SNR=4.8							
AAK				Lg		Lg	03 46 22.3	
	1.0nm,0.3s,baz=241,slow=19,SNR=5.2							
BVA0	**Borovoye Array**	**10.80**	**307**	Pn		**Pn**	**03 44 25.5**	**-0.9**
	3.8nm,0.5s,baz=129,slow=12,SNR=40							
BVA0				↓Sn		**Sn**	**03 46 24.9**	**-1.5**
	7.4nm,0.6s,baz=116,slow=22,SNR=4.3							
BVA0				↑Lg		Lg	03 47 30.6	
	27nm,1.1s,baz=112,slow=23,SNR=3.8							
BVAR	**Borovoye Array**	**10.80**	**307**	Pn		**Pn**	**03 44 26.0**	**-0.5**
	3.3nm,0.3s,baz=120,slow=12,SNR=21							
BVAR				Sn		**Sn**	**03 46 20.5**	**-5.9**
	2.2nm,0.3s,baz=112,slow=22,SNR=5.7							
BVAR				Lg		Lg	03 47 33.1	
	1.2nm,0.3s,baz=99,slow=24,SNR=5.1							
KK31	**Karatay Array**	**10.87**	**252**	*e*Pn		**Pn**	**03 44 26.5**	**-0.9**
KK31	**Karatay Array**	**10.87**	**252**	↑Pn		**Pn**	**03 44 31.6**	**+4.1**
	1.5nm,0.2s,baz=56,slow=10,SNR=4.5							
KK31				↑Lg		Lg	03 47 31.6	
	12nm,0.6s,baz=60,slow=29,SNR=4.2							
KKAR	**Karatay Array**	**10.87**	**252**	*e*Pn		**Pn**	**03 44 26.4**	**-1.1**
BRVK	**Borovoye**	**10.87**	**307**	*e*Pn		**Pn**	**03 44 26.6**	**-0.8**
SONA0	**Songino Array**	**14.64**	**80**	*e*Pn		**Pn**	**03 45 15.5**	**-3.6**
SONM	**Songino Array**	**14.64**	**80**	Pn		**Pn**	**03 45 15.5**	**-3.6**
	0.1nm,0.3s,baz=259,slow=13,SNR=2.2							
SONM				Lg		Lg	03 49 32.8	
	0.1nm,0.3s,baz=297,slow=30,SNR=7.9							
ABKAR	**Akbulak array**	**16.58**	**286**	*e*Pn		**Pn**	**03 45 43.7**	**-0.4**
	8.5nm,1.4s							
AKTO	**Aktyubinsk**	**17.79**	**290**	P		**Pn**	**03 45 59.0**	**-0.3**
	0.4nm,0.3s,baz=87,slow=8.9,SNR=4.4							
ARU	**Arti**	**18.43**	**309**	*e*P		**P**	**03 46 06.4**	**-0.4**
HHC	**Hu-ho-hao-te**	**20.29**	**99**	*e*P		Pn	03 46 30.8	+1.3
HHC				pmax		pmax		
	comp=Z,9.0nm,0.8s							
GEYT	**Alibeck**	**21.61**	**254**	P		**P**	**03 46 41.4**	**-0.3**
	2.9nm,0.8s,baz=58,slow=14,SNR=2.7							
NRIK	**Noril'sk**	**22.12**	**3**	P		**P**	**03 46 46.6**	**-0.1**
	7.6nm,0.8s,baz=154,slow=8.7,SNR=2.5							
AKASG	**Malin Array Be**	**35.83**	**296**	P		**P**	**03 48 49.8**	**-0.9**
	0.5nm,0.4s,baz=63,slow=8.8,SNR=3.3							
ARA0	**ARCESS Array S**	**36.03**	**329**	*e*P		**P**	**03 48 51.8**	**-0.5**
ARCES	**ARCESS Array B**	**36.03**	**329**	P		**P**	**03 48 51.8**	**-0.5**
	2.3nm,0.7s,baz=86,slow=7.7,SNR=6.2							
BR101	**Keskin Array S**	**37.23**	**277**	*e*P		**P**	**03 49 02.8**	**-0.2**
BRTR	**Keskin Array B**	**37.23**	**277**	P		**P**	**03 49 02.8**	**-0.2**
	0.7nm,1.0s,baz=57,slow=6.5,SNR=2.3							
NB2	**NORSAR Subarra**	**42.74**	**317**	P		**P**	**03 49 47.6**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=73,slow=8.6							
NB200	**NORSAR Array S**	**42.74**	**317**	*e*P		**P**	**03 49 47.8**	**-0.6**
NOA	**NORSAR Array B**	**42.74**	**317**	P		**P**	**03 49 47.8**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=77,slow=7.8,SNR=6.8							
CLL	**Coll'm**	**45.20**	**303**	*e*P		**P**	**03 50 08.0**	**-0.1**
GEC2	**GERESS Array S**	**45.85**	**299**	*e*P		**P**	**03 50 13.8**	**+0.4**
	comp=Z,11nm,1.7s							
GERES	**GERESS Array B**	**45.85**	**299**	P		**P**	**03 50 13.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=56,slow=9.8,SNR=5.5							
ILAR	**Eielson Array**	**61.24**	**23**	P		**P**	**03 52 05.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=320,slow=5.5,SNR=5.3							
ILB	**Eielson Array**	**61.24**	**23**	*e*P		**P**	**03 52 05.7**	**-0.2**
	comp=Z,13nm,1.7s							
ESDC	**Sonseca Array**	**61.43**	**299**	P		**P**	**03 52 07.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=53,slow=7.2,SNR=8.0							
YKA	**Yellowknife Ar**	**69.44**	**9**	P		**P**	**03 52 58.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=339,slow=6.6,SNR=3.7							
YKB5	**Yellowknife Ar**	**69.44**	**9**	*e*P		**P**	**03 52 58.5**	**-0.4**
TOA1	**Torodi Ar. Sit**	**75.74**	**274**	*e*P		**P**	**03 53 36.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**75.74**	**274**	P		**P**	**03 53 36.0**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=40,slow=4.9,SNR=6.4							
WRA	**Warramunga Arr**	**80.45**	**133**	P		**P**	**03 54 02.1**	**-1.0**
	comp=Z,0.4nm,1.0s,baz=337,slow=5.1,SNR=5.0							

*IDC **01** 04:11:16.1±0.6, 6.08N×82.81W, h0km, mb4.0/18, mb1 4.3/24, mb1mx4.2/43, mbtmp4.2/24, ML3.7/5, MS4.3/26, Ms1 4.3/26, ms1mx4.3/28, Error ellipse: s-maj=23.8km s-min=10.9km az=49.0*
*UCR **01** 04:11:16.2±2.3, 6.02N×82.69W, h28km±29km, mb4.6(NEIC)*
*NEIC **01** 04:11:18.7±0.2, 6.21N×82.60W, h10km, mb4.6/103, Error ellipse: s-maj=5.2km s-min=3.0km az=34.0*
NEIC Felt at Cerro Punta.
*ISCJB **01** 04:11:19.5±0.2, 6.17N±0.02×82.54W±0.02, h33km, mb4.4/108, MS4.3/21, Error ellipse: s-maj=3.3km s-min=2.3km az=37.1*
ISC 01 04:11:19.6±2.4, 6.05N±0.04×82.63W±0.05, h24km±17km, **n362**, σ1§**84**/391, **mb4.6**/109, **MS4.3**/22, **2D, South of Panama**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DVD	**David**	**2.38**	**4**	*e*P		**Pn**	**04 11 53.8**	**-3.3**
DVD				*e*S		**Sn**	**04 12 21.9**	**-3.6**
TBS2		**2.73**	**359**	*e*P		**Pn**	**04 11 59.5**	**-2.6**
TBS2				*e*S		**Sn**	**04 12 32.7**	**-1.7**
BRU2	**Volcan**	**2.73**	**359**	*e*P		**Pn**	**04 11 58.5**	**-3.5**
BRU2				*e*S		**Sn**	**04 12 31.5**	**-2.9**
AZU	**Azuero**	**2.91**	**53**	↓*i*P		**Pn**	**04 12 01.7**	**-2.7**
AZU				*i*			04 12 05.0	
	comp=Z,508nm,0.5s							
AZU				*e*S		**Sn**	**04 12 34.7**	**-3.8**
AZU	**Azuero**	**2.91**	**53**	↓*i*P		**Pn**	**04 12 01.7**	**-2.7**
AZU				*i*			04 12 05.0	
	comp=Z,508nm,0.5s							
AZU				*e*S		**Sn**	**04 12 34.7**	**-3.8**
AZU	**Azuero**	**2.91**	**53**	*e*P		**Pn**	**04 11 59.7**	**-4.7**
AZU				*e*S		**Sn**	**04 12 34.2**	**-4.3**
PNME	**Penonome**	**3.33**	**43**	*e*P		**Pn**	**04 12 08.3**	**-1.8**
PNME				*e*S		**Sn**	**04 12 45.8**	**-3.1**
PNME	**Penonome**	**3.33**	**43**	*e*P		**Pn**	**04 12 08.3**	**-1.8**
PNME				*e*S		**Sn**	**04 12 45.8**	**-3.1**
PNME	**Penonome**	**3.33**	**43**	*e*P		**Pn**	**04 12 06.5**	**-3.6**
PNME				*e*S		**Sn**	**04 12 47.2**	**-1.8**
ZANG	**Zanguenga, Cho**	**3.98**	**43**	*e*P		**Pn**	**04 12 17.7**	**-1.4**
ZANG				*e*S		**Sn**	**04 13 05.2**	**+0.2**
BCIP	**Isla Barro Col**	**4.15**	**42**	*e*Pn		**Pn**	**04 12 19.5**	**-2.0**
BCIP				*e*Sn		**Sn**	**04 13 07.2**	**-2.0**
BCIP	**Isla Barro Col**	**4.15**	**42**	*e*P		**Pn**	**04 12 19.6**	**-1.8**
BCIP				*e*S		**Sn**	**04 13 08.3**	**-0.9**
BCIP				*i*			04 13 33.7	
	comp=Z,184nm,0.7s							
BCIP	**Isla Barro Col**	**4.15**	**42**	*e*P		**Pn**	**04 12 19.6**	**-1.8**
BCIP				*e*S		**Sn**	**04 13 08.3**	**-0.9**
BCIP				*i*			04 13 33.7	
	comp=Z,184nm,0.7s							
BCIP	**Isla Barro Col**	**4.15**	**42**	*e*P		**Pn**	**04 12 19.5**	**-2.0**
BCIP				*e*S		**Sn**	**04 13 08.2**	**-1.1**
FLAM	**Flamenco Islan**	**4.18**	**47**	*e*P		**Pn**	**04 12 20.0**	**-1.9**
FLAM				*e*S		**Sn**	**04 13 08.8**	**-1.2**
HDC	**Heredia**	**4.20**	**340**	*e*Pn		**Pn**	**04 12 19.7**	**-2.5**
HDC				*e*Sn		**Sn**	**04 13 08.4**	**-2.2**
HDC	**Heredia**	**4.20**	**340**	*e*P		**Pn**	**04 12 18.9**	**-3.3**
HDC				*e*S		**Sn**	**04 13 09.0**	**-1.6**
UPA	**Univ. de Panam**	**4.23**	**46**	*e*P		**Pn**	**04 12 21.0**	**-1.5**
UPA				*e*S		**Sn**	**04 13 08.7**	**-2.5**
UPA	**Univ. de Panam**	**4.23**	**46**	*e*P		**Pn**	**04 12 21.0**	**-1.5**
UPA				*e*S		**Sn**	**04 13 08.7**	**-2.5**
UPA	**Univ. de Panam**	**4.23**	**46**	*e*P		**Pn**	**04 12 21.2**	**-1.4**
UPA				*e*S		**Sn**	**04 13 09.7**	**-1.5**
FRIJ	**El Hiral**	**4.27**	**42**	*e*P		**Pn**	**04 12 21.0**	**-2.1**
JTS	**JuntasAbangare**	**4.80**	**331**	*e*Pn		**Pn**	**04 12 27.2**	**-3.3**
JTS				*e*Sn		**Sn**	**04 13 22.9**	**-2.6**
JTS	**JuntasAbangare**	**4.80**	**331**	Pn		**Pn**	**04 12 27.2**	**-3.3**
	comp=Z,79nm,0.3s,baz=198,slow=7.1,SNR=215							
JTS				LR		LR	04 13 11.7	
	comp=Z,1μm,20.8s,baz=226,slow=25							
JTS				Sn		**Sn**	**04 13 21.7**	**-3.7**
	comp=Z,86nm,0.3s,baz=88,slow=22,SNR=13							
JTS	**JuntasAbangare**	**4.80**	**331**	*e*P		**Pn**	**04 12 27.3**	**-3.2**
SOLC	**Bahia Solano**	**5.19**	**88**	*e*P		**Pn**	**04 12 34.1**	**-1.7**
SOLC				*e*S		**Sn**	**04 13 26.5**	**-8.4**
SOLC				*i*			04 13 33.2	
	comp=Z,83nm,0.3s							
SOLC	**Bahia Solano**	**5.19**	**88**	*e*P		**Pn**	**04 12 34.1**	**-1.7**
SOLC				*e*S		**Sn**	**04 13 26.5**	**-8.4**
SOLC				*i*			04 13 33.2	
	comp=Z,83nm,0.3s							
GRGC	**Isla de Gorgon**	**5.38**	**124**	*e*P		**Pn**	**04 12 35.3**	**-3.0**
GRGC				*e*S		**Sn**	**04 13 34.1**	**-5.4**
GRGC				*i*			04 13 39.0	
	comp=N,121nm,0.2s							
GRGC	**Isla de Gorgon**	**5.38**	**124**	*e*P		**Pn**	**04 12 35.3**	**-3.0**
GRGC				*e*S		**Sn**	**04 13 34.1**	**-5.4**
GRGC				*i*			04 13 39.0	
	comp=N,121nm,0.2s							
MALC	**Bahia Malaga**	**5.64**	**111**	*e*P		**Pn**	**04 12 41.1**	**-0.9**
MALC				*e*S		**Sn**	**04 13 42.8**	**-3.4**
MALC	**Bahia Malaga**	**5.64**	**111**	*e*P		**Pn**	**04 12 41.1**	**-0.9**
MALC				*e*S		**Sn**	**04 13 42.8**	**-3.4**
TUMC	**Tumaco**	**5.72**	**137**	*e*P		**Pn**	**04 12 40.4**	**-2.7**
TUMC				*e*S		**Sn**	**04 13 42.8**	**-5.2**
TUMC				*i*			04 13 52.5	
	comp=Z,93nm,0.4s							
TUMC				*i*			04 13 54.1	
	comp=E,85nm,0.4s							
TUMC	**Tumaco**	**5.72**	**137**	*e*P		**Pn**	**04 12 40.4**	**-2.7**
TUMC				*e*S		**Sn**	**04 13 42.8**	**-5.2**
TUMC				*i*			04 13 52.5	
	comp=Z,93nm,0.4s							
TUMC				*i*		

RUSC La Rusia 9.49 90 eP Pn 04 13 37.3 +2.0
RUSC La Rusia 9.49 90 eP Pn 04 13 37.3 +2.0
PTLC Puerto Leguiza 9.75 126 eP Pn 04 13 40.2 +1.7
PTLC Puerto Leguiza 9.75 126 eP Pn 04 13 40.2 +1.7
CODC Agustn Codazz 9.88 66 eP Pn 04 13 41.2 +1.0
CODC Agustn Codazz 9.88 66 eP Pn 04 13 41.2 +1.0
PAMC Pamplona, Colo 9.94 82 eP Pn 04 13 43.1 +1.6
PAMC Pamplona, Colo 9.94 82 eP Pn 04 13 43.1 +1.6
APG El Apazote 11.77 320 Pn Pn 04 14 05.3 -1.0
comp=Z,2.7nm,0.3s,baz=168,slow=4.7,SNR=16
SDV Santo Domingo 12.22 76 ePn Pn 04 14 12.6 +0.2
SDV Santo Domingo 12.22 76 Pn Pn 04 14 13.7 +1.3
comp=Z,1.3nm,0.3s,baz=263,slow=8.9,SNR=10
SDV LR LR 04 18 57.6
comp=Z,1µm,19.4s,baz=239,slow=37
MTDJ Mount Denham 13.08 22 ePn Pn 04 14 21.9 -2.2
ATAH Atahualpa 13.76 162 Pn Pn 04 14 32.7 -0.9
comp=Z,0.3nm,0.3s,baz=328,slow=9.5,SNR=2.7
ATAH LR LR 04 19 18.3
comp=Z,4µm,20.7s,baz=337,slow=35
CCIG Comitan 13.80 318 ePn Pn 04 14 34.3 +0.4
CMIG Matias Romero 16.26 313 LR LR 04 20 30.7
comp=Z,1µm,19.8s,baz=118,slow=34
SDDR Presa de Saban 16.95 40 ePn Pn 04 15 14.8 -0.5
comp=Z,52nm,1.2s
NNA Nana 18.82 162 eP Pn 04 15 39.5 +1.2
comp=Z,39nm,0.9s
NNA Nana 18.82 162 P Pn 04 15 38.2 -0.1
comp=Z,0.6nm,0.3s,baz=349,slow=11,SNR=10.0
NNA LR LR 04 22 10.7
comp=Z,762nm,19.7s,baz=316,slow=35
OBIP Obispado Ponce 19.66 51 eP P 04 15 47.1 +0.2
comp=Z,49nm,1.1s
061Z Ochoppi 19.78 5 P P 04 15 48.1 0.0
baz=185
SJG San Juan 20.06 52 eP P 04 15 51.6 +0.4
comp=Z,111nm,1.4s
SJG San Juan 20.06 52 P P 04 15 51.0 -0.2
comp=Z,31nm,1.0s,baz=240,slow=8.4,SNR=10
SJG LR LR 04 22 57.5
comp=Z,731nm,21.3s,baz=222,slow=35
HUMP Col San Antoni 20.31 52 eP P 04 15 54.1 +0.1
comp=Z,88nm,1.3s
CBYP Canovanas 20.38 52 eP P 04 15 54.3 -0.5
comp=Z,68nm,1.3s
MTP Monte Pirata 20.52 53 eP P 04 15 56.2 -0.1
comp=Z,72nm,1.1s
CUPR Culebra, Puert 20.85 53 eP P 04 16 00.1 +0.3
comp=Z,177nm,1.4s
STVI Saint Thomas 21.13 53 eP P 04 16 03.3 +0.4
comp=Z,82nm,1.2s
959A Okeechobee 21.42 4 P P 04 16 05.6 -0.3
baz=185
DWPF Disney Wildern 21.97 3 P P 04 16 12.9 +1.1
baz=183
657A Interlachen 23.42 2 P P 04 16 28.0 +1.0
baz=182
PTGA Pitinga 23.60 106 P P 04 16 29.3 +0.4
comp=Z,1.1nm,0.4s,baz=294,slow=16,SNR=3.1
PTGA LR LR 04 25 42.9
comp=Z,2µm,18.2s,baz=285,slow=36
455A Stateville 24.57 359 P P 04 16 38.2 +0.5
baz=179
453A Whigham 24.73 357 P P 04 16 40.1 +1.0
baz=176
LNIG Linares 24.74 321 eP P 04 16 39.8 +0.4
comp=Z,35nm,1.3s
356A Blackshear 25.15 1 P P 04 16 43.4 +0.5
baz=181
355A Pearson 25.17 360 P P 04 16 43.9 +0.8
baz=179
353A Camilla 25.21 357 P P 04 16 45.2 +1.7
baz=176
351A Pinckard 25.25 354 P P 04 16 45.1 +1.3
baz=173
TIGA Tifton 25.28 358 P P 04 16 45.6 +1.5
baz=178
BRAL Brewton 25.33 351 P P 04 16 45.3 +0.7
baz=170
349A Repton 25.53 351 P P 04 16 47.8 +1.4
baz=169
254A Abbeville 25.77 359 P P 04 16 49.5 +0.9
baz=178
252A Lumpkin 25.89 356 P P 04 16 49.5 -0.2
baz=175
253A Americus 25.92 357 P P 04 16 50.6 +0.7
baz=176
250A Grady 26.02 353 eP P 04 16 51.4 +0.5
comp=Z,42nm,1.3s
250A Grady 26.02 353 P P 04 16 51.2 +0.3
baz=172
251A Midway 26.04 355 P P 04 16 50.7 -0.3
baz=174
249A Camden 26.14 351 P P 04 16 52.2 +0.3
baz=170
LPAZ La Paz 26.42 147 eP P 04 16 56.9 +1.5
comp=Z,3.4nm,0.8s
LPAZ La Paz 26.42 147 P P 04 16 55.5 +0.2
comp=Z,2.5nm,0.7s,baz=319,slow=12,SNR=7.8
LPAZ LR LR 04 28 23.7
comp=Z,3µm,19.9s,baz=313,slow=39
151A Opelika 26.46 355 P P 04 16 54.4 -0.4
baz=174
152A Waverly Hall 26.56 356 P P 04 16 55.5 -0.2
baz=175
150A Eclectic 26.61 354 P P 04 16 56.0 -0.2
baz=172
HKT Hockley 26.84 334 eP P 04 16 57.4 -0.8
comp=Z,10nm,1.4s
Z52A Williamson 27.06 357 P P 04 17 00.0 -0.2
baz=176
Z53A Monticello 27.11 358 P P 04 16 59.9 -0.7
baz=178
LRAL Lakeview Retre 27.16 352 P P 04 16 59.9 -1.2
baz=170
GOGA Godfrey 27.24 358 P P 04 17 01.1 -0.7
baz=178
Z49A Columbiana 27.25 353 P P 04 17 02.3 +0.4
baz=171
MNMC Minye Minye 28.12 153 eP P 04 17 13.0 +2.8
comp=Z,15nm,1.0s
435B Jarrell 28.34 332 eP P 04 17 10.9 -0.8
comp=Z,27nm,1.4s
JCT Junction City 29.18 328 eP P 04 17 19.6 +0.3
comp=Z,18nm,1.4s
JCT Junction City 29.18 328 P P 04 17 18.8 -0.5
baz=143
W48A Pulaski 29.22 353 P P 04 17 18.4 -1.2
baz=171
WHTX Lake Whitney, 29.30 334 eP P 04 17 18.8 -1.4
comp=Z,6.3nm,0.9s
W47A Westpoint 29.42 352 P P 04 17 20.7 -0.6
baz=170
TKL Tuckaleechee C 29.49 358 LR LR 04 29 25.3
comp=Z,544nm,19.5s,baz=181,slow=37
V47A Nunnelly 29.98 352 P P 04 17 23.3 -2.9
baz=170
W41B Gary Mavity, V 30.31 344 eP P 04 17 28.0 -1.2
comp=Z,17nm,1.5s
TXAR Lajitas Array 30.52 322 P P 04 17 29.4 -1.8
comp=Z,1.4nm,1.0s,baz=148,slow=9.7,SNR=8.4
TXAR LR LR 04 30 09.5
comp=Z,323nm,19.1s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 30.52 322 eP P 04 17 31.4 +0.2
W39A Magazine 30.78 342 P P 04 17 31.5 -1.7
baz=158
ABTX Abilene, Hawle 30.84 331 eP P 04 17 33.1 -0.7
comp=Z,4.7nm,0.8s
ABTX Abilene, Hawle 30.84 331 P P 04 17 33.0 -0.9
baz=145
T49A Edmonton 31.03 355 P P 04 17 35.4 -0.1
baz=174
U42A Revenden 31.18 346 P P 04 17 35.1 -1.7
baz=163
LVC Limon Verde 31.49 155 eP P 04 17 42.8 +2.7
comp=Z,4.8nm,0.9s
U40A Yellville 31.59 344 P P 04 17 38.7 -1.8
baz=160
T43A Greenville 31.68 348 P P 04 17 39.4 -1.7
baz=165
S49A Springfield 31.68 356 P P 04 17 39.9 -1.3
baz=175
T42A Van Buren 31.79 347 eP P 04 17 40.7 -1.5
comp=Z,16nm,1.4s
T42A Van Buren 31.79 347 P P 04 17 41.1 -1.1
baz=164
T41A Mountain View 31.96 346 P P 04 17 42.0 -1.7
baz=163

R51A Hillsboro 32.12 359 P P 04 17 44.4 -0.6
baz=178
R49A Shelbyville 32.18 356 P P 04 17 45.3 -0.3
baz=175
WCI Wyandotte Cave 32.21 355 P P 04 17 45.2 -0.7
baz=173
WMOK Wichita Mounta 32.22 335 P P 04 17 45.7 -0.3
baz=149
R47A Wooly Knot Far 32.30 354 P P 04 17 45.6 -1.0
baz=173
R48A Northridge Ran 32.34 355 P P 04 17 46.6 -0.4
baz=174
CCM Cathedral Cave 32.81 347 eP P 04 17 49.9 -1.2
comp=Z,23nm,1.4s
CCM Cathedral Cave 32.81 347 P P 04 17 49.6 -1.5
baz=164
Q54A Coxs Mills 32.83 3 P P 04 17 50.4 -0.9
baz=183
Q51A Peebles 32.84 359 P P 04 17 50.4 -1.0
baz=179
Q49A Aurora 32.87 357 P P 04 17 50.3 -1.3
baz=176
Q47A Bedord North L 32.92 355 P P 04 17 51.0 -1.1
baz=173
R41A Rosebud 33.07 347 P P 04 17 51.8 -1.6
baz=164
MNTX Cornudas Mount 33.23 323 eP P 04 17 55.0 +0.1
comp=Z,12nm,1.2s
MNTX Cornudas Mount 33.23 323 P P 04 17 53.9 -1.0
baz=135,SNR=16
MSTX Muleshoe 33.47 329 eP P 04 17 56.8 -0.4
comp=Z,8.1nm,1.1s
MSTX Muleshoe 33.47 329 P P 04 17 55.7 -1.4
baz=142
Q41A Truxton 33.67 348 P P 04 17 57.6 -1.0
baz=164
O50A Cable 33.96 359 P P 04 18 00.6 -0.6
baz=178
ACSO Alum Creek Sta 34.04 360 P P 04 18 01.1 -0.7
baz=179
O54A Avella 34.05 3 P P 04 18 01.4 -0.4
baz=184
P42A Winchester 34.11 349 P P 04 18 01.7 -0.7
baz=166
O55A Ligonier 34.14 5 P P 04 18 02.6 -0.1
baz=186
KSU1 Kansas State U 35.25 341 eP P 04 18 11.5 -0.9
comp=Z,11nm,1.0s
KSU1 Kansas State U 35.25 341 P P 04 18 11.4 -0.9
baz=155
N42A Yates City 35.26 350 P P 04 18 10.7 -1.6
baz=167
121A Cookes Peak, D 35.27 322 P P 04 18 13.6 +0.8
baz=133,SNR=12
N41A Harden Midland 35.29 349 P P 04 18 10.6 -2.1
baz=166
M41A Milan 35.88 350 P P 04 18 15.6 -2.0
baz=166
ANMO Albuquerque 36.20 326 eP P 04 18 21.6 +0.8
comp=Z,23nm,1.4s
ANMO Albuquerque 36.20 326 P P 04 18 21.2 +0.5
baz=137
ANMO Albuquerque 36.20 326 P P 04 18 21.5 +0.8
comp=Z,8.0nm,1.1s,baz=139,slow=11,SNR=13
M39A Webster 36.29 348 P P 04 18 19.8 -1.4
baz=164
L41A Preston 36.55 350 P P 04 18 21.4 -2.0
baz=167
L40A Anamosa 36.67 349 P P 04 18 22.9 -1.5
baz=166
K55A Perry 36.75 6 P P 04 18 24.3 -0.8
baz=188
T25A Trinidad 36.78 330 eP P 04 18 26.4 +0.6
comp=Z,19nm,1.1s
T25A Trinidad 36.78 330 P P 04 18 25.2 -0.6
baz=142,SNR=8.3
TUC Tucson 37.05 318 P P 04 18 28.1 +0.2
baz=129
SDCO Great Sand Dun 37.80 330 eP P 04 18 34.8 +0.3
comp=Z,24nm,1.3s
SDCO Great Sand Dun 37.80 330 P P 04 18 34.8 +0.3
baz=141,SNR=18
X18A Snowflake 37.95 322 eP P 04 18 36.6 +0.9
comp=Z,10.0nm,1.1s
W18A Petrified Fore 38.22 323 eP P 04 18 38.8 +0.9
comp=Z,44nm,1.1s
W18A Petrified Fore 38.22 323 P P 04 18 38.5 +0.5
baz=133,SNR=14
S22A 4UR Ranch, Cre 38.48 329 eP P 04 18 41.0 +0.9
comp=Z,16nm,1.3s
S22A 4UR Ranch, Cre 38.48 329 P P 04 18 40.5 +0.3
baz=139,SNR=7.6
Q24A Divide 38.58 331 eP P 04 18 41.7 +0.6
comp=Z,9.3nm,0.9s
SADO Sadowa 38.69 4 LR LR 04 33 21.2
comp=Z,465nm,21.1s,baz=185,slow=34
X16A Lo Mia Camp, P 38.81 321 eP P 04 18 43.5 +0.6
comp=Z,7.1nm,1.1s
OGNE Ogallala 38.84 336 eP P 04 18 43.4 +0.4
comp=Z,40nm,1.4s
MVCO Mesa Verde 38.98 326 eP P 04 18 45.1 +0.8
comp=Z,18nm,1.3s
MVCO Mesa Verde 38.98 326 P P 04 18 44.5 +0.2
baz=136
113A Mohawk Valley, 39.33 317 eP P 04 18 48.0 +0.9
ISCO Idaho Springs 39.46 332 eP P 04 18 49.2 +0.8
comp=Z,4.3nm,0.9s
ISCO Idaho Springs 39.46 332 P P 04 18 48.7 +0.3
baz=142
WUAZ Wupatki 39.48 322 eP P 04 18 49.4 +1.0
comp=Z,14nm,1.1s
WUAZ Wupatki 39.48 322 P P 04 18 49.2 +0.8
baz=131,SNR=6.6
ECSD EROS Data Cent 39.50 344 eP P 04 18 48.2 -0.1
comp=Z,8.8nm,1.3s
SMCO Snowmass 39.64 330 eP P 04 18 50.7 +0.7
comp=Z,16nm,1.4s
PV01 Paradox Valley 39.69 327 eP P 04 18 51.0 +0.8
comp=Z,5.1nm,1.1s
G39A Holcombe 39.79 351 P P 04 18 48.0 -2.7
baz=167
PV15 Paradox Valley 39.79 328 eP P 04 18 52.0 +0.9
comp=Z,32nm,1.4s
G38A Ridgeland 39.79 350 P P 04 18 48.0 -2.7
baz=166
PV02 Paradox Valley 39.83 327 eP P 04 18 52.2 +0.8
comp=Z,10nm,1.0s
PV13 Radium Mtn., P 39.84 327 eP P 04 18 52.0 +0.5
comp=Z,12nm,0.9s
PV03 Paradox Valley 39.92 327 eP P 04 18 53.3 +1.2
comp=Z,11nm,1.0s
PV05 Paradox Valley 39.93 327 eP P 04 18 52.9 +0.7
comp=Z,11nm,1.0s
PV12 Saucer Basin, 39.94 327 eP P 04 18 53.2 +0.8
comp=Z,14nm,0.9s
PV07 Paradox Valley 39.95 328 eP P 04 18 53.2 +0.8
comp=Z,14nm,1.2s
PV11 David Mesa, Pa 39.97 327 eP P 04 18 52.7 +0.2
comp=Z,13nm,1.0s
PV16 Nyswonger Mesa 40.00 327 eP P 04 18 53.5 +0.7
comp=Z,17nm,1.3s
PV17 East Wray Mesa 40.00 327 eP P 04 18 53.9 +1.1
comp=Z,21nm,1.3s
SPMN Marine on St. 40.02 349 eP P 04 18 50.6 -2.0
comp=Z,20nm,1.2s
SPMN Marine on St. 40.02 349 P P 04 18 50.4 -2.2
baz=164
PV04 Paradox Valley 40.05 327 eP P 04 18 54.1 +0.9
comp=Z,12nm,1.2s
PV14 Lion Creek, Pa 40.10 327 eP P 04 18 54.2 +0.5
comp=Z,13nm,1.3s
CPUP Villa Florida 40.47 144 P P 04 18 58.6 +2.1
comp=Z,0.8nm,0.7s,baz=334,slow=15,SNR=2.9
CPUP LR LR 04 36 15.8
comp=Z,543nm,21.1s,baz=320,slow=37
BDFB Brasilia 40.49 123 P P 04 19 00.0 +3.0
comp=Z,1.1nm,0.6s,baz=308,slow=18,SNR=2.1
BDFB LR LR 04 36 42.5
comp=Z,698nm,19.8s,baz=274,slow=38
U15A North Rim 40.64 322 eP P 04 18 59.2 +1.0
comp=Z,16nm,1.3s
W13A Hualapai Mount 40.80 319 eP P 04 18 60.0 +0.5
comp=Z,5.3nm,1.0s
O20A White River Ci 41.00 330 eP P 04 19 01.6 +0.5
comp=Z,13nm,1.4s
O20A White River Ci 41.00 330 P P 04 19 01.4 +0.3
baz=139
IRM Iron Mountain 41.07 317 P P 04 19 02.4 +0.8
baz=126
MONP2 Monument Peak 41.24 315 P P 04 19 03.2 0.0
baz=123
PKCU Pink Cliffs 41.32 323 eP P 04 19 04.8 +0.9
KNB Kanab 41.35 322 eP P 04 19 04.7 +0.8
SRU San Rafael Swe 41.45 327 eP P 04 19 04.4 -0.3
comp=Z,14nm,1.0s
BELC Belle Mtn. Jos 41.56 316 P P 04 19 05.8 +0.2
baz=124
LCMT Little Creek M 41.60 322 eP P 04 19 07.0 +1.1
MTPU Mount Pierson 41.65 324 eP P 04 19 08.9 +2.4
Q16A Castle Valley 41.67 326 eP P 04 19 07.2 +0.6
comp=Z,6.0nm,1.1s
P17A Butcher Ranch, 41.82 327 eP P 04 19 07.8 0.0
SZCU Shurtz Canyon 41.88 323 eP P 04 19 09.3 +1.0
CCUT Cedar City 42.02 323 eP P 04 19 10.1 +0.6
comp=Z,11nm,1.5s
K22A Casper 42.15 334 eP P 04 19 11.0 +0.7
comp=Z,7.7nm,0.9s
K22A Casper 42.15 334 P P 04 19 10.9 +0.5
baz=143
RSSD Black Hills 42.32 337 eP P 04 19 12.4 +0.7
comp=Z,11nm,1.3s
RSSD Black Hills 42.32 337 P P 04 19 11.9 +0.1
baz=147
TUQ Turquoise Moun 42.34 318 P P 04 19 13.2 +1.3
baz=126
SHPR Sheep Range 42.48 320 eP P 04 19 13.9 +0.7
comp=Z,5.8nm,1.1s
SHOC Shoshone, Teco 42.84 319 P P 04 19 16.3 +0.4
baz=126
BFSC Mount Baldy Ra 42.84 316 P P 04 19 16.2 +0.1
baz=123
GSC Goldstone, Bar 42.85 317 P P 04 19 16.3 +0.2
baz=125
LSQQ Lebel-sur-Quev 43.13 5 P P 04 19 18.0 0.0
baz=188
CTU Camp Tracy 43.23 327 eP P 04 19 19.6 +0.3
comp=Z,12nm,1.3s
TCUT Toone Canyon 43.35 328 eP P 04 19 20.5 +0.2
comp=Z,20nm,1.2s
EDW2 Edwards Air Fo 43.42 316 P P 04 19 20.9 +0.2
baz=123
TPNV Topopah Spring 43.44 320 P P 04 19 21.7 +0.7
baz=127
DUG Dugway, Tooele 43.47 326 eP P 04 19 21.8 +0.7
comp=Z,5.2nm,1.3s
DUG Dugway, Tooele 43.47 326 P P 04 19 21.1 0.0
baz=133
AGMN Agassiz Nation 43.59 347 eP P 04 19 19.9 -1.8
comp=Z,9.3nm,1.0s
AGMN Agassiz Nation 43.59 347 P P 04 19 19.5 -2.2
baz=161
BW06 Boulder Array 43.64 331 eP P 04 19 22.6 +0.1
comp=Z,10nm,1.3s
BW06 Boulder Array 43.64 331 P P 04 19 21.5 -1.0
comp=Z,139,SNR=8.0
PD31 Pinedale Array 43.64 331 eP P 04 19 22.8 +0.3
PDAR Pinedale Array 43.64 331 eP P 04 19 22.1 -0.4
PDAR Pinedale Array 43.64 331 P P 04 19 21.9 -0.7
comp=Z,7.3nm,1.3s,baz=140,slow=7.2,SNR=16
PDAR LR LR 04 39 28.1
comp=Z,417nm,19.6s,baz=142,slow=39
MPMC Manual Prospec 43.74 318 P P 04 19 24.5 +1.2
baz=125
HWUT Hardware Ranch 43.79 328 eP P 04 19 23.7 0.0
comp=Z,8.3nm,1.1s
R11A Troy Canyon, C 43.88 322 eP P 04 19 25.1 +0.6
comp=Z,4.7nm,1.3s
R11A Troy Canyon, C 43.88 322 P P 04 19 24.8 +0.3
baz=129,SNR=5.3
SPUT South Promonto 44.04 327 eP P 04 19 26.5 +0.8
comp=Z,13nm,1.3s
BGU Big Grassy Mou 44.09 327 eP P 04 19 26.5 +0.4
comp=Z,16nm,1.4s
GRAC Grapevine Rang 44.19 319 P P 04 19 27.2 +0.3
baz=126
CWC Cottonwood Cre 44.34 318 P P 04 19 27.3 -0.9
baz=124
HVU Hansel Valley 44.55 328 eP P 04 19 30.1 +0.4
comp=Z,3.3nm,0.9s
REDW Red Top Meadow 44.71 331 eP P 04 19 31.6 +0.5
comp=Z,25nm,1.4s
SNOW Snow King Moun 44.74 331 eP P 04 19 31.8 +0.4
comp=Z,20nm,1.4s
LOHW Long Hollow 44.78 331 eP P 04 19 31.6 0.0
comp=Z,6.3nm,1.3s
TPAW Teton Pass 44.85 331 eP P 04 19 31.8 -0.5
comp=Z,8.0nm,0.9s
MOOW Moose Ponds 44.95 331 eP P 04 19 32.9 0.0
comp=Z,6.6nm,1.4s
FXWY Fox Creek 45.00 331 eP P 04 19 33.6 +0.2
comp=Z,7.1nm,1.4s
IMW Indian Meadow 45.15 331 eP P 04 19 35.1 +0.5
comp=Z,2nm,1.3s
FLWY Flagg Ranch 45.18 331 eP P 04 19 35.1 +0.3
comp=Z,16nm,1.4s
ELK Elko 45.21 325 eP P 04 19 35.6 +0.5
comp=Z,2.9nm,0.9s
ELK Elko 45.21 325 P P 04 19 34.0 -1.1
comp=Z,1.0nm,0.8s,baz=145,slow=7.0,SNR=4.6
LAO LASA Array 45.31 337 eP P 04 19 35.4 -0.2
comp=Z,14nm,1.3s
LAO LASA Array 45.31 337 P P 04 19 34.8 -0.8
baz=146
RLMT Red Lodge 45.31 333 eP P 04 19 36.0 +0.2
comp=Z,9.6nm,1.2s
RLMT Red Lodge 45.31 333 P P 04 19 35.6 -0.3
baz=141,SNR=6.6
H17A Grant Village 45.35 332 eP P 04 19 37.0 +0.7
comp=Z,11nm,1.5s
YPP Pitchstone Pla 45.37 332 eP P 04 19 36.3 -0.1
comp=Z,8.1nm,1.1s
ULM Lac du Bonnet 45.44 348 eP P 04 19 36.8 +0.3
comp=Z,15nm,1.1s
ULM Lac du Bonnet 45.44 348 P P 04 19 34.2 -2.2
comp=Z,3.4nm,0.8s,baz=174,slow=10,SNR=9.3
YFT Old Faithful 45.52 332 eP P 04 19 38.3 +0.8
comp=Z,17nm,1.2s
NV11 Mina Array Sit 45.54 320 eP P 04 19 38.0 +0.3
comp=Z,1.0nm,1.4s
OMMB Old Mammoth Mi 45.62 319 eP P 04 19 39.1 +0.6
comp=Z,7.1nm,1.4s
NV01 Mina Array Sit 45.63 320 eP P 04 19 39.2 +0.7
NVAR Mina Array Bea 45.63 320 P P 04 19 38.2 -0.3
comp=Z,1.1nm,0.7s,baz=126,slow=6.8,SNR=12
NVAR LR LR 04 39 19.4
comp=Z,598nm,18.2s,baz=152,slow=37
MDPB Devils Postpil 45.68 319 eP P 04 19 39.3 +0.4
comp=Z,4.6nm,1.1s
YMR Madison River 45.74 332 eP P 04 19 39.2 0.0
comp=Z,19nm,1.3s
YHH Holmes Hill 45.78 332 eP P 04 19 39.9 +0.2
comp=Z,10.0nm,1.4s
YHB Horse Butte 45.91 332 eP P 04 19 41.2 +0.6
comp=Z,7.7nm,1.0s
QLMT Earthquake Lak 46.08 332 eP P 04 19 42.7 +0.8
DGMT Dagmar 46.08 340 P P 04 19 41.4 -0.3
baz=150
BMN Battle Mountai 46.17 323 eP P 04 19 43.0 +0.3
comp=Z,10nm,1.3s
HLID Hailey 46.66 328 eP P 04 19 46.9 +0.4
comp=Z,3.0nm,0.9s
HLID Hailey 46.66 328 P P 04 19 46.3 -0.1
baz=134
BOZ Bozeman (W) 46.75 332 eP P 04 19 47.7 +0.6
comp=Z,23nm,1.4s
BOZ Bozeman (W) 46.75 332 P P 04 19 47.3 +0.2
baz=138,SNR=5.6
MCMT McKenzie Canyo 46.76 331 eP P 04 19 47.5 +0.2
DLMT Dillon 47.03 331 eP P 04 19 49.6 +0.3
comp=Z,9.3nm,1.4s
HRY Holter Researc 47.68 333 eP P 04 19 54.8 +0.5
EGMT Eagleton 47.80 336 P P 04 19 54.8 -0.4
baz=142
PLCA Paso Flores 47.86 168 P P 04 19 55.3 -0.3
comp=Z,1.5nm,1.0s,baz=32,slow=13,SNR=3.0
WVOR Wild Horse Val 48.25 324 eP P 04 19 58.2 -0.6
comp=Z,17nm,1.4s
ORV Oroville 48.32 319 eP P 04 19 59.8 +0.6
comp=Z,6.9nm,1.3s
MSO Missoula 48.74 332 eP P 04 20 02.7 +0.2
comp=Z,8.6nm,1.1s
MSO Missoula 48.74 332 P P 04 20 02.5 0.0
baz=136
SCHQ Schefferville 50.28 12 LR LR 04 41 09.8
comp=Z,158nm,21.8s,baz=175,slow=36
TAOE Nuku Hiva Isla 59.22 256 eLR LR 04 38 47.8

comp=Z,1µm,29.7s
YKA Yellowknife Ar 61.03 344 P **P 04 21 30.2 -0.8**
comp=Z,1.6nm,0.8s,baz=136,slow=6.9,SNR=28
YKA LR LR 04 50 38.6
comp=Z,22nm,19.2s,baz=148,slow=39
YKW3 Yellowknife Ar 61.09 344 *eP* **P 04 21 30.9 -0.5**
comp=Z,12nm,1.5s
RES Resolute Bay 68.95 357 *eP* **P 04 22 22.6 +0.4**
comp=Z,1.7nm,0.8s
PPT Papeete 70.12 249 LR LR 04 45 20.7
comp=Z,288nm,19.4s,baz=338,slow=29
PPT2 Papeete2 70.13 249 *eS* **S 04 31 36.7 -4.2**
comp=Z,93nm,26.0s
PPT2 Papeete2 70.13 249 *e*LR LR 04 43 52.2
comp=Z,392nm,25.2s,baz=79
EPYK Eagle Plains 70.68 340 P **P 04 22 30.9 -2.2**
baz=121
INK Inuvik 70.71 342 *eP* **P 04 22 33.6 +0.4**
comp=Z,14nm,1.0s
TBI Tubuai 71.44 243 *e*LR LR 04 44 27.7
comp=Z,671nm,32.5s
HDA Harding Lake 73.66 336 P **P 04 22 51.0 +0.1**
baz=111
IL1 Eielson Array 73.76 336 *eP* **P 04 22 52.6 +1.1**
ILAR Eielson Array 73.76 336 P **P 04 22 50.4 -1.2**
comp=Z,1.0nm,0.9s,baz=112,slow=4.8,SNR=14
ILAR LR LR 04 59 18.3
comp=Z,212nm,18.1s,baz=129,slow=39
COLD Coldfoot 75.87 338 *eP* **P 04 23 04.5 +0.8**
comp=Z,10.0nm,1.4s
DBIC Dimbokro 77.21 85 P **P 04 23 14.5 +2.2**
comp=Z,3.0nm,1.0s,baz=345,slow=7.5,SNR=2.6
DBIC LR LR 04 54 21.5
comp=Z,130nm,22.0s,baz=261,slow=33
ESDC Sonseca Array 77.44 51 P **P 04 23 15.0 +1.8**
comp=Z,0.2nm,0.4s,baz=269,slow=5.8,SNR=3.1
ESDC LR LR 04 51 16.2
comp=Z,104nm,21.6s,baz=295,slow=31
TOA0 Totordi Ar. Sit 83.13 78 *eP* **P 04 23 44.9 +0.7**
TORD Totordi Ar. Bea 83.13 78 P **P 04 23 45.4 +1.1**
comp=Z,1.7nm,1.2s,baz=282,slow=5.7,SNR=3.9
TORD LR LR 05 00 46.6
comp=Z,88nm,20.8s,baz=305,slow=36
NOA NORSAR Array B 86.62 29 LR LR 04 58 25.0
comp=Z,44nm,21.9s,baz=270,slow=33
GERES GERESS Array B 89.65 41 P **P 04 24 18.2 +2.6**
comp=Z,0.1nm,0.3s,baz=270,slow=7.7,SNR=3.2
GERES LR LR 04 57 32.2
comp=Z,160nm,20.9s,baz=268,slow=31
FINES FINESS Array B 93.52 27 LR LR 05 00 42.9
comp=Z,125nm,21.8s,baz=294,slow=32
AKASG Malin Array Be 98.89 37 LR LR 05 10 32.8
comp=Z,58nm,18.0s,baz=295,slow=36
MKAR Makanchi Array 125.71 13 PKP **PKiKP 04 30 20.3 +0.5**
comp=Z,0.1nm,0.7s,baz=62,slow=3.4,SNR=2.6
LZH Lanzhou 137.65 352 *e*PKP **PKPdf 04 30 41.2 -1.2**
LZH pPKP PKiKP 04 30 44.5 +0.1
LZH sPKP 04 30 46.8
LZH LR LR
comp=N,75nm,18.2s
LZH LR LR
comp=E,82nm,18.0s
LZH LR LR
comp=Z,100nm,20.3s
ASAR Alice Springs 140.76 240 PKhKP PKPpre 04 30 44.3
comp=Z,0.3nm,0.6s,baz=141,slow=3.6,SNR=2.9
ASAR PKP **PKPdf 04 30 49.5 +1.2**
comp=Z,0.8nm,0.8s,baz=118,slow=2.1,SNR=5.0
WRA Warramunga Arr 141.54 245 PKhKP PKPpre 04 30 45.4
comp=Z,0.9nm,0.9s,baz=111,slow=3.6,SNR=4.0
WRA PKP **PKPdf 04 30 50.2 +0.5**
comp=Z,1.3nm,0.9s,baz=98,slow=1.9,SNR=5.7
CD2 Chengdu 142.75 351 PKP **PKPdf 04 30 50.3 -1.4**

*IDC **01** 04:35:39.1±0.6, 15°.71N×145°.01E, h0km, mb4.2/21, mb1 4.4/22, mb1mx4.2/40, mbtmp4.2/22, ML3.7/1, MS3.8/16, Ms1 3.8/16, ms1mx3.7/31, Error ellipse: s-maj=24.1km s-min=12.5km az=91.0*
*NEIC **01** 04:35:41.2±4.0, 15°.69N×145°.00E, h14km±24km, mb4.3/4, Error ellipse: s-maj=9.6km s-min=6.2km az=79.0*
*ISCJB **01** 04:35:42.3±0.4, 15°.68N±0°.04×145°.0E±0°.1, h33km, mb4.2/25, MS3.8/15, Error ellipse: s-maj=14.5km s-min=6.2km az=175.2*
ISC 01 04:35:44.1±0.5, 15°.66N±0°.06×145°.0E±0°.1, h35km, n48, σ0s57/41, mb4.3/25, MS3.8/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.06**	**184**	*e*P		n	**Pn**	**04 36 15.9**	**-0.3**
GUMO						Sn	**Sn**	**04 36 40.2**	**-0.4**
GUMO	**Guam**	**2.06**	**184**	P		n	**Pn**	**04 36 16.2**	**0.0**
	27nm,0.3s,baz=326,slow=6.2,SNR=11								
GUMO						Sn	**Sn**	**04 36 40.2**	**-0.4**
	19nm,0.3s,baz=74,slow=20,SNR=3.9								
GUMO				LR		LR	LR	04 36 58.3	
	comp=Z,1µm,21.6s,baz=356,slow=38								
DAV	**Davao City (W)**	**20.87**	**248**	LR		LR	LR	04 48 24.3	
	comp=Z,102nm,20.0s,baz=346,slow=37								
H11N1	**WAKE ISLAND Hy 21.21**	**76**		T		T	T	05 02 48.9	
	baz=264,slow=75,SNR=46								
H11N2	**WAKE ISLAND Hy 21.22**	**76**		T		T	T	05 02 50.8	
	baz=264,slow=75,SNR=47								
H11N3	**WAKE ISLAND Hy 21.23**	**76**		T		T	T	05 02 51.5	
	baz=264,slow=75,SNR=52								
JNU	**Nakatsue**	**21.60**	**326**	LR		LR	LR	04 47 01.2	
	comp=Z,148nm,21.2s,baz=174,slow=32								
MJAR	**Matsushiro Arr**	**21.67**	**345**	P		P	**P**	**04 40 32.3**	**+0.6**
	2.1nm,0.6s,baz=164,slow=9.3,SNR=5.1								
MJAR				LR		LR	LR	04 48 12.9	
	comp=Z,150nm,20.9s,baz=165,slow=35								
KWAJ	**Kwajalein Atol**	**23.09**	**105**	*e*P		P	**P**	**04 40 46.4**	**-0.5**
TGY	**Tagaytay City**	**23.33**	**269**	LR		LR	LR	04 48 32.0	
	comp=Z,277nm,18.5s,baz=98,slow=33								
KSRS	**Korea Array**	**26.47**	**328**	P		P	**P**	**04 41 17.8**	**-0.2**
	2.7nm,0.7s,baz=149,slow=10,SNR=6.7								
KSRS				LR		LR	LR	04 50 38.4	
	comp=Z,241nm,18.8s,baz=138,slow=34								
KSAR	**Wonju Array Be**	**26.48**	**328**	P		P	**P**	**04 41 17.8**	**-0.3**
HNR	**Honiara**	**28.98**	**148**	LR		LR	LR	04 52 12.5	
	comp=Z,348nm,20.6s,baz=304,slow=34								
USRK	**Ussuriysk Ar.**	**30.53**	**341**	LR		LR	LR	04 52 28.8	
	comp=Z,222nm,21.8s,baz=139,slow=33								
KLR	**Kul'dur**	**35.20**	**345**	P		P	**P**	**04 42 35.0**	**+0.2**
	4.8nm,0.9s,baz=150,slow=11,SNR=11								
KLR				PcP		**PcP**	**PcP**	**04 45 06.2**	**+0.8**
	2.9nm,0.7s,baz=344,slow=1.2,SNR=7.4								
WRAB	**Tennant Creek**	**36.89**	**197**	*e*P		P	**P**	**04 42 49.6**	**+0.1**
	4.2nm,0.8s								
WRA	**Warramunga Arr**	**36.90**	**197**	P		P	**P**	**04 42 49.6**	**0.0**
	4.8nm,1.0s,baz=15,slow=9.2,SNR=13								
FITZ	**Fitzroy Crossi**	**38.60**	**210**	P		P	**P**	**04 43 04.1**	**+0.2**
	9.8nm,0.9s,baz=34,slow=4.0,SNR=6.4								
ASAR	**Alice Springs**	**40.56**	**196**	P		P	**P**	**04 43 21.1**	**+0.8**
	1.1nm,0.9s,baz=20,slow=14,SNR=4.3								
ASAR				LR		LR	LR	05 00 20.8	
	comp=Z,52nm,19.5s,baz=12,slow=36								
DZM	**Mont Dzumac**	**42.97**	**150**	*e*LR		LR	LR	04 55 56.4	
	comp=Z,392nm,31.8s								
CMAR	**Chiang Mai Arr**	**44.06**	**280**	P		P	**P**	**04 43 48.6**	**-0.4**
	2.0nm,0.3s,baz=74,slow=6.6,SNR=6.6								
CMAR				PcP		**PcP**	**PcP**	**04 45 35.2**	**+1.1**
	1.3nm,0.3s,baz=128,slow=4.0,SNR=5.3								
CMAR				LR		LR	LR	05 02 00.4	
	comp=Z,89nm,19.6s,baz=79,slow=36								
ULN	**Ulaanbaatar**	**44.80**	**324**	*e*P		P	**P**	**04 43 54.4**	**-0.3**
	5.4nm,1.1s								
SONM	**Songino Array**	**45.15**	**324**	P		P	**P**	**04 43 57.5**	**0.0**
	1.0nm,0.9s,baz=132,slow=8.7,SNR=5.9								
SONM				PcP		**PcP**	**PcP**	**04 45 38.4**	**+1.0**
	2.7nm,0.9s,baz=150,slow=3.6,SNR=8.4								
SONM				LR		LR	LR	05 01 55.2	
	comp=Z,230nm,21.0s,baz=156,slow=35								
STKA	**Stephens Creek**	**47.37**	**184**	P		P	**P**	**04 44 15.7**	**+0.8**
	1.6nm,0.6s,baz=342,slow=19,SNR=2.3								
SEY	**Seymchan**	**47.50**	**5**	P		P	**P**	**04 44 14.7**	**-0.8**
	1.0nm,0.3s,baz=197,slow=20,SNR=5.9								
ZALV	**Zalesovo Beam**	**60.05**	**324**	P		P	**P**	**04 45 48.0**	**+0.6**
	2.4nm,0.8s,baz=97,slow=7.6,SNR=7.5								
MKAR	**Makanchi Array**	**60.13**	**315**	P		P	**P**	**04 45 47.9**	**-0.3**
	0.8nm,0.8s,baz=93,slow=9.7,SNR=7.2								
KURK	**Kurchatov**	**63.12**	**319**	*e*P		P	**P**	**04 46 07.7**	**-0.4**
NRIK	**Noril'sk**	**64.24**	**341**	P		P	**P**	**04 46 16.1**	**+0.8**
	3.8nm,0.7s,baz=106,slow=6.3,SNR=4.3								
AAK	**Ala-Archa**	**65.30**	**310**	*e*P		P	**P**	**04 46 22.8**	**-0.1**
	0.9nm,0.6s								
ILAR	**Eielson Array**	**66.65**	**26**	P		P	**P**	**04 46 30.1**	**-0.7**
	0.7nm,0.8s,baz=259,slow=5.6,SNR=7.3								
ILAR				LR		LR	LR	05 13 47.2	
	comp=Z,68nm,20.4s,baz=134,slow=34								
BRVK	**Borovoye**	**68.48**	**321**	*e*P		P	**P**	**04 46 43.1**	**+0.4**
PPT2	**Papeete2**	**72.42**	**115**	*e*LR		LR	LR	05 09 10.5	
	comp=Z,213nm,24.5s								
ARU	**Arti**	**75.17**	**325**	*e*P		P	**P**	**04 47 22.7**	**0.0**
GEYT	**Alibeck**	**78.16**	**306**	P		P	**P**	**04 47 39.8**	**-0.3**
	1.6nm,0.5s,baz=188,slow=10,SNR=4.4								
GEYT				LR		LR	LR	05 26 23.5	
	comp=Z,78nm,18.4s,baz=275,slow=39								
YKA	**Yellowknife Ar**	**80.97**	**28**	P		P	**P**	**04 47 54.7**	**0.0**
	0.7nm,0.8s,baz=288,slow=5.3,SNR=10								
KLMR	**Klimovskoe**	**83.81**	**332**	*e*P		P	**P**	**04 48 09.1**	**-0.6**
KLMR				AMP				04 48 10.6	
	comp=Z,10.0nm,0.9s								
ARCES	**ARCESS Array B**	**85.18**	**342**	P		P	**P**	**04 48 17.2**	**+0.8**
	comp=Z,7.9nm,0.9s,baz=46,slow=11,SNR=6.7								
NVAR	**Mina Array Bea**	**85.52**	**51**	P		P	**P**	**04 48 19.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=267,slow=5.3,SNR=5.3								
HLID	**Hailey**	**86.80**	**46**	*e*P		P	**P**	**04 48 26.0**	**+0.7**
	comp=Z,3.3nm,1.3s								
KBZ	**Khabaz**	**87.82**	**315**	P		P	**P**	**04 48 29.3**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=114,slow=2.5,SNR=3.4								
FINES	**FINESS Array B**	**89.36**	**335**	P		P	**P**	**04 48 35.9**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=40,slow=3.2,SNR=7.1								
FINES				LR		LR	LR	05 28 57.3	
	comp=Z,36nm,19.6s,baz=14,slow=36								
AKASG	**Malin Array Be**	**93.42**	**325**	LR		LR	LR	05 33 02.1	
	comp=Z,105nm,19.5s,baz=290,slow=37								
NOA	**NORSAR Array B**	**95.18**	**339**	LR		LR	LR	05 34 59.9	
	comp=Z,88nm,18.3s,baz=355,slow=37								
BRTR	**Keskin Array B**	**95.75**	**314**	P		P	**P**	**04 49 06.2**	**-0.8**
	comp=Z,1.3nm,1.0s,baz=213,slow=4.3,SNR=3.9								
TORD	**Totordi Ar. Bea**	**133.80**	**306**	PKP			**PKPdf**	**04 54 58.6**	**+0.4**
	comp=Z,0.7nm,1.0s,baz=346,slow=2.1,SNR=3.5								
PLCA	**Paso Flores**	**140.33**	**136**	PKP			**PKiKP**	**04 55 12.2**	**0.0**
	comp=Z,1.6nm,0.9s,baz=186,slow=2.3,SNR=3.4								
LPAZ	**La Paz**	**148.13**	**96**	PKPbc			**PKiKP**	**04 55 29.1**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=129,slow=4.9,SNR=4.0								

RSNC 01 05:19:13.6±1.4, 6°.57N×73°.54W, h111km±6km, ML3.5, Mw3.7,1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.36**	**86**	*i*	P	n	**Pn**	05 19 30.0	-0.1
BARC					*e*S	Sn	Sn	05 19 42.2	-0.2
BRRC	**Barranca, Sant**	**0.56**	**342**	⇓*i*	P	n	**Pn**	05 19 30.6	-0.4
BRRC					*e*S	Sn	Sn	05 19 44.7	+0.6
BRRC					*i*			05 19 49.9	
	comp=N,1µm,0.2s								
RUSC	**La Rusia**	**0.81**	**146**	⇓*i*	P	n	Pn	05 19 32.8	-0.8
RUSC					*e*S	Sn	Sn	05 19 48.3	-0.3
RUSC					*i*			05 19 51.6	
	comp=E,443nm,0.4s								
PTBC	**PUERTO BERRIO,**	**0.91**	**268**	⇓*i*	P	n	Pn	05 19 32.5	-1.5
PTBC					*e*S	Sn	Sn	05 19 47.9	-1.5
PTBC					*i*			05 19 51.7	
	comp=N,748nm,0.3s								
PAMC	**Pamplona, Colo**	**1.13**	**47**	*e*P		n	Pn	05 19 36.6	-0.2
PAMC					*e*S	Sn	Sn	05 19 54.3	0.0
PAMC					*i*			05 19 55.6	
	comp=E,586nm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.60**	**305**	*e*P		n	Pn	05 19 41.5	-0.2
ZARC					*e*S	Sn	Sn	05 20 03.5	+0.5
ZARC					*i*			05 20 08.0	
	comp=E,940nm,0.2s								
OCAC	**Ocana**	**1.67**	**8**	*e*P		n	Pn	05 19 42.0	-0.7
OCAC					*e*S	Sn	Sn	05 20 04.6	-0.3
OCAC					*i*			05 20 09.6	
	comp=N,1µm,0.2s								
TAMC	**Tame, Arauca**	**1.74**	**94**	⇑*i*	P	n	Pn	05 19 42.8	-0.7
TAMC					*i*			05 19 43.1	
	comp=Z,166nm,0.4s								
TAMC					*e*S		Sn	05 20 05.0	-1.2
ROSC	**El Rosal**	**1.89**	**204**	⇓*i*	P	n	Pn	05 19 45.8	+0.2
ROSC					*e*S	Sn	Sn	05 20 10.6	+0.6
ROSC					*i*			05 20 16.0	
	comp=Z,151nm,0.3s								
CHIC	**Chingaza**	**1.94**	**186**	*e*P		n	Pn	05 19 45.5	-0.7
CHIC					*e*S	Sn	Sn	05 20 11.7	+0.6
CHIC					*i*			05 20 16.8	
	comp=E,141nm,0.4s								
HELC	**Santa Helena**	**2.01**	**259**	*e*P		n	Pn	05 19 46.5	-0.6
HELC					*e*S	Sn	Sn	05 20 12.2	-0.5
HELC					*i*			05 20 16.5	
	comp=N,279nm,0.3s								
SMLC	**San Martn de**	**2.28**	**347**	*e*P		n	Pn	05 19 49.5	-0.8
SMLC					*e*S	Sn	Sn	05 20 18.0	-0.3
URIC	**San Jos de Ur**	**2.30**	**301**	*e*P		n	Pn	05 19 48.0	-1.7
URIC					*e*S	Sn	Sn	05 20 16.6	-2.2
RREF	**El Recreo**	**2.45**	**227**	*e*P		n	Pn	05 19 53.1	+0.1
VILC	**Villavicencio,**	**2.45**	**184**	*e*P		n	Pn	05 19 51.6	-1.0
VILC					*e*S	Sn	Sn	05 20 21.6	-0.8
VILC					*i*			05 20 34.5	
	comp=N,240nm,0.4s								
ANIL	**Santa Ana**	**2.78**	**222**	*e*P		n	Pn	05 19 57.9	+0.9
ANIL					*e*S	Sn	Sn	05 20 32.6	+2.3
ANIL					*i*			05 20 37.9	
	comp=E,231nm,0.3s								
PRAC	**Prado**	**3.14**	**205**	*e*P		n	Pn	05 20 00.6	-1.0
PRAC					*e*S	Sn	Sn	05 20 38.2	-0.3
PLMC	**San Jos del P**	**3.19**	**239**	*e*P		n	Pn	05 20 02.0	-0.3
CODC	**Agustn Codazz**	**3.34**	**2**	*e*P		n	Pn	05 20 03.8	-0.5
CODC					*e*S	Sn	Sn	05 20 43.5	+0.2
CODC					*i*			05 20 49.4	
	comp=N,72nm,0.3s								
GUVC	**San Jose del G**	**4.10**	**167**	*e*P		n	Pn	05 20 12.2	-2.2
GUVC					*e*S	Sn	Sn	05 20 58.1	-3.4

*IDC **01** 05:19:58.8±3.1, 37°.08N×140°.78E, h0km, mb3.5/4, mb1 3.6/6, mb1mx3.4/34, mbtmp3.5/6, ML2.5/2, Error ellipse: s-maj=65.9km s-min=24.4km az=156.0*
*ISCJB **01** 05:20:00.7±0.8, 36°.54N±0°.04×140°.96E±0°.07, h51km±5km, mb3.4/4, Error ellipse: s-maj=10.1km s-min=5.6km az=33.4*
*JMA **01** 05:20:01.7±0.1, 36°.54N×140°.87E, h50km±1km, M3.8*
JMA Felt II J1.
ISC 01 05:20:01.0±1.3, 36°.54N±0°.06×140°.96E±0°.08, h43km±9km, n19, σ1s15/33, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.32**	**282**	P		n	**Pn**	**05 20 10.6**	**+0.9**
JHO						S	**Sn**	**05 20 16.4**	**+0.5**
JHYU	**Hitachinakayam**	**0.36**	**236**	P		n	**Pn**	**05 20 11.0**	**+0.8**
JHYU						S	**Sn**	**05 20 17.3**	**+0.7**
ONAJ	**Iwakimizuishiy**	**0.57**	**347**	P		n	**Pn**	**05 20 13.4**	**+0.5**
ONAJ						S	**Sn**	**05 20 21.6**	**+0.3**
JFFD	**Fukushimafurud**	**0.63**	**330**	P		n	**Pn**	**05 20 14.2**	**+0.5**
JFFD						S	**Sn**	**05 20 22.6**	**-0.1**
JYT	**Yasato**	**0.69**	**243**	P		n	**Pn**	**05 20 14.5**	**+0.1**
JYT						S	**Sn**	**05 20 23.2**	**-0.8**
JFK	**Kawauchi**	**0.82**	**355**	P		n	**Pn**	**05 20 16.5**	**+0.2**
JFK						S	**Sn**	**05 20 27.1**	**-0.2**
JSB	**Shiboa**	**0.94**	**297**	P		n	**Pn**	**05 20 18.4**	**+0.7**
JSB						S	**Sn**	**05 20 30.4**	**+0.4**
JFT	**Otama**	**1.09**	**333**	P		n	**Pn**	**05 20 21.0**	**+1.1**
JFT						S	**Sn**	**05 20 34.9**	**+1.1**
JAG	**Ashikaga**	**1.22**	**265**	P		n	**Pn**	**05 20 21.6**	**0.0**
JAG						S	**Sn**	**05 20 35.9**	**-1.0**
JFY	**Yanaizu**	**1.32**	**311**	P		n	**Pn**	**05 20 23.7**	**+0.7**
JFY						S	**Sn**	**05 20 39.9**	**+0.4**
JMM	**Marumori**	**1.33**	**354**	P		n	**Pn**	**05 20 23.9**	**+0.8**
JMM						S	**Sn**	**05 20 40.2**	**+0.7**
JKT	**Katashina**	**1.39**	**280**	P		n	**Pn**	**05 20 24.7**	**+0.6**
JKT						S	**Sn**	**05 20 41.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.21**	**271**	Pn		n	**Pn**	**05 20 35.8**	**+0.6**
	3.9nm,0.3s,baz=82,slow=9.6,SNR=98								
MJAR						Sn	**Sn**	**05 21 03.9**	**+2.4**
	3.0nm,0.3s,baz=78,slow=30,SNR=7.6								
MAT	**Matsushiro**	**2.22**	**271**	P		n	**Pn**	**05 20 36.7**	**+1.4**
MAT						S	**Sn**	**05 21 03.3**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.26**	**321**	Pn		n	**Pn**	**05 22 21.6**	**-3.9**
	0.2nm,0.3s,baz=147,slow=13,SNR=2.6								
SONM	**Songino Array**	**27.76**	**305**	P			**P**	**05 25 44.9**	**-0.8**
	0.6nm,0.6s,baz=109,slow=8.8,SNR=5.5								
ZALV	**Zalesovo Beam**	**41.98**	**313**	P			**P**	**05 27 47.2**	**-0.3**
	0.6nm,0.3s,baz=97,slow=6.1,SNR=3.7								
MKAR	**Makanchi Array**	**44.07**	**302**	P			**P**	**05 28 04.9**	**+0.3**
	0.2nm,0.5s,baz=81,slow=11,SNR=3.5								
ILAR	**Eielson Array**	**50.10**	**32**	P			**P**	**05 28 52.5**	**+1.1**
	0.4nm,0.8s,baz=241,slow=5.0,SNR=3.4								

*ISCJB **01** 05:23:07.9±0.9, 12°.4N±0°.1×141°.8E±0°.3, h33km, MS3.2/1, Error ellipse: s-maj=37.9km s-min=17.3km az=178.4*
*IDC **01** 05:23:17.5±3.4, 12°.33N×141°.83E, h106km±34km, mb3.4/9, mb1 3.6/10, mb1mx3.4/41, mbtmp3.8/10, MS3.2/1, Ms1 3.2/1, ms1mx2.5/23, Error ellipse: s-maj=31.5km s-min=17.0km az=97.0*
ISC 01 05:23:09.6±0.9, 12°.4N±0°.2×141°.8E±0°.1, h33km, n11, σ0s95/10, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.22**	**68**	P		n	**Pb**	**05 24 06.3**	**+0.1**
	16nm,0.3s,baz=204,slow=20,SNR=4.7								
WRA	**Warramunga Arr**	**32.96**	**193**	P		P	**P**	**05 29 41.1**	**-0.4**
	0.9nm,0.6s,baz=13,slow=9.8,SNR=9.4								
ASAR	**Alice Springs**	**36.66**	**192**	P		P	**P**	**05 30 14.1**	**+0.7**
	0.2nm,0.4s,baz=16,slow=12,SNR=3.2								
PETK	**Petropavlovsk-**	**42.55**	**14**	LR		LR		05 46 49.8	
	comp=Z,31nm,20.3s,baz=142,slow=33								
SONM	**Songino Array**	**46.04**	**327**	P		P	**P**	**05 31 30.7**	**+0.4**
	0.2nm,0.5s,baz=94,slow=9.4,SNR=2.2								
MKAR	**Makanchi Array**	**60.29**	**317**	P		P	**P**	**05 33 16.3**	**+1.2**
	0.2nm,0.6s,baz=93,slow=7.5,SNR=2.9								
KURBB	**Kurchatov Arra**	**63.62**	**321**	P		P	**P**	**05 33 37.5**	**+0.2**
	0.8nm,0.2s,baz=105,slow=6.6,SNR=4.7								
BVAR	**Borovoye Array**	**69.01**	**322**	P		P	**P**	**05 34 12.4**	**+0.5**
	1.1nm,0.6s,baz=82,slow=10,SNR=4.4								
ILAR	**Eielson Array**	**70.92**	**25**	P		P	**P**	**05 34 23.4**	**0.0**
	1.1nm,0.7s,baz=246,slow=6.3,SNR=17								
YKA	**Yellowknife Ar**	**85.28**	**27**	P		P	**P**	**05 35 43.2**	**+0.3**
	0.2nm,0.6s,baz=290,slow=5.1,SNR=4.1								
FINES	**FINESS Array B**	**90.95**	**334**	P		P	**P**	**05 36 08.2**	**-1.9**
	3.0nm,0.9s,baz=218,slow=2.2,SNR=5.5								

*SJA **01** 05:27:01.8±0.9, 35°.75S×72°.64W, h33km, ML3.6, MW3.2*
*ISCJB **01** 05:27:11.9±0.9, 35°.43S±0°.05×71°.9W±0°.1, h67km±12km, Error ellipse: s-maj=19.4km s-min=6.2km az=14.3*
*GUC **01** 05:27:12.4±0.6, 35°.45S×71°.71W, h56km±6km, ML3.5*
ISC 01 05:27:13.6±1.5, 35°.44S±0°.05×71°.9W±0°.1, h48km±22km, n20, σ1s53/29, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**0.43**	**351**	*e*P		P	**Pn**	**05 27 23.4**	**-0.6**
GO05						*e*S	**Sn**	**05 27 31.9**	**+0.6**
GO05						IAML		05 27 33.2	
	comp=E,2µm,0.2s								
CHPI	**Pichilemu**	**1.05**	**353**	*e*P		P	**Pn**	**05 27 32.1**	**+0.2**
CHPI						*e*S	**Sn**	**05 27 46.2**	**+0.8**
CCHI	**Chillan**	**1.18**	**189**	*e*P		P	**Pn**	**05 27 33.4**	**-0.3**
CCHI						*e*S	**Sn**	**05 27 48.7**	**+0.1**
CCHI						IAML		05 27 55.5	
	comp=N,1µm,0.5s								
LMEL	**Las Melosas**	**2.09**	**41**	*e*P		P	**Pn**	**05 27 45.2**	**-1.1**
LMEL						*e*S	**Sn**	**05 28 10.2**	**-0.9**
LMEL						IAML		05 28 17.1	
	comp=N,514nm,0.1s								
ANTU	**Antumapu**	**2.12**	**29**	*e*P		P	**Pn**	**05 27 45.3**	**-1.3**
ANTU						*e*S	**Sn**	**05 28 11.0**	**-0.7**
ANTU						IAML		05 28 16.7	
	comp=N,558nm,0.4s								
CLCH	**Cerro Calan**	**2.31**	**28**	*e*P		P	**Pn**	**05 27 48.3**	**-1.0**
CLCH						*e*S	**Sn**	**05 28 15.5**	**-1.0**
CLCH						IAML		05 28 27.2	
	comp=N,470nm,0.3s								
FCH	**Farellones**	**2.47**	**32**	*e*P		P	**Pn**	**05 27 50.1**	**-1.6**
FCH						*e*S	**Sn**	**05 28 20.3**	**-0.5**
FCH						IAML		05 28 26.3	
	comp=N,607nm,0.3s								
PEL	**Peldehue**	**2.48**	**23**	*e*P		P	**Pn**	**05 27 50.6**	**-1.0**
PEL						*e*S	**Sn**	**05 28 22.1**	**+1.4**
PEL						IAML		05 28 29.4	
	comp=N,324nm,0.2s								
ROC1	**El Roble**	**2.55**	**16**	*e*P		P	**Pn**	**05 27 51.4**	**-1.3**
ROC1						⇓*e*S	**Sn**	**05 28 28.1**	**+5.4**
ROCH	**El Roble**	**2.56**	**16**	*e*P		P	**Pn**	**05 27 51.5**	**-1.3**
ROCH						*e*S	**Sn**	**05 28 22.4**	**-0.3**
ROCH						IAML		05 28 32.2	
	comp=E,347nm,0.9s								
AAGR	**Agrelo**	**3.43**	**48**	*e*P		P	**Pn**	**05 28 06.3**	**+1.6**
ASAL	**Salagasta**	**3.79**	**42**	*e*P	

	comp=Z,0.0nm,0.6s							
ISHM	**Shahmirzad**	**4.18**	**237**	*e*Pn	**Pn**	05 34 49.9	**+3.8**
ISHM				IAMB	IAmb	05 36 03.8	
	comp=Z,344nm,0.4s							
TNSJ	**Nastanj**	**4.25**	**192**	*e*Pn	**Pn**	05 34 48.2	**+1.3**
TABS	**Tabas**	**4.50**	**185**	*e*Pn	**Pn**	05 34 52.0	**+1.6**
TABS	**Tabas**	**4.50**	**185**	*e*Pn	**Pn**	05 34 52.0	**+1.6**
IFIR	**Firoozkooh**	**4.64**	**239**	*e*Pn	**Pn**	05 34 54.9	**+2.5**
IFIR				IAMB	IAmb	05 35 12.3	
	comp=Z,136nm,0.3s							
TPRV	**Parvadeh(Tabas**	**5.16**	**189**	*e*Pn	**Pn**	05 35 00.6	**+1.2**
IMON	**Monand**	**5.21**	**161**	IAMB	IAmb	05 35 14.6	
	comp=Z,157nm,0.2s							
IMON				*e*Pn	**Pn**	05 35 02.5	**+2.3**
ITEG	**Tejag**	**5.31**	**170**	*e*Pn	**Pn**	05 35 03.7	**+2.1**
IKOO	**Kooshah**	**5.81**	**168**	*e*Pn	**Pn**	05 35 10.5	**+2.0**
IKOO				IAMB	IAmb	05 35 13.5	
	comp=E,62nm,0.4s							
ANAR	**Anarak**	**5.87**	**214**	*e*Pn	**Pn**	05 35 11.2	**+2.0**
KK31	**Karatay Array**	**10.97**	**59**	Pn	**Pn**	05 36 19.1	**+0.1**
	comp=E,0.3nm,0.4s,baz=239,slow=15,SNR=6.0							
KK31				⇓Sn	**Sn**	05 38 22.8	**+1.6**
	comp=E,1.2nm,0.6s							
AB31	**Akbulak array**	**11.24**	**8**	⇑Pn	**Pn**	05 36 22.0	**-0.6**
	comp=E,0.7nm,0.5s,baz=204,slow=13,SNR=6.2							
AB31				⇓Sn	**Sn**	05 38 28.3	**+0.7**
	comp=E,0.8nm,0.4s,baz=195,slow=24,SNR=5.0							
AKTO	**Aktyubinsk**	**12.30**	**1**	⇑Pn	**Pn**	05 36 36.6	**-0.5**
	comp=E,1.7nm,0.4s							
AKTO				⇓Sn	**Sn**	05 38 54.0	**+0.5**
	comp=E,5.5nm,1.1s							
BVA0	**Borovoye Array**	**17.32**	**27**	P	**Pn**	05 37 43.3	**-0.3**
	comp=E,0.1nm,0.5s,baz=203,slow=12,SNR=4.0							

TRN 01 05:40:00.5, 15°.67N×61°.48W, h12km, MD2.0, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDPV	**Dominica, Penn**	**0.07**	**132**	*e*P	Pg	05 40 03.8	+0.7
MDPV				*e*S	Sg	05 40 05.6	+0.7
MDPO	**Dominica; Chan**	**0.10**	**167**	*e*P	Pg	05 40 04.4	+1.0
MDPO				*e*S	Sg	05 40 06.6	+1.1
BBL	**Barber's Block**	**0.15**	**178**	⇑*i*P	Pb	05 40 05.1	-0.2
BBL				*e*S	Sg	05 40 07.8	+1.2
DWS	**Wesley**	**0.19**	**123**	*e*P	Pb	05 40 06.2	+0.3
DWS				*e*S	Sg	05 40 09.1	+1.4
TBG	**Guadaloupe-3**	**0.24**	**317**	*e*P	Pb	05 40 07.0	+0.1
TBG				*e*S	Sg	05 40 11.0	+1.9
MGG	**Marie-Galante**	**0.29**	**32**	*e*P	Pb	05 40 07.9	+0.3
MGG				*e*S	Sb	05 40 12.2	-0.2

*NEIC **01** 05:41:00.7±0.0, 19°.13N×64°.08W, h47km, MD3.2(RSPR), After RSPR.*

RSPR 01 05:41:00.7, 19°.13N×64°.08W, h47km±3km, MD3.2/6, 21C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.47**	**211**	*e*P	Pn	05 41 10.8	-0.7
ABV	**Anegada**	**0.47**	**211**	*e*S	Sn	05 41 18.6	-0.5
ABV	**Anegada**	**0.47**	**211**	⇑*e*P	Pn	05 41 10.8	-0.7
ABV				*e*S	Sn	05 41 18.6	-0.5
ABVI	**Anegada Island**	**0.47**	**211**	⇑*e*P	Pn	05 41 10.8	-0.7
ABVI				*e*S	Sn	05 41 18.6	-0.5
TBVI	**Tortola**	**0.88**	**216**	⇑*e*P	Pn	05 41 15.8	-0.9
TBVI				*e*S	Sn	05 41 27.6	-0.8
TBVI	**Tortola**	**0.88**	**216**	⇑*e*P	Pn	05 41 15.8	-0.9
TBVI				*e*S	Sn	05 41 27.6	-0.8
TBVI	**Tortola**	**0.88**	**216**	⇑*e*P	Pn	05 41 15.8	-0.9
TBVI				*e*S	Sn	05 41 27.6	-0.8
STVI	**Saint Thomas**	**1.14**	**227**	⇑*e*P	Pn	05 41 19.1	-1.2
STVI	**Saint Thomas**	**1.14**	**227**	*e*S	Sn	05 41 33.5	-1.3
STVI	**Saint Thomas**	**1.14**	**227**	⇑*e*P	Pn	05 41 19.1	-1.2
STVI				*e*S	Sn	05 41 33.5	-1.3
STVI	**Saint Thomas**	**1.14**	**227**	⇑*e*P	Pn	05 41 19.1	-1.2
STVI				*e*S	Sn	05 41 33.5	-1.3
CUPR	**Culebra, Puert**	**1.41**	**235**	⇑*e*P	Pn	05 41 23.1	-0.9
CUPR	**Culebra, Puert**	**1.41**	**235**	⇑*e*P	Pn	05 41 23.1	-0.9
MTP	**Monte Pirata**	**1.74**	**234**	⇑*e*P	Pn	05 41 27.8	-0.7
MTP	**Monte Pirata**	**1.74**	**234**	*e*S	Sn	05 41 48.8	-0.7
MTP	**Monte Pirata**	**1.74**	**234**	⇑*e*P	Pn	05 41 27.8	-0.7
MTP				*e*S	Sn	05 41 48.8	-0.7
MTP	**Monte Pirata**	**1.74**	**234**	⇑*e*P	Pn	05 41 27.8	-0.7
MTP				*e*S	Sn	05 41 48.8	-0.7
CBYP	**Canovanas**	**1.89**	**243**	⇑*e*P	Pn	05 41 29.5	-1.1
CBYP	**Canovanas**	**1.89**	**243**	⇑*e*P	Pn	05 41 29.9	-0.7
CBYP	**Canovanas**	**1.89**	**243**	⇑*e*P	Pn	05 41 29.9	-0.7
CBYP	**Canovanas**	**1.89**	**243**	⇑*e*P	Pn	05 41 29.5	-1.1
HUMP	**Col San Antoni**	**1.95**	**240**	⇑*e*P	Pn	05 41 30.5	-0.9
HUMP	**Col San Antoni**	**1.95**	**240**	⇑*e*P	Pn	05 41 30.5	-0.9
HUMP	**Col San Antoni**	**1.95**	**240**	⇑*e*P	Pn	05 41 30.5	-0.9

*IDC **01** 05:43:18.6±3.2, 59°.92N×153°.27W, h82km±17km, mb3.0/3, mb1 3.5/8, mb1mx3.2/39, mbtmp3.4/8, Error ellipse: s-maj=57.1km s-min=10.6km az=98.0*
*ISCJB **01** 05:43:19.4±0.3, 59°.85N±0°.03×153°.24W±0°.07, h133km±3km, mb3.1/3, Error ellipse: s-maj=6.3km s-min=4.0km az=26.3*
*NEIC **01** 05:43:21.5±0.0, 59°.83N×153°.29W, h124km, ML3.0(AEIC), After AEIC.*

ISC 01 05:43:20.8±0.9, 59°.83N±0°.03×153°.27W±0°.05, h129km±6km, n78, σ1s30/93, mb3.0/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.16**	**39**	P	**Pn**	**05 43 37.9**	**-0.7**
IVE	**Iliamna Volcan**	**0.23**	**34**	P	**Pn**	**05 43 38.0**	**-0.7**
ILW	**Iliamna West**	**0.24**	**16**	P	**Pn**	**05 43 38.0**	**-0.8**
ILW				S	**Sn**	**05 43 51.5**	**-1.1**
AUL	**Augustine Lava**	**0.46**	**191**	P	**Pn**	**05 43 39.1**	**-0.4**
AUL				S	**Sn**	**05 43 53.2**	**-0.5**
AUW	**Augustine West**	**0.47**	**193**	P	**Pn**	**05 43 39.1**	**-0.5**
AUE	**Augustine Isla**	**0.48**	**186**	P	**Pn**	**05 43 39.1**	**-0.5**
AUJK	**Augustine Jueg**	**0.49**	**188**	P	**Pn**	**05 43 39.3**	**-0.4**
AUI	**Augustine Isla**	**0.50**	**189**	P	**Pn**	**05 43 39.2**	**-0.6**
AUI				S	**Sn**	**05 43 52.9**	**-1.2**
RED	**Redoubt Volcan**	**0.64**	**23**	P	**Pn**	**05 43 40.2**	**-0.6**
RED				S	**Sn**	**05 43 55.1**	**-0.8**
RDWB	**Redoubt West**	**0.69**	**18**	P	**Pn**	**05 43 40.5**	**-0.7**
RDWB				S	**Sn**	**05 43 55.8**	**-0.9**
RDN	**Redoubt North**	**0.73**	**20**	P	**Pn**	**05 43 41.1**	**-0.3**
RDJH	**Redoubt Jeurge**	**0.80**	**17**	P	**Pn**	**05 43 41.5**	**-0.5**
RDJH				S	**Sn**	**05 43 57.4**	**-0.7**
HOM	**Homer**	**0.84**	**101**	P	**Pn**	**05 43 42.1**	**-0.1**
HOM				S	**Sn**	**05 43 58.6**	**+0.3**
FONW	**Fourpeaked Sta**	**1.05**	**199**	P	**Pn**	**05 43 43.5**	**-0.8**
BRLK	**Bradley Lake**	**1.21**	**92**	P	**Pn**	**05 43 45.3**	**-0.4**
BRLK				S	**Sn**	**05 44 03.5**	**-1.1**
NKA	**Nikishka**	**1.36**	**47**	P	**Pn**	**05 43 48.7**	**+1.5**
SPWE	**Spurr West**	**1.49**	**13**	P	**Pn**	**05 43 49.0**	**+0.2**
KAHG	**Katmai Hook Gl**	**1.49**	**207**	P	**Pn**	**05 43 48.1**	**-0.7**
SPCN	**Chakachatna No**	**1.50**	**21**	P	**Pn**	**05 43 48.8**	**0.0**
SPCN				S	**Sn**	**05 44 09.6**	**-0.6**
SPCP	**Crater Peak Br**	**1.54**	**21**	P	**Pn**	**05 43 49.4**	**0.0**
SLKM	**Skilak Lake**	**1.67**	**65**	P	**Pn**	**05 43 50.4**	**-0.4**
SVW2	**Sparrevohn**	**1.71**	**319**	P	**Pn**	**05 43 50.0**	**-1.2**
SEW	**Seward**	**1.94**	**80**	P	**Pn**	**05 43 53.5**	**-0.4**
SEW				S	**Sn**	**05 44 17.1**	**-2.1**
ANCK	**Angle Creek**	**2.00**	**216**	P	**Pn**	**05 43 54.2**	**-0.6**
CAHL	**Cahill**	**2.07**	**211**	P	**Pn**	**05 43 55.1**	**-0.5**
KDAK	**Kodiak Island**	**2.09**	**170**	*e*Pn	**Pn**	**05 43 54.0**	**-1.7**
KDAK				*e*Sn	**Sn**	**05 44 20.1**	**-2.4**
KDAK	**Kodiak Island**	**2.09**	**170**	P	**Pn**	**05 43 54.0**	**-1.7**
	3.6nm,0.3s,baz=231,slow=18,SNR=70						
KDAK				S	**Sn**	**05 44 18.9**	**-3.5**
	5.6nm,0.3s,baz=23,slow=11,SNR=6.6						
RC01	**Rabbit Creek A**	**2.16**	**53**	P	**Pn**	**05 43 56.0**	**-0.6**
RC01				S	**Sn**	**05 44 22.7**	**-1.4**
PLK2	**Peulik 2**	**2.61**	**219**	P	**Pn**	**05 44 02.3**	**0.0**
OHAK	**Old Harbor**	**2.62**	**180**	P	**Pn**	**05 44 00.3**	**-2.1**
PWL	**Port Wells**	**2.66**	**65**	P	**Pn**	**05 44 01.8**	**-1.1**
PLK1	**Peulik 1**	**2.67**	**222**	P	**Pn**	**05 44 02.7**	**-0.4**
PMR	**Palmer**	**2.69**	**47**	P	**Pn**	**05 44 03.0**	**-0.3**
PMR				S	**Sn**	**05 44 33.5**	**-2.7**
KNK	**Knik Glacier**	**2.85**	**54**	P	**Pn**	**05 44 04.3**	**-1.1**
GHO	**Glory Hole Cre**	**2.89**	**46**	P	**Pn**	**05 44 04.8**	**-1.1**
PPLA	**Purkeypile**	**3.12**	**9**	P	**Pn**	**05 44 09.5**	**+0.5**
SML	**Sawmill**	**3.13**	**49**	P	**Pn**	**05 44 07.9**	**-1.1**
SII	**Sitkinak Islan**	**3.32**	**189**	P	**Pn**	**05 44 10.4**	**-1.1**
TT01	**Tatalina**	**3.36**	**338**	P	**Pn**	**05 44 10.8**	**-1.1**
JPK	**Jack Peak**	**3.53**	**67**	P	**Pn**	**05 44 13.9**	**-0.3**
SCM	**Sheep Creek Mo**	**3.54**	**53**	P	**Pn**	**05 44 13.5**	**-0.8**
HUR	**Hurricane**	**3.61**	**27**	P	**Pn**	**05 44 15.1**	**-0.2**
CAST	**Castle Rocks**	**3.65**	**8**	P	**Pn**	**05 44 15.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.82**	**76**	P	**Pn**	**05 44 17.5**	**-0.6**
TRF	**Thorofare Moun**	**3.90**	**20**	P	**Pn**	**05 44 18.5**	**-0.7**
DIV	**Divide**	**3.93**	**67**	P	**Pn**	**05 44 19.6**	**0.0**
KLU	**Klutina**	**3.98**	**62**	P	**Pn**	**05 44 19.0**	**-1.2**
CHUM	**Lake Minchumin**	**4.09**	**6**	P	**Pn**	**05 44 21.2**	**-0.4**
RND	**Reindeer**	**4.16**	**29**	P	**Pn**	**05 44 21.8**	**-0.9**
DHY	**Denali Highway**	**4.31**	**38**	P	**Pn**	**05 44 23.7**	**-1.0**
PS11	**TAPS Pump St11**	**4.42**	**56**	P	**Pn**	**05 44 25.8**	**-0.2**
MCK	**McKinley**	**4.42**	**26**	P	**Pn**	**05 44 25.5**	**-0.5**
BWN	**Browne**	**4.71**	**21**	P	**Pn**	**05 44 29.5**	**-0.3**
PAX	**Paxson**	**4.89**	**47**	P	**Pn**	**05 44 31.6**	**-0.8**
NEA	**Nenana**	**5.15**	**21**	P	**Pn**	**05 44 34.6**	**-1.1**
WRH	**Wood River Hil**	**5.25**	**25**	P	**Pn**	**05 44 35.6**	**-1.4**
MLY	**Manley**	**5.35**	**12**	P	**Pn**	**05 44 37.8**	**-0.6**
CCB	**Clear Creek Bu**	**5.46**	**26**	P	**Pn**	**05 44 38.5**	**-1.4**
HDA	**Harding Lake**	**5.47**	**30**	P	**Pn**	**05 44 38.7**	**-1.3**
BALM	**Baldy**	**5.54**	**73**	P	**Pn**	**05 44 41.1**	**0.0**
RIDG	**Independ'e Rid**	**5.60**	**42**	P	**Pn**	**05 44 41.2**	**-0.6**
PS08	**TAPS Pump Stn8**	**5.61**	**30**	P	**Pn**	**05 44 40.5**	**-1.4**
COLA	**College**	**5.65**	**24**	P	**Pn**	**05 44 41.2**	**-1.2**
MDM	**Murphy Dome**	**5.65**	**22**	P	**Pn**	**05 44 41.2**	**-1.3**
IL1	**Eielson Array**	**5.78**	**28**	P	**Pn**	**05 44 43.0**	**-1.2**
ILAR	**Eielson Array**	**5.78**	**28**	P	**Pn**	**05 44 42.1**	**-2.1**
	1.4nm,0.3s,baz=217,slow=14,SNR=104						
ILAR				S	**Sn**	**05 45 43.1**	**-6.1**
	1.3nm,0.3s,baz=234,slow=5.9,SNR=10.0						
CTGM	**Chitina Glacie**	**6.03**	**74**	P	**Pn**	**05 44 47.9**	**+0.3**
IM3	**Indian Mountai**	**6.18**	**358**	P	**Pn**	**05 44 49.2**	**-0.3**
PS06	**TAPS Pump Stn6**	**6.26**	**13**	P	**Pn**	**05 44 50.0**	**-0.5**
YUK2	**White River**	**6.39**	**67**	P	**Pn**	**05 44 51.7**	**-0.7**
YUK3	**Moose Creek**	**6.56**	**67**	P	**Pn**	**05 44 54.8**	**-0.1**
PRP	**Porcupine Dome**	**6.72**	**29**	P	**Pn**	**05 44 56.0**	**-1.0**
DLBC	**Dease Lake**	**12.00**	**87**	P	**Pn**	**05 46 07.4**	**-0.1**
	0.0nm,0.3s,baz=254,slow=7.4,SNR=1.9						
INK	**Inuvik**	**12.06**	**37**	P	**Pn**	**05 46 07.3**	**-0.7**
	0.1nm,0.3s,baz=224,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**18.65**	**65**	P	**Pn**	**05 47 28.7**	**-1.3**
	0.1nm,0.3s,baz=277,slow=9.9,SNR=20						
NEW	**Newport**	**23.84**	**103**	P	**P**	**05 48 23.7**	**+1.9**
	0.7nm,0.5s,baz=292,slow=16,SNR=2.7						
PDAR	**Pinedale Array**	**31.49**	**103**	P	**P**	**05 49 33.7**	**+3.5**
	0.1nm,0.5s,baz=352,slow=4.6,SNR=2.5						
TXAR	**Lajitas Array**	**45.05**	**110**	P	**P**	**05 51 25.2**	**+1.7**
	0.3nm,0.9s,baz=293,slow=5.6,SNR=3.6						

WEL 01 05:43:54.0, 40°S±1°×17°E±°, h27km±5km, ML3.7/24, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PXZ	**Pawanui**	**0.34**	**294**	P	Pb	05 44 01.0	-0.8
KAHZ	**Kahuranaki**	**0.48**	**321**	P	Pb	05 44 03.8	-0.2
KAHZ				S	Sb	05 44 11.6	+0.9
PRHZ	**Porangahau**	**0.49**	**259**	P	Pn	05 44 04.8	-0.5
CKHZ	**Cape Kidnapper**	**0.53**	**344**	P	Pb	05 44 04.8	0.0
CKHZ				S	Sn	05 44 13.1	-0.8
WPHZ	**Waipukurau**	**0.64**	**279**	P	Pb	05 44 06.6	0.0
WPHZ				S	Sn	05 44 16.7	0.0
ANWZ	**Angora Road**	**0.67**	**244**	P	Pn	05 44 07.8	+0.1
ANWZ				S	Sn	05 44 18.4	+1.1
MCHZ	**McNeill Hill**	**0.85**	**329**	P	Pb	05 44 09.8	-0.3
DVHZ	**Dannevirke**	**0.85**	**261**	P	Pb	05 44 09.9	-0.2
PNHZ	**Pukenui**	**0.86**	**287**	P	Pb	05 44 09.7	-0.6
PNHZ				S	Sb	05 44 21.4	0.0
KRHZ	**Kereru**	**0.87**	**307**	P	Pb	05 44 09.6	-0.8
BFZ	**Birch Farm**	**0.93**	**236**	P	Pn	05 44 11.3	0.0
KWHZ	**Kaweka Forest**	**0.99**	**319**	P	Pn	05 44 11.4	-0.7
TSZ	**Takapari Road**	**1.01**	**276**	P	Pn	05 44 11.9	-0.5
TSZ				S	Sb	05 44 25.0	-0.6
PRWZ	**Pori Road**	**1.06**	**248**	P	Pn	05 44 13.2	+0.1
WHHZ	**Waihua**	**1.09**	**359**	P	Pn	05 44 13.7	+0.1
CPWZ	**Castlepoint**	**1.10**	**227**	P	Pb	05 44 14.2	-0.1
NMHZ	**Naumai**	**1.13**	**342**	P	Pn	05 44 14.0	-0.1
MHGZ	**Mahia Peninsul**	**1.13**	**26**	P	Pn	05 44 14.5	+0.4
BHHZ	**Black Hill Sta**	**1.15**	**306**	P	Pn	05 44 13.7	-0.6
POWZ	**Post Office Ro**	**1.17**	**259**	P	Pn	05 44 14.7	+0.2
BKZ	**Black Stump Fm**	**1.17**	**329**	P	Pn	05 44 14.2	-0.5
KNZ	**Kokohu**	**1.19**	**15**	P	Pn	05 44 15.0	+0.1
TIWZ	**Tintock**	**1.21**	**240**	P	Pn	05 44 15.3	0.0
RAHZ	**Arahi**	**1.26**	**354**	P	Pn	05 44 15.9	0.0
PRGZ	**Paritu Road**	**1.34**	**21**	P	Pb	05 44 18.1	-0.3
MTHZ	**Maungataniwha**	**1.36**	**346**	P	Pn	05 44 17.0	-0.3
MRZ	**Mangatainoka R**	**1.38**	**249**	P	Pn	05 44 17.1	-0.3
SNGZ	**Shannon Statio**	**1.39**	**2**	P	Pn	05 44 18.0	+0.3
MOVZ	**Moawhango**	**1.39**	**303**	P	Pn	05 44 17.7	-0.1
TMWZ	**Te Maipa**	**1.40**	**228**	P	Pn	05 44 17.4	-0.4
MRHZ	**Matea Rd**	**1.49**	**334**	P	Pn	05 44 19.2	+0.2
OHWZ	**Ohakea**	**1.50**	**268**	P	Pb	05 44 20.1	-0.9
RIGZ	**Rimuru**	**1.51**	**15**	P	Pn	05 44 19.7	+0.3
HOWZ	**Holdsworth Sta**	**1.52**	**241**	P	Pn	05 44 18.8	-0.6
TUVZ	**Tukino**	**1.54**	**305**	P	Pn	05 44 20.7	+0.9
WHVZ	**Whangaehu Hut**	**1.57**	**304**	P	Pb	05 44 22.0	-0.5
TRVZ	**Turoa**	**1.59**	**303**	P	Pn	05 44 21.2	+0.6
DRZ	**Dome Shelter**	**1.59**	**304**	P	Pb	05 44 22.4	-0.5
FWVZ	**Far West T-bar**	**1.61**	**304**	P	Pn	05 44 22.0	+1.1
RITZ	**Rihia Road**	**1.61**	**317**	P	Pb	05 44 24.4	+1.3
NGZ	**Ngauruhoe**	**1.62**	**307**	P	Pb	05 44 22.5	-0.9
COVZ	**Chateau Observ**	**1.65**	**306**	P	Pb	05 44 22.5	-1.2
MTW	**Mount Morrison**	**1.67**	**233**	P	Pn	05 44 20.5	-0.9
WTVZ	**West Tongariro**	**1.67**	**309**	P	Pn	05 44 22.7	+1.1
KATZ	**Kakaramea**	**1.70**	**314**	P	Pb	05 44 25.2	+0.5
TRWZ	**Traveller**	**1.71**	**224**	P	Pn	05 44 21.3	-0.8
OGWZ	**Otaki Gorge**	**1.72**	**247**	P	Pn	05 44 21.7	-0.4
PKVZ	**Pokaka**	**1.72**	**300**	P	Pb	05 44 23.8	-1.1
RATZ	**Rangitukua**	**1.74**	**318**	P	Pb	05 44 27.3	+2.0
ALRZ	**Allen Road**	**1.76**	**336**	P	Pn	05 44 23.9	+1.1
TWPZ	**Taurewa**	**1.79**	**307**	P	Pb	05 44 25.7	-1.4
WAZ	**Wanganui**	**1.80**	**283**	P	Pb	05 44 25.3	-1.0
WHTZ	**Whakaora**	**1.81**	**326**	P	Pb	05 44 26.5	0.0
CNGZ	**Carnagh Statio**	**1.84**	**24**	P	Pn	05 44 24.1	+0.4
MWZ	**Matawai**	**1.85**	**6**	P	Pn	05 44 23.4	-0.6
PAWZ	**Paruwai Farm**	**1.85**	**229**	P	Pn	05 44 23.0	-0.9
URZ	**Urewera**	**1.91**	**356**	P	Pn	05 44 24.4	-0.4
CAW	**Cannon Point**	**1.92**	**240**	P	Pn	05 44 24.0	-0.9
KIW	**Kapiti Island**	**1.92**	**248**	P	Pn	05 44 24.6	-0.4
MSWZ	**Moikau Station**	**1.97**	**230**	P	Pn	05 44 24.5	-1.2
TARZ	**Mount Tarawera**	**2.02**	**343**	P	Pn	05 44 26.7	+0.3
PLWZ	**Palliser**	**2.07**	**227**	P	Pn	05 44 25.5	-1.4
TWGZ	**Tauwhareparae**	**2.07**	**16**	P	Pn	05 44 27.0	0.0
BHW	**Baring Head**	**2.20**	**235**	P	Pn	05 44 27.5	-1.2
BHW				P	Pn	05 44 27.5	-1.2
VRZ	**Vera Road**	**2.20**	**298**	P	Pb	05 44 31.0	-2.1
RUGZ	**Raukumara Rang**	**2.23**	**8**	P	Pn	05 44 28.8	-0.4
PUZ	**Puketiti**	**2.23**	**20**	P	Pn	05 44 28.8	-0.4
PKGZ	**Pakihiroa**	**2.37**	**16**	P	Pn	05 44 31.0	-0.1
HIZ	**Hauiti**	**2.50**	**311**	P	Pn	05 44 33.9	+1.0
TCW	**Tory Channel**	**2.50**	**245**	P	Pn	05 44 31.7	-1.1
DUWZ	**D'Urville Isla**	**2.63**	**255**	P	Pn	05 44 34.8	+0.1
KHEZ	**Kahui Hut**	**2.66**	**288**	P	Pn	05 44 37.6	+2.5
PKE	**Pukeiti**	**2.71**	**290**	P	Pn	05 44 38.0	+2.2
PKE				P	Pb	05 44 38.1	-3.7
BSWZ	**Blackbirch Sta**	**3.00**	**238**	P	Pn	05 44 38.0	-1.7
NNZ	**Nelson**	**3.13**	**249**	P	Pn	05 44 41.0	-0.6
KHZ	**Kahutara**	**3.59**	**230**	P	Pn	05 44 46.1	-1.7
THZ	**Tophouse**	**3.66**	**243**	P	Pn	05 44 47.0	-1.9
QRZ	**Quartz Range**	**3.67**	**258**	P	Pn	05 44 48.1	-0.9

IDC 01 05:54:19.6±6.7, 15°.87S×167°.84E, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=299.0km s-min=40.6km az=142.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**32.80**	**251**	P	P	06 00 54.9	-0.1
	0.3nm,0.5s,baz=78,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**87.44**	**18**	P	P	06 07 08.4	-0.1
	0.3nm,0.6s,baz=237,slow=4.3,SNR=5.4						
MKAR	**Makanchi Array**	**98.41**	**316**	P	P	06 07 59.6	0.0
	0.3nm,0.7s,baz=94,slow=6.1,SNR=4.0						

*IDC **01** 06:04:50.5±0.7, 14°.22N×58°.16W, h0km, mb4.0/13, mb1 4.1/14, mb1mx3.9/41, mbtmp4.0/14, ML4.3/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/27, Error ellipse: s-maj=18.3km s-min=15.2km az=42.0*
*NEIC **01** 06:04:52.2±0.4, 14°.22N×58°.18W, h10km, mb4.4/6, Error ellipse: s-maj=7.8km s-min=6.0km az=202.0*
*TRN **01** 06:04:55.1, 14°.19N×58°.55W, h16km, MD4.5*

ISC 01 06:04:50.8±1.8, 14°.15N±0°.04×58°.24W±0°.05, h5km±11km, n95, σ2s14/130, mb4.2/17, 6C-4D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSP	**Saint Philip**	**1.57**	**229**	*e*P	**Pg**	**06 05 21.9**	**+0.9**
BBSP				*e*S	**Sg**	**06 05 40.3**	**-1.0**
BBGH	**Gun Hill**	**1.62**	**232**	*e*Pn	**Pg**	**06 05 22.1**	**+0.2**
BBGH	**Gun Hill**	**1.62**	**232**	*e*P	**Pg**	**06 05 22.1**	**+0.2**
BBGH				*e*S	**Sb**	**06 05 41.3**	**-0.7**
H05S1	**Guadeloupe/Mar**	**2.53**	**277**	Pn	**Pn**	**06 05 32.6**	**+0.1**
H05S1				Sn	**Sn**	**06 05 59.8**	**-4.0**
ILAM	**Ilet Lapin Mar**	**2.62**	**284**	*e*P	**Pn**	**06 05 34.3**	**+0.5**
MCLT	**Moule a Chique**	**2.66**	**261**	*e*	**Pn**	**06 05 34.0**	**-0.3**
MCLT	**Moule a Chique**	**2.66**	**261**	*e*P	**Pn**	**06 05 35.2**	**+0.9**
MCLT				*e*S	**Sn**	**06 06 03.8**	**-3.1**
LPMF	**Morne Lapointe**	**2.67**	**279**	⇓*e*P	**Pn**	**06 05 34.7**	**+0.2**
ZAM	**Aeronautique**	**2.73**	**279**	⇓*e*P	**Pn**	**06 05 35.4**	**0.0**
SLB	**Belfond**	**2.73**	**264**	*e*P	**Pn**	**06 05 36.1**	**+0.6**
SLB				*e*S	**Sn**	**06 06 06.3**	**-2.6**
TRMF	**Trois Ilets**	**2.75**	**278**	⇓*e*P	**Pn**	**06 05 36.0**	**+0.4**
BIM	**Bigot**	**2.76**	**278**	⇓*e*P	**Pn**	**06 05 36.1**	**+0.3**
FDF	**Fort de France**	**2.88**	**282**	*e*Pn	**Pn**	**06 05 37.5**	**+0.1**
FDF				*e*Sn	**Sn**	**06 06 09.7**	**-2.7**
FDF	**Fort de France**	**2.88**	**282**	*e*P	**Pn**	**06 05 37.4**	**+0.1**
FDF				*e*S	**Sn**	**06 06 09.2**	**-3.2**
BAMF	**Morne Balai**	**2.89**	**284**	⇓*e*P	**Pn**	**06 05 38.1**	**+0.5**
GBMF	**Grand Be**	**2.90**	**283**	⇑*e*P	**Pn**	**06 05 38.0**	**+0.3**
PML	**Morne Lenard**	**2.92**	**283**	⇓*e*P	**Pn**	**06 05 38.4**	**+0.5**
PCM	**Pelee Case Pet**	**2.95**	**283**	⇑*e*P	**Pn**	**06 05 38.7**	**+0.3**
SVCV	**St. Vincent, C**	**2.95**	**253**	*e*P	**Pn**	**06 05 38.8**	**+0.4**
SVCV				*e*S	**Sn**	**06 06 10.6**	**-3.6**

0.7nm,0.7s,baz=316,slow=6.2,SNR=5.6

TORD				LR	LR	06 35 34.8	
	comp=Z,91nm,21.1s,baz=290,slow=32						
YKA	**Yellowknife Ar**	**62.31**	**334**	P	**P**	**06 15 14.6**	**+0.7**
	1.0nm,0.6s,baz=106,slow=7.5,SNR=20						
YKB5	**Yellowknife Ar**	**62.31**	**334**	*e*P	**P**	**06 15 14.8**	**+0.9**
ARA0	**ARCESS Array S**	**74.66**	**21**	*e*P	**P**	**06 16 30.0**	**-1.0**
ARCES	**ARCESS Array B**	**74.66**	**21**	P	**P**	**06 16 30.0**	**-1.0**
	3.7nm,0.9s,baz=263,slow=5.7,SNR=2.6						
FIA0	**FINESS Array S**	**74.98**	**30**	*e*P	**P**	**06 16 32.5**	**-0.4**
FINES	**FINESS Array B**	**74.98**	**30**	P	**P**	**06 16 32.5**	**-0.4**
	3.3nm,1.0s,baz=259,slow=5.6,SNR=2.3						
NRIK	**Noril'sk**	**93.31**	**12**	LR	LR	06 59 14.9	
	comp=Z,67nm,19.2s,baz=102,slow=35						
BKNI	**Bangkinang**	**154.95**	**57**	*e*PKPdf	**PKPdf**	**06 24 44.7**	**-1.3**

RSNC 01 06:05:46.5±0.9, 3.61N×74.44W, h21km±3km, ML3.3, Mw3.5, 1C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRAC	**Prado**	**0.46**	**284**	⇓*i*P	Pb	06 05 55.0	-0.8
PRAC				*e*S	Sb	06 06 02.5	+0.3
VILC	**Villavicencio,**	**0.90**	**56**	*e*P	Pb	06 06 02.4	-1.1
VILC				*e*S	Sb	06 06 15.0	-0.1
VILC				*i*		06 06 19.6	
	comp=N,2μm,0.6s						
ROSC	**El Rosal**	**1.23**	**6**	⇑*i*P	Pn	06 06 08.2	-0.7
ROSC				*e*S	Sn	06 06 25.5	+0.4
CHIC	**Chingaza**	**1.24**	**35**	*e*P	Pn	06 06 08.1	-0.9
CHIC				*i*		06 06 30.4	
	comp=N,236nm,0.4s						
ANIL	**Santa Ana**	**1.30**	**313**	*e*P	Pn	06 06 08.1	-1.7
ANIL				*e*S	Sn	06 06 25.5	-1.2
ANIL				*i*		06 06 27.8	
	comp=E,578nm,0.2s						
BETC	**Betania**	**1.36**	**227**	*e*P	Pn	06 06 09.3	-1.0
RREF	**El Recreo**	**1.57**	**325**	*e*P	Pn	06 06 13.0	-0.8
RREF				*e*S	Sn	06 06 33.6	-0.2
MARP	**Paez Belalcaza**	**1.69**	**243**	*e*P	Pn	06 06 14.8	-0.3
MARP				*i*		06 06 39.3	
	comp=Z,61nm,0.1s						
GUVC	**San Jose del G**	**2.09**	**120**	*e*P	Pn	06 06 19.3	-1.1
GUVC				*e*S	Sn	06 06 45.2	-0.6
GUVC				*i*		06 06 46.3	
	comp=N,614nm,0.3s						
FLOC	**Florencia**	**2.35**	**211**	*e*P	Pn	06 06 22.8	-1.0
FLOC				*i*		06 06 56.7	
	comp=N,126nm,0.4s						

*PRE **01** 06:06:19.2±1.3, 21.71S×33.74E, h5km, ML3.5*
*EAF **01** 06:06:25.0±0.9, 21.51S×33.51E, h10km, MD3.7*
*BUL **01** 06:06:26.1±0.9, 21.45S×33.54E, h10km, MD4.0*

ISC 01 06:06:24.7±2.4, 21.69S±0.07×33.2E±0.1, h10km, n19, σ3s08/31, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSNA	**Messina**	**2.99**	**257**	*i* P	**Pb**	**06 07 17.3**	**-0.9**
MSNA				*i* S	**Sb**	**06 07 55.8**	**+0.9**
MSNA	**Messina**	**2.99**	**257**	*i* P	**Pb**	**06 07 17.3**	**-0.9**
MSNA				*i* S	**Sb**	**06 07 55.8**	**+0.9**
BLWY	**Bulawayo**	**4.54**	**289**	*i* P	**Pn**	**06 07 35.9**	**+2.3**
BLWY				*i* S	**Sn**	**06 08 28.6**	**+2.1**
BLWY	**Bulawayo**	**4.54**	**289**	*i* P	**Pn**	**06 07 35.9**	**+2.3**
BLWY				*i* S	**Sn**	**06 08 28.6**	**+2.1**
PRYS	**Parys**	**7.43**	**224**	*e*P	**Pn**	**06 08 14.0**	**+0.6**
PRYS				*e*S	**Sn**	**06 09 39.7**	**+1.8**
PRYS				AML	AML	06 10 38.0	
	comp=Z,46nm,0.6s						
LBTB	**Lobatse**	**7.71**	**243**	*i* P	**Pn**	**06 08 21.0**	**+3.9**
LBTB				*i* S	**Sn**	**06 09 44.6**	**+0.1**
LBTB	**Lobatse**	**7.71**	**243**	*i* P	**Pn**	**06 08 21.0**	**+3.9**
LBTB	**Lobatse**	**7.71**	**243**	*i* P	**Sn**	**06 09 49.3**	**+4.7**
LBTB				*i* S	**Sg**	**06 10 28.6**	**-3.5**
LBTB	**Lobatse**	**7.71**	**243**	*e*P	**Pn**	**06 08 20.2**	**+3.1**
LBTB				*e*S	**Sn**	**06 09 47.2**	**+2.7**
LBTB				AML	AML	06 10 33.7	
	comp=Z,46nm,0.7s						
LBTB	**Lobatse**	**7.71**	**243**	*i* P	**Pn**	**06 08 21.0**	**+3.9**
LBTB				*i* S	**Sn**	**06 09 44.6**	**+0.1**
LSZ	**Lusaka**	**7.94**	**323**	*i* P	**Pn**	**06 08 20.4**	**0.0**
LSZ	**Lusaka**	**7.94**	**323**	*i* P	**Sn**	**06 09 45.5**	**-4.9**
LSZ				*i* S	Sb	06 10 27.9	+11
LSZ	**Lusaka**	**7.94**	**323**	*i* P	**Sn**	**06 09 45.5**	**-4.9**
LSZ				*i* S	Sb	06 10 32.1	+15
LSZ	**Lusaka**	**7.94**	**323**	*i* P	**Pn**	**06 08 20.4**	**0.0**
BOSA	**Boshof**	**9.94**	**225**	*i* P	**Pn**	**06 08 50.2**	**+2.4**
BOSA				*i* S	**Sn**	**06 10 36.1**	**-3.5**
BOSA	**Boshof**	**9.94**	**225**	*i* P	**Pn**	**06 08 50.2**	**+2.4**
BOSA	**Boshof**	**9.94**	**225**	*i* P	**Sn**	**06 10 32.7**	**-6.9**
BOSA	**Boshof**	**9.94**	**225**	*e*P	**Pn**	**06 08 49.2**	**+1.3**
BOSA				*e*S	**Sn**	**06 10 38.0**	**-1.5**
BOSA				AML	AML	06 11 45.2	
	comp=Z,10nm,0.7s						
BOSA	**Boshof**	**9.94**	**225**	*i* P	**Pn**	**06 08 50.2**	**+2.4**
BOSA				*i* S	**Sn**	**06 10 36.1**	**-3.5**

JMA 01 06:08:42.3, 37.03N×139.33E, h7km±1km, M3.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.27**	**194**	P	Pg	06 08 47.7	0.0
JKT				S	Sg	06 08 51.4	+0.1
JHK	**Hiroka**	**0.33**	**311**	P	Pg	06 08 49.1	+0.3
JHK				S	Sg	06 08 53.8	+0.6
JSB	**Shiboa**	**0.48**	**97**	P	Pg	06 08 51.9	+0.4
JSB				S	Sg	06 08 58.4	+0.6
JFY	**Yanaizu**	**0.48**	**38**	P	Pg	06 08 51.7	+0.1
JFY				S	Sg	06 08 57.9	0.0
JAG	**Ashikaga**	**0.61**	**171**	P	Pg	06 08 54.1	0.0
JAG				S	Sg	06 09 02.0	-0.1
JIZZ	**Izumozaki**	**0.70**	**316**	P	Pb	06 08 57.2	+0.3
JIZZ				*e*S	Sb	06 09 08.0	+1.2
JNS	**Sasagawa**	**0.79**	**359**	P	Pg	06 08 57.3	-0.1
JNS				*e*S	Sg	06 09 07.8	+0.1
JFT	**Otama**	**0.94**	**58**	P	Pg	06 09 00.1	-0.2
JFT				S	Sg	06 09 12.0	-0.6
MAT	**Matsushiro**	**1.02**	**242**	P	Pg	06 09 01.9	-0.1
MAT				S	Sg	06 09 15.0	-0.3

KRSC 01 06:25:40.9±10.0, 53.41N×161.54E, h41km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.96**	**252**	P	Pn	06 25 59.5	+1.6
SPN				S	Sn	06 26 11.1	+0.7
MKZ	**Mys Kozlova**	**1.15**	**6**	P	Pn	06 26 02.3	+1.8
MKZ				S	Sn	06 26 16.3	+1.2
NLC	**Nalytchevo**	**1.34**	**261**	P	Pn	06 26 04.8	+1.8
NLC				S	Sn	06 26 21.3	+1.7
KII	**Karymskiy**	**1.39**	**298**	P	Pn	06 26 04.8	+1.0
KII				S	Sn	06 26 21.2	+0.2
SDLR	**Sedlovina**	**1.59**	**266**	P	Pn	06 26 09.0	+2.3
SDLR				S	Sn	06 26 28.2	+2.1
UGLR	**Uglovaya**	**1.64**	**264**	P	Pn	06 26 09.9	+2.6
UGLR				S	Sn	06 26 29.7	+2.5
SMAR	**Somma**	**1.65**	**266**	P	Pn	06 26 09.7	+2.2
SMAR				S	Sn	06 26 29.1	+1.6
AVH	**Avacha**	**1.68**	**266**	P	Pn	06 26 10.7	+2.8
AVH				S	Sn	06 26 31.2	+2.9
DALK	**Dalny**	**1.71**	**258**	P	Pn	06 26 10.4	+2.2
DALK				S	Sn	06 26 31.0	+2.1
KRX	**Arik**	**1.73**	**269**	P	Pn	06 26 10.7	+2.1
KRX				S	Sn	06 26 31.5	+2.0
KOK	**Koryaka**	**1.74**	**267**	P	Pn	06 26 11.1	+2.4
KOK				S	Sn	06 26 31.7	+2.0
PET	**Petropavlovsk**	**1.78**	**259**	P	Pn	06 26 11.3	+2.2
PET				S	Sn	06 26 32.2	+1.8
KZV	**Kizimen**	**1.85**	**337**	P	Pn	06 26 13.0	+2.7
KZV				S	Sn	06 26 34.8	+2.2
TUMD	**Tumrok D**	**1.92**	**340**	P	Pn	06 26 13.3	+2.3
TUMD				S	Sn	06 26 35.5	+1.6
TUMR	**Tumrok**	**2.04**	**337**	P	Pn	06 26 16.1	+3.2
TUMR				S	Sn	06 26 40.2	+3.0
RUS	**Russkaya**	**2.08**	**243**	P	Pn	06 26 16.0	+2.8
RUS				S	Sn	06 26 40.4	+2.6
KRMR	**Karymshinskiy**	**2.13**	**256**	P	Pn	06 26 16.7	+2.7
KRMR				S	Sn	06 26 42.0	+2.8
GNL	**Ganaly**	**2.16**	**279**	P	Pn	06 26 17.4	+2.9
GNL				S	Sn	06 26 43.2	+3.1
ZLN	**Zelenaya**	**2.65**	**351**	P	Pn	06 26 25.2	+4.1
KDTR	**Khodutka, Kamc**	**2.65**	**234**	P	Pn	06 26 24.0	+3.0
KDTR				S	Sn	06 26 53.9	+2.0
APC	**Apacha**	**2.68**	**261**	P	Pn	06 26 25.3	+3.8
APC				S	Sn	06 26 57.3	+4.7
KBTR	**Krutoberegovo**	**2.90**	**14**	P	Pn	06 26 28.2	+3.7
BKI	**Bering**	**3.16**	**54**	P	Pn	06 26 30.7	+2.7
BKI				S	Sn	06 27 04.2	-0.2
BDR	**Baidarnaya**	**3.17**	**357**	P	Pn	06 26 33.1	+4.8
SRKR	**Sorokina**	**3.26**	**356**	P	Pn	06 26 34.8	+5.3

TEH 01 06:28:40.4, 28.15N×59.22E, h10km, ML3.9, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**2.19**	**255**	*e*Pn	Pn	06 29 18.2	+1.3
NIAN					IAMB	IAmb	06 29 53.5
	comp=Z,0.0nm,0.3s						
CHMN	**Cheshme madani**	**2.25**	**320**	*e*Pn	Pn	06 29 19.0	+0.9
CHMN					IAMB	IAmb	06 29 52.2
	comp=Z,0.0nm,0.2s						
NGRK	**Negar Kerman**	**2.64**	**305**	*e*Pn	Pn	06 29 25.6	+2.2
NGRK					IAMB	IAmb	06 30 00.6
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**2.80**	**255**	*e*Pn	Pb	06 29 28.4	-2.2
GENO					IAMB	IAmb	06 30 08.6
	comp=N,0.0nm,0.3s						
TVBK	**TV Kerman**	**2.82**	**311**	*e*Pn	Pn	06 29 28.0	+2.1
TVBK					IAMB	IAmb	06 30 09.6
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	**3.27**	**314**	*e*Pn	Pn	06 29 33.8	+1.9
KHGB					IAMB	IAmb	06 30 26.9
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**3.45**	**233**	*e*Pn	Pn	06 29 35.9	+1.7
MDH	**Madha**	**3.85**	**223**	*e*Pn	Pn	06 29 39.0	-0.8
MSFE	**Esma-Masafi**	**3.90**	**225**	*e*Pn	Pn	06 29 41.5	+1.1
IKOO	**Kooshah**	**4.27**	**358**	*e*Pn	Pn	06 29 47.4	+1.7
IKOO					IAMB	IAmb	06 30 06.3
	comp=Z,1μm,0.6s						
HATD	**Hatta, Dubai**	**4.31**	**221**	*e*Pn	Pn	06 29 50.9	+4.8
ASHO	**Ashiyiah**	**4.46**	**220**	*e*Pn	Pn	06 29 51.4	+3.2
IDAH	**Dahanechah**	**4.61**	**7**	*e*Pn	Pn	06 29 53.5	+3.1
IDAH					IAMB	IAmb	06 31 13.6
	comp=N,812nm,0.4s						
ITEG	**Tejag**	**4.75**	**355**	*e*Pn	Pn	06 29 54.2	+1.9
ITEG					IAMB	IAmb	06 31 24.0
	comp=Z,1μm,0.6s						
IMON	**Monand**	**5.04**	**4**	*e*Pn	Pn	06 29 59.3	+2.9
IMON					IAMB	IAmb	06 30 01.1
	comp=Z,469nm,0.3s						
ALNE	**Al Ain**	**5.13**	**218**	*e*Pn	Pn	06 29 59.2	+1.9
TPRV	**Parvadeh(Tabas**	**5.33**	**336**	*e*Pn	Pn	06 30 01.2	+1.0
TKDS	**Koohdasht(Taba**	**5.74**	**342**	*e*Pn	Pn	06 30 06.5	+0.7
TNSJ	**Nastanj**	**6.21**	**340**	*e*Pn	Pn	06 30 13.0	+0.7
IKAZ	**Kazeroun**	**6.66**	**286**	*e*Pn	Pn	06 30 20.6	+1.9

*NIED **01** 06:51:00, 27.00N×130.30E, h8km, Mw3.8 Best double couple: M0 5.34000×10^14 NP1:φs=23.00000°, δ36.00000°, λ=137.00000°. NP2:φs=256.00000°, δ66.00000°, λ=61.00000°.*
*IDC **01** 06:51:37.6±1.4, 26.96N×130.16E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.4/32, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=29.3km s-min=20.6km az=59.0*
*ISCJB **01** 06:51:38.6±0.5, 27.01N±0.03×130.28E±0.04, h29km, mb3.6/3, Error ellipse: s-maj=4.6km s-min=3.8km az=22.8*
*JMA **01** 06:51:38.8, 27.00N×130.30E, h65km, M3.7*

ISC 01 06:51:39.9±0.9, 27.02N±0.04×130.29E±0.04, h29km, n22, σ1s26/38, mb3.9/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.32**	**348**	P	**Pn**	**06 52 02.2**	**-0.2**
JZK				S	**Sb**	**06 52 19.9**	**-0.8**
JTK	**Tokunoshima**	**1.41**	**303**	P	**Pn**	**06 52 03.0**	**-0.7**
JTK				*e*S	**Sb**	**06 52 22.1**	**-1.2**
JMZ	**Minamidaito 2**	**1.46**	**145**	P	**Pn**	**06 52 03.1**	**-1.2**
JMZ				S	**Sn**	**06 52 20.8**	**-1.7**
JAM	**Amami Oshima**	**1.51**	**337**	P	**Pn**	**06 52 04.5**	**-0.6**
JAM				*e*S	**Sn**	**06 52 23.1**	**-0.7**
JOKE	**Okinoerabujima**	**1.57**	**283**	P	**Pn**	**06 52 05.4**	**-0.4**
JOKE				S	**Sn**	**06 52 24.8**	**-0.4**
JAMN	**Amaminishikomi**	**1.57**	**321**	P	**Pn**	**06 52 05.1**	**-0.7**
JAMN				*e*S	**Sn**	**06 52 24.9**	**-0.3**
JYRO	**Yoronjima**	**1.64**	**271**	P	**Pn**	**06 52 06.3**	**-0.5**
JYRO				*e*S	**Sn**	**06 52 26.0**	**-0.9**
JOW	**Kunigami**	**1.81**	**265**	P	**Pn**	**06 52 08.7**	**-0.4**
JOW				S	**Sn**	**06 52 30.0**	**-1.2**
JOW	**Kunigami**	**1.81**	**265**	P	**Pn**	**06 52 08.9**	**-0.2**
	14nm,0.3s,baz=88,slow=14,SNR=95						
JOW				Sn	**Sn**	**06 52 29.9**	**-1.2**
	22nm,0.3s,baz=87,slow=20,SNR=8.2						
JIH	**Iheya**	**2.07**	**271**	P	**Pn**	**06 52 12.5**	**-0.2**
JIH				S	**Sn**	**06 52 36.9**	**-0.7**
JNTH	**Nagotoyohara**	**2.09**	**257**	P	**Pn**	**06 52 12.1**	**-0.9**
JNTH				S	**Sn**	**06 52 36.0**	**-2.0**
JTAJ	**Takarajima**	**2.33**	**336**	P	**Pn**	**06 52 15.5**	**-0.8**
JTAJ				S	**Sn**	**06 52 42.5**	**-1.5**
JJT3	**Tamagusuku3**	**2.41**	**249**	P	**Pn**	**06 52 16.7**	**-0.7**
JJT3				*e*S	**Sn**	**06 52 45.2**	**-0.7**
JAGN	**Aguni-jima**	**2.75**	**262**	P	**Pn**	**06 52 22.0**	**-0.2**
JAGN				*e*S	**Sn**	**06 52 53.4**	**-1.1**
JNN	**Nakanoshima**	**2.83**	**353**	*e*S	**Sn**	**06 52 56.2**	**-0.3**
JKE	**Kume jima 2**	**3.21**	**258**	P	**Pn**	**06 52 28.1**	**-0.3**
JKE				S	**Sn**	**06 53 04.2**	**-1.5**
JYAK	**Yakushimahirau**	**3.21**	**3**	*e*S	**Sn**	**06 53 04.5**	**-1.3**
JMTN	**Minamitane**	**3.41**	**9**	*e*S	**Sn**	**06 53 11.2**	**+0.6**
JNU	**Nakatsue**	**6.10**	**5**	Pn	**Pn**	**06 53 08.8**	**+0.5**
	0.9nm,0.3s,baz=12,slow=4.3,SNR=4.7						
JNU				Sn	**Sn**	**06 54 12.8**	**-4.3**
	0.3nm,0.3s,baz=235,slow=16,SNR=2.4						
MKAR	**Makanchi Array**	**42.40**	**311**	P	**P**	**06 59 33.5**	**+1.7**
	0.1nm,0.3s,baz=109,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**46.85**	**175**	P	**P**	**07 00 07.9**	**+0.4**
	1.0nm,0.7s,baz=353,slow=8.5,SNR=7.5						
ASAR	**Alice Springs**	**50.51**	**176**	P	**P**	**07 00 38.0**	**+2.4**
	0.8nm,0.6s,baz=6.5,slow=14,SNR=10						

*SOME **01** 06:58:00.6, 40.72N×79.92E, h10km*
*NNC **01** 06:58:02.1±1.1, 40.78N×79.84E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=7.4km s-min=6.5km az=163.0*

ISC 01 06:58:07.3±4.3, 40.6N±0.2×80.3E±0.1, h35km, n17, σ1s55/24, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzunbulak**	**2.77**	**340**	Pg	**Pn**	**06 58 47.5**	**-1.8**
	1.9nm,0.2s						
UZB				Lg	Lg	06 59 21.1	
	4.5nm,0.3s						
UZB	**Uzunbulak**	**2.77**	**340**	*e*P	**Pn**	**06 58 47.5**	**-1.8**
	2.3nm,0.3s						
UZB				*e*S	**Sn**	**06 59 21.1**	**-0.5**
	4.2nm,0.5s						
PDGK	**Podgornoye**	**2.84**	**348**	Pg	**Pn**	**06 58 48.9**	**-1.4**
	3.5nm,0.5s						
PDGK				Lg	Lg	06 59 23.6	
	1.8nm,0.5s						
PDGK	**Podgornoye**	**2.84**	**348**	Pg	**Pn**	**06 58 48.5**	**-1.8**
	4.2nm,0.5s						
PDGK				Lg	Lg	06 59 24.0	
	3.6nm,0.5s						
SATY	**Saty**	**2.88**	**331**	Pg	**Pn**	**06 58 48.3**	**-2.6**
	7.4nm,0.4s						
SATY				Lg	Lg	06 59 22.7	
	8.8nm,0.4s						
SATY	**Saty**	**2.88**	**331**	⇓*i*P	**Pn**	**06 58 48.3**	**-2.6**
	7.4nm,0.4s						
SATY				⇑*i*S	**Sn**	**06 59 22.7**	**-1.7**
	8.8nm,0.4s						
KTMS	**Ketmen**	**2.89**	**0**	Pg	**Pn**	**06 58 51.3**	**+0.3**
	4.4nm,0.2s						
KTMS				Lg	Lg	06 59 27.5	
	4.5nm,0.3s						
KTMS	**Ketmen**	**2.89**	**0**	*e*P	**Pn**	**06 58 51.3**	**+0.3**
	4.4nm,0.2s						
KTMS				*e*S	**Sn**	**06 59 27.5**	**+2.9**
	4.5nm,0.3s						
KURS	**Kuram**	**3.34**	**332**	Pg	**Pn**	**06 58 56.4**	**-0.7**
	2.3nm,0.5s						
KURS				Lg	Lg	06 59 36.7	
	4.9nm,0.6s						
KURS	**Kuram**	**3.34**	**332**	*e*P	**Pn**	**06 58 56.4**	**-0.7**
	2.3nm,0.5s						
KURS				*e*S	**Sn**	**06 59 36.7**	**+1.1**
	4.9nm,0.6s						
TNSS	**Tian-Shan**	**3.54**	**316**	Pg	**Pn**	**06 58 59.4**	**-0.8**
	2.8nm,0.1s						
TNSS				Lg	Lg	06 59 41.7	
	3.9nm,0.3s						
TNSS	**Tian-Shan**	**3.54**	**316**	*e*P	**Pn**	**06 58 59.4**	**-0.8**
	2.8nm,0.1s						
TNSS				*e*S	**Sn**	**06 59 41.7**	**+0.8**
	3.9nm,0.3s						
MDOK	**Medeo**	**3.57**	**318**	⇑Pg	**Pn**	**06 58 59.6**	**-0.8**
	1.8nm,0.5s						
MDOK				⇑Lg	Lg	06 59 41.5	
	3.8nm,0.7s						
MDOK	**Medeo**	**3.57**	**318**	Pg	**Pn**	**06 59 00.4**	**0.0**
	2.5nm,0.3s						
MDOK				Lg	Lg	06 59 43.4	
	3.5nm,0.2s						
MDOK	**Medeo**	**3.57**	**318**	*e*P	**Pn**	**06 59 00.3**	**0.0**
	2.5nm,0.4s						
MDOK				*e*S	**Sn**	**06 59 43.4**	**+2.0**
	3.3nm,0.3s						
IZV	**Izvestkoviy**	**3.72**	**313**	Pg	**Pn**	**06 59 02.6**	**+0.2**
	166nm,0.2s						
IZV				Lg	Lg	06 59 47.4	
	3.3nm,0.3s						
IZV	**Izvestkoviy**	**3.72**	**313**	*e*P	**Pn**	**06 59 02.6**	**+0.2**
	62nm,0.1s						
IZV				*e*S	**Sn**	**06 59 47.4**	**+2.3**
	3.3nm,0.3s						

SOME 01 07:03:34.3, 41.83N×77.95E, h20km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.27**	**15**	*e*P	Pb	07 03 57.5	-0.2
	2.0nm,0.4s						
SATY				*e*S	Sb	07 04 15.0	+1.4
	3.9nm,0.2s						
KURS	**Kuram**	**1.66**	**6**	*e*P	Pb	07 04 05.0	+0.8
	1.2nm,0.2s						
KURS				*e*S	Sb	07 04 27.6	+2.8
	4.0nm,0.3s						
KTBS	**Karatobe**	**2.10**	**334**	*e*P	Pb	07 04 11.3	-0.4
	2.9nm,0.2s						
KTBS				*e*S	Sb	07 04 36.8	-0.5
	7.1nm,0.3s						
CHKK	**Chushkaly**	**2.14**	**341**	*e*P	Pb	07 04 11.6	-0.8
	5.1nm,0.4s						
CHKK				*e*S	Sb	07 04 36.8	-1.7
	13nm,0.2s						

NNC 01 07:03:54.2±1.6, 41.72N×78.10E, h4km±7km, mb3.4, mpv3.0, 2C-3D, Error ellipse: s-maj=11.6km s-min=7.0km az=172.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDOK	**Medeo**	**1.64**	**332**	Pg	Pb	07 04 25.4	+0.2
	2.6nm,0.5s						
MDOK				⇓Lg	Lg	07 04 48.1	
	4.1nm,0.5s						
KOTS	**Kotyrbulak**	**1.68**	**335**	P	Pn	07 04 25.0	+0.3
	5.6nm,0.3s						
KOTS				S	Sg	07 04 48.4	+0.1
	12nm,0.3s						
KURS	**Kuram**	**1.77**	**2**	P	Pn	07 04 25.7	-0.1
KURS				S	Sb	07 04 49.4	-0.6
	3.7nm,0.2s						
PDGK	**Podgornoye**	**1.91**	**32**	Pg	Pb	07 04 30.0	+0.2
	1.7nm,0.4s						
PDGK				Lg	Lg	07 04 56.1	
	4.0nm,0.5s						
KST	**Kastek**	**2.06**	**311**	Pg	Pn	07 04 30.6	+0.7
	8.8nm,0.4s						
KST				Lg	Lg	07 04 58.2	
	5.7nm,0.2s						
TKM2	**Tokmak 2**	**2.21**	**304**	⇓Pg	Pg	07 04 36.1	-0.5
	2.4nm,0.5s						
TKM2				⇑Lg	Lg	07 05 06.6	
	3.9nm,0.5s						
KTBS	**Karatobe**	**2.25**	**333**	Pg	Pb	07 04 34.4	-1.1
	7.3nm,0.3s						
KTBS				Lg	Lg	07 05 04.7	
	12nm,0.4s						
CHKK	**Chushkaly**	**2.29**	**339**	Pg	Pb	07 04 35.0	-1.1
	9.5nm,0.3s						
CHKK				Lg	Lg	07 05 06.1	
	18nm,0.3s						
DGS	**Degeres**	**2.30**	**312**	Pg	Pb	07 04 34.8	-1.6
	8.8nm,0.3s						
DGS				Lg	Lg	07 05 05.7	
	8.6nm,0.4s						
ARXS	**Arharly**	**2.50**	**356**	Pg	Pb	07 04 39.5	-0.4
	6.0nm,0.2s						
ARXS				Lg	Lg	07 05 13.4	
	11nm,0.3s						
KUU	**Kurty**	**2.53**	**330**	Pg	Pb	07 04 40.4	+0.1
	4.0nm,0.3s						
KUU				Lg	Lg	07 05 15.1	
	7.2nm,0.4s						
AAK	**Ala-Archa**	**2.83**	**290**	⇑Pg	Pb	07 04 45.4	-0.1
	0.9nm,0.4s						
AAK				⇓Lg	Lg	07 05 24.1	
	5.4nm,1.0s						
DJR	**Jarkent**	**2.89**	**25**	Pg	Pb	07 04 45.5	-1.0
	0.9nm,0.2s						
DJR				Lg	Lg	07 05 23.8	
	3.1nm,0.4s						

*ISCJB **01** 07:16:15.5±0.7, 45.91N±0.09×151.04E±0.09, h100km, mb3.6/10, Error ellipse: s-maj=14.6km s-min=4.6km az=145.6*
*MOS **01** 07:16:16.7±1.1, 45.98

SHO	**Shikotan**	**3.60**	**240**	⇓*i*	Pn	**Pn**	**07 17 10.4**	**+0.8**
SHO				*i* S	Sn	**Sn**	**07 17 48.1**	**-3.2**
SHO				pmax	pmax			
	comp=N,11nm,0.2s							
SHO				pmax	pmax			
	comp=E,12nm,0.2s							
SHO				pmax	pmax			
	comp=Z,19nm,0.2s							
SHO				smax	smax			
	comp=N,212nm,0.3s							
SHO				smax	smax			
	comp=E,227nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.13**	**248**	*e*P	Pn	**Pn**	**07 17 18.5**	**+1.7**
YUK				AMB	AMB		07 17 20.5	
	comp=E,10.0nm,0.2s							
YUK				*e*S	Sn	**Sn**	**07 18 04.0**	**-0.1**
YUK				A	A		07 18 10.7	
	comp=E,12nm,0.3s							
YUK				A	A		07 18 10.7	
	comp=E,24nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.13**	**248**	*e*PN	Pn	**Pn**	**07 17 18.5**	**+1.7**
YUK				*e*S	Sn	**Sn**	**07 18 04.3**	**+0.2**
YUK				pmax	pmax			
	comp=Z,101nm,0.2s							
YUK				pmax	pmax			
	comp=N,52nm,0.1s							
YUK				pmax	pmax			
	comp=E,26nm,0.1s							
YUK				smax	smax			
	comp=N,124nm,0.3s							
YUK				smax	smax			
	comp=E,242nm,0.2s							
LAGR	**Lagunnoye**	**4.17**	**248**	*e*P	Pn	**Pn**	**07 17 19.4**	**+2.1**
LAGR				AMB	AMB		07 17 20.4	
	comp=E,40nm,0.3s							
LAGR				*e*S	Sn	**Sn**	**07 18 04.5**	**-0.5**
LAGR				A	A		07 18 09.7	
	comp=E,29nm,0.3s							
LAGR				A	A		07 18 09.7	
	comp=E,27nm,0.3s							
LAGR	**Lagunnoye**	**4.17**	**248**	*e*PN	Pn	**Pn**	**07 17 19.4**	**+2.1**
LAGR				S	Sn	**Sn**	**07 18 04.1**	**-0.9**
LAGR				pmax	pmax			
	comp=N,22nm,0.1s							
LAGR				pmax	pmax			
	comp=E,27nm,0.1s							
LAGR				pmax	pmax			
	comp=Z,95nm,0.1s							
LAGR				smax	smax			
	comp=N,285nm,0.3s							
LAGR				smax	smax			
	comp=E,271nm,0.2s							
GRPR	**Tuman**	**4.21**	**248**	*e*P	Pn	**Pn**	**07 17 19.6**	**+1.8**
GRPR				AMB	AMB		07 17 21.9	
	comp=E,45nm,0.4s							
GRPR				*e*S	Sn	**Sn**	**07 18 06.0**	**+0.1**
GRPR				A	A		07 18 07.4	
	comp=E,24nm,0.3s							
GRPR				A	A		07 18 07.4	
	comp=E,20nm,0.3s							
GRPR	**Tuman**	**4.21**	**248**	*e*PN	Pn	**Pn**	**07 17 19.6**	**+1.8**
GRPR				*e*S	Sn	**Sn**	**07 18 06.0**	**+0.1**
GRPR				pmax	pmax			
	comp=N,38nm,0.1s							
GRPR				pmax	pmax			
	comp=E,432nm,0.1s							
GRPR				pmax	pmax			
	comp=Z,45nm,0.1s							
GRPR				smax	smax			
	comp=N,240nm,0.3s							
GRPR				smax	smax			
	comp=E,199nm,0.3s							
GLVR	**Golovnino**	**4.49**	**246**	*e*P	Pn	**Pn**	**07 17 23.6**	**+2.0**
GLVR				AMB	AMB		07 17 24.3	
	comp=E,32nm,0.2s							
GLVR				*e*S	Sn	**Sn**	**07 18 12.8**	**+0.1**
GLVR				A	A		07 18 16.2	
	comp=E,34nm,0.3s							
GLVR				A	A		07 18 16.2	
	comp=E,37nm,0.3s							
GLVR	**Golovnino**	**4.49**	**246**	*e*PN	Pn	**Pn**	**07 17 23.6**	**+2.0**
GLVR				*e*S	Sn	**Sn**	**07 18 12.8**	**+0.1**
GLVR				pmax	pmax			
	comp=Z,38nm,0.1s							
GLVR				pmax	pmax			
	comp=E,7.0nm,0.2s							
GLVR				pmax	pmax			
	comp=N,32nm,0.3s							
GLVR				smax	smax			
	comp=N,343nm,0.2s							
GLVR				smax	smax			
	comp=E,372nm,0.3s							
YSS	**Yuzh-Sakhalins**	**5.95**	**285**	*e*P	Pn	**Pn**	**07 17 43.6**	**+2.2**
YSS				AMB	AMB		07 17 44.2	
	comp=E,20nm,0.8s							
YSS	**Yuzh-Sakhalins**	**5.95**	**285**	*e*PN	Pn	**Pn**	**07 17 43.6**	**+2.2**
YSS				*e*S	Sn	**Sn**	**07 18 47.7**	**-0.4**
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS				MLR	MLR			
	comp=Z,100nm,15.0s							
PETK	**Petropavlovsk-**	**8.52**	**28**	P	Pn	**Pn**	**07 18 15.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=191,slow=15,SNR=9.5							
MJAR	**Matsushiro Arr**	**13.39**	**231**	P		**P**	**07 19 28.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=40,slow=13,SNR=5.1							
SEY	**Seymchan**	**17.25**	**2**	*e*P		**P**	**07 20 09.0**	**-1.2**
SEY	**Seymchan**	**17.25**	**2**	P		**P**	**07 20 09.0**	**-1.2**
SEY	**Seymchan**	**17.25**	**2**	P		**P**	**07 20 08.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=182,slow=9.7,SNR=7.4							
H11N2	**WAKE ISLAND Hy**	**29.00**	**148**	T		T	07 53 50.4	
	baz=337,slow=76,SNR=145							
H11N1	**WAKE ISLAND Hy**	**29.01**	**148**	T		T	07 53 48.2	
	baz=337,slow=76,SNR=100							
H11N3	**WAKE ISLAND Hy**	**29.02**	**148**	T		T	07 53 51.8	
	baz=337,slow=76,SNR=96							
H11S1	**WAKE ISLAND Hy**	**30.05**	**150**	T		T	07 55 06.5	
	baz=338,slow=76,SNR=150							
H11S3	**WAKE ISLAND Hy**	**30.06**	**150**	T		T	07 55 08.3	
	baz=338,slow=76,SNR=108							
H11S2	**WAKE ISLAND Hy**	**30.07**	**150**	T		T	07 55 07.9	
	baz=338,slow=76,SNR=92							
ILAR	**Eielson Array**	**38.18**	**38**	P		**P**	**07 23 25.9**	**+0.6**
	comp=Z,1.0nm,1.2s,baz=258,slow=6.7,SNR=5.6							
INK	**Inuvik**	**43.23**	**32**	P		**P**	**07 24 07.8**	**+1.3**
	comp=Z,1.5nm,0.7s,baz=301,slow=10,SNR=13							
MKAR	**Makanchi Array**	**46.21**	**297**	P		**P**	**07 24 28.8**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=62,slow=8.5,SNR=3.2							
YKA	**Yellowknife Ar**	**52.54**	**36**	P		**P**	**07 25 19.5**	**+1.1**
	comp=Z,0.3nm,0.6s,baz=297,slow=7.1,SNR=6.3							
FINES	**FINESS Array B**	**64.38**	**334**	P		**P**	**07 26 39.5**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=12,slow=9.8,SNR=3.8							
GEYT	**Alibeck**	**65.96**	**300**	P		**P**	**07 26 49.5**	**-1.8**
	comp=Z,0.9nm,0.4s,baz=53,slow=7.8,SNR=3.0							
NOA	**NORSAR Array B**	**68.74**	**340**	P		**P**	**07 27 07.8**	**-0.7**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**68.74**	**340**	P		**P**	**07 27 07.8**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=28,slow=6.1,SNR=3.5							
AKASG	**Malin Array Be**	**71.63**	**325**	P		**P**	**07 27 24.9**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=38,slow=6.6,SNR=2.4							
GERES	**GERESS Array B**	**78.76**	**333**	*e*P		**P**	**07 28 07.0**	**-0.3**
GERES	**GERESS Array B**	**78.76**	**333**	P		**P**	**07 28 07.0**	**-0.3**
GERES	**GERESS Array B**	**78.76**	**333**	P		**P**	**07 28 07.0**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=28,slow=6.9,SNR=3.9							
TXAR	**Lajitas Array**	**79.17**	**59**	P		**P**	**07 28 12.1**	**+2.3**
	comp=Z,0.5nm,0.4s,baz=299,slow=4.5,SNR=24							

IDC 01 07:34:15.0±4.4, 4°65S×139°99E, h0km, mb3.9/1, mb1 3.9/4, mb1mx3.6/27, mbtmp3.7/4, ML3.3/3, Error ellipse: s-maj=140.8km s-min=33.3km az=95.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.17**	**199**	Pn	Pn	07 38 03.4	-0.4
	0.1nm,0.3s,baz=20,slow=13,SNR=5.1						
WRA				Sn	Sn	07 40 56.8	-7.1
	0.1nm,0.3s,baz=15,slow=22,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.38**	**225**	Pn	Pn	07 38 43.4	-0.3
	0.1nm,0.3s,baz=40,slow=11,SNR=4.7						
FITZ				Sn	Sn	07 42 05.5	-16
	0.1nm,0.3s,baz=152,slow=18,SNR=2.8						
ASAR	**Alice Springs**	**19.80**	**197**	Pn	Pn	07 38 49.2	+0.6
	0.2nm,0.3s,baz=27,slow=8.1,SNR=16						
ASAR				Sn	S	07 42 25.9	-5.4
	0.1nm,0.3s,baz=14,slow=28,SNR=3.1						

MKAR	**Makanchi Array**	**72.09**	**322**	P		**P**	07 45 41.4	0.0
	0.9nm,0.8s,baz=112,slow=7.1,SNR=8.7							

*ISK **01** 07:35:51.9, 37°.52N×36°.34E, h12km, ML1.8/6*
*DDA **01** 07:35:51.8, 37°.56N×36°.36E, h5km±1km, ML2.5*
*ISCJB **01** 07:35:52.6±0.5, 37°.56N±0°.05×36°.35E±0°.03, h4km±4km, Error ellipse: s-maj=8.5km s-min=4.2km az=7.0*
ISC 01 07:35:51.9±0.9, 37°.54N±0°.06×36°.35E±0°.03, h6km±6km, n12, σ0°69/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.04**	**359**	*i* P	**Pg**	**07 35 53.1**	**-0.2**
ANDN				*i* S	**Sg**	**07 35 54.6**	**+0.3**
ANDN				IAML_P			
	comp=Z,97μm,0.1s						
KOZT	**Kozan**	**0.42**	**262**	PG	**Pg**	**07 36 00.3**	**+0.3**
KOZT				SG	**Sb**	**07 36 06.9**	**-1.4**
KMRS	**Kahramanmaras**	**0.44**	**95**	PG	**Pg**	**07 36 00.9**	**+0.5**
KMRS				SG	**Sb**	**07 36 08.0**	**-1.0**
SAIM	**ADANA**	**0.48**	**334**	*i* P	**Pg**	**07 36 01.4**	**+0.2**
SAIM				IAML_P			
	comp=Z,734nm,0.2s						
HCB	**Kahramanmara**	**0.49**	**114**	*i* P	**Pb**	**07 36 02.5**	**-0.4**
HCB				*i* S	**Sg**	**07 36 08.6**	**+0.9**
HCB				IAML_P			
	comp=Z,2μm,0.1s						
AKO	**Adana**	**0.72**	**264**	*i* P	**Pb**	**07 36 06.5**	**-0.4**
AKO				*i* S	**Sb**	**07 36 17.7**	**+0.7**
AKO				IAML_P			
	comp=Z,354nm,0.2s						
GAZ	**Gaziantep**	**0.78**	**118**	PG	**Pb**	**07 36 07.8**	**-0.1**
YAHY	**KAYSERI_Yahyal**	**0.95**	**306**	*i* P	Pg	07 36 04.5	-5.7
GZT	**Gaziantep**	**0.99**	**101**	*i* P	**Pn**	**07 36 12.8**	**+0.4**
GZT				*i* S	**Sn**	**07 36 25.8**	**-1.0**
GZT				IAML_P			
	comp=Z,582nm,0.1s						
DARE	**Darende-Malaty**	**1.36**	**41**	PN	**Pg**	**07 36 18.1**	**0.0**
DARE				SN	**Sn**	**07 36 36.3**	**+0.3**
BNN	**Bunyan**	**1.37**	**343**	PN	**Pg**	**07 36 18.6**	**+0.5**
URFA	**Urfa**	**1.97**	**92**	PN	**Pn**	**07 36 26.3**	**+0.4**

*KRNET **01** 07:39:47.9±0.1, 41°.76N×76°.24E, h13km, mb1.9*
*SOME **01** 07:39:47.0, 41°.62N×76°.23E, h20km*
*NNC **01** 07:39:47.2±0.9, 41°.71N×76°.25E, h2km±6km, mb2.9, mpv3.0, Error ellipse: s-maj=6.4km s-min=3.9km az=174.0*
ISC 01 07:39:48.1±1.2, 41.76N±0°.04×76°21E±0°.02, h13km±12km, n32, σ1§20/55, 20C-5D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.36**	**206**	⇑*i* P	**Pb**	**07 39 55.7**	**-0.8**
	baz=11						
NRN				⇑*i* S	**Sb**	**07 40 01.5**	**-0.6**
	baz=11						
ULHL	**Ulahol**	**0.49**	**3**	⇑*i* P	**Pg**	**07 39 57.4**	**-0.5**
	baz=0.0						
ULHL				⇑*i* S	**Sg**	**07 40 04.6**	**+0.1**
	baz=0.0						
BOOM	**Boomskoye usch**	**0.76**	**345**	⇑*i* P	**Pg**	**07 40 02.6**	**-0.3**
	baz=43						
BOOM				⇑*i* S	**Sg**	**07 40 13.4**	**+0.4**
	baz=43						
KZA	**Kyzart**	**0.79**	**295**	⇓*i* P	**Pb**	**07 40 03.5**	**-0.3**
	baz=93						
KZA				⇓*i* S	**Sb**	**07 40 14.8**	**+0.3**
	baz=93						
KDJ	**Kajisay**	**0.82**	**62**	⇑*i* P	**Pb**	**07 40 03.4**	**-0.8**
	baz=63						
KDJ				⇑*i* S	**Sb**	**07 40 14.7**	**-0.5**
	baz=63						
TKM2	**Tokmak 2**	**1.25**	**339**	⇓P	**Pb**	**07 40 11.7**	**+0.1**
	0.6nm,0.5s						
TKM2				⇑S	**Sg**	**07 40 29.4**	**+0.9**
	0.8nm,0.3s						
TKM2	**Tokmak 2**	**1.25**	**339**	⇑*i* P	**Pb**	**07 40 11.7**	**+0.1**
	baz=38						
TKM2				⇑*i* S	**Sg**	**07 40 29.2**	**+0.7**
	baz=38						
UCH	**Uchtor**	**1.35**	**291**	⇑*i* P	**Pg**	**07 40 13.9**	**-0.2**
	baz=90						
UCH				⇑*i* S	**Sg**	**07 40 33.0**	**+1.3**
	baz=90						
TNSS	**Tian-Shan**	**1.39**	**23**	P	**Pn**	**07 40 13.4**	**-0.1**
	2.3nm,0.1s						
TNSS				S	**Sb**	**07 40 32.3**	**+0.3**
	2.0nm,0.1s						
TNSS	**Tian-Shan**	**1.39**	**23**	*e*P	**Pn**	**07 40 13.4**	**-0.1**
	2.3nm,0.1s						
TNSS				*e*S	**Sb**	**07 40 32.3**	**+0.3**
	2.0nm,0.1s						
AAK	**Ala-Archa**	**1.55**	**305**	⇑P	**Pn**	**07 40 15.8**	**+0.3**
	0.6nm,0.3s						
AAK				⇑S	**Sg**	**07 40 37.7**	**-0.3**
	2.2nm,0.8s						
AAK	**Ala-Archa**	**1.55**	**305**	⇑*i* P	**Pg**	**07 40 17.3**	**-0.6**
	baz=5.0						
AAK				⇑*i* S	**Sg**	**07 40 38.6**	**+0.6**
	baz=5.0						
KOTS	**Kotyrbulak**	**1.62**	**24**	P	**Pg**	**07 40 18.4**	**-0.9**
	10nm,0.7s						
KOTS				S	**Sg**	**07 40 41.1**	**+0.7**
	4.9nm,0.5s						
KOTS	**Kotyrbulak**	**1.62**	**24**	*e*P	**Pg**	**07 40 18.4**	**-0.9**
	10nm,0.7s						
KOTS				*e*S	**Sg**	**07 40 41.1**	**+0.7**
	4.9nm,0.5s						
USP	**Ospenovka**	**1.97**	**321**	⇓*i* P	**Pb**	**07 40 24.7**	**+0.9**
	baz=20						
USP				⇓*i* S	**Sg**	**07 40 51.5**	**+0.1**
	baz=20						
KTBS	**Karatobe**	**1.99**	**10**	Pg	**Pg**	**07 40 25.1**	**-1.1**
	6.1nm,0.1s						
KTBS				Lg	Lg	07 40 52.3	
	3.2nm,0.2s						
KTBS	**Karatobe**	**1.99**	**10**	*e*P	**Pg**	**07 40 25.1**	**-1.1**
	6.1nm,0.1s						
KTBS				*e*S	**Sg**	**07 40 52.3**	**+0.3**
	3.2nm,0.2s						
EKS2	**Erkin-Say**	**2.02**	**297**	⇑*i* P	**Pb**	**07 40 25.6**	**+0.9**
	baz=97						
EKS2				⇑*i* S	**Sg**	**07 40 53.1**	**0.0**
	baz=97						
SGDS	**Sogindy**	**2.06**	**326**	Pg	**Pg**	**07 40 26.6**	**-0.9**
	2.2nm,0.1s						
SGDS				Lg	Lg	07 40 54.7	
	1.6nm,0.3s						
SATY	**Saty**	**2.08**	**51**	Pg	**Pb**	**07 40 24.7**	**-1.1**
	3.8nm,0.2s						
SATY				Lg	Lg	07 40 51.9	
	11nm,0.1s						
SATY	**Saty**	**2.08**	**51**	*e*P	**Pb**	**07 40 24.8**	**-1.1**
	3.8nm,0.2s						
SATY				*e*S	**Sb**	**07 40 51.9**	**+0.3**
	11nm,0.1s						
KUU	**Kurty**	**2.14**	**3**	Pg	**Pg**	**07 40 28.2**	**-0.9**
	2.3nm,0.2s						
KUU				Lg	Lg	07 40 57.8	
	4.1nm,0.4s						
KUU	**Kurty**	**2.14**	**3**	⇑*i* P	**Pg**	**07 40 28.2**	**-0.9**
	2.3nm,0.2s						
KUU				*e*S	**Sg**	**07 40 57.8**	**+1.0**
	4.1nm,0.4s						
CHKK	**Chushkaly**	**2.17**	**15**	Pg	**Pb**	**07 40 27.5**	**+0.2**
	3.8nm,0.2s						
CHKK				Lg	Lg	07 40 56.7	
	4.5nm,0.2s						
CHKK	**Chushkaly**	**2.17**	**15**	*e*P	**Pb**	**07 40 27.5**	**+0.2**
	3.8nm,0.2s						
CHKK				*e*S	**Sg**	**07 40 56.7**	**-1.3**
	4.5nm,0.2s						
UZB	**Uzynbulak**	**2.50**	**55**	Pg	**Pb**	**07 40 32.8**	**-0.2**
	2.1nm,0.3s						
UZB				Lg	Lg	07 41 05.8	
	2.3nm,0.4s						
UZB	**Uzynbulak**	**2.50**	**55**	*e*P	**Pb**	**07 40 32.8**	**-0.2**
	2.2nm,0.2s						
UZB				*e*S	**Sg**	**07 41 05.8**	**-2.8**
	2.8nm,0.3s						
ARXS	**Arharly**	**2.73**	**25**	Pg	**Pb**	**07 40 37.2**	**+0.4**
	3.1nm,0.5s						
ARXS				Lg	Lg	07 41 13.2	
	3.5nm,0.5s						

ARXS	**Arharly**	**2.73**	**25**	*e*P		**Pb**	**07 40 37.2**	**+0.4**
	3.1nm,0.5s							
ARXS				*e*S		**Sg**	**07 41 13.2**	**-2.5**
	3.5nm,0.5s							
SHLS	**Shalkode**	**2.79**	**59**	Pg		**Pg**	**07 40 43.1**	**+1.6**
	2.8nm,0.2s							
SHLS				Lg		Lg	07 41 23.4	
	3.4nm,0.3s							
SHLS	**Shalkode**	**2.79**	**59**	*e*P		**Pg**	**07 40 43.0**	**+1.6**
	2.0nm,0.2s							
SHLS				*e*S		**Sg**	**07 41 23.3**	**+5.8**
	3.5nm,0.5s							
PDGK	**Podgornoye**	**2.89**	**56**	Pg		**Pb**	**07 40 39.1**	**-0.4**
	0.5nm,0.3s							
PDGK				Lg		Lg	07 41 16.6	
	1.1nm,0.3s							

*IDC **01** 07:50:21.3±0.5, 42°.49N×111°.08W, h0km, mb3.9/5, mb1 3.9/13, mb1mx3.7/50, mbtmp3.7/13, ML3.1/7, MS2.9/2, Ms1 2.9/2, ms1mx2.6/43, Error ellipse: s-maj=11.2km s-min=4.9km az=159.0*
*ANF **01** 07:50:22.4±0.9, 42°.55N×111°.04W, ML4.1/12, Error ellipse: s-maj=4.5km s-min=3.5km az=114.0*
*NEIC **01** 07:50:23.3±0.2, 42°.57N×110°.97W, h5km, mb4.0/16, MW3.9, Error ellipse: s-maj=2.8km s-min=2.3km az=87.0, Moment Tensor Solution. s49 Moment tensor: Scale 10^{14}Nm; M_{rr}-5.06; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$5.77; $M_{r\theta}$-0.25; $M_{\theta\phi}$-0.84; $M_{\phi r}$-5.30; Best double couple: $M_0$7.70000×10^{14} NP1:ϕ_s163.00000°,δ24.00000°,λ-106.00000°. NP2: ϕ_s0.00000°,δ67.00000°,λ-83.00000°. Principal axes: T 7.9900, Plg22.0000°, Azm85.0000°; N -0.7200, Plg6.0000°, Azm178.0000°; P -7.2700, Plg67.0000°, Azm282.0000°;*
NEIC Felt [II] at Afton. Also felt at Cokeville and Smoot. Felt [III] at Blackfoot, Idaho. Also felt at Preston. Felt at Logan, Utah.
ISC 01 07:50:22.3±1.1, 42°57N±0°.02×111°14W±0°.02, h1km±8km, n194, σ1§64/222, mb4.2/14, Eastern Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHID	**Auburn Hatcher**	**0.20**	**9**	*e*Pg	**Pg**	**07 50 26.8**	**+0.7**
AHID				*e*Sg	**Sg**	**07 50 30.2**	**+1.5**
REDW	**Red Top Meadow**	**0.82**	**15**	*e*Pg	**Pg**	**07 50 38.0**	**0.0**
TPAW	**Teton Pass**	**0.93**	**9**	*e*Pg	**Pg**	**07 50 39.7**	**-0.5**
TPAW				*e*Sn	**Sb**	**07 50 53.3**	**-1.0**
SNOW	**Snow King Moun**	**0.93**	**18**	*e*Pg	**Pg**	**07 50 40.1**	**-0.1**
SNOW				*e*Sn	**Sn**	**07 50 55.0**	**-2.0**
HWUT	**Hardware Ranch**	**1.02**	**198**	*e*Pg	**Pg**	**07 50 40.7**	**-1.1**
HWUT				*e*Sg	**Sb**	**07 50 55.5**	**-1.2**
FXWY	**Fox Creek**	**1.07**	**4**	*e*Pg	**Pg**	**07 50 42.9**	**0.0**
FXWY				*e*Sn	**Sn**	**07 50 59.8**	**-0.4**
LOHW	**Long Hollow**	**1.11**	**21**	*e*Pg	**Pg**	**07 50 43.4**	**-0.2**
LOHW				*e*Sn	**Sn**	**07 50 59.7**	**-1.6**
BW06	**Boulder Array**	**1.18**	**80**	*e*Pg	**Pb**	**07 50 43.5**	**-2.2**
BW06	**Boulder Array**	**1.18**	**80**	P	**Pb**	**07 50 44.2**	**-1.5**
	baz=259						
BW06				S	**Sg**	**07 50 59.8**	**-0.6**
	baz=259						
PD31	**Pinedale Array**	**1.18**	**80**	*e*Pg	**Pb**	**07 50 44.2**	**-1.5**
PDAR	**Pinedale Array**	**1.18**	**80**	*e*Pg	**Pb**	**07 50 43.4**	**-2.3**
PDAR				Lg	Lg	07 50 59.7	
PDAR	**Pinedale Array**	**1.18**	**80**	Pg	**Pb**	**07 50 43.1**	**-2.6**
	362nm,0.3s,baz=261,slow=14,SNR=6990						
PDAR				Lg	Lg	07 50 59.7	
	216nm,0.3s,baz=247,slow=16,SNR=16						
MOOW	**Moose Ponds**	**1.21**	**14**	*e*Pg	**Pb**	**07 50 45.1**	**-1.0**
MOOW				*e*Sn	**Sg**	**07 51 01.9**	**+0.6**
IMW	**Indian Meadow**	**1.33**	**6**	*e*Pn	**Pn**	**07 50 47.4**	**-0.9**
IMW				*e*Sn	**Sg**	**07 51 06.0**	**+0.9**
HVU	**Hansel Valley**	**1.45**	**237**	*e*Pn	**Pn**	**07 50 48.9**	**-1.0**
HVU				*e*Sn	**Sb**	**07 51 08.7**	**-0.5**
TCUT	**Toone Canyon**	**1.47**	**188**	*e*Pn	**Pb**	**07 50 49.8**	**-0.7**
TCUT				*e*Sn	**Sg**	**07 51 11.0**	**+1.5**
FLWY	**Flagg Ranch**	**1.54**	**12**	*e*Pn	**Pn**	**07 50 50.5**	**-0.7**
FLWY				*e*Sn	**Sg**	**07 51 11.9**	**0.0**
SPUT	**South Promonto**	**1.60**	**218**	*e*Pn	**Pn**	**07 50 51.1**	**-0.7**
SPUT				*e*Sn	**Sb**	**07 51 12.9**	**-0.5**
YPP	**Pitchstone Pla**	**1.71**	**8**	*e*Pn	**Pb**	**07 50 53.7**	**-1.1**
H17A	**Grant Village**	**1.87**	**13**	*e*Pn	**Pn**	**07 50 55.6**	**0.0**
H17A				*e*Sn	**Sg**	**07 51 22.2**	**-0.1**
H17A	**Grant Village**	**1.87**	**13**	P	**Pn**	**07 50 55.8**	**+0.2**
	baz=190						
H17A				S	**Sg**	**07 51 22.2**	**-0.1**
	baz=190						
YFT	**Old Faithful**	**1.89**	**7**	*e*Pn	**Pb**	**07 50 57.2**	**-0.6**
CTU	**Camp Tracy**	**1.93**	**194**	*e*Pn	**Pn**	**07 50 56.1**	**-0.3**
CTU				*e*Sn	**Sg**	**07 51 23.3**	**-1.1**
JLU	**Jordanelle**	**1.98**	**187**	*e*Pn	**Pb**	**07 50 57.4**	**-1.9**
JLU				*e*Sn	**Sb**	**07 51 24.6**	**0.0**
LKWY	**Lake**	**2.06**	**15**	*e*Pn	**Pb**	**07 50 59.2**	**-1.5**
YMR	**Madison River**	**2.10**	**3**	*e*Pn	**Pn**	**07 50 59.5**	**+0.6**
YNR	**Norris Junctio**	**2.17**	**9**	*e*Pn	**Pb**	**07 51 00.8**	**-1.7**
BGU	**Big Grassy Mou**	**2.17**	**221**	*e*Pn	**Pn**	**07 50 58.8**	**-0.9**
BGU				*e*Sn	**Sb**	**07 51 30.3**	**+0.4**
YHB	**Horse Butte**	**2.18**	**359**	*e*Pn	**Pn**	**07 50 59.8**	**-0.1**
YHH	**Holmes Hill**	**2.23**	**5**	*e*Pn	**Pn**	**07 51 01.0**	**+0.4**
QLMT	**Earthquake Lak**	**2.27**	**355**	*e*Pn	**Pn**	**07 51 01.7**	**+0.6**
MCMT	**McKenzie Canyo**	**2.27**	**332**	*e*Pn	**Pn**	**07 51 06.1**	**+0.8**
MPU	**Maple Canyon**	**2.58**	**188**	*e*Pn	**Pn**	**07 51 05.1**	**-0.3**
MPU				*e*Pg	**Pg**	**07 51 13.2**	**+1.4**
HLID	**Hailey**	**2.59**	**294**	*e*Pn	**Pn**	**07 51 05.9**	**+0.4**
HLID				*e*Sn	**Sb**	**07 51 40.2**	**-2.0**
HLID	**Hailey**	**2.59**	**294**	P	**Pn**	**07 51 06.0**	**+0.4**
	baz=111						
HLID				S	**Sb**	**07 51 43.1**	**+1.0**
	baz=111						
DUG	**Dugway, Tooele**	**2.69**	**208**	*e*Pn	**Pn**	**07 51 06.6**	**-0.2**
DUG	**Dugway, Tooele**	**2.69**	**208**	P	**Pn**	**07 51 06.5**	**-0.4**
	baz=29						
NLU	**North Lily Min**	**2.71**	**195**	*e*Pn	**Pn**	**07 51 06.9**	**-0.2**
RLMT	**Red Lodge**	**2.89**	**27**	*e*Pn	**Pn**	**07 51 11.0**	**+1.3**
RLMT				*e*Sn	**Sb**	**07 51 52

PV16	Nyswonger Mesa	4.58	158	ePn		Pn	07 51 32.4	-0.5
MTPU	Mount Pierson	4.60	190	ePn		Pn	07 51 33.6	+0.3
PV17	East Wray Mesa	4.60	158	ePn		Pn	07 51 32.6	-0.6
PV11	David Mesa, Pa	4.61	157	ePn		Pn	07 51 33.0	-0.3
PV12	Saucer Basin,	4.61	156	ePn		Pn	07 51 33.0	-0.3
SMCO	Snowmass	4.63	136	ePn		Pn	07 51 32.9	-0.9
PV03	Paradox Valley	4.66	157	ePn		Pn	07 51 33.5	-0.4
PV15	Paradox Valley	4.69	153	ePn		Pn	07 51 34.3	-0.1
PV02	Paradox Valley	4.73	156	ePn		Pn	07 51 34.3	-0.7
PV13	Radium Mtn., P	4.75	157	ePn		Pn	07 51 34.8	-0.5
PV01	Paradox Valley	4.85	155	ePn		Pn	07 51 36.1	-0.5
ISCO	Idaho Springs	5.01	122	ePn		Pn	07 51 38.0	-0.8
ISCO	Idaho Springs	5.01	122	P		Pn	07 51 39.0	+0.1
	baz=306							
BMO	Blue Mountains	5.02	299	ePn		Pn	07 51 40.2	+1.4
BMN	Battle Mountai	5.04	247	ePn		Pn	07 51 39.1	-0.1
SZCU	Shurtz Canyon	5.19	197	ePn		Pn	07 51 43.9	+2.6
PKCU	Pink Cliffs	5.20	190	ePn		Pn	07 51 43.2	+1.7
CCUT	Cedar City	5.30	199	ePn		Pn	07 51 44.7	+1.9
LAO	LASA Array	5.41	39	ePn		Pn	07 51 44.4	+0.3
LAO	LASA Array	5.41	39	P		Pn	07 51 45.0	+0.9
	baz=221							
RSSD	Black Hills	5.41	71	ePn		Pn	07 51 43.3	-1.0
RSSD	Black Hills	5.41	71	P		Pn	07 51 43.2	-1.0
	baz=255							
R11A	Troy Canyon, C	5.41	220	ePn		Pn	07 51 46.5	+2.2
R11A	Troy Canyon, C	5.41	220	P		Pn	07 51 45.5	+1.2
	baz=38							
J08A	Circle Bar Ran	5.44	281	ePn		Pn	07 51 48.1	+3.5
F10A	Beach Ranch, E	5.54	310	ePn		Pn	07 51 48.9	+3.0
KNB	Kanab	5.70	194	ePn		Pn	07 51 50.0	+1.7
MVCO	Mesa Verde	5.73	158	ePn		Pn	07 51 48.7	0.0
MVCO	Mesa Verde	5.73	158	P		Pn	07 51 48.7	0.0
	baz=341							
Q24A	Divide	5.80	126	ePn		Pn	07 51 50.0	+0.2
Q24A				ePg		Pb	07 52 06.8	+2.3
S22A	4UR Ranch, Cre	5.84	144	ePn		Pn	07 51 49.4	-0.9
U15A	North Rim	6.20	189	ePn		Pn	07 51 57.5	+2.3
G08A	Pilot Rock	6.26	298	ePn		Pn	07 51 59.7	+3.8
G08A				eSg		Sg	07 53 40.8	-2.7
I07A	Izee	6.28	287	ePn		Pn	07 51 59.4	+3.2
I07A				eSg		Sg	07 53 45.6	+1.5
KVN	Kaiserville	6.34	239	ePn		Pn	07 51 57.5	+0.3
SDCO	Great Sand Dun	6.47	136	ePn		Pn	07 51 57.2	-1.8
SDCO	Great Sand Dun	6.47	136	P		Pn	07 51 58.5	-0.5
	baz=320							
NV11	Mina Array Sit	6.76	235	ePn		Pn	07 52 06.1	+3.3
WALA	Waterton Lakes	6.77	344	ePn		Pn	07 52 04.6	+1.7
SHPR	Sheep Range	6.81	208	ePn		Pn	07 52 06.5	+3.0
NV01	Mina Array Sit	6.85	235	ePn		Pn	07 52 05.8	+1.8
NVAR	Mina Array Bea	6.85	235	Pn		Pn	07 52 05.6	+1.5
	0.6nm,0.3s,baz=40,slow=12,SNR=32							
NVAR				Lg		Lg	07 53 57.4	
	2.3nm,0.3s,baz=54,slow=28,SNR=3.3							
PAHR	Pah Rah Range	6.85	248	ePn		Pn	07 52 07.3	+3.3
TPNV	Topopah Spring	6.86	217	ePn		Pn	07 52 06.9	+2.7
TPNV	Topopah Spring	6.86	217	P		Pn	07 52 07.3	+3.2
	baz=34							
RYN	Ryan	6.86	237	ePn		Pn	07 52 07.5	+3.3
OGNE	Ogallala	7.00	100	ePn		Pn	07 52 04.3	-1.8
OGNE	Ogallala	7.00	100	P		Pn	07 52 04.8	-1.3
	baz=286							
WUAZ	Wupatki	7.05	182	ePn		Pn	07 52 06.7	-0.1
WUAZ	Wupatki	7.05	182	P		Pn	07 52 08.0	+1.3
	baz=2.0							
NEW	Newport	7.08	326	ePn		Pn	07 52 11.1	+4.1
NEW				Lg		Lg	07 54 04.3	
NEW	Newport	7.08	326	Pn		Pn	07 52 08.2	+1.2
	0.1nm,0.3s,baz=140,slow=14,SNR=6.7							
NEW				Lg		Lg	07 54 04.3	
	1.0nm,0.3s,baz=64,slow=22,SNR=9.1							
HAWA	Hanford	7.11	305	ePn		Pn	07 52 11.4	+3.9
YERR	Yerington	7.12	242	ePn		Pn	07 52 08.6	+0.9
VCNR	Virginia City	7.23	246	ePn		Pn	07 52 10.6	+1.4
PINE	Pine Mountain	7.27	283	ePn		Pn	07 52 14.6	+4.8
PNTR	Pine Nut	7.30	244	ePn		Pn	07 52 12.4	+2.2
PNTR				ePg		Pg	07 52 40.2	-1.9
KSCO	Kaye Shedlock'	7.37	116	ePn		Pn	07 52 11.0	-0.2
KSCO				ePg		Pg	07 52 38.6	-5.0
E07A	Sunnyside	7.39	306	ePn		Pn	07 52 14.6	+3.4
BEKR	Beckworth	7.46	252	ePn		Pn	07 52 13.4	+1.0
T25A	Trinidad	7.50	134	ePn		Pn	07 52 13.8	+0.9
WAKR	Walker	7.51	240	ePn		Pn	07 52 15.8	+2.6
W18A	Petrified Fore	7.52	171	ePn		Pn	07 52 15.6	+2.3
DGMT	Dagmar	7.65	37	ePn		Pn	07 52 16.0	+1.1
RUBR	Rubicon Trail	7.69	246	ePn		Pn	07 52 15.9	+0.3
RUBR				ePg		Pg	07 52 46.7	-2.9
OMMB	Old Mammoth Mi	7.80	233	ePn		Pn	07 52 19.7	+2.5
MDPB	Devils Postpil	7.83	234	ePn		Pn	07 52 23.0	+5.4
MDPB				ePg		Pg	07 52 49.5	-2.9
X18A	Snowflake	8.09	173	ePn		Pn	07 52 22.8	+1.8
B08A	Colville Reser	8.16	318	ePn		Pn	07 52 23.6	+1.7
LTY	Liberty	8.22	308	ePn		Pn	07 52 25.5	+2.7
AFDM	Forest Hills D	8.29	247	ePn		Pn	07 52 28.5	+4.8
ORV	Oroville	8.39	252	ePn		Pn	07 52 28.6	+3.6
ORV				ePg		Pg	07 53 03.1	+0.1
CMB	Columbia Colle	8.39	240	ePn		Pn	07 52 30.5	+5.4
CMB				ePg		Pg	07 52 58.7	-4.3
ANMO	Albuquerque	8.45	153	ePn		Pn	07 52 25.5	-0.5
ANMO				Lg		Lg	07 54 40.8	
ANMO	Albuquerque	8.45	153	Pn		Pn	07 52 24.3	-1.7
	0.1nm,0.3s,baz=326,slow=12,SNR=6.4							
ANMO				Lg		Lg	07 54 40.8	
	1.2nm,0.3s,baz=142,slow=17,SNR=4.3							
YBH	Yreka Blue Hor	8.64	268	Pn		Pn	07 52 31.3	+2.9
	0.0nm,0.3s,baz=163,slow=19,SNR=2.7							
LON	Longmire	8.67	302	ePn		Pn	07 52 30.9	+2.0
CBKS	Cedar Bluff	9.44	110	ePn		Pn	07 52 37.6	-1.8
MDND	Maddock	9.70	53	ePn		Pn	07 52 42.5	-0.4
BGNE	Belgrade	9.74	92	ePn		Pn	07 52 44.0	+0.5
PFO	Pinyon Flats O	9.88	207	ePn		Pn	07 52 46.5	+1.0
PFO	Pinyon Flats O	9.88	207	Pn		Pn	07 52 44.6	-0.9
	0.1nm,0.3s,baz=176,slow=19,SNR=2.1							
ECSD	EROS Data Cent	10.68	79	ePn		Pn	07 52 53.3	-3.1
KSU1	Kansas State U	11.54	103	ePn		Pn	07 53 08.4	+0.2
AGMN	Agassiz Nation	12.16	57	ePn		Pn	07 53 13.5	-3.0
WMOK	Wichita Mounta	12.42	125	ePn		Pn	07 53 20.1	-0.2
ULM	Lac du Bonnet	13.02	49	ePn		Pn	07 53 24.8	-3.5
ULM	Lac du Bonnet	13.02	49	Pn		Pn	07 53 24.6	-3.7
	0.6nm,0.3s,baz=238,slow=12,SNR=11							
SPMN	Marine on St.	13.49	72	ePn		Pn	07 53 30.9	-3.8
I39A	Houston	14.37	78	ePn		Pn	07 53 43.6	-3.1
TX31	Lajitas Ar. Si	14.52	153	ePn		Pn	07 53 49.5	+0.4
TXAR	Lajitas Array	14.52	153	Pn		Pn	07 53 49.0	0.0
	0.0nm,0.3s,baz=341,slow=12,SNR=6.7							
HHAR	Hobbs	14.69	110	ePn		Pn	07 53 47.8	-3.4
I42A	Draeger Farm,	16.25	78	ePn		Pn	07 54 09.7	-2.0
	35nm,1.1s							
WHAR	Wooly Hollow	16.35	110	ePn		P	07 54 15.8	-0.2
	4.3nm,0.7s							
X40A	Basin Creek Fa	16.42	113	ePn		P	07 54 14.6	-2.2
	6.8nm,0.8s							
W41B	Gary Mavity, V	16.44	110	ePn		Pn	07 54 10.9	-3.4
	8.2nm,0.9s							
WVT	Waverly	19.11	102	eP		Pn	07 54 49.1	+1.8
	4.8nm,0.9s							
FCC	Fort Churchill	19.38	27	eP		Pn	07 54 51.3	+0.9
	1.3nm,0.8s							
WRAK	Wrangell Islan	19.42	323	eP		Pn	07 54 50.6	-0.2
	22nm,1.1s							
YKA	Yellowknife Ar	20.06	355	P		P	07 54 56.4	-0.2
	1.3nm,0.7s,baz=170,slow=9.8,SNR=29							
YKB5	Yellowknife Ar	20.06	355	eP		Pn	07 54 56.8	-1.6
Y49A	Blount Mountai	21.23	106	eP		P	07 55 12.4	+2.8
	7.7nm,1.1s							
LRAL	Lakeview Retre	21.26	109	eP		P	07 55 11.9	+2.0
	12nm,1.1s							
V51A	Loudon	21.78	99	eP		P	07 55 14.8	-0.7
	8.9nm,0.8s							
TKL	Tuckaleechee C	22.27	99	P		P	07 55 19.1	-1.6
	4.1nm,1.0s,baz=288,slow=3.2,SNR=2.6							
WHY	Whitehorse	23.12	330	eP		P	07 55 31.6	+2.0
	1.6nm,0.8s							
SADO	Sadowa	23.17	74	LR		LR	08 03 54.2	
	comp=Z,23nm,19.6s,baz=328,slow=35							
SSPA	Standing Stone	24.85	83	eP		P	07 55 45.6	-0.6
NHSC	New Hope	26.09	101	eP		P	07 55 59.1	+1.6
	11nm,1.0s							
N59A	State Game Lan	26.33	82	eP		P	07 55 58.1	-1.5
	6.5nm,1.0s							
DAWY	Dawson	26.93	333	eP		P	07 56 06.0	+1.1
	1.0nm,0.8s							
RC01	Rabbit Creek A	29.58	322	eP		P	07 56 29.0	+0.6
	2.7nm,1.0s							
ILAR	Eielson Array	30.01	330	P		P	07 56 33.2	+1.0
	0.6nm,0.7s,baz=113,slow=8.3,SNR=9.9							
ILB	Eielson Array	30.01	330	eP		P	07 56 33.1	+1.0
	2.6nm,1.1s							
SCHQ	Schefferville	31.17	51	P		P	07 56 40.9	-1.7
	3.0nm,0.9s,baz=266,slow=14,SNR=3.6							
PEA1	Petropavlovsk-	58.08	315	eP		P	08 00 16.2	-0.6
PETK	Petropavlovsk-	58.08	315	P		P	08 00 16.2	-0.6
	1.7nm,0.4s,baz=40,slow=7.6,SNR=5.5							
HHC	Hu-ho-hao-te	88.43	329	eP		P	08 03 16.8	+0.6
HHC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,210nm,6.0s							
WMQ	Urumqi	92.35	346	eP		P	08 03 36.0	+1.6
WMQ				sP		sP	08 03 45.0	+8.9
LZH	Lanzhou	95.45	332	eP		P	08 03 48.0	-0.9
LZH				pP		PcP	08 03 49.7	+0.5
LZH				sP		pP	08 03 50.5	+0.3
LZH				PP		PP	08 07 39.2	+0.8
LZH				pmax		pmax		
	comp=Z,14nm,1.4s							
LZH				pmax		pmax		
	comp=Z,79nm,5.5s							
WR1	Warramunga Arr	121.13	271	ePKPdf		PKPdf	08 09 15.1	-2.0
WRA	Warramunga Arr	121.13	271	PKP		PKPdf	08 09 15.1	-2.0
	comp=Z,0.5nm,0.6s,baz=62,slow=1.8,SNR=5.5							
ASAR	Alice Springs	123.70	268	PKP		PKiKP	08 09 21.4	-0.8
	comp=Z,0.3nm,0.6s,baz=91,slow=3.1,SNR=5.4							

*ASRS **01** 07:58:11.7,53°.68N×91°.12E,M3.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **01** 07:58:12.5±3.2,53°.74N×90°.91E,h0km, mb1 3.7/3, mb1mx3.3/40, mbtmp3.7/3, ML2.9/3, Error ellipse: s-maj=27.4km s-min=23.5km az=41.0*
*NNC **01** 07:58:19.9±2.4,53°.30N×90°.36E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=19.8km s-min=14.6km az=79.0, Suspected Mining explosion.*

ISC 01 07:57:57.9±3.9, 52°.02N±0°.07×90°.6E±0°.2, h0km, n8, σ1§08/10, 3C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	4.01	301	⇑Pn		Pg		07 59 14.3	-0.5
	44nm,0.8s								
ZAA0				Lg		Lg		08 00 06.6	
	129nm,0.9s								
ZALV	Zalesovo Beam	4.01	301	Pn		Pb		07 59 09.9	+0.5
	0.5nm,0.3s,baz=91,slow=12,SNR=3.6								
ZALV				Lg		Lg		08 00 05.8	
	2.6nm,0.3s,baz=86,slow=25,SNR=5.2								
MK31	Makanchi Array	7.54	229	⇓Pn		Pg		08 00 21.9	-0.5
	0.9nm,0.6s,baz=37,slow=14,SNR=19								
MK31				⇓Sn		Sg		08 01 58.5	-1.5
	6.8nm,0.9s,baz=40,slow=21,SNR=4.4								
MK31				⇑Lg		Lg		08 02 44.0	
	24nm,0.8s,baz=38,slow=33,SNR=5.4								
MKAR	Makanchi Array	7.54	229	Pn		Pg		08 00 22.5	+0.1
	0.6nm,0.3s,baz=33,slow=12,SNR=16								
MKAR				Sn		Sg		08 02 01.5	+1.5
	0.3nm,0.3s,baz=28,slow=21,SNR=5.8								
MKAR				Lg		Lg		08 02 50.7	
	0.2nm,0.3s,baz=32,slow=27,SNR=4.2								
KURBB	Kurchatov Arra	7.71	264	Pn		Pb		08 00 12.4	-0.1
	15nm,0.9s								
KURBB				⇓Sn		Sb		08 01 43.8	-1.0
	102nm,0.8s								
KURBB				⇑Lg		Lg		08 02 27.9	
	111nm,0.8s								
KURBB	Kurchatov Arra	7.71	264	Pn		Pb		08 00 12.7	+0.2
	0.3nm,0.3s,baz=64,slow=14,SNR=13								
KURBB				Sn		Sb		08 01 46.2	+1.3
	0.1nm,0.3s,baz=66,slow=26,SNR=11								
KURBB				Lg		Lg		08 02 31.3	
	0.1nm,0.3s,baz=68,slow=33,SNR=5.6								
SONM	Songino Array	10.98	106	Lg		Lg		08 04 07.6	
	0.2nm,0.3s,baz=297,slow=26,SNR=8.2								
I34MN	SONGINO INFRAS	11.01	106	*i*				09 06 00.0	
	baz=308,slow=335,SNR=0.7								

*IDC **01** 08:06:49.4±1.1,30°.00N×95°.33E,h0km, mb3.8/8, mb1 3.8/11, mb1mx3.6/42, mbtmp3.7/11, ML3.9/3, MS2.9/3, Ms1 3.0/3, ms1mx2.6/41, Error ellipse: s-maj=40.9km s-min=18.4km az=58.0*
*BJI **01** 08:06:50.4,29°.89N×95°.10E,h6km, ML3.5/3*
*ISCJB **01** 08:06:52.1±0.7,30°.0N±0°.1×95°.3E±0°.2, h33km, mb3.7/7, Error ellipse: s-maj=26.6km s-min=11.1km az=155.5*

ISC 01 08:06:54.6±0.9, 30°.0N±0°.1×95°.3E±0°.2, h35km, n13, σ0§50/12, mb3.7/7, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	7.99	205	LR		LR		08 13 00.3	
	comp=Z,104nm,20.1s,baz=8.0,slow=46								
CMAR	Chiang Mai Arr	11.96	163	Pn		Pn		08 09 42.8	+0.2
	0.5nm,0.3s,baz=336,slow=14,SNR=4.2								
CMAR				LR		LR		08 14 54.9	
	comp=Z,33nm,21.4s,baz=340,slow=41								
WMQ	Urumqi	15.07	338	eP		Pn		08 10 25.0	+0.1
MKAR	Makanchi Array	19.58	333	P		P		08 11 18.5	-1.1
	0.2nm,0.3s,baz=140,slow=11,SNR=12								
MKAR				LR		LR		08 19 15.2	
	comp=Z,52nm,19.0s,baz=0.5,slow=38								
SONM	Songino Array	19.76	23	P		P		08 11 21.9	+0.3
	0.2nm,0.3s,baz=210,slow=9.5,SNR=6.3								
AAK	Ala-Archa	20.91	313	P		P		08 11 34.5	+0.2
	3.0nm,0.8s,baz=105,slow=14,SNR=5.6								
KURBB	Kurchatov Arra	24.14	333	P		P		08 12 06.5	-0.6
	2.2nm,0.8s,baz=144,slow=10,SNR=16								
ZALV	Zalesovo Beam	25.12	345	P		P		08 12 16.2	+0.2
	2.5nm,0.7s,baz=164,slow=8.3,SNR=11								
BVAR	Borovoye Array	29.34	329	P		P		08 12 54.2	+0.2
	1.1nm,0.7s,baz=128,slow=11,SNR=6.3								
AKTO	Aktyubinsk	34.53	317	P		P		08 13 39.2	-0.3
	1.1nm,0.7s,baz=91,slow=4.4,SNR=4.2								
FINES	FINESS Array B	54.26	326	P		P		08 16 17.2	+0.4
	0.8nm,0.7s,baz=33,slow=38,SNR=2.5								
ASAR	Alice Springs	64.97	141	P		P		08 17 30.8	-0.3
	0.3nm,0.6s,baz=322,slow=7.2,SNR=3.4								
ILAR	Eielson Array	73.98	22	P		P		08 18 26.1	-0.1
	0.3nm,0.9s,baz=286,slow=6.5,SNR=3.5								

*ISCJB **01** 08:25:42.9±0.9,36°.58N±0°.05×70°.6E±0°.1, h150km, Error ellipse: s-maj=13.6km s-min=5.5km az=163.0*
*NNC **01** 08:25:46.8±3.6,36°.81N×70°.47E, h122km±52km, mb3.3, mpv3.8, Error ellipse: s-maj=28.6km s-min=24.3km az=1.0*

ISC 01 08:25:41.9±1.3, 36°.46N±0°.09×70°.5E±0°.1, h150km, n21, σ1§69/24, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.16	22	P		Pn		08 27 11.8	+0.8
	SNR=23								
UCH	Uchtor	6.53	27	P		Pn		08 27 16.7	+0.7
	SNR=7.2								
KK31	Karatay Array	6.63	360	P		Pn		08 27 17.6	+0.6
	3.4nm,0.3s,baz=188,slow=14,SNR=47								
KK31				⇑S		Sn		08 28 28.6	-2.8
	8.0nm,0.5s,baz=195,slow=22,SNR=15								
EKS2	Erkin-Say	6.67	21	P		Pn		08 27 18.9	+1.3
	SNR=6.2								
KZA	Kyzart	6.69	32	P		Pn		08 27 18.7	+0.6
	SNR=5.7								
AAK	Ala-Archa	6.88	25	P		Pn		08 27 21.9	+1.5
	SNR=5.8								
AAK	Ala-Archa	6.88	25	⇑P		Pn		08 27 21.5	+1.2
	2.2nm,0.4s								
AAK				⇓S		Sn		08 28 36.1	-1.5
	14nm,0.7s								
TKM2	Tokmak 2	7.53	30	P		Pn		08 27 30.0	+0.9
	SNR=10								
TKM2	Tokmak 2	7.53	30	⇓P		Pn		08 27 29.8	+0.6
	4.0nm,0.6s								
TKM2				⇑S		Sn		08 28 50.7	-2.7
	4.2nm,0.7s								
PYUN	Piuthan	13.42	125	eP		Pn		08 28 46.7	0.0
	9.7nm,0.5s								
MK31	Makanchi Array	13.54	37	P		P		08 28 52.6	+0.9
	1.8nm,0.5s,baz=210,slow=9.8,SNR=25								
DANN	Dangsing	13.78	122	eP		P		08 28 52.0	-2.8
	12nm,0.4s								
KOLN	Koldanda	14.04	124	eP		P		08 28 55.5	-2.2
AB31	Akbulak array	14.94	332	⇑P		P		08 29 06.1	-1.1
	1.3nm,0.6s,baz=134,slow=12,SNR=29								
DMN	Daman	15.17	121	eP		P		08 29 10.3	+0.1
KKN	Kakani	15.17	121	eP		P		08 29 10.8	+0.6
	35nm,0.5s								
PKIN	Pulchoki	15.39	121	eP		P		08 29 13.7	+1.0
	26nm,0.5s								
PKI	Pulchoki	15.40	121	eP		P		08 29 13.9	+1.0
	33nm,0.5s								
GUN	Gumba	15.52	119	eP		P		08 29 15.5	+1.3
BVA0	Borovoye Array	16.56	360	P		Pn		08 29 29.1	+3.9
	2.5nm,1.0s,baz=184,slow=17,SNR=4.3								
AKTO	Aktyubinsk	16.63	331	⇓P		Pn		08 29 26.5	+0.4
	6.1nm,1.2s								

*ISCJB **01** 08:27:16.0±0.4, 10°.92S±0°.05×165°.72E±0°.06, h10km, mb4.5/23, MS3.3/4, Error ellipse: s-maj=8.0km s-min=7.5km az=142.5*
*IDC **01** 08:27:15.0±0.8, 10°.86S×165°.86E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/36, mbtmp4.2/14, ML4.7/2, MS3.4/6, Ms1 3.4/6, ms1mx3.1/29, Error ellipse: s-maj=25.0km s-min=18.2km az=124.0*
*NEIC **01** 08:27:17.5±0.4, 10°.82S×165°.75E, h10km, mb4.8/13, Error ellipse: s-maj=11.1km s-min=8.9km az=120.0*

ISC 01 08:27:17.0±0.5, 10°.87S±0°.08×165°.82E±0°.08, h10km, n50, σ1§45/49, mb4.6/23, MS3.3/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.96	283	ePn		Pn		08 28 47.9	+2.6
HNR				eSn		Sn		08 29 54.2	+0.5
HNR	Honiara	5.96	283	Pn		Pn		08 28 46.8	+1.5
	18nm,0.3s,baz=144,slow=4.7,SNR=5.5								
HNR				Sn		Sn		08 29 54.2	+0.5
	8.1nm,0.3s,baz=24,slow=12,SNR=1.7								
HNR				LR		LR		08 31 16.3	
	comp=Z,501nm,18.3s,baz=100,slow=40								
DZM	Mont Dzumac	11.15	177	Pn		Pn		08 29 57.9	+1.3
	5.4nm,0.3s,baz=312,slow=12,SNR=46								
DZM				Sn		Sn		08 31 58.5	-3.0
	0.1nm,0.3s,baz=264,slow=7.5,SNR=1.4								
DZM				LR		LR		08 34 05.6	
	comp=Z,126nm,18.7s,baz=80,slow=37								
ONTNC	Ouen Toro	11.39	177	ePn		Pn		08 30 02.8	+3.0
PINNC	Pines Island,	11.78	173	ePn		Pn		08 30 07.5	+2.3
CTA	Charters Tower	20.95	242	P		Pn		08 32 00.3	-2.4
	2.1nm,0.7s,baz=163,slow=19,SNR=3.0								
CTAO	ChartesTower	20.95	242	eP		Pn		08 32 02.7	0.0
	10nm,1.0s								
BKZ	Black Stump Fm	29.74	163	eP		P		08 33 26.0	+2.4
	9.4nm,1.1s								
H11N1	WAKE ISLAND Hy	30.41	2	T		T		09 05 00.6	
	baz=182,slow=76,SNR=24								
H11N3	WAKE ISLAND Hy	30.42	2	T		T		09 05 01.0	
	baz=182,slow=76,SNR=29								
H11N2	WAKE ISLAND Hy	30.43	2	T		T		09 05 01.9	
	baz=182,slow=76,SNR=19								
STKA	Stephens Creek	30.62	223	P		P		08 33 29.8	-1.6
	1.9nm,0.8s,baz=320,slow=20,SNR=3.2								
STKA				LR		LR		08 45 08.5	
	comp=Z,60nm,19.0s,baz=31,slow=35								
BFZ	Birch Farm	31.09	165	eP		P		08 33 35.6	+0.2
	25nm,1.1s								
WB2	Warramunga Arr	31.60	250	eP		P		08 33 40.2	0.0
WR1	Warramunga Arr	31.61	250	eP		P		08 33 39.4	-1.0
	11nm,1.1s								
WR1				ePcP		PcP		08 36 32.7	-0.1
WRA	Warramunga Arr	31.61	250	P		P		08 33 39.4	-1.0
	2.3nm,0.7s,baz=82,slow=8.9,SNR=18								
WRA				PcP		PcP		08 36 32.7	-0.1
	0.9nm,0.8s,baz=87,slow=3.3,SNR=4.8								
WRA				LR		LR		08 45 15.9	
	comp=Z,56nm,22.0s,baz=45,slow=34								
AS31	Alice Springs	32.93	243	eP		P		08 33 52.2	+0.2
	1.2nm,0.7s								
ASAR	Alice Springs	32.94	243	P		P		08 33 52.0	0.0
	3.6nm,0.8s,baz=66,slow=10,SNR=24								
ASAR				PcP		PcP		08 36 35.6	-0.8
	1.2nm,1.1s,baz=58,slow=2.3,SNR=4.9	

YAIG	**Yautepec**	**2.00**	**33**	*eP*	Pn	08 41 06.2	-1.3
YAIG				*eS*	Sn	08 41 28.9	-2.6

*SOME **01** 08:50:31.5, 42°.55N × 79°.70E, h25km*
*KRNET **01** 08:50:32.2±0.1, 42°.58N × 79°.58E, h15km, mb3.4*
*NNC **01** 08:50:32.0±1.0, 42°.58N × 79°.59E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=6.5km s-min=3.5km az=139.0*

ISC 01 08:50:31.4±1.6, 42°.55N±0°.04 × 79°.57E±0°.04, h4km±11km, n62, σ0.96/109, 20C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.61**	**353**	P	**Pb**	**08 50 44.2**	**-0.7**
	140nm,0.1s						
SHLS				S	**Sb**	**08 50 53.3**	**-0.7**
	706nm,0.2s						
SHLS	**Shalkode**	**0.61**	**353**	*eP*	**Pb**	**08 50 44.2**	**-0.7**
	baz=21						
SHLS				*eS*	**Sb**	**08 50 53.3**	**-0.7**
	baz=21						
SHLS	**Shalkode**	**0.61**	**353**	*eP*	**Pb**	**08 50 44.2**	**-0.7**
	140nm,0.1s						
SHLS				*eS*	**Sb**	**08 50 53.3**	**-0.7**
	706nm,0.2s						
UZB	**Uzynbulak**	**0.72**	**326**	P	**Pb**	**08 50 45.9**	**-0.8**
	74nm,0.2s						
UZB				S	**Sb**	**08 50 56.2**	**-0.9**
	108nm,0.2s						
UZB	**Uzynbulak**	**0.72**	**326**	*eP*	**Pb**	**08 50 45.9**	**-0.8**
	baz=24						
UZB				*eS*	**Sb**	**08 50 56.1**	**-0.9**
	baz=24						
UZB	**Uzynbulak**	**0.72**	**326**	*eP*	**Pb**	**08 50 45.9**	**-0.8**
	74nm,0.2s						
UZB				*eS*	**Sb**	**08 50 56.2**	**-0.9**
	108nm,0.2s						
PDGK	**Podgornoye**	**0.78**	**356**	P	**Pg**	**08 50 46.4**	**-0.1**
	9.7nm,0.1s						
PDGK				S	**Sg**	**08 50 57.0**	**+0.3**
	50nm,0.2s						
PDGK	**Podgornoye**	**0.78**	**356**	⇓P	**Pg**	**08 50 46.4**	**-0.1**
	3.0nm,0.2s						
PDGK				⇑S	**Sg**	**08 50 56.8**	**+0.2**
	74nm,0.5s						
SATY	**Saty**	**1.00**	**301**	P	**Pb**	**08 50 51.0**	**-0.4**
	26nm,0.3s						
SATY				S	**Sn**	**08 51 05.4**	**-1.6**
	73nm,0.1s						
SATY	**Saty**	**1.00**	**301**	*eP*	**Pb**	**08 50 51.0**	**-0.4**
	26nm,0.3s						
SATY				*eS*	**Sn**	**08 51 05.4**	**-1.6**
	73nm,0.1s						
KURS	**Kuram**	**1.39**	**313**	P	**Pg**	**08 50 58.3**	**+0.2**
	5.4nm,0.2s						
KURS				S	**Sg**	**08 51 17.7**	**+1.5**
	13nm,0.4s						
KURS	**Kuram**	**1.39**	**313**	*eP*	**Pg**	**08 50 58.3**	**+0.2**
	baz=12						
KURS				*eS*	**Sg**	**08 51 17.7**	**+1.5**
	baz=12						
KURS	**Kuram**	**1.39**	**313**	*eP*	**Pg**	**08 50 58.3**	**+0.2**
	5.4nm,0.2s						
KURS				*eS*	**Sg**	**08 51 17.7**	**+1.5**
	13nm,0.4s						
MNBS	**Baschi**	**1.75**	**331**	P	**Pb**	**08 51 04.2**	**-0.1**
	35nm,0.2s						
MNBS				S	**Sg**	**08 51 27.9**	**+0.1**
	83nm,0.1s						
MNBS	**Baschi**	**1.75**	**331**	*eP*	**Pb**	**08 51 04.2**	**-0.1**
	35nm,0.2s						
MNBS				*eS*	**Sg**	**08 51 27.9**	**+0.1**
	83nm,0.1s						
DJR	**Jarkent**	**1.79**	**5**	P	**Pb**	**08 51 04.4**	**-0.6**
	5.2nm,0.2s						
DJR				S	**Sg**	**08 51 28.1**	**-0.9**
	24nm,0.1s						
DJR	**Jarkent**	**1.79**	**5**	*eP*	**Pb**	**08 51 04.4**	**-0.6**
	5.2nm,0.2s						
DJR				*eS*	**Sg**	**08 51 28.1**	**-0.9**
	24nm,0.1s						
KDJ	**Kajisay**	**1.82**	**258**	⇑*iP*	**Pg**	**08 51 07.2**	**+0.9**
	baz=56						
KDJ				⇑*iS*	**Sg**	**08 51 32.1**	**+2.2**
	baz=56						
KOTS	**Kotyrbulak**	**1.93**	**292**	Pg	**Pg**	**08 51 07.9**	**-0.5**
	26nm,0.2s						
KOTS				Lg	Lg	08 51 34.2	
	90nm,0.5s						
KOTS	**Kotyrbulak**	**1.93**	**292**	*eP*	**Pg**	**08 51 07.9**	**-0.5**
	baz=91						
KOTS				*eS*	**Sg**	**08 51 34.2**	**+0.7**
	baz=91						
KOTS	**Kotyrbulak**	**1.93**	**292**	*eP*	**Pg**	**08 51 07.9**	**-0.5**
	26nm,0.2s						
KOTS				*eS*	**Sg**	**08 51 34.2**	**+0.7**
	90nm,0.5s						
MDOK	**Medeo**	**1.95**	**289**	Pg	**Pb**	**08 51 07.9**	**+0.2**
	16nm,0.4s						
MDOK				Lg	Lg	08 51 34.6	
	35nm,0.6s						
MDOK	**Medeo**	**1.95**	**289**	⇑*iP*	**Pb**	**08 51 07.9**	**+0.2**
	baz=88						
MDOK				⇑*iS*	**Sg**	**08 51 34.5**	**+0.4**
	baz=88						
MDOK	**Medeo**	**1.95**	**289**	⇑*iP*	**Pb**	**08 51 07.9**	**+0.2**
	16nm,0.4s						
MDOK				⇑*iS*	**Sg**	**08 51 34.6**	**+0.4**
	35nm,0.6s						
TNSS	**Tian-Shan**	**1.99**	**285**	Pg	**Pb**	**08 51 08.6**	**+0.1**
	11nm,0.4s						
TNSS				Lg	Lg	08 51 35.8	
	31nm,0.2s						
TNSS	**Tian-Shan**	**1.99**	**285**	*eP*	**Pb**	**08 51 08.6**	**+0.1**
	baz=84						
TNSS				*eS*	**Sg**	**08 51 35.5**	**+0.1**
	baz=84						
TNSS	**Tian-Shan**	**1.99**	**285**	*eP*	**Pb**	**08 51 08.6**	**+0.1**
	11nm,0.4s						
TNSS				*eS*	**Sg**	**08 51 35.5**	**+0.1**
	31nm,0.2s						
ARXS	**Arharly**	**2.09**	**323**	Pg	**Pb**	**08 51 09.4**	**-0.7**
	16nm,0.3s						
ARXS				Lg	Lg	08 51 38.1	
	27nm,0.2s						
ARXS	**Arharly**	**2.09**	**323**	*eP*	**Pb**	**08 51 09.4**	**-0.7**
	16nm,0.3s						
ARXS				*eS*	**Sb**	**08 51 36.8**	**+0.3**
	27nm,0.2s						
IZV	**Izvestkoviy**	**2.23**	**284**	Pg	**Pb**	**08 51 12.8**	**+0.3**
	20nm,0.2s						
IZV				Lg	Lg	08 51 42.8	
	69nm,0.3s						
IZV	**Izvestkoviy**	**2.23**	**284**	*eP*	**Pb**	**08 51 13.1**	**+0.7**
	baz=83						
IZV				*eS*	**Sg**	**08 51 42.8**	**-0.2**
	baz=83						
IZV	**Izvestkoviy**	**2.23**	**284**	*eP*	**Pb**	**08 51 13.1**	**+0.7**
	20nm,0.2s						
IZV				*eS*	**Sg**	**08 51 42.8**	**-0.2**
	69nm,0.3s						
CHKK	**Chushkaly**	**2.29**	**306**	Pg	**Pb**	**08 51 13.7**	**+0.2**
	7.0nm,0.2s						
CHKK				Lg	Lg	08 51 44.6	
	35nm,0.3s						
CHKK	**Chushkaly**	**2.29**	**306**	*eP*	**Pb**	**08 51 14.0**	**+0.5**
	baz=5.0						
CHKK				*eS*	**Sg**	**08 51 44.5**	**-0.6**
	baz=5.0						
CHKK	**Chushkaly**	**2.29**	**306**	*eP*	**Pb**	**08 51 14.0**	**+0.5**
	3.5nm,0.2s						
CHKK				*eS*	**Sg**	**08 51 44.6**	**-0.6**
	35nm,0.3s						
MTBS	**Maitube**	**2.38**	**285**	Pg	**Pb**	**08 51 15.7**	**+0.8**
	40nm,0.4s						
MTBS				Lg	Lg	08 51 47.4	
	38nm,0.4s						
MTBS	**Maitube**	**2.38**	**285**	*eP*	**Pb**	**08 51 15.8**	**+0.8**
	baz=84						
MTBS				*eS*	**Sg**	**08 51 47.4**	**-0.6**
	baz=84						
MTBS	**Maitube**	**2.38**	**285**	*eP*	**Pb**	**08 51 15.8**	**+0.8**
	40nm,0.4s						
MTBS				*eS*	**Sg**	**08 51 47.4**	**-0.6**
	38nm,0.4s						
KTBS	**Karatobe**	**2.41**	**300**	Pg	**Pb**	**08 51 15.5**	**-1.3**
	6.2nm,0.2s						
KTBS				Lg	Lg	08 51 45.6	
	30nm,0.3s						
KTBS	**Karatobe**	**2.41**	**300**	*eP*	**Pb**	**08 51 15.5**	**0.0**
	6.2nm,0.2s						
KTBS				*eS*	**Sg**	**08 51 47.3**	**-1.7**
	30nm,0.3s						
ULHL	**Ulahol**	**2.48**	**264**	⇑*iP*	**Pb**	**08 51 16.5**	**-0.3**
	baz=63						
ULHL				⇑*iS*	**Sb**	**08 51 48.1**	**+0.3**
	baz=63						
TDK	**Taldyqorghan**	**2.59**	**341**	Pg	**Pb**	**08 51 18.5**	**-0.1**
	38nm,0.3s						
TDK				Lg	Lg	08 51 52.3	
	69nm,0.4s						
TDK	**Taldyqorghan**	**2.59**	**341**	*eP*	**Pb**	**08 51 18.5**	**-0.1**
	38nm,0.3s						
TDK				*eS*	**Sb**	**08 51 52.2**	**+1.4**
	69nm,0.4s						
BOOM	**Boomskoye usch**	**2.68**	**270**	⇑*iP*	**Pb**	**08 51 19.6**	**-0.6**
	baz=69						
BOOM				⇑*iS*	**Sb**	**08 51 53.3**	**-0.2**
	baz=69						
KST	**Kastek**	**2.70**	**282**	Pg	**Pb**	**08 51 20.4**	**-0.1**
	14nm,0.4s						
KST				Lg	Lg	08 51 55.5	
	26nm,0.6s						
KST	**Kastek**	**2.70**	**282**	⇓*iP*	**Pb**	**08 51 20.4**	**-0.1**
	baz=81						
KST				⇓*eS*	**Sb**	**08 51 55.6**	**+1.6**
	baz=81						
KST	**Kastek**	**2.70**	**282**	⇓*iP*	**Pb**	**08 51 20.4**	**-0.1**
	14nm,0.4s						
KST				*eS*	**Sb**	**08 51 55.5**	**+1.6**
	26nm,0.6s						
KUU	**Kurty**	**2.72**	**301**	Pg	**Pb**	**08 51 19.6**	**-1.1**
	3.9nm,0.3s						
KUU				Lg	Lg	08 51 55.0	
	13nm,0.3s						
KUU	**Kurty**	**2.72**	**301**	*eP*	**Pb**	**08 51 20.1**	**-0.6**
	baz=0.0						
KUU				*eS*	**Sb**	**08 51 55.1**	**+0.7**
	baz=0.0						
KUU	**Kurty**	**2.72**	**301**	*eP*	**Pb**	**08 51 20.1**	**-0.6**
	1.5nm,0.2s						
KUU				*eS*	**Sb**	**08 51 55.0**	**+0.7**
	9.8nm,0.4s						
KAPS	**Kapalarasan**	**2.74**	**357**	Pg	**Pb**	**08 51 18.9**	**-2.2**
	3.6nm,0.4s						
KAPS				Lg	Lg	08 51 53.6	
	26nm,0.8s						
KAPS	**Kapalarasan**	**2.74**	**357**	*eP*	**Pb**	**08 51 20.1**	**-1.1**
	1.9nm,0.2s						
KAPS				*eS*	**Sb**	**08 51 55.5**	**+0.4**
	30nm,0.4s						
DGS	**Degeres**	**2.88**	**285**	Pg	**Pb**	**08 51 23.0**	**-0.4**
	11nm,0.6s						
DGS				Lg	Lg	08 51 58.4	
	30nm,0.4s						
DGS	**Degeres**	**2.88**	**285**	*eP*	**Pb**	**08 51 22.7**	**-0.7**
	baz=85						
DGS				*eS*	**Sb**	**08 51 59.6**	**+0.6**
	baz=85						
DGS	**Degeres**	**2.88**	**285**	*eP*	**Pb**	**08 51 22.7**	**-0.7**
	11nm,0.6s						
DGS				*eS*	**Sb**	**08 51 59.5**	**+0.6**
	30nm,0.4s						
NRN	**Naryn**	**2.88**	**248**	⇑*iP*	**Pb**	**08 51 22.2**	**-1.5**
	baz=48						
NRN				⇑*iS*	**Sb**	**08 51 57.9**	**-1.5**
	baz=48						
TKM2	**Tokmak 2**	**2.95**	**279**	⇑Pg	**Pb**	**08 51 25.7**	**+0.9**
	4.1nm,0.8s						
TKM2				⇑Lg	Lg	08 52 04.5	
	11nm,0.3s						
TKM2	**Tokmak 2**	**2.95**	**279**	⇑*iP*	**Pb**	**08 51 23.6**	**-1.1**
	baz=78						
TKM2				⇑*iS*	**Sb**	**08 52 00.2**	**-1.0**
	baz=78						
KBK	**Karagaybulak**	**3.41**	**273**	⇓*iP*	**Pb**	**08 51 29.8**	**-2.8**
	baz=73						
KBK				⇓*iS*	**Sb**	**08 52 11.0**	**-3.5**
	baz=73						
AAK	**Ala-Archa**	**3.75**	**273**	⇓Pg	**Pg**	**08 51 42.6**	**-0.7**
	2.7nm,0.7s						
AAK				⇓Lg	Lg	08 52 31.7	
	6.2nm,0.5s						
MAKZ	**Makanchi**	**4.59**	**21**	⇑Pn	**Pn**	**08 51 43.3**	**+1.5**
	0.5nm,0.2s						
MAKZ				⇑Sn	**Sn**	**08 52 37.4**	**+1.8**
	1.0nm,0.5s						
MAKZ				⇑Lg	Lg	08 52 56.8	
	1.3nm,0.6s						
MK31	**Makanchi Array**	**4.67**	**24**	⇓Pn	**Pn**	**08 51 44.0**	**+1.2**
	0.1nm,0.2s,baz=172,slow=14,SNR=6.6						
MK31				⇓Sn	**Sn**	**08 52 37.9**	**+0.4**
	0.3nm,0.3s,baz=346,slow=18,SNR=4.1						
MK31				⇓Lg	Lg	08 52 59.7	
	0.4nm,0.2s,baz=207,slow=26,SNR=5.3						

JMA 01 08:54:04.3±0.2, 37°.14N × 142°.31E, h10km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**1.17**	**282**	P	Pb	08 54 26.0	-0.6
JFK				*eS*	Sb	08 54 41.6	-0.2
ONAJ	**Iwakimizuishiy**	**1.21**	**269**	P	Pb	08 54 26.5	-0.8
JIKH	**Ishinomakikobu**	**1.35**	**330**	P	Pn	08 54 28.6	-0.6
JFFD	**Fukushimafurud**	**1.40**	**269**	P	Pn	08 54 29.7	-0.2
JFFD				*eS*	Sn	08 54 48.0	-0.4
JMM	**Marumori**	**1.41**	**301**	P	Pn	08 54 29.5	-0.5
JIO	**Ouri**	**1.52**	**330**	P	Pn	08 54 31.3	-0.2
JFT	**Otama**	**1.62**	**284**	P	Pn	08 54 33.5	+0.6
JFT				*eS*	Sn	08 54 54.1	+0.3
JOU	**Okura**	**1.79**	**314**	P	Pn	08 54 35.9	+0.6
JMK	**Ichinoseki**	**2.00**	**335**	P	Pn	08 54 39.3	+1.1
JYS	**Shirataka**	**2.08**	**302**	P	Pb	08 54 40.8	-1.4
JFY	**Yanaizu**	**2.10**	**278**	P	Pb	08 54 41.0	-1.4
JAG	**Ashikaga**	**2.40**	**254**	P	Pn	08 54 44.6	+0.9
MAT	**Matsushiro**	**3.34**	**261**	P	Pn	08 54 59.9	+3.2
MAT				*eS*	Sb	08 55 40.5	-4.0

*IDC **01** 09:16:18.7±2.5, 53°.54N × 88°.10E, h0km, mb1 3.6/3, mb1mx3.2/39, mbtmp3.6/3, ML3.2/3, Error ellipse: s-maj=23.5km s-min=15.4km az=74.0*
*NNC **01** 09:16:18.8±1.9, 53°.64N × 88°.07E, h0km±14km, mb3.9, mpv3.5, Error ellipse: s-maj=17.7km s-min=7.3km az=70.0, Suspected Mining explosion.*
*KRAR **01** 09:16:24.7±0.1, 53°.67N × 87°.93E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

ISC 01 09:16:18.8±3.5, 53°.7N±0°.1 × 88°.0E±0°.2, h0km, n10, σ1.8/35/16, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**280**	*i*		09 29 30.0	
	baz=98,slow=355,SNR=3.2						
ZAA0	**Zalesovo Array**	**1.90**	**280**	⇓Pn	**Pn**	**09 16 52.6**	**+0.2**
	7.9nm,0.4s						
ZAA0				⇑Sn	**Sb**	**09 17 19.4**	**+0.9**
	29nm,0.6s						
ZALV	**Zalesovo Beam**	**1.90**	**280**	Pn	**Pn**	**09 16 52.5**	**+0.1**
	7.4nm,0.3s,baz=102,slow=14,SNR=46						
ZALV				Sn	**Sg**	**09 17 19.9**	**+0.1**
	5.8nm,0.3s,baz=102,slow=27,SNR=12						
KURBB	**Kurchatov Arra**	**6.57**	**246**	⇑Pn	**Pn**	**09 17 57.6**	**+1.0**
	5.1nm,0.4s						
KURBB				⇓Sn	**Sn**	**09 19 14.3**	**+2.1**
	6.1nm,0.6s						
KURBB				⇑Lg	Lg	09 19 48.3	
	27nm,1.1s						
KURBB	**Kurchatov Arra**	**6.57**	**246**	Pn	**Pn**	**09 17 57.0**	**+0.4**
	0.3nm,0.3s,baz=62,slow=14,SNR=33						
KURBB				Sn	**Sn**	**09 19 10.5**	**-1.7**
	0.0nm,0.3s,baz=86,slow=22,SNR=3.2						
KURBB				Lg	Lg	09 19 46.4	
	0.1nm,0.3s,baz=62,slow=34,SNR=8.3						
MK31	**Makanchi Array**	**7.80**	**210**	Pn	**Pn**	**09 18 14.0**	**+0.6**
	1.0nm,0.6s,baz=32,slow=12,SNR=19						
MK31				⇑Sn	**Sn**	**09 19 42.3**	**-0.1**
	1.0nm,0.7s,baz=31,slow=30,SNR=3.8						
MK31				⇑Lg	Lg	09 20 25.5	
	2.6nm,0.7s,baz=30,slow=30,SNR=4.6						
MKAR	**Makanchi Array**	**7.80**	**210**	Pn	**Pn**	**09 18 13.6**	**+0.2**
	0.4nm,0.3s,baz=27,slow=12,SNR=21						
MKAR				Sn	**Sn**	**09 19 39.7**	**-2.7**
	0.1nm,0.3s,baz=31,slow=28,SNR=4.1						
MKAR				Lg	Lg	09 20 24.2	
	0.2nm,0.3s,baz=31,slow=31,SNR=6.3						
MAKZ	**Makanchi**	**7.88**	**212**	⇓Pn	**Pn**	**09 18 16.2**	**+1.6**
	2.7nm,0.9s						
MAKZ				⇑Sn	**Sn**	**09 19 44.9**	**+0.5**
	3.1nm,0.9s						
MAKZ				⇑Lg	Lg	09 20 28.5	
	2.8nm,0.7s						
BVAR	**Borovoye Array**	**10.54**	**274**	Pn	**Pn**	**09 18 51.1**	**+0.1**
	0.2nm,0.3s,baz=84,slow=14,SNR=2.6						
BVAR				Sn	**Sn**	**09 20 47.8**	**-2.0**
	0.2nm,0.3s,baz=75,slow=22,SNR=3.5						
I34MN	**SONGINO INFRAS**	**13.05**	**109**	*i*		10 34 40.0	
	baz=307,slow=331,SNR=0.4						

*ISCJB **01** 09:32:16.1±1.1, 14°.26S±0°.07 × 167°.1E±0°.1, h100km, mb3.8/6, Error ellipse: s-maj=19.0km s-min=8.6km az=159.1*
*IDC **01** 09:32:20.5±3.0, 14°.32S × 167°.06E, h128km±23km, mb3.6/7, mb1 3.8/9, mb1mx3.6/32, mbtmp4.2/9, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=28.5km s-min=17.5km az=72.0*

ISC 01 09:32:17.3±1.2, 14°.23S±0°.09 × 167°.3E±0°.1, h100km, n11, σ1.9/67/13, mb4.0/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.84**	**185**	P	**Pn**	**09 34 10.8**	**+2.2**
	3.9nm,0.3s,baz=139,slow=22,SNR=50						
DZM				S	**Sn**	**09 35 35.6**	**-0.2**
	baz=322,slow=19,SNR=3.1						
DZM				LR	LR	09 36 37.1	
	comp=Z,67nm,19.5s,baz=6.5,slow=33						
HNR	**Honiara**	**8.59**	**303**	P	**Pn**	**09 34 21.8**	**+2.9**
	20nm,0.3s,baz=161,slow=7.3,SNR=6.4						
HNR				S	**Sn**	**09 35 53.8**	**-0.3**
	12nm,0.3s,baz=71,slow=22,SNR=6.8						
CTA	**Charters Tower**	**20.88**	**251**	P	**P**	**09 36 51.0**	**-0.6**
	1.6nm,0.7s,baz=79,slow=5.2,SNR=2.7						
STKA	**Stephens Creek**	**29.30**	**229**	P	**P**	**09 38 10.8**	**+0.3**
	2.4nm,0.4s,baz=44,slow=5.0,SNR=5.1						
RPZ	**Rata Peaks**	**29.57**	**174**	LR	LR	09 47 55.4	
	comp=Z,58nm,21.4s,baz=186,slow=32						
WRA	**Warramunga Arr**	**31.93**	**255**	P	**P**	**09 38 31.9**	**-1.8**
	0.5nm,0.7s,baz=82,slow=7.7,SNR=6.4						
ASAR	**Alice Springs**	**32.84**	**248**	P	**P**	**09 38 39.3**	**-2.3**
	0.8nm,0.5s,baz=77,slow=9.4,SNR=17						
ASAR				PcP	**PcP**	**09 41 23.8**	**-0.7**
	0.4nm,0.9s,baz=49,slow=2.8,SNR=3.4						
CMAR	**Chiang Mai Arr**	**74.73**	**294**	P	**P**	**09 43 47.2**	**+0.4**
	1.2nm,0.3s,baz=127,slow=5.1,SNR=5.2						
ILAR	**Eielson Array**	**86.06**	**18**	P	**P**	**09 44 46.6**	**+0.1**
	0.3nm,0.5s,baz=238,slow=5.2,SNR=5.5						
MKAR	**Makanchi Array**	**96.83**	**316**	P	**P**	**09 45 36.4**	**-0.7**
	0.5nm,0.7s,baz=107,slow=5.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**165.92**	**267**	PKPab	**PKPab**	**09 53 09.8**	**-2.1**
	0.8nm,0.9s,baz=106,slow=6.6,SNR=4.2						

MAN 01 09:49:02.1, 6°.14N × 125°.13E, h24km, mb3.6, ML2.3, MS1.7, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.18**	**254**	⇑*iP*	Pb	09 49 07.2	-0.4
GSPH				*iS*	Sb	09 49 10.3	-1.0
DDMP	**Don Marcelino,**	**0.58**	**93**	*eP*	Pn	09 49 14.7	-0.2
DDMP				*eS*	Sn	09 49 23.7	0.0
SKMP	**Bagumbayan, Su**	**0.69**	**303**	*eP*	Pb	09 49 15.6	0.0
SKMP				*eS*	Sb	09 49 25.3	+0.6

*KRAR **01** 09:59:21.4±0.2, 53°.66N × 87°.80E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **01** 09:59:24.4±1.7, 53°.50N × 87°.85E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=14.9km s-min=7.0km az=64.0, Suspected Mining explosion.*

IDC 01 09:59:23.7±2.4, 53°.53N × 87°.93E, h0km, mb1 3.5/3, mb1mx3.1/48, mbtmp3.5/3, ML3.2/3, 6C-5D, Error ellipse: s-maj=21.6km s-min=13.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**284**	*i*		10 13 06.7	
	baz=98,slow=352,SNR=1.7						
ZAA0	**Zalesovo Array**	**1.90**	**284**	⇑Pn	Pn	09 59 56.9	-0.4
	6.9nm,0.3s						
ZAA0				⇑Sn	Sb	10 00 22.9	-0.4
	28nm,0.6s						
ZALV	**Zalesovo Beam**	**1.90**	**284**	Pn	Pn	09 59 56.0	-1.3
	5.2nm,0.3s,baz=101,slow=14,SNR=45						
ZALV				Lg	Lg	10 00 23.1	
	7.9nm,0.3s,baz=100,slow=26,SNR=20						
KURBB	**Kurchatov Arra**	**6.49**	**247**	⇓Pn	Pn	10 01 00.5	+0.2
	4.6nm,0.4s						
KURBB				⇑Sn	Sn	10 02 13.2	-1.8
	6.6nm,0.6s						
KURBB				⇑Lg	Lg	10 02 47.2	
	13nm,0.7s						
KURBB	**Kurchatov Arra**	**6.49**	**247**	Pn	Pn	10 01 00.4	+0.1
	0.3nm,0.3s,baz=62,slow=14,SNR=30						
KURBB				Sn	Sn	10 02 13.2	-1.7
	0.1nm,0.3s,baz=60,slow=28,SNR=3.0						
KURBB				Lg	Lg	10 02 48.1	
	0.1nm,0.3s,baz=66,slow=32,SNR=6.1						
MK31	**Makanchi Array**	**7.65**	**210**	⇓Pn	Pn	10 01 16.8	+0.4
	0.5nm,0.5s,baz=28,slow=14,SNR=11						
MK31				⇓Sn	Sn	10 02 43.8	0.0
	0.9nm,0.7s,baz=29,slow=14,SNR=3.8						
MK31				⇑Lg	Lg	10 03 25.5	
	1.8nm,0.6s,baz=40,slow=31,SNR=4.8						
MKAR	**Makanchi Array**	**7.65**	**210**	Pn	Pn	10 01 17.4	+1.0
	0.3nm,0.3s,baz=28,slow=13,SNR=9.4						
MKAR				Sn	Sn	10 02 44.3	+0.5
	0.2nm,0.3s,baz=28,slow=27,SNR=3.4						
MKAR				Lg	Lg	10 03 25.9	
	0.1nm,0.3s,baz=31,slow=34,SNR=3.0						
MAKZ	**Makanchi**	**7.74**	**212**	⇑Pn	Pn	10 01 18.7	+1.2
	1.8nm,0.9s						
MAKZ				⇓Sn	Sn	10 02 46.9	+1.0
	1.3nm,0.8s						
MAKZ				⇓Lg	Lg	10 03 28.5	
	2.9nm,0.8s						
BVAR	**Borovoye Array**	**10.52**	**274**	Pn	Pn	10 01 56.0	+0.4
	0.3nm,0.3s,baz=74,slow=17,SNR=4.5						
BVAR				Sn	Sn	10 03 49.8	-4.3
	0.2nm,0.3s,baz=86,slow=25,SNR=3.2						

MEX 01 10:14:10.1±0.6, 16°.74N × 96°.62W, h59km±4km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.35**	**342**	*iP*	Pn	10 14 19.0	-1.8
VHO				*iS*

WRA	**Warramunga Arr**	**17.81**	**210**	P		Pn	10 21 56.4	-0.9
	0.2nm,0.3s,baz=30,slow=11,SNR=19							
ASAR	**Alice Springs**	**21.22**	**206**	P		P	10 22 34.1	-1.3
	1.1nm,0.6s,baz=30,slow=12,SNR=22							
MKAR	**Makanchi Array**	**74.38**	**321**	P		P	10 29 28.2	+0.6
	0.1nm,0.4s,baz=100,slow=7.9,SNR=2.6							

*IDC **01** 10:22:28.7±2.6,37.02S×96.82W,h0km,mb4.1/9, mb1 4.3/9,mb1mx4.1/32,mbtmp4.1/9,MS4.0/13, Ms1 3.9/13,ms1mx3.8/23,Error ellipse: s-maj=64.3km s-min=23.5km az=24.0*

*ISCJB **01** 10:22:35.0±0.7,36.75±0.1×96.1W±0.1,h10km,mb4.3/15, MS3.9/12,Error ellipse: s-maj=17.7km s-min=11.0km az=26.4*

*NEIC **01** 10:22:36.7±0.8,36.57S×96.14W,h10km,mb4.5/11,Error ellipse: s-maj=19.9km s-min=11.8km az=206.0*

ISC 01 10:22:36.8±0.9,36.6S±0.2×96.0W±0.1,h10km,n43, σ1ᵖ58/27,mb4.5/15,MS4.0/12,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**14.68**	**306**	LR	LR	10 30 00.8	
	comp=Z,388nm,18.3s,baz=126,slow=31						
GO06	**Curarrehue**	**19.56**	**106**	*e*P	**P**	**10 27 05.1**	**+0.3**
	6.5nm,0.9s						
GO05	**Huala**	**19.61**	**93**	*e*P	**Pn**	**10 27 06.5**	**-0.2**
	25nm,1.1s						
PLCA	**Paso Flores**	**20.32**	**110**	*e*P	**P**	**10 27 13.6**	**+0.6**
	5.5nm,0.8s						
PLCA	**Paso Flores**	**20.32**	**110**	P	**P**	**10 27 12.7**	**-0.3**
	4.2nm,0.8s,baz=292,slow=9.6,SNR=8.5						
PLCA				LR	LR	10 33 11.9	
	comp=Z,220nm,20.0s,baz=296,slow=31						
ROC1	**El Roble**	**20.85**	**88**	*e*P	**P**	**10 27 19.7**	**+0.7**
	9.4nm,0.7s						
GO02	**Mina Guanaco**	**25.30**	**71**	*e*P	**P**	**10 28 04.5**	**+0.5**
	16nm,1.0s						
USHA	**Ushuaia**	**26.30**	**143**	LR	LR	10 36 23.5	
	comp=Z,470nm,19.2s,baz=272,slow=32						
TRQA	**Tornquist**	**27.05**	**104**	*e*P	**P**	**10 28 20.2**	**+0.9**
	8.1nm,1.0s						
LVC	**Limon Verde**	**27.27**	**67**	*e*P	**P**	**10 28 23.5**	**+1.7**
LVC	**Limon Verde**	**27.27**	**67**	P	**P**	**10 28 20.4**	**-1.4**
	9.5nm,0.8s,baz=210,slow=8.2,SNR=8.4						
LVC				LR	LR	10 36 40.8	
	comp=Z,319nm,18.0s,baz=230,slow=30						
PB11	**IPOC Station P**	**28.52**	**61**	*e*P	**P**	**10 28 33.6**	**+0.9**
	16nm,1.1s						
MNMC	**Minye Minye**	**28.98**	**60**	*e*P	**P**	**10 28 38.3**	**+1.4**
	17nm,1.1s						
NNA	**Nana**	**29.95**	**40**	LR	LR	10 38 08.8	
	comp=Z,388nm,18.0s,baz=230,slow=31						
LPAZ	**La Paz**	**31.93**	**58**	*e*P	**P**	**10 29 05.2**	**+1.7**
	20nm,1.0s						
LPAZ	**La Paz**	**31.93**	**58**	P	**P**	**10 29 04.5**	**+1.0**
	13nm,0.9s,baz=224,slow=6.6,SNR=36						
ATAH	**Atahualpa**	**33.42**	**33**	P	**P**	**10 29 17.8**	**+1.5**
	9.4nm,1.0s,baz=236,slow=7.6,SNR=8.2						
PMSA	**Palmer Station**	**34.06**	**156**	LR	LR	10 38 43.8	
	comp=Z,461nm,20.8s,baz=312,slow=29						
CPUP	**Villa Florida**	**34.36**	**84**	P	**P**	**10 29 21.8**	**-2.2**
	2.1nm,0.8s,baz=253,slow=9.9,SNR=3.8						
CPUP				LR	LR	10 41 27.5	
	comp=Z,137nm,18.4s,baz=246,slow=32						
RKT	**Rikitea**	**36.08**	**281**	*e*T	T	11 06 24.7	
	0.9nm,0.2s						
SIV	**San Ignacio**	**37.16**	**66**	P	**P**	**10 29 47.3**	**-0.7**
	1.2nm,0.6s,baz=238,slow=6.1,SNR=8.2						
OTAV	**Otavalo**	**40.08**	**28**	*e*P	**P**	**10 30 12.9**	**-0.1**
	43nm,0.3s						
ROSC	**El Rosal**	**45.91**	**31**	LR	LR	10 48 02.4	
	comp=Z,155nm,18.4s,baz=224,slow=33						
BDFB	**Brasilia**	**47.33**	**77**	LR	LR	10 50 27.6	
	comp=Z,116nm,18.2s,baz=250,slow=35						
TBI	**Tubuai**	**47.57**	**271**	*e*LR	LR	10 44 12.9	
	comp=Z,148nm,30.0s						
PPT2	**Papeete2**	**50.61**	**277**	*e*LR	LR	10 45 41.6	
	comp=Z,97nm,24.0s						
PPT	**Papeete**	**50.62**	**277**	LR	LR	10 47 09.4	
	comp=Z,71nm,21.1s,baz=94,slow=30						
VNDA	**Vanda**	**57.18**	**195**	*e*P	**P**	**10 32 24.0**	**+0.7**
VNDA	**Vanda**	**57.18**	**195**	LR	LR	10 51 21.0	
	comp=Z,108nm,19.4s,baz=140,slow=31						
ZAIG	**Zacatecas**	**59.32**	**353**	*e*P	**P**	**10 32 40.6**	**+1.3**
TX31	**Lajitas Ar. Si**	**65.93**	**353**	*e*P	**P**	**10 33 23.4**	**+0.4**
TXAR	**Lajitas Array**	**65.93**	**353**	P	P	10 33 17.2	-5.8
	0.4nm,0.9s,baz=180,slow=7.9,SNR=3.2							
TXAR				LR	LR	10 56 42.9	
	comp=Z,73nm,19.1s,baz=0.0,slow=31						
MSTX	**Muleshoe**	**70.44**	**354**	*e*P	**P**	**10 33 52.5**	**+1.2**
	6.8nm,1.1s						
CCUT	**Cedar City**	**75.46**	**346**	*e*P	**P**	**10 34 20.9**	**-0.1**
	3.0nm,1.1s						
NV01	**Mina Array Sit**	**77.39**	**342**	*e*P	**P**	**10 34 30.9**	**-1.1**
NVAR	**Mina Array Bea**	**77.39**	**342**	P	**P**	**10 34 28.1**	**-3.9**
	0.5nm,0.7s,baz=170,slow=6.4,SNR=4.8							
LPH	**Laupahoehoe**	**79.38**	**305**	*e*P	**P**	**10 34 43.4**	**+0.3**
PDAR	**Pinedale Array**	**79.90**	**350**	*e*P	**P**	**10 34 45.5**	**-0.3**
PDAR	**Pinedale Array**	**79.90**	**350**	P	**P**	**10 34 41.4**	**-4.3**
	0.5nm,0.7s,baz=138,slow=7.5,SNR=5.8							
STKA	**Stephens Creek**	**93.16**	**226**	LR	LR	11 08 57.5	
	comp=Z,82nm,19.1s,baz=192,slow=30						
H01W1	**Cape Leeuwin H**	**103.56**	**205**	T	T	12 32 12.4	
	baz=154,slow=75						
H01W2	**Cape Leeuwin H**	**103.56**	**205**	T	T	12 32 14.1	
	baz=154,slow=75						
H01W3	**Cape Leeuwin H**	**103.57**	**205**	T	T	12 32 12.1	
	baz=154,slow=75						

*DDA **01** 10:25:48.8,39.71N×30.62E,h7km±1km,ML2.8*

*ISCJB **01** 10:25:49.4±0.5,39.71N±0.03×30.61E±0.04,h10km±6km, Error ellipse: s-maj=6.2km s-min=5.1km az=41.0*

*ISK **01** 10:25:49.2,39.71N×30.62E,h6km,ML2.0/6*

ISC 01 10:25:49.4±1.0,39.72N±0.04×30.64E±0.03,h12km±8km, n12,σ0ᵖ63/18,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.21**	**319**	*i* P	**Pg**	**10 25 54.3**	**+0.2**
BORA				*i* S	**Sg**	**10 25 57.3**	**0.0**
BORA				IAML_P			
	comp=Z,43μm,0.1s						
ESKT	**Eskisehir**	**0.26**	**140**	PG	**Pg**	**10 25 54.5**	**-0.3**
ESKT				SG	**Sg**	**10 25 59.1**	**+0.6**
AUMIH	**MIHALICIK**	**0.67**	**77**	*i* P	**Pb**	**10 26 03.5**	**+0.4**
AUMIH				*i* S	**Sb**	**10 26 12.2**	**-0.3**
GULT	**Gulveren**	**0.72**	**353**	PG	**Pg**	**10 26 03.5**	**+0.1**
GULT				SG	**Sb**	**10 26 13.9**	**0.0**
AUSIV	**SIVRIHISAR**	**0.75**	**111**	*i* P	**Pb**	**10 26 04.3**	**-0.2**
CAVI	**Cavuskoy**	**0.78**	**309**	PG	**Pb**	**10 26 05.4**	**+0.5**
GEYV	**SAKARYA_Geyve**	**0.81**	**341**	*i* P	**Pg**	**10 26 03.7**	**-1.3**
TVSB	**Tavsanli**	**0.95**	**254**	PG	**Pg**	**10 26 07.4**	**-0.3**
TVSB				SG	**Sb**	**10 26 20.8**	**+0.4**
SHUT	**Suhut-Afyon**	**1.17**	**183**	PN	**Pb**	**10 26 11.4**	**-0.2**
KIBS	**BOLU**	**1.17**	**53**	*i* P	**Pn**	**10 26 11.9**	**+0.1**
KIBS				*i* S	**Sn**	**10 26 28.9**	**+1.2**
KIBS				IAML_P			
	comp=Z,412nm,0.3s						
BCAM	**Yenicaga**	**1.55**	**44**	*i* P	**Pn**	**10 26 16.1**	**-0.9**
ARMT	**Armutlu**	**1.60**	**302**	PN	**Pb**	**10 26 18.8**	**-0.2**

IDC 01 10:26:20.6±4.2,14.47S×176.95W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/36,mbtmp3.7/3,Error ellipse: s-maj=337.3km s-min=28.8km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.73**	**256**	P	P	10 34 51.3	-0.5
	0.3nm,1.0s,baz=91,slow=6.5,SNR=5.1						
ASAR	**Alice Springs**	**47.15**	**251**	P	P	10 34 55.3	+0.1
	2.2nm,0.4s,baz=84,slow=8.6,SNR=77						
NVAR	**Mina Array Bea**	**75.98**	**44**	P	P	10 38 10.0	+0.1
	0.2nm,0.5s,baz=215,slow=6.2,SNR=2.5						

*ISCJB **01** 10:34:53.7±0.8,51.9N±0.2×178.81E±0.06,h55km±8km, mb3.6/9,Error ellipse: s-maj=28.1km s-min=5.8km az=7.0*

*NEIC **01** 10:34:53.0±0.0,51.77N×178.85E,h95km,ML2.9(AEIC), After AEIC.*

*IDC **01** 10:35:04.9±5.7,51.74N×178.96E,h150km±53km,mb3.0/8, mb1 3.2/9,mb1mx3.1/50,mbtmp3.4/9,MS2.7/1,Ms1 2.7/1, ms1mx2.4/18,Error ellipse: s-maj=43.2km s-min=14.8km az=4.0*

ISC 01 10:34:55.1±1.4,51.8N±0.2×178.82E±0.05,h52km±14km, n34,σ0ᵖ77/34,mb3.5/9,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**1.51**	**91**	*e*P	**Pn**	**10 35 19.6**	**-0.2**
GAEA				*e*Sn	**Sn**	**10 35 39.8**	**+1.5**
TASE	**Tanaga Southea**	**1.95**	**89**	*e*Pn	**Pn**	**10 35 25.3**	**-0.4**
TAFP	**Tanaga Falls P**	**1.98**	**87**	*e*Pn	**Pn**	**10 35 25.6**	**-0.6**
TAFP				*e*Sn	**Sn**	**10 35 50.9**	**+1.0**
KIMD	**Kanaga Island**	**2.45**	**90**	P	**Pn**	**10 35 31.8**	**-0.8**
KICM	**Kanaga Island**	**2.47**	**87**	*e*Pn	**Pn**	**10 35 32.3**	**-0.6**
KICM				*e*Sn	**Sn**	**10 36 02.5**	**+0.7**
KIWB	**Kanaga Island**	**2.50**	**88**	*e*Pn	**Pn**	**10 35 32.7**	**-0.6**
KIWB				*e*Sn	**Sn**	**10 36 01.5**	**-1.0**
KINC	**Kanaga Island**	**2.52**	**86**	*e*Pn	**Pn**	**10 35 33.1**	**-0.3**
KIRH	**Kanaga Island**	**2.54**	**87**	*e*Pn	**Pn**	**10 35 33.2**	**-0.5**
ADK	**Adak**	**2.79**	**87**	*e*Pn	**Pn**	**10 35 36.7**	**-0.5**
ADK				*e*Sn	**Sn**	**10 36 09.8**	**+0.2**
ETKA	**Kagalaska Isla**	**2.96**	**88**	*e*Pn	**Pn**	**10 35 38.6**	**-1.0**
SMY	**Shemya**	**3.03**	**289**	*e*Pn	**Pn**	**10 35 40.4**	**0.0**
SMY				*e*Sn	**Sn**	**10 36 15.1**	**-0.4**
GSTD	**Great Sitkin T**	**3.13**	**84**	*e*Pn	**Pn**	**10 35 41.6**	**-0.3**
GSTD				*e*Sn	**Sn**	**10 36 18.4**	**+0.4**
GSMY	**Great Sitkin M**	**3.18**	**84**	*e*Pn	**Pn**	**10 35 42.4**	**-0.2**
GSTR	**Great Sitkin T**	**3.18**	**83**	*e*Pn	**Pn**	**10 35 42.1**	**-0.5**
SPIA	**Saint Paul Isl**	**8.30**	**46**	*e*Pn	**Pn**	**10 36 51.6**	**-1.1**
UNV	**Unalaska Valle**	**9.11**	**72**	*e*Pn	**Pn**	**10 37 03.2**	**-0.5**
PETK	**Petropavlovsk-**	**12.93**	**284**	P	**P**	**10 38 05.8**	**+0.7**
	0.2nm,0.3s,baz=90,slow=15,SNR=4.3							
KDAK	**Kodiak Island**	**17.43**	**59**	P	**Pn**	**10 38 53.5**	**-0.8**
	0.2nm,0.3s,baz=280,slow=17,SNR=7.9							
MA2	**Magadan**	**17.49**	**307**	LR	LR	10 45 23.5	
	comp=Z,24nm,19.1s,baz=90,slow=35						
ILAR	**Eielson Array**	**21.83**	**40**	P	**P**	**10 39 44.0**	**+1.4**
	0.2nm,0.5s,baz=237,slow=8.6,SNR=5.0							
H11N2	**WAKE ISLAND Hy**	**33.38**	**201**	T	T	11 16 22.4	
	baz=18,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.39**	**201**	T	T	11 16 20.1	
	baz=18,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.40**	**201**	T	T	11 16 20.3	
	baz=18,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.61**	**201**	T	T	11 17 57.1	
	baz=10						
H11S2	**WAKE ISLAND Hy**	**34.62**	**201**	T	T	11 17 58.0	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**34.62**	**201**	T	T	11 17 58.0	
	baz=10						
YKA	**Yellowknife Ar**	**35.99**	**46**	P	**P**	**10 41 50.7**	**+0.2**
	0.4nm,0.6s,baz=281,slow=7.8,SNR=8.1							
NVAR	**Mina Array Bea**	**44.96**	**82**	P	**P**	**10 43 04.9**	**-0.2**
	0.5nm,0.7s,baz=295,slow=6.7,SNR=3.6							
SONM	**Songino Array**	**45.10**	**295**	P	**P**	**10 43 06.3**	**+0.3**
	0.3nm,0.6s,baz=48,slow=7.8,SNR=2.9							
PDAR	**Pinedale Array**	**47.58**	**71**	P	**P**	**10 43 24.2**	**-1.4**
	0.4nm,0.8s,baz=302,slow=2.0,SNR=4.9							
SPITS	**Spitsbergen Ar**	**49.80**	**355**	P	**P**	**10 43 43.1**	**+1.3**
	13nm,1.1s,baz=10,slow=9.1,SNR=8.2							
MKAR	**Makanchi Array**	**58.57**	**307**	P	**P**	**10 44 45.6**	**-0.6**
	0.2nm,0.5s,baz=39,slow=4.5,SNR=3.5							
TXAR	**Lajitas Array**	**60.04**	**80**	P	**P**	**10 44 55.7**	**-0.9**
	0.2nm,0.4s,baz=301,slow=5.4,SNR=5.7							
AKTO	**Aktyubinsk**	**66.43**	**323**	P	**P**	**10 45 38.8**	**+0.3**
	0.7nm,0.5s,baz=66,slow=12,SNR=3.6							

IDC 01 11:07:43.6±3.5,7.06S×154.89E,h0km,mb3.4/4, mb1 3.5/4,mb1mx3.5/28,mbtmp3.4/4,Error ellipse: s-maj=112.2km s-min=32.5km az=112.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.70**	**235**	P	P	11 12 57.0	-0.3
	0.6nm,0.7s,baz=59,slow=9.3,SNR=4.0							
ASAR	**Alice Springs**	**26.06**	**228**	P	P	11 13 18.9	0.0
	0.3nm,0.8s,baz=58,slow=9.0,SNR=2.9							
SONM	**Songino Array**	**69.33**	**327**	P	P	11 18 53.5	+0.4
	0.3nm,0.6s,baz=131,slow=6.5,SNR=3.1							
MKAR	**Makanchi Array**	**83.38**	**319**	P	P	11 20 12.7	-0.2
	0.5nm,0.7s,baz=94,slow=4.9,SNR=5.8							
TORD	**Torodi Ar. Bea**	**152.94**	**285**	PKPbc	PKPbc	11 27 43.8	-0.2
	0.3nm,0.7s,baz=108,slow=4.7,SNR=2.8							

*ISCJB **01** 11:08:56.9±0.2,57.87N±0.03×156.26W±0.05, h137km±3km,mb3.8/1,Error ellipse: s-maj=5.9km s-min=2.3km az=137.3*

*NEIC **01** 11:08:59.6±0.0,57.82N×156.28W,h126km,ML3.3(AEIC), After AEIC.*

NEIC Felt at King Salmon.

*IDC **01** 11:09:01.8±9.8,58.35N×156.27W,h144km±78km,mb3.3/2, mb1 3.7/3,mb1mx3.1/36,mbtmp4.0/3,MS3.2/2,Ms1 3.2/2, ms1mx2.7/20,Error ellipse: s-maj=83.1km s-min=28.3km az=9.0*

ISC 01 11:08:57.9±0.8,57.87N±0.05×156.26W±0.04, h135km±8km,n122,σ1ᵖ55/158,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK2	**Peulik 2**	**0.11**	**197**	P	**Pn**	**11 09 16.1**	**0.0**
PLK3	**Peulik 3**	**0.18**	**181**	P	**Pn**	**11 09 16.2**	**-0.1**
PLK1	**Peulik 1**	**0.20**	**249**	P	**Pn**	**11 09 16.0**	**-0.2**
PLK4	**Peulik 4**	**0.25**	**192**	P	**Pn**	**11 09 16.4**	**-0.1**
PLK4				S	**Sn**	**11 09 30.3**	**-0.3**
PLBL	**Peulik Blue Cr**	**0.34**	**240**	P	**Pn**	**11 09 16.5**	**-0.2**
PLBL				S	**Sn**	**11 09 30.3**	**-0.7**
PLK5	**Peulik 5**	**0.35**	**291**	P	**Pn**	**11 09 16.6**	**0.0**
KJL	**Kejulik**	**0.41**	**63**	P	**Pn**	**11 09 17.2**	**+0.2**
ANCK	**Angle Creek**	**0.52**	**51**	P	**Pn**	**11 09 17.9**	**+0.3**
CAHL	**Cahill**	**0.54**	**70**	P	**Pn**	**11 09 17.8**	**+0.1**
ACHA	**Angle Creek He**	**0.60**	**55**	P	**Pn**	**11 09 18.6**	**+0.5**
ACHA				S	**Sn**	**11 09 33.3**	**-0.2**
KELA	**Mount Kelaz**	**0.63**	**26**	P	**Pn**	**11 09 18.3**	**0.0**
KELA				S	**Sn**	**11 09 33.0**	**-0.9**
KABU	**Katmai Buttres**	**0.66**	**52**	P	**Pn**	**11 09 19.1**	**+0.6**
KABU				S	**Sn**	**11 09 34.4**	**+0.2**
KAHG	**Katmai Hook Gl**	**1.10**	**55**	P	**Pn**	**11 09 23.0**	**+0.8**
ANNE	**Aniakchak Nort**	**1.37**	**226**	P	Pn	11 09 24.4	-0.5
ANNW	**Aniakchak Nort**	**1.39**	**230**	P	**Pn**	**11 09 25.5**	**+0.3**
AZAC	**Aniakchak**	**1.45**	**228**	P	**Pn**	**11 09 25.6**	**-0.1**
FONW	**Fourpeaked Sta**	**1.57**	**51**	P	**Pn**	**11 09 28.0**	**+0.9**
OHAK	**Old Harbor**	**1.73**	**111**	*e*Pn	**Pn**	**11 09 28.8**	**0.0**
OHAK				*e*Sn	**Sn**	**11 09 50.3**	**-2.1**
SII	**Sitkinak Islan**	**1.73**	**138**	*e*Pn	Pn	11 09 28.8	-0.2
SII				*e*Sn	**Sn**	**11 09 51.6**	**-1.1**
SII				*e*Sn	Sn	11 09 52.5	-0.2
CHGN	**Chignik**	**1.96**	**218**	*e*Pn	Pn	11 09 31.1	-0.4
CHGN				*e*Sn	**Sn**	**11 09 56.2**	**-1.2**
KDAK	**Kodiak Island**	**1.97**	**91**	*e*Pn	**Pn**	**11 09 32.2**	**+0.6**
KDAK				*e*Sn	**Sn**	**11 09 57.5**	**0.0**
AUI	**Augustine Isla**	**2.09**	**44**	P	**Pn**	**11 09 34.2**	**+1.2**
AUJK	**Augustine Jueg**	**2.10**	**44**	P	**Pn**	**11 09 34.4**	**+1.1**
AUL	**Augustine Lava**	**2.12**	**43**	P	**Pn**	**11 09 34.7**	**+1.3**
VNSG	**Veniaminof 6**	**2.33**	**223**	P	Pn	11 09 36.1	-0.1
VNFG	**Veniaminof 2**	**2.40**	**230**	P	**Pn**	**11 09 37.2**	**+0.2**
VNSS	**Veniaminof 8**	**2.40**	**228**	P	**Pn**	**11 09 37.1**	**0.0**
ILS	**Iliamna Low So**	**2.67**	**37**	P	**Pn**	**11 09 41.3**	**+0.9**
ILW	**Iliamna West**	**2.73**	**35**	*e*Pn	**Pn**	**11 09 42.0**	**+0.8**
IVE	**Iliamna Volcan**	**2.73**	**37**	P	**Pn**	**11 09 42.2**	**+1.0**
HOM	**Homer**	**3.00**	**51**	*e*Pn	**Pn**	**11 09 46.3**	**+1.8**
HOM				*e*Sn	**Sn**	**11 10 21.2**	**+0.6**
HOM				*e*Sn	Sn	11 10 21.6	+1.1
RED	**Redoubt Volcan**	**3.12**	**34**	P	**Pn**	**11 09 47.1**	**+0.9**
RDSO	**Redoubt South**	**3.16**	**33**	P	**Pn**	**11 09 47.5**	**+0.8**
RDWB	**Redoubt West**	**3.16**	**32**	*e*Pn	**Pn**	**11 09 47.4**	**+0.7**
RSO	**Redoubt South**	**3.17**	**33**	*e*Pn	**Pn**	**11 09 47.6**	**+0.8**
SVW2	**Sparrevohn**	**3.25**	**6**	*e*Pn	**Pn**	**11 09 48.5**	**+0.7**
SVW2				*e*Sn	**Sn**	**11 10 26.3**	**-0.2**
RDJH	**Redoubt Jeurge**	**3.26**	**32**	P	**Pn**	**11 09 48.8**	**+0.8**
BRLK	**Bradley Lake**	**3.38**	**54**	*e*Pn	**Pn**	**11 09 49.9**	**+0.4**
BRLK				*e*Sn	**Sn**	**11 10 26.9**	**-2.5**
SDPT	**Sand Point**	**3.44**	**224**	*e*Pn	Pn	11 09 49.5	-0.7
SDPT				*e*Sn	**Sn**	**11 10 30.4**	**-0.3**
NKA	**Nikishka**	**3.86**	**40**	*e*Pn	**Pn**	**11 09 58.9**	**+3.1**
SPWE	**Spurr West**	**3.90**	**27**	P	**Pn**	**11 09 58.1**	**+1.7**
CKT	**Bend**	**3.93**	**30**	*e*Pn	**Pn**	**11 09 58.5**	**+1.8**
SPCN	**Chakachatna No**	**3.95**	**30**	P	**Pn**	**11 09 58.5**	**+1.5**
CRP	**Crater Peak**	**4.00**	**30**	P	**Pn**	**11 09 59.3**	**+1.7**
PS4A	**Pavlof South-4**	**4.00**	**233**	P	**Pn**	**11 09 58.0**	**+0.4**
SPCP	**Crater Peak Br**	**4.00**	**30**	P	**Pn**	**11 09 58.9**	**+1.3**
SLKM	**Skilak Lake**	**4.08**	**47**	*e*Pn	**Pn**	**11 09 59.7**	**+1.0**
DOL	**Dolgoi Island**	**4.13**	**231**	P	**Pn**	**11 09 59.6**	**+0.2**
SEW	**Seward**	**4.18**	**55**	*e*Pn	**Pn**	**11 10 00.5**	**+0.6**
SEW				*e*Sn	**Sn**	**11 10 47.5**	**-0.5**
DT1	**Dutton Round H**	**4.34**	**233**	*e*Pn	**Pn**	**11 10 01.9**	**-0.2**
DRIA	**Deer Island**	**4.42**	**231**	P	Pn	11 10 02.8	-0.4
RC01	**Rabbit Creek A**	**4.63**	**43**	*e*Pn	**Pn**	**11 10 06.5**	**+0.5**
RC01				*e*Sn	**Sn**	**11 10 57.0**	**-2.1**
FALS	**False Pass**	**4.99**	**236**	*e*Pn	**Pn**	**11 10 10.7**	**-0.1**
FALS				*e*Sn	**Sn**	**11 11 07.7**	**+0.1**
PWL	**Port Wells**	**5.04**	**50**	*e*Pn	**Pn**	**11 10 11.5**	**+0.1**
TT01	**Tatalina**	**5.05**	**1**	*e*Pn	**Pn**	**11 10 12.3**	**+0.8**
PMR	**Palmer**	**5.19**	**41**	*e*Pn	**Pn**	**11 10 12.2**	**-1.2**
PMR				*e*Sn	**Sn**	**11 11 12.0**	**-0.3**
KNK	**Knik Glacier**	**5.32**	**45**	*e*Pn	**Pn**	**11 10 15.0**	**-0.2**
KNK				*e*Sn	**Sn**	**11 11 11.6**	**-3.8**
SSBA	**Shishaldin**	**5.36**	**238**	P	**Pn**	**11 10 16.1**	**+0.3**
GHO	**Glory Hole Cre**	**5.38**	**40**	*e*Pn	**Pn**	**11 10 15.2**	**-0.9**
GHO				*e*Sn	**Sn**	**11 11 15.6**	**-1.4**
PPLA	**Purkeypile**	**5.43**	**20**	*e*Pn	**Pn**	**11 10 19.4**	**+2.7**
SML	**Sawmill**	**5.62**	**42**	*e*Pn	**Pn**	**11 10 18.2**	**-0.9**
SML				*e*Sn	**Sn**	**11 11 22.9**	**+0.3**
JPK	**Jack Peak**	**5.87**	**53**	*e*Pn	**Pn**	**11 10 23.2**	**+0.6**
CAST	**Castle Rocks**	**5.93**	**19**	*e*Pn	**Pn**	**11 10 24.6**	**+1.3**
SCM	**Sheep Creek Mo**	**6.00**	**45**	*e*Pn	**Pn**	**11 10 23.9**	**-0.4**
SCM				*e*Sn	**Sn**	**11 11 34.0**	**+2.1**
EYAK	**Cordova Ski Ar**	**6.03**	**59**	*e*Pn	**Pn**	**11 10 25.0**	**+0.4**
EYAK				*e*Sn	**Sn**	**11 11 29.3**	**-3.1**
DIV	**Divide**	**6.26**	**54**	*e*Pn	**Pn**	**11 10 28.2**	**+0.4**
DIV				*e*Sn	**Sn**	**11 11 34.4**	**-3.6**
TRF	**Thorofare Moun**	**6.32**	**25**	*e*Pn	**Pn**	**11 10 28.9**	**+0.2**
TRF				*e*Sn	**Sn**	**11 11 41.4**	**+1.8**
CHUM	**Lake Minchumin**	**6.33**	**16**	*e*Pn	**Pn**	**11 10 30.1**	**+1.5**
KLU	**Klutina**	**6.37**	**51**	*e*Pn	**Pn**	**11 10 29.4**	**+0.1**
KLU				*e*Sn	**Sn**	**11 11 37.2**	**-3.6**
AKSA	**Akutan Strait**	**6.48**	**239**	*e*Pn	**Pn**	**11 10 31.0**	**+0.3**
AKUT	**Akutan**	**6.51**	**239**	*e*Pn	**Pn**	**11 10 31.5**	**+0.4**
AKUT				*e*Sn	**Sn**	**11 11 45.1**	**+1.0**
RND	**Reindeer**	**6.64**	**30**	*e*Pn	**Pn**	**11 10 32.3**	**-0.6**
RND				*e*Sn	**Sn**	**11 11 47.2**	**0.0**
HMT	**Hamilton**	**6.66**	**63**	*e*Pn	**Pn**	**11 10 34.3**	**+1.2**
HMT				*e*Sn	**Sn**	**11 11 45.1**	**-2.5**
PS12	**TAPS Pump St12**	**6.69**	**53**	*e*Pn	**Pn**	**11 10 33.7**	**+0.2**
DHY	**Denali Highway**	**6.82**	**36**	*e*Pn	**Pn**	**11 10 34.4**	**-1.0**
DHY				*e*Sn	**Sn**	**11 11 49.2**	**-2.4**
PS11	**TAPS Pump St11**	**6.86**	**48**	*e*Pn	**Pn**	**11 10 36.7**	**+0.9**
MCK	**McKinley**	**6.88**	**28**	*e*Pn	**Pn**	**11 10 35.6**	**-0.5**
MCK				*e*Sn	**Sn**	**11 11 53.6**	**+0.6**
UNV	**Unalaska Valle**	**7.03**	**239**	*e*Pn	Pn	11 10 36.8	-1.3
UNV				*e*Sn	**Sn**	**11 11 54.0**	**-2.6**
MTBL	**Makushin Table**	**7.04**	**241**	*e*Pn	**Pn**	**11 10 38.1**	**-0.1**
MSW	**Makushin Switc**	**7.12**	**241**	*e*Pn	Pn	11 10 38.6	-0.7
BWN	**Browne**	**7.13**	**25**	*e*Pn	**Pn**	**11 10 39.3**	**0.0**
BWN				*e*Sn	**Sn**	**11 12 01.4**	**+2.6**
MREP	**Makushin Rep't**	**7.17**	**240**

RDWB	**Redoubt West**	**1.97**	**27**	*e*Pn	**Pn**	11 14 26.8	+0.6
RDWB				*e*Sn	**Sn**	11 14 52.2	-0.2
RDJH	**Redoubt Jeurge**	**2.07**	**26**	P	**Pn**	11 14 28.1	+0.7
BRLK	**Bradley Lake**	**2.19**	**61**	*e*Pn	**Pn**	11 14 29.3	+0.6
BRLK				*e*Sn	**Sn**	11 14 56.2	-0.6
SII	**Sitkinak Islan**	**2.21**	**173**	*e*Pn	**Pn**	11 14 28.6	-0.5
SII				*e*Sn	**Sn**	11 14 55.6	-1.8
SVW2	**Sparrevohn**	**2.40**	**349**	*e*Pn	**Pn**	11 14 31.2	0.0
SVW2				*e*Sn	**Sn**	11 15 02.6	+1.1
ANNE	**Aniakchak Nort**	**2.59**	**226**	P	**Pn**	11 14 33.2	-0.5
SPWE	**Spurr West**	**2.74**	**22**	P	**Pn**	11 14 36.9	+1.3
SPCN	**Chakachatna No**	**2.78**	**26**	P	**Pn**	11 14 37.3	+1.3
SPCP	**Crater Peak Br**	**2.82**	**25**	P	**Pn**	11 14 37.9	+1.2
SLKM	**Skilak Lake**	**2.86**	**50**	*e*Pn	**Pn**	11 14 38.1	+1.0
SEW	**Seward**	**2.99**	**61**	*e*Pn	**Pn**	11 14 40.2	+1.6
SEW				*e*Sn	**Sn**	11 15 13.8	-0.9
CHGN	**Chignik**	**3.18**	**221**	*e*Pn	**Pn**	11 14 40.5	-0.7
CHGN				*e*Sn	**Sn**	11 15 17.3	-1.8
RC01	**Rabbit Creek A**	**3.41**	**44**	*e*Pn	**Pn**	11 14 44.9	+0.8
RC01				*e*Sn	**Sn**	11 15 23.9	-0.6
VNSS	**Veniaminof 8**	**3.62**	**228**	P	**Pn**	11 14 47.5	+0.5
PWL	**Port Wells**	**3.83**	**54**	*e*Pn	**Pn**	11 14 49.7	+0.1
PMR	**Palmer**	**3.97**	**42**	*e*Pn	**Pn**	11 14 51.0	-0.3
PMR				*e*Sn	**Sn**	11 15 35.3	-2.2
KNK	**Knik Glacier**	**4.09**	**47**	*e*Pn	**Pn**	11 14 53.2	+0.1
KNK				*e*Sn	**Sn**	11 15 38.2	-2.4
GHO	**Glory Hole Cre**	**4.16**	**41**	*e*Pn	**Pn**	11 14 54.2	+0.1
GHO				*e*Sn	**Sn**	11 15 39.8	-2.5
TT01	**Tatalina**	**4.22**	**352**	*e*Pn	**Pn**	11 14 55.2	+0.5
PPLA	**Purkeypile**	**4.33**	**15**	*e*Pn	**Pn**	11 14 59.8	+3.5
SML	**Sawmill**	**4.39**	**43**	*e*Pn	**Pn**	11 14 56.8	-0.3
SML				*e*Sn	**Sn**	11 15 44.0	-3.7
JPK	**Jack Peak**	**4.67**	**57**	*e*Pn	**Pn**	11 15 02.1	+1.4
SCM	**Sheep Creek Mo**	**4.78**	**47**	*e*Pn	**Pn**	11 15 02.5	+0.3
SCM				*e*Sn	**Sn**	11 15 55.5	-1.4
CAST	**Castle Rocks**	**4.85**	**14**	*e*Pn	**Pn**	11 15 04.7	+1.7
EYAK	**Cordova Ski Ar**	**4.87**	**64**	*e*Pn	**Pn**	11 15 04.8	+1.5
EYAK				*e*Sn	**Sn**	11 15 55.3	-3.4
DIV	**Divide**	**5.07**	**58**	*e*Pn	**Pn**	11 15 07.4	+1.4
DIV				*e*Sn	**Sn**	11 16 01.7	-2.0
KLU	**Klutina**	**5.16**	**54**	*e*Pn	**Pn**	11 15 07.8	+0.5
KLU				*e*Sn	**Sn**	11 16 05.1	-0.8
TRF	**Thorofare Moun**	**5.17**	**22**	*e*Pn	**Pn**	11 15 07.9	+0.4
TRF				*e*Sn	**Sn**	11 16 04.8	-1.4
RND	**Reindeer**	**5.45**	**29**	*e*Pn	**Pn**	11 15 12.0	+0.9
HMT	**Hamilton**	**5.52**	**69**	*e*Pn	**Pn**	11 15 13.2	+1.2
HMT				*e*Sn	**Sn**	11 16 13.1	-1.5
DHY	**Denali Highway**	**5.61**	**36**	*e*Pn	**Pn**	11 15 12.6	-0.7
DHY				*e*Sn	**Sn**	11 16 15.2	-1.6
MCK	**McKinley**	**5.71**	**27**	*e*Pn	**Pn**	11 15 14.8	+0.3
MCK				*e*Sn	**Sn**	11 16 18.7	-0.2
HARP	**HAARP**	**5.95**	**48**	*e*Pn	**Pn**	11 15 18.1	+0.4
HARP				*e*Sn	**Sn**	11 16 25.1	+0.4
BWN	**Browne**	**5.98**	**22**	*e*Pn	**Pn**	11 15 19.4	+1.3
CRQM	**Cirque**	**6.16**	**66**	*e*Pn	**Pn**	11 15 22.5	+1.7
CRQM				*e*Sn	**Sn**	11 16 29.1	-1.0
PAX	**Paxson**	**6.17**	**43**	*e*Pn	**Pn**	11 15 21.2	+0.5
PAX				*e*Sn	**Sn**	11 16 29.7	-0.4
NEA	**Nenana**	**6.42**	**22**	*e*Pn	**Pn**	11 15 23.7	-0.3
WRH	**Wood River Hil**	**6.54**	**26**	*e*Pn	**Pn**	11 15 24.9	-0.6
WRH				*e*Sn	**Sn**	11 16 35.0	-3.8
MLY	**Manley**	**6.57**	**15**	*e*Pn	**Pn**	11 15 25.6	-0.5
BALM	**Baldy**	**6.61**	**64**	*e*Pn	**Pn**	11 15 28.6	+2.0
BALM				*e*Sn	**Sn**	11 16 36.6	-4.0
CCB	**Clear Creek Bu**	**6.75**	**26**	*e*Pn	**Pn**	11 15 27.8	-0.6
CCB				*e*Sn	**Sn**	11 16 41.9	-2.0
HDA	**Harding Lake**	**6.76**	**30**	*e*Pn	**Pn**	11 15 28.2	-0.3
HDA				*e*Sn	**Sn**	11 16 41.7	-2.5
MENT	**Mentasta**	**6.79**	**47**	*e*Pn	**Pn**	11 15 28.8	-0.3
MENT				*e*Sn	**Sn**	11 16 47.7	+2.6
RIDG	**Independ'e Rid**	**6.89**	**39**	*e*Pn	**Pn**	11 15 30.9	+0.6
MDM	**Murphy Dome**	**6.93**	**23**	*e*Pn	**Pn**	11 15 30.6	-0.2
COLA	**College**	**6.93**	**25**	*e*Pn	**Pn**	11 15 29.4	-1.5
IL1	**Eielson Array**	**7.07**	**28**	*e*Pn	**Pn**	11 15 32.1	-0.7
IL1				*e*Sn	**Sn**	11 16 49.4	-2.2
ILAR	**Eielson Array**	**7.07**	**28**	P	**Pn**	11 15 31.8	-0.9
	1.2nm,0.3s,baz=219,slow=13,SNR=31						
ILAR				S	**Sn**	11 16 47.1	-4.6
	0.3nm,0.3s,baz=242,slow=17,SNR=6.6						
ILB	**Eielson Array**	**7.07**	**28**	*e*Pn	**Pn**	11 15 32.2	-0.5
ILB				*e*Sn	**Sn**	11 16 47.2	-4.4
DOT	**Dot Lake**	**7.09**	**42**	*e*Pn	**Pn**	11 15 34.5	+1.5
DOT				*e*Sn	**Sn**	11 16 51.1	-1.1
IM3	**Indian Mountai**	**7.27**	**3**	*e*Pn	**Pn**	11 15 36.2	+0.8
SCRK	**Sand Creek**	**7.33**	**40**	*e*Pn	**Pn**	11 15 36.9	+0.6
PRP	**Porcupine Dome**	**8.02**	**28**	*e*Pn	**Pn**	11 15 45.7	+0.2
PRP				*e*Sn	**Sn**	11 17 12.7	-1.9
EGAK	**Eagle**	**8.79**	**41**	*e*Pn	**Pn**	11 15 56.1	+0.4
FYU	**Fort Yukon**	**8.95**	**25**	*e*Pn	**Pn**	11 15 59.0	+1.2
DAWY	**Dawson**	**9.04**	**47**	*e*Pn	**Pn**	11 16 01.1	+1.9
WHY	**Whitehorse**	**10.17**	**71**	*e*Pn	**Pn**	11 16 18.0	+3.7
WHY				*e*Sn	**Sn**	11 18 05.8	-0.7
DLBC	**Dease Lake**	**12.83**	**81**	*e*Pn	**P**	11 16 54.3	-0.4
INK	**Inuvik**	**13.35**	**35**	*e*Pn	**Pn**	11 16 56.9	+1.2
YKA	**Yellowknife Ar**	**19.77**	**62**	P	**Pn**	11 18 13.9	+0.2
	0.0nm,0.3s,baz=278,slow=10,SNR=2.7						
SONM	**Songino Array**	**54.83**	**305**	P	**P**	11 23 08.5	+1.2
	0.8nm,0.7s,baz=45,slow=6.6,SNR=6.3						

TAP 01 11:21:53.7±22.42N×120.95E,h16km,ML3.5,2C-18D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.08**	**216**	⇑*i*P	Pg	11 21 57.2	+0.4
	baz=210						
TAW				*i* S	Sg	11 21 59.6	+0.7
	baz=210						
EAST	**Anshuo**	**0.10**	**246**	⇑*i*P	Pb	11 21 57.4	+0.1
	baz=243						
EAST				*i* S	Sb	11 21 60.0	+0.2
	baz=243						
ECL	**Taimali**	**0.17**	**2**	⇓*i*P	Pb	11 21 58.3	-0.3
	baz=358						
ECL				*i* S	Sb	11 22 01.5	-0.4
	baz=358						
SCZT	**Fangliau**	**0.31**	**260**	P	Pb	11 22 00.6	-0.3
	baz=265						
SCZT				S	Sb	11 22 05.3	-0.4
	baz=265						
MASBT	**Mashibuluo**	**0.35**	**303**	⇓P	Pb	11 22 01.3	-0.3
	baz=308						
MASBT				S	Sg	11 22 05.8	0.0
	baz=308						
SSPT	**Xinbi**	**0.35**	**280**	⇓P	Pb	11 22 01.9	+0.3
	baz=284						
SSPT				*e*S	Sb	11 22 07.8	+0.7
	baz=284						
TWG	**Pinlang**	**0.41**	**16**	⇓*i*P	Pg	11 22 01.8	-0.2
	baz=12						
TWGBT	**Beinan**	**0.41**	**17**	⇓P	Pg	11 22 01.8	-0.3
	baz=12						
TWGBT				S	Sg	11 22 08.2	+0.5
	baz=12						
SSD	**Sandimen**	**0.43**	**318**	⇓*i*P	Pg	11 22 02.6	+0.1
	baz=323						
SSD				S	Sg	11 22 07.9	-0.5
	baz=323						
HEN	**Hengchun**	**0.46**	**205**	⇓P	Pb	11 22 03.6	+0.1
	baz=202						
TWK1	**Hengchun**	**0.50**	**195**	⇓*i*P	Pb	11 22 04.1	0.0
	baz=192						
TWK1				*e*S	Sn	11 22 13.5	-1.0
	baz=192						
TWKBT	**Hengchun**	**0.50**	**195**	⇓P	Pb	11 22 04.0	-0.1
	baz=192						
SGLT	**Jiouru**	**0.52**	**305**	*e*P	Pg	11 22 03.3	-0.7
	baz=314						
TSEB	**Hengchuen, Pin**	**0.52**	**185**	*e*P	Pb	11 22 04.5	0.0
	baz=192						
WLCH	**Liuqiu**	**0.53**	**262**	*e*P	Pn	11 22 06.9	+0.2
	baz=265						
TWP	**Hsiaoliuchiu**	**0.55**	**262**	*e*P	Pn	11 22 07.5	+0.6
	baz=265						
KAU	**Kaohsiung**	**0.61**	**284**	*e*P	Pn	11 22 08.9	+1.1
	baz=281						
TWM1	**Shoushan**	**0.63**	**309**	*e*P	Pn	11 22 07.5	-0.5
	baz=319						
SLGT	**Liugui**	**0.63**	**334**	⇓*e*P	Pg	11 22 06.2	+0.1
	baz=340						
SNJT	**Kaohsiung City**	**0.65**	**300**	*e*P	Pn	11 22 08.8	+0.4
	baz=309						
LAY	**Lan-yu**	**0.68**	**124**	*e*P	Pg	11 22 06.2	-0.8
	baz=111						
STYT	**Tauyuan**	**0.76**	**347**	⇓P	Pb	11 22 08.8	+0.2
	baz=353						
ELDTW	**Lidau**	**0.76**	**5**	*e*P	Pg	11 22 08.3	-0.4
	baz=17						
CHKT	**Chengkung**	**0.78**	**30**	*e*P	Pg	11 22 07.9	-0.9
	baz=32						
FULB	**Fuli**	**0.83**	**22**	⇓P	Pb	11 22 08.5	-1.4
	baz=38						
CHN3	**Shinhua**	**0.84**	**320**	*e*P	Pn	11 22 12.8	+1.8
	baz=322						
CHN3				*e*S	Sn	11 22 26.9	+3.9
	baz=322						
CHN1	**Nanshi**	**0.85**	**333**	⇓P	Pn	11 22 11.8	+0.7
	baz=334						
CHN1				*e*S	Sn	11 22 24.7	+1.4
	baz=334						
WTP	**Ta-pu**	**0.87**	**339**	P	Pn	11 22 11.7	+0.2
	baz=341						
WTP				*e*S	Sn	11 22 25.2	+1.3
	baz=341						
SNST	**Tainan City**	**0.89**	**332**	⇓*e*P	Pn	11 22 12.7	+1.0
	baz=336						
SNST				*e*S	Sn	11 22 26.5	+2.1
	baz=336						
TPUB	**Ta-pu**	**0.92**	**342**	⇓P	Pn	11 22 12.6	+0.6
	baz=343						
TPUB				*e*S	Sn	11 22 26.3	+1.2
	baz=343						
TWK	**Hsinying**	**0.94**	**333**	⇓P	Pn	11 22 13.1	+0.7
	baz=337						
TWK				*e*S	Sn	11 22 27.2	+1.6
	baz=337						
CHN4	**Tsaushan**	**0.98**	**341**	⇓*i*P	Pn	11 22 13.7	+0.8
	baz=344						
CHN4				S	Sn	11 22 29.0	+2.5
	baz=344						
TWF1	**Yuli**	**0.98**	**19**	*e*P	Pb	11 22 12.3	-0.1
	baz=32						
YULB	**Yu-li**	**1.02**	**18**	⇓*e*P	Pb	11 22 10.6	-2.4
	baz=31						
YUS	**Yu-Shan**	**1.06**	**0**	*e*P	Pb	11 22 14.1	0.0
	baz=13						
ALS	**Alishan**	**1.09**	**353**	P	Pg	11 22 15.2	+0.3
	baz=357						
ALS				S	Sn	11 22 32.1	+2.5
	baz=357						
EHY	**Hungye**	**1.13**	**18**	*e*P	Pb	11 22 14.7	-0.2
	baz=30						
CHN8	**Yiju**	**1.14**	**324**	*e*P	Pg	11 22 15.9	+0.1
	baz=329						
HGSD	**Ruisui**	**1.15**	**22**	*e*P	Pn	11 22 13.5	-1.7
	baz=32						
CHY	**Chiayi**	**1.17**	**336**	*e*P	Pg	11 22 16.9	+0.5
	baz=340						
CHN2	**Minshiung**	**1.19**	**339**	*e*P	Pg	11 22 17.1	+0.5
	baz=343						
CHN5	**Tsauling**	**1.19**	**348**	P	Pg	11 22 17.6	+0.8
	baz=352						
CHN5				*e*S	Sg	11 22 34.2	+1.8
	baz=352						
WHYT	**Xinyi Township**	**1.27**	**356**	*e*P	Pg	11 22 18.1	-0.1
	baz=6.0						
WGK	**Gukeng**	**1.30**	**344**	*e*P	Pg	11 22 19.0	+0.1
	baz=349						
WDLH	**Douliu**	**1.31**	**343**	*e*P	Pb	11 22 18.2	+0.2
	baz=348						
EGFH	**Guangfu**	**1.32**	**20**	*e*P	Pb	11 22 17.8	-0.3
	baz=32						
VWDT	**VWDT**	**1.34**	**8**	*e*P	Pg	11 22 19.4	-0.1
	baz=19						
SSLB	**Suanglung**	**1.36**	**0**	*e*P	Pb	11 22 19.2	+0.4
	baz=354						
SSLB				*e*S	Sg	11 22 39.1	+1.5
	baz=354						
WSF	**Szhu**	**1.38**	**331**	*e*P	Pb	11 22 19.2	0.0
	baz=337						
WJS	**Zhushan**	**1.41**	**352**	*e*P	Pg	11 22 21.1	+0.3
	baz=338						
WDGT	**Dungji**	**1.45**	**305**	*e*P	Pn	11 22 18.9	-0.4
	baz=309						
SMLT	**Sun Moon Lake**	**1.45**	**358**	*e*P	Pg	11 22 21.3	-0.4
	baz=353						
SMLT				*e*S	Sg	11 22 43.2	+2.5
	baz=353						
ESL	**Shilin**	**1.45**	**18**	*e*P	Pn	11 22 19.0	-0.4
	baz=32						
WNT	**Mingjian**	**1.47**	**351**	*e*P	Pg	11 22 21.7	-0.3
	baz=339						
WNT				*e*S	Sg	11 22 41.6	+0.5
	baz=339						
TYC	**Yuchr**	**1.48**	**357**	*e*P	Pg	11 22 21.8	-0.3
	baz=354						
OWD	**Renai**	**1.54**	**8**	*e*P	Pg	11 22 22.7	-0.6
	baz=20						
VCHM	**Qimei**	**1.60**	**299**	*e*P	Pn	11 22 20.6	-0.8
	baz=302						
VCHM				*e*S	Sn	11 22 41.7	-0.2
	baz=302						
CHGB	**Renai**	**1.64**	**7**	*e*P	Pg	11 22 24.9	-0.5
	baz=19						
PHUB	**P'eng-hu**	**1.67**	**311**	*e*P	Pn	11 22 21.6	-0.8
	baz=314						
PHUB				*e*S	Sn	11 22 42.0	-1.4
	baz=314						
PNG	**Penghu**	**1.71**	**312**	*e*P	Pn	11 22 22.6	-0.4
	baz=316						
TDCB	**Techi**	**1.83**	**6**	*e*P	Pb	11 22 27.7	+0.8
	baz=18						
TWT	**Tachien**	**1.83**	**7**	*e*P	Pb	11 22 27.3	+0.3
	baz=18						
ETLH	**Xiulin Townshi**	**1.84**	**15**	*e*P	Pb	11 22 26.2	-0.9
	baz=33						
NACB	**Ninganchiao**	**1.84**	**19**	*e*P	Pn	11 22 24.9	+0.2
	baz=33						
WHP	**Taichung City**	**1.84**	**360**	*e*P	Pb	11 22 27.0	-0.1
	baz=12						
TWQ1	**Liyutan**	**1.92**	**355**	*e*P	Pb	11 22 27.9	-0.5
	baz=345						
NNSB	**Datong**	**2.04**	**11**	*e*P	Pb	11 22 29.9	-0.6
	baz=26						
NNS	**Nan Shan**	**2.04**	**11**	*e*P	Pb	11 22 30.4	-0.2
	baz=26						
NANB	**Nanao**	**2.13**	**20**	*e*P	Pn	11 22 29.4	+0.7
	baz=37						
NSTT	**Nanjuang**	**2.20**	**1**	*e*P	Pb	11 22 33.1	0.0
	baz=351						
LIOB	**Emei**	**2.21**	**2**	*e*P	Pn	11 22 30.9	+1.1
	baz=351						
NDT	**Datong Townshi**	**2.23**	**13**	*e*P	Pb	11 22 33.0	-0.7
	baz=33						
YHNB	**Yeheng**	**2.27**	**10**	*e*P	Pb	11 22 32.7	-1.7
	baz=16						
NSK	**Sanguang**	**2.27**	**9**	*e*P	Pb	11 22 34.8	+0.3
	baz=15						
ENTT	**Houdou**	**2.28**	**14**	*e*P	Pb	11 22 32.9	-1.7
	baz=33						
EOS1	**EOS1**	**2.38**	**27**	*e*P	Pn	11 22 33.3	+1.3
	baz=43						
TIPB	**Shuangxi**	**2.66**	**17**	*e*P	Pn	11 22 37.6	+1.6
	baz=35						
VWUC	**VWUC**	**2.90**	**332**	*e*P	Pn	11 22 39.3	0.0
	baz=340						
PTMZ	**Houxiangcun**	**3.10**	**328**	*e*P	Pn	11 22 42.1	+0.1
	baz=336						
KNMB	**Chin-men Tao**	**3.10**	**311**	*e*P	Pn	11 22 41.7	-0.4
	baz=317						
ZPLA	**Ao Xicun**	**3.30**	**298**	*e*P	Pn	11 22 44.2	-0.6
	baz=299						
AXDP	**Jialang**	**3.68**	**313**	*e*P	Pn	11 22 50.4	+0.4
	baz=318						
MHZQ	**Yeshan**	**4.06**	**335**	*e*P	Pn	11 22 55.5	+0.3
	baz=343						
LYJJ	**Jianjiangzhen**	**4.25**	**345**	*e*P	Pn	11 22 58.3	+0.5
	baz=355						

IDC 01 11:47:55.8±44.0,15.88S×172.10W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/29,mbtmp4.1/3,Error ellipse: s-maj=852.5km s-min=182.3km az=79.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.89**	**241**	P	P	11 56 12.9	+0.6
	1.3nm,0.6s,baz=73,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**50.96**	**257**	P	P	11 56 58.8	-0.8
	0.5nm,0.6s,baz=97,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**51.16**	**252**	P	P	11 57 01.1	+0.1
	4.4nm,0.6s,baz=88,slow=8.2,SNR=66						

GUC 01 11:55:23.7±0.6,20.15S×69.18W,h98km±2km,ML3.8, 5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.03**	**72**	⇑*e*P	Pn	11 55 38.6	+0.7
PB08				*i* S	Sn	11 55 49.2	+0.9
PB08				IAML		11 55 50.1	
	comp=E,7μm,0.1s						
PB11	**IPOC Station P**	**0.59**	**311**	⇑*i*P	Pn	11 55 40.8	+0.6
PB11				*e*S	Sn	11 55 53.6	+1.1
PB11				IAML		11 55 55.3	
	comp=N,7μm,0.3s						
PB01	**IPOC Station P**	**0.93**	**198**	⇑*e*P	Pn	11 55 43.6	+0.2
PB01				*e*S	Sn	11 55 58.9	+0.8
PB01				IAML		11 56 00.2	
	comp=N,6μm,0.2s						
PSGC	**Pisagua**	**1.04**	**302**	⇑*i*P	Pn	11 55 45.1	+0.6
PSGC				*e*S	Sn	11 56 01.1	+0.9
MNMC	**Minye Minye**	**1.09**	**339**	*e*P	Pn	11 55 46.0	+0.7
MNMC				*e*S	Sn	11 56 02.5	+1.1
MNMC				IAML		11 56 07.2	
	comp=E,4μm,0.3s						
PB02	**IPOC Station P**	**1.34**	**210**	⇑*e*P	Pn	11 55 48.8	+0.7
PB02				*e*S	Sn	11 56 07.3	+0.8
PB02				IAML		11 56 11.2	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**1.64**	**182**	*e*P	Pn	11 55 52.8	+1.0
PB09				*e*S	Sn	11 56 14.7	+1.6
PB07	**IPOC Station P**	**1.70**	**203**	*e*P	Pn	11 55 53.0	+0.5
PB07				*e*S	Sn	11 56 16.0	+1.5
PB12	**IPOC Station P**	**1.87**	**325**	⇓*e*P	Pn	11 55 55.2	+0.6
PB12				*e*S	Sn	11 56 19.6	+1.3
PB12				IAML		11 56 24.8	
	comp=E,679nm,0.2s						
PB04	**IPOC Station P**	**2.35**	**202**	*e*P	Pn	11 56 01.8	+0.8
PB04				IAML		11 56 40.2	
	comp=N,257nm,0.5s						

*ISCJB **01** 12:05:08.0±0.6,28.35S±0.03×69.67W±0.06,h126km±8km, Error ellipse: s-maj=8.4km s-min=5.0km az=177.4*
*SJA **01** 12:05:07.6±1.0,28.30S×69.63W,h114km±9km,ML3.2, MW3.1*
*GUC **01** 12:05:08.9±0.6,28.43S×69.41W,h91km±24km,ML3.6*

ISC 01 12:05:08.2±1.5,28.34S±0.04×69.65W±0.05, h125km±13km,n23,σ1s10/37,1C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO03	**Copiap**	**0.90**	**325**	*e*P	**Pn**	12 05 29.8	-0.1
GO03				*i* S	**Sn**	12 05 45.3	-0.8
GO03				IAML		12 05 46.7	
	comp=N,763nm,0.5s						
LCO	**Las Campanas**	**1.14**	**234**	⇓*e*P	**Pn**	12 05 32.5	+0.1
LCO				*e*S	**Sn**	12 05 49.8	-0.8
LCO	**Las Campanas**	**1.14**	**234**	⇑*i*P	**Pn**	12 05 32.5	+0.1
LCO				*i* S	**Sn**	12 05 49.9	-0.8
LCO				IAML		12 05 51.1	
	comp=E,2μm,0.2s						
AGUA	**GUANDACOL**	**1.53**	**139**	*e*P	**Pn**	12 05 37.1	+0.7
AGUA				*e*S	**Sn**	12 05 57.2	-0.7
AROD	**Rodeo**	**1.83**	**175**	⇓*e*P	**Pn**	12 05 41.5	+1.4
AROD				⇓*e*S	**Sn**	12 06 05.0	+0.4
ACDV	**Cuesta del Vie**	**1.89**	**166**	⇓*e*P	**Pn**	12 05 42.3	+1.6
ACDV				⇓*e*S	**Sn**	12 06 06.7	+1.2
GO04	**Tololo Observa**	**2.09**	**209**	*e*P	**Pn**	12 05 43.2	0.0
GO04				*i* S	**Sn**	12 06 09.2	-0.7
GO04				IAML		12 06 11.4	
	comp=E,849nm,0.6s						
ACCO	**Cerro Coronel**	**2.30**	**167**	*e*P	**Pn**	12 05 47.2	+1.2
ACCO				⇓*e*S	**Sn**	12 06 16.2	+1.4
AMOG	**MOGNA**	**2.78**	**159**	⇓*e*P	**Pn**	12 05 52.3	+0.5
AMOG				*e*S	**Sn**	12 06 24.5	-0.9
CMCH	**Combarbala**	**3.06**	**202**	*e*P	**Pn**	12 05 55.8	+0.3
CMCH				*e*S	**Sn**	12 06 30.9	-1.1
RTLL	**Cerro Villicun**	**3.15**	**161**	*e*P	**Pn**	12 05 57.5	+0.9
RTLL				*e*S	**Sn**	12 06 34.0	-0.1
RTLL				IAML		12 06 34.6	
	comp=N,255nm,0.4s						
GO02	**Mina Guanaco**	**3.16**	**1**	*e*P	**Pn**	12 05 58.5	+1.4
GO02				*i* S	**Sn**	12 06 36.2	+1.5
GO02				IAML		12 06 40.5	
	comp=E,107nm,0.5s						
CYA	**Choya**	**3.39**	**93**	⇓*e*P	**Pn**	12 05 59.6	-0.2
CYA				IAML		12 06 00.2	
	comp=Z,83nm,0.5s						
CYA				*e*S	**Sn**	12 06 36.5	-3.1
APLL	**PUNTA DE LOS L**	**3.41**	**128**	⇓*e*P	**Pn**	12 06 00.2	+0.1
APLL				IAML		12 06 39.4	
	comp=Z,25nm,0.3s						
RTLS	**Leoncito**	**3.46**	**175**	*e*P	**Pn**	12 06 02.1	+1.1
RTLS				IAML		12 06 45.1	
	comp=Z,35nm,0.3s						
RTCV	**Cerro Valdivia**	**3.64**	**165**	*e*P	**Pn**	12 06 03.6	+0.5
AUSP	**Uspallata**	**3.88**	**177**	*e*P	**Pn**	12 06 07.6	+1.1
AUSP				*e*S	Sn	12 06 40.8	-11
AHML	**Horco Molle**	**4.13**	**69**	*e*P	**Pn**	12 06 09.7	0.0
AHML				IAML		12 06 10.3	
	comp=Z,6.5nm,0.2s						
ASAL	**Salagasta**	**4.30**	**171**	*e*P	**Pn**	12 06 13.1	+1.2
ACAN	**Cantantal**	**4.46**	**152**	⇓*e*P	**Pn**	12 06 14.5	+0.5
ARCO	**CERRO ARCO**	**4.53**	**172**

SATY				S		Sg	12 08 04.8	-0.4
	5.0nm,0.1s							
SATY	**Saty**	**0.94**	**305**	*e*P		Pn	12 07 55.8	+0.2
	1.0nm,0.1s							
SATY				*e*S		Sn	12 08 09.9	+0.1
	9.5nm,0.2s							
KDJ	**Kajisay**	**1.73**	**258**	⇓*i*P		Pg	12 08 11.9	+3.8
	baz=56							
KDJ				⇓*i*S		Sg	12 08 36.4	+5.9
	baz=56							
DJR	**Jarkent**	**1.83**	**8**	*e*P		Pb	12 08 09.1	-0.3
	0.5nm,0.2s							
DJR				*e*S		Sb	12 08 32.5	-0.3
	0.7nm,0.1s							
ULHL	**Ulahol**	**2.39**	**265**	⇑*e*P		Pg	12 08 21.0	+0.2
	baz=63							
ULHL				⇑*i*S		Sg	12 08 52.7	+0.8
	baz=63							
BOOM	**Boomskoye usch**	**2.60**	**271**	⇑*i*P		Pg	12 08 23.9	-0.8
	baz=69							
BOOM				⇑*i*S		Sg	12 08 56.9	-1.5
	baz=69							
KAPS	**Kapalarasan**	**2.77**	**359**	*e*P		Pb	12 08 25.6	+0.3
	0.3nm,0.2s							
KAPS				*e*S		Sb	12 09 00.9	+1.1
	0.9nm,0.3s							
TKM2	**Tokmak 2**	**2.87**	**279**	⇑Pg		Pb	12 08 27.7	+0.6
	2.1nm,1.2s							
TKM2				⇓Lg		Lg	12 09 06.6	
	1.2nm,0.6s							

*IDC **01** 12:22:00.6±0.7, 40.°29N×142.°18E, h0km, mb3.8/17, mb1 4.1/19, mb1mx4.0/34, mbtmp3.9/19, ML3.8/2, MS3.1/7, Ms1 3.1/7, ms1mx3.0/36, Error ellipse: s-maj=19.0km s-min=14.9km az=117.0*
*NIED **01** 12:22:00, 40.°40N×142.°20E, h47km, Mw4.0 Best double couple: M₀1.10000×10¹⁵ NP1:φ₁230.00000°, δ23.00000°, λ179.00000°. NP2:φ₂321.00000°, δ90.00000°, λ67.00000°.*
*ISCJB **01** 12:22:06.7±0.4, 40.°35N±0.°03×142.°15E±0.°05, h56km±3km, mb4.0/34, MS3.6/2, Error ellipse: s-maj=7.1km s-min=4.5km az=17.0*
*JMA **01** 12:22:06.9, 40.°34N×142.°22E, h43km±1km, M4.1*
JMA Felt II J1.
*NEIC **01** 12:22:08.5±0.7, 40.°37N×142.°13E, h57km±6km, mb4.2/15, Error ellipse: s-maj=10.1km s-min=5.7km az=122.0*
NEIC Recorded [2 JMA] in Aomori.

ISC 01 12:22:06.8±0.9, 40.°35N±0.°04×142.°15E±0.°05, h41km±8km, n81, σ1°52/86, mb4.0/34, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.37**	**248**	P	**Pn**	**12 22 16.6**	**+0.7**
JKEN				S	**Sn**	**12 22 23.5**	**+1.3**
JTH	**Tanohata**	**0.46**	**209**	P	**Pn**	**12 22 17.6**	**+0.5**
JTH				S	**Sn**	**12 22 25.0**	**+0.7**
JANG	**Nango**	**0.49**	**273**	P	**Pn**	**12 22 18.3**	**+0.9**
JANG				S	**Sn**	**12 22 26.3**	**+1.4**
JKZ	**Kuzumaki**	**0.73**	**240**	P	**Pn**	**12 22 21.6**	**+0.9**
JKZ				S	**Sn**	**12 22 32.0**	**+1.4**
JARK	**Aomorirokkasho**	**0.89**	**318**	P	**Pn**	**12 22 23.3**	**+0.4**
JARK				*e*S	**Sn**	**12 22 35.0**	**+0.4**
JTM	**Tenmabayashi**	**0.94**	**298**	P	**Pn**	**12 22 24.0**	**+0.5**
JTM				*e*S	**Sn**	**12 22 36.8**	**+1.1**
JOM	**Ohasama**	**1.09**	**217**	P	**Pn**	**12 22 26.5**	**+0.9**
JOM				S	**Sn**	**12 22 40.4**	**+0.8**
JAH	**Hinai**	**1.17**	**263**	P	**Pn**	**12 22 27.8**	**+1.1**
JAH				S	**Sn**	**12 22 43.1**	**+1.7**
JOT	**Ohata**	**1.33**	**321**	P	**Pn**	**12 22 29.2**	**+0.3**
JOT				*e*S	**Sn**	**12 22 46.3**	**+0.9**
ERM	**Erimo**	**1.83**	**24**	*e*Pn	**Pn**	**12 22 37.6**	**+1.9**
ERM				*e*Sn	**Sn**	**12 23 01.1**	**+3.4**
ASAJ	**Asahikawa**	**3.78**	**5**	Pn	**Pn**	**12 23 04.1**	**+1.6**
	11nm,0.3s,baz=223,slow=9.4,SNR=40						
ASAJ				Sn	**Sn**	**12 23 47.7**	**+1.9**
	3.9nm,0.3s,baz=119,slow=27,SNR=3.6						
ASAJ				LR	LR	12 24 53.3	
	comp=Z,125nm,18.4s,baz=166,slow=45						
MJB9	**Matsu-Tunnel**	**4.90**	**220**	*e*Pn	**Pn**	**12 23 21.1**	**+3.1**
MAJO	**Matsushiro**	**4.90**	**220**	*e*Pn	**Pn**	**12 23 20.8**	**+2.9**
MAT	**Matsushiro**	**4.90**	**220**	P	**Pn**	**12 23 21.0**	**+3.1**
MAT				*e*S	**Sn**	**12 24 20.2**	**+6.8**
MJAR	**Matsushiro Arr**	**4.90**	**220**	Pn	**Pn**	**12 23 21.1**	**+3.2**
	1.1nm,0.3s,baz=27,slow=13,SNR=35						
MJAR				LR	LR	12 25 46.9	
	comp=Z,107nm,19.8s,baz=45,slow=46						
INU	**Inuyama**	**6.43**	**221**	*e*Pn	**Pn**	**12 23 42.2**	**+3.2**
YSS	**Yuzh-Sakhalins**	**6.62**	**4**	*e*Pn	**Pn**	**12 23 41.6**	**+0.1**
USA0B	**Ussuriysk Arra**	**8.46**	**300**	*e*Pn	**Pn**	**12 24 08.6**	**+1.8**
USRK	**Ussuriysk Ar.**	**8.46**	**300**	Pn	**Pn**	**12 24 08.6**	**+1.9**
	0.3nm,0.3s,baz=112,slow=14,SNR=5.6						
USRK				LR	LR	12 27 14.6	
	comp=Z,108nm,21.4s,baz=128,slow=37						
KSRS	**Korea Array**	**11.46**	**260**	Pn	Pn	12 24 54.5	+6.7
	0.1nm,0.3s,baz=63,slow=15,SNR=3.5						
KSRS				LR	LR	12 29 02.5	
	comp=Z,100nm,18.1s,baz=75,slow=37						
KLR	**Kul'dur**	**11.54**	**324**	LR	LR	12 29 33.6	
	comp=Z,87nm,18.1s,baz=124,slow=39						
JNU	**Nakatsue**	**11.56**	**235**	*e*Pn	**Pn**	**12 24 46.8**	**-2.5**
JNU	**Nakatsue**	**11.56**	**235**	Pn	**Pn**	**12 24 46.3**	**-2.9**
	0.3nm,0.3s,baz=315,slow=17,SNR=3.8						
JNU				LR	LR	12 29 08.0	
	comp=Z,82nm,21.3s,baz=22,slow=37						
CBIJ	**Chichi jima**	**13.22**	**180**	*e*Pn	**Pn**	**12 25 09.3**	**-2.6**
JCJ	**Chichijima**	**13.22**	**180**	Pn	**Pn**	**12 25 09.3**	**-2.6**
	2.4nm,0.3s,baz=96,slow=19,SNR=2.3						
MA2	**Magadan**	**20.00**	**13**	*e*P	**P**	**12 26 35.2**	**-0.5**
	3.0nm,0.8s						
MA2	**Magadan**	**20.00**	**13**	P	**P**	**12 26 35.7**	**+0.1**
	1.0nm,0.3s,baz=198,slow=9.2,SNR=7.5						
HHC	**Hu-ho-hao-te**	**23.18**	**281**	*e*P	**P**	**12 27 10.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,250nm,4.9s						
SEY	**Seymchan**	**23.43**	**12**	P	**P**	**12 27 10.8**	**-1.2**
	comp=Z,4.7nm,1.1s,baz=195,slow=5.7,SNR=5.2						
TPUB	**Ta-pu**	**24.86**	**233**	*e*P	**P**	**12 27 24.8**	**-0.8**
	comp=Z,24nm,1.4s						
SONA0	**Songino Array**	**26.57**	**298**	*e*P	**P**	**12 27 41.5**	**+0.6**
SONM	**Songino Array**	**26.57**	**298**	P	**P**	**12 27 41.5**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=112,slow=6.4,SNR=4.0						
SONM				LR	LR	12 38 57.2	
	comp=Z,92nm,18.1s,baz=346,slow=38						
XAN	**Xi'an**	**27.10**	**267**	P	**P**	**12 27 46.8**	**+1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,170nm,4.1s						
H11N2	**WAKE ISLAND Hy**	**29.51**	**127**	T	T	12 59 00.3	
	baz=319,slow=75,SNR=201						
H11N1	**WAKE ISLAND Hy**	**29.52**	**127**	T	T	12 59 01.0	
	baz=319,slow=75,SNR=176						
H11N3	**WAKE ISLAND Hy**	**29.53**	**127**	T	T	12 59 01.7	
	baz=319,slow=75,SNR=102						
LZH	**Lanzhou**	**30.24**	**274**	*e*P	**P**	**12 28 14.2**	**+0.4**
LZH				pP	sP	12 28 29.7	-0.1
LZH				sP	pP	12 28 37.5	+13
LZH				*e*PP	**PnPn**	**12 29 14.6**	**+2.2**
LZH				pmax	pmax		
	comp=Z,18nm,1.0s						
LZH				pmax	pmax		
	comp=Z,72nm,5.2s						
LZH				LR	LR		
	comp=N,130nm,12.9s						
LZH				LR	LR		
	comp=E,140nm,13.2s						
LZH				LR	LR		
	comp=Z,180nm,16.5s						
H11S1	**WAKE ISLAND Hy**	**30.33**	**129**	T	T	13 00 06.1	
	baz=321,slow=76,SNR=44						
H11S3	**WAKE ISLAND Hy**	**30.33**	**129**	T	T	13 00 09.6	
	baz=321,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**30.34**	**129**	T	T	13 00 08.8	
	baz=321,slow=76,SNR=35						
CD2	**Chengdu**	**32.38**	**265**	P	**P**	**12 28 31.7**	**-0.9**
CD2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ANM	**Nome**	**38.49**	**33**	*e*P	**P**	**12 29 24.9**	**+0.3**
	comp=Z,1.9nm,0.9s						
WMQ	**Urumqi**	**39.96**	**293**	*e*P	**P**	**12 29 38.3**	**+1.1**
ZAA0	**Zalesovo Array**	**40.18**	**310**	*e*P	**P**	**12 29 39.1**	**+0.3**
	comp=Z,1.5nm,0.7s						
ZAA1	**Zalesovo Array**	**40.18**	**310**	*e*P	**P**	**12 29 39.1**	**+0.3**
ZALV	**Zalesovo Beam**	**40.18**	**310**	*e*P	**P**	**12 29 39.0**	**+0.2**
ZALV	**Zalesovo Beam**	**40.18**	**310**	P	**P**	**12 29 39.1**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=85,slow=7.1,SNR=5.8						
MK01	**Makanchi Array**	**42.93**	**299**	*e*P	**P**	**12 30 00.6**	**-0.8**
MK31	**Makanchi Array**	**42.93**	**299**	*e*P	**P**	**12 30 01.1**	**-0.3**
MK32	**Makanchi Array**	**42.93**	**299**	*e*P	**P**	**12 30 01.1**	**-0.3**
MKAR	**Makanchi Array**	**42.93**	**299**	P	**P**	**12 30 01.1**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=86,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**42.97**	**252**	P	**P**	**12 30 02.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=34,slow=7.0,SNR=3.3						
MAKZ	**Makanchi**	**43.13**	**299**	*e*P	**P**	**12 30 03.3**	**+0.3**
	comp=Z,2.3nm,0.8s						
IM3	**Indian Mountai**	**43.53**	**32**	*e*P	**P**	**12 30 06.2**	**+0.2**
PPLA	**Purkeypile**	**44.15**	**37**	*e*P	**P**	**12 30 11.0**	**-0.1**
	comp=Z,5.7nm,1.3s						
KURK	**Kurchatov**	**44.41**	**306**	*e*P	**P**	**12 30 13.7**	**+0.5**
	comp=Z,5.1nm,0.9s						
DHY	**Denali Highway**	**46.33**	**36**	*e*P	**P**	**12 30 28.8**	**+0.3**
	comp=Z,15nm,1.5s						
IL1	**Eielson Array**	**46.41**	**34**	*e*P	**P**	**12 30 28.7**	**-0.2**
ILAR	**Eielson Array**	**46.41**	**34**	P	**P**	**12 30 28.8**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=260,slow=5.9,SNR=9.2						
AAK	**Ala-Archa**	**49.49**	**296**	*e*P	**P**	**12 30 54.2**	**+1.0**
	comp=Z,2.4nm,1.2s						
INK	**Inuvik**	**51.19**	**28**	*e*P	**P**	**12 31 06.1**	**+0.7**
	comp=Z,0.3nm,0.6s						
ABKAR	**Akbulak array**	**56.28**	**309**	*e*P	**P**	**12 31 42.5**	**-0.5**
	comp=Z,1.9nm,0.7s						
WB2	**Warramunga Arr**	**60.41**	**188**	*e*P	**P**	**12 32 11.3**	**-0.8**
	comp=Z,25nm,1.5s						
WR1	**Warramunga Arr**	**60.42**	**188**	*e*P	**P**	**12 32 11.2**	**-0.8**
	comp=Z,8.4nm,1.5s						
WRA	**Warramunga Arr**	**60.42**	**188**	P	**P**	**12 32 11.2**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=5.8,slow=7.1,SNR=10						
YKA	**Yellowknife Ar**	**60.67**	**31**	P	**P**	**12 32 13.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=302,slow=6.5,SNR=7.5						
ARA0	**ARCESS Array S**	**61.11**	**339**	*e*P	**P**	**12 32 16.0**	**-0.3**
ARCES	**ARCESS Array B**	**61.11**	**339**	P	**P**	**12 32 16.0**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=66,slow=9.0,SNR=2.4						
AS01	**Alice Springs**	**64.14**	**188**	*e*P	**P**	**12 32 36.7**	**-0.2**
ASAR	**Alice Springs**	**64.14**	**188**	P	**P**	**12 32 36.0**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=12,slow=13,SNR=7.6						
FIA1	**FINESS Array S**	**66.16**	**332**	*e*P	**P**	**12 32 49.2**	**-0.4**
FIA0	**FINESS Array S**	**66.16**	**332**	*e*P	**P**	**12 32 49.3**	**-0.3**
FINES	**FINESS Array B**	**66.16**	**332**	P	**P**	**12 32 49.3**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=38,slow=7.0,SNR=3.7						
PINE	**Pine Mountain**	**67.78**	**51**	*e*P	**P**	**12 33 01.6**	**+1.1**
	comp=Z,4.7nm,0.8s						
NB200	**NORSAR Array S**	**71.36**	**337**	*e*P	**P**	**12 33 21.6**	**-0.4**
NOA	**NORSAR Array B**	**71.36**	**337**	P	**P**	**12 33 21.6**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=28,slow=8.5,SNR=2.5						
DLMT	**Dillon**	**71.60**	**46**	*e*P	**P**	**12 33 24.4**	**+0.5**
	comp=Z,2.7nm,0.9s						
AKASG	**Malin Array Be**	**72.04**	**322**	P	**P**	**12 33 26.1**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=47,slow=6.3,SNR=3.3						
NVAR	**Mina Array Bea**	**72.56**	**54**	P	**P**	**12 33 30.8**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=297,slow=6.9,SNR=4.4						
PDAR	**Pinedale Array**	**74.95**	**46**	P	**P**	**12 33 43.9**	**0.0**
	comp=Z,0.6nm,0.6s,baz=288,slow=0.4,SNR=7.1						
TXAR	**Lajitas Array**	**87.65**	**53**	P	**P**	**12 34 51.8**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=309,slow=6.0,SNR=5.6						

UCR 01 12:29:24.8±1.5, 13.°15N×90.°06W, h18km±7km, MD3.2, ML3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.81**	**31**	*e*P	Pb	12 29 39.8	-0.7
SBLS				*e*S	Sn	12 29 52.6	-0.6
RTR	**El Retiro**	**0.85**	**28**	*e*P	Pb	12 29 40.8	-0.3
BOQS	**Boqueron**	**0.96**	**52**	*e*P	Pb	12 29 42.3	-0.7
BOQS				*e*S	Sg	12 29 56.4	+0.3
LFRS	**El Faro**	**1.08**	**64**	*e*P	Pb	12 29 43.4	-1.6
LFRS				*e*S	Sb	12 29 58.6	-0.2
IXG	**Ixpaco**	**1.09**	**340**	*e*P	Pb	12 29 44.5	-0.7
IXG				*e*S	Sb	12 29 59.4	+0.3
LFU	**La Fuente**	**1.10**	**57**	*e*P	Pb	12 29 44.5	-0.7
NBG	**Las Nubes**	**1.46**	**349**	*e*P	Pn	12 29 50.5	0.0
NBG				*e*S	Sb	12 30 10.8	+0.9
FUG	**Fuego 3**	**1.50**	**330**	*e*P	Pb	12 29 52.3	0.0
FUG				*e*S	Sn	12 30 10.2	-0.1
PACA	**Pacayal**	**1.72**	**79**	*e*P	Pn	12 29 53.9	0.0
PACA				*e*S	Sn	12 30 16.3	+0.8
PACA				IAML		12 30 21.9	
	comp=Z,813nm,0.3s						

*ISCJB **01** 12:37:16.9±0.4, 39.°77N±0.°02×30.°64E±0.°03, h3km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=157.3*
*DDA **01** 12:37:16.7, 39.°76N×30.°63E, h7km±5km, ML3.4*
*ISK **01** 12:37:16.2, 39.°73N×30.°64E, h8km, ML3.5/15*

ISC 01 12:37:16.9±1.0, 39.°74N±0.°02×30.°65E±0.°02, h10km±8km, n35, σ0°55/49, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORA	**Eskisehir**	**0.21**	**313**	*i*P	**Pg**	**12 37 21.4**	**+0.2**
BORA				*i*S	**Sg**	**12 37 24.8**	**+0.6**
BORA				IAML_P			
	comp=Z,203μm,0.1s						
ESKT	**Eskisehir**	**0.27**	**145**	PG	**Pg**	**12 37 21.8**	**-0.6**
ESKT				SG	**Sg**	**12 37 26.3**	**+0.3**
AUKIR	**Kırka- Seyitga**	**0.47**	**191**	*i*P	**Pg**	**12 37 26.6**	**+0.5**
AUKIR				*i*S	**Sb**	**12 37 34.3**	**-0.1**
GPA	**Golpazari**	**0.61**	**335**	PG	**Pg**	**12 37 28.9**	**+0.2**
GPA				SG	**Sb**	**12 37 37.5**	**-0.8**
AUMIH	**MIHALICIK**	**0.66**	**78**	*i*P	**Pg**	**12 37 29.6**	**0.0**
AUMIH				*i*S	**Sb**	**12 37 39.5**	**-0.3**
GULT	**Gulveren**	**0.70**	**352**	PG	**Pg**	**12 37 29.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.74**	**113**	PG	**Pg**	**12 37 30.7**	**-0.4**
AUSIV	**SIVRIHISAR**	**0.75**	**113**	*i*P	**Pb**	**12 37 31.9**	**-0.3**
CAVI	**Cavuskoy**	**0.77**	**307**	PG	**Pg**	**12 37 31.4**	**-0.4**
GEYV	**SAKARYA_Geyve**	**0.79**	**340**	*i*P	**Pg**	**12 37 31.7**	**-0.5**
GEYV				*i*S	**Sn**	**12 37 47.6**	**+1.5**
GEYV				IAML_P			
	comp=Z,26μm,0.2s						
MDUB	**Mudurnu**	**0.84**	**30**	PG	**Pg**	**12 37 33.1**	**-0.1**
BTAS	**Taskesti**	**0.87**	**18**	*i*P	**Pg**	**12 37 33.5**	**-0.3**
BTAS				*i*S	**Sn**	**12 37 47.8**	**-0.4**
BTAS				IAML_P			
	comp=Z,11μm,0.2s						
TVSB	**Tavsanli**	**0.96**	**253**	PG	**Pg**	**12 37 34.6**	**-0.8**
SPNC	**Sapanca-Adapaz**	**0.98**	**345**	PG	**Pb**	**12 37 35.9**	**-0.1**
AFYO	**Afyonkarahisar**	**0.99**	**196**	*i*P	**Pn**	**12 37 37.1**	**+0.2**
AFYO				*i*S	**Sn**	**12 37 51.1**	**0.0**
SAUV	**Serdivan-Sakar**	**1.03**	**346**	PG	**Pb**	**12 37 36.9**	**+0.1**
SAUV				SG	**Sn**	**12 37 51.2**	**-0.7**
BOLV	**Bolvadin**	**1.05**	**167**	*i*P	**Pn**	**12 37 37.8**	**0.0**
BOLV				*i*S	**Sn**	**12 37 54.1**	**+1.6**
IZI	**Iznik**	**1.08**	**304**	PN	**Pn**	**12 37 37.9**	**-0.3**
GDZ	**Gediz**	**1.11**	**235**	*i*P	**Pg**	**12 37 37.8**	**-0.6**
GDZ				*i*S	**Sb**	**12 37 53.2**	**+0.2**
GDZ				IAML_P			
	comp=Z,1μm,0.1s						
YLV	**Yalova**	**1.28**	**311**	PN	**Pg**	**12 37 41.6**	**+0.1**
SHAP	**Saphane-Kutahy**	**1.32**	**238**	PN	**Pg**	**12 37 42.1**	**-0.1**
GEMT	**Gemlik**	**1.32**	**302**	PN	**Pn**	**12 37 41.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.49**	**295**	PN	**Pn**	**12 37 43.8**	**0.0**
ARMT	**Armutlu**	**1.60**	**302**	PN	**Pn**	**12 37 44.8**	**-0.5**
SILT	**Sile**	**1.61**	**332**	PN	**Pn**	**12 37 45.8**	**+0.4**
USAK	**Uak-Merkez**	**1.63**	**232**	*i*P	**Pb**	**12 37 46.3**	**-0.8**
USAK				*i*S	**Sg**	**12 38 09.9**	**+0.6**
USAK				IAML_P			
	comp=Z,932nm,0.2s						
KHAL	**Karahalli**	**1.64**	**214**	*i*P	**Pg**	**12 37 48.2**	**-0.1**
KHAL				*i*S	**Sg**	**12 38 08.8**	**-0.7**
KHAL				IAML_P			
	comp=Z,3μm,0.3s						
DEMI	**Demirci**	**1.65**	**246**	*i*P	**Pn**	**12 37 46.6**	**+0.5**
DEMI				IAML_P			
	comp=Z,629nm,0.1s						
KDHN	**Kadinhani**	**1.67**	**136**	*i*P	**Pb**	**12 37 47.5**	**-0.3**
KDHN				*i*S	**Sg**	**12 38 10.9**	**+0.4**
KAVV	**Kandilli-Istan**	**1.79**	**318**	PN	**Pn**	**12 37 48.3**	**+0.3**
ISK	**Istanbul-Kandi**	**1.80**	**318**	PN	**Pn**	**12 37 48.5**	**+0.5**
KCTX	**Karacabey (Bur**	**1.84**	**287**	PN	**Pn**	**12 37 49.4**	**+0.8**
KLYT	**Kilyos**	**1.95**	**321**	PN	**Pn**	**12 37 50.6**	**+0.6**
BGKT	**Bogazkoy**	**2.03**	**316**	PN	**Pn**	**12 37 51.5**	**+0.3**
CTKS	**Kestanelik-??a**	**2.21**	**313**	PN	**Pn**	**12 37 53.7**	**0.0**

MEX 01 12:39:03.9±0.4, 15.°52N×94.°81W, h16km±26km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.27**	**281**	*e*P	Pn	12 39 23.4	-3.6
HUIG				*e*S	Sb	12 39 38.4	-5.3
CMIG	**Matias Romero**	**1.57**	**358**	*e*P	Pn	12 39 27.3	-3.8
CMIG				*e*S	Sn	12 39 46.2	-4.9
VHO	**Vista Hermosa**	**2.41**	**310**	*i*P	Pn	12 39 40.2	-2.7
VHO				*i*S	Sn	12 40 08.5	-3.5
PNIG	**Pinotepa**	**3.30**	**286**	*i*P	Pn	12 39 52.9	-2.2
PNIG				*e*S	Sn	12 40 29.7	-4.3

*NNC **01** 12:40:22.0±0.4, 42.°93N×78.°10E, h5km±2km, mb2.8, mpv2.9, Error ellipse: s-maj=4.0km s-min=1.6km az=175.0*
*ISCJB **01** 12:40:22.5±0.6, 42.°92N±0.°03×78.°09E±0.°03, h3km±5km, Error ellipse: s-maj=5.5km s-min=3.1km az=159.6*
*KRNET **01** 12:40:22.8±0.1, 42.°96N×78.°11E, h26km, mb2.6*
*SOME **01** 12:40:23.3, 42.°93N×78.°12E, h15km*

ISC 01 12:40:22.9±0.9, 42.°93N±0.°03×78.°12E±0.°02, h15km±7km, n37, σ0°49/72, 12C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.25**	**59**	P	**Pg**	**12 40 28.4**	**0.0**
	33nm,0.1s						
SATY				S	**Sg**	**12 40 32.3**	**+0.1**
	178nm,0.2s						
SATY	**Saty**	**0.25**	**59**	⇑*e*P	**Pg**	**12 40 28.3**	**0.0**
	33nm,0.1s						
SATY				*e*S	**Sg**	**12 40 32.2**	**+0.1**
	178nm,0.2s						
KURS	**Kuram**	**0.56**	**4**	P	**Pg**	**12 40 34.0**	**+0.1**
	1.9nm,0.1s						
KURS				S	**Sg**	**12 40 41.6**	**+0.2**
	23nm,0.3s						
KURS	**Kuram**	**0.56**	**4**	*e*P	**Pg**	**12 40 34.0**	**+0.1**
	baz=4.0						
KURS				*e*S	**Sg**	**12 40 41.6**	**+0.2**
	baz=4.0						
KURS	**Kuram**	**0.56**	**4**	*e*P	**Pg**	**12 40 34.0**	**+0.1**
	1.9nm,0.1s						
KURS				*e*S	**Sg**	**12 40 41.6**	**+0.2**
	23nm,0.3s						
UZB	**Uzynbulak**	**0.70**	**72**	P	**Pg**	**12 40 36.3**	**-0.2**
	3.5nm,0.1s						
UZB				S	**Sg**	**12 40 45.4**	**-0.4**
	10nm,0.1s						
UZB	**Uzynbulak**	**0.70**	**72**	*e*P	**Pg**	**12 40 36.3**	**-0.2**
	baz=74						
UZB				*e*S	**Sg**	**12 40 45.4**	**-0.4**
	baz=74						
UZB	**Uzynbulak**	**0.70**	**72**	*e*P	**Pg**	**12 40 36.3**	**-0.2**
	3.5nm,0.1s						
UZB				*e*S	**Sg**	**12 40 45.4**	**-0.4**
	10nm,0.1s						
MDOK	**Medeo**	**0.82**	**287**	P	**Pg**	**12 40 37.7**	**-1.0**
	1.6nm,0.6s						
MDOK				S	**Sg**	**12 40 49.4**	**-0.2**
	1.4nm,0.4s						
MDOK	**Medeo**	**0.82**	**287**	*e*P	**Pg**	**12 40 38.4**	**-0.3**
	baz=85						
MDOK				*e*S	**Sg**	**12 40 49.2**	**-0.3**
	baz=85						
MDOK	**Medeo**	**0.82**	**287**	*e*P	**Pg**	**12 40 38.4**	**-0.3**
	1.1nm,0.2s						
MDOK				*e*S	**Sg**	**12 40 49.2**	**-0.3**
	3.7nm,0.2s						
TNSS	**Tian-Shan**	**0.86**	**277**	P	**Pg**	**12 40 39.1**	**-0.6**
	1.1nm,0.1s						
TNSS				S	**Sg**	**12 40 50.8**	**-0.3**
	4.7nm,0.2s						
TNSS	**Tian-Shan**	**0.86**	**277**	*e*P	**Pg**	**12 40 39.1**	**-0.6**
	baz=76						
TNSS				*e*S	**Sg**	**12 40 50.8**	**-0.3**
	baz=76						
TNSS	**Tian-Shan**	**0.86**	**277**	*e*P	**Pg**	**12 40 39.1**	**-0.6**
	1.1nm,0.1s						
TNSS				*e*S	**Sg**	**12 40 50.8**	**-0.3**
	4.7nm,0.2s						
KDJ	**Kajisay**	**1.06**	**221**	⇑*e*P	**Pb**	**12 40 42.8**	**-0.2**
	baz=20						
KDJ				⇑*i*S	**Sb**	**12 40 56.9**	**+0.2**
	baz=20						
PDGK	**Podgornoye**	**1.08**	**68**	P	**Pb**	**12 40 43.0**	**-0.4**
	0.8nm,0.2s						
PDGK				S	**Sb**	**12 40 57.1**	**-0.3**
	2.3nm,0.4s						
PDGK	**Podgornoye**	**1.08**	**68**	⇑*i*P	**Pb**	**12 40 42.8**	**-0.6**
	baz=69						
PDGK				⇑*i*S	**Sb**	**12 40 56.9**	**-0.5**
	baz=69						
IZV	**Izvest

KAPS	**Kapalarasan**	**2.52**	**20**	*e*P		**Pb**	**12 41 09.0**	**+1.1**
	0.3nm,0.1s							
KAPS				*e*S		**Sg**	**12 41 41.6**	**-2.2**
	4.3nm,0.4s							
AAK	**Ala-Archa**	**2.68**	**265**	⇓Pg		**Pb**	**12 41 11.1**	**+0.5**
	1.7nm,0.8s							
AAK				⇓Lg		Lg	12 41 46.5	
	1.2nm,0.4s							

*ISCJB **01** 12:44:07.3±0.2, 32°.69N±0°.02×115°.80W±0°.02, h21km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=6.2*
*ANF **01** 12:44:07.2±0.4, 32°.74N×115°.81W, h20km±2km, ML2.8/19, Error ellipse: s-maj=3.6km s-min=2.1km az=162.0*
*ECX **01** 12:44:08.7±0.6, 32°.67N×115°.83W, h8km, MD3.0, ML3.2, Fault plane solution: NP1:φs186.67000°, δ60.00000°, λ0.00000°.*
*PAS **01** 12:44:08.2, 32°.69N×115°.83W, h10km, ML3.1*
*NEIC **01** 12:44:08.2±0.0, 32°.69N×115°.83W, h10km, ML3.1(PAS), After PAS.*
NEIC Felt at El Centro and San Diego.
*SCEDC **01** 12:44:08.2, 32°.69N×115°.83W, h10km*
*MEX **01** 12:44:09.4±0.6, 32°.76N×115°.83W, h16km±999km, MD3.8*

ISC 01 12:44:07.1±0.9, 32°.69N±0°.02×115°.83W±0°.02, h18km±4km, n68, σ1°06/103, 12C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.09**	**243**	⇑*i*P	**Pg**	**12 44 10.6**	**-0.1**
WESC	**Westside Schoo**	**0.11**	**49**	⇑*e*P	**Pg**	**12 44 10.9**	**+0.1**
WESC				*e*S	**Sg**	**12 44 13.6**	**+0.2**
COK	**Cook Ranch**	**0.18**	**29**	⇑*i*P	**Pg**	**12 44 12.3**	**+0.5**
RMX	**La Rumorosa**	**0.23**	**248**	⇑*e*P	**Pb**	**12 44 12.8**	**+0.1**
RMX				*e*S	**Sb**	**12 44 16.0**	**-0.3**
RMX				IAML		12 44 16.3	
	comp=E,5μm,0.2s						
CRR	**Carrizo Plain**	**0.23**	**330**	⇓*i*P	**Pg**	**12 44 13.0**	**+0.5**
IKP	**In-Ko-Pah, Jac**	**0.24**	**261**	P	**Pg**	**12 44 13.2**	**+0.5**
	baz=81,SNR=1000						
IKP				S	**Sb**	**12 44 16.8**	**+0.1**
	baz=81						
IKP	**In-Ko-Pah, Jac**	**0.24**	**261**	⇑*e*P	**Pg**	**12 44 13.2**	**+0.5**
IKP				*e*S	**Sb**	**12 44 16.8**	**+0.1**
SWSC	**Sam W. Stewart**	**0.26**	**6**	P	**Pg**	**12 44 13.3**	**+0.3**
	baz=185,SNR=240						
SWSC				S	**Sb**	**12 44 16.7**	**-0.7**
	baz=185						
SWSC	**Sam W. Stewart**	**0.26**	**6**	⇑*e*P	**Pg**	**12 44 13.3**	**+0.3**
UABX	**UABC, Campus M**	**0.33**	**99**	⇑*e*P	**Pb**	**12 44 15.1**	**+0.6**
DREC	**Desert Rsrch C**	**0.34**	**70**	⇑*e*P	**Pb**	**12 44 15.3**	**+0.5**
CPBX	**Cerro Prieto**	**0.52**	**121**	*e*P	**Pb**	**12 44 17.8**	**+0.1**
CPBX				*e*S	**Sg**	**12 44 25.1**	**+0.6**
CPBX				IAML		12 44 29.4	
	comp=N,7μm,0.2s						
CPBX				⇓*e*		12 44 29.4	
CPBX				IAML		12 44 30.6	
	comp=E,6μm,0.3s						
CPBX				*e*		12 44 30.6	
MONP2	**Monument Peak**	**0.54**	**293**	P	**Pg**	**12 44 18.6**	**+0.6**
	baz=112,SNR=88						
MONP2				S	**Sb**	**12 44 25.6**	**-0.1**
	baz=112						
MONP2	**Monument Peak**	**0.54**	**293**	⇓*i*P	**Pg**	**12 44 18.6**	**+0.6**
BAR	**Barrett**	**0.71**	**270**	*e*Pg	**Pg**	**12 44 21.4**	**+0.3**
BAR				*e*Sg	**Sb**	**12 44 30.6**	**+0.2**
BAR	**Barrett**	**0.71**	**270**	⇑*e*P	**Pg**	**12 44 21.6**	**+0.5**
TJIG	**Tijuana**	**0.76**	**251**	*i* P	**Pb**	**12 44 21.9**	**+0.2**
TJIG				*e*S	**Sb**	**12 44 31.3**	**-0.4**
TJIG	**Tijuana**	**0.76**	**251**	⇑*e*P	**Pb**	**12 44 22.0**	**+0.2**
CBX	**Cerro Bola**	**0.80**	**242**	*i* P	**Pg**	**12 44 23.1**	**+0.4**
CBX				*e*S	**Sb**	**12 44 32.9**	**-0.1**
CBX	**Cerro Bola**	**0.80**	**242**	⇑*e*P	**Pg**	**12 44 23.1**	**+0.4**
CBX				*e*S	**Sg**	**12 44 33.7**	**+0.4**
CBX				IAML		12 44 34.5	
	comp=N,862nm,0.2s						
EML	**El Monte Cty P**	**0.88**	**284**	⇓*e*P	**Pg**	**12 44 24.3**	**+0.1**
GLA	**Glamis**	**0.92**	**66**	*e*Pg	**Pb**	**12 44 23.9**	**-0.7**
GLA				*e*Sg	**Sb**	**12 44 36.1**	**-0.4**
GLA	**Glamis**	**0.92**	**66**	P	**Pb**	**12 44 24.0**	**-0.7**
	baz=247,SNR=96						
GLA				S	**Sb**	**12 44 35.8**	**-0.7**
	baz=247						
SDRC	**San Diego Road**	**0.94**	**273**	⇑*e*P	**Pn**	**12 44 25.4**	**-0.1**
BC3	**Big Chuckawall**	**1.02**	**18**	P	**Pb**	**12 44 25.6**	**-0.7**
	baz=198,SNR=31						
BC3				S	**Sb**	**12 44 38.2**	**-1.2**
	baz=198						
XPFO	**Pion Flat**	**1.06**	**331**	*e*Pg	**Pb**	**12 44 26.4**	**-0.6**
XPFO				*e*Sg	**Sb**	**12 44 40.5**	**-0.2**
PFO	**Pinyon Flats O**	**1.06**	**330**	*e*Pg	**Pb**	**12 44 26.4**	**-0.7**
PFO				*e*Sg	**Sg**	**12 44 42.0**	**+0.2**
PFO	**Pinyon Flats O**	**1.06**	**330**	P	**Pb**	**12 44 26.4**	**-0.7**
	baz=150,SNR=82						
PFO				S	**Sb**	**12 44 40.2**	**-0.6**
	baz=150						
109C	**Camp Elliot, M**	**1.09**	**281**	P	**Pb**	**12 44 27.9**	**+0.4**
	baz=100,SNR=35						
109C				S	**Sn**	**12 44 41.8**	**-0.4**
	baz=100						
CPE	**Camp Elliot**	**1.09**	**281**	*e*Pg	**Pb**	**12 44 27.8**	**+0.3**
CPE				*e*Sg	**Sn**	**12 44 42.0**	**-0.2**
ECNX	**Esteban Cantu**	**1.22**	**213**	*i* P	**Pn**	**12 44 26.9**	**-2.4**
ZAX	**El Zacaton**	**1.23**	**198**	IAML		12 44 47.9	
	comp=N,515nm,0.2s						
ZAX				*e*		12 44 47.9	
BELC	**Belle Mtn. Jos**	**1.32**	**354**	P	**Pn**	**12 44 30.2**	**-0.6**
	baz=174,SNR=27						
BELC				S	**Sn**	**12 44 46.4**	**-1.6**
	baz=174						
ECBX	**El Chinero**	**1.38**	**151**	⇓*e*P	**Pb**	**12 44 33.0**	**+0.6**
ECBX				*e*S	**Sg**	**12 44 51.1**	**-0.6**
MURC	**Murrieta**	**1.46**	**309**	P	**Pn**	**12 44 32.6**	**-0.1**
	baz=128,SNR=79						
Y12C	**Blythe**	**1.52**	**46**	*e*Pn	**Pn**	**12 44 32.9**	**-0.6**
Y12C				*e*Sn	**Sb**	**12 44 53.3**	**-0.7**
Y12C	**Blythe**	**1.52**	**46**	P	**Pn**	**12 44 33.0**	**-0.6**
	baz=226,SNR=98						
IRM	**Iron Mountain**	**1.57**	**21**	P	**Pn**	**12 44 33.8**	**-0.5**
	baz=201,SNR=60						
SPIG	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pn**	**12 44 36.0**	**+0.2**
SPIG				*e*S	**Sn**	**12 44 56.7**	**-0.1**
SPX	**San Pedro Mart**	**1.67**	**169**	*e*P	**Pn**	**12 44 35.1**	**-0.7**
SPX				*e*S	**Sn**	**12 44 56.1**	**-0.8**
113A	**Mohawk Valley,**	**1.74**	**87**	*e*Pn	**Pn**	**12 44 35.9**	**-0.6**
113A				*e*Sn	**Sn**	**12 44 57.4**	**-0.8**
BBRC	**Big Bear Solar**	**1.82**	**330**	P	**Pn**	**12 44 38.2**	**+0.5**
	baz=150						
BBRC				S	**Sn**	**12 44 59.3**	**-1.2**
	baz=150						
BFSC	**Mount Baldy Ra**	**2.17**	**316**	Sb	**Sb**	**12 45 14.4**	**+1.6**
	baz=135						
CIS	**Catalina Islan**	**2.28**	**289**	Sb	**Sb**	**12 45 16.5**	**+0.7**
	baz=108						
FMP	**Fort Macarthur**	**2.30**	**297**	Sb	**Sb**	**12 45 17.8**	**+1.5**
	baz=116						
SCI2	**San Clemente I**	**2.31**	**278**	S	**Sb**	**12 45 14.5**	**-1.8**
	baz=96						
MWC	**Mount Wilson**	**2.41**	**310**	*e*Pn	**Pb**	**12 44 48.3**	**-1.8**
MWC				*e*Sn	**Pn**	**12 45 15.9**	**+0.8**
PASC	**Pasadena Art C**	**2.46**	**308**	*e*Pn	**Pn**	**12 44 48.4**	**+1.9**
PASC				*e*Sn	**Sn**	**12 45 17.9**	**+1.8**
DECC	**Green Verdugo**	**2.61**	**307**	Sb	**Sb**	**12 45 26.9**	**+1.7**
	baz=126						
214A	**Organ Pipe Nat**	**2.66**	**105**	P	**Pn**	**12 44 48.1**	**-1.1**
	baz=287						
Y14A	**Wickenburg**	**2.68**	**61**	*e*Pn	**Pn**	**12 44 49.9**	**+0.5**
Y14A				*e*Sn	**Sn**	**12 45 22.2**	**+0.8**
GSC	**Goldstone, Bar**	**2.73**	**343**	*e*Pn	**Pb**	**12 44 57.1**	**+1.6**
GSC				*e*Sn	**Sg**	**12 45 32.7**	**-2.2**
EDW2	**Edwards Air Fo**	**2.83**	**321**	P	**Pn**	**12 44 51.4**	**-0.2**
	baz=140						
EDW2				Sb	**Sg**	**12 45 35.0**	**-3.3**
	baz=140						
W13A	**Hualapai Mount**	**2.90**	**33**	*e*Pn	**Pn**	**12 44 54.7**	**+2.0**
W13A				*e*Sn	**Sn**	**12 45 27.3**	**+0.1**
OSI	**Osito Audit: C**	**3.08**	**309**	*e*Pn	**Pn**	**12 44 55.9**	**+0.8**
OSI				*e*Sn	**Sn**	**12 45 31.7**	**+0.2**
ISA	**Isabella, Lake**	**3.69**	**324**	*e*Pn	**Pn**	**12 45 04.5**	**+1.2**
ISA				*e*Sg	**Sg**	**12 46 03.2**	**-2.5**
SHPR	**Sheep Range**	**3.85**	**8**	*e*Pn	**Pn**	**12 45 04.4**	**-1.3**
SHPR				*e*Sn	**Sn**	**12 45 52.5**	**+1.9**

X16A	**Lo Mia Camp, P**	**4.05**	**64**	*e*Pn	**Pn**	**12 45 09.9**	**+1.5**
TPNV	**Topopah Spring**	**4.27**	**355**	*e*Pn	**Pn**	**12 45 13.0**	**+1.6**
TUC	**Tucson**	**4.28**	**94**	*e*Pn	**Pn**	**12 45 11.5**	**0.0**
TUC				*e*Sn	**Sn**	**12 46 02.6**	**+1.5**
WUAZ	**Wupatki**	**4.65**	**51**	*e*Pn	**Pn**	**12 45 18.4**	**+1.7**
U15A	**North Rim**	**4.74**	**37**	*e*Pn	**Pn**	**12 45 19.3**	**+1.3**
LCMT	**Little Creek M**	**4.81**	**26**	*e*Pn	**Pn**	**12 45 20.6**	**+1.7**
KNB	**Kanab**	**4.98**	**29**	*e*Pn	**Pn**	**12 45 23.4**	**+2.3**
X18A	**Snowflake**	**5.24**	**68**	*e*Pn	**Pn**	**12 45 26.4**	**+1.6**
CCUT	**Cedar City**	**5.26**	**22**	*e*Pn	**Pn**	**12 45 25.2**	**+0.1**
SZCU	**Shurtz Canyon**	**5.39**	**24**	*e*Pn	**Pn**	**12 45 28.2**	**+1.4**
W18A	**Petrified Fore**	**5.62**	**63**	*e*Pn	**Pn**	**12 45 29.1**	**-0.9**

*DDA **01** 12:50:31.1, 37°.12N×38°.73E, h7km±4km, ML2.7*
*ISCJB **01** 12:50:32.3±0.9, 37°.11N±0°.05×38°.71E±0°.04, h4km±6km, Error ellipse: s-maj=8.3km s-min=4.9km az=174.1*
*ISK **01** 12:50:32.3, 37°.14N×38°.71E, h8km, ML2.2/5*

ISC 01 12:50:32.4±1.0, 37°.15N±0°.05×38°.74E±0°.03, h14km±11km, n10, σ0°70/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURC	**SANLIURFA_SURC**	**0.29**	**201**	*i* P	**Pg**	**12 50 37.8**	**-0.7**
SURC				IAML_P			
	comp=Z,2μm,0.2s						
URFA	**Urfa**	**0.30**	**12**	PG	**Pg**	**12 50 38.3**	**-0.4**
URFA				SG	**Sb**	**12 50 44.2**	**-0.3**
ATAB	**Bozova**	**0.48**	**312**	*i* P	**Pg**	**12 50 41.4**	**-0.6**
ATAB				*i* S	**Sb**	**12 50 49.5**	**-0.1**
ATAB				IAML_P			
	comp=Z,12μm,0.1s						
GAZ	**Gaziantep**	**1.23**	**272**	PN	**Pb**	**12 50 55.2**	**-0.2**
GAZ				SN	**Sg**	**12 51 13.1**	**+1.1**
KUZU	**Kuzuini**	**1.39**	**255**	*i* P	**Pn**	**12 50 57.0**	**-0.3**
KUZU				*i* S	**Sg**	**12 51 18.5**	**+1.3**
MAZI	**Mazidag**	**1.39**	**77**	PN	**Pg**	**12 50 59.3**	**+0.1**
MAZI				SN	**Sg**	**12 51 18.5**	**+1.1**
HCB	**Kahramanmara**	**1.48**	**278**	*i* P	**Pn**	**12 50 58.7**	**+0.1**
HCB				IAML_P			
	comp=Z,207nm,0.2s						
KMRS	**Kahramanmaras**	**1.51**	**284**	PN	**Pb**	**12 50 59.8**	**-0.5**
KMRS				SN	**Sb**	**12 51 19.9**	**+0.6**
MARD	**Mardin**	**1.63**	**84**	*i* P	**Pb**	**12 51 02.1**	**-0.2**
MARD				*i* S	**Sg**	**12 51 25.3**	**+0.3**
MARD				IAML_P			
	comp=Z,547nm,0.3s						
DARE	**Darende-Malaty**	**1.74**	**325**	PN	**Pb**	**12 51 03.9**	**-0.2**

IDC 01 12:53:04.8±4.0, 20°.82N×122°.53E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.7/3, Error ellipse: s-maj=292.4km s-min=24.7km az=61.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.63**	**318**	P	P	13 00 54.6	-0.2
	0.3nm,0.5s,baz=111,slow=9.0,SNR=11						
WRA	**Warramunga Arr**	**42.13**	**163**	P	P	13 00 58.6	-0.5
	1.2nm,0.6s,baz=344,slow=9.2,SNR=18						
ASAR	**Alice Springs**	**45.59**	**165**	P	P	13 01 27.1	+0.3
	0.7nm,0.5s,baz=350,slow=6.8,SNR=16						

*BJI **01** 12:53:49.9, 50°.82N×157°.60E, h46km, mb5.7/81, mB6.0/66, Ms6.4/96, Ms7 6.4/85*
*KRSC **01** 12:53:49.0±2.0, 50°.63N×157°.94E, h52km±22km, ML6.4, FELT [V] at Severo-Kurilsk; [IV] at Zaporojye, lighthouse Krugliy; [III-IV] at Ozernovskiy, cape Vasilyeva, Pionersky; [III] at Viluchinsk, Petropavlovsk, Sosnovka, Institute; [II-III] at Nikolaevka, Elizovo; [II] at cape Lopatka, GMS Vodopadnay, state-farm T.*
*NEIC **01** 12:53:51.1±0.1, 50°.90N×157°.45E, h33km, mb5.7/297, ME5.6, MS5.8/291, MW6.3, MW6.4, MW6.4, Error ellipse: s-maj=3.0km s-min=1.7km az=163.0, Moment Tensor Solution. s103 Moment tensor: Scale 10¹⁸Nm; Mrr3.29; Mθθ-0.50; Mϕϕ-2.79; Mrθ0.85; Mrϕ-1.09; Mθϕ1.32; Best double couple: M₀3.60000×10¹⁸ NP1:φs197.00000°, δ32.00000°, λ82.00000°. NP2:φs26.00000°, δ58.00000°, λ95.00000°. Principal axes: T 3.6600, Plg77.0000°, Azm311.0000°; N -0.0800, Plg4.0000°, Azm204.0000°; P -3.5800, Plg13.0000°, Azm113.0000°; Apparent Stress 0.12 MPa. Complex earthquake observed on broadband displacement seismograms, with at least two events occurring about 4 seconds apart. Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*
*NEIC **01** 12:53:52.0±0.0, 50°.84N×157°.67E, h40km, Moment Tensor Solution. s144 Moment tensor: Scale 10¹⁸Nm; Mrr3.48; Mθθ-0.90; Mϕϕ-2.58; Mrθ1.52; Mrϕ-1.44; Mθϕ2.52; Best double couple: M₀4.50000×10¹⁸ NP1:φs31.00000°, δ65.00000°, λ91.00000°. NP2:φs209.00000°, δ25.00000°, λ88.00000°. Principal axes: T 4.5700, Plg69.0000°, Azm302.0000°; N -0.0700, Plg0.0000°, Azm210.0000°; P -4.4900, Plg20.0000°, Azm120.0000°;*
*MOS **01** 12:53:52.4±1.0, 50°.82N×157°.46E, h66km, mb5.8/135, MS6.4/83 Error ellipse: s-maj=5.7km s-min=2.7km az=80.6 Broadband fault plane solution: P waves. M₀5.70000×10¹⁸ NP1:φs32.00000°, δ71.00000°, λ86.00000°. NP2:φs224.00000°, δ20.00000°, λ101.00000°. Principal axes: T Plg64.0000°, Azm296.0000°; N Plg4.0000°, Azm34.0000°; P Plg26.0000°, Azm125.0000°;*
MOS Fault plane solution: P-wave C79, D26 . Felt (V) at Severo-Kuril'sk, (III-IV) at Petropavlovsk-Kamchatskiy, Zaporozh'e, Ozernovskiy, Pionerskiy, (III) at Vilyuchinsk, Sosnovka, Novyy, (II-III) at Nikolaevka, Elizovo, (II) at Termal'nyy.
*ISCJB **01** 12:53:53.3±0.2, 50°.89N±0°.02×157°.56E±0°.02, h69km±2km, mb5.5/661 Error ellipse: s-maj=2.7km s-min=1.5km az=159.7*
*IDC **01** 12:53:55.3±1.9, 50°.96N×157°.52E, h68km±16km, mb5.1/35, mb1 5.3/40, mb1mx5.3/41, mbtmp5.4/40, MS6.1/23, Ms1 6.1/23, ms1mx5.8/41, Error ellipse: s-maj=11.2km s-min=7.6km az=131.0*
*GCMT **01** 12:53:58.1±0.1, 50°.70N×157°.75E, h44km, MW6.4/144, Moment Tensor Solution. s143,c373; s144,c571; Duration: 37 Moment tensor: Scale 10¹⁸Nm; Mrr4.02±.03; Mθθ-0.94±.02; Mϕϕ-3.08±.02; Mrθ0.95±.02; Mθϕ-1.86±.02; Mrϕ1.64±.02; Best double couple: M₀4.50500×10¹⁸ NP1:φs30.00000°, δ57.00000°, λ90.00000°. NP2:φs210.00000°, δ33.00000°, λ90.00000°. Principal axes: T 4.4370, Plg78.0000°, Azm300.0000°; N 0.1360, Plg0.0000°, Azm30.0000°; P -4.5730, Plg12.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BGR **01** 12:54:05.9±0.0, 52°.64N×155°.00E, h33km, mb5.8*
*NEIC **01** 12:54:06.7±0.0, 50°.49N×158°.50E, h48km, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁸Nm; Mrr4.37; Mθθ-1.58; Mϕϕ-2.79; Mrθ1.40; Mθϕ-1.82; Mrϕ2.70; Best double couple: M₀5.20000×10¹⁸ NP1:φs220.00000°, δ27.00000°, λ98.00000°. NP2:φs31.00000°, δ63.00000°, λ86.00000°. Principal axes: T 5.3600, Plg72.0000°, Azm292.0000°; N -0.2900, Plg4.0000°, Azm33.0000°; P -5.0700, Plg18.0000°, Azm124.0000°;*

ISC 01 12:53:53.9±0.3, 50°.91N±0°.03×157°.60E±0°.03, h58km±2km, h58km:pP-P,n2632,σ1°34/2589, mb5.7/700, MS5.9/650, 192C-50D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.75**	**319**	PN	**Pn**	**12 54 09.7**	**+1.0**
PAU	**Pauzhetka**	**0.75**	**319**	*i* P	**Pn**	**12 54 09.7**	**+1.0**
KDTR	**Khodutka, Kamc**	**0.95**	**18**	PN	**Pn**	**12 54 10.8**	**-0.5**
KDTR				S	**Sn**	**12 54 24.5**	**+0.4**
KDTR	**Khodutka, Kamc**	**0.95**	**18**	*i* P	**Pn**	**12 54 10.8**	**-0.5**
KDTR				*i* S	**Sn**	**12 54 24.5**	**+0.4**
SKR	**Severo-Kuril's**	**0.97**	**257**	⇓*i* PN	**Pn**	**12 54 10.6**	**-0.9**
SKR				*e*S	**Sn**	**12 54 25.1**	**+0.7**
SKR				pmax	pmax		
	comp=Z,79μm,0.8s						
SKR	**Severo-Kuril's**	**0.97**	**257**	*i* P	**Pn**	**12 54 10.5**	**-0.9**
SKR				*i* S	**Sn**	**12 54 24.3**	**-0.1**
ALID	**Alaid**	**1.30**	**269**	*e*P	**Pn**	**12 54 16.5**	**+0.5**
ASAK	**Asacha**	**1.49**	**7**	*e*P	**Pn**	**12 54 19.1**	**+0.6**
MTVR	**Mutnovka**	**1.62**	**13**	PN	**Pn**	**12 54 20.7**	**+0.4**
MTVR	**Mutnovka**	**1.62**	**13**	*e*P	**Pn**	**12 54 20.7**	**+0.4**
RUS	**Russkaya**	**1.63**	**20**	PN	**Pn**	**12 54 19.8**	**-0.5**
RUS	**Russkaya**	**1.63**	**20**	*e*P	**Pn**	**12 54 19.8**	**-0.5**
GRL	**Gorelyy**	**1.68**	**10**	PN	**Pn**	**12 54 21.9**	**+0.8**
GRL	**Gorelyy**	**1.68**	**10**	*e*P	**Pn**	**12 54 21.9**	**+0.8**
KRMR	**Karymshinskiy**	**1.96**	**9**	PN	**Pn**	**12 54 26.1**	**+1.4**
KRMR				S	**Sn**	**12 54 52.9**	**+4.8**
KRMR	**Karymshinskiy**	**1.96**	**9**	*e*P	**Pn**	**12 54 26.1**	**+1.4**
KRMR				*e*S	**Sn**	**12 54 52.9**	**+4.8**
APC	**Apacha**	**2.04**	**352**	PN	**Pn**	**12 54 27.9**	**+2.0**
APC	**Apacha**	**2.04**	**352**	*e*P	**Pn**	**12 54 27.9**	**+2.0**
I44RU	**PETROPAVLOVSK-**	**2.21**	**2**	P	**Pn**	**12 54 28.8**	**+0.7**
	baz=141,slow=17,SNR=1.0						
I44RU				*i*		13 02 40.0	
	baz=182,slow=344,SNR=0.8						
PEA0B	**Petropavlovsk-**	**2.21**	**2**	*e*Pn	**Pn**	**12 54 30.0**	**+1.9**
PETK	**Petropavlovsk-**	**2.21**	**2**	*e*Pn	**Pn**	**12 54 29.5**	**+1.3**
PETK	**Petropavlovsk-**	**2.21**	**2**	P	**Pn**	**12 54 30.3**	**+2.1**
	comp=Z,241nm,0.3s,baz=174,slow=13,SNR=1942						
PETK				S	Sn	12 55 06.8	+13
	comp=Z,690nm,0.3s,baz=196,slow=15,SNR=7.3						
PEA1	**Petropavlovsk-**	**2.21**	**2**	*e*Pn	**Pn**	**12 54 30.3**	**+2.1**
PET	**Petropavlovsk**	**2.22**	**17**	*e*Pn	**Pn**	**12 54 28.9**	**+0.6**
PET				*e*Sn	**Sn**	**12 54 52.1**	**-2.4**
PET	**Petropavlovsk**	**2.22**	**17**	PN	**Pn**	**12 54 28.9**	**+0.6**
DALK	**Dalny**	**2.25**	**18**	PN	**Pn**	**12 54 29.2**	**+0.5**
DALK				S	**Sn**	**12 54 57.2**	**+2.0**
DALK	**Dalny**	**2.25**	**18**	*e*P	**Pn**	**12 54 29.2**	**+0.5**
DALK				*e*S	**Sn**	**12 54 57.2**	**+2.0**
UGLR	**Uglovaya**	**2.43**	**18**	PN	**Pn**	**12 54 32.3**	**+1.0**
UGLR	**Uglovaya**	**2.43**	**18**	*e*P	**Pn**	**12 54 32.3**	**+1.0**
AVH	**Avacha**	**2.47**	**16**	PN	**Pn**	**12 54 33.2**	**+1.4**
AVH	**Avacha**	**2.47**	**16**	*e*P	**Pn**	**12 54 33.2**	**+1.4**
KOK	**Koryaka**	**2.48**	**15**	PN	**Pn**	**12 54 33.9**	**+2.0**
KOK	**Koryaka**	**2.48**	**15**	*e*P	**Pn**	**12 54 33.9**	**+2.0**
SMAR	**Somma**	**2.48**	**17**	PN	**Pn**	**12 54 32.9**	**+0.9**
SMAR	**Somma**	**2.48**	**17**	*e*P	**Pn**	**12 54 32.9**	**+0.9**
KRER	**Koryakskii**	**2.50**	**16**	*e*P	**Pn**	**12 54 33.8**	**+1.4**
SDLR	**Sedlovina**	**2.50**	**18**	PN	**Pn**	**12 54 32.9**	**+0.6**
SDLR	**Sedlovina**	**2.50**	**18**	*i* P	**Pn**	**12 54 32.9**	**+0.6**
NLC	**Nalytchevo**	**2.51**	**25**	PN	**Pn**	**12 54 31.6**	**-0.7**
NLC	**Nalytchevo**	**2.51**	**25**	*e*P	**Pn**	**12 54 31.6**	**-0.7**
KRX	**Arik**	**2.54**	**14**	PN	**Pn**	**12 54 34.5**	**+1.7**
KRX	**Arik**	**2.54**	**14**	*e*P	**Pn**	**12 54 34.5**	**+1.7**
SPN	**Mys Shipunski**	**2.66**	**33**	PN	**Pn**	**12 54 33.8**	**-0.5**
SPN	**Mys Shipunski**	**2.66**	**33**	*e*P	**Pn**	**12 54 33.8**	**-0.5**
GNL	**Ganaly**	**2.80**	**4**	PN	**Pn**	**12 54 38.2**	**+1.8**
GNL	**Ganaly**	**2.80**	**4**	*e*P	**Pn**	**12 54 38.2**	**+1.8**
KII	**Karymskiy**	**3.33**	**19**	PN	**Pn**	**12 54 45.4**	**+1.8**
KII	**Karymskiy**	**3.33**	**19**	*e*P	**Pn**	**12 54 45.4**	**+1.8**
MKZ	**Mys Kozlova**	**4.43**	**33**	PN	**Pn**	**12 54 58.0**	**-0.6**
MKZ	**Mys Kozlova**	**4.43**	**33**	*e*P	**Pn**	**12 54 58.0**	**-0.6**
KZV	**Kizimen**	**4.52**	**20**	PN	**Pn**	**12 55 02.1**	**+2.2**
KZV	**Kizimen**	**4.52**	**20**	*e*P	**Pn**	**12 55 02.1**	**+2.2**
TUMD	**Tumrok D**	**4.62**	**20**	*e*P	**Pn**	**12 55 03.5**	**+2.3**
TUMR	**Tumrok**	**4.65**	**18**	PN	**Pn**	**12 55 03.5**	**+1.9**
TUMR	**Tumrok**	**4.65**	**18**	*e*P	**Pn**	**12 55 04.5**	**+2.9**
ESO	**Esso**	**5.07**	**7**	PN	**Pn**	**12 55 10.2**	**+2.9**
ESO	**Esso**	**5.07**	**7**	*e*P	**Pn**	**12 55 10.2**	**+2.9**
KPT	**Kopyto**	**5.31**	**16**	PN	**Pn**	**12 55 13.7**	**+3.1**
KPT	**Kopyto**	**5.31**	**16**	*e*P	**Pn**	**12 55 13.7**	**+3.1**
KIRR	**Kirishev**	**5.32**	**17**	PN	**Pn**	**12 55 13.2**	**+2.4**
KIRR	**Kirishev**	**5.32**	**17**	*e*P	**Pn**	**12 55 13.2**	**+2.4**
BZMR	**Bezymyannaya**	**5.33**	**18**	PN	**Pn**	**12 55 13.9**	**+3.0**
BZMR	**Bezymyannaya**	**5.33**	**18**	*e*P	**Pn**	**12 55 13.9**	**+3.0**
KOZ	**Kozyrevsk**	**5.34**	**14**	PN	**Pn**	**12 55 13.9**	**+2.9**
KOZ	**Kozyrevsk**	**5.34**	**14**	*e*P	**Pn**	**12 55 13.9**	**+2.9**
BZWR	**Bezymyannyi-We**	**5.36**	**18**	PN	**Pn**	**12 55 14.7**	**+3.4**
BZWR	**Bezymyannyi-We**	**5.36**	**18**	*e*P	**Pn**	**12 55 14.7**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**5.37**	**19**	PN	**Pn**	**12 55 14.9**	**+3.4**
BZGR	**Bezymyannyi-Gr**	**5.37**	**19**	*e*P	**Pn**	**12 55 14.9**	**+3.4**
ZLN	**Zelenaya**	**5.47**	**19**	*e*P	**Pn**	**12 55 15.8**	**+3.0**
LGNR	**Loginova**	**5.50**	**18**	PN	**Pn**	**12 55 17.2**	**+3.7**
LGNR	**Loginova**	**5.50**	**18**	*e*P	**Pn**	**12 55 17.2**	**+3.7**
CIRR	**Tsirk**	**5.55**	**19**	PN	**Pn**	**12 55 17.1**	**+3.2**
CIRR	**Tsirk**	**5.55**	**19**	*e*P	**Pn**	**12 55 17.1**	**+3.2**
SRDR	**Sredinnyy**	**5.57**	**12**	*e*P	**Pn**	**12 55 17.0**	**+2.9

YSS	**Yuzh-Sakhalins**	**10.54**	**254**	*e*Pn		**Pn**		**12 56 24.2**	**+2.2**
YSS	**Yuzh-Sakhalins**	**10.54**	**254⇑**	*i*PN		**Pn**		**12 56 24.4**	**+2.4**
YSS				*e*S		**Sn**		**12 58 23.3**	**+4.9**
YSS				pmax	pmax				
	comp=Z,1μm,1.2s								
GRPR	**Tuman**	**10.57**	**234⇑**	*i*PN		**Pn**		**12 56 21.2**	**-1.4**
GRPR				*e*				12 58 28.5	
GRPR				pmax	pmax				
	comp=N,2μm,0.5s								
GRPR				pmax	pmax				
	comp=E,1μm,0.5s								
GRPR				pmax	pmax				
	comp=Z,1μm,0.5s								
GRPR				pmax	pmax				
	comp=Z,3μm,2.5s								
NKL	**Nikolayevsk**	**10.67**	**289**	*i* PN		**Pn**		**12 56 26.0**	**+2.2**
NKL				pmax	pmax				
	comp=E,550nm,1.1s								
NKL				pmax	pmax				
	comp=Z,880nm,1.1s								
NKL				pmax	pmax				
	comp=E,16μm,10.0s								
NKL				pmax	pmax				
	comp=Z,12μm,10.0s								
NKL				MLR	MLR				
	comp=E,80μm,16.0s								
TILK	**Tilichiki**	**10.70**	**23**	*e*P		**Pn**		**12 56 26.0**	**+1.8**
GLVR	**Golovnino**	**10.88**	**233**	*i* PN		**Pn**		**12 56 25.4**	**-1.4**
GLVR				*i* S		**Sn**		**12 58 25.7**	**-1.2**
GLVR				pmax	pmax				
	comp=Z,842nm,0.4s								
GLVR				pmax	pmax				
	comp=E,1μm,0.6s								
GLVR				pmax	pmax				
	comp=N,619nm,0.5s								
GLVR				pmax	pmax				
	comp=Z,6μm,3.0s								
ASAJ	**Asahikawa**	**12.20**	**242**	P		**Pn**		**12 56 45.5**	**+0.8**
	comp=Z,14nm,0.3s,baz=69,slow=12,SNR=84								
ASAJ				S		Sn		12 59 10.8	+12
	baz=256,slow=30,SNR=7.4								
ASAJ				LR	LR			13 01 23.0	
	comp=Z,90μm,18.8s,baz=52,slow=37								
SEY	**Seymchan**	**12.38**	**349**	*i* PN		**Pn**		**12 56 49.7**	**+2.5**
SEY	**Seymchan**	**12.38**	**349**	P		**Pn**		**12 56 50.2**	**+3.0**
	comp=Z,0.7nm,0.3s,baz=153,slow=11,SNR=65								
KMSK	**Kamenskaya**	**12.50**	**19**	*e*P		**Pn**		**12 56 50.0**	**+1.3**
ERM	**Erimo**	**13.33**	**234**	*e*Pn		**Pn**		**12 56 56.8**	**-3.3**
ERM				*e*Sn		**Sn**		**12 59 20.4**	**-6.1**
ERM	**Erimo**	**13.33**	**234**	*e*PN		**Pn**		**12 56 56.8**	**-3.3**
GRNR	**Gornyy**	**13.38**	**278**	*e*PN		**P**		**12 57 05.0**	**-3.5**
GRNR				pmax	pmax				
	comp=Z,42nm,1.0s								
TEY	**Ternei**	**15.22**	**255⇑**	*e*P		**P**		**12 57 27.8**	**-1.1**
TEY				*e*S		**Sn**		**13 00 13.0**	**+0.7**
TEY				pmax	pmax				
	comp=E,160nm,2.9s								
TEY				pmax	pmax				
	comp=Z,90nm,1.0s								
TEY				pmax	pmax				
	comp=N,60nm,1.2s								
TEY				smax	smax				
	comp=N,31μm,8.3s								
TEY				smax	smax				
	comp=E,16μm,7.7s								
TEY				MLR	MLR				
	comp=E,58μm,22.0s								
TEY				MLR	MLR				
	comp=N,38μm,21.0s								
KIWB	**Kanaga Island**	**15.77**	**77**	*e*Pn		**Pn**		**12 57 31.1**	**-1.0**
ADK	**Adak**	**16.06**	**76**	*e*Pn		**Pn**		**12 57 36.0**	**+0.3**
	comp=N,144nm,0.9s								
ADK	**Adak**	**16.06**	**76**	*e*P		**Pn**		**12 57 36.0**	**+0.3**
ADK				pmax	pmax				
	comp=Z,144nm,0.9s								
GSTR	**Great Sitkin T**	**16.42**	**76**	*e*Pn		**Pn**		**12 57 39.4**	**-0.9**
KLR	**Kul'dur**	**16.66**	**274**	P		**P**		**12 57 46.9**	**+2.1**
	comp=Z,5.6nm,0.3s,baz=74,slow=12,SNR=73								
KLR				S		**S**		**13 00 56.0**	**+0.4**
	baz=128,slow=19,SNR=1.5								
BILL	**Bilibino**	**17.71**	**11**	*e*Pn		**Pn**		**12 57 55.5**	**-0.6**
	comp=Z,199nm,1.0s								
BILL	**Bilibino**	**17.71**	**11⇑**	*i*P		**Pn**		**12 57 55.2**	**-0.9**
BILL				*e*S		**S**		**13 01 17.9**	**+1.4**
BILL				pmax	pmax				
	comp=Z,164nm,1.3s								
BILL				MLR	MLR				
	comp=Z,82μm,22.0s								
USA0B	**Ussuriysk Arra**	**18.48**	**259**	*e*P		**P**		**12 58 03.8**	**-1.1**
	comp=Z,246nm,1.3s								
USRK	**Ussuriysk Ar.**	**18.48**	**259**	P		**P**		**12 58 04.8**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=63,slow=9.0,SNR=33								
USRK				LR	LR			13 05 04.2	
	comp=Z,98μm,21.7s,baz=54,slow=36								
ZEA	**Zeya**	**18.70**	**291**	*ce*P		**P**		**12 58 07.4**	**+0.2**
ZEA				*e*S		**Sn**		**13 01 33.0**	**-3.4**
ZEA				pmax	pmax				
	comp=N,160nm,0.8s								
ZEA				pmax	pmax				
	comp=E,670nm,1.8s								
ZEA				pmax	pmax				
	comp=Z,1μm,1.8s								
ZEA				pmax	pmax				
	comp=Z,28μm,13.0s								
ZEA				pmax	pmax				
	comp=E,20μm,14.0s								
ZEA				pmax	pmax				
	comp=N,4μm,12.0s								
ZEA				smax	smax				
	comp=N,41μm,14.0s								
ZEA				MLR	MLR				
	comp=N,20μm,16.0s								
YAK	**Yakutsk**	**18.85**	**317**	*e*P		**P**		**12 58 08.6**	**-0.2**
YAK				pmax	pmax				
	comp=Z,3μm,0.9s								
YAK				pmax	pmax				
	comp=E,607nm,1.1s								
YAK				pmax	pmax				
	comp=N,398nm,1.0s								
YAK				pmax	pmax				
	comp=Z,4μm,0.9s								
YAK				pmax	pmax				
	comp=N,4μm,1.5s								
YAK				pmax	pmax				
	comp=E,12μm,1.4s								
YAK				MLR	MLR				
	comp=N,259μm,19.0s								
YAK				MLR	MLR				
	comp=E,550μm,19.0s								
VLA	**Vladivostok**	**19.12**	**256⇑**	*i*P		**P**		**12 58 11.9**	**0.0**
VLA				pmax	pmax				
	comp=Z,88nm,0.8s								
SPIA	**Saint Paul Isl**	**19.76**	**59**	*e*P		**P**		**12 58 19.2**	**+0.4**
	comp=Z,892nm,1.4s								
MDJ	**Mudanjiang**	**19.78**	**262**	P		**P**		**12 58 17.4**	**-1.7**
MDJ				S		**S**		**13 01 56.9**	**-1.8**
MDJ				sS		Sn		13 02 04.6	+2.1
MDJ				pmax	pmax				
	comp=Z,120nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,4μm,5.4s								
MDJ				LR	LR				
	comp=Z,95μm,21.9s								
MDJ				LR	LR				
	comp=Z,97μm,23.9s								
MDJ				LR	LR				
	comp=Z,152μm,19.0s								
MDJ	**Mudanjiang**	**19.78**	**262**	*e*P		**P**		**12 58 16.7**	**-2.4**
	comp=Z,268nm,0.9s								
MSHR	**Mys Shultsa**	**19.86**	**256**	*i* P		**P**		**12 58 19.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**19.98**	**232**	*e*P		**P**		**12 58 20.8**	**-0.6**
	comp=Z,547nm,0.9s								
MAJO	**Matsushiro**	**19.98**	**232**	*e*P		**P**		**12 58 20.7**	**-0.7**
	comp=Z,517nm,0.9s								
MAJO				*e*S		**Sn**		**13 02 12.5**	**+5.1**
MAJO	**Matsushiro**	**19.98**	**232***c*	*i*P		**P**		**12 58 20.8**	**-0.5**
MAJO				pmax	pmax				
	comp=Z,704nm,1.0s								
MAT	**Matsushiro**	**19.98**	**232**	P		**P**		**12 58 20.2**	**-1.1**
MAT				S		**S**		**13 02 00.6**	**-2.1**
MJAR	**Matsushiro Arr**	**19.98**	**232**	P		**P**		**12 58 20.9**	**-0.5**
	comp=Z,2.3nm,0.3s,baz=25,slow=8.6,SNR=247								
MJAR				S		**Sn**		**13 02 12.5**	**+5.1**
	comp=Z,0.1nm,0.3s,baz=278,slow=19,SNR=4.1								
MJAR				LR	LR			13 06 27.5	
	comp=Z,61μm,21.6s,baz=55,slow=38								

NIKH	**Nikolski High**	**20.68**	**71**	*e*P		Pn		12 58 30.5	-1.1
	comp=Z,153nm,1.0s								
GAMB	**Gambell**	**20.72**	**40**	*e*P		**P**		**12 58 29.7**	**+0.6**
	comp=Z,189nm,1.0s								
INU	**Inuyama**	**21.51**	**232**	*e*P		**P**		**12 58 37.1**	**-0.7**
INU	comp=Z,863nm,0.8s			LR	LR				
	comp=Z,47μm,21.0s								
UNV	**Unalaska Valle**	**21.96**	**68**	*e*P		**P**		**12 58 42.8**	**+0.3**
	comp=Z,134nm,1.3s								
JHJ2	**Mitsune**	**22.05**	**223**	*e*P		**P**		**12 58 42.8**	**-0.8**
	comp=Z,2μm,1.1s								
JHJ	**Hachijo jima 2**	**22.06**	**223**	P		**P**		**12 58 44.1**	**+0.3**
	comp=Z,1μm,1.0s,baz=233,slow=15,SNR=10.0								
AKUT	**Akutan**	**22.36**	**67**	*e*P		**P**		**12 58 46.7**	**0.0**
	comp=Z,192nm,1.3s								
CN2	**Changchun**	**22.78**	**264**	*e*P		**P**		**12 58 48.5**	**-2.8**
CN2				*es*P		pP		12 59 05.5	+1.3
CN2				*e*S		**S**		**13 02 48.4**	**-7.4**
CN2				pmax	pmax				
	comp=Z,50nm,1.4s								
CN2				pmax	pmax				
	comp=Z,3μm,7.0s								
CN2				LR	LR				
	comp=Z,65μm,22.0s								
CN2				LR	LR				
	comp=Z,33μm,22.0s								
CN2				LR	LR				
	comp=Z,61μm,23.0s								
ANM	**Nome**	**23.59**	**41**	*e*P		**P**		**12 59 00.0**	**+1.0**
	comp=Z,690nm,1.6s								
ANM	**Nome**	**23.59**	**41**	*e*P		**P**		**12 59 00.0**	**+1.0**
ANM				pmax	pmax				
	comp=Z,690nm,1.6s								
HIA	**Hailar**	**24.18**	**281**	*e*P		**P**		**12 59 04.4**	**-0.1**
	comp=Z,204nm,0.7s								
HIA	**Hailar**	**24.18**	**281**	*e*P		**P**		**12 59 04.4**	**-0.1**
HIA				pmax	pmax				
	comp=Z,204nm,0.7s								
KSRS	**Korea Array**	**24.98**	**249**	P		**P**		**12 59 12.8**	**+1.0**
	comp=Z,99nm,1.0s,baz=46,slow=9.9,SNR=82								
KSRS				LR	LR			13 07 58.3	
	comp=Z,46μm,21.2s,baz=53,slow=34								
KS01	**Wonju Array Si**	**24.98**	**249**	*e*P		**P**		**12 59 10.9**	**-0.9**
SNY	**Shenyang**	**24.98**	**262**	⇑P		**P**		**12 59 10.7**	**-1.1**
SNY				S		**S**		**13 03 29.6**	**-1.7**
SNY				pmax	pmax				
	comp=Z,100nm,1.7s								
SNY				LR	LR				
	comp=Z,99μm,22.4s								
SNY				LR	LR				
	comp=Z,49μm,23.5s								
SNY				LR	LR				
	comp=Z,91μm,21.6s								
KS15	**Wonju Array Si**	**25.01**	**249**	*e*P		**P**		**12 59 11.0**	**-1.2**
	comp=Z,553nm,1.6s								
SDPT	**Sand Point**	**25.25**	**63**	*e*P		**P**		**12 59 15.7**	**+1.5**
	comp=Z,71nm,0.8s								
RDOG	**Red Dog Mine**	**25.72**	**33**	*e*P		**P**		**12 59 19.2**	**+0.8**
	comp=Z,270nm,0.9s								
RDOG				LR	LR				
	comp=Z,14μm,22.0s								
BOD	**Bodaibo**	**25.94**	**302**	*e*P		**P**		**12 59 19.2**	**-1.2**
BOD				pmax	pmax				
	comp=Z,268nm,1.6s								
TJN	**Taejon**	**26.03**	**248**	*ce*P		**P**		**12 59 22.0**	**+0.5**
JNU	**Nakatsue**	**26.42**	**238**	*e*P		**P**		**12 59 25.8**	**+0.7**
	comp=Z,815nm,1.0s								
JNU				LR	LR				
	comp=Z,20μm,21.0s								
JNU	**Nakatsue**	**26.42**	**238**	P		**P**		**12 59 25.6**	**+0.5**
	comp=Z,347nm,0.8s,baz=69,slow=4.2,SNR=29								
JNU				S		**S**		**13 03 59.6**	**+5.2**
	comp=Z,8.9nm,0.9s,baz=139,slow=19,SNR=2.7								
JNU				LR	LR			13 11 09.4	
	comp=Z,18μm,21.5s,baz=38,slow=39								
CBIJ	**Chichi jima**	**26.52**	**212**	*e*P		**P**		**12 59 26.1**	**+0.2**
JCJ	**Chichijima**	**26.52**	**212**	P		**P**		**12 59 26.1**	**+0.2**
	comp=Z,127nm,1.0s,baz=175,slow=6.1,SNR=3.9								
JCJ				S		S		13 04 28.3	+32
	comp=Z,46nm,0.7s,baz=311,slow=19,SNR=3.2								
CIT	**Chita**	**27.16**	**290**	*e*P		**P**		**12 59 31.5**	**0.0**
CIT				*e*				12 59 51.0	
CIT				*e*				12 59 57.8	
CIT				*e*				13 00 34.1	
CIT				pmax	pmax				
	comp=Z,195nm,1.8s								
SVW2	**Sparrevohn**	**27.50**	**50**	*e*P		**P**		**12 59 35.2**	**+0.8**
	comp=Z,197nm,1.4s								
DL2	**Dalian**	**27.88**	**259⇑**	*i*P		**P**		**12 59 35.9**	**-2.1**
DL2				sP		**pP**		**12 59 54.4**	**+2.0**
DL2				PcP		**PcP**		**13 02 52.7**	**+0.4**
DL2				S		**S**		**13 04 14.2**	**-2.9**
DL2				pmax	pmax				
	comp=Z,73nm,1.0s								
DL2				pmax	pmax				
	comp=Z,2μm,6.5s								
DL2				LR	LR				
	comp=Z,49μm,19.1s								
DL2				LR	LR				
	comp=Z,39μm,20.4s								
DL2				LR	LR				
	comp=Z,60μm,24.1s								
SII	**Sitkinak Islan**	**28.58**	**60**	*e*P		**P**		**12 59 44.9**	**+0.8**
	comp=Z,160nm,1.2s								
SII				LR	LR				
	comp=Z,15μm,21.0s								
IM3	**Indian Mountai**	**28.67**	**40**	*e*P		**P**		**12 59 45.0**	**+0.2**
OHAK	**Old Harbor**	**28.96**	**58**	*e*P		**P**		**12 59 45.8**	**-1.7**
	comp=Z,76nm,0.8s								
OHAK				LR	LR				
	comp=Z,15μm,22.0s								
PPLA	**Purkeypile**	**29.11**	**46**	*e*P		**P**		**12 59 50.0**	**+1.1**
	comp=Z,165nm,1.4s								
PPLA				LR	LR				
	comp=Z,12μm,20.0s								
CAST	**Castle Rocks**	**29.17**	**45**	*e*P		**P**		**12 59 50.2**	**+0.9**
	comp=Z,59nm,0.8s								
CAST				LR	LR				
	comp=Z,18μm,21.0s								
KDAK	**Kodiak Island**	**29.26**	**57**	*e*P		**P**		**12 59 48.9**	**-1.1**
	comp=Z,208nm,1.5s								
KDAK				LR	LR				
	comp=Z,17μm,21.0s								
KDAK	**Kodiak Island**	**29.26**	**57**	*i* P		**P**		**12 59 48.9**	**-1.1**
KDAK	**Kodiak Island**	**29.26**	**57**	P		**P**		**12 59 49.1**	**-0.9**
	comp=Z,50nm,0.9s,baz=290,slow=6.0,SNR=19								
MIDW	**Midway**	**29.50**	**131**	PFAKE				13 00 00.0	+7.5
MIDW				LR	LR				
	comp=Z,29μm,22.0s								
HOM	**Homer**	**29.52**	**53**	PFAKE				13 00 00.0	+7.7
HOM				LR	LR				
	comp=Z,6μm,19.0s								
SUA	**Susitna One**	**29.82**	**49**	*e*P		**P**		**12 59 53.5**	**-1.7**
	comp=Z,49nm,0.8s								
SUA				LR	LR				
	comp=Z,6μm,21.0s								
MLY	**Manley**	**29.82**	**42**	*e*P		**P**		**12 59 55.6**	**+0.5**
	comp=Z,62nm,1.0s								
MLY				LR	LR				
	comp=Z,10μm,22.0s								
BRLK	**Bradley Lake**	**29.89**	**53**	*e*P		**P**		**12 59 52.9**	**-2.8**
	comp=Z,60nm,1.0s								
BRLK				LR	LR				
	comp=Z,8μm,22.0s								
TRF	**Thorofare Moun**	**29.98**	**45**	*e*P		**P**		**12 59 56.9**	**+0.3**
	comp=Z,122nm,1.2s								
TRF				LR	LR				
	comp=Z,16μm,20.0s								
COLD	**Coldfoot**	**30.23**	**38**	*e*P		**P**		**12 59 59.1**	**+0.5**
	comp=Z,60nm,1.0s								
COLD				LR	LR				
	comp=Z,7μm,21.0s								
RC01	**Rabbit Creek A**	**30.33**	**50**	*e*P		**P**		**12 59 58.7**	**-0.9**
	comp=Z,61nm,1.1s								
RC01				LR	LR				
	comp=Z,9μm,22.0s								
BWN	**Browne**	**30.35**	**44**	*e*P		**P**		**13 00 01.2**	**+1.5**
	comp=Z,617nm,1.2s								
BWN				LR	LR				
	comp=Z,14μm,21.0s								
SEW	**Seward**	**30.57**	**52**	*e*P		**P**		**13 00 00.3**	**-1.3**
	comp=Z,107nm,0.9s								
SEW				LR	LR				
	comp=Z,11μm,22.0s								
MCK	**McKinley**	**30.58**	**45**	*e*P		**P**		**13 00 01.8**	**0.0**
	comp=Z,155nm,0.9s								

MCK				LR	LR				
	comp=Z,18μm,21.0s								
MCK	**McKinley**	**30.58**	**45**	*e*P		**P**		**13 00 01.8**	**0.0**
MCK				pmax	pmax				
	comp=Z,155nm,0.9s								
PMR	**Palmer**	**30.59**	**49**	*e*P		**P**		**13 00 00.8**	**-0.9**
	comp=Z,31nm,0.9s								
PMR				LR	LR				
	comp=Z,5μm,20.0s								
PMR	**Palmer**	**30.59**	**49**	*e*P		**P**		**13 00 00.8**	**-0.9**
PMR				pmax	pmax				
	comp=Z,31nm,0.9s								
RND	**Reindeer**	**30.63**	**45**	*e*P		**P**		**13 00 02.0**	**-0.1**
	comp=Z,138nm,0.9s								
RND				LR	LR				
	comp=Z,16μm,21.0s								
RND	**Reindeer**	**30.63**	**45**	*e*P		**P**		**13 00 02.1**	**-0.1**
RND				pmax	pmax				
	comp=Z,138nm,0.9s								
BJI	**Beijing**	**30.63**	**266⇑**	*i*P		**P**		**13 00 00.0**	**-2.4**
BJI				S		**S**		**13 04 56.0**	**-4.3**
TOLK	**Toolik Lake Re**	**30.64**	**35**	*e*P		**P**		**13 00 02.8**	**+0.5**
	comp=Z,105nm,0.8s								
TOLK				LR	LR				
	comp=Z,13μm,22.0s								
TOLK	**Toolik Lake Re**	**30.64**	**35**	P		**P**		**13 00 02.7**	**+0.5**
	baz=262								
TOLK				S		**S**		**13 04 58.1**	**-2.0**
	baz=262								
GHO	**Glory Hole Cre**	**30.67**	**49**	*e*P		**P**		**13 00 03.0**	**+0.4**
	comp=Z,62nm,0.7s								
GHO				LR	LR				
	comp=Z,7μm,22.0s								
MDM	**Murphy Dome**	**30.89**	**42**	*e*P		**P**		**13 00 04.6**	**+0.1**
	comp=Z,91nm,1.0s								
MDM				LR	LR				
	comp=Z,6μm,20.0s								
KNK	**Knik Glacier**	**30.92**	**49**	*e*P		**P**		**13 00 04.6**	**-0.2**
	comp=Z,203nm,0.8s								
KNK				LR	LR				
	comp=Z,11μm,22.0s								
WRH	**Wood River Hil**	**30.95**	**43**	*e*P		**P**		**13 00 05.2**	**+0.3**
	comp=Z,139nm,1.0s								
WRH				LR	LR				
	comp=Z,8μm,20.0s								
SML	**Sawmill**	**30.95**	**48**	*e*P		**P**		**13 00 05.3**	**+0.3**
	comp=Z,316nm,0.9s								
SML				LR	LR				
	comp=Z,7μm,22.0s								
SML	**Sawmill**	**30.95**	**48**	*e*P		**P**		**13 00 05.3**	**+0.3**
SML				pmax	pmax				
	comp=Z,316nm,0.9s								
TCOL	**CIGO, UAF Yank**	**31.05**	**42**	P		**P**		**13 00 06.3**	**+0.6**
	baz=270								
COLA	**College**	**31.05**	**42**	*e*P		**P**		**13 00 06.2**	**+0.4**
	comp=Z,175nm,0.8s								
COLA				LR	LR				
	comp=Z,9μm,22.0s								
COLA	**College**	**31.05**	**42***c*	*i*P		**P**		**13 00 06.4**	**+0.6**
COLA				pmax	pmax				
	comp=Z,116nm,0.9s								
CCB	**Clear Creek Bu**	**31.07**	**43**	*e*P		**P**		**13 00 06.1**	**+0.1**
	comp=Z,246nm,1.5s								
CCB				LR	LR				
	comp=Z,8μm,22.0s								
POKR	**Poker Plat Res**	**31.23**	**42**	P		**P**		**13 00 08.0**	**+0.6**
	baz=270								
DHY	**Denali Highway**	**31.31**	**46**	*e*P		**P**		**13 00 07.7**	**-0.6**
	comp=Z,95nm,1.0s								
DHY				LR	LR				
	comp=Z,14μm,21.0s								
SCM	**Sheep Creek Mo**	**31.42**	**48**	*e*P		**P**		**13 00 09.5**	**+0.3**
	comp=Z,197nm,1.0s								
SCM				LR	LR				
	comp=Z,9μm,22.0s								
SCM	**Sheep Creek Mo**	**31.42**	**48**	*e*P		**P**		**13 00 09.5**	**+0.3**
SCM				pmax	pmax				
	comp=Z,197nm,1.0s								
HDA	**Harding Lake**	**31.44**	**43**	*e*P		**P**		**13 00 08.9**	**-0.4**
	comp=Z,104nm,1.3s								
HDA				LR	LR				
	comp=Z,8μm,19.0s								
HDA	**Harding Lake**	**31.44**	**43**	P		**P**		**13 00 08.7**	**-0.6**
	baz=272								
IL1	**Eielson Array**	**31.46**	**43**	*e*P		**P**		**13 00 09.5**	**0.0**
ILAR	**Eielson Array**	**31.46**	**43**	P		**P**		**13 00 09.1**	**-0.4**
	comp=Z,45nm,1.0s,baz=260,slow=7.6,SNR=134								
ILAR				LR	LR			13 14 11.9	
	comp=Z,6μm,20.0s,baz=276,slow=39								
ILB	**Eielson Array**	**31.46**	**43**	*e*P		**P**		**13 00 09.4**	**0.0**
H11N2	**WAKE ISLAND Hy**	**31.96**	**163**	T		T		13 33 57.8	
	baz=349,slow=76,SNR=4849								
H11N1	**WAKE ISLAND Hy**	**31.98**	**163**	T		T		13 33 56.1	
	baz=349,slow=76,SNR=5921								
H11N3	**WAKE ISLAND Hy**	**31.98**	**163**	T		T		13 33 58.9	
	baz=349,slow=76,SNR=7627								
PRP	**Porcupine Dome**	**32.03**	**41**	*e*P		**P**		**13 00 14.8**	**+0.2**
	comp=Z,140nm,0.9s								
PRP				LR	LR				
	comp=Z,9μm,21.0s								
KLU	**Klutina**	**32.12**	**49**	*e*P		**P**		**13 00 16.0**	**+0.6**
	comp=Z,93nm,1.0s								
KLU				LR	LR				
	comp=Z,6μm,22.0s								
FYU	**Fort Yukon**	**32.14**	**39**	*e*P		**P**		**13 00 16.4**	**+1.0**
	comp=Z,210nm,0.9s								
FYU				LR	LR				
	comp=Z,12μm,21.0s								
PAX	**Paxson**	**32.18**	**46**	*e*P		**P**		**13 00 17.0**	**+1.1**
	comp=Z,96nm,1.3s								
PAX				LR	LR				
	comp=Z,14μm,20.0s								
PAX	**Paxson**	**32.18**	**46**	*e*P		**P**		**13 00 17.0**	**+1.1**
PAX				pmax	pmax				
	comp=Z,96nm,1.3s								
MID	**Middleton Isla**	**32.23**	**53**	PFAKE				13 00 30.0	+14
MID				LR	LR				
	comp=Z,11μm,21.0s								
DIV	**Divide**	**32.24**	**49**	*e*P		**P**		**13 00 16.6**	**+0.1**
	comp=Z,72nm,0.8s								
EYAK	**Cordova Ski Ar**	**32.34**	**51**	*e*P		**P**		**13 00 17.3**	**+0.2**
	comp=Z,82nm,0.9s								
EYAK				LR	LR				
	comp=Z,21μm,22.0s								
TIA	**Tai'an**	**32.35**	**259**	P		**P**		**13 00 16.4**	**-1.2**
TIA				S		**S**		**13 05 26.5**	**-0.8**
TIA				pmax	pmax				
	comp=Z,1μm,7.9s								
TIA				LR	LR				
	comp=Z,9μm,21.6s								
TIA				LR	LR				
	comp=Z,19μm,22.6s								
TIA				LR	LR				
	comp=Z,18μm,24.5s								
WAKE	**Wake Island**	**32.36**	**164**	PFAKE				13 00 30.0	+12
WAKE				LR	LR				
	comp=Z,34μm,19.0s								
HARP	**HAARP**	**32.38**	**47**	*e*P		**P**		**13 00 18.4**	**+0.8**
	comp=Z,68nm,0.7s								
HARP				LR	LR				
	comp=Z,9μm,21.0s								
RIDG	**Independ'e Rid**	**32.40**	**44**	*e*P		**P**		**13 00 17.3**	**-0.5**
	comp=Z,149nm,1.0s			

SCRK LR LR
comp=Z,8μm,21.0s
JOW Kunigami 32.78 234 PFAKE 13 00 30.0 +8.6
JOW LR LR
comp=Z,11μm,19.0s
JOW Kunigami 32.78 234 P **P** **13 00 21.5 +0.1**
comp=Z,20nm,1.1s,baz=111,slow=15,SNR=14
BMRM Bremner River 32.83 50 PFAKE 13 00 30.0 +8.4
BMRM LR LR
comp=Z,100nm,20.0s
SONA1 Songino Array 32.93 285 *e*P **P** **13 00 21.8 -0.8**
SONA0 Songino Array 32.94 285 *e*P **P** **13 00 22.4 -0.4**
SONA0 *e*PcP **PcP** **13 03 06.2 +0.6**
SONA0 *e* 13 34 10.3
SONM Songino Array 32.94 285 P **P** **13 00 22.4 -0.4**
SONM 13 03 06.2
SONM pmax pmax
comp=Z,18nm,0.8s
SONM MLR MLR
comp=Z,76μm,20.2s
SONM Songino Array 32.94 285 P **P** **13 00 22.4 -0.4**
comp=Z,19nm,0.8s,baz=76,slow=7.8,SNR=49
SONM PcP **PcP** **13 03 06.2 +0.6**
comp=Z,35nm,0.8s,baz=80,slow=1.6,SNR=12
SONM LR LR 13 14 55.2
comp=Z,76μm,20.2s,baz=67,slow=38
SONM PKPPKP 13 34 10.3
comp=Z,46nm,1.3s,baz=141,slow=1.6,SNR=6.3
MENT Mentasta 32.98 46 *e*P **P** **13 00 23.3 +0.5**
comp=Z,67nm,1.1s
MENT LR LR
comp=Z,17μm,20.0s
HHC Hu-ho-hao-te 33.10 271 *e*P **P** **13 00 23.4 -0.8**
HHC pP pP 13 00 33.1 -5.6
HHC sP sP 13 00 43.2 -2.3
HHC S **S** **13 05 38.3 -0.7**
HHC pmax pmax
comp=Z,51nm,1.2s
HHC pmax pmax
comp=Z,2μm,6.0s
HHC LR LR
comp=Z,48μm,15.4s
HHC LR LR
comp=Z,48μm,15.9s
HHC LR LR
comp=Z,75nm,16.4s
HMT Hamilton 33.10 51 *e*P **P** **13 00 23.6 -0.3**
comp=Z,161nm,1.3s
HMT LR LR
comp=Z,17μm,21.0s
TLY Talaya 33.11 293 *e*P **P** **13 00 23.9 -0.1**
comp=Z,81nm,0.9s
TLY LR LR
comp=Z,76μm,19.0s
TLY Talaya 33.11 293*c i*P **P** **13 00 23.8 -0.2**
TLY *e* 13 01 42.7
TLY *e*PPP PPP 13 01 59.9
TLY *e* 13 03 05.8
TLY *e*S **S** **13 05 38.1 -0.7**
TLY *e*SS **SnSn** **13 07 40.6 -1.5**
TLY pmax pmax
comp=Z,213nm,0.9s
TLY MLR MLR
comp=Z,154μm,18.0s
TLY Talaya 33.11 293 P **P** **13 00 24.3 +0.3**
SNR=51
TLY P **P** **13 00 24.3 +0.3**
SNR=51
TLY P **P** **13 00 24.3 +0.3**
SNR=51
H11S1 WAKE ISLAND Hy 33.12 164 T T 13 35 23.7
baz=349,slow=76,SNR=3678
H11S3 WAKE ISLAND Hy 33.14 164 T T 13 35 24.6
baz=349,slow=76,SNR=4921
H11S2 WAKE ISLAND Hy 33.14 164 T T 13 35 22.8
baz=349,slow=76,SNR=1177
SSE Sheshan 33.40 248 P **P** **13 00 26.3 -0.4**
SSE S **S** **13 05 41.1 -2.4**
SSE pmax pmax
comp=Z,75nm,0.8s
SSE pmax pmax
comp=Z,1μm,4.5s
SSE LR LR
comp=Z,8μm,18.4s
SSE LR LR
comp=Z,8μm,19.0s
SSE Sheshan 33.40 248 PFAKE 13 00 40.0 +13
SSE LR LR
comp=Z,26μm,21.0s
ZAK Zakamensk 33.80 291 *e*P **P** **13 00 30.4 +0.3**
ZAK pmax pmax
comp=Z,51nm,1.1s
BALM Baldy 33.90 49 *e*P **P** **13 00 31.0 0.0**
comp=Z,58nm,1.2s
BALM LR LR
comp=Z,11μm,22.0s
BALM Baldy 33.90 49 *e*P **P** **13 00 31.0 0.0**
BALM pmax pmax
comp=Z,58nm,1.2s
EGAK Eagle 33.91 42 *e*P **P** **13 00 30.6 -0.3**
comp=Z,175nm,0.8s
EGAK LR LR
comp=Z,6μm,21.0s
NJ2 Nanjing 34.09 251 ⇑P **P** **13 00 32.9 +0.2**
NJ2 sP **pP** **13 00 48.4 +1.1**
NJ2 S **S** **13 05 55.5 +1.2**
NJ2 sS sS 13 06 10.2 -8.8
NJ2 pmax pmax
comp=Z,110nm,1.7s
NJ2 pmax pmax
comp=Z,3μm,3.8s
NJ2 LR LR
comp=Z,30μm,16.3s
NJ2 LR LR
comp=Z,23μm,16.8s
NJ2 LR LR
comp=Z,46μm,22.2s
TIY Taiyuan 34.36 265 *e*P **P** **13 00 32.6 -2.5**
TIY PP **PP** **13 01 53.8 +0.1**
TIY S **S** **13 06 01.3 +2.8**
TIY SS **SnSn** **13 08 14.5 +1.6**
TIY pmax pmax
comp=Z,17nm,0.5s
TIY pmax pmax
comp=Z,1μm,8.7s
TIY LR LR
comp=Z,13μm,15.5s
TIY LR LR
comp=Z,16μm,14.7s
TIY LR LR
comp=Z,23μm,17.8s
MOY Mondy 34.65 294 *e*P **P** **13 00 38.0 +0.4**
MOY pmax pmax
comp=Z,132nm,1.9s
DAWY Dawson 34.76 43 *e*P **P** **13 00 38.5 +0.2**
comp=Z,54nm,0.9s
DAWY LR LR
comp=Z,7μm,22.0s
PCA Pinnacle 35.11 50 *e*P **P** **13 00 41.9 +0.6**
comp=Z,119nm,0.8s
PCA LR LR
comp=Z,9μm,21.0s
EPYK Eagle Plains 35.56 39 *e*P **P** **13 00 46.1 +1.0**
comp=Z,126nm,1.0s
EPYK LR LR
comp=Z,8μm,20.0s
EPYK Eagle Plains 35.56 39 P **P** **13 00 45.7 +0.6**
baz=277
HYT Haines Junctio 36.26 49 *e*P **P** **13 00 50.5 -0.7**
comp=Z,92nm,1.0s
HYT LR LR
comp=Z,13μm,22.0s
INK Inuvik 36.55 36 *e*P **P** **13 00 54.5 +1.1**
comp=Z,138nm,0.8s
INK LR LR
comp=Z,10μm,22.0s
INK Inuvik 36.55 36 *e*P **P** **13 00 54.5 +1.1**
INK pmax pmax
comp=Z,138nm,0.8s
NRIK Noril'sk 36.84 326 P **P** **13 00 54.6 -1.2**
comp=Z,12nm,0.7s,baz=96,slow=11,SNR=12
NRIK LR LR 13 17 27.4
comp=Z,41μm,18.3s,baz=71,slow=38
KNGR Kungurtug, Tuv 37.08 294 ⇓*i*P **P** **13 00 58.5 +0.1**
YOJ Yonaguni jima 37.47 238 PFAKE 13 01 10.0 +8.3
YOJ LR LR
comp=Z,21μm,20.0s
WHY Whitehorse 37.55 48 *e*P **P** **13 01 03.3 +1.1**
comp=Z,49nm,0.8s
WHY LR LR
comp=Z,9μm,21.0s
SKAG Skagway 37.68 50 *e*P **P** **13 01 04.2 +1.1**
comp=Z,94nm,0.9s
SKAG LR LR
comp=Z,12μm,21.0s
WHN Wuhan 37.88 254 ⇑P **P** **13 01 04.1 -1.0**
WHN S S 13 06 41.6 -11
WHN LR LR
comp=Z,86μm,13.0s
WHN LR LR
comp=Z,92μm,14.1s
WHN LR LR
comp=Z,158μm,14.7s
TATO Taipei 37.88 241 PFAKE 13 01 20.0 +15
TATO LR LR
comp=Z,24μm,20.0s
BESE Bessie Mountai 38.19 52 *e*P **P** **13 01 09.1 +1.6**
comp=Z,178nm,1.4s
BESE LR LR
comp=Z,8μm,22.0s
YHNB Yeheng 38.19 240 *e*P **P** **13 01 07.7 -0.1**
comp=Z,247nm,1.6s
YHNB LR LR
comp=Z,22μm,20.0s
NACB Ninganchiao 38.46 240 *e*P **P** **13 01 10.0 -0.1**
comp=Z,68nm,1.0s
NACB LR LR
comp=Z,27μm,20.0s
JIS Juneau Island 38.52 52 *e*P **P** **13 01 10.3 +0.2**
comp=Z,72nm,0.9s
GUMO Guam 38.63 200 PFAKE 13 01 20.0 +8.5
GUMO LR LR
comp=Z,12μm,20.0s
GUMO Guam 38.63 200 LR LR 13 18 08.6
comp=Z,4μm,18.1s,baz=28,slow=38
XAN Xi'an 38.88 263 P **P** **13 01 12.0 -1.6**
XAN pP pP 13 01 24.2 -4.2
XAN sP sP 13 01 29.6 -5.5
XAN PP **PnPn** **13 02 45.9 -0.3**
XAN S **S** **13 07 04.1 -3.4**
XAN sS sS 13 07 24.5 -7.9
XAN SS **SS** **13 09 46.5 -14**
XAN ScS **ScS** **13 11 15.9 -1.7**
XAN pmax pmax
comp=Z,52nm,0.9s
XAN pmax pmax
comp=Z,2μm,8.7s
XAN LR LR
comp=Z,33μm,17.9s
XAN LR LR
comp=Z,38μm,17.9s
XAN LR LR
comp=Z,48μm,19.0s
XAN Xi'an 38.88 263 PFAKE 13 01 20.0 +6.4
XAN LR LR
comp=Z,50μm,20.0s
SSLB Suanglung 39.12 240 *e*P **P** **13 01 15.0 -0.6**
comp=Z,85nm,0.8s
SSLB LR LR
comp=Z,23μm,18.0s
YULB Yu-li 39.25 239 *e*P **P** **13 01 15.7 -1.0**
comp=Z,80nm,0.8s
YULB LR LR
comp=Z,17μm,22.0s
QZH Quanzhou 39.53 244 ⇑*i*P **P** **13 01 19.4 +0.4**
QZH S **S** **13 07 20.2 +3.0**
QZH pmax pmax
comp=Z,120nm,0.9s
QZH LR LR
comp=Z,12μm,19.4s
QZH LR LR
comp=Z,7μm,19.4s
QZH LR LR
comp=Z,9μm,20.8s
TPUB Ta-pu 39.69 240 *e*P **P** **13 01 19.5 -0.8**
comp=Z,298nm,1.1s
TPUB LR LR
comp=Z,28μm,20.0s
TWG Pinlang 39.83 239 *e*P **P** **13 01 21.0 -0.6**
comp=Z,776nm,1.0s
TWG LR LR
comp=Z,49μm,21.0s
CRAG Craig 40.20 56 *e*P **P** **13 01 23.1 -1.0**
comp=Z,75nm,1.0s
WRAK Wrangell Islan 40.22 54 *e*P **P** **13 01 23.2 -1.2**
comp=Z,76nm,0.9s
DLBC Dease Lake 40.61 50 *e*P **P** **13 01 30.1 +2.5**
comp=Z,77nm,0.9s
DLBC LR LR
comp=Z,8μm,21.0s
LZH Lanzhou 40.79 270 ⇑P **P** **13 01 29.5 0.0**
LZH pP pP 13 01 41.4 -3.0
LZH sP sP 13 01 46.2 -4.9
LZH PP **PnPn** **13 03 08.1 -0.7**
LZH S **S** **13 07 34.5 -1.7**
LZH sS sS 13 07 55.1 -6.1
LZH SS **SS** **13 10 30.6 -8.0**
LZH pmax pmax
comp=Z,370nm,1.3s
LZH pmax pmax
comp=Z,2μm,5.6s
LZH LR LR
comp=Z,64μm,16.8s
LZH LR LR
comp=Z,91μm,16.3s
LZH LR LR
comp=Z,137μm,18.6s
ENH Enshi 41.07 259 *e*P **P** **13 01 30.3 -1.4**
comp=Z,128nm,0.8s
ENH LR LR
comp=Z,32μm,19.0s
GTA Gaotai 41.33 277 ⇑P **P** **13 01 33.5 -0.4**
GTA pP pP 13 01 45.7 -3.1
GTA sP sP 13 01 51.0 -4.5
GTA PP **PP** **13 03 11.6 +1.6**
GTA PcS **PcS** **13 07 24.6 +1.9**
GTA S **S** **13 07 42.7 -1.4**
GTA sS sS 13 08 01.6 -7.5
GTA SS **SS** **13 10 44.1 -5.1**
GTA pmax pmax
comp=Z,58nm,2.4s
GTA pmax pmax
comp=Z,2μm,9.3s
GTA LR LR
comp=Z,29μm,18.2s
GTA LR LR
comp=Z,28μm,19.2s
GTA LR LR
comp=Z,42μm,19.9s
DIB Dawson Inlet, 41.49 59 *e*P **P** **13 01 34.6 -0.3**
comp=Z,185nm,1.5s
DIB LR LR
comp=Z,13μm,21.0s
ZAA1 Zalesovo Array 42.68 304 *e*P **P** **13 01 43.5 -1.0**
ZAA1 *e*PcP **PcP** **13 03 36.1 +0.8**
ZAA0 Zalesovo Array 42.68 304 *e*P **P** **13 01 43.5 -1.0**
comp=Z,44nm,0.8s
ZALV Zalesovo Beam 42.68 304 P **P** **13 01 43.5 -1.0**
comp=Z,45nm,0.8s,baz=59,slow=6.8,SNR=141
ZALV PcP **PcP** **13 03 36.1 +0.8**
comp=Z,38nm,0.9s,baz=52,slow=2.9,SNR=8.2
ZALV LR LR 13 20 11.0
comp=Z,24μm,21.4s,baz=60,slow=37
KWAJ Kwajalein Atol 42.78 165 PFAKE 13 02 00.0 +14
KWAJ LR LR
comp=Z,38μm,22.0s
DGZ Jazzator, Alta 43.27 297*c i*P **P** **13 01 50.1 +0.5**
DGZ pmax pmax
comp=Z,54nm,1.3s
DGZ MLR MLR
comp=Z,48μm,20.0s
APYP Conner 43.81 235 *e*P **P** **13 01 51.8 -2.3**
PALP Palanan 43.88 233 *e*P **P** **13 01 54.4 -0.2**
PATS Pohnpei 43.93 179 PFAKE 13 02 10.0 +15
PATS LR LR
comp=Z,30μm,22.0s
GZH Guangzhou 44.00 248 P **P** **13 01 50.9 -4.6**
GZH PcS **PcS** **13 07 32.2 -1.3**
GZH S S 13 08 13.6 -10
GZH LR LR
comp=Z,12μm,22.1s
GZH LR LR
comp=Z,13μm,22.8s
HKC Hong Kong Obse 44.12 246 ⇑P **P** **13 01 57.0 +0.6**
CD2 Chengdu 44.22 264 ⇑*i*P **P** **13 01 56.8 -0.4**
CD2 sP pP 13 02 13.3 +1.1
CD2 S **S** **13 08 22.6 -3.8**
CD2 sS sS 13 08 43.1 -8.6
CD2 SS **SS** **13 11 39.6 -6.3**
CD2 pmax pmax
comp=Z,240nm,1.0s
CD2 pmax pmax
comp=Z,5μm,5.3s
CD2 LR LR
comp=Z,53μm,25.7s
CD2 LR LR
comp=Z,56μm,17.2s
CD2 LR LR
comp=Z,84μm,17.2s
CAUP Cauayan 44.29 233 *e*P **P** **13 01 57.0 -0.8**
BBB Bella Bella 44.32 58 *e*P **P** **13 01 58.4 +0.7**
comp=Z,290nm,1.5s
BBB LR LR
comp=Z,8μm,22.0s
MCO Taipa Grande 44.62 247 P **P** **13 02 01.0 +0.6**
BALP Baler 45.43 233 *e*P **P** **13 02 06.2 -0.7**
GYA Guiyang 45.52 257 ⇑*i*P **P** **13 02 08.1 +0.4**
GYA pP pP 13 02 20.1 -2.7
GYA PP **PP** **13 03 57.9 +2.9**
GYA S **S** **13 08 45.9 +0.5**
GYA sS sS 13 09 05.0 -5.8
GYA SS **ScS** **13 12 01.4 +2.7**
GYA pmax pmax
comp=Z,110nm,0.6s
GYA pmax pmax
comp=Z,1μm,5.5s
GYA LR LR
comp=Z,16μm,17.1s
GYA LR LR
comp=Z,19μm,18.9s
GYA LR LR
comp=Z,11μm,19.2s
SMPP San Manuel, Pa 45.54 234 *e*P **P** **13 02 06.9 -0.9**
BOLP Bolinao 45.74 235 *e*P **P** **13 02 08.4 -0.9**
YKW3 Yellowknife Ar 45.79 40 *e*P **P** **13 02 10.0 +0.7**
comp=Z,58nm,0.8s
YKA Yellowknife Ar 45.83 40 P **P** **13 02 10.1 +0.6**
comp=Z,49nm,0.8s,baz=298,slow=8.0,SNR=226
YKB5 Yellowknife Ar 45.83 40 *e*P **P** **13 02 09.3 -0.2**
ZSN Zaisan 45.89 295*c i*P **P** **13 02 10.0 -0.3**
ZSN pmax pmax
comp=Z,140nm,1.2s
ZSN Zaisan 45.89 295 ⇑*i*P **P** **13 02 10.0 -0.3**
comp=Z,140nm,1.2s
ZSN *e*LR LR 13 21 17.5
comp=Z,8μm,16.4s
RES Resolute Bay 45.93 21 *e*P **P** **13 02 10.8 +0.7**
comp=Z,107nm,0.8s
RES LR LR
comp=Z,12μm,22.0s
RES Resolute Bay 45.93 21 *e*P **P** **13 02 10.8 +0.7**
RES pmax pmax
comp=Z,107nm,0.8s
PVCP Virac 46.01 228 *e*P **P** **13 02 10.4 -1.1**
POLP Polillo Island 46.11 232 *e*P **P** **13 02 12.8 +0.6**
WMQ Urumqi 46.25 290 P **P** **13 02 13.6 +0.3**
WMQ sP pP 13 02 30.4 +2.1
WMQ PcP **PcP** **13 03 50.4 +2.5**
WMQ PcS **PcS** **13 07 43.6 +1.2**
WMQ S **S** **13 08 57.3 +1.8**
WMQ sS sS 13 09 18.9 -2.0
WMQ ScS **ScS** **13 12 03.9 +1.0**
WMQ pmax pmax
comp=Z,280nm,1.1s
WMQ pmax pmax
comp=Z,5μm,3.6s
WMQ LR LR
comp=Z,85μm,19.3s
WMQ LR LR
comp=Z,71μm,22.5s
WMQ LR LR
comp=Z,96μm,23.5s
WMQ Urumqi 46.25 290 *e*P **P** **13 02 13.5 +0.3**
comp=Z,155nm,1.0s
WMQ LR LR
comp=Z,62μm,22.0s
WMQ Urumqi 46.25 290 *e*P **P** **13 02 13.5 +0.3**
WMQ pmax pmax
comp=Z,155nm,1.0s
WMQ MLR MLR
comp=Z,62μm,22.0s
SEM Semipalatinsk 46.88 301*c i*P **P** **13 02 15.5 -2.7**
SEM *e*S **S** **13 08 59.9 -4.7**
SEM pmax pmax
comp=Z,877nm,1.1s
SEM smax smax
comp=E,1μm,5.7s
SEM MLR MLR
comp=Z,64μm,16.0s
SEM Semipalatinsk 46.88 301 ⇑*i*P **P** **13 02 15.6 -2.7**
comp=Z,877nm,1.1s
SEM ⇓*e*S **S** **13 08 60.0 -4.7**
comp=Z,1μm,5.7s
SEM *e*LR LR 13 22 35.9
comp=Z,64μm,16.4s
AUQP San Andres 46.95 230 *e*P **P** **13 02 16.6 -2.3**
KURK Kurchatov 47.59 302 *e*P **P** **13 02 22.5 -0.9**
comp=Z,204nm,0.9s
KURK LR LR
comp=Z,31μm,18.0s
KURK Kurchatov 47.59 302*c i*P **P** **13 02 23.1 -0.4**
KURK pmax pmax
comp=Z,248nm,1.0s
KURK MLR MLR
comp=Z,30μm,18.0s
KURK Kurchatov 47.59 302 P **P** **13 02 23.0 -0.5**
SNR=126
KURK P **P** **13 02 23.0 -0.5**
SNR=126
KURK P **P** **13 02 23.0 -0.5**
SNR=126
MK31 Makanchi Array 47.72 296 *e*P **P** **13 02 23.7 -0.9**
MK31 Makanchi Array 47.72 296 *e*P **P** **13 02 23.7 -0.9**
MK32 Makanchi Array 47.72 296 *e*P **P** **13 02 23.8 -0.9**
MK32 *e*PcP **PcP** **13 03 52.8 -0.2**
MKAR Makanchi Array 47.72 296 P **P** **13 02 23.8 -0.9**
comp=Z,17nm,0.4s,baz=55,slow=7.0,SNR=155
MKAR PcP **PcP** **13 03 52.8 -0.2**
comp=Z,17nm,0.8s,baz=55,slow=6.0,SNR=1.9
MKAR LR LR 13 23 15.7
comp=Z,73μm,21.4s,baz=45,slow=37
MK01 Makanchi Array 47.73 296 *e*P **P** **13 02 23.6 -1.1**
PLP Palo 47.76 226 ⇓*e*P **P** **13 02 25.1 -0.1**
HPAH Hawaii Prepara 47.79 113 PFAKE 13 02 40.0 +15
HPAH LR LR
comp=Z,12μm,22.0s
MAKZ Makanchi 47.89 296 *e*P **P** **13 02 24.9 -1.0**
comp=Z,48nm,0.9s
MAKZ LR LR
comp=Z,79μm,21.0s
MAKZ Makanchi 47.89 296 *e*P **P** **13 02 24.9 -1.0**
MAKZ pmax pmax
comp=Z,48nm,0.9s
MAKZ MLR MLR
comp=Z,79μm,21.0s
HUH Hualalai 47.98 113 PFAKE 13 02 40.0 +13
HUH LR LR
comp=Z,14μm,21.0s
OTRP Odiongan 48.10 230 *e*P **P** **13 02 28.5 +0.7**
MLOA Mauna Loa Obse 48.25 113 PFAKE 13 02 40.0 +11
MLOA LR LR
comp=Z,13μm,21.0s
MWH Moku'aweowe 48.28 113 PFAKE 13 02 40.0 +10
MWH LR LR
comp=Z,14μm,21.0s
MLH Mauna Loa 48.39 113 PFAKE 13 02 40.0 +10
MLH LR LR
comp=Z,12μm,21.0s
AIN Ainahou 48.45 113 PFAKE 13 02 40.0 +9.3
AIN LR LR
comp=Z,13μm,20.0s
RCP Roxas 48.45 228 ⇑*e*P **P** **13 02 30.9 +0.4**
KHU Kahuku 48.45 113 PFAKE 13 02 40.0 +9.2
KHU LR LR
comp=Z,13μm,22.0s
SJMP San Jose 48.46 231 *e*P **P** **13 02 30.8 +0.3**
LLLB Lillooet 48.47 57 *e*P **P** **13 02 31.1 +0.8**
comp=Z,61nm,0.9s

UWE **Uwekahuna** **48.50 113** PFAKE 13 02 40.0 +8.9
UWE LR LR
comp=Z,13µm,21.0s
WRMHI **West Rim** **48.51 113** PFAKE 13 02 40.0 +8.9
WRMHI LR LR
comp=Z,12µm,20.0s
OBL **Observatory Le** **48.51 113** PFAKE 13 02 40.0 +8.9
OBL LR LR
comp=Z,12µm,21.0s
SBLHI **Steaming Bluff** **48.51 113** PFAKE 13 02 40.0 +8.9
SBLHI LR LR
comp=Z,12µm,20.0s
NPH **North Pit** **48.52 113** PFAKE 13 02 40.0 +8.9
NPH LR LR
comp=Z,12µm,21.0s
HATHI **Halema'uma'u T** **48.52 113** PFAKE 13 02 40.0 +8.8
HATHI LR LR
comp=Z,12µm,21.0s
SDHHI **Sand Hill** **48.53 113** PFAKE 13 02 40.0 +8.8
SDHHI LR LR
comp=Z,14µm,22.0s
BYL **Byron's Ledge** **48.53 113** PFAKE 13 02 40.0 +8.8
BYL LR LR
comp=Z,13µm,21.0s
RIM **Rim** **48.53 113** PFAKE 13 02 40.0 +8.7
RIM LR LR
comp=Z,12µm,20.0s
KKO **Keanakako`i** **48.54 113** PFAKE 13 02 40.0 +8.7
KKO LR LR
comp=Z,12µm,21.0s
PUH **Pauahi** **48.59 113** PFAKE 13 02 40.0 +8.4
PUH LR LR
comp=Z,12µm,21.0s
HLP **Hilina Pali** **48.59 113** PFAKE 13 02 40.0 +8.3
HLP LR LR
comp=Z,14µm,20.0s
STCH **Steam Cracks** **48.63 112** PFAKE 13 02 40.0 +8.0
STCH LR LR
comp=Z,12µm,21.0s
NPOC **North of Pu'u** **48.63 112** PFAKE 13 02 40.0 +8.0
NPOC LR LR
comp=Z,10µm,21.0s
JCUZ **Jacuzzi** **48.65 112** PFAKE 13 02 40.0 +7.9
JCUZ LR LR
comp=Z,12µm,22.0s
PGC **Sidney** **48.71 60** *e*P **P** **13 02 32.2 0.0**
comp=Z,35nm,0.8s
MSLP **Maasin** **48.73 225** *e*P **P** **13 02 30.3 -2.3**
KBS **Kingsbay** **48.83 352** *e*P **P** **13 02 32.8 +0.2**
comp=Z,70nm,0.9s
KBS LR LR
comp=Z,15µm,21.0s
KBS **Kingsbay** **48.83 352** *ce*P **P** **13 02 32.3 -0.3**
KBS pmax pmax
comp=Z,973nm,2.5s
KBS **Kingsbay** **48.83 352** *e*P **P** **13 02 32.9 +0.2**
KMI **Kunming** **48.92 260** P **P** **13 02 34.6 +0.3**
KMI pP pP 13 02 46.1 -3.4
KMI sP sP 13 02 49.4 -6.8
KMI PP **PP** **13 04 27.6 -0.3**
KMI S **S** **13 09 30.4 -3.6**
KMI sS sS 13 09 51.9 -7.7
KMI pmax pmax
comp=Z,220nm,1.4s
KMI pmax pmax
comp=Z,3µm,4.1s
KMI LR LR
comp=Z,16µm,18.5s
KMI LR LR
comp=Z,12µm,19.8s
KMI LR LR
comp=Z,22µm,16.8s
KMI **Kunming** **48.92 260** PFAKE 13 02 50.0 +16
KMI LR LR
comp=Z,26µm,20.0s
SPA0 **Spitsbergen Ar** **49.03 350** *e*P **P** **13 02 34.4 +0.1**
SPA0 **Spitsbergen Ar** **49.03 350** *e*P **P** **13 02 32.8 -1.5**
A04D **Lummi Island** **49.08 60** P **P** **13 02 35.8 +0.9**
baz=305
QIZ **Qiongzhong** **49.19 248** P **P** **13 02 35.4 -0.8**
QIZ PP **PP** **13 04 29.1 -1.2**
QIZ S **S** **13 09 38.3 +0.8**
QIZ pmax pmax
comp=Z,48nm,0.7s
QIZ pmax pmax
comp=Z,3µm,3.2s
QIZ LR LR
comp=Z,10µm,19.6s
QIZ LR LR
comp=Z,10µm,20.6s
QIZ LR LR
comp=Z,11µm,20.8s
QIZ **Qiongzhong** **49.19 248** *e*P **P** **13 02 35.2 -1.0**
comp=Z,167nm,1.0s
QIZ LR LR
comp=Z,13µm,22.0s
NLWA **Neilton Lookou** **49.20 62** *e*P **P** **13 02 37.1 +1.1**
comp=Z,112nm,1.0s
BUSP **Coron** **49.30 232** *e*P **P** **13 02 37.0 -0.1**
GUIM **Jordan** **49.34 228** *e*P P 13 02 29.2 -8.0
TULEG **Thule** **49.44 13** *e*P **P** **13 02 37.4 0.0**
comp=Z,96nm,1.0s
TULEG LR LR
comp=Z,11µm,21.0s
D03D **Eldon** **49.55 61** P **P** **13 02 38.9 +0.3**
baz=305,SNR=9.7
B05A **Bryant** **49.67 60** P **P** **13 02 40.2 +0.7**
baz=305,SNR=12
B05A S **S** **13 09 43.8 +0.1**
baz=305
B06A **Marblemount** **49.86 59** *e*P **P** **13 02 41.8 +0.9**
comp=Z,70nm,1.0s
CUYO **Cuyo Island** **49.89 230** *e*P **P** **13 02 41.8 +0.3**
D04E **Lakebay** **49.93 61** P **P** **13 02 42.9 +1.4**
baz=306
HSPB **Hornsund (broa** **50.14 350** *e*P P 13 02 47.7 +5.0
D05A **Enumclaw** **50.36 61** *e*P **P** **13 02 44.4 -0.4**
comp=Z,136nm,1.1s
ENPP **El Nido** **50.37 232** *e*P **P** **13 02 45.1 0.0**
E04D **Cinebar** **50.41 62** P **P** **13 02 46.2 +1.2**
baz=306,SNR=17
F04D **Rainier, OR** **50.44 63** P **P** **13 02 46.0 +0.6**
baz=306
C06D **Leavenworth** **50.53 60** P **P** **13 02 46.7 +0.7**
baz=306
BVA0 **Borovoye Array** **50.55 309** *i* P **P** **13 02 44.3 -1.8**
BVA0 pmax pmax
comp=Z,56nm,0.8s
BRVK **Borovoye** **50.58 309** *e*P **P** **13 02 45.3 -1.0**
comp=Z,68nm,0.7s
BRVK LR LR
comp=Z,46µm,21.0s
BRVK **Borovoye** **50.58 309** *c i*P **P** **13 02 45.3 -1.0**
BRVK pmax pmax
comp=Z,74nm,0.8s
BRVK MLR MLR
comp=Z,50µm,21.0s
BRVK **Borovoye** **50.58 309** P **P** **13 02 45.4 -0.9**
SNR=32
BRVK P **P** **13 02 45.4 -0.9**
SNR=32
BRVK P **P** **13 02 45.4 -0.9**
SNR=32
BUKP **Musuan** **50.64 224** *e*P **P** **13 02 46.0 -1.2**
LON **Longmire** **50.72 61** *e*P **P** **13 02 48.2 +0.7**
comp=Z,33nm,0.9s
LON **Longmire** **50.72 61** *e*P **P** **13 02 48.2 +0.7**
LON pmax pmax
comp=Z,33nm,0.9s
G03D **McMinnville, O** **50.81 64** P **P** **13 02 48.8 +0.7**
baz=307
MATI **Mati** **50.96 222** *e*P **P** **13 02 47.9 -1.7**
TDK **Taldyqorghan** **50.97 296** *de*P **P** **13 02 48.3 -1.1**
TDK *i* S **S** **13 09 59.2 -2.6**
TDK smax smax
comp=N,1µm,2.4s
TDK MLR MLR
comp=Z,55µm,19.0s
TDK **Taldyqorghan** **50.97 296** ⇓ *e*P **P** **13 02 48.4 -1.1**
comp=Z,2µm,1.0s
TDK ⇑ *i* S **S** **13 09 59.2 -2.6**
comp=Z,1µm,2.4s
TDK *e*LR LR 13 23 42.3
comp=Z,55µm,19.1s
LTY **Liberty** **51.04 60** *e*P **P** **13 02 50.3 +0.4**
comp=Z,47nm,1.0s

TARA **Tarawa** **51.05 160** PFAKE 13 03 00.0 +10
TARA LR LR
comp=Z,35µm,22.0s
B08A **Colville Reser** **51.12 58** *e*P **P** **13 02 51.0 +0.5**
comp=Z,71nm,0.9s
DAV **Davao City (W)** **51.14 223** PFAKE 13 03 00.0 +9.1
DAV LR LR
comp=Z,8µm,20.0s
DAV **Davao City (W)** **51.14 223** ⇑ *i*P **P** **13 02 49.8 -1.1**
DAV **Davao City (W)** **51.14 223** P **P** **13 02 53.0 +2.1**
SNR=7.7
DAV P **P** **13 02 53.0 +2.1**
SNR=7.7
DAV **Davao City (W)** **51.14 223** P **P** **13 02 50.7 -0.2**
comp=Z,280nm,0.4s,baz=26,slow=4.3,SNR=7.3
COR **Corvallis** **51.17 64** *e*P **P** **13 02 52.7 +1.9**
comp=Z,88nm,1.0s
COR LR LR
comp=Z,4µm,21.0s
COR **Corvallis** **51.17 64** *e*P **P** **13 02 52.7 +1.9**
COR pmax pmax
comp=Z,89nm,1.0s
KCP **Kidapawan** **51.40 223** ⇑ *i*P **P** **13 02 53.6 +0.6**
PAGZ **Pagadian** **51.41 225** *e*P **P** **13 02 51.9 -1.1**
F05D **White Salmon** **51.42 62** P **P** **13 02 53.2 +0.4**
baz=307,SNR=5.2
SHLS **Shalkode** **51.48 294** *de*P **P** **13 02 50.4 -2.9**
SHLS *e*S **S** **13 10 05.6 -3.5**
SHLS smax smax
comp=E,637nm,3.6s
SHLS **Shalkode** **51.48 294** ⇓ *e*P **P** **13 02 50.5 -2.9**
comp=E,735nm,0.5s
SHLS ⇑ *e*S **S** **13 10 05.7 -3.5**
comp=E,637nm,3.6s
SHLS *e*LR LR 13 25 00.1
comp=E,11µm,19.1s
H04D **Lebanon** **51.53 64** P **P** **13 02 54.7 +1.2**
baz=307,SNR=5.8
CTBH **Cotabato--PC H** **51.58 224** ⇑ *i*P **P** **13 02 55.1 +0.9**
KEBM **Edson Butte** **51.61 67** *e*P **P** **13 02 55.5 +1.2**
comp=E,94nm,1.0s
KEBM LR LR
comp=Z,3µm,20.0s
J01E **Myrtle Point** **51.67 66** P **P** **13 02 55.6 +1.1**
baz=308
I03D **Drain, OR** **51.68 65** P **P** **13 02 55.2 +0.6**
baz=308
H04A **Detroit Lake** **51.74 64** *e*P **P** **13 02 56.1 +1.0**
KPKS **Kokpek** **51.74 295** *ce*P **P** **13 02 53.6 -1.6**
KPKS *e*S **S** **13 10 14.5 +1.9**
KPKS pmax pmax
comp=Z,641nm,1.4s
KPKS MLR MLR
comp=Z,25µm,20.0s
KPKS **Kokpek** **51.74 295** ⇑ *e*P **P** **13 02 53.7 -1.6**
comp=Z,641nm,1.4s
KPKS *e*S **S** **13 10 14.5 +1.9**
KPKS eLR LR 13 24 52.0
comp=Z,25µm,20.5s
UZB **Uzunbulak** **51.74 294** *c i*P **P** **13 02 53.5 -1.8**
UZB *e*S **S** **13 10 07.4 -5.3**
UZB pmax pmax
comp=Z,394nm,1.5s
UZB smax smax
comp=N,187nm,8.0s
UZB **Uzunbulak** **51.74 294** ⇑ *i*P **P** **13 02 53.5 -1.8**
comp=N,394nm,1.5s
UZB *e*S **S** **13 10 07.5 -5.3**
comp=N,187nm,8.0s
UZB eLR LR 13 25 09.7
comp=N,8µm,19.1s
G05D **Wamic, OR** **51.89 62** P **P** **13 02 57.3 +1.0**
baz=308,SNR=10
E07A **Sunnyside** **51.91 60** *e*P **P** **13 02 56.6 +0.2**
comp=N,66nm,1.0s
C09A **Chrisman Ranch** **52.02 58** *e*P **P** **13 02 57.5 +0.3**
comp=N,83nm,1.1s
ZHN **Zhinishke** **52.07 294** *ce*P **P** **13 02 56.1 -1.6**
ZHN pmax pmax
comp=Z,183nm,1.0s
ZHN **Zhinishke** **52.07 294** ⇑ *e*P **P** **13 02 56.2 -1.6**
comp=Z,183nm,1.0s
ZHN eLR LR 13 24 56.0
comp=Z,10µm,21.9s
SKMP **Bagumbayan, Su** **52.08 223** *e*P **P** **13 02 56.3 -1.6**
K02D **Willamette Mer** **52.11 66** P **P** **13 02 59.2 +1.2**
baz=308,SNR=6.8
D08A **Wollman Farm,** **52.12 59** *e*P **P** **13 02 57.6 -0.3**
comp=Z,39nm,1.0s
SATY **Saty** **52.15 294** *ce*P **P** **13 02 57.0 -1.4**
SATY *e*S **S** **13 10 17.5 -0.8**
SATY smax smax
comp=N,339nm,5.0s
SATY **Saty** **52.15 294** ⇑ *e*P **P** **13 02 57.0 -1.4**
comp=N,817nm,0.7s
SATY *e*S **S** **13 10 17.6 -0.8**
comp=N,339nm,5.0s
SATY eLR LR 13 25 13.3
comp=N,9µm,18.9s
I04A **Tendick Farm,** **52.16 65** P **P** **13 02 59.3 +1.0**
baz=308,SNR=16
HAWA **Hanford** **52.19 60** *e*P **P** **13 02 58.5 0.0**
comp=N,101nm,1.3s
F07A **Phinny Hill Vi** **52.27 61** *e*P **P** **13 03 00.1 +1.0**
comp=N,120nm,0.8s
NEW **Newport** **52.36 57** *e*P **P** **13 03 00.2 +0.5**
comp=N,90nm,1.4s
NEW **Newport** **52.36 57** *e*P **P** **13 03 00.3 +0.5**
NEW pmax pmax
comp=Z,90nm,1.4s
NEW **Newport** **52.36 57** P **P** **13 02 59.9 +0.2**
baz=307,SNR=29
E08A **Dider Farm, El** **52.39 60** *e*P **P** **13 03 00.5 +0.6**
comp=Z,53nm,1.1s
I05D **Terrebonne, OR** **52.43 63** P **P** **13 02 59.7 -0.6**
baz=308,SNR=10
CHKK **Chushkaly** **52.48 296** ⇓ *i*P **P** **13 02 58.7 -1.9**
CHKK *e*S **S** **13 10 22.4 -0.1**
CHKK pmax pmax
comp=Z,255nm,1.1s
CHKK smax smax
comp=N,38nm,1.1s
CHKK **Chushkaly** **52.48 296** ⇓ *i*P **P** **13 02 58.8 -1.9**
comp=N,255nm,1.1s
CHKK ⇑ *e*S **S** **13 10 22.5 -0.1**
comp=N,38nm,1.1s
L02E **Cave Junction** **52.48 67** P **P** **13 03 01.7 +1.0**
baz=309,SNR=9.5
HUMO **Hull Mountain** **52.58 66** *e*P **P** **13 03 03.1 +1.7**
comp=N,48nm,1.1s
HUMO LR LR
comp=Z,7µm,22.0s
DAG **Danmarks Havn** **52.58 359** ⇑ *i*P **P** **13 03 00.8 0.0**
comp=Z,114nm,0.9s
DAG **Danmarks Havn** **52.58 359** ⇑ *i*P **P** **13 03 00.8 0.0**
DAG pmax pmax
comp=Z,96nm,0.9s
KULLO **Kullorsuaq** **52.65 11** ⇑ *i*P **P** **13 03 01.4 0.0**
comp=Z,150nm,0.9s
KULLO **Kullorsuaq** **52.65 11** ⇑ *i*P **P** **13 03 01.4 0.0**
KULLO pmax pmax
comp=Z,150nm,0.9s
J04D **Umpqua Nationa** **52.67 65** P **P** **13 03 03.5 +1.2**
baz=308,SNR=15
SVE **Sverdlovsk** **52.82 317** *de*P **P** **13 03 02.2 -0.7**
SVE *e* 13 05 04.2
SVE *e*S **S** **13 10 24.6 -2.1**
SVE *e* 13 13 58.7
SVE pmax pmax
comp=Z,92nm,0.9s
SVE MLR MLR
comp=N,20µm,18.0s
SVE MLR MLR
comp=Z,38µm,17.0s
SVE MLR MLR
comp=E,23µm,17.0s
KUU **Kurty** **52.82 296** *d i*P **P** **13 03 01.3 -1.8**
KUU *e*S **S** **13 10 28.3 +1.1**
KUU pmax pmax
comp=Z,266nm,0.6s
KUU smax smax
comp=N,323nm,4.0s
KUU MLR MLR
comp=Z,13µm,20.0s
KUU **Kurty** **52.82 296** ⇓ *i*P **P** **13 03 01.4 -1.8**
comp=Z,266nm,0.6s
KUU *e*S **S** **13 10 28.4 +1.1**
comp=Z,323nm,4.0s
KUU *e*LR LR 13 25 06.0
comp=Z,13µm,20.4s
MDOK **Medeo** **52.87 295** *de*P **P** **13 03 01.9 -1.8**
MDOK *e*S **S** **13 10 23.4 -4.8**
MDOK pmax pmax
comp=Z,286nm,1.6s
MDOK MLR MLR
comp=Z,29µm,23.0s
MDOK **Medeo** **52.87 295** ⇓ *e*P **P** **13 03 02.0 -1.8**
comp=Z,286nm,1.6s
MDOK ⇓ *e*S **S** **13 10 23.5 -4.8**
comp=Z,681nm,6.5s
MDOK *e*LR LR 13 24 27.9
comp=Z,29µm,23.2s
E09A **Wood Farm, Sta** **52.87 60** *e*P **P** **13 03 04.4 +0.9**
comp=Z,114nm,1.0s
AAA **Alma-Ata** **52.92 295** *e*P **P** **13 03 03.7 -0.2**
AAA *e*S **S** **13 10 36.7 +8.0**
AAA pmax pmax
comp=Z,800nm,4.7s
AAA MLR MLR
comp=Z,13µm,14.0s
AAA **Alma-Ata** **52.92 295** *e*P **P** **13 03 03.3 -0.7**
comp=Z,271nm,1.4s
AAA *e*LR LR 13 24 57.4
comp=Z,13µm,23.2s
PINE **Pine Mountain** **52.99 64** *e*P **P** **13 03 06.1 +1.4**
comp=Z,39nm,0.8s
PINE LR LR
comp=Z,5µm,22.0s
TNSS **Tian-Shan** **53.01 295** *e*P **P** **13 03 04.8 -0.2**
TNSS pmax pmax
comp=Z,124nm,1.0s
TNSS **Tian-Shan** **53.01 295** *e*P **P** **13 03 04.8 -0.2**
comp=Z,124nm,1.0s
LSA **Lhasa** **53.01 273** P **P** **13 03 05.7 +0.4**
LSA S S 13 10 19.0 -12
LSA pmax pmax
comp=Z,8.0nm,0.9s
LSA LR LR
comp=Z,10µm,17.5s
LSA LR LR
comp=Z,12µm,17.5s
LSA LR LR
comp=Z,53µm,16.7s
LSA **Lhasa** **53.01 273** *e*P **P** **13 03 04.2 -1.0**
comp=Z,46nm,1.1s
LSA LR LR
comp=Z,38µm,18.0s
LSA **Lhasa** **53.01 273** *i* P **P** **13 03 06.2 +0.9**
SNR=10.0
LSA **Lhasa** **53.01 273** *e*P **P** **13 03 04.3 -1.0**
LSA pmax pmax
comp=Z,46nm,1.1s
LSA MLR MLR
comp=Z,38µm,18.0s
JCC **Jacoby Creek,** **53.07 68** PFAKE 13 03 20.0 +15
JCC LR LR
comp=Z,3µm,22.0s
J05D **Fort Rock, OR** **53.14 64** P **P** **13 03 07.3 +1.6**
baz=309,SNR=45
G08A **Pilot Rock** **53.18 61** *e*P **P** **13 03 06.1 +0.1**
comp=Z,39nm,1.0s
L04D **Klamath Falls** **53.20 66** P **P** **13 03 07.1 +1.0**
baz=309,SNR=38
KHMM **Horse Mountain** **53.21 68** *e*P **P** **13 03 07.5 +1.2**
comp=Z,101nm,1.2s
KHMM LR LR
comp=Z,2µm,18.0s
BATP **Bataraza** **53.24 232** *e*P **P** **13 03 06.2 -0.4**
MTBS **Maitube** **53.24 295** *e*P **P** **13 03 05.3 -1.0**
MTBS pmax pmax
comp=Z,398nm,0.7s
MTBS **Maitube** **53.24 295** *e*P **P** **13 03 05.4 -1.0**
comp=Z,398nm,0.7s
K04D **Chiloquin, OR** **53.26 65** P **P** **13 03 07.8 +1.3**
baz=309,SNR=10
YBH **Yreka Blue Hor** **53.27 67** *e*P **P** **13 03 08.3 +1.7**
comp=Z,46nm,0.9s
YBH LR LR
comp=Z,4µm,22.0s
YBH **Yreka Blue Hor** **53.27 67** *e*P **P** **13 03 08.3 +1.7**
YBH pmax pmax
comp=Z,46nm,0.9s
M02C **Callahan** **53.40 67** P **P** **13 03 09.2 +1.7**
baz=309,SNR=25
BTLS **Baital** **53.40 299** *ce*P **P** **13 03 05.0 -2.3**
BTLS pmax pmax
comp=Z,295nm,0.6s
BTLS **Baital** **53.40 299** ⇑ *e*P **P** **13 03 05.1 -2.3**
comp=Z,295nm,0.6s
BTLS eLR LR 13 26 23.1
comp=Z,10µm,17.4s
MANU **Manus Island** **53.47 193** PFAKE 13 03 20.0 +12
MANU LR LR
comp=Z,9µm,20.0s
WALA **Waterton Lakes** **53.56 55** PFAKE 13 03 20.0 +11
WALA LR LR
comp=Z,7µm,21.0s
I07A **Izee** **53.63 63** *e*P **P** **13 03 07.9 -1.3**
comp=Z,26nm,1.0s
I07A LR LR
comp=Z,3µm,21.0s
KMRM **Mail Ridge** **53.63 69** *e*P **P** **13 03 10.8 +1.5**
comp=Z,49nm,0.9s
KMRM LR LR
comp=Z,5µm,21.0s
F10A **Beach Ranch, E** **53.71 60** *e*P **P** **13 03 10.4 +0.7**
comp=Z,53nm,1.1s
M04C **Macdoel** **53.74 66** P **P** **13 03 10.7 +0.6**
baz=309,SNR=36
N02D **Trinity Center** **53.75 67** P **P** **13 03 11.6 +1.5**
baz=310,SNR=28
TKM2 **Tokmak 2** **53.85 296** P **P** **13 03 10.4 -0.6**
SNR=66
TKM2 **Tokmak 2** **53.85 296** P **P** **13 03 09.5 -1.5**
TKM2 pmax pmax
comp=Z,45nm,0.9s
ULHL **Ulahol** **53.91 295** P P 13 03 04.7 -6.7
SNR=12
ARU **Arti** **53.96 317** *e*P **P** **13 03 09.8 -1.5**
comp=Z,161nm,1.1s
ARU LR LR
comp=Z,54µm,19.0s
ARU **Arti** **53.96 317** *c i*P **P** **13 03 09.7 -1.6**
ARU *PP **pP** **13 03 25.3 -1.4**
ARU *PP **sP** **13 03 32.7 -0.7**
ARU 13 04 14.5
ARU 13 05 07.9
ARU S **S** **13 10 42.7 +0.4**
ARU 13 12 57.4
ARU SS **SKiKP** **13 14 20.3 +2.4**
ARU pmax pmax
comp=Z,81nm,0.9s
ARU MLR MLR
comp=Z,51µm,18.0s
KCPM **Cahto Peak** **54.05 69** *e*P **P** **13 03 13.3 +0.9**
comp=Z,55nm,0.9s
KCPM LR LR
comp=Z,3µm,22.0s
WDC **Whiskeytown Da** **54.09 68** *e*P **P** **13 03 14.2 +1.7**
comp=Z,69nm,0.9s
WDC LR LR
comp=Z,5µm,22.0s
LVZ **Lovozero** **54.12 337** *e*P **P** **13 03 12.3 0.0**
comp=Z,47nm,1.2s
LVZ LR LR
comp=Z,20µm,20.0s
LVZ **Lovozero** **54.12 337** *e*P **P** **13 03 12.3 0.0**
LVZ pmax pmax
comp=Z,47nm,1.2s
LVZ MLR MLR
comp=Z,20µm,20.0s
O02D **Mt. Diablo Mer** **54.21 68** P **P** **13 03 15.0 +1.5**
baz=310,SNR=25
SGSI **Sangihe** **54.21 221** P **P** **13 03 14.4 +0.8**
USP **Ospenovka** **54.26 297** P **P** **13 03 13.5 -0.2**
SNR=76
SKNT **Sakolnakorn** **54.27 252** P **P** **13 03 14.8 +0.8**
comp=Z,212nm,0.8s,comp=Z,3µm
CHMS **Chumysh** **54.28 296** P **P** **13 03 13.5 -0.4**
SNR=29
BMO **Blue Mountains** **54.37 61** *e*P **P** **13 03 15.4 +0.8**
comp=Z,42nm,0.9s
BMO **Blue Mountains** **54.37 61** *e*P **P** **13 03 15.4 +0.8**
BMO pmax pmax

comp=Z,42nm,0.9s
KBK Karagaybulak 54.39 296 P P 13 03 14.6 -0.3
SNR=16
KEV Kevo 54.39 341 eP P 13 03 14.2 0.0
comp=Z,29nm,1.1s
KEV LR LR
comp=Z,15µm,21.0s
KEV Kevo 54.39 341 eP P 13 03 14.2 0.0
KEV pmax pmax
comp=Z,29nm,1.1s
KEV MLR MLR
comp=Z,15µm,21.0s
MOD Modoc Plateau 54.55 65 eP P 13 03 17.7 +1.7
comp=Z,164nm,1.0s
MOD LR LR
comp=Z,6µm,21.0s
KZA Kyzart 54.58 295 P P 13 03 16.5 -0.1
SNR=18
AAK Ala-Archa 54.66 296 P P 13 03 16.6 -0.3
SNR=53
AAK Ala-Archa 54.66 296 eP P 13 03 16.5 -0.3
comp=Z,132nm,1.3s
AAK LR LR
comp=Z,46µm,20.0s
AAK Ala-Archa 54.66 296 *i* P P 13 03 16.4 -0.4
SNR=101
AAK Ala-Archa 54.66 296 eP P 13 03 16.5 -0.3
AAK pmax pmax
comp=Z,132nm,1.3s
AAK MLR MLR
comp=Z,46µm,20.0s
AAK Ala-Archa 54.66 296 P P 13 03 16.3 -0.5
SNR=43
AAK P P 13 03 16.3 -0.5
SNR=43
AAK P P 13 03 16.3 -0.5
SNR=43
J08A Circle Bar Ran 54.66 63 eP P 13 03 17.1 +0.4
comp=Z,83nm,1.4s
APA Apatity 54.68 337 ⇓*i* P P 13 03 17.4 +1.1
APA *i* 13 04 21.4
APA *i* S S 13 10 51.0 -0.6
APA pmax pmax
comp=Z,13nm,0.7s
O03E Paynes Creek 54.71 68 P P 13 03 17.8 +0.7
baz=310,SNR=40
HOPS Hopland Field 54.80 70 eP P 13 03 17.9 +0.3
comp=Z,103nm,1.3s
HOPS LR LR
comp=Z,6µm,22.0s
ARA0 ARCESS Array S 54.88 341 eP P 13 03 18.1 +0.3
ARA0 ePcP PcP 13 04 18.5 -0.7
ARCES ARCESS Array B 54.88 341 eP P 13 03 17.1 -0.7
ARCES ARCESS Array B 54.88 341 P P 13 03 18.1 +0.3
comp=Z,7.6nm,0.7s,baz=42,slow=7.5,SNR=32
ARCES PcP PcP 13 04 18.5 -0.7
comp=Z,20nm,0.9s,baz=40,slow=4.7,SNR=5.1
ARCES LR LR 13 31 03.5
comp=Z,20µm,21.2s,baz=30,slow=41
ARE0 ARCESS Array S 54.88 341 eP P 13 03 17.8 0.0
comp=Z,1.3nm,1.1s
ARE0 LR LR
comp=Z,1µm,22.0s
UCH Uchtor 54.91 296 P P 13 03 18.5 -0.5
SNR=13
MSO Missoula 54.94 57 eP P 13 03 19.1 +0.4
comp=Z,108nm,1.2s
MSO LR LR
comp=Z,6µm,22.0s
MSO Missoula 54.94 57 P P 13 03 19.2 +0.5
baz=310,SNR=39
EKS2 Erkin-Say 55.05 297 P P 13 03 19.4 -0.2
SNR=12
RABL Rabaul 55.08 187 eP P 13 03 19.4 -0.5
comp=Z,660nm,1.6s
RABL LR LR
comp=Z,14µm,21.0s
GDXM Geysers 55.09 70 PFAKE 13 03 30.0 +10
GDXM LR LR
comp=Z,6µm,21.0s
JAY Jayapura 55.14 201 P P 13 03 21.5 +1.2
WVOR Wild Horse Val 55.16 64 eP P 13 03 21.9 +1.5
comp=Z,113nm,0.9s
WVOR LR LR
comp=Z,6µm,21.0s
WVOR Wild Horse Val 55.16 64 eP P 13 03 21.9 +1.5
WVOR pmax pmax
comp=Z,113nm,0.9s
GENI Genyem 55.34 201 P P 13 03 22.9 +1.2
KDM Kudat 55.34 232 P P 13 03 25.3 +3.5
ORV Oroville 55.36 68 eP P 13 03 22.5 +0.8
comp=Z,65nm,0.8s
ORV LR LR
comp=Z,3µm,20.0s
ORV Oroville 55.36 68 eP P 13 03 22.5 +0.8
ORV pmax pmax
comp=Z,65nm,0.8s
SHL Shillong 55.43 269 eP P 13 03 22.8 +0.2
comp=Z,115nm,0.8s
SHL LR LR
comp=Z,31µm,18.0s
SHL Shillong 55.43 269 eP P 13 03 20.3 -2.3
SHL IAmb IAmb 13 03 25.1
SHL *i* x x 13 11 07.0
AML Almayashu 55.44 296 P P 13 03 22.6 -0.1
SNR=17
MCCM Marconi Confer 55.47 70 PFAKE 13 03 40.0 +18
MCCM LR LR
comp=Z,5µm,20.0s
FFC Flin Flon 55.66 44 eP P 13 03 24.7 +1.1
comp=Z,74nm,0.9s
FFC LR LR
comp=Z,9µm,21.0s
FFC Flin Flon 55.66 44 *i* P P 13 03 24.2 +0.6
LAMP Lampang 55.73 257 P P 13 03 25.9 +1.3
comp=Z,164nm,1.0s,comp=Z,1µm
KTK1 Kautokeino 55.77 342 eP P 13 03 22.7 -1.5
KSH Kashi 55.82 292 P P 13 03 28.4 +3.3
KSH pP pP 13 03 41.0 +0.4
KSH PP PP 13 05 34.6 +4.8
KSH S S 13 11 10.3 +2.4
KSH sS sS 13 11 31.0 -2.6
KSH SS SS 13 14 55.2 +1.7
KSH pmax pmax
comp=Z,62nm,1.0s
KSH pmax pmax
comp=Z,4µm,5.6s
KSH LR LR
comp=Z,42µm,17.7s
KSH LR LR
comp=Z,27µm,14.7s
KSH LR LR
comp=Z,23µm,19.6s
BEKR Beckworth 55.83 67 eP P 13 03 25.6 +0.3
comp=Z,98nm,1.0s
BEKR LR LR
comp=Z,3µm,18.0s
CMMT Chiang Mai 55.94 258 P P 13 03 26.8 +0.7
comp=Z,608nm,0.9s,comp=Z,8µm
CHTO Chiang Mai 55.94 258 eP P 13 03 27.6 +1.5
comp=Z,552nm,0.9s
CHTO LR LR
comp=Z,19µm,22.0s
CHTO Chiang Mai 55.94 258 P P 13 03 27.3 +1.2
SNR=318
CHTO P P 13 03 27.3 +1.2
SNR=318
CHTO Chiang Mai 55.94 258 P P 13 03 26.9 +0.8
comp=Z,3µm,1.1s,comp=Z,36µmcomp=Z,108µm
TMCR Tamitsa 56.02 333 eP P 13 03 24.8 -1.2
TMCR pmax pmax
comp=Z,35nm,0.6s
TRO Tromso 56.04 344 eP P 13 03 27.4 +1.4
AFDM Forest Hills D 56.07 68 eP P 13 03 27.1 +0.3
comp=Z,36nm,1.1s
AFDM LR LR
comp=Z,3µm,22.0s
TNTI Ternate 56.13 217 PFAKE 13 03 40.0 +13
TNTI LR LR
comp=Z,4µm,21.0s
TNTI Ternate 56.13 217 P P 13 03 28.4 +1.0
HRY Holter Researc 56.13 56 eP P 13 03 28.4 +1.1
FCC Fort Churchill 56.16 37 eP P 13 03 27.6 +0.5
comp=Z,96nm,0.9s
FCC LR LR
comp=Z,6µm,22.0s
FCC Fort Churchill 56.16 37 eP P 13 03 27.6 +0.5
FCC pmax pmax
comp=Z,96nm,0.9s
CM31 Chiang Mai Arr 56.21 257 eP P 13 03 29.8 +1.9
CMAR Chiang Mai Arr 56.21 257 P P 13 03 29.9 +1.9
comp=Z,220nm,0.9s,baz=28,slow=7.0,SNR=746
CMAR LR LR 13 27 46.3
comp=Z,16µm,21.8s,baz=41,slow=36
SDKM Sandakan 56.26 231 P P 13 03 28.6 +0.2
SUMG Summit 56.31 6 eP P 13 03 29.0 +0.5
comp=Z,176nm,1.0s
SUMG LR LR
comp=Z,10µm,20.0s
SUMG Summit 56.31 6⇑*i* P P 13 03 29.2 +0.7
comp=Z,368nm,0.9s
SUMG Summit 56.31 6⇑*i* P P 13 03 29.2 +0.7
SUMG pmax pmax
comp=Z,370nm,0.9s
EGMT Eagleton 56.35 54 eP P 13 03 29.2 +0.4
comp=Z,75nm,0.9s
EGMT LR LR
comp=Z,6µm,22.0s
EGMT Eagleton 56.35 54 P P 13 03 29.3 +0.6
baz=311,SNR=40
KKM Kota Kinabalu 56.40 232 eP P 13 03 28.9 -0.5
comp=Z,94nm,0.9s
KKM Kota Kinabalu 56.40 232 P P 13 03 30.1 +0.7
PBKT Sadao Pong 56.40 254 P P 13 03 30.1 +0.8
comp=Z,262nm,0.8s,comp=Z,5µmcomp=Z,24µm
RUBR Rubicon Trail 56.48 68 eP P 13 03 30.5 +0.5
comp=Z,60nm,0.9s
PAHR Pah Rah Range 56.50 67 eP P 13 03 31.1 +1.1
comp=Z,84nm,1.0s
PAHR LR LR
comp=Z,3µm,22.0s
SUKH Sukhothai 56.52 256 P P 13 03 31.5 +1.3
comp=Z,60nm,1.2s,comp=Z,680nm
KK31 Karatay Array 56.59 299 eP P 13 03 30.2 -0.3
KK31 Karatay Array 56.59 299 eP P 13 03 30.2 -0.3
KKAR Karatay Array 56.59 299 eP P 13 03 30.2 -0.3
KKAR Karatay Array 56.59 299 eP P 13 03 30.2 -0.3
DLMT Dillon 56.60 58 eP P 13 03 30.4 -0.2
comp=Z,87nm,1.6s
VCNR Virginia City 56.62 67 eP P 13 03 32.1 +1.1
comp=Z,90nm,0.9s
PNTR Pine Nut 56.78 67 eP P 13 03 33.6 +1.4
comp=Z,108nm,0.9s
HLID Hailey 56.79 60 eP P 13 03 32.7 +0.6
comp=Z,49nm,1.1s
HLID Hailey 56.79 60 P P 13 03 33.1 +1.0
baz=311,SNR=61
MCMT McKenzie Canyo 56.81 58 eP P 13 03 32.6 +0.3
BOZ Bozeman (W) 56.96 57 eP P 13 03 34.3 +1.1
comp=Z,51nm,0.8s
BOZ Bozeman (W) 56.96 57 P P 13 03 34.2 +1.0
baz=311,SNR=69
CMB Columbia Colle 57.02 69 eP P 13 03 34.1 +0.5
comp=Z,63nm,1.1s
CMB LR LR
comp=Z,4µm,22.0s
CMB Columbia Colle 57.02 69 eP P 13 03 34.1 +0.5
CMB pmax pmax
comp=Z,63nm,1.1s
YERR Yerington 57.06 67 eP P 13 03 35.7 +1.6
comp=Z,100nm,1.0s
TSM Tawau 57.10 229 P P 13 03 34.9 +0.6
SAO San Andreas Ge 57.23 71 eP P 13 03 36.1 +1.1
comp=Z,41nm,1.0s
SAO LR LR
comp=Z,4µm,19.0s
SAO San Andreas Ge 57.23 71 eP P 13 03 36.1 +1.1
SAO pmax pmax
comp=Z,41nm,1.0s
WAKR Walker 57.26 68 eP P 13 03 37.0 +1.4
comp=Z,90nm,0.9s
BMN Battle Mountai 57.27 65 eP P 13 03 36.9 +1.4
comp=Z,60nm,0.9s
BMN LR LR
comp=Z,5µm,22.0s
BMN Battle Mountai 57.27 65 eP P 13 03 36.9 +1.4
BMN pmax pmax
comp=Z,59nm,0.9s
ODAN Odare 57.36 273 eP P 13 03 35.8 -0.6
comp=Z,181nm,0.8s
IUG Iuzhnay 57.49 298*d* *i* P P 13 03 35.9 -1.0
IUG *e*S S 13 11 30.3 +0.5
IUG smax smax
comp=E,639nm,4.3s
IUG Iuzhnay 57.49 298⇓*i* P P 13 03 35.9 -1.0
comp=E,1µm,0.8s
IUG *e*S S 13 11 30.4 +0.5
comp=E,639nm,4.3s
IUG *e*LR LR 13 28 31.0
comp=E,8µm,15.0s
JIRN Jiri 57.56 275 eP P 13 03 37.5 -0.4
comp=E,426nm,0.7s
QLMT Earthquake Lak 57.57 57 eP P 13 03 39.0 +1.4
CHM Chimkent 57.62 299 eP P 13 03 36.7 -1.0
CHM *e*S S 13 11 32.6 +1.3
CHM Chimkent 57.62 299 eP P 13 03 36.8 -1.0
comp=E,577nm,0.5s
CHM *e*S S 13 11 32.6 +1.3
BRDH Bariadhala 57.66 267 P P 13 03 39.9 +1.7
comp=E,438nm,0.7s,baz=70,slow=7.8,SNR=26
KMSI Cibinong 57.66 221 P P 13 03 39.2 +1.0
KVN Kaiserville 57.68 66 eP P 13 03 39.5 +1.1
comp=E,83nm,0.9s
KVN LR LR
comp=Z,5µm,21.0s
KVN Kaiserville 57.68 66 eP P 13 03 39.5 +1.1
KVN pmax pmax
comp=Z,83nm,0.9s
RYN Ryan 57.72 67 eP P 13 03 39.7 +1.0
comp=Z,69nm,0.9s
YHB Horse Butte 57.75 57 eP P 13 03 40.2 +1.3
comp=Z,85nm,0.9s
RAMN Ramite 57.80 274 eP P 13 03 38.4 -1.0
comp=Z,799nm,0.7s
FAKI Fak Fak 57.84 210 eP P 13 03 39.4 -0.1
comp=Z,392nm,1.4s
FAKI Fak Fak 57.84 210 P P 13 03 40.4 +0.9
comp=Z,194nm,1.3s,comp=Z,5µmcomp=Z,14µm
YHH Holmes Hill 57.91 57 eP P 13 03 41.1 +1.1
comp=Z,57nm,0.9s
YMR Madison River 57.93 57 eP P 13 03 40.5 +0.4
comp=Z,98nm,1.0s
UMPA Umpang Tak 57.97 256 P P 13 03 42.9 +2.4
comp=Z,104nm,1.1s,comp=Z,828nm
NV01 Mina Array Sit 57.98 67 eP P 13 03 41.6 +1.0
NVAR Mina Array Bea 57.98 67 P P 13 03 41.6 +1.1
comp=Z,29nm,1.0s,baz=294,slow=6.3,SNR=96
JMIC Jan Mayen 58.01 355 eP P 13 03 41.8 +1.8
AB31 Akbulak array 58.03 310 P P 13 03 38.6 -1.9
AB31 pmax pmax
comp=Z,28nm,0.8s
ABKAR Akbulak array 58.03 310 eP P 13 03 39.5 -0.9
KKN Kakani 58.04 276 eP P 13 03 40.4 -0.7
comp=Z,336nm,0.7s
YNR Norris Junctio 58.05 57 eP P 13 03 40.9 -0.1
comp=Z,87nm,1.1s
MDPB Devils Postpil 58.06 68 eP P 13 03 42.0 +0.9
comp=Z,42nm,0.9s
MDPB LR LR
comp=Z,4µm,21.0s
KLMR Klimovskoe 58.06 329 eP P 13 03 39.1 -1.4
KLMR pmax pmax
comp=Z,48nm,1.1s
KLMR Klimovskoe 58.06 329 eP P 13 03 39.1 -1.4
KLMR AMP 13 03 56.9
comp=Z,48nm,1.1s
NV11 Mina Array Sit 58.06 67 eP P 13 03 42.2 +1.1
comp=Z,4.8nm,1.0s
NV11 LR LR
comp=Z,400nm,21.0s
UTHA Uthaitani 58.11 255 P P 13 03 42.9 +1.5
comp=Z,72nm,0.8s,comp=Z,612nm
PKI Pulchoki 58.11 275 eP P 13 03 40.5 -1.2
PKIN Phulchoki 58.12 276 eP P 13 03 40.6 -1.1
comp=Z,325nm,1.0s
YFT Id Faithful 58.14 57 eP P 13 03 42.6 +1.0
comp=Z,88nm,0.8s
AKTO Aktyubinsk 58.15 312 P P 13 03 39.3 -2.0
AKTO pmax pmax
comp=Z,38nm,1.1s
ELK Elko 58.19 63 eP P 13 03 43.6 +1.6
comp=Z,49nm,0.8s
ELK LR LR
comp=Z,6µm,20.0s
MLAC Mammoth, Mammo 58.20 68 P P 13 03 43.5 +1.4
baz=312
DMN Daman 58.28 276 eP P 13 03 42.2 -0.6
comp=Z,618nm,0.8s
YPP Pitchstone Pla 58.28 58 eP P 13 03 42.9 +0.2
comp=Z,140nm,1.7s
LOF Lofoten 58.29 345 eP P 13 03 41.2 -0.8
LKWY Lake 58.30 57 eP P 13 03 44.9 +2.1
comp=Z,75nm,0.9s
LKWY LR LR
comp=Z,10µm,19.0s
LKWY Lake 58.30 57 eP P 13 03 44.9 +2.1
LKWY pmax pmax
comp=Z,75nm,0.9s
LKWY MLR MLR
comp=Z,10µm,19.0s
H17A Grant Village 58.32 57 eP P 13 03 43.7 +0.8
comp=Z,110nm,1.0s
H17A LR LR
comp=Z,5µm,20.0s
H17A Grant Village 58.32 57 P P 13 03 45.6 +2.7
baz=312,SNR=97
ILULI Ilulissat 58.35 12 eP P 13 03 42.5 +0.1
comp=Z,92nm,0.9s
ILULI LR LR
comp=Z,14µm,21.0s
ILULI Ilulissat 58.35 12⇑*i* P P 13 03 42.1 -0.2
comp=Z,90nm,0.9s
ILULI Ilulissat 58.35 12⇑*i* P P 13 03 42.1 -0.2
ILULI pmax pmax
comp=Z,90nm,0.9s
IMW Indian Meadow 58.46 58 eP P 13 03 45.0 +1.1
comp=Z,63nm,0.9s
FLWY Flagg Ranch 58.46 58 eP P 13 03 44.3 +0.4
comp=Z,65nm,0.8s
RLMT Red Lodge 58.52 56 eP P 13 03 45.6 +1.4
comp=Z,135nm,0.9s
RLMT LR LR
comp=Z,9µm,21.0s
RLMT Red Lodge 58.52 56 P P 13 03 45.7 +1.5
baz=312,SNR=99
FXWY Fox Creek 58.58 58 eP P 13 03 46.3 +1.6
comp=Z,36nm,0.9s
DANN Dangsing 58.60 277 eP P 13 03 44.3 -0.8
comp=Z,534nm,0.7s
MRSI Marisa 58.61 223 P P 13 03 45.2 +0.3
comp=Z,76nm,1.3s,comp=Z,3µm
PAGB Antelope Grade 58.64 71 PFAKE 13 04 00.0 +15
PAGB LR LR
comp=Z,2µm,19.0s
MOOW Moose Ponds 58.66 58 eP P 13 03 46.2 +1.0
comp=Z,43nm,0.9s
TPAW Teton Pass 58.72 58 eP P 13 03 46.6 +0.9
comp=Z,133nm,1.3s
VOG Valley Oaks Go 58.76 70 P P 13 03 46.0 +0.3
baz=313
LOHW Long Hollow 58.83 58 eP P 13 03 47.6 +1.2
comp=Z,100nm,1.1s
DGMT Dagmar 58.83 50 eP P 13 03 47.2 +1.1
comp=Z,99nm,1.1s
DGMT LR LR
comp=Z,8µm,21.0s
DGMT Dagmar 58.83 50 P P 13 03 46.7 +0.6
baz=313,SNR=18
SNOW Snow King Moun 58.85 58 eP P 13 03 48.2 +1.6
comp=Z,118nm,1.1s
REDW Red Top Meadow 58.86 58 eP P 13 03 48.3 +1.6
comp=Z,336nm,1.5s
HVU Hansel Valley 58.88 61 eP P 13 03 48.1 +1.4
comp=Z,65nm,1.3s
HVU Hansel Valley 58.88 61 eP P 13 03 48.1 +1.4
HVU pmax pmax
comp=Z,65nm,1.3s
SCO Scoresbysund 58.92 360 eP P 13 03 47.1 +0.8
comp=Z,58nm,1.0s
SCO LR LR
comp=Z,7µm,22.0s
SCO Scoresbysund 58.92 360 *i* P P 13 03 47.6 +1.3
SCO Scoresbysund 58.92 360 eP P 13 03 47.1 +0.8
SCO pmax pmax
comp=Z,58nm,1.0s
SCO MLR MLR
comp=Z,7µm,22.0s
TIN Tinemaha, Big 58.95 68 P P 13 03 47.7 +0.6
baz=313
LAO LASA Array 59.03 53 eP P 13 03 49.1 +1.5
comp=Z,121nm,1.0s
LAO LR LR
comp=Z,6µm,21.0s
LAO LASA Array 59.03 53 P P 13 03 48.9 +1.3
baz=313,SNR=74
SMMC Simmler 59.08 71 P P 13 03 49.1 +1.1
baz=313,SNR=6.6
KOLN Koldanda 59.11 277 eP P 13 03 47.6 -0.9
comp=Z,462nm,0.9s
SRDT SRDT 59.24 254 P P 13 03 50.7 +1.4
comp=Z,177nm,1.7s,comp=Z,5µm
SANI Sanana 59.24 218 P P 13 03 47.9 -1.3
PYUN Piuthan 59.26 278 eP P 13 03 48.5 -1.1
comp=Z,820nm,0.9s
VES Vestal, Richgr 59.26 70 P P 13 03 48.9 -0.3
baz=313,SNR=9.5
PATY Pattaya 59.30 251 P P 13 03 51.5 +1.9
comp=Z,11nm,0.9s
BGU Big Grassy Mou 59.31 62 eP P 13 03 50.6 +0.9
comp=Z,26nm,1.0s
BGU LR LR
comp=Z,6µm,20.0s
SPUT South Promonto 59.38 61 eP P 13 03 51.6 +1.5
comp=Z,67nm,1.1s
GAR Garm 59.44 295 eP P 13 03 49.9 -0.7
comp=Z,216nm,0.9s
GAR LR LR
comp=Z,135µm,22.0s
GAR Garm 59.44 295 eP P 13 03 49.9 -0.7
GAR pmax pmax
comp=Z,217nm,0.9s
CWC Cottonwood Cre 59.45 69 P P 13 03 51.5 +0.7
baz=313
PKM Mcpherson Peak 59.48 71 P P 13 03 51.6 +0.6
baz=313,SNR=8.7
GRAC Grapevine Rang 59.49 68 P P 13 03 52.2 +1.4
baz=313,SNR=5.1
KNTN Kanton 59.56 144 PFAKE 13 04 00.0 +8.6
KNTN LR LR
comp=Z,16µm,20.0s
R11A Troy Canyon, C 59.61 66 eP P 13 03 52.6 +0.8
comp=Z,59nm,0.9s
R11A LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 59.61 66 P P 13 03 52.4 +0.6
baz=313,SNR=70
LUWI Luwuk 59.62 221 PFAKE 13 04 00.0 +8.1
LUWI LR LR
comp=Z,6µm,20.0s
MPSI Mapaga 59.64 225 P P 13 03 52.6 +0.6
comp=Z,41nm,2.0s,comp=Z,2µmcomp=Z,11µm
HWUT Hardware Ranch 59.66 60 eP P 13 03 53.0 +0.9
comp=Z,44nm,1.0s
ISA Isabella, Lake 59.75 70 eP P 13 03 53.8 +1.1
comp=Z,27nm,0.9s
ISA LR LR
comp=Z,5µm,21.0s
ISA Isabella, Lake 59.75 70 eP P 13 03 53.8 +1.1
ISA pmax pmax
comp=Z,27nm,0.9s
ISA Isabella, Lake 59.75 70 P P 13 03 52.2 -0.4
baz=313,SNR=11
SBC Santa Barbara 59.84 71 P P 13 03 53.9 +0.7
baz=314
DAC Darwin (Calif) 59.85 69 PFAKE 13 04 10.0 +16
DAC LR LR
comp=Z,5µm,21.0s
ARVC Arvin 59.90 70 P P 13 03 54.1 +0.4
baz=314
MOR8 Moi Rana 59.91 344 eP P 13 03 50.5 -2.7
DUG Dugway, Tooele 59.93 62 eP P 13 03 55.3 +1.4
comp=Z,80nm,1.0s
DUG LR LR
comp=Z,6µm,21.0s
DUG Dugway, Tooele 59.93 62 eP P 13 03 55.3 +1.4
DUG pmax pmax
comp=Z,80nm,1.0s
DUG Dugway, Tooele 59.93 62 P P 13 03 55.2 +1.3
baz=313,SNR=72
BW06 Boulder Array 59.96 58 eP P 13 03 55.3 +1.1
comp=Z,94nm,1.0s
BW06 LR LR

comp=Z,5µm,20.0s
BW06 Boulder Array 59.96 58 P **P 13 03 55.1 +0.8**
baz=313,SNR=156
PD31 Pinedale Array 59.96 58 *e*P **P 13 03 55.4 +1.2**
PDAR Pinedale Array 59.96 58 *e*P **P 13 03 55.5 +1.2**
PDAR Pinedale Array 59.96 58 P **P 13 03 55.2 +0.9**
comp=Z,64nm,0.9s,baz=295,slow=2.5,SNR=225
PHET Kaeng Krachan 60.05 253 P **P 13 03 56.6 +1.8**
comp=Z,174nm,0.8s,comp=Z,1µm
MPMC Manual Prospec 60.06 69 P **P 13 03 55.3 +0.3**
baz=313,SNR=25
TCUT Toone Canyon 60.08 61 *e*P **P 13 03 55.6 +0.5**
comp=Z,61nm,0.9s
BNDI Bandanaira 60.11 212 P **P 13 03 56.4 +1.2**
HNR Honiara 60.12 177 PFAKE 13 04 10.0 +15
HNR LR LR
comp=Z,19µm,22.0s
FURC Furnace Creek, 60.15 68 P **P 13 03 56.3 +1.1**
baz=313,SNR=24
TPNV Topopah Spring 60.18 67 *e*P **P 13 03 56.4 +0.7**
comp=Z,89nm,0.9s
TPNV LR LR
comp=Z,4µm,20.0s
TPNV Topopah Spring 60.18 67 *e*P **P 13 03 56.4 +0.7**
TPNV pmax pmax
comp=Z,89nm,0.9s
TPNV Topopah Spring 60.18 67 P **P 13 03 56.1 +0.4**
baz=313,SNR=44
CTU Camp Tracy 60.18 61 *e*P **P 13 03 57.2 +1.5**
comp=Z,36nm,0.9s
CTU LR LR
comp=Z,5µm,21.0s
SCZ2 Santa Cruz Isl 60.20 72 P **P 13 03 55.8 +0.1**
baz=314
OSI Osito Audit: C 60.32 71 *e*P **P 13 03 57.9 +1.3**
comp=Z,71nm,0.8s
OSI LR LR
comp=Z,3µm,19.0s
OSI Osito Audit: C 60.32 71 P **P 13 03 57.0 +0.5**
baz=314
CHGR Chuyangaron 60.33 296 *e*P **P 13 03 56.0 -0.6**
comp=Z,307nm,0.8s
LRMC Laurel Mtn Rad 60.34 69 P **P 13 03 57.2 +0.4**
baz=314,SNR=13
JLU Jordanelle 60.41 61 *e*P **P 13 03 58.1 +0.8**
comp=Z,69nm,1.2s
JLU LR LR
comp=Z,6µm,18.0s
BTM Bintulu 60.42 234 P **P 13 03 58.5 +1.2**
BLG Laguna Peak, P 60.46 71 P **P 13 03 57.5 0.0**
baz=314
PSUT Pine Spring 60.47 64 *e*P **P 13 03 58.6 +0.9**
comp=Z,38nm,0.9s
PSUT LR LR
comp=Z,3µm,22.0s
BOK Bokaro 60.49 272 *e*P **P 13 03 55.9 -1.9**
BOK IAmb IAmb 13 04 00.3
comp=Z,82nm,0.9s
SFJD Kangerlussuaq 60.50 12 *e*P **P 13 03 57.2 0.0**
comp=Z,93nm,1.0s
SFJD LR LR
comp=Z,8µm,18.0s
SFJD Kangerlussuaq 60.50 12⇑*i*P **P 13 03 57.1 -0.1**
comp=Z,76nm,0.9s
SFJD Kangerlussuaq 60.50 12⇑*i*P **P 13 03 57.1 -0.1**
SFJD pmax pmax
comp=Z,76nm,0.9s
NLU North Lily Min 60.51 62 *e*P **P 13 03 59.4 +1.4**
comp=Z,58nm,0.9s
NLU LR LR
comp=Z,5µm,22.0s
DHRM DHARAMSHALA 60.52 286 *e*P **P 13 03 56.8 -1.3**
EDW2 Edwards Air Fo 60.57 70 P **P 13 03 58.8 +0.5**
baz=314,SNR=25
MPU Maple Canyon 60.71 62 *e*P **P 13 04 00.8 +1.5**
comp=Z,78nm,1.0s
MPU LR LR
comp=Z,5µm,22.0s
SMLA Simla 60.76 284 *e*P **P 13 03 58.3 -1.2**
PCI Palu 60.77 225 P **P 13 03 59.3 -0.4**
comp=Z,167nm,1.1s,comp=Z,3µm
SNCC San Nicolas Is 60.78 72 P **P 13 04 00.0 +0.4**
baz=314
DDI Dehra Dun 60.78 283 *e*P **P 13 03 58.9 -0.8**
DECC Green Verdugo 60.80 71 P **P 13 03 59.9 +0.1**
baz=314
SHOC Shoshone, Teco 60.88 68 P **P 13 04 01.0 +0.6**
baz=314,SNR=18
PASC Pasadena Art C 60.94 71 PFAKE 13 04 10.0 +9.2
PASC LR LR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 60.98 69 *e*P **P 13 04 01.4 +0.3**
comp=Z,52nm,0.9s
GSC LR LR
comp=Z,5µm,21.0s
GSC Goldstone, Bar 60.98 69 *e*P **P 13 04 01.4 +0.3**
GSC pmax pmax
comp=Z,52nm,0.9s
GSC Goldstone, Bar 60.98 69 P **P 13 04 01.7 +0.6**
baz=314,SNR=18
MWC Mount Wilson 60.98 71 PFAKE 13 04 10.0 +8.7
MWC LR LR
comp=Z,3µm,22.0s
BHK Bhakra 61.02 285⇓*ex* **P 13 04 00.0 -1.4**
SHPR Sheep Range 61.12 67 *e*P **P 13 04 03.3 +1.2**
comp=Z,39nm,1.0s
SHPR LR LR
comp=Z,3µm,20.0s
RRX Edison Barstow 61.16 69 P **P 13 04 03.2 +1.0**
baz=314
FMP Fort Macarthur 61.20 71 P **P 13 04 03.3 +0.8**
baz=314
BFSC Mount Baldy Ra 61.21 70 P **P 13 04 03.1 +0.3**
baz=314,SNR=11
TCRU Three Creeks R 61.22 63 *e*P **P 13 04 04.5 +1.6**
comp=Z,100nm,1.5s
TCRU LR LR
comp=Z,6µm,22.0s
CIS Catalina Islan 61.34 71 P **P 13 04 03.5 0.0**
baz=314
NIL Nilore 61.39 289 *e*P **P 13 04 03.6 -0.2**
comp=Z,162nm,0.8s
NIL LR LR
comp=Z,11µm,21.0s
TUQ Turquoise Moun 61.41 68 P **P 13 04 04.8 +0.7**
baz=314,SNR=21
CCUT Cedar City 61.43 65 *e*P **P 13 04 05.3 +1.0**
comp=Z,50nm,0.9s
CCUT LR LR
comp=Z,2µm,19.0s
MSU Marysvale 61.44 63 *e*P **P 13 04 05.6 +1.2**
MSU Marysvale 61.44 63 *e*P **P 13 04 05.6 +1.2**
TMUT Trail Mountain 61.44 62 *e*P **P 13 04 05.8 +1.3**
comp=Z,56nm,0.9s
TMUT LR LR
comp=Z,4µm,21.0s
SGKI Sangatta, Kali 61.45 227 P **P 13 04 05.4 +1.1**
ULM Lac du Bonnet 61.45 44 *e*P **P 13 04 04.0 +0.1**
comp=Z,39nm,0.9s
ULM Lac du Bonnet 61.45 44 *e*P **P 13 04 04.0 +0.1**
ULM pmax pmax
comp=Z,39nm,0.9s
ULM Lac du Bonnet 61.45 44 P **P 13 04 04.1 +0.1**
comp=Z,14nm,1.1s,baz=301,slow=7.3,SNR=12
MDND Maddock 61.47 48 PFAKE 13 04 20.0 +16
MDND LR LR
comp=Z,6µm,21.0s
MDND Maddock 61.47 48 P **P 13 04 04.9 +0.8**
baz=316
SBUM Sibu 61.50 234 *e*P **P 13 04 06.1 +1.4**
comp=Z,62nm,0.9s
SBUM LR LR
comp=Z,10µm,21.0s
SBUM Sibu 61.50 234 P **P 13 04 06.0 +1.4**
FIA1 FINESS Array S 61.50 336 *e*P **P 13 04 03.4 -0.6**
comp=Z,35nm,0.8s
FIA0 FINESS Array S 61.50 336 *e*P **P 13 04 03.0 -1.0**
FIA0 FINESS Array S 61.50 336 *e*P **P 13 04 03.1 -1.0**
FINES FINESS Array B 61.50 336 P **P 13 04 03.0 -1.0**
comp=Z,39nm,0.9s,baz=32,slow=6.5,SNR=45
FINES LR LR 13 34 20.5
comp=Z,30µm,20.9s,baz=16,slow=40
SCI2 San Clemente I 61.55 72 P **P 13 04 05.5 +0.6**
baz=314
SZCU Shurtz Canyon 61.56 65 *e*P **P 13 04 05.7 +0.5**
comp=Z,34nm,0.9s
SZCU LR LR

comp=Z,5µm,22.0s
P17A Butcher Ranch, 61.58 62 *e*P **P 13 04 06.3 +1.1**
comp=Z,91nm,1.1s
P17A LR LR
comp=Z,4µm,22.0s
HEC Hector,Ludlow 61.59 69 P **P 13 04 05.8 +0.6**
baz=314,SNR=23
XMAS Kiritimati 61.63 127 PFAKE 13 04 20.0 +14
XMAS LR LR
comp=Z,11µm,20.0s
BBRC Big Bear Solar 61.63 70 P **P 13 04 06.0 +0.3**
baz=314
K22A Casper 61.66 56 *e*P **P 13 04 07.0 +1.3**
comp=Z,49nm,1.1s
K22A LR LR
comp=Z,8µm,20.0s
K22A Casper 61.66 56 P **P 13 04 06.4 +0.7**
baz=314,SNR=18
Q16A Castle Valley 61.73 62 *e*P **P 13 04 07.4 +1.2**
comp=Z,51nm,0.8s
Q16A LR LR
comp=Z,4µm,22.0s
MTPU Mount Pierson 61.76 64 *e*P **P 13 04 08.0 +1.3**
comp=Z,43nm,0.9s
MTPU LR LR
comp=Z,6µm,20.0s
LCMT Little Creek M 61.87 65 *e*P **P 13 04 08.5 +1.3**
comp=Z,104nm,1.0s
LCMT LR LR
comp=Z,5µm,18.0s
RSSD Black Hills 61.92 54 *e*P **P 13 04 08.1 +0.6**
comp=Z,103nm,0.9s
RSSD LR LR
comp=Z,4µm,20.0s
RSSD Black Hills 61.92 54 *e*P **P 13 04 08.1 +0.6**
RSSD pmax pmax
comp=Z,103nm,0.9s
RSSD Black Hills 61.92 54 P **P 13 04 08.3 +0.8**
baz=315
MURC Murrieta 61.93 70 P **P 13 04 07.4 -0.1**
baz=314,SNR=9.4
SRU San Rafael Swe 61.95 62 *e*P **P 13 04 08.7 +0.9**
comp=Z,160nm,0.8s
SRU LR LR
comp=Z,4µm,19.0s
SRU San Rafael Swe 61.95 62 *e*P **P 13 04 08.7 +0.9**
SRU pmax pmax
comp=Z,160nm,0.8s
RWWY Rawlins 61.97 58 *e*P **P 13 04 08.8 +0.9**
comp=Z,58nm,1.0s
GMRC Granite Mounta 62.02 69 P **P 13 04 08.7 +0.5**
baz=314,SNR=25
PKCU Pink Cliffs 62.11 64 PFAKE 13 04 20.0 +11
PKCU LR LR
comp=Z,5µm,22.0s
KNB Kanab 62.11 65 *e*P **P 13 04 09.9 +1.1**
comp=Z,64nm,0.9s
KNB LR LR
comp=Z,4µm,22.0s
KNB Kanab 62.11 65 *e*P **P 13 04 09.9 +1.1**
KNB pmax pmax
comp=Z,65nm,0.9s
LDFC Landfair 62.14 68 PFAKE 13 04 20.0 +11
LDFC LR LR
comp=Z,6µm,21.0s
KDI Kendari 62.32 220 P **P 13 04 11.3 +1.2**
PFO Pinyon Flats O 62.36 70 *e*P **P 13 04 10.9 +0.4**
comp=Z,38nm,1.1s
PFO LR LR
comp=Z,3µm,21.0s
PFO Pinyon Flats O 62.36 70 *e*P **P 13 04 10.9 +0.4**
PFO pmax pmax
comp=Z,38nm,1.1s
PFO Pinyon Flats O 62.36 70 P **P 13 04 10.3 -0.2**
baz=315,SNR=8.0
BELC Belle Mtn. Jos 62.36 69 P **P 13 04 10.5 0.0**
baz=315,SNR=15
XPFO Pion Flat 62.37 70 *e*P **P 13 04 10.8 +0.4**
comp=Z,37nm,1.0s
XPFO LR LR
comp=Z,3µm,21.0s
BKB Balikpapan 62.42 227 P **P 13 04 11.0 +0.2**
NDI New Delhi 62.45 282 *e*P **P 13 04 10.0 -1.0**
109C Camp Elliot, M 62.48 71 P **P 13 04 11.4 +0.3**
baz=315
O20A White River Ci 62.50 60 *e*P **P 13 04 12.4 +1.0**
comp=Z,49nm,0.8s
O20A White River Ci 62.50 60 P **P 13 04 12.2 +0.8**
baz=315,SNR=30
NEE2 Needles Airpor 62.64 68 P **P 13 04 12.5 +0.3**
baz=315
MOS Moscow 62.65 327 *e*P **P 13 04 11.2 -0.6**
MOS *e* 13 04 49.5
MOS *e* 13 06 33.8
MOS *e* 13 08 07.8
MOS pmax pmax
comp=Z,57nm,0.8s
MOS LR LR
comp=Z,34µm,22.0s
MOS LR LR
comp=N,24µm,21.0s
TTSI Tana Toraja 62.69 224 P **P 13 04 13.4 +0.8**
comp=N,40nm,1.4s,comp=N,2µmcomp=N,13µm
IRM Iron Mountain 62.76 69 P **P 13 04 13.8 +0.8**
baz=315,SNR=36
U15A North Rim 62.83 65 *e*P **P 13 04 13.4 -0.3**
comp=N,76nm,1.2s
U15A LR LR
comp=Z,5µm,22.0s
W13A Hualapai Mount 62.84 67 *e*P **P 13 04 15.0 +1.2**
comp=Z,50nm,1.0s
W13A LR LR
comp=Z,4µm,18.0s
AGMN Agassiz Nation 62.88 46 *e*P **P 13 04 14.0 +0.5**
comp=Z,44nm,0.9s
AGMN Agassiz Nation 62.88 46 P **P 13 04 13.6 +0.1**
baz=317,SNR=10
BAR Barrett 62.89 71 PFAKE 13 04 30.0 +16
BAR LR LR
comp=Z,4µm,19.0s
MONP2 Monument Peak 62.89 71 P **P 13 04 14.0 -0.1**
baz=315,SNR=6.2
SAUI Saumlaki 62.91 210 P **P 13 04 15.3 +1.3**
BC3 Big Chuckawall 62.93 69 P **P 13 04 14.5 +0.3**
baz=315,SNR=10
BWNR Bhubaneshwar 63.09 269 *ex* P 13 04 10.2 -5.0
PV09 Paradox Valley 63.16 61 *e*P **P 13 04 17.2 +1.3**
PV21 Cone Mtn., Par 63.20 61 *e*P **P 13 04 17.4 +1.3**
comp=Z,97nm,1.1s
N23A Red Feather La 63.20 58 *e*P **P 13 04 17.1 +1.0**
comp=Z,58nm,0.8s
N23A Red Feather La 63.20 58 P **P 13 04 17.3 +1.2**
baz=315,SNR=56
ANGG Ammassalik, Gr 63.22 7 *e*P **P 13 04 15.6 +0.1**
comp=Z,52nm,0.7s
ANGG LR LR
comp=Z,10µm,22.0s
SWSC Sam W. Stewart 63.22 70 P **P 13 04 16.4 +0.4**
baz=315
IKP In-Ko-Pah, Jac 63.25 71 P **P 13 04 16.6 +0.3**
baz=315,SNR=6.1
PDMCI Parker Dam,Lak 63.25 68 P **P 13 04 16.8 +0.6**
baz=315,SNR=10
KBL Kabul 63.26 292 *e*P **P 13 04 15.6 -0.9**
comp=Z,50nm,0.8s
KBL LR LR
comp=Z,20µm,19.0s
KBL Kabul 63.26 292 *e*P **P 13 04 15.6 -0.9**
KBL pmax pmax
comp=Z,50nm,0.8s
KBL MLR MLR
comp=Z,20µm,19.0s
PV23 Carpenter Ridg 63.26 61 *e*P **P 13 04 17.3 +0.7**
comp=Z,155nm,1.0s
PV10 Paradox Valley 63.30 61 *e*P **P 13 04 17.6 +0.8**
comp=Z,156nm,0.9s
PV14 Lion Creek, Pa 63.31 61 *e*P **P 13 04 17.9 +1.1**
comp=Z,96nm,0.9s
KSM Kuching 63.32 235 *e*P **P 13 04 16.6 -0.2**
comp=Z,135nm,1.1s
KSM LR LR
comp=Z,9µm,21.0s
KSM Kuching 63.32 235 P **P 13 04 18.2 +1.4**
PV04 Paradox Valley 63.36 61 *e*P **P 13 04 18.0 +0.9**
comp=Z,106nm,0.9s
PV04 LR LR
comp=Z,8µm,21.0s

PV20 West Nyswonger 63.36 61 *e*P **P 13 04 18.3 +1.1**
comp=Z,103nm,1.0s
PV19 Morning Glory 63.37 61 *e*P **P 13 04 18.1 +0.8**
comp=Z,110nm,1.1s
PV19 LR LR
comp=Z,7µm,21.0s
PV17 East Wray Mesa 63.41 61 *e*P **P 13 04 18.7 +1.2**
comp=Z,183nm,0.8s
PV16 Nyswonger Mesa 63.41 61 *e*P **P 13 04 18.4 +0.9**
comp=Z,180nm,1.1s
Y12C Blythe 63.41 69 *e*P **P 13 04 17.6 +0.4**
comp=Z,72nm,0.9s
Y12C LR LR
comp=Z,4µm,22.0s
Y12C Blythe 63.41 69 P **P 13 04 17.9 +0.6**
baz=315,SNR=14
PV11 David Mesa, Pa 63.44 61 *e*P **P 13 04 18.9 +1.2**
comp=Z,125nm,0.9s
PV12 Saucer Basin, 63.47 61 *e*P **P 13 04 18.9 +1.0**
comp=Z,444nm,1.6s
PV12 LR LR
comp=Z,9µm,21.0s
PV07 Paradox Valley 63.47 61 *e*P **P 13 04 18.5 +0.7**
comp=Z,68nm,1.1s
PV05 Paradox Valley 63.47 62 *e*P **P 13 04 19.2 +1.3**
comp=Z,149nm,0.8s
PV03 Paradox Valley 63.49 61 *e*P **P 13 04 19.1 +1.1**
comp=Z,119nm,1.1s
OBN Obninsk 63.51 327 PFAKE 13 04 30.0 +12
OBN LR LR
comp=Z,34µm,22.0s
OBN Obninsk 63.51 327⇓*e*P **P 13 04 17.1 -0.4**
OBN *i* 13 04 45.3
OBN *e* 13 06 39.8
OBN *e*PPP PPP 13 08 15.4
OBN *i* S **S 13 12 40.3 -5.8**
OBN *i* SS **SS 13 16 50.4 -2.6**
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,39µm,23.0s
SPSI Sidrap Palu 63.53 223 P **P 13 04 18.1 0.0**
comp=Z,84nm,1.5s,comp=Z,2µmcomp=Z,9µm
PV13 Radium Mtn., P 63.57 61 *e*P **P 13 04 19.8 +1.2**
comp=Z,144nm,0.9s
PV02 Paradox Valley 63.58 61 *e*P **P 13 04 19.4 +0.7**
comp=Z,119nm,1.2s
PV15 Paradox Valley 63.63 61 *e*P **P 13 04 19.6 +0.6**
comp=Z,104nm,0.9s
GLA Glamis 63.73 69 *e*P **P 13 04 19.6 +0.2**
comp=Z,83nm,0.9s
GLA LR LR
comp=Z,5µm,22.0s
GLA Glamis 63.73 69 *e*P **P 13 04 19.6 +0.2**
GLA pmax pmax
comp=Z,83nm,0.9s
GLA Glamis 63.73 69 P **P 13 04 20.3 +0.9**
baz=315,SNR=6.4
PV01 Paradox Valley 63.73 61 *e*P **P 13 04 20.0 +0.4**
comp=Z,75nm,1.3s
BBSI Bau Bau 63.73 220 P **P 13 04 20.7 +1.2**
BNSI Bone 63.77 223 P **P 13 04 20.9 +1.1**
VSU Vasula 63.85 334*ce*P **P 13 04 19.6 -0.1**
VSU pmax pmax
comp=Z,85nm,0.7s
VSU MLR MLR
comp=Z,56µm,16.0s
VSU Vasula 63.85 334 *e*P **P 13 04 19.4 -0.3**
VSU IAmb IAmb 13 04 21.8
comp=Z,87nm,0.8s
SMCO Snowmass 63.87 60 PFAKE 13 04 30.0 +9.3
SMCO LR LR
comp=Z,6µm,22.0s
WUAZ Wupatki 64.00 65 *e*P **P 13 04 20.7 -0.6**
comp=Z,61nm,1.0s
WUAZ LR LR
comp=Z,7µm,22.0s
WUAZ Wupatki 64.00 65 P **P 13 04 22.6 +1.2**
baz=315,SNR=30
SKLT Songkhla 64.00 248 P **P 13 04 23.5 +2.2**
comp=Z,161nm,1.1s,comp=Z,5µm
KRAB Krabi 64.00 250 P **P 13 04 24.9 +3.6**
comp=Z,1µm,1.0s,comp=Z,19µm
TRTT Trang 64.02 249 P **P 13 04 22.8 +1.4**
comp=Z,65nm,1.5s,comp=Z,2µm
KTGM Kuala Trenggan 64.04 244 P **P 13 04 24.0 +2.4**
ISCO Idaho Springs 64.16 58 *e*P **P 13 04 23.7 +1.2**
comp=Z,78nm,0.9s
ISCO Idaho Springs 64.16 58 *e*P **P 13 04 23.7 +1.2**
ISCO pmax pmax
comp=Z,78nm,0.9s
ISCO Idaho Springs 64.16 58 P **P 13 04 23.9 +1.4**
baz=316,SNR=94
Y14A Wickenburg 64.17 67 *e*P **P 13 04 22.6 +0.2**
comp=Z,49nm,0.9s
Y14A LR LR
comp=Z,5µm,22.0s
SUSD Miller 64.24 51 P **P 13 04 22.6 0.0**
baz=317,SNR=5.3
MVCO Mesa Verde 64.42 62 *e*P **P 13 04 24.7 +0.5**
comp=Z,66nm,0.9s
MVCO LR LR
comp=Z,4µm,20.0s
MVCO Mesa Verde 64.42 62 P **P 13 04 24.9 +0.7**
baz=316,SNR=19
113A Mohawk Valley, 64.55 69 *e*P **P 13 04 24.4 -0.4**
comp=Z,47nm,1.0s
113A LR LR
comp=Z,3µm,18.0s
KBKI Kotabaru 64.55 227 P **P 13 04 26.0 +1.1**
BKSI Bulukumba 64.59 222 P **P 13 04 26.3 +1.2**
DOMB Dombas 64.65 344 *e*P **P 13 04 21.9 -3.0**
LPSR Galich'ya Gora 64.65 324 *e*P **P 13 04 24.1 -1.0**
LPSR pmax pmax
comp=Z,60nm,0.8s
LPSR MLR MLR
comp=Z,54µm,22.0s
VRH Novokhopyorsk 64.67 321 *e*P **P 13 04 23.9 -1.3**
VRH pmax pmax
comp=Z,60nm,0.7s
VRH MLR MLR
comp=Z,29µm,19.0s
JBP Jabalpur 64.68 276⇑*e*P **P 13 04 26.1 +0.5**
BORG Borgarnes 64.68 359 *e*P **P 13 04 26.9 +1.8**
comp=Z,165nm,1.1s
BORG Borgarnes 64.68 359 *e*P **P 13 04 26.9 +1.8**
BORG pmax pmax
comp=Z,165nm,1.1s
X16A Lo Mia Camp, P 64.74 66 *e*P **P 13 04 27.4 +1.2**
comp=Z,64nm,0.9s
X16A LR LR
comp=Z,2µm,19.0s
PKDT Phuket 64.78 250 P **P 13 04 28.0 +1.6**
comp=Z,112nm,1.5s,comp=Z,2µmcomp=Z,6µm
AKN Aaknes 64.87 345 *e*P **P 13 04 26.3 0.0**
S22A 4UR Ranch, Cre 64.97 61 *e*P **P 13 04 29.4 +1.6**
comp=Z,58nm,0.9s
S22A LR LR
comp=Z,4µm,21.0s
S22A 4UR Ranch, Cre 64.97 61 P **P 13 04 28.6 +0.8**
baz=316,SNR=57
NC303 NORSAR Array S 64.99 343 *e*P **P 13 04 27.1 -0.1**
Q24A Divide 65.01 59 *e*P **P 13 04 29.0 +1.0**
comp=Z,41nm,0.9s
Q24A Divide 65.01 59 P **P 13 04 29.1 +1.0**
baz=316,SNR=18
NC405 NORSAR Array S 65.03 343 *e*P **P 13 04 27.5 0.0**
NC204 NORSAR Array S 65.06 343 *e*P **P 13 04 27.9 +0.2**
EYMN Ely 65.10 44 *e*P **P 13 04 28.2 +0.2**
comp=Z,72nm,0.9s
EYMN Ely 65.10 44 P **P 13 04 27.9 -0.2**
baz=319
NB201 NORSAR Array S 65.17 343 *e*P **P 13 04 28.5 +0.1**
NB2 NORSAR Subarra 65.19 343 P **P 13 04 28.4 -0.2**
comp=Z,11nm,0.6s,baz=23,slow=6.5
NB2 NORSAR Subarra 65.19 343 P **P 13 04 28.4 -0.2**
baz=23,slow=6.5
NB200 NORSAR Array S 65.19 343 *e*P **P 13 04 28.3 -0.2**
NOA NORSAR Array B 65.19 343 P **P 13 04 28.3 -0.2**
comp=Z,8.8nm,0.5s,baz=28,slow=6.0,SNR=39
NOA LR LR 13 38 17.2
comp=Z,14µm,19.2s,baz=25,slow=41
W18A Petrified Fore 65.22 64 *e*P **P 13 04 29.3 0.0**
comp=Z,115nm,1.4s
W18A LR LR
comp=Z,6µm,21.0s
W18A Petrified Fore 65.22 64 P **P 13 04 30.3 +1.0**

baz=316,SNR=5.6
OGNE Ogallala 65.23 55 *e*P **P 13 04 30.7 +1.5**
comp=Z,198nm,0.9s
OGNE LR LR
comp=Z,10µm,20.0s
OGNE Ogallala 65.23 55 P **P 13 04 29.7 +0.6**
baz=317,SNR=18
PBA Port Blair 65.23 258 *e*P P 13 04 29.4 +0.1
comp=Z,307nm,0.9s
PBA LR LR
comp=Z,16µm,20.0s
PBA Port Blair 65.23 258 *e*P P 13 04 27.9 -1.5
VORR Voronezh 65.28 323 P **P 13 04 27.0 -2.2**
VORR pmax pmax
comp=Z,250nm,1.4s
NBO00 NORSAR Array S 65.28 343 *e*P **P 13 04 29.1 0.0**
comp=Z,90nm,1.4s
NC602 NORSAR Array S 65.41 342 *e*P **P 13 04 30.1 +0.1**
NC602 NORSAR Array S 65.41 342 *e*P **P 13 04 28.5 -1.4**
NAO01 NORSAR Array S 65.44 343 *e*P **P 13 04 30.2 +0.1**
KULM Kulim 65.50 247 *e*P **P 13 04 31.9 +0.8**
comp=Z,229nm,1.3s
KULM LR LR
comp=Z,12µm,22.0s
KULM Kulim 65.50 247 P **P 13 04 32.9 +1.8**
X18A Snowflake 65.52 65 *e*P **P 13 04 32.4 +1.1**
comp=Z,67nm,0.9s
X18A LR LR
comp=Z,4µm,22.0s
VSR Storozhevoye 65.66 323*c i*P **P 13 04 31.5 -0.1**
VSR pmax pmax
comp=Z,74nm,1.0s
VSR MLR MLR
comp=Z,70µm,21.0s
214A Organ Pipe Nat 65.70 69 P **P 13 04 32.9 +0.6**
baz=316,SNR=14
SDCO Great Sand Dun 65.70 60 *e*P **P 13 04 33.5 +1.0**
comp=Z,38nm,1.0s
SDCO LR LR
comp=Z,6µm,19.0s
SDCO Great Sand Dun 65.70 60 P **P 13 04 33.6 +1.1**
baz=317,SNR=52
COEN Coen 65.81 195 *e*P **P 13 04 33.1 +0.2**
comp=Z,117nm,1.0s
ECSD EROS Data Cent 65.90 50 *e*P **P 13 04 33.4 0.0**
comp=Z,73nm,1.1s
ECSD LR LR
comp=Z,8µm,20.0s
ECSD EROS Data Cent 65.90 50 P **P 13 04 33.4 0.0**
baz=318,SNR=48
IPM Ipoh 65.94 246 *e*P **P 13 04 34.2 +0.3**
comp=Z,134nm,1.2s
IPM LR LR
comp=Z,13µm,22.0s
IPM Ipoh 65.94 246 P **P 13 04 34.5 +0.6**
HYA Hoyanger 65.95 345 *e*P **P 13 04 32.3 -1.0**
E38A The Farm, Brul 66.09 45 *e*P **P 13 04 34.7 +0.2**
comp=Z,56nm,1.0s
E38A The Farm, Brul 66.09 45 P **P 13 04 34.3 -0.2**
baz=320
C40A Isle Royale Na 66.14 43 P **P 13 04 34.5 -0.2**
baz=321
BHPL Bhopal 66.23 278 *e*P **P 13 04 35.1 -0.7**
F37A Hinrichs Farm, 66.28 46 P **P 13 04 35.5 -0.2**
baz=320
IZAR Zarasai 66.30 332 *e*P **P 13 04 35.2 -0.5**
IZAR IAmb IAmb 13 04 36.8
comp=Z,16nm,0.9s
KSCO Kaye Shedlock' 66.33 57 *e*P **P 13 04 37.2 +0.9**
comp=Z,71nm,1.1s
KSCO Kaye Shedlock' 66.33 57 P **P 13 04 36.7 +0.3**
baz=317,SNR=8.0
IVI Ivigtut 66.35 13 *e*P **P 13 04 36.5 +0.6**
comp=Z,187nm,1.0s
IVI LR LR
comp=Z,10µm,20.0s
ISAL Salakas 66.49 332 *e*P **P 13 04 35.9 -1.0**
ISAL IAmb IAmb 13 04 39.1
comp=Z,18nm,1.0s
IDID Didziasalis 66.53 332 *e*P **P 13 04 36.2 -1.0**
IDID IAmb IAmb 13 04 41.7
comp=Z,22nm,0.9s
MYKOM Kota Tinggi 66.53 241 *e*P **P 13 04 38.4 +0.7**
comp=Z,110nm,1.4s
MYKOM LR LR
comp=Z,6µm,20.0s
MYKOM Kota Tinggi 66.53 241 P **P 13 04 39.2 +1.5**
SPMN Marine on St. 66.58 47 *e*P **P 13 04 39.2 +1.6**
comp=Z,46nm,0.9s
SPMN LR LR
comp=Z,6µm,21.0s
SPMN Marine on St. 66.58 47 P **P 13 04 37.4 -0.2**
baz=320,SNR=8.5
FRIM Kepong 66.60 244 P **P 13 04 39.3 +1.2**
TUC Tucson 66.63 67 *e*P **P 13 04 39.5 +1.2**
comp=Z,40nm,1.1s
TUC Tucson 66.63 67 P **P 13 04 39.1 +0.8**
baz=317
KGM Kluang 66.64 242 P **P 13 04 40.1 +1.7**
IIGN Ignalina 66.65 332 *e*P **P 13 04 37.1 -0.8**
IIGN IAmb IAmb 13 04 40.2
comp=Z,38nm,1.1s
E39A Mellen 66.71 44 P **P 13 04 38.3 -0.2**
baz=320
T25A Trinidad 66.73 59 *e*P **P 13 04 40.1 +1.0**
comp=Z,82nm,1.0s
T25A Trinidad 66.73 59 P **P 13 04 39.9 +0.9**
baz=317,SNR=36
NGP Nagpur 66.74 275⇑ *e*P **P 13 04 38.6 -0.4**
NGP *ex* x 13 13 23.9
NGP *ex* x 13 13 23.9
ASK Askoy 66.76 346 *e*P **P 13 04 38.4 -0.1**
NRS Narsarsuaq 66.77 12 *e*P **P 13 04 38.9 +0.3**
comp=Z,89nm,1.0s
NRS LR LR
comp=Z,12µm,21.0s
NRS Narsarsuaq 66.77 12 *i* P **P 13 04 38.4 -0.2**
comp=Z,82nm,1.0s
NRS Narsarsuaq 66.77 12 *i* P **P 13 04 38.4 -0.2**
NRS pmax pmax
comp=Z,82nm,1.0s
KONO Kongsberg 66.79 343 *e*P **P 13 04 39.3 +0.5**
comp=Z,45nm,1.2s
KONO LR LR
comp=Z,18µm,19.0s
KONO Kongsberg 66.79 343*ce*P **P 13 04 38.0 -0.7**
KONO pmax pmax
comp=Z,91nm,1.7s
KONO MLR MLR
comp=Z,17µm,19.0s
KONO Kongsberg 66.79 343 *e*P **P 13 04 38.0 -0.7**
BER Bergen 66.83 345 *e*P **P 13 04 36.1 -2.9**
NACGM Naroch 66.87 332 *e*P P 13 04 34.0 -5.3
NACGM *e*P **P 13 04 38.0 -1.3**
NACGM *e*PP PP 13 07 24.0 +18
NACGM *e*PPP PPP 13 09 03.0
NACGM *e*S **S 13 13 19.0 -8.2**
NACGM *e*SS **SS 13 17 46.0 +0.9**
NACGM *e*SSS SSS 13 20 54.0
NACGM *e*LQ LQ 13 26 36.0
NACGM *e*LR LR 13 32 05.0
NACGM LRM MLR 13 36 18.0
comp=Z,72nm,21.0s
BGNE Belgrade 66.87 52 *e*P **P 13 04 40.5 +0.9**
comp=Z,140nm,1.0s
BGNE LR LR
comp=Z,7µm,21.0s
BGNE Belgrade 66.87 52 P **P 13 04 39.6 -0.1**
baz=318,SNR=13
MICGM Minsk 66.87 331 *e*P **P 13 04 38.0 -1.3**
MICGM *e*pP **pP 13 04 55.0 -0.2**
MICGM *e*S **S 13 13 26.0 -1.3**
MICGM *e*sS **sS 13 13 54.0 -0.4**
MICGM *e*SS SS 13 17 08.0 -37
MICGM *e*SSS 13 19 05.0
MICGM *e*LR LR 13 32 10.0
MICGM LRM MLR 13 35 25.0
comp=N,44nm,20.0s
MICGM LRM MLR 13 35 36.0
comp=Z,99nm,16.0s
MICGM LRM MLR 13 36 18.0
comp=N,59nm,20.0s
MICGM LRM MLR 13 36 19.0
comp=Z,85nm,21.0s
MICGM LRM MLR 13 36 40.0
comp=E,35nm,20.0s
MNK Minsk 66.87 331 *e*P **P 13 04 38.0 -1.3**
MNK *e**PP **pP 13 04 55.0 -0.2**
MNK *e*S **S 13 13 26.0 -1.3**
MNK *e* 13 13 54.0
MNK MLR MLR
comp=N,44µm,20.0s
TPRI Tanjung Pinang 66.88 240 P **P 13 04 41.0 +1.1**
F39A Loretta 66.90 45 P **P 13 04 39.5 -0.2**
baz=320,SNR=5.8
GEYT Alibeck 66.96 302 P **P 13 04 40.1 -0.2**
comp=N,44nm,0.8s,baz=28,slow=3.5,SNR=63
GEYT LR LR 13 37 05.1
comp=N,22µm,18.7s,baz=45,slow=39
GYA0B ALIBECK ARRAY 66.96 302 *e*P **P 13 04 41.0 +0.8**
comp=N,52nm,0.8s
GYA0B LR LR
comp=Z,22µm,19.0s
SOEI Soe 66.97 216 *e*P **P 13 04 40.4 -0.1**
comp=Z,198nm,1.1s
SOEI Soe 66.97 216 P **P 13 04 41.7 +1.1**
D41A Chassel 67.05 43 *e*P **P 13 04 40.7 +0.1**
comp=Z,129nm,1.3s
D41A Chassel 67.05 43 P **P 13 04 40.4 -0.2**
baz=321
G38A Ridgeland 67.05 46 P **P 13 04 40.3 -0.4**
baz=320,SNR=7.7
ODD1 Odda 67.07 345 *e*P **P 13 04 41.4 +0.8**
ANMO Albuquerque 67.20 62 *e*P **P 13 04 42.5 +0.5**
comp=Z,31nm,0.9s
ANMO LR LR
comp=Z,5µm,19.0s
ANMO Albuquerque 67.20 62*ce*P **P 13 04 42.9 +0.9**
ANMO pmax pmax
comp=Z,32nm,1.3s
ANMO Albuquerque 67.20 62 P **P 13 04 42.7 +0.7**
baz=317
LAZ Ladron 67.21 63 *e*P **P 13 04 43.7 +1.6**
H38A Maiden Rock 67.23 47 P **P 13 04 41.7 -0.1**
baz=320,SNR=6.2
F40A Park Falls 67.25 44 P **P 13 04 41.2 -0.8**
baz=321
G39A Holcombe 67.27 46 P **P 13 04 41.7 -0.4**
baz=320
E41A Kenton 67.34 43 P **P 13 04 41.3 -1.2**
baz=321
LENM Lemitar 67.48 63 *e*P **P 13 04 43.7 -0.1**
COWI Conover 67.55 44 *e*P **P 13 04 48.1 +4.3**
comp=Z,51nm,1.2s
MTN Manton Dam 67.55 208 *e*P **P 13 04 44.1 0.0**
comp=Z,150nm,1.0s
LPM Los Pinos Moun 67.56 63 *e*P **P 13 04 44.8 +0.4**
Y22D IRIS PASSCAL I 67.58 63 PFAKE 13 05 00.0 +16
Y22D LR LR
comp=Z,5µm,20.0s
Y22D IRIS PASSCAL I 67.58 63 P **P 13 04 45.1 +0.8**
baz=317
BATI Baumata 67.61 216 P **P 13 04 45.8 +1.3**
BNM Barren Site 67.69 63 *e*P **P 13 04 45.4 +0.2**
H39A Augusta 67.69 46 P **P 13 04 44.5 -0.2**
baz=320
G40A Rib Lake 67.72 45 *e*P **P 13 04 44.8 -0.1**
comp=Z,34nm,1.1s
G40A Rib Lake 67.72 45 P **P 13 04 44.8 -0.1**
baz=321
LHMI Lhok Sumawe 67.72 250 *e*P **P 13 04 48.1 +2.9**
comp=Z,607nm,0.8s
LHMI LR LR
comp=Z,22µm,19.0s
LHMI Lhok Sumawe 67.72 250 P **P 13 04 46.3 +1.1**
E42A Champion 67.82 43 P **P 13 04 45.4 -0.1**
baz=322
F41A Three Lakes 67.84 44 *e*P **P 13 04 45.7 0.0**
comp=Z,102nm,1.4s
F41A Three Lakes 67.84 44 P **P 13 04 45.5 -0.2**
baz=321,SNR=5.6
CBKS Cedar Bluff 67.99 55 *e*P **P 13 04 46.4 -0.3**
comp=Z,102nm,0.9s
CBKS LR LR
comp=Z,5µm,22.0s
CBKS Cedar Bluff 67.99 55 *e*P **P 13 04 46.4 -0.3**
CBKS pmax pmax
comp=Z,102nm,0.9s
CBKS Cedar Bluff 67.99 55 P **P 13 04 46.5 -0.3**
baz=318,SNR=34
LRW Lerwick 67.99 349 *e*P **P 13 04 46.8 +0.5**
LRW IAmb IAmb 13 04 48.2
comp=Z,118nm,1.1s
DSRI Dabo 68.01 239 P **P 13 04 48.2 +1.1**
CMBY CAMPBELL BAY 68.13 253 *e*P **P 13 04 46.8 -1.0**
H40A Chili 68.14 46 P **P 13 04 47.3 -0.2**
baz=321,SNR=7.3
319A Douglas 68.19 67 *e*P **P 13 04 49.1 +0.9**
comp=Z,97nm,0.9s
121A Cookes Peak, D 68.21 65 P **P 13 04 49.6 +1.2**
baz=317,SNR=8.5
I39A Houston 68.21 47 *e*P **P 13 04 48.0 0.0**
comp=Z,76nm,0.9s
I39A LR LR
comp=Z,5µm,20.0s
I39A Houston 68.21 47 P **P 13 04 47.4 -0.6**
baz=321,SNR=8.6
G41A Antigo 68.22 44 P **P 13 04 47.7 -0.3**
baz=321
F42A Maple Grove Fa 68.25 43 P **P 13 04 47.9 -0.3**
baz=322
E43A Lone Tree Farm 68.26 42 P **P 13 04 47.8 -0.4**
baz=322
TPI Tanjungpandan 68.28 235 P **P 13 04 49.9 +1.2**
SCHQ Schefferville 68.30 26 *e*P **P 13 04 48.5 +0.1**
comp=Z,48nm,0.8s
SCHQ Schefferville 68.30 26 P **P 13 04 48.6 +0.3**
comp=Z,35nm,0.8s,baz=346,slow=6.5,SNR=28
WSI Waingapu 68.44 220 P **P 13 04 51.0 +1.4**
H41A Junction City 68.47 45 *e*P **P 13 04 49.1 -0.5**
comp=Z,54nm,1.0s
H41A Junction City 68.47 45 P **P 13 04 49.4 -0.2**
baz=321,SNR=5.4
PSI Prapat 68.51 246 *e*P **P 13 04 48.2 -2.1**
comp=Z,44nm,0.8s
PSI LR LR
comp=Z,13µm,20.0s
PSI Prapat 68.51 246 *e*P **P 13 04 48.2 -2.1**
PSI pmax pmax
comp=Z,45nm,0.8s
PSI MLR MLR
comp=Z,13µm,20.0s
PSI Prapat 68.51 246 P **P 13 04 50.7 +0.3**
comp=Z,29nm,0.8s,baz=0.2,slow=5.6,SNR=26
E44A Grand Marais A 68.52 42 P **P 13 04 49.3 -0.5**
baz=323
G42A Mountain 68.53 44 P **P 13 04 49.3 -0.6**
baz=322
J39A Decorah 68.53 47 P **P 13 04 49.1 -0.9**
baz=321,SNR=8.8
MAK Makhachkala 68.54 312 *e*P **P 13 04 49.1 -0.9**
MAK *e* 13 07 21.1
MAK *e*PPP PPP 13 08 59.7
MAK *e*S **S 13 13 47.0 -0.5**
MAK pmax pmax
comp=Z,73nm,0.3s
MAK pmax pmax
comp=Z,839nm,4.2s
MAK smax smax
comp=E,2µm,6.7s
MAK smax smax
comp=N,998nm,4.9s
MAK MLR MLR
comp=Z,27µm,19.0s
PPBI Pangkal Pinang 68.58 237 P **P 13 04 51.8 +1.2**
I40A Norwalk 68.60 46 P **P 13 04 49.7 -0.7**
baz=321
F43A Flat Rock, Esc 68.61 43 P **P 13 04 49.5 -1.0**
baz=322
SUW Suwalki 68.70 333 *e*P **P 13 04 50.7 -0.1**
SUW Suwalki 68.70 333 PFAKE 13 05 00.0 +9.2
SUW LR LR
comp=Z,58µm,19.0s
SUW Suwalki 68.70 333 *e*P **P 13 04 50.7 -0.1**
PLAI Plampang 68.74 223 P **P 13 04 50.1 -1.4**
I41A Arkdale 68.81 46 P **P 13 04 51.4 -0.3**
baz=321
F44A Big Bay de Noc 68.82 42 P **P 13 04 50.9 -0.9**
baz=322
G43A Wallace 68.84 43 *e*P **P 13 04 52.0 +0.2**
comp=Z,94nm,1.2s
G43A Wallace 68.84 43 P **P 13 04 51.1 -0.7**
baz=322
SCIA State Center 68.92 49 *e*P **P 13 04 53.0 +0.6**
comp=Z,156nm,0.7s
SCIA LR LR
comp=Z,8µm,22.0s
SCIA State Center 68.92 49 P **P 13 04 52.6 +0.2**
baz=320,SNR=9.2
J40A Soldiers Grove 68.93 47 P **P 13 04 51.4 -1.0**
baz=322
GOF Gofitskoye 68.93 316⇓ *i*P **P 13 04 53.0 +0.6**
GOF pmax pmax
comp=Z,100nm,0.8s
K39A Oelwein 68.93 48 P **P 13 04 51.5 -1.0**
baz=321,SNR=6.7
E45A Wooded Hills, 69.04 41 P **P 13 04 52.3 -0.8**
baz=323
H42A Shiocton 69.06 44 P **P 13 04 52.7 -0.5**
baz=322
D46A Sault St. Mari 69.08 40 P **P 13 04 52.5 -0.9**
baz=324,SNR=6.6
GROC Groznyy 69.14 313 *e*P **P 13 04 50.3 -3.5**
GROC *e**SP **pP 13 05 10.3 +0.6**
GROC *e* 13 05 15.1
GROC *e* 13 07 27.4
GROC *e*S **S 13 13 50.1 -4.6**
GROC pmax pmax
comp=Z,14nm,0.3s
TPTI 69.16 248 P **P 13 04 55.4 +1.2**
MATQ Matagami 69.20 35 P **P 13 04 53.4 -0.6**
baz=326,SNR=8.4
K40A Colesburg 69.28 47 P **P 13 04 54.0 -0.6**
baz=321,SNR=6.7
J41A Loganville 69.28 46 P **P 13 04 53.9 -0.8**
baz=321
BKNI Bangkinang 69.31 243 PFAKE 13 05 10.0 +15
BKNI LR LR
comp=Z,9µm,19.0s
BKNI Bangkinang 69.31 243 P **P 13 04 56.3 +1.1**
L39A Vinton 69.33 48 P **P 13 04 54.7 -0.3**
baz=321,SNR=9.5
D47A Chapleau 69.33 40 P **P 13 04 54.1 -0.8**
baz=324,SNR=6.7
I42A Draeger Farm, 69.37 45 P **P 13 04 54.5 -0.7**
baz=322
KSU1 Kansas State U 69.38 53 *e*P **P 13 04 54.7 -0.7**
comp=Z,50nm,0.8s
KSU1 LR LR
comp=Z,7µm,21.0s
KSU1 Kansas State U 69.38 53 P **P 13 04 54.6 -0.8**
baz=320,SNR=14
E46A Sault Ste Mari 69.39 41 P **P 13 04 54.5 -0.8**
baz=324
SRIG Santa Rosalia 69.40 72 PFAKE 13 05 10.0 +14
SRIG LR LR
comp=Z,4µm,20.0s
H43A Windswept, Lux 69.42 44 P **P 13 04 54.8 -0.7**
baz=322
F45A CMU Biological 69.43 42 P **P 13 04 54.7 -0.8**
baz=323
GRJI Gresik 69.45 229 P **P 13 04 57.2 +1.3**
JFWS Jewell Farm 69.53 47 *e*P **P 13 04 55.2 -0.9**
comp=Z,59nm,1.3s
JFWS LR LR
comp=Z,6µm,21.0s
JFWS Jewell Farm 69.53 47 P **P 13 04 55.3 -0.9**
baz=321
AKASG Malin Array Be 69.67 328 P **P 13 04 55.1 -1.7**
comp=Z,13nm,0.6s,baz=32,slow=6.2,SNR=44
AKASG LR LR 13 38 36.6
comp=Z,35µm,20.6s,baz=35,slow=38
AKBB Malin Array Si 69.67 328 *e*P **P 13 04 55.2 -1.7**
comp=Z,24nm,0.9s
AKBB LR LR
comp=Z,36µm,20.0s
F46A Macinaw City C 69.68 41 P **P 13 04 56.6 -0.5**
baz=323,SNR=8.5
KIEV Kiev 69.68 328 *e*P **P 13 04 55.1 -1.8**
comp=Z,22nm,0.9s
KIEV LR LR
comp=Z,35µm,20.0s
KIEV Kiev 69.68 328⇓ *i*P **P 13 04 55.6 -1.4**
KIEV Kiev 69.68 328 *i* P **P 13 04 55.2 -1.8**
SNR=14
KIEV Kiev 69.68 328 *e*P **P 13 04 55.1 -1.8**
KIEV pmax pmax
comp=Z,22nm,0.9s
KIEV MLR MLR
comp=Z,35µm,20.0s
AK11 Malin Array Si 69.71 328 *e*P **P 13 04 55.9 -1.3**
I43A Langenfeld Bro 69.72 45 P **P 13 04 56.5 -0.8**
baz=322
J42A Columbus 69.73 46 P **P 13 04 55.8 -1.6**
baz=322
L40A Anamosa 69.74 48 *e*P **P 13 04 56.7 -0.8**
comp=Z,46nm,0.9s
L40A LR LR
comp=Z,6µm,22.0s
L40A Anamosa 69.74 48 P **P 13 04 56.4 -1.1**
baz=321
K41A Shullsburg 69.74 47 P **P 13 04 56.3 -1.2**
baz=321
M39A Webster 69.74 49 P **P 13 04 57.5 0.0**
baz=321,SNR=24
E47A Iron Bridge 69.74 40 P **P 13 04 56.3 -1.1**
baz=324
D48A Paudash Townsh 69.75 39 P **P 13 04 56.2 -1.3**
baz=325
HYB Hyderabad 69.81 273⇑ *i*P **P 13 04 58.0 -0.3**
comp=Z,400nm,1.0s
HYB *e*PcP **PcP 13 05 21.0 +0.4**
HYB *e*PP **PP 13 07 40.0 +6.9**
HYB *e*S **S 13 14 04.0 +0.7**
HYB *e*ScS **SKSac 13 14 54.0 -0.2**
HYB *e*SS **SS 13 18 34.0 +1.5**
HYB LR LR
comp=Z,18nm,20.0s
HYB Hyderabad 69.81 273 *e*P **P 13 04 57.9 -0.3**
MUD Monsted U'grnd 69.86 342 *i* P **P 13 04 59.0 +1.1**
MUD Monsted U'grnd 69.86 342 *i* P **P 13 04 59.0 +1.1**
BSD Bornholm Skovb 69.87 338 *i* P **P 13 04 58.7 +0.7**
comp=Z,28nm,0.8s
BSD Bornholm Skovb 69.87 338 *e*P **P 13 04 58.7 +0.7**
BSD pmax pmax
comp=Z,28nm,0.8s
G45A Suttons Bay 69.89 42 P **P 13 04 57.7 -0.6**
baz=323
AMTX Amarillo 69.89 59 *e*P **P 13 04 59.1 +0.4**
comp=Z,59nm,0.9s
AMTX Amarillo 69.89 59 P **P 13 04 58.9 +0.2**
baz=319
BIGH Upper Bighouse 69.92 350 *e*P **P 13 04 58.3 +0.1**
BIGH IAmb IAmb 13 04 59.9
comp=Z,82nm,0.8s
KIV Kislovodsk 69.96 316 *e*P **P 13 05 00.7 +1.8**
comp=Z,32nm,0.8s
KIV LR LR
comp=Z,23µm,22.0s
KIV Kislovodsk 69.96 316 *i* P **P 13 04 58.5 -0.4**
SNR=8.4
KIV Kislovodsk 69.96 316 *e*P **P 13 04 58.5 -0.4**
KIV *e* 13 07 33.7
KIV *e*PPP PPP 13 09 16.1
KIV *e*S **S 13 14 04.8 +0.3**
KIV *e*SS **SS 13 18 35.6 +2.1**
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,17µm,17.0s
KIV Kislovodsk 69.96 316 P **P 13 04 58.6 -0.4**
SNR=6.5
KIV P **P 13 04 58.6 -0.4**
SNR=6.5
KIV P **P 13 04 58.6 -0.4**
SNR=6.5
MSTX Muleshoe 69.97 61 *e*P **P 13 05 00.1 +0.9**
comp=Z,134nm,1.0s
MSTX LR LR
comp=Z,3µm,22.0s
MSTX Muleshoe 69.97 61 P **P 13 04 59.5 +0.3**
baz=318,SNR=44
J43A Natural Harves 69.99 45 P **P 13 04 57.9 -1.1**
baz=322
G46A Petoskey 70.00 42 P **P 13 04 58.3 -0.7**
baz=324
LSQQ Lebel-sur-Quev 70.03 35 P **P 13 04 58.4 -0.7**
baz=327
MLA1 Latheron 70.04 349⇑ *i*P **P 13 04 59.2 +0.1**
KBZ Khabaz 70.04 316 P **P 13 04 58.9 -0.3**

comp=Z,23nm,0.9s,baz=72,slow=2.9,SNR=32
KBZ LR LR 13 39 09.0
comp=Z,29µm,21.8s,baz=24,slow=39
K42A Prairie Point, 70.05 46 P **P 13 04 58.5 -0.9**
baz=322
H45A Beulah 70.05 43 P **P 13 04 59.0 -0.4**
baz=323
CPRX Cap Rock 70.06 62 *e*P **P 13 05 00.8 +1.0**
L41A Preston 70.07 47 P **P 13 04 58.9 -0.6**
baz=322,SNR=7.7
M40A Post Highland 70.11 48 P **P 13 04 59.5 -0.3**
baz=321,SNR=10
E48A Lockeyer 70.17 39 P **P 13 04 58.4 -1.7**
baz=325
MNTX Cornudas Mount 70.20 64 *e*P **P 13 05 00.8 +0.3**
comp=Z,68nm,1.0s
MNTX LR LR
comp=Z,7µm,22.0s
MNTX Cornudas Mount 70.20 64 P **P 13 05 01.2 +0.7**
baz=318,SNR=47
U32A Winter Ranch, 70.20 57 *e*P **P 13 05 00.6 +0.2**
comp=Z,95nm,0.9s
CHGQ Chibougamau 70.22 33 P **P 13 04 59.6 -0.8**
baz=328,SNR=13
ZEI Tsey 70.33 314 *e*P **P 13 04 59.5 -1.9**
ZEI *e* 13 05 19.1
ZEI *e*S **S 13 14 10.3 +1.1**
ZEI *e* 13 14 57.6
ZEI pmax pmax
comp=Z,23nm,0.9s
ZEI MLR MLR
comp=Z,37µm,19.0s
ZEI MLR MLR
comp=N,39µm,20.0s
ZEI MLR MLR
comp=E,14µm,17.0s
I45A Fountain 70.44 43 P **P 13 05 00.9 -0.8**
baz=323
H46A Fife Lake 70.48 42 P **P 13 05 01.4 -0.6**
baz=324
N40A Mertquake, Sal 70.48 49 P **P 13 05 01.9 -0.1**
baz=321,SNR=13
GLMI Grayling 70.50 42 P **P 13 05 01.5 -0.6**
baz=324
GSI Gunungsitoli 70.50 247 *e*P **P 13 05 02.7 +0.2**
comp=E,391nm,1.4s
GSI LR LR
comp=Z,15µm,19.0s
GSI Gunungsitoli 70.50 247 P **P 13 05 03.7 +1.2**
L42A Oliver, Polo 70.51 47 P **P 13 05 00.6 -1.6**
baz=322
F48A Evansville 70.52 40 P **P 13 05 00.0 -2.2**
baz=324
D50A G1974 Best Tow 70.53 38 P **P 13 05 00.8 -1.5**
baz=326
G47A Hillman 70.54 41 P **P 13 05 01.4 -1.0**
baz=324
SMRI Semarang 70.55 231 PFAKE 13 05 10.0 +7.3
SMRI LR LR
comp=Z,14µm,21.0s
SMRI Semarang 70.55 231 P **P 13 05 04.0 +1.3**
K43A Burlington 70.57 46 P **P 13 05 01.4 -1.1**
baz=322
M41A Milan 70.59 48 P **P 13 05 02.2 -0.5**
baz=322,SNR=6.7
VLDQ Val d'Or 70.64 36 *e*P **P 13 05 01.2 -1.6**
comp=Z,83nm,0.9s
MSVF Nonsavu 70.67 159 PFAKE 13 05 20.0 +17
MSVF LR LR
comp=Z,12µm,19.0s
MCD Coleburn Disti 70.73 349 *e*P **P 13 05 03.3 0.0**
PWJI Pagerwojo 70.74 229 P **P 13 05 03.3 -0.5**
RGN Rugen 70.75 339 PFAKE 13 05 20.0 +17
RGN LR LR
comp=Z,25µm,21.0s
D51A Lot 18 Range I 70.77 37 P **P 13 05 02.4 -1.3**
baz=326
TBLG Delisi 70.78 313 *e*P **P 13 05 04.3 +0.4**
comp=Z,70nm,1.0s
TBLG Delisi 70.78 313 *e*P **P 13 05 04.3 +0.4**
TBLG pmax pmax
comp=Z,70nm,1.0s
E50A Wahnapitae 70.79 39 P **P 13 05 02.3 -1.5**
baz=325
L43A Garden Prairie 70.79 46 P **P 13 05 03.1 -0.8**
baz=322
F49A Sandfield 70.81 40 P **P 13 05 03.0 -1.0**
baz=325
J45A Montague 70.85 44 P **P 13 05 03.3 -0.9**
baz=323
H47A Mio 70.86 42 P **P 13 05 03.9 -0.4**
baz=324
I46A Reed City 70.86 43 P **P 13 05 03.2 -1.1**
baz=324
M42A Sheffield 70.90 47 P **P 13 05 03.9 -0.6**
baz=322
N41A Harden Midland 70.97 48 *e*P **P 13 05 05.1 +0.1**
comp=Z,110nm,0.8s
N41A LR LR
comp=Z,9µm,22.0s
N41A Harden Midland 70.97 48 P **P 13 05 04.7 -0.3**
baz=322,SNR=16
GKP Gorka Klasztor 70.97 336 *e*P **P 13 05 06.2 +1.3**
GKP Gorka Klasztor 70.97 336 *e*P **P 13 05 06.1 +1.3**
MDO Dochfour 71.00 350⇑ *i*P **P 13 05 05.1 +0.1**
KAC Achnashellach 71.05 350⇑ *i*P **P 13 05 05.3 +0.1**
BHJ Bhuj 71.05 284 *e*P **P 13 05 05.5 -0.2**
KRJI Kerinci 71.06 241 P **P 13 05 06.9 +0.9**
H48A Harrisville 71.14 41 P **P 13 05 05.4 -0.6**
baz=324
L44A Lake County Fo 71.17 46 P **P 13 05 05.3 -0.9**
baz=323
E51A G1948 Merrick 71.19 38 P **P 13 05 05.2 -1.0**
baz=326
PCJI Pacitan 71.19 229 P **P 13 05 06.0 -0.5**
I47A Gladwin 71.20 42 P **P 13 05 06.0 -0.3**
baz=324
D52A ZEK Kipawa Sen 71.23 37 P **P 13 05 05.5 -1.0**
baz=326
KPL Plockton 71.24 351⇑ *e*P **P 13 05 06.4 +0.1**
KPL IAmb IAmb 13 05 08.0
comp=Z,93nm,0.8s
J46A Howard City 71.25 43 P **P 13 05 05.8 -0.8**
baz=324
N42A Yates City 71.26 48 P **P 13 05 06.4 -0.4**
baz=322,SNR=8.6
UGM Wanagama 71.26 230 *e*P **P 13 05 05.2 -1.8**
comp=Z,370nm,1.3s
UGM LR LR
comp=Z,6µm,22.0s
UGM Wanagama 71.26 230 P **P 13 05 07.2 +0.2**
M43A Waltham Townsh 71.28 47 P **P 13 05 06.0 -0.9**
baz=322
DRUM Mains of Drumt 71.30 349 *e*P **P 13 05 06.3 -0.3**
DRUM IAmb IAmb 13 05 08.1
comp=Z,99nm,0.6s
BEL Belsk 71.30 333 *e*P **P 13 05 07.9 +1.1**
BEL Belsk 71.30 333 *e*P **P 13 05 07.9 +1.1**
LHSI Lahat 71.38 239 P **P 13 05 08.1 +0.4**
CTA Charters Tower 71.39 191 LR LR 13 31 34.2
comp=Z,7µm,21.9s,baz=23,slow=32
CTAO Charters Tower 71.39 191 *e*P **P 13 05 07.0 -0.6**
comp=Z,123nm,1.2s
CTAO Charters Tower 71.39 191 *e*P **P 13 05 07.0 -0.6**
CTAO pmax pmax
comp=Z,123nm,1.2s
I48A Sherman Twp 71.40 42 P **P 13 05 07.1 -0.5**
baz=324
O41A Passleys Farm, 71.42 49 P **P 13 05 07.5 -0.2**
baz=322,SNR=26
TOBO Tobermory, Bru 71.46 40 P **P 13 05 06.6 -1.3**
baz=325
ANN Anapa 71.52 320 *e*P **P 13 05 05.6 -2.6**
ANN *e**PP **pP 13 05 25.1 +0.9**
ANN *e*S **S 13 14 24.7 +2.4**
ANN pmax pmax
comp=Z,59nm,1.2s
ANN MLR MLR
comp=N,36µm,20.0s
ANN MLR MLR
comp=Z,19µm,20.0s
ANN MLR MLR
comp=E,3µm,20.0s
F51A Arnstein 71.52 38 P **P 13 05 06.6 -1.6**
baz=326
SOC Sochi 71.55 317*c* *i*P **P 13 05 06.7 -1.7**
SOC *e**PP **pP 13 05 24.7 +0.3**
SOC *e**SP **sP 13 05 31.6 +0.7**
SOC *e* 13 07 44.3
SOC *e*PPP PPP 13 09 29.6
SOC *e*S **S 13 14 21.2 -1.5**
SOC *e**SS **sS 13 14 48.9 -1.1**
SOC pmax pmax
comp=Z,41nm,1.2s
SOC MLR MLR
comp=Z,13µm,19.0s
WMOK Wichita Mounta 71.56 58 *e*P **P 13 05 09.1 +0.4**
comp=Z,71nm,0.9s
WMOK Wichita Mounta 71.56 58 *e*P **P 13 05 09.1 +0.4**
WMOK pmax pmax
comp=Z,71nm,0.9s
WMOK Wichita Mounta 71.56 58 P **P 13 05 09.1 +0.4**
baz=320,SNR=90
N43A Stutzman Famil 71.57 47 P **P 13 05 07.9 -0.7**
baz=322
P41A Barry, Barry 71.68 49 P **P 13 05 09.2 -0.1**
baz=322,SNR=24
J47A Sumner 71.69 43 P **P 13 05 08.7 -0.6**
baz=324
E52A Mattawa 71.71 37 P **P 13 05 07.3 -2.1**
baz=326
K46A Dorr 71.72 44 P **P 13 05 09.0 -0.5**
baz=324
EDU Dundee 71.72 349⇑ *e*P **P 13 05 09.0 -0.2**
O42A Bath 71.73 48 P **P 13 05 09.1 -0.5**
baz=322
M44A Midewin, Midew 71.74 46 P **P 13 05 08.0 -1.6**
baz=323
D54A Lac Fusel, La 71.74 36 P **P 13 05 09.1 -0.5**
baz=327,SNR=6.6
LEM Lembang 71.77 233 P **P 13 05 10.9 +0.7**
comp=Z,51nm,0.9s,baz=34,slow=5.1,SNR=9.2
HDIL Hopedale 71.82 48 *e*P **P 13 05 12.1 +1.9**
comp=Z,141nm,0.9s
HDIL LR LR
comp=Z,8µm,19.0s
HDIL Hopedale 71.82 48 P **P 13 05 09.5 -0.6**
baz=322
F52A Sundridge 71.86 38 P **P 13 05 09.4 -0.9**
baz=326
KLBO Killbear Provi 71.88 39 P **P 13 05 09.6 -0.8**
baz=326
POO Poona 71.95 277 *e*P **P 13 05 11.4 +0.1**
INVG Invergeldie, C 71.96 349⇑ *e*P **P 13 05 10.7 0.0**
INVG IAmb IAmb 13 05 12.0
comp=Z,88nm,0.8s
I49A Point Hope 71.97 41 P **P 13 05 10.2 -0.8**
baz=325
BSEG Bad Segeberg 71.99 340 *e*P **P 13 05 11.2 +0.4**
comp=Z,54nm,1.1s,baz=22,slow=5.9
MDRS Chennai 72.00 269 *e*P **P 13 05 11.6 +0.1**
MDRS IAmb IAmb 13 05 14.8
comp=Z,105nm,1.0s
O43A Sugar Creek Fa 72.03 48 P **P 13 05 10.8 -0.6**
baz=322
GNI Garni 72.03 312 *e*P **P 13 05 13.2 +1.5**
comp=Z,93nm,1.1s
GNI LR LR
comp=Z,28µm,19.0s
GNI Garni 72.03 312 *i* P **P 13 05 12.3 +0.7**
SNR=14
GNI Garni 72.03 312*c* *i*P **P 13 05 12.8 +1.2**
GNI pmax pmax
comp=Z,130nm,1.1s
GNI MLR MLR
comp=Z,77µm,21.0s
GNI Garni 72.03 312 P **P 13 05 12.3 +0.7**
SNR=14
GNI P **P 13 05 12.3 +0.7**
SNR=14
L46A Eue Claire 72.03 45 P **P 13 05 10.3 -1.1**
baz=324
K47A Vermontville 72.07 43 P **P 13 05 11.1 -0.5**
baz=324
J48A Bridge Port 72.09 42 P **P 13 05 11.5 -0.1**
baz=325
P42A Winchester 72.09 49 *e*P **P 13 05 11.6 -0.2**
comp=Z,62nm,0.9s
P42A LR LR
comp=Z,9µm,22.0s
P42A Winchester 72.09 49 P **P 13 05 11.5 -0.2**
baz=322,SNR=16
BMRO Meriville Lake 72.10 40 P **P 13 05 10.9 -0.8**
baz=326
M45A Boilermakers S 72.10 46 P **P 13 05 10.8 -1.0**
baz=323
LVV L'vov 72.12 330 *e*P **P 13 05 16.2 +4.4**
LVV *e* 13 07 54.6
LVV *e* 13 09 40.2
LVV *e*S **S 13 14 30.3 +1.2**
LVV *e* 13 15 06.6
LVV *e* 13 19 05.8
LVV *e* 13 22 20.8
LVV MLR MLR
comp=N,20µm,19.0s
LVV MLR MLR
comp=E,11µm,19.0s
LVV MLR MLR
comp=Z,26µm,19.0s
BUKO Buck Lake 72.13 38 P **P 13 05 11.3 -0.6**
baz=326
MNAI Manna 72.13 239 PFAKE 13 05 20.0 +7.7
MNAI LR LR
comp=Z,7µm,21.0s
Q41A Truxton 72.16 50 P **P 13 05 12.3 +0.1**
baz=322,SNR=46
N44A Piper City 72.17 47 P **P 13 05 11.7 -0.5**
baz=323
ALGO Algonquin Park 72.22 37 P **P 13 05 11.3 -1.1**
baz=327
EAB Aberfoyle 72.23 350⇑ *i*P **P 13 05 12.6 +0.3**
TUL1 Leonard 72.24 55 *e*P **P 13 05 13.6 +0.8**
comp=Z,133nm,1.2s
TUL1 Leonard 72.24 55 P **P 13 05 12.7 0.0**
baz=321,SNR=16
LAWE Loch Awe, Argy 72.28 350⇑ *e*P **P 13 05 12.7 +0.2**
LAWE IAmb IAmb 13 05 14.2
comp=Z,165nm,0.8s
ESY Stoneypath 72.28 348⇑ *i*P **P 13 05 12.8 +0.1**
CISI Cisompet, Garu 72.29 233 PFAKE 13 05 20.0 +6.8
CISI LR LR
comp=Z,4µm,19.0s
BRCO Bruce Peninsul 72.30 40 P **P 13 05 12.3 -0.6**
baz=325
J49A Marlette 72.31 42 P **P 13 05 12.7 -0.4**
baz=325
K48A Perry 72.35 43 P **P 13 05 13.3 0.0**
baz=324,SNR=6.0
EDI Edinburgh 72.35 349 *e*P **P 13 05 13.2 +0.2**
EDI IAmb IAmb 13 05 14.9
comp=Z,85nm,0.9s
BASO Ashfield 72.39 41 P **P 13 05 12.9 -0.6**
baz=325
N45A Kentland 72.41 46 P **P 13 05 12.8 -0.9**
baz=323
P43A Skaggs, Pawnee 72.44 48 P **P 13 05 13.4 -0.5**
baz=322,SNR=5.7
EAU Auchinoon 72.46 349⇑ *i*P **P 13 05 14.1 +0.4**
EBL Broad Law 72.48 349⇑ *i*P **P 13 05 13.9 +0.1**
M46A Old House Fiel 72.49 45 P **P 13 05 14.1 0.0**
baz=324
BWLO Walkerton 72.52 40 P **P 13 05 13.0 -1.3**
baz=326
O44A Mansfield 72.53 47 P **P 13 05 13.5 -0.8**
baz=323
Q42A Golden Eagle 72.53 49 P **P 13 05 14.4 0.0**
baz=322,SNR=26
L47A Sherwood 72.54 44 P **P 13 05 14.0 -0.5**
baz=324
R41A Rosebud 72.60 50 P **P 13 05 14.5 -0.3**
baz=322,SNR=30
PGBU Glenifferbraes 72.61 350⇑ *e*P **P 13 05 14.7 +0.2**
PGBU IAmb IAmb 13 05 16.5
comp=Z,260nm,0.8s
K49A Clarkson 72.65 42 P **P 13 05 15.4 +0.3**
baz=325,SNR=6.7
MARNC Mare, Loyalty 72.65 170 PFAKE 13 05 30.0 +15
MARNC LR LR
comp=Z,11µm,22.0s
KWP Kalwaria Pacla 72.69 331 *e*P **P 13 05 15.0 -0.2**
KWP Kalwaria Pacla 72.69 331 *e*P **P 13 05 16.2 +1.0**
comp=Z,1µm,0.9s
KWP LR LR
comp=Z,505µm,20.0s
KWP Kalwaria Pacla 72.69 331 *e*P **P 13 05 15.0 -0.2**
G53A Haliburton 72.70 38 P **P 13 05 14.1 -1.2**
baz=327
ABTX Abilene, Hawle 72.70 60 *e*P **P 13 05 16.3 +0.7**
comp=Z,101nm,0.9s
ABTX LR LR
comp=Z,4µm,20.0s
ABTX Abilene, Hawle 72.70 60 P **P 13 05 16.0 +0.4**
baz=320,SNR=30
SIM Simferopol' 72.73 322 *e*P **P 13 05 15.7 +0.2**
SIM *e*S **S 13 14 34.0 -2.2**
SIM MLR MLR
comp=Z,21µm,16.0s
N46A Monticello 72.73 46 P **P 13 05 14.1 -1.4**
baz=324
PEMO Pembroke 72.76 37 P **P 13 05 14.7 -1.0**
baz=327
O45A Potomac 72.79 47 P **P 13 05 15.6 -0.4**
baz=323,SNR=6.4
I51A Listowel 72.83 40 P **P 13 05 15.7 -0.4**
baz=326
M47A Cromwell 72.86 45 P **P 13 05 16.0 -0.3**
baz=324
CCM Cathedral Cave 72.86 50 *e*P **P 13 05 16.9 +0.5**
comp=Z,54nm,1.0s
CCM LR LR
comp=Z,7µm,19.0s
CCM Cathedral Cave 72.86 50 P **P 13 05 15.7 -0.7**
baz=322
SLM Saint Louis 72.89 49 PFAKE 13 05 30.0 +13
SLM LR LR
comp=Z,10µm,22.0s
R42A Luebbering 72.90 50 P **P 13 05 16.4 -0.2**
baz=322,SNR=17
HHAR Hobbs 72.90 53 *e*P **P 13 05 16.4 -0.3**
comp=Z,49nm,0.8s
HHAR LR LR
comp=Z,6µm,21.0s
Q43A New Douglas 72.91 49 P **P 13 05 16.5 -0.1**
baz=322,SNR=5.6
L48A N Adams 72.91 44 P **P 13 05 16.4 -0.2**
baz=324,SNR=8.5
LATQ La Tuque 72.93 33 P **P 13 05 15.7 -0.9**
baz=330
TX31 Lajitas Ar. Si 72.94 65 *e*P **P 13 05 18.1 +1.0**
TXAR Lajitas Array 72.94 65 P **P 13 05 17.8 +0.6**
comp=Z,26nm,0.7s,baz=300,slow=4.1,SNR=222
ESK Eskdalemuir 72.94 349 *e*P **P 13 05 17.1 +0.5**
comp=Z,128nm,0.6s
ESK LR LR
comp=Z,13µm,21.0s
ESK Eskdalemuir 72.94 349⇑ *e*P **P 13 05 16.6 +0.1**
ESK IAmb IAmb 13 05 18.3
comp=Z,130nm,0.7s
ESK Eskdalemuir 72.94 349 *i* P **P 13 05 17.2 +0.6**
AAM Ann Arbor 72.95 43 P **P 13 05 16.2 -0.7**
baz=325
I52A Shelburne 72.96 40 P **P 13 05 16.2 -0.7**
baz=326
F55A Otter Lake 72.97 36 P **P 13 05 15.9 -1.0**
baz=328
KIS Kishinev 72.97 326⇓ *i*P **P 13 05 15.0 -1.9**
comp=Z,200nm,2.0s
KIS Kishinev 72.97 326 *e*PsP 13 05 48.0
KIS Kishinev 72.97 326 *i* PP PP 13 08 05.0 +5.8
comp=Z,700nm,22.0s
KIS Kishinev 72.97 326⇓ *i*P **P 13 05 15.0 -1.9**
KIS *i* 13 08 05.0
KIS *i* PPP PPP 13 09 52.0
KIS *i* S S 13 14 30.0 -8.9
KIS *i* PS **PnS 13 15 20.0 +3.2**
KIS pmax pmax
comp=Z,200nm,2.0s
KIS pmax pmax
comp=Z,2µm,20.0s
KIS pmax pmax
comp=Z,700nm,22.0s
KIS MLR MLR
comp=Z,62µm,24.0s
SFIN Lafayette 72.98 46 *e*P **P 13 05 16.4 -0.6**
comp=Z,69nm,1.3s
SFIN Lafayette 72.98 46 P **P 13 05 16.5 -0.5**
baz=323
S41A Jillco Farms, 72.98 51 P **P 13 05 16.5 -0.7**
baz=322,SNR=37
P44A Sand Creek, Wi 73.00 48 P **P 13 05 17.0 -0.1**
baz=323,SNR=11
OJC Ojcow 73.03 333 *e*P **P 13 05 17.0 -0.2**
OJC Ojcow 73.03 333 *e*P **P 13 05 16.6 -0.5**
comp=Z,52nm,0.9s
OJC Ojcow 73.03 333 *e*P **P 13 05 17.0 -0.2**
BANO Bancroft 73.05 38 P **P 13 05 16.5 -0.9**
baz=327
L49A Milan 73.06 43 P **P 13 05 17.4 -0.1**
baz=325,SNR=5.7
DZM Mont Dzumac 73.07 171 *e*P **P 13 05 19.1 +1.4**
comp=Z,193nm,1.4s
DZM *e*S **SKiKP 13 14 43.4 -1.1**
comp=Z,7µm,26.1s
DZM Mont Dzumac 73.07 171 *e*LR LR 13 27 41.9
comp=Z,31µm,26.0s
DZM Mont Dzumac 73.07 171 P **P 13 05 18.1 +0.4**
comp=Z,19nm,1.0s,baz=37,slow=13,SNR=5.5
DZM LR LR 13 33 16.8
comp=Z,6µm,20.2s,baz=5.0,slow=32
M48A Edgerton 73.16 44 P **P 13 05 17.8 -0.3**
baz=324,SNR=6.3
BHH Howats Hill 73.17 349⇑ *i*P **P 13 05 18.3 +0.4**
N47A Urbana 73.21 45 P **P 13 05 17.7 -0.7**
baz=324
ELFO Elginfield 73.21 41 P **P 13 05 17.7 -0.7**
baz=326
EDMD Edmundbyers 73.26 348⇑ *e*P **P 13 05 18.4 -0.1**
EDMD IAmb IAmb 13 05 20.3
comp=Z,66nm,0.7s
Q44A Meyer Farm, Va 73.26 48 *e*P **P 13 05 19.1 +0.4**
comp=Z,85nm,1.0s
Q44A LR LR
comp=Z,9µm,22.0s
Q44A Meyer Farm, Va 73.26 48 P **P 13 05 18.4 -0.4**
baz=323
WB0 Warramunga Arr 73.27 203 PFAKE 13 05 30.0 +11
WB0 LR LR
comp=Z,9µm,22.0s
WB9 Warramunga Arr 73.30 203 PFAKE 13 05 30.0 +11
WB9 LR LR
comp=Z,18µm,22.0s
TRQ Mont Tremblant 73.30 35 *e*P **P 13 05 18.7 -0.2**
S42A Caledonia 73.30 50 P **P 13 05 18.7 -0.3**
baz=322,SNR=44
ONTNC Ouen Toro 73.31 171 PFAKE 13 05 30.0 +11
ONTNC LR LR
comp=Z,10µm,21.0s
FVM French Village 73.31 50 *e*P **P 13 05 18.9 -0.1**
comp=Z,58nm,0.9s
FVM LR LR
comp=Z,7µm,20.0s
FVM French Village 73.31 50 *e*P **P 13 05 18.9 -0.1**
FVM pmax pmax
comp=Z,58nm,0.9s
RETH Rethem/Aller, 73.31 340 *e*P **P 13 05 18.9 +0.1**
comp=Z,107nm,1.2s,baz=22,slow=5.9
G55A Calabogie 73.32 37 P **P 13 05 18.0 -1.0**
baz=328
R43A Red Bud 73.32 49 P **P 13 05 18.8 -0.3**
baz=322,SNR=6.7
WB8 Warramunga Arr 73.32 203 PFAKE 13 05 30.0 +11
WB8 LR LR
comp=Z,9µm,22.0s
P45A Graceland, Par 73.36 47 PFAKE 13 05 30.0 +11
P45A LR LR
comp=Z,6µm,20.0s
P45A Graceland, Par 73.36 47 P **P 13 05 18.6 -0.7**
baz=323
WB6 Warramunga Arr 73.36 203 PFAKE 13 05 30.0 +11
WB6 LR LR
comp=Z,9µm,22.0s
PLVO Plevna 73.36 37 *e*P **P 13 05 19.8 +0.6**
comp=Z,39nm,1.0s
PLVO Plevna 73.36 37 P **P 13 05 18.1 -1.1**
baz=328
NRDL Niedersach Rie 73.38 340 *e*P **P 13 05 19.2 +0.1**
comp=Z,54nm,1.2s,baz=22,slow=5.9
ACTO Acton 73.38 40 P **P 13 05 19.0 -0.4**
baz=326
WB5 Warramunga Arr 73.39 203 PFAKE 13 05 30.0 +10
WB5 LR LR

comp=Z,6µm,21.0s
U40A Yellville 73.39 53 P P 13 05 19.3 -0.3
baz=322,SNR=75
T41A Mountain View 73.40 51 P P 13 05 18.9 -0.6
baz=322,SNR=31
WB4 Warramunga Arr 73.41 203 PFAKE 13 05 30.0 +10
WB4 LR LR
comp=Z,6µm,21.0s
WR0 Warramunga Arr 73.42 203 PFAKE 13 05 30.0 +10
WR0 LR LR
comp=Z,5µm,21.0s
KSP Ksiaz 73.42 336 eP P 13 05 19.6 0.0
KSP Ksiaz 73.42 336 eP P 13 05 19.5 0.0
WR9 Warramunga Arr 73.42 203 PFAKE 13 05 30.0 +10
WR9 LR LR
comp=Z,6µm,22.0s
WR8 Warramunga Arr 73.43 203 PFAKE 13 05 30.0 +10
WR8 LR LR
comp=Z,6µm,22.0s
WB3 Warramunga Arr 73.43 203 PFAKE 13 05 30.0 +10
WB3 LR LR
comp=Z,7µm,22.0s
WC2 Warramunga Arr 73.43 203 PFAKE 13 05 30.0 +10
WC2 LR LR
comp=Z,7µm,21.0s
WR7 Warramunga Arr 73.43 203 PFAKE 13 05 30.0 +10
WR7 LR LR
comp=Z,6µm,21.0s
WC1 Warramunga Arr 73.44 203 PFAKE 13 05 30.0 +10
WC1 LR LR
comp=Z,6µm,22.0s
WR6 Warramunga Arr 73.44 203 PFAKE 13 05 30.0 +10
WR6 LR LR
comp=Z,6µm,22.0s
WR5 Warramunga Arr 73.44 203 PFAKE 13 05 30.0 +10
WR5 LR LR
comp=Z,6µm,22.0s
WRAB Tennant Creek 73.44 203 eP P 13 05 19.4 -0.4
comp=Z,199nm,1.1s
WRAB LR LR
comp=Z,8µm,22.0s
WRAB Tennant Creek 73.44 203 ceP P 13 05 18.9 -0.9
WRAB pmax pmax
comp=Z,277nm,1.7s
WR4 Warramunga Arr 73.44 203 PFAKE 13 05 30.0 +10
WR4 LR LR
comp=Z,6µm,22.0s
WR3 Warramunga Arr 73.45 203 PFAKE 13 05 30.0 +10
WR3 LR LR
comp=Z,7µm,22.0s
WB2 Warramunga Arr 73.45 203 eP P 13 05 19.5 -0.4
WR2 Warramunga Arr 73.45 203 PFAKE 13 05 30.0 +10
WR2 LR LR
comp=Z,7µm,22.0s
WR1 Warramunga Arr 73.45 203 eP P 13 05 19.3 -0.6
comp=Z,290nm,1.4s
WR1 LR LR
comp=Z,7µm,22.0s
WRA Warramunga Arr 73.45 203 P P 13 05 19.3 -0.6
comp=Z,91nm,0.9s,baz=15,slow=5.8,SNR=236
WC3 Warramunga Arr 73.46 203 PFAKE 13 05 30.0 +10
WC3 LR LR
comp=Z,7µm,22.0s
WC4 Warramunga Arr 73.47 203 PFAKE 13 05 30.0 +10
WC4 LR LR
comp=Z,7µm,22.0s
PKRO Pickering 73.48 39 P P 13 05 19.1 -0.8
baz=327
M49A Liberty Center 73.49 44 P P 13 05 19.1 -0.9
baz=325
CLGH Cloghs, Cushen 73.51 350⇑ eP P 13 05 19.9 0.0
CLGH IAmb IAmb 13 05 21.7
comp=Z,153nm,0.8s
O47A Sheridan 73.51 46 P P 13 05 19.1 -1.1
baz=324
BBO1 Bothel 73.52 349⇑ iP P 13 05 20.5 +0.5
J52A Paris 73.52 40 P P 13 05 19.2 -0.9
baz=326
K51A Iona Station 73.52 41 P P 13 05 19.9 -0.3
baz=326
N48A Decatur 73.52 45 P P 13 05 19.4 -0.9
baz=324,SNR=9.1
L50A Kingsville 73.53 42 P P 13 05 19.3 -0.9
baz=325,SNR=6.9
P46A Rosedale 73.54 47 P P 13 05 20.2 -0.2
baz=324
GAL1 Galloway 73.57 349⇑ eP P 13 05 20.5 +0.3
GAL1 IAmb IAmb 13 05 21.8
comp=Z,70nm,0.7s
DELO Deloro Mine 73.59 38 P P 13 05 19.8 -0.8
baz=327
HPIG 73.59 68 eP P 13 05 20.7 -0.4
comp=Z,33nm,0.8s
HPIG LR LR
comp=Z,5µm,20.0s
ASSE Asse, Remlinge 73.60 339 eP P 13 05 20.8 +0.5
comp=Z,142nm,1.8s,baz=22,slow=5.9
NIE Niedzica 73.60 333 eP P 13 05 18.8 -1.8
NIE Niedzica 73.60 333 eP P 13 05 18.8 -1.8
RAC Raciborz 73.60 334 eP P 13 05 21.0 +0.5
RAC MLR MLR
comp=Z,36µm,21.2s
ORIO Orleans, Innes 73.61 36 P P 13 05 19.3 -1.3
baz=328
KESW Keswick, Cumbr 73.64 348⇑ eP P 13 05 21.2 +0.5
KESW IAmb IAmb 13 05 23.1
comp=Z,323nm,0.9s
BUR08 Bucovina Ar. S 73.65 329 eP P 13 05 20.6 -0.4
IDGL Inch Island, C 73.66 351 iP P 13 05 21.3 +0.5
IDGL eS S 13 14 49.0 +2.6
BUR04 Bucovina Ar. S 73.67 329 eP P 13 05 20.6 -0.6
BURAR Bucovina Array 73.67 329⇓ iP P 13 05 21.9 +0.8
BURAR Bucovina Array 73.67 329 ⇓P P 13 05 21.9 +0.8
TORO Toronto--Lesli 73.67 39 P P 13 05 20.5 -0.5
baz=327
Q45A Warren Harvey, 73.67 48 P P 13 05 20.8 -0.3
baz=323,SNR=13
ALFO Alfred 73.69 35 P P 13 05 20.1 -1.0
baz=329,SNR=5.9
DRWO Darlington Wes 73.70 39 P P 13 05 21.2 +0.1
baz=327
DRCO St. Marys Ceme 73.70 39 P P 13 05 21.1 -0.2
baz=327
UZH Uzhgorod 73.71 331 eP P 13 05 22.2 +1.0
UZH e*PP PcP 13 05 36.7 +0.1
UZH e 13 08 04.7
UZH eS SKiKP 13 14 46.1 +1.2
UZH eSP SKSac 13 15 17.2 -5.4
UZH iP PnS 13 15 42.0 +16
UZH eSSS SSS 13 22 43.5
PINNC Pines Island, 73.71 171 PFAKE 13 05 30.0 +8.7
PINNC LR LR
comp=Z,8µm,19.0s
H55A Tweed 73.73 37 P P 13 05 20.8 -0.6
baz=328
T42A Van Buren 73.74 51 eP P 13 05 21.1 -0.5
comp=Z,36nm,0.9s
T42A LR LR
comp=Z,4µm,22.0s
T42A Van Buren 73.74 51 P P 13 05 20.9 -0.6
baz=322,SNR=19
R44A Waltonville 73.75 49 P P 13 05 21.4 -0.2
baz=323,SNR=15
WLVO Wesleyville 73.79 39 P P 13 05 21.2 -0.5
baz=327
K52A Tillsonburg 73.80 41 P P 13 05 20.8 -1.0
baz=326
UPC Upice 73.81 336 eP P 13 05 22.5 +0.8
UPC eS S 13 14 50.7 +2.4
UPC AMS AMS 13 42 30.0
comp=Z,33µm,17.5s
S43A Fulton Ridge, 73.81 50 P P 13 05 21.8 -0.2
baz=323,SNR=18
I55A Frankford 73.82 38 P P 13 05 21.4 -0.5
baz=327
CLL Collm 73.82 338 eP P 13 05 22.6 +0.8
comp=Z,74nm,1.0s
CLL LR LR
comp=Z,19µm,20.0s
CLL Collm 73.82 338 eP P 13 05 21.5 -0.3
comp=Z,79nm,1.1s,baz=22,slow=5.9
CLL Collm 73.82 338⇑ iP P 13 05 21.0 -0.8
comp=Z,79nm,1.0s
CLL iSP pP 13 05 36.9 -1.0
CLL epPcP 13 05 47.0
CLL ePP PPP 13 09 54.0
CLL eS S 13 14 48.0 -0.4
CLL eSS SS 13 19 54.0 +22
CLL Lm MLR 13 42 00.0
comp=N,15µm,20.9s
CLL Lm MLR 13 42 00.0
comp=E,12µm,19.8s
CLL Lm MLR 13 42 00.0
comp=Z,18µm,20.0s
CLL Lmax 13 43 00.0
CLL Collm 73.82 338⇑ iP P 13 05 21.0 -0.8
CLL i*PP pP 13 05 36.9 -1.0
CLL pmax pmax
comp=Z,79nm,1.0s
CLL MLR MLR
comp=Z,18µm,20.0s
W39A Magazine 73.82 54 eP P 13 05 22.1 0.0
comp=Z,63nm,1.1s
W39A LR LR
comp=Z,6µm,20.0s
W39A Magazine 73.82 54 P P 13 05 21.8 -0.3
baz=322,SNR=20
OLIL Olney 73.83 48 PFAKE 13 05 30.0 +8.0
OLIL LR LR
comp=Z,7µm,22.0s
OKC Ostrava-Krasne 73.84 334 eP P 13 05 22.6 +0.7
OKC eS SKiKP 13 14 45.9 +0.8
OKC AMS AMS 13 40 30.0
comp=Z,26µm,21.0s
OKC Ostrava-Krasne 73.84 334 eP P 13 05 22.6 +0.7
OKC eS SKiKP 13 14 45.9 +0.8
OKC MLR MLR
comp=Z,26µm,21.0s
PLIO Pelee Island, 73.84 43 P P 13 05 21.9 -0.2
baz=325,SNR=5.5
N49A Columbus Grove 73.85 44 eP P 13 05 20.8 -1.3
comp=Z,70nm,1.2s
N49A Columbus Grove 73.85 44 P P 13 05 21.5 -0.7
baz=325
DPC Dobruska-Polom 73.87 335 eP P 13 05 22.7 +0.5
DPC eS S 13 14 48.5 -0.5
DPC AMS AMS 13 42 30.0
comp=Z,30µm,18.9s
DPC Dobruska-Polom 73.87 335 eP P 13 05 22.7 +0.5
DPC eS S 13 14 48.5 -0.5
DPC MLR MLR
comp=Z,30µm,18.9s
U41A Viola 73.87 52 P P 13 05 21.6 -0.7
baz=322,SNR=20
TYNO Tyneside 73.89 40 P P 13 05 21.7 -0.6
baz=326
CLZ Clausthal 73.93 340 eP P 13 05 22.9 +0.4
comp=Z,126nm,1.3s,baz=22,slow=5.9
Q46A CEJHS Indians, 73.94 47 P P 13 05 22.1 -0.6
baz=324
M50A Fremont 73.95 43 P P 13 05 22.1 -0.7
baz=325
O48A Farmland 73.95 45 P P 13 05 21.9 -0.9
baz=324,SNR=7.1
BIZ Bicaz 73.96 328⇓ iP P 13 05 22.4 -0.3
KRLC Kraliky 74.00 335 eP P 13 05 22.5 -0.4
KRLC Kraliky 74.00 335 eP P 13 05 22.5 -0.4
BRG Berggiesshubel 74.00 337 iP P 13 05 22.9 +0.1
comp=Z,66nm,1.5s
BRG PP PP 13 08 06.0 -1.8
BRG S SKiKP 13 14 45.0 -0.3
BRG SS SS 13 19 28.0 -6.5
comp=N,14µm,17.2s
comp=E,15µm,17.9s
comp=Z,29µm,17.4s
BRG Berggiesshubel 74.00 337 eP P 13 05 22.8 -0.1
comp=Z,66nm,1.5s,baz=22,slow=5.9
BRG Berggiesshubel 74.00 337 iP P 13 05 22.9 +0.1
BRG 13 08 06.0
BRG S SKiKP 13 14 45.0 -0.3
BRG pmax pmax
comp=Z,66nm,1.5s
BRG MLR MLR
comp=N,14µm,17.2s
BRG MLR MLR
comp=E,15µm,17.9s
BRG MLR MLR
comp=Z,29µm,17.4s
IBBN Ibbenburen 74.05 341 eP P 13 05 23.6 +0.5
comp=Z,119nm,0.9s,baz=22,slow=5.9
H56A Elgin 74.05 37 P P 13 05 21.8 -1.4
baz=328
MORC Moravsky Berou 74.06 334 eP P 13 05 23.3 0.0
comp=Z,52nm,0.8s
MORC LR LR
comp=Z,28µm,19.0s
MORC Moravsky Berou 74.06 334⇑ iP P 13 05 23.3 0.0
MORC Moravsky Berou 74.06 334 ⇑P P 13 05 23.3 0.0
MORC Moravsky Berou 74.06 334⇑ iP P 13 05 23.3 0.0
HPK Haverah Park 74.06 347⇑ eP P 13 05 23.6 +0.5
HPK IAmb IAmb 13 05 25.2
comp=Z,276nm,0.8s
P47A Martinsville 74.07 46 P P 13 05 23.0 -0.5
baz=324,SNR=8.5
TRPA Tarpa 74.07 331⇑ iP P 13 05 23.3 0.0
TRPA Tarpa 74.07 331⇑ iP P 13 05 23.0 -0.3
TRPA eS S 13 15 02.0 +11
STCO Saint Catharin 74.08 39 P P 13 05 22.5 -0.9
baz=327
LANS Liptovska Anna 74.08 333 eP P 13 05 24.4 +1.0
LANS Liptovska Anna 74.08 333 eP P 13 05 24.4 +1.0
T43A Greenville 74.09 50 P P 13 05 23.2 -0.4
baz=323,SNR=21
R45A Skylar, Fairfi 74.09 48 P P 13 05 23.3 -0.3
baz=323,SNR=8.4
FBE Freiberg 74.10 337 eP P 13 05 23.5 +0.1
comp=Z,94nm,1.4s,baz=22,slow=5.9
S44A Carbondale 74.11 49 P P 13 05 23.6 -0.1
baz=323,SNR=15
SIUC Southern Illin 74.11 49 eP P 13 05 24.4 +0.7
comp=Z,56nm,0.9s
SIUC LR LR
comp=Z,6µm,22.0s
TESR Tescani 74.15 327⇑ iP P 13 05 22.7 -1.1
PVCC Panska Ves 74.16 336 eP P 13 05 25.2 +1.4
PVCC AMS AMS 13 42 00.0
comp=Z,27µm,18.8s
PVCC Panska Ves 74.16 336 eP P 13 05 25.2 +1.4
PVCC MLR MLR
comp=Z,27µm,18.8s
U42A Revenden 74.20 51 P P 13 05 23.7 -0.6
baz=322,SNR=8.3
NEUB Neuenburg 74.21 338 eP P 13 05 24.2 +0.2
comp=Z,87nm,1.4s,baz=22,slow=5.9
FITZ Fitzroy Crossi 74.22 212 eP P 13 05 24.8 +0.4
comp=Z,159nm,1.4s
FITZ Fitzroy Crossi 74.22 212 P P 13 05 24.8 +0.4
comp=Z,49nm,0.8s,baz=28,slow=5.2,SNR=51
GOA Goa 74.24 275 eP P 13 05 24.9 +0.1
JCT Junction City 74.25 61 eP P 13 05 24.9 +0.2
comp=Z,117nm,1.0s
JCT LR LR
comp=Z,6µm,22.0s
JCT Junction City 74.25 61 eP P 13 05 24.9 +0.2
JCT pmax pmax
comp=Z,117nm,1.0s
JCT Junction City 74.25 61 P P 13 05 25.0 +0.2
baz=320,SNR=32
PBMO Poplar Bluff 74.26 51 eP P 13 05 24.5 -0.1
comp=Z,61nm,0.8s
PBMO LR LR
comp=Z,8µm,21.0s
WIM Isle of Man 74.27 349⇑ iP P 13 05 24.7 +0.4
GTTG Gyttingen 74.30 340 eP P 13 05 24.9 +0.3
comp=Z,71nm,1.1s,baz=22,slow=5.9
GMM Mts of Mourne 74.32 350⇑ eP P 13 05 24.7 +0.1
PECO Prince Edward 74.33 38 P P 13 05 24.1 -0.7
baz=328
WHTX Lake Whitney, 74.37 58 eP P 13 05 25.7 +0.3
comp=Z,64nm,0.9s
WHTX LR LR
comp=Z,4µm,21.0s
WHTX Lake Whitney, 74.37 58 P P 13 05 25.6 +0.2
baz=321,SNR=21
O49A Covington 74.38 45 eP P 13 05 24.6 -0.6
comp=Z,61nm,1.1s
O49A Covington 74.38 45 P P 13 05 24.8 -0.4
baz=325,SNR=6.4
M51A Elyria 74.38 43 P P 13 05 24.3 -0.9
baz=326
MEDO Medina 74.40 39 P P 13 05 25.0 -0.3
baz=327
N50A Nevada 74.42 43 P P 13 05 25.5 0.0
baz=325,SNR=8.0
T44A Benton 74.43 50 P P 13 05 25.4 -0.2
baz=323,SNR=17
MIAR Mount Ida 74.44 54 eP P 13 05 25.8 +0.1
comp=Z,58nm,0.9s
MIAR LR LR
comp=Z,6µm,20.0s
MIAR Mount Ida 74.44 54 eP P 13 05 25.8 +0.1
MIAR pmax pmax
comp=Z,58nm,0.9s
MIAR Mount Ida 74.44 54 P P 13 05 25.7 +0.1
baz=322,SNR=34
S45A Carrier Mills 74.44 49 P P 13 05 25.6 -0.1
baz=323,SNR=18
Q47A Bedord North L 74.44 47 P P 13 05 25.4 -0.2
baz=324,SNR=6.3
P48A Milroy 74.48 46 P P 13 05 24.7 -1.2
baz=324,SNR=11
WHAR Wooly Hollow 74.51 53 eP P 13 05 25.8 -0.3
comp=Z,241nm,1.6s
WHAR LR LR
comp=Z,4µm,21.0s
R46A Gibon Southern 74.52 48 P P 13 05 25.9 -0.2
baz=324,SNR=5.2
WTSB Winterswijk 74.56 342 eP P 13 05 26.4 +0.3
comp=Z,274nm,1.1s
J55A Hilton 74.57 39 P P 13 05 25.7 -0.6
baz=327
U43A Rector 74.60 51 P P 13 05 26.5 0.0
baz=323,SNR=8.3
LBWR Ladybower, Pea 74.62 347⇑ eP P 13 05 26.7 +0.3
LBWR IAmb IAmb 13 05 28.3
comp=Z,245nm,0.8s
W41B Gary Mavity, V 74.62 53 eP P 13 05 26.3 -0.4
comp=Z,84nm,0.9s
W41B LR LR
comp=Z,4µm,22.0s
W41B Gary Mavity, V 74.62 53 P P 13 05 26.3 -0.4
baz=322,SNR=38
N51A Ashland 74.64 43 eP P 13 05 26.5 -0.2
comp=Z,112nm,0.8s
N51A Ashland 74.64 43 P P 13 05 26.5 -0.2
baz=326,SNR=11
USIN University of 74.64 48 eP P 13 05 27.0 +0.2
comp=Z,174nm,1.1s
USIN LR LR
comp=Z,8µm,21.0s
ERPA Erie 74.65 41 eP P 13 05 26.8 0.0
comp=Z,94nm,0.8s
ERPA Erie 74.65 41 P P 13 05 26.6 -0.2
baz=326,SNR=6.5
LONY Lake Ozonia 74.66 36 eP P 13 05 25.9 -0.9
comp=Z,29nm,1.0s
LONY LR LR
comp=Z,7µm,22.0s
LONY Lake Ozonia 74.66 36 P P 13 05 26.1 -0.7
baz=329,SNR=5.2
PRU Pruhonice 74.66 336 eP P 13 05 27.6 +0.9
PRU ex x 13 05 30.6
PRU ePP PP 13 08 17.3 +3.9
PRU eS S 13 14 55.8 -2.0
PRU AMS AMS 13 42 40.0
comp=Z,33µm,18.2s
PRU Pruhonice 74.66 336 eP P 13 05 27.6 +0.9
PRU e 13 08 17.3
PRU eS S 13 14 55.8 -2.0
PRU MLR MLR
comp=Z,33µm,18.2s
GOPC GO Pecny, Ondr 74.67 336 eP P 13 05 27.7 +0.9
GOPC eS S 13 14 59.6 +1.6
GOPC AMS AMS 13 42 40.0
comp=Z,28µm,18.0s
GOPC GO Pecny, Ondr 74.67 336 eP P 13 05 27.7 +0.9
GOPC eS S 13 14 59.6 +1.6
GOPC MLR MLR
comp=Z,28µm,18.0s
L53A Girard 74.67 41 P P 13 05 26.9 0.0
baz=326,SNR=15
VRI Vrincioaia 74.68 327⇑ iP P 13 05 26.3 -0.6
VRI Vrincioaia 74.68 327 ⇑P P 13 05 26.3 -0.6
PARMO Parma 74.68 50 eP P 13 05 27.0 -0.1
comp=Z,373nm,0.7s
PARMO LR LR
comp=Z,6µm,21.0s
O50A Cable 74.73 44 P P 13 05 27.1 -0.2
baz=325,SNR=6.9
SNOP Sinop 74.73 319 P P 13 05 26.6 -0.6
SNOP Sinop 74.73 319 PFAKE 13 05 40.0 +13
SNOP LR LR
comp=Z,8µm,20.0s
P49A Miami Univ. Ec 74.74 45 P P 13 05 26.7 -0.6
baz=325,SNR=8.0
VRAC Vranov 74.75 335⇓ iP P 13 05 28.0 +0.8
VRAC Vranov 74.75 335 ⇓P P 13 05 28.0 +0.8
VRAC Vranov 74.75 335⇑ iP P 13 05 27.4 +0.2
MOX Moxa 74.77 338 eP P 13 05 27.3 0.0
comp=Z,50nm,1.3s,baz=22,slow=5.9
Q48A North Vernon 74.77 46 P P 13 05 26.9 -0.6
baz=324
TANN Tannenbergstha 74.78 338 eP P 13 05 27.3 -0.2
comp=Z,239nm,1.9s,baz=22,slow=5.9
PLN Plauen 74.79 338 eP P 13 05 27.7 +0.2
comp=Z,83nm,1.5s,baz=22,slow=5.9
FRNY Flat Rock 74.84 35 PFAKE 13 05 40.0 +12
FRNY LR LR
comp=Z,5µm,22.0s
U44A Portageville 74.84 50 P P 13 05 27.9 0.0
baz=323,SNR=6.9
S46A Don Dixon Farm 74.85 48 P P 13 05 27.8 -0.2
baz=324,SNR=8.7
JAVC Velka Javorina 74.86 334⇑ iP P 13 05 28.6 +0.6
VYHS Vyhne 74.86 333 eP P 13 05 28.0 +0.1
VYHS pmax pmax
comp=Z,21nm,0.9s
VYHS Vyhne 74.86 333 eP P 13 05 28.0 +0.1
GUNZ Gunzen 74.86 338 eP P 13 05 28.2 +0.3
comp=Z,411nm,2.6s,baz=22,slow=5.9
X40A Basin Creek Fa 74.86 54 eP P 13 05 28.0 -0.2
comp=Z,68nm,1.3s
X40A LR LR
comp=Z,7µm,21.0s
X40A Basin Creek Fa 74.86 54 P P 13 05 27.8 -0.3
baz=322,SNR=20
UALR University of 74.89 53 eP P 13 05 27.6 -0.7
comp=Z,22nm,1.1s
UALR LR LR
comp=Z,4µm,20.0s
MOQ Mont Orford 74.91 34 eP P 13 05 28.6 +0.2
PVMO Portageville 74.91 50 PFAKE 13 05 40.0 +12
PVMO LR LR
comp=Z,4µm,22.0s
W42A Bald Knob 74.91 52 P P 13 05 27.8 -0.6
baz=322
R47A Wooly Knot Far 74.91 47 P P 13 05 28.0 -0.3
baz=324,SNR=8.0
K55A Perry 74.92 39 P P 13 05 28.0 -0.4
baz=327,SNR=15
WERN Wernitzgruen 74.92 338 eP P 13 05 28.5 +0.2
comp=Z,68nm,1.1s,baz=22,slow=5.9
M53A WI Miller and 74.93 41 P P 13 05 28.5 +0.1
baz=326,SNR=16
WACR West Acre 74.93 346 eP P 13 05 27.9 -0.3
WACR IAmb IAmb 13 05 30.4
comp=Z,329nm,0.9s
LTVH Ltavrtes, Hu 74.93 331⇑ eP P 13 05 28.1 -0.2
T45A Paducah 74.94 49 eP P 13 05 28.6 0.0
comp=Z,126nm,0.8s
T45A LR LR
comp=Z,6µm,21.0s
T45A Paducah 74.94 49 P P 13 05 28.5 0.0
baz=323
ACSO Alum Creek Sta 74.94 44 eP P 13 05 28.4 -0.1
comp=Z,57nm,1.0s
ACSO Alum Creek Sta 74.94 44 P P 13 05 28.2 -0.3
baz=325,SNR=6.0
NKC Novy Kostel 74.95 338 eP P 13 05 28.7 +0.3
NKC AMS AMS 13 44 00.0
comp=Z,23µm,16.9s
NKC Novy Kostel 74.95 338 eP P 13 05 28.7 +0.3
NKC MLR MLR
comp=Z,23µm,16.9s
WME Myndd Eilian 74.96 349⇑ iP P 13 05 28.4 +0.1
BUG Bochum--Univer 74.97 341 eP P 13 05 28.8 +0.4
comp=Z,97nm,1.1s,baz=22,slow=5.9
UBBA Unterbreizbach 74.97 339 eP P 13 05 28.8 +0.4

comp=Z,131nm,1.7s,baz=22,slow=5.9
ALLY Alegheny Colle 74.98 41 *e*P **P 13 05 28.7 0.0**
comp=Z,373nm,1.6s
MMNY Mt. Morris Dam 74.98 39 *e*P **P 13 05 27.9 -0.8**
comp=Z,79nm,0.6s
WPS Cemaes, Angles 74.98 349 *e*P **P 13 05 28.5 0.0**
WPS IAmb IAmb 13 05 30.3
comp=Z,123nm,0.9s
CJR Cluj-Napoca 74.99 329⇑*i*P **P 13 05 30.1 +1.4**
CJR Cluj-Napoca 74.99 329⇑P **P 13 05 30.1 +1.4**
STNC Stoke 74.99 348 *e*P **P 13 05 29.3 +0.7**
STNC IAmb IAmb 13 05 30.5
comp=Z,129nm,0.8s
V43A Jonesboro 74.99 51 P **P 13 05 28.6 -0.3**
baz=323
DIKM Dikmen 75.01 319 P **P 13 05 28.4 -0.5**
DIKM Dikmen 75.01 319⇑*i*P **P 13 05 30.1 +1.2**
N52A McGinn's Farm, 75.02 42 P **P 13 05 28.5 -0.4**
baz=326,SNR=5.5
KRUC Moravsky 75.02 335⇑*i*P **P 13 05 28.7 -0.1**
WPM1 Penmaenmawr 75.05 349⇑*i*P **P 13 05 29.1 +0.2**
DOPR Dopca 75.05 328⇑*i*P **P 13 05 30.2 +1.1**
TREC Trest 75.05 335 *e*P **P 13 05 30.7 +1.7**
TREC AMS AMS 13 44 10.0
comp=Z,31µm,17.0s
TREC Trest 75.05 335 *e*P **P 13 05 30.7 +1.7**
TREC MLR MLR
comp=Z,31µm,17.0s
PSZ Piszkesteto 75.07 332 *e*P **P 13 05 30.3 +1.1**
comp=Z,83nm,1.3s
PSZ LR LR
comp=Z,43µm,20.0s
PSZ Piszkesteto 75.07 332⇑*i*P **P 13 05 29.4 +0.2**
PSZ Piszkesteto 75.07 332⇑P **P 13 05 29.4 +0.2**
PSZ Piszkesteto 75.07 332⇑*i*P **P 13 05 29.1 -0.1**
WCI Wyandotte Cave 75.08 47 *e*P **P 13 05 29.4 +0.1**
comp=Z,68nm,1.0s
WCI LR LR
comp=Z,7µm,21.0s
WCI Wyandotte Cave 75.08 47 *e*P **P 13 05 29.4 +0.1**
WCI pmax pmax
comp=Z,68nm,1.0s
WCI MLR MLR
comp=Z,7µm,21.0s
WCI Wyandotte Cave 75.08 47 P **P 13 05 29.1 -0.3**
baz=324
WLF1 Llynfaes 75.08 349 *e*P **P 13 05 28.9 -0.1**
WLF1 IAmb IAmb 13 05 30.5
comp=Z,150nm,0.8s
P50A Jamestown 75.09 45 P **P 13 05 29.2 -0.2**
baz=325,SNR=6.9
Q49A Aurora 75.09 46 P **P 13 05 28.1 -1.3**
baz=325
GNAR Gosnell 75.11 51 *e*P **P 13 05 30.2 +0.7**
comp=Z,163nm,1.0s
GNAR LR LR
comp=Z,4µm,20.0s
HBAR Harrisburg 75.12 52 PFAKE 13 05 40.0 +10
HBAR LR LR
comp=Z,6µm,22.0s
R48A Northridge Ran 75.13 47 P **P 13 05 29.6 0.0**
baz=324
U44B Burton Farm, H 75.14 50 P **P 13 05 29.5 -0.2**
baz=323
YRC Rhoscolyn 75.14 349 *e*P **P 13 05 30.2 +0.8**
PQI Presque Isle 75.15 31 *e*P **P 13 05 30.3 +0.7**
comp=Z,50nm,1.1s
O51A Pataskala 75.17 43 P **P 13 05 29.5 -0.3**
baz=326,SNR=9.1
YLL Llanberis 75.20 349⇑*e*P **P 13 05 30.8 +1.1**
DRGR 75.20 330⇓*i*P **P 13 05 32.0 +2.0**
DRGR 75.20 330⇓P **P 13 05 32.0 +2.0**
CWF Charnwood Fore 75.21 347⇑*e*P **P 13 05 30.0 +0.2**
CWF IAmb IAmb 13 05 32.3
comp=Z,149nm,0.9s
SIRT Sirnak 75.22 312 *e*P **P 13 05 29.7 -0.6**
comp=Z,79nm,1.0s
SIRT LR LR
comp=Z,61µm,21.0s
GLAT Glass 75.22 50 *e*P **P 13 05 30.5 +0.3**
comp=Z,231nm,1.3s
GLAT LR LR
comp=Z,4µm,21.0s
BATG Bathurst New B 75.23 29 *e*P **P 13 05 30.4 +0.3**
comp=Z,58nm,0.9s
BATG LR LR
comp=Z,4µm,20.0s
L55A Hinsdale 75.23 40 P **P 13 05 29.1 -1.1**
baz=327
435B Jarrell 75.24 59 *e*P **P 13 05 29.2 -1.1**
comp=Z,52nm,1.1s
435B LR LR
comp=Z,6µm,19.0s
435B Jarrell 75.24 59 P **P 13 05 30.1 -0.2**
baz=321
SMOL Smolenice 75.24 334 *e*P **P 13 05 32.4 +2.3**
SMOL Smolenice 75.24 334 *e*P **P 13 05 32.4 +2.3**
MANZ Manzenberg 75.26 338 *e*P **P 13 05 30.3 0.0**
comp=Z,58nm,1.2s,baz=22,slow=5.9
MLR Muntele Rosu 75.28 327 *e*P **P 13 05 30.7 +0.1**
comp=Z,46nm,0.9s
MLR LR LR
comp=Z,40µm,19.0s
MLR Muntele Rosu 75.28 327⇓*i*P **P 13 05 30.9 +0.4**
MLR Muntele Rosu 75.28 327⇓P **P 13 05 30.9 +0.4**
T46A Princeton 75.28 49 P **P 13 05 30.8 +0.3**
baz=324,SNR=45
V44A Blytheville 75.28 51 P **P 13 05 30.6 +0.1**
baz=323
M54A Oil Creek Stat 75.29 41 *e*P **P 13 05 30.3 -0.3**
comp=Z,274nm,1.5s
M54A Oil Creek Stat 75.29 41 P **P 13 05 30.5 0.0**
baz=327,SNR=11
TIRR Tirgusor 75.30 325 *e*P **P 13 05 30.7 +0.2**
comp=Z,28nm,0.9s
TIRR LR LR
comp=Z,41µm,20.0s
TIRR Tirgusor 75.30 325⇑*i*P **P 13 05 31.1 +0.6**
TIRR Tirgusor 75.30 325⇑P **P 13 05 31.1 +0.6**
NIUE Niue 75.30 148 PFAKE 13 05 40.0 +9.4
NIUE LR LR
comp=Z,10µm,22.0s
S47A Hartford 75.31 48 P **P 13 05 30.6 -0.1**
baz=324,SNR=12
FOEL Foel Wylfa 75.32 348⇑*e*P **P 13 05 30.9 +0.4**
FOEL IAmb IAmb 13 05 32.9
comp=Z,306nm,0.9s
TLB Topalu 75.32 325⇑*i*P **P 13 05 30.6 0.0**
TLB Topalu 75.32 325⇑P **P 13 05 30.6 0.0**
NCB Newcomb 75.35 36 *e*P **P 13 05 30.1 -0.7**
comp=Z,45nm,1.2s
NCB LR LR
comp=Z,5µm,20.0s
WLAR White Oak Lake 75.35 54 *e*P **P 13 05 31.7 +0.8**
comp=Z,108nm,1.0s
WLAR LR LR
comp=Z,8µm,21.0s
DSB Dublin 75.35 350 *i*P **P 13 05 31.2 +0.6**
DSB *e*S **S 13 15 08.1 +2.8**
DSB Dublin 75.35 350 *e*P **P 13 05 30.9 +0.3**
comp=Z,302nm,0.8s
DSB LR LR
comp=Z,8µm,20.0s
N53A Lisbon 75.39 42 P **P 13 05 31.0 -0.1**
baz=326,SNR=8.8
ISR Istrita 75.39 327⇑*i*P **P 13 05 30.6 -0.5**
ISR Istrita 75.39 327⇑P **P 13 05 30.6 -0.5**
MODS Modra-Piesok 75.41 334 *e*P **P 13 05 32.6 +1.5**
MODS pmax pmax
comp=Z,51nm,1.1s
MODS Modra-Piesok 75.41 334 *e*P **P 13 05 32.6 +1.5**
U45A Rockin P Farm, 75.42 50 P **P 13 05 31.3 0.0**
baz=323
ROTZ Rotzenmuhle 75.44 338 *e*P **P 13 05 31.5 +0.2**
comp=Z,78nm,1.2s,baz=22,slow=5.9
IGLA Glengowla, Co 75.47 352 *i*P **P 13 05 31.4 +0.1**
IGLA *e*S **S 13 15 07.0 +0.4**
HALT Halls 75.48 50 PFAKE 13 05 40.0 +8.3
HALT LR LR
comp=Z,5µm,22.0s
P51A Williamsport 75.52 44 *e*P **P 13 05 31.3 -0.5**
comp=Z,45nm,1.0s
P51A Williamsport 75.52 44 P **P 13 05 31.2 -0.6**
baz=325
O52A Adamsville 75.53 43 *e*P **P 13 05 31.6 -0.3**
comp=Z,64nm,0.9s
O52A Adamsville 75.53 43 P **P 13 05 31.5 -0.4**
baz=326,SNR=9.3
R49A Shelbyville 75.54 46 P **P 13 05 32.1 +0.1**
baz=325,SNR=6.7
VT1 Waterbury 75.58 35 PFAKE 13 05 40.0 +7.9
VT1 LR LR
comp=Z,6µm,22.0s
N54A Moraine State 75.61 41 *e*P **P 13 05 32.5 +0.1**
comp=Z,86nm,0.8s
N54A Moraine State 75.61 41 P **P 13 05 32.3 -0.1**
baz=327,SNR=11
ZST Bratislava 75.62 334 *e*P **P 13 05 32.9 +0.7**
ZST Bratislava 75.62 334 *e*P **P 13 05 32.9 +0.7**
VOIR 75.63 328⇑*i*P **P 13 05 32.6 +0.1**
VOIR 75.63 328⇑P **P 13 05 32.6 +0.1**
Q50A Georgetown 75.63 45 P **P 13 05 32.2 -0.3**
baz=325,SNR=9.7
HLM1 Long Mynd 75.64 348⇑*e*P **P 13 05 32.8 +0.4**
HLM1 IAmb IAmb 13 05 34.2
comp=Z,118nm,0.8s
S48A Wiedeman Farm, 75.65 47 P **P 13 05 32.5 -0.1**
baz=324,SNR=16
O53A New Philadelph 75.69 43 P **P 13 05 32.5 -0.3**
baz=326,SNR=8.0
U46A Springville 75.69 49 P **P 13 05 32.6 -0.3**
baz=324
KHC Kasperske Hory 75.69 337 *e*P **P 13 05 32.8 +0.1**
comp=Z,29nm,1.0s
KHC LR LR
comp=Z,16µm,19.0s
KHC Kasperske Hory 75.69 337 *e*P **P 13 05 33.4 +0.7**
KHC *ex* x 13 05 37.6
KHC *es*P **pP 13 05 48.0 -0.9**
KHC *ex* x 13 14 57.2
KHC AMS AMS 13 43 10.0
comp=Z,41µm,18.9s
KHC Kasperske Hory 75.69 337 *e*P **P 13 05 33.4 +0.7**
KHC *e* 13 05 48.0
KHC *e*S **SKiKP 13 14 57.2 +9.2**
KHC MLR MLR
comp=Z,41µm,18.9s
T47A Sharon Grove 75.69 48 *e*P **P 13 05 33.1 +0.3**
comp=Z,123nm,1.2s
T47A LR LR
comp=Z,7µm,21.0s
T47A Sharon Grove 75.69 48 P **P 13 05 33.0 +0.2**
baz=324,SNR=24
M55A Ridgway 75.70 40 P **P 13 05 32.7 -0.1**
baz=327,SNR=15
BUD Budapest 75.72 332 *e*P **P 13 05 33.0 +0.2**
GRA1 Grafenberg Arr 75.75 338 *e*P **P 13 05 33.5 +0.5**
comp=Z,153nm,0.9s
GRA1 LR LR
comp=Z,18µm,20.0s
GRF Grafenberg Arr 75.75 338 *e*P **P 13 05 33.8 +0.8**
comp=Z,192nm,1.0s,baz=22,slow=5.9
GRFO Grafenberg 75.75 338 *e*P **P 13 05 33.5 +0.5**
comp=Z,138nm,0.9s
GRFO LR LR
comp=Z,17µm,19.0s
GRFO Grafenberg 75.75 338 *e*P **P 13 05 33.5 +0.5**
GRFO pmax pmax
comp=Z,138nm,0.9s
GRFO MLR MLR
comp=Z,17µm,19.0s
Q51A Peebles 75.77 45 *e*P **P 13 05 33.1 -0.2**
comp=Z,73nm,1.0s
Q51A Peebles 75.77 45 P **P 13 05 33.0 -0.3**
baz=325,SNR=9.3
DRLN Deer Lake 75.80 23 PFAKE 13 05 50.0 +17
DRLN LR LR
comp=Z,11µm,21.0s
P52A Corning 75.80 43 P **P 13 05 32.9 -0.5**
baz=326
V45A Humboldt 75.81 50 P **P 13 05 33.4 -0.2**
baz=323
ICOR Ion Corvin 75.82 325⇑*i*P **P 13 05 34.0 +0.6**
MET Memphis--Engin 75.82 51 PFAKE 13 05 50.0 +16
MET LR LR
comp=Z,9µm,21.0s
X43A Marvell 75.83 52 *e*P **P 13 05 33.9 +0.2**
comp=Z,109nm,1.0s
X43A LR LR
comp=Z,8µm,20.0s
X43A Marvell 75.83 52 P **P 13 05 33.8 +0.2**
baz=323,SNR=5.6
ARR Arges 75.83 328⇑*i*P **P 13 05 34.9 +1.3**
Z41A Richland Creek 75.84 54 PFAKE 13 05 50.0 +16
Z41A LR LR
comp=Z,6µm,20.0s
Z41A Richland Creek 75.84 54 P **P 13 05 33.9 +0.2**
baz=322
CCAR Cane Creek 75.85 53 *e*P **P 13 05 35.0 +1.1**
comp=Z,259nm,1.6s
CCAR LR LR
comp=Z,6µm,19.0s
WET Wettzell 75.86 337 *e*P **P 13 05 34.3 +0.6**
comp=Z,88nm,1.2s,baz=22,slow=5.9
AHRW Bad Neuenahr-A 75.86 341 *e*P **P 13 05 34.2 +0.6**
comp=Z,166nm,1.1s,baz=22,slow=5.9
W44A Shelby Farms P 75.86 51 P **P 13 05 33.6 -0.2**
baz=323
KURC Kurucasile-Bar 75.87 321 P **P 13 05 32.2 -1.6**
TNS Taunus Mts 75.87 340 *e*P **P 13 05 34.3 +0.5**
comp=Z,100nm,1.0s,baz=22,slow=5.9
HGN Heimansgroeve 75.88 342 *e*P **P 13 05 33.9 +0.2**
comp=Z,274nm,1.0s
XMIS Christmas Isla 75.88 233 PFAKE 13 05 50.0 +16
XMIS LR LR
comp=Z,4µm,20.0s
BEBN Eben Emael 75.90 342⇑P **P 13 05 34.2 +0.5**
comp=Z,17nm,1.0s
S49A Springfield 75.90 47 P **P 13 05 34.0 0.0**
baz=325,SNR=17
GEC2 GERESS Array S 75.93 336 *e*P **P 13 05 34.6 +0.5**
comp=Z,52nm,1.2s
GEC2 LR LR
comp=Z,38µm,19.0s
GEC2 GERESS Array S 75.93 336 *e*P **P 13 05 34.2 +0.1**
comp=Z,49nm,1.2s,baz=22,slow=5.9
GEC2 GERESS Array S 75.93 336 *e*P **P 13 05 34.6 +0.5**
GEC2 pmax pmax
comp=Z,52nm,1.2s
GEC2 MLR MLR
comp=Z,38µm,19.0s
GERES GERESS Array B 75.93 336 P **P 13 05 34.7 +0.6**
comp=Z,17nm,0.7s,baz=35,slow=4.9,SNR=97
T48A Bowling Green 75.93 48 P **P 13 05 34.3 0.0**
baz=324,SNR=12
R50A Paris 75.93 46 P **P 13 05 34.1 -0.1**
baz=325,SNR=10.0
GEA0 GERESS Array S 75.94 336 *e*P **P 13 05 33.9 -0.3**
LBNH Lisbon 75.95 34 *e*P **P 13 05 34.9 +0.6**
comp=Z,84nm,1.4s
LBNH LR LR
comp=Z,7µm,22.0s
LBNH Lisbon 75.95 34 *e*P **P 13 05 34.9 +0.6**
LBNH pmax pmax
comp=Z,84nm,1.4s
LBNH Lisbon 75.95 34 P **P 13 05 34.3 +0.1**
baz=330
PKME Peaks-Kenny Pk 75.97 32 *e*P **P 13 05 35.4 +1.1**
comp=Z,50nm,0.9s
PKME LR LR
comp=Z,9µm,21.0s
PKME Peaks-Kenny Pk 75.97 32 P **P 13 05 34.2 -0.1**
baz=332,SNR=5.7
SIRR Siria 76.00 330⇑*i*P **P 13 05 35.5 +1.0**
MEM Membach 76.01 342⇑P **P 13 05 34.9 +0.5**
comp=Z,215nm,1.0s
WVT Waverly 76.04 49 *e*P **P 13 05 34.9 +0.1**
comp=Z,34nm,0.9s
WVT LR LR
comp=Z,6µm,22.0s
WVT Waverly 76.04 49 *e*P **P 13 05 34.9 +0.1**
WVT pmax pmax
comp=Z,34nm,0.9s
WVT Waverly 76.04 49 P **P 13 05 34.8 -0.1**
baz=324
NATX Nacogdoches 76.05 57 *e*P **P 13 05 35.7 +0.8**
comp=Z,122nm,1.0s
NATX LR LR
comp=Z,5µm,21.0s
NATX Nacogdoches 76.05 57 P **P 13 05 35.8 +0.8**
baz=322,SNR=8.4
U47A Clarksville 76.05 49 P **P 13 05 35.2 +0.3**
baz=324,SNR=12
PSN Preselentsi 76.05 325 P **P 13 05 34.6 -0.2**
PSN Preselentsi 76.05 325 P **P 13 05 35.0 +0.2**
ACCN Adirondack Com 76.06 36 *e*P **P 13 05 34.5 -0.4**
comp=Z,98nm,1.4s
ACCN LR LR
comp=Z,6µm,22.0s
O54A Avella 76.10 42 P **P 13 05 35.1 -0.1**
baz=327,SNR=6.1
PALK Pallekele 76.13 264 *e*P **P 13 05 35.9 +0.2**
comp=Z,135nm,0.9s
PALK LR LR
comp=Z,9µm,20.0s
PALK Pallekele 76.13 264 *i*P **P 13 05 36.0 +0.2**
SNR=28
PALK Pallekele 76.13 264 *i*P **P 13 05 36.4 +0.7**
PALK Pallekele 76.13 264 P **P 13 05 36.3 +0.7**
SNR=9.5
833A Chaparral WMA, 76.13 62 *e*P **P 13 05 34.5 -1.0**
comp=Z,69nm,1.0s
833A LR LR
comp=Z,7µm,20.0s
833A Chaparral WMA, 76.13 62 P **P 13 05 36.3 +0.8**
baz=321,SNR=5.2
ILGA Ilgaz 76.15 320 *e*P **P 13 05 36.8 +1.1**
comp=Z,70nm,1.0s
ILGA LR LR
comp=Z,13µm,21.0s
UCC Uccle 76.15 343 *e*P **P 13 05 35.7 +0.5**
comp=Z,98nm,0.7s
UCC LR LR
comp=Z,27µm,20.0s
UCC Uccle 76.15 343 *e*P **P 13 05 35.7 +0.5**
UCC pmax pmax
comp=Z,98nm,0.7s
UCC MLR MLR
comp=Z,27µm,20.0s
UCC Uccle 76.15 343⇑P **P 13 05 35.4 +0.3**
EIDS Eidsvold 76.16 186 *e*P **P 13 05 35.6 +0.2**
comp=Z,91nm,1.4s
EIDS LR LR
comp=Z,8µm,21.0s
W45A Hickory Valley 76.16 51 P **P 13 05 35.7 +0.1**
baz=323,SNR=6.9
MCH1 Michaelchurch 76.17 348⇑*e*P **P 13 05 35.6 +0.3**
MCH1 IAmb IAmb 13 05 37.0
comp=Z,100nm,0.8s
V46A Holladay 76.17 50 P **P 13 05 35.5 0.0**
baz=324,SNR=24
N55A Marion Center 76.18 41 P **P 13 05 35.0 -0.6**
baz=327,SNR=13
BINY Binghamton 76.19 38 *e*P **P 13 05 35.8 +0.1**
comp=Z,79nm,1.3s
BINY LR LR
comp=Z,4µm,20.0s
BINY Binghamton 76.19 38 P **P 13 05 34.4 -1.2**
baz=328
LPW Lampeter 76.19 348 *e*P **P 13 05 35.6 +0.2**
CONA Conrad Observa 76.20 335 *i*P **P 13 05 37.0 +1.3**
comp=Z,42nm,1.1s,SNR=25
AMBH Ambrzfalva 76.22 331⇑*e*P **P 13 05 35.1 -0.6**
SOP Sopron 76.24 334⇑*e*P **P 13 05 36.1 +0.3**
SOP *e*S **S 13 15 18.0 +2.7**
P53A Whipple 76.24 43 *e*P **P 13 05 36.2 +0.2**
comp=Z,50nm,1.1s
P53A Whipple 76.24 43 P **P 13 05 35.5 -0.4**
baz=326
IWEX Carrickbyrne, 76.25 350 *i*P **P 13 05 36.5 +0.7**
IWEX *e*S **S 13 15 17.6 +2.3**
R51A Hillsboro 76.25 45 P **P 13 05 36.0 0.0**
baz=325,SNR=12
STRD Stroud 76.27 347 *e*P **P 13 05 36.4 +0.5**
STRD IAmb IAmb 13 05 38.2
comp=Z,285nm,0.9s
MONM Monmouth 76.29 348 *e*P **P 13 05 36.6 +0.7**
MONM IAmb IAmb 13 05 37.9
comp=Z,178nm,0.8s
Q52A Bidwell 76.29 44 P **P 13 05 35.3 -0.9**
baz=326,SNR=6.0
BCLA Clavier 76.33 342⇑P **P 13 05 36.6 +0.4**
comp=Z,110nm,1.2s
T49A Edmonton 76.34 47 *e*P **P 13 05 36.6 +0.1**
comp=Z,44nm,0.9s
T49A LR LR
comp=Z,8µm,20.0s
T49A Edmonton 76.34 47 P **P 13 05 36.5 -0.1**
baz=325,SNR=16
U48A Cassie Pea, Po 76.35 48 P **P 13 05 36.7 0.0**
baz=324,SNR=12
ELSH Elham, Standar 76.38 345⇑*e*P **P 13 05 37.4 +0.9**
ELSH IAmb IAmb 13 05 39.1
comp=Z,547nm,0.8s
S50A Richmond 76.39 46 P **P 13 05 36.7 -0.1**
baz=325,SNR=7.3
GZR Gura Zlata 76.42 329⇑*i*P **P 13 05 36.5 -0.5**
GZR Gura Zlata 76.42 329⇑P **P 13 05 36.5 -0.5**
V47A Nunnelly 76.43 49 P **P 13 05 37.0 0.0**
baz=324,SNR=13
RSBS Rosebush, Pemb 76.43 349 *e*P **P 13 05 36.9 +0.1**
RSBS IAmb IAmb 13 05 38.1
comp=Z,28nm,0.8s
WVL Waterville 76.46 33 *e*P **P 13 05 37.6 +0.5**
comp=Z,82nm,1.1s
SWN1 Swindon 76.47 347 *e*P **P 13 05 37.9 +0.9**
SWN1 IAmb IAmb 13 05 39.3
comp=Z,649nm,0.7s
O55A Ligonier 76.53 41 P **P 13 05 37.5 -0.1**
baz=327,SNR=6.2
P54A Burton 76.54 42 P **P 13 05 37.7 0.0**
baz=327,SNR=7.1
OXF Oxford 76.57 51 *e*P **P 13 05 37.8 0.0**
comp=Z,155nm,1.1s
OXF LR LR
comp=Z,6µm,22.0s
OXF Oxford 76.57 51 *e*P **P 13 05 37.8 0.0**
OXF pmax pmax
comp=Z,155nm,1.1s
OXF Oxford 76.57 51 P **P 13 05 37.6 -0.2**
baz=323,SNR=15
TIH Tihany 76.57 333⇑*i*P **P 13 05 37.1 -0.6**
TIH *e*S **S 13 15 24.1 +5.1**
W46A Michie 76.58 50 P **P 13 05 37.3 -0.6**
baz=324,SNR=5.9
WOL Wolverton 76.58 347 *e*P **P 13 05 38.1 +0.5**
WOL IAmb IAmb 13 05 39.8
comp=Z,398nm,0.8s
BZS Buzias 76.60 330⇓*i*P **P 13 05 38.0 +0.1**
BZS Buzias 76.60 330⇓P **P 13 05 38.0 +0.1**
R52A Catlettsburg 76.64 45 P **P 13 05 38.0 -0.3**
baz=326,SNR=6.0
YOZ Yozgat 76.66 318 P **P 13 05 38.0 -0.5**
MOA Molln 76.70 336 *i*P **P 13 05 39.1 +0.7**
comp=Z,57nm,0.9s,SNR=26
U49A Red Boiling Sp 76.70 48 P **P 13 05 38.4 -0.2**
baz=325,SNR=17
T50A Nancy 76.73 47 P **P 13 05 38.7 -0.1**
baz=325,SNR=23
SSPA Standing Stone 76.75 40 *e*P **P 13 05 38.7 -0.2**
comp=Z,92nm,1.3s
SSPA LR LR
comp=Z,4µm,21.0s
SSPA Standing Stone 76.75 40 P **P 13 05 38.6 -0.2**
baz=328
PRD Provadia 76.75 325 P **P 13 05 37.8 -1.0**
MCWV Mont Chateau 76.76 42 *e*P **P 13 05 39.0 +0.1**
comp=Z,69nm,1.5s
MCWV LR LR
comp=Z,2µm,21.0s
MCWV Mont Chateau 76.76 42 P **P 13 05 39.0 +0.1**
baz=327
DOU Dourbes 76.78 343⇑P **P 13 05 39.0 +0.3**
comp=Z,88nm,1.1s
DOU ⇑PcP **PcP 13 05 49.2 -0.6**
HMNX Herstmonceux 76.78 345⇑*e*P **P 13 05 39.9 +1.2**
HMNX IAmb IAmb 13 05 41.6
comp=Z,348nm,0.8s
O56A Blue Knob Stat 76.78 41 *e*P **P 13 05 38.9 -0.2**
comp=Z,164nm,1.5s
O56A LR LR
comp=Z,6µm,21.0s
O56A Blue Knob Stat 76.78 41 P **P 13 05 38.8 -0.3**
baz=328
S51A Beattyville 76.79 46 PFAKE 13 05 50.0 +11
S51A LR LR
comp=Z,5µm,22.0s
KSPA Keystone Colle 76.82 38 *e*P **P 13 05 38.7 -0.5**
comp=Z,125nm,1.7s
KSPA LR LR

comp=Z,6µm,22.0s
HKT Hockley 76.83 59 *e*P **P 13 05 39.7 +0.4**
comp=Z,59nm,1.4s
HKT LR LR
comp=Z,7µm,20.0s
HKT Hockley 76.83 59 *e*P **P 13 05 39.7 +0.4**
HKT pmax pmax
comp=Z,59nm,1.4s
HKT MLR MLR
comp=Z,7µm,20.0s
V48A Smith Brothers 76.84 49 *e*P **P 13 05 39.1 -0.2**
comp=Z,38nm,0.8s
V48A LR LR
comp=Z,5µm,22.0s
V48A Smith Brothers 76.84 49 P **P 13 05 39.2 -0.2**
baz=324,SNR=13
KDZE Karadeniz Ereo 76.84 321 P P 13 05 50.4 +11
PLAL Pickwick Lake 76.84 50 *e*P **P 13 05 39.2 -0.2**
comp=Z,33nm,0.9s
PLAL LR LR
comp=Z,5µm,22.0s
W47A Westpoint 76.86 50 P **P 13 05 39.4 -0.2**
baz=324,SNR=14
WLF Walferdange 76.88 341 *e*P **P 13 05 39.9 +0.6**
comp=Z,475nm,1.0s
WLF LR LR
comp=Z,98µm,21.0s
WLF Walferdange 76.88 341 *e*P **P 13 05 40.1 +0.7**
baz=22,slow=5.9
WLF Walferdange 76.88 341 ⇑P **P 13 05 40.0 +0.6**
LMN Caledonia Moun 76.89 29 *e*P **P 13 05 39.9 +0.4**
comp=Z,89nm,0.9s
LMN LR LR
comp=Z,7µm,22.0s
P55A Reedsville 76.89 42 P **P 13 05 40.0 +0.3**
baz=327,SNR=11
Q54A Coxs Mills 76.90 43 P **P 13 05 39.6 -0.1**
baz=326
GGN Saint George 76.91 31 *e*P **P 13 05 39.9 +0.3**
comp=Z,63nm,0.9s
ARSA Arzberg 76.92 335 *i*P **P 13 05 40.9 +1.3**
comp=Z,72nm,1.3s,SNR=28
X46A Booneville 76.94 51 P **P 13 05 39.5 -0.5**
baz=324
R53A Hurricane 76.95 44 P **P 13 05 39.7 -0.3**
baz=326
BANR Banloc 76.96 330⇑*i*P P 13 05 49.8 +10
S52A Salyersville 76.99 45 P **P 13 05 39.7 -0.5**
baz=326
HERR Herculane 77.00 329⇑*i*P P 13 05 34.1 -6.0
SHME Shamm 77.00 295 *i*P **P 13 05 39.9 -0.6**
SNR=27
BANOM Banah 77.01 295 *i*P **P 13 05 40.0 -0.6**
SNR=26
BANOM Banah 77.01 295 P **P 13 05 40.4 -0.2**
SNR=17
VAL Valentia 77.02 352 *i*P **P 13 05 40.8 +0.8**
VAL *e*S **S 13 15 24.6 +1.0**
EMMW East Machias 77.07 31 *e*P **P 13 05 42.1 +1.7**
comp=Z,89nm,1.1s
STU Stuttgart 77.08 339 *e*P **P 13 05 41.3 +0.8**
comp=Z,109nm,1.0s
STU LR LR
comp=Z,14µm,19.0s
STU Stuttgart 77.08 339 *e*P **P 13 05 41.0 +0.5**
comp=Z,128nm,1.1s,baz=22,slow=5.9
STU Stuttgart 77.08 339 *e*P **P 13 05 41.3 +0.8**
STU pmax pmax
comp=Z,109nm,1.0s
STU MLR MLR
comp=Z,14µm,19.0s
AS01 Alice Springs 77.12 202 *e*P **P 13 05 40.5 -0.4**
AS31 Alice Springs 77.14 202 *e*P **P 13 05 41.1 +0.1**
comp=Z,16nm,0.7s
AS31 LR LR
comp=Z,100nm,22.0s
ASAR Alice Springs 77.14 202 P **P 13 05 41.2 +0.2**
comp=Z,48nm,0.7s,baz=14,slow=5.3,SNR=355
FUR Furstenfeldbru 77.16 338 *e*P **P 13 05 41.5 +0.5**
comp=Z,174nm,1.0s,baz=22,slow=5.9
HEX Exmoor 77.18 348 *e*P **P 13 05 41.2 +0.2**
T51A Gray 77.18 46 P **P 13 05 41.2 -0.1**
baz=325,SNR=7.4
Q55A Buckhannon 77.22 42 P **P 13 05 41.7 +0.2**
baz=327
U50A Jamestown 77.22 47 P **P 13 05 41.6 0.0**
baz=325,SNR=20
SZH Strazhica 77.22 326 P **P 13 05 40.6 -0.8**
V49A McMinnville 77.25 48 P **P 13 05 41.4 -0.3**
baz=325,SNR=9.7
W48A Pulaski 77.27 49 P **P 13 05 41.7 -0.1**
baz=324,SNR=19
BEHE Becsehely 77.28 333⇑*i*P **P 13 05 42.0 +0.3**
BEHE Becsehely 77.28 333⇑*i*P **P 13 05 42.0 +0.3**
BEHE *e*S S 13 15 39.0 +12
BR101 Keskin Array S 77.30 319 *e*P **P 13 05 42.1 0.0**
BR131 Keskin Array S 77.30 319 *e*P **P 13 05 42.1 +0.1**
BR131 Keskin Array S 77.30 319 P **P 13 05 40.8 -1.2**
SNR=10
BRTR Keskin Array B 77.30 319 *i*P **P 13 05 42.2 +0.1**
BRTR pmax pmax
comp=Z,13nm,0.8s
BRTR Keskin Array B 77.30 319 P **P 13 05 42.1 +0.1**
comp=Z,13nm,0.8s,baz=67,slow=2.2,SNR=18
MDVR Moldovita 77.31 329⇓*i*P **P 13 05 41.9 -0.1**
X47A Russelville 77.32 50 P **P 13 05 41.6 -0.6**
baz=324,SNR=8.6
HTL Hartland 77.34 349 *e*P **P 13 05 42.5 +0.6**
HTL IAmb IAmb 13 05 44.3
comp=Z,205nm,0.8s
PUNG Punghina 77.36 328⇓*i*P **P 13 05 42.9 +0.7**
N59A State Game Lan 77.37 39 *e*P **P 13 05 42.2 0.0**
comp=Z,40nm,0.8s
N59A LR LR
comp=Z,4µm,21.0s
N59A State Game Lan 77.37 39 P **P 13 05 41.9 -0.4**
baz=329,SNR=6.2
S53A Williamson 77.41 45 P **P 13 05 42.4 -0.2**
baz=326
PVL Pavlikeni 77.48 326 P **P 13 05 42.9 +0.1**
MDH Madha 77.49 295 *i*P **P 13 05 42.2 -1.0**
SNR=14
MDH Madha 77.49 295 P **P 13 05 42.2 -1.0**
SNR=16
MDH P **P 13 05 42.2 -1.0**
SNR=16
R54A Victor 77.50 44 P **P 13 05 42.9 -0.2**
baz=327,SNR=7.7
LOD Lodumlu 77.52 320 P **P 13 05 42.9 -0.3**
MSFE Esma-Masafi 77.52 295 *i*P **P 13 05 42.8 -0.6**
SNR=20
ANTO Ankara 77.52 320 P **P 13 05 43.9 +0.6**
ANTO Ankara 77.52 320 *e*P **P 13 05 44.1 +0.9**
comp=Z,33nm,0.9s
ANTO LR LR
comp=Z,10µm,20.0s
ANTO Ankara 77.52 320⇓*i*P **P 13 05 43.8 +0.5**
ANTO Ankara 77.52 320⇓P **P 13 05 43.8 +0.5**
ANTO Ankara 77.52 320 P **P 13 05 43.4 +0.2**
SNR=7.9
ANTO P **P 13 05 43.4 +0.2**
SNR=7.9
TRD Trivandrum 77.55 268 *e*P **P 13 05 43.5 -0.2**
TRD IAmb IAmb 13 05 45.2
comp=Z,76nm,0.7s
KVTX Kingsville 77.57 62 *e*P **P 13 05 44.6 +1.0**
comp=Z,211nm,1.1s
KVTX LR LR
comp=Z,6µm,18.0s
FRGS Fruska Gora 77.58 331⇑*i*P **P 13 05 42.8 -0.6**
SOKA Soboth 77.58 335 *i*P **P 13 05 44.4 +1.0**
comp=Z,107nm,0.9s,SNR=76
HRV Adam Dziewonsk 77.59 35 PFAKE 13 06 00.0 +17
HRV LR LR
comp=Z,4µm,21.0s
HRV Adam Dziewonsk 77.59 35 P **P 13 05 43.3 -0.2**
baz=331
PERS Pernice 77.59 335 *e*P **P 13 05 43.8 +0.3**
PERS *e*S **S 13 15 29.6 -0.7**
PERS *i* 13 16 39.2
W49A Belvidere 77.61 49 P **P 13 05 43.4 -0.3**
baz=325,SNR=8.7
U51A La Follette 77.63 47 P **P 13 05 43.4 -0.5**
baz=325,SNR=8.5
KBA Koelnbreinsper 77.65 336 *i*P **P 13 05 45.6 +1.6**
comp=Z,207nm,0.8s,SNR=121
MDUB Mudurnu 77.66 321 P **P 13 05 43.5 -0.5**

ODNJ Ogdensburg 77.68 38 PFAKE 13 06 00.0 +16
ODNJ LR LR
comp=Z,3µm,20.0s
UMQ Umm Al-Quwin 77.68 295 *i*P **P 13 05 44.8 +0.6**
SNR=12
UMQ Umm Al-Quwin 77.68 295 P **P 13 05 44.8 +0.6**
SNR=11
UMQ P **P 13 05 44.8 +0.6**
SNR=11
SILT Sile 77.68 322 P **P 13 05 43.3 -0.7**
SWET Sewanee 77.69 49 *e*P **P 13 05 43.6 -0.5**
comp=Z,93nm,1.1s
SWET LR LR
comp=Z,8µm,22.0s
BFO Black Forest 77.69 340 *e*P **P 13 05 43.7 -0.3**
comp=Z,66nm,0.9s
BFO LR LR
comp=Z,18µm,22.0s
BFO Black Forest 77.69 340 *e*P **P 13 05 44.3 +0.4**
comp=Z,61nm,0.9s,baz=22,slow=5.9
BFO Black Forest 77.69 340 *e*P **P 13 05 43.7 -0.3**
BFO pmax pmax
comp=Z,66nm,0.9s
BFO MLR MLR
comp=Z,18µm,22.0s
JMB Yambol 77.69 325 P **P 13 05 44.0 0.0**
V50A Pikevile 77.71 48 P **P 13 05 43.9 -0.4**
baz=325,SNR=14
WSAR Wadi Sarin 77.71 292 P **P 13 05 45.0 +0.6**
SNR=14
TZTN Tazewell 77.71 46 *e*P **P 13 05 44.4 0.0**
comp=Z,61nm,0.9s
TZTN LR LR
comp=Z,5µm,22.0s
TZTN Tazewell 77.71 46 P **P 13 05 44.3 0.0**
baz=326,SNR=7.6
AFSR Afar-Bala (An 77.77 319 P **P 13 05 44.5 -0.1**
SAUV Serdivan-Sakar 77.77 322 P **P 13 05 43.8 -0.7**
X48A Hartselle 77.77 50 *e*P **P 13 05 43.8 -0.8**
comp=Z,27nm,0.9s
X48A LR LR
comp=Z,4µm,22.0s
X48A Hartselle 77.77 50 P **P 13 05 44.0 -0.6**
baz=324,SNR=6.6
WES Weston 77.78 35 *e*P **P 13 05 45.8 +1.3**
comp=Z,144nm,1.5s
WES LR LR
comp=Z,5µm,20.0s
BIDO Bidbid 77.79 292 P **P 13 05 44.8 -0.1**
SNR=12
BIDO P **P 13 05 44.8 -0.1**
SNR=12
R55A Marlinton 77.79 43 P **P 13 05 45.1 +0.3**
baz=327,SNR=11
LUPA Lehigh Univers 77.79 38 *e*P **P 13 05 44.9 +0.2**
comp=Z,6.9nm,1.4s
LUPA LR LR
comp=Z,300nm,20.0s
T53A Wise 77.81 45 P **P 13 05 44.5 -0.4**
baz=326,SNR=9.3
SPNC Sapanca-Adapaz 77.82 322 P **P 13 05 44.5 -0.3**
KLYT Kilyos 77.83 323 P **P 13 05 43.9 -0.9**
145A Houston Renfro 77.83 53 P **P 13 05 44.3 -0.6**
baz=323
VBMS Vicksburg 77.84 54 PFAKE 13 06 00.0 +15
VBMS LR LR
comp=Z,4µm,21.0s
VBMS Vicksburg 77.84 54 P **P 13 05 45.1 +0.1**
baz=323
WATA Walderalm 77.86 337 *i*P **P 13 05 46.8 +1.7**
comp=Z,124nm,1.1s,SNR=19
OBKA Obir 77.86 335 *i*P **P 13 05 45.9 +0.8**
comp=Z,46nm,1.1s,SNR=30
YAYX Yaylak 77.89 318 P **P 13 05 45.0 -0.3**
MPEP Malo Peshtene 77.91 327 P **P 13 05 44.5 -0.7**
WTTA Wattenberg 77.91 337 *i*P **P 13 05 46.6 +1.2**
comp=Z,150nm,0.9s,SNR=70
MVL Millersville 77.92 39 *e*P **P 13 05 45.6 +0.3**
comp=Z,36nm,1.0s
RETA Reutte 77.92 338 *i*P **P 13 05 45.8 +0.5**
comp=Z,90nm,0.9s,SNR=35
U52A Thorn Hill 77.92 46 P **P 13 05 45.6 +0.1**
baz=326,SNR=16
CTYL Yalikoy Yolu 77.92 324 P **P 13 05 44.7 -0.6**
HATD Hatta, Dubai 77.95 294 *i*P **P 13 05 45.5 -0.3**
SNR=84
HATD Hatta, Dubai 77.95 294 P **P 13 05 45.3 -0.4**
SNR=60
HATD P **P 13 05 45.3 -0.4**
SNR=60
V51A Loudon 77.95 47 *e*P **P 13 05 45.6 0.0**
comp=Z,64nm,1.1s
V51A LR LR
comp=Z,9µm,21.0s
V51A Loudon 77.95 47 P **P 13 05 45.1 -0.5**
baz=325,SNR=9.9
GULT Guveren 77.96 321 P **P 13 05 45.2 -0.5**
MOTA Moosalm 77.97 337 *i*P **P 13 05 46.8 +1.1**
comp=Z,200nm,0.9s,SNR=58
ISK Istanbul-Kandi 77.98 323 P **P 13 05 44.8 -0.9**
ISK Istanbul-Kandi 77.98 323 *e*P **P 13 05 44.8 -0.9**
ISK Istanbul-Kandi 77.98 323 P **P 13 05 44.8 -0.9**
ISK Istanbul-Kandi 77.98 323 *e*P **P 13 05 44.8 -0.9**
SERE Sereflikochisa 77.98 319 P **P 13 05 45.7 -0.2**
KAVV Kandilli-Istan 77.98 323 P **P 13 05 44.6 -1.1**
WBK Wadi Bani Khal 77.99 291 P **P 13 05 48.0 +2.0**
SNR=6.5
BGKT Bogazkoy 77.99 323 P **P 13 05 45.2 -0.5**
W50A Signal Mountai 77.99 48 *e*P **P 13 05 45.7 -0.2**
comp=Z,44nm,1.0s
W50A LR LR
comp=Z,7µm,22.0s
W50A Signal Mountai 77.99 48 P **P 13 05 45.7 -0.2**
baz=325,SNR=13
MYKA Terra Mystica 77.99 336 *i*P **P 13 05 46.3 +0.6**
comp=Z,38nm,1.1s,SNR=29
PAL Palisades 78.01 37 *e*P **P 13 05 45.9 +0.1**
comp=Z,155nm,1.5s
PAL LR LR
comp=Z,3µm,20.0s
PAL Palisades 78.01 37 *e*P **P 13 05 45.9 +0.1**
PAL pmax pmax
comp=Z,155nm,1.5s
PAL Palisades 78.01 37 P **P 13 05 45.6 -0.2**
baz=330
BRNJ Basking Ridge 78.04 38 PFAKE 13 06 00.0 +14
BRNJ LR LR
comp=Z,3µm,22.0s
CTKS Kestanelik-??a 78.05 323 P **P 13 05 45.2 -0.8**
ECH Echery 78.05 340 *e*P **P 13 05 46.2 +0.2**
comp=Z,138nm,1.0s
ECH LR LR
comp=Z,10µm,22.0s
S55A Lewisburg 78.05 43 P **P 13 05 45.8 -0.5**
baz=327
SQTA Sankt Quirin 78.06 337 *i*P **P 13 05 47.2 +1.0**
comp=Z,142nm,0.9s,SNR=47
X49A Woodville 78.07 49 P **P 13 05 46.1 -0.1**
baz=325,SNR=15
PHSR Pinarhisar 78.07 324 P **P 13 05 46.1 -0.1**
PHSR Pinarhisar 78.07 324⇓*i*P **P 13 05 46.8 +0.6**
JLN Jalan Bani Buh 78.08 290 P **P 13 05 47.2 +0.7**
SNR=33
NAZ Nazwa, Dubai 78.09 295 *i*P **P 13 05 46.0 -0.6**
SNR=34
NAZ Nazwa, Dubai 78.09 295 P **P 13 05 46.3 -0.2**
SNR=33
NAZ P **P 13 05 46.3 -0.2**
SNR=33
ASHO Ashiyiah 78.10 294 *i*P **P 13 05 46.3 -0.3**
SNR=61
ASHO Ashiyiah 78.10 294 P **P 13 05 46.5 -0.2**
SNR=63
ASHO P **P 13 05 46.5 -0.2**
SNR=63
BRYW Bryant College 78.11 35 *e*P **P 13 05 46.2 -0.2**
comp=Z,93nm,1.2s
YLE Yale 78.12 36 PFAKE 13 06 00.0 +14
YLE LR LR
comp=Z,6µm,22.0s
KULU Kulu 78.14 319 P **P 13 05 46.5 -0.2**
Y48A Jasper 78.15 50 P **P 13 05 46.0 -0.7**
baz=324,SNR=5.5
CPCT Cooper Cave 78.16 48 *e*P **P 13 05 46.5 -0.3**
comp=Z,50nm,1.1s
CPCT LR LR
comp=Z,7µm,20.0s

SLVT Silivri 78.16 323 P **P 13 05 46.9 +0.2**
EDRB Edirne 78.17 325 P **P 13 05 46.2 -0.5**
EDRB Edirne 78.17 325 *e*P **P 13 05 47.0 +0.3**
EDRB Edirne 78.17 325 P **P 13 05 47.0 +0.3**
T54A Tazewell 78.17 45 P **P 13 05 46.8 -0.1**
baz=326,SNR=13
ABTA Abfaltersbach 78.17 336 *i*P **P 13 05 47.3 +0.6**
comp=Z,149nm,1.0s,SNR=71
SMDO Samad 78.19 292 P **P 13 05 47.2 0.0**
SNR=20
SDMD Soldier's Deli 78.22 40 *e*P **P 13 05 46.6 -0.4**
comp=Z,38nm,1.3s
SDMD LR LR
comp=Z,3µm,21.0s
HOQ Hoqain 78.22 293 P **P 13 05 47.5 +0.2**
SNR=12
CCA1 Carnmenellis 78.23 349⇑*e*P **P 13 05 46.8 -0.1**
CCA1 IAmb IAmb 13 05 48.8
comp=Z,156nm,0.8s
CRES Cresnjev 78.24 334⇑*i*P **P 13 05 46.7 -0.4**
SOHO SOHO 78.25 294 P **P 13 05 46.8 -0.6**
SNR=43
SOHO P **P 13 05 46.8 -0.6**
SNR=43
V52A Sevierville 78.27 47 *e*P **P 13 05 47.2 -0.2**
comp=Z,65nm,1.1s
V52A LR LR
comp=Z,6µm,22.0s
V52A Sevierville 78.27 47 P **P 13 05 47.2 -0.2**
baz=326,SNR=10.0
GBN Guysborough 78.27 27 PFAKE 13 06 00.0 +13
GBN LR LR
comp=Z,9µm,21.0s
W51A Cleveland 78.28 48 P **P 13 05 47.0 -0.4**
baz=325
YLV Yalova 78.29 322 P **P 13 05 46.9 -0.6**
YLV Yalova 78.29 322⇓*i*P **P 13 05 47.8 +0.3**
YLV Yalova 78.29 322⇓P **P 13 05 47.8 +0.3**
LJU Ljubljana 78.30 335⇑*i*P **P 13 05 47.3 -0.1**
U53A Fall Branch 78.30 46 P **P 13 05 47.4 -0.1**
baz=326,SNR=19
DAVA Damuels 78.31 338 *i*P **P 13 05 48.4 +0.7**
comp=Z,165nm,1.0s,SNR=43
FAQ Al Faqa, Dubai 78.32 295 *i*P **P 13 05 47.2 -0.6**
SNR=54
FAQ Al Faqa, Dubai 78.32 295 P **P 13 05 47.3 -0.5**
SNR=29
FAQ P **P 13 05 47.3 -0.5**
SNR=29
TKL Tuckaleechee C 78.33 47 *e*P **P 13 05 48.0 +0.2**
comp=Z,27nm,0.9s
TKL LR LR
comp=Z,6µm,22.0s
TKL Tuckaleechee C 78.33 47 *e*P **P 13 05 48.0 +0.2**
TKL pmax pmax
comp=Z,27nm,0.9s
HAL Halifax 78.36 29 *e*P **P 13 05 47.5 -0.2**
comp=Z,128nm,1.2s
HAL LR LR
comp=Z,6µm,22.0s
HAL Halifax 78.36 29 *e*P **P 13 05 47.5 -0.2**
HAL pmax pmax
comp=Z,128nm,1.2s
FETA Feichten 78.36 338 *i*P **P 13 05 48.7 +0.8**
comp=Z,119nm,0.9s,SNR=64
SVRH Sivrihisar-ESK 78.40 320 P **P 13 05 47.5 -0.6**
CAVI Cavuskoy 78.42 322 P **P 13 05 47.8 -0.4**
CRLT Corlu 78.43 324 P **P 13 05 47.9 -0.2**
DIM Dimitrovgrad 78.43 326 P **P 13 05 48.9 +0.8**
VISS Visnje 78.43 334 *e*P **P 13 05 47.7 -0.4**
VISS *e*S **S 13 15 38.2 -1.0**
VISS *e* 13 16 50.2
X50B Fort Payne 78.43 49 P **P 13 05 47.7 -0.6**
baz=325,SNR=12
DIVS Divibare 78.47 330 *e*P **P 13 05 47.6 -0.8**
comp=Z,44nm,0.9s
DIVS LR LR
comp=Z,12µm,18.0s
DIVS Divibare 78.47 330⇑*i*P **P 13 05 47.8 -0.7**
PGB Panagyurishte 78.47 327 P **P 13 05 48.4 -0.1**
GEMT Gemlik 78.47 322 P **P 13 05 47.9 -0.5**
ARMT Armutlu 78.49 323 P **P 13 05 47.6 -0.9**
BLA Blacksburg 78.56 44 *e*P **P 13 05 49.0 0.0**
comp=Z,53nm,0.9s
BLA LR LR
comp=Z,3µm,20.0s
BLA Blacksburg 78.56 44 *e*P **P 13 05 49.0 0.0**
BLA pmax pmax
comp=Z,53nm,0.9s
BLA Blacksburg 78.56 44 P **P 13 05 48.7 -0.3**
baz=327,SNR=7.4
Y49A Blount Mountai 78.56 50 *e*P **P 13 05 48.5 -0.5**
comp=Z,31nm,0.8s
Y49A LR LR
comp=Z,6µm,19.0s
Y49A Blount Mountai 78.56 50 P **P 13 05 48.6 -0.4**
baz=325,SNR=7.5
CHBY Cihanbeyli 78.57 319 P **P 13 05 48.2 -0.9**
ZAIG Zacatecas 78.58 68 PFAKE 13 06 00.0 +10
ZAIG LR LR
comp=Z,8µm,19.0s
BOJS Bojanci 78.59 334 *i*P **P 13 05 49.0 0.0**
BOJS *e*S **S 13 15 40.9 0.0**
BOJS *e* 13 16 49.8
147A Livingston 78.61 52 *e*P **P 13 05 49.5 +0.3**
comp=Z,100nm,1.0s
147A LR LR
comp=Z,4µm,22.0s
147A Livingston 78.61 52 P **P 13 05 49.3 +0.1**
baz=324,SNR=10
CEY Cerknica 78.61 335⇑*i*P **P 13 05 48.8 -0.3**
SULT Sultanhani-AKS 78.63 318 P **P 13 05 49.4 -0.1**
MDNY Mudanya-Bursa 78.65 323 P **P 13 05 49.0 -0.4**
PLD Plovdiv 78.68 326 P **P 13 05 48.8 -0.7**
PLD Plovdiv 78.68 326 P **P 13 05 48.6 -0.9**
JMDO Jabal Madar 78.69 291 P **P 13 05 50.4 +0.5**
SNR=18
X51A Calhoun 78.72 48 *e*P **P 13 05 49.6 -0.3**
comp=Z,45nm,1.0s
X51A LR LR
comp=Z,7µm,22.0s
X51A Calhoun 78.72 48 P **P 13 05 49.6 -0.3**
baz=325
W52A Murphy 78.73 47 *e*P **P 13 05 50.0 +0.1**
comp=Z,63nm,1.3s
W52A LR LR
comp=Z,7µm,22.0s
W52A Murphy 78.73 47 P **P 13 05 49.3 -0.7**
baz=326,SNR=5.9
VTS Vitosha 78.73 327 *e*P **P 13 05 49.8 -0.2**
VTS LR LR
comp=Z,51µm,22.0s
VTS Vitosha 78.73 327⇑*i*P **P 13 05 50.4 +0.4**
VTS Vitosha 78.73 327 P **P 13 05 49.6 -0.4**
VTS Vitosha 78.73 327⇑P **P 13 05 50.4 +0.4**
VTS Vitosha 78.73 327 P **P 13 05 49.8 -0.2**
LNIG Linares 78.73 64 *e*P **P 13 05 49.9 -0.2**
comp=Z,42nm,1.2s
LNIG LR LR
comp=Z,5µm,19.0s
BLY Banja Luka 78.73 332 *e*P **P 13 05 49.1 -0.6**
comp=Z,29nm,1.0s
BLY LR LR
comp=Z,50µm,21.0s
BLY Banja Luka 78.73 332⇑*i*P **P 13 05 48.3 -1.5**
BLY Banja Luka 78.73 332⇑*i*P **P 13 05 49.2 -0.6**
M65A Busby, Falmout 78.75 35 P **P 13 05 50.0 +0.2**
baz=331
ALNE Al Ain 78.76 294 *i*P **P 13 05 49.8 -0.4**
SNR=110
V53A Saluda 78.77 46 *e*P **P 13 05 49.8 -0.4**
comp=Z,49nm,1.2s
V53A LR LR
comp=Z,6µm,22.0s
V53A Saluda 78.77 46 P **P 13 05 50.0 -0.1**
baz=326,SNR=8.3
JSA Saint Aubin 78.79 347⇑*e*P **P 13 05 50.4 +0.4**
JSA IAmb IAmb 13 05 52.4
comp=Z,322nm,0.9s
HAPS Han Pijesak,Bl 78.81 331 *e*P **P 13 05 49.6 -0.7**
AJN Ajban 78.81 295 *i*P **P 13 05 49.8 -0.7**
SNR=13
AJN Ajban 78.81 295 P **P 13 05 49.9 -0.6**
SNR=24
AJN P **P 13 05 49.9 -0.6**
SNR=24

TRI Trieste 78.81 335 *e*P P 13 05 49.4 -0.7
comp=Z,94nm,1.3s
TRI LR LR
comp=Z,16µm,19.0s
TRI Trieste 78.81 335 *e*P P 13 05 49.4 -0.7
TRI pmax pmax
comp=Z,94nm,1.3s
TRI MLR MLR
comp=Z,16µm,19.0s
KDZ Kurdzhali 78.82 326 P P 13 05 54.3 +4.0
KDZ Kurdzhali 78.82 326 P P 13 05 53.9 +3.6
FUORN Ofenpass-Fuorn 78.85 338 *e*P P 13 05 51.5 +0.8
comp=Z,206nm,1.1s
FUORN LR LR
comp=Z,20µm,18.0s
Y50A Piedmont 78.86 49 P P 13 05 49.5 -1.2
baz=325,SNR=12
BBLS Lazići 78.86 331⇑ *i*P P 13 05 50.5 -0.1
ARQ Araqi 78.87 293 P P 13 05 51.4 +0.5
SNR=49
U55A TA2, Sparta 78.87 45 P P 13 05 50.7 -0.1
baz=327,SNR=8.2
BSY Bisya 78.93 292 P P 13 05 51.3 +0.1
SNR=43
KCTX Karacabey (Bur 78.94 323 P P 13 05 50.7 -0.3
LRAL Lakeview Retre 78.94 51 *e*P P 13 05 50.7 -0.4
comp=Z,18nm,0.8s
LRAL LR LR
comp=Z,4µm,22.0s
LRAL Lakeview Retre 78.94 51 P P 13 05 50.2 -0.9
baz=324,SNR=6.4
RIY Rijeka 78.97 334⇑ *i*P P 13 05 50.5 -0.5
R58B Mineral 79.02 42 *e*P P 13 05 51.6 +0.2
comp=Z,128nm,1.6s
R58B LR LR
comp=Z,4µm,20.0s
R58B Mineral 79.02 42 P P 13 05 51.3 -0.1
baz=328
W53A Cullowhee 79.02 47 P P 13 05 50.5 -1.1
baz=326,SNR=6.2
RKY Sarkoy-Tekirda 79.02 324 P P 13 05 50.9 -0.6
CBN Corbin Frederi 79.02 41 PFAKE 13 06 00.0 +8.6
CBN LR LR
comp=Z,4µm,20.0s
CBN Corbin Frederi 79.02 41 P P 13 05 51.2 -0.3
baz=328
RZN Rozhen 79.04 326 P P 13 05 51.4 -0.3
Z49A Columbiana 79.04 50 P P 13 05 51.1 -0.5
baz=325,SNR=12
EDC Edincik 79.06 323 P P 13 05 51.4 -0.2
V54A Nebo 79.07 46 P P 13 05 51.0 -0.8
baz=326,SNR=9.0
LADK Ladik-KONYA 79.11 319 P P 13 05 51.4 -0.7
MBWA Marble Bar 79.12 216 *e*P P 13 05 51.8 -0.2
comp=Z,131nm,1.3s
MBWA LR LR
comp=Z,4µm,20.0s
X52A Dahlonega 79.15 48 P P 13 05 51.1 -1.1
baz=326
Y51A Rockmart 79.17 49 P P 13 05 52.0 -0.4
baz=325,SNR=17
CLF Chambon-Foret 79.20 343 PFAKE 13 06 00.0 +7.8
CLF LR LR
comp=Z,25µm,20.0s
TUE Stuetta 79.21 338 *e*P P 13 05 53.5 +0.9
comp=Z,182nm,0.8s
TUE LR LR
comp=Z,18µm,21.0s
TVSB Tavsanli 79.22 322 P P 13 05 52.1 -0.5
RDO Rodhopi 79.22 325 P P 13 05 52.8 +0.3
RDO Rodhopi 79.22 325 *e*P P 13 05 52.6 +0.1
RDO Rodhopi 79.22 325 P P 13 05 52.6 +0.1
KRBG Karabiga-Canak 79.23 324 P P 13 05 52.1 -0.4
ALN Alexandroupoli 79.26 325 P P 13 05 52.1 -0.6
ALN Alexandroupoli 79.26 325 *e*P P 13 05 52.4 -0.3
ALN LR LR
comp=Z,17µm,20.0s
ALN Alexandroupoli 79.26 325 P P 13 05 52.4 -0.3
ALN Alexandroupoli 79.26 325 *e*P P 13 05 52.4 -0.3
ALN MLR MLR
comp=Z,17µm,20.0s
ERIK Erikli-Kesan 79.28 324 P P 13 05 52.6 -0.2
Z50A Ashland 79.29 50 *e*P P 13 05 52.8 -0.2
comp=Z,76nm,1.0s
Z50A LR LR
comp=Z,2µm,22.0s
Z50A Ashland 79.29 50 P P 13 05 52.6 -0.4
baz=325,SNR=23
MERS Mersin 79.32 317 P P 13 05 52.5 -0.7
KONT Konya--Tatoy 79.33 319 P P 13 05 52.5 -0.7
V55A Taylorsville 79.34 45 P P 13 05 52.7 -0.6
baz=327
UDBI Udbina 79.35 333 P P 13 05 53.2 0.0
PLE Pljevlja 79.35 330⇑ *i*P P 13 05 52.9 -0.4
ENEZ Enez 79.36 325 P P 13 05 52.9 -0.3
149A Jones 79.40 51 P P 13 05 53.1 -0.4
baz=325
LPK Lapseki 79.45 324 P P 13 05 53.5 -0.3
KKB Krupnik 79.45 327 P P 13 05 53.2 -0.6
MMB Musomiste 79.47 327 P P 13 05 53.7 -0.2
DOGA KONYA_Doganhis 79.48 319 *i*P P 13 05 54.9 +0.7
DOGA IAML_P
comp=Z,1µm,0.8s
X53A Estanollee 79.50 47 P P 13 05 54.2 +0.1
baz=326,SNR=12
GELI Tayfur-Gelibol 79.53 324 P P 13 05 53.8 -0.4
W54A Cherokee Point 79.54 46 P P 13 05 54.4 0.0
baz=326,SNR=6.4
SHUT Suhut-Afyon 79.55 320 P P 13 05 54.4 -0.1
NVLJ Novalja 79.57 334 P P 13 05 53.2 -1.0
GEDZ Gediz 79.59 322 P P 13 05 54.1 -0.5
Z51A Franklin 79.59 49 P P 13 05 54.1 -0.6
baz=325
IVA Berane 79.61 330⇑ *i*P P 13 05 54.4 -0.3
NVR Nevrokopi 79.64 326 *e*P P 13 05 54.6 -0.2
NVR Nevrokopi 79.64 326 P P 13 05 54.6 -0.2
BALB Balikesir 79.67 323 P P 13 05 53.9 -1.0
Y52A Lilburn 79.67 48 *e*P P 13 05 55.2 +0.1
comp=Z,56nm,1.3s
Y52A LR LR
comp=Z,10µm,22.0s
Y52A Lilburn 79.67 48 P P 13 05 55.2 +0.1
baz=326,SNR=6.6
KAVA Kavala 79.72 326 *e*P P 13 05 55.0 -0.2
KAVA Kavala 79.72 326 P P 13 05 55.0 -0.2
249A Camden 79.74 51 P P 13 05 56.1 +0.6
baz=325,SNR=8.9
KOME Kolasin 79.75 330⇑ *i*P P 13 05 55.0 -0.4
150A Eclectic 79.77 50 P P 13 05 55.0 -0.5
baz=325,SNR=11
SENIN Lac Senin/Sane 79.78 340 *e*P P 13 05 56.4 +0.7
comp=Z,69nm,0.8s
SENIN LR LR
comp=Z,19µm,22.0s
KIZK Mersin 79.81 317 P P 13 05 55.1 -0.7
SMTH Samothraki Isl 79.82 325 *e*P P 13 05 55.1 -0.7
SMTH Samothraki Isl 79.82 325 P P 13 05 55.1 -0.7
MHTO MHTO 79.83 291 P P 13 05 56.4 +0.3
SNR=139
PVY Plav 79.84 330⇑ *i*P P 13 05 55.4 -0.6
KMSC Kings Mountain 79.88 45 *e*P P 13 05 56.1 -0.1
comp=Z,31nm,0.9s
KMSC LR LR
comp=Z,3µm,20.0s
KMSC Kings Mountain 79.88 45 P P 13 05 56.0 -0.2
baz=327,SNR=7.6
X54A Belton 79.90 47 P P 13 05 56.3 +0.1
baz=326,SNR=7.6
Y53A Monroe 79.91 48 P P 13 05 56.0 -0.4
baz=326
STIP Stip 79.91 328 *i*P P 13 05 55.5 -0.7
BAGO Egridir - ISPA 79.94 320 *i*P P 13 05 57.7 +1.1
BAGO IAML_P
comp=Z,532nm,0.9s
SRS Serrai 79.94 327 *e*P P 13 05 56.0 -0.4
SRS Serrai 79.94 327 P P 13 05 56.0 -0.4
SRS Serrai 79.94 327 *e*P P 13 05 56.0 -0.4
NKY Niksic 79.94 330⇑ *i*P P 13 05 55.7 -0.8
THAS Thassos island 79.99 325 P P 13 05 55.9 -0.8
NKME Niksic 80.00 330⇑ *i*P P 13 05 55.9 -0.9
BRY Bratogost 80.00 331⇑ *i*P P 13 05 55.8 -1.1
BRY Bratogost 80.00 331⇑ *i*P P 13 05 55.6 -1.3
KEBE Keben-Mersin 80.03 317 P P 13 05 56.0 -1.0
TAOE Nuku Hiva Isla 80.04 117 *e*S S 13 15 58.5 +1.4
comp=Z,9µm,32.3s

TAOE Nuku Hiva Isla 80.04 117 *e*LR LR 13 30 51.6
comp=Z,21µm,25.9s
Z52A Williamson 80.06 49 P P 13 05 57.3 +0.1
baz=326,SNR=10
EZN Ezine 80.09 324 P P 13 05 57.1 -0.1
EZN Ezine 80.09 324 *e*P P 13 05 57.1 -0.1
EZN Ezine 80.09 324⇑ *i*P P 13 05 57.2 0.0
EZN Ezine 80.09 324 P P 13 05 57.1 -0.1
EZN Ezine 80.09 324⇑ P P 13 05 57.2 0.0
VAY Valandovo 80.11 327⇑ *i*P P 13 05 57.1 -0.2
KNT Kendrikon 80.14 327 P P 13 05 57.7 +0.2
KNT Kendrikon 80.14 327 *e*P P 13 05 57.5 0.0
KNT Kendrikon 80.14 327 P P 13 05 57.5 0.0
TEVE Tevekalti-Mers 80.15 317 P P 13 05 56.7 -1.0
250A Grady 80.16 51 *e*P P 13 05 58.0 +0.3
comp=Z,157nm,1.4s
250A LR LR
comp=Z,6µm,18.0s
250A Grady 80.16 51 P P 13 05 57.5 -0.2
baz=325
151A Opelika 80.17 50 P P 13 05 57.3 -0.4
baz=325,SNR=6.2
BOZC Bozcaada 80.18 324 P P 13 05 56.9 -0.8
MNCI Minicoy 80.19 271 *e*P P 13 05 57.3 -0.8
comp=Z,228nm,0.9s
MNCI LR LR
comp=Z,20µm,18.0s
ISP Isparta 80.19 320 P P 13 05 57.6 -0.4
ISP Isparta 80.19 320 *e*P P 13 05 57.1 -0.9
ISP LR LR
comp=Z,9µm,20.0s
ISP Isparta 80.19 320 P P 13 05 57.1 -0.9
ISP Isparta 80.19 320 *e*P P 13 05 57.1 -0.9
ISP MLR MLR
comp=Z,9µm,20.0s
ERMK Ermenek 80.20 318 *i*P P 13 05 58.6 +0.4
ERMK IAML_P
comp=Z,4µm,0.8s
PDG Podgorica 80.21 330⇑ *i*P P 13 05 57.7 -0.1
PDG Podgorica 80.21 330⇑ *i*P P 13 05 57.4 -0.4
TTG Podgorica 80.21 330⇑ *i*P P 13 05 57.4 -0.4
TTG Podgorica 80.21 330 *e*P P 13 05 57.4 -0.4
comp=Z,131nm,1.0s
CEME Cevo 80.21 330⇑ *i*P P 13 05 56.9 -1.0
349A Repton 80.21 52 P P 13 05 58.4 +0.4
baz=325
IKL Isikli 80.22 317 P P 13 05 56.9 -1.1
448A Bay Minette 80.22 52 P P 13 05 59.0 +0.9
baz=324
MNCY Minicoy 80.22 271 *e*P P 13 05 57.0 -1.2
TREB Trebinje 80.23 331 *e*P P 13 05 57.2 -0.7
SOH Sokhos 80.28 327 *e*P P 13 05 57.3 -1.0
SOH Sokhos 80.28 327 P P 13 05 57.3 -1.0
SOH Sokhos 80.28 327 *e*P P 13 05 57.3 -1.0
X55A Gracelyn & Ava 80.30 46 P P 13 05 57.7 -0.7
baz=327
Y54A Tignall 80.32 47 P P 13 05 59.0 +0.4
baz=326,SNR=25
BERE Bereket-Mersin 80.32 317 P P 13 05 57.8 -0.9
GOGA Godfrey 80.33 48 *e*P P 13 05 57.8 -0.8
comp=Z,20nm,0.9s
GOGA LR LR
comp=Z,6µm,22.0s
GOGA Godfrey 80.33 48 *e*P P 13 05 57.8 -0.8
GOGA pmax pmax
comp=Z,20nm,0.9s
GOGA Godfrey 80.33 48 P P 13 05 58.6 0.0
baz=326
KULA Kula-Manisa 80.34 322 P P 13 05 58.2 -0.4
KULA Kula-Manisa 80.34 322 *e*P P 13 05 58.3 -0.4
KULA Kula-Manisa 80.34 322 P P 13 05 58.3 -0.4
AKKU Akkuyu-Mersin 80.34 317 P P 13 05 58.1 -0.5
152A Waverly Hall 80.34 49 *e*P P 13 05 58.5 -0.2
comp=Z,37nm,1.0s
152A LR LR
comp=Z,6µm,22.0s
152A Waverly Hall 80.34 49 P P 13 05 58.4 -0.3
baz=326,SNR=6.7
Z53A Monticello 80.39 48 P P 13 05 58.8 -0.1
baz=326,SNR=11
MANT Manisa 80.40 322 *e*P P 13 05 58.6 -0.7
comp=Z,270nm,0.9s
MANT LR LR
comp=Z,47µm,19.0s
BRAL Brewton 80.43 52 PFAKE 13 06 10.0 +11
BRAL LR LR
comp=Z,6µm,19.0s
BRAL Brewton 80.43 52 P P 13 05 59.2 0.0
baz=325
HCY Herceg Novi 80.43 331⇑ *i*P P 13 05 58.0 -1.0
HCY Herceg Novi 80.43 331 *e*P P 13 05 58.5 -0.5
BUM Brajici-Budva 80.44 330⇑ *i*P P 13 05 58.2 -1.0
LIA Limnos Island 80.45 325 *e*P P 13 05 58.4 -0.7
LIA Limnos Island 80.45 325 P P 13 05 58.4 -0.7
DRME Dracevica, Mon 80.45 330⇑ *i*P P 13 05 58.8 -0.3
DRME Dracevica, Mon 80.45 330⇑ *i*P P 13 05 58.6 -0.5
BCK Bucak 80.47 320 P P 13 05 57.6 -1.8
251A Midway 80.48 50 P P 13 05 59.4 -0.1
baz=325,SNR=16
BRDR BURDUR-Merkez 80.49 320 *i*P P 13 05 59.9 +0.4
BRDR IAML_P
comp=Z,4µm,0.8s
OUR Ouranopolis 80.50 326 P P 13 05 59.1 -0.3
OUR Ouranopolis 80.50 326 *e*P P 13 05 59.0 -0.3
OUR Ouranopolis 80.50 326 P P 13 05 59.0 -0.3
OUR Ouranopolis 80.50 326 *e*P P 13 05 59.0 -0.3
KEPZ Antalya-Kepez 80.53 319 *i*P P 13 05 59.0 -0.7
KEPZ IAML_P
comp=Z,3µm,0.8s
TEKE Tekeli-Mersin 80.54 317 P P 13 05 58.3 -1.4
X56A White Oak 80.56 46 P P 13 05 59.7 -0.1
baz=327
HORT Hortiatis 80.57 327 P P 13 05 58.7 -1.2
HORT Hortiatis 80.57 327 *e*P P 13 05 59.3 -0.6
HORT Hortiatis 80.57 327 P P 13 05 59.3 -0.6
350A Dozier 80.58 51 P P 13 06 00.3 +0.4
baz=325
PRK Paraskevi 80.62 324 *e*P P 13 05 59.8 -0.2
PRK Paraskevi 80.62 324 P P 13 05 59.8 -0.2
PRK Paraskevi 80.62 324 *e*P P 13 05 59.8 -0.2
JSC Jenkinsville 80.63 46 *e*P P 13 06 00.1 -0.1
comp=Z,21nm,1.0s
JSC LR LR
comp=Z,6µm,22.0s
JSC Jenkinsville 80.63 46 *e*P P 13 06 00.1 -0.1
JSC pmax pmax
comp=Z,21nm,1.0s
ULC Ulcinj 80.63 330⇑ *i*P P 13 05 59.1 -1.1
Y55A Saluda 80.64 47 P P 13 06 00.4 +0.1
baz=327,SNR=5.7
PLG Polygyros 80.65 326 *e*P P 13 05 59.9 -0.4
PLG Polygyros 80.65 326 P P 13 05 59.9 -0.4
PLG Polygyros 80.65 326 *e*P P 13 05 59.9 -0.4
449A Pace 80.68 52 P P 13 06 00.7 +0.2
baz=325
Z54A Sparta 80.77 48 P P 13 06 01.2 +0.2
baz=326,SNR=14
153A Fort Valley 80.78 49 P P 13 06 00.3 -0.8
baz=326
BIA Bitola 80.80 328 *i*P P 13 06 01.4 +0.3
SIGR SIGRI 80.80 324 P P 13 06 00.1 -0.9
SIGR SIGRI 80.80 324 *e*P P 13 05 59.9 -1.1
SIGR SIGRI 80.80 324 P P 13 05 59.9 -1.1
MZR Muzera 80.89 295 *i*P P 13 06 01.2 -0.6
SNR=96
MZR Muzera 80.89 295 P P 13 06 01.4 -0.4
SNR=62
Lumpkin 80.89 50 P P 13 06 01.5 -0.1
baz=326
OHR Ohrid 80.90 328 *i*P P 13 06 01.2 -0.4
DQM DQM 80.90 290 P P 13 06 01.6 -0.2
SNR=11
DQM P P 13 06 01.6 -0.2
SNR=11
450A Crestview 80.96 52 P P 13 06 01.7 -0.3
baz=325
PAIG Paliouri 80.96 326 *e*P P 13 06 00.7 -1.2
PAIG Paliouri 80.96 326 P P 13 06 00.7 -1.2
PAIG Paliouri 80.96 326 *e*P P 13 06 00.7 -1.2
KORT Korkueli 80.97 320 P P 13 06 00.9 -1.3
KORT Korkueli 80.97 320 *i*P P 13 06 02.7 +0.6
KORT IAML_P
comp=Z,1µm,0.7s
TIR Tirane 80.99 329 *e*P P 13 06 01.7 -0.4
comp=Z,182nm,0.9s
TIR LR LR
comp=Z,26µm,20.0s
TIR Tirane 80.99 329⇑ *i*P P 13 06 02.1 +0.1
TIR Tirane 80.99 329 P P 13 06 01.6 -0.4
TIR Tirane 80.99 329⇑ P P 13 06 02.1 +0.1
FNA Florina 81.00 328 P P 13 06 01.3 -0.9
FNA Florina 81.00 328 *e*P P 13 06 01.5 -0.7
FNA LR LR
comp=Z,56µm,22.0s
FNA Florina 81.00 328 P P 13 06 01.5 -0.7
FNA Florina 81.00 328 *e*P P 13 06 01.5 -0.7
FNA MLR MLR
comp=Z,56µm,22.0s
X57A Johnson Farm, 81.00 45 P P 13 06 02.3 +0.1
baz=327
Y56A Pelion 81.02 46 P P 13 06 01.9 -0.4
baz=327
PMOR Pomariorio Ree 81.02 127 *e*P P 13 06 03.5 +1.2
comp=Z,123nm,1.4s
PMOR Pomariorio Ree 81.02 127 *e*T T 14 35 05.7
comp=Z,11nm,0.2s
351A Pinckard 81.06 51 P P 13 06 02.4 -0.2
baz=325,SNR=6.0
BLCB Balcova 81.08 323 P P 13 06 01.6 -0.9
GOLH Golhisar 81.08 320 *i*P P 13 06 04.8 +2.1
GOLH IAML_P
comp=Z,874nm,0.7s
PHNC Paralimni 81.11 316 P P 13 06 06.4 +3.7
Z55A Blythe 81.11 47 P P 13 06 02.9 +0.2
baz=327
253A Americus 81.13 49 *e*P P 13 06 02.6 -0.2
comp=Z,66nm,1.0s
253A LR LR
comp=Z,5µm,21.0s
253A Americus 81.13 49 P P 13 06 02.8 -0.1
baz=326
VLC Villacollemand 81.13 337 *e*P P 13 06 03.1 +0.4
comp=Z,162nm,0.8s
VLC LR LR
comp=Z,29µm,18.0s
AYDB Zeytinkoy-Aydi 81.13 322 P P 13 06 02.1 -0.9
ARMA Armidale 81.14 185 PFAKE 13 06 10.0 +7.2
ARMA LR LR
comp=Z,13µm,22.0s
TAVA DENIZLI_Tavas 81.14 321 *i*P P 13 06 03.6 +0.6
TAVA IAML_P
comp=Z,2µm,0.8s
BNI Bardonecchia 81.16 340 *e*P P 13 06 04.7 +1.6
comp=Z,128nm,0.9s
BNI LR LR
comp=Z,20µm,20.0s
154A Montrose 81.16 48 *e*P P 13 06 03.0 0.0
comp=Z,169nm,1.1s
154A LR LR
comp=Z,5µm,20.0s
154A Montrose 81.16 48 P P 13 06 03.0 0.0
baz=326
352A Blakely 81.22 50 *e*P P 13 06 04.0 +0.6
comp=Z,90nm,0.9s
352A LR LR
comp=Z,3µm,20.0s
352A Blakely 81.22 50 P P 13 06 03.2 -0.2
baz=326
LIT Litokhoron 81.23 327 *e*P P 13 06 02.1 -1.2
LIT LR LR
comp=Z,27µm,22.0s
LIT Litokhoron 81.23 327 P P 13 06 02.1 -1.2
LIT Litokhoron 81.23 327 *e*P P 13 06 02.1 -1.2
LIT MLR MLR
comp=Z,27µm,22.0s
Y57A Sumter 81.24 45 P P 13 06 03.0 -0.5
baz=327
X58A Rowland 81.26 44 P P 13 06 03.0 -0.5
baz=328
URLA Izmir 81.27 323 P P 13 06 02.8 -0.8
BHL Bhannes 81.31 314 *e*P P 13 06 03.8 -0.2
CNNC Cliffs of the 81.32 43 *e*P P 13 06 04.5 +0.7
comp=Z,87nm,0.4s
CNNC LR LR
comp=Z,7µm,22.0s
CNNC Cliffs of the 81.32 43 P P 13 06 03.6 -0.2
baz=328
VAH Vaihoa 81.35 127 *e*P P 13 06 05.0 +0.9
comp=Z,54nm,1.1s
ELL Elmali 81.36 320 P P 13 06 03.7 -0.6
Z56A Williston 81.38 47 P P 13 06 03.6 -0.6
baz=327
SSB Saint Sauveur 81.39 341 *e*P P 13 06 05.2 +1.0
comp=Z,187nm,0.8s
SSB LR LR
comp=Z,10µm,21.0s
SSB Saint Sauveur 81.39 341 *e*P P 13 06 05.2 +1.0
SSB pmax pmax
comp=Z,187nm,0.8s
SSB MLR MLR
comp=Z,10µm,21.0s
NEST Nestorio 81.44 328 P P 13 06 04.0 -0.5
CSS Mathiatis 81.45 317 *e*P P 13 06 04.4 -0.2
comp=Z,109nm,0.8s
CSS LR LR
comp=Z,12µm,22.0s
CSS Mathiatis 81.45 317 P P 13 06 04.6 0.0
CSS Mathiatis 81.45 317 P P 13 06 04.6 0.0
155A Kite 81.45 48 P P 13 06 04.5 -0.1
baz=326,SNR=7.8
CHOS Chios island 81.45 324 P P 13 06 04.0 -0.6
CHOS Chios island 81.45 324 *e*P P 13 06 02.8 -1.8
CHOS Chios island 81.45 324 P P 13 06 02.8 -1.8
LEF Lefka 81.50 317 P P 13 06 03.5 -1.3
LEF Lefka 81.50 317⇓ *i*P P 13 06 04.4 -0.4
451A Vernon 81.53 51 PFAKE 13 06 20.0 +15
451A LR LR
comp=Z,5µm,22.0s
451A Vernon 81.53 51 P P 13 06 06.0 +1.0
baz=325
AKUM Antalya-Kumluc 81.55 319 *i*P P 13 06 04.5 -0.5
AKUM IAML_P
comp=Z,2µm,0.7s
AOS Alonnisos 81.56 325 P P 13 06 03.9 -1.2
AOS Alonnisos 81.56 325 *e*P P 13 06 04.3 -0.8
AOS Alonnisos 81.56 325 P P 13 06 04.3 -0.8
RCY Rachaya 81.57 314 *e*P P 13 06 05.2 -0.2
X59A McDuffie Farm, 81.57 44 P P 13 06 04.3 -0.9
baz=328
SKY Skiros Island 81.58 325 *e*P P 13 06 04.1 -1.1
SKY Skiros Island 81.58 325 P P 13 06 04.1 -1.1
QRWL Qaraoun 81.59 314 *e*P P 13 06 05.5 0.0
ALFC Alefka 81.60 317 P P 13 06 05.0 -0.4
GCAM G?zelcaml? 81.60 322 P P 13 06 04.7 -0.6
PENT Pentalofos 81.60 328 P P 13 06 05.1 -0.3
452A Marianna 81.61 51 P P 13 06 06.2 +0.7
baz=326
254A Abbeville 81.62 49 P P 13 06 05.9 +0.4
baz=326,SNR=7.5
XOR Xorichti 81.63 326 *e*P P 13 06 04.1 -1.4
XOR Xorichti 81.63 326 P P 13 06 04.1 -1.4
Y58A Scranton 81.66 45 P P 13 06 05.5 -0.2
baz=328
353A Camilla 81.67 50 P P 13 06 06.3 +0.5
baz=326,SNR=6.8
NEO Neokhori 81.67 326 *e*P P 13 06 04.3 -1.4
NEO Neokhori 81.67 326 P P 13 06 04.3 -1.4
YER Yerkesik 81.68 321 P P 13 06 05.6 -0.2
YER Yerkesik 81.68 321 *e*P P 13 06 05.8 0.0
YER Yerkesik 81.68 321 P P 13 06 05.8 0.0
YER Yerkesik 81.68 321 *e*P P 13 06 05.8 0.0
FYTO Fytoko, Volos 81.69 326 *e*P P 13 06 05.1 -0.6
FYTO Fytoko, Volos 81.69 326 P P 13 06 05.1 -0.6
Z57A Bowman 81.70 46 P P 13 06 05.3 -0.6
baz=327
SKIA Skiathos 81.71 326 P P 13 06 05.0 -0.9
MLSB Milas 81.74 322 P P 13 06 05.9 -0.2
KPRO Kipourio 81.74 328 P P 13 06 05.3 -0.8
SMG Samos 81.75 323 *e*P P 13 06 03.9 -2.2
SMG Samos 81.75 323 P P 13 06 03.9 -2.2
MOIG Morelia 81.77 69 PFAKE 13 06 20.0 +13
MOIG LR LR
comp=Z,5µm,22.0s
TURN Turunc 81.78 321 P P 13 06 07.3 +1.0
TURN Turunc 81.78 321 *i*P P 13 06 08.7 +2.4
TURN IAML_P
comp=Z,6µm,0.8s
FETY Fethiye 81.80 321 P P 13 06 06.2 -0.2
FETY Fethiye 81.80 321 *e*P P 13 06 05.9 -0.5

FETY **Fethiye** 81.80 321 P **P** 13 06 05.9 -0.5
FETY **Fethiye** 81.80 321 *i* P **P** 13 06 07.0 +0.6
FETY IAML_P
comp=Z,3µm,0.8s
THL **Klokotos Trika** 81.87 327 P **P** 13 06 04.7 -2.0
156A **Sylvania** 81.88 47 P **P** 13 06 07.1 +0.3
baz=327
TIGA **Tifton** 81.90 49 *e*P **P** 13 06 07.8 +0.8
comp=Z,124nm,0.9s
TIGA LR LR
comp=Z,6µm,22.0s
TIGA **Tifton** 81.90 49 P **P** 13 06 07.0 0.0
baz=326,SNR=10.0
AKAS **Kas** 81.93 320 P **P** 13 06 06.1 -1.2
AKAS **Kas** 81.93 320 *i* P **P** 13 06 08.8 +1.5
AKAS IAML_P
comp=Z,2µm,0.8s
PPCY **Paphos** 81.94 317 P **P** 13 06 06.7 -0.4
KSL **Kastellorizon** 82.01 320 *e*P **P** 13 06 07.0 -0.5
KSL **Kastellorizon** 82.01 320 P **P** 13 06 07.0 -0.5
AQU **L'Aquila** 82.02 334 ⇑ *i*P **P** 13 06 08.1 +0.6
255A **Hazlehurst** 82.02 48 *e*P **P** 13 06 08.3 +0.7
comp=Z,222nm,1.4s
255A LR LR
comp=Z,7µm,22.0s
255A **Hazlehurst** 82.02 48 P **P** 13 06 07.9 +0.3
baz=326
453A **Whigham** 82.03 50 PFAKE 13 06 20.0 +12
453A LR LR
comp=Z,4µm,19.0s
453A **Whigham** 82.03 50 P **P** 13 06 07.7 0.0
baz=326
LHI **Lord Howe Isla** 82.08 179 PFAKE 13 06 20.0 +12
LHI LR LR
comp=Z,13µm,21.0s
Z58A **St. Stephen** 82.08 45 P **P** 13 06 07.1 -0.7
baz=326
NHSC **New Hope** 82.10 46 P **P** 13 06 08.4 +0.4
baz=327
BODT **Bodrum** 82.13 322 P **P** 13 06 06.9 -1.2
552A **Lynn Haven** 82.14 51 P **P** 13 06 09.1 +0.8
baz=326
BAI **Bari** 82.15 331 *e*P **P** 13 06 07.9 -0.2
JAN **Janina** 82.18 328 *e*P **P** 13 06 08.6 +0.2
JAN **Janina** 82.18 328 P **P** 13 06 08.6 +0.2
AGG **Agios Georgios** 82.24 326 P **P** 13 06 07.1 -1.6
AGG **Agios Georgios** 82.24 326 *e*P **P** 13 06 07.1 -1.6
AGG LR LR
comp=Z,21µm,20.0s
AGG **Agios Georgios** 82.24 326 P **P** 13 06 06.9 -1.8
AGG **Agios Georgios** 82.24 326 *e*P **P** 13 06 07.1 -1.6
AGG MLR MLR
comp=Z,21µm,20.0s
256A **Glennville** 82.25 48 P **P** 13 06 09.0 +0.2
baz=327
SRN **Sarande** 82.27 328 *e*P **P** 13 06 08.5 -0.3
SRN **Sarande** 82.27 328 P **P** 13 06 08.5 -0.3
FASA **Fasano** 82.27 331 *e*P **P** 13 06 08.4 -0.4
ATAL **Atalanti** 82.29 326 *e*P **P** 13 06 07.4 -1.5
ATAL **Atalanti** 82.29 326 P **P** 13 06 07.4 -1.5
DAT **Datca** 82.31 322 P **P** 13 06 07.2 -2.0
355A **Pearson** 82.33 49 P **P** 13 06 09.2 0.0
baz=326
LKR **Lokris** 82.34 326 *e*P **P** 13 06 05.5 -3.7
LKR **Lokris** 82.34 326 P **P** 13 06 05.5 -3.7
AXAR **Agios Charalam** 82.36 326 *e*P **P** 13 06 10.4 +1.1
AXAR **Agios Charalam** 82.36 326 P **P** 13 06 10.4 +1.1
PPT **Papeete** 82.37 130 P **P** 13 06 11.6 +2.2
comp=Z,29nm,0.7s,baz=70,slow=9.2,SNR=3.7
CGL1 **Ceglie Messapi** 82.38 331 *e*P **P** 13 06 08.8 -0.6
PPT2 **Papeete2** 82.39 130 *e*P **P** 13 06 10.9 +1.3
comp=Z,58nm,1.4s
PPT2 **Papeete2** 82.39 130 *e*S **S** 13 16 23.3 +2.1
comp=Z,14µm,31.8s
PPT2 **Papeete2** 82.39 130 *e*LR LR 13 31 45.4
comp=Z,12µm,24.5s
PPT2 **Papeete2** 82.39 130 *e*T T 14 36 53.3
comp=Z,3.7nm,0.3s
158A **Hollywood** 82.41 46 P **P** 13 06 10.1 +0.5
baz=328
PAE **Paea** 82.45 130 *e*P **P** 13 06 11.0 +1.2
comp=Z,18nm,1.3s
SG1 **Sgolgore (BA)** 82.45 331 *e*P **P** 13 06 09.8 0.0
IGT **Igoumenitsa** 82.47 328 *e*P **P** 13 06 08.7 -1.2
IGT **Igoumenitsa** 82.47 328 P **P** 13 06 08.7 -1.2
IGT **Igoumenitsa** 82.47 328 *e*P **P** 13 06 08.7 -1.2
TIAR **Tiarei** 82.47 130 *e*P **P** 13 06 10.9 +0.9
comp=Z,11nm,0.7s
454A **Quitman** 82.48 50 P **P** 13 06 09.8 -0.2
baz=326
KEK **Kerkira** 82.49 328 *e*P **P** 13 06 09.2 -0.7
KEK **Kerkira** 82.49 328 P **P** 13 06 09.2 -0.7
MASS **Massafra** 82.50 331 *e*P **P** 13 06 09.6 -0.4
EVR **Evrytania** 82.52 327 *e*P **P** 13 06 08.0 -2.2
EVR **Evrytania** 82.52 327 P **P** 13 06 08.0 -2.2
553A **Crawfordville** 82.52 50 P **P** 13 06 10.8 +0.6
baz=326
ARG **Arkhangelos** 82.54 321 P **P** 13 06 10.0 -0.3
TAR1 **Taranto** 82.56 331 *e*P **P** 13 06 09.7 -0.5
PTL **Penteli** 82.56 325 *e*P **P** 13 06 08.8 -1.6
PTL **Penteli** 82.56 325 P **P** 13 06 08.8 -1.6
MATE **Matera** 82.62 331 ⇑ *i*P **P** 13 06 10.6 0.0
VILL **Villia** 82.66 325 P **P** 13 06 09.1 -1.8
257A **Skidaway Islan** 82.66 47 PFAKE 13 06 20.0 +9.1
257A LR LR
comp=Z,6µm,19.0s
257A **Skidaway Islan** 82.66 47 P **P** 13 06 10.8 -0.1
baz=327
ATHU **Athens Univers** 82.66 325 *e*P **P** 13 06 09.1 -1.8
ATHU **Athens Univers** 82.66 325 P **P** 13 06 09.1 -1.8
ATH **Athens Observa** 82.68 325 *e*P **P** 13 06 09.8 -1.2
ATH **Athens Observa** 82.68 325 P **P** 13 06 09.8 -1.2
ATH **Athens Observa** 82.68 325 *e*P **P** 13 06 09.8 -1.2
356A **Blackshear** 82.69 48 P **P** 13 06 11.1 0.0
baz=327
TVO **Taravao** 82.71 130 *e*P **P** 13 06 12.5 +1.2
comp=Z,14nm,0.8s
DSF **Desfina** 82.72 326 *e*P **P** 13 06 09.2 -2.0
DSF **Desfina** 82.72 326 P **P** 13 06 09.2 -2.0
455A **Stateville** 82.74 49 P **P** 13 06 12.0 +0.6
baz=326
VLY **Voula,Athens** 82.76 325 *e*P **P** 13 06 10.1 -1.3
VLY **Voula,Athens** 82.76 325 P **P** 13 06 10.1 -1.3
ANX **Ano Chora** 82.77 327 P **P** 13 06 10.3 -1.2
KALE **Kalithea** 82.87 326 *e*P **P** 13 06 10.7 -1.3
KALE **Kalithea** 82.87 326 P **P** 13 06 10.7 -1.3
SERG **Sergoula** 82.88 326 P **P** 13 06 10.1 -1.9
PVO **Paravola** 82.89 327 P **P** 13 06 11.3 -0.7
357A **Townsend** 82.91 48 P **P** 13 06 12.7 +0.4
baz=327
TRIZ **Trizonia** 82.92 326 P **P** 13 06 10.8 -1.4
EFP **Efpalio** 82.92 326 P **P** 13 06 11.1 -1.1
LOUT **Loutraki** 82.94 325 P **P** 13 06 10.4 -1.9
554A **Perry** 82.97 50 P **P** 13 06 13.1 +0.5
baz=326
LKD2 **Lefkada island** 83.03 327 *e*P **P** 13 06 12.1 -0.7
LKD2 **Lefkada island** 83.03 327 P **P** 13 06 12.1 -0.7
LAKA **Lakka** 83.06 326 *e*P **P** 13 06 11.7 -1.3
LAKA **Lakka** 83.06 326 P **P** 13 06 11.7 -1.3
SERI **Serifos** 83.12 324 P **P** 13 06 10.5 -2.8
KLV **Kalavryta, Ach** 83.18 326 *e*P **P** 13 06 12.3 -1.3
KLV **Kalavryta, Ach** 83.18 326 P **P** 13 06 12.3 -1.3
GUR **Goura** 83.21 326 *e*P **P** 13 06 12.2 -1.6
GUR **Goura** 83.21 326 P **P** 13 06 12.2 -1.6
UNM **Universidad Na** 83.23 68 PFAKE 13 06 30.0 +16
UNM LR LR
comp=Z,7µm,21.0s
456A **Hilliard** 83.24 48 PFAKE 13 06 30.0 +16
456A LR LR
comp=Z,7µm,19.0s
456A **Hilliard** 83.24 48 P **P** 13 06 14.5 +0.6
baz=327
555A **McAlpin** 83.29 49 *e*P **P** 13 06 14.4 +0.2
comp=Z,97nm,1.0s
555A LR LR
comp=Z,5µm,20.0s
555A **McAlpin** 83.29 49 P **P** 13 06 14.8 +0.6
baz=326
RLS **Riolos of Patr** 83.41 327 *e*P **P** 13 06 14.7 0.0
RLS **Riolos of Patr** 83.41 327 P **P** 13 06 14.7 0.0

KRND **KRANIDI** 83.41 325 P **P** 13 06 11.5 -3.2
DRO **Drossia** 83.42 326 P **P** 13 06 14.3 -0.5
SANT **Santorini** 83.45 323 P **P** 13 06 11.1 -3.9
SANT **Santorini** 83.45 323 PFAKE 13 06 30.0 +15
SANT LR LR
comp=Z,19µm,20.0s
KARP **Karpathos** 83.51 321 P **P** 13 06 13.9 -1.4
KARP **Karpathos** 83.51 321 *e*P **P** 13 06 14.8 -0.5
KARP comp=Z,164nm,0.9s
KARP LR LR
comp=Z,17µm,21.0s
457A **Yulee** 83.54 48 P **P** 13 06 15.4 -0.1
baz=327
TRIP **Tripoli** 83.60 326 P **P** 13 06 14.8 -1.0
VLS **Valsamata** 83.60 327 *e*P **P** 13 06 14.9 -0.8
VLS **Valsamata** 83.60 327 P **P** 13 06 14.9 -0.8
VLS **Valsamata** 83.60 327 *e*P **P** 13 06 14.9 -0.8
STKA **Stephens Creek** 83.63 194 *e*P **P** 13 06 15.7 +0.1
comp=Z,13nm,1.1s
STKA LR LR
comp=Z,2µm,22.0s
STKA **Stephens Creek** 83.63 194 P **P** 13 06 15.7 +0.1
comp=Z,36nm,0.9s,baz=351,slow=7.1,SNR=35
STKA PKKPbc **PKKPbc** 13 24 33.1 +0.5
comp=Z,2.3nm,0.9s,baz=295,slow=7.0,SNR=3.6
655A **Horseshoe Beac** 83.65 50 P **P** 13 06 16.6 +0.5
baz=326
556A **Lake Butler** 83.66 49 P **P** 13 06 16.5 +0.4
baz=327
VLX **Vlachokerasia** 83.70 326 *e*P **P** 13 06 14.5 -1.9
VLX **Vlachokerasia** 83.70 326 P **P** 13 06 14.5 -1.9
AMT **Artemida-Makis** 83.79 326 P **P** 13 06 15.9 -0.8
TIP **Timpagrande** 83.95 330 *e*P **P** 13 06 17.6 0.0
TIP **Timpagrande** 83.95 330 ⇓ *i*P **P** 13 06 18.2 +0.6
TIP **Timpagrande** 83.95 330 P **P** 13 06 17.6 0.0
557A **Orange Park** 83.97 49 P **P** 13 06 18.1 +0.5
baz=327
ITM **Ithomi** 84.03 326 P **P** 13 06 16.5 -1.5
ITM **Ithomi** 84.03 326 *e*P **P** 13 06 16.8 -1.2
ITM LR LR
comp=Z,21µm,20.0s
ITM **Ithomi** 84.03 326 P **P** 13 06 16.8 -1.2
VLI **Veliai** 84.08 325 *e*P **P** 13 06 15.6 -2.6
VLI **Veliai** 84.08 325 P **P** 13 06 15.6 -2.6
656A **Willston** 84.12 50 PFAKE 13 06 30.0 +12
656A LR LR
comp=Z,6µm,21.0s
656A **Willston** 84.12 50 P **P** 13 06 19.0 +0.5
baz=327
DMTO **DMTO** 84.15 291 P **P** 13 06 17.8 -1.0
SNR=8.4
DMTO P **P** 13 06 17.8 -1.0
SNR=8.4
ZKR **Zakros** 84.26 322 P **P** 13 06 18.0 -1.1
ZKR **Zakros** 84.26 322 *e*P **P** 13 06 18.3 -0.8
ZKR **Zakros** 84.26 322 P **P** 13 06 18.3 -0.8
657A **Interlachen** 84.26 49 P **P** 13 06 19.5 +0.4
baz=327
PYL **PYLOS** 84.35 326 *e*P **P** 13 06 18.0 -1.6
PYL **PYLOS** 84.35 326 P **P** 13 06 18.0 -1.6
KYTH **Kithira** 84.44 325 *e*P **P** 13 06 18.2 -1.9
KYTH **Kithira** 84.44 325 P **P** 13 06 18.2 -1.9
KTHR **Kythira** 84.46 325 P **P** 13 06 17.9 -2.2
LAST **Lasithi** 84.50 322 *e*P **P** 13 06 18.6 -1.9
LAST **Lasithi** 84.50 322 P **P** 13 06 18.6 -1.9
LVIG **Laguna Verde** 84.52 65 PFAKE 13 06 30.0 +9.4
LVIG LR LR
comp=Z,6µm,20.0s
IDI **Anoyia** 84.62 323 *e*P **P** 13 06 19.2 -1.8
comp=Z,109nm,1.2s
IDI LR LR
comp=Z,15µm,21.0s
IDI **Anoyia** 84.62 323 ⇓ *i*P **P** 13 06 19.0 -2.0
658A **Bunnell** 84.69 49 PFAKE 13 06 30.0 +8.7
658A LR LR
comp=Z,7µm,20.0s
658A **Bunnell** 84.69 49 P **P** 13 06 21.8 +0.5
baz=327
WHFO **Wadi Hawf** 84.69 292 P **P** 13 06 21.4 -0.2
SNR=8.1
757A **Oxford** 84.70 49 P **P** 13 06 22.2 +0.8
baz=327
ANKY **Antikythira Is** 84.70 324 *e*P **P** 13 06 19.6 -1.7
ANKY **Antikythira Is** 84.70 324 P **P** 13 06 19.6 -1.7
IMMV **Iera Moni Meta** 84.81 324 P **P** 13 06 20.2 -1.7
RAYN **Ar Rayn** 84.92 301 *e*P **P** 13 06 22.6 -0.1
comp=Z,191nm,0.8s
RAYN LR LR
comp=Z,18µm,21.0s
RAYN **Ar Rayn** 84.92 301 *i*P **P** 13 06 22.4 -0.3
SNR=15
RAYN **Ar Rayn** 84.92 301 *e*P **P** 13 06 22.6 -0.1
RAYN pmax pmax
comp=Z,191nm,0.8s
RAYN MLR MLR
comp=Z,18µm,21.0s
758A **Lake Helen** 85.10 49 P **P** 13 06 24.1 +0.7
baz=327
857A **Zephyrhills** 85.18 50 P **P** 13 06 24.5 +0.6
baz=327
GVD **Gavdhos** 85.32 323 P **P** 13 06 23.2 -1.3
GVD **Gavdhos** 85.32 323 *e*P **P** 13 06 23.6 -0.9
GVD **Gavdhos** 85.32 323 P **P** 13 06 23.6 -0.9
FORT **Forrest** 85.41 205 *e*P **P** 13 06 24.8 +0.1
comp=Z,158nm,0.8s
FORT LR LR
comp=Z,5µm,22.0s
BBOO **Buckleboo** 85.50 198 *e*P **P** 13 06 25.1 +0.1
comp=Z,162nm,1.3s
BBOO LR LR
comp=Z,9µm,22.0s
858A **St. Cloud** 85.65 49 P **P** 13 06 26.4 +0.3
baz=327
957A **Wimauma** 85.68 50 PFAKE 13 06 40.0 +14
957A LR LR
comp=Z,3µm,22.0s
957A **Wimauma** 85.68 50 P **P** 13 06 26.6 +0.3
baz=327
DWPF **Disney Wildern** 85.70 49 PFAKE 13 06 40.0 +14
DWPF LR LR
comp=Z,7µm,22.0s
DWPF **Disney Wildern** 85.70 49 P **P** 13 06 26.8 +0.4
baz=327
958A **Wauchula** 85.98 50 P **P** 13 06 28.6 +0.7
baz=327
859A **Kempfer Cattle** 86.00 49 P **P** 13 06 28.8 +0.9
baz=327
CAN **Canberra** 86.19 187 PFAKE 13 06 40.0 +12
CAN LR LR
comp=Z,11µm,22.0s
058A **Arcadia** 86.40 50 P **P** 13 06 30.7 +0.8
baz=327
959A **Okeechobee** 86.45 49 P **P** 13 06 30.8 +0.6
baz=327
CLTB **Caltabellotta** 86.50 332 PFAKE 13 06 40.0 +10
CLTB LR LR
comp=Z,39µm,20.0s
PBRG **Braganca** 86.66 348 *e*P **P** 13 06 30.8 -0.2
comp=Z,55nm,1.6s
PGAV **Gavieira, Arco** 86.69 349 *e*P **P** 13 06 29.5 -1.7
comp=Z,83nm,1.5s
PGAV **Gavieira, Arco** 86.69 349 *e*PP PP 13 09 57.6 +4.6
PGAV *e*S **S** 13 17 00.1 -3.6
059A **Moore Haven** 86.79 50 PFAKE 13 06 40.0 +8.2
059A LR LR
comp=Z,5µm,20.0s
059A **Moore Haven** 86.79 50 P **P** 13 06 32.2 +0.4
baz=327
OUZ **Omahuta** 86.91 167 PFAKE 13 06 40.0 +8.1
OUZ LR LR
comp=Z,11µm,20.0s
PCAB **Cabril** 86.91 349 *e*P **P** 13 06 32.8 +0.6
comp=Z,58nm,1.8s
060A **Indiantown** 87.11 49 PFAKE 13 06 50.0 +17
060A LR LR
comp=Z,6µm,20.0s
060A **Indiantown** 87.11 49 P **P** 13 06 34.0 +0.6
baz=328
059Z **Ave Maria** 87.17 50 P **P** 13 06 33.6 -0.1
baz=327
POLO **Lamas de Olo** 87.22 349 *e*P **P** 13 06 34.0 +0.2
comp=Z,54nm,1.5s
POLO **Lamas de Olo** 87.22 349 *e*PP PP 13 10 06.0 +8.7
MYIG **Mrida** 87.29 60 PFAKE 13 06 50.0 +16
MYIG LR LR
comp=Z,5µm,20.0s
PVRL **Vila Real** 87.31 349 *e*P **P** 13 06 33.2 -1.0
comp=Z,124nm,1.3s
MVO **Moncorvo** 87.33 348 *e*P **P** 13 06 34.6 +0.3
comp=Z,85nm,1.6s
MVO **Moncorvo** 87.33 348 *e*PP PP 13 10 05.5 +7.4
MVO *e*S **S** 13 17 05.0 -4.9
TBI **Tubuai** 87.38 133 *e*S **S** 13 17 12.0 +1.7
comp=Z,6µm,28.2s
TBI **Tubuai** 87.38 133 *e*LR LR 13 33 51.1
comp=Z,19µm,33.5s
TBI **Tubuai** 87.38 133 *e*T T 14 43 04.3
comp=Z,7.4nm,0.2s
060Z **West Palm Beac** 87.55 50 P **P** 13 06 35.1 -0.3
baz=328
UCM **Universidad Co** 87.63 345 ⇑ *i*P **P** 13 06 34.8 -0.9
UCM *e*S **SKSac** 13 16 59.7 +1.2
MORW **Morawa** 87.67 216 *e*P **P** 13 06 35.1 -0.6
comp=Z,149nm,1.2s
MORW LR LR
comp=Z,3µm,20.0s
WDD **Wied Dalam** 87.71 331 PFAKE 13 06 50.0 +14
WDD LR LR
comp=Z,15µm,20.0s
061Z **Ochoppi** 87.83 50 PFAKE 13 06 50.0 +13
061Z LR LR
comp=Z,5µm,22.0s
061Z **Ochoppi** 87.83 50 P **P** 13 06 36.5 -0.3
baz=328
PVIS **Viseu** 87.88 349 *e*P **P** 13 06 36.6 -0.3
comp=Z,56nm,2.1s
MTE **Manteigas** 88.15 349 *e*P **P** 13 06 38.3 +0.1
comp=Z,77nm,2.2s
MTE **Manteigas** 88.15 349 *e*PP PP 13 10 11.6 +6.9
MTE *e*S **SKSac** 13 17 05.5 +3.7
MTE **Manteigas** 88.15 349 *e*P **P** 13 06 38.1 -0.1
comp=Z,36nm,0.8s
MTE LR LR
comp=Z,10µm,20.0s
ES19 **SONSECA Array** 88.33 346 *e*P **P** 13 06 39.1 0.0
ESDC **Sonseca Array** 88.36 346 P **P** 13 06 39.3 +0.1
comp=Z,45nm,0.8s,baz=5.2,slow=4.3,SNR=117
ESLA **Sonseca Array** 88.36 346 *e*P **P** 13 06 39.3 0.0
comp=Z,55nm,0.9s
ESLA LR LR
comp=Z,17µm,20.0s
COI **Coimbra** 88.44 349 *e*P **P** 13 06 38.6 -0.9
comp=Z,72nm,0.9s
COI **Coimbra** 88.44 349 *e*PP PP 13 10 12.0 +5.1
COI *e*S **SKSac** 13 17 08.3 +5.0
PAB **San Pablo** 88.55 346 *e*P **P** 13 06 40.1 -0.1
comp=Z,44nm,0.9s
PAB LR LR
comp=Z,16µm,20.0s
PAB **San Pablo** 88.55 346 *e*P **P** 13 06 40.1 -0.1
PAB pmax pmax
comp=Z,44nm,0.9s
PAB MLR MLR
comp=Z,16µm,20.0s
PCAS **Casmilo, Conde** 88.61 349 *e*P **P** 13 06 40.5 +0.2
comp=Z,52nm,2.1s
PCAS **Casmilo, Conde** 88.61 349 *e*PP PP 13 10 16.2 +7.9
PCAS *e*S **SKSac** 13 17 08.2 +3.8
TEIG **Tepich** 88.68 59 PFAKE 13 06 50.0 +9.1
TEIG LR LR
comp=Z,4µm,22.0s
PCBR **Castelo Branco** 88.69 349 *e*P **P** 13 06 39.6 -1.1
comp=Z,52nm,1.8s
TOO **Toolangi** 88.74 190 *e*P **P** 13 06 41.3 +0.7
comp=Z,139nm,1.3s
TOO LR LR
comp=Z,9µm,22.0s
TOO **Toolangi** 88.74 190 *e*P **P** 13 06 41.3 +0.7
TOO pmax pmax
comp=Z,139nm,1.3s
TOO MLR MLR
comp=Z,9µm,22.0s
CMAH **Djebel Manchou** 88.98 336 P **P** 13 06 42.3 +0.1
PTOM **Tomar** 89.02 349 *e*P **P** 13 06 42.3 0.0
comp=Z,60nm,2.3s
BBSR **BB Station** 89.08 35 PFAKE 13 06 50.0 +7.4
BBSR LR LR
comp=Z,5µm,21.0s
PMRV **Marv??o** 89.09 348 *e*P **P** 13 06 40.8 -1.8
comp=Z,50nm,1.6s
PMRV **Marv??o** 89.09 348 *e*PP PP 13 10 18.8 +6.7
PMRV *e*S **SKSac** 13 17 13.0 +5.7
ABSA **Djebel Ababsia** 89.30 336 P **P** 13 06 42.9 -0.8
KEST **Kesra** 89.32 335 *e*P **P** 13 06 44.8 +0.9
comp=Z,128nm,0.8s
KEST LR LR
comp=Z,23µm,22.0s
KEST **Kesra** 89.32 335 P **P** 13 06 44.5 +0.7
comp=Z,138nm,0.9s,baz=309,slow=3.3,SNR=50
CKFL **Kef-Lekhel** 89.37 337 P **P** 13 06 43.9 -0.2
DFRA **Djebel Bou Aff** 89.44 338 P **P** 13 06 45.1 +0.7
PMTG **Montargil** 89.54 349 *e*P **P** 13 06 44.2 -0.5
comp=Z,48nm,1.5s
PMTG **Montargil** 89.54 349 *e*PP PP 13 10 20.4 +4.6
PMTG *e*S **SKSac** 13 17 15.2 +5.3
CASM **Ain Smara** 89.56 337 P **P** 13 06 44.5 -0.4
PESTR **Estremoz** 89.66 348 *e*P **P** 13 06 44.8 -0.5
comp=Z,42nm,1.8s
PESTR **Estremoz** 89.66 348 *e*PP PP 13 10 22.2 +5.4
PESTR *e*S **SKSac** 13 17 16.1 +5.4
PESTR **Estremoz** 89.66 348 *e*P **P** 13 06 44.0 -1.3
comp=Z,8.1nm,0.8s
PESTR LR LR
comp=Z,4µm,22.0s
CCIG **Comitan** 89.71 64 PFAKE 13 07 00.0 +14
CCIG LR LR
comp=Z,5µm,20.0s
CTEI **Djebel Teioual** 89.76 337 P **P** 13 06 45.8 -0.2
PMAFR **Mafra** 89.78 350 *e*P **P** 13 06 46.1 +0.3
PMAFR **Mafra** 89.78 350 *e*PP PP 13 10 23.2 +5.6
PMAFR *e*S **SKSac** 13 17 22.0 +11
SET **Setif** 89.88 338 P **P** 13 06 48.0 +1.5
CART **Cartagena** 89.90 343 PFAKE 13 07 00.0 +14
CART LR LR
comp=Z,8µm,20.0s
CART **Cartagena** 89.90 343 *e*P **P** 13 06 43.3 -3.0
CART *e*S **SKSac** 13 17 13.9 +2.0
MXZ **Matakaoa Point** 89.95 164 PFAKE 13 07 00.0 +14
MXZ LR LR
comp=Z,14µm,22.0s
LIS **Lisbon** 90.00 350 *e*P **P** 13 06 46.5 -0.2
LIS AMb AMB 13 07 23.4
comp=Z,105nm,0.4s
LIS *e*PP **PP** 13 10 19.7 +0.3
LIS **Lisbon** 90.00 350 *e*P **P** 13 06 46.6 -0.2
LIS *e* 13 10 19.7
CKHR **Kef el Ahmar** 90.03 338 P **P** 13 06 47.3 +0.1
HIZ **Hauiti** 90.32 167 PFAKE 13 07 00.0 +12
HIZ LR LR
comp=Z,15µm,20.0s
URZ **Urewera** 90.43 165 *e*P **P** 13 06 47.8 -0.6
comp=Z,35nm,1.0s
URZ LR LR
comp=Z,11µm,22.0s
URZ **Urewera** 90.43 165 LR LR 13 40 27.1
comp=Z,10µm,21.4s,baz=22,slow=31
PNCL **Nicolau / Gran** 90.52 349 *e*P **P** 13 06 48.8 -0.5
PNCL **Nicolau / Gran** 90.52 349 *e*PP PP 13 10 28.9 +5.4
PNCL *e*S SKSac 13 17 26.8 +11
PBEJ **Beja** 90.53 349 *e*P **P** 13 06 49.4 +0.1
comp=Z,47nm,1.5s
NWAO **Narrogin (SRO)** 90.75 213 *e*P **P** 13 06 49.6 -0.5
comp=Z,117nm,1.4s
NWAO LR LR
comp=Z,6µm,22.0s
NWAO **Narrogin (SRO)** 90.75 213 *e*P **P** 13 06 49.6 -0.5
NWAO pmax pmax
comp=Z,117nm,1.4s
NWAO MLR MLR
comp=Z,6µm,22.0s
MESJ **Messejana** 90.75 349 *e*P **P** 13 06 49.9 -0.5
MESJ AMb AMB 13 06 56.4
comp=Z,41nm,1.0s
MESJ *e*PP **PP** 13 10 25.8 +0.4
MESJ **Messejana** 90.75 349 *e*P **P** 13 06 50.4 0.0
comp=Z,40nm,1.3s
MESJ **Messejana** 90.75 349 *e*P **P** 13 06 49.9 -0.5
MESJ *e* 13 10 25.8
PVAQ **Vaqueiros** 91.12 348 *e*P **P** 13 06 51.4 -0.7
comp=Z,36nm,1.5s

PVAQ	**Vaqueiros**	**91.12**	**348**	*e*S		**SKSac**	**13 17 23.2**	**+4.1**	
BKZ	**Black Stump Fm**	**91.21**	**165**	*e*P		**P**	**13 06 51.9**	**-0.3**	
	comp=Z,35nm,1.0s								
BKZ				LR		LR			
	comp=Z,11μm,21.0s								
EMAL	**Malaga-Limoner**	**91.28**	**346⇑**	*i*P		P	13 06 47.9	-4.9	
EMAL				*e*S		**SKSac**	**13 17 18.6**	**-1.4**	
PBDV	**Barranco-do-Ve**	**91.31**	**348**	*e*P		**P**	**13 06 52.4**	**-0.6**	
	comp=Z,51nm,1.6s								
PBDV	**Barranco-do-Ve**	**91.31**	**348**	*e*PP		PP	13 10 35.4	+5.6	
PBDV				*e*S		**SKSac**	**13 17 24.6**	**+4.4**	
MORF	**Marmelete**	**91.33**	**349**	*e*P		**P**	**13 06 52.6**	**-0.6**	
MORF				AMb		AMB	13 06 59.6		
	comp=Z,47nm,1.8s								
MORF				*e*PP		**PP**	**13 10 30.4**	**+0.4**	
MORF	**Marmelete**	**91.33**	**349**	*e*P		**P**	**13 06 52.7**	**-0.4**	
	comp=Z,49nm,1.7s								
MORF	**Marmelete**	**91.33**	**349**	*e*PP		PP	13 10 35.3	+5.3	
MORF				*e*S		**SKSac**	**13 17 23.8**	**+3.4**	
MORF	**Marmelete**	**91.33**	**349**	*e*P		**P**	**13 06 52.6**	**-0.6**	
MORF				*e*			13 10 30.4		
PFVI	**Vila Bisbo**	**91.53**	**349**	*e*PP		PP	13 10 38.2	+6.7	
PFVI				*e*S		**SKSac**	**13 17 26.1**	**+4.7**	
PFVI	**Vila Bisbo**	**91.53**	**349**	PFAKE			13 07 10.0	+16	
PFVI				LR		LR			
	comp=Z,8μm,18.0s								
SFS	**San Fernando**	**91.84**	**347**	PFAKE			13 07 10.0	+15	
SFS				LR		LR			
	comp=Z,12μm,20.0s								
SFS	**San Fernando**	**91.84**	**347**	*e*P		**P**	**13 06 50.8**	**-4.6**	
SFS				*e*S		SKSac	13 16 34.7	-48	
MELI	**Melilla**	**92.47**	**344**	*e*P		**P**	**13 06 55.7**	**-2.7**	
BFZ	**Birch Farm**	**92.66**	**166**	PFAKE			13 07 10.0	+11	
BFZ				LR		LR			
	comp=Z,14μm,22.0s								
DAMY	**Dhamar**	**92.75**	**297**	*e*P		**P**	**13 06 59.8**	**-0.6**	
	comp=Z,55nm,1.4s								
DAMY				LR		LR			
	comp=Z,25μm,20.0s								
SNZO	**South Karori**	**93.05**	**167**	PFAKE			13 07 10.0	+10	
SNZO				LR		LR			
	comp=Z,18μm,20.0s								
FSCY	**Frank Sound, G**	**93.18**	**54**	*e*P		**P**	**13 07 02.2**	**+0.4**	
	comp=Z,245nm,1.3s								
THZ	**Tophouse**	**93.25**	**169**	PFAKE			13 07 10.0	+8.5	
THZ				LR		LR			
	comp=Z,10μm,22.0s								
TAU	**Tasmania Unive**	**93.86**	**188**	PFAKE			13 07 20.0	+16	
TAU				LR		LR			
	comp=Z,5μm,19.0s								
KHZ	**Kahutara**	**93.97**	**168**	PFAKE			13 07 20.0	+15	
KHZ				LR		LR			
	comp=Z,9μm,22.0s								
LTZ	**Lake Taylor**	**94.18**	**169**	PFAKE			13 07 20.0	+14	
LTZ				LR		LR			
	comp=Z,12μm,22.0s								
TGUH	**Tegucigalpa,Un**	**94.25**	**62**	PFAKE			13 07 20.0	+13	
TGUH				LR		LR			
	comp=Z,4μm,22.0s								
RTC	**Rabat Centre**	**94.37**	**347**	PFAKE			13 07 20.0	+13	
RTC				LR		LR			
	comp=Z,21μm,19.0s								
IFR	**Ifrane**	**94.57**	**346⇑**	*i*P		**P**	**13 07 06.5**	**-1.8**	
IFR				*e*S		**SKSac**	**13 17 42.0**	**+3.3**	
FOZ	**Fox Glacier**	**94.66**	**171**	PFAKE			13 07 20.0	+12	
FOZ				LR		LR			
	comp=Z,14μm,22.0s								
OXZ	**Oxford**	**94.69**	**169**	PFAKE			13 07 20.0	+12	
OXZ				LR		LR			
	comp=Z,14μm,22.0s								
RPZ	**Rata Peaks**	**94.96**	**170**	PFAKE			13 07 20.0	+11	
RPZ				LR		LR			
	comp=Z,24μm,22.0s								
AVE	**Averroes**	**95.12**	**347⇑**	*i*P		**P**	**13 07 07.7**	**-2.9**	
AVE				*e*S		**SKSac**	**13 17 43.8**	**+2.5**	
MQZ	**McQueen's Vall**	**95.14**	**169**	PFAKE			13 07 20.0	+10	
MQZ				LR		LR			
	comp=Z,10μm,21.0s								
LBZ	**Lake Benmore**	**95.54**	**171**	PFAKE			13 07 20.0	+8.1	
LBZ				LR		LR			
	comp=Z,16μm,22.0s								
GTBY	**Guantanamo Bay**	**95.66**	**49**	PFAKE			13 07 20.0	+6.8	
GTBY				LR		LR			
	comp=Z,6μm,22.0s								
WKZ	**Wanaka**	**95.86**	**172**	PFAKE			13 07 20.0	+6.6	
WKZ				LR		LR			
	comp=Z,13μm,22.0s								
MTDJ	**Mount Denham**	**95.93**	**52**	PFAKE			13 07 30.0	+15	
MTDJ				LR		LR			
	comp=Z,4μm,22.0s								
ATD	**Arta Tunnel**	**96.09**	**296**	PFAKE			13 07 30.0	+15	
ATD				LR		LR			
	comp=Z,9μm,19.0s								
ATD	**Arta Tunnel**	**96.09**	**296**	*e*S		SKSac	13 18 06.9	+20	
ATD	**Arta Tunnel**	**96.09**	**296**	*e*P		**PP**	**13 11 12.0**	**+3.8**	
ATD				*e*S		SKSac	13 18 06.9	+20	
GRTK	**Grand Turk**	**96.12**	**45**	PFAKE			13 07 30.0	+15	
GRTK				LR		LR			
	comp=Z,7μm,22.0s								
ODZ	**Otahua Downs**	**96.23**	**171**	PFAKE			13 07 30.0	+15	
ODZ				LR		LR			
	comp=Z,15μm,21.0s								
MLZ	**Mavora Lakes**	**96.32**	**173**	PFAKE			13 07 30.0	+15	
MLZ				LR		LR			
	comp=Z,12μm,22.0s								
DCZ	**Deep Cove**	**96.34**	**173**	PFAKE			13 07 30.0	+15	
DCZ				LR		LR			
	comp=Z,10μm,22.0s								
WHZ	**Wether Hill Ro**	**96.83**	**173**	PFAKE			13 07 30.0	+12	
WHZ				LR		LR			
	comp=Z,9μm,22.0s								
PYZ	**Puysegur Point**	**97.01**	**174**	PFAKE			13 07 30.0	+11	
PYZ				LR		LR			
	comp=Z,5μm,21.0s								
ESPN	**Las Esperanzas**	**97.42**	**60**	PFAKE			13 07 30.0	+8.7	
ESPN				LR		LR			
	comp=Z,2μm,19.0s								
SDDR	**Presa de Saban**	**98.26**	**46**	PFAKE			13 07 40.0	+15	
SDDR				LR		LR			
	comp=Z,3μm,21.0s								
JTS	**JuntasAbangare**	**98.62**	**62**	PFAKE			13 07 40.0	+13	
JTS				LR		LR			
	comp=Z,2μm,19.0s								
JTS	**JuntasAbangare**	**98.62**	**62**	LR		LR	13 54 12.9		
	comp=Z,1μm,21.9s,baz=43,slow=37								
HDC	**Heredia**	**99.32**	**62**	PFAKE			13 07 40.0	+10	
HDC				LR		LR			
	comp=Z,2μm,21.0s								
SDD	**Santo Domingo**	**99.34**	**45**	PFAKE			13 07 40.0	+10	
SDD				LR		LR			
	comp=Z,6μm,22.0s								
AAE	**Adis Abeba**	**100.42**	**298**	*e*P		**PP**	**13 11 47.5**	**+5.8**	
AAE				*e*S		SKSac	13 18 20.4	+11	
AAE	**Adis Abeba**	**100.42**	**298**	*e*P		**PP**	**13 11 47.5**	**+5.8**	
AAE				*e*S		SKSac	13 18 20.4	+11	
FURI	**Furi**	**100.58**	**298**	PFAKE			13 07 50.0	+14	
FURI				LR		LR			
	comp=Z,9μm,21.0s								
FURI	**Furi**	**100.58**	**298**	*e*P		PP	13 11 50.8	+8.0	
FURI				*e*S		SKSac	13 18 25.5	+15	
FURI	**Furi**	**100.58**	**298**	*e*P		PP	13 11 50.8	+8.0	
FURI				*e*S		SKSac	13 18 25.5	+15	
MPR	**Mayaguez**	**100.78**	**43**	PFAKE			13 07 50.0	+14	
MPR				LR		LR			
	comp=Z,4μm,21.0s								
EMPR	**Esperanza - Ma**	**100.81**	**42**	PFAKE			13 07 50.0	+14	
EMPR				LR		LR			
	comp=Z,5μm,20.0s								
MACI	**Morro de la Ar**	**101.02**	**355**	PFAKE			13 07 50.0	+13	
MACI				LR		LR			
	comp=Z,5μm,22.0s								
CBYP	**Canovanas**	**101.28**	**42**	PFAKE			13 07 50.0	+11	
CBYP				LR		LR			
	comp=Z,3μm,22.0s								
SJG	**San Juan**	**101.29**	**42**	PFAKE			13 07 50.0	+12	
SJG				LR		LR			
	comp=Z,2μm,20.0s								
HUMP	**Col San Antoni**	**101.39**	**42**	PFAKE			13 07 50.0	+11	
HUMP				LR		LR			
	comp=Z,3μm,19.0s								
CUPR	**Culebra, Puert**	**101.48**	**41**	PFAKE			13 07 50.0	+11	
CUPR				LR		LR			
	comp=Z,3μm,19.0s								
ABVI	**Anegada Island**	**101.50**	**40**	PFAKE			13 07 50.0	+11	
ABVI				LR		LR			
	comp=Z,6μm,22.0s								
MTP	**Monte Pirata**	**101.56**	**42**	PFAKE			13 07 50.0	+10	
MTP				LR		LR			
	comp=Z,4μm,20.0s								
STVI	**Saint Thomas**	**101.58**	**41**	PFAKE			13 07 50.0	+10	
STVI				LR		LR			
	comp=Z,3μm,22.0s								
BCIP	**Isla Barro Col**	**102.36**	**58**	PFAKE			13 08 00.0	+17	
BCIP				LR		LR			
	comp=Z,2μm,22.0s								
TAM	**Tamanrasset**	**102.60**	**334**	*e*Pdif		**Pdif**	**13 07 44.5**	**0.0**	
TAM				LR		LR			
	comp=Z,18μm,21.0s								
TAM	**Tamanrasset**	**102.60**	**334**	*e*P		**Pdif**	**13 07 44.5**	**0.0**	
TAM				MLR		MLR			
	comp=Z,18μm,21.0s								
SMRT	**St. Maarten**	**102.62**	**39**	PFAKE			13 08 00.0	+16	
SMRT				LR		LR			
	comp=Z,3μm,21.0s								
SEUS	**St. Eustatius**	**103.16**	**40**	PFAKE			13 08 00.0	+13	
SEUS				LR		LR			
	comp=Z,5μm,22.0s								
MCQ	**Macquarie Isla**	**105.04**	**179**	PFAKE			13 12 20.0	+12	
MCQ				LR		LR			
	comp=Z,10μm,22.0s								
SDV	**Santo Domingo**	**107.33**	**51**	PFAKE			13 12 30.0	+16	
SDV				LR		LR			
	comp=Z,4μm,22.0s								
BBGH	**Gun Hill**	**108.46**	**38**	PFAKE			13 12 30.0	+14	
BBGH				LR		LR			
	comp=Z,6μm,22.0s								
ROSC	**El Rosal**	**108.92**	**56**	PFAKE			13 12 30.0	+13	
ROSC				LR		LR			
	comp=Z,2μm,21.0s								
KMBO	**Kilima Mbogo**	**109.57**	**294**	PFAKE			13 12 30.0	+12	
KMBO				LR		LR			
	comp=Z,10μm,20.0s								
KMBO	**Kilima Mbogo**	**109.57**	**294**	*e*P		PP	13 13 05.0	+16	
KMBO				*e*S		SKSac	13 19 14.4	+24	
KMBO	**Kilima Mbogo**	**109.57**	**294**	PKiKP		**PKiKP**	**13 12 19.7**	**+1.3**	
	comp=Z,1.4nm,0.3s,baz=38,slow=9.2,SNR=3.4								
OTAV	**Otavalo**	**110.51**	**62**	PFAKE			13 12 30.0	+10	
OTAV				LR		LR			
	comp=Z,2μm,21.0s								
MRIV	**Mauritius Mete**	**111.79**	**264**	PFAKE			13 12 30.0	+7.9	
MRIV				LR		LR			
	comp=Z,2μm,20.0s								
TOC1	**Torodi Ar. Sit**	**112.81**	**334**	PFAKE			13 12 40.0	+16	
TOC1				LR		LR			
	comp=Z,15μm,22.0s								
TOC2	**Torodi Ar. Sit**	**112.82**	**334**	PFAKE			13 12 40.0	+16	
TOC2				LR		LR			
	comp=Z,13μm,21.0s								
MBAR	**Mbarara**	**112.82**	**300**	PFAKE			13 12 40.0	+16	
MBAR				LR		LR			
	comp=Z,11μm,21.0s								
TOC7	**Torodi Ar. Sit**	**112.83**	**334**	PFAKE			13 12 40.0	+16	
TOC7				LR		LR			
	comp=Z,13μm,21.0s								
TOB2	**Torodi Ar. Sit**	**112.83**	**334**	PFAKE			13 12 40.0	+16	
TOB2				LR		LR			
	comp=Z,13μm,22.0s								
TOA1	**Torodi Ar. Sit**	**112.83**	**334**	*e*Pdif		**Pdif**	**13 08 29.9**	**0.0**	
TOA1				*e*PKiKP		**PKiKP**	**13 12 24.3**	**0.0**	
TOA1				*e*PKKPbc		**PKKPbc**	**13 23 14.7**	**+4.9**	
TOA1				*e*PKKPab		**PKKPab**	**13 23 23.5**	**+1.1**	
TOA1				LR		LR			
	comp=Z,13μm,22.0s								
TOB5	**Torodi Ar. Sit**	**112.83**	**334**	PFAKE			13 12 40.0	+16	
TOB5				LR		LR			
	comp=Z,14μm,22.0s								
TOA0	**Torodi Ar. Sit**	**112.84**	**334**	*e*Pdif		**Pdif**	**13 08 30.1**	**+0.2**	
TOA0				LR		LR			
	comp=Z,13μm,21.0s								
TORD	**Torodi Ar. Bea**	**112.84**	**334**	Pdiff		**Pdif**	**13 08 29.9**	**0.0**	
	comp=Z,0.8nm,1.0s,baz=12,slow=6.5,SNR=3.8								
TORD				PKiKP		**PKiKP**	**13 12 24.3**	**0.0**	
	comp=Z,3.7nm,0.9s,baz=356,slow=4.5,SNR=12								
TORD				PKKPbc		**PKKPbc**	**13 23 14.7**	**+5.0**	
	comp=Z,3.2nm,1.0s,baz=160,slow=4.7,SNR=8.9								
TORD				PKKPab		**PKKPab**	**13 23 23.5**	**+1.1**	
	comp=Z,2.9nm,0.9s,baz=200,slow=4.8,SNR=5.8								
TOC3	**Torodi Ar. Sit**	**112.84**	**334**	PFAKE			13 12 40.0	+16	
TOC3				LR		LR			
	comp=Z,13μm,22.0s								
TOA3	**Torodi Ar. Sit**	**112.84**	**334**	PFAKE			13 12 40.0	+16	
TOA3				LR		LR			
	comp=Z,13μm,22.0s								
TOB3	**Torodi Ar. Sit**	**112.84**	**334**	PFAKE			13 12 40.0	+16	
TOB3				LR		LR			
	comp=Z,13μm,22.0s								
TOB4	**Torodi Ar. Sit**	**112.85**	**334**	PFAKE			13 12 40.0	+16	
TOB4				LR		LR			
	comp=Z,12μm,21.0s								
TOC4	**Torodi Ar. Sit**	**112.86**	**334**	PFAKE			13 12 40.0	+16	
TOC4				LR		LR			
	comp=Z,13μm,21.0s								
TOC5	**Torodi Ar. Sit**	**112.86**	**334**	PFAKE			13 12 40.0	+16	
TOC5				LR		LR			
	comp=Z,14μm,21.0s								
KOWA	**Kowa**	**112.92**	**341**	PFAKE			13 12 40.0	+16	
KOWA				LR		LR			
	comp=Z,4μm,21.0s								
RER	**Riviere de l'E**	**113.53**	**265**	PFAKE			13 12 40.0	+15	
RER				LR		LR			
	comp=Z,4μm,19.0s								
ABPO	**Ambohimpanom**	**117.34**	**273**	PFAKE			13 12 40.0	+7.1	
ABPO				LR		LR			
	comp=Z,7μm,18.0s								
DBIC	**Dimbokro**	**120.69**	**340**	PKP		**PKiKP**	**13 12 39.6**	**+0.1**	
	comp=Z,19nm,0.8s,baz=9.5,slow=2.1,SNR=28								
DBIC				PKKPbc		**PKKPbc**	**13 22 43.3**	**+1.1**	
	comp=Z,2.1nm,0.7s,baz=189,slow=10,SNR=3.1								
TIC	**Toumodi**	**120.75**	**340**	*e*PKP1		**PKPdf**	**13 12 39.0**	**-0.6**	
TIC	**Toumodi**	**120.75**	**340**	*e*P		**PKKPbc**	**13 22 41.3**	**-0.6**	
PTGA	**Pitinga**	**120.77**	**45**	PFAKE			13 12 50.0	+10	
PTGA				LR		LR			
	comp=Z,2μm,20.0s								
KIC	**Kosan Boka**	**120.96**	**339**	*e*PKP1		**PKPdf**	**13 12 40.0**	**+0.1**	
	comp=Z,45nm,0.9s								
KIC	**Kosan Boka**	**120.96**	**339**	*e*P		**PKKPbc**	**13 22 42.4**	**+1.3**	
	comp=Z,18nm,1.0s								
LIC	**Lamto**	**121.16**	**340**	*e*PKP1		**PKPdf**	**13 12 40.2**	**-0.1**	
	comp=Z,74nm,1.0s								
LIC	**Lamto**	**121.16**	**340**	*e*P		**PKKPbc**	**13 22 43.4**	**+3.0**	
	comp=Z,26nm,1.2s								
NNA	**Nana**	**121.33**	**69**	PFAKE			13 12 50.0	+9.3	
NNA				LR		LR			
	comp=Z,3μm,21.0s								
CASY	**Casey**	**122.23**	**200**	PFAKE			13 12 50.0	+9.2	
CASY				LR		LR			
	comp=Z,6μm,21.0s								
LSZ	**Lusaka**	**126.20**	**292**	*e*PKPdf		**PKiKP**	**13 12 50.5**	**+0.1**	
LSZ				LR		LR			
	comp=Z,7μm,18.0s								
LSZ	**Lusaka**	**126.20**	**292**	*e*PKiKP		**PKiKP**	**13 12 50.5**	**+0.1**	
LSZ				MLR		MLR			
	comp=Z,7μm,18.0s								
VNDA	**Vanda**	**128.18**	**179**	PKP		**PKPdf**	**13 12 51.3**	**-0.4**	
	comp=Z,2.1nm,0.7s,baz=26,slow=1.9,SNR=3.9								
SBA	**Scott Base**	**128.61**	**178**	PFAKE			13 13 00.0	+6.8	
SBA				LR		LR			
	comp=Z,7μm,21.0s								
LPAZ	**La Paz**	**129.81**	**64**	*e*PKPdf		**PKPdf**	**13 12 57.4**	**0.0**	
LPAZ	**La Paz**	**129.81**	**64**	*e*PKiKP		**PKPdf**	**13 12 57.4**	**0.0**	
LPAZ	**La Paz**	**129.81**	**64**	PKP		**PKPdf**	**13 12 57.7**	**+0.3**	
	comp=Z,6.5nm,0.8s,baz=13,slow=5.2,SNR=21								
MNMC	**Minye Minye**	**131.22**	**67**	*e*PKPdf		**PKiKP**	**13 13 00.6**	**0.0**	
MNMC				LR		LR			
	comp=Z,2μm,22.0s								
PB11	**IPOC Station P**	**131.67**	**68**	*e*PKPdf		**PKPdf**	**13 13 00.7**	**+0.3**	
PB11				LR		LR			
	comp=Z,2μm,20.0s								
CRZF	**Crozet Islands**	**132.67**	**245**	PFAKE			13 13 10.0	+7.7	
CRZF				LR		LR			
	comp=Z,3μm,20.0s								
PB01	**IPOC Station P**	**132.77**	**69**	*e*PKPdf		**PKPdf**	**13 13 02.5**	**+0.2**	
PB01				LR		LR			
	comp=Z,2μm,20.0s								
PB04	**IPOC Station P**	**133.36**	**71**	*e*PKPdf		**PKPdf**	**13 13 02.8**	**-0.7**	
PB04				LR		LR			
	comp=Z,3μm,21.0s								
RCBR	**Riachuelo**	**133.68**	**19**	PFAKE			13 13 20.0	+15	
RCBR				LR		LR			
	comp=Z,5μm,22.0s								
PB10	**IPOC Station P**	**134.01**	**72**	PFAKE			13 13 20.0	+14	
PB10				LR		LR			
	comp=Z,6μm,22.0s								
LVC	**Limon Verde**	**134.31**	**70**	*e*PKPdf		**PKPdf**	**13 13 04.3**	**-1.2**	
LVC				LR		LR			
	comp=Z,5μm,22.0s								
LVC	**Limon Verde**	**134.31**	**70**	*e*PKiKP		**PKPdf**	**13 13 04.3**	**-1.2**	
LVC				MLR		MLR			
	comp=Z,5μm,22.0s								
LBTB	**Lobatse**	**135.23**	**287**	*e*PKPdf		**PKPdf**	**13 13 05.4**	**-1.4**	
TSUM	**Tsumeb**	**135.36**	**300**	*e*PKPdf		**PKPdf**	**13 13 04.9**	**-2.4**	
TSUM				LR		LR			
	comp=Z,8μm,22.0s								
GO02	**Mina Guanaco**	**135.82**	**73**	*e*PKPdf		**PKPdf**	**13 13 08.8**	**+0.6**	
GO02				LR		LR			
	comp=Z,6μm,20.0s								
ASCN	**Ascension**	**136.65**	**348**	PFAKE			13 13 20.0	+8.6	
ASCN				LR		LR			
	comp=Z,5μm,20.0s								
GO03	**Copiap**	**137.21**	**76**	*e*PKPdf		**PKPdf**	**13 13 09.2**	**-1.1**	
MAW	**Mawson**	**137.30**	**214**	PKP		**PKPdf**	**13 13 10.1**	**+1.0**	
	comp=Z,33nm,1.0s,baz=74,slow=15,SNR=2.3								
LCO	**Las Campanas**	**137.93**	**77**	PFAKE			13 13 20.0	+6.1	
LCO				LR		LR			
	comp=Z,7μm,22.0s								
BOSA	**Boshof**	**138.05**	**284**	*i* P		PKPpre	13 13 04.6		
BOSA	**Boshof**	**138.05**	**284**	*e*PKPpre		PKPpre	13 13 05.3		
BOSA				*e*PKPdf		**PKPdf**	**13 13 10.2**	**-1.8**	
BOSA				*e*PKPdf		**PKPdf**	**13 13 10.6**	**-1.4**	
BOSA				*e*PP		**PP**	**13 15 57.5**	**-3.6**	
BOSA	**Boshof**	**138.05**	**284**	*i* P		PKPpre	13 13 04.6		
BOSA	**Boshof**	**138.05**	**284**	PKhKP		PKPpre	13 13 05.3		
	comp=Z,2.5nm,0.7s,baz=353,slow=8.1,SNR=3.8								
BOSA				PKP		**PKPdf**	**13 13 10.6**	**-1.4**	
	comp=Z,8.1nm,0.9s,baz=36,slow=2.3,SNR=6.8								
BOSA				PP		**PP**	**13 15 57.5**	**-3.6**	
	comp=Z,6.6nm,0.9s,baz=57,slow=4.6,SNR=4.2								
GO04	**Tololo Observa**	**138.69**	**79**	PFAKE			13 13 30.0	+15	
GO04				LR		LR			
	comp=Z,4μm,22.0s								
BDFB	**Brasilia**	**139.24**	**40**	*e*PKPdf		**PKPdf**	**13 13 12.5**	**-2.0**	
BDFB				*e*PKPdf		**PKiKP**	**13 13 14.3**	**-2.5**	
BDFB				LR		LR			
	comp=Z,5μm,21.0s								
BDFB	**Brasilia**	**139.24**	**40**	PKP		**PKPdf**	**13 13 12.5**	**-2.0**	
	comp=Z,12nm,1.0s,baz=130,slow=4.2,SNR=8.0								
QSPA	**South Pole Qui**	**140.65**	**180**	PFAKE			13 13 30.0	+12	
QSPA				LR		LR			
	comp=Z,8μm,22.0s								
PEL	**Peldehue**	**140.78**	**82**	PFAKE			13 13 30.0	+11	
PEL				LR		LR			
	comp=Z,3μm,20.0s								
GO05	**Huala**	**141.21**	**85**	PFAKE			13 13 30.0	+10	
GO05				LR		LR			
	comp=Z,6μm,22.0s								
CPUP	**Villa Florida**	**143.84**	**61**	*e*PKPpre		PKPbc	13 13 20.4	+0.3	
CPUP	**Villa Florida**	**143.84**	**61**	PKP		PKPbc	13 13 20.2	+0.1	
	comp=Z,18nm,1.0s,baz=333,slow=4.0,SNR=21								
GO06	**Curarrehue**	**144.27**	**91**	PFAKE			13 13 30.0	+3.6	
GO06				LR		LR			
	comp=Z,10μm,21.0s								
PLCA	**Paso Flores**	**145.50**	**92**	PKPbc		**PKPdf**	**13 13 24.9**	**0.0**	
	comp=Z,67nm,0.9s,baz=321,slow=3.7,SNR=94								
SYO	**Syowa Base**	**146.01**	**215⇓**	*i*P		**PKPdf**	**13 13 24.0**	**-0.6**	
SYO	**Syowa Base**	**146.01**	**215⇓**	*i*P		**PKPdf**	**13 13 24.8**	**+0.2**	
SPB	**Sao Paulo**	**146.55**	**45**	*e*PKPdf		**PKPdf**	**13 13 27.6**	**+0.6**	
GO09	**Cerro Castillo**	**149.12**	**110**	*e*PKPbc		**PKPbc**	**13 13 34.7**	**+0.1**	
TRQA	**Tornquist**	**149.36**	**81**	*e*PKPbc		**PKPbc**	**13 13 35.4**	**-0.3**	
TRQA				*e*PKPab		**PKPab**	**13 13 40.6**	**0.0**	
TRQA				LR		LR			
	comp=Z,6μm,22.0s								
TRQA	**Tornquist**	**149.36**	**81**	*e*PKP2		**PKPbc**	**13 13 35.4**	**-0.3**	
TRQA				MLR		MLR			
	comp=Z,6μm,22.0s								
LPA	**La Plata**	**149.82**	**72**	PKiKP		**PKPdf**	**13 13 28.1**	**-3.9**	
LPA	**La Plata**	**149.82**	**72**	PKP		**PKPbc**	**13 13 36.5**	**-0.3**	
LPA				SKP			13 17 12.7		
LPA				PPP		PPP	13 27 22.7		
GO10	**Punta Arenas**	**150.44**	**114**	*e*PKPbc		**PKiKP**	**13 13 38.8**	**+0.2**	
GO10				*e*PKPab		**PKPab**	**13 13 44.7**	**+0.1**	
SNAA	**Sanae**	**157.37**	**196**	PKP		**PKPab**	**13 14 13.1**	**-0.5**	
SNAA	**Sanae**	**157.37**	**196**	*e*PKPdf		**PKPdf**	**13 13 42.2**	**+0.4**	
SNAA				*e*PKPab		**PKPab**	**13 14 12.8**	**-0.7**	
SNAA				LR		LR			
	comp=Z,9μm,22.0s								
SNAA	**Sanae**	**157.37**	**196**	*e*PKiKP		**PKPdf**	**13 13 42.2**	**+0.4**	
SNAA				MLR		MLR			
	comp=Z,9μm,22.0s								
EFI	**East Falkland**	**157.81**	**106**	PFAKE			13 13 50.0	+7.2	
EFI				LR		LR			
	comp=Z,8μm,21.0s								
VNA2	**Neumayer--Watz**	**158.76**	**194**	PKP		**PKPab**	**13 14 19.1**	**-0.4**	
	baz=162,slow=3.1								
VNA3	**Neumayer Olymp**	**158.78**	**191**	PKP		**PKPab**	**13 14 18.5**	**-1.1**	
VNA1	**Neumayer--Stat**	**159.13**	**193**	PK

GRL	**Gorelyy**	**1.93**	**3**	P	**Pn**	**13 10 48.1**	**-0.5**
GRL				S	**Sn**	**13 11 11.1**	**-0.7**
GRL	**Gorelyy**	**1.93**	**3**	PN	**Pn**	**13 10 48.1**	**-0.5**
GRL				S	**Sn**	**13 11 11.1**	**-0.7**
KRMR	**Karymshinskiy**	**2.21**	**4**	P	**Pn**	**13 10 52.4**	**+0.1**
KRMR				S	**Sn**	**13 11 19.7**	**+1.3**
KRMR	**Karymshinskiy**	**2.21**	**4**	PN	**Pn**	**13 10 52.4**	**+0.1**
KRMR				S	**Sn**	**13 11 19.7**	**+1.3**
APC	**Apacha**	**2.35**	**349**	P	**Pn**	**13 10 54.7**	**+0.5**
APC				S	**Sn**	**13 11 21.5**	**-0.2**
APC	**Apacha**	**2.35**	**349**	PN	**Pn**	**13 10 54.7**	**+0.5**
APC				S	**Sn**	**13 11 21.5**	**-0.2**
PET	**Petropavlovsk**	**2.45**	**11**	P	**Pn**	**13 10 55.3**	**-0.3**
PET				S	**Sn**	**13 11 23.2**	**-1.0**
PET	**Petropavlovsk**	**2.45**	**11**	PN	**Pn**	**13 10 55.3**	**-0.3**
PET				S	**Sn**	**13 11 23.2**	**-1.0**
DALK	**Dalny**	**2.47**	**12**	P	**Pn**	**13 10 55.7**	**-0.1**
DALK				S	**Sn**	**13 11 23.5**	**-1.2**
DALK	**Dalny**	**2.47**	**12**	PN	**Pn**	**13 10 55.7**	**-0.1**
DALK				S	**Sn**	**13 11 23.5**	**-1.2**
PETK	**Petropavlovsk-**	**2.49**	**357**	P	**Pn**	**13 10 56.5**	**+0.3**
	15nm,0.3s,baz=162,slow=16,SNR=243						
PETK				S	**Sn**	**13 11 31.9**	**+6.6**
	6.0nm,0.3s,baz=176,slow=39,SNR=4.1						
UGLR	**Uglovaya**	**2.65**	**12**	P	**Pn**	**13 10 59.0**	**+0.5**
UGLR				S	**Sn**	**13 11 30.3**	**+0.9**
UGLR	**Uglovaya**	**2.65**	**12**	PN	**Pn**	**13 10 59.0**	**+0.5**
UGLR				S	**Sn**	**13 11 30.3**	**+0.9**
AVH	**Avacha**	**2.70**	**11**	P	**Pn**	**13 11 00.1**	**+1.1**
AVH				S	**Sn**	**13 11 31.5**	**+1.0**
AVH	**Avacha**	**2.70**	**11**	PN	**Pn**	**13 11 00.1**	**+1.1**
AVH				S	**Sn**	**13 11 31.5**	**+1.0**
SMAR	**Somma**	**2.70**	**12**	P	**Pn**	**13 10 59.5**	**+0.2**
SMAR	**Somma**	**2.70**	**12**	PN	**Pn**	**13 10 59.5**	**+0.2**
NLC	**Nalytchevo**	**2.71**	**19**	P	**Pn**	**13 10 57.3**	**-1.8**
NLC				S	**Sn**	**13 11 27.2**	**-3.3**
NLC	**Nalytchevo**	**2.71**	**19**	PN	**Pn**	**13 10 57.3**	**-1.8**
NLC				S	**Sn**	**13 11 27.2**	**-3.3**
KOK	**Koryaka**	**2.71**	**10**	P	**Pn**	**13 11 00.4**	**+1.1**
KOK	**Koryaka**	**2.71**	**10**	PN	**Pn**	**13 11 00.4**	**+1.1**
SDLR	**Sedlovina**	**2.73**	**13**	P	**Pn**	**13 10 59.5**	**0.0**
SDLR				S	**Sn**	**13 11 29.6**	**-1.7**
SDLR	**Sedlovina**	**2.73**	**13**	PN	**Pn**	**13 10 59.5**	**0.0**
SDLR				S	**Sn**	**13 11 29.6**	**-1.7**
KRX	**Arik**	**2.78**	**9**	P	**Pn**	**13 11 01.6**	**+1.4**
KRX	**Arik**	**2.78**	**9**	PN	**Pn**	**13 11 01.6**	**+1.4**
SPN	**Mys Shipunski**	**2.81**	**27**	P	**Pn**	**13 11 00.9**	**+0.4**
SPN				S	**Sn**	**13 11 32.8**	**-0.3**
SPN	**Mys Shipunski**	**2.81**	**27**	PN	**Pn**	**13 11 00.9**	**+0.4**
SPN				S	**Sn**	**13 11 32.8**	**-0.3**
GNL	**Ganaly**	**3.08**	**1**	P	**Pn**	**13 11 05.2**	**+0.9**
GNL				S	**Sn**	**13 11 41.4**	**+1.6**
GNL	**Ganaly**	**3.08**	**1**	PN	**Pn**	**13 11 05.2**	**+0.9**
GNL				S	**Sn**	**13 11 41.4**	**+1.6**
MKZ	**Mys Kozlova**	**4.58**	**29**	P	**Pn**	**13 11 25.5**	**+0.7**
MKZ				S	**Sn**	**13 12 17.2**	**+0.5**
MKZ	**Mys Kozlova**	**4.58**	**29**	PN	**Pn**	**13 11 25.5**	**+0.7**
MKZ				S	**Sn**	**13 12 17.2**	**+0.5**
KZV	**Kizimen**	**4.73**	**17**	P	**Pn**	**13 11 28.6**	**+1.6**
KZV				S	**Sn**	**13 12 21.5**	**+1.0**
KZV	**Kizimen**	**4.73**	**17**	PN	**Pn**	**13 11 28.6**	**+1.6**
KZV				S	**Sn**	**13 12 21.5**	**+1.0**
TUMD	**Tumrok D**	**4.83**	**17**	P	**Pn**	**13 11 30.5**	**+2.2**
TUMD				S	**Sn**	**13 12 25.2**	**+2.3**
TUMR	**Tumrok**	**4.86**	**15**	PN	**Pn**	**13 11 30.5**	**+1.7**
TUMR				S	**Sn**	**13 12 25.2**	**+1.4**
ESO	**Esso**	**5.33**	**5**	P	**Pn**	**13 11 36.9**	**+1.7**
ESO	**Esso**	**5.33**	**5**	PN	**Pn**	**13 11 36.9**	**+1.7**
KBTR	**Krutoberegovo**	**6.32**	**26**	P	**Pn**	**13 11 49.3**	**+0.6**
KBTR				S	**Sn**	**13 12 57.4**	**-2.1**
KBTR	**Krutoberegovo**	**6.32**	**26**	PN	**Pn**	**13 11 49.3**	**+0.6**
SRKR	**Sorokina**	**6.35**	**17**	P	**Pn**	**13 11 50.0**	**+0.9**
SRKR	**Sorokina**	**6.35**	**17**	PN	**Pn**	**13 11 50.0**	**+0.9**
BKI	**Bering**	**6.70**	**44**	P	**Pn**	**13 11 53.4**	**-0.5**
BKI				S	**Sn**	**13 13 05.4**	**-3.4**
BKI	**Bering**	**6.70**	**44**	PN	**Pn**	**13 11 53.4**	**-0.5**
MA2	**Magadan**	**9.85**	**338**	P	**Pn**	**13 12 36.4**	**-0.6**
	0.3nm,0.3s,baz=153,slow=6.2,SNR=6.6						
ASAJ	**Asahikawa**	**12.23**	**244**	P	**Pn**	**13 13 12.5**	**+2.9**
	0.3nm,0.3s,baz=70,slow=12,SNR=4.0						
MJAR	**Matsushiro Arr**	**19.95**	**233**	P	**Pn**	**13 14 47.9**	**-0.4**
	0.0nm,0.3s,baz=31,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**31.55**	**42**	P	**P**	**13 16 35.8**	**-0.2**
	0.2nm,0.6s,baz=256,slow=6.4,SNR=4.5						
H11N2	**WAKE ISLAND Hy**	**31.64**	**164**	T	T	13 50 17.5	
	baz=350,slow=74						
H11N1	**WAKE ISLAND Hy**	**31.66**	**164**	T	T	13 50 19.9	
	baz=350						
H11N3	**WAKE ISLAND Hy**	**31.66**	**164**	T	T	13 50 22.0	
	baz=350,slow=74						
H11S1	**WAKE ISLAND Hy**	**32.81**	**164**	T	T	13 51 46.1	
	baz=349						
H11S3	**WAKE ISLAND Hy**	**32.82**	**164**	T	T	13 51 45.8	
	baz=349						
H11S2	**WAKE ISLAND Hy**	**32.83**	**164**	T	T	13 51 46.2	
	baz=349						
SONM	**Songino Array**	**33.19**	**286**	P	**P**	**13 16 49.9**	**-0.8**
	0.4nm,0.4s,baz=74,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**45.92**	**40**	P	**P**	**13 18 36.5**	**+0.4**
	0.4nm,0.7s,baz=296,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**48.01**	**296**	P	**P**	**13 18 50.0**	**-2.7**
	0.4nm,0.4s,baz=61,slow=6.2,SNR=15						
ARCES	**ARCESS Array B**	**55.20**	**342**	P	**P**	**13 19 44.1**	**-2.0**
	3.4nm,0.8s,baz=46,slow=7.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**56.32**	**258**	P	**P**	**13 19 54.8**	**+0.1**
	1.7nm,0.9s,baz=26,slow=7.1,SNR=12						
PDAR	**Pinedale Array**	**59.96**	**58**	P	**P**	**13 20 20.9**	**+0.7**
	0.8nm,0.9s,baz=288,slow=1.4,SNR=5.7						
NOA	**NORSAR Array B**	**65.52**	**343**	P	**P**	**13 20 54.7**	**-1.9**
	0.3nm,0.5s,baz=25,slow=6.4,SNR=2.4						
TXAR	**Lajitas Array**	**72.90**	**65**	P	**P**	**13 21 44.4**	**+1.5**
	0.4nm,0.6s,baz=297,slow=5.9,SNR=7.0						
WRA	**Warramunga Arr**	**73.27**	**203**	P	**P**	**13 21 47.9**	**+3.0**
	0.4nm,1.0s,baz=24,slow=6.4,SNR=6.2						
ASAR	**Alice Springs**	**76.95**	**202**	P	**P**	**13 22 07.4**	**+1.4**
	0.6nm,0.8s,baz=16,slow=4.9,SNR=6.4						

*KRSC **01** 13:20:48.8±2.0,50.°64N×157.°90E,h62km±23km, ML6.8, FELT [VI] at Severo-Kurilsk; [V] at lighthouse Krugliy; [III-IV] at Zaporojye, Ozernovskiy, Viluchinsk, Ribachiy, Paratunka, Petropavlovsk, Institute, Pionersky, Razdolniy, Yorjaki; [III] at Nikolaevka, Sosnovka, Vulkannіy; [II-III] at MGeoES-I, river Karims.*

*BJI **01** 13:20:48.0,50.°87N×157.°56E,h30km,mb5.9/86,mB6.4/64, Ms6.7/92,MS7 6.6/87*

*NEIC **01** 13:20:49.9±0.1,50.°96N×157.°41E,h29km,mb6.3/48, ME6.3,MS6.3/134,MW6.4,MW6.5,Error ellipse: s-maj=3.4km s-min=1.8km az=162.0,Moment Tensor Solution. s64 Moment tensor: Scale 10¹⁸Nm; Mrr5.30; Mθθ-2.26; Mϕϕ-3.04; Mrθ1.58; Mrϕ-2.68; Mθϕ2.02; Best double couple: M₀5.90000×10¹⁸ NP1:ϕs222.00000°, δ32.00000°,λ92.00000°. NP2:ϕs40.00000°,δ58.00000°, λ89.00000°. Principal axes: T 5.8900, Plg77.0000°, Azm305.0000°; N 0.0600, Plg1.0000°, Azm40.0000°; P -5.9500, Plg13.0000°, Azm131.0000°; Apparent Stress 0.31 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

NEIC Felt at Petropavlovsk-Kamchatskiy.

*NEIC **01** 13:20:50.0±0.0,50.°74N×157.°63E,h40km,Moment Tensor Solution. s295 Moment tensor: Scale 10¹⁸Nm; Mrr5.66; Mθθ-1.63; Mϕϕ-4.03; Mrθ2.88; Mθϕ-2.52; Mrϕ4.38; Best double couple: M₀7.70000×10¹⁸ NP1:ϕs33.00000°, δ66.00000°,λ91.00000°. NP2:ϕs211.00000°,δ23.00000°, λ89.00000°. Principal axes: T 7.7200, Plg68.0000°, Azm304.0000°; N -0.0400, Plg0.0000°, Azm212.0000°; P -7.6800, Plg21.0000°, Azm122.0000°;*

*MOS **01** 13:20:51.9±1.1,50.°84N×157.°44E,h68km,mb6.2/87, MS6.6/100 Error ellipse: s-maj=5.7km s-min=2.7km az=78.9 Broadband fault plane solution: P waves. M₀1.40000×10¹⁹ NP1:ϕs31.00000°,δ58.00000°, λ86.00000°. NP2:ϕs219.00000°,δ32.00000°,λ97.00000°. Principal axes: T Plg77.0000°, Azm289.0000°; N Plg4.0000°, Azm34.0000°; P Plg13.0000°, Azm124.0000°;*

MOS Fault plane solution: P-wave C93, D39 . Felt (VI) at Severo-Kuril'sk, (III-IV) at Petropavlovsk-Kamchatskiy, Zaporozh'e, Ozernovskiy, Vilyuchinsk, Rybachiy, Paratunka, Pionerskiy, Razdol'nyy, Koryaki, (III) at Nikolaevka, Sosnovka, Vulkannyy, Novyy, (II-III) at Elizovo.

*ISCJB **01** 13:20:52.0±0.2,50.°83N±0.°02×157.°56E±0.°02,h64km±2km, mb6.0/280 Error ellipse: s-maj=2.6km s-min=1.5km az=159.1*

*IDC **01** 13:20:54.8±1.8,50.°92N×157.°40E,h71km±16km,mb5.4/38, mb1 5.5/43,mb1mx5.5/43,mbtmp5.7/43,MS6.3/36, Ms1 6.3/36,ms1mx6.2/41,Error ellipse: s-maj=10.1km s-min=7.5km az=130.0*

*GCMT **01** 13:20:54.9±0.0,50.°68N×157.°90E,h41km,MW6.5/146, Moment Tensor Solution. s145,c377; s146,c627; Duration: 4s5 Moment tensor: Scale 10¹⁹Nm; Mrr0.72±.00; Mθθ-0.23±.00; Mϕϕ-0.48±.00; Mrθ0.22±.00; Mθϕ-0.35±.00; Mrϕ0.27±.00; Best double couple: M₀0.80700×10¹⁹ NP1:ϕs37.00000°,δ58.00000°, λ92.00000°. NP2:ϕs214.00000°,δ32.00000°,λ87.00000°. Principal axes: T 0.8000, Plg77.0000°, Azm313.0000°; N 0.0140, Plg2.0000°, Azm216.0000°; P -0.8150, Plg13.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*BGR **01** 13:21:06.1±0.0,52.°72N×154.°77E,h33km,mb6.5, mB_BB6.9,Ms6.7*

ISC 01 13:20:52.9±0.4,50.°83N±0.°03×157.°63E±0.°03,h58km±2km, h58km:pP-P,n2387,s1937/2507,mb6.1/318,MS6.4/276, 256C-67D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.82**	**321**	PN		**Pn**	**13 21 09.2**	**+0.7**
PAU				S		**Sn**	**13 21 24.8**	**+4.9**
PAU	**Pauzhetka**	**0.82**	**321**	*e*P		**Pn**	**13 21 09.2**	**+0.7**
PAU				*e*S		**Sn**	**13 21 24.8**	**+4.9**
SKR	**Severo-Kuril's**	**0.97**	**262**	PN		**Pn**	**13 21 09.7**	**-0.7**
SKR				S		**Sn**	**13 21 23.7**	**+0.4**
SKR	**Severo-Kuril's**	**0.97**	**262**	*e*P		**Pn**	**13 21 09.7**	**-0.7**
SKR				*e*S		**Sn**	**13 21 23.7**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.02**	**16**	PN		**Pn**	**13 21 10.2**	**-0.9**
KDTR				S		**Sn**	**13 21 24.3**	**-0.2**
KDTR	**Khodutka, Kamc**	**1.02**	**16**	*i* P		**Pn**	**13 21 10.2**	**-0.9**
KDTR				*i* S		**Sn**	**13 21 24.3**	**-0.2**
ALID	**Alaid**	**1.32**	**272**	*i* P		**Pn**	**13 21 15.8**	**+0.6**
ASAK	**Asacha**	**1.56**	**6**	*e*P		**Pn**	**13 21 18.4**	**0.0**
MTVR	**Mutnovka**	**1.69**	**12**	PN		**Pn**	**13 21 20.2**	**0.0**
MTVR	**Mutnovka**	**1.69**	**12**	*e*P		**Pn**	**13 21 20.2**	**0.0**
RUS	**Russkaya**	**1.70**	**19**	PN		**Pn**	**13 21 19.3**	**-0.8**
RUS	**Russkaya**	**1.70**	**19**	*i* P		**Pn**	**13 21 19.3**	**-0.8**
GRL	**Gorelyy**	**1.75**	**9**	PN		**Pn**	**13 21 21.6**	**+0.7**
GRL	**Gorelyy**	**1.75**	**9**	*i* P		**Pn**	**13 21 21.6**	**+0.7**
KRMR	**Karymshinskiy**	**2.02**	**9**	PN		**Pn**	**13 21 25.5**	**+0.9**
KRMR				S		**Sn**	**13 21 51.8**	**+3.0**
KRMR	**Karymshinskiy**	**2.02**	**9**	*e*P		**Pn**	**13 21 25.5**	**+0.9**
KRMR				*e*S		**Sn**	**13 21 51.8**	**+3.0**
APC	**Apacha**	**2.12**	**352**	PN		**Pn**	**13 21 27.7**	**+1.9**
APC	**Apacha**	**2.12**	**352**	*e*P		**Pn**	**13 21 27.7**	**+1.9**
I44RU	**PETROPAVLOVSK-**	**2.28**	**1**	P		**Pn**	**13 21 30.0**	**+1.9**
	baz=147,slow=19,SNR=6.1							
I44RU				*i*			13 27 30.0	
	baz=181,slow=342,SNR=1.5							
PEA0B	**Petropavlovsk-**	**2.28**	**1**	*e*Pn		**Pn**	**13 21 28.3**	**+0.2**
PETK	**Petropavlovsk-**	**2.28**	**1**	*e*Pn		**Pn**	**13 21 27.9**	**-0.2**
PETK	**Petropavlovsk-**	**2.28**	**1**	P		**Pn**	**13 21 29.5**	**+1.4**
	872nm,0.3s,baz=163,slow=14,SNR=2448							
PETK				LR		LR	13 22 45.4	
	comp=Z,324µm,19.8s,baz=277,slow=50							
PET	**Petropavlovsk**	**2.29**	**16**	*e*Pn		**Pn**	**13 21 28.3**	**+0.1**
PET				*e*Sn		**Sn**	**13 21 56.0**	**+0.9**
PET	**Petropavlovsk**	**2.29**	**16**	PN		**Pn**	**13 21 28.3**	**+0.1**
PET	**Petropavlovsk**	**2.29**	**16**	*e*P		**Pn**	**13 21 28.3**	**+0.1**
DALK	**Dalny**	**2.31**	**17**	PN		**Pn**	**13 21 28.6**	**+0.1**
DALK				S		**Sn**	**13 21 56.7**	**+1.0**
DALK	**Dalny**	**2.31**	**17**	*i* P		**Pn**	**13 21 28.6**	**+0.1**
DALK				*i* S		**Sn**	**13 21 56.7**	**+1.0**
UGLR	**Uglovaya**	**2.49**	**17**	PN		**Pn**	**13 21 31.9**	**+0.8**
UGLR	**Uglovaya**	**2.49**	**17**	*i* P		**Pn**	**13 21 31.9**	**+0.8**
AVH	**Avacha**	**2.53**	**15**	PN		**Pn**	**13 21 32.8**	**+1.2**
AVH	**Avacha**	**2.53**	**15**	*i* P		**Pn**	**13 21 32.8**	**+1.2**
SMAR	**Somma**	**2.54**	**16**	PN		**Pn**	**13 21 32.4**	**+0.5**
SMAR	**Somma**	**2.54**	**16**	*i* P		**Pn**	**13 21 32.4**	**+0.5**
KOK	**Koryaka**	**2.54**	**14**	PN		**Pn**	**13 21 33.3**	**+1.5**
KOK	**Koryaka**	**2.54**	**14**	*i* P		**Pn**	**13 21 33.3**	**+1.5**
SDLR	**Sedlovina**	**2.57**	**17**	PN		**Pn**	**13 21 32.3**	**+0.1**
SDLR	**Sedlovina**	**2.57**	**17**	*i* P		**Pn**	**13 21 32.3**	**+0.1**
KRER	**Koryakskii**	**2.57**	**15**	*e*P		**Pn**	**13 21 33.1**	**+0.8**
NLC	**Nalytchevo**	**2.57**	**24**	PN		**Pn**	**13 21 30.6**	**-1.5**
NLC	**Nalytchevo**	**2.57**	**24**	*e*P		**Pn**	**13 21 30.6**	**-1.5**
KRX	**Arik**	**2.61**	**14**	PN		**Pn**	**13 21 33.9**	**+1.2**
KRX	**Arik**	**2.61**	**14**	*e*P		**Pn**	**13 21 33.9**	**+1.2**
SPN	**Mys Shipunski**	**2.71**	**32**	PN		**Pn**	**13 21 34.2**	**+0.2**
SPN				S		**Sn**	**13 22 05.7**	**+0.2**
SPN	**Mys Shipunski**	**2.71**	**32**	*e*P		**Pn**	**13 21 34.2**	**+0.2**
SPN				*e*S		**Sn**	**13 22 05.7**	**+0.2**
GNL	**Ganaly**	**2.87**	**4**	PN		**Pn**	**13 21 37.9**	**+1.6**
GNL	**Ganaly**	**2.87**	**4**	*i* P		**Pn**	**13 21 37.9**	**+1.6**
KII	**Karymskiy**	**3.40**	**18**	PN		**Pn**	**13 21 44.4**	**+1.0**
KII	**Karymskiy**	**3.40**	**18**	*e*P		**Pn**	**13 21 44.4**	**+1.0**
MKZ	**Mys Kozlova**	**4.49**	**32**	PN		**Pn**	**13 21 57.1**	**-1.1**
MKZ	**Mys Kozlova**	**4.49**	**32**	*e*P		**Pn**	**13 21 57.1**	**-1.1**
KZV	**Kizimen**	**4.58**	**20**	PN		**Pn**	**13 22 01.4**	**+1.7**
KZV	**Kizimen**	**4.58**	**20**	*e*P		**Pn**	**13 22 01.4**	**+1.7**
TUMD	**Tumrok D**	**4.69**	**20**	*e*P		**Pn**	**13 22 02.6**	**+1.6**
TUMR	**Tumrok**	**4.71**	**18**	PN		**Pn**	**13 22 02.6**	**+1.2**
TUMR	**Tumrok**	**4.71**	**18**	*i* P		**Pn**	**13 22 03.9**	**+2.5**
ESO	**Esso**	**5.14**	**7**	PN		**Pn**	**13 22 09.8**	**+2.5**
ESO	**Esso**	**5.14**	**7**	*e*P		**Pn**	**13 22 09.8**	**+2.5**
KMNR	**Kamenistaya**	**5.17**	**17**	PN		**Pn**	**13 22 11.3**	**+3.5**
KMNR	**Kamenistaya**	**5.17**	**17**	*e*P		**Pn**	**13 22 11.3**	**+3.5**
KPT	**Kopyto**	**5.37**	**16**	PN		**Pn**	**13 22 12.4**	**+1.9**
KPT	**Kopyto**	**5.37**	**16**	*e*P		**Pn**	**13 22 12.4**	**+1.9**
KIRR	**Kirishev**	**5.38**	**17**	PN		**Pn**	**13 22 12.8**	**+2.2**
KIRR	**Kirishev**	**5.38**	**17**	*e*P		**Pn**	**13 22 12.8**	**+2.2**
BZMR	**Bezymyannaya**	**5.39**	**17**	PN		**Pn**	**13 22 13.4**	**+2.6**
BZMR	**Bezymyannaya**	**5.39**	**17**	*e*P		**Pn**	**13 22 13.4**	**+2.6**
KOZ	**Kozyrevsk**	**5.41**	**14**	*e*P		**Pn**	**13 22 13.1**	**+2.3**
BZWR	**Bezymyannyi-We**	**5.42**	**17**	PN		**Pn**	**13 22 13.5**	**+2.3**
BZWR	**Bezymyannyi-We**	**5.42**	**17**	*e*P		**Pn**	**13 22 13.5**	**+2.3**
BZGR	**Bezymyannyi-Gr**	**5.44**	**19**	PN		**Pn**	**13 22 13.8**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**5.44**	**19**	*e*P		**Pn**	**13 22 13.8**	**+2.4**
ZLN	**Zelenaya**	**5.53**	**19**	PN		**Pn**	**13 22 15.0**	**+2.4**
ZLN	**Zelenaya**	**5.53**	**19**	*e*P		**Pn**	**13 22 15.0**	**+2.4**
LGNR	**Loginova**	**5.57**	**18**	PN		**Pn**	**13 22 16.0**	**+2.7**
LGNR	**Loginova**	**5.57**	**18**	*e*P		**Pn**	**13 22 16.0**	**+2.7**
CIRR	**Tsirk**	**5.61**	**18**	PN		**Pn**	**13 22 16.1**	**+2.3**
CIRR	**Tsirk**	**5.61**	**18**	*e*P		**Pn**	**13 22 16.1**	**+2.3**
SRDR	**Sredinnyy**	**5.63**	**12**	PN		**Pn**	**13 22 15.7**	**+1.7**
SRDR	**Sredinnyy**	**5.63**	**12**	*e*P		**Pn**	**13 22 15.7**	**+1.7**
KLY	**Klyuchi**	**5.78**	**17**	PN		**Pn**	**13 22 18.1**	**+2.2**
KLY	**Klyuchi**	**5.78**	**17**	*e*P		**Pn**	**13 22 18.1**	**+2.2**
BDR	**Baidarnaya**	**6.13**	**19**	PN		**Pn**	**13 22 22.5**	**+1.7**
BDR	**Baidarnaya**	**6.13**	**19**	*i* P		**Pn**	**13 22 22.5**	**+1.7**
SMKR	**Semkarok**	**6.20**	**20**	PN		**Pn**	**13 22 23.0**	**+1.3**
SMKR	**Semkarok**	**6.20**	**20**	*e*P		**Pn**	**13 22 23.0**	**+1.3**
SRKR	**Sorokina**	**6.20**	**18**	PN		**Pn**	**13 22 23.4**	**+1.6**
SRKR	**Sorokina**	**6.20**	**18**	*e*P		**Pn**	**13 22 23.4**	**+1.6**
KBTR	**Krutoberegovo**	**6.21**	**28**	PN		**Pn**	**13 22 21.8**	**0.0**
KBTR	**Krutoberegovo**	**6.21**	**28**	*i* P		**Pn**	**13 22 21.8**	**0.0**
KBG	**Krutoberegovo**	**6.22**	**27**	PN		**Pn**	**13 22 23.3**	**+1.4**
KBG	**Krutoberegovo**	**6.22**	**27**	*e*P		**Pn**	**13 22 23.3**	**+1.4**
BKI	**Bering**	**6.67**	**46**	*e*P		**Pn**	**13 22 25.9**	**-2.2**
PALN	**Palana**	**8.38**	**8**	PN		**Pn**	**13 22 53.2**	**+1.7**
PALN	**Palana**	**8.38**	**8**	*e*P		**Pn**	**13 22 53.2**	**+1.7**
KUR	**Kuril'sk**	**8.61**	**233**	*e*P		**Pn**	**13 22 53.8**	**-0.9**
KUR				*i* S		**Sn**	**13 24 29.8**	**-0.4**
KUR				pmax	pmax			
	comp=Z,2µm,0.7s							
KUR				pmax	pmax			
	comp=E,983nm,0.8s							
KUR				pmax	pmax			
	comp=N,423nm,0.5s							
KUR				pmax	pmax			
	comp=Z,20µm,1.3s							
OSSR	**Ossora**	**8.99**	**18**	PN		**Pn**	**13 22 59.2**	**-0.6**
OSSR	**Ossora**	**8.99**	**18**	*e*P		**Pn**	**13 22 59.2**	**-0.6**
TYV	**Tymovskoe**	**9.47**	**276**	*e*Pn		**Pn**	**13 23 10.8**	**+4.3**
TYV				*e*S		**Sn**	**13 24 55.8**	**+4.4**
TYV				pmax	pmax			
	comp=Z,956nm,1.7s							
TYV				pmax	pmax			
	comp=Z,23µm,3.0s							
TYV				smax	smax			
	comp=N,241nm,1.1s							
TYV				smax	smax			
	comp=N,15µm,6.8s							
TYV				MLR	MLR			
	comp=E,402µm,15.0s							
TYV				MLR	MLR			
	comp=Z,365µm,15.0s							
MA2	**Magadan**	**9.59**	**339**	*e*Pn		**Pn**	**13 23 08.2**	**+0.1**
MA2	**Magadan**	**9.59**	**339**	⇑*i*PN		**Pn**	**13 23 08.7**	**+0.6**
MA2				pmax	pmax			
	comp=Z,2µm,1.7s							
MA2	**Magadan**	**9.59**	**339**	P		**Pn**	**13 23 09.2**	**+1.1**
	comp=Z,16nm,0.3s,baz=143,slow=9.4,SNR=238							
MA2				LR		LR	13 27 45.0	
	comp=Z,178µm,18.8s,baz=193,slow=43							
SHO	**Shikotan**	**10.10**	**231**	⇑*i*PN		Pn	13 23 09.6	-5.5
SHO				pmax	pmax			
	comp=N,675nm,0.5s							
SHO				pmax	pmax			
	comp=E,437nm,0.5s							
SHO				pmax	pmax			
	comp=Z,1µm,0.5s							
SHO				pmax	pmax			
	comp=Z,2µm,1.0s							
SHO				pmax	pmax			
	comp=E,4µm,2.5s							
SHO				pmax	pmax			
	comp=N,8µm,4.4s							
UGL	**Uglegorsk**	**10.18**	**266**	⇓*i*PN		**Pn**	**13 23 20.0**	**+3.8**
UGL				*e*S		Sn	13 25 18.1	+9.4
UGL				pmax	pmax			
	comp=Z,3µm,1.0s							
UGL				smax	smax			
	comp=E,120µm,8.4s							
UGL				MLR	MLR			
	comp=Z,319µm,15.0s							
UGL				MLR	MLR			
	comp=N,174µm,14.0s							
UGL				MLR	MLR			
	comp=E,304µm,14.0s							
SMY	**Shemya**	**10.38**	**73**	*e*Pn		**Pn**	**13 23 16.1**	**-2.8**
SMY				*e*Sn		Sn	13 25 03.8	-10
SMY	**Shemya**	**10.38**	**73**	*e*PN		**Pn**	**13 23 16.1**	**-2.8**
YUK	**Yuzh-Kuril'sk**	**10.47**	**234**	*d*i PN		**Pn**	**13 23 19.5**	**-0.6**
YUK				*i* S		**Sn**	**13 25 19.6**	**+3.9**
YUK				pmax	pmax			
	comp=E,3µm,0.6s							
YUK				pmax	pmax			
	comp=Z,5µm,0.6s							
YUK				pmax	pmax			
	comp=N,2µm,0.7s							
YUK				pmax	pmax			
	comp=Z,10µm,1.5s							
LAGR	**Lagunnoye**	**10.49**	**234**	⇑*i*PN		**Pn**	**13 23 18.8**	**-1.6**
LAGR				pmax	pmax			
	comp=E,2µm,0.5s							
LAGR				pmax	pmax			
	comp=Z,3µm,0.5s							
LAGR				pmax	pmax			
	comp=Z,14µm,1.4s							
LAGR				pmax	pmax			
	comp=E,16µm,1.3s							
LAGR				pmax	pmax			
	comp=N,33µm,1.2s							
YSS	**Yuzh-Sakhalins**	**10.53**	**254**	*e*Pn		**Pn**	**13 23 21.6**	**+0.7**
YSS	**Yuzh-Sakhalins**	**10.53**	**254**	⇓*i*PN		**Pn**	**13 23 23.1**	**+2.2**
YSS				*e*S		**Sn**	**13 25 19.5**	**+2.3**
YSS				pmax	pmax			
	comp=Z,1µm,1.3s							
YSS				MLR	MLR			
	comp=N,78µm,15.0s							
GRPR	**Tuman**	**10.54**	**234**	⇑*i*PN

ZEA Zeya 18.74 291 *c* eP **P 13 25 07.0 +0.3**
ZEA eS **Sn 13 28 36.0 -0.3**
ZEA pmax pmax
comp=E,930nm,1.4s
ZEA pmax pmax
comp=N,320nm,0.8s
ZEA pmax pmax
comp=Z,3µm,2.0s
ZEA pmax pmax
comp=Z,74µm,11.0s
ZEA pmax pmax
comp=N,56µm,14.0s
ZEA smax smax
comp=E,31µm,11.0s
ZEA MLR MLR
comp=N,71µm,15.0s
YAK Yakutsk 18.91 317 *c i* P **P 13 25 08.2 -0.3**
YAK eS **Sn 13 28 41.6 +1.2**
YAK pmax pmax
comp=E,8µm,0.9s
YAK pmax pmax
comp=N,2µm,1.0s
YAK pmax pmax
comp=E,3µm,1.1s
YAK pmax pmax
comp=Z,24µm,1.4s
YAK pmax pmax
comp=E,62µm,2.2s
YAK pmax pmax
comp=N,21µm,2.2s
YAK smax smax
comp=N,14µm,2.2s
YAK smax smax
comp=E,27µm,3.4s
YAK MLR MLR
comp=Z,1430µm,21.0s
YAK MLR MLR
comp=N,593µm,18.0s
YAK MLR MLR
comp=E,1049µm,20.0s
VLA Vladivostok 19.11 256 *i* P **P 13 25 11.3 +0.5**
VLA pmax pmax
comp=Z,239nm,1.2s
MDJ Mudanjiang 19.78 263 P **P 13 25 16.4 -1.8**
MDJ S **S 13 28 56.5 -1.3**
MDJ sS Sn 13 29 03.1 +1.5
MDJ pmax pmax
comp=Z,200nm,1.4s
MDJ pmax pmax
comp=Z,12µm,7.7s
MDJ LR LR
comp=Z,193µm,20.3s
MDJ LR LR
comp=Z,183µm,21.9s
MDJ LR LR
comp=Z,266µm,19.9s
MDJ Mudanjiang 19.78 263 *e* P **P 13 25 16.2 -2.0**
comp=Z,912nm,1.3s
SPIA Saint Paul Isl 19.79 59 *e* P **P 13 25 18.0 -0.1**
MSHR Mys Shultsa 19.86 256 *i* P **P 13 25 18.6 -0.3**
MJB9 Matsu-Tunnel 19.94 232 *e* P **P 13 25 19.6 -0.4**
MAJO Matsushiro 19.94 232 *e* P **P 13 25 18.8 -1.2**
MAJO Matsushiro 19.94 232 *c i* P **P 13 25 20.0 0.0**
MAJO pmax pmax
comp=Z,2µm,2.0s
MAJO Matsushiro 19.94 232 *e* P **P 13 25 19.6 -0.4**
MAJO eS **Sn 13 29 07.1 +1.5**
MAT Matsushiro 19.94 232 P **P 13 25 18.9 -1.1**
MAT S **S 13 29 02.4 +1.3**
MJAR Matsushiro Arr 19.94 232 P **P 13 25 20.0 0.0**
comp=Z,2.1nm,0.3s,baz=20,slow=8.6,SNR=235
MJAR S **Sn 13 29 07.8 +2.2**
comp=Z,0.1nm,0.3s,baz=338,slow=29,SNR=3.3
MJAR LR LR 13 33 26.6
comp=Z,108µm,21.9s,baz=60,slow=38
MJAR P3KPbc 13 59 40.3
comp=Z,0.0nm,0.3s,baz=202,slow=4.0,SNR=4.6
NIKH Nikolski High 20.69 71 *e* P **P 13 25 27.6 -0.3**
GAMB Gambell 20.77 40 *e* P **P 13 25 28.7 +0.1**
INU Inuyama 21.48 232 *e* P **P 13 25 35.7 -0.8**
UNV Unalaska Valle 21.98 68 *e* P **P 13 25 40.7 -0.9**
JHJ2 Mitsune 22.01 223 *e* P **P 13 25 41.1 -1.0**
JHJ Hachijo jima 2 22.02 223 P **P 13 25 42.4 +0.1**
comp=Z,1µm,0.9s,baz=175,slow=2.4,SNR=12
AKUT Akutan 22.37 67 *e* P **P 13 25 45.9 0.0**
CN2 Changchun 22.79 265 *e* P **P 13 25 46.6 -3.8**
CN2 *es* P pP 13 25 59.9 -3.4
CN2 eS **S 13 29 47.3 -7.7**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,5µm,9.0s
CN2 LR LR
comp=Z,133µm,23.0s
CN2 LR LR
comp=Z,56µm,23.0s
CN2 LR LR
comp=Z,105µm,25.0s
ANM Nome 23.64 40 *e* P **P 13 25 59.0 +0.5**
ANM Nome 23.64 40 *e* P **P 13 25 59.0 +0.5**
FALS False Pass 23.65 65 *e* P **P 13 25 59.0 +0.3**
HIA Hailar 24.20 281 *e* P **P 13 26 01.3 -2.5**
HIA LR LR
comp=Z,256nm,0.8s
HIA LR LR
comp=Z,108µm,19.0s
HIA Hailar 24.20 281 *i* P **P 13 26 02.1 -1.7**
HIA pmax pmax
comp=Z,1µm,2.5s
HIA MLR MLR
comp=Z,106µm,17.0s
KSRS Korea Array 24.96 249 P **P 13 26 11.3 +0.6**
comp=Z,141nm,1.0s,baz=52,slow=8.9,SNR=81
KSRS S **S 13 30 32.4 +2.2**
comp=Z,1.8nm,0.7s,baz=96,slow=29,SNR=2.5
KSRS LR LR 13 34 57.3
comp=Z,72µm,21.2s,baz=52,slow=34
KS01 Wonju Array Si 24.97 249 *e* P **P 13 26 10.3 -0.4**
SNY Shenyang 24.98 262 ⇑P **P 13 26 09.0 -1.9**
SNY S **S 13 30 20.4 -10**
SNY pmax pmax
comp=Z,300nm,2.3s
SNY pmax pmax
comp=Z,9µm,9.9s
SNY LR LR
comp=Z,189µm,21.6s
SNY LR LR
comp=Z,87µm,24.0s
SNY LR LR
comp=Z,160µm,20.6s
KS15 Wonju Array Si 25.00 249 *e* P **P 13 26 11.3 +0.3**
KSAR Wonju Array Be 25.00 249 P **P 13 26 11.3 +0.3**
KSAR S **S 13 30 32.4 +1.7**
KSAR Wonju Array Be 25.00 249 P **P 13 26 11.4 +0.3**
KSAR S **S 13 30 32.4 +1.7**
RDOG Red Dog Mine 25.77 33 *e* P **P 13 26 17.8 -0.1**
BOD Bodaibo 25.99 303 *e* P **P 13 26 18.4 -1.5**
BOD pmax pmax
comp=Z,946nm,2.0s
TJN Taejon 26.02 248 *c i* P **P 13 26 21.3 +1.0**
CHGN Chignik 26.31 61 *e* P **P 13 26 22.6 -0.1**
JNU Nakatsue 26.40 238 *e* P **P 13 26 23.7 -0.1**
JNU Nakatsue 26.40 238 P **P 13 26 24.8 +0.9**
comp=Z,679nm,0.8s,baz=40,slow=3.7,SNR=59
JNU LR LR 13 37 34.1
comp=Z,47µm,21.9s,baz=44,slow=38
CBIJ Chichi jima 26.46 212 P **P 13 26 22.8 -1.6**
CBIJ S S 13 31 11.4 +17
JCJ Chichijima 26.46 212 P **P 13 26 22.8 -1.6**
comp=Z,164nm,1.0s,baz=21,slow=14,SNR=3.6
JCJ S S 13 31 11.4 +17
comp=Z,25nm,0.7s,baz=90,slow=20,SNR=2.6
CIT Chita 27.20 290 *e* P **P 13 26 31.1 +0.2**
CIT *e* 13 26 47.3
CIT *e* 13 27 17.2
CIT *e* 13 31 00.7
CIT pmax pmax
comp=Z,738nm,2.6s
SVW2 Sparrevohn 27.53 50 *e* P **P 13 26 33.5 -0.2**
DL2 Dalian 27.88 259 ⇑*i* P **P 13 26 36.1 -0.9**
DL2 S **S 13 31 14.5 -1.7**
DL2 pmax pmax
comp=Z,200nm,1.3s
DL2 pmax pmax
comp=Z,6µm,11.5s
DL2 LR LR
comp=Z,91µm,19.1s
DL2 LR LR
comp=Z,68µm,20.3s
DL2 LR LR
comp=Z,100µm,23.1s
IM3 Indian Mountai 28.71 40 *e* P **P 13 26 42.3 -1.8**
RSO Redoubt South 28.93 51 *e* P **P 13 26 47.5 +1.1**
OHAK Old Harbor 28.99 58 *e* P **P 13 26 45.2 -1.5**
PPLA Purkeypile 29.15 46 *e* P **P 13 26 49.2 +0.9**
CAST Castle Rocks 29.21 45 *e* P **P 13 26 49.2 +0.6**
KDAK Kodiak Island 29.28 57 *e* P **P 13 26 48.2 -1.2**
KDAK LR LR
comp=Z,26µm,21.0s
KDAK Kodiak Island 29.28 57 P **P 13 26 48.1 -1.2**
comp=Z,87nm,0.8s,baz=278,slow=6.4,SNR=29
MIDW Midway 29.44 131 PFAKE 13 27 00.0 +9.1
MIDW LR LR
comp=Z,69µm,21.0s
HOM Homer 29.55 53 *e* P **P 13 26 51.3 -0.3**
MLY Manley 29.87 42 *e* P **P 13 26 54.3 -0.2**
BRLK Bradley Lake 29.92 53 *e* P **P 13 26 54.2 -0.8**
TRF Thorofare Moun 30.02 45 *e* P **P 13 26 56.1 +0.2**
COLD Coldfoot 30.27 38 *e* P **P 13 26 58.4 +0.4**
RC01 Rabbit Creek A 30.37 50 *e* P **P 13 26 58.0 -0.9**
SEW Seward 30.60 52 *e* P **P 13 27 00.2 -0.7**
PMR Palmer 30.62 49 *e* P **P 13 26 59.9 -1.1**
PMR Palmer 30.62 49 *e* P **P 13 26 59.9 -1.1**
MCK McKinley 30.62 45 *e* P **P 13 27 00.9 -0.3**
BJI Beijing 30.64 266 ⇑*i* P **P 13 27 00.5 -1.0**
BJI S **S 13 32 04.3 +4.8**
BJI pmax pmax
comp=Z,62nm,1.8s
BJT Baijiatuau 30.66 266 *e* P **P 13 26 59.3 -2.3**
comp=Z,102nm,1.1s
BJT LR LR
comp=Z,122µm,20.0s
BJT Baijiatuau 30.66 266 *e* P **P 13 26 59.3 -2.3**
BJT pmax pmax
comp=Z,102nm,1.1s
BJT MLR MLR
comp=Z,122µm,20.0s
RND Reindeer 30.67 45 *e* P **P 13 27 01.0 -0.5**
RND Reindeer 30.67 45 *e* P **P 13 27 01.0 -0.5**
TOLK Toolik Lake Re 30.69 35 *e* P **P 13 27 02.1 +0.4**
TOLK Toolik Lake Re 30.69 35 P **P 13 27 02.2 +0.4**
baz=262
TOLK S **S 13 32 01.8 +1.8**
baz=262
MDM Murphy Dome 30.93 42 *e* P **P 13 27 03.8 0.0**
KNK Knik Glacier 30.96 49 *e* P **P 13 27 03.9 -0.2**
SML Sawmill 30.99 48 *e* P **P 13 27 04.1 -0.3**
SML Sawmill 30.99 48 *e* P **P 13 27 04.1 -0.3**
WRH Wood River Hil 30.99 43 *e* P **P 13 27 04.3 0.0**
TCOL CIGO, UAF Yank 31.09 42 P **P 13 27 05.5 +0.4**
baz=270
COLA College 31.09 42 *e* P **P 13 27 05.6 +0.5**
COLA LR LR
comp=Z,27µm,20.0s
COLA College 31.09 42 *c i* P **P 13 27 05.8 +0.6**
COLA pmax pmax
comp=Z,594nm,1.4s
POKR Poker Plat Res 31.27 42 P **P 13 27 07.3 +0.5**
baz=270
DHY Denali Highway 31.35 46 *e* P **P 13 27 07.1 -0.6**
SCM Sheep Creek Mo 31.46 48 *e* P **P 13 27 08.5 0.0**
HDA Harding Lake 31.49 43 *e* P **P 13 27 07.8 -0.8**
HDA Harding Lake 31.49 43 P **P 13 27 07.9 -0.8**
baz=272
IL1 Eielson Array 31.51 43 *e* P **P 13 27 06.7 -2.2**
ILAR Eielson Array 31.51 43 P **P 13 27 08.2 -0.7**
comp=Z,56nm,0.9s,baz=259,slow=5.4,SNR=171
ILAR LR LR 13 41 36.2
comp=Z,35µm,19.4s,baz=277,slow=39
ILAR P3KPbc 13 58 45.8
comp=Z,2.2nm,1.0s,baz=97,slow=3.5,SNR=7.5
ILAR P3KP 14 00 10.8
comp=Z,1.0nm,1.0s,baz=70,slow=1.1,SNR=4.1
ILB Eielson Array 31.51 43 *e* P **P 13 27 08.4 -0.5**
H11N2 WAKE ISLAND Hy 31.89 163 T T 14 01 06.7
baz=349,slow=76,SNR=3318
H11N1 WAKE ISLAND Hy 31.91 163 T T 14 01 08.7
baz=349,slow=76,SNR=2163
H11N3 WAKE ISLAND Hy 31.91 163 T T 14 01 08.7
baz=349,slow=76,SNR=4568
PRP Porcupine Dome 32.07 41 *e* P **P 13 27 13.7 -0.3**
KLU Klutina 32.16 49 *e* P **P 13 27 14.8 +0.1**
FYU Fort Yukon 32.19 39 *e* P **P 13 27 15.8 +1.0**
PAX Paxson 32.22 46 *e* P **P 13 27 15.4 +0.2**
PAX Paxson 32.22 46 *e* P **P 13 27 15.4 +0.2**
DIV Divide 32.28 49 *e* P **P 13 27 15.7 0.0**
WAKE Wake Island 32.28 164 PFAKE 13 27 30.0 +14
WAKE LR LR
comp=Z,86µm,19.0s
TIA Tai'an 32.35 259 P **P 13 27 15.8 -0.8**
TIA S **S 13 32 31.7 +5.3**
TIA pmax pmax
comp=Z,22nm,1.0s
TIA LR LR
comp=Z,18µm,21.7s
TIA LR LR
comp=Z,32µm,22.2s
TIA LR LR
comp=Z,42µm,22.6s
EYAK Cordova Ski Ar 32.37 50 *e* P **P 13 27 16.7 +0.2**
HARP HAARP 32.42 47 *e* P **P 13 27 17.5 +0.6**
RIDG Independ'e Rid 32.44 44 *e* P **P 13 27 16.3 -0.9**
ULN Ulaanbaatar 32.56 285 *e* P **P 13 27 17.8 -0.6**
ULN LR LR
comp=Z,110µm,22.0s
ULN Ulaanbaatar 32.56 285 *c i* P **P 13 27 17.8 -0.6**
ULN pmax pmax
comp=Z,120nm,0.8s
ULN MLR MLR
comp=Z,116µm,22.0s
ULN Ulaanbaatar 32.56 285 P **P 13 27 18.2 -0.2**
SNR=62
IRK Irkutsk 32.59 294 *e* P **P 13 27 17.8 -0.7**
IRK pmax pmax
comp=Z,599nm,2.7s
JOW Kunigami 32.75 234 *e* P **P 13 27 21.2 +1.1**
DOT Dot Lake 32.80 45 *e* P **P 13 27 19.1 -1.1**
SCRK Sand Creek 32.80 44 *e* P **P 13 27 19.3 -1.0**
SONA1 Songino Array 32.96 285 *e* P **P 13 27 20.8 -1.2**
SONM Songino Array 32.97 285 P **P 13 27 21.8 -0.3**
comp=Z,21nm,0.9s,baz=66,slow=8.1,SNR=115
SONM PcP **PcP 13 30 05.3 +0.6**
comp=Z,38nm,1.0s,baz=93,slow=2.5,SNR=5.6
SONM LR LR 13 41 44.4
comp=Z,139µm,21.2s,baz=66,slow=38
SONM P3KPbc 13 58 38.6
comp=Z,0.5nm,0.7s,baz=251,slow=4.5,SNR=4.9
MENT Mentasta 33.02 46 *e* P **P 13 27 22.3 +0.2**
H11S1 WAKE ISLAND Hy 33.05 164 T T 14 02 23.8
baz=349,slow=76,SNR=4419
H11S3 WAKE ISLAND Hy 33.06 164 T T 14 02 21.5
baz=349,slow=76,SNR=5837
H11S2 WAKE ISLAND Hy 33.07 164 T T 14 02 04.1
baz=349,slow=76,SNR=3085
HHC Hu-ho-hao-te 33.11 271 *e* P **P 13 27 22.5 -0.8**
HHC S **S 13 32 40.9 +2.6**
HHC ScS **ScS 13 37 46.7 +1.9**
HHC pmax pmax
comp=Z,130nm,1.5s
HHC pmax pmax
comp=Z,6µm,7.0s
HHC LR LR
comp=Z,94µm,15.6s
HHC LR LR
comp=Z,99µm,14.8s
HHC LR LR
comp=Z,156µm,16.0s
HMT Hamilton 33.13 51 *e* P **P 13 27 24.2 +1.0**
TLY Talaya 33.15 293 *e* P **P 13 27 23.6 +0.2**
TLY LR LR
comp=Z,77µm,19.0s
TLY Talaya 33.15 293 *c i* P **P 13 27 23.4 0.0**
TLY *e* 13 30 10.1
TLY *eS* **S 13 32 37.0 -1.5**
TLY *eSSS* SSS 13 34 40.1
TLY pmax pmax
comp=Z,342nm,1.0s
TLY MLR MLR
comp=Z,198µm,14.0s
TLY Talaya 33.15 293 P **P 13 27 23.9 +0.5**
SNR=89
TLY P **P 13 27 23.9 +0.5**
SNR=89
SSE Sheshan 33.38 248 P **P 13 27 26.4 +0.8**
SSE S **S 13 32 44.0 +1.6**
SSE pmax pmax
comp=Z,140nm,1.2s
SSE pmax pmax
comp=Z,4µm,3.6s
SSE Sheshan 33.38 248 *e* P **P 13 27 26.2 +0.7**
comp=Z,642nm,1.5s
SSE LR LR
comp=Z,37µm,20.0s
ZAK Zakamensk 33.84 291 *e* P **P 13 27 29.8 +0.3**
ZAK pmax pmax
comp=Z,127nm,1.3s
BALM Baldy 33.94 49 *e* P **P 13 27 30.8 +0.5**
BALM Baldy 33.94 49 *e* P **P 13 27 30.8 +0.5**
EGAK Eagle 33.96 42 *e* P **P 13 27 29.6 -0.6**
EGAK LR LR
comp=Z,27µm,20.0s
NJ2 Nanjing 34.09 252 ⇑P **P 13 27 31.8 +0.1**
NJ2 pP **pP 13 27 43.0 -3.2**
NJ2 S **S 13 32 54.3 +1.1**
NJ2 sS sS 13 33 09.5 -8.3
NJ2 pmax pmax
comp=Z,290nm,2.5s
NJ2 pmax pmax
comp=Z,15µm,10.6s
NJ2 LR LR
comp=Z,60µm,15.7s
NJ2 LR LR
comp=Z,40µm,15.7s
NJ2 LR LR
comp=Z,78µm,21.7s
TIY Taiyuan 34.37 265 *e* P **P 13 27 35.5 +1.3**
TIY sP **pP 13 27 50.2 +1.5**
TIY S **S 13 33 00.3 +2.6**
TIY SS **SnSn 13 35 11.9 -0.2**
TIY pmax pmax
comp=Z,180nm,1.0s
TIY pmax pmax
comp=Z,5µm,7.7s
TIY LR LR
comp=Z,32µm,15.5s
TIY LR LR
comp=Z,38µm,16.5s
TIY LR LR
comp=Z,43µm,17.8s
MOY Mondy 34.70 294 *e* P **P 13 27 36.7 -0.2**
MOY pmax pmax
comp=Z,47nm,1.0s
DAWY Dawson 34.80 43 *e* P **P 13 27 37.7 +0.1**
EPYK Eagle Plains 35.61 39 *e* P **P 13 27 45.2 +0.7**
EPYK Eagle Plains 35.61 39 P **P 13 27 45.2 +0.7**
baz=278
HYT Haines Junctio 36.29 49 *e* P **P 13 27 51.8 +1.3**
INK Inuvik 36.60 36 P **P 13 27 53.7 +0.9**
comp=Z,220nm,0.8s,baz=289,slow=7.0,SNR=660
INK LR LR 13 45 32.2
comp=Z,17µm,21.0s,baz=266,slow=40
NRIK Noril'sk 36.91 326 P **P 13 27 54.0 -1.4**
comp=Z,19nm,0.8s,baz=94,slow=8.0,SNR=26
NRIK LR LR 13 44 26.1
comp=Z,94µm,18.4s,baz=70,slow=38
KNGR Kungurtug, Tuv 37.13 294 *c i* P **P 13 27 57.4 -0.3**
WHY Whitehorse 37.58 48 *e* P **P 13 28 02.9 +1.4**
SKAG Skagway 37.71 50 *e* P **P 13 28 04.2 +1.8**
TATO Taipei 37.86 241 *e* P P 13 28 08.8 +4.8
TATO LR LR
comp=Z,43µm,21.0s
WHN Wuhan 37.88 254 ⇑P **P 13 28 03.2 -0.9**
WHN S **S 13 33 50.4 -0.8**
WHN LR LR
comp=Z,88µm,13.4s
WHN LR LR
comp=Z,81µm,14.0s
WHN LR LR
comp=Z,143µm,14.8s
YHNB Yeheng 38.17 241 *e* P **P 13 28 07.1 +0.4**
BESE Bessie Mountai 38.22 51 *e* P **P 13 28 08.4 +1.6**
SIT Sitka 38.49 54 *e* P **P 13 28 11.2 +2.3**
JIS Juneau Island 38.55 52 *e* P **P 13 28 11.3 +1.9**
GUMO Guam 38.56 200 P **P 13 28 10.8 +0.9**
GUMO pmax pmax
comp=Z,82nm,0.8s
GUMO Guam 38.56 200 P **P 13 28 10.8 +0.9**
comp=Z,103nm,0.9s,baz=210,slow=3.2,SNR=3.9
GUMO LR LR 13 47 48.6
comp=Z,10µm,18.0s,baz=29,slow=42
XAN Xi'an 38.89 264 P **P 13 28 11.7 -1.0**
XAN pP pP 13 28 21.5 -5.8
XAN sP sP 13 28 25.3 -8.8
XAN PP **PnPn 13 29 47.2 +1.9**
XAN S **S 13 34 07.3 +0.7**
XAN sS sS 13 34 23.6 -7.8
XAN SS **SS 13 36 51.0 -8.7**
XAN ScS **ScS 13 38 17.2 +0.5**
XAN pmax pmax
comp=Z,110nm,1.3s
XAN pmax pmax
comp=Z,3µm,4.6s
XAN LR LR
comp=Z,59µm,16.8s
XAN LR LR
comp=Z,60µm,16.3s
XAN LR LR
comp=Z,72µm,21.1s
XAN Xi'an 38.89 264 *e* P **P 13 28 11.6 -1.1**
comp=Z,925nm,1.2s
XAN Xi'an 38.89 264 *e* P **P 13 28 11.6 -1.1**
XAN pmax pmax
comp=Z,925nm,1.2s
SSLB Suanglung 39.10 240 *e* P **P 13 28 14.2 -0.2**
YULB Yu-li 39.23 239 *e* P **P 13 28 14.5 -1.0**
QZH Quanzhou 39.52 244 ⇑*i* P **P 13 28 18.6 +0.8**
QZH S **S 13 34 18.6 +2.6**
QZH pmax pmax
comp=Z,250nm,1.1s
QZH pmax pmax
comp=Z,13µm,5.3s
QZH LR LR
comp=Z,24µm,17.9s
QZH LR LR
comp=Z,9µm,16.8s
QZH LR LR
comp=Z,19µm,20.2s
TPUB Ta-pu 39.67 240 *e* P **P 13 28 19.3 +0.1**
TWG Pinlang 39.81 239 *e* P **P 13 28 19.8 -0.6**
CRAG Craig 40.22 56 *e* P **P 13 28 25.7 +2.3**
WRAK Wrangell Islan 40.25 54 *e* P **P 13 28 25.8 +2.2**
WRAK LR LR
comp=Z,14µm,20.0s
DLBC Dease Lake 40.65 50 *e* P **P 13 28 29.2 +2.3**
DLBC Dease Lake 40.65 50 P **P 13 28 29.1 +2.2**
comp=Z,136nm,1.0s,baz=291,slow=7.0,SNR=76
DLBC LR LR 13 45 49.9
comp=Z,18µm,22.0s,baz=300,slow=37
LZH Lanzhou 40.80 270 ⇑P **P 13 28 28.9 +0.2**
LZH pP pP 13 28 38.6 -4.8
LZH sP sP 13 28 43.5 -6.7
LZH PP **PnPn 13 30 07.0 -1.0**
LZH S **S 13 34 34.6 -0.8**
LZH sS sS 13 34 52.0 -8.3
LZH SS **SS 13 37 31.4 -6.6**
LZH pmax pmax
comp=Z,520nm,1.3s
LZH pmax pmax
comp=Z,10µm,6.5s
LZH LR LR
comp=Z,175µm,16.3s
LZH LR LR
comp=Z,176µm,16.3s
LZH LR LR
comp=Z,242µm,19.0s
ENH Enshi 41.07 259 *e* P **P 13 28 30.0 -0.7**
comp=Z,227nm,0.8s
ENH LR LR
comp=Z,53µm,19.0s
GTA Gaotai 41.35 277 ⇑P **P 13 28 33.0 -0.1**
GTA pP pP 13 28 44.2 -3.7
GTA sP sP 13 28 49.9 -4.7
GTA PcS **PcS 13 34 22.6 +0.9**
GTA S **S 13 34 41.8 -1.7**
GTA sS sS 13 35 00.6 -7.8
GTA SS **SS 13 37 44.2 -4.5**

GTA pmax pmax
comp=Z,98nm,1.6s
GTA pmax pmax
comp=Z,4μm,7.1s
GTA LR LR
comp=Z,53μm,18.6s
GTA LR LR
comp=Z,50μm,20.3s
GTA LR LR
comp=Z,82μm,18.6s
DIB Dawson Inlet, 41.52 58 eP P 13 28 35.9 +1.9
ZALV Zalesovo Beam 42.74 304 P P 13 28 42.6 -1.3
comp=Z,110nm,0.8s,baz=59,slow=6.8,SNR=169
ZALV LR LR 13 47 19.9
comp=Z,39μm,19.8s,baz=58,slow=37
ZALV PKPPKP **P'P'df 14 00 41.1 -5.2**
comp=Z,0.6nm,0.6s,baz=242,slow=6.2,SNR=4.0
JOHN Johnston Islan 42.97 130 PFAKE 13 29 00.0 +14
JOHN LR LR
comp=Z,4μm,20.0s
NVS Novosibirsk 43.16 305⇓*i*P P 13 28 47.2 -0.2
NVS *i* 13 30 33.5
NVS *i*S **S 13 35 12.4 +3.0**
NVS pmax pmax
comp=Z,534nm,1.3s
NVS pmax pmax
comp=N,185nm,1.4s
NVS pmax pmax
comp=E,294nm,1.4s
NVS smax smax
comp=N,187nm,1.9s
NVS smax smax
comp=E,259nm,2.2s
DGZ Jazzator, Alta 43.32 297*c i*P P 13 28 49.5 +0.6
DGZ pmax pmax
comp=Z,89nm,1.1s
DGZ MLR MLR
comp=Z,85μm,20.0s
APYP Conner 43.78 235 eP P 13 28 51.4 -1.4
PALP Palanan 43.85 233 eP P 13 28 52.2 -1.1
GZH Guangzhou 43.98 248 P P **13 28 50.2 -4.1**
GZH LR LR
comp=Z,16μm,18.0s
GZH LR LR
comp=Z,22μm,18.4s
HKC Hong Kong Obse 44.10 246⇑P P **13 28 57.0 +1.7**
CD2 Chengdu 44.22 264⇑*i*P P **13 28 56.0 -0.3**
CD2 sP pP 13 29 09.6 -1.6
CD2 PP **PcP 13 30 39.1 -0.9**
CD2 S **S 13 35 22.7 -2.8**
CD2 sS sS 13 35 45.4 -5.3
CD2 pmax pmax
comp=Z,490nm,1.2s
CD2 pmax pmax
comp=Z,19μm,10.2s
CD2 LR LR
comp=Z,93μm,25.1s
CD2 LR LR
comp=Z,105μm,17.8s
CD2 LR LR
comp=Z,143μm,19.6s
CAUP Cauayan 44.26 233 eP P 13 28 57.4 +0.8
BBB Bella Bella 44.34 58 eP P 13 28 58.4 +1.5
MCO Taipa Grande 44.60 247 P P **13 29 00.0 +0.7**
KIP Kipapa 45.31 114 PFAKE 13 29 20.0 +15
KIP LR LR
comp=Z,47μm,20.0s
BALP Baler 45.40 233 eP P 13 29 05.6 -0.1
SMPP San Manuel, Pa 45.51 234 eP P 13 29 03.6 -2.9
GYA Guiyang 45.52 257⇑*i*P P **13 29 06.7 0.0**
GYA pP pP 13 29 19.2 -2.5
GYA PP **PP 13 30 54.4 +0.4**
GYA S **S 13 35 46.7 +2.2**
GYA sS sS 13 36 02.0 -7.7
GYA SS **ScS 13 39 01.6 +3.9**
GYA pmax pmax
comp=Z,290nm,1.4s
GYA pmax pmax
comp=Z,9μm,8.7s
GYA LR LR
comp=Z,35μm,18.0s
GYA LR LR
comp=Z,29μm,15.5s
GYA LR LR
comp=Z,48μm,14.6s
BOLP Bolinao 45.71 235 eP P 13 29 07.0 -1.1
YKA Yellowknife Ar 45.87 40 P P **13 29 09.5 +0.7**
comp=Z,100nm,0.9s,baz=297,slow=7.7,SNR=349
YKA PcP **PcP 13 30 46.2 +1.2**
comp=Z,35nm,1.0s,baz=297,slow=3.6,SNR=5.2
YKA PKPPKP 14 00 36.4
comp=Z,1.6nm,1.0s,baz=157,slow=2.8,SNR=5.9
ZSN Zaisan 45.94 296*c i*P P 13 29 07.0 -2.7
ZSN *e*S **S 13 35 53.6 +3.7**
ZSN pmax pmax
comp=Z,288nm,2.0s
ZSN MLR MLR
comp=Z,18μm,17.0s
ZSN Zaisan 45.94 296⇑*i*P P **13 29 07.0 -2.7**
comp=Z,288nm,2.0s
ZSN *e*S **S 13 35 53.7 +3.7**
ZSN *e*LR LR 13 48 20.4
comp=Z,18μm,16.9s
PVCP Virac 45.98 228 eP P 13 29 11.3 +1.1
RES Resolute Bay 45.99 21 P P **13 29 10.4 +0.8**
comp=Z,121nm,0.9s,baz=292,slow=8.0,SNR=196
POLP Polillo Island 46.08 232 eP P 13 29 12.0 +1.0
SCZP Santa Cruz 46.22 235 eP P 13 29 11.7 -0.5
WMQ Urumqi 46.29 290⇑*i*P P **13 29 12.9 +0.4**
WMQ pP pP 13 29 21.1 -6.5
WMQ PcP **PcP 13 30 48.1 +1.1**
WMQ PcS **PcS 13 34 43.8 +2.2**
WMQ S **S 13 35 57.0 +1.9**
WMQ sS sS 13 36 11.7 -8.7
WMQ pmax pmax
comp=Z,540nm,1.3s
WMQ pmax pmax
comp=Z,12μm,3.6s
WMQ LR LR
comp=Z,177μm,16.3s
WMQ LR LR
comp=Z,137μm,19.9s
WMQ LR LR
comp=Z,163μm,25.7s
WMQ Urumqi 46.29 290 eP P 13 29 13.0 +0.5
comp=Z,242nm,0.9s
WMQ Urumqi 46.29 290 eP P 13 29 13.0 +0.5
WMQ pmax pmax
comp=Z,242nm,0.9s
CNP Catarman 46.68 227 eP P 13 29 21.1 +5.4
AUQP San Andres 46.92 230 eP P 13 29 17.0 -0.7
SEM Semipalatinsk 46.93 301*c i*P P 13 29 13.5 -4.1
SEM *i*S **S 13 35 55.9 -8.5**
SEM pmax pmax
comp=Z,2μm,1.3s
SEM smax smax
comp=E,6μm,7.4s
SEM MLR MLR
comp=Z,28μm,20.0s
SEM Semipalatinsk 46.93 301⇑*i*P P **13 29 13.5 -4.1**
comp=Z,2μm,1.3s
SEM ⇓*i*S **S 13 35 56.0 -8.5**
comp=Z,6μm,7.4s
SEM *e*LR LR 13 49 22.8
comp=Z,28μm,20.0s
TGY Tagaytay City 47.11 232 P P **13 29 20.5 +1.3**
comp=Z,574nm,0.7s,baz=37,slow=1.0,SNR=35
BOAC Boac 47.21 231 eP P 13 29 20.1 +0.3
KURK Kurchatov 47.64 302 eP P 13 29 22.0 -0.9
KURK LR LR
comp=Z,85μm,19.0s
KURK Kurchatov 47.64 302*c i*P P 13 29 21.9 -1.0
KURK pmax pmax
comp=Z,416nm,1.0s
KURK MLR MLR
comp=Z,51μm,18.0s
KURK Kurchatov 47.64 302 P P **13 29 22.2 -0.6**
SNR=215
KURK P P **13 29 22.2 -0.6**
SNR=215
KURBB Kurchatov Arra 47.74 302 PKPPKP **P'P'df 14 00 39.2 -0.6**
comp=Z,1.8nm,1.1s,baz=262,slow=2.9,SNR=5.6
KURBB PKP2ab 14 01 27.1
comp=Z,1.8nm,1.1s,baz=278,slow=4.3,SNR=5.2
MK31 Makanchi Array 47.77 296 eP P 13 29 23.3 -0.7
MK31 Makanchi Array 47.77 296 eP P 13 29 23.3 -0.7

MKAR Makanchi Array 47.77 296 P P **13 29 23.2 -0.8**
comp=Z,57nm,0.6s,baz=60,slow=7.4,SNR=253
MKAR LR LR 13 50 14.6
comp=Z,131μm,21.2s,baz=46,slow=37
MKAR PKPPKP **P'P'df 14 00 42.1 +2.6**
comp=Z,2.3nm,1.1s,baz=264,slow=1.4,SNR=3.8
MKAR P4KPbc 14 07 02.3
comp=Z,0.6nm,0.8s,baz=56,slow=3.8,SNR=3.6
MK01 Makanchi Array 47.78 296 eP P 13 29 22.4 -1.6
MAKZ Makanchi 47.94 296 eP P 13 29 24.4 -0.9
MAKZ Makanchi 47.94 296 eP P 13 29 24.4 -0.9
OCLP Ormoc 47.99 226 eP P 13 29 26.1 +0.1
POHA Pohakuloa 48.06 113 eP P 13 29 30.0 +3.3
POHA LR LR
comp=Z,35μm,21.0s
OTRP Odiongan 48.07 230 eP P 13 29 28.1 +1.5
AIN Ainahou 48.40 113 eP P 13 29 31.3 +1.9
KHU Kahuku 48.41 113 eP P 13 29 31.8 +2.3
KHU Kahuku 48.41 113 eP P 13 29 31.8 +2.3
RCP Roxas 48.41 229⇑eP P 13 29 30.1 +0.9
SJMP San Jose 48.42 231 eP P 13 29 30.1 +0.8
LLLB Lillooet 48.50 57 eP P 13 29 30.7 +1.2
MSLP Maasin 48.69 225 eP P 13 29 31.4 +0.1
KBS Kingsbay 48.90 352 PFAKE 13 29 40.0 +7.8
KBS LR LR
comp=Z,35μm,20.0s
KBS Kingsbay 48.90 352*ce*P P 13 29 32.5 +0.3
KBS pmax pmax
comp=Z,485nm,1.0s
KBS Kingsbay 48.90 352 IVmB_BB 13 29 33.3
comp=Z,4μm,2.8s
KBS *e*P P **13 29 33.5 +1.3**
KBS *e*S **S 13 36 35.2 +4.1**
KBS IVMsBB 13 49 45.2
comp=Z,12μm,23.8s
KMI Kunming 48.92 260 P P **13 29 33.8 +0.5**
KMI pP pP 13 29 43.6 -4.8
KMI sP sP 13 29 47.5 -7.6
KMI PP **PP 13 31 28.6 +1.7**
KMI S **S 13 36 31.1 -2.0**
KMI sS sS 13 36 49.7 -8.8
KMI pmax pmax
comp=Z,390nm,1.9s
KMI pmax pmax
comp=Z,8μm,6.1s
KMI LR LR
comp=Z,64μm,18.7s
KMI LR LR
comp=Z,34μm,18.3s
KMI LR LR
comp=Z,28μm,22.1s
A04D Lummi Island 49.10 60 P P **13 29 35.2 +1.1**
baz=305,SNR=7.9
A04D S **S 13 36 38.3 +3.7**
baz=305
SPA0 Spitsbergen Ar 49.11 350 eP P 13 29 34.2 +0.4
SPA0 Spitsbergen Ar 49.11 350 eP P 13 29 33.7 -0.2
SPA0 IVmB_BB 13 29 34.2
comp=Z,6μm,3.0s
SPA0 *e*S **S 13 36 34.8 +0.7**
SPITS Spitsbergen Ar 49.11 350 P P **13 29 33.9 +0.1**
comp=Z,35nm,0.4s,baz=56,slow=9.3,SNR=107
QIZ Qiongzhong 49.18 248 P P **13 29 35.7 +0.6**
QIZ PP **PP 13 31 29.5 +0.4**
QIZ S **S 13 36 39.4 +3.1**
QIZ pmax pmax
comp=Z,220nm,1.1s
QIZ LR LR
comp=Z,20μm,20.1s
QIZ LR LR
comp=Z,19μm,19.7s
QIZ LR LR
comp=Z,18μm,19.1s
QIZ Qiongzhong 49.18 248 eP P 13 29 37.0 +1.9
comp=Z,201nm,1.1s
QIZ LR LR
comp=Z,4μm,19.0s
NLWA Neilton Lookou 49.22 62 eP P 13 29 36.5 +1.4
NLWA LR LR
comp=Z,12μm,20.0s
BUSP Coron 49.27 232 eP P 13 29 36.4 +0.7
GUIM Jordan 49.30 228 eP P 13 29 36.5 +0.5
BUTP Butuan 49.38 224 eP P 13 29 36.5 -0.1
HOPEN Hopen 49.40 347 eP P 13 29 36.0 0.0
HOPEN IVmB_BB 13 29 36.4
comp=Z,4μm,3.3s
HOPEN IVMsBB 13 56 49.1
comp=Z,14μm,20.3s
TULEG Thule 49.51 13 eP P 13 29 36.3 -0.5
D03D Eldon 49.57 61 P P **13 29 39.0 +1.3**
baz=305,SNR=33
B05A Bryant 49.70 60 P P **13 29 39.6 +0.9**
baz=305,SNR=35
CUYO Cuyo Island 49.86 230 eP P 13 29 41.0 +0.7
B06A Marblemount 49.89 59 eP P 13 29 40.7 +0.6
D04E Lakebay 49.95 61 P P **13 29 42.4 +1.8**
baz=306,SNR=6.8
HSPB Hornsund (broa 50.22 350 eP P 13 29 43.3 +1.1
HSPB Hornsund (broa 50.22 350 eP P 13 29 41.8 -0.4
HSPB IAmb IAmb 13 29 42.6
comp=Z,502nm,1.8s
HSPB IVMsBB 13 50 44.4
comp=Z,12μm,19.8s
CGP Cagayan de Oro 50.25 224 eP P 13 29 46.2 +3.1
ENPP El Nido 50.34 232 eP P 13 29 44.9 +1.0
D05A Enumclaw 50.38 61 eP P 13 29 45.4 +1.5
E04D Cinebar 50.43 62 P P **13 29 45.5 +1.3**
baz=306,SNR=41
F04D Rainier, OR 50.46 63 P P **13 29 45.2 +0.7**
baz=306,SNR=6.1
C06D Leavenworth 50.55 59 P P **13 29 46.1 +0.9**
baz=306,SNR=13
BUKP Musuan 50.60 224 eP P 13 29 46.0 +0.1
BRVK Borovoye 50.64 309 eP P 13 29 44.8 -0.9
BRVK LR LR
comp=Z,57nm,21.0s
BRVK Borovoye 50.64 309⇑*i*P P **13 29 45.0 -0.8**
BRVK pmax pmax
comp=Z,477nm,2.3s
BRVK MLR MLR
comp=Z,98μm,21.0s
BRVK Borovoye 50.64 309 P P **13 29 45.0 -0.8**
SNR=63
BRVK P P **13 29 45.0 -0.8**
SNR=63
LON Longmire 50.74 61 eP P 13 29 47.2 +0.5
LON Longmire 50.74 61 eP P 13 29 47.2 +0.5
G03D McMinnville, O 50.83 64 P P **13 29 48.4 +1.1**
baz=307,SNR=6.6
MATI Mati 50.92 222 eP P 13 29 47.0 -1.2
TARA Tarawa 50.98 160 PFAKE 13 30 00.0 +11
TARA LR LR
comp=Z,3μm,22.0s
TDK Taldyqorghan 51.02 296*c i*P P 13 29 46.7 -2.0
TDK *i*S **S 13 37 00.3 -1.2**
TDK smax smax
comp=N,4μm,2.5s
TDK MLR MLR
comp=Z,96μm,22.0s
TDK Taldyqorghan 51.02 296⇑*i*P P **13 29 46.7 -2.0**
comp=Z,7μm,1.3s
TDK ⇑*i*S **S 13 37 00.3 -1.2**
comp=Z,4μm,2.5s
TDK *e*LR LR 13 50 16.2
comp=Z,96μm,21.7s
LTY Liberty 51.07 60 eP P 13 29 49.5 +0.3
DAV Davao City (W) 51.10 223 PFAKE 13 30 00.0 +10
DAV LR LR
comp=Z,9μm,21.0s
DAV Davao City (W) 51.10 223 P P **13 29 50.2 +0.7**
SNR=15
B08A Colville Reser 51.15 58 eP P 13 29 50.2 +0.6
COR Corvallis 51.18 64 eP P 13 29 52.0 +2.1
COR Corvallis 51.18 64 eP P 13 29 52.0 +2.1
KCP Kidapawan 51.36 223⇑*i*P P **13 29 52.6 +1.0**
PAGZ Pagadian 51.37 226 eP P 13 29 51.4 -0.2
F05D White Salmon 51.45 62 P P **13 29 52.8 +0.8**
baz=307,SNR=27
SHLS Shalkode 51.52 294*d i*P P 13 29 48.5 -4.2
SHLS *i*S **S 13 37 04.7 -4.0**
SHLS pmax pmax
comp=Z,1μm,1.8s
SHLS smax smax
comp=N,2μm,3.5s
SHLS MLR MLR

comp=Z,29μm,18.0s
SHLS Shalkode 51.52 294⇓*i*P P **13 29 48.5 -4.2**
comp=Z,1μm,1.8s
SHLS ⇓*i*S **S 13 37 04.8 -4.0**
comp=Z,2μm,3.5s
SHLS *e*LR LR 13 52 08.2
comp=Z,29μm,18.4s
CTBH Cotabato--PC H 51.54 224⇑*i*P P **13 29 54.1 +1.2**
H04D Lebanon 51.54 64 P P **13 29 53.9 +1.3**
baz=308,SNR=17
KEBM Edson Butte 51.63 67 eP P 13 29 55.0 +1.7
J01E Myrtle Point 51.69 66 P P **13 29 55.4 +1.7**
baz=308,SNR=14
I03D Drain, OR 51.70 65 P P **13 29 55.4 +1.6**
baz=308,SNR=21
KPKS Kokpek 51.79 295*d i*P P 13 29 52.3 -2.3
KPKS *i*S **S 13 37 12.7 +0.5**
KPKS pmax pmax
comp=Z,1μm,1.4s
KPKS smax smax
comp=N,2μm,6.6s
KPKS MLR MLR
comp=Z,43μm,20.0s
KPKS Kokpek 51.79 295⇓*i*P P **13 29 52.3 -2.3**
comp=Z,1μm,1.4s
KPKS ⇑*i*S **S 13 37 12.8 +0.5**
comp=Z,2μm,6.6s
KPKS *e*LR LR 13 52 03.2
comp=Z,43μm,20.1s
UZB Uzunbulak 51.79 294 eP P 13 29 51.4 -3.3
UZB *e*S **S 13 37 12.0 -0.4**
UZB pmax pmax
comp=Z,1μm,1.9s
UZB smax smax
comp=E,1μm,6.4s
UZB MLR MLR
comp=Z,15μm,18.0s
UZB Uzunbulak 51.79 294 eP P 13 29 51.4 -3.3
comp=Z,1μm,1.9s
UZB *e*S **S 13 37 12.1 -0.4**
comp=Z,1μm,6.4s
UZB *e*LR LR 13 52 13.2
comp=Z,15μm,18.3s
G05D Wamic, OR 51.91 62 P P **13 29 56.5 +1.0**
baz=308,SNR=33
E07A Sunnyside 51.93 60 eP P 13 29 56.3 +0.7
SKMP Bagumbayan, Su 52.04 223 eP P 13 29 55.7 -0.9
C09A Chrisman Ranch 52.05 58 eP P 13 29 56.9 +0.5
ZHN Zhinishke 52.11 294*de*P P 13 29 54.7 -2.3
ZHN *i*S **S 13 37 14.7 -2.1**
ZHN pmax pmax
comp=Z,759nm,2.0s
ZHN smax smax
comp=E,80nm,5.6s
ZHN MLR MLR
comp=Z,17μm,18.0s
ZHN Zhinishke 52.11 294⇓*e*P P **13 29 54.8 -2.3**
comp=Z,759nm,1.9s
ZHN *i*S **S 13 37 14.7 -2.1**
comp=Z,80nm,5.5s
ZHN *e*LR LR 13 52 11.8
comp=Z,17μm,18.3s
K02D Willamette Mer 52.12 66 P P **13 29 58.6 +1.5**
baz=308,SNR=22
I04A Tendick Farm, 52.17 65 P P **13 29 58.5 +1.1**
baz=308,SNR=86
SATY Saty 52.20 294*c i*P P 13 29 54.9 -2.8
SATY *i*S **S 13 37 16.4 -1.5**
SATY pmax pmax
comp=Z,2μm,1.7s
SATY smax smax
comp=E,1μm,6.2s
SATY MLR MLR
comp=Z,24μm,23.0s
SATY Saty 52.20 294⇑*i*P P **13 29 55.0 -2.8**
comp=Z,2μm,1.7s
SATY ⇓*i*S **S 13 37 16.5 -1.5**
comp=Z,1μm,6.2s
SATY *e*LR LR 13 52 13.2
comp=Z,24μm,23.4s
HAWA Hanford 52.21 60 eP P 13 29 58.2 +0.6
HAWA LR LR
comp=Z,13μm,22.0s
F07A Phinny Hill Vi 52.29 61 eP P 13 29 59.1 +1.0
NEW Newport 52.39 57 eP P 13 29 59.2 +0.4
NEW LR LR
comp=Z,14μm,22.0s
NEW Newport 52.39 57 P P **13 29 59.4 +0.5**
baz=307,SNR=125
NEW Newport 52.39 57 P P **13 29 59.3 +0.4**
comp=Z,143nm,1.1s,baz=307,slow=7.1,SNR=101
E08A Dider Farm, El 52.41 60 eP P 13 29 59.0 -0.1
I05D Terrebonne, OR 52.45 63 P P **13 30 00.5 +1.1**
baz=308,SNR=36
L02E Cave Junction 52.49 67 P P **13 30 01.5 +1.8**
baz=309,SNR=32
CHKK Chushkaly 52.52 296⇓*i*P P **13 29 56.6 -3.3**
CHKK *i*S **S 13 37 22.0 -0.2**
CHKK pmax pmax
comp=Z,564nm,1.3s
CHKK smax smax
comp=N,863nm,3.0s
CHKK Chushkaly 52.52 296⇓*i*P P **13 29 56.7 -3.3**
comp=N,564nm,1.3s
CHKK ⇑*i*S **S 13 37 22.1 -0.2**
comp=N,863nm,3.0s
HUMO Hull Mountain 52.59 66 eP P 13 30 02.0 +1.5
DAG Danmarks Havn 52.65 359⇑*i*P P **13 30 00.5 +0.1**
comp=N,554nm,1.3s
comp=Z,19μm,22.0s
DAG Danmarks Havn 52.65 359⇑*i*P P **13 30 00.5 +0.1**
DAG pmax pmax
comp=Z,1μm,1.3s
DAG MLR MLR
comp=Z,21μm,22.0s
J04D Umpqua Nationa 52.69 65 P P **13 30 02.9 +1.5**
baz=308,SNR=47
KULLO Kullorsuaq 52.72 11⇑*i*P P **13 30 01.0 +0.1**
comp=Z,541nm,1.2s
comp=Z,32μm,21.0s
KULLO Kullorsuaq 52.72 11⇑*i*P P **13 30 01.0 +0.1**
KULLO pmax pmax
comp=Z,540nm,1.2s
KULLO MLR MLR
comp=Z,32μm,21.0s
KUU Kurty 52.87 296*d i*P P 13 29 59.3 -3.2
KUU *i*S **S 13 37 25.4 -1.5**
KUU pmax pmax
comp=Z,507nm,1.0s
KUU smax smax
comp=E,1μm,4.5s
KUU MLR MLR
comp=Z,21μm,20.0s
KUU Kurty 52.87 296⇓*i*P P **13 29 59.4 -3.2**
comp=Z,507nm,1.0s
KUU ⇑*i*S **S 13 37 25.4 -1.5**
comp=Z,1μm,4.5s
KUU *e*LR LR 13 52 03.2
comp=Z,21μm,20.1s
SVE Sverdlovsk 52.88 317*d i*P P 13 30 01.7 -0.7
SVE *e*S **S 13 37 23.6 -3.0**
SVE *e*SS **SS 13 40 59.3 -6.1**
SVE *e* 13 42 51.1
SVE pmax pmax
comp=Z,228nm,0.8s
SVE MLR MLR
comp=Z,82μm,17.0s
SVE MLR MLR
comp=E,48μm,17.0s
SVE MLR MLR
comp=N,39μm,16.0s
E09A Wood Farm, Sta 52.90 59 eP P 13 30 03.2 +0.6
MDOK Medeo 52.91 295*d i*P P 13 30 00.1 -2.9
MDOK pmax pmax
comp=Z,668nm,1.8s
MDOK MLR MLR
comp=Z,52μm,23.0s
MDOK Medeo 52.91 295⇓*i*P P **13 30 00.1 -2.9**
comp=Z,668nm,1.8s
MDOK *e*LR LR 13 51 28.1
comp=Z,52μm,23.4s
AAA Alma-Ata 52.96 295*d i*P P 13 30 01.3 -1.9
AAA *e*S **S 13 37 26.4 -1.9**
AAA pmax pmax
comp=Z,554nm,2.1s
AAA smax smax
comp=E,2μm,6.8s

AAA MLR MLR
comp=Z,23µm,25.0s
AAA Alma-Ata 52.96 295 ⇓*iP* **P 13 30 01.4 -1.9**
comp=Z,554nm,2.1s
AAA *eS* **S 13 37 26.4 -1.9**
comp=Z,2µm,6.8s
AAA *e*LR LR 13 51 58.2
comp=Z,23µm,25.1s
PINE Pine Mountain 53.01 64 *e*P **P 13 30 05.2 +1.4**
LSA Lhasa 53.03 273 P **P 13 30 05.5 +1.1**
LSA pmax pmax
comp=Z,66nm,1.1s
LSA LR LR
comp=Z,18µm,16.7s
LSA LR LR
comp=Z,22µm,16.7s
LSA LR LR
comp=Z,100µm,16.1s
LSA Lhasa 53.03 273 *e*P **P 13 30 05.3 +0.9**
comp=Z,98nm,1.0s
LSA LR LR
comp=Z,52µm,19.0s
LSA Lhasa 53.03 273 *i* P **P 13 30 05.4 +0.9**
SNR=30
LSA Lhasa 53.03 273 *e*P **P 13 30 05.3 +0.9**
LSA pmax pmax
comp=Z,98nm,1.0s
LSA MLR MLR
comp=Z,52µm,19.0s
JCC Jacoby Creek, 53.08 68 *e*P **P 13 30 06.5 +2.4**
J05D Fort Rock, OR 53.16 64 P **P 13 30 06.6 +1.8**
baz=309,SNR=118
G08A Pilot Rock 53.20 61 *e*P **P 13 30 05.5 +0.4**
L04D Klamath Falls 53.21 66 P **P 13 30 06.7 +1.5**
baz=309,SNR=128
BATP Bataraza 53.21 232 *e*P **P 13 30 06.8 +1.6**
KHMM Horse Mountain 53.22 68 *e*P **P 13 30 07.2 +1.9**
K04D Chiloquin, OR 53.27 65 P **P 13 30 07.2 +1.5**
baz=309,SNR=31
YBH Yreka Blue Hor 53.28 67 P **P 13 30 07.4 +1.7**
comp=Z,106nm,1.1s,baz=347,slow=3.2,SNR=80
MTBS Maitube 53.29 296 ⇑*iP* **P 13 30 03.9 -1.8**
MTBS pmax pmax
comp=Z,444nm,1.0s
MTBS Maitube 53.29 296 ⇑*iP* **P 13 30 03.9 -1.8**
comp=Z,444nm,1.1s
MANU Manus Island 53.40 193 *e*P **P 13 30 07.2 +0.6**
M02C Callahan 53.41 67 P **P 13 30 08.6 +2.0**
baz=309,SNR=76
BTLS Baital 53.45 299 *de*P **P 13 30 04.0 -2.7**
BTLS *e*S **S 13 37 32.9 -1.8**
BTLS pmax pmax
comp=Z,745nm,1.1s
BTLS smax smax
comp=E,855nm,7.9s
BTLS MLR MLR
comp=Z,18µm,17.0s
BTLS Baital 53.45 299 ⇓*eP* **P 13 30 04.0 -2.7**
comp=Z,745nm,1.1s
BTLS *e*S **S 13 37 32.9 -1.8**
comp=Z,855nm,7.9s
BTLS *e*LR LR 13 53 30.1
comp=Z,18µm,16.7s
WALA Waterton Lakes 53.59 55 *e*P **P 13 30 08.6 +0.7**
I07A Izee 53.65 63 *e*P **P 13 30 09.2 +0.9**
KMRM Mail Ridge 53.65 69 *e*P **P 13 30 10.4 +2.1**
F10A Beach Ranch, E 53.73 60 *e*P **P 13 30 09.0 +0.1**
M04C Macdoel 53.75 66 P **P 13 30 10.8 +1.6**
baz=310,SNR=98
N02D Trinity Center 53.76 67 P **P 13 30 11.0 +1.9**
baz=310,SNR=87
TKM2 Tokmak 2 53.90 296 P **P 13 30 10.0 -0.3**
SNR=104
TKM2 Tokmak 2 53.90 296 P **P 13 30 09.3 -1.0**
TKM2 pmax pmax
comp=Z,110nm,0.9s
ULHL Ulahol 53.95 295 P **P 13 30 08.0 -2.7**
SNR=45
ARU Arti 54.03 317 *eP* **P 13 30 09.2 -1.5**
ARU LR LR
comp=Z,60µm,19.0s
ARU Arti 54.03 317 *c iP* **P 13 30 09.3 -1.5**
ARU *PP **pP** 13 30 24.5 -1.6
ARU 13 31 14.0
ARU 13 32 11.6
ARU PPP PPP 13 33 22.4
ARU S **S** 13 37 41.5 -0.7
ARU 13 39 51.5
ARU pmax pmax
comp=Z,333nm,1.5s
ARU MLR MLR
comp=Z,104µm,18.0s
KCPM Cahto Peak 54.06 69 *e*P **P 13 30 13.2 +1.7**
WDC Whiskeytown Da 54.11 68 *e*P **P 13 30 12.9 +1.3**
WDC Whiskeytown Da 54.11 68 *e*P **P 13 30 12.9 +1.3**
LVZ Lovozero 54.19 337 PFAKE 13 30 20.0 +8.1
LVZ LR LR
comp=Z,32µm,19.0s
LVZ Lovozero 54.19 337 ⇓*iP* **P 13 30 11.1 -0.8**
LVZ pmax pmax
comp=Z,107nm,1.6s
LVZ MLR MLR
comp=Z,61µm,18.0s
O02D Mt. Diablo Mer 54.22 68 P **P 13 30 14.4 +1.8**
baz=310,SNR=89
SKNT Sakolnakorn 54.26 252 P **P 13 30 13.9 +0.9**
comp=Z,276nm,2.3s,comp=Z,7µm
USP Ospenovka 54.30 297 P **P 13 30 12.7 -0.3**
SNR=120
CHMS Chumysh 54.33 296 P **P 13 30 13.0 -0.2**
SNR=51
BMO Blue Mountains 54.39 61 *eP* **P 13 30 14.4 +0.7**
BMO LR LR
comp=Z,10µm,21.0s
BMO Blue Mountains 54.39 61 *eP* **P 13 30 14.4 +0.7**
KBK Karagaybulak 54.43 296 P **P 13 30 14.0 -0.2**
SNR=51
KEV Kevo 54.47 341 PFAKE 13 30 30.0 +16
KEV LR LR
comp=Z,73µm,20.0s
KEV Kevo 54.47 341 *eP* **P 13 30 14.4 +0.7**
MOD Modoc Plateau 54.56 65 *eP* **P 13 30 16.6 +1.5**
KZA Kyzart 54.63 295 P **P 13 30 16.1 +0.3**
SNR=59
J08A Circle Bar Ran 54.68 63 *eP* **P 13 30 17.1 +1.2**
AAK Ala-Archa 54.70 296 P **P 13 30 15.9 -0.2**
SNR=63
AAK Ala-Archa 54.70 296 *eP* **P 13 30 16.0 -0.1**
AAK LR LR
comp=Z,91µm,21.0s
AAK Ala-Archa 54.70 296 *i* P **P 13 30 15.9 -0.2**
SNR=144
AAK Ala-Archa 54.70 296 ⇑*iP* **P 13 30 15.8 -0.2**
AAK pmax pmax
comp=Z,302nm,1.7s
AAK MLR MLR
comp=Z,97µm,22.0s
AAK Ala-Archa 54.70 296 P **P 13 30 16.1 -0.1**
SNR=76
O03E Paynes Creek 54.72 68 P **P 13 30 17.0 +0.8**
baz=310,SNR=156
HOPS Hopland Field 54.81 70 *eP* **P 13 30 17.9 +1.2**
ARCES ARCESS Array B 54.95 341 P **P 13 30 16.6 -0.7**
comp=Z,7.4nm,0.5s,baz=40,slow=7.1,SNR=22
ARCES PcP **PcP** 13 31 19.1 +0.7
comp=Z,42nm,0.9s,baz=38,slow=4.6,SNR=6.5
ARCES LR LR 13 59 42.8
comp=Z,44µm,18.5s,baz=32,slow=42
UCH Uchtor 54.95 296 P **P 13 30 18.0 -0.3**
SNR=25
MSO Missoula 54.97 57 *eP* **P 13 30 18.6 +0.7**
MSO Missoula 54.97 57 P **P 13 30 18.6 +0.7**
baz=310,SNR=205
RABL Rabaul 55.01 187 *eP* **P 13 30 19.0 +0.7**
JAY Jayapura 55.08 201 P **P 13 30 18.7 -0.2**
comp=Z,775nm,2.5s,comp=Z,42µm
GDXM Geysers 55.09 70 *eP* **P 13 30 20.8 +1.9**
EKS2 Erkin-Say 55.10 297 P **P 13 30 18.8 -0.1**
SNR=14
WVOR Wild Horse Val 55.18 64 *eP* **P 13 30 20.8 +1.3**
WVOR LR LR
comp=Z,14µm,22.0s
WVOR Wild Horse Val 55.18 64 *eP* **P 13 30 20.8 +1.3**
WVOR MLR MLR
comp=Z,14µm,22.0s
KDM Kudat 55.31 232 P **P 13 30 24.7 +4.2**

ORV Oroville 55.38 68 *eP* **P 13 30 21.3 +0.5**
ORV Oroville 55.38 68 *eP* **P 13 30 21.3 +0.5**
SHL Shillong 55.45 269 *eP* **P 13 30 21.8 +0.1**
SHL Shillong 55.45 269 *eP* **P 13 30 20.8 -0.9**
MCCM Marconi Confer 55.48 70 *eP* **P 13 30 23.7 +2.2**
AML Almayashu 55.48 296 P **P 13 30 22.2 +0.2**
SNR=37
FFC Flin Flon 55.71 44 *eP* **P 13 30 23.5 +0.6**
FFC LR LR
comp=Z,31µm,20.0s
FFC Flin Flon 55.71 44 *ceP* **P 13 30 23.5 +0.6**
LAMP Lampang 55.73 257 P **P 13 30 25.1 +1.5**
comp=Z,300nm,1.0s,comp=Z,2µm
UTTA Uttaradit 55.75 255 P **P 13 30 24.9 +1.2**
comp=Z,164nm,1.0s,comp=Z,1µm
KTK1 Kautokeino 55.84 342 *eP* **P 13 30 23.5 -0.2**
KTK1 IVmB_BB 13 30 23.6
comp=Z,4µm,3.6s
KTK1 IVMs_BB IVMs_BB 14 00 60.0
comp=Z,16µm,16.8s
BEKR Beckworth 55.84 67 *eP* **P 13 30 25.2 +0.9**
KSH Kashi 55.86 292 P **P 13 30 28.1 +3.7**
KSH sP pP 13 30 42.0 +2.2
KSH PP **PP** 13 32 34.3 +5.2
KSH S **S** 13 38 12.1 +4.7
KSH SS **SS** 13 41 58.4 +5.2
KSH pmax pmax
comp=Z,170nm,1.3s
KSH pmax pmax
comp=Z,4µm,7.6s
KSH LR LR
comp=Z,45µm,14.4s
KSH LR LR
comp=Z,36µm,14.7s
KSH LR LR
comp=Z,55µm,15.3s
CMMT Chiang Mai 55.94 258 P **P 13 30 26.1 +1.0**
comp=Z,993nm,1.0s
CHTO Chiang Mai 55.94 258 PFAKE 13 30 40.0 +15
CHTO LR LR
comp=Z,31µm,21.0s
CHTO Chiang Mai 55.94 258 P **P 13 30 26.8 +1.7**
SNR=464
CHTO Chiang Mai 55.94 258 P **P 13 30 26.2 +1.1**
comp=Z,4µm,1.0s
CHTO Chiang Mai 55.94 258 *eP* **P 13 30 26.7 +1.7**
TNTI Ternate 56.08 217 *eP* **P 13 30 25.8 -0.3**
AFDM Forest Hills D 56.08 68 *eP* **P 13 30 26.7 +0.8**
TMCR Tamitsa 56.09 333 *eP* **P 13 30 24.8 -0.7**
TMCR *eS* **S** 13 38 07.2 -2.3
TMCR pmax pmax
comp=Z,102nm,0.9s
TRO Tromso 56.12 344 *eP* **P 13 30 25.5 -0.1**
TRO IVmB_BB 13 30 25.8
comp=Z,4µm,3.5s
TRO IVMsBB 14 02 01.0
comp=Z,17µm,15.4s
HRY Holter Researc 56.16 56 *eP* **P 13 30 27.6 +1.1**
FCC Fort Churchill 56.21 37 *eP* **P 13 30 26.9 +0.5**
FCC Fort Churchill 56.21 37 *eP* **P 13 30 26.9 +0.5**
CMAR Chiang Mai Arr 56.21 257 P **P 13 30 28.7 +1.7**
CMAR pmax pmax
comp=Z,476nm,1.0s
CMAR MLR MLR
comp=Z,27µm,18.1s
CMAR Chiang Mai Arr 56.21 257 P **P 13 30 28.7 +1.7**
comp=Z,447nm,1.0s,baz=25,slow=7.2,SNR=872
CMAR LR LR 13 57 27.7
comp=Z,27µm,18.1s,baz=42,slow=39
CMAR PKPPKP 14 00 17.6
comp=Z,0.9nm,0.6s,baz=263,slow=4.5,SNR=7.0
CMAR PKP2bc 14 00 38.1
comp=Z,1.4nm,0.6s,baz=222,slow=4.2,SNR=4.5
CMAR PKP2ab 14 00 49.8
comp=Z,1.1nm,0.7s,baz=230,slow=3.1,SNR=4.5
CMAR P4KPbc 14 07 43.8
comp=Z,0.7nm,0.8s,baz=38,slow=4.6,SNR=4.3
SDKM Sandakan 56.23 231 P **P 13 30 28.0 +0.8**
KIRV Kirov 56.30 323 PKPPKP **P'P'df 14 00 25.6 -2.7**
comp=Z,6.4nm,0.5s,baz=309,slow=6.5,SNR=3.0
DZA Taraz 56.32 298 *eP* **P 13 30 31.4 +3.8**
DZA pmax pmax
comp=Z,747nm,2.3s
DZA MLR MLR
comp=Z,15µm,15.0s
DZA Taraz 56.32 298 *eP* **P 13 30 31.5 +3.8**
comp=Z,747nm,2.3s
DZA *e*LR LR 13 54 53.6
comp=Z,15µm,15.0s
KKM Kota Kinabalu 56.37 232 P **P 13 30 29.7 +1.5**
SUMG Summit 56.38 6 *eP* **P 13 30 28.2 +0.3**
SUMG Summit 56.38 6 ⇑*iP* **P 13 30 28.8 +0.8**
comp=Z,59µm,16.0s
SUMG Summit 56.38 6 ⇑*iP* **P 13 30 28.8 +0.8**
SUMG MLR MLR
comp=Z,59µm,16.0s
EGMT Eagleton 56.38 54 *eP* **P 13 30 28.5 +0.5**
EGMT LR LR
comp=Z,34µm,22.0s
EGMT Eagleton 56.38 54 P **P 13 30 28.7 +0.7**
baz=311,SNR=134
PBKT Sadao Pong 56.40 254 *eP* **P 13 30 29.8 +1.5**
PBKT Sadao Pong 56.40 254 P **P 13 30 29.4 +1.1**
comp=Z,467nm,0.8s
LRM Limekiln Ridge 56.41 57 *eP* **P 13 30 29.1 +0.7**
RUBR Rubicon Trail 56.49 68 *eP* **P 13 30 30.3 +1.2**
PAHR Pah Rah Range 56.52 67 *eP* **P 13 30 30.1 +1.0**
SUKH Sukhothai 56.52 256 P **P 13 30 30.8 +1.6**
comp=Z,103nm,1.0s,comp=Z,1µm
DLMT Dillon 56.63 58 *eP* **P 13 30 30.5 +0.7**
VCNR Virginia City 56.63 67 *eP* **P 13 30 31.4 +1.4**
KK31 Karatay Array 56.64 299 *eP* **P 13 30 29.0 -0.8**
KK31 Karatay Array 56.64 299 *eP* **P 13 30 29.0 -0.8**
KKAR Karatay Array 56.64 299 *eP* **P 13 30 29.0 -0.8**
KKAR Karatay Array 56.64 299 *eP* **P 13 30 29.0 -0.8**
PNTR Pine Nut 56.80 67 *eP* **P 13 30 32.2 +1.0**
HLID Hailey 56.81 60 *eP* **P 13 30 32.3 +1.1**
HLID LR LR
comp=Z,14µm,22.0s
HLID Hailey 56.81 60 P **P 13 30 32.5 +1.3**
baz=311,SNR=262
MCMT McKenzie Canyo 56.84 58 *eP* **P 13 30 32.0 +0.5**
BOZ Bozeman (W) 56.99 57 *eP* **P 13 30 33.5 +1.1**
BOZ LR LR
comp=Z,14µm,20.0s
BOZ Bozeman (W) 56.99 57 *eP* **P 13 30 33.5 +1.1**
BOZ MLR MLR
comp=Z,14µm,20.0s
BOZ Bozeman (W) 56.99 57 P **P 13 30 33.7 +1.3**
baz=311,SNR=162
TSM Tawau 57.06 229 P **P 13 30 34.2 +1.1**
YERR Yerington 57.07 67 *eP* **P 13 30 34.3 +1.1**
SAO San Andreas Ge 57.24 71 *eP* **P 13 30 34.9 +0.8**
SAO San Andreas Ge 57.24 71 *eP* **P 13 30 34.9 +0.8**
WAKR Walker 57.28 68 *eP* **P 13 30 36.1 +1.5**
ODAN Odare 57.38 273 *eP* **P 13 30 34.2 -1.3**
ODAN Odare 57.38 273 *eP* **P 13 30 34.0 -1.5**
comp=Z,597nm,1.2s
IUG Iuzhnay 57.54 298 *d iP* **P 13 30 34.1 -2.2**
IUG *eS* **S** 13 38 30.2 +0.7
IUG smax smax
comp=N,647nm,5.3s
IUG MLR MLR
comp=Z,17µm,17.0s
IUG Iuzhnay 57.54 298 ⇓*iP* **P 13 30 34.1 -2.2**
comp=Z,2µm,1.1s
IUG *eS* **S** 13 38 30.2 +0.7
comp=Z,647nm,5.2s
IUG *e*LR LR 13 56 02.1
comp=Z,17µm,16.7s
JIRN Jiri 57.58 275 *eP* **P 13 30 35.8 -1.3**
comp=Z,942nm,0.9s
JIRN Jiri 57.58 275 *eP* **P 13 30 35.9 -1.2**
comp=Z,942nm,0.9s
QLMT Earthquake Lak 57.60 57 *eP* **P 13 30 38.0 +1.2**
GUN Gumba 57.60 276 *eP* **P 13 30 35.9 -1.3**
comp=Z,809nm,1.0s
GUN Gumba 57.60 276 *eP* **P 13 30 36.1 -1.1**
comp=Z,809nm,1.0s
KMSI Cibinong 57.62 221 P **P 13 30 37.6 +0.7**
CHM Chimkent 57.66 299 *d iP* **P 13 30 35.1 -1.9**
CHM pmax pmax
comp=Z,1µm,2.2s
CHM Chimkent 57.66 299 ⇓*iP* **P 13 30 35.1 -1.9**
comp=Z,1µm,2.2s

CHM *e*LR LR 13 55 58.7
comp=Z,9µm,18.4s
KVN Kaiserville 57.70 66 *eP* **P 13 30 38.8 +1.3**
KVN Kaiserville 57.70 66 *eP* **P 13 30 38.8 +1.3**
RYN Ryan 57.73 67 *eP* **P 13 30 38.9 +1.1**
YHB Horse Butte 57.78 57 *eP* **P 13 30 39.4 +1.4**
FAKI Fak Fak 57.78 210 *eP* **P 13 30 37.8 -0.3**
FAKI Fak Fak 57.78 210 P **P 13 30 38.6 +0.5**
RAMN Ramite 57.82 274 *eP* **P 13 30 37.4 -1.2**
comp=Z,1µm,0.8s
RAMN Ramite 57.82 274 *eP* **P 13 30 37.4 -1.2**
comp=Z,1µm,0.8s
GCMT Greycliff 57.90 56 *eP* **P 13 30 40.3 +1.6**
YHH Holmes Hill 57.94 57 *eP* **P 13 30 40.4 +1.1**
YMR Madison River 57.95 57 *eP* **P 13 30 40.7 +1.4**
UMPA Umpang Tak 57.97 256 P **P 13 30 42.1 +2.7**
comp=Z,119nm,1.0s,comp=Z,1µm
NV01 Mina Array Sit 57.99 67 *eP* **P 13 30 39.9 +0.2**
NVAR Mina Array Bea 57.99 67 P **P 13 30 40.8 +1.1**
comp=Z,111nm,1.1s,baz=296,slow=6.1,SNR=128
NVAR LR LR 13 52 06.3
comp=Z,6µm,22.0s,baz=302,slow=32
NVAR PKP2bc 14 00 26.1
comp=Z,1.2nm,0.8s,baz=169,slow=1.8,SNR=7.1
NVAR P4KPbc 14 07 51.9
comp=Z,0.5nm,0.7s,baz=287,slow=4.3,SNR=4.4
KKN Kakani 58.06 276 *eP* **P 13 30 39.2 -1.0**
KKN Kakani 58.06 276 *eP* **P 13 30 39.3 -1.0**
MDPB Devils Postpil 58.07 68 *eP* **P 13 30 41.5 +1.2**
NV11 Mina Array Sit 58.08 67 *eP* **P 13 30 41.2 +1.0**
YNR Norris Junctio 58.08 57 *eP* **P 13 30 42.1 +2.0**
JMIC Jan Mayen 58.08 355 *eP* **P 13 30 40.6 +1.2**
JMIC IVMs_BB IVMs_BB 13 49 46.7
comp=Z,13µm,3.9s
AB31 Akbulak array 58.09 310 *i* P **P 13 30 38.4 -1.5**
AB31 pmax pmax
comp=Z,77nm,0.8s
ABKAR Akbulak array 58.09 310 *eP* **P 13 30 38.7 -1.1**
UTHA Uthaitani 58.10 255 P **P 13 30 42.0 +1.6**
comp=Z,84nm,0.9s,comp=Z,1µm
KLMR Klimovskoe 58.13 329 *eP* **P 13 30 37.8 -2.2**
KLMR *e* 13 32 47.6
KLMR pmax pmax
comp=Z,119nm,0.9s
KLMR Klimovskoe 58.13 329 *eP* **P 13 30 37.8 -2.2**
KLMR AMP 13 30 44.0
comp=Z,119nm,0.9s
KLMR *e*PP **PP** 13 32 47.6 -1.0
PKI Pulchoki 58.13 276 *eP* **P 13 30 39.7 -1.2**
PKI Pulchoki 58.13 276 *eP* **P 13 30 39.6 -1.3**
comp=Z,4µm,1.9s
PKIN Phulchoki 58.14 276 *eP* **P 13 30 39.6 -1.2**
PKIN Phulchoki 58.14 276 *eP* **P 13 30 39.7 -1.1**
YFT Old Faithful 58.17 57 *eP* **P 13 30 43.5 +2.7**
ELK Elko 58.21 63 *eP* **P 13 30 42.5 +1.3**
MLAC Mammoth, Mammo 58.21 68 P **P 13 30 43.0 +1.8**
baz=312,SNR=33
AKTO Aktyubinsk 58.21 312 P **P 13 30 38.6 -2.1**
AKTO pmax pmax
comp=Z,187nm,1.4s
STEI Steigen 58.26 344 *eP* **P 13 30 40.3 -0.5**
DMN Daman 58.30 276 *eP* **P 13 30 41.1 -0.9**
DMN Daman 58.30 276 *eP* **P 13 30 41.1 -0.9**
comp=Z,1µm,1.0s
YPP Pitchstone Pla 58.30 58 *eP* **P 13 30 44.0 +2.2**
LKWY Lake 58.33 57 *eP* **P 13 30 44.6 +2.7**
comp=Z,356nm,1.2s
LKWY LR LR
comp=Z,26µm,22.0s
LKWY Lake 58.33 57 *eP* **P 13 30 44.6 +2.7**
LKWY pmax pmax
comp=Z,357nm,1.2s
LKWY MLR MLR
comp=Z,26µm,22.0s
H17A Grant Village 58.34 57 *eP* **P 13 30 44.9 +2.8**
H17A Grant Village 58.34 57 P **P 13 30 45.0 +3.0**
baz=312,SNR=272
LOF Lofoten 58.37 345 *eP* **P 13 30 39.8 -1.7**
LOF IVmB_BB 13 30 41.5
comp=Z,4µm,3.8s
LOF IVMsBB 14 03 12.7
comp=Z,10µm,15.2s
ILULI Ilulissat 58.42 12 *eP* **P 13 30 41.5 -0.3**
ILULI Ilulissat 58.42 12 ⇑*iP* **P 13 30 41.5 -0.3**
comp=Z,267nm,0.9s
comp=Z,38µm,21.0s
ILULI Ilulissat 58.42 12 ⇑*iP* **P 13 30 41.5 -0.3**
ILULI pmax pmax
comp=Z,270nm,0.9s
ILULI MLR MLR
comp=Z,38µm,21.0s
IMW Indian Meadow 58.48 58 *eP* **P 13 30 44.9 +1.8**
FLWY Flagg Ranch 58.49 58 *eP* **P 13 30 45.1 +2.1**
RLMT Red Lodge 58.55 56 *eP* **P 13 30 45.0 +1.6**
RLMT LR LR
comp=Z,20µm,21.0s
RLMT Red Lodge 58.55 56 P **P 13 30 45.1 +1.7**
baz=312,SNR=456
MRSI Marisa 58.57 223 P **P 13 30 44.0 +0.4**
comp=Z,75nm,1.9s,comp=Z,7µm
FXWY Fox Creek 58.61 58 *eP* **P 13 30 45.6 +1.7**
DANN Dangsing 58.63 277 *eP* **P 13 30 43.4 -0.9**
comp=Z,918nm,0.7s
DANN Dangsing 58.63 277 *eP* **P 13 30 43.7 -0.6**
comp=Z,918nm,0.7s
PAGB Antelope Grade 58.65 71 *eP* **P 13 30 45.6 +1.6**
MOOW Moose Ponds 58.69 58 *eP* **P 13 30 46.0 +1.6**
TPAW Teton Pass 58.75 58 *eP* **P 13 30 45.8 +0.9**
VOG Valley Oaks Go 58.77 70 P **P 13 30 45.4 +0.6**
baz=313
LOHW Long Hollow 58.85 58 *eP* **P 13 30 47.3 +1.7**
DGMT Dagmar 58.86 50 *eP* **P 13 30 46.2 +0.8**
DGMT LR LR
comp=Z,23µm,21.0s
DGMT Dagmar 58.86 50 P **P 13 30 46.1 +0.8**
baz=313,SNR=60
SNOW Snow King Moun 58.87 58 *eP* **P 13 30 47.7 +2.0**
REDW Red Top Meadow 58.89 58 *eP* **P 13 30 47.5 +1.7**
HVU Hansel Valley 58.90 61 *eP* **P 13 30 47.3 +1.5**
HVU Hansel Valley 58.90 61 *eP* **P 13 30 47.3 +1.5**
TIN Tinemaha, Big 58.96 68 P **P 13 30 47.7 +1.5**
baz=313,SNR=23
SCO Scoresbysund 58.99 360 *eP* **P 13 30 46.4 +0.6**
SCO Scoresbysund 58.99 360 ⇑*iP* **P 13 30 46.8 +1.0**
SCO Scoresbysund 58.99 360 ⇑*iP* **P 13 30 46.8 +1.0**
LAO LASA Array 59.07 53 *eP* **P 13 30 48.2 +1.4**
LAO LR LR
comp=Z,27µm,22.0s
LAO LASA Array 59.07 53 P **P 13 30 48.4 +1.6**
baz=313,SNR=161
SMMC Simmler 59.09 71 P **P 13 30 48.4 +1.3**
baz=313,SNR=30
KOLN Koldanda 59.13 277 *eP* **P 13 30 46.9 -0.8**
comp=Z,1µm,0.8s
KOLN Koldanda 59.13 277 *eP* **P 13 30 47.0 -0.8**
comp=Z,1µm,0.8s
AHID Auburn Hatcher 59.16 59 *eP* **P 13 30 49.0 +1.4**
AHID LR LR
comp=Z,9µm,20.0s
SANI Sanana 59.20 218 P **P 13 30 46.5 -1.4**
comp=Z,151nm,0.9s,comp=Z,9µm
SRDT SRDT 59.23 254 P **P 13 30 49.7 +1.5**
comp=Z,322nm,2.0s
VES Vestal, Richgr 59.27 70 P **P 13 30 48.7 +0.4**
baz=313,SNR=72
PATY Pattaya 59.29 252 P **P 13 30 50.6 +2.0**
comp=Z,113nm,1.0s,comp=Z,2µm
PYUN Piuthan 59.29 278 *eP* **P 13 30 47.9 -0.9**
comp=Z,2µm,0.9s
PYUN Piuthan 59.29 278 *eP* **P 13 30 47.7 -1.1**
comp=Z,2µm,0.9s
BGU Big Grassy Mou 59.33 62 *eP* **P 13 30 49.9 +1.1**
SPUT South Promonto 59.40 61 *eP* **P 13 30 50.6 +1.4**
CWC Cottonwood Cre 59.46 69 P **P 13 30 50.8 +1.0**
baz=313
GAR Garm 59.48 295 *eP* **P 13 30 49.4 -0.4**
GAR Garm 59.48 295 *eP* **P 13 30 49.4 -0.4**
PKM Mcpherson Peak 59.48 71 P **P 13 30 51.1 +1.1**
baz=313,SNR=38
KNTN Kanton 59.49 144 *eP* **P 13 30 53.2 +3.3**
GRAC Grapevine Rang 59.51 68 P **P 13 30 51.5 +1.5**
baz=313,SNR=10
LUWI Luwuk 59.58 221 P **P 13 30 52.2 +1.7**
comp=Z,218nm,1.3s,comp=Z,17µm
R11A Troy Canyon, C 59.62 65 *eP* **P 13 30 51.7 +0.8**

R11A	**Troy Canyon, C**	**59.62**	**65**	P		**P**	**13 30 51.9**	**+1.0**
	baz=313,SNR=243								
HWUT	**Hardware Ranch**	**59.68**	**60**	*e*P		**P**	**13 30 52.7**	**+1.4**
HWUT				LR		LR			
	comp=Z,11µm,20.0s								
ISA	**Isabella, Lake**	**59.76**	**70**	*e*P		**P**	**13 30 51.7**	**-0.1**
ISA	**Isabella, Lake**	**59.76**	**70**	*e*P		**P**	**13 30 51.7**	**-0.1**
ISA	**Isabella, Lake**	**59.76**	**70**	P		**P**	**13 30 51.9**	**+0.1**
	baz=313,SNR=58								
SBC	**Santa Barbara**	**59.85**	**71**	P		**P**	**13 30 53.5**	**+1.2**
	baz=314,SNR=9.5								
DAC	**Darwin (Calif)**	**59.86**	**69**	*e*P		**P**	**13 30 53.2**	**+0.6**
DAC	**Darwin (Calif)**	**59.86**	**69**	*e*P		**P**	**13 30 53.2**	**+0.6**
NLAI	**Namlea**	**59.87**	**216**	P		**P**	**13 30 53.1**	**+0.6**
ARVC	**Arvin**	**59.91**	**70**	P		**P**	**13 30 53.0**	**+0.3**
	baz=314,SNR=15								
KONS	**Konsvik**	**59.92**	**344**	*e*		**P**	**13 30 53.1**	**+0.9**
DUG	**Dugway, Tooele**	**59.95**	**62**	*e*P		**P**	**13 30 54.5**	**+1.4**
DUG				LR		LR			
	comp=Z,7µm,21.0s								
DUG	**Dugway, Tooele**	**59.95**	**62**	*e*P		**P**	**13 30 54.5**	**+1.4**
DUG	**Dugway, Tooele**	**59.95**	**62**	P		**P**	**13 30 54.6**	**+1.5**
	baz=313,SNR=229								
MOR8	**Moi Rana**	**59.98**	**344**	*e*P		**P**	**13 30 51.7**	**-1.0**
MOR8				IVMs_BB		IVMs_BB	14 02 18.2		
	comp=Z,17µm,15.9s								
BW06	**Boulder Array**	**59.99**	**58**	*e*P		**P**	**13 30 54.4**	**+1.0**
BW06				LR		LR			
	comp=Z,15µm,21.0s								
BW06	**Boulder Array**	**59.99**	**58**	P		**P**	**13 30 54.7**	**+1.2**
	baz=313,SNR=377								
PD31	**Pinedale Array**	**59.99**	**58**	*e*P		**P**	**13 30 54.4**	**+1.0**
PDAR	**Pinedale Array**	**59.99**	**58**	*e*P		**P**	**13 30 52.0**	**-1.4**
PDAR	**Pinedale Array**	**59.99**	**58**	P		**P**	**13 30 54.5**	**+1.0**
	comp=Z,240nm,1.0s,baz=305,slow=2.3,SNR=403								
PDAR				PKPPKP		**P'P'df**	**14 00 19.8**	**-2.5**	
	comp=Z,1.1nm,0.9s,baz=162,slow=3.8,SNR=4.2								
PDAR				PKP2bc			14 00 24.5		
	comp=Z,2.5nm,1.1s,baz=106,slow=3.8,SNR=4.8								
PHET	**Kaeng Krachan**	**60.04**	**253**	P		**P**	**13 30 55.8**	**+2.0**
	comp=Z,356nm,1.0s,comp=Z,3µm								
HNR	**Honiara**	**60.05**	**177**	*e*P		P	13 30 59.3	+5.6	
HNR	**Honiara**	**60.05**	**177**	LR		LR	13 52 27.1		
	comp=Z,35µm,22.0s,baz=1.5,slow=32								
BNDI	**Bandanaira**	**60.06**	**212**	P		**P**	**13 30 54.2**	**+0.4**
	comp=Z,592nm,1.4s,comp=Z,14µm								
MPMC	**Manual Prospec**	**60.07**	**69**	P		**P**	**13 30 55.0**	**+1.0**
	baz=314,SNR=98								
TCUT	**Toone Canyon**	**60.10**	**61**	*e*P		**P**	**13 30 55.7**	**+1.4**
FURC	**Furnace Creek,**	**60.16**	**68**	P		**P**	**13 30 55.6**	**+1.3**
	baz=314,SNR=202								
TPNV	**Topopah Spring**	**60.19**	**67**	*e*P		**P**	**13 30 55.6**	**+0.9**
TPNV	**Topopah Spring**	**60.19**	**67**	*e*P		**P**	**13 30 55.7**	**+0.9**
TPNV	**Topopah Spring**	**60.19**	**67**	P		**P**	**13 30 56.0**	**+1.2**
	baz=314,SNR=217								
CTU	**Camp Tracy**	**60.20**	**61**	*e*P		**P**	**13 30 56.1**	**+1.2**
SCZ2	**Santa Cruz Isl**	**60.20**	**72**	P		**P**	**13 30 55.3**	**+0.6**
	baz=314,SNR=13								
OSI	**Osito Audit: C**	**60.33**	**71**	*e*P		**P**	**13 30 56.4**	**+0.8**
OSI	**Osito Audit: C**	**60.33**	**71**	P		**P**	**13 30 56.6**	**+1.0**
	baz=314,SNR=7.1								
LRMC	**Laurel Mtn Rad**	**60.35**	**69**	P		**P**	**13 30 56.5**	**+0.6**
	baz=314,SNR=86								
CHGR	**Chuyangaron**	**60.38**	**296**	*e*P		**P**	**13 30 55.4**	**-0.6**
BTM	**Bintulu**	**60.39**	**234**	P		**P**	**13 30 57.0**	**+0.9**
JLU	**Jordanelle**	**60.43**	**61**	*e*P		**P**	**13 30 57.8**	**+1.3**
BLG	**Laguna Peak, P**	**60.47**	**71**	P		**P**	**13 30 56.9**	**+0.3**
	baz=314								
PSUT	**Pine Spring**	**60.49**	**64**	*e*P		**P**	**13 30 57.9**	**+1.0**
BOK	**Bokaro**	**60.51**	**272**	*e*P		**P**	**13 30 56.6**	**-0.4**
NLU	**North Lily Min**	**60.53**	**62**	*e*P		**P**	**13 30 58.2**	**+1.1**
DHRM	**DHARAMSHALA**	**60.55**	**286**	*e*P		**P**	**13 30 56.1**	**-1.3**
SFJD	**Kangerlussuaq**	**60.56**	**12**	*e*P		**P**	**13 30 56.5**	**-0.2**
	comp=Z,667nm,1.6s								
SFJD				LR		LR			
	comp=Z,32µm,19.0s								
SFJD	**Kangerlussuaq**	**60.56**	**12⇑**	*i*P		**P**	**13 30 56.4**	**-0.2**
	comp=Z,274nm,1.2s								
	comp=Z,31µm,19.0s								
SFJD	**Kangerlussuaq**	**60.56**	**12⇑**	*i*P		**P**	**13 30 56.4**	**-0.2**
SFJD				pmax		pmax			
	comp=Z,270nm,1.2s								
SFJD				MLR		MLR			
	comp=Z,31µm,19.0s								
SFJD	**Kangerlussuaq**	**60.56**	**12**	*e*P		**P**	**13 30 56.5**	**-0.2**
EDW2	**Edwards Air Fo**	**60.58**	**70**	P		**P**	**13 30 58.2**	**+0.9**
	baz=314,SNR=151								
MPU	**Maple Canyon**	**60.73**	**62**	*e*P		**P**	**13 30 59.8**	**+1.3**
SNCC	**San Nicolas Is**	**60.79**	**72**	*e*P		**P**	**13 31 00.9**	**+2.2**
SNCC	**San Nicolas Is**	**60.79**	**72**	P		**P**	**13 30 59.3**	**+0.6**
	baz=314,SNR=7.3								
SMLA	**Simla**	**60.80**	**284**	*e*P		**P**	**13 30 57.7**	**-1.1**
DECC	**Green Verdugo**	**60.81**	**71**	P		**P**	**13 30 59.6**	**+0.7**
	baz=314,SNR=10								
DDI	**Dehra Dun**	**60.81**	**283**	*e*P		**P**	**13 30 57.5**	**-1.5**
SHOC	**Shoshone, Teco**	**60.90**	**68**	P		**P**	**13 31 00.3**	**+0.9**
	baz=314,SNR=18								
PASC	**Pasadena Art C**	**60.95**	**71**	*e*P		**P**	**13 31 00.4**	**+0.6**
MWC	**Mount Wilson**	**60.99**	**71**	*e*P		**P**	**13 31 00.9**	**+0.6**
MWC	**Mount Wilson**	**60.99**	**71**	*e*P		**P**	**13 31 00.9**	**+0.6**
GSC	**Goldstone, Bar**	**60.99**	**69**	*e*P		**P**	**13 31 00.7**	**+0.5**
GSC	**Goldstone, Bar**	**60.99**	**69**	*e*P		**P**	**13 31 00.7**	**+0.5**
GSC	**Goldstone, Bar**	**60.99**	**69**	P		**P**	**13 31 00.9**	**+0.7**
	baz=314,SNR=72								
BHK	**Bhakra**	**61.06**	**285**	*e*P		**P**	**13 30 59.0**	**-1.6**
SHPR	**Sheep Range**	**61.13**	**67**	*e*P		**P**	**13 31 02.2**	**+1.0**
RRX	**Edison Barstow**	**61.17**	**69**	P		**P**	**13 31 02.2**	**+0.9**
	baz=314								
FMP	**Fort Macarthur**	**61.20**	**71**	P		**P**	**13 31 02.1**	**+0.6**
	baz=314,SNR=7.4								
BFSC	**Mount Baldy Ra**	**61.22**	**70**	P		**P**	**13 31 02.4**	**+0.6**
	baz=314,SNR=42								
CIS	**Catalina Islan**	**61.35**	**71**	P		**P**	**13 31 02.9**	**+0.4**
	baz=314,SNR=19								
TUQ	**Turquoise Moun**	**61.42**	**68**	P		**P**	**13 31 04.0**	**+0.8**
	baz=314,SNR=117								
NIL	**Nilore**	**61.42**	**289**	PFAKE			13 31 10.0	+6.9	
NIL				LR		LR			
	comp=Z,12µm,22.0s								
CCUT	**Cedar City**	**61.45**	**65**	*e*P		**P**	**13 31 04.5**	**+1.1**
MSU	**Marysvale**	**61.46**	**63**	*e*P		**P**	**13 31 04.8**	**+1.4**
MSU	**Marysvale**	**61.46**	**63**	*e*P		**P**	**13 31 04.9**	**+1.4**
TMUT	**Trail Mountain**	**61.46**	**62**	*e*P		**P**	**13 31 04.8**	**+1.3**
SBUM	**Sibu**	**61.47**	**234**	P		**P**	**13 31 05.3**	**+1.8**
ULM	**Lac du Bonnet**	**61.50**	**44**	P		**P**	**13 31 03.5**	**+0.2**
	comp=Z,61nm,1.1s,baz=316,slow=7.6,SNR=48								
ULM				LR		LR	13 58 59.8		
	comp=Z,14µm,21.6s,baz=324,slow=37								
ULM				PKP2bc			14 00 23.6		
	comp=Z,3.0nm,0.8s,baz=109,slow=3.0,SNR=4.9								
MDND	**Maddock**	**61.51**	**48**	*e*P		**P**	**13 31 04.7**	**+1.3**
MDND	**Maddock**	**61.51**	**48**	P		**P**	**13 31 04.5**	**+1.2**
	baz=316,SNR=26								
SCI2	**San Clemente I**	**61.56**	**72**	P		**P**	**13 31 04.6**	**+0.6**
	baz=314,SNR=10								
FIA1	**FINESS Array S**	**61.57**	**336**	*e*P		**P**	**13 31 01.8**	**-1.8**
FINES	**FINESS Array B**	**61.58**	**336**	*ce*P		**P**	**13 31 01.7**	**-1.9**
FINES				pmax		pmax			
	comp=Z,37nm,0.8s								
FINES	**FINESS Array B**	**61.58**	**336**	P		**P**	**13 31 01.8**	**-1.7**
	comp=Z,37nm,0.8s,baz=34,slow=4.8,SNR=56								
FINES				PKPPKP		P'P'df	14 00 10.6	-10	
	comp=Z,4.6nm,1.0s,baz=100,slow=4.3,SNR=4.3								
FINES				PKP2bc			14 00 19.1		
	comp=Z,4.9nm,0.8s,baz=180,slow=0.7,SNR=5.1								
FINES				LR		LR	14 01 08.8		
	comp=Z,60µm,21.7s,baz=20,slow=39								
SZCU	**Shurtz Canyon**	**61.58**	**65**	*e*P		**P**	**13 31 05.2**	**+1.0**
HEC	**Hector,Ludlow**	**61.60**	**69**	P		**P**	**13 31 05.1**	**+0.8**
	baz=314,SNR=26								
P17A	**Butcher Ranch,**	**61.60**	**62**	*e*P		**P**	**13 31 05.6**	**+1.2**
BBRC	**Big Bear Solar**	**61.65**	**70**	P		**P**	**13 31 05.5**	**+0.7**
	baz=314,SNR=16								
K22A	**Casper**	**61.69**	**56**	*e*P		**P**	**13 31 05.5**	**+0.6**
K22A	**Casper**	**61.69**	**56**	P		**P**	**13 31 05.7**	**+0.8**
	baz=314,SNR=84								
Q16A	**Castle Valley**	**61.75**	**62**	*e*P		**P**	**13 31 06.6**	**+1.2**
MTPU	**Mount Pierson**	**61.78**	**64**	*e*P		**P**	**13 31 06.9**	**+1.1**
LCMT	**Little Creek M**	**61.89**	**65**	*e*P		**P**	**13 31 07.3**	**+1.1**
MURC	**Murrieta**	**61.94**	**70**	P		**P**	**13 31 07.1**	**+0.6**
	baz=315,SNR=48								
RSSD	**Black Hills**	**61.95**	**54**	*e*P		**P**	**13 31 06.9**	**+0.2**
RSSD	**Black Hills**	**61.95**	**54**	*e*P		**P**	**13 31 06.9**	**+0.2**
RSSD	**Black Hills**	**61.95**	**54**	P		**P**	**13 31 07.6**	**+0.9**
	baz=315								

SRU	**San Rafael Swe**	**61.98**	**62**	*e*P		**P**	**13 31 07.7**	**+0.8**
SRU	**San Rafael Swe**	**61.98**	**62**	*e*P		**P**	**13 31 07.7**	**+0.8**
RWWY	**Rawlins**	**61.99**	**58**	*e*P		**P**	**13 31 07.8**	**+0.7**
GMRC	**Granite Mounta**	**62.03**	**69**	P		**P**	**13 31 08.2**	**+0.9**
	baz=314,SNR=116								
PKCU	**Pink Cliffs**	**62.12**	**64**	*e*P		**P**	**13 31 10.3**	**+2.2**
KNB	**Kanab**	**62.13**	**65**	*e*P		**P**	**13 31 09.3**	**+1.4**
KNB	**Kanab**	**62.13**	**65**	*e*P		**P**	**13 31 09.3**	**+1.4**
LDFC	**Landfair**	**62.15**	**68**	*e*P		**P**	**13 31 08.6**	**+0.6**
KDI	**Kendari**	**62.28**	**220**	P		**P**	**13 31 09.1**	**+0.3**
	comp=Z,98nm,2.3s,comp=Z,9µm								
PFO	**Pinyon Flats O**	**62.37**	**70**	*e*P		**P**	**13 31 09.7**	**+0.1**
PFO				LR		LR			
	comp=Z,15µm,20.0s								
PFO	**Pinyon Flats O**	**62.37**	**70**	*e*P		**P**	**13 31 09.7**	**+0.1**
PFO				MLR		MLR			
	comp=Z,15µm,20.0s								
PFO	**Pinyon Flats O**	**62.37**	**70**	P		**P**	**13 31 10.0**	**+0.4**
	baz=315,SNR=50								
BELC	**Belle Mtn. Jos**	**62.38**	**69**	P		**P**	**13 31 09.8**	**+0.2**
	baz=315,SNR=49								
XPFO	**Pion Flat**	**62.38**	**70**	*e*P		**P**	**13 31 09.6**	**0.0**
NDI	**New Delhi**	**62.48**	**282**	*e*P		**P**	**13 31 09.5**	**-0.7**
NDI				*ex*		x	13 39 49.5		
109C	**Camp Elliot, M**	**62.49**	**71**	P		**P**	**13 31 10.8**	**+0.6**
	baz=315,SNR=11								
CPE	**Camp Elliot**	**62.49**	**71**	*e*P		**P**	**13 31 10.8**	**+0.7**
O20A	**White River Ci**	**62.52**	**60**	*e*P		**P**	**13 31 11.4**	**+0.9**
O20A	**White River Ci**	**62.52**	**60**	P		**P**	**13 31 11.4**	**+0.9**
	baz=315,SNR=115								
TTSI	**Tana Toraja**	**62.64**	**224**	P		**P**	**13 31 10.8**	**-0.5**
NEE2	**Needles Airpor**	**62.65**	**68**	P		**P**	**13 31 11.9**	**+0.6**
	baz=315								
MOS	**Moscow**	**62.72**	**327**	*e*P		**P**	**13 31 08.4**	**-2.9**
MOS				*e*			13 31 47.1		
MOS				*e*			13 34 58.9		
MOS				pmax		pmax			
	comp=Z,179nm,1.5s								
MOS				MLR		MLR			
	comp=Z,63µm,22.0s								
MOS				MLR		MLR			
	comp=N,50µm,21.0s								
IRM	**Iron Mountain**	**62.77**	**69**	P		**P**	**13 31 13.0**	**+1.0**
	baz=315,SNR=176								
SAUI	**Saumlaki**	**62.85**	**210**	*e*P		**P**	**13 31 14.0**	**+1.3**
SAUI	**Saumlaki**	**62.85**	**210**	P		**P**	**13 31 13.2**	**+0.6**
BAR	**Barrett**	**62.90**	**71**	*e*P		**P**	**13 31 12.9**	**-0.1**
MONP2	**Monument Peak**	**62.90**	**71**	P		**P**	**13 31 13.4**	**+0.2**
	baz=315,SNR=37								
AGMN	**Agassiz Nation**	**62.92**	**46**	*e*P		**P**	**13 31 12.6**	**-0.2**
AGMN				LR		LR			
	comp=Z,25µm,22.0s								
AGMN	**Agassiz Nation**	**62.92**	**46**	P		**P**	**13 31 13.1**	**+0.3**
	baz=317,SNR=71								
BC3	**Big Chuckawall**	**62.94**	**69**	P		**P**	**13 31 13.7**	**+0.4**
	baz=315,SNR=65								
MTKI	**Muara Teweh, K**	**63.05**	**230**	P		**P**	**13 31 14.3**	**+0.2**
BWNR	**Bhubaneshwar**	**63.11**	**269**	*ex*		**P**	**13 31 09.6**	**-4.7**
PV09	**Paradox Valley**	**63.18**	**61**	*e*P		**P**	**13 31 15.9**	**+0.8**
PHWY	**Pilot Hill**	**63.20**	**57**	*e*P		**P**	**13 31 15.5**	**+0.4**
PV21	**Cone Mtn., Par**	**63.22**	**61**	*e*P		**P**	**13 31 16.1**	**+0.9**
N23A	**Red Feather La**	**63.23**	**58**	*e*P		**P**	**13 31 16.7**	**+1.4**
N23A	**Red Feather La**	**63.23**	**58**	P		**P**	**13 31 16.7**	**+1.4**
	baz=315,SNR=114								
SWSC	**Sam W. Stewart**	**63.23**	**70**	P		**P**	**13 31 15.5**	**+0.4**
	baz=315,SNR=28								
IKP	**In-Ko-Pah, Jac**	**63.26**	**71**	P		**P**	**13 31 15.8**	**+0.5**
	baz=315,SNR=33								
PDMCI	**Parker Dam,Lak**	**63.26**	**68**	P		**P**	**13 31 16.0**	**+0.8**
	baz=315,SNR=54								
PV23	**Carpenter Ridg**	**63.28**	**61**	*e*P		**P**	**13 31 16.6**	**+0.9**
KSM	**Kuching**	**63.29**	**235**	P		**P**	**13 31 17.5**	**+1.9**
KBL	**Kabul**	**63.30**	**293**	*e*P		**P**	**13 31 14.3**	**-1.5**
KBL	**Kabul**	**63.30**	**293**	*e*P		**P**	**13 31 14.3**	**-1.5**
PV10	**Paradox Valley**	**63.32**	**61**	*e*P		**P**	**13 31 17.3**	**+1.4**
PV14	**Lion Creek, Pa**	**63.33**	**61**	*e*P		**P**	**13 31 16.8**	**+0.8**
PV04	**Paradox Valley**	**63.38**	**61**	*e*P		**P**	**13 31 17.2**	**+1.0**
PV20	**West Nyswonger**	**63.38**	**61**	*e*P		**P**	**13 31 17.3**	**+1.1**
PV19	**Morning Glory**	**63.40**	**61**	*e*P		**P**	**13 31 17.2**	**+0.8**
Y12C	**Blythe**	**63.42**	**69**	*e*P		**P**	**13 31 17.2**	**+0.8**
Y12C	**Blythe**	**63.42**	**69**	P		**P**	**13 31 17.3**	**+1.0**
	baz=315,SNR=75								
PV17	**East Wray Mesa**	**63.43**	**61**	*e*P		**P**	**13 31 17.6**	**+1.0**
PV16	**Nyswonger Mesa**	**63.43**	**61**	*e*P		**P**	**13 31 17.5**	**+0.9**
PV11	**David Mesa, Pa**	**63.47**	**61**	*e*P		**P**	**13 31 17.8**	**+1.0**
SPSI	**Sidrap Palu**	**63.49**	**223**	P		**P**	**13 31 16.5**	**-0.4**
	comp=Z,119nm,1.8s,comp=Z,6µm								
PV12	**Saucer Basin,**	**63.49**	**61**	*e*P		**P**	**13 31 18.0**	**+1.0**
PV07	**Paradox Valley**	**63.49**	**61**	*e*P		**P**	**13 31 17.9**	**+0.9**
PV03	**Paradox Valley**	**63.51**	**61**	*e*P		**P**	**13 31 18.0**	**+0.9**
OBN	**Obninsk**	**63.58**	**327**	*e*P		**P**	**13 31 16.6**	**-0.4**
OBN				LR		LR			
	comp=Z,35µm,21.0s								
OBN	**Obninsk**	**63.58**	**327**	*c i*P		**P**	**13 31 15.9**	**-1.1**
OBN				*e*			13 31 52.6		
OBN				*e*			13 33 38.5		
OBN				*e*S		**S**	**13 39 41.0**	**-5.0**	
OBN				*e*SS		**SS**	**13 43 56.9**	**+3.8**	
OBN				pmax		pmax			
	comp=Z,223nm,2.5s								
OBN				MLR		MLR			
	comp=Z,72µm,23.0s								
PV13	**Radium Mtn., P**	**63.59**	**61**	*e*P		**P**	**13 31 18.7**	**+1.0**
PV02	**Paradox Valley**	**63.60**	**61**	*e*P		**P**	**13 31 18.7**	**+0.9**
PV15	**Paradox Valley**	**63.65**	**61**	*e*P		**P**	**13 31 19.1**	**+0.9**
BNSI	**Bone**	**63.73**	**223**	P		**P**	**13 31 18.8**	**+0.3**
	comp=Z,160nm,2.8s,comp=Z,7µm								
GLA	**Glamis**	**63.74**	**69**	*e*P		**P**	**13 31 19.4**	**+0.9**
GLA	**Glamis**	**63.74**	**69**	*e*P		**P**	**13 31 19.4**	**+0.9**
GLA	**Glamis**	**63.74**	**69**	P		**P**	**13 31 19.4**	**+0.9**
	baz=315,SNR=30								
PV01	**Paradox Valley**	**63.75**	**61**	*e*P		**P**	**13 31 19.6**	**+0.9**
SMCO	**Snowmass**	**63.89**	**60**	*e*P		**P**	**13 31 20.9**	**+1.1**
VSU	**Vasula**	**63.92**	**334**	*ce*P		**P**	**13 31 18.3**	**-0.9**
VSU				pmax		pmax			
	comp=Z,529nm,1.7s								
VSU				MLR		MLR			
	comp=Z,130µm,16.0s								
VSU	**Vasula**	**63.92**	**334**	*e*P		**P**	**13 31 19.3**	**+0.1**
VSU				IAmb		IAmb	13 31 21.3		
	comp=Z,225nm,0.9s								
SKLT	**Songkhla**	**63.99**	**248**	P		**P**	**13 31 22.4**	**+2.2**
	comp=Z,211nm,0.8s,comp=Z,11µm								
TRTT	**Trang**	**64.00**	**249**	P		**P**	**13 31 21.9**	**+1.5**
	comp=Z,77nm,1.2s,comp=Z,3µm								
WUAZ	**Wupatki**	**64.01**	**65**	*e*P		**P**	**13 31 21.6**	**+1.2**
WUAZ				LR		LR			
	comp=Z,22µm,22.0s								
WUAZ	**Wupatki**	**64.01**	**65**	P		**P**	**13 31 21.9**	**+1.5**
	baz=316,SNR=122								
KTGM	**Kuala Trenggan**	**64.02**	**244**	P		**P**	**13 31 23.0**	**+2.5**
ISCO	**Idaho Springs**	**64.19**	**58**	PFAKE			13 31 30.0	+8.3	
ISCO				LR		LR			
	comp=Z,15µm,21.0s								
ISCO	**Idaho Springs**	**64.19**	**58**	P		**P**	**13 31 23.4**	**+1.7**
	baz=316,SNR=242								
SUSD	**Miller**	**64.27**	**51**	P		**P**	**13 31 21.9**	**+0.2**
	baz=317,SNR=21								
KAPI	**Kappang**	**64.43**	**223**	PFAKE			13 31 40.0	+17	
KAPI				LR		LR			
	comp=Z,6µm,20.0s								
MVCO	**Mesa Verde**	**64.44**	**62**	*e*P		**P**	**13 31 24.2**	**+0.9**
MVCO				LR		LR			
	comp=Z,11µm,21.0s								
MVCO	**Mesa Verde**	**64.44**	**62**	P		**P**	**13 31 24.3**	**+1.0**
	baz=316,SNR=77								
MOL	**Molde**	**64.48**	**345**	*e*P		**P**	**13 31 23.0**	**+0.2**
MOL				IVMs_BB		IVMs_BB	14 04 54.2		
	comp=Z,12µm,18.1s								
KBKI	**Kotabaru**	**64.52**	**227**	P		**P**	**13 31 23.2**	**-0.4**
BKSI	**Bulukumba**	**64.55**	**222**	P		**P**	**13 31 23.8**	**0.0**
	comp=Z,48nm,1.5s,comp=Z,3µm								
LPSR	**Galich'ya Gora**	**64.72**	**324**	*e*P		**P**	**13 31 23.3**	**-1.2**
LPSR				pmax		pmax			
	comp=Z,150nm,0.9s								
LPSR				pmax		pmax			
	comp=Z,180nm,1.3s								
LPSR				MLR		MLR			
	comp=Z,97µm,20.0s								
DOMB	**Dombas**	**64.72**	**344**	*e*P		**P**	**13 31 23.7**	**-0.8**
DOMB				IVmB_BB			13 31 25.2		
	comp=Z,5µm,3.2s								
DOMB				IVMsBB			14 04 55.3		
	comp=Z,24µm,18.0s								

VRH	**Novokhopyorsk**	**64.74**	**321**	*e*P		**P**	**13 31 23.0**	**-1.7**
VRH				pmax		pmax			
	comp=Z,170nm,0.7s								
VRH				pmax		pmax			
	comp=Z,180nm,0.8s								
VRH				MLR		MLR			
	comp=Z,48µm,20.0s								
BORG	**Borgarnes**	**64.75**	**360**	*e*P		**P**	**13 31 24.6**	**+0.1**
	comp=Z,499nm,1.1s								
BORG				LR		LR			
	comp=Z,6µm,21.0s								
BORG	**Borgarnes**	**64.75**	**360**	*e*P		**P**	**13 31 24.6**	**+0.1**
BORG				pmax		pmax			
	comp=Z,499nm,1.1s								
PKDT	**Phuket**	**64.77**	**250**	P		**P**	**13 31 27.2**	**+1.9**
	comp=Z,138nm,1.1s,comp=Z,5µm								
AKN	**Aaknes**	**64.94**	**345**	*e*P		**P**	**13 31 25.2**	**-0.6**
AKN				IVmB_BB			13 32 26.5		
	comp=Z,6µm,3.7s								
AKN				IVMsBB			14 05 16.3		
	comp=Z,15µm,18.6s								
S22A	**4UR Ranch, Cre**	**64.99**	**61**	P		**P**	**13 31 28.6**	**+1.7**
	baz=316,SNR=189								
Q24A	**Divide**	**65.03**	**59**	P		**P**	**13 31 28.3**	**+1.1**
	baz=316,SNR=34								
EYMN	**Ely**	**65.14**	**44**	*e*P		**P**	**13 31 27.3**	**0.0**
EYMN				LR		LR			
	comp=Z,23µm,22.0s								
EYMN	**Ely**	**65.14**	**44**	P		**P**	**13 31 27.5**	**+0.1**
	baz=320,SNR=16								
PBA	**Port Blair**	**65.23**	**258**	*e*P		P	13 31 28.0	-0.4	
PBA				IAMs_20		IAMs_20	13 59 23.6		
	comp=Z,14µm,10.7s								
W18A	**Petrified Fore**	**65.24**	**64**	*e*P		**P**	**13 31 29.6**	**+1.2**
W18A	**Petrified Fore**	**65.24**	**64**	P		**P**	**13 31 29.8**	**+1.4**
	baz=316,SNR=44								
OGNE	**Ogallala**	**65.26**	**55**	*e*P		**P**	**13 31 29.3**	**+0.9**
OGNE				LR		LR			
	comp=Z,12µm,21.0s								
OGNE	**Ogallala**	**65.26**	**55**	P		**P**	**13 31 29.3**	**+0.9**
	baz=317,SNR=84								
NOA	**NORSAR Array B**	**65.27**	**343**	P		**P**	**13 31 27.3**	**-0.8**
	comp=Z,23nm,0.6s,baz=23,slow=6.6,SNR=84								
NOA				LR		LR	14 05 15.4		
	comp=Z,31µm,19.1s,baz=25,slow=41								
VORR	**Voronezh**	**65.35**	**323**	*e*P		**P**	**13 31 26.0**	**-2.6**
VORR				pmax		pmax			
	comp=Z,500nm,3.2s								
KULM	**Kulim**	**65.48**	**247**	P		**P**	**13 31 31.9**	**+1.9**
NC602	**NORSAR Array S**	**65.49**	**342**	*e*P		**P**	**13 31 28.6**	**-0.8**
NC602				IVmB_BB			13 31 30.1		
	comp=Z,4µm,7.0s								
NC602				*e*SS		SS	13 44 27.8	+5.3	
214A	**Organ Pipe Nat**	**65.71**	**69**	P		**P**	**13 31 32.3**	**+1.0**
	baz=316,SNR=80								
SDCO	**Great Sand Dun**	**65.72**	**60**	*e*P		**P**	**13 31 32.7**	**+1.1**
SDCO				LR		LR			
	comp=Z,14µm,21.0s								
SDCO	**Great Sand Dun**	**65.72**	**60**	P		**P**	**13 31 32.9**	**+1.3**
	baz=317,SNR=200				

MICGM eP P 13 31 54.0 -0.6
MICGM eS S 13 40 24.0 -3.2
MICGM eSS SS 13 44 34.0 -11
MICGM eSSS SSS 13 47 08.0
MICGM eLR LR 13 58 50.0
MICGM LRM MLR 14 03 24.0
comp=N,103nm,28.0s
MICGM LRM MLR 14 03 28.0
comp=N,72nm,21.0s
MICGM LRM MLR 14 03 40.0
comp=Z,194nm,20.0s
MICGM LRM MLR 14 04 20.0
comp=E,50nm,18.0s
MNK Minsk 66.95 331⇑ eP P **13 31 38.0 -0.8**
MNK e*PP pP **13 31 54.0 -0.6**
MNK eS S **13 40 24.0 -3.2**
MNK eSS SS **13 44 39.0 -6.4**
MNK pmax pmax
comp=Z,460nm,1.2s
MNK MLR MLR
comp=Z,194µm,20.0s
E40A Wakefield 66.99 44 P P **13 31 39.9 +0.7**
baz=321,SNR=34
GEYT Alibeck 67.02 302 P P **13 31 39.5 -0.1**
comp=Z,71nm,0.8s,baz=29,slow=3.4,SNR=87
GEYT PKP2bc 14 00 07.2
comp=Z,1.3nm,0.6s,baz=202,slow=1.6,SNR=5.8
GEYT PKP2ab 14 00 11.8
comp=Z,0.6nm,0.3s,baz=218,slow=1.6,SNR=3.8
GEYT LR LR 14 04 04.0
comp=Z,43µm,18.6s,baz=50,slow=39
G38A Ridgeland 67.09 46 P P **13 31 39.6 -0.4**
baz=320,SNR=43
D41A Chassel 67.09 43 P P **13 31 39.9 0.0**
baz=321,SNR=13
ODD1 Odda 67.14 345 eP P **13 31 39.6 -0.4**
ODD1 IVmB_BB 13 31 41.3
comp=Z,6µm,3.4s
ODD1 IVMs_BB IVMs_BB 14 06 19.2
comp=Z,26µm,19.9s
ANMO Albuquerque 67.22 62 eP P **13 31 42.1 +0.9**
ANMO LR LR
comp=Z,10µm,20.0s
ANMO Albuquerque 67.22 62 *ce*P P **13 31 42.1 +0.9**
ANMO pmax pmax
comp=Z,376nm,2.5s
ANMO Albuquerque 67.22 62 P P **13 31 42.3 +1.2**
baz=317
LAZ Ladron 67.23 63 eP P **13 31 42.7 +1.5**
H38A Maiden Rock 67.27 47 P P **13 31 41.2 +0.1**
baz=320,SNR=26
F40A Park Falls 67.30 44 P P **13 31 41.1 -0.1**
baz=321,SNR=11
G39A Holcombe 67.31 46 P P **13 31 40.9 -0.4**
baz=320,SNR=24
PBUR Paburg 67.35 335 eP P **13 31 40.8 -0.5**
PBUR IAmb IAmb 13 31 43.1
comp=Z,167nm,0.7s
E41A Kenton 67.38 43 P P **13 31 41.6 -0.1**
baz=321,SNR=25
MTN Manton Dam 67.50 208 eP P **13 31 42.9 +0.2**
LENM Lemitar 67.50 63 eP P **13 31 44.1 +1.2**
LPM Los Pinos Moun 67.58 63 eP P **13 31 44.8 +1.3**
COWI Conover 67.59 44 eP P **13 31 42.8 -0.3**
COWI LR LR
comp=Z,24µm,22.0s
Y22D IRIS PASSCAL I 67.59 63 P P **13 31 45.3 +1.8**
baz=317
BLS5 Blasjo 67.63 345 eP P **13 31 42.7 -0.5**
BLS5 IVmB_BB 13 31 44.4
comp=Z,6µm,4.3s
BLS5 eS S **13 40 37.9 +2.5**
BLS5 eScS ScS **13 41 39.5 +3.5**
BLS5 IVMsBB 14 06 33.3
comp=Z,18µm,17.6s
BNM Barren Site 67.70 63 eP P **13 31 45.5 +1.2**
LHMI Lhok Sumawe 67.71 250 eP P **13 31 46.9 +2.7**
LHMI Lhok Sumawe 67.71 250 P P **13 31 45.0 +0.8**
H39A Augusta 67.73 46 P P **13 31 43.9 0.0**
baz=321,SNR=19
G40A Rib Lake 67.76 45 P P **13 31 44.0 -0.2**
baz=321,SNR=15
E42A Champion 67.86 43 P P **13 31 44.7 -0.1**
baz=322,SNR=16
F41A Three Lakes 67.88 44 P P **13 31 45.0 +0.1**
baz=321,SNR=22
CBKS Cedar Bluff 68.02 55 eP P **13 31 45.8 -0.1**
CBKS LR LR
comp=Z,12µm,21.0s
CBKS Cedar Bluff 68.02 55 eP P **13 31 45.8 -0.1**
CBKS MLR MLR
comp=Z,12µm,21.0s
CBKS Cedar Bluff 68.02 55 P P **13 31 45.8 -0.1**
baz=318,SNR=19
KMY Karmoy 68.03 345 eP P **13 31 45.5 -0.1**
KMY IVmB_BB 13 31 47.0
comp=Z,5µm,1.9s
KMY IVMsBB 14 06 59.3
comp=Z,15µm,17.6s
CMBY CAMPBELL BAY 68.12 254 eP P **13 31 45.9 -0.8**
H40A Chili 68.18 46 P P **13 31 46.7 -0.1**
baz=321,SNR=21
121A Cookes Peak, D 68.22 65 P P **13 31 48.9 +1.5**
baz=317,SNR=39
I39A Houston 68.25 47 P P **13 31 47.0 -0.3**
baz=321,SNR=35
G41A Antigo 68.26 44 P P **13 31 47.1 -0.2**
baz=321,SNR=5.6
F42A Maple Grove Fa 68.29 43 P P **13 31 47.4 -0.1**
baz=322,SNR=8.6
E43A Lone Tree Farm 68.30 42 P P **13 31 47.2 -0.2**
baz=322,SNR=6.7
HOMB Homborsund 68.36 343 IVMs_BB IVMs_BB 14 06 33.6
comp=Z,11µm,18.2s
SCHQ Schefferville 68.36 26 P P **13 31 48.0 +0.3**
comp=Z,126nm,0.9s,baz=350,slow=6.8,SNR=62
SCHQ PKP2bc 14 00 02.0
comp=Z,12nm,1.1s,baz=151,slow=2.0,SNR=4.4
SCHQ LR LR 14 06 35.7
comp=Z,8µm,18.1s,baz=334,slow=40
H41A Junction City 68.51 45 P P **13 31 48.6 -0.2**
baz=321,SNR=14
SNART Snartemo 68.53 344 eP P **13 31 48.9 +0.2**
SNART IAmb IAmb 13 31 51.4
comp=Z,366nm,1.6s
SNART IVMs_BB IVMs_BB 14 07 21.2
comp=Z,9µm,17.6s
PPBI Pangkal Pinang 68.56 237 P P **13 31 50.2 +0.8**
E44A Grand Marais A 68.56 42 P P **13 31 49.0 -0.1**
baz=323,SNR=5.3
J39A Decorah 68.57 47 P P **13 31 48.6 -0.6**
baz=321,SNR=29
G42A Mountain 68.57 44 P P **13 31 49.0 -0.1**
baz=322,SNR=12
MAK Makhachkala 68.60 312 eP P **13 31 50.5 +1.1**
MAK *e* 13 34 21.9
MAK eS S **13 40 51.2 +3.9**
MAK eSS SS **13 45 17.3 +5.9**
MAK pmax pmax
comp=Z,53nm,0.4s
MAK pmax pmax
comp=Z,5µm,8.7s
MAK smax smax
comp=E,12µm,10.6s
MAK smax smax
comp=N,17µm,14.8s
MAK MLR MLR
comp=Z,67µm,19.0s
I40A Norwalk 68.64 46 P P **13 31 49.6 -0.1**
baz=321,SNR=23
F43A Flat Rock, Esc 68.66 43 P P **13 31 49.7 0.0**
baz=322,SNR=10
PLAI Plampang 68.70 223 P P **13 31 49.3 -1.0**
comp=Z,165nm,1.0s,comp=Z,7µm
SUW Suwalki 68.77 333 eP P **13 31 48.9 -1.4**
SUW LMZ LR 14 05 30.9
comp=Z,118µm,19.3s
SUW Suwalki 68.77 333 eP P **13 31 49.3 -1.0**
SUW Suwalki 68.77 333 eP P **13 31 49.3 -1.0**
I41A Arkdale 68.85 46 P P **13 31 50.9 0.0**
baz=321,SNR=15
F44A Big Bay de Noc 68.86 42 P P **13 31 50.9 -0.1**
baz=323,SNR=7.1
G43A Wallace 68.88 43 P P **13 31 51.1 0.0**
baz=322,SNR=15

SCIA State Center 68.95 49 eP P **13 31 51.5 -0.2**
SCIA LR LR
comp=Z,34µm,22.0s
SCIA State Center 68.95 49 P P **13 31 52.0 +0.4**
baz=320,SNR=76
J40A Soldiers Grove 68.97 47 P P **13 31 51.2 -0.5**
baz=321,SNR=13
K39A Oelwein 68.97 48 P P **13 31 51.1 -0.6**
baz=321,SNR=27
GOF Gofitskoye 68.99 316⇑ *i*P P **13 31 51.5 -0.3**
GOF eS S 13 41 10.4 +18
GOF pmax pmax
comp=Z,160nm,0.9s
E45A Wooded Hills, 69.08 41 P P **13 31 52.0 -0.4**
baz=323,SNR=8.3
H42A Shiocton 69.10 44 P P **13 31 52.1 -0.4**
baz=322,SNR=5.7
D46A Sault St. Mari 69.13 40 P P **13 31 51.8 -0.9**
baz=324,SNR=20
TPTI 69.15 248 P P **13 31 53.0 -0.1**
comp=Z,65nm,0.8s
GROC Groznyy 69.21 313 eP P **13 31 51.3 -1.9**
GROC e*SP pP **13 32 11.3 +2.3**
GROC *e* 13 32 15.3
GROC *e* 13 34 26.9
GROC S S **13 40 55.4 +0.9**
GROC e*SS sS **13 41 22.1 +0.4**
GROC pmax pmax
comp=Z,99nm,1.4s
MATQ Matagami 69.25 35 P P **13 31 52.7 -0.7**
baz=326,SNR=23
BKNI Bangkinang 69.29 243 eP P **13 31 55.7 +1.7**
BKNI Bangkinang 69.29 243 P P **13 31 54.9 +0.9**
K40A Colesburg 69.32 47 P P **13 31 53.6 -0.3**
baz=321,SNR=22
J41A Loganville 69.32 46 P P **13 31 53.7 -0.3**
baz=322,SNR=20
L39A Vinton 69.36 48 P P **13 31 54.0 -0.2**
baz=321,SNR=50
D47A Chapleau 69.38 40 P P **13 31 53.3 -0.9**
baz=324,SNR=19
I42A Draeger Farm, 69.41 45 P P **13 31 54.2 -0.2**
baz=322,SNR=8.2
KSU1 Kansas State U 69.41 53 eP P **13 31 53.8 -0.7**
KSU1 LR LR
comp=Z,25µm,20.0s
KSU1 Kansas State U 69.41 53 P P **13 31 53.8 -0.7**
baz=320,SNR=29
E46A Sault Ste Mari 69.44 41 P P **13 31 53.7 -0.8**
baz=324,SNR=17
H43A Windswept, Lux 69.47 44 P P **13 31 54.6 -0.1**
baz=322
F45A CMU Biological 69.48 42 P P **13 31 54.6 -0.2**
baz=323,SNR=6.3
JFWS Jewell Farm 69.57 47 eP P **13 31 54.7 -0.7**
JFWS LR LR
comp=Z,23µm,19.0s
JFWS Jewell Farm 69.57 47 eP P **13 31 54.7 -0.7**
JFWS MLR MLR
comp=Z,23µm,19.0s
JFWS Jewell Farm 69.57 47 P P **13 31 54.7 -0.7**
baz=322,SNR=9.4
F46A Macinaw City C 69.72 41 P P **13 31 56.1 -0.2**
baz=324,SNR=23
AKASG Malin Array Be 69.74 328 P P **13 31 54.8 -1.6**
comp=Z,14nm,0.4s,baz=33,slow=6.5,SNR=45
AKASG PKP2bc 14 00 01.8
comp=Z,0.2nm,0.3s,baz=218,slow=2.5,SNR=14
AKASG LR LR 14 05 35.3
comp=Z,68µm,20.5s,baz=30,slow=38
KIEV Kiev 69.75 328 eP P **13 31 54.8 -1.6**
KIEV LR LR
comp=Z,71µm,20.0s
KIEV Kiev 69.75 328⇑ *i*P P **13 31 55.0 -1.4**
KIEV Kiev 69.75 328 *i* P P **13 31 54.9 -1.4**
SNR=24
KIEV Kiev 69.75 328⇑ P P **13 31 55.0 -1.4**
I43A Langenfeld Bro 69.76 45 P P **13 31 56.3 -0.3**
baz=322
J42A Columbus 69.77 46 P P **13 31 56.3 -0.3**
baz=322,SNR=13
L40A Anamosa 69.78 48 P P **13 31 56.3 -0.4**
baz=321,SNR=24
M39A Webster 69.78 49 P P **13 31 56.7 0.0**
baz=321,SNR=65
K41A Shullsburg 69.78 47 P P **13 31 56.3 -0.4**
baz=322,SNR=20
E47A Iron Bridge 69.79 40 P P **13 31 55.8 -0.9**
baz=324,SNR=16
D48A Paudash Townsh 69.80 39 P P **13 31 55.8 -1.0**
baz=325,SNR=18
HYB Hyderabad 69.83 273⇑ *i*P P **13 31 57.5 +0.1**
comp=Z,400nm,1.0s
HYB eS S **13 41 02.0 -0.5**
HYB LR LR
comp=Z,18nm,20.0s
HYB Hyderabad 69.83 273 eP P **13 31 57.0 -0.4**
HYB IAmb IAmb 13 31 58.3
comp=Z,306nm,0.7s
HYB IAMs_20 IAMs_20 14 05 20.5
comp=Z,21µm,19.2s
AMTX Amarillo 69.91 59 eP P **13 31 58.4 +0.6**
AMTX Amarillo 69.91 59 P P **13 31 58.4 +0.6**
baz=319
G45A Suttons Bay 69.93 42 P P **13 31 57.3 -0.3**
baz=323
MUD Monsted U'grnd 69.94 342⇑ *i*P P **13 31 58.0 +0.6**
comp=Z,745nm,1.6s
comp=Z,40µm,17.0s
MUD Monsted U'grnd 69.94 342⇑ *i*P P **13 31 58.0 +0.6**
MUD pmax pmax
comp=Z,740nm,1.6s
MUD MLR MLR
comp=Z,40µm,17.0s
BSD Bornholm Skovb 69.94 338⇑ *i*P P **13 31 57.0 -0.5**
comp=Z,50µm,20.0s
BSD Bornholm Skovb 69.94 338⇑ *i*P P **13 31 57.0 -0.5**
BSD MLR MLR
comp=Z,50µm,20.0s
COP Copenhagen 69.98 340⇑ *i*P P **13 31 58.1 +0.4**
comp=Z,28µm,17.0s
COP Copenhagen 69.98 340⇑ *i*P P **13 31 58.1 +0.4**
COP MLR MLR
comp=Z,28µm,17.0s
BIGH Upper Bighouse 69.99 350 IAMs_20 IAMs_20 13 57 34.4
comp=Z,20µm,26.2s
MSTX Muleshoe 69.99 61 P P **13 31 58.9 +0.6**
baz=319,SNR=64
KIV Kislovodsk 70.02 316 eP P **13 31 57.6 -0.7**
comp=Z,64nm,0.8s
KIV LR LR
comp=Z,41µm,22.0s
KIV Kislovodsk 70.02 316⇑ *i*P P **13 31 58.4 +0.1**
KIV Kislovodsk 70.02 316 *i* P P **13 31 58.1 -0.2**
SNR=37
KIV Kislovodsk 70.02 316 eP P **13 31 57.9 -0.4**
KIV eS S **13 41 03.4 -0.8**
KIV pmax pmax
comp=Z,1µm,4.0s
KIV pmax pmax
comp=Z,74nm,1.0s
KIV MLR MLR
comp=Z,30µm,17.0s
KIV Kislovodsk 70.02 316 P P **13 31 58.1 -0.2**
SNR=27
KIV P P **13 31 58.1 -0.2**
SNR=27
J43A Natural Harves 70.03 45 P P **13 31 57.8 -0.4**
baz=322,SNR=5.4
G46A Petoskey 70.05 42 P P **13 31 58.1 -0.2**
baz=324,SNR=10.0
LSQQ Lebel-sur-Quev 70.08 35 P P **13 31 57.9 -0.5**
baz=327
K42A Prairie Point, 70.09 46 P P **13 31 58.2 -0.4**
baz=322,SNR=13
H45A Beulah 70.10 43 P P **13 31 58.4 -0.3**
baz=323
KBZ Khabaz 70.11 316 P P **13 31 58.5 -0.1**
comp=Z,42nm,0.9s,baz=47,slow=2.9,SNR=42
KBZ PKP2bc 13 59 56.2
comp=Z,1.6nm,0.8s,baz=125,slow=2.1,SNR=7.6
KBZ PKPPKP **P'P'df** **14 00 02.2 -3.3**
comp=Z,4.0nm,1.0s,baz=301,slow=8.9,SNR=4.8
KBZ LR LR 14 05 45.7
comp=Z,60µm,22.0s,baz=32,slow=38
L41A Preston 70.11 47 P P **13 31 58.2 -0.5**
baz=322,SNR=28

M40A Post Highland 70.15 48 P P **13 31 58.8 -0.2**
baz=321,SNR=46
MNTX Cornudas Mount 70.21 64 eP P **13 32 00.4 +0.8**
MNTX LR LR
comp=Z,10µm,20.0s
MNTX Cornudas Mount 70.21 64 P P **13 32 00.6 +1.0**
baz=318,SNR=151
E48A Lockeyer 70.22 39 P P **13 31 58.4 -0.9**
baz=325,SNR=14
CHGQ Chibougamau 70.28 33 P P **13 31 59.2 -0.4**
baz=328,SNR=48
PPI Padang Panjang 70.30 243 P P **13 32 00.6 +0.4**
comp=Z,62nm,1.6s,comp=Z,9µm
ZEI Tsey 70.40 314 eP P **13 31 58.3 -2.5**
ZEI *e* 13 32 19.5
ZEI pmax pmax
comp=Z,56nm,1.0s
ZEI MLR MLR
comp=E,22µm,16.0s
ZEI MLR MLR
comp=N,54µm,17.0s
ZEI MLR MLR
comp=Z,76µm,19.0s
I45A Fountain 70.48 43 P P **13 32 01.0 0.0**
baz=323
GSI Gunungsitoli 70.49 247 P P **13 32 02.2 +0.8**
N40A Mertquake, Sal 70.52 49 P P **13 32 01.3 0.0**
baz=321,SNR=52
H46A Fife Lake 70.53 42 P P **13 32 01.1 -0.2**
baz=324,SNR=7.3
GLMI Grayling 70.55 42 eP P **13 32 01.9 +0.5**
GLMI LR LR
comp=Z,17µm,22.0s
GLMI Grayling 70.55 42 P P **13 32 01.3 -0.1**
baz=324
L42A Oliver, Polo 70.55 47 P P **13 32 00.7 -0.7**
baz=322,SNR=12
F48A Evansville 70.57 40 P P **13 32 00.6 -0.9**
baz=325
D50A G1974 Best Tow 70.58 38 P P **13 32 00.5 -1.0**
baz=326,SNR=15
G47A Hillman 70.59 41 P P **13 32 01.2 -0.4**
baz=324
MSVF Nonsavu 70.59 159 eP P **13 32 01.7 -0.2**
MSVF comp=Z,445nm,1.6s
MSVF LR LR
comp=Z,7µm,21.0s
MSVF Nonsavu 70.59 159 eP P **13 32 01.7 -0.2**
MSVF pmax pmax
comp=Z,445nm,1.6s
K43A Burlington 70.61 46 P P **13 32 01.2 -0.5**
baz=322
M41A Milan 70.63 48 P P **13 32 01.6 -0.3**
baz=322,SNR=20
PDSI Padang 70.63 243 P P **13 32 02.2 -0.1**
comp=Z,66nm,2.0s,comp=Z,5µm
MCD Coleburn Disti 70.81 349⇑ *i*P P **13 32 03.0 +0.3**
D51A Lot 18 Range I 70.82 37 P P **13 32 02.0 -1.0**
baz=326,SNR=15
RGN Rugen 70.83 339 eP P **13 32 02.9 0.0**
comp=Z,1µm,1.8s,baz=22,slow=5.9
L43A Garden Prairie 70.83 46 P P **13 32 02.4 -0.7**
baz=322,SNR=10.0
E50A Wahnapitae 70.84 39 P P **13 32 02.2 -0.9**
baz=325,SNR=12
TBLG Delisi 70.84 313 P P **13 32 03.5 +0.2**
F49A Sandfield 70.85 40 P P **13 32 02.4 -0.8**
baz=325,SNR=6.3
J45A Montague 70.89 44 P P **13 32 03.2 -0.3**
baz=323
I46A Reed City 70.90 43 P P **13 32 03.7 +0.1**
baz=324,SNR=10
H47A Mio 70.90 42 P P **13 32 03.6 +0.1**
baz=324,SNR=7.0
M42A Sheffield 70.94 47 P P **13 32 03.1 -0.7**
baz=322
N41A Harden Midland 71.00 48 P P **13 32 04.2 0.0**
baz=322,SNR=32
MME1 Meikle Cairn 71.04 349⇑ *i*P P **13 32 04.0 -0.1**
KRJI Kerinci 71.04 241 P P **13 32 05.5 +0.6**
GKP Gorka Klasztor 71.05 336 eP P **13 32 04.2 -0.1**
GKP LMZ LR 14 07 51.8
comp=Z,89µm,17.8s
GKP Gorka Klasztor 71.05 336 eP P **13 32 04.1 -0.1**
GKP MLR MLR
comp=Z,89µm,17.8s
MDO Dochfour 71.08 350⇑ *i*P P **13 32 04.5 +0.1**
BHJ Bhuj 71.08 284 eP P **13 32 04.2 -0.8**
BHJ IAmb IAmb 13 32 06.1
comp=Z,160nm,0.5s
KAC Achnashellach 71.12 350⇑ *i*P P **13 32 04.8 +0.2**
H48A Harrisville 71.19 41 P P **13 32 05.1 -0.2**
baz=324
L44A Lake County Fo 71.21 46 P P **13 32 04.9 -0.5**
baz=323
E51A G1948 Merrick 71.23 38 P P **13 32 04.5 -1.1**
baz=326,SNR=14
I47A Gladwin 71.24 42 P P **13 32 05.6 0.0**
baz=324,SNR=6.8
D52A ZEK Kipawa Sen 71.28 37 P P **13 32 05.0 -0.8**
baz=327,SNR=17
J46A Howard City 71.29 43 P P **13 32 05.8 -0.1**
baz=324,SNR=7.4
N42A Yates City 71.30 48 P P **13 32 05.8 -0.2**
baz=322,SNR=38
KPL Plockton 71.31 351⇑ *i*P P **13 32 05.9 +0.1**
KPL IAmb IAmb 13 32 06.7
comp=Z,2µm,2.2s
KPL IAMs_20 IAMs_20 13 59 47.5
comp=Z,19µm,23.4s
CTA Charters Tower 71.32 191 P P **13 32 05.9 -0.3**
comp=Z,61nm,0.9s,baz=3.3,slow=8.0,SNR=62
CTAO Charters Tower 71.32 191 eP P **13 32 05.7 -0.5**
comp=Z,2µm,1.6s
CTAO LR LR
comp=Z,23µm,22.0s
CTAO Charters Tower 71.32 191 eP P **13 32 05.7 -0.5**
CTAO pmax pmax
comp=Z,2µm,1.6s
CTAO MLR MLR
comp=Z,23µm,22.0s
M43A Waltham Townsh 71.32 47 P P **13 32 05.8 -0.4**
baz=322,SNR=6.8
LHSI Lahat 71.35 239 P P **13 32 06.9 +0.3**
comp=Z,150nm,1.4s,comp=Z,10µm
DRUM Mains of Drumt 71.37 349⇑ *i*P P **13 32 06.0 -0.1**
DRUM IAmb IAmb 13 32 07.8
comp=Z,611nm,1.3s
DRUM IAMs_20 IAMs_20 14 10 25.9
comp=Z,25µm,18.1s
BEL Belsk 71.38 333 eP P **13 32 06.4 +0.2**
BEL LMZ LR 14 05 40.6
comp=Z,78µm,22.7s
BEL Belsk 71.38 333 eP P **13 32 06.4 +0.2**
BEL MLR MLR
comp=Z,78µm,22.7s
I48A Sherman Twp 71.45 42 P P **13 32 06.9 0.0**
baz=324,SNR=5.5
O41A Passleys Farm, 71.45 49 P P **13 32 07.0 +0.1**
baz=322,SNR=99
MASI Maura Aman, Be 71.48 240 P P **13 32 08.2 +0.8**
comp=Z,517nm,1.4s,comp=Z,14µm
TOBO Tobermory, Bru 71.50 40 P P **13 32 06.4 -0.7**
baz=325
KPJI Karang Pucung 71.51 232 P P **13 32 07.5 0.0**
comp=Z,69nm,1.8s
MDSI Maura Dua 71.55 238 P P **13 32 07.7 -0.1**
comp=Z,95nm,1.1s,comp=Z,6µm
F51A Arnstein 71.57 38 P P **13 32 06.2 -1.3**
baz=326
ANN Anapa 71.58 320 eP P **13 32 06.0 -1.6**
ANN e*PP pP **13 32 22.3 -1.2**
ANN eS S **13 41 19.1 -3.0**
ANN pmax pmax
comp=N,103nm,2.5s
ANN pmax pmax
comp=Z,210nm,2.5s
ANN pmax pmax
comp=E,50nm,2.5s
ANN pmax pmax
comp=Z,4µm,7.4s
ANN pmax pmax
comp=N,1µm,7.4s
ANN pmax pmax
comp=E,98nm,3.7s
ANN smax smax
comp=N,6µm,13.4s

ANN smax smax
comp=E,1µm,13.4s
ANN MLR MLR
comp=N,64µm,19.0s
ANN MLR MLR
comp=E,5µm,19.0s
ANN MLR MLR
comp=Z,37µm,19.0s
WMOK Wichita Mounta 71.59 58 *e*P **P** **13 32 08.3 +0.4**
WMOK LR LR
comp=Z,11µm,22.0s
WMOK Wichita Mounta 71.59 58 *e*P **P** **13 32 08.3 +0.4**
WMOK MLR MLR
comp=Z,11µm,22.0s
WMOK Wichita Mounta 71.59 58 P **P** **13 32 08.4 +0.5**
baz=320,SNR=208
SOC Sochi 71.61 317*c i*P **P** **13 32 07.1 -0.7**
SOC *e**PP **pP** **13 32 21.9 -1.9**
SOC *e**SP **sP** **13 32 30.2 0.0**
SOC *e* 13 34 45.6
SOC *e*PPP PPP 13 36 30.3
SOC *e*S **S** **13 41 22.5 0.0**
SOC pmax pmax
comp=Z,129nm,1.3s
SOC MLR MLR
comp=Z,28µm,16.0s
N43A Stutzman Famil 71.61 47 P **P** **13 32 07.7 -0.2**
baz=322,SNR=18
P41A Barry, Barry 71.71 49 P **P** **13 32 08.7 +0.2**
baz=322,SNR=94
J47A Sumner 71.73 43 P **P** **13 32 08.9 +0.3**
baz=324,SNR=17
LEM Lembang 71.74 233 P **P** **13 32 08.0 -1.1**
comp=Z,1µm,1.2s,comp=Z,87µm
SISI Saibi 71.75 244 P **P** **13 32 09.8 +0.8**
comp=Z,129nm,0.9s,comp=Z,7µm
K46A Dorr 71.76 44 P **P** **13 32 08.5 -0.3**
baz=324,SNR=8.9
E52A Mattawa 71.76 37 P **P** **13 32 07.6 -1.1**
baz=326,SNR=9.8
O42A Bath 71.77 48 P **P** **13 32 08.7 -0.2**
baz=322,SNR=15
M44A Midewin, Midew 71.78 46 P **P** **13 32 08.5 -0.4**
baz=323,SNR=6.0
EDU Dundee 71.79 349⇑*i*P **P** **13 32 08.6 -0.1**
D54A Lac Fusel, La 71.79 36 P **P** **13 32 08.2 -0.7**
baz=328,SNR=24
HDIL Hopedale 71.86 48 *e*P **P** **13 32 07.5 -1.8**
comp=Z,194nm,0.8s
HDIL LR LR
comp=Z,25µm,20.0s
HDIL Hopedale 71.86 48 P **P** **13 32 09.3 -0.1**
baz=322
F52A Sundridge 71.91 38 P **P** **13 32 08.8 -0.8**
baz=326,SNR=17
KLBO Killbear Provi 71.92 39 P **P** **13 32 08.9 -0.7**
baz=326,SNR=8.8
POO Poona 71.97 277 *e*P **P** **13 32 10.0 -0.4**
POO IAmb IAmb 13 32 11.6
comp=Z,216nm,0.5s
I49A Point Hope 72.02 41 P **P** **13 32 10.1 -0.1**
baz=325
MDRS Chennai 72.02 269 *e*P **P** **13 32 09.5 -1.2**
MDRS *ex* x 13 54 40.7
INVG Invergeldie, C 72.03 349⇑*i*P **P** **13 32 10.2 +0.1**
INVG IAMs_20 IAMs_20 14 11 01.8
comp=Z,18µm,18.0s
BSEG Bad Segeberg 72.06 340 *e*P **P** **13 32 10.9 +0.6**
comp=Z,1µm,2.3s,baz=22,slow=5.9
O43A Sugar Creek Fa 72.06 48 P **P** **13 32 10.5 -0.1**
baz=322,SNR=16
L46A Eue Claire 72.07 45 P **P** **13 32 10.4 -0.2**
baz=324,SNR=8.9
GNI Garni 72.09 312 P **P** **13 32 10.3 -0.7**
GNI Garni 72.09 312 *e*P **P** **13 32 11.7 +0.8**
comp=Z,2µm,1.4s
GNI LR LR
comp=Z,81µm,19.0s
GNI Garni 72.09 312 *i* P **P** **13 32 11.6 +0.6**
SNR=55
GNI Garni 72.09 312*c i*P **P** **13 32 12.2 +1.2**
GNI pmax pmax
comp=Z,969nm,2.2s
GNI Garni 72.09 312 P **P** **13 32 11.8 +0.8**
SNR=29
GNI P **P** **13 32 11.8 +0.8**
SNR=29
K47A Vermontville 72.11 43 P **P** **13 32 10.8 0.0**
baz=324,SNR=11
P42A Winchester 72.13 49 P **P** **13 32 10.9 -0.1**
baz=322,SNR=56
J48A Bridge Port 72.13 42 P **P** **13 32 11.1 +0.2**
baz=325,SNR=8.4
M45A Boilermakers S 72.14 46 P **P** **13 32 10.4 -0.6**
baz=323
BMRO Meriville Lake 72.14 40 P **P** **13 32 10.7 -0.3**
baz=326
BUKO Buck Lake 72.17 38 P **P** **13 32 10.4 -0.8**
baz=326,SNR=11
LVV L'vov 72.19 330 *e*P **P** **13 32 09.6 -1.6**
LVV *e* 13 34 50.7
LVV *e* 13 36 30.8
LVV *e*S **S** **13 41 22.7 -6.3**
LVV MLR MLR
comp=N,47µm,19.0s
LVV MLR MLR
comp=E,29µm,19.0s
LVV MLR MLR
comp=Z,56µm,19.0s
Q41A Truxton 72.19 50 P **P** **13 32 11.5 +0.1**
baz=322,SNR=137
N44A Piper City 72.21 47 P **P** **13 32 11.2 -0.2**
baz=323,SNR=10
TUL1 Leonard 72.27 55 P **P** **13 32 12.0 +0.1**
baz=321,SNR=53
ALGO Algonquin Park 72.27 37 P **P** **13 32 10.8 -1.0**
baz=327,SNR=10
EAB Aberfoyle 72.30 350⇑*i*P **P** **13 32 12.1 +0.4**
HLG Helgoland 72.33 342 *e*P **P** **13 32 12.5 +0.7**
comp=Z,618nm,1.3s,baz=22,slow=5.9
BATM Batumi 72.33 315 P **P** **13 32 11.6 -0.6**
BRCO Bruce Peninsul 72.34 40 P **P** **13 32 12.0 -0.2**
baz=326
LAWE Loch Awe, Argy 72.35 350⇑*e*P **P** **13 32 12.4 +0.4**
LAWE IAmb IAmb 13 32 14.0
comp=Z,407nm,1.1s
LAWE IAMs_20 IAMs_20 13 58 54.1
comp=Z,19µm,25.0s
J49A Marlette 72.36 42 P **P** **13 32 12.2 -0.1**
baz=325,SNR=5.5
ESY Stoneypath 72.36 348⇑*i*P **P** **13 32 12.3 +0.2**
K48A Perry 72.39 43 P **P** **13 32 12.7 +0.2**
baz=324,SNR=18
EDI Edinburgh 72.42 349 *e*P **P** **13 32 12.2 -0.2**
EDI IAMs_20 IAMs_20 14 11 07.4
comp=Z,21µm,18.0s
BASO Ashfield 72.44 41 P **P** **13 32 12.9 +0.1**
baz=325
N45A Kentland 72.45 46 P **P** **13 32 12.8 -0.1**
baz=323,SNR=15
TASB TASBURUN-IGDIR 72.45 312 P **P** **13 32 13.2 +0.2**
P43A Skaggs, Pawnee 72.47 48 P **P** **13 32 12.9 -0.1**
baz=322,SNR=24
BCA Borcka 72.49 315 P **P** **13 32 12.6 -0.6**
M46A Old House Fiel 72.53 45 P **P** **13 32 12.8 -0.6**
baz=324,SNR=6.5
EAU Auchinoon 72.53 349⇑*i*P **P** **13 32 13.6 +0.5**
EBL Broad Law 72.55 349⇑*i*P **P** **13 32 13.5 +0.2**
O44A Mansfield 72.56 47 P **P** **13 32 13.2 -0.4**
baz=323,SNR=13
Q42A Golden Eagle 72.56 49 P **P** **13 32 14.0 +0.4**
baz=322,SNR=82
BWLO Walkerton 72.57 40 P **P** **13 32 13.4 -0.1**
baz=326
L47A Sherwood 72.59 44 P **P** **13 32 13.4 -0.2**
baz=324,SNR=24
RUE Ruedersdorf 72.63 338 *e*P **P** **13 32 14.0 +0.3**
comp=Z,683nm,1.5s,baz=22,slow=5.9
RUE Ruedersdorf 72.63 338 *e*P **P** **13 32 13.8 +0.1**
RUE IAmb IAmb 13 32 16.4
comp=Z,540nm,1.4s
R41A Rosebud 72.64 50 P **P** **13 32 14.0 -0.1**
baz=322,SNR=107
PGBU Glenifferbraes 72.69 350⇑*e*P **P** **13 32 14.5 +0.5**
PGBU IAmb IAmb 13 32 16.3
comp=Z,921nm,1.1s
PGBU IAMs_20 IAMs_20 13 59 17.0
comp=Z,17µm,23.3s
K49A Clarkson 72.69 42 P **P** **13 32 14.8 +0.5**
baz=325,SNR=20
ABTX Abilene, Hawle 72.73 60 P **P** **13 32 15.4 +0.7**
baz=320,SNR=106
G53A Haliburton 72.74 38 P **P** **13 32 14.1 -0.5**
baz=327,SNR=15
KWP Kalwaria Pacla 72.77 331 *e*P **P** **13 32 14.7 +0.1**
KWP LMZ LR 14 07 08.1
comp=Z,136µm,21.2s
KWP Kalwaria Pacla 72.77 331 *e*P **P** **13 32 14.7 +0.1**
KWP MLR MLR
comp=Z,136µm,21.2s
N46A Monticello 72.77 46 P **P** **13 32 14.2 -0.5**
baz=324
SIM Simferopol' 72.79 322 *e*P **P** **13 32 14.9 0.0**
SIM pmax pmax
comp=Z,58nm,1.2s
PEMO Pembroke 72.81 37 P **P** **13 32 14.0 -0.9**
baz=327,SNR=13
O45A Potomac 72.83 47 P **P** **13 32 15.1 0.0**
baz=323,SNR=24
SADO Sadowa 72.83 39 *e*P **P** **13 32 13.1 -2.0**
comp=Z,146nm,1.5s
I51A Listowel 72.88 40 P **P** **13 32 15.4 0.0**
baz=326,SNR=8.5
CCM Cathedral Cave 72.89 50 *e*P **P** **13 32 15.2 -0.3**
comp=Z,2µm,1.3s
CCM Cathedral Cave 72.89 50 *e*P **P** **13 32 15.2 -0.3**
CCM pmax pmax
comp=Z,2µm,1.3s
CCM Cathedral Cave 72.89 50 P **P** **13 32 15.3 -0.3**
baz=322
M47A Cromwell 72.90 45 P **P** **13 32 15.4 -0.1**
baz=324,SNR=15
R42A Luebbering 72.93 50 P **P** **13 32 15.9 +0.1**
baz=322,SNR=66
Q43A New Douglas 72.94 49 P **P** **13 32 16.0 +0.1**
baz=323,SNR=37
L48A N Adams 72.95 44 P **P** **13 32 15.9 0.0**
baz=324,SNR=28
TXAR Lajitas Array 72.96 65 P **P** **13 32 17.2 +1.0**
comp=Z,76nm,0.8s,baz=297,slow=4.6,SNR=354
TXAR PKP2ab 13 59 48.5
comp=Z,0.8nm,1.0s,baz=116,slow=2.9,SNR=4.0
TXAR PKPPKP **P'P'df** **13 59 56.1 -3.7**
comp=Z,1.2nm,1.0s,baz=178,slow=4.8,SNR=4.6
LATQ La Tuque 72.99 33 P **P** **13 32 15.9 -0.1**
baz=330,SNR=18
AAM Ann Arbor 73.00 43 PFAKE 13 32 30.0 +14
AAM LR LR
comp=Z,12µm,21.0s
AAM Ann Arbor 73.00 43 P **P** **13 32 16.4 +0.3**
baz=325,SNR=6.6
DZM Mont Dzumac 73.00 171 *e*P **P** **13 32 17.5 +1.2**
comp=Z,258nm,1.6s
DZM *e*S **SKiKP** **13 41 41.3 -2.1**
comp=Z,43µm,30.9s
DZM Mont Dzumac 73.00 171 *e*LR LR 13 54 38.0
comp=Z,56µm,25.9s
DZM Mont Dzumac 73.00 171 P **P** **13 32 16.7 +0.4**
comp=Z,39nm,1.0s,baz=12,slow=6.6,SNR=11
I52A Shelburne 73.00 40 P **P** **13 32 15.6 -0.6**
baz=326
S41A Jillo Farms, 73.01 51 P **P** **13 32 16.0 -0.3**
baz=322,SNR=128
SFIN Lafayette 73.02 46 P **P** **13 32 16.0 -0.2**
baz=324,SNR=7.8
F55A Otter Lake 73.02 36 P **P** **13 32 15.3 -0.9**
baz=328,SNR=7.6
ESK Eskdalemuir 73.02 349 *e*P **P** **13 32 15.9 -0.1**
comp=Z,324nm,1.0s
ESK LR LR
comp=Z,27µm,20.0s
ESK Eskdalemuir 73.02 349⇑*i*P **P** **13 32 16.4 +0.3**
ESK IAmb IAmb 13 32 18.1
comp=Z,425nm,1.1s
ESK IAMs_20 IAMs_20 14 11 05.2
comp=Z,133µm,18.7s
ESK Eskdalemuir 73.02 349*ce*P **P** **13 32 16.3 +0.3**
P44A Sand Creek, Wi 73.03 48 P **P** **13 32 16.4 0.0**
baz=323,SNR=49
KIS Kishinev 73.04 326 ⇑PM 13 32 14.0
KIS LRM MLR 14 05 48.0
comp=Z,66µm,22.0s
KIS Kishinev 73.04 326⇑*i*P **P** **13 32 14.0 -2.3**
KIS pmax pmax
comp=Z,2µm,3.0s
KIS MLR MLR
comp=Z,66µm,22.0s
BANO Bancroft 73.10 38 P **P** **13 32 16.2 -0.5**
baz=327,SNR=14
OJC Ojcow 73.10 333 *e*P **P** **13 32 16.4 -0.1**
OJC LMZ LR 14 06 32.2
comp=Z,61µm,22.8s
OJC Ojcow 73.10 333 *e*P **P** **13 32 16.5 -0.1**
OJC MLR MLR
comp=Z,61µm,22.8s
L49A Milan 73.11 43 P **P** **13 32 17.1 +0.3**
baz=325,SNR=20
CHOM Cayeli-Rize 73.16 315 P **P** **13 32 16.9 -0.2**
M48A Edgerton 73.20 44 P **P** **13 32 17.1 -0.2**
baz=324
BHH Howats Hill 73.24 349⇑*i*P **P** **13 32 17.8 +0.5**
N47A Urbana 73.25 45 P **P** **13 32 16.9 -0.7**
baz=324,SNR=9.7
ELFO Elginfield 73.26 41 P **P** **13 32 17.7 0.0**
baz=326,SNR=10
CLDR Caldiran 73.27 312 P **P** **13 32 18.8 +0.7**
Q44A Meyer Farm, Va 73.30 48 P **P** **13 32 17.8 -0.1**
baz=323,SNR=27
EDMD Edmundbyers 73.33 348⇑*e*P **P** **13 32 17.8 -0.1**
EDMD IAmb IAmb 13 32 19.8
comp=Z,411nm,1.2s
S42A Caledonia 73.34 50 P **P** **13 32 18.1 -0.1**
baz=322,SNR=149
R43A Red Bud 73.36 49 P **P** **13 32 18.2 -0.1**
baz=323,SNR=43
AGRB Hanur-Agry 73.36 313 P **P** **13 32 19.3 +0.7**
G55A Calabogie 73.37 37 P **P** **13 32 17.4 -0.8**
baz=328,SNR=24
WRAB Tennant Creek 73.38 203 *e*P **P** **13 32 18.3 -0.1**
comp=Z,570nm,1.5s
WRAB LR LR
comp=Z,12µm,20.0s
WRAB Tennant Creek 73.38 203*c i*P **P** **13 32 18.4 -0.1**
WRAB pmax pmax
comp=Z,634nm,2.5s
WRAB MLR MLR
comp=Z,12µm,20.0s
RETH Rethem/Aller, 73.39 341 *e*P **P** **13 32 18.7 +0.5**
comp=Z,747nm,1.7s,baz=22,slow=5.9
WRA Warramunga Arr 73.39 203 P **P** **13 32 18.4 -0.1**
comp=Z,125nm,0.9s,baz=16,slow=5.7,SNR=142
WRA PKPPKP **P'P'df** **13 59 55.9 +4.0**
comp=Z,3.3nm,1.2s,baz=214,slow=1.7,SNR=6.5
WRA LR LR 14 04 27.0
comp=Z,10µm,20.4s,baz=5.0,slow=36
P45A Graceland, Par 73.40 47 P **P** **13 32 18.4 -0.1**
baz=323,SNR=20
PLVO Plevna 73.41 37 P **P** **13 32 17.9 -0.6**
baz=328,SNR=12
U40A Yellville 73.42 53 P **P** **13 32 18.4 -0.3**
baz=322,SNR=244
ACTO Acton 73.43 40 P **P** **13 32 18.5 -0.2**
baz=326,SNR=8.4
T41A Mountain View 73.43 51 P **P** **13 32 18.3 -0.5**
baz=322,SNR=88
NRDL Niedersach Rie 73.45 340 *e*P **P** **13 32 18.9 +0.4**
comp=Z,1µm,2.2s,baz=22,slow=5.9
KSP Ksiaz 73.50 336 *e*P **P** **13 32 18.9 0.0**
KSP LMZ LR 14 09 25.1
comp=Z,64µm,17.9s
KSP Ksiaz 73.50 336 *e*P **P** **13 32 18.9 0.0**
KSP MLR MLR
comp=Z,64µm,17.9s
M49A Liberty Center 73.53 44 P **P** **13 32 19.1 -0.2**
baz=325,SNR=18
PKRO Pickering 73.53 39 P **P** **13 32 18.9 -0.3**
baz=327,SNR=8.6
O47A Sheridan 73.55 46 P **P** **13 32 18.5 -0.9**
baz=324,SNR=8.6
KOPR Koprukoy-ERZUR 73.55 314 P **P** **13 32 20.2 +0.5**
J52A Paris 73.56 40 P **P** **13 32 19.2 -0.2**
baz=326,SNR=10
K51A Iona Station 73.56 41 P **P** **13 32 19.6 +0.1**
baz=326,SNR=5.4
N48A Decatur 73.56 45 P **P** **13 32 19.0 -0.4**
baz=324,SNR=30
L50A Kingsville 73.57 42 P **P** **13 32 19.6 +0.1**
baz=325,SNR=14
GDLE Glaisdale, N Y 73.57 347⇑*e*P **P** **13 32 19.2 -0.1**
GDLE IAMs_20 IAMs_20 14 11 53.8
comp=Z,28µm,17.0s
P46A Rosedale 73.57 47 P **P** **13 32 19.5 -0.1**
baz=324,SNR=32
CLGH Cloghs, Cushen 73.58 350⇑*i*P **P** **13 32 19.9 +0.5**
CLGH IAmb IAmb 13 32 21.5
comp=Z,472nm,1.1s
CLGH IAMs_20 IAMs_20 13 59 02.6
comp=Z,16µm,25.9s
BBO1 Bothel 73.59 349⇑*i*P **P** **13 32 19.8 +0.4**
DELO Deloro Mine 73.64 38 P **P** **13 32 19.3 -0.5**
baz=327,SNR=13
ORHO Orleans, Herit 73.64 36 P **P** **13 32 19.1 -0.7**
baz=328
GAL1 Galloway 73.64 349⇑*e*P **P** **13 32 18.6 -1.0**
GAL1 IAmb IAmb 13 32 21.5
comp=Z,297nm,1.3s
ORIO Orleans, Innes 73.66 36 P **P** **13 32 19.1 -0.8**
baz=328,SNR=9.6
ASSE Asse, Remlinge 73.67 339 *e*P **P** **13 32 20.2 +0.4**
comp=Z,746nm,1.6s,baz=22,slow=5.9
NIE Niedzica 73.67 333 *e*P **P** **13 32 20.3 +0.3**
NIE LMZ LR 14 05 50.1
comp=Z,37µm,24.8s
NIE Niedzica 73.67 333 *e*P **P** **13 32 20.3 +0.3**
NIE MLR MLR
comp=Z,37µm,24.8s
RAC Raciborz 73.68 334 *e*P **P** **13 32 20.3 +0.3**
RAC MLR MLR
comp=Z,77µm,21.1s
KTUT Trabzon 73.69 316 P **P** **13 32 19.5 -0.7**
LEOM Leova 73.69 326⇓*i*P **P** **13 32 20.4 +0.3**
LEOM Leova 73.69 326 ⇓P **P** **13 32 20.4 +0.3**
Q45A Warren Harvey, 73.71 48 P **P** **13 32 20.4 0.0**
baz=323,SNR=36
TORO Toronto--Lesli 73.72 39 P **P** **13 32 20.0 -0.3**
baz=327
KESW Keswick, Cumbr 73.72 348⇑*e*P **P** **13 32 19.7 -0.4**
KESW IAmb IAmb 13 32 22.4
comp=Z,815nm,1.1s
KESW IAMs_20 IAMs_20 14 11 22.4
comp=Z,28µm,19.2s
ALFO Alfred 73.74 35 P **P** **13 32 19.8 -0.6**
baz=329,SNR=23
IDGL Inch Island, C 73.74 351 *i* P **P** **13 32 20.8 +0.6**
IDGL Inch Island, C 73.74 351⇑*e*P **P** **13 32 20.8 +0.6**
IDGL IAMs_20 IAMs_20 14 13 16.6
comp=Z,14µm,18.6s
BURAR Bucovina Array 73.74 329⇑*i*P **P** **13 32 20.0 -0.5**
BURAR Bucovina Array 73.74 329 ⇑P **P** **13 32 20.0 -0.5**
DRWO Darlington Wes 73.75 39 P **P** **13 32 20.1 -0.3**
baz=327,SNR=10
DRCO St. Marys Ceme 73.75 39 P **P** **13 32 20.1 -0.4**
baz=327,SNR=12
T42A Van Buren 73.77 51 P **P** **13 32 20.3 -0.5**
baz=322,SNR=70
UZH Uzhgorod 73.78 331 *e*P **P** **13 32 18.8 -1.8**
UZH *e* 13 32 32.6
UZH *e* 13 32 35.6
H55A Tweed 73.78 37 P **P** **13 32 20.2 -0.5**
baz=328,SNR=13
R44A Waltonville 73.78 49 P **P** **13 32 20.8 0.0**
baz=323,SNR=60
WLVO Wesleyville 73.83 39 P **P** **13 32 20.8 -0.2**
baz=327,SNR=14
S43A Fulton Ridge, 73.84 50 P **P** **13 32 21.1 -0.1**
baz=323,SNR=90
K52A Tillsonburg 73.85 41 P **P** **13 32 20.6 -0.5**
baz=326
W39A Magazine 73.85 54 P **P** **13 32 21.3 0.0**
baz=322,SNR=65
I55A Frankford 73.87 38 P **P** **13 32 20.6 -0.6**
baz=327,SNR=8.0
UPC Upice 73.88 336 *e*P **P** **13 32 21.8 +0.6**
UPC AMS AMS 14 09 30.0
comp=Z,68µm,17.3s
N49A Columbus Grove 73.89 44 P **P** **13 32 21.2 -0.2**
baz=325,SNR=18
PLIO Pelee Island, 73.89 43 P **P** **13 32 21.2 -0.1**
baz=325,SNR=18
CLL Collm 73.90 338 *e*P **P** **13 32 20.9 -0.3**
comp=Z,469nm,1.4s,baz=22,slow=5.9
CLL Collm 73.90 338⇑*i*P **P** **13 32 20.5 -0.7**
comp=Z,1µm,2.2s
CLL *e*PcP **PcP** **13 32 36.0 -0.4**
CLL *e*SS SS 13 46 54.0 +22
CLL Lm MLR 14 08 00.0
comp=N,26µm,19.9s
CLL Lm MLR 14 08 00.0
comp=E,23µm,19.8s
CLL Lm MLR 14 08 00.0
comp=Z,34µm,20.3s
CLL Lmax 14 10 00.0
CLL Collm 73.90 338⇑*i*P **P** **13 32 20.5 -0.7**
CLL *e**PP **PcP** **13 32 36.0 -0.4**
CLL pmax pmax
comp=Z,1µm,2.2s
CLL MLR MLR
comp=Z,34µm,20.3s
U41A Viola 73.90 52 P **P** **13 32 21.1 -0.4**
baz=322,SNR=69
OKC Ostrava-Krasne 73.91 334 *e*P **P** **13 32 22.3 +0.9**
OKC AMS AMS 14 07 40.0
comp=Z,55µm,20.8s
OKC Ostrava-Krasne 73.91 334 *e*P **P** **13 32 22.3 +0.9**
OKC MLR MLR
comp=Z,55µm,20.8s
MLAZ Malazgirt-MUS 73.91 313 P **P** **13 32 22.7 +0.9**
SLPK Sellapark 73.92 349⇑*e*P **P** **13 32 21.6 +0.3**
TYNO Tyneside 73.93 40 P **P** **13 32 21.3 -0.3**
baz=326,SNR=9.2
DPC Dobruska-Polom 73.94 335 *e*P **P** **13 32 22.4 +0.8**
DPC AMS AMS 14 09 30.0
comp=Z,62µm,17.4s
DPC Dobruska-Polom 73.94 335 *e*P **P** **13 32 22.4 +0.8**
DPC MLR MLR
comp=Z,62µm,17.4s
VANB Van 73.96 312 P **P** **13 32 23.1 +1.1**
Q46A CEJHS Indians, 73.98 47 P **P** **13 32 21.9 0.0**
baz=324
M50A Fremont 73.99 43 P **P** **13 32 21.7 -0.3**
baz=325,SNR=8.7
O48A Farmland 73.99 45 P **P** **13 32 21.4 -0.7**
baz=324,SNR=36
BAYT Aydıntepe-Bayb 74.00 315 P **P** **13 32 22.4 +0.1**
CLZ Clausthal 74.01 340 *e*P **P** **13 32 22.6 +0.7**
comp=Z,976nm,1.7s,baz=22,slow=5.9
BIZ Bicaz 74.03 328*i*P **P** **13 32 21.7 -0.4**
KRLC Kraliky 74.07 335 *e*P **P** **13 32 22.9 +0.6**
KRLC Kraliky 74.07 335 *e*P **P** **13 32 22.9 +0.6**
BRG Berggiesshubel 74.07 337⇑*i*P **P** **13 32 22.1 -0.2**
comp=Z,341nm,1.7s
BRG *i* sP **pP** **13 32 41.3 +3.0**
comp=Z,168nm,1.5s
BRG Berggiesshubel 74.07 337 *e*P **P** **13 32 22.1 -0.2**
comp=Z,676nm,2.1s,baz=22,slow=5.9
BRG Berggiesshubel 74.07 337⇑*i*P **P** **13 32 22.1 -0.2**
BRG *i* *SP **pP** **13 32 41.3 +3.0**
BRG pmax pmax
comp=Z,341nm,1.7s
H56A Elgin 74.10 37 P **P** **13 32 21.9 -0.6**
baz=328,SNR=11
P47A Martinsville 74.11 46 P **P** **13 32 22.4 -0.3**
baz=324,SNR=23
STCO Saint Catharin 74.12 39 P **P** **13 32 22.5 -0.2**
baz=327
IBBN Ibbenburen 74.12 341 *e*P **P** **13 32 23.2 +0.6**
comp=Z,465nm,1.1s,baz=22,slow=5.9
T43A Greenville 74.12 50 P **P** **13 32 22.8 0.0**
baz=323,SNR=72
R45A Skylar, Fairfi 74.13 48 P **P** **13 32 22.9 +0.1**
baz=323,SNR=25
MORC Moravsky Berou 74.13 334⇑*i*P **P** **13 32 22.9 +0.2**
MORC Moravsky Berou 74.13 334 ⇑P **P** **13 32 22.9 +0.2**
MORC Moravsky Berou 74.13 334⇑*i*P **P** **13 32 22.8 +0.1**
HPK Haverah Park 74.14 347⇑*e*P **P** **13 32 23.1 +0.5**
HPK IAmb IAmb 13 32 25.4
comp=Z,887nm,1.2s
HPK IAMs_20 IAMs_20 14 12 21.2
comp=Z,25µm,17.5s
S44A Carbondale 74.14 49 P **P** **13 32 23.0 +0.1**

baz=323,SNR=49
TRPA Tarpa 74.14 331⇑*i*P P 13 32 23.0 +0.3
TRPA Tarpa 74.14 331⇑*i*P P 13 32 22.0 -0.7
LANS Liptovska Anna 74.16 333 *e*P P 13 32 23.6 +0.7
LANS Liptovska Anna 74.16 333 *e*P P 13 32 23.6 +0.7
FBE Freiberg 74.17 337 *e*P P 13 32 23.0 +0.1
comp=Z,880nm,1.9s,baz=22,slow=5.9
TESR Tescani 74.22 327⇓*i*P P 13 32 22.9 -0.3
PVCC Panska Ves 74.23 337 *e*P P 13 32 24.0 +0.8
PVCC AMS AMS 14 09 10.0
comp=Z,52µm,17.8s
PVCC Panska Ves 74.23 337 *e*P P 13 32 24.0 +0.8
PVCC MLR MLR
comp=Z,52µm,17.8s
U42A Revenden 74.23 51 P P 13 32 23.0 -0.5
baz=322,SNR=28
BMR Baia Mare 74.25 330⇓*i*P P 13 32 23.5 +0.2
BMR Baia Mare 74.25 330 ⇓P P 13 32 23.5 +0.2
GOA Goa 74.26 275 *e*P P 13 32 23.4 -0.4
GOA IAmb IAmb 13 32 25.3
comp=Z,446nm,1.0s
JCT Junction City 74.27 61 *e*P P 13 32 24.2 +0.4
comp=Z,413nm,1.2s
JCT LR LR
comp=Z,15µm,22.0s
JCT Junction City 74.27 61 *e*P P 13 32 24.2 +0.4
JCT pmax pmax
comp=Z,413nm,1.2s
JCT MLR MLR
comp=Z,15µm,22.0s
JCT Junction City 74.27 61 P P 13 32 24.3 +0.4
baz=320,SNR=68
NEUB Neuenburg 74.28 338 *e*P P 13 32 23.7 +0.2
comp=Z,797nm,1.8s,baz=22,slow=5.9
AKDM Akdamar-Van 74.36 312 P P 13 32 24.6 +0.2
GTTG Gvttingen 74.37 340 *e*P P 13 32 24.6 +0.5
comp=Z,722nm,1.5s,baz=22,slow=5.9
PECO Prince Edward 74.38 38 P P 13 32 23.6 -0.5
baz=328,SNR=8.5
GMM Mts of Mourne 74.40 350⇑*i*P P 13 32 24.4 +0.3
WHTX Lake Whitney, 74.40 58 P P 13 32 25.0 +0.5
baz=321,SNR=67
VRTB Varto-Mus 74.40 314 P P 13 32 25.4 +0.8
O49A Covington 74.42 45 P P 13 32 24.2 -0.3
baz=325,SNR=20
M51A Elyria 74.42 43 P P 13 32 24.3 -0.2
baz=326,SNR=9.0
LMK Market Rasen 74.44 347⇑*i*P P 13 32 24.6 +0.2
MEDO Medina 74.45 39 P P 13 32 24.4 -0.2
baz=327,SNR=14
T44A Benton 74.46 50 P P 13 32 25.0 +0.3
baz=323,SNR=72
N50A Nevada 74.47 43 P P 13 32 24.8 +0.1
baz=325,SNR=32
MIAR Mount Ida 74.47 54 *e*P P 13 32 25.0 +0.2
comp=Z,378nm,1.2s
MIAR LR LR
comp=Z,20µm,21.0s
MIAR Mount Ida 74.47 54 *e*P P 13 32 25.0 +0.2
MIAR pmax pmax
comp=Z,378nm,1.2s
MIAR MLR MLR
comp=Z,20µm,21.0s
MIAR Mount Ida 74.47 54 P P 13 32 25.1 +0.2
baz=322,SNR=113
S45A Carrier Mills 74.48 49 P P 13 32 25.0 +0.2
baz=323,SNR=27
Q47A Bedord North L 74.48 47 P P 13 32 24.8 0.0
baz=324,SNR=24
ARCR ARCALIA 74.49 329⇓*i*P P 13 32 25.5 +0.7
P48A Milroy 74.52 46 P P 13 32 24.7 -0.4
baz=324,SNR=42
R46A Gibon Southern 74.56 48 P P 13 32 25.5 +0.2
baz=324,SNR=20
YEDI Yedisu-Bingol 74.59 314 P P 13 32 26.1 +0.4
TLCR 74.60 325⇑*i*P P 13 32 26.0 +0.6
TLCR 74.60 325 ⇑P P 13 32 26.0 +0.6
J55A Hilton 74.61 39 P P 13 32 25.1 -0.4
baz=328,SNR=8.8
GURO Guroymak-BITLI 74.63 313 P P 13 32 26.6 +0.7
U43A Rector 74.63 51 P P 13 32 25.9 +0.1
baz=323,SNR=15
WTSB Winterswijk 74.64 342 *e*P P 13 32 26.0 +0.5
comp=Z,3µm,2.3s
W41B Gary Mavity, V 74.65 53 P P 13 32 25.7 -0.2
baz=322,SNR=142
N51A Ashland 74.68 43 P P 13 32 25.8 -0.2
baz=326,SNR=37
LBWR Ladybower, Pea 74.69 347⇑*e*P P 13 32 26.3 +0.4
LBWR IAmb IAmb 13 32 28.6
comp=Z,770nm,1.1s
LBWR IAMs_20 IAMs_20 14 12 38.5
comp=Z,23µm,17.4s
ERPA Erie 74.70 41 P P 13 32 26.1 +0.1
baz=327,SNR=22
LONY Lake Ozonia 74.71 36 *e*P P 13 32 24.2 -1.9
comp=Z,56nm,0.9s
LONY LR LR
comp=Z,12µm,21.0s
LONY Lake Ozonia 74.71 36 P P 13 32 25.4 -0.7
baz=329,SNR=12
L53A Girard 74.72 41 P P 13 32 26.4 +0.2
baz=326,SNR=58
ODBI Odobesti 74.72 327⇑*i*P P 13 32 27.5 +1.4
PRU Pruhonice 74.73 336 *e*P P 13 32 27.1 +1.0
PRU AMS AMS 14 09 40.0
comp=Z,63µm,17.2s
PRU Pruhonice 74.73 336 *e*P P 13 32 27.1 +1.0
PRU MLR MLR
comp=Z,63µm,17.2s
GOPC GO Pecny, Ondr 74.74 336 *e*P P 13 32 26.9 +0.7
GOPC AMS AMS 14 09 40.0
comp=Z,55µm,16.9s
GOPC GO Pecny, Ondr 74.74 336 *e*P P 13 32 26.9 +0.7
GOPC MLR MLR
comp=Z,55µm,16.9s
VRI Vrincioaia 74.75 327⇓*i*P P 13 32 26.8 +0.5
VRI Vrincioaia 74.75 327 ⇓P P 13 32 26.8 +0.5
O50A Cable 74.77 44 P P 13 32 26.5 -0.1
baz=325,SNR=17
P49A Miami Univ. Ec 74.78 45 P P 13 32 26.2 -0.3
baz=325,SNR=15
PLOR Plostina 74.79 327⇑*i*P P 13 32 26.3 -0.3
PLOR Plostina 74.79 327 ⇑P P 13 32 26.3 -0.3
SNOP Sinop 74.79 319 P P 13 32 26.2 -0.4
Q48A North Vernon 74.81 46 P P 13 32 26.6 -0.1
baz=324,SNR=21
VRAC Vranov 74.82 335⇑*i*P P 13 32 27.3 +0.6
VRAC Vranov 74.82 335 ⇑P P 13 32 27.3 +0.6
VRAC Vranov 74.82 335⇑*i*P P 13 32 27.0 +0.3
MOX Moxa 74.84 338 *e*P P 13 32 27.2 +0.4
comp=Z,443nm,1.5s,baz=22,slow=5.9
MOX *e*L L 14 08 52.5
comp=Z,41µm,20.9s
ERZN Erzincan 74.84 315 P P 13 32 27.6 +0.5
CFR Carcaliu 74.85 326⇑*i*P P 13 32 26.2 -0.6
CFR Carcaliu 74.85 326 ⇑P P 13 32 26.2 -0.6
TANN Tannenbergstha 74.85 338 *e*P P 13 32 27.2 +0.3
comp=Z,1µm,1.8s,baz=22,slow=5.9
PLN Plauen 74.86 338 *e*P P 13 32 27.2 +0.4
comp=Z,482nm,1.5s,baz=22,slow=5.9
U44A Portageville 74.88 50 P P 13 32 27.7 +0.6
baz=323,SNR=18
S46A Don Dixon Farm 74.88 48 P P 13 32 27.2 0.0
baz=324,SNR=29
X40A Basin Creek Fa 74.89 54 P P 13 32 27.3 0.0
baz=322,SNR=70
BNGB Bingl 74.89 314 P P 13 32 28.1 +0.7
CUKT Cukurca 74.93 311 P P 13 32 27.7 0.0
JAVC Velka Javorina 74.93 334⇑*i*P P 13 32 28.6 +1.2
VYHS Vyhne 74.93 333 *e*P P 13 32 27.6 +0.3
VYHS pmax pmax
comp=Z,561nm,2.3s
VYHS Vyhne 74.93 333 *e*P P 13 32 27.6 +0.3
VYHS *e*S S 13 42 05.7 +5.8
VYHS *e*L L 14 09 22.4
GUNZ Gunzen 74.93 338 *e*P P 13 32 27.8 +0.5
comp=Z,580nm,1.5s,baz=22,slow=5.9
W42A Bald Knob 74.94 52 P P 13 32 27.6 0.0
baz=322,SNR=17
R47A Wooly Knot Far 74.95 47 P P 13 32 27.6 0.0
baz=324,SNR=35
K55A Perry 74.97 39 P P 13 32 27.3 -0.4
baz=327,SNR=30
T45A Paducah 74.97 49 P P 13 32 27.9 +0.2
baz=323
M53A WI Miller and 74.97 41 P P 13 32 27.9 +0.2
baz=326,SNR=55
KOLL Kolacno 74.98 333 *e*P P 13 32 28.8 +1.2
KOLL Kolacno 74.98 333 *e*P P 13 32 28.8 +1.2
ACSO Alum Creek Sta 74.98 44 *e*P P 13 32 27.3 -0.4
comp=Z,542nm,1.5s
ACSO LR LR
comp=Z,17µm,22.0s
ACSO Alum Creek Sta 74.98 44 P P 13 32 27.7 0.0
baz=325,SNR=28
WERN Wernitzgruen 74.99 338 *e*P P 13 32 28.3 +0.6
comp=Z,410nm,1.4s,baz=22,slow=5.9
LTVH Ltavrtes, Hu 75.00 331⇑*i*P P 13 32 27.0 -0.7
WACR West Acre 75.01 346⇑*e*P P 13 32 27.8 +0.2
WACR IAmb IAmb 13 32 29.9
comp=Z,864nm,1.1s
WACR IAMs_20 IAMs_20 14 13 26.6
comp=Z,20µm,17.6s
V43A Jonesboro 75.02 51 P P 13 32 28.4 +0.4
baz=323
NKC Novy Kostel 75.03 338 *e*P P 13 32 28.6 +0.7
NKC AMS AMS 14 11 10.0
comp=Z,51µm,16.2s
NKC Novy Kostel 75.03 338 *e*P P 13 32 28.6 +0.7
NKC MLR MLR
comp=Z,51µm,16.2s
WME Myndd Eilian 75.04 349⇑*i*P P 13 32 27.6 -0.2
BUG Bochum--Univer 75.04 341 *e*P P 13 32 28.3 +0.5
comp=Z,624nm,1.3s,baz=22,slow=5.9
UBBA Unterzibach 75.05 339 *e*P P 13 32 28.3 +0.5
comp=Z,920nm,1.8s,baz=22,slow=5.9
WPS Cemaes, Angles 75.06 349⇑*e*P P 13 32 27.3 -0.6
WPS IAmb IAmb 13 32 29.5
comp=Z,286nm,1.1s
WPS IAMs_20 IAMs_20 14 12 26.1
comp=Z,30µm,18.6s
CJR Cluj-Napoca 75.06 329⇓*i*P P 13 32 28.1 0.0
CJR Cluj-Napoca 75.06 329 ⇓P P 13 32 28.1 0.0
N52A McGinn's Farm, 75.06 42 P P 13 32 28.0 -0.2
baz=326,SNR=16
STNC Stoke 75.06 348⇑*e*P P 13 32 28.5 +0.6
STNC IAmb IAmb 13 32 31.0
comp=Z,487nm,1.2s
STNC IAMs_20 IAMs_20 14 12 59.5
comp=Z,23µm,17.0s
DIKM Dikmen 75.08 319 P P 13 32 28.5 +0.2
DIKM Dikmen 75.08 319⇑*i*P P 13 32 28.5 +0.2
KRUC Moravsky 75.10 335⇑*i*P P 13 32 28.5 +0.3
WCI Wyandotte Cave 75.11 47 *e*P P 13 32 28.6 +0.1
comp=Z,3µm,1.5s
WCI Wyandotte Cave 75.11 47 *e*P P 13 32 28.6 +0.1
WCI Wyandotte Cave 75.11 47 P P 13 32 28.8 +0.2
baz=324
DOPR Dopca 75.12 328⇑*i*P P 13 32 28.8 +0.3
WPM1 Penmaenmawr 75.12 349⇑*i*P P 13 32 28.6 +0.2
TREC Trest 75.12 335 *e*P P 13 32 29.3 +0.9
TREC AMS AMS 14 11 20.0
comp=Z,60µm,16.8s
TREC Trest 75.12 335 *e*P P 13 32 29.3 +0.9
TREC MLR MLR
comp=Z,60µm,16.8s
Q49A Aurora 75.13 46 P P 13 32 28.5 -0.1
baz=325,SNR=14
P50A Jamestown 75.13 45 P P 13 32 28.5 -0.1
baz=325,SNR=27
PSZ Piszkesteto 75.14 332⇓*i*P P 13 32 30.0 +1.4
PSZ Piszkesteto 75.14 332 ⇓P P 13 32 30.0 +1.4
PSZ Piszkesteto 75.14 332⇑*i*P P 13 32 27.1 -1.5
WLF1 Llynfaes 75.15 349⇑*e*P P 13 32 27.3 -1.1
WLF1 IAmb IAmb 13 32 30.2
comp=Z,604nm,1.2s
WLF1 IAMs_20 IAMs_20 14 12 28.1
comp=Z,60µm,18.7s
R48A Northridge Ran 75.17 47 P P 13 32 29.1 +0.2
baz=324,SNR=16
U44B Burton Farm, H 75.17 50 P P 13 32 29.5 +0.6
baz=323,SNR=5.2
YRC Rhoscolyn 75.21 349⇑*e*P P 13 32 28.4 -0.4
O51A Pataskala 75.21 43 P P 13 32 29.0 -0.1
baz=326,SNR=27
KVT Kavak 75.22 318 P P 13 32 29.6 +0.4
RSDY Resadiye-TOKAT 75.24 317 P P 13 32 29.6 +0.3
435B Jarrell 75.26 59 P P 13 32 29.9 +0.4
baz=321,SNR=8.8
YLL Llanberis 75.27 349⇑*e*P P 13 32 29.4 +0.2
DRGR 75.28 330⇑*i*P P 13 32 29.2 -0.2
DRGR 75.28 330 ⇑P P 13 32 29.2 -0.2
L55A Hinsdale 75.28 40 P P 13 32 29.3 -0.2
baz=327,SNR=23
SIRT Sirnak 75.28 312 P P 13 32 29.9 +0.3
CWF Charnwood Fore 75.28 347⇑*i*P P 13 32 29.6 +0.4
CWF IAMs_20 IAMs_20 14 12 47.2
comp=Z,17µm,19.5s
MDB Medias 75.31 328⇓*i*P P 13 32 30.6 +1.1
MDB Medias 75.31 328 ⇓P P 13 32 30.6 +1.1
SMOL Smolenice 75.31 334 *e*P P 13 32 30.9 +1.4
SMOL Smolenice 75.31 334 *e*P P 13 32 30.9 +1.4
V44A Blytheville 75.31 51 P P 13 32 30.4 +0.7
baz=323,SNR=9.9
T46A Princeton 75.31 49 P P 13 32 30.3 +0.6
baz=324,SNR=95
SVAN Silvan-Diyarba 75.34 313 P P 13 32 30.6 +0.7
MANZ Manzenberg 75.34 338 *e*P P 13 32 30.1 +0.4
comp=Z,313nm,1.5s,baz=22,slow=5.9
M54A Oil Creek Stat 75.34 41 P P 13 32 29.7 -0.1
baz=327,SNR=33
MLR Muntele Rosu 75.35 327⇓*i*P P 13 32 30.5 +0.6
MLR Muntele Rosu 75.35 327 ⇓P P 13 32 30.5 +0.6
S47A Hartland 75.35 48 P P 13 32 29.9 0.0
baz=324,SNR=32
TIRR Tirgusor 75.37 325⇑*i*P P 13 32 30.2 +0.3
TIRR Tirgusor 75.37 325 ⇑P P 13 32 30.2 +0.3
TLB Topalu 75.39 325⇑*i*P P 13 32 29.7 -0.3
TLB Topalu 75.39 325 ⇑P P 13 32 29.7 -0.3
FOEL Foel Wylfa 75.39 348⇑*e*P P 13 32 30.1 +0.2
FOEL IAmb IAmb 13 32 32.2
comp=Z,529nm,1.0s
FOEL IAMs_20 IAMs_20 14 11 49.1
comp=Z,25µm,20.1s
DSB Dublin 75.42 350 *i*P P 13 32 30.7 +0.7
N53A Lisbon 75.43 42 P P 13 32 30.3 0.0
baz=326,SNR=30
U45A Rockin P Farm, 75.45 50 P P 13 32 30.9 +0.4
baz=323,SNR=7.3
ISR Istrita 75.46 327⇑*i*P P 13 32 30.6 +0.1
ISR Istrita 75.46 327 ⇑P P 13 32 30.6 +0.1
MODS Modra-Piesok 75.48 334 *e*P P 13 32 31.8 +1.3
MODS pmax pmax
comp=Z,1µm,2.3s
MODS Modra-Piesok 75.48 334 *e*P P 13 32 31.8 +1.3
MODS *e*L L 14 08 25.4
LLW Llanuwychllyn 75.49 348⇑*i*P P 13 32 31.0 +0.6
ROTZ Rotzenmuhle 75.52 338 *e*P P 13 32 31.3 +0.6
comp=Z,812nm,1.8s,baz=22,slow=5.9
IGLA Glengowla, Co 75.55 352 *i*P P 13 32 30.9 +0.2
IGLA Glengowla, Co 75.55 352⇑*e*P P 13 32 29.8 -0.9
IGLA IAmb IAmb 13 32 31.9
comp=Z,3µm,2.3s
IGLA IAMs_20 IAMs_20 14 02 53.0
comp=Z,13µm,22.3s
P51A Williamsport 75.56 44 P P 13 32 30.7 -0.4
baz=326,SNR=14
O52A Adamsville 75.57 43 P P 13 32 31.0 -0.2
baz=326,SNR=30
R49A Shelbyville 75.58 46 P P 13 32 31.5 +0.3
baz=325,SNR=28
MFTR Murfatlar 75.61 325⇓*i*P P 13 32 31.7 +0.5
TOKT Tokat 75.64 317 P P 13 32 31.9 +0.3
N54A Moraine State 75.66 41 P P 13 32 31.7 +0.1
baz=327,SNR=36
Q50A Georgetown 75.67 45 P P 13 32 32.0 +0.2
baz=325,SNR=28
S48A Wiedeman Farm, 75.68 47 P P 13 32 31.9 +0.1
baz=324,SNR=48
ZST Bratislava 75.69 334 *e*P P 13 32 32.2 +0.5
ZST Bratislava 75.69 334 *e*P P 13 32 32.2 +0.5
ZST *e*S **SKiKP** 13 41 44.6 -2.4
SRO Srobarova 75.69 333 *e*P P 13 32 33.3 +1.6
SRO Srobarova 75.69 333 *e*P P 13 32 33.3 +1.6
VOIR 75.70 328⇑*i*P P 13 32 32.1 +0.2
VOIR 75.70 328 ⇑P P 13 32 32.1 +0.2
HLM1 Long Mynd 75.71 348⇑*i*P P 13 32 32.3 +0.5
HLM1 IAmb IAmb 13 32 34.0
comp=Z,473nm,1.2s
HLM1 IAMs_20 IAMs_20 14 14 46.5
comp=Z,21µm,17.4s
U46A Springville 75.72 49 P P 13 32 32.3 +0.3
baz=324,SNR=7.2
O53A New Philadelph 75.73 43 P P 13 32 31.9 -0.2
baz=326,SNR=22
T47A Sharon Grove 75.73 48 P P 13 32 32.4 +0.3
baz=324,SNR=73
M55A Ridgway 75.74 40 P P 13 32 32.3 +0.1
baz=327,SNR=39
KHC Kasperske Hory 75.77 337 *e*P P 13 32 33.2 +1.0
KHC *ex* x 13 32 49.0
KHC AMS AMS 14 10 20.0
comp=Z,80µm,17.7s
KHC Kasperske Hory 75.77 337 *e*P P 13 32 33.2 +1.0
KHC *e* 13 32 49.0
KHC MLR MLR
comp=Z,80µm,17.7s
SVSK Karacayir 75.78 317 P P 13 32 33.1 +0.8
BUD Budapest 75.79 332⇑*i*P P 13 32 32.1 -0.1
Q51A Peebles 75.81 45 P P 13 32 32.5 0.0
baz=325,SNR=21
GRF Grafenberg Arr 75.82 338 *e*P P 13 32 33.3 +0.8
comp=Z,784nm,1.3s,baz=22,slow=5.9
GRF *e*L L 14 09 42.5
comp=Z,39µm,20.2s
GRFO Grafenberg 75.82 338 *e*P P 13 32 32.9 +0.5
comp=Z,525nm,1.1s
GRFO Grafenberg 75.82 338 *e*P P 13 32 32.9 +0.5
GRFO pmax pmax
comp=Z,525nm,1.1s
V45A Humboldt 75.84 50 P P 13 32 32.9 +0.2
baz=323,SNR=16
P52A Corning 75.84 43 P P 13 32 32.1 -0.6
baz=326,SNR=12
X43A Marvell 75.86 52 P P 13 32 33.2 +0.4
baz=323,SNR=16
Z41A Richland Creek 75.87 54 P P 13 32 33.4 +0.5
baz=322,SNR=12
MTUR Matau 75.88 328⇓*i*P P 13 32 33.7 +0.8
MTUR Matau 75.88 328 ⇓P P 13 32 33.7 +0.8
ICOR Ion Corvin 75.89 325⇑*i*P P 13 32 33.1 +0.3
W44A Shelby Farms P 75.90 51 P P 13 32 33.4 +0.4
baz=323
ARR Arges 75.90 328⇑*i*P P 13 32 33.4 +0.4
WET Wettzell 75.93 337 *e*P P 13 32 33.8 +0.7
comp=Z,659nm,1.4s,baz=22,slow=5.9
AHRW Bad Neuenahr-A 75.94 341 *e*P P 13 32 33.8 +0.8
comp=Z,1µm,1.8s,baz=22,slow=5.9
S49A Springfield 75.94 47 P P 13 32 33.6 +0.4
baz=325,SNR=62
SULR 75.95 327⇑*i*P P 13 32 33.5 +0.3
TNS Taunus Mts 75.95 340 *e*P P 13 32 33.7 +0.5
comp=Z,444nm,1.3s,baz=22,slow=5.9
HGN Heimansgroeve 75.95 342 *e*P P 13 32 33.7 +0.6
comp=Z,4µm,2.2s
T48A Bowling Green 75.97 48 P P 13 32 33.6 +0.2
baz=324,SNR=34
BEBN Eben Emael 75.97 342 ⇑P P 13 32 33.6 +0.5
R50A Paris 75.97 46 P P 13 32 33.8 +0.3
baz=325,SNR=33
GEC2 GERESS Array S 76.00 336 *e*P P 13 32 33.9 +0.3
comp=Z,379nm,1.4s,baz=22,slow=5.9
GERES GERESS Array B 76.00 336 P P 13 32 33.5 0.0
comp=Z,61nm,0.9s,baz=33,slow=5.1,SNR=176
GERES PKPPKP **P'P'df** 13 59 54.9 -0.8
comp=Z,0.2nm,0.2s,baz=333,slow=1.3,SNR=3.7
GERES LR LR 14 11 03.3
comp=Z,84µm,18.0s,baz=28,slow=40
LBNH Lisbon 76.00 34 P P 13 32 33.9 +0.4
baz=330,SNR=10
PKME Peaks-Kenny Pk 76.02 32 *e*P P 13 32 32.6 -1.0
comp=Z,584nm,1.8s
PKME LR LR
comp=Z,31µm,22.0s
PKME Peaks-Kenny Pk 76.02 32 P P 13 32 34.1 +0.6
baz=332,SNR=10
NATX Nacogdoches 76.08 57 *e*P P 13 32 34.8 +0.7
comp=Z,1µm,1.3s
NATX LR LR
comp=Z,12µm,21.0s
NATX Nacogdoches 76.08 57 P P 13 32 35.1 +0.9
baz=322,SNR=30
SIRR Siria 76.08 330⇓*i*P P 13 32 34.5 +0.6
WVT Waverly 76.08 49 P P 13 32 34.3 +0.3
baz=324
U47A Clarksville 76.08 49 P P 13 32 34.5 +0.4
baz=324,SNR=55
MEM Membach 76.09 342 ⇑P P 13 32 34.1 +0.2
comp=Z,427nm,1.1s
MEM ⇑pP PcP 13 32 39.5 -6.4
LOT Lotru 76.12 328⇓*i*P P 13 32 34.5 +0.2
PSN Preselentsi 76.12 325 P P 13 32 34.5 +0.3
PALK Pallekele 76.14 264 *e*P P 13 32 35.2 +0.4
comp=Z,260nm,1.0s
PALK Pallekele 76.14 264 *i*P P 13 32 35.4 +0.7
SNR=55
PALK Pallekele 76.14 264 *ce*P P 13 32 35.4 +0.7
PALK Pallekele 76.14 264 P P 13 32 35.4 +0.7
SNR=28
PALK P P 13 32 35.4 +0.7
SNR=28
O54A Avella 76.14 42 P P 13 32 34.6 +0.2
baz=327,SNR=24
833A Chaparral WMA, 76.15 62 P P 13 32 35.6 +1.0
baz=321,SNR=23
W45A Hickory Valley 76.19 51 P P 13 32 35.1 +0.4
baz=323,SNR=25
V46A Holladay 76.20 50 P P 13 32 34.8 +0.1
baz=324,SNR=48
UCC Uccle 76.22 343 ⇑P P 13 32 35.1 +0.5
N55A Marion Center 76.23 41 P P 13 32 34.9 0.0
baz=327,SNR=38
BINY Binghamton 76.24 38 *e*P P 13 32 33.5 -1.4
comp=Z,2µm,2.3s
BINY LR LR
comp=Z,13µm,20.0s
BINY Binghamton 76.24 38 P P 13 32 34.5 -0.4
baz=329,SNR=15
MCH1 Michaelchurch 76.24 348⇑*i*P P 13 32 35.1 +0.4
MCH1 IAmb IAmb 13 32 36.9
comp=Z,527nm,1.2s
MCH1 IAMs_20 IAMs_20 14 13 45.5
comp=Z,20µm,17.0s
MAZI Mazidag 76.24 313 P P 13 32 35.5 +0.3
LPW Lampeter 76.27 348⇑*e*P P 13 32 35.1 +0.3
LPW IAmb IAmb 13 32 41.4
comp=Z,385nm,1.2s
LPW IAMs_20 IAMs_20 14 12 27.2
comp=Z,26µm,19.5s
CONA Conrad Observa 76.28 335 *i*P P 13 32 35.9 +0.8
comp=Z,307nm,1.3s,SNR=128
P53A Whipple 76.29 43 P P 13 32 35.1 -0.1
baz=326,SNR=16
AMBH Ambrzfalva 76.29 331⇑*i*P P 13 32 35.1 0.0
R51A Hillsboro 76.29 45 P P 13 32 35.6 +0.3
baz=325,SNR=52
SOP Sopron 76.31 334⇑*i*P P 13 32 35.0 -0.2
IWEX Carrickbyrne, 76.33 350 *i*P P 13 32 36.0 +0.8
IWEX Carrickbyrne, 76.33 350⇑*i*P P 13 32 36.0 +0.8
IWEX IAMs_20 IAMs_20 14 13 37.5
comp=Z,19µm,18.3s
Q52A Bidwell 76.34 44 P P 13 32 35.2 -0.3
baz=326,SNR=17
STRD Stroud 76.34 347⇑*e*P P 13 32 35.0 -0.3
STRD IAmb IAmb 13 32 38.1
comp=Z,890nm,1.0s
STRD IAMs_20 IAMs_20 14 13 27.5
comp=Z,15µm,18.0s
MONM Monmouth 76.37 348⇑*i*P P 13 32 36.0 +0.5
MONM IAmb IAmb 13 32 37.7
comp=Z,1µm,1.2s
MONM IAMs_20 IAMs_20 14 13 49.3
comp=Z,21µm,16.7s
T49A Edmonton 76.38 47 P P 13 32 36.0 +0.2
baz=325,SNR=56
U48A Cassie Pea, Po 76.38 48 P P 13 32 36.0 +0.2
baz=324,SNR=44
BCLA Clavier 76.40 342 ⇑P P 13 32 36.0 +0.3
S50A Richmond 76.43 46 P P 13 32 36.2 +0.1
baz=325,SNR=36
ELSH Elham, Standar 76.45 345 *e*P P 13 32 35.3 -0.6
ELSH IAMs_20 IAMs_20 14 13 13.8
comp=Z,23µm,17.4s
V47A Nunnelly 76.47 49 P P 13 32 36.4 +0.1
baz=324,SNR=39
GZR Gura Zlata 76.49 329⇑*i*P P 13 32 35.9 -0.5
GZR Gura Zlata 76.49 329 ⇑P P 13 32 35.9 -0.5

RSBS Rosebush, Pemb 76.51 349⇑ *iP* **P 13 32 36.6 +0.4**
RSBS IAmb IAmb 13 32 42.8
comp=Z,313nm,1.5s
RSBS IAMs_20 IAMs_20 14 12 06.0
comp=Z,12µm,20.5s
OLDB Oldbury-Upon-S 76.51 347⇑ *iP* **P 13 32 36.0 -0.2**
OLDB IAmb IAmb 13 32 38.3
comp=Z,708nm,1.4s
OLDB IAMs_20 IAMs_20 14 13 43.0
comp=Z,22µm,17.9s
SWN1 Swindon 76.55 347⇑ *iP* **P 13 32 36.8 +0.4**
SWN1 IAMs_20 IAMs_20 14 14 33.7
comp=Z,22µm,18.3s
O55A Ligonier 76.57 41 P **P 13 32 36.8 -0.1**
baz=327,SNR=19
P54A Burton 76.58 42 P **P 13 32 37.0 +0.1**
baz=327,SNR=33
OXF Oxford 76.60 51 *eP* **P 13 32 36.8 -0.2**
comp=Z,484nm,1.1s
OXF Oxford 76.60 51 *eP* **P 13 32 36.8 -0.2**
OXF pmax pmax
comp=Z,484nm,1.1s
OXF Oxford 76.60 51 P **P 13 32 37.2 +0.1**
baz=323,SNR=33
W46A Michie 76.61 50 P **P 13 32 36.9 -0.2**
baz=324,SNR=11
TIH Tihany 76.64 333⇑ *iP* **P 13 32 36.1 -1.0**
WOL Wolverton 76.66 347⇑ *eP* **P 13 32 37.4 +0.4**
WOL IAmb IAmb 13 32 39.2
comp=Z,743nm,1.0s
WOL IAMs_20 IAMs_20 14 14 06.0
comp=Z,19µm,16.5s
BZS Buzias 76.67 330⇑ *iP* **P 13 32 36.8 -0.5**
BZS Buzias 76.67 330 ⇑P **P 13 32 36.8 -0.5**
DARE Darende-Malaty 76.67 316 P **P 13 32 38.4 +0.9**
R52A Catlettsburg 76.68 45 P **P 13 32 37.5 0.0**
baz=326,SNR=13
YOZ Yozgat 76.72 318 P **P 13 32 37.9 0.0**
U49A Red Boiling Sp 76.74 48 P **P 13 32 38.0 +0.2**
baz=325,SNR=58
T50A Nancy 76.77 47 P **P 13 32 38.3 +0.4**
baz=325,SNR=80
MOA Molln 76.77 336 *iP* **P 13 32 38.4 +0.5**
comp=Z,194nm,1.5s,SNR=76
SSPA Standing Stone 76.80 40 P **P 13 32 36.1 -2.0**
comp=Z,3µm,1.8s
SSPA Standing Stone 76.80 40 P **P 13 32 38.1 0.0**
baz=328
MCWV Mont Chateau 76.81 42 P **P 13 32 38.6 +0.4**
baz=327,SNR=13
PRD Provadia 76.82 325 P **P 13 32 37.3 -0.8**
O56A Blue Knob Stat 76.83 41 P **P 13 32 38.3 0.0**
baz=328,SNR=35
DOU Dourbes 76.85 343 ⇑P **P 13 32 38.6 +0.5**
comp=Z,185nm,1.0s
HMNX Herstmonceux 76.85 345⇑ *iP* **P 13 32 39.4 +1.3**
HMNX IAmb IAmb 13 32 41.0
comp=Z,886nm,1.0s
HMNX IAMs_20 IAMs_20 14 13 40.0
comp=Z,24µm,18.6s
HKT Hockley 76.86 59 *eP* **P 13 32 39.1 +0.6**
comp=Z,2µm,1.8s
HKT Hockley 76.86 59 *eP* **P 13 32 39.1 +0.6**
HKT pmax pmax
comp=Z,2µm,1.8s
V48A Smith Brothers 76.87 49 P **P 13 32 38.7 +0.1**
baz=324,SNR=55
W47A Westpoint 76.89 50 P **P 13 32 38.8 0.0**
baz=324,SNR=56
P55A Reedsville 76.94 42 P **P 13 32 39.3 +0.4**
baz=327,SNR=42
Q54A Coxs Mills 76.94 43 P **P 13 32 39.1 +0.2**
baz=327,SNR=23
WLF Walferdange 76.95 341 *eP* **P 13 32 39.8 +1.0**
baz=22,slow=5.9
WLF Walferdange 76.95 341 ⇓P **P 13 32 39.5 +0.7**
X46A Booneville 76.97 51 P **P 13 32 39.1 0.0**
baz=324,SNR=15
ARSA Arzberg 76.99 335 *iP* **P 13 32 39.9 +0.8**
comp=Z,288nm,1.3s,SNR=108
R53A Hurricane 77.00 44 P **P 13 32 39.4 +0.2**
baz=326,SNR=18
SRE Strehaia 77.00 328 ⇓*iP* **P 13 32 39.8 +0.6**
SRE Strehaia 77.00 328 ⇓P **P 13 32 39.8 +0.6**
URFA Urfa 77.00 314 P **P 13 32 40.4 +1.0**
S52A Salyersville 77.03 45 P **P 13 32 39.6 +0.1**
baz=326
SHME Shamm 77.05 295 *iP* **P 13 32 39.4 -0.4**
SNR=45
BANOM Banah 77.05 295 *iP* **P 13 32 39.8 0.0**
SNR=45
BANOM Banah 77.05 295 P **P 13 32 39.7 -0.1**
SNR=37
BANOM P **P 13 32 39.7 -0.1**
SNR=37
HERR Herculane 77.07 329 ⇓*iP* **P 13 32 39.6 +0.1**
ASAR Alice Springs 77.08 202 P **P 13 32 40.4 +0.7**
comp=Z,64nm,0.9s,baz=15,slow=5.5,SNR=394
ASAR PKKPbc **PKKPbc 13 51 47.2 +0.9**
comp=Z,0.9nm,0.9s,baz=203,slow=1.8,SNR=6.1
ASAR PKPPKP **P'P'df 13 59 52.6 +7.3**
comp=Z,1.9nm,1.0s,baz=200,slow=3.6,SNR=6.2
ASAR LR LR 14 03 36.7
comp=Z,10µm,21.8s,baz=26,slow=33
VAL Valentia 77.09 352 *iP* **P 13 32 40.3 +0.8**
STU Stuttgart 77.15 339 *eP* **P 13 32 40.5 +0.6**
comp=Z,558nm,1.5s,baz=22,slow=5.9
BNN Bunyan 77.16 317 P **P 13 32 40.5 +0.2**
T51A Gray 77.22 46 P **P 13 32 40.6 +0.1**
baz=325,SNR=30
FUR Furstenfeldbru 77.23 338 *eP* **P 13 32 41.0 +0.6**
comp=Z,638nm,1.2s,baz=22,slow=5.9
Q55A Buckhannon 77.26 42 P **P 13 32 41.0 +0.3**
baz=327,SNR=26
U50A Jamestown 77.26 47 P **P 13 32 41.0 +0.2**
baz=325,SNR=64
V49A McMinnville 77.29 48 P **P 13 32 40.9 -0.1**
baz=325,SNR=40
SZH Strazhica 77.29 326 P **P 13 32 39.9 -0.9**
W48A Pulaski 77.31 49 P **P 13 32 41.1 +0.1**
baz=324,SNR=96
BEHE Becsehely 77.36 333⇑ *iP* **P 13 32 41.5 +0.4**
BEHE Becsehely 77.36 333⇑ *iP* **P 13 32 40.1 -1.0**
X47A Russelville 77.36 50 P **P 13 32 41.0 -0.3**
baz=324,SNR=24
BR131 Keskin Array S 77.36 319 P **P 13 32 41.1 -0.3**
SNR=31
BRTR Keskin Array B 77.36 319 P **P 13 32 41.1 -0.3**
comp=Z,21nm,0.9s,baz=46,slow=3.6,SNR=42
BRTR PKPPKP P'P'df 13 59 43.1 -10
comp=Z,1.1nm,0.9s,baz=226,slow=3.2,SNR=3.8
BRTR LR LR 14 12 03.4
comp=Z,19µm,20.3s,baz=9.5,slow=40
MDVR Moldovita 77.38 329 ⇓*iP* **P 13 32 41.6 +0.2**
N59A State Game Lan 77.41 39 P **P 13 32 41.4 -0.2**
baz=329,SNR=23
HTL Hartland 77.42 349⇑ *eP* **P 13 32 41.6 +0.3**
HTL IAmb IAmb 13 32 43.8
comp=Z,348nm,0.9s
HTL IAMs_20 IAMs_20 14 12 52.0
comp=Z,22µm,19.2s
PUNG Punghina 77.43 328 ⇓*iP* **P 13 32 41.6 +0.1**
S53A Williamson 77.45 45 P **P 13 32 41.9 0.0**
baz=326,SNR=5.5
MDH Madha 77.53 295 *iP* **P 13 32 41.6 -0.9**
SNR=22
MDH Madha 77.53 295 P **P 13 32 41.5 -0.9**
SNR=31
MDH P **P 13 32 41.5 -0.9**
SNR=31
R54A Victor 77.54 44 P **P 13 32 42.4 +0.1**
baz=327,SNR=29
PVL Pavlikeni 77.55 326 P **P 13 32 43.2 +1.0**
TRD Trivandrum 77.56 268 *eP* **P 13 32 42.6 -0.1**
MSFE Esma-Masafi 77.57 295 *iP* **P 13 32 42.2 -0.5**
SNR=42
ANTO Ankara 77.59 320 *eP* **P 13 32 42.4 -0.2**
comp=Z,346nm,1.0s
ANTO LR LR
comp=Z,22µm,21.0s
ANTO Ankara 77.59 320⇑ *iP* **P 13 32 42.9 +0.3**
ANTO Ankara 77.59 320 ⇑P **P 13 32 42.9 +0.3**
ANTO Ankara 77.59 320 P **P 13 32 42.9 +0.3**
SNR=37
ANTO P **P 13 32 42.9 +0.3**
SNR=37
ANTO Ankara 77.59 320 *eP* **P 13 32 43.3 +0.7**

KVTX Kingsville 77.59 62 *eP* **P 13 32 43.9 +1.2**
comp=Z,888nm,1.4s
KVTX LR LR
comp=Z,8µm,20.0s
W49A Belvidere 77.64 49 P **P 13 32 42.9 0.0**
baz=325,SNR=56
HRV Adam Dziewonsk 77.64 35 *eP* **P 13 32 43.1 +0.4**
comp=Z,131nm,1.1s
HRV Adam Dziewonsk 77.64 35 *eP* **P 13 32 43.1 +0.4**
HRV pmax pmax
comp=Z,131nm,1.1s
HRV Adam Dziewonsk 77.64 35 P **P 13 32 43.2 +0.4**
baz=331
FRGS Fruska Gora 77.65 331⇑ *iP* **P 13 32 42.5 -0.3**
SOKA Soboth 77.65 335 *iP* **P 13 32 43.3 +0.4**
comp=Z,563nm,1.4s,SNR=268
PERS Pernice 77.66 335 *iP* **P 13 32 43.4 +0.5**
PERS *eS* **S 13 42 31.0 +0.9**
U51A La Follette 77.67 47 P **P 13 32 43.1 +0.1**
baz=326,SNR=27
UMQ Umm Al-Quwin 77.72 295 *iP* **P 13 32 44.2 +0.8**
SNR=18
UMQ Umm Al-Quwin 77.72 295 P **P 13 32 44.4 +0.9**
SNR=21
UMQ P **P 13 32 44.4 +0.9**
SNR=21
KBA Koelnbreinsper 77.73 336 *iP* **P 13 32 44.4 +1.0**
comp=Z,1µm,1.5s,SNR=329
V50A Pikeville 77.74 48 P **P 13 32 43.5 0.0**
baz=325,SNR=49
SILT Sile 77.75 322⇑ *iP* **P 13 32 43.7 +0.3**
TZTN Tazewell 77.75 46 *eP* **P 13 32 42.7 -0.8**
comp=Z,551nm,1.8s
TZTN Tazewell 77.75 46 P **P 13 32 43.8 +0.3**
baz=326,SNR=29
WSAR Wadi Sarin 77.75 292 P **P 13 32 44.5 +0.8**
SNR=43
JMB Yambol 77.76 325 P **P 13 32 43.4 0.0**
BFO Black Forest 77.76 340 *eP* **P 13 32 43.6 +0.2**
comp=Z,46nm,1.1s
BFO LR LR
comp=Z,2µm,22.0s
BFO Black Forest 77.76 340 *eP* **P 13 32 43.9 +0.6**
comp=Z,1µm,2.2s,baz=22,slow=5.9
BFO Black Forest 77.76 340 *ceP* **P 13 32 43.6 +0.2**
X48A Hartselle 77.81 50 P **P 13 32 43.4 -0.4**
baz=324,SNR=26
KMRS Karamanmaras 77.81 316 P **P 13 32 44.5 +0.6**
BIDO Bidbid 77.83 292 P **P 13 32 44.5 +0.4**
SNR=44
BIDO P **P 13 32 44.5 +0.4**
SNR=44
R55A Marlinton 77.84 43 P **P 13 32 44.3 +0.2**
baz=327,SNR=35
T53A Wise 77.85 45 P **P 13 32 44.4 +0.3**
baz=326,SNR=25
145A Houston Renfro 77.86 53 P **P 13 32 45.0 +0.9**
baz=324,SNR=9.1
VBMS Vicksburg 77.87 54 P **P 13 32 45.0 +0.9**
baz=323,SNR=12
DYA Yadsworthy 77.89 348 *eP* **P 13 32 44.3 +0.3**
DYA IAMs_20 IAMs_20 14 13 41.1
comp=Z,13µm,19.3s
KLYT Kilyos 77.89 323⇑ *iP* **P 13 32 43.7 -0.5**
OBKA Obir 77.93 335 *iP* **P 13 32 45.0 +0.5**
comp=Z,457nm,1.4s,SNR=175
WATA Walderalm 77.93 337 *iP* **P 13 32 46.0 +1.5**
comp=Z,454nm,1.1s,SNR=36
GAZ Gaziantep 77.95 315 P **P 13 32 45.2 +0.5**
YAYX Yaylak 77.95 319 P **P 13 32 44.7 0.0**
U52A Thorn Hill 77.96 46 P **P 13 32 45.0 +0.3**
baz=326,SNR=45
MPEP Malo Peshtene 77.98 327 P **P 13 32 44.2 -0.4**
V51A Loudon 77.99 47 P **P 13 32 44.9 +0.1**
baz=325,SNR=31
WTTA Wattenberg 77.99 337 P **P 13 32 46.0 +1.2**
comp=Z,985nm,1.2s
RETA Reutte 77.99 338 *iP* **P 13 32 45.3 +0.6**
comp=Z,211nm,1.1s,SNR=85
HATD Hatta, Dubai 77.99 294 *iP* **P 13 32 44.1 -0.9**
SNR=137
HATD Hatta, Dubai 77.99 294 P **P 13 32 45.1 0.0**
SNR=140
HATD P **P 13 32 45.1 0.0**
SNR=140
W50A Signal Mountai 78.03 48 P **P 13 32 45.1 0.0**
baz=325,SNR=38
WBK Wadi Bani Khal 78.03 291 P **P 13 32 46.2 +0.9**
SNR=11
MOTA Moosalm 78.04 337 *iP* **P 13 32 45.8 +0.7**
comp=Z,526nm,1.0s,SNR=166
ISK Istanbul-Kandi 78.05 323 P **P 13 32 44.8 -0.2**
ISK Istanbul-Kandi 78.05 323 P **P 13 32 44.8 -0.2**
ISK Istanbul-Kandi 78.05 323 P **P 13 32 44.8 -0.2**
PAL Palisades 78.06 37 P **P 13 32 44.9 -0.2**
baz=330,SNR=15
MYKA Terra Mystica 78.06 336 *iP* **P 13 32 45.4 +0.3**
comp=Z,440nm,1.4s,SNR=145
S55A Leburg 78.10 43 P **P 13 32 45.5 0.0**
baz=327,SNR=15
X49A Woodville 78.10 49 P **P 13 32 45.5 0.0**
baz=325,SNR=61
JLN Jalan Bani Buh 78.12 290 P **P 13 32 46.5 +0.8**
SNR=93
JLN P **P 13 32 46.5 +0.8**
SNR=93
SQTA Sankt Quirin 78.13 337 *iP* **P 13 32 46.5 +1.0**
comp=Z,808nm,1.2s,SNR=178
NAZ Nazwa, Dubai 78.14 295 *iP* **P 13 32 45.5 -0.3**
SNR=62
NAZ Nazwa, Dubai 78.14 295 P **P 13 32 45.7 -0.1**
SNR=70
NAZ P **P 13 32 45.7 -0.1**
SNR=70
PHSR Pinarhisar 78.14 324⇑ *iP* **P 13 32 45.6 +0.1**
ASHO Ashiyiah 78.14 294 *iP* **P 13 32 45.7 -0.2**
SNR=5
ASHO Ashiyiah 78.14 294 P **P 13 32 45.8 -0.1**
SNR=112
ASHO P **P 13 32 45.8 -0.1**
SNR=112
ZAG Zagreb 78.17 334 *eP* **P 13 32 46.6 +1.0**
Y48A Jasper 78.18 50 P **P 13 32 45.4 -0.5**
baz=324,SNR=23
T54A Tazewell 78.21 45 P **P 13 32 46.4 +0.2**
baz=326,SNR=43
SMDO Samad 78.23 292 P **P 13 32 47.0 +0.5**
SNR=42
EDRB Edirne 78.24 325 P **P 13 32 45.9 -0.2**
EDRB Edirne 78.24 325 P **P 13 32 45.9 -0.2**
ABTA Abfaltersbach 78.25 336 *iP* **P 13 32 46.5 +0.3**
comp=Z,491nm,1.1s,SNR=162
HOQ Hoqain 78.26 293 P **P 13 32 47.0 +0.5**
SNR=29
TEKS Tekeris 78.28 331 *eP* **P 13 32 46.0 -0.3**
SOHO SOHO 78.29 294 P **P 13 32 46.0 -0.6**
SNR=80
SOHO P **P 13 32 46.0 -0.6**
SNR=80
CCA1 Carnmenellis 78.30 349⇑ *iP* **P 13 32 46.8 +0.5**
CCA1 IAmb IAmb 13 32 48.5
comp=Z,529nm,1.2s
CCA1 IAMs_20 IAMs_20 14 14 00.2
comp=Z,17µm,18.8s
V52A Sevierville 78.31 47 P **P 13 32 46.8 +0.2**
baz=326,SNR=41
KOZT Kozan 78.31 316 P **P 13 32 46.8 +0.2**
CRES Cresnjev 78.31 334⇑ *iP* **P 13 32 46.3 -0.2**
W51A Cleveland 78.32 48 P **P 13 32 46.7 0.0**
baz=325,SNR=22
U53A Fall Branch 78.34 46 P **P 13 32 47.1 +0.3**
baz=326,SNR=29
YLV Yalova 78.36 322 ⇓*iP* **P 13 32 47.1 +0.2**
YLV Yalova 78.36 322 ⇓P **P 13 32 47.1 +0.2**
FAQ Al Faqa, Dubai 78.37 295 *iP* **P 13 32 46.7 -0.4**
SNR=75
FAQ Al Faqa, Dubai 78.37 295 P **P 13 32 47.0 -0.1**
SNR=62
FAQ P **P 13 32 47.0 -0.1**
SNR=62
LJU Ljubljana 78.37 335⇑ *iP* **P 13 32 46.6 -0.2**
DAVA Damuels 78.39 338 *iP* **P 13 32 47.6 +0.5**
comp=Z,446nm,1.0s,SNR=99
FETA Feichten 78.44 338 *iP* **P 13 32 48.3 +1.0**
comp=Z,515nm,1.1s,SNR=137
X50B Fort Payne 78.47 49 P **P 13 32 47.4 -0.2**
baz=325,SNR=44

DIM Dimitrovgrad 78.50 326 P **P 13 32 47.3 -0.2**
OZLJ Ozalj 78.50 334 P **P 13 32 47.6 +0.1**
VISS Visnje 78.51 334 *eP* **P 13 32 47.3 -0.2**
VISS *eS* **S 13 42 37.8 -1.2**
PGB Panagyurishte 78.54 327 P **P 13 32 47.8 0.0**
DIVS Divibare 78.54 330⇑ *iP* **P 13 32 47.3 -0.5**
Y49A Blount Mountai 78.59 50 P **P 13 32 47.9 -0.3**
baz=325,SNR=30
BLA Blacksburg 78.60 44 *eP* **P 13 32 48.4 +0.2**
comp=Z,343nm,1.3s
BLA LR LR
comp=Z,12µm,22.0s
BLA Blacksburg 78.60 44 *eP* **P 13 32 48.4 +0.2**
BLA pmax pmax
comp=Z,343nm,1.3s
BLA MLR MLR
comp=Z,12µm,22.0s
BLA Blacksburg 78.60 44 P **P 13 32 48.3 0.0**
baz=327,SNR=23
147A Livingston 78.64 52 P **P 13 32 48.8 +0.4**
baz=324,SNR=35
BOJS Bojanci 78.67 334 *iP* **P 13 32 48.6 +0.2**
BOJS *iS* **S 13 42 41.0 +0.3**
CEY Cerknica 78.68 335⇑ *iP* **P 13 32 48.2 -0.3**
JMDO Jabal Madar 78.73 291 P **P 13 32 51.0 +1.9**
SNR=26
CEYT Ceyhan 78.73 316 P **P 13 32 49.6 +0.7**
PLD Plovdiv 78.75 326 P **P 13 32 48.3 -0.6**
X51A Calhoun 78.76 48 P **P 13 32 49.1 0.0**
baz=325,SNR=23
W52A Murphy 78.77 47 P **P 13 32 49.2 +0.1**
baz=326,SNR=30
M65A Busby, Falmout 78.80 35 P **P 13 32 49.2 0.0**
baz=331
VTS Vitosha 78.80 327 P **P 13 32 49.4 0.0**
VTS Vitosha 78.80 327 ⇓*iP* **P 13 32 50.2 +0.8**
VTS Vitosha 78.80 327 P **P 13 32 49.4 0.0**
VTS Vitosha 78.80 327 ⇓P **P 13 32 50.2 +0.8**
VTS S **P 13 32 51.7 +2.3**
VTS Vitosha 78.80 327 P **P 13 32 49.6 +0.2**
ALNE Al Ain 78.81 294 *iP* **P 13 32 49.4 -0.1**
SNR=24
BLY Banja Luka 78.81 332⇑ *iP* **P 13 32 48.8 -0.4**
BLY Banja Luka 78.81 332⇑ *iP* **P 13 32 48.9 -0.3**
V53A Saluda 78.81 46 P **P 13 32 49.5 +0.1**
baz=326,SNR=29
KARA Karaisali 78.83 317 P **P 13 32 49.9 +0.5**
JRS Jersey 78.85 347⇑ *eP* **P 13 32 49.8 +0.5**
AJN Ajban 78.86 295 *iP* **P 13 32 49.2 -0.5**
SNR=22
AJN Ajban 78.86 295 P **P 13 32 49.5 -0.2**
SNR=48
AJN P **P 13 32 49.5 -0.2**
SNR=48
JSA Saint Aubin 78.87 347⇑ *iP* **P 13 32 50.1 +0.7**
JSA IAmb IAmb 13 32 51.8
comp=Z,602nm,1.0s
HAPS Han Pijesak,Bl 78.88 331⇑ *iP* **P 13 32 49.2 -0.5**
KDZ Kurdzhali 78.89 326 P **P 13 32 54.2 +4.5**
Y50A Piedmont 78.89 49 P **P 13 32 49.7 -0.1**
baz=325,SNR=20
ARQ Araqi 78.91 293 P **P 13 32 50.3 +0.2**
SNR=70
U55A TA2, Sparta 78.91 45 P **P 13 32 50.0 0.0**
baz=327,SNR=24
BBLS Lazići 78.94 331⇑ *iP* **P 13 32 50.0 0.0**
YURE YUREGIR 78.94 316 P **P 13 32 51.1 +1.0**
BSY Bisya 78.97 292 P **P 13 32 50.9 +0.5**
SNR=82
LRAL Lakeview Retre 78.97 51 *eP* **P 13 32 49.4 -0.9**
comp=Z,109nm,1.2s
LRAL Lakeview Retre 78.97 51 P **P 13 32 49.9 -0.3**
baz=325,SNR=20
RIY Rijeka 79.04 334⇑ *iP* **P 13 32 50.1 -0.3**
W53A Cullowhee 79.06 47 P **P 13 32 51.0 +0.1**
baz=326,SNR=34
R58B Mineral 79.06 42 P **P 13 32 50.9 +0.2**
baz=328,SNR=23
CBN Corbin Frederi 79.07 41 PFAKE **13 33 00.0 +9.3**
CBN LR LR
comp=Z,12µm,20.0s
CBN Corbin Frederi 79.07 41 P **P 13 32 50.8 +0.1**
baz=328
MBWA Marble Bar 79.07 216 PFAKE **13 33 00.0 +9.3**
MBWA LR LR
comp=Z,5µm,21.0s
Z49A Columbiana 79.07 50 P **P 13 32 50.6 -0.2**
baz=325,SNR=39
RZN Rozhen 79.11 326 P **P 13 32 50.8 -0.3**
V54A Nebo 79.11 46 P **P 13 32 51.1 +0.1**
baz=326,SNR=26
X52A Dahlonega 79.18 48 P **P 13 32 51.6 +0.1**
baz=326,SNR=45
Y51A Rockmart 79.21 49 P **P 13 32 51.4 -0.2**
baz=325,SNR=40
KRTS Karatas 79.26 316 P **P 13 32 52.4 +0.6**
RDO Rodhopi 79.29 325 P **P 13 32 51.9 0.0**
RDO Rodhopi 79.29 325 P **P 13 32 51.9 0.0**
Z50A Ashland 79.32 50 P **P 13 32 52.0 -0.2**
baz=325,SNR=85
ALN Alexandroupoli 79.32 325 P **P 13 32 51.5 -0.5**
ALN Alexandroupoli 79.32 325 P **P 13 32 51.5 -0.5**
ALN Alexandroupoli 79.32 325 P **P 13 32 51.5 -0.5**
V55A Taylorsville 79.38 45 P **P 13 32 52.5 0.0**
baz=327,SNR=14
MERS Mersin 79.39 317 P **P 13 32 52.1 -0.5**
UDBI Udbina 79.42 333 P **P 13 32 52.3 -0.3**
PLE Pljevlja 79.42 330⇑ *iP* **P 13 32 51.9 -0.8**
149A Jones 79.43 51 P **P 13 32 52.9 +0.1**
baz=325,SNR=20
KKB Krupnik 79.52 327 P **P 13 32 53.5 +0.4**
DURS Dursunbey 79.54 322 *iP* **P 13 32 53.7 +0.3**
DURS IAML_P
comp=Z,4µm,0.9s
MMB Musomiste 79.54 327 P **P 13 32 53.7 +0.4**
X53A Estanollee 79.54 47 P **P 13 32 53.9 +0.5**
baz=326,SNR=52
W54A Cherokee Point 79.58 46 P **P 13 32 53.5 0.0**
baz=326,SNR=18
Z51A Franklin 79.63 49 P **P 13 32 53.7 -0.2**
baz=325,SNR=6.6
NVLJ Novalja 79.64 334 P **P 13 32 52.7 -1.0**
IVA Berane 79.68 330⇑ *iP* **P 13 32 54.1 0.0**
NVR Nevrokopi 79.71 326 P **P 13 32 54.2 0.0**
NVR Nevrokopi 79.71 326 P **P 13 32 54.2 0.0**
Y52A Lilburn 79.71 48 P **P 13 32 54.5 +0.2**
baz=326,SNR=20
BALY Balya 79.75 323 *iP* **P 13 32 55.4 +1.0**
BALY IAML_P
comp=Z,4µm,1.1s
249A Camden 79.77 51 P **P 13 32 55.3 +0.7**
baz=325,SNR=39
KAVA Kavala 79.79 326 P **P 13 32 54.6 0.0**
KAVA Kavala 79.79 326 P **P 13 32 54.6 0.0**
150A Eclectic 79.80 50 P **P 13 32 54.7 -0.1**
baz=325,SNR=37
KOME Kolasin 79.82 330⇑ *iP* **P 13 32 54.1 -0.7**
MHTO MHTO 79.87 291 P **P 13 32 55.9 +0.6**
SNR=303
MHTO P **P 13 32 55.9 +0.6**
SNR=303
SMTH Samothraki Isl 79.89 325 P **P 13 32 54.7 -0.4**
SMTH Samothraki Isl 79.89 325 P **P 13 32 54.7 -0.4**
PVY Plav 79.91 330⇑ *iP* **P 13 32 54.7 -0.7**
KMSC Kings Mountain 79.92 45 P **P 13 32 55.2 -0.1**
baz=327,SNR=29
DEMI Demirci 79.93 322 *iP* **P 13 32 56.1 +0.6**
DEMI IAML_P
comp=Z,1µm,0.8s
X54A Belton 79.94 47 P **P 13 32 55.7 +0.2**
baz=326,SNR=22
Y53A Monroe 79.94 48 P **P 13 32 55.8 +0.2**
baz=326,SNR=21
STIP Stip 79.98 328⇑ *iP* **P 13 32 54.5 -1.1**
TAOE Nuku Hiva Isla 79.99 117 *eS* **S 13 42 57.7 +2.1**
comp=Z,17µm,30.2s
TAOE Nuku Hiva Isla 79.99 117 *eLR* LR 13 57 26.4
comp=Z,51µm,30.7s,baz=328
SRS Serrai 80.01 327 P **P 13 32 55.6 -0.2**
SRS Serrai 80.01 327 P **P 13 32 55.6 -0.2**
SRS Serrai 80.01 327 P **P 13 32 55.6 -0.2**
NKY Niksic 80.02 330⇑ *iP* **P 13 32 55.0 -0.9**
STEP BALIKESIR_Sava 80.02 323 *iP* **P 13 32 56.1 +0.2**
STEP IAML_P
comp=Z,3µm,0.8s

THAS Thassos island 80.06 326 P P 13 32 55.7 -0.3
NKME Niksic 80.07 330⇑ iP P 13 32 55.2 -0.9
BRY Bratogost 80.08 331⇑ iP P 13 32 55.3 -1.0
BRY Bratogost 80.08 331⇑ iP P 13 32 55.2 -1.0
USAK Uak-Merkez 80.09 322 i P P 13 32 56.5 +0.2
USAK IAML_P
comp=Z,2µm,1.0s
Z52A Williamson 80.10 49 P P 13 32 56.5 +0.1
baz=326,SNR=35
EZN Ezine 80.16 324 P P 13 32 56.2 -0.4
EZN Ezine 80.16 324 P P 13 32 56.2 -0.4
EZN Ezine 80.16 324 P P 13 32 56.2 -0.4
VAY Valandovo 80.18 327⇑ iP P 13 32 56.7 +0.1
250A Grady 80.19 51 P P 13 32 57.2 +0.3
baz=325,SNR=34
151A Opelika 80.20 50 P P 13 32 56.7 -0.3
baz=325,SNR=6.0
KNT Kendrikon 80.21 327 P P 13 32 56.9 0.0
KNT Kendrikon 80.21 327 P P 13 32 56.9 0.0
MNCY Minicoy 80.23 271 eP P 13 32 56.2 -1.1
349A Repton 80.24 52 P P 13 32 58.4 +1.2
baz=325,SNR=18
448A Bay Minette 80.25 52 P P 13 32 58.6 +1.4
baz=324,SNR=11
ISP Isparta 80.26 320 P P 13 32 56.8 -0.5
ISP Isparta 80.26 320 P P 13 32 56.8 -0.5
ISP Isparta 80.26 320 P P 13 32 56.8 -0.5
PDG Podgorica 80.28 330⇓ iP P 13 32 57.4 +0.2
PDG Podgorica 80.28 330⇑ iP P 13 32 56.7 -0.4
TTG Podgorica 80.28 330⇑ iP P 13 32 56.8 -0.4
CEME Cevo 80.28 330⇑ iP P 13 32 55.8 -1.5
TREB Trebinje 80.30 331 eP P 13 32 54.8 -2.5
X55A Gracelyn & Ava 80.34 46 P P 13 32 57.7 +0.1
baz=327,SNR=16
SOH Sokhos 80.35 327 P P 13 32 57.2 -0.5
SOH Sokhos 80.35 327 P P 13 32 57.2 -0.5
SOH Sokhos 80.35 327 P P 13 32 57.2 -0.5
Y54A Tignall 80.36 47 P P 13 32 58.2 +0.4
baz=326,SNR=20
STON Ston 80.36 331 P P 13 32 56.7 -0.9
STON Ston 80.36 331⇑ iP P 13 32 56.4 -1.2
GOGA Godfrey 80.36 48 eP P 13 32 57.6 -0.2
comp=Z,472nm,1.9s
GOGA LR LR
comp=Z,32µm,22.0s
GOGA Godfrey 80.36 48 eP P 13 32 57.6 -0.2
GOGA pmax pmax
comp=Z,472nm,1.9s
GOGA MLR MLR
comp=Z,32µm,22.0s
GOGA Godfrey 80.36 48 P P 13 32 57.8 0.0
baz=326,SNR=17
152A Waverly Hall 80.38 49 P P 13 32 57.7 -0.2
baz=326,SNR=28
KULA Kula-Manisa 80.41 322 P P 13 32 57.8 -0.3
KULA Kula-Manisa 80.41 322 P P 13 32 57.8 -0.3
AKHS Akhisar 80.42 323 i P P 13 32 58.0 -0.1
AKHS IAML_P
comp=Z,15nm,0.4s
Z53A Monticello 80.42 48 P P 13 32 58.1 0.0
baz=326,SNR=30
BRAL Brewton 80.46 52 PFAKE 13 33 10.0 +12
BRAL LR LR
comp=Z,13µm,21.0s
BRAL Brewton 80.46 52 P P 13 32 59.5 +1.2
baz=325,SNR=7.6
MANT Manisa 80.47 322 i P P 13 32 59.0 +0.4
MANT IAML_P
comp=Z,3µm,1.1s
HCY Herceg Novi 80.50 331⇑ iP P 13 32 57.2 -1.2
HCY Herceg Novi 80.50 331⇑ iP P 13 32 57.4 -1.0
BUM Brajici-Budva 80.51 330⇑ iP P 13 32 57.7 -0.8
LIA Limnos Island 80.52 325 P P 13 32 58.0 -0.5
LIA Limnos Island 80.52 325 P P 13 32 58.0 -0.5
251A Midway 80.52 50 P P 13 32 58.8 +0.1
baz=325,SNR=46
DRME Dracevica, Mon 80.52 330⇑ iP P 13 32 58.3 -0.2
DRME Dracevica, Mon 80.52 330⇑ iP P 13 32 58.1 -0.4
OUR Ouranopolis 80.56 326 P P 13 32 58.4 -0.3
OUR Ouranopolis 80.56 326 P P 13 32 58.4 -0.3
OUR Ouranopolis 80.56 326 P P 13 32 58.4 -0.3
PHP Peshkopia 80.57 329 P P 13 32 58.4 -0.5
PHP Peshkopia 80.57 329 P P 13 32 58.4 -0.5
PHP Peshkopia 80.57 329 P P 13 32 58.4 -0.5
X56A White Oak 80.59 46 P P 13 32 59.0 0.0
baz=327,SNR=16
350A Dozier 80.61 51 P P 13 33 00.1 +0.9
baz=325,SNR=15
HORT Hortiatis 80.64 327 P P 13 32 58.5 -0.8
HORT Hortiatis 80.64 327 P P 13 32 58.5 -0.8
THE Thessaloniki 80.66 327 P P 13 32 58.6 -0.6
THE Thessaloniki 80.66 327 P P 13 32 58.6 -0.6
THE Thessaloniki 80.66 327 P P 13 32 58.6 -0.6
Y55A Saluda 80.68 47 P P 13 32 59.8 +0.3
baz=327,SNR=25
PRK Paraskevi 80.69 324 P P 13 33 00.1 +0.7
PRK Paraskevi 80.69 324 P P 13 33 00.1 +0.7
ULC Ulcinj 80.70 330⇑ iP P 13 32 58.3 -1.2
449A Pace 80.71 52 P P 13 33 01.1 +1.4
baz=325,SNR=12
PLG Polygyros 80.72 326 P P 13 32 58.9 -0.8
PLG Polygyros 80.72 326 P P 13 32 58.9 -0.8
PLG Polygyros 80.72 326 P P 13 32 58.9 -0.8
Z54A Sparta 80.80 48 P P 13 33 00.6 +0.4
baz=326,SNR=37
153A Fort Valley 80.82 49 P P 13 33 00.2 0.0
baz=326
SIGR SIGRI 80.87 324 P P 13 32 59.8 -0.6
SIGR SIGRI 80.87 324 P P 13 32 59.8 -0.6
BIA Bitola 80.87 328⇑ iP P 13 33 00.4 -0.1
252A Lumpkin 80.92 50 P P 13 33 00.8 0.0
baz=326,SNR=21
MZR Muzera 80.93 295 i P P 13 33 00.8 -0.2
SNR=65
MZR Muzera 80.93 295 P P 13 33 00.8 -0.2
SNR=84
MZR P P 13 33 00.8 -0.2
SNR=84
DQM DQM 80.94 290 P P 13 33 01.1 +0.1
SNR=25
DQM P P 13 33 01.1 +0.1
SNR=25
RAR Rarotonga 80.94 140 P P 13 33 02.9 +2.1
comp=Z,12nm,0.8s,baz=194,slow=16,SNR=3.6
RAR LR LR 14 01 27.1
comp=Z,14µm,22.0s,baz=336,slow=30
PMOR Pomariorio Ree 80.96 127 eP P 13 33 01.5 +0.5
comp=Z,374nm,1.6s
PMOR Pomariorio Ree 80.96 127 eT T 15 02 07.0
comp=Z,18nm,0.2s
OHR Ohrid 80.97 328⇑ iP P 13 33 00.5 -0.5
450A Crestview 80.99 52 P P 13 33 02.3 +1.1
baz=325
PAIG Paliouri 81.03 326 P P 13 33 00.6 -0.7
PAIG Paliouri 81.03 326 P P 13 33 00.6 -0.7
PAIG Paliouri 81.03 326 P P 13 33 00.6 -0.7
X57A Johnson Farm, 81.04 45 P P 13 33 01.5 +0.1
baz=327
Y56A Pelion 81.05 46 P P 13 33 01.6 +0.1
baz=327
TIR Tirane 81.06 329 P P 13 33 01.3 -0.1
TIR Tirane 81.06 329⇓ iP P 13 33 02.0 +0.6
TIR Tirane 81.06 329 P P 13 33 01.3 -0.1
TIR Tirane 81.06 329 ⇓P P 13 33 02.0 +0.6
FNA Florina 81.07 328 P P 13 33 00.8 -0.7
FNA Florina 81.07 328 P P 13 33 00.8 -0.7
FNA Florina 81.07 328 P P 13 33 00.8 -0.7
351A Pinckard 81.09 51 P P 13 33 02.4 +0.7
baz=325,SNR=27
Z55A Blythe 81.14 47 P P 13 33 02.6 +0.6
baz=327
253A Americus 81.16 49 P P 13 33 02.3 +0.2
baz=326,SNR=16
154A Montrose 81.19 48 P P 13 33 02.7 +0.4
baz=326,SNR=13
352A Blakely 81.25 50 P P 13 33 02.9 +0.3
baz=326,SNR=16
Y57A Sumter 81.28 45 P P 13 33 02.8 +0.1
baz=327
VAH Vaihoa 81.29 127 eP P 13 33 03.0 +0.2
comp=Z,207nm,1.4s
LIT Litokhoron 81.30 327 P P 13 33 01.7 -1.0
LIT Litokhoron 81.30 327 P P 13 33 01.7 -1.0
LIT Litokhoron 81.30 327 P P 13 33 01.7 -1.0

X58A Rowland 81.30 44 P P 13 33 03.0 +0.2
baz=328,SNR=8.5
URLA Izmir 81.34 323 i P P 13 33 03.7 +0.8
URLA IAML_P
comp=Z,7µm,0.8s
CNNC Cliffs of the 81.36 43 PFAKE 13 33 10.0 +6.9
CNNC LR LR
comp=Z,20µm,20.0s
CNNC Cliffs of the 81.36 43 P P 13 33 03.3 +0.3
baz=328
KZN Kozani 81.36 327 P P 13 33 02.3 -0.8
KZN Kozani 81.36 327 P P 13 33 02.3 -0.8
KZN Kozani 81.36 327 P P 13 33 02.3 -0.8
BHL Bhannes 81.37 314 eP P 13 33 03.3 0.0
MAMC Mammari 81.38 317 P P 13 33 03.4 +0.2
Z56A Williston 81.41 47 P P 13 33 03.8 +0.4
baz=327
155A Kite 81.49 48 P P 13 33 04.3 +0.6
baz=327,SNR=24
DGB zmir 81.50 323 i P P 13 33 03.3 -0.4
DGB IAML_P
comp=Z,2µm,0.9s
NEST Nestorio 81.51 328 P P 13 33 03.7 -0.2
CSS Mathiatis 81.51 317 P P 13 33 03.8 -0.1
CSS Mathiatis 81.51 317 P P 13 33 03.9 0.0
CSS Mathiatis 81.51 317 P P 13 33 03.8 -0.1
CHOS Chios island 81.52 324 P P 13 33 03.5 -0.5
CHOS Chios island 81.52 324 P P 13 33 03.5 -0.5
451A Vernon 81.56 51 P P 13 33 05.6 +1.4
baz=325,SNR=9.1
LEF Lefka 81.57 317⇓ iP P 13 33 04.0 -0.2
DQRL Deir Qamar 81.57 314 eP P 13 33 04.5 +0.1
X59A McDuffie Farm, 81.61 44 P P 13 33 04.8 +0.3
baz=328,SNR=5.1
RCY Rachaya 81.63 314 eP P 13 33 04.7 0.0
AOS Alonnisos 81.63 325 P P 13 33 03.7 -0.7
AOS Alonnisos 81.63 325 P P 13 33 03.7 -0.7
452A Marianna 81.64 51 P P 13 33 05.5 +0.8
baz=326,SNR=6.8
SKY Skiros Island 81.65 325 P P 13 33 04.2 -0.3
SKY Skiros Island 81.65 325 P P 13 33 04.2 -0.3
QRWL Qaraoun 81.66 314 eP P 13 33 04.7 -0.1
254A Abbeville 81.66 49 P P 13 33 05.3 +0.6
baz=326,SNR=34
ALFC Alefka 81.66 317 P P 13 33 04.0 -0.7
PENT Pentalofos 81.67 328 P P 13 33 04.3 -0.5
Y58A Scranton 81.70 45 P P 13 33 05.1 +0.3
baz=328
XOR Xorichti 81.70 326 P P 13 33 03.6 -1.3
XOR Xorichti 81.70 326 P P 13 33 03.6 -1.3
353A Camilla 81.71 50 P P 13 33 05.6 +0.7
baz=326,SNR=17
Z57A Bowman 81.74 46 P P 13 33 05.5 +0.4
baz=327,SNR=12
NEO Neokhori 81.74 326 P P 13 33 04.2 -0.9
NEO Neokhori 81.74 326 P P 13 33 04.2 -0.9
YER Yerkesik 81.75 321 P P 13 33 05.6 +0.4
YER Yerkesik 81.75 321 P P 13 33 05.6 +0.4
YER Yerkesik 81.75 321 P P 13 33 05.6 +0.4
FYTO Fytoko, Volos 81.75 326 P P 13 33 04.4 -0.7
FYTO Fytoko, Volos 81.75 326 P P 13 33 04.4 -0.7
SKIA Skiathos 81.78 326 P P 13 33 04.4 -0.9
SHBL Chebaa 81.80 314 eP P 13 33 05.9 +0.3
KPRO Kipourio 81.81 328 P P 13 33 04.9 -0.6
SMG Samos 81.81 323 P P 13 33 04.4 -1.1
SMG Samos 81.81 323 P P 13 33 04.4 -1.1
FETY Fethiye 81.86 321 P P 13 33 05.4 -0.3
FETY Fethiye 81.86 321 P P 13 33 05.4 -0.3
SZAC Souni 81.88 317 P P 13 33 05.9 0.0
156A Sylvania 81.91 47 P P 13 33 06.8 +0.7
baz=327,SNR=12
COCO West Island 81.93 240 PFAKE 13 33 20.0 +14
COCO LR LR
comp=Z,10µm,22.0s
TIGA Tifton 81.93 49 P P 13 33 07.0 +0.9
baz=326,SNR=28
THL Klokotos Trika 81.94 327 P P 13 33 04.5 -1.5
TPE Tepelena 81.96 329 P P 13 33 06.2 0.0
TPE Tepelena 81.96 329 P P 13 33 06.2 0.0
PPCY Paphos 82.00 317 P P 13 33 06.0 -0.5
255A Hazlehurst 82.06 48 P P 13 33 07.6 +0.8
baz=327,SNR=21
453A Whigham 82.06 50 P P 13 33 07.9 +1.0
baz=326,SNR=12
KSL Kastellorizon 82.08 320 P P 13 33 06.0 -0.8
KSL Kastellorizon 82.08 320 P P 13 33 06.0 -0.8
AQU L'Aquila 82.09 334⇑ iP P 13 33 07.7 +0.8
Z58A St. Stephen 82.11 45 P P 13 33 07.2 +0.2
baz=328,SNR=7.3
SMIA Simia 82.13 326 P P 13 33 06.2 -0.9
NHSC New Hope 82.14 46 P P 13 33 03.6 -3.6
comp=Z,302nm,1.1s
NHSC LR LR
comp=Z,19µm,20.0s
NHSC New Hope 82.14 46 P P 13 33 07.8 +0.6
baz=328,SNR=7.2
552A Lynn Haven 82.18 51 P P 13 33 08.7 +1.3
baz=326,SNR=5.4
BODT Bodrum 82.19 322 P P 13 33 06.8 -0.7
BODT Bodrum 82.19 322 P P 13 33 06.8 -0.7
BAI Bari 82.22 331 eP P 13 33 08.2 +0.7
JAN Janina 82.25 328 P P 13 33 08.0 +0.2
JAN Janina 82.25 328 P P 13 33 08.0 +0.2
256A Glennville 82.29 48 P P 13 33 08.7 +0.7
baz=327,SNR=12
AGG Agios Georgios 82.31 326 P P 13 33 06.1 -2.0
AGG Agios Georgios 82.31 326 P P 13 33 06.1 -2.0
AGG Agios Georgios 82.31 326 P P 13 33 06.1 -2.0
PPT Papeete 82.31 130 P P 13 33 09.9 +1.8
comp=Z,30nm,0.6s,baz=299,slow=4.5,SNR=7.3
PPT LR LR 14 02 45.4
comp=Z,13µm,21.2s,baz=307,slow=30
PPT2 Papeete2 82.33 130 eP P 13 33 08.8 +0.5
comp=Z,192nm,1.5s
PPT2 Papeete2 82.33 130 eS S 13 43 22.0 +2.4
comp=Z,30µm,30.0s
PPT2 Papeete2 82.33 130 eLR LR 13 58 55.8
comp=Z,21µm,21.5s,baz=316
PPT2 Papeete2 82.33 130 eT T 15 04 07.8
comp=Z,6.7nm,0.3s
SRN Sarande 82.34 328 P P 13 33 07.7 -0.4
SRN Sarande 82.34 328 P P 13 33 07.7 -0.4
FASA Fasano 82.34 331 eP P 13 33 08.0 -0.1
ATAL Atalanti 82.36 326 P P 13 33 06.7 -1.6
ATAL Atalanti 82.36 326 P P 13 33 06.7 -1.6
355A Pearson 82.36 49 P P 13 33 09.1 +0.7
baz=326,SNR=18
PAE Paea 82.39 130 eP P 13 33 08.7 +0.2
comp=Z,39nm,1.4s
LKR Lokris 82.41 326 P P 13 33 05.1 -3.4
LKR Lokris 82.41 326 P P 13 33 05.1 -3.4
TIAR Tiarei 82.42 130 eP P 13 33 09.0 +0.3
comp=Z,26nm,0.9s
AXAR Agios Charalam 82.42 326 P P 13 33 09.6 +0.9
AXAR Agios Charalam 82.42 326 P P 13 33 09.6 +0.9
Z59A Georgetown, SC 82.43 45 P P 13 33 09.2 +0.5
baz=328
158A Hollywood 82.44 46 P P 13 33 09.3 +0.5
baz=328
CGL1 Ceglie Messapi 82.45 331 eP P 13 33 08.5 -0.2
454A Quitman 82.51 50 P P 13 33 09.9 +0.7
baz=326,SNR=8.7
SG1 Sgolgore (BA) 82.53 331 eP P 13 33 09.0 -0.2
IGT Igoumenitsa 82.54 328 P P 13 33 08.9 -0.3
IGT Igoumenitsa 82.54 328 P P 13 33 08.9 -0.3
553A Crawfordville 82.56 50 P P 13 33 10.5 +1.1
baz=326
KEK Kerkira 82.56 329 P P 13 33 08.8 -0.5
KEK Kerkira 82.56 329 P P 13 33 08.8 -0.5
MASS Massafra 82.57 331 eP P 13 33 09.1 -0.3
EVR Evrytania 82.59 327 P P 13 33 08.7 -0.9
EVR Evrytania 82.59 327 P P 13 33 08.7 -0.9
ARG Arkhangelos 82.61 321 P P 13 33 09.2 -0.4
ARG Arkhangelos 82.61 321 P P 13 33 09.2 -0.4
RAO Raoul Island 82.61 159 PFAKE 13 33 20.0 +11
RAO LR LR
comp=Z,14µm,22.0s
TAR1 Taranto 82.63 331 eP P 13 33 09.3 -0.3
PTL Penteli 82.63 325 P P 13 33 08.5 -1.2
PTL Penteli 82.63 325 P P 13 33 08.5 -1.2
TVO Taravao 82.65 130 eP P 13 33 10.5 +0.5
comp=Z,57nm,1.3s
MATE Matera 82.69 331⇑ iP P 13 33 10.0 +0.1
257A Skidaway Islan 82.70 47 P P 13 33 10.9 +0.7
baz=327
356A Blackshear 82.72 48 P P 13 33 10.9 +0.7
baz=327
VILL Villia 82.73 325 P P 13 33 08.9 -1.4
ATHU Athens Univers 82.73 325 P P 13 33 08.9 -1.3
ATHU Athens Univers 82.73 325 P P 13 33 08.9 -1.3
ATH Athens Observa 82.75 325 P P 13 33 08.9 -1.4
ATH Athens Observa 82.75 325 P P 13 33 08.9 -1.4
ATH Athens Observa 82.75 325 P P 13 33 08.9 -1.4
455A Statesville 82.78 49 P P 13 33 11.5 +0.9
baz=326,SNR=18
DSF Desfina 82.79 326 P P 13 33 08.9 -1.7
DSF Desfina 82.79 326 P P 13 33 08.9 -1.7
VLY Voula,Athens 82.83 325 P P 13 33 08.9 -1.8
VLY Voula,Athens 82.83 325 P P 13 33 08.9 -1.8
ANX Ano Chora 82.84 327 P P 13 33 09.9 -1.0
APE Apeiranthos 82.87 323 P P 13 33 09.1 -2.0
APE Apeiranthos 82.87 323⇑ iP P 13 33 09.9 -1.2
APE Apeiranthos 82.87 323 P P 13 33 09.1 -2.0
APE Apeiranthos 82.87 323 ⇑P P 13 33 09.9 -1.2
KALE Kalithea 82.94 326 P P 13 33 09.7 -1.7
KALE Kalithea 82.94 326 P P 13 33 09.7 -1.7
AMGA Amorgos Island 82.94 323 P P 13 33 09.6 -1.8
357A Townsend 82.94 48 P P 13 33 11.8 +0.4
baz=327
SERG Sergoula 82.95 326 P P 13 33 10.3 -1.1
PVO Paravola 82.95 327 P P 13 33 11.1 -0.3
LTK Loutraki 82.98 326 P P 13 33 09.3 -2.2
LTK Loutraki 82.98 326 P P 13 33 09.3 -2.2
TRIZ Trizonia 82.99 326 P P 13 33 10.1 -1.4
EFP Efpalio 82.99 326 P P 13 33 10.7 -0.9
LOUT Loutraki 83.00 326 P P 13 33 09.8 -1.9
554A Perry 83.01 50 P P 13 33 12.6 +0.9
baz=326
LKD2 Lefkada island 83.10 328 P P 13 33 11.6 -0.6
LKD2 Lefkada island 83.10 328 P P 13 33 11.6 -0.6
TRAZ Trapeza 83.11 326 P P 13 33 11.2 -1.1
LAKA Lakka 83.13 326 P P 13 33 11.5 -0.9
LAKA Lakka 83.13 326 P P 13 33 11.5 -0.9
SERI Serifos 83.19 324 P P 13 33 09.9 -2.7
KLV Kalavryta, Ach 83.25 326 P P 13 33 11.7 -1.3
KLV Kalavryta, Ach 83.25 326 P P 13 33 11.7 -1.3
EVGI Lefkada island 83.25 327 P P 13 33 12.1 -0.8
456A Hilliard 83.27 48 P P 13 33 14.2 +1.1
baz=327
GUR Goura 83.28 326 P P 13 33 11.6 -1.6
GUR Goura 83.28 326 P P 13 33 11.6 -1.6
555A McAlpin 83.32 49 P P 13 33 14.3 +0.9
baz=326,SNR=6.2
DID Didima 83.34 325 P P 13 33 10.7 -2.7
DID Didima 83.34 325 P P 13 33 10.7 -2.7
ANAF Anafi Island 83.41 323 P P 13 33 11.3 -2.5
RLS Riolos of Patr 83.48 327 P P 13 33 13.9 -0.2
RLS Riolos of Patr 83.48 327 P P 13 33 13.9 -0.2
KRND KRANIDI 83.48 325 P P 13 33 11.8 -2.3
DRO Drossia 83.48 326 P P 13 33 13.9 -0.3
STKA Stephens Creek 83.56 194 P P 13 33 14.3 +0.1
comp=Z,37nm,0.9s,baz=355,slow=7.6,SNR=34
STKA LR LR 14 08 58.3
comp=Z,11µm,20.6s,baz=13,slow=34
KARP Karpathos 83.57 321 P P 13 33 13.5 -1.2
KARP Karpathos 83.57 321 P P 13 33 13.5 -1.2
457A Yulee 83.58 48 P P 13 33 15.9 +1.2
baz=327
MHLO Agia Marina, M 83.63 324 P P 13 33 12.4 -2.5
TRIP Tripoli 83.67 326 P P 13 33 14.4 -0.8
VLS Valsamata 83.67 327 P P 13 33 14.5 -0.6
VLS Valsamata 83.67 327 P P 13 33 14.5 -0.6
655A Horseshoe Beac 83.69 50 P P 13 33 16.2 +1.0
baz=326
556A Lake Butler 83.69 49 P P 13 33 16.6 +1.3
baz=327,SNR=14
VLX Vlachokerasia 83.77 326 P P 13 33 14.5 -1.2
VLX Vlachokerasia 83.77 326 P P 13 33 14.5 -1.2
AMT Artemida-Makis 83.86 326 P P 13 33 15.3 -0.8
557A Orange Park 84.00 49 P P 13 33 18.2 +1.4
baz=327,SNR=10
TIP Timpagrande 84.02 330 P P 13 33 17.4 +0.5
TIP Timpagrande 84.02 330⇑ iP P 13 33 17.3 +0.4
TIP Timpagrande 84.02 330 P P 13 33 17.4 +0.5
ITM Ithomi 84.10 326 P P 13 33 16.3 -1.0
ITM Ithomi 84.10 326 P P 13 33 16.3 -1.0
VLI Veliai 84.15 325 P P 13 33 14.9 -2.6
VLI Veliai 84.15 325 P P 13 33 14.9 -2.6
656A Willston 84.15 50 P P 13 33 18.9 +1.3
baz=327,SNR=9.1
DMTO DMTO 84.19 291 P P 13 33 17.2 -0.8
SNR=18
DMTO P P 13 33 17.2 -0.8
SNR=18
657A Interlachen 84.30 49 P P 13 33 19.4 +1.0
baz=327,SNR=5.6
ZKR Zakros 84.32 322 P P 13 33 17.7 -0.8
ZKR Zakros 84.32 322 P P 13 33 17.7 -0.8
PYL PYLOS 84.42 326 P P 13 33 17.5 -1.4
PYL PYLOS 84.42 326 P P 13 33 17.5 -1.4
NPS Neapolis 84.43 322 P P 13 33 17.1 -1.9
NPS Neapolis 84.43 322 P P 13 33 17.1 -1.9
NPS Neapolis 84.43 322 P P 13 33 17.1 -1.9
KYTH Kithira 84.51 325 P P 13 33 17.6 -1.8
KYTH Kithira 84.51 325 P P 13 33 17.6 -1.8
KTHR Kythira 84.53 325 P P 13 33 18.2 -1.3
LAST Lasithi 84.57 322 P P 13 33 18.8 -1.0
LAST Lasithi 84.57 322 P P 13 33 18.8 -1.0
KSTL Kastelli Herak 84.60 323 P P 13 33 20.5 +0.7
IDI Anoyia 84.69 323⇑ iP P 13 33 18.6 -1.8
658A Bunnell 84.72 49 P P 13 33 21.6 +1.0
baz=327,SNR=5.9
WHFO Wadi Hawf 84.73 292 P P 13 33 20.1 -0.7
SNR=9.2
757A Oxford 84.73 49 P P 13 33 21.8 +1.2
baz=327
ANKY Antikythira Is 84.77 324 P P 13 33 19.2 -1.5
ANKY Antikythira Is 84.77 324 P P 13 33 19.2 -1.5
CHAN Chania 84.80 324 P P 13 33 20.8 0.0
VAM Vamos 84.84 323 P P 13 33 19.7 -1.4
VAM Vamos 84.84 323 P P 13 33 19.7 -1.4
VAM Vamos 84.84 323 P P 13 33 19.7 -1.4
IMMV Ierra Moni Meta 84.88 324 P P 13 33 19.8 -1.4
TMBK Timbaki Herakl 84.92 323 P P 13 33 21.4 0.0
RAYN Ar Rayn 84.97 301 eP P 13 33 22.0 0.0
comp=Z,573nm,1.2s
RAYN LR LR
comp=Z,33µm,21.0s
RAYN Ar Rayn 84.97 301 i P P 13 33 21.9 0.0
SNR=17
RAYN Ar Rayn 84.97 301 eP P 13 33 22.0 0.0
RAYN pmax pmax
comp=Z,573nm,1.2s
RAYN MLR MLR
comp=Z,33µm,21.0s
758A Lake Helen 85.13 49 P P 13 33 24.0 +1.4
baz=327
857A Zephyrhills 85.22 50 P P 13 33 24.2 +1.1
baz=327,SNR=5.9
GVD Gavdhos 85.39 323 P P 13 33 22.8 -1.0
GVD Gavdhos 85.39 323 P P 13 33 22.8 -1.0
ABTO Aybut 85.45 292 P P 13 33 23.3 -1.1
SNR=9.1
858A St. Cloud 85.68 49 P P 13 33 26.2 +0.8
baz=327
957A Wimauma 85.71 50 P P 13 33 26.6 +1.1
baz=327
DWPF Disney Wildern 85.73 49 eP P 13 33 26.3 +0.7
comp=Z,298nm,0.8s
DWPF Disney Wildern 85.73 49 P P 13 33 26.4 +0.7
baz=327
958A Wauchula 86.02 50 P P 13 33 28.2 +1.2
baz=327
859A Kempfer Cattle 86.03 49 P P 13 33 28.4 +1.4
baz=328,SNR=6.6
058A Arcadia 86.43 50 P P 13 33 30.3 +1.2
baz=327,SNR=7.2
959A Okeechobee 86.49 49 P P 13 33 30.6 +1.3
baz=328,SNR=5.5
PBRG Braganca 86.74 348 eP P 13 33 29.5 -0.9
comp=Z,187nm,1.7s
PGAV Gavieira, Arco 86.76 350 eP P 13 33 30.6 0.0
comp=Z,228nm,2.0s
PGAV Gavieira, Arco 86.76 350 eS SKSac 13 43 56.6 +4.2
059A Moore Haven 86.83 50 P P 13 33 32.2 +1.2
baz=327,SNR=5.2
060A Indiantown 87.15 49 P P 13 33 33.9 +1.3
baz=328

059Z Ave Maria 87.21 50 P P 13 33 34.0 +1.2
baz=327
POLO Lamas de Olo 87.29 349 eP P 13 33 32.4 -0.8
comp=Z,111nm,1.6s
TBI Tubuai 87.32 133 eP P 13 33 33.0 -0.2
comp=Z,455nm,1.3s
TBI Tubuai 87.32 133 eS S 13 44 09.9 +1.2
comp=Z,12μm,33.2s
TBI Tubuai 87.32 133 eLR LR 14 00 59.0
comp=Z,35μm,33.2s,baz=335
TBI Tubuai 87.32 133 eT T 15 10 16.6
comp=Z,11nm,0.2s
PVRL Vila Real 87.38 349 eP P 13 33 34.0 +0.5
comp=Z,309nm,1.6s
MVO Moncorvo 87.40 348 eP P 13 33 33.0 -0.7
comp=Z,209nm,1.8s
MVO Moncorvo 87.40 348 eS SKSac 13 43 58.6 +2.3
060Z West Palm Beac 87.58 50 P P 13 33 35.9 +1.3
baz=328,SNR=7.3
UCM Universidad Co 87.70 345⇑ iP P 13 33 35.1 +0.1
061Z Ochoppi 87.87 50 P P 13 33 37.0 +1.0
baz=326
PVIS Viseu 87.95 349 eP P 13 33 35.7 -0.6
comp=Z,230nm,1.7s
MTE Manteigas 88.22 349 eP P 13 33 37.5 -0.1
comp=Z,201nm,1.5s
MTE Manteigas 88.22 349 eS SKSac 13 44 01.7 +0.5
ESDC Sonseca Array 88.44 346 P P 13 33 38.3 -0.3
comp=Z,54nm,0.9s,baz=5.4,slow=4.1,SNR=97
ESDC LR LR 14 19 47.5
comp=Z,21μm,19.8s,baz=25,slow=40
COI Coimbra 88.52 349 eP P 13 33 38.9 0.0
comp=Z,188nm,1.4s
COI Coimbra 88.52 349 eS SKSac 13 44 04.2 +1.4
PAB San Pablo 88.62 346 eP P 13 33 39.2 -0.3
comp=Z,117nm,1.2s
PAB LR LR
comp=Z,30μm,20.0s
PAB San Pablo 88.62 346 eP P 13 33 39.2 -0.3
PAB pmax pmax
comp=Z,117nm,1.2s
PAB MLR MLR
comp=Z,30μm,20.0s
PCAS Casmilo, Conde 88.68 349 eP P 13 33 39.5 -0.2
comp=Z,192nm,1.6s
PCAS Casmilo, Conde 88.68 349 eS SKSac 13 44 04.0 +0.2
062Z Marathon 88.75 51 P P 13 33 41.1 +0.9
baz=328
PCBR Castelo Branco 88.77 349 eP P 13 33 39.5 -0.5
comp=Z,138nm,1.8s
CAEH 'Ain El Ouahch 89.05 337 P P 13 33 41.2 -0.3
CMAH Djebel Manchou 89.05 336 P P 13 33 41.0 -0.5
PTOM Tomar 89.10 349 eP P 13 33 41.2 -0.4
comp=Z,134nm,1.5s
PMRV Marv??o 89.16 348 eP P 13 33 42.0 +0.1
comp=Z,120nm,1.9s
PMRV Marv??o 89.16 348 eS SKSac 13 44 08.8 +2.1
ABSA Djebel Ababsia 89.37 336 P P 13 33 42.5 -0.6
KEST Keera 89.39 335 P P 13 33 42.6 -0.5
comp=Z,175nm,0.8s,baz=300,slow=2.4,SNR=37
KEST LR LR 14 17 41.3
comp=Z,37μm,21.1s,baz=324,slow=38
CKFL Kef-Lekhel 89.44 337 P P 13 33 43.0 -0.4
DFRA Djebel Bou Aff 89.51 338 P P 13 33 43.4 -0.4
PMTG Montargil 89.62 349 eP P 13 33 43.6 -0.5
comp=Z,94nm,1.8s
PMTG Montargil 89.62 349 eS SKSac 13 44 13.7 +4.3
CASM Ain Smara 89.63 337 P P 13 33 43.9 -0.3
PESTR Estremoz 89.74 349 eP P 13 33 43.6 -1.1
comp=Z,93nm,1.6s
PESTR Estremoz 89.74 349 eS SKSac 13 44 14.2 +4.1
CTEI Djebel Teioual 89.84 337 P P 13 33 45.0 -0.3
PMAFR Mafra 89.85 350 eP P 13 33 44.3 -0.9
comp=Z,129nm,1.4s
ABMS Boumerdes 89.87 339 P P 13 33 44.5 -0.8
ABA Alger-Bouzarea 89.92 340 P P 13 33 45.8 +0.3
LIS Lisbon 90.07 350 eP P 13 33 46.0 -0.2
LIS AMb AMB 13 33 49.6
comp=Z,95nm,2.0s
LIS Lisbon 90.07 350 eP P 13 33 46.0 -0.2
CKHR Kef el Ahmar 90.10 338 P P 13 33 46.8 +0.3
URZ Urewera 90.35 165 P P 13 33 45.5 -1.6
comp=Z,39nm,1.2s,baz=316,slow=1.4,SNR=8.4
ADJB Djebel Djouab 90.45 339 P P 13 33 48.6 +0.5
AKET Djebel Ketaf 90.45 339 P P 13 33 49.1 +0.9
ATAF Djebel Tarf 90.53 339 P P 13 33 48.5 0.0
PNCL Nicolau / Gran 90.60 349 eP P 13 33 47.9 -0.7
comp=Z,43nm,2.0s
PNCL Nicolau / Gran 90.60 349 eS SKSac 13 44 19.8 +4.7
PBEJ Beja 90.60 349 eP P 13 33 49.2 +0.5
comp=Z,114nm,1.6s
NWAO Narrogin (SRO) 90.69 213 eP P 13 33 48.2 -0.6
comp=Z,231nm,1.1s
NWAO LR LR
comp=Z,10μm,20.0s
NWAO Narrogin (SRO) 90.69 213 eP P 13 33 48.2 -0.6
NWAO pmax pmax
comp=Z,231nm,1.1s
NWAO MLR MLR
comp=Z,10μm,20.0s
NWAO Narrogin (SRO) 90.69 213 P P 13 33 48.5 -0.3
SNR=6.1
NWAO P P 13 33 48.5 -0.3
SNR=6.1
MESJ Messejana 90.83 349 eP P 13 33 49.7 0.0
MESJ AMb AMB 13 33 52.9
comp=Z,88nm,1.7s
MESJ ePP PP 13 37 25.5 +0.5
MESJ eSKSac SKSac 13 44 18.7 +2.3
MESJ Messejana 90.83 349 eP P 13 33 50.0 +0.3
comp=Z,86nm,1.8s
MESJ Messejana 90.83 349 eP P 13 33 49.7 0.0
MESJ e 13 37 25.5
MESJ e 13 44 18.7
PTEO Sao Teotonio 91.18 349 eP P 13 33 50.6 -0.7
comp=Z,122nm,1.7s
PVAQ Vaqueiros 91.20 348 eP P 13 33 51.2 -0.2
comp=Z,121nm,1.8s
PVAQ Vaqueiros 91.20 348 eS SKSac 13 44 22.5 +4.0
EMAL Malaga-Limoner 91.36 346⇑ iP P 13 33 51.7 -0.5
PBDV Barranco-do-Ve 91.38 349 eP P 13 33 52.2 -0.1
comp=Z,153nm,1.8s
PBDV Barranco-do-Ve 91.38 349 eS SKSac 13 44 24.5 +4.8
MORF Marmelete 91.41 349 eP P 13 33 52.5 0.0
MORF AMb AMB 13 33 55.0
comp=Z,143nm,2.0s
MORF eSKSac SKSac 13 44 22.1 +2.2
MORF Marmelete 91.41 349 eP P 13 33 52.6 +0.1
comp=Z,141nm,1.6s
MORF Marmelete 91.41 349 eS SKSac 13 44 24.6 +4.7
MORF Marmelete 91.41 349 eP P 13 33 52.5 0.0
MORF e 13 44 22.1
PFVI Vila Bisbo 91.60 349 eP P 13 33 52.9 -0.4
comp=Z,78nm,2.1s
PFVI Vila Bisbo 91.60 349 eS SKSac 13 44 24.3 +3.5
CMLA Cha da Macela 91.73 2 PFAKE 13 34 10.0 +16
CMLA LR LR
comp=Z,9μm,21.0s
DGAR Diego Garcia 92.65 262 PFAKE 13 34 10.0 +12
DGAR LR LR
comp=Z,4μm,22.0s
SNZO South Karori 92.97 167 PFAKE 13 34 10.0 +11
SNZO LR LR
comp=Z,40μm,21.0s
SNZO South Karori 92.97 167 eP P 13 33 53.7 -5.4
TAU Tasmania Unive 93.79 188 PFAKE 13 34 20.0 +17
TAU LR LR
comp=Z,10μm,21.0s
IFR Ifrane 94.64 346⇑ iP P 13 34 06.7 -1.0
AVE Averroes 95.20 347⇑ iP P 13 34 09.7 -0.2
GTBY Guantanamo Bay 95.70 49 PFAKE 13 34 20.0 +7.6
GTBY LR LR
comp=Z,16μm,22.0s
MTDJ Mount Denham 95.97 52 PFAKE 13 34 30.0 +16
MTDJ LR LR
comp=Z,10μm,22.0s
GRTK Grand Turk 96.17 45 PFAKE 13 34 30.0 +16
GRTK LR LR
comp=Z,17μm,22.0s
PMOZ Porto Moniz, M 96.58 356 eS SKSac 13 44 52.8 +4.6
SDDR Presa de Saban 98.30 46 eP Pdif 13 34 24.4 +0.1
comp=Z,36nm,1.3s
SDDR LR LR
comp=Z,10μm,22.0s
JTS JuntasAbangare 98.64 62 PFAKE 13 34 40.0 +14
JTS LR LR
comp=Z,4μm,21.0s
SJG San Juan 101.34 42 PFAKE 13 34 50.0 +12
SJG LR LR
comp=Z,6μm,21.0s
BCIP Isla Barro Col 102.38 58 PFAKE 13 34 50.0 +7.6
BCIP LR LR
comp=Z,4μm,19.0s
ANWB Willy Bob 103.53 39 PFAKE 13 35 00.0 +13
ANWB LR LR
comp=Z,7μm,20.0s
SMRC Santa Marta, M 103.63 53 eP PP 13 39 04.2 0.0
SMRC Santa Marta, M 103.63 53 eP PP 13 39 04.2 0.0
URIC Uribia, Colomb 104.28 50 eP PP 13 39 10.1 +1.1
URIC Uribia, Colomb 104.28 50 eP PP 13 39 10.1 +1.1
CODC Agustn Codazz 105.07 53 eP PP 13 39 15.7 +0.7
CODC Agustn Codazz 105.07 53 eP PP 13 39 15.7 +0.7
SMLC San Martn de 105.72 54 eP PP 13 39 20.9 +1.2
SMLC San Martn de 105.72 54 eP PP 13 39 20.9 +1.2
ZARC Zaragoza, Cauc 106.43 55 eP PP 13 39 22.2 -2.8
ZARC Zaragoza, Cauc 106.43 55 eP PP 13 39 22.2 -2.8
OCAC Ocana 106.58 53 eP PP 13 39 26.7 +0.4
OCAC Ocana 106.58 53 eP PP 13 39 26.7 +0.4
HELC Santa Helena 107.17 56 eP PP 13 39 28.9 -2.1
HELC Santa Helena 107.17 56 eP PP 13 39 28.9 -2.1
SDV Santo Domingo 107.37 51 eP PP 13 39 30.0 -2.1
SDV Santo Domingo 107.37 51 eP PP 13 39 30.0 -2.1
PTBC PUERTO BERRIO 107.44 55 eP PP 13 39 30.4 -2.1
PTBC PUERTO BERRIO 107.44 55 eP PP 13 39 30.4 -2.1
BARC Barichara 108.06 54 eP PP 13 39 34.5 -2.7
BARC Barichara 108.06 54 eP PP 13 39 34.5 -2.7
RREF El Recreo 108.35 57 eP PP 13 39 37.2 -2.7
RREF El Recreo 108.35 57 eP PP 13 39 37.2 -2.7
BBGH Gun Hill 108.51 38 PFAKE 13 39 30.0 +15
BBGH LR LR
comp=Z,11μm,21.0s
GRGR Grenville 108.58 41 PFAKE 13 39 30.0 +15
GRGR LR LR
comp=Z,7μm,21.0s
YOTC Yotoco, Valle 108.59 58 eP PP 13 39 40.2 -0.8
YOTC Yotoco, Valle 108.59 58 eP PP 13 39 40.2 -0.8
TAMC Tame, Arauca 108.90 53 eP PP 13 39 44.2 +1.2
TAMC Tame, Arauca 108.90 53 eP PP 13 39 44.2 +1.2
ROSC El Rosal 108.95 56 PP PP 13 39 45.7 +1.8
comp=Z,6.7nm,0.2s,baz=331,slow=20,SNR=4.6
TUMC Tumaco 109.07 62 eP PP 13 39 44.5 0.0
TUMC Tumaco 109.07 62 eP PP 13 39 44.5 0.0
CHIC Chingaza 109.44 56⇑ eP PP 13 39 49.2 +1.8
CHIC Chingaza 109.44 56⇑ eP PP 13 39 49.2 +1.8
PRAC Prado 109.60 57 eP PP 13 39 48.1 -0.1
PRAC Prado 109.60 57 eP PP 13 39 48.1 -0.1
KMBO Kilima Mbogo 109.61 294 Pdif Pdif 13 35 15.3 +0.4
KMBO PP PP 13 39 47.8 -1.0
KMBO LR LR
comp=Z,14μm,22.0s
KMBO Kilima Mbogo 109.61 294 Pdiff Pdif 13 35 15.3 +0.4
comp=Z,1.0nm,0.3s,baz=10.0,slow=6.7,SNR=3.1
KMBO PP PP 13 39 47.8 -1.0
comp=Z,1.2nm,0.3s,baz=20,slow=6.7,SNR=6.6
KMBO PKKPab PKKPdf 13 50 36.1 +1.3
comp=Z,1.0nm,0.3s,baz=252,slow=6.4,SNR=3.2
PCON Cinco Dias 109.94 59 eP PP 13 39 53.3 +1.9
PCON Cinco Dias 109.94 59 eP PP 13 39 53.3 +1.9
SOTA Rioblanco 109.99 60 eP PP 13 39 49.0 -2.6
SOTA Rioblanco 109.99 60 eP PP 13 39 49.0 -2.6
BETC Betania 110.16 58 eP PP 13 39 51.4 -1.0
BETC Betania 110.16 58 eP PP 13 39 51.4 -1.0
GCUF Volcan Galeras 110.33 61⇑ eP PP 13 39 57.3 +3.1
GCUF Volcan Galeras 110.33 61⇑ eP PP 13 39 57.3 +3.1
OTAV Otavalo 110.53 62 PFAKE 13 39 30.0 +10
OTAV LR LR
comp=Z,3μm,20.0s
OTAV Otavalo 110.53 62 eP PP 13 39 55.4 -0.2
OTAV Otavalo 110.53 62 eP PP 13 39 55.4 -0.2
FLOC Florencia 110.97 59 eP PP 13 39 58.0 -0.2
FLOC Florencia 110.97 59 eP PP 13 39 58.0 -0.2
RPN Rapa Nui 112.38 106 PP PP 13 40 12.8 +4.1
RPN LR LR
comp=Z,10μm,20.0s
RPN Rapa Nui 112.38 106 PP PP 13 40 12.8 +4.1
comp=Z,30nm,0.3s,baz=308,slow=1.4,SNR=4.5
PTLC Puerto Leguiza 112.61 59 eP PP 13 40 10.6 +0.7
PTLC Puerto Leguiza 112.61 59 eP PP 13 40 10.6 +0.7
TORD Torodi Ar. Bea 112.91 334 Pdiff Pdif 13 35 29.6 +0.4
comp=Z,1.7nm,1.0s,baz=2.8,slow=4.0,SNR=5.7
TORD PKiKP PKiKP 13 39 23.6 +0.2
comp=Z,8.1nm,0.9s,baz=22,slow=1.8,SNR=13
TORD PP PP 13 40 08.2 -3.2
comp=Z,4.9nm,0.9s,baz=354,slow=5.4,SNR=4.6
TORD PKKPbc PKKPbc 13 50 08.9 +0.5
comp=Z,2.4nm,1.0s,baz=210,slow=0.7,SNR=4.7
TORD PKKPab PKKPab 13 50 18.4 -2.6
comp=Z,9.3nm,1.0s,baz=177,slow=6.1,SNR=12
TORD SKKP 13 54 10.2
comp=Z,1.5nm,1.0s,baz=167,slow=4.6,SNR=2.7
SACV Santiago Islan 114.47 1 PFAKE 13 39 40.0 +14
SACV LR LR
comp=Z,3μm,20.0s
ATAH Atahualpa 116.56 67 PKP PKiKP 13 39 33.2 +2.2
comp=Z,6.3nm,0.9s,baz=322,slow=4.8,SNR=5.2
ATAH PKKPab PKKPab 13 50 02.6 -1.0
comp=Z,6.2nm,0.9s,baz=146,slow=8.1,SNR=4.0
ABPO Ambohimpanom 117.36 273 PFAKE 13 39 40.0 +8.0
ABPO LR LR
comp=Z,5μm,19.0s
DBIC Dimbokro 120.76 340 PKP PKiKP 13 39 38.9 +0.3
comp=Z,28nm,0.7s,baz=354,slow=2.1,SNR=27
DBIC PKKPab PKKPbc 13 49 43.0 +2.1
comp=Z,5.2nm,1.0s,baz=166,slow=5.7,SNR=4.8
DBIC Dimbokro 120.76 340 eP PKPdf 13 39 36.0 -2.6
PTGA Pitinga 120.81 45 PKP PKiKP 13 39 39.1 +0.3
PTGA PP PP 13 41 05.8 -1.1
PTGA LR LR
comp=Z,13μm,19.0s
PTGA Pitinga 120.81 45 PKP PKiKP 13 39 39.1 +0.3
comp=Z,7.8nm,1.0s,baz=319,slow=3.1,SNR=7.3
PTGA PP PP 13 41 05.8 -1.1
comp=Z,8.3nm,0.9s,baz=345,slow=8.8,SNR=8.6
PTGA PKKPab PKKPab 13 49 43.5 -2.0
comp=Z,2.2nm,0.7s,baz=166,slow=5.2,SNR=4.0
PTGA Pitinga 120.81 45 eP PKPdf 13 39 36.6 -2.1
TIC Toumodi 120.82 340 ePKP1 PKPdf 13 39 38.2 -0.5
TIC Toumodi 120.82 340 ePKP1 PKKPbc 13 49 41.4 +0.7
KIC Kosan Boka 121.04 339 ePKP1 PKPdf 13 39 38.8 -0.3
comp=Z,138nm,1.2s
KIC Kosan Boka 121.04 339 ePKP1 PKKPbc 13 49 41.0 +1.1
comp=Z,130nm,1.8s
LIC Lamto 121.23 340 ePKP1 PKPdf 13 39 39.3 -0.2
comp=Z,161nm,1.1s
LIC Lamto 121.23 340 ePKP1 PKKPbc 13 49 40.4 +1.3
comp=Z,54nm,1.5s
NNA Nana 121.34 69 PKP PKPdf 13 39 38.7 -0.9
NNA LR LR
comp=Z,2μm,20.0s
NNA Nana 121.34 69 PKP PKPdf 13 39 38.7 -0.9
comp=Z,6.3nm,0.3s,baz=248,slow=7.5,SNR=3.3
CASY Casey 122.17 200 PFAKE 13 39 50.0 +10
CASY LR LR
comp=Z,2μm,22.0s
LSZ Lusaka 126.24 292 PFAKE 13 40 00.0 +10
LSZ LR LR
comp=Z,12μm,19.0s
KRI Karoi 126.62 290 iP Pdif 13 36 49.9 +20
KRI Karoi 126.62 290 iP Pdif 13 36 49.9 +20
VNDA Vanda 128.11 179 PKP PKiKP 13 39 51.1 -0.2
comp=Z,8.1nm,1.1s,baz=339,slow=4.1,SNR=6.7
SBA Scott Base 128.54 178 PFAKE 13 40 00.0 +7.9
SBA LR LR
comp=Z,13μm,21.0s
LPAZ La Paz 129.82 64 PKP PKiKP 13 39 56.9 -0.4
comp=Z,14nm,0.9s,baz=7.8,slow=3.8,SNR=39
LPAZ La Paz 129.82 64 eP PKPpre 13 39 52.0
NBPA Parau_RN 133.41 20 eP PKPdf 13 40 00.7 -1.9
SIV San Ignacio 133.45 56 PKhKP PKPpre 13 39 49.3
comp=Z,5.9nm,0.9s,baz=299,slow=3.3,SNR=18
SIV PKP PKiKP 13 40 03.6 -0.3
comp=Z,22nm,0.9s,baz=332,slow=0.9,SNR=43
SIV PP PP 13 42 25.5 -5.2
comp=Z,18nm,1.1s,baz=344,slow=5.9,SNR=4.4
RCBR Riachuelo 133.74 19 PFAKE 13 40 20.0 +15
RCBR LR LR
comp=Z,23μm,22.0s
RCBR Riachuelo 133.74 19 eP PKPdf 13 40 01.9 -1.5
LVC Limon Verde 134.32 70 PKP PKiKP 13 40 05.7 -0.2
LVC LR LR
comp=Z,5μm,21.0s
LVC Limon Verde 134.32 70 PKP PKiKP 13 40 05.7 -0.2
comp=Z,39nm,1.3s,baz=358,slow=0.4,SNR=26
LVC Limon Verde 134.32 70 eP PKPdf 13 40 00.7 -3.8
NBLI Livramento-PB 135.01 21 eP PKPdf 13 40 03.0 -2.7
LBTB Lobatse 135.26 287 iP PKPpre 13 39 54.6
LBTB Lobatse 135.26 287 iP PKPpre 13 39 54.6
TSUM Tsumeb 135.41 300 PFAKE 13 40 20.0 +12
TSUM LR LR
comp=Z,15μm,20.0s
SALV Santo Antonio 136.09 50 eP PKPdf 13 40 05.6 -1.9
ASCN Ascension 136.72 348 PFAKE 13 40 20.0 +9.4
ASCN LR LR
comp=Z,28μm,21.0s
MAW Mawson 137.25 214 PKP PKiKP 13 40 10.1 +0.2
comp=Z,31nm,1.0s,baz=188,slow=7.1,SNR=3.5
LCO Las Campanas 137.94 78 ePKPdf 13 40 11.3 +0.4
LCO LR LR
comp=Z,6μm,22.0s
LCO Las Campanas 137.94 78 eP PKPpre 13 40 06.7
BOSA Boshof 138.08 284 iP PKPpre 13 40 02.5
BOSA Boshof 138.08 284 iP PKPpre 13 40 02.5
BOSA Boshof 138.08 284 PKhKP PKPpre 13 40 02.1
comp=Z,2.7nm,0.6s,baz=26,slow=1.0,SNR=3.2
BOSA PKP PKiKP 13 40 12.4 -0.6
comp=Z,26nm,1.0s,baz=12,slow=2.8,SNR=13
BOSA PP PP 13 42 57.7 -2.6
comp=Z,17nm,1.1s,baz=62,slow=6.6,SNR=3.6
BOSA Boshof 138.08 284 eP PKPdf 13 40 08.8 -2.2
BDFB Brasilia 139.29 40 PKhKP PKPpre 13 40 06.2
comp=Z,15nm,1.2s,baz=193,slow=5.5,SNR=6.5
BDFB PKP PKPdf 13 40 13.8 +0.2
comp=Z,16nm,0.9s,baz=2.6,slow=5.2,SNR=9.9
BDFB PP PP 13 43 03.5 -3.6
comp=Z,3.3nm,0.8s,baz=347,slow=14,SNR=1.5
AQDB Aquidauana 139.97 53 eP PKPdf 13 40 12.3 -2.2
JANB Januaria 140.17 34 eP PKPdf 13 40 11.8 -3.3
QSPA South Pole Qui 140.57 180 PKPpre PKPpre 13 40 04.9
QSPA PP PP 13 43 15.2 +0.2
QSPA LR LR
comp=Z,15μm,22.0s
QSPA South Pole Qui 140.57 180 PKhKP PKPpre 13 40 04.9
comp=Z,14nm,0.8s,baz=293,slow=0.7,SNR=41
QSPA PP PP 13 43 15.2 +0.2
comp=Z,21nm,1.1s,baz=311,slow=11,SNR=2.3
IPMB Ipameri, GO 141.31 42 eP PKPdf 13 40 14.8 -2.3
MCI9 Montes Claros 141.83 35 eP PKPdf 13 40 14.0 -4.1
ITRB Iturama 141.88 46 eP PKPdf 13 40 14.4 -3.6
MCI6 Montes Claros 141.93 35 eP PKPdf 13 40 14.6 -3.7
SHEL Horse Pasture 142.73 333 PFAKE 13 40 30.0 +7.2
SHEL LR LR
comp=Z,5μm,22.0s
SUR Sutherland 143.45 284 ePKPdf PKPdf 13 40 19.4 -1.2
SUR LR LR
comp=Z,19μm,20.0s
TRCB Terra Rica 143.45 51 eP PKPbc 13 40 18.4 +0.3
CPUP Villa Florida 143.86 61 PKP PKPab 13 40 18.8 +0.3
comp=Z,71nm,1.1s,baz=329,slow=3.5,SNR=44
CPUP PP PP 13 43 34.6 -0.5
comp=Z,22nm,1.1s,baz=340,slow=8.5,SNR=4.6
CPUP Villa Florida 143.86 61 eP PKPab 13 40 18.5 0.0
BB19B Bebedouro 143.90 44 eP PKPdf 13 40 20.6 -1.0
PTGB Pitanga 145.34 52 eP PKPbc 13 40 20.8 -3.2
FRTB Fartura 145.40 48 eP PKPdf 13 40 22.3 -1.9
BSCB Bom Sucesso 145.41 39 eP PKPdf 13 40 20.9 -3.4
PLCA Paso Flores 145.48 92 PKPbc PKPbc 13 40 24.1 +0.1
comp=Z,139nm,1.0s,baz=320,slow=3.5,SNR=157
PLCA Paso Flores 145.48 92 eP PKPdf 13 40 20.5 -3.3
ALF01 Guarapari-ES 146.56 32 eP PKPdf 13 40 25.3 -0.8
SPB Sao Paulo 146.59 45 eP PKPdf 13 40 23.8 -2.3
DUB01 Friburgo-RJ 147.32 36 eP PKPdf 13 40 26.8 -0.6
TIJ01 Guaruva-PR 147.35 49 eP PKPdf 13 40 26.2 -1.2
CAM01 Campos-RJ 147.35 35 eP PKPdf 13 40 26.4 -1.0
ESAR Angra dos Reis 147.36 40 eP PKPdf 13 40 25.8 -1.6
ITAB Concordia 147.37 55 eP PKPdf 13 40 25.8 -1.5
CPSB Cacapava Do Su 149.17 60 eP PKPdf 13 40 28.2 -2.0
TRQA Tornquist 149.36 81 ePKPbc PKPbc 13 40 34.6 -0.1
TRQA LR LR
comp=Z,12μm,22.0s
TRQA Tornquist 149.36 81 ePKP2 PKPbc 13 40 34.6 -0.1
TRQA MLR MLR
comp=Z,12μm,22.0s
TRQA Tornquist 149.36 81 eP PKPdf 13 40 28.9 -1.3
CNLB Canela 149.71 56 eP PKPdf 13 40 28.8 -2.4
PLTB Pedras Altas 150.11 62 eP PKPdf 13 40 30.8 -0.8
USHA Ushuaia 152.28 116 PKP PKPdf 13 40 33.8 -0.3
comp=Z,7.2nm,0.9s,baz=276,slow=7.0,SNR=3.7
USHA PKPbc PKiKP 13 40 41.5 +0.3
comp=Z,29nm,0.8s,baz=279,slow=3.6,SNR=14
PMSA Palmer Station 154.37 139 PFAKE 13 40 50.0 +4.8
PMSA LR LR
comp=Z,10μm,20.0s
PMSA Palmer Station 154.37 139 eP PKPdf 13 40 34.8 -2.0
NVL N'lazarevskaya 154.60 206 ePKiKP PKiKP 13 40 51.8 +6.3
SNAA Sanae 157.31 196 PKP PKPdf 13 40 40.0 -0.7
SNAA Sanae 157.31 196 PKP PKPdf 13 40 40.3 -0.3
comp=Z,5.6nm,1.1s,baz=127,slow=1.4,SNR=12
SNAA PKPab PKPab 13 41 11.3 -1.0
comp=Z,74nm,1.2s,baz=150,slow=5.5,SNR=13
SNAA PP PP 13 44 52.8 +0.9
comp=Z,12nm,1.1s,baz=165,slow=6.0,SNR=6.1
EFI East Falkland 157.78 106 PFAKE 13 40 50.0 +8.3
EFI LR LR
comp=Z,20μm,20.0s
VNA2 Neumayer--Watz 158.69 194 PKP PKPdf 13 40 41.8 -0.5
baz=5.8,slow=1.9
VNA3 Neumayer Olymp 158.71 191 PKP PKPdf 13 40 43.4 +1.1
VNA1 Neumayer--Stat 159.07 193 PKP PKPdf 13 40 48.7 +6.0
HOPE Hope Point 170.74 117 PFAKE 13 41 00.0 +6.8
HOPE LR LR
comp=Z,15μm,22.0s

*IDC **01** 13:21:04.2±1.1, 10°.87S×165°.83E, h0km, mb4.5/7, mb1 4.6/9, mb1mx4.4/35, mbtmp4.6/9, ML4.9/2, Error ellipse: s-maj=30.1km s-min=23.9km az=122.0*
*ISCJB **01** 13:21:05.1±1.0, 11°.0S±0°.1×165°.7E±0°.1, h10km, mb4.5/6, Error ellipse: s-maj=19.2km s-min=10.9km az=35.1*

ISC 01 13:21:06.4±1.0, 10°.99S±0°.1×165°.8E±0°.1, h10km, n10, σ1s89/13, mb4.5/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.91**	**285**	Pn	**Pn**	**13 22 36.0**	**+1.8**
	26nm,0.3s,baz=134,slow=7.2,SNR=12						
HNR				Sn	**Sn**	**13 23 39.9**	**-2.1**
	baz=22,slow=16,SNR=1.1						
DZM	**Mont Dzumac**	**11.04**	**177**	Pn	**Pn**	**13 23 47.3**	**+2.6**
	10nm,0.3s,baz=325,slow=8.1,SNR=89						
DZM				Sn	**Sn**	**13 25 44.8**	**-3.6**
	0.3nm,0.3s,baz=76,slow=19,SNR=1.5						
CTA	**Charters Tower**	**20.83**	**242**	P	Pn	13 25 49.7	-1.1
	10nm,0.8s,baz=72,slow=8.1,SNR=8.8						
STKA	**Stephens Creek**	**30.49**	**223**	P	**P**	**13 27 20.6**	**+1.0**
	1.3nm,0.5s,baz=41,slow=7.5,SNR=6.0						
WRA	**Warramunga Arr**	**31.50**	**250**	P	**P**	**13 27 28.1**	**-0.7**
	3.8nm,0.7s,baz=82,slow=9.1,SNR=28						
WRA				PcP	**PcP**	**13 30 21.8**	**-0.1**
	0.7nm,0.7s,baz=71,slow=3.4,SNR=4.5						
ASAR	**Alice Springs**	**32.82**	**243**	P	**P**	**13 27 40.0**	**-0.4**
	5.1nm,0.8s,baz=64,slow=10,SNR=52						
ASAR				PcP	**PcP**	**13 30 24.9**	**-0.5**
	0.8nm,0.7s,baz=62,slow=2.9,SNR=5.7						
RPZ	**Rata Peaks**	**32.93**	**173**	P	**P**	**13 27 41.3**	**+0.2**
	5.0nm,0.6s,baz=21,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**83.45**	**19**	P	**P**	**13 33 33.0**	**-0.9**
	2.9nm,0.8s,baz=228,slow=7.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**93.51**	**324**	P	**P**	**13 34 23.1**	**+0.7**
	7.8nm,0.9s,baz=128,slow=2.4,SNR=2.9						
ARCES	**ARCESS Array B**	**116.28**	**345**	PKP	**PKPdf**	**13 39 47.4**	**-2.3**
	8.7nm,1.1s,baz=72,slow=1.9,SNR=9.6						

TRN 01 13:21:47.5, 10°.43N×62°.40W, h5km, MD3.8, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPP	**Pointe-a-Pierr**	**0.94**	**97**	eP	Pg	13 22 04.8	-0.7
TPP				eS	Sb	13 22 19.3	+0.4
TRN	**Trinidad (W)**	**1.00**	**77**	eP	Pg	13 22 06.4	-0.3
TRN				eS	Sn	13 22 21.9	-0.8
GRGR	**Grenville**	**1.84**	**23**	eP	Pn	13 22 20.2	+0.3
GRGR				eS	Sn	13 22 43.8	+0.2

TOSP	**Speyside**	**2.02**	**64**	*eP*	Pn	13 22 23.4 +1.1
TOSP				*eS*	Sn	13 22 48.4 +0.5
FCV	**Fort Charlotte**	**2.94**	**22**	*eP*	Pn	13 22 36.0 +1.1
SVB	**Belmont**	**3.04**	**21**	*eP*	Pn	13 22 36.8 +0.5
SVB				*eS*	Sn	13 23 13.7 +0.5
SVV	**Soufriere Volc**	**3.10**	**22**	*eP*	Pn	13 22 37.9 +0.8
SVV				*eS*	Sn	13 23 14.9 +0.4
SSV	**Crater Summit**	**3.11**	**22**	*eP*	Pn	13 22 37.6 +0.2
SSV				*eS*	Sn	13 23 15.4 +0.4
SFAN	**Fancy Village**	**3.17**	**22**	*eP*	Pn	13 22 38.3 +0.2
SFAN				*eS*	Sn	13 23 16.2 -0.2
MCLT	**Moule a Chique**	**3.56**	**23**	*eP*	Pn	13 22 44.5 +1.0
MCLT				*eS*	Sn	13 23 24.7 -1.2
SLB	**Belfond**	**3.63**	**21**	*eP*	Pn	13 22 44.5 0.0
SLB				*eS*	Sn	13 23 26.8 -0.9
FDF	**Fort de France**	**4.45**	**16**	*eP*	Pn	13 22 56.9 +1.2
FDF	**Fort de France**	**4.45**	**16**	*eS*	Sn	13 23 46.1 -1.8
DLPL	**La Plaine**	**5.00**	**13**	*eP*	Pn	13 23 05.0 +1.7
DLPL	**La Plaine**	**5.00**	**13**	*eS*	Sn	13 23 59.9 -1.7
BBL	**Barber's Block**	**5.15**	**10**	*eP*	Pn	13 23 06.8 +1.4
BBL	**Barber's Block**	**5.15**	**10**	*eS*	Sn	13 24 04.5 -0.7
MGG	**Marie-Galante**	**5.56**	**11**	*eP*	Pn	13 23 11.6 +0.7

KRSC 01 13:28:56.1±10.0, **50.66N**×**157.72E**, **h40**km±10km, **ML4.2, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.99**	**325**	*eP*	Pn	13 29 15.3	+1.8
PAU				*eS*	Sn	13 29 28.9	+2.6
SKR	**Severo-Kuril's**	**1.02**	**272**	*eP*	Pn	13 29 14.7	+0.8
SKR				*eS*	Sn	13 29 27.3	+0.4
KDTR	**Khodutka, Kamc**	**1.18**	**11**	*eP*	Pn	13 29 17.3	+1.3
KDTR				*eS*	Sn	13 29 32.4	+1.6
ALID	**Alaid**	**1.39**	**280**	*eP*	Pn	13 29 20.9	+1.7
ALID				*eS*	Sn	13 29 37.8	+1.4
RUS	**Russkaya**	**1.85**	**15**	*eP*	Pn	13 29 26.6	+1.4
RUS				*eS*	Sn	13 29 48.4	+1.1
MTVR	**Mutnovka**	**1.85**	**9**	*eP*	Pn	13 29 27.3	+1.8
MTVR				*eS*	Sn	13 29 50.2	+2.5
KRMR	**Karymshinskiy**	**2.19**	**7**	*eP*	Pn	13 29 33.6	+3.6
APC	**Apacha**	**2.30**	**352**	*eP*	Pn	13 29 33.8	+2.4
PET	**Petropavlovsk**	**2.44**	**13**	*eP*	Pn	13 29 36.4	+3.0
PET				*eS*	Sn	13 30 04.5	+2.5
DALK	**Dalny**	**2.46**	**15**	*eP*	Pn	13 29 35.9	+2.2
DALK				*eS*	Sn	13 30 05.0	+2.5
UGLR	**Uglovaya**	**2.65**	**15**	*eP*	Pn	13 29 39.7	+3.4
AVH	**Avacha**	**2.69**	**13**	*eP*	Pn	13 29 40.9	+4.0
SMAR	**Somma**	**2.69**	**14**	*eP*	Pn	13 29 40.8	+3.7
KOK	**Koryaka**	**2.70**	**12**	*eP*	Pn	13 29 40.9	+3.8
NLC	**Nalytchevo**	**2.71**	**21**	*eS*	Sn	13 30 12.1	+3.5
SDLR	**Sedlovina**	**2.72**	**15**	*eP*	Pn	13 29 40.1	+2.7
KRX	**Arik**	**2.77**	**12**	*eP*	Pn	13 29 41.3	+3.3
SPN	**Mys Shipunski**	**2.83**	**29**	*eP*	Pn	13 29 42.0	+3.2
GNL	**Ganaly**	**3.05**	**3**	*eP*	Pn	13 29 45.6	+3.8

KRSC 01 13:31:32.0±10.0, **50.72N**×**157.85E**, **h41**km±10km, **ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.00**	**319**	*eP*	Pn	13 31 51.5	+1.9
PAU				*eS*	Sn	13 32 04.6	+2.2
KDTR	**Khodutka, Kamc**	**1.10**	**7**	*eP*	Pn	13 31 52.2	+1.2
KDTR				*eS*	Sn	13 32 05.9	+0.9
SKR	**Severo-Kuril's**	**1.10**	**269**	*eP*	Pn	13 31 51.9	+0.9
SKR				*eS*	Sn	13 32 05.5	+0.5
ALID	**Alaid**	**1.47**	**277**	*eP*	Pn	13 31 57.8	+1.6
ALID				*eS*	Sn	13 32 16.4	+2.1
ASAK	**Asacha**	**1.67**	**1**	*eP*	Pn	13 32 00.5	+1.7
RUS	**Russkaya**	**1.77**	**13**	*eP*	Pn	13 32 01.3	+1.2
RUS				*eS*	Sn	13 32 22.5	+1.2
MTVR	**Mutnovka**	**1.78**	**6**	*eP*	Pn	13 32 02.1	+1.7
MTVR				*eS*	Sn	13 32 23.8	+1.9
KRMR	**Karymshinskiy**	**2.12**	**5**	*eP*	Pn	13 32 08.4	+3.4
KRMR				*eS*	Sn	13 32 34.3	+4.2
PET	**Petropavlovsk**	**2.36**	**12**	*eS*	Sn	13 32 38.1	+2.1
DALK	**Dalny**	**2.38**	**13**	*eP*	Pn	13 32 10.7	+2.2
DALK				*eS*	Sn	13 32 39.0	+2.5
UGLR	**Uglovaya**	**2.57**	**13**	*eP*	Pn	13 32 14.2	+3.0
AVH	**Avacha**	**2.61**	**12**	*eP*	Pn	13 32 15.4	+3.7
SMAR	**Somma**	**2.62**	**13**	*eP*	Pn	13 32 15.9	+3.9
KOK	**Koryaka**	**2.62**	**10**	*eP*	Pn	13 32 15.7	+3.7
SDLR	**Sedlovina**	**2.64**	**14**	*eP*	Pn	13 32 14.8	+2.6
KRER	**Koryakskii**	**2.65**	**12**	*eS*	Sn	13 32 48.1	+4.7
GNL	**Ganaly**	**2.98**	**1**	*eP*	Pn	13 32 20.1	+3.2

KRSC 01 13:35:10.3±10.0, **50.71N**×**157.85E**, **h40**km±10km, **ML4.1, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.00**	**319**	*eP*	Pn	13 35 29.4	+1.6
PAU				*eS*	Sn	13 35 42.8	+2.1
SKR	**Severo-Kuril's**	**1.10**	**269**	*eP*	Pn	13 35 29.9	+0.7
SKR				*eS*	Sn	13 35 44.4	+1.2
KDTR	**Khodutka, Kamc**	**1.11**	**7**	*eP*	Pn	13 35 30.0	+0.8
KDTR				*eS*	Sn	13 35 44.3	+1.0
ALID	**Alaid**	**1.47**	**277**	*eP*	Pn	13 35 36.1	+1.7
ALID				*eS*	Sn	13 35 55.1	+2.6
RUS	**Russkaya**	**1.77**	**13**	*eP*	Pn	13 35 39.3	+0.9
RUS				*eS*	Sn	13 36 01.1	+1.5
MTVR	**Mutnovka**	**1.78**	**6**	*eP*	Pn	13 35 40.2	+1.5
MTVR				*eS*	Sn	13 36 02.4	+2.2
KRMR	**Karymshinskiy**	**2.13**	**5**	*eP*	Pn	13 35 45.6	+2.4
KRMR				*eS*	Sn	13 36 11.1	+2.7
APC	**Apacha**	**2.26**	**349**	*eP*	Pn	13 35 47.6	+2.6
PET	**Petropavlovsk**	**2.37**	**12**	*eP*	Pn	13 35 48.1	+1.6
PET				*eS*	Sn	13 36 16.6	+2.3
DALK	**Dalny**	**2.39**	**13**	*eP*	Pn	13 35 48.7	+1.9
DALK				*eS*	Sn	13 36 16.8	+2.0
UGLR	**Uglovaya**	**2.57**	**13**	*eP*	Pn	13 35 52.3	+2.8
AVH	**Avacha**	**2.61**	**12**	*eP*	Pn	13 35 53.6	+3.6
SMAR	**Somma**	**2.62**	**13**	*eP*	Pn	13 35 53.2	+3.0
KOK	**Koryaka**	**2.63**	**10**	*eP*	Pn	13 35 53.8	+3.6
KOK				*eS*	Sn	13 36 27.0	+6.1
NLC	**Nalytchevo**	**2.63**	**20**	*eS*	Sn	13 36 24.6	+3.9
SDLR	**Sedlovina**	**2.65**	**14**	*eP*	Pn	13 35 53.0	+2.5
KRX	**Arik**	**2.69**	**10**	*eP*	Pn	13 35 55.2	+4.0
SPN	**Mys Shipunski**	**2.74**	**29**	*eP*	Pn	13 35 57.0	+5.3
GNL	**Ganaly**	**2.99**	**1**	*eP*	Pn	13 35 58.0	+2.8

KRSC 01 13:40:05.6±10.0, **50.74N**×**157.87E**, **h41**km±10km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.99**	**318**	*eP*	Pn	13 40 24.8	+1.8
PAU				*eS*	Sn	13 40 37.8	+2.1
KDTR	**Khodutka, Kamc**	**1.08**	**7**	*eP*	Pn	13 40 25.1	+0.9
KDTR				*eS*	Sn	13 40 38.9	+0.9
SKR	**Severo-Kuril's**	**1.11**	**268**	*eP*	Pn	13 40 25.5	+0.8
SKR				*eS*	Sn	13 40 39.3	+0.5
ALID	**Alaid**	**1.48**	**276**	*i* P	Pn	13 40 31.1	+1.3
ALID				*eS*	Sn	13 40 50.0	+2.1
ASAK	**Asacha**	**1.65**	**1**	*eP*	Pn	13 40 33.7	+1.6
ASAK				*eS*	Sn	13 40 54.4	+2.3
RUS	**Russkaya**	**1.75**	**13**	*eP*	Pn	13 40 34.5	+1.1
RUS				*eS*	Sn	13 40 55.7	+1.3
MTVR	**Mutnovka**	**1.76**	**6**	*eP*	Pn	13 40 35.4	+1.7
MTVR				*eS*	Sn	13 40 56.7	+1.8
KRMR	**Karymshinskiy**	**2.10**	**4**	*eP*	Pn	13 40 41.7	+3.4
KRMR				*eS*	Sn	13 41 08.6	+5.5
PET	**Petropavlovsk**	**2.34**	**12**	*eP*	Pn	13 40 43.9	+2.4
PET				*eS*	Sn	13 41 11.2	+2.2
DALK	**Dalny**	**2.36**	**13**	*eP*	Pn	13 40 43.9	+2.1
DALK				*eS*	Sn	13 41 11.8	+2.3
UGLR	**Uglovaya**	**2.55**	**13**	*eP*	Pn	13 40 48.0	+3.5
AVH	**Avacha**	**2.59**	**12**	*i* P	Pn	13 40 49.2	+4.2
SMAR	**Somma**	**2.59**	**13**	*eP*	Pn	13 40 48.8	+3.6
KOK	**Koryaka**	**2.60**	**10**	*i* P	Pn	13 40 49.0	+3.8
SDLR	**Sedlovina**	**2.62**	**14**	*eP*	Pn	13 40 48.6	+3.1
SPN	**Mys Shipunski**	**2.72**	**29**	*eP*	Pn	13 40 49.5	+2.8
SPN				*eS*	Sn	13 41 21.6	+3.3
GNL	**Ganaly**	**2.96**	**1**	*eP*	Pn	13 40 53.9	+3.7

KRSC 01 14:01:04.9±10.0, **50.69N**×**157.88E**, **h40**km±10km, **ML3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.03**	**320**	*eP*	Pn	14 01 23.4	+0.5
PAU				*eS*	Sn	14 01 37.7	+1.6
SKR	**Severo-Kuril's**	**1.12**	**271**	*eP*	Pn	14 01 24.5	+0.5
SKR				*eS*	Sn	14 01 39.4	+1.2
KDTR	**Khodutka, Kamc**	**1.13**	**6**	*eP*	Pn	14 01 25.4	+1.2
KDTR				*eS*	Sn	14 01 39.8	+1.3
ALID	**Alaid**	**1.49**	**278**	*eP*	Pn	14 01 31.5	+2.2
ALID				*eS*	Sn	14 01 50.6	+3.0
RUS	**Russkaya**	**1.79**	**13**	*eP*	Pn	14 01 35.0	+1.7
RUS				*eS*	Sn	14 01 56.2	+1.4
MTVR	**Mutnovka**	**1.81**	**6**	*eP*	Pn	14 01 35.7	+2.0
MTVR				*eS*	Sn	14 01 57.5	+2.0
KRMR	**Karymshinskiy**	**2.15**	**4**	*eP*	Pn	14 01 41.5	+3.3
KRMR				*eS*	Sn	14 02 08.4	+4.7
DALK	**Dalny**	**2.41**	**13**	*eP*	Pn	14 01 43.8	+2.0
DALK				*eS*	Sn	14 02 12.0	+2.0
UGLR	**Uglovaya**	**2.59**	**13**	*eP*	Pn	14 01 47.2	+2.8
AVH	**Avacha**	**2.64**	**11**	*eP*	Pn	14 01 48.8	+3.8
SMAR	**Somma**	**2.65**	**12**	*eP*	Pn	14 01 48.7	+3.5
KOK	**Koryaka**	**2.65**	**10**	*eP*	Pn	14 01 49.0	+3.8
SDLR	**Sedlovina**	**2.67**	**13**	*eP*	Pn	14 01 48.1	+2.6
KRX	**Arik**	**2.72**	**10**	*eP*	Pn	14 01 49.4	+3.2
SPN	**Mys Shipunski**	**2.76**	**28**	*eP*	Pn	14 01 49.8	+3.3
GNL	**Ganaly**	**3.02**	**1**	*eP*	Pn	14 01 53.2	+3.0

*IDC **01** 14:05:59.5±0.7, 10.°95S×164.°48E, h0km, mb4.5/16, mb1 4.6/19, mb1mx4.5/34, mbtmp4.5/19, ML4.6/3, Error ellipse: s-maj=19.9km s-min=15.1km az=119.0*
*NEIC **01** 14:06:00.7±0.4, 10.°95S×164.°56E, h10km, mb4.8/17, Error ellipse: s-maj=11.7km s-min=8.0km az=131.0*
*BJI **01** 14:06:00.5, 10.°80S×164.°50E, h10km, mb4.8/14*
*ISCJB **01** 14:06:01.9±0.3, 11.°00S±0.°04×164.°51E±0.°05, h29km, mb4.5/32, Error ellipse: s-maj=7.3km s-min=6.3km az=1.9*

ISC 01 14:06:03.8±0.5, **10.°93S**±0.°07×**164.°56E**±0.°08, **h29**km, **n65, σ1s34/64, mb4.6/32, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.77**	**288**	Pn	**Pn**	**14 07 11.7**	**-2.2**
	65nm,0.3s,baz=153,slow=4.5,SNR=29						
HNR				Sn	**Sn**	**14 08 09.8**	**+1.6**
	72nm,0.3s,baz=51,slow=21,SNR=8.0						
DZM	**Mont Dzumac**	**11.23**	**171**	Pn	**Pn**	**14 08 42.1**	**-0.4**
	3.8nm,0.3s,baz=338,slow=18,SNR=32						
DZM				Sn	**Sn**	**14 10 47.9**	**+0.7**
	0.8nm,0.3s,baz=106,slow=21,SNR=3.3						
MANU	**Manus Island**	**19.21**	**296**	*eP*	**Pn**	**14 10 27.6**	**+0.8**
CTA	**Charters Tower**	**19.83**	**240**	P	**Pn**	**14 10 33.3**	**-0.9**
	0.8nm,0.3s,baz=66,slow=12,SNR=28						
CTAO	**Charters Tower**	**19.83**	**240**	*eP*	**Pn**	**14 10 34.0**	**-0.2**
	36nm,0.8s						
COEN	**Coen**	**21.09**	**260**	P	**P**	**14 10 46.3**	**+0.1**
	baz=21,SNR=13						
COEN	**Coen**	**21.09**	**260**	*eP*	**P**	**14 10 46.4**	**+0.1**
	24nm,0.9s						
RMQ	**Roma**	**21.49**	**222**	P	**P**	**14 10 52.1**	**+1.8**
	baz=22,SNR=6.1						
STKA	**Stephens Creek**	**29.73**	**222**	P	**P**	**14 12 09.4**	**+1.6**
	baz=30,SNR=4.2						
STKA	**Stephens Creek**	**29.73**	**222**	*eP*	**P**	**14 12 08.3**	**+0.6**
	2.3nm,1.0s						
STKA	**Stephens Creek**	**29.73**	**222**	P	**P**	**14 12 08.3**	**+0.6**
	5.6nm,0.8s,baz=40,slow=7.3,SNR=6.6						
WRAB	**Tennant Creek**	**30.42**	**249**	*eP*	**P**	**14 12 12.7**	**-1.3**
	15nm,1.1s						
WB2	**Warramunga Arr**	**30.42**	**249**	*eP*	**P**	**14 12 11.6**	**-2.4**
WR1	**Warramunga Ar**	**30.43**	**249**	*eP*	**P**	**14 12 12.0**	**-2.1**
	19nm,1.1s						
WRA	**Warramunga Arr**	**30.43**	**249**	P	**P**	**14 12 12.0**	**-2.1**
	12nm,1.0s,baz=77,slow=9.2,SNR=23						
H11N1	**WAKE ISLAND Hy**	**30.54**	**4**	T	T	14 44 00.5	
	baz=183						
H11N3	**WAKE ISLAND Hy**	**30.54**	**4**	T	T	14 44 05.7	
	baz=183						
H11N2	**WAKE ISLAND Hy**	**30.55**	**4**	T	T	14 44 10.0	
	baz=183						
KDU	**Kakadu**	**31.44**	**264**	P	**P**	**14 12 20.6**	**-2.4**
	baz=31,SNR=3.5						
AS31	**Alice Springs**	**31.80**	**242**	*eP*	**P**	**14 12 24.1**	**-2.0**
	1.5nm,1.0s						
ASAR	**Alice Springs**	**31.80**	**242**	P	**P**	**14 12 24.1**	**-2.1**
	1.5nm,0.8s,baz=63,slow=10,SNR=14						
HTT	**Hallett**	**32.46**	**222**	P	**P**	**14 12 33.8**	**+1.9**
	baz=33,SNR=3.8						
RPZ	**Rata Peaks**	**33.15**	**171**	P	**P**	**14 12 38.3**	**+0.7**
	9.9nm,0.8s,baz=100,slow=7.8,SNR=5.8						
BBOO	**Buckleboo**	**34.06**	**226**	P	**P**	**14 12 47.4**	**+1.6**
	baz=34,SNR=5.2						
KNRA	**Kununurra**	**35.12**	**258**	P	**P**	**14 12 53.5**	**-1.6**
	baz=35,SNR=8.4						
FITZ	**Fitzroy Crossi**	**38.28**	**255**	P	**P**	**14 13 19.9**	**-2.1**
	baz=38,SNR=14						
FITZ	**Fitzroy Crossi**	**38.28**	**255**	*eP*	**P**	**14 13 19.1**	**-2.9**
	18nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.28**	**255**	P	**P**	**14 13 19.8**	**-2.3**
	18nm,0.7s,baz=91,slow=6.4,SNR=23						
CBIJ	**Chichi jima**	**43.59**	**331**	*eP*	**P**	**14 14 06.4**	**+0.8**
JCJ	**Chichijima**	**43.59**	**331**	P	**P**	**14 14 06.4**	**+0.8**
	35nm,0.6s,baz=287,slow=19,SNR=3.2						
MEEK	**Meekatharra**	**45.95**	**243**	P	**P**	**14 14 24.6**	**0.0**
	baz=46,SNR=3.8						
ASAJ	**Asahikawa**	**58.31**	**342**	P	**P**	**14 15 56.8**	**+0.8**
	7.1nm,0.9s,baz=306,slow=8.7,SNR=4.0						
PETK	**Petropavlovsk-**	**64.05**	**355**	P	**P**	**14 16 35.8**	**+1.0**
	2.5nm,0.7s,baz=196,slow=8.5,SNR=3.8						
PEA1	**Petropavlovsk-**	**64.06**	**355**	*eP*	**P**	**14 16 35.8**	**+1.0**
SKNT	**Sakolnakorn**	**65.98**	**294**	P	**P**	**14 16 49.3**	**+1.3**
	4.3nm,0.9s						
PBKT	**Sadao Pong**	**68.56**	**293**	*eP*	**P**	**14 17 05.2**	**+0.9**
	3.4nm,0.7s						
XAN	**Xi'an**	**69.18**	**313**	P	**P**	**14 17 07.3**	**-0.7**
XAN				pP	sP	14 17 19.0	+1.4
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.00**	**294**	P	**P**	**14 17 19.8**	**+0.3**
	2.2nm,0.7s,baz=125,slow=4.1,SNR=14						
SONA0	**Songino Array**	**77.89**	**324**	*eP*	**P**	**14 17 59.5**	**+0.5**
SONM	**Songino Array**	**77.89**	**324**	P	**P**	**14 17 59.5**	**+0.5**
	5.1nm,1.1s,baz=135,slow=5.2,SNR=10						
GTA	**Gaotai**	**78.14**	**314**	*eP*	**P**	**14 18 01.5**	**+0.9**
GTA				pP	pP	14 18 07.1	-0.6
GTA				sP	sP	14 18 10.3	-0.1
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
QSPA	**South Pole Qui**	**79.08**	**180**	*eP*	**P**	**14 18 04.2**	**-1.2**
	4.7nm,0.9s						
CAST	**Castle Rocks**	**81.20**	**18**	*eP*	**P**	**14 18 14.9**	**-1.7**
	7.7nm,0.9s						
IM3	**Indian Mountai**	**82.63**	**16**	*eP*	**P**	**14 18 23.6**	**-0.4**
WRH	**Wood River Hil**	**83.19**	**19**	*eP*	**P**	**14 18 25.0**	**-1.9**
	7.4nm,1.2s						
MDM	**Murphy Dome**	**83.48**	**18**	*eP*	**P**	**14 18 27.6**	**-0.9**
	12nm,1.2s						
HDA	**Harding Lake**	**83.51**	**19**	*eP*	**P**	**14 18 28.5**	**-0.2**
	11nm,0.9s						
IL1	**Eielson Array**	**83.78**	**19**	*eP*	**P**	**14 18 29.4**	**-0.6**
ILAR	**Eielson Array**	**83.78**	**19**	P	**P**	**14 18 29.6**	**-0.4**
	2.9nm,0.7s,baz=241,slow=5.0,SNR=40						
ILB	**Eielson Array**	**83.78**	**19**	*eP*	**P**	**14 18 29.4**	**-0.6**
	4.7nm,0.9s						
DOT	**Dot Lake**	**83.97**	**21**	*eP*	**P**	**14 18 31.0**	**0.0**
	13nm,1.1s						
SCRK	**Sand Creek**	**84.21**	**20**	*eP*	**P**	**14 18 32.5**	**+0.1**
	7.1nm,1.0s						
EGAK	**Eagle**	**85.67**	**20**	*eP*	**P**	**14 18 39.4**	**-0.1**
	11nm,0.9s						
NVAR	**Mina Array Bea**	**86.84**	**50**	P	**P**	**14 18 46.5**	**+0.3**
	1.5nm,1.0s,baz=229,slow=6.7,SNR=5.2						
MK01	**Makanchi Array**	**92.63**	**317**	*eP*	**P**	**14 19 12.7**	**-0.3**
MK32	**Makanchi Array**	**92.64**	**317**	*eP*	**P**	**14 19 13.3**	**+0.4**
MKAR	**Makanchi Array**	**92.64**	**317**	P	**P**	**14 19 13.3**	**+0.4**
	2.8nm,0.8s,baz=101,slow=6.3,SNR=23						
ZALV	**Zalesovo Beam**	**92.78**	**324**	P	**P**	**14 19 12.2**	**-1.2**
	1.1nm,0.7s,baz=113,slow=9.8,SNR=6.9						
ZAA1	**Zalesovo Array**	**92.78**	**324**	*eP*	**P**	**14 19 12.2**	**-1.2**
PDAR	**Pinedale Array**	**94.33**	**47**	P	**P**	**14 19 22.1**	**+0.9**
	0.1nm,0.3s,baz=270,slow=4.1,SNR=2.6						
YKA	**Yellowknife Ar**	**95.41**	**27**	P	**P**	**14 19 24.4**	**-0.9**
	0.5nm,0.8s,baz=259,slow=4.4,SNR=6.4						
KEST	**Kesra**	**146.61**	**322**	PKPbc	**PKiKP**	**14 25 43.7**	**-2.4**
	13nm,0.9s,baz=342,slow=8.2,SNR=4.3						
ESDC	**Sonseca Array**	**149.61**	**342**	PKPbc	**PKiKP**	**14 25 51.1**	**-1.0**
	1.0nm,0.9s,baz=336,slow=2.6,SNR=5.6						
TORD	**Torodi Ar. Bea**	**163.09**	**279**	PKPab	**PKPab**	**14 26 56.2**	**+1.7**
	0.8nm,1.1s,baz=43,slow=6.5,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**163.09**	**279**	*e*PKPab	**PKPab**	**14 26 56.2**	**+1.7**

IDC 01 14:17:48.6±1.4, **49.°37N**×**28.°79W**, **h0**km, **mb3.3/4, mb1 3.6/4, mb1mx3.3/34, mbtmp3.3/4, Error ellipse: s-maj=57.1km s-min=30.6km az=33.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**20.10**	**109**	P	Pn	14 22 30.0	+4.6
	0.3nm,0.4s,baz=312,slow=13,SNR=4.1						
TORD	**Torodi Ar. Bea**	**43.96**	**135**	P	P	14 25 57.4	0.0
	0.5nm,0.7s,baz=344,slow=8.1,SNR=2.5						
YKA	**Yellowknife Ar**	**46.18**	**320**	P	P	14 26 14.4	-0.2
	0.2nm,0.7s,baz=60,slow=8.7,SNR=2.9						
PDAR	**Pinedale Array**	**53.90**	**296**	P	P	14 27 13.9	+0.1
	0.2nm,0.5s,baz=28,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**67.15**	**44**	P	P	14 28 44.3	+0.4
	0.3nm,0.6s,baz=320,slow=5.8,SNR=4.7						
ASAR	**Alice Springs**	**150.96**	**34**	PKPbc	PKPbc	14 37 42.4	-0.8
	0.4nm,0.7s,baz=340,slow=1.7,SNR=7.3						

KRSC 01 14:30:19.7±10.0, **50.°67N**×**157.°94E**, **h46**km±10km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.07**	**319**	*eP*	Pn	14 30 39.7	+1.4
PAU				*eS*	Sn	14 30 53.9	+1.9
KDTR	**Khodutka, Kamc**	**1.15**	**4**	*eP*	Pn	14 30 40.4	+1.1
KDTR				*eS*	Sn	14 30 54.3	+0.4
SKR	**Severo-Kuril's**	**1.16**	**272**	*eP*	Pn	14 30 40.3	+0.9
SKR				*eS*	Sn	14 30 54.9	+0.8
ALID	**Alaid**	**1.53**	**279**	*eP*	Pn	14 30 46.4	+1.7
ALID				*eS*	Sn	14 31 05.7	+2.3
RUS	**Russkaya**	**1.81**	**11**	*eP*	Pn	14 30 49.8	+1.5
RUS				*eS*	Sn	14 31 10.8	+0.8
MTVR	**Mutnovka**	**1.83**	**5**	*eP*	Pn	14 30 51.5	+2.7
MTVR				*eS*	Sn	14 31 12.5	+1.7
KRMR	**Karymshinskiy**	**2.17**	**3**	*eP*	Pn	14 30 56.7	+3.4
KRMR				*eS*	Sn	14 31 24.0	+5.0
DALK	**Dalny**	**2.42**	**12**	*eP*	Pn	14 30 59.1	+2.3
DALK				*eS*	Sn	14 31 27.3	+2.1
UGLR	**Uglovaya**	**2.61**	**12**	*eP*	Pn	14 31 01.9	+2.5
AVH	**Avacha**	**2.65**	**10**	*eP*	Pn	14 31 03.8	+3.8
AVH				*eS*	Sn	14 31 35.6	+4.7
SMAR	**Somma**	**2.66**	**11**	*eP*	Pn	14 31 04.4	+4.2
KOK	**Koryaka**	**2.67**	**9**	*eP*	Pn	14 31 04.0	+3.8
SDLR	**Sedlovina**	**2.68**	**12**	*eP*	Pn	14 31 03.1	+2.6
KRX	**Arik**	**2.73**	**9**	*eP*	Pn	14 31 05.5	+4.3
SPN	**Mys Shipunski**	**2.76**	**27**	*eP*	Pn	14 31 05.3	+3.9
GNL	**Ganaly**	**3.04**	**0**	*eP*	Pn	14 31 08.9	+3.6
MKZ	**Mys Kozlova**	**4.53**	**29**	*eP*	Pn	14 31 27.7	+2.0

*ISCJB **01** 14:37:07.0±0.5, 30.°75N±0.°06×137.°58E±0.°10, h489km, mb3.3/11, Error ellipse: s-maj=12.1km s-min=7.0km az=151.3*
*IDC **01** 14:37:08.4±1.1, 30.°77N×137.°41E, h487km±13km, mb3.0/10, mb1 3.1/17, mb1mx3.0/44, mbtmp3.9/17, Error ellipse: s-maj=19.1km s-min=10.1km az=75.0*

ISC 01 14:37:08.3±0.6, **30.°76N**±0.°08×**137.°55E**±0.°09, **h489**km, **n19, σ1s51/22, mb3.3/11, Southeast of Honshu**

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

OUZ	Omahuta	7.58	245	ePn	Pn	14 56 36.9	+5.4	
RPZ	Rata Peaks	14.30	214	Pn	Pn	14 57 59.0	-4.4	
	1.2nm,0.3s,baz=70,slow=1.5,SNR=6.5							
RPZ				Sn	Sn	15 00 28.0	-13	
	0.5nm,0.3s,baz=340,slow=15,SNR=3.9							
STKA	Stephens Creek	34.09	260	eP	P	15 01 26.5	+1.3	
	2.9nm,1.3s							
STKA	Stephens Creek	34.09	260	P	P	15 01 26.5	+1.3	
	3.5nm,0.7s,baz=86,slow=11,SNR=5.1							
CTA	Charters Tower	34.12	282	P	P	15 01 25.5	-0.2	
	4.9nm,0.6s,baz=114,slow=9.1,SNR=10							
CTAO	Charters Tower	34.12	282	eP	P	15 01 27.3	+1.6	
	23nm,1.3s							
AS01	Alice Springs	42.99	269	eP	P	15 02 40.1	0.0	
AS31	Alice Springs	43.03	269	eP	P	15 02 40.8	+0.4	
	1.9nm,0.8s							
ASAR	Alice Springs	43.03	269	P	P	15 02 40.2	-0.2	
	1.9nm,0.5s,baz=109,slow=7.1,SNR=18							
WB2	Warramunga Arr	44.17	274	eP	P	15 02 49.6	-0.1	
WRAB	Tennant Creek	44.18	274	eP	P	15 02 50.0	+0.3	
	4.7nm,0.7s							
WR1	Warramunga Arr	44.18	274	eP	P	15 02 49.3	-0.4	
	29nm,1.3s							
WRA	Warramunga Arr	44.18	274	P	P	15 02 49.3	-0.4	
	5.0nm,0.5s,baz=113,slow=7.8,SNR=34							
QSPA	South Pole Qui	57.85	180	P	P	15 04 34.1	+2.1	
	2.9nm,0.9s,baz=59,slow=0.3,SNR=7.0							
JHJ	Hachijo jima 2	76.24	325	P	P	15 06 28.7	-0.3	
	67nm,0.4s,baz=66,slow=19,SNR=3.2							
USRK	Ussuriysk Ar.	88.70	327	P	P	15 07 33.9	+0.2	
	1.4nm,0.6s,baz=124,slow=2.5,SNR=4.1							
NVAR	Mina Array Bea	89.61	43	P	P	15 07 37.9	-0.5	
	0.9nm,0.3s,baz=234,slow=7.7,SNR=6.2							
KLR	Kul'dur	92.63	330	P	P	15 07 51.5	-0.4	
	1.2nm,0.8s,baz=146,slow=3.6,SNR=3.1							
TXAR	Lajitas Array	93.41	57	P	P	15 07 55.6	-0.4	
	0.3nm,0.9s,baz=261,slow=4.5,SNR=4.0							
PDAR	Pinedale Array	97.49	44	P	P	15 08 14.6	0.0	
	0.1nm,0.5s,baz=222,slow=1.2,SNR=2.7							
MK32	Makanchi Array	118.95	309	ePKPdf	PKPdf	15 13 28.3	-0.4	
MKAR	Makanchi Array	118.95	309	PKP	PKPdf	15 13 28.3	-0.4	
	0.3nm,0.6s,baz=207,slow=0.6,SNR=3.7							
ARA0	ARCESS Array S	140.40	347	ePKPdf	PKPdf	15 14 09.6	+1.0	
ARCES	ARCESS Array B	140.40	347	PKP	PKPdf	15 14 09.6	+1.0	
	2.6nm,0.8s,baz=12,slow=6.2,SNR=4.0							
KBZ	Khabaz	146.11	302	PKPbc	PKPab	15 14 20.9	-0.1	
	6.0nm,1.1s,baz=38,slow=1.4,SNR=4.4							
FIA0	FINESS Array S	146.88	339	ePKPdf	PKPbc	15 14 21.4	-0.7	
FINES	FINESS Array B	146.88	339	PKPbc	PKPbc	15 14 21.4	-0.7	
	4.1nm,0.6s,baz=48,slow=3.6,SNR=23							
NB2	NORSAR Subarra	150.59	351	PKP	PKPbc	15 14 31.7	0.0	
	comp=Z,0.4nm,0.6s,baz=23,slow=3.1							
NB200	NORSAR Array S	150.59	351	ePKPbc	PKPbc	15 14 30.9	-0.7	
NOA	NORSAR Array B	150.59	351	PKPbc	PKPbc	15 14 31.0	-0.7	
	comp=Z,0.7nm,0.7s,baz=14,slow=4.1,SNR=3.0							
AKASG	Malin Array Be	152.75	321	PKPbc	PKPbc	15 14 36.4	-0.5	
	comp=Z,1.1nm,0.6s,baz=57,slow=2.6,SNR=5.0							
BR101	Keskin Array S	153.43	295	ePKPbc	PKPbc	15 14 38.5	-0.4	
BR101				ePKPab	PKPab	15 14 51.5	+0.3	
BRTR	Keskin Array B	153.43	295	PKPbc	PKPbc	15 14 38.5	-0.4	
	comp=Z,1.2nm,0.8s,baz=133,slow=2.7,SNR=4.4							
BRTR				PKPab	PKPab	15 14 51.5	+0.3	
	comp=Z,2.0nm,0.9s,baz=114,slow=6.1,SNR=5.3							
CLL	Collm	159.32	340	ePKPab	PKPab	15 15 15.0	-0.8	
TORD	Torodi Ar. Bea	160.97	179	PKPab	PKPab	15 15 24.6	+0.7	
	comp=Z,1.4nm,0.9s,baz=216,slow=2.2,SNR=5.4							
TOA1	Torodi Ar. Sit	160.97	179	ePKPab	PKPab	15 15 24.6	+0.7	
GERES	GERESS Array B	161.24	335	PKPab	PKPab	15 15 22.9	-1.5	
	comp=Z,0.2nm,0.4s,baz=18,slow=4.8,SNR=4.5							

KRSC 01 14:55:11.7±10.0, 50.73N×157.85E, h40km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	0.98	319	eP	Pn	14 55 30.9	+1.9
PAU				eS	Sn	14 55 43.8	+2.1
KDTR	Khodutka, Kamc	1.09	7	eP	Pn	14 55 31.5	+1.1
KDTR				eS	Sn	14 55 45.5	+1.2
SKR	Severo-Kuril's	1.10	268	eP	Pn	14 55 31.2	+0.6
SKR				eS	Sn	14 55 45.5	+0.9
ALID	Alaid	1.47	276	eP	Pn	14 55 37.4	+1.7
RUS	Russkaya	1.75	13	eP	Pn	14 55 40.8	+1.2
MTVR	Mutnovka	1.77	7	eP	Pn	14 55 41.5	+1.6
MTVR				eS	Sn	14 56 03.1	+1.9
KRMR	Karymshinskiy	2.11	5	eP	Pn	14 55 47.5	+3.1
DALK	Dalny	2.37	13	eP	Pn	14 55 50.2	+2.2
DALK				eS	Sn	14 56 18.2	+2.4
UGLR	Uglovaya	2.55	13	eP	Pn	14 55 54.1	+3.4
AVH	Avacha	2.60	12	eP	Pn	14 55 54.8	+3.6
SMAR	Somma	2.60	13	eP	Pn	14 55 55.0	+3.6
KOK	Koryaka	2.61	13	eP	Pn	14 55 55.2	+3.8
SDLR	Sedlovina	2.63	14	eP	Pn	14 55 53.7	+2.0
SPN	Mys Shipunski	2.73	29	eP	Pn	14 55 56.1	+3.2
GNL	Ganaly	2.97	1	eP	Pn	14 56 00.1	+3.7

*KRSC **01** 15:05:21.7±10.0, 50.66N×157.90E, h48km±10km, ML4.3*
*ISCJB **01** 15:05:23.6±1.0, 50.69N±0.08×157.8E±0.1, h56km±10km, mb3.5/5, Error ellipse: s-maj=16.4km s-min=5.9km az=140.0*
*MOS **01** 15:05:23.3±0.6, 50.67N×157.75E, h49km, mb4.4/1, Error ellipse: s-maj=22.3km s-min=4.9km az=83.4*
*IDC **01** 15:05:28.7±3.2, 50.96N×157.63E, h84km±29km, mb3.1/5, mb1 3.5/8, mb1mx3.2/40, mbtmp3.5/8, Error ellipse: s-maj=37.4km s-min=19.3km az=148.0*
ISC 01 15:05:23.1±1.0, 50.6N±0.1×157.84E±0.07, h35km±11km, n58, σ1°02/68, mb3.6/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	1.09	324	eP	Pn	15 05 41.7	-0.1
PAU				eS	Sn	15 05 55.3	-0.3
PAU	Pauzhetka	1.09	324	PN	Pn	15 05 41.7	-0.1
PAU				S	Sn	15 05 55.3	-0.3
SKR	Severo-Kuril's	1.10	275	eP	Pn	15 05 41.8	-0.2
SKR				eS	Sn	15 05 55.6	-0.3
SKR	Severo-Kuril's	1.10	275	ePN	Pn	15 05 41.7	-0.2
SKR				eS	Sn	15 05 55.5	-0.3
SKR				pmax	pmax		
	comp=Z,511nm,0.3s						
SKR				smax	smax		
	comp=N,6μm,0.2s						
SKR				smax	smax		
	comp=E,7μm,0.4s						
KDTR	Khodutka, Kamc	1.23	7	eP	Pn	15 05 42.9	-0.8
KDTR				eS	Sn	15 05 57.6	-1.4
KDTR	Khodutka, Kamc	1.23	7	PN	Pn	15 05 42.9	-0.8
KDTR				S	Sn	15 05 57.6	-1.4
ALID	Alaid	1.48	282	eP	Pn	15 05 48.0	+0.7
RUS	Russkaya	1.89	13	iP	Pn	15 05 52.3	-0.5
RUS				eS	Sn	15 06 14.1	-1.3
RUS	Russkaya	1.89	13	PN	Pn	15 05 52.3	-0.5
RUS				S	Sn	15 06 14.1	-1.3
MTVR	Mutnovka	1.90	6	eP	Pn	15 05 53.0	-0.2
MTVR				eS	Sn	15 06 15.6	-0.4
MTVR	Mutnovka	1.90	6	PN	Pn	15 05 53.0	-0.2
MTVR				S	Sn	15 06 15.6	-0.4
GRL	Gorelyy	1.97	4	iP	Pn	15 05 54.4	+0.4
GRL	Gorelyy	1.97	4	PN	Pn	15 05 54.4	+0.4
KRMR	Karymshinskiy	2.25	5	eP	Pn	15 05 58.2	+0.5
KRMR	Karymshinskiy	2.25	5	PN	Pn	15 05 58.2	+0.5
APC	Apacha	2.37	350	eP	Pn	15 06 00.4	+1.0
APC	Apacha	2.37	350	PN	Pn	15 06 00.4	+1.0
PET	Petropavlovsk	2.49	11	iP	Pn	15 06 01.4	+0.4
PET				eS	Sn	15 06 29.9	-0.2
PET	Petropavlovsk	2.49	11	ePN	Pn	15 06 01.1	+0.1
PET				eS	Sn	15 06 29.7	-0.4
PET				smax	smax		
	comp=E,277nm,0.6s						
PET				smax	smax		
	comp=N,349nm,0.6s						
DALK	Dalny	2.51	13	eP	Pn	15 06 01.3	0.0
DALK				eS	Sn	15 06 30.2	-0.4
DALK	Dalny	2.51	13	PN	Pn	15 06 01.3	0.0
DALK				S	Sn	15 06 30.2	-0.4
PETK	Petropavlovsk-	2.52	358	P	Pn	15 06 02.2	+0.7
	comp=N,5.2nm,0.3s,baz=161,slow=17,SNR=22						
PETK				S	Sn	15 06 34.4	+3.5
	comp=N,6.2nm,0.3s,baz=215,slow=23,SNR=7.1						
UGLR	Uglovaya	2.69	13	eP	Pn	15 06 04.8	+0.9
UGLR	Uglovaya	2.69	13	PN	Pn	15 06 04.8	+0.9
AVH	Avacha	2.73	11	iP	Pn	15 06 05.8	+1.3
AVH	Avacha	2.73	11	PN	Pn	15 06 05.8	+1.3
SMAR	Somma	2.74	12	iP	Pn	15 06 06.2	+1.5
SMAR	Somma	2.74	12	PN	Pn	15 06 06.2	+1.5
KOK	Koryaka	2.75	10	iP	Pn	15 06 06.3	+1.6
KOK	Koryaka	2.75	10	PN	Pn	15 06 06.3	+1.6
SDLR	Sedlovina	2.77	13	iP	Pn	15 06 05.2	+0.2
SDLR	Sedlovina	2.77	13	PN	Pn	15 06 05.2	+0.2
KRX	Arik	2.81	10	eP	Pn	15 06 07.1	+1.4
KRX	Arik	2.81	10	PN	Pn	15 06 07.1	+1.4
SPN	Mys Shipunski	2.85	28	eP	Pn	15 06 06.5	+0.5
SPN				eS	Sn	15 06 38.9	-0.2
SPN	Mys Shipunski	2.85	28	PN	Pn	15 06 06.5	+0.5
SPN				S	Sn	15 06 38.9	-0.2
GNL	Ganaly	3.11	1	iP	Pn	15 06 11.0	+1.3
GNL	Ganaly	3.11	1	PN	Pn	15 06 11.0	+1.3
MKZ	Mys Kozlova	4.62	29	eP	Pn	15 06 30.3	-0.1
MKZ	Mys Kozlova	4.62	29	PN	Pn	15 06 30.3	-0.1
TUMD	Tumrok D	4.87	18	eP	Pn	15 06 35.6	+1.8
TUMR	Tumrok	4.90	16	PN	Pn	15 06 35.6	+1.3
KBTR	Krutoberegovo	6.36	26	iP	Pn	15 06 55.9	+1.7
KBTR	Krutoberegovo	6.36	26	PN	Pn	15 06 55.9	+1.7
MA2	Magadan	9.86	339	P	Pn	15 07 42.7	+0.5
	comp=N,0.2nm,0.3s,baz=154,slow=15,SNR=3.9						
ASAJ	Asahikawa	12.19	244	P	P	15 08 20.8	-5.3
	comp=N,0.6nm,0.3s,baz=69,slow=12,SNR=6.5						
H11N2	WAKE ISLAND Hy	31.62	164	T	T	15 45 26.8	
	baz=349,slow=76,SNR=82						
H11N3	WAKE ISLAND Hy	31.64	164	T	T	15 45 24.9	
	baz=349,slow=76,SNR=77						
H11N1	WAKE ISLAND Hy	31.64	164	T	T	15 45 24.9	
	baz=349,slow=76,SNR=54						
H11S1	WAKE ISLAND Hy	32.78	164	T	T	15 46 54.9	
	baz=350,slow=76,SNR=42						
H11S3	WAKE ISLAND Hy	32.80	164	T	T	15 46 49.8	
	baz=350,slow=76,SNR=42						
H11S2	WAKE ISLAND Hy	32.80	164	T	T	15 46 52.0	
	baz=350,slow=76,SNR=21						
MKAR	Makanchi Array	47.99	296	P	P	15 13 56.0	-2.3
	comp=N,0.2nm,0.4s,baz=50,slow=7.0,SNR=6.1						
CMAR	Chiang Mai Arr	56.29	258	P	P	15 15 01.1	+0.9
	comp=N,0.4nm,0.5s,baz=29,slow=7.9,SNR=5.2						
PDAR	Pinedale Array	60.00	58	P	P	15 15 26.4	+0.2
	comp=N,0.4nm,0.8s,baz=345,slow=2.8,SNR=2.8						
TXAR	Lajitas Array	72.94	65	P	P	15 16 48.5	-0.5
	comp=N,0.2nm,0.7s,baz=297,slow=6.0,SNR=3.5						
ASAR	Alice Springs	76.91	202	P	P	15 17 12.5	+1.0
	comp=N,0.4nm,0.6s,baz=16,slow=5.6,SNR=8.4						
PLCA	Paso Flores	145.34	93	PKPbc	PKPab	15 24 56.6	0.0
	comp=N,1.3nm,0.7s,baz=334,slow=5.9,SNR=3.3						

KRSC 01 15:17:42.6±10.0, 50.93N×158.08E, h47km±10km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	0.88	360	eP	Pn	15 17 59.7	+1.1
KDTR				eS	Sn	15 18 11.2	+0.9
PAU	Pauzhetka	0.96	304	eP	Pn	15 18 01.4	+1.7
PAU				eS	Sn	15 18 13.6	+1.3
SKR	Severo-Kuril's	1.27	260	eP	Pn	15 18 05.0	+1.1
SKR				eS	Sn	15 18 20.6	+0.8
RUS	Russkaya	1.53	10	iP	Pn	15 18 08.8	+1.3
RUS				eS	Sn	15 18 26.9	+0.8
MTVR	Mutnovka	1.56	2	eP	Pn	15 18 09.9	+1.9
MTVR				eS	Sn	15 18 28.6	+1.5
ALID	Alaid	1.60	269	iP	Pn	15 18 10.5	+1.9
ALID				eS	Sn	15 18 29.8	+1.6
KRMR	Karymshinskiy	1.90	1	eP	Pn	15 18 15.1	+2.5
KRMR				eS	Sn	15 18 37.9	+2.6
APC	Apacha	2.08	344	eP	Pn	15 18 17.7	+2.7
PET	Petropavlovsk	2.13	9	iP	Pn	15 18 18.2	+2.6
PET				eS	Sn	15 18 43.0	+2.2
DALK	Dalny	2.15	11	eP	Pn	15 18 17.8	+1.9
DALK				eS	Sn	15 18 43.2	+1.9
UGLR	Uglovaya	2.33	11	eP	Pn	15 18 21.2	+2.7
AVH	Avacha	2.37	10	eP	Pn	15 18 22.5	+3.4
AVH				eS	Sn	15 18 52.2	+5.2
NLC	Nalytchevo	2.38	19	eS	Sn	15 18 49.0	+2.1
SMAR	Somma	2.38	10	eP	Pn	15 18 22.8	+3.5
KOK	Koryaka	2.39	8	iP	Pn	15 18 22.9	+3.5
SDLR	Sedlovina	2.40	12	iP	Pn	15 18 21.8	+2.2
SDLR				eS	Sn	15 18 50.2	+2.4
KRX	Arik	2.46	8	eP	Pn	15 18 24.0	+3.7
KRX				eS	Sn	15 18 54.3	+5.1
SPN	Mys Shipunski	2.48	28	eP	Pn	15 18 23.2	+2.7
GNL	Ganaly	2.77	358	eP	Pn	15 18 27.8	+3.2
MKZ	Mys Kozlova	4.26	30	eP	Pn	15 18 47.4	+2.6

IDC 01 15:22:28.1±3.7, 28.12N×137.91E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.4/40, mbtmp3.9/3, Error ellipse: s-maj=273.4km s-min=29.0km az=81.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.91	185	P	P	15 31 08.5	+0.2
	0.6nm,0.3s,baz=3.0,slow=7.7,SNR=22						
ASAR	Alice Springs	51.63	185	P	P	15 31 36.1	-0.5
	0.3nm,0.5s,baz=3.5,slow=5.6,SNR=14						
FINES	FINESS Array B	75.32	333	P	P	15 34 13.1	+0.1
	3.2nm,0.9s,baz=54,slow=5.0,SNR=6.8						

*SOME **01** 15:38:33.6, 40.17N×77.75E, h20km*
*KRNET **01** 15:38:34.7±0.1, 40.19N×77.39E, mb2.9*
*NNC **01** 15:38:35.1±2.2, 40.28N×77.70E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.4km s-min=12.9km az=20.0*
ISC 01 15:38:33.1±2.5, 40.0N±0.1×77.38E±0.05, h10km, n40, σ1°91/65, 15C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	Naryn	1.81	325	↑iP	Pb	15 39 05.3	-1.3
	baz=19						
NRN				↑iS	Sb	15 39 28.0	-1.5
	baz=19						
KDJ	Kajisay	2.18	356	↑iP	Pb	15 39 10.9	-1.9
	baz=56						
KDJ				↑iS	Sb	15 39 36.9	-3.1
	baz=56						
ULHL	Ulahol	2.45	340	↓eP	Pb	15 39 15.0	-2.4
	baz=37						
ULHL				↓iS	Sb	15 39 44.5	-3.2
	baz=37						
KZA	Kyzart	2.67	324	↓eP	Pb	15 39 19.0	-2.2
	baz=20						
KZA				↓iS	Sb	15 39 51.1	-3.0
	baz=20						
BOOM	Boomskoye usch	2.76	337	↑iP	Pb	15 39 19.4	-3.2
	baz=35						
BOOM				↑iS	Sn	15 39 52.1	+1.0
	baz=35						
ARLS	Aral	3.00	310	↑iP	Pb	15 39 23.5	-3.2
	baz=7.0						
ARLS				↑iS	Sn	15 39 58.8	+1.8
	baz=7.0						
TNSS	Tian-Shan	3.10	354	Pg	Pb	15 39 26.8	-1.8
	12nm,0.5s						
TNSS				Lg	Lg	15 40 05.5	
	17nm,0.4s						
TNSS	Tian-Shan	3.10	354	eP	Pb	15 39 26.9	-1.7
	8.4nm,0.4s						
TNSS				eS	Sb	15 40 05.5	-1.1
	24nm,0.5s						
IZV	Izvestkoviy	3.14	350	Pg	Pb	15 39 27.7	-1.3
	150nm,0.2s						
IZV				Lg	Lg	15 40 06.8	
	18nm,0.5s						
IZV	Izvestkoviy	3.14	350	eP	Pb	15 39 27.7	-1.3
	57nm,0.1s						
IZV				eS	Sb	15 40 06.8	-0.6
	18nm,0.5s						
UCH	Uchtor	3.14	317	↑eP	Pn	15 39 25.6	+2.5
	baz=14						
UCH				↑iS	Sn	15 40 02.9	+2.1
	baz=14						
SATY	Saty	3.20	14	Pg	Pb	15 39 28.6	-1.5
	5.1nm,0.8s						
SATY				Lg	Lg	15 40 07.7	
	14nm,0.4s						
SATY	Saty	3.20	14	eP	Pb	15 39 28.2	-1.9
	5.1nm,0.8s						
SATY				eS	Sb	15 40 07.7	-1.5
	14nm,0.4s						
MTBS	Maitube	3.26	348	Pg	Pb	15 39 30.1	-0.9
	2.9nm,0.1s						
MTBS				Lg	Lg	15 40 10.6	
	16nm,0.4s						
MTBS	Maitube	3.26	348	eP	Pb	15 39 29.7	-1.4
	2.9nm,0.1s						
MTBS				eS	Sb	15 40 10.1	-0.7
	16nm,0.4s						
TKM2	Tokmak 2	3.26	336	↑eP	Pn	15 39 26.2	+1.8
	baz=34						
TKM2				↑iS	Sn	15 40 03.9	+0.6
	baz=34						
KBK	Karagaybulak	3.26	327	↑eP	Pn	15 39 26.9	+2.4
	baz=24						
KBK				↑iS	Sn	15 40 04.7	+1.2
	baz=24						
KST	Kastek	3.27	341	Pg	Pb	15 39 30.5	-0.8
	2.8nm,0.6s						
KST				Lg	Lg	15 40 11.4	
	13nm,1.1s						
KST	Kastek	3.27	341	↑iP	Pb	15 39 30.5	-0.8
	2.8nm,0.6s						
KST				eS	Sb	15 40 11.4	+0.2
	13nm,1.1s						
KOTS	Kotyrbulak	3.29	357	Pg	Pb	15 39 30.6	-1.1
	4.0nm,0.3s						
KOTS				Lg	Lg	15 40 10.8	
	23nm,0.4s						
KOTS	Kotyrbulak	3.29	357	eP	Pb	15 39 30.0	-1.7
	2.0nm,0.3s						
KOTS				eS	Sb	15 40 10.8	-1.0
	23nm,0.4s						
UZB	Uzynbulak	3.42	21	Pg	Pb	15 39 31.6	-2.4
	1.3nm,0.4s						
UZB				Lg	Lg	15 40 13.1	
	4.8nm,0.7s						
UZB	Uzynbulak	3.42	21	eP	Pb	15 39 31.4	-2.5
	1.3nm,0.4s						
UZB				eS	Sb	15 40 13.1	-2.5
	4.8nm,0.7s						
DGS	Degeres	3.50	340	Pg	Pb	15 39 32.7	-2.6
	4.3nm,0.5s						
DGS				Lg	Lg	15 40 14.9	
	15nm,0.4s						
DGS	Degeres	3.50	340	eP	Pb	15 39 32.4	-2.8
	4.3nm,0.5s						
DGS				eS	Sb	15 40 14.9	-3.0
	15nm,0.4s						
SHLS	Shalkode	3.56	25	Pg	Pb	15 39 33.3	-3.1
	2.2nm,0.2s						
SHLS				Lg	Lg	15 40 16.2	
	14nm,0.5s						
SHLS	Shalkode	3.56	25	eP	Pb	15 39 33.3	-3.1
	1.9nm,0.1s						
SHLS				eS	Sb	15 40 16.2	-3.6
	14nm,0.5s						
KURS	Kuram	3.58	9	Pg	Pb	15 39 34.9	-1.7
	1.6nm,0.3s						
KURS				Lg	Lg	15 40 18.5	
	5.5nm,0.5s						
KURS	Kuram	3.58	9	eP	Pb	15 39 34.6	-2.1
	1.6nm,0.3s						
KURS				eS	Sb	15 40 18.5	-1.7
	5.5nm,0.5s						
PDGK	Podgornoye	3.73	24	Pg	Pn	15 39 33.5	+2.6
	1.2nm,0.4s						
PDGK				Lg	Lg	15 40 17.4	
	2.9nm,0.7s						
KTBS	Karatobe	3.79	352	Pg	Pb	15 39 39.2	-1.1
	1.3nm,0.5s						
KTBS				Lg	Lg	15 40 26.1	
	7.7nm,0.5s						
KTBS	Karatobe	3.79	352	eP	Pb	15 39 39.1	-1.1
	1.3nm,0.5s						
KTBS				eS	Sb	15 40 26.1	-0.1
	7.7nm,0.5s						
CHKK	Chushkaly	3.91	356	Pg	Pb	15 39 41.1	-1.0
	2.5nm,0.4s						
CHKK				Lg	Lg	15 40 29.6	
	9.0nm,0.3s						
CHKK	Chushkaly	3.91	356	eP	Pb	15 39 41.1	-1.0
	2.5nm,0.4s						
CHKK				eS	Sb	15 40 29.6	+0.1
	9.0nm,0.3s						
KUU	Kurty	4.01	349	Pg	Pb	15 39 43.4	-0.5
	1.4nm,0.5s						
KUU				Lg	Lg	15 40 33.2	
	5.3nm,0.6s						
KUU	Kurty	4.01	349	eP	Pb	15 39 43.1	-0.8
	1.4nm,0.5s						
KUU				↓iS	Sb	15 40 33.2	+0.7
	5.3nm,0.6s						
ARXS	Arharly	4.27	4	Pg	Pb	15 39 47.4	-1.0
ARXS				Lg	Lg	15 40 39.9	
ARXS	Arharly	4.27	4	eP	Pb	15 39 46.8	-1.5
	2.6nm,0.4s						
ARXS				eS	Sb	15 40 39.9	-0.1
	7.0nm,0.4s						
DJR	Jarkent	4.73	21	eP	Pb	15 39 55.0	-1.2
	0.5nm,0.3s						
DJR				eS	Sb	15 40 53.1	-0.1
	1.8nm,0.6s						
KAPS	Kapalarasan	5.53	15	eP	Pb	15 40 09.4	-0.3
	0.2nm,0.2s						
KAPS				eS	Sb	15 41 17.9	+1.8
	2.1nm,0.5s						

*SJA **01** 15:38:53.3±0.2, 27.74S×71.30W, h50km, ML3.5, MW3.3*
*ISCJB **01** 15:39:02.0±1.1, 28.19S±0.04×70.9W±0.1, h38km, Error ellipse: s-maj=17.7km s-min=4.8km az=12.8*
*GUC **01** 15:39:01.8±1.7, 28.11S±0.04×71.07W±0.10, h38km, n16, σ2°43/21, 1C-1D, Near coast of central Chile*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO03	Copiap	0.90	55	↑iP	Pn	15 39 16.5	-1.5
GO03				eS	Sn	15 39 28.0	-1.8
GO03				IAML		15 39 28.8	
	comp=N,4μm,0.2s						
LCO	Las Campanas	0.95	160	↓iP	Pn	15 39 16.4	-2.5
LCO				iS	Sn	15 39 26.8	-4.7
GO04	Tololo Observa	2.07	174	eP	Pn	15 39

ARSB				⇑*i*S		**Sn**	**15 50 45.5**	**+0.5**			
	baz=9.0										
ARK	**Arkit**	**2.70**	**354**	⇑*i*P		**Pn**	**15 50 24.8**	**+0.9**			
	baz=49										
ARK				⇑*i*S		**Sn**	**15 50 56.8**	**+1.3**			
	baz=49										
AML	**Almayashu**	**3.19**	**19**	⇑*i*P		**Pn**	**15 50 31.7**	**+0.7**			
	baz=16										
AML				⇑*i*S		**Sn**	**15 51 08.6**	**+0.4**			
	baz=16										
UCH	**Uchtor**	**3.53**	**28**	⇑*i*P		**Pn**	**15 50 36.4**	**+0.7**			
	baz=26										
UCH				⇑*i*S		**Sn**	**15 51 17.0**	**+0.4**			
	baz=26										
NRN	**Naryn**	**3.65**	**49**	⇑*i*P		**Pn**	**15 50 37.3**	**+0.1**			
	baz=50										
NRN				⇑*i*S		**Sn**	**15 51 18.6**	**-0.7**			
	baz=50										
MRKS	**Merke**	**3.69**	**10**	Pg		**Pb**	**15 50 44.3**	**-2.8**			
	15nm,0.4s										
MRKS				Lg		Lg	15 51 28.2				
	18nm,0.3s										
KZA	**Kyzart**	**3.71**	**36**	⇓*i*P		**Pn**	**15 50 38.8**	**+0.7**			
	baz=36										
KZA				⇓*i*S		**Sn**	**15 51 21.1**	**+0.1**			
	baz=36										
EKS2	**Erkin-Say**	**3.72**	**17**	⇓*i*P		**Pn**	**15 50 38.5**	**+0.6**			
	baz=15										
EKS2				⇓*i*S		**Sn**	**15 51 21.1**	**+0.4**			
	baz=15										
AAK	**Ala-Archa**	**3.89**	**24**	⇑Pn		**Pn**	**15 50 40.9**	**+0.6**			
	9.6nm,0.5s										
AAK				⇓Lg		Lg	15 51 32.4				
	13nm,0.6s										
AAK	**Ala-Archa**	**3.89**	**24**	⇑*i*P		**Pn**	**15 50 41.2**	**+0.9**			
	baz=23										
AAK				⇑*i*S		**Sn**	**15 51 25.3**	**+0.3**			
	baz=23										
KK31	**Karatay Array**	**4.21**	**342**	Pn		**Pn**	**15 50 46.8**	**+2.2**			
	1.7nm,0.3s,baz=50,slow=43,SNR=44										
KK31				⇓Sn		**Sn**	**15 51 34.7**	**+2.0**			
	6.5nm,0.4s,baz=145,slow=24,SNR=7.3										
BOOM	**Boomskoye usch**	**4.35**	**38**	⇓*i*P		**Pn**	**15 50 46.0**	**-0.7**			
	baz=38										
BOOM				⇓*i*S		**Sn**	**15 51 33.9**	**-2.6**			
	baz=38										
TKM2	**Tokmak 2**	**4.54**	**32**	⇓Pn		**Pn**	**15 50 50.2**	**+0.8**			
	1.7nm,0.3s										
TKM2				⇓Lg		Lg	15 51 53.0				
	6.6nm,0.5s										
SGDS	**Sogindy**	**4.67**	**21**	Pg		**Pb**	**15 51 02.7**	**-1.1**			
	8.1nm,0.7s										
SGDS				Lg		Lg	15 51 58.0				
	12nm,0.7s										
KST	**Kastek**	**4.80**	**34**	Pg		**Pb**	**15 51 05.2**	**-0.8**			
	5.6nm,0.4s										
KST				Lg		Lg	15 52 01.9				
	9.2nm,0.4s										
MDOK	**Medeo**	**5.40**	**40**	⇑Pn		**Pn**	**15 51 02.1**	**+1.1**			
	3.7nm,0.6s										
MDOK				⇓Lg		Lg	15 52 20.1				
	14nm,0.8s										
KUU	**Kurty**	**5.65**	**31**	Pg		**Pb**	**15 51 21.2**	**+0.8**			
	3.5nm,0.5s										
KUU				Lg		Lg	15 52 31.2				
	7.5nm,0.7s										
CHKK	**Chushkaly**	**5.90**	**35**	Pg		**Pb**	**15 51 25.1**	**+0.5**			
CHKK				Lg		Lg	15 52 36.3				
PDGK	**Podgornoye**	**6.86**	**50**	⇑Pg		**Pb**	**15 51 43.3**	**+2.4**			
	1.7nm,0.7s										
PDGK				⇑Lg		Lg	15 53 05.8				
	5.9nm,1.0s										
AB31	**Akbulak array**	**13.46**	**323**	Pn		**P**	**15 52 57.1**	**-3.0**			
	1.3nm,0.7s,baz=133,slow=13,SNR=15										
AKTO	**Aktyubinsk**	**15.18**	**323**	⇑Pn		**P**	**15 53 21.6**	**+2.4**			
	3.3nm,0.8s										

MEX 01 16:07:38.2±0.5, 27°30N×111°19W, h16km±15km, MD3.7, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUYB	**Guaymas**	**0.66**	**25**	*e*P		Pg	16 07 49.0	-2.3
GUYB				*e*S		Sg	16 07 57.0	-3.1
SRIG	**Santa Rosalia**	**0.93**	**272**	*e*P		Pb	16 07 52.4	-3.6
SRIG				*i* S		Sb	16 08 04.3	-3.8
HSIG		**1.73**	**7**	*e*P		Pn	16 08 04.6	-3.0
HSIG				*e*S		Sn	16 08 24.8	-4.5

KRSC 01 16:08:42.6±10.0, 50°64N×157°98E, h47km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.10**	**319**	*e*P		Pn	16 09 03.2	+1.5
PAU				*e*S		Sn	16 09 16.7	+0.9
KDTR	**Khodutka, Kamc**	**1.17**	**3**	*e*P		Pn	16 09 03.7	+1.2
KDTR				*e*S		Sn	16 09 18.3	+1.0
SKR	**Severo-Kuril's**	**1.18**	**273**	*e*P		Pn	16 09 03.7	+1.0
SKR				*e*S		Sn	16 09 17.6	0.0
ALID	**Alaid**	**1.56**	**279**	*i* P		Pn	16 09 10.0	+2.0
ALID				*e*S		Sn	16 09 29.2	+2.2
RUS	**Russkaya**	**1.82**	**10**	*i* P		Pn	16 09 13.3	+1.8
RUS				*e*S		Sn	16 09 34.2	+0.9
MTVR	**Mutnovka**	**1.85**	**4**	*e*P		Pn	16 09 14.0	+2.0
MTVR				*e*S		Sn	16 09 36.2	+2.0
KRMR	**Karymshinskiy**	**2.19**	**2**	*e*P		Pn	16 09 20.0	+3.5
KRMR				*e*S		Sn	16 09 47.5	+5.1
APC	**Apacha**	**2.34**	**348**	*e*P		Pn	16 09 21.4	+2.8
PET	**Petropavlovsk**	**2.42**	**10**	*e*P		Pn	16 09 22.3	+2.6
PET				*e*S		Sn	16 09 50.1	+2.1
DALK	**Dalny**	**2.44**	**11**	*e*P		Pn	16 09 22.2	+2.3
DALK				*e*S		Sn	16 09 51.5	+3.0
UGLR	**Uglovaya**	**2.62**	**11**	*e*P		Pn	16 09 25.8	+3.3
AVH	**Avacha**	**2.67**	**10**	*e*P		Pn	16 09 26.6	+3.5
SMAR	**Somma**	**2.67**	**11**	*e*P		Pn	16 09 27.8	+4.5
KOK	**Koryaka**	**2.68**	**8**	*e*P		Pn	16 09 27.5	+4.1
KOK				*e*S		Sn	16 10 00.0	+5.3
SDLR	**Sedlovina**	**2.70**	**12**	*i* P		Pn	16 09 27.3	+3.7
KRX	**Arik**	**2.75**	**8**	*e*P		Pn	16 09 28.9	+4.6
SPN	**Mys Shipunski**	**2.77**	**27**	*e*P		Pn	16 09 26.0	+1.6
GNL	**Ganaly**	**3.06**	**360**	*e*P		Pn	16 09 32.0	+3.5
MKZ	**Mys Kozlova**	**4.54**	**29**	*e*P		Pn	16 09 51.2	+2.5
KBTR	**Krutoberegovo**	**6.28**	**26**	*e*P		Pn	16 10 17.3	+4.7

*NIED **01** 16:35:00,34°40N×140°10E,h35km,Mw4.6 Best double couple: M0 8.22000×10^15 NP1:ϕ=164.00000°,δ=26.00000°, λ=176.00000°. NP2:ϕ=257.00000°,δ=88.00000°,λ=64.00000°.*

*BJI **01** 16:35:23.8,34°37N×140°03E,h32km,mb4.4/26,mB5.1/17, Ms4.5/8, Ms7 4.2/7*

*ISCJB **01** 16:35:25.4±0.4,34°36N±0°02×140°09E±0°04,h46km±3km, mb4.5/67,MS4.1/7,Error ellipse: s-maj=5.1km s-min=3.7km az=170.4*

*MOS **01** 16:35:25.8±1.6,34°47N×140°29E,h51km,mb4.8/34, MS4.0/4,Error ellipse: s-maj=9.7km s-min=4.7km az=98.9*

*JMA **01** 16:35:26.5±0.1,34°41N×140°06E,h35km±1km,M4.7 Broadband fault plane solution: P waves. NP1: ϕs=263.00000°,δ85.00000°,λ49.00000°. NP2: ϕs=168.00000°,δ42.00000°,λ173.00000°. Principal axes: T Plg36.0000°, Azm138.0000°; N Plg41.0000°, Azm267.0000°; P Plg28.0000°, Azm25.0000°;*

JMA Felt III J1.

*NEIC **01** 16:35:27.5±0.5,34°28N×140°01E,h50km±4km,mb4.7/20 Error ellipse: s-maj=5.6km s-min=4.0km az=83.0*

NEIC Felt [III] at Tokyo. Felt in the Fujinomiya-Togane-Tsukuba area. Recorded [3 JMA] in Chiba.

*IDC **01** 16:35:27.6±0.8,34°32N×139°98E,h46km±7km,mb4.2/28, mb1 4.4/32,mb1mx4.3/40,mbtmp4.5/32,ML3.3/3,MS3.9/5, Ms1 3.9/5,ms1mx3.6/43,Error ellipse: s-maj=13.6km s-min=4.9km az=79.0*

ISC 01 16:35:25.6±0.8, 34°41N±0°03×140°13E±0°04, h32km±5km, n169, σ1=70/185, mb4.6/70, MS4.2/7, 13C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO3	**Boso 3**	**0.51**	**39**	⇓P		**Pn**	**16 35 37.6**	**+1.2**
BSO4	**Boso 4**	**0.61**	**17**	⇓P		**Pn**	**16 35 39.3**	**+1.4**
JIM2	**Oshima 3**	**0.65**	**299**	⇑P		**Pb**	**16 35 38.3**	**-0.4**
JMKN	**Mikurajimanish**	**0.68**	**221**	⇓P		**Pn**	**16 35 38.6**	**-0.4**
JMKN				S		**Sb**	**16 35 47.7**	**-0.6**
JTHY	**Toshimahigashi**	**0.70**	**280**	P		**Pb**	**16 35 39.4**	**-0.1**
BSO1	**Boso 1**	**0.74**	**71**	⇓P		**Pn**	**16 35 39.9**	**+0.5**
JKO	**Kozu shima**	**0.85**	**255**	⇓P		**Pb**	**16 35 41.3**	**-0.6**
JKO				*e*S		**Sn**	**16 35 51.9**	**-0.8**
KTJ3	**Kamata3**	**1.02**	**301**	⇑P		**Pn**	**16 35 43.3**	**-0.4**
KTJ3				S		**Sn**	**16 35 55.4**	**-1.4**
JIZS	**Izushimoda**	**1.07**	**287**	⇑P		**Pn**	**16 35 44.5**	**0.0**
JIZS				S		**Sn**	**16 35 57.7**	**-0.6**
JOD2	**Odawara 2**	**1.21**	**315**	⇑P		**Pn**	**16 35 46.4**	**+0.1**
JOD2				S		**Sn**	**16 36 00.8**	**-0.8**
JHJ	**Hachijo jima 2**	**1.32**	**193**	P		**Pn**	**16 35 48.0**	**+0.3**
	2μm,0.3s,baz=69,slow=23,SNR=320							
JHJ				S		**Sn**	**16 36 03.5**	**-0.8**
	7μm,0.3s,baz=246,slow=19,SNR=43							
JHJ				LR		LR	16 36 23.6	
	comp=Z,3μm,19.3s,baz=194,slow=46							
JHJ2	**Mitsune**	**1.32**	**191**	*e*Pn		**Pn**	**16 35 48.0**	**+0.1**
JHJ2	**Mitsune**	**1.32**	**191**	⇓P		**Pn**	**16 35 47.9**	**+0.1**
JHJ2				S		**Sn**	**16 36 03.3**	**-1.0**
JFNN	**Fujinakano**	**1.42**	**304**	P		**Pn**	**16 35 50.0**	**+0.8**
JFNN				S		**Sn**	**16 36 07.1**	**+0.3**
MJAR	**Matsushiro Arr**	**2.64**	**324**	P		**Pn**	**16 36 08.3**	**+2.2**
	11nm,0.3s,baz=142,slow=31,SNR=354							
MJAR				S		**Sn**	**16 36 38.5**	**+1.5**
	37nm,0.3s,baz=128,slow=25,SNR=14							
MJAR				LR		LR	16 37 26.6	
	comp=Z,1μm,18.7s,baz=145,slow=46							
MAJO	**Matsushiro**	**2.64**	**324**	*e*Pn		**Pn**	**16 36 08.4**	**+2.3**
MAJO	**Matsushiro**	**2.64**	**324**	*d iP*		**Pn**	**16 36 08.3**	**+2.2**
MAT	**Matsushiro**	**2.64**	**324**	P		**Pn**	**16 36 08.2**	**+2.1**
MAT				S		**Sn**	**16 36 38.0**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.65**	**324**	*e*Pn		**Pn**	**16 36 08.4**	**+2.3**
INU	**Inuyama**	**2.72**	**291**	*e*Pn		**Pn**	**16 36 08.8**	**+1.7**
CBIJ	**Chichi jima**	**7.50**	**166**	P		**Pn**	**16 37 11.8**	**-1.0**
CBIJ				S		Sn	16 38 26.9	-10
JCJ	**Chichijima**	**7.50**	**166**	P		**Pn**	**16 37 11.8**	**-1.0**
	51nm,0.3s,baz=78,slow=9.9,SNR=47							
JCJ				S		Sn	16 38 26.9	-10
	1.7nm,0.3s,baz=285,slow=20,SNR=2.3							
JNU	**Nakatsue**	**7.81**	**263**	P		**Pn**	**16 37 18.6**	**+1.5**
	0.7nm,0.3s,baz=54,slow=5.4,SNR=8.3							
JNU				LR		LR	16 40 15.1	
	comp=Z,722nm,21.4s,baz=252,slow=38							
ERM	**Erimo**	**7.96**	**17**	*e*Pn		**Pn**	**16 37 18.3**	**-0.7**
ERM	**Erimo**	**7.96**	**17**	*ce*P		**Pn**	**16 37 18.5**	**-0.5**
ERM				pmax	pmax			
	comp=Z,229nm,2.5s							
ASAJ	**Asahikawa**	**9.88**	**10**	P		**Pn**	**16 37 43.9**	**-1.5**
	comp=Z,13nm,0.3s,baz=224,slow=11,SNR=73							
ASAJ				S		**Sn**	**16 39 31.2**	**-4.0**
	comp=Z,0.8nm,0.3s,baz=30,slow=31,SNR=3.3							
KSRS	**Korea Array**	**10.35**	**291**	P		Pn	16 37 58.4	+6.6
	comp=Z,0.1nm,0.3s,baz=104,slow=14,SNR=6.3							
KSAR	**Wonju Array Be**	**10.38**	**290**	P		Pn	16 37 58.4	+6.2
KSAR	**Wonju Array Be**	**10.38**	**290**	P		Pn	16 37 58.4	+6.2
YUK	**Yuzh-Kuril'sk**	**10.59**	**23**	*e*P		**Pn**	**16 37 54.1**	**-0.9**
YUK				*e*S		**Sn**	**16 39 45.0**	**-7.4**
YUK				pmax	pmax			
	comp=Z,210nm,0.5s							
YUK				pmax	pmax			
	comp=N,30nm,0.3s							
YUK				pmax	pmax			
	comp=E,36nm,0.3s							
SHO	**Shikotan**	**10.78**	**27**	*e*P		**Pn**	**16 37 54.9**	**-2.8**
SHO				*e*S		Sn	16 39 47.8	-9.4
SHO				pmax	pmax			
	comp=Z,35nm,0.5s							
SHO				pmax	pmax			
	comp=E,12nm,0.3s							
SHO				pmax	pmax			
	comp=N,15nm,0.6s							
USRK	**Ussuriysk Ar.**	**11.63**	**330**	P		**Pn**	**16 38 11.5**	**+2.2**
	comp=N,0.4nm,0.3s,baz=144,slow=12,SNR=10							
KUR	**Kuril'sk**	**12.33**	**26**	*e*P		**Pn**	**16 38 18.2**	**-0.7**
KUR				*e*S		**Sn**	**16 40 26.9**	**-8.2**
KUR				pmax	pmax			
	comp=Z,44nm,0.6s							
KUR				smax	smax			
	comp=E,51nm,0.8s							
KUR				smax	smax			
	comp=N,33nm,0.6s							
YSS	**Yuzh-Sakhalins**	**12.69**	**8**	*e*Pn		**Pn**	**16 38 20.6**	**-3.2**
YSS	**Yuzh-Sakhalins**	**12.69**	**8**	*e*P		**Pn**	**16 38 22.8**	**-1.0**
YSS				*e*S		**Sn**	**16 40 36.1**	**-7.7**
YSS				pmax	pmax			
	comp=Z,50nm,0.5s							
YSS				pmax	pmax			
	comp=N,50nm,0.4s							
YSS				MLR	MLR			
	comp=Z,900nm,16.0s							
YSS				MLR	MLR			
	comp=N,600nm,15.0s							
YSS				MLR	MLR			
	comp=E,600nm,15.0s							
UGL	**Uglegorsk**	**14.73**	**5**	P		**Pn**	**16 38 49.9**	**-1.6**
UGL				pmax	pmax			
	comp=Z,90nm,0.9s							
KLR	**Kul'dur**	**16.06**	**340**	*i* P		**Pn**	**16 39 09.6**	**+0.7**
KLR	**Kul'dur**	**16.06**	**340**	P		**Pn**	**16 39 07.0**	**-1.9**
	comp=Z,1.2nm,0.3s,baz=152,slow=11,SNR=22							
TYV	**Tymovskoe**	**16.55**	**6**	*e*P		**Pn**	**16 39 13.3**	**-1.8**
TYV				*e*S		**Sn**	**16 42 15.2**	**-2.5**
TYV				pmax	pmax			
	comp=Z,500nm,4.1s							
TYV				smax	smax			
	comp=N,700nm,5.4s							
GRNR	**Gornyy**	**16.57**	**352**	*e*P		**Pn**	**16 39 12.5**	**-3.0**
NJ2	**Nanjing**	**17.95**	**268**	*e*P		**Pn**	**16 39 30.4**	**-2.3**
NJ2				pmax	pmax			
	comp=N,16nm,0.7s							
NKL	**Nikolayevsk**	**18.74**	**1**	*e*P		**P**	**16 39 40.5**	**-1.1**
GUMO	**Guam**	**21.17**	**167**	*e*P		**P**	**16 40 07.1**	**-1.2**
GUMO	**Guam**	**21.17**	**167**	P		**P**	**16 40 08.4**	**+0.2**
	comp=N,101nm,0.8s,baz=298,slow=7.6,SNR=3.8							
GUMO				LR		LR	16 45 50.2	
	comp=N,290nm,21.2s,baz=19,slow=30							
ZEA	**Zeya**	**21.36**	**339**	*e*P		**P**	**16 40 07.8**	**-2.3**
ZEA				pmax	pmax			
	comp=N,35nm,1.0s							
ZEA				pmax	pmax			
	comp=E,21nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,51nm,0.8s							
PETK	**Petropavlovsk-**	**22.48**	**28**	*e*P		**P**	**16 40 22.1**	**-0.1**
PETK	**Petropavlovsk-**	**22.48**	**28**	P		**P**	**16 40 24.8**	**+2.7**
	comp=Z,8.0nm,0.9s,baz=214,slow=10,SNR=9.0							
PETK				LR		LR	16 48 28.3	
	comp=Z,994nm,20.7s,baz=148,slow=34							
HHC	**Hu-ho-hao-te**	**23.45**	**294**	*e*P		**P**	**16 40 30.5**	**-1.8**
HHC				sP		sP	16 40 46.1	+1.9
HHC				S		**S**	**16 44 39.1**	**-4.6**
HHC				sS		sS	16 44 57.7	-0.3
HHC				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC				pmax	pmax			
	comp=Z,330nm,4.5s							
HHC				LR	LR			
	comp=Z,200nm,8.6s							
HHC				LR	LR			
	comp=Z,160nm,8.6s							
HHC				LR	LR			
	comp=Z,290nm,13.0s							
MA2	**Magadan**	**26.14**	**12**	*e*P		**P**	**16 40 57.6**	**+1.1**
	comp=Z,33nm,0.7s							
MA2	**Magadan**	**26.14**	**12**	*ce*P		**P**	**16 40 57.6**	**+1.1**
MA2				pmax	pmax			
	comp=Z,33nm,0.7s							
MA2	**Magadan**	**26.14**	**12**	P		**P**	**16 40 57.8**	**+1.2**
	comp=Z,36nm,0.7s,baz=199,slow=8.3,SNR=142							
H11N2	**WAKE ISLAND Hy**	**27.85**	**115**	T		T	17 10 57.9	
	baz=308,slow=75,SNR=1070							
H11N1	**WAKE ISLAND Hy**	**27.86**	**115**	T		T	17 10 58.4	
	baz=308,slow=75,SNR=863							
H11N3	**WAKE ISLAND Hy**	**27.87**	**115**	T		T	17 10 59.3	
	baz=308,slow=75,SNR=1132							
ULN	**Ulaanbaatar**	**28.07**	**309**	*i* P		**P**	**16 41 14.3**	**0.0**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.9s							
YAK	**Yakutsk**	**28.43**	**350**	*e*P		**P**	**16 41 15.6**	**-1.5**
YAK				pmax	pmax			
	comp=Z,162nm,0.9s							
YAK				pmax	pmax			
	comp=N,57nm,1.1s							
YAK				pmax	pmax			
	comp=E,18nm,1.1s							
H11S3	**WAKE ISLAND Hy**	**28.46**	**117**	T		T	17 11 43.2	
	baz=310,slow=76,SNR=181							
H11S1	**WAKE ISLAND Hy**	**28.46**	**117**	T		T	17 11 47.5	
	baz=310,slow=76,SNR=233							
H11S2	**WAKE ISLAND Hy**	**28.47**	**117**	T		T	17 11 48.7	
	baz=310,slow=76,SNR=169							
SONM	**Songino Array**	**28.48**	**308**	P		**P**	**16 41 17.8**	**-0.1**
	comp=E,0.7nm,0.5s,baz=113,slow=8.9,SNR=9.9							
SONM				PcP		**PcP**	**16 44 29.7**	**+0.5**
	comp=E,0.5nm,0.7s,baz=117,slow=2.3,SNR=4.6							
SONM				ScP		**ScP**	**16 48 06.7**	**-1.2**
	comp=E,1.9nm,0.9s,baz=133,slow=2.8,SNR=7.3							
BOD	**Bodaibo**	**29.26**	**331**	*e*P		**P**	**16 41 24.8**	**+0.3**
BOD				pmax	pmax			
	comp=Z,14nm,0.9s							
SEY	**Seymchan**	**29.57**	**11**	⇑*i*P		**P**	**16 41 28.9**	**+1.7**
SEY	**Seymchan**	**29.57**	**11**	P		**P**	**16 41 28.3**	**+1.1**
	comp=Z,4.0nm,0.7s,baz=204,slow=7.3,SNR=16							
LZH	**Lanzhou**	**29.57**	**284**	*e*P		**P**	**16 41 28.0**	**+0.2**
LZH				pP		pP	16 41 37.5	+1.0
LZH				sP		sP	16 41 41.6	+1.6
LZH				*e*PP		**PnPn**	**16 42 24.3**	**+1.4**
LZH				pmax	pmax			
	comp=Z,21nm,1.0s							
LZH				pmax	pmax			
	comp=Z,130nm,5.4s							
LZH				LR	LR			
	comp=Z,350nm,12.8s							
LZH				LR	LR			
	comp=Z,370nm,13.0s							
LZH				LR	LR			
	comp=Z,430nm,16.7s							
CD2	**Chengdu**	**30.71**	**274**	P		**P**	**16 41 35.4**	**-2.4**
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
TLY	**Talaya**	**31.34**	**315**	*e*P		**P**	**16 41 45.3**	**+2.2**
TLY				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,601nm,19.0s							
GTA	**Gaotai**	**32.42**	**291**	*e*P		**P**	**16 41 56.6**	**+3.8**
GTA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GTA				LR	LR			
	comp=Z,300nm,17.5s							
GTA				LR	LR			
	comp=Z,350nm,17.2s							
GTA				LR	LR			
	comp=Z,530nm,19.9s							
KMI	**Kunming**	**33.59**	**264**	P		**P**	**16 42 03.7**	**+0.4**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
KMI				pmax	pmax			
	comp=Z,140nm,5.1s							
BILL	**Bilibino**	**36.84**	**16**	*e*P		**P**	**16 42 30.9**	**+0.5**
	comp=Z,4.4nm,0.9s							
BILL	**Bilibino**	**36.84**	**16**	⇑*i*P		**P**	**16 42 30.5**	**+0.1**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**39.86**	**257**	P		**P**	**16 42 54.5**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=45,slow=8.4,SNR=4.0							
DGZ	**Jazzator, Alta**	**41.13**	**308**	*c iP*		**P**	**16 43 07.9**	**+1.1**
DGZ				pmax	pmax			
	comp=Z,4.0nm,0.6s							
WMQ	**Urumqi**	**41.15**	**299**	*e*P		**P**	**16 43 08.3**	**+1.4**
ZAA0	**Zalesovo Array**	**42.96**	**315**	*e*P		**P**	**16 43 19.9**	**-1.5**
	comp=Z,6.3nm,0.8s							
ZALV	**Zalesovo Beam**	**42.96**	**315**	*e*P		**P**	**16 43 20.0**	**-1.4**
ZALV				PcP		**PcP**	**16 45 10.7**	**-0.8**
ZALV	**Zalesovo Beam**	**42.96**	**315**	P		**P**	**16 43 21.4**	**+0.1**
	comp=Z,3.4nm,0.5s,baz=98,slow=6.8,SNR=18							
ZALV				PcP		**PcP**	**16 45 10.7**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=118,slow=3.6,SNR=4.5							
ZALV				ScP		**ScP**	**16 48 59.2**	**-1.0**
	comp=Z,2.2nm,1.0s,baz=94,slow=2.2,SNR=6.4							
NVS	**Novosibirsk**	**43.94**	**316**	*i* P		**P**	**16 43 29.5**	**+0.2**
NVS				pmax	pmax			
	comp=Z,13nm,0.9s							
NVS				pmax	pmax			
	comp=N,3.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,6.0nm,0.9s							
ANM	**Nome**	**44.38**	**30**	*e*P		**P**	**16 43 34.9**	**+2.2**
	comp=E,5.2nm,1.0s							
ANM	**Nome**	**44.38**	**30**	*e*P		**P**	**16 43 34.9**	**+2.2**
ANM				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MK01	**Makanchi Array**	**44.67**	**304**	*e*P		**P**	**16 43 34.8**	**-0.6**
MK31	**Makanchi Array**	**44.67**	**304**	*e*P		**P**	**16 43 35.2**	**-0.2**
MK31	**Makanchi Array**	**44.67**	**304**	*e*P		**P**	**16 43 35.2**	**-0.2**
MKAR	**Makanchi Array**	**44.67**	**304**	P		**P**	**16 43 35.2**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=85,slow=9.2,SNR=34							
MAKZ	**Makanchi**	**44.89**	**304**	*e*P		**P**	**16 43 36.8**	**-0.2**
	comp=Z,3.7nm,0.6s							
MAKZ	**Makanchi**	**44.89**	**304**	*e*P		**P**	**16 43 36.8**	**-0.2**
MAKZ				pmax	pmax			
	comp=Z,4.0nm,0.6s							
NRIK	**Noril'sk**	**45.23**	**337**	P		**P**	**16 43 40.4**	**+1.0**
	comp=Z,7.2nm,0.7s,baz=106,slow=9.6,SNR=7.0							
RDOG	**Red Dog Mine**	**46.32**	**26**	*e*P		**P**	**16 43 49.9**	**+1.8**
	comp=Z,25nm,1.8s							
KURK	**Kurchatov**	**46.77**	**310**	*e*P		**P**	**16 43 51.5**	**-0.4**
	comp=Z,10nm,0.9s							
KURK	**Kurchatov**	**46.77**	**310**	*ce*P		**P**	**16 43 51.4**	**-0.4**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.6s	

ARU					pmax	pmax		
	comp=Z,11nm,1.5s							
AS01	**Alice Springs**	**58.05**	**187**	*eP*	**P**		**16 45 14.3**	**-1.4**
AS31	**Alice Springs**	**58.05**	**187**	*eP*	**P**		**16 45 14.7**	**-1.0**
	comp=Z,2.2nm,0.7s							
ASAR	**Alice Springs**	**58.06**	**187**	P	**P**		**16 45 14.7**	**-1.0**
	comp=Z,6.6nm,0.8s,baz=358,slow=5.4,SNR=59							
ABKAR	**Akbulak array**	**58.85**	**311**	*eP*	**P**		**16 45 20.7**	**-0.3**
GEYT	**Ailbeck**	**64.20**	**300**	P	**P**		**16 45 57.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=70,slow=12,SNR=2.3							
TMCR	**Tamitsa**	**64.55**	**332**	*eP*	**P**		**16 45 59.5**	**+0.4**
TMCR					pmax	pmax		
	comp=Z,36nm,1.4s							
RES	**Resolute Bay**	**65.40**	**14**	*eP*	**P**		**16 46 05.0**	**+0.5**
	comp=Z,9.8nm,1.0s							
RES	**Resolute Bay**	**65.40**	**14**	*eP*	**P**		**16 46 05.0**	**+0.5**
RES					pmax	pmax		
	comp=Z,10.0nm,1.0s							
KLMR	**Klimovskoe**	**65.42**	**328**	*eP*	**P**		**16 46 03.6**	**-1.2**
KLMR					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KLMR	**Klimovskoe**	**65.42**	**328**	*eP*	**P**		**16 46 03.6**	**-1.2**
KLMR				AMP			16 46 05.6	
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**65.95**	**179**	*eP*	**P**		**16 46 08.5**	**0.0**
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**65.95**	**179**	P	**P**		**16 46 08.6**	**+0.1**
	comp=Z,12nm,0.8s,baz=345,slow=7.3,SNR=14							
ARCES	**ARCESS Array B**	**66.08**	**340**	P	**P**		**16 46 09.1**	**+0.1**
	comp=Z,4.1nm,0.6s,baz=52,slow=6.7,SNR=19							
YKA	**Yellowknife Ar**	**66.60**	**29**	P	**P**		**16 46 13.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=301,slow=6.2,SNR=25							
YKB5	**Yellowknife Ar**	**66.60**	**29**	*eP*	**P**		**16 46 12.2**	**-0.2**
DAG	**Danmarks Havn**	**68.29**	**355**	*i* P	**P**		**16 46 23.5**	**+0.6**
DAG				*i*			16 47 30.8	
DAG	**Danmarks Havn**	**68.29**	**355**	*i* P	**P**		**16 46 23.5**	**+0.6**
FIA1	**FINESS Array S**	**70.64**	**332**	*eP*	**P**		**16 46 37.6**	**-0.1**
FINES	**FINESS Array B**	**70.65**	**332**	P	**P**		**16 46 37.9**	**+0.2**
	comp=Z,8.0nm,0.7s,baz=72,slow=6.2,SNR=20							
KBZ	**Khabaz**	**71.82**	**311**	P	**P**		**16 46 45.8**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=63,slow=6.8,SNR=4.5							
KIV	**Kislovodsk**	**71.83**	**311**	*eP*	**P**		**16 46 44.1**	**-1.2**
KIV					pmax	pmax		
	comp=Z,13nm,1.1s							
SUMG	**Summit**	**73.30**	**360**	*i* P	**P**		**16 46 54.9**	**+1.0**
	comp=Z,18nm,0.8s							
SUMG	**Summit**	**73.30**	**360**	*i* P	**P**		**16 46 54.9**	**+1.0**
SUMG					pmax	pmax		
	comp=Z,18nm,0.8s							
SCO	**Scoresbysund**	**74.61**	**354**	*i* P	**P**		**16 47 02.6**	**+1.5**
	comp=Z,8.8nm,0.7s							
SCO	**Scoresbysund**	**74.61**	**354**	*i* P	**P**		**16 47 02.6**	**+1.5**
SCO					pmax	pmax		
	comp=Z,9.0nm,0.7s							
AKASG	**Malin Array Be**	**75.73**	**322**	P	**P**		**16 47 07.6**	**-0.3**
	comp=Z,3.3nm,0.5s,baz=49,slow=5.9,SNR=14							
NC204	**NORSAR Array S**	**76.16**	**337**	*eP*	**P**		**16 47 10.6**	**+0.4**
NB2	**NORSAR Subarra**	**76.19**	**337**	P	**P**		**16 47 10.2**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**76.19**	**337**	P	**P**		**16 47 10.6**	**+0.2**
	comp=Z,5.2nm,0.7s,baz=41,slow=5.7,SNR=19							
FFC	**Flin Flon**	**76.48**	**32**	*i* P	**P**		**16 47 13.7**	**+1.6**
NV01	**Mina Array Sit**	**77.41**	**52**	*eP*	**P**		**16 47 19.6**	**+1.7**
NVAR	**Mina Array Bea**	**77.41**	**52**	P	**P**		**16 47 18.8**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=302,slow=5.2,SNR=13							
BRTR	**Keskin Array B**	**79.80**	**311**	P	**P**		**16 47 31.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=140,slow=4.0,SNR=6.7							
PDAR	**Pinedale Array**	**80.26**	**44**	*eP*	**P**		**16 47 33.6**	**+0.1**
PDAR	**Pinedale Array**	**80.26**	**44**	P	**P**		**16 47 35.5**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=265,slow=2.1,SNR=4.9							
DPC	**Dobruska-Polom**	**82.11**	**327**	*eP*	**P**		**16 47 44.6**	**+1.6**
DPC	**Dobruska-Polom**	**82.11**	**327**	*eP*	**P**		**16 47 44.6**	**+1.6**
VYHS	**Vyhne**	**82.28**	**325**	*eP*	**P**		**16 47 44.0**	**+0.2**
VYHS					pmax	pmax		
	comp=Z,2.0nm,1.1s							
VYHS	**Vyhne**	**82.28**	**325**	*eP*	**P**		**16 47 44.0**	**+0.2**
CLL	**Collm**	**82.84**	**330**	*eP*	**P**		**16 47 46.0**	**-0.7**
CLL				*i* pP		**sP**	**16 48 00.0**	**+0.7**
CLL	**Collm**	**82.84**	**330**	*eP*	**P**		**16 47 46.0**	**-0.7**
CLL				*i*			16 48 00.0	
CONA	**Conrad Observa**	**84.08**	**326**	*i* PcP	**P**		**16 47 54.4**	**+1.2**
	comp=Z,6.1nm,1.2s							
KHC	**Kasperske Hory**	**84.22**	**328**	*eP*	**P**		**16 47 54.0**	**+0.1**
KHC	**Kasperske Hory**	**84.22**	**328**	*eP*	**P**		**16 47 54.3**	**+0.4**
KHC	**Kasperske Hory**	**84.22**	**328**	*eP*	**P**		**16 47 54.3**	**+0.4**
GERES	**GERESS Array B**	**84.38**	**328**	P	**P**		**16 47 54.9**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=24,slow=4.7,SNR=12							
ARSA	**Arzberg**	**84.73**	**326**	*i* PcP	**P**		**16 47 57.1**	**+0.7**
	comp=Z,4.9nm,1.4s							
MOA	**Molln**	**84.86**	**327**	*eP*	**P**		**16 47 57.2**	**+0.1**
	comp=Z,4.9nm,1.3s							
SOKA	**Soboth**	**85.38**	**326**	*i* PcP	**P**		**16 48 00.1**	**+0.3**
	comp=Z,4.6nm,0.8s							
SCHQ	**Schefferville**	**88.14**	**15**	P	**P**		**16 48 14.0**	**+1.0**
SCHQ	**Schefferville**	**88.14**	**15**	P	**P**		**16 48 14.0**	**+1.0**
	comp=Z,4.5nm,0.7s,baz=336,slow=5.2,SNR=4.4							
ATD	**Arta Tunnel**	**89.48**	**284**	LR	LR		17 35 02.9	
	comp=Z,40nm,18.7s,baz=4.0,slow=40							
TXAR	**Lajitas Array**	**92.56**	**52**	P	**P**		**16 48 35.5**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=298,slow=2.9,SNR=12							
TORD	**Torodi Ar. Bea**	**118.39**	**313**	PKP	**PKPdf**		**16 54 09.4**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=359,slow=3.6,SNR=2.9							
LPAZ	**La Paz**	**148.89**	**62**	PKPbc	**PKiKP**		**16 55 13.8**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=238,slow=4.7,SNR=6.0							

*IDC **01** 16:39:43.3±0.7,30.70N×142.02E,h0km,mb3.8/14, mb1 4.0/18,mb1mx3.9/36,mbtmp3.8/18,ML3.5/4,Error ellipse: s-maj=21.4km s-min=13.5km az=81.0*
*ISCJB **01** 16:39:44.8±0.5,30.68N±0.05×141.9E±0.1,h23km, mb3.8/13,Error ellipse: s-maj=16.0km s-min=5.5km az=163.3*

ISC 01 16:39:46.5±0.6,30.69N±0.06×142.1E±0.1,h23km,n20, σ0s95/23,mb3.8/13,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**3.58**	**178**	Pn		**Pn**	**16 40 40.4**	**-0.3**
	4.3nm,0.3s,baz=163,slow=20,SNR=6.2							
JCJ				Sn		**Sn**	**16 41 20.5**	**-1.7**
	19nm,0.3s,baz=307,slow=20,SNR=4.3							
MJAR	**Matsushiro Arr**	**6.67**	**332**	Pn		**Pn**	**16 41 23.1**	**0.0**
	0.7nm,0.3s,baz=160,slow=11,SNR=41							
MJAR				Sn		**Sn**	**16 42 37.9**	**-0.4**
	0.1nm,0.3s,baz=234,slow=46,SNR=2.7							
MAT	**Matsushiro**	**6.67**	**332**	P		**Pn**	**16 41 23.5**	**+0.4**
MAT				S		**Sn**	**16 42 38.3**	**0.0**
ASAJ	**Asahikawa**	**13.41**	**2**	Pn		**Pn**	**16 42 52.6**	**-2.8**
	0.5nm,0.3s,baz=180,slow=14,SNR=5.9							
KSRS	**Korea Array**	**13.52**	**304**	Pn		**Pn**	**16 42 57.3**	**+0.4**
	0.2nm,0.3s,baz=101,slow=15,SNR=3.1							
KLR	**Kul'dur**	**20.10**	**340**	P		**P**	**16 44 18.4**	**-0.1**
	2.9nm,0.6s,baz=178,slow=6.9,SNR=7.6							
MA2	**Magadan**	**29.48**	**9**	P		**P**	**16 45 48.3**	**-0.3**
	baz=176,slow=14							
SONM	**Songino Array**	**32.14**	**312**	P		**P**	**16 46 12.8**	**+0.5**
	1.5nm,0.8s,baz=102,slow=6.4,SNR=6.8							
CMAR	**Chiang Mai Arr**	**40.83**	**263**	P		**P**	**16 47 25.1**	**-1.5**
	0.4nm,0.8s,baz=56,slow=7.2,SNR=3.0							
ZALV	**Zalesovo Beam**	**46.76**	**317**	P		**P**	**16 48 14.5**	**+0.7**
	0.5nm,0.6s,baz=94,slow=6.2,SNR=3.4							
MKAR	**Makanchi Array**	**48.17**	**307**	P		**P**	**16 48 25.2**	**+0.2**
	1.4nm,0.7s,baz=91,slow=9.3,SNR=12							
CTA	**Charters Tower**	**50.64**	**175**	P		**P**	**16 48 45.0**	**+1.0**
	1.3nm,0.7s,baz=353,slow=17,SNR=2.2							
WRA	**Warramunga Arr**	**50.88**	**189**	P		**P**	**16 48 45.8**	**0.0**
	1.3nm,0.3s,baz=6.6,slow=7.6,SNR=18							
ASAR	**Alice Springs**	**54.61**	**189**	P		**P**	**16 49 13.8**	**+0.5**
	0.7nm,0.5s,baz=19,slow=12,SNR=6.8							
ILAR	**Eielson Array**	**54.64**	**30**	P		**P**	**16 49 13.0**	**-0.1**
	0.6nm,0.9s,baz=257,slow=5.4,SNR=4.7							
FINES	**FINESS Array B**	**74.69**	**333**	P		**P**	**16 51 24.2**	**+0.2**
	1.2nm,0.6s,baz=64,slow=6.6,SNR=5.8							
NVAR	**Mina Array Bea**	**78.40**	**52**	P		**P**	**16 51 46.6**	**+0.9**
	0.3nm,0.4s,baz=331,slow=3.2,SNR=2.5							
AKASG	**Malin Array Be**	**79.67**	**323**	P		**P**	**16 51 52.2**	**+0.1**
	0.2nm,0.3s,baz=48,slow=6.4,SNR=4.8							
BRTR	**Keskin Array B**	**83.50**	**313**	P		**P**	**16 52 13.5**	**+0.7**
	0.4nm,0.7s,baz=66,slow=3.9,SNR=2.9							
TXAR	**Lajitas Array**	**93.54**	**53**	P		**P**	**16 53 02.0**	**+1.0**
	0.3nm,0.8s,baz=320,slow=2.4,SNR=3.2							

KRSC 01 16:41:59.3±10.0,50.77N×157.78E,h27km±10km,ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.06**	**10**	*eP*		Pb	16 42 18.9	0.0
KDTR				*eS*		Sb	16 42 33.4	+1.1
SKR	**Severo-Kuril's**	**1.06**	**266**	*eP*		Pn	16 42 18.5	+0.2
SKR				*eS*		Sb	16 42 33.0	+0.7
ALID	**Alaid**	**1.42**	**275**	*eP*		Pb	16 42 25.0	-0.1
RUS	**Russkaya**	**1.73**	**15**	*eP*		Pn	16 42 28.3	+0.8
RUS				*eS*		Sn	16 42 50.0	+1.3
MTVR	**Mutnovka**	**1.73**	**8**	*eP*		Pn	16 42 28.5	+0.7
MTVR				*eS*		Sn	16 42 50.2	+1.1
KRMR	**Karymshinskiy**	**2.08**	**6**	*eP*		Pb	16 42 35.3	-0.9
KRMR				*eS*		Sb	16 43 02.2	+0.7
APC	**Apacha**	**2.19**	**350**	*eP*		Pb	16 42 36.1	-2.1
PET	**Petropavlovsk**	**2.32**	**13**	*eP*		Pn	16 42 37.2	+1.5
DALK	**Dalny**	**2.34**	**15**	*eP*		Pn	16 42 37.6	+1.6
DALK				*eS*		Sn	16 43 05.7	+1.8
UGLR	**Uglovaya**	**2.53**	**14**	*eP*		Pb	16 42 41.3	-2.7
AVH	**Avacha**	**2.57**	**13**	*eP*		Pb	16 42 42.1	-2.6
SMAR	**Somma**	**2.58**	**14**	*eP*		Pb	16 42 42.4	-2.5
KOK	**Koryaka**	**2.58**	**12**	*eP*		Pb	16 42 42.8	-2.1
SDLR	**Sedlovina**	**2.60**	**15**	*eP*		Pn	16 42 41.1	+1.4
KRX	**Arik**	**2.65**	**11**	*eP*		Pb	16 42 44.0	-2.1
SPN	**Mys Shipunski**	**2.71**	**30**	*eP*		Pb	16 42 45.6	-1.5
GNL	**Ganaly**	**2.93**	**2**	*eP*		Pn	16 42 47.0	+2.8

IDC 01 16:42:02.4±1.3,9.00S×157.84E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.5/22,mbtmp3.5/4,ML3.9/1,Error ellipse: s-maj=48.3km s-min=26.0km az=177.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.13**	**102**	Pn		Pn	16 42 39.9	+0.7
	35nm,0.3s,baz=191,slow=13,SNR=13							
HNR				Sn		Sg	16 43 16.7	+5.8
	81nm,0.3s,baz=233,slow=22,SNR=6.5							
WRA	**Warramunga Arr**	**25.18**	**242**	P		P	16 47 29.2	-0.7
	0.7nm,0.7s,baz=67,slow=9.4,SNR=2.7							
CMAR	**Chiang Mai Arr**	**64.18**	**295**	P		P	16 52 40.4	+1.0
	0.1nm,0.3s,baz=120,slow=5.3,SNR=4.0							
ILAR	**Eielson Array**	**84.22**	**21**	P		P	16 54 34.5	-1.0
	0.4nm,0.9s,baz=247,slow=5.4,SNR=4.8							

*ISK **01** 16:48:16.2,37.18N×36.27E,h24km,ML1.8/7*
*DDA **01** 16:48:18.2,37.17N×36.27E,h7km±7km,ML2.7*

ISC 01 16:48:16.8±1.3,37.15N±0.05×36.25E±0.03,h8km±11km, n12,σ1s22/19,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEYT	**Ceyhan**	**0.42**	**251**	PG		**Pg**	**16 48 25.6**	**+0.6**
ANDN	**Andirin**	**0.44**	**10**	*i* P		**Pn**	**16 48 27.6**	**-1.8**
ANDN				*i* S		**Sb**	**16 48 33.1**	**-0.4**
KOZT	**Kozan**	**0.47**	**315**	PG		**Pb**	**16 48 26.9**	**-0.4**
KOZT				SG		**Sb**	**16 48 33.6**	**-0.8**
HCB	**Kahramanmara**	**0.56**	**70**	*i* P		**Pg**	**16 48 27.9**	**+0.3**
HCB				IAML_P				
	comp=Z,474nm,0.1s							
KMRS	**Kahramanmaras**	**0.63**	**55**	PG		**Pg**	**16 48 28.8**	**-0.2**
KMRS				SG		**Sg**	**16 48 37.3**	**+0.1**
KUZU	**Kuzuini**	**0.76**	**119**	*i* P		**Pb**	**16 48 32.3**	**0.0**
KUZU				*i* S		**Sn**	**16 48 46.4**	**+0.9**
GAZ	**Gaziantep**	**0.77**	**88**	PG		**Pg**	**16 48 31.8**	**+0.2**
GAZ				SG		**Sb**	**16 48 42.9**	**-0.2**
SAIM	**ADANA**	**0.84**	**351**	*i* P		**Pn**	**16 48 38.3**	**+3.4**
SAIM				*i* S		**Sn**	**16 48 47.6**	**+0.2**
SAIM				IAML_P				
	comp=Z,768nm,0.1s							
KRTS	**Karatas**	**0.90**	**231**	PG		**Pb**	**16 48 33.9**	**-0.8**
KARA	**Karaisali**	**0.96**	**277**	PG		**Pb**	**16 48 34.4**	**-1.2**
GZT	**Gaziantep**	**1.07**	**78**	*i* P		**Pg**	**16 48 38.2**	**+0.8**
GZT				*i* S		**Sn**	**16 48 54.4**	**+1.1**
GZT				IAML_P				
	comp=Z,822nm,0.1s							
URFA	**Urfa**	**2.07**	**81**	PN		**Pn**	**16 48 50.7**	**-1.2**

*IDC **01** 17:00:41.6±0.6,5.18S×152.57E,h0km,mb4.2/16, mb1 4.4/17,mb1mx4.3/30,mbtmp4.2/17,ML2.8/1,MS3.8/1, Ms1 3.8/1,ms1mx3.1/41,Error ellipse: s-maj=21.1km s-min=14.4km az=102.0*
*ISCJB **01** 17:00:46.1±0.2,5.22S±0.05×152.59E±0.05,h40km, mb4.8/78,MS3.6/1,Error ellipse: s-maj=7.7km s-min=5.6km az=44.2*
*NEIC **01** 17:00:48.9±0.5,5.23S×152.55E,h53km±4km,mb4.9/64, Error ellipse: s-maj=4.8km s-min=3.4km az=123.0*

ISC 01 17:00:47.6±0.4,5.26S±0.06×152.55E±0.08,h40km,n133, σ1s02/133,mb4.8/82,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.13**	**340**	*e*Pn		**Pn**	**17 01 07.9**	**+0.9**
RABL				*e*Sn		**Sn**	**17 01 25.3**	**+3.9**
MANU	**Manus Island**	**6.08**	**302**	*e*Pn		**Pn**	**17 02 16.5**	**+1.4**
HNR	**Honiara**	**8.42**	**120**	*e*Pn		**Pn**	**17 02 48.9**	**+1.7**
PATS	**Pohnpei**	**13.32**	**26**	*e*Pn		**Pn**	**17 03 54.4**	**+0.1**
CTA	**Charters Tower**	**15.96**	**202**	Pn		**Pn**	**17 04 30.2**	**+0.8**
	0.0nm,0.3s,baz=38,slow=19,SNR=3.4							
CTAO	**Charters Tower**	**15.96**	**202**	*e*Pn		**Pn**	**17 04 30.9**	**+1.5**
	23nm,1.4s							
DZM	**Mont Dzumac**	**21.45**	**142**	P		**P**	**17 05 34.0**	**+1.3**
	7.2nm,0.8s,baz=344,slow=19,SNR=5.6							
DZM				LR		LR	17 12 25.4	
	comp=Z,276nm,20.4s,baz=175,slow=33							
MTN	**Manton Dam**	**22.44**	**249**	*e*P		**P**	**17 05 44.6**	**+1.3**
	98nm,1.8s							
SARN	**Sarigan**	**22.83**	**343**	*e*P		P	17 05 39.0	-8.4
	74nm,1.1s							
WRAB	**Tennant Creek**	**22.94**	**229**	*e*P		**P**	**17 05 44.8**	**-3.8**
	15nm,1.0s							
WB2	**Warramunga Arr**	**22.94**	**229**	*e*P		**P**	**17 05 48.6**	**-0.1**
WR1	**Warramunga Arr**	**22.95**	**229**	*e*P		**P**	**17 05 48.8**	**+0.1**
	22nm,1.1s							
WRA	**Warramunga Arr**	**22.95**	**229**	P		**P**	**17 05 48.8**	**+0.1**
	3.9nm,0.9s,baz=51,slow=10,SNR=21							
AS01	**Alice Springs**	**25.61**	**223**	*e*P		**P**	**17 06 15.3**	**+1.8**
AS31	**Alice Springs**	**25.64**	**223**	*e*P		**P**	**17 06 13.8**	**0.0**
	1.9nm,0.6s							
ASAR	**Alice Springs**	**25.64**	**223**	P		**P**	**17 06 14.2**	**+0.4**
	1.1nm,0.6s,baz=56,slow=9.3,SNR=19							
STKA	**Stephens Creek**	**28.40**	**200**	*e*P		**P**	**17 06 37.9**	**-0.5**
	9.8nm,1.9s							
STKA	**Stephens Creek**	**28.40**	**200**	P		**P**	**17 06 37.9**	**-0.5**
	2.3nm,0.8s,baz=343,slow=17,SNR=2.5							
FITZ	**Fitzroy Crossi**	**29.22**	**242**	*e*P		**P**	**17 06 45.3**	**-0.5**
	25nm,1.4s							
FITZ	**Fitzroy Crossi**	**29.22**	**242**	P		**P**	**17 06 45.0**	**-0.9**
	2.7nm,0.5s,baz=52,slow=7.9,SNR=12							
MBWA	**Marble Bar**	**35.52**	**241**	*e*P		**P**	**17 07 40.7**	**-0.4**
	66nm,1.8s							
JNU	**Nakatsue**	**43.36**	**333**	*e*P		**P**	**17 08 44.5**	**-1.7**
	110nm,1.6s							
JNU	**Nakatsue**	**43.36**	**333**	P		**P**	**17 08 45.0**	**-1.2**
	9.8nm,0.9s,baz=41,slow=20,SNR=3.4							
CISI	**Cisompet, Garu**	**44.50**	**265**	*e*P		**P**	**17 08 54.5**	**-1.2**
	51nm,1.0s							
XAN	**Xi'an**	**56.78**	**317**	P		**P**	**17 10 24.2**	**-3.8**
XAN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
XAN				pmax	pmax			
	comp=Z,160nm,6.0s							
XAN	**Xi'an**	**56.78**	**317**	*e*P		**P**	**17 10 27.7**	**-0.3**
	comp=Z,6.5nm,0.6s							
CM01	**Chiang Mai Arr**	**57.82**	**295**	*e*P		**P**	**17 10 35.8**	**+0.2**
CM31	**Chiang Mai Arr**	**57.85**	**296**	*e*P		**P**	**17 10 36.5**	**+0.7**
	comp=Z,6.8nm,1.0s							
CMAR	**Chiang Mai Arr**	**57.85**	**296**	P		**P**	**17 10 36.7**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=106,slow=5.4,SNR=22							
CHTO	**Chiang Mai**	**57.96**	**296**	*e*P		**P**	**17 10 36.0**	**-0.6**
	comp=Z,3.5nm,1.0s							
PEA0B	**Petropavlovsk-**	**58.31**	**4**	*e*P		**P**	**17 10 38.3**	**-0.1**
	comp=Z,66nm,1.5s							
PETK	**Petropavlovsk-**	**58.31**	**4**	*e*P		**P**	**17 10 38.2**	**-0.2**
PETK	**Petropavlovsk-**	**58.31**	**4**	P		**P**	**17 10 37.8**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=169,slow=7.9,SNR=21							
PEA1	**Petropavlovsk-**	**58.32**	**4**	*e*P		**P**	**17 10 37.8**	**-0.6**
MA2	**Magadan**	**64.65**	**359**	*e*P		**P**	**17 11 19.7**	**-1.3**
	comp=Z,3.4nm,0.8s							
GTA	**Gaotai**	**65.83**	**317**	*e*P		**P**	**17 11 29.7**	**+0.5**
GTA				pP		pP	17 11 42.1	+2.1
GTA				sP		pwP	17 11 48.2	+3.6
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
SONA0	**Songino Array**	**66.58**	**328**	*e*P		**P**	**17 11 34.1**	**+0.2**
SONM	**Songino Array**	**66.58**	**328**	P		**P**	**17 11 34.1**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=146,slow=5.1,SNR=5.7							
SONA1	**Songino Array**	**66.58**	**328**	*e*P		**P**	**17 11 34.1**	**+0.2**
LSA	**Lhasa**	**68.29**	**305**	*e*P		**P**	**17 11 45.2**	**-0.3**
	comp=Z,3.4nm,0.8s							
SPIA	**Saint Paul Isl**	**69.17**	**21**	*e*P		**P**	**17 11 49.1**	**-0.7**
	comp=Z,283nm,1.8s							
ODAN	**Odare**	**70.56**	**301**	*e*P		**P**	**17 11 59.7**	**+0.4**
RAMN	**Ramite**	**71.27**	**301**	*e*P		**P**	**17 12 03.8**	**+0.2**
GUN	**Gumba**	**72.15**	**301**	*e*P		**P**	**17 12 09.5**	**+0.5**
PKI	**Pulchoki**	**72.45**	**301**	*e*P		**P**	**17 12 10.8**	**-0.1**
PKIN	**Phulchoki**	**72.47**	**301**	*e*P		**P**	**17 12 10.8**	**0.0**
KKN	**Kakani**	**72.62**	**301**	*e*P		**P**	**17 12 12.0**	**+0.3**
DMN	**Daman**	**72.72**	**301**	*e*P		**P**	**17 12 12.8**	**+0.4**
	comp=Z,29nm,1.0s							
BILL	**Bilibino**	**73.77**	**5**	*e*P		**P**	**17 12 17.2**	**-0.2**
	comp=Z,12nm,1.2s							
GAMB	**Gambell**	**73.89**	**16**	*e*P		**P**	**17 12 18.2**	**+0.1**
	comp=Z,9.4nm,1.0s							
KOLN	**Koldanda**	**74.05**	**301**	*e*P		**P**	**17 12 20.2**	**+0.1**
	comp=Z,12nm,0.8s							
DANN	**Dangsing**	**74.07**	**301**	*e*P		**P**	**17 12 20.3**	**0.0**
	comp=Z,6.9nm,0.6s							
PYUN	**Piuthan**	**74.66**	**301**	*e*P		**P**	**17 12 23.3**	**-0.4**
	comp=Z,18nm,0.8s							
OHAK	**Old Harbor**	**76.07**	**27**	*e*P		**P**	**17 12 30.6**	**-0.3**
	comp=Z,87nm,1.5s							
ANM	**Nome**	**76.29**	**17**	*e*P		**P**	**17 12 32.3**	**+0.4**
	comp=Z,17nm,1.2s							
KDAK	**Kodiak Island**	**76.70**	**27**	*e*P		**P**	**17 12 34.8**	**+0.4**
	comp=Z,118nm,1.6s							
SVW2	**Sparrevohn**	**77.35**	**23**	*e*P		**P**	**17 12 38.6**	**+0.6**
	comp=Z,41nm,1.9s							
BRLK	**Bradley Lake**	**78.52**	**26**	*e*P		**P**	**17 12 44.4**	**-0.1**
	comp=Z,226nm,2.0s							
SUA	**Susitna One**	**79.48**	**24**	*e*P		**P**	**17 12 49.0**	**-0.9**
	comp=Z,10nm,0.9s							
RDOG	**Red Dog Mine**	**79.49**	**16**	*e*P		**P**	**17 12 50.6**	**+0.9**
	comp=Z,35nm,1.1s							
PPLA	**Purkeypile**	**79.69**	**22**	*e*P		**P**	**17 12 50.2**	**-0.8**
	comp=Z,42nm,1.7s							
RC01	**Rabbit Creek A**	**79.70**	**25**	*e*P		**P**	**17 12 50.8**	**-0.1**
	comp=Z,68nm,1.9s							
CAST	**Castle Rocks**	**80.03**	**22**	*e*P		**P**	**17 12 52.0**	**-0.7**
	comp=Z,7.1nm,0.8s							
PMR	**Palmer**	**80.21**	**24**	*e*P		**P**	**17 12 52.6**	**-1.0**
	comp=Z,58nm,1.9s							
GHO	**Glory Hole Cre**	**80.39**	**24**	*e*P		**P**	**17 12 54.8**	**0.0**
	comp=Z,20nm,1.3s							
KNK	**Knik Glacier**	**80.40**	**25**	*e*P		**P**	**17 12 52.8**	**-1.9**
	comp=Z,57nm,1.7s							
MK01	**Makanchi Array**	**80.50**	**319**	*e*P		**P**	**17 12 55.6**	**0.0**
MK31	**Makanchi Array**	**80.51**	**319**	*e*P		**P**	**17 12 55.0

TORD	**Torodi Ar. Bea**	**150.21**	**287**	PKPbc	**PKPbc**	**17**	**20**	**35.0 -0.5**
	comp=Z,1.8nm,0.8s,baz=26,slow=2.8,SNR=9.6							
TOA1	**Torodi Ar. Sit**	**150.21**	**287**	*e*PKPbc	**PKPbc**	**17**	**20**	**35.0 -0.5**
BDFB	**Brasilia**	**150.91**	**136**	PKPbc	**PKPbc**	**17**	**20**	**36.6 -0.6**
	comp=Z,1.3nm,0.3s,baz=240,slow=4.1,SNR=3.1							
DBIC	**Dimbokro**	**157.49**	**275**	*e*PKPab	**PKPab**	**17**	**21**	**11.3 -1.2**
DBIC	**Dimbokro**	**157.49**	**275**	PKPab	**PKPab**	**17**	**21**	**12.0 -0.5**
	comp=Z,2.4nm,0.7s,baz=60,slow=4.2,SNR=3.9							

*ISCJB **01** 17:13:19.2±0.6,5°.3N±0°.1×123°.5E±0°.2, h600km, mb3.6/8, Error ellipse: s-maj=24.5km s-min=12.0km az=156.0*
*IDC **01** 17:13:20.8±6.5,5°.18N×123°.27E, h590km±91km, mb3.0/8, mb1 3.1/8, mb1mx2.8/54, mbtmp4.0/8, Error ellipse: s-maj=93.1km s-min=13.7km az=55.0*
*MAN **01** 17:14:07.8, 6°.72N×124°.54E, h140km, mb3.0, ML1.6, MS0.8*
ISC 01 17:13:20.6±0.8, 5°.4N±0°.1×123°.6E±0°.2, h600km, n11, σ0s86/12, mb3.6/8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.21**	**71**	*e*P		**P**	**17 14 35.4**	**-0.4**
MATI	**Mati**	**3.05**	**59**	*e*P		**P**	**17 14 39.7**	**-0.4**
CGP	**Cagayan de Oro**	**3.23**	**19**	*i*P		**P**	**17 14 39.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**23.42**	**175**	P		**P**	**17 17 43.7**	**-1.3**
	3.5nm,0.9s,baz=347,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**27.29**	**158**	P		**P**	**17 18 18.8**	**-0.3**
	4.1nm,0.4s,baz=333,slow=10.0,SNR=118							
CMAR	**Chiang Mai Arr**	**27.36**	**300**	P		**P**	**17 18 18.9**	**-0.8**
	0.7nm,0.8s,baz=110,slow=7.8,SNR=6.0							
ASAR	**Alice Springs**	**30.57**	**161**	P		**P**	**17 18 47.6**	**+0.2**
	1.6nm,0.3s,baz=340,slow=7.2,SNR=111							
STKA	**Stephens Creek**	**40.83**	**156**	P		**P**	**17 20 12.3**	**+0.6**
	2.1nm,0.6s,baz=342,slow=7.9,SNR=9.3							
MKAR	**Makanchi Array**	**54.44**	**326**	P		**P**	**17 21 53.7**	**+0.9**
	0.7nm,0.4s,baz=122,slow=7.9,SNR=23							
MKAR				PcP		**PcP**	**17 22 47.3**	**+0.4**
	0.4nm,0.7s,baz=140,slow=4.3,SNR=4.8							
KURBB	**Kurchatov Arra**	**58.69**	**328**	P		**P**	**17 22 22.4**	**+0.7**
	1.1nm,0.6s,baz=128,slow=6.1,SNR=15							
BVAR	**Borovoye Array**	**64.25**	**328**	P		**P**	**17 22 58.7**	**+0.8**
	0.4nm,0.6s,baz=110,slow=7.8,SNR=3.4							

*MOS **01** 17:13:56.6±1.0,21°.24S×178°.76W, h514km, mb4.8/32, Error ellipse: s-maj=10.0km s-min=8.5km az=50.6*
*IDC **01** 17:13:57.4±0.6,21°.34S×178°.71W, h514km±5km, mb4.2/31, mb1 4.3/34, mb1mx4.2/44, mbtmp5.0/34, Error ellipse: s-maj=8.8km s-min=8.1km az=130.0*
*NEIC **01** 17:13:57.3±0.1,21°.36S×178°.72W, mb4.9/219, Error ellipse: s-maj=4.6km s-min=2.9km az=139.0*
*ISCJB **01** 17:13:57.3±0.4,21°.34S±0°.02×178°.72W±0°.03, h523km±5km, mb4.8/258, Error ellipse: s-maj=4.4km s-min=3.3km az=42.5*
*BJI **01** 17:13:57.6,21°.12S×178°.20W, h539km, mb4.9/40, mB5.3/18*
*BGR **01** 17:13:59.0±0.0,21°.34S×177°.27W, h536km*
ISC 01 17:13:58.1±0.3, 21°.38S±0°.04×178°.63W±0°.04, h529km±3km, h530km; pP-P, n893, σ1s14/1058, mb4.8/258, 55C-55D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.79**	**319**	*e*P		**P**	**17 15 24.6**	**-0.5**
MSVF				*e*S		**S**	**17 16 35.1**	**-0.9**
MSVF	**Nonsavu**	**4.79**	**319**	*e*P		**P**	**17 15 24.6**	**-0.5**
MSVF				*e*S		**S**	**17 16 35.1**	**-0.9**
GLKZ	**Green Lake**	**7.88**	**175**	P		**P**	**17 15 52.5**	**-1.4**
GLKZ				S		**S**	**17 17 25.3**	**-3.6**
NIUE	**Niue**	**8.48**	**76**	*e*P		**P**	**17 15 58.7**	**-1.6**
NIUE				*e*S		**S**	**17 17 38.5**	**-1.9**
MARNC	**Mare, Loyalty**	**12.43**	**267**	*e*P		**P**	**17 16 40.8**	**-0.3**
PINNC	**Pines Island,**	**12.98**	**262**	*e*P		**P**	**17 16 45.7**	**-1.1**
ONTNC	**Ouen Toro**	**13.89**	**263**	*e*P		**P**	**17 16 56.3**	**-0.1**
DZM	**Mont Dzumac**	**13.89**	**264**	*e*P		**P**	**17 16 56.3**	**-0.2**
	404nm,1.1s							
DZM	**Mont Dzumac**	**13.89**	**264**	P		**P**	**17 16 56.0**	**-0.6**
	5.5nm,0.3s,baz=86,slow=15,SNR=59							
DZM				S		**S**	**17 19 24.0**	**+0.5**
	0.2nm,0.3s,baz=55,slow=16,SNR=3.4							
OUZ	**Omahuta**	**15.39**	**205**	*e*P		**P**	**17 17 13.2**	**+1.4**
	143nm,1.0s							
OUZ	**Omahuta**	**15.39**	**205**	P		**P**	**17 17 13.0**	**+1.2**
GRZ	**Great Barrier**	**15.70**	**198**	P		**P**	**17 17 15.6**	**+0.7**
WCZ	**Waipu Caves**	**15.76**	**201**	P		**P**	**17 17 17.4**	**+1.8**
KUZ	**Kuaotunu**	**16.09**	**197**	P		**P**	**17 17 18.9**	**0.0**
WIAZ	**Waiheke Island**	**16.29**	**198**	P		**P**	**17 17 22.0**	**+1.0**
MXZ	**Matakaoa Point**	**16.35**	**189**	*e*P		**P**	**17 17 22.3**	**+0.8**
	73nm,1.0s							
MXZ	**Matakaoa Point**	**16.35**	**189**	P		**P**	**17 17 21.3**	**-0.1**
ETAZ	**East Tamaki Re**	**16.50**	**198**	P		**P**	**17 17 24.1**	**+1.1**
MKAZ	**Moumakai**	**16.58**	**198**	P		**P**	**17 17 25.3**	**+1.6**
WMGZ	**Waiomatatini S**	**16.59**	**188**	P		**P**	**17 17 25.4**	**+1.7**
WTAZ	**Waiatarua**	**16.59**	**199**	P		**P**	**17 17 25.2**	**+1.3**
HAZ	**Te Kaha**	**16.62**	**190**	P		**P**	**17 17 23.7**	**-0.4**
RUGZ	**Raukumara Rang**	**16.84**	**190**	P		**P**	**17 17 26.1**	**-0.2**
PUZ	**Puketiti**	**16.86**	**189**	P		**P**	**17 17 27.2**	**+0.9**
TGRZ	**Tauranga**	**16.89**	**194**	P		**P**	**17 17 27.9**	**+1.3**
OPRZ	**Ohinepanea**	**16.93**	**193**	P		**P**	**17 17 27.8**	**+0.8**
MARZ	**Manawahe**	**17.04**	**193**	P		**P**	**17 17 29.2**	**+1.1**
KMRZ	**Kaimai**	**17.07**	**195**	P		**P**	**17 17 30.6**	**+2.2**
KARZ	**Kaharoa**	**17.17**	**194**	P		**P**	**17 17 31.4**	**+2.2**
URZ	**Urewera**	**17.22**	**191**	*e*P		**P**	**17 17 27.6**	**-2.2**
	105nm,0.6s							
URZ				*e*S		**S**	**17 20 19.0**	**-3.4**
URZ	**Urewera**	**17.22**	**191**	P		**P**	**17 17 28.0**	**-1.7**
	9.0nm,0.3s,baz=5.1,slow=2.7,SNR=60							
URZ				S		**S**	**17 20 21.6**	**-0.8**
	1.8nm,0.3s,baz=216,slow=19,SNR=7.4							
TARZ	**Mount Tarawera**	**17.32**	**193**	P		**P**	**17 17 31.8**	**+1.1**
MUGZ	**Murupara**	**17.50**	**192**	P		**P**	**17 17 31.9**	**-0.4**
RAR	**Rarotonga**	**17.57**	**93**	*e*P		**P**	**17 17 33.5**	**+0.3**
	80nm,1.1s							
RAR	**Rarotonga**	**17.57**	**93**	*e*P		**P**	**17 17 33.5**	**+0.3**
RAR				pmax	pmax			
	comp=Z,80nm,1.1s							
RAR	**Rarotonga**	**17.57**	**93**	P		**P**	**17 17 32.1**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=264,slow=6.9,SNR=6.5							
KUTZ	**Kaahu Road**	**17.71**	**194**	P		**P**	**17 17 36.2**	**+1.9**
PRGZ	**Paritu Road**	**17.75**	**189**	P		**P**	**17 17 38.8**	**+4.3**
PRGZ				S		S	17 20 47.2	+16
WHTZ	**Whakaora**	**17.85**	**194**	P		**P**	**17 17 36.5**	**+0.9**
WATZ	**Wairara**	**17.94**	**194**	P		**P**	**17 17 37.1**	**+0.7**
MHGZ	**Mahia Peninsul**	**17.97**	**189**	P		**P**	**17 17 36.9**	**+0.4**
MHGZ				S		S	17 20 55.4	+21
HIZ	**Hauiti**	**17.98**	**197**	*e*P		**P**	**17 17 38.5**	**+1.8**
	comp=Z,502nm,1.5s							
HIZ	**Hauiti**	**17.98**	**197**	P		**P**	**17 17 39.1**	**+2.4**
WHHZ	**Waihua**	**18.00**	**190**	P		**P**	**17 17 37.8**	**+0.9**
RITZ	**Rihia Road**	**18.17**	**194**	P		**P**	**17 17 38.5**	**+0.1**
KATZ	**Kakaramea**	**18.21**	**194**	P		**P**	**17 17 39.9**	**+1.0**
BKZ	**Black Stump Fm**	**18.22**	**192**	*e*P		**P**	**17 17 37.8**	**-1.2**
	comp=Z,94nm,0.6s							
KRVZ	**Karewarewa**	**18.33**	**194**	P		**P**	**17 17 39.8**	**-0.2**
TWVZ	**Taurewa**	**18.36**	**195**	P		**P**	**17 17 40.8**	**+0.5**
WTVZ	**West Tongariro**	**18.36**	**194**	P		**P**	**17 17 40.1**	**-0.2**
NGZ	**Ngauruhoe**	**18.42**	**194**	P		**P**	**17 17 41.1**	**+0.3**
MCHZ	**McNeill Hill**	**18.45**	**192**	P		**P**	**17 17 39.4**	**-1.6**
COVZ	**Chateau Observ**	**18.46**	**194**	P		**P**	**17 17 41.1**	**0.0**
KWHZ	**Kaweka Forest**	**18.48**	**192**	P		**P**	**17 17 39.3**	**-2.1**
TUVZ	**Tukino**	**18.50**	**194**	P		**P**	**17 17 41.5**	**0.0**
FWVZ	**Far West T-bar**	**18.51**	**194**	P		**P**	**17 17 41.7**	**0.0**
WHVZ	**Whangaehu Hut**	**18.52**	**194**	P		**P**	**17 17 41.7**	**-0.2**
TRVZ	**Turoa**	**18.55**	**194**	P		**P**	**17 17 42.0**	**-0.1**
VRZ	**Vera Road**	**18.58**	**196**	P		**P**	**17 17 44.7**	**+2.6**
PKVZ	**Pokaka**	**18.59**	**195**	P		**P**	**17 17 42.4**	**+0.1**
MOVZ	**Moawhango**	**18.61**	**194**	P		**P**	**17 17 41.5**	**-0.9**
BHHZ	**Black Hill Sta**	**18.62**	**193**	P		**P**	**17 17 40.5**	**-2.1**
MTVZ	**Mangateitei**	**18.65**	**194**	P		**P**	**17 17 43.6**	**+0.7**
MHEZ	**Mangahewa**	**18.65**	**197**	P		**P**	**17 17 47.9**	**+5.1**
KRHZ	**Kereru**	**18.70**	**192**	P		**P**	**17 17 41.0**	**-2.3**
KAHZ	**Kahuranaki**	**18.76**	**191**	P		**P**	**17 17 43.8**	**0.0**
PKE	**Pukeiti**	**18.86**	**198**	P		**P**	**17 17 48.9**	**+4.2**
KHEZ	**Kahui Hut**	**18.94**	**198**	P		**P**	**17 17 49.5**	**+4.0**
PREZ	**Palmer Road**	**18.95**	**197**	P		**P**	**17 17 49.3**	**+3.8**
LREZ	**Lake Rotokare**	**18.99**	**197**	P		**P**	**17 17 48.3**	**+2.5**
PXZ	**Pawanui**	**18.99**	**191**	P		**P**	**17 17 45.8**	**-0.1**
PNHZ	**Pukenui**	**19.00**	**192**	P		**P**	**17 17 45.1**	**-0.9**
NMEZ	**Namu Road**	**19.09**	**198**	P		**P**	**17 17 51.0**	**+4.3**
WPHZ	**Waipukurau**	**19.10**	**192**	P		**P**	**17 17 47.7**	**+0.8**
WAZ	**Wanganui**	**19.12**	**195**	P		**P**	**17 17 47.8**	**+0.7**
PRHZ	**Porangahau**	**19.26**	**191**	P		**P**	**17 17 48.7**	**+0.4**
DVHZ	**Dannevirke**	**19.38**	**192**	P		**P**	**17 17 49.2**	**-0.2**
OHWZ	**Ohakea**	**19.47**	**194**	P		**P**	**17 17 51.3**	**+1.2**
ANWZ	**Angora Road**	**19.48**	**191**	P		**P**	**17 17 51.0**	**+0.8**
POWZ	**Post Office Ro**	**19.55**	**193**	P		**P**	**17 17 51.7**	**+0.8**
PRWZ	**Pori Road**	**19.66**	**192**	P		**P**	**17 17 52.4**	**+0.5**
BFZ	**Birch Farm**	**19.73**	**192**	*e*P		**P**	**17 17 52.2**	**-0.4**
	comp=Z,68nm,0.6s							
BFZ	**Birch Farm**	**19.73**	**192**	P		**P**	**17 17 52.2**	**-0.4**
MRZ	**Mangatainoka R**	**19.85**	**193**	P		**P**	**17 17 52.0**	**-1.7**
TIWZ	**Tintock**	**19.89**	**192**	P		**P**	**17 17 54.0**	**-0.2**
CPWZ	**Castlepoint**	**19.96**	**192**	P		**P**	**17 17 56.4**	**+1.7**
OGWZ	**Otaki Gorge**	**20.08**	**194**	P		**P**	**17 17 55.4**	**-0.4**
HOWZ	**Holdsworth Sta**	**20.09**	**193**	P		**P**	**17 17 55.1**	**-0.8**
KIW	**Kapiti Island**	**20.18**	**194**	P		**P**	**17 17 56.3**	**-0.4**
TMWZ	**Te Maipa**	**20.21**	**192**	P		**P**	**17 17 57.4**	**+0.4**
MTW	**Mount Morrison**	**20.34**	**193**	P		**P**	**17 17 57.6**	**-0.5**
DUWZ	**D'Urville Isla**	**20.37**	**196**	P		**P**	**17 17 58.7**	**+0.2**
CAW	**Cannon Point**	**20.39**	**194**	P		**P**	**17 17 58.5**	**-0.1**
TRWZ	**Traveller**	**20.53**	**192**	P		**P**	**17 17 59.9**	**+0.1**
PAWZ	**Paruwai Farm**	**20.57**	**193**	P		**P**	**17 18 00.3**	**+0.1**
MSWZ	**Moikau Station**	**20.64**	**193**	P		**P**	**17 18 00.4**	**-0.4**
SNZO	**South Karori**	**20.66**	**194**	*e*P		**P**	**17 18 00.3**	**-0.7**
	comp=Z,166nm,1.3s							
TCW	**Tory Channel**	**20.67**	**195**	P		**P**	**17 18 02.0**	**+1.0**
BHW	**Baring Head**	**20.72**	**194**	P		**P**	**17 18 01.5**	**0.0**
PLWZ	**Palliser**	**20.79**	**193**	P		**P**	**17 18 02.4**	**+0.2**
QRZ	**Quartz Range**	**20.79**	**199**	P		**P**	**17 18 03.4**	**+1.2**
NNZ	**Nelson**	**20.91**	**197**	P		**P**	**17 18 03.8**	**+0.6**
THZ	**Tophouse**	**21.55**	**197**	*e*P		**P**	**17 18 08.4**	**-0.7**
	comp=Z,59nm,1.0s							
THZ				*e*S		**S**	**17 21 28.8**	**-3.1**
KHZ	**Kahutara**	**21.99**	**196**	*e*P		**P**	**17 18 12.3**	**-0.6**
	comp=Z,76nm,1.0s							
LTZ	**Lake Taylor**	**22.67**	**198**	*e*P		**P**	**17 18 18.0**	**-1.1**
	comp=Z,63nm,0.8s							
LTZ				*e*S		**S**	**17 21 45.2**	**-4.4**
OXZ	**Oxford**	**23.23**	**197**	*e*P		**P**	**17 18 22.5**	**-1.6**
	comp=Z,65nm,0.9s							
OXZ				*e*S		**S**	**17 21 53.7**	**-4.7**
CRLZ	**Canterbury Las**	**23.31**	**196**	*e*P		**P**	**17 18 22.7**	**-2.0**
	comp=Z,92nm,1.4s							
MQZ	**McQueen's Vall**	**23.42**	**196**	*e*P		**P**	**17 18 24.9**	**-0.9**
	comp=Z,143nm,1.8s							
HNR	**Honiara**	**23.79**	**297**	P		**P**	**17 18 27.6**	**-1.8**
	comp=Z,32nm,0.6s,baz=242,slow=4.1,SNR=4.1							
RPZ	**Rata Peaks**	**23.88**	**199**	P		**P**	**17 18 28.9**	**-0.9**
	comp=Z,8.7nm,0.4s,baz=342,slow=2.1,SNR=16							
RPZ				S		**S**	**17 22 07.9**	**-0.6**
	comp=Z,10nm,0.9s,baz=347,slow=19,SNR=3.0							
TARA	**Tarawa**	**24.05**	**339**	*e*P		**P**	**17 18 30.3**	**-1.5**
	comp=Z,76nm,0.8s							
FOZ	**Fox Glacier**	**24.10**	**201**	*e*P		**P**	**17 18 31.3**	**-0.5**
	comp=Z,60nm,0.9s							
LBZ	**Lake Benmore**	**24.75**	**199**	*e*P		**P**	**17 18 36.3**	**-1.2**
	comp=Z,100nm,1.9s							
ODZ	**Otahua Downs**	**25.21**	**198**	*e*P		**P**	**17 18 41.1**	**-0.5**
	comp=Z,104nm,1.8s							
WKZ	**Wanaka**	**25.52**	**201**	*e*P		**P**	**17 18 43.3**	**-1.1**
	comp=Z,93nm,1.5s							
MLZ	**Mavora Lakes**	**26.29**	**201**	*e*P		**P**	**17 18 51.7**	**+0.5**
	comp=Z,32nm,0.8s							
DCZ	**Deep Cove**	**26.71**	**203**	*e*P		**P**	**17 18 54.8**	**0.0**
	comp=Z,47nm,0.9s							
WHZ	**Wether Hill Ro**	**26.81**	**201**	*e*P		**P**	**17 18 56.2**	**+0.5**
	comp=Z,123nm,0.9s							
PAE	**Paea**	**27.61**	**87**	*e*P		**P**	**17 19 03.2**	**+0.1**
	comp=Z,4.1nm,0.8s							
PPT	**Papeete**	**27.63**	**87**	*e*P		**P**	**17 19 03.7**	**+0.4**
PPT	**Papeete**	**27.63**	**87**	*e*P		**P**	**17 19 03.7**	**+0.4**
PPT	**Papeete**	**27.63**	**87**	P		**P**	**17 19 03.9**	**+0.5**
	comp=Z,17nm,0.6s,baz=239,slow=19,SNR=3.3							
PPTF	**Pamatai, Papee**	**27.64**	**87**	*e*P		**P**	**17 19 03.5**	**0.0**
	comp=Z,424nm,2.0s							
TIAR	**Tiarei**	**27.85**	**87**	*e*P		**P**	**17 19 05.2**	**0.0**
	comp=Z,24nm,1.2s							
TVO	**Taravao**	**27.89**	**88**	*e*P		**P**	**17 19 05.7**	**+0.1**
	comp=Z,8.8nm,0.8s							
EIDS	**Eidsvold**	**28.06**	**256**	*e*P		**P**	**17 19 07.3**	**+0.3**
	comp=Z,40nm,1.8s							
ARMA	**Armidale**	**28.16**	**245**	*e*P		**P**	**17 19 09.4**	**+1.4**
	comp=Z,50nm,1.4s							
PMOR	**Pomariorio Ree**	**29.84**	**83**	*e*P		**P**	**17 19 21.6**	**-1.0**
	comp=Z,52nm,1.2s							
VAH	**Vaihoa**	**30.02**	**84**	*e*P		**P**	**17 19 22.9**	**-1.2**
	comp=Z,54nm,1.2s							
CTA	**Charters Tower**	**32.83**	**266**	P		**P**	**17 19 48.4**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=112,slow=9.7,SNR=6.3							
CTAO	**Charters Tower**	**32.83**	**266**	*e*P		**P**	**17 19 48.2**	**+0.1**
	comp=Z,15nm,0.6s							
CTAO	**Charters Tower**	**32.83**	**266**	*e*P		**P**	**17 19 48.2**	**+0.1**
CTAO				pmax	pmax			
	comp=Z,15nm,0.6s							
TOO	**Toolangi**	**34.91**	**234**	*e*P		**P**	**17 20 06.5**	**+1.0**
	comp=Z,36nm,0.8s							
TOO	**Toolangi**	**34.91**	**234**	*e*P		**P**	**17 20 06.5**	**+1.0**
TOO				pmax	pmax			
	comp=Z,36nm,0.8s							
TAU	**Tasmania Unive**	**35.59**	**225**	*e*P		**P**	**17 20 12.2**	**+1.2**
	comp=Z,43nm,1.5s							
TAU	**Tasmania Unive**	**35.59**	**225**	*e*P		**P**	**17 20 12.2**	**+1.2**
TAU				pmax	pmax			
	comp=Z,43nm,1.5s							
PATS	**Pohnpei**	**36.03**	**319**	*e*P		**P**	**17 20 14.8**	**-0.2**
	comp=Z,487nm,1.5s							
STKA	**Stephens Creek**	**36.88**	**245**	*e*P		**P**	**17 20 21.7**	**-0.1**
	comp=Z,13nm,1.9s							
STKA				*e*S		**S**	**17 25 28.3**	**-0.5**
STKA	**Stephens Creek**	**36.88**	**245**	*e*P		**P**	**17 20 21.7**	**-0.1**
STKA				*e*S		**S**	**17 25 28.3**	**-0.5**
STKA				pmax	pmax			
	comp=Z,13nm,1.9s							
STKA	**Stephens Creek**	**36.88**	**245**	P		**P**	**17 20 22.1**	**+0.3**
	comp=Z,5.7nm,0.6s,baz=96,slow=9.7,SNR=13							
STKA				ScP		**S**	**17 25 28.3**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=246,slow=12,SNR=3.3							
COEN	**Coen**	**37.06**	**275**	*e*P		**P**	**17 20 23.4**	**-0.1**
	comp=Z,32nm,0.8s							
MANU	**Manus Island**	**38.28**	**296**	*e*P		**P**	**17 20 33.2**	**-0.2**
	comp=Z,152nm,1.5s							
BBOO	**Buckleboo**	**41.64**	**244**	*e*P		**P**	**17 21 00.2**	**+0.1**
	comp=Z,75nm,1.7s							
BBOO				*e*PcP		**PcP**	**17 22 40.7**	**-3.9**
AS01	**Alice Springs**	**43.71**	**258**	*e*P		**P**	**17 21 15.7**	**-0.9**
AS01				*e*PcP		**PcP**	**17 22 52.1**	**+0.1**
AS31	**Alice Springs**	**43.75**	**258**	*e*P		**P**	**17 21 16.6**	**-0.3**
	comp=Z,4.7nm,1.0s							
AS31				*e*PcP		**pP**	**17 22 51.9**	**0.0**
AS31				*e*ScP		**ScP**	**17 25 57.1**	**+3.7**
AS31				*e*S		**S**	**17 27 07.1**	**-1.9**
AS31				*e*			17 29 50.9	
ASAR	**Alice Springs**	**43.75**	**258**	P		**P**	**17 21 16.8**	**-0.2**
	comp=Z,9.7nm,0.8s,baz=90,slow=8.5,SNR=92							
ASAR				PcP		**PcP**	**17 22 52.9**	**+0.8**
	comp=Z,5.6nm,0.7s,baz=96,slow=5.1,SNR=11							
ASAR				ScP		**ScP**	**17 25 57.1**	**+3.7**
	comp=Z,2.1nm,0.7s,baz=103,slow=4.0,SNR=5.9							
ASAR				S		**S**	**17 27 07.1**	**-1.9**
	comp=Z,5.0nm,0.9s,baz=95,slow=15,SNR=12							
ASAR				PKiKP		**PKiKP**	**17 29 50.9**	**-1.0**
	comp=Z,0.7nm,0.8s,baz=87,slow=1.3,SNR=5.8							
WB2	**Warramunga Arr**	**43.89**	**263**	*e*P		**P**	**17 21 16.9**	**-1.2**
	comp=Z,23nm,1.0s							
WB2				*e*PcP		**PcP**	**17 22 51.6**	**-1.0**
WB2				*e*S		**S**	**17 27 09.2**	**-1.8**
WRAB	**Tennant Creek**	**43.90**	**263**	*e*P		**P**	**17 21 16.9**	**-1.1**
	comp=Z,22nm,1.1s							
WRAB				*e*PcP		**pP**	**17 22 53.1**	**0.0**
WRAB	**Tennant Creek**	**43.90**	**263**	*i*P		**P**	**17 21 17.0**	**-1.0**
WRAB				pmax	pmax			
	comp=Z,13nm,0.9s							
WR1	**Warramunga Arr**	**43.91**	**263**	*e*P		**P**	**17 21 17.2**	**-0.8**
	comp=Z,26nm,1.0s							
WR1				*e*PcP		**pP**	**17 22 53.0**	**-0.2**
WR1				*e*ScP		**ScP**	**17 25 57.2**	**+3.2**
WR1				*e*S		**S**	**17 27 08.8**	**-2.4**
WR1				*e*			17 29 50.9	
WRA	**Warramunga Arr**	**43.91**	**263**	P		**P**	**17 21 17.2**	**-0.9**
	comp=Z,6.9nm,0.5s,baz=96,slow=7.8,SNR=48							
WRA				PcP		**pP**	**17 22 53.0**	**-0.2**
	comp=Z,7.9nm,1.1s,baz=97,slow=3.1,SNR=7.1							
WRA				ScP		**ScP**	**17 25 57.2**	**+3.2**
	comp=Z,1.3nm,0.8s,baz=88,slow=4.0,SNR=4.1							
WRA				S		**S**	**17 27 08.8**	**-2.4**
	comp=Z,2.5nm,0.8s,baz=98,slow=13,SNR=6.5							
WRA				PKiKP		**PKiKP**	**17 29 50.9**	**-1.2**
	comp=Z,1.9nm,1.2s,baz=45,slow=0.4,SNR=6.4							
FORT	**Forrest**	**48.41**	**247**	*e*P		**P**	**17 21 51.8**	**-0.4**
	comp=Z,32nm,0.6s							
MTN	**Manton Dam**	**48.59**	**272**	*e*P		**P**	**17 21 53.0**	**-0.7**
	comp=Z,27nm,0.6s							
SAUI	**Saumlaki**	**50.02**	**278**	*e*P		**P**	**17 22 04.2**	**0.0**
	comp=Z,83nm,0.6s							
FAKI	**Fak Fak**	**51.13**	**284**	*e*P		**P**	**17 22 10.1**	**-2.3**
	comp=Z,90nm,1.3s							
FITZ	**Fitzroy Crossi**	**52.34**	**263**	*e*P		**P**	**17 22 21.0**	**0.0**
	comp=Z,20nm,1.1s							
FITZ	**Fitzroy Crossi**	**52.34**	**263**	P		**P**	**17 22 21.0**	**0.0**
	comp=Z,4.5nm,0.5s,baz=90,slow=6.0,SNR=18							
SOEI	**Soe**	**55.95**	**273**	*e*P		**P**	**17 22 47.8**	**+1.2**
	comp=Z,116nm,0.9s							
VNDA	**Vanda**	**56.99**	**185**	*e*P		**P**	**17 22 53.6**	**+0.9**
	comp=Z,65nm,1.9s							
VNDA	**Vanda**	**56.99**	**185**	*e*P		**P**	**17 22 53.6**	**+0.9**
VNDA				pmax	pmax			
	comp=Z,65nm,1.9s							
VNDA	**Vanda**	**56.99**	**185**	P		**P**	**17 22 53.1**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=27,slow=5.5,SNR=8.3							
MBWA	**Marble Bar**	**57.09**	**258**	*e*P		**P**	**17 22 54.1**	**-0.2**
	comp=Z,41nm,0.7s							
TNTI	**Ternate**	**57.12**	**286**	*e*P		**P**	**17 22 54.0**	**-0.6**
	comp=Z,92nm,1.0s							
NWAO	**Narrogin (SRO)**	**57.45**	**244**	*e*P		**P**	**17 22 56.9**	**+0.2**
	comp=Z,73nm,1.6s							
NWAO	**Narrogin (SRO)**	**57.45**	**244**	*e*P		**P**	**17 22 56.9**	**+0.2**
NWAO				pmax	pmax			
	comp=Z,73nm,1.6s							
MORW	**Morawa**	**58.96**	**248**	*e*P		**P**	**17 23 06.6**	**-0.3**
	comp=Z,28nm,1.1s							
JCJ	**Chichijima**	**61.32**	**320**	P		**P**	**17 23 22.5**	**+0.1**
	comp=Z,57nm,0.6s,baz=112,slow=16,SNR=4.3							
CBIJ	**Chichi jima**	**61.33**	**320**	*e*P		**P**	**17 23 22.5**	**+0.1**
GIRL	**Giralia**	**61.76**	**255**	*e*P		**P**	**17 23 26.7**	**+1.3**
	comp=Z,374nm,1.4s							
CASY	**Casey**	**62.92**	**205**	*e*P		**P**	**17 23 33.5**	**+1.3**
	comp=Z,33nm,1.1s							
JAGI	**Jajag, Banyuwa**	**65.79**	**270**	*e*P		**P**	**17 23 50.1**	**-1.3**
	comp=Z,109nm,1.2s							
TSM	**Tawau**	**67.18**	**284**	P		**P**	**17 24 01.9**	**+2.0**
SDKM	**Sandakan**	**68.37**	**285**	P		**P**	**17 24

KRMB	Red Mountain	80.51	38	*e*P		P		17 25 16.4	+1.3
PFO	Pinyon Flats O	80.59	48	*i* P		P		17 25 18.2	+2.4
AFDM	Forest Hills D	80.68	42	*e*P		P		17 25 16.4	+0.5
	comp=Z,11nm,1.1s								
ORV	Oroville	80.72	41	*e*P		P		17 25 17.6	+1.5
	comp=Z,10nm,1.0s								
ORV	Oroville	80.72	41	*e*P		P		17 25 17.6	+1.5
ORV					pmax	pmax			
	comp=Z,10.0nm,1.0s								
WDC	Whiskeytown Da	80.72	40	*e*P		P		17 25 17.1	+1.0
	comp=Z,17nm,1.0s								
WDC	Whiskeytown Da	80.72	40	*e*P		P		17 25 17.1	+1.0
WDC					pmax	pmax			
	comp=Z,17nm,1.0s								
MDJ	Mudanjiang	80.90	325	*e*P		P		17 25 18.2	+1.3
	comp=Z,43nm,1.0s								
MDPB	Devils Postpil	81.10	44	*e*P		P		17 25 20.2	+1.7
	comp=Z,15nm,1.0s								
OMMB	Old Mammoth Mi	81.14	44	*e*P		P		17 25 20.2	+1.5
	comp=Z,8.2nm,1.1s								
OMMB				*e*pP		pP		17 27 14.2	+2.2
GSC	Goldstone, Bar	81.28	47	*e*P		P		17 25 20.1	+0.8
	comp=Z,21nm,1.4s								
GSC	Goldstone, Bar	81.28	47	*e*P		P		17 25 20.1	+0.8
GSC					pmax	pmax			
	comp=Z,21nm,1.4s								
YBH	Yreka Blue Hor	81.34	39	*e*P		P		17 25 20.9	+1.5
	comp=Z,21nm,0.9s								
YBH	Yreka Blue Hor	81.34	39	*e*P		P		17 25 20.9	+1.5
YBH					pmax	pmax			
	comp=Z,21nm,0.9s								
YBH	Yreka Blue Hor	81.34	39	P		P		17 25 21.2	+1.8
	comp=Z,14nm,0.8s,baz=191,slow=1.3,SNR=40								
WAKR	Walker	81.38	43	*e*P		P		17 25 21.1	+1.3
	comp=Z,22nm,1.0s								
BEKR	Beckworth	81.61	41	*e*P		P		17 25 22.3	+1.4
	comp=Z,16nm,1.2s								
PNTR	Pine Nut	81.62	42	*e*P		P		17 25 22.5	+1.4
	comp=Z,30nm,0.9s								
HUMO	Hull Mountain	81.74	38	*e*P		P		17 25 22.9	+1.6
	comp=Z,28nm,1.1s								
YERR	Yerington	81.79	43	*e*P		P		17 25 23.2	+1.3
	comp=Z,15nm,1.0s								
KDAK	Kodiak Island	81.80	14	*i* P		P		17 25 23.2	+2.0
GRNR	Gornyy	82.01	333	*e*P		P		17 25 23.8	+1.3
GRNR					pmax	pmax			
	comp=Z,25nm,1.0s								
RYN	Ryan	82.03	43	*e*P		P		17 25 24.4	+1.3
	comp=Z,41nm,1.9s								
113A	Mohawk Valley,	82.05	50	*e*P		P		17 25 24.1	+1.0
	comp=Z,14nm,1.1s								
NV01	Mina Array Sit	82.06	44	*e*P		P		17 25 23.9	+0.6
NV01				*e*pP		pP		17 27 17.5	+0.5
NVAR	Mina Array Bea	82.06	44	P		P		17 25 24.6	+1.2
	comp=Z,9.9nm,0.9s,baz=224,slow=8.9,SNR=54								
NVAR				pP		pP		17 27 16.5	-0.4
	comp=Z,1.8nm,1.0s,baz=217,slow=4.4,SNR=4.2								
NVAR				PKKPbc		PKKPbc		17 43 50.8	+1.2
	comp=Z,0.9nm,0.7s,baz=110,slow=1.0,SNR=7.0								
PAHR	Pah Rah Range	82.12	42	*e*P		P		17 25 24.6	+1.1
	comp=Z,16nm,1.0s								
NV11	Mina Array Sit	82.16	44	*e*P		P		17 25 24.7	+0.9
	comp=Z,1.4nm,1.0s								
KVN	Kaiserville	82.55	43	*e*P		P		17 25 26.5	+0.7
	comp=Z,15nm,1.0s								
TPNV	Topopah Spring	82.57	46	*e*P		P		17 25 27.2	+1.3
	comp=Z,16nm,1.0s								
CN2	Changchun	82.64	323	*e*P		P		17 25 26.2	+0.4
CN2					pmax	pmax			
	comp=Z,40nm,1.3s								
IPM	Ipoh	82.66	278	*e*P		P		17 25 27.3	+0.6
	comp=Z,59nm,0.7s								
IPM	Ipoh	82.66	278	P		P		17 25 27.6	+0.9
MOD	Modoc Plateau	82.86	40	*e*P		P		17 25 28.2	+1.0
	comp=Z,16nm,0.9s								
KLR	Kul'dur	82.98	330⇑	*i* P		P		17 25 25.1	-2.3
KLR	Kul'dur	82.98	330	P		P		17 25 25.3	-2.2
	comp=Z,11nm,0.9s,baz=73,slow=18,SNR=8.9								
SHPR	Sheep Range	83.06	47	*e*P		P		17 25 29.9	+1.6
	comp=Z,9.6nm,1.1s								
W13A	Hualapai Mount	83.18	48	*e*P		P		17 25 30.3	+1.2
	comp=Z,9.3nm,1.1s								
Y14A	Wickenburg	83.20	50	*e*P		P		17 25 30.1	+1.1
	comp=Z,8.8nm,0.9s								
KULM	Kulim	83.31	278	*e*P		P		17 25 30.4	+0.5
	comp=Z,27nm,0.8s								
KULM	Kulim	83.31	278	P		P		17 25 31.4	+1.4
H04A	Detroit Lake	83.48	37	*e*P		P		17 25 30.8	+0.7
	comp=Z,20nm,0.9s								
PINE	Pine Mountain	83.63	38	*e*P		P		17 25 32.6	+1.5
	comp=Z,41nm,0.9s								
R11A	Troy Canyon, C	83.78	45	*e*P		P		17 25 32.7	+0.7
	comp=Z,3.7nm,1.1s								
BMN	Battle Mountai	83.89	42	*e*P		P		17 25 33.4	+1.0
	comp=Z,14nm,1.0s								
BMN	Battle Mountai	83.89	42	*e*P		P		17 25 33.4	+1.0
BMN					pmax	pmax			
	comp=Z,14nm,1.0s								
BRLK	Bradley Lake	83.98	14	*e*P		P		17 25 32.2	+0.1
	comp=Z,219nm,1.9s								
TUC	Tucson	83.98	52	*e*P		P		17 25 34.0	+1.0
	comp=Z,20nm,1.2s								
PSI	Prapat	83.99	275	*e*P		P		17 25 32.5	-1.0
	comp=Z,35nm,0.9s								
PSI	Prapat	83.99	275	*e*P		P		17 25 32.5	-1.0
PSI					pmax	pmax			
	comp=Z,35nm,0.9s								
PSI	Prapat	83.99	275	P		P		17 25 32.6	-0.8
	comp=Z,30nm,0.9s,baz=180,slow=3.0,SNR=18								
SKLT	Songkhla	84.05	280	P		P		17 25 35.6	+2.0
WVOR	Wild Horse Val	84.17	40	*e*P		P		17 25 34.8	+1.1
	comp=Z,15nm,1.1s								
WVOR				*e*pP		pP		17 27 28.1	+0.1
RSO	Redoubt South	84.22	13	*e*P		P		17 25 33.4	-0.1
MA2	Magadan	84.47	345	*e*P		P		17 25 33.5	-1.1
	comp=Z,21nm,1.2s								
MA2	Magadan	84.47	345	*ce*P		P		17 25 34.2	-0.4
MA2					pmax	pmax			
	comp=Z,23nm,1.3s								
X16A	Lo Mia Camp, P	84.56	50	*e*P		P		17 25 37.7	+1.9
	comp=Z,12nm,1.1s								
LCMT	Little Creek M	84.63	47	*e*P		P		17 25 37.1	+1.0
	comp=Z,8.0nm,1.1s								
I07A	Izee	84.64	38	*e*P		P		17 25 36.1	+0.2
	comp=Z,17nm,1.0s								
319A	Douglas	84.64	54	*e*P		P		17 25 37.9	+1.6
	comp=Z,22nm,0.9s								
GSI	Gunungsitoli	84.69	273	*e*P		P		17 25 37.1	+0.4
	comp=Z,80nm,0.7s								
J08A	Circle Bar Ran	84.81	39	*e*P		P		17 25 37.8	+1.0
	comp=Z,23nm,1.2s								
CCUT	Cedar City	84.83	46	*e*P		P		17 25 38.0	+0.8
	comp=Z,6.1nm,1.0s								
CCUT				*e*pP		pP		17 27 30.9	-0.8
SKNT	Sakolnakorn	84.86	290	P		P		17 25 38.5	+1.0
SKNT	Sakolnakorn	84.86	290	P		P		17 25 38.5	+1.0
KNB	Kanab	84.92	47	*e*P		P		17 25 39.0	+1.4
	comp=Z,20nm,1.4s								
KNB	Kanab	84.92	47	*e*P		P		17 25 39.0	+1.4
KNB					pmax	pmax			
	comp=Z,20nm,1.4s								
U15A	North Rim	84.98	48	*e*P		P		17 25 39.2	+1.2
	comp=Z,17nm,1.0s								
PSUT	Pine Spring	85.02	45	*e*P		P		17 25 39.0	+1.0
	comp=Z,3.6nm,0.9s								
GAMB	Gambell	85.04	3	*e*P		P		17 25 37.5	+0.3
	comp=Z,20nm,1.2s								
D05A	Enumclaw	85.15	35	*e*P		P		17 25 39.8	+1.7
	comp=Z,51nm,1.1s								
TRTT	Trang	85.15	280	P		P		17 25 40.7	+1.7
TRTT	Trang	85.15	280	P		P		17 25 40.7	+1.7
WUAZ	Wupatki	85.16	49	*e*P		P		17 25 39.8	+1.1
	comp=Z,8.2nm,1.0s								
ELK	Elko	85.32	43	*e*P		P		17 25 39.9	+0.4
	comp=Z,3.7nm,0.9s								
ELK	Elko	85.32	43	*e*P		P		17 25 39.9	+0.4
ELK					pmax	pmax			
	comp=Z,4.0nm,0.9s								
RC01	Rabbit Creek A	85.42	14	*e*P		P		17 25 39.1	-0.1
	comp=Z,31nm,1.0s								
SUA	Susitna One	85.54	13	*e*P		P		17 25 39.3	-0.6
	comp=Z,30nm,0.8s								
G08A	Pilot Rock	85.67	38	*e*P		P		17 25 41.8	+0.9
	comp=Z,26nm,1.0s								
MTPU	Mount Pierson	85.89	47	*e*P		P		17 25 44.3	+1.8
	comp=Z,8.2nm,1.0s								
LTY	Liberty	85.90	35	*e*P		P		17 25 42.2	+0.3
	comp=Z,19nm,1.0s								
E07A	Sunnyside	85.92	36	*e*P		P		17 25 42.9	+0.9
	comp=Z,25nm,0.9s								
KNK	Knik Glacier	85.99	14	*e*P		P		17 25 41.4	-0.5
	comp=Z,27nm,0.8s								
HAWA	Hanford	86.00	37	*e*P		P		17 25 43.9	+1.6
	comp=Z,30nm,1.0s								
PMR	Palmer	86.00	14	*e*P		P		17 25 40.9	-1.0
	comp=Z,64nm,1.4s								
PMR	Palmer	86.00	14	*e*P		P		17 25 40.9	-1.0
PMR					pmax	pmax			
	comp=Z,64nm,1.4s								
TCRU	Three Creeks R	86.00	46	*e*P		P		17 25 44.5	+1.7
	comp=Z,13nm,0.4s								
PATY	Pattaya	86.02	285	P		P		17 25 45.7	+2.6
PATY	Pattaya	86.02	285	P		P		17 25 45.7	+2.6
ENH	Enshi	86.05	304	*e*P		P		17 25 43.2	+0.3
	comp=Z,45nm,0.8s								
BJI	Beijing	86.10	316	P		P		17 25 43.4	+0.5
BJI					pmax	pmax			
	comp=Z,13nm,0.8s								
MSU	Marysvale	86.13	46	*e*P		P		17 25 44.8	+1.3
ANM	Nome	86.28	6	*e*P		P		17 25 43.3	+0.1
	comp=Z,14nm,1.5s								
ANM	Nome	86.28	6	*e*P		P		17 25 43.3	+0.1
ANM					pmax	pmax			
	comp=Z,14nm,1.5s								
E08A	Dider Farm, El	86.32	37	*e*P		P		17 25 43.7	-0.1
	comp=Z,22nm,1.0s								
BMO	Blue Mountains	86.36	39	*e*P		P		17 25 44.8	+0.6
	comp=Z,64nm,2.0s								
BMO	Blue Mountains	86.36	39	*e*P		P		17 25 44.8	+0.6
BMO					pmax	pmax			
	comp=Z,64nm,2.0s								
DIV	Divide	86.38	15	*e*P		P		17 25 43.3	-0.6
	comp=Z,35nm,1.0s								
PKDT	Phuket	86.42	280	P		P		17 25 48.0	+3.0
PKDT	Phuket	86.42	280	P		P		17 25 48.0	+3.0
	comp=Z,14nm,1.1s								
PPLA	Purkeypile	86.55	12	*e*P		P		17 25 44.9	+0.2
	comp=Z,21nm,1.2s								
GYA	Guiyang	86.57	300	*e*P		P		17 25 46.0	+0.4
GYA				pP		pwP		17 27 44.2	-0.8
GYA				sP		sP		17 28 37.8	+4.1
GYA				PP		PP		17 29 20.0	+2.5
GYA				SKS		SKSac		17 35 21.6	-0.5
GYA				S		S		17 35 38.2	-0.2
GYA					pmax	pmax			
	comp=Z,20nm,1.0s								
SCM	Sheep Creek Mo	86.62	14	*e*P		P		17 25 45.1	+0.1
	comp=Z,54nm,0.7s								
SCM	Sheep Creek Mo	86.62	14	*e*P		P		17 25 45.1	+0.1
SCM					pmax	pmax			
	comp=Z,54nm,0.7s								
KLU	Klutina	86.66	15	*e*P		P		17 25 45.2	+0.1
	comp=Z,13nm,0.9s								
D08A	Wollman Farm,	86.73	36	*e*P		P		17 25 47.0	+1.2
	comp=Z,28nm,1.0s								
E09A	Wood Farm, Sta	86.84	37	*e*P		P		17 25 46.3	0.0
	comp=Z,32nm,1.2s								
E09A				*e*pP		pP		17 27 42.6	+0.9
CAST	Castle Rocks	87.05	12	*e*P		P		17 25 44.9	-2.0
	comp=Z,33nm,0.9s								
F10A	Beach Ranch, E	87.05	38	*e*P		P		17 25 47.9	+0.6
	comp=Z,40nm,0.9s								
F10A				*e*pP		pP		17 27 43.7	+0.9
SEY	Seymchan	87.09	347	*ce*P		P		17 25 45.9	-1.1
SEY	Seymchan	87.09	347	P		P		17 25 47.0	0.0
	baz=156,slow=7.1								
PHET	Kaeng Krachan	87.13	285	P		P		17 25 50.8	+2.5
PHET	Kaeng Krachan	87.13	285	P		P		17 25 50.8	+2.5
SNAA	Sanae	87.15	179	*e*P		P		17 25 47.4	-0.1
SNAA				*e*pP		pP		17 27 43.2	+0.2
SNAA	Sanae	87.15	179	*e*P		P		17 25 47.4	-0.1
SNAA				*e**PP		pP		17 27 43.2	+0.2
SNAA	Sanae	87.15	179	P		P		17 25 47.7	+0.2
	comp=Z,3.3nm,0.6s,baz=204,slow=11,SNR=15								
BALM	Baldy	87.18	17	*e*P		P		17 25 48.0	+0.3
	comp=Z,29nm,0.8s								
BALM	Baldy	87.18	17	*e*P		P		17 25 48.0	+0.3
BALM					pmax	pmax			
	comp=Z,29nm,0.8s								
TMUT	Trail Mountain	87.18	46	*e*P		P		17 25 49.8	+1.4
	comp=Z,12nm,1.0s								
TMUT				*e*pP		pP		17 27 45.7	+1.8
B08A	Colville Reser	87.28	35	*e*P		P		17 25 48.7	+0.4
	comp=Z,19nm,0.8s								
LLLB	Lillooet	87.34	32	*e*P		P		17 25 49.1	+0.6
	comp=Z,17nm,1.0s								
PBKT	Sadao Pong	87.34	289	P		P		17 25 51.1	+1.8
PBKT	Sadao Pong	87.34	289	P		P		17 25 51.1	+1.8
HLID	Hailey	87.37	41	*e*P		P		17 25 49.7	+0.7
	comp=Z,13nm,1.0s								
SPUT	South Promonto	87.40	44	*e*P		P		17 25 49.4	+0.1
	comp=Z,17nm,1.7s								
TRF	Thorofare Moun	87.42	12	*e*P		P		17 25 47.9	-0.9
	comp=Z,52nm,0.8s								
HVU	Hansel Valley	87.44	43	*e*P		P		17 25 49.5	+0.1
	comp=Z,35nm,1.8s								
C09A	Chrisman Ranch	87.52	36	*e*P		P		17 25 50.0	+0.6
	comp=Z,21nm,0.9s								
SRU	San Rafael Swe	87.55	46	*e*P		P		17 25 50.9	+0.8
	comp=Z,16nm,1.1s								
P17A	Butcher Ranch,	87.59	46	*e*P		P		17 25 51.2	+1.0
	comp=Z,23nm,1.5s								
HARP	HAARP	87.63	15	*e*P		P		17 25 50.1	+0.4
	comp=Z,33nm,0.8s								
LENM	Lemitar	87.67	52	*e*P		P		17 25 51.2	+0.5
RND	Reindeer	87.68	13	*e*P		P		17 25 48.9	-1.0
	comp=Z,68nm,0.8s								
RND	Reindeer	87.68	13	*e*P		P		17 25 48.9	-1.0
RND					pmax	pmax			
	comp=Z,68nm,0.8s								
DHY	Denali Highway	87.70	14	*e*P		P		17 25 49.3	-0.8
	comp=Z,40nm,1.6s								
MNTX	Cornudas Mount	87.73	55	*e*P		P		17 25 51.9	+1.1
	comp=Z,13nm,1.0s								
MNTX				*e*pP		pP		17 27 46.0	-0.4
NVL	N'lazarevskaya	87.81	183	*e*P		P		17 25 50.3	-0.2
NVL					pmax	pmax			
	comp=Z,11nm,0.8s								
MCK	McKinley	87.95	13	*e*P		P		17 25 50.6	-0.5
	comp=Z,34nm,0.8s								
MCK	McKinley	87.95	13	*e*P		P		17 25 50.6	-0.5
MCK					pmax	pmax			
	comp=Z,34nm,0.8s								
TCUT	Toone Canyon	87.98	44	*e*P		P		17 25 53.4	+1.3
	comp=Z,29nm,1.2s								
TX31	Lajitas Ar. Si	88.02	58	*e*P		P		17 25 53.4	+1.1
TX31				*e*pP		pP		17 27 49.0	+1.1
TXAR	Lajitas Array	88.02	58	P		P		17 25 54.1	+1.7
	comp=Z,8.3nm,1.0s,baz=223,slow=5.1,SNR=42								
TXAR				*e*pP		pP		17 27 48.3	+0.4
	comp=Z,2.2nm,1.0s,baz=225,slow=6.2,SNR=8.5								
TXAR				PKKPbc		PKKPbc		17 43 36.2	+1.4
	comp=Z,0.9nm,0.6s,baz=89,slow=3.4,SNR=12								
PAX	Paxson	88.04	14	*e*P		P		17 25 51.3	-0.3
	comp=Z,9.7nm,0.9s								
PAX	Paxson	88.04	14	*e*P		P		17 25 51.3	-0.3
PAX					pmax	pmax			
	comp=Z,10.0nm,0.9s								
SRDT	SRDT	88.13	286	P		P		17 25 55.4	+2.4
SRDT	SRDT	88.13	286	P		P		17 25 55.4	+2.4
	comp=Z,21nm,1.3s,comp=Z,2µm								
UTTA	Uttaradit	88.17	290	P		P		17 25 55.0	+1.9
UTTA	Uttaradit	88.17	290	P		P		17 25 55.0	+1.9
	comp=Z,5.4nm,1.0s,comp=Z,56nm								
XAN	Xi'an	88.20	308	P		P		17 25 54.1	+1.1
XAN					pmax	pmax			
	comp=Z,28nm,0.9s								
XAN					pmax	pmax			
	comp=Z,100nm,4.1s								
XAN	Xi'an	88.20	308	*e*P		P		17 25 53.8	+0.8
	comp=Z,24nm,0.9s								
XAN				*e*pP		pwP		17 27 51.9	-0.8
XAN	Xi'an	88.20	308	*e*P		P		17 25 53.8	+0.8
XAN				*e**PP		pwP		17 27 51.9	-0.8
XAN					pmax	pmax			
	comp=Z,24nm,0.9s								
PV14	Lion Creek, Pa	88.21	47	*e*P		P		17 25 53.4	+0.2
	comp=Z,12nm,1.1s								
PV14				*e*pP		pP		17 27 53.4	+4.5
BWN	Browne	88.24	12	*e*P		P		17 25 52.0	-0.3
	comp=Z,41nm,0.9s								
PV13	Radium Mtn., P	88.24	48	*e*P		P		17 25 53.9	+0.5
	comp=Z,18nm,1.6s								
PV03	Paradox Valley	88.27	48	*e*P		P		17 25 53.8	+0.4
	comp=Z,25nm,1.8s								
UTHA	Uthaitani	88.31	287	P		P		17 25 55.8	+2.0
UTHA	Uthaitani	88.31	287	P		P		17 25 55.8	+2.0
	comp=Z,5.0nm,1.1s,comp=Z,51nm								
PV21	Cone Mtn., Par	88.33	47	*e*P		P		17 25 54.4	+0.6
	comp=Z,8.7nm,1.2s								
PV12	Saucer Basin,	88.33	48	*e*P		P		17 25 54.0	+0.2
	comp=Z,18nm,1.4s								
ANMO	Albuquerque	88.41	51	*e*P		P		17 25 54.4	+0.2
	comp=Z,10nm,1.1s								
ANMO	Albuquerque	88.41	51	*ce*P		P		17 25 52.7	-1.4
ANMO					pmax	pmax			
	comp=Z,6.0nm,1.1s								
NEW	Newport	88.42	36	*e*P		P		17 25 53.9	+0.2
	comp=Z,7.7nm,1.0s								
NEW	Newport	88.42	36	*e*P		P		17 25 53.9	+0.2
NEW					pmax	pmax			
	comp=Z,8.0nm,1.0s								
MENT	Mentasta	88.43	15	*e*P		P		17 25 52.8	-0.6
	comp=Z,18nm,0.9s								
NANT	Nan	88.45	291	P		P		17 25 56.0	+1.6
NANT	Nan	88.45	291	P		P		17 25 56.0	+1.6
	comp=Z,4.8nm,1.0s								
PV07	Paradox Valley	88.50	48	*e*P		P		17 25 55.0	+0.5
	comp=Z,6.0nm,1.1s								
PV07				*e*S		S		17 35 50.1	-5.9
MLY	Manley	88.76	11	*e*P		P		17 25 53.2	-1.7
	comp=Z,16nm,0.8s								
WRH	Wood River Hil	88.78	13	*e*P		P		17 25 53.8	-1.1
	comp=Z,46nm,0.8s								
RIDG	Independ'e Rid	88.85	14	*e*P		P		17 25 55.1	-0.2
	comp=Z,24nm,1.0s								
SUKH	Sukhothai	88.88	289	P		P		17 25 58.4	+2.0
SUKH	Sukhothai	88.88	289	P		P		17 25 58.4	+2.0
	comp=Z,9.4nm,1.0s								
DOT	Dot Lake	88.95	15	*e*P		P		17 25 55.7	-0.1
	comp=Z,20nm,0.8s								
HDA	Harding Lake	88.96	13	*e*P		P		17 25 55.2	-0.6
	comp=Z,28nm,0.7s								
MCMT	McKenzie Canyo	89.00	40	*e*P		P		17 25 57.7	+1.0
WHY	Whitehorse	89.07	20	*e*P		P		17 25 57.0	+0.5
	comp=Z,15nm,0.9s								
UMPA	Umpang Tak	89.07	288	P		P		17 25 59.9	+2.5
UMPA	Umpang Tak	89.07	288	P		P		17 25 59.9	+2.5
	comp=Z,1.2nm,0.6s,comp=Z,1µm								
PLCA	Paso Flores	89.10	134	*e*P		P		17 25 59.2	+1.9
	comp=Z,14nm,1.4s								
PLCA	Paso Flores	89.10	134	P		P		17 25 58.7	+1.4
	comp=Z,3.3nm,0.9s,baz=277,slow=2.7,SNR=6.4								
IM3	Indian Mountai	89.11	10	*e*P		P		17 25 56.3	-0.1
MDM	Murphy Dome	89.18	12	*e*P		P		17 25 55.8	-1.0
	comp=Z,36nm,0.9s								
COLA	College	89.19	13	*e*P		P		17 25 56.4	-0.4
	comp=Z,43nm,0.8s								
COLA	College	89.19	13	*d i*P		P		17 25 56.0	-0.7
COLA					pmax	pmax			
	comp=Z,43nm,0.8s								
KMI	Kunming	89.22	297	P		P		17 26 00.3	+2.1
KMI					pmax	pmax			
	comp=Z,22nm,0.7s								
KMI					pmax	pmax			
	comp=Z,130nm,4.2s								
SCRK	Sand Creek	89.25	15	*e*P		P		17 25 57.1	-0.2
	comp=Z,11nm,0.8s								
LAMP	Lampang	89.28	290	P		P		17 26 00.3	+2.0
LAMP	Lampang	89.28	290	P		P		17 26 00.3	+2.0
	comp=Z,12nm,0.9s,comp=Z,107nm								
IL1	Eielson Array	89.29	13	*e*P		P		17 25 56.3	-1.0
IL1				*e*pP		pP		17 27 55.1	+1.4
ILAR	Eielson Array	89.29	13	P		P		17 25 56.6	-0.7
	comp=Z,9.9nm,0.8s,baz=224,slow=5.4,SNR=112								
ILAR				pP		pP		17 27 53.3	-0.4
	comp=Z,2.2nm,1.1s,baz=226,slow=4.9,SNR=5.1								
ILAR				PKiKP		PKiKP		17 30 53.8	+2.2
	comp=Z,0.3nm,0.7s,baz=213,slow=4.3,SNR=4.3								
ILB	Eielson Array	89.29	13	*e*P		P		17 25 56.3	-1.0
	comp=Z,16nm,0.9s								
ILB				*e*pP		pP		17 27 52.5	-1.1
DLMT	Dillon	89.43	40	*e*P		P		17 25 59.6	+1.0
	comp=Z,11nm,1.1s								
DLMT				*e*pP		pP		17 27 56.3	+1.7
REDW	Red Top Meadow	89.47	42	*e*P		P		17 25 59.5	+0.6
	comp=Z,21nm,1.0s								
TPAW	Teton Pass	89.47	42	*e*P		P		17 25 59.3	+0.3
	comp=Z,13nm,1.0s								
FXWY	Fox Creek	89.50	42	*e*P		P		17 26 00.1	+1.0
	comp=Z,8.9nm,1.1s								
HHC	Hu-ho-hao-te	89.54	315	*e*P		P		17 25 59.9	+0.7
HHC					pmax	pmax			
	comp=Z,22nm,1.0s								
HHC					pmax	pmax			
	comp=Z,310nm,5.8s								
O20A	White River Ci	89

comp=Z,40nm,0.5s
COLD Coldfoot 90.84 11 *e*P **P 17 26 04.8 +0.4**
comp=Z,6.6nm,1.0s
N23A Red Feather La 91.49 46 *e*P **P 17 26 09.1 +0.8**
comp=Z,7.1nm,1.0s
LZH Lanzhou 92.83 308 ⇓P **P 17 26 16.0 +1.5**
LZH pP pwP 17 28 15.2 +0.4
LZH sP sP 17 29 07.6 +4.1
LZH PP **PP 17 30 11.3 +4.9**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,87nm,7.3s
EPYK Eagle Plains 92.98 16 *e*P **P 17 26 13.8 -0.6**
comp=Z,14nm,0.8s
INK Inuvik 95.27 15 *e*P **P 17 26 23.9 -0.7**
comp=Z,11nm,1.1s
INK Inuvik 95.27 15 *e*P **P 17 26 23.9 -0.7**
INK pmax pmax
comp=Z,11nm,1.1s
INK Inuvik 95.27 15 P **P 17 26 24.2 -0.3**
comp=Z,6.7nm,1.0s,baz=210,slow=5.3,SNR=16
SONA0 Songino Array 96.03 319 *e*P **P 17 26 28.4 -0.3**
SONA0 *e*PKKPdf **PKKPdf 17 43 15.7 -0.2**
SONM Songino Array 96.03 319 P **P 17 26 28.4 -0.3**
comp=Z,0.9nm,1.0s,baz=131,slow=4.8,SNR=4.0
SONM PKKPbc **PKKPdf 17 43 15.7 -0.2**
comp=Z,0.9nm,1.1s,baz=259,slow=3.3,SNR=4.1
GTA Gaotai 97.07 309 *e*P Pdif 17 26 34.4 +0.8
GTA pP pwP 17 28 33.6 -0.7
GTA sP sP 17 29 27.5 +4.6
GTA pmax pmax
comp=Z,5.0nm,1.7s
GTA LR LR
comp=Z,150nm,20.3s
GTA LR LR
comp=Z,130nm,20.6s
GTA LR LR
comp=Z,190nm,17.2s
YKA Yellowknife Ar 97.55 25 P **P 17 26 35.1 +0.1**
comp=Z,1.7nm,0.8s,baz=243,slow=4.5,SNR=24
YKA PKiKP **PKiKP 17 31 05.2 -0.7**
comp=Z,0.2nm,0.6s,baz=228,slow=1.5,SNR=4.1
YKB5 Yellowknife Ar 97.55 25 *e*P Pdif 17 26 34.2 -0.7
PB01 IPOC Station P 98.98 117 *e*pP pP 17 28 36.3 -3.1
ODAN Odare 102.75 294 *e*P **PKiKP 17 31 17.1 +0.4**
RAMN Ramite 103.45 294 *e*P **PKiKP 17 31 17.6 -0.4**
comp=Z,6.9nm,0.6s
JIRN Jiri 104.00 294 *e*P **PKiKP 17 31 18.8 -0.4**
PKI Pulchoki 104.64 294 *e*P **PKiKP 17 31 19.5 -0.8**
comp=Z,8.3nm,0.7s
PKIN Phulchoki 104.66 294 *e*P **PKiKP 17 31 19.5 -0.7**
comp=Z,5.6nm,0.6s
DMN Daman 104.91 294 *e*P **PKiKP 17 31 20.8 +0.1**
KOLN Koldanda 106.24 294 *e*P **PKiKP 17 31 22.3 -0.8**
DANN Dangsing 106.26 294 *e*P **PKiKP 17 31 22.0 -1.2**
comp=Z,14nm,0.6s
PYUN Piuthan 106.85 294 *e*P **PKiKP 17 31 22.4 -1.8**
ZAA1 Zalesovo Array 110.80 321 *e*PKiKP **PKiKP 17 31 29.7 -0.9**
ZALV Zalesovo Beam 110.80 321 PKiKP **PKiKP 17 31 29.7 -0.9**
comp=Z,3.5nm,0.6s,baz=170,slow=0.9,SNR=22
NRIK Noril'sk 111.15 338 PKKPbc PKKPbc 17 42 33.8 +3.0
comp=Z,5.3nm,0.5s,baz=161,slow=5.4,SNR=4.3
MK32 Makanchi Array 111.37 313 *e*PKiKP **PKiKP 17 31 31.2 -0.7**
MK32 *e*PKKPbc **PKKPbc 17 42 29.7 +0.1**
MKAR Makanchi Array 111.37 313 PKiKP **PKiKP 17 31 31.2 -0.7**
comp=Z,1.3nm,0.5s,baz=130,slow=0.5,SNR=21
MKAR PKKPbc **PKKPbc 17 42 29.7 +0.1**
comp=Z,1.2nm,0.8s,baz=277,slow=3.8,SNR=11
KURK Kurchatov 114.24 317 *e*PKiKP PKPdf 17 31 36.4 -0.8
KURK *e*PP **PP 17 32 44.8 +2.0**
KURK Kurchatov 114.24 317*c i*PKIKP PKPdf 17 31 36.8 -0.4
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURBB Kurchatov Arra 114.29 317 PKP PKPdf 17 31 36.4 -0.9
comp=Z,3.9nm,0.8s,baz=99,slow=1.9,SNR=29
KURBB PP **PP 17 32 44.8 +1.6**
comp=Z,1.0nm,0.8s,baz=95,slow=7.2,SNR=5.1
AAK Ala-Archa 116.37 308*c i*PKIKP **PKPdf 17 31 41.7 -0.1**
AAK pmax pmax
comp=Z,4.0nm,1.7s
AAK Ala-Archa 116.37 308 PKP **PKPdf 17 31 40.9 -0.9**
comp=Z,0.9nm,0.5s,baz=162,slow=3.7,SNR=9.7
GAR Garm 119.21 304 *e*PKPdf **PKPdf 17 31 46.2 -1.2**
GAR Garm 119.21 304 *e*PKiKP **PKPdf 17 31 46.2 -1.2**
BVAR Borovoye Array 119.37 320 PKP **PKPdf 17 31 46.6 -0.5**
comp=Z,7.6nm,0.6s,baz=94,slow=2.1,SNR=40
BRVK Borovoye 119.43 320 *e*PKPdf **PKPdf 17 31 46.5 -0.7**
BRVK Borovoye 119.43 320*c i*PKIKP **PKPdf 17 31 46.8 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 119.79 298 *e*PKPdf **PKPdf 17 31 48.3 -0.4**
KBL Kabul 119.79 298 *e*PKiKP **PKPdf 17 31 48.3 -0.4**
CHGR Chuyangaron 120.09 303 *e*PKPdf **PKPdf 17 31 48.3 -0.7**
OPO Ambohidratompo 120.10 232 PKP **PKiKP 17 31 50.3 +0.4**
comp=Z,5.2nm,0.7s,baz=109,slow=6.4
ILULI Ilulissat 122.76 20 *e*PKPdf **PKPdf 17 31 52.1 -0.9**
ILULI Ilulissat 122.76 20 *e*PKiKP **PKPdf 17 31 52.2 -0.9**
DAG Danmarks Havn 123.66 5 *i* P **PKPdf 17 31 53.6 -1.0**
comp=Z,12nm,0.8s
DAG Danmarks Havn 123.66 5 *i* PKIKP **PKPdf 17 31 53.6 -1.0**
DAG pmax pmax
comp=Z,9.0nm,0.8s
SFJD Kangerlussuaq 123.97 22 *i* P **PKPdf 17 31 54.9 -0.5**
comp=Z,8.8nm,0.8s
SFJD Kangerlussuaq 123.97 22 *i* PKIKP **PKPdf 17 31 54.9 -0.5**
SFJD pmax pmax
comp=Z,9.0nm,0.8s
SUMG Summit 124.14 13 *e*PKPdf **PKPdf 17 31 56.0 -0.2**
SUMG Summit 124.14 13 *i* P **PKiKP 17 31 56.5 0.0**
comp=Z,48nm,0.9s
SUMG Summit 124.14 13 *i* PKIKP **PKiKP 17 31 56.5 0.0**
SUMG pmax pmax
comp=Z,48nm,0.9s
SVE Sverdlovsk 124.37 325 *e*PKiKP **PKPdf 17 31 56.2 -0.3**
SVE pmax pmax
comp=Z,21nm,0.9s
BOSA Boshof 125.22 206 PKP **PKiKP 17 32 00.3 +0.6**
comp=Z,5.8nm,0.9s,baz=270,slow=0.7,SNR=5.7
ARU Arti 125.58 325 *e*PKPdf **PKPdf 17 31 58.4 -0.4**
ARU Arti 125.58 325 *i* PKIKP **PKPdf 17 31 59.0 +0.2**
ARU 17 33 57.1
ARU 17 38 18.8
ABKAR Akbulak array 126.31 316 *e*PKPdf **PKPdf 17 32 00.1 -0.4**
ABKAR *e*PP **PP 17 34 03.3 -0.9**
AKTO Aktyubinsk 127.32 318 PKP **PKPdf 17 32 02.4 0.0**
comp=Z,5.8nm,0.6s,baz=89,slow=2.9,SNR=22
LBTB Lobatse 128.23 208 PKP **PKiKP 17 32 05.7 -0.1**
comp=Z,2.9nm,0.7s,baz=275,slow=2.8,SNR=5.9
GYA0B ALIBECK ARRAY 128.75 302 *e*PKPdf **PKPdf 17 32 02.2 -3.4**
SCO Scoresbysund 128.97 10 *i* P **PKiKP 17 32 05.5 -0.2**
SCO Scoresbysund 128.97 10 *i* PKIKP **PKiKP 17 32 05.5 -0.2**
KIRV Kirov 129.42 330 PKP **PKPdf 17 32 05.2 -0.9**
comp=Z,29nm,0.6s,baz=94,slow=1.3,SNR=9.6
ARA0 ARCESS Array S 129.67 349 *e*PKPdf **PKPdf 17 32 06.3 0.0**
ARCES ARCESS Array B 129.67 349 *e*PKPdf **PKPdf 17 32 05.3 -1.0**
ARCES ARCESS Array B 129.67 349 *e*PKiKP **PKPdf 17 32 05.3 -1.0**
ARCES ARCESS Array B 129.67 349 PKP **PKPdf 17 32 06.3 0.0**
comp=Z,20nm,0.8s,baz=36,slow=1.0,SNR=37
ARE0 ARCESS Array S 129.67 349 *e*PKPdf **PKPdf 17 32 06.2 -0.1**
MATP Matopo 130.71 214 PKP **PKPdf 17 32 09.0 -1.0**
comp=Z,5.4nm,0.7s,baz=148,slow=0.5,SNR=8.6
MATP SKPbc **SKPab 17 34 47.2 +1.9**
comp=Z,4.9nm,0.8s,baz=153,slow=4.9,SNR=8.5
TMCR Tamitsa 130.79 340 *e*PKiKP **PKPdf 17 32 08.5 0.0**
TMCR pmax pmax
comp=Z,17nm,0.9s
KLMR Klimovskoe 132.44 336 *e*PKiKP **PKPdf 17 32 10.7 -1.0**
KLMR pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 132.44 336 *e*PKPdf **PKPdf 17 32 10.8 -1.0**
KLMR AMP 17 32 14.5
comp=Z,25nm,1.3s
LSZ Lusaka 135.06 218 *e*PKPdf **PKiKP 17 32 19.2 -0.6**
LSZ SKPbc **SKPbc 17 35 00.8 +1.5**
LSZ Lusaka 135.06 218 PKP **PKPdf 17 32 18.8 +0.6**
comp=Z,5.1nm,0.6s,baz=206,slow=1.5,SNR=11
LSZ SKPbc **SKPbc 17 35 00.9 +1.5**
comp=Z,3.2nm,0.9s,baz=61,slow=4.9,SNR=3.7
FIA1 FINESS Array S 136.44 343 *e*PKPpre PKPpre 17 32 12.1
FIA1 *e*PKPdf **PKPdf 17 32 18.8 -0.4**
FIA0 FINESS Array S 136.44 343 *e*PKPpre PKPpre 17 32 07.6
FIA0 *e*PKiKP **PKiKP 17 32 20.4 -0.7**
FIA0 *e*SKPbc **SKPbc 17 35 04.0 +2.1**
FIA0 FINESS Array S 136.44 343 *e*PKHKP PKPpre 17 32 07.6
FIA0 *e* 17 32 20.4
FIA0 *e* 17 35 04.0
FINES FINESS Array B 136.44 343 PKhKP PKPpre 17 32 07.6
comp=Z,2.2nm,0.5s,baz=34,slow=4.5,SNR=7.9
FINES PKP **PKiKP 17 32 20.4 -0.7**
comp=Z,9.0nm,0.7s,baz=90,slow=3.8,SNR=15
FINES SKPbc **SKPbc 17 35 04.0 +2.1**
comp=Z,4.6nm,0.9s,baz=299,slow=3.9,SNR=4.7
TSUM Tsumeb 136.66 203 PKP **PKiKP 17 32 23.3 +0.3**
comp=Z,1.5nm,0.8s,baz=238,slow=3.8,SNR=3.5
TSUM SKPbc **SKPbc 17 35 06.2 +2.1**
comp=Z,5.4nm,1.0s,baz=58,slow=5.5,SNR=3.1
KMBO Kilima Mbogo 138.41 242 *e*PKPpre PKPpre 17 32 15.7
KMBO *e* 17 32 16.2
KMBO *e*PKPdf **PKPdf 17 32 22.9 -1.8**
KMBO *e*PKiKP **PKiKP 17 32 23.8 -3.1**
KMBO *e*SKPbc **SKiKP 17 35 11.3 -1.5**
KMBO Kilima Mbogo 138.41 242 *e*PKHKP PKPpre 17 32 15.7
KMBO *i* 17 32 23.8
KMBO *e* 17 35 11.3
KMBO Kilima Mbogo 138.41 242 PKhKP PKPpre 17 32 18.1
comp=Z,0.9nm,0.4s,baz=58,slow=5.1,SNR=4.8
KMBO PKP **PKiKP 17 32 26.2 -0.7**
comp=Z,3.5nm,0.8s,baz=74,slow=4.5,SNR=8.8
KMBO SKPbc **SKiKP 17 35 12.5 -0.3**
comp=Z,0.5nm,0.3s,baz=58,slow=3.8,SNR=4.3
GNI Garni 138.77 307*c i*PKIKP **PKiKP 17 32 26.2 -0.5**
GNI pmax pmax
comp=Z,80nm,1.7s
RAYN Ar Rayn 139.27 282 *e*PKPdf **PKPdf 17 32 23.7 -1.9**
NC303 NORSAR Array S 139.57 353 *e*PKPpre PKPpre 17 32 17.2
NB2 NORSAR Subarra 139.77 353 PKP PKPpre 17 32 17.6
comp=Z,2.7nm,0.6s,baz=15,slow=3.1
NB200 NORSAR Array S 139.77 353 *e*PKPpre PKPpre 17 32 17.8
NB200 *e*PKPdf **PKPdf 17 32 26.4 +1.0**
NOA NORSAR Array B 139.77 353 PKhKP PKPpre 17 32 17.8
comp=Z,3.4nm,0.7s,baz=15,slow=2.3,SNR=22
NOA PKP **PKPdf 17 32 26.4 +1.0**
comp=Z,2.8nm,0.6s,baz=13,slow=4.1,SNR=15
IDID Didziasalis 141.15 337 *e*P **PKPdf 17 32 23.2 -4.7**
IIGN Ignalina 141.30 337 *e*P **PKPdf 17 32 23.8 -4.4**
PBUR Paburg 142.17 341 *e*P **PKiKP 17 32 39.3 +6.4**
SUW Suwalki 143.44 338 *e*PKP PKPab 17 32 30.4 +0.1
SUW Suwalki 143.44 338 *e*PKPdf PKPab 17 32 29.8 -0.6
SUW Suwalki 143.44 338 *e*PKiKP PKPab 17 32 30.4 0.0
AKASG Malin Array Be 143.48 330 PKP PKPab 17 32 30.1 -0.5
comp=Z,32nm,0.6s,baz=44,slow=4.3,SNR=166
AKBB Malin Array Si 143.48 330 *e*PKPdf PKPab 17 32 29.4 -1.2
KIEV Kiev 143.50 330 *e*PKPdf PKPab 17 32 29.4 -1.2
KIEV Kiev 143.50 330⇑*i*P PKPab 17 32 30.4 -0.3
KIEV Kiev 143.50 330⇑PKIKP PKPab 17 32 30.4 -0.3
AK11 Malin Array Si 143.53 330 *e*PKPdf PKPab 17 32 29.8 -1.0
KAC Achnashellach 143.59 6 *e*P PKPab 17 32 30.5 -0.4
MCD Coleburn Disti 143.68 4 *e*P PKPab 17 32 30.5 -0.7
KPL Plockton 143.71 6 *e*P PKPab 17 32 30.9 -0.4
MDO Dochfour 143.73 5 *e*P PKPab 17 32 30.9 -0.5
MBAR Mbarara 143.94 236 *e*PKPbc **PKPdf 17 32 34.5 +0.1**
MBAR Mbarara 143.94 236 *e*PKiKP **PKPdf 17 32 34.5 +0.1**
MBAR Mbarara 143.94 236 PKP **PKPdf 17 32 35.0 +0.6**
comp=Z,28nm,0.6s,baz=123,slow=4.3,SNR=53
SIM Simferopol' 144.27 319 *i* PKIKP **PKPab 17 32 34.0 +0.2**
SIM pmax pmax
comp=Z,73nm,1.1s
DRUM Mains of Drumt 144.39 4 *e*P PKPbc 17 32 32.6 -0.9
MUD Monsted U'grnd 144.49 353 ⇓*i*P **PKPdf 17 32 33.8 0.0**
comp=Z,182nm,1.3s
MUD Monsted U'grnd 144.49 353 ⇓*i*PKIKP **PKPdf 17 32 33.8 0.0**
MUD pmax pmax
comp=Z,180nm,1.3s
EDU Dundee 144.72 4 *e*P **PKPdf 17 32 34.1 -0.1**
INVG Invergeldie, C 144.76 5 *e*P **PKPdf 17 32 34.4 +0.1**
LAWE Loch Awe, Argy 144.80 7 *e*P **PKPdf 17 32 34.0 -0.3**
BSD Bornholm Skovb 144.80 347 *i* P PKPbc 17 32 34.8 0.0
BSD Bornholm Skovb 144.80 347 *i* PKIKP PKPbc 17 32 34.8 0.0
EAB Aberfoyle 144.98 6 *e*P **PKPdf 17 32 35.0 +0.3**
PGBU Glenifferbraes 145.34 6 *e*P **PKPbc 17 32 36.1 -0.2**
ESY Stoneypath 145.38 4 *e*P **PKPbc 17 32 36.2 -0.3**
EAU Auchinoon 145.39 5 *e*P **PKPbc 17 32 36.7 +0.1**
EBL Broad Law 145.49 4 *e*P **PKPbc 17 32 36.8 -0.1**
RGN Rugen 145.66 348 *e*PKPab **PKPab 17 32 39.5 +0.7**
baz=14,slow=4.2
GKP Gorka Klasztor 145.91 343 *e*PKP **PKPbc 17 32 38.5 +0.4**
GKP Gorka Klasztor 145.91 343 *e*PKP2 **PKPbc 17 32 38.5 +0.4**
ESK Eskdalemuir 145.93 5 *e*PKPdf **PKPbc 17 32 37.8 -0.3**
ESK Eskdalemuir 145.93 5 *e*P **PKPbc 17 32 37.5 -0.6**
ESK Eskdalemuir 145.93 5 *e*PKiKP **PKPbc 17 32 37.8 -0.3**
BEL Belsk 146.06 338 *e*PKP **PKPbc 17 32 39.2 +0.7**
BEL Belsk 146.06 338 *e*PKP2 **PKPbc 17 32 39.2 +0.7**
KIS Kishinev 146.13 326 PM 17 32 37.5
comp=Z,200nm,1.5s
KIS Kishinev 146.13 326⇑*i*P **PKPbc 17 32 38.0 -0.9**
KIS Kishinev 146.13 326⇑*i*PKIKP **PKPdf 17 32 37.0 +0.1**
KIS pmax pmax
comp=Z,200nm,1.5s
BHH Howats Hill 146.16 5 *e*P **PKPbc 17 32 38.6 -0.1**
GAL1 Galloway 146.25 6 *e*P **PKPbc 17 32 38.7 -0.3**
LVV L'vov 146.43 333 *e*PKP2 **PKPbc 17 32 39.6 -0.1**
EDMD Edmundbyers 146.50 3 *e*P **PKPbc 17 32 39.4 -0.4**
KESW Keswick, Cumbr 146.66 5 *e*P **PKPbc 17 32 40.1 -0.1**
GMM Mts of Mourne 146.72 8 *e*P **PKPbc 17 32 40.1 -0.2**
LEOM Leova 146.77 325⇓*i*P **PKPbc 17 32 41.2 +0.5**
LEOM Leova 146.77 325⇓*i*PKP2 **PKPbc 17 32 41.2 +0.5**
BSEG Bad Segeberg 146.78 350 *e*PKPdf **PKPdf 17 32 38.6 +0.9**
baz=18,slow=1.6
BSEG *e*PKPbc **PKPbc 17 32 41.1 +0.6**
baz=16,slow=2.4
HLG Helgoland 146.87 353 *e*PKPbc **PKPbc 17 32 41.6 +1.0**
baz=16,slow=2.4
WIM Isle of Man 146.96 7 *e*P **PKPbc 17 32 41.1 +0.2**
BR101 Keskin Array S 146.98 311 *e*PKPbc **PKPbc 17 32 41.7 0.0**
BR131 Keskin Array S 146.98 311 *e*PKPdf **PKPdf 17 32 39.5 +0.7**
BR131 *e*PKPbc **PKPbc 17 32 41.4 -0.3**
BRTR Keskin Array B 146.98 311 PKPbc **PKPbc 17 32 41.7 0.0**
comp=Z,8.9nm,0.7s,baz=148,slow=3.0,SNR=40
KWP Kalwaria Pacla 147.12 334 *e*PKP **PKPbc 17 32 42.0 +0.4**
KWP Kalwaria Pacla 147.12 334 *e*PKPdf **PKPbc 17 32 41.5 -0.1**
KWP Kalwaria Pacla 147.12 334 *e*PKP2 **PKPbc 17 32 42.0 +0.4**
TLCR 147.26 323⇑*i*P **PKPbc 17 32 42.6 +0.6**
TLCR 147.26 323⇑PKP2 **PKPbc 17 32 42.6 +0.6**
HPK Haverah Park 147.39 3 *e*P **PKPbc 17 32 42.1 0.0**
RUE Ruedersdorf 147.50 346 *e*PKPdf **PKPdf 17 32 39.7 +0.8**
baz=18,slow=1.6
RUE *e*PKPbc **PKPbc 17 32 43.0 +0.6**
baz=16,slow=2.4
BUR08 Bucovina Ar. S 147.51 329 *e*PKPdf **PKPdf 17 32 40.9 +1.6**
BUR08 *e*PKPbc **PKPbc 17 32 43.4 +0.6**
ANTO Ankara 147.51 312 *e*PKPdf **PKPdf 17 32 40.5 +0.9**
ANTO *e*PKPbc **PKPbc 17 32 43.3 +0.3**
ANTO Ankara 147.51 312⇑*i*P **PKPdf 17 32 40.0 +0.5**
ANTO Ankara 147.51 312⇑PKIKP **PKPdf 17 32 40.0 +0.5**
BUR04 Bucovina Ar. S 147.52 329 *e*PKPdf **PKPdf 17 32 40.5 +1.2**
BUR04 *e*PKPbc **PKPbc 17 32 43.5 +0.7**
BURAR Bucovina Array 147.52 329⇑*i*P **PKiKP 17 32 43.9 -0.5**
BURAR Bucovina Array 147.52 329⇑PKP2 **PKiKP 17 32 43.9 -0.5**
BR231 Keskin MP Arra 147.53 312 *e*PKPbc **PKPbc 17 32 43.1 0.0**
BIZ Bicaz 147.56 328⇓*i*P **PKPbc 17 32 43.5 +0.7**
TESR Tescani 147.58 327⇑*i*P **PKPbc 17 32 42.9 +0.1**
CFR Carcaliu 147.65 323⇓*i*P **PKPbc 17 32 42.4 -0.6**
CFR Carcaliu 147.65 323⇓PKIKP **PKPbc 17 32 42.4 -0.6**
WPS Cemaes, Angles 147.71 7 *e*P **PKPbc 17 32 42.7 -0.2**
WME Myndd Eilian 147.74 6 *e*P **PKPbc 17 32 42.8 -0.2**
OJC Ojcow 147.75 338 *e*PKP **PKPbc 17 32 43.1 -0.1**
OJC Ojcow 147.75 338 *e*PKPdf **PKPdf 17 32 39.7 +0.2**
OJC *e*PKPbc **PKPbc 17 32 43.1 -0.1**
OJC Ojcow 147.75 338 *e*PKP2 **PKPbc 17 32 43.1 -0.1**
WLF1 Llynfaes 147.83 7 *e*P **PKPbc 17 32 43.1 -0.1**
YRC Rhoscolyn 147.85 7 *e*P **PKPbc 17 32 42.6 -0.6**
ODBI Odobesti 147.86 325⇑*i*P **PKiKP 17 32 44.9 -0.1**
WPM1 Penmaenmawr 147.91 6 *e*P **PKPbc 17 32 43.4 -0.1**
TIRR Tirgusor 147.93 322 *e*PKPdf **PKPdf 17 32 39.1 -0.8**
TIRR *e*PKPbc **PKPbc 17 32 43.8 0.0**
TIRR Tirgusor 147.93 322⇓*i*P **PKPbc 17 32 44.0 +0.2**
VRI Vrincioaia 147.97 326⇓*i*P **PKPbc 17 32 43.8 -0.1**
VRI Vrincioaia 147.97 326⇓PKP2 **PKPbc 17 32 43.8 -0.1**
YLL Llanberis 148.00 6 *e*P **PKPbc 17 32 43.4 -0.2**
PLOR Plostina 148.02 326⇓*i*P **PKPbc 17 32 44.0 0.0**
PLOR Plostina 148.02 326⇓PKP2 **PKPbc 17 32 44.1 0.0**
TLB Topalu 148.06 323⇓*i*P **PKPbc 17 32 44.5 +0.4**
TLB Topalu 148.06 323⇓PKP2 **PKPbc 17 32 44.5 +0.4**
UZH Uzhgorod 148.07 333*c i*PKHKP PKPpre 17 32 40.0
UZH *e* 17 32 49.5
RETH Rethem/Aller, 148.09 351 *e*PKPdf **PKPdf 17 32 40.6 +0.7**
baz=18,slow=1.6
RETH *e*PKPbc **PKPbc 17 32 44.4 +0.5**
baz=16,slow=2.4
NRDL Niedersach Rie 148.21 350 *e*PKPdf **PKPdf 17 32 41.0 +0.9**
baz=18,slow=1.6
NRDL *e*PKPbc **PKPbc 17 32 44.7 +0.6**
baz=16,slow=2.4
NIE Niedzica 148.23 336 *e*PKP **PKiKP 17 32 45.4 -0.3**
NIE Niedzica 148.23 336 *e*PKP2 **PKiKP 17 32 45.4 -0.3**
OZUR 148.30 327⇑*i*P **PKPbc 17 32 45.2 +0.5**
ARCR ARCALIA 148.31 329⇓*i*P **PKiKP 17 32 45.5 -0.4**
LLW Llanuwchllyn 148.34 6 *e*P **PKPbc 17 32 44.1 -0.4**
FOEL Foel Wylfa 148.34 5 *e*P **PKPbc 17 32 44.5 -0.1**
KSP Ksiaz 148.34 342 *e*PKP **PKiKP 17 32 45.3 -0.5**
KSP Ksiaz 148.34 342 *e*PKP2 **PKiKP 17 32 45.3 -0.5**
TRPA Tarpa 148.35 333⇓*e*PKiKP **PKPbc 17 32 44.1 -0.6**
ASSE Asse, Remlinge 148.46 349 *e*PKPdf **PKPdf 17 32 41.3 +0.9**
baz=18,slow=1.6
ASSE *e*PKPbc **PKPbc 17 32 45.3 +0.6**
baz=16,slow=2.4
DOPR Dopca 148.59 327⇓*i*P **PKiKP 17 32 46.6 +0.1**
MLR Muntele Rosu 148.63 326 *e*PKPdf **PKPdf 17 32 40.9 -0.3**
MLR *e*PKPbc **PKPbc 17 32 45.4 -0.3**
MLR Muntele Rosu 148.63 326⇑*i*P **PKPbc 17 32 46.0 +0.3**
MLR Muntele Rosu 148.63 326⇑PKP2 **PKPbc 17 32 46.0 +0.3**
OKC Ostrava-Krasne 148.64 339⇑*e*PKP **PKiKP 17 32 46.2 -0.3**
OKC Ostrava-Krasne 148.64 339 *e*PKP2 **PKiKP 17 32 46.2 -0.3**
UPC Upice 148.72 342⇑*e*PKP **PKiKP 17 32 46.2 -0.4**
IBBN Ibbenburen 148.73 352 *e*PKPdf **PKPdf 17 32 41.8 +0.8**
baz=18,slow=1.6
IBBN *e*PKPbc **PKPbc 17 32 46.0 +0.5**
baz=16,slow=2.4
IBBN *e*PKPab **PKPab 17 32 50.8 -0.5**
baz=14,slow=4.2
HLM1 Long Mynd 148.74 5 *e*P **PKPbc 17 32 45.5 -0.1**
LANS Liptovska Anna 148.76 337 *e*PKP **PKPdf 17 32 42.0 +0.8**
LANS *e* 17 32 47.4
CLL Collm 148.77 346 *e*PKPdf **PKPdf 17 32 41.7 +0.6**
CLL *e*PKPbc **PKPbc 17 32 45.7 0.0**
CLL Collm 148.77 346 *e*PKPdf **PKPdf 17 32 41.7 +0.6**
baz=18,slow=1.6
CLL *e*PKPbc **PKPbc 17 32 46.1 +0.5**
baz=16,slow=2.4
CLL Collm 148.77 346 *e*PKPdf **PKPdf 17 32 42.0 +0.9**
CLL ⇓*i*PKPbc **PKPbc 17 32 45.9 +0.3**
CLL comp=Z,77nm,1.1s *i* PKPab **PKPab 17 32 50.9 -0.6**
comp=Z,19nm,0.9s
CLL *e*pPKPab **pPKPab 17 34 50.0 -0.5**
DPC Dobruska-Polom 148.77 341⇑*e*PKP **PKPbc 17 32 46.2 +0.4**
DPC Dobruska-Polom 148.77 341 *e*PKP2 **PKPbc 17 32 46.2 +0.4**
CLZ Clausthal 148.79 349 *e*PKPdf **PKPdf 17 32 42.0 +0.8**
baz=18,slow=1.6
CLZ *e*PKPbc **PKiKP 17 32 46.6 -0.2**
baz=16,slow=2.4
SECR 148.86 325⇓*i*P **PKPbc 17 32 46.6 +0.5**
KRLC Kraliky 148.88 341⇑*e*PKP **PKiKP 17 32 46.6 -0.4**
KRLC Kraliky 148.88 341 *e*PKP2 **PKiKP 17 32 46.6 -0.4**
CSS Mathiatis 148.89 303 *e*PKPdf **PKPdf 17 32 41.2 -0.6**
CSS *e*PKPbc **PKPbc 17 32 46.3 -0.3**
MORC Moravsky Berou 148.90 340 *e*PKPdf **PKPdf 17 32 41.6 +0.2**
MORC *e*PKPbc **PKPbc 17 32 46.4 +0.3**
MORC Moravsky Berou 148.90 340⇑*i*P **PKiKP 17 32 46.9 -0.2**
MORC Moravsky Berou 148.90 340⇑PKP2 **PKiKP 17 32 46.9 -0.2**
MORC Moravsky Berou 148.90 340 *e*PKP **PKiKP 17 32 46.7 -0.4**
CJR Cluj-Napoca 148.94 330⇓*i*P **PKiKP 17 32 47.0 -0.3**
CJR Cluj-Napoca 148.94 330⇓PKP2 **PKiKP 17 32 47.0 -0.3**
BRG Berggiesshubel 148.95 344 *e*PKP **PKPdf 17 32 41.8 +0.4**
comp=Z,53nm,2.5s
BRG Berggiesshubel 148.95 344 *i* PKP **PKPbc 17 32 46.5 +0.4**
comp=Z,101nm,1.5s
BRG Berggiesshubel 148.95 344 *i* PKP **PKPab 17 32 52.4 +0.1**
comp=Z,38nm,1.4s
BRG *e*pPKP **pPKPbc 17 34 47.6 -1.3**
comp=Z,21nm,1.7s
BRG Berggiesshubel 148.95 344 *e*PKPdf **PKPdf 17 32 42.1 +0.7**
baz=18,slow=1.6
BRG *e*PKPbc **PKiKP 17 32 46.7 -0.3**
baz=16,slow=2.4
BRG Berggiesshubel 148.95 344 *e*PKHKP **PKPdf 17 32 41.8 +0.4**
BRG *i* 17 32 52.4
BRG pmax pmax
comp=Z,53nm,2.5s
BRG pmax pmax
comp=Z,101nm,1.5s
BRG pmax pmax
comp=Z,38nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.7s
FBE Freiberg 149.05 345 *e*PKPdf **PKPdf 17 32 42.6 +1.1**
baz=18,slow=1.6
FBE *e*PKPbc **PKiKP 17 32 47.3 0.0**
baz=16,slow=2.4
FBE *e*PKPab **PKPab 17 32 53.3 +0.6**
baz=14,slow=4.2
PVCC Panska Ves 149.10 344⇑*e*PKP **PKiKP 17 32 47.1 -0.3**
PVCC Panska Ves 149.10 344 *e*PKP2 **PKiKP 17 32 47.1 -0.3**
VOIR 149.13 327⇑*i*P **PKPbc 17 32 46.7 -0.1**
NEUB Neuenburg 149.13 347 *e*PKPdf **PKPdf 17 32 42.5 +0.9**
baz=18,slow=1.6
NEUB *e*PKPbc **PKiKP 17 32 47.1 -0.3**
baz=16,slow=2.4
NEUB *e*PKPab **PKPab 17 32 53.3 +0.3**
baz=14,slow=4.2
GTTG Gvttingen 149.15 350 *e*PKPdf **PKPdf 17 32 42.5 +0.9**
baz=18,slow=1.6
GTTG *e*PKPbc **PKiKP 17 32 47.3 -0.2**
baz=16,slow=2.4
WTSB Winterswijk 149.18 353 *e*PKP **PKPbc 17 32 46.6 +0.1**
comp=Z,114nm,0.7s
LEF Lefka 149.19 303⇑*i*P **PKPbc 17 32 47.3 +0.1**
LTVH Ltavrtes, Hu 149.20 332⇓*e*PKiKP **PKPbc 17 32 47.1 +0.3**
MCH1 Michaelchurch 149.25 5 *e*P **PKPbc 17 32 46.5 -0.3**
PRD Provadia 149.27 321 *e*P **PKiKP 17 32 47.7 -0.3**
DRGR 149.29 331⇑*i*P **PKiKP 17 32 47.8 -0.2**
ARR Arges 149.39 327⇑*i*P **PKiKP 17 32 48.9 +0.6**
MONM Monmouth 149.42 5 *e*P **PKPbc 17 32 46.9 -0.2**
YLV Yalova 149.50 315⇓*i*P **PKPbc 17 32 47.8 -0.1**
VYHS Vyhne 149.54 337 *e*PKP **PKiKP 17 32 48.3 -0.1**
GOPC GO Pecny, Ondr 149.60 343⇑*e*PKP **PKiKP 17 32 48.3 -0.2**
PRU Pruhonice 149.60 343⇑*e*PKP **PKiKP 17 32 48.2 -0.2**
VRAC Vranov 149.61 340⇑*i*P **PKiKP 17 32 48.7 +0.2**
VRAC Vranov 149.61 340 *e*PKP **PKiKP 17 32 48.4 -0.1**
PSZ Piszkesteto 149.61 335 *e*PKPdf **PKPdf 17 32 42.6 0.0**
PSZ *e*PKPbc **PKPbc 17 32 47.1 -0.8**
PSZ Piszkesteto 149.61 335⇓*i*P **PKPbc 17 32 46.9 -1.0**
PSZ Piszkesteto 149.61 335⇓PKHKP **PKPbc 17 32 46.9 -1.0**
PSZ Piszkesteto 149.61 335⇓*e*PKiKP **PKPbc 17 32 48.0 +0.1**
BUG Bochum--Univer 149.64 353 *e*PKPbc **PKPbc 17 32 48.1 +0.4**
baz=16,slow=2.4
JAVC Velka Javorina 149.64 338 *e*PKP **PKiKP 17 32 49.7 +1.0**
MOX Moxa 149.70 347 *e*PKPdf **PKPdf 17 32 43.2 +0.6**
baz=18,slow=1.6
MOX *e*PKPbc **PKiKP 17 32 48.5 -0.2**
baz=16,slow=2.4
MOX *e*PKPab **PKPab 17 32 55.6 +0.2**
baz=14,slow=4.2
TANN Tannenbergstha 149.73 346 *e*PKPdf **PKPdf 17 32 43.3 +0.6**
baz=18,slow=1.6
TANN *e*PKPbc **PKiKP 17

ISP	**Isparta**	**149.98**	**310**	⇓*i*P	**PKPbc**	17 32 48.5	-0.7
SMOL	**Smolenice**	**150.02**	**338**	*e*PKP	**PKiKP**	17 32 49.9	+0.5
WOL	**Wolverton**	**150.05**	**3**	*e*P	**PKPbc**	17 32 48.5	-0.2
SZH	**Strazhica**	**150.08**	**323**	*e*P	**PKPbc**	17 32 49.2	+0.1
PHSR	**Pinarhisar**	**150.11**	**318**	⇑*i*P	**PKPbc**	17 32 49.2	0.0
SIRR	**Siria**	**150.16**	**331**	⇑*i*P	**PKiKP**	17 32 49.7	-0.1
JMB	**Yambol**	**150.19**	**321**	*e*P	**PKiKP**	17 32 49.7	-0.2
MODS	**Modra-Piesok**	**150.19**	**338**	*e*PKIKP	**PKiKP**	17 32 50.3	+0.5
MODS	**Modra-Piesok**	**150.19**	**338**	*e*PKP	**PKiKP**	17 32 50.3	+0.5
MANZ	**Manzenberg**	**150.21**	**346**	*e*PKPdf	**PKPdf**	17 32 43.9	+0.5
	baz=18,slow=1.6						
MANZ				*e*PKPbc	**PKiKP**	17 32 49.9	+0.1
	baz=16,slow=2.4						
GZR	**Gura Zlata**	**150.29**	**329**	⇓*i*P	**PKPbc**	17 32 49.4	-0.2
GZR	**Gura Zlata**	**150.29**	**329**	⇓PKIKP	**PKPbc**	17 32 49.4	-0.2
BUD	**Budapest**	**150.30**	**335**	⇑*i*PKiKP	**PKPbc**	17 32 49.1	-0.3
ROTZ	**Rotzenmuhle**	**150.39**	**346**	*e*PKPbc	**PKiKP**	17 32 50.1	0.0
	baz=16,slow=2.4						
ZST	**Bratislava**	**150.41**	**338**	*e*PKIKP	**PKPbc**	17 32 49.7	+0.1
ZST	**Bratislava**	**150.41**	**338**	*e*PKP	**PKPbc**	17 32 49.7	+0.1
VLAD	**Vladila**	**150.44**	**325**	⇓*i*P	**PKiKP**	17 32 50.6	+0.2
BEBN	**Eben Emael**	**150.44**	**354**	⇓PKPbc	**PKPbc**	17 32 49.7	+0.1
HGN	**Heimansgroeve**	**150.45**	**354**	*e*PKP	**PKPbc**	17 32 49.9	+0.2
	comp=Z,33nm,0.8s						
EDRB	**Edirne**	**150.46**	**320**	P	**PKiKP**	17 32 50.3	-0.2
AMBH	**Ambrzefalva**	**150.51**	**332**	⇓*e*PKiKP	**PKPbc**	17 32 50.1	+0.2
UCC	**Uccle**	**150.54**	**356**	⇓PKPbc	**PKPbc**	17 32 50.1	+0.2
AHRW	**Bad Neuenahr-A**	**150.55**	**353**	*e*PKPdf	**PKPdf**	17 32 44.7	+0.8
	baz=18,slow=1.6						
AHRW				*e*PKPbc	**PKiKP**	17 32 50.3	-0.1
	baz=16,slow=2.4						
AHRW				*e*PKPab	**PKPab**	17 32 59.1	+0.2
	baz=14,slow=4.2						
MEM	**Membach**	**150.60**	**354**	⇓PKPbc	**PKPbc**	17 32 50.2	+0.2
MEM				⇓PKPab	**PKPab**	17 32 56.2	-2.9
SRE	**Strehaia**	**150.60**	**327**	⇑*i*P	**PKiKP**	17 32 50.9	+0.2
SRE	**Strehaia**	**150.60**	**327**	⇑PKIKP	**PKiKP**	17 32 50.9	+0.2
KHC	**Kasperske Hory**	**150.64**	**344**	*e*PKPdf	**PKPdf**	17 32 44.0	-0.2
KHC				*e*PKPbc	**PKPbc**	17 32 50.5	+0.3
KHC	**Kasperske Hory**	**150.64**	**344**	*e*PKPDF	**PKPdf**	17 32 45.0	+0.8
KHC				⇑*e*PKP	**PKiKP**	17 32 51.0	+0.3
KHC				*e*PKPAB	**PKPab**	17 32 59.5	0.0
KHC				*ep*PKP	**pPKPbc**	17 34 55.0	+1.7
KHC	**Kasperske Hory**	**150.64**	**344**	*e*PKIKP	**PKPdf**	17 32 45.0	+0.8
KHC				*e*		17 32 59.5	
TNS	**Taunus Mts**	**150.67**	**351**	*e*PKPbc	**PKiKP**	17 32 50.8	+0.1
	baz=16,slow=2.4						
BZS	**Buzias**	**150.68**	**330**	⇓*i*P	**PKPbc**	17 32 50.4	0.0
BZS	**Buzias**	**150.68**	**330**	⇓PKIKP	**PKPbc**	17 32 50.4	0.0
GRA1	**Grafenberg Arr**	**150.68**	**347**	*e*PKPbc	**PKPbc**	17 32 50.2	-0.1
GRF	**Grafenberg Arr**	**150.68**	**347**	*e*PKPbc	**PKiKP**	17 32 50.7	0.0
	baz=16,slow=2.4						
GRF				*e*PKPab	**PKPab**	17 33 00.2	+0.6
	baz=14,slow=4.2						
GRF				*ep*PKPbc	**pPKPbc**	17 34 55.4	+2.0
GRFO	**Grafenberg**	**150.68**	**347**	*e*PKPbc	**PKPbc**	17 32 49.6	-0.6
GRFO				*e*PKPab	**PKPab**	17 32 59.7	+0.2
WET	**Wettzell**	**150.81**	**344**	*e*PKPdf	**PKPdf**	17 32 45.0	+0.6
	baz=18,slow=1.6						
WET				*e*PKPbc	**PKiKP**	17 32 51.1	+0.1
	baz=16,slow=2.4						
WET				*e*PKPab	**PKPab**	17 33 00.8	+0.7
	baz=14,slow=4.2						
HERR	**Herculane**	**150.84**	**328**	⇓*i*P	**PKPbc**	17 32 50.9	+0.1
BCLA	**Clavier**	**150.85**	**355**	⇓PKPbc	**PKPbc**	17 32 50.5	-0.1
BCLA				⇑PKPab	**PKPab**	17 32 58.0	-2.2
GEC2	**GERESS Array S**	**150.87**	**343**	*e*PKPdf	**PKPdf**	17 32 44.1	-0.5
GEC2				*e*PKPbc	**PKPbc**	17 32 50.9	0.0
GEC2	**GERESS Array S**	**150.87**	**343**	*e*PKPdf	**PKPdf**	17 32 45.0	+0.4
	baz=18,slow=1.6						
GEC2				*e*PKPbc	**PKiKP**	17 32 51.2	-0.1
	baz=16,slow=2.4						
GERES	**GERESS Array B**	**150.87**	**343**	PKP	**PKPdf**	17 32 44.7	+0.1
	comp=Z,1.4nm,0.7s,baz=17,slow=1.4,SNR=13						
GERES				PKPbc	**PKPbc**	17 32 51.1	+0.2
	comp=Z,26nm,0.8s,baz=29,slow=3.0,SNR=104						
GEA0	**GERESS Array S**	**150.88**	**343**	*e*PKPdf	**PKPdf**	17 32 42.8	-1.8
GEA0				*e*PKPbc	**PKPbc**	17 32 50.6	-0.2
SOP	**Sopron**	**151.03**	**339**	⇓*e*PKiKP	**PKPbc**	17 32 51.1	-0.1
CONA	**Conrad Observa**	**151.05**	**340**	*i* PKiKP	**PKiKP**	17 32 51.8	+0.1
	comp=Z,42nm,0.7s,SNR=28						
DIM	**Dimitrovgrad**	**151.06**	**321**	*e*P	**PKiKP**	17 32 51.8	+0.1
BANR	**Banloc**	**151.07**	**330**	⇑*i*P	**PKiKP**	17 32 52.5	+0.9
TIH	**Tihany**	**151.22**	**336**	⇓*i*PKiKP	**PKPbc**	17 32 51.1	-0.5
DOU	**Dourbes**	**151.22**	**356**	⇓PKPbc	**PKiKP**	17 32 51.8	0.0
MPEP	**Malo Peshtene**	**151.23**	**325**	*e*P	**PKiKP**	17 32 52.0	0.0
MDVR	**Moldovita**	**151.25**	**329**	⇓P	**PKiKP**	17 32 52.0	-0.1
ALN	**Alexandroupoli**	**151.44**	**319**	*e*PKPdf	**PKPdf**	17 32 43.8	-1.7
ALN				*e*PKPbc	**PKPbc**	17 32 50.9	-1.3
ALN	**Alexandroupoli**	**151.44**	**319**	P	**PKPbc**	17 32 51.8	-0.4
ALN	**Alexandroupoli**	**151.44**	**319**	*e*PKIKP	**PKPdf**	17 32 43.8	-1.7
ALN				*e*		17 32 50.9	
WLF	**Walferdange**	**151.52**	**353**	*e*PKPdf	**PKPdf**	17 32 44.9	-0.5
WLF				*e*PKPbc	**PKiKP**	17 32 52.4	0.0
WLF	**Walferdange**	**151.52**	**353**	*e*PKPbc	**PKiKP**	17 32 53.1	+0.7
	baz=16,slow=2.4						
WLF	**Walferdange**	**151.52**	**353**	*e*PKIKP	**PKPdf**	17 32 44.9	-0.5
WLF	**Walferdange**	**151.52**	**353**	⇑PKPbc	**PKiKP**	17 32 52.9	+0.5
WLF				⇑PKPab	**PKPab**	17 33 03.6	+0.6
RDO	**Rodhopi**	**151.61**	**319**	P	**PKPbc**	17 32 52.6	0.0
MOA	**Molln**	**151.62**	**342**	*i* PKPbc	**PKPbc**	17 32 52.5	0.0
	comp=Z,15nm,0.7s,SNR=7.7						
ARSA	**Arzberg**	**151.76**	**339**	*i* PKPbc	**PKPbc**	17 32 52.7	-0.1
	comp=Z,7.4nm,0.9s						
RZN	**Rozhen**	**151.77**	**321**	*e*P	**PKPbc**	17 32 52.8	-0.4
FRGS	**Fruska Gora**	**151.84**	**332**	⇓*i*P	**PKPbc**	17 32 53.1	+0.1
EZN	**Ezine**	**151.88**	**316**	⇑*i*P	**PKiKP**	17 32 53.4	0.0
EZN	**Ezine**	**151.88**	**316**	⇑PKIKP	**PKiKP**	17 32 53.4	0.0
STU	**Stuttgart**	**151.96**	**349**	*e*PKPdf	**PKPdf**	17 32 46.4	+0.3
STU				*e*PKPbc	**PKPbc**	17 32 53.0	-0.1
STU				*e*PKPab	**PKPab**	17 33 04.8	-0.2
STU	**Stuttgart**	**151.96**	**349**	*e*PKPdf	**PKPdf**	17 32 46.8	+0.7
	baz=18,slow=1.6						
STU				*e*PKPbc	**PKiKP**	17 32 53.7	+0.3
	baz=16,slow=2.4						
STU				*e*PKPab	**PKPab**	17 33 05.0	0.0
	baz=14,slow=4.2						
BEHE	**Becsehely**	**152.00**	**337**	*e*P	**PKiKP**	17 32 53.6	+0.1
BEHE	**Becsehely**	**152.00**	**337**	*e*PKiKP	**PKPbc**	17 32 53.1	-0.2
VTS	**Vitosha**	**152.00**	**324**	*e*PKPdf	**PKPdf**	17 32 46.1	-0.4
VTS				*e*PKPbc	**PKPbc**	17 32 53.5	-0.2
VTS				*e*PKPab	**PKPab**	17 33 06.2	+0.6
VTS	**Vitosha**	**152.00**	**324**	⇓*i*P	**PKiKP**	17 32 54.0	+0.1
VTS	**Vitosha**	**152.00**	**324**	P	**PKPbc**	17 32 53.8	+0.1
VTS	**Vitosha**	**152.00**	**324**	*e*PKIKP	**PKPdf**	17 32 46.1	-0.4
VTS				*e*		17 33 06.2	
VTS	**Vitosha**	**152.00**	**324**	*e*P	**PKPbc**	17 32 51.0	-2.7
SMTH	**Samothraki Isl**	**152.01**	**318**	P	**PKPbc**	17 32 52.7	-0.9
JSA	**Saint Aubin**	**152.10**	**5**	*e*P	**PKPbc**	17 32 53.2	-0.2
FUR	**Furstenfeldbru**	**152.11**	**346**	*e*PKPdf	**PKPdf**	17 32 46.8	+0.4
	baz=18,slow=1.6						
FUR				*e*PKPbc	**PKiKP**	17 32 54.0	+0.3
	baz=16,slow=2.4						
FUR				*e*PKPab	**PKPab**	17 33 06.2	+0.6
	baz=14,slow=4.2						
KAVA	**Kavala**	**152.31**	**320**	P	**PKPbc**	17 32 53.8	-0.4
MMB	**Musomiste**	**152.40**	**322**	*e*P	**PKPbc**	17 32 54.1	-0.3
SOKA	**Soboth**	**152.42**	**339**	*i* PKPbc	**PKPbc**	17 32 53.9	-0.4
	comp=Z,15nm,0.8s,SNR=9.1						
THAS	**Thassos island**	**152.43**	**319**	P	**PKPbc**	17 32 53.2	-1.2
PERS	**Pernice**	**152.43**	**339**	*i* PKPdf	**PKPdf**	17 32 45.9	-1.1
PERS				*i* PKPbc	**PKPbc**	17 32 53.8	-0.5
PERS				*e*		17 33 06.8	
NVR	**Nevrokopi**	**152.48**	**321**	P	**PKPbc**	17 32 54.2	-0.4
BFO	**Black Forest**	**152.53**	**350**	*e*PKPdf	**PKPdf**	17 32 46.4	-0.6
BFO				*e*PKPbc	**PKPbc**	17 32 54.4	0.0
BFO				*e*PKPab	**PKPab**	17 33 06.5	-0.9
BFO	**Black Forest**	**152.53**	**350**	*e*PKPbc	**PKiKP**	17 32 54.7	+0.1
	baz=16,slow=2.4						
BFO				*e*PKPab	**PKPab**	17 33 07.4	-0.1
	baz=14,slow=4.2						
BFO	**Black Forest**	**152.53**	**350**	*e*PKIKP	**PKPdf**	17 32 46.4	-0.6
BFO				*e*		17 33 06.5	
DIVS	**Divibare**	**152.58**	**330**	*e*PKPdf	**PKPdf**	17 32 46.5	-0.8
DIVS				*e*PKPbc	**PKPbc**	17 32 54.8	-0.1
DIVS	**Divibare**	**152.58**	**330**	⇓*i*P	**PKPbc**	17 32 54.7	-0.1
KBA	**Koelnbreinsper**	**152.58**	**342**	*i* PKPbc	**PKPbc**	17 32 54.2	-0.6
	comp=Z,19nm,0.8s,SNR=8.5						
KKB	**Krupnik**	**152.59**	**323**	*e*P	**PKPbc**	17 32 54.7	-0.1
OBKA	**Obir**	**152.73**	**340**	*i* PKPbc	**PKPbc**	17 32 54.4	-0.6
	comp=Z,8.9nm,0.7s						
SRS	**Serrai**	**152.78**	**321**	P	**PKPab**	17 33 08.9	+0.1
WATA	**Walderalm**	**152.81**	**345**	*i* PKPbc	**PKPbc**	17 32 55.1	-0.2
	comp=Z,8.0nm,0.6s						
ECH	**Echery**	**152.82**	**352**	*e*PKPbc	**PKPbc**	17 32 54.4	-0.7
ECH				*e*PKPab	**PKPab**	17 33 07.2	-1.4
RETA	**Reutte**	**152.87**	**346**	*i* PKPbc	**PKPbc**	17 32 55.2	-0.1
	comp=Z,10nm,0.7s						
WTTA	**Wattenberg**	**152.87**	**345**	*i* PKiKP	**PKPbc**	17 32 55.4	-0.1
	comp=Z,29nm,0.7s,SNR=8.1						
MYKA	**Terra Mystica**	**152.90**	**341**	*i* PKPbc	**PKPbc**	17 32 54.6	-0.8
	comp=Z,15nm,0.7s,SNR=9.4						
MOTA	**Moosalm**	**152.92**	**345**	*i* PKPbc	**PKPbc**	17 32 55.3	-0.2
	comp=Z,22nm,0.9s,SNR=7.3						
SQTA	**Sankt Quirin**	**153.01**	**345**	*i* PKPbc	**PKPbc**	17 32 55.6	-0.1
	comp=Z,21nm,0.8s,SNR=6.7						
CRES	**Cresnjev**	**153.02**	**338**	⇓*i*P	**PKPbc**	17 32 55.3	-0.3
BBLS	**Lazići**	**153.03**	**330**	⇓*i*P	**PKiKP**	17 32 55.9	+0.1
HAPS	**Han Pijesak,BI**	**153.06**	**331**	*e*P	**PKPbc**	17 32 55.0	-0.9
ABTA	**Abfaltersbach**	**153.12**	**343**	*i* PKPdf	**PKPdf**	17 32 47.2	-0.8
	comp=Z,8.3nm,0.8s						
ABTA				*i* PKPbc	**PKPbc**	17 32 55.2	-0.7
	comp=Z,30nm,0.7s						
LJU	**Ljubljana**	**153.15**	**339**	⇓*i*P	**PKPbc**	17 32 55.8	0.0
KNT	**Kendrikon**	**153.16**	**322**	P	**PKPab**	17 33 10.9	+0.6
STIP	**Stip**	**153.20**	**324**	*e*PKP	**PKPdf**	17 32 47.7	-0.4
STIP				*e*PKP	**PKPbc**	17 32 55.0	-1.1
STIP				*e*PKP	**PKPab**	17 33 09.9	-0.6
VAY	**Valandovo**	**153.24**	**323**	*e*PKP	PKPdf	17 32 38.4	-10
VAY				*e*PKP	**PKPbc**	17 32 55.0	-1.1
VAY				*e*PKP	**PKPab**	17 33 11.1	+0.4
DAVA	**Damuels**	**153.25**	**347**	*i* PKiKP	**PKPbc**	17 32 56.2	0.0
	comp=Z,21nm,0.9s						
VISS	**Visnje**	**153.25**	**339**	*e*PKPdf	**PKPdf**	17 32 47.6	-0.5
VISS				*i* PKPbc	**PKPbc**	17 32 56.0	-0.1
VISS				*i* PKPab	**PKPab**	17 33 08.3	-2.3
BLY	**Banja Luka**	**153.28**	**334**	*e*PKPdf	**PKPdf**	17 32 47.2	-0.9
BLY				*e*PKPbc	**PKPbc**	17 32 55.6	-0.5
BLY				*e*PKPab	**PKPab**	17 33 10.5	-0.2
BLY	**Banja Luka**	**153.28**	**334**	⇓*i*P	**PKPbc**	17 32 56.2	0.0
FETA	**Feichten**	**153.31**	**346**	*i* PKPdf	**PKPdf**	17 32 48.1	-0.2
	comp=Z,15nm,0.9s						
FETA				*i* PKiKP	**PKiKP**	17 32 56.8	+0.4
	comp=Z,20nm,0.9s						
BOJS	**Bojanci**	**153.37**	**338**	*i* PKPdf	**PKPdf**	17 32 48.3	0.0
BOJS				*i* PKPbc	**PKiKP**	17 32 56.6	+0.3
BOJS				*i* PKPab	**PKPab**	17 33 11.3	+0.2
CEY	**Cerknica**	**153.45**	**339**	⇓*i*P	**PKPbc**	17 32 56.3	-0.2
FUORN	**Ofenpass-Fuorn**	**153.80**	**346**	*e*PKPdf	**PKPdf**	17 32 47.9	-1.2
FUORN				*e*PKPbc	**PKiKP**	17 32 58.1	+0.5
FUORN				*e*PKPab	**PKPab**	17 33 12.7	-0.5
LIT	**Litokhoron**	**154.08**	**321**	*e*PKPbc	**PKPbc**	17 32 57.3	-0.8
LIT				*e*PKPab	**PKPab**	17 33 14.0	-0.3
TUE	**Stuetta**	**154.13**	**347**	*e*PKPdf	**PKPdf**	17 32 48.8	-0.8
TUE				*e*PKPbc	**PKiKP**	17 32 58.5	+0.3
TUE				*e*PKPab	**PKPab**	17 33 14.4	-0.1
BRY	**Bratogost**	**154.18**	**330**	*e*P	**PKPbc**	17 32 57.8	-0.5
PDG	**Podgorica**	**154.19**	**329**	⇓*i*P	**PKPbc**	17 32 57.7	-0.4
PDG	**Podgorica**	**154.19**	**329**	*e*P	**PKPbc**	17 32 58.0	-0.1
TTG	**Podgorica**	**154.19**	**329**	*e*PKPdf	**PKPdf**	17 32 48.5	-1.0
TTG				*e*PKPbc	**PKPbc**	17 32 57.5	-0.7
TTG				*e*PKPab	**PKPab**	17 33 12.7	-2.0
TTG	**Podgorica**	**154.19**	**329**	*e*PKIKP	**PKPdf**	17 32 48.5	-1.0
TTG				*e*		17 33 12.7	
FNA	**Florina**	**154.27**	**323**	*e*PKPdf	**PKPdf**	17 32 49.0	-0.7
FNA				*e*PKPbc	**PKiKP**	17 32 57.8	-0.6
FNA				*e*PKPab	**PKPab**	17 33 15.1	0.0
FNA	**Florina**	**154.27**	**323**	*e*PKIKP	**PKPdf**	17 32 49.0	-0.7
FNA				*e*		17 33 15.1	
STON	**Ston**	**154.58**	**331**	*e*P	**PKiKP**	17 32 58.3	-0.6
SENIN	**Lac Senin/Sane**	**154.61**	**350**	*e*PKPdf	**PKPdf**	17 32 48.9	-1.3
SENIN				*e*PKPbc	**PKPbc**	17 32 59.4	+0.2
SENIN				*e*PKPab	**PKPab**	17 33 15.7	-0.9
IDI	**Anoyia**	**155.17**	**309**	⇓*i*P	**PKPdf**	17 32 51.7	+0.6
ITM	**Ithomi**	**156.22**	**316**	*e*PKPab	**PKPab**	17 33 23.2	-0.5
PBRG	**Braganca**	**158.51**	**17**	*e*PKPab	**PKPab**	17 33 33.3	-0.1
POLO	**Lamas de Olo**	**158.61**	**19**	*e*PKPab	**PKPab**	17 33 35.2	+1.3
MVO	**Moncorvo**	**159.03**	**18**	*e*PKPdf	**PKPdf**	17 32 57.1	+1.3
MVO	**Moncorvo**	**159.03**	**18**	*e*PKPab	**PKPab**	17 33 36.4	+0.7
PCAS	**Casmilo, Conde**	**159.57**	**22**	*e*PKPab	**PKPab**	17 33 38.1	+0.1
MTE	**Manteigas**	**159.57**	**20**	*e*PKPdf	**PKPdf**	17 32 58.1	+1.7
PTOM	**Tomar**	**159.98**	**23**	*e*PKPab	**PKPab**	17 33 40.2	+0.4
PCBR	**Castelo Branco**	**160.10**	**20**	*e*PKPdf	**PKPdf**	17 32 58.2	+1.3
PCBR	**Castelo Branco**	**160.10**	**20**	*e*PKPab	**PKPab**	17 33 40.2	-0.1
PMAFR	**Mafra**	**160.23**	**25**	*e*PKPab	**PKPab**	17 33 41.4	+0.4
PMRV	**Marmelete**	**160.50**	**21**	*e*PKPdf	**PKPdf**	17 32 58.8	+1.4
PMRV	**Marv??o**	**160.50**	**21**	*e*PKPab	**PKPab**	17 33 41.9	-0.2
PMTG	**Montargil**	**160.53**	**23**	*e*PKPab	**PKPab**	17 33 42.4	+0.1
ES19	**SONSECA Array**	**161.19**	**13**	*e*PKPdf	**PKPdf**	17 32 57.4	-0.7
ES19				*e*PKPab	**PKPab**	17 33 44.8	-0.3
ESDC	**Sonseca Array**	**161.20**	**13**	PKP	**PKPdf**	17 32 59.0	+0.8
	comp=Z,0.7nm,0.6s,baz=326,slow=1.9,SNR=6.0						
ESDC				PKPab	**PKPab**	17 33 45.4	+0.2
	comp=Z,8.2nm,1.0s,baz=349,slow=4.2,SNR=16						
PNCL	**Nicolau / Gran**	**161.26**	**25**	*e*PKPdf	**PKPdf**	17 32 59.5	+1.3
PNCL	**Nicolau / Gran**	**161.26**	**25**	*e*PKPab	**PKPab**	17 33 45.6	+0.2
PBEJ	**Beja**	**161.59**	**24**	*e*PKPdf	**PKPdf**	17 33 00.2	+1.7
MESJ	**Messejana**	**161.61**	**25**	*e*PKPdf	**PKPdf**	17 32 59.7	+1.1
MESJ	**Messejana**	**161.61**	**25**	*e*PKPdf	**PKPdf**	17 33 00.8	+1.4
MESJ	**Messejana**	**161.61**	**25**	*e*PKPab	**PKPab**	17 33 46.4	-0.6
MORF	**Marmelete**	**161.90**	**27**	*e*PKPdf	**PKPdf**	17 32 60.0	+1.0
MORF	**Marmelete**	**161.90**	**27**	*e*PKPdf	**PKPdf**	17 33 00.7	+1.7
PVAQ	**Vaqueiros**	**162.19**	**24**	*e*PKPab	**PKPab**	17 33 50.4	+0.8
PBDV	**Barranco-do-Ve**	**162.25**	**25**	*e*PKPdf	**PKPdf**	17 32 58.4	-0.9
LIC	**Lamto**	**163.71**	**157**	*e*PKIKP	**PKPdf**	17 33 00.9	-0.4
	comp=Z,52nm,1.1s						
LIC	**Lamto**	**163.71**	**157**	*e*P	**PKPab**	17 33 57.3	+0.5
	comp=Z,52nm,1.6s						
KIC	**Kosan Boka**	**163.94**	**157**	*e*PKIKP	**PKPdf**	17 33 01.2	-0.3
	comp=Z,26nm,0.9s						
KIC	**Kosan Boka**	**163.94**	**157**	*e*P	**PKPab**	17 33 59.1	+1.3
	comp=Z,36nm,1.2s						
TIC	**Toumodi**	**164.10**	**156**	*e*PKIKP	**PKPdf**	17 33 01.4	-0.3
TIC	**Toumodi**	**164.10**	**156**	*e*P	**PKPab**	17 33 59.9	+1.4
DBIC	**Dimbokro**	**164.19**	**157**	*e*PKPdf	**PKPdf**	17 33 01.6	-0.1
DBIC				*e*PKPab	**PKPab**	17 34 00.3	+1.5
DBIC	**Dimbokro**	**164.19**	**157**	*e*PKIKP	**PKPdf**	17 33 01.6	-0.1
DBIC				*e*		17 34 00.3	
DBIC	**Dimbokro**	**164.19**	**157**	PKP	**PKPdf**	17 33 01.7	-0.1
	comp=Z,14nm,1.1s,baz=72,slow=2.0,SNR=11						
DBIC				PKPab	**PKPab**	17 34 00.7	+1.9
	comp=Z,4.7nm,0.8s,baz=190,slow=7.6,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**171.81**	**182**	*e*PKPdf	**PKPdf**	17 33 04.8	-2.0
TOA0				*e*PKPbc	PKPdf	17 33 05.8	-1.0
TOA0				*e*PKPab	**PKPab**	17 34 31.0	-1.5
TOA0				*e*PKPab	**PKPab**	17 34 32.5	0.0
TORD	**Torodi Ar. Bea**	**171.81**	**182**	PKP	**PKPdf**	17 33 06.0	-0.8
	comp=Z,6.8nm,1.0s,baz=340,slow=2.1,SNR=27						
TORD				PKPab	**PKPab**	17 34 32.9	+0.4
	comp=Z,4.2nm,0.9s,baz=161,slow=2.7,SNR=12						
TORD				pPKPab	**pPKPab**	17 36 32.7	+2.7
	comp=Z,2.0nm,1.0s,baz=183,slow=4.5,SNR=6.1						
TORD				PP	**PP**	17 38 25.1	+2.3
	comp=Z,2.1nm,1.0s,baz=152,slow=6.7,SNR=4.9						
TOA1	**Torodi Ar. Sit**	**171.82**	**182**	*e*PKPdf	**PKPdf**	17 33 06.0	-0.8
TOA1				*e*PKPab	**PKPab**	17 34 32.9	+0.4
TOA1				*ep*PKPab	**pPKPab**	17 36 32.7	+2.7
TOA1				*e*PP	**PP**	17 38 25.1	+2.2
TAM	**Tamanrasset**	**175.90**	**291**	*e*PKPdf	**PKPdf**	17 33 08.6	+0.4
TAM				*e*PKPab	**PKPab**	17 34 50.9	-0.3
TAM	**Tamanrasset**	**175.90**	**291**	*e*PKIKP	**PKPdf**	17 33 08.6	+0.4
TAM				*e*		17 34 50.9	

*SJA **01** 17:14:30.8±0.4, 32°.61S×71°.94W, h10km±4km, ML3.5, MW3.4*
*GUC **01** 17:14:33.9±0.6, 32°.53S×71°.75W, h32km±4km, ML3.5*
*IDC **01** 17:14:34.3±6.8, 32°.54S×71°.91W, h33km±53km, mb3.4/2, mb1 3.6/4, mb1mx3.5/34, mbtmp3.5/4, ML3.8/2, Error ellipse: s-maj=63.1km s-min=33.1km az=78.0*
ISC 01 17:14:33.1±1.7, **32°.50S**±0°.04×**71°.73W**±0°.08, **h26**km±11km, **n32**, σ2.8**12**/40, **2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.77**	**129**	*e*P	**Pb**	**17 14 47.6**	**-0.4**
ROCH	**El Roble**	**0.77**	**128**	⇓*i*P	**Pn**	**17 14 48.4**	**-0.1**
ROCH				*i* S	**Sn**	**17 14 59.2**	**-0.2**
ROCH				IAML		17 15 00.7	
	comp=N,4μm,0.3s						
PEL	**Peldehue**	**1.09**	**127**	*e*P	**Pb**	**17 14 53.5**	**+0.1**
PEL				*e*S	**Sn**	**17 15 10.2**	**+3.1**
PEL	**Peldehue**	**1.09**	**127**	*e*P	**Pb**	**17 14 53.4**	**+0.1**
PEL				*i* S	**Sn**	**17 15 07.8**	**+0.7**
PEL				IAML		17 15 11.5	
	comp=N,2μm,0.2s						
CLCH	**Cerro Calan**	**1.34**	**132**	*e*P	**Pb**	**17 14 57.2**	**-0.5**
CLCH				*e*PKPab	**Sb**	**17 15 14.9**	**+0.4**
CLCH				IAML		17 15 24.9	
	comp=E,2μm,0.5s						
ANTU	**Antumapu**	**1.41**	**140**	*e*P	**Pn**	**17 14 57.8**	**+0.6**
ANTU				*i* S	**Sb**	**17 15 16.4**	**0.0**
ANTU				IAML		17 15 23.0	
	comp=E,1μm,0.4s						
CMCH	**Combarbala**	**1.46**	**25**	*e*P	**Pb**	**17 15 00.0**	**+0.4**
CMCH				*i* S	**Sb**	**17 15 19.6**	**+1.9**
FCH	**Farellones**	**1.47**	**125**	⇓*e*P	**Pb**	**17 14 59.4**	**-0.5**
FCH				*i* S	**Sb**	**17 15 19.4**	**+1.1**
FCH				IAML		17 15 20.3	
	comp=E,1μm,0.3s						
LMEL	**Las Melosas**	**1.86**	**137**	*e*P	**Pb**	**17 15 05.3

ALDR				Pmax			17 21 56.6
	comp=Z,97nm,0.9s						
ALDR				*e*S		**Sb**	**17 22 28.9 +1.3**
ALDR				Smax			17 22 28.9
	comp=N,358nm,0.2s						
ALDR				*e*S		**Sg**	**17 22 34.3 +1.5**
ALDR				Smax			17 22 34.3
	comp=E,619nm,1.2s						
NLYR	**Nelyaty**	**2.93**	**254**	*i*Pn		**Pn**	**17 21 53.1 +1.7**
NLYR				*e*Pg		**Pb**	**17 21 56.6 -0.5**
NLYR				*e*Sg		**Sb**	**17 22 34.3 +1.3**
NLYR				*e*			17 22 44.3
NLYR				Pmax			
	comp=E,97nm,0.9s						
NLYR				max			
	comp=E,619nm,1.2s						
OLMR	**Olekminsk**	**2.99**	**357**	*e*P		**Pn**	**17 21 52.7 +0.5**
OLMR				*e*P		**Pb**	**17 21 57.3 -0.8**
OLMR				Pmax			17 21 57.3
	comp=Z,128nm,0.4s						
OLMR				*e*S		**Sb**	**17 22 37.3 +2.7**
OLMR				Smax			17 22 37.3
	comp=N,653nm,0.8s						
TUP	**Tupik**	**3.02**	**189**	*i*Pn		**Pn**	**17 21 53.4 +0.8**
TUP				*e*			17 21 56.1
TUP				*e*Pg		**Pb**	**17 21 58.9 +0.4**
TUP				*e*Sn		**Sn**	**17 22 30.5 +1.7**
TUP				*e*Sg		**Sb**	**17 22 37.7 +2.2**
TUP				*e*			17 22 45.7
TUP				Pmax			
	comp=N,95nm,0.8s						
TUP				max			
	comp=N,610nm,1.2s						
TUP	**Tupik**	**3.02**	**189**	*e*P		**Pn**	**17 21 53.3 +0.7**
TUP				*e*P		**Pb**	**17 21 59.0 +0.4**
TUP				Pmax			17 21 59.0
	comp=Z,96nm,0.8s						
TUP				*e*S		**Sn**	**17 22 29.0 +0.2**
TUP				*e*S		**Sb**	**17 22 37.4 +1.9**
TUP				Smax			17 22 37.4
	comp=E,607nm,0.6s						
TNDR	**Tynda**	**3.15**	**134**	*e*Pn		**Pn**	**17 21 56.1 +1.7**
TNDR				*e*Pg		**Pb**	**17 22 01.8 +1.0**
TNDR				*e*			17 22 04.5
TNDR				*e*Sn		**Sn**	**17 22 34.0 +2.0**
TNDR				*e*Sg		**Sb**	**17 22 42.3 +3.1**
TNDR	**Tynda**	**3.15**	**134**	*e*P		**Pn**	**17 21 56.0 +1.7**
TNDR				*e*P		**Pb**	**17 22 01.7 +1.0**
TNDR				Pmax			17 22 01.7
	comp=Z,18nm,0.2s						
TNDR				*e*P		**Pg**	**17 22 02.9 -2.1**
TNDR				*e*P			17 22 08.9
TNDR				Pmax			17 22 08.9
	comp=Z,17nm,0.5s						
TNDR				*e*S		**Sn**	**17 22 33.2 +1.2**
TNDR				*e*S		**Sg**	**17 22 43.3 -2.5**
TNDR				Smax			17 22 43.3
	comp=E,356nm,0.4s						
TNDR				*e*S		Sb	17 22 57.5 +18
TNDR				Smax			17 22 57.5
	comp=N,292nm,1.3s						
BOD	**Bodaibo**	**3.67**	**279**	*e*Pn		**Pn**	**17 22 02.9 +1.3**
BOD				Pg		**Pb**	**17 22 08.9 -0.8**
BOD				*e*Sn		**Sn**	**17 22 45.1 +0.2**
BOD				*e*Sg		**Sb**	**17 22 57.5 +3.2**
BOD				Pmax			
	comp=N,17nm,0.5s						
BOD				Smax			
	comp=N,292nm,1.3s						
YVAM	**Verhnyaya Amga**	**4.01**	**53**	*e*P		**Pn**	**17 22 07.0 +0.8**
YVAM				*e*P		Pb	17 22 08.0 -7.5
YVAM				*e*P		**Pg**	**17 22 16.9 -4.7**
YVAM				*e*			17 22 19.6
YVAM				*e*S		**Sn**	**17 22 52.0 -1.2**
YVAM				*e*S		**Sb**	**17 23 08.4 +4.4**
YVAM				*e*S		**Sg**	**17 23 13.4 -0.1**
YVAM				Smax			17 23 13.4
	comp=N,302nm,0.9s						
SVKR	**Severomuysk**	**4.18**	**255**	*e*Pn		**Pn**	**17 22 08.0 -0.6**
SVKR				*e*Pg		**Pb**	**17 22 19.6 +1.2**
SVKR				*e*			17 22 47.8
SVKR				*e*Sg		**Sb**	**17 23 13.4 +4.4**
SVKR				Smax			
	comp=N,302nm,0.9s						
UKT	**Uakit**	**4.41**	**247**	*e*Pg		**Pb**	**17 22 24.3 +1.9**
UKT				*e*Sg		**Sg**	**17 23 20.7 -5.6**
UKT				Pmax			
	comp=N,13nm,0.5s						
UKT				Smax			
	comp=N,119nm,1.0s						
YOA	**Uoyan**	**5.15**	**260**	*e*Sg		**Sg**	**17 23 43.9 -5.9**
YOA				*e*			17 23 50.3
YOA				max			
	comp=N,764nm,1.3s						
ZEA	**Zeya**	**5.18**	**132**	*e*Pn		**Pn**	**17 22 24.8 +2.4**
ZEA				*e*Sn		**Sn**	**17 23 19.8 -2.4**
ZEA				*e*Sg		**Sg**	**17 23 46.8 -4.3**
BMKR	**Bomnak**	**5.25**	**117**	*e*P		**Pn**	**17 22 24.8 +1.5**
BMKR				*e*P		**Pg**	**17 22 41.8 -3.6**
BMKR				Pmax			17 22 41.8
	comp=Z,30nm,0.5s						
BMKR				*e*S		**Sg**	**17 23 48.8 -4.6**
BMKR				Smax			17 23 48.8
	comp=E,148nm,0.5s						
CGD	**Chagda**	**5.39**	**71**	*e*P		**Pn**	**17 22 26.8 +1.7**
CGD				*e*P		**Pb**	**17 22 41.7 +2.8**
CGD				Pmax			17 22 41.7
	comp=Z,28nm,0.6s						
CGD				*e*S		**Sn**	**17 23 25.0 -2.2**
CGD				*e*S		**Sg**	**17 23 52.7 -5.0**
CGD				Smax			17 23 52.7
	comp=N,510nm,0.4s						
KMO	**Kumora**	**5.50**	**258**	*e*Pn		Pn	17 22 16.5 -10
KMO				*e*			17 22 40.1
KMO				*e*Sg		**Sb**	**17 23 53.3 +6.4**
KMO				*e*			17 24 02.2
KMO				max			
	comp=N,10.0nm,0.4s						
KMO				max			
	comp=N,148nm,1.2s						
YLYR	**Ulyunkhan**	**5.95**	**249**	*e*		**Pb**	**17 22 50.0 +1.6**
YLYR				*e*Sg		**Sg**	**17 24 07.6 -7.9**
YLYR				max			
	comp=N,8.0nm,0.9s						
YLYR				Smax			
	comp=N,105nm,1.8s						
NIZ	**Nizh Angarsk**	**6.42**	**260**	*e*Pn		Pb	17 22 50.4 -6.2
NIZ				Pg		Pg	17 22 59.5 -8.2
NIZ				*e*			17 24 12.1
NIZ				*e*Sg		**Sg**	**17 24 22.6 -8.2**
NIZ				*e*			17 24 41.9
NIZ				max			
	comp=N,68nm,0.8s						
YAK	**Yakutsk**	**6.46**	**40**	*e*P		**Pn**	**17 22 40.9 +1.0**
YAK				*e*P		**Pb**	**17 22 59.8 +2.6**
YAK				Pmax			17 22 59.8
	comp=Z,69nm,0.4s						
YAK				*e*S		**Sn**	**17 23 50.2 -3.4**
YAK				*e*S		**Sb**	**17 24 23.1 +8.7**
YAK				Smax			17 24 23.1
	comp=E,598nm,0.6s						
CIT	**Chita**	**6.82**	**221**	*e*			17 24 21.1
CIT				*e*Sg		**Sg**	**17 24 34.8 -8.8**
CIT				Smax			
	comp=E,303nm,1.6s						
SYVR	**Suvo**	**7.18**	**243**	*e*		Pb	17 23 03.5 -5.9
SYVR				Pg		Pg	17 23 14.4 -7.7
SYVR				*e*Sg		**Sg**	**17 24 46.8 -8.1**
SYVR				Pmax			
	comp=E,2.0nm,0.4s						
SYVR				Smax			
	comp=E,125nm,1.5s						
USMR	**Ust'-Maya**	**7.74**	**61**	*e*P		**Pn**	**17 22 57.2 -0.1**
USMR				*e*P		**Pb**	**17 23 22.8 +4.0**
USMR				Pmax			17 23 22.8
	comp=Z,5.0nm,0.7s						
USMR				*e*S		**Sn**	**17 24 21.4 -3.4**
USMR				*e*S		**Sg**	**17 25 04.3 -8.4**
USMR				Smax			17 25 04.3
	comp=N,231nm,0.8s						
MXMB	**Maximikha**	**8.02**	**244**	*e*		Pn	17 23 06.3 +5.1
MXMB				*e*			17 23 28.2
MXMB				*e*			17 23 32.7
MXMB				Sg		Sg	17 25 12.2 -10
MXMB				*e*			17 25 28.5
OGRR	**Ongureny**	**8.38**	**249**	*e*		Pb	17 23 21.7 -8.1
OGRR				*e*Sg		**Sg**	**17 25 24.4 -8.9**
OGRR				Smax			
	comp=N,52nm,2.2s						
KELR	**Kotokel**	**8.64**	**243**	*e*Sg		**Sg**	**17 25 34.1 -7.7**
KPC	**Khapcheranga**	**9.18**	**217**	Pn		**Pn**	**17 23 19.7 +2.4**
KPC				*e*			17 25 09.6
KPC				*e*Sg		Sn	17 25 47.9 +47
KPC				Smax			
	comp=N,74nm,1.2s						
TRTB	**Turuntaevo**	**9.19**	**241**	*e*Sg		Sn	17 25 48.7 +48
TRTB				*e*			17 26 00.2
ZRHB	**Zarechye**	**9.21**	**244**	*e*		Pn	17 23 26.9 +9.3
ZRHB				*e*Sg		Sn	17 25 51.0 +50
ZRHB				Smax			
	comp=N,226nm,1.5s						
TRG	**Tyrgan**	**9.49**	**247**	*e*			17 25 26.7
TRG				*e*Sg		Sn	17 25 57.9 +50
STDB	**Stepnoy Dvoret**	**9.83**	**244**	*e*Sg		Sn	17 26 07.9 +51
STDB				*e*			17 26 21.2
HRMR	**Khuramsha**	**9.89**	**240**	*e*			17 26 02.2
HRMR				*e*Sg		Sn	17 26 11.4 +53
HRMR				Smax			
	comp=N,212nm,1.2s						
KLR	**Kul'dur**	**10.47**	**137**	Pn		**Pn**	**17 23 37.0 +2.2**
	comp=N,0.1nm,0.3s,baz=312,slow=17,SNR=2.8						
KLR				Lg		Lg	17 26 35.7
	comp=N,0.3nm,0.3s,baz=295,slow=19,SNR=2.6						
LSTR	**Listvyanka**	**10.77**	**246**	*e*			17 25 01.9
LSTR				*e*			17 26 12.5
LSTR				*e*Sg		Sn	17 26 38.9 +60
LSTR				*e*			17 26 46.2
IVK	**Ivanovka**	**11.02**	**246**	*e*			17 26 29.8
IVK				*e*Sg			17 26 46.3
IVK				Smax			
	comp=N,11nm,1.4s						
ARS	**Arshan**	**11.95**	**250**	*e*		Pn	17 23 40.6 -14
ARS				*e*			17 27 05.1
ARS				*e*Sg			17 27 16.1
ARS				Smax			
	comp=N,47nm,1.3s						
ZAK	**Zakamensk**	**12.47**	**243**	*e*		Pn	17 24 39.6 +37
ZAK				*e*			17 25 06.0
ZAK				*e*			17 27 19.4
ZAK				*e*Sg			17 27 31.5
ZAK				*e*			17 27 52.3
ZAK				Smax			
	comp=N,22nm,1.4s						
MOY	**Mondy**	**12.82**	**252**	*e*Pn		**Pn**	**17 24 09.5 +2.4**
MOY				*e*			17 24 46.1
MOY				*e*			17 27 13.0
MOY				*e*Sg			17 27 41.4
MOY				Smax			
	comp=N,34nm,2.1s						
SONM	**Songino Array**	**12.94**	**228**	Lg		Lg	17 27 49.4
	comp=N,0.4nm,0.3s,baz=48,slow=23,SNR=12						
MA2	**Magadan**	**15.76**	**69**	Lg		Lg	17 29 11.7
	comp=N,0.1nm,0.3s,baz=140,slow=20,SNR=3.8						
SEY	**Seymchan**	**16.54**	**57**	Lg		Lg	17 29 42.9
	comp=N,0.1nm,0.3s,baz=353,slow=20,SNR=7.1						
ZALV	**Zalesovo Beam**	**20.42**	**276**	P		Pn	17 25 44.2 +0.4
	comp=N,0.6nm,0.5s,baz=60,slow=12,SNR=3.8						
PETK	**Petropavlovsk-**	**21.29**	**86**	P		**P**	**17 25 55.3 +4.2**
	comp=N,2.1nm,0.9s,baz=245,slow=3.0,SNR=4.3						
KURBB	**Kurchatov Arra**	**25.39**	**273**	P		**P**	**17 26 32.2 +0.2**
	comp=N,0.4nm,0.9s,baz=58,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**25.58**	**262**	P		**P**	**17 26 34.0 +0.3**
	comp=N,0.2nm,0.6s,baz=52,slow=9.9,SNR=2.5						
ILAR	**Eielson Array**	**41.39**	**40**	P		**P**	**17 28 55.2 +4.6**
	comp=N,0.2nm,0.7s,baz=292,slow=4.9,SNR=4.6						

*IDC **01** 17:26:12.3±1.1, 11°.59S×165°.05E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/40, mbtmp4.0/10, ML3.9/3, Error ellipse: s-maj=32.4km s-min=22.2km az=134.0*
*NEIC **01** 17:26:13.9±0.4, 11°.69S×164°.94E, h10km, mb5.0/9, Error ellipse: s-maj=10.8km s-min=6.4km az=78.0*
*ISCJB **01** 17:26:15.6±0.5, 11°.78S±0°.05×164°.86E±0°.08, h34km, mb4.6/14, Error ellipse: s-maj=11.2km s-min=6.3km az=156.9*

ISC 01 17:26:17.2±0.6, 11°.67S±0°.07×164°.87E±0°.08, h34km, n37, σ1$57/34, mb4.5/14, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HNR	**Honiara**	**5.33**	**294**	*e*Pn		**Pn**	**17 27 34.9**	**+0.5**
HNR				*e*Sn		**Sn**	**17 28 31.5**	**-3.1**
HNR	**Honiara**	**5.33**	**294**	Pn		**Pn**	**17 27 35.1**	**+0.8**
	7.9nm,0.3s,baz=220,slow=7.8,SNR=4.6							
HNR				Sn		**Sn**	**17 28 36.0**	**+1.4**
	13nm,0.3s,baz=164,slow=19,SNR=4.3							
MARNC	**Mare, Loyalty**	**10.21**	**163**	*e*Pn		**Pn**	**17 28 41.1**	**-0.4**
DZM	**Mont Dzumac**	**10.45**	**172**	Pn		**Pn**	**17 28 45.1**	**+0.3**
	1.2nm,0.3s,baz=33,slow=7.4,SNR=16							
DZM				Sn		**Sn**	**17 30 38.7**	**-2.1**
	0.2nm,0.3s,baz=162,slow=20,SNR=5.9							
ONTNC	**Ouen Toro**	**10.68**	**172**	*e*Pn		**Pn**	**17 28 47.1**	**-0.7**
PINNC	**Pines Island,**	**11.15**	**168**	*e*Pn		**Pn**	**17 28 51.3**	**-3.1**
PATS	**Pohnpei**	**19.51**	**340**	*e*P		**P**	**17 30 37.5**	**-4.2**
	491nm,1.7s							
CTA	**Charters Tower**	**19.75**	**243**	P		**Pn**	**17 30 45.5**	**-0.4**
	0.1nm,0.3s,baz=61,slow=17,SNR=2.3							
CTAO	**Charters Tower**	**19.75**	**243**	*e*P		**P**	**17 30 42.5**	**-1.8**
	21nm,1.7s							
LHI	**Lord Howe Isla**	**20.46**	**194**	*e*P		**P**	**17 30 51.7**	**-0.3**
	225nm,1.6s							
KWAJ	**Kwajalein Atol**	**20.52**	**8**	*e*P		**P**	**17 30 51.3**	**-1.5**
	484nm,1.1s							
COEN	**Coen**	**21.27**	**262**	*e*P		**P**	**17 31 00.1**	**-0.8**
	44nm,1.6s							
URZ	**Urewera**	**28.65**	**160**	*e*P		**P**	**17 32 12.7**	**+2.0**
	46nm,1.6s							
BKZ	**Black Stump Fm**	**29.27**	**161**	*e*P		**P**	**17 32 18.1**	**+1.8**
	83nm,2.0s							
H11S2	**WAKE ISLAND Hy**	**30.03**	**3**	T		T	18 03 45.9	
	baz=184,slow=76,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**30.03**	**3**	T		T	18 03 46.7	
	baz=184,slow=76,SNR=3.7							
H11S1	**WAKE ISLAND Hy**	**30.05**	**3**	T		T	18 03 46.3	
	baz=184,slow=76,SNR=4.3							
WB2	**Warramunga Arr**	**30.45**	**250**	*e*P		**P**	**17 32 29.1**	**+2.1**
WR1	**Warramunga Arr**	**30.46**	**250**	*e*P		**P**	**17 32 28.1**	**+1.0**
	51nm,1.9s							
WRA	**Warramunga Arr**	**30.46**	**250**	P		**P**	**17 32 28.1**	**+1.0**
	0.9nm,0.8s,baz=80,slow=9.9,SNR=4.5							
H11N1	**WAKE ISLAND Hy**	**31.25**	**4**	T		T	18 05 17.2	
	baz=182,slow=76,SNR=5.9							
H11N3	**WAKE ISLAND Hy**	**31.26**	**4**	T		T	18 05 18.9	
	baz=182,slow=76,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**31.27**	**4**	T		T	18 05 19.1	
	baz=182,slow=76,SNR=5.5							
ASAR	**Alice Springs**	**31.74**	**244**	P		**P**	**17 32 40.6**	**+2.2**
	0.9nm,0.7s,baz=70,slow=9.2,SNR=7.8							
FAKI	**Fak Fak**	**33.47**	**283**	*e*P		**P**	**17 32 53.4**	**-0.1**
	50nm,1.2s							
JHJ2	**Mitsune**	**50.54**	**333**	*e*P		**P**	**17 35 12.7**	**+0.3**
	1µm,1.3s							
MJAR	**Matsushiro Arr**	**54.14**	**334**	P		**P**	**17 35 39.7**	**+0.6**
	3.5nm,1.0s,baz=155,slow=12,SNR=4.3							
MAJO	**Matsushiro**	**54.14**	**334**	*e*P		**P**	**17 35 39.7**	**+0.6**
SONA0	**Songino Array**	**78.66**	**324**	*e*P		**P**	**17 38 17.0**	**+1.0**
SONM	**Songino Array**	**78.66**	**324**	P		**P**	**17 38 17.0**	**+1.0**
	0.7nm,0.8s,baz=144,slow=8.9,SNR=5.2							
BILL	**Bilibino**	**79.51**	**1**	*e*P		**P**	**17 38 20.8**	**+0.8**
	14nm,1.8s							
IM3	**Indian Mountai**	**83.26**	**16**	*e*P		**P**	**17 38 40.1**	**+0.2**
ILAR	**Eielson Array**	**84.38**	**19**	P		**P**	**17 38 44.5**	**-1.2**
	0.6nm,0.8s,baz=234,slow=4.8,SNR=6.0							
ILB	**Eielson Array**	**84.38**	**19**	*e*P		**P**	**17 38 46.7**	**+1.0**
	17nm,1.7s							
NVAR	**Mina Array Bea**	**87.09**	**50**	P		**P**	**17 38 59.8**	**-0.2**
	0.4nm,0.7s,baz=238,slow=5.2,SNR=3.2							
MK32	**Makanchi Array**	**93.39**	**317**	*e*P		**P**	**17 39 29.9**	**+0.8**
MKAR	**Makanchi Array**	**93.39**	**317**	P		**P**	**17 39 29.9**	**+0.8**
	1.1nm,0.7s,baz=93,slow=6.0,SNR=14							

*ISK **01** 17:30:28.0, 38°.86N×25°.95E, h3km±3km, ML2.0/8*
THE 01 17:30:29.0, 38°.84N×25°.95E, h3km±3km, ML1.7/2, Error ellipse: s-maj=3.3km s-min=0.5km az=289.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.38**	**349**		PG	Pg	17 30 36.4	+0.1
SIGR					SG	Sg	17 30 41.4	+0.2
SIGR	**SIGRI**	**0.38**	**349**		P	Pg	17 30 36.5	+0.2
SIGR					S	Sg	17 30 41.9	+0.7
CHOS	**Chios island**	**0.46**	**170**		PG	Pg	17 30 38.1	+0.3
CHOS					SG	Sg	17 30 44.6	+0.8
CHOS	**Chios island**	**0.46**	**170**		P	Pg	17 30 38.1	+0.3
CHOS					S	Sg	17 30 44.5	+0.7
PRK	**Paraskevi**	**0.48**	**32**		P	Pg	17 30 38.5	+0.4
PRK					S	Sg	17 30 45.0	+0.7
EZN	**Ezine**	**1.03**	**16**		PG	Pg	17 30 46.8	-1.9
EZN					SG	Sg	17 31 01.8	-0.2
SMG	**Samos**	**1.33**	**148**		P	Pn	17 30 53.3	-1.1
GELI	**Tayfur-Gelibol**	**1.61**	**14**		PN	Pn	17 30 56.7	-1.5
LPK	**Lapseki**	**1.65**	**22**		PN	Pn	17 30 56.9	-2.0
ERIK	**Erikli-Kesan**	**1.88**	**13**		PN	Pn	17 31 00.8	-1.2
ALN	**Alexandroupoli**	**2.06**	**2**		PN	Pn	17 31 03.2	-1.2
RKY	**Sarkoy-Tekirda**	**2.07**	**27**		PN	Pn	17 31 04.0	-0.7

*IDC **01** 17:36:08.1±0.6, 14°.04N×144°.91E, h122km±4km, mb3.3/9, mb1 3.5/9, mb1mx3.3/46, mbtmp3.7/9, Error ellipse: s-maj=27.5km s-min=14.1km az=89.0*

ISC 01 17:36:08.5±0.8, 14°.1N±0°.1×144°.9E±0°.2, h125km, n10, σ1$07/11, mb3.5/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUMO	**Guam**	**0.47**	**182**	P		**Pn**	**17 36 27.7**	**+0.8**
	320nm,0.3s,baz=297,slow=4.6,SNR=300							
GUMO				S		**Sn**	**17 36 41.0**	**+0.4**
	341nm,0.3s,baz=229,slow=19,SNR=49							
WRA	**Warramunga Arr**	**35.34**	**197**	P		**P**	**17 42 51.1**	**-0.9**
	1.0nm,0.5s,baz=20,slow=8.6,SNR=8.3							
KLR	**Kul'dur**	**36.70**	**346**	P		**P**	**17 43 03.5**	**+0.3**
	0.4nm,0.4s,baz=139,slow=9.3,SNR=3.7							
FITZ	**Fitzroy Crossi**	**37.16**	**211**	P		**P**	**17 43 06.7**	**-0.9**
	3.8nm,1.0s,baz=52,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**39.00**	**196**	P		**P**	**17 43 22.5**	**-0.4**
	0.4nm,0.4s,baz=16,slow=13,SNR=6.5							
DZM	**Mont Dzumac**	**41.67**	**149**	P		**P**	**17 43 45.4**	**+0.4**
	6.4nm,0.9s,baz=79,slow=19,SNR=5.3							
SONM	**Songino Array**	**46.36**	**325**	P		**P**	**17 44 23.3**	**+1.1**
	0.1nm,0.5s,baz=107,slow=5.0,SNR=2.5							
MKAR	**Makanchi Array**	**61.16**	**316**	P		**P**	**17 46 09.6**	**-0.3**
	0.2nm,0.3s,baz=98,slow=7.3,SNR=5.4							
ILAR	**Eielson Array**	**68.14**	**25**	P		**P**	**17 46 52.8**	**-2.0**
	0.1nm,0.4s,baz=260,slow=5.6,SNR=3.8							
NVAR	**Mina Array Bea**	**86.62**	**51**	P		**P**	**17 48 39.5**	**+0.9**
	0.3nm,0.6s,baz=277,slow=5.7,SNR=4.2							

IDC 01 17:36:44.5±5.2, 5°.11S×136°.89E, h0km, mb3.2/1, mb1 3.5/3, mb1mx3.2/38, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=135.0km s-min=33.2km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.95**	**189**	Pn		Pn	17 40 16.4	-1.0
	0.1nm,0.3s,baz=3.9,slow=13,SNR=4.0							
KCP	**Kidapawan**	**16.84**	**316**	*i* S		P	17 40 47.1	+2.9
ASAR	**Alice Springs**	**18.67**	**189**	P		P	17 41 04.4	0.0
	0.1nm,0.3s,baz=24,slow=11,SNR=8.5							
CMAR	**Chiang Mai Arr**	**44.13**	**303**	P		P	17 44 55.2	0.0
	0.2nm,0.6s,baz=113,slow=6.9,SNR=2.7							

*IDC **01** 17:38:37.3±1.1, 3°.85N×126°.68E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/45, mbtmp4.0/7, MS3.0/2, Ms1 3.0/2, ms1mx2.7/35, Error ellipse: s-maj=109.3km s-min=15.7km az=71.0*
*ISCJB **01** 17:38:42.7±0.3, 3°.74N±0°.04×126°.75E±0°.07, h53km, mb4.4/20, MS2.9/1, Error ellipse: s-maj=10.2km s-min=3.8km az=159.5*
*NEIC **01** 17:38:43.9±0.9, 3°.81N×126°.79E, h50km±9km, mb4.5/18, Error ellipse: s-maj=12.0km s-min=5.4km az=64.0*
*MAN **01** 17:38:48.4, 4°.02N×126°.27E, h155km, mb4.8, ML3.7, MS3.6*

ISC 01 17:38:44.7±0.6, 3°.74N±0°.06×126°.75E±0°.09, h53km, n49, σ1$27/49, mb4.4/20, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.57**	**336**	*e*P		**Pn**	**17 39 27.6**	**+3.7**
DDMP				*e*S		**Sn**	**17 39 55.1**	**+1.2**
TNTI	**Ternate**	**3.01**	**168**	*e*Pn		**Pn**	**17 39 30.8**	**+0.9**
MATI	**Mati**	**3.23**	**351**	*e*P		Pn	17 39 14.9	-18
MATI				*e*S		**Sn**	**17 40 11.1**	**+1.0**
DAV	**Davao City (W)**	**3.51**	**341**	*e*Pn		**Pn**	**17 39 35.8**	**-1.0**
DAV	**Davao City (W)**	**3.51**	**341**	LR		LR	17 41 10.9	
	comp=Z,237nm,19.1s,baz=90,slow=45							
SKMP	**Bagumbayan, Su**	**3.53**	**322**	*e*P		**Pn**	**17 39 36.5**	**-0.5**
SKMP				*e*S		**Sn**	**17 40 18.1**	**+0.5**
KCP	**Kidapawan**	**3.65**	**333**	*i*P		**Pn**	**17 39 39.4**	**+0.7**
CTBH	**Cotabato--PC H**	**4.26**	**324**	*i*P		**Pn**	**17 39 45.8**	**-1.4**
BUKP	**Musuan**	**4.44**	**338**	*e*P		**Pn**	**17 39 49.9**	**+0.2**
BUTP	**Butuan**	**5.32**	**348**	*e*P		**Pn**	**17 40 02.3**	**+0.7**
IPIL	**Ipil**	**5.78**	**314**	*e*P		**Pn**	**17 40 06.3**	**-1.7**
LUWI	**Luwuk**	**6.19**	**220**	*e*Pn		**Pn**	**17 40 15.6**	**+2.1**
FAKI	**Fak Fak**	**8.60**	**140**	*e*Pn		**Pn**	**17 40 45.0**	**-1.6**
KKM	**Kota Kinabalu**	**10.74**	**283**	*e*Pn		**Pn**	**17 41 16.7**	**+0.7**
SOEI	**Soe**	**13.63**	**190**	*e*Pn		**Pn**	**17 41 54.3**	**-1.2**
KSM	**Kuching**	**16.57**	**263**	*e*Pn		**Pn**	**17 42 32.9**	**-0.8**
	7.1nm,1.1s							
MTN	**Manton Dam**	**17.04**	**165**	*e*Pn		**Pn**	**17 42 37.7**	**-1.7**
	81nm,1.6s							
JAGI	**Jajag, Banyuwa**	**17.46**	**226**	*e*Pn		**Pn**	**17 42 42.9**	**-1.7**
	47nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.72**	**183**	*e*P		**P**	**17 43 32.1**	**+0.5**
	15nm,1.4s							
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P		**P**	**17 43 32.3**	**+0.8**
	2.3nm,0.5s,baz=6.9,slow=8.5,SNR=7.4						

IM3	**Indian Mountai**	**82.33**	**24**	*eP*		**P**	**17 51 00.4**	**-0.1**

*IDC **01** 17:43:55.0±1.5,23°.61S×177°.02W,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.8/28,mbtmp3.9/7,ML4.2/1,Error ellipse: s-maj=64.0km s-min=23.1km az=148.0*
*ISCJB **01** 17:44:03.4±0.6,24°.10S±0°.06×176°.7W±0°.1,h100km, mb4.5/18,Error ellipse: s-maj=14.2km s-min=8.7km az=6.3*
*NEIC **01** 17:44:04.0±1.4,24°.15S×176°.78W,h84km±14km,mb4.8/17, Error ellipse: s-maj=16.7km s-min=9.7km az=104.0*

ISC 01 17:44:04.7±0.7,24°.30S±0°.08×176°.7W±0°.1,h100km,n34, σ2°.29/36,mb4.7/18,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.14**	**52**	*eP*n		**Pn**	**17 45 57.0**	**-3.1**
NIUE				*eS*n		Sn	17 47 18.2	-12
MSVF	**Nonsavu**	**8.18**	**322**	*eP*n		**Pn**	**17 46 00.6**	**-0.2**
URZ	**Urewera** 63nm,1.7s	**14.89**	**199**	*eP*n		**P**	**17 47 32.7**	**-0.4**
URZ				*eS*n		**Sn**	**17 50 08.4**	**-5.9**
URZ	**Urewera** 1.0nm,0.3s,baz=256,slow=3.6,SNR=7.6	**14.89**	**199**	Pn		**P**	**17 47 33.6**	**+0.5**
URZ	0.4nm,0.3s,baz=68,slow=19,SNR=4.5				Sn	**Sn**	**17 50 08.4**	**-5.9**
BKZ	**Black Stump Fm** 34nm,1.6s	**15.91**	**200**	*eP*n		**P**	**17 47 44.9**	**+0.3**
BFZ	**Birch Farm** 126nm,1.5s	**17.39**	**198**	*eP*		**Pn**	**17 48 01.6**	**+0.7**
SNZO	**South Karori** 54nm,1.3s	**18.43**	**201**	*eP*		**P**	**17 48 10.9**	**-1.3**
THZ	**Tophouse** 81nm,2.0s	**19.46**	**204**	*eP*		**P**	**17 48 24.3**	**+0.8**
KHZ	**Kahutara** 40nm,1.4s	**19.81**	**202**	*eP*		**P**	**17 48 26.5**	**-0.6**
OXZ	**Oxford** 21nm,1.4s	**21.13**	**203**	*eP*		**P**	**17 48 44.6**	**+3.1**
MQZ	**McQueen's Vall** 131nm,1.7s	**21.25**	**202**	*eP*		**P**	**17 48 46.0**	**+3.3**
WKZ	**Wanaka** 39nm,1.3s	**23.56**	**206**	*eP*		**P**	**17 49 09.5**	**+3.4**
MLZ	**Mavora Lakes** 64nm,1.9s	**24.37**	**207**	*eP*		**P**	**17 49 15.5**	**+2.1**
DCZ	**Deep Cove** 115nm,1.8s	**24.85**	**208**	*eP*		**P**	**17 49 18.7**	**+1.0**
WHZ	**Wether Hill Ro** 109nm,1.8s	**24.87**	**206**	*eP*		**P**	**17 49 19.2**	**+1.3**
PYZ	**Puysegur Point** 220nm,1.7s	**25.61**	**207**	*eP*		**P**	**17 49 27.3**	**+2.7**
CTA	**Charters Tower** 1.4nm,0.3s,baz=95,slow=11,SNR=5.5	**34.52**	**270**	P		**P**	**17 50 43.9**	**+0.3**
KWAJ	**Kwajalein Atol** 610nm,1.4s	**36.30**	**333**	*eP*		**P**	**17 50 57.4**	**-1.4**
STKA	**Stephens Creek** 7.1nm,1.9s	**37.41**	**249**	*eP*		**P**	**17 51 09.4**	**+1.2**
STKA	**Stephens Creek** 2.8nm,1.1s,baz=86,slow=14,SNR=3.1	**37.41**	**249**	P		**P**	**17 51 09.9**	**+1.8**
BBOO	**Buckleboo** 87nm,1.8s	**42.09**	**247**	*eP*		**P**	**17 51 47.1**	**+0.1**
AS01	**Alice Springs**	**44.93**	**260**	*eP*		**P**	**17 52 09.6**	**-0.3**
AS31	**Alice Springs** 1.7nm,1.2s	**44.97**	**260**	*eP*		**P**	**17 52 09.7**	**-0.6**
ASAR	**Alice Springs** 0.2nm,0.4s,baz=96,slow=6.9,SNR=16	**44.97**	**260**	P		**P**	**17 52 11.0**	**+0.7**
WB2	**Warramunga Arr**	**45.40**	**265**	*eP*		**P**	**17 52 12.4**	**-1.2**
WR1	**Warramunga Arr** 56nm,1.9s	**45.41**	**265**	*eP*		**P**	**17 52 12.3**	**-1.4**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=98,slow=8.4,SNR=15	**45.41**	**265**	P		**P**	**17 52 12.3**	**-1.4**
QSPA	**South Pole Qui** 22nm,1.9s	**65.79**	**180**	*eP*		**P**	**17 54 43.2**	**+4.2**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=224,slow=7.6,SNR=3.5	**82.96**	**42**	P		**P**	**17 56 21.2**	**+2.3**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=201,slow=7.3,SNR=4.6	**91.74**	**12**	P		**P**	**17 57 01.3**	**+0.9**
FIA0	**FINESS Array S**	**139.75**	**343**	*e*PKPdf		**PKiKP**	**18 03 21.9**	**-0.8**
FINES	**FINESS Array B** 1.4nm,0.9s,baz=72,slow=4.5,SNR=3.7	**139.75**	**343**	PKP		**PKiKP**	**18 03 21.9**	**-0.8**
AKASG	**Malin Array Be** 2.4nm,0.5s,baz=42,slow=4.1,SNR=25	**146.91**	**329**	PKPbc		**PKPab**	**18 03 35.3**	**-1.6**
AKBB	**Malin Array Si**	**146.91**	**329**	*e*PKPdf		**PKPab**	**18 03 35.0**	**-1.8**

*IDC **01** 17:54:36.9±0.9,10°.93S×165°.10E,h0km,mb4.0/13, mb1 4.2/15,mb1mx4.1/35,mbtmp4.0/15,ML4.2/2,MS3.3/1, Ms1 3.3/1,ms1mx2.7/27,Error ellipse: s-maj=26.9km s-min=17.3km az=127.0*
*NEIC **01** 17:54:38.7±0.3,10°.90S×165°.02E,h10km,mb5.0/16,Error ellipse: s-maj=7.4km s-min=5.7km az=98.0*
*ISCJB **01** 17:54:39.8±0.4,10°.99S±0°.05×165°.04E±0°.06,h31km, mb4.5/27,Error ellipse: s-maj=8.3km s-min=7.3km az=156.8*

ISC 01 17:54:41.6±0.6,10°.98S±0°.07×165°.08E±0°.08,h31km,n50, σ1°.07/48,mb4.4/27,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.28**	**286**	*eP*n			**Pn**	**17 55 54.7**	**-3.8**
HNR				*eS*n			**Sn**	**17 56 58.8**	**+0.5**
HNR	**Honiara** 8.6nm,0.3s,baz=38,slow=5.5,SNR=4.9	**5.28**	**286**	Pn			**Pn**	**17 55 58.6**	**+0.2**
HNR	5.7nm,0.3s,baz=198,slow=20,SNR=1.8					Sn	**Sn**	**17 56 59.5**	**+1.2**
DZM	**Mont Dzumac** 1.7nm,0.3s,baz=331,slow=12,SNR=25	**11.11**	**173**	Pn			**Pn**	**17 57 18.9**	**+0.4**
DZM	0.2nm,0.3s,baz=90,slow=20,SNR=1.9					Sn	**Sn**	**17 59 18.6**	**-3.1**
DZM	comp=Z,155nm,18.4s,baz=1.0,slow=36					LR	LR	18 01 17.9	
PINNC	**Pines Island,**	**11.79**	**169**	*e*Pn			**Pn**	**17 57 27.1**	**-0.7**
CTA	**Charters Tower** 9.2nm,0.8s,baz=70,slow=13,SNR=9.7	**20.25**	**241**	P			**P**	**17 59 16.0**	**+1.3**
CTAO	**Charters Tower** 10nm,0.8s	**20.25**	**241**	*eP*			**P**	**17 59 15.8**	**+1.1**
COEN	**Coen** 83nm,1.8s	**21.59**	**260**	*eP*			**P**	**17 59 30.3**	**+1.2**
H11S2	**WAKE ISLAND Hy** baz=184,slow=76,SNR=24	**29.33**	**3**	T			T	18 31 24.3	
H11S3	**WAKE ISLAND Hy** baz=184,slow=76,SNR=14	**29.33**	**3**	T			T	18 31 17.6	
H11S1	**WAKE ISLAND Hy** baz=184,slow=76,SNR=11	**29.34**	**3**	T			T	18 31 18.6	
BKZ	**Black Stump Fm** 51nm,1.7s	**29.86**	**162**	*eP*			**P**	**18 00 48.2**	**+1.9**
STKA	**Stephens Creek** 2.9nm,1.5s	**30.04**	**223**	*eP*			**P**	**18 00 48.9**	**+0.8**
STKA	**Stephens Creek** 2.1nm,0.7s,baz=357,slow=9.6,SNR=4.3	**30.04**	**223**	P			**P**	**18 00 48.8**	**+0.8**
H11N1	**WAKE ISLAND Hy** baz=183,slow=76,SNR=25	**30.55**	**3**	T			T	18 32 56.0	
H11N3	**WAKE ISLAND Hy** baz=183,slow=76,SNR=21	**30.56**	**3**	T			T	18 32 49.0	
H11N2	**WAKE ISLAND Hy** baz=183,slow=76,SNR=19	**30.57**	**3**	T			T	18 32 57.4	
WB2	**Warramunga Arr**	**30.88**	**249**	*eP*			**P**	**18 00 55.0**	**-0.6**
WR1	**Warramunga Arr** 30nm,1.6s	**30.89**	**249**	*eP*			**P**	**18 00 55.0**	**-0.7**
WRA	**Warramunga Arr** 1.1nm,0.5s,baz=79,slow=9.3,SNR=13	**30.89**	**249**	P			**P**	**18 00 55.0**	**-0.7**
BFZ	**Birch Farm** 234nm,2.0s	**31.19**	**163**	*eP*			**P**	**18 00 59.2**	**+1.2**
THZ	**Tophouse** 98nm,1.8s	**31.43**	**169**	*eP*			**P**	**18 01 01.0**	**+0.9**
TOO	**Toolangi** 39nm,1.6s	**31.79**	**210**	*eP*			**P**	**18 01 04.2**	**+0.8**
AS01	**Alice Springs**	**32.20**	**243**	*eP*			**P**	**18 01 06.8**	**-0.3**
AS31	**Alice Springs** 1.4nm,1.1s	**32.24**	**243**	*eP*			**P**	**18 01 06.2**	**-1.3**
ASAR	**Alice Springs** 2.0nm,0.7s,baz=67,slow=9.9,SNR=29	**32.24**	**243**	P			**P**	**18 01 06.3**	**-1.2**
ASAR	0.6nm,1.0s,baz=21,slow=2.4,SNR=4.1				PcP		**PcP**	**18 03 56.3**	**+0.6**
FITZ	**Fitzroy Crossi** 44nm,1.6s	**38.77**	**255**	*eP*			**P**	**18 02 03.4**	**-0.2**
FORT	**Forrest** 87nm,1.3s	**39.55**	**234**	*eP*			**P**	**18 02 09.3**	**-0.7**
MJAR	**Matsushiro Arr** 2.2nm,0.8s,baz=160,slow=9.7,SNR=3.5	**53.61**	**333**	P			**P**	**18 03 60.0**	**-0.1**
MAJO	**Matsushiro**	**53.62**	**333**	*eP*			**P**	**18 03 60.0**	**-0.2**
TPUB	**Ta-pu** 151nm,1.8s	**55.25**	**308**	*eP*			**P**	**18 04 12.3**	**+0.1**
SSLB	**Suanglung** 121nm,1.8s	**55.27**	**309**	*eP*			**P**	**18 04 12.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**62.60**	**334**	P			**P**	**18 05 03.6**	**+0.8**
	2.7nm,0.9s,baz=200,slow=12,SNR=4.3								
PETK	**Petropavlovsk-** 1.7nm,0.8s,baz=289,slow=7.2,SNR=7.1	**64.14**	**355**	P			**P**	**18 05 12.3**	**-0.5**
PEA1	**Petropavlovsk-**	**64.15**	**355**	*eP*			**P**	**18 05 12.3**	**-0.6**
CM01	**Chiang Mai Arr**	**71.46**	**294**	*eP*			**P**	**18 05 59.7**	**-0.1**
CM31	**Chiang Mai Arr** 5.5nm,1.4s	**71.49**	**294**	*eP*			**P**	**18 05 59.8**	**-0.1**
CMAR	**Chiang Mai Arr** 0.9nm,0.8s,baz=120,slow=4.7,SNR=7.3	**71.49**	**294**	P			**P**	**18 06 00.5**	**+0.6**
SONA0	**Songino Array**	**78.23**	**324**	*eP*			**P**	**18 06 37.9**	**-0.6**
SONM	**Songino Array** 0.8nm,1.0s,baz=115,slow=7.0,SNR=4.3	**78.23**	**324**	P			**P**	**18 06 37.9**	**-0.6**
QSPA	**South Pole Qui** 14nm,1.3s	**79.03**	**180**	*eP*			**P**	**18 06 43.7**	**+1.1**
IM3	**Indian Mountai**	**82.54**	**16**	*eP*			**P**	**18 07 01.4**	**+0.4**
IL1	**Eielson Array**	**83.66**	**19**	*eP*			**P**	**18 07 06.0**	**-0.8**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=237,slow=5.6,SNR=8.7	**83.66**	**19**	P			**P**	**18 07 07.2**	**+0.3**
ILB	**Eielson Array** 18nm,1.9s	**83.66**	**19**	*eP*			**P**	**18 07 07.5**	**+0.6**
DOT	**Dot Lake** 19nm,1.8s	**83.84**	**20**	*eP*			**P**	**18 07 08.6**	**+0.7**
SCRK	**Sand Creek** 21nm,2.0s	**84.08**	**20**	*eP*			**P**	**18 07 08.9**	**-0.3**
MK32	**Makanchi Array**	**93.03**	**317**	*eP*			**P**	**18 07 52.2**	**0.0**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=90,slow=5.9,SNR=7.7	**93.03**	**317**	P			**P**	**18 07 52.2**	**0.0**
PDAR	**Pinedale Array** 0.2nm,0.7s,baz=230,slow=7.0,SNR=1.9	**93.99**	**47**	P			**P**	**18 07 57.5**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=263,slow=4.8,SNR=4.6	**95.22**	**27**	P			**P**	**18 08 00.4**	**-1.5**

MEX 01 17:55:04.2±0.4,16°.31N×98°.46W,h4km±3km,MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.33**	**76**	*eP*		Pg	17 55 10.2	-0.4
PNIG				*eS*		Sg	17 55 15.1	+0.2

*ISCJB **01** 17:59:49.9±1.1,11°.37S±0°.08×165°.9E±0°.1,h10km, mb3.7/5,Error ellipse: s-maj=17.0km s-min=9.1km az=145.7*
*IDC **01** 17:59:50.0±1.6,11°.19S×165°.85E,h0km,mb3.7/5, mb1 4.0/7,mb1mx3.7/34,mbtmp3.9/7,ML4.2/2,MS3.2/1, Ms1 3.2/1,ms1mx2.7/29,Error ellipse: s-maj=34.4km s-min=31.3km az=129.0*
*NEIC **01** 17:59:51.7±1.1,11°.14S×165°.90E,h10km,mb4.6/1,Error ellipse: s-maj=21.2km s-min=16.5km az=72.0*

ISC 01 17:59:51.5±1.2,11°.3S±0°.1×165°.9E±0°.1,h10km,n8, σ1°.43/9,mb3.8/5,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 15nm,0.3s,baz=137,slow=5.8,SNR=5.9	**6.14**	**287**	Pn		**Pn**	**18 01 22.9**	**+0.6**
HNR	4.7nm,0.3s,baz=180,slow=15,SNR=1.7					Sn	**Sn**	**18 02 33.1**	**+0.3**
HNR	comp=Z,203nm,19.2s,baz=96,slow=40					LR	LR	18 03 49.4	
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=340,slow=13,SNR=9.1	**10.77**	**177**	Pn			**Pn**	**18 02 28.3**	**+2.3**
DZM	0.1nm,0.3s,baz=55,slow=22,SNR=1.8					Sn	**Sn**	**18 04 24.7**	**-2.0**
CTAO	**Charters Tower** 35nm,1.1s	**20.85**	**243**	*eP*		Pn	18 04 35.3	-0.9
WRA	**Warramunga Arr** 2.1nm,0.8s,baz=82,slow=9.3,SNR=11	**31.56**	**250**	P		**P**	**18 06 14.1**	**-0.4**
ASAR	**Alice Springs** 0.6nm,0.9s,baz=63,slow=10,SNR=5.1	**32.84**	**244**	P		**P**	**18 06 24.3**	**-1.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.8s,baz=112,slow=4.1,SNR=6.6	**72.34**	**294**	P		**P**	**18 11 18.1**	**-0.1**
ILAR	**Eielson Array** 0.4nm,0.9s,baz=232,slow=4.4,SNR=3.4	**83.66**	**18**	P		**P**	**18 12 19.9**	**-0.1**
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=88,slow=7.4,SNR=2.8	**93.78**	**317**	P		**P**	**18 13 08.4**	**-0.6**

MEX 01 18:00:08.9±0.4,18°.38N×101°.45W,h59km±9km,MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.77**	**181**	*eP*			Pn	18 00 22.5	-1.5
ZIIG				*i* S			Sn	18 00 33.0	-1.9
ARIG	**Puente Sto Nin**	**1.05**	**95**	*eP*			Pn	18 00 26.4	-1.2
ARIG				*eS*			Sn	18 00 39.4	-2.1
MOIG	**Morelia**	**1.32**	**11**	*i* P			Pn	18 00 30.3	-1.0
MOIG				*i* S			Sn	18 00 45.9	-2.2
CAIG	**El Cayaco**	**1.74**	**139**	*eP*			Pn	18 00 35.0	-1.8
CAIG				*eS*			Sn	18 00 56.4	-1.6
MEIG	**Mezcala**	**1.80**	**104**	*i* P			Pn	18 00 36.1	-1.6
MEIG				*i* S			Sn	18 00 58.0	-1.6
MMIG	**Aquila**	**1.80**	**267**	*i* P			Pn	18 00 36.5	-1.1
MMIG				*i* S			Sn	18 00 57.3	-2.1
PLIG	**Platanillo**	**1.85**	**89**	*eP*			Pn	18 00 36.4	-2.1
PLIG				*i* S			Sn	18 00 58.8	-2.0
YAIG	**Yautepec**	**2.31**	**78**	*i* P			Pn	18 00 43.9	-0.8
YAIG				*i* S			Sn	18 01 10.2	-2.0

MAN 01 18:19:25.4,10°.85N×126°.40E,h29km,mb4.5,ML3.4, MS3.2,1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.20**	**308**	*eP*		Pb	18 19 47.2	-0.4
PLP	**Palo**	**1.43**	**283**↓	*eP*		Pn	18 19 48.8	-0.7
PLP				*eS*		Sn	18 20 08.2	+0.9
MSLP	**Maasin**	**1.68**	**245**	*eP*		Pn	18 19 51.3	-1.5
MSLP				*eS*		Sn	18 20 14.1	+0.7
OCLP	**Ormoc**	**1.77**	**277**	*eP*		Pn	18 19 54.9	+0.8
BUTP	**Butuan**	**2.02**	**202**	*eP*		Pn	18 19 57.3	-0.3
BUTP				*eS*		Sb	18 20 24.7	-1.6
CNP	**Catarman**	**2.37**	**314**	*eP*		Pn	18 20 02.5	+0.1
CNP				*eS*		Sn	18 20 31.1	+0.6
BUKP	**Musuan**	**3.23**	**204**	*eP*		Pn	18 20 16.4	+2.1

*MAN **01** 18:38:13.7,3°.47N×128°.11E,h28km,mb5.0,ML3.9,MS4.0*
*DJA **01** 18:38:14.2±1.1,5°.N±12°×12°.8E±°,h10km±18km,M4.5/8, mb4.7/7,mB5.1/5,MLv4.4/8,Mw(mB)4.5/5*
*IDC **01** 18:38:18.1±4.0,4°.27N×128°.14E,h30km±28km,mb3.8/12, mb1 3.9/12,mb1mx3.7/45,mbtmp4.0/12,MS3.1/4, Ms1 3.2/4,ms1mx2.8/33,Error ellipse: s-maj=33.0km s-min=13.6km az=73.0*
*ISCJB **01** 18:38:20.1±0.2,4°.22N±0°.03×128°.17E±0°.03,h66km, mb4.7/65,Error ellipse: s-maj=4.8km s-min=3.5km az=164.5*
*NEIC **01** 18:38:23.2±0.7,4°.22N×128°.16E,h80km±7km,mb4.9/57, Error ellipse: s-maj=6.6km s-min=3.7km az=68.0*

ISC 01 18:38:21.7±0.4,4°.22N±0°.04×128°.27E±0°.06,h66km,n130, σ1°.54/138,mb4.8/65,2C-1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.79**	**259**	P		**Pn**	**18 39 01.3**	**-2.7**
SGSI				S		**Sn**	**18 39 36.9**	**+0.4**
DDMP	**Don Marcelino,**	**3.16**	**306**	*eP*		**Pn**	**18 39 06.4**	**-2.7**
DDMP				*eS*		**Sn**	**18 39 49.6**	**+4.0**
MATI	**Mati**	**3.37**	**324**	*eP*		**Pn**	**18 39 10.5**	**-1.4**
MATI				*eS*		Sn	18 40 10.3	+20
TNTI	**Ternate**	**3.55**	**195**	*e*Pn		**Pn**	**18 39 15.2**	**+0.8**
TNTI	**Ternate**	**3.55**	**195**	P		**Pn**	**18 39 13.9**	**-0.5**
TNTI				S		**Sn**	**18 40 00.3**	**+5.2**
DAV	**Davao City (W)**	**3.89**	**317**	*e*Pn		**Pn**	**18 39 20.6**	**+1.5**
DAV				*e*Sn		**Sn**	**18 40 01.8**	**-1.9**
DAV	**Davao City (W)** 36nm,0.3s,baz=148,slow=23,SNR=4.0	**3.89**	**317**	Sn		**Sn**	**18 40 01.8**	**-1.9**
DAV	comp=Z,371nm,19.3s,baz=5.0,slow=48				LR	LR	18 41 17.5	
DMPH	**Davao City--Mi**	**3.95**	**316**↑	*eP*		**Pn**	**18 39 18.1**	**-1.9**
KCP	**Kidapawan**	**4.20**	**311**↓	*i*P		**Pn**	**18 39 23.6**	**+0.2**
KCP				*i* S		**Sn**	**18 40 18.6**	**+7.3**
SKMP	**Bagumbayan, Su**	**4.36**	**302**	*eP*		**Pn**	**18 39 24.3**	**-1.1**
BUKP	**Musuan**	**4.83**	**319**	*eP*		**Pn**	**18 39 32.8**	**+0.8**
CTBH	**Cotabato--PC H**	**4.99**	**307**↑	*i*P		**Pn**	**18 39 33.5**	**-0.6**
BUTP	**Butuan**	**5.40**	**331**	*eP*		**Pn**	**18 39 43.5**	**+3.8**
KMSI	**Cibinong**	**5.61**	**230**	P		**Pn**	**18 39 41.4**	**-1.2**
SANI	**Sanana**	**6.64**	**200**	P		**Pn**	**18 39 55.0**	**-1.7**

MRSI	**Marisa**	**7.34**	**240**	P			**Pn**	**18 40 04.6**	**-1.7**
NLAI	**Namlea**	**7.50**	**189**	P			**Pn**	**18 40 08.1**	**-0.5**
LUWI	**Luwuk**	**7.59**	**227**	*e*Pn			**Pn**	**18 40 11.2**	**+1.5**
LUWI				*e*Sn			**Sn**	**18 41 34.1**	**-0.2**
LUWI	**Luwuk**	**7.59**	**227**	P			**Pn**	**18 40 08.7**	**-1.0**
FAKI	**Fak Fak**	**8.13**	**151**	*e*Pn			**Pn**	**18 40 18.8**	**+1.6**
FAKI				*e*Sn			**Sn**	**18 41 44.1**	**-3.6**
TTSI	**Tana Toraja**	**11.11**	**230**	P			**Pn**	**18 40 56.9**	**-1.0**
SOEI	**Soe**	**14.45**	**196**	*e*Pn			**Pn**	**18 41 45.3**	**+2.3**
SBUM	**Sibu** 9.9nm,1.0s	**16.12**	**264**	*e*Pn			**Pn**	**18 42 03.7**	**-0.6**
MTN	**Manton Dam** 70nm,1.6s	**17.19**	**171**	*e*Pn			**Pn**	**18 42 16.1**	**-1.5**
KSM	**Kuching** 24nm,1.4s	**18.14**	**262**	*eP*			**Pn**	**18 42 28.6**	**-0.7**
GUMO	**Guam** comp=Z,52nm,21.5s,baz=142,slow=32	**18.84**	**59**	LR			LR	18 48 20.2	
JAGI	**Jajag, Banyuwa** 52nm,1.3s	**18.90**	**228**	*eP*			**P**	**18 42 34.8**	**-2.4**
TWG	**Pinlang** 224nm,1.5s	**19.76**	**340**	*eP*			**Pn**	**18 42 47.2**	**-1.2**
YULB	**Yu-li** 49nm,1.4s	**20.21**	**341**	*eP*			**P**	**18 42 49.5**	**-1.8**
TPUB	**Ta-pu** 118nm,1.5s	**20.35**	**339**	*eP*			**P**	**18 42 52.4**	**-0.5**
SSLB	**Suanglung** 155nm,1.9s	**20.69**	**341**	*eP*			**P**	**18 42 56.1**	**-0.5**
YOJ	**Yonaguni jima** 620nm,1.5s	**20.75**	**346**	*eP*			**P**	**18 42 57.6**	**+0.5**
YHNB	**Yeheng** 120nm,1.4s	**21.38**	**343**	*eP*			**P**	**18 43 05.2**	**+1.2**
FITZ	**Fitzroy Crossi** 30nm,1.5s	**22.33**	**187**	*eP*			**P**	**18 43 14.9**	**+0.7**
FITZ	**Fitzroy Crossi** 1.8nm,0.6s,baz=18,slow=13,SNR=7.2	**22.33**	**187**	P			**P**	**18 43 13.1**	**-1.1**
QIZ	**Qiongzhong** 60nm,1.6s	**23.25**	**311**	*eP*			**P**	**18 43 23.4**	**-0.2**
COEN	**Coen** 79nm,2.0s	**23.34**	**141**	*eP*			**P**	**18 43 26.7**	**+2.1**
WRAB	**Tennant Creek** 32nm,1.6s	**24.74**	**166**	*eP*			**P**	**18 43 38.5**	**+1.3**
WR1	**Warramunga Arr** 84nm,2.0s	**24.75**	**166**	*eP*			**P**	**18 43 38.5**	**+1.3**
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=345,slow=10,SNR=19	**24.75**	**166**	P			**P**	**18 43 38.5**	**+1.3**
WB2	**Warramunga Arr**	**24.75**	**166**	*eP*			**P**	**18 43 37.3**	**0.0**
MBWA	**Marble Bar** 35nm,1.4s	**26.58**	**198**	*eP*			**P**	**18 43 53.9**	**0.0**
AS31	**Alice Springs** 3.7nm,1.5s	**28.26**	**169**	*eP*			**P**	**18 44 09.0**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=352,slow=7.3,SNR=12	**28.26**	**169**	P			**P**	**18 44 09.0**	**+0.1**
ASAR	0.6nm,0.6s,baz=0.3,slow=2.3,SNR=7.2				PcP		**PcP**	**18 47 21.8**	**+0.8**
ASAR	0.5nm,0.6s,baz=349,slow=2.4,SNR=7.6				ScP		**ScP**	**18 51 01.1**	**+4.6**
AS01	**Alice Springs**	**28.27**	**169**	*eP*			**P**	**18 44 10.7**	**+1.8**
PSI	**Prapat** comp=Z,50nm,18.1s,baz=271,slow=41	**29.32**	**268**	LR			LR	18 58 22.6	
JHJ2	**Mitsune** 5um,2.0s	**30.70**	**19**	*eP*			**P**	**18 44 30.2**	**-0.1**
GSI	**Gunungsitoli** 21nm,1.3s	**30.79**	**265**	*eP*			**P**	**18 44 30.6**	**-0.9**
ENH	**Enshi** 7.7nm,0.6s	**31.40**	**328**	*eP*			**P**	**18 44 35.8**	**-0.9**
CM01	**Chiang Mai Arr**	**31.94**	**299**	*eP*			**P**	**18 44 40.4**	**-1.1**
CM31	**Chiang Mai Arr**	**31.97**	**299**	*eP*			**P**	**18 44 41.6**	**-0.2**
CMAR	**Chiang Mai Arr** 0.9nm,0.6s,baz=111,slow=7.3,SNR=13	**31.97**	**299**	P			**P**	**18 44 41.5**	**-0.2**
CMAR	comp=Z,20nm,20.6s,baz=210,slow=36					LR	LR	18 57 29.6	
INU	**Inuyama** 108nm,1.8s	**32.01**	**14**	*eP*			**P**	**18 44 41.8**	**-0.1**
CMMT	**Chiang Mai** 3.3nm,1.2s	**32.10**	**299**	P			**P**	**18 44 46.7**	**+3.8**
CHTO	**Chiang Mai** 3.0nm,1.1s	**32.10**	**299**	*eP*			**P**	**18 44 41.8**	**-1.1**
CHTO	**Chiang Mai** 15nm,1.2s	**32.10**	**299**	P			**P**	**18 44 46.8**	**+3.9**
XAN	**Xi'an**	**34.70**	**331**	P			**P**	**18 45 04.4**	**-1.0**
XAN					pP		pP	18 45 10.8	-10
XAN	comp=Z,14nm,0.7s				pmax		pmax		
XAN	comp=Z,48nm,4.6s				pmax		pmax		
XAN	**Xi'an** comp=Z,19nm,1.1s	**34.70**	**331**	*eP*			**P**	**18 45 04.0**	**-1.4**
BBOO	**Buckleboo** comp=Z,85nm,1.7s	**37.57**	**169**	*eP*			**P**	**18 45 29.4**	**-0.4**
STKA	**Stephens Creek** comp=Z,9.3nm,1.8s	**38.08**	**161**	*eP*			**P**	**18 45 33.9**	**-0.2**
STKA	**Stephens Creek** comp=Z,1.9nm,0.6s,baz=347,slow=7.9,SNR=5.1	**38.08**	**161**	P			**P**	**18 45 35.1**	**+1.1**
NWAO	**Narrogin (SRO)** comp=Z,43nm,1.3s	**38.40**	**195**	*eP*			**P**	**18 45 37.5**	**+0.7**
LZH	**Lanzhou**	**38.88**	**328**	*eP*			**P**	**18 45 41.5**	**+0.5**
LZH					pP		pP	18 45 46.6	-10
LZH					sP		pwP	18 45 48.1	-13
LZH	comp=Z,20nm,1.3s				pmax		pmax		
SHL	**Shillong** comp=Z,21nm,0.7s	**40.84**	**305**	*eP*			**P**	**18 45 56.2**	**-1.2**
ARMA	**Armidale** comp=Z,132nm,1.8s	**41.06**	**149**	*eP*			**P**	**18 45 58.6**	**-0.5**
LSA	**Lhasa** comp=Z,2.3nm,0.8s	**43.28**	**310**	*eP*			**P**	**18 46 18.1**	**+0.5**
GTA	**Gaotai**	**43.49**	**328**	P			**P**	**18 46 18.8**	**+0.1**
GTA					pP		pP	18 46 24.1	-10
GTA					sP		pwP	18 46 27.3	-12
GTA

comp=Z,9.6nm,1.0s
CHGR Chuyangaron 63.49 311 *e*P **P** 18 48 45.0 -0.3
comp=Z,5.6nm,0.9s
KK31 Karatay Array 63.93 316 *e*P **P** 18 48 46.6 -1.3
comp=Z,4.3nm,1.3s
KKAR Karatay Array 63.93 316 *e*P **P** 18 48 46.5 -1.5
comp=Z,4.3nm,1.3s
BRVK Borovoye 67.83 326 *e*P **P** 18 49 12.6 -0.2
comp=Z,6.1nm,1.3s
GEYT Alibeck 71.79 308 P **P** 18 49 36.5 -1.1
comp=Z,1.7nm,0.7s,baz=104,slow=6.3,SNR=4.2
AKUT Akutan 72.65 34 *e*P **P** 18 49 40.8 -1.4
comp=Z,190nm,1.6s
ABKAR Akbulak array 72.75 320 *e*P **P** 18 49 41.6 -1.3
HON Honolulu 73.32 69 *e*P **P** 18 49 45.8 -1.0
comp=Z,222nm,1.0s
IM3 Indian Mountai 81.27 24 *e*P **P** 18 50 32.1 +1.6
PPLA Purkeypile 81.49 27 *e*P **P** 18 50 32.7 +0.8
comp=Z,46nm,1.8s
CAST Castle Rocks 81.61 27 *e*P **P** 18 50 33.7 +1.4
comp=Z,10nm,1.4s
RAYN Ar Rayn 81.70 293 *e*P **P** 18 50 33.1 -0.6
comp=Z,10nm,1.6s
BRLK Bradley Lake 81.75 30 *e*P **P** 18 50 33.8 +0.6
comp=Z,41nm,1.3s
MLY Manley 82.38 25 *e*P **P** 18 50 36.8 +0.4
comp=Z,18nm,1.9s
TRF Thorofare Moun 82.41 27 *e*P **P** 18 50 36.9 +0.1
comp=Z,33nm,1.8s
RC01 Rabbit Creek A 82.45 29 *e*P **P** 18 50 36.2 -0.5
comp=Z,58nm,1.8s
SEW Seward 82.50 30 *e*P **P** 18 50 35.5 -1.6
comp=Z,104nm,1.9s
GHO Glory Hole Cre 82.89 28 *e*P **P** 18 50 39.6 +0.5
comp=Z,39nm,1.6s
KNK Knik Glacier 83.09 29 *e*P **P** 18 50 41.3 +1.2
comp=Z,45nm,1.8s
SML Sawmill 83.17 28 *e*P **P** 18 50 41.5 +1.0
comp=Z,21nm,1.3s
DHY Denali Highway 83.70 27 *e*P **P** 18 50 44.7 +1.4
comp=Z,38nm,2.0s
IL1 Eielson Array 84.00 25 *e*P **P** 18 50 43.8 -0.9
ILAR Eielson Array 84.00 25 P **P** 18 50 44.9 +0.2
comp=Z,0.4nm,0.8s,baz=229,slow=4.2,SNR=4.7
KLU Klutina 84.31 29 *e*P **P** 18 50 48.0 +1.6
comp=Z,44nm,1.8s
PAX Paxson 84.56 27 *e*P **P** 18 50 49.5 +1.8
comp=Z,36nm,1.8s
MENT Mentasta 85.36 27 *e*P **P** 18 50 53.0 +1.4
comp=Z,41nm,2.0s
EGAK Eagle 86.45 25 *e*P **P** 18 50 58.0 +1.1
comp=Z,35nm,1.9s
HYT Haines Junctio 88.41 29 *e*P **P** 18 51 08.8 +2.3
YKA Yellowknife Ar 98.41 25 P **P** 18 51 52.9 +0.6
comp=Z,0.2nm,0.6s,baz=305,slow=4.6,SNR=4.3
TORD Torodi Ar. Bea 124.22 289 PKP **PKPdf** 18 57 13.6 -0.4
comp=Z,0.7nm,0.9s,baz=72,slow=2.5,SNR=3.0
TOA1 Torodi Ar. Sit 124.22 289 *e*PKPdf **PKPdf** 18 57 13.6 -0.4
JSC Jenkinsville 132.65 34 *e*PKPpre PKPpre 18 57 19.2

*LDG **01** 18:43:15.9±0.4,36.°81N×5.°57E,h10km,Ml3.3/20,Error ellipse: s-maj=7.5km s-min=4.1km az=145.0*
*ISCJB **01** 18:43:17.0±0.2,36.°95N±0.°02×5.°23E±0.°03,h10km, mb3.9/12,Error ellipse: s-maj=3.6km s-min=2.5km az=35.3*
*IDC **01** 18:43:17.1±1.1,36.°88N×5.°23E,h0km,mb3.5/8, mb1 3.6/11,mb1mx3.5/46,mbtmp3.5/11,ML3.8/3,Error ellipse: s-maj=21.8km s-min=19.5km az=11.0*
*CRAAG **01** 18:43:18.0,36.°80N×5.°19E,Ml3.5*
*MDD **01** 18:43:19.7±0.8,36.°76N×5.°29E,h13km±11km,mb4.3/23, Error ellipse: s-maj=7.2km s-min=5.2km az=3.0,PRXIMO*
*NEIC **01** 18:43:19.7±2.6,36.°90N×5.°29E,h15km±17km,mb4.2/3, Error ellipse: s-maj=8.1km s-min=5.6km az=179.0*
ISC 01 18:43:17.9±0.6,36.°85N±0.°04×5.°23E±0.°04,h10km,n128, σ2.9 01/143,mb3.8/12,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	**0.61**	**120**	P		**Pg**		**18 43 29.8**	**+0.1**
DFRA	**Djebel Bou Aff**	**0.61**	**120**	P		**Pg**		18 43 29.8	+0.1
SET	**Setif**	**0.67**	**168**	P		**Pg**		**18 43 31.0**	**+0.2**
SET	**Setif**	**0.67**	**168**	P		**Pg**		18 43 31.0	+0.2
CKHR	**Kef el Ahmar**	**0.86**	**164**	P		**Pg**		**18 43 33.3**	**-1.3**
CKHR	**Kef el Ahmar**	**0.86**	**164**	P		**Pg**		18 43 33.3	-1.3
CASM	**Ain Smara**	**1.18**	**120**	P		**Pb**		**18 43 38.9**	**-1.5**
CASM	**Ain Smara**	**1.18**	**120**	P		**Pb**		18 43 38.9	-1.5
CTEI	**Djebel Teioual**	**1.23**	**129**	P		**Pb**		**18 43 40.1**	**-1.3**
CTEI	**Djebel Teioual**	**1.23**	**129**	P		**Pb**		18 43 40.1	-1.3
CKFL	**Kef-Lekhel**	**1.28**	**110**	P		**Pn**		**18 43 40.7**	**-1.4**
CKFL	**Kef-Lekhel**	**1.28**	**110**	P		**Pn**		18 43 40.7	-1.4
CAEH	**'Ain El Ouahch**	**1.30**	**93**	P		**Pn**		**18 43 42.1**	**-0.2**
CAEH	**'Ain El Ouahch**	**1.30**	**93**	P		**Pn**		18 43 42.1	-0.2
AKET	**Djebel Ketaf**	**1.35**	**234**	P		**Pn**		**18 43 44.3**	**+1.3**
AKET	**Djebel Ketaf**	**1.35**	**234**	P		**Pn**		18 43 44.3	+1.3
ABMS	**Boumerdes**	**1.41**	**266**	P		**Pn**		**18 43 42.6**	**-1.0**
ABMS	**Boumerdes**	**1.41**	**266**	P		**Pn**		18 43 42.6	-1.0
CMAH	**Djebel Manchou**	**1.78**	**97**	P		**Pn**		**18 43 47.9**	**-0.9**
CMAH	**Djebel Manchou**	**1.78**	**97**	P		**Pn**		18 43 47.9	-0.9
ABSA	**Djebel Ababsia**	**1.90**	**107**	P		**Pn**		**18 43 49.5**	**-1.1**
CABS	**Djebel Ababsia**	**1.90**	**107**	P		**Pn**		18 43 49.5	-1.1
TAMR	**Tamra**	**3.12**	**85**	*e*Pn		**Pn**		**18 44 07.0**	**-0.1**
ETOS	**Mallorca**	**3.48**	**328**	P		**Pn**		**18 44 13.3**	**+1.1**
	34nm,0.4s,SNR=14								
ETOS				S		**Sn**		**18 44 53.3**	**0.0**
	35nm,0.3s,SNR=7.9								
KEST	**Kesra**	**3.51**	**107**	*e*Pn		**Pn**		**18 44 12.9**	**+0.2**
KEST				*e*Sn		**Sn**		**18 44 54.6**	**+0.3**
KEST	**Kesra**	**3.51**	**107**	Pn		**Pn**		**18 44 12.8**	**+0.1**
	5.3nm,0.3s,baz=246,slow=5.0,SNR=47								
KEST				Sn		**Sn**		**18 44 54.8**	**+0.5**
	7.7nm,0.3s,baz=278,slow=20,SNR=13								
OKGL	**Djebel Kef Gue**	**3.78**	**259**	P		**Pn**		**18 44 15.9**	**-0.4**
	19nm,0.2s,SNR=7.9								
CART	**Cartagena**	**5.02**	**280**	*e*Pn		**Pn**		**18 44 33.7**	**+0.3**
EMUR	**La Murta**	**5.25**	**283**	P		**Pn**		**18 44 37.9**	**+1.4**
	2.7nm,0.4s,SNR=5.9								
EMUR				S		**Sn**		**18 45 36.2**	**-0.9**
	2.5nm,0.5s,SNR=7.9								
CFON	**Fontmartina**	**5.36**	**337**	P		**Pn**		**18 44 39.1**	**+1.0**
	3.8nm,0.2s,SNR=7.9								
CFON				S		**Sn**		**18 45 36.4**	**-3.4**
	33nm,0.5s,SNR=7.9								
EPOB	**Poblet**	**5.53**	**326**	P		**Pn**		**18 44 41.3**	**+0.9**
	2.3nm,0.1s,SNR=20								
EPOB				S		**Sn**		**18 45 40.3**	**-3.8**
	2.9nm,0.2s,SNR=7.9								
ECHE	**Chera**	**5.59**	**301**	P		**Pn**		**18 44 42.6**	**+1.4**
	4.4nm,0.4s,SNR=7.9								
ECHE				S		**Sn**		**18 45 44.7**	**-0.8**
	0.9nm,0.4s,SNR=7.9								
ERTA	**Horta de San J**	**5.60**	**319**	P		**Pn**		**18 44 42.0**	**+0.7**
	0.4nm,0.2s,SNR=7.9								
ERTA				S		**Sn**		**18 45 43.9**	**-1.8**
	1.1nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**5.66**	**290**	P		**Pn**		**18 44 44.4**	**+2.2**
	4.2nm,0.3s,SNR=16								
ETOB				S		**Sn**		**18 45 47.0**	**-0.3**
	1.0nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**5.67**	**310**	P		**Pn**		**18 44 43.9**	**+1.5**
	2.0nm,0.3s,SNR=6.7								
EMOS				S		**Sn**		**18 45 47.2**	**-0.6**
	0.8nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**5.81**	**332**	P		**Pn**		**18 44 45.9**	**+1.7**
	5.4nm,0.2s,SNR=7.9								
EMIR				S		**Sn**		**18 45 50.4**	**-0.6**
	20nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**5.87**	**343**	P		**Pn**		**18 44 46.4**	**+1.4**
	4.6nm,0.4s,SNR=7.9								
EJON				S		**Sn**		**18 45 50.9**	**-1.6**
	1.8nm,0.2s,SNR=7.9								
SJAF	**Saint Jean de**	**5.91**	**343**	P		**Pn**		**18 44 46.8**	**+1.2**
	0.5nm,0.1s,SNR=7.9								
SJAF				S		**Sn**		**18 45 50.5**	**-2.8**
	2.3nm,0.2s,SNR=7.9								
ENIJ	**Nijar**	**5.96**	**273**	P		**Pn**		**18 44 45.9**	**-0.3**
	5.1nm,0.3s,SNR=7.9								
ENIJ				S		**Sn**		**18 45 51.2**	**-3.3**
	12nm,0.3s,SNR=7.9								
CLLI	**Llivia**	**6.16**	**337**	P		**Pn**		**18 44 51.1**	**+2.1**
	1.7nm,0.2s,SNR=7.9								
CLLI				S		**Sn**		**18 45 57.3**	**-2.2**
	3.2nm,0.3s,SNR=7.9								
CSOR	**Sort**	**6.36**	**331**	P		**Pn**		**18 44 54.3**	**+2.6**
	4.4nm,0.3s,SNR=13								
CSOR				S		**Sn**		**18 46 04.1**	**-0.4**
	4.5nm,0.3s,SNR=7.9								
PGF	**Pioggiola**	**6.39**	**26**	*e*Pn		Pn		18 44 47.4	-4.8
PGF				*e*Sn		Sn		18 45 55.6	-10
	3.9nm,0.1s								
EBER	**Berja**	**6.51**	**273**	P		**Pn**		**18 44 54.1**	**+0.2**
	5.2nm,0.4s,SNR=12								
EBER				S		**Sn**		**18 46 06.7**	**-1.6**
	5.2nm,0.5s,SNR=7.9								
LMR	**La Mourre**	**6.55**	**8**	*e*Pn		Pn		18 44 50.1	-4.2
LMR	**La Mourre**	**6.55**	**8**	*e*P		**Pn**		**18 44 54.5**	**+0.2**
LMR				*e*Sn		Sn		18 46 00.2	-8.8
	3.9nm,0.2s								
LMR	**La Mourre**	**6.55**	**8**	P		**Pn**		**18 44 54.5**	**+0.2**
ESAC	**San Caprasio**	**6.57**	**320**	P		**Pn**		**18 44 56.7**	**+2.1**
	16nm,0.3s,SNR=7.9								
EQES	**Quesada**	**6.68**	**281**	P		**Pn**		**18 44 57.6**	**+1.4**
	7.3nm,0.4s,SNR=10								
EQES				S		**Sn**		**18 46 08.7**	**-3.7**
	3.1nm,0.4s,SNR=7.9								
FRF	**La Foret Royal**	**6.79**	**9**	*e*Pn		Pn		18 44 53.5	-4.1
FRF	**La Foret Royal**	**6.79**	**9**	*e*P		**Pn**		**18 44 58.0**	**+0.4**
FRF				*e*Sn		Sn		18 46 07.0	-7.9
	16nm,0.4s								
FRF	**La Foret Royal**	**6.79**	**9**	P		**Pn**		**18 44 58.0**	**+0.4**
MTLF	**Montolieu**	**6.88**	**341**	*e*Pn		Pn		18 44 55.5	-3.4
MTLF	**Montolieu**	**6.88**	**341**	*e*P		**Pn**		**18 45 01.0**	**+2.1**
MTLF				*e*Sn		**Sn**		**18 46 10.8**	**-6.4**
	1.1nm,0.2s								
MTLF	**Montolieu**	**6.88**	**341**	P		**Pn**		**18 45 01.0**	**+2.1**
ELGU	**Los Guajares,**	**7.10**	**273**	P		**Pn**		**18 45 02.5**	**+0.6**
	2.1nm,0.2s,SNR=7.9								
SMRF	**Simiane la Rot**	**7.12**	**2**	*e*Pn		Pn		18 44 58.6	-3.6
SMRF	**Simiane la Rot**	**7.12**	**2**	*e*P		**Pn**		**18 45 03.6**	**+1.4**
SMRF				*e*Sn		Sn		18 46 16.1	-7.1
	0.6nm,0.2s								
SMRF	**Simiane la Rot**	**7.12**	**2**	P		**Pn**		**18 45 03.6**	**+1.4**
SBF	**Sospel**	**7.20**	**13**	*e*Pn		Pn		18 44 58.8	-4.6
SBF	**Sospel**	**7.20**	**13**	*e*P		**Pn**		**18 45 04.1**	**+0.7**
SBF				*e*Sn		Sn		18 46 16.5	-8.8
	3.9nm,0.2s								
SBF	**Sospel**	**7.20**	**13**	P		**Pn**		**18 45 04.1**	**+0.7**
EPF	**Esparros**	**7.22**	**330**	*e*P		**Pn**		**18 45 06.4**	**+2.8**
EPF				*e*Sn		**Sn**		**18 46 20.2**	**-5.5**
	9.0nm,0.5s								
EPF	**Esparros**	**7.22**	**330**	P		**Pn**		**18 45 06.4**	**+2.8**
LASF	**Ste Croix**	**7.29**	**352**	*e*Pn		Pn		18 45 01.2	-3.3
LASF	**Ste Croix**	**7.29**	**352**	*e*P		**Pn**		**18 45 06.0**	**+1.5**
LASF				*e*Sn		Sn		18 46 19.2	-8.2
	4.7nm,0.3s								
LASF	**Ste Croix**	**7.29**	**352**	P		**Pn**		**18 45 06.0**	**+1.5**
EGOR	**Sierra Gorda,**	**7.48**	**275**	P		**Pn**		**18 45 09.3**	**+2.1**
	0.4nm,0.2s,SNR=7.9								
EGOR				S		**Sn**		**18 46 26.8**	**-5.4**
	0.8nm,0.4s,SNR=7.9								
ETSF	**Etsaut**	**7.50**	**325**	*e*Pn		**Pn**		**18 45 05.2**	**-2.2**
ETSF	**Etsaut**	**7.50**	**325**	*e*P		**Pn**		**18 45 10.4**	**+3.0**
ETSF				*e*Sn		**Sn**		**18 46 26.1**	**-6.4**
	2.1nm,0.3s								
ETSF	**Etsaut**	**7.50**	**325**	P		**Pn**		**18 45 10.4**	**+3.0**
ATE	**Arette**	**7.71**	**326**	P		**Pn**		**18 45 12.7**	**+2.4**
	3.5nm,0.3s,SNR=7.9								
ATE				S		**Sn**		**18 46 34.6**	**-3.1**
	1.7nm,0.3s,SNR=7.9								
ES19	**SONSECA Array**	**7.72**	**294**	*e*Pn		**Pn**		**18 45 13.2**	**+2.7**
ESDC	**Sonseca Array**	**7.76**	**294**	Pn		**Pn**		**18 45 12.0**	**+1.0**
	0.8nm,0.3s,baz=104,slow=14,SNR=5.1								
ESDC				Sn		**Sn**		**18 46 44.5**	**+5.6**
	0.3nm,0.3s,baz=118,slow=24,SNR=3.4								
ESLA	**Sonseca Array**	**7.76**	**294**	*e*Pn		**Pn**		**18 45 13.8**	**+2.8**
IELO	**Elcoad**	**7.78**	**322**	P		**Pn**		**18 45 13.6**	**+2.3**
	4.1nm,0.4s,SNR=7.9								
MBDF	**Montbardon**	**7.95**	**8**	*e*Pn		Pn		18 45 09.6	-4.1
MBDF	**Montbardon**	**7.95**	**8**	*e*P		**Pn**		**18 45 15.4**	**+1.7**
MBDF				*e*Sn		Sn		18 46 34.6	-9.2
	2.3nm,0.3s								
MBDF	**Montbardon**	**7.95**	**8**	P		**Pn**		**18 45 15.4**	**+1.7**
SJPF	**Ste Jean**	**7.97**	**324**	*e*Pn		**Pn**		**18 45 11.4**	**-2.5**
SJPF	**Ste Jean**	**7.97**	**324**	*e*P		**Pn**		**18 45 16.1**	**+2.2**
SJPF				*e*Sn		**Sn**		**18 46 38.2**	**-6.0**
	2.6nm,0.5s								
SJPF	**Ste Jean**	**7.97**	**324**	P		**Pn**		**18 45 16.1**	**+2.2**
PAB	**San Pablo**	**8.00**	**293**	*e*Pn		**Pn**		**18 45 16.7**	**+2.4**
PAB	**San Pablo**	**8.00**	**293**	P		**Pn**		**18 45 16.2**	**+1.9**
	1.2nm,0.3s,SNR=7.9								
VIVF	**Saint-Julien-l**	**8.01**	**357**	*e*Pn		Pn		18 45 10.9	-3.5
VIVF	**Saint-Julien-l**	**8.01**	**357**	*e*P		**Pn**		**18 45 15.1**	**+0.7**
VIVF				*e*Sn		Sn		18 46 36.6	-8.4
	1.4nm,0.2s								
VIVF	**Saint-Julien-l**	**8.01**	**357**	P		**Pn**		**18 45 15.1**	**+0.7**
EMIJ	**Mijas**	**8.04**	**271**	P		**Pn**		**18 45 14.4**	**-0.3**
	5.3nm,0.5s,SNR=7.9								
ORIF	**Oris-en-Rattie**	**8.07**	**3**	*e*Pn		Pn		18 45 11.3	-4.0
ORIF	**Oris-en-Rattie**	**8.07**	**3**	*e*P		**Pn**		**18 45 16.6**	**+1.3**
ORIF				*e*Sn		Sn		18 46 37.8	-8.9
	2.3nm,0.5s								
EALK	**Alkurruntz**	**8.19**	**323**	P		**Pn**		**18 45 19.4**	**+2.5**
	4.9nm,0.6s,SNR=5.6								
EALK				S		**Sn**		**18 46 46.4**	**-3.2**
	3.5nm,0.4s,SNR=5.7								
BNI	**Bardonecchia**	**8.27**	**7**	*e*Pn		**Pn**		**18 45 19.6**	**+1.6**
BNI				*e*Sn		**Sn**		**18 46 49.6**	**-1.9**
AQU	**L'Aquila**	**8.37**	**46**	*e*Pn		**Pn**		**18 45 18.2**	**-1.1**
CAF	**Calviac**	**8.41**	**344**	*e*P		**Pn**		**18 45 21.9**	**+2.0**
CAF				*e*Sn		Sn		18 46 47.1	-7.9
	1.5nm,0.3s								
CAF	**Calviac**	**8.41**	**344**	P		**Pn**		**18 45 21.9**	**+2.0**
SSB	**Saint Sauveur**	**8.44**	**357**	*e*Pn		**Pn**		**18 45 18.5**	**-1.8**
SSB				*e*Sn		**Sn**		**18 46 52.1**	**-3.4**
LPG	**La Plagne**	**8.71**	**7**	*e*Pn		Pn		18 45 20.6	-3.7
LPG	**La Plagne**	**8.71**	**7**	*e*P		**Pn**		**18 45 26.0**	**+1.7**
LPG				*e*Sn		Sn		18 46 54.2	-8.5
	3.8nm,0.6s								
LPG	**La Plagne**	**8.71**	**7**	P		**Pn**		**18 45 26.0**	**+1.7**
LPL	**La Plagne**	**8.73**	**7**	*e*Pn		Pn		18 45 20.2	-4.2
LPL	**La Plagne**	**8.73**	**7**	*e*P		**Pn**		**18 45 26.4**	**+1.9**
LPL				*e*Sn		Sn		18 46 54.5	-8.5
	4.3nm,0.5s								
LPL	**La Plagne**	**8.73**	**7**	P		**Pn**		**18 45 26.4**	**+1.9**
LFF	**La Frestale**	**8.76**	**339**	*e*Sn		Sn		18 46 55.7	-7.8
	1.2nm,0.2s								
TIP	**Timpagrande**	**9.39**	**72**	*e*Pn		**Pn**		**18 45 34.2**	**+0.8**
SENIN	**Lac Senin/Sane**	**9.63**	**9**	*e*Pn		**Pn**		**18 45 38.3**	**+1.5**
ECAL	**Calabor**	**10.56**	**302**	P		**Pn**		**18 45 50.7**	**+1.3**
	2.0nm,0.4s,SNR=7.9								
ECH	**Echery**	**11.45**	**7**	*e*Pn		**Pn**		**18 46 01.8**	**+0.4**
GERES	**GERESS Array B**	**13.49**	**25**	Pn		**Pn**		**18 46 28.6**	**-0.8**
	0.2nm,0.3s,baz=240,slow=16,SNR=2.3								
AK11	**Malin Array Si**	**22.01**	**44**	*e*P		**P**		**18 48 11.1**	**-1.1**
KIEV	**Kiev**	**22.04**	**44**	*e*P		**P**		**18 48 12.9**	**+0.4**
	26nm,2.0s								
AKASG	**Malin Array Be**	**22.05**	**44**	P		**P**		**18 48 12.6**	**-0.1**
	1.8nm,0.6s,baz=241,slow=10,SNR=5.5								
AKBB	**Malin Array Si**	**22.05**	**44**	*e*P		**P**		**18 48 12.2**	**-0.4**
	21nm,1.9s								
BR101	**Keskin Array S**	**22.45**	**74**	*e*P		**P**		**18 48 19.7**	**+2.5**
BR131	**Keskin Array S**	**22.45**	**74**	*e*P		**P**		**18 48 18.2**	**+1.0**
	9.1nm,1.6s								
BRTR	**Keskin Array B**	**22.45**	**74**	P		**P**		**18 48 19.7**	**+2.5**
	1.0nm,0.7s,baz=269,slow=7.6,SNR=7.4								
TOA1	**Torodi Ar. Sit**	**23.81**	**189**	*e*P		**P**		**18 48 32.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**23.82**	**189**	P		**P**		**18 48 32.3**	**+1.1**
	0.4nm,0.7s,baz=12,slow=10,SNR=2.9								
NB200	**NORSAR Array S**	**24.51**	**7**	*e*P		**P**		**18 48 38.2**	**+1.0**
NOA	**NORSAR Array B**	**24.51**	**7**	P		**P**		**18 48 38.2**	**+1.0**
	0.3nm,0.6s,baz=190,slow=9.2,SNR=2.9								
FIA1	**FINESS Array S**	**27.89**	**21**	*e*P		**P**		**18 49 08.4**	**+0.7**
ARA0	**ARCESS Array S**	**34.55**	**12**	*e*P		**P**		**18 50 06.5**	**+0.3**
ARCES	**ARCESS Array B**	**34.55**	**12**	P		**P**		**18 50 06.5**	**+0.3**
	12nm,1.1s,baz=235,slow=4.3,SNR=3.5								
KEV	**Kevo**	**35.01**	**13**	*e*P		**P**		**18 50 10.7**	**+0.6**
	214nm,1.9s								
ZAA1	**Zalesovo Array**	**55.44**	**45**	*e*P		**P**		**18 52 52.6**	**+0.2**
ZALV	**Zalesovo Beam**	**55.44**	**45**	P		**P**		**18 52 52.6**	**+0.2**
	1.1nm,0.6s,baz=289,slow=7.6,SNR=5.6								
MK32	**Makanchi Array**	**56.13**	**54**	*e*P		**P**		**18 52 57.7**	**+0.2**
MKAR	**Makanchi Array**	**56.13**	**54**	P		**P**		**18 52 57.7**	**+0.2**
	0.8nm,0.6s,baz=282,slow=6.4,SNR=13								
YKA	**Yellowknife Ar**	**69.90**	**335**	P		**P**		**18 54 29.4**	**+0.7**
	0.3nm,0.6s,baz=51,slow=5.9,SNR=6.2								
PDAR	**Pinedale Array**	**81.00**	**317**	P		**P**		**18 55 33.6**	**+0.4**
	0.2nm,0.5s,baz=64,slow=4.1,SNR=2.1								

*SOME **01** 18:51:49.4,42.°55N×79.°58E,h10km*
*KRNET **01** 18:51:50.4±0.1,42.°61N×79.°58E,h14km,mb2.4*
NNC 01 18:51:49.8±0.8,42.°61N×79.°57E,h0km,mb2.5,mpv2.4, 9C-3D,Error ellipse: s-maj=4.8km s-min=2.7km az=137.0,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.56**	**352**	P		Pb		18 52 01.7	-0.8
	8.3nm,0.1s								
SHLS				S		Sb		18 52 10.8	-0.3
	83nm,0.2s								
SHLS	**Shalkode**	**0.56**	**352**	*e*P		Pb		18 52 01.7	-0.9
	baz=22								
SHLS				*e*S		Sb		18 52 10.8	-0.3
	baz=22								
SHLS	**Shalkode**	**0.56**	**352**	*e*P		Pb		18 52 01.7	-0.8
	9.1nm,0.1s								
SHLS				*e*S		Sb		18 52 10.8	-0.3
	83nm,0.2s								
UZB	**Uzynbulak**	**0.68**	**324**	P		Pg		18 52 03.1	+0.4
	4.8nm,0.2s								
UZB				S		Sb		18 52 13.2	-1.3
	9.0nm,0.2s								
UZB	**Uzynbulak**	**0.68**	**324**	*e*P		Pg		18 52 03.1	+0.4
	baz=23								
UZB				*e*S		Sb		18 52 13.2	-1.3
	baz=23								
UZB	**Uzynbulak**	**0.68**	**324**	*e*P		Pg		18 52 03.1	+0.4
	4.8nm,0.2s								
UZB				*e*S		Sb		18 52 13.2	-1.4
	9.0nm,0.2s								
PDGK	**Podgornoye**	**0.73**	**355**	P		Pg		18 52 03.8	+0.1
	0.6nm,0.1s								
PDGK				S		Sg		18 52 14.3	+1.2
	3.0nm,0.2s								
PDGK	**Podgornoye**	**0.73**	**355**	⇑P		Pg		18 52 03.8	0.0
	0.3nm,0.3s								
PDGK				⇑S		Sg		18 52 14.0	+0.9
	6.2nm,0.5s								
PDGK	**Podgornoye**	**0.73**	**355**	⇑*i*P		Pg		18 52 03.9	+0.2
	baz=55								
PDGK				⇑*i*S		Sg		18 52 14.3	+1.1
	baz=55								
SATY	**Saty**	**0.97**	**298**	P		Pg		18 52 08.1	-0.3
	1.1nm,0.2s								
SATY				S		Sb		18 52 22.3	-0.6
	6.0nm,0.3s								
SATY	**Saty**	**0.97**	**298**	*e*P		Pg		18 52 08.0	-0.4
	0.9nm,0.1s								
SATY				*e*S		Sg		18 52 21.5	+0.6
	4.0nm,0.1s								
DJR	**Jarkent**	**1.73**	**5**	P		Pb		18 52 22.3	-0.3
	0.3nm,0.1s								
DJR				S		Sb		18 52 44.8	-0.2
	3.0nm,0.5s								
DJR	**Jarkent**	**1.73**	**5**	*e*P		Pb		18 52 22.0	-0.6
	0.5nm,0.3s								
DJR				*e*S		Sg		18 52 45.5	-0.1
	3.1nm,0.3s								
KDJ	**Kajisay**	**1.83**	**256**	⇑*i*P		Pb		18 52 24.3	0.0
	baz=56								
KDJ				⇑*i*S		Sg		18 52 48.4	-0.3
	baz=56								
MDOK	**Medeo**	**1.94**	**288**	⇑Pg		Pn		18 52 25.0	+0.9
	1.0nm,0.5s								
MDOK				⇑Lg		Lg		18 52 51.5	
	2.5nm,0.6s								
MDOK	**Medeo**	**1.94**	**288**	*e*P		Pb		18 52 25.7	-0.4
MDOK				*e*S		Sg		18 52 51.7	-0.3
ULHL	**Ulahol**	**2.49**	**263**	⇓*i*P		Pn		18 52 33.1	+1.3
	baz=63								
ULHL				⇓*i*S		Sn	

LSP	**Las Mesas**	**0.51**	**5**	⇓*e*P	Pb	19 47 48.2	-1.2
LSP	**Las Mesas**	**0.51**	**5**	*e*S	Sb	19 47 55.7	-0.8
LSP	**Las Mesas**	**0.51**	**5**	*e*Sg	Sb	19 47 55.7	-0.8
MPR	**Mayaguez**	**0.55**	**359**	*e*Pg	Pb	19 47 48.5	-1.5
OBIP	**Obispado Ponce**	**0.63**	**53**	⇑*e*P	Pb	19 47 50.0	-1.4
OBIP	**Obispado Ponce**	**0.63**	**53**	*e*Pg	Pb	19 47 49.0	-2.4
CELP	**Cerrillos**	**0.67**	**52**	⇑*e*P	Pb	19 47 50.3	-1.8
CELP				*e*S	Sb	19 47 59.5	-1.5
CELP	**Cerrillos**	**0.67**	**52**	*e*Pg	Pb	19 47 50.3	-1.8
CELP				*e*Sn	Sb	19 47 59.5	-1.5
AGP	**Aguadilla**	**0.74**	**359**	*e*Pg	Pb	19 47 52.1	-1.2
AGP				*e*Sg	Sb	19 48 02.6	-0.5
AOPR	**Arecibo Observ**	**0.77**	**28**	⇑*e*P	Pb	19 47 51.8	-2.0
AOPR				*e*S	Sb	19 48 02.1	-1.8
AOPR	**Arecibo Observ**	**0.77**	**28**	*e*Pg	Pb	19 47 51.8	-2.0
AOPR				*e*Sg	Sb	19 48 02.1	-1.8
IDE	**Isla Desecheo**	**0.79**	**336**	⇑*e*P	Pb	19 47 52.5	-1.6
IDE	**Isla Desecheo**	**0.79**	**336**	*e*S	Sb	19 48 02.7	-1.8
AGPR	**Aguadilla, PR**	**0.80**	**2**	⇑*e*P	Pb	19 47 52.2	-2.1
AGPR	**Aguadilla, PR**	**0.80**	**2**	⇑*e*P	Pb	19 47 52.2	-2.1
AGPR				*e*S	Sb	19 48 02.6	-2.2
EMPR	**Esperanza - Ma**	**0.99**	**35**	⇑*e*P	Pb	19 47 55.4	-2.2
EMPR	**Esperanza - Ma**	**0.99**	**35**	*e*S	Sb	19 48 07.9	-2.4
EMPR	**Esperanza - Ma**	**0.99**	**35**	*e*Pn	Pb	19 47 55.5	-2.0
SJG	**San Juan**	**1.04**	**64**	*e*Pn	Pn	19 47 54.9	-3.4
SJG				*e*Sg	Sb	19 48 07.7	-3.9
HUMP	**Col San Antoni**	**1.31**	**68**	⇑*e*P	Pn	19 47 59.6	-2.5
HUMP	**Col San Antoni**	**1.31**	**68**	⇑*e*P	Pn	19 47 59.6	-2.5
HUMP				*e*S	Sn	19 48 15.8	-3.1
HUMP	**Col San Antoni**	**1.31**	**68**	*e*Pn	Pn	19 47 59.2	-2.9
HUMP				*e*Sn	Sn	19 48 15.8	-3.1
CBYP	**Canovanas**	**1.36**	**63**	⇑*e*P	Pn	19 48 00.3	-2.5
CBYP	**Canovanas**	**1.36**	**63**	⇑*e*P	Pn	19 48 00.5	-2.3
CBYP	**Canovanas**	**1.36**	**63**	*e*S	Sn	19 48 16.7	-3.5
CBYP	**Canovanas**	**1.36**	**63**	*e*Pn	Pn	19 48 00.1	-2.6
CBYP				*e*Sn	Sn	19 48 16.6	-3.6
MTP	**Monte Pirata**	**1.57**	**74**	*e*Pn	Pn	19 48 03.2	-2.4
CUPR	**Culebra, Puert**	**1.88**	**70**	*e*Pn	Pn	19 48 08.0	-1.8
CUPR				*e*Sn	Sn	19 48 29.9	-2.9
STVI	**Saint Thomas**	**2.19**	**71**	*e*Pn	Pn	19 48 12.2	-1.9
STVI				*e*Sn	Sn	19 48 36.6	-3.8
SDD	**Santo Domingo**	**2.76**	**287**	*e*Pn	Pn	19 48 20.0	-2.0
SDDR	**Presa de Saban**	**4.16**	**289**	*e*Pn	Pn	19 48 41.1	-0.2

KRSC 01 19:50:42.3±10.0, 50.57N×157.79E, h41km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.07**	**277**	*e*P	Pn	19 51 01.6	+0.8
SKR				*e*S	Sn	19 51 14.3	-0.1
PAU	**Pauzhetka**	**1.09**	**326**	*e*P	Pn	19 51 02.9	+1.8
PAU				*e*S	Sn	19 51 16.1	+1.2
KDTR	**Khodutka, Kamc**	**1.25**	**8**	*e*P	Pn	19 51 05.0	+1.7
KDTR				*e*S	Sn	19 51 20.3	+1.3
ALID	**Alaid**	**1.45**	**283**	*i* P	Pn	19 51 07.8	+1.6
RUS	**Russkaya**	**1.92**	**13**	*e*P	Pn	19 51 14.2	+1.7
RUS				*e*S	Sn	19 51 36.3	+0.9
MTVR	**Mutnovka**	**1.93**	**7**	*e*P	Pn	19 51 15.0	+2.2
KRMR	**Karymshinskiy**	**2.27**	**5**	*e*P	Pn	19 51 20.0	+2.7
KRMR				*e*S	Sn	19 51 48.7	+4.6
APC	**Apacha**	**2.39**	**351**	*e*P	Pn	19 51 21.9	+3.0
PET	**Petropavlovsk**	**2.52**	**12**	*e*P	Pn	19 51 24.0	+3.3
PET				*e*S	Sn	19 51 52.3	+2.2
DALK	**Dalny**	**2.54**	**13**	*e*P	Pn	19 51 23.6	+2.6
DALK				*e*S	Sn	19 51 53.1	+2.5
UGLR	**Uglovaya**	**2.72**	**13**	*e*P	Pn	19 51 27.4	+3.8
AVH	**Avacha**	**2.76**	**12**	*e*P	Pn	19 51 27.9	+3.8
SMAR	**Somma**	**2.77**	**13**	*e*P	Pn	19 51 28.6	+4.2
KOK	**Koryaka**	**2.78**	**11**	*i* P	Pn	19 51 28.6	+4.2
KOK				*e*S	Sn	19 52 02.2	+5.5
SDLR	**Sedlovina**	**2.80**	**14**	*e*P	Pn	19 51 27.2	+2.6
KRX	**Arik**	**2.84**	**10**	*e*P	Pn	19 51 29.8	+4.5
SPN	**Mys Shipunski**	**2.89**	**28**	*e*P	Pn	19 51 28.9	+3.1
SPN				*e*S	Sn	19 52 02.6	+3.4
GNL	**Ganaly**	**3.13**	**2**	*e*P	Pn	19 51 33.7	+4.5
MKZ	**Mys Kozlova**	**4.66**	**30**	*e*P	Pn	19 51 53.1	+3.0

*KRNET **01** 19:52:18.0±0.1,41.40N×79.24E,mb2.2*
*SOME **01** 19:52:18.8,41.45N×79.13E,h0km*
NNC 01 19:52:19.4±1.1, 41.42N×79.11E, h0km, mb2.9, mpv2.6, 4C-10D, Error ellipse: s-maj=7.8km s-min=5.2km az=164.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.61**	**297**	⇓*i*P	Pn	19 52 49.6	+0.3
	baz=96						
KDJ				⇓*i*S	Sg	19 53 12.7	+1.5
	baz=96						
SATY	**Saty**	**1.72**	**343**	P	Pn	19 52 51.0	+0.1
	2.6nm,0.3s						
SATY				S	Sb	19 53 14.1	-0.2
	9.4nm,0.1s						
SATY	**Saty**	**1.72**	**343**	*e*P	Pn	19 52 51.0	+0.1
	2.6nm,0.3s						
SATY				*e*S	Sb	19 53 14.1	-0.2
	9.4nm,0.1s						
SHLS	**Shalkode**	**1.76**	**8**	P	Pb	19 52 52.6	-0.1
	2.0nm,0.2s						
SHLS				S	Sg	19 53 16.9	+1.0
	24nm,0.3s						
SHLS	**Shalkode**	**1.76**	**8**	*e*P	Pb	19 52 52.6	-0.1
	2.0nm,0.2s						
SHLS				*e*S	Sg	19 53 16.9	+1.0
	24nm,0.3s						
PDGK	**Podgornoye**	**1.93**	**8**	Pg	Pn	19 52 53.9	+0.2
	0.9nm,0.3s						
PDGK				Lg	Lg	19 53 19.4	
	4.3nm,0.6s						
PDGK	**Podgornoye**	**1.93**	**8**	⇓Lg	Pb	19 52 55.1	-0.5
	1.9nm,0.8s						
PDGK				⇓Lg	Lg	19 53 21.3	
	7.6nm,0.6s						
PDGK	**Podgornoye**	**1.93**	**8**	⇑*i*P	Pn	19 52 53.9	+0.2
	baz=5.0						
PDGK				⇑*i*S	Sb	19 53 20.1	-0.2
	baz=5.0						
KURS	**Kuram**	**2.19**	**342**	Pg	Pb	19 52 59.7	-0.2
	1.7nm,0.4s						
KURS				Lg	Lg	19 53 29.3	
	3.4nm,0.4s						
KURS	**Kuram**	**2.19**	**342**	*e*P	Pb	19 52 59.7	-0.1
	1.7nm,0.4s						
KURS				*e*S	Sg	19 53 29.3	-0.4
	3.4nm,0.4s						
TNSS	**Tian-Shan**	**2.28**	**316**	Pg	Pb	19 53 01.7	0.0
	1.7nm,0.3s						
TNSS				Lg	Lg	19 53 32.7	
	4.6nm,0.3s						
TNSS	**Tian-Shan**	**2.28**	**316**	*e*P	Pb	19 53 01.7	0.0
	1.7nm,0.3s						
TNSS				*e*S	Sg	19 53 32.7	-0.1
	4.6nm,0.3s						
ULHL	**Ulahol**	**2.30**	**292**	⇓*i*P	Pn	19 53 00.3	+1.5
	baz=92						
ULHL				⇓*i*S	Sb	19 53 31.3	+0.3
	baz=92						
MDOK	**Medeo**	**2.32**	**319**	⇑Pg	Pb	19 53 00.9	-1.4
	1.6nm,0.7s						
MDOK				⇓Lg	Lg	19 53 33.2	
	4.4nm,0.6s						
MDOK	**Medeo**	**2.32**	**319**	*e*P	Pb	19 53 02.6	+0.3
	0.6nm,0.2s						
MDOK				*e*S	Sg	19 53 34.0	-0.1
	4.5nm,0.6s						
KOTS	**Kotyrbulak**	**2.35**	**321**	Pg	Pb	19 53 03.2	+0.5
	1.6nm,0.2s						
KOTS				Lg	Lg	19 53 35.2	
	5.0nm,0.4s						
KOTS	**Kotyrbulak**	**2.35**	**321**	*e*P	Pb	19 53 03.2	+0.5
	1.6nm,0.2s						
KOTS				*e*S	Sg	19 53 35.2	+0.4
	5.0nm,0.4s						
BOOM	**Boomskoye usch**	**2.60**	**295**	⇓*i*P	Pn	19 53 04.6	+1.7
	baz=95						
BOOM				⇓*i*S	Sb	19 53 38.5	-1.0
	baz=95						
KST	**Kastek**	**2.85**	**306**	*e*P	Pb	19 53 12.0	+0.8
	1.1nm,0.2s						
KST				*e*S	Sg	19 53 50.1	-0.8
	5.1nm,0.6s						

CHKK	**Chushkaly**	**2.90**	**328**		Pg	Pb	19 53 12.5	+0.5
	1.5nm,0.1s							
CHKK					Lg	Lg	19 53 51.2	
	9.9nm,0.3s							
CHKK	**Chushkaly**	**2.90**	**328**	*e*P		Pb	19 53 12.5	+0.5
	1.5nm,0.1s							
CHKK				*e*S		Sg	19 53 51.2	-1.3
	9.9nm,0.3s							
ARXS	**Arharly**	**2.95**	**342**		Pg	Pb	19 53 12.9	-0.1
	0.5nm,0.4s							
ARXS					Lg	Lg	19 53 51.3	
	3.7nm,0.6s							
ARXS	**Arharly**	**2.95**	**342**	*e*P		Pb	19 53 12.4	-0.5
	0.6nm,0.5s							
ARXS				*e*S		Sb	19 53 51.3	+1.7
	3.7nm,0.6s							
TKM2	**Tokmak 2**	**3.02**	**301**	⇓Pg		Pb	19 53 13.0	-1.1
TKM2				⇓Lg		Lg	19 53 55.9	
	1.9nm,0.5s							
KUU	**Kurty**	**3.21**	**321**	*e*P		Pb	19 53 17.7	+0.4
	0.5nm,0.2s							
KUU				*e*S		Sg	19 53 59.9	-2.7
	5.5nm,0.4s							
KAPS	**Kapalarasan**	**3.87**	**3**	*e*P		Pb	19 53 28.0	-0.6
	0.3nm,0.3s							
KAPS				*e*S		Sb	19 54 17.4	+1.4
	1.7nm,0.6s							

*IDC **01** 19:56:16.9±1.2,39.34N×143.88E,h0km,mb3.5/7, mb1 3.7/10,mb1mx3.5/33,mbtmpg3.6/10,ML2.9/3,Error ellipse: s-maj=27.9km s-min=20.4km az=113.0*
*ISCJB **01** 19:56:18.2±1.0,39.54N×143.72E±0.10,h11km, mb3.4/6, Error ellipse: s-maj=12.5km s-min=4.9km az=31.7*
*JMA **01** 19:56:18.2±0.3,39.40N×143.88E,h38km,M3.7*
ISC 01 19:56:19.1±1.1, 39.48N±0.07×143.8E±0.1, h11km, n19, σ1ᵠ68/23, mb3.6/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.49**	**274**	P	Pn	19 56 45.0	-0.8
JTH	**Tanohata**	**1.52**	**288**	P	Pn	19 56 45.7	-0.6
OFUJ	**Ofunato**	**1.66**	**257**	P	Pn	19 56 47.1	-1.0
OFUJ				*e*S	Sn	19 57 07.8	-1.6
JOM	**Ohasama**	**1.90**	**271**	P	Pn	19 56 51.1	-0.3
JMK	**Ichinoseki**	**2.03**	**256**	P	Pn	19 56 52.6	-0.6
JMK				*e*S	Sn	19 57 18.0	-0.6
JNBK	**Urakawa-nobuka**	**2.90**	**345**	*e*S	Sn	19 57 38.5	-1.6
JCH	**Churui**	**3.15**	**355**	*e*S	Sn	19 57 43.9	-2.3
JFT	**Otama**	**3.31**	**235**	*e*S	Sn	19 57 47.8	-2.5
ASAJ	**Asahikawa**	**4.72**	**350**	Pn	Pn	19 57 30.2	+0.1
	1.1nm,0.3s,baz=196,slow=13,SNR=11						
ASAJ				Sn	Sn	19 58 24.8	-0.1
	0.6nm,0.3s,baz=102,slow=20,SNR=3.3						
MJAR	**Matsushiro Arr**	**5.26**	**238**	Pn	Pn	19 57 38.5	+0.8
	0.3nm,0.3s,baz=30,slow=14,SNR=15						
MAT	**Matsushiro**	**5.26**	**238**	P	Pn	19 57 38.4	+0.7
MAT				*e*S	Sn	19 58 42.7	+4.3
USRK	**Ussuriysk Ar.**	**9.96**	**302**	Pn	Pn	19 58 45.1	+3.0
	0.3nm,0.3s,baz=88,slow=12,SNR=5.9						
MA2	**Magadan**	**20.61**	**10**	P	P	20 00 57.0	-1.0
	0.8nm,0.3s,baz=171,slow=19,SNR=1.8						
SEY	**Seymchan**	**24.06**	**10**	P	P	20 01 35.6	+1.5
	0.8nm,0.7s,baz=186,slow=6.2,SNR=5.8						
SONM	**Songino Array**	**28.06**	**300**	P	P	20 02 11.4	+0.8
	0.4nm,0.5s,baz=99,slow=7.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**41.68**	**310**	P	P	20 04 07.9	+0.5
	1.1nm,0.5s,baz=90,slow=8.1,SNR=6.7						
MKAR	**Makanchi Array**	**44.42**	**300**	P	P	20 04 29.9	0.0
	0.8nm,0.7s,baz=82,slow=9.8,SNR=6.8						
ILAR	**Eielson Array**	**46.45**	**34**	P	P	20 04 46.3	+0.8
	0.2nm,0.8s,baz=254,slow=6.3,SNR=3.6						
WRA	**Warramunga Arr**	**59.76**	**190**	P	P	20 06 22.2	-1.8
	0.5nm,0.7s,baz=9.3,slow=7.0,SNR=4.3						

JMA 01 19:59:06.4±0.1, 39.39N×144.20E, h2km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.85**	**277**	P	Pn	19 59 39.6	+0.4
MIYJ				*e*S	Sb	20 00 04.0	-0.6
JTH	**Tanohata**	**1.89**	**288**	P	Pn	19 59 39.9	+0.3
OFUJ	**Ofunato**	**1.99**	**262**	P	Pn	19 59 41.8	+0.7
JOM	**Ohasama**	**2.25**	**273**	P	Pn	19 59 45.6	+0.9
JMK	**Ichinoseki**	**2.36**	**260**	P	Pn	19 59 47.0	+0.9
JIO	**Ouri**	**2.41**	**248**	P	Pn	19 59 47.6	+0.8
JAH	**Hinai**	**2.86**	**287**	P	Pn	19 59 54.5	+1.5
JCH	**Churui**	**3.28**	**349**	S	Sn	20 00 39.0	+0.6
MAT	**Matsushiro**	**5.52**	**241**	P	Pn	20 00 33.0	+3.4

*SJA **01** 20:04:05.4±0.5,33.90S×73.74W,h43km±9km, ML3.8, MW3.8*
*GUC **01** 20:04:17.2±0.6,33.69S×72.58W,h51km±9km, ML3.5*
ISC 01 20:04:15.4±2.1, 33.70S±0.05×72.62W±0.09, h2km±12km, n15, σ1ᵠ35/25, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.43**	**157**	*e*P	**Pg**	**20 04 42.5**	**-0.2**
GO05				*e*S	**Sg**	**20 05 01.0**	**-0.2**
GO05				IAML		20 05 09.2	
	comp=E,570nm,0.7s						
ROC1	**El Roble**	**1.52**	**62**	*e*P	**Pg**	**20 04 45.2**	**+0.5**
ROCH	**El Roble**	**1.53**	**62**	*e*P	**Pn**	**20 04 43.6**	**-0.4**
ROCH				*e*S	**Sg**	**20 05 04.3**	**-0.3**
ROCH				IAML		20 05 09.3	
	comp=N,1μm,0.2s						
PEL	**Peldehue**	**1.71**	**72**	*e*P	**Pg**	**20 04 48.2**	**0.0**
PEL	**Peldehue**	**1.71**	**72**	*e*P	**Pn**	**20 04 46.0**	**-0.3**
PEL				*i* S	**Sn**	**20 05 08.0**	**-0.8**
PEL				IAML		20 05 17.1	
	comp=N,800nm,0.4s						
CLCH	**Cerro Calan**	**1.77**	**81**	*e*P	**Pn**	**20 04 47.1**	**0.0**
CLCH				*i* S	**Sn**	**20 05 09.3**	**-0.9**
CLCH				IAML		20 05 21.5	
	comp=E,2μm,0.9s						
FCH	**Farellones**	**1.98**	**80**	*e*P	**Pn**	**20 04 50.3**	**0.0**
FCH				*e*S	**Sn**	**20 05 15.9**	**0.0**
FCH				IAML		20 05 23.5	
	comp=N,341nm,0.4s						
LMEL	**Las Melosas**	**2.02**	**95**	*e*P	**Pn**	**20 04 50.4**	**-0.2**
LMEL				*i* S	**Sn**	**20 05 15.5**	**-1.0**
LMEL				IAML		20 05 22.4	
	comp=N,522nm,0.4s						
CMCH	**Combarbala**	**2.87**	**29**	*e*P	**Pn**	**20 05 02.2**	**0.0**
CMCH				*e*S	**Sn**	**20 05 36.1**	**-1.3**
AUSP	**Uspallata**	**3.09**	**62**	*e*P	**Pn**	**20 05 08.1**	**+2.5**
AUSP				*e*S	**Sg**	**20 05 54.3**	**-0.5**
ARCO	**CERRO ARCO**	**3.21**	**76**	*e*P	**Pn**	**20 05 09.0**	**+2.0**
ARCO				IAML		20 05 17.2	
	comp=Z,121nm,0.4s						
ARCO				*e*S	**Sg**	**20 05 56.9**	**-1.6**
AAGR	**Agrelo**	**3.23**	**80**	*e*P	**Pn**	**20 05 09.9**	**+2.7**
RTLS	**Leoncito**	**3.38**	**57**	*e*P	**Pn**	**20 05 12.1**	**+2.5**
RTLS				IAML		20 06 13.7	
	comp=Z,89nm,0.7s						
RTCV	**Cerro Valdivia**	**3.90**	**63**	*e*P	**Pn**	**20 05 18.9**	**+2.6**
RTCV				*e*S	**Sb**	**20 06 12.7**	**+0.2**
AGUA	**GUANDACOL**	**5.48**	**41**	*e*P	**Pn**	**20 05 38.0**	**-0.2**

MAN 01 20:08:56.6, 11.21N×125.66E, h23km, mb4.1, ML2.9, MS2.5, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.45**	**330**	*e*P	Pn	20 09 07.2	-0.4
BESP				*e*S	Sn	20 09 15.7	+0.8
PLP	**Palo**	**0.67**	**266**	⇓*i*P	Pb	20 09 09.2	-0.5
PLP				*e*S	Sb	20 09 18.2	-0.4
OCLP	**Ormoc**	**1.05**	**261**	*e*P	Pn	20 09 15.2	-0.6
OCLP				*e*S	Sn	20 09 31.8	+2.1
CNP	**Catarman**	**1.62**	**323**	*e*P	Pn	20 09 24.6	+0.9
CNP				*e*S	Sb	20 09 46.6	+0.7
BUTP	**Butuan**	**2.23**	**181**	*e*P	Pn	20 09 33.7	+1.5
BUTP				*e*S	Sn	20 09 59.3	+0.4
PVCP	**Virac**	**2.79**	**328**	*e*P	Pn	20 09 39.1	-0.7
GUIM	**Jordan**	**3.08**	**259**	*e*P	Pn	20 09 43.9	+0.1

MEX 01 20:42:07.5±0.5, 19.39N×103.85W, h15km±9km, MD3.7, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZ5V		**0.25**	**69**	*e*P	Pg	20 42 12.7	-0.5
EZ5V				*i* S	Sg	20 42 17.1	+0.2
R15V		**0.25**	**210**	*e*P	Pg	20 42 12.1	-0.9
R15V				*e*S	Sg	20 42 16.7	-0.1
CJM	**Chamela**	**1.13**	**276**	*i* P	Pb	20 42 24.7	-4.1
CJM				*i* S	Sb	20 42 39.3	-4.0

*ISCJB **01** 20:51:02.0±0.5,67.58N±0.04×142.7E±0.1, h10km, mb3.5/5, Error ellipse: s-maj=7.9km s-min=6.1km az=6.8*
*IDC **01** 20:51:02.9±1.1,67.75N×142.35E,h0km,mb3.7/5, mb1 3.7/7,mb1mx3.4/52,mbtmp3.6/7,ML3.0/2,Error ellipse: s-maj=27.0km s-min=22.8km az=170.0*
*YARS **01** 20:51:02.4±0.1,67.590N±0.005×142.83E±0.02, h13km±6km*
ISC 01 20:51:02.6±0.7, 67.65N±0.04×142.72E±0.04, h10km, n14, σ1ᵠ85/21, mb3.5/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.20**	**170**	*e*P	**Pn**	**20 51 23.2**	**-2.2**
MOMR				*e*S	**Sb**	**20 51 37.9**	**-3.0**
YBGR	**Belaya Gora**	**1.58**	**54**	*e*P	**Pn**	**20 51 30.2**	**-0.3**
YBGR				*e*P	**Pb**	**20 51 30.5**	**-1.3**
YBGR				*e*S	**Sn**	**20 51 51.0**	**0.0**
DEPR	**Deputatskiy**	**2.04**	**331**	*e*P	**Pb**	**20 51 38.1**	**-1.5**
DEPR				*e*P	**Pg**	**20 51 39.9**	**-1.7**
DEPR				*e*S	**Sg**	**20 52 07.6**	**-0.3**
BTGS	**Batagay**	**3.09**	**274**	*e*P	**Pn**	**20 51 52.4**	**+1.1**
BTGS				*e*P	**Pb**	**20 51 59.0**	**+1.5**
BTGS				*e*S	**Sg**	**20 52 39.1**	**-2.5**
ATKR	**Artyk**	**3.62**	**163**	*e*S	**Sb**	**20 52 52.1**	**+1.6**
SEY	**Seymchan**	**6.22**	**135**	Pn	**Pn**	**20 52 36.5**	**+2.1**
	0.2nm,0.3s,baz=285,slow=21,SNR=5.1						
SEY				Lg	Lg	20 54 13.2	
	0.6nm,0.3s,baz=200,slow=21,SNR=4.3						
USMR	**Ust'-Maya**	**8.09**	**210**	*e*P	**Pn**	**20 53 00.2**	**+0.4**
USMR				*e*P	Pb	20 53 28.9	+6.4
USMR				*e*S	**Sn**	**20 54 28.2**	**-2.9**
USMR				*e*S	Sg	20 55 12.9	-8.8
MA2	**Magadan**	**8.85**	**152**	Lg	Lg	20 55 42.5	
	0.3nm,0.3s,baz=162,slow=20,SNR=4.5						
KLR	**Kul'dur**	**19.28**	**202**	P	**Pn**	**20 55 28.9**	**+0.8**
	0.1nm,0.3s,baz=0.0,slow=10,SNR=3.3						
SONM	**Songino Array**	**27.08**	**241**	P	**P**	**20 56 47.4**	**+2.3**
	0.5nm,0.9s,baz=37,slow=10,SNR=3.7						
ILAR	**Eielson Array**	**27.15**	**62**	P	**P**	**20 56 48.4**	**+3.0**
	0.7nm,0.8s,baz=295,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**36.77**	**267**	P	**P**	**20 58 10.4**	**+0.6**
	0.7nm,0.8s,baz=47,slow=6.6,SNR=8.8						
FINES	**FINESS Array B**	**43.29**	**321**	P	**P**	**20 59 04.0**	**+0.3**
	2.2nm,1.1s,baz=37,slow=7.6,SNR=5.2						
AKASG	**Malin Array Be**	**51.97**	**312**	P	**P**	**21 00 11.1**	**0.0**
	0.7nm,0.5s,baz=29,slow=8.0,SNR=2.9						

KRSC 01 20:54:22.0±10.0, 54.55N×162.09E, h32km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.21**	**271**	*e*P	Pn	20 54 29.3	+0.5
MKZ				*e*S	Sn	20 54 34.0	+0.8
TUMD	**Tumrok D**	**1.18**	**304**	*e*P	Pn	20 54 42.8	+0.6
KZV	**Kizimen**	**1.18**	**299**	*e*P	Pn	20 54 43.0	+0.6
TUMR	**Tumrok**	**1.34**	**304**	*e*P	Pb	20 54 45.7	-0.9
KII	**Karymskiy**	**1.63**	**253**	*e*P	Pb	20 54 50.4	-1.1
ZLN	**Zelenaya**	**1.64**	**334**	*e*P	Pb	20 54 50.6	-1.1
KBTR	**Krutoberegovo**	**1.71**	**14**	*e*P	Pn	20 54 50.3	+0.8
KBG	**Krutoberegovo**	**1.74**	**11**	*e*P	Pn	20 54 51.2	+1.3
KBG				*e*S	Sb	20 55 14.0	-0.8
SPN	**Mys Shipunski**	**1.90**	**221**	*e*P	Pn	20 54 53.5	+1.4
SPN				*e*S	Sb	20 55 17.8	-1.6
SMKR	**Semkarok**	**2.07**	**350**	*e*P	Pb	20 54 57.4	-1.4
BDR	**Baidarnaya**	**2.08**	**346**	*e*P	Pb	20 54 57.9	-1.2
SRKR	**Sorokina**	**2.17**	**346**	*e*P	Pb	20 54 58.7	-1.9
SDLR	**Sedlovina**	**2.29**	**237**	*e*P	Pn	20 55 00.0	+2.5
SMAR	**Somma**	**2.34**	**238**	*e*P	Pb	20 55 00.9	-2.6
UGLR	**Uglovaya**	**2.36**	**237**	*e*P	Pn	20 55 00.9	+2.4
KRX	**Arik**	**2.36**	**241**	*e*P	Pb	20 55 00.8	+2.3
AVH	**Avacha**	**2.37**	**238**	*e*P	Pb	20 55 01.3	-2.6
ESO	**Esso**	**2.38**	**307**	*e*P	Pn	20 55 01.1	+2.4
KOK	**Koryaka**	**2.40**	**240**	*e*P	Pn	20 55 01.8	+2.7
GNL	**Ganaly**	**2.59**	**252**	*e*P	Pn	20 55 04.7	+3.0
KRMR	**Karymshinskiy**	**2.92**	**235**	*e*P	Pb	20 55 09.7	-3.6

MAN 01 21:11:28.3, 8.58N×126.16E, h19km, mb3.6, ML2.3, MS1.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.44**	**153**	⇓*e*P	Pg	21 11 36.9	-0.4
BIPH				*e*S	Sb	21 11 44.5	+0.8
BUTP	**Butuan**	**0.66**	**306**	*e*P	Pb

GUN	**Gumba**	**15.25**	**120**	*e*P	**Pn**	**21 23 30.1**	**-0.4**
	7.3nm,0.4s						
JIRN	**Jiri**	**15.62**	**120**	*e*P	**Pn**	**21 23 34.3**	**-0.8**
	11nm,0.3s						
RAMN	**Ramite**	**16.35**	**121**	*e*P	**P**	**21 23 42.1**	**-1.1**
	5.7nm,0.3s						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**Pn**	**21 23 46.2**	**+1.2**
	0.1nm,0.3s,baz=155,slow=8.2,SNR=4.3						
AKTO	**Aktyubinsk**	**16.74**	**330**	P	**Pn**	**21 23 48.4**	**+0.4**
	0.4nm,0.3s,baz=140,slow=12,SNR=9.8						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**21 24 21.2**	**0.0**
	0.7nm,0.3s,baz=218,slow=10,SNR=5.4						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**21 26 59.8**	**+0.5**
	0.9nm,0.4s,baz=116,slow=8.7,SNR=5.7						
ARCES	**ARCESS Array B**	**41.10**	**338**	P	**P**	**21 27 29.6**	**+0.2**
	5.1nm,1.0s,baz=102,slow=10,SNR=5.2						
HFS	**Hagfors**		**43.03**	**322**	P	**P**	**21 27 45.4**	**+0.3**
	3.4nm,0.8s,baz=113,slow=11,SNR=5.0						
NB2	**NORSAR Subarra**	**44.34**	**323**	P	**P**	**21 27 55.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.34**	**323**	P	**P**	**21 27 55.1**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=97,slow=7.8,SNR=4.1						
SPITS	**Spitsbergen Ar**	**47.45**	**347**	P	**P**	**21 28 20.4**	**+0.8**
	comp=Z,15nm,1.2s,baz=94,slow=12,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P	**P**	**21 30 26.6**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=49,slow=5.9,SNR=10						
YKA	**Yellowknife Ar**	**81.21**	**3**	P	**P**	**21 31 58.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=347,slow=5.2,SNR=5.5						

*ISCJB **01** 21:23:08.9±0.2,49.°61N±0.°02×20.°12E±0.°02,h0km, Error ellipse: s-maj=2.9km s-min=1.4km az=17.0*
*IDC **01** 21:23:09.8±1.6,49.°16N×20.°42E,h0km,mb3.6/1, mb1 3.5/7,mb1mx3.3/54,mbtmp3.4/7,ML2.8/5,Error ellipse: s-maj=22.5km s-min=10.2km az=153.0*
*SIGU **01** 21:23:11.9±0.1,50.°N±2.°×20.°2E±0.°8,h5km,mb2.2/7*
*LDG **01** 21:23:12.2±0.1,49.°38N×20.°24E,h5km,Ml3.3/4, Error ellipse: s-maj=5.2km s-min=2.5km az=16.0*
*BGR **01** 21:23:12.5±0.3,49.°47N×20.°17E,h1km,ML3.7/12, Error ellipse: s-maj=6.7km s-min=3.3km az=36.0*
*IPEC **01** 21:23:12.0±0.1,49.°44N×20.°25E,h7km,ML3.2/6, Error ellipse: s-maj=1.0km s-min=0.8km az=1.0*
*PRU **01** 21:23:12.2±0.0,49.°48N×20.°16E,h0km, High Tatras*
*VIE **01** 21:23:13.5±0.8,49.°45N×20.°06E,h0km,mb2.8/4,ml2.9/5, Error ellipse: s-maj=8.5km s-min=6.2km az=1.0, Suspected Mining induced.*

ISC 01 21:23:09.6±0.6,49.°55N±0.°02×20.°14E±0.°02,h0km,n114, σ2s15/181,15C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.17**	**140**	*i* Pg	**Pg**	**21 23 14.0**	**+1.2**
NIE				*i* Sg	**Sg**	**21 23 15.5**	**+0.6**
NIE	**Niedzica**	**0.17**	**140**	*e*Pg	**Pg**	**21 23 14.0**	**+1.2**
NIE				*e*Sg	**Sg**	**21 23 15.5**	**+0.6**
LANS	**Liptovska Anna**	**0.59**	**228**	*e*PG	**Pb**	**21 23 23.4**	**+0.6**
LANS				*e*SG	**Sb**	**21 23 31.6**	**-0.1**
OJC	**Ojcow**	**0.71**	**342**	*i* Pg	**Pn**	**21 23 27.8**	**+0.8**
OJC				*e*Sg	**Sn**	**21 23 38.8**	**+0.2**
OJC	**Ojcow**	**0.71**	**342**	*e*Pg	**Pn**	**21 23 27.9**	**+0.9**
OJC				*e*Sg	**Sn**	**21 23 38.9**	**+0.3**
CHZP	**Chorzow**	**1.05**	**316**	*e*Pg	**Pn**	**21 23 34.4**	**+2.7**
CHZP				*e*Sg	**Sn**	**21 23 50.3**	**+3.3**
OKC	**Ostrava-Krasne**	**1.32**	**284**	*e*PG	**Pn**	**21 23 38.4**	**+3.0**
OKC				*e*SG	**Sn**	**21 23 57.2**	**+3.5**
VYHS	**Vyhne**	**1.36**	**220**	*e*PG	**Pn**	**21 23 36.8**	**+1.0**
VYHS				*e*SG	**Sn**	**21 23 56.1**	**+1.6**
KOLL	**Kolacno**	**1.50**	**230**	*e*PG	**Pb**	**21 23 39.5**	**+1.3**
PSZ	**Piszkesteto**	**1.64**	**186**	⇑*i*P	**Pg**	**21 23 41.9**	**+1.0**
PSZ	**Piszkesteto**	**1.64**	**186**	S	**Sg**	**21 24 03.5**	**+1.4**
PSZ	**Piszkesteto**	**1.64**	**186**	*e*Pn	**Pn**	**21 23 40.2**	**+0.5**
PSZ				*e*Pg	**Pg**	**21 23 42.2**	**+1.2**
PSZ				*e*Sg	**Sg**	**21 24 01.8**	**-0.3**
PSZ	**Piszkesteto**	**1.64**	**186**	*e*Pn	**Pg**	**21 23 41.1**	**+0.1**
PSZ				Sn	**Sn**	**21 24 01.0**	**-0.4**
UZH	**Uzhgorod**	**1.69**	**122**	⇑*i*Pn	**Pn**	**21 23 40.3**	**0.0**
UZH				Pm		21 23 41.0	
UZH				⇓*i*Sn	**Sn**	**21 24 03.3**	**+0.7**
UZH				Sm		21 24 09.0	
MORC	**Moravsky Berou**	**1.70**	**279**	⇑*i*P	**Pg**	**21 23 44.5**	**+2.3**
MORC	**Moravsky Berou**	**1.70**	**279**	S	**Sg**	**21 24 08.2**	**+4.0**
MORC	**Moravsky Berou**	**1.70**	**279**	*e*PN	**Pg**	**21 23 43.1**	**+0.9**
MORC				*e*SG	**Sg**	**21 24 08.4**	**+4.2**
MORC	**Moravsky Berou**	**1.70**	**279**	*e*Pn	**Pg**	**21 23 43.1**	**+0.9**
	baz=100						
MORC				*e*Sg	**Sg**	**21 24 08.4**	**+4.2**
	291nm,0.5s,baz=100						
MORC	**Moravsky Berou**	**1.70**	**279**	*e*Pn	**Pb**	**21 23 42.3**	**+0.5**
MORC				*e*Pg	**Pg**	**21 23 44.7**	**+2.5**
MORC				*e*Sg	**Sg**	**21 24 08.5**	**+4.2**
JAVC	**Velka Javorina**	**1.76**	**248**	*e*PG	**Pg**	**21 23 44.7**	**+1.4**
JAVC				*e*SG	**Sg**	**21 24 08.4**	**+2.4**
JAVC	**Velka Javorina**	**1.76**	**248**	*e*Pg	**Pg**	**21 23 44.7**	**+1.4**
	baz=70						
JAVC				*e*Sg	**Sg**	**21 24 08.3**	**+2.3**
	77nm,0.7s,baz=70						
ANAC	**Anensky vrch**	**1.86**	**288**	*e*Sg	**Sg**	**21 24 13.5**	**+4.0**
	219nm,0.6s,baz=108						
MUKU	**Mukachevo**	**2.00**	**122**	*e*Pn	**Pn**	**21 23 45.9**	**+1.2**
MUKU				Pm		21 23 48.8	
MUKU				*e*Sn	**Sn**	**21 24 11.6**	**+1.2**
MUKU				Sm		21 24 23.0	
LIPC	**Lipinka**	**2.03**	**280**	*e*Sg	**Sg**	**21 24 18.1**	**+3.4**
	261nm,0.6s,baz=100						
BERU	**Beregovo**	**2.11**	**127**	⇓*i*Pn	**Pn**	**21 23 47.5**	**+1.3**
BERU				*e*Sn	**Sn**	**21 24 14.1**	**+1.0**
TRPA	**Tarpa**	**2.13**	**131**	⇑*i*P	**Pn**	**21 23 45.6**	**-0.8**
TRPA	**Tarpa**	**2.13**	**131**	S	**Sg**	**21 24 18.6**	**+0.7**
TRPA	**Tarpa**	**2.13**	**131**	*e*Pn	**Pn**	**21 23 47.1**	**+0.7**
TRPA				Sn	**Sb**	**21 24 17.1**	**+1.2**
SHIU	**Shidnytsya**	**2.13**	**97**	*i* Pn	**Pb**	**21 23 48.7**	**-0.4**
SHIU				*i* Sn	**Sn**	**21 24 14.8**	**+1.1**
MODS	**Modra-Piesok**	**2.22**	**239**	*e*PG	**Pb**	**21 23 49.7**	**-0.9**
MODS				*e*SG	**Sb**	**21 24 19.2**	**+0.6**
KRLC	**Kraliky**	**2.24**	**285**	*e*PN	**Pb**	**21 23 51.0**	**+0.1**
KRLC				*e*PG	**Pg**	**21 23 52.6**	**+0.1**
KRLC				*e*SG	**Sg**	**21 24 22.8**	**+1.3**
	comp=Z,22nm,0.3s						
BRIU	**Brid**	**2.25**	**121**	⇓*i*Pn	**Pn**	**21 23 49.4**	**+1.3**
BRIU				Pm		21 23 54.3	
BRIU				*e*Sn	**Sn**	**21 24 18.0**	**+1.4**
BRIU				Sm		21 24 28.1	
VRAC	**Vranov**	**2.33**	**266**	⇓*i*P	**Pg**	**21 23 53.9**	**-0.3**
VRAC	**Vranov**	**2.33**	**266**	S	**Sb**	**21 24 21.0**	**-0.7**
VRAC	**Vranov**	**2.33**	**266**	*e*PN	**Pb**	**21 23 51.8**	**-0.6**
VRAC				*e*SG	**Sg**	**21 24 26.8**	**+2.5**
VRAC	**Vranov**	**2.33**	**266**	*e*Pn	**Pb**	**21 23 51.8**	**-0.6**
	baz=85						
VRAC				*e*Sg	**Sg**	**21 24 26.8**	**+2.5**
	62nm,0.5s,baz=85						
TRSU	**Trosnyk**	**2.36**	**127**	*i* Pn	**Pn**	**21 23 50.8**	**+1.2**
TRSU				Pm		21 23 52.9	
TRSU				*e*Sn	**Sn**	**21 24 20.6**	**+1.3**
TRSU				Sm		21 24 26.6	
KORU	**Korolevo**	**2.42**	**124**	*e*Pn	**Pn**	**21 23 52.2**	**+1.8**
KORU				Pm		21 23 57.2	
KORU				*e*Sn	**Sn**	**21 24 22.0**	**+1.3**
KORU				Sm		21 24 39.0	
MEZ	**Mezhgor'ye**	**2.45**	**114**	*e*Pn	**Pn**	**21 23 53.0**	**+2.1**
MEZ				Pm		21 23 57.9	
MEZ				*i* Sn	**Sn**	**21 24 22.8**	**+1.3**
MEZ				Sm		21 24 35.4	
LTVH	**Ltavrtes, Hu**	**2.46**	**151**	*e*Pn	**Pg**	**21 23 56.1**	**-0.7**
LTVH				Sn	**Sb**	**21 24 24.0**	**-1.5**
MORS	**Morshin**	**2.49**	**98**	*e*Pn	**Pn**	**21 23 53.1**	**+1.7**
MORS				*i* Sn	**Sn**	**21 24 20.4**	**+1.5**
KRUC	**Moravsky**	**2.50**	**260**	*e*PN	**Pb**	**21 23 53.8**	**-1.5**
KRUC				*e*SG	**Sg**	**21 24 31.9**	**+2.1**
KRUC	**Moravsky**	**2.50**	**260**	*e*Pn	**Pb**	**21 23 53.8**	**-1.5**
	baz=80						
KRUC				*e*Sg	**Sg**	**21 24 31.9**	**+2.1**
	56nm,0.6s,baz=80						
DPC	**Dobruska-Polom**	**2.59**	**290**	*e*PG	**Pg**	**21 24 00.3**	**+1.0**
DPC				*e*SG	**Sg**	**21 24 35.3**	**+2.4**
	comp=Z,79nm,0.6s						
KSP	**Ksiaz**	**2.79**	**299**	*e*Pn	**Pb**	**21 23 58.8**	**-1.6**
KSP				*e*Pg	**Pg**	**21 24 05.4**	**+2.3**
KSP				*e*Sn	**Sb**	**21 24 33.5**	**-1.6**
KSP				*e*Sg	**Sg**	**21 24 41.3**	**+2.1**
KSP	**Ksiaz**	**2.79**	**299**	*e*Pn	**Pb**	**21 23 58.8**	**-1.6**
KSP				*e*Pg	**Pg**	**21 24 05.6**	**+2.5**
KSP				*e*Sn	**Sb**	**21 24 34.1**	**-1.0**
KSP				*e*Sg	**Sg**	**21 24 41.6**	**+2.4**
UPC	**Upice**	**2.83**	**291**	*e*SG	**Sg**	**21 24 42.1**	**+1.6**
	comp=Z,59nm,0.5s						
BMR	**Baia Mare**	**2.91**	**129**	⇑*i*P	**Pn**	**21 23 57.2**	**0.0**
SOP	**Sopron**	**3.02**	**233**	*e*Pn	**Pn**	**21 24 00.2**	**+1.6**
SOP	**Sopron**	**3.02**	**233**	*e*Pn	**Pb**	**21 24 02.1**	**-2.1**
SOP				Sn	**Sn**	**21 24 34.0**	**-1.4**
RAKU	**Rahkiv**	**3.07**	**118**	*i* Pn	**Pn**	**21 24 00.4**	**+1.0**
RAKU				*e*Sn	**Sn**	**21 24 38.3**	**+1.6**
NSLU	**Nyzhne Selyshc**	**3.15**	**114**	*e*Pn	Pn	21 23 54.1	-6.4
NSLU				Pm		21 24 00.1	
NSLU				*i* Sn	Sn	21 24 26.1	-13
NSLU				Sm		21 24 34.2	
DRGR		**3.25**	**147**	⇑*i*P	**Pn**	**21 24 01.8**	**-0.1**
CONA	**Conrad Observa**	**3.26**	**242**	*i* Pn	**Pn**	**21 24 04.2**	**+2.2**
	1.9nm,0.3s						
CONA				*i* Sn	**Sn**	**21 24 44.9**	**+3.3**
	5.4nm,0.4s						
KSV	**Kosov**	**3.48**	**109**	*e*Pn	**Pn**	**21 24 07.0**	**+2.0**
KSV				*i* Sn	**Sn**	**21 24 48.8**	**+2.0**
GOPC	**GO Pecny, Ondr**	**3.49**	**278**	*e*PN	**Pn**	**21 24 08.0**	**+2.8**
GOPC				*e*PG	**Pg**	**21 24 15.8**	**-0.7**
GOPC				*e*SG	**Sg**	**21 25 04.5**	**+2.8**
	comp=Z,83nm,1.0s						
PRU	**Pruhonice**	**3.65**	**279**	*e*PG	**Pg**	**21 24 18.7**	**-0.9**
PRU				*e*SG	**Sg**	**21 25 09.2**	**+2.3**
	comp=Z,36nm,0.6s						
CJR	**Cluj-Napoca**	**3.66**	**139**	⇑*i*P	**Pn**	**21 24 09.5**	**+2.0**
PVCC	**Panska Ves**	**3.72**	**287**	*e*PN	**Pn**	**21 24 10.4**	**+2.1**
PVCC				*e*PG	**Pg**	**21 24 21.2**	**+0.3**
PVCC				*e*SG	**Sg**	**21 25 09.7**	**+0.6**
	comp=Z,59nm,0.5s						
ARCR	**ARCALIA**	**3.74**	**130**	⇑*i*P	**Pn**	**21 24 08.9**	**+0.3**
ARSA	**Arzberg**	**3.84**	**235**	*e*Pn	**Pn**	**21 24 12.2**	**+2.3**
	0.9nm,0.3s						
ARSA	**Arzberg**	**3.84**	**235**	*e*Pn	**Pn**	**21 24 11.3**	**+1.3**
BURAR	**Bucovina Array**	**3.89**	**118**	⇑*i*P	**Pn**	**21 24 13.1**	**+2.4**
KOGS	**Kog**	**4.05**	**222**	*i* Pn	**Pn**	**21 24 15.6**	**+2.7**
KOGS				*i* Sn	**Sn**	**21 25 01.4**	**+0.4**
BZS	**Buzias**	**4.06**	**165**	⇓*i*P	**Pn**	**21 24 13.6**	**+0.7**
BRG	**Berggiesshubel**	**4.19**	**291**	PG	**Pg**	**21 24 31.9**	**+1.9**
BRG				SG	**Sg**	**21 25 23.1**	**-1.2**
	27nm,0.6s						
BRG	**Berggiesshubel**	**4.19**	**291**	*e*Pg	**Pg**	**21 24 30.6**	**+0.6**
BRG				*e*Sg	**Sg**	**21 25 28.8**	**+1.6**
MOA	**Molln**	**4.24**	**249**	*i* Pn	**Pn**	**21 24 18.1**	**+2.6**
	0.9nm,0.3s						
MOA				*e*Sn	**Sn**	**21 25 09.8**	**+4.1**
	2.1nm,0.2s						
MOA				Sg	**Sg**	**21 25 32.7**	**+6.9**
	11nm,0.6s						
MOA	**Molln**	**4.24**	**249**	*e*Pn	**Pn**	**21 24 18.1**	**+2.6**
GEC2	**GERESS Array S**	**4.28**	**263**	*e*Pn	**Pn**	**21 24 19.6**	**+3.5**
GEC2				*e*Sg	**Sg**	**21 25 27.7**	**+0.7**
GERES	**GERESS Array B**	**4.28**	**263**	Pn	**Pn**	**21 24 19.2**	**+3.2**
	0.6nm,0.3s,baz=81,slow=14,SNR=16						
GERES				Sn	**Sn**	**21 25 08.6**	**+1.9**
	2.3nm,0.3s,baz=74,slow=26,SNR=7.5						
GERES				Lg	Lg	21 25 28.1	
	4.9nm,0.3s,baz=75,slow=28,SNR=13						
KHC	**Kasperske Hory**	**4.31**	**267**	*e*PN	**Pn**	**21 24 18.9**	**+2.5**
KHC				*e*PG	**Pb**	**21 24 29.2**	**+3.0**
KHC				*e*SG	**Sg**	**21 25 30.5**	**+2.5**
	comp=Z,30nm,0.4s						
PERS	**Pernice**	**4.45**	**231**	*i* Pn	**Pn**	**21 24 20.1**	**+1.8**
PERS				*i* Sn	**Sn**	**21 25 11.9**	**+1.1**
GZR	**Gura Zlata**	**4.52**	**156**	⇓*i*P	**Pn**	**21 24 21.0**	**+1.6**
FBE	**Freiberg**	**4.57**	**290**	*e*Sg	**Sg**	**21 25 37.0**	**+0.8**
WET	**Wettzell**	**4.76**	**268**	*e*Sg	**Sg**	**21 25 44.0**	**+1.5**
LOT	**Lotru**	**4.78**	**148**	⇑*i*P	**Pn**	**21 24 22.5**	**-0.5**
SUW	**Suwalki**	**4.86**	**22**	*e*S	**Sg**	**21 25 45.7**	**+0.2**
SUW				AML	AML	21 25 51.9	
	comp=Z,180nm,0.5s						
SUW				AML	AML	21 25 57.6	
	comp=E,437nm,0.5s						
SUW				AML	AML	21 26 12.9	
	comp=N,353nm,0.6s						
MDVR	**Moldovita**	**4.88**	**167**	⇑*i*P	**Pn**	**21 24 23.0**	**-1.4**
CLL	**Collm**	**4.89**	**294**	*e*Pg	**Pg**	**21 24 45.0**	**+1.7**
CLL				*e*Sg	**Sg**	**21 25 47.0**	**+0.4**
	comp=Z,28nm,0.7s						
CLL	**Collm**	**4.89**	**294**	*e*Sg	**Sg**	**21 25 46.5**	**-0.1**
TANN	**Tannenbergstha**	**5.03**	**283**	*e*Sg	**Sg**	**21 25 52.9**	**+1.9**
GUNZ	**Gunzen**	**5.11**	**282**	*e*Pg	**Pg**	**21 24 47.6**	**+0.2**
GUNZ				*e*Sg	**Sg**	**21 25 54.2**	**+0.6**
OZUR		**5.14**	**130**	⇑*i*P	Pn	21 24 22.9	-4.9
MOX	**Moxa**	**5.59**	**285**	*e*Sg	**Sg**	**21 26 09.2**	**0.0**
MLR	**Muntele Rosu**	**5.65**	**134**	⇑*i*P	**Pn**	**21 24 31.4**	**-3.5**
PLOR	**Plostina**	**5.74**	**128**	⇑*i*P	**Pn**	**21 24 35.3**	**-0.8**
VRI	**Vrincioaia**	**5.77**	**127**	⇑*i*P	**Pn**	**21 24 38.2**	**+1.7**
AKASG	**Malin Array Be**	**5.96**	**75**	Pn	**Pn**	**21 24 36.9**	**-2.1**
	comp=Z,0.8nm,0.3s,baz=258,slow=12,SNR=2.7						
AKASG				Sn	**Sn**	**21 25 48.7**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=261,slow=22,SNR=3.5						
BSD	**Bornholm Skovb**	**6.43**	**332**	*i* P	**Pn**	**21 24 47.5**	**+2.0**
BSD				*e*S	**Sn**	**21 25 58.1**	**-1.4**
BSD	**Bornholm Skovb**	**6.43**	**332**	*e*S	**Sn**	**21 25 58.0**	**-1.5**
DAVOX	**Davos/Dischmat**	**7.39**	**252**	Pn	**Pn**	**21 25 01.7**	**+2.5**
TNS	**Taunus Mts**	**7.58**	**280**	*e*Sg	**Sg**	**21 27 14.6**	**+1.7**
BFO	**Black Forest**	**7.87**	**266**	*e*Sg	**Sg**	**21 27 24.2**	**+2.0**
CDF	**Champ du Feu**	**8.54**	**267**	*e*Pn	**Pn**	**21 25 15.4**	**+0.9**
CDF	**Champ du Feu**	**8.54**	**267**	*e*Pg	**Pg**	**21 25 51.2**	**-1.9**
CDF				*e*Sn	**Sn**	**21 26 47.2**	**-4.3**
CDF				*e*Sg	**Sg**	**21 27 40.6**	**-3.0**
	comp=Z,0.3nm,0.2s						
HINF	**Hinteralfeld**	**8.96**	**264**	*e*Pn	**Pn**	**21 25 20.3**	**+0.1**
HINF	**Hinteralfeld**	**8.96**	**264**	*e*Pg	**Pg**	**21 25 59.3**	**-1.8**
HINF				*e*Sn	**Sn**	**21 26 56.6**	**-5.2**
HINF				*e*Sg	**Sg**	**21 27 53.0**	**-4.1**
	comp=Z,4.0nm,0.5s						
PAGF	**Fort de Pagny**	**9.52**	**270**	*e*Pn	**Pn**	**21 25 29.2**	**+1.3**
PAGF	**Fort de Pagny**	**9.52**	**270**	*e*Pg	Pn	21 26 09.9	+42
PAGF				*e*Sn	**Sn**	**21 27 11.2**	**-4.3**
PAGF				*e*Sg		21 28 11.1	
	comp=Z,0.9nm,0.2s						
GIVF	**Givet**	**9.92**	**279**	*e*Pn	**Pn**	**21 25 34.8**	**+1.5**
GIVF	**Givet**	**9.92**	**279**	*e*Pg	Pn	21 26 17.3	+44
GIVF				*e*Sn	**Sn**	**21 27 20.9**	**-4.3**
GIVF				*e*Sg		21 28 24.7	
	comp=Z,1.3nm,0.2s						
MEZF	**Maizieres J'vi**	**9.97**	**270**	*e*Pn	**Pn**	**21 25 35.1**	**+1.1**
MEZF	**Maizieres J'vi**	**9.97**	**270**	*e*Pg	Pn	21 26 14.6	+41
MEZF				*e*Sn	**Sn**	**21 27 21.0**	**-5.5**
MEZF				*e*Sg		21 28 25.5	
BAIF	**Baives**	**10.31**	**279**	*e*Pn	**Pn**	**21 25 39.9**	**+1.2**
BAIF	**Baives**	**10.31**	**279**	*e*Pg	Pn	21 26 25.3	+47
BAIF				*e*Sn	**Sn**	**21 27 31.4**	**-3.6**
BAIF				*e*Sg		21 28 37.3	
MEF	**Metsahovi**	**10.97**	**11**	*e*P	**Pn**	**21 25 49.9**	**+2.2**
LOR	**Lormes**	**11.06**	**264**	*e*Pn	**Pn**	**21 25 49.8**	**+0.8**
LOR	**Lormes**	**11.06**	**264**	*e*Pg	Pn	21 26 37.2	+48
LOR				*e*Sn	**Sn**	**21 27 46.4**	**-6.9**
LOR				*e*Sg		21 28 56.6	
HFS	**Hagfors**	**11.23**	**343**	Pn	**Pn**	**21 25 53.0**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=130,slow=14,SNR=9.3						
RAF	**Rauma**	**11.54**	**4**	*e*P	**Pn**	**21 25 56.4**	**+1.0**
RAF				AML	AML	21 27 51.3	
	comp=E,4.4nm,0.7s						
RAF				AML	AML	21 27 51.5	
	comp=Z,5.8nm,0.8s						
FINES	**FINESS Array B**	**12.38**	**13**	Pn	**Pn**	**21 26 06.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=10						
FINES				Sn	**Sn**	**21 28 19.7**	**-5.8**
	comp=Z,0.3nm,0.3s,baz=192,slow=21,SNR=5.3						
NOA	**NORSAR Array B**	**12.57**	**340**	Pn	**Pn**	**21 26 09.5**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=149,slow=11,SNR=3.3						
ARCES	**ARCESS Array B**	**20.22**	**5**	P	Pn	21 27 48.2	+0.6
	comp=Z,2.6nm,0.8s,baz=184,slow=11,SNR=6.1						

*ISCJB **01** 21:55:26.8±0.2,35.°82N±0.°01×116.°82W±0.°02,h10km, mb3.5/2,MS3.4/3,Error ellipse: s-maj=1.8km s-min=1.6km az=165.7*
*ANF **01** 21:55:26.6±0.2,35.°81N×116.°80W,h11km±1km,ML4.4/45, ML4.4/45,Error ellipse: s-maj=1.1km s-min=0.7km az=63.0*
*IDC **01** 21:55:26.6±0.6,35.°82N×116.°90W,h0km,mb3.8/2, mb1 3.9/8,mb1mx3.6/47,mbtmp3.6/8,ML3.7/6,MS3.3/7, Ms1 3.3/7,ms1mx3.0/43,Error ellipse: s-maj=12.7km s-min=5.7km az=75.0*

*PAS **01** 21:55:27.5,35.°83N×116.°80W,h8km,ML4.4*
*SCEDC **01** 21:55:27.6,35.°83N×116.°80W,h8km*
*NEIC **01** 21:55:27.5±0.0,35.°83N×116.°80W,h8km,MW4.1(PAS), After PAS.*
NEIC Felt at Ridgecrest, Shoshone and Trona. Felt [II] at Pahrump, Nevada. Also felt at Beatty and Las Vegas.

ISC 01 21:55:27.1±0.7,35.°82N±0.°01×116.°79W±0.°02,h10km, n130,σ1s62/201,MS3.3/3,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHOC	**Shoshone, Teco**	**0.42**	**79**	P	**Pg**	**21 55 35.7**	**+0.2**
	baz=261,SNR=1000						
SHOC				S	**Sg**	**21 55 41.9**	**+0.8**
	baz=261						
GSC	**Goldstone, Bar**	**0.52**	**181**	*e*Pg	**Pg**	**21 55 37.4**	**+0.1**
GSC	**Goldstone, Bar**	**0.52**	**181**	P	**Pg**	**21 55 37.3**	**+0.1**
	baz=0.5,SNR=1000						
GSC				S	**Sg**	**21 55 44.3**	**+0.2**
	baz=0.5						
MPMC	**Manual Prospec**	**0.61**	**293**	P	**Pg**	**21 55 38.6**	**-0.5**
	baz=112,SNR=1000						
MPMC				S	**Sg**	**21 55 47.1**	**-0.1**
	baz=112						
FURC	**Furnace Creek,**	**0.65**	**355**	P	**Pg**	**21 55 39.5**	**-0.1**
	baz=175,SNR=1000						
FURC				S	**Sb**	**21 55 48.8**	**-0.7**
	baz=175						
DAC	**Darwin (Calif)**	**0.79**	**305**	*e*Pg	**Pg**	**21 55 42.2**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.80**	**245**	P	**Pg**	**21 55 42.3**	**-0.3**
	baz=64,SNR=1000						
LRMC				S	**Sg**	**21 55 52.8**	**-0.3**
	baz=64						
TUQ	**Turquoise Moun**	**0.80**	**118**	P	**Pg**	**21 55 42.6**	**-0.1**
	baz=299,SNR=1000						
TUQ				S	**Sg**	**21 55 53.4**	**+0.3**
	baz=299						
RRX	**Edison Barstow**	**0.96**	**190**	P	**Pg**	**21 55 45.4**	**-0.2**
	baz=9.5,SNR=41						
RRX				S	**Sb**	**21 55 58.3**	**-0.3**
	baz=9.5						
HEC	**Hector,Ludlow**	**1.06**	**159**	P	**Pg**	**21 55 47.1**	**-0.3**
	baz=339,SNR=1000						
HEC				S	**Sg**	**21 56 01.3**	**0.0**
	baz=339						
TPNV	**Topopah Spring**	**1.21**	**21**	*e*Pg	**Pg**	**21 55 50.0**	**-0.3**
TPNV	**Topopah Spring**	**1.21**	**21**	P	**Pn**	**21 55 49.9**	**-0.3**
	baz=202,SNR=1000						
TPNV				S	**Sn**	**21 56 06.7**	**-0.1**
	baz=202						
CWC	**Cottonwood Cre**	**1.21**	**301**	P	**Pb**	**21 55 49.2**	**-1.1**
	baz=120						
CWC				S	**Sn**	**21 56 06.4**	**-0.5**
	baz=120						
GRAC	**Grapevine Rang**	**1.26**	**338**	P	**Pb**	**21 55 50.6**	**-0.4**
	baz=158,SNR=352						
GRAC				S	**Sn**	**21 56 08.1**	**+0.2**
	baz=158						
EDW2	**Edwards Air Fo**	**1.36**	**227**	P	**Pn**	**21 55 51.1**	**-1.1**
	baz=45,SNR=774						
EDW2				S	**Sb**	**21 56 09.5**	**-0.7**
	baz=45						
ISA	**Isabella, Lake**	**1.38**	**264**	*e*Pn	**Pn**	**21 55 51.3**	**-1.2**
ISA				*e*Sg	**Sg**	**21 56 11.0**	**-0.5**
ISA	**Isabella, Lake**	**1.38**	**264**	P	**Pn**	**21 55 51.3**	**-1.2**
	baz=82,SNR=1000						
ISA				S	**Sn**	**21 56 10.3**	**-0.6**
	baz=82						
GMRC	**Granite Mounta**	**1.39**	**138**	P	**Pn**	**21 55 51.3**	**-1.4

NVAR	**Mina Array Bea**	**2.87**	**336**	Pn	**Pn**	**21 56 13.3**	**+0.1**
	9.0nm,0.3s,baz=165,slow=15,SNR=57							
NVAR				Pg	**Pb**	**21 56 19.8**	**+1.2**
	47nm,0.3s,baz=157,slow=17,SNR=100							
NVAR				Lg	Lg	21 56 56.8		
	24nm,0.3s,baz=158,slow=17,SNR=3.8							
109C	**Camp Elliot, M**	**2.94**	**185**	Pb	**Pb**	**21 56 19.8**	**+0.2**
	baz=4.8							
109C				Sb	**Sb**	**21 56 57.4**	**+1.8**
	baz=4.8							
MONP2	**Monument Peak**	**2.94**	**174**	P	**Pn**	**21 56 13.5**	**-0.5**
	baz=354,SNR=43							
MONP2				Sb	**Sb**	**21 56 58.3**	**+2.5**
	baz=354							
SCZ2	**Santa Cruz Isl**	**2.96**	**233**	Pb	**Pb**	**21 56 20.1**	**0.0**
	baz=51							
SCZ2				S	**Sn**	**21 56 49.4**	**-0.5**
	baz=51							
SWSC	**Sam W. Stewart**	**2.98**	**164**	P	**Pn**	**21 56 13.2**	**-1.3**
	baz=344,SNR=10							
SWSC				Sb	**Sg**	**21 57 00.2**	**-2.8**
	baz=344							
LCMT	**Little Creek M**	**3.10**	**66**	*e*Pn	**Pn**	**21 56 17.4**	**+1.3**
LCMT				*e*Sg	**Sb**	**21 57 03.0**	**+2.8**
RYN	**Ryan**	**3.12**	**334**	*e*Pn	**Pn**	**21 56 17.2**	**+0.6**
RYN				*e*Sg	**Sg**	**21 57 09.8**	**+2.3**
BAR	**Barrett**	**3.14**	**178**	*e*Pn	**Pn**	**21 56 16.6**	**0.0**
BAR				*e*Sg	**Sb**	**21 57 03.8**	**+2.5**
SCI2	**San Clemente I**	**3.19**	**208**	P	**Pn**	**21 56 17.4**	**+0.1**
	baz=26,SNR=24							
GLA	**Glamis**	**3.21**	**149**	*e*Pn	**Pn**	**21 56 16.6**	**-1.0**
GLA				*e*Sg	**Sg**	**21 57 08.7**	**-1.4**
GLA	**Glamis**	**3.21**	**149**	P	**Pn**	**21 56 16.1**	**-1.4**
	baz=330,SNR=7.6							
GLA				Sb	**Sg**	**21 57 06.8**	**-3.3**
	baz=330							
IKP	**In-Ko-Pah, Jac**	**3.21**	**170**	P	**Pn**	**21 56 17.2**	**-0.6**
	baz=350							
IKP				Sb	**Sb**	**21 57 06.6**	**+3.0**
	baz=350							
CCUT	**Cedar City**	**3.25**	**57**	*e*Pn	**Pn**	**21 56 19.8**	**+1.4**
CCUT				*e*Sg	**Sg**	**21 57 10.2**	**-1.3**
KVN	**Kaiserville**	**3.39**	**342**	*e*Pn	**Pn**	**21 56 20.9**	**+0.6**
KVN				*e*Sg	**Sg**	**21 57 16.3**	**+0.3**
WAKR	**Walker**	**3.41**	**322**	*e*Pn	**Pn**	**21 56 21.2**	**+0.6**
KNB	**Kanab**	**3.41**	**68**	*e*Pn	**Pn**	**21 56 21.6**	**+1.0**
KNB				*e*Sg	**Sg**	**21 57 13.7**	**-3.1**
SNCC	**San Nicolas Is**	**3.42**	**222**	*e*Pn	**Pn**	**21 56 21.3**	**+0.8**
SZCU	**Shurtz Canyon**	**3.46**	**58**	*e*Pn	**Pn**	**21 56 22.1**	**+0.9**
SZCU				*e*Sg	**Sg**	**21 57 15.4**	**-2.9**
PSUT	**Pine Spring**	**3.58**	**40**	*e*Pn	**Pn**	**21 56 23.2**	**+0.3**
PSUT				*e*Sg	**Sg**	**21 57 21.6**	**-0.5**
CMB	**Columbia Colle**	**3.63**	**309**	*e*Pn	**Pn**	**21 56 23.5**	**0.0**
CMB				*e*Sg	**Sg**	**21 57 20.1**	**-3.7**
Y14A	**Wickenburg**	**3.63**	**120**	*e*Pn	**Pn**	**21 56 22.8**	**-0.7**
Y14A				*e*Sg	**Sg**	**21 57 23.1**	**-0.7**
U15A	**North Rim**	**3.69**	**79**	*e*Pn	**Pn**	**21 56 25.8**	**+1.3**
U15A				*e*Sg	**Sg**	**21 57 22.1**	**-3.6**
YERR	**Yerington**	**3.71**	**329**	*e*Pn	**Pn**	**21 56 25.0**	**+0.3**
YERR				*e*Sg	**Sg**	**21 57 24.8**	**-1.5**
SAO	**San Andreas Ge**	**3.88**	**285**	*e*Pn	**Pn**	**21 56 25.9**	**-0.9**
SAO				*e*Sg	**Sg**	**21 57 31.3**	**-0.4**
113A	**Mohawk Valley,**	**3.94**	**140**	*e*Pn	**Pn**	**21 56 26.7**	**-1.0**
113A				*e*Pg	**Pg**	**21 56 41.4**	**-1.2**
113A				*e*Sg	**Sg**	**21 57 34.1**	**+0.4**
PKCU	**Pink Cliffs**	**3.95**	**64**	*e*Pn	**Pn**	**21 56 30.0**	**+1.9**
PKCU				*e*Pg	**Pg**	**21 56 41.0**	**-1.8**
PNTR	**Pine Nut**	**3.95**	**326**	*e*Pn	**Pn**	**21 56 28.8**	**+0.7**
PNTR				*e*Pg	**Pg**	**21 56 41.1**	**-1.7**
PNTR				*e*Sg	**Sg**	**21 57 35.1**	**+1.0**
VCNR	**Virginia City**	**4.15**	**328**	*e*Pn	**Pn**	**21 56 31.6**	**+0.9**
VCNR				*e*Pg	**Pg**	**21 56 45.3**	**-1.3**
VCNR				*e*Sg	**Sg**	**21 57 40.3**	**0.0**
RUBR	**Rubicon Trail**	**4.19**	**321**	*e*Pn	**Pn**	**21 56 32.8**	**+1.5**
RUBR				*e*Pg	**Pg**	**21 56 45.0**	**-2.4**
RUBR				*e*Sg	**Sg**	**21 57 42.2**	**+0.5**
MTPU	**Mount Pierson**	**4.30**	**58**	*e*Pn	**Pn**	**21 56 34.9**	**+2.0**
MTPU				*e*Pg	**Pg**	**21 56 49.3**	**-0.3**
PAHR	**Pah Rah Range**	**4.39**	**333**	*e*Pn	**Pn**	**21 56 34.8**	**+0.9**
PAHR				*e*Pg	**Pg**	**21 56 51.1**	**-0.1**
PAHR				*e*Sg	**Sg**	**21 57 47.6**	**-0.5**
WUAZ	**Wupatki**	**4.42**	**92**	*e*Pn	**Pn**	**21 56 35.8**	**+1.4**
WUAZ				*e*Pg	**Pg**	**21 56 49.6**	**-2.2**
WUAZ				*e*Sg	**Sg**	**21 57 47.1**	**-1.9**
TCRU	**Three Creeks R**	**4.44**	**50**	*e*Pn	**Pn**	**21 56 31.6**	**-3.2**
TCRU				*e*Pg	**Pg**	**21 56 49.7**	**-2.5**
TCRU				*e*Sg	**Sg**	**21 57 47.4**	**-2.4**
MSU	**Marysvale**	**4.56**	**53**	*e*Pn	**Pn**	**21 56 37.9**	**+1.5**
MSU				*e*Pg	**Pg**	**21 56 52.5**	**-1.9**
MSU				*e*Sg	**Sg**	**21 57 53.2**	**-0.3**
AFDM	**Forest Hills D**	**4.56**	**314**	*e*Pn	**Pn**	**21 56 36.8**	**+0.5**
X16A	**Lo Mia Camp, P**	**4.60**	**106**	*e*Pn	**Pn**	**21 56 38.0**	**+1.0**
X16A				*e*Pg	**Pg**	**21 56 53.2**	**-2.1**
X16A				*e*Sg	**Sg**	**21 57 58.4**	**+3.5**
BMN	**Battle Mountai**	**4.61**	**356**	*e*Pn	**Pn**	**21 56 38.0**	**+0.9**
BMN				*e*Sg	**Sg**	**21 57 54.7**	**-0.6**
ELK	**Elko**	**5.06**	**13**	*e*Pn	**Pn**	**21 56 43.9**	**+0.6**
ELK				*e*Pg	**Pg**	**21 57 02.6**	**-1.5**
ELK				*e*Sg	**Sg**	**21 58 06.7**	**-3.0**
ELK	**Elko**	**5.06**	**13**	Pn	**Pn**	**21 56 44.0**	**+0.6**
	1.7nm,0.3s,baz=204,slow=11,SNR=25							
ELK				Pg	**Pb**	**21 56 58.2**	**+2.2**
	15nm,0.3s,baz=211,slow=12,SNR=35							
ELK				Lg	Lg	21 58 05.9		
	12nm,0.3s,baz=125,slow=18,SNR=9.4							
214A	**Organ Pipe Nat**	**5.08**	**138**	P	**Pn**	**21 56 42.4**	**-0.9**
	baz=321							
ORV	**Oroville**	**5.28**	**316**	*e*Pn	**Pn**	**21 56 47.1**	**+1.1**
ORV				*e*Sg	**Sg**	**21 58 12.1**	**-4.4**
DUG	**Dugway, Tooele**	**5.38**	**35**	*e*Pn	**Pn**	**21 56 48.2**	**+0.7**
MCCM	**Marconi Confer**	**5.40**	**297**	*e*Pn	**Pn**	**21 56 48.8**	**+1.1**
Q16A	**Castle Valley**	**5.44**	**54**	*e*Pn	**Pn**	**21 56 50.5**	**+2.1**
Q16A				*e*Pg	**Pg**	**21 57 08.2**	**-3.1**
TMUT	**Trail Mountain**	**5.63**	**50**	*e*Pn	**Pn**	**21 56 53.7**	**+2.6**
BGU	**Big Grassy Mou**	**5.89**	**29**	*e*Pn	**Pn**	**21 56 55.6**	**+1.0**
SRU	**San Rafael Swe**	**5.97**	**55**	*e*Pn	**Pn**	**21 56 57.4**	**+1.7**
P17A	**Butcher Ranch,**	**6.03**	**51**	*e*Pn	**Pn**	**21 56 59.6**	**+3.2**
TUC	**Tucson**	**6.09**	**123**	*e*Pn	**Pn**	**21 57 01.3**	**+4.0**
SPUT	**South Promonto**	**6.45**	**31**	*e*Pn	**Pn**	**21 57 04.4**	**+2.2**
HVU	**Hansel Valley**	**6.72**	**27**	*e*Pn	**Pn**	**21 57 09.8**	**+3.7**
TCUT	**Toone Canyon**	**6.76**	**37**	*e*Pn	Pn	21 57 11.6	+4.9
PV16	**Nyswonger Mesa**	**6.77**	**66**	*e*Pn	**Pn**	**21 57 11.2**	**+4.5**
PV13	**Radium Mtn., P**	**6.79**	**68**	*e*Pn	Pn	21 57 11.6	+4.6
PV12	**Saucer Basin,**	**6.85**	**66**	*e*Pn	**Pn**	**21 57 12.3**	**+4.4**
HWUT	**Hardware Ranch**	**7.07**	**34**	*e*Pn	**Pn**	**21 57 15.0**	**+4.1**
YBH	**Yreka Blue Hor**	**7.50**	**324**	Pn	**Pn**	**21 57 17.4**	**+0.9**
	0.1nm,0.3s,baz=158,slow=11,SNR=2.3							
YBH				Lg	Lg	21 59 18.1		
	0.1nm,0.3s,baz=136,slow=18,SNR=1.8							
319A	**Douglas**	**7.67**	**123**	*e*Pn	Pn	21 57 24.5	+5.4
HLID	**Hailey**	**7.94**	**13**	*e*Pn	**Pn**	**21 57 27.2**	**+4.4**
121A	**Cookes Peak, D**	**8.15**	**111**	P	**Pn**	**21 57 26.7**	**+1.1**
	baz=296							
ANMO	**Albuquerque**	**8.48**	**93**	Pg	**Pg**	**21 58 04.7**	**-4.8**
	0.5nm,0.3s,baz=270,slow=13,SNR=18							
ANMO				Lg	Lg	21 59 50.5		
	0.4nm,0.3s,baz=49,slow=23,SNR=15							
ANMO				LR	LR	22 01 15.1		
	comp=Z,105nm,20.4s,baz=283,slow=41							
PD31	**Pinedale Array**	**8.91**	**37**	*e*Pn	**Pn**	**21 57 40.0**	**+3.9**
PDAR	**Pinedale Array**	**8.91**	**37**	Pn	**Pn**	**21 57 39.6**	**+3.5**
	0.1nm,0.3s,baz=224,slow=12,SNR=10							
PDAR				Lg	Lg	22 00 06.5		
	0.1nm,0.3s,baz=226,slow=25,SNR=3.2							
FXWY	**Fox Creek**	**8.98**	**28**	*e*Pn	Pn	21 57 41.6	+4.6
LOHW	**Long Hollow**	**9.12**	**30**	*e*Pn	**Pn**	**21 57 43.1**	**+4.1**
MOOW	**Moose Ponds**	**9.18**	**29**	*e*Pn	Pn	21 57 44.2	+4.5
FLWY	**Flagg Ranch**	**9.48**	**28**	*e*Pn	Pn	21 57 48.4	+4.6
TXAR	**Lajitas Array**	**12.81**	**117**	Pn	Pn	21 58 35.3	+5.9
	0.1nm,0.3s,baz=292,slow=11,SNR=7.4							
TXAR				Lg	Lg	22 02 11.2		
	0.0nm,0.3s,baz=299,slow=31,SNR=3.5							
TXAR				LR	LR	22 04 02.5		
	comp=Z,91nm,19.6s,baz=0.0,slow=40							
LPIG	**La Paz**	**12.96**	**153**	LR	LR	22 02 48.2		
	comp=Z,138nm,20.9s,baz=14,slow=34							
BBB	**Bella Bella**	**18.23**	**337**	LR	LR	22 05 59.3		
	comp=Z,107nm,21.0s,baz=216,slow=35							
ULM	**Lac du Bonnet**	**20.91**	**40**	P	Pn	22 00 10.8	-1.3	
	9.5nm,0.9s,baz=236,slow=9.6,SNR=16							
YKA	**Yellowknife Ar**	**26.73**	**2**	P	**P**	**22 01 07.6**	**+1.2**
	2.0nm,1.1s,baz=180,slow=8.9,SNR=12							
TKL	**Tuckaleechee C**	**26.73**	**81**	LR	LR	22 12 57.4		
	comp=Z,71nm,19.5s,baz=236,slow=39							
ILAR	**Eielson Array**	**34.13**	**337**	P	P	22 02 19.1	+7.2
	0.7nm,0.9s,baz=161,slow=8.5,SNR=7.0							
ILAR				LR	LR	22 14 39.6		
	comp=Z,62nm,21.8s,baz=152,slow=34							
ZALV	**Zalesovo Beam**	**88.66**	**347**	LR	LR	22 54 43.9		
	comp=Z,22nm,18.3s,baz=72,slow=40							

KRSC 01 21:55:44.7±10.0**, 50.71N**×**157.80E, h42**km±10km**, ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.98**	**321**	*e*P	Pn	21 56 03.4	+1.4
PAU				*e*S	Sn	21 56 16.7	+2.1
SKR	**Severo-Kuril's**	**1.07**	**269**	*e*P	Pn	21 56 04.0	+0.8
SKR				*e*S	Sn	21 56 17.2	+0.3
KDTR	**Khodutka, Kamc**	**1.11**	**9**	*e*P	Pn	21 56 05.0	+1.3
KDTR				*e*S	Sn	21 56 18.9	+1.1
ALID	**Alaid**	**1.44**	**277**	*e*P	Pn	21 56 09.9	+1.5
ALID				*e*S	Sn	21 56 28.0	+1.9
ASAK	**Asacha**	**1.67**	**2**	*e*P	Pn	21 56 13.6	+2.1
RUS	**Russkaya**	**1.78**	**14**	*e*P	Pn	21 56 14.3	+1.4
RUS				*e*S	Sn	21 56 35.4	+1.2
MTVR	**Mutnovka**	**1.79**	**7**	*e*P	Pn	21 56 15.2	+2.0
MTVR				*e*S	Sn	21 56 36.1	+1.4
KRMR	**Karymshinskiy**	**2.13**	**5**	*e*P	Pn	21 56 20.6	+2.9
KRMR				*e*S	Sn	21 56 46.5	+3.6
APC	**Apacha**	**2.25**	**350**	*e*P	Pn	21 56 22.1	+2.7
PET	**Petropavlovsk**	**2.37**	**12**	*e*P	Pn	21 56 23.8	+2.8
PET				*e*S	Sn	21 56 51.5	+2.6
DALK	**Dalny**	**2.40**	**14**	*e*P	Pn	21 56 23.5	+2.2
DALK				*e*S	Sn	21 56 51.5	+2.1
UGLR	**Uglovaya**	**2.58**	**14**	*e*P	Pn	21 56 27.5	+3.5
AVH	**Avacha**	**2.62**	**12**	*e*P	Pn	21 56 28.4	+3.9
SMAR	**Somma**	**2.63**	**13**	*e*P	Pn	21 56 28.7	+4.0
KOK	**Koryaka**	**2.63**	**11**	*e*P	Pn	21 56 28.4	+3.7
SDLR	**Sedlovina**	**2.65**	**14**	*e*P	Pn	21 56 27.2	+2.2
KRER	**Koryakskii**	**2.66**	**12**	*e*P	Pn	21 56 28.8	+3.6
KRER				*e*S	Sn	21 57 00.5	+4.2
KRX	**Arik**	**2.70**	**11**	*e*P	Pn	21 56 29.5	+3.8
KRX				*e*S	Sn	21 57 02.1	+4.9
SPN	**Mys Shipunski**	**2.75**	**29**	*e*P	Pn	21 56 29.0	+2.7
SPN				*e*S	Sn	21 57 01.7	+3.4
GNL	**Ganaly**	**2.99**	**2**	*e*P	Pn	21 56 33.2	+3.6
KBTR	**Krutoberegovo**	**6.26**	**27**	*e*P	Pn	21 57 18.0	+3.6

ISCJB ***01*** *22:00:50.9±0.3, 41.09N±0.01×20.19E±0.02, h2km±2km, mb3.1/3, MS3.6/1, Error ellipse: s-maj=2.3km s-min=1.5km az=147.7*

BEO ***01*** *22:00:50.7±0.6, 40.99N×20.18E, h0km, ML3.1/9*

TIR ***01*** *22:00:51.0, 41.08N×20.27E, h6km, Md3.3/6*

ATH ***01*** *22:00:51.2, 41.12N×20.30E, h15km±1km, ML3.0/19, Error ellipse: s-maj=1.4km s-min=0.9km az=238.0*

PRU ***01*** *22:00:51.5±0.0, 40.94N×20.20E, h4km*

THE ***01*** *22:00:51.8, 41.09N×20.28E, h0km±1km, ML3.0/6, Error ellipse: s-maj=1.8km s-min=0.4km az=312.0*

SKO ***01*** *22:00:52.1, 41.12N×20.18E, h10km, M2.7, ML3.1*

PDG ***01*** *22:00:52.2±0.6, 41.09N×20.10E, h11km, ML3.3/9, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*

IDC ***01*** *22:00:58.0±6.3, 42.06N×20.80E, h0km, mb3.3/3, mb1 3.3/5, mb1mx3.1/35, mbtmp3.2/5, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/31, Error ellipse: s-maj=140.7km s-min=16.2km az=31.0*

ISC 01 22:00:51.9±1.0**, 41.06N**±0.01×**20.20E**±0.02**, h7**km±8km**, n213**,σ1§17/272**, mb3.1**/3**, 19C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.39**	**319**	*e*Pg	**Pg**	**22 00 59.1**	**-0.3**
TIR				*e*Sg	**Sg**	**22 01 04.1**	**-0.4**
TIR	**Tirane**	**0.39**	**319**	*i*P	**Pg**	**22 00 59.5**	**+0.1**
TIR				S	**Sg**	**22 01 05.5**	**+1.0**
TIR	**Tirane**	**0.39**	**319**	P	**Pg**	**22 00 59.1**	**-0.3**
TIR				S	**Sg**	**22 01 05.4**	**+1.0**
TIR	**Tirane**	**0.39**	**319**	*i*Pg	**Pg**	**22 00 59.2**	**-0.3**
TIR	**Tirane**	**0.39**	**319**	*i*PG	**Pg**	**22 00 59.1**	**-0.3**
TIR				*i*SG	**Sg**	**22 01 05.7**	**+1.2**
TIR	**Tirane**	**0.39**	**319**	P	**Pg**	**22 00 59.1**	**-0.3**
TIR				S	**Sg**	**22 01 05.0**	**+0.5**
TIR				AML	AML	22 01 08.0	
	comp=N,15571μm,0.3s						
TIR				AML	AML	22 01 08.5	
	comp=E,19700μm,0.4s						
OHR	**Ohrid**	**0.46**	**83**	*i*Pg	**Pg**	**22 01 00.4**	**-0.4**
OHR				*i*Sg	**Sg**	**22 01 07.7**	**+0.9**
OHR				*e*Lg	Lg	22 01 07.8	
	comp=E,2μm,0.7s						
OHR				*e*Lg	Lg	22 01 08.0	
	comp=N,2μm,0.4s						
PHP	**Peshkopia**	**0.66**	**16**	P	**Pg**	**22 01 03.6**	**-0.9**
PHP				S	**Sg**	**22 01 12.9**	**-0.2**
PHP	**Peshkopia**	**0.66**	**16**	*i*PG	**Pg**	**22 01 03.3**	**-1.2**
PHP				*i*SG	**Sg**	**22 01 13.1**	**+0.1**
TPE	**Tepelena**	**0.77**	**191**	P	**Pg**	**22 01 06.9**	**+0.2**
TPE				S	**Sn**	**22 01 19.8**	**-1.3**
TPE	**Tepelena**	**0.77**	**191**	*i*PG	**Pg**	**22 01 07.1**	**+0.4**
TPE				*i*SG	**Sg**	**22 01 13.3**	**-1.4**
VLO	**Vlora**	**0.79**	**223**	P	**Pb**	**22 01 08.2**	**-0.2**
VLO				S	**Sn**	**22 01 20.9**	**-0.6**
VLO	**Vlora**	**0.79**	**223**	*i*PG	**Pg**	**22 01 07.3**	**+0.3**
VLO				*i*SG	**Sn**	**22 01 20.1**	**-1.4**
BIA	**Bitola**	**0.85**	**92**	*i*Pg	**Pg**	**22 01 08.0**	**-0.2**
BIA				*e*Sg	**Sb**	**22 01 21.6**	**+0.8**
KRUS	**Krusevo**	**0.85**	**68**	*e*Pg	**Pg**	**22 01 07.1**	**-1.2**
KRUS				*i*Sg	**Sg**	**22 01 19.7**	**+0.3**
NEST	**Nestorio**	**0.91**	**134**	P	**Pg**	**22 01 08.3**	**-1.0**
NEST				S	**Sg**	**22 01 21.5**	**+0.3**
NEST	**Nestorio**	**0.91**	**134**	P	**Pg**	**22 01 08.3**	**-1.0**
NEST				S	**Sg**	**22 01 21.4**	**+0.3**
NEST				AML	AML	22 01 26.4	
	comp=N,1376μm,0.3s						
NEST				AML	AML	22 01 28.6	
	comp=E,1637μm,0.3s						
FNA	**Florina**	**0.93**	**107**	P	**Pg**	**22 01 09.1**	**-0.7**
FNA				S	**Sg**	**22 01 22.4**	**+0.5**
FNA	**Florina**	**0.93**	**107**	P	**Pg**	**22 01 08.8**	**-1.0**
FNA				S	**Sg**	**22 01 21.6**	**-0.3**
FNA	**Florina**	**0.93**	**107**	*i*Pg	**Pg**	**22 01 08.8**	**-1.0**
FNA				*e*Sg	**Sb**	**22 01 23.9**	**+0.9**
FNA	**Florina**	**0.93**	**107**	P	**Pg**	**22 01 08.7**	**-1.0**
FNA				S	**Sg**	**22 01 19.7**	**-2.2**
FNA				AML	AML	22 01 26.7	
	comp=E,3428μm,0.3s						
FNA				AML	AML	22 01 27.6	
	comp=N,3467μm,0.3s						
PUK	**Puka**	**1.01**	**347**	*i*PG	**Pb**	**22 01 10.7**	**-1.1**
PUK				*i*SG	**Sg**	**22 01 25.6**	**+1.1**
PENT	**Pentalofos**	**1.12**	**140**	P	**Pb**	**22 01 12.1**	**-1.5**
PENT				S	**Sb**	**22 01 28.6**	**+0.2**
PENT	**Pentalofos**	**1.12**	**140**	P	**Pb**	**22 01 11.9**	**-1.7**
ULC	**Ulcinj**	**1.16**	**322**	*i*Pg	**Pb**	**22 01 12.3**	**-1.9**
ULC				*e*Sg	**Sb**	**22 01 28.9**	**-0.5**
SRN	**Sarande**	**1.18**	**187**	P	**Pn**	**22 01 14.8**	**0.0**
SRN	**Sarande**	**1.18**	**187**	*i*PN	**Pn**	**22 01 14.9**	**+0.1**
SRN				*i*SN	**Sg**	**22 01 33.0**	**+3.1**
BCI	**Bajram Curri**	**1.31**	**356**	*i*PN	**Pn**	**22 01 16.0**	**-0.7**
BCI				*i*SN	**Sg**	**22 01 35.4**	**+1.3**
KASA	**Kassiopi**	**1.32**	**189**	P	**Pg**	**22 01 18.5**	**+1.3**
KASA				S	**Sg**	**22 01 36.6**	**+2.2**
KASA				AML	AML	22 01 43.6	
	comp=E,1375μm,0.6s						
KASA				AML	AML	22 01 43.7	
	comp=N,1445μm,0.6s						
DRME	**Dracevica, Mon**	**1.36**	**326**	*i*Pg	**Pn**	**22 01 15.8**	**-1.5**
DRME				*e*Sg	**Sg**	**22 01 36.3**	**+0.6**
DRME	**Dracevica, Mon**	**1.36**	**326**	*e*Pn	**Pn**	**22 01 15.9**	**-1.4**
KEK	**Kerkira**	**1.38**	**193**	P	**Pb**	**22 01 18.4**	**+0.5**
KEK	**Kerkira**	**1.38**	**193**	P	**Pb**	**22 01 18.3**	**+0.3**
KEK				S	**Sg**	**22 01 37.6**	**+1.6**
KEK				AML	AML	22 01 40.5	
	comp=E,1490μm,0.8s						
KEK				AML	AML	22 01 43.0	
	comp=N,1059μm,0.4s						
KZN	**Kozani**	**1.41**	**121**	P	**Pn**	**22 01 17.7**	**-0.4**
KZN	**Kozani**	**1.41**	**121**	P	**Pn**	**22 01 17.7**	**-0.4**
KZN				S	**Sn**	**22 01 36.3**	**-0.7**
KZN				AML	AML	22 01 40.2	
	comp=N,965μm,0.5s						
KZN				AML	AML	22 01 44.3	
	comp=E,1402μm,0.6s						
KPRO	**Kipourio**	**1.41**	**141**	P	**Pn**	**22 01 17.4**	**-0.7**
KPRO	**Kipourio**	**1.41**	**141**	P	**Pn**	**22 01 16.9**	**-1.2**
KPRO				AML	AML	22 01 49.6	
	comp=E,1232μm,0.8s						
KPRO				AML	AML	22 01 57.0	
	comp=N,1203μm,1.1s						
JAN	**Janina**	**1.48**	**160**	P	**Pn**	**22 01 18.6**	**-0.5**
JAN				AML	AML	22 01 47.7	
	comp=N,1026μm,0.5s						
JAN				AML	AML	22 01 47.9	
	comp=E,1286μm,0.5s						
MEV	**Metsovon**	**1.49**	**148**	P	**Pn**	**22 01 19.4**	**+0.1**
IGT	**Igoumenitsa**	**1.52**	**176**	P	**Pn**	**22 01 20.3**	**+0.7**
IGT	**Igoumenitsa**	**1.52**	**176**	P	**Pb**	**22 01 20.6**	**+0.1**
IGT				AML	AML	22 01 48.0	
	comp=E,1350μm,0.9s						
IGT				AML	AML	22 01 48.1	
	comp=N,828μm,0.5s						
PDG	**Podgorica**	**1.54**	**333**	*e*Pn	**Pn**	**22 01 19.4**	**-0.4**
PDG				*e*Sg	**Sb**	**22 01 40.9**	**+0.3**
PDG	**Podgorica**	**1.54**	**333**	⇑*i*P	**Pn**	**22 01 19.6**	**-0.2**
PDG	**Podgorica**	**1.54**	**333**	S	**Sg**	**22 01 42.3**	**+0.8**
PDG	**Podgorica**	**1.54**	**333**	*e*Pn	**Pn**	**22 01 19.2**	**-0.6**
TTG	**Podgorica**	**1.54**	**333**	⇓*i*Pg	**Pn**	**22 01 20.0**	**+0.2**
TTG				*e*Sg	**Sg**	**22 01 41.5**	**0.0**
PVY	**Plav**	**1.55**	**353**	⇓*i*Pg	**Pn**	**22 01 19.8**	**-0.2**
PVY				*e*Sg	**Sg**	**22 01 42.9**	**+1.2**
BUM	**Brajici-Budva**	**1.58**	**322**	⇑*i*Pg	**Pn**	**22 01 20.9**	**+0.5**
BUM				*e*Sg	**Sg**	**22 01 42.8**	**+0.1**
STIP	**Stip**	**1.63**	**66**	*i*Pg	**Pg**	**22 01 23.6**	**+0.6**
STIP				*e*Sg	**Sg**	**22 01 50.0**	**+5.8**
CEME	**Cevo**	**1.77**	**328**	⇑*i*Pn	**Pn**	**22 01 22.4**	**+0.2**
CEME				*e*Sn	**Sb**	**22 01 47.2**	**0.0**
VAY	**Valandovo**	**1.81**	**81**	*i*Pg	**Pn**	**22 01 23.8**	**+0.3**
VAY				*e*Sg	**Sg**	**22 01 50.2**	**+0.1**
VAY				*e*Lg	Lg	22 01 52.6	
	comp=N,74nm,0.6s						
VAY				*e*Lg	Lg	22 01 53.2	
	comp=E,70nm,0.4s						
IVA	**Berane**	**1.83**	**353**	⇓*i*Pn	**Pb**	**22 01 25.1**	**-0.6**
IVA				*e*Sn	**Sb**	**22 01 49.6**	**+0.7**
KOME	**Kolasin**	**1.86**	**344**	⇓*i*Pn	**Pn**	**22 01 25.1**	**+0.8**
KOME				*e*Sn	**Sb**	**22 01 50.0**	**+0.1**
HCY	**Herceg Novi**	**1.89**	**318**	⇓*i*Pn	**Pn**	**22 01 24.4**	**-0.2**
HCY				*e*Sn	**Sb**	**22 01 50.0**	**-0.5**
HCY	**Herceg Novi**	**1.89**	**318**	*e*Pn	**Pn**	**22 01 24.7**	**+0.1**
NKME	**Niksic**	**1.95**	**332**	⇓*i*Pn	**Pn**	**22 01 25.6**	**+0.2**
NKME				*e*Sn	**Sb**	**22 01 51.5**	**-0.7**
NKY	**Niksic**	**1.97**	**333**	⇑*i*Pn	**Pn**	**22 01 26.4**	**+0.6**
NKY				*e*Sn	**Sb**	**22 01 52.2**	**-0.8**
LIT	**Litokhoron**	**1.99**	**118**	P	**Pn**	**22 01 25.3**	**-0.7**
LIT				AML	AML	22 02 04.2	
	comp=E,369μm,0.4s						
LIT				AML	AML	22 02 06.9	
	comp=N,326μm,0.4s						
THL	**Klokotos Trika**	**2.04**	**136**	P	**Pn**	**22 01 27.0**	**+0.5**
THL				AML	AML	22 01 59.1	
	comp=E,338μm,0.4s						
THL	

LAKA	Lakka	3.13	153	P	Pn	22 01 43.9	+2.2
SKIA	Skiathos	3.14	126	P	Pn	22 01 41.9	+0.1
ZAGS	Zajecar	3.14	28	*e*Pn	Pn	22 01 42.2	+0.4
ZAGS				*e*Sn	Sn	22 02 21.1	+1.6
RLS	Riolos of Patr	3.15	161	P	Pn	22 01 44.0	+2.1
HAPS	Han Pijesak,Bl	3.17	344	*e*Pn	Pn	22 01 42.3	+0.1
HAPS	Han Pijesak,Bl	3.17	344	*e*Pn	Pn	22 01 42.0	-0.2
TRUS	Trudelj	3.17	3	*e*Pn	Pn	22 01 42.2	0.0
SMIA	Simia	3.17	132	P	Pn	22 01 42.5	+0.2
DSF	Desfina	3.19	145	P	Pn	22 01 43.7	+1.2
ATAL	Atalanti	3.21	136	P	Pn	22 01 43.4	+0.7
VTN	Vitineika	3.23	166	P	Pn	22 01 44.3	+1.4
TIP	Timpagrande	3.23	236	⇓*i*P	Pn	22 01 42.8	-0.3
SVIS	Svilajnac	3.25	13	*e*Pn	Pn	22 01 44.0	+0.1
DRO	Drossia	3.31	159	P	Pn	22 01 45.7	+1.5
KLV	Kalavryta, Ach	3.37	153	P	Pn	22 01 47.4	+2.4
AOS	Alonnisos	3.39	123	P	Pn	22 01 46.9	+1.6
AOS	Alonnisos	3.39	123	P	Pn	22 01 45.0	-0.3
RZN	Rozhen	3.46	78	*i* P	Pn	22 01 49.6	+3.3
THAS	Thassos island	3.46	96	P	Pn	22 01 45.5	-0.6
THAS	Thassos island	3.46	96	P	Pn	22 01 45.7	-0.5
THAS				AML	AML	22 02 29.6	
	comp=N,56μm,0.6s						
THAS				AML	AML	22 02 30.1	
	comp=E,59μm,0.6s						
PROD	Prodromos	3.49	142	P	Pn	22 01 47.3	+0.7
KUBS	Kucevo	3.53	17	*e*Pn	Pn	22 01 46.9	-0.2
TEKS	Tekeris	3.53	352	*e*Pn	Pn	22 01 47.0	-0.1
GUR	Goura	3.53	151	P	Pn	22 01 48.9	+1.7
PLD	Plovdiv	3.54	71	P	Pn	22 01 49.2	+2.0
VIL2	Platees	3.70	139	P	Pn	22 01 50.9	+1.5
AMT	Artemida-Makis	3.71	161	P	Pn	22 01 51.4	+1.8
LTK	Loutraki	3.71	144	P	Pn	22 01 49.4	-0.2
TRIP	Tripoli	3.87	155	P	Pn	22 01 53.9	+2.0
MDVR	Moldovita	3.89	16	⇑*i*P	Pn	22 01 52.2	+0.1
EREA	Eretria	3.90	131	P	Pn	22 01 53.4	+1.1
RDO	Rodhopi	4.04	87	P	Pn	22 01 56.6	+2.5
RDO	Rodhopi	4.04	87	P	Pn	22 01 53.3	-0.7
VLX	Vlachokerasia	4.05	155	P	Pn	22 01 54.6	+0.2
SMTH	Samothraki Isl	4.09	96	P	Pn	22 01 54.9	+0.1
ITM	Ithomi	4.10	160	P	Pn	22 01 56.9	+2.0
ITM	Ithomi	4.10	160	P	Pn	22 01 56.2	+1.3
FRGS	Fruska Gora	4.11	356	*e*Pn	Pn	22 01 55.5	+0.4
PTL	Penteli	4.13	135	P	Pn	22 01 56.0	+0.6
VLY	Voula,Athens	4.24	138	P	Pn	22 01 57.8	+0.9
DID	Didima	4.26	143	P	Pn	22 01 58.2	+1.0
BLY	Banja Luka	4.30	330	⇑*i*P	Pn	22 01 58.3	+0.5
BLY	Banja Luka	4.30	330	*e*Pn	Pn	22 01 58.7	+0.9
KRND	KRANIDI	4.33	147	P	Pn	22 01 58.9	+0.8
ALN	Alexandroupoli	4.43	90	P	Pn	22 02 01.9	+2.4
ALN	Alexandroupoli	4.43	90	P	Pn	22 01 59.9	+0.4
ENEZ	Enez	4.53	92	*e*P	Pn	22 02 03.2	+2.4
BZS	Buzias	4.67	12	*e*Pn	Pn	22 02 02.9	+0.1
BZS				*e*Sn	Sn	22 02 57.0	-0.3
BZS	Buzias	4.67	12	⇑*i*P	Pn	22 02 03.0	+0.1
SIGR	SIGRI	4.71	111	*e*P	Pn	22 02 05.4	+2.1
GZR	Gura Zlata	4.73	23	⇑*i*P	Pn	22 02 04.1	+0.5
UDBI	Udbina	4.76	318	*e*Pn	Pn	22 02 05.4	+1.3
UDBI				Sn	Sn	22 03 01.0	+1.4
ERIK	Erikli-Kesan	4.80	93	*e*P	Pn	22 02 06.9	+2.3
GELI	Tayfur-Gelibol	4.81	96	*e*P	Pn	22 02 07.1	+2.3
EDRB	Edirne	4.98	79	*e*P	Pn	22 02 08.5	+1.4
CHOS	Chios island	5.24	119	*e*P	Pn	22 02 13.4	+2.6
NVLJ	Novalja	5.26	314	*e*Pn	Pn	22 02 10.5	-0.3
NVLJ				Sn	Sn	22 03 11.3	-0.3
SIRR	Siria	5.32	11	⇓*i*P	Pn	22 02 12.6	+0.9
ARR	Arges	5.39	35	⇑*i*P	Pn	22 02 13.9	+1.1
KRBG	Karabiga-Canak	5.43	95	*e*P	Pn	22 02 15.6	+2.3
SBT4	Kumbag-Tekirda	5.56	90	*e*P	Pn	22 02 18.0	+3.1
VOIR		5.63	37	⇑*i*P	Pn	22 02 16.1	0.0
OZLJ	Ozalj	5.71	324	*e*Pn	Pn	22 02 17.9	+0.8
BOJS	Bojanci	5.73	323	*i* Pn	Pn	22 02 18.0	+0.7
CRES	Cresnjev	5.88	326	*i* Pn	Pn	22 02 19.7	+0.2
CRES	Cresnjev	5.88	326	*e*Pn	Pn	22 02 19.1	-0.4
DRGR		6.01	17	⇑*i*P	Pn	22 02 21.1	-0.2
MLR	Muntele Rosu	6.10	41	⇓*i*P	Pn	22 02 22.6	0.0
VISS	Visnje	6.14	322	*i* Pn	Pn	22 02 23.6	+0.6
CEY	Cerknica	6.29	320	*e*Pn	Pn	22 02 24.8	-0.3
PERS	Pernice	6.68	328	*i* Pn	Pn	22 02 30.7	+0.3
AYDB	Zeytinkoy-Aydi	6.71	115	*e*P	Pn	22 02 33.8	+2.9
SOKA	Soboth	6.75	328	*e*Pn	Pn	22 02 31.4	0.0
	comp=E,1.6nm,0.3s,SNR=6.9						
VRI	Vrincioaia	6.76	42	⇑*i*P	Pn	22 02 32.0	+0.5
TLB	Topalu	6.76	56	⇑*i*P	Pn	22 02 32.0	+0.5
OBKA	Obir	6.81	325	*i* Pn	Pn	22 02 32.5	+0.2
	comp=E,1.2nm,0.2s						
OBKA				*e*Sn	Sn	22 03 50.4	+0.3
	comp=E,1.5nm,0.3s						
PSZ	Piszkesteto	6.87	358	⇑*i*P	Pn	22 02 33.8	+0.8
PSZ	Piszkesteto	6.87	358	*e*Pn	Pn	22 02 34.1	+1.1
PSZ				Sn	Sn	22 03 50.0	-1.4
PSZ				*e*Sg	Sg	22 04 36.0	+3.8
ARSA	Arzberg	7.05	333	*i* Pn	Pn	22 02 36.2	+0.8
	comp=E,1.9nm,0.3s						
VYHS	Vyhne	7.50	353	*e*PN	Pn	22 02 44.2	+2.5
VYHS				*e*		22 04 06.5	
ABTA	Abfaltersbach	7.95	318	*i* Pn	Pn	22 02 47.9	+0.1
	comp=E,0.8nm,0.2s,SNR=7.2						
ABTA				*i* Sn	Sn	22 04 17.3	-0.7
	comp=E,0.8nm,0.3s						
MOA	Molln	8.01	330	*e*Pn	Pn	22 02 49.9	+1.3
	comp=E,1.3nm,0.3s						
WTTA	Wattenberg	8.74	318	*e*Pn	Pn	22 02 59.2	+0.4
	comp=E,1.9nm,0.2s,SNR=5.3						
WATA	Walderalm	8.81	318	*i* Pn	Pn	22 03 00.8	+1.0
	comp=E,3.6nm,0.2s,SNR=9.6						
SQTA	Sankt Quirin	8.93	317	*i* Pn	Pn	22 03 02.2	+0.8
	comp=E,1.5nm,0.2s,SNR=7.2						
SQTA				*i* Sn	Sn	22 04 41.4	-0.7
	comp=E,1.0nm,0.3s						
GERES	GERESS Array B	9.04	332	Pn	Pn	22 03 02.5	-0.5
	comp=E,0.2nm,0.3s,baz=147,slow=13,SNR=7.0						
GERES				LR	LR	22 05 54.8	
	comp=E,33nm,21.7s,baz=304,slow=35						
MOTA	Moosalm	9.06	317	*i* Pn	Pn	22 03 04.1	+0.9
	comp=E,1.5nm,0.3s,SNR=5.9						
KHC	Kasperske Hory	9.33	332	*e*PN	Pn	22 03 07.4	+0.6
BRTR	Keskin Array B	10.34	93	Pn	Pn	22 03 24.4	+3.6
	comp=E,0.1nm,0.3s,baz=267,slow=13,SNR=5.2						
KURBB	Kurchatov Arra	40.78	56	P	P	22 08 32.8	-0.6
	comp=E,0.1nm,0.4s,baz=283,slow=9.5,SNR=2.4						
ZALV	Zalesovo Beam	44.00		P	P	22 08 59.2	-0.5
	comp=E,0.6nm,0.5s,baz=269,slow=9.8,SNR=3.6						
MKAR	Makanchi Array	44.06	61	P	P	22 08 59.6	-0.7
	comp=E,0.2nm,0.7s,baz=283,slow=7.7,SNR=3.6						
LSZ	Lusaka	56.53	171	LR	LR	22 37 32.4	
	comp=E,48nm,18.5s,baz=197,slow=38						

KRSC 01 22:12:54.2±10.0, 50°71'N×157°84'E, h40km±10km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PAU	Pauzhetka	1.00	320	*e*P		Pn		22 13 13.4	+1.7
PAU				*e*S		Sn		22 13 26.9	+2.3
SKR	Severo-Kuril's	1.10	269	*e*P		Pn		22 13 12.8	-0.2
SKR				*e*S		Sn		22 13 28.0	+1.1
KDTR	Khodutka, Kamc	1.11	8	*e*P		Pn		22 13 14.1	+0.8
KDTR				*e*S		Sn		22 13 28.4	+1.0
ALID	Alaid	1.46	277	*e*P		Pn		22 13 19.9	+1.7
ALID				*e*S		Sn		22 13 38.7	+2.5
ASAK	Asacha	1.68	1	*e*P		Pn		22 13 23.3	+2.2
RUS	Russkaya	1.78	13	*e*P		Pn		22 13 23.5	+1.1
RUS				*e*S		Sn		22 13 44.7	+0.9
MTVR	Mutnovka	1.79	7	*e*P		Pn		22 13 24.4	+1.7
MTVR				*e*S		Sn		22 13 46.4	+2.1
KRMR	Karymshinskiy	2.13	5	*e*P		Pn		22 13 30.7	+3.4
APC	Apacha	2.26	349	*e*P		Pn		22 13 32.1	+3.1
PET	Petropavlovsk	2.38	12	*e*P		Pn		22 13 33.3	+2.7
PET				*e*S		Sn		22 14 00.2	+1.8
DALK	Dalny	2.40	13	*e*P		Pn		22 13 32.7	+1.8
DALK				*e*S		Sn		22 14 00.7	+1.7
UGLR	Uglovaya	2.58	13	*e*P		Pn		22 13 37.3	+3.8
AVH	Avacha	2.62	12	*e*P		Pn		22 13 38.0	+3.9
AVH				*e*S		Sn		22 14 09.5	+4.8
SMAR	Somma	2.63	13	*e*P		Pn		22 13 38.0	+3.7
KOK	Koryaka	2.64	10	*e*P		Pn		22 13 37.9	+3.6
SDLR	Sedlovina	2.66	14	*e*P		Pn		22 13 37.0	+2.4
KRER	Koryakskii	2.66	12	*e*P		Pn		22 13 38.0	+3.3
KRX	Arik	2.70	10	*e*P		Pn		22 13 39.2	+4.0
SPN	Mys Shipunski	2.75	29	*e*P		Pn		22 13 38.2	+2.5
GNL	Ganaly	3.00	1	*e*P		Pn		22 13 42.5	+3.3

TRN 01 22:13:25.7, 14°45N×61°22W, h154km, MD3.6, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BIM	Bigot	0.15	66	*e*P		Pn		22 13 47.0	+0.7
TRMF	Trois Ilets	0.18	63	*e*P		Pn		22 13 47.4	+1.0
ZAM	Aeronautique	0.22	57	*e*P		Pn		22 13 47.3	+0.9
LPMF	Morne Lapointe	0.27	64	*e*P		Pn		22 13 47.6	+1.0
FDF	Fort de France	0.28	13	*e*P		Pn		22 13 47.6	+1.0
FDF				*e*S		Sn		22 14 03.4	+0.6
PML	Morne Lenard	0.33	5	*e*P		Pn		22 13 47.1	+0.3
GBMF	Grand Be	0.34	8	*e*P		Pn		22 13 48.4	+1.4
CXM	Morne La Croix	0.36	7	*e*P		Pn		22 13 48.0	+0.9
PCM	Pelee Case Pet	0.36	1	*e*P		Pn		22 13 47.8	+0.9
BAMF	Morne Balai	0.36	10	*e*P		Pn		22 13 48.3	+1.3
ILAM	Ilet Lapin Mar	0.46	46	*e*P		Pn		22 13 47.8	+0.6
MCLT	Moule a Chique	0.79	160	*e*P		Pn		22 13 49.8	+0.6
MCLT				*e*S		Sn		22 14 07.6	+0.5
SVB	Belmont	1.18	182	*e*P		Pn		22 13 53.2	+0.8
SVB				*e*S		Sn		22 14 14.6	+1.7
SVCV	St. Vincent, C	1.18	177	*e*P		Pn		22 13 53.0	+0.6
SVCV				*e*S		Sn		22 14 12.9	0.0
TDBA	Terre de Bas,	1.45	344	*e*P		Pn		22 13 56.0	+1.1
MAGL	Barre de l'ile	1.49	358	*e*P		Pn		22 13 56.0	+0.6
CBE	Ff, Capester	1.65	347	*e*P		Pn		22 13 58.2	+1.1
BBGH	Gun Hill	2.07	129	*e*P		Pn		22 14 02.8	+0.9
BBGH				*e*S		Sn		22 14 30.5	+0.8
BBSP	Saint Philip	2.17	128	*e*P		Pn		22 14 04.9	+1.8
BBSP				*e*S		Sn		22 14 31.4	-0.4
GRHS	Sauteurs	2.25	191	*e*P		Pn		22 14 04.5	+0.4
GRGR	Grenville	2.35	191	*e*P		Pn		22 14 06.1	+0.9

*NNC **01** 22:16:32.2±0.4, 43°.23N×78°.28E, h4km±3km, mb2.6, mpv2.4, Error ellipse: s-maj=4.8km s-min=1.8km az=14.0*
*SOME **01** 22:16:33.3, 43°.23N×78°.25E, h15km*

KRNET 01 22:16:32.6±0.1, 43°.22N×78°.27E, h21km, mb2.3, 10C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KURS	Kuram	0.28	344	P		Pb		22 16 38.9	-0.2
	6.4nm,0.1s								
KURS				S		Sb		22 16 42.9	-0.8
	2.4nm,0.1s								
KURS	Kuram	0.28	344	*e*P		Pb		22 16 38.9	-0.2
	baz=44								
KURS				*e*S		Sb		22 16 42.9	-0.7
	baz=44								
KURS	Kuram	0.28	344	*e*P		Pb		22 16 38.9	-0.2
	6.4nm,0.1s								
KURS				*e*S		Sb		22 16 42.9	-0.8
	2.4nm,0.1s								
UZB	Uzunbulak	0.55	97	P		Pb		22 16 43.5	-0.3
	2.1nm,0.0s								
UZB				S		Sb		22 16 50.9	-0.5
	23nm,0.1s								
UZB	Uzunbulak	0.55	97	*e*P		Pb		22 16 43.5	-0.3
	baz=97								
UZB				*e*S		Sb		22 16 50.9	-0.5
	baz=97								
UZB	Uzunbulak	0.55	97	*e*P		Pb		22 16 43.5	-0.3
	1.2nm,0.0s								
UZB				*e*S		Sb		22 16 50.9	-0.5
	23nm,0.1s								
PDGK	Podgornoye	0.90	83	P		Pn		22 16 49.8	-0.2
	0.2nm,0.1s								
PDGK				S		Sb		22 17 01.7	+0.6
	0.9nm,0.2s								
PDGK	Podgornoye	0.90	83	⇓P		Pb		22 16 49.4	-0.1
	0.7nm,0.6s								
PDGK				⇓S		Sn		22 17 01.9	-0.6
	0.8nm,0.4s								
PDGK	Podgornoye	0.90	83	⇑*i*P		Pb		22 16 49.4	-0.1
	baz=83								
PDGK				⇑*i*S		Sn		22 17 01.8	-0.7
	baz=83								
ARXS	Arharly	1.04	342	P		Pn		22 16 52.6	+0.5
	0.7nm,0.1s								
ARXS				S		Sn		22 17 06.3	+0.2
	1.8nm,0.2s								
ARXS	Arharly	1.04	342	*e*P		Pn		22 16 52.6	+0.5
	0.7nm,0.1s								
ARXS				*e*S		Sn		22 17 06.3	+0.2
	1.8nm,0.2s								
CHKK	Chushkaly	1.13	305	P		Pb		22 16 53.7	+0.3
	1.0nm,0.1s								
CHKK				S		Sn		22 17 08.4	+0.4
	5.5nm,0.2s								
CHKK	Chushkaly	1.13	305	*e*P		Pb		22 16 53.7	+0.3
	baz=5.0								
CHKK				*e*S		Sn		22 17 08.4	+0.3
	baz=5.0								
CHKK	Chushkaly	1.13	305	*e*P		Pb		22 16 53.7	+0.3
	1.0nm,0.1s								
CHKK				*e*S		Sn		22 17 08.4	+0.4
	5.5nm,0.2s								
KDJ	Kajisay	1.35	217	⇑*i*P		Pb		22 16 58.1	+0.8
	baz=16								
KDJ				⇑*i*S		Sb		22 17 15.3	+1.0
	baz=16								
KUU	Kurty	1.56	296	P		Pb		22 17 01.4	+0.7
	0.8nm,0.2s								
KUU				S		Sb		22 17 21.7	+1.8
	3.0nm,0.3s								
KUU	Kurty	1.56	296	⇑*i*P		Pb		22 17 01.4	+0.7
	baz=96								
KUU				⇓*i*S		Sb		22 17 21.8	+1.8
	baz=96								
KUU	Kurty	1.56	296	⇑*i*P		Pb		22 17 01.4	+0.7
	0.8nm,0.2s								
KUU				⇓*i*S		Sb		22 17 21.7	+1.8
	3.0nm,0.3s								
ULHL	Ulahol	1.79	238	⇑*i*P		Pb		22 17 04.7	0.0
	baz=38								
ULHL				⇑*i*S		Sb		22 17 27.3	+0.6
	baz=38								
TKM2	Tokmak 2	1.98	262	⇓Pg		Pb		22 17 09.5	+1.4
	1.6nm,1.0s								
TKM2				⇓Lg		Lg		22 17 35.0	
	0.9nm,0.5s								
TKM2	Tokmak 2	1.98	262	⇑*i*P		Pb		22 17 07.5	-0.6
	baz=62								
TKM2				⇑*i*S		Sb		22 17 32.9	+0.5
	baz=62								

UCR 01 22:17:25.4±1.9, 9°.76N×84°.02W, h57km±5km, MD3.7, 8C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LCR2	La Lucha 2	0.02	139	⇑*i*P		Pn		22 17 33.4	-0.8
LCR2				*e*S		Sn		22 17 40.4	-0.1
SJS	Escuela Geolog	0.19	348	*e*P		Pn		22 17 35.5	+0.9
EDDO	Dominical	0.52	163	⇓*e*P		Pn		22 17 37.4	0.0
SRA1	San Ramn	0.56	306	*e*P		Pn		22 17 37.6	-0.4
EDLM	Las Mercedes	0.63	138	⇓*e*P		Pn		22 17 38.9	+0.1
EDLM				*e*S		Sn		22 17 49.3	+0.8
EDBA	Buenos Aires	0.94	129	⇓*e*P		Pn		22 17 42.0	-0.6
EDBA				*e*S		Sn		22 17 56.2	0.0
FORC	Fortuna	0.96	318	*i* P		Pn		22 17 43.4	+0.6
FORC				*i* S		Sn		22 17 57.5	+1.9
EDPN	Palmar Norte	0.96	145	*e*P		Pn		22 17 42.9	0.0
EDPN				*e*S		Sn		22 17 56.5	+0.8
CASO	Castillo	0.98	314	*i* P		Pn		22 17 43.7	+0.6
ARE1	Arenal 1	0.98	315	⇑*e*P		Pn		22 17 43.6	+0.5
ARE1				*e*S		Sn		22 17 58.2	+1.9
CEDE	Laguna Cedeo	0.99	317	*i* P		Pn		22 17 43.9	+0.5
CEDE				*i* S		Sn		22 17 58.2	+1.6
PTEN	Parque Tenorio	1.35	315	*i* P		Pn		22 17 48.4	+0.2
PTJ1	Puerto Jimnez	1.40	150	⇑*i*P		Pn		22 17 50.2	+1.5
PLVR	Palo Verde	1.44	294	⇓*e*P		Pn		22 17 49.0	-0.5
CUI	Cuipilapa	1.44	308	⇓*e*P		Pn		22 17 48.6	-0.7
CUI				*e*S		Sn		22 18 08.3	+1.0
MESS	Mesas	1.52	310	⇑*e*P		Pn		22 17 50.1	-0.3
MESS				*e*S		Sn		22 18 09.9	+0.8
BRU2	Volcan	1.62	126	⇓*e*P		Pn		22 17 51.9	+0.1
BRU2				*e*S		Sn		22 18 12.2	+0.5
GPS2	Hotel Rincn d	1.65	307	*i* P		Pn		22 17 52.0	-0.1
BUEV	Buena Vista	1.72	307	⇑*i*P		Pn		22 17 53.0	-0.1
GB1A	Borinquen Arri	1.72	308	*e*P		Pn		22 17 52.8	-0.4
CONN	Concepcion	2.40	319	*e*P		Pn		22 18 02.7	+0.4
ESPN	Las Esperanzas	2.44	353	*e*P		Pn		22 18 02.7	-0.2
ACON	Acoyapa	2.48	333	⇑*i*P		Pn		22 18 03.3	-0.1
ACON				*e*S		Sn		22 18 32.3	-0.1
MATN	Matagalpa	3.67	329	*e*P		Pn		22 18 20.1	+0.4

*IDC **01** 22:20:25.9±3.7, 43°.61N×127°.33W, h0km, mb2.9/2, mb1 3.3/4, mb1mx3.1/61, mbtmp2.9/4, ML2.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=95.5km s-min=19.2km az=52.0*
*ANF **01** 22:20:25.6±1.9, 43°.40N×127°.24W, ML3.4/5, Error ellipse: s-maj=20.9km s-min=11.3km az=55.0*
*ISCJB **01** 22:20:26.7±1.3, 43°.6N±0°.1×127°.3W±0°.1, h15km, mb3.0/1, Error ellipse: s-maj=17.5km s-min=8.5km az=35.7*

ISC 01 22:20:28.7±1.9, 43°.63N±0°.10×127°.2W±0°.1, h15km, n19, σ1°13/14, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
J01E	Myrtle Point	2.44	100	S		Sn		22 21 37.2	-0.2
	baz=277								
K02D	Willamette Mer	2.76	109	P		Pn		22 21 10.0	-2.4
	baz=286,SNR=16								
K02D				S		Sn		22 21 45.4	-0.1
	baz=286								
I03D	Drain, OR	2.80	87	P		Pn		22 21 12.0	-1.0
	baz=265,SNR=22								
I03D				S		Sn		22 21 47.5	+1.0
	baz=265								
G03D	McMinnville, O	3.24	59	P		Pn		22 21 19.1	+0.1
	baz=239,SNR=12								
H04D	Lebanon	3.34	73	P		Pn		22 21 20.7	+0.2
	baz=252								
I04A	Tendick Farm,	3.48	86	P		Pn		22 21 22.3	-0.1
	baz=265,SNR=5.8								
YBH	Yreka Blue Hor	3.82	118	Pn		Pn		22 21 26.9	-0.2
	0.3nm,0.3s,baz=304,slow=15,SNR=4.1								
I05D	Terrebonne, OR	4.30	78	P		Pn		22 21 33.6	0.0
	baz=260,SNR=6.3								
E04D	Cinebar	4.40	47	P		Pn		22 21 35.5	+0.5
	baz=228,SNR=20								
NVAR	Mina Array Bea	8.50	125	Pn		Pn		22 22 33.8	+2.3
	0.1nm,0.3s,baz=292,slow=12,SNR=4.1								
PDAR	Pinedale Array	12.91	88	LR		LR		22 29 17.6	
	comp=Z,128nm,18.6s,baz=290,slow=41								
YKA	Yellowknife Ar	20.29	17	P		P		22 25 03.7	+0.1
	0.3nm,0.6s,baz=208,slow=11,SNR=5.0								
ILAR	Eielson Array	23.90	339	P		P		22 25 40.8	-0.8
	0.5nm,0.8s,baz=148,slow=9.4,SNR=7.2								
H11N3	WAKE ISLAND Hy	59.33	269	T		T		23 34 17.5	
	baz=50,slow=76,SNR=39								
H11N2	WAKE ISLAND Hy	59.33	269	T		T		23 34 16.2	
	baz=50,slow=76,SNR=29								
H11N1	WAKE ISLAND Hy	59.34	269	T		T		23 34 19.6	
	baz=50,slow=76,SNR=22								
H11S1	WAKE ISLAND Hy	60.25	268	T		T		23 35 23.2	
	baz=50,slow=75,SNR=208								
H11S2	WAKE ISLAND Hy	60.26	268	T		T		23 35 24.1	
	baz=50,slow=75,SNR=170								
H11S3	WAKE ISLAND Hy	60.27	268	T		T		23 35 25.8	
	baz=50,slow=75,SNR=149								

ATH 01 22:40:35.0, 37°.33N×21°.55E, h23km±3km, ML1.1/2, Error ellipse: s-maj=3.7km s-min=1.5km az=90.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MES3	Kyparissia	0.13	128	P		Pb		22 40 40.1	+0.4
MES3				S		Sb		22 40 43.3	+0.4
AMT	Artemida-Makis	0.24	32	P		Pb		22 40 40.9	-0.3
AMT				S		Sb		22 40 45.4	+0.1
AMT				AML	AML			22 40 48.2	
	comp=E,124μm,0.3s								
AMT				AML	AML			22 40 48.9	
	comp=N,93μm,0.2s								
ITM	Ithomi	0.34	116	P		Pb		22 40 42.6	0.0
ITM				S		Sb		22 40 47.6	0.0
ITM				AML	AML			22 40 48.2	
	comp=N,85μm,0.2s								
ITM				AML	AML			22 40 48.4	
	comp=E,50μm,0.1s								
PYL	PY

FITZ	**Fitzroy Crossi**	**12.43 201**	Pn	Pn	23 30 17.0	-1.3		
	0.7nm,0.3s,baz=28,slow=10,SNR=28							
FITZ			Sn	Sn	23 32 20.5	-17		
	0.5nm,0.3s,baz=261,slow=21,SNR=6.0							
WRA	**Warramunga Arr**	**13.96 164**	Pn	Pn	23 30 40.1	+0.9		
	0.4nm,0.3s,baz=349,slow=13,SNR=20							
WRA			Sn	Sn	23 33 02.9	-12		
	0.6nm,0.3s,baz=338,slow=21,SNR=11							
ASAR	**Alice Springs**	**17.45 169**	P	Pn	23 31 25.4	+0.4		
	0.1nm,0.3s,baz=347,slow=12,SNR=2.8							
ASAR			S	Sn	23 34 29.1	-11		
	0.2nm,0.3s,baz=211,slow=26,SNR=5.2							
TGY	**Tagaytay City**	**22.45 336**	LR	LR	23 42 59.2			
	comp=Z,74nm,18.4s,baz=358,slow=42							
MKAR	**Makanchi Array**	**67.95 327**	P	P	23 38 20.9	0.0		
	0.4nm,0.3s,baz=115,slow=8.3,SNR=12							
KIRV	**Kirov**	**90.74 329**	LR	LR	00 25 20.2			
	comp=Z,30nm,19.0s,baz=142,slow=38							

IDC 01 23:32:14.3±1.3, **18°24S**×**174°54W**, **h0**km, **mb4.3/7, mb1 4.4/7, mb1mx4.0**/50, **mbtmp4.3**/7, **Error ellipse: s-maj=34.4km s-min=27.1km az=107.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
URZ	**Urewera**	**21.24 198**		P	P	23 37 02.3		+0.4
	8.3nm,0.4s,baz=3.8,slow=2.4,SNR=12							
RPZ	**Rata Peaks**	**28.15 202**		P	P	23 38 10.1		+1.9
	5.1nm,0.7s,baz=29,slow=8.2,SNR=5.8							
CTA	**Charters Tower**	**37.02 261**		P	P	23 39 26.5		+0.4
	2.6nm,0.5s,baz=95,slow=10,SNR=9.3							
WRA	**Warramunga Arr**	**48.19 259**		P	P	23 40 56.2		-0.8
	3.7nm,0.3s,baz=98,slow=6.0,SNR=168							
ASAR	**Alice Springs**	**48.24 254**		P	P	23 40 56.6		-0.7
	3.0nm,0.4s,baz=88,slow=8.3,SNR=45							
QSPA	**South Pole Qui**	**71.82 180**		P	P	23 43 37.4		-1.3
	1.2nm,0.7s,baz=37,slow=0.9,SNR=5.3							
ILAR	**Eielson Array**	**85.43 12**		P	P	23 44 54.0		+0.6
	0.2nm,0.7s,baz=228,slow=6.4,SNR=5.3							
GERES	**GERESS Array B 148.75 349**			PKPbc	PKPbc	23 52 03.5		-0.3
	0.2nm,0.5s,baz=10,slow=6.0,SNR=3.6							

ISCJB ***01*** *23:38:42.8±0.8, 19°.10N±0°.07×145°.4E±0°.2, h214km, mb3.5/8, Error ellipse: s-maj=28.9km s-min=10.2km az=1.9*

IDC ***01*** *23:38:47.8±2.9, 19°.08N×145°.27E, h251km±29km, mb3.3/7, mb1 3.6/8, mb1mx3.2/43, mbtmp4.0/8, Error ellipse: s-maj=34.2km s-min=15.4km az=94.0*

ISC 01 23:38:44.4±0.8, **19°.14N**±0°.08×**145°.4E**±0°.2, **h214**km, **n9, σ1§90/10, mb3.6/8, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
GUMO	**Guam**	**5.54 186**		P	**Sn**	**23 40 08.9**		**+2.8**
	12nm,0.3s,baz=225,slow=7.5,SNR=6.1							
GUMO				S	**S**	**23 41 08.2**		**-2.4**
	4.4nm,0.3s,baz=68,slow=3.6,SNR=3.6							
KLR	**Kul'dur**	**31.98 343**		P	**P**	**23 44 51.0**		**+0.7**
	1.2nm,0.7s,baz=160,slow=6.7,SNR=5.2							
WRA	**Warramunga Arr**	**40.33 196**		P	**P**	**23 46 00.6**		**-0.7**
	1.2nm,0.4s,baz=19,slow=8.4,SNR=32							
CMAR	**Chiang Mai Arr**	**43.91 277**		P	**P**	**23 46 31.6**		**+1.2**
	0.8nm,0.3s,baz=70,slow=6.2,SNR=4.7							
ASAR	**Alice Springs**	**44.00 195**		P	**P**	**23 46 29.9**		**-1.1**
	1.4nm,0.6s,baz=16,slow=7.4,SNR=18							
MKAR	**Makanchi Array**	**57.98 314**		P	**P**	**23 48 14.6**		**-0.2**
	0.4nm,0.6s,baz=98,slow=8.3,SNR=5.0							
YKA	**Yellowknife Ar**	**77.72**	**28**	P	**P**	**23 50 17.3**		**0.0**
	0.1nm,0.4s,baz=290,slow=5.7,SNR=3.9							
NVAR	**Mina Array Bea**	**83.07 52**		P	**P**	**23 50 47.4**		**+0.8**
	0.8nm,0.6s,baz=262,slow=5.5,SNR=7.0							
FINES	**FINESS Array B**	**86.39 335**		P	**P**	**23 50 59.6**		**-2.8**
	2.4nm,0.8s,baz=66,slow=4.6,SNR=15							

NNC ***02*** *00:07:14.6±10.0, 37°.24N×70°.37E, h130km±234km, mb3.2, mpv3.9, Error ellipse: s-maj=89.3km s-min=54.2km az=3.0*

IDC ***02*** *00:07:18.8±2.4, 38°.00N×70°.51E, h0km, mb3.8/2, mb1 3.6/8, mb1mx3.4/50, mbtmp3.5/8, ML3.0/6, Error ellipse: s-maj=32.7km s-min=19.5km az=167.0*

ISCJB ***02*** *00:07:20.2±1.9, 37°.7N±0°.2×70°.5E±0°.1, h40km, mb3.7/2, Error ellipse: s-maj=30.4km s-min=6.5km az=154.1*

ISC 02 00:07:20.6±1.8, **37°.6N**±0°.2×**70°.56E**±0°.09, **h40**km, **n21, σ3§05/23, 3C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AML	**Almayashu**	**5.15**	**27**	P	**Pn**	**00 08 35.7**		**+0.2**
	SNR=21							
KK31	**Karatay Array**	**5.52**	**360**	⇓P	**Pn**	**00 08 35.9**		**-4.4**
	2.8nm,0.3s,baz=182,slow=13							
KK31				⇑S	**Sn**	**00 09 47.9**		**+5.4**
	21nm,0.6s,baz=181,slow=29							
UCH	**Uchtor**	**5.55**	**32**	P	**Pn**	**00 08 39.4**		**-1.7**
	SNR=16							
EKS2	**Erkin-Say**	**5.64**	**25**	P	**Pn**	**00 08 43.1**		**+1.1**
	SNR=14							
KZA	**Kyzart**	**5.76**	**37**	P	**Pn**	**00 08 43.5**		**-0.4**
	SNR=9.3							
AAK	**Ala-Archa**	**5.88**	**30**	P	**Pn**	**00 08 46.8**		**+1.4**
	SNR=16							
AAK	**Ala-Archa**	**5.88**	**30**	⇑P	**Pn**	**00 08 45.6**		**+0.2**
	7.0nm,0.5s							
AAK				⇓S	**Sn**	**00 09 52.9**		**+1.3**
	17nm,0.8s							
KBK	**Karagaybulak**	**6.08**	**32**	P	**Pn**	**00 08 50.4**		**+2.3**
	SNR=20							
CHMS	**Chumysh**	**6.29**	**29**	P	**Pn**	**00 08 52.1**		**+1.3**
	SNR=12							
USP	**Ospenovka**	**6.43**	**27**	P	**Pn**	**00 08 52.9**		**+0.2**
	SNR=6.8							
TKM2	**Tokmak 2**	**6.58**	**34**	P	**Pn**	**00 08 57.1**		**+2.1**
	SNR=20							
TKM2	**Tokmak 2**	**6.58**	**34**	⇑P	**Pn**	**00 08 56.7**		**+1.7**
	8.5nm,0.7s							
TKM2				⇓S	**Sn**	**00 10 12.1**		**+3.2**
	4.3nm,0.7s							
GEYT	**Alibeck**	**9.86**	**276**	Pn	**Pn**	**00 09 41.5**		**+1.7**
	0.2nm,0.3s,baz=115,slow=5.1,SNR=3.1							
GEYT				Sn	**Sn**	**00 11 29.9**		**+0.8**
	0.2nm,0.3s,baz=70,slow=19,SNR=2.3							
MKAR	**Makanchi Array**	**12.65**	**40**	Pn	**Pn**	**00 10 15.9**		**-2.0**
	0.1nm,0.3s,baz=232,slow=14,SNR=9.6							
AB31	**Akbulak array**	**13.97 330**		⇓P	Pn	00 10 29.2		-6.7
	0.9nm,0.5s							
KURBB	**Kurchatov Arra**	**14.23**	**21**	Pn	Pn	00 10 33.5		-5.8
	0.0nm,0.3s,baz=218,slow=12,SNR=3.9							
KURBB				Lg	Lg	00 14 39.8		
	0.0nm,0.3s,baz=186,slow=8.4,SNR=3.1							
BVAR	**Borovoye Array**	**15.45 360**		Pn	**Pn**	**00 10 48.9**		**-6.6**
	0.1nm,0.3s,baz=161,slow=11,SNR=5.2							
AKTO	**Aktyubinsk**	**15.67 329**		Pn	**Pn**	**00 10 52.2**		**-6.2**
	0.1nm,0.3s,baz=96,slow=18,SNR=2.6							
AKTO				Sn	Sn	00 13 36.1		-15
	0.1nm,0.3s,baz=53,slow=20,SNR=2.0							
ZALV	**Zalesovo Beam**	**19.09**	**26**	P	**P**	**00 11 36.8**		**-2.9**
	0.1nm,0.3s,baz=218,slow=9.1,SNR=3.0							
FINES	**FINESS Array B**	**36.40 325**		P	**P**	**00 14 21.3**		**+0.5**
	4.8nm,1.1s,baz=108,slow=13,SNR=3.5							
YKA	**Yellowknife Ar**	**80.19**	**2**	P	**P**	**00 19 28.8**		**+2.5**
	0.1nm,0.5s,baz=359,slow=5.7,SNR=4.4							

DJA ***02*** *00:11:01.4±0.7, 6°N±4°×12°7E±°, h38km±6km, M5.0/36, mB5.4/13, mb5.1/36, MLv5.5/10, Mw(mB)4.8/13, Mwp5.2/1*

MOS ***02*** *00:11:04.3±0.9, 5°.57N×127°.03E, h64km, mb5.4/60, MS4.0/11, Error ellipse: s-maj=10.0km s-min=4.6km az=117.1*

MAN ***02*** *00:11:04.7, 5°.44N×127°.10E, h25km, mb5.5, ML4.5, MS4.7*

GCMT ***02*** *00:11:05.4±0.2, 5°.52N±0°.01×127°.05E±0°.02, h65km±1km, MW5.2/87, Moment Tensor Solution. s57,c75; s87,c143; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.30±.20; Mθθ 2.49±.16; Mϕϕ -7.79±.16; Mrθ 2.14±.11; Mϕθ 0.52±.15; Mϕr 0.12±.18; Best double couple: M0 7.14000×10^16 NP1: ϕs 152.00000°, δ52.00000°, λ52.00000°. Principal axes: T 6.4640, Plg62.0000°, Azm357.0000°; N 1.3530, Plg28.0000°, Azm177.0000°; P -7.8160, Plg0.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***02*** *00:11:06.6±1.3, 5°.53N×127°.07E, h74km±10km, mb4.5/39, mb1 4.5/40, mb1mx4.5/46, mbtmp4.8/40, MS4.0/21, Ms1 4.0/21, ms1mx4.0/23 Error ellipse: s-maj=13.5km s-min=8.9km az=71.0*

ISCJB ***02*** *00:11:06.4±0.4, 5°.51N±0°.02×127°.05E±0°.03, h83km±3km, mb5.0/167, Error ellipse: s-maj=4.7km s-min=2.8km az=168.1*

BJI ***02*** *00:11:07.7, 5°.50N×127°.00E, h89km, mb5.0/65, mB5.4/45, Ms4.7/40, MS7 4.4/41*

KLM ***02*** *00:11:07.9, 5°.57N×127°.19E, h82km, mb5.1*

NEIC ***02*** *00:11:08.3±0.6, 5°.51N×126°.98E, h87km±5km, mb5.1/90, Error ellipse: s-maj=4.8km s-min=3.3km az=77.0*

ISC 02 00:11:08.1±0.5, **5°.51N**±0°.03×**127°.03E**±0°.05, **h85**km±3km, **n470, σ1§43/510, mb5.0**/168, **29C-28D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
DDMP	**Don Marcelino,**	**1.44 294**		*e*P	**Pn**	**00 11 30.7**		**-2.2**
DDMP				*e*S	**Sn**	**00 11 49.9**		**-1.8**
MATI	**Mati**	**1.62 332**		*e*P	**Pn**	**00 11 32.7**		**-2.6**
DAV	**Davao City (W)**	**2.12 317**		*e*Pn	**Pn**	**00 11 41.7**		**-0.1**
DAV				S	**Sn**	**00 12 06.6**		**-0.9**
DAV	**Davao City (W)**	**2.12 317**		P	**Pn**	**00 11 41.2**		**-0.6**
	380nm,0.3s,baz=121,slow=1.6,SNR=88							
DAV				S	**Sn**	**00 12 06.6**		**-0.9**
	823nm,0.3s,baz=309,slow=9.2,SNR=9.0							
GSPH	**General Santos**	**2.15 286**		⇓*i*P	**Pn**	**00 11 39.1**		**-3.2**
GSPH				*i* S	**Sn**	**00 12 04.6**		**-3.7**
DMPH	**Davao City--Mi**	**2.18 316**		⇑*e*P	**Pn**	**00 11 42.1**		**-0.5**
DMPH				*e*S	**Sn**	**00 12 13.1**		**+4.2**
SGSI	**Sangihe**	**2.35 220**		P	**Pn**	**00 11 42.9**		**-1.9**
KCP	**Kidapawan**	**2.44 308**		⇑*i*P	**Pn**	**00 11 45.0**		**-1.1**
KCP				*i* S	**Sn**	**00 12 12.3**		**-2.9**
SKMP	**Bagumbayan, Su**	**2.67 292**		*e*P	**Pn**	**00 11 47.2**		**-2.0**
SKMP				*e*S	**Sn**	**00 12 21.6**		**+1.0**
BUKP	**Musuan**	**3.06 320**		*e*P	**Pn**	**00 11 54.0**		**-0.4**
BUKP				*e*S	**Sn**	**00 12 32.1**		**+1.9**
CTBH	**Cotabato--PC H**	**3.25 302**		⇑*i*P	**Pn**	**00 11 55.7**		**-1.3**
BUTP	**Butuan**	**3.71 338**		*e*P	**Pn**	**00 12 02.8**		**-0.5**
BUTP				*e*S	**Sn**	**00 12 54.0**		**+8.1**
PAGZ	**Pagadian**	**4.31 303**		*e*P	**Pn**	**00 12 09.8**		**-1.5**
TNTI	**Ternate**	**4.72 176**		*e*Pn	**Pn**	**00 12 16.7**		**-0.2**
TNTI	**Ternate**	**4.72 176**		P	**Pn**	**00 12 15.9**		**-1.0**
MSLP	**Maasin**	**5.08 335**		*e*P	**Pn**	**00 12 23.1**		**+1.3**
MSLP				*e*S	**Sn**	**00 13 20.7**		**+1.6**
ZMPH	**Zamboanga City**	**5.14 286**		⇓*e*P	**Pn**	**00 12 20.6**		**-2.1**
ZMPH				*e*S	**Sn**	**00 13 21.2**		**+0.4**
SNPH	**Sibulan**	**5.36 316**		*e*P	**Pn**	**00 12 27.9**		**+2.3**
LLP	**Lapu-Lapu**	**5.66 328**		⇑*e*P	**Pn**	**00 12 30.9**		**+1.2**
LLP				*e*S	**Sn**	**00 13 37.0**		**+3.5**
KMSI	**Cibinong**	**5.77 212**		P	**Pn**	**00 12 30.9**		**-0.4**
PLP	**Palo**	**5.98 340**		⇓*e*P	**Pn**	**00 12 35.0**		**+0.9**
PLP				*e*S	**Sn**	**00 13 34.2**		**-6.9**
GUIM	**Jordan**	**6.72 319**		*e*P	**Pn**	**00 12 41.9**		**-2.3**
MRSI	**Marisa**	**7.13 226**		P	**Pn**	**00 12 48.8**		**-1.0**
	315nm,0.6s,3μm1.2nm							
CNP	**Catarman**	**7.34 342**		*e*P	Pn	00 12 59.2		+6.5
CNP				*e*S	**Sn**	**00 14 07.8**		**-6.7**
RCP	**Roxas**	**7.36 325**		⇑*e*P	**Pn**	**00 12 53.5**		**+0.5**
SANI	**Sanana**	**7.58 188**		P	**Pn**	**00 12 52.4**		**-3.6**
	155nm,0.6s,4μm0.9nm							
LUWI	**Luwuk**	**7.77 213**		*e*Pn	**Pn**	**00 12 59.7**		**+1.1**
LUWI	**Luwuk**	**7.77 213**		P	**Pn**	**00 12 58.5**		**-0.1**
CUYO	**Cuyo Island**	**7.97 312**		*e*P	**Pn**	**00 13 02.7**		**+1.4**
OTRP	**Odiongan**	**8.42 324**		*e*P	**Pn**	**00 13 09.3**		**+1.9**
PVCP	**Virac**	**8.52 341**		*e*P	Pn	00 13 14.8		+5.9
NLAI	**Namlea**	**8.69 180**		P	**Pn**	**00 13 10.3**		**-0.8**
	168nm,0.6s,3μm							
MPSI	**Mapaga**	**8.78 234**		P	**Pn**	**00 13 12.3**		**-0.1**
SJMP	**San Jose**	**9.04 320**		*e*P	**Pn**	**00 13 16.5**		**+0.6**
TSM	**Tawau**	**9.20 263**		P	**Pn**	**00 13 19.7**		**+1.5**
PCI	**Palu**	**9.60 229**		P	Pn	00 13 30.0		+6.4
SDKM	**Sandakan**	**9.79 271**		P	**Pn**	**00 13 29.4**		**+3.2**
FAKI	**Fak Fak**	**9.86 148**		*e*Pn	**Pn**	**00 13 25.6**		**-1.5**
FAKI	**Fak Fak**	**9.86 148**		P	**Pn**	**00 13 24.3**		**-2.8**
KDM	**Kudat**	**10.23 278**		P	Pn	00 13 41.2		+9.0
KDI	**Kendari**	**10.38 205**		P	**Pn**	**00 13 34.2**		**0.0**
TGY	**Tagaytay City**	**10.44 325**		P	**Pn**	**00 13 34.1**		**-0.9**
	54nm,0.3s,baz=205,slow=14,SNR=1.9							
KKM	**Kota Kinabalu**	**10.78 273**		P	**Pn**	**00 13 44.3**		**+4.6**
TTSI	**Tana Toraja**	**11.14 220**		P	**Pn**	**00 13 44.7**		**+0.2**
SPSI	**Sidrap Palu**	**11.88 218**		P	**Pn**	**00 13 53.3**		**-1.3**
	26nm,0.6s,478nm							
BNSI	**Bone**	**12.03 215**		P	**Pn**	**00 13 56.9**		**+0.3**
SMPP	**San Manuel, Pa**	**12.28 330**		*e*P	**Pn**	**00 14 02.9**		**+3.0**
BKSI	**Bulukumba**	**12.78 213**		P	**Pn**	**00 14 07.1**		**+0.4**
SBUM	**Sibu**	**15.08 259**		P	**P**	**00 14 39.7**		**-0.3**
SOEI	**Soe**	**15.41 190**		*e*Pn	**P**	**00 14 42.6**		**-1.2**
	92nm,0.9s							
SOEI	**Soe**	**15.41 190**		P	**P**	**00 14 42.5**		**-1.2**
BATI	**Baumata**	**15.97 192**		P	**P**	**00 14 49.8**		**0.0**
PLAI	**Plampang**	**16.97 213**		P	**P**	**00 15 02.1**		**+1.2**
	118nm,1.0s							
KSM	**Kuching**	**17.16 257**		P	**P**	**00 15 04.7**		**+1.6**
YULB	**Yu-li**	**18.62 343**		*e*P	**Pn**	**00 15 20.1**		**-0.2**
	87nm,1.5s							
MTN	**Manton Dam**	**18.68 167**		P	**P**	**00 15 19.1**		**-0.6**
	baz=19,SNR=7.2							
MTN	**Manton Dam**	**18.68 167**		*e*P	**P**	**00 15 19.2**		**-0.5**
	41nm,0.9s							
TPUB	**Ta-pu**	**18.74 341**		*e*P	**Pn**	**00 15 21.6**		**0.0**
	393nm,1.9s							
KDU	**Kakadu**	**18.87 163**		P	**P**	**00 15 21.5**		**-0.3**
	baz=19,SNR=7.5							
JAGI	**Jagj, Banyuwa**	**18.91 223**		*e*P	**P**	**00 15 22.4**		**+0.1**
	52nm,1.1s							
JAGI	**Jajag, Banyuwa**	**18.91 223**		P	**Pn**	**00 15 23.6**		**-0.2**
SSLB	**Suanglung**	**19.09 343**		*e*P	**Pn**	**00 15 26.0**		**+0.1**
	55nm,1.0s							
NACB	**Ninganchiao**	**19.28 345**		*e*P	**Pn**	**00 15 29.9**		**+1.8**
	26nm,0.8s							
NGJI	**Ngawi**	**20.12 231**		P	Pn	00 15 37.1		-0.9
PWJI	**Pagerwojo**	**20.28 229**		P	Pn	00 15 40.3		+0.4
QZH	**Quanzhou**	**20.95 338**		⇑*i*P	Pn	00 15 47.0		-0.7
QZH				pP	pwP	00 16 07.4		+2.5
QZH				*e*S	**S**	**00 19 33.9**		**+0.8**
QZH				pmax	pmax			
	comp=Z,88nm,1.1s							
KNRA	**Kununurra**	**21.12 175**		P	**P**	**00 15 46.8**		**+0.7**
	baz=21,SNR=7.7							
JOW	**Kunigami**	**21.24 3**		*e*P	**P**	**00 15 48.9**		**+1.6**
	47nm,0.9s							
QIZ	**Qiongzhong**	**21.48 310**		P	**P**	**00 15 50.4**		**+0.4**
QIZ				S	**S**	**00 19 45.7**		**+2.0**
QIZ				pmax	pmax			
	comp=Z,36nm,2.2s							
QIZ				LR	LR			
	comp=N,640nm,13.1s							
QIZ				LR	LR			
	comp=E,480nm,14.3s							
QIZ				LR	LR			
	comp=Z,690nm,23.5s							
QIZ	**Qiongzhong**	**21.48 310**		*e*P	**P**	**00 15 49.9**		**-0.1**
	3.0nm,0.6s							
GZH	**Guangzhou**	**21.91 324**		P	**P**	**00 16 00.6**		**+6.1**
GZH				S	**S**	**00 19 59.1**		**+7.4**
GZH				pmax	pmax			
	comp=Z,77nm,1.0s							
KPJI	**Karang Pucung**	**22.11 235**		P	**P**	**00 15 57.3**		**+0.5**
PPBI	**Pangkal Pinang**	**22.22 250**		P	**P**	**00 15 57.3**		**-0.6**
LEM	**Lembang**	**22.92 238**		P	**P**	**00 16 04.5**		**-1.0**
	comp=Z,29nm,0.5s,baz=328,slow=18,SNR=6.5							
MYKOM	**Kota Tinggi**	**23.42 262**		P	**P**	**00 16 10.7**		**+0.7**
FITZ	**Fitzroy Crossi**	**23.50 183**		P	**P**	**00 16 11.2**		**+0.7**
	baz=24,SNR=3.9							
FITZ	**Fitzroy Crossi**	**23.50 183**		*e*P	**P**	**00 16 11.3**		**+0.7**
	comp=Z,32nm,1.0s							
FITZ	**Fitzroy Crossi**	**23.50 183**		P	**P**	**00 16 09.3**		**-1.2**
	comp=Z,11nm,0.6s,baz=33,slow=7.4,SNR=7.2							
KTGM	**Kuala Trenggan**	**23.79 271**		P	**P**	**00 16 13.6**		**+0.3**
KGM	**Kluang**	**23.91 263**		P	**P**	**00 16 15.3**		**+0.8**
MDSI	**Maura Dua**	**24.89 247**		P	**P**	**00 16 24.4**		**+1.1**
COEN	**Coen**	**25.11 141**		P	**P**	**00 16 24.7**		**-0.6**
	baz=25,SNR=4.6							
COEN	**Coen**	**25.11 141**		*e*P	**P**	**00 16 25.4**		**+0.1**
	comp=Z,67nm,1.8s							
LHSI	**Lahat**	**25.24 249**		P	**P**	**00 16 28.0**		**+1.5**
SKNT	**Sakolnakorn**	**25.28 299**		P	**P**	**00 16 27.2**		**+0.4**
	comp=Z,14nm,0.9s							
FRIM	**Kepong**	**25.43 266**		P	**P**	**00 16 27.8**		**-0.4**
CBIJ	**Chichi jima**	**25.87 32**		P	**P**	**00 16 29.9**		**-2.1**
JCJ	**Chichijima**	**25.87 32**		P	**P**	**00 16 29.9**		**-2.1**
	comp=Z,95nm,0.4s,baz=265,slow=22,SNR=15							
IPM	**Ipoh**	**25.93 269**		P	**P**	**00 16 34.7**		**+2.0**
KULM	**Kulim**	**26.26 271**		P	**P**	**00 16 37.4**		**+1.7**
WRAB	**Tennant Creek**	**26.29 164**		*e*P	**P**	**00 16 36.0**		**+0.2**
	comp=Z,37nm,0.8s							
WRAB	**Tennant Creek**	**26.29 164**		*ce*P	**P**	**00 16 36.8**		**+0.9**
WRAB				pmax	pmax			
	comp=Z,24nm,0.5s							
WRA	**Warramunga Arr**	**26.29 164**		P	**P**	**00 16 35.4**		**-0.5**
	comp=Z,9.7nm,0.4s,baz=343,slow=10.0,SNR=96							
WRA				PcP	**PcP**	**00 20 00.8**		**+0.4**
	comp=Z,1.0nm,0.5s,baz=329,slow=2.2,SNR=2.4							
WRA				ScP	**ScP**	**00 23 34.3**		**+1.5**
	comp=Z,1.7nm,0.7s,baz=345,slow=3.1,SNR=5.0							
WRA				LR	LR	00 27 55.9		
	comp=Z,224nm,21.2s,baz=335,slow=38							
WB2	**Warramunga Arr**	**26.30 164**		*e*P	**P**	**00 16 36.2**		**+0.3**
XMIS	**Christmas Isla**	**26.56 233**		*e*P	**P**	**00 16 37.7**		**-0.7**
	comp=Z,97nm,1.1s							
MBWA	**Marble Bar**	**27.45 195**		*e*P	**P**	**00 16 46.5**		**+0.2**
	comp=Z,94nm,0.8s							
NJ2	**Nanjing**	**27.50 345**		*e*P	**P**	**00 16 49.7**		**+3.1**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
WHN	**Wuhan**	**27.62 336**		⇑P	P	00 16 58.2		+11
JNU	**Nakatsue**	**27.71 7**		P	**P**	**00 16 47.2**		**-1.3**
	comp=Z,11nm,0.7s,baz=98,slow=7.6,SNR=3.9							
PBKT	**Sadao Pong**	**27.80 295**		P	**P**	**00 16 49.1**		**-0.4**
	comp=Z,15nm,0.8s							
PHET	**Kaeng Krachan**	**28.01 287**		P	**P**	**00 16 54.4**		**+3.0**
	comp=Z,13nm,0.9s,comp=Z,136nm							
PSI	**Prapat**	**28.16 266**		*e*P	**P**	**00 16 51.8**		**-1.1**
	comp=Z,16nm,0.6s							
PSI				PcP	**PcP**	**00 20 05.2**		**0.0**
PSI	**Prapat**	**28.16 266**		P	**P**	**00 16 51.8**		**-1.1**
	comp=Z,9.7nm,0.5s,baz=27,slow=0.1,SNR=8.9							
PSI				PcP	**PcP**	**00 20 05.2**		**0.0**
	comp=Z,5.0nm,0.8s,baz=180,slow=6.9,SNR=4.7							
GYA	**Guiyang**	**28.50 319**		P	**P**	**00 16 55.6**		**-0.2**
GYA				pP	pwP	00 17 18.2		-0.2
GYA				PP	**PnPn**	**00 17 53.6**		**+3.8**
GYA				S	**S**	**00 21 38.0**		**+0.4**
GYA				sS	sS	00 22 13.4		+4.3
GYA				SS	ScP	00 23 10.6		-29
GYA				pmax	pmax			
	comp=Z,20nm,0.7s							
GYA				pmax	pmax			
	comp=Z,130nm,5.0s							
GYA				LR	LR			
	comp=Z,530nm,16.0s							
GYA				LR	LR			
	comp=Z,470nm,17.2s							
GYA				LR	LR			
	comp=Z,480nm,17.7s							
QIS	**Mount Isa**	**28.70 155**		P	**P**	**00 16 57.5**		**0.0**
	baz=29,SNR=13							
SISI	**Saibi**	**28.72 257**		P	**P**	**00 16 56.4**		**-1.3**
SRDT	**SRDT**	**28.83 290**		P	**P**	**00 16 59.0**		**+0.3**
	comp=Z,23nm,1.1s,comp=Z,1μm							
UTHA	**Uthaitani**	**28.86 292**		P	**P**	**00 16 59.4**		**+0.4**
	comp=Z,4.3nm,0.8s,comp=Z,106nm							
NANT	**Nan**	**28.87 300**		P	**P**	**00 17 03.5**		**+4.5**
	comp=Z,3.5nm,0.7s,comp=Z,209nm							
SUKH	**Sukhothai**	**29.32 296**		P	**P**	**00 17 03.2**		**+0.2**
	comp=Z,3.5nm,0.8s							
UMPA	**Umpang Tak**	**29.59 293**		P	**P**	**00 17 05.7**		**+0.2**
	comp=Z,5.5nm,0.9s							
ENH	**Enshi**	**29.66 328**		*e*P	**P**	**00 17 05.8**		**-0.2**
	comp=Z,32nm,0.8s							
GSI	**Gunungsitoli**	**29.69 263**		*e*P	**P**	**00 17 04.5**		**-1.9**
	comp=Z,37nm,0.5s							
GSI	**Gunungsitoli**	**29.69 263**		P	**P**	**00 17 03.6**		**-2.8**
LAMP	**Lampang**	**29.70 298**		P	**P**	**00 17 08.3**		**+

CD2 sS sS 00 23 32.6 +6.6
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,730nm,5.9s
CD2 LR LR
comp=Z,980nm,12.3s
CD2 LR LR
comp=Z,1µm,15.9s
BJT Baijiatuau 35.73 346 *e*P **P 00 17 59.2 +0.6**
comp=Z,65nm,0.7s
BJT Baijiatuau 35.73 346 *e*P **P 00 17 59.2 +0.6**
BJT pmax pmax
comp=Z,65nm,0.7s
BJI Beijing 35.74 346 P **P 00 17 59.4 +0.6**
BJI pmax pmax
comp=Z,17nm,1.0s
MORW Morawa 35.97 197 P **P 00 18 01.0 +0.2**
baz=36,SNR=11
MORW Morawa 35.97 197 *e*P **P 00 18 01.8 +1.0**
comp=Z,95nm,1.9s
FORT Forrest 36.09 178 P **P 00 18 02.2 +0.3**
baz=36,SNR=9.8
FORT Forrest 36.09 178 *e*P **P 00 18 02.4 +0.5**
comp=Z,51nm,0.9s
SNY Shenyang 36.30 356 ⇑P **P 00 18 04.7 +1.2**
SNY S **S 00 23 36.2 -1.8**
SNY pmax pmax
comp=Z,11nm,0.6s
SNY pmax pmax
comp=Z,510nm,5.1s
SNY LR LR
comp=Z,480nm,4.8s
SNY LR LR
comp=Z,860nm,4.8s
SNY LR LR
comp=Z,700nm,11.6s
LZH Lanzhou 37.15 328 ⇑P **P 00 18 11.9 +0.9**
LZH pP pwP 00 18 33.4 -1.2
LZH sP sP 00 18 46.6 +7.4
LZH PP **PnPn 00 19 38.2 -0.5**
LZH S **S 00 23 55.9 +4.4**
LZH sS sS 00 24 30.0 +6.4
LZH SS **SnSn 00 26 29.2 -5.4**
LZH pmax pmax
comp=Z,120nm,1.6s
LZH pmax pmax
comp=Z,330nm,4.3s
LZH LR LR
comp=Z,950nm,16.1s
LZH LR LR
comp=Z,1µm,16.7s
LZH LR LR
comp=Z,2µm,18.7s
BLDU Ballidu 37.25 195 P **P 00 18 11.9 +0.2**
baz=37,SNR=13
HHC Hu-ho-hao-te 37.82 341 *e*P **P 00 18 16.6 0.0**
HHC pP pwP 00 18 40.8 +0.7
HHC S **S 00 23 57.8 -3.7**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.1s
HHC LR LR
comp=Z,370nm,12.4s
HHC LR LR
comp=Z,310nm,13.7s
HHC LR LR
comp=Z,430nm,13.7s
KLBR Kellerberrin 37.94 193 P **P 00 18 18.5 +1.0**
baz=38,SNR=6.0
MUN Mundaring 38.68 195 P **P 00 18 24.4 +0.7**
baz=39,SNR=6.3
USRK Ussuriysk Ar. 38.78 6 P **P 00 18 24.3 -0.1**
comp=Z,5.0nm,0.4s,baz=182,slow=7.2,SNR=25
USRK LR LR 00 33 54.5
comp=Z,114nm,21.8s,baz=178,slow=35
MDJ Mudanjiang 39.02 3 *e*P **P 00 18 26.1 -0.2**
comp=Z,13nm,0.8s
BBOO Buckleboo 39.06 168 P **P 00 18 27.5 +0.6**
baz=39,SNR=10
BBOO Buckleboo 39.06 168 *e*P **P 00 18 28.6 +1.7**
comp=Z,117nm,1.8s
NWAO Narrogin (SRO) 39.34 193 P **P 00 18 30.1 +0.8**
baz=40,SNR=7.6
NWAO Narrogin (SRO) 39.34 193 *e*P **P 00 18 30.0 +0.8**
comp=Z,75nm,1.5s
NWAO Narrogin (SRO) 39.34 193 *e*P **P 00 18 30.0 +0.8**
NWAO pmax pmax
comp=Z,75nm,1.5s
STKA Stephens Creek 39.68 160 P **P 00 18 32.0 -0.1**
baz=40,SNR=23
STKA Stephens Creek 39.68 160 *e*P **P 00 18 33.0 +1.0**
comp=Z,5.4nm,0.8s
STKA Stephens Creek 39.68 160 *e*P **P 00 18 33.1 +1.0**
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 39.68 160 P **P 00 18 32.2 +0.1**
comp=Z,14nm,0.7s,baz=335,slow=8.3,SNR=13
STKA LR LR 00 36 26.0
comp=Z,152nm,20.2s,baz=333,slow=38
WAKE Wake Island 40.93 67 *e*P **P 00 18 42.3 -0.2**
comp=Z,316nm,0.6s
RKGY Rocky Gully 41.01 193 P **P 00 18 45.1 +2.1**
baz=41,SNR=4.8
H11N1 WAKE ISLAND Hy 41.25 66 T T 01 03 31.8
baz=254,slow=75,SNR=9.1
H11N2 WAKE ISLAND Hy 41.26 66 T T 01 03 29.0
baz=254,slow=75,SNR=8.8
H11N3 WAKE ISLAND Hy 41.27 66 T T 01 03 34.3
baz=254,slow=75,SNR=8.1
LSA Lhasa 41.52 310 *e*P **P 00 18 48.5 +0.6**
comp=Z,8.8nm,0.6s
LSA Lhasa 41.52 310 *e*P **P 00 18 48.5 +0.6**
LSA pmax pmax
comp=Z,9.0nm,0.6s
GTA Gaotai 41.75 328 ⇑P **P 00 18 49.2 0.0**
GTA pP pP 00 19 08.2 -0.2
GTA sP sP 00 19 17.3 -0.4
GTA ScP **ScP 00 24 29.0 +2.0**
GTA PcS **PcS 00 24 36.2 +0.4**
GTA S **S 00 24 55.6 -4.7**
GTA pmax pmax
comp=Z,21nm,1.6s
GTA pmax pmax
comp=Z,230nm,5.6s
GTA LR LR
comp=Z,430nm,20.6s
GTA LR LR
comp=Z,620nm,21.0s
GTA LR LR
comp=Z,1µm,20.7s
YSS Yuzh-Sakhalins 43.46 16 *e*P **P 00 19 01.8 -0.9**
KLR Kul'dur 43.75 4 ⇑*i*P **P 00 19 05.3 +0.2**
RAMN Ramite 44.00 304 *e*P **P 00 19 07.6 -0.1**
comp=Z,165nm,1.2s
ARPS Mount Arapiles 44.28 163 P **P 00 19 11.0 +1.6**
baz=44,SNR=8.1
JIRN Jiri 44.60 304 *e*P **P 00 19 12.4 -0.3**
comp=Z,354nm,1.4s
GUN Gumba 44.95 304 *e*P **P 00 19 14.9 -0.5**
comp=Z,111nm,0.9s
PKI Pulchoki 45.21 304 *e*P **P 00 19 16.4 -1.1**
comp=Z,69nm,1.1s
PKIN Phulchoki 45.23 304 *e*P **P 00 19 16.5 -1.0**
KKN Kakani 45.40 304 *e*P **P 00 19 17.9 -0.9**
comp=Z,135nm,1.4s
DMN Daman 45.48 304 *e*P **P 00 19 18.9 -0.6**
ULN Ulaanbaatar 45.54 341 *e*P **P 00 19 19.6 +0.1**
comp=Z,22nm,0.9s
ULN Ulaanbaatar 45.54 341 *e*P **P 00 19 19.6 +0.1**
ULN pmax pmax
comp=Z,22nm,0.9s
SONM Songino Array 45.73 341 P **P 00 19 21.6 +0.7**
comp=Z,5.3nm,0.5s,baz=157,slow=8.9,SNR=44
SONM PcP **PcP 00 20 57.3 -0.2**
comp=Z,2.5nm,0.7s,baz=165,slow=4.0,SNR=4.0
SONM LR LR 00 39 23.3
comp=Z,168nm,20.8s,baz=156,slow=37
SONA1 Songino Array 45.73 341 *e*P **P 00 19 21.7 +0.7**
KOLN Koldanda 46.78 303 *e*P **P 00 19 29.2 -0.5**
DANN Dangsing 46.85 304 *e*P **P 00 19 29.7 -0.6**
comp=Z,116nm,0.7s
PYUN Piuthan 47.40 303 *e*P **P 00 19 34.2 -0.3**
comp=Z,336nm,1.3s
ZEA Zeya 48.08 0 *e*P **P 00 19 37.9 -1.1**
ZEA pmax pmax
comp=Z,15nm,1.0s
HYB Hyderabad 48.82 288 *i*P **P 00 19 44.0 -1.4**
HYB *e*PcP **PcP 00 21 11.0 +2.0**
ZAK Zakamensk 48.96 340 *e*P **P 00 19 46.2 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 49.95 341 *e*P **P 00 19 54.8 +1.4**
comp=Z,60nm,1.6s
TLY Talaya 49.95 341 *e*P **P 00 19 55.0 +1.6**
TLY *e*S S 00 27 07.2 +10
TLY pmax pmax
comp=Z,96nm,1.5s
TLY MLR MLR
comp=Z,284nm,19.0s
TLY Talaya 49.95 341 P **P 00 19 55.8 +2.5**
SNR=15
MOY Mondy 50.83 339 *e*P **P 00 20 01.6 +1.5**
MOY pmax pmax
comp=Z,84nm,2.2s
WMQ Urumqi 51.46 324 P **P 00 20 05.5 +0.6**
WMQ pP pP 00 20 23.3 -1.4
WMQ sP sP 00 20 39.2 +5.4
WMQ PcP **PcP 00 21 17.9 -0.3**
WMQ PP **PP 00 22 04.1 +1.1**
WMQ S **S 00 27 17.9 -0.8**
WMQ sS sS 00 28 01.9 +10
WMQ pmax pmax
comp=Z,52nm,1.5s
WMQ pmax pmax
comp=Z,640nm,4.3s
WMQ LR LR
comp=Z,990nm,29.7s
WMQ LR LR
comp=Z,980nm,24.9s
WMQ LR LR
comp=Z,1µm,29.7s
WMQ Urumqi 51.46 324 *e*P **P 00 20 05.8 +0.9**
comp=Z,6.5nm,0.4s
WMQ Urumqi 51.46 324 *e*P **P 00 20 05.8 +0.9**
WMQ pmax pmax
comp=Z,6.0nm,0.4s
BOD Bodaibo 53.16 351 *e*P **P 00 20 17.3 +0.1**
BOD pmax pmax
comp=Z,19nm,1.6s
PEA0B Petropavlovsk- 53.68 22 *e*P **P 00 20 21.9 +0.8**
comp=Z,24nm,0.9s
PETK Petropavlovsk- 53.68 22 P **P 00 20 21.5 +0.4**
comp=Z,10nm,0.7s,baz=203,slow=6.0,SNR=32
PETK LR LR 00 43 12.6
comp=Z,81nm,21.8s,baz=219,slow=36
PET Petropavlovsk 53.98 23 *e*P **P 00 20 24.8 +1.6**
comp=Z,29nm,1.2s
PET Petropavlovsk 53.98 23 *e*P **P 00 20 24.1 +0.9**
PET *e*S **S 00 27 51.7 -0.8**
PET pmax pmax
comp=Z,20nm,0.6s
PET MLR MLR
comp=Z,100nm,21.0s
DGZ Jazzator, Alta 55.21 330 ⇑*i*P **P 00 20 32.9 +0.5**
DGZ pmax pmax
comp=Z,19nm,1.7s
PDGK Podgornoye 56.25 320 P **P 00 20 39.6 -0.4**
PDGK pmax pmax
comp=Z,35nm,1.0s
MK01 Makanchi Array 56.27 324 *e*P **P 00 20 39.6 -0.3**
MK31 Makanchi Array 56.28 324 *e*P **P 00 20 40.1 +0.2**
MK31 Makanchi Array 56.28 324 *e*P **P 00 20 40.2 +0.2**
MKAR Makanchi Array 56.28 324 P **P 00 20 40.2 +0.2**
comp=Z,20nm,0.7s,baz=127,slow=8.0,SNR=233
MKAR ScP **ScP 00 25 29.5 +1.1**
comp=Z,0.9nm,0.7s,baz=129,slow=5.7,SNR=3.7
MKAR LR LR 00 46 29.6
comp=Z,257nm,21.9s,baz=110,slow=38
YAK Yakutsk 56.44 1 *e*P **P 00 20 40.7 0.0**
YAK *e**PP **pP 00 21 02.0 +1.3**
YAK *e*S **S 00 28 24.4 -0.6**
YAK *e* 00 30 28.0
YAK pmax pmax
comp=Z,171nm,0.8s
YAK pmax pmax
comp=E,14nm,0.7s
YAK pmax pmax
comp=N,1µm,3.2s
YAK pmax pmax
comp=Z,1µm,3.1s
YAK pmax pmax
comp=E,880nm,3.1s
YAK smax smax
comp=N,1µm,3.6s
YAK smax smax
comp=E,809nm,3.6s
MAKZ Makanchi 56.47 324 *e*P **P 00 20 41.3 0.0**
comp=E,46nm,1.0s
MAKZ Makanchi 56.47 324 *e*P **P 00 20 41.3 0.0**
MAKZ pmax pmax
comp=Z,46nm,1.0s
MA2 Magadan 56.92 14 *e*P **P 00 20 45.2 +1.0**
comp=Z,18nm,1.4s
MA2 Magadan 56.92 14 *ce*P **P 00 20 42.5 -1.7**
MA2 pmax pmax
comp=Z,4.0nm,1.1s
KSH Kashi 57.02 314 P **P 00 20 47.3 +1.8**
KSH pP pwP 00 21 10.8 +0.5
KSH PcP **PcP 00 21 41.2 +1.5**
KSH S **S 00 28 31.3 -2.5**
KSH pmax pmax
comp=Z,67nm,4.6s
ULHL Ulahol 57.92 317 P **P 00 20 52.8 +0.9**
SNR=22
KZA Kyzart 58.52 317 P **P 00 20 57.1 +0.8**
SNR=28
TKM2 Tokmak 2 58.63 318 P **P 00 20 57.0 +0.2**
SNR=20
TKM2 Tokmak 2 58.63 318 P **P 00 20 56.4 -0.4**
TKM2 pmax pmax
comp=Z,19nm,1.0s
KBK Karagaybulak 58.96 317 P **P 00 20 59.9 +0.8**
SNR=16
UCH Uchtor 59.09 317 P **P 00 21 01.0 +0.8**
SNR=39
ZAA0 Zalesovo Array 59.16 332 *e*P **P 00 20 59.2 -0.8**
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 59.16 332 *e*P **P 00 20 59.0 -0.9**
ZALV Zalesovo Beam 59.16 332 P **P 00 20 59.5 -0.4**
comp=Z,8.6nm,0.4s,baz=132,slow=6.6,SNR=21
ZALV LR LR 00 49 27.3
comp=Z,142nm,18.6s,baz=70,slow=39
CHMS Chumysh 59.23 318 P **P 00 21 01.2 +0.5**
SNR=14
AAK Ala-Archa 59.26 317 P **P 00 21 02.1 +0.9**
SNR=10
AAK Ala-Archa 59.26 317 P **P 00 20 59.8 -1.3**
AAK pmax pmax
comp=Z,16nm,1.2s
USP Ospenovka 59.51 318 P **P 00 21 03.0 +0.3**
SNR=34
AML Almayashu 59.61 316 P **P 00 21 04.3 +0.5**
SNR=30
EKS2 Erkin-Say 59.76 317 P **P 00 21 05.0 +0.6**
SNR=31
SEY Seymchan 60.24 13 *ce*P **P 00 21 08.0 +0.8**
KURK Kurchatov 60.42 327 *e*P **P 00 21 08.8 +0.2**
comp=Z,66nm,0.8s
KURK Kurchatov 60.42 327 P **P 00 21 08.3 -0.4**
KURK pmax pmax
comp=Z,97nm,1.1s
KURK Kurchatov 60.42 327 P **P 00 21 09.0 +0.4**
SNR=33
NVS Novosibirsk 60.44 333 ⇑*i*P **P 00 21 08.6 -0.1**
NVS *e*S **S 00 29 20.6 +3.4**
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,14nm,0.8s
NVS pmax pmax
comp=Z,30nm,0.8s
NVS smax smax
comp=N,12nm,1.8s
NVS smax smax
comp=E,15nm,1.8s
KBL Kabul 60.70 307 *e*P **P 00 21 11.1 -0.1**
KBL Kabul 60.70 307 *e*P **P 00 21 11.1 -0.1**
GAR Garm 60.96 312 *e*P **P 00 21 12.4 -0.3**
GAR Garm 60.96 312 *e*P **P 00 21 12.4 -0.3**
CHGR Chuyangaron 61.72 311 *e*P **P 00 21 18.2 +0.3**
comp=E,39nm,1.1s
KK31 Karatay Array 62.15 316 *e*P **P 00 21 20.5 -0.1**
KK31 Karatay Array 62.15 316 *e*P **P 00 21 20.5 -0.1**
KKAR Karatay Array 62.15 316 *e*P **P 00 21 20.5 -0.1**
KKAR Karatay Array 62.15 316 *e*P **P 00 21 20.5 -0.1**
OTUK Ortayu 62.90 322 P **P 00 21 25.2 -0.3**
OTUK pmax pmax
comp=Z,34nm,1.0s
KHZ Kahutara 63.69 143 *e*P **P 00 21 30.5 -0.1**
comp=Z,95nm,1.8s
BKZ Black Stump Fm 63.70 139 *e*P **P 00 21 31.5 +0.6**
comp=Z,78nm,2.0s
BRVK Borovoye 66.08 326 *e*P **P 00 21 46.1 +0.1**
comp=Z,74nm,1.0s
BRVK Borovoye 66.08 326 *c i*P **P 00 21 46.5 +0.5**
BRVK pmax pmax
comp=Z,85nm,1.1s
BRVK Borovoye 66.08 326 P **P 00 21 46.2 +0.2**
SNR=27
BILL Bilibino 67.77 15 *e*P **P 00 21 57.1 +0.6**
BILL Bilibino 67.77 15 ⇑*i*P **P 00 21 57.0 +0.6**
BILL *e* 00 22 13.8
BILL 00 22 20.0
BILL *e* 00 31 35.1
BILL pmax pmax
comp=Z,5.0nm,1.0s
WSAR Wadi Sarin 68.01 293 P **P 00 21 57.2 -1.6**
WSAR Wadi Sarin 68.01 293 P **P 00 21 58.2 -0.7**
comp=Z,2.8nm,0.8s,baz=123,slow=6.7,SNR=4.8
MHTO MHTO 68.51 290 P **P 00 22 01.0 -1.0**
NRIK Noril'sk 68.79 346 P **P 00 22 02.0 -0.8**
NRIK pmax pmax
comp=Z,6.0nm,0.7s
NRIK MLR MLR
comp=Z,113nm,21.1s
NRIK Noril'sk 68.79 346 P **P 00 22 01.9 -0.8**
comp=Z,6.2nm,0.7s,baz=133,slow=5.9,SNR=18
NRIK LR LR 00 54 10.6
comp=Z,113nm,21.1s,baz=190,slow=38
SOHO SOHO 69.98 294 P **P 00 22 08.8 -2.2**
GEYT Alibeck 70.03 308 P **P 00 22 10.3 -0.9**
comp=Z,4.3nm,0.7s,baz=106,slow=4.8,SNR=13
GEYT LR LR 00 57 08.1
comp=Z,99nm,22.0s,baz=25,slow=39
GYA0B ALIBECK ARRAY 70.03 308 *e*P **P 00 22 12.0 +0.9**
comp=Z,49nm,1.8s
AB31 Akbulak array 70.98 320 P **P 00 22 16.2 -0.4**
AB31 pmax pmax
comp=Z,35nm,0.9s
ABKAR Akbulak array 70.98 320 *e*P **P 00 22 16.6 0.0**
KEKH Kekaha 72.44 69 *e*P **P 00 22 26.9 +0.9**
comp=Z,828nm,1.9s
AKTO Aktyubinsk 72.47 321 P **P 00 22 25.5 -0.1**
comp=Z,29nm,1.0s,baz=102,slow=7.4,SNR=75
CASY Casey 72.61 187 *e*P **P 00 22 27.5 +1.6**
comp=Z,9.4nm,0.8s
SVE Sverdlovsk 72.62 328 ⇓*e*P **P 00 22 26.1 -0.2**
SVE pmax pmax
comp=Z,39nm,1.0s
ARU Arti 73.61 327 *e*P **P 00 22 31.6 -0.6**
comp=Z,23nm,0.9s
ARU Arti 73.61 327 *d i*P **P 00 22 32.2 +0.1**
ARU 00 22 45.9
ARU 00 25 15.3
ARU S **S 00 31 56.9 +1.3**
ARU SS **SS 00 36 38.7 -1.5**
ARU pmax pmax
comp=Z,29nm,1.2s
XMAS Kiritimati 75.40 89 *e*P **P 00 22 43.5 +0.2**
comp=Z,346nm,1.5s
KIRV Kirov 78.87 329 P **P 00 23 01.4 -0.5**
comp=Z,50nm,0.9s,baz=277,slow=1.1,SNR=13
SVW2 Sparrevohn 79.11 29 *e*P **P 00 23 03.8 +0.5**
comp=Z,51nm,2.0s
GROC Groznyy 79.87 313 *e*P **P 00 23 06.4 -1.3**
GROC *e* 00 23 13.2
GROC *e**PP **pP 00 23 29.5 +0.6**
GROC *e*S **S 00 33 02.9 -1.4**
GROC *e**SS **sS 00 33 41.9 -0.3**
GROC pmax pmax
comp=Z,95nm,1.4s
RAYN Ar Rayn 80.07 293 *e*P **P 00 23 08.6 -0.7**
comp=Z,14nm,1.0s
KDAK Kodiak Island 80.24 32 *e*P **P 00 23 07.5 -1.8**
comp=Z,148nm,1.9s
KDAK Kodiak Island 80.24 32 *i*P **P 00 23 10.1 +0.8**
GNI Garni 80.58 310 *e*P **P 00 23 12.7 +0.9**
comp=Z,34nm,1.1s
GNI Garni 80.58 310 *ce*P **P 00 23 12.7 +0.9**
GNI pmax pmax
comp=Z,26nm,1.3s
GNI Garni 80.58 310 P **P 00 23 12.1 +0.2**
SNR=5.8
GNI Garni 80.58 310 P **P 00 23 12.4 +0.6**
comp=Z,17nm,1.2s,baz=151,slow=1.9,SNR=8.9
IM3 Indian Mountai 80.61 24 *e*P **P 00 23 11.6 +0.4**
TBLG Delisi 80.61 311 *e*P **P 00 23 13.1 +1.3**
comp=Z,46nm,1.1s
TBLG Delisi 80.61 311 *e*P **P 00 23 13.1 +1.3**
TBLG pmax pmax
comp=Z,46nm,1.1s
CAST Castle Rocks 81.02 27 *e*P **P 00 23 13.7 +0.2**
comp=Z,13nm,0.9s
ZEI Tsey 81.25 312 *e*P **P 00 23 11.9 -3.4**
ZEI pmax pmax
comp=Z,47nm,1.0s
MLY Manley 81.75 25 *e*P **P 00 23 17.3 0.0**
comp=Z,11nm,0.8s
TRF Thorofare Moun 81.83 27 *e*P **P 00 23 18.0 +0.1**
comp=Z,13nm,1.0s
GOF Gofitskoye 81.89 315 *e*P **P 00 23 18.6 +0.2**
GOF pmax pmax
comp=Z,50nm,1.2s
KBZ Khabaz 81.98 313 P **P 00 23 19.2 +0.4**
comp=Z,14nm,1.1s,baz=72,slow=5.3,SNR=15
KBZ LR LR 01 05 35.4
comp=Z,118nm,19.7s,baz=69,slow=40
KVAR Kislovodsk Arr 82.13 313 P **P 00 23 20.8 +1.0**
comp=Z,7.3nm,1.0s,baz=73,slow=20,SNR=7.3
KIV Kislovodsk 82.14 313 *e*P **P 00 23 19.3 -0.6**
comp=Z,32nm,1.0s
KIV Kislovodsk 82.14 313 *e*P **P 00 23 20.6 +0.7**
KIV pmax pmax
comp=Z,35nm,1.1s
KIV MLR MLR
comp=Z,126nm,19.0s
KIV Kislovodsk 82.14 313 P **P 00 23 20.1 +0.2**
SNR=6.9
SIRT Sirnak 82.39 307 *e*P **P 00 23 21.3 0.0**
comp=Z,84nm,1.0s
MCK McKinley 82.45 27 *e*P **P 00 23 20.3 -0.7**
comp=Z,30nm,1.0s
MCK McKinley 82.45 27 *e*P **P 00 23 20.3 -0.7**
MCK pmax pmax
comp=Z,30nm,1.0s
RND Reindeer 82.47 27 *e*P **P 00 23 20.9 -0.3**
comp=Z,21nm,1.4s
RND Reindeer 82.47 27 *e*P **P 00 23 20.9 -0.3**
RND pmax pmax
comp=Z,21nm,1.4s
TOLK Toolik Lake Re 82.49 22 *e*P **P 00 23 22.0 +0.8**
comp=Z,41nm,1.8s
TOLK Toolik Lake Re 82.49 22 P **P 00 23 22.3 +1.1**
baz=266
KNK Knik Glacier 82.57 29 *e*P **P 00 23 21.9 +0.3**
comp=Z,15nm,0.8s
SML Sawmill 82.64 28 *e*P **P 00 23 22.3 +0.3**
comp=Z,88nm,1.8s
SML Sawmill 82.64 28 *e*P **P 00 23 22.3 +0.3**
SML pmax pmax
comp=Z,89nm,1.8s
VRH Novokhopyorsk 82.80 321 *e*P **P 00 23 21.9 -1.1**
VRH pmax pmax
comp=Z,60nm,2.0s
MDM Murphy Dome 82.81 25 *e*P **P 00 23 22.8 0.0**
comp=Z,8.2nm,0.9s
WRH Wood River Hil 82.85 26 *e*P **P 00 23 22.9 -0.1**
comp=Z,66nm,1.8s
CCB Clear Creek Bu 82.98 26 *e*P **P 00 23 23.3 -0.4**
comp=Z,36nm,1.6s
DHY Denali Highway 83.13 27 *e*P **P 00 23 27.1 +2.4**
comp=Z,22nm,1.5s
POKR Poker Plat Res 83.16 25 P **P 00 23 25.5 +0.9**
baz=268
HDA Harding Lake 83.35 26 *e*P **P 00 23 24.9 -0.7**
comp=Z,10nm,1.0s
HDA Harding Lake 83.35 26 P **P 00 23 24.8 -0.8**

baz=269
IL1 Eielson Array 83.38 25 *e*P **P 00 23 24.7 -1.0**
ILAR Eielson Array 83.38 25 P **P 00 23 24.6 -1.1**
comp=Z,3.6nm,0.9s,baz=244,slow=5.1,SNR=20
MID Middleton Isla 83.58 31 *e*P **P 00 23 28.4 +1.6**
comp=Z,486nm,1.3s
MID Middleton Isla 83.58 31 *e*P **P 00 23 28.4 +1.6**
MID pmax pmax
comp=Z,486nm,1.3s
KLU Klutina 83.78 29 *e*P **P 00 23 28.1 +0.1**
comp=Z,36nm,1.4s
DIV Divide 83.86 29 *e*P **P 00 23 29.3 +1.0**
comp=Z,72nm,1.5s
PRP Porcupine Dome 83.97 25 *e*P **P 00 23 28.8 -0.1**
comp=Z,6.3nm,1.1s
PAX Paxson 83.99 27 *e*P **P 00 23 30.0 +1.0**
comp=Z,34nm,1.5s
PAX Paxson 83.99 27 *e*P **P 00 23 30.0 +1.0**
PAX pmax pmax
comp=Z,34nm,1.5s
KLMR Klimovskoe 84.01 331 *e*P **P 00 23 27.6 -1.4**
KLMR *e* 00 26 44.8
KLMR pmax pmax
comp=Z,132nm,1.4s
KLMR Klimovskoe 84.01 331 *e*P **P 00 23 27.7 -1.3**
KLMR AMP 00 23 32.5
comp=Z,132nm,1.4s
KLMR *e*PP **PP 00 26 44.9 +1.2**
FYU Fort Yukon 84.08 24 *e*P **P 00 23 31.2 +1.9**
comp=Z,54nm,1.4s
RIDG Independ'e Rid 84.27 27 *e*P **P 00 23 30.6 +0.2**
comp=Z,28nm,1.1s
VSR Storozhevoye 84.41 321 *e*P **P 00 23 30.1 -1.1**
VSR pmax pmax
comp=Z,100nm,2.0s
LPSR Galich'ya Gora 84.51 322 *e*P **P 00 23 30.9 -0.8**
LPSR pmax pmax
comp=Z,90nm,1.8s
DOT Dot Lake 84.62 27 *e*P **P 00 23 32.4 +0.3**
comp=Z,12nm,1.2s
TMCR Tamitsa 84.64 334 *e*P **P 00 23 31.7 -0.4**
TMCR pmax pmax
comp=Z,60nm,1.5s
MENT Mentasta 84.79 27 *e*P **P 00 23 33.4 +0.4**
comp=Z,29nm,1.6s
VNDA Vanda 85.14 173 P **P 00 23 34.5 +0.2**
comp=Z,1.9nm,0.8s,baz=312,slow=4.0,SNR=5.7
VNDA LR LR 01 00 51.1
comp=Z,128nm,21.7s,baz=328,slow=35
MOS Moscow 85.16 325 *e*P **P 00 23 33.2 -1.7**
MOS *e* 00 34 00.0
MOS pmax pmax
comp=Z,106nm,1.3s
PPT Papeete 85.37 108 LR LR 00 54 02.4
comp=Z,68nm,21.2s,baz=348,slow=30
PPT2 Papeete2 85.38 108 *e*LR LR 00 50 43.3
comp=Z,324nm,26.2s
MAW Mawson 85.52 200 LR LR 01 00 23.3
comp=Z,120nm,19.2s,baz=14,slow=35
OBN Obninsk 85.79 325 *e*P **P 00 23 38.4 +0.4**
comp=Z,90nm,1.1s
OBN Obninsk 85.79 325*c i*P **P 00 23 37.8 -0.2**
OBN *e* 00 23 51.8
OBN *e*PP **sP 00 24 07.0 -1.1**
OBN *e* 00 26 53.2
OBN *e*SS SS 00 39 39.3 -3.0
OBN SSS SSS 00 43 07.0
OBN pmax pmax
comp=Z,107nm,1.2s
OBN MLR MLR
comp=Z,151nm,17.0s
OBN Obninsk 85.79 325 P **P 00 23 38.0 0.0**
comp=Z,16nm,1.1s,baz=82,slow=3.2,SNR=16
TBI Tubuai 86.22 114 *e*LR LR 00 51 10.8
comp=Z,298nm,26.8s
ASF Jabal al Asfar 87.22 302 P **P 00 23 46.3 +0.6**
comp=Z,9.1nm,0.9s,baz=83,slow=1.4,SNR=12
EPYK Eagle Plains 87.50 24 *e*P **P 00 23 46.4 +0.1**
comp=Z,22nm,1.4s
EPYK Eagle Plains 87.50 24 P **P 00 23 46.9 +0.6**
baz=278
SNOP Sinop 87.71 312 *e*P **P 00 23 46.8 -0.9**
comp=Z,27nm,0.8s
HYT Haines Junctio 87.90 29 *e*P **P 00 23 49.2 +0.8**
comp=Z,20nm,1.5s
MMAI Mount Meron Ar 88.40 303 P **P 00 23 49.6 -1.7**
comp=Z,2.3nm,0.4s,baz=84,slow=8.5,SNR=26
SPA0 Spitsbergen Ar 88.81 349 *e*P **P 00 23 53.0 +0.8**
SPITS Spitsbergen Ar 88.81 349 P **P 00 23 50.9 -1.3**
comp=Z,2.3nm,0.5s,baz=93,slow=8.7,SNR=7.0
ARCES ARCESS Array B 88.89 340 *e*P **P 00 23 53.2 +0.5**
ARCES ARCESS Array B 88.89 340 *e*P **P 00 23 53.2 +0.5**
ARCES ARCESS Array B 88.89 340 P **P 00 23 51.7 -1.0**
comp=Z,3.7nm,0.5s,baz=78,slow=5.7,SNR=30
EIL Elat 89.11 300 P **P 00 23 54.2 -0.3**
comp=Z,5.4nm,1.0s,baz=36,slow=4.2,SNR=4.6
BR131 Keskin Array S 89.12 310 *e*P **P 00 23 54.4 -0.2**
BR131 Keskin Array S 89.12 310 P **P 00 23 53.9 -0.7**
SNR=6.5
BRTR Keskin Array B 89.12 310 P **P 00 23 54.0 -0.7**
BRTR pmax pmax
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 89.12 310 P **P 00 23 54.0 -0.7**
comp=Z,6.2nm,0.9s,baz=115,slow=4.2,SNR=27
BRTR LR LR 01 10 24.4
comp=Z,31nm,18.8s,baz=80,slow=40
ANTO Ankara 89.76 310 *e*P **P 00 23 57.4 -0.1**
comp=Z,39nm,1.6s
ANTO Ankara 89.76 310 *e*P **P 00 23 57.4 -0.1**
ANTO pmax pmax
comp=Z,39nm,1.6s
KMBO Kilima Mbogo 89.89 269 *e*P **P 00 23 58.9 +0.1**
comp=Z,8.8nm,1.5s
KMBO Kilima Mbogo 89.89 269 *e*P **P 00 23 58.9 +0.1**
KMBO pmax pmax
comp=Z,9.0nm,1.5s
CSS Mathiatis 89.91 305 *e*P **P 00 23 58.1 -0.2**
comp=Z,24nm,1.3s
FIA1 FINESS Array S 90.42 332 *e*P **P 00 24 00.5 +0.5**
FINES FINESS Array B 90.42 332 P **P 00 23 59.1 -0.8**
comp=Z,3.1nm,0.4s,baz=67,slow=4.9,SNR=35
FINES LR LR 01 09 11.3
comp=Z,97nm,18.3s,baz=84,slow=38
AKASG Malin Array Be 90.71 321 P **P 00 24 00.6 -0.9**
comp=Z,2.1nm,0.4s,baz=69,slow=4.4,SNR=17
AKASG LR LR 01 09 36.7
comp=Z,55nm,18.4s,baz=290,slow=39
AKBB Malin Array Si 90.71 321 *e*P **P 00 24 01.1 -0.5**
comp=Z,18nm,1.1s
AKBB Malin Array Si 90.71 321 *e*P **P 00 24 01.1 -0.5**
AKBB pmax pmax
comp=Z,18nm,1.1s
KIEV Kiev 90.72 321 *e*P **P 00 24 01.1 -0.6**
comp=Z,17nm,1.1s
KIEV Kiev 90.72 321⇑*i*P **P 00 24 01.0 -0.6**
KIEV Kiev 90.72 321⇑P **P 00 24 01.0 -0.6**
AK11 Malin Array Si 90.75 321 *e*P **P 00 24 01.1 -0.6**
ISP Isparta 91.78 308 *e*P **P 00 24 06.2 -0.8**
comp=Z,17nm,0.7s
ISP Isparta 91.78 308 *e*P **P 00 24 06.2 -0.8**
ISP pmax pmax
comp=Z,17nm,0.7s
TIRR Tirgusor 92.31 315 *e*P **P 00 24 08.8 -0.3**
comp=Z,12nm,1.0s
TIRR Tirgusor 92.31 315 *e*P **P 00 24 08.8 -0.3**
TIRR pmax pmax
comp=Z,12nm,1.0s
CFR Carcaliu 92.38 316⇓*i*P **P 00 24 09.2 -0.2**
CFR Carcaliu 92.38 316⇓P **P 00 24 09.2 -0.2**
TESR Tescani 93.15 317⇓*i*P **P 00 24 13.1 +0.1**
MANT Manisa 93.21 309 *e*P **P 00 24 13.1 -0.7**
MANT *e*PcP **P 00 24 13.8 +0.1**
VRI Vrincioaia 93.22 316⇑*i*P **P 00 24 13.4 +0.1**
VRI Vrincioaia 93.22 316⇑P **P 00 24 13.4 +0.1**
PLOR Plostina 93.28 316⇓*i*P **P 00 24 13.9 +0.3**
PLOR Plostina 93.28 316⇓P **P 00 24 14.0 +0.3**
MLR Muntele Rosu 93.83 316 *e*P **P 00 24 16.4 +0.1**
MLR *e*PcP **P 00 24 16.6 +0.2**
MLR Muntele Rosu 93.83 316⇓*i*P **P 00 24 16.5 +0.1**
MLR Muntele Rosu 93.83 316 P **P 00 24 16.6 +0.2**
comp=Z,6.8nm,0.9s,baz=53,slow=4.1,SNR=9.9
BURAR Bucovina Array 93.88 318⇓*i*P **P 00 24 16.9 +0.5**
BURAR Bucovina Array 93.88 318⇓P **P 00 24 16.9 +0.5**
BUR04 Bucovina Ar. S 93.88 318 *e*P **P 00 24 16.4 -0.1**
BUR08 Bucovina Ar. S 93.89 318 *e*P **P 00 24 16.0 -0.5**
BUR08 *e*PcP **P 00 24 16.8 +0.3**

SYO Syowa Base 94.18 201⇑*e*P **P 00 24 18.4 +1.3**
SYO Syowa Base 94.18 201⇑*e*pP pP 00 24 40.2 +1.1
ALN Alexandroupoli 94.68 312 *e*P **P 00 24 19.0 -1.1**
comp=Z,6.5nm,1.3s
ALN **Alexandroupoli 94.68 312** *e*P **P 00 24 19.0 -1.1**
ALN pmax pmax
comp=Z,7.0nm,1.3s
HUMR Humele 94.70 315⇓*i*P **P 00 24 19.9 -0.2**
ARR Arges 94.76 316⇓*i*P **P 00 24 20.7 +0.2**
CJR Cluj-Napoca 95.16 318⇓*i*P **P 00 24 21.7 -0.6**
CJR Cluj-Napoca 95.16 318⇓P **P 00 24 21.7 -0.6**
TRPA Tarpa 95.51 319⇓*i*P **P 00 24 23.8 +0.1**
DAG Danmarks Havn 95.54 353 *i* P **P 00 24 22.3 -1.0**
DAG Danmarks Havn 95.54 353 *e*P **P 00 24 22.3 -1.0**
UZH Uzhgorod 95.55 320*d i*P **P 00 24 22.7 -1.2**
UZH *e* 00 24 47.7
DRGR 95.73 318⇓*i*P **P 00 24 24.5 -0.4**
DRGR 95.73 318⇓P **P 00 24 24.5 -0.4**
GZR Gura Zlata 96.03 317⇑*i*P **P 00 24 25.4 -0.9**
GZR Gura Zlata 96.03 317⇑P **P 00 24 25.4 -0.9**
VTS Vitosha 96.37 314 *e*P **P 00 24 26.7 -1.2**
comp=Z,38nm,2.0s
VTS Vitosha 96.37 314⇓*i*P **P 00 24 27.1 -0.9**
VTS Vitosha 96.37 314⇓P **P 00 24 27.1 -0.9**
HFS Hagfors 96.59 332 P **P 00 24 26.7 -1.7**
comp=Z,2.3nm,0.5s,baz=108,slow=4.8,SNR=24
IDI Amoyia 96.69 306 P **P 00 24 28.1 -1.4**
comp=Z,4.0nm,0.8s,baz=70,slow=18,SNR=5.0
BZS Buzias 96.76 317⇓*i*P **P 00 24 28.9 -0.6**
BZS Buzias 96.76 317⇓P **P 00 24 28.9 -0.6**
MDVR Moldovita 96.91 316⇓*i*P **P 00 24 30.2 -0.1**
LANS Liptovska Anna 97.20 321 *i* P Pdif 00 24 31.6 +0.1
LANS Liptovska Anna 97.20 321 *e*P Pdif 00 24 31.6 +0.1
NB2 NORSAR Subarra 97.34 334 P **P 00 24 29.9 -1.9**
comp=Z,10nm,1.2s,baz=66,slow=4.8
NOA NORSAR Array B 97.34 334 P **P 00 24 30.1 -1.7**
comp=Z,2.0nm,0.9s,baz=64,slow=4.6,SNR=4.0
NOA LR LR 01 12 43.7
comp=Z,142nm,20.6s,baz=65,slow=38
LIT Litokhoron 97.50 312 *e*P **P 00 24 31.7 -1.3**
comp=Z,36nm,1.5s
LIT Litokhoron 97.50 312 *e*P **P 00 24 31.7 -1.3**
LIT pmax pmax
comp=Z,36nm,1.5s
YKA Yellowknife Ar 97.77 24 P **P 00 24 32.2 -1.4**
comp=Z,0.4nm,0.7s,baz=302,slow=4.9,SNR=8.1
YKA PKKPbc **PKKPbc 00 41 08.1 -2.9**
comp=Z,0.2nm,0.5s,baz=118,slow=2.9,SNR=5.5
VYHS Vyhne 97.79 320 *i* P **P 00 24 33.8 -0.3**
VYHS Vyhne 97.79 320 *e*P **P 00 24 33.8 -0.3**
AGG Agios Georgios 97.87 310 *e*P **P 00 24 32.9 -1.8**
comp=Z,55nm,2.0s
AGG Agios Georgios 97.87 310 *e*P **P 00 24 32.9 -1.8**
AGG pmax pmax
comp=Z,55nm,2.0s
MORC Moravsky Berou 98.20 322 *e*PDIFF Pdif 00 24 36.7 +0.7
DIVS Divibare 98.28 316 *e*P **P 00 24 36.5 0.0**
comp=Z,10nm,1.2s
SRO Srobarova 98.33 320 *i* P **P 00 24 36.1 -0.4**
SRO Srobarova 98.33 320 *e*PDIF **P 00 24 36.1 -0.4**
JAVC Velka Javorina 98.42 321 *e*PDIFF Pdif 00 24 38.3 +1.3
VRAC Vranov 98.94 322⇓*i*P Pdif 00 24 40.0 +0.8
VRAC Vranov 98.94 322⇓P Pdif 00 24 40.0 +0.8
VRAC Vranov 98.94 322 *e*PDIFF Pdif 00 24 39.8 +0.6
KRUC Moravsky 99.14 321 *e*PDIFF **Pdif 00 24 40.6 +0.5**
PDG Podgorica 99.26 314⇑*i*P **Pdif 00 24 40.6 -0.2**
TTG Podgorica 99.26 314 *e*P **Pdif 00 24 40.3 -0.4**
comp=Z,8.6nm,1.2s
TTG Podgorica 99.26 314 *e*P **Pdif 00 24 40.3 -0.4**
TTG pmax pmax
comp=Z,9.0nm,1.2s
BRG Berggiesshubel 100.00 324 *e*PDIFF **Pdif 00 24 44.9 +1.0**
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 100.00 324 *e*P **Pdif 00 24 44.9 +1.0**
BRG pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 100.38 324 *e*Pdif **Pdif 00 24 47.0 +1.4**
CLL *e*Sdif Sdif 00 36 13.0 -1.6
CLL *e*SS SS 00 43 36.0 +25
CLL *e* 00 48 00.0
CLL LmV 01 15 00.0
comp=Z,200nm,20.0s
CLL Collm 100.38 324 *e*P **Pdif 00 24 47.0 +1.4**
GERES GERESS Array B 100.89 322 P **Pdif 00 24 47.9 -0.1**
comp=Z,2.2nm,1.0s,baz=59,slow=5.1,SNR=7.4
GEA0 GERESS Array S 100.89 322 *e*Pdif **Pdif 00 24 47.9 -0.1**
SCHQ Schefferville 118.78 9 PKP **PKPdf 00 29 46.5 0.0**
comp=Z,3.2nm,0.9s,baz=11,slow=5.2,SNR=3.9
J39A Decorah 120.09 32 P **PKPdf 00 29 49.1 -0.3**
baz=314
TXAR Lajitas Array 120.27 51 PKP **PKPdf 00 29 49.8 -0.6**
comp=Z,0.3nm,0.6s,baz=143,slow=1.2,SNR=4.3
TXAR PKKPbc **PKKPbc 00 39 56.6 -1.6**
comp=Z,0.2nm,0.6s,baz=123,slow=6.6,SNR=2.4
E46A Sault Ste Mari 121.33 25 P **PKiKP 00 29 52.0 +0.2**
baz=323
TOA0 Torodi Ar. St 122.64 289 *e*PKPdf **PKPdf 00 29 54.3 -0.7**
TOA0 *e*PKPdf **PKiKP 00 29 55.4 +0.1**
TORD Torodi Ar. Bea 122.64 289 PKP **PKPdf 00 29 53.6 -1.4**
comp=Z,2.8nm,0.6s,baz=86,slow=1.9,SNR=26
JCT Junction City 122.67 48 *e*PKPdf **PKiKP 00 29 55.8 +0.8**
JCT Junction City 122.67 48 *e*PKIKP **PKiKP 00 29 55.8 +0.8**
R41A Rosebud 123.70 36 P **PKPdf 00 29 56.6 +0.1**
baz=312
U40A Yellville 124.08 39 P **PKPdf 00 29 57.0 -0.3**
baz=310
U41A Viola 124.66 38 P **PKPdf 00 29 58.1 -0.4**
baz=311
S48A Wiedeman Farm, 127.15 33 P **PKiKP 00 30 03.5 -0.2**
baz=317
U47A Clarksville 127.34 35 P **PKPdf 00 30 03.5 0.0**
baz=315
T50A Nancy 128.28 33 P **PKiKP 00 30 05.8 -0.1**
baz=318
U50A Jamestown 128.72 33 P **PKiKP 00 30 06.7 -0.2**
baz=318
Q55A Buckhannon 129.10 27 P **PKiKP 00 30 07.5 -0.1**
baz=324
DBIC Dimbokro 130.48 284 PKP **PKPdf 00 30 10.5 +0.5**
comp=Z,1.6nm,0.5s,baz=117,slow=1.2,SNR=6.8
PLCA Paso Flores 141.54 158 PKP **PKPdf 00 30 29.7 -0.3**
comp=Z,1.3nm,1.0s,baz=321,slow=2.9,SNR=3.4
JTS JuntasAbangare 144.49 64 P **PKPdf 00 30 35.7 -0.1**
JTS JuntasAbangare 144.49 64 PKIKP **PKPdf 00 30 35.7 -0.1**
TRQA Tornquist 146.58 167 *e*PKPbc **PKPbc 00 30 40.5 +0.2**
TRQA Tornquist 146.58 167 *e*PKP2 **PKPbc 00 30 40.5 +0.2**
ASAL Salagasta 149.25 153 *e*P **PKiKP 00 30 49.0 0.0**
LCO Las Campanas 151.22 146 *e*PKPbc **PKiKP 00 30 54.0 +0.7**
LCO Las Campanas 151.22 146 *e*PKIKP **PKiKP 00 30 54.0 +0.7**
SDV Santo Domingo 157.32 51 PKP **PKPdf 00 30 55.2 -0.5**
comp=Z,1.7nm,0.7s,baz=4.8,slow=12,SNR=2.2
MNMC Minye Minye 158.88 131 *e*PKPdf **PKPdf 00 30 59.2 +1.7**
LPAZ La Paz 161.68 127 *e*PKPdf **PKPdf 00 31 02.3 +1.2**
LPAZ La Paz 161.68 127 PKP **PKPdf 00 31 00.8 -0.3**
comp=Z,0.5nm,0.6s,baz=282,slow=2.0,SNR=3.7
SIV San Ignacio 166.89 143 PKP **PKPdf 00 31 05.6 +0.6**
comp=Z,1.1nm,0.7s,baz=186,slow=7.2,SNR=5.5

*ISCJB **02** 00:19:59.6±0.3,51°.57N±0°.02×16°.03E±0°.03,h0km, Error ellipse: s-maj=2.9km s-min=2.4km az=171.6*
*IDC **02** 00:20:02.6±1.1,51°.53N×15°.97E, h0km, mb1 3.5/4, mb1mx3.2/44, mbtmp3.4/4,ML2.3/4, Error ellipse: s-maj=26.2km s-min=7.4km az=107.0*
*VIE **02** 00:20:03.7±0.6,51°.41N×15°.93E, h0km, mb2.4/5, ml2.4/7, Error ellipse: s-maj=5.0km s-min=2.7km az=50.0, Suspected Mining induced.*
*PRU **02** 00:20:03.7±0.0,51°.50N×16°.00E, h0km*
*UPP **02** 00:20:07.2±2.7,51°.90N×15°.58E, h0km, ML2.0, Suspected explosion*
ISC 02 00:20:00.8±0.8, 51°.63N±0°.03×16°.03E±0°.03, h0km, n38, σ1 s23/74, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.81**	**168**	*e*Pg		**Pg**	**00 20 16.6**	**+0.4**
KSP				*e*Sg		**Sg**	**00 20 26.4**	**-0.3**
UPC	**Upice**	**1.13**	**181**	*e*PG		**Pg**	**00 20 22.4**	**+0.1**
UPC				*e*SG		**Sg**	**00 20 36.1**	**-0.8**
DPC	**Dobruska-Polom**	**1.30**	**172**	*e*PG		**Pg**	**00 20 25.2**	**-0.4**
DPC				*e*SG		**Sg**	**00 20 41.4**	**-1.0**
	comp=Z,26nm,0.5s							
PVCC	**Panska Ves**	**1.44**	**220**	*e*PG		**Pb**	**00 20 28.4**	**0.0**
PVCC				*e*SG		**Sb**	**00 20 47.3**	**0.0**
	comp=Z,105nm,0.5s							
BRG	**Berggiesshubel**	**1.52**	**241**	PG		**Pg**	**00 20 30.6**	**+0.8**
BRG				SG		**Sn**	**00 20 50.1**	**+0.6**
	67nm,0.6s							
KRLC	**Kraliky**	**1.63**	**163**	*e*PG		**Pb**	**00 20 31.7**	**0.0**
KRLC				*e*SG		**Sn**	**00 20 51.3**	**-1.1**
	comp=Z,5.1nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.89**	**205**	*e*PG		**Pb**	**00 20 35.7**	**-0.5**
GOPC				*e*SG		**Sb**	**00 20 59.9**	**-0.5**
	comp=Z,14nm,0.4s							
PRU	**Pruhonice**	**1.90**	**210**	*e*PN		**Pn**	**00 20 34.2**	**-0.2**
PRU				*e*PG		**Pb**	**00 20 36.0**	**-0.2**
PRU				*e*SG		**Sb**	**00 20 59.9**	**-0.6**
	comp=Z,24nm,0.4s							
CLL	**Collm**	**1.92**	**261**	*e*Pn		**Pn**	**00 20 35.0**	**+0.3**
CLL				*e*Pg		**Pg**	**00 20 38.0**	**+0.4**
CLL				*e*			00 20 42.0	
CLL				*e*Sg		**Sg**	**00 21 03.0**	**+0.5**
	comp=Z,23nm,0.4s							
MORC	**Moravsky Berou**	**2.09**	**152**	*e*PN		**Pn**	**00 20 37.1**	**0.0**
MORC				*e*SG		**Sb**	**00 21 05.9**	**-0.2**
OKC	**Ostrava-Krasne**	**2.24**	**142**	*e*PG		**Pg**	**00 20 43.3**	**-0.4**
VRAC	**Vranov**	**2.35**	**171**	*e*PN		**Pn**	**00 20 41.0**	**+0.3**
VRAC				*e*SG		**Sb**	**00 21 14.3**	**+0.7**
TREC	**Trest**	**2.37**	**189**	*e*PN		**Pn**	**00 20 41.3**	**+0.5**
TREC				*e*PG		**Pb**	**00 20 45.0**	**+0.8**
KRUC	**Moravsky**	**2.58**	**175**	*e*PN		**Pn**	**00 20 44.5**	**+0.7**
KRUC				*e*SG		**Sb**	**00 21 21.7**	**+1.5**
NKC	**Novy Kostel**	**2.67**	**240**	*e*PN		**Pn**	**00 20 45.7**	**+0.7**
NKC				*e*PG		**Pg**	**00 20 52.1**	**+0.3**
NKC				*e*SG		**Sg**	**00 21 27.5**	**+1.2**
	comp=Z,38nm,0.5s							
OJC	**Ojcow**	**2.77**	**119**	*e*Pg		**Pg**	**00 20 54.8**	**+0.9**
OJC				*e*Sg		**Sg**	**00 21 30.3**	**+0.5**
KHC	**Kasperske Hory**	**2.96**	**213**	*e*PN		**Pn**	**00 20 49.2**	**+0.2**
KHC				*e*PG		**Pb**	**00 20 54.9**	**+0.6**
KHC				*e*SN		**Sn**	**00 21 22.7**	**-2.4**
KHC				*e*SG		**Sg**	**00 21 33.5**	**-2.2**
	comp=Z,7.7nm,0.3s							
GERES	**GERESS Array B**	**3.17**	**209**	Pn		**Pn**	**00 20 52.5**	**+0.6**
	comp=Z,1.0nm,0.3s,baz=32,slow=13,SNR=25							
GERES				Pg		**Pb**	**00 20 58.6**	**+0.7**
	comp=Z,2.3nm,0.3s,baz=30,slow=18,SNR=28							
GERES				Sn		**Sn**	**00 21 28.1**	**-2.4**
	comp=Z,1.1nm,0.3s,baz=31,slow=27,SNR=6.3							
GERES				Lg		Lg	00 21 38.4	
	comp=Z,1.2nm,0.3s,baz=22,slow=24,SNR=4.7							
SMOL	**Smolenice**	**3.25**	**163**	*e*		**Sg**	**00 21 48.4**	**+3.3**
LANS	**Liptovska Anna**	**3.32**	**137**	*e*PG		**Pg**	**00 21 06.7**	**+2.4**
LANS				*e*SG		**Sg**	**00 21 47.7**	**+0.4**
MODS	**Modra-Piesok**	**3.36**	**166**	*e*PG		**Pg**	**00 21 05.0**	**-0.1**
MODS				*e*SG		**Sb**	**00 21 43.0**	**+0.4**
BSD	**Bornholm Skovb**	**3.55**	**350**	*i* P		**Pn**	**00 20 58.3**	**+1.2**
BSD				*i* S		**Sn**	**00 21 38.3**	**-1.4**
VYHS	**Vyhne**	**3.62**	**149**	*e*PN		**Pn**	**00 20 56.8**	**-1.3**
VYHS				*e*PG		**Pg**	**00 21 10.6**	**+0.4**
VYHS				*e*SG		**Sg**	**00 21 54.4**	**-2.7**
CONA	**Conrad Observa**	**3.71**	**182**	*i* Pn		**Pn**	**00 21 00.2**	**+0.8**
	comp=Z,0.6nm,0.2s							
CONA				*e*Sg		**Sg**	**00 21 59.6**	**-0.3**
	comp=Z,7.1nm,0.4s							
MOA	**Molln**	**3.96**	**198**	*i* Pn		**Pn**	**00 21 03.3**	**+0.6**
	comp=Z,2.1nm,0.3s							
MOA				Sg		**Sg**	**00 22 07.2**	**-0.6**
	comp=Z,7.2nm,0.4s							
ARSA	**Arzberg**	**4.40**	**185**	*e*Sg		**Sg**	**00 22 21.2**	**-0.8**
	comp=Z,2.6nm,0.4s							
BLEU	**Blekinge**	**4.68**	**359**	P		**Pn**	**00 21 14.1**	**+1.5**
BLEU				S		**Sn**	**00 22 05.4**	**-2.2**
KBA	**Koelnbreinsper**	**4.88**	**202**	*i* Pn		**Pn**	**00 21 16.5**	**+0.9**
	comp=Z,2.0nm,0.4s							
KBA				Sg		**Sg**	**00 22 37.0**	**-0.6**
	comp=Z,6.0nm,0.7s							
DEL	**Delary**	**5.01**	**346**	P		**Pn**	**00 21 17.9**	**+0.8**
DEL				S		**Sn**	**00 22 13.4**	**-2.3**
VXJU	**Vaexsjoe**	**5.34**	**354**	P		**Pn**	**00 21 23.6**	**+2.0**
VXJU				S		**Sn**	**00 22 21.1**	**-2.7**
MOTA	**Moosalm**	**5.36**	**219**	*i* Pn		**Pn**	**00 21 22.2**	**+0.1**
	comp=Z,0.3nm,0.2s							
MOTA				*e*Sg		**Sg**	**00 22 54.6**	**+1.8**
	comp=Z,2.8nm,0.6s							
OSKU	**Oskarshamn**	**5.58**	**0**	P		**Pn**	**00 21 27.2**	**+2.3**
OSKU				S		**Sn**	**00 22 27.4**	**-2.1**
BYXU	**Byxelkrok**	**5.70**	**5**	P		**Pn**	**00 21 28.6**	**+2.1**
FABU	**Falkenberg**	**5.72**	**341**	P		**Pn**	**00 21 27.4**	**+0.6**
GNOU	**Gnosjoe**	**5.82**	**348**	P		**Pn**	**00 21 29.6**	**+1.3**
HFS	**Hagfors**	**8.62**	**352**	Pn		**Pn**	**00 22 06.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=161,slow=14,SNR=4.4							
NOA	**NORSAR Array B**	**9.80**	**346**	Pn		**Pn**	**00 22 22.8**	**0.0**
	comp=Z,0.0nm,0.3s,baz=149,slow=12,SNR=2.6							
FINES	**FINESS Array B**	**11.27**	**25**	Pn		**Pn**	**00 22 42.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=219,slow=11,SNR=6.1							

*ISCJB **02** 00:30:20.8±0.4,21°.34S±0°.03×68°.98W±0°.07, h126km±5km, mb3.9/4, Error ellipse: s-maj=11.4km s-min=4.8km az=174.7*
*SJA **02** 00:30:20.9±1.2,21°.34S×68°.97W, h120km±6km, ML2.6, MW2.6*
*IDC **02** 00:30:22.0±1.0,21°.37S×68°.53W, h111km±12km, mb3.8/5, mb1 3.8/7, mb1mx3.5/25, mbtmp4.1/7, MS3.4/2, Ms1 3.4/2, ms1mx2.8/31, Error ellipse: s-maj=28.9km s-min=14.8km az=120.0*
*GUC **02** 00:30:21.4±0.7,21°.34S×68°.97W, h114km±4km, ML4.2*
ISC 02 00:30:21.1±0.7, 21°.31S±0°.03×68°.88W±0°.06, h116km±6km, n37, σ1 s27/60, mb3.9/4, 5C-13D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**0.59**	**215**	*e*P		**Pn**	**00 30 39.9**	**+0.4**
PB09				*e*S		**Sn**	**00 30 53.4**	**+0.1**
PB09	**IPOC Station P**	**0.59**	**215**⇑	*e*P		**Pn**	**00 30 39.6**	**+0.1**
PB09				*e*S		**Sn**	**00 30 53.2**	**-0.1**
PB01	**IPOC Station P**	**0.63**	**295**⇓	*e*P		**Pn**	**00 30 39.9**	**+0.3**
PB01				⇓*e*S		**Sn**	**00 30 53.6**	**+0.1**
PB01	**IPOC Station P**	**0.63**	**295**⇑	*e*P		**Pn**	**00 30 39.9**	**+0.3**
PB01				*e*S		**Sn**	**00 30 53.3**	**-0.2**
PB02	**IPOC Station P**	**0.95**	**269**	*e*P		**Pn**	**00 30 42.9**	**+0.5**
PB02				⇓*e*S		**Sn**	**00 30 58.5**	**0.0**
PB07	**IPOC Station P**	**1.03**	**246**⇓	*e*P		**Pn**	**00 30 43.3**	**+0.3**
PB07				⇓*e*S		**Sn**	**00 30 59.6**	**-0.5**
PB07	**IPOC Station P**	**1.03**	**246**⇑	*e*P		**Pn**	**00 30 43.2**	**-0.1**
PB07				*e*S		**Sn**	**00 30 59.5**	**-0.5**
PB07				IAML			00 31 00.7	
	comp=N,5μm,0.1s							
PB08	**IPOC Station P**	**1.19**	**347**⇓	*e*P		**Pn**	**00 30 46.7**	**+1.5**
PB08				⇓*e*S		**Sn**	**00 31 05.5**	**+2.2**
PB08	**IPOC Station P**	**1.19**	**347**⇓	*i*P		**Pn**	**00 30 46.5**	**+1.4**
PB08				*e*S		**Sn**	**00 31 05.1**	**+1.8**
PB08				IAML			00 31 06.7	
	comp=E,4μm,0.2s							
LVC	**Limon Verde**	**1.30**	**181**⇓	*e*P		**Pn**	**00 30 46.9**	**+0.5**
LVC				*e*S		**Sn**	**00 31 05.2**	**-0.2**
LVC	**Limon Verde**	**1.30**	**181**	*e*P		**Pn**	**00 30 46.8**	**+0.4**
LVC				*i* S		**Sn**	**00 31 05.6**	**+0.1**
LVC	**Limon Verde**	**1.30**	**181**	P		**Pn**	**00 30 46.9**	**+0.5**
	baz=0.4,slow=6.6							
LVC				S		**Sn**	**00 31 05.2**	**-0.2**
	comp=E,222nm,0.3s,baz=270,slow=20,SNR=68							
LVC				LR		LR	00 31 22.1	
	comp=E,141nm,19.2s,baz=210,slow=47							
PB06	**IPOC Station P**	**1.54**	**205**	*e*P		**Pn**	**00 30 49.2**	**+0.3**
PB06				⇓*e*S		**Sn**	**00 31 09.9**	**-0.1**
PB06	**I

PB15	**IPOC Station P**	**1.97**	**196**	*e*P		**Pn**	**00 30 54.7**	**+0.5**
PB15				*e*S		**Sn**	**00 31 19.6**	**+0.1**
PB15				IAML			00 31 25.4	
	comp=E,9µm,0.2s							
PSGC	**Pisagua**	**2.06**	**325**	⇓*i*P		**Pn**	**00 30 55.3**	**0.0**
PSGC				*e*S		**Sn**	**00 31 21.0**	**-0.4**
PSGC				IAML			00 31 23.3	
	comp=N,991nm,0.2s							
PSGCX	**Pisagua**	**2.06**	**325**	*e*P		**Pn**	**00 30 55.5**	**+0.2**
PSGCX				⇓*e*S		**Sn**	**00 31 20.6**	**-0.8**
MNMCX	**Minye Minye**	**2.27**	**343**	*e*P		**Pn**	**00 30 59.3**	**+1.3**
PB10	**IPOC Station P**	**2.69**	**215**	*e*P		**Pn**	**00 31 03.0**	**-0.2**
YJA	**Yavi**	**3.24**	**106**	*e*P		**Pn**	**00 31 13.4**	**+2.5**
YJA				IAML			00 31 55.8	
	comp=Z,12nm,1.0s							
LPAZ	**La Paz**	**5.04**	**8**	*e*P		**Pn**	**00 31 38.1**	**+2.9**
LPAZ	**La Paz**	**5.04**	**8**	P		**Pn**	**00 31 37.6**	**+2.4**
	comp=Z,4.3nm,0.3s,baz=215,slow=5.5,SNR=74							
FSA	**Cafayete**	**5.47**	**152**	*e*S		**Pn**	**00 31 40.9**	**+0.4**
SIV	**San Ignacio**	**9.09**	**56**	P		**Pn**	**00 32 27.3**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=275,slow=9.0,SNR=9.8							
SIV				S		**Sn**	**00 34 04.3**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=323,slow=20,SNR=3.3							
SIV				LR		LR	00 36 32.9	
	comp=Z,99nm,19.2s,baz=304,slow=42							
BDFB	**Brasilia**	**20.57**	**78**	P		**P**	**00 34 50.2**	**-0.7**
	comp=Z,5.7nm,0.4s,baz=243,slow=10.0,SNR=10.0							
PTGA	**Pitinga**	**22.22**	**24**	P		**P**	**00 35 08.0**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=312,slow=22,SNR=6.3							
ANMO	**Albuquerque**	**66.35**	**327**	LR		LR	01 10 38.4	
	comp=Z,82nm,20.7s,baz=280,slow=36							
DBIC	**Dimbokro**	**68.65**	**73**	P		**P**	**00 41 12.9**	**+0.5**
	comp=Z,2.5nm,0.7s,baz=227,slow=4.6,SNR=4.4							
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P		**P**	**00 42 02.0**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=252,slow=5.3,SNR=14							
TORD				pP		**pP**	**00 42 32.3**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=224,slow=4.0,SNR=2.4							
YKA	**Yellowknife Ar**	**91.02**	**341**	P		**P**	**00 43 13.2**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=136,slow=4.5,SNR=11							
ZALV	**Zalesovo Beam**	**141.77**	**25**	PKP		**PKiKP**	**00 49 40.4**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=342,slow=5.2,SNR=3.2							
MKAR	**Makanchi Array**	**145.46**	**36**	PKPbc		**PKPab**	**00 49 47.0**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=339,slow=3.0,SNR=8.3							
MKAR				pPKPbc		**pPKPdf**	**00 50 18.6**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=318,slow=3.3,SNR=6.4							

MDD ***02*** *00:41:18.9±1.9, 37.°10N×13.°24W, h0km, mb3.6/2, Error ellipse: s-maj=18.1km s-min=14.9km az=29.0, PRXIMO*
INMG ***02*** *00:41:20.1±1.1, 36.°93N×13.°66W, h10km, ML2.2, Error ellipse: s-maj=6.1km s-min=6.0km az=106.0*

ISC 02 00:41:19.5±3.7, 37.°2N±0.°1×13.°2W±0.°2, h10km, n46, σ1s22/78, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.46**	**90**	*e*Pn		**Pn**	**00 42 14.0**	**+0.6**
PFVI				*e*Sn		**Sn**	**00 42 53.5**	**-0.9**
PFVI				A		A	00 42 56.4	
	3.2nm,0.2s							
PFVI	**Vila Bisbo**	**3.46**	**90**	P		**Pn**	**00 42 14.0**	**+0.6**
	1.2nm,0.2s,SNR=7.9							
PFVI				S		**Sn**	**00 42 52.8**	**-1.6**
	4.5nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**3.53**	**59**	*e*Pn		**Pn**	**00 42 15.7**	**+1.4**
PMAFR				*e*Sn		**Sn**	**00 42 57.0**	**+0.9**
PMAFR	**Mafra**	**3.53**	**59**	P		**Pn**	**00 42 15.7**	**+1.4**
	2.3nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**00 42 56.1**	**0.0**
	0.3nm,0.1s,SNR=5.6							
PTEO	**Sao Teotonio**	**3.55**	**83**	*e*Pn		**Pn**	**00 42 15.0**	**+0.4**
PTEO				*e*Sn		**Sn**	**00 42 55.3**	**-1.3**
PTEO				A		A	00 42 56.8	
	4.5nm,0.5s							
PTEO	**Sao Teotonio**	**3.55**	**83**	P		**Pn**	**00 42 15.0**	**+0.4**
PTEO				S		**Sn**	**00 42 55.3**	**-1.3**
	2.2nm,0.5s							
MORF	**Marmelete**	**3.59**	**87**	*e*Pn		**Pn**	**00 42 16.5**	**+1.2**
MORF				*e*Sn		**Sn**	**00 42 57.4**	**-0.5**
MORF				A		A	00 43 01.9	
	5.2nm,0.1s							
MORF	**Marmelete**	**3.59**	**87**	P		**Pn**	**00 42 16.5**	**+1.2**
MORF				S		**Sn**	**00 42 57.4**	**-0.5**
	5.2nm,0.1s							
PNCL	**Nicolau / Gran**	**3.78**	**75**	*e*Pn		**Pn**	**00 42 18.6**	**+0.7**
PNCL				*e*Sn		**Sn**	**00 43 02.4**	**0.0**
PNCL				A		A	00 43 03.4	
	2.6nm,0.3s							
PNCL	**Nicolau / Gran**	**3.78**	**75**	P		**Pn**	**00 42 18.6**	**+0.7**
PNCL				S		**Sn**	**00 43 02.4**	**0.0**
	2.6nm,0.3s							
MESJ	**Messejana**	**3.98**	**79**	*e*Pn		**Pn**	**00 42 24.2**	**+3.7**
MESJ				*e*Sn		**Sn**	**00 43 07.1**	**-0.1**
MESJ				A		A	00 43 11.8	
	2.7nm,0.5s							
MESJ	**Messejana**	**3.98**	**79**	S		**Sn**	**00 43 07.1**	**-0.1**
	2.7nm,0.5s							
PBDV	**Barranco-do-Ve**	**4.17**	**88**	*e*Sn		**Sn**	**00 43 11.5**	**-0.5**
PBDV				A		A	00 43 17.1	
	2.0nm,0.1s							
PBDV	**Barranco-do-Ve**	**4.17**	**88**	S		**Sn**	**00 43 11.5**	**-0.5**
	2.0nm,0.1s							
PBEJ	**Beja**	**4.28**	**77**	*e*Sn		**Sn**	**00 43 15.3**	**+0.6**
PBEJ				A		A	00 43 16.5	
	1.9nm,0.3s							
PBEJ	**Beja**	**4.28**	**77**	S		**Sn**	**00 43 15.3**	**+0.6**
	0.9nm,0.3s							
PMTG	**Montargil**	**4.32**	**63**	*e*Pn		**Pn**	**00 42 25.9**	**+0.7**
PMTG				*e*Sn		**Sn**	**00 43 16.2**	**+0.7**
PMTG				A		A	00 43 19.4	
	1.6nm,0.4s							
PMTG	**Montargil**	**4.32**	**63**	P		**Pn**	**00 42 25.9**	**+0.7**
PMTG				S		**Sn**	**00 43 16.2**	**+0.7**
	1.6nm,0.4s							
PVAQ	**Vaqueiros**	**4.34**	**86**	*e*Pn		**Pn**	**00 42 26.9**	**+1.4**
PVAQ				*e*Sn		**Sn**	**00 43 15.1**	**-1.1**
PVAQ				A		A	00 43 19.6	
	3.1nm,0.7s							
PVAQ	**Vaqueiros**	**4.34**	**86**	P		**Pn**	**00 42 26.9**	**+1.4**
PVAQ				S		**Sn**	**00 43 15.1**	**-1.1**
	3.1nm,0.7s							
PTOM	**Tomar**	**4.44**	**56**	*e*Sn		**Sn**	**00 43 19.4**	**+0.7**
PTOM				A		A	00 43 26.2	
	2.8nm,0.2s							
PTOM	**Tomar**	**4.44**	**56**	S		**Sn**	**00 43 19.4**	**+0.7**
	1.4nm,0.2s							
EGRO	**El Granado**	**4.53**	**84**	P		**Pn**	**00 42 28.5**	**+0.4**
	0.2nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**00 43 19.5**	**-1.3**
	0.1nm,0.1s,SNR=4.6							
PCAS	**Casmilo, Conde**	**4.63**	**50**	*e*Pn		**Pn**	**00 42 30.3**	**+0.8**
PCAS				*e*Sn		**Sn**	**00 43 23.8**	**+0.4**
PCAS	**Casmilo, Conde**	**4.63**	**50**	P		**Pn**	**00 42 30.3**	**+0.8**
PCAS				S		**Sn**	**00 43 23.8**	**+0.4**
PESTR	**Estremoz**	**4.70**	**67**	*e*Pn		**Pn**	**00 42 31.4**	**+0.9**
PESTR				*e*Sn		**Sn**	**00 43 25.2**	**+0.1**
PESTR				A		A	00 43 28.9	
	1.3nm,0.5s							
PMRV	**Marv??o**	**5.05**	**62**	*e*Pn		**Pn**	**00 42 36.3**	**+1.0**
PMRV				*e*Sn		**Sn**	**00 43 33.6**	**-0.1**
PMRV				A		A	00 43 35.7	
	1.1nm,0.2s							
PMRV	**Marv??o**	**5.05**	**62**	P		**Pn**	**00 42 36.3**	**+1.0**
PMRV				S		**Sn**	**00 43 33.6**	**-0.1**
	1.1nm,0.2s							
EBAD	**Badajoz**	**5.10**	**70**	P		**Pn**	**00 42 36.3**	**+0.4**
	0.2nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**00 43 32.6**	**-2.2**
	0.7nm,0.1s,SNR=5.7							
PCBR	**Castelo Branco**	**5.18**	**58**	*e*Pn		**Pn**	**00 42 38.1**	**+1.1**
PCBR				*e*Sn		**Sn**	**00 43 36.8**	**0.0**
PCBR	**Castelo Branco**	**5.18**	**58**	P		**Pn**	**00 42 38.1**	**+1.1**
PCBR				S		**Sn**	**00 43 36.8**	**0.0**
EMIN	**Mina Concepcio**	**5.19**	**82**	P		**Pn**	**00 42 37.5**	**+0.3**
	0.2nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**00 43 34.5**	**-2.5**
	1.2nm,0.2s,SNR=7.9							
PVIS	**Viseu**	**5.40**	**48**	*e*Sn		**Sn**	**00 43 42.0**	**-0.4**
PVIS	**Viseu**	**5.40**	**48**	S		**Sn**	**00 43 42.0**	**-0.4**
MTE	**Manteigas**	**5.43**	**52**	*e*Pn		**Pn**	**00 42 41.2**	**+0.7**
MTE				*e*Sn		**Sn**	**00 43 43.3**	**+0.2**
MTE	**Manteigas**	**5.43**	**52**	P		**Pn**	**00 42 41.2**	**+0.7**
MTE				S		**Sn**	**00 43 43.3**	**+0.2**
POLO	**Lamas de Olo**	**5.89**	**43**	*e*Pn		**Pn**	**00 42 48.0**	**+1.1**
POLO	**Lamas de Olo**	**5.89**	**43**	P		**Pn**	**00 42 48.0**	**+1.1**
PGAV	**Gavieira, Arco**	**6.08**	**37**	*e*Pn		**Pn**	**00 42 50.3**	**+0.8**
PGAV				*e*Sn		**Sn**	**00 43 58.5**	**-0.7**
PGAV	**Gavieira, Arco**	**6.08**	**37**	P		**Pn**	**00 42 50.3**	**+0.8**
PGAV				S		**Sn**	**00 43 58.5**	**-0.7**
ELOB	**Lobios**	**6.11**	**39**	P		**Pn**	**00 42 50.6**	**+0.8**
	0.6nm,0.2s,SNR=7.9							
ELOB				S		**Sn**	**00 43 55.4**	**-4.4**
	0.8nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**6.20**	**48**	*e*Pn		**Pn**	**00 42 51.8**	**+0.7**
MVO				*e*Sn		**Sn**	**00 44 00.0**	**-2.0**
MVO	**Moncorvo**	**6.20**	**48**	P		**Pn**	**00 42 51.1**	**0.0**
	0.5nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**00 43 58.7**	**-3.3**
	0.3nm,0.1s,SNR=4.0							
EAGO	**Agolada(Pontev**	**6.82**	**33**	P		**Pn**	**00 42 59.0**	**-0.6**
	0.5nm,0.2s,SNR=7.9							
EAGO				S		Sn	00 44 10.4	-6.9
	0.1nm,0.1s,SNR=4.0							
EADA	**Adamuz**	**6.87**	**79**	S		**Sn**	**00 44 15.4**	**-3.2**
	0.1nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**7.31**	**69**	P		**Pn**	**00 43 06.7**	**+0.4**
	0.1nm,0.1s,SNR=7.9							

ISCJB ***02*** *00:45:31.9±0.6, 41.°15N±0.°03×43.°98E±0.°04, h3km±5km, Error ellipse: s-maj=5.4km s-min=4.0km az=138.5*
DDA ***02*** *00:45:31.4, 41.°17N×43.°96E, h7km±1km, ML2.6*
TIF ***02*** *00:45:31.6, 41.°18N×43.°99E, h10km±2km*
ISK ***02*** *00:45:32.7, 41.°18N×44.°02E, h21km, ML1.9/5*

ISC 02 00:45:32.0±1.0, 41.°18N±0.°03×43.°98E±0.°03, h13km±9km, n17, σ0s63/30, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BGD	**Bogdanovka**	**0.30**	**287**	P		**Pg**	**00 45 37.8**	**-0.1**
BGD				S		**Sg**	**00 45 42.4**	**-0.1**
TRLG	**Trialeti**	**0.37**	**15**	P		**Pg**	**00 45 39.6**	**+0.1**
TRLG				S		**Sg**	**00 45 45.1**	**+0.4**
KZRT	**Kazreti**	**0.38**	**57**	P		**Pb**	**00 45 39.9**	**-0.8**
KZRT				S		**Sb**	**00 45 45.5**	**-1.0**
EAK	**Akyaka**	**0.57**	**210**	*i* P		**Pg**	**00 45 42.9**	**-0.3**
EAK				*i* S		**Sg**	**00 45 51.0**	**+0.3**
TBLG	**Delisi**	**0.79**	**46**	PG		**Pb**	**00 45 47.6**	**-0.1**
TBLG				SG		**Sb**	**00 45 59.1**	**+0.7**
TBLG	**Delisi**	**0.79**	**46**	P		**Pb**	**00 45 47.4**	**-0.4**
TBLG				S		**Sb**	**00 45 58.8**	**+0.4**
TBLG	**Delisi**	**0.79**	**46**	*i* P		**Pb**	**00 45 47.7**	**-0.1**
TBLG				*i* S		**Sn**	**00 45 59.9**	**-0.8**
TBLG				IAML_P				
	comp=Z,794nm,0.1s							
BTNK	**Botanikuri**	**0.80**	**51**	P		**Pb**	**00 45 47.4**	**-0.4**
BTNK				S		**Sb**	**00 45 58.8**	**+0.3**
BTNK	**Botanikuri**	**0.80**	**51**	*i* P		**Pb**	**00 45 47.7**	**-0.1**
BTNK				*i* S		**Sn**	**00 45 59.7**	**-1.1**
BTNK				IAML_P				
	comp=Z,4µm,0.1s							
EPOS	**Posof**	**0.99**	**289**	*i* P		**Pg**	**00 45 50.6**	**-0.7**
EPOS				*i* S		**Sb**	**00 46 04.8**	**+0.5**
GNI	**Garni**	**1.18**	**150**	PN		**Pn**	**00 45 54.6**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.21**	**170**	PN		**Pg**	**00 45 55.1**	**-0.2**
TASB				SN		**Sn**	**00 46 11.8**	**+0.8**
GUDG	**Gudauri**	**1.34**	**16**	P		**Pg**	**00 45 58.0**	**+0.2**
GUDG				S		**Sg**	**00 46 16.7**	**+1.5**
SENK	**Senkaya-Erzuru**	**1.38**	**244**	PN		**Pb**	**00 45 57.9**	**+0.1**
BATM	**Batumi**	**1.77**	**285**	PN		**Pb**	**00 46 03.7**	**-0.6**
BATM	**Batumi**	**1.77**	**285**	P		**Pb**	**00 46 04.5**	**+0.2**
BATM				S		**Sb**	**00 46 27.4**	**+0.9**
BCA	**Borcka**	**1.79**	**279**	PN		**Pb**	**00 46 04.1**	**-0.7**

ISK ***02*** *01:10:13.8, 38.°75N×43.°16E, h6km, ML2.3/10*
DDA ***02*** *01:10:16.8, 38.°70N×43.°50E, h7km±7km, ML2.6*

ISC 02 01:10:14.6±1.0, 38.°76N±0.°03×43.°15E±0.°04, h15km±9km, n15, σ0s90/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.25**	**131**	PG		**Pg**	**01 10 20.2**	**0.0**
VANB				SG		**Sg**	**01 10 25.1**	**+1.2**
ERCV	**ERCIS-VAN**	**0.30**	**29**	PG		**Pg**	**01 10 20.4**	**-0.7**
ERCV				SG		**Sg**	**01 10 25.2**	**-0.3**
TVAN	**Van**	**0.30**	**138**	*i* P		**Pg**	**01 10 20.4**	**-0.8**
TVAN				*i* S		**Sb**	**01 10 25.7**	**-1.1**
TVAN				IAML_P				
	comp=Z,5µm,0.1s							
VMUR	**Van-Muradiye**	**0.40**	**55**	*i* P		**Pg**	**01 10 22.2**	**-0.6**
VMUR				*i* S		**Sb**	**01 10 29.4**	**-0.2**
VMUR				IAML_P				
	comp=Z,1µm,0.1s							
AKDM	**Akdamar-Van**	**0.45**	**197**	PG		**Pg**	**01 10 22.8**	**-0.9**
AKDM				SG		**Sb**	**01 10 29.9**	**-1.0**
GEVA	**Gevas**	**0.45**	**189**	*i* P		**Pg**	**01 10 23.1**	**-0.6**
GEVA				IAML_P				
	comp=Z,3µm,0.3s							
CLDR	**Caldiran**	**0.71**	**57**	PG		**Pg**	**01 10 27.4**	**-1.2**
CLDR	**Caldiran**	**0.71**	**57**	*i* P		**Pg**	**01 10 27.4**	**-1.2**
CLDR				*i* S		**Sb**	**01 10 38.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.83**	**352**	PG		**Pg**	**01 10 30.1**	**-0.6**
GURO	**Guroymak-BITLI**	**0.90**	**257**	PG		**Pg**	**01 10 31.4**	**-0.7**
SIRT	**Sirnak**	**1.37**	**204**	PN		**Pg**	**01 10 40.2**	**-0.9**
VRTB	**Varto-Mus**	**1.38**	**287**	PN		**Pb**	**01 10 40.3**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.59**	**321**	PN		**Pn**	**01 10 43.4**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.65**	**249**	PN		**Pn**	**01 10 43.9**	**+0.9**
GNI	**Garni**	**1.86**	**41**	PN		**Pn**	**01 10 47.1**	**+1.0**

ISCJB ***02*** *01:11:04.3±0.2, 62.°64N±0.°02×148.°85W±0.°06, h78km±4km, mb4.0/8, Error ellipse: s-maj=4.4km s-min=3.2km az=23.6*
IDC ***02*** *01:11:04.4±1.9, 62.°69N×149.°02W, h60km±18km, mb3.8/8, mb1 4.0/13, mb1mx3.6/44, mbtmp4.0/13, MS3.1/2, Ms1 3.1/2, ms1mx2.6/48, Error ellipse: s-maj=23.3km s-min=14.7km az=117.0*
NEIC ***02*** *01:11:05.4±0.0, 62.°62N×148.°87W, h55km, ML3.8(AEIC), After AEIC.*

ISC 02 01:11:04.6±0.8, 62.°61N±0.°03×148.°85W±0.°04, h67km±8km, n82, σ1s20/86, mb4.0/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RND	**Reindeer**	**0.80**	**360**	P		**Pn**	**01 11 20.8**	**+0.3**
RND				S		**Sn**	**01 11 32.0**	**-0.2**
DHY	**Denali Highway**	**0.82**	**55**	P		**Pn**	**01 11 20.9**	**0.0**
DHY				S		**Sn**	**01 11 32.9**	**-0.1**
SML	**Sawmill**	**0.84**	**163**	P		**Pn**	**01 11 21.1**	**0.0**
GHO	**Glory Hole Cre**	**0.84**	**182**	P		**Pn**	**01 11 21.2**	**+0.1**
GHO				S		**Sn**	**01 11 33.2**	**-0.1**
PMR	**Palmer**	**1.03**	**187**	P		**Pn**	**01 11 23.6**	**+0.3**
PMR				S		**Sn**	**01 11 37.3**	**0.0**
SCM	**Sheep Creek Mo**	**1.06**	**137**	P		**Pn**	**01 11 23.9**	**+0.1**
TRF	**Thorofare Moun**	**1.07**	**323**	P		**Pn**	**01 11 24.4**	**+0.5**
MCK	**McKinley**	**1.12**	**358**	P		**Pn**	**01 11 25.4**	**+0.9**
KNK	**Knik Glacier**	**1.22**	**171**	P		**Pn**	**01 11 26.7**	**+0.9**
SUA	**Susitna One**	**1.46**	**219**	P		**Pn**	**01 11 30.2**	**+1.2**
PPLA	**Purkeypile**	**1.56**	**282**	P		**Pn**	**01 11 30.9**	**+0.4**
RC01	**Rabbit Creek A**	**1.59**	**196**	P		**Pn**	**01 11 31.6**	**+1.0**
BWN	**Browne**	**1.59**	**350**	P		**Pn**	**01 11 31.3**	**+0.7**
PAX	**Paxson**	**1.59**	**76**	P		**Pn**	**01 11 31.9**	**+1.1**
PS11	**TAPS Pump St11**	**1.66**	**107**	P		**Pn**	**01 11 33.8**	**+2.1**
CAST	**Castle Rocks**	**1.68**	**300**	P		**Pn**	**01 11 32.3**	**+0.4**
HARP	**HAARP**	**1.73**	**95**	P		**Pn**	**01 11 34.4**	**+1.8**
PWL	**Port Wells**	**1.78**	**172**	P		**Pn**	**01 11 34.4**	**+1.2**
KLU	**Klutina**	**1.78**	**128**	P		**Pn**	**01 11 34.2**	**+0.9**
JPK	**Jack Peak**	**1.89**	**145**	P		**Pn**	**01 11 35.4**	**+0.6**
WRH	**Wood River Hil**	**1.90**	**10**	P		**Pn**	**01 11 35.2**	**+0.4**
NEA	**Nenana**	**1.97**	**357**	P		**Pn**	**01 11 36.3**	**+0.5**
HDA	**Harding Lake**	**1.99**	**24**	P		**Pn**	**01 11 36.6**	**+0.6**
SPCP	**Crater Peak Br**	**2.07**	**231**	P		**Pn**	**01 11 38.8**	**+1.6**
DIV	**Divide**	**2.08**	**134**	P		**Pn**	**01 11 37.8**	**+0.4**
CCB	**Clear Creek Bu**	**2.09**	**12**	P		**Pn**	**01 11 37.7**	**+0.3**
SPCN	**Chakachatna No**	**2.10**	**230**	P		**Pn**	**01 11 39.5**	**+1.9**
PS08	**TAPS Pump Stn8**	**2.14**	**24**	P		**Pn**	**01 11 38.5**	**+0.5**
RIDG	**Independ'e Rid**	**2.14**	**56**	P		**Pn**	**01 11 40.1**	**+2.0**
SPWE	**Spurr West**	**2.21**	**234**	P		**Pn**	**01 11 40.9**	**+1.8**
SLKM	**Skilak Lake**	**2.21**	**198**	P		**Pn**	**01 11 40.0**	**+0.9**
COLA	**College**	**2.31**	**11**	P		**Pn**	**01 11 41.0**	**+0.6**
ILAR	**Eielson Array**	**2.34**	**21**	P		**Pn**	**01 11 40.9**	**+0.1**
	34nm,0.3s,baz=202,slow=14,SNR=534							
ILAR				S		**Sn**	**01 12 07.5**	**-0.9**
	84nm,0.3s,baz=207,slow=23,SNR=35							
MDM	**Murphy Dome**	**2.37**	**6**	P		**Pn**	**01 11 41.9**	**+0.7**
MENT	**Mentasta**	**2.38**	**80**	P		**Pn**	**01 11 42.7**	**+1.4**
DOT	**Dot Lake**	**2.41**	**62**	P		**Pn**	**01 11 43.0**	**+1.3**
SEW	**Seward**	**2.54**	**187**	P		**Pn**	**01 11 45.3**	**+1.9**
EYAK	**Cordova Ski Ar**	**2.55**	**143**	P		**Pn**	**01 11 44.5**	**+0.9**
MLY	**Manley**	**2.57**	**342**	P		**Pn**	**01 11 44.4**	**+0.6**
SCRK	**Sand Creek**	**2.59**	**56**	P		**Pn**	**01 11 45.4**	**+1.2**
RDN	**Redoubt North**	**2.82**	**223**	P		**Pn**	**01 11 48.9**	**+1.5**
RDWB	**Redoubt West**	**2.86**	**224**	P		**Pn**	**01 11 49.2**	**+1.2**
RED	**Redoubt Volcan**	**2.90**	**222**	P		**Pn**	**01 11 49.7**	**+1.3**
BRLK	**Bradley Lake**	**3.02**	**200**	P		**Pn**	**01 11 51.3**	**+1.2**
PRP	**Porcupine Dome**	**3.26**	**25**	P		**Pn**	**01 11 54.2**	**+0.8**
PS06	**TAPS Pump Stn6**	**3.28**	**354**	P		**Pn**	**01 11 54.6**	**+1.2**
ILW	**Iliamna West**	**3.29**	**221**	P		**Pn**	**01 11 55.0**	**+1.2**
TTO1	**Tatalina**	**3.31**	**278**	P		**Pn**	**01 11 54.2**	**+0.3**
ILS	**Iliamna Low So**	**3.35**	**219**	P		**Pn**	**01 11 57.5**	**+2.9**
BALM	**Baldy**	**3.47**	**114**	P		**Pn**	**01 11 56.7**	**+0.5**
SVW2	**Sparrevohn**	**3.53**	**247**	P		**Pn**	**01 11 57.8**	**+0.8**
BVCY	**Beaver Creek**	**3.71**	**90**	P		**Pn**	**01 12 00.9**	**+1.5**
YUK2	**White River**	**3.84**	**99**	P		**Pn**	**01 12 02.9**	**+1.5**
CTGM	**Chitina Glacie**	**3.93**	**112**	P		**Pn**	**01 12 03.7**	**+1.1**
AUL	**Augustine Lava**	**3.94**	**217**	P		**Pn**	**01 12 04.5**	**+2.0**
AUE	**Augustine Isla**	**3.94**	**216**	P		**Pn**	**01 12 04.2**	**+1.7**
AUW	**Augustine West**	**3.96**	**217**	P		**Pn**	**01 12 04.8**	**+2.0**
IM3	**Indian Mountai**	**4.00**	**330**	P		**Pn**	**01 12 04.0**	**+0.7**
YUK3	**Moose Creek**	**4.02**	**98**	P		**Pn**	**01 12 05.5**	**+1.6**
EGAK	**Eagle**	**4.05**	**54**	P		**Pn**	**01 12 05.1**	**+1.1**
FYU	**Fort Yukon**	**4.26**	**20**	P		**Pn**	**01 12 08.0**	**+1.1**
PS05	**TAPS Pump Stn5**	**4.29**	**350**	P		**Pn**	**01 12 09.3**	**+2.1**
DAWY	**Dawson**	**4.50**	**67**	P		**Pn**	**01 12 11.4**	**+1.2**
BM3	**Burnt Mountain**	**5.15**	**19**	P		**Pn**	**01 12 20.1**	**+1.0**
KDAK	**Kodiak Island**	**5.19**	**203**	P		**Pn**	**01 12 19.5**	**-0.1**
	7.9nm,0.3s,baz=61,slow=6.8,SNR=92							
KDAK				S		**Sn**	**01 13 14.0**	**-4.1**
	5.4nm,0.3s,baz=281,slow=19,SNR=8.6							
YUK6	**Outpost Mounta**	**5.25**	**104**	P		**Pn**	**01 12 21.4**	**+0.7**
YUK5	**Granite Creek**	**5.41**	**101**	P		**Pn**	**01 12 23.6**	**+0.9**
INK	**Inuvik**	**8.54**	**41**	P		**Pn**	**01 13 05.9**	**+0.6**
	2.0nm,0.3s,baz=230,slow=14,SNR=92							
INK				S		**Sn**	**01 14 38.6**	**-1.4**
	2.4nm,0.3s,baz=178,slow=18,SNR=8.1							
INK				LR		LR	01 16 13.9	
	comp=Z,61nm,19.9s,baz=252,slow=36							
DLBC	**Dease Lake**	**10.16**	**106**	P		**Pn**	**01 13 28.4**	**+0.9**
	0.3nm,0.3s,baz=200,slow=11,SNR=3.1							
YKA	**Yellowknife Ar**	**15.68**	**75**	P		**Pn**	**01 14 41.9**	**+0.8**
	0.1nm,0.3s,baz=292,slow=13,SNR=14							
SEY	**Seymchan**	**26.09**	**297**	P		**P**	**01 16 30.7**	**-0.8**
	1.1nm,0.3s,baz=92,slow=6.6,SNR=11							
PDAR	**Pinedale Array**	**30.30**	**112**	pP		pP	01 17 27.0	+1.0
	0.5nm,0.8s,baz=299,slow=9.3,SNR=3.4							
TXAR	**Lajitas Array**	**44.21**	**117**	pP		pP	01 19 25.6	+1.5
	0.6nm,0.8s,

PKGZ	**Pakihiroa**	**8.49**	**197**	P		**P**		**01 17 21.6**	**-0.4**
PUZ	**Puketiti**	**8.62**	**196**	P		**P**		**01 17 23.3**	**-0.1**
RUGZ	**Raukumara Rang**	**8.67**	**199**	P		**P**		**01 17 22.7**	**-1.3**
TWGZ	**Tauwhareparae**	**8.79**	**197**	P		**P**		**01 17 28.3**	**+3.1**
CNGZ	**Carnagh Statio**	**9.03**	**195**	P		**P**		**01 17 31.4**	**+3.6**
MWZ	**Matawai**	**9.06**	**199**	P		**Pn**		**01 17 25.5**	**-0.4**
MWZ				S		**S**		**01 19 08.9**	**-0.7**
TKGZ	**Te Karaka**	**9.07**	**197**	P		**P**		**01 17 30.7**	**+2.4**
URZ	**Urewera**	**9.11**	**201**	P		**Pn**		**01 17 26.3**	**-0.2**
	0.7nm,0.3s,baz=27,slow=2.3,SNR=2.0								
URZ				S		**S**		**01 19 07.5**	**-3.1**
	7.7nm,0.3s,baz=195,slow=23,SNR=16								
URZ	**Urewera**	**9.11**	**201**	P		**P**		**01 17 27.9**	**-0.8**
URZ				S		**S**		**01 19 08.1**	**-2.5**
RAGZ	**Rawiri**	**9.24**	**199**	P		**P**		**01 17 33.1**	**+2.8**
RIGZ	**Rimuhau**	**9.35**	**197**	P		**P**		**01 17 32.2**	**+0.7**
RTZ	**Ruatahuna**	**9.48**	**200**	P		**P**		**01 17 33.1**	**+0.2**
PRGZ	**Paritu Road**	**9.52**	**196**	P		**P**		**01 17 36.4**	**+3.1**
RAHZ	**Arahi**	**9.72**	**199**	P		**P**		**01 17 37.0**	**+1.4**
TLZ	**Tolley Road**	**9.73**	**207**	P		**P**		**01 17 40.0**	**+4.3**
MHGZ	**Mahia Peninsul**	**9.73**	**195**	P		**P**		**01 17 38.5**	**+2.8**
WHHZ	**Waihua**	**9.83**	**198**	P		**P**		**01 17 39.4**	**+2.6**
NMHZ	**Naumai**	**9.97**	**200**	P		**P**		**01 17 39.4**	**+1.0**
BKZ	**Black Stump Fm**	**10.13**	**201**	P		**P**		**01 17 41.4**	**+1.2**
HIZ	**Hauiti**	**10.17**	**209**	P		**P**		**01 17 42.4**	**+1.9**
MCHZ	**McNeill Hill**	**10.33**	**200**	P		**P**		**01 17 44.4**	**+2.1**
KWHZ	**Kaweka Forest**	**10.39**	**201**	P		**P**		**01 17 43.9**	**+0.8**
WTVZ	**West Tongariro**	**10.40**	**205**	P		**P**		**01 17 44.3**	**+1.1**
NGZ	**Ngauruhoe**	**10.45**	**205**	P		**P**		**01 17 45.8**	**+2.0**
TUVZ	**Tukino**	**10.51**	**204**	P		**P**		**01 17 45.5**	**+1.1**
FWVZ	**Far West T-bar**	**10.53**	**205**	P		**P**		**01 17 46.0**	**+1.1**
BHHZ	**Black Hill Sta**	**10.56**	**202**	P		**P**		**01 17 45.2**	**+0.2**
MOVZ	**Moawhango**	**10.60**	**204**	P		**P**		**01 17 46.2**	**+0.8**
KAHZ	**Kahuranaki**	**10.60**	**198**	P		**P**		**01 17 47.6**	**+2.3**
KRHZ	**Kereru**	**10.61**	**201**	P		**Pn**		**01 17 44.8**	**+0.4**
PKVZ	**Pokaka**	**10.64**	**205**	P		**P**		**01 17 47.4**	**+1.6**
PXZ	**Pawanui**	**10.82**	**198**	P		**P**		**01 17 49.1**	**+1.4**
PNHZ	**Pukenui**	**10.91**	**201**	P		**P**		**01 17 48.3**	**-0.4**
PRHZ	**Porangahau**	**11.11**	**198**	P		**P**		**01 17 52.4**	**+1.4**
TSZ	**Takapari Road**	**11.12**	**201**	P		**Pn**		**01 17 50.7**	**+0.2**
DVHZ	**Dannevirke**	**11.27**	**200**	P		**P**		**01 17 53.4**	**+0.6**
ASAR	**Alice Springs**	**42.45**	**267**	P		**P**		**01 22 41.2**	**-0.2**
	0.6nm,0.8s,baz=100,slow=8.6,SNR=4.4								
WRA	**Warramunga Arr**	**43.39**	**272**	P		**P**		**01 22 48.5**	**-0.3**
	1.2nm,0.6s,baz=110,slow=7.3,SNR=8.8								
FINES	**FINESS Array B**	**144.33**	**340**	PKP		**PKPdf**		**01 34 13.4**	**+0.1**
	2.9nm,0.9s,baz=62,slow=4.5,SNR=7.0								

RSNC 02 01:16:14.9±0.9,**5°53N**×**77°17W, h0**km±5km**, ML2.7, Mw3.5, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.73**	**341**	*e*P	Pg	01 16 28.4	-0.5
SOLC				*e*S	Sg	01 16 38.9	+0.5
SOLC				*i*		01 16 43.0	
	comp=Z,461nm,0.4s						
MALC	**Bahia Malaga**	**1.52**	**186**	*i* Pg	Pg	01 16 49.8	+5.7
MALC				*i*		01 16 51.2	
	comp=Z,51nm,0.6s						
YOTC	**Yotoco, Valle**	**1.75**	**152**	*e*P	Pn	01 16 45.5	-1.1
YOTC				*e*S	Sn	01 17 07.3	-2.3
HELC	**Santa Helena**	**1.76**	**68**	*e*P	Pn	01 16 44.5	-2.4
HELC				*e*S	Sn	01 17 05.8	-4.4
HELC				*i*		01 17 14.5	
	comp=N,54nm,0.6s						
RREF	**El Recreo**	**1.92**	**109**	*e*P	Pn	01 16 49.3	-0.1
RREF				*i*		01 16 53.8	
	comp=Z,29nm,0.4s						
RREF				*e*S	Sn	01 17 14.8	+0.2
ANIL	**Santa Ana**	**2.04**	**120**	*e*P	Pn	01 16 49.3	-1.5
UREC	**San Jos de Ur**	**2.74**	**36**	*e*P	Pn	01 16 59.2	-0.9
PTBC	**PUERTO BERRIO,**	**2.88**	**70**	*e*S	Sn	01 17 35.9	-1.5
PTBC				*i*		01 17 41.4	
	comp=E,29nm,0.7s						
ZARC	**Zaragoza, Cauc**	**3.01**	**50**	*e*P	Pn	01 17 03.3	-0.5
ZARC				*e*S	Sn	01 17 40.0	-0.7
ZARC				*i*		01 17 41.8	
	comp=N,38nm,0.6s						

IGIL ***02*** *01:16:22.9, 37°09N*×*12°87W, h30km, ML2.0*
MDD ***02*** *01:16:23.0*±*1.8, 37°21N*×*12°60W, h0km, mb3.6/3, Error ellipse: s-maj=15.8km s-min=14.6km az=66.0, PRXIMO*
INMG ***02*** *01:16:23.5*±*1.4, 37°09N*×*13°11W, h10km, ML2.1, Error ellipse: s-maj=9.4km s-min=6.0km az=99.0*

ISC 02 01:16:23.7±3.1,**37°37N**±0°08×**12°5W**±0°1,**h10**km,**n50,** σ1‰**97**/86,**Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.90**	**94**	*e*Sn	**Sn**	**01 17 44.9**	**+0.1**
PFVI	**Vila Bisbo**	**2.90**	**94**	P	**Pn**	**01 17 10.1**	**+0.2**
	1.8nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**01 17 44.6**	**-0.2**
	1.7nm,0.1s,SNR=7.9						
PMST	**Lisbon--Monsan**	**2.92**	**61**	*e*Sn	**Sb**	**01 17 48.6**	**-2.9**
PMAFR	**Mafra**	**2.96**	**57**	*e*Pn	**Pn**	**01 17 12.8**	**+2.1**
PMAFR				*e*Sn	**Sb**	**01 17 49.7**	**-3.0**
PMAFR				A	A	01 17 56.1	
	13nm,0.6s						
PMAFR	**Mafra**	**2.96**	**57**	P	**Pn**	**01 17 12.9**	**+2.1**
	3.1nm,0.2s,SNR=6.4						
PMAFR				S	**Sb**	**01 17 49.6**	**-3.0**
	3.5nm,0.2s,SNR=6.1						
PTEO	**Sao Teotonio**	**2.97**	**85**	*e*Pn	**Pn**	**01 17 12.0**	**+1.1**
PTEO				*e*Sn	**Sn**	**01 17 47.4**	**+0.8**
PTEO				A	A	01 17 55.3	
	2.7nm,0.2s						
PTEO	**Sao Teotonio**	**2.97**	**85**	P	**Pn**	**01 17 12.0**	**+1.1**
PTEO				S	**Sn**	**01 17 47.4**	**+0.8**
	1.4nm,0.2s						
MORF	**Marmelete**	**3.03**	**90**	*e*P	**Pn**	**01 17 12.0**	**+0.2**
MORF	**Marmelete**	**3.03**	**90**	*e*Pn	**Pn**	**01 17 14.1**	**+2.4**
MORF				*e*Sn	**Sb**	**01 17 51.6**	**-3.2**
MORF				A	A	01 17 53.8	
	2.5nm,0.3s						
MORF	**Marmelete**	**3.03**	**90**	P	**Pn**	**01 17 12.0**	**+0.2**
MORF				S	**Sb**	**01 17 51.6**	**-3.2**
	2.5nm,0.3s						
PNCL	**Nicolau / Gran**	**3.19**	**75**	*e*Pn	**Pn**	**01 17 16.2**	**+2.2**
PNCL				*e*Sn	**Sn**	**01 17 53.9**	**+1.8**
PNCL				A	A	01 18 01.8	
	2.6nm,0.1s						
PNCL	**Nicolau / Gran**	**3.19**	**75**	P	**Pn**	**01 17 16.2**	**+2.2**
PNCL				S	**Sn**	**01 17 53.9**	**+1.8**
	2.6nm,0.1s						
MESJ	**Messejana**	**3.39**	**81**	*e*P	**Pn**	**01 17 18.3**	**+1.6**
MESJ				*e*S	**Sn**	**01 17 57.7**	**+0.7**
MESJ				AML	AML	01 18 06.1	
	comp=N,3.4nm,0.3s						
MESJ	**Messejana**	**3.39**	**81**	*e*Pn	**Pn**	**01 17 18.9**	**+2.2**
MESJ				*e*Sn	**Sn**	**01 17 57.7**	**+0.7**
MESJ				A	A	01 18 04.8	
	comp=N,1.6nm,0.3s						
MESJ	**Messejana**	**3.39**	**81**	P	**Pn**	**01 17 18.3**	**+1.6**
MESJ				S	**Sn**	**01 17 57.7**	**+0.7**
	comp=N,3.4nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.60**	**91**	*e*Pn	**Pn**	**01 17 21.3**	**+1.7**
PBDV	**Barranco-do-Ve**	**3.60**	**91**	P	**Pn**	**01 17 21.3**	**+1.7**
PBEJ	**Beja**	**3.69**	**78**	*e*Pn	**Pn**	**01 17 23.7**	**+2.9**
PBEJ	**Beja**	**3.69**	**78**	P	**Pn**	**01 17 23.7**	**+2.9**
PMTG	**Montargil**	**3.73**	**62**	*e*Pn	**Pn**	**01 17 22.9**	**+1.5**
PMTG				*e*Sn	**Sn**	**01 18 08.5**	**+3.1**
PMTG				A	A	01 18 12.3	
	comp=N,1.8nm,0.8s						
PMTG	**Montargil**	**3.73**	**62**	P	**Pn**	**01 17 22.9**	**+1.5**
PMTG				S	**Sn**	**01 18 08.5**	**+3.1**
	comp=N,1.8nm,0.8s						
PVAQ	**Vaqueiros**	**3.77**	**88**	*e*Pn	**Pn**	**01 17 23.1**	**+1.2**
PVAQ				*e*Sn	**Sn**	**01 18 07.5**	**+1.2**
PVAQ				A	A	01 18 12.8	
	comp=N,7.2nm,0.9s						
PVAQ	**Vaqueiros**	**3.77**	**88**	P	**Pn**	**01 17 23.1**	**+1.2**
PVAQ				S	**Sn**	**01 18 07.5**	**+1.2**
	comp=N,7.2nm,0.9s						
PTOM	**Tomar**	**3.88**	**53**	*e*Pn	**Pn**	**01 17 25.7**	**+2.3**
PTOM				*e*Sn	**Sn**	**01 18 12.3**	**+3.2**
PTOM				A	A	01 18 17.8	
	comp=N,3.4nm,0.4s						
PTOM	**Tomar**	**3.88**	**53**	P	**Pn**	**01 17 25.7**	**+2.3**
PTOM				S	**Sn**	**01 18 12.3**	**+3.2**
	comp=N,1.7nm,0.4s						
EGRO	**El Granado**	**3.96**	**86**	P	**Pn**	**01 17 25.6**	**+1.2**
	comp=N,1.2nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**01 18 12.4**	**+1.5**
	comp=N,0.6nm,0.2s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.09**	**48**	*e*Pn	**Pn**	**01 17 28.7**	**+2.4**
PCAS				*e*Sn	**Sn**	**01 18 15.6**	**+1.4**
PCAS				A	A	01 18 18.3	
	comp=N,2.1nm,0.3s						
PCAS	**Casmilo, Conde**	**4.09**	**48**	P	**Pn**	**01 17 28.7**	**+2.4**
PCAS				S	**Sn**	**01 18 15.6**	**+1.4**
	comp=N,2.1nm,0.3s						
PESTR	**Estremoz**	**4.11**	**67**	*e*Pn	**Pn**	**01 17 28.3**	**+1.7**
PESTR				*e*Sn	**Sn**	**01 18 17.6**	**+2.8**
PESTR				A	A	01 18 21.8	
	comp=N,1.8nm,0.4s						
PMRV	**Marv??o**	**4.47**	**61**	*e*Pn	**Pn**	**01 17 33.4**	**+1.8**
PMRV				*e*Sn	**Sn**	**01 18 25.4**	**+1.7**
PMRV				A	A	01 18 29.6	
	comp=N,1.4nm,0.3s						
PMRV	**Marv??o**	**4.47**	**61**	P	**Pn**	**01 17 33.4**	**+1.8**
PMRV				S	**Sn**	**01 18 25.4**	**+1.7**
	comp=N,1.4nm,0.3s						
EBAD	**Badajoz**	**4.51**	**70**	P	**Pn**	**01 17 33.7**	**+1.7**
	comp=N,0.3nm,0.1s,SNR=8.9						
EBAD				S	**Sn**	**01 18 25.1**	**+0.6**
	comp=N,1.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.61**	**83**	P	**Pn**	**01 17 34.1**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**01 18 27.9**	**+1.0**
	comp=N,0.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.61**	**56**	*e*Pn	**Pn**	**01 17 35.4**	**+2.0**
PCBR				*e*Sn	**Sn**	**01 18 29.0**	**+2.0**
PCBR				A	A	01 18 33.3	
	comp=N,1.0nm,0.1s						
PCBR	**Castelo Branco**	**4.61**	**56**	P	**Pn**	**01 17 35.4**	**+2.0**
PCBR				S	**Sn**	**01 18 29.0**	**+2.0**
	comp=N,0.5nm,0.1s						
PVIS	**Viseu**	**4.87**	**45**	*e*Sn	**Sn**	**01 18 35.4**	**+1.8**
PVIS				A	A	01 18 38.8	
	comp=N,2.3nm,0.1s						
PVIS	**Viseu**	**4.87**	**45**	S	**Sn**	**01 18 35.4**	**+1.8**
	comp=N,1.2nm,0.1s						
MTE	**Manteigas**	**4.88**	**50**	*e*Pn	**Pn**	**01 17 39.7**	**+2.5**
MTE				*e*Sn	**Sn**	**01 18 35.8**	**+2.0**
MTE				A	A	01 18 39.6	
	comp=N,1.0nm,0.1s						
MTE	**Manteigas**	**4.88**	**50**	P	**Pn**	**01 17 39.7**	**+2.5**
MTE				S	**Sn**	**01 18 35.8**	**+2.0**
	comp=N,0.5nm,0.1s						
PGAV	**Gavieira, Arco**	**5.61**	**34**	*e*Sn	**Sn**	**01 18 51.1**	**-0.7**
PGAV				A	A	01 18 55.1	
	comp=N,0.9nm,0.1s						
PGAV	**Gavieira, Arco**	**5.61**	**34**	Sn	**Sn**	**01 18 51.1**	**-0.7**
	comp=N,0.9nm,0.1s						
ECAB	**El Cabril**	**5.62**	**81**	P	**Pn**	**01 17 48.3**	**+1.0**
	comp=N,0.5nm,0.2s,SNR=4.0						
ECAB				S	**Sn**	**01 18 51.4**	**-0.5**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.63**	**36**	P	**Pn**	**01 17 50.0**	**+2.6**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**01 18 50.3**	**-1.9**
	comp=N,0.8nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.66**	**46**	*e*Pn	**Pn**	**01 17 49.5**	**+1.6**
MVO				*e*Sn	**Sn**	**01 18 52.5**	**-0.5**
MVO				A	A	01 18 56.8	
	comp=N,1.0nm,0.1s						
MVO	**Moncorvo**	**5.66**	**46**	P	**Pn**	**01 17 49.6**	**+1.6**
	comp=N,0.7nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**01 18 52.5**	**-0.5**
	comp=N,0.2nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.17**	**24**	S	**Sn**	**01 19 00.7**	**-4.9**
	comp=N,0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.29**	**80**	P	**Pn**	**01 17 57.7**	**+1.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**01 19 08.0**	**-0.5**
	comp=N,0.1nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.37**	**30**	S	**Sn**	**01 19 07.1**	**-3.4**
	comp=N,2.6nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**6.72**	**69**	P	**Pn**	**01 18 03.3**	**+0.8**
	comp=N,0.2nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**01 19 18.3**	**-0.8**
	comp=N,0.1nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**7.04**	**68**	P	**Pn**	**01 18 07.7**	**+0.8**
	comp=N,0.9nm,0.1s,baz=254,slow=13,SNR=10.0						

ISCJB ***02*** *01:17:56.0*±*0.1, 12°83S*±*0°02×169°15E*±*0°03, h625km, mb4.6/207, Error ellipse: s-maj=4.1km s-min=2.9km az=27.3*
NEIC ***02*** *01:17:59.0*±*0.3, 12°87S*×*169°13E, h651km*±*4km, mb4.7/175, Error ellipse: s-maj=3.3km s-min=2.8km az=166.0*
BJI ***02*** *01:17:58.1, 12°40S*×*169°36E, h644km, mb4.3/30, mB5.0/13*
IDC ***02*** *01:17:58.1*±*1.0, 12°86S*×*169°23E, h642km*±*12km, mb3.9/29, mb1 4.1/31, mb1mx4.0/45, mbtmp4.9/31, Error ellipse: s-maj=10.7km s-min=9.7km az=98.0*

ISC 02 01:17:57.0±0.3,**12.77S**±0°05×**169.15E**±0°05,**h625**km, **n429,** σ1‰**00**/436,**mb4.7**/205,**1D, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**8.73**	**187**	*e*P	**P**	**01 20 05.3**	**+1.4**
DZM	**Mont Dzumac**	**9.60**	**195**	*e*P	**P**	**01 20 12.2**	**-0.3**
	526nm,1.1s						
DZM	**Mont Dzumac**	**9.60**	**195**	P	**P**	**01 20 14.9**	**+2.4**
	11nm,0.3s,baz=275,slow=11,SNR=93						
HNR	**Honiara**	**9.62**	**289**	*e*P	**P**	**01 20 15.0**	**+2.3**
HNR	**Honiara**	**9.62**	**289**	P	**P**	**01 20 14.7**	**+2.0**
	132nm,0.3s,baz=193,slow=4.3,SNR=26						
ONTNC	**Ouen Toro**	**9.82**	**195**	*e*P	**P**	**01 20 16.5**	**+2.0**
MSVF	**Nonsavu**	**9.90**	**121**	*e*P	**P**	**01 20 18.0**	**+2.5**
PINNC	**Pines Island,**	**9.92**	**189**	*e*P	**P**	**01 20 16.9**	**+1.5**
TARA	**Tarawa**	**14.53**	**15**	*e*P	**P**	**01 21 01.0**	**+1.0**
RAO	**Raoul Island**	**20.33**	**146**	P	**P**	**01 21 52.2**	**-0.3**
	201nm,0.3s,baz=277,slow=22,SNR=4.7						
GLKZ	**Green Lake**	**20.34**	**146**	P	**P**	**01 21 52.7**	**+0.2**
NIUE	**Niue**	**21.06**	**110**	P	**P**	**01 21 59.4**	**+0.2**
	baz=21						
NIUE	**Niue**	**21.06**	**110**	*e*P	**P**	**01 21 59.2**	**0.0**
	202nm,1.1s						
OUZ	**Omahuta**	**22.71**	**171**	P	**P**	**01 22 15.3**	**+1.7**
CTA	**Charters Tower**	**23.12**	**249**	P	**P**	**01 22 19.0**	**+1.5**
	4.8nm,0.5s,baz=82,slow=12,SNR=12						
CTA				S	**S**	**01 25 44.5**	**-2.1**
	1.6nm,0.5s,baz=43,slow=15,SNR=3.8						
CTAO	**Charters Tower**	**23.12**	**249**	*e*P	**P**	**01 22 18.3**	**+0.8**
	6.8nm,0.8s						
RMQ	**Roma**	**23.51**	**232**	P	**P**	**01 22 22.6**	**+1.7**
	baz=24,SNR=21						
WCZ	**Waipu Caves**	**23.54**	**169**	P	**P**	**01 22 22.7**	**+1.8**
ARMA	**Armidale**	**23.89**	**220**	P	**P**	**01 22 25.8**	**+1.5**
	baz=24,SNR=12						
MANU	**Manus Island**	**24.06**	**295**	*e*P	**P**	**01 22 26.8**	**+0.8**
	49nm,0.6s						
MTSU	**Mount Surprise**	**24.51**	**254**	P	**P**	**01 22 30.9**	**+1.0**
	baz=25,SNR=5.7						
KUZ	**Kuaotunu**	**24.59**	**167**	P	**P**	**01 22 31.3**	**+1.1**
COEN	**Coen**	**25.30**	**264**	P	**P**	**01 22 38.5**	**+1.7**
	baz=25,SNR=15						
COEN	**Coen**	**25.30**	**264**	*e*P	**P**	**01 22 37.5**	**+0.7**
	32nm,1.0s						
TOZ	**Tahuroa Road**	**25.49**	**168**	P	**P**	**01 22 39.5**	**+1.4**
OPRZ	**Ohinepanea**	**25.83**	**166**	P	**P**	**01 22 43.2**	**+2.2**
MXZ	**Matakaoa Point**	**26.01**	**163**	P	**P**	**01 22 41.9**	**-0.8**
HAZ	**Te Kaha**	**26.05**	**164**	P	**P**	**01 22 42.5**	**-0.5**
HIZ	**Hauiti**	**26.13**	**170**	*e*P	**P**	**01 22 44.6**	**+0.9**
	115nm,1.2s						
HIZ	**Hauiti**	**26.13**	**170**	P	**P**	**01 22 45.0**	**+1.2**
TARZ	**Mount Tarawera**	**26.19**	**167**	P	**P**	**01 22 46.0**	**+1.6**
RUGZ	**Raukumara Rang**	**26.22**	**165**	P	**P**	**01 22 43.6**	**-1.0**
PKGZ	**Pakihiroa**	**26.25**	**164**	P	**P**	**01 22 44.2**	**-0.7**
URZ	**Urewera**	**26.35**	**166**	*e*P	**P**	**01 22 45.5**	**-0.2**
	44nm,0.8s						
URZ				S	**S**	**01 26 32.8**	**-3.8**
URZ	**Urewera**	**26.35**	**166**	P	**P**	**01 22 45.2**	**-0.5**
	31nm,0.7s,baz=359,slow=3.2,SNR=15						
URZ				S	**S**	**01 26 32.8**	**-3.8**
	3.6nm,0.6s,baz=37,slow=20,SNR=2.0						
URZ	**Urewera**	**26.35**	**166**	P	**P**	**01 22 45.7**	**0.0**
PUZ	**Puketiti**	**26.47**	**164**	P	**P**	**01 22 45.4**	**-1.4**
MWZ	**Matawai**	**26.53**	**165**	P	**P**	**01 22 46.7**	**-0.5**
RTZ	**Ruatahuna**	**26.66**	**166**	P	**P**	**01 22 47.9**	**-0.6**
TKGZ	**Te Karaka**	**26.71**	**165**	P	**P**	**01 22 48.0**	**-0.8**
VRZ	**Vera Road**	**26.71**	**170**	P	**P**	**01 22 52.2**	**+3.4**
MRHZ	**Matea Rd**	**26.75**	**167**	P	**P**	**01 22 49.4**	**+0.2**
CNGZ	**Carnagh Statio**	**26.84**	**164**	P	**P**	**01 22 49.2**	**-0.8**
MTHZ	**Maungataniwha**	**26.86**	**167**	P	**P**	**01 22 49.7**	**-0.5**
SNGZ	**Shannon Statio**	**26.90**	**166**	P	**P**	**01 22 49.9**	**-0.6**
OTVZ	**Oturere**	**26.91**	**169**	P	**P**	**01 22 51.9**	**+1.1**
BKZ	**Black Stump Fm**	**27.08**	**167**	*e*P	**P**	**01 22 51.9**	**-0.2**
	86nm,0.8s						
BFZ	**Birch Farm**	**28.49**	**169**	*e*P	**P**	**01 23 03.2**	**-1.1**
	62nm,0.5s						
CMSA	**Cobar Meteorol**	**28.54**	**225**	P	**P**	**01 23 05.5**	**+0.7**
	baz=29,SNR=25						
CNB	**Canberra Magne**	**28.70**	**215**	P	**P**	**01 23 07.4**	**+1.1**
	baz=29,SNR=12						
SNZO	**South Karori**	**28.84**	**171**	*e*P	**P**	**01 23 06.6**	**-0.6**
THZ	**Tophouse**	**29.07**	**174**	*e*P	**P**	**01 23 09.2**	**0.0**
	54nm,1.0s						
THZ				*e*S	**S**	**01 27 19.3**	**+0.6**
KHZ	**Kahutara**	**29.78**	**173**	*e*P	**P**	**01 23 15.2**	**-0.1**
	60nm,1.1s						
LTZ	**Lake Taylor**	**30.02**	**175**	*e*P	**P**	**01 23 17.6**	**+0.1**
	25nm,0.9s						
OXZ	**Oxford**	**30.55**	**176**	*e*P	**P**	**01 23 21.6**	**-0.3**
	19nm,0.4s						
RPZ	**Rata Peaks**	**30.88**	**177**	*e*P	**P**	**01 23 24.4**	**-0.2**
	31nm,0.9s						
RPZ	**Rata Peaks**	**30.88**	**177**	P	**P**	**01 23 23.7**	**-1.0**
	16nm,0.6s,baz=357,slow=1.8,SNR=11						
LBZ	**Lake Benmore**	**31.52**	**179**	*e*P	**P**	**01 23 29.2**	**-0.9**
	10nm,0.5s						
STKA	**Stephens Creek**	**31.65**	**229**	P	**P**	**01 23 32.7**	**+1.3**
	baz=32,SNR=34						
STKA	**Stephens Creek**	**31.65**	**229**	*e*P	**P**	**01 23 31.4**	**-0.1**
	3.5nm,0.9s						
STKA				*e*pP	**pP**	**01 25 10.3**	**+0.7**
STKA	**Stephens Creek**	**31.65**	**229**	P	**P**	**01 23 32.4**	**+1.0**
	11nm,0.4s,baz=54,slow=8.5,SNR=49						
TOO	**Toolangi**	**32.50**	**216**	P	**P**	**01 23 39.7**	**+1.2**
	baz=33,SNR=14						
TOO	**Toolangi**	**32.50**	**216**	*e*P	**P**	**01 23 38.1**	**-0.5**
	17nm,0.9s						
WHZ	**Wether Hill Ro**	**33.02**	**182**	*e*P	**P**	**01 23 42.4**	**-0.4**
WB2	**Warramunga Arr**	**34.09**	**253**	*e*P	**P**	**01 23 51.2**	**-0.9**
WRAB	**Tennant Creek**	**34.09**	**253**	*e*P	**P**	**01 23 52.2**	**0.0**
	13nm,0.6s						
WRA	**Warramunga Arr**	**34.11**	**253**	P	**P**	**01 23 52.4**	**+0.2**
	7.0nm,0.3s,baz=84,slow=8.6,SNR=184						
WRA				S	**S**	**01 28 32.0**	**-3.9**
	20nm,0.8s,baz=84,slow=14,SNR=13						
ARPS	**Mount Arapiles**	**34.21**	**221**	P	**P**	**01 23 54.0**	**+1.2**
	baz=34,SNR=6.4						
HTT	**Hallett**	**34.38**	**228**	P	**P**	**01 23 55.4**	**+1.0**
	baz=34,SNR=24						
AS01	**Alice Springs**	**35.05**	**247**	*e*P	**P**	**01 24 00.4**	**+0.3**
AS31	**Alice Springs**	**35.10**	**247**	*e*P	**P**	**01 24 00.5**	**+0.1**
	8.2nm,0.6s						
AS31				*e*S	**S**	**01 28 48.9**	**-1.9**
ASAR	**Alice Springs**	**35.10**	**247**	P	**P**	**01 24 00.8**	**+0.4**
	22nm,0.5s,baz=73,slow=9.4,SNR=230						
ASAR				S	**S**	**01 28 47.5**	**-3.3**
	12nm,0.8s,baz=74,slow=17,SNR=24						
KDU	**Kakadu**	**35.76**	**266**	P	**P**	**01 24 06.5**	**+0.6**
	baz=36,SNR=30						
BBOO	**Buckleboo**	**36.22**	**231**	P	**P**	**01 24 10.4**	**+0.9**
	baz=36,SNR=38						
BBOO	**Buckleboo**	**36.22**	**231**	*e*P	**P**	**01 24 09.7**	**+0.2**
	37nm,0.7s						
MTN	**Manton Dam**	**37.05**	**266**	P	**P**	**01 24 17.2**	**+0.8**
	baz=37,SNR=15						
MTN	**Manton Dam**	**37.05**	**266**	*e*P	**P**	**01 24 17.3**	**+0.8**
	33nm,0.9s						
FAKI	**Fak Fak**	**37.79**	**282**	*e*P	**P**	**01 24 22.1**	**-0.5**
	36nm,0.7s						
**K

OHAK **Old Harbor** 76.33 20 eP P 01 28 43.6 +0.6
comp=Z,50nm,0.9s
SEY **Seymchan** 76.59 352 P P 01 28 44.9 +0.5
comp=Z,23nm,0.7s,baz=152,slow=5.6,SNR=119
KDAK **Kodiak Island** 77.01 20 eP P 01 28 47.4 +0.6
comp=Z,37nm,0.9s
KDAK **Kodiak Island** 77.01 20 P P 01 28 46.8 +0.1
comp=Z,30nm,0.9s,baz=183,slow=5.2,SNR=10
QSPA **South Pole Qui** 77.24 180 eP P 01 28 47.5 -0.7
GAMB **Gambell** 77.72 9 eP P 01 28 49.9 -0.5
comp=Z,24nm,1.0s
LZH **Lanzhou** 78.39 311 eP P 01 28 56.8 +1.9
LZH pmax pmax
comp=Z,31nm,1.0s
SVW2 **Sparrevohn** 78.76 17 eP P 01 28 56.8 +0.8
comp=Z,17nm,1.1s
RSO **Redoubt South** 79.07 18 eP P 01 28 58.3 +0.4
BRLK **Bradley Lake** 79.11 19 eP P 01 28 58.7 +0.8
comp=Z,66nm,0.9s
ANM **Nome** 79.50 11 eP P 01 29 00.5 +0.6
comp=Z,22nm,1.2s
SEW **Seward** 79.84 20 eP P 01 29 02.3 +0.6
comp=Z,67nm,1.0s
SUA **Susitna One** 80.47 18 eP P 01 29 04.7 -0.4
comp=Z,103nm,1.0s
RC01 **Rabbit Creek A** 80.49 19 eP P 01 29 04.9 -0.2
comp=Z,62nm,0.8s
BILL **Bilibino** 80.62 359 eP P 01 29 05.8 +0.2
comp=Z,30nm,0.9s
PMR **Palmer** 81.06 19 eP P 01 29 08.4 +0.4
comp=Z,52nm,1.1s
KNK **Knik Glacier** 81.14 19 eP P 01 29 09.3 +0.8
comp=Z,42nm,0.8s
KCPM **Cahto Peak** 81.30 46 eP P 01 29 10.1 +0.2
comp=Z,56nm,1.0s
KMRM **Mail Ridge** 81.44 46 eP P 01 29 10.3 -0.3
comp=Z,38nm,0.9s
SML **Sawmill** 81.48 19 eP P 01 29 10.8 +0.6
comp=Z,28nm,1.0s
GDXM **Geysers** 81.50 47 eP P 01 29 11.6 +0.7
comp=Z,26nm,1.2s
CAST **Castle Rocks** 81.60 17 eP P 01 29 10.2 -0.6
comp=Z,97nm,0.8s
SAO **San Andreas Ge** 81.68 49 eP P 01 29 12.2 +0.4
comp=Z,24nm,1.0s
KHMM **Horse Mountain** 81.69 45 eP P 01 29 12.6 +0.6
comp=Z,23nm,0.8s
SCM **Sheep Creek Mo** 81.82 19 eP P 01 29 12.5 +0.5
comp=Z,54nm,1.0s
DIV **Divide** 81.82 20 eP P 01 29 12.3 +0.3
comp=Z,24nm,1.0s
SNCC **San Nicolas Is** 81.84 53 P P 01 29 13.2 +0.6
baz=249
SCZ2 **Santa Cruz Isl** 82.02 53 P P 01 29 14.3 +0.7
baz=249
KLU **Klutina** 82.03 20 eP P 01 29 13.5 +0.4
comp=Z,12nm,0.8s
SONM **Songino Array** 82.04 323 P P 01 29 13.6 +0.1
comp=Z,3.2nm,0.7s,baz=136,slow=5.3,SNR=26
SONA1 **Songino Array** 82.04 323 eP P 01 29 13.7 +0.2
O02D **Mt. Diablo Mer** 82.06 46 P P 01 29 15.1 +1.4
baz=246,SNR=22
SBC **Santa Barbara** 82.12 52 P P 01 29 15.0 +1.0
baz=249
TRF **Thorofare Moun** 82.14 17 eP P 01 29 13.3 -0.4
comp=Z,43nm,0.9s
PKM **Mcpherson Peak** 82.21 52 P P 01 29 15.6 +0.8
baz=248
SMMC **Simmler** 82.22 51 P P 01 29 15.8 +1.2
baz=248
L02E **Cave Junction** 82.32 44 P P 01 29 15.9 +1.1
baz=245
WDC **Whiskeytown Da** 82.40 46 eP P 01 29 15.6 +0.3
comp=Z,12nm,0.9s
N02D **Trinity Center** 82.44 45 P P 01 29 16.9 +1.3
baz=246,SNR=20
K02D **Willamette Mer** 82.50 43 P P 01 29 16.7 +0.9
baz=245,SNR=5.5
M02C **Callahan** 82.51 45 P P 01 29 17.3 +1.3
baz=246,SNR=12
SCI2 **San Clemente I** 82.51 54 P P 01 29 16.7 +0.6
baz=250
J01E **Myrtle Point** 82.52 43 P P 01 29 16.9 +1.1
baz=245
RND **Reindeer** 82.52 18 eP P 01 29 15.3 -0.2
comp=Z,29nm,0.8s
GTA **Gaotai** 82.66 313 ⇓P P 01 29 18.0 +1.2
GTA pP pwP 01 31 36.5 +5.9
GTA sP PP 01 32 39.6 +0.7
GTA pmax pmax
comp=Z,17nm,1.0s
DHY **Denali Highway** 82.72 18 eP P 01 29 16.7 +0.1
comp=Z,10nm,0.7s
ORV **Oroville** 82.72 47 eP P 01 29 17.3 +0.3
comp=Z,17nm,0.9s
MCK **McKinley** 82.74 17 eP P 01 29 16.0 -0.5
comp=Z,34nm,1.0s
YBH **Yreka Blue Hor** 82.75 44 eP P 01 29 17.2 +0.1
comp=Z,31nm,1.1s
YBH **Yreka Blue Hor** 82.75 44 P P 01 29 17.8 +0.7
comp=Z,16nm,0.9s,baz=182,slow=1.0,SNR=37
CIS **Catalina Islan** 82.76 54 P P 01 29 17.8 +0.5
baz=250
O03E **Paynes Creek** 82.80 46 P P 01 29 17.8 +0.4
baz=247,SNR=14
AFDM **Forest Hills D** 82.86 48 eP P 01 29 18.4 +0.7
comp=Z,26nm,1.0s
HUMO **Hull Mountain** 82.94 44 eP P 01 29 18.9 +0.9
comp=Z,23nm,0.9s
HARP **HAARP** 82.94 20 eP P 01 29 17.9 +0.3
comp=Z,32nm,1.0s
CMB **Columbia Colle** 82.94 49 eP P 01 29 18.7 +0.5
comp=Z,18nm,0.9s
BALM **Baldy** 82.95 22 eP P 01 29 17.7 0.0
comp=Z,30nm,0.9s
FMP **Fort Macarthur** 82.97 53 P P 01 29 18.8 +0.5
baz=250
I02D **Swisshome** 82.98 42 P P 01 29 19.2 +1.2
baz=245
ARVC **Arvin** 83.05 52 P P 01 29 19.5 +0.8
baz=249
RDOG **Red Dog Mine** 83.08 10 eP P 01 29 18.5 +0.4
comp=Z,34nm,1.1s
VES **Vestal, Richgr** 83.11 51 P P 01 29 19.1 +0.2
baz=249
I03D **Drain, OR** 83.13 42 P P 01 29 19.7 +0.9
baz=245
IM3 **Indian Mountai** 83.22 14 eP P 01 29 18.7 -0.1
L04D **Klamath Falls** 83.22 44 P P 01 29 20.2 +0.7
baz=246,SNR=8.3
MLY **Manley** 83.23 16 eP P 01 29 19.2 +0.2
comp=Z,7.9nm,0.8s
MWC **Mount Wilson** 83.33 53 eP P 01 29 20.2 -0.1
comp=Z,17nm,0.8s
M04C **Macdoel** 83.36 45 P P 01 29 21.0 +0.7
baz=246,SNR=7.6
RUBR **Rubicon Trail** 83.49 48 eP P 01 29 21.4 +0.3
comp=Z,15nm,0.8s
ISA **Isabella, Lake** 83.51 51 eP P 01 29 20.9 -0.1
comp=Z,22nm,1.1s
ISA **Isabella, Lake** 83.51 51 P P 01 29 21.8 +0.7
baz=249,SNR=18
WRH **Wood River Hil** 83.55 17 eP P 01 29 19.8 -0.6
comp=Z,21nm,0.8s
EDW2 **Edwards Air Fo** 83.60 52 P P 01 29 22.2 +0.7
baz=250,SNR=19
109C **Camp Elliot, M** 83.62 54 P P 01 29 22.4 +0.8
baz=250
BFSC **Mount Baldy Ra** 83.64 53 P P 01 29 22.2 +0.4
baz=250,SNR=11
BEKR **Beckworth** 83.65 47 eP P 01 29 22.4 +0.6
comp=Z,17nm,1.0s
MDPB **Devils Postpil** 83.76 49 eP P 01 29 22.7 +0.2
comp=Z,26nm,1.0s
K04D **Chiloquin, OR** 83.76 44 P P 01 29 22.8 +0.6
baz=246
CCB **Clear Creek Bu** 83.76 17 eP P 01 29 20.4 -1.1
comp=Z,19nm,0.8s
J04D **Umpqua Nationa** 83.77 43 P P 01 29 23.1 +0.8
baz=246,SNR=6.7
MENT **Mentasta** 83.79 20 eP P 01 29 21.3 -0.4
comp=Z,9.9nm,0.8s
MURC **Murrieta** 83.79 54 P P 01 29 22.9 +0.4
baz=250
I04A **Tendick Farm,** 83.79 43 P P 01 29 22.7 +0.5
baz=246
OMMB **Old Mammoth Mi** 83.81 49 eP P 01 29 22.9 +0.1
comp=Z,16nm,1.1s

WAKR **Walker** 83.81 48 eP P 01 29 23.3 +0.6
comp=Z,29nm,1.2s
G03D **McMinnville, O** 83.82 41 P P 01 29 23.4 +1.1
baz=245
HDA **Harding Lake** 83.83 18 eP P 01 29 20.6 -1.2
comp=Z,63nm,0.9s
HDA **Harding Lake** 83.83 18 P P 01 29 21.2 -0.7
baz=223
MDM **Murphy Dome** 83.87 17 eP P 01 29 21.3 -0.8
comp=Z,23nm,0.9s
H04D **Lebanon** 83.88 42 P P 01 29 23.4 +0.9
baz=245
BAR **Barrett** 83.90 55 eP P 01 29 23.0 0.0
comp=Z,9.0nm,0.8s
PNTR **Pine Nut** 83.91 48 eP P 01 29 23.2 +0.1
comp=Z,18nm,1.1s
TCOL **CIGO, UAF Yank** 83.91 17 P P 01 29 21.8 -0.4
baz=222
COLA **College** 83.92 17 eP P 01 29 21.0 -1.2
comp=Z,45nm,0.9s
VCNR **Virginia City** 83.95 48 eP P 01 29 23.6 +0.3
comp=Z,10.0nm,1.2s
RIDG **Independ'e Rid** 83.99 19 eP P 01 29 22.4 -0.3
comp=Z,28nm,1.0s
LRMC **Laurel Mtn Rad** 84.05 52 P P 01 29 24.6 +0.8
baz=250,SNR=11
CWC **Cottonwood Cre** 84.08 51 P P 01 29 24.6 +0.7
baz=249
ILAR **Eielson Array** 84.12 17 P P 01 29 22.1 -1.2
comp=Z,24nm,0.8s,baz=236,slow=4.9,SNR=175
ILB **Eielson Array** 84.12 17 eP P 01 29 22.1 -1.2
IL1 **Eielson Array** 84.12 17 eP P 01 29 21.2 -2.0
YERR **Yerington** 84.13 48 eP P 01 29 24.3 +0.2
comp=Z,7.9nm,1.2s
MONP2 **Monument Peak** 84.17 55 P P 01 29 25.3 +0.8
baz=251,SNR=13
DOT **Dot Lake** 84.17 19 eP P 01 29 23.2 -0.4
comp=Z,18nm,0.9s
POKR **Poker Plat Res** 84.22 17 P P 01 29 22.3 -1.4
baz=222
PAHR **Pah Rah Range** 84.29 47 eP P 01 29 25.1 +0.2
comp=Z,10nm,1.0s
H04A **Detroit Lake** 84.30 42 eP P 01 29 24.9 +0.3
comp=Z,24nm,1.1s
IKP **In-Ko-Pah, Jac** 84.34 55 P P 01 29 26.0 +0.8
baz=251
J05D **Fort Rock, OR** 84.37 43 P P 01 29 26.2 +1.0
baz=247,SNR=19
PFO **Pinyon Flats O** 84.37 54 eP P 01 29 26.0 +0.6
comp=Z,9.9nm,0.8s
PFO **Pinyon Flats O** 84.37 54 P P 01 29 26.0 +0.6
baz=251,SNR=8.2
XPFO **Pion Flat** 84.38 54 eP P 01 29 26.0 +0.6
comp=Z,11nm,0.9s
DAC **Darwin (Calif)** 84.39 51 eP P 01 29 25.8 +0.2
comp=Z,15nm,1.0s
MPMC **Manual Prospec** 84.40 51 P P 01 29 26.3 +0.8
baz=250,SNR=14
MOD **Modoc Plateau** 84.47 45 eP P 01 29 26.3 +0.5
comp=Z,15nm,1.1s
RYN **Ryan** 84.52 49 eP P 01 29 25.9 -0.1
comp=Z,12nm,1.1s
HYT **Haines Junctio** 84.61 23 eP P 01 29 25.8 -0.1
comp=Z,12nm,1.0s
NV01 **Mina Array Sit** 84.61 49 eP P 01 29 27.1 +0.5
NVAR **Mina Array Bea** 84.61 49 P P 01 29 27.1 +0.5
comp=Z,8.6nm,0.8s,baz=231,slow=7.4,SNR=45
GSC **Goldstone, Bar** 84.66 52 eP P 01 29 27.3 +0.6
comp=Z,13nm,1.1s
GSC **Goldstone, Bar** 84.66 52 P P 01 29 27.3 +0.6
baz=250,SNR=6.7
SWSC **Sam W. Stewart** 84.68 55 P P 01 29 27.6 +0.9
baz=251,SNR=12
I05D **Terrebonne, OR** 84.72 42 P P 01 29 27.3 +0.5
baz=246
NV11 **Mina Array Sit** 84.72 49 eP P 01 29 27.6 +0.6
comp=Z,0.9nm,1.0s
PINE **Pine Mountain** 84.77 43 eP P 01 29 27.4 +0.3
comp=Z,20nm,0.8s
GRAC **Grapevine Rang** 84.81 50 P P 01 29 28.3 +0.9
baz=250,SNR=9.0
E04D **Cinebar** 84.83 40 P P 01 29 28.2 +1.0
baz=245
BELC **Belle Mtn. Jos** 84.86 54 P P 01 29 28.6 +0.8
baz=251,SNR=23
HEC **Hector,Ludlow** 84.87 53 P P 01 29 28.3 +0.6
baz=251,SNR=6.0
D03D **Eldon** 84.91 39 P P 01 29 28.5 +1.0
baz=245
D04E **Lakebay** 84.96 39 P P 01 29 29.0 +1.3
baz=245
KVN **Kaiserville** 84.98 48 eP P 01 29 28.3 0.0
comp=Z,7.8nm,0.9s
FURC **Furnace Creek,** 85.01 51 P P 01 29 28.9 +0.7
baz=250,SNR=9.0
PRP **Porcupine Dome** 85.06 17 eP P 01 29 27.6 -0.4
comp=Z,4.7nm,0.8s
COLD **Coldfoot** 85.08 15 eP P 01 29 28.5 +0.6
comp=Z,4.7nm,1.0s
G05D **Wamic, OR** 85.09 42 P P 01 29 29.3 +0.9
baz=246
BC3 **Big Chuckawall** 85.18 54 P P 01 29 30.4 +1.1
baz=251,SNR=14
F05D **White Salmon** 85.26 41 P P 01 29 30.3 +1.1
baz=246
GMRC **Granite Mounta** 85.38 53 P P 01 29 30.9 +0.6
baz=251,SNR=10
TUQ **Turquoise Moun** 85.39 52 P P 01 29 30.9 +0.6
baz=251,SNR=14
D05A **Enumclaw** 85.45 40 eP P 01 29 30.7 +0.6
comp=Z,18nm,0.9s
GLA **Glamis** 85.49 55 eP P 01 29 31.3 +0.6
comp=Z,33nm,1.1s
GLA **Glamis** 85.49 55 P P 01 29 31.8 +1.1
baz=252,SNR=6.0
IRM **Iron Mountain** 85.58 54 P P 01 29 32.0 +0.9
baz=251,SNR=25
TPNV **Topopah Spring** 85.64 51 eP P 01 29 32.2 +0.7
comp=Z,13nm,0.8s
TPNV **Topopah Spring** 85.64 51 P P 01 29 32.0 +0.6
baz=250,SNR=19
A04D **Lummi Island** 85.64 38 P P 01 29 31.9 +1.0
baz=245
WVOR **Wild Horse Val** 85.81 45 eP P 01 29 32.6 +0.5
comp=Z,3.8nm,1.0s
B05A **Bryant** 85.83 39 P P 01 29 32.8 +1.0
baz=246
I07A **Izee** 85.84 43 eP P 01 29 32.2 0.0
comp=Z,14nm,0.8s
EGAK **Eagle** 85.88 19 eP P 01 29 31.0 -0.7
comp=Z,9.9nm,0.8s
Y12C **Blythe** 85.95 54 eP P 01 29 33.5 +0.7
comp=Z,31nm,1.1s
Y12C **Blythe** 85.95 54 P P 01 29 33.5 +0.7
baz=252,SNR=12
DAWY **Dawson** 85.99 20 eP P 01 29 31.9 -0.5
comp=Z,8.2nm,1.0s
NEE2 **Needles Airpor** 86.19 53 P P 01 29 35.0 +1.1
baz=252
113A **Mohawk Valley,** 86.25 55 eP P 01 29 34.2 0.0
comp=Z,10nm,0.8s
J08A **Circle Bar Ran** 86.26 44 eP P 01 29 34.5 +0.3
comp=Z,18nm,0.9s
LTY **Liberty** 86.30 40 eP P 01 29 34.6 +0.4
comp=Z,9.5nm,0.7s
SHPR **Sheep Range** 86.32 51 eP P 01 29 34.3 -0.4
comp=Z,13nm,1.0s
TOLK **Toolik Lake Re** 86.32 14 eP P 01 29 34.1 +0.2
comp=Z,2.5nm,0.6s
TOLK **Toolik Lake Re** 86.32 14 P P 01 29 34.0 +0.2
baz=220
DLBC **Dease Lake** 86.37 27 eP P 01 29 34.3 +0.1
comp=Z,9.2nm,1.1s
PDMCI **Parker Dam,Lak** 86.42 54 P P 01 29 35.9 +1.0
baz=252,SNR=18
E07A **Sunnyside** 86.55 41 eP P 01 29 35.6 +0.3
comp=Z,21nm,0.8s
R11A **Troy Canyon, C** 86.59 50 eP P 01 29 35.8 -0.2
comp=Z,8.6nm,1.1s
R11A **Troy Canyon, C** 86.59 50 P P 01 29 36.5 +0.5
baz=251,SNR=17
G08A **Pilot Rock** 86.65 42 eP P 01 29 36.5 +0.6
comp=Z,24nm,0.9s
HAWA **Hanford** 86.69 41 eP P 01 29 36.3 +0.3
comp=Z,20nm,0.9s
214A **Organ Pipe Nat** 86.78 56 P P 01 29 38.0 +1.2
baz=253,SNR=7.2
W13A **Hualapai Mount** 86.86 53 eP P 01 29 37.5 +0.2
comp=Z,20nm,1.0s
LLLB **Lillooet** 86.92 37 eP P 01 29 37.4 +0.4
comp=Z,14nm,1.1s
E08A **Dider Farm, El** 87.03 41 eP P 01 29 37.7 +0.2
comp=Z,39nm,1.0s
Y14A **Wickenburg** 87.21 54 eP P 01 29 39.1 +0.3
comp=Z,6.8nm,0.9s
D08A **Wollman Farm,** 87.33 41 eP P 01 29 39.3 +0.3
comp=Z,22nm,1.1s
B08A **Colville Reser** 87.56 39 eP P 01 29 40.3 +0.3
comp=Z,10nm,0.9s
BMO **Blue Mountains** 87.58 43 eP P 01 29 40.6 +0.3
comp=Z,23nm,1.1s
ELK **Elko** 87.63 47 eP P 01 29 41.1 +0.3
comp=Z,15nm,1.1s
LCMT **Little Creek M** 87.94 51 eP P 01 29 42.5 +0.3
comp=Z,23nm,1.0s
PSUT **Pine Spring** 87.94 50 eP P 01 29 42.2 -0.1
comp=Z,12nm,0.9s
C09A **Chrisman Ranch** 88.01 40 eP P 01 29 42.1 0.0
comp=Z,6.9nm,0.8s
CCUT **Cedar City** 88.01 51 eP P 01 29 42.2 -0.4
comp=Z,15nm,1.1s
F10A **Beach Ranch, E** 88.03 42 eP P 01 29 42.7 +0.4
comp=Z,32nm,0.9s
SZCU **Shurtz Canyon** 88.23 51 eP P 01 29 43.6 -0.1
comp=Z,13nm,1.1s
KNB **Kanab** 88.26 52 eP P 01 29 44.1 +0.3
comp=Z,9.2nm,0.9s
EPYK **Eagle Plains** 88.32 19 eP P 01 29 42.3 -0.8
comp=Z,9.3nm,0.8s
EPYK **Eagle Plains** 88.32 19 P P 01 29 42.4 -0.7
baz=232
U15A **North Rim** 88.50 52 eP P 01 29 44.6 -0.4
comp=Z,22nm,1.0s
TUC **Tucson** 88.53 57 eP P 01 29 46.0 +1.0
comp=Z,26nm,1.3s
TUC **Tucson** 88.53 57 P P 01 29 46.0 +1.0
baz=254
X16A **Lo Mia Camp, P** 88.59 54 eP P 01 29 45.9 +0.5
comp=Z,14nm,0.9s
PKCU **Pink Cliffs** 88.78 51 eP P 01 29 46.6 +0.2
comp=Z,23nm,1.1s
NEW **Newport** 88.90 40 eP P 01 29 46.6 +0.3
comp=Z,14nm,0.9s
NEW **Newport** 88.90 40 P P 01 29 46.7 +0.4
baz=249
WUAZ **Wupatki** 88.95 53 eP P 01 29 47.5 +0.5
comp=Z,15nm,1.1s
WUAZ **Wupatki** 88.95 53 P P 01 29 48.0 +1.0
baz=254
MTPU **Mount Pierson** 89.05 51 eP P 01 29 47.9 +0.2
comp=Z,14nm,1.0s
HLID **Hailey** 89.11 45 eP P 01 29 48.4 +0.8
comp=Z,11nm,1.4s
HLID **Hailey** 89.11 45 P P 01 29 48.5 +1.0
baz=251
MSU **Marysvale** 89.19 50 eP P 01 29 48.2 +0.1
DUG **Dugway, Tooele** 89.22 49 eP P 01 29 48.6 +0.6
comp=Z,3.9nm,1.0s
DUG **Dugway, Tooele** 89.22 49 P P 01 29 48.7 +0.6
baz=252
BGU **Big Grassy Mou** 89.28 48 eP P 01 29 48.8 +0.4
comp=Z,3.7nm,1.0s
319A **Douglas** 89.51 58 eP P 01 29 50.0 +0.3
comp=Z,24nm,0.9s
NLU **North Lily Min** 89.69 49 eP P 01 29 51.0 +0.6
comp=Z,6.3nm,0.9s
HVU **Hansel Valley** 89.72 47 eP P 01 29 50.5 +0.1
comp=Z,6.3nm,1.0s
X18A **Snowflake** 89.80 55 eP P 01 29 51.0 0.0
comp=Z,12nm,1.0s
MPU **Maple Canyon** 90.03 49 eP P 01 29 51.9 0.0
comp=Z,4.3nm,1.0s
Q16A **Castle Valley** 90.06 50 eP P 01 29 52.2 +0.1
comp=Z,3.0nm,0.8s
W18A **Petrified Fore** 90.13 54 eP P 01 29 52.7 +0.2
comp=Z,14nm,0.9s
W18A **Petrified Fore** 90.13 54 P P 01 29 53.3 +0.8
baz=254
TMUT **Trail Mountain** 90.14 50 eP P 01 29 52.7 +0.1
comp=Z,4.9nm,0.9s
JLU **Jordanelle** 90.33 48 eP P 01 29 53.4 0.0
comp=Z,8.6nm,1.2s
MSO **Missoula** 90.46 42 P P 01 29 55.0 +1.4
baz=252
TCUT **Toone Canyon** 90.50 48 eP P 01 29 53.7 -0.5
comp=Z,8.3nm,0.9s
HWUT **Hardware Ranch** 90.53 47 eP P 01 29 54.2 0.0
comp=Z,1.8nm,0.6s
SRU **San Rafael Swe** 90.60 50 eP P 01 29 54.6 0.0
comp=Z,4.1nm,0.9s
DLMT **Dillon** 90.90 44 eP P 01 29 55.9 +0.1
comp=Z,4.4nm,0.7s
121A **Cookes Peak, D** 91.03 57 P P 01 29 57.2 +0.5
baz=256
PV09 **Paradox Valley** 91.48 51 eP P 01 29 58.7 -0.1
FXWY **Fox Creek** 91.48 46 eP P 01 29 58.7 +0.1
comp=Z,1.8nm,0.9s
PV14 **Lion Creek, Pa** 91.53 51 eP P 01 29 58.7 -0.2
comp=Z,8.4nm,1.0s
PV17 **East Wray Mesa** 91.56 51 eP P 01 29 59.2 +0.1
comp=Z,7.9nm,1.0s
PV23 **Carpenter Ridg** 91.56 51 eP P 01 29 59.2 +0.1
comp=Z,16nm,0.8s
PV16 **Nyswonger Mesa** 91.60 51 eP P 01 29 59.2 0.0
comp=Z,3.4nm,0.8s
PV21 **Cone Mtn., Par** 91.62 51 eP P 01 29 59.3 -0.1
comp=Z,10.0nm,0.6s
BOZ **Bozeman (W)** 91.62 44 P P 01 30 00.3 +1.2
baz=253
PV04 **Paradox Valley** 91.63 51 eP P 01 29 59.5 +0.2
comp=Z,9.8nm,1.0s
PV03 **Paradox Valley** 91.64 51 eP P 01 29 59.4 0.0
comp=Z,2.9nm,0.9s
YHB **Horse Butte** 91.68 45 eP P 01 29 59.8 +0.3
comp=Z,2.8nm,0.9s
PV12 **Saucer Basin,** 91.69 51 eP P 01 29 59.8 +0.1
comp=Z,1.1nm,0.9s
PV01 **Paradox Valley** 91.82 51 eP P 01 30 00.4 +0.1
comp=Z,9.1nm,1.2s
PV07 **Paradox Valley** 91.84 51 eP P 01 30 00.3 0.0
comp=Z,7.7nm,0.8s
H17A **Grant Village** 92.00 45 eP P 01 30 00.9 -0.1
comp=Z,2.8nm,0.8s
H17A **Grant Village** 92.00 45 P P 01 30 01.8 +0.8
baz=254
BW06 **Boulder Array** 92.28 47 P P 01 30 02.1 -0.2
baz=255
PDAR **Pinedale Array** 92.28 47 P P 01 30 01.4 -0.8
comp=Z,0.8nm,0.7s,baz=241,slow=3.7,SNR=8.4
PDAR PP PP 01 33 52.2 -2.4
comp=Z,1.6nm,1.1s,baz=266,slow=5.4,SNR=3.1
BNM **Barren Site** 92.36 56 eP P 01 30 02.9 0.0
O20A **White River Ci** 92.57 50 eP P 01 30 04.1 +0.5
comp=Z,6.9nm,0.8s
O20A **White River Ci** 92.57 50 P P 01 30 04.0 +0.3
baz=256
WMQ **Urumqi** 92.68 314 eP P 01 30 05.1 +1.2
WMQ **Urumqi** 92.68 314 eP P 01 30 03.7 -0.2
ANMO **Albuquerque** 92.69 55 eP P 01 30 04.7 +0.4
comp=Z,4.6nm,1.1s
ANMO **Albuquerque** 92.69 55 P P 01 30 04.4 +0.1
baz=256
MNTX **Cornudas Mount** 92.82 58 eP P 01 30 05.3 +0.6
comp=Z,1.3nm,0.8s
MNTX **Cornudas Mount** 92.82 58 P P 01 30 05.3 +0.6
baz=257
S22A **4UR Ranch, Cre** 93.06 52 eP P 01 30 05.7 -0.3
comp=Z,4.3nm,1.1s
S22A **4UR Ranch, Cre** 93.06 52 P P 01 30 06.6 +0.5
baz=256
TX31 **Lajitas Ar. Si** 93.74 61 eP P 01 30 08.8 -0.3
TXAR **Lajitas Array** 93.74 61 P P 01 30 08.2 -0.9
comp=Z,1.1nm,0.8s,baz=226,slow=5.0,SNR=8.7
N23A **Red Feather La** 94.45 49 P P 01 30 12.2 -0.1
baz=257
ISCO **Idaho Springs** 94.45 50 P P 01 30 12.3 0.0
baz=257
YKA **Yellowknife Ar** 94.98 27 P P 01 30 13.0 -0.7
comp=Z,8.9nm,0.8s,baz=255,slow=4.6,SNR=137
YKA PP PP 01 34 14.0 -0.4
comp=Z,0.6nm,0.9s,baz=252,slow=6.9,SNR=3.6
MSTX **Muleshoe** 95.45 57 P P 01 30 16.8 +0.1
baz=258
ZALV **Zalesovo Beam** 96.91 324 eP P 01 30 21.6 -1.0
ZALV **Zalesovo Beam** 96.91 324 P P 01 30 21.9 -0.7
comp=Z,2.3nm,0.7s,baz=106,slow=5.4,SNR=9.4

MK01	**Makanchi Array**	**97.05 316**	*e*P	Pdif	01 30 23.1	-0.4		
MK31	**Makanchi Array**	**97.06 316**	*e*P	**P**	**01 30 23.5**	**0.0**		
MKAR	**Makanchi Array**	**97.06 316**	P	Pdif	01 30 23.4	-0.1		
	comp=Z,1.9nm,0.5s,baz=81,slow=6.7,SNR=48							
MAKZ	**Makanchi**	**97.28 316**	*e*Pdif	**P**	**01 30 24.6**	**+0.1**		
	comp=Z,4.3nm,1.1s							
NRIK	**Noril'sk**	**98.91 339**	P	Pdif	01 30 30.7	-0.5		
	comp=Z,2.3nm,0.5s,baz=104,slow=2.8,SNR=5.7							
PLVO	**Plevna**	**115.70 46**	P	**PKiKP**	**01 35 29.6**	**-0.2**		
	baz=278							
ARCES	**ARCESS Array B**	**118.81 346**	PKP	**PKPdf**	**01 35 34.3**	**-0.8**		
	comp=Z,4.4nm,0.6s,baz=61,slow=2.1,SNR=58							
HRV	**Adam Dziewonsk**	**120.05 48**	P	**PKiKP**	**01 35 38.3**	**0.0**		
	baz=281							
PKME	**Peaks-Kenny Pk**	**121.07 45**	P	**PKiKP**	**01 35 40.2**	**0.0**		
	baz=284							
SDV	**Santo Domingo**	**121.25 87**	*e*PKPdf	**PKPdf**	**01 35 39.9**	**-1.7**		
FINES	**FINESS Array B**	**124.57 339**	PKP	**PKPdf**	**01 35 45.5**	**-0.8**		
	comp=Z,5.2nm,1.0s,baz=75,slow=8.1,SNR=6.1							
HUMP	**Col San Antoni**	**126.87 77**	*e*PKPdf	**PKPdf**	**01 35 51.0**	**-0.9**		
NB2	**NORSAR Subarra**	**129.19 346**	PKPdf	**PKPdf**	**01 35 54.4**	**-0.8**		
	comp=Z,4.2nm,0.9s,baz=30,slow=2.0							
NOA	**NORSAR Array B**	**129.19 346**	PKP	**PKPdf**	**01 35 54.2**	**-1.0**		
	comp=Z,1.2nm,0.7s,baz=30,slow=2.0,SNR=5.4							
NOA			SKPbc	SKPab	01 38 19.1	-0.1		
	comp=Z,3.8nm,1.0s,baz=30,slow=2.9,SNR=5.8							
AKASG	**Malin Array Be**	**130.11 328**	PKP	**PKPdf**	**01 35 56.0**	**-1.1**		
	comp=Z,0.5nm,0.4s,baz=48,slow=2.7,SNR=4.7							
AKASG			SKPbc	**SKPbc**	**01 38 21.1**	**-1.9**		
	comp=Z,1.3nm,0.5s,baz=46,slow=4.2,SNR=7.9							
BRTR	**Keskin Array B**	**132.58 313**	PKP	**PKPdf**	**01 36 01.8**	**-0.7**		
	comp=Z,0.9nm,0.9s,baz=151,slow=2.8,SNR=5.7							
BRTR			SKPbc	**SKPbc**	**01 38 31.9**	**-0.4**		
	comp=Z,1.1nm,0.7s,baz=54,slow=3.6,SNR=5.3							
VYHS	**Vyhne**	**136.70 331**	*e*PKP	**PKPdf**	**01 36 09.3**	**-0.4**		
CLL	**Collm**	**136.98 338**	*e*PKPdf	**PKiKP**	**01 36 12.0**	**0.0**		
KHC	**Kasperske Hory**	**138.51 336**	*e*PKP	**PKiKP**	**01 36 15.0**	**-0.3**		
GERES	**GERESS Array B**	**138.69 335**	PKhKP	PKPpre	01 36 02.9			
	comp=Z,1.0nm,0.8s,baz=46,slow=3.9,SNR=6.7							
GERES			PKP	**PKPdf**	**01 36 12.9**	**-0.5**		
	comp=Z,1.6nm,0.9s,baz=64,slow=2.3,SNR=7.8							
GERES			SKPbc	**SKPbc**	**01 38 47.6**	**-2.9**		
	comp=Z,1.5nm,0.9s,baz=57,slow=4.9,SNR=4.8							
BFO	**Black Forest**	**141.12 340**	*e*PKPdf	PKPpre	01 36 14.1			
FETA	**Feichten**	**141.34 336**	*i* PKPdf	PKPpre	01 36 14.3			
	comp=Z,4.7nm,0.8s							
DAVA	**Damuels**	**141.45 337**	*i* PKPdf	PKPpre	01 36 14.4			
	comp=Z,5.5nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**141.86 336**	*e*PKPpre	PKPpre	01 36 16.1			
SENIN	**Lac Senin/Sane**	**143.18 339**	*e*PKPbc	PKPab	01 36 19.6	-0.3		
CLF	**Chambon-Foret**	**143.19 345**	*e*PKPbc	**PKPdf**	**01 36 20.6**	**-0.7**		
AQU	**L'Aquila**	**143.78 329**	*e*PKPbc	PKPbc	01 36 21.8	-0.2		
TIP	**Timpagrande**	**144.11 322**	*e*PKPbc	PKPbc	01 36 22.8	-0.3		
BNI	**Bardonecchia**	**144.53 338**	*e*PKPdf	PKPbc	01 36 24.2	-0.1		
SSB	**Saint Sauveur**	**145.05 341**	*e*PKPdf	**PKPbc**	**01 36 25.9**	**+0.2**		
KEST	**Kesra**	**150.77 325**	PKPbc	**PKiKP**	**01 36 40.8**	**-0.2**		
	comp=Z,10nm,0.9s,baz=212,slow=4.8,SNR=5.5							
PBRG	**Braganca**	**150.86 354**	*e*PKPdf	**PKPdf**	**01 36 33.6**	**-0.6**		
PBRG	**Braganca**	**150.86 354**	*e*PKPbc	**PKPbc**	**01 36 40.3**	**-0.3**		
PBRG	**Braganca**	**150.86 354**	*e*PKPab	**PKPab**	**01 36 51.2**	**+0.5**		
POLO	**Lamas de Olo**	**151.38 355**	*e*PKPbc	**PKPbc**	**01 36 41.8**	**0.0**		
POLO	**Lamas de Olo**	**151.38 355**	*e*PKPab	**PKPab**	**01 36 53.9**	**+0.9**		
PVRL	**Vila Real**	**151.47 355**	*e*PKPab	**PKPab**	**01 36 54.6**	**+1.3**		
MVO	**Moncorvo**	**151.52 354**	*e*PKPbc	**PKiKP**	**01 36 42.3**	**-0.1**		
MVO	**Moncorvo**	**151.52 354**	*e*PKPab	**PKPab**	**01 36 54.7**	**+1.1**		
PVIS	**Viseu**	**152.04 355**	*e*PKPbc	**PKPbc**	**01 36 43.0**	**-0.3**		
PVIS	**Viseu**	**152.04 355**	*e*PKPab	**PKPab**	**01 36 56.1**	**+0.3**		
MTE	**Manteigas**	**152.33 355**	*e*PKPbc	**PKPbc**	**01 36 43.5**	**-0.4**		
MTE	**Manteigas**	**152.33 355**	*e*PKPab	**PKPab**	**01 36 58.0**	**+1.0**		
ES19	**SONSECA Array**	**152.49 348**	*e*PKPdf	**PKPdf**	**01 36 36.5**	**-0.2**		
ES19			*e*PKPab	**PKPab**	**01 36 58.4**	**+0.7**		
ESDC	**Sonseca Array**	**152.52 348**	PKPbc	**PKPbc**	**01 36 43.0**	**-1.4**		
	comp=Z,2.0nm,0.9s,baz=8.8,slow=2.5,SNR=8.4							
ESDC			PKPab	**PKPab**	**01 36 58.5**	**+0.6**		
	comp=Z,2.0nm,0.6s,baz=8.5,slow=3.7,SNR=13							
PCBR	**Castelo Branco**	**152.88 354**	*e*PKPdf	**PKPdf**	**01 36 37.6**	**+0.4**		
PCBR	**Castelo Branco**	**152.88 354**	*e*PKPbc	**PKPbc**	**01 36 44.8**	**-0.2**		
PCBR	**Castelo Branco**	**152.88 354**	*e*PKPab	**PKPab**	**01 36 59.6**	**+0.4**		
PTOM	**Tomar**	**153.18 356**	*e*PKPab	**PKPab**	**01 37 01.8**	**+1.3**		
PMRV	**Marv??o**	**153.28 354**	*e*PKPdf	**PKPdf**	**01 36 37.3**	**-0.5**		
PMRV	**Marv??o**	**153.28 354**	*e*PKPbc	**PKiKP**	**01 36 45.9**	**-0.1**		
PBEJ	**Beja**	**154.71 354**	*e*PKPab	**PKPab**	**01 37 09.5**	**+2.3**		
PVAQ	**Vaqueiros**	**155.31 354**	*e*PKPab	**PKPab**	**01 37 10.9**	**+1.1**		
PFVI	**Vila Bisbo**	**155.68 356**	*e*PKPab	**PKPab**	**01 37 12.9**	**+1.6**		
TOA0	**Torodi Ar. Sit**	**167.77 273**	*e*PKPdf	**PKPdf**	**01 36 52.5**	**-1.3**		
TORD	**Torodi Ar. Bea**	**167.77 273**	PKP	**PKPdf**	**01 36 52.0**	**-1.8**		
	comp=Z,1.5nm,1.1s,baz=357,slow=1.8,SNR=5.3							

*ISCJB **02** 01:19:34.3±0.1, 12.84S±0.02×169.09E±0.03, h625km, mb4.7/211, Error ellipse: s-maj=4.4km s-min=2.9km az=12.8*
*BJI **02** 01:19:35.9, 12.71S×169.84E, h672km, mb4.4/27, mB4.8/16*
*IDC **02** 01:19:36.9±1.2, 12.88S×169.22E, h647km±15km, mb4.0/30, mb1 4.2/32, mb1mx4.0/48, mbtmp5.0/32, Error ellipse: s-maj=10.7km s-min=9.6km az=80.0*
*NEIC **02** 01:19:37.2±0.3, 12.87S×169.12E, h650km±3km, mb4.8/180, Error ellipse: s-maj=3.3km s-min=2.7km az=153.0*

ISC 02 01:19:35.2±0.3, 12.79S±0.05×169.17E±0.05, h625km, n470, σ1§14/477, mb4.8/210, 2C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MARNC	**Mare, Loyalty**	**8.71 187**		*e*P	**P**	**01 21 43.2**	**+1.2**
DZM	**Mont Dzumac**	**9.59 195**		*e*P	**P**	**01 21 51.3**	**+0.7**
	381nm,1.1s						
DZM	**Mont Dzumac**	**9.59 195**		P	**P**	**01 21 52.9**	**+2.3**
	15nm,0.3s,baz=273,slow=12,SNR=13						
DZM				S	**S**	**01 23 44.4**	**+2.7**
	baz=297,slow=11,SNR=5.7						
HNR	**Honiara**	**9.65 289**		*e*P	**P**	**01 21 53.1**	**+1.8**
HNR	**Honiara**	**9.65 289**		P	**P**	**01 21 53.3**	**+2.1**
	94nm,0.3s,baz=204,slow=3.5,SNR=10.0						
HNR				S	**S**	**01 23 46.5**	**+3.8**
	baz=125,slow=19,SNR=3.1						
HNR	**Honiara**	**9.65 289**		*e*S	**P**	**01 21 53.0**	**+1.8**
ONTNC	**Ouen Toro**	**9.81 195**		*e*P	**P**	**01 21 55.0**	**+2.4**
MSVF	**Nonsavu**	**9.87 121**		*e*P	**P**	**01 21 55.9**	**+2.5**
PINNC	**Pines Island,**	**9.91 189**		*e*P	**P**	**01 21 54.3**	**+0.8**
TARA	**Tarawa**	**14.54 15**		*e*P	**P**	**01 22 39.8**	**+1.5**
RAO	**Raoul Island**	**20.30 146**		*e*P	**P**	**01 23 30.9**	**+0.4**
RAO	**Raoul Island**	**20.30 146**		P	**P**	**01 23 30.5**	**+0.1**
	207nm,0.4s,baz=110,slow=21,SNR=4.3						
GLKZ	**Green Lake**	**20.31 146**		P	**P**	**01 23 30.9**	**+0.4**
OUZ	**Omahuta**	**22.69 171**		*e*P	**P**	**01 23 53.4**	**+1.8**
	29nm,1.0s						
OUZ	**Omahuta**	**22.69 171**		P	**P**	**01 23 53.6**	**+2.0**
CTA	**Charters Tower**	**23.13 249**		P	**P**	**01 23 56.8**	**+1.0**
	7.5nm,0.4s,baz=76,slow=12,SNR=18						
CTAO	**Charters Tower**	**23.13 249**		*e*P	**P**	**01 23 56.9**	**+1.0**
	12nm,0.6s						
WCZ	**Waipu Caves**	**23.52 169**		P	**P**	**01 24 01.5**	**+2.6**
KUZ	**Kuaotunu**	**24.57 167**		P	**P**	**01 24 09.4**	**+1.2**
MKAZ	**Moumakai**	**24.80 169**		P	**P**	**01 24 11.8**	**+1.5**
COEN	**Coen**	**25.32 264**		*e*P	**P**	**01 24 15.8**	**+0.6**
	37nm,0.6s						
TOZ	**Tahuroa Road**	**25.47 168**		P	**P**	**01 24 17.5**	**+1.3**
OPRZ	**Ohinepanea**	**25.80 166**		P	**P**	**01 24 20.7**	**+1.6**
KARZ	**Kaharoa**	**25.91 167**		P	**P**	**01 24 21.6**	**+1.6**
MXZ	**Matakaoa Point**	**25.98 163**		*e*P	**P**	**01 24 19.9**	**-0.8**
	42nm,0.7s						
MXZ	**Matakaoa Point**	**25.98 163**		P	**P**	**01 24 19.9**	**-0.8**
OMRZ	**Omania**	**26.02 167**		P	**P**	**01 24 22.5**	**+1.5**
HAZ	**Te Kaha**	**26.02 164**		P	**P**	**01 24 20.9**	**-0.1**
TLZ	**Tolley Road**	**26.06 169**		P	**P**	**01 24 23.0**	**+1.6**
MKRZ	**Makatiti**	**26.07 167**		P	**P**	**01 24 24.3**	**+2.8**
HIZ	**Hauiti**	**26.11 170**		*e*P	**P**	**01 24 23.2**	**+1.5**
	102nm,1.2s						
HIZ	**Hauiti**	**26.11 170**		P	**P**	**01 24 23.5**	**+1.7**
TARZ	**Mount Tarawera**	**26.17 167**		P	**P**	**01 24 24.7**	**+2.3**
RUGZ	**Raukumara Rang**	**26.19 165**		P	**P**	**01 24 22.0**	**-0.7**
PKGZ	**Pakihiroa**	**26.23 164**		P	**P**	**01 24 22.2**	**-0.7**
WMGZ	**Waiomatini S**	**26.25 163**		P	**P**	**01 24 22.3**	**-0.8**
RRRZ	**Republican Roa**	**26.27 167**		P	**P**	**01 24 25.0**	**+1.7**
URZ	**Urewera**	**26.33 166**		*e*P	**P**	**01 24 23.6**	**-0.1**
	46nm,0.8s						
URZ	**Urewera**	**26.33 166**		P	**P**	**01 24 23.2**	**-0.5**
	21nm,0.5s,baz=326,slow=4.0,SNR=11						
URZ				S	**S**	**01 28 07.6**	**-6.9**
	4.7nm,0.7s,baz=202,slow=19,SNR=2.4						
URZ	**Urewera**	**26.33 166**		P	**P**	**01 24 23.8**	**+0.1**
PUZ	**Puketiti**	**26.45 164**		P	**P**	**01 24 23.6**	**-1.1**
WATZ	**Wairara**	**26.46 168**		P	**P**	**01 24 26.8**	**+1.9**
TWGZ	**Tauwhareparae**	**26.47 164**		P	**P**	**01 24 24.8**	**-0.2**
MWZ	**Matawai**	**26.50 165**		P	**P**	**01 24 24.9**	**-0.4**
RAGZ	**Rawiri**	**26.63 165**		P	**P**	**01 24 26.3**	**-0.1**
RTZ	**Ruatahuna**	**26.64 166**		P	**P**	**01 24 26.1**	**-0.4**
TKGZ	**Te Karaka**	**26.68 165**		P	**P**	**01 24 26.4**	**-0.3**
VRZ	**Vera Road**	**26.69 170**		P	**P**	**01 24 30.4**	**+3.5**
KATZ	**Kakaramea**	**26.71 169**		P	**P**	**01 24 29.1**	**+1.9**
MRHZ	**Matea Rd**	**26.72 167**		P	**P**	**01 24 27.7**	**+0.5**
CNGZ	**Carnagh Statio**	**26.82 164**		P	**P**	**01 24 27.3**	**-0.6**
MTHZ	**Maungataniwha**	**26.83 167**		P	**P**	**01 24 28.2**	**+0.1**
SNGZ	**Shannon Statio**	**26.88 166**		P	**P**	**01 24 28.1**	**-0.4**
RAHZ	**Arahi**	**26.95 166**		P	**P**	**01 24 29.2**	**0.0**
FWVZ	**Far West T-bar**	**26.96 169**		P	**P**	**01 24 30.9**	**+1.4**
BKZ	**Black Stump Fm**	**27.06 167**		*e*P	**P**	**01 24 30.1**	**0.0**
	112nm,1.0s						
NMHZ	**Naumai**	**27.06 167**		P	**P**	**01 24 30.5**	**+0.3**
WHHZ	**Waihua**	**27.14 166**		P	**P**	**01 24 30.6**	**-0.2**
KWHZ	**Kaweka Forest**	**27.29 168**		P	**P**	**01 24 32.3**	**+0.1**
MHGZ	**Mahia Peninsul**	**27.37 165**		P	**P**	**01 24 31.7**	**-1.1**
BFZ	**Birch Farm**	**28.47 169**		*e*P	**P**	**01 24 41.4**	**-0.9**
	102nm,1.1s						
SNZO	**South Karori**	**28.82 171**		*e*P	**P**	**01 24 44.8**	**-0.4**
THZ	**Tophouse**	**29.05 174**		*e*P	**P**	**01 24 48.2**	**+0.9**
	77nm,1.1s						
THZ				*e*pP	**P**	**01 24 48.9**	**+1.6**
THZ				*e*S	**S**	**01 28 55.5**	**-1.2**
KHZ	**Kahutara**	**29.76 173**		*e*P	**P**	**01 24 53.3**	**0.0**
	78nm,1.1s						
LTZ	**Lake Taylor**	**30.00 175**		*e*P	**P**	**01 24 55.9**	**+0.4**
	28nm,1.0s						
OXZ	**Oxford**	**30.53 176**		*e*P	**P**	**01 25 00.1**	**+0.2**
	14nm,0.6s						
RPZ	**Rata Peaks**	**30.86 177**		P	**P**	**01 25 02.1**	**-0.6**
RPZ				*e*pP	**P**	**01 25 03.1**	**+0.4**
RPZ	**Rata Peaks**	**30.86 177**		P	**P**	**01 25 02.1**	**-0.6**
	14nm,0.6s,baz=28,slow=2.7,SNR=7.5						
RPZ				S	**S**	**01 29 21.2**	**-3.1**
	7.9nm,1.0s,baz=150,slow=20,SNR=2.0						
STKA	**Stephens Creek**	**31.65 229**		P	**P**	**01 25 11.0**	**+1.3**
	9.6nm,0.3s,baz=55,slow=9.3,SNR=20						
WRAB	**Tennant Creek**	**34.11 253**		*e*P	**P**	**01 25 30.1**	**-0.3**
	39nm,0.3s						
WRAB				*e*S	**S**	**01 30 10.8**	**-3.5**
WRA	**Warramunga Arr**	**34.12 253**		P	**P**	**01 25 30.6**	**+0.1**
	55nm,0.4s,baz=84,slow=8.7,SNR=116						
WRA				S	**S**	**01 30 10.6**	**-3.8**
	30nm,1.0s,baz=84,slow=15,SNR=9.0						
WRA				ScP	**ScP**	**01 30 34.1**	**-1.7**
	8.0nm,1.0s,baz=82,slow=3.8,SNR=7.0						
AS01	**Alice Springs**	**35.07 247**		*e*P	**P**	**01 25 38.1**	**-0.3**
AS01				*e*S	**S**	**01 30 26.3**	**-2.2**
AS31	**Alice Springs**	**35.11 247**		*e*P	**P**	**01 25 38.8**	**0.0**
	49nm,0.3s						
AS31				*e*S	**S**	**01 30 27.4**	**-1.7**
ASAR	**Alice Springs**	**35.11 247**		P	**P**	**01 25 39.0**	**+0.3**
	44nm,0.4s,baz=76,slow=9.6,SNR=107						
ASAR				PcP	**PcP**	**01 27 51.9**	**-0.2**
	2.8nm,0.8s,baz=95,slow=3.7,SNR=4.4						
ASAR				S	**S**	**01 30 25.9**	**-3.2**
	15nm,0.9s,baz=74,slow=17,SNR=15						
BBOO	**Buckleboo**	**36.23 231**		*e*P	**P**	**01 25 47.8**	**+0.1**
	34nm,0.5s						
MTN	**Manton Dam**	**37.07 266**		*e*P	**P**	**01 25 54.9**	**+0.1**
	42nm,0.5s						
FAKI	**Fak Fak**	**37.82 282**		*e*P	**P**	**01 26 01.1**	**+0.2**
	42nm,0.6s						
PMOR	**Pomariorio Ree**	**41.69 98**		*e*P	**P**	**01 26 33.4**	**+1.7**
	26nm,0.9s						
FORT	**Forrest**	**41.88 238**		*e*P	**P**	**01 26 33.3**	**+0.3**
	60nm,0.6s						
VAH	**Vaihoa**	**41.94 99**		*e*P	**P**	**01 26 35.0**	**+1.4**
	34nm,1.1s						
FITZ	**Fitzroy Crossi**	**42.22 257**		*e*P	**P**	**01 26 35.9**	**+0.1**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.22 257**		P	**P**	**01 26 36.5**	**+0.7**
	8.7nm,0.4s,baz=92,slow=5.6,SNR=16						
SOEI	**Soe**	**44.10 269**		*e*P	**P**	**01 26 51.0**	**+0.4**
	59nm,1.1s						
OPA	**Opana**	**47.03 44**		*e*P	**P**	**01 27 13.9**	**+1.6**
	193nm,0.6s						
KHU	**Kahuku**	**47.08 48**		*e*P	**P**	**01 27 14.3**	**+1.2**
	144nm,1.1s						
AIN	**Ainahou**	**47.28 48**		*e*P	**P**	**01 27 15.7**	**+1.1**
	112nm,0.6s						
POHA	**Pohakuloa**	**47.47 48**		*e*P	**P**	**01 27 16.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**51.33 238**		*e*P	**P**	**01 27 43.3**	**-0.5**
MJAR	**Matsushiro Arr**	**57.10 330**		P	**P**	**01 28 24.4**	**+0.5**
	3.6nm,0.6s,baz=172,slow=8.0,SNR=10						
MAJO	**Matsushiro**	**57.10 330**		*e*P	**P**	**01 28 24.6**	**+0.7**
	5.8nm,0.4s						
JNU	**Nakatsue**	**58.48 322**		P	**P**	**01 28 33.6**	**+0.2**
	9.1nm,0.9s,baz=243,slow=2.3,SNR=3.4						
LEM	**Lembang**	**60.83 269**		P	**P**	**01 28 49.6**	**+0.1**
	22nm,0.5s,baz=310,slow=19,SNR=3.5						
ASAJ	**Asahikawa**	**61.59 339**		P	**P**	**01 28 54.3**	**+0.8**
	13nm,0.7s,baz=205,slow=8.6,SNR=8.4						
VNDA	**Vanda**	**64.84 182**		P	**P**	**01 29 14.1**	**+0.3**
	1.2nm,0.5s,baz=360,slow=7.0,SNR=8.1						
NJ2	**Nanjing**	**65.62 314**		*e*P	**P**	**01 29 21.2**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
CASY	**Casey**	**66.01 202**		*e*P	**P**	**01 29 21.1**	**0.0**
	6.3nm,0.6s						
USRK	**Ussuiysk Ar.**	**66.04 332**		P	**P**	**01 29 23.0**	**+1.3**
	2.6nm,0.5s,baz=120,slow=5.4,SNR=12						
PET	**Petropavlovsk**	**66.17 353**		*e*P	**P**	**01 29 22.8**	**+0.5**
	23nm,0.6s						
PEA0B	**Petropavlovsk-**	**66.37 352**		*e*P	**P**	**01 29 24.1**	**+0.6**
	27nm,0.7s						
PETK	**Petropavlovsk-**	**66.37 352**		*e*P	**P**	**01 29 24.1**	**+0.6**
PETK	**Petropavlovsk-**	**66.37 352**		P	**P**	**01 29 24.6**	**+1.1**
	23nm,0.7s,baz=155,slow=6.8,SNR=30						
PSI	**Prapat**	**71.42 277**		P	**P**	**01 29 54.9**	**+0.1**
	1.8nm,0.3s,baz=180,slow=9.4,SNR=3.6						
BJI	**Beijing**	**71.96 320**		*e*P	**P**	**01 29 58.4**	**+1.3**
SDPT	**Sand Point**	**72.53 18**		*e*P	**P**	**01 29 59.7**	**-0.3**
	40nm,0.7s						
MA2	**Magadan**	**73.64 350**		*e*P	**P**	**01 30 05.5**	**-0.7**
	18nm,0.9s						
MA2	**Magadan**	**73.64 350**		P	**P**	**01 30 06.4**	**+0.1**
	13nm,0.7s,baz=142,slow=5.8,SNR=14						
CHGN	**Chignik**	**73.95 18**		*e*P	**P**	**01 30 07.6**	**-0.5**
	26nm,0.7s						
HHC	**Hu-ho-hao-te**	**75.34 319**		*e*P	**P**	**01 30 17.4**	**+1.0**
HHC				S	**S**	**01 38 59.4**	**-7.6**
HHC				sS	sS	01 43 04.3	+11
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,290nm,5.5s						
CM01	**Chiang Mai Arr**	**75.85 293**		*e*P	**P**	**01 30 19.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**75.88 293**		P	**P**	**01 30 21.2**	**+1.5**
	2.7nm,0.6s,baz=114,slow=3.9,SNR=11						
CHTO	**Chiang Mai**	**75.99 293**		*e*P	**P**	**01 30 21.1**	**+0.8**
	3.6nm,0.5s						
CD2	**Chengdu**	**76.33 306**		P	**P**	**01 30 21.2**	**-0.8**
CD2				pmax	pmax		
	comp=Z,11nm,0.5s						
OHAK	**Old Harbor**	**76.34 20**		*e*P	**P**	**01 30 21.9**	**+0.6**
	45nm,0.9s						
KDAK	**Kodiak Island**	**77.02 20**		*e*P	**P**	**01 30 25.6**	**+0.6**
	30nm,0.8s						
KDAK	**Kodiak Island**	**77.02 20**		P	**P**	**01 30 25.6**	**+0.6**
	22nm,0.8s,baz=219,slow=4.2,SNR=16						
QSPA	**South Pole Qui**	**77.23 180**		*e*P	**P**	**01 30 26.0**	**-0.3**
GAMB	**Gambell**	**77.74 9**		*e*P	**P**	**01 30 29.0**	**+0.3**
	18nm,0.7s						
LZH	**Lanzhou**	**78.42 311**		*e*P	**P**	**01 30 33.9**	**+0.6**
LZH				pP	pwP	01 32 49.6	+4.4
LZH				sP	sP	01 33 58.9	+14
LZH				pmax	pmax		
	comp=Z,32nm,0.9s						
LZH				pmax	pmax		
	comp=Z,130nm,4.9s						
SVW2	**Sparrevohn**	**78.77 17**		*e*P	**P**	**01 30 34.8**	**+0.4**
	9.8nm,0.6s						
BRLK	**Bradley Lake**	**79.12 19**		*e*P	**P**	**01 30 37.0**	**+0.8**
	58nm,0.9s						
ANM	**Nome**	**79.52 11**		*e*P	**P**	**01 30 39.0**	**+0.9**
	12nm,0.8s						
SEW	**Seward**	**79.84 20**		*e*P	**P**	**01 30 40.9**	**+1.0**
	62nm,1.0s						
SUA	**Susitna One**	**80.48 18**		*e*P	**P**	**01 30 43.5**	**+0.2**
	112nm,1.0s						
RC01	**Rabbit Creek A**	**80.50 19**		*e*P	**P**	**01 30 44.0**	**+0.6**
	73nm,0.7s						
BILL	**Bilibino**	**80.64 359**		*e*P	**P**	**01 30 44.3**	**+0.3**
	23nm,0.7s						
PMR	**Palmer**	**81.08 19**		*e*P	**P**	**01 30 45.8**	**-0.4**
	76nm,1.2s						
KNK	**Knik Glacier**	**81.15 19**		*e*P	**P**	**01 30 47.6**	**+0.8**
	47nm,0.7s						
MCCM	**Marconi Confer**	**81.17 48**		*e*P	**P**	**01 30 48.1**	**+0.8**
PPLA	**Purkeypile**	**81.17 17**		*e*P	**P**	**01 30 46.5**	**-0.4**
	24nm,0.8s						
KCPM	**Cahto Peak**	**81.30 46**		*e*P	**P**	**01 30 48.9**	**+0.8**
	99nm,1.2s						
HOPS	**Hopland Field**	**81.38 47**		*e*P	**P**	**01 30 49.0**	**+0.6**
	27nm,0.9s						
KMRM	**Mail Ridge**	**81.43 46**		*e*P	**P**	**01 30 49.7**	**+1.0**
	30nm,0.7s						
SML	**Sawmill**	**81.49 19**		*e*P	**P**	**01 30 49.0**	**+0.5**
	17nm,0.9s						
GDXM	**Geysers**	**81.50 47**		*e*P	**P**	**01 30 49.7**	**+0.6**
	30nm,1.2s						
CAST	**Castle Rocks**	**81.61 17**		*e*P	**P**	**01 30 48.7**	**-0.3**
	108nm,0.7s						
SAO	**San Andreas Ge**	**81.67 49**		*e*P	**P**	**01 30 50.5**	**+0.5**
	18nm,0.9s						
KHMM	**Horse Mountain**	**81.69 45**		*e*P	**P**	**01 30 51.0**	**+0.9**
	24nm,0.7s						
SCM	**Sheep Creek Mo**	**81.83 19**		*e*P	**P**	**01 30 50.7**	**+0.5**
	96nm,1.2s						
DIV	**Divide**	**81.83 20**		*e*P	**P**	**01 30 50.7**	**+0.4**
	22nm,0.7s						
SNCC	**San Nicolas Is**	**81.83 53**		*e*P	**P**	**01 30 51.6**	**+0.7**
	22nm,0.6s						
SNCC	**San Nicolas Is**	**81.83 53**		P	**P**	**01 30 51.8**	**+1.0**
	baz=249						
SCZ2	**Santa Cruz Isl**	**82.02 53**		P	**P**	**01 30 52.7**	**+0.9**
	baz=249						
KLU	**Klutina**	**82.04 20**		*e*P	**P**	**01 30 51.5**	**+0.2**
	13nm,0.7s						
O02D	**Mt. Diablo Mer**	**82.06 46**		P	**P**	**01 30 53.6**	**+1.7**
	baz=246,SNR=23						
SONM	**Songino Array**	**82.06 323**		P	**P**	**01 30 52.0**	**+0.1**
	3.9nm,0.5s,baz=135,slow=5.2,SNR=27						
SONA1	**Songino Array**	**82.06 323**		*e*P	**P**	**01 30 52.0**	**+0.1**
SBC	**Santa Barbara**	**82.12 52**		P	**P**	**01 30 53.6**	**+1.4**
	baz=249						
TRF	**Thorofare Moun**	**82.15 17**		*e*P	**P**	**01 30 51.9**	**-0.1**
	42nm,0.8s						
PAGB	**Antelope Grade**

COLA	College	83.93	17	*e*P	P	01 31 00.0	-0.5	
	36nm,0.6s							
MLAC	Mammoth, Mammo	83.93	49	P	P	01 31 02.6	+1.1	
	baz=249							
VCNR	Virginia City	83.94	48	*e*P	P	01 31 01.9	+0.4	
	5.8nm,0.8s							
RIDG	Independ'e Rid	84.00	19	*e*P	P	01 31 00.9	-0.1	
	29nm,1.0s							
LRMC	Laurel Mtn Rad	84.05	52	P	P	01 31 03.1	+1.2	
	baz=250,SNR=9.5							
CWC	Cottonwood Cre	84.08	51	P	P	01 31 02.9	+0.8	
	baz=249							
YERR	Yerington	84.13	48	*e*P	P	01 31 02.6	+0.3	
	12nm,1.1s							
IL1	Eielson Array	84.13	17	*e*P	P	01 31 00.4	-1.1	
ILAR	Eielson Array	84.13	17	P	P	01 31 00.5	-1.0	
	28nm,0.7s,baz=235,slow=5.5,SNR=111							
ILB	Eielson Array	84.13	17	*e*P	P	01 31 00.5	-1.0	
MONP2	Monument Peak	84.16	55	P	P	01 31 03.8	+1.1	
	baz=251,SNR=19							
TIN	Tinemaha, Big	84.18	50	P	P	01 31 03.7	+1.2	
	baz=249							
DOT	Dot Lake	84.18	19	*e*P	P	01 31 01.7	-0.2	
	19nm,0.8s							
POKR	Poker Flat Res	84.23	17	P	P	01 31 00.9	-1.1	
	baz=222,SNR=10							
PAHR	Pah Rah Range	84.29	47	*e*P	P	01 31 03.4	+0.3	
	19nm,1.1s							
H04A	Detroit Lake	84.30	42	*e*P	P	01 31 03.5	+0.6	
IKP	In-Ko-Pah, Jac	84.33	55	P	P	01 31 04.6	+1.2	
	baz=251,SNR=6.8							
PFO	Pinyon Flats O	84.37	54	*e*P	P	01 31 04.5	+0.9	
	12nm,0.8s							
PFO	Pinyon Flats O	84.37	54	P	P	01 31 04.5	+0.9	
	baz=251,SNR=11							
RRX	Edison Barstow	84.37	53	P	P	01 31 04.4	+1.0	
	baz=250							
J05D	Fort Rock, OR	84.37	43	P	P	01 31 04.6	+1.2	
	baz=247,SNR=21							
XPFO	Pion Flat	84.37	54	*e*P	P	01 31 03.6	0.0	
	13nm,0.8s							
DAC	Darwin (Calif)	84.39	51	*e*P	P	01 31 04.5	+0.8	
	21nm,1.1s							
MPMC	Manual Prospec	84.39	51	P	P	01 31 04.8	+1.0	
	baz=250,SNR=15							
MOD	Modoc Plateau	84.47	45	*e*P	P	01 31 04.7	+0.8	
	10nm,0.9s							
RYN	Ryan	84.52	49	*e*P	P	01 31 04.6	+0.4	
	11nm,0.9s							
NV01	Mina Array Sit	84.61	49	*e*P	P	01 31 05.5	+0.8	
NVAR	Mina Array Bea	84.61	49	P	P	01 31 05.6	+0.9	
	11nm,0.8s,baz=229,slow=7.3,SNR=26							
GSC	Goldstone, Bar	84.66	52	*e*P	P	01 31 05.9	+1.0	
	3.7nm,0.9s							
GSC	Goldstone, Bar	84.66	52	P	P	01 31 05.8	+1.0	
	baz=250,SNR=7.9							
SWSC	Sam W. Stewart	84.67	55	P	P	01 31 06.1	+1.2	
	baz=251,SNR=15							
I05D	Terrebonne, OR	84.72	42	P	P	01 31 06.0	+1.1	
	baz=246							
NV11	Mina Array Sit	84.72	49	*e*P	P	01 31 05.5	+0.3	
	1.3nm,0.9s							
PINE	Pine Mountain	84.77	43	*e*P	P	01 31 05.7	+0.4	
	20nm,0.8s							
GRAC	Grapevine Rang	84.81	50	P	P	01 31 06.6	+1.1	
	baz=250,SNR=5.1							
E04D	Cinebar	84.83	40	P	P	01 31 06.6	+1.3	
	baz=245							
BELC	Belle Mtn. Jos	84.86	54	P	P	01 31 07.0	+1.1	
	baz=251,SNR=30							
HEC	Hector,Ludlow	84.86	53	P	P	01 31 06.8	+0.9	
	baz=251,SNR=9.0							
D03D	Eldon	84.91	39	P	P	01 31 07.1	+1.4	
	baz=245							
D04E	Lakebay	84.96	39	P	P	01 31 07.5	+1.6	
	baz=245							
KVN	Kaiserville	84.98	48	*e*P	P	01 31 06.7	+0.2	
	9.2nm,0.8s							
FURC	Furnace Creek,	85.00	51	P	P	01 31 07.6	+1.2	
	baz=250,SNR=11							
PRP	Porcupine Dome	85.07	17	*e*P	P	01 31 05.0	-1.2	
	6.1nm,0.7s							
G05D	Wamic, OR	85.09	42	P	P	01 31 07.7	+1.0	
	baz=246							
PGC	Sidney	85.17	38	*e*P	P	01 31 07.7	+0.8	
	48nm,1.1s							
BC3	Big Chuckawall	85.17	54	P	P	01 31 08.8	+1.3	
	baz=251,SNR=14							
F05D	White Salmon	85.26	41	P	P	01 31 08.4	+0.9	
	baz=246							
SHOC	Shoshone, Teco	85.26	52	P	P	01 31 08.7	+0.9	
	baz=250							
GMRC	Granite Mounta	85.38	53	P	P	01 31 09.3	+0.9	
	baz=251,SNR=11							
TUQ	Turquoise Moun	85.38	52	P	P	01 31 09.3	+0.9	
	baz=251,SNR=12							
TLY	Talaya	85.44	325	*e*P	P	01 31 08.4	+0.2	
	6.1nm,0.6s							
D05A	Enumclaw	85.45	40	*e*P	P	01 31 09.0	+0.7	
	41nm,1.1s							
GLA	Glamis	85.48	55	*e*P	P	01 31 09.8	+0.9	
	21nm,0.8s							
GLA	Glamis	85.48	55	P	P	01 31 10.5	+1.6	
	baz=252,SNR=6.6							
IRM	Iron Mountain	85.58	54	P	P	01 31 10.5	+1.3	
	baz=251,SNR=30							
TPNV	Topopah Spring	85.63	51	*e*P	P	01 31 09.8	+0.2	
	14nm,0.7s							
TPNV	Topopah Spring	85.63	51	P	P	01 31 10.6	+1.0	
	baz=250,SNR=16							
A04D	Lummi Island	85.65	38	P	P	01 31 10.4	+1.3	
	baz=245							
WVOR	Wild Horse Val	85.81	45	*e*P	P	01 31 10.4	0.0	
	5.8nm,0.9s							
B05A	Bryant	85.83	39	P	P	01 31 11.1	+1.1	
	baz=246							
I07A	Izee	85.83	43	*e*P	P	01 31 10.5	+0.1	
	17nm,0.7s							
EGAK	Eagle	85.89	19	*e*P	P	01 31 09.5	-0.4	
	8.9nm,0.7s							
LDFC	Landfair	85.90	53	*e*P	P	01 31 11.0	+0.2	
	38nm,0.7s							
Y12C	Blythe	85.94	54	*e*P	P	01 31 11.6	+0.7	
	40nm,1.1s							
Y12C	Blythe	85.94	54	P	P	01 31 12.3	+1.4	
	baz=252,SNR=14							
DAWY	Dawson	86.00	20	*e*P	P	01 31 09.7	-0.9	
	18nm,1.4s							
BMN	Battle Mountai	86.10	47	*e*P	P	01 31 11.8	+0.1	
	11nm,0.8s							
NEE2	Needles Airpor	86.18	53	P	P	01 31 13.3	+1.3	
	baz=252							
F07A	Phinny Hill Vi	86.24	41	*e*P	P	01 31 12.6	+0.5	
	14nm,0.6s							
J08A	Circle Bar Ran	86.26	44	*e*P	P	01 31 12.6	+0.3	
	21nm,0.8s							
SHPR	Sheep Range	86.31	51	*e*P	P	01 31 13.4	+0.5	
	22nm,1.1s							
TOLK	Toolik Lake Re	86.33	14	*e*P	P	01 31 12.7	+0.6	
	4.9nm,0.6s							
TOLK	Toolik Lake Re	86.33	14	P	P	01 31 12.5	+0.4	
	baz=220							
PDMCI	Parker Dam,Lak	86.41	54	P	P	01 31 14.4	+1.3	
	baz=252,SNR=25							
E07A	Sunnyside	86.55	41	*e*P	P	01 31 14.0	+0.5	
	24nm,0.7s							
R11A	Troy Canyon, C	86.59	50	*e*P	P	01 31 14.8	+0.7	
	3.2nm,0.8s							
R11A	Troy Canyon, C	86.59	50	P	P	01 31 14.9	+0.7	
	baz=251,SNR=17							
G08A	Pilot Rock	86.65	42	*e*P	P	01 31 14.5	+0.3	
	38nm,1.1s							
HAWA	Hanford	86.69	41	*e*P	P	01 31 14.7	+0.5	
	18nm,0.8s							
214A	Organ Pipe Nat	86.77	56	P	P	01 31 16.4	+1.4	
	baz=253							
W13A	Hualapai Mount	86.86	53	*e*P	P	01 31 15.7	+0.2	
	30nm,1.1s							
E08A	Dider Farm, El	87.03	41	*e*P	P	01 31 16.4	+0.7	
	50nm,1.0s							
Y14A	Wickenburg	87.20	54	*e*P	P	01 31 17.3	+0.4	
	12nm,1.1s							
D08A	Wollman Farm,	87.33	41	*e*P	P	01 31 17.5	+0.3	
	14nm,0.9s							
B08A	Colville Reser	87.56	39	*e*P	P	01 31 18.7	+0.5	
	14nm,0.9s							
BMO	Blue Mountains	87.58	43	*e*P	P	01 31 19.1	+0.6	
	12nm,0.7s							
ELK	Elko	87.62	47	*e*P	P	01 31 19.7	+0.7	
	8.1nm,0.7s							
LCMT	Little Creek M	87.93	51	*e*P	P	01 31 21.1	+0.7	
	33nm,1.1s							
PSUT	Pine Spring	87.94	50	*e*P	P	01 31 21.0	+0.5	
CCUT	Cedar City	88.01	51	*e*P	P	01 31 21.6	+0.7	
	12nm,0.9s							
C09A	Chrisman Ranch	88.01	40	*e*P	P	01 31 21.0	+0.7	
	7.7nm,0.8s							
F10A	Beach Ranch, E	88.03	42	*e*P	P	01 31 21.2	+0.7	
	29nm,0.8s							
SZCU	Shurtz Canyon	88.23	51	*e*P	P	01 31 22.1	+0.3	
	9.9nm,0.9s							
KNB	Kanab	88.26	52	*e*P	P	01 31 21.9	0.0	
	17nm,1.0s							
EPYK	Eagle Plains	88.33	19	*e*P	P	01 31 21.8	+0.4	
	10nm,0.9s							
EPYK	Eagle Plains	88.33	19	P	P	01 31 20.8	-0.6	
	baz=232							
U15A	North Rim	88.49	52	*e*P	P	01 31 23.7	+0.5	
	18nm,0.8s							
TUC	Tucson	88.52	57	*e*P	P	01 31 23.5	+0.3	
	13nm,0.8s							
TUC	Tucson	88.52	57	P	P	01 31 24.5	+1.3	
	baz=254							
X16A	Lo Mia Vamp, P	88.58	54	*e*P	P	01 31 24.2	+0.7	
	18nm,0.9s							
PKCU	Pink Cliffs	88.77	51	*e*P	P	01 31 25.0	+0.5	
	15nm,1.0s							
NEW	Newport	88.90	40	*e*P	P	01 31 24.8	+0.3	
	11nm,0.8s							
NEW	Newport	88.90	40	P	P	01 31 24.9	+0.4	
	baz=249							
WUAZ	Wupatki	88.94	53	*e*P	P	01 31 26.1	+0.9	
	27nm,1.3s							
WUAZ	Wupatki	88.94	53	P	P	01 31 26.4	+1.2	
	baz=254							
MTPU	Mount Pierson	89.04	51	*e*P	P	01 31 26.4	+0.6	
	24nm,1.1s							
HLID	Hailey	89.11	45	*e*P	P	01 31 26.6	+0.8	
	11nm,1.3s							
HLID	Hailey	89.11	45	P	P	01 31 26.5	+0.8	
	baz=251							
MSU	Marysvale	89.19	50	*e*P	P	01 31 27.2	+0.9	
DUG	Dugway, Tooele	89.21	49	*e*P	P	01 31 26.4	+0.2	
	3.6nm,0.5s							
DUG	Dugway, Tooele	89.21	49	P	P	01 31 27.0	+0.7	
	baz=252							
BGU	Big Grassy Mou	89.27	48	*e*P	P	01 31 27.3	+0.7	
	4.8nm,1.0s							
319A	Douglas	89.50	58	*e*P	P	01 31 27.9	+0.1	
	28nm,0.9s							
NLU	North Lily Min	89.68	49	*e*P	P	01 31 29.0	+0.5	
	7.2nm,0.9s							
HVU	Hansel Valley	89.71	47	*e*P	P	01 31 29.2	+0.6	
	8.2nm,1.0s							
X18A	Snowflake	89.79	55	*e*P	P	01 31 29.4	+0.2	
	9.9nm,0.8s							
SPUT	South Promonto	89.81	48	*e*P	P	01 31 29.5	+0.4	
	3.3nm,0.8s							
MPU	Maple Canyon	90.02	49	*e*P	P	01 31 30.8	+0.7	
	4.3nm,0.9s							
Q16A	Castle Valley	90.06	50	*e*P	P	01 31 30.6	+0.3	
	6.1nm,0.8s							
W18A	Petrified Fore	90.12	54	P	P	01 31 31.7	+1.0	
	baz=254							
CTU	Camp Tracy	90.13	48	*e*P	P	01 31 31.1	+0.6	
	6.0nm,0.9s							
TMUT	Trail Mountain	90.13	50	*e*P	P	01 31 31.1	+0.3	
	5.8nm,0.8s							
JLU	Jordanelle	90.33	48	*e*P	P	01 31 32.2	+0.6	
	4.4nm,0.8s							
INK	Inuvik	90.48	18	P	P	01 31 29.9	-1.3	
	1.4nm,0.6s,baz=250,slow=4.5,SNR=8.7							
TCUT	Toone Canyon	90.50	48	*e*P	P	01 31 32.8	+0.5	
	8.9nm,0.7s							
HWUT	Hardware Ranch	90.53	47	*e*P	P	01 31 32.6	+0.2	
	0.9nm,0.3s							
MCMT	McKenzie Canyo	90.57	44	*e*P	P	01 31 33.5	+0.9	
SRU	San Rafael Swe	90.59	50	*e*P	P	01 31 33.4	+0.7	
	3.7nm,0.7s							
DLMT	Dillon	90.90	44	*e*P	P	01 31 34.8	+0.9	
	7.7nm,0.8s							
121A	Pikes Peak, D	91.03	57	P	P	01 31 36.0	+1.1	
	baz=256							
SYO	Syowa Base	91.08	196	*e*P	P	01 31 32.8	-1.3	
PV05	Paradox Valley	91.39	51	*e*P	P	01 31 37.1	+0.6	
	5.8nm,0.8s							
PV09	Paradox Valley	91.48	51	*e*P	P	01 31 37.5	+0.5	
FXWY	Fox Creek	91.48	46	*e*P	P	01 31 36.7	-0.1	
	1.4nm,0.7s							
PV14	Lion Creek, Pa	91.53	51	*e*P	P	01 31 38.1	+1.0	
	7.7nm,0.7s							
PV19	Morning Glory	91.54	51	*e*P	P	01 31 37.3	+0.1	
	6.9nm,0.8s							
PV17	East Wray Mesa	91.55	51	*e*P	P	01 31 38.3	+1.0	
	5.5nm,0.8s							
PV23	Carpenter Ridg	91.56	51	*e*P	P	01 31 38.5	+1.2	
	19nm,0.7s							
PV16	Nyswonger Mesa	91.59	51	*e*P	P	01 31 37.7	+0.3	
	6.5nm,0.9s							
PV21	One Mtn., Par	91.61	51	*e*P	P	01 31 37.8	+0.2	
	8nm,0.7s							
BOZ	Bozeman (W)	91.62	44	*e*P	P	01 31 37.5	+0.2	
	2.2nm,0.7s							
BOZ	Bozeman (W)	91.62	44	P	P	01 31 37.9	+0.6	
	baz=253							
PV04	Paradox Valley	91.62	51	*e*P	P	01 31 37.7	+0.1	
	7.6nm,0.7s							
PV11	David Mesa, Pa	91.62	51	*e*P	P	01 31 38.5	+1.0	
	6.3nm,0.7s							
PV03	Paradox Valley	91.63	51	*e*P	P	01 31 37.7	+0.1	
	4.3nm,0.8s							
MVCO	Mesa Verde	91.63	52	P	P	01 31 38.5	+0.9	
	baz=255							
PV12	Saucer Basin,	91.68	51	*e*P	P	01 31 39.0	+1.1	
	17nm,1.1s							
PV01	Paradox Valley	91.81	51	*e*P	P	01 31 39.3	+0.9	
	4.4nm,0.7s							
PV07	Paradox Valley	91.83	51	*e*P	P	01 31 39.5	+1.0	
	9.4nm,0.8s							
H17A	Grant Village	92.00	45	*e*P	P	01 31 40.1	+0.9	
	2.8nm,0.6s							
H17A	Grant Village	92.00	45	P	P	01 31 39.8	+0.6	
	baz=254							
BW06	Boulder Array	92.28	47	*e*P	P	01 31 40.3	-0.1	
	1.6nm,0.8s							
BW06	Boulder Array	92.28	47	P	P	01 31 40.9	+0.4	
	baz=255							
PD31	Pinedale Array	92.28	47	*e*P	P	01 31 40.9	+0.4	
PDAR	Pinedale Array	92.28	47	*e*P	P	01 31 39.8	-0.7	
PDAR	Pinedale Array	92.28	47	P	P	01 31 40.0	-0.5	
	0.8nm,0.5s,baz=236,slow=3.8,SNR=8.1							
PDAR				PP	PP	01 35 28.8	-4.0	
	1.2nm,1.1s,baz=256,slow=3.6,SNR=2.8							
BNM	Barren Site	92.36	56	*e*P	P	01 31 40.8	-0.2	
O20A	White River Ci	92.56	50	*e*P	P	01 31 42.5	+0.7	
	8.0nm,0.8s							
O20A	White River Ci	92.56	50	P	P	01 31 42.3	+0.5	
	baz=256							
ANMO	Albuquerque	92.68	55	*e*P	P	01 31 43.2	+0.7	
	4.4nm,0.9s							
ANMO	Albuquerque	92.68	55	P	P	01 31 42.9	+0.4	
	baz=256							
WMQ	Urumqi	92.70	314	*e*P	P	01 31 44.1	+1.9	
WMQ	Urumqi	92.70	314	*e*P	P	01 31 42.3	+0.1	
MNTX	Cornudas Mount	92.81	58	*e*P	P	01 31 43.2	+0.3	
	0.7nm,0.5s							
MNTX	Cornudas Mount	92.81	58	P	P	01 31 43.2	+0.3	
	baz=257							
S22A	4UR Ranch, Cre	93.05	52	P	P	01 31 44.6	+0.3	
	baz=256							
RLMT	Red Lodge	93.09	45	P	P	01 31 46.0	+1.8	
	baz=255							
SMCO	Snowmass	93.28	51	*e*P	P	01 31 46.2	+0.9	
	4.7nm,0.9s							
EGMT	Eagleton	93.52	42	P	P	01 31 46.5	+0.7	
	baz=255							
TX31	Lajitas Ar. Si	93.73	61	*e*P	P	01 31 47.2	0.0	
TXAR	Lajitas Array	93.73	61	P	P	01 31 47.7	+0.5	
	1.7nm,0.8s,baz=223,slow=5.1,SNR=9.4							
SDCO	Great Sand Dun	94.08	52	P	P	01 31 49.3	+0.4	
	baz=257							
N23A	Red Feather La	94.44	49	P	P	01 31 50.7	+0.3	
	baz=257							
ISCO	Idaho Springs	94.45	50	P	P	01 31 50.7	+0.1	
	baz=257							
Q24A	Divide	94.61	51	P	P	01 31 51.9	+0.6	
	baz=257							
YKA	Yellowknife Ar	94.99	27	P	P	01 31 51.5	-0.5	
	9.1nm,0.8s,baz=254,slow=4.6,SNR=49							
YKA				PP	PP	01 35 47.7	-5.0	
	0.5nm,0.9s,baz=259,slow=6.2,SNR=4.6							
MSTX	Muleshoe	95.44	57	P	P	01 31 54.6	-0.3	
	baz=258							
AMTX	Amarillo	96.50	56	P	P	01 31 59.0	-0.6	
	baz=259							
ZALV	Zalesovo Beam	96.93	324	*e*P	P	01 31 60.0	-1.0	
ZALV	Zalesovo Beam	96.93	324	P	P	01 32 00.3	-0.6	
	1.9nm,0.6s,baz=110,slow=4.6,SNR=11							
MK01	Makanchi Array	97.08	316	*e*P	P	01 32 01.8	0.0	
MK31	Makanchi Array	97.09	316	*e*P	P	01 32 02.2	+0.4	
MKAR	Makanchi Array	97.09	316	P	P	01 32 02.2	+0.4	
	2.7nm,0.5s,baz=81,slow=6.5,SNR=45							
MAKZ	Makanchi	97.30	316	*e*Pdif	P	01 32 02.8	0.0	
	5.8nm,1.1s							
NRIK	Noril'sk	98.93	339	P	Pdif	01 32 08.8	-0.6	
	2.9nm,0.6s,baz=102,slow=5.7,SNR=6.6							
KURK	Kurchatov	100.13	320	P	Pdif	01 32 14.6	-0.6	
KURBB	Kurchatov Arra	100.17	320	P	Pdif	01 32 14.6	-0.8	
	0.3nm,0.7s,baz=100,slow=4.2,SNR=4.1							
I48A	Sherman Twp	111.06	47	P	PKiKP	01 36 58.7	-0.4	
	baz=272							
L49A	Milan	111.09	50	P	PKiKP	01 36 59.3	0.0	
	baz=272							
Y53A	Monroe	111.26	59	P	PKiKP	01 37 00.3	+0.5	
	baz=269							
LPAZ	La Paz	116.41	116	PKP	PKPdf	01 37 09.9	-1.1	
	1.1nm,0.5s,baz=321,slow=4.6,SNR=5.5							
ARCES	ARCESS Array B	118.84	346	PKP	PKPdf	01 37 12.6	-0.7	
	6.5nm,0.5s,baz=74,slow=1.6,SNR=57							
CPUP	Villa Florida	120.37	131	PKP	PKPdf	01 37 16.2	-1.4	
	2.7nm,0.8s,baz=259,slow=4.9,SNR=5.8							
SDV	Santo Domingo	121.23	87	*e*PKPdf	PKPdf	01 37 18.9	-0.9	
FINES	FINESS Array B	124.59	339	PKP	PKPdf	01 37 24.2	-0.3	
	3.2nm,0.6s,baz=48,slow=2.1,SNR=13							
KBZ	Khabaz	124.75	315	PKP	PKPdf	01 37 25.4	0.0	
	2.7nm,1.0s,baz=270,slow=2.0,SNR=3.4							
RAYN	Ar Rayn	125.71	290	*e*PKPdf	PKPdf	01 37 27.4	-0.5	
BOSA	Boshof	126.04	220	PKP	PKPdf	01 37 27.4	-1.2	
	5.2nm,1.0s,baz=72,slow=2.4,SNR=3.8							
SJG	San Juan	126.57	77	*e*PKPdf	PKPdf	01 37 28.6	-0.9	
SJG	San Juan	126.57	77	PKP	PKPdf	01 37 28.1	-1.5	
	20nm,0.9s,baz=31,slow=4.6,SNR=7.2							
HUMP	Col San Antoni	126.86	77	*e*PKPdf	PKPdf	01 37 29.6	-0.5	
NB2	NORSAR Subarra	129.22	346	PKPdf	PKPdf	01 37 33.4	-0.1	
	comp=Z,3.8nm,0.7s,baz=30,slow=2.0							
NOA	NORSAR Array B	129.22	346	PKP	PKPdf	01 37 33.2	-0.2	
	comp=Z,1.7nm,0.6s,baz=31,slow=2.0,SNR=7.6							
NOA				SKPbc	SKPab	01 39 57.2	-0.3	
	comp=Z,2.4nm,0.9s,baz=29,slow=3.0,SNR=4.8							
AKASG	Malin Array Be	130.14	328	PKP	PKPdf	01 37 35.3	-0.1	
	comp=Z,1.1nm,0.5s,baz=58,slow=2.1,SNR=7.6							
AK11	Malin Array Si	130.18	328	*e*PKPdf	PKPdf	01 37 35.7	+0.2	
BR131	Keskin Array S	132.61	313	*e*PKPdf	PKPdf	01 37 40.2	-0.5	
BRTR	Keskin Array B	132.61	313	PKP	PKPdf	01 37 39.6	-1.1	
	comp=Z,1.6nm,0.9s,baz=29,slow=2.8,SNR=8.1							
BDFB	Brasilia	133.61	126	PKP	PKPdf	01 37 41.5	-1.6	
	comp=Z,1.2nm,0.3s,baz=173,slow=9.5,SNR=3.3							
CLL	Collm	137.00	338	*e*PKPdf	PKiKP	01 37 50.0	-0.3	
BRG	Berggiesshubel	137.00	337	*e*PKP	PKiKP	01 37 50.2	-0.1	
	comp=Z,6.1nm,1.1s							
KHC	Kasperske Hory	138.54	336	*e*PKPdf	PKPdf	01 37 51.1	-0.2	
KHC	Kasperske Hory	138.54	336	*e*PKP	PKPdf	01 37 50.0	-1.2	
KHC				*ex*	x	01 37 53.0		
GERES	GERESS Array B	138.71	335	PKhKP	PKPpre	01 37 42.6		
	comp=Z,1.1nm,0.8s,baz=30,slow=3.2,SNR=6.1							
GERES				PKP	PKPdf	01 37 51.6	-0.1	
	comp=Z,2.6nm,0.9s,baz=122,slow=1.3,SNR=8.6							
GEA0	GERESS Array S	138.72	335	*e*PKPpre	PKPpre	01 37 44.9		
GEA0				*e*PKPdf	PKPdf	01 37 51.2	-0.4	
DIVS	Divibare	139.13	326	*e*PKPpre	PKPpre	01 37 45.0		
DIVS				*e*PKPdf	PKPdf	01 37 51.3	-1.2	
SOKA	Soboth	139.81	332	*e*PKPdf	PKPpre	01 37 47.4		
	comp=Z,4.8nm,1.3s							
OBKA	Obir	140.16	332	*e*PKPdf	PKPpre	01 37 49.0		
	comp=Z,6.7nm,1.6s							
BCLA	Clavier	140.22	344	⇑PKiKP	PKiKP	01 37 56.1	-0.8	
WATA	Walderalm	140.78	336	*i* PKPdf	PKPpre	01 37 49.9		
	comp=Z,1.7nm,0.4s							
WTTA	Wattenberg	140.81	336	*e*PKPdf	PKPpre	01 37 50.6		
	comp=Z,5.7nm,0.6s							
ABTA	Abfaltersbach	140.86	334	*i* PKPdf	PKPpre	01 37 50.0		
	comp=Z,4.0nm,0.6s							
MOTA	Moosalm	140.96	336	*i* PKPdf	PKPpre	01 37 51.1		
	comp=Z,7.9nm,1.2s							
RETA	Reutte	140.97	337	*i* PKPdf	PKPpre	01 37 50.4		
	comp=Z,3.6nm,0.9s							
SQTA	Sankt Quirin	141.02	336	*i* PKPdf	PKPpre	01 37 51.5		
	comp=Z,2.3nm,0.6s							
BFO	Black Forest	141.15	340	*e*PKPpre	PKPpre	01 37 50.8		
BFO				*e*PKPdf	PKPdf	01 37 55.3	-0.7	
FETA	Feichten	141.37	336	*i* PKPdf	PKPpre	01 37 52.2		
	comp=Z,3.5nm,0.7s							
DAVA	Damuels	141.48	337	*i* PKPdf	PKPpre	01 37 52.8		
	comp=Z,6.4nm,0.6s							
FUORN	Ofenpass-Fuorn	141.88	336	*e*PKPdf	PKPdf	01 37 56.3	-

s-min=15.9km az=83.0

ISCJB ***02*** *01:27:16.5±0.4, 4.33N±0.05×128.24E±0.06, h35km, mb4.1/15, MS3.1/1, Error ellipse: s-maj=8.2km s-min=6.8km az=28.7*

NEIC ***02*** *01:27:18.4±3.2, 4.25N×128.11E, h38km±30km, mb4.3/4, Error ellipse: s-maj=16.5km s-min=6.4km az=74.0*

DJA ***02*** *01:27:18.4±1.6, 4.1N±13.1×128.1E±, h35km, M4.6/7, mB4.7/2, mb4.6/6, MLv4.6/7, Mw(mB)3.9/2*

ISC 02 01:27:18.6±0.6, 4.35N±0.08×128.19E±0.08, h35km, n30, σ1♀21/31, mb4.1/15, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.74**	**256**	P	**Pn**	**01 28 00.7**	**+0.7**
SGSI				S	**Sn**	**01 28 32.4**	**+0.5**
TNTI	**Ternate**	**3.65**	**193**	P	**Pn**	**01 28 13.9**	**+1.3**
KMSI	**Cibinong**	**5.64**	**228**	P	**Pn**	**01 28 41.0**	**+1.1**
SANI	**Sanana**	**6.73**	**199**	P	**Pn**	**01 28 56.2**	**+1.3**
MRSI	**Marisa**	**7.33**	**239**	P	**Pn**	**01 29 04.3**	**+1.0**
MPSI	**Mapaga**	**9.19**	**245**	P	**Pn**	**01 29 28.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.45**	**186**	P	**P**	**01 32 12.7**	**-2.1**
	2.4nm,0.6s,baz=5.2,slow=11,SNR=2.8						
WRAB	**Tennant Creek**	**24.88**	**166**	*e*P	**P**	**01 32 37.0**	**-1.2**
	3.1nm,0.5s						
WR1	**Warramunga Arr**	**24.89**	**166**	*e*P	**P**	**01 32 37.0**	**-1.4**
	12nm,1.0s						
WRA	**Warramunga Arr**	**24.89**	**166**	P	**P**	**01 32 37.0**	**-1.4**
	4.0nm,0.7s,baz=346,slow=10,SNR=11						
WRA				LR	LR	01 44 48.8	
	comp=Z,52nm,18.5s,baz=90,slow=42						
AS31	**Alice Springs**	**28.40**	**169**	*e*P	**P**	**01 33 08.8**	**-1.1**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**28.40**	**169**	P	**P**	**01 33 08.8**	**-1.1**
	0.4nm,0.5s,baz=350,slow=9.3,SNR=3.6						
XAN	**Xi'an**	**34.55**	**331**	P	**P**	**01 34 04.0**	**0.0**
XAN				pP	pP	01 34 10.0	-2.2
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				pmax	pmax		
	comp=Z,87nm,4.6s						
XAN	**Xi'an**	**34.55**	**331**	*e*P	**P**	**01 34 04.0**	**0.0**
STKA	**Stephens Creek**	**38.22**	**161**	P	**P**	**01 34 35.3**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=342,slow=13,SNR=3.2						
TARA	**Tarawa**	**44.77**	**92**	*e*P	**P**	**01 35 29.0**	**-0.2**
ULN	**Ulaanbaatar**	**47.00**	**341**	*e*P	**P**	**01 35 46.7**	**+0.2**
	comp=Z,3.1nm,0.7s						
SONA0	**Songino Array**	**47.19**	**340**	*e*P	**P**	**01 35 48.1**	**+0.1**
SONM	**Songino Array**	**47.19**	**340**	P	**P**	**01 35 48.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=151,slow=8.6,SNR=8.4						
PETK	**Petropavlovsk-**	**54.31**	**21**	P	**P**	**01 36 42.5**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=185,slow=7.2,SNR=3.1						
PEA1	**Petropavlovsk-**	**54.32**	**21**	*e*P	**P**	**01 36 42.5**	**+1.0**
KURK	**Kurchatov**	**62.01**	**327**	*e*P	**P**	**01 37 34.8**	**-0.5**
KURBB	**Kurchatov Arra**	**62.01**	**327**	P	**P**	**01 37 34.8**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=122,slow=7.3,SNR=5.8						
BRVK	**Borovoye**	**67.67**	**326**	*e*P	**P**	**01 38 12.5**	**+0.4**
ILAR	**Eielson Array**	**83.92**	**25**	P	**P**	**01 39 43.7**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=246,slow=5.3,SNR=3.8						
QSPA	**South Pole Qui**	**94.25**	**180**	P	**P**	**01 40 32.8**	**-1.2**
	comp=Z,2.3nm,1.0s,baz=36,slow=1.7,SNR=4.2						
YKA	**Yellowknife Ar**	**98.33**	**25**	P	**P**	**01 40 51.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.3,SNR=4.4						
YKB5	**Yellowknife Ar**	**98.33**	**25**	*e*P	**P**	**01 40 51.9**	**-0.6**
LCO	**Las Campanas**	**149.62**	**146**	*e*PKPbc	**PKPdf**	**01 47 05.0**	**+4.1**
LPAZ	**La Paz**	**160.06**	**128**	PKPab	**PKPab**	**01 47 56.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=278,slow=2.9,SNR=4.0						

IDC 02 01:27:28.1±5.3, 14.25S×174.44W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/41, mbtmp4.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.8/42, Error ellipse: s-maj=305.7km s-min=79.4km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.75**	**244**	LR	LR	01 37 35.0	
	comp=Z,79nm,21.0s,baz=228,slow=31						
WRA	**Warramunga Arr**	**49.14**	**256**	P	P	01 36 18.1	0.0
	0.5nm,0.4s,baz=90,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**49.52**	**251**	P	P	01 36 20.8	-0.3
	4.1nm,0.6s,baz=87,slow=8.3,SNR=36						
BRTR	**Keskin Array B**	**144.64**	**321**	PKP	PKPdf	01 47 07.0	-0.4
	0.8nm,0.8s,baz=77,slow=2.7,SNR=4.2						

MOS ***02*** *01:30:35.9±0.8, 24.65N×92.23E, h33km, mb5.6/96, MS4.3/36, Error ellipse: s-maj=6.1km s-min=3.0km az=122.4*

ISCJB ***02*** *01:30:36.2±0.6, 24.66N±0.02×92.19E±0.01, h33km±4km, mb5.4/301, MS4.3/78, Error ellipse: s-maj=2.7km s-min=2.0km az=16.4*

BGR ***02*** *01:30:36.5±0.0, 23.83N×92.13E, h33km, mb5.9, Ms4.5*

BJI ***02*** *01:30:36.4, 24.84N×92.16E, h25km, mb5.2/71, mB5.4/46, ML5.3/5, Ms4.7/68, Ms7 4.5/60*

NDI ***02*** *01:30:37.7±2.7, 24.67N×92.20E, h30km±10km, mb5.5, ML5.4, mb5.5(NEIC)*

NEIC ***02*** *01:30:38.6±0.1, 24.68N×92.22E, mb5.5/152, MW5.2, Error ellipse: s-maj=2.5km s-min=1.9km az=33.0, Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁶Nm; Mrr7.80; Mθθ-3.70; Mφφ-4.10; Mrθ4.99; Mθφ3.10; Mφr-0.74; Best double couple: M₀9.00000×10¹⁶ NP1:φs119.00000°, δ62.00000°, λ74.00000°. NP2:φs330.00000°, δ32.00000°, λ117.00000°. Principal axes: T 9.6700, Plg69.0000°, Azm355.0000°; N -1.5900, Plg14.0000°, Azm126.0000°; P -8.0800, Plg15.0000°, Azm220.0000°;*

NEIC Felt at Aizawl, Guwahati, Jorhat, Karimganj, Shillong, Shiliguri and Silchar, India. Also felt at Dhaka and Sylhet, Bangladesh.

DMN ***02*** *01:30:39.0±0.5, 23.86N×91.75E, h10km, Ml5.8/8 Error ellipse: s-maj=45.3km s-min=8.8km az=33.0*

IDC ***02*** *01:30:40.8±0.3, 24.70N×92.29E, h56km±3km, mb4.7/38, mb1 4.8/40, mb1mx4.7/52, mbtmp5.0/40, MS4.3/40, Ms1 4.3/40, ms1mx4.2/53, Error ellipse: s-maj=8.4km s-min=5.5km az=96.0*

GCMT ***02*** *01:30:41.6±0.2, 24.56N±0.01×92.28E±0.01, h45km±1km, MW5.2/117, Moment Tensor Solution. s69,c88; s117,c206; Duration: 1♀0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.44±.02; Mθθ-0.60±.02; Mφφ0.16±.02; Mrθ0.57±.02; Mθφ0.50±.01; Mφr-0.01±.01; Best double couple: M₀0.90500×10¹⁷ NP1:φs89.00000°, δ71.00000°, λ58.00000°. NP2:φs332.00000°, δ37.00000°, λ147.00000°. Principal axes: T 0.7740, Plg53.0000°, Azm321.0000°; N 0.2620, Plg30.0000°, Azm101.0000°; P -1.0370, Plg20.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 01:30:39.2±0.2, 24.70N±0.02×92.20E±0.02, h42km±1km, h42km:pP-P, n1215, σ1♀40/1464, mb5.5/319, MS4.4/79, 108C-52D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SILR	**SILCHAR**	**0.56**	**81**	*e*P	**Pn**	**01 30 53.1**	**+2.3**
SILR				*e*S	**Sn**	**01 31 02.0**	**+3.1**
SHL	**Shillong**	**0.91**	**342**	*e*Pn	**Pn**	**01 30 56.6**	**+0.9**
SHL				*e*Sn	**Sn**	**01 31 08.8**	**+1.0**
SHL	**Shillong**	**0.91**	**342**	*e*P	**Pn**	**01 30 56.6**	**+0.9**
SHL				*e*		01 31 08.8	
SHL	**Shillong**	**0.91**	**342**	*e*P	**Pn**	**01 30 56.7**	**+1.0**
SHL				*e*S	**Sn**	**01 31 08.3**	**+0.6**
SHL				IAML		01 31 09.2	
	comp=N,73μm,0.2s						
SHL				IAML		01 31 09.8	
	comp=E,84μm,0.6s						
GUWA	**GUWAHATI**	**1.56**	**343**	*e*P	**Pn**	**01 31 04.7**	**+0.3**
GUWA				*e*S	**Sn**	**01 31 22.1**	**-1.2**
TURI	**Tura**	**1.89**	**297**	*e*S	**Sn**	**01 31 34.5**	**+2.9**
TEZP	**TEZPUR**	**1.98**	**16**	*e*S	**Sn**	**01 31 32.7**	**-1.2**
BRDH	**Bariadhala**	**2.08**	**194**	P	**Pn**	**01 31 13.6**	**+2.1**
BRDH				S	**Sn**	**01 31 39.0**	**+2.9**
BRDH	**Bariadhala**	**2.08**	**194**	P	**Pn**	**01 31 13.6**	**+2.1**
	comp=E,984nm,0.3s,baz=54,slow=9.3,SNR=522						
BRDH				S	**Sn**	**01 31 39.0**	**+2.9**
	comp=E,5μm,0.3s,baz=250,slow=19,SNR=28						
MOKO	**MOKOCHONG**	**2.64**	**52**	*e*S	**Sn**	**01 31 49.2**	**-1.2**
JORH	**JORHAT**	**2.75**	**42**	*e*S	**Sn**	**01 31 52.1**	**-0.8**
TAWA	**Tawang**	**2.90**	**354**	*e*S	**Sn**	**01 31 54.9**	**-2.1**
ZIRO	**ZIRO**	**3.18**	**27**	*e*S	**Sn**	**01 32 02.5**	**-1.2**
ZIRO				IAML		01 32 05.2	
ZIRO				IAML		01 32 06.2	
	comp=E,7μm,0.1s						
ODAN	**Odare**	**4.84**	**297**	*e*Pn	**Pn**	**01 31 52.0**	**+2.3**
LSA	**Lhasa**	**5.07**	**350**	P	**Pn**	**01 31 55.1**	**+2.0**
LSA				pmax	pmax		
	comp=Z,86nm,0.8s						
LSA	**Lhasa**	**5.07**	**350**	*e*Pn	**Pn**	**01 31 54.2**	**+1.1**
LSA	**Lhasa**	**5.07**	**350**	*i* P	**Pn**	**01 31 55.8**	**+2.7**
	SNR=74						
LSA	**Lhasa**	**5.07**	**350**	*e*P	**Pn**	**01 31 54.2**	**+1.1**
RAMN	**Ramite**	**5.52**	**295**	*e*Pn	**Pn**	**01 32 01.0**	**+1.9**
BOK	**Bokaro**	**5.83**	**262**	*e*P	**Pn**	**01 32 02.2**	**-0.9**
BOK				IAmb	IAmb	01 32 05.5	
	comp=Z,292nm,0.4s						
JIRN	**Jiri**	**6.15**	**300**	*e*Pn	**Pn**	**01 32 09.6**	**+1.7**
GUN	**Gumba**	**6.51**	**301**	*e*Pn	**Pn**	**01 32 14.6**	**+1.8**
GUN				*e*Sn	**Sn**	**01 33 25.9**	**-0.1**
	comp=Z,3μm,0.3s						
PKI	**Pulchoki**	**6.74**	**297**	*e*Pn	**Pn**	**01 32 16.9**	**+1.0**
PKI				*e*Sn	**Sn**	**01 33 29.9**	**-1.7**
PKIN	**Phulchoki**	**6.75**	**297**	*e*Pn	**Pn**	**01 32 16.9**	**+0.9**
PKIN				*e*Sn	**Sn**	**01 33 30.6**	**-1.2**
	comp=Z,963nm,0.3s						
KKN	**Kakani**	**6.93**	**298**	*e*Pn	**Pn**	**01 32 19.4**	**+0.9**
KKN				*e*Sn	**Sn**	**01 33 34.6**	**-1.6**
	comp=Z,506nm,0.2s						
DMN	**Daman**	**7.00**	**296**	*e*Pn	**Pn**	**01 32 20.5**	**+1.1**
DMN				*e*Sn	**Sn**	**01 33 36.2**	**-1.7**
	comp=Z,794nm,0.4s						
BWNR	**Bhubaneshwar**	**7.36**	**235**	*ex*	Pn	01 32 18.8	-5.4
BWNR				IAmb	IAmb	01 32 21.3	
	comp=Z,259nm,0.3s						
GKN	**Gorkha**	**7.54**	**298**	*e*Pn	**Pn**	**01 32 28.4**	**+1.7**
GKN				*e*Sn	**Sn**	**01 33 49.0**	**-2.0**
	comp=Z,331nm,0.2s						
KOLN	**Koldanda**	**8.30**	**293**	*e*Pn	**Pn**	**01 32 37.5**	**+0.2**
KOLN				*e*Sn	**Sn**	**01 34 05.8**	**-4.1**
	comp=Z,759nm,0.4s						
DANN	**Dangsing**	**8.38**	**298**	*e*Pn	**Pn**	**01 32 38.5**	**0.0**
DANN				*e*Sn	**Sn**	**01 34 08.4**	**-3.6**
	comp=Z,907nm,0.4s						
CHTO	**Chiang Mai**	**8.58**	**132**	*e*Pn	**Pn**	**01 32 40.1**	**-0.7**
CHTO	**Chiang Mai**	**8.58**	**132**	*e*P	**Pn**	**01 32 40.2**	**-0.7**
CHTO	**Chiang Mai**	**8.58**	**132**	P	**Pn**	**01 32 41.0**	**+0.1**
	SNR=16						
CHTO	**Chiang Mai**	**8.58**	**132**	P	**Pn**	**01 32 41.4**	**+0.5**
	comp=Z,340nm,1.1s,comp=Z,3μmcomp=Z,2.5nm						
CHTO	**Chiang Mai**	**8.58**	**132**	*e*P	**Pn**	**01 32 41.5**	**+0.7**
CMMT	**Chiang Mai**	**8.58**	**132**	P	**Pn**	**01 32 41.3**	**+0.4**
	comp=Z,75nm,1.0s,comp=Z,779nmcomp=Z,0.6nm						
CM31	**Chiang Mai Arr**	**8.83**	**133**	*e*Pn	**Pn**	**01 32 43.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**8.83**	**133**	P	**Pn**	**01 32 44.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**8.83**	**133**	P	**Pn**	**01 32 44.4**	**+0.1**
CMAR				S	**Sn**	**01 34 20.4**	**-2.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CMAR				smax	smax		
	comp=N,2.0nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2μm,19.5s						
CMAR	**Chiang Mai Arr**	**8.83**	**133**	P	**Pn**	**01 32 44.4**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=307,slow=13,SNR=115						
CMAR				S	**Sn**	**01 34 20.4**	**-2.1**
	comp=Z,2.0nm,0.3s,baz=301,slow=15,SNR=2.9						
CMAR				LR	LR	01 37 12.6	
	comp=Z,2μm,19.5s,baz=316,slow=45						
CMAR				ScP	**ScP**	**01 42 35.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=315,slow=1.6,SNR=5.5						
CM01	**Chiang Mai Arr**	**8.87**	**134**	*e*Pn	**Pn**	**01 32 43.8**	**-1.0**
PYUN	**Piuthan**	**8.92**	**294**	*e*Pn	**Pn**	**01 32 45.1**	**-0.7**
PYUN				*e*Sn	**Sn**	**01 34 21.1**	**-4.0**
	comp=Z,1μm,0.6s						
LAMP	**Lampang**	**9.25**	**130**	P	**Pn**	**01 32 50.7**	**+0.6**
	comp=Z,24nm,0.9s,comp=Z,274nm						
KMI	**Kunming**	**9.58**	**85**	P	Pn	01 33 00.2	+5.4
KMI				pP		01 33 06.6	
KMI				sP		01 33 11.1	
KMI				S	**Sn**	**01 34 44.3**	**+3.0**
KMI				SS	**SnSn**	**01 34 57.3**	**+4.3**
KMI				pmax	pmax		
	comp=Z,18nm,1.6s						
KMI				pmax	pmax		
	comp=Z,260nm,3.1s						
KMI				LR	LR		
	comp=Z,4μm,10.7s						
KMI				LR	LR		
	comp=Z,840nm,11.7s						
KMI				LR	LR		
	comp=Z,3μm,20.1s						
KMI	**Kunming**	**9.58**	**85**	*e*Pn	**Pn**	**01 32 53.4**	**-1.4**
KMI	**Kunming**	**9.58**	**85**	*e*P	**Pn**	**01 32 53.4**	**-1.4**
NANT	**Nan**	**9.84**	**125**	P	**Pn**	**01 32 57.4**	**-0.8**
	comp=Z,35nm,1.0s,comp=Z,2μm						
SUKH	**Sukhothai**	**9.98**	**135**	P	**Pn**	**01 33 00.2**	**+0.1**
	comp=Z,26nm,0.9s						
UTTA	**Uttaradit**	**10.42**	**130**	P	**Pn**	**01 33 06.5**	**+0.4**
	comp=Z,19nm,0.7s,comp=Z,173nm						
UMPA	**Umpang Tak**	**10.51**	**142**	P	**Pn**	**01 33 08.7**	**+1.4**
	comp=Z,42nm,0.9s,comp=Z,2μm						
JBP	**Jabalpur**	**11.28**	**265**	*e*P	**Pn**	**01 33 18.2**	**+0.5**
JBP				*e*S	**Sn**	**01 35 14.4**	**-8.1**
JBP				IAML		01 37 07.5	
	comp=E,3μm,3.0s						
JBP				IAML		01 37 12.6	
	comp=N,4μm,1.3s						
UTHA	**Uthaitani**	**11.36**	**142**	P	**Pn**	**01 33 18.3**	**-0.6**
	comp=N,28nm,0.9s,comp=N,273nm						
CD2	**Chengdu**	**11.95**	**56**	P	**Pn**	**01 33 25.8**	**-1.3**
CD2				PP	**PnPn**	**01 33 37.0**	**+2.0**
CD2				S	**Sn**	**01 35 40.4**	**+1.3**
CD2				SS	**SnSn**	**01 35 59.4**	**+8.0**
CD2				pmax	pmax		
	comp=N,50nm,0.6s						
CD2				pmax	pmax		
	comp=N,330nm,4.3s						
CD2				LR	LR		
	comp=N,4μm,5.3s						
CD2				LR	LR		
	comp=N,5μm,14.1s						
CD2				LR	LR		
	comp=N,8μm,19.3s						
NGP	**Nagpur**	**12.62**	**256**	*e*P	**Pn**	**01 33 34.5**	**-1.7**
PBA	**Port Blair**	**12.98**	**178**	*e*Pn	Pn	01 33 38.6	-2.6
PBA				*e*Sn	Sn	01 36 03.5	-0.9
PBA	**Port Blair**	**12.98**	**178**	*e*P	Pn	01 33 37.7	-3.5
GYA	**Guiyang**	**13.17**	**79**	P	**Pn**	**01 33 45.2**	**+1.3**
GYA				pP	P	01 33 53.0	0.0
GYA				S	**Sn**	**01 36 11.2**	**+2.1**
GYA				sS	S	01 36 23.6	-8.8
GYA				pmax	pmax		
	comp=N,40nm,0.6s						
GYA				pmax	pmax		
	comp=N,110nm,4.3s						
GYA				LR	LR		
	comp=N,930nm,10.7s						
GYA				LR	LR		
	comp=N,1μm,17.3s						
GYA				LR	LR		
	comp=N,2μm,16.7s						
SKNT	**Sakolnakorn**	**13.43**	**123**	P	**Pn**	**01 33 47.2**	**0.0**
	comp=N,33nm,0.9s,comp=N,520nm						
BHPL	**Bhopal**	**13.59**	**267**	*e*P	**Pn**	**01 33 47.1**	**-2.3**
BHPL				IAmb	IAmb	01 33 48.1	
	comp=Z,101nm,0.9s						
PHET	**Kaeng Krachan**	**13.67**	**148**	P	**Pn**	**01 33 48.6**	**-2.0**
	comp=Z,37nm,0.9s,comp=Z,372nm						
DDI	**Dehra Dun**	**13.74**	**297**	*e*P	**Pn**	**01 33 49.1**	**-2.4**
DDI				IAmb	IAmb	01 33 52.8	
	comp=Z,200nm,0.9s						
NDI	**New Delhi**	**13.97**	**290**	*e*P	**Pn**	**01 33 54.0**	**-0.5**
NDI				*e*S	**Sn**	**01 36 29.0**	**+0.8**
PATY	**Pattaya**	**14.29**	**143**	P	**Pn**	**01 33 59.1**	**+0.1**
	comp=Z,32nm,1.0s						
HYB	**Hyderabad**	**14.65**	**243**	*i* P	**Pn**	**01 34 01.5**	**-2.3**
	comp=Z,58nm,0.8s						
HYB				*e*		01 36 35.0	
HYB				*e*S	**Sn**	**01 36 45.0**	**0.0**
HYB	**Hyderabad**	**14.65**	**243**	*e*P	**Pn**	**01 34 00.3**	**-3.5**
HYB				IAmb	IAmb	01 34 02.3	
	comp=Z,319nm,2.0s						
SMLA	**Simla**	**14.74**	**299**	*ex*	**Pn**	**01 34 01.2**	**-3.8**
SMLA				IAmb	IAmb	01 34 05.1	
	comp=Z,294nm,0.1s						
SMLA				*e*S	**Sn**	**01 36 47.3**	**+0.2**
LZH	**Lanzhou**	**15.14**	**39**	⇓P	**Pn**	**01 34 08.5**	**-1.9**
LZH				pP	P	01 34 18.3	+3.4
LZH				sP	pP	01 34 24.6	-0.4
LZH				PP	**sP**	**01 34 25.8**	**-4.5**
LZH				S	**Sn**	**01 36 57.3**	**+0.3**
LZH				sS	S	01 37 12.2	-0.5
LZH				SS		01 37 17.0	
LZH				pmax	pmax		
	comp=Z,620nm,1.7s						
LZH				pmax	pmax		
	comp=Z,1μm,4.3s						
LZH				LR	LR		
	comp=Z,3μm,10.7s						
LZH				LR	LR		
	comp=Z,3μm,11.9s						
LZH				LR	LR		
	comp=Z,3μm,11.7s						
BHK	**Bhakra**	**15.45**	**299**	*e*P	**Pn**	**01 34 13.4**	**-0.8**
BHK				*ex*	x	01 36 56.8	
DHRM	**DHARAMSHALA**	**15.86**	**302**	*ex*	**Pn**	**01 34 16.2**	**-3.6**
DHRM				IAmb	IAmb	01 34 25.6	
	comp=Z,630nm,1.3s						
DHRM				*e*S	**Sn**	**01 37 15.2**	**+0.5**
GTA	**Gaotai**	**16.01**	**22**	⇓P	**Pn**	**01 34 18.5**	**-3.1**
GTA				pP	P	01 34 25.5	+1.0
GTA				sP	pP	01 34 30.1	-4.5
GTA				S	**Sn**	**01 37 10.2**	**-7.9**
GTA				sS	S	01 37 23.4	-7.1
GTA				pmax	pmax		
	comp=Z,35nm,1.6s						
GTA				pmax	pmax		
	comp=Z,240nm,4.1s						
GTA				LR	LR		
	comp=Z,2μm,19.8s						
GTA				LR	LR		
	comp=Z,1μm,13.1s						
GTA				LR	LR		
	comp=Z,3μm,20.9s						
MDRS	**Chennai**	**16.16**	**226**	*e*P	**Pn**	**01 34 22.0**	**-1.5**
MDRS				IAmb	IAmb	01 34 23.9	
	comp=Z,227nm,1.0s						
ENH	**Enshi**	**16.31**	**66**	*e*Pn	**Pn**	**01 34 24.5**	**-0.8**
	comp=Z,154nm,0.6s						
ENH				*e*Sn	**Sn**	**01 37 23.3**	**-2.0**
XAN	**Xi'an**	**17.27**	**54**	P	**Pn**	**01 34 35.7**	**-1.7**
XAN				pP	P	01 34 43.7	+5.3
XAN				sP	pP	01 34 48.1	-0.5
XAN				PP	**PnPn**	**01 34 50.4**	**+2.4**
XAN				S	**Sn**	**01 37 45.5**	**-3.1**
XAN				sS	S	01 37 59.7	+3.6
XAN				SS	**SnSn**	**01 38 11.0**	**+8.7**
XAN				pmax	pmax		
	comp=Z,43nm,1.1s						
XAN				pmax	pmax		
	comp=Z,130nm,3.7s						
XAN				LR	LR		
	comp=Z,850nm,16.0s						
XAN				LR	LR		
	comp=Z,1μm,16.8s						
XAN				LR	LR		
	comp=Z,2μm,23.3s						
XAN	**Xi'an**	**17.27**	**54**	*e*Pn	**Pn**	**01 34 35.0**	**-2.4**
	comp=Z,354nm,0.9s						
XAN	**Xi'an**	**17.27**	**54**	*e*P	**Pn**	**01 34 35.0**	**-2.4**
XAN				pmax	pmax		
	comp=Z,354nm,0.9s						
QIZ	**Qiongzhong**	**17.32**	**106**	P	**Pn**	**01 34 37.8**	**-0.2**
QIZ				S	**Sn**	**01 37 49.9**	**+0.1**
QIZ				LR	LR		
	comp=Z,2μm,17.2s						
QIZ				LR	LR		
	comp=Z,910nm,13.9s						
QIZ				LR	LR		
	comp=Z,730nm,18.1s						
QIZ	**Qiongzhong**	**17.32**	**106**	*e*Pn	**Pn**	**01 34 36.4**	**-1.6**
	comp=Z,55nm,1.0s						
PKDT	**Phuket**	**17.71**	**160**	P	**Pn**	**01 34 42.6**	**-0.2**
	comp=Z,76nm,1.1s,comp=Z,1μm						
POO	**Poona**	**18.12**	**254**	*e*P	**P**	**01 34 46.3**	**-1.6**
POO				IAmb	IAmb	01 34 59.8	
	comp=Z,71nm,0.6s						
TRTT	**Trang**	**18.24**	**156**	P	**Pn**	**01 34 50.0**	**+0.8**
	comp=Z,41nm,1.5s,comp=Z,818nm						
CHCP	**Chirah Chowk**	**18.77**	**303**	P	**P**	**01 34 54.7**	**-0.2**
SKLT	**Songkhla**	**19.21**	**154**	P	**Pn**	**01 35 01.1**	**+0.2**
	comp=Z,100nm,1.0s,comp=Z,2μm						
GZH	**Guangzhou**	**19.40**	**90**	P	**Pn**	**01 35 05.0**	**+1.7**
GZH				LR	LR		
	comp=Z,1μm,6.3s						
GZH				LR	LR		
	comp=Z,950nm,6.8s						
WMQ	**Urumqi**	**19.43**	**350**	P	**Pn**	**01 35 03.1**	**-0.4**
WMQ				pP	pP	01 35 13.3	+1.1
WMQ				sP	sP	01 35 18.5	+1.0
WMQ				S	**S**	**01 38 36.7**	**-2.8**
WMQ				SS	Sn	01 39 02.3	+22
WMQ				pmax	pmax		
	comp=Z,190nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,2μm,4.5s						
WMQ				LR	LR		
	comp=Z,2μm,8.9s						
WMQ				LR	LR		
	comp=Z,1μm,8.5s						
WMQ				LR	LR		
	comp=Z,5μm,26.7s						
WMQ	**Urumqi**	**19.43**	**350**	*e*P	**P**	**01 35 02.3**	**+0.2**
	comp=Z,368nm,1.5s						
WMQ	**Urumqi**	**19.43**	**350**	*e*P	**P**	**01 35 02.3**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,368nm,1.5s						
GOA	**Goa**	**19.52**	**245**	*e*P	**P**	**01 35 03.8**	**+0.7**
THW	**Thamme Wali**	**19.64**	**299**	⇑P	**P**	**01 35 04.4**	**-0.1**
CEP	**Cherat**	**19.87**	**302**	⇑P	**P**	**01 35 07.4**	**+0.3**
LHMI	**Lhok Sumawe**	**19.89**	**166**	*e*P	**P**	**01 35 07.5**	**+0.3**
	comp=Z,753nm,1.3s						
LHMI	**Lhok Sumawe**	**19.89**	**166**	P	**P**	**01 35 07.0**	**-0.2**
KSH	**Kashi**	**20.13**	**321**	P	**P**	**01 35 10.0**	**+0.2**
KSH				pP	pP	01 35 18.3	-1.7
KSH				P	**PnPn**	**01 35 30.3**	**+3.1**
KSH				S	**S**	**01 38 44.9**	**-8.8**
KSH				sS	Sn	01 38 58.7	+1.1
KSH				SS	**SnSn**	**01 39 15.0**	**+2.5**
KSH				pm

comp=Z,3μm,1.2s
SHLS *i* S **S** **01 39 11.0 -3.5**
comp=Z,909nm,4.3s
SHLS *e*LR LR 01 43 27.6
comp=Z,670nm,14.9s
PDGK Podgornoye **21.31 334** P **P** **01 35 22.8 +0.2**
PDGK pmax pmax
comp=Z,251nm,1.2s
UZB Uzynbulak **21.36 333** *d i*P **P** **01 35 21.5 -1.5**
UZB *i* S **S** **01 39 17.0 -0.9**
UZB pmax pmax
comp=Z,612nm,1.4s
UZB smax smax
comp=N,935nm,5.5s
UZB MLR MLR
comp=Z,369nm,13.0s
UZB Uzynbulak **21.36 333** ⇓ *i*P **P** **01 35 21.6 -1.5**
comp=Z,612nm,1.4s
UZB *i* S **S** **01 39 17.1 -0.9**
comp=Z,935nm,5.5s
UZB *e*LR LR 01 43 58.3
comp=Z,369nm,13.4s
TIY Taiyuan **21.57 48** *e*P **P** **01 35 25.1 -0.2**
TIY PP sP 01 35 54.0 +13
TIY S **S** **01 39 13.5 -8.7**
TIY sS Sn 01 39 34.7 +2.5
TIY pmax pmax
comp=Z,120nm,1.0s
TIY LR LR
comp=Z,600nm,6.8s
TIY LR LR
comp=Z,560nm,8.5s
TIY LR LR
comp=Z,1μm,19.7s
ZHN Zhinishke **21.62 332** *d i*P **P** **01 35 24.3 -1.5**
ZHN *e*S **S** **01 39 22.4 -0.7**
ZHN pmax pmax
comp=Z,621nm,1.2s
ZHN smax smax
comp=N,73nm,4.5s
ZHN MLR MLR
comp=Z,302nm,13.0s
ZHN Zhinishke **21.62 332** ⇓ *i*P **P** **01 35 24.4 -1.5**
comp=Z,621nm,1.2s
ZHN *e*S **S** **01 39 22.5 -0.7**
comp=Z,73nm,4.5s
ZHN *e*LR LR 01 44 17.2
comp=Z,302nm,12.6s
TRD Trivandrum **21.70 225** *e*P **P** **01 35 25.9 -0.8**
KPKS Kokpek **21.76 333** *e*P **P** **01 35 25.5 -1.7**
KPKS *e*S **S** **01 39 24.7 -1.0**
KPKS smax smax
comp=N,743nm,3.3s
KPKS MLR MLR
comp=Z,738nm,13.0s
KPKS Kokpek **21.76 333** *e*P **P** **01 35 25.6 -1.7**
comp=Z,2μm,1.0s
KPKS *e*S **S** **01 39 24.7 -1.0**
comp=Z,743nm,3.3s
KPKS *e*LR LR 01 44 14.0
comp=Z,738nm,12.6s
BTO Baotou **21.77 39** *e*P **P** **01 35 26.0 -1.4**
BTO S **S** **01 39 21.1 -4.9**
IPM Ipoh **21.82 156** P **P** **01 35 27.7 -0.4**
ULHL Ulahol **21.92 327** P **P** **01 35 30.9 +1.7**
SNR=117
KTGM Kuala Trenggan **21.94 150** P **P** **01 35 30.5 +1.2**
TNSS Tian-Shan **22.18 329** *e*P **P** **01 35 30.9 -1.2**
TNSS pmax pmax
comp=Z,183nm,0.9s
TNSS Tian-Shan **22.18 329** *e*P **P** **01 35 31.0 -1.2**
comp=Z,183nm,0.9s
MDOK Medeo **22.23 330** *d i*P **P** **01 35 31.0 -1.4**
MDOK *e*S **S** **01 39 34.9 +0.1**
MDOK pmax pmax
comp=Z,721nm,1.6s
MDOK MLR MLR
comp=Z,386nm,20.0s
MDOK Medeo **22.23 330** ⇓ *i*P **P** **01 35 31.1 -1.4**
comp=Z,721nm,1.6s
MDOK *e*S **S** **01 39 34.9 +0.1**
comp=Z,956nm,4.4s
MDOK *e*LR LR 01 44 08.5
comp=Z,386nm,20.5s
KZA Kyzart **22.30 325** P **P** **01 35 34.6 +1.1**
SNR=73
AAA Alma-Ata **22.33 330** *de*P **P** **01 35 33.1 -0.3**
AAA *i* S **S** **01 39 40.4 +4.0**
AAA pmax pmax
comp=Z,1μm,1.7s
AAA smax smax
comp=N,1μm,3.2s
AAA MLR MLR
comp=Z,183nm,23.0s
AAA Alma-Ata **22.33 330** ⇓ *e*P **P** **01 35 33.2 -0.3**
comp=Z,1μm,1.7s
AAA *i* S **S** **01 39 40.4 +4.0**
comp=Z,1μm,3.2s
AAA *e*LR LR 01 44 42.4
comp=Z,184nm,22.8s
KBL Kabul **22.35 301** *e*P **P** **01 35 33.7 -0.2**
KBL Kabul **22.35 301** *e*P **P** **01 35 33.7 -0.2**
PSI Prapat **22.72 162** *e*P **P** **01 35 37.3 -0.5**
comp=Z,77nm,1.0s
PSI Prapat **22.72 162** P **P** **01 35 37.6 -0.2**
PSI pmax pmax
comp=Z,16nm,0.7s
PSI MLR MLR
comp=Z,468nm,18.7s
PSI Prapat **22.72 162** P **P** **01 35 37.5 -0.2**
comp=Z,16nm,0.7s,baz=0.0,slow=5.9,SNR=16
PSI LR LR 01 46 36.1
comp=Z,468nm,18.7s,baz=272,slow=42
TKM2 Tokmak 2 **22.74 327** P **P** **01 35 38.7 +0.7**
SNR=152
TKM2 Tokmak 2 **22.74 327** P **P** **01 35 38.3 +0.4**
TKM2 pmax pmax
comp=Z,294nm,1.2s
UCH Uchtor **22.80 324** P **P** **01 35 39.7 +0.9**
SNR=66
CHKK Chushkaly **22.80 331** ⇓ *e*P **P** **01 35 37.4 -0.9**
CHKK *e*S **S** **01 39 44.8 +0.3**
CHKK pmax pmax
comp=Z,976nm,1.2s
CHKK smax smax
comp=N,192nm,2.0s
CHKK Chushkaly **22.80 331** ⇓ *e*P **P** **01 35 37.5 -0.9**
comp=N,976nm,1.2s
CHKK *e*S **S** **01 39 44.9 +0.3**
comp=N,192nm,2.0s
HHC Hu-ho-hao-te **22.82 40** *e*P **P** **01 35 38.0 -0.7**
HHC pP pP 01 35 48.5 -0.5
HHC sP sP 01 35 51.1 -3.2
HHC S **S** **01 39 41.8 -3.3**
HHC sS Sn 01 39 53.2 -8.9
HHC SS **SnSn** **01 40 19.6 +1.2**
HHC pmax pmax
comp=N,38nm,1.0s
HHC pmax pmax
comp=N,350nm,5.6s
HHC LR LR
comp=N,1μm,13.0s
HHC LR LR
comp=N,1μm,13.4s
HHC LR LR
comp=N,1μm,12.1s
KBK Karagaybulak **22.88 326** P **P** **01 35 40.5 +1.2**
SNR=86
AAK Ala-Archa **23.10 325** P **P** **01 35 42.9 +1.4**
SNR=151
AAK Ala-Archa **23.10 325** P **P** **01 35 42.4 +0.9**
AAK pmax pmax
comp=Z,283nm,1.3s
KUU Kurty **23.12 330** *ce*P **P** **01 35 40.2 -1.4**
KUU *e*S **S** **01 39 50.2 +0.3**
KUU pmax pmax
comp=Z,331nm,1.5s
KUU smax smax
comp=E,471nm,3.1s
KUU MLR MLR
comp=Z,197nm,13.0s
KUU Kurty **23.12 330** ⇑ *e*P **P** **01 35 40.2 -1.4**
comp=Z,331nm,1.5s
KUU *e*S **S** **01 39 50.3 +0.3**
comp=Z,471nm,3.1s
KUU *e*LR LR 01 44 48.7
comp=Z,197nm,12.6s
TDK Taldyqorghan **23.14 335** *d i*P **P** **01 35 40.7 -1.0**
TDK *e*S **S** **01 39 50.3 +0.1**
TDK smax smax
comp=N,1μm,3.7s
TDK MLR MLR
comp=Z,1μm,20.0s
TDK Taldyqorghan **23.14 335** ⇓ *i*P **P** **01 35 40.8 -1.0**
comp=Z,3μm,1.3s
TDK *e*S **S** **01 39 50.4 +0.1**
comp=Z,1μm,3.7s
TDK *e*LR LR 01 45 01.2
comp=Z,1μm,20.5s
AML Almayashu **23.17 323** P **P** **01 35 43.4 +0.8**
SNR=77
FRIM Kepong **23.19 155** P **P** **01 35 44.3 +1.8**
CHMS Chumysh **23.22 326** P **P** **01 35 43.3 +0.7**
SNR=38
GAR Garm **23.34 313** *e*P **P** **01 35 43.5 -0.5**
comp=Z,1μm,1.2s
GAR Garm **23.34 313** *e*P **P** **01 35 43.5 -0.5**
GAR pmax pmax
comp=Z,1μm,1.2s
MK01 Makanchi Array **23.41 343** *e*P **P** **01 35 43.2 -1.2**
MK31 Makanchi Array **23.43 343** *e*P **P** **01 35 44.2 -0.3**
MK31 Makanchi Array **23.43 343** *e*P **P** **01 35 44.3 -0.3**
MKAR Makanchi Array **23.43 343** P **P** **01 35 44.5 -0.1**
MKAR Makanchi Array **23.43 343** P **P** **01 35 44.5 -0.1**
MKAR S **S** **01 39 50.1 -4.8**
MKAR pmax pmax
comp=Z,68nm,0.6s
MKAR smax smax
comp=N,3.0nm,0.8s
MKAR MLR MLR
comp=Z,1μm,20.8s
MKAR Makanchi Array **23.43 343** P **P** **01 35 44.5 -0.1**
comp=Z,68nm,0.6s,baz=150,slow=9.6,SNR=265
MKAR S **S** **01 39 50.1 -4.8**
comp=Z,3.2nm,0.8s,baz=217,slow=14,SNR=2.6
MKAR ScP **ScP** **01 43 03.0 -1.8**
comp=Z,1.0nm,0.8s,baz=132,slow=2.1,SNR=2.8
MKAR LR LR 01 46 59.8
comp=Z,1μm,20.8s,baz=160,slow=42
ZSN Zaisan **23.44 347** *d i*P **P** **01 35 43.4 -1.3**
ZSN *e*S **S** **01 39 57.8 +2.7**
ZSN pmax pmax
comp=Z,395nm,1.5s
ZSN smax smax
comp=N,888nm,2.8s
ZSN MLR MLR
comp=Z,242nm,12.0s
ZSN Zaisan **23.44 347** ⇓ *i*P **P** **01 35 43.4 -1.3**
comp=Z,395nm,1.5s
ZSN *e*S **S** **01 39 57.8 +2.7**
comp=Z,888nm,2.8s
ZSN *e*LR LR 01 45 24.9
comp=Z,242nm,11.8s
EKS2 Erkin-Say **23.49 324** P **P** **01 35 46.8 +1.5**
SNR=165
MAKZ Makanchi **23.53 342** *e*P **P** **01 35 45.4 -0.2**
comp=Z,136nm,0.9s
MAKZ Makanchi **23.53 342** *e*P **P** **01 35 45.4 -0.2**
MAKZ pmax pmax
comp=Z,136nm,0.9s
USP Ospenovka **23.54 326** P **P** **01 35 46.5 +0.7**
SNR=75
GSI Gunungsitoli **23.83 167** *e*P **P** **01 35 47.6 -1.1**
comp=Z,126nm,1.0s
GSI Gunungsitoli **23.83 167** P **P** **01 35 48.0 -0.6**
comp=Z,126nm,0.8s,comp=Z,2μm
CHGR Chuyangaron **23.96 311** *e*P **P** **01 35 48.8 -1.0**
comp=Z,196nm,1.1s
TIA Tai'an **24.29 56** P **P** **01 35 52.6 -0.1**
TIA S **S** **01 40 05.7 -3.2**
TIA pmax pmax
comp=Z,37nm,1.3s
TIA pmax pmax
comp=Z,160nm,4.9s
TIA LR LR
comp=Z,500nm,15.3s
TIA LR LR
comp=Z,460nm,12.4s
TIA LR LR
comp=Z,610nm,13.7s
NJ2 Nanjing **24.53 67** ⇓ *i*P **P** **01 35 55.7 +0.8**
NJ2 S **S** **01 40 13.2 +0.4**
NJ2 sS sS 01 40 24.0 -7.5
NJ2 pmax pmax
comp=Z,120nm,1.0s
NJ2 LR LR
comp=Z,1μm,20.4s
NJ2 LR LR
comp=Z,2μm,23.9s
NJ2 LR LR
comp=Z,1μm,23.8s
MNCY Minicoy **24.54 231** *e*P **P** **01 35 55.2 +0.1**
KGM Kluang **24.98 153** P **P** **01 36 00.1 +1.0**
BTLS Baital **25.07 329** *e*P **P** **01 35 58.3 -1.3**
BTLS *e*S **S** **01 40 28.3 +7.1**
BTLS smax smax
comp=E,242nm,4.0s
BTLS MLR MLR
comp=Z,151nm,12.0s
BTLS Baital **25.07 329** *e*P **P** **01 35 58.3 -1.3**
comp=Z,1μm,0.9s
BTLS *e*S **S** **01 40 28.3 +7.1**
comp=Z,242nm,4.0s
BTLS *e*LR LR 01 45 54.8
comp=Z,151nm,11.8s
DGZ Jazzator, Alta **25.23 353** *de*P **P** **01 36 02.6 +1.3**
DGZ pmax pmax
comp=Z,127nm,0.9s
BJT Baijiatuan **25.25 47** *e*P **P** **01 36 00.5 -0.9**
comp=Z,62nm,1.0s
BJT Baijiatuan **25.25 47** *e*P **P** **01 36 00.5 -0.9**
BJT pmax pmax
comp=Z,62nm,1.0s
BJI Beijing **25.27 47** ⇓ *i*P **P** **01 36 02.5 +1.0**
BJI sP **pP** **01 36 13.0 +0.3**
BJI S **S** **01 40 25.0 +0.5**
BJI pmax pmax
comp=Z,17nm,1.3s
BJI LR LR
comp=Z,650nm,15.2s
BJI LR LR
comp=Z,310nm,14.2s
IUG luzhnay **25.28 319** *e*P **P** **01 36 00.7 -1.0**
IUG MLR MLR
comp=Z,230nm,14.0s
IUG luzhnay **25.28 319** *e*P **P** **01 36 00.8 -1.0**
comp=Z,1μm,0.9s
IUG *e*S **S** **01 40 33.3 +8.4**
comp=Z,609nm,2.9s
IUG *e*LR LR 01 45 52.4
comp=Z,230nm,14.2s
MYKOM Kota Tinggi **25.41 152** P **P** **01 36 04.4 +1.4**
KK31 Karatay Array **25.58 321** *e*P **P** **01 36 04.5 +0.1**
KK31 Karatay Array **25.58 321** *i* P **P** **01 36 04.5 +0.1**
KK31 pmax pmax
comp=Z,39nm,1.0s
KKAR Karatay Array **25.58 321** *e*P **P** **01 36 05.0 +0.6**
KKAR Karatay Array **25.58 321** *e*P **P** **01 36 05.0 +0.6**
CHM Chimkent **25.64 319** *e*P **P** **01 36 04.3 -0.6**
CHM pmax pmax
comp=Z,2μm,1.4s
CHM Chimkent **25.64 319** *e*P **P** **01 36 04.4 -0.6**
comp=Z,2μm,1.4s
CHM *e*S **S** **01 40 38.9 +8.5**
comp=Z,1μm,4.9s
SONM Songino Array **25.69 22** P **P** **01 36 06.1 +0.7**
SONM pP **pP** **01 36 17.4 +0.8**
SONM Songino Array **25.69 22** P **P** **01 36 06.1 +0.7**
SONM *PP **pP** **01 36 17.4 +0.8**
SONM pmax pmax
comp=Z,36nm,0.8s
SONM Songino Array **25.69 22** P **P** **01 36 06.1 +0.7**
comp=Z,36nm,0.8s,baz=207,slow=9.8,SNR=75
SONM pP **pP** **01 36 17.4 +0.8**
comp=Z,41nm,0.8s,baz=214,slow=12,SNR=16
SONA1 Songino Array **25.70 22** *e*P **P** **01 36 05.7 +0.2**
SSLB Suanglung **26.22 86** *ep*P pP 01 36 24.8 +3.2
YULB Yu-li **26.59 87** *e*P **P** **01 36 14.1 +0.5**
comp=Z,59nm,1.0s
SISI Saibi **26.72 165** P **P** **01 36 14.4 -0.4**
NACB Ninganchiao **26.75 85** *e*P **P** **01 36 14.3 -0.8**
comp=Z,78nm,0.8s
ZAK Zakamensk **27.04 16** *e*P **P** **01 36 18.0 +0.4**
ZAK pmax pmax
comp=Z,56nm,1.5s
SEM Semipalatinsk **27.29 343** *c i*P **P** **01 36 17.6 -2.3**
SEM pmax pmax
comp=Z,566nm,1.2s
SEM MLR MLR
comp=Z,403nm,27.0s
SEM Semipalatinsk **27.29 343** ⇑ *i*P **P** **01 36 17.6 -2.3**
comp=Z,566nm,1.2s
SEM *e*S S 01 41 17.6 +21
comp=Z,898nm,4.8s
SEM *e*LR LR 01 47 46.3
comp=Z,403nm,26.8s
MOY Mondy **27.76 12** *e*P **P** **01 36 24.9 +0.9**
MOY pmax pmax
comp=Z,49nm,1.9s
KURBB Kurchatov Arra **27.96 341** P **P** **01 36 25.6 0.0**
comp=Z,27nm,0.8s,baz=156,slow=8.7,SNR=53
KURBB ScP **ScP** **01 43 15.7 -2.0**
comp=Z,2.4nm,1.0s,baz=164,slow=3.8,SNR=4.2
KURK Kurchatov **28.01 341** *e*P **P** **01 36 26.2 +0.1**
comp=Z,73nm,1.3s
KURK Kurchatov **28.01 341** *e*P **P** **01 36 26.2 +0.1**
KURK pmax pmax
comp=Z,73nm,1.3s
KURK Kurchatov **28.01 341** P **P** **01 36 26.4 +0.3**
SNR=20
OTUK Ortayu **28.25 331** P **P** **01 36 28.7 +0.4**
OTUK pmax pmax
comp=Z,87nm,0.9s
TLY Talaya **28.33 15** *e*P **P** **01 36 28.5 -0.5**
comp=Z,26nm,1.2s
TLY Talaya **28.33 15** *e*P **P** **01 36 31.4 +2.4**
TLY *e*S **S** **01 41 16.4 +3.8**
TLY *e*SS **SnSn** **01 42 31.3 -1.3**
TLY *e*SSS SSS 01 43 02.1
TLY pmax pmax
comp=Z,64nm,1.5s
TLY MLR MLR
comp=Z,3μm,18.0s
TLY Talaya **28.33 15** P **P** **01 36 30.7 +1.7**
SNR=8.7
TLY P **P** **01 36 30.7 +1.7**
SNR=8.7
DL2 Dalian **28.60 53** P **P** **01 36 30.3 -1.1**
DL2 *e*S **S** **01 41 13.7 -3.3**
DL2 pmax pmax
comp=Z,47nm,1.3s
DL2 pmax pmax
comp=Z,410nm,4.9s
DL2 LR LR
comp=Z,960nm,14.4s
DL2 LR LR
comp=Z,770nm,14.6s
DL2 LR LR
comp=Z,910nm,19.1s
IRK Irkutsk **29.00 15** *e*P **P** **01 36 35.1 +0.2**
IRK pmax pmax
comp=Z,127nm,2.3s
TGY Tagaytay City **29.02 106** LR LR 01 49 43.0
comp=Z,425nm,19.4s,baz=196,slow=40
KKM Kota Kinabalu **29.57 125** P sP 01 36 56.1 -0.6
ZAA0 Zalesovo Array **29.73 351** *e*P **P** **01 36 41.5 +0.2**
ZAA0 *ep*P **pP** **01 36 52.0 -0.6**
ZALV Zalesovo Beam **29.73 351** *e*P **P** **01 36 40.6 -0.8**
ZALV pP **sP** **01 36 56.5 -1.2**
ZALV Zalesovo Beam **29.73 351** P **P** **01 36 41.6 +0.3**
ZALV *PP **sP** **01 36 56.5 -1.2**
ZALV pmax pmax
comp=Z,40nm,0.9s
ZALV MLR MLR
comp=Z,254nm,19.8s
ZALV Zalesovo Beam **29.73 351** P **P** **01 36 41.5 +0.3**
comp=Z,40nm,0.9s,baz=169,slow=8.5,SNR=117
ZALV pP **sP** **01 36 56.5 -1.2**
comp=Z,41nm,0.7s,baz=169,slow=7.8,SNR=18
ZALV LR LR 01 50 52.5
comp=Z,254nm,19.8s,baz=232,slow=41
PPBI Pangkal Pinang **29.93 151** P **P** **01 36 42.7 -0.8**
JLN Jalan Bani Buh **30.15 272** P **P** **01 36 46.4 +0.9**
SDKM Sandakan **30.57 124** P sP 01 37 04.2 -1.3
NVS Novosibirsk **30.83 350** ⇑ *i*P **P** **01 36 51.1 +0.1**
NVS *e*S **S** **01 41 54.2 +2.5**
NVS pmax pmax
comp=N,61nm,1.4s
NVS pmax pmax
comp=E,34nm,1.4s
NVS pmax pmax
comp=Z,86nm,1.4s
NVS smax smax
comp=N,45nm,2.2s
NVS smax smax
comp=E,18nm,1.8s
MDSI Maura Dua **31.26 156** P **P** **01 36 52.9 -2.3**
comp=E,22nm,0.8s
GEYT Alibeck **31.78 303** P **P** **01 37 01.3 +1.6**
GEYT Alibeck **31.78 303** P **P** **01 37 01.3 +1.6**
comp=E,18nm,1.0s,baz=116,slow=6.8,SNR=40
GEYT ScP **ScP** **01 43 28.5 -1.9**
comp=E,3.0nm,1.0s,baz=324,slow=7.3,SNR=3.8
GEYT LR LR 01 52 42.7
comp=E,892nm,21.1s,baz=130,slow=42
GYA0B ALIBECK ARRAY **31.78 303** *e*P **P** **01 37 00.8 +1.1**
comp=E,82nm,1.5s
GYA0B *ep*P **pP** **01 37 12.0 +1.0**
GYA0B *es*P **sP** **01 37 16.8 +0.8**
TSM Tawau **31.96 125** P **P** **01 37 02.0 +0.6**
SHME Shamm **32.54 280** P **P** **01 37 08.1 +1.6**
HIA Hailar **32.62 34** *e*P **P** **01 37 07.4 +0.5**
HIA Hailar **32.62 34** *e*P **P** **01 37 07.4 +0.5**
HATD Hatta, Dubai **32.69 278** P **P** **01 37 08.4 +0.6**
BVAR Borovoye Array **32.73 335** P **P** **01 37 08.0 +0.2**
BVAR Borovoye Array **32.73 335** P **P** **01 37 08.0 +0.2**
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BVAR pmax pmax
comp=N,3.0nm,0.8s
BVAR MLR MLR
comp=Z,1μm,21.2s
BVAR Borovoye Array **32.73 335** P **P** **01 37 08.0 +0.2**
comp=Z,9.5nm,0.7s,baz=134,slow=11,SNR=55
BVAR ScP **ScP** **01 43 31.3 -1.9**
comp=Z,3.0nm,0.8s,baz=129,slow=4.0,SNR=5.5
BVAR LR LR 01 52 24.8
comp=Z,1μm,21.2s,baz=140,slow=40
ASHO Ashiyiah **32.78 278** *i* P **P** **01 37 08.3 -0.2**
SNR=7.5
ASHO Ashiyiah **32.78 278** P **P** **01 37 10.0 +1.4**
BRVK Borovoye **32.79 335** *e*P **P** **01 37 07.7 -0.6**
BRVK Borovoye **32.79 335** P **P** **01 37 07.9 -0.4**
BRVK pmax pmax
comp=Z,33nm,1.0s
BRVK Borovoye **32.79 335** P **P** **01 37 08.6 +0.3**
SNR=13
BRVK P **P** **01 37 08.6 +0.3**
SNR=13
KSAR Wonju Array Be **32.90 59** P **P** **01 37 08.5 -1.0**
KSAR Wonju Array Be **32.90 59** P **P** **01 37 08.5 -1.0**
KSRS Korea Array **32.94 59** P **P** **01 37 08.5 -1.2**
KSRS MLR MLR
comp=Z,1μm,20.4s
KSRS Korea Array **32.94 59** P **P** **01 37 08.5 -1.2**
comp=Z,1.5nm,0.6s,baz=238,slow=8.7,SNR=6.3
KSRS LR LR 01 52 24.0
comp=Z,1μm,20.4s,baz=260,slow=40
CN2 Changchun **33.13 47** *e*P **P** **01 37 13.0 +1.6**
CN2 *es*P sP 01 37 26.5 -1.3
CN2 *e*S **S** **01 42 28.1 +0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,970nm,11.0s
CN2 LR LR
comp=Z,910nm,11.0s
CN2 LR LR
comp=Z,780nm,11.0s
AJN Ajban **33.76 278** P **P** **01 37 17.5 +0.4**
JNU Nakatsue **34.73 67** *e*P **P** **01 37 25.5 0.0**
JNU *ep*P **pP** **01 37 34.9 -2.0**
JNU Nakatsue **34.73 67** P **P** **01 37 24.7 -0.8**
comp=Z,34nm,1.1s,baz=350,slow=2.6,SNR=4.6
JNU LR LR 01 53 37.4
comp=Z,880nm,18.5s,baz=266,slow=40

AB31	**Akbulak array**	**35.12**	**323**	*i* P		**P**		**01 37 29.0**	**+0.4**
AB31					pmax	pmax			
	comp=Z,33nm,0.7s								
ABKAR	**Akbulak array**	**35.12**	**323**	*e*P		**P**		**01 37 29.5**	**+0.9**
ABKAR				*e*pP		**pP**		**01 37 39.3**	**-0.7**
KPJI	**Karang Pucung**	**35.77**	**151**	P		**P**		**01 37 33.6**	**-0.9**
MPSI	**Mapaga**	**36.12**	**128**	P		**P**		**01 37 36.1**	**-1.4**
MDJ	**Mudanjiang**	**36.20**	**47**	*e*P		**P**		**01 37 37.3**	**-0.6**
	comp=Z,18nm,0.9s								
BOD	**Bodaibo**	**36.59**	**19**	*e*P		**P**		**01 37 41.2**	**+0.2**
BOD					pmax	pmax			
	comp=Z,41nm,1.5s								
AKTO	**Aktyubinsk**	**36.81**	**323**	LR		LR		01 54 52.1	
	comp=Z,750nm,21.9s,baz=135,slow=39								
USA0B	**Ussuriysk Arra**	**37.68**	**49**	*e*P		**P**		**01 37 50.3**	**-0.2**
	comp=Z,96nm,1.5s								
USA0B				*e*pP		**pP**		**01 38 01.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**37.69**	**49**	P		**P**		**01 37 50.3**	**-0.2**
USRK	**Ussuriysk Ar.**	**37.69**	**49**	P		**P**		**01 37 50.3**	**-0.2**
	comp=Z,8.6nm,0.9s,baz=256,slow=8.7,SNR=12								
USRK				LR		LR		01 54 24.4	
	comp=Z,417nm,21.4s,baz=230,slow=38								
ZEA	**Zeya**	**39.05**	**33**	*e*P		**P**		**01 38 02.8**	**+1.0**
ZEA					pmax	pmax			
	comp=N,79nm,1.2s								
ZEA					pmax	pmax			
	comp=E,72nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,140nm,1.2s								
ZEA					MLR	MLR			
	comp=Z,600nm,13.0s								
SPSI	**Sidrap Palu**	**39.12**	**133**	P		**P**		**01 38 01.5**	**-1.4**
LUWI	**Luwuk**	**39.15**	**126**	*e*P		**P**		**01 38 02.2**	**-0.9**
	comp=Z,121nm,0.9s								
LUWI	**Luwuk**	**39.15**	**126**	P		**P**		**01 38 01.7**	**-1.4**
KLR	**Kul'dur**	**39.33**	**41**	P		**P**		**01 38 04.1**	**-0.1**
KLR	**Kul'dur**	**39.33**	**41**	*i* P		**P**		**01 38 02.8**	**-1.4**
KLR	**Kul'dur**	**39.33**	**41**	P		**P**		**01 38 04.1**	**-0.1**
	comp=Z,14nm,1.1s,baz=247,slow=10,SNR=17								
KLR				LR		LR		01 56 15.9	
	comp=Z,855nm,19.3s,baz=224,slow=39								
SVE	**Sverdlovsk**	**39.36**	**333**	*d* P		**P**		**01 38 05.4**	**+1.0**
SVE					pmax	pmax			
	comp=Z,148nm,1.5s								
SVE					MLR	MLR			
	comp=Z,741nm,22.0s								
BNSI	**Bone**	**39.67**	**133**	P		**P**		**01 38 06.1**	**-1.3**
INU	**Inuyama**	**39.94**	**64**	*e*P		**P**		**01 38 08.4**	**-1.1**
	comp=Z,37nm,0.8s								
INU				*e*pP		**sP**		**01 38 24.8**	**-1.2**
ARU	**Arti**	**39.98**	**331**	*e*P		**P**		**01 38 09.6**	**0.0**
	comp=Z,57nm,1.2s								
ARU	**Arti**	**39.98**	**331**	*c i*P		**P**		**01 38 10.0**	**+0.4**
ARU								01 39 42.8	
ARU								01 40 10.2	
ARU				S		**S**		**01 44 15.3**	**+3.2**
ARU				SS		**SS**		**01 47 09.8**	**-0.1**
ARU					pmax	pmax			
	comp=Z,111nm,1.8s								
ARU					MLR	MLR			
	comp=Z,475nm,14.0s								
MAK	**Makhachkala**	**40.81**	**308**	*e*P		**P**		**01 38 15.2**	**-1.4**
MAK				*e*				01 39 49.7	
MAK				*e*S		**S**		**01 44 22.6**	**-2.2**
MAK					pmax	pmax			
	comp=Z,23nm,0.4s								
MAK					MLR	MLR			
	comp=Z,457nm,17.0s								
MJB9	**Matsu-Tunnel**	**40.96**	**62**	*e*P		**P**		**01 38 17.4**	**-0.6**
	comp=Z,42nm,0.9s								
MJB9				*e*pP		**pP**		**01 38 28.4**	**-1.2**
MAJO	**Matsushiro**	**40.97**	**62**	*e*P		**P**		**01 38 16.9**	**-1.1**
MAJO				*e*pP		**pP**		**01 38 28.3**	**-1.3**
MAJO	**Matsushiro**	**40.97**	**62**	*e*P		**P**		**01 38 16.9**	**-1.1**
MAJO				*e**PP		**pP**		**01 38 28.3**	**-1.3**
MAJO	**Matsushiro**	**40.97**	**62**	*e*P		**P**		**01 38 18.3**	**+0.3**
MAT	**Matsushiro**	**40.97**	**62**	P		**P**		**01 38 17.3**	**-0.7**
MAT				*e*S		**S**		**01 44 32.2**	**+4.9**
MJAR	**Matsushiro Arr**	**40.97**	**62**	P		**P**		**01 38 18.0**	**-0.1**
MJAR	**Matsushiro Arr**	**40.97**	**62**	P		**P**		**01 38 18.0**	**-0.1**
MJAR					pmax	pmax			
	comp=Z,17nm,1.0s								
MJAR					MLR	MLR			
	comp=Z,660nm,21.6s								
MJAR	**Matsushiro Arr**	**40.97**	**62**	P		**P**		**01 38 18.0**	**-0.1**
	comp=Z,22nm,1.1s,baz=274,slow=11,SNR=17								
MJAR				LR		LR		01 57 06.4	
	comp=Z,660nm,21.6s,baz=275,slow=39								
GROC	**Groznyy**	**42.09**	**308**	*e*P		**P**		**01 38 26.8**	**-0.3**
GROC				*e*				01 40 04.8	
GROC				*e*				01 40 20.6	
GROC				*e*S		**S**		**01 44 40.5**	**-3.2**
GROC					pmax	pmax			
	comp=Z,212nm,1.5s								
GNI	**Garni**	**42.41**	**303**	*e*P		**P**		**01 38 32.3**	**+2.3**
GNI	**Garni**	**42.41**	**303**	*e*P		**P**		**01 38 30.8**	**+0.7**
	comp=Z,44nm,1.1s								
GNI	**Garni**	**42.41**	**303**	*i* P		**P**		**01 38 31.2**	**+1.1**
	SNR=9.5								
GNI	**Garni**	**42.41**	**303**	*ce*P		**P**		**01 38 30.7**	**+0.7**
GNI					pmax	pmax			
	comp=Z,299nm,1.3s								
GNI	**Garni**	**42.41**	**303**	P		**P**		**01 38 31.1**	**+1.1**
	SNR=7.0								
RAYN	**Ar Rayn**	**42.48**	**278**	*e*P		**P**		**01 38 31.1**	**+0.5**
	comp=Z,10nm,0.6s								
RAYN				*e*pP		**pP**		**01 38 41.6**	**-0.6**
RAYN				*e*sP		**sP**		**01 38 46.3**	**-0.8**
RAYN	**Ar Rayn**	**42.48**	**278**	*i* P		**P**		**01 38 31.3**	**+0.7**
	SNR=15								
RAYN	**Ar Rayn**	**42.48**	**278**	*e*P		**P**		**01 38 31.1**	**+0.5**
RAYN				*e**PP		**pP**		**01 38 41.6**	**-0.6**
RAYN				*e**SP		**sP**		**01 38 46.3**	**-0.8**
RAYN					pmax	pmax			
	comp=Z,10.0nm,0.6s								
TBLG	**Delisi**	**42.62**	**305**	*e*P		**P**		**01 38 32.5**	**+1.0**
TBLG	**Delisi**	**42.62**	**305**	*e*P		**P**		**01 38 31.8**	**+0.3**
	comp=Z,24nm,0.8s								
TBLG	**Delisi**	**42.62**	**305**	*e*P		**P**		**01 38 31.8**	**+0.3**
TBLG					pmax	pmax			
	comp=Z,24nm,0.8s								
GRNR	**Gornyy**	**42.70**	**41**	*e*P		**P**		**01 38 32.0**	**0.0**
GRNR					pmax	pmax			
	comp=Z,29nm,1.0s								
TASB	**TASBURUN-IGDIR**	**42.78**	**303**	*e*P		**P**		**01 38 34.7**	**+1.8**
CLDR	**Caldiran**	**42.95**	**302**	*e*P		**P**		**01 38 36.6**	**+2.2**
ZEI	**Tsey**	**43.39**	**307**	*e*P		**P**		**01 38 36.7**	**-1.2**
ZEI					pmax	pmax			
	comp=Z,115nm,1.1s								
BGD	**Bogdanovka**	**43.41**	**305**	*e*P		**P**		**01 38 40.7**	**+2.6**
AKDM	**Akdamar-Van**	**43.62**	**300**	*e*P		**P**		**01 38 41.1**	**+1.3**
AGRB	**Hanur-Agry**	**43.70**	**302**	*e*P		**P**		**01 38 41.2**	**+0.7**
SIRT	**Sirnak**	**44.01**	**299**	*e*P		**P**		**01 38 42.4**	**-0.5**
SIRT	**Sirnak**	**44.01**	**299**	*e*P		**P**		**01 38 43.2**	**+0.3**
	comp=Z,84nm,0.8s								
KBZ	**Khabaz**	**44.26**	**308**	P		**P**		**01 38 45.1**	**+0.5**
KBZ	**Khabaz**	**44.26**	**308**	P		**P**		**01 38 45.1**	**+0.5**
KBZ					pmax	pmax			
	comp=Z,13nm,1.0s								
KBZ					MLR	MLR			
	comp=Z,273nm,19.8s								
KBZ	**Khabaz**	**44.26**	**308**	P		**P**		**01 38 45.1**	**+0.5**
	comp=Z,12nm,1.0s,baz=112,slow=7.2,SNR=17								
KBZ				LR		LR		02 00 11.9	
	comp=Z,273nm,19.8s,baz=93,slow=40								
SENK	**Senkaya-Erzuru**	**44.27**	**303**	*e*P		**P**		**01 38 45.9**	**+0.8**
GOF	**Gofitskoye**	**44.38**	**310**⇑	*i*P		**P**		**01 38 46.7**	**+1.1**
GOF					pmax	pmax			
	comp=Z,120nm,1.1s								
GURO	**Guroymak-BITLI**	**44.38**	**301**	*e*P		**P**		**01 38 47.6**	**+1.8**
KIV	**Kislovodsk**	**44.44**	**308**	*e*P		**P**		**01 38 47.6**	**+1.3**
KIV	**Kislovodsk**	**44.44**	**308**	*e*P		**P**		**01 38 46.9**	**+0.7**
	comp=Z,89nm,1.0s								
KIV	**Kislovodsk**	**44.44**	**308**	*i* P		**P**		**01 38 47.6**	**+1.3**
	SNR=6.8								
KIV	**Kislovodsk**	**44.44**	**308**	*e*P		**P**		**01 38 46.5**	**+0.3**
KIV					pmax	pmax			
	comp=Z,75nm,1.1s								
KIV					MLR	MLR			
	comp=Z,225nm,16.0s								
KIV	**Kislovodsk**	**44.44**	**308**	P		**P**		**01 38 47.1**	**+0.8**
	SNR=11								
KOPR	**Koprukoy-ERZUR**	**44.61**	**303**	*e*P		**P**		**01 38 47.3**	**-0.4**
NRIK	**Noril'sk**	**44.74**	**358**	P		**P**		**01 38 48.6**	**+0.5**
NRIK				S		**S**		**01 45 20.6**	**-1.3**
NRIK					pmax	pmax			
	comp=Z,42nm,0.9s								
NRIK					smax	smax			
	comp=N,1.0nm,0.3s								
NRIK					MLR	MLR			
	comp=Z,939nm,22.0s								
NRIK	**Noril'sk**	**44.74**	**358**	P		**P**		**01 38 48.5**	**+0.5**
	comp=Z,42nm,0.9s,baz=158,slow=6.1,SNR=48								
NRIK				S		**S**		**01 45 20.6**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=17,slow=8.4,SNR=3.6								
NRIK				LR		LR		01 59 41.9	
	comp=Z,939nm,22.0s,baz=178,slow=39								
VRTB	**Varto-Mus**	**44.86**	**301**	*e*P		**P**		**01 38 50.6**	**+0.9**
BATM	**Batumi**	**44.87**	**305**	*e*P		**P**		**01 38 51.4**	**+1.9**
BCA	**Borcka**	**44.91**	**305**	*e*P		**P**		**01 38 51.2**	**+1.3**
SVAN	**Silvan-Diyarba**	**45.02**	**300**	*e*P		**P**		**01 38 52.2**	**+1.4**
YAK	**Yakutsk**	**45.03**	**24**	*e*P		**P**		**01 38 49.2**	**-1.3**
YAK				*e**PP		**pP**		**01 39 05.2**	**+3.1**
YAK				*e*				01 40 28.3	
YAK				*e*S		**S**		**01 45 25.5**	**-0.6**
YAK					pmax	pmax			
	comp=Z,117nm,1.1s								
YAK					pmax	pmax			
	comp=N,63nm,1.0s								
YAK					pmax	pmax			
	comp=E,74nm,1.0s								
YAK					smax	smax			
	comp=N,1μm,3.5s								
YAK					smax	smax			
	comp=E,934nm,3.2s								
YAK					MLR	MLR			
	comp=Z,4μm,17.0s								
YAK					MLR	MLR			
	comp=N,2μm,17.0s								
YAK					MLR	MLR			
	comp=E,3μm,19.0s								
ASAJ	**Asahikawa**	**45.10**	**52**	P		**P**		**01 38 49.9**	**-1.4**
ASAJ	**Asahikawa**	**45.10**	**52**	P		**P**		**01 38 49.9**	**-1.4**
ASAJ					pmax	pmax			
	comp=Z,24nm,1.2s								
ASAJ					MLR	MLR			
	comp=Z,260nm,19.6s								
ASAJ	**Asahikawa**	**45.10**	**52**	P		**P**		**01 38 49.9**	**-1.4**
	comp=Z,24nm,1.2s,baz=301,slow=19,SNR=2.7								
ASAJ				LR		LR		01 58 33.3	
	comp=Z,260nm,19.6s,baz=344,slow=37								
MAZI	**Mazidag**	**45.59**	**299**	*e*P		**P**		**01 38 56.7**	**+1.2**
YSS	**Yuzh-Sakhalins**	**45.69**	**48**	*e*P		**P**		**01 38 55.5**	**-0.4**
	comp=Z,110nm,1.1s								
YSS	**Yuzh-Sakhalins**	**45.69**	**48**⇑	*e*P		**P**		**01 38 55.7**	**-0.2**
YSS				*e*				01 39 06.3	
YSS				*e*				01 39 11.3	
YSS					pmax	pmax			
	comp=Z,60nm,1.2s								
DAMY	**Dhamar**	**45.94**	**267**	*e*P		**P**		**01 38 58.5**	**-0.3**
DAMY				*e*pP		**pP**		**01 39 10.9**	**+0.4**
DAMY				*e*sP		**sP**		**01 39 15.8**	**+0.5**
NKL	**Nikolayevsk**	**45.98**	**39**	*e*P		**P**		**01 38 57.2**	**-0.9**
BATI	**Baumata**	**46.33**	**135**	P		**P**		**01 39 00.0**	**-1.3**
SOEI	**Soe**	**46.38**	**134**	*e*P		**P**		**01 38 59.7**	**-2.2**
	comp=Z,70nm,1.0s								
SOEI	**Soe**	**46.38**	**134**	P		**P**		**01 39 00.4**	**-1.5**
TYV	**Tymovskoe**	**46.49**	**42**	*e*P		**P**		**01 39 01.6**	**-0.6**
TYV					pmax	pmax			
	comp=Z,12nm,1.1s								
TYV					pmax	pmax			
	comp=Z,300nm,8.4s								
SOC	**Sochi**	**46.53**	**307**	*e*P		**P**		**01 39 03.0**	**+0.4**
SOC				*e*				01 40 50.8	
SOC				*e*S		**S**		**01 45 50.5**	**+2.3**
SOC				*e*SSS		SSS		01 50 16.7	
SOC					pmax	pmax			
	comp=Z,54nm,0.8s								
SOC					MLR	MLR			
	comp=Z,340nm,18.0s								
VRH	**Novokhopyorsk**	**46.59**	**318**	*e*P		**P**		**01 39 02.9**	**-0.1**
VRH					pmax	pmax			
	comp=Z,110nm,1.0s								
URFA	**Urfa**	**46.89**	**299**	*e*P		**P**		**01 39 06.6**	**+1.0**
FAKI	**Fak Fak**	**47.60**	**120**	*e*P		**P**		**01 39 10.5**	**-0.8**
	comp=Z,65nm,0.9s								
FAKI				*e*pP		**pP**		**01 39 25.3**	**+2.2**
DARE	**Darende-Malaty**	**47.94**	**300**	*e*P		**P**		**01 39 13.3**	**-0.5**
VSR	**Storozhevoye**	**48.16**	**318**	*e*P		**P**		**01 39 14.0**	**-1.1**
VSR					pmax	pmax			
	comp=Z,110nm,1.8s								
GAZ	**Gaziantep**	**48.17**	**299**	*e*P		**P**		**01 39 16.8**	**+1.2**
VORR	**Voronezh**	**48.23**	**318**	P		**P**		**01 39 16.0**	**+0.3**
VORR					pmax	pmax			
	comp=Z,250nm,1.2s								
ANN	**Anapa**	**48.29**	**309**	*e*P		**P**		**01 39 14.4**	**-1.8**
ANN				*e**PP		**pP**		**01 39 23.3**	**-4.7**
ANN				*e*				01 41 07.6	
ANN				*e*S		**S**		**01 46 12.7**	**-0.4**
ANN					pmax	pmax			
	comp=Z,67nm,1.2s								
KMRS	**Kahramanmaras**	**48.41**	**299**	*e*P		**P**		**01 39 18.3**	**+0.9**
ATD	**Arta Tunnel**	**48.45**	**264**	*e*P		**P**		**01 39 18.2**	**+0.2**
	comp=Z,86nm,1.2s								
LPSR	**Galich'ya Gora**	**48.62**	**319**	*e*P		**P**		**01 39 18.6**	**-0.1**
LPSR					pmax	pmax			
	comp=Z,80nm,0.7s								
TOKT	**Tokat**	**48.69**	**303**	*e*P		**P**		**01 39 19.8**	**+0.3**
KVT	**Kavak**	**49.08**	**304**	*e*P		**P**		**01 39 21.4**	**-1.1**
BNN	**Bunyan**	**49.22**	**301**	*e*P		**P**		**01 39 24.6**	**+0.9**
KOZT	**Kozan**	**49.27**	**299**	*e*P		**P**		**01 39 23.7**	**-0.2**
CEYT	**Ceyhan**	**49.35**	**298**	*e*P		**P**		**01 39 25.9**	**+1.4**
YOZ	**Yozgat**	**49.62**	**302**	*e*P		**P**		**01 39 27.1**	**+0.3**
SNOP	**Sinop**	**49.73**	**305**	*e*P		**P**		**01 39 27.7**	**+0.3**
	comp=Z,46nm,1.0s								
KARA	**Karaisali**	**49.89**	**299**	*e*P		**P**		**01 39 29.7**	**+1.0**
MMLI	**Mount Malkishu**	**49.97**	**293**	*e*P		**P**		**01 39 30.9**	**+1.5**
MOS	**Moscow**	**50.14**	**323**	*e*P		**P**		**01 39 28.0**	**-2.2**
MOS				*e**PP		**pP**		**01 39 41.0**	**-1.1**
MOS				*e*				01 41 26.6	
MOS					pmax	pmax			
	comp=Z,153nm,1.4s								
MERS	**Mersin**	**50.34**	**298**	*e*P		**P**		**01 39 32.2**	**+0.1**
OBN	**Obninsk**	**50.57**	**322**	*e*P		**P**		**01 39 33.5**	**+0.1**
OBN	**Obninsk**	**50.57**	**322**	*c i*P		**P**		**01 39 33.6**	**+0.1**
OBN				*e**PP		**pP**		**01 39 44.2**	**-1.1**
OBN				*i **SP		**sP**		**01 39 49.1**	**-1.1**
OBN				*e*S		**S**		**01 46 47.7**	**+2.9**
OBN					pmax	pmax			
	comp=Z,202nm,1.7s								
OBN					MLR	MLR			
	comp=Z,352nm,20.0s								
HRFI	**Mount Harif**	**50.60**	**289**	*e*P		**P**		**01 39 34.0**	**-0.2**
BZK	**Bozkurt**	**50.63**	**305**	*e*P		**P**		**01 39 35.3**	**+1.2**
SIM	**Simferopol'**	**50.65**	**309**	*ce*P		**P**		**01 39 34.6**	**+0.3**
SIM					S	**S**		**01 46 54.4**	**+8.1**
SIM					pmax	pmax			
	comp=Z,125nm,2.0s								
KIZK	**Mersin**	**50.66**	**298**	*e*P		**P**		**01 39 35.0**	**+0.5**
GUMO	**Guam**	**50.70**	**92**	LR		LR		02 02 27.9	
	comp=Z,71nm,19.6s,baz=276,slow=38								
EIL	**Elat**	**50.73**	**289**	*e*P		**P**		**01 39 34.0**	**-1.1**
KLMR	**Klimovskoe**	**50.78**	**330**	*e*P		**P**		**01 39 32.6**	**-2.4**
KLMR				*e*				01 41 29.2	
KLMR					pmax	pmax			
	comp=Z,103nm,1.2s								
KLMR	**Klimovskoe**	**50.78**	**330**	*e*P		**P**		**01 39 32.7**	**-2.3**
KLMR					AMP			01 39 37.0	
	comp=Z,103nm,1.2s								
KLMR				*e*PP		**PP**		**01 41 29.3**	**-1.9**
YAYX	**Yaylak**	**50.81**	**301**	*e*P		**P**		**01 39 35.3**	**-0.4**
ILGA	**Ilgaz**	**50.84**	**304**	*e*P		**P**		**01 39 36.2**	**+0.2**
	comp=Z,80nm,1.2s								
BR131	**Keskin Array S**	**50.92**	**302**	*e*P		**P**		**01 39 37.0**	**+0.4**
BR131	**Keskin Array S**	**50.92**	**302**	P		**P**		**01 39 36.5**	**0.0**
	SNR=7.2								
BRTR	**Keskin Array B**	**50.92**	**302**	P		**P**		**01 39 36.4**	**-0.2**
BRTR				pP		**pP**		**01 39 51.5**	**+3.1**
BRTR	**Keskin Array B**	**50.92**	**302**	*ce*P		**P**		**01 39 36.4**	**-0.2**
BRTR	**Keskin Array B**	**50.92**	**302**	P		**P**		**01 39 36.4**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=112,slow=5.5,SNR=18								
BRTR				pP		**pP**		**01 39 51.5**	**+3.1**
	comp=Z,7.5nm,1.0s,baz=93,slow=7.4,SNR=9.9								
BRTR				LR		LR		02 06 38.7	
	comp=Z,81nm,18.5s,baz=82,slow=42								
SERE	**Sereflikochisa**	**51.00**	**301**	*e*P		**P**		**01 39 37.1**	**-0.1**
KEBE	**Keben-Mersin**	**51.01**	**298**	*e*P		**P**		**01 39 36.0**	**-1.2**
KZIT	**Kziot**	**51.02**	**291**	*e*P		**P**		**01 39 36.0**	**-1.3**
SULT	**Sultanhani-AKS**	**51.07**	**300**	*e*P		**P**		**01 39 38.1**	**+0.4**
TEVE	**Tevekalti-Mers**	**51.23**	**298**	*e*P		**P**		**01 39 37.7**	**-1.2**
AFSR	**Afar-Bala (An**	**51.37**	**302**	*e*P		**P**		**01 39 40.3**	**+0.4**
BERE	**Bereket-Mersin**	**51.41**	**298**	*e*P		**P**		**01 39 40.3**	**0.0**
KULU	**Kulu**	**51.43**	**301**	*e*P		**P**		**01 39 39.7**	**-0.7**
CSS	**Mathiatis**	**51.44**	**296**	*e*P		**P**		**01 39 40.8**	**+0.3**
	comp=Z,10.0nm,0.9s								
CSS	**Mathiatis**	**51.44**	**296**	P		**P**		**01 39 38.5**	**-1.9**
	comp=Z,7.4nm,0.9s								
TEKE	**Tekeli-Mersin**	**51.52**	**297**	*e*P		**P**		**01 39 39.9**	**-1.0**
ANTO	**Ankara**	**51.56**	**302**	*e*P		**P**		**01 39 41.1**	**-0.3**
ANTO	**Ankara**	**51.56**	**302**	*e*P		**P**		**01 39 41.0**	**-0.3**
ANTO				*e*pP		**pP**		**01 39 51.9**	**-1.3**
ANTO				*e*sP		**sP**		**01 39 56.9**	**-1.2**
ANTO	**Ankara**	**51.56**	**302**	*e*P		**P**		**01 39 41.0**	**-0.3**
ANTO				*e**PP		**pP**		**01 39 51.9**	**-1.3**
ANTO				*e**SP		**sP**		**01 39 56.9**	**-1.2**
ANTO	**Ankara**	**51.56**	**302**	P		**P**		**01 39 41.4**	**+0.1**
	SNR=5.8								
ANTO	**Ankara**	**51.56**	**302**	*e*P		**P**		**01 39 40.9**	**-0.4**
BR231	**Keskin MP Arra**	**51.58**	**302**	*e*P		**P**		**01 39 41.3**	**-0.2**
LEF	**Lefka**	**51.79**	**296**	*e*P		**P**		**01 39 43.7**	**+0.7**
LEF	**Lefka**	**51.79**	**296**⇑	*i*P		**P**		**01 39 42.1**	**-0.9**
LADK	**Ladik-KONYA**	**51.97**	**300**	*e*P		**P**		**01 39 44.7**	**+0.2**
KONT	**Konya--Tatoy**	**51.99**	**300**	*e*P		**P**		**01 39 45.9**	**+1.4**
SVRH	**Sivrihisar-ESK**	**52.56**	**302**	*e*P		**P**		**01 39 48.8**	**0.0**
TMCR	**Tamitsa**	**52.64**	**333**	*e*P		**P**		**01 39 47.7**	**-1.0**
TMCR					pmax	pmax			
	comp=Z,89nm,1.1s								
MA2	**Magadan**	**53.20**	**33**	*e*P		**P**		**01 39 53.1**	**+0.1**
	comp=Z,39nm,1.1s								
MA2				*e*sP		**pP**		**01 40 06.5**	**+1.6**
MA2	**Magadan**	**53.20**	**33**	*ce*P		**P**		**01 39 52.4**	**-0.6**
MA2					pmax	pmax			
	comp=Z,65nm,1.7s								
MA2	**Magadan**	**53.20**	**33**	P		**P**		**01 39 52.9**	**-0.1**
	comp=Z,18nm,0.9s,baz=259,slow=8.1,SNR=19								
SHUT	**Suhut-Afyon**	**53.37**	**301**	*e*P		**P**		**01 39 53.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**53.59**	**139**	*e*P		**P**		**01 39 55.8**	**-0.6**
	comp=Z,27nm,1.1s								
FITZ				*e*pP		**pP**		**01 40 08.2**	**0.0**
FITZ	**Fitzroy Crossi**	**53.59**	**139**	LR		LR		02 06 43.7	
	comp=Z,121nm,19.0s,baz=308,slow=40								
KORT	**Korkueli**	**53.66**	**299**	*e*P		**P**		**01 39 56.6**	**-0.4**
CAVI	**Cavuskoy**	**53.81**	**303**	*e*P		**P**		**01 39 58.2**	**+0.3**
SILT	**Sile**	**53.91**	**304**	*e*P		**P**		**01 39 58.9**	**+0.3**
SILT	**Sile**	**53.91**	**304**⇑	*i*P		**P**		**01 39 58.9**	**+0.3**
ELL	**Elmali**	**54.04**	**299**	*e*P		**P**		**01 39 59.8**	**+0.1**
YLV	**Yalova**	**54.15**	**303**	*e*P		**P**		**01 40 00.0**	**-0.4**
YLV	**Yalova**	**54.15**	**303**⇓	*i*P		**P**		**01 40 00.7**	**+0.3**
YLV	**Yalova**	**54.15**	**303**⇓	P		**P**		**01 40 00.7**	**+0.3**
TVSB	**Tavsanli**	**54.16**	**302**	*e*P		**P**		**01 40 00.2**	**-0.3**
GEDZ	**Gediz**	**54.23**	**301**	*e*P		**P**		**01 40 00.8**	**-0.2**
AKASG	**Malin Array Be**	**54.30**	**316**	P		**P**		**01 40 00.4**	**-0.8**
AKASG	**Malin Array Be**	**54.30**	**316**	P		**P**		**01 40 00.4**	**-0.8**
AKASG					pmax	pmax			
	comp=Z,25nm,0.7s								
AKASG					MLR	MLR			
	comp=Z,429nm,22.0s								
AKASG	**Malin Array Be**	**54.30**	**316**	P		**P**		**01 40 00.4**	**-0.8**
	comp=Z,25nm,0.7s,baz=82,slow=6.7,SNR=68								
AKASG				LR		LR		02 07 37.3	
	comp=Z,429nm,22.0s,baz=95,slow=41								
AKBB	**Malin Array Si**	**54.30**	**316**	*e*P		**P**		**01 40 00.8**	**-0.4**
	comp=Z,44nm,1.0s								
KIEV	**Kiev**	**54.31**	**316**	*e*P		**P**		**01 40 00.7**	**-0.6**
	comp=Z,33nm,0.8s								
KIEV				*e*sP		**pP**		**01 40 15.6**	**+2.4**
KIEV	**Kiev**	**54.31**	**316**⇑	*i*P		**P**		**01 40 00.9**	**-0.4**
KIEV	**Kiev**	**54.31**	**316**	*i* P		**P**		**01 40 00.9**	**-0.4**
	SNR=13								
KIEV	**Kiev**	**54.31**	**316**	⇑P		**P**		**01 40 00.9**	**-0.4**
AKAS	**Kas**	**

PETK LR LR 02 06 33.6
comp=Z,332nm,18.5s,baz=262,slow=38
GCAM G?zelcaml? 56.06 300 *eP* **P 01 40 14.7 +0.6**
BODT Bodrum 56.07 299 *eP* **P 01 40 13.9 -0.4**
NACGM **Naroch 56.10 321** *e* **P 01 40 14.0 -0.1**
LPK Lapseki 56.15 303 *eP* **P 01 40 15.4 +0.7**
IDID Didziasalis 56.16 321 *eP* **P 01 40 15.1 +0.6**
IDID IAmb IAmb 01 40 16.7
comp=Z,45nm,1.2s
PRAR RASCA 56.18 312⇑ *iP* **P 01 40 15.3 +0.4**
SULR 56.24 306⇑ *iP* **P 01 40 15.8 +0.5**
BIZ Bicaz 56.27 311⇓ *iP* **P 01 40 16.3 +0.8**
GELI Tayfur-Gelibol 56.37 303 *eP* **P 01 40 16.8 +0.5**
KARP Karpathos 56.39 297 *eP* **P 01 40 16.3 -0.3**
KARP Karpathos 56.39 297 *eP* **P 01 40 16.3 -0.3**
comp=Z,82nm,0.8s
KARP *epP* **pP 01 40 27.8 -0.8**
MLR Muntele Rosu 56.43 309 *eP* **P 01 40 17.3 +0.5**
comp=Z,59nm,0.9s
MLR Muntele Rosu 56.43 309⇑ *iP* **P 01 40 17.6 +0.8**
MLR Muntele Rosu 56.43 309 ⇑ *P* **P 01 40 17.6 +0.8**
IIGN Ignalina 56.45 321 *eP* **P 01 40 17.5 +0.9**
IIGN IAmb IAmb 01 40 18.8
comp=Z,46nm,0.7s
SGRR Singureni 56.46 308⇓ *iP* **P 01 40 17.7 +0.8**
IZAR Zarasai 56.47 322 *eP* **P 01 40 17.3 +0.6**
IZAR IAmb IAmb 01 40 18.7
comp=Z,41nm,0.8s
URLA Izmir 56.48 301 *eP* **P 01 40 17.5 +0.3**
VSU Vasula 56.49 325*ceP* **P 01 40 16.4 -0.4**
VSU pmax pmax
comp=Z,284nm,1.7s
VSU Vasula 56.49 325 *eP* **P 01 40 16.7 -0.1**
VSU IAmb IAmb 01 40 17.5
comp=Z,147nm,0.9s
OZUR 56.52 310⇑ *iP* **P 01 40 17.7 +0.4**
ISAL Salakas 56.53 322 *eP* **P 01 40 17.9 +0.7**
ISAL IAmb IAmb 01 40 19.3
comp=Z,39nm,1.0s
EZN Ezine 56.54 303 *eP* **P 01 40 17.8 +0.3**
EZN Ezine 56.54 303⇑ *iP* **P 01 40 17.5 0.0**
EZN Ezine 56.54 303 *P* **P 01 40 20.1 +2.6**
ENEZ Enez 56.58 304 *eP* **P 01 40 18.5 +0.7**
PET Petropavlovsk 56.59 42 *eP* **P 01 40 17.6 0.0**
PET *eS* **S 01 48 04.2 -2.2**
PET *eSS* **SS 01 51 59.3 +5.3**
PET MLR MLR
comp=Z,500nm,16.0s
ALN Alexandroupoli 56.65 304 *eP* **P 01 40 17.1 -1.1**
ALN Alexandroupoli 56.65 304 *eP* **P 01 40 18.7 +0.4**
comp=Z,50nm,1.4s
ALN Alexandroupoli 56.65 304 *P* **P 01 40 18.2 0.0**
ALN Alexandroupoli 56.65 304 *eP* **P 01 40 18.7 +0.4**
ALN pmax pmax
comp=Z,50nm,1.4s
DOPR Dopca 56.80 310⇓ *iP* **P 01 40 20.1 +0.8**
BURAR **Bucovina Array 56.86 312**⇓ *iP* **P 01 40 20.3 +0.5**
BURAR **Bucovina Array 56.86 312** *P* **P 01 40 21.0 +1.2**
CHOS Chios island 56.90 301 *eP* **P 01 40 19.8 -0.4**
CHOS Chios island 56.90 301 *P* **P 01 40 20.4 +0.2**
CHOS Chios island 56.90 301 *P* **P 01 40 20.4 +0.2**
ZIMR 56.94 307⇑ *iP* **P 01 40 20.7 +0.5**
ZIMR 56.94 307 ⇑ *P* **P 01 40 20.7 +0.5**
SIGR SIGRI 56.96 302 *eP* **P 01 40 18.3 -2.2**
SIGR SIGRI 56.96 302 *P* **P 01 40 20.4 -0.1**
SIGR SIGRI 56.96 302 *P* **P 01 40 20.4 -0.1**
RDO Rodhopi 57.01 304 *eP* **P 01 40 20.6 -0.2**
RDO Rodhopi 57.01 304 *P* **P 01 40 20.9 +0.1**
RDO Rodhopi 57.01 304 *P* **P 01 40 20.9 +0.1**
VOIR 57.06 309⇓ *iP* **P 01 40 21.5 +0.3**
VOIR 57.06 309 ⇓ *P* **P 01 40 21.6 +0.3**
MTUR Matau 57.06 309⇑ *iP* **P 01 40 21.2 0.0**
MTUR Matau 57.06 309 ⇑ *P* **P 01 40 21.2 0.0**
SMTH Samothraki Isl 57.08 303 *P* **P 01 40 20.4 -0.9**
SMTH Samothraki Isl 57.08 303 *P* **P 01 40 20.4 -0.9**
HUMR Humele 57.16 308⇓ *iP* **P 01 40 22.6 +0.8**
ZKR Zakros 57.22 297 *eP* **P 01 40 20.4 -2.0**
FIA1 FINESS Array S 57.22 328 *eP* **P 01 40 22.0 0.0**
FINES FINESS Array B 57.22 328 *P* **P 01 40 22.1 +0.2**
FINES pP **sP 01 40 37.7 -1.1**
FINES FINESS Array B 57.22 328 *iP* **P 01 40 22.2 +0.2**
FINES pmax pmax
comp=Z,17nm,0.8s
FINES FINESS Array B 57.22 328 *P* **P 01 40 22.1 +0.2**
comp=Z,17nm,0.8s,baz=101,slow=9.9,SNR=38
FINES pP **sP 01 40 37.7 -1.1**
comp=Z,10.0nm,0.7s,baz=102,slow=7.5,SNR=7.2
FINES LR LR 02 07 38.4
comp=Z,544nm,21.6s,baz=100,slow=39
ARR Arges 57.35 309⇑ *iP* **P 01 40 23.4 +0.1**
LIA Limnos Island 57.40 303 *P* **P 01 40 23.2 -0.4**
LIA Limnos Island 57.40 303 *P* **P 01 40 23.2 -0.4**
ARCR ARCALIA 57.47 311⇓ *iP* **P 01 40 24.9 +0.9**
APE Apeiranthos 57.48 299 *eP* **P 01 40 24.1 -0.2**
PLD Plovdiv 57.54 305 *eP* **P 01 40 23.1 -1.5**
LVV L'vov 57.61 315 *eP* **P 01 40 24.8 -0.1**
SANT Santorini 57.64 299 *eP* **P 01 40 24.3 -1.1**
SANT Santorini 57.64 299 *eP* **P 01 40 24.5 -0.9**
comp=Z,263nm,1.5s
SANT Santorini 57.64 299⇑ *iP* **P 01 40 24.5 -0.9**
THR6 Thira Island, 57.69 299 *P* **P 01 40 25.2 -0.5**
THR6 Thira Island, 57.69 299 *P* **P 01 40 25.2 -0.5**
THR5 Thira Island, 57.72 299 *P* **P 01 40 26.0 +0.1**
RER Riviere de l'E 57.74 221 *eP* **P 01 40 25.0 -1.2**
comp=Z,211nm,1.5s
LAST Lasithi 57.81 297 *P* **P 01 40 26.7 0.0**
LAST Lasithi 57.81 297 *P* **P 01 40 26.7 0.0**
LOT Lotru 57.96 309⇑ *iP* **P 01 40 28.4 +0.8**
CJR Cluj-Napoca 58.00 311⇑ *iP* **P 01 40 28.9 +1.1**
CJR Cluj-Napoca 58.00 311 ⇑ *P* **P 01 40 28.9 +1.1**
SUW Suwalki 58.15 320 *eP* **P 01 40 28.5 -0.1**
SUW Suwalki 58.15 320 *eP* **P 01 40 28.6 0.0**
comp=Z,195nm,1.0s
SUW Suwalki 58.15 320 *eP* **P 01 40 28.6 0.0**
SUW pmax pmax
comp=Z,195nm,1.0s
MORW Morawa 58.17 155 *eP* **P 01 40 28.6 -0.4**
comp=Z,50nm,1.0s
IDI Anoyia 58.26 297 *eP* **P 01 40 27.8 -2.0**
IDI Anoyia 58.26 297 *eP* **P 01 40 29.5 -0.3**
comp=Z,29nm,1.0s
IDI Anoyia 58.26 297⇑ *iP* **P 01 40 28.1 -1.7**
KWP Kalwaria Pacla 58.47 314 *eP* **P 01 40 31.3 +0.3**
KWP Kalwaria Pacla 58.47 314 *eP* **P 01 40 31.2 +0.2**
comp=Z,1µm,1.2s
KWP Kalwaria Pacla 58.47 314 *eP* **P 01 40 31.3 +0.3**
SRS Serrai 58.47 304 *P* **P 01 40 29.7 -1.4**
SRS Serrai 58.47 304 *P* **P 01 40 29.7 -1.4**
SRS Serrai 58.47 304 *P* **P 01 40 29.7 -1.4**
AOS Alonnisos 58.49 302 *eP* P 01 40 17.1 -14
KEV Kevo 58.51 338 *eP* **P 01 40 30.8 0.0**
comp=Z,65nm,0.9s
KEV Kevo 58.51 338 *eP* **P 01 40 30.8 0.0**
KEV pmax pmax
comp=Z,65nm,0.9s
KEV Kevo 58.51 338 *eP* **P 01 40 30.4 -0.4**
DEV Deva 58.53 310⇑ *iP* **P 01 40 31.9 +0.5**
DEV Deva 58.53 310 ⇑ *P* **P 01 40 31.9 +0.5**
PAIG Paliouri 58.55 303 *P* **P 01 40 31.2 -0.4**
PAIG Paliouri 58.55 303 *P* **P 01 40 31.2 -0.4**
PAIG Paliouri 58.55 303 *P* **P 01 40 31.2 -0.4**
VTS Vitosha 58.58 306 *eP* **P 01 40 31.6 -0.3**
comp=Z,25nm,1.0s
VTS Vitosha 58.58 306⇓ *iP* **P 01 40 31.7 -0.3**
VTS Vitosha 58.58 306 ⇓ *P* **P 01 40 31.8 -0.2**
VTS Vitosha 58.58 306 ⇓ *P* **P 01 40 31.7 -0.3**
DRGR 58.61 311⇑ *iP* **P 01 40 32.7 +0.7**
DRGR 58.61 311 ⇑ *P* **P 01 40 32.7 +0.7**
PUNG Punghina 58.64 308⇑ *iP* **P 01 40 32.3 +0.1**
TRPA Tarpa 58.65 313⇓ *iP* **P 01 40 32.8 +0.6**
TRPA Tarpa 58.65 313⇑ *eP* **P 01 40 32.1 -0.1**
GZR Gura Zlata 58.66 309⇓ *iP* **P 01 40 32.9 +0.5**
PLG Polygyros 58.67 304 *P* **P 01 40 32.8 +0.2**
PLG Polygyros 58.67 304 *P* **P 01 40 32.8 +0.2**
PLG Polygyros 58.67 304 *P* **P 01 40 32.8 +0.2**
UZH Uzhgorod 58.78 313*d iP* **P 01 40 32.3 -0.8**
UZH *e* 01 40 44.6
HORT Hortiatis 58.91 304 *eP* **P 01 40 33.7 -0.5**
ARCES **ARCESS Array B 58.96 338** *eP* **P 01 40 33.9 -0.2**
ARCES **ARCESS Array B 58.96 338** *P* **P 01 40 34.6 +0.5**
ARCES pmax pmax
comp=Z,30nm,0.8s
ARCES ARCESS Array B 58.96 338 *P* **P 01 40 34.5 +0.5**
comp=Z,30nm,0.8s,baz=92,slow=7.3,SNR=35
ARE0 ARCESS Array S 58.96 338 *eP* **P 01 40 34.1 +0.1**
IMMV Iera Moni Meta 58.97 298 *eP* **P 01 40 35.3 +0.7**
IMMV Iera Moni Meta 58.97 298 *P* **P 01 40 34.2 -0.4**
KNT Kendrikon 58.99 305 *eP* **P 01 40 33.2 -1.5**
KNT Kendrikon 58.99 305 *P* **P 01 40 34.5 -0.2**
KNT Kendrikon 58.99 305 *P* **P 01 40 34.5 -0.2**
KNT Kendrikon 58.99 305 *P* **P 01 40 34.5 -0.2**
XOR Xorichti 58.99 302 *P* **P 01 40 34.3 -0.5**
XOR Xorichti 58.99 302 *P* **P 01 40 34.3 -0.5**
KMBO Kilima Mbogo 59.06 253 *eP* **P 01 40 36.0 +0.2**
comp=Z,2.6nm,0.9s
KMBO *esP* **pP 01 40 50.8 +2.9**
KMBO Kilima Mbogo 59.06 253 *P* **P 01 40 37.7 +1.9**
KMBO Kilima Mbogo 59.06 253 *eP* **P 01 40 36.0 +0.2**
KMBO *e*SP **pP 01 40 50.8 +2.9**
VILL Villia 59.07 301 *P* **P 01 40 34.2 -1.2**
LTVH Ltavrtes, Hu 59.12 312 *eP* **P 01 40 36.0 +0.5**
VAY Valandovo 59.21 305 *iP* **P 01 40 35.8 -0.4**
SIRR Siria 59.37 311⇑ *iP* **P 01 40 37.8 +0.5**
LIT Litokhoron 59.43 303 *eP* **P 01 40 37.6 -0.2**
comp=Z,58nm,1.3s
LIT Litokhoron 59.43 303 *eP* **P 01 40 37.6 -0.2**
LIT pmax pmax
comp=Z,58nm,1.3s
BZS Buzias 59.45 310⇑ *iP* **P 01 40 38.0 +0.2**
BZS Buzias 59.45 310 ⇑ *P* **P 01 40 38.0 +0.2**
STIP Stip 59.45 305 *iP* **P 01 40 35.8 -2.1**
MDVR Moldovita 59.46 309⇑ *iP* **P 01 40 38.5 +0.5**
BEL Belsk 59.62 317 *eP* **P 01 40 39.0 +0.2**
BEL Belsk 59.62 317 *eP* **P 01 40 39.0 +0.2**
KTK1 Kautokeino 59.65 337 *eP* **P 01 40 39.0 +0.2**
AGG Agios Georgios 59.71 302 *eP* **P 01 40 38.5 -1.2**
AGG Agios Georgios 59.71 302 *eP* **P 01 40 39.0 -0.7**
comp=Z,56nm,1.3s
AGG Agios Georgios 59.71 302 *P* **P 01 40 38.7 -1.0**
AGG Agios Georgios 59.71 302 *eP* **P 01 40 39.0 -0.7**
AGG pmax pmax
comp=Z,57nm,1.3s
HAMF Hammerfest 59.81 339 *eP* **P 01 40 40.3 +0.5**
THL Klokotos Trika 59.87 303 *P* **P 01 40 39.2 -1.6**
KZN Kozani 59.95 304 *P* **P 01 40 40.6 -0.8**
KZN Kozani 59.95 304 *P* **P 01 40 40.6 -0.8**
KZN Kozani 59.95 304 *P* **P 01 40 40.6 -0.8**
AMBH Ambrzfalva 60.01 311 *eP* **P 01 40 42.1 +0.5**
NIE Niedzica 60.05 314 *eP* **P 01 40 43.0 +1.1**
NIE Niedzica 60.05 314 *eP* **P 01 40 43.0 +1.1**
LAKA Lakka 60.10 301 *P* **P 01 40 40.8 -1.6**
LAKA Lakka 60.10 301 *P* **P 01 40 40.8 -1.6**
FNA Florina 60.18 304 *eP* **P 01 40 41.1 -1.9**
FNA Florina 60.18 304 *eP* **P 01 40 42.0 -1.0**
comp=Z,24nm,1.1s
FNA Florina 60.18 304 *eP* **P 01 40 42.0 -1.0**
FNA pmax pmax
comp=Z,24nm,1.1s
BIA Bitola 60.19 305 *iP* **P 01 40 42.8 -0.2**
ITM Ithomi 60.31 300 *eP* **P 01 40 41.9 -2.0**
ITM Ithomi 60.31 300 *eP* **P 01 40 43.0 -0.9**
comp=Z,26nm,1.0s
OJC Ojcow 60.32 315 *eP* **P 01 40 43.7 0.0**
OJC Ojcow 60.32 315 *eP* **P 01 40 43.2 -0.5**
OJC *epP* **pP 01 40 55.8 0.0**
OJC Ojcow 60.32 315 *eP* **P 01 40 43.7 0.0**
WRA Warramunga Arr 60.42 133 *P* **P 01 40 44.8 0.0**
WRA *pP* **pP 01 40 59.1 +2.2**
WRA Warramunga Arr 60.42 133 *P* **P 01 40 44.8 0.0**
WRA *P* **pP 01 40 59.1 +2.2**
WRA pmax pmax
comp=Z,14nm,0.9s
WRA MLR MLR
comp=Z,98nm,21.4s
WRA Warramunga Arr 60.42 133 *P* **P 01 40 44.8 0.0**
comp=Z,13nm,0.7s,baz=323,slow=7.3,SNR=14
WRA *pP* **pP 01 40 59.1 +2.2**
comp=Z,45nm,0.9s,baz=322,slow=7.3,SNR=21
WRA PKP2bc 02 10 15.1
comp=Z,1.1nm,0.8s,baz=134,slow=1.9,SNR=4.7
WRA LR LR 02 10 40.0
comp=Z,98nm,21.4s,baz=285,slow=40
WRAB Tennant Creek 60.42 133 *eP* **P 01 40 44.5 -0.3**
comp=Z,58nm,0.9s
WRAB *esP* **pP 01 40 58.7 +1.8**
WRAB Tennant Creek 60.42 133*ceP* **P 01 40 43.8 -1.0**
WRAB pmax pmax
comp=Z,39nm,1.7s
PSZ Piszkesteto 60.43 313 *eP* **P 01 40 44.0 -0.6**
comp=Z,55nm,1.5s
PSZ *epP* **sP 01 41 01.0 -0.5**
PSZ Piszkesteto 60.43 313⇓ *iP* **P 01 40 45.3 +0.7**
PSZ Piszkesteto 60.43 313 *eP* **P 01 40 44.0 -0.6**
PSZ *e*PP **sP 01 41 01.0 -0.5**
PSZ pmax pmax
comp=Z,55nm,1.5s
PSZ Piszkesteto 60.43 313⇑ *eP* **P 01 40 44.1 -0.6**
WB2 Warramunga Arr 60.43 133 *eP* **P 01 40 44.3 -0.5**
WB2 *epP* **pP 01 40 54.5 -2.4**
WB2 *esP* **sP 01 40 59.6 -2.1**
NEST Nestorio 60.48 304 *P* **P 01 40 44.2 -0.9**
OHR Ohrid 60.57 305 *iP* **P 01 40 45.8 +0.2**
LANS Liptovska Anna 60.61 314 *eP* **P 01 40 47.3 +1.5**
LANS *e* 01 41 02.7
LANS Liptovska Anna 60.61 314 *eP* **P 01 40 47.3 +1.5**
LANS *esP* **sP 01 41 02.7 0.0**
DIVS Divibare 60.76 308 *eP* **P 01 40 46.4 -0.5**
comp=Z,36nm,1.5s
DIVS *epP* **sP 01 41 02.9 -0.9**
DIVS Divibare 60.76 308⇑ *iP* **P 01 40 46.9 0.0**
FRGS Fruska Gora 60.77 309⇑ *iP* **P 01 40 46.8 -0.1**
BUD Budapest 61.06 312⇑ *eP* **P 01 40 48.1 -0.7**
VYHS Vyhne 61.09 313 *eP* **P 01 40 49.1 +0.1**
VYHS *e* 01 41 05.2
VYHS pmax pmax
comp=Z,20nm,1.6s
VYHS Vyhne 61.09 313 *eP* **P 01 40 49.1 +0.1**
VYHS *esP* **sP 01 41 05.2 -0.7**
BBLS Lazići 61.21 308⇑ *iP* **P 01 40 50.2 +0.2**
TIR Tirane 61.23 305 *eP* **P 01 40 49.2 -0.9**
comp=Z,24nm,0.7s
TIR Tirane 61.23 305⇑ *iP* **P 01 40 49.0 -1.0**
TIR Tirane 61.23 305 ⇑ *P* **P 01 40 49.0 -1.0**
TRO Tromso 61.26 338 *eP* **P 01 40 49.8 +0.1**
BILL Bilibino 61.38 24 *eP* **P 01 40 50.9 +0.2**
comp=Z,164nm,1.2s
BILL Bilibino 61.38 24*c iP* **P 01 40 51.0 +0.4**
BILL *i* *PP **pP 01 40 57.8 -4.9**
BILL *e**SP **sP 01 41 06.0 -1.6**
BILL *e* 01 41 29.5
BILL *eS* **S 01 49 07.9 -0.3**
BILL SS **SS 01 53 14.0 +5.2**
BILL SSS SSS 01 55 52.0
BILL pmax pmax
comp=Z,110nm,1.2s
BILL MLR MLR
comp=Z,366nm,17.0s
OKC Ostrava-Krasne 61.41 315 *eP* **P 01 40 51.8 +0.7**
OKC *esP* **pP 01 41 05.8 +2.6**
OKC Ostrava-Krasne 61.41 315 *eP* **P 01 40 51.8 +0.7**
OKC *e* 01 41 05.8
SRO Srobarova 61.50 313 *eP* **P 01 40 52.5 +0.8**
SRO *e* 01 41 08.6
SRO Srobarova 61.50 313 *eP* **P 01 40 52.5 +0.8**
SRO *esP* **sP 01 41 08.6 -0.1**
HAPS Han Pijesak,Bl 61.51 308⇑ *iP* **P 01 40 51.1 -0.9**
PDG Podgorica 61.52 306⇑ *iP* **P 01 40 51.3 -0.7**
PDG Podgorica 61.52 306⇑ *iP* **P 01 40 51.3 -0.7**
TTG Podgorica 61.52 306 *eP* **P 01 40 50.9 -1.0**
comp=Z,27nm,1.0s
TTG Podgorica 61.52 306 *eP* **P 01 40 50.9 -1.0**
TTG pmax pmax
comp=Z,27nm,1.0s
DRME Dracevica, Mon 61.61 306⇑ *iP* **P 01 40 51.8 -0.8**
ABPO Ambohimpanom 61.69 229 *eP* **P 01 40 52.6 -1.0**
ABPO *epP* **pP 01 41 03.6 -2.0**
ABPO *esP* **sP 01 41 10.4 -0.1**
ABPO Ambohimpanom 61.69 229 *eP* **P 01 40 52.6 -1.0**
ABPO *e**PP **pP 01 41 03.7 -2.0**
ABPO *e**SP **sP 01 41 10.4 -0.1**
GKP Gorka Klasztor 61.71 319 *eP* **P 01 40 53.1 +0.1**
GKP Gorka Klasztor 61.71 319 *eP* **P 01 40 53.1 +0.1**
MORC Moravsky Berou 61.81 315 *eP* **P 01 40 53.4 -0.5**
comp=Z,36nm,1.1s
MORC *epP* **sP 01 41 10.9 +0.1**
MORC Moravsky Berou 61.81 315⇑ *iP* **P 01 40 54.4 +0.5**
MORC Moravsky Berou 61.81 315 *eP* **P 01 40 53.4 -0.5**
MORC *e**PP **sP 01 41 10.9 +0.1**
MORC pmax pmax
comp=Z,36nm,1.1s
MORC Moravsky Berou 61.81 315 *eP* **P 01 40 54.2 +0.3**
MORC *esP* **sP 01 41 10.6 -0.2**
JAVC Velka Javorina 61.82 314 *eP* **P 01 40 55.1 +1.1**
JAVC *esP* **sP 01 41 11.6 +0.7**
TIH Tihany 61.89 312⇑ *eP* **P 01 40 54.1 -0.3**
BRY Bratogost 61.97 307⇑ *iP* **P 01 40 54.6 -0.6**
HCY Herceg Novi 62.07 306 *eP* **P 01 40 54.9 -0.8**
NWAO Narrogin (SRO) 62.08 156 *eP* **P 01 40 53.5 -2.2**
comp=Z,59nm,0.9s
NWAO *epP* **pP 01 41 09.8 +1.9**
NWAO Narrogin (SRO) 62.08 156 *eP* **P 01 40 54.5 -1.2**
NWAO Narrogin (SRO) 62.08 156 *P* **P 01 40 54.7 -1.0**
NWAO *PP **pP 01 41 10.2 +2.4**
NWAO pmax pmax
comp=Z,23nm,0.8s
NWAO Narrogin (SRO) 62.08 156 *P* **P 01 40 54.7 -1.0**
comp=Z,23nm,0.8s,baz=227,slow=4.6,SNR=5.6
NWAO *pP* **pP 01 41 10.2 +2.4**
comp=Z,44nm,0.8s,baz=212,slow=8.5,SNR=9.8
MODS Modra-Piesok 62.13 313 *eP* **P 01 40 56.7 +0.7**
MODS *e* 01 41 12.0
MODS pmax pmax
comp=Z,35nm,1.4s
MODS Modra-Piesok 62.13 313 *eP* **P 01 40 56.7 +0.7**
MODS *esP* **sP 01 41 12.0 -0.9**
KRLC Kraliky 62.27 315 *eP* **P 01 40 57.6 +0.7**
KRLC *esP* **sP 01 41 13.4 -0.5**
KRLC Kraliky 62.27 315 *eP* **P 01 40 57.6 +0.7**
KRLC *e* 01 41 13.4
ZST Bratislava 62.27 313 *esP* sP 01 41 12.5 -1.3
STEI Steigen 62.46 335 *eP* **P 01 40 57.9 +0.1**
VRAC Vranov 62.47 314⇑ *iP* **P 01 40 59.1 +0.8**
VRAC Vranov 62.47 314 *P* **P 01 41 00.5 +2.2**
VRAC Vranov 62.47 314 *eP* **P 01 40 59.0 +0.8**
VRAC *esP* **sP 01 41 15.1 -0.1**
KSP Ksiaz 62.50 316 *eP* **P 01 40 59.1 +0.7**
KSP Ksiaz 62.50 316 *eP* **P 01 40 59.1 +0.7**
DPC Dobruska-Polom 62.53 316 *eP* **P 01 40 59.9 +1.2**
DPC AMS AMS 02 10 40.0
comp=Z,500nm,17.0s
DPC Dobruska-Polom 62.53 316 *eP* **P 01 40 59.9 +1.2**
DPC MLR MLR
comp=Z,500nm,17.0s
STON Ston 62.59 307⇑ *iP* **P 01 40 58.1 -1.0**
KRUC Moravsky 62.63 314 *eP* **P 01 41 00.0 +0.7**
KRUC *esP* **sP 01 41 15.7 -0.6**
BLY Banja Luka 62.67 309 *eP* **P 01 40 58.7 -0.9**
comp=Z,56nm,1.3s
BLY *epP* **sP 01 41 16.2 -0.4**
BLY Banja Luka 62.67 309⇑ *iP* **P 01 40 59.6 0.0**
BLY Banja Luka 62.67 309⇑ *iP* **P 01 40 59.8 +0.2**
SOP Sopron 62.69 313⇑ *eP* **P 01 40 59.1 -0.7**
BEHE Becsehely 62.71 311⇑ *eP* **P 01 41 00.0 +0.2**
UPC Upice 62.71 316 *eP* **P 01 40 00.7 +0.9**
UPC *eP* **P 01 41 00.9 +1.1**
UPC *esP* **sP 01 41 16.0 -0.8**
UPC AMS AMS 02 10 20.0
comp=Z,600nm,20.9s
UPC Upice 62.71 316 *eP* **P 01 41 00.7 +0.9**
UPC *e* 01 41 16.0
UPC MLR MLR
comp=Z,600nm,20.9s
MOR8 Moi Rana 62.74 333 *eP* **P 01 40 59.0 -0.8**
AS31 Alice Springs 62.82 137 *eP* **P 01 41 00.7 -0.2**
comp=Z,13nm,0.7s
ASAR Alice Springs 62.82 137 *P* **P 01 41 01.1 +0.2**
ASAR *pP* **pP 01 41 14.9 +1.8**
ASAR Alice Springs 62.82 137 *P* **P 01 41 01.1 +0.2**
ASAR *PP **pP 01 41 14.9 +1.8**
ASAR pmax pmax
comp=Z,14nm,0.5s
ASAR MLR MLR
comp=Z,152nm,19.1s
ASAR Alice Springs 62.82 137 *P* **P 01 41 01.1 +0.2**
comp=Z,14nm,0.5s,baz=315,slow=6.7,SNR=28
ASAR *pP* **pP 01 41 14.9 +1.8**
comp=Z,39nm,0.7s,baz=321,slow=6.9,SNR=25
ASAR PKP2bc 02 10 09.4
comp=Z,1.7nm,1.1s,baz=123,slow=3.4,SNR=5.6
ASAR LR LR 02 11 55.4
comp=Z,152nm,19.1s,baz=306,slow=39
AS01 Alice Springs 62.85 137 *eP* **P 01 41 00.4 -0.7**
AS01 *epP* **pP 01 41 15.9 +2.6**
SPA0 Spitsbergen Ar 63.09 347 *eP* **P 01 41 02.0 0.0**
SPA0 *epP* **sP 01 41 17.9 -1.0**
SPA0 Spitsbergen Ar 63.09 347 *eP* **P 01 41 02.5 +0.6**
HSPB Hornsund (broa 63.11 346 *eP* **P 01 41 02.3 +0.3**
CONA Conrad Observa 63.13 313 *iP* **P 01 41 03.1 +0.3**
comp=Z,55nm,1.5s,SNR=14
TREC Trest 63.19 314 *eP* **P 01 41 03.8 +0.7**
TREC AMS AMS 02 09 50.0
comp=Z,600nm,24.4s
TREC Trest 63.19 314 *eP* **P 01 41 03.8 +0.7**
TREC MLR MLR
comp=Z,600nm,24.4s
KONS Konsvik 63.27 334 *eP* **P 01 41 02.8 -0.4**
ARSA Arzberg 63.45 312 *iP* **P 01 41 04.9 +0.1**
comp=Z,18nm,1.2s,SNR=7.1
GOPC GO Pecny, Ondr 63.56 315 *eP* **P 01 41 06.7 +1.2**
GOPC *esP* **pP 01 41 21.0 +3.3**
GOPC GO Pecny, Ondr 63.56 315 *eP* **P 01 41 06.7 +1.2**
GOPC *e* 01 41 21.0
PVCC Panska Ves 63.62 316 *eP* **P 01 41 06.9 +1.0**
PVCC *esP* **pP 01 41 21.5 +3.5**
PVCC AMS AMS 02 11 30.0
comp=Z,600nm,23.5s
PVCC Panska Ves 63.62 316 *eP* **P 01 41 06.9 +1.0**
PVCC *e* 01 41 21.5
PVCC MLR MLR
comp=Z,600nm,23.5s
MATE Matera 63.70 305⇓ *iP* **P 01 41 04.9 -1.6**
CRES Cresnjev 63.71 311⇑ *iP* **P 01 41 06.7 +0.2**
PRU Pruhonice 63.71 315 *eP* **P 01 41 07.4 +0.9**
PRU *esP* **pP 01 41 22.1 +3.5**
PRU AMS AMS 02 10 20.0
comp=Z,400nm,20.6s
PRU Pruhonice 63.71 315 *eP* **P 01 41 07.4 +0.9**
PRU *e* 01 41 22.1
PRU MLR MLR
comp=Z,400nm,20.6s
NSS Namsos 63.80 332 *eP* **P 01 41 06.6 -0.1**
PERS Pernice 63.81 312 *iP* **P 01 41 07.3 0.0**
PERS *i* 01 41 23.1
SOKA Soboth 63.87 312 *iP* **P 01 41 07.9 +0.3**
comp=Z,33nm,1.9s,SNR=12
RUE Ruedersdorf 63.87 318 *eP* **P 01 41 08.1 +0.7**
comp=Z,101nm,1.0s,baz=80,slow=6.4
RUE Ruedersdorf 63.87 318 *eP* **P 01 41 08.0 +0.7**
RUE IAmb IAmb 01 41 08.3
comp=Z,80nm,0.9s
BOJS Bojanci 63.90 310 *iP* **P 01 41 08.0 +0.2**
BOJS *i* 01 41 24.0
TIP Timpagrande 63.95 303⇑ *iP* **P 01 41 06.7 -1.6**
BRG Berggiesshubel 63.97 316 *iP* **P 01 41 08.8 +0.6**
comp=Z,15nm,1.1s
BRG *i* pP **pP 01 41 20.1 -0.2**
comp=Z,18nm,1.4s
BRG *i* sP **sP 01 41 24.9 -0.2**
comp=Z,18nm,0.8s
BRG *e*PKPPKP **P'P'df 02 09 58.1 -6.5**
comp=Z,25nm,2.2s
comp=N,439nm,36.7s
comp=E,625nm,29.1s
comp=Z,801nm,26.6s
BRG Berggiesshubel 63.97 316 *eP* **P 01 41 08.8 +0.6**
comp=Z,98nm,1.6s,baz=80,slow=6.4
BRG Berggiesshubel 63.97 316 *iP* **P 01 41 08.8 +0.6**
BRG *i* *PP **pP 01 41 20.1 -0.2**
BRG *i* *SP **sP 01 41 24.9 -0.2**
BRG pmax pmax
comp=Z,15nm,1.1s
NC405 NORSAR Array S 64.13 328 *eP* **P 01 41 09.3 +0.3**
NC405 *epP* **pP 01 41 19.5 -1.8**
VISS Visnje 64.14 311 *iP* **P 01 41 09.9 +0.5**
VISS *e* 01 41 25.5
MOA Molln 64.20 313 *iP* **P 01 41 09.6 -0.2**
comp=Z,20nm,0.9s,SNR=7.1

OBKA Obir 64.22 311 *i* P **P 01 41 10.0 0.0**
comp=Z,20nm,1.0s,SNR=8.0
NC602 NORSAR Array S 64.25 327 *e*P **P 01 41 09.9 +0.1**
NC602 NORSAR Array S 64.25 327 *e*P **P 01 41 09.6 -0.1**
NC303 NORSAR Array S 64.29 328 *e*P **P 01 41 10.4 +0.4**
NC303 *e*pP **pP 01 41 20.7 -1.5**
NC303 *e*sP **sP 01 41 26.4 -0.6**
LJU Ljubljana 64.31 311⇑ *i*P **P 01 41 10.8 +0.3**
FBE Freiberg 64.33 316 *e*P **P 01 41 11.3 +0.8**
comp=Z,149nm,1.4s,baz=80,slow=6.4
NB201 NORSAR Array S 64.34 328 *e*P **P 01 41 10.6 +0.1**
NB2 NORSAR Subarra 64.38 328 P **P 01 41 10.0 -0.7**
comp=Z,71nm,0.9s,baz=84,slow=6.5
NB2 NORSAR Subarra 64.38 328 P **P 01 41 10.0 -0.7**
baz=84,slow=6.5
NOA NORSAR Array B 64.38 328 P **P 01 41 10.2 -0.5**
NOA NORSAR Array B 64.38 328 P **P 01 41 10.3 -0.5**
NOA pmax pmax
comp=Z,32nm,0.8s
NOA MLR MLR
comp=Z,280nm,20.9s
NOA NORSAR Array B 64.38 328 P **P 01 41 10.2 -0.5**
comp=Z,32nm,0.8s,baz=86,slow=6.5,SNR=96
NOA LR LR 02 11 47.4
comp=Z,280nm,20.9s,baz=90,slow=38
GEC2 GERESS Array S 64.42 314 *e*P **P 01 41 11.5 +0.3**
comp=Z,68nm,1.3s
GEC2 GERESS Array S 64.42 314 *e*P **P 01 41 11.7 +0.5**
comp=Z,105nm,1.7s,baz=80,slow=6.4
GEC2 GERESS Array S 64.42 314 *e*P **P 01 41 11.5 +0.3**
GEC2 pmax pmax
comp=Z,68nm,1.3s
GERES GERESS Array B 64.42 314 P **P 01 41 11.6 +0.3**
GERES pP **sP 01 41 27.8 -0.4**
GERES GERESS Array B 64.42 314 P **P 01 41 11.6 +0.3**
GERES *PP **sP 01 41 27.8 -0.4**
GERES pmax pmax
comp=Z,16nm,0.8s
GERES GERESS Array B 64.42 314 P **P 01 41 11.6 +0.3**
comp=Z,16nm,0.8s,baz=77,slow=5.9,SNR=59
GERES pP **sP**
comp=Z,12nm,0.6s,baz=74,slow=6.1,SNR=12
GERES LR LR 02 14 55.0
comp=Z,177nm,20.4s,baz=84,slow=41
GEA0 GERESS Array S 64.42 314 *e*P **P 01 41 11.2 -0.1**
CEY Cerknica 64.43 311⇑ *i*P **P 01 41 11.2 -0.1**
KHC Kasperske Hory 64.45 314 *e*P **P 01 41 11.5 +0.1**
comp=Z,8.2nm,1.0s
KHC *e*pP **pP 01 41 22.5 -1.1**
KHC Kasperske Hory 64.45 314 *e*P **P 01 41 11.8 +0.4**
KHC *e*sP **sP 01 41 27.3 -1.1**
KHC AMS AMS 02 10 50.0
comp=Z,500nm,21.5s
KHC Kasperske Hory 64.45 314 *e*P **P 01 41 11.5 +0.1**
KHC *e**PP **pP 01 41 22.5 -1.1**
KHC pmax pmax
comp=Z,8.0nm,1.0s
CLL Collm 64.50 317 *e*P **P 01 41 11.8 +0.1**
comp=Z,33nm,1.1s
CLL *e*pP **sP 01 41 27.9 -0.6**
CLL Collm 64.50 317 *e*P **P 01 41 11.7 +0.1**
comp=Z,47nm,1.3s,baz=80,slow=6.4
CLL Collm 64.50 317⇑ *i*P **P 01 41 11.7 +0.1**
comp=Z,47nm,1.3s
CLL *e*sP **sP 01 41 28.0 -0.6**
CLL *e*PcP **PcP 01 41 46.0 +0.5**
CLL *e*PP **PP 01 43 33.0 -0.5**
CLL *e*S S 01 50 00.0 +12
CLL *e*PS **PnS 01 50 14.0 +4.3**
CLL *e*SS **SS 01 54 00.0 +2.0**
CLL *e*SSS SSS 01 57 06.0
CLL Collm 64.50 317⇑ *i*P **P 01 41 11.7 +0.1**
CLL *e**SP **sP 01 41 28.0 -0.6**
CLL *e*S **S 01 49 55.0 +7.3**
CLL pmax pmax
comp=Z,47nm,1.3s
MBAR Mbarara 64.52 257 *e*P **P 01 41 13.5 +1.0**
MBAR *e*pP **pP 01 41 23.8 -0.9**
MBAR *e*sP **sP 01 41 29.0 -0.5**
MBAR Mbarara 64.52 257 *e*P **P 01 41 13.5 +1.0**
MBAR *e**PP **pP 01 41 23.8 -0.9**
MBAR *e**SP **sP 01 41 29.0 -0.5**
NAO01 NORSAR Array S 64.56 328 *e*P **P 01 41 11.2 -0.6**
NC204 NORSAR Array S 64.58 328 *e*P **P 01 41 11.9 -0.2**
NBO00 NORSAR Array S 64.59 328 *e*P **P 01 41 12.2 +0.1**
TBLU Trondheim 64.64 330 *e*P **P 01 41 11.5 -0.8**
OSL Oslo 64.73 327 *e*P **P 01 41 13.7 +0.8**
CEL Celeste 64.80 302 *e*P **P 01 41 14.1 +0.3**
comp=Z,52nm,0.9s
TRI Trieste 64.90 311 *e*P **P 01 41 13.9 -0.4**
comp=Z,66nm,1.2s
TRI Trieste 64.90 311 *e*P **P 01 41 13.9 -0.4**
TRI pmax pmax
comp=Z,66nm,1.2s
WET Wettzell 64.91 315 *e*P **P 01 41 14.9 +0.6**
comp=Z,132nm,2.0s,baz=80,slow=6.4
KBA Koelnbreinsper 64.94 312 *e*P **P 01 41 14.4 -0.4**
comp=Z,16nm,1.4s
TANN Tannenbergstha 64.97 316 *e*P **P 01 41 15.3 +0.5**
comp=Z,212nm,1.8s,baz=80,slow=6.4
NKC Novy Kostel 65.01 316 *e*P **P 01 41 15.8 +0.8**
NKC Novy Kostel 65.01 316 *e*P **P 01 41 15.8 +0.8**
WERN Wernitzgruen 65.05 316 *e*P **P 01 41 15.7 +0.5**
comp=Z,83nm,1.7s,baz=80,slow=6.4
GUNZ Gunzen 65.06 316 *e*P **P 01 41 16.1 +0.7**
comp=Z,134nm,1.7s,baz=80,slow=6.4
PLN Plauen 65.15 316 *e*P **P 01 41 16.5 +0.6**
comp=Z,115nm,1.8s,baz=80,slow=6.4
ROTZ Rotzenmuhle 65.24 315 *e*P **P 01 41 17.4 +0.9**
comp=Z,178nm,1.6s,baz=80,slow=6.4
MANZ Manzenberg 65.27 316 *e*P **P 01 41 17.4 +0.7**
comp=Z,107nm,1.5s,baz=80,slow=6.4
NEUB Neuenburg 65.28 317 *e*P **P 01 41 17.2 +0.5**
comp=Z,158nm,1.5s,baz=80,slow=6.4
DOMB Dombas 65.31 329 *e*P **P 01 41 16.6 -0.1**
KONO Kongsberg 65.33 326 *e*P **P 01 41 16.7 -0.2**
comp=Z,114nm,1.4s
KONO Kongsberg 65.33 326*ce*P **P 01 41 17.2 +0.4**
KONO pmax pmax
comp=Z,82nm,1.3s
KONO Kongsberg 65.33 326 *e*P **P 01 41 16.6 -0.2**
MOX Moxa 65.47 316 *e*P **P 01 41 18.5 +0.6**
comp=Z,67nm,1.4s,baz=80,slow=6.4
MOX *e*L L 02 13 37.8
comp=Z,309nm,21.1s
ABTA Abfaltersbach 65.56 312 *i*P **P 01 41 17.6 -1.1**
comp=Z,14nm,1.0s,SNR=5.6
BSEG Bad Segeberg 65.73 320 *e*P **P 01 41 20.6 +1.1**
comp=Z,93nm,1.0s,baz=80,slow=6.4
AQU L'Aquila 65.80 307 *e*P **P 01 41 19.9 -0.4**
comp=Z,84nm,1.4s
AQU L'Aquila 65.80 307 *e*P **P 01 41 19.9 -0.4**
AQU pmax pmax
comp=Z,84nm,1.4s
AQU L'Aquila 65.80 307⇑ *i*P **P 01 41 20.1 -0.2**
ASSE Asse, Remlinge 65.81 318 *e*P **P 01 41 20.2 +0.3**
comp=Z,37nm,1.1s,baz=80,slow=6.4
GRA1 Grafenberg Arr 65.88 315 *e*P **P 01 41 20.8 +0.2**
comp=Z,68nm,1.1s
GRF Grafenberg Arr 65.88 315 *e*P **P 01 41 21.5 +0.9**
comp=Z,166nm,1.6s,baz=80,slow=6.4
GRF *e*L L 02 13 05.2
comp=Z,354nm,20.5s
GRFO Grafenberg 65.88 315 *e*P **P 01 41 20.6 0.0**
comp=Z,74nm,1.2s
GRFO Grafenberg 65.88 315 *e*P **P 01 41 20.6 0.0**
GRFO pmax pmax
comp=Z,74nm,1.2s
MUD Monsted U'grnd 65.99 323 *i*P **P 01 41 22.0 +0.9**
comp=Z,50nm,0.9s
MUD *i*pP **sP 01 41 43.6 +5.5**
MUD Monsted U'grnd 65.99 323 *i*P **P 01 41 22.0 +0.9**
MUD pmax pmax
comp=Z,50nm,0.9s
CLZ Clausthal 66.04 318 *e*P **P 01 41 22.4 +0.8**
comp=Z,84nm,0.9s,baz=80,slow=6.4
WTTA Wattenberg 66.06 313 *i*P **P 01 41 21.5 -0.5**
comp=Z,24nm,0.9s,SNR=10
WATA Walderalm 66.08 313 *i*P **P 01 41 21.2 -0.9**
comp=Z,11nm,0.7s,SNR=8.6
NRDL Niedersach Rie 66.09 319 *e*P **P 01 41 22.9 +1.2**
comp=Z,198nm,1.3s,baz=80,slow=6.4
VAE Valguarnera 66.12 302 LR LR 02 14 18.8
comp=Z,125nm,18.4s,baz=9.5,slow=40
FUR Furstenfeldbru 66.12 314 *e*P **P 01 41 22.7 +0.5**
comp=Z,92nm,1.6s,baz=80,slow=6.4
AKN Aaknes 66.25 329 *e*P **P 01 41 23.9 +1.2**
GTTG Gyttingen 66.34 318 *e*P **P 01 41 24.2 +0.7**
comp=Z,194nm,1.5s,baz=80,slow=6.4
SQTA Sankt Quirin 66.35 313 *i*P **P 01 41 22.9 -0.9**
comp=Z,19nm,0.7s,SNR=8.3
MOTA Moosalm 66.39 313 *i*P **P 01 41 23.4 -0.8**
comp=Z,15nm,0.7s,SNR=15
UBBA Unterbreizbach 66.45 317 *e*P **P 01 41 24.5 +0.4**
comp=Z,68nm,1.4s,baz=80,slow=6.4
RETH Rethem/Aller, 66.49 319 *e*P **P 01 41 25.1 +0.6**
comp=Z,57nm,1.4s,baz=80,slow=6.4
RETA Reutte 66.59 313 *i*P **P 01 41 24.9 -0.4**
comp=Z,55nm,1.7s,SNR=12
FETA Feichten 66.71 313 *i*P **P 01 41 25.6 -0.6**
comp=Z,19nm,1.0s,SNR=8.7
SNART Snartemo 66.74 325 *e*P **P 01 41 26.9 +1.0**
ODD1 Odda 66.78 327 *e*P **P 01 41 26.4 +0.2**
FUORN Ofenpass-Fuorn 67.11 312 *e*P **P 01 41 28.9 0.0**
comp=Z,12nm,0.8s
DAVA Damuels 67.22 313 *i*P **P 01 41 29.0 -0.4**
comp=Z,51nm,1.3s,SNR=14
STU Stuttgart 67.36 315 *e*P **P 01 41 30.7 +0.6**
comp=Z,58nm,1.1s
STU Stuttgart 67.36 315 *e*P **P 01 41 30.6 +0.5**
comp=Z,210nm,1.9s,baz=80,slow=6.4
STU Stuttgart 67.36 315 *e*P **P 01 41 30.7 +0.6**
STU pmax pmax
comp=Z,58nm,1.1s
IBBN Ibbenburen 67.54 319 *e*P **P 01 41 31.8 +0.7**
comp=Z,111nm,1.4s,baz=80,slow=6.4
TNS Taunus Mts 67.54 316 *e*P **P 01 41 31.9 +0.6**
comp=Z,60nm,1.0s,baz=80,slow=6.4
KMY Karmoy 67.59 326 *e*P **P 01 41 31.2 -0.1**
BUG Bochum--Univer 68.01 318 *e*P **P 01 41 34.7 +0.6**
comp=Z,111nm,1.3s,baz=80,slow=6.4
BFO Black Forest 68.02 314 *e*P **P 01 41 34.1 -0.1**
comp=Z,11nm,1.0s
BFO Black Forest 68.02 314 *e*P **P 01 41 34.2 -0.1**
comp=Z,53nm,1.7s,baz=80,slow=6.4
BFO Black Forest 68.02 314 *i*P **P 01 41 34.5 +0.2**
AHRW Bad Neuenahr-A 68.33 317 *e*P **P 01 41 36.8 +0.7**
comp=Z,46nm,1.1s,baz=80,slow=6.4
ECH Echery 68.81 314 *e*P **P 01 41 38.4 -0.8**
comp=Z,15nm,1.0s
ECH Echery 68.81 314 *e*P **P 01 41 38.4 -0.8**
ECH pmax pmax
comp=Z,15nm,1.0s
CTA Charters Tower 68.90 125 P **P 01 41 40.1 0.0**
CTA pP **pP 01 41 55.4 +3.0**
CTA Charters Tower 68.90 125 P **P 01 41 40.1 0.0**
CTA *PP **pP 01 41 55.4 +3.0**
CTA pmax pmax
comp=Z,2.0nm,0.5s
CTA Charters Tower 68.90 125 P **P 01 41 40.1 0.0**
comp=Z,2.3nm,0.5s,baz=340,slow=5.9,SNR=4.0
CTA pP **pP 01 41 55.4 +3.0**
comp=Z,22nm,1.0s,baz=324,slow=8.6,SNR=9.9
CTAO Charters Tower 68.90 125 *e*P **P 01 41 39.6 -0.5**
comp=Z,49nm,1.3s
CTAO *e*sP **pP 01 41 55.0 +2.6**
CTAO Charters Tower 68.90 125 *e*P **P 01 41 39.6 -0.5**
CTAO *e**SP **pP 01 41 55.0 +2.6**
CTAO pmax pmax
comp=Z,49nm,1.3s
MEM Membach 68.97 317⇑P **P 01 41 40.5 +0.3**
comp=Z,24nm,0.9s
MEM ⇑sP **sP 01 41 56.8 -0.4**
WLF Walferdange 69.11 316 *e*P **P 01 41 41.1 +0.2**
comp=Z,594nm,1.1s
WLF Walferdange 69.11 316 *e*P **P 01 41 42.0 +1.0**
baz=80,slow=6.4
WLF Walferdange 69.11 316 *e*P **P 01 41 41.2 +0.2**
WLF Walferdange 69.11 316⇓P **P 01 41 41.9 +0.9**
comp=Z,109nm,1.6s
WLF ⇑sP **pP 01 41 56.7 +3.4**
BEBN Eben Emael 69.13 317⇓P **P 01 41 42.0 +0.9**
SENIN Lac Senin/Sane 69.16 312 *e*P **P 01 41 42.1 +0.5**
comp=Z,19nm,0.9s
BCLA Clavier 69.46 317⇑P **P 01 41 43.4 +0.3**
BCLA ⇑sP **sP 01 42 00.6 +0.4**
BNI Bardonecchia 69.91 311 *e*P **P 01 41 46.3 +0.1**
comp=Z,73nm,1.5s
BNI Bardonecchia 69.91 311 *e*P **P 01 41 46.3 +0.1**
BNI pmax pmax
comp=Z,73nm,1.5s
UCC Uccle 69.94 318⇑P **P 01 41 45.1 -1.0**
DOU Dourbes 69.98 317⇓P **P 01 41 47.0 +0.6**
DOU ⇑sP **pP 01 42 00.7 +2.1**
KEST Kesra 70.51 301 *e*P **P 01 41 50.0 0.0**
comp=Z,72nm,1.0s
KEST *e*pP **pP 01 42 01.6 -0.7**
KEST Kesra 70.51 301 P **P 01 41 50.7 +0.8**
comp=Z,50nm,0.9s,baz=288,slow=2.3,SNR=22
KEST LR LR 02 20 04.6
comp=Z,64nm,19.3s,baz=294,slow=42
DAG Danmarks Havn 70.74 347 *i*P **P 01 41 50.1 -0.4**
comp=Z,58nm,1.3s
DAG Danmarks Havn 70.74 347 *i*P **P 01 41 50.1 -0.4**
DAG pmax pmax
comp=Z,110nm,1.3s
GAMB Gambell 70.77 28 *e*P **P 01 41 51.1 +0.2**
comp=Z,24nm,1.1s
BBOO Buckleboo 70.84 142 *e*P **P 01 41 51.6 -0.2**
comp=Z,57nm,0.9s
SSB Saint Sauveur 71.30 312 *e*P **P 01 41 54.4 -0.2**
comp=Z,22nm,0.9s
SSB Saint Sauveur 71.30 312 *e*P **P 01 41 54.4 -0.2**
SSB pmax pmax
comp=Z,22nm,0.9s
CLF Chambon-Foret 72.02 315 *e*P **P 01 41 58.8 0.0**
comp=Z,68nm,0.9s
CLF *e*pP **pP 01 42 14.1 +3.0**
DRUM Mains of Drumt 72.14 325 *e*P **P 01 41 59.1 -0.2**
DRUM lAmb lAmb 01 42 00.6
comp=Z,72nm,1.1s
MLA1 Latheron 72.16 326 *e*P **P 01 42 00.0 +0.6**
MCD Coleburn Disti 72.33 326 *e*P **P 01 42 00.9 +0.5**
EDMD Edmundbyers 72.50 323 *e*P **P 01 42 01.6 +0.1**
EDMD lAmb lAmb 01 42 02.1
comp=Z,56nm,0.9s
ESY Stoneypath 72.51 324 *e*P **P 01 42 01.6 0.0**
HPK Haverah Park 72.58 322 *e*P **P 01 42 02.2 +0.2**
RDOG Red Dog Mine 72.71 22 *e*P **P 01 42 02.2 -0.3**
comp=Z,18nm,0.9s
CWF Charnwood Fore 72.78 321 *e*P **P 01 42 03.1 -0.1**
CWF lAmb lAmb 01 42 03.4
comp=Z,20nm,1.0s
EBL Broad Law 72.79 324 *e*P **P 01 42 03.5 +0.2**
EDI Edinburgh 72.82 324 *e*P **P 01 42 03.6 +0.3**
EDI lAmb lAmb 01 42 04.6
comp=Z,54nm,0.9s
EAU Auchinoon 72.98 324 *e*P **P 01 42 04.7 +0.3**
ESK Eskdalemuir 73.02 323 *e*P **P 01 42 04.7 +0.1**
comp=Z,40nm,0.8s
ESK Eskdalemuir 73.02 323 *e*P **P 01 42 05.1 +0.5**
ESK lAmb lAmb 01 42 05.8
comp=Z,39nm,0.8s
ESK Eskdalemuir 73.02 323 *i*P **P 01 42 05.5 +0.9**
ANM Nome 73.13 26 *e*P **P 01 42 05.0 0.0**
comp=Z,72nm,1.3s
ANM Nome 73.13 26 *e*P **P 01 42 05.0 0.0**
ANM pmax pmax
comp=Z,72nm,1.3s
KESW Keswick, Cumbr 73.20 323 *e*P **P 01 42 05.8 +0.1**
KESW lAmb lAmb 01 42 07.0
comp=Z,170nm,1.4s
STKA Stephens Creek 73.43 138 *e*P **P 01 42 06.7 -0.5**
comp=Z,6.4nm,1.0s
STKA Stephens Creek 73.43 138 P **P 01 42 07.0 -0.2**
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA MLR MLR
comp=Z,75nm,19.4s
STKA Stephens Creek 73.43 138 P **P 01 42 07.0 -0.2**
comp=Z,8.0nm,0.8s,baz=326,slow=3.9,SNR=4.7
STKA LR LR 02 19 39.9
comp=Z,75nm,19.4s,baz=311,slow=40
PGBU Glenifferbraes 73.55 324 *e*P **P 01 42 07.6 -0.1**
PGBU lAmb lAmb 01 42 08.6
comp=Z,60nm,1.1s
STRD Stroud 73.58 320 *e*P **P 01 42 07.9 -0.1**
STRD lAmb lAmb 01 42 08.9
comp=Z,38nm,0.8s
KPL Plockton 73.63 326 *e*P **P 01 42 08.2 +0.1**
HLM1 Long Mynd 73.76 321 *e*P **P 01 42 09.1 +0.1**
LAWE Loch Awe, Argy 73.88 325 *e*P **P 01 42 09.7 +0.1**
LAWE lAmb lAmb 01 42 11.0
comp=Z,40nm,0.9s
MONM Monmouth 73.94 320 *e*P **P 01 42 09.9 -0.1**
LSZ Lusaka 73.99 244 *e*P **P 01 42 11.3 +0.3**
comp=Z,54nm,1.4s
LSZ *e*sP **sP 01 42 27.9 -0.2**
LSZ Lusaka 73.99 244 *e*P **P 01 42 11.3 +0.3**
LSZ *e**SP **sP 01 42 27.9 -0.2**
LSZ pmax pmax
comp=Z,54nm,1.4s
LSZ Lusaka 73.99 244 P **P 01 42 12.8 +1.8**
SNR=7.4
LSZ P **P 01 42 12.8 +1.8**
SNR=7.4
GAL1 Galloway 73.99 323 *e*P **P 01 42 10.2 0.0**
GAL1 lAmb lAmb 01 42 11.6
comp=Z,12nm,0.9s
MCH1 Michaelchurch 74.00 320 *e*P **P 01 42 10.2 -0.2**
MCH1 lAmb lAmb 01 42 11.4
comp=Z,150nm,1.8s
WPM1 Penmaenmawr 74.09 322 *e*P **P 01 42 11.6 +0.6**
WIM Isle of Man 74.22 323 *e*P **P 01 42 12.1 +0.4**
WLF1 Llynfaes 74.36 322 *e*P **P 01 42 12.6 +0.2**
WLF1 lAmb lAmb 01 42 13.4
comp=Z,70nm,0.9s
WPS Cemaes, Angles 74.38 322 *e*P **P 01 42 11.8 -0.7**
WPS lAmb lAmb 01 42 13.5
comp=Z,44nm,1.0s
JSA Saint Aubin 74.45 317 *e*P **P 01 42 12.8 -0.2**
JSA lAmb lAmb 01 42 16.1
comp=Z,78nm,1.4s
SCO Scoresbysund 74.55 341 *e*P **P 01 42 13.6 +0.3**
comp=Z,78nm,1.5s
SCO Scoresbysund 74.55 341 *i*P **P 01 42 14.3 +1.0**
SCO *i*pP **sP 01 42 30.2 -0.2**
SCO Scoresbysund 74.55 341 *i*P **P 01 42 14.3 +1.0**
SCO *i**PP **sP 01 42 30.2 -0.2**
LPW Lampeter 74.58 321 *e*P **P 01 42 13.9 +0.2**
RSBS Rosebush, Pemb 75.03 321 *e*P **P 01 42 16.4 +0.1**
RSBS lAmb lAmb 01 42 17.6
comp=Z,20nm,0.8s
IDGL Inch Island, C 75.42 324 *e*P **P 01 42 18.0 -0.5**
EIDS Eidsvold 75.63 127 *e*P **P 01 42 20.0 -0.2**
comp=Z,29nm,1.0s
EIDS *e*pP **sP 01 42 36.6 -0.7**
TOLK Toolik Lake Re 76.76 19 *e*P **P 01 42 26.5 +0.5**
comp=Z,101nm,0.9s
TOLK Toolik Lake Re 76.76 19 P **P 01 42 27.1 +1.1**
baz=305
IM3 Indian Mountai 76.86 23 *e*P **P 01 42 26.3 -0.2**
IGLA Glengowla, Co 77.08 323 *e*P **P 01 42 26.9 -1.0**
COLD Coldfoot 77.37 21 *e*P **P 01 42 29.6 +0.2**
comp=Z,33nm,1.2s
SUMG Summit 77.42 346 *e*P **P 01 42 29.8 -0.3**
comp=Z,82nm,1.0s
SUMG Summit 77.42 346 *i*P **P 01 42 29.8 -0.3**
SUMG *i*pP **pP 01 42 45.9 +3.3**
SUMG Summit 77.42 346 *i*P **P 01 42 29.8 -0.3**
SUMG *i**PP **pP 01 42 45.9 +3.3**
CART Cartagena 77.76 306 *e*P **P 01 42 31.4 -0.7**
comp=Z,78nm,0.9s
TAM Tamanrasset 77.95 290 *e*P **P 01 42 33.9 +0.3**
comp=Z,11nm,1.1s
TAM Tamanrasset 77.95 290 *e*P **P 01 42 33.9 +0.3**
TAM pmax pmax
comp=Z,11nm,1.1s
VAL Valentia 78.17 322 *e*P **P 01 42 33.6 -0.5**
TULEG Thule 78.32 356 *e*P **P 01 42 33.9 -0.6**
comp=Z,42nm,0.9s
MLY Manley 78.43 23 *e*P **P 01 42 36.1 +0.7**
comp=Z,190nm,1.4s
SVW2 Sparrevohn 78.69 27 *e*P **P 01 42 36.8 -0.1**
comp=Z,54nm,1.2s
CAST Castle Rocks 78.84 24 *e*P **P 01 42 37.7 +0.1**
comp=Z,129nm,1.2s
KULLO Kullorsuaq 79.00 352 *i*P **P 01 42 38.5 +0.3**
KULLO *i*pP **pP 01 42 53.9 +3.2**
KULLO Kullorsuaq 79.00 352 *i*P **P 01 42 38.5 +0.3**
KULLO *i**PP **pP 01 42 53.9 +3.2**
ES19 SONSECA Array 79.06 309 *e*P **P 01 42 39.6 +0.2**
PPLA Purkeypile 79.09 25 *e*P **P 01 42 39.8 +0.6**
comp=Z,153nm,1.4s
ESDC Sonseca Array 79.11 309 P **P 01 42 40.2 +0.6**
ESDC Sonseca Array 79.11 309 P **P 01 42 40.2 +0.6**
comp=Z,11nm,0.9s,baz=56,slow=5.4,SNR=36
ESDC LR LR 02 23 07.4
comp=Z,64nm,21.1s,baz=215,slow=40
ESLA Sonseca Array 79.11 309 *e*P **P 01 42 39.7 +0.1**
comp=Z,46nm,1.4s
ESLA *e*pP **sP 01 42 57.2 +0.4**
FYU Fort Yukon 79.34 20 *e*P **P 01 42 40.8 +0.6**
comp=Z,131nm,1.1s
MDM Murphy Dome 79.34 22 *e*P **P 01 42 40.5 +0.1**
comp=Z,178nm,0.9s
BWN Browne 79.37 23 *e*P **P 01 42 41.3 +0.8**
comp=Z,123nm,1.1s
PAB San Pablo 79.44 309 *e*P **P 01 42 41.3 -0.2**
comp=Z,14nm,0.9s
PAB San Pablo 79.44 309 *e*P **P 01 42 41.3 -0.2**
PAB pmax pmax
comp=Z,14nm,0.9s
TRF Thorofare Moun 79.49 24 *e*P **P 01 42 41.3 -0.1**
comp=Z,19nm,0.8s
POKR Poker Plat Res 79.52 22 P **P 01 42 42.2 +0.9**
baz=307
TCOL CIGO, UAF Yank 79.52 22 P **P 01 42 41.8 +0.6**
baz=307
COLA College 79.52 22 *e*P **P 01 42 41.5 +0.2**
comp=Z,120nm,1.0s
COLA College 79.52 22⇓ *e*P **P 01 42 40.3 -0.9**
COLA pmax pmax
comp=Z,68nm,1.1s
COLA College 79.52 22 *e*P **P 01 42 41.5 +0.2**
CCB Clear Creek Bu 79.67 22 *e*P **P 01 42 41.0 -1.1**
comp=Z,22nm,0.8s
WRH Wood River Hil 79.68 22 *e*P **P 01 42 40.9 -1.3**
comp=Z,22nm,0.8s
MCK McKinley 79.82 23 *e*P **P 01 42 42.9 -0.1**
comp=Z,63nm,0.8s
PRP Porcupine Dome 79.90 21 *e*P **P 01 42 44.0 +0.5**
comp=Z,89nm,1.0s
IL1 Eielson Array 79.91 22 *e*P **P 01 42 42.1 -1.3**
ILAR Eielson Array 79.91 22 P **P 01 42 42.9 -0.5**
ILAR Eielson Array 79.91 22 P **P 01 42 42.9 -0.5**
ILAR pmax pmax
comp=Z,61nm,1.1s
ILAR MLR MLR
comp=Z,325nm,21.4s
ILAR Eielson Array 79.91 22 P **P 01 42 42.9 -0.5**
comp=Z,61nm,1.1s,baz=302,slow=4.2,SNR=190
ILAR PKKPbc **PKKPbc 02 01 28.2 -1.7**
comp=Z,0.2nm,0.8s,baz=132,slow=1.3,SNR=3.2
ILAR LR LR 02 19 49.8
comp=Z,325nm,21.4s,baz=312,slow=37
ILB Eielson Array 79.91 22 *e*P **P 01 42 43.0 -0.5**
RND Reindeer 80.04 24 *e*P **P 01 42 43.6 -0.6**
comp=Z,174nm,1.4s
RND Reindeer 80.04 24 *e*P **P 01 42 43.6 -0.6**
RND pmax pmax
comp=Z,174nm,1.4s
HDA Harding Lake 80.11 22 P **P 01 42 43.7 -0.8**
baz=308
SUA Susitna One 80.45 26 *e*P **P 01 42 46.3 -0.2**
comp=Z,68nm,1.1s
MVO Moncorvo 80.66 311 *e*P **P 01 42 48.8 +0.8**
comp=Z,58nm,1.0s
RES Resolute Bay 80.75 2 *e*P **P 01 42 47.2 -0.5**
comp=Z,25nm,1.0s
RES Resolute Bay 80.75 2 *e*P **P 01 42 47.2 -0.5**
RES pmax pmax
comp=Z,25nm,1.0s
PMR Palmer 81.01 25 *e*P **P 01 42 49.0 -0.3**
comp=Z,53nm,1.0s
PMR Palmer 81.01 25 *e*P **P 01 42 49.0 -0.3**
PMR pmax pmax
comp=Z,53nm,1.0s
RC01 Rabbit Creek A 81.07 26 *e*P **P 01 42 49.5 -0.2**
comp=Z,74nm,1.1s
PVRL Vila Real 81.08 311 *e*P **P 01 42 51.4 +1.2**
comp=Z,42nm,1.6s
POLO Lamas de Olo 81.09 311 *e*P **P 01 42 51.0 +0.7**
comp=Z,17nm,1.1s
PCAB Cabril 81.11 312 *e*P **P 01 42 51.7 +1.4**
comp=Z,54nm,1.7s
PGAV Gavieira, Arco 81.17 312 *e*P **P 01 42 51.3 +0.6**

	comp=Z,43nm,1.4s								
SML	**Sawmill**	**81.19**	**25**	*e*P		**P**		**01 42 50.6**	**+0.2**
	comp=Z,167nm,1.2s								
SML	**Sawmill**	**81.19**	**25**	*e*P		**P**		**01 42 50.6**	**+0.2**
SML				pmax	pmax				
	comp=Z,167nm,1.2s								
LBTB	**Lobatse**	**81.20**	**237**	*e*P		**P**		**01 42 51.0**	**-0.1**
	comp=Z,77nm,1.0s								
LBTB	**Lobatse**	**81.20**	**237**	*e*P		**P**		**01 42 51.0**	**-0.1**
LBTB				pmax	pmax				
	comp=Z,77nm,1.0s								
RIDG	**Independ'e Rid**	**81.25**	**22**	*e*P		**P**		**01 42 50.5**	**-0.3**
	comp=Z,89nm,1.0s								
MTE	**Manteigas**	**81.33**	**310**	*e*P		**P**		**01 42 53.1**	**+1.5**
	comp=Z,59nm,1.6s								
MTE	**Manteigas**	**81.33**	**310**	*e*P		**P**		**01 42 52.2**	**+0.6**
	comp=Z,38nm,0.9s								
BRLK	**Bradley Lake**	**81.37**	**27**	*e*P		**P**		**01 42 51.3**	**-0.1**
	comp=Z,82nm,1.3s								
KNK	**Knik Glacier**	**81.38**	**25**	*e*P		**P**		**01 42 51.4**	**+0.1**
	comp=Z,61nm,1.0s								
INK	**Inuvik**	**81.39**	**16**	*e*P		**P**		**01 42 51.1**	**-0.2**
	comp=Z,43nm,1.0s								
INK	**Inuvik**	**81.39**	**16**	*e*P		**P**		**01 42 51.1**	**-0.2**
INK				pmax	pmax				
	comp=Z,43nm,1.0s								
PVIS	**Viseu**	**81.44**	**311**	*e*P		**P**		**01 42 53.4**	**+1.3**
	comp=Z,77nm,1.7s								
PCBR	**Castelo Branco**	**81.52**	**310**	*e*P		**P**		**01 42 53.6**	**+1.1**
	comp=Z,50nm,1.6s								
PAX	**Paxson**	**81.52**	**23**	*e*P		**P**		**01 42 52.2**	**0.0**
	comp=Z,79nm,1.2s								
PAX	**Paxson**	**81.52**	**23**	*e*P		**P**		**01 42 52.2**	**0.0**
PAX				pmax	pmax				
	comp=Z,79nm,1.2s								
SCM	**Sheep Creek Mo**	**81.55**	**24**	*e*P		**P**		**01 42 52.5**	**+0.2**
	comp=Z,155nm,1.2s								
SCM	**Sheep Creek Mo**	**81.55**	**24**	*e*P		**P**		**01 42 52.5**	**+0.2**
SCM				pmax	pmax				
	comp=Z,155nm,1.2s								
DOT	**Dot Lake**	**81.58**	**22**	*e*P		**P**		**01 42 52.2**	**-0.2**
	comp=Z,41nm,1.0s								
PMRV	**Marv??o**	**81.63**	**309**	*e*P		**P**		**01 42 53.7**	**+0.5**
	comp=Z,42nm,1.7s								
OHAK	**Old Harbor**	**81.75**	**30**	*e*P		**P**		**01 42 53.2**	**-0.1**
	comp=Z,64nm,1.3s								
OHAK				*e*pP		**pP**		**01 43 08.8**	**+2.9**
KDAK	**Kodiak Island**	**81.76**	**29**	*e*P		**P**		**01 42 53.5**	**+0.1**
	comp=Z,75nm,1.0s								
KDAK	**Kodiak Island**	**81.76**	**29**	*i* P		**P**		**01 42 53.6**	**+0.2**
KDAK	**Kodiak Island**	**81.76**	**29**	P		**P**		**01 42 53.6**	**+0.2**
	comp=Z,8.2nm,0.6s,baz=277,slow=2.7,SNR=15								
SEW	**Seward**	**81.76**	**26**	*e*P		**P**		**01 42 53.3**	**-0.1**
SEW				*e*pP		**pP**		**01 43 06.4**	**+0.6**
SEW				*es*P		**sP**		**01 43 10.8**	**+0.2**
EGAK	**Eagle**	**81.79**	**20**	*e*P		**P**		**01 42 53.6**	**+0.2**
	comp=Z,50nm,1.1s								
EPYK	**Eagle Plains**	**81.99**	**18**	*e*P		**P**		**01 42 54.5**	**0.0**
	comp=Z,33nm,1.0s								
EPYK	**Eagle Plains**	**81.99**	**18**	P		**P**		**01 42 54.4**	**-0.2**
	baz=316								
HARP	**HAARP**	**81.99**	**23**	*e*P		**P**		**01 42 55.0**	**+0.5**
	comp=Z,122nm,0.9s								
PESTR	**Estremoz**	**82.01**	**309**	*e*P		**P**		**01 42 56.0**	**+0.9**
	comp=Z,27nm,1.5s								
PCAS	**Casmilo, Conde**	**82.14**	**310**	*e*P		**P**		**01 42 57.0**	**+1.2**
	comp=Z,48nm,2.0s								
MENT	**Mentasta**	**82.16**	**22**	*e*P		**P**		**01 42 55.7**	**+0.3**
	comp=Z,66nm,1.4s								
PTOM	**Tomar**	**82.27**	**310**	*e*P		**P**		**01 42 57.7**	**+1.3**
	comp=Z,77nm,1.5s								
KLU	**Klutina**	**82.29**	**24**	*e*P		**P**		**01 42 56.6**	**+0.3**
	comp=Z,123nm,1.0s								
MDT	**Midelt**	**82.34**	**302**	LR		LR		02 24 51.7	
	comp=Z,70nm,21.1s,baz=72,slow=39								
PMTG	**Montargil**	**82.37**	**309**	*e*P		**P**		**01 42 57.6**	**+0.6**
	comp=Z,36nm,1.5s								
PBEJ	**Beja**	**82.57**	**308**	*e*P		**P**		**01 43 00.1**	**+2.1**
	comp=Z,43nm,1.6s								
DIV	**Divide**	**82.58**	**25**	*e*P		**P**		**01 42 58.0**	**+0.3**
	comp=Z,68nm,1.0s								
ILULI	**Ilulissat**	**82.66**	**348**	*e*P		**P**		**01 42 56.9**	**-1.0**
	comp=Z,39nm,1.0s								
ILULI				*e*pP		**pP**		**01 43 13.9**	**+3.5**
ILULI	**Ilulissat**	**82.66**	**348**	*e*P		**P**		**01 42 56.9**	**-1.0**
ILULI				*e**PP		**pP**		**01 43 13.9**	**+3.5**
ILULI				pmax	pmax				
	comp=Z,39nm,1.0s								
PVAQ	**Vaqueiros**	**82.73**	**308**	*e*P		**P**		**01 42 59.8**	**+0.9**
	comp=Z,55nm,1.5s								
DAWY	**Dawson**	**82.83**	**20**	*e*P		**P**		**01 42 59.2**	**+0.2**
	comp=Z,28nm,1.0s								
MESJ	**Messejana**	**82.90**	**308**	*e*P		**P**		**01 43 00.2**	**+0.4**
MESJ				AMb		AMB		01 43 03.4	
	comp=Z,49nm,2.0s								
MESJ	**Messejana**	**82.90**	**308**	*e*P		**P**		**01 43 00.7**	**+0.9**
	comp=Z,48nm,1.5s								
PBDV	**Barranco-do-Ve**	**82.95**	**308**	*e*P		**P**		**01 43 01.2**	**+1.1**
	comp=Z,72nm,1.5s								
EYAK	**Cordova Ski Ar**	**82.95**	**25**	*e*P		**P**		**01 42 59.5**	**0.0**
	comp=Z,124nm,1.1s								
PNCL	**Nicolau / Gran**	**83.00**	**309**	*e*P		**P**		**01 43 01.1**	**+0.8**
	comp=Z,45nm,1.7s								
BOSA	**Boshof**	**83.38**	**235**	*e*P		**P**		**01 43 02.2**	**-0.2**
	comp=Z,73nm,1.0s								
BOSA				pP		**sP**		**01 43 19.6**	**-0.1**
BOSA	**Boshof**	**83.38**	**235**	P		**P**		**01 43 02.8**	**+0.4**
BOSA				*PP		**sP**		**01 43 19.6**	**-0.1**
BOSA				pmax	pmax				
	comp=Z,12nm,0.8s								
BOSA	**Boshof**	**83.38**	**235**	P		**P**		**01 43 02.8**	**+0.4**
	comp=Z,12nm,0.8s,baz=52,slow=3.0,SNR=21								
BOSA				pP		**sP**		**01 43 19.6**	**-0.1**
	comp=Z,45nm,0.9s,baz=51,slow=6.4,SNR=17								
BOSA				LR		LR		02 17 39.1	
	comp=Z,421nm,21.7s,baz=52,slow=34								
BOSA	**Boshof**	**83.38**	**235**	*e*P		**P**		**01 43 04.5**	**+2.0**
PTEO	**Sao Teotonio**	**83.39**	**308**	*e*P		**P**		**01 43 02.4**	**+0.1**
	comp=Z,70nm,1.6s								
MORF	**Marmelete**	**83.44**	**308**	*e*P		**P**		**01 43 03.0**	**+0.3**
MORF				AMb		AMB		01 43 05.5	
	comp=Z,62nm,1.5s								
MORF	**Marmelete**	**83.44**	**308**	*e*P		**P**		**01 43 03.1**	**+0.5**
	comp=Z,62nm,1.6s								
PFVI	**Vila Bisbo**	**83.64**	**308**	*e*P		**P**		**01 43 04.8**	**+1.2**
	comp=Z,68nm,1.9s								
HMT	**Hamilton**	**83.66**	**25**	*e*P		**P**		**01 43 04.0**	**+0.7**
	comp=Z,107nm,1.2s								
BALM	**Baldy**	**83.91**	**23**	*e*P		**P**		**01 43 05.1**	**+0.5**
	comp=Z,36nm,0.9s								
BALM	**Baldy**	**83.91**	**23**	*e*P		**P**		**01 43 05.1**	**+0.5**
BALM				pmax	pmax				
	comp=Z,36nm,0.9s								
SFJD	**Kangerlussuaq**	**84.42**	**346**	*e*P		**P**		**01 43 06.7**	**-0.2**
	comp=Z,44nm,1.1s								
SFJD				*es*P		**pP**		**01 43 21.6**	**+2.1**
SFJD	**Kangerlussuaq**	**84.42**	**346**	*i* P		**P**		**01 43 05.3**	**-1.6**
SFJD	**Kangerlussuaq**	**84.42**	**346**	*e*P		**P**		**01 43 06.7**	**-0.2**
SFJD				*e**SP		**pP**		**01 43 21.6**	**+2.1**
SFJD				pmax	pmax				
	comp=Z,44nm,1.1s								
SFJD	**Kangerlussuaq**	**84.42**	**346**	*e*P		**P**		**01 43 05.8**	**-1.1**
TOA0	**Torodi Ar. Sit**	**85.06**	**282**	*e*P		**P**		**01 43 10.7**	**-0.5**
TOA0	**Torodi Ar. Sit**	**85.06**	**282**	P		**P**		**01 43 11.9**	**+0.7**
	SNR=9.8								
TORD	**Torodi Ar. Bea**	**85.06**	**282**	P		**P**		**01 43 11.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**85.06**	**282**	P		**P**		**01 43 11.0**	**-0.1**
	comp=Z,9.3nm,0.8s,baz=68,slow=3.1,SNR=56								
TORD				LR		LR		02 25 15.4	
	comp=Z,267nm,20.6s,baz=355,slow=38								
HYT	**Haines Junctio**	**85.76**	**22**	*e*P		**P**		**01 43 14.2**	**+0.3**
	comp=Z,46nm,1.1s								
WHY	**Whitehorse**	**86.75**	**21**	*e*P		**P**		**01 43 19.0**	**+0.1**
	comp=Z,48nm,1.4s								
SKAG	**Skagway**	**87.50**	**22**	*e*P		**P**		**01 43 22.1**	**-0.2**
	comp=Z,87nm,1.3s								
SKAG				*e*pP		**pP**		**01 43 33.4**	**-1.5**
BESE	**Bessie Mountai**	**88.32**	**23**	*e*P		**P**		**01 43 26.7**	**+0.3**
	comp=Z,75nm,1.5s								
JIS	**Juneau Island**	**88.71**	**23**	*e*P		**P**		**01 43 28.7**	**+0.6**
	comp=Z,36nm,1.1s								
JIS				*e*pP		**pP**		**01 43 40.6**	**-0.1**
DLBC	**Dease Lake**	**90.05**	**21**	*e*P		**P**		**01 43 34.8**	**+0.3**
	comp=Z,53nm,1.5s								
YKA	**Yellowknife Ar**	**90.51**	**12**	P		**P**		**01 43 35.8**	**-0.7**
YKA	**Yellowknife Ar**	**90.51**	**12**	P		**P**		**01 43 35.7**	**-0.7**
YKA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
YKA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
YKA				MLR	MLR				
	comp=Z,25nm,21.8s								
YKA	**Yellowknife Ar**	**90.51**	**12**	P		**P**		**01 43 35.7**	**-0.7**
	comp=Z,3.8nm,0.9s,baz=331,slow=4.6,SNR=37								
YKA				PP		PP		01 47 18.5	+7.9
	comp=Z,1.9nm,1.0s,baz=336,slow=7.9,SNR=4.6								
YKA				PKKPbc		**PKKPbc**		**02 01 03.4**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=162,slow=1.7,SNR=3.8								
YKA				LR		LR		02 27 01.3	
	comp=Z,25nm,21.8s,baz=346,slow=37								
DBIC	**Dimbokro**	**93.61**	**279**	*e*P		**P**		**01 43 51.7**	**0.0**
DBIC				*epP*		**pP**		**01 44 05.8**	**+1.4**
DBIC	**Dimbokro**	**93.61**	**279**	*e*P		**P**		**01 43 51.7**	**0.0**
DBIC				*e**PP		**pP**		**01 44 05.8**	**+1.4**
DBIC	**Dimbokro**	**93.61**	**279**	P		**P**		**01 43 52.1**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=42,slow=5.2,SNR=17								
DBIC				LR		LR		02 28 16.2	
	comp=Z,157nm,22.0s,baz=52,slow=37								
DBIC	**Dimbokro**	**93.61**	**279**	*e*P		**P**		**01 43 52.9**	**+1.2**
KIC	**Kosan Boka**	**93.64**	**279**	*e*PKP1		**P**		**01 43 51.4**	**-0.5**
	comp=Z,95nm,1.5s								
TIC	**Toumodi**	**93.77**	**279**	*e*PKP1		**P**		**01 43 52.0**	**-0.5**
LIC	**Lamto**	**93.96**	**279**	*e*PKP1		**P**		**01 43 52.4**	**-0.9**
	comp=Z,28nm,0.9s								
MAW	**Mawson**	**94.59**	**191**	LR		LR		02 19 37.8	
	comp=Z,227nm,21.9s,baz=14,slow=31								
FCC	**Fort Churchill**	**96.69**	**3**	*e*P		**P**		**01 44 03.5**	**-1.4**
	comp=Z,8.3nm,1.1s								
FCC	**Fort Churchill**	**96.69**	**3**	*e*P		**P**		**01 44 03.5**	**-1.4**
FCC				pmax	pmax				
	comp=Z,8.0nm,1.1s								
SCHQ	**Schefferville**	**98.77**	**348**	LR		LR		02 35 27.4	
	comp=Z,158nm,19.1s,baz=52,slow=39								
FFC	**Flin Flon**	**99.97**	**8**	*e*P		**Pdif**		**01 44 18.8**	**-0.9**
FFC	**Flin Flon**	**99.97**	**8**	*i* P		**Pdif**		**01 44 19.6**	**-0.1**
SYO	**Syowa Base**	**100.87**	**197**	*e*X		**PP**		**01 48 35.0**	**+3.3**
BW06	**Boulder Array**	**109.94**	**17**	P		**PKiKP**		**01 49 06.1**	**-0.4**
	baz=339								
PDAR	**Pinedale Array**	**109.94**	**17**	PKiKP		**PKiKP**		**01 49 06.5**	**0.0**
PDAR	**Pinedale Array**	**109.94**	**17**	PKiKP		**PKiKP**		**01 49 06.5**	**0.0**
	comp=Z,0.6nm,0.7s,baz=57,slow=1.1,SNR=6.6								
PDAR				PKKPbc		**PKKPbc**		**02 00 08.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=172,slow=6.9,SNR=2.1								
PDAR				PKKP		**PKKPdf**		**02 00 24.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=158,slow=4.8,SNR=3.6								
NVAR	**Mina Array Bea**	**111.00**	**25**	PKiKP		**PKiKP**		**01 49 09.6**	**+1.0**
NVAR	**Mina Array Bea**	**111.00**	**25**	PKiKP		**PKiKP**		**01 49 09.6**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=317,slow=2.1,SNR=8.5								
NVAR				PP		**PP**		**01 49 46.9**	**+0.7**
	comp=Z,1.5nm,1.0s,baz=324,slow=4.5,SNR=4.4								
R11A	**Troy Canyon, C**	**112.08**	**23**	P		**PKiKP**		**01 49 11.1**	**+0.5**
	baz=333								
CWC	**Cottonwood Cre**	**112.81**	**26**	P		**PKiKP**		**01 49 12.5**	**+0.4**
	baz=330								
TPNV	**Topopah Spring**	**113.08**	**25**	P		**PKiKP**		**01 49 12.7**	**+0.2**
	baz=332								
MPMC	**Manual Prospec**	**113.38**	**26**	P		**PKiKP**		**01 49 13.9**	**+0.7**
	baz=331								
QSPA	**South Pole Qui**	**114.51**	**180**	PKP		PKPdf		01 49 12.9	-1.1
QSPA	**South Pole Qui**	**114.51**	**180**	PKP		PKPdf		01 49 12.9	-1.1
	comp=Z,1.9nm,1.0s,baz=279,slow=1.5,SNR=4.7								
GMRC	**Granite Mounta**	**115.21**	**25**	P		**PKPdf**		**01 49 17.2**	**+0.5**
	baz=332								
BELC	**Belle Mtn. Jos**	**115.76**	**26**	P		**PKPdf**		**01 49 18.9**	**+1.2**
	baz=332								
PDMCI	**Parker Dam,Lak**	**116.21**	**24**	P		**PKPdf**		**01 49 19.1**	**+0.7**
	baz=333								
GLA	**Glamis**	**117.06**	**25**	P		**PKiKP**		**01 49 21.7**	**+1.5**
	baz=332								
X16A	**Lo Mia Camp, P**	**117.07**	**22**	*e*PKPdf		**PKiKP**		**01 49 20.6**	**+0.3**
S41A	**Jillco Farms,**	**117.93**	**4**	P		**PKPdf**		**01 49 21.5**	**-0.2**
	baz=356								
ANMO	**Albuquerque**	**118.10**	**17**	P		**PKiKP**		**01 49 22.9**	**+0.6**
	baz=341								
LENM	**Lemitar**	**118.69**	**18**	*e*PKPdf		**PKPdf**		**01 49 23.0**	**-0.4**
U40A	**Yellville**	**119.09**	**5**	P		**PKPdf**		**01 49 23.8**	**-0.1**
	baz=355								
U50A	**Jamestown**	**119.15**	**357**	P		**PKPdf**		**01 49 23.6**	**-0.4**
	baz=3.0								
U47A	**Clarksville**	**119.19**	**360**	P		**PKPdf**		**01 49 23.4**	**-0.7**
	baz=0.5								
U42A	**Revenden**	**119.19**	**3**	P		**PKPdf**		**01 49 23.1**	**-1.0**
	baz=356								
TUC	**Tucson**	**119.21**	**22**	*e*PKPdf		**PKPdf**		**01 49 24.1**	**-0.2**
TUC	**Tucson**	**119.21**	**22**	*e*PKiKP		**PKPdf**		**01 49 24.2**	**-0.2**
TUC	**Tucson**	**119.21**	**22**	P		**PKiKP**		**01 49 25.1**	**+0.7**
	baz=336								
WVT	**Waverly**	**119.50**	**0**	P		**PKPdf**		**01 49 24.2**	**-0.5**
	baz=360								
V51A	**Loudon**	**119.74**	**357**	P		**PKPdf**		**01 49 24.5**	**-0.6**
	baz=3.6								
V50A	**Pikevile**	**119.90**	**357**	P		**PKiKP**		**01 49 25.6**	**+0.1**
	baz=2.8								
WMOK	**Wichita Mounta**	**119.98**	**10**	P		**PKPdf**		**01 49 25.2**	**-0.5**
	baz=348								
121A	**Cookes Peak, D**	**119.98**	**19**	P		**PKiKP**		**01 49 26.6**	**+0.5**
	baz=339								
W53A	**Cullowhee**	**120.30**	**356**	P		**PKPdf**		**01 49 26.0**	**-0.4**
	baz=4.8								
W47A	**Westpoint**	**120.38**	**360**	P		**PKPdf**		**01 49 25.6**	**-0.8**
	baz=0.2								
MIAR	**Mount Ida**	**120.83**	**6**	P		**PKiKP**		**01 49 27.5**	**+0.1**
	baz=354								
X54A	**Belton**	**120.85**	**355**	P		**PKPdf**		**01 49 26.8**	**-0.5**
	baz=5.7								
X52A	**Dahlonega**	**120.91**	**356**	P		**PKPdf**		**01 49 27.4**	**-0.1**
	baz=4.1								
X51A	**Calhoun**	**120.99**	**357**	P		**PKPdf**		**01 49 27.6**	**0.0**
	baz=3.1								
X46A	**Booneville**	**121.06**	**1**	P		**PKiKP**		**01 49 27.8**	**-0.1**
	baz=359								
X48A	**Hartselle**	**121.17**	**359**	P		**PKPdf**		**01 49 27.3**	**-0.6**
	baz=0.8								
MNTX	**Cornudas Mount**	**121.45**	**18**	*e*PKPdf		**PKiKP**		**01 49 29.1**	**+0.4**
MNTX	**Cornudas Mount**	**121.45**	**18**	P		**PKiKP**		**01 49 29.1**	**+0.4**
	baz=341								
Y51A	**Rockmart**	**121.67**	**357**	P		**PKPdf**		**01 49 28.7**	**-0.2**
	baz=2.9								
Y49A	**Blount Mountai**	**121.75**	**359**	P		**PKPdf**		**01 49 28.5**	**-0.6**
	baz=1.5								
Z52A	**Williamson**	**122.34**	**357**	P		**PKiKP**		**01 49 30.5**	**+0.1**
	baz=3.6								
152A	**Waverly Hall**	**122.88**	**357**	P		**PKPdf**		**01 49 31.2**	**0.0**
	baz=3.3								
151A	**Opelika**	**123.04**	**358**	P		**PKPdf**		**01 49 31.6**	**0.0**
	baz=2.6								
251A	**Midway**	**123.48**	**358**	P		**PKiKP**		**01 49 32.6**	**-0.1**
	baz=2.6								
252A	**Lumpkin**	**123.55**	**357**	P		**PKPdf**		**01 49 32.6**	**0.0**
	baz=3.3								
JCT	**Junction City**	**123.94**	**12**	*e*PKPdf		**PKPdf**		**01 49 33.2**	**-0.2**
JCT	**Junction City**	**123.94**	**12**	*e*PKiKP		**PKPdf**		**01 49 33.3**	**-0.2**
JCT	**Junction City**	**123.94**	**12**	P		**PKPdf**		**01 49 33.4**	**-0.1**
	baz=347								
TX31	**Lajitas Ar. Si**	**124.15**	**17**	*e*PKPdf		**PKPdf**		**01 49 33.7**	**-0.3**
TX31				*e*PKPdf		**PKiKP**		**01 49 33.8**	**-0.4**
TXAR	**Lajitas Array**	**124.16**	**17**	PKP		**PKiKP**		**01 49 34.2**	**-0.1**
TXAR				pPKP		**sPKPdf**		**01 49 50.8**	**-0.9**
TXAR	**Lajitas Array**	**124.16**	**17**	PKiKP		**PKiKP**		**01 49 34.2**	**-0.1**
TXAR								01 49 50.8	
TXAR								01 51 19.2	
TXAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TXAR				pmax	pmax				
	comp=Z,3.0nm,1.1s								
TXAR	**Lajitas Array**	**124.16**	**17**	PKP		**PKiKP**		**01 49 34.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=239,slow=1.5,SNR=27								
TXAR				pPKP		**sPKPdf**		**01 49 50.8**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=11,slow=1.3,SNR=6.1								
TXAR				PP		**PP**		**01 51 19.1**	**+1.8**
	comp=Z,3.1nm,1.1s,baz=1.4,slow=5.0,SNR=4.5								
HPIG		**125.85**	**20**	*e*PKPdf		**PKiKP**		**01 49 38.0**	**+0.2**
DUB01	**Friburgo-RJ**	**138.37**	**264**	*e*P		**PKiKP**		**01 50 02.3**	**-0.6**
ESAR	**Angra dos Reis**	**140.43**	**263**	*e*P		**PKPdf**		**01 50 05.2**	**+0.8**
SDV	**Santo Domingo**	**142.65**	**331**	*e*PKPpre		PKPpre		01 50 05.2	
SDV	**Santo Domingo**	**142.65**	**331**	PKhKP		PKPpre		01 50 04.2	
	comp=Z,16nm,0.6s,baz=291,slow=12,SNR=32								
BB19B	**Bebedouro**	**143.72**	**268**	*e*P		**PKPdf**		**01 50 09.3**	**-1.1**
PTGA	**Pitinga**	**144.05**	**307**	PKP		PKPbc		01 50 09.3	+0.2
PTGA	**Pitinga**	**144.05**	**307**	PKP		PKPbc		01 50 09.3	+0.2
	comp=Z,1.0nm,0.3s,baz=75,slow=6.2,SNR=4.8								
PTGA	**Pitinga**	**144.05**	**307**	*e*P		**PKPdf**		**01 50 10.3**	**-0.9**
SMLC	**San Martn de**	**144.11**	**336**	*e*P		**PKPab**		**01 50 07.7**	**-1.1**
SMLC	**San Martn de**	**144.11**	**336**	*e*P		**PKPab**		**01 50 07.7**	**-1.1**
OCAC	**Ocana**	**144.34**	**335**	*e*P		**PKPab**		**01 50 09.6**	**-0.3**
OCAC	**Ocana**	**144.34**	**335**	*e*P		**PKPab**		**01 50 09.6**	**-0.3**
PAMC	**Pamplona, Colo**	**144.92**	**333**	*e*P		**PKPab**		**01 50 11.2**	**-1.2**
PAMC	**Pamplona, Colo**	**144.92**	**333**	*e*P		**PKPab**		**01 50 11.2**	**-1.2**
ITRB	**Iturama**	**145.05**	**271**	*e*P		**PKPdf**		**01 50 12.9**	**+0.1**
JTS	**JuntasAbangare**	**145.11**	**355**	PKPbc		**PKPbc**		**01 50 10.6**	**-1.9**
JTS	**JuntasAbangare**	**145.11**	**355**	PKP2		**PKPbc**		**01 50 10.6**	**-1.9**
JTS				pmax	pmax				
	comp=Z,3.0nm,0.5s								
JTS	**JuntasAbangare**	**145.11**	**355**	PKPbc		**PKPbc**		**01 50 10.6**	**-1.9**
	comp=Z,2.9nm,0.5s,baz=156,slow=20,SNR=3.2								
FRTB	**Fartura**	**145.12**	**264**	*e*P		**PKPdf**		**01 50 14.1**	**+1.3**
TAMC	**Tame, Arauca**	**145.34**	**331**	*e*P		**PKPbc**		**01 50 13.3**	**0.0**
TAMC	**Tame, Arauca**	**145.34**	**331**	*e*P		**PKPbc**		**01 50 13.3**	**0.0**
BRRC	**Barranca, Sant**	**145.53**	**335**	*e*P		**PKPab**		**01 50 14.0**	**-0.1**
BRRC	**Barranca, Sant**	**145.53**	**335**	*e*P		**PKPab**		**01 50 14.0**	**-0.1**
UREC	**San Jos de Ur**	**145.60**	**338**	*e*P		**PKPbc**		**01 50 14.0**	**0.0**
UREC	**San Jos de Ur**	**145.60**	**338**	*e*P		**PKPbc**		**01 50 14.0**	**0.0**
ZARC	**Zaragoza, Cauc**	**145.60**	**337**	*e*P		**PKPdf**		**01 50 13.3**	**-0.6**
ZARC	**Zaragoza, Cauc**	**145.60**	**337**	*e*P		**PKPdf**		**01 50 13.3**	**-0.6**
BARC	**Barichara**	**145.79**	**334**	*e*P		**PKPdf**		**01 50 14.0**	**-0.5**
BARC	**Barichara**	**145.79**	**334**	*e*P		**PKPdf**		**01 50 14.0**	**-0.5**
PTBC	**PUERTO BERRIO**	**146.34**	**336**	*e*P		**PKPdf**		**01 50 15.4**	**+0.3**
PTBC	**PUERTO BERRIO**	**146.34**	**336**	*e*P		**PKPdf**		**01 50 15.4**	**+0.3**
RUSC	**La Rusia**	**146.38**	**333**	*e*P		**PKPbc**		**01 50 17.0**	**-0.1**
RUSC	**La Rusia**	**146.38**	**333**	*e*P		**PKPbc**		**01 50 17.0**	**-0.1**
USHA	**Ushuaia**	**146.66**	**200**	PKPbc		**PKPab**		**01 50 16.9**	**-0.3**
USHA	**Ushuaia**	**146.66**	**200**	PKPbc		**PKPab**		**01 50 16.9**	**-0.3**
	comp=Z,8.6nm,0.6s,baz=17,slow=1.3,SNR=14								
HELC	**Santa Helena**	**147.05**	**337**	*e*P		**PKPdf**		**01 50 17.6**	**+0.8**
HELC	**Santa Helena**	**147.05**	**337**	*e*P		**PKPdf**		**01 50 17.6**	**+0.8**
SOLC	**Bahia Solano**	**147.64**	**340**	*e*P		**PKPdf**		**01 50 18.3**	**+1.0**
SOLC	**Bahia Solano**	**147.64**	**340**	*e*P		**PKPdf**		**01 50 18.3**	**+1.0**
CHIC	**Chingaza**	**147.79**	**333**	*e*P		**PKPbc**		**01 50 20.6**	**-0.3**
CHIC	**Chingaza**	**147.79**	**333**	*e*P		**PKPbc**		**01 50 20.6**	**-0.3**
TRCB	**Terra Rica**	**147.81**	**266**	*e*P		**PKPdf**		**01 50 18.6**	**+1.2**
ROSC	**El Rosal**	**147.84**	**334**	*e*PKPbc		**PKP

HNR	**Honiara**	**9.62**	**290**	P		**P**	**01 34 42.1**	**+1.6**
	40nm,0.3s,baz=107,slow=3.3,SNR=9.1							
HNR				S		**S**	**01 36 35.2**	**+3.4**
	6.2nm,0.3s,baz=197,slow=17,SNR=2.4							
ONTNC	**Ouen Toro**	**9.78**	**195**	*e*P		**P**	**01 34 43.8**	**+2.0**
PINNC	**Pines Island,**	**9.87**	**189**	*e*P		**P**	**01 34 45.4**	**+2.6**
MSVF	**Nonsavu**	**9.89**	**121**	*e*P		**P**	**01 34 45.1**	**+2.0**
CTA	**Charters Tower**	**23.09**	**249**	P		**P**	**01 36 45.7**	**+0.7**
	3.8nm,0.5s,baz=75,slow=12,SNR=12							
URZ	**Urewera**	**26.32**	**166**	P		**P**	**01 37 13.1**	**0.0**
	7.0nm,0.6s,baz=317,slow=5.6,SNR=5.6							
URZ				S		**S**	**01 40 59.4**	**-4.4**
	3.4nm,0.6s,baz=54,slow=19,SNR=2.2							
STKA	**Stephens Creek**	**31.61**	**229**	P		**P**	**01 37 59.8**	**+1.0**
	8.0nm,0.3s,baz=56,slow=8.2,SNR=34							
WRA	**Warramunga Arr**	**34.08**	**253**	P		**P**	**01 38 19.6**	**-0.1**
	13nm,0.5s,baz=84,slow=8.7,SNR=177							
WRA				S		**S**	**01 42 59.2**	**-4.1**
	10nm,0.8s,baz=82,slow=14,SNR=5.7							
ASAR	**Alice Springs**	**35.06**	**247**	P		**P**	**01 38 28.0**	**+0.1**
	25nm,0.5s,baz=76,slow=9.7,SNR=286							
ASAR				S		**S**	**01 43 14.5**	**-3.5**
	6.6nm,0.7s,baz=77,slow=16,SNR=8.6							
PMOR	**Pomariorio Ree**	**41.72**	**98**	*e*P		**P**	**01 39 22.3**	**+0.9**
	44nm,1.1s							
VAH	**Vaihoa**	**41.97**	**99**	*e*P		**P**	**01 39 24.0**	**+0.6**
	37nm,1.1s							
FITZ	**Fitzroy Crossi**	**42.18**	**257**	P		**P**	**01 39 25.1**	**+0.1**
	1.9nm,0.6s,baz=77,slow=10.0,SNR=3.8							
NWAO	**Narrogin (SRO)**	**51.29**	**238**	P		**P**	**01 40 32.5**	**-0.6**
	5.8nm,0.6s,baz=308,slow=5.2,SNR=5.8							
USRK	**Ussuriysk Ar.**	**66.04**	**332**	P		**P**	**01 42 11.1**	**-0.1**
	3.7nm,0.9s,baz=146,slow=8.7,SNR=3.8							
PETK	**Petropavlovsk-**	**66.39**	**353**	P		**P**	**01 42 13.7**	**+0.5**
	5.1nm,0.7s,baz=148,slow=11,SNR=4.8							
KLR	**Kul'dur**	**70.03**	**335**	P		**P**	**01 42 35.8**	**+0.6**
	1.8nm,0.7s,baz=170,slow=6.1,SNR=3.4							
CMAR	**Chiang Mai Arr**	**75.86**	**293**	P		**P**	**01 43 10.0**	**+0.9**
	1.0nm,0.3s,baz=120,slow=5.3,SNR=4.6							
SEY	**Seymchan**	**76.63**	**352**	P		**P**	**01 43 12.3**	**0.0**
	3.6nm,0.6s,baz=135,slow=2.9,SNR=5.0							
QSPA	**South Pole Qui**	**77.20**	**180**	P		**P**	**01 43 15.8**	**+0.1**
	3.1nm,1.0s,baz=312,slow=0.9,SNR=9.0							
SONM	**Songino Array**	**82.06**	**323**	P		**P**	**01 43 41.0**	**-0.4**
	0.6nm,0.7s,baz=137,slow=5.3,SNR=4.4							
ILAR	**Eielson Array**	**84.17**	**17**	P		**P**	**01 43 49.7**	**-1.6**
	5.2nm,0.9s,baz=246,slow=4.8,SNR=4.5							
NVAR	**Mina Array Bea**	**84.66**	**49**	P		**P**	**01 43 54.2**	**-0.3**
	0.8nm,0.7s,baz=222,slow=6.9,SNR=5.8							
YKA	**Yellowknife Ar**	**95.03**	**27**	P		**P**	**01 44 40.4**	**-1.3**
	1.4nm,0.8s,baz=257,slow=4.6,SNR=9.6							
MKAR	**Makanchi Array**	**97.08**	**316**	P		**P**	**01 44 51.4**	**0.0**
	1.3nm,1.1s,baz=82,slow=6.4,SNR=6.2							
NOA	**NORSAR Array B**	**129.23**	**346**	SKPbc		SKPab	01 52 44.7	-2.4
	1.3nm,1.0s,baz=55,slow=8.0,SNR=3.6							
AKASG	**Malin Array Be**	**130.14**	**328**	SKPbc		**SKPbc**	**01 52 49.0**	**-1.9**
	0.3nm,0.4s,baz=35,slow=5.8,SNR=5.2							
GERES	**GERESS Array B**	**138.72**	**335**	SKPbc		**SKPbc**	**01 53 16.7**	**-1.6**
	0.2nm,0.2s,baz=327,slow=2.2,SNR=4.0							
ESDC	**Sonseca Array**	**152.56**	**348**	PKPab		**PKPab**	**01 51 24.1**	**-1.6**
	0.7nm,0.7s,baz=44,slow=2.9,SNR=4.3							
TORD	**Torodi Ar. Bea**	**167.75**	**273**	PKPab		**PKPab**	**01 52 31.6**	**-1.4**
	0.1nm,0.4s,baz=100,slow=1.6,SNR=2.3							

*NEIC **02** 01:32:30.2±1.5, 12.66S×169.30E, h452km±17km, mb4.4/34, Error ellipse: s-maj=14.0km s-min=11.7km az=175.0*

*ISCJB **02** 01:32:43.7±0.2, 12.97S±0.05×169.00E±0.05, h625km, mb4.4/59, Error ellipse: s-maj=7.6km s-min=6.1km az=42.8*

*IDC **02** 01:32:45.9±1.3, 12.85S×169.06E, h641km±15km, mb3.8/23, mb1 4.0/24, mb1mx3.8/48, mbtmp4.8/24, Error ellipse: s-maj=13.9km s-min=9.0km az=75.0*

ISC 02 01:32:44.5±0.3, 12.86S±0.06×169.13E±0.07, h625km, n151, σ1°69/161, mb4.3/59, 1C-1D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.51**	**195**	P		**P**	**01 35 02.0**	**+2.9**
	11nm,0.3s,baz=214,slow=19,SNR=13							
DZM				S		**S**	**01 36 53.7**	**+4.2**
	baz=294,slow=20,SNR=3.1							
HNR	**Honiara**	**9.63**	**290**	S		**S**	**01 36 53.5**	**+1.8**
	6.0nm,0.3s,baz=107,slow=16,SNR=3.1							
HNR	**Honiara**	**9.63**	**290**	S		**S**	**01 36 53.5**	**+1.8**
EIDS	**Eidsvold**	**21.07**	**231**	*e*P		**P**	**01 36 44.8**	**-1.9**
	20nm,0.9s							
CTA	**Charters Tower**	**23.06**	**249**	P		**P**	**01 37 04.9**	**+0.4**
CTA	**Charters Tower**	**23.06**	**249**	P		**P**	**01 37 04.9**	**+0.4**
	20nm,0.6s,baz=76,slow=11,SNR=30							
CTAO	**Charters Tower**	**23.06**	**249**	*e*P		**P**	**01 37 04.3**	**-0.3**
	24nm,0.8s							
COEN	**Coen**	**25.26**	**265**	*e*P		**P**	**01 37 21.8**	**-2.2**
	24nm,0.8s							
URZ	**Urewera**	**26.27**	**166**	*e*P		**P**	**01 37 30.4**	**-2.1**
	20nm,0.8s							
URZ	**Urewera**	**26.27**	**166**	P		**P**	**01 37 33.4**	**+0.9**
	7.6nm,0.3s,baz=278,slow=2.8,SNR=7.5							
URZ				S		**S**	**01 41 23.4**	**+0.4**
	5.9nm,0.7s,baz=221,slow=19,SNR=3.7							
BKZ	**Black Stump Fm**	**27.00**	**167**	*e*P		**P**	**01 37 36.0**	**-2.9**
	59nm,0.7s							
BFZ	**Birch Farm**	**28.41**	**169**	*e*P		**P**	**01 37 49.6**	**-1.4**
	34nm,0.8s							
SNZO	**South Karori**	**28.76**	**171**	*e*P		**P**	**01 37 53.5**	**-0.5**
THZ	**Tophouse**	**28.98**	**174**	*e*P		**P**	**01 37 54.9**	**-1.2**
	14nm,0.9s							
RPZ	**Rata Peaks**	**30.79**	**177**	*e*P		**P**	**01 38 10.4**	**-1.1**
	31nm,1.2s							
RPZ	**Rata Peaks**	**30.79**	**177**	P		**P**	**01 38 11.5**	**+0.1**
	13nm,0.8s,baz=71,slow=3.2,SNR=6.9							
STKA	**Stephens Creek**	**31.57**	**229**	P		**P**	**01 38 19.3**	**+1.0**
STKA	**Stephens Creek**	**31.57**	**229**	P		**P**	**01 38 19.3**	**+1.0**
	18nm,0.3s,baz=55,slow=9.2,SNR=27							
WB2	**Warramunga Arr**	**34.04**	**253**	*e*P		**P**	**01 38 38.0**	**-1.2**
WRAB	**Tennant Creek**	**34.04**	**253**	*e*P		**P**	**01 38 38.5**	**-0.7**
	27nm,0.4s							
WRA	**Warramunga Arr**	**34.05**	**253**	P		**P**	**01 38 38.8**	**-0.5**
WRA	**Warramunga Arr**	**34.05**	**253**	P		**P**	**01 38 38.8**	**-0.5**
	54nm,0.5s,baz=84,slow=8.7,SNR=117							
WRA				S		**S**	**01 43 17.4**	**-5.3**
	7.4nm,0.8s,baz=87,slow=14,SNR=8.0							
AS01	**Alice Springs**	**34.99**	**247**	*e*P		**P**	**01 38 46.2**	**-0.9**
AS31	**Alice Springs**	**35.04**	**247**	*e*P		**P**	**01 38 46.4**	**-1.0**
	36nm,0.4s							
ASAR	**Alice Springs**	**35.04**	**247**	P		**P**	**01 38 47.2**	**-0.3**
ASAR	**Alice Springs**	**35.04**	**247**	P		**P**	**01 38 47.2**	**-0.3**
	66nm,0.5s,baz=73,slow=9.6,SNR=89							
ASAR				S		**S**	**01 43 33.0**	**-4.4**
	20nm,0.9s,baz=75,slow=16,SNR=12							
BBOO	**Buckleboo**	**36.14**	**231**	*e*P		**P**	**01 38 56.3**	**-0.1**
	51nm,0.6s							
MTN	**Manton Dam**	**37.02**	**266**	*e*P		**P**	**01 39 03.2**	**-0.5**
	16nm,0.5s							
FAKI	**Fak Fak**	**37.78**	**282**	P		**P**	**01 39 09.9**	**-0.1**
FORT	**Forrest**	**41.80**	**238**	*e*P		**P**	**01 39 42.0**	**+0.3**
	53nm,0.6s							
FITZ	**Fitzroy Crossi**	**42.16**	**257**	P		**P**	**01 39 44.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**42.16**	**257**	P		**P**	**01 39 44.5**	**-0.1**
	4.7nm,0.6s,baz=97,slow=4.0,SNR=9.7							
MJAR	**Matsushiro Arr**	**57.13**	**330**	P		**P**	**01 41 33.4**	**-0.1**
MJAR	**Matsushiro Arr**	**57.13**	**330**	P		**P**	**01 41 33.4**	**-0.1**
	5.1nm,0.8s,baz=168,slow=8.0,SNR=4.8							
LEM	**Lembang**	**60.78**	**269**	P		**P**	**01 41 58.4**	**0.0**
LEM	**Lembang**	**60.78**	**269**	P		**P**	**01 41 58.4**	**0.0**
	20nm,0.6s,baz=316,slow=15,SNR=3.8							
KSRS	**Korea Array**	**63.26**	**324**	P		**P**	**01 42 14.1**	**+0.4**
	1.3nm,0.6s,baz=134,slow=4.8,SNR=4.0							
KSAR	**Wonju Array Be**	**63.27**	**324**	P		**P**	**01 42 14.1**	**+0.3**
VNDA	**Vanda**	**64.76**	**182**	P		**P**	**01 42 23.5**	**+0.9**
VNDA	**Vanda**	**64.76**	**182**	P		**P**	**01 42 23.5**	**+0.9**
	3.5nm,0.8s,baz=340,slow=5.6,SNR=10							
NJ2	**Nanjing**	**65.64**	**314**	*e*P		**P**	**01 42 31.1**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CASY	**Casey**	**65.93**	**202**	*e*P		**P**	**01 42 29.9**	**-0.1**
	comp=Z,15nm,1.3s							
USRK	**Ussuriysk Ar.**	**66.08**	**332**	P		**P**	**01 42 30.0**	**-1.2**
USRK	**Ussuriysk Ar.**	**66.08**	**332**	P		**P**	**01 42 30.0**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=128,slow=8.6,SNR=5.3							
PETK	**Petropavlovsk-**	**66.43**	**353**	P		**P**	**01 42 33.9**	**+0.6**
PETK	**Petropavlovsk-**	**66.43**	**353**	P		**P**	**01 42 33.9**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=134,slow=8.3,SNR=3.5							
MDJ	**Mudanjiang**	**67.52**	**331**	*e*P		**P**	**01 42 39.8**	**-0.3**
	comp=Z,6.1nm,0.6s							
KLR	**Kul'dur**	**70.06**	**335**	P		**P**	**01 42 55.6**	**+0.4**
KLR	**Kul'dur**	**70.06**	**335**	P		**P**	**01 42 55.6**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=148,slow=2.1,SNR=4.6							
PSI	**Prapat**	**71.39**	**277**	P		**P**	**01 43 02.8**	**-1.1**
PSI	**Prapat**	**71.39**	**277**	P		**P**	**01 43 02.8**	**-1.1**
	comp=Z,4.4nm,0.6s,baz=180,slow=10,SNR=3.7							
XAN	**Xi'an**	**73.79**	**311**	P		**P**	**01 43 17.2**	**+0.1**
XAN				pmax		pmax		
	comp=Z,12nm,1.1s							
XAN				pmax		pmax		
	comp=Z,270nm,4.6s							
HHC	**Hu-ho-hao-te**	**75.36**	**319**	*e*P		**P**	**01 43 28.5**	**+2.7**
HHC				pP		pP	01 45 02.1	-31
HHC				S		S	01 52 29.0	+12
HHC	**Hu-ho-hao-te**	**75.36**	**319**	sS		sS	01 55 14.1	-49
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,500nm,5.1s							
CM01	**Chiang Mai Arr**	**75.84**	**293**	*e*P		**P**	**01 43 29.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**75.86**	**293**	P		**P**	**01 43 29.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**75.86**	**293**	P		**P**	**01 43 29.6**	**+0.7**
	comp=Z,9.9nm,0.9s,baz=113,slow=4.0,SNR=28							
CHTO	**Chiang Mai**	**75.98**	**293**	*e*P		**P**	**01 43 30.1**	**+0.6**
	comp=Z,15nm,1.0s							
CD2	**Chengdu**	**76.33**	**306**	P		**P**	**01 43 33.3**	**+2.0**
CD2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
SEY	**Seymchan**	**76.67**	**352**	P		**P**	**01 43 32.4**	**+0.1**
SEY	**Seymchan**	**76.67**	**352**	P		**P**	**01 43 32.4**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=209,slow=10,SNR=3.2							
QSPA	**South Pole Qui**	**77.15**	**180**	*e*P		**P**	**01 43 35.8**	**+0.6**
QSPA	**South Pole Qui**	**77.15**	**180**	P		**P**	**01 43 35.7**	**+0.6**
	comp=Z,31nm,0.9s,baz=340,slow=1.1,SNR=68							
LZH	**Lanzhou**	**78.43**	**311**	*e*P		**P**	**01 43 44.0**	**+1.4**
LZH				pP		pP	01 45 23.3	-28
LZH				sP		**pwP**	**01 45 59.6**	**+5.3**
LZH				pmax		pmax		
	comp=Z,46nm,1.0s							
LZH				pmax		pmax		
	comp=Z,200nm,4.9s							
BILL	**Bilibino**	**80.71**	**359**	*e*P		**P**	**01 43 53.0**	**-0.6**
	comp=Z,4.8nm,0.7s							
SONM	**Songino Array**	**82.09**	**323**	P		**P**	**01 44 00.8**	**-0.5**
SONM	**Songino Array**	**82.09**	**323**	P		**P**	**01 44 00.8**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=130,slow=5.0,SNR=9.8							
GTA	**Gaotai**	**82.70**	**313**	↓P		**P**	**01 44 04.7**	**+0.2**
GTA				pP		pP	01 45 42.6	-32
GTA				sP		**pwP**	**01 46 25.3**	**+6.9**
GTA				pmax		pmax		
	comp=Z,18nm,1.0s							
AFDM	**Forest Hills D**	**82.95**	**48**	*e*P		**P**	**01 44 07.2**	**+1.6**
	comp=Z,2.3nm,0.8s							
CMB	**Columbia Colle**	**83.02**	**49**	*e*P		**P**	**01 44 06.9**	**+0.9**
	comp=Z,7.6nm,0.3s							
ILAR	**Eielson Array**	**84.21**	**17**	P		**P**	**01 44 10.4**	**-0.8**
ILAR	**Eielson Array**	**84.21**	**17**	P		**P**	**01 44 10.4**	**-0.8**
	comp=Z,4.9nm,0.8s,baz=236,slow=4.9,SNR=5.1							
NV01	**Mina Array Sit**	**84.69**	**49**	*e*P		**P**	**01 44 15.6**	**+1.1**
NVAR	**Mina Array Bea**	**84.69**	**49**	P		**P**	**01 44 15.7**	**+1.2**
NVAR	**Mina Array Bea**	**84.69**	**49**	P		**P**	**01 44 15.7**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=223,slow=7.1,SNR=7.7							
Y12C	**Blythe**	**86.02**	**54**	*e*P		**P**	**01 44 22.1**	**+1.4**
	comp=Z,9.2nm,1.1s							
J08A	**Circle Bar Ran**	**86.35**	**44**	*e*P		**P**	**01 44 23.8**	**+1.7**
	comp=Z,5.8nm,1.1s							
SHPR	**Sheep Range**	**86.40**	**51**	*e*P		**P**	**01 44 24.7**	**+2.1**
	comp=Z,1.8nm,0.9s							
G08A	**Pilot Rock**	**86.73**	**42**	*e*P		**P**	**01 44 25.4**	**+1.5**
	comp=Z,5.3nm,1.0s							
W13A	**Hualapai Mount**	**86.94**	**53**	*e*P		**P**	**01 44 27.2**	**+2.0**
	comp=Z,5.0nm,1.1s							
BMO	**Blue Mountains**	**87.67**	**43**	*e*P		**P**	**01 44 28.9**	**+0.7**
	comp=Z,1.3nm,0.7s							
LCMT	**Little Creek M**	**88.02**	**51**	*e*P		**P**	**01 44 31.8**	**+1.7**
	comp=Z,4.3nm,1.0s							
PSUT	**Pine Spring**	**88.02**	**50**	*e*P		**P**	**01 44 31.9**	**+1.7**
	comp=Z,3.0nm,1.0s							
F10A	**Beach Ranch, E**	**88.11**	**42**	*e*P		**P**	**01 44 31.2**	**+0.9**
	comp=Z,6.5nm,0.9s							
TUC	**Tucson**	**88.60**	**57**	*e*P		**P**	**01 44 34.6**	**+1.7**
	comp=Z,2.6nm,0.6s							
X16A	**Lo Mia Camp, P**	**88.66**	**54**	*e*P		**P**	**01 44 33.8**	**+0.6**
	comp=Z,3.0nm,1.0s							
NEW	**Newport**	**88.98**	**40**	*e*P		**P**	**01 44 35.2**	**+1.0**
	comp=Z,1.5nm,0.6s							
WUAZ	**Wupatki**	**89.02**	**53**	*e*P		**P**	**01 44 35.9**	**+1.0**
	comp=Z,2.6nm,0.7s							
MTPU	**Mount Pierson**	**89.13**	**51**	*e*P		**P**	**01 44 37.2**	**+1.7**
	comp=Z,6.1nm,1.1s							
DUG	**Dugway, Tooele**	**89.29**	**49**	*e*P		**P**	**01 44 37.5**	**+1.5**
	comp=Z,1.6nm,0.9s							
SYO	**Syowa Base**	**90.99**	**196**	*e*P		**P**	**01 44 45.6**	**+2.6**
WMQ	**Urumqi**	**92.72**	**314**	*e*P		**P**	**01 44 55.3**	**+3.7**
WMQ				LR		LR		
	comp=N,56nm,38.9s							
WMQ				LR		LR		
	comp=E,510nm,29.3s							
WMQ				LR		LR		
	comp=Z,150nm,18.3s							
YKA	**Yellowknife Ar**	**95.07**	**27**	P		**P**	**01 45 01.2**	**-0.4**
YKA	**Yellowknife Ar**	**95.07**	**27**	P		**P**	**01 45 01.2**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=258,slow=4.4,SNR=11							
MKAR	**Makanchi Array**	**97.11**	**316**	P		Pdif	01 45 11.1	-0.2
MKAR	**Makanchi Array**	**97.11**	**316**	P		Pdif	01 45 11.1	-0.2
	comp=Z,4.4nm,0.9s,baz=82,slow=6.0,SNR=10							
MKAR				PKKPbc		**PKKPbc**	**02 01 47.2**	**-2.4**
	comp=Z,0.4nm,0.6s,baz=286,slow=2.2,SNR=5.8							
GEYT	**Alibeck**	**114.32**	**306**	PKP		PKPdf	01 50 13.7	-1.3
GEYT	**Alibeck**	**114.32**	**306**	PKP		PKPdf	01 50 13.6	-1.3
	comp=Z,1.7nm,0.8s,baz=90,slow=6.3,SNR=3.5							
LPAZ	**La Paz**	**116.42**	**116**	PKP		**PKPdf**	**01 50 19.9**	**-0.4**
LPAZ	**La Paz**	**116.42**	**116**	PKP		**PKPdf**	**01 50 19.9**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=243,slow=6.1,SNR=4.1							
ARCES	**ARCESS Array B**	**118.89**	**346**	PKP		**PKPdf**	**01 50 21.9**	**-0.8**
ARCES	**ARCESS Array B**	**118.89**	**346**	PKP		**PKPdf**	**01 50 21.9**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=54,slow=2.1,SNR=47							
ARCES				PKKPbc		**PKKPbc**	**02 00 38.5**	**-3.8**
	comp=Z,4.0nm,1.0s,baz=214,slow=3.8,SNR=7.8							
FINES	**FINESS Array B**	**124.64**	**339**	PKP		**PKPdf**	**01 50 33.4**	**-0.6**
FINES	**FINESS Array B**	**124.64**	**339**	PKP		**PKPdf**	**01 50 33.4**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=358,slow=4.4,SNR=6.9							
FINES				PKKPbc		**PKKPab**	**02 00 18.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=221,slow=3.1,SNR=8.0							
RAYN	**Ar Rayn**	**125.69**	**290**	*e*PKPdf		**PKPdf**	**01 50 37.1**	**-0.1**
NB2	**NORSAR Subarra**	**129.27**	**346**	PKP		**PKPdf**	**01 50 42.1**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=32,slow=2.0							
NOA	**NORSAR Array B**	**129.27**	**346**	PKP		**PKPdf**	**01 50 42.5**	**-0.4**
NOA	**NORSAR Array B**	**129.27**	**346**	PKP		**PKPdf**	**01 50 42.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=32,slow=2.0,SNR=6.1							
NOA				SKPbc		SKPab	01 53 05.0	-2.1
	comp=Z,3.2nm,0.9s,baz=27,slow=4.0,SNR=5.9							
AKASG	**Malin Array Be**	**130.17**	**328**	PKP		**PKPdf**	**01 50 43.6**	**-1.2**
AKASG	**Malin Array Be**	**130.17**	**328**	PKP		**PKPdf**	**01 50 43.6**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=56,slow=3.3,SNR=5.0							
AKASG				SKPbc		**SKPbc**	**01 53 08.7**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=42,slow=4.0,SNR=7.9							
BRTR	**Keskin Array B**	**132.62**	**313**	PKP		**PKPdf**	**01 50 49.1**	**-0.9**
BRTR	**Keskin Array B**	**132.62**	**313**	PKP		**PKPdf**	**01 50 49.1**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=124,slow=2.1,SNR=7.4							
BRTR				PP		**PP**	**01 53 22.5**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=82,slow=10,SNR=3.7							
BDFB	**Brasilia**	**133.61**	**127**	PKP		**PKPdf**	**01 50 52.4**	**-0.1**
BDFB	**Brasilia**	**133.61**	**127**	PKP		**PKPdf**	**01 50 52.4**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=270,slow=1.0,SNR=3.9							
CLL	**Collm**	**137.05**	**338**	*e*PKP		**PKiKP**	**01 51 00.0**	**+0.3**
CONA	**Conrad Observa**	**138.54**	**333**	*i* PKPdf		**PKiKP**	**01 51 02.5**	**-0.5**
	comp=Z,6.1nm,1.2s							
KHC	**Kasperske Hory**	**138.58**	**336**	*e*PKP		**PKiKP**	**01 51 02.0**	**-1.0**
GERES	**GERESS Array B**	**138.76**	**335**	PKP		**PKPdf**	**01 51 00.6**	**-0.5**
GERES	**GERESS Array B**	**138.76**	**335**	PKhKP		PKPpre	01 50 52.2	
	comp=Z,0.7nm,0.7s,baz=0.0,slow=4.0,SNR=7.1							
GERES				PKP		**PKPdf**	**01 51 00.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=63,slow=2.6,SNR=8.8							
GERES				SKPbc		**SKPbc**	**01 53 36.9**	**-1.3**
	comp=Z,1.9nm,1.1s,baz=120,slow=1.9,SNR=5.6							
KBA	**Koelnbreinsper**	**140.29**	**334**	*e*PKPdf		**PKPdf**	**01 51 00.0**	**-3.9**
	comp=Z,5.1nm,1.4s							
WTTA	**Wattenberg**	**140.86**	**336**	*i* PKPdf		**PKPdf**	**01 51 01.5**	**-3.5**
	comp=Z,4.0nm,0.6s							
ABTA	**Abfaltersbach**	**140.91**	**334**	*i* PKPdf		**PKPdf**	**01 50 59.6**	**-5.3**
	comp=Z,2.6nm,0.7s							
MOTA	**Moosalm**	**141.00**	**336**	*e*PKPdf		**PKPdf**	**01 51 00.7**	**-4.5**
	comp=Z,3.6nm,0.9s							
FETA	**Feichten**	**141.41**	**336**	*i* PKPdf		**PKPdf**	**01 51 02.2**	**-3.8**
	comp=Z,9.0nm,1.3s							
DAVA	**Damuels**	**141.52**	**337**	*i* PKPdf		**PKPdf**	**01 51 02.0**	**-4.1**
	comp=Z,4.3nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**141.93**	**336**	*e*PKPdf		**PKiKP**	**01 51 09.9**	**-0.3**
KEST	**Kesra**	**150.83**	**325**	PKPbc		**PKPbc**	**01 51 28.2**	**0.0**
KEST	**Kesra**	**150.83**	**325**	PKPbc		**PKPbc**	**01 51 28.2**	**0.0**
	comp=Z,10nm,0.9s,baz=176,slow=3.1,SNR=8.9							
PGAV	**Gavieira, Arco**	**150.92**	**356**	*e*PKPbc		**PKiKP**	**01 51 28.6**	**0.0**
PBRG	**Braganca**	**150.94**	**354**	*e*PKPbc		**PKPbc**	**01 51 28.0**	**-0.3**
POLO	**Lamas de Olo**	**151.47**	**355**	*e*PKPbc		**PKPbc**	**01 51 29.6**	**+0.1**
POLO	**Lamas de Olo**	**151.47**	**355**	*e*PKPab		**PKPab**	**01 51 42.0**	**+1.1**
PVRL	**Vila Real**	**151.56**	**355**	*e*PKPbc		**PKiKP**	**01 51 30.1**	**+0.2**
MVO	**Moncorvo**	**151.60**	**354**	*e*PKPbc		**PKiKP**	**01 51 30.0**	**0.0**
PVIS	**Viseu**	**152.13**	**355**	*e*PKPbc		**PKiKP**	**01 51 31.4**	**+0.3**
PVIS	**Viseu**	**152.13**	**355**	*e*PKPab		**PKPab**	**01 51 44.2**	**+0.5**
MTE	**Manteigas**	**152.41**	**355**	*e*PKPbc		**PKiKP**	**01 51 31.9**	**+0.2**
MTE	**Manteigas**	**152.41**	**355**	*e*PKPab		**PKPab**	**01 51 45.8**	**+0.9**
ES19	**SONSECA Array**	**152.57**	**348**	*e*PKPdf		**PKPbc**	**01 51 29.6**	**-2.4**
ESDC	**Sonseca Array**	**152.60**	**348**	PKPbc		**PKPbc**	**01 51 31.9**	**-0.2**
ESDC				PKPab		**PKPab**	**01 51 45.2**	**-0.5**
ESDC	**Sonseca Array**	**152.60**	**348**	PKPbc		**PKPbc**	**01 51 31.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=5.3,slow=4.8,SNR=9.0							
ESDC				PKPab		**PKPab**	**01 51 45.2**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=17,slow=2.3,SNR=3.6							
COI	**Coimbra**	**152.68**	**356**	*e*PKPdf		**PKPdf**	**01 51 25.9**	**+1.5**
PCAS	**Casmilo, Conde**	**152.84**	**356**	*e*PKPbc		**PKPbc**	**01 51 32.3**	**-0.1**
PCBR	**Castelo Branco**	**152.96**	**354**	*e*PKPdf		**PKPdf**	**01 51 22.7**	**-2.1**
PMRV	**Marv??o**	**153.36**	**354**	*e*PKPbc		**PKiKP**	**01 51 34.0**	**+0.4**
PMST	**Lisbon--Monsan**	**154.19**	**357**	*e*PKPbc		**PKiKP**	**01 51 35.2**	**-0.1**
MESJ	**Messejana**	**155.01**	**355**	*e*PKPdf		**PKPdf**	**01 51 28.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**167.75**	**273**	PKP		**PKPdf**	**01 51 40.0**	**-1.4**
TORD	**Torodi Ar. Bea**	**167.75**	**273**	PKP		**PKPdf**	**01 51 40.0**	**-1.4**
	comp=Z,2.9nm,1.0s,baz=112,slow=1.0,SNR=9.7							
TORD				PKPab

0.9nm,0.3s,baz=112,slow=23,SNR=5.2
SONM Songino Array 8.27 109 Pn Pn 01 45 19.5 +0.1
0.2nm,0.3s,baz=298,slow=16,SNR=6.7
SONM Sn Sn 01 47 00.1 +6.7
0.4nm,0.3s,baz=301,slow=28,SNR=4.4
MKAR Makanchi Array 9.24 247 Pn Pn 01 45 33.1 +0.5
0.1nm,0.3s,baz=64,slow=13,SNR=3.6
MKAR Lg Lg 01 48 16.2
0.1nm,0.3s,baz=45,slow=31,SNR=3.1
KURBB Kurchatov Arra 10.26 274 Pn Pn 01 45 45.7 -0.7
0.0nm,0.3s,baz=75,slow=16,SNR=2.6
KURBB Lg Lg 01 48 48.1
0.0nm,0.3s,baz=78,slow=31,SNR=3.8
BVAR Borovoye Array 15.08 287 Pn Pn 01 46 50.6 -1.6
0.1nm,0.3s,baz=86,slow=10,SNR=3.4

IDC 02 01:50:28.9±9.2, 12°33S×168°99E, h610km±168km, mb3.1/3, mb1 3.4/4, mb1mx2.8/50, mbtmp4.1/4, Error ellipse: s-maj=179.4km s-min=33.0km az=159.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.99**	**194**	P	P	01 52 47.7	-0.1
	0.3nm,0.3s,baz=241,slow=19,SNR=3.5						
WRA	**Warramunga Ar**	**34.09**	**253**	P	P	01 56 24.9	+0.1
	2.3nm,0.4s,baz=85,slow=8.7,SNR=54						
ASAR	**Alice Springs**	**35.13**	**246**	P	P	01 56 33.2	-0.2
	3.0nm,0.5s,baz=74,slow=9.6,SNR=42						
ILAR	**Eielson Array**	**83.74**	**17**	P	P	02 01 54.6	-0.1
	0.2nm,0.6s,baz=234,slow=5.6,SNR=4.8						

IDC 02 01:51:01.9±10.0, 8°98S×128°89E, h297km±74km, mb3.3/1, mb1 3.1/4, mb1mx2.8/41, mbtmp3.7/4, Error ellipse: s-maj=116.4km s-min=68.9km az=146.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.60**	**199**	P	Pn	01 53 15.2	+0.1
	0.3nm,0.3s,baz=32,slow=9.5,SNR=2.9						
FITZ				S	S	01 55 04.0	+0.3
	0.1nm,0.3s,baz=34,slow=3.6,SNR=2.5						
WRA	**Warramunga Arr**	**12.11**	**155**	P	Pn	01 53 45.5	-0.3
	0.2nm,0.3s,baz=332,slow=13,SNR=9.2						
ASAR	**Alice Springs**	**15.37**	**162**	P	P	01 54 23.9	+0.6
	0.1nm,0.3s,baz=344,slow=11,SNR=10						
STKA	**Stephens Creek**	**25.66**	**154**	P	P	01 56 05.1	-0.1
	1.2nm,0.6s,baz=354,slow=9.2,SNR=3.0						

SJA 02 01:52:56.6±1.1, 33°66S×68°48W, h7km±5km, ML3.5, MW3.6, 13D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.64**	**332**	*e*P	Pb	01 53 10.0	-0.2
ARCO	**CERRO ARCO**	**0.90**	**335**	*e*P	Pb	01 53 15.1	+0.5
ARCO				IAML		01 53 34.0	
	comp=Z,1μm,0.2s						
ASAL	**Salagasta**	**1.10**	**344**	⇓*e*P	Pn	01 53 18.4	-0.2
AUSP	**Uspallata**	**1.62**	**332**	*e*P	Pb	01 53 27.3	+0.2
RTCV	**Cerro Valdivia**	**1.79**	**358**	*e*P	Pb	01 53 29.7	-0.1
RTCV				⇓*e*S	Sg	01 53 54.5	+0.4
PEL	**Peldehue**	**1.92**	**285**	⇓*e*P	Pb	01 53 32.0	+0.1
RTLS	**Leoncito**	**1.98**	**339**	*e*P	Pb	01 53 32.8	-0.3
RTLS				⇓*e*S	Sg	01 53 59.2	-1.0
RTLS				IAML		01 54 04.7	
	comp=Z,165nm,0.3s						
CFA	**Coronel Fontan**	**2.06**	**6**	*e*P	Pb	01 53 33.6	-0.7
CFA				⇓*e*S	Sg	01 54 02.0	-0.6
SJA	**San Juan**	**2.12**	**358**	⇓*e*S	Sg	01 54 04.6	-0.2
ROC1	**El Roble**	**2.23**	**287**	*e*P	Pb	01 53 37.6	+0.2
ROC1				⇓*e*S	Sb	01 54 06.2	+0.9
RTLL	**Cerro Villicun**	**2.32**	**0**	*e*P	Pb	01 53 38.0	-0.8
RTLL				IAML		01 54 13.1	
	comp=Z,287nm,0.4s						
MRA	**San Martin**	**2.62**	**63**	⇓*e*P	Pb	01 53 42.1	-1.9
MRA				⇓*e*S	Sg	01 54 21.2	+0.2
MRA				IAML		01 54 23.6	
	comp=Z,289nm,0.5s						
AMOG	**MOGNA**	**2.71**	**360**	⇓*e*P	Pg	01 53 47.1	-1.4
AMOG				⇓*e*S	Sg	01 54 21.9	-1.8
ACCO	**Cerro Coronel**	**3.10**	**351**	*e*P	Pn	01 53 49.0	+2.8
ACCO				⇓*e*S	Sg	01 54 35.5	-0.8
ACDV	**Cuesta del Vie**	**3.52**	**351**	⇓*e*P	Pn	01 53 55.6	+3.7
APLL	**PUNTA DE LOS L**	**3.65**	**27**	*e*P	Pn	01 53 56.1	+2.6
APLL				IAML		01 54 56.5	
	comp=Z,177nm,0.2s						
TCA	**Tanti**	**4.01**	**56**	*e*P	Pn	01 54 00.7	+2.1
TCA				IAML		01 55 09.0	
	comp=Z,90nm,0.4s						

*ISCJB **02** 01:53:25.4±0.8, 12°.7S±0°.2×168°.9E±0°.2, h650km, mb3.6/10, Error ellipse: s-maj=25.9km s-min=13.4km az=138.3*
*IDC **02** 01:53:28.0±2.2, 12°.98S×169°.09E, h681km±33km, mb3.2/10, mb1 3.4/11, mb1mx3.1/49, mbtmp4.1/11, Error ellipse: s-maj=42.9km s-min=12.3km az=152.0*
ISC 02 01:53:26.2±0.9, 12°.8S±0°.2×169°.1E±0°.2, h650km, n13, σ0°98/15, mb3.7/10, Sarata Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.57**	**195**	P	**P**	**01 55 42.4**	**+0.4**
	0.2nm,0.3s,baz=301,slow=5.5,SNR=2.5						
WRA	**Warramunga Arr**	**34.01**	**253**	P	**P**	**01 59 19.3**	**0.0**
	3.8nm,0.4s,baz=84,slow=8.7,SNR=62						
WRA				S	**S**	**02 03 60.0**	**-1.4**
	2.5nm,0.8s,baz=82,slow=14,SNR=8.3						
ASAR	**Alice Springs**	**35.00**	**247**	P	**P**	**01 59 27.8**	**+0.3**
	3.4nm,0.6s,baz=72,slow=9.6,SNR=23						
ASAR				S	**S**	**02 04 14.8**	**-1.4**
	1.1nm,0.8s,baz=73,slow=14,SNR=6.2						
CMAR	**Chiang Mai Arr**	**75.77**	**293**	P	**P**	**02 04 10.0**	**+1.9**
	0.7nm,0.3s,baz=132,slow=4.7,SNR=4.0						
SEY	**Seymchan**	**76.58**	**352**	P	**P**	**02 04 11.8**	**+0.3**
	1.2nm,0.5s,baz=143,slow=6.4,SNR=7.6						
SONM	**Songino Array**	**81.98**	**323**	P	**P**	**02 04 40.3**	**0.0**
	0.3nm,0.6s,baz=131,slow=7.0,SNR=2.7						
YBH	**Yreka Blue Hor**	**82.82**	**44**	P	**P**	**02 04 44.9**	**+0.3**
	0.6nm,0.5s,baz=260,slow=5.7,SNR=3.3						
ILAR	**Eielson Array**	**84.15**	**17**	P	**P**	**02 04 49.2**	**-1.3**
	1.2nm,0.5s,baz=235,slow=5.2,SNR=29						
NVAR	**Mina Array Bea**	**84.69**	**49**	P	**P**	**02 04 54.3**	**+0.3**
	0.3nm,0.6s,baz=208,slow=5.0,SNR=3.9						
YKA	**Yellowknife Ar**	**95.03**	**27**	P	**P**	**02 05 40.1**	**-0.9**
	0.6nm,0.8s,baz=254,slow=4.5,SNR=11						
MKAR	**Makanchi Array**	**97.00**	**316**	P	**P**	**02 05 50.9**	**+0.6**
	0.3nm,0.5s,baz=80,slow=6.8,SNR=8.3						
ARCES	**ARCESS Array B**	**118.80**	**346**	PKP	**PKiKP**	**02 11 01.2**	**-0.7**
	2.9nm,0.8s,baz=60,slow=2.3,SNR=20						
FINES	**FINESS Array B**	**124.54**	**339**	PKP	**PKiKP**	**02 11 12.9**	**-0.5**
	2.3nm,0.9s,baz=99,slow=8.6,SNR=3.2						

*NNC **02** 02:05:58.2±3.1, 38°.73N×70°.24E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=31.8km s-min=17.6km az=161.0*
ISC 02 02:05:56.4±4.3, 38°4N±0°3×70°2E±0°1, h27km, n11, σ1§26/13, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.62**	**35**	P	**Pn**	**02 07 05.4**	**+0.6**
	SNR=20						
KK31	**Karatay Array**	**4.73**	**3**	⇑Pn	**Pn**	**02 07 06.7**	**+0.7**
	2.6nm,0.4s,baz=186,slow=13,SNR=31						
KK31				⇑Lg	Lg	02 08 17.6	
	8.1nm,0.5s,baz=182,slow=28,SNR=8.8						
UCH	**Uchtor**	**5.08**	**39**	P	**Pn**	**02 07 09.0**	**-2.3**
	SNR=16						
AAK	**Ala-Archa**	**5.38**	**36**	P	**Pn**	**02 07 16.3**	**+1.1**
	SNR=15						
AAK	**Ala-Archa**	**5.38**	**36**	⇓Pn	**Sn**	**02 07 16.0**	**+0.9**
	6.7nm,0.5s						
AAK				⇑Sn	**Sn**	**02 08 14.8**	**-1.5**
	9.2nm,0.8s						
KBK	**Karagaybulak**	**5.62**	**39**	P	**Pn**	**02 07 19.9**	**+1.5**
	SNR=22						
CHMS	**Chumysh**	**5.79**	**36**	P	**Pn**	**02 07 21.5**	**+1.0**
	SNR=11						
USP	**Ospenovka**	**5.89**	**33**	P	**Pn**	**02 07 21.7**	**-0.2**
	SNR=10.0						
TKM2	**Tokmak 2**	**6.14**	**41**	P	**Pn**	**02 07 26.6**	**+1.0**
	SNR=19						
TKM2	**Tokmak 2**	**6.14**	**41**	⇑Pn	**Pn**	**02 07 25.5**	**-0.1**
	6.0nm,0.6s						
TKM2				⇓Sn	**Sn**	**02 08 35.9**	**+1.0**
	4.8nm,0.8s						
AB31	**Akbulak array**	**13.13**	**329**	P	**Pn**	**02 09 00.5**	**-0.5**
	0.9nm,0.7s,baz=146,slow=12,SNR=20						

*IGIL **02** 02:12:10.7, 37°.17N×12°.71W, h1km*
*MDD **02** 02:12:10.7±1.9, 37°.20N×12°.67W, h0km, mb3.7/3, Error ellipse: s-maj=17.4km s-min=16.1km az=87.0, PRX/MO*
*INMG **02** 02:12:12.7±1.3, 37°.08N×13°.05W, h10km, ML2.0, Error ellipse: s-maj=7.5km s-min=5.7km az=92.0*
ISC 02 02:12:10.7±3.8, 37°28N±0°.10×12°6W±0°2, h10km, n45, σ1§19/76, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.04**	**92**	*e*Pn	**Pn**	**02 12 58.7**	**-0.2**
PFVI				*e*Sn	**Sn**	**02 13 34.5**	**-0.8**
PFVI	**Vila Bisbo**	**3.04**	**92**	P	**Pn**	**02 12 58.6**	**-0.2**
	1.2nm,0.1s,SNR=4.0						
PTEO	**Sao Teotonio**	**3.12**	**84**	*e*Pn	**Pn**	**02 12 59.6**	**-0.4**
PTEO				*e*Sn	**Sn**	**02 13 36.3**	**-1.0**
PTEO				A	A	02 13 40.0	
	3.6nm,0.4s						
PTEO	**Sao Teotonio**	**3.12**	**84**	P	**Pn**	**02 12 59.6**	**-0.4**
PTEO				S	**Sn**	**02 13 36.3**	**-1.0**
	1.8nm,0.4s						
PMAFR	**Mafra**	**3.12**	**57**	*e*Pn	**Pn**	**02 13 01.7**	**+1.7**
PMAFR				*e*Sn	**Sn**	**02 13 38.1**	**+0.7**
PMAFR				A	A	02 13 42.8	
	6.2nm,0.3s						
PMAFR	**Mafra**	**3.12**	**57**	P	**Pn**	**02 13 01.0**	**+0.9**
	2.0nm,0.1s,SNR=6.2						
PMAFR				S	**Sn**	**02 13 38.8**	**+1.4**
	3.1nm,0.1s,SNR=6.1						
MORF	**Marmelete**	**3.17**	**88**	*e*P	**Pn**	**02 13 00.8**	**+0.1**
MORF	**Marmelete**	**3.17**	**88**	*e*Pn	**Pn**	**02 13 03.0**	**+2.2**
MORF	**Marmelete**	**3.17**	**88**	P	**Pn**	**02 13 00.8**	**+0.1**
PNCL	**Nicolau / Gran**	**3.36**	**74**	*e*Pn	**Pn**	**02 13 05.1**	**+1.9**
PNCL				*e*Sn	**Sn**	**02 13 42.9**	**-0.2**
PNCL				A	A	02 13 50.5	
	1.8nm,0.1s						
PNCL	**Nicolau / Gran**	**3.36**	**74**	P	**Pn**	**02 13 05.1**	**+1.9**
PNCL				S	**Sn**	**02 13 42.9**	**-0.2**
	1.8nm,0.1s						
MESJ	**Messejana**	**3.55**	**80**	*e*P	**Pn**	**02 13 06.3**	**+0.4**
MESJ	**Messejana**	**3.55**	**80**	*e*Pn	**Pn**	**02 13 07.5**	**+1.6**
MESJ				*e*Sn	**Sn**	**02 13 47.2**	**-0.7**
MESJ				A	A	02 13 52.1	
	2.2nm,0.3s						
MESJ	**Messejana**	**3.55**	**80**	P	**Pn**	**02 13 06.3**	**+0.4**
MESJ				S	**Sn**	**02 13 47.2**	**-0.7**
	2.2nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.75**	**89**	*e*Pn	**Pn**	**02 13 09.4**	**+0.7**
PBDV				*e*Sn	**Sn**	**02 13 53.3**	**+0.4**
PBDV				A	A	02 13 59.7	
	2.3nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.75**	**89**	P	**Pn**	**02 13 09.4**	**+0.7**
PBDV				S	**Sn**	**02 13 53.3**	**+0.4**
	2.3nm,0.6s						
PMTG	**Montargil**	**3.90**	**61**	*e*Pn	**Pn**	**02 13 11.5**	**+0.8**
PMTG				*e*Sn	**Sn**	**02 13 56.5**	**-0.1**
PMTG				A	A	02 14 02.4	
	0.8nm,0.3s						
PMTG	**Montargil**	**3.90**	**61**	P	**Pn**	**02 13 11.5**	**+0.8**
PMTG				S	**Sn**	**02 13 56.5**	**-0.1**
	0.8nm,0.3s						
PVAQ	**Vaqueiros**	**3.92**	**87**	*e*Pn	**Pn**	**02 13 11.9**	**+1.0**
PVAQ				*e*Sn	**Sn**	**02 13 56.1**	**-0.9**
PVAQ				A	A	02 14 02.0	
	2.1nm,0.1s						
PVAQ	**Vaqueiros**	**3.92**	**87**	P	**Pn**	**02 13 11.9**	**+1.0**
PVAQ				S	**Sn**	**02 13 56.1**	**-0.9**
	2.1nm,0.1s						
PTOM	**Tomar**	**4.05**	**54**	*e*Pn	**Pn**	**02 13 14.5**	**+1.7**
PTOM				*e*Sn	**Sn**	**02 14 00.8**	**+0.5**
PTOM				A	A	02 14 05.8	
	2.8nm,0.4s						
PTOM	**Tomar**	**4.05**	**54**	P	**Pn**	**02 13 14.5**	**+1.7**
PTOM				S	**Sn**	**02 14 00.8**	**+0.5**
	1.4nm,0.4s						
EGRO	**El Granado**	**4.11**	**85**	P	**Pn**	**02 13 14.0**	**+0.5**
	0.7nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**02 14 01.7**	**+0.1**
	0.7nm,0.1s,SNR=7.9						
PCAS	**Casmilo, Conde**	**4.26**	**48**	*e*Pn	**Pn**	**02 13 16.5**	**+0.9**
PCAS				*e*Sn	**Sn**	**02 14 05.1**	**-0.2**
PCAS				A	A	02 14 10.1	
	0.9nm,0.3s						
PCAS	**Casmilo, Conde**	**4.26**	**48**	P	**Pn**	**02 13 16.5**	**+0.9**
PCAS				S	**Sn**	**02 14 05.1**	**-0.2**
	0.9nm,0.3s						
PESTR	**Estremoz**	**4.28**	**67**	*e*Pn	**Pn**	**02 13 17.0**	**+1.1**
PESTR				*e*Sn	**Sn**	**02 14 06.3**	**+0.3**
PESTR				A	A	02 14 12.3	
	1.2nm,0.3s						
PMRV	**Marv??o**	**4.64**	**61**	*e*Pn	**Pn**	**02 13 22.1**	**+1.2**
PMRV				*e*Sn	**Sn**	**02 14 14.1**	**-0.8**
PMRV				A	A	02 14 18.3	
	1.4nm,0.2s						
PMRV	**Marv??o**	**4.64**	**61**	P	**Pn**	**02 13 22.1**	**+1.2**
PMRV				S	**Sn**	**02 14 14.1**	**-0.8**
	1.4nm,0.2s						
EBAD	**Badajoz**	**4.67**	**70**	P	**Pn**	**02 13 22.2**	**+0.8**
	0.4nm,0.1s,SNR=9.8						
EBAD				S	**Sn**	**02 14 14.3**	**-1.3**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.76**	**82**	P	**Pn**	**02 13 22.8**	**+0.2**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**02 14 16.4**	**-1.4**
	0.2nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.78**	**56**	*e*Pn	**Pn**	**02 13 23.8**	**+1.0**
PCBR				*e*Sn	**Sn**	**02 14 17.6**	**-0.6**
PCBR				A	A	02 14 22.1	
	1.3nm,0.3s						
PCBR	**Castelo Branco**	**4.78**	**56**	P	**Pn**	**02 13 23.8**	**+1.0**
PCBR				S	**Sn**	**02 14 17.6**	**-0.6**
	0.6nm,0.3s						
PVIS	**Viseu**	**5.04**	**46**	*e*Pn	**Pn**	**02 13 27.9**	**+1.5**
PVIS	**Viseu**	**5.04**	**46**	P	**Pn**	**02 13 27.9**	**+1.5**
MTE	**Manteigas**	**5.05**	**50**	*e*Pn	**Pn**	**02 13 27.5**	**+1.0**
MTE				*e*Sn	**Sn**	**02 14 23.1**	**-1.8**
MTE				A	A	02 14 29.9	
	1.6nm,0.3s						
MTE	**Manteigas**	**5.05**	**50**	P	**Pn**	**02 13 27.5**	**+1.0**
MTE				S	**Sn**	**02 14 23.1**	**-1.8**
	0.8nm,0.3s						
PGAV	**Gavieira, Arco**	**5.76**	**34**	*e*Sn	**Sn**	**02 14 40.0**	**-2.6**
PGAV				A	A	02 14 45.0	
	1.1nm,0.3s						
PGAV	**Gavieira, Arco**	**5.76**	**34**	Sn	**Sn**	**02 14 40.0**	**-2.6**
	1.1nm,0.3s						
ECAB	**El Cabril**	**5.78**	**80**	P	**Pn**	**02 13 37.5**	**+1.0**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.78**	**36**	S	**Sn**	**02 14 39.3**	**-3.7**
	1.0nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.83**	**47**	*e*Pn	**Pn**	**02 13 38.4**	**+1.2**
MVO	**Moncorvo**	**5.83**	**47**	P	**Pn**	**02 13 38.1**	**+0.9**
	0.6nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**02 14 42.2**	**-1.9**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.45**	**80**	P	**Pn**	**02 13 46.1**	**+0.4**
	0.2nm,0.1s,SNR=4.6						
EADA				S	**Sn**	**02 14 57.5**	**-1.8**
	0.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.88**	**68**	P	**Pn**	**02 13 52.5**	**+0.8**
	0.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**7.21**	**68**	P	**Pn**	**02 13 56.6**	**+0.4**
	0.8nm,0.1s,baz=254,slow=13,SNR=4.0						

IDC 02 02:17:33.0±1.6, 3°70S×144°62E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.8/34, mbtmp3.9/6, ML4.2/1, MS3.3/3, Ms1 3.3/3, ms1mx2.8/30, Error ellipse: s-maj=46.3km s-min=22.3km az=109.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**16.25**	**111**	LR	LR	02 27 53.7	
	comp=Z,85nm,18.4s,baz=352,slow=38						
WRA	**Warramunga Arr**	**19.00**	**211**	P	Pn	02 21 56.9	-0.3
	0.8nm,0.3s,baz=32,slow=11,SNR=49						
ASAR	**Alice Springs**	**22.38**	**207**	P	P	02 22 33.8	+0.6
	4.0nm,0.6s,baz=32,slow=10.0,SNR=60						
FITZ	**Fitzroy Crossi**	**23.45**	**231**	P	P	02 22 43.2	-1.1
	13nm,0.5s,baz=44,slow=9.3,SNR=65						
JNU	**Nakatsue**	**38.87**	**341**	LR	LR	02 39 06.6	
	comp=Z,42nm,18.6s,baz=140,slow=33						
CMAR	**Chiang Mai Arr**	**50.09**	**298**	P	P	02 26 31.2	+1.0
	0.8nm,0.3s,baz=129,slow=8.6,SNR=3.5						
MKAR	**Makanchi Array**	**74.23**	**321**	P	P	02 29 12.2	+0.2
	0.1nm,0.4s,baz=118,slow=7.1,SNR=3.4						
ZALV	**Zalesovo Beam**	**75.82**	**328**	LR	LR	03 04 03.0	
	comp=Z,17nm,18.7s,baz=70,slow=37						
ILAR	**Eielson Array**	**84.33**	**24**	P	P	02 30 05.8	-0.9
	0.2nm,0.6s,baz=255,slow=7.2,SNR=2.8						

*KRSC **02** 02:23:43.1±10.0, 50°.61N×157°.84E, h47km±10km, ML4.4, FELT [II] at Severo-Kurilsk.*
*ISCJB **02** 02:23:44.9±0.6, 50°.61N±0°.04×157°.68E±0°.06, h52km, mb3.5/8, Error ellipse: s-maj=7.0km s-min=4.0km az=40.4*
*MOS **02** 02:23:44.1±1.3, 50°.56N×157°.72E, h50km, mb4.0/3, Error ellipse: s-maj=18.7km s-min=4.4km az=82.6*
MOS Felt (II) at Severo-Kuril'sk.
*IDC **02** 02:23:48.7±3.9, 50°.68N×157°.55E, h70km±35km, mb3.2/8, mb1 3.5/9, mb1mx3.3/37, mbtmp3.5/9, ML2.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/23, Error ellipse: s-maj=31.6km s-min=18.4km az=149.0*
ISC 02 02:23:45.9±0.8, 50°56N±0°07×157°72E±0°05, h52km, n71, σ1§49/94, mb3.6/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.03**	**277**	*e*P	**Pn**	**02 24 02.6**	**-1.4**
SKR				*e*S	**Sn**	**02 24 15.4**	**-2.0**
SKR	**Severo-Kuril's**	**1.03**	**277**	*e*PN	**Pn**	**02 24 02.8**	**-1.2**
SKR				*e*S	**Sn**	**02 24 15.2**	**-2.2**
SKR				pmax	pmax		
	comp=Z,308nm,0.2s						
SKR				smax	smax		
	comp=N,19μm,0.6s						
SKR				smax	smax		
	comp=E,13μm,0.5s						
PAU	**Pauzhetka**	**1.07**	**328**	*e*P	**Pn**	**02 24 03.1**	**-1.5**
PAU				*e*S	**Sn**	**02 24 16.5**	**-2.0**
PAU	**Pauzhetka**	**1.07**	**328**	PN	**Pn**	**02 24 03.1**	**-1.5**
PAU				S	**Sn**	**02 24 16.5**	**-2.0**
KDTR	**Khodutka, Kamc**	**1.27**	**10**	*e*P	**Pn**	**02 24 05.3**	**-2.0**
KDTR				*e*S	**Sn**	**02 24 20.0**	**-3.2**
KDTR	**Khodutka, Kamc**	**1.27**	**10**	PN	**Pn**	**02 24 05.3**	**-2.0**
KDTR				S	**Sn**	**02 24 20.0**	**-3.2**
ALID	**Alaid**	**1.41**	**283**	*e*P	**Pn**	**02 24 08.6**	**-0.8**
ALID				S	**Sn**	**02 24 25.8**	**-1.2**
RUS	**Russkaya**	**1.94**	**15**	*e*P	**Pn**	**02 24 14.5**	**-1.9**
RUS				*e*S	**Sn**	**02 24 36.7**	**-2.8**
RUS	**Russkaya**	**1.94**	**15**	PN	**Pn**	**02 24 14.5**	**-1.9**
RUS				S	**Sn**	**02 24 36.7**	**-2.8**
MTVR	**Mutnovka**	**1.94**	**8**	*e*P	**Pn**	**02 24 15.4**	**-1.2**
MTVR				*e*S	**Sn**	**02 24 38.0**	**-1.9**
MTVR	**Mutnovka**	**1.94**	**8**	PN	**Pn**	**02 24 15.4**	**-1.2**
MTVR				S	**Sn**	**02 24 38.0**	**-1.9**
GRL	**Gorelyy**	**2.00**	**6**	*e*P	**Pn**	**02 24 16.4**	**-1.0**
GRL				*e*S	**Sn**	**02 24 39.9**	**-1.5**
GRL	**Gorelyy**	**2.00**	**6**	PN	**Pn**	**02 24 16.4**	**-1.0**
GRL				S	**Sn**	**02 24 39.9**	**-1.5**
KRMR	**Karymshinskiy**	**2.29**	**6**	*e*P	**Pn**	**02 24 20.5**	**-0.6**
KRMR				*e*S	**Sn**	**02 24 47.2**	**-0.8**
KRMR	**Karymshinskiy**	**2.29**	**6**	PN	**Pn**	**02 24 20.5**	**-0.6**
KRMR				S	**Sn**	**02 24 47.2**	**-0.8**
APC	**Apacha**	**2.39**	**352**	*e*P	**Pn**	**02 24 22.0**	**-0.6**
APC	**Apacha**	**2.39**	**352**	PN	**Pn**	**02 24 22.0**	**-0.6**
PET	**Petropavlovsk**	**2.53**	**13**	*e*P	**Pn**	**02 24 23.2**	**-1.3**
PET				*e*S	**Sn**	**02 24 51.9**	**-2.2**
PET	**Petropavlovsk**	**2.53**	**13**	*e*PN	**Pn**	**02 24 23.5**	**-1.0**
PET				*e*S	**Sn**	**02 24 52.3**	**-1.8**
PET				pmax	pmax		
	comp=Z,83nm,0.3s						
PET				smax	smax		
	comp=E,242nm,0.4s						
PET				smax	smax		
	comp=N,335nm,0.6s						
PETK	**Petropavlovsk-**	**2.55**	**360**	PN	**Pn**	**02 24 24.6**	**-0.2**
PETK				S	**Sn**	**02 24 56.1**	**+1.5**
PETK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PETK				smax	smax		
	comp=N,8.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,76nm,20.2s						
PETK	**Petropavlovsk-**	**2.55**	**360**	P	**Pn**	**02 24 24.6**	**-0.2**
	comp=Z,7.8nm,0.3s,baz=158,slow=16,SNR=52						
PETK				S	**Sn**	**02 24 56.1**	**+1.5**
	comp=Z,7.8nm,0.3s,baz=147,slow=8.5,SNR=5.4						
PETK				LR	LR	02 25 46.3	
	comp=Z,76nm,20.2s,baz=229,slow=48						
DALK	**Dalny**	**2.55**	**14**	*e*P	**Pn**	**02 24 23.9**	**-0.9**
DALK				*e*S	**Sn**	**02 24 52.5**	**-2.1**
DALK	**Dalny**	**2.55**	**14**	PN	**Pn**	**02 24 23.9**	**-0.9**
DALK				S	**Sn**	**02 24 52.5**	**-2.1**
UGLR	**Uglovaya**	**2.74**	**14**	*e*P	**Pn**	**02 24 27.7**	**+0.3**
UGLR				*e*S	**Sn**	**02 24 59.9**	**+0.6**
UGLR	**Uglovaya**	**2.74**	**14**	PN	**Pn**	**02 24 27.7**	**+0.3**
UGLR				S	**Sn**	**02 24 59.9**	**+0.6**
AVH	**Avacha**	**2.78**	**13**	*e*P	**Pn**	**02 24 28.4**	**+0.4**
AVH				*e*S	**

comp=Z,0.3nm,0.3s,baz=72,slow=7.9,SNR=11
PDAR Pinedale Array 60.08 58 P **P 02 33 48.9 +1.2**
comp=Z,0.4nm,0.6s,baz=305,slow=3.2,SNR=4.5
TXAR Lajitas Array 73.02 65 P **P 02 35 11.4 +1.1**
comp=Z,0.3nm,0.5s,baz=296,slow=5.3,SNR=5.0
WRA Warramunga Arr 73.17 203 P **P 02 35 11.9 +1.0**
comp=Z,1.1nm,1.1s,baz=22,slow=6.3,SNR=4.0
ASAR Alice Springs 76.85 202 P **P 02 35 33.9 +1.8**
comp=Z,0.3nm,0.7s,baz=10,slow=5.7,SNR=3.5

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*IDC **02** 02:25:51.9±3.1,25°.74S×70°.18W,h0km,mb3.7/1, mb1 3.5/2,mb1mx3.4/17,mbtmp3.4/2,ML2.9/1,Error ellipse: s-maj=110.2km s-min=61.6km az=84.0*
*ISCJB **02** 02:25:53.8±1.3,25°.40S±0°.06×70°.88W±0°.09,h10km, mb3.5/1,Error ellipse: s-maj=11.8km s-min=8.2km az=176.2*
*GUC **02** 02:25:54.8±0.7,25°.42S×70°.83W,h19km±5km,ML3.5*
ISC 02 02:25:54.5±1.2,25°.38S±0°.05×70°.79W±0°.09,h10km,n9, σ1§61/13,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.83**	**25**	*e*P	**Pg**	**02 26 11.1**	**+0.4**
PB14				*i* S	**Sg**	**02 26 22.4**	**+0.9**
PB14				IAML		02 26 23.8	
	comp=E,3μm,0.4s						
GO02	**Mina Guanaco**	**1.11**	**79**	*e*P	**Pg**	**02 26 15.6**	**-0.3**
GO02				*i* S	**Sg**	**02 26 30.5**	**+0.2**
GO02				IAML		02 26 33.4	
	comp=E,2μm,0.6s						
PB10	**IPOC Station P**	**1.87**	**7**	*e*P	**Pn**	**02 26 25.5**	**-1.2**
PB10				*e*S	**Sn**	**02 26 50.1**	**-0.3**
GO03	**Copiap**	**2.26**	**167**	*e*P	**Pn**	**02 26 32.4**	**+0.4**
PB15	**IPOC Station P**	**2.48**	**29**	*e*P	**Pn**	**02 26 37.1**	**+1.9**
PB15				*i* S	**Sb**	**02 27 09.3**	**-0.6**
LPAZ	**La Paz**	**9.38**	**16**	Pn	**Pn**	**02 28 11.9**	**+1.4**
	comp=E,0.1nm,0.3s,baz=198,slow=13,SNR=1.7						
TORD	**Torodi Ar. Bea**	**80.28**	**70**	P	**P**	**02 38 03.0**	**-3.1**
	comp=E,0.3nm,0.5s,baz=267,slow=3.0,SNR=9.4						
ZALV	**Zalesovo Beam**	**146.19**	**26**	PKPbc	**PKPdf**	**02 45 33.7**	**0.0**
	comp=E,0.6nm,0.5s,baz=318,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**149.76**	**38**	PKPbc	**PKPdf**	**02 45 42.6**	**+2.7**
	comp=E,0.4nm,0.7s,baz=309,slow=2.3,SNR=4.9						

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*IDC **02** 02:50:03.0±7.3,36°.53N×70°.81E,h129km±102km, mb1 3.0/6,mb1mx2.8/48,mbtmp3.5/6,ML3.2/6,Error ellipse: s-maj=101.8km s-min=34.6km az=168.0*
*NNC **02** 02:50:06.2±6.5,36°.78N×70°.67E,h125km±149km,mb3.0, mpv3.7,Error ellipse: s-maj=60.9km s-min=43.5km az=160.0*
ISC 02 02:50:04.4±2.4,36°.6N±0°.2×70°.8E±0°.1,h150km,n10, σ1§02/14,3C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.50**	**358**	⇑P	**Pn**	**02 51 38.2**	**+0.6**
	6.6nm,0.3s,baz=179,slow=12,SNR=258						
KK31				⇓S	**Sn**	**02 52 50.3**	**-0.5**
	2.5nm,0.4s,baz=182,slow=23,SNR=7.2						
AAK	**Ala-Archa**	**6.67**	**24**	⇓P	**Pn**	**02 51 39.8**	**-0.3**
	2.9nm,0.6s						
AAK				⇑S	**Sn**	**02 52 53.4**	**-1.6**
	10nm,0.6s						
TKM2	**Tokmak 2**	**7.31**	**29**	⇑P	**Pn**	**02 51 48.7**	**0.0**
	1.4nm,0.5s						
TKM2				⇓S	**Sn**	**02 53 09.7**	**-0.9**
	2.9nm,0.6s						
GEYT	**Alibeck**	**10.20**	**281**	P	**Pn**	**02 52 26.3**	**-0.7**
	0.6nm,0.3s,baz=92,slow=13,SNR=4.4						
GEYT				S	**Sn**	**02 54 18.7**	**-1.2**
	0.9nm,0.3s,baz=109,slow=31,SNR=4.0						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**02 53 06.6**	**-0.7**
	0.1nm,0.3s,baz=225,slow=14,SNR=2.5						
AB31	**Akbulak array**	**14.92**	**331**	⇓P	**Pn**	**02 53 28.2**	**+0.6**
	0.3nm,0.3s,baz=152,slow=12,SNR=25						
KURBB	**Kurchatov Arra**	**15.08**	**19**	P	**Pn**	**02 53 30.6**	**+1.0**
	0.0nm,0.3s,baz=208,slow=11,SNR=7.2						
BVAR	**Borovoye Array**	**16.43**	**359**	P	**P**	**02 53 46.9**	**+0.8**
	0.1nm,0.3s,baz=172,slow=12,SNR=5.8						
AKTO	**Aktyubinsk**	**16.61**	**330**	P	**P**	**02 53 49.9**	**+1.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=3.3						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**02 54 24.4**	**+0.6**
	0.4nm,0.3s,baz=215,slow=12,SNR=6.4						

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*ISCJB **02** 02:54:36.5±0.6,12°.7S±0°.1×169°.0E±0°.1,h650km, mb4.0/15,Error ellipse: s-maj=18.5km s-min=11.5km az=36.1*
*IDC **02** 02:54:37.1±1.6,12°.67S×169°.08E,h642km±20km, mb3.5/15,mb1 3.7/16,mb1mx3.5/30,mbtmp4.5/16,Error ellipse: s-maj=19.6km s-min=13.7km az=132.0*
ISC 02 02:54:37.8±0.6,12°.7S±0°.1×169°.0E±0°.1,h650km,n19, σ1§06/23,mb4.2/15,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.64**	**194**	P	**P**	**02 56 53.4**	**-0.8**
	1.8nm,0.3s,baz=275,slow=12,SNR=19						
CTA	**Charters Tower**	**23.02**	**248**	P	**P**	**02 58 56.9**	**+0.5**
	4.9nm,0.5s,baz=80,slow=12,SNR=12						
RPZ	**Rata Peaks**	**30.96**	**177**	P	**P**	**03 00 06.4**	**+1.5**
	4.0nm,0.3s,baz=64,slow=10,SNR=6.8						
STKA	**Stephens Creek**	**31.60**	**228**	P	**P**	**03 00 11.0**	**+0.5**
	5.3nm,0.6s,baz=49,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**34.00**	**253**	P	**P**	**03 00 30.9**	**0.0**
	22nm,0.5s,baz=84,slow=8.7,SNR=424						
WRA				S	**S**	**03 05 11.2**	**-1.5**
	2.6nm,0.7s,baz=83,slow=14,SNR=5.9						
WRA				ScP	**ScP**	**03 05 34.8**	**+1.1**
	1.4nm,0.9s,baz=84,slow=3.1,SNR=5.8						
ASAR	**Alice Springs**	**35.00**	**247**	P	**P**	**03 00 39.2**	**+0.2**
	22nm,0.5s,baz=73,slow=9.5,SNR=380						
ASAR				S	**S**	**03 05 25.2**	**-2.4**
	1.5nm,0.9s,baz=75,slow=17,SNR=6.3						
ASAR				ScP	**ScP**	**03 05 38.6**	**+1.3**
	1.2nm,0.6s,baz=89,slow=3.8,SNR=9.0						
FITZ	**Fitzroy Crossi**	**42.09**	**257**	P	**P**	**03 01 36.7**	**+0.9**
	3.8nm,0.6s,baz=60,slow=9.8,SNR=7.1						
NWAO	**Narrogin (SRO)**	**51.25**	**238**	P	**P**	**03 02 43.8**	**-0.3**
	12nm,1.1s,baz=305,slow=10						
MJAR	**Matsushiro Arr**	**56.94**	**331**	P	**P**	**03 03 24.3**	**+0.6**
	0.8nm,0.5s,baz=150,slow=6.5,SNR=3.9						
PETK	**Petropavlovsk-**	**66.26**	**353**	P	**P**	**03 04 24.1**	**+0.6**
	4.1nm,0.6s,baz=139,slow=9.2,SNR=5.9						
SONM	**Songino Array**	**81.89**	**323**	P	**P**	**03 05 52.5**	**+1.1**
	0.7nm,0.6s,baz=110,slow=4.0,SNR=4.0						
ILAR	**Eielson Array**	**84.09**	**17**	P	**P**	**03 06 00.3**	**-1.4**
	4.5nm,0.7s,baz=236,slow=5.1,SNR=66						
NVAR	**Mina Array Bea**	**84.67**	**49**	P	**P**	**03 06 05.0**	**-0.5**
	1.3nm,0.7s,baz=226,slow=6.7,SNR=10.0						
TXAR	**Lajitas Array**	**93.82**	**61**	P	**P**	**03 06 47.9**	**-0.2**
	0.2nm,0.6s,baz=219,slow=7.0,SNR=3.0						
YKA	**Yellowknife Ar**	**94.98**	**27**	P	**P**	**03 06 51.4**	**-0.9**
	1.5nm,0.8s,baz=254,slow=4.6,SNR=30						
MKAR	**Makanchi Array**	**96.91**	**316**	P	**P**	**03 07 02.2**	**+0.8**
	0.4nm,0.5s,baz=79,slow=7.6,SNR=4.9						
ARCES	**ARCESS Array B**	**118.71**	**346**	PKP	**PKPdf**	**03 12 12.6**	**-0.7**
	1.0nm,0.4s,baz=66,slow=2.7,SNR=20						
FINES	**FINESS Array B**	**124.45**	**339**	PKP	**PKiKP**	**03 12 24.5**	**-0.3**
	1.1nm,0.8s,baz=307,slow=0.7,SNR=4.3						
NOA	**NORSAR Array B**	**129.09**	**346**	PKP	**PKiKP**	**03 12 33.4**	**-0.8**
	1.1nm,0.9s,baz=25,slow=2.1,SNR=2.5						

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*ISCJB **02** 02:58:27.8±0.7,12°.8S±0°.1×169°.3E±0°.2,h650km,mb3.4/5, Error ellipse: s-maj=21.2km s-min=12.3km az=161.0*
*IDC **02** 02:58:29.1±5.1,12°.64S×169°.15E,h641km±84km,mb2.8/5, mb1 3.1/6,mb1mx2.8/30,mbtmp3.8/6,Error ellipse: s-maj=98.2km s-min=30.2km az=162.0*
ISC 02 02:58:29.3±0.9,12°.8S±0°.1×169°.3E±0°.2,h650km,n19, σ0§72/20,mb3.4/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.63**	**196**	P	**P**	**03 00 46.4**	**+0.8**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.3						
RTZ	**Ruatahuna**	**26.63**	**166**	P	**P**	**03 03 19.4**	**0.0**
TRVZ	**Turoa**	**26.99**	**169**	P	**P**	**03 03 24.7**	**+2.0**
BKZ	**Black Stump Fm**	**27.05**	**168**	P	**P**	**03 03 22.9**	**-0.1**
BKZ				S	**pP**	**03 05 00.1**	**-0.3**
NMHZ	**Naumai**	**27.05**	**167**	P	**P**	**03 03 23.6**	**+0.6**
BHHZ	**Black Hill Sta**	**27.28**	**168**	P	**P**	**03 03 25.2**	**+0.2**
KWHZ	**Kaweka Forest**	**27.29**	**168**	P	**P**	**03 03 25.3**	**+0.3**
KRHZ	**Kereru**	**27.48**	**168**	P	**P**	**03 03 26.6**	**-0.2**
MRZ	**Mangatainoka R**	**28.32**	**170**	P	**P**	**03 03 33.1**	**-0.8**
OGWZ	**Otaki Gorge**	**28.41**	**171**	P	**P**	**03 03 34.3**	**-0.3**
KIW	**Kapiti Island**	**28.41**	**171**	P	**P**	**03 03 34.3**	**-0.4**
BFZ	**Birch Farm**	**28.46**	**169**	P	**P**	**03 03 34.1**	**-1.1**
HOWZ	**Holdsworth Sta**	**28.54**	**170**	P	**P**	**03 03 34.9**	**-1.0**
WRA	**Warramunga Arr**	**34.21**	**253**	P	**P**	**03 04 23.6**	**-0.5**
	0.3nm,0.4s,baz=84,slow=8.7,SNR=3.6						
ASAR	**Alice Springs**	**35.20**	**247**	P	**P**	**03 04 32.0**	**-0.2**
	0.6nm,0.5s,baz=78,slow=9.7,SNR=5.1						
ILAR	**Eielson Array**	**84.09**	**17**	P	**P**	**03 09 53.2**	**-0.1**
	0.6nm,0.5s,baz=236,slow=5.1,SNR=16						
YKA	**Yellowknife Ar**	**94.94**	**27**	P	**P**	**03 10 43.6**	**0.0**
	0.3nm,0.8s,baz=264,slow=4.4,SNR=5.2						
MKAR	**Makanchi Array**	**97.14**	**316**	P	**P**	**03 10 54.5**	**+0.4**
	0.1nm,0.5s,baz=87,slow=7.3,SNR=2.8						
ARCES	**ARCESS Array B**	**118.85**	**346**	PKP	**PKiKP**	**03 16 05.2**	**+0.1**
	7.1nm,1.0s,baz=333,slow=6.8,SNR=9.3						

IDC 02 03:12:22.2±3.0,11°.76S×165°.64E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/26,mbtmp3.7/4,ML3.3/1,MS3.3/1, Ms1 3.2/1,ms1mx2.6/21,Error ellipse: s-maj=65.3km s-min=42.5km az=87.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.29**	**176**	Pn	**Pn**	**03 14 51.2**	**0.0**
	0.3nm,0.3s,baz=139,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**29.86**	**224**	LR	LR	**03 29 21.4**	
	comp=Z,50nm,19.4s,baz=199,slow=34						
WRA	**Warramunga Arr**	**31.15**	**251**	P	P	**03 18 43.4**	**+0.4**
	0.6nm,0.8s,baz=82,slow=8.6,SNR=4.2						
ASAR	**Alice Springs**	**32.39**	**244**	P	P	**03 18 53.4**	**-0.5**
	0.6nm,0.8s,baz=65,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**93.97**	**317**	P	P	**03 25 42.0**	**-0.1**
	0.4nm,0.9s,baz=104,slow=4.9,SNR=3.0						

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*ISK **02** 03:29:39.4,34°.06N×26°.13E,h8km,ML3.3/18*
*IDC **02** 03:29:40.6±1.1,34°.10N×26°.21E,h0km,mb3.5/5, mb1 3.6/10,mb1mx3.5/33,mbtmp3.5/10,ML3.3/5,Error ellipse: s-maj=24.2km s-min=15.3km az=11.0*
*ISCJB **02** 03:29:41.0±0.9,34°.06N±0°.03×26°.25E±0°.03,h15km±8km, mb3.5/5,Error ellipse: s-maj=6.6km s-min=3.3km az=31.2*
*GII **02** 03:29:40.4±0.0,34°.27N×26°.30E,h5km,MD3.2/1*
*ATH **02** 03:29:47.2,34°.49N×26°.11E,h28km±1km,ML2.5/4,Error ellipse: s-maj=3.1km s-min=1.0km az=346.0*
*THE **02** 03:29:48.0,34°.50N×26°.13E,h2km±2km,ML2.5/6,Error ellipse: s-maj=2.4km s-min=1.3km az=194.0*
ISC 02 03:29:42.2±1.4,34°.25N±0°.05×26°.16E±0°.03,h15km±9km, n81,σ1§69/102,mb3.5/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.86**	**3**	PG	**Pn**	**03 29 59.9**	**+0.1**
ZKR	**Zakros**	**0.86**	**3**	P	**Pn**	**03 30 00.0**	**+0.1**
ZKR				S	**Sb**	**03 30 09.6**	**-0.8**
ZKR	**Zakros**	**0.86**	**3**	P	**Pn**	**03 29 60.0**	**+0.1**
ZKR				S	**Sb**	**03 30 09.8**	**-0.6**
ZKR				AML	AML	03 30 19.3	
	comp=E,1337μm,0.5s						
ZKR				AML	AML	03 30 24.8	
	comp=N,741μm,0.4s						
STIA	**Sitia Lasithi**	**0.95**	**357**	P	**Pn**	**03 30 01.8**	**+0.7**
STIA				S	**Sb**	**03 30 13.0**	**+0.1**
LAST	**Lasithi**	**1.07**	**329**	P	**Pn**	**03 30 03.8**	**+1.0**
LAST				S	**Sn**	**03 30 16.7**	**-0.7**
LAST	**Lasithi**	**1.07**	**329**	P	**Pn**	**03 30 03.8**	**+1.0**
LAST				S	**Sb**	**03 30 15.6**	**-0.7**
LAST				AML	AML	03 30 25.9	
	comp=E,604μm,0.7s						
LAST				AML	AML	03 30 26.7	
	comp=N,634μm,0.5s						
NPS	**Neapolis**	**1.11**	**336**	P	**Pn**	**03 30 04.5**	**+1.2**
NPS				S	**Sn**	**03 30 18.4**	**+0.1**
NPS	**Neapolis**	**1.11**	**336**	P	**Pn**	**03 30 04.4**	**+1.2**
NPS				S	**Sb**	**03 30 16.5**	**-0.8**
NPS				AML	AML	03 30 28.2	
	comp=N,460μm,0.5s						
NPS				AML	AML	03 30 28.4	
	comp=E,776μm,0.8s						
KSTL	**Kastelli Herak**	**1.38**	**320**	P	**Pg**	**03 30 07.5**	**-1.3**
KSTL				S	**Sb**	**03 30 20.9**	**-4.3**
IDI	**Anoyia**	**1.47**	**315**	Pn	**Pg**	**03 30 11.0**	**+0.5**
	comp=E,2.5nm,0.3s,baz=131,slow=13,SNR=33						
IDI				Sn	**Sg**	**03 30 34.1**	**+4.4**
	comp=E,6.0nm,0.3s,baz=101,slow=20,SNR=8.5						
IDI	**Anoyia**	**1.47**	**315**	P	**Pg**	**03 30 11.2**	**+0.7**
KARP	**Karpathos**	**1.54**	**32**	PN	**Pg**	**03 30 10.2**	**-1.5**
KARP				SN	**Sg**	**03 30 32.7**	**+1.0**
KARP	**Karpathos**	**1.54**	**32**	P	**Pg**	**03 30 12.3**	**+0.6**
KARP				S	**Sg**	**03 30 30.5**	**-1.2**
KARP	**Karpathos**	**1.54**	**32**	P	**Pg**	**03 30 12.4**	**+0.6**
KARP				S	**Sg**	**03 30 30.6**	**-1.1**
GVD	**Gavdhos**	**1.81**	**290**	P	**Pg**	**03 30 17.0**	**+0.1**
VAM	**Vamos**	**1.98**	**306**	P	**Pg**	**03 30 19.1**	**-1.2**
VAM				S	**Sb**	**03 30 42.3**	**-0.2**
VAM				AML	AML	03 30 58.2	
	comp=E,230μm,0.7s						
VAM				AML	AML	03 31 02.1	
	comp=N,285μm,0.7s						
ANAF	**Anafi Island**	**2.13**	**352**	P	**Pb**	**03 30 20.0**	**-0.5**
IMMV	**Iera Moni Meta**	**2.16**	**305**	P	**Pg**	**03 30 21.6**	**-2.0**
IMMV				S	**Sb**	**03 30 46.8**	**-0.9**
IMMV	**Iera Moni Meta**	**2.16**	**305**	P	**Pg**	**03 30 21.6**	**-2.0**
SANT	**Santorini**	**2.19**	**345**	PN	**Pb**	**03 30 19.6**	**-2.0**
THR6	**Thira Island,**	**2.19**	**344**	P	**Pb**	**03 30 20.5**	**-1.1**
THR6	**Thira Island,**	**2.19**	**344**	P	**Pb**	**03 30 20.6**	**-1.0**
THR3	**Thira Island,**	**2.24**	**344**	P	**Pb**	**03 30 21.3**	**-1.1**
THR3	**Thira Island,**	**2.24**	**344**	P	**Pb**	**03 30 21.6**	**-0.8**
THR5	**Thira Island,**	**2.26**	**343**	P	**Pb**	**03 30 21.2**	**-1.6**
THR5	**Thira Island,**	**2.26**	**343**	P	**Pb**	**03 30 21.3**	**-1.5**
ARG	**Arkhangelos**	**2.54**	**39**	PN	**Pn**	**03 30 24.4**	**+1.5**
ARG	**Arkhangelos**	**2.54**	**39**	P	**Pb**	**03 30 26.5**	**-1.0**
ARG				S	**Sb**	**03 30 57.2**	**-1.3**
ARG	**Arkhangelos**	**2.54**	**39**	P	**Pb**	**03 30 26.4**	**-1.0**
AMGA	**Amorgos Island**	**2.58**	**355**	P	**Pb**	**03 30 26.4**	**-1.9**
DAT	**Datca**	**2.73**	**25**	PN	**Pn**	**03 30 27.5**	**+1.8**
MHLO	**Agia Marina, M**	**2.83**	**330**	P	**Pb**	**03 30 30.1**	**-2.2**
ANKY	**Antikythira Is**	**2.85**	**305**	P	**Pb**	**03 30 31.3**	**-1.4**
APE	**Apeiranthos**	**2.86**	**350**	PN	**Pn**	**03 30 29.2**	**+1.8**
APE	**Apeiranthos**	**2.86**	**350**	P	**Pb**	**03 30 29.5**	**-3.5**
MHLA	**Plaka, Milos I**	**2.87**	**331**	P	**Pb**	**03 30 30.6**	**-2.4**
KYTH	**Kithira**	**3.24**	**309**	P	**Pb**	**03 30 36.4**	**-3.1**
TURN	**Turunc**	**3.29**	**37**	PN	**Pn**	**03 30 32.2**	**-1.0**
MLSB	**Milas**	**3.31**	**23**	PN	**Pn**	**03 30 35.6**	**+2.0**
YER	**Yerkesik**	**3.36**	**30**	PN	**Pn**	**03 30 36.1**	**+1.9**
FETY	**Fethiye**	**3.37**	**44**	PN	**Pn**	**03 30 35.9**	**+1.5**
AKAS	**Kas**	**3.45**	**54**	PN	**Pn**	**03 30 36.9**	**+1.4**
VLI	**Veliai**	**3.60**	**314**	P	**Pn**	**03 30 39.6**	**+2.1**
ELL	**Elmali**	**3.95**	**50**	PN	**Pn**	**03 30 44.2**	**+1.8**
AYDB	**Zeytinkoy-Aydi**	**3.95**	**20**	PN	**Pn**	**03 30 44.5**	**+2.1**
URLA	**Izmir**	**4.12**	**5**	PN	**Pn**	**03 30 47.2**	**+2.6**
CHOS	**Chios island**	**4.13**	**359**	PN	**Pn**	**03 30 47.3**	**+2.4**
KORT	**Korkueli**	**4.38**	**50**	PN	**Pn**	**03 30 50.3**	**+1.9**
ANTB	**Antalya**	**4.52**	**53**	PN	**Pn**	**03 30 52.2**	**+2.1**
KULA	**Kula-Manisa**	**4.71**	**25**	PN	**Pn**	**03 30 55.5**	**+2.7**
CSS	**Mathiatis**	**5.96**	**81**	Pn	**Pn**	**03 31 10.0**	**+0.1**
TEKE	**Tekeli-Mersin**	**6.00**	**70**	PN	**Pn**	**03 31 12.7**	**+2.2**
BERE	**Bereket-Mersin**	**6.14**	**68**	PN	**Pn**	**03 31 14.9**	**+2.3**
KONT	**Konya--Tatoy**	**6.23**	**52**	PN	**Pn**	**03 31 17.0**	**+3.3**
SLTI	**Sal'it**	**7.71**	**103**	Pn	**Pn**	**03 31 33.6**	**-0.3**
KZIT	**Kziot**	**7.71**	**113**	Pn	**Pn**	**03 31 34.3**	**+0.3**
MMA0B	**Mount Meron ar**	**7.81**	**96**	Pn	**Pn**	**03 31 35.3**	**-0.1**
MMAI	**Mount Meron Ar**	**7.81**	**96**	Pn	**Pn**	**03 31 33.8**	**-1.6**
	comp=N,0.8nm,0.3s,baz=271,slow=12,SNR=12						
MMAI				Sn	**Sn**	**03 32 59.3**	**-4.3**
	comp=N,1.5nm,0.3s,baz=266,slow=24,SNR=5.2						
AMAZ	**Amatzia**	**7.85**	**108**	Pn	**Pn**	**03 31 36.0**	**+0.1**
AMAZ				Sn	**Sn**	**03 33 03.9**	**-0.6**
MMLI	**Mount Malkishu**	**7.96**	**101**	Pn	**Pn**	**03 31 36.5**	**-0.9**
KSDI	**Kefar Szold**	**7.99**	**95**	Pn	**Pn**	**03 31 37.7**	**0.0**
NATI	**Neve Ativ**	**8.04**	**94**	Pn	**Pn**	**03 31 38.4**	**0.0**
NATI				Sn	**Sn**	**03 33 09.5**	**+0.4**
YTIR	**Yattir**	**8.07**	**108**	Pn	**Pn**	**03 31 39.1**	**+0.1**
HMDT	**Nahal Hemdat**	**8.10**	**102**	Pn	**Pn**	**03 31 39.5**	**+0.2**
BRTR	**Keskin Array B**	**8.10**	**45**	Pn	**Pn**	**03 31 42.5**	**+3.0**
	comp=N,0.0nm,0.3s,baz=226,slow=11,SNR=2.7						
BRTR				Sn	**Sn**	**03 33 09.2**	**-1.7**
	comp=N,0.1nm,0.3s,baz=206,slow=29,SNR=3.0						
DSI	**Dead Sea**	**8.20**	**106**	Pn	**Pn**	**03 31 41.2**	**+0.5**
PRNI	**Paran**	**8.44**	**115**	Pn	**Pn**	**03 31 44.2**	**+0.2**
GHAJ	**Ghor Haditha**	**8.45**	**108**	Pn	**Pn**	**03 31 44.1**	**0.0**
GHAJ				Sn	**Sn**	**03 33 19.0**	**-0.2**
ZFRI	**Zfri**	**8.47**	**113**	Pn	**Pn**	**03 31 44.5**	**+0.1**
HRFI	**Mount Harif**	**8.62**	**117**	Pn	**Pn**	**03 31 46.4**	**-0.1**
MBRI	**Mt Berech**	**8.66**	**118**	Pn	**Pn**	**03 31 47.4**	**+0.3**
EIL	**Elat**	**8.75**	**119**	Pn	**Pn**	**03 31 48.5**	**+0.2**
EIL	**Elat**	**8.75**	**119**	Pn	**Pn**	**03 31 48.1**	**-0.2**
	comp=N,0.5nm,0.3s,baz=339,slow=7.7,SNR=8.5						
EIL				Sn	Sn	03 33 17.8	-8.9
	comp=N,0.7nm,0.3s,baz=342,slow=3.9,SNR=5.4						
ASF	**Jabal al Asfar**	**9.23**	**100**	Pn	**Pn**	**03 31 55.8**	**+0.9**
	comp=N,0.1nm,0.3s,baz=255,slow=16,SNR=2.4						
ASF				Sn	**Sn**	**03 33 33.7**	**-5.0**
	comp=N,0.1nm,0.3s,baz=270,slow=15,SNR=2.2						
VAE	**Valguarnera**	**10.06**	**292**	Pn	**Pn**	**03 32 09.3**	**+3.1**
	comp=N,0.6nm,0.3s,baz=114,slow=18,SNR=2.5						
AKASG	**Malin Array Be**	**16.59**	**7**	Pn	**P**	**03 33 36.7**	**+0.1**
	comp=N,0.4nm,0.3s,baz=194,slow=11,SNR=4.7						
ESDC	**Sonseca Array**	**24.60**	**292**	P	**P**	**03 35 03.1**	**+1.1**
	comp=N,0.9nm,0.7s,baz=75,slow=8.9,SNR=6.3						
TORD	**Torodi Ar. Bea**	**30.56**	**233**	P	**P**	**03 35 55.6**	**+0.2**
	comp=N,0.3nm,0.5s,baz=36,slow=8.6,SNR=5.8						
MKAR	**Makanchi Array**	**43.60**	**56**	P	**P**	**03 37 47.1**	**+1.3**
	comp=N,0.8nm,0.6s,baz=277,slow=6.5,SNR=14						
ZALV	**Zalesovo Beam**	**45.05**	**46**	P	**P**	**03 37 57.9**	**+0.7**
	comp=N,0.4nm,0.4s,baz=240,slow=12,SNR=3.4						
YKA	**Yellowknife Ar**	**78.56**	**343**	P	**P**	**03 41 43.6**	**+0.8**
	comp=N,0.1nm,0.4s,baz=50,slow=5.9,SNR=3.5						

ATH 02 03:37:24.0,36°.35N×22°.21E,h26km±4km,ML1.5/1,Error ellipse: s-maj=4.8km s-min=1.1km az=35.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.62**	**320**	P	Pb	**03 37 36.2**	**0.0**
MES2				S	Sn	**03 37 45.9**	**-0.2**
PYL	**PYLOS**	**0.66**	**326**	P	Pb	**03 37 37.1**	**+0.2**
PYL				S	Sn	03 37 46.8	-0.3
KYTH	**Kithira**	**0.69**	**97**	P	Pn	03 37 38.0	0.0
KYTH				S	Sn	03 37 47.2	-0.7
VLI	**Veliai**	**0.69**	**58**	P	Pn	03 37 38.2	+0.1
VLI				S	Sn	03 37 47.8	-0.1
VLI				AML	AML	03 37 54.5	
	comp=N,73μm,0.7s						
VLI				AML	AML	03 37 55.0	
	comp=E,104μm,0.8s						
ITM	**Ithomi**	**0.85**	**345**	P	Pn	03 37 41.1	+0.7
ITM				S	Sn	03 37 53.0	+0.9
MES3	**Kyparissia**	**0.99**	**335**	P	Pn	03 37 42.6	+0.1
ANKY	**Antikythira Is**	**1.01**	**118**	P	Pb	03 37 42.9	+0.1
VLX	**Vlachokerasia**	**1.02**	**8**	P	Pb	03 37 43.6	+0.4
AMT	**Artemida-Makis**	**1.24**	**341**	P	Pb	03 37 47.6	+0.8

ATH 02 03:38:04.6,40°.34N×25°.57E,h11km±3km,ML1.2/1,Error ellipse: s-maj=3.7km s-min=1.0km az=352.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.13**	**347**	P	Pg	03 38 07.8	+0.1
SMTH				S	Sg	03 38 09.9	-0.1
SMTH				AML	AML	03 38 10.0	
	comp=N,356μm,0.1s						
SMTH				AML	AML	03 38 10.9	
	comp=E,276μm,0.1s						
LIA	**Limnos Island**	**0.53**	**214**	P	Pg	03 38 15.1	+0.2
LIA				S	Sg	03 38 22.4	+0.4

LEHL	Lehliu	1.99	254	⇑	*i*	P	Pb	03 38 52.6 -1.3
LEHL	Lehliu	1.99	254	⇑	*e*	P	Pb	03 38 52.6 -1.3
KIS	Kishinev	2.01	347	⇓	*i*	P	Pb	03 38 53.5 -0.8
	200nm,0.6s							
KIS					*i*	S	Sn	03 39 18.0 +0.9
	10µm,0.7s							
KIS	Kishinev	2.01	347	⇓	*i*	P	Pb	03 38 53.5 -0.8
KIS					*i*	S	Sn	03 39 18.0 +0.9
KIS					pmax	pmax		
	comp=Z,200nm,0.6s							
KIS					smax	smax		
	comp=N,10µm,0.7s							
KIS	Kishinev	2.01	347		P		Pb	03 38 53.4 -0.8
ISR	Istrita	2.09	273	⇑	*i*	P	Pb	03 38 55.1 -0.6
ISR	Istrita	2.09	273	⇑	*e*	P	Pb	03 38 55.1 -0.6
ISR	Istrita	2.09	273	⇓	*e*	P	Pb	03 38 55.1 -0.6
VRI	Vrincioaia	2.12	294	⇓	*i*	P	Pb	03 38 54.8 -1.3
VRI					*i*	S	Sb	03 39 22.5 0.0
VRI	Vrincioaia	2.12	294	⇓	*i*	P	Pb	03 38 54.8 -1.3
VRI	Vrincioaia	2.12	294	⇑	*e*	P	Pb	03 38 54.8 -1.3
PLOR	Plostina	2.16	293	⇑	*i*	P	Pb	03 38 55.5 -1.3
PLOR					*i*	S	Sb	03 39 23.1 -0.7
PLOR	Plostina	2.16	293	⇑	*e*	P	Pb	03 38 55.5 -1.3
PLOR	Plostina	2.16	293	⇑	*e*	P	Pb	03 38 55.5 -1.3
SULR		2.33	262	⇑	*e*	P	Pb	03 38 58.1 -1.6
SULR					*i*	S	Sb	03 39 27.0 -1.7
SULR		2.33	262	⇑	*i*	P	Pb	03 38 58.1 -1.6
SECR		2.43	271	⇓	*i*	P	Pn	03 38 59.2 +1.7
SECR		2.43	271	⇓	*e*	P	Pn	03 38 59.2 +1.7
INCR	INCERC-Sediu C	2.45	257	⇓	*i*	P	Pn	03 38 59.3 +1.6
INCR	INCERC-Sediu C	2.45	257	⇓	*e*	P	Pn	03 38 59.3 +1.6
PLAR	PLOIESTI	2.46	268	⇑	*i*	P	Pb	03 39 00.1 -1.9
PLAR	PLOIESTI	2.46	268	⇑	*e*	P	Pb	03 39 00.1 -1.9
TESR	Tescani	2.48	307	⇓	*i*	P	Pn	03 38 58.7 +0.6
TESR					*i*	S	Sb	03 39 31.6 -1.2
TESR	Tescani	2.48	307	⇓	*i*	P	Pn	03 38 58.7 +0.6
IAS	Iasi	2.54	329	⇓	*i*	P	Pn	03 39 00.5 +1.6
IAS	Iasi	2.54	329	⇓	*i*	P	Pn	03 39 00.5 +1.6
IAS	Iasi	2.54	329	⇓	*e*	P	Pn	03 39 00.5 +1.6
MLR	Muntele Rosu	2.55	281	⇑	*i*	P	Pn	03 39 01.1 +1.9
MLR	Muntele Rosu	2.55	281	⇑	*e*	P	Pn	03 39 01.1 +1.9
MLR	Muntele Rosu	2.55	281		Pn		Pn	03 39 00.8 +1.6
	comp=N,4.4nm,0.3s,baz=25,slow=8.3,SNR=78							
MLR					Sn		Sn	03 39 31.6 +1.2
	comp=N,18nm,0.3s,baz=162,slow=20,SNR=7.1							
BUC1	Bucharest	2.57	256	⇑	*i*	P	Pb	03 39 01.6 -2.2
BUC1	Bucharest	2.57	256	⇑	*e*	P	Pb	03 39 01.6 -2.2
BUC1	Bucharest	2.57	256	⇓	*e*	P	Pb	03 39 01.7 -2.1
SGRR	Singureni	2.64	253	⇓	*i*	P	Pn	03 39 01.6 +1.2
SGRR					*i*	S	Sn	03 39 34.1 +1.5
SGRR	Singureni	2.64	253	⇓	*i*	P	Pn	03 39 01.6 +1.2
OZUR		2.81	293	⇓	*i*	P	Pn	03 39 03.5 +0.8
OZUR		2.81	293	⇓	*e*	P	Pn	03 39 03.5 +0.8
GIRR	Girov	2.83	314	⇓	*i*	P	Pn	03 39 03.8 +0.8
GIRR	Girov	2.83	314	⇓	*e*	P	Pn	03 39 03.8 +0.8
SEV	Sevastopol'	3.01	98		*e*	P	Pn	03 39 05.8 +0.3
SEV					*e*	S	Sn	03 39 41.5 -0.2
SEV	Sevastopol'	3.01	98		*e*	P	Pn	03 39 05.8 +0.3
SEV					Pm			03 39 13.0
SEV					*e*	S	Sn	03 39 41.5 -0.2
SEV					Sm			03 39 56.1
BIZ	Bicaz	3.03	310	⇑	*i*	P	Pn	03 39 06.5 +0.8
BIZ	Bicaz	3.03	310	⇑	*e*	P	Pn	03 39 06.5 +0.8
DOPR	Dopca	3.03	289	⇑	*i*	P	Pn	03 39 06.5 +0.7
DOPR	Dopca	3.03	289	⇑	*e*	P	Pn	03 39 06.5 +0.7
VOIR		3.17	279	⇑	*i*	P	Pn	03 39 09.1 +1.4
VOIR					*i*	S	Sn	03 39 47.2 +1.6
VOIR		3.17	279	⇑	*e*	P	Pn	03 39 09.1 +1.4
VOIR		3.17	279	⇓	*e*	P	Pn	03 39 09.1 +1.4
PRAR	RASCA	3.24	317	⇑	*i*	P	Pn	03 39 09.2 +0.5
PRAR	RASCA	3.24	317	⇑	*e*	P	Pn	03 39 09.2 +0.5
HUMR	Humele	3.26	262	⇑	*i*	P	Pn	03 39 10.1 +1.3
HUMR	Humele	3.26	262	⇑	*e*	P	Pn	03 39 10.1 +1.3
ZIMR		3.27	246	⇑	*i*	P	Pn	03 39 10.0 +1.0
ZIMR		3.27	246	⇑	*e*	P	Pn	03 39 10.0 +1.0
ZIMR		3.27	246	⇑	*e*	P	Pn	03 39 10.1 +1.0
SIM	Simferopol'	3.28	90		*e*	P	Pn	03 39 10.0 +0.8
SIM					*e*	S	Sn	03 39 48.4 +0.1
SIM					pmax	pmax		
	comp=Z,110nm,0.3s							
SIM					smax	smax		
	comp=N,80nm,1.0s							
SIM					smax	smax		
	comp=E,106nm,0.8s							
SIM	Simferopol'	3.28	90		*e*	P	Pn	03 39 09.2 0.0
SIM					Pm			03 39 21.5
SIM					*e*	S	Sn	03 39 47.4 -0.9
SIM					Sm			03 40 10.8
SIM					m			03 40 23.0
YAL	Yalta	3.37	98	⇑	*i*	P	Pn	03 39 10.5 +0.2
YAL					*e*	S	Sn	03 39 50.1 -0.3
YAL	Yalta	3.37	98		*i*	P	Pn	03 39 10.5 +0.2
YAL					Pm			03 39 18.0
YAL					*e*	S	Sn	03 39 50.1 -0.3
YAL					Sm			03 40 11.7
YAL					m			03 40 17.3
ARR	Arges	3.45	277	⇑	*i*	P	Pn	03 39 12.9 +1.3
ARR					*i*	S	Sn	03 39 54.5 +1.8
ARR	Arges	3.45	277	⇑	*e*	P	Pn	03 39 12.9 +1.3
ALU	Alushta	3.51	94	⇑	*e*	P	Pn	03 39 12.7 +0.4
ALU					*e*	S	Sn	03 39 54.2 +0.3
ALU	Alushta	3.51	94		*e*	P	Pn	03 39 12.7 +0.4
ALU					Pm			03 39 17.6
ALU					*e*	S	Sn	03 39 54.2 +0.3
ALU					Sm			03 40 16.1
CTYL	Yalikoy Yolu	3.67	194		*e*	P	Pn	03 39 14.5 -0.1
CTYL	Yalikoy Yolu	3.67	194	⇑	*i*	P	Pn	03 39 14.7 +0.1
CTYL	Yalikoy Yolu	3.67	194	⇑	*e*	P	Pn	03 39 14.7 +0.1
PHSR	Pinarhisar	3.70	204		*e*	P	Pn	03 39 14.8 -0.2
PHSR	Pinarhisar	3.70	204	⇑	*e*	P	Pn	03 39 15.0 0.0
PHSR	Pinarhisar	3.70	204	⇑	*i*	P	Pn	03 39 15.0 0.0
MDB	Medias	3.75	289	⇓	*i*	P	Pn	03 39 17.6 +1.9
MDB	Medias	3.75	289	⇓	*i*	P	Pn	03 39 17.6 +1.9
MDB	Medias	3.75	289	⇑	*e*	P	Pn	03 39 17.6 +1.9
EDRB	Edirne	3.77	213		*e*	P	Pn	03 39 16.6 +0.7
VLAD	Vladila	3.79	256	⇑	*i*	P	Pn	03 39 17.4 +1.3
VLAD	Vladila	3.79	256	⇑	*e*	P	Pn	03 39 17.4 +1.3
KLYT	Kilyos	3.80	185		*e*	P	Pn	03 39 16.1 -0.2
KLYT	Kilyos	3.80	185	⇑	*e*	P	Pn	03 39 15.7 -0.6
KLYT	Kilyos	3.80	185	⇑	*i*	P	Pn	03 39 15.7 -0.6
NDNU	Novodnistrovsk	3.84	338		*i*	P	Pn	03 39 16.1 -0.8
NDNU					Pm			03 39 18.2
NDNU					*e*	Sn	Sn	03 39 58.5 -3.7
NDNU					Sm			03 40 19.7
CTKS	Kestanelik-??a	3.87	191		*e*	P	Pn	03 39 17.0 -0.3
SILT	Sile	3.89	178		*e*	P	Pn	03 39 17.1 -0.5
SILT	Sile	3.89	178	⇓	*i*	P	Pn	03 39 17.0 -0.5
SILT	Sile	3.89	178	⇓	*i*	P	Pn	03 39 17.0 -0.5
BGKT	Bogazkoy	3.90	188		*e*	P	Pn	03 39 17.5 -0.1
SUDU	Sudak	3.91	90	⇑	*i*	P	Pn	03 39 18.5 +0.7
SUDU					*e*	S	Sn	03 40 04.2 +0.3
SUDU	Sudak	3.91	90		*i*	P	Pn	03 39 18.5 +0.7
SUDU					Pm			03 39 31.2
SUDU					*e*	S	Sn	03 40 04.2 +0.3
SUDU					Sm			03 40 35.8
BURAR	Bucovina Array	3.92	312	⇑	*i*	P	Pn	03 39 19.4 +1.3
BURAR					*i*	S	Sn	03 40 04.5 +0.1
BURAR	Bucovina Array	3.92	312	⇑	*i*	P	Pn	03 39 19.4 +1.3
BURAR	Bucovina Array	3.92	312	⇑	*e*	P	Pn	03 39 19.4 +1.3
SLVT	Silivri	3.93	194		*e*	P	Pn	03 39 18.2 +0.2
KURC	Kurucasile-Bar	3.98	142		*e*	P	Pn	03 39 19.1 +0.4
ISK	Istanbul-Kandi	3.99	185		*e*	P	Pn	03 39 18.8 -0.1
KAVV	Kandilli-Istan	3.99	185		*e*	P	Pn	03 39 18.8 -0.1
LOT	Lotru	4.06	278	⇓	*i*	P	Pn	03 39 20.6 +0.6
LOT					*i*	S	Sn	03 40 07.8 -0.1
LOT	Lotru	4.06	278	⇓	*e*	P	Pn	03 39 20.6 +0.6
CHRU	Chernivtsi	4.08	324		*e*	Pn	Pn	03 39 19.8 -0.3
CHRU					Pm			03 39 20.4
CHRU					*i*	Sn	Sn	03 40 06.2 -1.9
CHRU					Sm			03 40 30.9
KMPD	K-Podol'skiy	4.09	330		*e*	Pn	Pn	03 39 19.6 -0.7
KMPD					*e*	Sn	Sn	03 40 05.4 -2.9
CRLT	Corlu	4.12	199		*e*	P	Pn	03 39 21.6 +0.9
FEO	Feodosiya	4.18	88	⇑	*e*	P	Pn	03 39 22.0 +0.5
FEO					*e*	S	Sn	03 40 12.1 +1.6
FEO	Feodosiya	4.18	88		*e*	P	Pn	03 39 22.0 +0.5
FEO					Pm			03 39 23.5
FEO					*e*	S	Sn	03 40 12.1 +1.6
FEO					Sm			03 40 25.0
SAUV	Serdivan-Sakar	4.34	172		*e*	P	Pn	03 39 23.4 -0.4
SPNC	Sapanca-Adapaz	4.40	172		*e*	P	Pn	03 39 24.7 +0.2
CJR	Cluj-Napoca	4.44	294	⇑	*i*	P	Pn	03 39 25.1 -0.1
CJR	Cluj-Napoca	4.44	294	⇑	*e*	P	Pn	03 39 25.1 -0.1
SBT4	Kumbag-Tekirda	4.45	200		*e*	P	Pn	03 39 25.1 0.0
KSV	Kosov	4.47	319		*i*	Pn	Pn	03 39 25.6 +0.1
KSV					Pm			03 39 27.6
KSV					*e*	Sn	Sn	03 40 15.8 -2.0
KSV					Sm			03 40 41.1
YLV	Yalova	4.47	181		*e*	P	Pn	03 39 25.9 +0.2
YLV	Yalova	4.47	181	⇓	*e*	P	Pn	03 39 25.7 0.0
SRE	Strehaia	4.49	267	⇓	*i*	P	Pn	03 39 25.8 0.0
SRE	Strehaia	4.49	267	⇓	*i*	P	Pn	03 39 25.8 0.0
SRE	Strehaia	4.49	267	⇓	*e*	P	Pn	03 39 25.8 0.0
ARMT	Armutlu	4.50	186		*e*	P	Pn	03 39 26.5 +0.6
BZK	Bozkurt	4.50	132	⇓	*i*	P	Pn	03 39 25.5 -0.4
BZK					*i*	S	Sn	03 40 16.1 -2.3
BZK	Bozkurt	4.50	132	⇓	*e*	P	Pn	03 39 25.5 -0.4
KDZ	Kurdzhali	4.51	223		*e*	P	Pn	03 39 27.9 +1.8
PLD	Plovdiv	4.55	232		*e*	P	Pn	03 39 27.1 +0.4
HORU	Horodok	4.67	334		*i*	Pn	Pn	03 39 27.7 -0.5
HORU					*e*	Sn	Sn	03 40 19.8 -2.8
GULT	Gulveren	4.67	170		*e*	P	Pn	03 39 28.9 +0.6
NSLU	Nyzhne Selyshc	4.69	314		*i*	Pn	Pb	03 39 36.5 -3.4
NSLU					Pm			03 39 39.9
NSLU					*e*	Sn	Sb	03 40 35.2 -1.3
NSLU					Sm			03 41 19.6
MDNY	Mudanya-Bursa	4.69	186		*e*	P	Pn	03 39 28.8 +0.2
DEV	Deva	4.71	283	⇑	*i*	P	Pn	03 39 29.9 +1.1
DEV	Deva	4.71	283	⇑	*i*	P	Pn	03 39 29.9 +1.1
DEV	Deva	4.71	283	⇑	*e*	P	Pn	03 39 29.9 +1.1
RAKU	Rahkiv	4.74	311		*i*	Pn	Pn	03 39 29.2 0.0
RAKU					*e*	Sn	Sn	03 40 23.7 +0.5
MDUB	Mudurnu	4.74	164		*e*	P	Pn	03 39 30.3 +1.0
GZR	Gura Zlata	4.76	277	⇓	*i*	P	Pn	03 39 30.5 +0.9
GZR					*i*	S	Sn	03 40 23.8 -1.1
GZR	Gura Zlata	4.76	277	⇓	*i*	P	Pn	03 39 30.5 +0.9
EDC	Edincik	4.84	195		*e*	P	Pn	03 39 31.1 +0.4
KCTX	Karacabey (Bur	4.85	190		*e*	P	Pn	03 39 31.3 +0.6
RDO	Rodhopi	4.85	218		*e*	P	Pn	03 39 31.9 +1.1
ALN	Alexandroupoli	4.86	213		*e*	P	Pn	03 39 31.6 +0.8
ERIK	Erikli-Kesan	4.89	208		*e*	P	Pn	03 39 31.9 +0.7
KRBG	Karabiga-Canak	4.92	200		*e*	P	Pn	03 39 31.7 0.0
KERU	Kerch	4.93	84		*e*	P	Pn	03 39 35.5 +3.7
KERU	Kerch	4.93	84		P		Pn	03 39 35.5 +3.7
ENEZ	Enez	4.96	211		*e*	P	Pn	03 39 32.8 +0.6
DRGR		5.05	293	⇑	*i*	P	Pn	03 39 33.7 +0.2
DRGR		5.05	293	⇑	*e*	P	Pn	03 39 33.7 +0.2
LPK	Lapseki	5.08	204		*e*	P	Pn	03 39 34.3 +0.4
SNOP	Sinop	5.13	124		*e*	P	Pn	03 39 33.4 -1.2
VTS	Vitosha	5.14	244	⇓	*i*	P	Pn	03 39 35.9 +1.1
VTS	Vitosha	5.14	244	⇓	*i*	P	Pn	03 39 35.9 +1.1
VTS	Vitosha	5.14	244	⇑	*e*	P	Pn	03 39 35.9 +1.1
GELI	Tayfur-Gelibol	5.15	207		*e*	P	Pn	03 39 35.4 +0.6
KORU	Korolevo	5.38	308		*e*	Pn	Pn	03 39 37.7 -0.2
KORU					Pm			03 39 40.5
KORU					*e*	Sn	Sn	03 40 39.4 -0.6
KORU					Sm			03 41 32.2
MEZ	Mezhgor'ye	5.38	312		*i*	Pn	Pn	03 39 38.6 +0.6
MEZ					Pm			03 39 39.8
MEZ					*e*	Sn	Sn	03 40 39.8 -0.3
MEZ					Sm			03 41 21.1
DIKM	Dikmen	5.40	127		*e*	P	Pn	03 39 38.5 +0.2
DIKM	Dikmen	5.40	127	⇓	*i*	P	Pn	03 39 38.1 -0.2
DIKM	Dikmen	5.40	127	⇓	*i*	P	Pn	03 39 38.1 -0.2
TRSU	Trosnyk	5.44	306		*e*	Sn	Sn	03 40 41.7 +0.1
BALB	Balikesir	5.53	193		*e*	P	Pn	03 39 38.2 -1.9
MDVR	Moldovita	5.53	270	⇑	*i*	P	Pn	03 39 40.2 0.0
MDVR	Moldovita	5.53	270	⇑	*e*	P	Pn	03 39 40.2 0.0
BRIU	Brid	5.54	309		*i*	Pn	Pn	03 39 40.7 +0.5
BRIU					Pm			03 39 41.3
BRIU					*e*	Sn	Sn	03 40 44.2 +0.2
BRIU					Sm			03 41 35.3
BZS	Buzias	5.58	279	⇓	*i*	P	Pn	03 39 40.5 -0.3
BZS	Buzias	5.58	279	⇓	*i*	P	Pn	03 39 40.5 -0.3
BZS	Buzias	5.58	279	⇑	*e*	P	Pn	03 39 40.5 -0.3
TVSB	Tavsanli	5.59	180		*e*	P	Pn	03 39 41.5 +0.5
MORS	Morshin	5.60	319		*i*	Pn	Pn	03 39 41.6 +0.6
MORS					*e*	Sn	Sn	03 40 44.3 -1.2
SIRR	Siria	5.63	285	⇓	*i*	P	Pn	03 39 42.0 +0.6
SIRR	Siria	5.63	285	⇓	*i*	P	Pn	03 39 42.0 +0.6
ANN	Anapa	5.64	90		*e*	P	Pn	03 39 41.0 -0.6
ANN					*e*	S	Sn	03 40 44.6 -1.9
KIEV	Kiev	5.66	358	⇓	*i*	P	Pn	03 39 43.5 +1.7
KIEV	Kiev	5.66	358	⇓	*i*	P	Pn	03 39 43.5 +1.7
KIEV	Kiev	5.66	358	⇓	*i*	P	Pn	03 39 43.5 +1.7
AKASG	Malin Array Be	5.66	358		Pn		Pn	03 39 41.0 -0.9
	comp=E,3.9nm,0.3s,baz=180,slow=11,SNR=19							
AKASG					Sn		Sn	03 40 43.0 -4.1
	comp=E,20nm,0.3s,baz=181,slow=16,SNR=9.3							
AKASG					Lg	Lg		03 41 05.8
	comp=E,28nm,0.3s,baz=176,slow=29,SNR=8.1							
BERU	Beregovo	5.69	307		*i*	Pn	Pn	03 39 42.3 0.0
TRPA	Tarpa	5.70	305		*e*	Pn	Pn	03 39 45.1 +2.7
TRPA					Sn		Sn	03 40 47.1 -0.9
TRPA					*e*	Sg	Sg	03 41 22.1 +1.6
ANTO	Ankara	5.72	154		*e*	P	Pn	03 39 46.2 +3.5
EZN	Ezine	5.72	205		*e*	P	Pn	03 39 42.8 +0.2
LTVH	Ltavrtes, Hu	5.77	297		*e*	Pn	Pb	03 39 57.1 -1.2
LTVH					Sn		Sn	03 40 48.1 -1.5
MUKU	Mukachevo	5.79	309		*e*	Sn	Sn	03 40 50.1 0.0
SVRH	Sivrihisar-ESK	5.79	164		*e*	P	Pn	03 39 43.5 -0.3
SHIU	Shidnytsya	5.91	317		*e*	Pn	Pn	03 39 45.0 -0.4
SHIU					Pm			03 39 45.3
SHIU					*e*	Sn	Sn	03 40 52.9 -0.4
SHIU					Sm			03 41 33.6
BANR	Banloc	5.92	276	⇑	*i*	P	Pn	03 39 45.9 +0.6
BANR	Banloc	5.92	276	⇑	*i*	P	Pn	03 39 45.9 +0.6
LVV	L'vov	6.05	324		*e*	P	Pn	03 39 53.6 +6.5
LVV					*e*	S	Sn	03 40 59.4 +2.9
UZH	Uzhgorod	6.11	309		*e*	P	Pn	03 39 52.2 +4.3
UZH					*e*	S	Sn	03 41 02.4 +4.5
UZH					MLR	MLR		
	comp=N,6.0nm,1.2s							
UZH					MLR	MLR		
	comp=E,5.0nm,1.2s							
UZH					MLR	MLR		
	comp=Z,4.0nm,1.2s							
UZH	Uzhgorod	6.11	309		*e*	Sn	Sn	03 40 57.9 0.0
BRTR	Keskin Array B	6.14	149		Pn		Pn	03 39 48.2 -0.3
	comp=Z,0.3nm,0.3s,baz=335,slow=12,SNR=29							
BRTR					Sn		Sn	03 40 54.0 -5.0
	comp=Z,0.4nm,0.3s,baz=321,slow=19,SNR=7.8							
AFSR	Afar-Bala (An	6.19	154		*e*	P	Pn	03 39 49.4 +0.2
KNT	Kendrikon	6.19	234		*e*	P	Pn	03 39 50.3 +1.1
OUR	Ouranopolis	6.22	223		*e*	P	Pn	03 39 49.7 +0.2
KVT	Kavak	6.22	127		*e*	P	Pn	03 39 51.1 +1.5
VAY	Valandovo	6.28	236		*i*	Pn	Pn	03 39 51.9 +1.5
STIP	Stip	6.29	240		*i*	Pn	Pn	03 39 48.2 -2.3
SIGR	SIGRI	6.42	206		*e*	P	Pn	03 39 52.3 0.0
HORT	Hortiatis	6.47	229		*e*	P	Pn	03 39 54.4 +1.4
KWP	Kalwaria Pacla	6.50	317		*e*	Pn	Pn	03 39 56.4 +2.9
KWP	Kalwaria Pacla	6.50	317		*e*	P	Pn	03 39 56.4 +2.9
SHUT	Suhut-Afyon	6.53	173		*e*	P	Pn	03 39 54.2 +0.2
KULA	Kula-Manisa	6.55	186		*e*	P	Pn	03 39 54.7 +0.5
SERE	Sereflikochisa	6.80	152		*e*	P	Pn	03 39 58.5 +0.8
YAYX	Yaylak	6.89	151		*e*	P	Pn	03 39 58.5 -0.4
YOZ	Yozgat	6.91	139		*e*	P	Pn	03 39 59.4 +0.2
TOKT	Tokat	7.02	130		*e*	P	Pn	03 40 01.6 +1.0
AYDB	Zeytinkoy-Aydi	7.19	190		*e*	P	Pn	03 40 02.3 -0.7
AOS	Alonnisos	7.20	217		*e*	P	Pn	03 40 02.3 -0.7
BIA	Bitola	7.21	239		*i*	Pn	Pn	03 40 05.2 +2.0
PSZ	Piszkesteto	7.22	297		*e*	Pn	Pn	03 40 07.1 +3.6
PSZ					Sn		Sn	03 41 30.0 +4.4
PSZ	Piszkesteto	7.22	297		*e*	Pn	Pn	03 40 07.0 +3.6
PSZ					Sn		Sn	03 41 29.1 +3.4
FNA	Florina	7.32	237		*e*	P	Pn	03 40 05.5 +0.8
KONT	Konya--Tatoy	7.41	162		*e*	P	Pn	03 40 05.8 -0.1
SVSK	Karacayir	7.55	130		*e*	P	Pn	03 40 08.9 +1.2
NIE	Niedzica	7.63	308		*e*	Pn	Pn	03 40 09.7 +0.7
NIE	Niedzica	7.63	308		*e*	P	Pn	03 40 09.7 +0.7
AGG	Agios Georgios	8.04	224		*e*	P	Pn	03 40 15.2 +0.7
VYHS	Vyhne	8.09	299		*e*	P	Pn	03 40 17.9 +2.7
VYHS					*e*			03 41 46.8
VYHS	Vyhne	8.09	299		*e*	PN	Pn	03 40 17.9 +2.7
VYHS					*e*			03 41 46.8
APE	Apeiranthos	8.51	202		*e*	P	Pn	03 40 21.2 +0.2
APE	Apeiranthos	8.51	202		*i*	P	Pn	03 40 20.1 -0.9
KTUT	Trabzon	8.55	115		*e*	P	Pn	03 40 21.2 -0.3
DOMR	Dombai	8.89	97		*i*	P	Pn	03 40 32.5 +6.1
VSR	Storozhevoye	8.94	43		*e*	P	Pn	03 40 29.5 +2.7
VSR					pmax	pmax		
	comp=Z,7.0nm,0.4s							
BAYT	Aydıntepe-Bayb	9.11	117		*e*	P	Pn	03 40 29.2 -0.1
SHA1	Shidzhatmaz	9.52	93		*e*	P	Pn	03 40 38.1 +3.1
BATM	Batumi	9.53	107		P		Pn	03 40 33.4 -1.5
KBZ	Khabaz	9.69	93		Pn		Pn	03 40 37.5 +0.5
	comp=Z,0.1nm,0.3s,baz=287,slow=12,SNR=4.7							
KBZ					Sn		Sn	03 42 25.8 -0.2
	comp=Z,0.2nm,0.3s,baz=167,slow=18,SNR=2.1							
LPSR	Galich'ya Gora	9.79	36		*e*	P	Pn	03 40 41.6 +3.2
LPSR					pmax	pmax		
	comp=Z,30nm,1.9s							
VRH	Novokhopyorsk	10.23	49		*e*	P	Pn	03 40 47.4 +2.9
VRH					pmax	pmax		
	comp=Z,6.0nm,0.6s							
DPC	Dobruska-Polom	10.34	306		*e*	PN	Pn	03 40 47.8 +1.7
DPC	Dobruska-Polom	10.34	306		*e*	P	Pn	03 40 47.8 +1.7
IDID	Didziasalis	10.43	351		*e*	P	Pn	03 40 45.3 -1.9
IIGN	Ignalina	10.53	350		*e*	P	Pn	03 40 47.2 -1.3
ISAL	Salakas	10.76	350		*e*	P	Pn	03 40 49.4 -2.3
IZAR	Zarasai	10.92	350		*e*	P	Pn	03 40 52.8 -1.1
GERES	GERESS Array B	11.44	295		Pn		Pn	03 41 01.1 -0.2
	comp=Z,0.1nm,0.3s,baz=88,slow=12,SNR=2.2							
MOS	Moscow	11.89	23		*e*	P	Pn	03 41 06.8 -0.3
MOS					*e*			03 43 29.4
PBUR	Paburg	11.99	339		*e*	P	Pn	03 41 05.9 -2.7
SLIT	Slitere, Latvi	13.37	343		*e*	P	Pn	03 41 24.0 -3.3
VSU	Vasula	13.54	354		*e*	P	Pn	03 41 27.0 -2.7
PUL	Pulkovo	14.76	2		*e*	P	P	03 41 56.2 +3.8
EIL	Elat	15.94	162		LR		LR	03 48 52.3
	comp=Z,43nm,21.7s,baz=252,slow=40							
FINES	FINESS Array B	16.55	354		*e*	P	Pn	03 42 06.4 -3.3
FINES	FINESS Array B	16.55	354		Pn		Pn	03 42 04.1 -5.6
	comp=Z,0.3nm,0.3s,baz=167,slow=14,SNR=12							
FINES					Sn		Sn	03 44 56.2 -17
	comp=Z,0.5nm,0.3s,baz=171,slow=20,SNR=4.5							
KLMR	Klimovskoe	16.91	17		*e*	P	P	03 42 17.6 +1.3
KLMR					pmax	pmax		

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.54**	**226**	P	P	03 51 33.8	+1.2
	0.5nm,0.8s,baz=54,slow=10.0,SNR=2.2						
ASAR	**Alice Springs**	**26.34**	**221**	P	P	03 51 58.5	+0.1
	0.4nm,0.9s,baz=59,slow=9.9,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.54**	**289**	PKPbc	PKPbc	04 06 11.7	-1.2
	0.3nm,0.4s,baz=82,slow=2.4,SNR=9.8						

*IDC **02** 03:54:12.8±0.6, 32°.10S×177°.88W, h0km, mb4.6/9, mb1 4.7/10, mb1mx4.5/27, mbtmp4.6/10, ML4.9/1, MS4.0/15, Ms1 4.0/15, ms1mx3.8/26, Error ellipse: s-maj=21.9km s-min=20.9km az=38.0*

*NEIC **02** 03:54:14.9±0.3, 32°.25S×178°.08W, h10km, mb4.9/12, Error ellipse: s-maj=9.7km s-min=6.2km az=119.0*

*ISCJB **02** 03:54:15.7±0.3, 32°.33S±0°.04×178°.20W±0°.07, h24km, mb4.7/22, MS4.0/14, Error ellipse: s-maj=9.4km s-min=3.9km az=23.6*

ISC 02 03:54:16.8±0.4, 32°.15S±0°.05×178°.03W±0°.08, h24km, n146, σ1§78/138, mb4.8/22, MS4.0/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.88**	**2**	P	**Pn**	**03 54 58.0**	**-3.2**
GLKZ				S	**Sn**	**03 55 32.8**	**-2.2**
RAO	**Raoul Island**	**2.89**	**2**	Pn	**Pn**	**03 54 58.2**	**-3.1**
	199nm,0.3s,baz=114,slow=15,SNR=7.6						
RAO				Sn	**Sn**	**03 55 31.5**	**-3.8**
	359nm,0.3s,baz=90,slow=20,SNR=4.2						
RIZ	**Raoul Island**	**2.90**	**2**	P	**Pn**	**03 54 57.0**	**-4.4**
MXZ	**Matakaoa Point**	**6.18**	**208**	*e*Pn	**Pn**	**03 55 44.0**	**-2.6**
MXZ	**Matakaoa Point**	**6.18**	**208**	P	**Pn**	**03 55 43.4**	**-3.2**
MXZ				S	**Sn**	**03 56 55.3**	**-1.2**
WMGZ	**Waiomatatini S**	**6.36**	**206**	P	**Pn**	**03 55 47.7**	**-1.4**
WMGZ				S	**Sn**	**03 57 01.5**	**+0.6**
PKGZ	**Pakihiroa**	**6.55**	**208**	P	**Pn**	**03 55 48.3**	**-3.5**
PKGZ				S	**Sn**	**03 57 04.5**	**-1.3**
HAZ	**Te Kaha**	**6.56**	**210**	P	**Pn**	**03 55 49.1**	**-2.7**
HAZ				S	**Sn**	**03 57 07.4**	**+1.5**
PUZ	**Puketiti**	**6.64**	**206**	P	**Pn**	**03 55 49.0**	**-3.9**
PUZ				S	**Sn**	**03 57 06.5**	**-1.5**
RUGZ	**Raukumara Rang**	**6.79**	**210**	P	**Pn**	**03 55 52.4**	**-2.6**
TWGZ	**Tauwhareparae**	**6.84**	**207**	P	**Pn**	**03 55 52.8**	**-2.9**
CNGZ	**Carnagh Station**	**7.03**	**205**	P	**Pn**	**03 55 54.6**	**-3.6**
TKGZ	**Te Karaka**	**7.12**	**207**	P	**Pn**	**03 55 57.3**	**-2.1**
MWZ	**Matawai**	**7.16**	**209**	P	**Pn**	**03 55 56.5**	**-3.6**
URZ	**Urewera**	**7.28**	**212**	*e*Pn	**Pn**	**03 55 57.7**	**-3.9**
URZ				*e*Sn	**Sn**	**03 57 20.8**	**-2.6**
URZ	**Urewera**	**7.28**	**212**	Pn	**Pn**	**03 55 58.2**	**-3.3**
	3.8nm,0.3s,baz=270,slow=3.7,SNR=18						
URZ				Sn	**Sn**	**03 57 20.8**	**-2.6**
	18nm,0.3s,baz=110,slow=21,SNR=18						
URZ	**Urewera**	**7.28**	**212**	P	**Pn**	**03 55 58.3**	**-3.3**
WCZ	**Waipu Caves**	**7.37**	**237**	P	Pn	03 56 10.2	+7.3
RIGZ	**Rimuhau**	**7.39**	**207**	P	**Pn**	**03 56 00.1**	**-3.1**
PRGZ	**Paritu Road**	**7.53**	**205**	P	**Pn**	**03 56 00.6**	**-4.6**
SNGZ	**Shannon Statio**	**7.62**	**208**	P	**Pn**	**03 56 04.2**	**-2.1**
OUZ	**Omahuta**	**7.62**	**244**	*e*Pn	**Pn**	**03 56 05.2**	**-1.1**
OUZ	**Omahuta**	**7.62**	**244**	P	Pn	03 56 11.3	+5.0
RTZ	**Ruatahuna**	**7.63**	**211**	P	**Pn**	**03 56 03.4**	**-3.1**
KNZ	**Kokohu**	**7.70**	**206**	P	**Pn**	**03 56 02.9**	**-4.5**
RAHZ	**Arahi**	**7.84**	**208**	P	**Pn**	**03 56 08.5**	**-0.8**
MTHZ	**Maungataniwha**	**7.89**	**211**	P	**Pn**	**03 56 07.9**	**-2.1**
WHHZ	**Waihua**	**7.91**	**208**	P	**Pn**	**03 56 10.0**	**-0.4**
NMHZ	**Naumai**	**8.11**	**210**	P	**Pn**	**03 56 12.5**	**-0.5**
BKZ	**Black Stump Fm**	**8.30**	**211**	*e*Pn	**Pn**	**03 56 14.2**	**-1.4**
BKZ	**Black Stump Fm**	**8.30**	**211**	P	**Pn**	**03 56 14.7**	**-0.9**
MCHZ	**McNeill Hill**	**8.44**	**209**	P	**Pn**	**03 56 16.0**	**-1.7**
KAHZ	**Kahuranaki**	**8.67**	**207**	P	Pn	03 56 14.3	-6.5
BHHZ	**Black Hill Sta**	**8.75**	**212**	P	**Pn**	**03 56 20.8**	**-1.1**
BFZ	**Birch Farm**	**9.68**	**207**	*e*Pn	**Pn**	**03 56 34.4**	**-0.2**
MRZ	**Mangatainoka R**	**9.93**	**209**	P	Pn	03 56 33.0	-5.0
SNZO	**South Karori**	**10.84**	**210**	*e*Pn	**Pn**	**03 56 50.2**	**-0.1**
THZ	**Tophouse**	**12.02**	**214**	*e*Pn	**Pn**	**03 57 05.5**	**-1.1**
THZ	**Tophouse**	**12.02**	**214**	P	**Pn**	**03 57 05.5**	**-1.1**
KHZ	**Kahutara**	**12.24**	**211**	*e*Pn	**Pn**	**03 57 07.0**	**-2.6**
KHZ	**Kahutara**	**12.24**	**211**	P	**Pn**	**03 57 05.7**	**-3.9**
RPZ	**Rata Peaks**	**14.39**	**214**	Pn	Pn	03 57 34.1	-4.9
	0.8nm,0.3s,baz=310,slow=2.5,SNR=4.7						
MSVF	**Nonsavu**	**14.78**	**345**	*e*Pn	**Pn**	**03 57 45.6**	**+1.1**
FOZ	**Fox Glacier**	**14.86**	**217**	P	**Pn**	**03 57 43.1**	**-2.2**
MLZ	**Mavora Lakes**	**17.02**	**215**	P	**P**	**03 58 14.2**	**-0.7**
DZM	**Mont Dzumac**	**17.06**	**302**	*e*P	**P**	**03 58 18.9**	**+3.3**
	56nm,1.1s						
DZM				*e*LR	LR	04 02 10.3	
	comp=Z,2μm,23.6s						
DZM	**Mont Dzumac**	**17.06**	**302**	P	**P**	**03 58 16.8**	**+1.2**
	0.2nm,0.3s,baz=131,slow=20,SNR=2.6						
DZM				LR	LR	04 03 48.6	
	comp=Z,1μm,18.7s,baz=172,slow=34						
TBI	**Tubuai**	**26.70**	**78**	*e*LR	LR	04 06 29.7	
	comp=Z,199nm,25.5s						
TBI	**Tubuai**	**26.70**	**78**	*e*T	T	04 27 11.7	
	7.9nm,0.4s						
PAE	**Paea**	**29.45**	**68**	*e*T	T	04 30 31.8	
	1.8nm,0.3s						
PPT2	**Papeete2**	**29.49**	**67**	*e*LR	LR	04 07 44.1	
	comp=Z,126nm,20.8s						
PPT2	**Papeete2**	**29.49**	**67**	*e*T	T	04 30 36.7	
	2.3nm,0.4s						
PPT	**Papeete**	**29.51**	**67**	LR	LR	04 11 21.0	
	comp=Z,200nm,18.4s,baz=234,slow=35						
HNR	**Honiara**	**30.45**	**313**	*e*P	**P**	**04 00 28.1**	**+0.5**
CTA	**Charters Tower**	**34.09**	**282**	P	**P**	**04 01 01.3**	**+1.7**
	13nm,0.7s,baz=114,slow=9.1,SNR=12						
CTAO	**Charters Tower**	**34.09**	**282**	*e*P	**P**	**04 01 00.6**	**+1.0**
STKA	**Stephens Creek**	**34.09**	**259**	*e*P	**P**	**04 01 00.9**	**+1.3**
	1.8nm,0.9s						
STKA	**Stephens Creek**	**34.09**	**259**	P	**P**	**04 01 01.1**	**+1.5**
	6.4nm,0.7s,baz=95,slow=9.9,SNR=9.4						
STKA				LR	LR	04 14 28.4	
	comp=Z,356nm,18.1s,baz=51,slow=36						
BBOO	**Buckleboo**	**38.50**	**256**	*e*P	**P**	**04 01 36.6**	**-0.6**
	22nm,1.0s						
AS01	**Alice Springs**	**42.98**	**269**	*e*P	**P**	**04 02 13.7**	**-0.6**
ASAR	**Alice Springs**	**43.02**	**269**	P	**P**	**04 02 14.7**	**0.0**
	4.7nm,0.6s,baz=106,slow=7.6,SNR=37						
ASAR				S	**S**	**04 08 37.8**	**-1.2**
	0.6nm,0.9s,baz=110,slow=14,SNR=4.2						
ASAR				LR	LR	04 19 25.9	
	comp=Z,172nm,18.7s,baz=107,slow=35						
WC3	**Warramunga Arr**	**44.13**	**274**	*e*P	**P**	**04 02 23.7**	**+0.1**
	15nm,0.9s						
WRAB	**Tennant Creek**	**44.16**	**274**	*e*P	**P**	**04 02 23.8**	**0.0**
	6.5nm,0.6s						
WRA	**Warramunga Arr**	**44.16**	**274**	P	**P**	**04 02 23.6**	**-0.3**
	13nm,0.8s,baz=114,slow=7.8,SNR=75						
WRA				LR	LR	04 20 07.4	
	comp=Z,274nm,18.5s,baz=105,slow=35						
VNDA	**Vanda**	**46.36**	**186**	LR	LR	04 21 04.9	
	comp=Z,130nm,18.1s,baz=349,slow=35						
FITZ	**Fitzroy Crossi**	**52.35**	**271**	*e*P	**P**	**04 03 27.2**	**+0.1**
	16nm,1.1s						
CASY	**Casey**	**53.59**	**208**	*e*P	**P**	**04 03 36.7**	**+1.2**
NWAO	**Narrogin (SRO)**	**53.77**	**251**	LR	LR	04 23 35.9	
	comp=Z,56nm,20.5s,baz=348,slow=33						
QSPA	**South Pole Qui**	**57.97**	**180**	*e*P	**P**	**04 04 07.2**	**+0.1**
QSPA	**South Pole Qui**	**57.97**	**180**	P	**P**	**04 04 06.6**	**-0.6**
	3.8nm,0.8s,baz=56,slow=2.4,SNR=13						
MAW	**Mawson**	**70.67**	**201**	LR	LR	04 34 57.9	
	comp=Z,148nm,19.9s,baz=146,slow=35						
SNAA	**Sanae**	**76.41**	**178**	P	**P**	**04 06 04.9**	**+1.0**
SNAA	**Sanae**	**76.41**	**178**	*e*P	**P**	**04 06 05.7**	**+1.7**
	16nm,1.1s						
VNA3	**Neumayer Olymp**	**76.57**	**176**	P	**P**	**04 06 04.7**	**0.0**
VNA2	**Neumayer--Watz**	**77.00**	**177**	P	**P**	**04 06 07.6**	**+0.4**
	baz=194,slow=3.8						
VNA1	**Neumayer--Stat**	**77.23**	**177**	P	**P**	**04 06 08.2**	**-0.2**
PLCA	**Paso Flores**	**81.34**	**133**	*e*P	**P**	**04 06 32.9**	**+1.3**
	29nm,1.9s						
PLCA	**Paso Flores**	**81.34**	**133**	P	**P**	**04 06 31.9**	**+0.3**
	2.7nm,0.8s,baz=253,slow=7.2,SNR=6.0						
PLCA				LR	LR	04 36 44.4	
	comp=Z,102nm,18.3s,baz=241,slow=31						
KSRS	**Korea Array**	**85.66**	**320**	LR	LR	04 40 10.9	
	comp=Z,35nm,22.0s,baz=10.0,slow=32						
PETK	**Petropavlovsk-**	**87.49**	**346**	P	**P**	**04 07 02.0**	**0.0**
	6.0nm,0.8s,baz=142,slow=7.8,SNR=9.9						
PEA1	**Petropavlovsk-**	**87.50**	**346**	*e*P	**P**	**04 07 01.9**	**-0.1**
ISA	**Isabella, Lake**	**87.56**	**45**	*e*P	**P**	**04 07 04.6**	**+1.7**
	9.9nm,1.4s						
CMB	**Columbia Colle**	**88.08**	**42**	*e*P	**P**	**04 07 05.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**88.60**	**327**	P	**P**	**04 07 07.6**	**+0.1**
	3.7nm,0.8s,baz=198,slow=5.4,SNR=5.4						
NVAR	**Mina Array Bea**	**89.54**	**43**	P	**P**	**04 07 11.8**	**-0.5**
	0.6nm,0.7s,baz=238,slow=5.1,SNR=9.5						
NVAR				LR	LR	04 39 39.2	
	comp=Z,102nm,20.6s,baz=276,slow=30						
NV01	**Mina Array Sit**	**89.54**	**43**	*e*P	**P**	**04 07 13.2**	**+0.9**
NV11	**Mina Array Sit**	**89.62**	**43**	*e*P	**P**	**04 07 15.9**	**+3.3**
	0.8nm,1.5s						
TPNV	**Topopah Spring**	**89.75**	**45**	*e*P	**P**	**04 07 14.8**	**+1.5**
	14nm,1.6s						
W13A	**Hualapai Mount**	**89.99**	**48**	*e*P	**P**	**04 07 16.0**	**+1.5**
	9.7nm,1.4s						
KVN	**Kaiserville**	**90.08**	**42**	*e*P	**P**	**04 07 16.3**	**+1.5**
	4.6nm,1.2s						
U15A	**North Rim**	**91.83**	**47**	*e*P	**P**	**04 07 24.3**	**+1.2**
	18nm,1.9s						
MTPU	**Mount Pierson**	**92.92**	**46**	*e*P	**P**	**04 07 29.9**	**+1.6**
	13nm,1.8s						
LVC	**Limon Verde**	**93.12**	**119**	*e*P	**P**	**04 07 30.5**	**+0.8**
	4.5nm,0.9s						
TXAR	**Lajitas Array**	**93.35**	**57**	LR	LR	04 42 10.3	
	comp=Z,65nm,19.2s,baz=0.0,slow=31						
CMAR	**Chiang Mai Arr**	**93.95**	**289**	LR	LR	04 55 31.7	
	comp=Z,28nm,18.1s,baz=135,slow=39						
LPAZ	**La Paz**	**97.45**	**114**	LR	LR	04 48 00.8	
	comp=Z,40nm,18.2s,baz=201,slow=33						
CPUP	**Villa Florida**	**98.92**	**129**	LR	LR	04 50 34.1	
	comp=Z,63nm,18.0s,baz=215,slow=34						
MK32	**Makanchi Array**	**118.86**	**309**	*e*PKPdf	**PKPdf**	**04 13 02.1**	**-0.8**
MKAR	**Makanchi Array**	**118.86**	**309**	PKP	**PKPdf**	**04 13 02.1**	**-0.8**
	0.8nm,0.8s,baz=64,slow=2.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**119.31**	**318**	PKP	**PKiKP**	**04 13 04.3**	**+0.7**
	0.3nm,0.4s,baz=139,slow=3.1,SNR=2.8						
ZAA1	**Zalesovo Array**	**119.31**	**318**	*e*PKPdf	**PKiKP**	**04 13 04.3**	**+0.7**
KURK	**Kurchatov**	**122.23**	**313**	*e*PKPdf	**PKiKP**	**04 13 09.9**	**+0.6**
KKAR	**Karatay Array**	**126.00**	**303**	*e*PKPdf	**PKiKP**	**04 13 16.9**	**-0.2**
BRVK	**Borovoye**	**127.69**	**315**	*e*PKPdf	**PKiKP**	**04 13 20.9**	**+0.8**
ANGG	**Ammassalik, Gr**	**138.86**	**24**	*e*PKPdf	**PKPdf**	**04 13 38.8**	**-1.3**
ARA0	**ARCESS Array S**	**140.29**	**347**	*e*PKPpre	PKPpre	04 13 37.5	
ARCES	**ARCESS Array B**	**140.29**	**347**	PKhKP	PKPpre	04 13 37.5	
	1.8nm,0.8s,baz=35,slow=3.3,SNR=2.9						
TBLG	**Delisi**	**144.81**	**298**	*e*PKPdf	**PKPdf**	**04 13 51.7**	**+0.1**
KBZ	**Khabaz**	**146.03**	**302**	PKPbc	**PKPab**	**04 13 54.5**	**-0.5**
	6.7nm,0.9s,baz=167,slow=2.3,SNR=10						
KIV	**Kislovodsk**	**146.16**	**302**	*e*PKPbc	**PKPab**	**04 13 54.8**	**-0.9**
FIA1	**FINESS Array S**	**146.77**	**339**	*e*PKPdf	**PKPbc**	**04 13 55.1**	**-0.9**
FIA0	**FINESS Array S**	**146.77**	**339**	*e*PKPdf	**PKPbc**	**04 13 55.2**	**-0.8**
FINES	**FINESS Array B**	**146.77**	**339**	PKPbc	**PKPbc**	**04 13 55.2**	**-0.8**
	9.1nm,0.8s,baz=46,slow=3.9,SNR=25						
NB2	**NORSAR Subarra**	**150.47**	**351**	PKP	**PKPbc**	**04 14 04.8**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=15,slow=4.3						
NOA	**NORSAR Array B**	**150.47**	**351**	PKPbc	**PKPbc**	**04 14 04.3**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=13,slow=4.1,SNR=5.5						
AKASG	**Malin Array Be**	**152.65**	**321**	PKPbc	**PKiKP**	**04 14 11.0**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=60,slow=3.1,SNR=11						
AKBB	**Malin Array Si**	**152.65**	**321**	*e*PKPbc	**PKiKP**	**04 14 12.9**	**+1.8**
KIEV	**Kiev**	**152.66**	**321**	*e*PKPbc	**PKiKP**	**04 14 11.5**	**+0.3**
KIEV				*e*PKPab	**PKPab**	**04 14 21.6**	**-0.1**
AK11	**Malin Array Si**	**152.69**	**321**	*e*PKPbc	**PKiKP**	**04 14 12.1**	**+0.8**
AK11				*e*PKPab	**PKPab**	**04 14 21.3**	**-0.5**
BR101	**Keskin Array S**	**153.36**	**295**	*e*PKPbc	**PKiKP**	**04 14 12.8**	**-0.4**
BR131	**Keskin Array S**	**153.36**	**295**	*e*PKPbc	**PKiKP**	**04 14 13.7**	**+0.5**
BR131				*e*PKPab	**PKPab**	**04 14 25.2**	**0.0**
BRTR	**Keskin Array B**	**153.36**	**295**	PKPbc	**PKiKP**	**04 14 12.8**	**-0.4**
	comp=Z,2.0nm,0.9s,baz=126,slow=1.3,SNR=10						
LIC	**Lamto**	**153.39**	**164**	*e*PKP2	**PKPab**	**04 14 26.8**	**+1.1**
	comp=Z,22nm,0.7s						
KIC	**Kosan Boka**	**153.59**	**165**	*e*PKP2	**PKPab**	**04 14 27.0**	**+0.5**
	comp=Z,21nm,1.2s						
TIC	**Tomodi**	**153.80**	**164**	*e*PKP2	**PKPab**	**04 14 28.5**	**+1.1**
BUR08	**Bucovina Ar. S**	**156.52**	**318**	*e*PKPab	**PKPab**	**04 14 39.4**	**+1.0**
CLL	**Collm**	**159.20**	**340**	*e*PKPdiff	PKPab	04 14 38.0	-12
CLL				*e*PKPab	**PKPab**	**04 14 50.0**	**+0.4**
	comp=Z,8.0nm,0.9s						
CLL				*e*		04 15 01.0	
VYHS	**Vyhne**	**159.29**	**327**	*e*PKP	**PKPab**	**04 14 50.1**	**-0.1**
BRG	**Berggiesshubel**	**159.30**	**338**	*e*PKP	**PKPab**	**04 14 50.5**	**+0.4**
	comp=Z,6.9nm,1.0s						
KHC	**Kasperske Hory**	**160.92**	**336**	*e*PKPab	**PKPab**	**04 14 58.0**	**+0.7**
CONA	**Conrad Observa**	**161.03**	**330**	*e*PKPab	**PKPab**	**04 14 56.9**	**-1.0**
	comp=Z,5.4nm,0.9s						
CONA	**Conrad Observa**	**161.03**	**330**	*e*PKPab	**PKPab**	**04 14 56.9**	**-1.0**
	comp=Z,5.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**161.09**	**179**	PKPab	**PKPab**	**04 14 58.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=203,slow=1.4,SNR=12						
TOA1	**Torodi Ar. Sit**	**161.09**	**179**	*e*PKPab	**PKPab**	**04 14 58.3**	**-0.4**
GERES	**GERESS Array B**	**161.12**	**335**	PKPab	**PKPab**	**04 14 57.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=34,slow=5.0,SNR=8.7						
GEA0	**GERESS Array S**	**161.13**	**335**	*e*PKPab	**PKPab**	**04 14 57.9**	**-0.4**
GRFO	**Grafenberg**	**161.16**	**341**	*e*PKPab	**PKPab**	**04 14 59.2**	**+1.0**
SOKA	**Soboth**	**162.36**	**329**	*ep*PKPab	**PKPab**	**04 15 06.0**	**+2.3**
	comp=Z,5.6nm,1.1s						
SOKA	**Soboth**	**162.36**	**329**	*e*PKPab	**PKPab**	**04 15 06.0**	**+2.3**
	comp=Z,5.6nm,1.1s						
RETA	**Reutte**	**163.28**	**339**	*e*PKPab	**PKPab**	**04 15 09.3**	**+1.6**
	comp=Z,5.9nm,0.9s						
RETA	**Reutte**	**163.28**	**339**	*e*PKPab	**PKPab**	**04 15 09.3**	**+1.6**
	comp=Z,5.9nm,0.9s						
MOTA	**Moosalm**	**163.30**	**338**	*e*PKPab	**PKPab**	**04 15 09.1**	**+1.2**
	comp=Z,9.5nm,1.3s						
MOTA	**Moosalm**	**163.30**	**338**	*e*PKPab	**PKPab**	**04 15 09.1**	**+1.2**
	comp=Z,5.5nm,1.3s						
ABTA	**Abfaltersbach**	**163.32**	**334**	*e*PKPab	**PKPab**	**04 15 08.4**	**+0.4**
	comp=Z,4.8nm,1.0s						
ABTA	**Abfaltersbach**	**163.32**	**334**	*e*PKPab	**PKPab**	**04 15 08.4**	**+0.4**
	comp=Z,4.8nm,1.0s						
FUORN	**Ofenpass-Fuorn**	**164.20**	**339**	*e*PKPab	**PKPab**	**04 15 12.7**	**+0.7**

*CRAAG **02** 03:56:29.8, 36°.52N×2°.27E, Ml2.4*

*MDD **02** 03:56:31.0±3.4, 36°.94N×2°.36E, h0km, mb2.9/3, Error ellipse: s-maj=34.6km s-min=19.8km az=160.0, PRXIMO*

ISC 02 03:56:30.9±3.1, 36°.86N±0°.09×2°.3E±0°.2, h14km, n5, σ1§40/8, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.82**	**226**	P	**Pg**	**03 56 46.0**	**-0.8**
ETOB	**Tobarra**	**3.51**	**302**	P	**Pn**	**03 57 26.0**	**+0.9**
	0.2nm,0.2s,SNR=6.2						
ETOB				S	**Sn**	**03 58 06.6**	**+0.2**
	0.2nm,0.1s,SNR=7.9						
ECHE	**Chera**	**3.73**	**318**	S	**Sn**	**03 58 09.4**	**-2.4**
	0.1nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.10**	**329**	P	**Pn**	**03 57 34.3**	**+0.9**
	0.1nm,0.1s,SNR=7.9						
EMOS				S	**Sn**	**03 58 21.0**	**-0.3**
	0.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.36**	**284**	P	**Pn**	**03 57 38.0**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**03 58 27.6**	**+0.3**
	0.1nm,0.2s,SNR=7.9						

*MDD **02** 03:57:28.6±0.4, 42°.80N×2°.54E, h10km±3km, mbLg0.9/6, Error ellipse: s-maj=3.5km s-min=2.5km az=47.0, PRXIMO*

*LDG **02** 03:57:28.4±0.0, 42°.80N×2°.53E, h5km, Md1.7/1, Ml1.3/2, Error ellipse: s-maj=0.8km s-min=0.7km az=70.0*

MRB 02 03:57:28.6±0.4, 42°.79N×2°.52E, h4km±5km, ML0.5/9, Error ellipse: s-maj=1.1km s-min=1.1km az=239.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FESP	**Espira**	**0.22**	**82**	P	Pg	03 57 33.0	+0.1
FESP				S	Sg	03 57 36.4	+0.5
FILF	**Fillols**	**0.23**	**173**	Pg	Pg	03 57 33.4	+0.3
FILF				Lg	Lg	03 57 36.9	
	4.8nm,0.0s						
FILF	**Fillols**	**0.23**	**173**	P	Pg	03 57 33.5	+0.4
FILF				S	Sg	03 57 36.9	+0.8
	4.8nm,0.0s						
FNEB	**Nbias**	**0.33**	**290**	Pg	Pg	03 57 34.9	0.0
FNEB				Lg	Lg	03 57 39.7	
	1.5nm,0.2s						
FNEB	**Nbias**	**0.33**	**290**	P	Pg	03 57 34.9	0.0
FNEB				S	Sg	03 57 39.7	+0.5
	1.5nm,0.2s						
SJAF	**Saint Jean de**	**0.41**	**139**	Pg	Pg	03 57 35.9	-0.5
	1.1nm,0.1s,SNR=7.9						
SJAF				Pg	Pb	03 57 36.2	-2.1
SJAF				Lg	Lg	03 57 41.5	
	1.8nm,0.1s,SNR=7.9						
SJAF	**Saint Jean de**	**0.41**	**139**	P	Pg	03 57 36.2	-0.2
SJAF				S	Sg	03 57 41.7	+0.1
	3.4nm,0.1s						
EJON	**La Jonquera**	**0.44**	**142**	Pg	Pg	03 57 36.8	-0.2
	0.3nm,0.1s,SNR=7.9						
EJON				Lg	Lg	03 57 42.6	
	0.8nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**0.51**	**233**	Pg	Pg	03 57 38.5	+0.1
	0.0nm,0.0s,SNR=7.9						
CLLI				Lg	Lg	03 57 45.9	
	0.5nm,0.1s,SNR=6.8						
CLLI	**Llivia**	**0.51**	**233**	P	Pg	03 57 38.5	0.0
CLLI				S	Sg	03 57 45.5	+0.5
	1.1nm,0.1s						
CBEU	**Beuda**	**0.55**	**168**	Pg	Pg	03 57 39.1	0.0
CBEU				Lg	Lg	03 57 46.4	
	3.5nm,0.2s						
CBEU	**Beuda**	**0.55**	**168**	P	Pg	03 57 39.1	+0.1
CBEU				S	Sg	03 57 46.4	+0.3
	3.5nm,0.2s						
CBRU	**Bruguera**	**0.56**	**207**	Pg	Pg	03 57 39.4	-0.1
CBRU				Lg	Lg	03 57 47.0	
	1.2nm,0.2s						
CBRU	**Bruguera**	**0.56**	**207**	P	Pg	03 57 39.4	-0.1
CBRU				S	Sg	03 57 47.1	+0.3
	2.4nm,0.2s						
MTLF	**Montolieu**	**0.59**	**338**	*e*Pg	Pg	03 57 39.3	-0.7
MTLF	**Montolieu**	**0.59**	**338**	*e*Pn	Pb	03 57 42.1	+0.5
MTLF				*e*Sg	Sg	03 57 47.4	-0.3
MTLF				*e*Sn	Sb	03 57 51.3	+1.0
	5.4nm,0.2s						
MTLF	**Montolieu**	**0.59**	**338**	Pg	Pg	03 57 39.3	-0.7
MTLF				Lg	Lg	03 57 47.4	
MTLF	**Montolieu**	**0.59**	**338**	Pg	Pg	03 57 39.3	-0.7
CPAL	**Palau Saverder**	**0.67**	**135**	Pg	Pg	03 57 41.2	-0.3
CPAL				Lg	Lg	03 57 50.6	
CPAL	**Palau Saverder**	**0.67**	**135**	P	Pg	03 57 41.3	-0.2
CPAL				S	Sg	03 57 50.6	+0.4
CORI	**Orista**	**0.89**	**203**	P	Pg	03 57 45.1	-0.5
CORI	**Orista**	**0.89**	**203**	Lg	Lg	03 57 57.2	
	1.7nm,0.2s						
CORI	**Orista**	**0.89**	**203**	P	Pg	03 57 45.2	-0.4
CORI				S	Sg	03 57 57.3	+0.1
	1.7nm,0.2s						
CCAS	**Cassa de la Se**	**0.95**	**163**	P	Pg	03 57 46.3	-0.5
CCAS	**Cassa de la Se**	**0.95**	**163**	Lg	Lg	03 57 59.3	
CCAS	**Cassa de la Se**	**0.95**	**163**	P	Pg	03 57 46.3	-0.5
CCAS				S	Sg	03 57 59.3	+0.3
CEST	**Esterri de Car**	**0.95**	**259**	Pg	Pg	03 57 46.6	-0.3
CEST				L	L	03 57 59.7	
CEST	**Esterri de Car**	**0.95**	**259**	P	Pg	03 57 46.6	-0.3
CEST				S	Sg	03 57 59.7	+0.5
	1.0nm,0.2s						
CFON	**Fontmartina**	**1.03**	**184**	Pg	Pg	03 57 48.0	-0.3
	0.0nm,0.0s,SNR=7.9						
CFON				Lg	Lg	03 58 01.9	
	0.5nm,0.1s,SNR=7.9

BOOM	**Boomskoye usch** baz=69	**2.75**	**269**	⇓*i*P	**Pn**	04 12 54.5	**+2.1**
BOOM				⇓*e*S	**Sb**	04 13 28.9	**-2.4**
KSH	**Kashi**	**4.14**	**223**	*e*P	**Pn**	04 13 12.7	**+1.1**

ISCJB **02** *04:18:49.0±0.2, 17°78S±0.07°×178°64W±0.04, h579km, mb4.5/184, Error ellipse: s-maj=9.2km s-min=4.3km az=156.3*
IDC **02** *04:18:51.1±1.2, 17°92S×178°52W, h593km±14km, mb3.8/17, mb1 4.0/19, mb1mx3.9/25, mbtmp4.8/19, Error ellipse: s-maj=15.9km s-min=8.7km az=157.0*
NEIC **02** *04:18:51.8±0.4, 17°83S×178°58W, h603km±5km, mb4.6/160, Error ellipse: s-maj=6.7km s-min=3.1km az=157.0*

ISC 02 04:18:49.5±0.4, 17°84S±0°09×178°52W±0°07, h579km, n495, σ0876/504, mb4.5/184, 33C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.27**	**271**	*e*P	P	04 20 14.3	+5.7
NIUE	**Niue**	**8.25**	**100**	*e*P	**P**	**04 20 50.0**	**-0.5**
DZM	**Mont Dzumac** 2.6nm,0.3s,baz=95,slow=22,SNR=25	**14.75**	**251**	P	**P**	04 21 56.8	**+0.8**
RAR	**Rarotonga** 0.8nm,0.3s,baz=262,slow=7.3,SNR=4.8	**17.99**	**104**	P	**P**	04 22 26.0	**0.0**
URZ	**Urewera** 3.4nm,0.5s,baz=0.0,slow=18,SNR=2.0	**20.70**	**190**	P	**P**	04 22 51.2	**+0.8**
HNR	**Honiara** 172nm,0.7s,baz=196,slow=7.5,SNR=2.8	**22.51**	**289**	P	**P**	04 23 09.3	**+2.5**
RPZ	**Rata Peaks** 4.5nm,0.7s,baz=319,slow=7.7,SNR=2.2	**27.26**	**197**	P	**P**	04 23 49.5	**+1.1**
PPT	**Papeete** 20nm,0.6s,baz=240,slow=21,SNR=4.3	**27.57**	**94**	P	**P**	04 23 51.1	**-0.3**
EIDS	**Eidsvold** 27nm,0.7s	**29.19**	**250**	*e*P	**P**	04 24 05.3	**-0.2**
CTA	**Charters Tower** 29nm,0.6s,baz=96,slow=11,SNR=62	**33.35**	**260**	P	**P**	04 24 41.9	**+0.8**
CTAO	**Charters Tower** 37nm,0.8s	**33.35**	**260**	*e*P	**P**	04 24 41.5	**+0.5**
COEN	**Coen** 85nm,0.7s	**37.00**	**270**	*e*P	**P**	04 25 11.4	**+0.1**
TOO	**Toolangi** 28nm,0.9s	**37.13**	**231**	*e*P	**P**	04 25 12.9	**+0.8**
STKA	**Stephens Creek** 10nm,1.0s	**38.57**	**241**	*e*P	**P**	04 25 24.5	**+0.7**
STKA	**Stephens Creek** 34nm,0.9s,baz=86,slow=8.9,SNR=37	**38.57**	**241**	P	**P**	04 25 24.8	**+1.0**
BBOO	**Buckleboo** 34nm,0.8s	**43.35**	**241**	*e*P	**P**	04 26 01.9	**+0.3**
HMH	**Humu'ula Sheep** 133nm,0.8s	**43.54**	**32**	*e*P	**P**	04 26 02.9	**-0.7**
WB2	**Warramunga Arr**	**44.53**	**259**	*e*P	**P**	04 26 10.4	**-0.6**
WRAB	**Tennant Creek** 12nm,0.4s	**44.53**	**259**	*e*P	**P**	04 26 10.3	**-0.6**
WRA	**Warramunga Arr** 21nm,0.5s,baz=95,slow=7.1,SNR=631	**44.54**	**259**	P	**P**	04 26 11.1	**+0.1**
WRA				ScP	**ScP**	04 30 39.3	**+0.3**
	1.1nm,0.8s,baz=97,slow=3.8,SNR=3.7						
WRA				S	**S**	04 32 04.4	**-1.0**
	1.6nm,0.8s,baz=102,slow=12,SNR=5.9						
AS01	**Alice Springs**	**44.66**	**254**	*e*P	**P**	04 26 12.0	**+0.1**
AS31	**Alice Springs** 37nm,0.6s	**44.70**	**254**	*e*P	**P**	04 26 12.7	**+0.4**
ASAR	**Alice Springs** 122nm,0.6s,baz=87,slow=8.6,SNR=1499	**44.71**	**254**	P	**P**	04 26 12.8	**+0.5**
ASAR				ScP	**ScP**	04 30 39.2	**-0.5**
	1.2nm,0.6s,baz=97,slow=4.2,SNR=4.0						
ASAR				S	**S**	04 32 05.5	**-2.2**
	2.9nm,0.8s,baz=92,slow=14,SNR=18						
MTN	**Manton Dam** 34nm,0.8s	**48.69**	**268**	*e*P	**P**	04 26 41.2	**-1.1**
FORT	**Forrest** 58nm,0.6s	**49.94**	**245**	*e*P	**P**	04 26 51.1	**-0.2**
NWAO	**Narrogin (SRO)**	**59.15**	**242**	*e*P	**P**	04 27 55.7	**0.0**
MJAR	**Matsushiro Arr** 4.4nm,0.6s,baz=166,slow=6.1,SNR=7.4	**67.78**	**323**	P	**P**	04 28 50.8	**+0.3**
GSTR	**Great Sitkin T**	**69.67**	**2**	*e*P	**P**	04 28 59.7	**-1.8**
PETK	**Petropavlovsk-**	**73.58**	**345**	*e*P	**P**	04 29 24.4	**+0.2**
PETK	**Petropavlovsk-** 11nm,0.6s,baz=130,slow=8.0,SNR=26	**73.58**	**345**	P	**P**	04 29 24.8	**+0.6**
KSRS	**Korea Array** 1.2nm,0.7s,baz=129,slow=8.3,SNR=4.4	**74.58**	**318**	P	**P**	04 29 31.6	**+1.5**
KSAR	**Wonju Array Be**	**74.59**	**318**	P	**P**	04 29 31.6	**+1.4**
CHGN	**Chignik** 21nm,0.8s	**75.77**	**11**	*e*P	**P**	04 29 35.6	**-0.6**
SCZ2	**Santa Cruz Isl** baz=237	**76.14**	**47**	P	**P**	04 29 40.0	**+1.0**
SAO	**San Andreas Ge** 19nm,0.8s	**76.45**	**44**	*e*P	**P**	04 29 41.2	**+0.6**
USRK	**Ussuriysk Ar.** 1.9nm,0.7s,baz=128,slow=4.2,SNR=4.4	**76.50**	**326**	P	**P**	04 29 42.3	**+1.7**
PKM	**Mcpherson Peak** baz=237	**76.50**	**46**	P	**P**	04 29 42.3	**+1.2**
SMMC	**Simmler** baz=237	**76.61**	**46**	P	**P**	04 29 42.8	**+1.3**
KMRM	**Mail Ridge** 34nm,0.8s	**77.03**	**40**	*e*P	**P**	04 29 44.2	**+0.5**
ARVC	**Arvin** baz=237	**77.31**	**46**	P	**P**	04 29 46.2	**+0.9**
109C	**Camp Elliot, M** baz=239	**77.36**	**49**	P	**P**	04 29 46.3	**+0.8**
MWC	**Mount Wilson** 14nm,0.6s	**77.37**	**48**	*e*P	**P**	04 29 46.7	**+0.8**
VES	**Vestal, Richgr** baz=237,SNR=6.8	**77.52**	**46**	P	**P**	04 29 47.0	**+0.6**
BAR	**Barrett** 22nm,0.2s	**77.56**	**50**	*e*P	**P**	04 29 47.1	**+0.4**
O02D	**Mt. Diablo Mer** baz=234,SNR=6.2	**77.57**	**40**	P	**P**	04 29 48.2	**+1.5**
MURC	**Murrieta** baz=239	**77.66**	**49**	P	**P**	04 29 48.1	**+0.9**
BFSC	**Mount Baldy Ra** baz=238,SNR=6.6	**77.66**	**48**	P	**P**	04 29 47.7	**+0.3**
OHAK	**Old Harbor** 27nm,0.9s	**77.69**	**14**	*e*P	**P**	04 29 46.9	**+0.1**
EDW2	**Edwards Air Fo** baz=238,SNR=17	**77.76**	**47**	P	**P**	04 29 48.7	**+0.9**
NJ2	**Nanjing**	**77.81**	**310**	*e*P	**P**	04 29 48.1	**+0.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
ISA	**Isabella, Lake** comp=Z,16nm,0.9s	**77.84**	**46**	*e*P	**P**	04 29 48.7	**+0.4**
ISA	**Isabella, Lake** baz=238,SNR=22	**77.84**	**46**	P	**P**	04 29 49.2	**+1.0**
MONP2	**Monument Peak** baz=239,SNR=22	**77.85**	**50**	P	**P**	04 29 49.4	**+0.9**
CMB	**Columbia Colle** comp=Z,15nm,1.0s	**77.86**	**43**	*e*P	**P**	04 29 48.5	**+0.3**
IKP	**In-Ko-Pah, Jac** baz=240,SNR=8.9	**77.95**	**50**	P	**P**	04 29 50.1	**+1.2**
WDC	**Whiskeytown Da** comp=Z,26nm,1.4s	**77.96**	**40**	*e*P	**P**	04 29 49.5	**+0.9**
AFDM	**Forest Hills D** comp=Z,12nm,1.0s	**78.00**	**42**	*e*P	**P**	04 29 49.3	**+0.3**
ORV	**Oroville** comp=Z,9.4nm,1.0s	**78.01**	**42**	*e*P	**P**	04 29 49.7	**+0.8**
N02D	**Trinity Center** baz=234	**78.09**	**40**	P	**P**	04 29 50.8	**+1.3**
PFO	**Pinyon Flats O** comp=Z,6.1nm,1.0s	**78.19**	**49**	*e*P	**P**	04 29 51.0	**+0.7**
PFO	**Pinyon Flats O** baz=239	**78.19**	**49**	P	**P**	04 29 51.2	**+1.0**
XPFO	**Pion Flat** comp=Z,6.0nm,0.9s	**78.19**	**49**	*e*P	**P**	04 29 50.3	**+0.1**
O03E	**Paynes Creek** baz=234	**78.25**	**41**	P	**P**	04 29 51.1	**+0.8**
M02C	**Callahan** baz=233,SNR=6.8	**78.25**	**39**	P	**P**	04 29 51.6	**+1.3**
L02E	**Cave Junction** baz=233	**78.26**	**38**	P	**P**	04 29 51.3	**+1.1**
LRMC	**Laurel Mtn Rad** baz=238,SNR=7.3	**78.29**	**47**	P	**P**	04 29 51.4	**+0.7**
SWSC	**Sam W. Stewart** baz=240,SNR=6.0	**78.33**	**50**	P	**P**	04 29 51.6	**+0.9**
KDAK	**Kodiak Island** comp=Z,38nm,1.0s	**78.36**	**14**	*e*P	**P**	04 29 50.6	**+0.3**
MDPB	**Devils Postpil** comp=Z,18nm,0.9s	**78.50**	**44**	*e*P	**P**	04 29 52.3	**+0.4**
CWC	**Cottonwood Cre** baz=238	**78.53**	**46**	P	**P**	04 29 52.8	**+0.8**
YBH	**Yreka Blue Hor** comp=Z,15nm,0.8s	**78.54**	**39**	*e*P	**P**	04 29 52.4	**+0.6**
OMMB	**Old Mammoth Mi** comp=Z,16nm,1.3s	**78.54**	**44**	*e*P	**P**	04 29 52.9	**+0.6**
K02D	**Willamette Mer** baz=233	**78.55**	**38**	P	**P**	04 29 52.9	**+1.1**
MLAC	**Mammoth, Mammo** baz=237,SNR=5.4	**78.66**	**44**	P	**P**	04 29 53.8	**+1.0**
BELC	**Belle Mtn. Jos** baz=239,SNR=9.1	**78.72**	**49**	P	**P**	04 29 53.8	**+0.8**
MPMC	**Manual Prospec** baz=238,SNR=9.9	**78.73**	**46**	P	**P**	04 29 53.9	**+0.7**
WAKR	**Walker** comp=Z,20nm,0.9s	**78.74**	**43**	*e*P	**P**	04 29 53.8	**+0.6**
TIN	**Tinemaha, Big** baz=237	**78.76**	**45**	P	**P**	04 29 54.3	**+1.1**
DAC	**Darwin (Calif)** comp=Z,4.4nm,0.9s	**78.78**	**46**	*e*P	**P**	04 29 54.3	**+1.0**
GSC	**Goldstone, Bar** comp=Z,4.3nm,0.9s	**78.81**	**47**	*e*P	**P**	04 29 54.4	**+1.0**
GSC	**Goldstone, Bar** baz=239	**78.81**	**47**	P	**P**	04 29 54.2	**+0.8**
HEC	**Hector,Ludlow** baz=239	**78.90**	**48**	P	**P**	04 29 54.6	**+0.7**
BEKR	**Beckworth** comp=Z,10nm,0.6s	**78.91**	**42**	*e*P	**P**	04 29 54.5	**+0.5**
HUMO	**Hull Mountain** comp=Z,18nm,1.1s	**78.91**	**38**	*e*P	**P**	04 29 54.5	**+0.8**
BC3	**Big Chuckawall** baz=240	**78.94**	**49**	P	**P**	04 29 55.4	**+1.2**
PNTR	**Pine Nut** comp=Z,28nm,0.8s	**78.96**	**43**	*e*P	**P**	04 29 54.8	**+0.4**
VCNR	**Virginia City** comp=Z,9.2nm,0.8s	**79.04**	**43**	*e*P	**P**	04 29 55.2	**+0.5**
L04D	**Klamath Falls** baz=234,SNR=9.2	**79.07**	**39**	P	**P**	04 29 55.6	**+0.9**
GLA	**Glamis** comp=Z,12nm,0.8s	**79.09**	**50**	*e*P	**P**	04 29 56.1	**+1.2**
GLA	**Glamis** baz=240	**79.09**	**50**	P	**P**	04 29 56.3	**+1.4**
M04C	**Macdoel** baz=234,SNR=7.7	**79.09**	**40**	P	**P**	04 29 55.8	**+1.0**
YERR	**Yerington** comp=Z,29nm,1.1s	**79.14**	**43**	*e*P	**P**	04 29 55.4	**+0.2**
GRAC	**Grapevine Rang** baz=238,SNR=9.5	**79.31**	**46**	P	**P**	04 29 57.2	**+1.2**
I03D	**Drain, OR** baz=233	**79.34**	**37**	P	**P**	04 29 56.9	**+1.1**
GMRC	**Granite Mounta** baz=240,SNR=5.5	**79.36**	**48**	P	**P**	04 29 57.0	**+0.6**
FURC	**Furnace Creek,** baz=238,SNR=5.7	**79.38**	**46**	P	**P**	04 29 57.3	**+1.1**
IRM	**Iron Mountain** baz=240,SNR=7.3	**79.41**	**49**	P	**P**	04 29 57.6	**+1.1**
RYN	**Ryan** comp=Z,11nm,1.0s	**79.41**	**44**	*e*P	**P**	04 29 57.2	**+0.5**
PAHR	**Pah Rah Range** comp=Z,21nm,1.2s	**79.44**	**42**	*e*P	**P**	04 29 57.0	**+0.2**
NV01	**Mina Array Sit**	**79.45**	**44**	*e*P	**P**	04 29 57.6	**+0.7**
NVAR	**Mina Array Bea** comp=Z,10nm,0.8s,baz=224,slow=8.9,SNR=82	**79.45**	**44**	P	**P**	04 29 57.8	**+0.9**
SHOC	**Shoshone, Teco** baz=239	**79.49**	**47**	P	**P**	04 29 57.9	**+1.0**
TUQ	**Turquoise Moun** baz=239,SNR=6.6	**79.50**	**48**	P	**P**	04 29 58.0	**+0.9**
NV11	**Mina Array Sit** comp=Z,1.2nm,1.0s	**79.55**	**44**	*e*P	**P**	04 29 57.6	**+0.2**
K04D	**Chiloquin, OR** baz=234	**79.64**	**39**	P	**P**	04 29 59.1	**+1.5**
Y12C	**Blythe** comp=Z,8.8nm,0.8s	**79.66**	**50**	*e*P	**P**	04 29 58.3	**+0.5**
Y12C	**Blythe** baz=240	**79.66**	**50**	P	**P**	04 29 59.1	**+1.3**
J04D	**Umpqua Nationa** baz=234,SNR=14	**79.79**	**38**	P	**P**	04 29 59.6	**+1.0**
KVN	**Kaiserville** comp=Z,15nm,1.0s	**79.92**	**43**	*e*P	**P**	04 30 00.1	**+0.8**
I04A	**Tendick Farm,** baz=233	**79.94**	**38**	P	**P**	04 29 59.6	**+0.5**
KLR	**Kul'dur** comp=Z,1.6nm,0.6s,baz=106,slow=2.3,SNR=4.5	**80.00**	**329**	P	**P**	04 30 00.8	**+1.6**
TPNV	**Topopah Spring** comp=Z,9.9nm,1.0s	**80.05**	**46**	*e*P	**P**	04 30 00.2	**+0.2**
TPNV	**Topopah Spring** baz=239,SNR=10	**80.05**	**46**	P	**P**	04 30 00.8	**+0.8**
214A	**Organ Pipe Nat** baz=242	**80.05**	**52**	P	**P**	04 30 01.1	**+1.2**
MOD	**Modoc Plateau** comp=Z,19nm,0.8s	**80.10**	**40**	*e*P	**P**	04 30 00.8	**+0.7**
H04D	**Lebanon** baz=233	**80.19**	**37**	P	**P**	04 30 01.3	**+1.0**
PDMCI	**Parker Dam,Lak** baz=241,SNR=5.5	**80.20**	**49**	P	**P**	04 30 01.7	**+1.1**
G03D	**McMinnville, O** baz=232	**80.31**	**36**	P	**P**	04 30 01.9	**+1.0**
J05D	**Fort Rock, OR** baz=234,SNR=21	**80.33**	**39**	P	**P**	04 30 02.7	**+1.4**
SHPR	**Sheep Range** comp=Z,6.0nm,0.9s	**80.57**	**47**	*e*P	**P**	04 30 03.5	**+0.8**
H04A	**Detroit Lake** comp=Z,16nm,0.6s	**80.60**	**37**	*e*P	**P**	04 30 02.4	**-0.1**
W13A	**Hualapai Mount** comp=Z,7.1nm,1.2s	**80.78**	**49**	*e*P	**P**	04 30 04.4	**+0.5**
SVW2	**Sparrevohn** comp=Z,7.1nm,1.4s	**80.79**	**11**	*e*P	**P**	04 30 03.2	**+0.2**
PINE	**Pine Mountain** comp=Z,28nm,0.9s	**80.80**	**38**	*e*P	**P**	04 30 04.3	**+0.5**
Y14A	**Wickenburg** comp=Z,8.6nm,1.0s	**80.85**	**50**	*e*P	**P**	04 30 05.2	**+1.1**
I05D	**Terrebonne, OR** baz=234	**80.89**	**38**	P	**P**	04 30 04.9	**+0.9**
MA2	**Magadan** comp=Z,6.7nm,0.8s	**81.10**	**345**	*e*P	**P**	04 30 04.6	**-0.1**
R11A	**Troy Canyon, C** comp=Z,6.9nm,1.1s	**81.22**	**45**	*e*P	**P**	04 30 06.7	**+0.6**
R11A	**Troy Canyon, C** baz=239,SNR=8.9	**81.22**	**45**	P	**P**	04 30 06.7	**+0.6**
WVOR	**Wild Horse Val** comp=Z,23nm,1.0s	**81.42**	**40**	*e*P	**P**	04 30 07.6	**+0.7**
G05D	**Wamic, OR** baz=234	**81.43**	**37**	P	**P**	04 30 07.7	**+1.0**
E04D	**Cinebar** baz=233	**81.51**	**35**	P	**P**	04 30 08.2	**+1.1**
GAMB	**Gambell** comp=Z,8.8nm,0.6s	**81.52**	**3**	*e*P	**P**	04 30 06.9	**+0.2**
F05D	**White Salmon** baz=234	**81.73**	**36**	P	**P**	04 30 09.0	**+0.8**
TUC	**Tucson** comp=Z,14nm,1.0s	**81.74**	**52**	*e*P	**P**	04 30 09.2	**+0.5**
TUC	**Tucson** baz=243	**81.74**	**52**	P	**P**	04 30 10.2	**+1.5**
D04E	**Lakebay** baz=233	**81.77**	**35**	P	**P**	04 30 09.7	**+1.3**
D03D	**Eldon** baz=232	**81.82**	**34**	P	**P**	04 30 09.7	**+1.0**
I07A	**Izee** comp=Z,21nm,0.8s	**81.82**	**39**	*e*P	**P**	04 30 08.9	**0.0**
RC01	**Rabbit Creek A** comp=Z,59nm,0.3s	**81.97**	**14**	*e*P	**P**	04 30 09.1	**-0.1**
J08A	**Circle Bar Ran** comp=Z,25nm,1.1s	**82.03**	**40**	*e*P	**P**	04 30 10.2	**+0.2**
LCMT	**Little Creek M** comp=Z,12nm,0.9s	**82.16**	**47**	*e*P	**P**	04 30 11.6	**+0.8**
D05A	**Enumclaw** comp=Z,30nm,1.1s	**82.20**	**35**	*e*P	**P**	04 30 10.9	**+0.3**
X16A	**Lo Mia Camp, P** comp=Z,15nm,1.0s	**82.22**	**50**	*e*P	**P**	04 30 12.0	**+0.7**
CCUT	**Cedar City** comp=Z,10.0nm,0.9s	**82.34**	**47**	*e*P	**P**	04 30 12.5	**+0.6**
KNB	**Kanab** comp=Z,12nm,0.8s	**82.46**	**47**	*e*P	**P**	04 30 13.3	**+0.9**
319A	**Douglas** comp=Z,21nm,0.9s	**82.47**	**54**	*e*P	**P**	04 30 13.8	**+1.4**
PSUT	**Pine Spring** comp=Z,10nm,0.7s	**82.49**	**46**	*e*P	**P**	04 30 12.7	**+0.2**
U15A	**North Rim** comp=Z,23nm,0.8s	**82.55**	**48**	*e*P	**P**	04 30 13.7	**+0.8**
SZCU	**Shurtz Canyon** comp=Z,9.2nm,1.0s	**82.55**	**47**	*e*P	**P**	04 30 13.7	**+0.8**
KNK	**Knik Glacier** comp=Z,55nm,0.3s	**82.55**	**14**	*e*P	**P**	04 30 11.8	**-0.3**
PMR	**Palmer** comp=Z,32nm,1.4s	**82.56**	**14**	*e*P	**P**	04 30 11.8	**-0.2**
F07A	**Phinny Hill Vi** comp=Z,11nm,0.8s	**82.60**	**37**	*e*P	**P**	04 30 12.5	**-0.1**
ELK	**Elko** comp=Z,8.9nm,0.9s	**82.68**	**43**	*e*P	**P**	04 30 14.2	**+0.8**
A04D	**Lummi Island** baz=233	**82.74**	**34**	P	**P**	04 30 14.2	**+1.0**
WUAZ	**Wupatki** comp=Z,14nm,1.0s	**82.78**	**49**	*e*P	**P**	04 30 14.7	**+0.7**
WUAZ	**Wupatki**	**82.78**	**49**	P	**P**	04 30 14.9	**+0.9**
	baz=242						
B05A	**Bryant** baz=233	**82.79**	**34**	P	**P**	04 30 14.3	**+0.9**
PKCU	**Pink Cliffs** comp=Z,18nm,0.9s	**83.02**	**47**	*e*P	**P**	04 30 16.2	**+0.9**
E07A	**Sunnyside** comp=Z,20nm,1.0s	**83.02**	**36**	*e*P	**P**	04 30 15.3	**+0.5**
HAWA	**Hanford** comp=Z,22nm,1.0s	**83.11**	**37**	*e*P	**P**	04 30 15.6	**+0.4**
SCM	**Sheep Creek Mo** comp=Z,39nm,0.6s	**83.19**	**14**	*e*P	**P**	04 30 15.0	**-0.3**
X18A	**Snowflake** comp=Z,6.5nm,1.0s	**83.37**	**51**	*e*P	**P**	04 30 17.6	**+0.6**
MTPU	**Mount Pierson** comp=Z,12nm,0.9s	**83.39**	**47**	*e*P	**P**	04 30 17.6	**+0.3**
E08A	**Dider Farm, El** comp=Z,12nm,0.8s	**83.44**	**37**	*e*P	**P**	04 30 17.2	**+0.4**
BMO	**Blue Mountains** comp=Z,5.0nm,0.8s	**83.56**	**39**	*e*P	**P**	04 30 18.0	**+0.4**
CAST	**Castle Rocks** comp=Z,26nm,0.8s	**83.58**	**12**	*e*P	**P**	04 30 15.9	**-1.2**
MSU	**Marysvale**	**83.62**	**46**	*e*P	**P**	04 30 18.7	**+0.5**
BALM	**Baldy** comp=Z,20nm,0.8s	**83.78**	**17**	*e*P	**P**	04 30 17.9	**-0.4**
D08A	**Wollman Farm,** comp=Z,15nm,0.9s	**83.83**	**36**	*e*P	**P**	04 30 19.0	**+0.2**
TRF	**Thorofare Moun** comp=Z,31nm,0.7s	**83.96**	**12**	*e*P	**P**	04 30 17.9	**-1.3**
DUG	**Dugway, Tooele** baz=241	**84.00**	**45**	P	**P**	04 30 20.1	**+0.2**
121A	**Cookes Peak, D** baz=245	**84.12**	**53**	P	**P**	04 30 21.8	**+1.1**
HARP	**HAARP** comp=Z,24nm,0.8s	**84.20**	**15**	*e*P	**P**	04 30 19.7	**-0.5**
F10A	**Beach Ranch, E** comp=Z,24nm,0.9s	**84.21**	**38**	*e*P	**P**	04 30 21.1	**+0.3**
RND	**Reindeer** comp=Z,31nm,0.8s	**84.22**	**13**	*e*P	**P**	04 30 20.2	**-0.2**
DHY	**Denali Highway** comp=Z,65nm,1.8s	**84.26**	**14**	*e*P	**P**	04 30 20.5	**-0.2**
B08A	**Colville Reser** comp=Z,12nm,0.8s	**84.34**	**35**	*e*P	**P**	04 30 21.2	**0.0**
MCK	**McKinley** comp=Z,24nm,1.0s	**84.50**	**13**	*e*P	**P**	04 30 21.1	**-0.5**
Q16A	**Castle Valley** comp=Z,4.7nm,0.9s	**84.51**	**46**	*e*P	**P**	04 30 23.1	**+0.6**
PAX	**Paxson** comp=Z,7.1nm,0.8s	**84.61**	**14**	*e*P	**P**	04 30 22.1	**-0.2**
C09A	**Chrisman Ranch** comp=Z,34nm,0.3s	**84.62**	**36**	*e*P	**P**	04 30 23.1	**+0.5**
HLID	**Hailey** comp=Z,9.1nm,0.8s	**84.65**	**41**	*e*P	**P**	04 30 23.3	**+0.2**
HLID	**Hailey** baz=239	**84.65**	**41**	P	**P**	04 30 24.0	**+1.0**
TMUT	**Trail Mountain** comp=Z,7.8nm,0.8s	**84.66**	**46**	*e*P	**P**	04 30 23.8	**+0.4**
SPUT	**South Promonto** comp=Z,5.8nm,1.1s	**84.79**	**44**	*e*P	**P**	04 30 23.9	**+0.1**
HVU	**Hansel Valley** comp=Z,4.2nm,0.7s	**84.80**	**43**	*e*P	**P**	04 30 23.9	**+0.1**
MENT	**Mentasta** comp=Z,7.8nm,0.7s	**85.01**	**15**	*e*P	**P**	04 30 23.9	**-0.3**
SRU	**San Rafael Swe** comp=Z,7.7nm,0.7s	**85.05**	**46**	*e*P	**P**	04 30 25.6	**+0.4**
P17A	**Butcher Ranch,**	**85.06**	**46**	*e*P	**P**	04 30 26.0	**+0.8**
MLY	**Manley** comp=Z,18nm,1.5s	**85.29**	**11**	*e*P	**P**	04 30 24.8	**-0.7**
WRH	**Wood River Hil** comp=Z,37nm,1.4s	**85.32**	**13**	*e*P	**P**	04 30 24.6	**-1.0**
TCUT	**Toone Canyon** comp=Z,15nm,0.8s	**85.39**	**44**	*e*P	**P**	04 30 27.3	**+0.5**
RIDG	**Independ'e Rid** comp=Z,12nm,0.9s	**85.42**	**14**	*e*P	**P**	04 30 25.2	**-0.9**
LENM	**Lemitar**	**85.42**	**52**	*e*P	**P**	04 30 27.8	**+0.7**
HDA	**Harding Lake** comp=Z,16nm,1.1s	**85.51**	**13**	*e*P	**P**	04 30 26.0	**-0.5**
HDA	**Harding Lake** baz=210	**85.51**	**13**	P	**P**	04 30 26.1	**-0.5**
NEW	**Newport** comp=Z,7.4nm,0.8s	**85.52**	**36**	*e*P	**P**	04 30 27.1	**+0.1**
NEW	**Newport** baz=237	**85.52**	**36**	P	**P**	04 30 27.0	**+0.1**
DOT	**Dot Lake** comp=Z,11nm,0.9s	**85.52**	**15**	*e*P	**P**	04 30 26.0	**-0.6**
CCB	**Clear Creek Bu** comp=Z,28nm,1.3s	**85.54**	**13**	*e*P	**P**	04 30 25.9	**-0.7**
MNTX	**Cornudas Mount** comp=Z,12nm,1.3s	**85.62**	**55**	*e*P	**P**	04 30 28.6	**+0.7**
MNTX	**Cornudas Mount** baz=246	**85.62**	**55**	P	**P**	04 30 28.7	**+0.9**
IM3	**Indian Mountai**	**85.63**	**10**	*e*P	**P**	04 30 26.3	**-0.7**
BNM	**Barren Site**	**85.68**	**52**	*e*P	**P**	04 30 28.1	**-0.2**
MDM	**Murphy Dome** comp=Z,20nm,1.1s	**85.72**	**12**	*e*P	**P**	04 30 26.7	**-0.8**
TCOL	**CIGO, UAF Yank** baz=209	**85.72**	**13**	P	**P**	04 30 26.6	**-0.8**
WHY	**Whitehorse** comp=Z,12nm,1.0s	**85.72**	**20**	*e*P	**P**	04 30 27.7	**0.0**
COLA	**College** comp=Z,44nm,1.4s	**85.73**	**13**	*e*P	**P**	04 30 26.5	**-1.0**
PV09	**Paradox Valley**	**85.73**	**47**	*e*P	**P**	04 30 28.7	**+0.2**
PV14	**Lion Creek, Pa** comp=Z,16nm,0.9s	**85.76**	**48**	*e*P	**P**	04 30 29.2	**+0.6**
PV19	**Morning Glory** comp=Z,5.5nm,0.8s	**85.76**	**48**	*e*P	**P**	04 30 29.0	**+0.4**
PV17	**East Wray Mesa** comp=Z,6.9nm,0.8s	**85.76**	**48**	*e*P	**P**	04 30 28.5	**-0.1**
PV23	**Carpenter Ridg** comp=Z,8.3nm,0.8s	**85.80**	**48**	*e*P	**P**	04 30 29.5	**+0.7**
PV16	**Nyswonger Mesa** comp=Z,6.1nm,1.0s	**85.80**	**48**	*e*P	**P**	04 30 29.6	**+0.8**
IL1	**Eielson Array**	**85.84**	**13**	*e*P	**P**	04 30 27.2	**-0.8**
ILAR	**Eielson Array** comp=Z,5.0nm,0.5s,baz=221,slow=5.1,SNR=114	**85.84**	**13**	P	**P**	04 30 27.4	**-0.7**
ILB	**Eielson Array**	**85.84**	**13**	*e*P	**P**	04 30 27.3	**-0.7**
PV04	**Paradox Valley** comp=Z,4.9nm,0.8s	**85.85**	**48**	*e*P	**P**	04 30 29.3	**+0.3**
PV21	**Cone Mtn., Par** comp=Z,7.7nm,1.0s	**85.87**	**47**	*e*P	**P**	04 30 29.6	**+0.4**
PV12	**Saucer Basin,** comp=Z,25nm,1.8s	**85.89**	**48**	*e*P	**P**	04 30 29.6	**+0.4**
PV01	**Paradox Valley** comp=Z,4.3nm,0.9s	**85.97**	**48**	*e*P	**P**	04 30 30.2	**+0.6**
POKR	**Poker Plat Res** baz=210	**86.03**	**13**	P	**P**	04 30 28.1	**-0.8**
TX31	**Lajitas Ar. Si**	**86.05**	**58**	*e*P	**P**	04 30 30.8	**+0.8**
TXAR	**Lajitas Array** comp=Z,12nm,0.8s,baz=220,slow=6.1,SNR=119	**86.05**	**58**	P	**P**	04 30 31.5	**+1.5**
XAN	**Xi'an**	**86.13**	**307**	P	**P**	04 30 31.8	**+1.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,220nm,5.4s						
ANMO	**Albuquerque** comp=Z,6.9nm,1.0s	**86.14**	**52**	*e*P	**P**	04 30 30.9	**+0.5**
ANMO	**Albuquerque** baz=245	**86.14**	**52**	P	**P**	04 30 30.5	**+0.1**
MCMT	**McKenzie Canyo**	**86.25**	**41**	*e*P	**P**	04 30 31.3	**+0.5

LOHW	**Long Hollow**	87.09	42	*e*P		P		04 30 35.5	+0.7
	comp=Z,6.0nm,0.8s								
QLMT	**Earthquake Lak**	87.14	41	*e*P		P		04 30 34.9	-0.1
HHC	**Hu-ho-hao-te**	87.14	314	*e*P		P		04 30 33.4	-1.5
HHC				pP		pP		04 32 25.2	-14
HHC				SKS		S		04 40 03.8	-23
HHC				S		**SKKSac**		**04 40 16.7**	**-2.3**
HHC				pmax		pmax			
	comp=Z,15nm,0.9s								
HHC				pmax		pmax			
	comp=Z,280nm,6.7s								
EGAK	**Eagle**	87.17	15	*e*P		P		04 30 34.4	+0.1
	comp=Z,9.1nm,0.8s								
FLWY	**Flagg Ranch**	87.25	42	*e*P		P		04 30 35.9	+0.4
	comp=Z,14nm,0.9s								
YHB	**Horse Butte**	87.25	41	*e*P		P		04 30 36.2	+0.7
	comp=Z,16nm,1.0s								
YPP	**Pitchstone Pla**	87.27	42	*e*P		P		04 30 36.1	+0.5
	comp=Z,14nm,1.8s								
YFT	**Old Faithful**	87.33	42	*e*P		P		04 30 36.6	+0.7
	comp=Z,10nm,0.9s								
YMR	**Madison River**	87.35	41	*e*P		P		04 30 36.5	+0.6
	comp=Z,17nm,1.1s								
COLD	**Coldfoot**	87.36	11	*e*P		P		04 30 35.7	+0.5
	comp=Z,5.5nm,1.1s								
BW06	**Boulder Array**	87.37	43	*e*P		P		04 30 36.4	+0.3
	comp=Z,7.2nm,0.8s								
PD31	**Pinedale Array**	87.37	43	*e*P		P		04 30 36.4	+0.3
PDAR	**Pinedale Array**	87.37	43	*e*P		P		04 30 35.9	-0.2
PDAR	**Pinedale Array**	87.37	43	P		P		04 30 36.5	+0.4
	comp=Z,6.0nm,0.6s,baz=218,slow=3.5,SNR=78								
BOZ	**Bozeman (W)**	87.38	40	P		P		04 30 36.7	+0.7
	baz=241								
H17A	**Grant Village**	87.47	42	*e*P		P		04 30 37.1	+0.5
	comp=Z,11nm,0.8s								
H17A	**Grant Village**	87.47	42	P		P		04 30 38.6	+2.0
	baz=242								
YHH	**Holmes Hill**	87.48	41	*e*P		P		04 30 37.1	+0.5
	comp=Z,13nm,1.4s								
SMCO	**Snowmass**	87.55	48	*e*P		P		04 30 38.1	+0.9
	comp=Z,21nm,1.9s								
LKWY	**Lake**	87.66	42	*e*P		P		04 30 38.9	+1.4
	comp=Z,17nm,1.2s								
KMI	**Kunming**	87.70	297	P		P		04 30 38.9	+0.9
KMI				pmax		pmax			
	comp=Z,6.0nm,0.5s								
FYU	**Fort Yukon**	87.74	13	*e*P		P		04 30 36.6	-0.3
	comp=Z,43nm,1.8s								
WALA	**Waterton Lakes**	87.74	36	*e*P		P		04 30 38.3	+0.7
	comp=Z,29nm,1.5s								
HRY	**Holter Researc**	87.80	39	*e*P		P		04 30 38.4	+0.5
SDCO	**Great Sand Dun**	88.00	49	*e*P		P		04 30 39.9	+0.6
	comp=Z,2.4nm,0.9s								
SDCO	**Great Sand Dun**	88.00	49	P		P		04 30 39.5	+0.3
	baz=246								
MSTX	**Muleshoe**	88.54	54	*e*P		P		04 30 41.9	+0.3
	comp=Z,12nm,0.9s								
MSTX	**Muleshoe**	88.54	54	P		P		04 30 41.9	+0.3
	baz=247								
T25A	**Trinidad**	88.55	50	P		P		04 30 42.4	+0.7
	baz=246								
RLMT	**Red Lodge**	88.63	41	*e*P		P		04 30 42.2	+0.3
	comp=Z,8.3nm,1.0s								
RLMT	**Red Lodge**	88.63	41	P		P		04 30 42.8	+0.9
	baz=243								
TOLK	**Toolik Lake Re**	88.73	10	*e*P		P		04 30 41.6	0.0
	comp=Z,30nm,1.9s								
TOLK	**Toolik Lake Re**	88.73	10	P		P		04 30 41.7	0.0
	baz=206								
Q24A	**Divide**	88.75	48	P		P		04 30 43.5	+0.8
	baz=246								
ISCO	**Idaho Springs**	88.76	47	P		P		04 30 43.2	+0.5
	baz=246								
CD2	**Chengdu**	88.94	303	P		P		04 30 42.9	-0.5
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
N23A	**Red Feather La**	88.99	46	*e*P		P		04 30 44.3	+0.6
	comp=Z,13nm,1.1s								
N23A	**Red Feather La**	88.99	46	P		P		04 30 44.5	+0.8
	baz=245								
833A	**Chaparral WMA,**	89.16	60	P		P		04 30 45.0	+0.6
	baz=249								
SYO	**Syowa Base**	89.20	193	⇑*e*X		P		04 30 50.4	+6.6
K22A	**Casper**	89.33	45	*e*P		P		04 30 45.9	+0.7
	comp=Z,20nm,1.5s								
K22A	**Casper**	89.33	45	P		P		04 30 45.4	+0.2
	baz=245								
PHWY	**Pilot Hill**	89.49	46	*e*P		P		04 30 46.7	+0.6
	comp=Z,5.8nm,0.8s								
EPYK	**Eagle Plains**	89.56	16	*e*P		P		04 30 45.5	0.0
	comp=Z,17nm,0.9s								
EPYK	**Eagle Plains**	89.56	16	P		P		04 30 45.4	0.0
	baz=219								
JCT	**Junction City**	89.59	58	*e*P		P		04 30 47.0	+0.5
	comp=Z,9.1nm,0.9s								
JCT	**Junction City**	89.59	58	P		P		04 30 46.9	+0.5
	baz=249								
EGMT	**Eagleton**	89.66	39	P		P		04 30 46.7	+0.3
	baz=243								
AMTX	**Amarillo**	89.72	53	*e*P		P		04 30 47.5	+0.5
	comp=Z,10nm,1.0s								
AMTX	**Amarillo**	89.72	53	P		P		04 30 47.1	+0.1
	baz=248								
ABTX	**Abilene, Hawle**	90.48	56	P		P		04 30 50.8	+0.3
	baz=249								
KSCO	**Kaye Shedlock'**	90.57	49	P		P		04 30 51.5	+0.5
	baz=248								
LZH	**Lanzhou**	90.76	308	*e*P		P		04 30 50.8	-1.1
LZH				pP		pP		04 32 53.4	-4.6
LZH				sP		sP		04 33 43.3	-12
LZH				PP		**PP**		**04 34 38.9**	**+0.5**
LZH				pmax		pmax			
	comp=Z,24nm,1.1s								
LZH				pmax		pmax			
	comp=Z,120nm,4.9s								
LAO	**LASA Array**	91.23	41	*e*P		P		04 30 54.5	+0.8
	comp=Z,14nm,0.8s								
LAO	**LASA Array**	91.23	41	P		P		04 30 54.7	+1.0
	baz=245								
RSSD	**Black Hills**	91.59	44	*e*P		P		04 30 55.9	+0.3
	comp=Z,8.6nm,0.9s								
RSSD	**Black Hills**	91.59	44	P		P		04 30 55.5	-0.1
	baz=247								
INK	**Inuvik**	91.85	15	*e*P		P		04 30 55.2	-0.7
	comp=Z,10nm,0.9s								
CBKS	**Cedar Bluff**	92.60	50	P		P		04 31 00.4	+0.3
	baz=249								
DGMT	**Dagmar**	93.21	40	*e*P		P		04 31 03.1	+0.4
	comp=Z,19nm,0.7s								
DGMT	**Dagmar**	93.21	40	P		P		04 31 03.1	+0.4
	baz=247								
SONM	**Songino Array**	93.43	319	P		P		04 31 05.1	+1.3
	comp=Z,0.5nm,0.6s,baz=140,slow=7.7,SNR=4.0								
YKA	**Yellowknife Ar**	94.31	25	P		P		04 31 07.0	-0.3
YKA	**Yellowknife Ar**	94.31	25	P		P		04 31 07.0	-0.3
	comp=Z,2.4nm,0.7s,baz=242,slow=4.4,SNR=34								
YKA				PP		PP		04 35 04.6	-0.3
	comp=Z,0.6nm,1.1s,baz=239,slow=7.8,SNR=4.3								
YKB5	**Yellowknife Ar**	94.31	25	*e*P		P		04 31 06.4	-0.9
BGNE	**Belgrade**	94.63	48	P		P		04 31 09.9	+0.6
	baz=250								
KSU1	**Kansas State U**	94.99	51	P		P		04 31 11.2	+0.2
	baz=251								
ECSD	**EROS Data Cent**	96.46	46	P		P		04 31 17.0	-0.5
	baz=252								
T41A	**Mountain View**	98.02	54	P		P		04 31 25.3	+0.7
	baz=254								
S41A	**Jillco Farms,**	98.19	53	P		P		04 31 26.1	+0.8
	baz=254								
L41A	**Preston**	100.30	49	P		Pdif		04 31 35.1	+0.6
	baz=255								
451A	**Vernon**	101.19	61	P		Pdif		04 31 39.3	+0.5
	baz=256								
M43A	**Waltham Townsh**	101.26	50	P		Pdif		04 31 39.7	+0.8
	baz=256								
E40A	**Wakefield**	101.78	45	P		Pdif		04 31 42.0	+0.9
	baz=257								
251A	**Midway**	101.82	60	P		Pdif		04 31 42.1	+0.5
	baz=256								
ZALV	**Zalesovo Beam**	108.11	322	PKiKP		**PKiKP**		**04 36 10.2**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=315,slow=2.6,SNR=3.9								
N55A	**Marion Center**	108.54	52	P		**PKiKP**		**04 36 13.8**	**+0.6**
	baz=262								
MKAR	**Makanchi Array**	109.01	314	PKiKP		**PKiKP**		**04 36 12.7**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=209,slow=0.7,SNR=14								
KURK	**Kurchatov**	111.70	318	*e*PKP		**PKiKP**		**04 36 17.3**	**-1.5**
BRVK	**Borovoye**	116.78	321	*e*PKPdf		**PKPdf**		**04 36 27.5**	**-1.1**
ARU	**Arti**	122.73	326	*e*PKPdf		**PKPdf**		**04 36 39.2**	**-0.7**
ARU				*e*PKPdf		**PKiKP**		**04 36 39.9**	**-0.2**
ABKAR	**Akbulak array**	123.81	318	*e*PKPdf		**PKPdf**		**04 36 41.8**	**-0.4**
AKTO	**Aktyubinsk**	124.74	320	PKP		**PKPdf**		**04 36 43.6**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=97,slow=2.4,SNR=5.2								
ARCES	**ARCESS Array B**	126.22	350	PKP		**PKPdf**		**04 36 46.0**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=2.9,slow=2.4,SNR=10								
GEYT	**Alibeck**	126.91	304	PKP		**PKPdf**		**04 36 48.0**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=61,slow=3.6,SNR=2.9								
FINES	**FINESS Array B**	133.09	344	PKHKP		PKPpre		04 36 44.1	
	comp=Z,9.2nm,1.3s,baz=48,slow=2.1,SNR=2.7								
FINES				PKP		**PKPdf**		**04 36 58.5**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=45,slow=3.2,SNR=13								
FINES				SKPbc		**SKPbc**		**04 39 33.3**	**-0.4**
	comp=Z,2.5nm,1.1s,baz=66,slow=2.3,SNR=4.6								
NOA	**NORSAR Array B**	136.29	353	PKHKP		PKPpre		04 36 56.3	
	comp=Z,0.6nm,0.7s,baz=10,slow=2.4,SNR=3.1								
NOA				PKP		**PKPdf**		**04 37 05.3**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=8.1,slow=3.1,SNR=4.5								
HFS	**Hagfors**	136.84	351	PKHKP		PKPpre		04 36 57.4	
	comp=Z,3.9nm,0.9s,baz=54,slow=2.6,SNR=9.2								
HFS				PKP		**PKPdf**		**04 37 05.7**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=85,slow=3.0,SNR=3.4								
AKASG	**Malin Array Be**	140.45	332	PKHKP		PKPpre		04 37 06.7	
	comp=Z,1.4nm,0.6s,baz=40,slow=4.4,SNR=10								
AKASG				PKP		**PKPdf**		**04 37 14.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=42,slow=2.8,SNR=7.5								
AK11	**Malin Array Si**	140.49	332	*e*PKPdf		**PKPdf**		**04 37 14.5**	**+1.1**
EKA	**Eskdalemuir Ar**	142.40	4	PKHKP		PKPpre		04 37 12.6	
	comp=Z,3.1nm,0.8s,baz=315,slow=2.8,SNR=8.1								
EKA				PKP		**PKPdf**		**04 37 17.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=20,slow=2.3,SNR=8.9								
BEL	**Belsk**	142.80	340	*e*PKP		**PKPdf**		**04 37 16.5**	**-0.9**
BSEG	**Bad Segeberg**	143.33	351	*e*PKPbc		PKPbc		04 37 16.8	0.0
	baz=15,slow=2.8								
LEOM	**Leova**	143.88	328	⇑*i*P		PKPab		04 37 19.1	+0.1
KWP	**Kalwaria Pacla**	143.96	336	*e*PKP		PKPab		04 37 19.4	+0.2
RUE	**Ruedersdorf**	144.10	347	*e*PKPbc		PKPbc		04 37 19.5	+0.2
	baz=15,slow=2.8								
DSB	**Dublin**	144.13	8	*e*PKPbc		PKPbc		04 37 19.0	-0.4
PRAR	**RASCA**	144.23	331	⇓*i*P		PKPbc		04 37 19.9	0.0
TLCR		144.45	326	⇓*i*P		**PKPab**		**04 37 21.1**	**-0.1**
BUR08	**Bucovina Ar. S**	144.49	332	*e*PKPbc		PKPbc		04 37 21.1	+0.3
BUR04	**Bucovina Ar. S**	144.50	332	*e*PKPbc		PKPbc		04 37 21.2	+0.3
BURAR	**Bucovina Array**	144.50	332	⇓*i*P		**PKPab**		**04 37 21.4**	**-0.1**
OJC	**Ojcow**	144.51	340	*e*PKP		PKPbc		04 37 20.9	+0.2
OJC	**Ojcow**	144.51	340	*e*PKPbc		**PKPdf**		**04 37 19.9**	**-0.6**
BIZ	**Bicaz**	144.59	330	⇓*i*P		**PKPab**		**04 37 22.0**	**+0.3**
RETH	**Rethem/Aller,**	144.63	352	*e*PKPbc		PKPbc		04 37 21.1	+0.2
	baz=15,slow=2.8								
TESR	**Tescani**	144.64	329	⇑*i*P		PKPbc		04 37 21.4	+0.2
BR131	**Keskin Array S**	144.66	315	*e*PKPbc		PKPbc		04 37 21.7	0.0
BRTR	**Keskin Array B**	144.66	315	PKP		**PKPdf**		**04 37 21.5**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=130,slow=4.3,SNR=29								
NRDL	**Niedersach Rie**	144.76	351	*e*PKPbc		PKPbc		04 37 21.4	+0.1
	baz=15,slow=2.8								
CFR	**Carcaliu**	144.82	327	⇑*i*P		**PKPdf**		**04 37 19.0**	**-2.2**
ODBI	**Odobesti**	144.97	328	⇓*i*P		**PKPab**		**04 37 23.0**	**-0.2**
KSP	**Ksiaz**	145.01	344	*e*PKP		**PKPab**		**04 37 22.9**	**-0.4**
ASSE	**Asse, Remlinge**	145.02	350	*e*PKPbc		**PKPbc**		**04 37 22.2**	**+0.2**
	baz=15,slow=2.8								
NIE	**Niedzica**	145.02	338	*e*PKP		**PKPab**		**04 37 23.1**	**-0.3**
ASF	**Jabal al Asfar**	145.05	301	PKPbc		**PKPab**		**04 37 23.7**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=254,slow=3.4,SNR=4.1								
VRI	**Vranska**	145.06	329	⇑*i*P		**PKPdf**		**04 37 21.5**	**-0.1**
PLOR	**Plostina**	145.11	329	⇓*i*P		**PKPdf**		**04 37 16.8**	**-4.9**
ANTO	**Ankara**	145.15	316	*e*PKPdf		PKPbc		04 37 23.3	+0.2
BMR	**Baia Mare**	145.20	334	⇓*i*P		**PKPbc**		**04 37 23.4**	**+0.5**
TRPA	**Tarpa**	145.24	335	⇑*i*P		**PKPbc**		**04 37 23.1**	**+0.2**
IBBN	**Ibbenburen**	145.25	353	*e*PKPbc		**PKPbc**		**04 37 23.1**	**+0.3**
	baz=15,slow=2.8								
TLB	**Topalu**	145.26	326	⇑*i*P		**PKPbc**		**04 37 23.4**	**+0.3**
ARCR	**ARCALIA**	145.28	332	⇑*i*P		**PKPab**		**04 37 23.9**	**-0.5**
CLZ	**Clausthal**	145.35	350	*e*PKPbc		**PKPbc**		**04 37 23.6**	**+0.4**
	baz=15,slow=2.8								
CLL	**Collm**	145.37	347	*e*PKPdf		**PKPbc**		**04 37 23.0**	**-0.2**
CLL	**Collm**	145.37	347	*e*PKPbc		**PKPbc**		**04 37 23.4**	**+0.2**
	baz=15,slow=2.8								
CLL	**Collm**	145.37	347	*i* PKPbc		**PKPbc**		**04 37 22.9**	**-0.3**
	comp=Z,35nm,0.9s								
CLL				*e*(pPKPdf)				04 39 36.0	
OKC	**Ostrava-Krasne**	145.37	341	*e*PKP		**PKPbc**		**04 37 23.7**	**+0.4**
UPC	**Upice**	145.39	344	*e*PKP		**PKPbc**		**04 37 23.5**	**+0.2**
DPC	**Dobruska-Polom**	145.45	343	*e*PKP		**PKPbc**		**04 37 24.3**	**+0.7**
LANS	**Liptovska Anna**	145.53	339	*e*PKP		**PKPab**		**04 37 24.9**	**-0.5**
KRLC	**Kraliky**	145.57	342	*e*PKP		**PKPbc**		**04 37 23.8**	**-0.1**
BRG	**Berggiesshubel**	145.57	346	*i* P		**PKPbc**		**04 37 23.9**	**+0.1**
	comp=Z,15nm,0.7s								
BRG	**Berggiesshubel**	145.57	346	*e*PKPbc		**PKPbc**		**04 37 24.1**	**+0.3**
	baz=15,slow=2.8								
MORC	**Moravsky Berou**	145.61	341	*e*PKPdf		**PKPbc**		**04 37 23.8**	**-0.3**
MORC	**Moravsky Berou**	145.61	341	⇑*i*P		**PKPbc**		**04 37 24.1**	**+0.1**
MORC	**Moravsky Berou**	145.61	341	*e*PKP		**PKPbc**		**04 37 24.2**	**+0.2**
DOPR	**Dopca**	145.64	330	⇑*i*P		**PKPbc**		**04 37 24.9**	**+0.7**
FBE	**Freiberg**	145.66	347	*e*PKPbc		**PKPbc**		**04 37 24.7**	**+0.6**
	baz=15,slow=2.8								
FBE				*e*PKPab		**PKiKP**		**04 37 26.5**	**-0.3**
	baz=14,slow=4.1								
GTTG	**Gyttingen**	145.70	351	*e*PKPbc		**PKPbc**		**04 37 24.6**	**+0.4**
	baz=15,slow=2.8								
NEUB	**Neuenburg**	145.71	348	*e*PKPbc		**PKPbc**		**04 37 24.4**	**+0.2**
	baz=15,slow=2.8								
MLR	**Muntele Rosu**	145.72	329	*e*PKPdf		**PKPbc**		**04 37 24.4**	**-0.2**
MLR	**Muntele Rosu**	145.72	329	⇓*i*P		**PKPbc**		**04 37 24.6**	**0.0**
PVCC	**Panska Ves**	145.74	345	*e*PKP		**PKPdf**		**04 37 23.5**	**+0.9**
CJR	**Cluj-Napoca**	145.90	332	⇑*i*P		**PKPbc**		**04 37 25.5**	**+0.5**
SECR		145.98	328	⇓*i*P		**PKPbc**		**04 37 25.5**	**+0.3**
MMAI	**Mount Meron Ar**	146.01	303	PKPbc		**PKPbc**		**04 37 26.1**	**+0.4**
	comp=Z,9.5nm,0.7s,baz=70,slow=4.7,SNR=20								
VOIR		146.19	330	⇑*i*P		**PKPbc**		**04 37 26.3**	**+0.4**
DRGR		146.23	333	⇑*i*P		**PKPbc**		**04 37 26.1**	**+0.2**
PRU	**Pruhonice**	146.25	345	*e*PKP		**PKPbc**		**04 37 25.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	146.25	344	*e*PKP		**PKPbc**		**04 37 25.7**	**-0.1**
MOX	**Moxa**	146.28	348	*e*PKPbc		**PKPbc**		**04 37 25.9**	**+0.1**
	baz=15,slow=2.8								
MOX				*e*PKPab		**PKPab**		**04 37 28.4**	**+0.1**
	baz=14,slow=4.1								
VRAC	**Vranov**	146.31	342	*e*PKP		**PKPbc**		**04 37 26.2**	**+0.2**
VYHS	**Vyhne**	146.31	339	*e*PKP		**PKPbc**		**04 37 26.5**	**+0.5**
PLN	**Plauen**	146.32	348	*e*PKPbc		**PKPbc**		**04 37 26.2**	**+0.2**
	baz=15,slow=2.8								
TANN	**Tannenbergstha**	146.33	347	*e*PKPbc		**PKPbc**		**04 37 26.3**	**+0.3**
	baz=15,slow=2.8								
TANN				*e*PKPab		**PKPab**		**04 37 28.8**	**+0.3**
	baz=14,slow=4.1								
JAVC	**Velka Javorina**	146.38	341	*e*PKP		**PKiKP**		**04 37 27.6**	**-0.8**
UBBA	**Unterbreizbach**	146.40	350	*e*PKPbc		**PKPbc**		**04 37 26.0**	**+0.1**
	baz=15,slow=2.8								
GUNZ	**Gunzen**	146.40	347	*e*PKPbc		**PKPbc**		**04 37 26.7**	**+0.5**
	baz=15,slow=2.8								
GUNZ				*e*PKPab		**PKPab**		**04 37 29.3**	**+0.5**
	baz=14,slow=4.1								
PSZ	**Piszkesteto**	146.43	337	*e*PKPdf		**PKPbc**		**04 37 26.1**	**-0.3**
PSZ	**Piszkesteto**	146.43	337	⇓*i*P		**PKPbc**		**04 37 26.7**	**+0.3**
ARR	**Arges**	146.44	330	⇑*i*P		**PKPdf**		**04 37 24.7**	**+0.7**
WERN	**Wernitzgruen**	146.47	347	*e*PKPbc		**PKPbc**		**04 37 26.8**	**+0.4**
	baz=15,slow=2.8								
WERN				*e*PKPab		**PKPab**		**04 37 29.6**	**+0.6**
	baz=14,slow=4.1								
NKC	**Novy Kostel**	146.50	347	*e*PKP		**PKPbc**		**04 37 26.7**	**+0.2**
KRUC	**Moravsky**	146.59	342	*e*PKP		**PKPbc**		**04 37 26.9**	**+0.2**
TREC	**Trest**	146.63	343	*e*PKP		**PKPbc**		**04 37 27.0**	**+0.1**
SMOL	**Smolenice**	146.76	341	*e*PKP		**PKiKP**		**04 37 28.5**	**-0.6**
MANZ	**Manzenberg**	146.81	347	*e*PKPbc		**PKPbc**		**04 37 27.7**	**+0.4**
	baz=15,slow=2.8								
MODS	**Mora-Piesok**	146.93	341	*e*PKP		**PKPbc**		**04 37 28.6**	**+0.9**
YLV	**Yalova**	146.99	319	⇑*i*P		**PKPbc**		**04 37 27.6**	**-0.5**
ROTZ	**Rotzenmuhle**	146.99	347	*e*PKPbc		**PKPbc**		**04 37 28.2**	**+0.4**
	baz=15,slow=2.8								
SRO	**Srobarova**	147.08	339	*e*PKP		**PKPbc**		**04 37 28.6**	**+0.6**
SIRR	**Siria**	147.09	334	⇑*i*P		**PKPdf**		**04 37 26.5**	**+1.5**
MEM	**Membach**	147.10	355	⇑PKP		**PKPbc**		**04 37 27.9**	**-0.1**
ZST	**Bratislava**	147.14	341	*e*PKP		**PKPbc**		**04 37 28.1**	**-0.1**
TNS	**Taunus Mts**	147.21	352	*e*PKPbc		**PKPbc**		**04 37 28.6**	**+0.2**
	baz=15,slow=2.8								
TNS				*e*PKPab		**PKPab**		**04 37 32.3**	**+0.2**
	baz=14,slow=4.1								
GRA1	**Grafenberg Arr**	147.26	348	*e*PKPbc		**PKPbc**		**04 37 28.7**	**+0.2**
GRF	**Grafenberg Arr**	147.26	348	*e*PKPbc		**PKPbc**		**04 37 28.9**	**+0.4**
	baz=15,slow=2.8								
GRF				*e*PKPab		**PKPab**		**04 37 32.8**	**+0.5**
	baz=14,slow=4.1								
GRFO	**Grafenberg**	147.27	348	*e*PKPbc		**PKPbc**		**04 37 29.0**	**+0.5**
KHC	**Kasperske Hory**	147.28	345	*e*PKPbc		**PKPbc**		**04 37 29.0**	**+0.4**
KHC	**Kasperske Hory**	147.28	345	*e*PKP		**PKPbc**		**04 37 28.8**	**+0.2**
KHC				*ex*		x		04 37 33.6	
GZR	**Gura Zlata**	147.28	332	⇑*i*P		**PKPbc**		**04 37 28.1**	**-0.7**
EIL	**Elat**	147.29	297	PKPbc		**PKPbc**		**04 37 28.5**	**-0.7**
	comp=Z,5.4nm,0.8s,baz=65,slow=17,SNR=2.6								
BCLA	**Clavier**	147.35	355	⇑PKPbc		**PKPbc**		**04 37 27.9**	**-0.8**
BCLA				⇓PKPab		**PKPab**		**04 37 32.1**	**-0.4**
WET	**Wettzell**	147.43	346	*e*PKPbc		**PKPbc**		**04 37 29.2**	**+0.2**
	baz=15,slow=2.8								
GEC2	**GERESS Array S**	147.51	345	*e*PKPbc		**PKPbc**		**04 37 28.9**	**-0.4**
GEC2	**GERESS Array S**	147.51	345	*e*PKPbc		**PKPbc**		**04 37 29.4**	**+0.1**
	baz=15,slow=2.8								
GERES	**GERESS Array B**	147.51	345	PKPbc		**PKPbc**		**04 37 29.3**	**0.0**
	comp=Z,9.7nm,0.6s,baz=22,slow=3.2,SNR=88								
GEA0	**GERESS Array S**	147.52	345	*e*PKPbc		**PKPbc**		**04 37 29.2**	**0.0**
BZS	**Buzias**	147.62	333	⇓*i*P		**PKPdf**		**04 37 24.4**	**-1.5**
DOU	**Dourbes**	147.72	356	⇓PKPbc		**PKPbc**		**04 37 29.3**	**-0.3**
DOU				⇓PKPab		**PKPab**		**04 37 33.7**	**-0.3**
CONA	**Conrad Observa**	147.76	342	*i* PKiKP		**PKPbc**		**04 37 30.2**	**+0.3**
	comp=Z,11nm,0.8s,SNR=6.7								
HERR	**Herculane**	147.84	331	⇑*i*P		**PKPbc**		**04 37 29.9**	**-0.2**
WLF	**Walferdange**	148.03	354	*e*PKPbc		**PKiKP**		**04 37 31.1**	**-0.6**
WLF	**Walferdange**	148.03	354	*e*PKPbc		**PKiKP**		**04 37 31.1**	**-0.6**
	baz=15,slow=2.8								
WLF	**Walferdange**	148.03	354	⇓PKPbc		**PKPbc**		**04 37 31.0**	**+0.6**
MDVR	**Moldovita**	148.23	332	⇑*i*P		**PKPbc**		**04 37 30.9**	**-0.3**
MOA	**Molln**	148.29	344	*i* PKPbc		**PKPbc**		**04 37 31.1**	**-0.1**
	comp=Z,9.1nm,1.3s								
STU	**Stuttgart**	148.51	350	*e*PKPbc		**PKPbc**		**04 37 31.8**	**+0.2**
	baz=15,slow=2.8								
STU				*e*PKPab		**PKPab**		**04 37

CLTB AML AML
comp=E,3550μm,0.5s
RAFF Raffo Rosso 1.51 57 P **Pb 04 22 37.4 -1.0**
RAFF AML AML
comp=E,1500μm,0.8s
RAFF AML AML
comp=N,1165μm,0.9s
RAFF AML AML
comp=E,1500μm,0.8s
RAFF AML AML
comp=N,1165μm,0.9s
RAFF AML AML
comp=E,1500μm,0.8s
ALJA Alia 1.55 30 P **Pg 04 22 39.0 -0.5**
ALJA AML AML
comp=E,624μm,0.7s
ALJA AML AML
comp=N,780μm,0.6s
ALJA AML AML
comp=E,624μm,0.7s
ALJA AML AML
comp=N,780μm,0.6s
ALJA AML AML
comp=E,624μm,0.7s
ALJA AML AML
comp=N,780μm,0.6s
VAE Valguarnera 1.69 51 Pn **Pg 04 22 41.6 -0.7**
comp=N,14nm,0.3s,baz=254,slow=7.4,SNR=25
VAE Sn **Sg 04 23 04.7 +0.4**
comp=N,13nm,0.3s,baz=165,slow=13,SNR=7.0
HMDC Modica 1.71 71 P **Pn 04 22 39.8 -0.5**
HMDC S **Sb 04 23 02.2 -1.3**
HMDC AML AML
comp=E,721μm,1.0s
HMDC AML AML
comp=N,800μm,0.4s
HMDC AML AML
comp=N,800μm,0.4s
HMDC AML AML
comp=E,721μm,1.0s
HVZN Vizzini 1.74 63 P **Pn 04 22 40.4 -0.3**
HVZN AML AML
comp=E,8365μm,0.6s
HVZN AML AML
comp=N,5240μm,0.7s
HVZN AML AML
comp=N,5240μm,0.7s
HVZN AML AML
comp=E,8365μm,0.6s
PETRA Petralia Sopra 1.78 37 P **Pg 04 22 43.1 -0.9**
PETRA AML AML
comp=E,694μm,0.6s
PETRA AML AML
comp=N,760μm,0.9s
PETRA AML AML
comp=N,760μm,0.9s
PETRA AML AML
comp=E,694μm,0.6s
SOLUN Solunto 1.78 20 P **Pb 04 22 41.8 -1.2**
SOLUN AML AML
comp=E,243μm,1.5s
SOLUN AML AML
comp=N,220μm,1.1s
SOLUN AML AML
comp=E,243μm,1.5s
SOLUN AML AML
comp=N,220μm,1.1s
GIB Gibilmanna 1.87 32 P **Pb 04 22 43.8 -0.7**
GIB AML AML
comp=E,938μm,0.6s
GIB AML AML
comp=N,860μm,1.0s
GIB AML AML
comp=N,860μm,1.0s
GIB AML AML
comp=E,938μm,0.6s
HLNI Lentini 1.93 60 P **Pn 04 22 43.4 +0.1**
HLNI S **Sb 04 23 08.2 -1.6**
HLNI AML AML
comp=E,937μm,0.6s
HLNI AML AML
comp=N,1120μm,0.6s
HLNI AML AML
comp=E,937μm,0.6s
HLNI AML AML
comp=N,1120μm,0.6s
GALF Gagliano Caste 1.94 47 P **Pb 04 22 44.0 -1.6**
GALF AML AML
comp=E,739μm,0.7s
GALF AML AML
comp=N,740μm,0.7s
GALF AML AML
comp=E,739μm,0.7s
GALF AML AML
comp=N,740μm,0.7s
HAVL Avola 1.97 73 P **Pn 04 22 43.6 -0.3**
HAVL S **Sn 04 23 08.1 -0.9**
HAVL AML AML
comp=E,862μm,1.1s
HAVL AML AML
comp=N,822μm,1.2s
HAVL AML AML
comp=E,862μm,1.1s
HAVL AML AML
comp=N,822μm,1.2s
SSY Sortino 1.99 68 P **Pn 04 22 44.4 +0.2**
SSY AML AML
comp=E,1205μm,0.5s
SSY AML AML
comp=N,2465μm,0.6s
SSY AML AML
comp=E,1205μm,0.5s
SSY AML AML
comp=N,2465μm,0.6s
HCRL Carlentini 2.01 64 P **Pn 04 22 44.4 0.0**
HCRL S **Sn 04 23 10.1 +0.1**
HCRL AML AML
comp=E,841μm,1.0s
HCRL AML AML
comp=N,844μm,0.8s
HCRL AML AML
comp=E,841μm,1.0s
HCRL AML AML
comp=N,844μm,0.8s
AGST Augusta-Monte 2.14 66 P **Pn 04 22 46.2 0.0**
AGST AML AML
comp=E,754μm,0.8s
AGST AML AML
comp=N,934μm,1.6s
AGST AML AML
comp=E,754μm,0.8s
AGST AML AML
comp=N,934μm,1.6s
MNO Monte Soro 2.16 45 P **Pb 04 22 48.6 -1.0**
MNO AML AML
comp=E,762μm,0.6s
MNO AML AML
comp=N,884μm,0.8s
MNO AML AML
comp=E,762μm,0.6s
MNO AML AML
comp=N,884μm,0.8s
MSFR San Fratello 2.17 41 P **Pb 04 22 48.7 -1.0**
MUCR Ucria 2.34 45 P **Pb 04 22 50.6 -2.0**
MUCR AML AML
comp=E,458μm,0.6s
MUCR AML AML
comp=N,470μm,1.6s
MUCR AML AML
comp=E,458μm,0.6s
MUCR AML AML
comp=N,470μm,1.6s
MPNC Port Mandanici 2.69 49 AML AML
comp=N,468μm,0.8s
MPNC AML AML
comp=E,562μm,0.6s
MPNC AML AML
comp=N,468μm,0.8s
MPNC AML AML
comp=E,562μm,0.6s
KEST Kesra 2.85 257 Pn **Pn 04 22 56.3 +0.1**
comp=E,3.3nm,0.3s,baz=35,slow=9.1,SNR=46
KEST Sn **Sn 04 23 29.3 -1.6**
comp=E,5.4nm,0.3s,baz=263,slow=21,SNR=5.8
MSRU Castanea 2.86 49 AML AML
comp=N,206μm,1.3s
MSRU AML AML
comp=E,274μm,1.3s
MSRU AML AML
comp=E,274μm,1.3s
MSRU AML AML
comp=N,206μm,1.3s
IDI Anoyia 9.90 93 Pn **Pn 04 24 36.3 +3.4**
comp=N,0.1nm,0.3s,baz=262,slow=15,SNR=2.7
IDI Sn **Sn 04 26 19.5 -5.0**
comp=N,0.2nm,0.3s,baz=333,slow=9.5,SNR=4.0
DAVOX Davos/Dischmat 10.58 349 Pn **Pn 04 24 42.3 0.0**
DAVOX LR LR 04 28 49.4
comp=N,51nm,18.4s,slow=38
ESDC Sonseca Array 13.58 289 Pn **Pn 04 25 24.0 +0.8**
comp=N,0.1nm,0.3s,baz=92,slow=12,SNR=2.9
BRTR Keskin Array B 16.76 72 Pn **P 04 26 11.0 +3.2**
comp=N,0.0nm,0.3s,baz=256,slow=12,SNR=2.6
TORD Torodi Ar. Bea 25.21 206 P **P 04 27 37.5 +0.9**
comp=N,0.3nm,0.8s,baz=13,slow=9.0,SNR=2.5
GNI Garni 25.30 72 LR LR 04 39 06.8
comp=N,24nm,18.2s,baz=338,slow=40
FINES FINESS Array B 26.43 14 P **P 04 27 47.5 +0.4**
comp=N,2.4nm,0.9s,baz=209,slow=11,SNR=2.8
MKAR Makanchi Array 51.44 55 P P 04 31 19.7 +3.9
comp=N,0.3nm,0.6s,baz=282,slow=7.2,SNR=3.9
SONM Songino Array 66.27 47 P **P 04 33 01.6 +2.5**
comp=N,0.2nm,0.4s,baz=302,slow=8.3,SNR=2.6

IDC 02 04:42:43.4±3.1, 13.34S×167.70E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/27, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/32, Error ellipse: s-maj=143.4km s-min=30.7km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.59**	**254**	P		P 04 49 16.8	-0.2
	0.2nm,0.5s,baz=85,slow=9.2,SNR=5.8						
ASAR	**Alice Springs**	**33.57**	**247**	P		P 04 49 25.9	+0.4
	0.6nm,0.6s,baz=74,slow=9.3,SNR=11						
ASAR				LR		LR 05 01 55.4	
	comp=Z,62nm,18.5s,baz=198,slow=34						
ILAR	**Eielson Array**	**85.09**	**18**	P		P 04 55 21.6	+0.8
	0.2nm,0.6s,baz=218,slow=5.7,SNR=3.8						
MKAR	**Makanchi Array**	**96.50**	**316**	P		P 04 56 14.3	-0.6
	0.2nm,0.5s,baz=86,slow=6.4,SNR=2.8						
ARCES	**ARCESS Array B**	**119.02**	**346**	PKP		PKPdf 05 01 32.5	-1.1
	3.7nm,0.9s,baz=36,slow=1.7,SNR=4.8						

MEX 02 05:09:30.6±0.4, 17.81N×102.77W, h24km±9km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.73**	**311**	*e*P		Pb 05 09 42.4	-2.2
MMIG				*e*S		Sb 05 09 51.3	-2.9
ZIIG	**Zihuatanejo**	**1.26**	**99**	*e*P		Pn 05 09 50.1	-2.6
ZIIG				*i* S		Sn 05 10 05.0	-4.0
R15V		**1.78**	**320**	*e*P		Pn 05 09 57.0	-3.0
R15V				*i* S		Sn 05 10 17.8	-4.0
EZ5V		**1.84**	**335**	*e*P		Pn 05 09 58.7	-2.2
EZ5V				*e*S		Sn 05 10 20.3	-3.3
ARIG	**Puente Sto Nin**	**2.35**	**78**	*e*P		Pn 05 10 05.2	-2.6
ARIG				*e*S		Sn 05 10 32.6	-3.4

MEX 02 05:10:10.4±0.8, 17.03N×95.38W, h112km±10km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.48**	**82**	*e*P		Pn 05 10 25.9	-1.4
CMIG				*i* S		Sn 05 10 37.9	-2.0
VHO	**Vista Hermosa**	**1.30**	**272**	*e*P		Pn 05 10 34.7	-0.4
VHO				*i* S		Sn 05 10 52.7	-1.1
HUIG	**Huatulco**	**1.43**	**209**	*e*P		Pn 05 10 35.8	-0.7
HUIG				*e*S		Sn 05 10 55.5	-0.8
PNIG	**Pinotepa**	**2.71**	**257**	*e*P		Pn 05 10 50.6	-2.0
PNIG				*i* S		Sn 05 11 23.1	-2.0

IDC 02 05:24:32.4±4.7, 11.98S×170.20E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=228.4km s-min=31.5km az=140.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.32**	**252**	P		P 05 31 29.6	0.0
	0.9nm,0.4s,baz=84,slow=8.5,SNR=22						
ASAR	**Alice Springs**	**36.35**	**246**	P		P 05 31 38.4	-0.2
	0.8nm,0.5s,baz=75,slow=9.3,SNR=17						
ILAR	**Eielson Array**	**83.06**	**17**	P		P 05 36 59.5	0.0
	0.3nm,0.5s,baz=235,slow=5.1,SNR=7.1						

KRSC 02 05:35:37.3±10.0, 50.72N×157.91E, h41km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.02**	**318**	*e*P		Pn 05 35 56.7	+1.6
PAU				*e*S		Sn 05 36 10.0	+1.8
KDTR	**Khodutka, Kamc**	**1.10**	**6**	*e*P		Pn 05 35 57.2	+1.1
KDTR				*e*S		Sn 05 36 11.1	+1.0
SKR	**Severo-Kuril's**	**1.14**	**269**	*e*P		Pn 05 35 57.4	+0.7
SKR				*e*S		Sn 05 36 11.3	+0.2
ALID	**Alaid**	**1.50**	**277**	*e*P		Pn 05 36 03.4	+1.6
ALID				*e*S		Sn 05 36 22.3	+2.0
RUS	**Russkaya**	**1.76**	**12**	*e*P		Pn 05 36 06.6	+1.4
RUS				*e*S		Sn 05 36 27.8	+1.5
MTVR	**Mutnovka**	**1.78**	**5**	*e*P		Pn 05 36 07.6	+2.0
MTVR				*e*S		Sn 05 36 29.2	+2.2
KRMR	**Karymshinskiy**	**2.12**	**4**	*e*P		Pn 05 36 13.2	+3.0
KRMR				*e*S		Sn 05 36 40.0	+4.8
APC	**Apacha**	**2.26**	**348**	*e*P		Pn 05 36 15.1	+3.0
APC				*e*S		Sn 05 36 42.5	+3.9
PET	**Petropavlovsk**	**2.35**	**11**	*e*P		Pn 05 36 15.7	+2.3
PET				*e*S		Sn 05 36 43.3	+2.3
DALK	**Dalny**	**2.38**	**12**	*e*P		Pn 05 36 15.9	+2.2
DALK				*e*S		Sn 05 36 43.7	+2.2
UGLR	**Uglovaya**	**2.56**	**12**	*e*P		Pn 05 36 19.8	+3.5
UGLR				S		Sn 05 36 50.3	+4.1
AVH	**Avacha**	**2.60**	**11**	*i* P		Pn 05 36 20.9	+4.0
SMAR	**Somma**	**2.61**	**12**	*e*P		Pn 05 36 21.2	+4.1
KOK	**Koryaka**	**2.62**	**10**	*i* P		Pn 05 36 20.7	+3.6
SDLR	**Sedlovina**	**2.63**	**13**	*e*P		Pn 05 36 19.5	+2.2
SDLR				S		Sn 05 36 50.4	+2.3
KRX	**Arik**	**2.68**	**10**	*e*P		Pn 05 36 22.2	+4.1
SPN	**Mys Shipunski**	**2.72**	**28**	P		Pn 05 36 22.0	+3.6
GNL	**Ganaly**	**2.98**	**0**	*e*P		Pn 05 36 25.4	+3.3
MKZ	**Mys Kozlova**	**4.49**	**30**	P		Pn 05 36 44.8	+2.1
KZV	**Kizimen**	**4.63**	**17**	P		Pn 05 36 50.8	+6.0

*IGIL **02** 05:48:58.3, 37.22N×12.83W, h0km, ML1.9*
*MDD **02** 05:48:59.3±1.8, 37.26N×12.71W, h0km, mb3.9/3, Error ellipse: s-maj=15.6km s-min=14.4km az=77.0, PRXIMO*
*INMG **02** 05:49:01.0±1.3, 37.09N×13.07W, h10km, ML2.2, Error ellipse: s-maj=7.6km s-min=5.5km az=100.0*
ISC 02 05:49:00.7±3.2, 37.38N±0.08×12.5W±0.1, h10km, n49, σ1s66/89, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**2.94**	**94**	*e*Pn		Pn 05 49 47.1	-0.3
PFVI				*e*Sn		Sn 05 50 23.3	+0.6
PFVI	**Vila Bisbo**	**2.94**	**94**	P		Pn 05 49 47.2	-0.3
	1.8nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.98**	**57**	*e*Pn		Pn 05 49 50.2	+2.2
PMAFR				*e*Sn		Sn 05 50 26.8	+3.0
PMAFR				A		A 05 50 29.5	
	8.8nm,0.5s						
PMAFR	**Mafra**	**2.98**	**57**	P		Pn 05 49 50.0	+2.0
	2.1nm,0.1s,SNR=6.2						
PMAFR				S		Sb 05 50 27.2	-3.2
	5.7nm,0.2s,SNR=6.0						
PTEO	**Sao Teotonio**	**3.00**	**86**	*e*Pn		Pn 05 49 48.0	-0.3
PTEO				*e*Sn		Sn 05 50 24.3	-0.1
PTEO				A		A 05 50 32.1	
	3.3nm,0.4s						
PTEO	**Sao Teotonio**	**3.00**	**86**	P		Pn 05 49 48.0	-0.3
PTEO				S		Sn 05 50 24.3	-0.1
	1.7nm,0.4s						
MORF	**Marmelete**	**3.06**	**90**	*e*Pn		Pn 05 49 51.4	+2.2
MORF				*e*Sn		Sb 05 50 29.6	-3.2
MORF				A		A 05 50 30.7	
	4.2nm,0.2s						
MORF	**Marmelete**	**3.06**	**90**	P		Pn 05 49 51.4	+2.2
MORF				S		Sb 05 50 29.6	-3.2
	4.2nm,0.2s						
PNCL	**Nicolau / Gran**	**3.23**	**76**	*e*Pn		Pn 05 49 53.5	+2.1
PNCL				*e*Sn		Sn 05 50 31.0	+1.1
PNCL				A		A 05 50 39.0	
	2.9nm,0.1s						
PNCL	**Nicolau / Gran**	**3.23**	**76**	P		Pn 05 49 53.5	+2.1
PNCL				S		Sn 05 50 31.0	+1.1
	2.9nm,0.1s						
MESJ	**Messejana**	**3.42**	**81**	*e*P		Pn 05 49 54.8	+0.7
MESJ				*e*S		Sn 05 50 36.8	+2.0
MESJ				AML		AML 05 50 39.1	
	comp=E,3.1nm,0.6s						
MESJ	**Messejana**	**3.42**	**81**	*e*Pn		Pn 05 49 55.9	+1.8
MESJ				*e*Sn		Sn 05 50 35.6	+0.8
MESJ				A		A 05 50 43.6	
	comp=E,2.5nm,0.9s						
MESJ	**Messejana**	**3.42**	**81**	P		Pn 05 49 54.8	+0.7
MESJ				S		Sn 05 50 36.8	+2.0
	comp=E,3.1nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.64**	**91**	*e*Pn		Pn 05 49 58.1	+1.0
PBDV				*e*Sn		Sn 05 50 41.8	+1.7
PBDV				A		A 05 50 48.9	
	comp=E,2.2nm,0.4s						
PBDV	**Barranco-do-Ve**	**3.64**	**91**	P		Pn 05 49 58.1	+1.0
PBDV				S		Sn 05 50 41.8	+1.7
	comp=E,2.2nm,0.4s						
PBEJ	**Beja**	**3.73**	**79**	*e*Pn		Pn 05 50 00.8	+2.5
PBEJ				*e*Sn		Sn 05 50 43.5	+1.3
PBEJ				A		A 05 50 49.3	
	comp=E,2.7nm,0.4s						
PBEJ	**Beja**	**3.73**	**79**	P		Pn 05 50 00.8	+2.5
PBEJ				S		Sn 05 50 43.5	+1.3
	comp=E,1.4nm,0.4s						
PMTG	**Montargil**	**3.76**	**62**	*e*Pn		Pn 05 49 59.6	+0.9
PMTG				*e*Sn		Sn 05 50 44.9	+1.8
PMTG				A		A 05 50 49.9	
	comp=E,2.1nm,0.3s						
PMTG	**Montargil**	**3.76**	**62**	P		Pn 05 49 59.6	+0.9
PMTG				S		Sn 05 50 44.9	+1.8
	comp=E,2.1nm,0.3s						
PVAQ	**Vaqueiros**	**3.81**	**88**	*e*Pn		Pn 05 50 00.4	+1.1
PVAQ				*e*Sn		Sn 05 50 44.5	+0.4
PVAQ	**Vaqueiros**	**3.81**	**88**	P		Pn 05 50 00.4	+1.1
PVAQ				S		Sn 05 50 44.5	+0.4
PTOM	**Tomar**	**3.91**	**54**	*e*Pn		Pn 05 50 02.9	+2.2
PTOM				*e*Sn		Sn 05 50 49.1	+2.5
PTOM				A		A 05 50 55.0	
	comp=E,3.4nm,0.3s						
PTOM	**Tomar**	**3.91**	**54**	P		Pn 05 50 02.9	+2.2
PTOM				S		Sn 05 50 49.1	+2.5
	comp=E,1.7nm,0.3s						
EGRO	**El Granado**	**3.99**	**86**	P		Pn 05 50 02.6	+0.7
	comp=E,1.3nm,0.1s,SNR=4.6						
EGRO				S		Sn 05 50 50.2	+1.5
	comp=E,0.5nm,0.1s,SNR=4.5						
PCAS	**Casmilo, Conde**	**4.11**	**48**	*e*Pn		Pn 05 50 05.4	+1.8
PCAS				*e*Sn		Sn 05 50 53.7	+2.0
PCAS				A		A 05 51 02.2	
	comp=E,2.3nm,0.6s						
PCAS	**Casmilo, Conde**	**4.11**	**48**	Pn		Pn 05 50 05.4	+1.8
PCAS				S		Sn 05 50 53.7	+2.0
	comp=E,2.3nm,0.6s						
PESTR	**Estremoz**	**4.14**	**67**	*e*Pn		Pn 05 50 05.4	+1.4
PESTR				*e*Sn		Sn 05 50 54.2	+1.7
PESTR				A		A 05 51 01.5	
	comp=E,1.4nm,0.4s						
PMRV	**Marv??o**	**4.50**	**61**	*e*Pn		Pn 05 50 10.5	+1.6
PMRV				*e*Sn		Sn 05 51 02.4	+1.1
PMRV				A		A 05 51 06.9	
	comp=E,1.8nm,0.2s						
PMRV	**Marv??o**	**4.50**	**61**	P		Pn 05 50 10.5	+1.6
PMRV				S		Sn 05 51 02.4	+1.1
	comp=E,1.8nm,0.2s						
EBAD	**Badajoz**	**4.54**	**71**	P		Pn 05 50 10.6	+1.2
	comp=E,0.8nm,0.1s,SNR=4.0						
EBAD				S		Sn 05 51 02.2	-0.1
	comp=E,0.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.63**	**56**	*e*Pn		Pn 05 50 12.5	+1.8
PCBR				*e*Sn		Sn 05 51 05.9	+1.3
PCBR				A		A 05 51 09.2	
	comp=E,1.4nm,0.8s						
PCBR	**Castelo Branco**	**4.63**	**56**	P		Pn 05 50 12.5	+1.8
PCBR				S		Sn 05 51 05.9	+1.3
	comp=E,0.7nm,0.8s						
EMIN	**Mina Concepcio**	**4.64**	**83**	P		Pn 05 50 11.6	+0.7
	comp=E,0.5nm,0.1s,SNR=8.6						
EMIN				S		Sn 05 51 05.2	+0.5
	comp=E,0.2nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.89**	**46**	*e*Sn		Sn 05 51 11.7	+0.7
PVIS				A		A 05 51 16.1	
	comp=E,4.2nm,0.2s						
PVIS	**Viseu**	**4.89**	**46**	S		Sn 05 51 11.7	+0.7
	comp=E,2.1nm,0.2s						
MTE	**Manteigas**	**4.90**	**50**	*e*Pn		Pn 05 50 15.9	+1.4
MTE				*e*Sn		Sn 05 51 13.2	+1.9
MTE				A		A 05 51 16.8	
	comp=E,2.0nm,0.5s						
MTE	**Manteigas**	**4.90**	**50**	P		Pn 05 50 15.9	+1.4
MTE				S		Sn 05 51 13.2	+1.9
	comp=E,1.0nm,0.5s						
PGAV	**Gavieira, Arco**	**5.62**	**34**	*e*Sn		Sn 05 51 28.0	-1.1
PGAV				A		A 05 51 34.3	
	comp=E,3.8nm,0.7s						
PGAV	**Gavieira, Arco**	**5.62**	**34**	S		Sn 05 51 28.0	-1.1
	comp=E,3.8nm,0.7s						
ECAB	**El Cabril**	**5.65**	**81**	P		Pn 05 50 25.8	+1.1
	comp=E,0.6nm,0.1s,SNR=6.7						
ECAB				S		Sn 05 51 31.7	+1.9
	comp=E,0.1nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.68**	**47**	*e*Pn		Pn 05 50 26.8	+1.6
MVO				*e*Sn		Sn 05 51 29.7	-0.8
MVO				A		A 05 51 37.9	
	comp=E,2.2nm,0.9s						
MVO	**Moncorvo**	**5.68**	**47**	P		Pn 05 50 26.3	+1.1
	comp=E,0.6nm,0.1s,SNR=7.9						
MVO				S		Sn 05 51 30.1	-0.4
	comp=E,0.4nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.18**	**25**	S		Sn 05 51 39.8	-2.9
	comp=E,0.8nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**6.27**	**43**	*e*Pn		Pn 05 50 35.0	+1.8
PBRG	**Braganca**	**6.27**	**43**	Pn		Pn 05 50 35.0	+1.8
EADA	**Adamuz**	**6.32**	**80**	P		Pn 05 50 34.7	+0.7
	comp=E,0.3nm,0.1s,SNR=7.9						
EADA				S		Sn 05 51 46.0	-0.2
	comp=E,0.3nm,0.3s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.38**	**31**	S		Sn 05 51 43.8	-3.9
	comp=E,0.1nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.75**	**69**	P		Pn 05 50 40.7	+0.9
	comp=E,0.1nm,0.1s,SNR=7.9						
PAB				S		Sn 05 51 55.8	-1.0
	comp=E,0.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.07**	**68**	P		Pn 05 50 44.7	+0.5
	comp=E,0.4nm,0.3s,baz=255,slow=13,SNR=12						
ESDC				S		Sn 05 52 04.5	-0.2
	baz=256,slow=23,SNR=7.9						

*NIED **02** 06:01:00, 28.80N×128.40E, h5km, Mw4.2 Best double couple: M0 2.23000×10^15 NP1:φs229.00000°, δ67.00000°, λ-176.00000°. NP2:φs138.00000°, δ87.00000°, λ-23.00000°.*
*JMA **02** 06:01:40.1±2.0, 28.79N×128.36E, h14km, M3.8*
*ISCJB **02** 06:01:41.1±2.1, 28.73N±0.03×128.43E±0.05, h10km±15km, mb3.6/6, MS3.3/6, Error ellipse: s-maj=7.2km s-min=5.6km az=1.4*
*IDC **02** 06:01:47.9±1.5, 28.60N×128.46E, h57km±17km, mb3.4/7, mb1 3.6/9, mb1mx3.4/44, mbtmp3.7/9, ML3.5/2, MS3.4/12, Ms1 3.5/12, ms1mx3.3/27, Error ellipse: s-maj=30.2km s-min=10.6km az=90.0*
ISC 02 06:01:41.5±2.0, 28.69N±0.05×128.54E±0.06, h10km±13km, n28, σ0s89/22, mb3.6/6, MS3.4/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.72**	**128**	P		Pn 06 01 57.0	-0.8
JAMN				S		Sn 06 02 09.3	+0.4
JTAJ	**Takarajima**	**0.74**	**52**	P		Pb 06 01 55.6	-1.0

JTAJ				S	**Sb**	**06 02 06.4**	**-0.4**	
JTK	**Tokunoshima**	**0.97**	**158**	P	**Pb**	**06 02 00.3**	**-0.2**	
JTK				S	**Sn**	**06 02 15.1**	**-0.1**	
JAM	**Amami Oshima**	**0.98**	**106**	P	**Pn**	**06 02 01.0**	**-0.4**	
JAM				S	**Sn**	**06 02 15.7**	**+0.4**	
JZK	**Kikaishima**	**1.32**	**106**	P	**Pg**	**06 02 07.6**	**+0.7**	
JOKE	**Okinoerabujima**	**1.33**	**179**	P	**Pn**	**06 02 05.5**	**-0.6**	
JOKE				S	**Sb**	**06 02 24.0**	**+0.4**	
JYRO	**Yoronjima**	**1.66**	**183**	P	**Pn**	**06 02 10.6**	**-0.1**	
JIH	**Iheya**	**1.73**	**197**	P	**Pb**	**06 02 12.2**	**-1.1**	
JOW	**Kunigami**	**1.87**	**187**	P	**Pn**	**06 02 13.1**	**-0.5**	
JOW	**Kunigami**	**1.87**	**187**	P	**Pb**	**06 02 15.6**	**-0.2**	
	3.0nm,0.3s,baz=94,slow=19,SNR=10							
JOW				S	**Sb**	**06 02 37.6**	**-1.5**	
	5.0nm,0.3s,baz=66,slow=20,SNR=7.8							
JNU	**Nakatsue**	**4.85**	**24**	P	Pb	06 03 00.8	-5.9	
	5.3nm,0.3s,baz=174,slow=10,SNR=12							
JNU				LR	LR	06 04 58.3		
	comp=Z,694nm,19.4s,baz=218,slow=38							
KSRS	**Korea Array**	**8.75**	**357**	P	Pn	06 03 53.3	+5.1	
	0.1nm,0.3s,baz=182,slow=14,SNR=3.6							
KSRS				LR	LR	06 07 15.0		
	comp=Z,360nm,19.6s,baz=178,slow=37							
JCJ	**Chichijima**	**12.18**	**94**	LR	LR	06 08 39.4		
	comp=Z,120nm,20.9s,baz=204,slow=34							
USRK	**Ussuriysk Ar.**	**15.72**	**9**	LR	LR	06 10 43.0		
	comp=Z,168nm,19.4s,baz=164,slow=34							
TGY	**Tagaytay City**	**16.14**	**207**	LR	LR	06 11 43.0		
	comp=Z,95nm,20.2s,baz=333,slow=37							
ASAJ	**Asahikawa**	**19.06**	**32**	LR	LR	06 12 34.1		
	comp=Z,118nm,20.8s,baz=136,slow=34							
KLR	**Kul'dur**	**20.66**	**6**	P	Pn	06 06 25.2	+1.5	
	3.1nm,0.8s,baz=188,slow=9.0,SNR=8.4							
KLR				LR	LR	06 13 59.2		
	comp=Z,126nm,18.0s,baz=234,slow=35							
GUMO	**Guam**	**21.36**	**131**	LR	LR	06 13 20.8		
	comp=Z,39nm,21.1s,baz=8.5,slow=32							
DAV	**Davao City (W)**	**21.69**	**188**	LR	LR	06 14 51.7		
	comp=Z,105nm,20.3s,baz=354,slow=36							
SONM	**Songino Array**	**25.68**	**324**	P	**P**	**06 07 12.7**	**+0.9**	
	1.6nm,1.1s,baz=129,slow=31,SNR=6.0							
CMAR	**Chiang Mai Arr**	**28.90**	**256**	LR	LR	06 20 02.2		
	comp=Z,104nm,19.0s,baz=64,slow=38							
MKAR	**Makanchi Array**	**40.14**	**310**	P	**P**	**06 09 17.1**	**-0.5**	
	0.7nm,0.7s,baz=108,slow=8.0,SNR=7.9							
KURBB	**Kurchatov Arra**	**43.29**	**315**	P	**P**	**06 09 45.2**	**+1.9**	
	1.2nm,0.7s,baz=102,slow=8.7,SNR=8.1							
NRIK	**Noril'sk**	**47.01**	**341**	LR	LR	06 31 40.9		
	comp=Z,85nm,18.2s,baz=44,slow=38							
WRA	**Warramunga Arr**	**48.67**	**173**	P	**P**	**06 10 25.8**	**-0.3**	
	1.2nm,0.7s,baz=353,slow=8.4,SNR=4.0							
ASAR	**Alice Springs**	**52.31**	**174**	P	**P**	**06 10 54.8**	**+1.3**	
	0.6nm,0.8s,baz=7.1,slow=11,SNR=3.6							
YKA	**Yellowknife Ar**	**76.19**	**25**	P	**P**	**06 13 28.7**	**-0.9**	
	0.3nm,0.7s,baz=307,slow=5.3,SNR=4.2							
NOA	**NORSAR Array B**	**77.23**	**334**	LR	LR	06 53 53.7		
	comp=Z,22nm,18.6s,baz=285,slow=40							

*ISCJB **02** 06:12:51.6±1.2, 14°.26S±0°.08×167°.1E±0°.2, h170km, mb3.4/5, Error ellipse: s-maj=33.8km s-min=11.4km az=177.9*
*IDC **02** 06:12:55.6±7.4, 14°.50S×167°.31E, h204km±80km, mb3.2/5, mb1 3.4/6, mb1mx3.2/25, mbtmp3.7/6, Error ellipse: s-maj=70.4km s-min=29.7km az=160.0*

ISC 02 06:12:52.4±1.2, 14°29S±0°.1 0×167°3E±0°.3, h170km, n7, σ1§03/8, mb3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.78**	**186**	P	**Pn**	**06 14 43.0**	**+0.1**
	0.3nm,0.3s,baz=346,slow=4.2,SNR=3.4						
DZM				S	**Sn**	**06 16 10.6**	**+0.4**
	0.3nm,0.3s,baz=348,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**31.97**	**255**	P	**P**	**06 19 01.9**	**-0.7**
	0.4nm,0.5s,baz=86,slow=9.3,SNR=6.3						
ASAR	**Alice Springs**	**32.86**	**248**	P	**P**	**06 19 09.4**	**-0.9**
	0.4nm,0.3s,baz=80,slow=9.3,SNR=13						
SONM	**Songino Array**	**82.16**	**324**	P	**P**	**06 24 55.3**	**+1.0**
	0.3nm,0.4s,baz=122,slow=5.2,SNR=3.5						
ILAR	**Eielson Array**	**86.10**	**18**	P	**P**	**06 25 12.5**	**-1.1**
	0.4nm,0.8s,baz=235,slow=5.1,SNR=4.7						
MKAR	**Makanchi Array**	**96.91**	**316**	P	**P**	**06 26 05.5**	**+1.2**
	0.2nm,0.6s,baz=90,slow=4.6,SNR=3.2						
ARCES	**ARCESS Array B**	**119.84**	**345**	PKP	**PKPdf**	**06 31 21.4**	**-0.4**
	5.6nm,1.0s,baz=48,slow=1.3,SNR=6.1						

*IDC **02** 06:22:43.8±6.8, 33°.16S×180°.00W, h104km±55km, mb3.5/3, mb1 3.6/4, mb1mx3.4/26, mbtmp3.8/4, Error ellipse: s-maj=49.8km s-min=28.3km az=46.0*
*ISCJB **02** 06:22:46.0±0.6, 33°.50S±0°.05×179°.5W±0°.1, h150km, mb3.6/3, Error ellipse: s-maj=17.2km s-min=5.0km az=18.2*
*WEL **02** 06:22:47.9±0.6, 34°.S±6°×17°.9W±1°.5, h33km, ML4.5/15*

ISC 02 06:22:47.1±0.9, 33°.51S±0°.07×179°.5W±0°.1, h150km, n36, σ1§67/43, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.42**	**203**	P	**Pn**	**06 23 53.5**	**+0.7**
MXZ				S	**Sn**	**06 24 45.0**	**+0.9**
GLKZ	**Green Lake**	**4.44**	**18**	P	**Pn**	**06 23 53.7**	**+0.5**
GLKZ				S	**Sn**	**06 24 45.0**	**+0.4**
WMGZ	**Waiomatatini S**	**4.62**	**201**	P	**Pn**	**06 23 57.1**	**+1.6**
HAZ	**Te Kaha**	**4.78**	**207**	P	**Pn**	**06 23 58.4**	**+0.8**
HAZ				S	**Sn**	**06 24 54.7**	**+2.1**
PKGZ	**Pakihiroa**	**4.80**	**204**	P	**Pn**	**06 23 58.1**	**+0.2**
PUZ	**Puketiti**	**4.91**	**201**	P	**Pn**	**06 23 59.4**	**+0.2**
PUZ				S	**Sn**	**06 24 55.9**	**+0.3**
GRZ	**Great Barrier**	**4.98**	**235**	P	**Pn**	**06 24 01.7**	**+1.5**
RUGZ	**Raukumara Rang**	**5.01**	**207**	P	**Pn**	**06 24 00.7**	**0.0**
KUZ	**Kuaotunu**	**5.08**	**229**	P	**Pn**	**06 24 03.1**	**+1.5**
TWGZ	**Tauwhareparae**	**5.09**	**203**	P	**Pn**	**06 24 02.3**	**+0.7**
TWGZ				S	**Sn**	**06 25 01.0**	**+1.1**
CNGZ	**Carnagh Statio**	**5.30**	**200**	P	**Pn**	**06 24 05.1**	**+0.6**
TKGZ	**Te Karaka**	**5.37**	**203**	P	**Pn**	**06 24 05.4**	**0.0**
TKGZ				S	**Sn**	**06 25 06.8**	**+0.3**
MWZ	**Matawai**	**5.39**	**206**	P	**Pn**	**06 24 05.5**	**-0.1**
OPRZ	**Ohinepanea**	**5.39**	**216**	P	**Pn**	**06 24 05.9**	**+0.2**
URZ	**Urewera**	**5.48**	**209**	P	**Pn**	**06 24 06.0**	**-0.8**
	1.3nm,0.3s,baz=103,slow=18,SNR=8.6						
URZ				S	**Sn**	**06 25 07.1**	**-2.1**
	7.2nm,0.3s,baz=180,slow=20,SNR=24						
URZ	**Urewera**	**5.48**	**209**	P	**Pn**	**06 24 07.2**	**+0.3**
RAGZ	**Rawiri**	**5.57**	**206**	P	**Pn**	**06 24 07.4**	**-0.7**
WCZ	**Waipu Caves**	**5.63**	**243**	P	**Pn**	**06 24 09.9**	**+1.1**
RIGZ	**Rimuhau**	**5.64**	**203**	P	**Pn**	**06 24 08.4**	**-0.6**
PRGZ	**Paritu Road**	**5.80**	**201**	P	**Pn**	**06 24 10.1**	**-1.1**
OUZ	**Omahuta**	**5.97**	**252**	P	**Pn**	**06 24 13.4**	**0.0**
MTHZ	**Maungataniwha**	**6.10**	**208**	P	**Pn**	**06 24 14.1**	**-1.1**
NMHZ	**Naumai**	**6.33**	**207**	P	**Pn**	**06 24 16.8**	**-1.4**
BKZ	**Black Stump Fm**	**6.51**	**209**	P	**Pn**	**06 24 18.8**	**-1.8**
KWHZ	**Kaweka Forest**	**6.76**	**208**	P	**Pn**	**06 24 21.6**	**-2.4**
KAHZ	**Kahuranaki**	**6.92**	**208**	P	**Pn**	**06 24 23.7**	**-2.4**
BHHZ	**Black Hill Sta**	**6.96**	**210**	P	**Pn**	**06 24 24.1**	**-2.5**
KRHZ	**Kereru**	**6.97**	**207**	P	**Pn**	**06 24 23.5**	**-3.2**
PNHZ	**Pukenui**	**7.27**	**207**	P	**Pn**	**06 24 27.8**	**-2.9**
PRHZ	**Porangahau**	**7.42**	**204**	P	**Pn**	**06 24 29.4**	**-3.3**
ASAR	**Alice Springs**	**41.80**	**271**	P	**P**	**06 30 19.6**	**-2.4**
	0.6nm,0.4s,baz=108,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**43.07**	**276**	P	**P**	**06 30 29.9**	**-2.5**
	0.7nm,0.3s,baz=115,slow=7.9,SNR=22						
QSPA	**South Pole Qui**	**56.60**	**180**	P	**P**	**06 32 18.3**	**+4.2**
	0.7nm,0.6s,baz=36,slow=4.9,SNR=5.7						
ARCES	**ARCESS Array B**	**141.33**	**346**	PKP	**PKiKP**	**06 42 02.2**	**+0.4**
	2.9nm,0.9s,baz=44,slow=2.7,SNR=3.3						
FINES	**FINESS Array B**	**147.58**	**337**	PKPbc	**PKiKP**	**06 42 12.9**	**-1.9**
	1.2nm,0.6s,baz=58,slow=4.7,SNR=5.8						
NOA	**NORSAR Array B**	**151.60**	**349**	PKPbc	**PKiKP**	**06 42 23.2**	**-0.1**
	0.5nm,0.5s,baz=15,slow=4.0,SNR=3.1						

*ISK **02** 06:42:06.9, 34°.63N×27°.93E, h5km, ML3.2/14*
*ISCJB **02** 06:42:09.4±1.3, 34°.79N±0°.08×27°.89E±0°.05, h2km±12km, Error ellipse: s-maj=14.3km s-min=4.9km az=154.4*
*ATH **02** 06:42:13.9, 35°.02N×27°.63E, h12km±2km, ML2.7/3, Error ellipse: s-maj=3.9km s-min=1.1km az=333.0*
*THE **02** 06:42:13.9, 35°.08N×27°.79E, h2km±2km, ML2.7/6, Error ellipse: s-maj=3.4km s-min=1.5km az=151.0*

ISC 02 06:42:08.4±1.9, 34°.75N±0°.07×27°.86E±0°.04, h3km±11km, n41, σ1§80/56, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.98**	**325**	PN	**Pb**	**06 42 28.7**	**+0.5**
KARP				SN	**Sn**	**06 42 44.7**	**+1.0**
KARP	**Karpathos**	**0.98**	**325**	P	**Pg**	**06 42 26.6**	**-0.7**
KARP				S	**Sg**	**06 42 39.5**	**-0.5**
KARP	**Karpathos**	**0.98**	**325**	P	**Pg**	**06 42 26.1**	**-1.1**
KARP				S	**Sg**	**06 42 36.0**	**-4.0**
KARP				AML	AML	06 42 49.4	
	comp=N,1923μm,0.9s						
KARP				AML	AML	06 42 50.6	
	comp=E,1679μm,0.6s						
ZKR	**Zakros**	**1.40**	**286**	PN	**Pb**	**06 42 34.9**	**-0.3**
ZKR				SN	**Sg**	**06 42 55.6**	**+2.3**
ZKR	**Zakros**	**1.40**	**286**	P	**Pg**	**06 42 36.2**	**+1.0**
ZKR				S	**Sg**	**06 42 56.2**	**+2.9**
ZKR	**Zakros**	**1.40**	**286**	P	**Pg**	**06 42 36.0**	**+0.7**
ZKR				S	**Sn**	**06 42 51.7**	**-2.1**
ZKR				AML	AML	06 43 10.1	
	comp=E,440μm,0.5s						
ZKR				AML	AML	06 43 12.4	
	comp=N,342μm,0.6s						
ARG	**Arkhangelos**	**1.48**	**8**	PN	**Pb**	**06 42 36.5**	**-0.1**
ARG				SN	**Sg**	**06 42 58.0**	**+1.9**
ARG	**Arkhangelos**	**1.48**	**8**	P	**Pb**	**06 42 36.6**	**-0.1**
ARG				S	**Sn**	**06 42 51.4**	**-4.6**
ARG	**Arkhangelos**	**1.48**	**8**	P	**Pg**	**06 42 37.8**	**+0.9**
ARG				S	**Sn**	**06 42 54.7**	**-1.3**
ARG				AML	AML	06 43 11.4	
	comp=E,863μm,0.7s						
ARG				AML	AML	06 43 12.9	
	comp=N,854μm,0.9s						
NPS	**Neapolis**	**1.91**	**286**	P	**Pg**	**06 42 45.0**	**-0.1**
NPS				S	**Sn**	**06 43 07.5**	**+0.9**
NPS	**Neapolis**	**1.91**	**286**	P	**Pg**	**06 42 45.4**	**+0.3**
DAT	**Datca**	**1.99**	**354**	PN	**Pn**	**06 42 44.0**	**+0.8**
DAT				SN	**Sn**	**06 43 11.1**	**+2.4**
LAST	**Lasithi**	**2.00**	**283**	P	**Pg**	**06 42 46.4**	**-0.3**
LAST				S	**Sb**	**06 43 10.4**	**-0.4**
LAST	**Lasithi**	**2.00**	**283**	P	**Pg**	**06 42 46.4**	**-0.3**
FETY	**Fethiye**	**2.13**	**28**	PN	**Pn**	**06 42 45.4**	**+0.4**
FETY				SN	**Sn**	**06 43 13.4**	**+1.3**
FETY	**Fethiye**	**2.13**	**28**	P	**Pn**	**06 42 45.8**	**+0.8**
FETY				S	**Sn**	**06 43 09.9**	**-2.2**
ANAF	**Anafi Island**	**2.34**	**314**	P	**Pb**	**06 42 50.3**	**-0.9**
BODT	**Bodrum**	**2.35**	**349**	PN	**Pn**	**06 42 49.2**	**+1.1**
YER	**Yerkesik**	**2.41**	**8**	PN	**Pn**	**06 42 49.7**	**+0.8**
SANT	**Santorini**	**2.54**	**310**	PN	**Pn**	**06 42 51.8**	**+1.2**
MLSB	**Milas**	**2.54**	**359**	PN	**Pn**	**06 42 52.0**	**+1.3**
THR6	**Thira Island,**	**2.57**	**309**	P	**Pn**	**06 42 52.1**	**+1.1**
THR6	**Thira Island,**	**2.57**	**309**	P	**Pb**	**06 42 53.6**	**-1.6**
THR9	**Santorini-Faro**	**2.60**	**309**	P	**Pn**	**06 42 53.6**	**+2.2**
THR3	**Thira Island,**	**2.60**	**310**	P	**Pn**	**06 42 52.6**	**+1.2**
ELL	**Elmali**	**2.60**	**39**	PN	**Pn**	**06 42 51.6**	**0.0**
AMGA	**Amorgos Island**	**2.62**	**323**	P	**Pn**	**06 42 53.0**	**+1.2**
THR5	**Thira Island,**	**2.64**	**310**	P	**Pn**	**06 42 52.9**	**+1.0**
THR5	**Thira Island,**	**2.64**	**310**	P	**Pb**	**06 42 54.4**	**-2.0**
APE	**Apeiranthos**	**2.99**	**322**	PN	**Pn**	**06 42 58.2**	**+1.4**
APE	**Apeiranthos**	**2.99**	**322**	P	**Pn**	**06 42 58.9**	**+2.1**
VAM	**Vamos**	**3.07**	**283**	P	**Pb**	**06 43 02.0**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**3.19**	**0**	PN	**Pn**	**06 43 00.9**	**+1.2**
IMMV	**Iera Moni Meta**	**3.26**	**284**	P	**Pb**	**06 43 03.6**	**-3.3**
IMMV				S	**Sn**	**06 43 41.2**	**+1.5**
IMMV	**Iera Moni Meta**	**3.26**	**284**	P	**Pb**	**06 43 04.5**	**-2.4**
ANKY	**Antikythira Is**	**3.89**	**288**	P	**Pb**	**06 43 13.1**	**-4.5**
CHOS	**Chios island**	**3.91**	**339**	PN	**Pn**	**06 43 11.4**	**+1.9**
VLI	**Veliai**	**4.46**	**298**	P	**Pn**	**06 43 19.2**	**+2.2**
KONT	**Konya--Tatoy**	**4.84**	**47**	PN	**Pn**	**06 43 23.4**	**+1.2**
TVSB	**Tavsanli**	**4.87**	**15**	PN	**Pn**	**06 43 24.3**	**+1.6**
LADK	**Ladik-KONYA**	**5.01**	**45**	PN	**Pn**	**06 43 25.8**	**+1.2**

*ISK **02** 06:53:37.4, 38°.97N×43°.37E, h27km, ML2.0/4*
*DDA **02** 06:53:39.3, 38°.79N×43°.55E, h7km±1km, ML2.5*

ISC 02 06:53:38.2±1.1, 38°.95N±0°.05×43°.45E±0°.05, h28km±8km, n8, σ1§03/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**65**	*i* P	**Pn**	**06 53 43.9**	**-0.3**
VMUR				*i* S	**Sb**	**06 53 47.8**	**+0.7**
VMUR				IAML_P			
	comp=Z,2μm,0.1s						
VANB	**Van**	**0.35**	**188**	PG	**Pn**	**06 53 47.6**	**0.0**
VANB				SG	**Sn**	**06 53 55.1**	**+1.4**
CLDR	**Caldiran**	**0.41**	**61**	PG	**Pb**	**06 53 47.7**	**+0.4**
CLDR				SG	**Sn**	**06 53 55.2**	**-0.2**
CLDR	**Caldiran**	**0.41**	**61**	*i* P	**Pn**	**06 53 48.5**	**-0.1**
CLDR				*i* S	**Sn**	**06 53 55.9**	**+0.5**
CLDR				IAML_P			
	comp=Z,889nm,0.2s						
TVAN	**Van**	**0.42**	**185**	*i* P	**Pb**	**06 53 46.0**	**-1.4**
TVAN				IAML_P			
	comp=Z,4μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.58**	**257**	*i* P	**Pn**	**06 53 52.1**	**+1.3**
ADCV				*i* S	**Sn**	**06 54 00.2**	**+0.7**
ADCV				IAML_P			
	comp=Z,466nm,0.2s						
AKDM	**Akdamar-Van**	**0.72**	**211**	PG	**Pn**	**06 53 51.7**	**-0.9**
AGRB	**Hanur-Agry**	**0.72**	**331**	PG	**Pn**	**06 53 51.4**	**-1.4**

*KRSC **02** 06:55:30.4±10.0, 50°.65N×157°.94E, h48km±10km, ML4.5*
*MOS **02** 06:55:31.8±0.8, 50°.63N×157°.80E, h48km, mb4.1/8, Error ellipse: s-maj=14.9km s-min=4.2km az=83.7*
*ISCJB **02** 06:55:32.2±0.8, 50°.65N±0°.05×157°.78E±0°.07, h51km±7km, mb3.8/12, MS3.2/1, Error ellipse: s-maj=10.1km s-min=4.6km az=136.1*
*IDC **02** 06:55:33.2±0.7, 50°.64N×157°.55E, h44km±6km, mb3.4/9, mb1 3.7/11, mb1mx3.4/57, mbtmp3.6/11, ML4.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/31, Error ellipse: s-maj=18.8km s-min=10.4km az=94.0*

ISC 02 06:55:33.4±0.7, 50°.63N±0°.06×157°.81E±0°.04, h45km±6km, n76, σ1§29/108, mb3.9/12, 4C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.04**	**323**	*e*P	**Pn**	**06 55 50.5**	**-1.1**
PAU				*e*S	**Sn**	**06 56 02.9**	**-2.1**
PAU	**Pauzhetka**	**1.04**	**323**	PN	**Pn**	**06 55 50.5**	**-1.1**
PAU				S	**Sn**	**06 56 02.9**	**-2.1**
SKR	**Severo-Kuril's**	**1.08**	**273**	*e*P	**Pn**	**06 55 50.8**	**-1.2**
SKR				*e*S	**Sn**	**06 56 04.4**	**-1.3**
SKR	**Severo-Kuril's**	**1.08**	**273**	PN	**Pn**	**06 55 50.8**	**-1.2**
SKR				S	**Sn**	**06 56 04.4**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.19**	**8**	*e*P	**Pn**	**06 55 52.2**	**-1.3**
KDTR				*e*S	**Sn**	**06 56 06.4**	**-2.1**
KDTR	**Khodutka, Kamc**	**1.19**	**8**	PN	**Pn**	**06 55 52.2**	**-1.3**
KDTR				S	**Sn**	**06 56 06.4**	**-2.1**
ALID	**Alaid**	**1.45**	**280**	*e*P	**Pn**	**06 55 56.8**	**-0.5**
ALID				*e*S	**Sn**	**06 56 14.9**	**-0.3**
ALID	**Alaid**	**1.45**	**280**	PN	**Pn**	**06 55 56.8**	**-0.5**
ALID				S	**Sn**	**06 56 14.9**	**-0.3**
RUS	**Russkaya**	**1.85**	**14**	*e*P	**Pn**	**06 56 01.4**	**-1.3**
RUS				*e*S	**Sn**	**06 56 23.2**	**-1.7**
RUS	**Russkaya**	**1.85**	**14**	PN	**Pn**	**06 56 01.4**	**-1.3**
RUS				S	**Sn**	**06 56 23.2**	**-1.7**
MTVR	**Mutnovka**	**1.87**	**7**	*e*P	**Pn**	**06 56 02.2**	**-0.8**
MTVR				*e*S	**Sn**	**06 56 24.5**	**-0.9**
MTVR	**Mutnovka**	**1.87**	**7**	PN	**Pn**	**06 56 02.2**	**-0.8**
MTVR				S	**Sn**	**06 56 24.5**	**-0.9**
GRL	**Gorelyy**	**1.93**	**5**	*e*P	**Pn**	**06 56 03.0**	**-0.8**
GRL				*e*S	**Sn**	**06 56 26.4**	**-0.5**
GRL	**Gorelyy**	**1.93**	**5**	PN	**Pn**	**06 56 03.0**	**-0.8**
GRL				S	**Sn**	**06 56 26.4**	**-0.5**
KRMR	**Karymshinskiy**	**2.21**	**5**	*e*P	**Pn**	**06 56 07.0**	**-0.5**
KRMR				*e*S	**Sn**	**06 56 33.7**	**+0.1**
KRMR	**Karymshinskiy**	**2.21**	**5**	PN	**Pn**	**06 56 07.0**	**-0.5**
KRMR				S	**Sn**	**06 56 33.7**	**+0.1**
APC	**Apacha**	**2.33**	**350**	*e*P	**Pn**	**06 56 09.5**	**+0.3**
APC				*e*S	**Sn**	**06 56 37.2**	**+0.7**
APC	**Apacha**	**2.33**	**350**	PN	**Pn**	**06 56 09.5**	**+0.3**
APC				S	**Sn**	**06 56 37.2**	**+0.7**
PET	**Petropavlovsk**	**2.45**	**12**	*e*P	**Pn**	**06 56 10.2**	**-0.6**
PET				*e*S	**Sn**	**06 56 38.9**	**-0.6**
PET	**Petropavlovsk**	**2.45**	**12**	*e*PN	**Pn**	**06 56 10.3**	**-0.6**
PET				*e*S	**Sn**	**06 56 38.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,69nm,0.5s						
PET				smax	smax		
	comp=E,275nm,0.4s						
PET				smax	smax		
	comp=N,445nm,0.4s						
DALK	**Dalny**	**2.47**	**13**	*e*P	**Pn**	**06 56 10.8**	**-0.3**
DALK				*e*S	**Sn**	**06 56 38.9**	**-1.1**
DALK	**Dalny**	**2.47**	**13**	PN	**Pn**	**06 56 10.8**	**-0.3**
DALK				S	**Sn**	**06 56 38.9**	**-1.1**
PETK	**Petropavlovsk-**	**2.48**	**359**	P	**Pn**	**06 56 11.3**	**+0.1**
	comp=N,8.2nm,0.3s,baz=163,slow=17,SNR=144						
PETK				S	**Sn**	**06 56 41.5**	**+1.2**
	comp=N,13nm,0.3s,baz=204,slow=25,SNR=6.6						
PETK				LR	LR	06 57 31.5	
	comp=N,103nm,18.7s,baz=159,slow=48						
UGLR	**Uglovaya**	**2.66**	**13**	*e*P	**Pn**	**06 56 13.9**	**+0.2**
UGLR	**Uglovaya**	**2.66**	**13**	PN	**Pn**	**06 56 13.9**	**+0.2**
AVH	**Avacha**	**2.70**	**12**	*e*P	**Pn**	**06 56 15.0**	**+0.7**
AVH				*e*S	**Sn**	**06 56 48.1**	**+2.4**
AVH	**Avacha**	**2.70**	**12**	PN	**Pn**	**06 56 15.0**	**+0.7**
AVH				S	**Sn**	**06 56 48.1**	**+2.4**
SMAR	**Somma**	**2.71**	**13**	*e*P	**Pn**	**06 56 15.2**	**+0.7**
SMAR	**Somma**	**2.71**	**13**	PN	**Pn**	**06 56 15.2**	**+0.7**
KOK	**Koryaka**	**2.71**	**11**	*e*P	**Pn**	**06 56 15.4**	**+0.9**
KOK				*e*S	**Sn**	**06 56 47.2**	**+1.1**
KOK	**Koryaka**	**2.71**	**11**	PN	**Pn**	**06 56 15.4**	**+0.9**
KOK				S	**Sn**	**06 56 47.2**	**+1.1**
NLC	**Nalytchevo**	**2.71**	**20**	*e*P	**Pn**	**06 56 12.6**	**-1.8**
NLC				*e*S	**Sn**	**06 56 42.1**	**-3.9**
NLC	**Nalytchevo**	**2.71**	**20**	PN	**Pn**	**06 56 12.6**	**-1.8**
NLC				S	**Sn**	**06 56 42.1**	**-3.9**
SDLR	**Sedlovina**	**2.73**	**14**	*e*P	**Pn**	**06 56 14.4**	**-0.4**
SDLR	**Sedlovina**	**2.73**	**14**	PN	**Pn**	**06 56 14.4**	**-0.4**
KRX	**Arik**	**2.78**	**10**	*e*P	**Pn**	**06 56 16.8**	**+1.3**
KRX	**Arik**	**2.78**	**10**	PN	**Pn**	**06 56 16.8**	**+1.3**
SPN	**Mys Shipunski**	**2.83**	**28**	*e*P	**Pn**	**06 56 15.6**	**-0.4**
SPN				*e*S	**Sn**	**06 56 47.3**	**-1.4**
SPN	**Mys Shipunski**	**2.83**	**28**	PN	**Pn**	**06 56 15.6**	**-0.4**
SPN				S	**Sn**	**06 56 47.3**	**-1.4**
GNL	**Ganaly**	**3.07**	**2**	*e*P	**Pn**	**06 56 20.1**	**+0.7**
GNL	**Ganaly**	**3.07**	**2**	PN	**Pn**	**06 56 20.1**	**+0.7**
KII	**Karymskiy**	**3.55**	**16**	*e*P	**Pn**	**06 56 26.8**	**+0.8**
KII	**Karymskiy**	**3.55**	**16**	PN	**Pn**	**06 56 26.8**	**+0.8**
MKZ	**Mys Kozlova**	**4.60**	**30**	*e*P	**Pn**	**06 56 39.2**	**-1.1**
MKZ	**Mys Kozlova**	**4.60**	**30**	PN	**Pn**	**06 56 39.2**	**-1.1**
TUMD	**Tumrok D**	**4.84**	**18**	*e*P	**Pn**	**06 56 45.9**	**+2.3**
TUMD				*e*S	**Sn**	**06 57 39.1**	**+0.8**
TUMR	**Tumrok**	**4.87**	**16**	*e*P	**Pn**	**06 56 45.6**	**+1.5**
TUMR	**Tumrok**	**4.87**	**16**	PN	**Pn**	**06 56 45.9**	**+1.8**
TUMR				S	**Sn**	**06 57 39.1**	**0.0**
KBTR	**Krutoberegovo**	**6.34**	**26**	*e*P	**Pn**	**06 57 04.2**	**+0.1**
KBTR	**Krutoberegovo**	**6.34**	**26**	PN	**Pn**	**06 57 04.2**	**+0.1**
BKI	**Bering**	**6.73**	**44**	*e*P	**Pn**	**06 57 07.4**	**-2.1**
BKI	**Bering**	**6.73**	**44**	PN	**Pn**	**06 57 07.4**	**-2.1**
MA2	**Magadan**	**9.82**	**339**↑	*e*PN	**Pn**	**06 57 53.3**	**+1.5**
MA2	**Magadan**	**9.82**	**339**	P	**Pn**	**06 57 51.1**	**-0.6**
	comp=N,0.3nm,0.3s,baz=149,slow=6.4,SNR=6.0						
SEY	**Seymchan**	**12.68**	**349**↓	*e*PN	**Pn**	**06 58 31.2**	**+0.5**
MAJO	**Matsushiro**	**19.91**	**232**↑	*e*P	**P**	**07 00 01.3

	1.6nm,0.3s							
KURBB				⇑Lg	Lg	07 27 43.8		
	3.2nm,0.6s							
MK31	**Makanchi Array**	**7.93**	**205**	Pn	Pn	07 26 18.9	+5.4	
	0.1nm,0.2s,baz=29,slow=14,SNR=9.1							
MK31				⇓Sn	Sn	07 27 48.0	+4.1	
	0.3nm,0.5s,baz=25,slow=26,SNR=2.5							
MK31				⇑Lg	Lg	07 28 29.2		
	0.2nm,0.5s							
MAKZ	**Makanchi**	**7.99**	**207**	⇓Pn	Pn	07 26 22.3	+7.9	
	2.1nm,0.9s							
MAKZ				⇓Sn	Sn	07 27 44.6	-0.9	
	1.1nm,0.7s							
MAKZ				⇑Lg	Lg	07 28 28.3		
	0.8nm,0.7s							

IDC ***02*** *07:24:27.5±2.3,50°.34N×157°.53E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/36, mbtmp3.2/3, ML2.4/1, MS2.4/1, Ms1 2.4/1, ms1mx2.2/21, Error ellipse: s-maj=55.9km s-min=37.4km az=8.0*

KRSC ***02*** *07:24:32.8±10.0, 50°.70N×157°.94E, h46km±10km, ML4.1*

MOS ***02*** *07:24:33.3±0.5, 50°.59N×157°.93E, h37km, mb4.3/1, Error ellipse: s-maj=23.6km s-min=4.9km az=84.8*

ISCJB ***02*** *07:24:34.3±0.9, 50°.68N±0°.05×157°.88E±0°.08, h46km±13km, mb3.3/2, Error ellipse: s-maj=11.3km s-min=5.5km az=135.5*

ISC 02 07:24:34.5±1.3, 50°.65N±0°.10×157°.87E±0°.07, h39km±10km, n54, σ1§18/76, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.05**	**321**		*eP*	**Pn**		**07 24 52.8**	**0.0**
PAU					*eS*	**Sn**		**07 25 05.9**	**-0.3**
PAU	**Pauzhetka**	**1.05**	**321**	PN	Pn	**Pn**		**07 24 52.8**	**0.0**
PAU				S		**Sn**		**07 25 05.9**	**-0.3**
SKR	**Severo-Kuril's**	**1.12**	**272**		*eP*	**Pn**		**07 24 53.6**	**0.0**
SKR					*eS*	**Sn**		**07 25 07.4**	**-0.3**
SKR	**Severo-Kuril's**	**1.12**	**272**	*e*PN	Pn	**Pn**		**07 24 53.7**	**+0.1**
SKR					*eS*	**Sn**		**07 25 07.6**	**-0.1**
SKR				pmax	pmax				
	comp=Z,232nm,0.5s								
SKR				smax	smax				
	comp=E,1μm,0.3s								
SKR				smax	smax				
	comp=N,1μm,0.3s								
KDTR	**Khodutka, Kamc**	**1.17**	**6**		*eP*	**Pn**		**07 24 53.5**	**-0.8**
KDTR					*eS*	**Sn**		**07 25 07.2**	**-1.8**
KDTR	**Khodutka, Kamc**	**1.17**	**6**	PN	Pn	**Pn**		**07 24 53.5**	**-0.8**
KDTR				S		**Sn**		**07 25 07.2**	**-1.8**
ALID	**Alaid**	**1.49**	**279**		*eP*	**Pn**		**07 24 59.5**	**+0.6**
ALID					*eS*	**Sn**		**07 25 18.2**	**+1.0**
RUS	**Russkaya**	**1.83**	**12**		*eP*	**Pn**		**07 25 02.5**	**-0.9**
RUS					*eS*	**Sn**		**07 25 23.8**	**-1.5**
RUS	**Russkaya**	**1.83**	**12**	PN	Pn	**Pn**		**07 25 02.5**	**-0.9**
RUS				S		**Sn**		**07 25 23.8**	**-1.5**
MTVR	**Mutnovka**	**1.84**	**6**		*eP*	**Pn**		**07 25 03.5**	**-0.3**
MTVR					*eS*	**Sn**		**07 25 25.0**	**-0.9**
MTVR	**Mutnovka**	**1.84**	**6**	PN	Pn	**Pn**		**07 25 03.5**	**-0.3**
MTVR				S		**Sn**		**07 25 25.0**	**-0.9**
GRL	**Gorelyy**	**1.91**	**4**		*eP*	**Pn**		**07 25 04.0**	**-0.6**
GRL	**Gorelyy**	**1.91**	**4**	PN	Pn	**Pn**		**07 25 04.0**	**-0.6**
KRMR	**Karymshinskiy**	**2.19**	**4**		*eP*	**Pn**		**07 25 08.9**	**+0.6**
KRMR					*eS*	**Sn**		**07 25 34.1**	**0.0**
KRMR	**Karymshinskiy**	**2.19**	**4**	PN	Pn	**Pn**		**07 25 08.9**	**+0.6**
KRMR				S		**Sn**		**07 25 34.1**	**0.0**
APC	**Apacha**	**2.32**	**349**		*eP*	**Pn**		**07 25 10.6**	**+0.5**
APC					*eS*	**Sn**		**07 25 37.5**	**+0.1**
APC	**Apacha**	**2.32**	**349**	PN	Pn	**Pn**		**07 25 10.6**	**+0.5**
APC				S		**Sn**		**07 25 37.5**	**+0.1**
PET	**Petropavlovsk**	**2.42**	**11**		*eP*	**Pn**		**07 25 11.8**	**+0.2**
PET					*eS*	**Sn**		**07 25 39.4**	**-0.5**
PET	**Petropavlovsk**	**2.42**	**11**	*e*PN	Pn	**Pn**		**07 25 11.1**	**-0.5**
PET					*eS*	**Sn**		**07 25 39.5**	**-0.5**
PET				pmax	pmax				
	comp=Z,18nm,0.4s								
PET				smax	smax				
	comp=E,205nm,0.7s								
PET				smax	smax				
	comp=N,269nm,0.5s								
DALK	**Dalny**	**2.44**	**13**		*eP*	**Pn**		**07 25 11.5**	**-0.3**
DALK					*eS*	**Sn**		**07 25 39.2**	**-1.3**
DALK	**Dalny**	**2.44**	**13**	PN	Pn	**Pn**		**07 25 11.5**	**-0.3**
DALK				S		**Sn**		**07 25 39.2**	**-1.3**
PETK	**Petropavlovsk-**	**2.46**	**358**	Pn		**Pn**		**07 25 13.2**	**+1.1**
	comp=N,3.2nm,0.3s,baz=180,slow=16,SNR=61								
PETK				Sn		**Sn**		**07 25 43.6**	**+2.6**
	comp=N,2.8nm,0.3s,baz=165,slow=29,SNR=4.4								
PETK				LR		LR		07 26 28.4	
	comp=N,70nm,18.4s,baz=202,slow=44								
UGLR	**Uglovaya**	**2.63**	**13**	P		**Pn**		**07 25 16.0**	**+1.5**
UGLR					*eS*	**Sn**		**07 25 46.4**	**+1.2**
UGLR	**Uglovaya**	**2.63**	**13**	PN	Pn	**Pn**		**07 25 16.0**	**+1.5**
UGLR				S		**Sn**		**07 25 46.4**	**+1.2**
AVH	**Avacha**	**2.67**	**11**	P		**Pn**		**07 25 16.9**	**+1.8**
AVH					*eS*	**Sn**		**07 25 48.0**	**+1.8**
AVH	**Avacha**	**2.67**	**11**	PN	Pn	**Pn**		**07 25 16.9**	**+1.8**
AVH				S		**Sn**		**07 25 48.0**	**+1.8**
SMAR	**Somma**	**2.68**	**12**		*eP*	**Pn**		**07 25 16.6**	**+1.3**
SMAR	**Somma**	**2.68**	**12**	PN	Pn	**Pn**		**07 25 16.6**	**+1.3**
KOK	**Koryaka**	**2.69**	**10**		*eP*	**Pn**		**07 25 17.1**	**+1.8**
KOK				S		**Sn**		**07 25 48.3**	**+1.7**
KOK	**Koryaka**	**2.69**	**10**	PN	Pn	**Pn**		**07 25 17.1**	**+1.8**
KOK				S		**Sn**		**07 25 48.3**	**+1.7**
SDLR	**Sedlovina**	**2.70**	**13**		*eP*	**Pn**		**07 25 15.5**	**0.0**
SDLR	**Sedlovina**	**2.70**	**13**	PN	Pn	**Pn**		**07 25 15.5**	**0.0**
KRX	**Arik**	**2.75**	**10**		*eP*	**Pn**		**07 25 17.2**	**+1.0**
KRX	**Arik**	**2.75**	**10**	PN	Pn	**Pn**		**07 25 17.2**	**+1.0**
SPN	**Mys Shipunski**	**2.79**	**28**		*eP*	**Pn**		**07 25 17.7**	**+1.1**
SPN					*eS*	**Sn**		**07 25 48.8**	**-0.2**
SPN	**Mys Shipunski**	**2.79**	**28**	PN	Pn	**Pn**		**07 25 17.7**	**+1.1**
SPN				S		**Sn**		**07 25 48.8**	**-0.2**
GNL	**Ganaly**	**3.05**	**1**		*eP*	**Pn**		**07 25 21.6**	**+1.3**
GNL	**Ganaly**	**3.05**	**1**	PN	Pn	**Pn**		**07 25 21.6**	**+1.3**
KII	**Karymskiy**	**3.53**	**15**	P		**Pn**		**07 25 28.3**	**+1.5**
KII	**Karymskiy**	**3.53**	**15**	PN	Pn	**Pn**		**07 25 28.3**	**+1.5**
MKZ	**Mys Kozlova**	**4.56**	**30**		*eP*	**Pn**		**07 25 40.7**	**-0.2**
MKZ	**Mys Kozlova**	**4.56**	**30**	PN	Pn	**Pn**		**07 25 40.7**	**-0.2**
KZV	**Kizimen**	**4.70**	**17**	P		**Pn**		**07 25 45.6**	**+2.6**
KZV	**Kizimen**	**4.70**	**17**	PN	Pn	**Pn**		**07 25 45.6**	**+2.6**
KBTR	**Krutoberegovo**	**6.30**	**26**		*eP*	**Pn**		**07 26 05.5**	**+0.7**
KBTR	**Krutoberegovo**	**6.30**	**26**	PN	Pn	**Pn**		**07 26 05.5**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**31.67**	**164**		T	T		08 04 37.2	
	baz=349,slow=76,SNR=28								
H11N3	**WAKE ISLAND Hy**	**31.69**	**164**		T	T		08 04 38.4	
	baz=349,slow=76,SNR=22								
H11N1	**WAKE ISLAND Hy**	**31.69**	**164**		T	T		08 04 39.0	
	baz=349,slow=76,SNR=19								
H11S1	**WAKE ISLAND Hy**	**32.84**	**164**		T	T		08 06 03.5	
	baz=350,slow=76,SNR=18								
H11S3	**WAKE ISLAND Hy**	**32.85**	**164**		T	T		08 06 03.4	
	baz=350,slow=76,SNR=29								
H11S2	**WAKE ISLAND Hy**	**32.85**	**164**		T	T		08 06 08.2	
	baz=350,slow=76,SNR=14								
MKAR	**Makanchi Array**	**47.99**	**296**		P	**P**		**07 33 07.2**	**-1.9**
	comp=N,0.1nm,0.3s,baz=56,slow=8.2,SNR=4.4								
TXAR	**Lajitas Array**	**72.90**	**65**		P	**P**		**07 36 00.6**	**+1.0**
	comp=N,0.3nm,0.9s,baz=307,slow=6.6,SNR=2.9								

SJA ***02*** *07:38:15.3±1.2, 21°.46S×68°.61W, h126km±8km, MD2.9*

ISCJB ***02*** *07:38:16.3±0.7, 21°.44S±0°.03×68°.77W±0°.1, h126km±7km, mb3.3/2, Error ellipse: s-maj=15.9km s-min=5.1km az=177.9*

IDC ***02*** *07:38:16.3±1.1, 21°.54S×68°.28W, h115km±15km, mb3.2/2, mb1 3.3/4, mb1mx3.1/22, mbtmp3.5/4, Error ellipse: s-maj=41.2km s-min=20.7km az=115.0*

GUC ***02*** *07:38:16.2±0.7, 21°.44S×68°.68W, h121km±5km, ML3.0*

ISC 02 07:38:16.6±1.0, 21°.42S±0°.03×68°.58W±0°.08, h115km±8km, n30, σ0§95/51, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.72**	**239**		*eP*	**Pn**		**07 38 36.2**	**+0.4**
PB09					*eS*	**Sn**		**07 38 50.9**	**+0.6**
PB09	**IPOC Station P**	**0.72**	**239**	⇑	*eP*	**Pn**		**07 38 36.2**	**+0.4**
PB09					*eS*	**Sn**		**07 38 50.6**	**+0.3**
PB09					IAML			07 38 51.7	
	comp=N,266nm,0.4s								
PB01	**IPOC Station P**	**0.93**	**294**		*eP*	**Pn**		**07 38 37.5**	**-0.1**
PB01					*eS*	**Sn**		**07 38 53.5**	**0.0**
PB01	**IPOC Station P**	**0.93**	**294**	⇑	*iP*	**Pn**		**07 38 37.4**	**-0.1**
PB01					*eS*	**Sn**		**07 38 53.4**	**0.0**
PB01					IAML			07 38 56.1	
	comp=N,381nm,0.4s								
LVC	**Limon Verde**	**1.22**	**195**		*eP*	**Pn**		**07 38 40.9**	**0.0**
LVC					*eS*	**Sn**		**07 38 59.0**	**-0.3**
LVC	**Limon Verde**	**1.22**	**195**		*eP*	**Pn**		**07 38 41.0**	**0.0**
LVC	**Limon Verde**	**1.22**	**195**	P		**Pn**		**07 38 40.7**	**-0.2**
	comp=N,49nm,0.3s,baz=26,slow=12,SNR=495								
LVC				S		**Sn**		**07 38 58.8**	**-0.5**
	comp=N,13nm,0.3s,baz=105,slow=20,SNR=6.1								
PB02	**IPOC Station P**	**1.23**	**275**		*eP*	**Pn**		**07 38 40.8**	**0.0**
PB02					*eS*	**Sn**		**07 38 59.5**	**+0.4**
PB02	**IPOC Station P**	**1.23**	**275**		*eP*	**Pn**		**07 38 40.8**	**0.0**
PB02					*eS*	**Sn**		**07 38 58.4**	**-0.6**
PB02					IAML			07 39 00.1	
	comp=N,575nm,0.3s								
PB07	**IPOC Station P**	**1.25**	**256**		*eP*	**Pn**		**07 38 41.1**	**0.0**
PB07					*eS*	**Sn**		**07 39 00.2**	**+0.5**
PB07	**IPOC Station P**	**1.25**	**256**		*eP*	**Pn**		**07 38 41.0**	**-0.1**
PB07					*eS*	**Sn**		**07 38 59.5**	**-0.1**
PB07					IAML			07 39 04.1	
	comp=N,269nm,0.1s								
PB08	**IPOC Station P**	**1.38**	**337**		*eP*	**Pn**		**07 38 43.6**	**+0.9**
PB08					*eS*	**Sn**		**07 39 04.0**	**+1.4**
PB08	**IPOC Station P**	**1.38**	**337**	⇑	*iP*	**Pn**		**07 38 43.5**	**+0.7**
PB08					*eS*	**Sn**		**07 39 03.9**	**+1.4**
PB08					IAML			07 39 05.2	
	comp=E,217nm,0.2s								
PB06	**IPOC Station P**	**1.57**	**216**		*eP*	**Pn**		**07 38 44.7**	**0.0**
PB06					*eS*	**Sn**		**07 39 05.8**	**-0.4**
PB06	**IPOC Station P**	**1.57**	**216**	⇑	*iP*	**Pn**		**07 38 44.7**	**0.0**
PB06					*eS*	**Sn**		**07 39 06.0**	**-0.2**
PB06					IAML			07 39 07.1	
	comp=N,352nm,0.2s								
PB04	**IPOC Station P**	**1.72**	**238**		*eP*	**Pn**		**07 38 46.5**	**+0.1**
PB04	**IPOC Station P**	**1.72**	**238**		*eP*	**Pn**		**07 38 46.3**	**-0.2**
PB04					*eS*	**Sn**		**07 39 08.6**	**-0.6**
PB04					IAML			07 39 16.6	
	comp=N,230nm,0.2s								
PB11	**IPOC Station P**	**1.94**	**328**		*eP*	**Pn**		**07 38 49.3**	**+0.1**
PB11					*eS*	**Sn**		**07 39 15.8**	**+1.7**
PB11	**IPOC Station P**	**1.94**	**328**		*eP*	**Pn**		**07 38 49.4**	**+0.2**
PB11					*eS*	**Sn**		**07 39 14.5**	**+0.5**
PB15	**IPOC Station P**	**1.96**	**205**		*eP*	**Pn**		**07 38 49.7**	**+0.1**
PB15				⇓	*eS*	**Sn**		**07 39 16.1**	**+1.5**
PB15	**IPOC Station P**	**1.96**	**205**	⇑	*eP*	**Pn**		**07 38 49.6**	**+0.1**
PB15					*eS*	**Sn**		**07 39 15.5**	**+0.8**
PSGCX	**Pisagua**	**2.32**	**321**		*eP*	**Pn**		**07 38 53.6**	**-0.4**
PSGCX					*eS*	**Sn**		**07 39 22.3**	**-0.4**
MNMC	**Minye Minye**	**2.47**	**337**	⇑	*eP*	**Pn**		**07 38 56.5**	**+0.3**
MNMC					*i S*	**Sn**		**07 39 28.2**	**+1.8**
MNMCX	**Minye Minye**	**2.47**	**337**		*eP*	**Pn**		**07 38 56.8**	**+0.6**
PB12	**IPOC Station P**	**3.24**	**329**		*eP*	**Pn**		**07 39 05.0**	**-1.1**
PB14	**IPOC Station P**	**3.60**	**207**		*eP*	**Pn**		**07 39 13.8**	**+2.8**
LPAZ	**La Paz**	**5.12**	**5**	P		**Pn**		**07 39 33.4**	**+1.6**
	comp=N,1.9nm,0.3s,baz=201,slow=8.7,SNR=39								
SIV	**San Ignacio**	**8.93**	**54**	P		**Pn**		**07 40 19.4**	**-3.3**
	comp=N,0.2nm,0.3s,baz=256,slow=13,SNR=6.1								
TORD	**Torodi Ar. Bea**	**77.04**	**70**	P		**P**		**07 49 56.1**	**-1.3**
	comp=N,0.3nm,0.5s,baz=255,slow=5.5,SNR=2.5								
YKA	**Yellowknife Ar**	**91.22**	**340**	P		**P**		**07 51 08.5**	**+0.4**
	comp=N,0.1nm,0.4s,baz=132,slow=4.5,SNR=6.4								

IDC 02 07:40:36.3±5.8, 30°.65S×178°.87W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/17, mbtmp3.4/2, Error ellipse: s-maj=227.7km s-min=56.1km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.35**	**268**			P		07 48 32.1	-0.3
	0.4nm,0.8s,baz=108,slow=7.3,SNR=2.8								
WRA	**Warramunga Arr**	**43.36**	**273**			P		07 48 40.6	0.0
	0.2nm,0.3s,baz=114,slow=8.2,SNR=4.3								
FINES	**FINESS Array B**	**145.11**	**339**		PKPbc	PKPbc		08 00 13.6	-0.9
	1.7nm,0.9s,baz=79,slow=3.0,SNR=2.7								

IDC ***02*** *07:53:36.4±0.5, 22°.01S×170°.31E, h0km, mb4.6/22, mb1 4.7/23, mb1mx4.6/37, mbtmp4.6/23, ML4.5/1, MS4.2/19, Ms1 4.2/19, ms1mx4.0/27, Error ellipse: s-maj=17.2km s-min=13.8km az=100.0*

ISCJB ***02*** *07:53:40.4±2.0, 22°.07S±0°.04×170°.14E±0°.03, h30km±14km, mb4.8/90, MS4.3/17, Error ellipse: s-maj=6.9km s-min=5.0km az=12.4*

BJI ***02*** *07:53:41.0, 22°.00S×170°.20E, h31km, mb5.1/36, mB5.4/22, Ms5.0/7, Ms7 4.7/6*

NEIC ***02*** *07:53:43.8±0.8, 22°.06S×170°.12E, h46km±7km, mb4.8/69, Error ellipse: s-maj=6.1km s-min=5.2km az=52.0*

GCMT ***02*** *07:53:43.8±0.2, 22°.26S±0°.02×170°.05E±0°.02, h29km, MW5.1/69, Moment Tensor Solution. s51,c66; s69,c94; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.75±.19; Mθθ-1.43±.14; Mϕϕ-2.32±.13; Mrθ1.81±.20; Mϕθ2.25±.08; Mϕr-2.20±.20; Best double couple: M○4.87800×10^16 NP1:ϕs141.00000°, δ63.00000°, λ90.00000°. NP2: ϕs321.00000°, δ27.00000°, λ90.00000°. Principal axes: T 4.6680, Plg72.0000°, Azm51.0000°; N 0.4190, Plg0.0000°, Azm141.0000°; P -5.0870, Plg18.0000°, Azm231.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***02*** *07:53:44.6±0.0, 20°.68S×171°.41E, h33km*

ISC 02 07:53:40.7±0.6, 22°.07S±0°.05×170°.16E±0°.05, h22km±3km, h23km:pP-P, n311, σ1§23/322, mb4.8/90, MS4.3/18, 21C-3D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.06**	**286**		*e*Pn	**Pn**		**07 54 13.5**	**-0.6**
MARNC					*e*Sn	**Sn**		**07 54 35.2**	**-4.0**
PINNC	**Pines Island,**	**2.57**	**257**		*e*Pn	**Pn**		**07 54 20.1**	**-0.9**
PINNC					*e*Sn	**Sn**		**07 54 51.3**	**-0.3**
ONTNC	**Ouen Toro**	**3.44**	**265**		*e*Pn	**Pn**		**07 54 32.5**	**-0.6**
ONTNC					*e*Sn	**Sn**		**07 55 12.9**	**-0.2**
DZM	**Mont Dzumac**	**3.45**	**269**		*e*Pn	**Pn**		**07 54 33.4**	**+0.2**
DZM	253nm,0.2s				*e*Sn	**Sn**		**07 55 11.2**	**-2.2**
	247nm,0.2s								
DZM					*e*LR	LR		07 55 15.8	
	comp=Z,4μm,23.5s								
DZM	**Mont Dzumac**	**3.45**	**269**	Pn		**Pn**		**07 54 33.0**	**-0.2**
	43nm,0.3s,baz=67,slow=4.6,SNR=1532								
DZM				Sn		**Sn**		**07 55 12.9**	**-0.5**
	65nm,0.3s,baz=94,slow=22,SNR=12								
DZM				LR		LR		07 55 48.7	
	comp=Z,996nm,19.4s,baz=78,slow=37								
NFK	**Norfolk Island**	**7.23**	**196**	P		**Pn**		**07 55 23.7**	**-1.4**
	baz=6.9,SNR=45								
NFK				S		**Sn**		**07 56 41.3**	**-5.2**
	baz=6.9								
MSVF	**Nonsavu**	**8.58**	**61**	*e*Pn		Pn		07 55 49.4	+5.6
OUZ	**Omahuta**	**13.44**	**168**	*e*Pn		**Pn**		**07 56 49.6**	**-0.5**
HNR	**Honiara**	**15.94**	**320**	*e*Pn		**P**		**07 57 27.3**	**+0.1**
	304nm,1.1s								
HNR	**Honiara**	**15.94**	**320**	LR		LR		08 02 27.2	
	comp=Z,358nm,20.5s,baz=188,slow=33								
HIZ	**Hauiti**	**16.88**	**167**	*e*Pn		**P**		**07 57 39.4**	**+1.9**
	70nm,1.0s								
URZ	**Urewera**	**17.21**	**161**	*e*Pn		**P**		**07 57 42.9**	**+1.8**
	59nm,1.2s								
URZ	**Urewera**	**17.21**	**161**	P		**P**		**07 57 41.8**	**+0.8**
	0.8nm,0.3s,baz=339,slow=11,SNR=5.0								
URZ				LR		LR		08 03 01.9	
	comp=Z,1μm,18.8s,baz=342,slow=33								
BKZ	**Black Stump Fm**	**17.88**	**164**	*e*Pn		**P**		**07 57 49.9**	**+1.3**
	48nm,1.1s								
ARMA	**Armidale**	**18.57**	**240**	*e*P		**Pn**		**07 58 02.3**	**+5.7**
	29nm,1.1s								
NIUE	**Niue**	**18.88**	**85**	P		**Pn**		**07 58 00.5**	**+0.2**
	baz=19,SNR=3.5								
NIUE	**Niue**	**18.88**	**85**	*e*P		**Pn**		**07 58 00.7**	**+0.4**
	157nm,1.0s								
BFZ	**Birch Farm**	**19.26**	**166**	*e*P		**P**		**07 58 04.0**	**+0.3**
	45nm,1.1s								
SNZO	**South Karori**	**19.56**	**170**	*e*P		**Pn**		**07 58 09.1**	**+0.8**
	85nm,1.0s								
THZ	**Tophouse**	**19.77**	**174**	*e*P		**P**		**07 58 08.5**	**-0.9**
	34nm,0.9s								
RMQ	**Roma**	**19.99**	**253**	P		**Pn**		**07 58 15.0**	**+1.3**
	baz=20,SNR=17								
KHZ	**Kahutara**	**20.48**	**173**	*e*P		**P**		**07 58 16.0**	**-1.0**
	60nm,1.1s								
LTZ	**Lake Taylor**	**20.73**	**176**	*e*P		Pn		07 58 21.7	-0.4
	28nm,0.9s								
OXZ	**Oxford**	**21.25**	**176**	*e*P		**P**		**07 58 26.7**	**+1.4**
	50nm,1.1s								
RPZ	**Rata Peaks**	**21.60**	**178**	*e*P		**P**		**07 58 31.4**	**+2.4**
	29nm,0.9s								
RPZ	**Rata Peaks**	**21.60**	**178**	P		**P**		**07 58 30.0**	**+0.9**
	15nm,1.0s,baz=260,slow=2.6,SNR=4.7								
RPZ				LR		LR		08 06 16.2	
	comp=Z,1μm,18.5s,baz=360,slow=35								
CTA	**Charters Tower**	**22.39**	**271**	P		**P**		**07 58 39.4**	**+1.6**
	12nm,0.8s,baz=91,slow=11,SNR=12								
CTAO	**Charters Tower**	**22.39**	**271**	*e*P		**P**		**07 58 38.9**	**+1.1**
	56nm,0.9s								
CNB	**Canberra Magne**	**22.46**	**229**	P		**P**		**07 58 40.3**	**+1.9**
	baz=22,SNR=9.6								
ODZ	**Otahua Downs**	**22.92**	**179**	*e*P		**P**		**07 58 48.0**	**+4.9**
	4.4nm,0.7s								
MLZ	**Mavora Lakes**	**23.30**	**184**	*e*P		**P**		**07 58 49.8**	**+2.8**
	7.6nm,0.9s								
DCZ	**Deep Cove**	**23.46**	**185**	*e*P		**P**		**07 58 49.6**	**+1.1**
	43nm,1.0s								
CMSA	**Cobar Meteorol**	**23.74**	**241**	P		**P**		**07 58 52.6**	**+1.2**
	baz=24,SNR=32								
WHZ	**Wether Hill Ro**	**23.83**	**184**	*e*P		**P**		**07 58 53.1**	**+0.9**
	29nm,1.0s								
MTSU	**Mount Surprise**	**24.57**	**275**	P		**P**		**07 59 01.7**	**+2.4**
	baz=25,SNR=10								
TOO	**Toolangi**	**26.29**	**228**	P		**P**		**07 59 15.9**	**+1.3**
	baz=26,SNR=6.9								
TOO	**Toolangi**	**26.29**	**228**	*e*P		**P**		**07 59 15.6**	**+1.0**
	25nm,1.1s								
COEN	**Coen**	**26.87**	**283**	*e*P		**P**		**07 59 21.8**	**+1.7**
	22nm,1.0s								
STKA	**Stephens Creek**	**27.20**	**243**	P		**P**		**07 59 23.9**	**+1.1**
	baz=27,SNR=12								
STKA	**Stephens Creek**	**27.20**	**243**	*e*P		**P**		**07 59 23.6**	**+0.7**
	4.8nm,0.8s								
STKA	**Stephens Creek**	**27.20**	**243**	P		**P**		**07 59 23.7**	**+0.8**
	20nm,0.7s,baz=92,slow=11,SNR=18								
STKA				LR		LR		08 09 34.1	
	comp=Z,750nm,20.0s,baz=72,slow=35								
RAR	**Rarotonga**	**27.94**	**94**	LR		LR		08 08 29.3	
	comp=Z,114nm,20.3s,baz=276,slow=32								
MOO	**Moorlands**	**27.95**	**218**	P		**P**		**07 59 30.1**	**+0.6**
	baz=28,SNR=4.5								
HTT	**Hallett**	**29.76**	**241**	P		**P**		**07 59 46.5**	**+0.7**
	baz=30,SNR=11								
BBOO	**Buckleboo**	**31.97**	**243**	P		**P**		**08 00 05.7**	**+0.5**
	baz=32,SNR=13								
BBOO	**Buckleboo**	**31.97**	**243**	*e*P		**P**		**08 00 05.5**	**+0.3**
	32nm,0.9s								
AS01	**Alice Springs**	**33.35**	**260**	*e*P		**P**		**08 00 17.1**	**-0.3**
AS31	**Alice Springs**	**33.39**	**260**	*e*P		**P**		**08 00 18.1**	**+0.3**
	5.4nm,0.8s								
ASAR	**Alice Springs**	**33.39**	**260**	P		**P**		**08 00 17.4**	**-0.4**
	6.9nm,1.1s,baz=86,slow=8.9,SNR=26								
ASAR				PcP		**PcP**		**08 02 58.9**	**-0.4**
	2.1nm,0.8s,baz=99,slow=4.1,SNR=4.6								
ASAR				LR		LR		08 14 12.7	
	comp=Z,615nm,18.7s,baz=98,slow=37								
WB2	**Warramunga Arr**	**33.45**	**267**	*e*P		**P**		**08 00 17.7**	**-0.6**
	22nm,1.1s								
WRAB	**Tennant Creek**	**33.45**	**267**	*e*P		**P**		**08 00 17.6**	**-0.7**
	14nm,0.9s								
WRA	**Warramunga Arr**	**33.46**	**267**	P		**P**		**08 00 17.2**	**-1.2**
	5.9nm,0.7s,baz=99,slow=8.3,SNR=38								
WRA				PcP		**PcP**		**08 02 59.1**	**-0.3**
	2.7nm,0.8s,baz=100,slow=2.5,SNR=5.6								
WRA				LR		LR		08 14 22.3	

7.8nm,1.0s,baz=152,slow=6.5,SNR=6.1
PETK LR LR 08 35 15.1
comp=Z,162nm,19.1s,baz=147,slow=33
MAW Mawson 76.15 202 LR LR 08 35 49.4
comp=Z,162nm,18.7s,baz=152,slow=33
TIA Tai'an 76.62 318 P **P** **08 05 30.0 +0.3**
TIA pmax pmax
comp=Z,16nm,0.9s
CN2 Changchun 77.31 329 *e*P **P** **08 05 33.3 -0.1**
CN2 pmax pmax
comp=Z,20nm,1.2s
PHET Kaeng Krachan 77.38 290 P **P** **08 05 37.5 +3.1**
6.0nm,0.9s
GYA Guiyang 78.14 305 *e*P **P** **08 05 40.0 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
SRDT SRDT 78.46 291 P **P** **08 05 43.3 +2.9**
24nm,1.0s,3µm
UTHA Uthaitani 78.72 292 P **P** **08 05 43.9 +2.1**
4.9nm,0.9s,56nm
KLR Kul'dur 78.79 335 P **P** **08 05 41.7 +0.2**
4.5nm,1.0s,baz=104,slow=0.9,SNR=8.7
NANT Nan 79.13 295 P **P** **08 05 46.5 +2.4**
7.1nm,0.8s
SUKH Sukhothai 79.42 294 P **P** **08 05 48.7 +3.0**
2.4nm,1.0s
UMPA Umpang Tak 79.51 292 P **P** **08 05 48.2 +2.0**
5.8nm,0.8s,1µm
BJI Beijing 79.67 321⇑ *i*P **P** **08 05 47.0 +0.5**
BJI pmax pmax
comp=Z,11nm,0.9s
LAMP Lampang 79.90 295 P **P** **08 05 50.8 +2.5**
7.8nm,1.0s,71nm
CM01 Chiang Mai Arr 80.42 294 *e*P **P** **08 05 53.1 +2.0**
CMAR Chiang Mai Arr 80.45 294 P **P** **08 05 53.0 +1.8**
3.2nm,0.3s,baz=136,slow=4.0,SNR=4.8
KMI Kunming 80.50 302 P **P** **08 05 53.5 +1.9**
KMI pP pwP 08 06 02.7 -1.2
KMI sP PcP 08 06 05.7 +7.1
KMI pmax pmax
comp=Z,34nm,1.5s
KMI pmax pmax
comp=Z,130nm,3.1s
CMMT Chiang Mai 80.61 295 P **P** **08 05 54.1 +2.0**
CHTO Chiang Mai 80.61 295 *e*P **P** **08 05 53.9 +1.8**
16nm,1.0s
CHTO Chiang Mai 80.61 295 P **P** **08 05 54.2 +2.1**
95nm,1.1s
CHTO Chiang Mai 80.61 295 P **P** **08 05 54.2 +2.1**
95nm,1.1s
XAN Xi'an 80.65 312 P **P** **08 05 52.3 +0.3**
XAN pP sP 08 06 00.8 +1.0
XAN sP pwP 08 06 04.1 -0.3
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,27nm,5.0s
XAN Xi'an 80.65 312 *e*P **P** **08 05 53.3 +1.2**
21nm,1.0s
CD2 Chengdu 82.64 307 P **P** **08 06 03.0 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
MA2 Magadan 82.89 350 P **P** **08 06 02.2 -1.0**
1.0nm,0.3s,baz=114,slow=11,SNR=4.3
HHC Hu-ho-hao-te 82.92 319 *e*P **P** **08 06 04.4 +0.5**
HHC sP pwP 08 06 22.9 +6.6
HHC S **S** **08 16 16.4 -5.2**
HHC sS ScS 08 16 41.6 +5.6
HHC pmax pmax
comp=Z,22nm,0.9s
HHC pmax pmax
comp=Z,220nm,6.0s
OHAK Old Harbor 84.73 19 *e*P **P** **08 06 12.2 -0.4**
14nm,1.1s
LZH Lanzhou 85.25 312 *e*P **P** **08 06 17.5 +1.5**
LZH pP pwP 08 06 28.6 +0.2
LZH sP sP 08 06 31.9 +8.1
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,220nm,4.3s
KDAK Kodiak Island 85.41 19 P **P** **08 06 15.2 -0.8**
1.9nm,0.7s,baz=240,slow=16,SNR=4.1
SEY Seymchan 85.88 352 P **P** **08 06 17.6 -0.7**
4.4nm,0.9s,baz=161,slow=3.9,SNR=12
SNAA Sanae 86.38 182 P **P** **08 06 19.5 -1.4**
SNAA Sanae 86.38 182 *e*P **P** **08 06 19.5 -1.4**
18nm,0.9s
SNAA Sanae 86.38 182 P **P** **08 06 19.5 -1.4**
7.1nm,0.8s,baz=140,slow=2.5,SNR=13
GAMB Gambell 86.74 8 *e*P **P** **08 06 22.5 +0.1**
7.2nm,1.0s
VNA3 Neumayer Olymp 86.94 180 P **P** **08 06 21.9 -1.7**
VNA2 Neumayer--Watz 87.24 181 P **P** **08 06 24.1 -0.9**
baz=167,slow=3.4
KMRM Mail Ridge 87.30 45 *e*P **P** **08 06 26.4 +0.5**
11nm,0.9s
VNA1 Neumayer--Stat 87.53 181 P **P** **08 06 25.4 -1.0**
CMB Columbia Colle 88.40 48 *e*P **P** **08 06 32.9 +1.7**
5.2nm,1.1s
ORV Oroville 88.41 46 *e*P **P** **08 06 31.4 +0.3**
2.6nm,0.8s
HUMO Hull Mountain 89.03 43 *e*P **P** **08 06 34.9 +0.9**
4.6nm,1.1s
WAKR Walker 89.28 48 *e*P **P** **08 06 36.2 +0.7**
2.6nm,0.9s
BEKR Beckworth 89.33 46 *e*P **P** **08 06 35.6 0.0**
2.4nm,0.9s
PNTR Pine Nut 89.46 47 *e*P **P** **08 06 37.4 +1.1**
4.6nm,0.9s
GTA Gaotai 89.69 313 P **P** **08 06 38.4 +1.1**
GTA pP pwP 08 06 48.4 -1.2
GTA sP sP 08 06 52.8 +7.8
GTA pmax pmax
comp=Z,7.0nm,1.3s
GTA pmax pmax
comp=Z,130nm,5.0s
GTA LR LR
comp=N,130nm,16.2s
GTA LR LR
comp=E,300nm,19.9s
GTA LR LR
comp=Z,140nm,18.2s
BILL Bilibino 89.89 359 *e*P **P** **08 06 38.3 +1.0**
7.1nm,1.1s
SONM Songino Array 89.99 323 P **P** **08 06 38.4 -0.1**
8.4nm,0.9s,baz=139,slow=5.6,SNR=39
SONM LR LR 08 49 13.7
comp=Z,44nm,18.1s,baz=176,slow=37
SONA1 Songino Array 89.99 323 *e*P **P** **08 06 38.7 +0.2**
NV01 Mina Array Sit 90.03 48 *e*P **P** **08 06 39.1 +0.1**
NVAR Mina Array Bea 90.03 48 P **P** **08 06 38.1 -0.9**
2.4nm,0.8s,baz=224,slow=8.2,SNR=12
NVAR LR LR 08 43 03.3
comp=Z,168nm,18.1s,baz=229,slow=33
NV11 Mina Array Sit 90.13 48 *e*P **P** **08 06 39.4 0.0**
0.2nm,0.9s
KVN Kaiserville 90.46 48 *e*P **P** **08 06 41.2 +0.2**
4.4nm,1.2s
BALM Baldy 91.22 21 *e*P **P** **08 06 42.7 -1.1**
8.6nm,1.0s
MLY Manley 91.88 16 *e*P **P** **08 06 45.2 -1.6**
IM3 Indian Mountai 91.95 14 *e*P **P** **08 06 45.6 -1.4**
WRH Wood River Hil 92.11 17 *e*P **P** **08 06 45.8 -1.9**
2.5nm,1.0s
HDA Harding Lake 92.37 17 *e*P **P** **08 06 48.0 -1.0**
4.8nm,1.1s
MDM Murphy Dome 92.46 16 *e*P **P** **08 06 47.4 -2.0**
3.9nm,1.1s
DOT Dot Lake 92.61 19 *e*P **P** **08 06 48.9 -1.3**
2.0nm,0.8s
IL1 Eielson Array 92.67 17 *e*P **P** **08 06 48.2 -2.1**
ILAR Eielson Array 92.67 17 P **P** **08 06 48.0 -2.3**
1.1nm,0.8s,baz=236,slow=5.0,SNR=23
ILAR LR LR 08 47 10.4
comp=Z,143nm,18.6s,baz=182,slow=35
ILB Eielson Array 92.67 17 *e*P **P** **08 06 48.4 -1.9**
2.5nm,1.0s
HYT Haines Junctio 92.75 23 *e*P **P** **08 06 50.4 -0.5**
2.7nm,1.1s
SCRK Sand Creek 92.88 18 *e*P **P** **08 06 50.1 -1.4**
4.4nm,1.1s
U15A North Rim 93.42 52 *e*P **P** **08 06 55.4 +0.5**
2.2nm,0.9s
EGAK Eagle 94.31 19 *e*P **P** **08 06 56.6 -1.3**
5.3nm,0.9s
DAWY Dawson 94.35 20 *e*P **P** **08 06 57.6 -0.5**
1.4nm,0.8s
TOLK Toolik Lake Re 95.07 14 *e*P **P** **08 07 01.0 -0.3**
1.0nm,1.0s
TXAR Lajitas Array 97.36 61 LR LR 08 43 22.7
comp=Z,295nm,19.3s,baz=0.0,slow=31
PDAR Pinedale Array 97.90 47 LR LR 08 43 52.6
comp=Z,141nm,21.2s,baz=84,slow=31
WMQ Urumqi 99.77 313 *e*P **Pdif** **08 07 24.1 +0.9**
WMQ LR LR
comp=N,110nm,17.3s
WMQ LR LR
comp=Z,71nm,22.5s
YKA Yellowknife Ar 102.78 27 P **Pdif** **08 07 36.0 +0.1**
0.1nm,0.5s,baz=256,slow=4.6,SNR=4.0
YKA PKiKP **PKiKP** **08 11 55.6 -0.9**
0.1nm,0.6s,baz=269,slow=1.5,SNR=3.8
MKAR Makanchi Array 104.35 315 Pdiff **Pdif** **08 07 43.7 +0.3**
0.7nm,0.8s,baz=110,slow=5.1,SNR=7.0
MKAR PP **PP** **08 12 01.8 -0.7**
0.9nm,0.9s,baz=116,slow=6.1,SNR=5.0
MKAR PKKPbc **PKKPbc** **08 23 29.4 -2.2**
0.9nm,0.8s,baz=282,slow=3.2,SNR=7.2
ZALV Zalesovo Beam 104.88 322 Pdiff **Pdif** **08 07 44.3 -1.2**
0.5nm,0.5s,baz=108,slow=4.7,SNR=2.8
ATAH Atahualpa 106.88 105 PKKP **PKKPdf** **08 23 35.5 -0.1**
6.0nm,0.9s,baz=51,slow=8.4,SNR=3.6
V52A Sevierville 115.38 60 *e*PKPdf **PKPdf** **08 12 19.9 -1.0**
SDDR Presa de Saban 122.70 81 *e*PKPdf **PKPdf** **08 12 34.7 -0.9**
ODNJ Ogdensburg 122.92 55 *e*PKPdf **PKPdf** **08 12 34.1 -1.2**
BRNJ Basking Ridge 122.94 55 *e*PKPdf **PKPdf** **08 12 34.5 -0.8**
NCB Newcomb 123.23 51 *e*PKPdf **PKPdf** **08 12 34.5 -1.3**
PTGA Pitinga 126.15 108 *e*PKPdf **PKPdf** **08 12 42.1 -0.2**
PKME Peaks-Kenny Pk 126.69 49 *e*PKPdf **PKPdf** **08 12 41.5 -0.9**
OBIP Obispado Ponce 126.78 83 *e*PKPdf **PKPdf** **08 12 41.1 -2.2**
BDFB Brasilia 127.05 132 PKP **PKPdf** **08 12 43.0 -1.2**
2.2nm,0.6s,baz=270,slow=4.0,SNR=2.9
SJG San Juan 127.21 84 *e*PKPdf **PKPdf** **08 12 43.3 -0.9**
PQI Presque Isle 127.42 47 *e*PKPdf **PKPdf** **08 12 42.1 -1.6**
HUMP Col San Antoni 127.50 84 *e*PKPdf **PKPdf** **08 12 43.7 -1.0**
CBYP Canovanas 127.52 83 *e*PKPdf **PKPdf** **08 12 43.6 -1.2**
MTP Monte Pirata 127.76 84 *e*PKPdf **PKPdf** **08 12 43.8 -1.4**
ARCES ARCESS Array B 128.01 345 PKP **PKPdf** **08 12 43.2 -1.0**
4.0nm,0.9s,baz=72,slow=2.9,SNR=4.4
KMBO Kilima Mbogo 128.62 250 PKP **PKiKP** **08 12 48.0 0.0**
0.8nm,0.3s,baz=82,slow=7.1,SNR=6.0
BATG Bathurst New B 128.67 46 *e*PKPdf **PKPdf** **08 12 45.4 -0.7**
SMRT St. Maarten 130.04 85 *e*PKPdf **PKPdf** **08 12 48.4 -1.2**
GBN Guysborough 132.10 48 *e*PKPdf **PKPdf** **08 12 51.4 -1.2**
FINES FINESS Array B 133.52 337 PKP **PKPdf** **08 12 55.1 +0.3**
4.4nm,1.0s,baz=109,slow=2.3,SNR=8.5
AKASG Malin Array Be 138.27 323 PKP **PKPdf** **08 13 03.9 -0.1**
0.1nm,0.3s,baz=53,slow=2.6,SNR=4.0
BRTR Keskin Array B 139.11 306 PKP **PKPdf** **08 13 05.5 -0.8**
0.7nm,0.8s,baz=27,slow=2.3,SNR=3.1
BIZ Bicaz 141.88 319⇑ *i*P **PKPdf** **08 13 07.2 -3.5**
VRI Vrincioaia 141.98 317⇑ *i*P **PKPdf** **08 13 09.2 -1.7**
MLR Muntele Rosu 142.64 317⇑ *i*P **PKPdf** **08 13 10.2 -2.1**
ARR Arges 143.52 318⇑ *i*P PKPbc 08 13 12.0 +1.0
DRGR 143.97 321⇑ *i*P PKPbc 08 13 12.6 +0.3
ALN Alexandroupoli 144.43 310 *e*PKPdf **PKPab** **08 13 13.5 0.0**
KDZ Kurdzhali 144.59 312 *e*P **PKiKP** **08 13 18.0 -1.3**
RUE Ruedersdorf 144.62 335 *e*PKPbc PKPbc 08 13 14.1 0.0
baz=36,slow=2.9
GZR Gura Zlata 144.65 319⇑ *i*P **PKPab** **08 13 14.4 0.0**
BSEG Bad Segeberg 144.70 339 *e*PKPbc **PKPab** **08 13 14.1 0.0**
baz=36,slow=2.9
SIRR Siria 144.86 321⇑ *i*P **PKPdf** **08 13 16.2 +0.2**
PSZ Piszkesteto 144.91 325 *e*PKPdf PKPbc 08 13 15.7 +0.4
PSZ Piszkesteto 144.91 325⇑ *i*P PKPbc 08 13 15.4 +0.1
PSZ Piszkesteto 144.91 325 PKPab **08 13 15.1 -0.2**
MORC Moravsky Berou 144.93 329 *e*PKPbc **PKPab** **08 13 15.2 0.0**
MORC Moravsky Berou 144.93 329⇑ *i*P **PKPab** **08 13 15.2 0.0**
MORC Moravsky Berou 144.93 329 *e*PKP **PKPab** **08 13 15.1 -0.1**
RZN Rozhen 145.06 312 *e*P **PKPbc** **08 13 15.0 -1.1**
KRLC Kraliky 145.09 330 *e*PKP **PKPab** **08 13 15.8 0.0**
DPC Dobruska-Polom 145.11 330 *e*PKP **PKPab** **08 13 16.1 +0.2**
VYHS Vyhne 145.12 326 *e*PKP **PKPdf** **08 13 16.3 0.0**
KARP Karpathos 145.12 301 *e*PKPbc **PKPdf** **08 13 17.2 +0.4**
UPC Upice 145.14 331 *e*PKP **PKPdf** **08 13 16.3 0.0**
BZS Buzias 145.23 320⇑ *i*P **PKPab** **08 13 16.4 0.0**
HLG Helgoland 145.24 342 *e*PKPbc **PKPab** **08 13 16.1 0.0**
baz=36,slow=2.9
AMBH Ambrzfalva 145.36 322 *e*PKiKP **PKPab** **08 13 17.1 +0.3**
JAVC Velka Javorina 145.47 327 *e*PKP **PKPab** **08 13 18.3 +1.0**
MDVR Moldovita 145.61 319⇓ *i*P **PKPbc** **08 13 17.6 0.0**
BUD Budapest 145.64 325 *e*PKiKP **PKPab** **08 13 18.0 +0.2**
VTS Vitosha 145.67 314 *e*PKPdf **PKPab** **08 13 18.2 -0.1**
VTS Vitosha 145.67 314⇑ *i*P **PKPab** **08 13 18.3 0.0**
VTS Vitosha 145.67 314 *e*P **PKPbc** **08 13 18.0 0.0**
VRAC Vranov 145.70 329⇑ *i*P **PKPab** **08 13 18.0 -0.1**
VRAC Vranov 145.70 329 *e*PKP **PKPab** **08 13 17.9 -0.1**
PVCC Panska Ves 145.76 332 *e*PKP **PKPbc** **08 13 18.0 +0.2**
MMB Musomiste 145.78 312 *e*P **PKPdf** **08 13 17.0 -0.7**
BRG Berggiesshubel 145.78 333 *i* PKP **PKPbc** **08 13 17.7 -0.2**
75nm,1.2s
BRG Berggiesshubel 145.78 333 *e*PKPbc **PKPbc** **08 13 17.8 0.0**
baz=36,slow=2.9
SMOL Smolenice 145.82 327 *e*PKP **PKPab** **08 13 19.4 +0.9**
CLL Collm 145.83 334 *e*PKPdf **PKPbc** **08 13 17.9 -0.1**
CLL Collm 145.83 334 *e*PKPbc **PKPbc** **08 13 17.8 -0.2**
baz=36,slow=2.9
CLL Collm 145.83 334⇑ *i*PKPbc **PKPdf** **08 13 17.5 +0.1**
comp=Z,50nm,0.9s
CLL *e*pPKPdf sPKPab 08 13 29.0 +2.8
CLL LmV 08 57 00.0
comp=Z,200nm,18.4s
KRUC Moravsky 145.96 329 *e*PKP **PKPbc** **08 13 18.6 +0.1**
NRDL Niedersach Rie 145.97 338 *e*PKPbc **PKPbc** **08 13 18.3 0.0**
baz=36,slow=2.9
FBE Freiberg 145.99 334 *e*PKPbc **PKPbc** **08 13 18.6 +0.1**
baz=36,slow=2.9
MODS Modra-Piesok 145.99 327 *e*PKP **PKPab** **08 13 19.6 +0.4**
RETH Rethem/Aller, 146.02 339 *e*PKPbc **PKPbc** **08 13 18.4 -0.1**
baz=36,slow=2.9
ASSE Asse, Remlinge 146.07 337 *e*PKPbc **PKPbc** **08 13 18.6 0.0**
baz=36,slow=2.9
KKB Krupnik 146.10 313 *e*P **PKPbc** **08 13 19.0 -0.2**
GOPC GO Pecny, Ondr 146.11 331 *e*PKP **PKPbc** **08 13 19.2 +0.2**
GOPC *ex* x 08 13 22.9
PRU Pruhonice 146.17 331 *e*PKP **PKPbc** **08 13 19.2 +0.1**
ZST Bratislava 146.19 327 *e*PKP **PKPbc** **08 13 19.1 -0.1**
TREC Trest 146.23 330 *e*PKP **PKPbc** **08 13 19.5 +0.2**
NEUB Neuenburg 146.40 335 *e*PKPbc **PKPbc** **08 13 19.6 -0.1**
baz=36,slow=2.9
CLZ Clausthal 146.41 337 *e*PKPbc **PKPbc** **08 13 19.8 0.0**
baz=36,slow=2.9
ESK Eskdalemuir 146.43 353 *e*PKPdf **PKPdf** **08 13 19.0 +0.6**
TANN Tannenbergstha 146.74 334 *e*PKPbc **PKPbc** **08 13 20.6 -0.2**
baz=36,slow=2.9
GTTG Gyttegen 146.80 337 *e*PKPbc **PKPbc** **08 13 20.9 0.0**
baz=36,slow=2.9
PLN Plauen 146.81 334 *e*PKPbc **PKPbc** **08 13 20.9 -0.1**
baz=36,slow=2.9
GUNZ Gunzen 146.83 334 *e*PKPbc **PKPbc** **08 13 21.2 +0.1**
baz=36,slow=2.9
WERN Wernitzgruen 146.87 334 *e*PKPbc **PKPbc** **08 13 21.3 +0.1**
baz=36,slow=2.9
NKC Novy Kostel 146.88 334 *e*PKP **PKPbc** **08 13 21.3 +0.1**
NKC *ex* x 08 13 25.6
MOX Moxa 146.90 335 *e*PKPbc **PKPbc** **08 13 21.0 -0.2**
baz=36,slow=2.9
MOX *e*PKPab **PKPab** **08 13 22.9 +0.3**
baz=37,slow=4.0
IBBN Ibbenburen 146.91 340 *e*PKPbc **PKPbc** **08 13 21.0 -0.1**
baz=36,slow=2.9
IDI Anoyia 146.98 301 *e*PKPbc **PKPab** **08 13 23.0 -0.5**
CONA Conrad Observa 146.99 328 *i* PKPab **PKPbc** **08 13 21.7 0.0**
comp=Z,9.2nm,0.8s,SNR=5.6
DIVS Divibare 147.02 319 *e*PKPbc **PKPbc** **08 13 21.7 -0.2**
MANZ Manzenberg 147.22 334 *e*PKPbc **PKPbc** **08 13 22.0 -0.2**
baz=36,slow=2.9
MANZ *e*PKPab **PKiKP** **08 13 24.3 -0.2**
baz=37,slow=4.0
KHC Kasperske Hory 147.22 331 *e*PKPbc **PKPbc** **08 13 22.4 +0.2**
KHC Kasperske Hory 147.22 331 *e*PKP **PKPbc** **08 13 22.5 +0.2**
KHC *ep*PKP **sPKPab** **08 13 32.5 +0.8**
LIT Litokhoron 147.24 311 *e*PKPdf **PKPbc** **08 13 21.8 -0.8**
ROTZ Rotzenmuhle 147.34 333 *e*PKPab **PKiKP** **08 13 24.9 +0.2**
baz=37,slow=4.0
GEC2 GERESS Array S 147.38 331 *e*PKPdf **PKPbc** **08 13 22.8 +0.1**
GEC2 *e*PKPbc **sPKPdf** **08 13 27.3 -0.9**
GEC2 GERESS Array S 147.38 331 *e*PKPbc **PKPbc** **08 13 22.4 -0.4**
baz=36,slow=2.9
GERES GERESS Array B 147.38 331 PKPbc **PKPbc** **08 13 22.5 -0.2**
comp=Z,4.9nm,0.5s,baz=33,slow=3.3,SNR=40
UBBA Unterbreizbach 147.38 336 *e*PKPbc **PKPbc** **08 13 22.2 -0.2**
baz=36,slow=2.9
GEA0 GERESS Array S 147.38 331 *e*PKPdf **PKPbc** **08 13 22.6 -0.1**
GEA0 *e*PKPbc **sPKPdf** **08 13 27.2 -1.0**
WET Wettzell 147.53 332 *e*PKPbc **PKPbc** **08 13 23.0 0.0**
baz=36,slow=2.9
WET *e*PKPab **PKiKP** **08 13 25.4 +0.3**
baz=37,slow=4.0
FNA Florina 147.72 313 *e*PKPbc **PKPbc** **08 13 24.0 +0.1**
FNA *e*PKPab **sPKPdf** **08 13 27.8 -1.2**
AGG Agios Georgios 147.77 309 *e*PKPbc **PKPbc** **08 13 24.2 +0.2**
AGG *e*PKPab **PKPab** **08 13 26.8 +0.4**
GRF Grafenberg Arr 147.81 334 *e*PKPbc **PKPbc** **08 13 23.4 -0.4**
baz=36,slow=2.9
GRF *e*PKPab **PKPab** **08 13 26.8 +0.6**
baz=37,slow=4.0
GRFO Grafenberg 147.81 334 *e*PKPbc **PKPbc** **08 13 23.7 -0.1**
MOA Molln 147.83 329 *i* PKPbc **PKPbc** **08 13 23.5 -0.4**
comp=Z,5.4nm,0.7s
SOKA Soboth 148.25 327 *e*PKPbc **PKPbc** **08 13 24.2 -0.9**
comp=Z,11nm,1.0s
BLY Banja Luka 148.31 322 *e*PKPbc **PKPbc** **08 13 25.1 -0.2**
BLY Banja Luka 148.31 322⇑ *i*P **PKPdf** **08 13 20.8 -1.0**
TTG Podgorica 148.35 317 *e*PKPbc **PKPbc** **08 13 24.8 -0.6**
TNS Taunus Mts 148.44 337 *e*PKPbc **PKPbc** **08 13 25.3 -0.2**
baz=36,slow=2.9
TNS *e*PKPab **PKPab** **08 13 28.6 -0.1**
baz=37,slow=4.0
ITM Ithomi 148.73 306 *e*PKPbc **PKPbc** **08 13 26.8 +0.3**
KBA Koelnbreinsper 148.81 329 *e*PKPbc **PKPbc** **08 13 26.3 -0.4**
comp=Z,11nm,0.6s
MEM Membach 148.93 340⇑PKPbc **PKPbc** **08 13 25.7 -0.9**
MEM ⇑PKPab **sPKPdf** **08 13 29.8 -0.7**
MEM ⇑pPKP **pPKPab** **08 13 35.8 -0.5**
FUR Furstenfeldbru 148.96 332 *e*PKPab **PKPab** **08 13 31.4 +0.5**
baz=37,slow=4.0
MYKA Terra Mystica 148.99 328 *e*PKPbc **PKPbc** **08 13 26.5 -0.5**
comp=Z,11nm,0.7s
BCLA Clavier 149.31 341⇓PKPbc **PKPbc** **08 13 27.1 -0.5**
ABTA Abfaltersbach 149.45 329 *e*PKPbc **PKPbc** **08 13 27.0 -1.2**
comp=Z,12nm,0.9s
WATA Walderalm 149.45 331 *i* PKPbc **PKPbc** **08 13 27.9 -0.3**
comp=Z,3.9nm,0.5s
WTTA Wattenberg 149.48 331 *e*PKPbc **PKPbc** **08 13 27.6 -0.7**
comp=Z,19nm,1.1s
MOTA Moosalm 149.66 331 *e*PKPbc **PKPbc** **08 13 27.8 -0.9**
comp=Z,8.1nm,0.7s,SNR=7.1
WLF Walferdange 149.70 339 *e*PKPbc **PKPbc** **08 13 28.9 +0.3**
WLF Walferdange 149.70 339 *e*PKPbc **PKPbc** **08 13 28.8 +0.3**
baz=36,slow=2.9
WLF *e*PKPab **PKPab** **08 13 34.4 +0.6**
baz=37,slow=4.0
WLF Walferdange 149.70 339⇑PKiKP **PKPbc** **08 13 29.1 +0.5**
RETA Reutte 149.70 332 *i* PKPbc **PKPbc** **08 13 28.1 -0.7**
comp=Z,5.0nm,0.8s
SQTA Sankt Quirin 149.71 331 *e*PKPbc **PKPbc** **08 13 28.2 -0.7**
comp=Z,13nm,0.8s
DOU Dourbes 149.81 341⇑PKPbc **PKPbc** **08 13 28.4 -0.4**
DOU ⇓PKPab **sPKPdf** **08 13 32.4 +0.5**
DOU ⇑pPKP **pPKPab** **08 13 39.8 -0.2**
BFO Black Forest 150.04 335 *e*PKPbc **PKPbc** **08 13 28.3 -1.2**
BFO Black Forest 150.04 335 *e*PKPab **PKPab** **08 13 35.4 +0.1**
baz=37,slow=4.0
FETA Feichten 150.07 331 *e*PKiKP **PKPbc** **08 13 29.5 -0.3**
comp=Z,15nm,0.9s
DAVA Damuels 150.24 332 *i* PKPbc **PKPbc** **08 13 29.6 -0.6**
comp=Z,19nm,1.0s
FUORN Ofenpass-Fuorn 150.58 331 *e*PKPbc **PKPbc** **08 13 30.7 -0.5**
TUE Stuetta 151.10 332 *e*PKPbc **PKPbc** **08 13 32.1 -0.2**
SENIN Lac Senin/Sane 152.05 334 *e*PKPbc **PKPbc** **08 13 34.6 +0.1**
BNI Bardonecchia 153.37 333 *e*PKPbc **PKiKP** **08 13 38.1 +0.6**
ESDC Sonseca Array 161.75 345 PKPab **PKPab** **08 14 24.5 -1.0**
comp=Z,0.1nm,0.3s,baz=5.7,slow=3.2,SNR=4.4
DBIC Dimbokro 163.95 198 *e*PKPab **PKPab** **08 14 35.9 +0.2**
DBIC Dimbokro 163.95 198 PKPab **PKPab** **08 14 35.1 -0.5**
comp=Z,4.1nm,0.7s,baz=125,slow=4.1,SNR=6.7
TOA0 Torodi Ar. Sit 165.88 233 *e*PKPdf **PKPdf** **08 13 43.8 -0.9**
TORD Torodi Ar. Bea 165.88 233 PKP **PKPdf** **08 13 42.7 -2.0**
comp=Z,2.7nm,1.0s,baz=84,slow=2.9,SNR=11

NEIC 02 08:08:36.6±0.0, 60°03N×152°87W, h122km, ML3.0 (AEIC), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.07**	**258**	P		Pn	08 08 52.6	-0.7
ILS	**Iliamna Low So**	**0.12**	**233**	P		Pn	08 08 53.1	-0.4
ILW	**Iliamna West**	**0.14**	**282**	P		Pn	08 08 52.7	-0.8
RDWB	**Redoubt West**	**0.46**	**2**	P		Pn	08 08 53.7	-1.0
RDWB				S		Sn	08 09 07.1	-1.2
AUL	**Augustine Lava**	**0.71**	**204**	P		Pn	08 08 55.6	-0.6
AUL				S		Sn	08 09 10.7	-0.3
AUE	**Augustine Isla**	**0.72**	**201**	P		Pn	08 08 55.5	-0.7
AUW	**Augustine West**	**0.73**	**205**	P		Pn	08 08 55.8	-0.6
BRLK	**Bradley Lake**	**1.04**	**104**	P		Pn	08 08 58.9	-0.3
BRLK				S		Sn	08 09 15.8	-0.5
NKA	**Nikishka**	**1.08**	**48**	P		Pn	08 09 01.0	+1.5
SPCN	**Chakachatna No**	**1.24**	**16**	P		Pn	08 09 00.8	-0.5
SPCN				S		Sn	08 09 19.2	-0.9
SPWE	**Spurr West**	**1.26**	**7**	P		Pn	08 09 01.1	-0.4
SPCP	**Crater Peak Br**	**1.29**	**16**	P		Pn	08 09 01.3	-0.6
SPCP				S		Sn	08 09 20.7	-0.5
FONW	**Fourpeaked Sta**	**1.31**	**204**	P		Pn	08 09 01.2	-0.9
SLKM	**Skilak Lake**	**1.41**	**69**	P		Pn	08 09 02.3	-0.8
SEW	**Seward**	**1.72**	**86**	P		Pn	08 09 05.7	-1.0
SEW				S		Sn	08 09 28.1	-1.4
KAHG	**Katmai Hook Gl**	**1.77**	**210**	P		Pn	08 09 06.5	-0.9
RC01	**Rabbit Creek A**	**1.88**	**54**	P		Pn	08 09 07.7	-0.9
RC01				S		Sn	08 09 31.8	-1.3
KDAK	**Kodiak Island**	**2.26**	**176**	*e*Pn		Pn	08 09 11.4	-1.9
ANCK	**Angle Creek**	**2.28**	**217**	P		Pn	08 09 12.8	-0.9
CAHL	**Cahill**	**2.35**	**213**	P		Pn	08 09 13.8	-0.7
PWL	**Port Wells**	**2.40**	**68**	P		Pn	08 09 13.5	-1.6
PMR	**Palmer**	**2.41**	**48**	P		Pn	08 09 13.4	-1.9
KNK	**Knik Glacier**	**2.57**	**56**	P		Pn	08 09 15.7	-1.7
KNK				S		Sn	08 09 46.5	-2.2
OHAK	**Old Harbor**	**2.83**	**185**	P		Pn	08 09 18.2	-2.4
SML	**Sawmill**	**2.84**	**49**	P		Pn	08 09 19.1	-1.8
PPLA	**Purkeypile**	**2.89**	**6**	P		Pn	08 09 21.1	-0.5
SCM	**Sheep Creek Mo**	**3.25**	**54**	P		Pn	08 09 24.6	-1.7
TT01	**Tatalina**	**3.26**	**334**	P		Pn	08 09 24.5	-1.7
JPK	**Jack Peak**	**3.27**	**69**	P		Pn	08 09 24.4	-2.0
CAST	**Castle Rocks**	**3.42**	**6**	P		Pn	08 09 27.1	-1.3
SII	**Sitkinak Islan**	**3.55**	**192**	P		Pn	08 09 27.5	-2.7
EYAK	**Cordova Ski Ar**	**3.58**	**79**	P		Pn	08 09 29.4	-1.2
TRF	**Thorofare Moun**	**3.64**	**19**	P		Pn	08 09 30.0	-1.5
DIV	**Divide**	**3.67**	**69**	P		Pn	08 09 30.6	-1.2
KLU	**Klutina**	**3.71**	**64**	P		Pn	08 09 30.8	-1.5
RND	**Reindeer**	**3.89**	**28**	P		Pn	08 09 33.0	-1.6
DHY	**Denali Highway**	**4.03**	**38**	P		Pn	08 09 35.2	-1.4
MCK	**McKinley**	**4.16**	**25**	P		Pn	08 09 37.2	-0.9
HARP	**HAARP**	**4.43**	**54**	P		Pn	08 09 40.7	-1.1
BWN	**Browne**	**4.45**	**20**	P		Pn	08 09 41.3	-0.8
PAX	**Paxson**	**4.61**	**47**	P		Pn	08 09 43.3	-1.0
PS10	**TAPS Pump St10**	**4.79**	**42**	P		Pn	08 09 46.6	-0.1
NEA	**Nenana**	**4.89**	**20**	P		Pn	08 09 46.0	-2.0
WRH	**Wood River Hil**	**4.98**	**25**	P		Pn	08 09 47.1	-2.1
MLY	**Manley**	**5.11**	**10**	P		Pn	08 09 48.8	-2.3
HDA	**Harding Lake**	**5.19**	**30**	P		Pn	08 09 50.3	-1.7
CCB	**Clear Creek Bu**	**5.20**	**25**	P		Pn	08 09 50.0	-2.0
BALM	**Baldy**	**5.30**	**74**	P		Pn	08 09 52.8	-0.7
RIDG	**Independ'e Rid**	**5.32**	**42**	P		Pn	08 09 52.8	-1.0
COLA	**College**	**5.39**	**23**	P		Pn	08 09 53.0	-1.6
MDM	**Murphy Dome**	**5.39**	**22**	P		Pn	08 09 53.1	-1.6
SCRK	**Sand Creek**	**5.76**	**43**	P		Pn	08 09 57.8	-1.9
CTGM	**Chitina Glacie**	**5.78**	**76**	P		Pn	08 10 00.2	+0.1
IM3	**Indian Mountai**	**5.99**

DPC **Dobruska-Polom** **1.61 275** *e*SG Sn 08 13 48.7 0.0
comp=Z,4.5nm,0.4s

*IDC **02** 08:17:11.9±0.5, 19°.56N×70°.06W, h0km, mb3.9/18, mb1 4.2/20, mb1mx4.0/42, mbtmp4.0/20, ML3.6/2, MS3.8/19, Ms1 3.8/19, ms1mx3.7/38, Error ellipse: s-maj=17.6km s-min=12.7km az=62.0*

*ISCJB **02** 08:17:12.0±0.2, 19°.44N±0°.02×69°.96W±0°.02, h10km, mb4.0/79, MS3.8/16, Error ellipse: s-maj=3.8km s-min=2.5km az=135.4*

*NEIC **02** 08:17:13.7±0.2, 19°.39N×70°.00W, h10km, mb4.1/86, Error ellipse: s-maj=4.9km s-min=2.9km az=218.0*

NEIC Felt at San Francisco de Macoris.

ISC 02 08:17:13.8±0.3, 19°.43N±0°.04×70°.05W±0°.03, h10km, n227, σ1°69/204, mb4.1/79, MS3.8/15, 1C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANI	**BANI**	**1.08**	**196**	*e*Pg	**Pg**	**08 17 31.1**	**-3.4**
BANI				*e*Sn	**Sb**	**08 17 48.6**	**-0.2**
SDDR	**Presa de Saban**	**1.25**	**249**	*e*Pn	**Pn**	**08 17 34.9**	**-2.5**
GRTK	**Grand Turk**	**2.30**	**334**	*e*Pn	**Pn**	**08 17 51.8**	**-0.1**
LGNH	**Logne**	**2.58**	**250**	*e*Pn	**Pn**	**08 17 57.3**	**+1.6**
AGP	**Aguadilla**	**2.94**	**110**	*e*Pn	**Pn**	**08 18 00.2**	**-0.4**
MPR	**Mayaguez**	**3.02**	**113**	*e*Pn	**Pn**	**08 18 01.6**	**0.0**
EMPR	**Esperanza - Ma**	**3.47**	**105**	*e*Pn	**Pn**	**08 18 07.1**	**-0.8**
OBIP	**Obispado Ponce**	**3.55**	**112**	*e*Pn	**Pn**	**08 18 08.1**	**-0.8**
SJG	**San Juan**	**3.92**	**109**	*e*Pn	**Pn**	**08 18 13.0**	**-1.1**
SJG					**Sn**	**08 19 03.4**	**+3.1**
SJG	**San Juan**	**3.92**	**109**	*e*S	**Sb**	**08 19 05.7**	**-5.0**
SJG	**San Juan**	**3.92**	**109**	*e*S	**Sb**	**08 19 05.7**	**-5.0**
SJG	**San Juan**	**3.92**	**109**	Pn	**Pn**	**08 18 12.5**	**-1.7**
	20nm,0.3s,baz=308,slow=8.5,SNR=19						
SJG					**Sn**	**08 19 03.4**	**+3.1**
	46nm,0.3s,baz=270,slow=16,SNR=6.1						
CBYP	**Canovanas**	**4.14**	**106**	*e*Pn	**Pn**	**08 18 15.5**	**-1.6**
HUMP	**Col San Antoni**	**4.18**	**107**	*e*Pn	**Pn**	**08 18 16.5**	**-1.2**
MTP	**Monte Pirata**	**4.47**	**107**	*e*Pn	**Pn**	**08 18 20.1**	**-1.5**
CUPR	**Culebra, Puert**	**4.65**	**103**	*e*Pn	**Pn**	**08 18 21.8**	**-2.3**
STVI	**Saint Thomas**	**4.95**	**102**	*e*Pn	**Pn**	**08 18 26.2**	**-2.0**
ABVI	**Anegada Island**	**5.45**	**96**	*e*Pn	**Pn**	**08 18 33.1**	**-2.0**
GWJ	**Greenwich**	**6.47**	**259**	⇓*i*P	**Pn**	**08 18 50.6**	**+1.4**
GWJ				⇓*e*P	**Pn**	**08 18 50.7**	**+1.4**
HOJ	**Hope**	**6.50**	**258**	*i* P	**Pn**	**08 18 50.7**	**+1.0**
STH	**Stony Hill**	**6.54**	**259**	⇓*i*P	**Pn**	**08 18 51.1**	**+0.9**
SMRT	**St. Maarten**	**6.75**	**101**	*e*Pn	**Pn**	**08 18 50.4**	**-2.7**
SMRT	**St. Maarten**	**6.75**	**101**	*e*P	**Pn**	**08 18 50.4**	**-2.7**
BBJ	**Bamboo Saint A**	**6.91**	**262**	⇑*i*P	**Pn**	**08 18 56.5**	**+1.2**
SEUS	**St. Eustatius**	**6.98**	**105**	*e*P	**Pg**	**08 19 29.3**	**+1.8**
MCJ	**Malvern**	**7.39**	**260**	*i* S	**Sb**	**08 20 47.3**	**-3.2**
URIC	**Uribia, Colomb**	**7.91**	**194**	*e*S	**Sn**	**08 20 37.5**	**-1.1**
URIC	**Uribia, Colomb**	**7.91**	**194**	*e*S	**Sn**	**08 20 37.5**	**-1.1**
MBWH		**7.94**	**108**	*e*S	Pn	08 19 16.0	+6.6
MLYT	**Lee's Yard**	**7.95**	**109**	*e*P	**Pn**	**08 19 08.0**	**-1.5**
MLYT	**Lee's Yard**	**7.95**	**109**	*e*P	**Sn**	**08 20 45.6**	**+6.0**
ANWB	**Willy Bob**	**8.04**	**101**	*e*Pn	**Pn**	**08 19 10.1**	**-0.5**
ANWB	**Willy Bob**	**8.04**	**101**	*e*P	**Pn**	**08 19 09.5**	**-1.1**
ANWB	**Willy Bob**	**8.04**	**101**	*e*	Sn	08 20 32.0	-10
BPA	**Boggy Peak**	**8.14**	**106**	*e*P	Pn	08 19 05.0	-7.1
BPA	**Boggy Peak**	**8.14**	**106**	*e*	**Sn**	**08 20 41.9**	**-2.4**
MGG	**Marie-Galante**	**9.03**	**111**	*e*P	**Pn**	**08 19 23.8**	**-0.5**
MDPO	**Dominica; Chan**	**9.06**	**114**	*e*P	**Pn**	**08 19 25.7**	**+1.0**
BBL	**Barber's Block**	**9.06**	**114**	*e*P	**Pn**	**08 19 23.1**	**-1.7**
BBL	**Barber's Block**	**9.06**	**114**	*e*	**Sn**	**08 21 05.8**	**-1.2**
DWS	**Wesley**	**9.18**	**113**	*e*P	Pn	08 19 19.2	-7.2
FDF	**Fort de France**	**9.71**	**117**	*e*Pn	**Pn**	**08 19 34.9**	**+1.2**
FDF	**Fort de France**	**9.71**	**117**	*e*P	Pn	08 19 26.9	-6.7
FDF	**Fort de France**	**9.71**	**117**	*e*	Sn	08 21 35.9	+13
MCLT	**Moule a Chique**	**10.42**	**122**	*e*P	Pn	08 19 49.4	+5.9
MCLT	**Moule a Chique**	**10.42**	**122**	*e*	**Sn**	**08 21 38.9**	**-1.5**
SVB	**Belmont**	**10.43**	**125**	*e*Pn	**Pn**	**08 19 43.1**	**-0.5**
SVB	**Belmont**	**10.43**	**125**	*e*P	**Pn**	**08 19 44.9**	**+1.3**
SVB	**Belmont**	**10.43**	**125**	*e*	**Sn**	**08 21 44.0**	**+3.4**
SDV	**Santo Domingo**	**10.50**	**183**	Pn	**Pn**	**08 19 44.4**	**-0.2**
	0.9nm,0.3s,baz=26,slow=7.0,SNR=16						
SDV					**Sn**	**08 21 45.3**	**+2.7**
	2.2nm,0.3s,baz=343,slow=19,SNR=2.7						
SDV				LR	LR	08 24 29.7	
	comp=Z,828nm,19.1s,baz=34,slow=41						
FSCY	**Frank Sound, G**	**10.51**	**271**	*e*Pn	**Pn**	**08 19 42.9**	**-1.7**
SVCV	**St. Vincent, C**	**10.52**	**124**	*e*	Sn	08 21 54.5	+12
GRSS	**Sisters**	**10.78**	**130**	*e*P	**Pn**	**08 19 46.0**	**-2.3**
GRSS	**Sisters**	**10.78**	**130**	*e*	**Sn**	**08 21 55.4**	**+6.3**
GRHS	**Sauteurs**	**10.81**	**130**	*e*P	**Pn**	**08 19 49.5**	**+5.8**
GRHS	**Sauteurs**	**10.81**	**130**	*e*	Sn	08 21 59.7	+10
GRGR	**Grenville**	**10.86**	**131**	*e*Pn	**Pn**	**08 19 51.1**	**+1.7**
GRGR	**Grenville**	**10.86**	**131**	*e*P	**Pn**	**08 19 50.4**	**+0.9**
GRGR	**Grenville**	**10.86**	**131**	*e*	Sn	08 21 59.8	+8.6
BBGH	**Gun Hill**	**11.86**	**120**	*e*Pn	**Pn**	**08 20 02.6**	**-0.4**
BBGH	**Gun Hill**	**11.86**	**120**	*e*P	**Pn**	**08 20 01.5**	**-1.5**
TRN	**Trinidad (W)**	**12.08**	**135**	*e*P	**Pn**	**08 20 08.2**	**+2.0**
TRN	**Trinidad (W)**	**12.08**	**135**	*e*	**Sn**	**08 22 16.9**	**-4.1**
BRRC	**Barranca, Sant**	**12.76**	**197**	*e*P	**Pn**	**08 20 15.4**	**0.0**
BRRC	**Barranca, Sant**	**12.76**	**197**	*e*P	**Pn**	**08 20 15.4**	**0.0**
BARC	**Barichara**	**13.12**	**194**	*e*P	**Pn**	**08 20 21.0**	**+0.4**
BARC	**Barichara**	**13.12**	**194**	*e*P	**Pn**	**08 20 21.0**	**+0.4**
BBSR	**BB Station**	**13.75**	**19**	*e*Pn	**Pn**	**08 20 27.1**	**-1.8**
RUSC	**La Rusia**	**13.78**	**193**	*e*P	**Pn**	**08 20 27.8**	**-2.0**
RUSC	**La Rusia**	**13.78**	**193**	*e*P	**Pn**	**08 20 27.8**	**-2.0**
957A	**Wimauma**	**13.85**	**309**	*e*Pn	**Pn**	**08 20 31.6**	**+1.4**
BCIP	**Isla Barro Col**	**13.92**	**224**	*e*Pn	**Pn**	**08 20 30.8**	**-0.5**
HELC	**Santa Helena**	**14.20**	**203**	*e*P	**Pn**	**08 20 38.5**	**+3.1**
HELC	**Santa Helena**	**14.20**	**203**	*e*P	**Pn**	**08 20 38.5**	**+3.1**
SOLC	**Bahia Solano**	**14.95**	**210**	*e*P	**P**	**08 20 49.3**	**-1.7**
SOLC	**Bahia Solano**	**14.95**	**210**	*e*P	**P**	**08 20 49.3**	**-1.7**
656A	**Willston**	**15.06**	**313**	*e*Pn	**Pn**	**08 20 45.4**	**-1.3**
	37nm,0.9s						
ROSC	**El Rosal**	**15.09**	**197**	*e*Pn	**Pn**	**08 20 47.4**	**-0.2**
	3.0nm,0.8s						
ROSC	**El Rosal**	**15.09**	**197**	LR	LR	08 27 03.8	
	comp=Z,135nm,21.4s,baz=5.5,slow=39						
CHIC	**Chingaza**	**15.15**	**194**	*e*P	**P**	**08 20 51.8**	**-1.8**
CHIC	**Chingaza**	**15.15**	**194**	*e*P	**P**	**08 20 51.8**	**-1.8**
RREF	**El Recreo**	**15.34**	**200**	*e*P	**P**	**08 20 54.3**	**-1.7**
RREF	**El Recreo**	**15.34**	**200**	*e*P	**P**	**08 20 54.3**	**-1.7**
NHSC	**New Hope**	**16.35**	**328**	*e*Pn	**Pn**	**08 21 02.8**	**-0.7**
	15nm,1.1s						
HDC	**Heredia**	**16.51**	**237**	*e*Pn	**P**	**08 21 07.6**	**-0.8**
	21nm,0.5s						
JTS	**JuntasAbangare**	**17.02**	**240**	*e*Pn	**P**	**08 21 14.1**	**+0.2**
	10nm,1.1s						
JTS	**JuntasAbangare**	**17.02**	**240**	P	**P**	**08 21 15.7**	**+1.8**
	0.2nm,0.3s,baz=72,slow=11,SNR=3.1						
JTS				LR	LR	08 28 16.5	
	comp=Z,380nm,19.1s,baz=109,slow=39						
TEIG	**Tepich**	**17.17**	**276**	*e*P	**P**	**08 21 17.8**	**+2.3**
	13nm,1.0s						
CNNC	**Cliffs of the**	**17.20**	**338**	*e*P	**P**	**08 21 16.3**	**+0.5**
	9.8nm,0.3s						
JSC	**Jenkinsville**	**17.83**	**328**	*e*Pn	**Pn**	**08 21 22.4**	**+0.4**
	5.0nm,1.2s						
POPC	**Popayan, Colom**	**18.00**	**202**	*e*P	**P**	**08 21 27.4**	**+2.4**
POPC	**Popayan, Colom**	**18.00**	**202**	*e*P	**P**	**08 21 27.4**	**+2.4**
HODGE	**Hodges**	**18.30**	**326**	*e*Pn	**Pn**	**08 21 27.2**	**-0.7**
	5.6nm,1.1s						
GOGA	**Godfrey**	**18.36**	**322**	*e*P	**P**	**08 21 28.1**	**-0.5**
	4.9nm,1.1s						
PAULI	**Pauline**	**18.54**	**328**	*e*P	**P**	**08 21 30.6**	**+0.1**
	3.0nm,0.9s						
KMSC	**Kings Mountain**	**18.56**	**330**	*e*P	**Pn**	**08 21 31.7**	**+0.7**
	5.3nm,1.0s						
152A	**Waverly Hall**	**18.61**	**318**	*e*P	**P**	**08 21 30.6**	**-0.7**
	7.3nm,1.0s						
BG3	**Lake Jocassee**	**19.24**	**326**	*e*P	**P**	**08 21 38.5**	**+0.2**
	4.9nm,1.0s						
V53A	**Saluda**	**19.70**	**328**	*e*P	**Pn**	**08 21 45.4**	**+0.6**
	3.4nm,0.8s						
Z50A	**Ashland**	**19.76**	**317**	*e*P	**Pn**	**08 21 46.8**	**+1.3**
	8.6nm,1.1s						
BLA	**Blacksburg**	**19.90**	**335**	*e*P	**Pn**	**08 21 51.2**	**+4.1**
	12nm,1.0s						
APG	**El Apazote**	**19.98**	**260**	LR	LR	08 29 46.5	
	comp=Z,276nm,18.7s,baz=122,slow=38						
TKL	**Tuckaleechee C**	**20.19**	**326**	*e*P	**P**	**08 21 49.2**	**+0.5**
	7.8nm,1.0s						
TKL				S	S	08 25 25.1	-10
TKL	**Tuckaleechee C**	**20.19**	**326**	P	**P**	**08 21 48.8**	**+0.1**
	2.8nm,0.6s,baz=161,slow=12,SNR=5.5						
TKL				S	S	08 25 25.1	-10
	1.7nm,0.4s,baz=163,slow=17,SNR=2.6						
TKL				LR	LR	08 30 21.5	
	comp=Z,158nm,18.1s,baz=166,slow=39						
V52A	**Sevierville**	**20.24**	**327**	*e*P	Pn	08 21 52.4	+1.3
	14nm,1.1s						
LRAL	**Lakeview Retre**	**20.32**	**315**	*e*P	**P**	**08 21 51.2**	**+1.1**
CPCT	**Cooper Cave**	**20.44**	**324**	*e*P	**P**	**08 21 52.2**	**+0.8**
	6.3nm,0.9s						
Y49A	**Blount Mountai**	**20.46**	**318**	*e*P	Pn	08 21 54.3	+0.6
	8.8nm,1.1s						
V51A	**Loudon**	**20.61**	**325**	*e*P	**P**	**08 21 54.5**	**+1.2**
	7.6nm,1.0s						
W50A	**Signal Mountai**	**20.70**	**322**	*e*P	**P**	**08 21 55.6**	**+1.3**
	3.4nm,1.0s						
SDMD	**Soldier's Deli**	**20.75**	**345**	*e*Pn	Pn	08 21 57.6	+0.5
	3.8nm,0.7s						
TZTN	**Tazewell**	**20.76**	**328**	*e*P	**P**	**08 21 55.8**	**+1.0**
	14nm,1.0s						
OTAV	**Otavalo**	**20.78**	**204**	*e*P	**P**	**08 21 56.5**	**+0.8**
	27nm,1.0s						
MVL	**Millersville**	**21.20**	**347**	*e*P	**P**	**08 22 00.4**	**+0.8**
	12nm,1.1s						
V48A	**Smith Brothers**	**21.96**	**321**	*e*P	**P**	**08 22 09.0**	**+1.2**
	7.8nm,0.9s						
N59A	**State Game Lan**	**21.96**	**348**	*e*P	**P**	**08 22 09.3**	**+1.5**
T49A	**Edmonton**	**22.21**	**326**	*e*P	**P**	**08 22 13.0**	**+2.5**
	7.1nm,1.0s						
PLAL	**Pickwick Lake**	**22.23**	**318**	*e*P	**P**	**08 22 12.1**	**+1.4**
	4.7nm,1.1s						
PTGA	**Pitinga**	**22.35**	**153**	P	**P**	**08 22 13.2**	**+1.1**
	1.3nm,0.3s,baz=343,slow=7.8,SNR=4.7						
BRYW	**Bryant College**	**22.45**	**357**	*e*P	**P**	**08 22 19.1**	**+6.1**
	5.2nm,0.7s						
Q51A	**Peebles**	**22.66**	**332**	*e*P	**P**	**08 22 18.8**	**+3.5**
	8.3nm,1.0s						
OXF	**Oxford**	**22.81**	**315**	*e*P	**P**	**08 22 18.1**	**+1.3**
	33nm,1.1s						
WVT	**Waverly**	**22.83**	**320**	*e*P	**P**	**08 22 17.5**	**+0.5**
	4.3nm,0.8s						
WES	**Weston**	**22.91**	**358**	*e*P	**P**	**08 22 17.9**	**+0.2**
	8.1nm,1.0s						
O52A	**Adamsville**	**22.97**	**336**	*e*P	**P**	**08 22 19.2**	**+0.7**
	14nm,0.9s						
N54A	**Moraine State**	**23.08**	**341**	*e*P	**P**	**08 22 19.7**	**+0.1**
	1.3nm,0.5s						
HALT	**Halls**	**23.62**	**318**	*e*P	**P**	**08 22 26.5**	**+1.4**
	35nm,0.5s						
CMIG	**Matias Romero**	**23.69**	**268**	LR	LR	08 31 01.6	
	comp=Z,122nm,18.7s,baz=92,slow=35						
Z41A	**Richland Creek**	**24.53**	**309**	*e*P	**P**	**08 22 34.2**	**+0.6**
	7.9nm,0.5s						
NCB	**Newcomb**	**24.71**	**353**	*e*P	**P**	**08 22 36.5**	**+1.3**
SIUC	**Southern Illin**	**24.71**	**321**	*e*P	**P**	**08 22 36.6**	**+1.3**
	17nm,1.0s						
OLIL	**Olney**	**24.79**	**325**	*e*P	**P**	**08 22 35.7**	**-0.2**
	12nm,1.0s						
W41B	**Gary Mavity, V**	**25.11**	**313**	*e*P	**P**	**08 22 39.1**	**+0.3**
	3.2nm,0.8s						
X40A	**Basin Creek Fa**	**25.16**	**311**	*e*P	**P**	**08 22 40.0**	**+0.7**
	6.5nm,0.8s						
WHAR	**Wooly Hollow**	**25.20**	**313**	*e*P	**P**	**08 22 40.1**	**+0.4**
	8.2nm,1.1s						
NATX	**Nacogdoches**	**25.29**	**304**	*e*P	**P**	**08 22 42.0**	**+1.4**
	15nm,0.6s						
T42A	**Van Buren**	**25.42**	**318**	*e*P	**P**	**08 22 41.6**	**0.0**
	3.0nm,1.1s						
FVM	**French Village**	**25.61**	**320**	*e*P	**P**	**08 22 44.7**	**+1.4**
	4.4nm,0.6s						
SADO	**Sadowa**	**26.37**	**345**	LR	LR	08 33 53.5	
	comp=Z,169nm,18.7s,baz=178,slow=38						
P42A	**Winchester**	**26.63**	**323**	*e*P	**P**	**08 22 52.4**	**-0.2**
	3.3nm,0.8s						
ATAH	**Atahualpa**	**27.65**	**198**	LR	LR	08 36 14.0	
	comp=Z,110nm,18.8s,baz=10,slow=41						
JFWS	**Jewell Farm**	**28.95**	**328**	*e*P	**P**	**08 23 12.9**	**-0.4**
	17nm,1.1s						
WMOK	**Wichita Mounta**	**29.64**	**307**	*e*P	**P**	**08 23 18.8**	**-0.8**
	3.9nm,0.6s						
G42A	**Mountain**	**29.91**	**333**	*e*P	**P**	**08 23 21.9**	**+0.1**
	11nm,0.9s						
F41A	**Three Lakes**	**30.59**	**333**	*e*P	**P**	**08 23 28.1**	**+0.2**
	2.3nm,0.9s						
G40A	**Rib Lake**	**30.70**	**332**	*e*P	**P**	**08 23 29.0**	**+0.2**
	2.4nm,0.9s						
TXAR	**Lajitas Array**	**32.06**	**294**	P	**P**	**08 23 40.6**	**-0.5**
	0.5nm,0.8s,baz=107,slow=8.8,SNR=4.9						
MNTX	**Cornudas Mount**	**33.98**	**298**	*e*P	**P**	**08 23 57.9**	**+0.1**
	6.4nm,1.0s						
SCHQ	**Schefferville**	**35.42**	**3**	LR	LR	08 37 26.1	
	comp=Z,180nm,20.9s,baz=134,slow=34						
LPAZ	**La Paz**	**35.55**	**177**	P	**P**	**08 24 14.5**	**+2.5**
	0.8nm,0.5s,baz=355,slow=5.7,SNR=3.4						
LPAZ				LR	LR	08 40 02.8	
	comp=Z,142nm,21.8s,baz=346,slow=38						
BNM	**Barren Site**	**35.58**	**302**	*e*P	**P**	**08 24 12.1**	**+0.3**
SDCO	**Great Sand Dun**	**35.80**	**308**	*e*P	**P**	**08 24 13.8**	**+0.1**
	0.9nm,0.8s						
LENM	**Lemitar**	**35.86**	**302**	*e*P	**P**	**08 24 14.7**	**+0.6**
LAZ	**Ladron**	**36.05**	**302**	*e*P	**P**	**08 24 16.4**	**+0.6**
ISCO	**Idaho Springs**	**36.65**	**311**	*e*P	**P**	**08 24 21.2**	**+0.2**
	2.9nm,0.8s						
ULM	**Lac du Bonnet**	**36.97**	**332**	*e*P	**P**	**08 24 23.8**	**+0.6**
	0.7nm,0.6s						
ULM	**Lac du Bonnet**	**36.97**	**332**	P	**P**	**08 24 21.3**	**-1.9**
	1.5nm,0.6s,baz=140,slow=10,SNR=3.5						
H07S1	**FLORES T-PHASE**	**38.86**	**51**	T	T	09 05 23.7	
	SNR=8.7						
H07N1	**FLORES T-PHASE**	**39.03**	**50**	T	T	09 05 40.6	
	SNR=4.8						
P17A	**Butcher Ranch,**	**40.24**	**309**	*e*P	**P**	**08 24 51.6**	**+0.5**
	3.0nm,0.8s						
PDAR	**Pinedale Array**	**40.54**	**314**	P	**P**	**08 24 53.0**	**-0.6**
	2.3nm,1.3s,baz=122,slow=9.7,SNR=3.6						
BDFB	**Brasilia**	**41.05**	**147**	P	**P**	**08 24 58.9**	**+1.1**
	2.5nm,0.8s,baz=297,slow=6.8,SNR=3.1						
BDFB				LR	LR	08 42 40.7	
	comp=Z,150nm,22.0s,baz=191,slow=37						
MPU	**Maple Canyon**	**41.06**	**309**	*e*P	**P**	**08 24 58.4**	**+0.5**
	4.2nm,1.0s						
JLU	**Jordanelle**	**41.11**	**310**	*e*P	**P**	**08 24 58.7**	**+0.3**
	2.6nm,0.8s						
RLMT	**Red Lodge**	**41.30**	**317**	*e*P	**P**	**08 24 59.5**	**-0.3**
	0.8nm,0.5s						
LOHW	**Long Hollow**	**41.57**	**315**	*e*P	**P**	**08 25 01.7**	**-0.3**
	2.8nm,1.1s						
W13A	**Hualapai Mount**	**41.62**	**301**	*e*P	**P**	**08 25 03.0**	**+0.4**
	1.7nm,0.9s						
REDW	**Red Top Meadow**	**41.64**	**314**	*e*P	**P**	**08 25 02.9**	**+0.3**
	3.7nm,1.0s						
MOOW	**Moose Ponds**	**41.72**	**315**	*e*P	**P**	**08 25 03.1**	**-0.1**
	0.8nm,1.0s						
LVC	**Limon Verde**	**41.80**	**178**	P	**P**	**08 25 04.5**	**+0.3**
	3.5nm,0.8s,baz=0.0,slow=4.0,SNR=3.5						
FXWY	**Fox Creek**	**41.86**	**314**	*e*P	**P**	**08 25 04.0**	**-0.5**
DUG	**Dugway, Tooele**	**41.98**	**309**	*e*P	**P**	**08 25 05.9**	**+0.6**
	1.9nm,0.8s						
PSUT	**Pine Spring**	**42.32**	**306**	*e*P	**P**	**08 25 08.8**	**+0.5**
	3.5nm,0.7s						
BGU	**Big Grassy Mou**	**42.35**	**310**	*e*P	**P**	**08 25 08.3**	**0.0**
	3.0nm,0.8s						
FCC	**Fort Churchill**	**42.99**	**342**	*e*P	**P**	**08 25 12.6**	**-0.4**
	2.2nm,0.9s						
BOZ	**Bozeman (W)**	**43.02**	**317**	*e*P	**P**	**08 25 12.8**	**-0.9**
	4.8nm,0.9s						
HRY	**Holter Researc**	**43.59**	**318**	*e*P	**P**	**08 25 18.4**	**+0.1**
TPNV	**Topopah Spring**	**43.84**	**303**	*e*P	**P**	**08 25 21.7**	**+1.2**
	4.7nm,1.1s						
HLID	**Hailey**	**44.14**	**313**	*e*P	**P**	**08 25 23.1**	**+0.2**
	1.0nm,0.9s						
NV11	**Mina Array Sit**	**45.60**	**305**	*e*P	**P**	**08 25 34.9**	**+0.4**
	0.2nm,1.0s						
KVN	**Kaiserville**	**45.67**	**306**	*e*P	**P**	**08 25 35.6**	**+0.5**
	1.0nm,0.7s						
NV01	**Mina Array Sit**	**45.71**	**305**	*e*P	**P**	**08 25 35.5**	**+0.1**
NVAR	**Mina Array Bea**	**45.71**	**305**	P	**P**	**08 25 34.6**	**-0.8**
	1.3nm,0.7s,baz=91,slow=7.3,SNR=15						
RYN	**Ryan**	**45.92**	**305**	*e*P	**P**	**08 25 37.4**	**+0.3**
	1.0nm,0.9s						
YERR	**Yerington**	**46.53**	**306**	*e*P	**P**	**08 25 42.8**	**+0.9**
	2.8nm,0.7s						
WAKR	**Walker**	**46.60**	**305**	*e*P	**P**	**08 25 43.9**	**+1.4**
	3.9nm,1.1s						
NEW	**Newport**	**47.50**	**318**	*e*P	**P**	**08 25 48.4**	**-0.8**
	5.2nm,1.0s						
YKA	**Yellowknife Ar**	**52.76**	**336**	P	**P**	**08 26 26.9**	**-1.8**
	0.9nm,0.9s,baz=116,slow=7.4,SNR=6.5						
SUMG	**Summit**	**56.12**	**11**	*i* P	P	08 26 58.3	+4.8
	15nm,0.8s						
DLBC	**Dease Lake**	**58.02**	**328**	*e*P	**P**	**08 27 07.3**	**+0.6**
	0.3nm,0.4s						
ESDC	**Sonseca Array**	**59.63**	**55**	P	**P**	**08 27 17.1**	**-1.3**
	0.3nm,0.5s,baz=277,slow=7.3,SNR=4.0						
ESDC				LR	LR	08 48 44.0	
	comp=Z,133nm,20.2s,baz=205,slow=32						
DAWY	**Dawson**	**63.67**	**333**	*e*P	**P**	**08 27 44.4**	**-0.8**
DBIC	**Dimbokro**	**64.44**	**92**	LR	LR	08 53 39.4	
	comp=Z,61nm,21.2s,baz=232,slow=34						
EGAK	**Eagle**	**64.55**	**333**	*e*P	**P**	**08 27 52.2**	**+1.5**
	0.2nm,0.3s						
MENT	**Mentasta**	**65.45**	**331**	*e*P	**P**	**08 27 57.2**	**+0.4**
	2.3nm,1.2s						
SCRK	**Sand Creek**	**65.67**	**332**	*e*P	**P**	**08 27 58.0**	**-0.3**
	4.1nm,1.0s						
DOT	**Dot Lake**	**65.67**	**332**	*e*P	**P**	**08 27 58.0**	**-0.2**
	1.8nm,1.0s						
RIDG	**Independ'e Rid**	**66.02**	**332**	*e*P	**P**	**08 28 01.2**	**+0.7**
	6.6nm,1.1s						
KLU	**Klutina**	**66.38**	**329**	*e*P	**P**	**08 28 03.2**	**+0.4**
	1.6nm,0.8s						
FYU	**Fort Yukon**	**66.44**	**335**	*e*P	**P**	**08 28 02.8**	**-0.2**
	4.4nm,1.1s						
ILAR	**Eielson Array**	**66.99**	**333**	P	**P**	**08 28 04.8**	**-1.7**
	1.2nm,1.0s,baz=108,slow=5.1,SNR=7.1						
HDA	**Harding Lake**	**66.99**	**333**	*e*P	**P**	**08 28 06.5**	**-0.1**
	0.8nm,1.0s						
BWN	**Browne**	**68.08**	**332**	*e*P	**P**	**08 28 14.1**	**+0.6**
	5.4nm,1.0s						
TRF	**Thorofare Moun**	**68.45**	**332**	*e*P	**P**	**08 28 15.9**	**-0.1**
MLY	**Manley**	**68.64**	**333**	*e*P	**P**	**08 28 16.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**68.73**	**83**	P	**P**	**08 28 17.1**	**-1.3**
	2.0nm,0.9s,baz=286,slow=5.9,SNR=4.5						
NB2	**NORSAR Subarra**	**68.98**	**31**	P	**P**	**08 28 19.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=273,slow=6.5						
NOA	**NORSAR Array B**	**68.98**	**31**	P	**P**	**08 28 19.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=274,slow=6.4,SNR=4.2						
NOA				LR	LR	08 55 02.7	
	comp=Z,52nm,20.2s,baz=30,slow=33						
IM3	**Indian Mountai**	**69.87**	**334**	*e*P	**P**	**08 28 23.8**	**-0.8**
KHC	**Kasperske Hory**	**71.45**	**44**	*e*P	P	08 28 39.5	+4.9
GERES	**GERESS Array B**	**71.57**	**44**	P	**P**	**08 28 34.1**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=285,slow=5.0,SNR=2.7						
GERES				LR	LR	08 55 24.6	
	comp=Z,102nm,21.3s,baz=312,slow=32						
ARCES	**ARCESS Array B**	**73.89**	**21**	P	**P**	**08 28 47.7**	**-1.0**
	comp=Z,4.0nm,1.0s,baz=260,slow=1.6,SNR=5.7						
FINES	**FINESS Array B**	**76.02**	**29**	P	**P**	**08 29 00.9**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=245,slow=4.0,SNR=9.9						
FIA1	**FINESS Array S**	**76.02**	**29**	*e*P	**P**	**08 29 01.2**	**+0.1**
PPT	**Papeete**	**86.30**	**250**	LR	LR	09 04 19.2	
	comp=Z,46nm,19.9s

	6.0nm,0.6s							
JCT	**Junction City**	**28.89**	**298**	*e*P	**P**		**08 23 35.4**	**-0.2**
	5.5nm,1.0s							
WMOK	**Wichita Mounta**	**29.48**	**307**	*e*P	**P**		**08 23 40.8**	**0.0**
	7.8nm,0.7s							
G42A	**Mountain**	**29.76**	**334**	*e*P	**P**		**08 23 43.7**	**+0.6**
	9.1nm,0.9s							
H41A	**Junction City**	**29.80**	**331**	*e*P	**P**		**08 23 43.7**	**+0.2**
	6.8nm,1.1s							
F41A	**Three Lakes**	**30.44**	**333**	*e*P	**P**		**08 23 49.9**	**+0.6**
	7.2nm,1.0s							
G40A	**Rib Lake**	**30.55**	**332**	*e*P	**P**		**08 23 50.6**	**+0.5**
	6.7nm,1.0s							
MSTX	**Muleshoe**	**32.30**	**303**	*e*P	**P**		**08 24 05.8**	**0.0**
	7.1nm,0.8s							
MNTX	**Cornudas Mount**	**33.82**	**298**	*e*P	**P**		**08 24 18.7**	**-0.3**
	11nm,0.9s							
T25A	**Trinidad**	**34.61**	**308**	*e*P	**P**		**08 24 26.8**	**+0.7**
	6.2nm,1.0s							
BNM	**Barren Site**	**35.42**	**302**	*e*P	**P**		**08 24 34.0**	**+0.9**
ANMO	**Albuquerque**	**35.49**	**303**	*e*P	**P**		**08 24 34.3**	**+0.6**
	3.7nm,1.1s							
SDCO	**Great Sand Dun**	**35.64**	**308**	*e*P	**P**		**08 24 35.5**	**+0.4**
	1.9nm,0.8s							
LPAZ	**La Paz**	**35.66**	**177**	*e*P	**P**		**08 24 34.0**	**-1.7**
	2.9nm,0.7s							
LENM	**Lemitar**	**35.70**	**302**	*e*P	**P**		**08 24 36.7**	**+1.3**
Q24A	**Divide**	**35.83**	**310**	*e*P	**P**		**08 24 37.4**	**+0.8**
	4.1nm,0.8s							
LAZ	**Ladron**	**35.89**	**302**	*e*P	**P**		**08 24 37.5**	**+0.4**
ISCO	**Idaho Springs**	**36.49**	**311**	*e*P	**P**		**08 24 43.4**	**+1.1**
	5.5nm,1.0s							
PHWY	**Pilot Hill**	**36.99**	**314**	*e*P	**P**		**08 24 47.2**	**+0.7**
SMCO	**Snowmass**	**37.23**	**310**	*e*P	**P**		**08 24 49.0**	**+0.3**
	4.3nm,1.0s							
PV15	**Paradox Valley**	**38.06**	**308**	*e*P	**P**		**08 24 56.6**	**+1.1**
	12nm,1.1s							
W18A	**Petrified Fore**	**38.14**	**302**	*e*P	**P**		**08 24 56.9**	**+0.7**
	2.8nm,1.0s							
X18A	**Snowflake**	**38.18**	**301**	*e*P	**P**		**08 24 56.8**	**+0.2**
	3.8nm,1.0s							
PV02	**Paradox Valley**	**38.20**	**307**	*e*P	**P**		**08 24 58.1**	**+1.3**
	2.8nm,0.8s							
PV07	**Paradox Valley**	**38.21**	**308**	*e*P	**P**		**08 24 58.1**	**+1.3**
	3.2nm,1.1s							
PV13	**Radium Mtn., P**	**38.25**	**307**	*e*P	**P**		**08 24 57.9**	**+0.7**
	3.4nm,0.9s							
PV21	**Cone Mtn., Par**	**38.49**	**308**	*e*P	**P**		**08 24 59.6**	**+0.4**
	7.8nm,1.1s							
WUAZ	**Wupatki**	**39.53**	**302**	*e*P	**P**		**08 25 08.6**	**+0.7**
	6.3nm,1.1s							
DGMT	**Dagmar**	**39.79**	**324**	*e*P	**P**		**08 25 09.5**	**-0.1**
SRU	**San Rafael Swe**	**39.81**	**308**	*e*P	**P**		**08 25 10.8**	**+0.6**
	2.7nm,0.8s							
P17A	**Butcher Ranch,**	**40.08**	**309**	*e*P	**P**		**08 25 12.3**	**-0.1**
	4.9nm,0.7s							
TMUT	**Trail Mountain**	**40.38**	**308**	*e*P	**P**		**08 25 15.5**	**+0.6**
	8.6nm,1.0s							
Y14A	**Wickenburg**	**40.55**	**300**	*e*P	**P**		**08 25 16.9**	**+0.7**
	4.8nm,1.1s							
MTPU	**Mount Pierson**	**40.77**	**306**	*e*P	**P**		**08 25 19.6**	**+1.4**
	1.2nm,0.9s							
MSU	**Marysvale**	**40.88**	**307**	*e*P	**P**		**08 25 19.7**	**+0.6**
MPU	**Maple Canyon**	**40.90**	**309**	*e*P	**P**		**08 25 19.5**	**+0.3**
	8.7nm,1.2s							
JLU	**Jordanelle**	**40.95**	**310**	*e*P	**P**		**08 25 20.4**	**+0.8**
	3.4nm,0.7s							
RLMT	**Red Lodge**	**41.14**	**317**	*e*P	**P**		**08 25 20.9**	**-0.2**
	2.7nm,0.7s							
CTU	**Camp Tracy**	**41.20**	**310**	*e*P	**P**		**08 25 21.7**	**+0.2**
	8.0nm,1.1s							
NLU	**North Lily Min**	**41.21**	**309**	*e*P	**P**		**08 25 22.1**	**+0.4**
	5.2nm,1.0s							
LOHW	**Long Hollow**	**41.41**	**315**	*e*P	**P**		**08 25 23.4**	**+0.1**
	4.1nm,0.8s							
W13A	**Hualapai Mount**	**41.46**	**301**	*e*P	**P**		**08 25 25.1**	**+1.2**
	4.6nm,1.0s							
REDW	**Red Top Meadow**	**41.48**	**314**	*e*P	**P**		**08 25 24.0**	**0.0**
	4.3nm,0.9s							
DUG	**Dugway, Tooele**	**41.82**	**309**	*e*P	**P**		**08 25 27.0**	**+0.3**
	4.2nm,0.8s							
SPUT	**South Promonto**	**41.89**	**311**	*e*P	**P**		**08 25 25.6**	**-1.6**
	7.1nm,1.1s							
BGU	**Big Grassy Mou**	**42.19**	**310**	*e*P	**P**		**08 25 29.8**	**+0.1**
	7.4nm,1.0s							
LDFC	**Landfair**	**42.45**	**301**	*e*P	**P**		**08 25 33.8**	**+2.0**
	22nm,1.1s							
FCC	**Fort Churchill**	**42.85**	**342**	*e*P	**P**		**08 25 35.1**	**+0.6**
	1.8nm,0.6s							
MCMT	**McKenzie Canyo**	**43.36**	**315**	*e*P	**P**		**08 25 39.9**	**+0.7**
HRY	**Holter Researc**	**43.43**	**318**	*e*P	**P**		**08 25 39.8**	**+0.2**
R11A	**Troy Canyon, C**	**43.44**	**305**	*e*P	**P**		**08 25 40.5**	**+0.6**
	3.3nm,1.0s							
DAC	**Darwin (Calif)**	**44.64**	**302**	*e*P	**P**		**08 25 50.8**	**+1.3**
	1.2nm,0.9s							
NV11	**Mina Array Sit**	**45.44**	**305**	*e*P	**P**		**08 25 56.2**	**+0.4**
	0.3nm,0.9s							
KVN	**Kaiserville**	**45.51**	**306**	*e*P	**P**		**08 25 56.5**	**+0.1**
	3.3nm,1.2s							
NV01	**Mina Array Sit**	**45.55**	**305**	*e*P	**P**		**08 25 57.6**	**+0.8**
RYN	**Ryan**	**45.76**	**305**	*e*P	**P**		**08 25 59.1**	**+0.7**
	2.3nm,0.8s							
OMMB	**Old Mammoth Mi**	**45.96**	**304**	*e*P	**P**		**08 26 00.7**	**+0.6**
	3.6nm,1.0s							
YERR	**Yerington**	**46.37**	**306**	*e*P	**P**		**08 26 04.3**	**+1.1**
	9.8nm,1.2s							
WAKR	**Walker**	**46.44**	**305**	*e*P	**P**		**08 26 05.0**	**+1.2**
	2.2nm,0.9s							
J08A	**Circle Bar Ran**	**46.75**	**312**	*e*P	**P**		**08 26 06.2**	**+0.1**
	1.6nm,0.7s							
NEW	**Newport**	**47.34**	**318**	*e*P	**P**		**08 26 10.4**	**-0.1**
	8.8nm,1.1s							
H04A	**Detroit Lake**	**49.67**	**312**	*e*P	**P**		**08 26 29.1**	**+0.6**
	3.9nm,0.8s							
HUMO	**Hull Mountain**	**49.80**	**310**	*e*P	**P**		**08 26 29.0**	**-0.5**
	1.0nm,0.6s							
DLBC	**Dease Lake**	**57.86**	**328**	*e*P	**P**		**08 27 28.8**	**+0.6**
	4.6nm,0.9s							
DAWY	**Dawson**	**63.52**	**333**	*e*P	**P**		**08 28 05.7**	**-1.0**
	2.2nm,0.8s							
MENT	**Mentasta**	**65.30**	**331**	*e*P	**P**		**08 28 18.7**	**+0.4**
	4.3nm,0.7s							
SCRK	**Sand Creek**	**65.52**	**332**	*e*P	**P**		**08 28 19.5**	**-0.3**
	7.2nm,0.7s							
DOT	**Dot Lake**	**65.52**	**332**	*e*P	**P**		**08 28 19.8**	**+0.1**
	3.2nm,1.0s							
RIDG	**Independ'e Rid**	**65.87**	**332**	*e*P	**P**		**08 28 22.9**	**+0.8**
	7.1nm,0.9s							
KLU	**Klutina**	**66.22**	**329**	*e*P	**P**		**08 28 24.9**	**+0.5**
	4.1nm,0.8s							
IL1	**Eielson Array**	**66.83**	**333**	*e*P	**P**		**08 28 27.2**	**-0.9**
WRH	**Wood River Hil**	**67.34**	**333**	*e*P	**P**		**08 28 31.5**	**+0.2**
TOLK	**Toolik Lake Re**	**68.10**	**337**	*e*P	**P**		**08 28 36.5**	**+0.4**
	3.2nm,1.1s							
OHAK	**Old Harbor**	**70.09**	**325**	*e*P	**P**		**08 28 48.7**	**+0.2**
CLL	**Collm**	**70.78**	**41**	*e*P	**P**		**08 28 54.0**	**+1.1**
KHC	**Kasperske Hory**	**71.45**	**44**	*e*P	**P**		**08 29 01.5**	**+4.4**
PMSA	**Palmer Station**	**84.18**	**177**	*e*P	**P**		**08 30 06.3**	**-1.0**
	64nm,1.1s							
CD2	**Chengdu**	**129.50**	**7**	PKP	**PKPdf**		**08 36 43.4**	**-2.6**
CTAO	**Charters Tower**	**145.76**	**263**	*e*PKPdf	**PKPdf**		**08 37 14.1**	**-1.8**
BBOO	**Buckleboo**	**153.09**	**235**	*e*PKPbc	**PKPbc**		**08 37 31.9**	**-2.7**
AS01	**Alice Springs**	**157.20**	**255**	*e*PKPdf	**PKPdf**		**08 37 31.6**	**-1.5**
AS01				*e*PKPab	**PKPab**		**08 38 02.0**	**-2.0**
AS31	**Alice Springs**	**157.24**	**255**	*e*PKPab	**PKPab**		**08 38 02.3**	**-1.9**

TRN 02 08:18:23.3, 17°.43N × 61°.96W, h3 km, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**0.29**	**34**	*e*P	Pb	08 18 32.1	+0.9
ANWB				*e*S	Sb	08 18 37.1	+0.7
BPA	**Boggy Peak**	**0.39**	**166**	*e*P	Pb	08 18 33.9	+1.0
BPA				*e*S	Sb	08 18 41.9	+2.5
MLYT	**Lee's Yard**	**0.74**	**198**	*e*P	Pn	08 18 41.2	+0.6
MLYT				*e*S	Sb	08 18 50.8	+1.5

IDC 02 08:24:44.4±2.1, 6°.95S × 129°.27E, h0 km, mb3.3/1, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, ML2.8/2, Error ellipse: s-maj=140.1km s-min=31.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.82**	**160**	Pn	Pn	08 27 59.9	-1.9
	0.0nm,0.3s,baz=338,slow=13,SNR=3.8						
WRA				Sn	Sn	08 30 28.4	-7.7
	0.0nm,0.3s,baz=331,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**17.21**	**165**	P	P	08 28 47.9	-0.2
	0.0nm,0.3s,baz=347,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	08 35 44.2	0.0
	0.2nm,0.4s,baz=129,slow=7.7,SNR=2.5						

MEX 02 08:33:49.7±0.3, 19°.25N × 104°.85W, h56 km±4 km, MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.31**	**323**	*i* P	Pn	08 33 58.1	-1.3
CJM				*e*S	Sn	08 34 04.7	-1.9
R15V		**0.82**	**96**	*e*P	Pn	08 34 03.8	-1.5
R15V				*e*S	Sn	08 34 14.3	-2.5
EZ5V		**1.20**	**79**	*e*P	Pn	08 34 08.9	-1.5
EZ5V				*i* S	Sn	08 34 23.9	-2.0

IDC 02 08:43:49.9±11.0, 6°.75S × 146°.80E, h158 km±116 km, mb3.2/3, mb1 3.3/5, mb1mx3.1/35, mbtmp3.7/5, Error ellipse: s-maj=77.2km s-min=43.4km az=147.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.27**	**182**	P	Pn	08 46 54.3	+1.9
	0.5nm,0.3s,baz=0.2,slow=13,SNR=6.5						
WRA	**Warramunga Arr**	**17.84**	**221**	P	P	08 47 45.5	-1.5
	0.1nm,0.3s,baz=51,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**20.89**	**215**	P	P	08 48 19.6	-0.4
	0.7nm,0.7s,baz=53,slow=9.3,SNR=11						
MKAR	**Makanchi Array**	**77.95**	**321**	P	P	08 55 30.7	+0.1
	0.2nm,0.4s,baz=121,slow=5.9,SNR=3.9						
ILAR	**Eielson Array**	**86.24**	**23**	P	P	08 56 12.8	-0.6
	0.7nm,0.6s,baz=255,slow=5.3,SNR=11						
TORD	**Torodi Ar. Bea**	**145.08**	**283**	PKPbc	PKPdf	09 03 09.6	0.0
	0.4nm,0.4s,baz=64,slow=3.8,SNR=5.1						

MAN ***02*** *09:05:53.9, 3°.21N × 127°.84E, h18 km, mb5.5, ML4.6, MS4.8*
BJI ***02*** *09:06:01.0, 4°.30N × 127°.70E, h25 km, mb4.5/22, mB5.0/11, Ms4.3/1, Ms7 4.0/1*
IDC ***02*** *09:06:01.3±2.6, 4°.25N × 127°.99E, h29 km±17 km, mb4.1/25, mb1 4.2/25, mb1mx4.1/40, mbtmp4.2/25, MS3.5/13, Ms1 3.5/13, ms1mx3.3/36, Error ellipse: s-maj=23.0km s-min=10.9km az=78.0*
DJA ***02*** *09:06:01.5±1.1, 4°.N±.8 × 12°.8E±°, h44 km±10 km, M4.8/14, mB5.2/8, mb4.7/14, MLv5.1/10, Mw(mB)4.5/8*
NEIC ***02*** *09:06:04.0±0.8, 4°.26N × 128°.10E, h55 km±7 km, mb4.6/31, Error ellipse: s-maj=6.3km s-min=4.4km az=74.0*
ISCJB ***02*** *09:06:04.2±0.2, 4°.26N±0°.03 × 128°.09E±0°.04, h71 km, mb4.5/74, Error ellipse: s-maj=5.2km s-min=4.2km az=2.9*

ISC 02 09:06:05.6±0.4, 4°.25N±0°.04 × 128°.22E±0°.06, h71 km, n148, σ1s74/150, mb4.6/73, 1C-2D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.74**	**258**	P	**Pn**	**09 06 45.0**	**-2.3**
DDMP	**Don Marcelino,**	**3.10**	**307**	*e*P	**Pn**	**09 06 49.5**	**-2.7**
DDMP				*e*S	**Sn**	**09 07 32.0**	**+3.9**
MATI	**Mati**	**3.31**	**324**	*e*P	**Sn**	**09 07 30.4**	**-2.9**
MATI				*e*S	**Sn**	**09 07 37.3**	**+4.0**
TNTI	**Ternate**	**3.56**	**194**	*e*Pn	**Pn**	**09 06 58.5**	**0.0**
TNTI	**Ternate**	**3.56**	**194**	P	**Pn**	**09 06 58.0**	**-0.5**
DAV	**Davao City (W)**	**3.84**	**317**	*e*Pn	**Pn**	**09 06 58.6**	**-3.6**
DAV				*e*Sn	**Sn**	**09 07 43.1**	**-3.1**
DAV				Lg	Lg	09 07 53.8	
DAV	**Davao City (W)**	**3.84**	**317**	*r*g	Pn	09 07 07.9	+5.6
	45nm,0.3s,baz=84,slow=6.5,SNR=7.1						
DAV				Lg	Lg	09 07 53.8	
	57nm,0.3s,baz=188,slow=21,SNR=6.0						
DMPH	**Davao City--Mi**	**3.90**	**316**	*i* P	**Pn**	**09 07 06.7**	**+3.6**
DMPH				*i* S	**Sn**	**09 07 52.4**	**+4.9**
KCP	**Kidapawan**	**4.14**	**312**	*e*P	**Pn**	**09 07 03.6**	**-2.9**
KCP				*i* S	**Sn**	**09 08 00.2**	**+6.4**
SKMP	**Bagumbayan, Su**	**4.29**	**302**	*e*P	**Pn**	**09 07 06.7**	**-1.8**
SKMP				*e*S	**Sn**	**09 08 02.5**	**+5.1**
BUKP	**Musuan**	**4.78**	**319**	*e*P	**Pn**	**09 07 15.8**	**+0.7**
BUKP				*e*S	**Sn**	**09 08 12.4**	**+3.1**
CTBH	**Cotabato--PC H**	**4.93**	**307**	*i* P	**Pn**	**09 07 20.5**	**+3.3**
BUTP	**Butuan**	**5.35**	**331**	*e*P	Pn	09 07 30.9	+8.0
KMSI	**Cibinong**	**5.59**	**229**	P	**Pn**	**09 07 40.4**	**+0.2**
PAGZ	**Pagadian**	**5.99**	**307**	*e*P	**Pn**	**09 07 27.6**	**-4.1**
IPIL	**Ipil**	**6.62**	**302**	*e*P	**Pn**	**09 07 37.8**	**-2.5**
SANI	**Sanana**	**6.64**	**200**	P	**Pn**	**09 07 37.7**	**-2.9**
MRSI	**Marisa**	**7.30**	**239**	P	**Pn**	**09 07 50.1**	**+0.4**
LUWI	**Luwuk**	**7.56**	**226**	*e*Pn	Pn	09 07 48.3	-4.9
LUWI				*e*Sn	**Sn**	**09 09 22.4**	**+4.8**
LUWI	**Luwuk**	**7.56**	**226**	P	**Pn**	**09 07 52.3**	**-0.9**
MPSI	**Mapaga**	**9.17**	**245**	P	**Pn**	**09 08 15.5**	**+0.3**
TTSI	**Tana Toraja**	**11.09**	**229**	P	**Pn**	**09 08 40.1**	**-1.3**
SPSI	**Sidrap Palu**	**11.74**	**226**	P	**Pn**	**09 08 50.0**	**-0.3**
	15nm,1.0s						
SBUM	**Sibu**	**16.07**	**264**	*e*Pn	**Pn**	**09 09 44.2**	**-3.0**
	41nm,1.2s						
PLAI	**Plampang**	**16.65**	**219**	P	**P**	**09 09 55.5**	**-0.3**
	107nm,0.9s,1μm						
MTN	**Manton Dam**	**17.23**	**170**	*e*Pn	**P**	**09 10 02.3**	**0.0**
	41nm,1.3s						
KSM	**Kuching**	**18.09**	**262**	*e*Pn	**P**	**09 10 11.2**	**-0.6**
	21nm,0.9s						
PWJI	**Pagerwojo**	**20.41**	**233**	P	**P**	**09 10 37.9**	**+0.8**
FITZ	**Fitzroy Crossi**	**22.35**	**186**	*e*P	**P**	**09 10 57.1**	**-0.8**
	12nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.35**	**186**	P	**P**	**09 10 58.0**	**+0.1**
	3.0nm,0.7s,baz=35,slow=5.6,SNR=6.4						
JOW	**Kunigami**	**22.45**	**0**	*e*P	**P**	**09 10 59.3**	**+0.4**
	74nm,1.2s						
CISI	**Cisompet, Garu**	**23.49**	**240**	*e*P	**P**	**09 11 07.1**	**-2.3**
	43nm,0.9s						
MYKOM	**Kota Tinggi**	**24.45**	**265**	*e*P	**P**	**09 11 17.3**	**-0.8**
	9.7nm,0.9s						
WRAB	**Tennant Creek**	**24.78**	**166**	*e*P	**P**	**09 11 21.9**	**+1.0**
	12nm,0.8s						
WR1	**Warramunga Arr**	**24.79**	**166**	*e*P	**P**	**09 11 20.6**	**-0.4**
	18nm,0.8s						
WRA	**Warramunga Arr**	**24.79**	**166**	P	**P**	**09 11 20.6**	**-0.4**
	6.0nm,0.7s,baz=346,slow=10,SNR=31						
WRA				ScP	**ScP**	**09 18 33.8**	**+4.8**
	0.8nm,0.7s,baz=338,slow=3.0,SNR=6.5						
WRA				LR	LR	09 23 16.5	
	comp=Z,121nm,18.9s,baz=10.0,slow=42						
JCJ	**Chichijima**	**26.35**	**29**	LR	LR	09 20 51.0	
	comp=Z,101nm,20.5s,baz=145,slow=34						
SKNT	**Sakolnakorn**	**26.92**	**300**	P	**P**	**09 11 40.7**	**+0.3**
	6.0nm,1.1s,761nm						
BKNI	**Bangkinang**	**27.43**	**263**	*e*P	**P**	**09 11 44.0**	**-1.0**
	40nm,1.0s						
AS31	**Alice Springs**	**28.30**	**169**	*e*P	**P**	**09 11 53.1**	**+0.5**
	1.2nm,0.9s						
AS31				*e*PcP	**PcP**	**09 15 04.8**	**+0.5**
ASAR	**Alice Springs**	**28.30**	**169**	P	**P**	**09 11 51.8**	**-0.9**
	0.4nm,0.6s,baz=353,slow=7.2,SNR=6.7						
ASAR				PcP	**PcP**	**09 15 04.8**	**+0.5**
	1.0nm,0.7s,baz=345,slow=1.9,SNR=4.4						
ASAR				ScP	**ScP**	**09 18 44.1**	**+4.8**
	0.7nm,0.7s,baz=338,slow=2.4,SNR=7.6						
AS01	**Alice Springs**	**28.30**	**169**	*e*P	**P**	**09 11 52.5**	**-0.2**
PSI	**Prapat**	**29.27**	**268**	*e*P	**P**	**09 12 01.2**	**-0.3**
	4.4nm,0.8s						
PBKT	**Sadao Pong**	**29.41**	**297**	*e*P	**P**	**09 12 02.0**	**-0.5**
	7.7nm,1.0s						
PBKT	**Sadao Pong**	**29.41**	**297**	P	**P**	**09 12 02.7**	**+0.2**
	8.7nm,0.7s,1μm						
UTHA	**Uthaitani**	**30.44**	**294**	P	**P**	**09 12 11.8**	**+0.1**
	4.4nm,0.8s						
JHJ2	**Mitsune**	**30.69**	**19**	*e*P	**P**	**09 12 14.0**	**+0.3**
	2μm,1.5s						
GSI	**Gunungsitoli**	**30.74**	**265**	*e*P	**P**	**09 12 13.5**	**-0.9**
	13nm,1.0s						
ENH	**Enshi**	**31.35**	**328**	*e*P	**P**	**09 12 19.2**	**-0.3**
	19nm,1.0s						
CM01	**Chiang Mai Arr**	**31.88**	**299**	*e*P	**P**	**09 12 25.9**	**+1.5**
CM31	**Chiang Mai Arr**	**31.91**	**299**	*e*P	**P**	**09 12 25.0**	**+0.4**
	22nm,1.6s						
CMAR	**Chiang Mai Arr**	**31.91**	**299**	P	**P**	**09 12 22.8**	**-1.8**
	0.7nm,0.3s,baz=121,slow=7.3,SNR=7.9						
CMAR				LR	LR	09 25 41.1	
	comp=Z,66nm,18.0s,baz=110,slow=37						
CMMT	**Chiang Mai**	**32.04**	**299**	P	**P**	**09 12 27.2**	**+1.4**
	6.2nm,0.6s						
CHTO	**Chiang Mai**	**32.04**	**299**	*e*P	**P**	**09 12 25.3**	**-0.6**
	14nm,1.5s						
CHTO	**Chiang Mai**	**32.04**	**299**	P	**P**	**09 12 27.3**	**+1.5**
	28nm,0.9s						
KS15	**Wonju Array Si**	**33.03**	**360**	*e*P	**P**	**09 12 35.2**	**+1.0**
	23nm,1.2s						
KSRS	**Korea Array**	**33.05**	**360**	P	**P**	**09 12 33.3**	**-1.0**
	4.7nm,1.1s,baz=180,slow=11,SNR=6.2						
KSRS				LR	LR	09 31 08.3	
	comp=Z,39nm,18.3s,baz=187,slow=46						
KS01	**Wonju Array Si**	**33.07**	**360**	*e*P	**P**	**09 12 34.4**	**-0.1**
MAJO	**Matsushiro**	**33.42**	**15**	*e*P	**P**	**09 12 39.9**	**+2.3**
MJAR	**Matsushiro Arr**	**33.42**	**15**	P	**P**	**09 12 39.9**	**+2.3**
	4.6nm,1.0s,baz=185,slow=11,SNR=3.8						
MJAR				LR	LR	09 28 41.4	
	comp=Z,43nm,18.4s,baz=230,slow=41						
HNR	**Honiara**	**34.42**	**113**	LR	LR	09 25 40.4	
	comp=Z,81nm,21.7s,baz=284,slow=34						
XAN	**Xi'an**	**34.65**	**331**	P			
XAN				pP	pP	09 12 53.9	-10
XAN				sP	pwP	09 12 58.0	-13
XAN				pmax	pmax		
	comp=Z,29nm,0.9s						
XAN				pmax	pmax		
	comp=Z,130nm,5.7s						
XAN	**Xi'an**	**34.65**	**331**	*e*P	**P**	**09 12 47.7**	**-0.7**
	26nm,0.9s						
STKA	**Stephens Creek**	**38.12**	**161**	*e*P	**P**	**09 13 17.9**	**+0.1**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**38.12**	**161**	P	**P**	**09 13 19.1**	**+1.2**
	2.5nm,0.6s,baz=322,slow=12,SNR=4.9						
STKA				LR	LR	09 30 49.5	
	comp=Z,129nm,18.9s,baz=8.2,slow=39						
LZH	**Lanzhou**	**38.83**	**328**	*e*P	**P**	**09 13 25.3**	**+1.3**
LZH				pP	pP	09 13 32.6	-7.6
LZH				sP	sP	09 13 36.7	-11
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
USRK	**Ussuriysk Ar.**	**39.92**	**4**	P	**P**	**09 13 33.2**	**+0.5**
	1.8nm,0.7s,baz=190,slow=7.3,SNR=4.4						
USRK				LR	LR	09 30 01.4	
	comp=Z,45nm,19.3s,baz=125,slow=36						
H11S3	**WAKE ISLAND Hy**	**40.17**	**66**	T	T	09 56 59.1	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**40.18**	**66**	T	T	09 56 57.9	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.18**	**66**	T	T	09 56 54.1	
	baz=253						
SHL	**Shillong**	**40.78**	**305**	*e*P	**P**	**09 13 39.4**	**-0.9**
	28nm,0.6s						
SHL	**Shillong**	**40.78**	**305**	*e*P	**P**	**09 13 39.0**	**-1.3**
GTA	**Gaotai**	**43.43**	**328**	P	**P**	**09 14 01.8**	**+0.1**
GTA				pP	pP	09 14 06.8	-10
GTA				sP	pwP	09 14 09.9	-16
GTA				pmax	pmax		
	comp=Z,13nm,1.2s						
GTA				pmax	pmax		
	comp=Z,180nm,5.0s						
GTA				LR	LR		
	comp=N,170nm,17.2s						
GTA				LR	LR		
	comp=E,220nm,17.9s						
KLR	**Kul'dur**	**44.92**	**3**	P	**P**	**09 14 12.5**	**-0.7**
	1.4nm,0.8s,baz=203,slow=15,SNR=2.8						
DZM	**Mont Dzumac**	**45.64**	**127**	LR	LR	09 34 52.2	
	comp=Z,59nm,18.5s,baz=244,slow=38						
JIRN	**Jiri**	**46.28**	**305**	*e*P	**P**	**09 14 24.5**	**-0.3**
PKI	**Pulchoki**	**46.89**	**304**	*e*P	**P**	**09 14 29.2**	**-0.3**
PKIN	**Phulchoki**	**46.90**	**304**	*e*P	**P**	**09 14 28.8**	**-0.8**
DMN	**Daman**	**47.15**	**304**	*e*P	**P**	**09 14 30.7**	**-0.8**
SONA0	**Songino Array**	**47.30**	**340**	*e*P	**P**	**09 14 31.6**	**-0.5**
SONM	**Songino Array**	**47.30**	**340**	P	**P**	**09 14 31.6**	**-0.5**
	4.1nm,0.9s,baz=159,slow=7.5,SNR=20						
SONM				PcP	**PcP**	**09 16 03.1**	**+0.9**
	1.9nm,1.0s,baz=160,slow=4.6,SNR=3.7						
SONA1	**Songino Array**	**47.30**	**340**	*e*P	**P**	**09 14 31.9**	**-0.3**
KOLN	**Koldanda**	**48.46**	**304**	*e*P	**P**	**09 14 41.3**	**-0.2**
	35nm,0.8s						
DANN	**Dangsing**	**48.53**	**305**	*e*P	**P**	**09 14 41.8**	**-0.4**
	83nm,1.2s						
PYUN	**Piuthan**	**49.08**	**304**	*e*P	**P**	**09 14 46.2**	**-0.1**
	50nm,1.0s						
PETK	**Petropavlovsk-**	**

	12nm,1.4s								
MLY	**Manley**	**82.38**	**25**	*e*P		**P**	**09 18 21.1**	**+1.4**	
	17nm,1.4s								
BWN	**Browne**	**82.84**	**26**	*e*P		**P**	**09 18 22.4**	**+0.4**	
	33nm,1.4s								
MCK	**McKinley**	**83.04**	**26**	*e*P		**P**	**09 18 23.6**	**+0.5**	
	22nm,1.2s								
RND	**Reindeer**	**83.05**	**27**	*e*P		**P**	**09 18 23.0**	**-0.3**	
	19nm,1.3s								
KNK	**Knik Glacier**	**83.09**	**29**	*e*P		**P**	**09 18 23.5**	**+0.1**	
	30nm,1.4s								
SML	**Sawmill**	**83.18**	**28**	*e*P		**P**	**09 18 24.3**	**+0.5**	
	24nm,1.2s								
CCB	**Clear Creek Bu**	**83.60**	**26**	*e*P		**P**	**09 18 26.2**	**+0.3**	
	13nm,1.3s								
KBZ	**Khabaz**	**83.70**	**313**	LR		LR	09 58 59.3		
	comp=Z,36nm,19.3s,baz=81,slow=38								
VNDA	**Vanda**	**83.76**	**173**	*e*P		**P**	**09 18 26.8**	**+0.4**	
VNDA	**Vanda**	**83.76**	**173**	P		**P**	**09 18 27.0**	**+0.6**	
	0.8nm,0.8s,baz=339,slow=8.6,SNR=2.2								
HDA	**Harding Lake**	**83.95**	**26**	*e*P		**P**	**09 18 27.2**	**-0.5**	
	3.7nm,0.8s								
IL1	**Eielson Array**	**84.00**	**25**	*e*P		**P**	**09 18 28.1**	**+0.1**	
ILAR	**Eielson Array**	**84.00**	**25**	P		**P**	**09 18 27.5**	**-0.5**	
	1.8nm,1.0s,baz=242,slow=4.3,SNR=9.2								
ILB	**Eielson Array**	**84.00**	**25**	*e*P		**P**	**09 18 27.8**	**-0.1**	
	6.3nm,1.3s								
DIV	**Divide**	**84.37**	**29**	*e*P		**P**	**09 18 31.0**	**+0.9**	
	33nm,1.3s								
PAX	**Paxson**	**84.56**	**27**	*e*P		**P**	**09 18 31.4**	**+0.4**	
	10nm,1.3s								
FYU	**Fort Yukon**	**84.75**	**24**	*e*P		**P**	**09 18 33.7**	**+2.0**	
	16nm,1.2s								
ARA0	**ARCESS Array S**	**90.47**	**340**	*e*P		**P**	**09 18 58.1**	**-1.1**	
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**09 18 58.1**	**-1.1**	
	4.6nm,1.0s,baz=74,slow=6.7,SNR=2.7								
BR131	**Keskin Array S**	**90.83**	**310**	*e*P		**P**	**09 18 59.1**	**-2.6**	
	7.1nm,1.6s								
BRTR	**Keskin Array B**	**90.83**	**310**	LR		LR	10 07 47.6		
	comp=Z,23nm,18.1s,baz=84,slow=41								
FIA0	**FINESS Array S**	**92.07**	**332**	*e*P		**P**	**09 19 07.9**	**+1.2**	
FINES	**FINESS Array B**	**92.07**	**332**	P		**P**	**09 19 07.9**	**+1.2**	
	2.2nm,1.0s,baz=34,slow=6.1,SNR=2.3								
AKASG	**Malin Array Be**	**92.42**	**321**	P		**P**	**09 19 08.2**	**-0.4**	
	0.1nm,0.3s,baz=61,slow=5.3,SNR=5.0								
AKBB	**Malin Array Si**	**92.42**	**321**	*e*P		**P**	**09 19 07.6**	**-1.0**	
	8.6nm,1.4s								
YKA	**Yellowknife Ar**	**98.41**	**25**	P		Pdif	09 19 36.0	+0.4	
	0.3nm,0.8s,baz=299,slow=4.6,SNR=5.5								
NOA	**NORSAR Array B**	**98.98**	**334**	LR		LR	10 14 41.0		
	comp=Z,8.0nm,18.2s,baz=325,slow=42								
TORD	**Torodi Ar. Bea**	**124.16**	**289**	PKP		**PKPdf**	**09 24 57.2**	**0.0**	
	1.1nm,0.9s,baz=16,slow=3.6,SNR=5.4								
TOA1	**Torodi Ar. Sit**	**124.16**	**289**	*e*PKPdf		**PKPdf**	**09 24 57.2**	**0.0**	
LPAZ	**La Paz**	**159.98**	**128**	PKPab		**PKPab**	**09 26 41.0**	**+2.8**	
	3.3nm,0.8s,baz=287,slow=2.0,SNR=6.6								

IDC 02 09:15:42.6±2.8, 0°68'S×133°91'E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=134.9km s-min=26.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.15**	**179**	P		P	09 20 07.9	+0.2
	0.1nm,0.3s,baz=358,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**22.85**	**180**	P		P	09 20 47.7	0.0
	0.4nm,0.6s,baz=0.6,slow=12,SNR=5.2							
MKAR	**Makanchi Array**	**65.29**	**324**	P		P	09 26 26.4	-0.1
	0.3nm,0.6s,baz=129,slow=6.9,SNR=3.3							

KRSC 02 09:22:02.1±10.0, 54°19'N×161°52'E, h55km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.39**	**18**	*e*P		Pn	09 22 14.5	+2.0
MKZ				*e*S		Sn	09 22 21.9	+1.9
KZV	**Kizimen**	**1.17**	**323**	*e*P		Pn	09 22 23.6	+1.2
KZV				*e*S		Sn	09 22 37.8	+0.4
TUMD	**Tumrok D**	**1.21**	**328**	*e*P		Pn	09 22 23.8	+1.0
TUMD				*e*S		Sn	09 22 38.0	-0.2
KII	**Karymskiy**	**1.23**	**264**	*e*P		Pn	09 22 24.3	+1.2
KII				*e*S		Sn	09 22 39.5	+0.8
TUMR	**Tumrok**	**1.36**	**325**	*e*P		Pn	09 22 26.5	+1.6
SPN	**Mys Shipunski**	**1.41**	**220**	*e*P		Pn	09 22 27.1	+1.7
SPN				*e*S		Sn	09 22 44.1	+1.3
NLC	**Nalytchevo**	**1.64**	**233**	*e*P		Pn	09 22 30.6	+2.0
NLC				*e*S		Sn	09 22 50.7	+2.1
SDLR	**Sedlovina**	**1.81**	**241**	*e*P		Pn	09 22 33.5	+2.5
SDLR				*e*S		Sn	09 22 55.4	+2.6
SMAR	**Somma**	**1.86**	**241**	*e*P		Pn	09 22 34.4	+2.6
UGLR	**Uglovaya**	**1.88**	**240**	*e*P		Pn	09 22 34.5	+2.6
UGLR				*e*S		Sn	09 22 56.6	+2.1
ZLN	**Zelenaya**	**1.88**	**348**	P		Pn	09 22 33.9	+2.0
AVH	**Avacha**	**1.89**	**242**	*e*P		Pn	09 22 35.2	+3.1
AVH				*e*S		Sn	09 22 58.0	+3.2
KRX	**Arik**	**1.89**	**245**	*e*P		Pn	09 22 34.8	+2.7
KRX				*e*S		Sn	09 22 57.2	+2.3
KOK	**Koryaka**	**1.93**	**244**	*e*P		Pn	09 22 35.3	+2.7
DALK	**Dalny**	**2.01**	**236**	*e*P		Pn	09 22 36.1	+2.5
DALK				*e*S		Sn	09 23 00.2	+2.6
PET	**Petropavlovsk**	**2.07**	**237**	*e*P		Pn	09 22 37.3	+3.0
PET				S		Sn	09 23 00.9	+2.0
KBTR	**Krutoberegovo**	**2.16**	**20**	*e*P		Pn	09 22 38.4	+2.8
GNL	**Ganaly**	**2.17**	**258**	*e*P		Pn	09 22 38.3	+2.4
KLY	**Klyuchi**	**2.19**	**347**	P		Pn	09 22 38.3	+2.3
ESO	**Esso**	**2.38**	**318**	*e*P		Pn	09 22 40.5	+1.8
BDR	**Baidarnaya**	**2.40**	**356**	*e*P		Pn	09 22 42.7	+3.8
SMKR	**Semkarok**	**2.40**	**359**	*e*P		Pn	09 22 41.7	+2.7
KRMR	**Karymshinskiy**	**2.44**	**238**	*e*P		Pn	09 22 42.7	+3.3
KRMR				*e*S		Sn	09 23 11.8	+3.8
SRKR	**Sorokina**	**2.48**	**356**	*e*P		Pn	09 22 43.2	+3.1
RUS	**Russkaya**	**2.52**	**227**	*e*P		Pn	09 22 42.7	+2.2
RUS				*e*S		Sn	09 23 11.5	+1.6
MTVR	**Mutnovka**	**2.63**	**231**	*e*P		Pn	09 22 45.4	+3.2
MTVR				*e*S		Sn	09 23 15.7	+2.8
BKI	**Bering**	**2.78**	**67**	*e*S		Sn	09 23 17.7	+1.3
APC	**Apacha**	**2.89**	**246**	*e*P		Pn	09 22 51.1	+5.5
APC				*e*S		Sn	09 23 24.7	+5.6
KDTR	**Khodutka, Kamc**	**3.16**	**223**	*e*P		Pn	09 22 51.8	+2.5
KDTR				*e*S		Sn	09 23 26.1	+0.4

MEX 02 09:35:38.3±0.4, 16°26'N×98°05'W, h5km±12km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.15**	**331**	*e*P		Pg	09 35 41.0	-0.4
PNIG				*i* S		Sg	09 35 43.4	0.0

*KRSC **02** 09:42:19.0±10.0, 52°29'N×160°88'E, h56km±10km, ML4.0*
*MOS **02** 09:42:20.5±0.9, 52°26'N×160°88'E, h45km, mb4.3/2, Error ellipse: s-maj=11.8km s-min=5.9km az=114.9*
*IDC **02** 09:42:33.8±7.7, 52°84'N×159°47'E, h88km±28km, mb3.7/4, mb1 3.8/4, mb1mx3.1/51, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/51, Error ellipse: s-maj=122.9km s-min=42.9km az=120.0*

ISC 02 09:42:18.3±1.7, 52°36'N±0°05×160°79'E±0°05, h11km±9km, n63, σ1§28/76, mb4.1/4, 1C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.88**	**328**	*e*P		**Pn**	**09 42 37.0**	**+0.4**
SPN				*e*S		**Sn**	**09 42 48.1**	**-1.3**
SPN	**Mys Shipunski**	**0.88**	**328**	PN		**Pn**	**09 42 37.0**	**+0.4**
SPN				S		**Sn**	**09 42 48.1**	**-1.3**
NLC	**Nalytchevo**	**1.20**	**314**	*e*P		**Pg**	**09 42 41.9**	**+0.6**
NLC				*e*S		**Sg**	**09 42 58.3**	**+1.4**
NLC	**Nalytchevo**	**1.20**	**314**	PN		**Pg**	**09 42 41.9**	**+0.6**
NLC				S		**Sg**	**09 42 58.3**	**+1.4**
RUS	**Russkaya**	**1.40**	**274**	*e*P		**Pg**	**09 42 45.1**	**0.0**
RUS				*e*S		**Sg**	**09 43 02.5**	**-0.7**
RUS	**Russkaya**	**1.40**	**274**	PN		**Pg**	**09 42 45.1**	**0.0**
RUS				S		**Sg**	**09 43 02.5**	**-0.7**
DALK	**Dalny**	**1.41**	**299**	*e*P		**Pg**	**09 42 45.5**	**+0.1**
DALK				*e*S		**Sg**	**09 43 03.7**	**0.0**
DALK	**Dalny**	**1.41**	**299**	PN		**Pg**	**09 42 45.5**	**+0.1**
DALK				S		**Sg**	**09 43 03.7**	**0.0**
PET	**Petropavlovsk**	**1.46**	**298**	*e*P		**Pg**	**09 42 46.2**	**-0.1**
PET				*e*S		**Sg**	**09 43 05.0**	**-0.3**
PET	**Petropavlovsk**	**1.46**	**298**	*i*PN		**Pg**	**09 42 46.1**	**-0.2**
PET				*e*S		**Sg**	**09 43 05.1**	**-0.3**
PET				pmax		pmax		
	comp=Z,222nm,0.5s							
PET				smax		smax		
	comp=N,457nm,0.5s							
PET				smax		smax		
	comp=E,519nm,0.7s							
UGLR	**Uglovaya**	**1.47**	**306**	*e*P		**Pg**	**09 42 46.8**	**+0.3**
UGLR	**Uglovaya**	**1.47**	**306**	PN		**Pg**	**09 42 46.8**	**+0.3**
SDLR	**Sedlovina**	**1.48**	**309**	*e*P		**Pg**	**09 42 46.7**	**0.0**
SDLR	**Sedlovina**	**1.48**	**309**	PN		**Pg**	**09 42 46.7**	**0.0**
SMAR	**Somma**	**1.51**	**308**	*e*P		**Pg**	**09 42 47.2**	**-0.1**
SMAR	**Somma**	**1.51**	**308**	PN		**Pg**	**09 42 47.2**	**-0.1**
AVH	**Avacha**	**1.54**	**307**	*e*P		**Pg**	**09 42 48.0**	**+0.1**
AVH	**Avacha**	**1.54**	**307**	PN		**Pg**	**09 42 48.0**	**+0.1**
MTVR	**Mutnovka**	**1.60**	**276**	*e*P		**Pg**	**09 42 48.5**	**-0.5**
MTVR				*e*S		**Sb**	**09 43 08.4**	**+0.1**
MTVR	**Mutnovka**	**1.60**	**276**	PN		**Pg**	**09 42 48.5**	**-0.5**
MTVR				S		**Sb**	**09 43 08.4**	**+0.1**
KOK	**Koryaka**	**1.61**	**307**	*e*P		**Pg**	**09 42 48.9**	**-0.2**
KOK	**Koryaka**	**1.61**	**307**	PN		**Pg**	**09 42 48.9**	**-0.2**
KRX	**Arik**	**1.64**	**309**	*e*P		**Pg**	**09 42 49.2**	**+0.5**
KRX	**Arik**	**1.64**	**309**	PN		**Pb**	**09 42 49.2**	**+0.5**
KRMR	**Karymshinskiy**	**1.69**	**287**	*e*P		**Pb**	**09 42 49.4**	**0.0**
KRMR	**Karymshinskiy**	**1.69**	**287**	PN		**Pb**	**09 42 49.4**	**0.0**
KDTR	**Khodutka, Kamc**	**1.76**	**253**	*e*P		**Pb**	**09 42 49.6**	**-1.0**
KDTR				*e*S		**Sn**	**09 43 09.9**	**-1.2**
KDTR	**Khodutka, Kamc**	**1.76**	**253**	PN		**Pb**	**09 42 49.6**	**-1.0**
KDTR				S		**Sn**	**09 43 09.9**	**-1.2**
KII	**Karymskiy**	**1.87**	**335**	*e*P		**Pb**	**09 42 52.8**	**+0.3**
KII	**Karymskiy**	**1.87**	**335**	PN		**Pb**	**09 42 52.8**	**+0.3**
PETK	**Petropavlovsk-**	**2.02**	**293**	P		**Pb**	**09 42 54.5**	**-0.7**
	comp=E,17nm,0.3s,baz=104,slow=17,SNR=321							
GNL	**Ganaly**	**2.18**	**309**	*e*P		**Pb**	**09 42 57.7**	**-0.2**
GNL	**Ganaly**	**2.18**	**309**	PN		**Pb**	**09 42 57.7**	**-0.2**
MKZ	**Mys Kozlova**	**2.27**	**14**	*e*P		**Pb**	**09 42 57.6**	**-1.8**
MKZ				*e*S		**Sn**	**09 43 23.1**	**-0.7**
MKZ	**Mys Kozlova**	**2.27**	**14**	PN		**Pb**	**09 42 57.6**	**-1.8**
MKZ				S		**Sn**	**09 43 23.1**	**-0.7**
APC	**Apacha**	**2.29**	**286**	*e*P		**Pb**	**09 42 58.9**	**-0.6**
APC				*e*S		**Sb**	**09 43 27.4**	**-0.4**
APC	**Apacha**	**2.29**	**286**	PN		**Pb**	**09 42 58.9**	**-0.6**
APC				S		**Sb**	**09 43 27.4**	**-0.4**
PAU	**Pauzhetka**	**2.62**	**252**	*e*P		**Pn**	**09 43 01.8**	**+1.2**
PAU	**Pauzhetka**	**2.62**	**252**	PN		**Pn**	**09 43 01.8**	**+1.2**
KZV	**Kizimen**	**2.78**	**354**	*e*P		**Pb**	**09 43 05.8**	**-2.3**
KZV	**Kizimen**	**2.78**	**354**	PN		**Pb**	**09 43 05.8**	**-2.3**
TUMD	**Tumrok D**	**2.86**	**356**	*e*P		**Pn**	**09 43 05.9**	**+2.0**
TUMD				*e*S		**Sn**	**09 43 39.2**	**+0.8**
TUMR	**Tumrok**	**2.96**	**353**	*e*P		**Pb**	**09 43 08.8**	**-2.3**
TUMR	**Tumrok**	**2.96**	**353**	PN		**Pn**	**09 43 05.9**	**+0.6**
SKR	**Severo-Kuril's**	**3.37**	**242**	S		**Sn**	**09 43 49.4**	**-1.3**
ESO	**Esso**	**3.78**	**342**	*e*P		**Pb**	**09 43 21.0**	**-4.1**
ESO	**Esso**	**3.78**	**342**	PN		**Pb**	**09 43 21.0**	**-4.1**
KBTR	**Krutoberegovo**	**4.04**	**16**	*e*P		**Pn**	**09 43 22.6**	**+2.5**
KBTR	**Krutoberegovo**	**4.04**	**16**	PN		**Pn**	**09 43 22.6**	**+2.5**
BKI	**Bering**	**4.19**	**45**	*e*P		**Pn**	**09 43 24.6**	**+2.4**
BKI				*e*S		**Sn**	**09 44 08.7**	**-2.4**
BKI	**Bering**	**4.19**	**45**	PN		**Pn**	**09 43 24.6**	**+2.4**
USRK	**Ussuriysk Ar.**	**20.72**	**258**	LR		LR	09 55 18.8	
	comp=E,66nm,19.1s,baz=65,slow=38							
H11N2	**WAKE ISLAND Hy**	**32.91**	**169**	T		T	10 24 51.3	
	baz=352							
H11N3	**WAKE ISLAND Hy**	**32.92**	**169**	T		T	10 24 56.3	
	baz=352							
H11N1	**WAKE ISLAND Hy**	**32.92**	**169**	T		T	10 24 51.0	
	baz=352							
H11S1	**WAKE ISLAND Hy**	**34.09**	**170**	T		T	10 26 45.9	
	baz=352							
H11S3	**WAKE ISLAND Hy**	**34.11**	**170**	T		T	10 26 43.8	
	baz=352							
H11S2	**WAKE ISLAND Hy**	**34.11**	**170**	T		T	10 26 46.7	
	baz=352							
MKAR	**Makanchi Array**	**48.86**	**297**	P		**P**	**09 51 02.8**	**-0.9**
	comp=E,0.3nm,0.5s,baz=58,slow=7.2,SNR=10							
ARCES	**ARCESS Array B**	**54.12**	**342**	P		**P**	**09 51 43.3**	**+0.6**
	comp=E,5.1nm,1.0s,baz=32,slow=8.6,SNR=4.0							
FINES	**FINESS Array B**	**60.97**	**337**	P		**P**	**09 52 32.3**	**+1.3**
	comp=E,2.6nm,1.0s,baz=38,slow=7.0,SNR=8.1							
AKASG	**Malin Array Be**	**69.46**	**329**	P		**P**	**09 53 26.9**	**+0.7**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**69.46**	**329**	P		**P**	**09 53 26.9**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=28,slow=6.0,SNR=3.4							

IDC 02 09:43:10.7±3.4, 41°70'N×126°89'E, h0km, mb1 2.7/3, mb1mx2.7/46, mbtmp2.7/3, ML2.1/3, Error ellipse: s-maj=50.4km s-min=18.3km az=100.0, North Korea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**4.32**	**169**	Pn		Pn	09 44 17.0	-0.6
	0.2nm,0.3s,baz=350,slow=14,SNR=2.5							
KSRS				Pg		Pg	09 44 30.4	-2.9
	0.6nm,0.3s,baz=352,slow=18,SNR=6.6							
KSRS				Lg		Lg	09 45 28.0	
	2.1nm,0.3s,baz=347,slow=30,SNR=14							
I45RU	**USSURIYSK INFR**	**4.50**	**55**	*i*			10 10 00.0	
	baz=235,slow=338,SNR=0.9							
USRK	**Ussuriysk Ar.**	**4.50**	**55**	Pn		Pn	09 44 21.6	+1.5
	0.1nm,0.3s,baz=239,slow=14,SNR=6.5							
USRK				Pg		Pb	09 44 31.1	+0.5
	0.4nm,0.3s,baz=239,slow=16,SNR=10.0							
USRK				Lg		Lg	09 45 29.9	
	0.7nm,0.3s,baz=238,slow=27,SNR=9.2							
KLR	**Kul'dur**	**8.27**	**23**	Pn		Pn	09 45 11.4	-0.4
	0.1nm,0.3s,baz=203,slow=18,SNR=3.4							

*IDC **02** 09:47:59.5±2.1, 19°18'N×69°33'W, h78km±21km, mb3.4/9, mb1 3.8/12, mb1mx3.5/39, mbtmp3.9/12, Error ellipse: s-maj=20.1km s-min=14.1km az=11.0*
*ISCJB **02** 09:48:06.7±0.8, 18°71'N±0°08×68°85'W±0°05, h147km±6km, mb3.5/9, Error ellipse: s-maj=13.4km s-min=6.9km az=157.7*
*NEIC **02** 09:48:07.9±0.0, 19°06'N×68°68'W, h147km, MD3.9(RSPR), After RSPR.*
*RSPR **02** 09:48:07.9, 19°06'N×68°68'W, h147km±5km, MD3.9/8*

ISC 02 09:48:08.3±1.0, 18°71'N±0°1×68°81'W±0°06, h142km±8km, n61, σ1§30/64, mb3.7/9, 15C-8D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDD	**Santo Domingo**	**1.08**	**256**	*e*Pn		**Pn**	**09 48 31.2**	**-1.7**
BANI	**BANI**	**1.50**	**258**	*e*Pn		**Pn**	**09 48 40.3**	**+2.9**
AGP	**Aguadilla**	**1.62**	**101**	*e*Pn		**Pn**	**09 48 36.8**	**-1.7**
AGPR	**Aguadilla, PR**	**1.63**	**99**⇑	*e*P		**Pn**	**09 48 39.0**	**+0.2**
AGPR	**Aguadilla, PR**	**1.63**	**99**	*e*S		**Sn**	**09 49 01.7**	**-0.3**
AGPR	**Aguadilla, PR**	**1.63**	**99**⇑	*e*P		**Pn**	**09 48 39.0**	**+0.2**
AGPR				*e*S		**Sn**	**09 49 01.7**	**-0.3**
MPR	**Mayaguez**	**1.67**	**107**	*e*Pn		**Pn**	**09 48 38.3**	**-0.8**
LSP	**Las Mesas**	**1.73**	**108**⇑	*e*P		**Pn**	**09 48 39.7**	**-0.1**
LSP	**Las Mesas**	**1.73**	**108**	*e*S		**Sn**	**09 49 05.2**	**+1.3**
LSP	**Las Mesas**	**1.73**	**108**⇑	*e*P		**Pn**	**09 48 39.7**	**-0.1**
LSP				*e*S		**Sn**	**09 49 05.2**	**+1.3**
GBPR	**Guanica, Bosqu**	**1.98**	**112**⇑	*e*P		**Pn**	**09 48 42.8**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.98**	**112**⇑	*e*P		**Pn**	**09 48 42.8**	**+0.1**
EMPR	**Esperanza - Ma**	**2.18**	**96**	*e*Pn		**Pn**	**09 48 46.8**	**+1.7**
EMPR				*e*Sn		**Sn**	**09 49 15.3**	**+2.0**
OBIP	**Obispado Ponce**	**2.20**	**107**⇑	*e*P		**Pn**	**09 48 45.2**	**-0.1**
OBIP	**Obispado Ponce**	**2.20**	**107**⇑	*e*P		**Pn**	**09 48 45.2**	**-0.1**
OBIP				*e*S		**Sn**	**09 49 15.2**	**+1.4**
CELP	**Cerrillos**	**2.22**	**106**⇓	*e*P		**Pn**	**09 48 45.0**	**-0.6**
CELP				*e*S		**Sn**	**09 49 14.7**	**+0.6**
CELP	**Cerrillos**	**2.22**	**106**⇓	*e*P		**Pn**	**09 48 45.0**	**-0.6**
CELP				*e*S		**Sn**	**09 49 14.7**	**+0.6**
SDDR	**Presa de Saban**	**2.36**	**277**	*e*Pn		**Pn**	**09 48 50.6**	**+3.3**
SJG	**San Juan**	**2.60**	**103**⇑	*e*P		**Pn**	**09 48 50.0**	**-0.2**
SJG	**San Juan**	**2.60**	**103**⇑	*e*P		**Pn**	**09 48 50.0**	**-0.2**
SJG				*e*S		**Sn**	**09 49 23.1**	**+0.5**
SJG	**San Juan**	**2.60**	**103**	P		**Pn**	**09 48 49.5**	**-0.8**
	11nm,0.3s,baz=308,slow=14,SNR=8.0							
SJG				S		**Sn**	**09 49 24.3**	**+1.7**
	72nm,0.3s,baz=314,slow=9.0,SNR=30							
CBYP	**Canovanas**	**2.84**	**99**	*e*Pn		**Pn**	**09 48 51.4**	**-1.9**
CBYP				*e*Sn		**Sn**	**09 49 29.7**	**+1.5**
HUMP	**Col San Antoni**	**2.87**	**101**⇓	*i*P		**Pn**	**09 48 53.0**	**-0.7**
HUMP				*e*S		**Sn**	**09 49 29.1**	**+0.4**
HUMP	**Col San Antoni**	**2.87**	**101**⇑	*e*P		**Pn**	**09 48 53.1**	**-0.6**
HUMP				*e*S		**Sn**	**09 49 28.7**	**0.0**
HUMP	**Col San Antoni**	**2.87**	**101**⇓	*i*P		**Pn**	**09 48 53.0**	**-0.7**
HUMP				*e*S		**Sn**	**09 49 29.1**	**+0.4**
MTP	**Monte Pirata**	**3.16**	**101**⇑	*e*P		**Pn**	**09 48 56.6**	**-0.7**
MTP	**Monte Pirata**	**3.16**	**101**⇑	*e*P		**Pn**	**09 48 56.6**	**-0.7**
MTP				*e*S		**Sn**	**09 49 34.1**	**-1.1**
CUPR	**Culebra, Puert**	**3.38**	**96**⇓	*i*P		**Pn**	**09 48 59.6**	**-0.6**
CUPR	**Culebra, Puert**	**3.38**	**96**⇓	*i*P		**Pn**	**09 48 59.6**	**-0.6**
CUPR				*e*S		**Sn**	**09 49 39.2**	**-1.1**
STVI	**Saint Thomas**	**3.68**	**95**⇓	*e*P		**Pn**	**09 49 03.6**	**-0.5**
STVI	**Saint Thomas**	**3.68**	**95**⇓	*e*P		**Pn**	**09 49 03.6**	**-0.5**
STVI				*e*S		**Sn**	**09 49 46.1**	**-1.3**
TBVI	**Tortola**	**3.99**	**94**⇑	*e*P		**Pn**	**09 49 08.1**	**-0.1**
TBVI				*e*S		**Sn**	**09 49 54.2**	**-0.6**
TBVI	**Tortola**	**3.99**	**94**⇑	*e*P		**Pn**	**09 49 08.1**	**-0.1**
TBVI				*e*S		**Sn**	**09 49 54.2**	**-0.6**
ABVI	**Anegada Island**	**4.25**	**89**	*e*Pn		**Pn**	**09 49 08.9**	**-2.7**
ABVI				*e*Sn		**Sn**	**09 50 01.9**	**+1.2**
SMRT	**St. Maarten**	**5.49**	**96**	*e*Pn		**Pn**	**09 49 26.8**	**-1.3**
URIC	**Uribia, Colomb**	**7.62**	**204**	*e*P		Pn	09 49 51.0	-5.8
URIC	**Uribia, Colomb**	**7.62**	**204**	*e*P		Pn	09 49 51.0	-5.8
SVB	**Belmont**	**9.06**	**126**	*e*Pn		**Pn**	**09 50 18.6**	**+2.5**
SMRC	**Santa Marta, M**	**9.15**	**216**	*e*S		Sn	09 51 44.0	-15
SMRC	**Santa Marta, M**	**9.15**	**216**	*e*S		Sn	09 51 44.0	-15
CODC	**Agustn Codazz**	**9.82**	**208**	*e*S		Sn	09 52 04.6	-10
CODC	**Agustn Codazz**	**9.82**	**208**	*e*S		Sn	09 52 04.6	-10
SDV	**Santo Domingo**	**9.93**	**190**	*e*Pn		Pn	09 50 27.1	-0.7
SDV	**Santo Domingo**	**9.93**	**190**	*e*P		**Pn**	**09 50 27.5**	**-0.3**
SDV	**Santo Domingo**	**9.93**	**190**	*e*P		**Pn**	**09 50 27.5**	**-0.3**
SDV	**Santo Domingo**	**9.93**	**190**	P		Pn	09 50 26.6	-1.2
	1.4nm,0.3s,baz=36,slow=7.9,SNR=29							
SDV				S		Sn	09 52 14.5	-3.4
	0.9nm,0.3s,baz=46,slow=23,SNR=7.7							
OCAC	**Ocana**	**11.30**	**203**	*e*P		Pn	09 50 45.0	-0.9
OCAC	**Ocana**	**11.30**	**203**	*e*P		Pn	09 50 45.0	-0.9
BARC	**Barichara**	**12.78**	**200**	*e*P		**Pn**	**09 51 06.3**	**+0.9**
BARC	**Barichara**	**12.78**	**200**	*e*P		**Pn**	**09 51 06.3**	**+0.9**
JTS	**JuntasAbangare**	**17.72**	**244**	*e*P		**P**	**09 52 00.7**	**-4.6**
JTS	**JuntasAbangare**	**17.72**	**244**	P		P	09 52 00.1	-5.1
	0.3nm,0.3s,baz=52,slow=18,SNR=3.8							
TXAR	**Lajitas Array**	**33.43**	**295**	P		P	09 54 25.2	-8.6
	0.5nm,0.8s,baz=106,slow=9.2,SNR=5.4							
PDAR	**Pinedale Array**	**41.88**	**314**	P		P	09 55 36.0	-8.9

GUN	**Gumba**	**15.26**	**120**	*e*P	**Pn**	**10 25 40.9**	**-0.7**
	66nm,0.9s						
JIRN	**Jiri**	**15.63**	**120**	*e*P	**Pn**	**10 25 45.3**	**-0.9**
	59nm,0.5s						
RAMN	**Ramite**	**16.36**	**121**	*e*P	**Pn**	**10 25 52.8**	**-2.1**
	28nm,0.6s						
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**10 25 58.0**	**+1.2**
	0.8nm,0.3s,baz=136,slow=14,SNR=9.9						
AKTO	**Aktyubinsk**	**16.78**	**330**	⇓P	**Pn**	**10 26 01.1**	**+1.5**
	5.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.78**	**330**	P	**Pn**	**10 26 00.2**	**+0.6**
	0.4nm,0.3s,baz=128,slow=11,SNR=17						
AKTO				S	**S**	**10 29 00.5**	**-5.5**
	0.3nm,0.3s,baz=319,slow=21,SNR=7.6						
ZALV	**Zalesovo Beam**	**19.97**	**25**	P	**P**	**10 26 34.6**	**+0.7**
	4.1nm,0.4s,baz=220,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**30.50**	**118**	P	**P**	**10 28 13.3**	**+0.7**
	1.2nm,0.4s,baz=293,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**10 29 14.2**	**+2.0**
	3.3nm,1.0s,baz=113,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**10 29 44.8**	**+2.2**
	2.4nm,0.8s,baz=110,slow=7.8,SNR=3.7						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**10 30 10.4**	**+1.7**
	0.4nm,0.5s,baz=99,slow=7.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.65**	**269**	P	**P**	**10 32 42.0**	**0.0**
	0.2nm,0.5s,baz=34,slow=6.3,SNR=3.8						
INK	**Inuvik**	**73.95**	**9**	P	**P**	**10 33 32.5**	**+0.6**
	0.7nm,0.6s,baz=347,slow=5.5						
YKA	**Yellowknife Ar**	**81.28**	**3**	P	**P**	**10 34 13.4**	**+0.8**
	0.3nm,0.5s,baz=349,slow=5.2,SNR=9.9						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**10 34 16.2**	**-1.0**
	0.9nm,0.5s,baz=324,slow=4.9,SNR=21						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**10 34 28.5**	**-0.2**
	1.5nm,0.6s,baz=310,slow=4.9,SNR=24						

ISCJB ***02*** *10:35:15.2±0.7, 17°.7S±0°.3×178°.5W±0°.1, h500km, mb3.8/9, Error ellipse: s-maj=34.7km s-min=13.5km az=166.3*
IDC ***02*** *10:35:15.2±4.2, 17°.58S×178°.47W, h491km±53km, mb3.3/8, mb1 3.6/9, mb1mx3.2/47, mbtmp4.2/9, Error ellipse: s-maj=55.1km s-min=14.5km az=166.0*

ISC 02 10:35:15.9±0.8, 17°.7S±0°.3×178°.5W±0°.1, h500km, n13, σ0s99/13, mb3.8/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.95**	**104**	P	**P**	**10 38 55.2**	**-0.6**
	2.9nm,0.3s,baz=127,slow=19,SNR=6.5						
CTA	**Charters Tower**	**33.44**	**260**	P	**P**	**10 41 12.6**	**-0.3**
	1.7nm,0.4s,baz=87,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**35.59**	**241**	P	**P**	**10 41 57.3**	**+1.0**
	10nm,0.7s,baz=84,slow=11,SNR=22						
WRA	**Warramunga Arr**	**44.63**	**259**	P	**P**	**10 42 42.8**	**-0.8**
	2.8nm,0.5s,baz=91,slow=7.0,SNR=21						
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**10 42 44.8**	**-0.2**
	32nm,0.6s,baz=88,slow=8.2,SNR=243						
ASAR				PcP	**PcP**	**10 44 15.5**	**-0.9**
	0.8nm,0.4s,baz=105,slow=4.0,SNR=4.3						
FITZ	**Fitzroy Crossi**	**53.02**	**260**	P	**P**	**10 43 46.0**	**0.0**
	1.2nm,0.3s,baz=104,slow=6.9,SNR=3.2						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	**P**	**10 46 29.7**	**+0.1**
	0.6nm,0.7s,baz=225,slow=9.4,SNR=5.6						
ILAR	**Eielson Array**	**85.71**	**13**	P	P	10 47 00.1	-0.9
	0.2nm,0.4s,baz=227,slow=5.0,SNR=7.0						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**10 47 04.0**	**+1.0**
	0.4nm,0.7s,baz=211,slow=5.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P	**P**	**10 47 16.8**	**+0.3**
	0.5nm,0.3s,baz=125,slow=2.7,SNR=4.2						
MKAR	**Makanchi Array**	**108.98**	**314**	PKiKP	**PKiKP**	**10 52 46.4**	**-1.8**
	0.2nm,0.6s,baz=174,slow=2.0,SNR=2.8						
BRTR	**Keskin Array B**	**144.62**	**315**	PKP	**PKPdf**	**10 53 54.8**	**-0.8**
	1.0nm,0.8s,baz=40,slow=2.5,SNR=5.2						
MMAI	**Mount Meron Ar**	**146.01**	**303**	PKPbc	**PKPdf**	**10 53 59.4**	**+1.4**
	0.8nm,0.4s,baz=62,slow=6.7,SNR=3.9						

IDC ***02*** *10:36:12.8±0.8, 68°.20N×166°.47W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.7/55, mbtmp3.7/17, ML3.4/3, Error ellipse: s-maj=22.8km s-min=13.2km az=23.0*
NEIC ***02*** *10:36:12.5±0.0, 67°.64N×166°.99W, h40km, ML3.6(AEIC), After AEIC.*
ISCJB ***02*** *10:36:13.3±0.4, 67°.57N±0°.05×166°.51W±0°.09, h35km, mb3.8/15, Error ellipse: s-maj=6.9km s-min=5.1km az=12.9*
MOS ***02*** *10:36:14.3±1.4, 67°.71N×166°.40W, h35km, mb4.2/10, Error ellipse: s-maj=28.9km s-min=12.8km az=102.3*

ISC 02 10:36:15.2±0.5, 67°.63N±0°.05×166°.73W±0°.05, h35km, n40, σ2s24/45, mb3.9/15, 4C-4D, Bering Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**1.51**	**72**	P	**Pn**	**10 36 38.6**	**-1.2**
RDOG				S	**Sn**	**10 36 58.5**	**+0.3**
ANM	**Nome**	**3.13**	**169**	P	**Pn**	**10 37 00.6**	**-1.3**
ANM				S	**Sn**	**10 37 35.6**	**-2.4**
ANM	**Nome**	**3.13**	**169**	P	**Pn**	**10 37 00.6**	**-1.3**
ANM				S	**Sn**	**10 37 35.6**	**-2.4**
GAMB	**Gambell**	**4.38**	**210**	P	**Pn**	**10 37 17.8**	**-1.3**
GAMB				S	**Sn**	**10 38 05.0**	**-3.8**
GCSA	**Galena City Sc**	**4.93**	**121**	P	**Pn**	**10 37 27.1**	**+0.5**
IM3	**Indian Mountai**	**5.39**	**102**	P	**Pn**	**10 37 31.5**	**-1.4**
COLD	**Coldfoot**	**6.37**	**86**	P	**Pn**	**10 37 45.8**	**-0.7**
TOLK	**Toolik Lake Re**	**6.48**	**73**	P	**Pn**	**10 37 47.0**	**-1.0**
PPLA	**Purkeypile**	**7.71**	**121**	P	**Pn**	**10 38 05.2**	**+0.2**
MDM	**Murphy Dome**	**7.91**	**101**	P	**Pn**	**10 38 07.5**	**0.0**
COLA	**College**	**8.09**	**101**	*e*Pn	**Pn**	**10 38 11.0**	**+1.0**
	6.6nm,0.6s						
COLA	**College**	**8.09**	**101⇑**	*e*P	**Pn**	**10 38 11.8**	**+1.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BM3	**Burnt Mountain**	**8.46**	**81**	P	**Pn**	**10 38 13.5**	**-1.6**
ILAR	**Eielson Array**	**8.50**	**100**	Pn	**Pn**	**10 38 15.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=299,slow=13,SNR=46						
ILAR				Sn	**Sn**	**10 39 48.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=305,slow=25,SNR=3.1						
BILL	**Bilibino**	**10.17**	**285**	*e*Pn	**Pn**	**10 38 38.6**	**+0.2**
	comp=Z,2.8nm,0.5s						
BILL				*e*Sn	**Sn**	**10 40 26.6**	**-4.5**
BILL	**Bilibino**	**10.17**	**285⇓**	*e*P	**Pn**	**10 38 38.7**	**+0.2**
BILL				pmax	pmax		
	comp=Z,13nm,2.1s						
BILL				MLR	MLR		
	comp=Z,82nm,14.0s						
KDAK	**Kodiak Island**	**11.78**	**140**	Pn	**Pn**	**10 39 03.7**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=335,slow=14,SNR=2.1						
INK	**Inuvik**	**12.40**	**72**	Pn	**Pn**	**10 39 05.3**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=308,slow=9.7,SNR=26						
INK				Sn	**Sn**	**10 41 19.0**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=117,slow=16,SNR=4.1						
SEY	**Seymchan**	**17.47**	**274⇓**	*e*P	**P**	**10 40 18.9**	**+2.3**
SEY	**Seymchan**	**17.47**	**274**	P	**P**	**10 40 17.6**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=14,SNR=6.0						
MA2	**Magadan**	**20.14**	**267⇓**	*e*P	Pn	10 40 48.2	+0.3
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MA2	**Magadan**	**20.14**	**267**	P	Pn	10 40 48.4	+0.6
	comp=Z,1.9nm,0.6s,baz=63,slow=8.8,SNR=3.8						
YKA	**Yellowknife Ar**	**21.38**	**78**	P	**P**	**10 41 04.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=304,slow=10.0,SNR=9.7						
RES	**Resolute Bay**	**22.73**	**41**	P	**P**	**10 41 09.9**	**-3.6**
	comp=Z,0.9nm,1.0s,baz=264,slow=9.2,SNR=1.9						
PDAR	**Pinedale Array**	**38.94**	**100**	P	**P**	**10 43 40.4**	**+2.9**
	comp=Z,0.3nm,0.7s,baz=341,slow=7.6,SNR=3.6						
NVAR	**Mina Array Bea**	**39.52**	**113**	P	**P**	**10 43 45.7**	**+3.2**
	comp=Z,1.0nm,0.7s,baz=320,slow=6.2,SNR=6.9						
SONM	**Songino Array**	**45.84**	**290**	P	**P**	**10 44 36.0**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=19,slow=9.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**47.66**	**311**	*i* P	**P**	**10 44 49.2**	**+1.8**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZALV	**Zalesovo Beam**	**47.66**	**311**	P	**P**	**10 44 47.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=26,slow=6.9,SNR=8.8						
FINES	**FINESS Array B**	**50.89**	**352**	P	**P**	**10 45 11.0**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=7.1,slow=7.7,SNR=7.3						
KURK	**Kurchatov**	**52.29**	**313**	*ce*P	**P**	**10 45 24.5**	**+1.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BRVK	**Borovoye**	**52.36**	**320⇓**	*e*P	**P**	**10 45 25.0**	**+1.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
TXAR	**Lajitas Array**	**53.01**	**103**	P	**P**	**10 45 31.5**	**+3.2**
	comp=Z,1.3nm,0.9s,baz=348,slow=7.4,SNR=4.3						
MKAR	**Makanchi Array**	**54.76**	**308**	*ce*P	**P**	**10 45 42.2**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**54.76**	**308**	P	**P**	**10 45 41.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=51,slow=7.9,SNR=8.0						
AKASG	**Malin Array Be**	**61.39**	**349**	*ce*P	**P**	**10 46 29.1**	**+2.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**61.39**	**349**	P	**P**	**10 46 28.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=10,slow=7.4,SNR=4.6						
GERES	**GERESS Array B**	**63.85**	**36°**	P	**P**	**10 46 44.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=8.1,slow=2.8,SNR=6.9						
ESDC	**Sonseca Array**	**72.23**	**14**	P	**P**	**10 47 35.0**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=344,slow=4.9,SNR=2.4						
KEST	**Kesra**	**76.92**	**3**	P	**P**	**10 48 01.9**	**-1.6**
	comp=Z,3.7nm,0.8s,baz=324,slow=8.7,SNR=2.5						

IDC 02 10:38:35.4±4.5, 2°.52S×96°.08W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/46, mbtmp3.9/4, MS3.6/2, Ms1 3.6/2, ms1mx2.9/27, Error ellipse: s-maj=349.7km s-min=50.6km az=91.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**27.57**	**206**	LR	LR	10 51 46.5	
	comp=Z,76nm,22.0s,baz=251,slow=29						
PDAR	**Pinedale Array**	**46.69**	**346**	P	P	10 47 06.5	+0.1
	1.0nm,0.7s,baz=146,slow=8.5,SNR=9.1						
YKA	**Yellowknife Ar**	**66.35**	**351**	P	P	10 49 26.3	+0.5
	0.8nm,0.9s,baz=157,slow=6.2,SNR=7.2						
INK	**Inuvik**	**75.26**	**346**	P	P	10 50 19.8	0.0
	2.1nm,0.9s,baz=141,slow=4.8,SNR=6.7						
ILAR	**Eielson Array**	**76.64**	**340**	P	P	10 50 27.2	-0.6
	1.6nm,0.9s,baz=152,slow=4.6,SNR=16						
RPZ	**Rata Peaks**	**90.35**	**226**	LR	LR	11 24 32.1	
	comp=Z,51nm,18.5s,baz=200,slow=30						
WRA	**Warramunga Arr**	**125.73**	**243**	PKP	PKPdf	10 57 40.0	-0.1
	0.4nm,1.0s,baz=99,slow=2.0,SNR=3.0						

ISCJB ***02*** *10:41:55.3±0.7, 31°.98S±0°.03×70°.08W±0°.04, h120km±7km, Error ellipse: s-maj=6.5km s-min=4.0km az=32.3*
SJA ***02*** *10:41:55.2±1.2, 31°.93S×70°.13W, h104km±8km, ML3.4, MW3.5*
GUC ***02*** *10:41:55.1±0.6, 31°.96S×70°.24W, h109km±11km, ML3.1*

ISC 02 10:41:55.6±1.7, 31°.99S±0°.04×70°.09W±0°.04, h118km±13km, n26, σ0s76/46, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**0.64**	**112**	*e*P	**Pn**	**10 42 14.6**	**-0.1**
AUSP				⇓*e*S	**Sn**	**10 42 28.5**	**-0.5**
RTLS	**Leoncito**	**0.70**	**75**	*e*P	**Pn**	**10 42 15.0**	**-0.1**
RTLS				*e*S	**Sn**	**10 42 29.5**	**-0.3**
RTLS				IAML		10 42 30.8	
	comp=Z,694nm,0.2s						
ASAL	**Salagasta**	**1.23**	**120**	*e*P	**Pn**	**10 42 20.4**	**+0.5**
ASAL				*e*S	**Sn**	**10 42 39.0**	**+0.8**
ROCH	**El Roble**	**1.25**	**218**	*e*P	**Pn**	**10 42 19.9**	**-0.4**
ROCH				*i* S	**Sn**	**10 42 38.6**	**-0.5**
ROC1	**El Roble**	**1.26**	**218**	*e*P	**Pn**	**10 42 19.7**	**-0.7**
ROC1				⇑*e*S	**Sn**	**10 42 38.8**	**-0.4**
PEL	**Peldehue**	**1.26**	**203**	*e*P	**Pn**	**10 42 19.9**	**-0.3**
PEL				*e*S	**Sn**	**10 42 38.6**	**-0.2**
PEL	**Peldehue**	**1.26**	**203**	*e*P	**Pn**	**10 42 19.3**	**-0.9**
PEL				*i* S	**Sn**	**10 42 38.3**	**-0.6**
PEL				IAML		10 42 43.8	
	comp=N,283nm,0.3s						
ZON	**Zonda**	**1.28**	**70**	*e*P	**Pn**	**10 42 20.5**	**0.0**
ZON				IAML		10 42 40.9	
	comp=Z,310nm,0.4s						
ARCO	**CERRO ARCO**	**1.30**	**131**	*e*P	**Pn**	**10 42 21.7**	**+0.8**
ARCO				IAML		10 42 22.0	
	comp=Z,695nm,0.4s						
ARCO				*e*S	**Sn**	**10 42 41.4**	**+1.5**
RTCV	**Cerro Valdivia**	**1.33**	**85**	*e*P	**Pn**	**10 42 21.0**	**+0.1**
RTCV				*e*S	**Sn**	**10 42 39.7**	**-0.5**
FCH	**Farellones**	**1.35**	**187**	*e*P	**Pn**	**10 42 21.7**	**+0.2**
FCH				*i* S	**Sn**	**10 42 42.1**	**+1.0**
FCH				IAML		10 42 44.7	
	comp=N,340nm,0.2s						
SJA	**San Juan**	**1.38**	**71**	*e*P	**Pn**	**10 42 22.1**	**+0.5**
SJA				*e*S	**Sn**	**10 42 40.8**	**-0.5**
SJA				IAML		10 42 45.7	
	comp=Z,364nm,0.2s						
CLCH	**Cerro Calan**	**1.46**	**195**	*e*P	**Pn**	**10 42 22.6**	**+0.1**
CLCH				*i* S	**Sn**	**10 42 42.9**	**+0.1**
CLCH				IAML		10 42 51.9	
	comp=E,336nm,0.4s						
RTLL	**Cerro Villicun**	**1.53**	**65**	*e*P	**Pn**	**10 42 23.2**	**-0.1**
RTLL				*e*S	**Sn**	**10 42 43.4**	**-1.0**
RTLL				IAML		10 42 44.4	
	comp=Z,463nm,0.3s						
AAGR	**Agrelo**	**1.53**	**136**	*e*P	**Pn**	**10 42 24.0**	**+0.6**
AAGR				*e*S	**Sn**	**10 42 45.2**	**+0.7**
CFA	**Coronel Fontan**	**1.63**	**77**	*e*P	**Pn**	**10 42 24.2**	**-0.2**
CFA				⇓*e*S	**Sn**	**10 42 45.3**	**-1.1**
ACCO	**Cerro Coronel**	**1.65**	**33**	*e*P	**Pn**	**10 42 25.6**	**+0.6**
ACCO				*e*S	**Sn**	**10 42 47.1**	**-0.2**
AMOG	**MOGNA**	**1.72**	**53**	*e*P	**Pn**	**10 42 25.8**	**+0.2**
AMOG				*e*S	**Sn**	**10 42 47.3**	**-1.1**
LMEL	**Las Melosas**	**1.86**	**183**	*e*P	**Pn**	**10 42 27.6**	**+0.3**
LMEL				*i* S	**Sn**	**10 42 53.1**	**+1.5**
LMEL				IAML		10 42 58.1	
	comp=N,248nm,0.2s						
AROD	**Rodeo**	**1.89**	**17**	*e*P	**Pn**	**10 42 29.5**	**+1.5**
AROD				*e*S	**Sn**	**10 42 54.3**	**+1.7**
GO04	**Tololo Observa**	**1.91**	**341**	*e*P	**Pn**	**10 42 28.0**	**0.0**
GO04				*i* S	**Sn**	**10 42 52.5**	**-0.3**
ACDV	**Cuesta del Vie**	**1.99**	**25**	*e*P	**Pn**	**10 42 30.4**	**+1.3**
ACAN	**Cantantal**	**2.48**	**97**	*e*P	**Pn**	**10 42 34.8**	**-0.3**
LCO	**Las Campanas**	**3.01**	**350⇑**	*e*P	**Pn**	**10 42 42.2**	**-0.1**
APLL	**PUNTA DE LOS L**	**3.44**	**63**	*e*P	**Pn**	**10 42 47.2**	**-0.6**
APLL				IAML		10 43 29.7	
	comp=Z,40nm,0.2s						
MRA	**San Martin**	**3.73**	**98**	*e*P	**Pn**	**10 42 50.4**	**-1.2**
MRA				IAML		10 43 53.1	
	comp=Z,50nm,0.4s						

ISCJB ***02*** *10:50:12.0±0.5, 49°.44N±0°.04×20°.11E±0°.04, h4km±5km, Error ellipse: s-maj=6.5km s-min=3.6km az=16.9*
IPEC ***02*** *10:50:12.6±0.1, 49°.45N×20°.25E, h6km, ML2.2/5, Error ellipse: s-maj=1.0km s-min=0.7km az=18.0*
PRU ***02*** *10:50:13.1±0.0, 49°.40N×20°.19E, h0km, High Tatras*

ISC 02 10:50:12.8±0.9, 49°.43N±0°.04×20°.19E±0°.03, h7km±7km, n29, σ0s58/38, 2C-6D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIE	**Niedzica**	**0.07**	**99**	*i* Pg	**Pg**	**10 50 14.5**	**-0.1**
NIE				*i* Sg	**Sg**	**10 50 16.0**	**0.0**
LANS	**Liptovska Anna**	**0.55**	**240**	*e*PG	**Pg**	**10 50 24.0**	**+0.7**
LANS				*e*SG	**Sb**	**10 50 32.3**	**-0.5**
OJC	**Ojcow**	**0.83**	**342**	*i* Pg	**Pg**	**10 50 28.5**	**-0.2**
OJC				*e*Sg	**Sg**	**10 50 39.4**	**-0.1**
VYHS	**Vyhne**	**1.29**	**224**	*e*PG	**Pn**	**10 50 37.5**	**+0.2**
OKC	**Ostrava-Krasne**	**1.39**	**288**	*e*PG	**Pb**	**10 50 39.0**	**0.0**
PSZ	**Piszkesteto**	**1.52**	**187**	⇓*i* P	**Pb**	**10 50 41.7**	**+0.3**
PSZ	**Piszkesteto**	**1.52**	**187**	S	**Sb**	**10 51 01.3**	**+0.3**
JAVC	**Velka Javorina**	**1.75**	**252**	*e*PG	**Pb**	**10 50 45.3**	**+0.1**
JAVC	**Velka Javorina**	**1.75**	**252**	*e*Pg	**Pb**	**10 50 45.3**	**+0.1**
	baz=70						
MORC	**Moravsky Berou**	**1.75**	**282**	⇑*i* P	**Pb**	**10 50 45.5**	**+0.2**
MORC	**Moravsky Berou**	**1.75**	**282**	*e*PN	**Pn**	**10 50 44.0**	**+0.3**
MORC				*e*SG	**Sg**	**10 51 09.2**	**+0.1**
MORC	**Moravsky Berou**	**1.75**	**282**	*e*Pn	**Pn**	**10 50 44.0**	**+0.3**
	baz=100						
MORC				*e*Sg	**Sg**	**10 51 09.1**	**0.0**
	32nm,0.4s,baz=100						
ANAC	**Anensky vrch**	**1.93**	**291**	*e*Sg	**Sb**	**10 51 14.0**	**+1.3**
	15nm,0.3s,baz=108						
TRPA	**Tarpa**	**2.03**	**129⇓**	*i* P	**Pb**	**10 50 49.3**	**-0.6**
TRPA	**Tarpa**	**2.03**	**129**	S	**Sb**	**10 51 15.0**	**-0.4**
LIPC	**Lipinka**	**2.08**	**283**	*e*Sg	**Sg**	**10 51 18.7**	**-0.9**
	17nm,0.2s,baz=100						
VRAC	**Vranov**	**2.35**	**268**	⇓*i* P	**Pn**	**10 50 51.9**	**0.0**
VRAC	**Vranov**	**2.35**	**268**	S	**Sn**	**10 51 20.3**	**-0.7**
VRAC	**Vranov**	**2.35**	**268**	*e*PN	**Pn**	**10 50 52.2**	**+0.3**
VRAC				*e*SG	**Sg**	**10 51 27.5**	**-0.8**
VRAC	**Vranov**	**2.35**	**268**	*e*Pn	**Pn**	**10 50 52.1**	**+0.2**
	baz=85						
VRAC				*e*Sg	**Sg**	**10 51 27.5**	**-0.8**
	7.9nm,0.3s,baz=85						
KRUC	**Moravsky**	**2.51**	**263**	*e*PN	**Pn**	**10 50 54.3**	**+0.3**
KRUC				*e*SG	**Sg**	**10 51 32.5**	**-1.0**
KRUC	**Moravsky**	**2.51**	**263**	*e*Pn	**Pn**	**10 50 54.3**	**+0.3**
	baz=80						
KRUC				*e*Sg	**Sg**	**10 51 32.4**	**-1.0**
	5.6nm,0.4s,baz=80						
DPC	**Dobruska-Polom**	**2.66**	**292**	*e*PG	**Pb**	**10 51 01.2**	**+0.4**
DRGR		**3.13**	**146**	⇓*i* P	**Pn**	**10 51 03.0**	**+0.3**
DRGR		**3.13**	**146**	S	**Sn**	**10 51 40.6**	**+0.2**
SIRR	**Siria**	**3.32**	**162⇑**	*i* P	**Pn**	**10 51 06.2**	**+1.1**
SIRR	**Siria**	**3.32**	**162**	S	**Sn**	**10 51 43.8**	**-1.0**
BURAR	**Bucovina Array**	**3.80**	**117**	⇓*i* P	**Pn**	**10 51 12.6**	**+0.7**
GZR	**Gura Zlata**	**4.40**	**156**	⇓*i* P	**Pn**	**10 51 20.7**	**+0.6**

ISCJB ***02*** *10:50:32.4±0.8, 49°.62N±0°.03×20°.11E±0°.05, h0km, Error ellipse: s-maj=6.1km s-min=3.3km az=135.3*
IPEC ***02*** *10:50:34.8±0.1, 49°.45N×20°.25E, h6km, ML2.6/5, Error ellipse: s-maj=1.0km s-min=0.7km az=19.0*
PRU ***02*** *10:50:34.4±0.0, 49°.54N×20°.21E, h0km, High Tatras*
BGR ***02*** *10:50:35.1±0.4, 49°.47N×20°.18E, h1km, ML3.0/4, Error ellipse: s-maj=7.8km s-min=3.3km az=23.0*

ISC 02 10:50:34.9±0.8, 49°.44N±0°.03×20°.13E±0°.02, h0km, n34, σ0s95/56, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIE	**Niedzica**	**0.11**	**99**	*i* Pg	**Pg**	**10 50 36.8**	**-0.3**
NIE				*e*Sg	**Sg**	**10 50 38.2**	**-0.3**
NIE	**Niedzica**	**0.11**	**99**	*e*Pg	**Pg**	**10 50 36.8**	**-0.3**
NIE				*e*Sg	**Sg**	**10 50 38.4**	**-0.2**
LANS	**Liptovska Anna**	**0.52**	**237**	*e*PG	**Pb**	**10 50 46.3**	**-0.7**
LANS				*e*SG	**Sb**	**10 50 54.2**	**-0.8**
OJC	**Ojcow**	**0.81**	**345**	*e*Pg	**Pg**	**10 50 50.7**	**+0.2**
OJC				*e*Sg	**Sg**	**10 51 01.6**	**+0.6**
OJC	**Ojcow**	**0.81**	**345**	*e*Pg	**Pg**	**10 50 50.9**	**+0.4**
OJC				*e*Sg	**Sb**	**10 51 02.1**	**-1.4**
VYHS	**Vyhne**	**1.27**	**223**	*e*PG	**Pn**	**10 51 00.2**	**+0.2**
VYHS				*e*SG	**Sn**	**10 51 19.3**	**+1.6**
OKC	**Ostrava-Krasne**	**1.35**	**288**	*e*PG	**Pg**	**10 50 59.6**	**-1.2**
OKC				*e*SG	**Sn**	**10 51 19.5**	**-0.2**
	comp=Z,64nm,0.4s						
KOLL	**Kolacno**	**1.43**	**234**	*e*PG	**Pb**	**10 51 02.8**	**+0.4**
KOLL				*e*SG	**Sn**	**10 51 24.1**	**+2.6**
PSZ	**Piszkesteto**	**1.53**	**186**	*e*Pn	**Pb**	**10 51 04.1**	**-0.1**
PSZ				Sn	**Sg**	**10 51 23.0**	**-0.9**
JAVC	**Velka Javorina**	**1.71**	**251**	*e*PG	**Pb**	**10 51 07.5**	**+0.2**
JAVC	**Velka Javorina**	**1.71**	**251**	*e*Pg	**Pb**	**10 51 07.5**	**+0.2**
	baz=70						
MORC	**Moravsky Berou**	**1.72**	**282**	S	**Pg**	**10 51 07.5**	**-0.3**
MORC	**Moravsky Berou**	**1.72**	**282**	*e*PN	**Pn**	**10 51 06.1**	**0.0**
MORC				*e*SG	**Sg**	**10 51 31.1**	**+1.0**
MORC	**Moravsky Berou**	**1.72**	**282**	*e*Pn	**Pn**	**10 51 06.1**	**0.0**
	baz=100						
MORC				*e*Sg	**Sg**	**10 51 31.1**	**+1.0**
	90nm,0.5s,baz=100						
MORC	**Moravsky Berou**	**1.72**	**282**	*e*Pg	**Pg**	**10 51 07.8**	**0.0**
MORC				*e*Sg	**Sg**	**10 51 31.5**	**+1.5**
ANAC	**Anensky vrch**	**1.90**	**291**	*e*Sg	**Sg**	**10 51 36.2**	**+0.4**
	41nm,0.4s,baz=108						
LIPC	**Lipinka**	**2.04**	**283**	*e*Sg	**Sg**	**10 51 40.8**	**+0.2**
	48nm,0.2s,baz=100						
MODS	**Modra-Piesok**	**2.16**	**242**	*e*SG	**Sb**	**10 51 41.8**	**-0.5**
KRLC	**Kraliky**	**2.26**	**288**	*

2.3nm,0.5s,baz=344,slow=7.0,SNR=47
ASAR PcP **PcP** **11 05 33.2 +0.1**
0.6nm,0.4s,baz=348,slow=2.7,SNR=6.7
ASAR S **S** **11 07 22.9 -0.9**
3.1nm,0.7s,baz=328,slow=14,SNR=24
ASAR ScP **ScP** **11 08 25.2 +0.9**
0.7nm,0.5s,baz=340,slow=3.6,SNR=6.5
CTA **Charters Tower** **34.10 141** P **P** **11 03 21.1 +1.4**
2.8nm,0.5s,baz=328,slow=11,SNR=8.4
CTA ScP **ScP** **11 08 35.9 +1.6**
1.2nm,0.8s,baz=254,slow=5.2,SNR=2.3
STKA **Stephens Creek** **41.45 157** P **P** **11 04 19.6 +0.2**
2.5nm,0.7s,baz=316,slow=10,SNR=4.1
JIRN **Jiri** **41.73 305** *eP* **P** **11 04 22.9 +0.7**
9.7nm,0.3s
GUN **Gumba** **42.08 305** *eP* **P** **11 04 25.7 +0.8**
12nm,0.3s
KKN **Kakani** **42.52 305** *eP* **P** **11 04 28.6 +0.4**
KLR **Kul'dur** **43.33 7** P **P** **11 04 34.3 +0.4**
1.0nm,0.8s,baz=153,slow=2.3,SNR=2.4
KOLN **Koldanda** **43.89 304** *eP* **P** **11 04 39.7 +0.8**
11nm,0.3s
DANN **Dangsing** **43.98 305** *eP* **P** **11 04 40.2 +0.6**
24nm,0.5s
SONM **Songino Array** **44.09 343** P **P** **11 04 40.9 +0.9**
0.5nm,0.6s,baz=141,slow=7.3,SNR=4.8
SONM PcP **PcP** **11 06 12.0 -1.0**
0.7nm,0.9s,baz=172,slow=4.4,SNR=2.9
PYUN **Piuthan** **44.51 304** *eP* **P** **11 04 44.6 +0.9**
11nm,0.5s
MKAR **Makanchi Array** **53.97 326** P **P** **11 05 53.6 +0.8**
5.8nm,0.5s,baz=121,slow=7.8,SNR=136
MKAR PcP **PcP** **11 06 49.3 0.0**
1.1nm,0.5s,baz=115,slow=3.6,SNR=7.5
ZALV **Zalesovo Beam** **57.15 334** P **P** **11 06 13.8 -0.8**
0.8nm,0.4s,baz=107,slow=5.0,SNR=5.6
AKTO **Aktyubinsk** **70.03 322** P **P** **11 07 37.5 +0.5**
1.3nm,0.5s,baz=103,slow=9.9,SNR=1.8
BRTR **Keskin Array B** **86.35 309** P **P** **11 09 03.9 -1.0**
0.8nm,0.4s,baz=135,slow=4.1,SNR=8.3
SPITS **Spitsbergen Ar** **87.50 349** P **P** **11 09 09.4 +0.1**
3.7nm,1.0s,baz=101,slow=4.5,SNR=4.3
AKASG **Malin Array Be** **88.25 321** P **P** **11 09 12.0 -1.3**
0.2nm,0.3s,baz=66,slow=5.2,SNR=3.0
FINES **FINESS Array B** **88.35 332** P **P** **11 09 12.6 -0.9**
1.1nm,0.6s,baz=67,slow=5.0,SNR=9.2
TORD **Torodi Ar. Bea** **119.57 289** PKP **PKPdf** **11 15 07.6 -1.2**
1.3nm,1.1s,baz=45,slow=1.7,SNR=4.6
PLCA **Paso Flores** **143.26 161** PKP PKPbc 11 15 52.0 +1.0
1.6nm,1.0s,baz=207,slow=2.3,SNR=3.2

IDC ***02*** *11:00:25.4±0.8, 67.°75N×166.°59W, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.0/57, mbtmp4.0/19, ML3.6/3, MS3.1/4, Ms1 3.2/4, ms1mx2.8/41, Error ellipse: s-maj=24.7km s-min=12.5km az=17.0*

NEIC ***02*** *11:00:25.8±0.0, 67.°71N×167.°09W, h46km, mb4.2/10, ML4.2(AEIC), After AEIC.*

ISCJB ***02*** *11:00:27.7±0.3, 67.°61N±0.°05×166.°28W±0.°08, h35km, mb4.3/32, MS3.2/4, Error ellipse: s-maj=7.7km s-min=3.5km az=24.2*

MOS ***02*** *11:00:27.7±0.7, 67.°57N×166.°37W, h32km, mb4.4/17, Error ellipse: s-maj=21.1km s-min=9.3km az=108.2*

ISC 02 11:00:29.1±0.4, 67.°63N±0.°06×166.°36W±0.°04, h35km, n120, σ1§97/121, mb4.3/32, MS3.1/4, 8C-4D, Bering Strait

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**1.38**	**70**	*e*Pn		**Pn**	**11 00 51.9**	**+0.1**
RDOG				*e*Sn		**Sn**	**11 01 12.5**	**+3.8**
ANM	**Nome**	**3.10**	**172**	*e*Pn		**Pn**	**11 01 14.6**	**-1.0**
ANM	**Nome**	**3.10**	**172**	*e*P		**Pn**	**11 01 14.6**	**-1.0**
GAMB	**Gambell**	**4.46**	**212**	*e*Pn		**Pn**	**11 01 31.1**	**-3.0**
GCSA	**Galena City Sc**	**4.81**	**123**	*e*Pn		**Pn**	**11 01 40.0**	**+1.1**
IM3	**Indian Mountai**	**5.25**	**102**	*e*Pn		**Pn**	**11 01 45.6**	**+0.6**
COLD	**Coldfoot**	**6.23**	**86**	*e*Pn		**Pn**	**11 01 59.4**	**+0.9**
TOLK	**Toolik Lake Re**	**6.35**	**73**	*e*Pn		**Pn**	**11 02 00.5**	**+0.5**
TT01	**Tatalina**	**6.42**	**133**	*e*Pn		**Pn**	**11 02 02.2**	**+1.1**
MLY	**Manley**	**6.80**	**105**	*e*Pn		**Pn**	**11 02 07.2**	**+0.9**
CAST	**Castle Rocks**	**7.27**	**119**	*e*Pn		**Pn**	**11 02 14.0**	**+1.3**
PPLA	**Purkeypile**	**7.59**	**122**	*e*Pn		**Pn**	**11 02 18.8**	**+1.5**
NEA	**Nenana**	**7.64**	**105**	*e*Pn		**Pn**	**11 02 19.2**	**+1.3**
BWN	**Browne**	**7.72**	**109**	*e*Pn		**Pn**	**11 02 21.4**	**+2.5**
MDM	**Murphy Dome**	**7.77**	**102**	*e*Pn		**Pn**	**11 02 20.9**	**+1.3**
TRF	**Thorofare Moun**	**7.86**	**115**	*e*Pn		**Pn**	**11 02 23.0**	**+2.0**
COLA	**College**	**7.95**	**102**	*e*Pn		**Pn**	**11 02 23.1**	**+1.1**
COLA	**College**	**7.95**	**102§**	*e*P		**Pn**	**11 02 23.6**	**+1.6**
COLA	comp=Z,5.0nm,0.6s			pmax	pmax			
SVW2	**Sparrevohn**	**8.04**	**139**	*e*Pn		**Pn**	**11 02 24.8**	**+1.6**
WRH	**Wood River Hil**	**8.06**	**105**	*e*Pn		**Pn**	**11 02 25.3**	**+1.7**
CCB	**Clear Creek Bu**	**8.08**	**103**	*e*Pn		**Pn**	**11 02 24.7**	**+0.9**
MCK	**McKinley**	**8.17**	**110**	*e*Pn		**Pn**	**11 02 26.9**	**+1.9**
MCK	**McKinley**	**8.17**	**110**	*e*P		**Pn**	**11 02 26.9**	**+1.9**
FYU	**Fort Yukon**	**8.29**	**88**	*e*Pn		**Pn**	**11 02 26.8**	**+0.1**
BM3	**Burnt Mountain**	**8.32**	**81**	*e*Pn		**Pn**	**11 02 27.4**	**+0.2**
ILAR	**Eielson Array**	**8.36**	**101**	Pn		**Pn**	**11 02 28.2**	**+0.5**
ILAR	comp=Z,1.3nm,0.3s,baz=299,slow=14,SNR=88			Sn		**Sn**	**11 03 60.0**	**-0.8**
ILAR	comp=Z,0.3nm,0.3s,baz=296,slow=25,SNR=3.0			LR		LR	11 05 39.9	
ILB	**Eielson Array**	**8.36**	**101**	*e*Pn		**Pn**	**11 02 28.2**	**+0.5**
IL1	**Eielson Array**	**8.36**	**101**	*e*Pn		**Pn**	**11 02 28.7**	**+1.0**
RND	**Reindeer**	**8.39**	**112**	*e*Pn		**Pn**	**11 02 30.4**	**+2.2**
RND	**Reindeer**	**8.39**	**112**	*e*P		**Pn**	**11 02 30.4**	**+2.2**
HDA	**Harding Lake**	**8.52**	**103**	*e*Pn		**Pn**	**11 02 31.4**	**+1.6**
PRP	**Porcupine Dome**	**8.55**	**95**	*e*Pn		**Pn**	**11 02 31.1**	**+0.8**
SUA	**Susitna One**	**9.11**	**125**	*e*Pn		**Pn**	**11 02 40.3**	**+2.3**
DHY	**Denali Highway**	**9.13**	**111**	*e*Pn		**Pn**	**11 02 40.8**	**+2.5**
RSO	**Redoubt South**	**9.32**	**134**	*e*Pn		**Pn**	**11 02 40.8**	**-0.1**
PMR	**Palmer**	**9.53**	**121**	*e*Pn		**Pn**	**11 02 45.5**	**+1.9**
PMR	**Palmer**	**9.53**	**121**	*e*P		**Pn**	**11 02 45.5**	**+1.9**
SML	**Sawmill**	**9.64**	**119**	*e*Pn		**Pn**	**11 02 46.0**	**+0.9**
SML	**Sawmill**	**9.64**	**119**	*e*P		**Pn**	**11 02 46.1**	**+0.9**
RIDG	**Independ'e Rid**	**9.66**	**104**	*e*Pn		**Pn**	**11 02 46.3**	**+0.8**
RC01	**Rabbit Creek A**	**9.71**	**125**	*e*Pn		**Pn**	**11 02 47.3**	**+1.2**
SCRK	**Sand Creek**	**9.86**	**101**	*e*Pn		**Pn**	**11 02 48.9**	**+0.7**
PAX	**Paxson**	**9.88**	**108**	*e*Pn		**Pn**	**11 02 49.4**	**+0.9**
PAX	**Paxson**	**9.88**	**108**	*e*P		**Pn**	**11 02 49.4**	**+0.9**
KNK	**Knik Glacier**	**9.88**	**121**	*e*Pn		**Pn**	**11 02 50.4**	**+1.9**
DOT	**Dot Lake**	**10.00**	**103**	*e*Pn		**Pn**	**11 02 51.1**	**+0.9**
BILL	**Bilibino**	**10.31**	**285**	*e*Pn		**Pn**	**11 02 52.4**	**-1.9**
BILL	**Bilibino**	**10.31**	**285**	*d i*P		**Pn**	**11 02 52.5**	**-1.8**
BILL				*e*			11 04 45.5	
BILL	comp=Z,2.0nm,0.4s			pmax	pmax			
BILL	comp=Z,359nm,15.0s			MLR	MLR			
HARP	**HAARP**	**10.34**	**110**	*e*Pn		**Pn**	**11 02 56.2**	**+1.5**
EGAK	**Eagle**	**10.54**	**94**	*e*Pn		**Pn**	**11 02 57.4**	**+0.1**
MENT	**Mentasta**	**10.54**	**106**	*e*Pn		**Pn**	**11 02 58.3**	**+0.8**
DAWY	**Dawson**	**11.55**	**95**	*e*Pn		**Pn**	**11 03 11.5**	**+0.2**
EPYK	**Eagle Plains**	**11.60**	**82**	*e*Pn		**Pn**	**11 03 12.4**	**+0.4**
KDAK	**Kodiak Island**	**11.69**	**141**	*e*Pn		**Pn**	**11 03 13.3**	**+0.2**
KDAK	**Kodiak Island**	**11.69**	**141**	*i* P		Pn	11 03 18.2	+5.0
KDAK	**Kodiak Island**	**11.69**	**141**	Pn		**Pn**	**11 03 15.4**	**+2.3**
INK	comp=Z,0.5nm,0.3s,baz=345,slow=6.8,SNR=8.5			Sn		**Sn**	**11 05 30.5**	**-5.5**
INK	**Inuvik**	**12.26**	**72**	*e*Pn		**Pn**	**11 03 19.7**	**-1.2**
INK				Sn		**Sn**	**11 05 30.5**	**-5.5**
INK	**Inuvik**	**12.26**	**72**	*e*P		**Pn**	**11 03 19.7**	**-1.2**
INK							11 05 30.5	
INK	**Inuvik**	**12.26**	**72**	Pn		**Pn**	**11 03 18.6**	**-2.3**
INK	comp=Z,0.4nm,0.3s,baz=307,slow=12,SNR=59			Sn		**Sn**	**11 05 30.5**	**-5.5**
SEY	**Seymchan**	**17.61**	**274§**	*e*P		**P**	**11 04 33.1**	**+1.0**
SEY	**Seymchan**	**17.61**	**274**	P		**P**	**11 04 31.4**	**-0.6**
DLBC	**Dease Lake**	**18.57**	**102**	P		**Pn**	**11 04 44.6**	**+1.4**
MA2	**Magadan**	**20.28**	**268§**	*e*P		Pn	11 05 02.9	-0.6
MA2	comp=Z,13nm,1.7s			pmax	pmax			
MA2	**Magadan**	**20.28**	**268**	P		Pn	11 05 01.8	-1.6
MA2	comp=Z,5.8nm,0.9s,baz=44,slow=10,SNR=9.0			LR		LR	11 13 08.5	
YKA	**Yellowknife Ar**	**21.84**	**79**	P		**P**	**11 05 18.9**	**+0.9**
YKA	comp=Z,1.5nm,0.5s,baz=303,slow=9.8,SNR=22			PcP		**PcP**	**11 09 15.2**	**-1.1**
PETK	**Petropavlovsk-**	**22.50**	**248**	LR		LR	11 14 46.1	
	comp=Z,59nm,20.3s,baz=32,slow=38							
RES	**Resolute Bay**	**22.64**	**41**	*e*P		**P**	**11 05 23.3**	**-3.1**
	comp=Z,9.4nm,1.3s							
RES				S		**S**	**11 09 32.6**	**+1.0**
RES	**Resolute Bay**	**22.64**	**41**	P		**P**	**11 05 28.0**	**+1.5**
	comp=Z,3.6nm,1.1s,baz=317,slow=12,SNR=5.0							
RES				S		**S**	**11 09 32.6**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=162,slow=20,SNR=2.7							
RES				LR		LR	11 14 56.0	
	comp=Z,54nm,21.5s,baz=38,slow=38							
B06A	**Marblemount**	**29.49**	**108**	*e*P		**P**	**11 06 31.7**	**+2.2**
	comp=Z,5.3nm,0.8s							
NRIK	**Noril'sk**	**34.30**	**323**	P		**P**	**11 07 12.3**	**+0.8**
	comp=Z,5.4nm,0.7s,baz=59,slow=7.1,SNR=6.3							
KLR	**Kul'dur**	**35.33**	**270§**	*e*P		**P**	**11 07 21.2**	**+0.7**
YHH	**Holmes Hill**	**36.58**	**100**	*e*P		**P**	**11 07 30.1**	**-1.6**
	comp=Z,2.1nm,0.8s							
PNTR	**Pine Nut**	**38.35**	**114**	*e*P		**P**	**11 07 44.8**	**-1.8**
	comp=Z,3.6nm,0.8s							
PDAR	**Pinedale Array**	**38.80**	**100**	*e*P		**P**	**11 07 49.1**	**-1.2**
PDAR	**Pinedale Array**	**38.80**	**100**	P		**P**	**11 07 53.1**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=330,slow=7.1,SNR=9.8							
NV01	**Mina Array Sit**	**39.39**	**113**	*e*P		**P**	**11 07 54.2**	**-1.2**
NVAR	**Mina Array Bea**	**39.39**	**113**	P		**P**	**11 07 58.4**	**+3.1**
	comp=Z,1.5nm,0.7s,baz=323,slow=6.9,SNR=12							
SRU	**San Rafael Swe**	**41.61**	**104**	*e*P		**P**	**11 08 12.6**	**-1.0**
	comp=Z,3.2nm,1.0s							
SRU	**San Rafael Swe**	**41.61**	**104**	*e*P		**P**	**11 08 12.6**	**-1.0**
SRU				pmax	pmax			
	comp=Z,3.0nm,1.0s							
SZCU	**Shurtz Canyon**	**42.01**	**108**	*e*pP		pP	11 08 26.4	-0.8
PV01	**Paradox Valley**	**43.20**	**103**	*e*P		**P**	**11 08 25.4**	**-1.1**
	comp=Z,5.5nm,1.0s							
SONM	**Songino Array**	**45.97**	**291**	P		**P**	**11 08 48.9**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=37,slow=8.0,SNR=6.3							
Y22D	**IRIS PASSCAL I**	**47.41**	**104**	*e*pP		pP	11 09 11.6	+1.4
ZALV	**Zalesovo Beam**	**47.77**	**311**	P		**P**	**11 09 02.3**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=29,slow=6.3,SNR=16							
HHC	**Hu-ho-hao-te**	**50.06**	**281**	*e*P		**P**	**11 09 21.3**	**+1.2**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,250nm,5.4s							
KLMR	**Klimovskoe**	**50.43**	**344**	*e*P		**P**	**11 09 23.3**	**+0.8**
KLMR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
KLMR	**Klimovskoe**	**50.43**	**344**	*e*P		**P**	**11 09 23.3**	**+0.8**
KLMR				AMP			11 09 24.9	
	comp=Z,10.0nm,0.8s							
DGZ	**Jazzator, Alta**	**50.71**	**306§**	*e*P		**P**	**11 09 26.8**	**+1.8**
DGZ				pmax	pmax			
	comp=Z,2.0nm,1.2s							
FINES	**FINESS Array B**	**50.91**	**352**	*ce*P		**P**	**11 09 27.7**	**+1.7**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**50.91**	**352**	P		**P**	**11 09 26.7**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=1.3,slow=6.0,SNR=15							
ARU	**Arti**	**51.86**	**330**	*d i*P		**P**	**11 09 34.1**	**+0.9**
ARU							11 10 43.1	
ARU							11 11 29.1	
ARU				S		**S**	**11 16 57.3**	**+4.5**
ARU				SS		**SS**	**11 20 31.9**	**+3.0**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
KURK	**Kurchatov**	**52.40**	**313**	*e*P		P	11 09 31.6	-5.7
	comp=Z,10nm,0.6s							
KURK	**Kurchatov**	**52.40**	**313**	*d i*P		**P**	**11 09 37.9**	**+0.6**
KURK				pmax	pmax			
	comp=Z,18nm,1.3s							
BRVK	**Borovoye**	**52.45**	**321**	*e*P		P	11 09 32.1	-5.6
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**52.45**	**321**	*ce*P		**P**	**11 09 38.8**	**+1.2**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
TX31	**Lajitas Ar. Si**	**52.87**	**103**	*e*P		**P**	**11 09 39.3**	**-1.9**
	comp=Z,3.4nm,0.9s							
TXAR	**Lajitas Array**	**52.87**	**103**	P		**P**	**11 09 43.4**	**+2.2**
	comp=Z,1.3nm,0.8s,baz=335,slow=5.9,SNR=14							
MK31	**Makanchi Array**	**54.87**	**309**	*e*P		**P**	**11 09 50.9**	**-4.6**
	comp=Z,1.2nm,0.8s							
MK31	**Makanchi Array**	**54.87**	**309**	*e*P		**P**	**11 09 50.9**	**-4.6**
MK31				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**54.87**	**309**	*i* P		**P**	**11 09 55.9**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**54.87**	**309**	P		**P**	**11 09 55.2**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=41,slow=8.8,SNR=10							
MK01	**Makanchi Array**	**54.88**	**308**	*e*P		P	11 09 50.7	-4.9
WMQ	**Urumqi**	**55.85**	**303**	*e*P		**P**	**11 10 04.3**	**+1.6**
WMQ				LR		LR		
	comp=N,77nm,18.7s							
WMQ				LR		LR		
	comp=Z,82nm,18.7s							
LZH	**Lanzhou**	**57.12**	**285**	*e*P		**P**	**11 10 09.8**	**-2.1**
LZH				pP		pP	11 10 17.4	-5.1
LZH				sP		sP	11 10 23.0	-3.6
LZH				PP		**PP**	**11 12 14.7**	**-3.9**
LZH				pmax	pmax			
	comp=Z,15nm,1.0s							
LZH				pmax	pmax			
	comp=Z,340nm,4.3s							
CLL	**Collm**	**61.39**	**0**	*e*P		**P**	**11 10 43.0**	**+2.1**
AKASG	**Malin Array Be**	**61.41**	**349**	*ce*P		**P**	**11 10 42.9**	**+1.8**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**61.41**	**349**	P		**P**	**11 10 41.0**	**-0.1**
	comp=Z,4.0nm,0.8s,baz=10,slow=7.0,SNR=10							
KIEV	**Kiev**	**61.42**	**349**	*i* P		**P**	**11 10 42.8**	**+1.6**
KIEV				pmax	pmax			
	comp=Z,22nm,2.3s							
CD2	**Chengdu**	**61.78**	**283**	P		**P**	**11 10 43.5**	**-0.5**
CD2				pmax	pmax			
	comp=Z,3.0nm,0.6s							
GEC2	**GERESS Array S**	**63.85**	**360**	*e*P		**P**	**11 10 54.3**	**-3.3**
	comp=Z,6.7nm,1.0s							
GEC2	**GERESS Array S**	**63.85**	**360**	*e*P		**P**	**11 10 54.3**	**-3.3**
GEC2				pmax	pmax			
	comp=Z,7.0nm,1.0s							
GERES	**GERESS Array B**	**63.85**	**360**	P		**P**	**11 10 58.3**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=15,slow=5.5,SNR=18							
GEA0	**GERESS Array S**	**63.86**	**360**	*e*P		**P**	**11 10 54.5**	**-3.1**
VYHS	**Vyhne**	**64.14**	**356**	*e*P		**P**	**11 11 01.7**	**+2.4**
VYHS	**Vyhne**	**64.14**	**356**	*e*P		**P**	**11 11 01.7**	**+2.4**
GAR	**Garm**	**65.47**	**314**	*e*P		**P**	**11 11 04.0**	**-4.3**
	comp=Z,16nm,1.2s							
GAR	**Garm**	**65.47**	**314**	*e*P		**P**	**11 11 04.0**	**-4.3**
GAR				pmax	pmax			
	comp=Z,16nm,1.2s							
BRTR	**Keskin Array B**	**71.90**	**344**	P		**P**	**11 11 49.5**	**+1.1**
	comp=Z,1.2nm,1.0s,baz=12,slow=7.9,SNR=3.1							
ESDC	**Sonseca Array**	**72.19**	**14**	P		**P**	**11 11 51.6**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=356,slow=5.8,SNR=15							
CMAR	**Chiang Mai Arr**	**74.87**	**281**	P		**P**	**11 12 06.8**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=6.7,slow=6.8,SNR=6.4							

IDC ***02*** *11:39:03.6±1.1, 24.°19S×67.°07W, h163km±9km, mb3.6/10, mb1 3.9/16, mb1mx3.8/27, mbtmp4.2/16, Error ellipse: s-maj=16.0km s-min=12.8km az=39.0*

NEIC ***02*** *11:39:03.5±0.5, 24.°23S×67.°10W, h154km±4km, mb4.2/24, MD4.2(SJA), ML4.8(GUC), Error ellipse: s-maj=8.8km s-min=5.7km az=84.0*

ISCJB ***02*** *11:39:03.9±0.2, 24.°21S±0.°03×67.°22W±0.°03, h175km±2km, mb4.0/30, Error ellipse: s-maj=5.1km s-min=3.5km az=31.2*

SJA ***02*** *11:39:03.5±0.7, 24.°21S×67.°58W, h133km±31km, ML3.3, MW4.2*

VAO ***02*** *11:39:05.6±0.3, 24.°11S×67.°21W, h185km±4km, mb4.3*

GUC ***02*** *11:39:05.9±0.6, 24.°15S×67.°62W, h197km±10km, ML4.8*

ISC 02 11:39:04.7±0.6, 24.°18S±0.°04×67.°26W±0.°04, h173km±6km, n104, σ1§31/123, mb4.0/30, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.69**	**109**	*i* P		**Pn**	**11 39 38.7**	**+0.7**
SLA				*i* S		**Sn**	**11 40 04.0**	**+0.1**
SLA				IAML			11 40 06.2	
	comp=N,677nm,0.7s							
HJA	**Humahuaca**	**1.96**	**61**	*i* P		**Pn**	**11 39 42.0**	**+0.9**
HJA				IAML			11 39 43.4	
	comp=Z,300nm,0.6s							
HJA				*i* S		**Sn**	**11 40 11.1**	**+1.8**
LVC	**Limon Verde**	**2.18**	**316**	*e*Pn		**Pn**	**11 39 44.9**	**+1.2**
LVC				*e*Sn		**Sn**	**11 40 14.9**	**+1.1**
LVC	**Limon Verde**	**2.18**	**316**	*e*P		**Pn**	**11 39 45.0**	**+1.3**
LVC				*e*S		**Sn**	**11 40 14.8**	**+1.0**
LVC	**Limon Verde**	**2.18**	**316**	P		**Pn**	**11 39 44.4**	**+0.7**
	comp=Z,125nm,0.3s,baz=125,slow=9.8,SNR=1863							
LVC				S		**Sn**	**11 40 14.2**	**+0.4**
	comp=Z,223nm,0.3s,baz=49,slow=20,SNR=37							
LVC	**Limon Verde**	**2.18**	**316**	*e*P		**Pn**	**11 39 45.0**	**+1.3**
LVC				*e*S		**Sn**	**11 40 14.9**	**+1.1**
FSA	**Cafayete**	**2.24**	**149**	*i* P		**Pn**	**11 39 44.1**	**-0.1**
FSA				IAML			11 39 45.0	
	comp=Z,61nm,0.4s							
FSA				*i* S		**Sn**	**11 40 13.2**	**-1.7**
PB15	**IPOC Station P**	**2.25**	**295**	*e*P		**Pn**	**11 39 45.5**	**+1.3**
PB15				*e*S		**Sn**	**11 40 14.8**	**0.0**
GO02	**Mina Guanaco**	**2.33**	**245**	*e*Pn		**Pn**	**11 39 46.3**	**+1.0**
GO02				*e*Sn		**Sn**	**11 40 17.5**	**+0.7**
GO02	**Mina Guanaco**	**2.33**	**245**	*i*P		**Pn**	**11 39 46.4**	**+1.1**
GO02				*e*S		**Sn**	**11 40 17.6**	**+0.7**
GO02				IAML			11 40 18.9	
	comp=N,4μm,0.3s							
YJA	**Yavi**	**2.56**	**39**	*i* P		**Pn**	**11 39 49.0**	**+0.8**
YJA				*i* S		**Sn**	**11 40 23.6**	**+1.7**
YJA				IAML			11 40 25.7	
	comp=Z,50nm,0.5s							
PB06	**IPOC Station P**	**2.58**	**304**	*i*P		**Pn**	**11 39 49.1**	**+1.0**
PB06				*e*S		**Sn**	**11 40 21.9**	**+0.1**
PB06				IAML			11 40 23.8	
	comp=N,5μm,0.3s							
PB14	**IPOC Station P**	**2.90**	**261**	*i*P		**Pn**	**11 39 52.5**	**+0.4**
PB14				*e*S		**Sn**	**11 40 27.9**	**-1.0**
PB14				IAML			11 40 31.2	
	comp=E,1μm,0.3s							
PB09	**IPOC Station P**	**3.00**	**322**	*i*P		**Pn**	**11 39 54.5**	**+1.4**
PB09				*e*S		**Sn**	**11 40 31.4**	**+0.6**
PB09				IAML			11 40 32.7	
	comp=N,2μm,0.5s							
PB10	**IPOC Station P**	**3.09**	**282**	*e*Pn		**Pn**	**11 39 52.6**	**-1.5**
PB10				*e*Sn		**Sn**	**11 40 31.3**	**-1.2**
PB10	**IPOC Station P**	**3.09**	**282**	*e*P		**Pn**	**11 39 54.7**	**+0.7**
PB10				*e*S		**Sn**	**11 40 31.2**	**-1.2**
PB10				IAML			11 40 37.3	
	comp=E,1μm,0.4s							
AHML	**Horco Molle**	**3.12**	**147**	*i* P		**Pn**	**11 39 54.7**	**+0.2**
AHML				IAML			11 39 55.0	
	comp=Z,31nm,0.3s							
AHML				*i* S		**Sn**	**11 40 32.7**	**-0.7**
PB04	**IPOC Station P**	**3.23**	**304**	*e*Pn		**Pn**	**11 39 55.6**	**-0.4**
PB04				*e*Sn		**Sn**	**11 40 33.9**	**-2.1**
PB01	**IPOC Station P**	**3.74**	**326**	*e*Pn		**Pn**	**11 40 02.1**	**-0.3**
PB01	**IPOC Station P**	**3.74**	**326**	*i*P		**Pn**	**11 40 02.3**	**-0.1**
PB01				*e*S		**Sn**	**11 40 46.1**	**-1.3**
PB11	**IPOC Station P**	**4.93**	**333**	*e*Pn		**Pn**	**11 40 16.2**	**-1.5**
MNMC	**Minye Minye**	**5.48**	**336**	*e*Pn		**Pn**	**11 40 24.5**	**-0.6**
LCO	**Las Campanas**	**5.71**	**212**	*e*Pn		**Pn**	**11 40 25.9**	**-2.1**
GO04	**Tololo Observa**	**6.75**	**207**	*e*Pn		**Pn**	**11 40 38.8**	**-2.9**
LPAZ	**La Paz**	**7.90**	**354**	*e*Pn		**Pn**	**11 40 57.7**	**+0.4**
LPAZ	**La Paz**	**7.90**	**354**	P		**Pn**	**11 40 57.5**	**+0.2**
	comp=Z,12nm,0.3s,baz=154,slow=6.5,SNR=246							
LPAZ				S		**Sn**	**11 42 22.1**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=246,slow=20,SNR=2.4							
LPAZ	**La Paz**	**7.90**	**354**	*e*P		**Pn**	**11 40 57.7**	**+0.4**
CPUP	**Villa Florida**	**9.24**	**105**	*e*Pn		**Pn**	**11 41 12.6**	**-1.8**
CPUP	**Villa Florida**	**9.24**	**105**	P		**Pn**	**11 41 10.9**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=294,slow=9.9,SNR=7.4							
ROC1	**El Roble**	**9.36**	**200**	*e*Pn		**Pn**	**11 41 15.8**	**-0.3**
SIV	**San Ignacio**	**10.01**	**37**	P		**Pn**	**11 41 21.5**	**-3.1**
	comp=Z,3.2nm,0.3s,baz=229,slow=14,SNR=76							
SIV				S		Sn	11 43 01.6	-14
	baz=231,slow=16,SNR=4.7							
AQDB	**Aquidauana**	**11.32**	**73**	*e*P		**Pn**	**11 41 41.8**	**+0.2**
TRCB	**Terra Rica**	**13.49**	**87**	*e*P

MCMT	McKenzie Canyo	80.30	329	*e*P		P		11 50 58.1	+1.6
BMO	Blue Mountains	82.48	327	*e*P		P		11 51 09.6	+1.7
	comp=Z,1.6nm,1.1s								
FCC	Fort Churchill	85.58	346	*e*P		P		11 51 24.0	+1.0
	comp=Z,4.7nm,0.8s								
ESDC	Sonseca Array	86.69	44	P		P		11 51 30.1	+1.1
	comp=Z,0.4nm,0.7s,baz=258,slow=4.6,SNR=3.1								
YKA	Yellowknife Ar	94.22	340	P		P		11 52 03.5	+0.1
	comp=Z,0.6nm,0.5s,baz=132,slow=4.3,SNR=21								
ASAR	Alice Springs	128.19	205	PKP		PKPdf		11 57 50.6	-0.5
	comp=Z,1.3nm,0.7s,baz=159,slow=2.2,SNR=13								
WRA	Warramunga Arr	131.35	207	PKP		PKPdf		11 57 57.0	-0.1
	comp=Z,0.8nm,0.5s,baz=168,slow=1.7,SNR=10								
SEY	Seymchan	133.15	336	PKP		PKiKP		11 57 60.0	-0.4
	comp=Z,0.7nm,0.6s,baz=163,slow=19,SNR=3.5								
ZALV	Zalesovo Beam	143.67	28	PKP		PKPbc		11 58 16.8	+0.2
	comp=Z,1.0nm,0.5s,baz=294,slow=5.1,SNR=6.2								
MKAR	Makanchi Array	146.82	40	PKPbc		PKPdf		11 58 25.3	+0.9
	comp=Z,2.2nm,0.7s,baz=320,slow=1.9,SNR=19								
KLR	Kul'dur	150.89	334	PKPbc		PKPbc		11 58 36.0	-0.6
	comp=Z,3.5nm,0.8s,baz=49,slow=3.8,SNR=10								
MAJO	Matsushiro	154.89	305	*e*P		PKPdf		11 58 37.7	+0.7
LZH	Lanzhou	165.87	31	*e*PKP		PKPdf		11 58 48.8	-0.5
LZH				pPKP		pPKPdf		11 59 30.1	-6.2
LZH				sPKP				11 59 47.8	

ISCJB ***02*** *11:42:02.6±0.3,22.°85S±0.°02×70.°26W±0.°03,h64km±2km, mb4.8/127, Error ellipse: s-maj=5.2km s-min=3.4km az=176.4*

NEIC ***02*** *11:42:02.0±0.0,22.°85S×70.°38W,h51km,mb4.8/118, MW4.9,ML5.1(GUC),Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁶Nm; Mrr=0.88; Mθθ=1.34; Mϕϕ=2.22; Mrθ=0.98; Mθϕ=-0.54; Mϕr=-0.93; Best double couple: M=2.40000×10¹⁶ NP1:ϕ=213.00000°,δ=48.00000°, λ=-18.00000°. NP2:ϕ=315.00000°,δ=76.00000°, λ=-137.00000°. Principal axes: T 2.6400, Plg18.0000°, Azm78.0000°; N -0.5100, Plg45.0000°, Azm329.0000°; P -2.1200, Plg39.0000°, Azm183.0000°; After GUC.*

NEIC Felt [IV] at Antofagasta, Calama, Mejillones, Oficina Maria Elena, Quillagua and Tocopilla and [III] at Sierra Gorda.

GUC ***02*** *11:42:02.3±0.8,22.°85S×70.°37W,h51km±7km,ML5.1*

IDC ***02*** *11:42:03.1±0.5,22.°83S×70.°37W,h50km±4km,mb4.3/14, mb1 4.5/20,mb1mx4.5/27,mbtmp4.6/20,MS3.9/13, Ms1 3.9/13,ms1mx3.8/19,Error ellipse: s-maj=12.0km s-min=7.1km az=1.0*

BJI ***02*** *11:42:04.0,22.°90S×70.°40W,h38km,mB5.2/1,Ms4.9/1, Ms7 4.9/2*

VAO ***02*** *11:42:05.7±0.8,22.°94S×70.°13W,h76km±6km,mb5.1*

GCMT ***02*** *11:42:05.0±0.3,22.°90S±0.°02×70.°41W±0.°03,h56km±3km, MW5.0/65,Moment Tensor Solution. s14,c15; s65,c93; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.78±.20; Mθθ=1.21±.15; Mϕϕ=2.99±.16; Mrθ=1.20±.07; Mθϕ=-1.07±.10; Mϕr=-1.71±.14; Best double couple: M=3.37700×10¹⁶ NP1:ϕ=323.00000°,δ=69.00000°,λ=-118.00000°. NP2: ϕ=199.00000°,δ=34.00000°,λ=-40.00000°. Principal axes: T 3.9220, Plg19.0000°, Azm74.0000°; N -1.0890, Plg26.0000°, Azm334.0000°; P -2.8320, Plg57.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 11:42:02.9±0.4,22.°84S±0.°03×70.°37W±0.°04,h49km±3km, n529,σ1§23/561,mb4.8/129,MS4.1/9,2C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.55**	**22**	*e*Pn	**Pn**	**11 42 15.0**	**0.0**
PB04				*e*Sn	**Sn**	**11 42 23.9**	**+0.4**
PB04	**IPOC Station P**	**0.55**	**22**	*e*P	**Pn**	**11 42 14.9**	**0.0**
PB04				*i* S	**Sn**	**11 42 24.1**	**+0.6**
PB04				IAML		11 42 25.2	
	comp=N,118μm,0.5s						
PB10	**IPOC Station P**	**0.69**	**194**	*e*Pn	**Pn**	**11 42 16.8**	**+0.3**
PB10				*e*Sn	**Sn**	**11 42 26.9**	**+0.6**
PB10	**IPOC Station P**	**0.69**	**194**	*e*P	**Pn**	**11 42 16.5**	**-0.1**
PB10				*i* S	**Sn**	**11 42 26.2**	**-0.1**
PB10				IAML		11 42 28.5	
	comp=N,78μm,0.6s						
PB06	**IPOC Station P**	**0.75**	**80**	*e*P	**Pn**	**11 42 17.8**	**+0.3**
PB06				*i* S	**Sn**	**11 42 28.5**	**+0.5**
PB06				IAML		11 42 29.3	
	comp=E,154μm,0.2s						
PB15	**IPOC Station P**	**0.91**	**114**	*e*P	**Pn**	**11 42 19.9**	**+0.3**
PB15				*i* S	**Sn**	**11 42 32.7**	**+0.9**
PB07	**IPOC Station P**	**1.20**	**22**	*e*P	**Pn**	**11 42 23.7**	**+0.1**
PB07				*e*S	**Sn**	**11 42 38.8**	**0.0**
PB07				IAML		11 42 40.4	
	comp=N,69μm,0.3s						
LVC	**Limon Verde**	**1.37**	**81**	*e*Pn	**Pn**	**11 42 26.7**	**+0.7**
LVC				*e*Sn	**Sn**	**11 42 41.8**	**-1.5**
LVC	**Limon Verde**	**1.37**	**81**	*i*P	**Pn**	**11 42 27.1**	**+1.0**
LVC				*e*S	**Sn**	**11 42 44.1**	**+0.9**
LVC	**Limon Verde**	**1.37**	**81**	P	**Pn**	**11 42 26.7**	**+0.7**
	comp=N,2μm,0.3s,baz=256,slow=8.5,SNR=250						
LVC				S	**Sn**	**11 42 44.1**	**+0.9**
	comp=N,9μm,0.3s,baz=61,slow=19,SNR=54						
LVC	**Limon Verde**	**1.37**	**81**	*e*P	**Pn**	**11 42 27.3**	**+1.3**
PB09	**IPOC Station P**	**1.48**	**45**	*i*P	**Pn**	**11 42 28.5**	**+1.2**
PB09				*i* S	**Sn**	**11 42 46.9**	**+1.3**
PB09				IAML		11 42 48.3	
	comp=E,33μm,0.3s						
PB02	**IPOC Station P**	**1.58**	**16**	*e*P	**Pn**	**11 42 28.7**	**0.0**
PB02				*i* S	**Sn**	**11 42 48.0**	**0.0**
PB02				IAML		11 42 49.7	
	comp=E,43μm,0.3s						
PB14	**IPOC Station P**	**1.77**	**181**	*e*P	**Pn**	**11 42 31.4**	**-0.1**
PB14				*i* S	**Sn**	**11 42 52.0**	**-1.1**
PB01	**IPOC Station P**	**1.97**	**25**	*e*Pn	**Pn**	**11 42 34.6**	**+0.6**
PB01				*e*Sn	**Sn**	**11 42 57.7**	**+0.1**
PB01	**IPOC Station P**	**1.97**	**25**	*e*P	**Pn**	**11 42 34.6**	**+0.6**
PB01				*i* S	**Sn**	**11 42 57.8**	**+0.2**
PB01				IAML		11 42 58.6	
	comp=E,33μm,0.3s						
GO02	**Mina Guanaco**	**2.42**	**163**	*e*Pn	**Pn**	**11 42 41.1**	**+0.8**
PB11	**IPOC Station P**	**3.14**	**12**	*e*Pn	**Pn**	**11 42 50.0**	**-0.1**
MNMC	**Minye Minye**	**3.77**	**11**	*e*Pn	**Pn**	**11 42 59.1**	**+0.3**
LCO	**Las Campanas**	**6.15**	**183**	*e*Pn	**Pn**	**11 43 29.2**	**-2.2**
LPAZ	**La Paz**	**6.86**	**18**	*e*Pn	**Pn**	**11 43 43.0**	**+1.5**
LPAZ	**La Paz**	**6.86**	**18**	P	**Pn**	**11 43 43.1**	**+1.5**
	comp=E,8.0nm,0.3s,baz=267,slow=2.5,SNR=70						
LPAZ				LR	LR	11 47 08.2	
	comp=E,740nm,21.4s,baz=217,slow=45						
LPAZ	**La Paz**	**6.86**	**18**	*e*P	**Pn**	**11 43 44.3**	**+2.7**
GO04	**Tololo Observa**	**7.31**	**183**	*e*Pn	**Pn**	**11 43 44.9**	**-2.4**
ROC1	**El Roble**	**10.11**	**183**	*e*Pn	**Pn**	**11 44 25.7**	**0.0**
PEL	**Peldehue**	**10.27**	**181**	*e*Pn	**Pn**	**11 44 27.2**	**-0.4**
SIV	**San Ignacio**	**11.11**	**54**	P	**Pn**	**11 44 37.7**	**-1.6**
SIV	**San Ignacio**	**11.11**	**54**	P	**Pn**	**11 44 37.7**	**-1.6**
	comp=E,19nm,0.3s,baz=255,slow=10,SNR=78						
GO05	**Huala**	**12.20**	**186**	*e*Pn	**Pn**	**11 44 54.2**	**+0.1**
CPUP	**Villa Florida**	**12.36**	**109**	*e*Pn	**Pn**	**11 44 56.2**	**-0.1**
CPUP	**Villa Florida**	**12.36**	**109**	P	**Pn**	**11 44 55.2**	**-1.1**
	comp=E,0.8nm,0.3s,baz=276,slow=11,SNR=9.6						
CPUP				LR	LR	11 50 15.3	
	comp=E,816nm,21.9s,baz=286,slow=40						
CPUP	**Villa Florida**	**12.36**	**109**	*e*P	**Pn**	**11 44 55.7**	**-0.6**
NNA	**Nana**	**12.43**	**329**	*e*Pn	**Pn**	**11 44 57.4**	**+0.1**
NNA				*e*Sn	**Sn**	**11 47 11.2**	**-3.3**
NNA	**Nana**	**12.43**	**329**	P	**Pn**	**11 44 58.0**	**+0.7**
	comp=E,3.1nm,0.3s,baz=189,slow=13,SNR=8.3						
NNA				S	**Sn**	**11 47 09.8**	**-4.7**
	comp=E,3.5nm,0.3s,baz=287,slow=19,SNR=4.6						
NNA				LR	LR	11 49 27.5	
	comp=E,180nm,18.3s,baz=166,slow=36						
AQDB	**Aquidauana**	**13.85**	**83**	*e*P	**Pn**	**11 45 15.1**	**-1.5**
SALV	**Santo Antonio**	**15.47**	**66**	*e*P	**Pn**	**11 45 36.1**	**-2.0**
TRCB	**Terra Rica**	**16.36**	**93**	*e*P	**Pn**	**11 45 47.7**	**-1.6**
GO06	**Curarrehue**	**16.71**	**183**	*e*Pn	**Pn**	**11 45 52.8**	**-1.0**
	comp=E,135nm,1.4s						
TRQA	**Tornquist**	**16.79**	**156**	*e*Pn	**Pn**	**11 45 52.5**	**-2.1**
	comp=E,84nm,0.8s						
ITAB	**Concordia**	**17.10**	**109**	*e*P	**Pn**	**11 45 56.5**	**-2.0**
ATAH	**Atahualpa**	**17.42**	**332**	P	**P**	**11 46 03.7**	**-0.1**
ATAH	**Atahualpa**	**17.42**	**332**	P	**P**	**11 46 03.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=165,slow=11,SNR=7.6						
PLCA	**Paso Flores**	**17.84**	**180**	*e*Pn	**Pn**	**11 46 06.6**	**-1.0**
	comp=E,139nm,1.5s						
PLCA	**Paso Flores**	**17.84**	**180**	P	**Pn**	**11 46 06.5**	**-1.0**
	comp=E,1.4nm,0.3s,baz=19,slow=10,SNR=24						
PLCA				LR	LR	11 52 57.3	
	comp=E,668nm,21.7s,baz=30,slow=37						
PLCA	**Paso Flores**	**17.84**	**180**	*e*P	**Pn**	**11 46 06.7**	**-1.0**
FRTB	**Fartura**	**19.15**	**96**	*e*P	**P**	**11 46 22.6**	**+0.3**
BB19B	**Bebedouro**	**20.34**	**89**	*e*P	**P**	**11 46 33.4**	**-1.9**
GO07	**Milladeo Hill,**	**20.40**	**187**	*e*P	**P**	**11 46 36.0**	**+0.3**
	comp=E,426nm,0.8s						
SPB	**Sao Paulo**	**21.10**	**97**	*e*P	**P**	**11 46 43.1**	**-0.3**
	comp=E,72nm,1.3s						
SPB	**Sao Paulo**	**21.10**	**97**	*e*P	**P**	**11 46 41.4**	**-2.0**
BDFB	**Brasilia**	**22.27**	**75**	*e*P	**P**	**11 46 54.5**	**-1.7**
	comp=E,25nm,0.7s						
BDFB	**Brasilia**	**22.27**	**75**	P	**P**	**11 46 54.4**	**-1.9**
	comp=E,20nm,0.5s,baz=249,slow=11,SNR=17						
BDFB				LR	LR	11 56 50.3	
	comp=E,772nm,20.1s,baz=278,slow=40						
PMNB	**Patos De Minas**	**22.79**	**84**	*e*P	**P**	**11 46 58.5**	**-3.1**
PTLC	**Puerto Leguiza**	**23.28**	**349**	*e*P	**P**	**11 47 08.9**	**+2.4**
PTLC	**Puerto Leguiza**	**23.28**	**349**	*e*P	**P**	**11 47 08.9**	**+2.4**
PTGA	**Pitinga**	**24.20**	**26**	*e*P	**P**	**11 47 14.5**	**-0.6**
	comp=E,44nm,1.0s						
PTGA	**Pitinga**	**24.20**	**26**	P	**P**	**11 47 13.7**	**-1.4**
	comp=E,11nm,0.3s,baz=267,slow=23,SNR=21						
PTGA	**Pitinga**	**24.20**	**26**	*e*P	**P**	**11 47 14.4**	**-0.6**
OTAV	**Otavalo**	**24.25**	**340**	*e*P	**P**	**11 47 16.5**	**+0.4**
	comp=E,15nm,0.8s						
OTAV	**Otavalo**	**24.25**	**340**	*e*P	**P**	**11 47 17.5**	**+1.4**
FLOC	**Florencia**	**24.82**	**347**	*e*P	**P**	**11 47 22.8**	**+2.1**
FLOC	**Florencia**	**24.82**	**347**	*e*P	**P**	**11 47 22.8**	**+2.1**
SOTA	**Rioblanco**	**25.56**	**345**	*e*P	**P**	**11 47 34.7**	**+6.7**
SOTA	**Rioblanco**	**25.56**	**345**	*e*P	**P**	**11 47 34.7**	**+6.7**
JANB	**Januaria**	**25.81**	**77**	*e*P	**P**	**11 47 28.6**	**-1.2**
POPC	**Popayan, Colom**	**25.97**	**345**	*e*P	**P**	**11 47 32.9**	**+1.6**
POPC	**Popayan, Colom**	**25.97**	**345**	*e*P	**P**	**11 47 32.9**	**+1.6**
GRGC	**Isla de Gorgon**	**26.79**	**343**	*e*P	**P**	**11 47 32.3**	**-6.2**
GRGC	**Isla de Gorgon**	**26.79**	**343**	*e*P	**P**	**11 47 32.3**	**-6.2**
YOTC	**Yotoco, Valle**	**27.29**	**347**	*e*P	**P**	11 47 50.8	+7.6
YOTC	**Yotoco, Valle**	**27.29**	**347**	*e*P	**P**	11 47 50.8	+7.6
ROSC	**El Rosal**	**27.78**	**352**	LR	LR	11 59 42.6	
	comp=E,162nm,18.9s,baz=182,slow=38						
RREF	**El Recreo**	**28.00**	**349**	*e*P	**P**	11 47 57.9	+7.8
RREF	**El Recreo**	**28.00**	**349**	*e*P	**P**	11 47 57.9	+7.8
RUSC	**La Rusia**	**28.68**	**354**	*e*P	**P**	**11 47 57.4**	**+1.5**
RUSC	**La Rusia**	**28.68**	**354**	*e*P	**P**	**11 47 57.4**	**+1.5**
EFI	**East Falkland**	**30.32**	**165**	*e*P	**P**	**11 48 09.1**	**-0.5**
	comp=E,19nm,0.6s						
SMLC	**San Martn de**	**31.66**	**353**	*e*P	**P**	**11 48 19.8**	**-1.9**
SMLC	**San Martn de**	**31.66**	**353**	*e*P	**P**	**11 48 19.8**	**-1.9**
USHA	**Ushuaia**	**31.98**	**178**	P	**P**	**11 48 23.8**	**-0.3**
USHA	**Ushuaia**	**31.98**	**178**	P	**P**	**11 48 23.8**	**-0.3**
	comp=E,7.2nm,0.4s,baz=354,slow=8.0,SNR=12						
RCBR	**Riachuelo**	**37.29**	**68**	*e*P	**P**	**11 49 11.0**	**+0.4**
	comp=E,109nm,0.8s						
RCBR	**Riachuelo**	**37.29**	**68**	*e*P	**P**	**11 49 09.5**	**-1.1**
OBIP	**Obispado Ponce**	**40.80**	**5**	*e*P	**P**	**11 49 37.2**	**-2.5**
	comp=E,30nm,1.0s						
SJG	**San Juan**	**40.91**	**6**	*e*P	**P**	**11 49 38.2**	**-2.4**
	comp=E,29nm,0.9s						
MTP	**Monte Pirata**	**40.96**	**7**	*e*P	**P**	**11 49 38.6**	**-2.4**
	comp=E,9.7nm,0.8s						
CBYP	**Canovanas**	**41.10**	**7**	*e*P	**P**	**11 49 40.8**	**-1.4**
	comp=E,23nm,0.9s						
CUPR	**Culebra, Puert**	**41.20**	**7**	*e*P	**P**	**11 49 42.0**	**-1.0**
	comp=E,17nm,1.0s						
TEIG	**Tepich**	**46.24**	**336**	*e*P	**P**	**11 50 24.1**	**+0.7**
	comp=E,84nm,1.5s						
LNIG	**Linares**	**55.22**	**327**	*e*P	**P**	**11 51 31.5**	**+0.4**
	comp=E,6.9nm,1.0s						
255A	**Hazlehurst**	**55.68**	**348**	P	**P**	**11 51 34.2**	**0.0**
	baz=166						
449A	**Pace**	**55.70**	**342**	P	**P**	**11 51 34.3**	**-0.1**
	baz=161						
351A	**Pinckard**	**55.76**	**344**	P	**P**	**11 51 35.2**	**+0.4**
	baz=163						
352A	**Blakely**	**55.79**	**345**	P	**P**	**11 51 35.5**	**+0.5**
	baz=164						
254A	**Abbeville**	**55.87**	**347**	P	**P**	**11 51 35.8**	**+0.2**
	baz=166						
BRAL	**Brewton**	**56.04**	**343**	P	**P**	**11 51 36.8**	**+0.1**
	baz=162						
448A	**Bay Minette**	**56.04**	**342**	P	**P**	**11 51 37.0**	**+0.1**
	baz=161						
349A	**Repton**	**56.25**	**343**	P	**P**	**11 51 37.5**	**-0.7**
	baz=161						
251A	**Midway**	**56.49**	**345**	P	**P**	**11 51 39.8**	**-0.2**
	baz=163						
Z58A	**St. Stephen**	**56.59**	**351**	P	**P**	**11 51 40.8**	**+0.1**
	baz=170						
250A	**Grady**	**56.59**	**344**	P	**P**	**11 51 40.2**	**-0.6**
	baz=162						
249A	**Camden**	**56.82**	**343**	P	**P**	**11 51 41.5**	**-0.8**
	baz=162						
152A	**Waverly Hall**	**56.88**	**346**	P	**P**	**11 51 42.4**	**-0.3**
	baz=164						
151A	**Opelika**	**56.88**	**345**	P	**P**	**11 51 42.0**	**-0.8**
	baz=164						
Z54A	**Sparta**	**57.02**	**348**	P	**P**	**11 51 43.2**	**-0.5**
	baz=166						
150A	**Eclectic**	**57.13**	**344**	P	**P**	**11 51 44.1**	**-0.5**
	baz=163						
H06E1	**SOCORRO T-PHAS**	**57.28**	**313**	T	T	12 53 50.1	
	SNR=24						
Z52A	**Williamson**	**57.31**	**346**	P	**P**	**11 51 45.7**	**-0.1**
	baz=165						
GOGA	**Godfrey**	**57.32**	**347**	P	**P**	**11 51 46.0**	**+0.2**
	baz=166						
149A	**Jones**	**57.32**	**344**	P	**P**	**11 51 46.0**	**+0.1**
	baz=162						
Y57A	**Sumter**	**57.34**	**350**	P	**P**	**11 51 45.7**	**-0.3**
	baz=169						
Y55A	**Saluda**	**57.52**	**349**	P	**P**	**11 51 46.7**	**-0.5**
	baz=168						
Z50A	**Ashland**	**57.72**	**345**	*e*P	**P**	**11 51 48.3**	**-0.4**
Z50A				*e*pP	**pP**	**11 52 01.5**	**-0.6**
Z50A	**Ashland**	**57.72**	**345**	P	**P**	**11 51 47.8**	**-0.9**
	baz=163						
Y53A	**Monroe**	**57.77**	**347**	P	**P**	**11 51 48.1**	**-1.0**
	baz=166						
LRAL	**Lakeview Retre**	**57.79**	**343**	*e*pP	pP	11 52 01.7	-0.8
LRAL	**Lakeview Retre**	**57.79**	**343**	P	**P**	**11 51 48.6**	**-0.6**
	baz=162						
Z49A	**Columbiana**	**57.82**	**344**	P	**P**	**11 51 48.2**	**-1.1**
	baz=162						
X56A	**White Oak**	**57.91**	**350**	P	**P**	**11 51 49.6**	**-0.5**
	baz=168						
X55A	**Gracelyn & Ava**	**57.99**	**349**	P	**P**	**11 51 49.9**	**-0.7**
	baz=168						
833A	**Chaparral WMA,**	**58.06**	**330**	*e*P	**P**	**11 51 51.7**	**+0.4**
	comp=E,18nm,0.9s						
833A	**Chaparral WMA,**	**58.06**	**330**	P	**P**	**11 51 50.3**	**-0.9**
	baz=148						
Y51A	**Rockmart**	**58.14**	**346**	P	**P**	**11 51 51.1**	**-0.6**
	baz=164						
X54A	**Belton**	**58.20**	**348**	P	**P**	**11 51 51.6**	**-0.5**
	baz=167						
Y50A	**Piedmont**	**58.28**	**345**	P	**P**	**11 51 52.4**	**-0.2**
	baz=163						
X53A	**Estanollee**	**58.34**	**347**	P	**P**	**11 51 53.2**	**+0.2**
	baz=166						
Y49A	**Blount Mountai**	**58.42**	**344**	P	**P**	**11 51 53.5**	**-0.1**
	baz=163						
KMSC	**Kings Mountain**	**58.60**	**349**	P	**P**	**11 51 55.1**	**+0.3**
	baz=168						
Y48A	**Jasper**	**58.66**	**344**	P	**P**	**11 51 55.4**	**+0.1**
	baz=162						
W54A	**Cherokee Point**	**58.69**	**349**	P	**P**	**11 51 55.7**	**+0.2**
	baz=167						
W53A	**Cullowhee**	**58.96**	**348**	P	**P**	**11 51 58.1**	**+0.6**
	baz=166						
X49A	**Woodville**	**59.02**	**345**	P	**P**	**11 51 58.1**	**+0.4**
	baz=163						
W52A	**Murphy**	**59.04**	**347**	P	**P**	**11 51 58.4**	**+0.5**
	baz=166						
X48A	**Hartselle**	**59.14**	**344**	*e*P	**P**	**11 51 58.2**	**-0.4**
X48A				*e*pP	**pP**	**11 52 11.4**	**-0.6**
X48A	**Hartselle**	**59.14**	**344**	P	**P**	**11 51 58.3**	**-0.4**
	baz=162,SNR=5.5						
VNA3	**Neumayer Olymp**	**59.25**	**161**	P	**P**	**11 51 59.6**	**+0.6**
V55A	**Taylorsville**	**59.27**	**350**	P	**P**	**11 51 59.0**	**-0.5**
	baz=168						
W51A	**Cleveland**	**59.28**	**346**	P	**P**	**11 51 59.0**	**-0.5**
	baz=165						
V54A	**Nebo**	**59.32**	**349**	P	**P**	**11 51 59.7**	**-0.2**
	baz=168						
435B	**Jarrell**	**59.37**	**333**	P	**P**	**11 51 59.6**	**-0.7**
	baz=151						
V53A	**Saluda**	**59.38**	**348**	P	**P**	**11 51 59.9**	**-0.3**
	baz=167						
X47A	**Russelville**	**59.42**	**343**	P	**P**	**11 51 59.5**	**-1.0**
	baz=161						
W50A	**Signal Mountai**	**59.44**	**346**	*e*P	**P**	**11 52 00.4**	**-0.3**
W50A				*e*pP	**pP**	**11 52 13.6**	**-0.5**
W50A	**Signal Mountai**	**59.44**	**346**	P	**P**	**11 52 00.5**	**-0.3**
	baz=164						
VNA1	**Neumayer--Stat**	**59.48**	**160**	P	**P**	**11 52 01.5**	**+0.9**
CPCT	**Cooper Cave**	**59.51**	**347**	*e*P	**P**	**11 52 00.4**	**-0.7**
CPCT				*e*pP	**pP**	**11 52 14.3**	**-0.2**
W49A	**Belvidere**	**59.59**	**345**	P	**P**	**11 52 01.4**	**-0.2**
	baz=163						
SWET	**Sewanee**	**59.60**	**345**	*e*P	**P**	**11 52 01.9**	**+0.1**
	comp=E,23nm,1.0s						
X46A	**Booneville**	**59.65**	**343**	P	**P**	**11 52 01.9**	**-0.2**
	baz=161						
V52A	**Sevierville**	**59.69**	**348**	*e*pP	pP	11 52 15.3	-0.5
V52A	**Sevierville**	**59.69**	**348**	P	**P**	**11 52 02.2**	**-0.2**
	baz=166,SNR=5.2						
V51A	**Loudon**	**59.81**	**347**	*e*pP	pP	11 52 16.1	-0.4
OXF	**Oxford**	**59.84**	**342**	P	**P**	**11 52 02.8**	**-0.6**
	baz=160,SNR=5.1						
V50A	**Pikevile**	**59.84**	**346**	P	**P**	**11 52 02.8**	**-0.6**
	baz=164,SNR=6.2						
VNA2	**Neumayer--Watz**	**59.84**	**160**	P	**P**	**11 52 03.8**	**+0.7**
	baz=288,slow=9.1						
PLAL	**Pickwick Lake**	**59.91**	**343**	*e*pP	pP	11 52 15.9	-1.4
W47A	**Westpoint**	**60.04**	**344**	P	**P**	**11 52 04.2**	**-0.6**
	baz=162						
JCT	**Junction City**	**60.08**	**331**	*e*P	**P**	**11 52 05.2**	**0.0**
	comp=E,13nm,0.8s						
JCT	**Junction City**	**60.08**	**331**	P	**P**	**11 52 04.2**	**-1.0**
	baz=149,SNR=8.6						
HPIG		**60.12**	**323**	*e*P	**P**	**11 52 05.6**	**-0.1**
	comp=E,12nm,1.2s						
V49A	**McMinnville**	**60.12**	**345**	P	**P**	**11 52 04.8**	**-0.5**
	baz=164						
W46A	**Michie**	**60.14**	**343**	P	**P**	**11 52 05.3**	**-0.1**
	baz=161						
U52A	**Thorn Hill**	**60.18**	**348**	P	**P**	**11 52 05.2**	**-0.5**
	baz=166						
WLAR	**White Oak Lake**	**60.25**	**338**	*e*P	**P**	**11 52 06.4**	**+0.2**
	comp=E,97nm,1.0s						
WLAR				*e*pP	**pP**	**11 52 21.1**	**+1.5**
X43A	**Marvell**	**60.28**	**341**	P	**P**	**11 52 05.8**	**-0.6**
	baz=158						
U51A	**La Follette**	**60.30**	**347**	P	**P**	**11 52 06.0**	**-0.5**
	baz=166						
V48A	**Smith Brothers**	**60.31**	**345**	*e*P	**P**	**11 52 06.3**	**-0.3**
V48A				*e*pP	**pP**	**11 52 19.6**	**-0.4**
V48A	**Smith Brothers**	**60.31**	**345**	P	**P**	**11 52 06.0**	**-0.7**
	baz=163,SNR=5.4						
WHTX	**Lake Whitney,**	**60.37**	**334**	P	**P**	**11 52 06.0**	**-1.1**
	baz=151						
W45A	**Hickory Valley**	**60.38**	**342**	P	**P**	**11 52 06.5**	**-0.6**
	baz=160						
U50A	**Jamestown**	**60.51**	**347**	P	**P**	**11 52 07.4**	**-0.5**
	baz=165						
T54A	**Tazewell**	**60.51**	**350**	P	**P**	**11 52 07.4**	**-0.6**
	baz=168						
V47A	**Nunnelly**	**60.57**	**344**	P	**P**	**11 52 08.2**	**-0.2**
	baz=162						
T53A	**Wise**	**60.60**	**349**	P	**P**	**11 52 08.1**	**-0.5**
	baz=167						
V46A	**Holladay**	**60.70**	**343**	P	**P**	**11 52 08.5**	**-0.8**
	baz=161						
U49A	**Red Boiling Sp**	**60.80**	**346**	P	**P**	**11 52 09.5**	**-0.5**
	baz=164						
T51A	**Gray**	**60.85**	**348**	P	**P**	**11 52 09.5**	**-0.8**
	baz=166						
V45A	**Humboldt**	**60.87**	**343**	P	**P**	**11 52 09.6**	**-0.8**
	baz=160						
X40A	**Basin Creek Fa**	**60.88**	**339**	P	**P**	**11 52 09.6**	**-0.9**
	baz=156						
R58B	**Mineral**	**60.89**	**353**	P	**P**	**11 52 09.8**	**-0.7**
	baz=172						
WVT	**Waverly**	**60.93**	**344**	*e*P	**P**	**11 52 10.8**	**-0.1**
	comp=E,32nm,1.0s						
WVT	**Waverly**	**60.93**	**344**	P	**P**	**11 52 10.0**	**-0.9**
	baz=162						
TXAR	**Lajitas Array**	**60.98**	**327**	P	**P**	**11 52 12.1**	**+0.6**
TXAR				pP	**pP**	**11 52 25.2**	**+0.1**
TXAR	**Lajitas Array**	**60.98**	**327**	P	**P**	**11 52 12.1**

baz=160,SNR=5.9
R45A Skylar, Fairfi 63.09 344 P P 11 52 25.4 +0.1
baz=162,SNR=6.5
Q48A North Vernon 63.11 347 P P 11 52 25.6 +0.2
baz=164
P51A Williamsport 63.12 349 P P 11 52 26.3 +0.8
baz=167
TUL1 Leonard 63.19 337 eP P 11 52 26.5 +0.5
TUL1 epP pP 11 52 39.9 +0.4
TUL1 Leonard 63.19 337 P P 11 52 26.1 +0.1
baz=154
O56A Blue Knob Stat 63.25 353 epP pP 11 52 40.7 +0.6
O56A Blue Knob Stat 63.25 353 P P 11 52 26.8 +0.5
baz=172
Q47A Bedord North L 63.27 346 P P 11 52 26.7 +0.2
baz=164
O55A Ligonier 63.27 352 P P 11 52 26.9 +0.4
baz=171
S42A Caledonia 63.28 342 P P 11 52 27.0 +0.5
baz=159
WMOK Wichita Mounta 63.30 334 P P 11 52 27.1 +0.3
baz=151
FVM French Village 63.37 342 eP P 11 52 27.3 +0.2
FVM epP pP 11 52 40.6 0.0
P50A Jamestown 63.38 348 P P 11 52 27.3 +0.1
baz=166
S41A Jillco Farms, 63.39 341 P P 11 52 26.8 -0.5
baz=158,SNR=7.0
N59A State Game Lan 63.63 355 P P 11 52 28.1 -0.7
baz=174
Q45A Warren Harvey, 63.63 345 P P 11 52 28.3 -0.6
baz=162,SNR=5.4
CCM Cathedral Cave 63.67 342 P P 11 52 29.0 -0.1
baz=159
O51A Pataskala 63.70 350 P P 11 52 28.6 -0.6
baz=168
R42A Luebbering 63.75 342 P P 11 52 29.3 -0.3
baz=159,SNR=6.2
MNTX Cornudas Mount 63.76 327 eP P 11 52 29.8 -0.1
comp=E,6.6nm,1.0s
MNTX Cornudas Mount 63.76 327 P P 11 52 28.5 -1.3
baz=144,SNR=8.6
N55A Marion Center 63.80 353 P P 11 52 29.9 -0.1
baz=171
ACSO Alum Creek Sta 63.84 349 P P 11 52 29.8 -0.4
baz=167,SNR=5.3
R41A Rosebud 63.94 342 P P 11 52 30.5 -0.3
baz=158,SNR=6.9
O49A Covington 64.04 348 epP pP 11 52 44.6 -0.7
N53A Lisbon 64.07 351 P P 11 52 31.0 -0.7
baz=169
P45A Graceland, Par 64.14 345 P P 11 52 31.5 -0.7
baz=162,SNR=5.4
Q42A Golden Eagle 64.27 343 P P 11 52 33.2 +0.2
baz=159,SNR=6.3
MSTX Muleshoe 64.37 330 eP P 11 52 33.6 -0.3
comp=E,15nm,0.9s
MSTX epP pP 11 52 47.9 +0.2
MSTX Muleshoe 64.37 330 P P 11 52 33.7 -0.3
baz=147,SNR=8.8
N50A Nevada 64.39 349 P P 11 52 34.1 +0.3
baz=167
M55A Ridgway 64.46 353 P P 11 52 34.2 0.0
baz=171
Q41A Truxton 64.50 342 P P 11 52 34.8 +0.3
baz=159,SNR=6.2
M54A Oil Creek Stat 64.60 352 P P 11 52 35.8 +0.7
baz=171
N49A Columbus Grove 64.72 348 epP pP 11 52 48.9 -0.8
N49A Columbus Grove 64.72 348 P P 11 52 36.5 +0.5
baz=166,SNR=5.3
P42A Winchester 64.85 343 epP pP 11 52 49.6 -0.7
P42A Winchester 64.85 343 P P 11 52 37.5 +0.8
baz=160,SNR=5.1
319A Douglas 65.54 324 eP P 11 52 42.0 +0.3
comp=E,12nm,0.9s
319A epP pP 11 52 56.8 +1.4
121A Cookes Peak, D 65.65 326 P P 11 52 42.5 +0.2
baz=142
KSU1 Kansas State U 66.34 338 epP pP 11 53 00.3 +0.1
BNM Barren Site 66.34 328 eP P 11 52 47.3 +0.4
BNM epP pP 11 53 02.5 +1.9
K49A Clarkson 66.41 350 P P 11 52 47.8 +1.0
baz=167
ANMO Albuquerque 66.90 328 eP P 11 52 50.5 +0.2
comp=E,17nm,1.4s
ANMO Albuquerque 66.90 328 P P 11 52 50.6 +0.2
baz=144
J49A Marlette 66.91 350 P P 11 52 50.5 +0.5
baz=167
TUC Tucson 67.08 323 eP P 11 52 51.6 +0.2
comp=E,8.4nm,1.2s
TUC Tucson 67.08 323 P P 11 52 51.5 +0.1
baz=140
CBKS Cedar Bluff 67.22 335 eP P 11 52 52.2 0.0
comp=E,38nm,0.9s
CBKS Cedar Bluff 67.22 335 P P 11 52 52.2 0.0
baz=151,SNR=5.5
QSPA South Pole Qui 67.35 180 eP P 11 52 52.8 -0.1
comp=E,21nm,0.6s
L40A Anamosa 67.40 343 P P 11 52 52.6 -0.5
baz=159
K42A Prairie Point, 67.60 345 P P 11 52 55.0 +0.6
baz=161
T25A Trinidad 67.74 331 eP P 11 52 55.8 +0.2
comp=E,7.3nm,0.9s
T25A Trinidad 67.74 331 P P 11 52 57.3 +1.6
baz=146
214A Organ Pipe Nat 67.95 322 P P 11 52 57.5 +0.6
baz=138
TAOE Nuku Hiva Isla 68.03 269 eLR LR 12 13 35.0
comp=E,4µm,26.2s
TAOE Nuku Hiva Isla 68.03 269 eT T 13 06 58.4
comp=E,31nm,0.2s
G53A Haliburton 68.05 354 P P 11 52 57.9 +0.7
baz=172
K39A Oelwein 68.18 343 P P 11 52 57.8 -0.2
baz=159,SNR=6.0
J40A Soldiers Grove 68.52 344 P P 11 53 00.7 +0.6
baz=160
KSCO Kaye Shedlock' 68.54 333 eP P 11 53 00.9 +0.3
comp=E,13nm,0.9s
KSCO epP pP 11 53 15.5 +1.1
KSCO Kaye Shedlock' 68.54 333 P P 11 53 00.5 0.0
baz=148
I42A Draeger Farm, 68.55 346 P P 11 53 01.3 +0.9
baz=162
J39A Decorah 68.72 343 P P 11 53 01.5 +0.2
baz=159,SNR=5.3
SDCO Great Sand Dun 68.73 331 eP P 11 53 02.8 +0.9
comp=E,16nm,1.0s
SDCO Great Sand Dun 68.73 331 P P 11 53 02.1 +0.1
baz=145,SNR=16
ALGO Algonquin Park 68.82 354 P P 11 53 02.8 +0.8
baz=172
BGNE Belgrade 68.92 338 epP pP 11 53 17.3 +0.8
X16A Lo Mia Camp, P 69.04 324 eP P 11 53 04.2 +0.4
comp=E,5.8nm,0.8s
X16A epP pP 11 53 19.5 +1.9
113A Mohawk Valley, 69.09 322 epP pP 11 53 19.5 +1.7
I39A Houston 69.15 344 epP pP 11 53 17.9 0.0
S22A 4UR Ranch, Cre 69.34 330 eP P 11 53 05.4 -0.3
comp=E,4.4nm,0.8s
S22A 4UR Ranch, Cre 69.34 330 P P 11 53 06.9 +1.1
baz=144
Y14A Wickenburg 69.53 323 eP P 11 53 07.4 +0.7
comp=E,5.7nm,1.1s
Y14A epP pP 11 53 22.5 +2.0
E51A G1948 Merrick 69.54 353 P P 11 53 07.4 +1.0
baz=171
Q24A Divide 69.58 332 P P 11 53 07.9 +0.7
baz=146,SNR=6.4
MVCO Mesa Verde 69.70 328 eP P 11 53 07.9 0.0
comp=E,12nm,1.1s
MVCO Mesa Verde 69.70 328 P P 11 53 08.9 +1.0
baz=143,SNR=6.0
WUAZ Wupatki 69.84 325 eP P 11 53 09.0 +0.3
comp=E,14nm,0.9s
WUAZ Wupatki 69.84 325 P P 11 53 10.0 +1.3
baz=140,SNR=8.6
D53A Lac Vacive, Po 69.91 355 P P 11 53 10.4 +1.8
baz=173
OGNE Ogallala 69.95 335 epP pP 11 53 24.0 +1.0
LIC Lamto 70.06 74 eP P 11 53 09.7 -0.6
comp=E,7.4nm,0.3s
Y12C Blythe 70.24 322 eP P 11 53 11.4 +0.4
comp=E,8.2nm,0.8s
Y12C epP pP 11 53 27.2 +2.3
Y12C Blythe 70.24 322 P P 11 53 12.5 +1.5
baz=137
TIC Toumodi 70.26 74 eP P 11 53 10.9 -0.7
IKP In-Ko-Pah, Jac 70.37 320 P P 11 53 13.6 +1.7
baz=136
KIC Kosan Boka 70.38 74 eP P 11 53 11.7 -0.6
comp=E,20nm,0.6s
DBIC Dimbokro 70.41 74 eP P 11 53 11.8 -0.6
comp=E,21nm,1.1s
DBIC Dimbokro 70.41 74 P P 11 53 11.3 -1.2
comp=E,8.6nm,0.6s,baz=222,slow=6.3,SNR=15
DBIC LR LR 12 24 40.3
comp=E,94nm,18.1s,baz=212,slow=36
DBIC Dimbokro 70.41 74 eP P 11 53 12.3 -0.2
ISCO Idaho Springs 70.47 332 eP P 11 53 14.0 +1.3
comp=E,10.0nm,1.2s
ISCO Idaho Springs 70.47 332 P P 11 53 13.1 +0.5
baz=146
PV01 Paradox Valley 70.47 329 eP P 11 53 13.3 +0.7
PV01 epP pP 11 53 26.9 +0.4
ECSD EROS Data Cent 70.50 340 eP P 11 53 12.4 0.0
comp=E,13nm,1.0s
ECSD EROS Data Cent 70.50 340 P P 11 53 12.9 +0.5
baz=154,SNR=5.6
SMCO Snowmass 70.56 331 eP P 11 53 14.0 +0.7
comp=E,12nm,0.9s
PV02 Paradox Valley 70.61 329 eP P 11 53 13.7 +0.3
comp=E,11nm,1.1s
PV03 Paradox Valley 70.70 329 eP P 11 53 16.4 +2.5
comp=E,6.0nm,1.1s
BC3 Big Chuckawall 70.71 321 P P 11 53 16.1 +2.1
baz=136,SNR=5.1
PV12 Saucer Basin, 70.72 329 eP P 11 53 16.3 +2.2
comp=E,8.2nm,1.1s
BAR Barrett 70.73 320 eP P 11 53 14.7 +0.7
comp=E,9.4nm,0.8s
BAR epP pP 11 53 30.0 +2.1
MONP2 Monument Peak 70.73 320 P P 11 53 15.1 +0.9
baz=135
PV11 David Mesa, Pa 70.74 329 eP P 11 53 16.4 +2.1
comp=E,9.9nm,1.1s
SPMN Marine on St. 70.76 343 epP pP 11 53 27.1 -0.6
PV16 Nyswonger Mesa 70.77 329 eP P 11 53 16.9 +2.4
PV16 epP pP 11 53 30.4 +2.1
PV14 Lion Creek, Pa 70.87 329 eP P 11 53 15.2 +0.1
comp=E,15nm,1.4s
PV14 epP pP 11 53 30.8 +1.9
W13A Hualapai Mount 70.88 323 epP pP 11 53 31.4 +2.4
IRM Iron Mountain 70.89 322 P P 11 53 17.0 +2.0
baz=137,SNR=8.5
U15A North Rim 71.01 325 eP P 11 53 16.0 +0.1
comp=E,8.1nm,0.9s
XPFO Pion Flat 71.26 321 eP P 11 53 17.8 +0.4
comp=E,7.1nm,1.0s
XPFO epP pP 11 53 33.5 +2.2
PFO Pinyon Flats O 71.26 321 eP P 11 53 18.4 +1.0
comp=E,7.3nm,1.1s
PFO epP pP 11 53 33.5 +2.2
PFO Pinyon Flats O 71.26 321 P P 11 53 18.4 +1.0
baz=136
BELC Belle Mtn. Jos 71.27 321 P P 11 53 17.7 +0.3
baz=136
E39A Mellen 71.28 345 P P 11 53 19.3 +2.3
baz=160
N23A Red Feather La 71.51 332 eP P 11 53 19.1 +0.2
comp=E,14nm,1.0s
N23A Red Feather La 71.51 332 P P 11 53 20.5 +1.6
baz=146
GMRC Granite Mounta 71.64 322 P P 11 53 21.9 +2.2
baz=136,SNR=6.5
PHWY Pilot Hill 71.64 333 epP pP 11 53 34.8 +1.2
KNB Kanab 71.73 325 eP P 11 53 21.2 +1.0
comp=E,24nm,1.2s
TBI Tubuai 71.78 252 eLR LR 12 15 19.0
comp=E,200nm,24.8s
TBI Tubuai 71.78 252 eT T 13 11 38.6
comp=E,6.9nm,0.3s
LSQQ Lebel-sur-Quev 71.82 355 P P 11 53 20.6 +0.4
baz=174
O20A White River Ci 71.91 330 eP P 11 53 22.0 +0.8
comp=E,25nm,0.9s
O20A White River Ci 71.91 330 P P 11 53 23.2 +1.9
baz=144,SNR=9.2
LCMT Little Creek M 71.95 325 eP P 11 53 21.9 +0.4
comp=E,6.1nm,1.1s
BBRC Big Bear Solar 71.99 321 P P 11 53 23.1 +1.2
baz=135
HEC Hector,Ludlow 72.06 322 P P 11 53 23.7 +1.6
baz=136,SNR=5.8
SRU San Rafael Swe 72.18 328 eP P 11 53 23.1 +0.2
comp=E,13nm,0.8s
MTPU Mount Pierson 72.18 326 eP P 11 53 24.0 +0.9
comp=E,4.7nm,0.9s
SZCU Shurtz Canyon 72.31 326 eP P 11 53 24.5 +0.8
comp=E,15nm,1.5s
Q16A Castle Valley 72.35 328 eP P 11 53 24.9 +1.0
comp=E,9.5nm,1.1s
BFSC Mount Baldy Ra 72.41 320 P P 11 53 25.9 +1.7
baz=135
CCUT Cedar City 72.42 325 eP P 11 53 24.5 +0.1
comp=E,14nm,0.9s
CHGQ Chibougamau 72.52 357 P P 11 53 25.8 +1.4
baz=176
MSU Marysvale 72.54 327 eP P 11 53 25.7 +0.7
P17A Butcher Ranch, 72.57 328 eP P 11 53 25.8 +0.7
comp=E,15nm,0.9s
P17A epP pP 11 53 41.1 +2.1
SHPR Sheep Range 72.61 324 eP P 11 53 25.9 +0.4
comp=E,3.7nm,0.8s
SHPR epP pP 11 53 41.8 +2.4
GSC Goldstone, Bar 72.67 322 eP P 11 53 26.1 +0.4
comp=E,15nm,1.5s
GSC Goldstone, Bar 72.67 322 P P 11 53 26.4 +0.7
baz=136
SHOC Shoshone, Teco 72.79 322 P P 11 53 27.9 +1.5
baz=136
EDW2 Edwards Air Fo 73.06 321 P P 11 53 29.1 +1.1
baz=135
K22A Casper 73.20 333 P P 11 53 30.2 +1.4
baz=146
LRMC Laurel Mtn Rad 73.30 321 P P 11 53 30.6 +1.1
baz=135
PSUT Pine Spring 73.41 326 eP P 11 53 30.6 +0.4
comp=E,7.9nm,0.9s
MPU Maple Canyon 73.42 328 eP P 11 53 30.6 +0.4
comp=E,9.3nm,0.9s
RSSD Black Hills 73.43 335 eP P 11 53 30.6 +0.4
comp=E,14nm,0.9s
RSSD Black Hills 73.43 335 P P 11 53 31.5 +1.3
baz=148
FURC Furnace Creek, 73.53 322 P P 11 53 31.6 +1.0
baz=136,SNR=7.0
TPNV Topopah Spring 73.53 323 eP P 11 53 31.2 +0.3
comp=E,9.9nm,1.0s
TPNV Topopah Spring 73.53 323 P P 11 53 32.5 +1.6
baz=136,SNR=8.4
NLU North Lily Min 73.59 328 eP P 11 53 31.3 +0.1
comp=E,5.4nm,0.9s
NLU epP pP 11 53 47.0 +1.9
MPMC Manual Prospec 73.59 322 P P 11 53 33.3 +2.0
baz=135
PPT2 Papeete2 73.69 257 eLR LR 12 16 13.0
comp=E,422nm,28.0s
PPT Papeete 73.70 257 LR LR 12 15 48.4
comp=E,39nm,21.7s,baz=107,slow=28
JLU Jordanelle 73.78 329 eP P 11 53 33.0 +0.6
comp=E,17nm,1.4s
DAC Darwin (Calif) 73.81 322 eP P 11 53 33.5 +1.0
comp=E,7.1nm,1.0s
ISA Isabella, Lake 73.88 321 eP P 11 53 33.8 +1.0
comp=E,6.9nm,1.0s
ISA Isabella, Lake 73.88 321 P P 11 53 34.8 +1.9
baz=134,SNR=6.6
DUG Dugway, Tooele 74.14 327 eP P 11 53 34.8 +0.4
comp=E,8.4nm,0.9s
DUG Dugway, Tooele 74.14 327 P P 11 53 35.9 +1.5
baz=140,SNR=8.9
PKM Mcpherson Peak 74.14 320 P P 11 53 36.0 +1.5
baz=133
TCUT Toone Canyon 74.17 329 eP P 11 53 35.2 +0.6
comp=E,8.1nm,0.8s
TCUT epP pP 11 53 50.6 +2.1
R11A Troy Canyon, C 74.19 325 eP P 11 53 35.6 +0.9
comp=E,5.9nm,1.1s
R11A epP pP 11 53 51.0 +2.3
R11A Troy Canyon, C 74.19 325 P P 11 53 36.0 +1.3
baz=137,SNR=8.4
CWC Cottonwood Cre 74.20 322 P P 11 53 36.0 +1.2
baz=135
VES Vestal, Richgr 74.36 321 P P 11 53 36.9 +1.4
baz=134
AGMN Agassiz Nation 74.41 343 eP P 11 53 35.7 +0.1
comp=E,16nm,1.0s
AGMN epP pP 11 53 49.3 -0.2
AGMN Agassiz Nation 74.41 343 P P 11 53 36.7 +1.2
baz=156
SMMC Simmler 74.54 320 P P 11 53 38.4 +1.7
baz=133
BW06 Boulder Array 74.61 331 eP P 11 53 38.8 +1.7
comp=E,4.8nm,1.4s
PDAR Pinedale Array 74.61 331 eP P 11 53 36.8 -0.3
PDAR pP pP 11 53 51.1 0.0
PDAR Pinedale Array 74.61 331 P P 11 53 37.4 +0.2
comp=E,1.0nm,0.9s,baz=142,slow=7.5,SNR=6.9
PDAR pP pP 11 53 51.1 0.0
comp=E,1.4nm,0.7s,baz=143,slow=6.0,SNR=7.7
BGU Big Grassy Mou 74.80 328 eP P 11 53 38.7 +0.5
comp=E,6.3nm,1.2s
BGU epP pP 11 53 49.8 -2.4
VNDA Vanda 75.30 190 eP P 11 53 41.5 +1.1
comp=E,5.2nm,1.0s
VNDA pP pP 11 53 55.6 +1.1
VNDA Vanda 75.30 190 P P 11 53 42.1 +1.8
comp=E,3.7nm,0.9s,baz=141,slow=5.3,SNR=6.8
VNDA pP pP 11 53 55.6 +1.1
comp=E,3.6nm,0.9s,baz=88,slow=6.1,SNR=5.2
VNDA LR LR 12 23 27.2
comp=E,84nm,18.0s,baz=177,slow=33
HVU Hansel Valley 75.33 329 eP P 11 53 41.9 +0.7
comp=E,8.8nm,1.0s
HVU epP pP 11 53 56.8 +1.6
MLAC Mammoth, Mammo 75.47 322 P P 11 53 43.8 +1.6
baz=135
OMMB Old Mammoth Mi 75.55 322 eP P 11 53 43.2 +0.4
comp=E,6.8nm,1.0s
OMMB epP pP 11 53 59.1 +2.4
MDPB Devils Postpil 75.61 322 eP P 11 53 43.2 +0.2
comp=E,6.5nm,1.2s
NV11 Mina Array Sit 75.65 323 eP P 11 53 43.5 +0.4
comp=E,0.4nm,1.3s
REDW Red Top Meadow 75.66 331 eP P 11 53 43.5 +0.4
comp=E,15nm,1.0s
SNOW Snow King Moun 75.70 331 eP P 11 53 43.8 +0.4
comp=E,12nm,0.9s
SNOW epP pP 11 53 58.4 +1.0
SYO Syowa Base 75.72 160 eP P 11 53 42.2 -0.7
NV01 Mina Array Sit 75.73 323 eP P 11 53 44.2 +0.6
NV01 epP pP 11 53 59.5 +1.9
NVAR Mina Array Bea 75.73 323 P P 11 53 45.2 +1.6
NVAR pP pP 11 53 59.0 +1.3
NVAR Mina Array Bea 75.73 323 P P 11 53 45.2 +1.6
comp=E,3.7nm,0.9s,baz=155,slow=6.1,SNR=19
NVAR pP pP 11 53 59.0 +1.3
comp=E,2.9nm,0.8s,baz=159,slow=6.7,SNR=8.4
LOHW Long Hollow 75.75 331 eP P 11 53 44.2 +0.5
comp=E,6.5nm,0.8s
ELK Elko 75.77 326 eP P 11 53 44.5 +0.6
comp=E,4.3nm,0.9s
ELK epP pP 11 53 59.3 +1.5
TPAW Teton Pass 75.81 331 eP P 11 53 44.5 +0.5
comp=E,8.0nm,0.9s
MOOW Moose Ponds 75.92 331 eP P 11 53 44.0 -0.6
MOOW epP pP 11 53 59.4 +0.9
FXWY Fox Creek 75.96 331 eP P 11 53 45.2 +0.4
comp=E,7.0nm,1.0s
FXWY epP pP 11 54 00.0 +1.2
RYN Ryan 75.99 323 eP P 11 53 45.4 +0.4
comp=E,3.3nm,0.9s
KVN Kaiserville 76.06 324 eP P 11 53 45.8 +0.3
comp=E,9.4nm,1.0s
FLWY Flagg Ranch 76.16 331 eP P 11 53 46.2 +0.3
comp=E,24nm,1.0s
ULM Lac du Bonnet 76.20 343 P P 11 53 44.5 -1.3
ULM pP pP 11 53 59.3 -0.4
ULM Lac du Bonnet 76.20 343 P P 11 53 44.5 -1.3
comp=E,2.8nm,0.9s,baz=150,slow=5.3,SNR=4.1
ULM pP pP 11 53 59.3 -0.4
comp=E,6.1nm,1.0s,baz=144,slow=7.2,SNR=6.3
H17A Grant Village 76.35 332 P P 11 53 48.7 +1.6
baz=142
RLMT Red Lodge 76.37 333 eP P 11 53 47.1 0.0
comp=E,9.3nm,0.9s
RLMT epP pP 11 53 56.8 -4.3
RLMT Red Lodge 76.37 333 P P 11 53 48.4 +1.3
baz=144
WAKR Walker 76.41 322 eP P 11 53 47.4 -0.1
comp=E,6.9nm,1.2s
LAO LASA Array 76.42 335 eP P 11 53 47.6 +0.4
comp=E,26nm,1.0s
LAO epP pP 11 54 02.2 +1.1
LAO LASA Array 76.42 335 P P 11 53 48.5 +1.3
baz=146
YERR Yerington 76.64 323 eP P 11 53 49.0 +0.2
comp=E,9.3nm,1.3s
YMR Madison River 76.74 332 eP P 11 53 50.1 +0.8
comp=E,29nm,1.3s
YHH Holmes Hill 76.78 332 eP P 11 53 50.4 +0.9
comp=E,17nm,1.1s
YHB Horse Butte 76.91 331 eP P 11 53 51.4 +1.2
PNTR Pine Nut 76.91 323 eP P 11 53 50.2 -0.1
comp=E,8.2nm,0.8s
PNTR epP pP 11 54 04.8 +0.4
VCNR Virginia City 77.08 323 eP P 11 53 50.5 -0.8
comp=E,6.3nm,1.0s
DGMT Dagmar 77.18 338 eP P 11 53 52.0 +0.6
comp=E,44nm,1.0s
DGMT epP pP 11 54 06.9 +1.5
DGMT Dagmar 77.18 338 P P 11 53 53.2 +1.8
baz=148,SNR=6.3
PAHR Pah Rah Range 77.22 323 eP P 11 53 53.5 +1.5
comp=E,13nm,0.9s
SCHQ Schefferville 77.42 2 LR LR 12 28 23.2
comp=E,47nm,19.4s,baz=348,slow=36
HLID Hailey 77.47 329 eP P 11 53 53.8 +0.4
comp=E,11nm,0.9s
HLID Hailey 77.47 329 P P 11 53 55.6 +2.3
baz=139,SNR=16
AFDM Forest Hills D 77.59 322 eP P 11 53 54.7 +0.8
comp=E,6.8nm,1.1s
MCMT McKenzie Canyo 77.70 331 eP P 11 53 55.6 +0.9
BEKR Beckworth 77.88 323 eP P 11 53 55.5 -0.2
comp=E,6.9nm,1.1s
DLMT Dillon 78.00 331 eP P 11 53 56.0 -0.2
comp=E,8.2nm,1.0s
DLMT epP pP 11 54 11.9 +1.6
ORV Oroville 78.30 322 eP P 11 53 58.0 +0.2
comp=E,14nm,1.1s
HRY Holter Researc 78.72 332 epP pP 11 54 15.7 +1.6
EGMT Eagleton 78.90 334 epP pP 11 54 15.9 +0.8
EGMT Eagleton 78.90 334 P P 11 54 02.5 +1.5
baz=144
O03E Paynes Creek 78.97 322 P P 11 54 02.7 +1.1
baz=133
SUR Sutherland 79.07 121 eP P 11 54 02.8 +0.2
comp=E,33nm,1.3s
TOA0 Torodi Ar. Sit 79.08 71 eP P 11 54 02.2 -0.4
comp=E,22nm,0.8s
TORD Torodi Ar. Bea 79.08 71 P P 11 54 01.1 -1.5
TORD pP pP 11 54 15.6 -1.5
TORD Torodi Ar. Bea 79.08 71 P P 11 54 01.1 -1.5
comp=E,17nm,0.6s,baz=251,slow=4.4,SNR=66
TORD pP pP 11 54 15.6 -1.5
comp=E,13nm,0.5s,baz=254,slow=5.7,SNR=14
TORD LR LR 12 28 23.3
comp=E,128nm,20.7s,baz=310,slow=35
MOD Modoc Plateau 79.25 324 eP P 11 54 04.6 +1.4
comp=E,8.8nm,0.9s
O02D Mt. Diablo Mer 79.45 322 P P 11 54 06.0 +1.7
baz=132
MSO Missoula 79.73 331 P P 11 54 07.6 +2.0
baz=140
BMO Blue Mountains 79.82 328 eP P 11 54 07.9 +1.7
comp=E,10nm,1.0s
N02D Trinity Center 79.94 323 P P 11 54 08.2 +1.4
baz=132
M04C Macdoel 80.00 324 P P 11 54 08.6 +1.3
baz=133,SNR=5.2
M02C Callahan 80.30 323 P P 11 54 10.5 +1.8
baz=132
I07A Izee 80.36 326 eP P 11 54 11.0 +1.9
I07A epP pP 11 54 24.9 +1.8
F10A Beach Ranch, E 80.60 329 eP P 11 54 12.1 +1.8
comp=E,12nm,0.9s

PINE	**Pine Mountain**	**80.90**	**325**	*e*P	**P**	11 54 14.1	+2.0
PINE				*e*pP	**pP**	**11 54 28.6**	**+2.4**
G08A	**Pilot Rock**	**80.95**	**328**	*e*P	**P**	**11 54 11.8**	**-0.4**
	comp=E,10.0nm,1.2s						
G08A				*e*pP	**pP**	**11 54 28.0**	**+1.8**
WALA	**Waterton Lakes**	**81.42**	**333**	*e*pP	pP	11 54 30.0	+1.3
I05D	**Terrebonne, OR**	**81.49**	**326**	P	**P**	**11 54 16.4**	**+1.4**
	baz=134						
K02D	**Willamette Mer**	**81.62**	**323**	P	**P**	**11 54 18.2**	**+2.5**
	baz=132						
I04A	**Tendick Farm,**	**81.68**	**325**	P	**P**	**11 54 17.0**	**+1.0**
	baz=133						
FFC	**Flin Flon**	**81.88**	**342**	*e*pP	pP	11 54 30.9	+0.2
HAWA	**Hanford**	**82.01**	**328**	*e*P	**P**	**11 54 18.0**	**+0.3**
	comp=E,15nm,1.1s						
HAWA				*e*pP	**pP**	**11 54 33.2**	**+1.5**
J01E	**Myrtle Point**	**82.08**	**324**	P	**P**	**11 54 20.0**	**+2.0**
	baz=132						
G05D	**Wamic, OR**	**82.10**	**326**	P	**P**	**11 54 20.4**	**+2.3**
	baz=134						
H04A	**Detroit Lake**	**82.17**	**326**	*e*pP	pP	11 54 34.0	+1.3
D08A	**Wollman Farm,**	**82.19**	**329**	*e*pP	pP	11 54 34.1	+1.5
NEW	**Newport**	**82.23**	**331**	P	**P**	**11 54 20.9**	**+2.1**
	baz=137						
C09A	**Chrisman Ranch**	**82.42**	**330**	*e*P	**P**	**11 54 20.4**	**+0.6**
	comp=E,10nm,0.8s						
C09A				*e*pP	**pP**	**11 54 35.2**	**+1.4**
B08A	**Colville Reser**	**83.32**	**330**	*e*pP	pP	11 54 39.0	+0.5
MAW	**Mawson**	**83.43**	**164**	LR	LR	12 31 27.7	
	comp=E,126nm,20.9s,baz=242,slow=36						
BOSA	**Boshof**	**84.01**	**118**	P	**P**	**11 54 28.1**	**-0.6**
BOSA	**Boshof**	**84.01**	**118**	P	**P**	**11 54 28.1**	**-0.6**
	comp=E,3.1nm,0.9s,baz=256,slow=4.6,SNR=3.4						
BOSA				LR	LR	12 29 55.2	
	comp=E,81nm,18.3s,baz=218,slow=34						
ESDC	**Sonseca Array**	**87.74**	**45**	P	**P**	**11 54 45.2**	**-1.4**
ESDC	**Sonseca Array**	**87.74**	**45**	P	**P**	**11 54 45.2**	**-1.4**
	comp=E,0.6nm,0.6s,baz=258,slow=4.2,SNR=4.8						
ES19	**SONSECA Array**	**87.79**	**45**	*e*P	**P**	**11 54 47.2**	**+0.3**
YKA	**Yellowknife Ar**	**92.00**	**341**	P	**P**	**11 55 06.0**	**0.0**
YKA				pP	**pP**	**11 55 20.4**	**+0.2**
YKA	**Yellowknife Ar**	**92.00**	**341**	P	**P**	**11 55 06.0**	**0.0**
	comp=E,2.0nm,0.8s,baz=138,slow=4.4,SNR=41						
YKA				pP	**pP**	**11 55 20.4**	**+0.2**
	comp=E,4.9nm,1.0s,baz=141,slow=3.7,SNR=19						
DZM	**Mont Dzumac**	**108.91**	**235**	*e*LR	LR	12 32 29.5	
	comp=E,195nm,29.4s						
CSS	**Mathiatis**	**113.56**	**61**	*e*Pdif	**Pdif**	**11 56 46.1**	**+2.8**
KBZ	**Khabaz**	**122.01**	**52**	PKP	**PKiKP**	**12 00 53.1**	**+1.0**
KBZ	**Khabaz**	**122.01**	**52**	PKP	**PKiKP**	**12 00 53.1**	**+1.0**
	comp=E,1.5nm,0.8s,baz=198,slow=3.2,SNR=5.3						
H11S2	**WAKE ISLAND Hyd**	**26.69**	**277**	T	T	14 20 29.1	
	baz=105,slow=75,SNR=1061						
H11S1	**WAKE ISLAND Hyd**	**26.70**	**277**	T	T	14 20 32.2	
	baz=105,slow=75,SNR=977						
H11S3	**WAKE ISLAND Hyd**	**26.71**	**277**	T	T	14 20 30.5	
	baz=105,slow=75,SNR=496						
H11N3	**WAKE ISLAND Hyd**	**26.81**	**278**	T	T	14 20 35.4	
	baz=107,slow=74,SNR=356						
H11N2	**WAKE ISLAND Hyd**	**26.83**	**278**	T	T	14 20 44.0	
	baz=107,slow=74,SNR=314						
H11N1	**WAKE ISLAND Hyd**	**26.83**	**278**	T	T	14 20 36.1	
	baz=107,slow=74,SNR=218						
AS01	**Alice Springs**	**128.07**	**209**	*e*PKPdf	**PKPdf**	**12 01 04.1**	**-0.2**
ASAR	**Alice Springs**	**128.09**	**209**	PKP	**PKPdf**	**12 01 04.5**	**0.0**
ASAR	**Alice Springs**	**128.09**	**209**	PKP	**PKPdf**	**12 01 04.5**	**0.0**
	comp=E,3.9nm,0.9s,baz=155,slow=2.1,SNR=22						
WRA	**Warramunga Arr**	**131.11**	**211**	PKP	**PKPdf**	**12 01 10.4**	**+0.3**
WRA	**Warramunga Arr**	**131.11**	**211**	PKP	**PKPdf**	**12 01 10.4**	**+0.3**
	comp=E,3.6nm,1.0s,baz=148,slow=1.6,SNR=12						
KURK	**Kurchatov**	**143.19**	**33**	PKP	PKPbc	12 01 28.5	+0.1
KURBB	**Kurchatov Arra**	**143.20**	**33**	PKP	PKPbc	12 01 28.5	0.0
	comp=E,0.8nm,0.6s,baz=350,slow=3.3,SNR=7.0						
ZAA0	**Zalesovo Array**	**143.74**	**25**	*e*PKPdf	**PKPdf**	**12 01 31.6**	**-0.6**
ZALV	**Zalesovo Beam**	**143.74**	**25**	PKP	PKPbc	12 01 29.9	0.0
ZALV	**Zalesovo Beam**	**143.74**	**25**	PKP	PKPbc	12 01 29.9	0.0
	comp=E,2.8nm,0.8s,baz=325,slow=3.8,SNR=12						
KSH	**Kashi**	**146.99**	**52**	PKPbc	**PKPbc**	**12 01 40.2**	**-0.4**
KSH				pPKP	pPKPdf	12 01 50.8	-2.6
KSH				PP	**PP**	**12 05 10.5**	**+5.0**
KSH				AMB	AMB		
	comp=E,120nm,7.6s						
MAKZ	**Makanchi**	**147.33**	**36**	*e*PKPdf	**PKPdf**	**12 01 39.0**	**+0.3**
MKAR	**Makanchi Array**	**147.51**	**36**	PKPbc	**PKPdf**	**12 01 40.0**	**+1.0**
MKAR	**Makanchi Array**	**147.51**	**36**	PKPbc	**PKPdf**	**12 01 40.0**	**+1.0**
	comp=E,4.5nm,0.8s,baz=350,slow=1.5,SNR=26						
MK01	**Makanchi Array**	**147.53**	**36**	*e*PKPdf	**PKPdf**	**12 01 39.1**	**+0.1**
KLR	**Kul'dur**	**148.40**	**332**	PKPbc	**PKPbc**	**12 01 43.5**	**-0.3**
KLR	**Kul'dur**	**148.40**	**332**	PKPbc	**PKPbc**	**12 01 43.5**	**-0.3**
	comp=E,3.2nm,0.9s,baz=356,slow=4.8,SNR=5.9						
HYB	**Hyderabad**	**150.36**	**95**	*i* P	**PKiKP**	**12 01 50.5**	**0.0**
LEM	**Lembang**	**150.45**	**176**	PKPbc	**PKiKP**	**12 01 51.0**	**0.0**
LEM	**Lembang**	**150.45**	**176**	PKPbc	**PKiKP**	**12 01 51.0**	**0.0**
	comp=E,20nm,0.5s,baz=178,slow=23,SNR=4.4						
MJAR	**Matsushiro Arr**	**151.79**	**305**	PKPbc	**PKPbc**	**12 01 52.0**	**-0.5**
MJAR	**Matsushiro Arr**	**151.79**	**305**	PKPbc	**PKPbc**	**12 01 52.0**	**-0.5**
	comp=E,2.5nm,0.9s,baz=103,slow=1.0,SNR=4.5						
USRK	**Ussuriysk Ar.**	**151.86**	**325**	PKPbc	**PKPbc**	**12 01 52.4**	**0.0**
USRK	**Ussuriysk Ar.**	**151.86**	**325**	PKPbc	**PKPbc**	**12 01 52.4**	**0.0**
	comp=E,1.8nm,0.8s,baz=74,slow=2.4,SNR=5.8						
WMQ	**Urumqi**	**152.34**	**36**	*e*PKPbc	**PKPdf**	**12 01 48.0**	**+1.2**
SONM	**Songino Array**	**154.93**	**5**	PKP	**PKPdf**	**12 01 50.8**	**+0.3**
SONM				PKPbc	**PKPbc**	**12 01 59.1**	**-0.1**
SONM	**Songino Array**	**154.93**	**5**	PKP	**PKPdf**	**12 01 50.8**	**+0.3**
	comp=E,0.7nm,0.9s,baz=203,slow=1.1,SNR=4.2						
SONM				PKPbc	**PKPbc**	**12 01 59.1**	**-0.1**
	comp=E,0.7nm,0.8s,baz=304,slow=1.3,SNR=4.1						
GTA	**Gaotai**	**161.49**	**25**	PKP	**PKPdf**	**12 02 00.0**	**+1.4**
GTA				pPKP	pPKPdf	12 02 10.9	-2.7
GTA				sPKP		12 02 14.3	
HHC	**Hu-ho-hao-te**	**161.97**	**355**	*e*PKP	**PKPdf**	**12 01 59.8**	**+0.7**
LZH	**Lanzhou**	**165.88**	**20**	*e*PKP	**PKPdf**	**12 02 03.6**	**+0.7**
LZH				pPKP	pPKPdf	12 02 16.8	-1.0
LZH				sPKP		12 02 19.7	
LZH				LR	LR		
	comp=E,75nm,18.2s						
LZH				LR	LR		
	comp=E,82nm,18.0s						
LZH				LR	LR		
	comp=E,100nm,20.3s						
NJ2	**Nanjing**	**167.71**	**320**	*e*PKP	**PKPdf**	**12 02 05.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**169.09**	**112**	PKP	**PKPdf**	**12 02 06.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**169.09**	**112**	PKP	**PKPdf**	**12 02 06.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=324,slow=1.1,SNR=4.4						
CD2	**Chengdu**	**170.41**	**32**	PKP	**PKPdf**	**12 02 06.3**	**+0.4**

*SJA **02** 11:47:54.1±1.0,30.12°S×71.56°W,h10km,ML4.0,MW3.4*
*NEIC **02** 11:47:57.1±0.0,30.42°S×71.42°W,h52km,ML4.1(GUC), After GUC.*
*GUC **02** 11:47:57.2±0.7,30.43°S×71.41°W,h52km±5km,ML4.1*

ISC 02 11:47:54.2±1.9,30.42°S±0.03°×71.40°W±0.08°,h3km±13km, n27,σ2°s14/39,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.57**	**65**	*e*Pn	**Pn**	**11 48 10.3**	**+0.7**
GO04				*e*Sn	**Sn**	**11 48 19.2**	**-0.5**
GO04	**Tololo Observa**	**0.57**	**65**	*e*P	**Pn**	**11 48 11.2**	**+1.6**
GO04				*e*S	**Sn**	**11 48 21.4**	**+1.8**
GO04				IAML		11 48 23.7	
	comp=N,19μm,0.5s						
CMCH	**Combarbala**	**0.83**	**156**	*e*P	**Pn**	**11 48 13.8**	**+0.8**
CMCH				*e*S	**Sn**	**11 48 26.7**	**+1.0**
CMCH				IAML		11 48 28.9	
	comp=E,16μm,0.7s						
LCO	**Las Campanas**	**1.53**	**24**	*e*Pn	**Pb**	**11 48 22.7**	**-0.6**
LCO	**Las Campanas**	**1.53**	**24**	⇓*e*P	**Pb**	**11 48 24.5**	**+1.1**
LCO				*e*S	**Sn**	**11 48 45.8**	**+2.5**
LCO				IAML		11 48 49.2	
	comp=E,2μm,0.3s						
RTLS	**Leoncito**	**2.27**	**128**	*e*P	**Pg**	**11 48 38.8**	**+1.1**
RTLS				*e*S	**Sg**	**11 49 12.0**	**+4.8**
RTLS				IAML		11 49 21.5	
	comp=Z,358nm,0.6s						
AUSP	**Uspallata**	**2.49**	**137**	*e*P	**Pg**	**11 48 41.4**	**-0.6**
AUSP				*e*S	**Sg**	**11 49 16.2**	**+1.9**
ROC1	**El Roble**	**2.57**	**173**	*e*Pn	**Pn**	**11 48 37.3**	**+0.2**
RTLL	**Cerro Villicun**	**2.67**	**111**	*e*P	**Pg**	**11 48 43.9**	**-1.6**
RTLL				*e*S	**Sg**	**11 49 19.3**	**-0.9**
PEL	**Peldehue**	**2.79**	**168**	*e*Pn	**Pn**	**11 48 39.7**	**-0.1**
PEL	**Peldehue**	**2.79**	**168**	⇓*i* P	**Pn**	**11 48 40.9**	**+1.1**
PEL				*i* S	**Sn**	**11 49 14.5**	**+0.5**
FCH	**Farellones**	**3.05**	**162**	*e*P	**Pn**	**11 48 46.1**	**+2.4**
FCH				*e*S	**Sn**	**11 49 22.6**	**+1.7**
FCH				IAML		11 49 37.4	
	comp=E,300nm,0.3s						
ASAL	**Salagasta**	**3.08**	**135**	*e*P	**Pb**	**11 48 49.9**	**+0.1**
ASAL				*e*S	**Sg**	**11 49 31.5**	**-1.7**
ARCO	**CERRO ARCO**	**3.20**	**140**	*e*P	**Pb**	**11 48 51.8**	**-0.1**
ARCO				IAML		11 48 56.5	
	comp=Z,316nm,0.4s						
ARCO				*e*S	**Sg**	**11 49 42.2**	**+5.0**
LMEL	**Las Melosas**	**3.57**	**164**	*e*P	**Pn**	**11 48 52.0**	**+1.3**
LMEL				*e*S	**Sn**	**11 49 34.2**	**+0.7**
LMEL				IAML		11 49 47.8	
	comp=N,322nm,0.2s						
AVIZ	**Vizcacheras**	**3.91**	**142**	*e*P	**Pb**	**11 49 02.8**	**-1.1**
ACAN	**Cantantal**	**4.05**	**118**	*e*P	**Pb**	**11 49 02.5**	**-3.8**
APLL	**PUNTA DE LOS L**	**4.21**	**91**	*e*P	**Pb**	**11 49 04.5**	**-4.4**
APLL				IAML		11 50 05.8	
	comp=Z,99nm,0.5s						
GO05	**Huala**	**4.60**	**185**	*e*Pn	**Pn**	**11 49 02.8**	**-1.9**
MRA	**San Martin**	**5.25**	**114**	*e*P	**Pn**	**11 49 17.8**	**+4.0**
MRA				IAML		11 50 30.0	
	comp=Z,108nm,0.4s						
GO02	**Mina Guanaco**	**5.47**	**17**	*e*Pn	**Pn**	**11 49 17.0**	**0.0**
TCA	**Tanti**	**5.92**	**101**	*e*P	**Pn**	**11 49 26.7**	**+3.7**
TCA				IAML		11 49 31.0	
	comp=Z,90nm,0.4s						
LVC	**Limon Verde**	**8.09**	**17**	*e*Pn	**Pn**	**11 49 52.5**	**-0.5**
GO06	**Curarrehue**	**9.14**	**180**	*e*Pn	**Pn**	**11 50 06.2**	**-1.0**
PLCA	**Paso Flores**	**10.32**	**176**	*e*Pn	**Pn**	**11 50 22.2**	**-1.0**
TRQA	**Tornquist**	**10.89**	**137**	*e*Pn	**Pn**	**11 50 30.7**	**-0.4**
MNMC	**Minye Minye**	**11.36**	**9**	*e*Pn	**Pn**	**11 50 36.5**	**-1.2**

*IDC **02** 11:48:17.7±3.0,54.30°N×87.00°E,h0km,mb1 2.8/2, mb1mx2.7/47,mbtmp2.8/2,ML2.6/2,Error ellipse: s-maj=26.0km s-min=17.2km az=61.0*
*NNC **02** 11:48:24.0±8.0,54.52°N×86.21°E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=61.8km s-min=54.1km az=157.0, Suspected Mining explosion.*

ISC 02 11:48:19.7±2.1,53.16°N±0.08°×85.9°E±0.1°,h0km,n7, σ2°s25/8,6C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**322**	*i*		11 57 41.2	
	baz=74,slow=353,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.01**	**322**	Pg	**Pn**	**11 48 41.2**	**0.0**
	2.1nm,0.3s,baz=78,slow=16,SNR=20						
ZALV				Lg	Lg	11 49 01.0	
	1.4nm,0.3s,baz=75,slow=30,SNR=8.2						
KURK	**Kurchatov**	**5.11**	**244**	⇑Pn	**Pg**	**11 49 56.0**	**-1.6**
	0.4nm,0.6s						
KURK				⇑Sn	**Sg**	**11 51 06.2**	**+2.5**
	1.5nm,1.2s						
KURK				⇑Lg	Lg	11 51 35.8	
	2.1nm,0.8s						
KURBB	**Kurchatov Arra**	**5.21**	**244**	⇓Pn	**Pb**	**11 49 53.2**	**+1.6**
	1.4nm,0.8s,baz=154,slow=12						
KURBB				⇑Sn	**Sg**	**11 51 03.8**	**-3.1**
	1.6nm,0.5s						
KURBB				⇓Lg	Lg	11 51 39.3	
	3.4nm,1.0s,baz=289,slow=22						
KURBB	**Kurchatov Arra**	**5.21**	**244**	Pn	**Pb**	**11 49 53.2**	**+1.6**
	0.1nm,0.3s,baz=51,slow=13,SNR=6.1						
KURBB				Lg	Lg	11 51 39.3	
	0.0nm,0.3s,baz=94,slow=22,SNR=3.0						
MK31	**Makanchi Array**	**6.78**	**201**	⇓Pn	Pb	11 50 23.9	+5.6
	0.1nm,0.3s,baz=21,slow=15,SNR=4.2						
MK31				⇑Sn	**Sg**	**11 51 58.4**	**+1.3**
MK31				⇑Lg	Lg	11 52 36.4	
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**6.78**	**201**	Pn	**Pb**	**11 50 18.1**	**-0.2**
	0.1nm,0.3s,baz=23,slow=12,SNR=4.3						
MKAR				Lg	Lg	11 52 31.7	
	baz=17,slow=32,SNR=6.1						

*ISCJB **02** 11:54:38.8±0.8,27.7°N±0.1°×139.4°E±0.2,h478km,mb3.1/5, Error ellipse: s-maj=24.8km s-min=14.1km az=139.7*
*IDC **02** 11:54:40.2±0.8,27.77°N×139.97°E,h495km±14km,mb2.9/5, mb1 3.0/8,mb1mx2.7/46,mbtmp3.8/8,Error ellipse: s-maj=41.2km s-min=19.8km az=76.0*

ISC 02 11:54:39.8±0.9,27.7°N±0.1°×139.6°E±0.2,h478km,n8, σ1°s22/9,mb3.3/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.40**	**104**	P	**P**	**11 55 46.5**	**+1.4**
	46nm,0.3s,baz=299,slow=10,SNR=10						
JCJ				S	**S**	**11 56 38.2**	**0.0**
	baz=334,slow=16						
MJAR	**Matsushiro Arr**	**8.87**	**353**	P	**P**	**11 56 45.9**	**+1.1**
	0.2nm,0.3s,baz=177,slow=11,SNR=9.6						
USRK	**Ussuriysk Ar.**	**17.54**	**342**	P	**P**	**11 58 16.5**	**-0.1**
	0.1nm,0.3s,baz=138,slow=11,SNR=3.2						
WRA	**Warramunga Arr**	**47.65**	**187**	P	**P**	**12 02 31.6**	**-0.2**
	0.2nm,0.7s,baz=4.2,slow=7.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**50.95**	**314**	P	**P**	**12 02 56.3**	**+0.3**
	0.6nm,0.4s,baz=92,slow=7.7,SNR=4.0						
BVAR	**Borovoye Array**	**56.01**	**317**	P	**P**	**12 03 32.8**	**+0.8**
	1.2nm,0.4s,baz=88,slow=7.2,SNR=7.0						
YKA	**Yellowknife Ar**	**72.69**	**28**	P	**P**	**12 05 15.9**	**-2.0**
	0.1nm,0.5s,baz=294,slow=5.0,SNR=2.7						
FINES	**FINESS Array B**	**76.35**	**333**	P	**P**	**12 05 37.7**	**-0.9**
	0.7nm,0.3s,baz=65,slow=4.5,SNR=9.6						

KRSC 02 11:57:51.1±10.0,48.17°N×155.93°E,h17km±10km,ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.52**	**3**	*e*P	Pn	11 58 33.2	+1.9
SKR				*e*S	Sn	11 59 03.9	+2.3
KDTR	**Khodutka, Kamc**	**3.90**	**20**	*e*P	Pn	11 58 53.8	+3.6
KDTR				*e*S	Sn	11 59 40.7	+5.1
ASAK	**Asacha**	**4.41**	**16**	*e*P	Pn	11 59 01.6	+4.3
MTVR	**Mutnovka**	**4.56**	**18**	*e*P	Pn	11 59 03.6	+4.2
RUS	**Russkaya**	**4.58**	**20**	*e*P	Pn	11 59 02.3	+2.7
DALK	**Dalny**	**5.19**	**19**	*e*P	Pn	11 59 12.2	+4.2
UGLR	**Uglovaya**	**5.38**	**19**	*e*P	Pn	11 59 16.2	+5.6
KOK	**Koryaka**	**5.41**	**18**	*e*P	Pn	11 59 16.8	+5.7
SDLR	**Sedlovina**	**5.45**	**19**	*e*P	Pn	11 59 16.0	+4.3
SPN	**Mys Shipunski**	**5.58**	**26**	*e*P	Pn	11 59 18.6	+5.3
GNL	**Ganaly**	**5.68**	**12**	*e*P	Pn	11 59 19.1	+4.3

MEX 02 12:09:40.8±0.4,16.38°N×98.43°W,h2km±4km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**87**	*i* P	Pg	12 09 45.9	-0.5
PNIG				*i* S	Sg	12 09 50.5	+0.4
VHO	**Vista Hermosa**	**1.77**	**67**	*i* P	Pn	12 10 09.8	-2.8
VHO				*e*S	Sn	12 10 31.2	-4.6
HUIG	**Huatulco**	**2.31**	**105**	*i* P	Pn	12 10 20.9	+0.9

*ISCJB **02** 12:25:49.5±0.3,24.60°N±0.02°×122.44°E±0.01,h94km±3km, Error ellipse: s-maj=3.2km s-min=2.2km az=166.7*
*JMA **02** 12:25:49.2±0.1,24.56°N×122.41°E,h98km±2km,M3.2*
*TAP **02** 12:25:49.9,24.62°N×122.36°E,h102km,ML4.0,C*

ISC 02 12:25:49.4±1.3,24.60°N±0.03°×122.44°E±0.02°,h98km±6km, n120,σ0°s87/208,16C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.28**	**260**	P	**Pn**	**12 26 04.1**	**+0.5**
	baz=253						
EOS1				S	**Sn**	**12 26 15.0**	**+0.7**
	baz=253						
JYNG	**Yonagunijimaku**	**0.49**	**108**	P	**Pn**	**12 26 05.0**	**+0.1**
JYNG				S	**Sn**	**12 26 16.1**	**-0.4**
TWC	**Suao**	**0.54**	**271**	⇑P	**Pn**	**12 26 05.2**	**-0.1**
	baz=269						
TWC				S	**Sn**	**12 26 16.3**	**-0.8**
	baz=269						
YOJ	**Yonaguni jima**	**0.54**	**105**	*e*P	**Pn**	**12 26 05.4**	**+0.1**
	baz=108						
YOJ				*e*S	**Sn**	**12 26 17.0**	**-0.2**
	baz=108						
YOJ	**Yonaguni jima**	**0.54**	**105**	P	**Pn**	**12 26 05.4**	**+0.1**
YOJ				*e*S	**Sn**	**12 26 17.5**	**+0.3**
TWB1	**Santiao Chiao**	**0.58**	**315**	P	**Pn**	**12 26 05.8**	**+0.2**
	baz=315						
TWB1				*e*S	**Sn**	**12 26 17.1**	**-0.5**
	baz=315						
NTC	**Toucheng**	**0.61**	**295**	*e*P	**Pn**	**12 26 05.9**	**+0.1**
	baz=296						
ILA	**Ilan**	**0.65**	**285**	P	**Pn**	**12 26 06.7**	**+0.5**
	baz=286						
ILA				*e*S	**Sn**	**12 26 18.8**	**+0.1**
	baz=286						
NANB	**Nanao**	**0.65**	**255**	*e*P	**Pn**	**12 26 06.6**	**+0.4**
	baz=249						
NANB				*e*S	**Sn**	**12 26 18.6**	**-0.1**
	baz=249						
ENA	**Nanau**	**0.66**	**255**	P	**Pn**	**12 26 06.7**	**+0.4**
	baz=249						
ENA				*e*S	**Sn**	**12 26 19.1**	**+0.2**
	baz=249						
TIPB	**Shuangxi**	**0.67**	**304**	⇑*e*P	**Pn**	**12 26 06.6**	**+0.2**
	baz=304						
TIPB				*e*S	**Sn**	**12 26 18.5**	**-0.6**
	baz=304						
TWE	**Neicheng**	**0.71**	**280**	P	**Pn**	**12 26 07.2**	**+0.5**
	baz=280						
TWE				*e*S	**Sn**	**12 26 19.6**	**-0.1**
	baz=280						
WFSB	**Wu-fen Shan**	**0.76**	**308**	*e*P	**Pn**	**12 26 07.7**	**+0.4**
	baz=305						
WFSB				*e*S	**Sn**	**12 26 20.3**	**-0.2**
	baz=305						
ENTT	**Nioudou**	**0.79**	**273**	P	**Pn**	**12 26 08.4**	**+0.9**
	baz=272						
ENTT				*e*S	**Sn**	**12 26 21.0**	**-0.1**
	baz=272						
NDT	**Datong Townshi**	**0.84**	**270**	P	**Pn**	**12 26 09.0**	**+0.9**
	baz=273						
NDT				*e*S	**Sn**	**12 26 22.1**	**+0.1**
	baz=273						
TWA	**Mucha**	**0.86**	**296**	P	**Pn**	**12 26 08.5**	**+0.2**
	baz=292						
TWA				*e*S	**Sn**	**12 26 21.6**	**-0.8**
	baz=292						
NWLT	**Wulai**	**0.87**	**282**	P	**Pn**	**12 26 08.7**	**+0.4**
	baz=289						
NWLT				*e*S	**Sn**	**12 26 22.3**	**-0.3**
	baz=289						
NACB	**Ninganchiao**	**0.88**	**241**	⇑*e*P	**Pn**	**12 26 08.1**	**-0.3**
	baz=238						
NACB				*e*S	**Sn**	**12 26 22.1**	**-0.5**
	baz=238						
NHDH	**Xindian Distri**	**0.90**	**294**	P	**Pn**	**12 26 09.0**	**+0.3**
	baz=290						
NHDH				*e*S	**Sn**	**12 26 22.3**	**-0.8**
	baz=290						
TWD	**Chiawan**	**0.93**	**236**	P	**Pn**	**12 26 08.8**	**0.0**
	baz=229						
TWD				*e*S	**Sn**	**12 26 23.1**	**-0.4**
	baz=229						
YM07	**YM07**	**0.94**	**308**	*e*P	**Pn**	**12 26 09.1**	**+0.1**
	baz=305						
TATO	**Taipei**	**0.94**	**294**	*e*P	**Pn**	**12 26 09.2**	**+0.2**
	baz=295						
TATO				*e*S	**Sn**	**12 26 22.7**	**-1.1**
	baz=295						
TAP	**Taipei**	**0.95**	**298**	*e*P	**Pn**	**12 26 09.2**	**+0.1**
	baz=299						
ETLH	**Xiulin Townshi**	**0.95**	**246**	*e*P	**Pn**	**12 26 09.5**	**+0.2**
	baz=238						
ETLH				*e*S	**Sn**	**12 26 24.1**	**-0.1**
	baz=238						
YM01	**YM01**	**0.96**	**305**	*e*P	**Pn**	**12 26 09.5**	**+0.2**
	baz=299						
YM01				*e*S	**Sn**	**12 26 23.4**	**-0.8**
	baz=299						
YM11	**YM11**	**0.96**	**306**	*e*P	**Pn**	**12 26 09.6**	**+0.2**
	baz=301						
YM11				*e*S	**Sn**	**12 26 23.5**	**-1.0**
	baz=301						
YM08	**YM08**	**0.97**	**307**	*e*P	**Pn**	**12 26 09.4**	**0.0**
	baz=302						
YM08				*e*S	**Sn**	**12 26 23.5**	**-0.9**
	baz=302						
YHNB	**Yeheng**	**0.97**	**274**	⇑*e*P	**Pn**	**12 26 10.2**	**+0.8**
	baz=269						
YHNB				*e*S	**Sn**	**12 26 24.3**	**-0.2**
	baz=269						
YM10	**YM10**	**0.97**	**305**	*e*P	**Pn**	**12 26 09.4**	**0.0**
	baz=300						
NNSB	**Datong**	**0.97**	**260**	⇑*e*P	**Pn**	**12 26 09.9**	**+0.4**
	baz=252						
NNSB				*e*S	**Sn**	**12 26 24.4**	**-0.3**
	baz=252						
HWA	**Hwalien**	**0.98**	**231**	P	**Pn**	**12 26 09.8**	**+0.4**
	baz=219						
HWA				*e*S	**Sn**	**12 26 24.6**	**0.0**
	baz=219						
NNS	**Nan Shan**	**0.98**	**261**	P	**Pn**	**12 26 10.2**	**+0.5**
	baz=254						
NNS				*e*S

NSTT	**Nanjuang**	**1.31**	**272**	⇑P		**Pn**	**12 26 13.9**	**+0.7**
	baz=271										
NSTT					S	**Sn**	**12 26 31.3**	**0.0**
	baz=271										
OWD	**Renai**	**1.32**	**241**	*eP*		**Pn**	**12 26 14.1**	**+0.6**
	baz=235										
OWD					*eS*	**Sn**	**12 26 31.1**	**-0.6**
	baz=235										
SBCB	**Hsinchu**	**1.33**	**279**	⇑*eP*		**Pn**	**12 26 14.3**	**+0.8**
	baz=279										
SBCB					*eS*	**Sn**	**12 26 32.1**	**+0.3**
	baz=279										
HSN	**Hsinchu**	**1.35**	**279**	*eP*		**Pn**	**12 26 14.2**	**+0.5**
	baz=280										
HATJ	**Hateruma jima**	**1.36**	**113**	P		**Pn**	**12 26 14.1**	**+0.2**
HATJ					*eS*	**Sn**	**12 26 32.5**	**+0.2**
WHP	**Taichung City**	**1.40**	**257**	*eP*		**Pn**	**12 26 15.9**	**+1.5**
	baz=256										
WHP					*eS*	**Sn**	**12 26 34.1**	**+0.8**
	baz=256										
HGSD	**Ruisui**	**1.44**	**220**	*eP*		**Pn**	**12 26 14.9**	**0.0**
	baz=212										
HGSD					*eS*	**Sn**	**12 26 33.8**	**-0.3**
	baz=212										
VWDT	**VWDT**	**1.45**	**235**	⇑*eP*		**Pn**	**12 26 15.7**	**+0.7**
	baz=228										
VWDT					*eS*	**Sn**	**12 26 33.7**	**-0.6**
	baz=228										
JKRS	**Kuro-shima**	**1.48**	**104**	P		**Pn**	**12 26 16.0**	**+0.7**
JKRS					S	**Sn**	**12 26 35.6**	**+0.7**
EHY	**Hungye**	**1.49**	**223**	P		**Pn**	**12 26 15.1**	**-0.4**
	baz=220										
EHY					*eS*	**Sn**	**12 26 33.8**	**-1.4**
	baz=220										
NMLH	**Miaoli**	**1.50**	**268**	*eP*		**Pn**	**12 26 16.6**	**+1.1**
	baz=268										
NMLH					*eS*	**Sn**	**12 26 36.0**	**+0.6**
	baz=268										
TWQ1	**Liyutan**	**1.54**	**261**	P		**Pn**	**12 26 16.7**	**+0.7**
	baz=260										
TWQ1					*eS*	**Sn**	**12 26 36.3**	**0.0**
	baz=260										
NSY	**Sanyi**	**1.54**	**264**	P		**Pn**	**12 26 17.2**	**+1.1**
	baz=263										
NSY					*eS*	**Sn**	**12 26 36.0**	**-0.3**
	baz=263										
JIJ	**Ishigaki jima**	**1.57**	**98**	P		**Pn**	**12 26 16.6**	**+0.1**
JIJ					S	**Sn**	**12 26 36.3**	**-0.7**
SMLT	**Sun Moon Lake**	**1.57**	**243**	P		**Pn**	**12 26 17.7**	**+1.1**
	baz=236										
SMLT					*eS*	**Sn**	**12 26 37.9**	**+0.7**
	baz=236										
SSLB	**Suanglung**	**1.58**	**239**	⇑*eP*		**Pn**	**12 26 17.1**	**+0.6**
	baz=234										
SSLB					*eS*	**Sn**	**12 26 37.4**	**+0.2**
	baz=234										
PTSB	**Yuanli**	**1.58**	**265**	*eS*		**Sn**	**12 26 38.2**	**+0.9**
	baz=264										
YULB	**Yu-li**	**1.59**	**221**	*eP*		**Pn**	**12 26 16.2**	**-0.5**
	baz=225										
YULB					*eS*	**Sn**	**12 26 35.7**	**-1.7**
	baz=225										
TYC	**Yuchr**	**1.60**	**245**	P		**Pn**	**12 26 18.0**	**+1.2**
	baz=246										
TYC					*eS*	**Sn**	**12 26 38.2**	**+0.6**
	baz=246										
WDJ	**Dajia District**	**1.66**	**262**	*eP*		**Pn**	**12 26 18.7**	**+1.2**
	baz=260										
TCU	**Taichung**	**1.67**	**255**	*eP*		**Pn**	**12 26 18.7**	**+1.1**
	baz=253										
WHYT	**Xinyi Township**	**1.70**	**238**	*eP*		**Pn**	**12 26 19.8**	**+1.7**
	baz=233										
JISG	**Ishigakijimahi**	**1.71**	**90**	P		**Pn**	**12 26 18.4**	**+0.3**
JISG					*eS*	**Sn**	**12 26 39.8**	**-0.2**
WJS	**Zhushan**	**1.74**	**244**	*eP*		**Pn**	**12 26 20.1**	**+1.5**
	baz=252										
WJS					*eS*	**Sn**	**12 26 42.8**	**+2.0**
	baz=252										
FULB	**Fuli**	**1.74**	**217**	*eP*		**Pn**	**12 26 18.7**	**0.0**
	baz=224										
FULB					*eS*	**Sn**	**12 26 40.1**	**-0.8**
	baz=224										
YUS	**Yu-Shan**	**1.75**	**231**	P		**Pn**	**12 26 20.1**	**+0.9**
	baz=222										
YUS					*eS*	**Sn**	**12 26 41.2**	**-0.6**
	baz=222										
WNT	**Mingjian**	**1.75**	**246**	*eP*		**Pn**	**12 26 20.2**	**+1.4**
	baz=245										
WNT					*eS*	**Sn**	**12 26 42.3**	**+1.2**
	baz=245										
CHKT	**Chengkung**	**1.79**	**214**	*eP*		**Pn**	**12 26 18.9**	**-0.3**
	baz=204										
CHKT					*eS*	**Sn**	**12 26 39.9**	**-1.9**
	baz=204										
WCHH	**Zhanghua**	**1.79**	**254**	*eP*		**Pn**	**12 26 19.6**	**+0.4**
	baz=252										
CHN5	**Tsauling**	**1.89**	**239**	P		**Pn**	**12 26 22.2**	**+1.6**
	baz=247										
CHN5					*eS*	**Sn**	**12 26 45.7**	**+1.3**
	baz=247										
ELDTW	**Lidau**	**1.91**	**223**	P		**Pn**	**12 26 20.8**	**-0.1**
	baz=220										
ELDTW					*eS*	**Sn**	**12 26 43.8**	**-1.1**
	baz=220										
WGK	**Gukeng**	**1.94**	**242**	*eP*		**Pn**	**12 26 21.9**	**+0.7**
	baz=251										
WGK					*eS*	**Sn**	**12 26 46.4**	**+1.1**
	baz=251										
WDLH	**Douliu**	**1.96**	**243**	*eP*		**Pn**	**12 26 22.8**	**+1.4**
	baz=251										
RLNB	**Erlin**	**2.02**	**250**	*eP*		**Pn**	**12 26 23.1**	**+0.9**
	baz=257										
RLNB					*eS*	**Sn**	**12 26 47.4**	**+0.1**
	baz=257										
JTJ	**Tarama**	**2.06**	**88**	P		**Pn**	**12 26 23.5**	**+0.8**
JTJ					S	**Sn**	**12 26 48.7**	**+0.5**
CHN2	**Minshiung**	**2.08**	**240**	*eP*		**Pn**	**12 26 24.5**	**+1.5**
	baz=248										
CHN2					*eS*	**Sn**	**12 26 49.8**	**+1.2**
	baz=248										
CHN4	**Tsaushan**	**2.10**	**234**	P		**Pn**	**12 26 24.8**	**+1.6**
	baz=232										
CHN4					*eS*	**Sn**	**12 26 50.1**	**+1.2**
	baz=232										
TPUB	**Ta-pu**	**2.10**	**232**	*eP*		**Pn**	**12 26 24.6**	**+1.4**
	baz=230										
TPUB					*eS*	**Sn**	**12 26 49.9**	**+0.8**
	baz=230										
STYT	**Tauyuan**	**2.10**	**227**	*eP*		**Pn**	**12 26 24.7**	**+1.4**
	baz=219										
STYT					*eS*	**Sn**	**12 26 50.0**	**+0.8**
	baz=219										
WTCT	**Ta-ch'eng**	**2.10**	**250**	*eP*		**Pn**	**12 26 23.2**	**0.0**
	baz=248										
WTP	**Ta-pu**	**2.14**	**231**	P		**Pn**	**12 26 25.3**	**+1.4**
	baz=229										
WTP					*eS*	**Sn**	**12 26 50.7**	**+0.6**
	baz=229										
TWGBT	**Beinan**	**2.17**	**215**	*eP*		**Pn**	**12 26 23.4**	**-0.7**
	baz=213										
TWGBT					*eS*	**Sn**	**12 26 48.9**	**-1.7**
	baz=213										
TWG	**Pinlang**	**2.17**	**216**	*eP*		**Pn**	**12 26 23.7**	**-0.4**
	baz=213										
TWG					*eS*	**Sn**	**12 26 48.9**	**-1.7**
	baz=213										
TWK	**Hsinying**	**2.22**	**234**	*eP*		**Pn**	**12 26 26.4**	**+1.5**
	baz=232										
TWK					*eS*	**Sn**	**12 26 52.9**	**+0.9**
	baz=232										
WSF	**Szhu**	**2.24**	**245**	*eP*		**Pn**	**12 26 24.1**	**-0.9**
	baz=244										
WSF					*eS*	**Sn**	**12 26 52.6**	**+0.3**
	baz=244										
CHN1	**Nanshi**	**2.24**	**232**	*eP*		**Pn**	**12 26 26.6**	**+1.5**
	baz=230										
CHN1					*eS*	**Sn**	**12 26 53.0**	**+0.6**
	baz=230										
SNST	**Tainan City**	**2.24**	**233**	*eP*		**Pn**	**12 26 26.3**	**+1.1**
	baz=230										
SLGT	**Liugui**	**2.29**	**226**	*eP*		**Pn**	**12 26 27.6**	**+1.9**
	baz=233										
CHN8	**Yiju**	**2.39**	**239**	*eS*		**Sn**	**12 26 56.4**	**+0.6**
	baz=237										
ECL	**Taimali**	**2.41**	**215**	*eP*		**Pn**	**12 26 26.6**	**-0.7**
	baz=206										
ECL					*eS*	**Sn**	**12 26 54.2**	**-2.2**
	baz=206										
SSD	**Sandimen**	**2.48**	**222**	*eP*		**Pn**	**12 26 29.9**	**+1.7**
	baz=220										
SSD					*eS*	**Sn**	**12 26 58.8**	**+0.9**
	baz=220										
JIRB	**Irabujima**	**2.50**	**84**	S		**Sn**	**12 26 58.3**	**-0.1**
JIKM	**Ikemajima**	**2.58**	**82**	*eS*		**Sn**	**12 27 01.2**	**+1.0**
MASBT	**Mashibuluo**	**2.58**	**220**	*eP*		**Pn**	**12 26 30.9**	**+1.4**
	baz=218										
MASBT					*eS*	**Sn**	**12 27 00.4**	**+0.1**
	baz=218										
PTTC	**Pingtan**	**2.58**	**291**	*eP*		**Pn**	**12 26 29.3**	**-0.2**
	baz=291										
JMJ	**Miyako jima 2**	**2.61**	**85**	*eS*		**Sn**	**12 27 00.1**	**-0.9**
EAST	**Anshuo**	**2.65**	**214**	*eP*		**Pn**	**12 26 30.2**	**-0.3**
	baz=207										
EAST					*eS*	**Sn**	**12 27 00.4**	**-1.5**
	baz=207										
LAY	**Lan-yu**	**2.68**	**198**	*eP*		**Pn**	**12 26 30.9**	**0.0**
	baz=194										
MATB	**Ma-tsu**	**2.73**	**305**	*eP*		**Pn**	**12 26 31.5**	**-0.1**
	baz=306										
VWUC	**VWUC**	**2.74**	**279**	*eP*		**Pn**	**12 26 31.6**	**-0.1**
	baz=280										
VWUC					*eS*	**Sn**	**12 27 01.7**	**-2.4**
	baz=280										
SCZT	**Fangliau**	**2.77**	**217**	*eP*		**Pn**	**12 26 33.6**	**+1.5**
	baz=214										
PNG	**Penghu**	**2.83**	**249**	*eP*		**Pn**	**12 26 32.0**	**-0.8**
	baz=247										
PHUB	**P'eng-hu**	**2.83**	**248**	*eP*		**Pn**	**12 26 31.7**	**-1.2**
	baz=247										
PHUB					*eS*	**Sn**	**12 27 02.9**	**-3.4**
	baz=247										
PTMZ	**Houxiangcun**	**3.04**	**279**	*eP*		**Pn**	**12 26 35.5**	**-0.2**
	baz=279										
LYJJ	**Jianjiangzhen**	**3.10**	**309**	*eP*		**Pn**	**12 26 36.0**	**-0.4**
	baz=311										
MHZQ	**Yeshan**	**3.42**	**297**	*eP*		**Pn**	**12 26 40.9**	**+0.1**
	baz=297										
KNM	**Kinmen**	**3.65**	**268**	*eP*		**Pn**	**12 26 45.7**	**+1.9**
	baz=267										
KNMB	**Chin-men Tao**	**3.69**	**269**	*eP*		**Pn**	**12 26 43.7**	**-0.6**
	baz=268										
AXDP	**Jialang**	**4.07**	**275**	*eP*		**Pn**	**12 26 49.3**	**-0.3**
	baz=275										

ISK ***02*** *12:28:03.4, 37°.33N×37°.12E, h12km, ML1.8/5*
DDA ***02*** *12:28:03.5, 37°.26N×37°.11E, h7km±2km, ML2.9*
ISCJB ***02*** *12:28:04.3±0.6, 37°.34N±0°.06×37°.15E±0°.06, h6km±8km, Error ellipse: s-maj=11.9km s-min=4.9km az=35.4*

ISC 02 12:28:04.0±1.0, 37°.32N±0°.05×37°.12E±0°.04, h11km±8km, n11, σ0.55/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GAZ	**Gaziantep**	**0.16**	**155**	PG		**Pg**	**12 28 07.7**	**-0.1**
GAZ				SG		**Sg**	**12 28 10.9**	**+0.5**
HCB	**Kahramanmara**	**0.17**	**278**	*i* P		**Pg**	**12 28 08.1**	**+0.2**
HCB				IAML_P				
	comp=Z,10μm,0.1s							
KMRS	**Kahramanmaras**	**0.26**	**316**	PG		**Pg**	**12 28 09.0**	**-0.4**
KMRS				SG		**Sg**	**12 28 13.0**	**0.0**
GZT	**Gaziantep**	**0.35**	**84**	*i* P		**Pg**	**12 28 11.2**	**0.0**
GZT				IAML_P				
	comp=Z,3μm,0.1s							
ANDN	**Andirin**	**0.67**	**293**	*i* P		**Pb**	**12 28 17.5**	**-0.4**
ANDN				IAML_P				
	comp=Z,1μm,0.2s							
ATAB	**Bozova**	**0.94**	**80**	*i* P		**Pn**	**12 28 22.9**	**-0.3**
ATAB				IAML_P				
	comp=Z,8μm,0.2s							
ELBS	**KAHRAMANMARAS**	**1.00**	**0**	*i* P		**Pn**	**12 28 24.8**	**+0.6**
ELBS				*i* S		**Sn**	**12 28 39.9**	**+1.5**
ELBS				IAML_P				
	comp=Z,838nm,0.2s							
SAIM	**ADANA**	**1.06**	**309**	*i* P		**Pn**	**12 28 24.9**	**+0.1**
SAIM				*i* S		**Sn**	**12 28 39.3**	**-0.3**
SAIM				IAML_P				
	comp=Z,711nm,0.1s							
DARE	**Darende-Malaty**	**1.28**	**13**	PN		**Pn**	**12 28 27.6**	**-0.4**
DARE				SN		**Sg**	**12 28 45.3**	**-0.1**
URFA	**Urfa**	**1.36**	**84**	PN		**Pn**	**12 28 28.9**	**-0.1**
URFA				SN		**Sg**	**12 28 47.3**	**-0.5**
BNN	**Bunyan**	**1.83**	**327**	PN		**Pn**	**12 28 35.6**	**0.0**

MAN 02 12:38:51.5, 10°.58N×125°.32E, h227km, mb4.1, ML2.9, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLP	**Palo**	**0.67**	**331**	⇓*eP*		Pn	12 39 34.7	+12
PLP				*eS*		S	12 39 47.8	+1.2

BJI ***02*** *12:49:52.5, 13°.23N×145°.03E, h126km, mb4.8/10, mB5.1/4*
IDC ***02*** *12:49:55.0±0.5, 13°.88N×145°.05E, h123km±3km, mb3.7/15, mb1 3.9/15, mb1mx3.6/44, mbtmp4.0/15, MS2.9/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=24.2km s-min=11.9km az=96.0*
ISCJB ***02*** *12:49:56.3±0.3, 13°.79N±0°.04×145°.00E±0°.07, h150km, mb4.1/36, Error ellipse: s-maj=9.7km s-min=5.3km az=6.5*
NEIC ***02*** *12:49:56.4±0.4, 13°.79N×144°.92E, h136km±4km, mb4.5/19, Error ellipse: s-maj=9.8km s-min=4.5km az=106.0*
NEIC Felt [II] at Yigo. Also felt at Barrigada, Chalan Pago, Santa Rita and Tamuning.

ISC 02 12:49:57.5±0.4, 13°.72N±0°.05×145°.01E±0°.09, h150km, n57, σ1.79/55, mb4.3/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**0.19**	**227**	*e*Pn		**Pn**	**12 50 14.1**	**-3.7**
GUMO				*e*Sn		**Sn**	**12 50 26.3**	**-6.8**
GUMO	**Guam**	**0.19**	**227**	P		**Pn**	**12 50 14.4**	**-3.4**
	626nm,0.3s,baz=116,slow=1.2,SNR=936							
GUMO				S		**Sn**	**12 50 27.1**	**-6.1**
	4μm,0.3s,baz=78,slow=20,SNR=105							
ANA2	**Anatahan**	**2.69**	**15**	*e*Pn		**Pn**	**12 50 39.4**	**-1.6**
ANA2				*e*Sn		**Sn**	**12 51 12.4**	**-2.3**
SARN	**Sarigan**	**3.06**	**14**	*e*Pn		**Pn**	**12 50 44.3**	**-1.3**
PATS	**Pohnpei**	**14.76**	**116**	*e*Pn		**P**	**12 53 20.1**	**-1.1**
RABL	**Rabaul**	**19.16**	**158**	*e*P		**Pn**	**12 54 10.7**	**-1.4**
	34nm,0.6s							
FAKI	**Fak Fak**	**20.82**	**218**	*e*P		**P**	**12 54 27.5**	**+0.1**
	47nm,1.4s							
H11S3	**WAKE ISLAND Hy**	**21.36**	**74**	T		T	13 15 56.9	
	baz=263,slow=74,SNR=8.9							
H11S1	**WAKE ISLAND Hy**	**21.37**	**74**	T		T	13 15 56.5	
	baz=263,slow=74,SNR=6.2							
H11S2	**WAKE ISLAND Hy**	**21.37**	**74**	T		T	13 16 01.8	
	baz=263,slow=74,SNR=7.2							
H11N1	**WAKE ISLAND Hy**	**21.78**	**71**	T		T	13 17 49.9	
	baz=257,slow=75,SNR=9.2							
H11N2	**WAKE ISLAND Hy**	**21.79**	**71**	T		T	13 17 51.2	
	baz=257,slow=75,SNR=4.3							
H11N3	**WAKE ISLAND Hy**	**21.80**	**71**	T		T	13 17 51.4	
	baz=257,slow=75,SNR=9.9							
MTN	**Manton Dam**	**29.76**	**208**	*e*P		**P**	**12 55 50.1**	**+0.1**
	26nm,1.1s							
NJ2	**Nanjing**	**30.09**	**312**	*e*P		**P**	**12 55 54.4**	**+1.5**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
CTA	**Charters Tower**	**33.62**	**178**	P		**P**	**12 56 25.9**	**+2.1**
	8.4nm,1.1s,baz=24,slow=5.9,SNR=2.6							
CTAO	**Charters Tower**	**33.62**	**178**	*e*P		**P**	**12 56 25.4**	**+1.6**
	57nm,1.6s							
WRAB	**Tennant Creek**	**35.05**	**198**	*e*P		**P**	**12 56 36.5**	**+0.4**
	8.4nm,1.1s							
WB2	**Warramunga Arr**	**35.06**	**198**	*e*P		**P**	**12 56 36.0**	**-0.3**
WRA	**Warramunga Arr**	**35.06**	**198**	P		**P**	**12 56 36.9**	**+0.7**
	3.1nm,0.6s,baz=19,slow=9.2,SNR=41							
FITZ	**Fitzroy Crossi**	**36.94**	**212**	*e*P		**P**	**12 56 52.9**	**+0.7**
	8.2nm,1.0s							
FITZ	**Fitzroy Crossi**	**36.94**	**212**	P		**P**	**12 56 53.0**	**+0.7**
	3.5nm,1.0s,baz=33,slow=9.6,SNR=6.6							
AS01	**Alice Springs**	**38.70**	**196**	*e*P		**P**	**12 57 07.9**	**+0.9**
AS31	**Alice Springs**	**38.71**	**196**	*e*P		**P**	**12 57 08.1**	**+1.0**
	1.1nm,0.9s							
ASAR	**Alice Springs**	**38.71**	**196**	P		**P**	**12 57 07.9**	**+0.8**
	0.8nm,0.5s,baz=18,slow=12,SNR=18							
ASAR					PcP	**PcP**	**12 59 18.0**	**+2.1**
	0.2nm,0.6s,baz=50,slow=3.1,SNR=4.3							
HHC	**Hu-ho-hao-te**	**39.76**	**319**	*e*P		**P**	**12 57 17.5**	**+1.7**
HHC				pP		pP	12 57 47.3	-0.2
HHC				S		**S**	**13 03 08.2**	**-0.5**
HHC				pmax		pmax		
	comp=Z,20nm,0.9s							
HHC				pmax		pmax		
	comp=Z,220nm,5.1s							
DZM	**Mont Dzumac**	**41.32**	**149**	P		**P**	**12 57 31.0**	**+2.4**
	16nm,0.9s,baz=326,slow=7.3,SNR=13							
CD2	**Chengdu**	**41.54**	**301**	P		**P**	**12 57 30.1**	**-0.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MARNC	**Mare, Loyalty**	**41.65**	**147**	*e*P		**P**	**12 57 32.5**	**+1.2**
	103nm,0.9s							
LZH	**Lanzhou**	**43.05**	**309**	*e*P		**P**	**12 57 43.1**	**+0.4**
LZH				pP		pP	12 58 14.0	-0.7
LZH				sP		sP	12 58 26.5	-4.7
LZH				PP		**PcP**	**12 59 28.7**	**-1.4**
LZH				pmax		pmax		
	comp=Z,22nm,1.0s							
LZH				pmax		pmax		
	comp=Z,270nm,4.9s							
CMAR	**Chiang Mai Arr**	**44.42**	**282**	LR		LR	13 15 48.8	
	comp=Z,14nm,20.9s,baz=204,slow=35							
STKA	**Stephens Creek**	**45.45**	**184**	*e*P		**P**	**12 58 02.4**	**+0.8**
	0.8nm,1.0s							
STKA	**Stephens Creek**	**45.45**	**184**	P		**P**	**12 58 02.3**	**+0.7**
	3.2nm,0.8s,baz=25,slow=8.4,SNR=7.8							
SONM	**Songino Array**	**46.70**	**325**	P		**P**	**12 58 12.3**	**+0.9**
	0.2nm,0.5s,baz=132,slow=6.0,SNR=2.3							
BBOO	**Buckleboo**	**47.05**	**190**	*e*P		**P**	**12 58 14.7**	**+0.7**
	9.9nm,0.9s							
FORT	**Forrest**	**47.15**	**200**	*e*P		**P**	**12 58 15.8**	**+1.0**
	27nm,1.0s							
TOO	**Toolangi**	**51.02**	**180**	*e*P		**P**	**12 58 45.4**	**+1.3**
	8.1nm,1.0s							
WMQ	**Urumqi**	**57.15**	**314**	*e*P		P	12 59 32.3	+3.6
ANM	**Nome**	**61.02**	**22**	*e*P		**P**	**12 59 54.4**	**-0.5**
	6.9nm,1.6s							
MK01	**Makanchi Array**	**61.48**	**316**	*e*P		**P**	**12 59 58.6**	**+0.2**
MKAR	**Makanchi Array**	**61.49**	**316**	P		**P**	**12 59 59.2**	**+0.8**
	0.2nm,0.5s,baz=86,slow=9.0,SNR=3.3							
SVW2	**Sparrevohn**	**63.50**	**28**	*e*P		**P**	**13 00 11.5**	**+0.1**
	10nm,1.4s							
ILAR	**Eielson Array**	**68.39**	**25**	P		**P**	**13 00 40.8**	**-1.8**
	0.4nm,0.4s,baz=252,slow=5.9,SNR=15							
TOLK	**Toolik Lake Re**	**68.44**	**21**	*e*P		**P**	**13 00 42.6**	**-0.4**
	1.2nm,1.0s							
DOT	**Dot Lake**	**69.35**	**27**	*e*P		**P**	**13 00 48.0**	**-0.6**
	7.4nm,1.5s							
BVAR	**Borovoye Array**	**69.91**	**322**	P		**P**	**13 00 52.2**	**0.0**
	0.2nm,0.3s,baz=107,slow=8.1,SNR=3.6							
DAWY	**Dawson**	**71.46**	**27**	*e*P		**P**	**13 01 01.2**	**-0.2**
	6.9nm,1.6s							
INK	**Inuvik**	**74.19**	**22**	P		**P**	**13 01 17.3**	**-0.1**
	0.4nm,0.8s,baz=282,slow=0.4,SNR=3.7							
DLBC	**Dease Lake**	**75.80**	**33**	*e*P		**P**	**13 01 27.7**	**+0.8**
	13nm,1.5s							
NLWA	**Neilton Lookou**	**80.79**	**43**	*e*P		**P**	**13 01 55.3**	**+0.8**
	44nm,1.4s							
YKA	**Yellowknife Ar**	**82.68**	**27**	P		**P**	**13 02 03.5**	**-0.5**
	0.5nm,0.4s,baz=285,slow=5.1,SNR=11							
YBH	**Yreka Blue Hor**	**82.68**	**49**	*e*P		**P**	**13 02 05.5**	**+0.9**
	8.3nm,1.6s							
PINE	**Pine Mountain**	**83.52**	**47**	*e*P		**P**	**13 02 10.1**	**+1.1**
	4.4nm,0.8s							
NVAR	**Mina Array Bea**	**86.73**	**51**	P		**P**	**13 02 25.3**	**+0.1**
	0.9nm,0.7s,baz=274,slow=5.4,SNR=6.5							
ARCES	**ARCESS Array B**	**87.00**	**342**	P		**P**	**13 02 25.2**	**-0.4**
	2.3nm,0.8s,baz=63,slow=10,SNR=2.8							
FINES	**FINESS Array B**	**91.10**	**335**	P		**P**	**13 02 44.3**	**-0.6**
	0.8nm,0.8s,baz=46,slow=4.0,SNR=3.3							
PDAR	**Pinedale Array**	**91.78**	**45**	P		**P**	**13 02 47.8**	**-1.0**
	0.1nm,0.4s,baz=309,slow=2.9,SNR=2.2							

ISCJB ***02*** *12:56:32.4±0.2, 19°.82S±0°.02×66°.71W±0°.02, h245km±2km, mb4.5/128, Error ellipse: s-maj=3.7km s-min=2.8km az=145.1*
GUC ***02*** *12:56:33.8±0.4, 19°.99S×67°.46W, h294km±7km, ML5.3*
SCB ***02*** *12:56:33.4±2.0, 19°.94S×66°.71W, h262km±19km, ML5.5/3, Error ellipse: s-maj=8.7km s-min=5.1km az=2.0*
VAO ***02*** *12:56:34.2±0.4, 19°.84S×66°.72W, h252km±5km, mb5.0*
NEIC ***02*** *12:56:35.3±0.2, 19°.95S×66°.76W, mb4.6/117, Error ellipse: s-maj=5.8km s-min=3.8km az=77.0*
IDC ***02*** *12:56:36.0±0.5, 19°.68S×66°.52W, h257km±3km, mb4.1/19, mb1 4.3/25, mb1mx4.2/39, mbtmp4.8/25, Error ellipse: s-maj=12.2km s-min=8.2km az=51.0*

ISC 02 12:56:34.1±0.4, 19°.88S±0°.03×66°.78W±0°.04, h245km±3km, h246km:pP-P, n603, σ1.30/652, mb4.6/129, 9C-2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOCB	**Mochara**	**1.73**	**142**	Pg		**Pn**	**12 57 15.0**	**+0.7**
PB08	**IPOC Station P**	**2.25**	**263**	⇑*i*P		**Pn**	**12 57 19.5**	**+0.6**
PB08				*i* S		**S**	**12 57 54.4**	**+0.3**
PB08				IAML			12 58 00.3	
	comp=N,2μm,0.4s							
BB01	**Montecillos**	**2.30**	**39**	Pg		**Pn**	**12 57 18.4**	**-1.0**
BS10	**CO. Tuti**	**2.56**	**20**	P		**Pn**	**12 57 21.5**	**-0.8**
PB11	**IPOC Station P**	**2.71**	**272**	*e*Pn		**Pn**	**12 57 22.8**	**-0.6**
PB11				*e*S		**S**	**12 58 00.6**	**-1.6**
PB11	**IPOC Station P**	**2.71**	**272**	*e*P		**Pn**	**12 57 22.2**	**-1.2**
PB11	**IPOC Station P**	**2.71**	**272**	⇑*i*P		**Pn**	**12 57 23.0**	**-0.3**
PB11

LPAZ S **S** 12 58 22.6 -2.3
comp=N,18nm,0.3s,baz=204,slow=20,SNR=11
LPAZ La Paz 3.79 340 *e*P **Pn** 12 57 36.7 +0.7
PB06 IPOC Station P 3.83 222 *e*P **Pn** 12 57 35.1 -0.7
PB06 IPOC Station P 3.83 222 ||*i*P **Pn** 12 57 36.0 +0.2
PB06 *i* S **S** 12 58 22.1 -2.7
PB06 IPOC Station P 3.83 222 P **Pn** 12 57 36.2 +0.3
PB06 S **S** 12 58 21.6 -3.2
BBOB La Paz, Bander 3.93 341 P **Pn** 12 57 38.0 +0.5
PB04 IPOC Station P 3.98 232 *e*Pn **Pn** 12 57 37.4 -0.2
PB04 IPOC Station P 3.98 232 *e*P **Pn** 12 57 37.1 -0.5
PB04 IPOC Station P 3.98 232 *e*P **Pn** 12 57 37.6 0.0
PB04 *i* S **S** 12 58 24.0 -4.0
PB04 IPOC Station P 3.98 232 P **Pn** 12 57 37.6 0.0
BS09 Huarina 4.06 334 P **Pn** 12 57 40.2 +1.2
PB15 IPOC Station P 4.15 217 ||*i*P **Pn** 12 57 39.7 0.0
PB15 *i* S **S** 12 58 29.9 -1.9
SLA San Lorenzo 4.96 166 *e*P **Pn** 12 57 49.8 +0.4
PB10 IPOC Station P 5.04 223 *e*Pn **Pn** 12 57 49.3 -0.8
PB10 IPOC Station P 5.04 223 P **Pn** 12 57 49.1 -1.1
GO02 Mina Guanaco 5.87 206 *e*Pn **Pn** 12 57 59.9 -0.9
FSA Cafayete 6.25 173 *e*P **Pn** 12 58 05.7 +0.3
FSA IAML 12 58 08.3
comp=Z,73nm,0.4s
FSA *e*S **S** 12 59 13.5 -4.9
SIV San Ignacio 6.67 55 P **Pn** 12 58 08.8 -1.8
comp=Z,38nm,0.3s,baz=253,slow=14,SNR=726
SIV S S 12 59 17.2 -11
baz=256,slow=17,SNR=1.6
AHML Horco Molle 7.00 169 *e*P **Pn** 12 58 14.2 -0.5
AHML *e*P 12 58 15.1
AHML IAML 12 58 17.8
comp=Z,35nm,0.4s
AHML *e*S **S** 12 59 29.7 -5.8
AHML *e*S S 12 59 30.6 -4.9
AGUA GUANDACOL 9.69 189 *e*P **Pn** 12 58 47.1 -1.8
AGUA *e*S S 13 00 27.7 -10
LCO Las Campanas 9.77 201 *e*Pn **Pn** 12 58 47.3 -2.7
AQDB Aquidauana 10.42 95 *e*P **Pn** 12 58 57.1 -1.0
ACDV Cuesta del Vie 10.46 191 *e*P **Pn** 12 58 56.4 -0.5
AROD Rodeo 10.53 193 *e*P **Pn** 12 58 58.6 -1.1
CPUP Villa Florida 10.81 128 *e*Pn **Pn** 12 59 00.9 -1.9
CPUP Villa Florida 10.81 128 P **Pn** 12 59 02.0 -0.9
comp=Z,0.9nm,0.3s,baz=306,slow=11,SNR=57
CPUP Villa Florida 10.81 128 *e*P **Pn** 12 59 01.1 -1.8
ACCO Cerro Coronel 10.86 191 *e*P **Pn** 12 59 02.4 -1.4
ACCO *e*S S 13 00 54.6 -11
GO04 Tololo Observa 10.88 199 *e*Pn **Pn** 12 59 03.8 -0.1
AMOG MOGNA 11.12 188 *e*P **Pn** 12 59 05.0 -1.9
SALV Santo Antonio 11.27 71 *e*P **Pn** 12 59 07.7 -1.1
TCA Tanti 11.58 171 IAML 12 59 12.6
comp=Z,124nm,0.4s
RTCV Cerro Valdivia 12.04 187 *e*P **Pn** 12 59 17.1 -1.1
RTLS Leoncito 12.08 190 *e*P **Pn** 12 59 18.2 -0.8
RTLS IAML 12 59 25.1
comp=Z,138nm,0.5s
NNA Nana 12.45 308 *e*Pn **Pn** 12 59 23.1 -0.5
NNA *e*S **S** 13 01 36.6 -5.6
NNA Nana 12.45 308 P **Pn** 12 59 22.9 -0.6
comp=Z,17nm,0.3s,baz=143,slow=11,SNR=56
NNA S **S** 13 01 33.5 -8.7
comp=Z,3.1nm,0.3s,baz=177,slow=19,SNR=2.8
MRA San Martin 12.53 176 IAML 12 59 23.6
comp=Z,56nm,0.4s
ASAL Salagasta 12.79 188 *e*P **Pn** 12 59 27.2 -0.5
ARCO CERRO ARCO 13.05 188 IAML 12 59 35.8
comp=Z,64nm,0.5s
C2SB Chapadao do Su 13.21 88 *e*P **Pn** 12 59 32.7 -0.1
AAGR Agrelo 13.28 188 *e*P **Pn** 12 59 32.8 -0.9
TRCB Terra Rica 13.50 105 *e*P **Pn** 12 59 36.3 -0.1
ROC1 El Roble 13.58 195 *e*Pn **Pn** 12 59 37.4 -0.1
PEL Peldehue 13.66 194 *e*Pn **Pn** 12 59 38.6 +0.3
PTGB Pitanga 14.44 112 *e*P **Pn** 12 59 47.2 -0.7
ITAB Concordia 15.29 121 *e*P **Pn** 12 59 57.6 -0.3
ITRB Iturama 15.46 92 *e*P **P** 12 59 59.6 +0.2
GO05 Huala 15.74 196 *e*P **Pn** 13 00 02.9 -0.4
comp=Z,128nm,0.8s
CPSB Cacapava Do Su 15.98 134 *e*P **Pn** 13 00 05.4 -0.7
FRTB Fartura 16.38 105 *e*P **Pn** 13 00 10.7 -0.3
PLTB Pedras Altas 16.74 138 *e*P **P** 13 00 11.4 -1.8
ATAH Atahualpa 16.95 317 P **Pn** 13 00 18.0 -0.2
comp=Z,1.7nm,0.3s,baz=152,slow=6.5,SNR=36
ATAH S **S** 13 03 21.2 +0.5
comp=Z,0.2nm,0.3s,baz=74,slow=18,SNR=2.1
BB19B Bebedouro 17.15 97 *e*P **P** 13 00 17.6 -0.2
CNLB Canela 17.25 126 *e*P **P** 13 00 18.0 -0.9
IPMB Ipameri, GO 17.67 87 *e*P **P** 13 00 22.8 -0.8
SPB Sao Paulo 18.35 105 *e*P **P** 13 00 30.1 -0.7
comp=Z,149nm,1.1s
SPB Sao Paulo 18.35 105 *e*P **P** 13 00 30.0 -0.8
BDFB Brasilia 18.36 80 *e*P **P** 13 00 30.5 -0.7
comp=Z,109nm,1.2s
BDFB Brasilia 18.36 80 P **P** 13 00 30.2 -1.0
comp=Z,10nm,0.3s,baz=252,slow=6.5,SNR=37
TRQA Tornquist 18.59 168 *e*P **P** 13 00 33.5 +0.2
comp=Z,41nm,0.8s
TRQA Tornquist 18.59 168 *e*P **P** 13 00 33.8 +0.6
PMNB Patos De Minas 19.26 89 *e*P **P** 13 00 39.7 -1.0
GO06 Curarrehue 20.05 191 *e*P **P** 13 00 48.7 -0.3
comp=Z,329nm,1.2s
GO06 *e*S **S** 13 04 21.7 +1.1
PTGA Pitinga 20.17 20 *e*P **P** 13 00 48.5 -1.8
comp=Z,30nm,1.6s
PTGA Pitinga 20.17 20 P **P** 13 00 48.1 -2.2
comp=Z,1.9nm,0.3s,baz=199,slow=12,SNR=22
PTGA Pitinga 20.17 20 *e*P **P** 13 00 48.3 -2.1
BSCB Bom Sucesso 20.65 97 *e*P **P** 13 00 53.6 -2.0
ESAR Angra dos Reis 21.02 103 *e*P **P** 13 00 58.0 -1.3
PLCA Paso Flores 21.04 188 *e*P **P** 13 00 58.6 -0.7
comp=Z,92nm,0.8s
PLCA S **S** 13 04 38.1 +0.5
PLCA Paso Flores 21.04 188 P **P** 13 00 59.3 0.0
comp=Z,74nm,0.7s,baz=34,slow=12,SNR=183
PLCA S **S** 13 04 38.1 +0.5
comp=Z,10nm,1.2s,baz=294,slow=18,SNR=2.2
PLCA Paso Flores 21.04 188 *e*P **P** 13 00 59.0 -0.3
VAS01 Vassouras-RJ 21.90 100 *e*P **P** 13 01 06.5 -1.2
MCI6 Montes Claros 21.93 86 *e*P **P** 13 01 06.0 -2.1
MCI8 Montes Claros 21.94 85 *e*P **P** 13 01 06.5 -1.6
JANB Januaria 21.96 81 *e*P **P** 13 01 07.0 -1.3
MCI9 Montes Claros 21.96 85 *e*P **P** 13 01 06.6 -1.7
DUB01 Friburgo-RJ 22.89 100 *e*P **P** 13 01 15.6 -1.2
OTAV Otavalo 23.03 329 *e*P **P** 13 01 19.0 +0.4
comp=Z,12nm,0.8s
FLOC Florencia 23.04 337 *e*P **P** 13 01 16.7 -1.4
FLOC Florencia 23.04 337 *e*P **P** 13 01 16.7 -1.4
GCUF Volcan Galeras 23.39 333 *e*P **P** 13 01 26.3 +4.4
GCUF Volcan Galeras 23.39 333 *e*P **P** 13 01 26.3 +4.4
CAM01 Campos-RJ 23.55 99 *e*P **P** 13 01 21.4 -1.3
GO07 Milladeo Hill, 23.88 193 *e*P **P** 13 01 25.6 +0.1
comp=Z,321nm,0.9s
SOTA Rioblanco 23.91 335 *e*P **P** 13 01 27.0 +0.5
SOTA Rioblanco 23.91 335 *e*P **P** 13 01 27.0 +0.5
PCON Cinco Dias 24.00 336 *e*P **P** 13 01 31.5 +4.0
PCON Cinco Dias 24.00 336 *e*P **P** 13 01 31.5 +4.0
POPC Popayan, Colom 24.31 335 *e*P **P** 13 01 30.9 +1.0
POPC Popayan, Colom 24.31 335 *e*P **P** 13 01 30.9 +1.0
ALF01 Guarapari-ES 24.45 96 *e*P **P** 13 01 30.2 -0.7
RIB01 Linhares ES 24.86 93 *e*P **P** 13 01 33.3 -1.3
YOTC Yotoco, Valle 25.51 337 *e*P **P** 13 01 39.5 -1.1
YOTC Yotoco, Valle 25.51 337 *e*P **P** 13 01 39.5 -1.1
RREF El Recreo 26.03 340 *e*P **P** 13 01 47.1 +1.3
RREF El Recreo 26.03 340 *e*P **P** 13 01 47.1 +1.3
RUSC La Rusia 26.35 346 *e*P **P** 13 01 48.2 -0.3
RUSC La Rusia 26.35 346 *e*P **P** 13 01 48.2 -0.3
PTBC PUERTO BERRIO, 27.32 343 *e*P **P** 13 01 53.6 -2.9
PTBC PUERTO BERRIO, 27.32 343 *e*P **P** 13 01 53.6 -2.9
ZARC Zaragoza, Cauc 28.34 343 *e*P **P** 13 02 03.2 -2.4
ZARC Zaragoza, Cauc 28.34 343 *e*P **P** 13 02 03.2 -2.4
SDV Santo Domingo 28.83 352 *e*P **P** 13 02 09.3 -1.0
comp=Z,8.3nm,1.1s
SDV Santo Domingo 28.83 352 P **P** 13 02 09.2 -1.0
comp=Z,3.1nm,0.4s,baz=182,slow=4.1,SNR=8.7
SDV Santo Domingo 28.83 352 *e*P **P** 13 02 09.4 -0.8
SMLC San Martn de 29.39 345 *e*P **P** 13 02 11.4 -3.5
SMLC San Martn de 29.39 345 *e*P **P** 13 02 11.4 -3.5
EFI East Falkland 32.46 170 *e*P **P** 13 02 41.7 +0.4
comp=Z,42nm,0.9s
RCBR Riachuelo 33.10 69 *e*P **P** 13 02 47.0 -0.5
comp=Z,60nm,0.8s
RCBR Riachuelo 33.10 69 *e*P **P** 13 02 47.2 -0.2
GO10 Punta Arenas 33.38 185 *e*P **P** 13 02 49.5 +0.2
comp=Z,187nm,1.1s

USHA Ushuaia 34.92 182 P **P** 13 03 03.7 +1.3
comp=Z,18nm,0.9s,baz=333,slow=3.2,SNR=4.5
SJG San Juan 37.76 1 pP pP 13 04 17.3 -0.9
comp=Z,9.5nm,0.3s,baz=194,slow=5.4,SNR=4.8
PMSA Palmer Station 44.91 178 *e*P **P** 13 04 24.2 +0.1
352A Blakely 53.95 341 P **P** 13 05 32.2 -0.5
baz=159
Z57A Bowman 54.52 346 P **P** 13 05 36.4 -0.4
baz=164
Z54A Sparta 55.00 344 P **P** 13 05 39.5 -0.7
baz=162
249A Camden 55.12 339 P **P** 13 05 40.4 -0.7
baz=157
Y55A Saluda 55.41 345 P **P** 13 05 43.1 -0.1
baz=163
Y54A Tignall 55.55 344 P **P** 13 05 43.0 -1.1
baz=162
Y53A Monticello 55.78 343 P **P** 13 05 44.9 -0.9
baz=161
X55A Gracelyn & Ava 55.87 345 P **P** 13 05 45.8 -0.5
baz=163
Z50A Ashland 55.91 341 P **P** 13 05 45.8 -1.0
baz=158
Y52A Lilburn 55.92 343 P **P** 13 05 45.9 -0.9
baz=160
LRAL Lakeview Retre 56.05 340 P **P** 13 05 46.5 -1.2
baz=157
X54A Belton 56.12 344 P **P** 13 05 47.4 -0.8
baz=162
X53A Estanollee 56.32 344 P **P** 13 05 48.5 -1.1
baz=161
KMSC Kings Mountain 56.44 346 P **P** 13 05 50.1 -0.3
baz=164
Y50A Piedmont 56.44 341 P **P** 13 05 49.6 -0.8
baz=159
W54A Cherokee Point 56.59 345 P **P** 13 05 50.9 -0.5
baz=163
W53A Cullowhee 56.91 344 P **P** 13 05 53.1 -0.8
baz=162
X50B Fort Payne 56.94 341 P **P** 13 05 52.8 -1.2
baz=159
V54A Nebo 57.19 345 P **P** 13 05 55.2 -0.4
baz=163
X49A Woodville 57.20 341 P **P** 13 05 54.8 -0.9
baz=158
833A Chaparral WMA, 57.36 326 *e*P **P** 13 05 57.7 +0.7
comp=Z,37nm,1.2s
833A Chaparral WMA, 57.36 326 P **P** 13 05 57.5 +0.5
baz=143,SNR=5.1
V52A Sevierville 57.66 344 P **P** 13 05 58.2 -0.8
baz=161
X47A Russelville 57.69 339 P **P** 13 05 58.2 -0.9
baz=156
W49A Belvidere 57.74 341 P **P** 13 05 58.6 -0.9
baz=158
U53A Fall Branch 57.90 345 P **P** 13 05 59.6 -1.0
baz=162
V50A Pikevile 57.91 342 P **P** 13 05 59.7 -1.0
baz=160
W48A Pulaski 57.97 341 P **P** 13 06 00.4 -0.7
baz=158
W47A Westpoint 58.28 340 P **P** 13 06 02.3 -0.9
baz=157
T53A Wise 58.48 345 P **P** 13 06 03.8 -0.8
baz=163
V48A Smith Brothers 58.48 341 P **P** 13 06 03.7 -0.9
baz=158
U50A Jamestown 58.54 343 P **P** 13 06 04.0 -1.0
baz=160
W45A Hickory Valley 58.72 339 P **P** 13 06 05.2 -1.0
baz=155
S55A Lewisburg 58.78 347 P **P** 13 06 06.7 0.0
baz=165
V47A Nunnelly 58.78 340 P **P** 13 06 05.3 -1.4
baz=157
T51A Gray 58.81 344 P **P** 13 06 05.9 -1.0
baz=161
T50A Nancy 59.10 343 P **P** 13 06 07.7 -1.2
baz=160
U48A Cassie Pea, Po 59.11 341 P **P** 13 06 08.1 -0.9
baz=158
WVT Waverly 59.16 340 *e*P **P** 13 06 08.0 -1.2
comp=Z,6.6nm,0.8s
WVT Waverly 59.16 340 P **P** 13 06 08.0 -1.2
baz=157
R54A Victor 59.27 347 P **P** 13 06 10.1 +0.1
baz=164
U47A Clarksville 59.28 341 P **P** 13 06 08.9 -1.1
baz=158
JCT Junction City 59.29 327 *e*P **P** 13 06 10.4 +0.1
comp=Z,8.1nm,0.8s
JCT Junction City 59.29 327 P **P** 13 06 10.6 +0.2
baz=144
WHTX Lake Whitney, 59.36 330 P **P** 13 06 11.1 +0.3
baz=146
T49A Edmonton 59.37 343 P **P** 13 06 09.9 -0.9
baz=160
U46A Springville 59.48 340 P **P** 13 06 10.4 -1.0
baz=157
S50A Richmond 59.60 344 P **P** 13 06 11.8 -0.5
baz=161
R53A Hurricane 59.63 346 P **P** 13 06 11.7 -0.7
baz=164
W42A Bald Knob 59.66 337 P **P** 13 06 11.8 -0.9
baz=153
T47A Sharon Grove 59.73 341 P **P** 13 06 12.5 -0.6
baz=158
MIAR Mount Ida 59.83 335 P **P** 13 06 13.3 -0.6
baz=151
W41B Gary Mavity, V 59.85 336 P **P** 13 06 13.1 -0.8
baz=152
Q55A Buckhannon 59.88 348 P **P** 13 06 14.2 +0.1
baz=166
S49A Springfield 59.94 343 P **P** 13 06 13.0 -1.5
baz=160
R51A Hillsboro 59.98 345 P **P** 13 06 13.9 -0.9
baz=162
Q54A Coxs Mills 60.02 347 P **P** 13 06 14.7 -0.3
baz=165
T46A Princeton 60.02 341 P **P** 13 06 14.1 -1.0
baz=157
S48A Wiedeman Farm, 60.04 342 P **P** 13 06 14.1 -1.1
baz=159
R50A Paris 60.15 344 P **P** 13 06 14.9 -1.1
baz=161
Q52A Bidwell 60.30 346 P **P** 13 06 16.2 -0.8
baz=163
P55A Reidsville 60.32 348 P **P** 13 06 16.7 -0.5
baz=166
W39A Magazine 60.47 335 P **P** 13 06 18.5 +0.3
baz=151
TX31 Lajitas Ar. Si 60.49 323 *e*P **P** 13 06 18.8 +0.2
TXAR Lajitas Array 60.49 323 P **P** 13 06 18.8 +0.2
comp=Z,1.7nm,0.5s,baz=148,slow=8.1,SNR=36
TXAR pP **pP** 13 07 16.7 +1.8
comp=Z,1.0nm,0.9s,baz=140,slow=8.0,SNR=2.3
U42A Revenden 60.52 337 P **P** 13 06 17.6 -0.9
baz=154,SNR=5.9
P54A Burton 60.54 348 P **P** 13 06 18.5 -0.1
baz=165
Q50A Georgetown 60.60 345 P **P** 13 06 18.7 -0.2
baz=161
T44A Benton 60.61 339 P **P** 13 06 18.4 -0.7
baz=155
P53A Whipple 60.62 347 P **P** 13 06 18.7 -0.3
baz=164
PBMO Poplar Bluff 60.62 338 *e*P **P** 13 06 18.5 -0.6
comp=Z,16nm,0.5s
U41A Viola 60.76 337 P **P** 13 06 19.2 -1.0
baz=153
R47A Wooly Knot Far 60.77 342 P **P** 13 06 19.0 -1.1
baz=159
S45A Carrier Mills 60.82 340 P **P** 13 06 19.4 -1.1
baz=156
T43A Greenville 60.84 339 P **P** 13 06 20.0 -0.7
baz=155,SNR=17
O55A Ligonier 60.91 349 P **P** 13 06 21.0 0.0
baz=166
P52A Corning 60.92 346 P **P** 13 06 20.5 -0.6
baz=164
PAL Palisades 60.93 354 P **P** 13 06 20.6 -0.5
baz=172
ABTX Abilene, Hawle 60.94 328 P **P** 13 06 21.5 +0.1
baz=144
VNA3 Neumayer Olymp 60.98 162 P **P** 13 06 22.0 +0.9
T42A Van Buren 61.08 338 P **P** 13 06 21.5 -0.7
baz=154
U40A Yellville 61.12 336 P **P** 13 06 21.7 -0.9
baz=152
Q48A North Vernon 61.13 343 P **P** 13 06 21.3 -1.3
baz=160
VNA1 Neumayer--Stat 61.15 161 P **P** 13 06 24.2 +2.0
S43A Fulton Ridge, 61.21 339 P **P** 13 06 22.0 -1.1
baz=155,SNR=12
P50A Jamestown 61.28 345 P **P** 13 06 22.6 -0.9
baz=162
R45A Skylar, Fairfi 61.29 341 P **P** 13 06 22.4 -1.2
baz=157
O53A New Philadelph 61.31 347 P **P** 13 06 23.0 -0.8
baz=165
O52A Adamsville 61.31 347 P **P** 13 06 23.0 -0.8
baz=164
T41A Mountain View 61.33 337 P **P** 13 06 23.0 -0.9
baz=153
Q47A Bedord North L 61.33 343 P **P** 13 06 22.9 -1.1
baz=159
N55A Marion Center 61.41 349 P **P** 13 06 24.3 -0.1
baz=167
P49A Miami Univ. Ec 61.44 344 P **P** 13 06 23.1 -1.5
baz=161
R44A Waltonville 61.50 340 P **P** 13 06 23.4 -1.6
baz=156
O51A Pataskala 61.51 346 P **P** 13 06 24.5 -0.6
baz=163
VNA2 Neumayer--Watz 61.52 161 P **P** 13 06 26.1 +1.3
baz=298,slow=8.2
P48A Milroy 61.55 344 P **P** 13 06 23.6 -1.7
baz=160
S42A Caledonia 61.63 338 P **P** 13 06 24.9 -1.1
baz=154,SNR=14
FVM French Village 61.70 339 *e*P **P** 13 06 25.2 -1.2
comp=Z,33nm,1.1s
N53A Lisbon 61.77 348 P **P** 13 06 26.5 -0.3
baz=165
R43A Red Bud 61.80 339 P **P** 13 06 26.2 -0.9
baz=155
Q45A Warren Harvey, 61.80 341 P **P** 13 06 25.6 -1.4
baz=157
P47A Martinsville 61.80 343 P **P** 13 06 25.8 -1.3
baz=159
S41A Jillco Farms, 61.80 338 P **P** 13 06 26.4 -0.7
baz=153,SNR=8.9
TUL1 Leonard 61.92 333 P **P** 13 06 28.0 +0.1
baz=149
N52A McGinn's Farm, 61.95 347 P **P** 13 06 27.4 -0.6
baz=164
O49A Covington 61.96 345 P **P** 13 06 27.1 -0.9
baz=161
M55A Ridgway 62.04 350 P **P** 13 06 28.1 -0.5
baz=167
CCM Cathedral Cave 62.05 338 *e*P **P** 13 06 27.6 -1.1
comp=Z,27nm,0.6s
CCM Cathedral Cave 62.05 338 P **P** 13 06 27.8 -0.9
baz=154
Q44A Meyer Farm, Va 62.08 340 P **P** 13 06 27.3 -1.5
baz=156
R42A Luebbering 62.09 339 P **P** 13 06 28.2 -0.7
baz=154,SNR=10
P46A Rosedale 62.19 342 P **P** 13 06 28.1 -1.5
baz=158
N51A Ashland 62.20 347 P **P** 13 06 28.7 -0.9
baz=163
O48A Farmland 62.23 344 P **P** 13 06 28.9 -0.9
baz=160
N50A Nevada 62.23 346 P **P** 13 06 28.9 -0.9
baz=163
M54A Oil Creek Stat 62.23 349 P **P** 13 06 29.4 -0.4
baz=166
WMOK Wichita Mounta 62.25 330 *e*P **P** 13 06 30.0 -0.1
comp=Z,9.8nm,1.5s
P45A Graceland, Par 62.26 342 P **P** 13 06 28.4 -1.6
baz=158
R41A Rosebud 62.31 338 P **P** 13 06 29.6 -0.8
baz=154,SNR=17
BINY Binghamton 62.35 352 P **P** 13 06 30.3 -0.3
baz=170
M53A WI Miller and 62.35 348 P **P** 13 06 30.1 -0.5
baz=165
P44A Sand Creek, Wi 62.47 341 P **P** 13 06 30.0 -1.4
baz=157
O47A Sheridan 62.48 343 P **P** 13 06 30.1 -1.4
baz=159
Q42A Golden Eagle 62.57 339 P **P** 13 06 31.1 -1.1
baz=155
N49A Columbus Grove 62.62 345 P **P** 13 06 31.4 -1.0
baz=162,SNR=5.3
L55A Hinsdale 62.68 350 P **P** 13 06 31.5 -1.4
baz=168
N48A Decatur 62.76 345 P **P** 13 06 32.4 -0.9
baz=161
L53A Girard 62.77 349 P **P** 13 06 32.8 -0.6
baz=166
M50A Fremont 62.81 346 P **P** 13 06 33.0 -0.6
baz=163
Q41A Truxton 62.85 339 P **P** 13 06 33.1 -0.9
baz=154
SFIN Lafayette 62.86 343 P **P** 13 06 32.5 -1.5
baz=158
ERPA Erie 62.88 349 *e*P **P** 13 06 33.9 -0.2
comp=Z,25nm,0.6s
ERPA Erie 62.88 349 P **P** 13 06 33.7 -0.4
baz=166
P43A Skaggs, Pawnee 62.91 340 P **P** 13 06 32.7 -1.6
baz=156
O45A Potomac 62.92 342 P **P** 13 06 32.5 -1.9
baz=158,SNR=5.3
N47A Urbana 62.95 344 P **P** 13 06 32.9 -1.7
baz=160
PLIO Pelee Island, 63.05 347 P **P** 13 06 34.2 -1.0
baz=163
O44A Mansfield 63.05 341 P **P** 13 06 33.5 -1.7
baz=157
M49A Liberty Center 63.09 346 P **P** 13 06 34.4 -1.1
baz=162
P42A Winchester 63.12 340 P **P** 13 06 34.6 -1.1
baz=155
K55A Perry 63.16 351 P **P** 13 06 35.0 -0.9
baz=168
SNAA Sanae 63.16 161 P **P** 13 06 37.2 +1.5
SNAA Sanae 63.16 161 *e*P **P** 13 06 36.9 +1.2
comp=Z,16nm,1.0s
SNAA Sanae 63.16 161 P **P** 13 06 36.6 +0.9
comp=Z,13nm,1.0s,baz=269,slow=7.3,SNR=22
MNTX Cornudas Mount 63.24 323 *e*P **P** 13 06 36.3 -0.4
comp=Z,12nm,1.4s
MNTX Cornudas Mount 63.24 323 P **P** 13 06 36.2 -0.5
baz=139
N46A Monticello 63.24 343 P **P** 13 06 35.3 -1.2
baz=159
M47A Cromwell 63.38 344 P **P** 13 06 36.6 -0.8
baz=160
O43A Sugar Creek Fa 63.43 341 P **P** 13 06 36.7 -1.1
baz=156
N44A Piper City 63.55 342 P **P** 13 06 37.4 -1.0
baz=158
MSTX Muleshoe 63.59 327 *e*P **P** 13 06 39.0 -0.1
comp=Z,16nm,0.8s
MSTX Muleshoe 63.59 327 P **P** 13 06 39.0 -0.1
baz=142,SNR=11
O42A Bath 63.59 340 P **P** 13 06 37.6 -1.2
baz=156
L48A N Adams 63.64 345 P **P** 13 06 38.0 -1.1
baz=162
HDIL Hopedale 63.67 341 P **P** 13 06 37.9 -1.4
baz=156
AMTX Amarillo 63.76 328 *e*P **P** 13 06 40.1 0.0
comp=Z,21nm,1.4s
AMTX Amarillo 63.76 328 P **P** 13 06 40.1 0.0
baz=143
TYNO Tyneside 63.81 349 P **P** 13 06 38.3 -1.9
baz=166
L47A Sherwood 63.86 345 P **P** 13 06 39.7 -0.8
baz=161
J52A Paris 64.06 349 P **P** 13 06 41.3 -0.5
baz=166
L46A Eue Claire 64.17 344 P **P** 13 06 42.3 -0.2
baz=160
N41A Harden Midland 64.30 340 P **P** 13 06 42.1 -1.3
baz=155
WLVO Wesleyville 64.38 351 P **P** 13 06 43.4 -0.3
baz=168
DRWO Darlington Wes 64.38 350 P **P** 13 06 43.3 -0.5
baz=168
M43A Waltham Townsh 64.38 342 P **P** 13 06 42.7 -1.1
baz=157
K48A Perry 64.39 346 P **P** 13 06 42.9 -1.0

baz=162
K47A **Vermontville** 64.47 345 P P 13 06 43.2 -1.2
baz=161
PKRO **Pickering** 64.52 350 P P 13 06 44.6 -0.1
baz=167
I55A **Frankford** 64.56 351 P P 13 06 44.5 -0.5
baz=169
K46A **Dorr** 64.67 345 P P 13 06 44.2 -1.6
baz=160
J49A **Marlette** 64.70 347 P P 13 06 44.5 -1.4
baz=163
J48A **Bridge Port** 64.78 346 P P 13 06 45.2 -1.2
baz=163
H55A **Tweed** 64.82 352 P P 13 06 46.9 +0.3
baz=169
DELO **Deloro Mine** 64.84 351 P P 13 06 46.3 -0.5
baz=169
J47A **Sumner** 64.96 346 P P 13 06 46.4 -1.2
baz=161
KSU1 **Kansas State U** 64.98 335 eP P 13 06 47.3 -0.5
comp=Z,15nm,0.9s
KSU1 **Kansas State U** 64.98 335 P P 13 06 47.7 -0.2
baz=149
L43A **Garden Prairie** 65.00 342 P P 13 06 47.2 -0.7
baz=157
L42A **Oliver, Polo** 65.11 341 P P 13 06 47.5 -1.0
baz=156
M40A **Post Highland** 65.15 340 P P 13 06 48.0 -0.8
baz=154
121A **Cookes Peak, D** 65.23 322 P P 13 06 51.2 +1.4
baz=137
319A **Douglas** 65.27 320 eP P 13 06 50.8 +0.8
comp=Z,8.9nm,0.6s
PLVO **Plevna** 65.28 352 P P 13 06 48.7 -0.9
baz=169
K43A **Burlington** 65.37 343 P P 13 06 49.4 -0.8
baz=158
ORIO **Orleans, Innes** 65.50 353 P P 13 06 50.5 -0.4
baz=171
I48A **Sherman Twp** 65.61 347 P P 13 06 50.9 -0.8
baz=163
L40A **Anamosa** 65.64 340 P P 13 06 50.8 -1.2
baz=155
K42A **Prairie Point,** 65.72 342 P P 13 06 51.5 -1.0
baz=157
BNM **Barren Site** 65.77 324 eP P 13 06 54.2 +0.9
I46A **Reed City** 65.77 345 P P 13 06 51.2 -1.6
baz=161
K41A **Shullsburg** 65.85 341 P P 13 06 52.4 -0.9
baz=156
PEMO **Pembroke** 65.93 352 P P 13 06 53.3 -0.5
baz=169
L39A **Vinton** 65.95 340 P P 13 06 53.0 -1.0
baz=154
LIC **Lamto** 66.02 73 eP P 13 06 52.7 -2.3
comp=Z,14nm,0.5s
CBKS **Cedar Bluff** 66.05 332 eP P 13 06 55.1 +0.4
comp=Z,20nm,0.6s
CBKS **Cedar Bluff** 66.05 332 P P 13 06 55.1 +0.4
baz=146,SNR=7.4
JFWS **Jewell Farm** 66.12 341 P P 13 06 54.6 -0.4
baz=156
K40A **Colesburg** 66.19 341 P P 13 06 54.8 -0.7
baz=155
TIC **Toumodi** 66.20 73 eP P 13 06 54.2 -2.0
ANMO **Albuquerque** 66.28 325 eP P 13 06 57.1 +0.6
comp=Z,3.6nm,0.8s
ANMO **Albuquerque** 66.28 325 P P 13 06 57.4 +0.9
baz=139
H46A **Fife Lake** 66.28 346 P P 13 06 54.8 -1.2
baz=161
ALGO **Algonquin Park** 66.31 351 P P 13 06 55.6 -0.6
baz=168
KIC **Kosan Boka** 66.33 73 eP P 13 06 55.2 -1.8
comp=Z,15nm,0.5s
DBIC **Dimbokro** 66.36 73 eP P 13 06 55.5 -1.7
comp=Z,6.9nm,0.6s
DBIC pP pP 13 07 54.8 +0.4
DBIC **Dimbokro** 66.36 73 P P 13 06 55.3 -1.8
comp=Z,5.6nm,0.7s,baz=226,slow=8.4,SNR=11
DBIC pP pP 13 07 54.8 +0.4
comp=Z,9.8nm,0.9s,baz=218,slow=6.5,SNR=6.7
I43A **Langenfeld Bro** 66.41 343 P P 13 06 56.0 -0.8
baz=158
K39A **Oelwein** 66.44 340 P P 13 06 56.1 -1.0
baz=154
J41A **Loganville** 66.46 342 P P 13 06 56.3 -0.8
baz=156
I42A **Draeger Farm,** 66.62 343 P P 13 06 57.5 -0.7
baz=157
E54A **Lac Daplat, Po** 66.67 352 P P 13 06 58.1 -0.2
baz=169
J40A **Soldiers Grove** 66.70 341 P P 13 06 57.8 -0.9
baz=156
TUC **Tucson** 66.83 320 eP P 13 07 00.8 +0.9
comp=Z,5.0nm,1.0s
TUC **Tucson** 66.83 320 P P 13 07 01.5 +1.6
baz=135
T25A **Trinidad** 66.89 328 P P 13 07 01.6 +1.3
baz=142
J39A **Decorah** 66.95 340 P P 13 06 58.9 -1.3
baz=155,SNR=6.4
I40A **Norwalk** 67.12 342 P P 13 07 00.7 -0.6
baz=156
LATQ **La Tuque** 67.17 356 P P 13 07 01.7 +0.2
baz=174
E50A **Wahnapitae** 67.19 350 P P 13 07 02.0 +0.3
baz=166
F46A **Macinaw City C** 67.35 346 P P 13 07 01.8 -0.8
baz=162
I39A **Houston** 67.36 341 P P 13 07 01.9 -0.9
baz=155,SNR=5.8
D52A **ZEK Kipawa Sen** 67.36 351 P P 13 07 02.5 -0.3
baz=168
D53A **Lac Vacive, Po** 67.37 352 P P 13 07 02.4 -0.4
baz=169
F45A **CMU Biological** 67.43 346 P P 13 07 02.6 -0.6
baz=161
E48A **Lockeyer** 67.50 349 P P 13 07 02.9 -0.7
baz=164
H41A **Junction City** 67.50 343 P P 13 07 02.8 -0.9
baz=157
BGNE **Belgrade** 67.56 335 eP P 13 07 04.2 0.0
comp=Z,55nm,0.8s
BGNE **Belgrade** 67.56 335 P P 13 07 04.3 +0.2
baz=148,SNR=6.4
H40A **Chili** 67.72 342 P P 13 07 04.3 -0.7
baz=156
214A **Organ Pipe Nat** 67.83 319 P P 13 07 07.8 +1.8
baz=133,SNR=6.4
SDCO **Great Sand Dun** 67.91 328 eP P 13 07 07.8 +1.1
comp=Z,13nm,0.7s
SDCO **Great Sand Dun** 67.91 328 P P 13 07 08.1 +1.3
baz=141,SNR=28
H39A **Augusta** 68.03 341 P P 13 07 05.6 -1.4
baz=155
D46A **Sault St. Mari** 68.26 347 P P 13 07 07.6 -0.7
baz=163
F41A **Three Lakes** 68.38 343 P P 13 07 08.2 -0.9
baz=158
G39A **Holcombe** 68.55 342 P P 13 07 09.7 -0.5
baz=155
S22A **4UR Ranch, Cre** 68.59 327 eP P 13 07 11.4 +0.5
comp=Z,4.2nm,0.9s
S22A **4UR Ranch, Cre** 68.59 327 P P 13 07 12.2 +1.2
baz=140
G38A **Ridgeland** 68.65 341 P P 13 07 09.8 -0.9
baz=155
Q24A **Divide** 68.68 329 P P 13 07 12.7 +1.2
baz=141,SNR=5.0
F40A **Park Falls** 68.83 343 P P 13 07 11.7 -0.1
baz=156
ECSD **EROS Data Cent** 68.97 337 eP P 13 07 12.5 -0.3
comp=Z,13nm,1.4s
ECSD **EROS Data Cent** 68.97 337 P P 13 07 12.3 -0.5
baz=150,SNR=5.5
SPMN **Marine on St.** 68.99 341 P P 13 07 12.4 -0.5
baz=154
F39A **Loretta** 69.05 342 P P 13 07 12.1 -1.2
baz=156
MVCO **Mesa Verde** 69.06 325 eP P 13 07 14.7 +0.8
comp=Z,15nm,1.2s
MVCO **Mesa Verde** 69.06 325 P P 13 07 15.1 +1.3
baz=138,SNR=9.3
LSQQ **Lebel-sur-Quev** 69.22 353 P P 13 07 13.7 -0.5
baz=170
E40A **Wakefield** 69.25 343 P P 13 07 14.2 -0.2
baz=157
Y14A **Wickenburg** 69.30 320 eP P 13 07 16.1 +1.0
comp=Z,13nm,1.3s
E39A **Mellen** 69.37 343 P P 13 07 14.6 -0.6
baz=156
F38A **Pierce - Schro** 69.37 342 P P 13 07 14.6 -0.6
baz=155
WUAZ **Wupatki** 69.44 322 eP P 13 07 16.8 +0.7
comp=Z,12nm,1.0s
WUAZ **Wupatki** 69.44 322 P P 13 07 17.9 +1.8
baz=135,SNR=9.7
ISCO **Idaho Springs** 69.56 329 eP P 13 07 17.3 +0.5
comp=Z,14nm,1.5s
ISCO **Idaho Springs** 69.56 329 P P 13 07 17.9 +1.1
baz=141,SNR=5.4
SMCO **Snowmass** 69.75 328 eP P 13 07 19.3 +1.1
comp=Z,5.5nm,0.7s
PV01 **Paradox Valley** 69.79 326 eP P 13 07 19.1 +0.8
comp=Z,12nm,1.2s
CHGQ **Chibougamau** 69.80 355 P P 13 07 17.4 -0.4
baz=172
MATQ **Matagami** 69.99 353 P P 13 07 18.2 -0.7
baz=169
PV03 **Paradox Valley** 70.02 326 eP P 13 07 19.7 0.0
comp=Z,4.8nm,1.2s
Y12C **Blythe** 70.10 319 eP P 13 07 21.2 +1.3
comp=Z,22nm,1.4s
Y12C **Blythe** 70.10 319 P P 13 07 21.5 +1.6
baz=132
PDMCI **Parker Dam,Lak** 70.24 320 P P 13 07 22.3 +1.6
baz=133
QSPA **South Pole Qui** 70.31 180 eP P 13 07 22.2 +1.3
comp=Z,26nm,0.8s
SWSC **Sam W. Stewart** 70.36 318 P P 13 07 22.9 +1.4
baz=131
IKP **In-Ko-Pah, Jac** 70.37 317 P P 13 07 23.4 +1.7
baz=131
N23A **Red Feather La** 70.56 329 eP P 13 07 23.9 +1.0
comp=Z,5.2nm,0.6s
N23A **Red Feather La** 70.56 329 P P 13 07 24.0 +1.1
baz=141
U15A **North Rim** 70.61 322 eP P 13 07 24.7 +1.4
comp=Z,12nm,1.0s
BC3 **Big Chuckawall** 70.61 318 P P 13 07 24.9 +1.7
baz=132,SNR=8.1
W13A **Hualapai Mount** 70.62 320 eP P 13 07 24.8 +1.5
comp=Z,4.9nm,0.7s
MONP2 **Monument Peak** 70.73 317 P P 13 07 25.7 +1.7
baz=131,SNR=6.9
BAR **Barrett** 70.75 317 eP P 13 07 25.3 +1.4
comp=Z,7.7nm,0.8s
IRM **Iron Mountain** 70.76 319 P P 13 07 25.8 +1.9
baz=132,SNR=5.4
O20A **White River Ci** 71.11 328 eP P 13 07 27.0 +0.8
comp=Z,8.0nm,0.9s
O20A **White River Ci** 71.11 328 P P 13 07 27.7 +1.6
baz=139
BELC **Belle Mtn. Jos** 71.18 318 P P 13 07 28.5 +1.8
baz=131,SNR=6.4
XPFO **Pion Flat** 71.22 318 eP P 13 07 28.1 +1.3
comp=Z,5.5nm,0.8s
PFO **Pinyon Flats O** 71.22 318 eP P 13 07 28.1 +1.2
comp=Z,4.9nm,0.8s
PFO **Pinyon Flats O** 71.22 318 P P 13 07 28.6 +1.8
baz=131,SNR=6.6
KNB **Kanab** 71.32 323 eP P 13 07 29.2 +1.8
comp=Z,29nm,0.9s
GMRC **Granite Mounta** 71.49 319 P P 13 07 30.4 +2.0
baz=132,SNR=18
SRU **San Rafael Swe** 71.54 325 eP P 13 07 29.5 +0.8
comp=Z,11nm,0.7s
LCMT **Little Creek M** 71.56 322 eP P 13 07 30.4 +1.6
comp=Z,7.6nm,0.9s
MTPU **Mount Pierson** 71.68 324 eP P 13 07 30.8 +1.0
comp=Z,6.0nm,0.8s
Q16A **Castle Valley** 71.75 325 eP P 13 07 31.1 +1.1
comp=Z,5.8nm,0.7s
SZCU **Shurtz Canyon** 71.88 323 eP P 13 07 32.0 +1.3
comp=Z,4.3nm,0.7s
P17A **Butcher Ranch,** 71.92 326 eP P 13 07 31.9 +1.0
comp=Z,12nm,0.9s
BBRC **Big Bear Solar** 71.93 318 P P 13 07 33.1 +1.9
baz=131
HEC **Hector,Ludlow** 71.94 319 P P 13 07 33.2 +2.2
baz=131,SNR=5.0
CCUT **Cedar City** 72.00 323 eP P 13 07 33.2 +1.7
comp=Z,14nm,0.8s
MSU **Marysvale** 72.01 324 eP P 13 07 32.7 +1.1
TUQ **Turquoise Moun** 72.08 320 P P 13 07 33.5 +1.6
baz=132
K22A **Casper** 72.20 330 P P 13 07 33.7 +1.2
baz=141
RSSD **Black Hills** 72.24 333 P P 13 07 33.7 +0.9
baz=143
SHPR **Sheep Range** 72.34 321 eP P 13 07 34.7 +1.3
comp=Z,6.3nm,0.7s
BFSC **Mount Baldy Ra** 72.38 318 P P 13 07 35.4 +1.7
baz=130
GSC **Goldstone, Bar** 72.54 319 eP P 13 07 36.0 +1.5
comp=Z,5.1nm,0.8s
GSC **Goldstone, Bar** 72.54 319 P P 13 07 36.4 +1.9
baz=131
MWC **Mount Wilson** 72.63 317 eP P 13 07 35.4 +0.2
comp=Z,5.7nm,0.6s
AGMN **Agassiz Nation** 72.69 340 eP P 13 07 34.5 -0.6
comp=Z,11nm,0.8s
AGMN **Agassiz Nation** 72.69 340 P P 13 07 34.8 -0.2
baz=151,SNR=7.6
MPU **Maple Canyon** 72.79 325 eP P 13 07 36.5 +0.4
comp=Z,7.5nm,0.9s
DECC **Green Verdugo** 72.82 317 P P 13 07 37.5 +1.3
baz=130
PSUT **Pine Spring** 72.96 323 eP P 13 07 37.8 +0.6
comp=Z,13nm,0.6s
EDW2 **Edwards Air Fo** 73.01 318 P P 13 07 38.6 +1.3
baz=130,SNR=5.5
LRMC **Laurel Mtn Rad** 73.20 319 P P 13 07 40.1 +1.6
baz=130
TPNV **Topopah Spring** 73.28 321 eP P 13 07 39.8 +0.8
comp=Z,27nm,1.3s
TPNV **Topopah Spring** 73.28 321 P P 13 07 41.0 +2.1
baz=132,SNR=8.3
FURC **Furnace Creek,** 73.33 320 P P 13 07 41.3 +2.2
baz=131,SNR=5.2
MPMC **Manual Prospec** 73.45 319 P P 13 07 41.4 +1.4
baz=131
DUG **Dugway, Tooele** 73.55 325 eP P 13 07 40.9 +0.4
comp=Z,7.7nm,0.9s
DUG **Dugway, Tooele** 73.55 325 P P 13 07 42.1 +1.6
baz=135,SNR=10.0
MDND **Maddock** 73.57 338 P P 13 07 40.8 +0.6
baz=148
DAC **Darwin (Calif)** 73.66 319 eP P 13 07 42.1 +0.9
BW06 **Boulder Array** 73.74 329 eP P 13 07 41.4 -0.2
comp=Z,3.0nm,0.7s
BW06 **Boulder Array** 73.74 329 P P 13 07 42.0 +0.4
baz=138,SNR=6.4
PD31 **Pinedale Array** 73.74 329 eP P 13 07 41.5 -0.2
comp=Z,1.9nm,0.9s
PDAR **Pinedale Array** 73.74 329 eP P 13 07 41.4 -0.2
PDAR pP pP 13 08 43.0 +2.8
PDAR **Pinedale Array** 73.74 329 P P 13 07 42.1 +0.5
comp=Z,1.9nm,0.4s,baz=122,slow=8.3,SNR=34
PDAR pP pP 13 08 43.0 +2.8
comp=Z,0.8nm,0.7s,baz=127,slow=4.4,SNR=2.1
ISA **Isabella, Lake** 73.81 318 eP P 13 07 42.6 +0.6
comp=Z,17nm,1.4s
ISA **Isabella, Lake** 73.81 318 P P 13 07 43.9 +2.0
baz=130,SNR=9.1
R11A **Troy Canyon, C** 73.83 322 eP P 13 07 42.9 +0.8
comp=Z,14nm,1.4s
R11A **Troy Canyon, C** 73.83 322 P P 13 07 44.1 +2.0
baz=133,SNR=17
CWC **Cottonwood Cre** 74.06 319 P P 13 07 45.3 +1.8
baz=130
PKM **Mcpherson Peak** 74.17 317 P P 13 07 46.1 +1.9
baz=129,SNR=5.1
BGU **Big Grassy Mou** 74.18 325 eP P 13 07 44.4 +0.3
comp=Z,9.8nm,1.0s
VES **Vestal, Richgr** 74.30 318 P P 13 07 46.5 +1.8
baz=130,SNR=6.5
SCHQ **Schefferville** 74.41 360 P P 13 07 44.8 -0.1
comp=Z,8.1nm,0.8s,baz=183,slow=5.2,SNR=9.1
ULM **Lac du Bonnet** 74.41 341 P P 13 07 44.5 -0.5
comp=Z,11nm,0.6s,baz=150,slow=6.7,SNR=25
ULM pP pP 13 08 45.1 +1.5
comp=Z,4.3nm,0.9s,baz=153,slow=4.1,SNR=2.3
SMMC **Simmler** 74.55 317 P P 13 07 48.2 +2.0
baz=129,SNR=5.4
HVU **Hansel Valley** 74.65 326 eP P 13 07 47.3 +0.5
comp=Z,9.3nm,1.1s
REDW **Red Top Meadow** 74.82 328 eP P 13 07 48.0 +0.3
comp=Z,5.2nm,0.7s
LOHW **Long Hollow** 74.88 329 eP P 13 07 48.5 +0.4
comp=Z,5.5nm,0.8s
TOA0 **Torodi Ar. Sit** 74.93 70 eP P 13 07 47.0 -1.7
comp=Z,18nm,0.5s
TORD **Torodi Ar. Bea** 74.93 70 P P 13 07 46.5 -2.3
comp=Z,12nm,0.5s,baz=251,slow=4.7,SNR=127
TORD pP pP 13 08 47.5 -0.2
comp=Z,11nm,0.9s,baz=264,slow=5.7,SNR=6.8
MOOW **Moose Ponds** 75.05 329 eP P 13 07 49.1 0.0
comp=Z,3.4nm,0.6s
LAO **LASA Array** 75.22 333 P P 13 07 51.1 +1.3
baz=142
ELK **Elko** 75.26 324 eP P 13 07 50.2 -0.2
comp=Z,4.4nm,0.8s
FLWY **Flagg Ranch** 75.27 329 eP P 13 07 50.6 +0.3
comp=Z,39nm,1.4s
RLMT **Red Lodge** 75.37 330 eP P 13 07 51.2 +0.3
comp=Z,8.1nm,0.6s
RLMT **Red Lodge** 75.37 330 P P 13 07 52.1 +1.2
baz=139,SNR=9.3
MDPB **Devils Postpil** 75.44 320 eP P 13 07 52.1 +0.6
comp=Z,5.7nm,0.9s
H17A **Grant Village** 75.44 329 eP P 13 07 52.5 +1.1
comp=Z,4.6nm,0.7s
H17A **Grant Village** 75.44 329 P P 13 07 53.2 +1.9
baz=138,SNR=7.7
NV01 **Mina Array Sit** 75.48 321 eP P 13 07 52.5 +0.8
NVAR **Mina Array Bea** 75.48 321 P P 13 07 53.4 +1.7
comp=Z,3.2nm,0.8s,baz=154,slow=7.1,SNR=27
NVAR pP pP 13 08 53.3 +2.8
comp=Z,4.7nm,1.0s,baz=160,slow=6.8,SNR=4.7
LKWY **Lake** 75.48 329 eP P 13 07 52.4 +0.8
comp=Z,6.6nm,0.8s
RYN **Ryan** 75.74 321 eP P 13 07 54.1 +1.0
comp=Z,14nm,1.2s
KVN **Kaiserville** 75.77 321 eP P 13 07 53.8 +0.5
comp=Z,16nm,1.1s
DGMT **Dagmar** 75.81 335 eP P 13 07 53.4 +0.4
comp=Z,13nm,0.6s
DGMT **Dagmar** 75.81 335 P P 13 07 54.2 +1.1
baz=144
YMR **Madison River** 75.83 329 eP P 13 07 54.7 +1.1
comp=Z,21nm,1.1s
YHH **Holmes Hill** 75.87 329 eP P 13 07 54.5 +0.6
comp=Z,26nm,1.2s
YHB **Horse Butte** 76.00 329 eP P 13 07 55.2 +0.7
comp=Z,8.8nm,0.8s
YERR **Yerington** 76.40 321 eP P 13 07 57.1 +0.3
comp=Z,28nm,1.4s
VAH **Vaihoa** 76.54 258 eP P 13 08 00.6 +2.8
comp=Z,43nm,1.1s
PNTR **Pine Nut** 76.68 320 eP P 13 07 59.2 +0.8
comp=Z,16nm,0.8s
HLID **Hailey** 76.77 327 eP P 13 07 59.1 +0.4
comp=Z,13nm,0.8s
HLID **Hailey** 76.77 327 P P 13 08 00.6 +1.9
baz=134,SNR=21
PMOR **Pomariorio Ree** 76.85 259 eP P 13 08 02.5 +2.9
comp=Z,79nm,1.4s
MCMT **McKenzie Canyo** 76.87 328 eP P 13 08 00.2 +0.8
PAHR **Pah Rah Range** 76.95 321 eP P 13 08 00.5 +0.7
comp=Z,26nm,0.9s
RUBR **Rubicon Trail** 76.99 320 eP P 13 08 01.6 +1.5
comp=Z,20nm,1.3s
DLMT **Dillon** 77.13 329 eP P 13 08 01.1 +0.4
comp=Z,11nm,1.5s
SYO **Syowa Base** 77.31 159 eP cP P cP 13 08 07.2 -3.5
AFDM **Forest Hills D** 77.42 320 eP P 13 08 03.2 +0.9
comp=Z,8.7nm,0.9s
BEKR **Beckworth** 77.63 321 eP P 13 08 04.5 +0.9
comp=Z,17nm,1.3s
SUR **Sutherland** 77.67 120 P P 13 08 05.0 +0.8
comp=Z,3.7nm,0.6s,baz=240,slow=8.1,SNR=8.2
HRY **Holter Researc** 77.75 330 eP P 13 08 05.0 +1.0
EGMT **Eagleton** 77.78 332 eP P 13 08 04.4 +0.3
comp=Z,25nm,1.4s
EGMT **Eagleton** 77.78 332 P P 13 08 04.8 +0.7
baz=139
ORV **Oroville** 78.12 320 eP P 13 08 06.9 +0.8
comp=Z,28nm,1.1s
TSUM **Tsumeb** 78.59 106 eP P 13 08 08.8 -0.6
comp=Z,32nm,1.4s
TSUM pP pP 13 09 10.0 +1.4
TSUM **Tsumeb** 78.59 106 P P 13 08 09.7 +0.4
comp=Z,8.2nm,0.6s,baz=240,slow=5.1,SNR=33
TSUM pP pP 13 09 10.0 +1.4
comp=Z,4.9nm,0.9s,baz=276,slow=4.4,SNR=3.3
O03E **Paynes Creek** 78.76 320 P P 13 08 10.2 +0.5
baz=128,SNR=7.0
VNDA **Vanda** 78.78 190 eP P 13 08 10.2 +1.0
comp=Z,4.8nm,0.9s
VNDA **Vanda** 78.78 190 P P 13 08 10.6 +1.5
comp=Z,3.1nm,0.8s,baz=104,slow=4.2,SNR=7.0
J08A **Circle Bar Ran** 78.80 324 eP P 13 08 10.3 +0.5
comp=Z,7.7nm,0.7s
MSO **Missoula** 78.83 329 eP P 13 08 10.3 +0.4
comp=Z,16nm,1.6s
MSO **Missoula** 78.83 329 P P 13 08 11.4 +1.4
baz=135
MOD **Modoc Plateau** 78.89 322 eP P 13 08 10.5 +0.1
comp=Z,8.0nm,0.7s
BMO **Blue Mountains** 79.17 326 eP P 13 08 12.0 +0.2
comp=Z,18nm,0.9s
MDT **Midelt** 79.19 49 P P 13 08 12.4 +0.2
comp=Z,1.3nm,0.6s,baz=261,slow=4.9,SNR=3.2
O02D **Mt. Diablo Mer** 79.28 320 P P 13 08 13.3 +0.8
baz=128
WDC **Whiskeytown Da** 79.38 320 eP P 13 08 12.5 -0.4
comp=Z,12nm,0.6s
M04C **Macdoel** 79.70 321 P P 13 08 16.0 +1.3
baz=128,SNR=9.5
N02D **Trinity Center** 79.72 320 P P 13 08 15.2 +0.4
baz=128,SNR=7.3
I07A **Izee** 79.84 324 eP P 13 08 16.2 +0.7
comp=Z,8.9nm,0.8s
F10A **Beach Ranch, E** 79.88 327 eP P 13 08 16.4 +0.8
comp=Z,12nm,0.9s
M02C **Callahan** 80.06 321 P P 13 08 17.4 +0.7
baz=128
YBH **Yreka Blue Hor** 80.19 321 eP P 13 08 17.6 +0.2
comp=Z,4.4nm,0.8s
L04D **Klamath Falls** 80.24 322 P P 13 08 18.5 +0.8
baz=128
J05D **Fort Rock, OR** 80.29 323 P P 13 08 19.3 +1.4
baz=129,SNR=9.8
G08A **Pilot Rock** 80.33 326 eP P 13 08 18.6 +0.6
comp=Z,15nm,1.4s
PINE **Pine Mountain** 80.45 323 eP P 13 08 19.9 +1.1
comp=Z,45nm,1.3s
J04D **Umpqua Nationa** 80.76 322 P P 13 08 21.8 +1.3
baz=128
L02E **Cave Junction** 80.97 321 P P 13 08 22.7 +1.4
baz=127
I05D **Terrebonne, OR** 81.02 324 P P 13 08 23.6 +2.0
baz=129,SNR=14
I04A **Tendick Farm,** 81.28 323 P P 13 08 23.9 +0.9
baz=128
K02D **Willamette Mer** 81.33 321 P P 13 08 24.9 +1.5
baz=127,SNR=5.8
HAWA **Hanford** 81.36 326 eP P 13 08 24.1 +0.8
comp=Z,19nm,1.1s
NEW **Newport** 81.38 329 P P 13 08 24.2 +0.7
baz=133
D08A **Wollman Farm,** 81.47 327 eP P 13 08 24.4 +0.6
comp=Z,10nm,0.9s
G05D **Wamic, OR** 81.57 324 P P 13 08 26.7 +2.2
baz=129,SNR=7.3
C09A **Chrisman Ranch** 81.64 328 eP P 13 08 25.1 +0.4
comp=Z,21nm,0.6s
I03D **Drain, OR** 81.76 322 P P 13 08 27.2 +1.8
baz=128
J01E **Myrtle Point** 81.77 322 P P 13 08 27.4 +1.9
baz=127
BOSA **Boshof** 82.44 118 eP P 13 08 29.4 -0.1
comp=Z,12nm,1.1s
BOSA **Boshof** 82.44 118 P P 13 08 29.5 -0.1
comp=Z,4.0nm,0.6s,baz=260,slow=3.3,SNR=13
BOSA **Boshof** 82.44 118 eP P 13 08 29.3 -0.3
LTY **Liberty** 82.51 326 eP P 13 08 29.8 +0.5
comp=Z,9.7nm,0.6s
LON **Longmire** 82.79 325 eP P 13 08 31.1 +0.3
comp=Z,5.5nm,0.6s
D05A **Enumclaw** 83.16 326 eP P 13 08 33.3 +0.7
comp=Z,28nm,1.0s

ESDC	**Senseca Array**	**83.29**	**44**	P		**P**	**13 08 33.3**	**-0.2**	
	comp=Z,0.6nm,0.5s,baz=242,slow=5.6,SNR=7.2								
ESDC				pP		**pP**	**13 09 34.0**	**+0.4**	
	comp=Z,4.3nm,0.9s,baz=257,slow=5.2,SNR=8.0								
ES19	**SONSECA Array**	**83.34**	**44**	*e*P		**P**	**13 08 32.9**	**-0.9**	
D04E	**Lakebay**	**83.57**	**325**	P		**P**	**13 08 36.0**	**+1.4**	
	baz=128								
LBTB	**Lobatse**	**83.87**	**114**	*e*P		**P**	**13 08 36.1**	**-0.8**	
	comp=Z,11nm,0.8s								
LBTB	**Lobatse**	**83.87**	**114**	P		**P**	**13 08 37.2**	**+0.2**	
	comp=Z,8.9nm,0.6s,baz=242,slow=6.0,SNR=16								
B05A	**Bryant**	**83.89**	**326**	P		**P**	**13 08 36.6**	**+0.3**	
	baz=129,SNR=5.3								
D03D	**Eldon**	**83.96**	**325**	P		**P**	**13 08 38.0**	**+1.4**	
	baz=128								
MAW	**Mawson**	**85.29**	**163**	P		**P**	**13 08 45.0**	**+2.0**	
	comp=Z,30nm,0.9s,baz=252,slow=6.4,SNR=3.2								
YKA	**Yellowknife Ar**	**90.34**	**340**	P		**P**	**13 09 07.2**	**+0.3**	
	comp=Z,5.7nm,0.5s,baz=129,slow=4.6,SNR=220								
YKA				pP		**pP**	**13 10 09.3**	**+1.6**	
	comp=Z,4.0nm,0.8s,baz=129,slow=4.6,SNR=5.4								
ILAR	**Eielson Array**	**103.66**	**334**	Pdiff		**Pdif**	**13 10 07.2**	**+0.1**	
	comp=Z,0.3nm,1.0s,baz=155,slow=4.9,SNR=5.2								
KBZ	**Khabaz**	**117.55**	**50**	PKP		**PKPdf**	**13 14 50.7**	**-0.1**	
	comp=Z,0.6nm,0.7s,baz=270,slow=2.0,SNR=4.6								
STKA	**Stephens Creek**	**121.79**	**208**	PKP		**PKiKP**	**13 14 59.9**	**+0.3**	
	comp=Z,3.9nm,0.9s,baz=64,slow=5.4,SNR=4.2								
ABKAR	**Akbulak array**	**128.62**	**42**	*e*PKPdf		**PKPdf**	**13 15 12.1**	**+0.3**	
MA2	**Magadan**	**132.12**	**335**	PKP		**PKiKP**	**13 15 18.9**	**-0.4**	
	comp=Z,1.6nm,0.2s,baz=109,slow=8.4,SNR=3.1								
AS01	**Alice Springs**	**132.23**	**206**	*e*PKPdf		**PKPdf**	**13 15 19.7**	**+0.1**	
ASAR	**Alice Springs**	**132.25**	**206**	PKhKP	PKPpre		13 15 03.4		
	comp=Z,0.2nm,0.5s,baz=157,slow=2.0,SNR=5.3								
ASAR				PKP		**PKPdf**	**13 15 20.1**	**+0.5**	
	comp=Z,2.7nm,0.5s,baz=134,slow=1.8,SNR=52								
ASAR				SKPbc		**SKPbc**	**13 18 23.3**	**+0.3**	
	comp=Z,1.1nm,0.6s,baz=149,slow=3.6,SNR=14								
ASAR				SKP			13 18 30.4		
	comp=Z,0.5nm,0.6s,baz=132,slow=3.1,SNR=4.3								
PETK	**Petropavlovsk-**	**132.42**	**325**	PKP		**PKiKP**	**13 15 20.0**	**0.0**	
	comp=Z,4.2nm,0.9s,baz=108,slow=3.5,SNR=3.5								
WB2	**Warramunga Arr**	**135.34**	**209**	*e*PKPdf		**PKPdf**	**13 15 25.9**	**+0.4**	
WRA	**Warramunga Arr**	**135.34**	**209**	PKhKP	PKPpre		13 15 11.4		
	comp=Z,0.7nm,0.8s,baz=147,slow=2.6,SNR=6.9								
WRA				PKP		**PKPdf**	**13 15 25.6**	**+0.1**	
	comp=Z,5.7nm,0.7s,baz=151,slow=1.5,SNR=36								
WRA				SKPbc		**SKPbc**	**13 18 34.3**	**+1.1**	
	comp=Z,3.0nm,0.9s,baz=150,slow=2.9,SNR=18								
WRAB	**Tennant Creek**	**135.34**	**209**	*e*PKPdf		**PKPdf**	**13 15 25.6**	**+0.1**	
ZAA0	**Zalesovo Array**	**139.64**	**26**	*e*PKPdf		**PKPdf**	**13 15 32.5**	**+0.3**	
ZALV	**Zalesovo Beam**	**139.64**	**26**	*e*PKPdf		**PKPdf**	**13 15 32.5**	**+0.2**	
ZALV				SKPbc		**SKPbc**	**13 18 46.0**	**+1.5**	
ZALV	**Zalesovo Beam**	**139.64**	**26**	PKP		**PKPdf**	**13 15 32.0**	**-0.2**	
	comp=Z,4.2nm,0.9s,baz=299,slow=3.3,SNR=3.6								
ZALV				SKPbc		**SKPbc**	**13 18 46.0**	**+1.5**	
	comp=Z,5.6nm,0.6s,baz=305,slow=3.6,SNR=19								
MK31	**Makanchi Array**	**143.16**	**36**	*e*PKPdf		**PKPdf**	**13 15 38.0**	**-0.8**	
MKAR	**Makanchi Array**	**143.16**	**36**	PKP		PKPbc	13 15 36.1	-0.5	
	comp=Z,1.2nm,0.7s,baz=329,slow=3.6,SNR=10.0								
MKAR				pPKP		pPKPdf	13 16 44.0	+1.0	
	comp=Z,0.6nm,0.8s,baz=317,slow=4.1,SNR=1.7								
MKAR				SKPbc		**SKiKP**	**13 18 54.7**	**-0.1**	
	comp=Z,2.8nm,0.6s,baz=310,slow=2.6,SNR=15								
HYB	**Hyderabad**	**147.10**	**88**	*i* PKP		**PKPbc**	**13 15 49.0**	**0.0**	
KLR	**Kul'dur**	**147.16**	**337**	PKPbc		**PKPdf**	**13 15 46.7**	**+1.1**	
	comp=Z,5.7nm,0.5s,baz=56,slow=2.7,SNR=31								
TLY	**Talaya**	**147.38**	**11**	*e*PKPbc		**PKPbc**	**13 15 49.6**	**+0.8**	
GUMO	**Guam**	**149.09**	**263**	PKPbc		**PKPbc**	**13 15 53.3**	**-0.9**	
	comp=Z,77nm,0.5s,baz=165,slow=23,SNR=7.8								
USA0B	**Ussuriysk Arra**	**151.13**	**331**	*e*PKPbc		**PKiKP**	**13 15 58.6**	**0.0**	
USRK	**Ussuriysk Ar.**	**151.13**	**331**	PKPbc		**PKiKP**	**13 15 59.3**	**+0.6**	
	comp=Z,18nm,0.8s,baz=11,slow=1.5,SNR=39								
USRK				PKPab		**PKPab**	**13 16 07.4**	**+0.5**	
	comp=Z,1.8nm,0.6s,baz=11,slow=0.6,SNR=5.7								
SONA1	**Songino Array**	**151.56**	**10**	*e*PKPdf		**PKPdf**	**13 15 53.0**	**+0.1**	
SONA1				*e*PKPbc		**PKiKP**	**13 15 59.8**	**+0.2**	
SONM	**Songino Array**	**151.57**	**10**	PKP		**PKPdf**	**13 15 54.1**	**+1.2**	
	comp=Z,2.1nm,0.9s,baz=326,slow=1.7,SNR=13								
SONM				PKPbc		**PKiKP**	**13 16 00.0**	**+0.4**	
	comp=Z,7.5nm,0.6s,baz=289,slow=1.2,SNR=68								
SONM				PKPab		**PKPab**	**13 16 07.2**	**-1.5**	
	comp=Z,3.0nm,0.6s,baz=315,slow=1.1,SNR=8.8								
SONM				pPKPbc		**pPKPbc**	**13 17 04.7**	**+1.7**	
	comp=Z,7.0nm,0.9s,baz=343,slow=1.8,SNR=8.1								
MJAR	**Matsushiro Arr**	**152.54**	**312**	PKPbc		**PKiKP**	**13 16 02.3**	**+0.4**	
	comp=Z,2.5nm,0.6s,baz=99,slow=1.3,SNR=8.5								
MJAR				PKPab		**PKPab**	**13 16 13.4**	**+0.3**	
	comp=Z,4.8nm,0.7s,baz=68,slow=3.0,SNR=7.5								
GTA	**Gaotai**	**157.37**	**28**	PKP		**PKPdf**	**13 16 01.3**	**+0.2**	
LZH	**Lanzhou**	**161.87**	**25**	*e*PKP		**PKPdf**	**13 16 05.3**	**-1.1**	
LZH				pPKP		pPKPdf	13 17 03.6	-7.1	
LZH				sPKP			13 17 27.1		
SBUM	**Sibu**	**162.65**	**177**	*e*PKPab		**PKPab**	**13 16 58.6**	**+1.6**	
CD2	**Chengdu**	**166.09**	**36**	PKP		**PKPdf**	**13 16 09.8**	**-0.4**	
CMAR	**Chiang Mai Arr**	**166.44**	**94**	PKP		**PKPdf**	**13 16 11.6**	**+0.9**	
	comp=Z,0.5nm,0.6s,baz=259,slow=3.0,SNR=5.1								
CMAR				PKPab		**PKPab**	**13 17 13.9**	**-0.1**	
	comp=Z,0.7nm,0.3s,baz=255,slow=6.3,SNR=7.8								
PBKT	**Sadao Pong**	**167.91**	**104**	*e*PKPdf		**PKPdf**	**13 16 11.4**	**-0.4**	

NEIC ***02*** *13:02:30.5±0.0, 18°.30N×68°.91W, h15km, MD2.9(RSPR), After RSPR.*

RSPR 02 13:02:30.5, 18°.30N×68°.91W, h15km±15km, MD2.9/3, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CELP	**Cerrillos**	**2.22**	**95**	*e*P		Pn	13 03 04.3	-2.5
CELP				*e*S		Sn	13 03 30.1	-3.9
CELP	**Cerrillos**	**2.22**	**95**	*e*P		Pn	13 03 04.3	-2.5
CELP				*e*S		Sn	13 03 30.1	-3.9
SDDR	**Presa de Saban**	**2.36**	**287**	P		Pn	13 03 08.2	-0.5
SDDR				*e*Sn		Sn	13 03 36.7	-0.8
SJG	**San Juan**	**2.63**	**94**	Pn		Pn	13 03 04.7	-7.6
MTP	**Monte Pirata**	**3.19**	**93**	*e*P		Pn	13 03 17.7	-2.5
MTP	**Monte Pirata**	**3.19**	**93**	*e*S		Sn	13 03 55.1	-2.9
MTP	**Monte Pirata**	**3.19**	**93**	*e*P		Pn	13 03 17.7	-2.5
MTP				*e*S		Sn	13 03 55.1	-2.9

GUC 02 13:14:59.5±0.5, 23°.86S×67°.20W, h231km±7km, ML3.6, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.00**	**308**	*e*P		Pn	13 15 40.2	-0.7
LVC				*e*S		S	13 16 12.2	-1.1
PB15	**IPOC Station P**	**2.18**	**287**	*i*P		Pn	13 15 42.2	-0.3
PB15				*i* S		S	13 16 15.0	-0.9
PB15				IAML			13 16 20.5	
	comp=N,314nm,0.4s							
PB06	**IPOC Station P**	**2.46**	**297**	*i*P		Pn	13 15 45.1	-0.1
PB06				*e*S		S	13 16 19.9	-1.2
PB06				IAML			13 16 22.1	
	comp=N,76nm,0.1s							
GO02	**Mina Guanaco**	**2.53**	**239**	*i*P		Pn	13 15 45.1	-1.0
GO02				*e*S		S	13 16 21.3	-1.3
GO02				IAML			13 16 24.5	
	comp=E,99nm,0.1s							
PB09	**IPOC Station P**	**2.79**	**317**	*e*P		Pn	13 15 48.8	+0.1
PB14	**IPOC Station P**	**3.02**	**255**	*e*P		Pn	13 15 50.9	-0.5
PB14				*e*S		S	13 16 30.7	-1.4
PB14				IAML			13 16 34.7	
	comp=E,38nm,0.1s							
PB10	**IPOC Station P**	**3.09**	**276**	*i*P		Pn	13 15 52.2	+0.3
PB10				*e*S		S	13 16 32.4	-0.7
PB04	**IPOC Station P**	**3.11**	**299**	*e*P		Pn	13 15 52.3	0.0
PB04				*e*S		S	13 16 32.4	-1.3
PB04				IAML			13 16 35.1	
	comp=N,51nm,0.2s							
PB07	**IPOC Station P**	**3.26**	**310**	*i*P		Pn	13 15 53.7	-0.3
PB07				*e*S		S	13 16 35.4	-1.5
PB07				IAML			13 16 37.8	
	comp=E,70nm,0.3s							
PB01	**IPOC Station P**	**3.51**	**323**	*e*P		Pn	13 15 56.3	-0.6
PB01				*e*S		S	13 16 40.3	-1.7
PB01				IAML			13 16 43.4	
	comp=E,53nm,0.1s							
PB02	**IPOC Station P**	**3.55**	**315**	*e*P		Pn	13 15 57.0	-0.3
PB02				*e*S		S	13 16 40.6	-2.1
PB08	**IPOC Station P**	**4.12**	**334**	*e*P		Pn	13 16 04.7	+0.3
PB08				*e*S		S	13 16 54.5	-1.0
PB08				IAML			13 16 57.9	
	comp=E,26nm,0.2s							

2013 MAR

SOF ***02*** *13:31:07.5, 40°.27N×25°.88E, h15km, MD2.5*
ISK ***02*** *13:31:07.3, 40°.40N×26°.16E, h5km, ML2.9/21*
DDA ***02*** *13:31:07.1, 40°.40N×26°.20E, h27km, ML3.0*
ISCJB ***02*** *13:31:07.4±0.3, 40°.43N±0°.02×26°.10E±0°.02, h11km±3km, Error ellipse: s-maj=2.9km s-min=2.3km az=35.5*
ATH ***02*** *13:31:07.6, 40°.44N×26°.06E, h31km±1km, ML2.7/8, Error ellipse: s-maj=2.2km s-min=1.1km az=69.0*
THE ***02*** *13:31:08.0, 40°.43N×26°.10E, h13km±1km, ML2.6/11, Error ellipse: s-maj=1.6km s-min=0.8km az=57.0*

ISC 02 13:31:07.4±0.9, 40°.41N±0°.02×26°.10E±0°.02, h13km±8km, n86, σ0°.79/118, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.28**	**93**	PG		**Pg**	**13 31 12.9**	**-0.4**
GELI				SG		**Sg**	**13 31 16.6**	**-0.7**
ENEZ	**Enez**	**0.32**	**7**	PG		**Pg**	**13 31 14.6**	**+0.5**
ENEZ				SG		**Sb**	**13 31 19.9**	**-0.3**
ERIK	**Erikli-Kesan**	**0.41**	**51**	PG		**Pg**	**13 31 15.2**	**-0.3**
ERIK				SG		**Sg**	**13 31 21.2**	**+0.2**
SMTH	**Samothraki Isl**	**0.44**	**278**	P		**Pb**	**13 31 16.9**	**-0.1**
SMTH				S		**Sb**	**13 31 24.0**	**+0.5**
SMTH	**Samothraki Isl**	**0.44**	**278**	P		**Pb**	**13 31 17.0**	**-0.1**
SMTH				S		**Sb**	**13 31 23.4**	**-0.1**
SMTH				AML	AML		13 31 24.6	
	comp=E,4698μm,0.2s							
SMTH				AML	AML		13 31 24.6	
	comp=N,4727μm,0.2s							
ALN	**Alexandroupoli**	**0.48**	**355**	PG		**Pb**	**13 31 17.8**	**0.0**
ALN	**Alexandroupoli**	**0.48**	**355**	P		**Pg**	**13 31 17.4**	**+0.4**
ALN				S		**Sg**	**13 31 24.0**	**+0.5**
ALN	**Alexandroupoli**	**0.48**	**355**	P		**Pg**	**13 31 17.4**	**+0.4**
ALN				S		**Sg**	**13 31 24.1**	**+0.6**
ALN				AML	AML		13 31 24.6	
	comp=E,1311μm,0.4s							
ALN				AML	AML		13 31 25.1	
	comp=N,1246μm,0.2s							
LPK	**Lapseki**	**0.50**	**94**	PG		**Pg**	**13 31 16.9**	**-0.5**
LPK				SG		**Sg**	**13 31 23.7**	**-0.4**
BOZC	**Bozcaada**	**0.57**	**184**	PG		**Pb**	**13 31 19.0**	**-0.3**
BOZC	**Bozcaada**	**0.57**	**184**	*i* P		**Pb**	**13 31 19.4**	**+0.1**
BOZC				*i* S		**Sb**	**13 31 27.4**	**+0.1**
BOZC				IAML_P				
	comp=E,5μm,0.1s							
KESN	**Edirne-Kesan**	**0.60**	**47**	*i* P		**Pg**	**13 31 18.3**	**-1.0**
KESN				IAML_P				
	comp=Z,1μm,0.2s							
EZN	**Ezine**	**0.61**	**164**	PG		**Pg**	**13 31 19.5**	**+0.1**
EZN	**Ezine**	**0.61**	**164**	P		**Pg**	**13 31 19.5**	**+0.1**
EZN				S		**Sb**	**13 31 27.9**	**-0.5**
BAYC	**CANAKKALE_Bayr**	**0.75**	**153**	*i* P		**Pb**	**13 31 22.4**	**+0.1**
BAYC				*i* S		**Sg**	**13 31 31.7**	**-0.2**
BAYC				IAML_P				
	comp=Z,4μm,0.5s							
RDO	**Rodhopi**	**0.85**	**330**	PG		**Pb**	**13 31 24.1**	**+0.1**
RDO	**Rodhopi**	**0.85**	**330**	P		**Pb**	**13 31 24.0**	**+0.1**
RDO				S		**Sb**	**13 31 35.3**	**0.0**
RDO	**Rodhopi**	**0.85**	**330**	P		**Pb**	**13 31 23.8**	**-0.2**
RDO				S		**Sb**	**13 31 34.9**	**-0.4**
RDO				AML	AML		13 31 37.2	
	comp=E,819μm,0.3s							
RDO				AML	AML		13 31 37.5	
	comp=N,702μm,0.2s							
RKY	**Sarkoy-Tekirda**	**0.86**	**71**	PG		**Pb**	**13 31 23.3**	**-1.0**
SART	**Tekirdag**	**0.87**	**71**	*i* P		**Pb**	**13 31 23.7**	**-0.6**
LIA	**Limnos Island**	**0.87**	**234**	P		**Pn**	**13 31 24.8**	**-0.6**
LIA				S		**Sn**	**13 31 37.6**	**-0.3**
LIA	**Limnos Island**	**0.87**	**234**	P		**Pn**	**13 31 24.8**	**-0.6**
LIA				S		**Sg**	**13 31 36.5**	**+0.8**
LIA				AML	AML		13 31 38.8	
	comp=E,1140μm,0.2s							
LIA				AML	AML		13 31 39.0	
	comp=N,759μm,0.2s							
KRBG	**Karabiga-Canak**	**0.91**	**91**	PG		**Pb**	**13 31 23.7**	**-1.4**
THAS	**Thassos island**	**1.07**	**281**	P		**Pb**	**13 31 27.4**	**-0.4**
THAS				S		**Sn**	**13 31 42.7**	**-0.1**
THAS	**Thassos island**	**1.07**	**281**	P		**Pb**	**13 31 27.3**	**-0.5**
THAS				S		**Sb**	**13 31 40.7**	**-1.0**
THAS				AML	AML		13 31 46.2	
	comp=E,524μm,0.4s							
THAS				AML	AML		13 31 46.5	
	comp=N,667μm,0.2s							
KNL	**Balıkesir**	**1.10**	**97**	*i* P		**Pb**	**13 31 27.2**	**-1.1**
KNL				*i* S		**Sb**	**13 31 42.3**	**-0.1**
KNL				IAML_P				
	comp=Z,3μm,0.2s							
SBT4	**Kumbag-Tekirda**	**1.17**	**69**	PN		**Pn**	**13 31 29.2**	**-0.1**
PRK	**Paraskevi**	**1.17**	**174**	P		**Pg**	**13 31 30.7**	**+0.7**
PRK				S		**Sg**	**13 31 46.9**	**+1.6**
PRK	**Paraskevi**	**1.17**	**174**	P		**Pg**	**13 31 30.5**	**+0.5**
PRK				S		**Sg**	**13 31 47.0**	**+1.8**
PRK				AML	AML		13 31 47.6	
	comp=N,2339μm,0.6s							
PRK				AML	AML		13 31 48.0	
	comp=E,2469μm,0.9s							
AYVA	**Ayvalik**	**1.19**	**158**	*i* P		**Pg**	**13 31 30.9**	**+0.5**
AYVA				*i* S		**Sn**	**13 31 45.5**	**-0.3**
AYVA				IAML_P				
	comp=Z,399nm,0.2s							
SIGR	**SIGRI**	**1.22**	**189**	PN		**Pb**	**13 31 30.3**	**+0.1**
SIGR	**SIGRI**	**1.22**	**189**	P		**Pb**	**13 31 30.1**	**-0.2**
SIGR				S		**Sg**	**13 31 47.3**	**+0.7**
SIGR	**SIGRI**	**1.22**	**189**	P		**Pb**	**13 31 30.0**	**-0.2**
SIGR				S		**Sg**	**13 31 46.9**	**+0.3**
SIGR				AML	AML		13 31 48.3	
	comp=E,1026μm,0.3s							
SIGR				AML	AML		13 31 49.0	
	comp=N,1279μm,0.5s							
EFSA	**Agios Efstrati**	**1.22**	**225**	P		**Pg**	**13 31 30.6**	**-0.3**
EFSA				S		**Sg**	**13 31 46.7**	**-0.2**
TKR	**Tekirdag**	**1.23**	**62**	PN		**Pb**	**13 31 30.9**	**+0.4**
GONE	**Gonen-Balikesi**	**1.27**	**106**	PN		**Pb**	**13 31 31.1**	**0.0**
KDZ	**Kurdzhali**	**1.34**	**337**	PN		**Pg**	**13 31 33.6**	**+0.4**
KDZ	**Kurdzhali**	**1.34**	**337**	*i* P		**Pg**	**13 31 36.5**	**+3.3**
KDZ	**Kurdzhali**	**1.34**	**337**	*i* P		**Pg**	**13 31 36.5**	**+3.3**
KAVA	**Kavala**	**1.34**	**296**	P		**Pn**	**13 31 31.5**	**-0.3**
KAVA				S		**Sn**	**13 31 49.3**	**-0.2**
KAVA	**Kavala**	**1.34**	**296**	P		**Pn**	**13 31 31.4**	**-0.3**
KAVA				S		**Sn**	**13 31 48.6**	**-0.8**
KAVA				AML	AML		13 31 51.9	
	comp=N,285μm,0.5s							
KAVA				AML	AML		13 31 55.0	
	comp=E,163μm,0.3s							
BALY	**Balya**	**1.34**	**120**	*i* P		**Pb**	**13 31 32.1**	**-0.3**
BALY				IAML_P				
	comp=Z,544nm,0.2s							
EDC	**Edincik**	**1.35**	**92**	PN		**Pb**	**13 31 32.3**	**-0.2**
KVLA	**Kavala**	**1.41**	**292**	P		**Pn**	**13 31 32.7**	**0.0**
KVLA				S		**Sn**	**13 31 49.8**	**-1.3**
EDRB	**Edirne**	**1.51**	**19**	PN		**Pb**	**13 31 34.9**	**-0.4**
KIRK	**Kırklareli**	**1.56**	**29**	*i* P		**Pn**	**13 31 34.1**	**-0.7**
KIRK				IAML_P				
	comp=Z,1μm,0.4s							
BALB	**Balikesir**	**1.57**	**119**	PN		**Pb**	**13 31 35.5**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.62**	**129**	*i* P		**Pb**	**13 31 36.8**	**-0.4**
STEP				*i* S		**Sb**	**13 31 57.8**	**+0.4**
STEP				IAML_P				
	comp=Z,3μm,0.3s							
OUR	**Ouranopolis**	**1.62**	**268**	P		**Pn**	**13 31 35.1**	**-0.5**
OUR				S		**Sn**	**13 31 56.1**	**-0.3**
OUR	**Ouranopolis**	**1.62**	**268**	P		**Pn**	**13 31 35.1**	**-0.5**
PHSR	**Pinarhisar**	**1.62**	**41**	PN		**Pb**	**13 31 36.9**	**-0.3**
ZEDA	**zmir-Bergama**	**1.63**	**152**	*i* P		**Pn**	**13 31 36.1**	**+0.4**
RZN	**Rozhen**	**1.65**	**321**	*i* P		**Pn**	**13 31 36.3**	**+0.1**
RZN	**Rozhen**	**1.65**	**321**	*i* P		**Pn**	**13 31 36.3**	**+0.1**
DIM	**Dimitrovgrad**	**1.69**	**345**	*i* P		**Pb**	**13 31 38.5**	**+0.2**
DIM	**Dimitrovgrad**	**1.69**	**345**	*i* P		**Pb**	**13 31 38.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.73**	**94**	PN		**Pb**	**13 31 38.1**	**-0.9**
SLVT	**Silivri**	**1.80**	**62**	PN		**Pb**	**13 31 39.5**	**-0.6**
NVR	**Nevrokopi**	**1.94**	**300**	P		**Pn**	**13 31 38.9**	**-1.2**
NVR				S		**Sn**	**13 32 03.7**	**-0.6**
NVR	**Nevrokopi**	**1.94**	**300**	P		**Pn**	**13 31 40.4**	**+0.3**
CTYL	**Yalikoy Yolu**	**1.97**	**57**	PN		**Pn**	**13 31 41.5**	**+1.1**
DURS	**Dursunbey**	**2.00**	**113**	*i* P		**Pn**	**13 31 41.9**	**+1.0**
DURS				IAML_P				
	comp=Z,481nm,0.2s							
CTKS	**Kestanelik-??a**	**2.00**	**65**	PN		**Pn**	**13 31 41.8**	**+0.9**
AKHS	**Akhisar**	**2.02**	**139**	*i* P		**Pn**	**13 31 42.0**	**+0.8**
AKHS				*i* S		**Sb**	**13 32 08.9**	**-0.3**
AKHS				IAML_P				
	comp=Z,352nm,0.2s							
CHOS	**Chios island**	**2.02**	**181**	P		**Pn**	**13 31 41.6**	**+0.3**
CHOS				S		**Sn**	**13 32 07.1**	**+0.6**
CHOS	**Chios island**	**2.02**	**181**	P		**Pn**	**13 31 41.5**	**+0.2**
PLG	**Polygyros**	**2.03**	**270**	P		**Pn**	**13 31 41.3**	**0.0**
SRS	**Serrai**	**2.03**	**291**	P		**Pn**	**13 31 40.9**	**-0.5**
URLA	**Izmir**	**2.09**	**169**	*i* P		**Pn**	**13 31 42.2**	**+0.1**
URLA				IAML_P				
	comp=Z,521nm,0.1s							
ARMT	**Armutlu**	**2.11**	**85**	PN		**Pn**	**13 31 43.7**	**+1.3**
SOH	**Sokhos**	**2.13**	**282**	P		**Pn**	**13 31 42.4**	**-0.3**
MMB	**Musomiste**	**2.15**	**304**	*i* P		**Pn**	**13 31 42.7**	**-0.2**
MMB	**Musomiste**	**2.15**	**304**	*i* P		**Pn**	**13 31 42.7**	**-0.2**
BGKT	**Bogazkoy**	**2.17**	**68**	PN		**Pn**	**13 31 44.6**	**+1.4**
ZEY	**zmir**	**2.19**	**172**	*i* P		**Pn**	**13 31 43.9**	**+0.4**
ZEY				IAML_P				
	comp=Z,453nm,0.3s							
BUY	**Buyukada**	**2.34**	**78**	*i* P		**Pb**	**13 31 48.9**	**-0.5**
BUY				IAML_P				
	comp=Z,402nm,0.2s							
DGB	**zmir**	**2.44**	**165**	*i* P		**Pn**	**13 31 47.8**	**+1.0**
DGB				IAML_P				
	comp=Z,207nm,0.2s							
DEMI	**Demirci**	**2.44**	**123**	*i* P		**Pn**	**13 31 48.3**	**+1.3**
DEMI				IAML_P				
	comp=Z,381nm,0.1s							
MANT	**Manisa**	**2.70**	**135**	*i* P		**Pb**	**13 31 53.8**	**-1.9**
MANT				IAML_P				
	comp=Z,107nm,0.2s							
KKB	**Krupnik**	**2.70**	**303**	*i* P		**Pg**	**13 31 59.0**	**-0.2**
KKB	**Krupnik**	**2.70**	**303**	*i* P		**Pg**	**13 31 59.0**	**-0.2**
USAK	**Uak-Merkez**	**2.82**	**126**	*i* P		**Pn**	**13 31 53.6**	**+1.4**
USAK				IAML_P				
	comp=Z,408nm,0.3s							
VAY	**Valandovo**	**2.83**	**290**	*i* Pn		**Pg**	**13 32 00.6**	**-1.0**
GDZ	**Gediz**	**2.92**	**116**	*i* P		**Pn**	**13 31 54.1**	**+0.4**
GDZ				IAML_P				
	comp=Z,266nm,0.2s							
STIP	**Stip**	**3.23**	**295**	*i* Pn		**Pn**	**13 31 56.4**	**-1.3**
KHAL	**Karahalli**	**3.33**	**127**	*i* P		**Pn**	**13 32 00.1**	**+0.9**
KHAL				IAML_P				
	comp=Z,586nm,0.3s							

IDC 02 13:33:57.8±1.6, 5°.68S×130°.37E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.6/26, mbtmpg3.7/5, ML3.5/3, Error ellipse: s-maj=57.8km s-min=25.0km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.18**	**200**	Pn		Pn	13 37 06.1	-0.2
	0.2nm,0.3s,baz=30,slow=8.1,SNR=13							
FITZ				Sn		Sn	13 39 18.6	-15
	0.3nm,0.3s,baz=34,slow=15,SNR=3.9							
WRA	**Warramunga Arr**	**14.69**	**165**	Pn		Pn	13 37 27.1	0.0
	0.1nm,0.3s,baz=348,slow=12,SNR=10							
WRA				Sn		Sn	13 39 56.4	-14
	0.3nm,0.3s,baz=336,slow=23,SNR=7.1							
ASAR	**Alice Springs**	**18.20**	**170**	P		Pn	13 38 11.9	-0.2
	0.4nm,0.3s,baz=351,slow=11,SNR=46			

MTP	**Monte Pirata**	**3.34**	**112**⇓	*e*P	Pn	14 39 11.8	+0.7
MTP				*e*S	Sn	14 39 52.8	+1.4
CUPR	**Culebra, Puert**	**3.51**	**107**⇑	*e*P	Pn	14 39 13.9	+0.6
CUPR	**Culebra, Puert**	**3.51**	**107**	*e*S	Sn	14 39 56.1	+0.9
CUPR	**Culebra, Puert**	**3.51**	**107**‖	*e*P	Pn	14 39 13.9	+0.6
CUPR				*e*S	Sn	14 39 56.1	+0.9

IDC ***02*** *14:48:21.5±0.6,21.˚54S×175.˚37W,h0km,mb4.5/16, mb1 4.6/18,mb1mx4.4/36,mbtmp4.5/18,ML4.2/2,MS3.4/9, Ms1 3.4/9,ms1mx3.2/28,Error ellipse: s-maj=21.4km s-min=15.1km az=138.0*

NEIC ***02*** *14:48:31.0±1.8,21.˚96S×175.˚05W,h82km±16km,mb4.2/1, Error ellipse: s-maj=17.4km s-min=12.5km az=165.0*

ISC 02 14:48:28.6±0.4,21.˚58S±0.˚07×175.˚16W±0.˚09,h53km,n99, σ1ᵗ55/92,mb4.4/17,MS3.4/7,11C-5D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.46**	**300**	*e*Pn	Pn	14 50 22.5	+7.6
	536nm,1.1s						
GLKZ	**Green Lake**	**8.05**	**198**	P	**Pn**	**14 50 24.0**	**+1.1**
GLKZ				S	**Sn**	**14 51 51.5**	**-1.1**
RAR	**Rarotonga**	**14.34**	**91**	*e*Pn	**Pn**	**14 51 46.1**	**-2.6**
	18nm,0.6s						
RAR	**Rarotonga**	**14.34**	**91**	Pn	**Pn**	**14 51 46.6**	**-2.1**
	3.2nm,0.3s,baz=275,slow=4.5,SNR=8.0						
RAR				Sn	Sn	14 54 11.7	-15
	3.8nm,0.3s,baz=328,slow=18,SNR=6.5						
RAR				LR	LR	14 57 13.4	
	comp=Z,57nm,19.4s,baz=274,slow=37						
OUZ	**Omahuta**	**16.79**	**214**	P	**P**	**14 52 22.6**	**+1.0**
WCZ	**Waipu Caves**	**17.00**	**210**	P	**P**	**14 52 26.0**	**+2.1**
DZM	**Mont Dzumac**	**17.09**	**265**	*e*P	**P**	**14 52 27.7**	**+2.6**
	134nm,1.4s						
DZM				*e*LR	LR	14 56 23.6	
	comp=Z,417nm,29.4s						
DZM	**Mont Dzumac**	**17.09**	**265**	Pn	**P**	**14 52 27.6**	**+2.5**
	0.8nm,0.3s,baz=79,slow=17,SNR=15						
DZM				LR	LR	14 57 55.1	
	comp=Z,223nm,21.7s,baz=34,slow=34						
HAZ	**Te Kaha**	**17.24**	**199**	P	**Pn**	**14 52 24.0**	**-1.7**
PKGZ	**Pakihiroa**	**17.28**	**198**	P	**Pn**	**14 52 22.9**	**-3.3**
WIAZ	**Waiheke Island**	**17.36**	**207**	P	**P**	**14 52 30.0**	**+2.2**
PUZ	**Puketiti**	**17.39**	**198**	P	**Pn**	**14 52 24.6**	**-3.0**
RUGZ	**Raukumara Rang**	**17.47**	**199**	P	**Pn**	**14 52 26.7**	**-1.9**
TWGZ	**Tauwhareparae**	**17.57**	**198**	P	**P**	**14 52 31.4**	**+1.2**
ETAZ	**East Tamaki Re**	**17.58**	**207**	P	**P**	**14 52 33.3**	**+3.1**
MWZ	**Matawai**	**17.85**	**199**	P	**Pn**	**14 52 31.1**	**-2.1**
TKGZ	**Te Karaka**	**17.85**	**198**	P	**Pn**	**14 52 31.5**	**-1.6**
URZ	**Urewera**	**17.91**	**200**	P	**Pn**	**14 52 30.9**	**-3.0**
	2.3nm,0.3s,baz=339,slow=9.0,SNR=19						
URZ				S	Sn	14 55 35.9	-17
	0.4nm,0.3s,baz=244,slow=1.6,SNR=5.4						
URZ	**Urewera**	**17.91**	**200**	P	**Pn**	**14 52 32.3**	**-1.6**
TOZ	**Tahuroa Road**	**18.01**	**205**	P	**Pn**	**14 52 38.6**	**+3.5**
RIGZ	**Rimuhau**	**18.13**	**198**	P	**P**	**14 52 36.0**	**-0.3**
RAHZ	**Arahi**	**18.52**	**199**	P	**P**	**14 52 40.3**	**-0.4**
MTHZ	**Maungataniwha**	**18.54**	**200**	P	**P**	**14 52 41.2**	**+0.3**
NMHZ	**Naumai**	**18.77**	**200**	P	**P**	**14 52 42.4**	**-1.1**
BHHZ	**Black Hill Sta**	**19.37**	**201**	P	**P**	**14 52 48.8**	**-1.2**
KAHZ	**Kahuranaki**	**19.39**	**199**	P	**P**	**14 52 49.6**	**-0.6**
KRHZ	**Kereru**	**19.41**	**200**	P	**P**	**14 52 49.8**	**-0.6**
KRHZ				S	S	14 56 09.3	-18
PNHZ	**Pukenui**	**19.71**	**200**	P	**P**	**14 52 53.0**	**-0.7**
CAW	**Cannon Point**	**21.16**	**201**	P	**P**	**14 53 09.9**	**+0.7**
DUWZ	**D'Urville Isla**	**21.29**	**203**	P	**P**	**14 53 09.7**	**-1.0**
DUWZ				S	S	14 56 51.4	-13
PLWZ	**Palliser**	**21.51**	**200**	P	**P**	**14 53 12.5**	**-0.6**
PLWZ				S	S	14 56 54.2	-15
TUWZ	**Tuamarina**	**21.83**	**202**	P	**P**	**14 53 15.2**	**-1.2**
QRZ	**Quartz Range**	**21.85**	**206**	P	**P**	**14 53 19.5**	**+2.9**
NNZ	**Nelson**	**21.85**	**204**	P	**P**	**14 53 14.6**	**-2.1**
THZ	**Tophouse**	**22.50**	**204**	P	**P**	**14 53 22.0**	**-1.7**
KHZ	**Kahutara**	**22.84**	**202**	P	**P**	**14 53 26.4**	**-0.8**
DSZ	**Denniston Nort**	**22.92**	**206**	P	**P**	**14 53 30.1**	**+2.1**
LTZ	**Lake Taylor**	**23.62**	**204**	P	**P**	**14 53 38.8**	**+4.0**
TBI	**Tubuai**	**23.80**	**99**	*e*LR	LR	14 59 12.7	
	comp=Z,385nm,34.2s						
TBI	**Tubuai**	**23.80**	**99**	*e*T	T	15 17 50.9	
	15nm,0.3s						
INZ	**Inchbonnie**	**23.89**	**205**	P	**P**	**14 53 37.1**	**-0.1**
OXZ	**Oxford**	**24.17**	**203**	P	**P**	**14 53 39.9**	**0.0**
MQZ	**McQueen's Vall**	**24.29**	**202**	P	**P**	**14 53 42.4**	**+1.5**
PAE	**Paea**	**24.39**	**85**	*e*T	T	15 18 47.2	
	16nm,0.3s						
PPT2	**Papeete2**	**24.41**	**85**	*e*LR	LR	14 59 26.5	
	comp=Z,514nm,29.8s						
PPT2	**Papeete2**	**24.41**	**85**	*e*T	T	15 18 48.7	
	14nm,0.3s						
PPT	**Papeete**	**24.42**	**85**	LR	LR	15 02 44.9	
	comp=Z,48nm,18.6s,baz=278,slow=35						
WVZ	**Waitaha Valley**	**24.46**	**206**	P	**P**	**14 53 43.2**	**+0.8**
TIAR	**Tiarei**	**24.64**	**85**	*e*T	T	15 19 01.0	
	6.6nm,0.3s						
TVO	**Taravao**	**24.67**	**86**	*e*T	T	15 19 06.3	
	4.6nm,0.3s						
RPZ	**Rata Peaks**	**24.88**	**204**	P	**P**	**14 53 45.6**	**-0.7**
	12nm,0.6s,baz=27,slow=6.8,SNR=9.8						
RPZ				LR	LR	15 02 55.4	
	comp=Z,77nm,18.1s,baz=30,slow=35						
RPZ	**Rata Peaks**	**24.88**	**204**	P	**P**	**14 53 47.8**	**+1.5**
HNR	**Honiara**	**26.81**	**293**	P	**P**	**14 54 02.0**	**-2.0**
	31nm,0.5s,baz=93,slow=18,SNR=3.1						
HNR				LR	LR	15 04 19.5	
	comp=Z,51nm,19.6s,baz=46,slow=36						
TAOE	**Nuku Hiva Isla**	**35.97**	**75**	*e*T	T	15 33 25.0	
	41nm,0.2s						
CTA	**Charters Tower**	**36.04**	**265**	P	**P**	**14 55 23.5**	**-1.6**
	5.6nm,0.6s,baz=101,slow=12,SNR=7.9						
RKT	**Rikitea**	**37.12**	**100**	*e*T	T	15 34 28.0	
	20nm,0.3s						
STKA	**Stephens Creek**	**39.74**	**246**	P	**P**	**14 55 54.9**	**-1.3**
	4.2nm,0.8s,baz=95,slow=11,SNR=14						
STKA				PcP	**PcP**	**14 58 02.7**	**+0.8**
	2.1nm,0.7s,baz=32,slow=5.3,SNR=3.7						
STKA				LR	LR	15 11 39.0	
	comp=Z,56nm,18.4s,baz=29,slow=35						
ASAR	**Alice Springs**	**46.87**	**257**	P	**P**	**14 56 52.1**	**-1.8**
	17nm,0.9s,baz=100,slow=7.4,SNR=123						
ASAR				PcP	**PcP**	**14 58 26.0**	**-0.1**
	2.5nm,0.7s,baz=109,slow=4.1,SNR=6.8						
ASAR				LR	LR	15 15 01.3	
	comp=Z,66nm,18.2s,baz=120,slow=34						
WRAB	**Tennant Creek**	**47.08**	**262**	*e*P	**P**	**14 56 53.1**	**-2.4**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**47.09**	**262**	P	**P**	**14 56 53.0**	**-2.5**
	4.4nm,0.6s,baz=90,slow=5.9,SNR=63						
WRA				PcP	**PcP**	**14 58 26.8**	**-0.1**
	2.9nm,0.9s,baz=94,slow=3.6,SNR=5.9						
WRA				LR	LR	15 16 39.7	
	comp=Z,60nm,18.3s,baz=175,slow=36						
VNDA	**Vanda**	**57.10**	**186**	P	**P**	**14 58 10.8**	**+1.7**
	2.6nm,1.1s,baz=39,slow=6.5,SNR=4.0						
QSPA	**South Pole Qui**	**68.50**	**180**	*e*P	**P**	**14 59 28.0**	**+2.8**
MJAR	**Matsushiro Arr**	**72.66**	**322**	P	**P**	**14 59 49.4**	**-1.4**
	1.3nm,0.5s,baz=167,slow=6.1,SNR=5.4						
ASAJ	**Asahikawa**	**75.96**	**330**	P	**P**	**15 00 10.4**	**+0.7**
	17nm,1.2s,baz=90,slow=19,SNR=3.4						
PETK	**Petropavlovsk-**	**78.02**	**344**	P	**P**	**15 00 21.7**	**+0.6**
	2.5nm,0.8s,baz=136,slow=9.5,SNR=2.4						
NVAR	**Mina Array Bea**	**80.01**	**42**	P	**P**	**15 00 34.4**	**+1.7**
	2.5nm,0.6s,baz=225,slow=8.7,SNR=13						
TXAR	**Lajitas Array**	**85.42**	**56**	P	**P**	**15 01 02.1**	**+1.3**
	2.8nm,1.0s,baz=216,slow=8.4,SNR=17						
TXAR				LR	LR	15 33 53.7	
	comp=Z,37nm,18.6s,baz=0.0,slow=32						
SNAA	**Sanae**	**86.85**	**178**	P	**P**	**15 01 08.7**	**+1.5**
VNA3	**Neumayer Olymp**	**86.88**	**175**	P	**P**	**15 01 09.2**	**+1.9**
VNA2	**Neumayer--Watz**	**87.35**	**176**	P	**P**	**15 01 11.3**	**+1.8**
	baz=199,slow=2.0						
PDAR	**Pinedale Array**	**87.95**	**42**	P	**P**	**15 01 13.8**	**+0.8**
	0.3nm,0.8s,baz=204,slow=6.2,SNR=4.0						
ILAR	**Eielson Array**	**88.80**	**12**	P	**P**	**15 01 16.3**	**+0.2**
	0.7nm,0.8s,baz=218,slow=5.2,SNR=4.7						
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P	**P**	**15 01 36.5**	**-0.2**
	1.4nm,1.0s,baz=114,slow=3.1,SNR=8.6						
YKA	**Yellowknife Ar**	**96.39**	**24**	P	**P**	**15 01 52.1**	**+0.9**
	0.7nm,0.8s,baz=239,slow=4.2,SNR=10.0						
MKAR	**Makanchi Array**	**113.87**	**313**	PKiKP	**PKiKP**	**15 07 00.3**	**-1.1**
	0.2nm,0.5s,baz=77,slow=0.8,SNR=4.7						
ARCES	**ARCESS Array B**	**130.43**	**351**	PKP	**PKiKP**	**15 07 33.1**	**-0.3**
	2.2nm,0.8s,baz=20,slow=1.1,SNR=8.2						
GEYT	**Alibeck**	**131.60**	**302**	PKP	**PKPdf**	**15 07 35.3**	**-0.4**
	1.4nm,0.7s,baz=83,slow=3.3,SNR=3.2						
FINES	**FINESS Array B**	**137.52**	**345**	PKP	**PKPdf**	**15 07 46.0**	**0.0**
	2.1nm,0.8s,baz=64,slow=3.2,SNR=5.8						
BCA	**Borcka**	**143.28**	**311**⇑	*i*P	PKiKP	15 08 21.1	+21
AKASG	**Malin Array Be**	**145.21**	**333**	PKPbc	**PKPbc**	**15 07 59.2**	**-0.6**
	12nm,0.4s,baz=42,slow=4.3,SNR=60						
BURAR	**Bucovina Array**	**149.27**	**333**⇑	*i*P	**PKiKP**	**15 08 12.4**	**-0.2**
BIZ	**Bicaz**	**149.39**	**331**⇑	*i*P	**PKiKP**	**15 08 12.7**	**-0.1**
BRTR	**Keskin Array B**	**149.52**	**313**	PKPbc	**PKPbc**	**15 08 12.4**	**0.0**
	5.8nm,0.5s,baz=131,slow=3.7,SNR=34						
CLL	**Collm**	**149.65**	**350**⇑	*i*PKPbc	**PKiKP**	**15 08 12.7**	**-0.4**
CLL				*i* PKPab	**PKPab**	**15 08 16.8**	**-0.5**
CLL				*e*		15 08 48.0	
CFR	**Carcaliu**	**149.67**	**326**⇓	*i*P	**PKPbc**	**15 08 12.4**	**+0.1**
VRI	**Vrincioaia**	**149.89**	**329**⇓	*i*P	**PKiKP**	**15 08 13.5**	**-0.3**
BRG	**Berggiesshubel**	**149.90**	**348**	*e*PKP	**PKiKP**	**15 08 13.7**	**+0.1**
	14nm,1.4s						
TRPA	**Tarpa**	**149.94**	**336**⇑	*i*P	**PKiKP**	**15 08 14.3**	**+0.5**
ANTO	**Ankara**	**150.02**	**314**⇓	*i*P	**PKiKP**	**15 08 13.9**	**-0.5**
TLB	**Topalu**	**150.12**	**326**⇓	*i*P	**PKiKP**	**15 08 14.0**	**-0.3**
DOPR	**Dopca**	**150.45**	**330**⇑	*i*P	**PKiKP**	**15 08 15.1**	**+0.1**
MLR	**Muntele Rosu**	**150.54**	**329**⇑	*i*P	**PKiKP**	**15 08 14.9**	**-0.4**
DRGR		**150.96**	**334**⇑	*i*P	**PKiKP**	**15 08 15.8**	**-0.3**
VOIR		**151.00**	**330**⇑	*i*P	**PKiKP**	**15 08 16.7**	**+0.5**
ARR	**Arges**	**151.25**	**330**⇑	*i*P	**PKiKP**	**15 08 17.4**	**+0.7**
SIRR	**Siria**	**151.81**	**335**⇓	*i*P	**PKiKP**	**15 08 18.1**	**+0.3**
GERES	**GERESS Array B**	**151.88**	**348**	PKPbc	**PKiKP**	**15 08 18.1**	**+0.1**
	0.4nm,0.5s,baz=29,slow=3.0,SNR=4.2						
GZR	**Gura Zlata**	**152.06**	**332**⇑	*i*P	**PKPbc**	**15 08 18.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**171.10**	**160**	PKPab	**PKPab**	**15 09 49.6**	**-1.4**
	0.4nm,0.8s,baz=186,slow=4.3,SNR=2.2						

MAN 02 14:50:55.3,6.˚85N×126.˚02E,h1km,mb4.6,ML3.4,MS3.3, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.80**	**282**⇑	*i*P	Pn	14 51 27.3	-0.2
CGP	**Cagayan de Oro**	**2.06**	**321**⇓	*e*P	Pg	14 51 35.7	+0.8

IDC ***02*** *14:52:35.6±8.4, 16.˚35S×174.˚92W,h261km±81km, mb3.4/11,mb1 3.6/11,mb1mx3.4/34,mbtmp4.0/11,MS4.4/1, Ms1 4.4/1,ms1mx3.0/15,Error ellipse: s-maj=36.8km s-min=21.3km az=150.0*

ISCJB ***02*** *14:52:37.1±0.8, 16.˚4S±0.˚2×175.˚0W±0.˚2,h288km, mb3.5/11,Error ellipse: s-maj=31.1km s-min=15.3km az=40.3*

ISC 02 14:52:38.2±0.9,16.˚4S±0.˚2×174.˚8W±0.˚2,h288km,n15, σ1ᵗ37/17,mb3.5/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**13.08**	**192**	LR	LR	15 00 02.9	
	comp=Z,2µm,21.5s,baz=192,slow=34						
URZ	**Urewera**	**22.89**	**197**	P	**P**	**14 57 17.4**	**+0.3**
	2.8nm,0.4s,baz=60,slow=20,SNR=4.7						
STKA	**Stephens Creek**	**42.39**	**241**	P	**P**	**15 00 03.8**	**-1.2**
	2.2nm,0.7s,baz=94,slow=7.0,SNR=4.9						
WRA	**Warramunga Arr**	**48.34**	**258**	P	**P**	**15 00 50.3**	**-1.3**
	0.3nm,0.3s,baz=96,slow=7.4,SNR=14						
WRA				PcP	**PcP**	**15 02 14.0**	**+0.4**
	0.5nm,1.0s,baz=96,slow=3.5,SNR=2.9						
ASAR	**Alice Springs**	**48.55**	**253**	P	**P**	**15 00 51.8**	**-1.4**
	2.9nm,0.6s,baz=91,slow=7.6,SNR=24						
ASAR				pP	**pwP**	**15 01 60.0**	**+3.9**
	1.1nm,0.8s,baz=88,slow=8.5,SNR=3.3						
ASAR				PcP	**PcP**	**15 02 14.6**	**+0.3**
	0.4nm,0.7s,baz=92,slow=5.6,SNR=3.7						
PETK	**Petropavlovsk-**	**73.22**	**343**	P	**P**	**15 03 38.2**	**+0.4**
	3.4nm,0.8s,baz=145,slow=10,SNR=3.3						
NVAR	**Mina Array Bea**	**75.97**	**42**	P	**P**	**15 03 55.1**	**+0.9**
	0.8nm,0.7s,baz=216,slow=9.5,SNR=4.2						
ILAR	**Eielson Array**	**83.71**	**12**	P	**P**	**15 04 34.9**	**+0.3**
	0.5nm,0.6s,baz=220,slow=5.1,SNR=13						
PDAR	**Pinedale Array**	**83.91**	**42**	P	**P**	**15 04 36.4**	**0.0**
	0.5nm,0.6s,baz=225,slow=1.7,SNR=5.1						
YKA	**Yellowknife Ar**	**91.57**	**24**	P	**P**	**15 05 11.2**	**-0.8**
	0.1nm,0.6s,baz=231,slow=3.9,SNR=3.9						
CMAR	**Chiang Mai Arr**	**91.70**	**289**	P	**P**	**15 05 15.0**	**+1.3**
	0.4nm,0.7s,baz=108,slow=5.8,SNR=2.8						
SONM	**Songino Array**	**94.74**	**318**	P	**P**	**15 05 26.2**	**-1.0**
	0.2nm,0.4s,baz=122,slow=1.9,SNR=2.6						
ARCES	**ARCESS Array B**	**125.44**	**351**	PKP	**PKPdf**	**15 11 04.2**	**-0.3**
	3.5nm,1.0s,baz=350,slow=3.7,SNR=3.5						
BRTR	**Keskin Array B**	**146.10**	**319**	PKPbc	**PKPdf**	**15 11 43.5**	**-0.1**
	0.6nm,0.7s,baz=152,slow=3.6,SNR=4.1						
GERES	**GERESS Array B**	**146.94**	**350**	PKPbc	**PKPbc**	**15 11 46.2**	**-0.8**
	0.6nm,0.7s,baz=20,slow=4.3,SNR=5.8						

ISCJB ***02*** *14:58:35.8±0.5, 18.˚53N±0.˚05×145.˚7E±0.˚1,h150km, mb3.5/13,Error ellipse: s-maj=19.2km s-min=7.0km az=175.4*

IDC ***02*** *14:58:39.3±1.8, 18.˚49N×145.˚69E,h169km±17km, mb3.2/13,mb1 3.5/16,mb1mx3.4/38,mbtmp3.8/16,Error ellipse: s-maj=25.0km s-min=10.3km az=88.0*

ISC 02 14:58:37.7±0.6,18.˚53N±0.˚06×145.˚8E±0.˚2,h150km,n16, σ1ᵗ45/18,mb3.5/13,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.00**	**191**	P	**Pn**	**14 59 54.1**	**+2.8**
	8.9nm,0.3s,baz=27,slow=14,SNR=7.6						
GUMO				S	**Sn**	**15 00 48.2**	**-0.4**
	14nm,0.3s,baz=9.5,slow=18,SNR=2.9						
JCJ	**Chichijima**	**9.16**	**339**	P	**Pn**	**15 00 49.5**	**+2.9**
	2.5nm,0.3s,baz=221,slow=20,SNR=3.5						
JCJ				S	**Sn**	**15 02 26.4**	**-1.8**
	2.5nm,0.3s,baz=234,slow=19,SNR=2.6						
MJAR	**Matsushiro Arr**	**19.16**	**341**	P	**P**	**15 02 49.9**	**+0.4**
	0.0nm,0.3s,baz=177,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**39.87**	**197**	P	**P**	**15 05 55.9**	**-1.0**
	2.7nm,0.5s,baz=18,slow=8.8,SNR=32						
SONM	**Songino Array**	**43.35**	**321**	P	**P**	**15 06 26.0**	**+0.8**
	0.3nm,0.5s,baz=87,slow=7.4,SNR=2.0						
ASAR	**Alice Springs**	**43.53**	**196**	P	**P**	**15 06 25.6**	**-1.0**
	0.5nm,0.6s,baz=16,slow=6.5,SNR=18						
DZM	**Mont Dzumac**	**45.11**	**153**	P	**P**	**15 06 39.3**	**0.0**
	5.1nm,0.9s,baz=0.0,slow=11,SNR=1.7						
STKA	**Stephens Creek**	**50.29**	**185**	P	**P**	**15 07 17.4**	**-1.6**
	1.3nm,0.8s,baz=14,slow=6.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.23**	**323**	P	**P**	**15 08 15.3**	**-0.8**
	0.2nm,0.3s,baz=87,slow=5.9,SNR=2.3						
MKAR	**Makanchi Array**	**58.67**	**314**	P	**P**	**15 08 18.2**	**-1.2**
	0.1nm,0.5s,baz=114,slow=5.2,SNR=2.1						
ILAR	**Eielson Array**	**63.73**	**26**	P	**P**	**15 08 52.4**	**-0.7**
	0.3nm,0.5s,baz=260,slow=5.5,SNR=4.4						
INK	**Inuvik**	**69.47**	**23**	P	**P**	**15 09 29.5**	**+0.1**
	0.4nm,0.6s,baz=270,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	**78.07**	**28**	P	**P**	**15 10 19.4**	**-0.1**
	0.3nm,0.6s,baz=291,slow=5.6,SNR=4.2						
NVAR	**Mina Array Bea**	**83.13**	**52**	P	**P**	**15 10 48.3**	**+0.9**
	0.8nm,0.6s,baz=271,slow=6.0,SNR=7.8						
PDAR	**Pinedale Array**	**87.84**	**45**	P	**P**	**15 11 10.9**	**+0.3**
	0.1nm,0.5s,baz=298,slow=4.0,SNR=3.3						
AKASG	**Malin Array Be**	**91.52**	**325**	P	**P**	**15 11 25.6**	**-1.6**
	0.9nm,0.4s,baz=59,slow=5.4,SNR=8.6						

ISCJB ***02*** *15:01:20.2±0.2,24.˚09N±0.˚01×121.˚41E±0.˚02,h69km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=37.9*

JMA ***02*** *15:01:20.4,23.˚99N×121.˚40E,h57km±1km,M3.8*

TAP ***02*** *15:01:20.5,24.˚09N×121.˚40E,h60km,ML4.0,B*

ISC 02 15:01:20.9±1.2,24.˚09N±0.˚02×121.˚41E±0.˚02,h62km±4km, n127,σ0ᵗ83/201,12C-32D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.14**	**31**⇑	P	**Pn**	**15 01 30.8**	**+0.3**
	baz=42						
ETLH				S	**Sn**	**15 01 37.5**	**+0.1**
	baz=42						
WHF	**Hehuan Shan**	**0.14**	**293**⇑	*i*P	**Pn**	**15 01 31.2**	**+0.3**
	baz=295						
WHF				*e*S	**Sn**	**15 01 38.2**	**+0.1**
	baz=295						
TWD	**Chiawan**	**0.17**	**93**⇓	*i*P	**Pn**	**15 01 29.9**	**-0.5**
	baz=102						
TWD				S	**Sn**	**15 01 36.4**	**-1.1**
	baz=102						
NACB	**Ninganchiao**	**0.19**	**64**	P	**Pn**	**15 01 30.0**	**-0.5**
	baz=75						
NACB				S	**Sn**	**15 01 36.2**	**-1.4**
	baz=75						
CHGB	**Renai**	**0.21**	**262**⇑	P	**Pn**	**15 01 31.4**	**+0.4**
	baz=272						
CHGB				S	**Sn**	**15 01 38.2**	**0.0**
	baz=272						
HWA	**Hwalien**	**0.21**	**121**	*e*P	**Pn**	**15 01 30.4**	**-0.2**
	baz=126						
OWD	**Renai**	**0.25**	**237**	P	**Pn**	**15 01 31.4**	**+0.3**
	baz=246						
OWD				S	**Sn**	**15 01 38.4**	**0.0**
	baz=246						
ENLB	**Shoufeng**	**0.26**	**136**	*e*P	**Pn**	**15 01 30.5**	**-0.4**
	baz=130						
ENLB				*e*S	**Sn**	**15 01 38.2**	**0.0**
	baz=130						
ESL	**Shilin**	**0.28**	**175**⇓	P	**Pn**	**15 01 30.3**	**-0.8**
	baz=167						
ESL				*e*S	**Sn**	**15 01 37.5**	**-1.0**
	baz=167						
TDCB	**Techi**	**0.28**	**306**	P	**Pn**	**15 01 31.6**	**+0.4**
	baz=301						
TDCB				S	**Sn**	**15 01 38.9**	**+0.1**
	baz=301						
NNSB	**Datong**	**0.34**	**357**⇑	P	**Pn**	**15 01 32.2**	**+0.5**
	baz=1.0						
NNSB				S	**Sn**	**15 01 39.8**	**+0.3**
	baz=1.0						
NNS	**Nan Shan**	**0.35**	**355**⇑	*i*P	**Pn**	**15 01 32.3**	**+0.5**
	baz=357						
NNS				*e*S	**Sn**	**15 01 40.5**	**+0.7**
	baz=357						
VWDT	**VWDT**	**0.41**	**216**⇑	P	**Pn**	**15 01 33.0**	**+0.8**
	baz=219						
VWDT				S	**Sn**	**15 01 41.0**	**+0.6**
	baz=219						
EGFH	**Guangfu**	**0.42**	**177**	*e*P	**Pn**	**15 01 31.4**	**-0.9**
	baz=173						
EGFH				*e*S	**Sn**	**15 01 39.0**	**-1.6**
	baz=173						
ENA	**Nanau**	**0.46**	**42**⇑	P	**Pn**	**15 01 32.3**	**-0.3**
	baz=49						
WHP	**Taichung City**	**0.46**	**294**⇓	*i*P	**Pn**	**15 01 33.0**	**+0.2**
	baz=294						
WHP				*e*S	**Sn**	**15 01 41.4**	**0.0**
	baz=294						
NANB	**Nanao**	**0.46**	**43**⇑	P	**Pn**	**15 01 32.3**	**-0.4**
	baz=51						
NANB				*e*S	**Sn**	**15 01 40.5**	**-0.7**
	baz=51						
SMLT	**Sun Moon Lake**	**0.51**	**246**⇓	*i*P	**Pn**	**15 01 33.8**	**+0.6**
	baz=245						
SMLT				S	**Sn**	**15 01 43.3**	**+1.1**
	baz=245						
SSLB	**Suanglung**	**0.51**	**234**⇓	P	**Pn**	**15 01 33.7**	**+0.5**
	baz=233						
SSLB				*e*S	**Sn**	**15 01 42.7**	**+0.5**
	baz=233						
NDT	**Datong Townshi**	**0.52**	**11**	*e*P	**Pn**	**15 01 33.8**	**+0.5**
	baz=15						
NDT				S	**Sn**	**15 01 43.2**	**+0.9**
	baz=15						
TYC	**Yuchr**	**0.53**	**250**⇓	*i*P	**Pn**	**15 01 33.9**	**+0.5**
	baz=249						
TYC				S	**Sn**	**15 01 43.3**	**+0.8**
	baz=249						
ENTT	**Nioudou**	**0.57**	**15**⇑	P	**Pn**	**15 01 34.2**	**+0.4**
	baz=24						
ENTT				*e*S	**Sn**	**15 01 44.4**	**+1.1**
	baz=24						
YHNB	**Yeheng**	**0.58**	**357**⇑	P	**Pn**	**15 01 34.6**	**+0.6**
	baz=3.0						
YHNB				S	**Sn**	**15 01 44.1**	**+0.6**
	baz=3.0						
EHY	**Hungye**	**0.59**	**188**⇓	*e*P	**Pn**	**15 01 32.8**	**-1.2**
	baz=176						
NSK	**S

WGK	**Gukeng**	**0.87**	**243**	⇓P	**Pn**	**15 01 37.9**	**+0.5**
	baz=253								
WGK				*e*S	**Sn**	**15 01 50.9**	**+1.4**
	baz=253								
NHDH	**Xindian Distri**	**0.88**	**7**	*e*P	**Pn**	**15 01 38.1**	**+0.6**
	baz=18								
NHDH				*e*S	**Sn**	**15 01 50.7**	**+1.0**
	baz=18								
TATO	**Taipei**	**0.89**	**5**	⇓P	**Pn**	**15 01 38.0**	**+0.5**
	baz=18								
TATO				*e*S	**Sn**	**15 01 50.9**	**+1.0**
	baz=18								
WDLH	**Douliu**	**0.89**	**244**	*e*P	**Pn**	**15 01 37.6**	**0.0**
	baz=254								
FULB	**Fuli**	**0.89**	**187**	*e*P	**Pn**	**15 01 37.1**	**-0.6**
	baz=177								
FULB				*e*S	**Sn**	**15 01 50.5**	**+0.5**
	baz=177								
NCUH	**Zhongli**	**0.90**	**347**	*e*P	**Pn**	**15 01 37.8**	**+0.1**
	baz=348								
NCUH				*e*S	**Sn**	**15 01 50.6**	**+0.5**
	baz=348								
NCU	**National Centr**	**0.90**	**347**	P	**Pn**	**15 01 38.0**	**+0.3**
	baz=349								
NCU				*e*S	**Sn**	**15 01 51.0**	**+0.9**
	baz=349								
TWA	**Mucha**	**0.90**	**10**	⇓P	**Pn**	**15 01 38.5**	**+0.7**
	baz=12								
TWA				*e*S	**Sn**	**15 01 51.3**	**+1.0**
	baz=12								
TIPB	**Shuangxi**	**0.96**	**23**⇑	*e*P	**Pn**	**15 01 38.9**	**+0.4**
	baz=25								
TIPB				*e*S	**Sn**	**15 01 51.7**	**+0.1**
	baz=25								
ELDTW	**Lidau**	**0.96**	**202**	*e*P	**Pn**	**15 01 39.2**	**+0.5**
	baz=195								
ELDTW				*e*S	**Sn**	**15 01 53.9**	**+2.1**
	baz=195								
RLNB	**Erlin**	**0.98**	**259**	⇓P	**Pn**	**15 01 38.6**	**-0.1**
	baz=269								
RLNB				*e*S	**Sn**	**15 01 52.2**	**+0.3**
	baz=269								
CHKT	**Chengkung**	**0.99**	**182**	*e*P	**Pn**	**15 01 38.2**	**-0.6**
	baz=169								
TWS1	**Kuangyinshan**	**1.01**	**1**	P	**Pn**	**15 01 39.7**	**+0.6**
	baz=2.0								
TWS1				*e*S	**Sn**	**15 01 53.8**	**+1.1**
	baz=2.0								
CHN2	**Minshiung**	**1.02**	**237**	*e*P	**Pn**	**15 01 40.1**	**+0.9**
	baz=247								
CHN2				*e*S	**Sn**	**15 01 54.0**	**+1.2**
	baz=247								
NWF	**Wu-fen Shan**	**1.03**	**19**	*e*P	**Pn**	**15 01 40.4**	**+0.8**
	baz=21								
NWF				*e*S	**Sn**	**15 01 53.6**	**+0.2**
	baz=21								
WFSB	**Wu-fen Shan**	**1.03**	**19**	*e*P	**Pn**	**15 01 40.1**	**+0.6**
	baz=21								
WFSB				*e*S	**Sn**	**15 01 53.6**	**+0.3**
	baz=21								
CHN4	**Tsaushan**	**1.05**	**226**	*e*P	**Pn**	**15 01 40.4**	**+0.8**
	baz=224								
CHN4				*e*S	**Sn**	**15 01 55.6**	**+2.0**
	baz=224								
WTCT	**Ta-ch'eng**	**1.05**	**258**	P	**Pn**	**15 01 39.4**	**-0.3**
	baz=257								
WTCT				*e*S	**Sn**	**15 01 53.7**	**0.0**
	baz=257								
TWB1	**Santiao Chiao**	**1.06**	**30**	*e*P	**Pn**	**15 01 40.5**	**+0.8**
	baz=32								
TPUB	**Ta-pu**	**1.06**	**222**	*e*P	**Pn**	**15 01 40.5**	**+0.7**
	baz=231								
TPUB				*e*S	**Sn**	**15 01 55.5**	**+1.6**
	baz=231								
YM01	**YM01**	**1.06**	**8**	*e*P	**Pn**	**15 01 40.2**	**+0.3**
	baz=19								
YM01				*e*S	**Sn**	**15 01 54.7**	**+0.7**
	baz=19								
YM04	**YM04**	**1.07**	**6**	*e*P	**Pn**	**15 01 39.9**	**-0.1**
	baz=17								
YM04				*e*S	**Sn**	**15 01 54.1**	**0.0**
	baz=17								
NTST	**Danshui**	**1.07**	**2**	*e*P	**Pn**	**15 01 40.3**	**+0.3**
	baz=3.0								
CHY	**Chiayi**	**1.07**	**237**	*e*P	**Pn**	**15 01 40.1**	**+0.1**
	baz=247								
YM11	**YM11**	**1.08**	**8**	*e*P	**Pn**	**15 01 40.1**	**-0.1**
	baz=19								
YM11				*e*S	**Sn**	**15 01 54.3**	**-0.2**
	baz=19								
ANP	**Anpu**	**1.10**	**5**	*e*P	**Pn**	**15 01 39.9**	**-0.5**
	baz=18								
STYT	**Tauyuan**	**1.10**	**213**	*e*P	**Pn**	**15 01 41.1**	**+0.7**
	baz=211								
YM08	**YM08**	**1.11**	**9**	*e*P	**Pn**	**15 01 40.5**	**+0.1**
	baz=10.0								
WTP	**Ta-pu**	**1.11**	**221**	*e*P	**Pn**	**15 01 41.1**	**+0.6**
	baz=231								
WMLT	**Mailiao**	**1.12**	**256**	*e*P	**Pn**	**15 01 40.0**	**-0.6**
	baz=255								
WSF	**Szhu**	**1.17**	**248**	*e*P	**Pn**	**15 01 41.2**	**-0.1**
	baz=256								
WSF				*e*S	**Sn**	**15 01 56.7**	**+0.2**
	baz=256								
TWK	**Hsinying**	**1.17**	**226**	*e*P	**Pn**	**15 01 41.9**	**+0.5**
	baz=223								
TWK				*e*S	**Sn**	**15 01 58.5**	**+1.9**
	baz=223								
WLGB	**Puzi**	**1.18**	**239**	*e*P	**Pn**	**15 01 40.2**	**-1.1**
	baz=238								
TWY	**Chenhua**	**1.19**	**8**	*e*P	**Pn**	**15 01 40.8**	**-0.7**
	baz=10.0								
SNST	**Tainan City**	**1.20**	**224**	*e*P	**Pn**	**15 01 42.3**	**+0.6**
	baz=233								
CHN1	**Nanshi**	**1.21**	**222**	*e*P	**Pn**	**15 01 42.0**	**+0.3**
	baz=231								
SLGT	**Liugui**	**1.29**	**213**	*e*P	**Pn**	**15 01 44.3**	**+1.4**
	baz=210								
TWG	**Pinlang**	**1.30**	**194**	*e*P	**Pn**	**15 01 41.7**	**-1.3**
	baz=180								
TWGBT	**Beinan**	**1.30**	**193**	*e*P	**Pn**	**15 01 41.6**	**-1.4**
	baz=180								
CHN8	**Yiju**	**1.32**	**236**	*e*P	**Pn**	**15 01 43.2**	**0.0**
	baz=246								
CHN3	**Shinhua**	**1.39**	**224**	*e*P	**Pn**	**15 01 46.0**	**+1.9**
	baz=221								
SCLT	**Jiali**	**1.44**	**231**	*e*P	**Pn**	**15 01 45.8**	**+1.0**
	baz=228								
YOJ	**Yonaguni jima**	**1.51**	**75**	*e*P	**Pn**	**15 01 45.9**	**+0.1**
	baz=76								
YOJ	**Yonaguni jima**	**1.51**	**75**	P	**Pn**	**15 01 46.1**	**+0.3**
YOJ				*e*S	**Sn**	**15 02 04.4**	**-0.1**
SSD	**Sandimen**	**1.51**	**208**	*e*P	**Pn**	**15 01 46.5**	**+0.7**
	baz=205								
ECL	**Taimali**	**1.54**	**196**	*e*P	**Pn**	**15 01 46.5**	**+0.3**
	baz=185								
TWM1	**Shoushan**	**1.55**	**216**	*e*P	**Pn**	**15 01 48.3**	**+2.0**
	baz=213								
MASBT	**Mashibuluo**	**1.63**	**206**	*e*P	**Pn**	**15 01 48.2**	**+0.8**
	baz=215								
PNG	**Penghu**	**1.77**	**253**	*e*P	**Pn**	**15 01 48.1**	**-1.1**
	baz=252								
EAST	**Anshuo**	**1.77**	**197**	*e*P	**Pn**	**15 01 50.2**	**+0.9**
	baz=183								
PHUB	**P'eng-hu**	**1.77**	**252**	*e*P	**Pn**	**15 01 48.3**	**-1.0**
	baz=251								
PHUB				*e*S	**Sn**	**15 02 08.4**	**-2.4**
	baz=251								
SSPT	**Xinbi**	**1.77**	**206**	*e*P	**Pn**	**15 01 50.6**	**+1.2**
	baz=202								
WDGT	**Dungji**	**1.80**	**243**	*e*P	**Pn**	**15 01 48.8**	**-0.9**
	baz=242								
WDGT				*e*S	**Sn**	**15 02 10.5**	**-1.0**
	baz=242								
SCZT	**Fangliau**	**1.86**	**203**	*e*P	**Pn**	**15 01 51.2**	**+0.7**
	baz=199								
VWUC	**VWUC**	**2.00**	**297**⇓	*e*P	**Pn**	**15 01 51.0**	**-1.3**
	baz=297								
VCHM	**Qimei**	**2.01**	**245**	*e*P	**Pn**	**15 01 51.6**	**-0.9**
	baz=232								
PTTC	**Pingtan**	**2.04**	**314**⇓	*e*P	**Pn**	**15 01 51.7**	**-1.3**
	baz=313								
LAY	**Lan-yu**	**2.05**	**176**	*e*P	**Pn**	**15 01 52.1**	**-0.9**
	baz=169								
IRIF	**Iriomote-Funau**	**2.14**	**83**	P	**Pn**	**15 01 54.2**	**0.0**
IRIF				*e*S	**Sn**	**15 02 19.3**	**-0.4**
HATJ	**Hateruma jima**	**2.19**	**90**	P	**Pn**	**15 01 55.8**	**+0.8**
HATJ				*e*S	**Sn**	**15 02 21.4**	**+0.3**

TWK1	**Hengchun**	**2.21**	**195**	*e*P	**Pn**	**15 01 56.2**	**+1.0**
	baz=181								
TWKBT	**Hengchun**	**2.21**	**194**	*e*P	**Pn**	**15 01 54.9**	**-0.3**
	baz=181								
PTMZ	**Houxiangcun**	**2.29**	**295**⇓	*e*P	**Pn**	**15 01 55.2**	**-1.1**
	baz=295								
JKRS	**Kuro-shima**	**2.38**	**86**	P	**Pn**	**15 01 58.3**	**+0.7**
JKRS				S	**Sn**	**15 02 25.8**	**+0.1**
MATB	**Ma-tsu**	**2.44**	**328**⇓	*e*P	**Pn**	**15 01 57.0**	**-1.4**
	baz=327								
JIJ	**Ishigaki jima**	**2.51**	**83**	P	**Pn**	**15 01 59.4**	**0.0**
JIJ				*e*S	**Sn**	**15 02 28.0**	**-0.9**
JISG	**Ishigakijimahi**	**2.70**	**79**	P	**Pn**	**15 02 01.7**	**-0.1**
JISG				S	**Sn**	**15 02 32.5**	**-0.8**
KNM	**Kinmen**	**2.73**	**277**	*e*P	**Pn**	**15 02 02.7**	**+0.4**
	baz=278								
KNMB	**Chin-men Tao**	**2.78**	**278**	*e*P	**Pn**	**15 02 01.4**	**-1.5**
	baz=279								
LYJJ	**Jianjiangzhen**	**2.87**	**329**	*e*P	**Pn**	**15 02 02.9**	**-1.2**
	baz=328								
MHZQ	**Yeshan**	**2.94**	**313**	*e*P	**Pn**	**15 02 03.8**	**-1.4**
	baz=311								
XPSS	**Dashiqiu**	**3.03**	**339**	*e*P	**Pn**	**15 02 05.3**	**-1.1**
	baz=329								
JTJ	**Tarama**	**3.06**	**79**	P	**Pn**	**15 02 07.2**	**+0.4**
JTJ				S	**Sn**	**15 02 42.2**	**+0.1**
AXDP	**Jialang**	**3.23**	**285**	*e*P	**Pn**	**15 02 08.2**	**-1.0**
	baz=286								
ZPLA	**Ao Xicun**	**3.35**	**268**	*e*P	**Pn**	**15 02 09.6**	**-1.1**
	baz=269								
ZZJH	**Jiuhuzhen**	**3.47**	**277**	*e*P	**Pn**	**15 02 11.5**	**-0.8**
	baz=278								
JIRB	**Irabujima**	**3.51**	**77**	*e*S	**Sn**	**15 02 54.4**	**+1.1**

TIF ***02*** *15:13:21.9, 42°.31N×40°.82E, h43*km±*1*km
NORS ***02*** *15:13:23.4±0.0, 42°.53N×41°.25E, h10*km*, MPVA3.0*
MOS ***02*** *15:13:23.4±0.0, 42°.56N×41°.07E, h9*km*, MPVA3.5*

ISC 02 15:13:21.1±1.4, **42°.45N**±0°.03×**41°.07E**±0°.05, **h14**km±12km, **n14**, σ**0°71**/27, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**0.94**	**26**	*i* Pg	**Pn**	**15 13 40.3**	**+0.3**
DOMR				*i* Sg	**Sb**	**15 13 52.0**	**+0.5**
BATM	**Batumi**	**0.96**	**151**	P	**Pn**	**15 13 40.6**	**+0.3**
BATM				S	**Sn**	**15 13 54.0**	**+0.2**
DBOC	**Borcka**	**1.19**	**158**	*i* P	**Pn**	**15 13 43.8**	**+0.4**
DBOC				*i* S	**Sb**	**15 13 59.2**	**+0.5**
DBOC				IAML_P			
	comp=Z,2μm,0.1s						
ARTV	**Artvin**	**1.42**	**153**	*i* P	**Pn**	**15 13 47.1**	**+0.4**
ARTV				*i* S	**Sb**	**15 14 05.0**	**-0.5**
ARTV				IAML_P			
	comp=Z,1μm,0.1s						
NEY	**Neytrino**	**1.45**	**56**	*i* Pg	**Pg**	**15 13 49.6**	**+0.5**
NEY				*e*Sg	**Sg**	**15 14 09.1**	**+1.2**
DBAD	**Bademkaya**	**1.50**	**162**	*i* P	**Pn**	**15 13 48.0**	**+0.2**
DBAD				*i* S	**Sn**	**15 14 06.7**	**-0.6**
DBAD				IAML_P			
	comp=Z,517nm,0.2s						
DAGI	**Agillar**	**1.51**	**155**	*i* P	**Pb**	**15 13 48.9**	**-0.1**
EPOS	**Posof**	**1.56**	**127**	*i* P	**Pg**	**15 13 51.8**	**+0.8**
EPOS				*i* S	**Sg**	**15 14 12.1**	**+0.9**
DDEM	**Demirkent**	**1.64**	**162**	*i* P	**Pb**	**15 13 50.5**	**-0.6**
DDEM				*i* S	**Sn**	**15 14 10.4**	**-0.1**
DDEM				IAML_P			
	comp=Z,778nm,0.2s						
ZEI	**Tsey**	**2.12**	**80**	*e*Pg	**Pg**	**15 14 00.9**	**-0.8**
ZEI				*e*Sg	**Sg**	**15 14 27.6**	**-1.5**
LACR	**Lac**	**2.41**	**80**	*e*Pn	**Pg**	**15 14 06.8**	**-0.5**
LACR				*e*Sn	**Sg**	**15 14 37.5**	**-1.0**

MAN 02 15:14:16.5, 10°.26N×123°.66E, h98km**, mb3.7, ML2.5, MS2.0, 1C, Cebu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.59**	**161**	*e*P	**Pn**	15 14 36.2	+3.3
SNPH	**Sibulan**	**1.00**	**205**⇑	*i*P	**Pn**	15 14 34.6	-2.3
SNPH				*i* S	**Sn**	15 14 43.1	-9.0
GUIM	**Jordan**	**1.12**	**289**	*e*P	**Pn**	15 14 40.5	+2.5
GUIM				*e*S	**Sn**	15 14 54.0	-0.4
MSLP	**Maasin**	**1.19**	**96**	*e*P	**Pn**	15 14 39.6	+0.7
MSLP				*e*S	**Sn**	15 14 47.3	-8.5

ATH ***02*** *15:19:13.6, 39°.61N×26°.06E, h27*km±*1*km*, ML2.2/7, Error ellipse: s-maj=2.8km s-min=1.2km az=247.0*
ISK ***02*** *15:19:13.2, 39°.62N×26°.06E, h2*km*, ML2.5/21*
ISCJB ***02*** *15:19:14.0±0.4, 39°.61N±0°.02×26°.04E±0°.03, h7*km±3km*, Error ellipse: s-maj=3.4km s-min=2.6km az=178.7*
THE ***02*** *15:19:14.2, 39°.62N×26°.03E, h8*km±*1*km*, ML2.1/7, Error ellipse: s-maj=1.5km s-min=0.7km az=104.0*
DDA ***02*** *15:19:14.0, 39°.63N×26°.13E, h7*km±*2*km*, ML2.9*

ISC 02 15:19:14.3±0.9, **39°.61N**±0°.02×**26°.05E**±0°.02, **h13**km±6km, **n52**, σ**0°65**/81, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.23**	**1**	PG	**Pg**	**15 19 18.9**	**-0.3**
BOZC				SG	**Sg**	**15 19 22.6**	**0.0**
BOZC	**Bozcaada**	**0.23**	**1**	*i* P	**Pg**	**15 19 20.0**	**+0.8**
BOZC				*i* S	**Sg**	**15 19 22.6**	**0.0**
BOZC				IAML_P			
	comp=Z,17μm,0.2s						
EZN	**Ezine**	**0.30**	**45**	PG	**Pg**	**15 19 19.9**	**-0.6**
EZN				SG	**Sg**	**15 19 24.5**	**-0.2**
EZN	**Ezine**	**0.30**	**45**	P	**Pg**	**15 19 19.9**	**-0.6**
EZN				S	**Sg**	**15 19 24.4**	**-0.2**
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**15 19 22.7**	**+0.4**
PRK				S	**Sg**	**15 19 28.4**	**+0.6**
PRK	**Paraskevi**	**0.41**	**154**	P	**Pg**	**15 19 22.7**	**+0.4**
PRK				S	**Sg**	**15 19 27.9**	**+0.1**
PRK				AML	AML	15 19 28.6	
	comp=N,1692μm,0.4s						
PRK				AML	AML	15 19 29.6	
	comp=E,1664μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.41**	**71**	*i* P	**Pg**	**15 19 22.4**	**0.0**
BAYC				*i* S	**Sg**	**15 19 27.8**	**-0.1**
BAYC				IAML_P			
	comp=Z,5μm,0.1s						
SIGR	**SIGRI**	**0.43**	**200**	PG	**Pg**	**15 19 22.2**	**-0.5**
SIGR	**SIGRI**	**0.43**	**200**	P	**Pg**	**15 19 22.1**	**-0.7**
SIGR				S	**Sg**	**15 19 28.8**	**+0.3**
SIGR	**SIGRI**	**0.43**	**200**	P	**Pg**	**15 19 22.1**	**-0.7**
SIGR				S	**Sg**	**15 19 28.5**	**+0.1**
SIGR				AML	AML	15 19 29.9	
	comp=N,757μm,0.3s						
SIGR				AML	AML	15 19 30.0	
	comp=E,602μm,0.3s						
AYVA	**Ayvalik**	**0.58**	**121**	*i* P	**Pg**	**15 19 25.5**	**-0.2**
AYVA				*i* S	**Sn**	**15 19 37.3**	**-0.3**
AYVA				IAML_P			
	comp=Z,564nm,0.1s						
LIA	**Limnos Island**	**0.72**	**293**	P	**Pg**	**15 19 28.4**	**+0.1**
LIA				S	**Sg**	**15 19 38.0**	**+0.2**
LIA	**Limnos Island**	**0.72**	**293**	P	**Pg**	**15 19 28.3**	**0.0**
LIA				S	**Sb**	**15 19 38.5**	**-0.1**
LIA				AML	AML	15 19 41.5	
	comp=E,179μm,0.3s						
LIA				AML	AML	15 19 42.1	
	comp=N,248μm,0.2s						
EFSA	**Agios Efstrati**	**0.82**	**265**	P	**Pb**	**15 19 30.7**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.85**	**23**	PG	**Pb**	**15 19 30.5**	**-0.4**
GELI				SG	**Sb**	**15 19 42.7**	**+0.5**
LPK	**Lapseki**	**0.94**	**36**	PG	**Pg**	**15 19 31.7**	**-0.7**
SMTH	**Samothraki Isl**	**0.94**	**335**	P	**Pg**	**15 19 32.0**	**-0.5**
SMTH				S	**Sb**	**15 19 45.4**	**+0.5**
SMTH	**Samothraki Isl**	**0.94**	**335**	P	**Pg**	**15 19 32.0**	**-0.5**
SMTH				S	**Sb**	**15 19 45.6**	**+0.6**
SMTH				AML	AML	15 19 48.1	
	comp=E,184μm,0.1s						
SMTH				AML	AML	15 19 48.4	
	comp=N,222μm,0.2s						
ZEDA	**zmir-Bergama**	**1.03**	**129**	*i* P	**Pb**	**15 19 33.9**	**0.0**
ZEDA				IAML_P			
	comp=Z,467nm,0.1s						
FOCM	**Foa**	**1.04**	**149**	PG	**Pb**	**15 19 34.6**	**+0.4**
KRBN	**Karaburun**	**1.09**	**159**	PN	**Pg**	**15 19 35.1**	**-0.2**
ERIK	**Erikli-Kesan**	**1.12**	**19**	PN	**Pg**	**15 19 34.9**	**-0.9**
ENEZ	**Enez**	**1.12**	**4**	PN	**Pg**	**15 19 35.5**	**-0.4**
BALY	**Balya**	**1.22**	**84**	*i* P	**Pb**	**15 19 36.2**	**-1.0**
BALY				*i* S	**Sb**	**15 19 53.4**	**+0.5**
BALY				IAML_P			
	comp=Z,759nm,0.1s						
CHOS	**Chios island**	**1.22**	**180**	PN	**Pb**	**15 19 37.5**	**+0.2**
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**15 19 36.3**	**-1.0**
CHOS				S	**Sn**	**15 19 54.0**	**+0.5**
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**15 19 36.8**	**-0.5**
CHOS				S	**Sn**	**15 19 54.1**	**+0.5**
CHOS				AML	AML	15 19 58.7	
	comp=E,354μm,0.2s						
CHOS				AML	AML	15 19 58.9	
	comp=N,233μm,0.2s						
KRBG	**Karabiga-Canak**	**1.24**	**51**	PN	**Pb**	**15 19 37.1**	**-0.4**
ALN	**Alexandroupoli**	**1.28**	**360**	PN	**Pb**	**15 19 38.3**	**0.0**
ALN	**Alexandroupoli**	**1.28**	**360**	P	**Pn**	**15 19 37.7**	**-0.2**
ALN				S	**Sn**	**15 19 55.5**	**+0.6**
ALN	**Alexandroupoli**	**1.28**	**360**	P	**Pn**	**15 19 37.8**	**0.0**
ALN				S	**Sn**	**15 19 55.3**	**+0.4**
ALN				AML	AML	15 19 56.9	
	comp=E,126μm,0.5s						
ALN				AML	AML	15 19 57.0	
	comp=N,159μm,0.5s						
KESN	**Edirne-Kesan**	**1.30**	**22**	*i* P	**Pn**	**15 19 38.6**	**0.0**
KESN				*i* S	**Sn**	**15 19 57.0**	**+1.0**
KNL	**Balıkesir**	**1.31**	**60**	*i* P	**Pg**	**15 19 39.0**	**-0.5**
KNL				*i* S	**Sn**	**15 19 56.6**	**+0.9**
KNL				IAML_P			
	comp=Z,2μm,0.3s						
STEP	**BALIKESIR_Sava**	**1.31**	**100**	*i* P	**Pn**	**15 19 38.5**	**+0.1**
STEP				*i* S	**Sb**	**15 19 55.8**	**+0.1**
STEP				IAML_P			
	comp=Z,904nm,0.1s						
URLA	**Izmir**	**1.32**	**161**	PN	**Pb**	**15 19 39.2**	**+0.3**
URLA	**Izmir**	**1.32**	**161**	*i* P	**Pn**	**15 19 37.9**	**-0.5**
URLA				*i* S	**Sb**	**15 19 53.7**	**-2.1**
URLA				IAML_P			
	comp=Z,696nm,0.1s						
GONE	**Gonen-Balikesi**	**1.33**	**71**	PN	**Pg**	**15 19 39.3**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.38**	**39**	PN	**Pb**	**15 19 39.7**	**-0.3**
SART	**Tekirdag**	**1.38**	**39**	*i* P	**Pn**	**15 19 39.1**	**-0.2**
SART				*i* S	**Sg**	**15 19 58.7**	**-0.1**
SART				IAML_P			
	comp=Z,4μm,0.2s						
BALB	**Balikesir**	**1.42**	**88**	PN	**Pg**	**15 19 40.8**	**-0.7**
ZEY	**zmir**	**1.42**	**165**	*i* P	**Pn**	**15 19 40.4**	**+0.7**
ZEY				*i* S	**Sb**	**15 19 59.2**	**+0.7**
ZEY				IAML_P			
	comp=Z,1μm,0.2s						
THAS	**Thassos island**	**1.42**	**315**	P	**Pn**	**15 19 39.4**	**-0.4**
THAS				S	**Sn**	**15 19 57.3**	**-1.0**
THAS	**Thassos island**	**1.42**	**315**	P	**Pn**	**15 19 39.3**	**-0.5**
THAS				S	**Sn**	**15 19 57.7**	**-0.7**
THAS				AML	AML	15 19 57.8	
	comp=E,51μm,0.2s						
THAS				AML	AML	15 19 58.0	
	comp=N,132μm,0.2s						
EDC	**Edincik**	**1.58**	**62**	PN	**Pb**	**15 19 42.7**	**-0.6**
SBT4	**Kumbag-Tekirda**	**1.67**	**43**	PN	**Pb**	**15 19 43.9**	**-0.8**
DGB	**zmir**	**1.69**	**157**	*i* P	**Pg**	**15 19 46.1**	**-0.6**
DGB				IAML_P			
	comp=Z,343nm,0.1s						
AOS	**Alonnisos**	**1.74**	**256**	PN	**Pb**	**15 19 45.6**	**-0.4**
DURS	**Dursunbey**	**1.88**	**90**	*i* P	**Pn**	**15 19 46.3**	**+0.2**
DURS				*i* S	**Sn**	**15 20 09.3**	**-0.4**
EDRB	**Edirne**	**2.29**	**13**	PN	**Pn**	**15 19 52.9**	**+1.1**
KIRK	**Kırklareli**	**2.31**	**20**	*i* P	**Pn**	**15 19 53.9**	**+1.9**
ARMT	**Armutlu**	**2.36**	**65**	PN	**Pn**	**15 19 54.4**	**+1.7**
CTKS	**Kestanelik-??a**	**2.48**	**48**	PN	**Pn**	**15 19 55.6**	**+1.3**

IDC 02 15:22:54.7±1.7, **3°.86S×135°.87E, h0**km**, mb3.8**/2, **mb1 4.3**/3, **mb1mx3.7**/18, **mbtmp4.1**/3, **ML4.7/1, MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.5**/30, **Error ellipse: s-maj=84.3km s-min=33.7km az=85.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.05**	**185**	Pn	Pn	15 26 36.2	-5.9
	0.3nm,0.3s,baz=6.1,slow=13,SNR=16						
WRA				Sn	Sn	15 29 25.0	-16
	0.4nm,0.3s,baz=7.8,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**19.78**	**185**	P	P	15 27 26.8	0.0
	2.2nm,0.3s,baz=8.7,slow=11,SNR=146						
ASAR				S	S	15 30 52.1	-19
	0.1nm,0.3s,baz=5.4,slow=28,SNR=2.8						
ASAR				LR	LR	15 35 58.0	
	comp=Z,34nm,19.1s,baz=82,slow=40						
MKAR	**Makanchi Array**	**69.00**	**324**	P	P	15 34 02.1	0.0
	1.0nm,0.5s,baz=115,slow=7.3,SNR=19						
ILAR	**Eielson Array**	**88.05**	**25**	P	P	15 35 46.8	0.0
	0.3nm,0.9s,baz=249,slow=4.7,SNR=1.9						

GUC 02 15:31:51.9±0.5, **39°.19S×72°.07W, h93**km±7km**, ML3.5, 1C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO06	**Curarrehue**	**0.61**	**131**⇑	*i*P	Pn	15 32 07.6	-0.4
GO06				*i* S	Sn	15 32 20.1	+0.1
GO06				AMP		15 32 23.3	
	comp=N,652nm,0.4s						
AGCH	**Angol**	**1.46**	**340**	*e*P	Pn	15 32 16.9	-0.4
AGCH				*e*S	Sn	15 32 36.0	-0.4
CCHI	**Chillan**	**2.58**	**360**	*e*P	Pn	15 32 32.0	+0.2
CCHI				*e*S	Sn	15 33 01.6	-0.8
CCHI				AML	AML	15 33 03.1	
	comp=N,893nm,0.2s						
GO05	**Huala**	**4.17**	**2**	*e*P	Pn	15 32 52.5	-0.8
GO05				*e*S	Sn	15 33 39.3	-1.6
LMEL	**Las Melosas**	**5.54**	**16**	*e*P	Pn	15 33 12.4	+0.4
LMEL				*e*S	Sn	15 34 17.7	+3.4

NEIC ***02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.20**	**129**	*e*P	Pn	15 40 14.8	+0.6
RTLL				IAML		15 40 15.4	
	comp=Z,770nm,0.3s						
RTLL				*e*S	Sn	15 40 26.0	+0.9
AMOG	**MOGNA**	**0.30**	**27**	*e*P	Pn	15 40 15.1	+0.5
AMOG				*e*S	Sn	15 40 26.8	+0.9
ZON	**Zonda**	**0.34**	**184**	IAML		15 40 15.9	
	comp=Z,579nm,0.2s						
CFA	**Coronel Fontan**	**0.53**	**139**	*e*P	Pn	15 40 16.7	+0.7
CFA				*e*S	Sn	15 40 29.3	+1.0
RTCV	**Cerro Valdivia**	**0.66**	**172**	*e*P	Pn	15 40 17.8	+0.8
ACCO	**Cerro Coronel**	**0.71**	**330**	*e*P	Pn	15 40 18.9	+1.2
RTLS	**Leoncito**	**0.81**	**223**	*e*P	Pn	15 40 19.8	+1.1
RTLS				IAML		15 40 35.4	
	comp=Z,534nm,0.2s						
ACDV	**Cuesta del Vie**	**1.11**	**339**	IAML		15 40 23.0	
	comp=Z,296nm,0.2s						
AUSP	**Uspallata**	**1.19**	**211**	*e*P	Pn	15 40 23.9	+1.2
AROD	**Rodeo**	**1.25**	**325**	*e*P	Pn	15 40 24.9	+1.5
ACAN	**Cantantal**	**1.64**	**131**	*e*P	Pn	15 40 29.1	+1.3
AGUA	**GUANDACOL**	**1.72**	**5**	*e*P	Pn	15 40 30.0	+1.2
APLL	**PUNTA DE LOS L**	**2.00**	**67**	*e*P	Pn	15 40 33.2	+0.9
APLL				IAML		15 41 00.1	
	comp=Z,242nm,0.4s						

DJA 02 15:42:01.6±0.4,11°S±4°,12°4E±°,h69km±11km,M3.9/6, mb4.0/3,MLv3.9/6,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.33**	**14**	P	Pn	15 42 14.3	+1.3
SOEI	**Soe**	**1.02**	**41**	P	Pn	15 42 20.5	0.0
SOEI				S	Sn	15 42 34.8	+0.3
WSI	**Waingapu**	**3.34**	**285**	P	Pn	15 42 51.4	-0.1
PLAI	**Plampang**	**5.97**	**286**	P	Pn	15 43 27.3	-0.1

IDC ***02*** *15:43:16.8±0.4,11°.41S×165°.14E,h0km,mb4.7/24, mb1 4.9/26,mb1mx4.8/36,mbtmp4.7/26,ML5.1/2,MS4.2/25, Ms1 4.2/25,ms1mx4.1/37,Error ellipse: s-maj=17.1km s-min=12.4km az=94.0*

NEIC ***02*** *15:43:18.6±0.1,11°.37S×165°.06E,h10km,mb5.0/46,Error ellipse: s-maj=5.2km s-min=4.0km az=114.0*

GCMT ***02*** *15:43:20.6±0.2,11°.63S±0°.02×165°.00E±0°.01,h12km, MW5.1/103,Moment Tensor Solution. s60,c71; s103,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-4.81±.09; Mθθ1.41±.10; Mϕϕ3.39±.09; Mrθ-3.96±.35; Mθϕ-1.02±.07; Mϕr2.51±.30; Best double couple: M₀6.29000×10¹⁶ NP1:ϕs133.00000°,δ69.00000°, λ-102.00000°. NP2:ϕs344.00000°,δ24.00000°, λ-62.00000°. Principal axes: T 5.5180, Plg23.0000°, Azm233.0000°; N 1.5340, Plg11.0000°, Azm138.0000°; P -7.0610, Plg64.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***02*** *15:43:20.7±0.2,11°.46S±0°.04×164°.98E±0°.03,h34km, mb4.9/87,MS4.3/29 Error ellipse: s-maj=5.6km s-min=4.4km az=169.9*

MOS ***02*** *15:43:20.8±0.8,11°.31S×164°.97E,h33km,mb5.1/38, MS4.4/10,Error ellipse: s-maj=10.5km s-min=8.8km az=123.0*

BJI ***02*** *15:43:20.4,11°.11S×165°.42E,h32km,mb4.9/52,mB5.4/30, Ms5.1/15,Ms7 4.8/12*

ISC 02 15:43:22.4±0.3,11°50S±0°.05×164°.96E±0°.05,h34km,n251, σ1°.23/251,mb4.9/87,MS4.3/30,8C-10D,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.34**	**292**	*e*P	**Pn**	**15 44 40.0**	**+0.3**
HNR				*e*S	**Sn**	**15 45 39.0**	**-1.1**
HNR	**Honiara**	**5.34**	**292**	Pn	**Pn**	**15 44 40.2**	**+0.5**
	131nm,0.3s,baz=141,slow=6.2,SNR=39						
HNR				Sn	**Sn**	**15 45 40.6**	**+0.6**
	82nm,0.3s,baz=117,slow=21,SNR=9.4						
DZM	**Mont Dzumac**	**10.61**	**172**	*e*Pn	**Pn**	**15 45 51.7**	**-0.6**
	60nm,0.4s						
DZM				*e*LQ	LQ	15 47 50.8	
	1μm,24.0s						
DZM				*e*LR	LR	15 48 19.0	
	comp=Z,2μm,29.6s						
DZM	**Mont Dzumac**	**10.61**	**172**	Pn	**Pn**	**15 45 52.0**	**-0.2**
	7.5nm,0.3s,baz=303,slow=17,SNR=92						
DZM				Sn	**Sn**	**15 47 44.8**	**-5.2**
	0.6nm,0.3s,baz=144,slow=19,SNR=2.9						
DZM				LR	LR	15 49 17.9	
	comp=Z,1μm,20.1s,baz=20,slow=34						
ONTNC	**Ouen Toro**	**10.85**	**173**	*e*Pn	**Pn**	**15 45 55.9**	**+0.5**
PINC	**Pines Island,**	**11.31**	**168**	*e*Pn	**Pn**	**15 46 01.8**	**+0.1**
MSVF	**Nonsavu**	**14.10**	**118**	*e*Pn	**Pn**	**15 46 41.3**	**+1.3**
MSVF	**Nonsavu**	**14.10**	**118**	*e*P	**Pn**	**15 46 41.3**	**+1.3**
CTA	**Charters Tower**	**19.91**	**242**	P	**Pn**	**15 47 53.2**	**+0.1**
	62nm,0.9s,baz=69,slow=14,SNR=18						
CTA				LR	LR	15 54 50.2	
	comp=Z,1μm,19.3s,baz=64,slow=34						
CTAO	**Charters Tower**	**19.91**	**242**	*e*P	**Pn**	**15 47 53.7**	**+0.6**
	82nm,0.9s						
CTAO	**Charters Tower**	**19.91**	**242**	*e*P	**Pn**	**15 47 53.7**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,82nm,0.9s						
COEN	**Coen**	**21.39**	**261**	*e*P	**P**	**15 48 09.2**	**+1.9**
	comp=Z,45nm,0.9s						
ARMA	**Armidale**	**22.53**	**211**	*e*P	**P**	**15 48 21.7**	**+2.1**
	comp=Z,40nm,1.0s						
URZ	**Urewera**	**28.78**	**160**	P	**P**	**15 49 17.7**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=272,slow=6.3,SNR=7.4						
URZ				LR	LR	15 59 10.5	
	comp=Z,316nm,18.8s,baz=348,slow=33						
BKZ	**Black Stump Fm**	**29.41**	**162**	*e*P	**P**	**15 49 23.9**	**+1.1**
	comp=Z,25nm,1.1s						
STKA	**Stephens Creek**	**29.59**	**223**	*e*P	**P**	**15 49 24.9**	**+0.5**
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**29.59**	**223**	P	**P**	**15 49 25.4**	**+1.0**
	comp=Z,9.2nm,0.7s,baz=36,slow=9.0,SNR=18						
STKA				LR	LR	16 00 36.3	
	comp=Z,1μm,20.2s,baz=33,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.84**	**3**	T	T	16 20 51.6	
	baz=184,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**29.85**	**3**	T	T	16 20 45.6	
	baz=184,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.86**	**3**	T	T	16 20 50.9	
	baz=184,slow=76,SNR=12						
WRAB	**Tennant Creek**	**30.59**	**250**	*e*P	**P**	**15 49 33.8**	**+0.4**
	comp=Z,43nm,1.2s						
WRAB	**Tennant Creek**	**30.59**	**250**	⇑*e*P	**P**	**15 49 33.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,35nm,1.0s						
WB2	**Warramunga Arr**	**30.59**	**250**	*e*P	**P**	**15 49 33.9**	**+0.5**
WB2				*e*PcP	**PcP**	**15 52 32.5**	**+0.8**
WRA	**Warramunga Arr**	**30.60**	**250**	P	**P**	**15 49 33.6**	**+0.1**
	comp=Z,16nm,0.7s,baz=81,slow=9.1,SNR=22						
WRA				PcP	**PcP**	**15 52 32.0**	**+0.4**
	comp=Z,4.4nm,0.9s,baz=78,slow=2.7,SNR=9.7						
WRA				LR	LR	16 02 04.2	
	comp=Z,1μm,18.1s,baz=70,slow=37						
H11N1	**WAKE ISLAND Hy**	**31.07**	**4**	T	T	16 22 21.5	
	baz=183,slow=76,SNR=7.0						
H11N3	**WAKE ISLAND Hy**	**31.07**	**4**	T	T	16 22 22.8	
	baz=183,slow=76,SNR=9.4						
H11N2	**WAKE ISLAND Hy**	**31.09**	**4**	T	T	16 22 27.8	
	baz=183,slow=76,SNR=10						
AS31	**Alice Springs**	**31.90**	**244**	*e*P	**P**	**15 49 44.7**	**-0.3**
	comp=Z,3.9nm,0.8s						
ASAR	**Alice Springs**	**31.90**	**244**	P	**P**	**15 49 44.8**	**-0.2**
	comp=Z,13nm,0.7s,baz=71,slow=9.4,SNR=43						
ASAR				PcP	**PcP**	**15 52 35.2**	**+0.1**
	comp=Z,3.8nm,0.8s,baz=71,slow=2.7,SNR=10						
ASAR				LR	LR	16 01 46.7	
	comp=Z,887nm,19.8s,baz=78,slow=35						
GUMO	**Guam**	**31.91**	**321**	LR	LR	16 02 39.2	
	comp=Z,367nm,18.9s,baz=148,slow=36						
RPZ	**Rata Peaks**	**32.53**	**172**	P	**P**	**15 49 49.5**	**-0.7**
	comp=Z,9.1nm,0.7s,baz=354,slow=10,SNR=4.4						
BBOO	**Buckleboo**	**33.96**	**227**	*e*P	**P**	**15 50 02.9**	**+0.1**
	comp=Z,28nm,1.1s						
RAR	**Rarotonga**	**35.12**	**111**	LR	LR	16 01 32.3	
	comp=Z,318nm,20.9s,baz=254,slow=31						
FITZ	**Fitzroy Crossi**	**38.52**	**255**	*e*P	**P**	**15 50 42.7**	**+0.8**
	comp=Z,8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**38.52**	**255**	LR	LR	16 06 02.1	
	comp=Z,824nm,19.8s,baz=87,slow=35						
SANI	**Sanana**	**39.77**	**281**	P	**P**	**15 50 51.7**	**-0.7**
BATI	**Baumata**	**40.55**	**268**	P	**P**	**15 50 59.8**	**+0.8**
PPT	**Papeete**	**44.34**	**103**	LR	LR	16 06 57.0	
	comp=Z,274nm,20.9s,baz=296,slow=32						
PPT2	**Papeete2**	**44.34**	**103**	*e*S	**S**	**15 58 08.4**	**+6.1**
	comp=Z,220nm,26.2s						
PPT2				*e*LQ	LQ	16 02 02.8	
	comp=Z,800nm,24.2s						
PPT2				*e*LR	LR	16 03 52.2	
	comp=Z,1μm,30.8s						
TBI	**Tubuai**	**44.88**	**112**	*e*S	**S**	**15 58 13.9**	**+4.1**
	comp=Z,128nm,27.5s						
TBI				*e*LQ	LQ	16 02 17.0	
	comp=Z,655nm,29.2s						
TBI				*e*LR	LR	16 04 08.2	
	comp=Z,950nm,29.2s						
BNSI	**Bone**	**44.93**	**275**	P	**P**	**15 51 33.7**	**-0.8**
PCI	**Palu**	**46.00**	**280**	P	**P**	**15 51 42.4**	**-0.6**
NWAO	**Narrogin (SRO)**	**48.57**	**236**	LR	LR	16 12 27.5	
	comp=Z,1μm,19.8s,baz=320,slow=36						
MORW	**Morawa**	**48.73**	**241**	*e*P	**P**		
	comp=Z,35nm,1.1s						
TGY	**Tagaytay City**	**50.51**	**299**	LR	LR	16 11 00.1	
	comp=Z,248nm,21.8s,baz=120,slow=33						
MJAR	**Matsushiro Arr**	**54.02**	**333**	P	**P**	**15 52 42.5**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**54.02**	**333**	P	**P**	**15 52 42.5**	**-0.9**
	comp=Z,10.0nm,0.9s,baz=168,slow=8.6,SNR=12						
MAJO	**Matsushiro**	**54.02**	**333**	⇓*e*P	**P**	**15 52 41.3**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,29nm,1.3s						
ASAJ	**Asahikawa**	**58.96**	**341**	P	**P**	**15 53 18.5**	**0.0**
	comp=Z,12nm,0.8s,baz=86,slow=14,SNR=6.7						
TJN	**Taejon**	**59.34**	**325**	⇓*i*P	**P**	**15 53 19.8**	**-1.4**
KLI	**Kotabumi**	**59.76**	**271**	P	P	15 53 39.2	+15
KSRS	**Korea Array**	**59.81**	**326**	P	**P**	**15 53 24.3**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=134,slow=6.8,SNR=12						
KSAR	**Wonju Array Be**	**59.83**	**326**	P	**P**	**15 53 24.3**	**-0.2**
KSAR	**Wonju Array Be**	**59.83**	**326**	P	**P**	**15 53 24.3**	**-0.2**
NJ2	**Nanjing**	**61.80**	**316**	*e*P	**P**	**15 53 38.9**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
QIZ	**Qiongzhong**	**62.21**	**299**	P	**P**	**15 53 42.3**	**+1.2**
QIZ				S	**S**	**16 02 07.2**	**+2.3**
QIZ				LR	LR		
	comp=Z,230nm,14.5s						
USRK	**Ussuriysk Ar.**	**63.00**	**334**	P	**P**	**15 53 45.7**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=125,slow=6.2,SNR=13						
USRK				LR	LR	16 18 53.0	
	comp=Z,92nm,21.7s,baz=154,slow=34						
PETK	**Petropavlovsk-**	**64.64**	**355**	P	**P**	**15 53 56.3**	**-0.3**
	comp=Z,9.9nm,1.1s,baz=168,slow=7.4,SNR=3.5						
PETK				LR	LR	16 16 22.0	
	comp=Z,126nm,20.8s,baz=179,slow=31						
CN2	**Changchun**	**65.73**	**330**	*e*P	**P**	**15 54 03.7**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VNDA	**Vanda**	**66.04**	**181**	*e*P	**P**	**15 54 06.7**	**+1.4**
	comp=Z,5.3nm,1.1s						
VNDA	**Vanda**	**66.04**	**181**	*e*P	**P**	**15 54 06.7**	**+1.4**
VNDA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
VNDA	**Vanda**	**66.04**	**181**	P	**P**	**15 54 05.9**	**+0.6**
	comp=Z,5.7nm,1.1s,baz=358,slow=8.7,SNR=6.2						
VNDA				LR	LR	16 21 07.5	
	comp=Z,127nm,18.1s,baz=316,slow=34						
KLR	**Kul'dur**	**67.16**	**337**	⇑*e*P	**P**	**15 54 13.3**	**+0.5**
KLR	**Kul'dur**	**67.16**	**337**	P	**P**	**15 54 12.7**	**-0.1**
	comp=Z,6.3nm,1.0s,baz=131,slow=5.5,SNR=9.8						
ENH	**Enshi**	**67.58**	**310**	*e*P	**P**	**15 54 15.9**	**0.0**
	comp=Z,42nm,1.1s						
GYA	**Guiyang**	**68.03**	**305**	*e*P	**P**	**15 54 21.2**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GSI	**Gunungsitoli**	**68.14**	**276**	P	**P**	**15 54 19.8**	**+0.1**
BJI	**Beijing**	**68.35**	**322**	*e*P	**P**	**15 54 23.4**	**+2.9**
BJI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
XAN	**Xi'an**	**69.85**	**313**	P	**P**	**15 54 30.1**	**0.0**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				pmax	pmax		
	comp=Z,130nm,3.5s						
KMI	**Kunming**	**70.70**	**302**	P	**P**	**15 54 36.5**	**+0.9**
KMI				pP	sP	15 54 48.5	+0.4
KMI				sP	PcP	15 54 54.3	-2.1
KMI				S	**S**	**16 03 48.2**	**+0.1**
KMI				pmax	pmax		
	comp=Z,18nm,1.2s						
KMI				pmax	pmax		
	comp=Z,76nm,3.6s						
KMI				LR	LR		
	comp=Z,160nm,19.5s						
KMI				LR	LR		
	comp=Z,210nm,25.2s						
CMAR	**Chiang Mai Arr**	**71.58**	**294**	*ce*P	**P**	**15 54 42.0**	**+1.1**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**71.58**	**294**	P	**P**	**15 54 42.0**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=120,slow=4.4,SNR=26						
CMAR				LR	LR	16 24 06.5	
	comp=Z,56nm,21.9s,baz=136,slow=34						
HHC	**Hu-ho-hao-te**	**71.67**	**320**	*e*P	**P**	**15 54 42.4**	**+1.3**
HHC				pP	sP	15 54 52.2	-1.3
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.6s						
CHTO	**Chiang Mai**	**71.70**	**294**	P	**P**	**15 54 44.4**	**+2.9**
	comp=Z,28nm,1.5s						
MA2	**Magadan**	**71.75**	**352**	⇑*i*P	**P**	**15 54 39.8**	**-1.1**
MA2				pmax	pmax		
	comp=Z,11nm,2.5s						
MA2	**Magadan**	**71.75**	**352**	P	**P**	**15 54 39.8**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=154,slow=10,SNR=6.5						
CD2	**Chengdu**	**72.26**	**308**	P	P	15 54 49.9	+5.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	**Hailar**	**72.38**	**331**	P	**P**	**15 54 42.1**	**-2.9**
	comp=Z,16nm,1.0s						
HIA	**Hailar**	**72.38**	**331**	P	**P**	**15 54 42.1**	**-2.9**
HIA				pmax	pmax		
	comp=Z,16nm,1.0s						
ZEA	**Zeya**	**72.46**	**338**	*e*P	**P**	**15 54 45.1**	**-0.2**
ZEA				pmax	pmax		
	comp=N,46nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,46nm,1.4s						
LZH	**Lanzhou**	**74.49**	**313**	⇑P	**P**	**15 54 59.7**	**+1.8**
LZH				pP	pP	15 55 08.2	+1.1
LZH				sP	PcP	15 55 11.4	-0.9
LZH				PP	**PP**	**15 57 41.6**	**-3.2**
LZH				pmax	pmax		
	comp=Z,31nm,1.3s						
LZH				pmax	pmax		
	comp=Z,360nm,4.8s						
LZH				LR	LR		
	comp=Z,370nm,14.1s						
LZH				LR	LR		
	comp=Z,410nm,14.6s						
LZH				LR	LR		
	comp=Z,430nm,15.2s						
SEY	**Seymchan**	**74.84**	**354**	⇓*e*P	**P**	**15 54 58.3**	**-0.8**
GAMB	**Gambell**	**77.15**	**10**	*e*P	**P**	**15 55 12.0**	**-0.2**
	comp=Z,31nm,1.2s						
KDAK	**Kodiak Island**	**77.28**	**22**	*i*P	**P**	**15 55 12.0**	**-1.1**
YAK	**Yakutsk**	**78.31**	**344**	*e*P	**P**	**15 55 18.1**	**-0.6**
YAK				pmax	pmax		
	comp=Z,133nm,0.8s						
YAK				pmax	pmax		
	comp=N,35nm,0.9s						
YAK				pmax	pmax		
	comp=E,20nm,0.9s						
QSPA	**South Pole Qui**	**78.51**	**180**	*e*P	**P**	**15 55 20.6**	**+0.4**
	comp=E,36nm,1.0s						
SONM	**Songino Array**	**78.57**	**324**	P	**P**	**15 55 21.1**	**+0.4**
	comp=E,6.0nm,0.8s,baz=141,slow=6.8,SNR=29						
SONM				LR	LR	16 29 02.9	
	comp=E,107nm,20.1s,baz=168,slow=35						
GTA	**Gaotai**	**78.81**	**314**	⇓P	**P**	**15 55 23.5**	**+1.3**
GTA				pP	pP	15 55 33.0	+1.5
GTA				sP	pwP	15 55 37.6	+0.4
GTA				pmax	pmax		
	comp=E,19nm,1.2s						
GTA				pmax	pmax		
	comp=E,55nm,4.6s						
GTA				LR	LR		
	comp=E,230nm,21.3s						
GTA				LR	LR		
	comp=E,190nm,19.6s						
BILL	**Bilibino**	**79.33**	**1**	*e*P	**P**	**15 55 23.7**	**-0.6**
	comp=E,41nm,1.0s						
BILL	**Bilibino**	**79.33**	**1**	*d i*P	**P**	**15 55 23.6**	**-0.6**
BILL						15 55 33.0	
BILL				*e*		15 55 41.4	
BILL				*e*S	**S**	**16 05 29.8**	**+7.7**
BILL				SS	**SS**	**16 10 30.0**	**+0.1**
BILL				SSS	SSS	16 13 42.0	
BILL				pmax	pmax		
	comp=Z,56nm,1.3s						
SHL	**Shillong**	**80.05**	**299**	*e*P	**P**	**15 55 30.0**	**+0.7**
BOD	**Bodaibo**	**80.61**	**335**	*e*P	**P**	**15 55 30.5**	**-0.8**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.6s						
SUA	**Susitna One**	**80.61**	**20**	*e*P	**P**	**15 55 30.1**	**-1.3**
	comp=Z,9.9nm,1.1s						
ZAK	**Zakamensk**	**81.63**	**325**	*e*P	**P**	**15 55 36.5**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
TLY	**Talaya**	**82.07**	**327**	*e*P	**P**	**15 55 36.9**	**-2.4**
TLY				pmax	pmax		
	comp=Z,21nm,0.9s						
TLY				MLR	MLR		
	comp=Z,224nm,14.0s						
KLU	**Klutina**	**82.30**	**21**	*e*P	**P**	**15 55 39.9**	**-0.4**
	comp=Z,11nm,0.9s						
RND	**Reindeer**	**82.61**	**19**	*e*P	**P**	**15 55 40.8**	**-1.1**
	comp=Z,12nm,1.1s						
RND	**Reindeer**	**82.61**	**19**	*e*P	**P**	**15 55 40.8**	**-1.1**
RND				pmax	pmax		
	comp=Z,13nm,1.1s						
RDOG	**Red Dog Mine**	**82.61**	**12**	*e*P	**P**	**15 55 41.7**	**0.0**
	comp=Z,11nm,0.8s						
MCK	**McKinley**	**82.82**	**19**	*e*P	**P**	**15 55 41.9**	**-1.0**
	comp=Z,16nm,1.2s						
MCK	**McKinley**	**82.82**	**19**	*e*P	**P**	**15 55 41.9**	**-1.0**
MCK				pmax	pmax		
	comp=Z,16nm,1.2s						
DHY	**Denali Highway**	**82.87**	**20**	*e*P	**P**	**15 55 42.5**	**-0.9**
	comp=Z,5.8nm,1.0s						
BWN	**Browne**	**82.96**	**18**	*e*P	**P**	**15 55 43.6**	**0.0**
	comp=Z,25nm,1.1s						
IM3	**Indian Mountai**	**83.06**	**16**	*e*P	**P**	**15 55 43.6**	**-0.5**
HARP	**HAARP**	**83.17**	**21**	*e*P	**P**	**15 55 44.1**	**-0.7**
	comp=Z,16nm,0.8s						
MLY	**Manley**	**83.20**	**17**	*e*P	**P**	**15 55 43.9**	**-1.0**
	comp=Z,5.6nm,1.1s						
BALM	**Baldy**	**83.33**	**23**	*e*P	**P**	**15 55 45.1**	**-0.6**
	comp=Z,17nm,0.8s						
BALM	**Baldy**	**83.33**	**23**	*e*P	**P**	**15 55 45.1**	**-0.6**
BALM				pmax	pmax		
	comp=Z,17nm,0.8s						
WRH	**Wood River Hil**	**83.60**	**19**	*e*P	**P**	**15 55 45.6**	**-1.3**
	comp=Z,6.1nm,0.8s						
CCB	**Clear Creek Bu**	**83.81**	**19**	*e*P	**P**	**15 55 46.5**	**-1.5**
	comp=Z,5.8nm,1.0s						
MDM	**Murphy Dome**	**83.90**	**18**	*e*P	**P**	**15 55 47.1**	**-1.3**
	comp=Z,7.1nm,0.8s						
HDA	**Harding Lake**	**83.92**	**19**	*e*P	**P**	**15 55 47.7**	**-0.9**
	comp=Z,17nm,1.0s						
HDA	**Harding Lake**	**83.92**	**19**	P	**P**	**15 55 47.1**	**-1.5**
	baz=227						
COLA	**College**	**83.95**	**18**	⇓*i*P	**P**	**15 55 47.9**	**-0.8**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s						
MAW	**Mawson**	**84.02**	**202**	LR	LR	16 28 03.8	
	comp=Z,87nm,18.6s,baz=78,slow=32						
MENT	**Mentasta**	**84.03**	**21**	*e*P	**P**	**15 55 48.6**	**-0.6**
	comp=Z,17nm,1.0s						
RIDG	**Independ'e Rid**	**84.16**	**20**	*e*P	**P**	**15 55 49.1**	**-0.7**
	comp=Z,18nm,1.0s						
O02D	**Mt. Diablo Mer**	**84.17**	**47**	P	**P**	**15 55 50.3**	**-0.2**
	baz=250,SNR=5.8						
ILAR	**Eielson Array**	**84.18**	**19**	P	**P**	**15 55 48.5**	**-1.4**
	comp=Z,4.1nm,0.5s,baz=238,slow=5.0,SNR=130						
ILAR				LR	LR	16 27 37.3	
	comp=Z,130nm,20.0s,baz=260,slow=32						
ILB	**Eielson Array**	**84.18**	**19**	*e*P	**P**	**15 55 48.5**	**-1.4**
POKR	**Poker Plat Res**	**84.25**	**18**	P	**P**	**15 55 48.5**	**-1.7**
	baz=227						
ODAN	**Odare**	**84.29**	**299**	*e*P	**P**	**15 55 52.3**	**+0.7**
	comp=Z,72nm,0.9s						
DOT	**Dot Lake**	**84.36**	**20**	*e*P	**P**	**15 55 50.5**	**-0.3**
	comp=Z,18nm,0.9s						
K02D	**Willamette Mer**	**84.44**	**45**	P	**P**	**15 55 50.0**	**-1.8**
	baz=249						
N02D	**Trinity Center**	**84.50**	**46**	P	**P**	**15 55 52.0**	**-0.2**
	baz=250,SNR=5.4						
M02C	**Callahan**	**84.54**	**46**	P	**P**	**15 55 51.9**	**-0.4**
	baz=250						
SBC	**Santa Barbara**	**84.62**	**53**	P	**P**	**15 55 52.8**	**0.0**
	baz=252						
PKM	**Mcpherson Peak**	**84.68**	**53**	P	**P**	**15 55 52.7**	**-0.7**
	baz=252						
HUMO	**Hull Mountain**	**84.89**	**45**	*e*P	**P**	**15 55 53.5**	**-0.5**
	comp=Z,8.9nm,0.9s						
O03E	**Paynes Creek**	**84.92**	**47**	P	**P**	**15 55 53.0**	**-1.3**
	baz=250,SNR=5.9						
RAMN	**Ramite**	**84.99**	**299**	*e*P	**P**	**15 55 55.6**	**+0.4**
KNGR	**Kungurtug, Tuv**	**85.01**	**324**	⇓*e*P	**P**	**15 55 54.0**	**-0.5**
I03D	**Drain, OR**	**85.01**	**44**	P	**P**	**15 55 52.9**	**-1.6**
	baz=249						
BLG	**Laguna Peak, P**	**85.03**	**54**	P	**P**	**15 55 54.1**	**-0.8**
	baz=253						
HYT	**Haines Junctio**	**85.11**	**25**	*e*P	**P**	**15 55 54.0**	**-0.8**
	comp=Z,8.8nm,0.9s						
SCI2	**San Clemente I**	**85.12**	**55**	P	**P**	**15 55 54.5**	**-0.8**
	baz=253						
L04D	**Klamath Falls**	**85.21**	**45**	P	**P**	**15 55 55.1**	**-0.6**
	baz=250						
CMB	**Columbia Colle**	**85.22**	**50**	*e*P	**P**	**15 55 54.3**	**-1.5**
	comp=Z,29nm,1.0s						
CMB	**Columbia Colle**	**85.22**	**50**	*e*P	**P**	**15 55

NV01	**Mina Array Sit**	**86.90**	**50**	*eP*		**P**	**15 56 03.5**	**-0.9**
NVAR	**Mina Array Bea**	**86.90**	**50**	P		**P**	**15 56 03.7**	**-0.6**
	comp=Z,6.2nm,0.9s,baz=232,slow=7.7,SNR=27							
NVAR				LR		LR	16 27 39.8	
	comp=Z,334nm,19.7s,baz=264,slow=31							
G05D	**Wamic, OR**	**86.91**	**43**	P		**P**	**15 56 03.3**	**-0.7**
	baz=250							
PFO	**Pinyon Flats O**	**86.97**	**55**	P		**P**	**15 56 03.0**	**-1.7**
	comp=Z,9.4nm,1.1s							
PFO	**Pinyon Flats O**	**86.97**	**55**	P		**P**	**15 56 03.0**	**-1.7**
PFO				pmax	pmax			
	comp=Z,9.0nm,1.1s							
PFO	**Pinyon Flats O**	**86.97**	**55**	P		**P**	**15 56 03.7**	**-0.9**
	baz=254							
IKP	**In-Ko-Pah, Jac**	**87.00**	**56**	P		**P**	**15 56 04.2**	**-0.6**
	baz=254							
GSC	**Goldstone, Bar**	**87.16**	**53**	P		**P**	**15 56 04.5**	**-1.0**
	baz=254,SNR=5.3							
GRAC	**Grapevine Rang**	**87.20**	**52**	P		**P**	**15 56 05.2**	**-0.4**
	baz=254,SNR=6.5							
A04D	**Lummi Island**	**87.22**	**39**	P		**P**	**15 56 04.8**	**-0.5**
	baz=249							
SWSC	**Sam W. Stewart**	**87.33**	**56**	P		**P**	**15 56 05.3**	**-0.9**
	baz=255,SNR=5.3							
HEC	**Hector,Ludlow**	**87.40**	**54**	P		**P**	**15 56 05.9**	**-0.7**
	baz=254,SNR=8.7							
FURC	**Furnace Creek,**	**87.44**	**52**	P		**P**	**15 56 06.3**	**-0.3**
	baz=254							
BELC	**Belle Mtn. Jos**	**87.45**	**55**	P		**P**	**15 56 06.5**	**-0.5**
	baz=254,SNR=16							
SHOC	**Shoshone, Teco**	**87.74**	**53**	P		**P**	**15 56 07.7**	**-0.5**
	baz=254							
KOLN	**Koldanda**	**87.78**	**299**	*eP*		**P**	**15 56 08.4**	**-0.4**
	comp=Z,22nm,0.9s							
DANN	**Dangsing**	**87.78**	**299**	*eP*		**P**	**15 56 08.4**	**-0.5**
	comp=Z,32nm,1.0s							
BC3	**Big Chuckawall**	**87.79**	**55**	P		**P**	**15 56 08.4**	**-0.2**
	baz=255,SNR=8.6							
TUQ	**Turquoise Moun**	**87.89**	**53**	P		**P**	**15 56 08.6**	**-0.5**
	baz=254							
GMRC	**Granite Mounta**	**87.93**	**54**	P		**P**	**15 56 08.6**	**-0.7**
	baz=255,SNR=8.5							
TPNV	**Topopah Spring**	**88.05**	**52**	P		**P**	**15 56 09.0**	**-0.8**
	baz=254							
GLA	**Glamis**	**88.14**	**56**	P		**P**	**15 56 09.7**	**-0.5**
	baz=255							
IRM	**Iron Mountain**	**88.17**	**55**	P		**P**	**15 56 10.0**	**-0.3**
	baz=255,SNR=17							
PYUN	**Piuthan**	**88.38**	**299**	*eP*		**P**	**15 56 10.9**	**-0.7**
	comp=Z,27nm,0.9s							
EPYK	**Eagle Plains**	**88.49**	**20**	*eP*		**P**	**15 56 10.2**	**-0.8**
	comp=Z,8.6nm,1.0s							
EPYK	**Eagle Plains**	**88.49**	**20**	P		**P**	**15 56 10.9**	**-0.2**
	baz=236							
Y12C	**Blythe**	**88.57**	**55**	P		**P**	**15 56 11.9**	**-0.2**
	baz=255							
WMQ	**Urumqi**	**88.86**	**315**	P		**P**	**15 56 13.9**	**+0.5**
WMQ				pP		pP	15 56 22.2	-0.6
WMQ				sP		pwP	15 56 30.5	+2.0
WMQ				pmax	pmax			
	comp=Z,33nm,0.9s							
WMQ				LR		LR		
	comp=Z,130nm,19.7s							
WMQ				LR		LR		
	comp=Z,180nm,18.1s							
R11A	**Troy Canyon, C**	**88.93**	**51**	P		**P**	**15 56 13.2**	**-0.8**
	baz=254							
PDMCI	**Parker Dam,Lak**	**89.01**	**55**	P		**P**	**15 56 14.2**	**0.0**
	baz=255,SNR=5.7							
214A	**Organ Pipe Nat**	**89.52**	**57**	P		**P**	**15 56 16.9**	**+0.2**
	baz=256,SNR=8.3							
LCMT	**Little Creek M**	**90.39**	**52**	*eP*		**P**	**15 56 20.6**	**-0.2**
	comp=Z,10nm,1.1s							
NEW	**Newport**	**90.59**	**41**	P		**P**	**15 56 20.2**	**-1.1**
	baz=253							
DGZ	**Jazzator, Alta**	**90.75**	**321**	*d iP*		**P**	**15 56 21.6**	**-0.6**
DGZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
U15A	**North Rim**	**90.99**	**53**	*eP*		**P**	**15 56 23.9**	**+0.1**
	comp=Z,13nm,1.0s							
HLID	**Hailey**	**91.14**	**46**	P		**P**	**15 56 24.0**	**-0.1**
	baz=255							
TUC	**Tucson**	**91.28**	**57**	P		**P**	**15 56 24.9**	**0.0**
	baz=257							
DUG	**Dugway, Tooele**	**91.48**	**49**	P		**P**	**15 56 25.5**	**-0.3**
	baz=256							
BGU	**Big Grassy Mou**	**91.49**	**49**	*eP*		**P**	**15 56 25.7**	**-0.1**
	comp=Z,3.2nm,0.9s							
WUAZ	**Wupatki**	**91.51**	**54**	*eP*		**P**	**15 56 24.3**	**-1.8**
	comp=Z,19nm,1.4s							
WUAZ	**Wupatki**	**91.51**	**54**	P		**P**	**15 56 25.8**	**-0.3**
	baz=257							
MK01	**Makanchi Array**	**93.31**	**317**	*eP*		**P**	**15 56 33.9**	**0.0**
MK31	**Makanchi Array**	**93.32**	**317**	*eP*		**P**	**15 56 34.0**	**0.0**
MK31	**Makanchi Array**	**93.32**	**317**	*eP*		**P**	**15 56 34.0**	**0.0**
MKAR	**Makanchi Array**	**93.32**	**317**	*ceP*		**P**	**15 56 34.0**	**0.0**
MKAR				pmax	pmax			
	comp=Z,11nm,0.8s							
MKAR	**Makanchi Array**	**93.32**	**317**	P		**P**	**15 56 33.9**	**0.0**
	comp=Z,10nm,0.8s,baz=100,slow=6.1,SNR=97							
MKAR				PKKPbc		**PKKPdf**	**16 13 40.5**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=280,slow=3.6,SNR=9.5							
ZALV	**Zalesovo Beam**	**93.47**	**324**	*eP*		**P**	**15 56 34.1**	**-0.3**
ZALV	**Zalesovo Beam**	**93.47**	**324**	*eP*		**P**	**15 56 34.1**	**-0.3**
ZALV	**Zalesovo Beam**	**93.47**	**324**	P		**P**	**15 56 33.5**	**-0.9**
	comp=Z,8.5nm,0.9s,baz=108,slow=4.8,SNR=34							
ZALV				LR		LR	16 38 05.1	
	comp=Z,62nm,19.2s,baz=68,slow=35							
BOZ	**Bozeman (W)**	**93.56**	**44**	P		**P**	**15 56 35.0**	**-0.3**
	baz=257							
121A	**Cookes Peak, D**	**93.81**	**58**	P		**P**	**15 56 36.3**	**-0.4**
	baz=259							
H17A	**Grant Village**	**94.03**	**46**	P		**P**	**15 56 37.2**	**-0.4**
	baz=258							
MVCO	**Mesa Verde**	**94.13**	**53**	P		**P**	**15 56 37.2**	**-1.1**
	baz=259							
BW06	**Boulder Array**	**94.42**	**47**	P		**P**	**15 56 38.4**	**-1.0**
	baz=258							
PDAR	**Pinedale Array**	**94.42**	**47**	P		**P**	**15 56 38.0**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=250,slow=3.0,SNR=8.1							
PDAR				LR		LR	16 32 07.9	
	comp=Z,104nm,21.3s,baz=256,slow=31							
O20A	**White River Ci**	**94.89**	**50**	P		**P**	**15 56 41.2**	**-0.4**
	baz=259							
RLMT	**Red Lodge**	**95.09**	**45**	P		**P**	**15 56 42.5**	**+0.1**
	baz=259							
EGMT	**Eagleton**	**95.32**	**42**	P		**P**	**15 56 42.7**	**-0.5**
	baz=259							
ANMO	**Albuquerque**	**95.34**	**56**	*eP*		**P**	**15 56 42.9**	**-0.9**
ANMO				pmax	pmax			
	comp=Z,6.0nm,2.0s							
ANMO	**Albuquerque**	**95.34**	**56**	P		**P**	**15 56 42.9**	**-0.9**
	baz=260							
S22A	**4UR Ranch, Cre**	**95.54**	**53**	P		**P**	**15 56 43.8**	**-0.9**
	baz=260							
MNTX	**Cornudas Mount**	**95.66**	**59**	P		**P**	**15 56 44.2**	**-0.9**
	baz=260							
YKA	**Yellowknife Ar**	**95.73**	**27**	P		**P**	**15 56 42.5**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=255,slow=4.6,SNR=32							
YKA				PKiKP		**PKiKP**	**16 01 23.9**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=259,slow=1.1,SNR=3.6							
YKA				LR		LR	16 34 25.6	
	comp=Z,17nm,19.0s,baz=248,slow=32							
NRIK	**Noril'sk**	**96.27**	**340**	P		**P**	**15 56 45.7**	**-1.2**
	comp=Z,4.6nm,1.0s,baz=108,slow=4.7,SNR=9.7							
NRIK				LR		LR	16 39 28.1	
	comp=Z,64nm,20.9s,baz=101,slow=35							
KSH	**Kashi**	**96.43**	**309**	*eP*		**P**	**15 56 50.2**	**+1.7**
KURK	**Kurchatov**	**96.49**	**320**	⇑ *iP*		**P**	**15 56 47.7**	**-0.6**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.0s							
SDCO	**Great Sand Dun**	**96.57**	**53**	P		**P**	**15 56 48.2**	**-1.2**
	baz=261							
TXAR	**Lajitas Array**	**96.72**	**62**	P		**P**	**15 56 48.2**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=221,slow=6.0,SNR=6.7							
TXAR				LR		LR	16 32 42.5	
	comp=Z,264nm,20.3s,baz=0.0,slow=31							
BRVK	**Borovoye**	**101.89**	**322**	⇓ *eP*		**Pdif**	**15 57 11.3**	**-1.1**
ARCES	**ARCESS Array B**	**116.57**	**345**	PKP		**PKPdf**	**16 02 00.8**	**-1.6**
	comp=Z,3.8nm,1.0s,baz=40,slow=3.0,SNR=7.4							
LSQQ	**Lebel-sur-Quev**	**116.90**	**41**	P		**PKPdf**	**16 02 02.5**	**-1.0**
	baz=284							
E53A	**Dumoine, Ponti**	**117.06**	**44**	P		**PKPdf**	**16 02 03.3**	**-0.7**
	baz=282							
E54A	**Lac Daplat, Po**	**117.37**	**44**	P		**PKPdf**	**16 02 03.3**	**-1.2**
	baz=283							
DELO	**Deloro Mine**	**117.47**	**46**	P		**PKPdf**	**16 02 03.6**	**-1.2**
	baz=281							
K55A	**Perry**	**117.48**	**48**	P		**PKPdf**	**16 02 03.9**	**-1.0**
	baz=280							
Z59A	**Georgetown, SC**	**117.72**	**58**	P		**PKPdf**	**16 02 04.2**	**-1.5**
	baz=274							
LPAZ	**La Paz**	**120.68**	**117**	PKP		**PKPdf**	**16 02 11.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=324,slow=0.8,SNR=5.0							
OBN	**Obninsk**	**120.78**	**328**	⇑ *i*PKIKP		**PKiKP**	**16 02 11.7**	**+0.8**
OBN							16 03 42.0	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.3s							
KIV	**Kislovodsk**	**120.99**	**315**	*i* PKIKP		**PKPdf**	**16 02 09.8**	**-1.9**
KIV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIV				MLR	MLR			
	comp=Z,92nm,23.0s							
FINES	**FINESS Array B**	**121.90**	**338**	PKP		**PKPdf**	**16 02 12.2**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=264,slow=1.9,SNR=3.8							
HRV	**Adam Dziewonsk**	**122.22**	**47**	P		**PKPdf**	**16 02 13.2**	**-0.9**
	baz=285							
BOSA	**Boshof**	**124.26**	**223**	PKP		**PKPdf**	**16 02 18.6**	**0.0**
	comp=Z,2.1nm,0.6s,baz=135,slow=1.7,SNR=9.0							
AKASG	**Malin Array Be**	**126.81**	**326**	PKP		**PKPdf**	**16 02 21.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=58,slow=2.3,SNR=4.4							
BRTR	**Keskin Array B**	**128.69**	**312**	PKP		**PKPdf**	**16 02 26.4**	**-0.3**
	comp=Z,0.9nm,1.0s,baz=336,slow=2.7,SNR=3.9							
GERES	**GERESS Array B**	**135.75**	**333**	PKP		**PKPdf**	**16 02 39.2**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=29,slow=3.0,SNR=4.7							
KEST	**Kesra**	**147.29**	**322**	PKPbc		**PKPbc**	**16 03 03.2**	**+0.2**
	comp=Z,16nm,1.0s,baz=319,slow=2.8,SNR=7.4							
ESDC	**Sonseca Array**	**150.26**	**343**	PKPbc		**PKPbc**	**16 03 10.4**	**0.0**
	comp=Z,2.4nm,0.7s,baz=27,slow=2.2,SNR=14							
ESDC				PKPab		**PKPab**	**16 03 16.8**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=27,slow=3.6,SNR=11							
TORD	**Torodi Ar. Bea**	**163.56**	**277**	PKP		**PKPdf**	**16 03 21.8**	**-1.0**
	comp=Z,3.2nm,1.0s,baz=246,slow=0.8,SNR=10							
TORD				PKPab		**PKPab**	**16 04 14.0**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=76,slow=3.2,SNR=6.4							
DBIC	**Dimbokro**	**168.86**	**245**	PKP		**PKPdf**	**16 03 26.2**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=316,slow=2.1,SNR=4.4							

MEX 02 15:48:28.7±0.4, 13.95N×93.26W, h16km±131km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.35**	**45**	*i* P	Pn	15 48 49.2	-3.7
THIG				*i* S	Sn	15 49 05.2	-5.4
PCIG		**1.74**	**1**	*eP*	Pn	15 48 54.6	-3.7
PCIG				*i* S	Sn	15 49 15.3	-4.9

IDC 02 16:00:08.9±1.7, 3.44S×142.13E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/34, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=65.3km s-min=24.1km az=108.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.08**	**204**	P	Pn	16 04 21.6	-0.1
	1.0nm,0.3s,baz=25,slow=12,SNR=37						
ASAR	**Alice Springs**	**21.62**	**201**	P	P	16 05 00.6	-0.3
	1.4nm,0.6s,baz=30,slow=11,SNR=24						
FITZ	**Fitzroy Crossi**	**21.75**	**227**	P	P	16 05 02.6	+0.4
	2.9nm,0.7s,baz=68,slow=5.4,SNR=7.3						
MKAR	**Makanchi Array**	**72.47**	**321**	P	P	16 11 37.3	-0.1
	0.1nm,0.4s,baz=112,slow=6.6,SNR=2.0						
ILAR	**Eielson Array**	**85.09**	**24**	P	P	16 12 46.6	+0.2
	0.4nm,0.6s,baz=258,slow=4.4,SNR=6.1						

IDC 02 16:00:58.0±5.1, 28.08S×176.21W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/28, mbtmp3.4/2, Error ellipse: s-maj=128.4km s-min=39.3km az=128.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.90**	**232**	Pn	Pn	16 01 31.2	-0.5
	62nm,0.3s,baz=100,slow=19,SNR=2.7						
RAO				Sn	Sb	16 01 57.5	-0.4
	157nm,0.3s,baz=102,slow=20,SNR=6.1						
ASAR	**Alice Springs**	**44.85**	**264**	P	P	16 09 14.3	0.0
	0.2nm,0.5s,baz=102,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**45.64**	**269**	P	P	16 09 20.7	+0.1
	0.3nm,0.4s,baz=109,slow=7.9,SNR=7.3						
FINES	**FINESS Array B**	**143.47**	**342**	PKP	PKPdf	16 20 33.0	-0.9
	1.6nm,0.8s,baz=42,slow=2.3,SNR=4.3						

IDC ***02*** *16:20:11.4±1.0, 16.38S×173.95W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/29, mbtmp3.9/7, Error ellipse: s-maj=51.2km s-min=19.9km az=136.0*
ISCJB ***02*** *16:20:23.5±0.9, 16.5S±0.2×174.0W±0.2, h111km, mb3.7/7, Error ellipse: s-maj=40.5km s-min=17.7km az=44.4*
ISC 02 16:20:24.8±1.1, 16.6S±0.3×173.9W±0.3, h111km, n9, σ0s70/10, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.96**	**198**	P	**P**	**16 25 19.3**	**-0.4**
	3.2nm,0.6s,baz=338,slow=5.4,SNR=5.6						
STKA	**Stephens Creek**	**43.01**	**241**	P	**P**	**16 28 13.5**	**0.0**
	1.3nm,0.4s,baz=63,slow=4.5,SNR=2.7						
WRA	**Warramunga Arr**	**49.10**	**258**	P	**P**	**16 29 01.0**	**-0.4**
	0.2nm,0.5s,baz=94,slow=7.1,SNR=12						
WRA				PcP	**PcP**	**16 30 25.0**	**+1.5**
	0.4nm,1.0s,baz=100,slow=3.4,SNR=2.6						
ASAR	**Alice Springs**	**49.28**	**253**	P	**P**	**16 29 02.4**	**-0.3**
	1.9nm,0.6s,baz=88,slow=8.1,SNR=5.6						
NVAR	**Mina Array Bea**	**75.55**	**42**	P	**P**	**16 31 57.8**	**+0.2**
	0.5nm,0.7s,baz=224,slow=9.4,SNR=4.2						
PDAR	**Pinedale Array**	**83.49**	**42**	P	**P**	**16 32 40.6**	**+0.1**
	0.9nm,0.7s,baz=220,slow=3.9,SNR=5.8						
ILAR	**Eielson Array**	**83.72**	**11**	P	**P**	**16 32 40.2**	**-0.7**
	0.4nm,0.9s,baz=207,slow=5.7,SNR=2.9						
BRTR	**Keskin Array B**	**146.77**	**319**	PKPbc	**PKPbc**	**16 39 54.6**	**+0.2**
	0.9nm,0.8s,baz=93,slow=2.4,SNR=4.7						
GERES	**GERESS Array B**	**147.26**	**351**	PKPbc	**PKPbc**	**16 39 55.5**	**+0.2**
	0.6nm,0.6s,baz=20,slow=3.1,SNR=6.2						

JMA ***02*** *16:24:23.8±0.3, 43.62N×147.67E, h0km, M3.5*
SKHL ***02*** *16:24:25.5±0.2, 43.84N×147.81E, h54km±7km, mb4.1/3*
ISC 02 16:24:24.9±2.8, 44.0N±0.2×147.7E±0.1, h22km±16km, n10, σ0s50/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.66**	**263**	*eP*	**Pn**	**16 24 39.0**	**+0.2**
SHO				AMB	AMB	16 24 41.0	
	24nm,0.2s						
SHO				AMB	AMB	16 24 41.0	
	88nm,0.2s						
SHO				*e*S	**Sn**	**16 24 49.0**	**+0.5**
SHO				A	A	16 24 50.0	
	738nm,0.2s						
SHO				A	A	16 24 50.0	
	510nm,0.2s						
KUR	**Kuril'sk**	**1.28**	**4**	*i* P	**Pb**	**16 24 48.0**	**-0.4**
KUR				AMB	AMB	16 24 50.0	
	105nm,0.2s						
KUR				*e*S	**Sb**	**16 25 05.0**	**+0.6**
KUR				A	A	16 25 07.0	
	573nm,0.2s						
KUR				A	A	16 25 07.0	
	699nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.35**	**274**	*eP*	**Pn**	**16 24 48.0**	**-0.4**
YUK				*e*S	**Sb**	**16 25 06.0**	**-0.4**
YUK				A	A	16 25 09.0	
	63nm,0.2s						
YUK				A	A	16 25 09.0	
	513nm,0.2s						
LAGR	**Lagunnoye**	**1.41**	**275**	*eP*	**Pn**	**16 24 49.0**	**-0.2**
LAGR				AMB	AMB	16 24 51.0	
	72nm,0.2s						
LAGR				AMB	AMB	16 24 51.0	
	19nm,0.2s						
LAGR				*e*S	**Sb**	**16 25 08.0**	**0.0**
LAGR				A	A	16 25 09.0	
	151nm,0.2s						
LAGR				A	A	16 25 09.0	
	345nm,0.2s						
GRPR	**Tuman**	**1.42**	**272**	*eP*	**Pn**	**16 24 49.0**	**-0.3**
GRPR				*e*S	**Sb**	**16 25 09.0**	**+0.8**
GRPR				A	A	16 25 09.0	
	602nm,0.3s						
GRPR				A	A	16 25 09.0	
	346nm,0.3s						
NEM2	**Nemuro 2**	**1.56**	**249**	P	**Pn**	**16 24 50.8**	**-0.4**
NEM2				*e*S	**Sn**	**16 25 10.0**	**-0.7**
GLVR	**Golovnino**	**1.62**	**263**	*eP*	**Pn**	**16 24 52.0**	**0.0**
GLVR				*e*S	**Sb**	**16 25 14.0**	**+0.1**
GLVR				A	A	16 25 18.0	
	249nm,0.3s						
GLVR				A	A	16 25 18.0	
	536nm,0.3s						
JAK	**Akkeshi**	**2.41**	**248**	*e*S	**Sn**	**16 25 31.7**	**0.0**
JOB	**Onbets**	**3.03**	**251**	P	**Pn**	**16 25 12.2**	**+0.8**
JCH	**Churui**	**3.46**	**249**	*e*S	**Sn**	**16 25 58.0**	**+0.3**

MAN 02 16:42:59.1, 7.16N×125.90E, h28km, mb4.1, ML2.9, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**1.64**	**272**	⇓ *iP*	Pn	16 43 26.3	+0.1

JMA ***02*** *16:44:25.3±0.2, 43.20N×146.88E, h58km±3km, M3.4*
SKHL ***02*** *16:44:25.3±0.8, 43.21N×147.02E, h49km±3km, mb4.2/6*
ISC 02 16:44:24.9±2.1, 43.21N±0.10×146.97E±0.09, h45km±39km, n15, σ0s48/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.67**	**351**	*i* P	**Pn**	**16 44 38.0**	**-0.1**
SHO				AMB	AMB	16 44 38.0	
	64nm,0.2s						
SHO				*i* S	**Sn**	**16 44 48.0**	**+0.4**
SHO				A	A	16 44 48.0	
	455nm,0.2s						
SHO				A	A	16 44 48.0	
	100nm,0.2s						
NEM2	**Nemuro 2**	**0.91**	**280**	P	**Pn**	**16 44 41.4**	**+0.1**
NEM2				*e*S	**Sn**	**16 44 53.2**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**1.15**	**316**	*eP*	**Pn**	**16 44 45.0**	**+0.4**
YUK				AMB	AMB	16 44 45.0	
	77nm,0.3s						
YUK				*e*S	**Sn**	**16 44 59.0**	**-0.2**
YUK				A	A	16 45 03.0	
	434nm,0.3s						
YUK				A	A	16 45 03.0	
	699nm,0.3s						
GRPR	**Tuman**	**1.17**	**313**	*i* P	**Pn**	**16 44 45.0**	**+0.1**
GRPR				AMB	AMB	16 44 45.0	
	38nm,0.2s						
GRPR				*i* S	**Sn**	**16 44 59.0**	**-0.7**
GRPR				A	A	16 45 01.0	
	90nm,0.2s						
GRPR				A	A	16 45 01.0	
	207nm,0.2s						
GLVR	**Golovnino**	**1.18**	**297**	*eP*	**Pn**	**16 44 45.0**	**0.0**
GLVR				AMB	AMB	16 44 45.0	
	42nm,0.2s						
GLVR				*e*S	**Sn**	**16 45 00.0**	**+0.1**
GLVR				A	A	16 45 04.0	
	81nm,0.2s						
GLVR				A	A	16 45 04.0	
	71nm,0.2s						
LAGR	**Lagunnoye**	**1.21**	**315**	*eP*	**Pn**	**16 44 45.0**	**-0.4**
LAGR				AMB	AMB	16 44 46.0	
	68nm,0.2s						
LAGR				*e*S	**Sn**	**16 45 00.0**	**-0.5**
LAGR				A	A	16 45 01.0	
	97nm,0.2s						
LAGR				A	A	16 45 01.0	
	87nm,0.2s						
JKHN	**Kushirohamanak**	**1.33**	**265**	*e*S	**Sn**	**16 45 04.0**	**+0.5**
JRA	**Rausu**	**1.53**	**299**	P	**Pn**	**16 44 50.2**	**+0.5**
JRA				*e*S	**Sn**	**16 45 08.6**	**+0.2**
JAK	**Akkeshi**	**1.68**	**264**	P	**Pn**	**16 44 51.9**	**+0.1**
JAK				*e*S	**Sn**	**16 45 11.1**	**-1.0**
JNK	**Nakash**	**1.68**	**284**	P	**Pn**	**16 44 52.1**	**+0.2**
JNK				*e*S	**Sn**	**16 45 11.5**	**-0.7**
KUR	**Kuril'sk**	**2.13**	**17**	*eP*	**Pn**	**16 44 58.0**	**+0.1**
KUR				AMB	AMB	16 44 59.0	
	34nm,0.2s						
KUR				*e*S	**Sn**	**16 45 23.0**	**-0.1**
KUR				A	A	16 45 25.0	
	118nm,0.2s						
KUR				A	A	16 45 25.0	
	297nm,0.2s						
JOB	**Onbets**	**2.32**	**264**	P	**Pn**	**16 45 00.8**	**+0.3**
JOB				*e*S	**Sn**	**16 45 27.5**	**-0.3**
JAR	**Ashorobuto**	**2.34**	**273**	P	**Pn**	**16 45 01.5**	**+0.6**
JTKR	**Abashiri--Toko**	**2.35**	**290**	P	**Pn**	**16 45 01.9**	**+0.9**
JCH	**Churui**	**2.71**	**259**	P	**Pn**	**16 45 06.2**	**+0.2**
JCH				*e*S	**Sn**	**16 45 36.8**	**-0.8**

IDC 02 16:46:59.5±4.7, 7.30N×138.11E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, Error ellipse: s-maj=204.6km s-min=30.9km az=77.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.32**	**188**	P	P	16 52 46.7	+0.4
	0.5nm,0.8s,baz=9.6,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**31.05**	**187**	P	P	16 53 18.9	-0.5
	0.3nm,0.6s,baz=18,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**61.66**	**320**	P	P	16 57 19.4	-0.1
	0.4nm,0.8s,baz=94,slow=7.6,SNR=3.7						

MEX 02 16:47:53.9±0.3, 13.82N×93.15W, h16km±999km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.39**	**38**	*i* P	Pn	16 48 14.4	-4.1
THIG				*i* S	Sn	16 48 31.4	-5.1
PCIG		**1.88**	**358**	*eP*	Pn	16

WMQ	**Urumqi**	**20.13**	**334**	*e*P	Pn	16 56 53.1	-0.4
SONM	**Songino Array**	**22.16**	**12**	P	**P**	**16 57 13.5**	**-0.1**
	0.3nm,0.7s,baz=196,slow=9.0,SNR=2.4						
MKAR	**Makanchi Array**	**24.79**	**330**	P	**P**	**16 57 40.3**	**+0.7**
	1.9nm,0.7s,baz=137,slow=11,SNR=23						
MKAR				LR	LR	17 07 34.9	
	comp=Z,59nm,18.9s,baz=318,slow=37						
ZALV	**Zalesovo Beam**	**29.84**	**342**	P	**P**	**16 58 24.5**	**-0.2**
	0.3nm,0.3s,baz=157,slow=8.0,SNR=3.7						
GEYT	**Alibeck**	**36.95**	**299**	P	**P**	**16 59 27.8**	**+0.9**
	1.6nm,0.7s,baz=84,slow=13,SNR=3.6						
BRTR	**Keskin Array B**	**55.99**	**302**	P	**P**	**17 01 56.2**	**-0.2**
	0.3nm,0.6s,baz=106,slow=7.3,SNR=3.1						
WRA	**Warramunga Arr**	**56.82**	**140**	P	**P**	**17 02 00.4**	**-1.9**
	1.0nm,0.9s,baz=329,slow=7.7,SNR=5.8						
ASAR	**Alice Springs**	**59.55**	**143**	P	**P**	**17 02 19.9**	**-1.5**
	0.7nm,0.6s,baz=329,slow=6.5,SNR=16						
VAE	**Valguarnera**	**71.14**	**303**	LR	LR	17 39 17.9	
	comp=Z,76nm,18.4s,baz=179,slow=40						

*IDC **02** 17:18:42.7±0.8,4.˚66N×125.˚71E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.7/43,mbtmp3.8/9,Error ellipse: s-maj=36.4km s-min=15.1km az=77.0*

*MAN **02** 17:18:44.0,4.˚36N×125.˚41E,h86km,mb4.6,ML3.5,MS3.3*

*ISCJB **02** 17:18:45.8±0.4,4.˚62N±0.˚04×125.˚56E±0.˚08,h35km, mb4.0/14,Error ellipse: s-maj=12.1km s-min=5.3km az=170.2*

*NEIC **02** 17:18:48.5±1.2,4.˚67N×125.˚55E,h48km±13km,mb4.6/11, Error ellipse: s-maj=18.9km s-min=7.2km az=75.0*

ISC 02 17:18:47.9±0.6,4.˚61N±0.˚04×125.˚5E±0.˚1,h35km,n31, σ1§24/33,mb3.9/14,1C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.58**	**338**	⇑*i* P	**Pn**	**17 19 13.0**	**-0.5**
KCP	**Kidapawan**	**2.42**	**349**	⇓*i* P	**Pn**	**17 19 27.1**	**+2.0**
KCP				*i* S	**Sn**	**17 19 56.9**	**+3.3**
CTBH	**Cotabato--PC H**	**2.89**	**334**	⇓*i* P	**Pn**	**17 19 32.2**	**+0.7**
TNTI	**Ternate**	**4.23**	**154**	*e*Pn	**Pn**	**17 19 51.5**	**+1.6**
LUWI	**Luwuk**	**6.26**	**206**	*e*Pn	**Pn**	**17 20 19.0**	**+1.1**
LUWI				*e*Sn	**Sn**	**17 21 28.9**	**+0.7**
FAKI	**Fak Fak**	**10.05**	**138**	*e*Pn	**Pn**	**17 21 11.0**	**+1.2**
MTN	**Manton Dam**	**18.21**	**162**	*e*P	**Pn**	**17 22 59.5**	**+1.4**
	51nm,1.4s						
TPUB	**Ta-pu**	**19.17**	**346**	*e*P	**P**	**17 23 08.8**	**+0.3**
	153nm,1.7s						
SSLB	**Suanglung**	**19.57**	**347**	*e*P	**P**	**17 23 10.6**	**-2.4**
	91nm,1.7s						
YHNB	**Yeheng**	**20.34**	**349**	*e*P	**P**	**17 23 18.6**	**-2.7**
	120nm,1.5s						
FITZ	**Fitzroy Crossi**	**22.57**	**180**	*e*P	**P**	**17 23 44.8**	**-0.5**
	13nm,1.3s						
FITZ	**Fitzroy Crossi**	**22.57**	**180**	P	**P**	**17 23 45.1**	**-0.2**
	2.0nm,0.8s,baz=2.2,slow=8.5,SNR=5.0						
WR1	**Warramunga Arr**	**25.89**	**161**	*e*P	**P**	**17 24 16.1**	**-0.6**
	5.8nm,0.8s						
WRA	**Warramunga Arr**	**25.89**	**161**	P	**P**	**17 24 16.1**	**-0.6**
	1.2nm,0.5s,baz=343,slow=10,SNR=16						
WB2	**Warramunga Arr**	**25.89**	**161**	*e*P	**P**	**17 24 17.0**	**+0.2**
AS31	**Alice Springs**	**29.27**	**164**	*e*P	**P**	**17 24 46.8**	**-0.2**
	2.4nm,1.4s						
ASAR	**Alice Springs**	**29.27**	**164**	P	**P**	**17 24 46.5**	**-0.5**
	0.3nm,0.6s,baz=343,slow=6.9,SNR=11						
AS01	**Alice Springs**	**29.28**	**164**	*e*P	**P**	**17 24 46.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**29.40**	**300**	P	**P**	**17 24 49.4**	**+1.1**
	0.4nm,0.6s,baz=128,slow=7.4,SNR=5.8						
KSRS	**Korea Array**	**32.76**	**4**	P	**P**	**17 25 17.0**	**-0.5**
	0.9nm,0.8s,baz=175,slow=10,SNR=4.0						
NWAO	**Narrogin (SRO)**	**38.16**	**191**	*e*P	**P**	**17 26 03.0**	**-1.0**
	66nm,1.6s						
BBOO	**Buckleboo**	**38.53**	**166**	*e*P	**P**	**17 26 07.1**	**-0.1**
	60nm,1.6s						
STKA	**Stephens Creek**	**39.38**	**158**	*e*P	**P**	**17 26 12.4**	**-1.8**
	3.6nm,1.5s						
STKA	**Stephens Creek**	**39.38**	**158**	P	**P**	**17 26 14.6**	**+0.3**
	0.7nm,0.3s,baz=330,slow=6.9,SNR=6.5						
PETK	**Petropavlovsk-**	**55.08**	**23**	P	**P**	**17 28 15.5**	**-0.7**
	8.2nm,1.1s,baz=224,slow=6.0,SNR=2.6						
PEA1	**Petropavlovsk-**	**55.08**	**23**	*e*P	**P**	**17 28 15.5**	**-0.8**
MK01	**Makanchi Array**	**56.14**	**325**	*e*P	**P**	**17 28 24.2**	**+0.2**
MK31	**Makanchi Array**	**56.16**	**325**	*e*P	**P**	**17 28 23.6**	**-0.6**
	6.1nm,2.0s						
MK32	**Makanchi Array**	**56.16**	**325**	*e*P	**P**	**17 28 24.4**	**+0.3**
MKAR	**Makanchi Array**	**56.16**	**325**	P	**P**	**17 28 24.4**	**+0.3**
	0.8nm,0.5s,baz=122,slow=8.3,SNR=13						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**17 31 18.1**	**-0.5**
	0.4nm,0.6s,baz=246,slow=4.9,SNR=10						

*ISCJB **02** 17:29:13.9±0.5,36.˚44N±0.˚05×69.˚58E±0.˚06,h150km, mb3.4/3,Error ellipse: s-maj=8.2km s-min=5.3km az=32.1*

*IDC **02** 17:29:14.0±4.4,36.˚20N×69.˚67E,h164km±45km,mb3.3/4, mb1 3.2/8,mb1mx2.9/57,mbtmp3.6/8,MS3.6/1,Ms1 3.6/1, ms1mx2.6/37,Error ellipse: s-maj=32.4km s-min=27.5km az=127.0*

*NNC **02** 17:29:22.1±2.9,36.˚98N×69.˚52E,h168km±46km,mb2.6, mpv3.4,Error ellipse: s-maj=27.2km s-min=19.9km az=21.0*

ISC 02 17:29:13.9±0.7,36.˚36N±0.˚08×69.˚61E±0.˚07,h150km,n25, σ1§42/26,mb3.4/3,3C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.78**	**6**	P	**Pn**	**17 30 51.0**	**+0.1**
	1.1nm,0.3s,baz=192,slow=14,SNR=37						
KK31				⇑S	Sn	17 32 01.4	-5.5
	2.3nm,0.3s,baz=189,slow=22,SNR=9.3						
AAK	**Ala-Archa**	**7.32**	**30**	⇑P	**Pn**	**17 30 59.7**	**+1.4**
	1.6nm,0.5s						
AAK				⇑S	**Sn**	**17 32 17.3**	**-2.9**
	6.0nm,0.6s						
GEYT	**Alibeck**	**9.31**	**283**	P	**Pn**	**17 31 25.6**	**+0.9**
	1.0nm,0.3s,baz=96,slow=9.5,SNR=13						
GEYT				S	**Sn**	**17 33 07.2**	**-0.9**
	0.3nm,0.3s,baz=232,slow=7.1,SNR=2.7						
PYUN	**Piuthan**	**13.99**	**122**	*e*P	**Pn**	**17 32 25.8**	**-0.1**
	7.7nm,0.4s						
MKAR	**Makanchi Array**	**14.08**	**38**	P	**Pn**	**17 32 28.9**	**+2.2**
	0.1nm,0.3s,baz=229,slow=12,SNR=3.8						
DANN	**Dangsing**	**14.37**	**120**	*e*P	**P**	**17 32 31.8**	**-1.6**
	4.7nm,0.2s						
AB31	**Akbulak array**	**14.70**	**334**	P	**Pn**	**17 32 35.0**	**+0.6**
	0.6nm,0.4s,baz=150,slow=12,SNR=34						
KURBB	**Kurchatov Arra**	**15.64**	**21**	P	**Pn**	**17 32 46.9**	**+0.8**
	baz=213,slow=9.7						
DMN	**Daman**	**15.76**	**119**	*e*P	**P**	**17 32 50.1**	**+1.3**
	8.0nm,0.5s						
KKN	**Kakani**	**15.77**	**118**	*e*P	**P**	**17 32 50.1**	**+1.2**
	11nm,0.4s						
PKIN	**Phulchoki**	**15.98**	**119**	*e*P	**P**	**17 32 52.2**	**+0.9**
	9.1nm,0.5s						
PKI	**Pulchoki**	**16.00**	**119**	*e*P	**P**	**17 32 52.4**	**+0.9**
	14nm,0.6s						
GUN	**Gumba**	**16.13**	**117**	*e*P	**P**	**17 32 54.2**	**+1.2**
	11nm,0.4s						
AKTO	**Aktyubinsk**	**16.37**	**333**	⇓P	**P**	**17 32 54.4**	**-0.7**
	0.2nm,0.3s						
JIRN	**Jiri**	**16.50**	**117**	*e*P	**P**	**17 32 58.9**	**+1.8**
	31nm,0.6s						
BVAR	**Borovoye Array**	**16.68**	**2**	P	**P**	**17 32 59.4**	**+0.9**
	0.1nm,0.3s,baz=177,slow=13,SNR=2.7						
ODAN	**Odare**	**17.83**	**117**	*e*P	**Pn**	**17 33 14.7**	**+1.7**
ZALV	**Zalesovo Beam**	**20.52**	**26**	P	**P**	**17 33 40.0**	**-0.2**
	1.3nm,0.4s,baz=216,slow=10,SNR=6.5						
KOPR	**Koprukoy-ERZUR**	**22.09**	**288**	*e*P	**P**	**17 33 58.1**	**+1.0**
VRTB	**Varto-Mus**	**22.40**	**286**	*e*P	**P**	**17 34 00.3**	**+0.2**
BNGB	**Bingl**	**23.01**	**285**	*e*P	**P**	**17 34 04.2**	**-1.6**
KIRV	**Kirov**	**25.89**	**336**	LR	LR	17 45 19.2	
	comp=Z,110nm,18.0s,baz=150,slow=37						
ARCES	**ARCESS Array B**	**40.86**	**338**	P	**P**	**17 36 40.8**	**+0.2**
	2.3nm,0.8s,baz=112,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**82.87**	**121**	P	**P**	**17 41 19.7**	**-2.1**
	0.5nm,0.8s,baz=327,slow=4.4,SNR=3.9						
ASAR	**Alice Springs**	**85.10**	**124**	P	**P**	**17 41 31.1**	**-1.9**
	0.3nm,0.8s,baz=315,slow=5.2,SNR=5.0						

*IDC **02** 17:32:38.1±0.5,60.˚30S×26.˚68W,h0km,mb4.6/13, mb1 4.7/13,mb1mx4.5/29,mbtmp4.6/13,MS4.1/21, Ms1 4.1/21,ms1mx4.1/27,Error ellipse: s-maj=19.4km s-min=15.7km az=53.0*

*ISCJB **02** 17:32:39.7±0.3,60.˚30S±0.˚07×26.˚8W±0.˚1,h19km, mb5.0/35,MS4.2/20,Error ellipse: s-maj=10.5km s-min=7.1km az=24.1*

*MOS **02** 17:32:42.3±1.2,60.˚32S×26.˚92W,h33km,mb4.9/18,Error ellipse: s-maj=26.4km s-min=13.7km az=110.2*

*BJI **02** 17:32:43.5,60.˚40S×26.˚90W,h38km,mB5.5/7,Ms5.1/1, Ms7 4.8/1*

*GCMT **02** 17:32:45.2±0.3,60.˚91S±0.˚01×26.˚33W±0.˚03,h17km±1km, MW5.0/74,Moment Tensor Solution. s22,c26; s74,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.86±.21; Mθθ4.34±.18; Mφφ -2.47±.13; Mrθ0.43±.35; Mθφ1.54±.11; Mφr-0.72±.37; Best double couple: M=3.96800×10¹⁶ NP1:φ=298.00000°,δ71.00000°,λ-24.00000°. NP2: φ=37.00000°,δ68.00000°,λ-160.00000°. Principal axes: T 4.6830, Plg2.0000°, Azm348.0000°; N -1.4190, Plg60.0000°, Azm82.0000°; P -3.2540, Plg30.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **02** 17:32:47.2±1.3,60.˚29S×26.˚76W,h64km±10km,mb5.1/29 Error ellipse: s-maj=9.2km s-min=7.2km az=204.0*

ISC 02 17:32:41.3±0.3,60.˚31S±0.˚08×26.˚86W±0.˚07,h19km,n184, σ1§52/173,mb5.1/35,MS4.1/20,6C-4D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.97**	**315**	*e*Pn	Pn	17 34 42.6	+6.6
VNA1	**Neumayer--Stat**	**12.85**	**151**	P	Pn	17 35 36.2	-6.4
VNA3	**Neumayer Olymp**	**12.97**	**155**	P	Pn	17 35 36.9	-7.3
VNA2	**Neumayer--Watz**	**13.25**	**151**	P	Pn	17 35 40.2	-7.9
	baz=306,slow=15						
SNAA	**Sanae**	**14.85**	**150**	P	Pn	17 36 02.7	-7.3
SNAA	**Sanae**	**14.85**	**150**	Pn	Pn	17 36 03.0	-7.0
	6.6nm,0.3s,baz=59,slow=15,SNR=126						
SNAA				Sn	Sn	17 38 34.1	-20
	0.5nm,0.3s,baz=342,slow=20,SNR=4.3						
SNAA				LR	LR	17 40 25.4	
	comp=Z,848nm,19.3s,baz=323,slow=32						
PMSA	**Palmer Station**	**17.53**	**239**	*e*Pn	**P**	**17 36 49.4**	**+4.2**
	62nm,0.8s						
PMSA				*e*		17 42 60.0	
PMSA	**Palmer Station**	**17.53**	**239**	LR	LR	17 42 60.0	
	comp=Z,626nm,18.4s,baz=102,slow=35						
NVL	**N'lazarevskaya**	**18.73**	**140**	*i* P	**P**	**17 36 55.4**	**-3.0**
NVL				*e*S	**Sn**	**17 40 28.1**	**+0.5**
NVL				pmax	pmax		
	comp=Z,61nm,1.3s						
EFI	**East Falkland**	**19.31**	**283**	*e*P	**Pn**	**17 37 07.5**	**+1.5**
	comp=Z,104nm,1.4s						
EFI	**East Falkland**	**19.31**	**283**	⇑*e*P	**Pn**	**17 37 07.5**	**+1.5**
USHA	**Ushuaia**	**22.65**	**265**	P	**P**	**17 37 42.3**	**+1.4**
	comp=Z,11nm,0.8s,baz=109,slow=15,SNR=4.6						
USHA				LR	LR	17 44 26.5	
	comp=Z,798nm,21.4s,baz=107,slow=31						
SYO	**Syowa Base**	**28.28**	**136**	⇓*e*X	**P**	**17 38 34.6**	**+1.8**
SYO	**Syowa Base**	**28.28**	**136**	⇓*e*pP	pP	17 38 42.4	+4.8
QSPA	**South Pole Qui**	**29.93**	**180**	*e*P	**P**	**17 38 47.5**	**-0.3**
	comp=Z,62nm,1.4s						
QSPA				*e*		17 50 23.4	
QSPA	**South Pole Qui**	**29.93**	**180**	P	**P**	**17 38 47.7**	**-0.1**
	comp=Z,9.5nm,0.5s,baz=194,slow=4.0,SNR=81						
QSPA				LR	LR	17 50 23.4	
	comp=Z,687nm,19.0s,baz=186,slow=36						
TRQA	**Tornquist**	**31.37**	**299**	*e*P	**P**	**17 39 01.6**	**+1.1**
	comp=Z,45nm,1.5s						
TRQA	**Tornquist**	**31.37**	**299**	*e*P	**P**	**17 39 01.6**	**+1.1**
TRQA				pmax	pmax		
	comp=Z,45nm,1.5s						
PLCA	**Paso Flores**	**33.15**	**286**	*e*P	**P**	**17 39 16.2**	**0.0**
	comp=Z,27nm,1.6s						
PLCA	**Paso Flores**	**33.15**	**286**	*e*P	**P**	**17 39 15.5**	**-0.7**
PLCA	**Paso Flores**	**33.15**	**286**	P	**P**	**17 39 16.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=177,slow=3.9,SNR=8.4						
PLCA				LR	LR	17 52 37.0	
	comp=Z,248nm,18.7s,baz=157,slow=36						
GO06	**Curarrehue**	**34.48**	**287**	*e*P	**P**	**17 39 28.2**	**+0.3**
	comp=Z,21nm,1.6s						
MAW	**Mawson**	**36.68**	**140**	*e*P	**P**	**17 39 45.9**	**-0.3**
	comp=Z,50nm,1.5s						
MAW	**Mawson**	**36.68**	**140**	*e*P	**P**	**17 39 45.9**	**-0.3**
MAW				pmax	pmax		
	comp=Z,51nm,1.5s						
MAW	**Mawson**	**36.68**	**140**	LR	LR	17 53 05.6	
	comp=Z,238nm,19.6s,baz=242,slow=34						
GO05	**Huala**	**38.38**	**291**	*e*P	**P**	**17 40 01.4**	**+0.4**
	comp=Z,34nm,1.1s						
PEL	**Peldehue**	**39.35**	**294**	*e*P	**P**	**17 40 10.5**	**+1.3**
	comp=Z,109nm,1.4s						
PEL	**Peldehue**	**39.35**	**294**	*e*P	**P**	**17 40 10.5**	**+1.3**
PEL				pmax	pmax		
	comp=Z,109nm,1.4s						
ROC1	**El Roble**	**39.64**	**293**	*e*P	**P**	**17 40 12.7**	**+0.9**
	comp=Z,16nm,0.8s						
CPUP	**Villa Florida**	**39.85**	**315**	*e*P	**P**	**17 40 14.0**	**+0.6**
	comp=Z,16nm,0.7s						
CPUP	**Villa Florida**	**39.85**	**315**	P	**P**	**17 40 13.7**	**+0.4**
	comp=Z,24nm,0.8s,baz=159,slow=7.6,SNR=31						
CPUP				LR	LR	17 54 53.5	
	comp=Z,261nm,21.6s,baz=171,slow=34						
SUR	**Sutherland**	**41.76**	**70**	*e*P	**P**	**17 40 30.7**	**+1.4**
	comp=Z,96nm,1.8s						
SBA	**Scott Base**	**41.83**	**184**	*e*P	**P**	**17 40 30.8**	**+1.7**
	comp=Z,67nm,1.6s						
SBA	**Scott Base**	**41.83**	**184**	*e*P	**P**	**17 40 30.8**	**+1.7**
SBA				pmax	pmax		
	comp=Z,67nm,1.6s						
GO04	**Tololo Observa**	**41.91**	**296**	*e*P	**P**	**17 40 32.0**	**+1.4**
	comp=Z,32nm,1.1s						
VNDA	**Vanda**	**42.32**	**183**	*e*P	**P**	**17 40 33.9**	**+0.8**
	comp=Z,6.3nm,0.9s						
VNDA	**Vanda**	**42.32**	**183**	P	**P**	**17 40 33.4**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=190,slow=6.7,SNR=21						
VNDA				LR	LR	17 56 36.7	
	comp=Z,176nm,21.8s,baz=171,slow=34						
LCO	**Las Campanas**	**42.87**	**297**	*e*P	**P**	**17 40 39.6**	**+1.2**
	comp=Z,64nm,1.6s						
LCO	**Las Campanas**	**42.87**	**297**	*e*P	**P**	**17 40 39.6**	**+1.2**
GO02	**Mina Guanaco**	**45.72**	**301**	*e*P	**P**	**17 41 02.6**	**+1.3**
	comp=Z,48nm,0.6s						
BOSA	**Boshof**	**47.00**	**72**	P	**P**	**17 41 10.6**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=199,slow=4.9,SNR=6.3						
BOSA				LR	LR	17 56 59.8	
	comp=Z,240nm,19.3s,baz=188,slow=31						
BDFB	**Brasilia**	**47.18**	**332**	P	**P**	**17 41 12.3**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=79,slow=5.2,SNR=2.7						
BDFB				LR	LR	17 59 40.8	
	comp=Z,154nm,20.2s,baz=143,slow=34						
PB10	**IPOC Station P**	**47.59**	**301**	*e*P	**P**	**17 41 16.3**	**+0.8**
	comp=Z,48nm,1.2s						
LVC	**Limon Verde**	**47.69**	**303**	*e*P	**P**	**17 41 18.2**	**+1.4**
	comp=Z,43nm,0.8s						
LVC	**Limon Verde**	**47.69**	**303**	*e*P	**P**	**17 41 18.2**	**+1.4**
PB04	**IPOC Station P**	**48.46**	**302**	*e*P	**P**	**17 41 23.2**	**+0.7**
	comp=Z,35nm,0.6s						
PB04				*e*S	**S**	**17 48 17.6**	**-4.8**
PB01	**IPOC Station P**	**49.33**	**303**	*e*P	**P**	**17 41 29.8**	**+0.7**
	comp=Z,37nm,0.5s						
PB11	**IPOC Station P**	**50.54**	**304**	*e*P	**P**	**17 41 39.4**	**+1.0**
	comp=Z,32nm,1.1s						
MNMC	**Minye Minye**	**51.08**	**304**	*e*P	**P**	**17 41 44.1**	**+1.5**
	comp=Z,56nm,0.6s						
TSUM	**Tsumeb**	**51.72**	**57**	*e*P	**P**	**17 41 48.6**	**+1.4**
	comp=Z,13nm,0.9s						
H10S2	**ASCENSION HYDR**	**52.05**	**15**	T	T	18 38 46.0	
	baz=188,slow=75,SNR=8.4						
H10S3	**ASCENSION HYDR**	**52.06**	**15**	T	T	18 38 45.7	
	baz=188,slow=75,SNR=8.4						
H10S1	**ASCENSION HYDR**	**52.07**	**15**	T	T	18 38 44.5	
	baz=188,slow=75,SNR=8.6						
LPAZ	**La Paz**	**53.05**	**308**	*e*P	**P**	**17 41 58.7**	**+1.0**
LPAZ	**La Paz**	**53.05**	**308**	P	**P**	**17 41 58.6**	**+0.9**
	comp=Z,9.8nm,0.5s,baz=130,slow=5.1,SNR=60						
LPAZ				LR	LR	18 06 19.3	
	comp=Z,93nm,19.9s,baz=185,slow=38						
H10N1	**ASCENSION HYDR**	**53.17**	**15**	T	T	18 40 06.0	
	baz=180,slow=71,SNR=7.8						
H10N3	**ASCENSION HYDR**	**53.17**	**15**	T	T	18 40 07.9	
	baz=180,slow=71,SNR=9.6						
H10N2	**ASCENSION HYDR**	**53.19**	**15**	T	T	18 40 09.2	
	baz=180,slow=71,SNR=8.0						
LSZ	**Lusaka**	**59.84**	**66**	*e*P	**P**	**17 42 47.2**	**+1.7**
	comp=Z,16nm,0.9s						
LSZ	**Lusaka**	**59.84**	**66**	*e*P	**P**	**17 42 47.2**	**+1.7**
LSZ				pmax	pmax		
	comp=Z,16nm,0.9s						
NNA	**Nana**	**60.51**	**301**	P	**P**	**17 42 48.8**	**-1.2**
PTGA	**Pitinga**	**64.66**	**323**	*e*P	**P**	**17 43 16.7**	**-0.9**
	comp=Z,11nm,1.3s						
PTGA	**Pitinga**	**64.66**	**323**	P	**P**	**17 43 16.7**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=160,slow=7.2,SNR=7.9						
LIC	**Lamto**	**68.53**	**23**	*e*P	**P**	**17 43 42.8**	**+0.5**
	comp=Z,20nm,0.7s						
KIC	**Kosan Boka**	**68.72**	**24**	*e*P	**P**	**17 43 43.9**	**+0.5**
	comp=Z,11nm,0.7s						
TIC	**Toumodi**	**68.94**	**23**	*e*P	**P**	**17 43 45.0**	**+0.2**
DBIC	**Dimbokro**	**69.00**	**23**	*e*P	**P**	**17 43 45.7**	**+0.5**
	comp=Z,10.0nm,1.0s						
DBIC	**Dimbokro**	**69.00**	**23**	P	**P**	**17 43 45.1**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=170,slow=7.1,SNR=7.5						
DBIC				LR	LR	18 06 39.3	
	comp=Z,123nm,20.8s,baz=175,slow=30						
PTLC	**Puerto Leguiza**	**70.67**	**308**	*e*P	**P**	**17 43 54.1**	**-1.5**
PTLC	**Puerto Leguiza**	**70.67**	**308**	*e*P	**P**	**17 43 54.1**	**-1.5**
OTAV	**Otavalo**	**72.20**	**305**	*e*P	**P**	**17 44 03.2**	**-2.1**
	comp=Z,15nm,1.4s						
OTAV	**Otavalo**	**72.20**	**305**	*e*P	**P**	**17 44 03.2**	**-2.1**
OTAV				pmax	pmax		
	comp=Z,15nm,1.4s						
SOTA	**Rioblanco**	**73.18**	**307**	*e*P	**P**	**17 44 10.5**	**-0.7**
SOTA	**Rioblanco**	**73.18**	**307**	*e*P	**P**	**17 44 10.5**	**-0.7**
PCON	**Cinco Dias**	**73.27**	**307**	*e*P	**P**	**17 44 14.3**	**+2.5**
PCON	**Cinco Dias**	**73.27**	**307**	*e*P	**P**	**17 44 14.3**	**+2.5**
POPC	**Popayan, Colom**	**73.58**	**307**	*e*P	**P**	**17 44 13.4**	**+0.2**
POPC	**Popayan, Colom**	**73.58**	**307**	*e*P	**P**	**17 44 13.4**	**+0.2**
YOTC	**Yotoco, Valle**	**74.76**	**308**	*e*P	**P**	**17 44 19.3**	**-0.7**
YOTC	**Yotoco, Valle**	**74.76**	**308**	*e*P	**P**	**17 44 19.3**	**-0.7**
ROSC	**El Rosal**	**74.77**	**310**	LR	LR	18 17 18.2	
	comp=Z,63nm,21.0s,baz=212,slow=36						
RUSC	**La Rusia**	**75.27**	**312**	*e*P	**P**	**17 44 22.1**	**-1.3**
RUSC	**La Rusia**	**75.27**	**312**	*e*P	**P**	**17 44 22.1**	**-1.3**
PTBC	**PUERTO BERRIO,**	**76.38**	**311**	*e*P	**P**	**17 44 26.1**	**-3.0**
PTBC	**PUERTO BERRIO,**	**76.38**	**311**	*e*P	**P**	**17 44 26.1**	**-3.0**
KMBO	**Kilima Mbogo**	**76.45**	**68**	P	**P**	**17 44 32.4**	**+2.5**
KMBO	**Kilima Mbogo**	**76.45**	**68**	LR	LR	18 16 32.8	
	comp=Z,236nm,18.0s,baz=86,slow=34						
TOA0	**Torodi Ar. Sit**	**76.70**	**29**	*e*P	**P**	**17 44 30.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.70**	**29**	P	**P**	**17 44 30.6**	**-0.3**
	comp=Z,24nm,1.0s,baz=233,slow=3.5,SNR=66						
TORD				LR	LR	18 13 47.0	
	comp=Z,121nm,18.1s,baz=310,slow=32						
TOA1	**Torodi Ar. Sit**	**76.71**	**29**	*e*P	**P**	**17 44 30.6**	**-0.3**
TOA1				*e*		18 13 47.0	
SDV	**Santo Domingo**	**77.17**	**315**	*e*P	**P**	**17 44 33.5**	**-0.2**
	comp=Z,18nm,0.8s						
SDV				*e*		18 22 37.0	
SDV	**Santo Domingo**	**77.17**	**315**	P	**P**	**17 44 33.6**	**-0.1**
	comp=Z,8.7nm,0.7s,baz=151,slow=1.6,SNR=10.0						
SDV				LR	LR	18 22 37.0	
	comp=Z,48nm,18.2s,baz=275,slow=39						
SMLC	**San Martn de**	**78.32**	**312**	*e*P	**P**	**17 44 37.7**	**-2.2**
SMLC	**San Martn de**	**78.32**	**312**	*e*P	**P**	**17 44 37.7**	**-2.2**
SJG	**San Juan**	**84.35**	**323**	LR	LR	18 21 45.7	
	comp=Z,66nm,20.9s,baz=158,slow=35						
STKA	**Stephens Creek**	**87.66**	**170**	LR	LR	18 23 38.0	
	comp=Z,238nm,18.2s,baz=204,slow=35						
PPT	**Papeete**	**89.80**	**233**	LR	LR	18 19 07.0	
	comp=Z,105nm,19.5s,baz=110,slow=31						
ASAR	**Alice Springs**	**94.87**	**162**	P	**P**	**17 45 59.7**	**-2.2**
	comp=Z,0.7nm,0.8s,baz=188,slow=4.0,SNR=6.2						
ASAR				PKKPbc	**PKKPbc**	**18 02 54.9**	**0.0**
	comp=Z,0.3nm,0.8s,baz=28,slow=2.5,SNR=4.8						
ASAR				LR	LR	18 25 34.0	
	comp=Z,259nm,20.3s,baz=206,slow=34						
WRA	**Warramunga Arr**	**98.59**	**162**	LR	LR	18 27 29.0	
	comp=Z,238nm,21.4s,baz=345,slow=33						
VYHS	**Vyhne**	**114.60**	**32**	*i* P	**Pdif**	**17 47 34.6**	**+5.6**
VYHS	**Vyhne**	**114.60**	**32**	*e*PDIF	**Pdif**	**17 47 34.6**	**+5.6**
TNTI	**Ternate**	**117.38**	**151**	*e*Sdif	Sdif	18 00

EPYK	**Eagle Plains**	**149.53**	**312**	*e*PKPbc	**PKPbc**	**17 52 27.5**	**-0.1**
DAWY	**Dawson**	**149.63**	**307**	*e*PKPbc	**PKPbc**	**17 52 27.8**	**-0.2**
MOY	**Mondy**	**150.32**	**83**	*e*PKIKP	**PKiKP**	**17 52 30.8**	**0.0**
MOY				pmax	pmax		
	comp=Z,19nm,1.9s						
SONA0	**Songino Array**	**150.54**	**94**	*e*PKPbc	**PKPbc**	**17 52 30.4**	**-0.3**
SONM	**Songino Array**	**150.54**	**94**	PKPbc	**PKPbc**	**17 52 30.4**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=226,slow=1.9,SNR=24						
SONA1	**Songino Array**	**150.55**	**94**	*e*PKPbc	**PKPbc**	**17 52 30.6**	**-0.2**
EGAK	**Eagle**	**150.62**	**307**	*e*PKPbc	**PKiKP**	**17 52 31.1**	**+0.3**
ZAK	**Zakamensk**	**150.66**	**87**	*e*PKIKP	**PKPbc**	**17 52 30.6**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
EYAK	**Cordova Ski Ar**	**150.79**	**298**	*e*PKPbc	**PKiKP**	**17 52 31.4**	**+0.2**
MENT	**Mentasta**	**150.94**	**303**	*e*PKPdf	**PKPdf**	**17 52 23.9**	**-1.4**
MENT				*e*PKPbc	**PKiKP**	**17 52 32.0**	**+0.3**
KLU	**Klutina**	**151.28**	**299**	*e*PKPbc	**PKiKP**	**17 52 32.9**	**+0.5**
DOT	**Dot Lake**	**151.36**	**304**	*e*PKPbc	**PKiKP**	**17 52 32.5**	**0.0**
TLY	**Talaya**	**151.64**	**85**	*i*PKIKP	**PKPdf**	**17 52 25.5**	**-1.2**
TLY				*i*		17 52 34.8	
PAX	**Paxson**	**151.69**	**302**	*e*PKPbc	**PKiKP**	**17 52 33.8**	**+0.5**
RIDG	**Independ'e Rid**	**151.72**	**304**	*e*PKPbc	**PKiKP**	**17 52 33.6**	**+0.3**
SCM	**Sheep Creek Mo**	**152.03**	**299**	*e*PKPbc	**PKiKP**	**17 52 34.4**	**+0.5**
KSAR	**Wonju Array Be**	**152.06**	**134**	PKPbc	**PKPbc**	**17 52 33.8**	**-0.5**
KSRS	**Korea Array**	**152.08**	**134**	PKPbc	**PKPbc**	**17 52 33.8**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=190,slow=1.7,SNR=4.4						
SML	**Sawmill**	**152.46**	**299**	*e*PKPbc	**PKiKP**	**17 52 34.9**	**+0.1**
DHY	**Denali Highway**	**152.53**	**302**	*e*PKPbc	**PKiKP**	**17 52 35.6**	**+0.5**
PRP	**Porcupine Dome**	**152.61**	**307**	*e*PKPdf	**PKPdf**	**17 52 27.3**	**-0.6**
PRP				*e*PKPbc	**PKPbc**	**17 52 35.0**	**+0.1**
KDAK	**Kodiak Island**	**152.63**	**289**	*e*PKPbc	**PKPbc**	**17 52 34.9**	**-0.1**
KDAK	**Kodiak Island**	**152.63**	**289**	PKPbc	**PKiKP**	**17 52 35.4**	**+0.2**
	baz=104,slow=2.9						
HDA	**Harding Lake**	**152.82**	**305**	*e*PKPbc	**PKiKP**	**17 52 35.5**	**0.0**
HDA				*e*PKPab	**sPKPbc**	**17 52 44.7**	**+1.6**
IL1	**Eielson Array**	**152.92**	**305**	*e*PKPbc	**PKPbc**	**17 52 35.3**	**-0.2**
ILAR	**Eielson Array**	**152.92**	**305**	PKPbc	**PKPbc**	**17 52 35.4**	**0.0**
	comp=Z,3.2nm,0.8s,baz=161,slow=3.1,SNR=30						
ILB	**Eielson Array**	**152.92**	**305**	*e*PKPbc	**PKiKP**	**17 52 35.9**	**+0.2**
CCB	**Clear Creek Bu**	**153.25**	**305**	*e*PKPbc	**PKPbc**	**17 52 35.9**	**-0.3**
RND	**Reindeer**	**153.28**	**302**	*e*PKPdf	**PKPdf**	**17 52 29.4**	**+0.6**
RND				*e*PKPbc	**sPKPdf**	**17 52 37.5**	**+0.8**
RND	**Reindeer**	**153.28**	**302**	*e*PKIKP	**PKPdf**	**17 52 29.5**	**+0.6**
RND				*e*		17 52 37.5	
WRH	**Wood River Hil**	**153.31**	**304**	*e*PKPdf	**PKPdf**	**17 52 30.6**	**+1.9**
WRH				*e*PKPbc	**sPKPdf**	**17 52 36.6**	**0.0**
COLA	**College**	**153.34**	**305**	*i*PKIKP	**PKiKP**	**17 52 37.0**	**+0.6**
MCK	**McKinley**	**153.42**	**303**	*e*PKPbc	**PKiKP**	**17 52 37.4**	**+0.7**
MCK	**McKinley**	**153.42**	**303**	*e*PKIKP	**PKiKP**	**17 52 37.4**	**+0.7**
BWN	**Browne**	**153.78**	**303**	*e*PKPbc	**PKPbc**	**17 52 35.4**	**-2.0**
RSO	**Redoubt South**	**153.89**	**294**	*e*PKPbc	**PKPbc**	**17 52 37.9**	**0.0**
RSO				*e*PKPab	**PKPab**	**17 52 50.6**	**-0.7**
CAST	**Castle Rocks**	**154.65**	**301**	*e*PKPab	**PKPab**	**17 52 53.7**	**-0.6**
SEY	**Seymchan**	**177.34**	**8**	*i*PKIKP	**PKPdf**	**17 52 47.4**	**-1.2**

*IDC **02** 17:32:41.7±1.2,38°.16N×46°.54E, h0km, mb3.6/6, mb1 3.6/11,mb1mx3.5/45,mbtmp3.5/11,ML3.1/5,Error ellipse: s-maj=19.2km s-min=12.0km az=15.0*
*AZER **02** 17:32:41.0±0.1,38°.39N×46°.69E, h10km±1km, ml4.0/28, Error ellipse: s-maj=5.3km s-min=1.8km az=18.0*
*NSSP **02** 17:32:42.6,38°.47N×46°.67E,h10km, Ms4.0*
*TEH **02** 17:32:43.1,38°.42N×46°.71E,h4km,ML3.6*
*THR **02** 17:32:44.1,38°.40N×46°.62E,h14km,ML3.6*

ISC 02 17:32:43.4±1.0,38°.45N±0°.02×46°.71E±0°.02,h8km±8km, n124,σ1°83/165,mb3.6/6,30C-29D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.29**	**116**	*e*Pg	**Pg**	**17 32 49.0**	**-0.2**
IHRS				IAMB	IAmb	17 32 49.5	
	comp=Z,34μm,0.2s						
IHRS				*e*Sg	**Sg**	**17 32 53.8**	**+0.8**
ITBZ	**Tabriz**	**0.49**	**245**	*e*Pg	**Pg**	**17 32 52.6**	**-0.3**
ITBZ				*e*Sg	**Sb**	**17 33 00.0**	**-1.8**
ITBZ				IAMB	IAmb	17 33 00.8	
	comp=Z,19μm,0.2s						
ORD	**Ordubad**	**0.74**	**311**	*e*Pg	**Pg**	**17 32 57.0**	**-0.6**
ORD	**Ordubad**	**0.74**	**311**	↑P	**Pg**	**17 32 57.0**	**-0.6**
ORD				↑S	**Sg**	**17 33 07.5**	**+0.3**
IBST	**Bostanabad**	**0.76**	**169**	*e*Pg	**Pg**	**17 32 56.4**	**-1.6**
IBST				IAMB	IAmb	17 33 10.6	
	comp=Z,61μm,0.4s						
IMRD	**Marand**	**0.83**	**289**	*e*Pg	**Pg**	**17 32 58.8**	**-0.6**
IMRD				IAMB	IAmb	17 33 00.7	
	comp=N,634nm,0.1s						
IAZR	**Azarshahr**	**0.96**	**217**	IAMB	IAmb	17 33 04.2	
	comp=Z,10μm,0.2s						
IAZR				*e*Pg	**Pg**	**17 33 01.1**	**-0.7**
ISRB	**Sarab**	**0.97**	**129**	*e*Pg	**Pg**	**17 33 00.6**	**-1.5**
ISRB				IAMB	IAmb	17 33 07.9	
	comp=Z,19μm,0.4s						
GRS	**Goris**	**1.09**	**344**	↓*i*P	**Pg**	**17 33 03.0**	**-1.4**
GRS				↑↑*i*S	**Sg**	**17 33 18.0**	**-0.6**
NAX	**Nakhchivan**	**1.20**	**308**	*e*Pg	**Pb**	**17 33 05.5**	**-0.8**
NAX	**Nakhchivan**	**1.20**	**308**	↓P	**Pb**	**17 33 05.6**	**-0.8**
	SNR=246						
NAX				↑S	**Sg**	**17 33 22.2**	**+0.3**
LRK	**Lerik**	**1.29**	**81**	*e*Pg	**Pn**	**17 33 07.1**	**-0.7**
LRK	**Lerik**	**1.29**	**81**	↓P	**Pn**	**17 33 07.1**	**-0.7**
	SNR=247						
LRK				↑S	**Sn**	**17 33 25.9**	**+0.5**
SBZ	**Shahbuz**	**1.31**	**317**	*e*Pg	**Pn**	**17 33 07.4**	**-0.7**
SBZ	**Shahbuz**	**1.31**	**317**	↓P	**Pn**	**17 33 07.4**	**-0.7**
SBZ				↓S	**Sg**	**17 33 27.2**	**+1.7**
GLBA	**Clilabad**	**1.53**	**58**	*e*Pn	**Pb**	**17 33 12.4**	**+0.4**
GLBA	**Clilabad**	**1.53**	**58**	↓P	**Pb**	**17 33 12.4**	**+0.4**
	SNR=208						
GLBA				↑S	**Sg**	**17 33 34.7**	**+2.0**
ASTR	**Astara**	**1.63**	**85**	*e*Pn	**Pb**	**17 33 13.5**	**-0.2**
ASTR	**Astara**	**1.63**	**85**	↑P	**Pb**	**17 33 13.5**	**-0.2**
	SNR=216						
ASTR				↓S	**Sg**	**17 33 36.9**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.64**	**80**	*e*Pn	**Pb**	**17 33 13.2**	**-0.6**
LKRN	**Lenkeran, Azer**	**1.64**	**80**	↑P	**Pb**	**17 33 13.3**	**-0.6**
	SNR=170						
LKRN				↑S	**Sg**	**17 33 36.6**	**+0.5**
MAKU	**Maku**	**1.82**	**300**	*e*AML	AML	17 33 42.7	
	comp=N,490nm,0.5s						
MAKU				*e*Pn	**Pb**	**17 33 17.2**	**+0.1**
MAKU				*e*Sg	**Sb**	**17 33 40.4**	**+0.2**
MAKU				*e*AML	AML	17 33 44.5	
	comp=E,565nm,0.3s						
BRDA	**Brd**	**1.85**	**11**	*e*Pn	**Pb**	**17 33 17.7**	**+0.3**
BRDA	**Brd**	**1.85**	**11**	↑P	**Pb**	**17 33 17.8**	**+0.3**
	SNR=35						
BRDA				↓S	**Sg**	**17 33 44.7**	**+1.9**
HYR	**Heyderabad**	**1.93**	**312**	*e*Pn	**Pb**	**17 33 17.9**	**-0.9**
HYR	**Heyderabad**	**1.93**	**312**	↓P	**Pb**	**17 33 17.9**	**-0.9**
HYR				↑S	**Sg**	**17 33 46.1**	**+0.8**
SAAT	**Saatly**	**1.94**	**43**	*e*Pn	**Pn**	**17 33 16.9**	**+0.3**
SAAT	**Saatly**	**1.94**	**43**	↑P	**Pn**	**17 33 16.9**	**+0.3**
	SNR=3.1						
SAAT				↑S	**Sb**	**17 33 44.8**	**+1.4**
ZRD	**Zardab**	**1.98**	**22**	*e*Pn	**Pb**	**17 33 20.0**	**+0.4**
ZRD	**Zardab**	**1.98**	**22**	↓P	**Pb**	**17 33 20.1**	**+0.4**
	SNR=29						
ZRD				↓S	**Sg**	**17 33 48.8**	**+1.9**
BASK	**Baskale_VAN**	**2.17**	**260**	*i*P	**Pg**	**17 33 23.5**	**-1.5**
BASK				IAML_P			
	comp=Z,122nm,0.2s						
GANJ	**Ganja**	**2.22**	**352**	*e*Pn	**Pb**	**17 33 22.1**	**-1.6**
GANJ	**Ganja**	**2.22**	**352**	↑P	**Pb**	**17 33 22.2**	**-1.6**
	SNR=184						
GANJ				↑S	**Sb**	**17 33 51.7**	**+0.3**
KDMR	**Kurdemir**	**2.24**	**30**	*e*Pn	**Pn**	**17 33 21.4**	**+0.7**
KDMR	**Kurdemir**	**2.24**	**30**	↑P	**Pn**	**17 33 21.4**	**+0.7**
	SNR=7.7						
KDMR				↑S	**Sg**	**17 33 54.7**	**-0.6**
GNI	**Garni**	**2.29**	**319**	*e*P	**Pb**	**17 33 24.9**	**-0.1**
GNI	**Garni**	**2.29**	**319**	*i*P	**Pb**	**17 33 24.8**	**-0.1**
GNI				*i*S	**Sg**	**17 33 57.3**	**+0.5**
GNI	**Garni**	**2.29**	**319**	*e*Pn	**Pb**	**17 33 24.3**	**-0.7**
GNI	**Garni**	**2.29**	**319**	Pn	**Pb**	**17 33 25.1**	**+0.1**
	comp=Z,96nm,0.3s,baz=102,slow=0.4,SNR=264						
GNI				Lg	Lg	17 33 57.7	
	comp=Z,71nm,0.3s,baz=326,slow=20,SNR=3.7						
CLDR	**Caldiran**	**2.29**	**289**	*e*P	**Pb**	**17 33 23.5**	**-1.6**
CLDR	**Caldiran**	**2.29**	**289**	*i*P	**Pb**	**17 33 24.0**	**-1.1**
CLDR				IAML_P			
	comp=Z,2μm,0.2s						
ALIB	**Äli-Bayra**	**2.33**	**49**	*e*Pn	**Pb**	**17 33 24.8**	**-0.9**
ALIB	**Äli-Bayra**	**2.33**	**49**	↓P	**Pb**	**17 33 24.9**	**-0.9**
	SNR=23						
ALIB				↓S	**Sb**	**17 33 54.1**	**-0.6**
MNGR	**Mingechevir, A**	**2.34**	**7**	*e*Pn	**Pb**	**17 33 24.7**	**-1.1**
MNGR	**Mingechevir, A**	**2.34**	**7**	↑P	**Pb**	**17 33 24.7**	**-1.1**
	SNR=5.5						
MNGR				↓S	**Sb**	**17 33 56.2**	**+1.4**
ZNJK	**Zanjan**	**2.37**	**138**	*e*Pn	**Pb**	**17 33 24.8**	**-1.6**
ZNJK	**Zanjan**	**2.37**	**138**	*e*Pn	**Pb**	**17 33 24.8**	**-1.6**
ZNJK				*e*Sg	**Sg**	**17 33 58.0**	**-0.6**
GDB	**GEDABAY**	**2.39**	**342**	*e*Pn	**Pb**	**17 33 25.1**	**-1.6**
GDB	**GEDABAY**	**2.39**	**342**	↑P	**Pb**	**17 33 25.1**	**-1.6**
	SNR=291						
GDB				↑S	**Sb**	**17 33 57.2**	**+0.7**
TASB	**TASBURUN-IGDIR**	**2.46**	**309**	*e*P	**Pb**	**17 33 26.4**	**-1.5**
IGDI	**IGDIR**	**2.49**	**306**	*i*P	**Pb**	**17 33 26.9**	**-1.6**
IGDI				IAML_P			
	comp=Z,1μm,0.3s						
VMUR	**Van-Muradiye**	**2.52**	**283**	*i*P	**Pb**	**17 33 29.0**	**+0.1**
VMUR				IAML_P			
	comp=Z,4μm,0.7s						
TVAN	**Van**	**2.60**	**273**	*i*P	**Pb**	**17 33 29.8**	**-0.5**
TVAN				IAML_P			
	comp=Z,2μm,0.3s						
DYDN	**Diyadin**	**2.60**	**296**	*i*P	**Pb**	**17 33 30.7**	**+0.4**
DYDN				IAML_P			
	comp=Z,1μm,0.3s						
IML	**Ismayilli**	**2.60**	**25**	*e*Pn	**Pb**	**17 33 28.6**	**-1.7**
IML	**Ismayilli**	**2.60**	**25**	↓P	**Pb**	**17 33 28.7**	**-1.7**
	SNR=11						
IML				↑S	**Sb**	**17 34 03.3**	**+0.8**
VANB	**Van**	**2.61**	**274**	*e*P	**Pb**	**17 33 31.5**	**+1.0**
QBL	**Gabala**	**2.64**	**19**	*e*Pn	**Pn**	**17 33 28.4**	**+2.1**
QBL	**Gabala**	**2.64**	**19**	↑P	**Pn**	**17 33 28.5**	**+2.1**
	SNR=12						
QBL				↑S	**Sb**	**17 34 02.4**	**-1.2**
GBS	**Qobustan**	**2.71**	**39**	*e*Pn	**Pb**	**17 33 31.0**	**-1.0**
GBS	**Qobustan**	**2.71**	**39**	↓P	**Pb**	**17 33 31.1**	**-1.0**
	SNR=15						
GBS				↓S	**Sb**	**17 34 06.0**	**+0.6**
CUKT	**Cukurca**	**2.73**	**245**	*e*P	**Pg**	**17 33 36.0**	**+0.3**
PQL	**Pirkuli**	**2.75**	**31**	*e*Pn	**Pb**	**17 33 30.8**	**-2.1**
PQL	**Pirkuli**	**2.75**	**31**	↓P	**Pb**	**17 33 30.9**	**-2.1**
	SNR=33						
PQL				↓S	**Sb**	**17 34 06.0**	**-0.9**
SEKA	**Sheki**	**2.79**	**8**	*e*Pn	**Pn**	**17 33 30.1**	**+1.8**
SEKA	**Sheki**	**2.79**	**8**	↓P	**Pn**	**17 33 30.2**	**+1.8**
	SNR=44						
SEKA				↑S	**Sb**	**17 34 06.9**	**-0.8**
QZX	**Qazax, Azerbai**	**2.81**	**339**	*e*Pn	**Pb**	**17 33 31.6**	**-2.1**
QZX	**Qazax, Azerbai**	**2.81**	**339**	↓P	**Pb**	**17 33 31.7**	**-2.1**
	SNR=84						
QZX				↓S	**Sb**	**17 34 07.2**	**-1.1**
GEVA	**Gevas**	**2.88**	**268**	*i*P	**Pb**	**17 33 32.2**	**-2.8**
GEVA				IAML_P			
	comp=Z,568nm,0.3s						
AKDM	**Akdamar-Van**	**2.94**	**269**	*e*P	**Pb**	**17 33 33.3**	**-2.7**
XNQ	**Khinaliq**	**2.94**	**22**	*e*Pn	**Pn**	**17 33 31.9**	**+1.4**
XNQ	**Khinaliq**	**2.94**	**22**	↓P	**Pn**	**17 33 31.9**	**+1.4**
	SNR=5.6						
XNQ				↓S	**Sn**	**17 34 08.9**	**+2.8**
ATGJ	**Altiaghaj**	**2.96**	**35**	*e*Pn	**Pn**	**17 33 32.1**	**+1.3**
ATGJ	**Altiaghaj**	**2.96**	**35**	↓P	**Pn**	**17 33 32.1**	**+1.3**
	SNR=10						
DDFL	**Dedoflistskaro**	**3.03**	**352**	P	**Pb**	**17 33 36.2**	**-1.4**
AGRB	**Hanur-Agry**	**3.11**	**292**	*e*P	**Pb**	**17 33 40.4**	**+1.4**
STEZ	**Stepenevan**	**3.11**	**326**	‖*e*P	**Pb**	**17 33 37.5**	**-1.5**
STEZ				‖*e*S	**Sg**	**17 34 21.0**	**-2.3**
SIZA	**Siyzn**	**3.12**	**32**	*e*Pn	**Pn**	**17 33 35.9**	**+3.0**
SIZA	**Siyzn**	**3.12**	**32**	↑P	**Pn**	**17 33 35.9**	**+3.0**
	SNR=20						
SIZA				↓S	**Sb**	**17 34 15.0**	**-2.4**
ADCV	**BITLIS_Adilcev**	**3.14**	**278**	*i*P	**Pb**	**17 33 36.4**	**-3.2**
ADCV				IAML_P			
	comp=Z,105nm,0.2s						
TUTA	**Tutak**	**3.19**	**289**	*i*P	**Pb**	**17 33 42.1**	**+1.7**
TUTA				IAML_P			
	comp=Z,4μm,0.4s						
ZKTA	**Zakatala**	**3.19**	**359**	*e*Pn	**Pn**	**17 33 36.9**	**+3.1**
ZKTA	**Zakatala**	**3.19**	**359**	↑P	**Pn**	**17 33 36.9**	**+3.1**
	SNR=18						
ZKTA				↓S	**Sb**	**17 34 17.3**	**-2.0**
QUB	**Quba**	**3.19**	**23**	*e*Pn	**Pn**	**17 33 36.9**	**+3.0**
QUBA	**Quba, Azerbaij**	**3.21**	**25**	↓P	**Pn**	**17 33 37.0**	**+2.8**
	SNR=13						
QUBA				↑S	**Sb**	**17 34 17.4**	**-2.6**
DIGO	**Kars**	**3.25**	**308**	*i*P	**Pb**	**17 33 41.8**	**+0.4**
DIGO				IAML_P			
	comp=Z,786nm,0.2s						
EAK	**Akyaka**	**3.28**	**314**	*i*P	**Pb**	**17 33 41.0**	**-1.0**
EAK				IAML_P			
	comp=Z,400nm,0.2s						
QSAR	**Qusar**	**3.29**	**21**	*e*Pn	**Pn**	**17 33 37.4**	**+2.2**
QSAR	**Qusar**	**3.29**	**21**	↑P	**Pn**	**17 33 37.5**	**+2.2**
	SNR=21						
QSAR				↓S	**Sb**	**17 34 18.6**	**-3.6**
MLAZ	**Malazgirt-MUS**	**3.33**	**283**	*e*P	**Pb**	**17 33 44.4**	**+1.7**
SNGE	**Sanandaj**	**3.39**	**171**	*e*Pn	**Pn**	**17 33 38.5**	**+1.8**
SNGE	**Sanandaj**	**3.39**	**171**	*e*Pn	**Pn**	**17 33 38.5**	**+1.8**
LGD	**Lagodekhi**	**3.40**	**354**	P	**Pn**	**17 33 39.5**	**+2.7**
KZRT	**Kazreti**	**3.43**	**330**	P	**Pb**	**17 33 45.3**	**+0.8**
KZRT				S	**Sb**	**17 34 29.5**	**+3.1**
HSRG	**Sareghieh**	**3.44**	**158**	*e*Pn	**Pn**	**17 33 39.9**	**+2.4**
HSRG				IAMB	IAmb	17 34 39.9	
	comp=N,0.0nm,0.8s						
SIRT	**Sirnak**	**3.51**	**256**	*e*P	**Pg**	**17 33 47.6**	**-2.9**
BTNK	**Botanikuri**	**3.55**	**336**	P	**Pb**	**17 33 46.4**	**0.0**
BTNK				S	**Sg**	**17 34 34.1**	**-3.2**
BTNK	**Botanikuri**	**3.55**	**336**	*i*P	**Pb**	**17 33 46.5**	**0.0**
BTNK				IAML_P			
	comp=Z,3μm,0.2s						
TBLG	**Delisi**	**3.61**	**336**	*e*P	**Pb**	**17 33 48.3**	**+0.8**
TBLG	**Delisi**	**3.61**	**336**	P	**Pb**	**17 33 47.3**	**-0.2**
TBLG				S	**Sb**	**17 34 35.3**	**+3.8**
TBLG	**Delisi**	**3.61**	**336**	*i*P	**Pb**	**17 33 48.6**	**+1.1**
TBLG				IAML_P			
	comp=Z,922nm,0.2s						
TRLG	**Trialeti**	**3.68**	**328**	P	**Pb**	**17 33 49.3**	**+0.5**
TRLG				S	**Sb**	**17 34 37.4**	**+3.7**
BGD	**Bogdanovka**	**3.70**	**321**	P	**Pb**	**17 33 50.8**	**+1.8**
SENK	**Senkaya-Erzuru**	**3.98**	**303**	*e*P	**Pb**	**17 33 56.5**	**+2.6**
HAGD	**Aghdareh**	**4.11**	**151**	*e*Pn	**Pn**	**17 33 48.3**	**+1.6**
HAGD				IAMB	IAmb	17 34 02.4	
	comp=Z,0.0nm,0.3s						
IKOM	**Komasi**	**4.31**	**171**	*e*Pn	**Pn**	**17 33 52.2**	**+2.8**
IKOM				IAMB	IAmb	17 35 16.7	
	comp=Z,0.0nm,1.5s						
EPOS	**Posof**	**4.32**	**316**	*i*P	**Pb**	**17 34 02.7**	**+3.0**
GUDG	**Gudauri**	**4.36**	**338**	P	**Pb**	**17 34 02.6**	**+2.2**
GUDG				S	**Sg**	**17 35 00.7**	**-2.7**
DAGI	**Agillar**	**4.54**	**307**	*i*P	**Pb**	**17 34 04.8**	**+1.5**
DAGI				IAML_P			
	comp=Z,8.4nm,0.1s						
IPRN	**Peran**	**4.99**	**114**	*e*Pn	**Pn**	**17 34 01.2**	**+2.5**
IPRN				IAMB	IAmb	17 34 27.1	
	comp=Z,717nm,0.5s						
IALA	**Alasht**	**5.41**	**114**	IAMB	IAmb	17 34 28.7	
	comp=Z,548nm,0.5s						
IALA				*e*Pn	**Pn**	**17 34 07.1**	**+2.6**
IKIA	**Kiasar**	**5.99**	**110**	*e*Pn	**Pn**	**17 34 14.3**	**+1.8**
IKIA				IAMB	IAmb	17 34 39.0	
	comp=Z,247nm,0.7s						
KBZ	**Khabaz**	**6.01**	**333**	Pn	Pn	17 34 19.2	+6.7
	comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=3.8						
KBZ				Pg	**Pb**	**17 34 30.9**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=232,slow=6.7,SNR=10						
IKLH	**Kolahrood**	**6.46**	**141**	*e*Pn	**Pn**	**17 34 22.1**	**+3.1**
IKLH				IAMB	IAmb	17 34 47.1	
	comp=Z,195nm,0.9s						
GEYT	**Alibeck**	**9.00**	**90**	Pn	**Pn**	**17 34 54.1**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=292,slow=16,SNR=7.9						
GEYT				Sn	**Sn**	**17 36 39.8**	**+4.7**
	comp=Z,0.5nm,0.3s,baz=269,slow=22,SNR=5.4						
BRTR	**Keskin Array B**	**10.25**	**281**	Pn	**Pn**	**17 35 12.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=108,slow=12,SNR=2.7						
AKTO	**Aktyubinsk**	**14.43**	**30**	Pn	**Pn**	**17 36 05.8**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=210,slow=14,SNR=6.9						
AKTO				Sn	**Sn**	**17 38 40.5**	**-7.5**
	comp=Z,0.3nm,0.3s,baz=107,slow=19,SNR=4.5						
AKASG	**Malin Array Be**	**17.42**	**320**	P	**P**	**17 36 47.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=124,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**21.89**	**41**	P	**P**	**17 37 37.8**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=235,slow=7.0,SNR=9.4						
KURBB	**Kurchatov Arra**	**25.53**	**51**	P	**P**	**17 38 13.4**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=260,slow=9.2,SNR=6.8						
GERES	**GERESS Array B**	**25.86**	**304**	P	**P**	**17 38 15.4**	**0.0**
	comp=Z,0.8nm,0.6s,baz=97,slow=9.5,SNR=6.2						
MKAR	**Makanchi Array**	**27.29**	**61**	P	**P**	**17 38 31.8**	**+3.5**
	comp=Z,0.3nm,0.8s,baz=265,slow=7.2,SNR=3.5						
ZALV	**Zalesovo Beam**	**30.15**	**47**	P	**P**	**17 38 55.7**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=243,slow=9.5,SNR=2.9						
TORD	**Torodi Ar. Bea**	**47.11**	**250**	P	**P**	**17 41 13.5**	**-2.6**
	comp=Z,0.3nm,0.7s,baz=64,slow=9.8,SNR=2.3						

ISC 02 17:36:53.2±2.3,49°.8N±0°.2×18°.52E±0°.08,h11km,n5, σ0°32/9,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.63**	**269**	*e*PG	**Pg**	**17 37 05.4**	**-0.1**
MORC				*e*SG	**Sg**	**17 37 13.3**	**-0.5**
LANS	**Liptovska Anna**	**0.89**	**136**	*e*PG	**Pn**	**17 37 11.8**	**+0.1**
VYHS	**Vyhne**	**1.32**	**171**	*e*PN	**Pb**	**17 37 18.0**	**+0.1**
VYHS				*e*SN	**Sb**	**17 37 34.6**	**-0.2**
VRAC	**Vranov**	**1.34**	**250**	*e*PG	**Pn**	**17 37 18.0**	**+0.1**
VRAC				*e*SG	**Sb**	**17 37 35.5**	**-0.1**
KRUC	**Moravsky**	**1.57**	**243**	*e*PG	**Pn**	**17 37 21.5**	**+0.6**
KRUC				*e*SG	**Sb**	**17 37 41.9**	**-0.1**

*AZER **02** 17:50:10.3±0.1,38°.46N×46°.69E, h10km±2km, ml3.4/19, Error ellipse: s-maj=7.6km s-min=1.1km az=18.0*
*NSSP **02** 17:50:10.4,38°.47N×46°.68E,h13km, Ms3.5*
*IDC **02** 17:50:11.9±1.5,38°.29N×46°.53E, h0km, mb3.4/4, mb1 3.5/8,mb1mx3.3/51,mbtmp3.5/8,ML2.9/4,MS2.0/1, Ms1 2.0/1,ms1mx1.8/37,Error ellipse: s-maj=23.4km s-min=12.7km az=11.0*
*THR **02** 17:50:12.0,38°.60N×46°.73E,h14km,ML3.1*
*TEH **02** 17:50:12.0,38°.43N×46°.69E,h12km,ML3.6*
*DDA **02** 17:50:30.4,38°.47N×45°.15E,h1km±7km,ML2.8*

ISC 02 17:50:12.4±1.0,38°.40N±0°.03×46°.68E±0°.02,h8km±8km, n93,σ1°60/119,mb3.3/4,22C-17D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.29**	**106**	*e*Pg	**Pg**	**17 50 18.3**	**0.0**
IHRS				*e*Sg	**Sg**	**17 50 22.9**	**+0.6**
IHRS				IAMB	IAmb	17 50 23.6	
	comp=Z,53μm,0.1s						
ITBZ	**Tabriz**	**0.45**	**249**	*e*Pg	**Pb**	**17 50 21.6**	**-1.1**
ITBZ				IAMB	IAmb	17 50 29.8	
	comp=Z,56μm,0.1s						
IBST	**Bostanabad**	**0.72**	**167**	*e*Pg	**Pg**	**17 50 25.6**	**-0.7**
IBST				IAMB	IAmb	17 50 39.8	
	comp=Z,25μm,0.4s						
ORD	**Ordubad

SNR=7.0

GBS					⇑S	Sb	17 51 34.1	-1.9
PQL	**Pirkuli**	**2.81**	**31**	*e*Pn	Pn		17 50 58.3	+0.6
PQL	**Pirkuli**	**2.81**	**31**	⇓P	Pn		17 50 58.3	+0.6
	SNR=7.9							
PQL				⇑S	Sb		17 51 35.2	-2.3
SEKA	**Sheki**	**2.83**	**8**	*e*Pn	Pn		17 50 59.5	+1.5
SEKA	**Sheki**	**2.83**	**8**	⇑P	Pn		17 50 59.5	+1.5
SEKA				⇓S	Sn		17 51 33.2	+0.7
QZX	**Qazax, Azerbai**	**2.84**	**340**	*e*Pn	Pn		17 50 58.1	0.0
QZX	**Qazax, Azerbai**	**2.84**	**340**	⇓P	Pn		17 50 58.1	0.0
	SNR=21							
QZX				⇑S	Sb		17 51 35.9	-2.4
GEVA	**Gevas**	**2.85**	**269**	*i* P	Pb		17 51 01.8	-1.8
AKDM	**Akdamar-Van**	**2.91**	**270**	*e*P	Pb		17 51 03.9	-0.8
ATGJ	**Altiaghaj**	**3.01**	**35**	*e*Pn	Pn		17 50 58.9	-1.6
ATGJ	**Altiaghaj**	**3.01**	**35**	⇓P	Pn		17 50 58.9	-1.6
	SNR=4.3							
ATGJ				⇑S	Sn		17 51 37.6	+0.8
DDFL	**Dedoflistskaro**	**3.07**	**352**	P	Pb		17 51 07.2	-0.1
DDFL				S	Sb		17 51 44.8	-0.3
AGRB	**Hanur-Agry**	**3.11**	**293**	*e*P	Pb		17 51 08.6	+0.6
EAK	**Akyaka**	**3.30**	**315**	*i* P	Pb		17 51 11.7	+0.4
EAK				IAML_P				
	comp=Z,550nm,0.3s							
SNGE	**Sanandaj**	**3.34**	**171**	*e*Pn	Pb		17 51 08.7	-3.4
SNGE	**Sanandaj**	**3.34**	**171**	*e*Pn	Pb		17 51 08.7	-3.4
LGD	**Lagodekhi**	**3.45**	**355**	P	Pb		17 51 10.8	-3.0
LGD				S	Sb		17 51 55.9	+0.1
KZRT	**Kazreti**	**3.46**	**330**	P	Pb		17 51 14.5	+0.5
KZRT				S	Sb		17 51 59.1	+2.9
SIRT	**Sirnak**	**3.47**	**256**	*e*P	Pb		17 51 14.9	+0.7
SIRN	**Sırnak**	**3.49**	**256**	*i* P	Pg		17 51 19.1	-0.2
SIRN				IAML_P				
	comp=Z,541nm,0.2s							
BTNK	**Botanikuri**	**3.58**	**337**	P	Pb		17 51 16.8	+0.7
BTNK				S	Sg		17 52 04.4	-3.1
TBLG	**Delisi**	**3.65**	**336**	*e*P	Pb		17 51 17.4	+0.3
TBLG	**Delisi**	**3.65**	**336**	P	Pb		17 51 17.9	+0.8
TBLG				S	Sb		17 52 04.5	+3.0
TBLG	**Delisi**	**3.65**	**336**	*e*PKIKP	Pb		17 51 17.9	+0.8
TRLG	**Trialeti**	**3.71**	**329**	P	Pb		17 51 18.8	+0.5
TRLG				S	Sb		17 52 07.4	+3.9
BGD	**Bogdanovka**	**3.72**	**321**	P	Pb		17 51 20.9	+2.4
SRTM	**Siirt_Merkez**	**3.77**	**265**	*i* P	Pg		17 51 22.4	-2.2
SRTM				IAML_P				
	comp=Z,245nm,0.4s							
GUDG	**Gudauri**	**4.40**	**338**	P	Pb		17 51 32.0	+2.0
KBZ	**Khabaz**	**6.04**	**333**	Pg	Pb		17 52 00.3	+2.4
	comp=Z,0.2nm,0.3s,baz=207,slow=14,SNR=4.8							
BJRD	**Bojnurd**	**8.49**	**91**	*e*AML	AML		17 52 29.0	
	comp=E,2.0nm,0.4s							
GEYT	**Alibeck**	**9.02**	**89**	Pn	Pn		17 52 23.6	+0.7
	comp=E,0.3nm,0.3s,baz=276,slow=17,SNR=4.4							
BRTR	**Keskin Array B**	**10.23**	**282**	Pn	Pn		17 52 42.2	+2.5
	comp=E,0.0nm,0.3s,baz=108,slow=14,SNR=2.5							
AKTO	**Aktyubinsk**	**14.48**	**30**	Pn	Pn		17 53 38.0	+0.4
	comp=E,0.2nm,0.3s,baz=220,slow=14,SNR=2.9							
AKTO				Sn	Sn		17 56 09.4	-8.8
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=3.6							
BVAR	**Borovoye Array**	**21.95**	**41**	P	P		17 55 09.1	+2.8
	comp=E,1.0nm,0.7s,baz=237,slow=13,SNR=6.3							
KURBB	**Kurchatov Arra**	**25.58**	**51**	P	P		17 55 44.2	+2.4
	comp=E,0.9nm,0.2s,baz=266,slow=9.2,SNR=5.6							
GERES	**GERESS Array B**	**25.87**	**304**	P	P		17 55 44.6	0.0
	comp=E,0.3nm,0.5s,baz=116,slow=8.8,SNR=3.6							
MKAR	**Makanchi Array**	**27.33**	**61**	P	P		17 56 00.1	+2.4
	comp=E,0.2nm,0.6s,baz=265,slow=8.0,SNR=2.7							
JHJ	**Hachijo jima 2**	**72.50**	**61**	LR	LR		18 37 01.3	
	comp=E,158nm,18.7s,baz=352,slow=39							

IDC 02 17:58:04.2±8.6, 4.61N×124.93E, h353km±89km, mb3.0/4, mb1 3.1/4, mb1mx2.7/43, mbtmp3.7/4, Error ellipse: s-maj=187.4km s-min=20.2km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.09**	**160**	P	P	18 03 06.9	-0.3
	0.6nm,0.5s,baz=339,slow=9.7,SNR=18						
ASAR	**Alice Springs**	**29.44**	**163**	P	P	18 03 36.7	0.0
	0.4nm,0.3s,baz=339,slow=7.9,SNR=30						
ASAR				PcP	PcP	18 06 32.1	-0.5
	0.5nm,0.9s,baz=348,slow=2.5,SNR=5.8						
STKA	**Stephens Creek**	**39.60**	**157**	P	P	18 05 03.0	+0.1
	1.0nm,0.4s,baz=328,slow=9.5,SNR=6.1						
MKAR	**Makanchi Array**	**55.82**	**326**	P	P	18 07 05.8	-0.1
	0.2nm,0.4s,baz=121,slow=6.7,SNR=7.7						

*IDC **02** 18:01:00.2±1.4, 25.93N×128.94E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/43, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=53.5km s-min=17.9km az=69.0*
*JMA **02** 18:01:02.7±0.2, 25.97N×129.10E, h44km, M3.4*
ISC 02 18:01:00.2±1.7, 25.96N±0.05×129.11E±0.04, h10km±11km, n19, σ1s32/32, mb3.5/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNTH	**Nagotoyohara**	**1.12**	**300**	P	Pn	18 01 22.1	+0.1
JNTH				S	Sb	18 01 35.2	-1.2
JOW	**Kunigami**	**1.15**	**319**	P	Pn	18 01 22.8	+0.5
JOW				*e*S	Sb	18 01 36.5	-0.6
JOW	**Kunigami**	**1.15**	**319**	Pn	Pn	18 01 22.9	+0.5
	21nm,0.3s,baz=142,slow=11,SNR=170						
JOW				Sn	Sb	18 01 36.2	-0.9
	27nm,0.3s,baz=230,slow=26,SNR=19						
JJT3	**Tamagusuku3**	**1.21**	**279**	P	Pg	18 01 23.8	+0.4
JJT3				S	Sb	18 01 38.7	-0.1
JYRO	**Yoronjima**	**1.22**	**331**	P	Pg	18 01 23.8	+0.2
JYRO				S	Sb	18 01 38.1	-0.9
JOKE	**Okinoerabujima**	**1.48**	**341**	P	Pg	18 01 27.9	-0.7
JOKE				*e*S	Sn	18 01 45.1	-1.2
JIH	**Iheya**	**1.48**	**317**	P	Pb	18 01 27.9	+0.1
JIH				*e*S	Sn	18 01 45.5	-0.8
JAGN	**Aguni-jima**	**1.79**	**291**	P	Pb	18 01 32.1	-1.0
JAGN				*e*S	Sn	18 01 53.2	-0.7
JTK	**Tokunoshima**	**1.83**	**356**	P	Pb	18 01 32.4	-1.3
JTK				*e*S	Sn	18 01 52.6	-2.2
JMZ	**Minamidaito 2**	**1.91**	**94**	P	Pn	18 01 32.6	-0.1
JMZ				S	Sn	18 01 53.6	-3.2
JKE	**Kume jima 2**	**2.12**	**280**	P	Pn	18 01 35.9	+0.2
JKE				S	Sn	18 01 59.2	-2.9
JAMN	**Amaminishikomi**	**2.28**	**1**	P	Pn	18 01 38.9	+1.1
JAMN				*e*S	Sn	18 02 05.4	-0.5
JZK	**Kikaishima**	**2.47**	**18**	*e*S	Sn	18 02 11.2	+0.5
JAM	**Amami Oshima**	**2.48**	**10**	P	Pn	18 01 41.5	+0.8
JAM				*e*S	Sn	18 02 09.4	-1.6
JNU	**Nakatsue**	**7.30**	**12**	Pn	Pn	18 02 49.3	+2.4
	0.4nm,0.3s,baz=252,slow=6.4,SNR=6.0						
MKAR	**Makanchi Array**	**42.30**	**312**	P	P	18 08 55.0	+0.9
	0.2nm,0.6s,baz=94,slow=9.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**45.59**	**316**	P	P	18 09 20.8	+0.5
	0.5nm,0.4s,baz=109,slow=9.0,SNR=1.7						
WRA	**Warramunga Arr**	**45.91**	**173**	P	P	18 09 24.4	+1.3
	0.5nm,0.7s,baz=353,slow=8.4,SNR=4.2						
ASAR	**Alice Springs**	**49.55**	**174**	P	P	18 09 52.8	+1.5
	0.2nm,0.5s,baz=2.8,slow=14,SNR=5.1						

*ISCJB **02** 18:04:00.5±0.6, 36.11N±0.07×69.30E±0.07, h150km, mb3.8/2, Error ellipse: s-maj=11.7km s-min=6.1km az=31.3*
*IDC **02** 18:04:01.8±6.2, 36.09N×69.22E, h132km±45km, mb3.4/3, mb1 3.3/6, mb1mx3.0/47, mbtmp3.7/6, Error ellipse: s-maj=70.2km s-min=21.4km az=154.0*
*NNC **02** 18:04:06.5±4.6, 36.65N×69.33E, h118km±83km, mb3.1, mpv3.6, Error ellipse: s-maj=41.6km s-min=35.5km az=147.0*
ISC 02 18:04:02.1±0.9, 36.27N±0.09×69.38E±0.07, h150km, n17, σ2s18/20, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.88**	**7**	P	Pn	18 05 40.1	-0.3
	1.5nm,0.3s,baz=188,slow=13,SNR=35						
KK31				⇑S	Sn	18 06 53.2	-4.3
	4.6nm,0.5s,baz=195,slow=25,SNR=9.3						
AAK	**Ala-Archa**	**7.48**	**30**	⇓P	Pn	18 05 48.7	0.0
	2.0nm,0.6s						
AAK				⇑S	Sn	18 07 09.6	-2.7
	8.4nm,0.8s						
GEYT	**Alibeck**	**9.15**	**284**	P	Pn	18 06 09.7	-1.1
	1.0nm,0.3s,baz=96,slow=15,SNR=9.9						
GEYT				S	Sn	18 07 50.1	-2.3
	0.5nm,0.3s,baz=73,slow=24,SNR=4.3						
PYUN	**Piuthan**	**14.10**	**121**	*e*P	Pn	18 07 13.6	-1.9
	4.8nm,0.3s						
MKAR	**Makanchi Array**	**14.26**	**39**	P	P	18 07 21.7	+1.8
	0.1nm,0.3s,baz=232,slow=13,SNR=4.4						
DANN	**Dangsing**	**14.49**	**119**	*e*P	Pn	18 07 18.1	-2.3
	4.5nm,0.4s						
AB31	**Akbulak array**	**14.69**	**335**	P	Pn	18 07 22.6	+0.1
	1.0nm,0.4s,baz=158,slow=12,SNR=60						
KURBB	**Kurchatov Arra**	**15.79**	**22**	P	P	18 07 39.3	+2.5
	0.4nm,0.3s,baz=211,slow=10,SNR=13						
KKN	**Kakani**	**15.90**	**118**	*e*P	Pn	18 07 36.2	-1.6
PKIN	**Phulchoki**	**16.11**	**118**	*e*P	Pn	18 07 39.3	-1.1
	3.2nm,0.3s						
PKI	**Pulchoki**	**16.12**	**118**	*e*P	Pn	18 07 39.5	-1.2
	3.2nm,0.3s						
GUN	**Gumba**	**16.26**	**116**	*e*P	Pn	18 07 42.1	-0.3
AKTO	**Aktyubinsk**	**16.36**	**333**	⇑P	Pn	18 07 46.1	+3.0
	1.4nm,0.7s						
JIRN	**Jiri**	**16.63**	**116**	*e*P	Pn	18 07 47.1	+0.2
	12nm,0.5s						
ZALV	**Zalesovo Beam**	**20.68**	**26**	P	P	18 08 32.4	+2.4
	1.0nm,0.5s,baz=224,slow=12,SNR=5.1						
ARCES	**ARCESS Array B**	**40.86**	**338**	P	P	18 11 31.9	+3.1
	7.7nm,1.2s,baz=110,slow=8.0,SNR=1.9						
TORD	**Torodi Ar. Bea**	**64.41**	**268**	P	P	18 14 22.8	+0.3
	0.2nm,0.3s,baz=63,slow=7.1,SNR=1.6						

*ISCJB **02** 18:06:05.3±0.4, 24.83N±0.02×121.94E±0.02, h108km±2km, Error ellipse: s-maj=3.5km s-min=2.6km az=138.5*
*JMA **02** 18:06:05.9±0.2, 24.79N×121.92E, h103km±3km, M2.4*
*TAP **02** 18:06:05.3, 24.83N×121.95E, h109km, ML3.5, C*
ISC 02 18:06:05.5±1.3, 24.84N±0.04×121.93E±0.03, h109km±6km, n102, σ0s68/190, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.09**	**277**	*e*P	Pn	18 06 20.6	+0.2
	baz=284						
NTC				*e*S	Sn	18 06 31.2	-0.6
	baz=284						
TIPB	**Shuangxi**	**0.16**	**324**	P	Pn	18 06 20.6	-0.1
	baz=309						
TIPB				S	Sn	18 06 31.1	-1.0
	baz=309						
TWB1	**Santiao Chiao**	**0.17**	**18**	P	Pn	18 06 20.7	0.0
	baz=11						
TWB1				*e*S	Sn	18 06 31.3	-0.8
	baz=11						
ILA	**Ilan**	**0.18**	**245**	P	Pn	18 06 20.9	+0.2
	baz=256						
ILA				S	Sn	18 06 32.1	0.0
	baz=256						
TWC	**Suao**	**0.24**	**197**	P	Pn	18 06 21.0	+0.1
	baz=207						
TWC				S	Sn	18 06 32.0	-0.5
	baz=207						
NWF	**Wu-fen Shan**	**0.26**	**329**	P	Pn	18 06 20.8	-0.3
	baz=325						
NWF				*e*S	Sn	18 06 32.1	-0.7
	baz=325						
WFSB	**Wu-fen Shan**	**0.26**	**329**	*e*P	Pn	18 06 20.8	-0.2
	baz=325						
WFSB				*e*S	Sn	18 06 32.0	-0.6
	baz=325						
TWE	**Neicheng**	**0.27**	**243**	P	Pn	18 06 21.4	+0.5
	baz=249						
TWE				S	Sn	18 06 33.3	+0.8
	baz=249						
TWA	**Mucha**	**0.34**	**294**	P	Pn	18 06 21.4	+0.1
	baz=294						
TWA				S	Sn	18 06 33.2	0.0
	baz=294						
EOS1	**EOS1**	**0.34**	**148**	P	Pn	18 06 21.7	+0.4
	baz=152						
EOS1				S	Sn	18 06 33.4	+0.3
	baz=152						
NHDH	**Xindian Distri**	**0.39**	**288**	P	Pn	18 06 21.7	+0.2
	baz=289						
NHDH				S	Sn	18 06 33.6	+0.1
	baz=289						
ENTT	**Nioudou**	**0.39**	**239**	P	Pn	18 06 22.1	+0.5
	baz=254						
ENTT				S	Sn	18 06 34.4	+0.7
	baz=254						
NWLT	**Wulai**	**0.39**	**260**	P	Pn	18 06 21.5	-0.1
	baz=255						
NWLT				S	Sn	18 06 33.4	-0.3
	baz=255						
TATO	**Taipei**	**0.42**	**288**	*e*P	Pn	18 06 21.6	-0.1
	baz=289						
TATO				S	Sn	18 06 33.1	-0.8
	baz=289						
TAP	**Taipei**	**0.43**	**297**	P	Pn	18 06 22.2	+0.4
	baz=297						
TAP				S	Sn	18 06 34.1	+0.1
	baz=297						
YM01	**YM01**	**0.44**	**313**	P	Pn	18 06 21.9	-0.1
	baz=311						
YM01				*e*S	Sn	18 06 34.2	-0.1
	baz=311						
NANB	**Nanao**	**0.45**	**202**	*e*P	Pn	18 06 22.3	+0.4
	baz=199						
NANB				S	Sn	18 06 34.8	+0.6
	baz=199						
ENA	**Nanau**	**0.45**	**203**	*i* P	Pn	18 06 22.4	+0.5
	baz=200						
ENA				S	Sn	18 06 34.6	+0.4
	baz=200						
NDT	**Datong Townshi**	**0.45**	**238**	P	Pn	18 06 22.2	+0.3
	baz=253						
NDT				S	Sn	18 06 34.6	+0.3
	baz=253						
YM11	**YM11**	**0.45**	**315**	P	Pn	18 06 22.0	0.0
	baz=313						
YM11				S	Sn	18 06 34.5	0.0
	baz=313						
YM08	**YM08**	**0.46**	**318**	*e*P	Pn	18 06 21.8	-0.2
	baz=322						
YM04	**YM04**	**0.47**	**311**	P	Pn	18 06 22.0	-0.1
	baz=309						
YM04				*e*S	Sn	18 06 33.9	-0.7
	baz=309						
ANP	**Anpu**	**0.50**	**313**	*e*P	Pn	18 06 22.2	-0.1
	baz=311						
ANP				S	Sn	18 06 34.8	-0.2
	baz=311						
TWY	**Chenhua**	**0.52**	**325**	P	Pn	18 06 22.5	+0.1
	baz=328						
TWY				S	Sn	18 06 35.3	+0.2
	baz=328						
TWS1	**Kuangyinshan**	**0.53**	**299**	P	Pn	18 06 22.8	+0.4
	baz=289						
TWS1				*e*S	Sn	18 06 35.8	+0.6
	baz=289						
YHNB	**Yeheng**	**0.53**	**251**	*e*P	Pn	18 06 22.2	-0.3
	baz=247						
YHNB				*e*S	Sn	18 06 34.4	-1.0
	baz=247						
NTST	**Danshui**	**0.54**	**306**	P	Pn	18 06 23.0	+0.5
	baz=305						
NTST				S	Sn	18 06 36.1	+0.9
	baz=305						
NSK	**Sanguang**	**0.55**	**252**	P	Pn	18 06 22.5	-0.1
	baz=248						
NSK				*e*S	Sn	18 06 34.6	-0.9
	baz=248						
NNS	**Nan Shan**	**0.65**	**232**	P	Pn	18 06 23.5	0.0
	baz=235						
NNS				S	Sn	18 06 37.2	+0.3
	baz=235						
NNSB	**Datong**	**0.65**	**230**	P	Pn	18 06 23.8	+0.3
	baz=235						
NNSB				*e*S	Sn	18 06 36.9	0.0
	baz=235						
NCU	**National Centr**	**0.69**	**281**	P	Pn	18 06 24.1	+0.5
	baz=282						
NCU				*e*S	Sn	18 06 37.7	+0.5
	baz=282						
NCUH	**Zhongli**	**0.69**	**281**	P	Pn	18 06 23.9	+0.3
	baz=282						
NCUH				*e*S	Sn	18 06 38.0	+0.7
	baz=282						
NACB	**Ninganchiao**	**0.73**	**205**	*e*P	Pn	18 06 23.5	-0.6
	baz=209						
NACB				*e*S	Sn	18 06 37.9	-0.1
	baz=209						
ETLH	**Xiulin Townshi**	**0.75**	**213**	*e*P	Pn	18 06 24.2	-0.1
	baz=224						
ETLH				*e*S	Sn	18 06 38.3	-0.2
	baz=224						
TWD	**Chiawan**	**0.82**	**202**	P	Pn	18 06 24.5	-0.3
	baz=213						
TWD				S	Sn	18 06 38.9	-0.5
	baz=213						
LIOB	**Emei**	**0.85**	**257**	*e*P	Pn	18 06 24.0	-1.1
	baz=254						
LIOB				*e*S	Sn	18 06 38.7	-1.2
	baz=254						
SBCB	**Hsinchu**	**0.86**	**267**	*e*P	Pn	18 06 25.2	+0.1
	baz=269						
SBCB				*e*S	Sn	18 06 40.0	0.0
	baz=269						
NSTT	**Nanjuang**	**0.87**	**256**	P	Pn	18 06 25.4	+0.1
	baz=253						
NSTT				S	Sn	18 06 39.6	-0.6
	baz=253						
HSN	**Hsinchu**	**0.87**	**267**	P	Pn	18 06 25.3	0.0
	baz=271						
HSN				*e*S	Sn	18 06 39.6	-0.6
	baz=271						
TWT	**Tachien**	**0.90**	**230**	P	Pn	18 06 26.8	+0.9
	baz=233						
TWT				S	Sn	18 06 41.7	+0.6
	baz=233						
TDCB	**Techi**	**0.92**	**230**	P	Pn	18 06 26.6	+0.6
	baz=242						
TDCB				*e*S	Sn	18 06 41.5	+0.2
	baz=242						
WHF	**Hehuan Shan**	**0.92**	**221**	P	Pn	18 06 26.9	+0.6
	baz=221						
WHF				S	Sn	18 06 41.9	0.0
	baz=221						
CHGB	**Renai**	**1.04**	**222**	*e*P	Pn	18 06 28.0	+0.7
	baz=221						
CHGB				S	Sn	18 06 44.1	+0.4
	baz=221						
WHP	**Taichung City**	**1.06**	**238**	P	Pn	18 06 27.9	+0.6
	baz=242						
WHP				S	Sn	18 06 43.8	0.0
	baz=242						
NMLH	**Miaoli**	**1.08**	**254**	P	Pn	18 06 27.8	+0.4
	baz=257						
NMLH				*e*S	Sn	18 06 44.1	+0.1
	baz=257						
OWD	**Renai**	**1.12**	**218**	P	Pn	18 06 28.4	+0.4
	baz=221						
OWD				*e*S	Sn	18 06 45.4	+0.3
	baz=221						
ESL	**Shilin**	**1.12**	**204**	*e*P	Pn	18 06 26.8	-1.1
	baz=208						
ESL				*e*S	Sn	18 06 43.8	-1.0
	baz=208						
NSY	**Sanyi**	**1.15**	**248**	P	Pn	18 06 28.5	+0.3
	baz=251						
NSY				*e*S	Sn	18 06 45.7	+0.4
	baz=251						
TWQ1	**Liyutan**	**1.16**	**245**	P	Pn	18 06 28.4	+0.1
	baz=248						
TWQ1				S	Sn	18 06 45.5	-0.1
	baz=248						
PTSB	**Yuanli**	**1.18**	**251**	*e*P	Pn	18 06 28.8	+0.3
	baz=254						
PTSB				*e*S	Sn	18 06 45.6	-0.4
	baz=254						
EGFH	**Guangfu**	**1.26**	**201**	*e*P	Pn	18 06 28.9	-0.5
	baz=210						
EGFH				*e*S	Sn	18 06 46.2	-1.3
	baz=210						
WDJ	**Dajia District**	**1.27**	**247**	*e*P	Pn	18 06 29.6	+0.1
	baz=245						
WDJ				*e*S	Sn	18 06 48.1	+0.3
	baz=245						
VWDT	**VWDT**	**1.30**	**214**	*e*P	Pn	18 06 30.8	+0.9
	baz=215						
VWDT				*e*S	Sn	18 06 48.9	+0.5
	baz=215						
TCU	**Taichung**	**1.33**	**239**	*e*P	Pn	18 06 30.9	+0.7
	baz=249						
SMLT	**Sun Moon Lake**	**1.34**	**225**	P	Pn	18 06 31.2	+0.7
	baz=236						
SMLT				*e*S	Sn	18 06 50.5	+1.1
	baz=236						
TYC	**Yuchr**	**1.35**	**226**	P	Pn	18 06 31.1	+0.6
	baz=239						
TYC				*e*S	Sn	18 06 49.9	+0.4
	baz=239						
SSLB	**Suanglung**	**1.38**	**220**	*e*P	Pn	18 06 31.6	+0.8
	baz=235						
SSLB				*e*S	Sn	18 06 50.6	+0.5
	baz=235						
HGSD	**Ruisui**	**1.42**	**199**	*e*P	Pn	18 06 30.8	-0.5
	baz=204						
HGSD				*e*S	Sn	18 06 50.7	-0.2
	baz=204						
EHY	**Hungye**	**1.44**	**203**	*e*P	Pn	18 06 30.6	-1.0
	baz=199						
EHY				*e*S	Sn	18 06 49.9	-1.5
	baz=199						
WNT	**Mingjian**	**1.49**	**230**	P	Pn	18 06 32.6	+0.5
	baz=242						
WNT				S	Sn	18 06 52.9	+0.7
	baz=242						
WJS	**Zhushan**	**1.50**	**227**	P	Pn	18 06 33.2	+1.0
	baz=241						
WJS				S	Sn	18 06 53.0	+0.6
	baz=241						
WHYT	**Xinyi Township**	**1.51**	**221**	P	Pn	18 06 32.7	+0.3
	baz=232						
WHYT				*e*S	Sn	18 06 53.6	+0.9
	baz=232						
YULB	**Yu-li**	**1.56**	**202**	*e*P	Pn	18 06 31.8	-1.2
	baz=200						
YULB				*e*S	Sn	18 06 51.5	-2.3
	baz=200						
TWF1	**Yuli**	**1.59**	**201**	*e*P	Pn	18 06 32.8	-0.6
	baz=206						
TWF1				*e*S	Sn	18 06 52.8	-1.8
	baz=206						
YUS	**Yu-Shan**	**1.62**	**214**	P	Pn	18 06 35.9	+1.8
	baz=218						
YUS				*e*S	Sn	18 06 56.8	+1.0
	baz=218						
CHN5	**Tsauling**	**1.69**	**223**	P	Pn	18 06 35.3	+0.7
	baz=228						
CHN5				S	Sn	18 06 57.7	+0.9
	baz=228						
WGK	**Gukeng**	**1.70**	**228**	*e*P	Pn	18 06 35.2	+0.6
	baz=241						
WGK				S	Sn	18 06 57.8	+0.9
	baz=241						
WDLH	**Douliu**	**1.71**	**228**	*e*P	Pn	18 06 35.4	+0.6
	baz=241						
WDLH				*e*S	Sn	18 06 58.1	+1.0
	baz=241						
IRIF	**Iriomote-Funau**	**1.72**	**107**	P	Pn	18 06 35.4	+0.6
IRIF				S	Sn	18 06 56.8	-0.4
RLNB	**Erlin**	**1.72**	**237**	*e*P	Pn	18 06 35.2	+0.3
	baz=241						
RLNB				*e*S	Sn	18 06 57.8	+0.6
	baz=241						
FULB	**Fuli**	**1.74**	**200**	*e*P	Pn	18 06 35.0	-0.2
	baz=212						
FULB				*e*S	Sn	18 06 57.2	-0.6
	baz=212						
ELDTW	**Lidau**	**1.85**	**207**	*e*P	Pn	18 06 36.6	0.0
	baz=204						
ELDTW				*e*S	Sn	18 06 59.3	-1.0
	baz=204						
CHN2	**Minshiung**	**1.86**	**226**	*e*P	Pn	18 06 37.6

WSF	**Szhu**	**1.97 233**	*e*S		**Sn**	**18 07 02.1**	**-0.7**
	baz=237						
STYT	**Tauyuan**	**1.99 213**	P		**Pn**	**18 06 39.4**	**+1.1**
	baz=227						
STYT			S		**Sn**	**18 07 03.8**	**+0.4**
	baz=227						
JKRS	**Kuro-shima**	**1.99 107**	P		**Pn**	**18 06 39.0**	**+0.8**
JKRS			*e*S		**Sn**	**18 07 03.4**	**+0.1**
WTP	**Ta-pu**	**1.99 217**	*e*P		**Pn**	**18 06 38.7**	**+0.3**
	baz=223						
WTP			S		**Sn**	**18 07 03.7**	**+0.2**
	baz=223						
WLGB	**Puzi**	**2.02 228**	*e*S		**Sn**	**18 07 03.5**	**-0.5**
	baz=239						
TWK	**Hsinying**	**2.05 220**	*e*P		**Pn**	**18 06 39.4**	**+0.3**
	baz=225						
TWK			*e*S		**Sn**	**18 07 05.1**	**+0.3**
	baz=225						
PTTC	**Pingtan**	**2.06 289**	*e*P		**Pn**	**18 06 38.7**	**-0.4**
	baz=288						
JIJ	**Ishigaki jima**	**2.07 103**	P		**Pn**	**18 06 39.6**	**+0.3**
JIJ			S		**Sn**	**18 07 04.5**	**-0.7**
SNST	**Tainan City**	**2.08 219**	*e*P		**Pn**	**18 06 39.1**	**-0.4**
	baz=225						
SNST			S		**Sn**	**18 07 05.5**	**+0.1**
	baz=225						
CHN1	**Nanshi**	**2.09 218**	*e*P		**Pn**	**18 06 39.9**	**+0.3**
	baz=223						
CHN1			S		**Sn**	**18 07 05.5**	**-0.2**
	baz=223						
TWG	**Pinlang**	**2.16 201**	*e*P		**Pn**	**18 06 40.4**	**-0.1**
	baz=198						
TWG			*e*S		**Sn**	**18 07 05.3**	**-1.9**
	baz=198						
TWGBT	**Beinan**	**2.16 201**	*e*P		**Pn**	**18 06 39.4**	**-1.1**
	baz=198						
TWGBT			*e*S		**Sn**	**18 07 05.5**	**-1.8**
	baz=198						
CHN8	**Yiju**	**2.17 227**	*e*S		**Sn**	**18 07 08.1**	**+0.7**
	baz=240						
JISG	**Ishigakijimahi**	**2.18 96**	P		**Pn**	**18 06 41.4**	**+0.7**
JISG			*e*S		**Sn**	**18 07 07.6**	**-0.1**
SLGT	**Liugui**	**2.18 213**	*e*P		**Pn**	**18 06 41.7**	**+0.9**
	baz=227						
SLGT			*e*S		**Sn**	**18 07 08.8**	**+1.0**
	baz=227						
MATB	**Ma-tsu**	**2.22 306**	*e*P		**Pn**	**18 06 41.0**	**-0.2**
	baz=305						
VWUC	**VWUC**	**2.26 274**	*e*P		**Pn**	**18 06 41.3**	**-0.3**
	baz=274						
SCLT	**Jiali**	**2.30 224**	*e*S		**Sn**	**18 07 10.9**	**+0.5**
	baz=229						
SSD	**Sandimen**	**2.40 210**	*e*S		**Sn**	**18 07 13.0**	**+0.2**
	baz=216						
ECL	**Taimali**	**2.41 202**	*e*P		**Pn**	**18 06 43.7**	**0.0**
	baz=202						
ECL			*e*S		**Sn**	**18 07 11.5**	**-1.5**
	baz=202						
MASBT	**Mashibuluo**	**2.52 208**	*e*P		**Pn**	**18 06 46.2**	**+1.1**
	baz=215						
MASBT			*e*S		**Sn**	**18 07 16.1**	**+0.5**
	baz=215						
PHUB	**P'eng-hu**	**2.53 239**	*e*P		**Pn**	**18 06 44.6**	**-0.6**
	baz=242						
PHUB			*e*S		**Sn**	**18 07 13.8**	**-2.0**
	baz=242						
JTJ	**Tarama**	**2.53 94**	P		**Pn**	**18 06 46.3**	**+1.1**
JTJ			*e*S		**Sn**	**18 07 15.9**	**+0.1**
PTMZ	**Houxiangcun**	**2.56 275**	*e*P		**Pn**	**18 06 45.6**	**0.0**
	baz=275						
LYJJ	**Jianjiangzhen**	**2.59 311**	*e*P		**Pn**	**18 06 46.0**	**-0.1**
	baz=310						
XPSS	**Dashiqiu**	**2.60 323**	*e*P		**Pn**	**18 06 45.5**	**-0.7**
	baz=322						

IDC 02 18:06:46.5±7.3, 30.62S×179.13W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/32, mbtmp3.3/2, Error ellipse: s-maj=305.9km s-min=55.3km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.13 268**		P	P	18 14 40.3	-0.4
	0.4nm,0.8s,baz=104,slow=7.2,SNR=3.8						
WRA	**Warramunga Arr**	**43.13 273**		P	P	18 14 49.0	0.0
	0.5nm,0.9s,baz=111,slow=8.1,SNR=5.0						
FINES	**FINESS Array B**	**145.01 339**		PKPbc	PKPbc	18 26 23.6	-0.7
	4.4nm,1.0s,baz=33,slow=4.1,SNR=12						

*ISCJB **02** 18:07:04.6±0.6, 23.93N±0.02×122.55E±0.01, h8km±4km, Error ellipse: s-maj=3.1km s-min=2.2km az=168.2*
*JMA **02** 18:07:04.5±0.4, 23.91N×122.55E, h10km±5km, M2.7*
*TAP **02** 18:07:06.0, 23.99N×122.59E, h43km, ML3.3, D*

ISC 02 18:07:05.4±1.1, 23.95N±0.03×122.55E±0.02, h26km±12km, n82, σ0.62/140, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonaguni jima**	**0.62 35**		P	**Pb**	**18 07 16.6**	**-1.0**
YOJ	**Yonaguni jima**	**0.66 39**		*e*P	**Pb**	**18 07 18.0**	**-0.3**
	baz=43						
YOJ				S	**Sn**	**18 07 27.6**	**-1.1**
	baz=43						
YOJ	**Yonaguni jima**	**0.66 39**		P	**Pb**	**18 07 18.2**	**-0.2**
YOJ				*e*S	**Sb**	**18 07 27.3**	**+0.1**
EOS1	**EOS1**	**0.72 327**		P	**Pn**	**18 07 19.9**	**+0.1**
	baz=323						
EOS1				S	**Sn**	**18 07 30.8**	**+0.8**
	baz=323						
ENLB	**Shoufeng**	**0.87 267**		*e*S	**Sn**	**18 07 34.7**	**+0.8**
	baz=255						
NANB	**Nanao**	**0.88 303**		P	**Pn**	**18 07 22.0**	**-0.1**
	baz=300						
NANB				*e*S	**Sb**	**18 07 33.6**	**+0.2**
	baz=300						
ENA	**Nanau**	**0.89 303**		P	**Pb**	**18 07 22.3**	**+0.1**
	baz=299						
ENA				*e*S	**Sn**	**18 07 34.7**	**+0.5**
	baz=299						
TWD	**Chiawan**	**0.89 279**		P	**Pn**	**18 07 21.7**	**-0.5**
	baz=276						
TWD				*e*S	**Sb**	**18 07 33.5**	**-0.1**
	baz=276						
NACB	**Ninganchiao**	**0.91 285**		P	**Pn**	**18 07 22.2**	**-0.3**
	baz=270						
NACB				S	**Sb**	**18 07 34.2**	**0.0**
	baz=270						
TWC	**Suao**	**0.92 316**		P	**Pn**	**18 07 22.4**	**-0.3**
	baz=303						
TWC				*e*S	**Sn**	**18 07 35.2**	**+0.1**
	baz=303						
ETLH	**Xiulin Townshi**	**1.01 285**		P	**Pn**	**18 07 23.8**	**-0.3**
	baz=273						
ETLH				*e*S	**Sb**	**18 07 37.3**	**-0.1**
	baz=273						
ESL	**Shilin**	**1.03 263**		*e*P	**Pn**	**18 07 24.2**	**-0.1**
	baz=254						
ESL				*e*S	**Sn**	**18 07 37.7**	**-0.3**
	baz=254						
EGFH	**Guangfu**	**1.07 255**		*e*P	**Pb**	**18 07 25.2**	**0.0**
	baz=243						
EGFH				S	**Sb**	**18 07 39.3**	**+0.5**
	baz=243						
TWE	**Neicheng**	**1.12 314**		P	**Pb**	**18 07 26.2**	**+0.1**
	baz=311						
TWE				*e*S	**Sb**	**18 07 41.1**	**+0.8**
	baz=311						
HGSD	**Ruisui**	**1.13 247**		*e*P	**Pb**	**18 07 26.7**	**+0.4**
	baz=245						
HGSD				*e*S	**Sb**	**18 07 41.5**	**+0.9**
	baz=245						
ENTT	**Nioudou**	**1.14 308**		P	**Pb**	**18 07 26.6**	**+0.1**
	baz=294						
ENTT				*e*S	**Sb**	**18 07 41.5**	**+0.7**
	baz=294						
IRIF	**Iriomote-Funau**	**1.14 70**		P	**Pb**	**18 07 26.7**	**+0.2**
IRIF				*e*S	**Sb**	**18 07 41.5**	**+0.6**
HATJ	**Hateruma jima**	**1.15 84**		*e*S	**Sb**	**18 07 42.2**	**+1.1**
NDT	**Datong Townshi**	**1.15 305**		P	**Pb**	**18 07 26.4**	**-0.3**
	baz=291						
NDT				S	**Sb**	**18 07 41.3**	**0.0**
	baz=291						
NNSB	**Datong**	**1.17 294**		P	**Pn**	**18 07 26.6**	**+0.3**
	baz=292						
NNSB				*e*S	**Sb**	**18 07 41.9**	**0.0**
	baz=292						
NNS	**Nan Shan**	**1.19 295**		P	**Pn**	**18 07 26.8**	**+0.3**
	baz=292						
NNS				S	**Sn**	**18 07 41.8**	**0.0**
	baz=292						
WHF	**Hehuan Shan**	**1.20 280**		P	**Pn**	**18 07 26.9**	**0.0**
	baz=277						
WHF				S	**Sn**	**18 07 42.6**	**+0.1**
	baz=277						
EHY	**Hungye**	**1.21 249**		*e*P	**Pn**	**18 07 26.4**	**-0.3**
	baz=261						
EHY				S	**Sn**	**18 07 42.6**	**+0.3**
	baz=261						
TIPB	**Shuangxi**	**1.22 327**		*e*P	**Pn**	**18 07 26.7**	**-0.2**
	baz=325						
TIPB				*e*S	**Sn**	**18 07 42.6**	**+0.1**
	baz=325						
OWD	**Renai**	**1.26 271**		*e*P	**Pn**	**18 07 27.7**	**+0.2**
	baz=269						
OWD				*e*S	**Sn**	**18 07 43.0**	**-0.7**
	baz=269						
NWLT	**Wulai**	**1.27 311**		P	**Pb**	**18 07 28.8**	**+0.1**
	baz=308						
NWLT				*e*S	**Sn**	**18 07 44.1**	**+0.3**
	baz=308						
CHGB	**Renai**	**1.27 275**		*e*P	**Pn**	**18 07 28.0**	**+0.3**
	baz=273						
CHGB				*e*S	**Sn**	**18 07 44.5**	**+0.5**
	baz=273						
YULB	**Yu-li**	**1.28 245**		P	**Pn**	**18 07 27.7**	**+0.1**
	baz=234						
YULB				S	**Sn**	**18 07 44.1**	**+0.1**
	baz=234						
TWF1	**Yuli**	**1.29 243**		*e*P	**Pn**	**18 07 27.9**	**0.0**
	baz=241						
TWF1				*e*S	**Sn**	**18 07 45.0**	**+0.6**
	baz=241						
YHNB	**Yeheng**	**1.29 304**		P	**Pb**	**18 07 28.7**	**-0.5**
	baz=302						
YHNB				*e*S	**Sb**	**18 07 45.0**	**-0.4**
	baz=302						
TWT	**Tachien**	**1.30 284**		*e*S	**Sb**	**18 07 46.1**	**+0.5**
	baz=272						
VWDT	**VWDT**	**1.31 262**		*e*P	**Pn**	**18 07 28.6**	**+0.6**
	baz=260						
VWDT				*e*S	**Sn**	**18 07 45.0**	**+0.4**
	baz=260						
NSK	**Sanguang**	**1.31 304**		P	**Pn**	**18 07 28.7**	**+0.5**
	baz=302						
NSK				S	**Sn**	**18 07 45.2**	**+0.4**
	baz=302						
TDCB	**Techi**	**1.31 284**		*e*P	**Pb**	**18 07 29.0**	**-0.5**
	baz=272						
TDCB				*e*S	**Sb**	**18 07 45.8**	**-0.1**
	baz=272						
NWF	**Wu-fen Shan**	**1.32 328**		*e*P	**Pn**	**18 07 28.4**	**+0.1**
	baz=326						
TWA	**Mucha**	**1.36 320**		*e*P	**Pb**	**18 07 29.5**	**-0.7**
	baz=331						
JKRS	**Kuro-shima**	**1.36 77**		P	**Pb**	**18 07 29.8**	**-0.4**
JKRS				S	**Sb**	**18 07 48.5**	**+1.3**
FULB	**Fuli**	**1.38 238**		*e*P	**Pn**	**18 07 29.4**	**+0.4**
	baz=228						
FULB				*e*S	**Sn**	**18 07 46.5**	**+0.2**
	baz=228						
CHKT	**Chengkung**	**1.38 233**		*e*S	**Sn**	**18 07 45.0**	**-1.4**
	baz=222						
NHDH	**Xindian Distri**	**1.38 317**		*e*P	**Pb**	**18 07 29.9**	**-0.7**
	baz=329						
NHDH				*e*S	**Sb**	**18 07 47.6**	**-0.2**
	baz=329						
SSLB	**Suanglung**	**1.47 264**		*e*P	**Pn**	**18 07 30.9**	**+0.6**
	baz=262						
SSLB				*e*S	**Sn**	**18 07 49.3**	**+0.4**
	baz=262						
WHP	**Taichung City**	**1.51 283**		*e*P	**Pb**	**18 07 32.3**	**-0.4**
	baz=281						
WHP				*e*S	**Sb**	**18 07 51.6**	**+0.1**
	baz=281						
JIJ	**Ishigaki jima**	**1.51 74**		P	**Pb**	**18 07 31.4**	**-1.4**
JIJ				S	**Sb**	**18 07 51.0**	**-0.5**
SMLT	**Sun Moon Lake**	**1.52 268**		*e*P	**Pb**	**18 07 32.5**	**-0.5**
	baz=266						
SMLT				*e*S	**Sn**	**18 07 50.6**	**+0.6**
	baz=266						
YM04	**YM04**	**1.52 323**		*e*P	**Pn**	**18 07 31.1**	**+0.1**
	baz=320						
YUS	**Yu-Shan**	**1.54 253**		S	**Sn**	**18 07 50.8**	**-0.2**
	baz=251						
TWS1	**Kuangyinshan**	**1.55 318**		*e*S	**Sn**	**18 07 51.5**	**+0.9**
	baz=330						
TYC	**Yuchr**	**1.55 269**		*e*P	**Pb**	**18 07 32.9**	**-0.7**
	baz=267						
TYC				*e*S	**Sn**	**18 07 51.6**	**+0.9**
	baz=267						
LIOB	**Emei**	**1.57 297**		P	**Pn**	**18 07 32.1**	**+0.5**
	baz=295						
LIOB				S	**Sb**	**18 07 52.3**	**-0.9**
	baz=295						
NSTT	**Nanjuang**	**1.57 296**		P	**Pb**	**18 07 33.2**	**-0.7**
	baz=294						
NSTT				S	**Sb**	**18 07 52.8**	**-0.5**
	baz=294						
WHYT	**Xinyi Township**	**1.58 261**		*e*P	**Pb**	**18 07 33.3**	**-0.7**
	baz=251						
WHYT				*e*S	**Sb**	**18 07 53.5**	**0.0**
	baz=251						
ELDTW	**Lidau**	**1.60 242**		*e*P	**Pn**	**18 07 32.0**	**-0.1**
	baz=241						
TWQ1	**Liyutan**	**1.68 284**		P	**Pb**	**18 07 35.8**	**+0.2**
	baz=283						
TWQ1				S	**Sb**	**18 07 57.0**	**+0.6**
	baz=283						
WJS	**Zhushan**	**1.68 266**		*e*P	**Pb**	**18 07 35.9**	**+0.3**
	baz=265						
WJS				*e*S	**Sb**	**18 07 57.5**	**+1.2**
	baz=265						
WNT	**Mingjian**	**1.71 268**		P	**Pb**	**18 07 35.7**	**-0.6**
	baz=267						
WNT				*e*S	**Sb**	**18 07 57.3**	**0.0**
	baz=267						
NMLH	**Miaoli**	**1.71 290**		*e*S	**Sb**	**18 07 57.2**	**-0.2**
	baz=289						
JISG	**Ishigakijimahi**	**1.73 68**		P	**Pn**	**18 07 34.4**	**+0.6**
JISG				S	**Sb**	**18 07 58.3**	**+0.6**
TCU	**Taichung**	**1.73 277**		*e*P	**Pb**	**18 07 36.1**	**-0.4**
	baz=275						
TCU				*e*S	**Sb**	**18 07 57.9**	**+0.1**
	baz=275						
CHN5	**Tsauling**	**1.75 259**		*e*P	**Pb**	**18 07 36.0**	**-1.0**
	baz=250						
CHN5				*e*S	**Sb**	**18 07 57.9**	**-0.7**
	baz=250						
TWGBT	**Beinan**	**1.76 231**		*e*S	**Sn**	**18 07 55.9**	**+0.1**
	baz=241						
TWG	**Pinlang**	**1.76 231**		*e*S	**Sn**	**18 07 55.5**	**-0.4**
	baz=241						
WDJ	**Dajia District**	**1.79 283**		*e*S	**Sb**	**18 07 58.9**	**-0.8**
	baz=282						
STYT	**Tauyuan**	**1.82 245**		P	**Pb**	**18 07 36.9**	**-1.3**
	baz=237						
STYT				S	**Sn**	**18 07 58.5**	**+1.0**
	baz=237						
WCHH	**Zhanghua**	**1.83 275**		*e*P	**Pb**	**18 07 37.6**	**-0.7**
	baz=285						
WCHH				*e*S	**Sb**	**18 08 00.9**	**+0.1**
	baz=285						
WGK	**Gukeng**	**1.84 262**		*e*P	**Pb**	**18 07 37.7**	**-0.8**
	baz=261						
WGK				*e*S	**Sb**	**18 08 01.2**	**+0.1**
	baz=261						
WDLH	**Douliu**	**1.86 263**		*e*P	**Pb**	**18 07 37.4**	**-1.4**
	baz=261						
WDLH				S	**Sb**	**18 08 02.1**	**+0.5**
	baz=261						
TPUB	**Ta-pu**	**1.88 250**		*e*P	**Pb**	**18 07 38.1**	**-0.9**
	baz=240						
TPUB				*e*S	**Sb**	**18 08 01.2**	**-0.9**
	baz=240						
WTP	**Ta-pu**	**1.91 249**		P	**Pb**	**18 07 39.1**	**-0.6**
	baz=239						
WTP				S	**Sb**	**18 08 02.5**	**-0.6**
	baz=239						
CHN2	**Minshiung**	**1.95 258**		*e*S	**Sb**	**18 08 03.8**	**-0.3**
	baz=257						
ECL	**Taimali**	**1.99 228**		*e*S	**Sn**	**18 08 01.2**	**-0.3**
	baz=237						
SLGT	**Liugui**	**1.99 242**		*e*P	**Pn**	**18 07 39.1**	**+1.6**
	baz=234						
CHY	**Chiayi**	**2.00 258**		*e*P	**Pb**	**18 07 40.8**	**-0.4**
	baz=256						
CHY				*e*S	**Sb**	**18 08 05.2**	**-0.4**
	baz=256						
CHN1	**Nanshi**	**2.01 248**		*e*P	**Pb**	**18 07 40.5**	**-0.8**
	baz=247						
CHN1				S	**Sb**	**18 08 05.8**	**0.0**
	baz=247						
RLNB	**Erlin**	**2.01 269**		*e*P	**Pb**	**18 07 39.8**	**-1.5**
	baz=280						
RLNB				*e*S	**Sb**	**18 08 05.8**	**0.0**
	baz=280						
TWK	**Hsinying**	**2.01 251**		P	**Pb**	**18 07 40.8**	**-0.6**
	baz=249						
TWK				S	**Sb**	**18 08 05.8**	**-0.2**
	baz=249						
SNST	**Tainan City**	**2.02 249**		*e*P	**Pb**	**18 07 40.9**	**-0.6**
	baz=248						
SNST				*e*S	**Sb**	**18 08 05.6**	**-0.6**
	baz=248						
JTJ	**Tarama**	**2.08 70**		*e*S	**Sb**	**18 08 06.2**	**-1.7**
WTCT	**Ta-ch'eng**	**2.08 268**		*e*S	**Sb**	**18 08 07.7**	**-0.3**
	baz=279						
SSD	**Sandimen**	**2.13 236**		*e*P	**Pn**	**18 07 40.4**	**+1.0**
	baz=230						
WSF	**Szhu**	**2.16 262**		*e*S	**Sb**	**18 08 09.6**	**-0.5**
	baz=261						
MASBT	**Mashibuluo**	**2.21 233**		*e*P	**Pn**	**18 07 41.7**	**+1.3**
	baz=227						
SCZT	**Fangliau**	**2.37 229**		*e*P	**Pn**	**18 07 43.6**	**+0.9**
	baz=222						

IDC 02 18:10:32.4±1.7, 16.08S×167.92E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/33, mbtmp3.6/5, ML3.9/1, MS2.3/1, Ms1 2.3/1, ms1mx2.2/26, Error ellipse: s-maj=56.8km s-min=31.1km az=125.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.12 193**		Pn	Pn	18 12 04.1	-0.1
	3.2nm,0.3s,baz=77,slow=12,SNR=49						
DZM				Sn	Sn	18 13 11.1	-4.0
	0.9nm,0.3s,baz=108,slow=20,SNR=3.6						
DZM				LR	LR	18 13 27.9	
	comp=Z,26nm,18.5s,baz=46,slow=29						
WRA	**Warramunga Arr**	**32.13 258**		P	P	18 17 01.6	-0.3
	0.5nm,1.0s,baz=85,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**32.80 251**		P	P	18 17 07.6	-0.2
	0.3nm,0.5s,baz=81,slow=8.6,SNR=6.6						
SONM	**Songino Array**	**83.95 323**		P	P	18 23 04.8	+0.3
	0.3nm,0.7s,baz=111,slow=7.9,SNR=2.3						
ILAR	**Eielson Array**	**87.61 18**		P	P	18 23 21.0	-1.2
	0.5nm,1.0s,baz=243,slow=4.0,SNR=2.0						
ARCES	**ARCESS Array B**	**121.71 345**		PKP	PKiKP	18 29 28.6	+0.7
	2.0nm,0.8s,baz=70,slow=1.4,SNR=5.3						

*IDC **02** 18:30:24.1±1.0, 26.11N×99.92E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/42, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=37.4km s-min=16.5km az=72.0*
*BJI **02** 18:30:25.0, 26.16N×99.95E, h6km, ML3.4/8*

ISC 02 18:30:26.3±0.9, 26.23N±0.06×99.62E±0.09, h10km, n13, σ2.45/13, mb3.5/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.02 111**		Pg	**Pn**	**18 31 15.2**	**+0.7**
KMI				Sg	**Sn**	**18 31 50.9**	**0.0**
KMI				smax	smax		
	comp=N,260nm,1.0s						
KMI				smax	smax		
	comp=E,240nm,0.9s						
CHTO	**Chiang Mai**	**7.41 185**		P	**Pg**	**18 32 45.8**	**-2.4**
CMMT	**Chiang Mai**	**7.41 185**		P	**Pg**	**18 32 45.7**	**-2.5**
LAMP	**Lampang**	**7.67 180**		P	**Sg**	**18 34 37.6**	**+5.0**
	4.5nm,0.7s						
LAMP	**Lampang**	**7.67 180**		P	**Pg**	**18 32 54.0**	**+0.8**
CMAR	**Chiang Mai Arr**	**7.76 185**		Pn	**Pn**	**18 32 18.6**	**-0.8**
	0.2nm,0.3s,baz=0.2,slow=13,SNR=6.0						
CMAR				Pg	Pg	18 32 48.2	-6.8
	0.4nm,0.3s,baz=2.2,slow=17,SNR=14						
CMAR				Lg	Lg	18 34 28.7	
	0.2nm,0.3s,baz=354,slow=32,SNR=3.3						
WMQ	**Urumqi**	**20.05 334**		*e*P	Pn	18 35 02.2	+0.8
SONM	**Songino Array**	**22.22 12**		P	**P**	**18 35 23.3**	**+0.2**
	0.4nm,0.7s,baz=210,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**24.70 331**		P	**P**	**18 35 49.6**	**+2.0**
	0.8nm,0.7s,baz=139,slow=11,SNR=24						
KURBB	**Kurchatov Arra**	**29.23 332**		P	**P**	**18 36 29.7**	**+1.5**
	0.2nm,0.6s,baz=140,slow=9.5,SNR=2.0						
BRTR	**Keskin Array B**	**55.82 302**		P	**P**	**18 40 04.7**	**+0.6**
	0.3nm,0.5s,baz=118,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**56.94 140**		P	**P**	**18 40 09.2**	**-2.9**
	0.4nm,0.8s,baz=329,slow=7.7,SNR=4.7						
ASAR	**Alice Springs**	**59.67 143**		P	**P**	**18 40 28.6**	**-2.5**
	0.6nm,0.6s,baz=328,slow=6.7,SNR=6.4						

IDC 02 18:37:12.0±2.0, 26.17N×99.09E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.6/3, Error ellipse: s-maj=56.9km s-min=23.5km az=88.0, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHTO	**Chiang Mai**	**7.33 181**		P	Pg	18 39 33.8	+1.3
	22nm,1.6s						
CMMT	**Chiang Mai**	**7.33 181**		P	Pg	18 39 33.7	+1.2
	4.7nm,1.6s						
CMAR	**Chiang Mai Arr**	**7.68 181**		Pg	Pg	18 39 33.9	-5.3
	0.3nm,0.3s,baz=359,slow=17,SNR=18						
CMAR				Lg	Lg	18 41 14.6	
	0.1nm,0.3s,baz=358,slow=30,SNR=4.6						
SONM	**Songino Array**	**22.37 13**		P	P	18 42 12.9	+1.0
	0.6nm,1.0s,baz=202,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**24.52 331**		P	P	18 42 33.0	-0.2
	1.0nm,0.7s,baz=138,slow=11,SNR=12						
KURBB	**Kurchatov Arra**	**29.06 333**		P	P	18 43 13.2	-0.6
	0.7nm,0.3s,baz=136,slow=11,SNR=3.0						

IDC 02 18:42:41.3±1.9, 26.11N×98.40E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.2/44, mbtmp3.5/3, Error ellipse: s-maj=66.9km s-min=23.4km az=84.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.63 176**		Pg	Pg	18 45 02.4	-5.3
	0.1nm,0.3s,baz=356,slow=18,SNR=9.3						
CMAR				Lg	Lg	18 46 42.3	
	0.3nm,0.3s,baz=2.0,slow=29,SNR=3.6						
SONM	**Songino Array**	**22.58 14**		P	P	18 47 44.6	+1.1
	0.6nm,1.2s,baz=188,slow=8.7,SNR=2.3						
MKAR	**Makanchi Array**	**24.28 332**		P	P	18 47 58.9	-1.5
	0.8nm,0.7s,baz=134,slow=11,SNR=9.2						
KURBB	**Kurchatov Arra**	**28.83 333**		P	P	18 48 41.8	+0.6
	0.5nm,0.2s,baz=137,slow=11,SNR=7.7						

*IDC **02** 18:44:42.1±54.0, 18.03S×178.74W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.0/3, Error ellipse: s-maj=990.5km s-min=151.6km az=79.0*
*ISCJB **02** 18:45:39.2±0.7, 19.15±0.2×179.26W±0.08, h600km, mb5.8/1, Error ellipse: s-maj=28.0km s-min=9.4km az=176.0*
*NEIC **02** 18:45:39.4±1.2, 19.30S×179.11W, h595km±20km, mb4.6/5, Error ellipse: s-maj=37.7km s-min=27.9km az=197.0*

ISC 02 18:45:39.8±1.0, 19.35±0.2×179.15W±0.10, h600km, n14, σ1.47/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.07 299**		*e*P	**P**	**18 46 57.6**	**-1.9**
NIUE	**Niue**	**8.72 90**		*e*P	**P**	**18 47 46.8**	**+0.8**
NIUE				*e*S	**S**	**18 49 29.4**	**-0.1**
OUZ	**Omahuta**	**17.13 201**		*e*P	**P**	**18

WR1	**Warramunga Arr** 23nm,1.7s	**43.71**	**261**	*e*P	**P**	**18**	**52**	**53.9** **+0.3**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=97,slow=7.6,SNR=34	**43.71**	**261**	P	**P**	**18**	**52**	**53.9** **+0.3**
AS01	**Alice Springs**	**43.72**	**256**	*e*P	**P**	**18**	**52**	**54.3** **+0.7**
AS31	**Alice Springs** 1.5nm,1.2s	**43.76**	**256**	*e*P	**P**	**18**	**52**	**55.1** **+1.1**
ASAR	**Alice Springs** 1.5nm,0.6s,baz=90,slow=7.8,SNR=26	**43.76**	**256**	P	**P**	**18**	**52**	**54.9** **+0.9**
FITZ	**Fitzroy Crossi** 28nm,1.8s	**52.12**	**262**	*e*P	**P**	**18**	**53**	**57.0** **+0.9**
SHL	**Shillong** 19nm,0.3s	**97.21**	**294**	*e*P	Pdif	18	58	06.7 -3.2

*ISCJB **02** 19:02:41.3±0.4, 19.°96S±0.°03×69.°08W±0.°07, h106km±5km, mb3.5/4, Error ellipse: s-maj=11.3km s-min=4.8km az=177.0*

*GUC **02** 19:02:42.4±0.5, 20.°01S×69.°20W, h97km±2km, ML3.6*

*IDC **02** 19:02:43.2±1.1, 19.°99S×68.°82W, h106km±10km, mb3.3/5, mb1 3.5/10, mb1mx3.4/29, mbtmp3.8/10, MS2.2/1, Ms1 2.3/1, ms1mx2.2/13, Error ellipse: s-maj=26.5km s-min=8.5km az=98.0*

ISC 02 19:02:41.7±0.7, 19.°97S±0.°04×69.°12W±0.°07, h99km±6km, n24, σ1°§27/34, mb3.4/4, 3C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.17**	**191**	⇓*i*P	**Pn**	**19** **02** **56.9**	**+0.7**
PB08				*i* S	**Sn**	**19** **03** **08.1**	**+1.1**
PB08	comp=E,4μm,0.2s			IAML		19 03 09.4	
PB11	**IPOC Station P**	**0.55**	**293**	⇑*e*P	**Pn**	**19** **02** **58.2**	**+0.3**
PB11				*i* S	**Sn**	**19** **03** **10.3**	**+0.3**
PB11	comp=N,2μm,0.2s			IAML		19 03 11.3	
MNMC	**Minye Minye**	**0.95**	**332**	⇓*i*P	**Pn**	**19** **03** **03.0**	**+1.1**
MNMC				*i* S	**Sn**	**19** **03** **18.4**	**+1.5**
MNMC	comp=E,6μm,0.3s			IAML		19 03 20.0	
PSGC	**Pisagua**	**1.02**	**291**	⇑*i*P	**Pn**	**19** **03** **02.4**	**+0.1**
PSGC				*i* S	**Sn**	**19** **03** **17.9**	**0.0**
PSGC	comp=N,1μm,0.4s			IAML		19 03 21.4	
PB01	**IPOC Station P**	**1.12**	**198**	⇑*i*P	**Pn**	**19** **03** **04.0**	**+0.5**
PB01				*i* S	**Sn**	**19** **03** **20.1**	**+0.2**
PB01	comp=E,3μm,0.2s			IAML		19 03 21.9	
PB02	**IPOC Station P**	**1.52**	**208**	*e*P	**Pn**	**19** **03** **08.6**	**+0.3**
PB02				*e*S	**Sn**	**19** **03** **28.6**	**0.0**
PB02	comp=N,2μm,0.3s			IAML		19 03 34.3	
PB12	**IPOC Station P**	**1.77**	**320**	*e*P	**Pn**	**19** **03** **11.6**	**+0.2**
PB12				*e*S	**Sn**	**19** **03** **35.0**	**+1.0**
PB12	comp=N,670nm,0.4s			IAML		19 03 40.0	
PB09	**IPOC Station P**	**1.82**	**184**	*e*P	**Pn**	**19** **03** **13.1**	**+1.0**
PB09				*e*S	**Sn**	**19** **03** **36.6**	**+1.4**
PB09	comp=E,371nm,0.7s			IAML		19 03 39.9	
PB07	**IPOC Station P**	**1.89**	**202**	*e*P	**Pn**	**19** **03** **13.4**	**+0.4**
PB07				*i* S	**Sn**	**19** **03** **37.1**	**+0.3**
PB07	comp=E,657nm,0.4s			IAML		19 03 43.5	
PB04	**IPOC Station P**	**2.54**	**202**	*e*P	**Pn**	**19** **03** **22.5**	**+1.0**
PB04	comp=N,265nm,0.2s			IAML		19 04 05.8	
LVC	**Limon Verde** comp=N,7.4nm,0.3s,baz=1.6,slow=11,SNR=47	**2.63**	**176**	P	**Pn**	**19** **03** **25.7**	**+2.8**
LVC				S	**Sn**	**19** **03** **55.6**	**+1.2**
	comp=N,16nm,0.3s,baz=259,slow=13,SNR=16						
PB06	**IPOC Station P**	**2.75**	**189**	*e*P	**Pn**	**19** **03** **25.5**	**+1.2**
LPAZ	**La Paz** comp=N,1.8nm,0.3s,baz=186,slow=8.0,SNR=57	**3.78**	**15**	P	**Pn**	**19** **03** **41.6**	**+3.0**
LPAZ				S	**Sn**	**19** **04** **22.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=186,slow=10,SNR=1.6						
LPAZ				LR	LR	19 05 13.6	
	comp=N,31nm,18.3s,baz=286,slow=40						
SIV	**San Ignacio** comp=N,2.4nm,0.3s,baz=266,slow=10.0,SNR=42	**8.62**	**64**	P	**Pn**	**19** **04** **42.2**	**-1.5**
CPUP	**Villa Florida** comp=N,0.1nm,0.3s,baz=270,slow=7.1,SNR=2.3	**12.55**	**122**	P	**Pn**	**19** **05** **34.5**	**-2.3**
ATAH	**Atahualpa** comp=N,0.6nm,0.3s,baz=139,slow=16,SNR=2.7	**15.62**	**324**	P	**P**	**19** **06** **20.9**	**+2.0**
PLCA	**Paso Flores** comp=N,3.0nm,0.9s,baz=22,slow=12,SNR=5.0	**20.73**	**183**	P	Pn	19 07 16.9	-0.8
DBIC	**Dimbokro** comp=N,1.0nm,0.6s,baz=246,slow=10.0,SNR=2.3	**68.50**	**74**	P	**P**	**19** **13** **33.4**	**-0.6**
QSPA	**South Pole Qui** comp=N,0.3nm,0.5s,baz=175,slow=7.0,SNR=3.2	**70.21**	**180**	P	**P**	**19** **13** **45.1**	**+1.2**
TORD	**Torodi Ar. Bea** comp=N,0.2nm,0.3s,baz=250,slow=5.2,SNR=6.7	**77.03**	**71**	P	**P**	**19** **14** **22.9**	**-1.7**
YKA	**Yellowknife Ar** comp=N,0.2nm,0.6s,baz=133,slow=4.8,SNR=6.2	**89.69**	**341**	P	**P**	**19** **15** **28.6**	**+0.3**
STKA	**Stephens Creek** comp=N,0.9nm,0.6s,baz=114,slow=20,SNR=2.7	**120.63**	**210**	PKP	**PKiKP**	**19** **21** **22.5**	**-0.2**
ASAR	**Alice Springs** comp=N,0.2nm,0.8s,baz=150,slow=1.9,SNR=3.3	**131.16**	**208**	PKP	**PKiKP**	**19** **21** **42.5**	**-1.4**
WRA	**Warramunga Arr** comp=N,0.3nm,0.9s,baz=151,slow=2.1,SNR=2.9	**134.16**	**211**	PKP	**PKiKP**	**19** **21** **49.4**	**-0.6**

NNC 02 19:02:58.3±12.0, 36.°92N×69.°98E, h0km, mb3.5, mpv3.2, 4C-1D, Error ellipse: s-maj=123.3km s-min=60.2km az=159.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 0.5nm,0.3s,baz=186,slow=13,SNR=19	**6.19**	**4**	P	Pn	19 04 32.8	+1.9
KK31				⇓S	Sn	19 05 45.1	+2.7
	0.6nm,0.5s,baz=190,slow=25,SNR=4.0						
AAK	**Ala-Archa** 1.1nm,0.3s	**6.68**	**30**	⇑P	Pn	19 04 35.0	-2.8
AAK				⇓S	Sn	19 05 55.2	+0.5
	1.5nm,0.8s						
AB31	**Akbulak array** 0.1nm,0.3s	**14.33**	**333**	⇑P	Pn	19 06 23.3	+1.1
AKTO	**Aktyubinsk** 3.0nm,1.3s	**16.01**	**331**	⇑P	P	19 06 46.6	-1.7

*ISCJB **02** 19:08:49.1±0.9, 60.°8S±0.°1×154.°8E±0.°4, h10km, mb3.8/3, MS3.6/5, Error ellipse: s-maj=29.5km s-min=15.9km az=177.2*

*IDC **02** 19:08:50.0±1.2, 60.°76S×154.°55E, h0km, mb3.9/3, mb1 4.2/5, mb1mx4.0/29, mbtmp4.0/5, ML3.9/2, MS3.6/6, Ms1 3.6/6, ms1mx3.3/23, Error ellipse: s-maj=47.6km s-min=28.4km az=82.0*

ISC 02 19:08:51.1±0.9, 60.°8S±0.°1×154.°6E±0.°3, h10km, n19, σ0§80/9, mb3.7/3, MS3.6/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda** 0.5nm,0.3s,baz=346,slow=13,SNR=17	**16.95**	**175**	P	**Pn**	**19** **12** **47.6**	**-0.3**
VNDA				LR	LR	19 18 24.9	
	comp=Z,154nm,21.4s,baz=348,slow=34						
RPZ	**Rata Peaks** 0.3nm,0.3s,baz=234,slow=14,SNR=2.3	**19.79**	**37**	P	**P**	**19** **13** **21.1**	**-0.2**
QSPA	**South Pole Qui** comp=Z,148nm,18.7s,baz=6.5,slow=35	**29.27**	**180**	LR	LR	19 26 01.4	
H01W1	**Cape Leeuwin H** baz=147,slow=75,SNR=158	**36.56**	**297**	T	T	19 54 22.2	
H01W2	**Cape Leeuwin H** baz=147,slow=75,SNR=142	**36.57**	**297**	T	T	19 54 22.8	
H01W3	**Cape Leeuwin H** baz=147,slow=75,SNR=186	**36.58**	**297**	T	T	19 54 23.8	
MAW	**Mawson** comp=Z,148nm,20.5s,baz=114,slow=35	**36.90**	**220**	LR	LR	19 30 39.1	
DZM	**Mont Dzumac** comp=Z,126nm,20.7s,baz=188,slow=30	**39.61**	**17**	LR	LR	19 28 52.6	
ASAR	**Alice Springs** 1.2nm,0.7s,baz=159,slow=8.7,SNR=13	**39.79**	**330**	P	**P**	**19** **16** **23.6**	**-0.5**
WRA	**Warramunga Arr** 2.5nm,1.0s,baz=164,slow=7.3,SNR=15	**43.27**	**332**	P	**P**	**19** **16** **52.0**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,49nm,18.6s,baz=184,slow=35	**47.38**	**321**	LR	LR	19 36 20.8	
H08S2	**Diego Garcia H** baz=149,slow=76,SNR=17	**79.49**	**273**	T	T	20 48 16.2	
H08S1	**Diego Garcia H** baz=149,slow=76,SNR=11	**79.50**	**273**	T	T	20 48 19.4	
H08S3	**Diego Garcia H** baz=149,slow=76,SNR=18	**79.51**	**273**	T	T	20 48 16.3	
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=178,slow=3.4,SNR=2.4	**90.66**	**308**	P	**P**	**19** **21** **54.2**	**+0.6**
CMAR	comp=Z,20nm,18.5s,baz=186,slow=35			LR	LR	20 02 06.3	
MKAR	**Makanchi Array** 0.3nm,1.0s,baz=125,slow=2.3,SNR=2.5	**122.06**	**309**	PKP	**PKiKP**	**19** **27** **46.1**	**+1.3**
TORD	**Torodi Ar. Bea** 0.2nm,0.8s,baz=180,slow=1.4,SNR=2.3	**128.45**	**215**	PKP	**PKPdf**	**19** **27** **57.1**	**-0.7**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=214,slow=3.4,SNR=3.4	**140.84**	**47**	PKP	**PKPdf**	**19** **28** **20.1**	**+0.6**
AKASG	**Malin Array Be** 0.3nm,0.4s,baz=106,slow=2.8,SNR=3.0	**148.53**	**276**	PKPbc	**PKiKP**	**19** **28** **37.8**	**-0.5**

GUC 02 19:14:07.7±0.8, 28.°20S×70.°49W, h49km±93km, ML3.6, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.83**	**193**	⇓*i*P	Pn	19 14 25.3	+1.9
LCO				*i* S	Sn	19 14 37.4	+2.6
LCO	comp=E,1μm,0.5s			AML	AML	19 14 38.3	
GO04	**Tololo Observa**	**1.98**	**188**	⇓*i*P	Pn	19 14 41.7	+2.6
GO04				*i* S	Sn	19 15 07.1	+4.3
GO04	comp=N,1μm,0.6s			AML	AML	19 15 11.0	
GO02	**Mina Guanaco**	**3.13**	**15**	*e*P	Pn	19 14 57.3	+2.4
GO02	comp=E,255nm,0.3s			AML	AML	19 15 53.2	
ROCH	**El Roble**	**4.78**	**185**	*e*P	Pn	19 15 19.9	+2.5

KRSC 02 19:18:48.9±10.0, 50.°62N×157.°76E, h24km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**1.04**	**325**	*e*S	Sn	19 19 22.9	+1.2
SKR	**Severo-Kuril's**	**1.05**	**274**	*e*P	Pb	19 19 08.4	+0.1
SKR				*e*S	Sb	19 19 21.5	-0.1
KDTR	**Khodutka, Kamc**	**1.21**	**9**	*e*P	Pb	19 19 10.8	-0.3
KDTR				*e*S	Sn	19 19 26.1	+0.2
ASAK	**Asacha**	**1.77**	**3**	*e*P	Pb	19 19 19.9	-0.8
ASAK				*e*S	Sn	19 19 41.2	+1.3
MTVR	**Mutnovka**	**1.89**	**8**	*e*P	Pb	19 19 21.8	-0.9
MTVR				*e*S	Sn	19 19 44.1	+1.2
KRMR	**Karymshinskiy**	**2.23**	**6**	S	Sb	19 19 55.6	+0.1
DALK	**Dalny**	**2.50**	**14**	*e*P	Pb	19 19 30.5	-2.5
DALK				*e*S	Sn	19 19 59.8	+2.2
SDLR	**Sedlovina**	**2.75**	**14**	*e*P	Pb	19 19 34.6	-2.9

*IDC **02** 19:20:06.8±0.8, 8.°10N×127.°10E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.6/59, mbtmp3.7/8, Error ellipse: s-maj=22.0km s-min=14.9km az=72.0*

*ISCJB **02** 19:20:10.5±1.1, 8.°01N±0.°05×127.°21E±0.°07, h43km±12km, mb3.8/9, Error ellipse: s-maj=11.3km s-min=7.5km az=162.1*

*MAN **02** 19:20:10.4, 7.°93N×127.°20E, h32km*

ISC 02 19:20:12.4±2.2, 7.°97N±0.°05×127.°2E±0.°1, h44km±22km, n22, σ1§21/28, mb3.8/9, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.35**	**221**	*e*P	**Pn**	**19** **20** **33.5**	**-1.4**
MATI				*e*S	**Sn**	**19** **20** **49.8**	**-1.9**
DAV	**Davao City (W)** 89nm,0.3s,baz=72,slow=18,SNR=6.7	**1.80**	**240**	Pn	**Pn**	**19** **20** **40.8**	**-0.3**
DAV				Sn	**Sn**	**19** **21** **04.8**	**+2.1**
	93nm,0.3s,baz=247,slow=22,SNR=22						
BUTP	**Butuan**	**1.81**	**303**	*e*P	**Pn**	**19** **20** **40.1**	**-1.1**
BUTP				*e*S	**Sn**	**19** **21** **04.3**	**+1.3**
BUKP	**Musuan**	**2.07**	**268**	*e*P	**Pn**	**19** **20** **44.7**	**-0.2**
BUKP				*e*S	**Sn**	**19** **21** **09.0**	**-0.5**
KCP	**Kidapawan**	**2.26**	**245**	⇑*e*P	**Pn**	**19** **20** **46.7**	**-0.7**
KCP				*i* S	**Sn**	**19** **21** **16.2**	**+2.1**
DDMP	**Don Marcelino,**	**2.34**	**218**	*e*P	**Pn**	**19** **20** **47.1**	**-1.4**
CGP	**Cagayan de Oro**	**2.48**	**281**	⇑*e*P	**Pn**	**19** **20** **50.3**	**-0.1**
CGP				*i* S	**Sn**	**19** **21** **19.5**	**+0.1**
GSPH	**General Santos**	**2.88**	**230**	⇓*i*P	**Pn**	**19** **20** **56.8**	**+0.8**
CTBH	**Cotabato--PC H**	**2.98**	**256**	⇑*i*P	**Pn**	**19** **20** **56.8**	**-0.4**
MSLP	**Maasin**	**3.12**	**314**	*e*P	**Pn**	**19** **20** **59.2**	**0.0**
MSLP				*e*S	Sn	19 21 41.9	+6.6
OCLP	**Ormoc**	**3.96**	**321**	*e*P	**Pn**	**19** **21** **10.3**	**-0.4**
BESP	**Borongan**	**3.98**	**335**	*e*P	Pn	19 21 16.8	+5.8
SNPH	**Sibulan**	**4.11**	**290**	*e*P	**Pn**	**19** **21** **12.8**	**+0.1**
SNPH				*e*S	**Sn**	**19** **22** **01.4**	**+1.8**
FITZ	**Fitzroy Crossi** 1.7nm,0.6s,baz=4.1,slow=11,SNR=5.0	**25.95**	**183**	P	**P**	**19** **25** **42.1**	**+1.2**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=337,slow=10,SNR=2.9	**28.62**	**166**	P	**P**	**19** **26** **06.1**	**+1.1**
CMAR	**Chiang Mai Arr** 0.2nm,0.6s,baz=130,slow=8.4,SNR=3.2	**29.33**	**294**	P	**P**	**19** **26** **09.8**	**-1.6**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=342,slow=7.3,SNR=16	**32.13**	**168**	P	**P**	**19** **26** **37.2**	**+1.3**
USRK	**Usuriysk Ar.** 1.6nm,0.6s,baz=190,slow=7.5,SNR=5.6	**36.34**	**6**	P	**P**	**19** **27** **12.4**	**+0.3**
HNR	**Honiara** 37nm,0.3s,baz=270,slow=19,SNR=9.8	**36.96**	**117**	P	**P**	**19** **27** **19.0**	**+1.2**
SONM	**Songino Array** 0.2nm,0.4s,baz=156,slow=7.4,SNR=2.5	**43.47**	**340**	P	**P**	**19** **28** **10.3**	**-1.1**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=112,slow=8.1,SNR=8.8	**54.38**	**323**	P	**P**	**19** **29** **34.4**	**-0.6**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=124,slow=7.3,SNR=5.6	**58.45**	**326**	P	**P**	**19** **30** **03.0**	**-0.9**

IDC 02 19:21:48.2±7.4, 5.°42S×142.°19E, h0km, mb4.5/1, mb1 3.7/3, mb1mx3.3/43, mbtmp3.6/3, ML2.8/2, Error ellipse: s-maj=262.4km s-min=37.0km az=94.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=30,slow=13,SNR=2.1	**16.34**	**207**	Pn	Pn	19 25 37.9	-1.2
ASAR	**Alice Springs** 0.0nm,0.3s,baz=32,slow=11,SNR=8.5	**19.82**	**203**	P	P	19 26 21.2	+0.5
MKAR	**Makanchi Array** 1.7nm,0.4s,baz=113,slow=6.7,SNR=0.6	**74.04**	**322**	P	P	19 33 26.0	0.0

*TEH **02** 19:24:25.9, 31.°94N×51.°02E, h10km, ML4.2*

*IDC **02** 19:24:25.5±0.5, 31.°81N×50.°94E, h0km, mb4.2/28, mb1 4.3/37, mb1mx4.2/55, mbtmp4.2/37, ML3.7/8, MS3.3/9, Ms1 3.4/9, ms1mx3.1/46, Error ellipse: s-maj=12.7km s-min=11.0km az=2.0*

*MOS **02** 19:24:27.5±1.0, 31.°76N×50.°91E, h25km, mb4.5/45, Error ellipse: s-maj=6.7km s-min=4.8km az=114.7*

*NEIC **02** 19:24:27.2±0.0, 32.°00N×51.°05E, h10km, mb4.5/59, ML3.9(THR), MN4.1(TEH), After TEH.*

*ISCJB **02** 19:24:27.3±0.6, 31.°75N±0.°02×50.°90E±0.°02, h23km±4km, mb4.5/101, MS3.7/8, Error ellipse: s-maj=3.6km s-min=2.3km az=36.7*

*DSN **02** 19:24:29.0±0.3, 31.°76N×50.°80E, h15km, mb4.5/1, ML3.8/9, Error ellipse: s-maj=11.3km s-min=3.7km az=55.0*

*BJI **02** 19:24:28.0, 31.°31N×50.°60E, h42km, mb4.5/28, mB5.0/15, Ms4.5/4, Ms7 4.3/2*

*THR **02** 19:24:30.1, 31.°95N×50.°84E, h14km, ML3.9*

*OMAN **02** 19:24:33.4±0.4, 31.°37N×50.°72E, h30km, ms3.1/1, Error ellipse: s-maj=18.7km s-min=6.9km az=40.0*

ISC 02 19:24:27.7±0.6, 31.°83N±0.°03×50.°90E±0.°03, h14km±3km, n381, σ1§62/395, mb4.5/101, MS3.5/8, 32C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZNGN	**Zangian**	**0.29**	**352**	*e*Pg	**Pg**	**19** **24** **31.2**	**-2.7**
ZNGN				*e*Sg	**Sg**	**19** **24** **34.6**	**-3.5**
ZNGN	comp=Z,0.0nm,0.5s			IAMB	IAmb	19 24 38.8	
ROKH	**ROKH**	**0.53**	**12**	*e*Pg	**Pg**	**19** **24** **34.8**	**-3.3**
ROKH	comp=Z,0.0nm,0.6s			IAMB	IAmb	19 24 44.9	
IPIR	**Pirpir**	**0.85**	**359**	*e*Pg	**Pg**	**19** **24** **41.2**	**-3.1**
IPIR	**Pirpir**	**0.85**	**359**	*e*Pg	**Pg**	**19** **24** **41.2**	**-3.1**
IPIR	comp=Z,77μm,0.8s			IAMB	IAmb	19 25 02.6	
KLNJ	**Kolanjah**	**1.01**	**144**	*e*Pg	**Pg**	**19** **24** **45.4**	**-1.8**
IGAR	**Gharneh**	**1.12**	**59**	*e*Pg	**Pb**	**19** **24** **45.5**	**-3.5**
IGAR	comp=Z,94μm,0.4s			IAMB	IAmb	19 25 04.0	
IRAM	**Ramesheh**	**1.26**	**91**	*e*Pn	**Pn**	**19** **24** **47.9**	**-3.2**
IRAM	**Ramesheh**	**1.26**	**91**	*e*Pg	**Pn**	**19** **24** **47.8**	**-3.3**
IRAM	comp=Z,27μm,0.4s			IAMB	IAmb	19 25 15.8	
IKLH	**Kolahrood**	**1.59**	**21**	*e*Pn	**Pn**	**19** **24** **53.4**	**-2.3**
IKLH	**Kolahrood**	**1.59**	**21**	*e*Pn	**Pn**	**19** **24** **53.6**	**-2.1**
IKLH	comp=Z,31μm,0.6s			IAMB	IAmb	19 25 30.3	
IZEF	**Zefreh**	**1.61**	**48**	*e*Pn	**Pn**	**19** **24** **53.5**	**-2.5**
IZEF	**Zefreh**	**1.61**	**48**	*e*Pn	**Pn**	**19** **24** **53.7**	**-2.3**
IZEF	comp=Z,14μm,0.4s			IAMB	IAmb	19 25 25.3	
SHGR	**Shooshtar-Gavs**	**1.81**	**279**	*e*Pg	**Pg**	**19** **25** **01.9**	**-0.5**
SHGR	**Shooshtar-Gavs** comp=E,1μm,0.8s	**1.81**	**279**	*e*AML	AML	19 25 50.4	
SHGR	**Shooshtar-Gavs**	**1.81**	**279**	*e*Pg	**Pg**	**19** **25** **01.9**	**-0.5**
KHMZ	**Khomeyn**	**2.06**	**338**	*e*Pg	**Pb**	**19** **25** **05.4**	**+0.3**
KHMZ	**Khomeyn** comp=E,948nm,0.7s	**2.06**	**338**	*e*AML	AML	19 25 38.1	
KHMZ	**Khomeyn**	**2.06**	**338**	*e*Pg	**Pb**	**19** **25** **05.4**	**+0.3**
IKAZ	**Kazeroun**	**2.20**	**158**	*e*Pn	**Pb**	**19** **25** **07.9**	**+0.5**
IKAZ	**Kazeroun** comp=Z,37μm,0.6s	**2.20**	**158**	IAMB	IAmb	19 25 47.6	
IKAZ				*e*Pn	**Pb**	**19** **25** **07.6**	**+0.2**
ISAD	**Sadrabad**	**2.37**	**87**	*e*Pn	**Pb**	**19** **25** **08.0**	**-2.3**
ISAD	**Sadrabad** comp=Z,11μm,0.5s	**2.37**	**87**	IAMB	IAmb	19 25 56.3	
ISAD				*e*Pn	**Pb**	**19** **25** **08.0**	**-2.3**
KRSH	**Karshahi**	**2.37**	**26**	*e*Pn	**Pn**	**19** **25** **07.1**	**+0.7**
KRSH	comp=Z,0.0nm,2.4s			IAMB	IAmb	19 26 40.1	
SHI	**Shiraz**	**2.58**	**147**	*e*Pn	**Pb**	**19** **25** **12.2**	**-1.7**
SHI	comp=Z,12μm,1.2s			IAMB	IAmb	19 26 12.2	
GHVR	**GHOM**	**2.66**	**7**	*e*Pn	**Pb**	**19** **25** **12.8**	**-2.5**
GHVR	**GHOM**	**2.66**	**7**	*e*Pn	**Pb**	**19** **25** **12.8**	**-2.5**
IPAR	**Pars**	**2.71**	**136**	*e*Pn	**Pb**	**19** **25** **13.9**	**-2.2**
IPAR	comp=Z,11μm,0.9s			IAMB	IAmb	19 26 20.7	
IKMR	**Kamar-syah**	**2.71**	**309**	*e*Pn	**Pb**	**19** **25** **13.3**	**-2.7**
IKMR	comp=Z,0.0nm,1.0s			IAMB	IAmb	19 26 11.2	
ANAR	**Anarak**	**2.75**	**60**	*e*Pn	**Pb**	**19** **25** **13.5**	**-3.2**
ANAR	comp=Z,0.0nm,1.0s			IAMB	IAmb	19 25 57.5	
ISFB	**Sefidab**	**2.75**	**24**	*e*Pn	**Pn**	**19** **25** **12.9**	**+1.3**
ISFB	comp=Z,8μm,0.6s			IAMB	IAmb	19 25 55.8	
ASAO	**Ashtian**	**2.81**	**345**	*e*Pn	**Pb**	**19** **25** **15.0**	**-2.8**
ASAO	**Ashtian**	**2.81**	**345**	*e*Pn	**Pb**	**19** **25** **15.0**	**-2.8**
ICHK	**Chekchek**	**3.00**	**81**	*e*Pn	**Pn**	**19** **25** **15.4**	**+0.3**
ICHK	**Chekchek**	**3.00**	**81**	*e*Pn	**Pb**	**19** **25** **18.8**	**-2.3**
ICHK	comp=Z,6μm,0.8s			IAMB	IAmb	19 26 05.9	
IDOB	**Doab**	**3.01**	**311**	*e*Pn	**Pn**	**19** **25** **17.0**	**+1.8**
IDOB	comp=Z,0.0nm,2.3s			IAMB	IAmb	19 26 29.1	
IKFM	**Kafar-mosalman**	**3.08**	**304**	*e*Pn	**Pn**	**19** **25** **18.2**	**+2.2**
IKFM	comp=Z,0.0nm,1.7s			IAMB	IAmb	19 26 20.9	
IMEH	**Mehriz**	**3.19**	**97**	*e*Pn	**Pn**	**19** **25** **20.4**	**+2.6**
IMEH	**Mehriz**	**3.19**	**97**	*e*Pn	**Pn**	**19** **25** **20.4**	**+2.6**
IMEH	comp=Z,3μm,0.6s			IAMB	IAmb	19 26 15.8	
HAGD	**Aghdareh**	**3.33**	**334**	*e*Pn	**Pn**	**19** **25** **21.4**	**+1.8**
HAGD	comp=Z,0.0nm,1.1s			IAMB	IAmb	19 26 23.8	
IRAZ	**Razeghan**	**3.66**	**347**	*e*Pn	**Pn**	**19** **25** **26.1**	**+2.0**
IRAZ	comp=Z,4μm,0.6s			IAMB	IAmb	19 26 33.6	
IKOM	**Komasi**	**3.69**	**310**	*e*Pn	**Pn**	**19** **25** **26.8**	**+2.3**
IKOM	comp=Z,0.0nm,1.7s			IAMB	IAmb	19 26 45.2	
IMHD	**Mahdasht**	**3.85**	**357**	*e*Pn	**Pn**	**19** **25** **28.8**	**+2.1**
IMHD	comp=Z,2μm,0.4s			IAMB	IAmb	19 25 41.4	
IDMV	**Damavand**	**3.85**	**14**	*e*Pn	**Pn**	**19** **25** **28.0**	**+1.1**
IDMV	comp=Z,2μm,0.6s			IAMB	IAmb	19 25 45.4	
KCHF	**Cheshme Sefid,**	**4.06**	**308**	*e*Pn	**Pn**	**19** **25** **31.1**	**+1.5**
KCHF	comp=Z,0.0nm,0.9s			IAMB	IAmb	19 27 06.5	
THKV	**Tehran--Karaj**	**4.08**	**360**	*e*Pn	**Pn**	**19** **25** **33.1**	**+3.3**
THKV	**Tehran--Karaj**	**4.08**	**360**	*e*Pn	**Pn**	**19** **25** **33.1**	**+3.3**
IVIS	**Veis**	**4.33**	**309**	*e*Pn	**Pn**	**19** **25** **34.5**	**+1.2**
IVIS	comp=Z,2μm,1.1s			IAMB	IAmb	19 27 17.0	
SNGE	**Sanandaj**	**4.41**	**319**	*e*Pn	**Pn**	**19** **25** **37.1**	**+2.7**
SNGE	**Sanandaj** comp=N,94nm,0.6s	**4.41**	**319**	*e*AML	AML	19 27 10.9	
SNGE	**Sanandaj**	**4.41**	**319**	*e*Pn	**Pn**	**19** **25** **37.1**	**+2.7**
IGHG	**Ghaleghazi**	**4.41**	**306**	*e*Pn	**Pn**	**19** **25** **35.4**	**+0.9**
IGHG	comp=Z,5μm,1.1s			IAMB	IAmb	19 27 23.6	
IANJ	**Anjilo**	**4.41**	**34**	*e*Pn	**Pn**	**19** **25** **37.3**	**+2.8**
IANJ	comp=Z,2μm,0.9s			IAMB	IAmb	19 27 22.4	
KHGB	**Koh Gabri**	**4.99**	**105**	*e*Pn	**Pn**	**19** **25** **45.1**	**+2.6**
KHGB	comp=Z,0.0nm,1.0s			IAMB	IAmb	19 27 18.8	
TPRV	**Parvadeh(Tabas**	**5.03**	**75**	*e*Pn	**Pn**	**19** **25** **45.6**	**+2.7**
TPRV	comp=Z,0.0nm,1.4s			IAMB	IAmb	19 27 33.2	
TNSJ	**Nastanj**	**5.25**	**65**	*e*Pn	**Pn**	**19** **25** **47.5**	**+1.6**
TNSJ	comp=Z,0.0nm,1.2s			IAMB	IAmb	19 27 26.3	
NGRK	**Negar Kerman**	**5.47**	**112**	*e*Pn	Pn	19

GEYT **Alibeck** 8.49 42 Pn Pn 19 26 32.3 +2.0
comp=Z,1.0nm,0.3s,baz=254,slow=17,SNR=11
GEYT Sn Sn 19 28 11.4 +5.4
baz=233,slow=41,SNR=1.7
GEYT Lg Lg 19 28 55.1
baz=225,slow=5.9,SNR=2.3
GYA0B **ALIBECK ARRAY** 8.49 42 *e*Pn Pn 19 26 31.8 +1.4
ALNE **Al Ain** 8.85 150 *i* P Pn 19 26 36.0 +0.8
SNR=16
ALNE **Al Ain** 8.85 150 *e*Pn Pn 19 26 36.7 +1.5
SIRT **Sirnak** 8.98 311 *e*Pn Pn 19 26 38.0 +1.0
SIRT *e*Sn Sn 19 28 16.9 -1.1
SIRN **Sırnak** 8.99 311 *i* P Pn 19 26 39.3 +2.1
SIRN IAML_P
comp=Z,443nm,0.1s
GEVA **Gevas** 9.12 317 *i* P Pn 19 26 48.8 +10
GEVA IAML_P
comp=Z,128nm,0.3s
SOHO **SOHO** 9.14 146 P Pn 19 26 38.9 -0.3
SNR=6.0
SOHO S Sn 19 28 19.6 -2.3
RAYN **Ar Rayn** 9.56 211 *e*Pn Pn 19 26 44.5 -0.5
RAYN *e*Sn Sn 19 28 26.7 -5.6
RAYN **Ar Rayn** 9.56 211 *i* P Pn 19 26 45.0 0.0
SNR=40
RAYN **Ar Rayn** 9.56 211 *e*P Pn 19 26 44.5 -0.5
RAYN *e* 19 28 26.7
SRTM **Siirt_Merkez** 9.60 312 *i* P Pn 19 26 43.4 -2.1
SRTM IAML_P
comp=Z,59nm,0.3s
GNI **Garni** 9.69 331 *e*Pn Pn 19 26 47.5 +0.8
GNI **Garni** 9.69 331 P Pn 19 26 48.8 +2.0
GNI **Garni** 9.69 331 Pn Pn 19 26 49.6 +2.8
comp=Z,0.6nm,0.3s,baz=274,slow=23,SNR=2.6
GNI Lg Lg 19 29 40.5
comp=Z,1.8nm,0.3s,baz=127,slow=10.0,SNR=2.8
GNI LR LR 19 30 31.8
comp=Z,29nm,19.8s,baz=148,slow=38
ARQ **Araqi** 9.82 148 P Pn 19 26 50.2 +1.6
ARQ S Sn 19 28 35.8 -2.8
MARD **Mardin** 9.98 306 *i* P Pn 19 26 49.7 -1.1
MARD IAML_P
comp=Z,775nm,0.6s
HOQ **Hoqain** 9.98 144 P Pn 19 26 52.1 +1.3
HOQ S Sn 19 28 40.0 -2.7
HOQ **Hoqain** 9.98 144 *e*Pn Pn 19 26 54.5 +3.7
BIDO **Bidbid** 10.46 141 *e*Pn Pn 19 27 00.7 +3.4
BSY **Bisya** 10.64 147 P Pn 19 27 01.7 +1.9
BSY S Sn 19 28 55.2 -3.6
SMDO **Samad** 10.79 142 P Pn 19 27 03.5 +1.5
WSAR **Wadi Sarin** 10.96 139 P Pn 19 27 04.5 +0.3
WSAR **Wadi Sarin** 10.96 139 Pn Pn 19 27 04.9 +0.7
comp=Z,2.6nm,0.3s,baz=343,slow=12,SNR=28
WSAR Sn Sn 19 28 59.6 -7.1
comp=Z,0.7nm,0.3s,baz=324,slow=17,SNR=1.6
WSAR LR LR 19 31 58.7
comp=Z,154nm,22.0s,baz=318,slow=42
JMDO **Jabal Madar** 11.39 144 P Pn 19 27 10.7 +0.6
WBK **Wadi Bani Khal** 11.65 140 P Pn 19 27 12.9 -0.7
ASF **Jabal al Asfar** 11.90 275 Pn Pn 19 27 15.9 -1.1
comp=Z,0.8nm,0.3s,baz=40,slow=6.5,SNR=24
ASF Sn Sn 19 29 21.8 -7.9
baz=88,slow=17,SNR=1.9
ASF Lg Lg 19 30 36.0
comp=Z,0.1nm,0.3s,baz=241,slow=23,SNR=1.1
JLN **Jalan Bani Buh** 12.26 140 P Pn 19 27 20.7 -1.3
MHTO **MHTO** 12.51 148 P Pn 19 27 25.9 +0.5
MMAI **Mount Meron Ar** 13.15 279 Pn Pn 19 27 34.3 +0.2
comp=Z,0.8nm,0.3s,baz=91,slow=15,SNR=9.0
DQM **DQM** 13.27 152 P Pn 19 27 35.3 -0.4
KBZ **Khabaz** 13.45 334 Pn P 19 27 42.4 -5.0
comp=Z,0.1nm,0.3s,baz=124,slow=11,SNR=3.1
KVAR **Kislovodsk Arr** 13.72 334 Pn Pn 19 27 46.4 +2.7
baz=165,slow=12,SNR=2.5
KIV **Kislovodsk** 13.72 334 *e*Pn Pn 19 27 42.4 +0.4
KIV **Kislovodsk** 13.72 334 *e*P Pn 19 27 44.4 +2.5
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,19nm,10.0s
EIL **Elat** 13.89 265 Pn Pn 19 27 44.6 +0.4
comp=Z,0.5nm,0.3s,baz=130,slow=9.0,SNR=5.5
EIL Sn Sn 19 30 13.5 -4.7
comp=Z,0.1nm,0.3s,baz=86,slow=20,SNR=1.2
EIL Lg Lg 19 31 57.7
comp=Z,0.1nm,0.3s,baz=34,slow=22,SNR=1.6
DMTO **DMTO** 14.52 164 P Pn 19 27 51.0 -1.9
ABTO **Aybut** 14.57 171 P Pn 19 27 53.2 -0.5
CSS **Mathiatis** 15.01 287 *e*Pn Pn 19 27 59.4 0.0
comp=Z,33nm,1.5s
KBL **Kabul** 15.43 75 *e*Pn Pn 19 28 06.5 +1.3
comp=Z,5.8nm,0.9s
KBL **Kabul** 15.43 75 *e*P Pn 19 28 06.5 +1.3
KBL pmax pmax
comp=Z,6.0nm,0.9s
SULT **Sultanhani-AKS** 15.59 299 PG P 19 28 12.9 +1.5
YAYX **Yaylak** 15.63 302 PG P 19 28 14.7 +2.9
BR131 **Keskin Array S** 16.06 304 *e*Pn P 19 28 14.8 -1.8
comp=Z,11nm,0.8s
BRTR **Keskin Array B** 16.06 304 *i* P P 19 28 16.2 -0.4
BRTR pmax pmax
comp=Z,10.0nm,0.7s
BRTR **Keskin Array B** 16.06 304 Pn P 19 28 16.1 -0.4
comp=Z,0.5nm,0.3s,baz=114,slow=9.7,SNR=62
KULU **Kulu** 16.25 301 PG Pn 19 28 15.6 -0.1
AFSR **Afar-Bala (An** 16.35 303 PG P 19 28 21.5 +1.7
CHGR **Chuyangaron** 16.38 60 *e*Pn P 19 28 19.8 -0.4
comp=Z,23nm,1.0s
KONT **Konya--Tatoy** 16.38 297 PG P 19 28 23.4 +3.3
LADK **Ladik-KONYA** 16.45 298 PG P 19 28 21.4 +0.4
ILGA **Ilgaz** 16.59 308 *e*Pn P 19 28 21.7 -0.9
comp=Z,42nm,1.6s
ANN **Anapa** 16.69 325 *e*P Pn 19 28 12.7 -8.3
ANN pmax pmax
comp=Z,293nm,1.4s
ANTO **Ankara** 16.71 304 *e*Pn Pn 19 28 20.8 -0.7
comp=Z,17nm,0.8s
ANTO **Ankara** 16.71 304 *e*P Pn 19 28 20.8 -0.7
ANTO pmax pmax
comp=Z,17nm,0.8s
BR231 **Keskin MP Arra** 16.71 304 *e*Pn Pn 19 28 22.3 +0.7
comp=Z,14nm,0.8s
GAR **Garm** 17.35 60 *e*P P 19 28 31.0 +0.1
comp=Z,17nm,0.9s
GAR **Garm** 17.35 60 *e*P P 19 28 31.0 +0.1
GAR pmax pmax
comp=Z,17nm,0.9s
ISP **Isparta** 17.76 295 *e*Pn P 19 28 35.9 +0.5
comp=Z,16nm,0.7s
ISP **Isparta** 17.76 295 ⇑ *i*P P 19 28 36.9 +1.5
ISP **Isparta** 17.76 295 *e*P P 19 28 35.9 +0.5
ISP pmax pmax
comp=Z,16nm,0.7s
DAMY **Dhamar** 18.18 201 *e*Pn Pn 19 28 40.2 +0.1
comp=Z,26nm,1.2s
ABKAR **Akbulak array** 18.69 19 *e*P Pn 19 28 45.2 -0.6
comp=Z,3.0nm,0.7s
NIL **Nilore** 18.89 78 *e*P Pn 19 28 48.3 0.0
comp=Z,10.0nm,1.1s
NIL **Nilore** 18.89 78 *e*P Pn 19 28 48.3 0.0
NIL pmax pmax
comp=Z,10.0nm,1.1s
KK31 **Karatay Array** 19.16 48 *e*P Pn 19 28 51.7 +0.1
comp=Z,6.6nm,1.0s
KK31 **Karatay Array** 19.16 48 *e*P Pn 19 28 51.7 +0.1
KK31 pmax pmax
comp=Z,7.0nm,1.0s
KKAR **Karatay Array** 19.16 48 *e*P Pn 19 28 51.8 +0.2
comp=Z,6.6nm,1.0s
KKAR **Karatay Array** 19.16 48 *e*P Pn 19 28 51.8 +0.2
KKAR pmax pmax
comp=Z,7.0nm,1.0s
AKTO **Aktyubinsk** 19.33 14 P P 19 28 52.3 -0.1
comp=Z,0.4nm,0.3s,baz=188,slow=13,SNR=9.4
AKTO LR LR 19 37 59.0
comp=Z,144nm,19.2s,baz=179,slow=42
MANT **Manisa** 19.42 296 *e*P Pn 19 28 54.3 -0.7
comp=Z,60nm,1.0s
KARP **Karpathos** 20.09 287 *e*P P 19 29 01.0 +0.1
comp=Z,51nm,0.8s
CTYL **Yalikoy Yolu** 20.49 304 ⇑ *i*P P 19 29 05.1 -0.1
VRH **Novokhopyorsk** 20.51 343 *e*P P 19 29 05.3 0.0
VRH pmax pmax
comp=Z,10.0nm,0.6s
PHSR **Pinarhisar** 21.08 304 ⇓ *i*P P 19 29 13.4 +1.8

VSR **Storozhevoye** 21.22 339 *e*P P 19 29 12.3 -0.7
VSR *e* 19 33 50.2
VSR pmax pmax
comp=Z,10.0nm,1.0s
MFTR **Murfatlar** 21.50 311 ⇑ *i*P P 19 29 15.7 -0.4
ATD **Arta Tunnel** 21.53 202 LR LR 19 38 15.8
comp=Z,109nm,20.8s,baz=20,slow=39
SANT **Santorini** 21.53 289 *e*P P 19 29 17.0 +0.6
comp=Z,252nm,1.3s
APE **Apeiranthos** 21.54 291 ⇓ *e*P P 19 29 17.3 +0.7
KSH **Kashi** 21.72 62 P P 19 29 16.4 -2.2
KSH pP sP 19 29 27.0 +1.7
KSH PP PnPn 19 29 41.3 +1.8
KSH S S 19 33 01.7 -17
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,150nm,3.9s
KSH LR LR
comp=Z,270nm,7.0s
KSH LR LR
comp=Z,280nm,9.3s
ALN **Alexandroupoli** 21.91 301 *e*P P 19 29 21.2 +0.7
comp=Z,5.6nm,0.8s
ALN **Alexandroupoli** 21.91 301 *e*P P 19 29 21.2 +0.7
ALN pmax pmax
comp=Z,6.0nm,0.8s
IDI **Anoyia** 21.93 286 *e*P P 19 29 21.2 +0.4
comp=Z,26nm,0.8s
IDI **Anoyia** 21.93 286 ⇑ *i*P P 19 29 22.5 +1.7
IDI **Anoyia** 21.93 286 P P 19 29 22.0 +1.2
comp=Z,14nm,0.5s,baz=88,slow=7.8,SNR=9.9
TLB **Topalu** 21.93 312 ⇑ *i*P P 19 29 21.4 +0.7
CFR **Carcaliu** 22.16 313 ⇑ *i*P P 19 29 23.6 +0.5
LPSR **Galich'ya Gora** 22.51 341 *e*P P 19 29 27.4 +0.6
LPSR *e* 19 34 06.5
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VRI **Vrincioaia** 23.36 314 ⇑ *i*P P 19 29 37.7 +2.0
PLOR **Plostina** 23.40 314 ⇑ *i*P P 19 29 37.0 +0.9
MLR **Muntele Rosu** 23.67 312 *e*P P 19 29 40.4 +1.5
comp=Z,17nm,0.9s
MLR **Muntele Rosu** 23.67 312 ⇓ *i*P P 19 29 39.8 +0.9
MLR **Muntele Rosu** 23.67 312 P P 19 29 40.0 +1.1
MLR pmax pmax
comp=Z,12nm,0.7s
MLR **Muntele Rosu** 23.67 312 P P 19 29 40.0 +1.1
comp=Z,12nm,0.7s,baz=157,slow=2.8,SNR=14
TESR **Tescani** 23.72 315 ⇑ *i*P P 19 29 40.2 +1.0
OZUR 24.04 314 ⇑ *i*P P 19 29 43.3 +0.9
VOIR 24.21 312 ⇓ *i*P P 19 29 46.0 +2.0
DOPR **Dopca** 24.23 313 ⇑ *i*P P 19 29 45.1 +1.0
BIZ **Bicaz** 24.25 316 ⇓ *i*P P 19 29 45.6 +1.3
AGG **Agios Georgios** 24.30 295 *e*P P 19 29 45.2 +0.4
comp=Z,20nm,0.7s
AGG **Agios Georgios** 24.30 295 *e*P P 19 29 45.2 +0.4
AGG pmax pmax
comp=Z,20nm,0.7s
LIT **Litokhoron** 24.36 298 *e*P P 19 29 46.1 +0.8
comp=Z,19nm,1.3s
LIT **Litokhoron** 24.36 298 *e*P P 19 29 46.1 +0.8
LIT pmax pmax
comp=Z,19nm,1.3s
PRAR **RASCA** 24.39 317 ⇓ *i*P P 19 29 46.1 +0.6
ITM **Ithomi** 24.42 291 *e*P P 19 29 46.3 +0.4
comp=Z,31nm,0.8s
VTS **Vitosha** 24.42 304 *e*P P 19 29 46.6 +0.6
comp=Z,3.7nm,1.0s
VTS **Vitosha** 24.42 304 ⇑ *i*P P 19 29 46.6 +0.6
VTS **Vitosha** 24.42 304 *e*P P 19 29 46.7 +0.6
VTS pmax pmax
comp=Z,4.0nm,1.0s
ARR **Arges** 24.45 311 ⇑ *i*P P 19 29 47.5 +1.4
AKASG **Malin Array Be** 24.76 326 P P 19 29 48.7 -0.1
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG **Malin Array Be** 24.76 326 P P 19 29 48.7 -0.1
comp=Z,2.9nm,0.5s,baz=132,slow=8.8,SNR=24
AKBB **Malin Array Si** 24.76 326 *e*P P 19 29 48.9 +0.1
comp=Z,10nm,1.0s
AKBB **Malin Array Si** 24.76 326 *e*P P 19 29 48.9 +0.1
AKBB pmax pmax
comp=Z,10.0nm,1.0s
KIEV **Kiev** 24.77 326 *e*P P 19 29 48.9 0.0
comp=Z,9.3nm,1.0s
KIEV **Kiev** 24.77 326 *i* P P 19 29 48.9 0.0
SNR=6.3
KIEV **Kiev** 24.77 326 ⇑ *e*P P 19 29 50.0 +1.2
KIEV pmax pmax
comp=Z,10.0nm,1.0s
AK11 **Malin Array Si** 24.77 326 *e*P P 19 29 49.0 +0.1
LOT **Lotru** 25.04 311 ⇑ *i*P P 19 29 52.7 +1.2
BURAR **Bucovina Array** 25.11 316 ⇓ *i*P P 19 29 53.0 +0.8
BUR04 **Bucovina Ar. S** 25.12 316 *e*P P 19 29 53.0 +0.9
BUR08 **Bucovina Ar. S** 25.14 316 *e*P P 19 29 53.4 +1.0
comp=Z,13nm,0.9s
PUNG **Punghina** 25.16 308 ⇑ *i*P P 19 29 54.1 +1.7
ARU **Arti** 25.17 10 P P 19 29 57.2 +4.8
FNA **Florina** 25.32 299 *e*P P 19 29 53.6 -0.4
comp=Z,7.1nm,0.7s
FNA **Florina** 25.32 299 *e*P P 19 29 53.6 -0.4
FNA pmax pmax
comp=Z,7.0nm,0.7s
ARCR **ARCALIA** 25.38 315 ⇑ *i*P P 19 29 56.1 +1.7
OBN **Obninsk** 25.39 341 ⇑ *e*P P 19 29 58.4 +4.0
OBN *SP sP 19 30 05.0 +3.6
OBN pmax pmax
comp=Z,20nm,1.3s
BRVK **Borovoye** 25.43 28 *e*P P 19 29 54.7 -0.1
comp=Z,3.4nm,0.9s
BRVK **Borovoye** 25.43 28 ⇑ *e*P P 19 29 56.6 +1.8
BRVK pmax pmax
comp=Z,4.0nm,1.2s
BVAR **Borovoye Array** 25.45 28 P P 19 29 55.6 +0.7
comp=Z,1.6nm,0.5s,baz=222,slow=8.5,SNR=15
BVAR PcP PcP 19 33 26.6 0.0
comp=Z,0.6nm,0.5s,baz=204,slow=2.0,SNR=5.2
BVAR LR LR 19 41 38.3
comp=Z,94nm,18.5s,baz=237,slow=41
GZR **Gura Zlata** 25.66 310 ⇑ *i*P P 19 29 58.1 +1.0
MDVR **Moldovita** 26.15 308 ⇑ *i*P P 19 30 02.6 +1.1
DRGR 26.26 313 ⇑ *i*P P 19 30 04.4 +1.9
BZS **Buzias** 26.50 310 ⇑ *i*P P 19 30 06.0 +1.4
SIRR **Siria** 26.72 311 ⇓ *i*P P 19 30 08.3 +1.7
KIRV **Kirov** 26.78 358 LR LR 19 44 05.0
comp=Z,112nm,18.7s,baz=187,slow=44
TRPA **Tarpa** 26.95 315 ⇑ *i*P P 19 30 10.1 +1.5
KURBB **Kurchatov Arra** 27.75 39 P P 19 30 15.7 -0.1
comp=Z,0.9nm,0.7s,baz=242,slow=9.1,SNR=5.4
KURK **Kurchatov** 27.85 39 P P 19 30 15.7 -1.0
KURK **Kurchatov** 27.85 39 P P 19 30 15.7 -1.0
KURK pmax pmax
comp=Z,1.0nm,0.7s
PYUN **Piuthan** 27.99 89 *e*P P 19 30 18.9 +0.5
comp=Z,53nm,1.4s
MAKZ **Makanchi** 28.09 49 *e*P P 19 30 19.2 +0.3
MAKZ **Makanchi** 28.09 49 *e*P P 19 30 19.2 +0.3
MAKZ pmax pmax
comp=Z,9.0nm,1.5s
MK01 **Makanchi Array** 28.28 49 *e*P P 19 30 21.6 +0.9
MK31 **Makanchi Array** 28.29 49 *e*P P 19 30 21.7 +1.1
comp=Z,1.9nm,0.9s
MK31 **Makanchi Array** 28.29 49 *e*P P 19 30 21.7 +1.1
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR **Makanchi Array** 28.29 49 P P 19 30 21.5 +0.8
comp=Z,1.8nm,0.6s,baz=242,slow=9.7,SNR=15
DANN **Dangsing** 28.58 88 *e*P P 19 30 24.8 +1.0
comp=Z,20nm,0.8s
TIP **Timpagrande** 28.63 294 *e*P P 19 30 23.4 -0.4
comp=Z,46nm,1.5s
HYB **Hyderabad** 28.84 113 *i* P P 19 30 27.0 +1.2
LANS **Liptovska Anna** 29.23 315 *e*P P 19 30 30.6 +1.6
LANS **Liptovska Anna** 29.23 315 *e*P P 19 30 30.6 +1.6
VYHS **Vyhne** 29.34 314 *e*P P 19 30 31.5 +1.5
VYHS **Vyhne** 29.34 314 *e*P P 19 30 31.5 +1.5
OJC **Ojcow** 29.50 318 *e*P P 19 30 32.1 +0.8
comp=Z,16nm,0.7s
OJC **Ojcow** 29.50 318 *e*P P 19 30 32.1 +0.8
OJC pmax pmax
comp=Z,16nm,0.7s
DMN **Daman** 29.93 89 *e*P P 19 30 36.0 +0.3
comp=Z,12nm,0.6s
KLMR **Klimovskoe** 29.99 349 *e*P P 19 30 34.8 -0.7

KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR **Klimovskoe** 29.99 349 *e*P P 19 30 34.9 -0.6
KLMR AMP 19 30 49.1
comp=Z,15nm,1.2s
KKN **Kakani** 30.02 89 *e*P P 19 30 37.0 +0.5
comp=Z,15nm,0.6s
PKIN **Phulchoki** 30.18 89 *e*P P 19 30 38.3 +0.3
comp=Z,14nm,0.8s
PKI **Pulchoki** 30.19 89 *e*P P 19 30 38.5 +0.4
comp=Z,21nm,0.8s
OKC **Ostrava-Krasne** 30.29 316 *e*P P 19 30 39.2 +0.8
OKC *e*pP sP 19 30 44.0 -1.4
OKC **Ostrava-Krasne** 30.29 316 *e*P P 19 30 39.2 +0.8
OKC *e* 19 30 44.0
GUN **Gumba** 30.50 88 *e*P P 19 30 41.7 +0.8
comp=Z,26nm,0.9s
MORC **Moravsky Berou** 30.63 316 *e*P P 19 30 40.4 -1.0
comp=Z,4.7nm,0.8s
MORC **Moravsky Berou** 30.63 316 *e*P P 19 30 40.4 -1.0
MORC pmax pmax
comp=Z,5.0nm,0.8s
JIRN **Jiri** 30.83 89 *e*P P 19 30 44.4 +0.6
comp=Z,34nm,0.7s
VRAC **Vranov** 31.02 314 ⇑ *i*P P 19 30 45.7 +0.9
WMQ **Urumqi** 31.18 57 *e*P P 19 30 51.4 +5.0
WMQ pP sP 19 31 05.0 +12
WMQ sP pP 19 31 09.7 +18
WMQ pmax pmax
comp=Z,14nm,1.9s
WMQ pmax pmax
comp=Z,370nm,4.3s
WMQ LR LR
comp=Z,250nm,19.7s
WMQ LR LR
comp=Z,280nm,16.7s
RAMN **Ramite** 31.39 90 *e*P P 19 30 48.8 +0.2
comp=Z,16nm,0.6s
DPC **Dobruska-Polom** 31.57 316 *e*P P 19 30 50.5 +0.7
DPC **Dobruska-Polom** 31.57 316 *e*P P 19 30 50.5 +0.7
UPC **Upice** 31.82 316 *e*P P 19 30 52.4 +0.6
UPC **Upice** 31.82 316 *e*P P 19 30 52.4 +0.6
MOA **Molln** 32.01 311 *i* P P 19 30 54.2 +0.6
comp=Z,3.4nm,0.6s
ODAN **Odare** 32.09 89 *e*P P 19 30 55.2 +0.5
KBA **Koelnbreinsper** 32.40 309 *e*P P 19 30 56.8 -0.4
comp=Z,2.8nm,0.5s
DGZ **Jazzator, Alta** 32.51 46 ⇑ *e*P P 19 30 59.7 +1.6
DGZ pmax pmax
comp=Z,2.0nm,1.0s
GEA0 **GERESS Array S** 32.66 312 *e*P P 19 30 59.5 +0.1
GEC2 **GERESS Array S** 32.66 312 *e*P P 19 30 59.6 +0.3
comp=Z,7.5nm,1.4s
GEC2 **GERESS Array S** 32.66 312 *e*P P 19 30 59.6 +0.3
GEC2 pmax pmax
comp=Z,8.0nm,1.4s
GERES **GERESS Array B** 32.66 312 P P 19 30 59.4 0.0
comp=Z,1.2nm,0.6s,baz=114,slow=8.5,SNR=11
GERES PcP PcP 19 33 44.7 -0.4
comp=Z,0.3nm,0.6s,baz=90,slow=1.0,SNR=5.1
ZALV **Zalesovo Beam** 32.77 38 *e*P P 19 31 00.6 +0.5
ZALV **Zalesovo Beam** 32.77 38 P P 19 31 00.5 +0.4
comp=Z,1.1nm,0.5s,baz=241,slow=9.8,SNR=5.7
ZALV LR LR 19 47 31.2
comp=Z,37nm,19.0s,baz=72,slow=42
KHC **Kasperske Hory** 32.82 313 *e*P P 19 31 00.2 -0.5
comp=Z,1.4nm,1.2s
KHC **Kasperske Hory** 32.82 313 *e*P P 19 31 02.4 +1.7
KHC **Kasperske Hory** 32.82 313 *e*P P 19 31 00.3 -0.5
KHC pmax pmax
comp=Z,1.0nm,1.2s
ABTA **Abfaltersbach** 32.88 308 *i* P P 19 31 00.7 -0.6
WTTA **Wattenberg** 33.58 309 *i* P P 19 31 07.4 -0.1
comp=Z,3.8nm,0.5s
WATA **Walderalm** 33.64 309 *i* P P 19 31 07.6 -0.4
comp=Z,3.1nm,0.5s
FIA1 **FINESS Array S** 33.75 339 *e*P P 19 31 08.3 -0.2
comp=Z,58nm,1.6s
FINES **FINESS Array B** 33.75 339 P P 19 31 08.3 -0.2
comp=Z,1.2nm,0.5s,baz=148,slow=11,SNR=10
SQTA **Sankt Quirin** 33.85 309 *i* P P 19 31 09.6 -0.3
comp=Z,7.7nm,0.5s
CLL **Collm** 33.88 316 *e*P P 19 31 11.0 +1.1
CLL *es*P pP 19 31 15.0 +0.1
CLL **Collm** 33.88 316 *e*P P 19 31 11.0 +1.1
CLL *e* 19 31 15.0
MOTA **Moosalm** 33.95 309 *i* P P 19 31 10.2 -0.5
comp=Z,5.3nm,0.9s
FETA **Feichten** 34.13 308 *i* P P 19 31 12.2 -0.1
comp=Z,6.7nm,0.6s
RETA **Reutte** 34.21 309 *i* P P 19 31 12.1 -0.7
comp=Z,2.3nm,0.5s
FUORN **Ofenpass-Fuorn** 34.37 307 *e*P P 19 31 14.8 +0.4
comp=Z,9.1nm,1.3s
GRA1 **Grafenberg Arr** 34.46 313 *e*P P 19 31 15.4 +0.5
comp=Z,9.4nm,1.2s
GRF **Grafenberg Arr** 34.46 313 *e*P P 19 31 15.4 +0.5
GRF pmax pmax
comp=Z,9.0nm,1.2s
GRFO **Grafenberg** 34.46 313 *e*P P 19 31 15.4 +0.5
comp=Z,26nm,1.6s
GRFO **Grafenberg** 34.46 313 *e*P P 19 31 15.4 +0.5
GRFO pmax pmax
comp=Z,26nm,1.6s
LSA **Lhasa** 34.51 83 *e*P P 19 31 17.2 +1.1
comp=Z,2.7nm,0.8s
KEST **Kesra** 34.58 288 P P 19 31 18.2 +2.1
comp=Z,4.8nm,0.7s,baz=352,slow=6.0,SNR=5.2
DAVA **Damuels** 34.75 308 *i* P P 19 31 17.3 -0.3
comp=Z,11nm,0.5s
SENIN **Lac Senin/Sane** 36.34 306 *e*P P 19 31 30.8 -0.7
comp=Z,3.3nm,0.7s
BNI **Bardonecchia** 36.62 304 *e*P P 19 31 33.1 -0.6
comp=Z,20nm,0.8s
BNI **Bardonecchia** 36.62 304 *e*P P 19 31 33.1 -0.6
BNI pmax pmax
comp=Z,20nm,0.8s
APA **Apatity** 37.23 349 ⇑ *i*P P 19 31 39.0 +0.6
APA pmax pmax
comp=Z,7.0nm,1.1s
APA MLR MLR
comp=Z,2μm,16.0s
LVZ **Lovozero** 37.34 350 ⇑ *e*P P 19 31 43.3 +3.9
LVZ pmax pmax
comp=Z,63nm,1.6s
MBAR **Mbarara** 37.49 215 P P 19 31 40.4 -0.9
comp=Z,2.4nm,0.2s,baz=35,slow=16,SNR=1.8
WLF **Walferdange** 37.65 312 *e*P P 19 31 40.6 -1.6
comp=Z,40nm,1.1s
SSB **Saint Sauveur** 38.15 304 *e*P P 19 31 46.3 -0.3
comp=Z,4.1nm,0.8s
SSB **Saint Sauveur** 38.15 304 *e*P P 19 31 46.3 -0.3
SSB pmax pmax
comp=Z,4.0nm,0.8s
NC602 **NORSAR Array S** 38.70 330 *e*P P 19 31 51.2 +0.3
comp=Z,9.5nm,0.9s
NC405 **NORSAR Array S** 38.82 331 *e*P P 19 31 51.9 0.0
comp=Z,80nm,1.5s
NB201 **NORSAR Array S** 38.96 330 *e*P P 19 31 53.0 -0.1
comp=Z,28nm,1.4s
NB2 **NORSAR Subarra** 38.99 330 P P 19 31 52.9 -0.5
comp=Z,3.3nm,0.6s,baz=122,slow=8.6
NOA **NORSAR Array B** 38.99 330 P P 19 31 52.4 -1.0
comp=Z,2.7nm,0.7s,baz=122,slow=8.4,SNR=11
NOA LR LR 19 48 37.7
comp=Z,94nm,18.9s,baz=350,slow=37
NC303 **NORSAR Array S** 39.02 331 *e*P P 19 31 52.7 -0.9
comp=Z,56nm,1.5s
NAO01 **NORSAR Array S** 39.03 330 *e*P P 19 31 53.3 -0.4
comp=Z,56nm,1.5s
NBO00 **NORSAR Array S** 39.17 330 *e*P P 19 31 54.3 -0.6
comp=Z,54nm,1.5s
NC204 **NORSAR Array S** 39.30 331 *e*P P 19 31 56.0 0.0
comp=Z,35nm,1.4s
GTA **Gaotai** 40.07 65 P P 19 32 05.7 +2.9
GTA pP sP 19 32 16.5 +6.7
GTA sP pP 19 32 20.3 +12
GTA PcP PcP 19 34 08.6 +1.1
GTA pmax pmax
comp=Z,5.0nm,1.7s
ARCES **ARCESS Array B** 40.38 347 P P 19 32 05.8 +0.9
comp=Z,3.4nm,1.0s,baz=138,slow=7.5,SNR=4.2
TAM **Tamanrasset** 41.07 269 *e*P P 19 32 11.1 -0.2
comp=Z,2.2nm,0.7s
TAM **Tamanrasset** 41.07 269 *e*P P 19 32 11.1 -0.2
TAM pmax pmax

comp=Z,2.0nm,0.7s
NRIK Noril'sk 42.86 18 LR LR 19 52 32.3
comp=Z,55nm,18.3s,baz=209,slow=39
TLY Talaya 42.98 47 *eP* **P 19 32 27.4 +1.1**
comp=Z,5.8nm,1.5s
TLY Talaya 42.98 47⇑ *eP* **P 19 32 27.2 +0.8**
LZH Lanzhou 43.67 69 *eP* **P 19 32 32.2 -0.2**
LZH pP sP 19 32 44.2 +4.8
LZH sP pP 19 32 49.4 +12
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,210nm,4.3s
ESK Eskdalemuir 44.28 318 *eP* **P 19 32 37.0 +0.2**
comp=Z,24nm,1.4s
ESK Eskdalemuir 44.28 318 *eP* **P 19 32 37.0 +0.2**
ESK pmax pmax
comp=Z,24nm,1.4s
SONM Songino Array 44.54 52 P **P 19 32 39.1 0.0**
comp=Z,0.8nm,1.0s,baz=262,slow=7.3,SNR=4.5
SONM PcP **PcP 19 34 21.7 -0.4**
comp=Z,0.4nm,0.8s,baz=267,slow=2.9,SNR=2.2
ES19 SONSECA Array 44.57 296 *eP* **P 19 32 39.8 +0.5**
ESDC Sonseca Array 44.62 296 P **P 19 32 40.0 +0.2**
comp=Z,2.4nm,0.8s,baz=72,slow=8.1,SNR=9.7
ESLA Sonseca Array 44.62 296 *eP* **P 19 32 40.1 +0.3**
comp=Z,9.3nm,1.3s
CD2 Chengdu 44.76 77 P **P 19 32 40.3 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PAB San Pablo 44.93 296 *eP* **P 19 32 42.6 +0.3**
comp=Z,13nm,1.4s
PAB San Pablo 44.93 296 *eP* **P 19 32 42.6 +0.3**
PAB pmax pmax
comp=Z,13nm,1.4s
CHTO Chiang Mai 44.98 95 *eP* **P 19 32 43.3 +0.5**
comp=Z,4.4nm,1.1s
CMAR Chiang Mai Arr 45.14 95 P **P 19 32 43.8 -0.3**
CMAR 19 34 24.7
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 45.14 95 P **P 19 32 43.8 -0.3**
comp=Z,1.0nm,0.8s,baz=355,slow=10,SNR=4.3
CMAR PcP **PcP 19 34 24.7 +0.2**
comp=Z,1.0nm,0.7s,baz=293,slow=4.6,SNR=5.9
CM01 Chiang Mai Arr 45.17 95 *eP* **P 19 32 44.4 +0.1**
KMI Kunming 45.70 85 P **P 19 32 49.1 +0.4**
KMI pP sP 19 33 03.3 +7.3
KMI pmax pmax
comp=Z,11nm,0.9s
PBRG Braganca 46.44 299 *eP* **P 19 32 54.7 +0.6**
MVO Moncorvo 46.74 299 *eP* **P 19 32 57.0 +0.5**
PVRL Vila Real 47.23 299 *eP* **P 19 33 01.3 +0.9**
MTE Manteigas 47.24 298 *eP* **P 19 33 01.7 +1.3**
PCBR Castelo Branco 47.27 297 *eP* **P 19 33 01.6 +1.0**
comp=Z,20nm,0.4s
PMRV Marv??o 47.28 296 *eP* **P 19 33 01.4 +0.7**
POLO Lamas de Olo 47.28 299 *eP* **P 19 33 01.3 +0.5**
comp=Z,14nm,1.5s
PVIS Viseu 47.45 298 *eP* **P 19 33 03.0 +0.9**
PESTR Estremoz 47.53 296 *eP* **P 19 33 02.9 +0.3**
PGAV Gavieira, Arco 47.55 300 *eP* **P 19 33 03.8 +0.9**
PBKT Sadao Pong 47.72 96 *eP* **P 19 33 03.7 -0.6**
PBEJ Beja 47.90 294 *eP* **P 19 33 02.6 -2.9**
COI Coimbra 47.92 297 *eP* **P 19 33 06.9 +1.3**
PCAS Casmilo, Conde 48.01 297 *eP* **P 19 33 07.4 +1.0**
PTOM Tomar 48.02 297 *eP* **P 19 33 07.5 +1.1**
PNCL Nicolau / Gran 48.39 295 *eP* **P 19 33 10.4 +1.1**
TOA0 Torodi Ar. Sit 48.68 259 *eP* **P 19 33 11.7 -0.1**
TOA0 Torodi Ar. Sit 48.68 259 P **P 19 33 12.1 +0.4**
TORD Torodi Ar. Bea 48.68 259 P **P 19 33 11.2 -0.6**
comp=Z,8.4nm,0.8s,baz=56,slow=7.1,SNR=55
TORD PcP **PcP 19 34 37.5 +0.5**
comp=Z,0.4nm,0.6s,baz=63,slow=3.5,SNR=3.2
HHC Hu-ho-hao-te 48.83 61 *eP* **P 19 33 13.7 +0.9**
HHC pP sP 19 33 24.5 +4.7
HHC S **S 19 40 16.4 +0.6**
HHC ScS **ScS 19 42 58.5 -6.6**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,160nm,6.4s
SPITS Spitsbergen Ar 48.84 351 P **P 19 33 12.4 +0.2**
comp=Z,2.3nm,0.6s,baz=138,slow=10,SNR=9.3
DAG Danmarks Havn 54.61 345 *i* P **P 19 33 54.9 -0.3**
comp=Z,2.4nm,0.7s
DAG Danmarks Havn 54.61 345 *i* P **P 19 33 54.9 -0.3**
DAG pmax pmax
comp=Z,2.0nm,0.7s
NJ2 Nanjing 56.73 70 *eP* **P 19 34 11.8 +0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
DBIC Dimbokro 57.57 257 P **P 19 34 17.9 +0.6**
comp=Z,8.3nm,1.0s,baz=27,slow=5.8,SNR=8.6
KIC Kosan Boka 57.64 256 *eP* **P 19 34 18.0 +0.1**
comp=Z,37nm,1.0s
TIC Toumodi 57.72 257 *eP* **P 19 34 18.7 +0.3**
LIC Lamto 57.95 256 *eP* **P 19 34 20.5 +0.5**
comp=Z,37nm,0.9s
SUMG Summit 59.78 340 *eP* **P 19 34 32.6 +0.2**
comp=Z,8.0nm,0.8s
SUMG Summit 59.78 340 *i* P **P 19 34 32.9 +0.5**
comp=Z,23nm,0.9s
SUMG Summit 59.78 340 *eP* **P 19 34 32.6 +0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
KSAR Wonju Array Be 61.94 61 P **P 19 34 47.2 +0.1**
KSAR Wonju Array Be 61.94 61 P **P 19 34 47.2 +0.1**
KSRS Korea Array 61.97 61 P **P 19 34 47.2 -0.1**
comp=Z,1.7nm,0.6s,baz=283,slow=6.4,SNR=9.6
BOSA Boshof 64.87 205 P **P 19 35 07.0 +0.4**
BOSA pmax pmax
comp=Z,5.0nm,0.8s
BOSA Boshof 64.87 205 P **P 19 35 07.0 +0.4**
comp=Z,5.3nm,0.8s,baz=18,slow=5.1,SNR=12
SEY Seymchan 67.09 29⇑ *eP* **P 19 35 21.1 +0.7**
MA2 Magadan 67.82 33⇑ *eP* **P 19 35 25.9 +0.9**
MA2 pmax pmax
comp=Z,15nm,2.4s
BILL Bilibino 69.57 21⇑ *eP* **P 19 35 36.3 +0.5**
BILL *e* 19 35 46.2
BILL *e* 19 36 00.3
BILL pmax pmax
comp=Z,18nm,3.0s
SCHQ Schefferville 78.53 328 P **P 19 36 29.9 +1.5**
comp=Z,5.2nm,1.1s,baz=59,slow=5.9,SNR=3.6
INK Inuvik 80.11 2 P **P 19 36 36.0 -0.8**
comp=Z,0.6nm,0.6s,baz=0.6,slow=5.7,SNR=4.8
IM3 Indian Mountai 80.66 10 *eP* **P 19 36 39.5 -0.4**
COLA College 82.50 8⇓ *eP* **P 19 36 50.0 +0.5**
COLA pmax pmax
comp=Z,3.0nm,1.1s
ILAR Eielson Array 82.71 8 P **P 19 36 50.1 -0.5**
comp=Z,0.5nm,0.6s,baz=322,slow=4.5,SNR=8.1
YKA Yellowknife Ar 85.28 353 P **P 19 37 02.6 -1.2**
comp=Z,0.7nm,0.9s,baz=13,slow=5.5,SNR=9.4
FITZ Fitzroy Crossi 87.07 113 P **P 19 37 12.5 -0.8**
comp=Z,5.0nm,1.0s,baz=288,slow=3.2,SNR=3.8
WRA Warramunga Arr 94.96 110 P **P 19 37 49.2 -0.9**
comp=Z,0.6nm,0.8s,baz=312,slow=4.2,SNR=4.2
ASAR Alice Springs 96.57 114 P **P 19 37 56.5 -0.9**
comp=Z,0.3nm,0.6s,baz=300,slow=5.3,SNR=5.7
MAW Mawson 99.54 175 P **Pdif 19 38 08.4 -1.2**
comp=Z,42nm,1.1s,baz=348,slow=9.3,SNR=1.6
PLCA Paso Flores 132.74 242 PKP **PKiKP 19 43 42.9 -0.5**
comp=Z,1.4nm,0.9s,baz=14,slow=4.2,SNR=2.5

MAN 02 19:27:29.8, 7°.83N×127°.12E, h7km, mb3.5, ML2.2, MS1.6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.23**	**225**	*eP*	Pb	19 27 53.1	-0.2
MATI				*eS*	Sn	19 28 09.9	-0.3
BUTP	**Butuan**	**1.87**	**308**	*eP*	Pn	19 28 01.5	-0.8
BUTP				*eS*	Sb	19 28 27.2	-0.7
BUKP	**Musuan**	**2.04**	**272**	*eP*	Pn	19 28 04.8	+0.1
BUKP				*eS*	Sn	19 28 31.2	+0.7

*IDC **02** 19:27:54.8, 1.0, 11°.46S×165°.07E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/37, mbtmp3.9/14, ML4.2/2, MS3.5/2,*

Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=30.8km s-min=19.0km az=139.0
*NEIC **02** 19:27:56.8, 0.3, 11°.47S×165°.00E, h10km, mb4.2/10, Error ellipse: s-maj=8.6km s-min=6.0km az=127.0*
*ISCJB **02** 19:27:58.9, 0.4, 11°.46S, 0°.05×164°.90E, 0°.06, h34km, mb3.9/19, MS3.4/2, Error ellipse: s-maj=8.7km s-min=7.7km az=163.0*
ISC 02 19:28:00.4, 0.6, 11°.41S, 0°.08×165°.00E, 0°.09, h34km, n40, σ0°.83/36, mb4.0/19, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.34**	**291**	*eP*n	**Pn**	**19 29 17.2**	**-0.5**
HNR				*eS*n	**Sn**	**19 30 18.5**	**+0.3**
HNR	**Honiara**	**5.34**	**291**	Pn	**Pn**	**19 29 18.6**	**+0.8**
	20nm,0.3s,baz=141,slow=9.4,SNR=5.5						
HNR				Sn	**Sn**	**19 30 18.5**	**+0.3**
	7.2nm,0.3s,baz=196,slow=4.4,SNR=1.5						
DZM	**Mont Dzumac**	**10.69**	**173**	Pn	**Pn**	**19 30 29.3**	**-1.9**
	0.8nm,0.3s,baz=52,slow=3.7,SNR=20						
DZM				Sn	**Sn**	**19 32 32.9**	**+3.0**
	0.4nm,0.3s,baz=312,slow=23,SNR=1.1						
CTA	**Charters Tower**	**19.98**	**242**	P	**P**	**19 32 29.9**	**-0.1**
	5.2nm,1.0s,baz=56,slow=13,SNR=2.8						
CTAO	**Charters Tower**	**19.98**	**242**	*eP*	**P**	**19 32 29.9**	**-0.1**
	9.3nm,1.1s						
STKA	**Stephens Creek**	**29.67**	**223**	LR	LR	19 45 14.6	
	comp=Z,97nm,18.5s,baz=30,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.76**	**3**	T	T	20 05 30.5	
	baz=183						
H11S3	**WAKE ISLAND Hy**	**29.77**	**3**	T	T	20 05 30.5	
	baz=183						
H11S1	**WAKE ISLAND Hy**	**29.78**	**3**	T	T	20 05 27.4	
	baz=183						
WB2	**Warramunga Arr**	**30.66**	**250**	*eP*	**P**	**19 34 11.3**	**-0.7**
WR1	**Warramunga Ar**	**30.67**	**250**	*eP*	**P**	**19 34 11.7**	**-0.3**
	3.4nm,0.9s						
WRA	**Warramunga Arr**	**30.67**	**250**	P	**P**	**19 34 11.7**	**-0.4**
	1.4nm,0.8s,baz=79,slow=9.4,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**30.99**	**3**	T	T	20 07 05.8	
	baz=183						
H11N3	**WAKE ISLAND Hy**	**30.99**	**4**	T	T	20 06 53.5	
	baz=183						
H11N2	**WAKE ISLAND Hy**	**31.00**	**3**	T	T	20 06 53.1	
	baz=183						
AS01	**Alice Springs**	**31.93**	**243**	*eP*	**P**	**19 34 22.4**	**-0.8**
AS31	**Alice Springs**	**31.97**	**243**	*eP*	**P**	**19 34 22.7**	**-0.9**
	0.9nm,0.8s						
ASAR	**Alice Springs**	**31.97**	**243**	P	**P**	**19 34 22.5**	**-1.0**
	1.7nm,1.0s,baz=65,slow=10.0,SNR=11						
ASAR				LR	LR	19 46 03.7	
	comp=Z,60nm,19.7s,baz=78,slow=34						
FITZ	**Fitzroy Crossi**	**38.57**	**255**	*eP*	**P**	**19 35 19.5**	**-0.8**
	6.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**38.57**	**255**	P	**P**	**19 35 20.0**	**-0.4**
	1.9nm,0.8s,baz=90,slow=8.1,SNR=2.4						
MJAR	**Matsushiro Arr**	**53.96**	**333**	P	**P**	**19 37 20.3**	**-0.7**
	1.2nm,0.9s,baz=172,slow=8.5,SNR=3.1						
MAJO	**Matsushiro**	**53.96**	**333**	*eP*	**P**	**19 37 21.3**	**+0.3**
	4.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**71.59**	**294**	P	**P**	**19 39 19.7**	**+0.9**
	0.6nm,0.9s,baz=111,slow=4.9,SNR=3.1						
GAMB	**Gambell**	**77.06**	**10**	*eP*	**P**	**19 39 50.2**	**+0.6**
	1.8nm,1.0s						
SONA0	**Songino Array**	**78.53**	**324**	*eP*	**P**	**19 39 58.2**	**-0.2**
SONM	**Songino Array**	**78.53**	**324**	P	**P**	**19 39 58.3**	**-0.2**
	0.7nm,0.8s,baz=128,slow=5.5,SNR=4.8						
QSPA	**South Pole Qui**	**78.59**	**180**	*eP*	**P**	**19 39 58.3**	**-0.2**
	2.7nm,0.9s						
SUA	**Susitna One**	**80.52**	**20**	*eP*	**P**	**19 40 09.0**	**+0.1**
	3.3nm,1.1s						
TRF	**Thorofare Moun**	**82.10**	**19**	*eP*	**P**	**19 40 18.1**	**+0.8**
	0.9nm,0.8s						
RIDG	**Independ'e Rid**	**84.07**	**20**	*eP*	**P**	**19 40 28.5**	**+1.2**
	2.6nm,0.9s						
IL1	**Eielson Array**	**84.09**	**19**	*eP*	**P**	**19 40 27.8**	**+0.4**
ILAR	**Eielson Array**	**84.09**	**19**	P	**P**	**19 40 27.5**	**+0.1**
	0.6nm,0.6s,baz=236,slow=4.8,SNR=17						
ILB	**Eielson Array**	**84.09**	**19**	*eP*	**P**	**19 40 27.6**	**+0.3**
SCRK	**Sand Creek**	**84.51**	**20**	*eP*	**P**	**19 40 29.9**	**+0.2**
NVAR	**Mina Array Bea**	**86.82**	**50**	P	**P**	**19 40 41.9**	**0.0**
	0.7nm,0.7s,baz=255,slow=3.5,SNR=3.1						
MK32	**Makanchi Array**	**93.28**	**317**	*eP*	**P**	**19 41 11.9**	**+0.1**
MKAR	**Makanchi Array**	**93.29**	**317**	P	**P**	**19 41 11.9**	**+0.1**
	0.5nm,0.6s,baz=91,slow=7.2,SNR=5.8						
ZALV	**Zalesovo Beam**	**93.42**	**324**	P	**P**	**19 41 12.3**	**+0.2**
	0.3nm,0.3s,baz=95,slow=7.3,SNR=2.7						
ZAA1	**Zalesovo Array**	**93.42**	**324**	*eP*	**P**	**19 41 12.3**	**+0.2**
YKA	**Yellowknife Ar**	**95.64**	**27**	P	**P**	**19 41 21.3**	**-0.7**
	0.1nm,0.6s,baz=250,slow=5.1,SNR=3.4						

*TEH **02** 19:29:05.5, 31°.93N×51°.04E, h8km, ML3.8*
*ISCJB **02** 19:29:05.3, 0.5, 31°.83N, 0°.02×50°.97E, 0°.03, h11km, 3km, mb4.2/59, MS3.6/1, Error ellipse: s-maj=4.5km s-min=2.9km az=141.4*
*NEIC **02** 19:29:05.0, 0.0, 31°.93N×51°.04E, h8km, mb4.3/40, ML3.7(THR), MN3.8(TEH), After TEH.*
*IDC **02** 19:29:05.4, 0.5, 31°.89N×50°.94E, h0km, mb4.0/23, mb1 4.1/30, mb1mx4.0/45, mbtmp4.0/30, ML3.7/7, Error ellipse: s-maj=14.6km s-min=11.5km az=10.0*
*DSN **02** 19:29:09.1, 0.7, 31°.85N×50°.85E, h15km, ML3.5/9, Error ellipse: s-maj=18.2km s-min=7.4km az=51.0*
*THR **02** 19:29:12.0, 32°.08N×50°.74E, h18km, ML3.7*
*OMAN **02** 19:29:20.3, 0.6, 31°.06N×51°.17E, h30km, ms3.2/1, Error ellipse: s-maj=14.3km s-min=9.7km az=237.0*
ISC 02 19:29:06.9, 1.0, 31°.89N, 0°.03×51°.01E, 0°.03, h12km, 6km, n221, σ1s92/232, mb4.3/68, 16C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZNGN	**Zangian**	**0.26**	**329**	*eP*g	**Pg**	**19 29 10.9**	**-1.6**
ZNGN				*eS*g	**Sg**	**19 29 16.0**	**-0.4**
ZNGN				IAMB	IAmb	19 29 16.4	
	comp=Z,0.0nm,0.2s						
ROKH	**ROKH**	**0.46**	**2**	*eP*g	**Pg**	**19 29 14.4**	**-1.5**
ROKH				*eS*g	**Sg**	**19 29 21.5**	**-0.5**
ROKH				IAMB	IAmb	19 29 26.4	
	comp=Z,0.0nm,0.2s						
IPIR	**Pirpir**	**0.80**	**353**	*eP*g	**Pg**	**19 29 20.9**	**-1.4**
IPIR	**Pirpir**	**0.80**	**353**	*eP*g	**Pg**	**19 29 21.0**	**-1.4**
IPIR				IAMB	IAmb	19 29 42.2	
	comp=Z,43μm,0.6s						
KLNJ	**Kolanjah**	**1.01**	**150**	*eP*g	**Pg**	**19 29 25.7**	**-0.7**
IGAR	**Gharneh**	**1.01**	**59**	*eP*g	**Pg**	**19 29 25.2**	**-1.2**
IGAR				IAMB	IAmb	19 29 43.7	
	comp=Z,30μm,0.3s						
IRAM	**Ramesheh**	**1.17**	**94**	*eP*n	**Pb**	**19 29 27.5**	**-1.6**
IRAM	**Ramesheh**	**1.17**	**94**	*eP*g	**Pb**	**19 29 27.7**	**-1.4**
IRAM				IAMB	IAmb	19 29 53.9	
	comp=Z,10μm,0.4s						
IZEF	**Zefreh**	**1.50**	**48**	*eP*n	**Pn**	**19 29 33.2**	**-0.6**
IZEF	**Zefreh**	**1.50**	**48**	*eP*n	**Pn**	**19 29 33.3**	**-0.6**
IZEF				IAMB	IAmb	19 30 02.8	
	comp=Z,8μm,0.4s						
IKLH	**Kolahrood**	**1.50**	**18**	*eP*n	**Pn**	**19 29 33.2**	**-0.7**
IKLH	**Kolahrood**	**1.50**	**18**	*eP*n	**Pn**	**19 29 33.1**	**-0.8**
IKLH				IAMB	IAmb	19 30 07.4	
	comp=Z,13μm,0.7s						
SHGR	**Shooshtar-Gavs**	**1.89**	**277**	*eP*g	**Pb**	**19 29 42.1**	**+0.8**
SHGR	**Shooshtar-Gavs**	**1.89**	**277**	*eAML*	AML	19 30 26.4	
	comp=N,1μm,0.5s						
SHGR				*eAML*	AML	19 30 31.8	
	comp=E,766nm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.89**	**277**	*eP*g	**Pb**	**19 29 42.1**	**+0.8**
KHMZ	**Khomeyn**	**2.05**	**335**	*eAML*	AML	19 30 18.4	
	comp=E,538nm,0.6s						
KHMZ	**Khomeyn**	**2.05**	**335**	*eP*g	**Pb**	**19 29 44.6**	**+0.5**
IKAZ	**Kazeroun**	**2.22**	**161**	*eP*n	**Pb**	**19 29 47.2**	**+0.1**
IKAZ	**Kazeroun**	**2.22**	**161**	*eP*n	**Pn**	**19 29 47.1**	**0.0**
IKAZ				IAMB	IAmb	19 29 53.7	
	comp=Z,14μm,0.5s						
ISAD	**Sadrabad**	**2.27**	**89**	*eP*n	**Pb**	**19 29 47.9**	**-0.1**
ISAD				IAMB	IAmb	19 30 29.2	
	comp=Z,13μm,1.3s						
KRSH	**Karshahi**	**2.28**	**24**	*eP*n	**Pb**	**19 29 47.9**	**-0.1**
KRSH				IAMB	IAmb	19 31 19.8	
	comp=Z,0.0nm,2.3s						
SHI	**Shiraz**	**2.59**	**150**	*eP*n	**Pb**	**19 29 54.3**	**+1.0**
SHI				IAMB	IAmb	19 30 49.7	
	comp=E,9μm,0.9s						
GHVR	**GHOM**	**2.59**	**5**	*eP*n	**Pb**	**19 29 53.0**	**-0.3**

ANAR	**Anarak**	**2.63**	**60**	*eP*n	**Pb**	**19 29 52.7**	**-1.4**
ANAR				IAMB	IAmb	19 30 54.2	
	comp=Z,0.0nm,1.4s						
ISFB	**Sefidab**	**2.66**	**22**	*eP*n	**Pb**	**19 29 52.8**	**-1.7**
ISFB				IAMB	IAmb	19 30 36.1	
	comp=Z,4μm,0.5s						
IPAR	**Pars**	**2.69**	**139**	*eP*n	**Pb**	**19 29 54.9**	**-0.2**
IPAR				IAMB	IAmb	19 30 39.6	
	comp=Z,4μm,0.9s						
IKMR	**Kamar-syah**	**2.75**	**307**	*eP*n	**Pn**	**19 29 53.0**	**+2.2**
IKMR				IAMB	IAmb	19 31 01.8	
	comp=Z,0.0nm,1.3s						
ASAO	**Ashtian**	**2.78**	**343**	*eP*n	**Pb**	**19 29 54.5**	**-2.0**
ICHK	**Chekchek**	**2.90**	**82**	*eP*n	**Pb**	**19 29 58.5**	**-0.2**
ICHK	**Chekchek**	**2.90**	**82**	*eP*n	**Pb**	**19 29 58.2**	**-0.5**
ICHK				IAMB	IAmb	19 30 47.5	
	comp=E,3μm,0.6s						
IDOB	**Doab**	**3.05**	**309**	*eP*n	**Pn**	**19 29 57.1**	**+2.0**
IDOB				IAMB	IAmb	19 31 08.7	
	comp=Z,0.0nm,2.5s						
HSAM	**Samen**	**3.08**	**319**	*eP*n	**Pn**	**19 29 58.0**	**+2.5**
HSAM				IAMB	IAmb	19 31 13.2	
	comp=Z,0.0nm,1.8s						
IMEH	**Mehriz**	**3.11**	**98**	*eP*n	**Pb**	**19 30 01.6**	**-0.6**
IMEH	**Mehriz**	**3.11**	**98**	*eP*n	**Pb**	**19 30 01.7**	**-0.5**
IMEH				IAMB	IAmb	19 31 00.1	
	comp=N,2μm,0.7s						
IKFM	**Kafar-mosalman**	**3.13**	**302**	*eP*n	**Pn**	**19 29 57.8**	**+1.9**
IKFM				IAMB	IAmb	19 31 03.6	
	comp=Z,0.0nm,1.4s						
HAGD	**Aghdareh**	**3.32**	**332**	*eP*n	**Pn**	**19 30 01.5**	**+2.7**
HAGD				IAMB	IAmb	19 31 03.5	
	comp=Z,0.0nm,1.4s						
IHSB	**Hasanabad**	**3.54**	**3**	IAMB	IAmb	19 30 22.9	
	comp=Z,0.0nm,0.6s						
IHSB				*eP*n	**Pn**	**19 30 05.1**	**+3.3**
IRAZ	**Razeghan**	**3.62**	**346**	*eP*n	**Pn**	**19 30 05.6**	**+2.7**
IRAZ				IAMB	IAmb	19 31 14.8	
	comp=Z,3μm,0.8s						
IKOM	**Komasi**	**3.72**	**309**	*eP*n	**Pn**	**19 30 06.5**	**+2.2**
IKOM				IAMB	IAmb	19 31 19.8	
	comp=Z,0.0nm,1.4s						
IDMV	**Damavand**	**3.77**	**13**	*eP*n	**Pn**	**19 30 08.3**	**+3.2**
IDMV				IAMB	IAmb	19 31 37.2	
	comp=Z,2μm,0.8s						
IANJ	**Anjilo**	**4.31**	**33**	*eP*n	**Pn**	**19 30 16.2**	**+3.8**
IANJ				IAMB	IAmb	19 31 34.8	
	comp=Z,874nm,0.7s						
IVIS	**Veis**	**4.37**	**308**	*eP*n	**Pn**	**19 30 14.5**	**+1.3**
IVIS				IAMB	IAmb	19 31 32.5	
	comp=Z,947nm,0.7s						
SNGE	**Sanandaj**	**4.42**	**317**	*eP*n	**Pn**	**19 30 16.6**	**+2.6**
IALA	**Alasht**	**4.44**	**19**	*eP*n	**Pn**	**19 30 18.9**	**+4.6**
IALA				IAMB	IAmb	19 30 44.2	
	comp=Z,1μm,0.5s						
IGHG	**Ghaleghazi**	**4.45**	**304**	*eP*n	**Pn**	**19 30 16.3**	**+1.9**
IGHG				IAMB	IAmb	19 31 18.1	
	comp=N,1μm,0.4s						
IPRN	**Peran**	**4.48**	**14**	*eP*n	Pb	19 30 20.3	-5.2
IPRN				IAMB	IAmb	19 30 39.5	
	comp=Z,1μm,0.6s						
GENO	**Geno**	**6.34**	**134**	*eP*n	**Pn**	**19 30 42.2**	**+1.9**
IHRS	**Heris**	**7.19**	**334**	*eP*n	**Pn**	**19 30 53.4**	**+1.4**
IHRS				IAMB	IAmb	19 31 34.3	
	comp=Z,217nm,0.8s						
SHME	**Shamm**	**7.35**	**141**	P	**Pn**	**19 30 58.2**	**+4.2**
SHME	**Shamm**	**7.35**	**141**	*eP*n	**Pn**	**19 30 56.2**	**+2.1**
BANOM	**Banah**	**7.54**	**141**	*i* P	**Pn**	**19 30 58.5**	**+1.9**
	SNR=13						
BANOM	**Banah**	**7.54**	**141**	P	**Pn**	**19 30 59.1**	**+2.5**
	SNR=12						
MSFE	**Esma-Masafi**	**7.92**	**144**	*i* P	**Pn**	**19 31 03.5**	**+1.6**
	SNR=9.3						
MSFE	**Esma-Masafi**	**7.92**	**144**	*eP*n	**Pn**	**19 31 03.7**	**+1.8**
NAZ	**Nazwa, Dubai**	**8.00**	**148**	*i* P	**Pn**	**19 31 06.7**	**+3.8**
	SNR=6.0						
NAZ	**Nazwa, Dubai**	**8.00**	**148**	P	**Pn**	**19 31 05.3**	**+2.4**
NAZ	**Nazwa, Dubai**	**8.00**	**148**	*eP*n	**Pn**	**19 31 07.2**	**+4.3**
MDH	**Madha**	**8.04**	**143**	*i* P	**Pn**	**19 31 05.2**	**+1.7**
	SNR=12						
MDH	**Madha**	**8.04**	**143**	P	**Pn**	**19 31 05.2**	**+1.7**
MDH				S	Sn	19 32 27.3	-7.1
MDH	**Madha**	**8.04**	**143**	*eP*n	**Pn**	**19 31 05.2**	**+1.7**
FAQ	**Al Faqa, Dubai**	**8.18**	**149**	P	**Pn**	**19 31 08.5**	**+3.1**
FAQ	**Al Faqa, Dubai**	**8.18**	**149**	P	**Pn**	**19 31 07.7**	**+2.3**
FAQ				S	Sn	19 32 30.9	-7.0
FAQ	**Al Faqa, Dubai**	**8.18**	**149**	*eP*n	**Pn**	**19 31 08.4**	**+3.0**
HATD	**Hatta, Dubai**	**8.36**	**146**	P	**Pn**	**19 31 10.8**	**+2.9**
HATD	**Hatta, Dubai**	**8.36**	**146**	P	**Pn**	**19 31 08.8**	**+0.9**
HATD				S	Sn	19 32 35.8	-6.4
HATD	**Hatta, Dubai**	**8.36**	**146**	*eP*n	**Pn**	**19 31 10.7**	**+2.9**
GEYT	**Alibeck**	**8.38**	**42**	Pn	**Pn**	**19 31 09.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=2.4						
GEYT				Lg	Lg	19 33 37.4	
	comp=Z,0.1nm,0.3s,baz=230,slow=24,SNR=2.3						
GYA0B	**ALIBECK ARRAY**	**8.38**	**42**	*eP*n	**Pn**	**19 31 06.6**	**-1.6**
ASHO	**Ashiyiah**	**8.44**	**147**	*i* P	**Pn**	**19 31 11.0**	**+1.9**
	SNR=6.7						
ASHO	**Ashiyiah**	**8.44**	**147**	P	**Pn**	**19 31 10.3**	**+1.3**
	SNR=14						
ASHO	**Ashiyiah**	**8.44**	**147**	*eP*n	**Pn**	**19 31 11.3**	**+2.2**
ALNE	**Al Ain**	**8.86**	**151**	P	**Pn**	**19 31 16.4**	**+1.7**
ALNE	**Al Ain**	**8.86**	**151**	*eP*n	**Pn**	**19 31 17.7**	**+3.0**
SIRT	**Sirnak**	**9.01**	**311**	*eP*n	**Pn**	**19 31 13.6**	**-3.2**
SIRT				*eS*n	**Sn**	**19 32 57.1**	**-1.1**
SOHO	**SOHO**	**9.13**	**146**	P	**Pn**	**19 31 18.9**	**+0.4**
SOHO				S	**Sn**	**19 33 00.6**	**-0.7**
RAYN	**Ar Rayn**	**9.66**	**212**	*eP*n	**Pn**	**19 31 25.5**	**-0.2**
RAYN				*eS*n	**Sn**	**19 33 14.1**	**-0.2**
RAYN	**Ar Rayn**	**9.66**	**212**	*i* P	**Pn**	**19 31 26.6**	**+0.9**
	SNR=13						
GNI	**Garni**	**9.68**	**330**	Pn	**Pn**	**19 31 23.0**	**-3.0**
	comp=Z,1.1nm,0.3s,baz=142,slow=16,SNR=2.2						
ARQ	**Araqi**	**9.82**	**149**	P	**Pn**	**19 31 29.9**	**+2.0**
BSY	**Bisya**	**10.64

ABKAR	**Akbulak array**	**18.60**	**19**	*e*P		**P**	**19 33 22.1**	**-1.8**
	comp=Z,1.2nm,0.6s								
KKAR	**Karatay Array**	**19.05**	**49**	*e*P		**P**	**19 33 27.1**	**-1.8**
	comp=Z,1.7nm,0.6s								
AKTO	**Aktyubinsk**	**19.25**	**14**	P		**Pn**	**19 33 31.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=174,slow=11,SNR=4.2								
MANT	**Manisa**	**19.48**	**296**	*e*P		**P**	**19 33 33.3**	**-0.5**
	comp=Z,29nm,0.7s								
CTYL	**Yalikoy Yolu**	**20.53**	**304**	⇑*i*P		Pn	19 33 46.8	-0.4	
SANT	**Santorini**	**21.60**	**289**	*e*P		**P**	**19 33 56.0**	**-0.6**
	comp=Z,69nm,0.7s								
KSH	**Kashi**	**21.61**	**62**	P		**P**	**19 33 58.0**	**+1.2**
KSH				pP		sP	19 34 03.1	+0.1	
KSH				PP		**PnPn**	**19 34 19.9**	**+2.6**
KSH				S		S	19 37 36.4	-20	
KSH				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ALN	**Alexandroupoli**	**21.96**	**301**	*e*P		**P**	**19 33 59.8**	**-0.6**
	comp=Z,2.5nm,0.8s								
IDI	**Anoyia**	**22.00**	**286**	*e*P		**P**	**19 34 01.2**	**+0.2**
	comp=Z,8.7nm,0.7s								
IDI	**Anoyia**	**22.00**	**286**	P		**P**	**19 34 01.5**	**+0.5**
	comp=Z,7.3nm,0.7s,baz=59,slow=13,SNR=7.0								
VRI	**Vrincioaia**	**23.38**	**314**	⇓*i*P		**P**	**19 34 17.0**	**+1.7**
PLOR	**Plostina**	**23.42**	**314**	⇑*i*P		**P**	**19 34 17.3**	**+1.5**
MLR	**Muntele Rosu**	**23.70**	**312**	⇑*i*P		**P**	**19 34 21.4**	**+2.8**
MLR	**Muntele Rosu**	**23.70**	**312**	P		**P**	**19 34 19.3**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=191,slow=6.4,SNR=4.8								
TESR	**Tescani**	**23.74**	**315**	⇑*i*P		**P**	**19 34 19.9**	**+1.1**
OZUR		**24.07**	**313**	⇑*i*P		**P**	**19 34 23.1**	**+1.1**
VOIR		**24.24**	**311**	⇑*i*P		**P**	**19 34 25.8**	**+2.1**
DOPR	**Dopca**	**24.26**	**313**	⇓*i*P		**P**	**19 34 24.8**	**+1.0**
BIZ	**Bicaz**	**24.28**	**315**	⇑*i*P		**P**	**19 34 25.4**	**+1.5**
AGG	**Agios Georgios**	**24.36**	**295**	*e*P		**P**	**19 34 24.4**	**-0.3**
	comp=Z,4.4nm,0.6s								
LIT	**Litokhoron**	**24.41**	**298**	*e*P		**P**	**19 34 25.2**	**0.0**
	comp=Z,8.1nm,1.0s								
PRAR	**RASCA**	**24.41**	**316**	⇑*i*P		**P**	**19 34 24.9**	**-0.2**
VTS	**Vitosha**	**24.46**	**304**	*e*P		**P**	**19 34 25.9**	**+0.1**
	comp=Z,1.5nm,0.7s								
ARR	**Arges**	**24.48**	**311**	⇑*i*P		**P**	**19 34 27.1**	**+1.3**
ITM	**Ithomi**	**24.48**	**290**	*e*P		**P**	**19 34 26.0**	**+0.1**
	comp=Z,22nm,1.0s								
AKASG	**Malin Array Be**	**24.77**	**326**	P		**P**	**19 34 28.5**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=132,slow=8.7,SNR=19								
AKBB	**Malin Array Si**	**24.77**	**326**	*e*P		**P**	**19 34 28.6**	**+0.4**
	comp=Z,4.1nm,0.6s								
KIEV	**Kiev**	**24.77**	**326**	*e*P		**P**	**19 34 28.6**	**+0.3**
	comp=Z,4.4nm,0.5s								
KIEV	**Kiev**	**24.77**	**326**	⇑*i*P		**P**	**19 34 29.0**	**+0.7**
KIEV	**Kiev**	**24.77**	**326**	P		**P**	**19 34 29.5**	**+1.3**
AK11	**Malin Array Si**	**24.78**	**326**	*e*P		**P**	**19 34 28.8**	**+0.4**
BURAR	**Bucovina Array**	**25.14**	**316**	⇑*i*P		**P**	**19 34 32.7**	**+0.9**
BUR04	**Bucovina Ar. S**	**25.14**	**316**	*e*P		**P**	**19 34 32.5**	**+0.7**
BUR08	**Bucovina Ar. S**	**25.16**	**316**	*e*P		**P**	**19 34 32.5**	**+0.5**
	comp=Z,5.0nm,0.6s								
BVAR	**Borovoye Array**	**25.35**	**28**	P		**P**	**19 34 35.0**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=226,slow=9.9,SNR=7.8								
BVAR				PcP		**PcP**	**19 38 05.9**	**0.0**	
	comp=Z,0.9nm,0.7s,baz=204,slow=3.2,SNR=3.2								
OBN	**Obninsk**	**25.37**	**340**	P		**P**	**19 34 34.6**	**+1.1**
	comp=Z,1.2nm,0.4s,baz=90,slow=17,SNR=2.3								
FNA	**Florina**	**25.38**	**299**	*e*P		**P**	**19 34 33.5**	**-0.4**
	comp=Z,6.4nm,0.8s								
GZR	**Gura Zlata**	**25.70**	**310**	⇑*i*P		**P**	**19 34 37.8**	**+1.0**
MDVR	**Moldovita**	**26.19**	**308**	⇑*i*P		**P**	**19 34 42.4**	**+1.1**
DRGR		**26.29**	**313**	⇑*i*P		**P**	**19 34 43.3**	**+1.1**
SIRR	**Siria**	**26.75**	**311**	⇑*i*P		**P**	**19 34 47.6**	**+1.3**
TRPA	**Tarpa**	**26.97**	**315**	⇑*i*P		**P**	**19 34 48.8**	**+0.6**
MK32	**Makanchi Array**	**28.18**	**49**	*e*P		**P**	**19 35 00.8**	**+1.7**
MKAR	**Makanchi Array**	**28.18**	**49**	P		**P**	**19 35 00.8**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=252,slow=8.9,SNR=1.6								
MKAR				PcP		**PcP**	**19 38 11.8**	**-0.9**	
	comp=Z,0.3nm,0.6s,baz=259,slow=2.9,SNR=2.2								
VYHS	**Vyhne**	**29.37**	**314**	*e*pP		**P**	**19 35 11.6**	**+1.9**
OJC	**Ojcow**	**29.51**	**317**	*e*P		**P**	**19 35 10.0**	**-0.9**
	comp=Z,6.7nm,0.7s								
MORC	**Moravsky Berou**	**30.65**	**315**	*e*P		**P**	**19 35 19.9**	**-1.1**
	comp=Z,2.2nm,1.1s								
WMQ	**Urumqi**	**31.07**	**57**	*e*P		P	19 35 34.9	+10	
WMQ				LR		LR			
	comp=N,87nm,18.7s								
WMQ				LR		LR			
	comp=E,90nm,18.7s								
WMQ				LR		LR			
	comp=Z,93nm,15.5s								
MOA	**Molln**	**32.04**	**311**	*i* pP		**P**	**19 35 33.8**	**+0.6**
	comp=Z,1.5nm,0.5s								
KBA	**Koelnbreinsper**	**32.44**	**309**	*i* pP		**P**	**19 35 37.7**	**+0.7**
	comp=Z,3.5nm,0.9s								
ZALV	**Zalesovo Beam**	**32.66**	**38**	*e*P		**P**	**19 35 38.3**	**-0.3**
ZALV	**Zalesovo Beam**	**32.66**	**38**	P		**P**	**19 35 39.5**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=250,slow=8.9,SNR=4.3								
ZAA1	**Zalesovo Array**	**32.66**	**38**	*e*P		**P**	**19 35 39.5**	**+0.8**
GEC2	**GERESS Array S**	**32.69**	**312**	*e*P		**P**	**19 35 37.7**	**-1.3**
	comp=Z,2.9nm,1.1s								
GERES	**GERESS Array B**	**32.69**	**312**	P		**P**	**19 35 39.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=109,slow=7.3,SNR=6.1								
GERES				PcP		**PcP**	**19 38 24.8**	**+0.2**	
	comp=Z,0.2nm,0.3s,baz=114,slow=2.4,SNR=3.7								
WTTA	**Wattenberg**	**33.61**	**309**	*i* pP		**P**	**19 35 47.2**	**0.0**
	comp=Z,1.4nm,0.3s								
WATA	**Walderalm**	**33.67**	**309**	*i* pP		**P**	**19 35 47.5**	**-0.2**
	comp=Z,0.7nm,0.2s								
FIA0	**FINESS Array S**	**33.73**	**339**	*e*P		**P**	**19 35 47.6**	**-0.2**
FIA1	**FINESS Array S**	**33.73**	**339**	*e*P		**P**	**19 35 46.7**	**-1.1**
FINES	**FINESS Array B**	**33.73**	**339**	P		**P**	**19 35 47.6**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=147,slow=9.5,SNR=10								
SQTA	**Sankt Quirin**	**33.89**	**309**	*i* pP		**P**	**19 35 49.2**	**-0.3**
	comp=Z,4.7nm,0.3s								
CLL	**Collm**	**33.91**	**316**	*e*P		**P**	**19 35 48.0**	**-1.5**
MOTA	**Moosalm**	**33.99**	**309**	*i* pP		**P**	**19 35 49.8**	**-0.6**
	comp=Z,1.5nm,0.3s								
FETA	**Feichten**	**34.17**	**308**	*i* pP		**P**	**19 35 52.0**	**0.0**
	comp=Z,2.9nm,0.4s								
RETA	**Reute**	**34.24**	**309**	*i* pP		**P**	**19 35 51.9**	**-0.6**
	comp=Z,0.3nm,0.1s								
FUORN	**Ofenpass-Fuorn**	**34.40**	**307**	*e*P		**P**	**19 35 53.6**	**-0.6**
	comp=Z,3.7nm,1.0s								
GRFO	**Grafenberg**	**34.49**	**313**	*e*P		**P**	**19 35 54.2**	**-0.3**
	comp=Z,5.3nm,1.0s								
DAVA	**Damuels**	**34.79**	**308**	*i* pP		**P**	**19 35 57.1**	**-0.3**
	comp=Z,9.5nm,0.4s								
SENIN	**Lac Senin/Sane**	**36.38**	**306**	*e*P		**P**	**19 36 10.1**	**-1.1**
	comp=Z,2.9nm,0.8s								
BNI	**Bardonecchia**	**36.67**	**304**	*e*P		**P**	**19 36 12.6**	**-0.9**
	comp=Z,7.3nm,0.7s								
NC602	**NORSAR Array S**	**38.69**	**330**	*e*P		**P**	**19 36 30.1**	**-0.1**
	comp=Z,1.2nm,0.8s								
NC405	**NORSAR Array S**	**38.81**	**331**	*e*P		**P**	**19 36 30.7**	**-0.5**
NB201	**NORSAR Array S**	**38.95**	**330**	*e*P		**P**	**19 36 31.9**	**-0.6**
NB2	**NORSAR Subarra**	**38.98**	**330**	P		**P**	**19 36 32.8**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=123,slow=8.6								
NB200	**NORSAR Array S**	**38.98**	**330**	*e*P		**P**	**19 36 31.6**	**-1.2**
NOA	**NORSAR Array B**	**38.98**	**330**	P		**P**	**19 36 31.6**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=123,slow=8.4,SNR=7.1								
NC303	**NORSAR Array S**	**39.01**	**331**	*e*P		**P**	**19 36 32.9**	**0.0**
NAO01	**NORSAR Array S**	**39.02**	**330**	*e*P		**P**	**19 36 32.6**	**-0.4**
	comp=Z,20nm,1.1s								
KONO	**Kongsberg**	**39.03**	**328**	*e*P		**P**	**19 36 32.6**	**-0.5**
	comp=Z,12nm,1.0s								
NBO00	**NORSAR Array S**	**39.16**	**330**	*e*P		**P**	**19 36 32.6**	**-1.6**
	comp=Z,11nm,1.1s								
NC204	**NORSAR Array S**	**39.29**	**330**	*e*P		**P**	**19 36 34.5**	**-0.8**
GTA	**Gaotai**	**39.96**	**65**	P		**P**	**19 36 45.1**	**+3.8**
GTA				pP		sP	19 36 58.6	+11	
GTA				sP		pP	19 37 05.2	+19	
GTA				ScP		**ScP**	**19 42 36.2**	**+0.8**	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
ARA0	**ARCESS Array S**	**40.34**	**346**	*e*P		**P**	**19 36 43.2**	**-0.7**
ARCES	**ARCESS Array B**	**40.34**	**346**	P		**P**	**19 36 43.2**	**-0.7**
	comp=Z,4.3nm,1.0s,baz=146,slow=6.6,SNR=4.5								
LZH	**Lanzhou**	**43.56**	**69**	*e*P		P	19 37 21.0	+10	
LZH				pP		sP	19 37 35.9	+19	
LZH				sP		pP	19 37 43.6	+28	
LZH				PP		**PcP**	**19 39 03.4**	**+4.9**	
LZH				pmax		pmax			
	comp=Z,15nm,1.1s								
LZH				pmax		pmax			
	comp=Z,300nm,5.4s								
ESK	**Eskdalemuir**	**44.30**	**318**	*e*P		**P**	**19 37 15.4**	**-0.9**
	comp=Z,9.3nm,1.1s								
SONA0	**Songino Array**	**44.43**	**52**	*e*P		**P**	**19 37 19.2**	**+1.5**
SONM	**Songino Array**	**44.43**	**52**	P		**P**	**19 37 19.2**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=274,slow=8.0,SNR=3.6								
CD2	**Chengdu**	**44.66**	**77**	P		P	19 37 29.2	+10	
CD2				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ESDC	**Sonseca Array**	**44.68**	**296**	P		**P**	**19 37 19.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=67,slow=8.3,SNR=5.2								
PAB	**San Pablo**	**44.99**	**296**	*e*P		**P**	**19 37 21.4**	**-0.8**
	comp=Z,1.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**45.05**	**95**	P		**P**	**19 37 24.3**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=291,slow=9.6,SNR=3.4								
CMAR				PcP		**PcP**	**19 39 03.2**	**-0.5**	
	comp=Z,0.4nm,0.7s,baz=292,slow=4.8,SNR=2.4								
DSB	**Dublin**	**45.92**	**315**	*e*P		**P**	**19 37 28.6**	**-0.5**
	comp=Z,4.9nm,0.9s								
PBKT	**Sadao Pong**	**47.63**	**96**	*e*P		**P**	**19 37 42.5**	**-0.6**
	comp=Z,2.7nm,0.8s								
HHC	**Hu-ho-hao-te**	**48.71**	**62**	*e*P		P	19 38 01.4	+10	
HHC				pP		sP	19 38 16.2	+18	
HHC				sP		pP	19 38 23.1	+27	
HHC				S		**S**	**19 44 51.5**	**-2.3**	
HHC				pmax		pmax			
	comp=Z,17nm,1.1s								
HHC				pmax		pmax			
	comp=Z,170nm,6.1s								
TOA1	**Torodi Ar. Sit**	**48.78**	**259**	*e*P		**P**	**19 37 51.7**	**-0.2**
TOA0	**Torodi Ar. Sit**	**48.78**	**259**	*e*P		**P**	**19 37 51.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**48.78**	**259**	P		**P**	**19 37 51.7**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=63,slow=8.7,SNR=27								
TORD				PcP		**PcP**	**19 39 17.2**	**+0.3**	
	comp=Z,0.3nm,0.6s,baz=42,slow=2.0,SNR=3.1								
PSI	**Prapat**	**53.48**	**113**	P		**P**	**19 38 28.4**	**+0.9**
	comp=Z,5.5nm,0.3s,baz=360,slow=12,SNR=15								
NJ2	**Nanjing**	**56.62**	**70**	*e*P		P	19 38 58.9	+9.1	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
DBIC	**Dimbokro**	**57.67**	**257**	*e*P		**P**	**19 38 56.5**	**-1.0**
	comp=Z,2.2nm,0.9s								
DBIC	**Dimbokro**	**57.67**	**257**	P		**P**	**19 38 57.4**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=26,slow=9.0,SNR=3.7								
LBTB	**Lobatse**	**61.58**	**206**	*e*P		**P**	**19 39 23.9**	**-0.3**
	comp=Z,6.3nm,1.1s								
KSRS	**Korea Array**	**61.86**	**62**	P		**P**	**19 39 26.9**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=280,slow=7.3,SNR=4.4								
BOSA	**Boshof**	**64.97**	**205**	*e*P		**P**	**19 39 46.4**	**-0.3**
	comp=Z,2.6nm,0.8s								
BOSA	**Boshof**	**64.97**	**205**	P		**P**	**19 39 47.6**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=34,slow=6.2,SNR=6.4								
TOLK	**Toolik Lake Re**	**78.61**	**8**	*e*P		**P**	**19 41 08.1**	**0.0**
	comp=Z,3.1nm,0.9s								
IM3	**Indian Mountai**	**80.59**	**10**	*e*P		**P**	**19 41 19.2**	**+0.3**
ILAR	**Eielson Array**	**82.64**	**8**	P		**P**	**19 41 29.2**	**-0.6**
	comp=Z,0.4nm,0.9s,baz=325,slow=2.5,SNR=3.4								
SCRK	**Sand Creek**	**83.72**	**7**	*e*P		**P**	**19 41 35.1**	**-0.3**
	comp=Z,2.4nm,1.0s								
PPLA	**Purkeypile**	**83.73**	**10**	*e*P		**P**	**19 41 35.4**	**-0.2**
	comp=Z,1.4nm,1.0s								
YKA	**Yellowknife Ar**	**85.24**	**353**	P		**P**	**19 41 43.0**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=12,slow=5.4,SNR=4.0								
SUA	**Susitna One**	**85.31**	**10**	*e*P		**P**	**19 41 43.5**	**0.0**
	comp=Z,4.4nm,1.1s								
WR1	**Warramunga Arr**	**94.89**	**110**	*e*P		**P**	**19 42 29.4**	**+0.2**
	comp=Z,3.2nm,1.1s								
WRA	**Warramunga Arr**	**94.89**	**110**	P		**P**	**19 42 29.4**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=314,slow=4.1,SNR=4.1								
ASAR	**Alice Springs**	**96.51**	**114**	P		**P**	**19 42 36.7**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=305,slow=4.4,SNR=4.1								
PDAR	**Pinedale Array**	**103.59**	**345**	Pdiff		**Pdif**	**19 43 08.8**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=35,slow=5.5,SNR=2.2								
LPAZ	**La Paz**	**122.98**	**271**	PKP		**PKiKP**	**19 48 05.9**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=108,slow=3.2,SNR=1.8								
USHA	**Ushuaia**	**132.13**	**223**	PKP		**PKiKP**	**19 48 21.2**	**+0.3**
	comp=Z,6.8nm,0.9s,baz=83,slow=8.1,SNR=2.1								

TAP 02 19:30:37.3, 22.48N×120.88E, h6$^{km}_{\pm 1}$km, ML1.6, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EAST	**Anshuo**	**0.10**	**199**	⇑*i*P		Pg		19 30 40.1	+0.6
	baz=194								
EAST				S		Sg		19 30 42.3	+1.3
	baz=194								
ECL	**Taimali**	**0.14**	**29**	P		Pg		19 30 40.9	+0.8
	baz=31								
SCZT	**Fangliau**	**0.27**	**247**	*e*P		Pg		19 30 43.4	+0.9
	baz=245								
SCZT				*e*S		Sb		19 30 48.0	-1.3
	baz=245								
MASBT	**Mashibuluo**	**0.27**	**300**	P		Pb		19 30 44.0	-0.5
	baz=299								
SSD	**Sandimen**	**0.35**	**319**	*e*P		Pb		19 30 45.4	-0.6
	baz=319								
SSD				*e*S		Sb		19 30 51.2	-0.7
	baz=319								

*SOME **02** 19:30:41.5, 43.88N×83.22E, h25km*
*NNC **02** 19:30:43.1±2.1, 44.14N×82.93E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=19.0km s-min=5.6km az=123.0*
ISC 02 19:30:41.7±0.9, 44.01N±0.05×83.06E±0.03, h10km, n33, σ$^{2}_{3}$30/47, 12C-9D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**2.05**	**255**	Pg		**Pb**		**19 31 19.1**	**0.0**
	22nm,0.2s								
KTMS				Lg		Lg		19 31 47.3	
	280nm,0.4s								
KTMS	**Ketmen**	**2.05**	**255**	*e*P		**Pb**		**19 31 19.0**	**0.0**
	22nm,0.2s								
KTMS				*e*S		**Sg**		**19 31 47.0**	**-0.4**
	301nm,0.3s								
DJR	**Jarkent**	**2.38**	**279**	Pg		**Pg**		**19 31 25.8**	**-1.4**
	4.1nm,0.3s								
DJR				Lg		Lg		19 31 58.0	
	360nm,0.4s								
DJR	**Jarkent**	**2.38**	**279**	*e*P		**Pg**		**19 31 25.9**	**-1.4**
	1.8nm,0.2s								
DJR				*e*S		**Sg**		**19 31 57.7**	**-0.3**
	360nm,0.4s								
PDGK	**Podgornoye**	**2.68**	**256**	Pg		**Pb**		**19 31 29.6**	**-0.3**
	4.9nm,0.3s								
PDGK				Lg		Lg		19 32 05.5	
	110nm,0.5s								
PDGK	**Podgornoye**	**2.68**	**256**	⇑Pn		**Pn**		**19 31 26.6**	**+1.6**
	16nm,0.4s								
PDGK				⇑Lg		Lg		19 32 05.0	
	179nm,0.5s								
SHLS	**Shalkode**	**2.75**	**253**	Pg		**Pn**		**19 31 25.1**	**-0.9**
	55nm,0.6s								
SHLS				Lg		Lg		19 31 56.3	
	420nm,0.4s								
SHLS	**Shalkode**	**2.75**	**253**	*e*P		**Pn**		**19 31 26.2**	**+0.2**
	55nm,0.6s								
SHLS				*e*S		**Sn**		**19 31 58.3**	**-1.1**
	420nm,0.4s								
MK31	**Makanchi Array**	**2.83**	**349**	⇑Pn		**Pn**		**19 31 27.8**	**+0.8**
	0.5nm,0.3s,baz=158,slow=11,SNR=370								
MK31				⇓Pg		**Pg**		**19 31 34.6**	**-1.4**
	7.1nm,0.3s,baz=165,slow=16,SNR=29								
MK31				Sn		**Sn**		**19 31 60.0**	**-1.3**
	14nm,0.5s,baz=168,slow=18,SNR=7.6								
MK31				Lg		Lg		19 32 10.1	
	26nm,0.4s,baz=175,slow=16,SNR=5.7								
MAKZ	**Makanchi**	**2.90**	**345**	⇓Pn		**Pn**		**19 31 28.4**	**+0.5**
	1.2nm,0.5s								
MAKZ				⇓Pg		**Pg**		**19 31 35.9**	**-1.3**
	15nm,0.3s								
MAKZ				⇓Sn		**Sn**		**19 32 03.2**	**+0.4**
	17nm,0.5s								
MAKZ				⇑Lg		Lg		19 32 12.8	
	23nm,0.5s								
UZB	**Uzynbulak**	**3.06**	**255**	Pg		**Pb**		**19 31 36.7**	**+0.4**
	5.9nm,0.3s								
UZB				Lg		Lg		19 32 17.2	
	34nm,0.5s								
UZB	**Uzynbulak**	**3.06**	**255**	*e*P		**Pb**		**19 31 36.3**	**0.0**
	4.7nm,0.3s								
UZB				*e*S		**Sb**		**19 32 16.6**	**+2.7**
	34nm,0.3s								
WMQ	**Urumqi**	**3.35**	**92**	*e*Pn		**Pn**		**19 31 34.8**	**+0.6**
WMQ				Sn		**Sn**		**19 32 15.0**	**+0.9**
WMQ				Sg		**Sb**		**19 32 22.7**	**+0.6**
WMQ				smax		smax			
	comp=N,120nm,0.7s								
WMQ				smax		smax			
	comp=E,93nm,0.9s								
MNBS	**Baschi**	**3.36**	**273**	*e*P		**Pb**		**19 31 42.0**	**+0.6**
	comp=E,3.2nm,0.4s								
MNBS				*e*S		**Sb**		**19 32 25.3**	**+2.8**
	comp=E,67nm,0.5s								
TDK	**Taldyqorghan**	**3.48**	**288**	*e*P		**Pg**		**19 31 46.1**	**-2.2**
	comp=E,65nm,0.4s								
TDK				*e*S		**Sg**		**19 32 32.2**	**-1.0**
	comp=E,351nm,0.5s								
ARXS	**Arharly**	**3.78**	**275**	Pg		**Pb**		**19 31 49.4**	**+0.9**
	comp=E,30nm,0.6s								
ARXS				Lg		Lg		19 32 38.7	
	comp=E,76nm,0.6s								
ARXS	**Arharly**	**3.78**	**275**	*e*P		**Pb**		**19 31 49.3**	**+0.9**
	comp=E,3.1nm,0.6s								
ARXS				*e*S		**Sg**		**19 32 38.5**	**-4.5**
	comp=E,72nm,0.5s								
KOTS	**Kotyrbulak**	**4.39**	**262**	Pg		**Pb**		**19 32 00.3**	**+1.3**
	comp=E,4.6nm,0.4s								
KOTS				Lg		Lg		19 32 57.2	
	comp=E,185nm,0.4s								
KOTS	**Kotyrbulak**	**4.39**	**262**	*e*P		**Pb**		**19 32 00.5**	**+1.5**
	comp=E,8.3nm,0.8s								
KOTS				*e*S		**Sb**		**19 32 57.0**	**+5.0**
	comp=E,33nm,0.5s								
CHKK	**Chushkaly**	**4.39**	**270**	*e*P		**Pb**		**19 31 59.6**	**+0.7**
	comp=E,2.9nm,0.5s								
CHKK				*e*S		**Sb**		**19 32 56.1**	**+4.2**
	comp=E,28nm,0.3s								
MDOK	**Medeo**	**4.45**	**261**	⇓Pg		**Pg**		**19 32 08.4**	**+1.4**
	comp=E,6.2nm,0.5s								
MDOK				⇑Lg		Lg		19 33 02.8	
	comp=E,31nm,0.6s								
MDOK	**Medeo**	**4.45**	**261**	*e*P		**Pb**		**19 32 01.1**	**+1.1**
	comp=E,6.0nm,0.5s								
MDOK				*e*S		**Sb**		**19 32 58.8**	**+5.0**
	comp=E,34nm,0.7s								
KNDC	**Almaty**	**4.50**	**262**	⇓Pg		**Pg**		**19 32 10.5**	**+2.6**
KNDC				⇑Lg		Lg		19 33 05.2	
KTBS	**Karatobe**	**4.62**	**268**	Pg		**Pg**		**19 32 07.1**	**-3.1**
	comp=E,6.0nm,0.4s								
KTBS				Lg		Lg		19 33 08.8	
	comp=E,67nm,0.6s								
KTBS	**Karatobe**	**4.62**	**268**	*e*P		**Pg**		**19 32 06.7**	**-3.6**
	comp=E,2.2nm,0.5s								
KTBS				*e*S		**Sg**		**19 33 07.9**	**-2.2**
	comp=E,31nm,0.6s								
MTBS	**Maitube**	**4.90**	**262**	*e*P		**Pg**		**19 32 11.4**	**-4.1**
	comp=E,3.4nm,0.2s								
MTBS				*e*S		**Sg**		**19 33 16.0**	**-3.0**
	comp=E,34nm,0.5s								
DGS	**Degeres**	**5.35**	**264**	Pg		**Pg**		**19 32 20.3**	**-3.8**
	comp=E,6.0nm,0.5s								
DGS				Lg		Lg		19 33 32.4	
	comp=E,47nm,0.6s								
TKM2	**Tokmak 2**	**5.54**	**261**	⇑Pg		**Pg**		**19 32 27.3**	**-0.6**
	comp=E,3.7nm,0.6s								
TKM2				⇑Lg		Lg		19 33 33.0	
	comp=E,20nm,0.7s								
AAK	**Ala-Archa**	**6.40**	**261**	⇓Pg		**Pg**		**19 32 39.6**	**-4.6**
	comp=E,4.3nm,0.8s								
AAK				⇓Lg		Lg		19 34 04.9	
	comp=E,16nm,0.8s								
KURBB	**Kurchatov Arra**	**7.29**	**337**	⇑Lg		Lg		19 34 35.7	
	comp=E,37nm,0.7s								
KURK	**Kurchatov**	**7.35**	**337**	⇓Lg		Lg		19 34 35.7	
	comp=E,23nm,0.9s								
OTUK	**Ortayu**	**8.57**	**303**	⇑Lg		Lg		19 35 12.0	
	comp=E,14nm,0.7s								
KK31	**Karatay Array**	**9.16**	**269**	⇑Pg		Pn		19 33 33.2	+39
	comp=E,1.8nm,0.7s,baz=242,slow=12,SNR=3.5								
KK31				⇑Lg		Lg		19 35 30.4	

JHR Hokuryu 1.88 22 P Pn 20 48 44.2 +1.0
JCH Churui 2.02 71 P Pn 20 48 45.2 +0.3
JCH eS Sn 20 49 09.6 -1.2
MJAR Matsushiro Arr 5.80 201 P Pn 20 49 36.6 +1.7
0.1nm,0.3s,baz=15,slow=12,SNR=6.0
USRK Ussuriysk Ar. 6.79 292 P Pn 20 49 50.5 +2.3
0.2nm,0.3s,baz=93,slow=13,SNR=4.8
SONM Songino Array 24.89 295 P P 20 53 22.6 +0.1
0.5nm,1.0s,baz=78,slow=8.7,SNR=2.8
H11N2 WAKE ISLAND Hy 31.34 127 T T 21 26 31.0
baz=328
H11N1 WAKE ISLAND Hy 31.35 127 T T 21 26 36.9
baz=328
H11N3 WAKE ISLAND Hy 31.36 127 T T 21 26 31.5
baz=328
H11S1 WAKE ISLAND Hy 32.17 129 T T 21 27 42.6
baz=330
H11S3 WAKE ISLAND Hy 32.18 129 T T 21 27 40.8
baz=330
H11S2 WAKE ISLAND Hy 32.19 129 T T 21 27 46.6
baz=330
ZALV Zalesovo Beam 38.33 308 P P 20 55 20.0 +0.2
0.6nm,0.4s,baz=101,slow=7.5,SNR=2.7
MKAR Makanchi Array 41.23 297 P P 20 55 43.3 -0.5
0.3nm,0.5s,baz=82,slow=11,SNR=7.6
KURBB Kurchatov Arra 42.69 304 P P 20 55 55.1 -0.5
1.4nm,0.5s,baz=78,slow=9.2,SNR=7.8
ILAR Eielson Array 45.64 35 P P 20 56 19.1 +0.2
0.7nm,0.8s,baz=269,slow=6.6,SNR=7.2
BVAR Borovoye Array 46.96 309 P P 20 56 29.4 0.0
0.3nm,0.4s,baz=78,slow=9.6,SNR=6.1
WRA Warramunga Arr 61.91 187 P P 20 58 17.6 -0.1
0.5nm,1.0s,baz=5.1,slow=6.9,SNR=3.4
FINES FINESS Array B 64.21 331 P P 20 58 32.0 -0.4
2.1nm,0.9s,baz=41,slow=4.4,SNR=2.8

NIED ***02*** *20:58:00,37.90N×141.90E,h53km,Mw3.9 Best double couple: M₀8.78000×10¹⁴ NP1:φ308.00000°,δ11.00000°, λ20.00000°. NP2:φ198.00000°,δ86.00000°,λ100.00000°.*
ISCJB ***02*** *20:58:12.4±0.6,37.90N±0.03×141.90E±0.06,h60km±4km, mb4.2/24,MS3.5/1,Error ellipse: s-maj=8.0km s-min=4.1km az=24.5*
NEIC ***02*** *20:58:13.4±1.5,37.85N×141.97E,h67km±10km,mb4.6/9, Error ellipse: s-maj=22.0km s-min=10.7km az=108.0*
NEIC Recorded [1 JMA] in Fukushima, Iwate and Miyagi.
JMA ***02*** *20:58:13.4,37.91N×141.84E,h51km±1km,M4.0*
JMA Felt I J1.
IDC ***02*** *20:58:16.9±1.9,37.86N×141.84E,h84km±17km,mb3.6/14, mb1 3.8/21,mb1mx3.6/51,mbtmp3.9/21,MS3.0/5, Ms1 3.0/5,ms1mx2.7/49,Error ellipse: s-maj=16.3km s-min=13.3km az=121.0*
ISC 02 20:58:12.9±1.3,37.90N±0.04×141.90E±0.08,h47km±11km, n66,σ1§44/78,mb4.2/24,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakibo**	**0.53**	**320**	P		Pn	**20 58 24.7**	**+0.3**
JIKH				S		Sn	**20 58 32.8**	**+0.2**
JIO	**Ouri**	**0.70**	**322**	P		Pn	**20 58 26.8**	**+0.2**
JIO				S		Sn	**20 58 36.3**	**-0.1**
JMM	**Marumori**	**0.88**	**268**	P		Pn	**20 58 29.0**	**+0.1**
JMM				S		Sn	**20 58 40.2**	**-0.4**
JKMT	**Kesennumamotoy**	**0.97**	**340**	P		Pn	**20 58 30.3**	**+0.2**
JKMT				S		Sn	**20 58 42.7**	**-0.1**
JFK	**Kawauchi**	**0.97**	**237**	P		Pn	**20 58 30.4**	**+0.1**
JFK				S		Sn	**20 58 42.5**	**-0.5**
JOU	**Okura**	**1.08**	**296**	P		Pn	**20 58 32.1**	**+0.4**
JOU				eS		Sn	**20 58 45.6**	**+0.1**
JMK	**Ichinoseki**	**1.18**	**333**	P		Pn	**20 58 33.5**	**+0.5**
JMK				S		Sn	**20 58 48.0**	**+0.2**
JFT	**Otama**	**1.30**	**253**	P		Pn	**20 58 35.5**	**+0.9**
JFT				S		Sn	**20 58 51.7**	**+0.9**
JYS	**Shirataka**	**1.48**	**283**	P		Pn	**20 58 37.8**	**+0.6**
JYS				eS		Sn	**20 58 56.1**	**+0.7**
JYK	**Kaneyama**	**1.58**	**310**	P		Pn	**20 58 39.0**	**+0.5**
JYK				eS		Sn	**20 58 58.3**	**+0.6**
JOM	**Ohasama**	**1.64**	**343**	P		Pn	**20 58 40.1**	**+0.8**
JOM				S		Sn	**20 58 59.7**	**+0.5**
JRG	**Rokugo**	**1.79**	**327**	P		Pn	**20 58 42.5**	**+1.1**
JRG				S		Sn	**20 59 04.7**	**+1.8**
JFY	**Yanaizu**	**1.81**	**255**	P		Pn	**20 58 42.7**	**+1.0**
JFY				S		Sn	**20 59 04.3**	**+0.9**
JYA	**Atsumi**	**1.85**	**292**	P		Pn	**20 58 43.0**	**+0.8**
JYA				eS		Sn	**20 59 05.5**	**+1.0**
MJAR	**Matsushiro Arr**	**3.24**	**246**	P		Pn	**20 59 03.1**	**+1.8**
	1.4nm,0.3s,baz=49,slow=9.9,SNR=81							
MJAR				S		Sn	**20 59 43.9**	**+5.2**
	1.0nm,0.3s,baz=93,slow=24,SNR=5.4							
MJAR				LR		LR	21 00 33.7	
	comp=Z,143nm,20.7s,baz=55,slow=43							
MAJO	**Matsushiro**	**3.24**	**246**	*e*Pn		Pn	**20 59 03.5**	**+2.1**
MAT	**Matsushiro**	**3.24**	**246**	P		Pn	**20 59 03.3**	**+2.0**
MAT				eS		Sn	**20 59 39.7**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.25**	**246**	*e*Pn		Pn	**20 59 03.1**	**+1.8**
ERM	**Erimo**	**4.22**	**13**	*e*Pn		Pn	**20 59 14.7**	**+0.1**
ERM				eSn		Sn	**21 00 03.2**	**+0.6**
INU	**Inuyama**	**4.68**	**238**	*e*Pn		Pn	**20 59 22.2**	**+1.1**
JHJ2	**Mitsune**	**5.07**	**200**	*e*Pn		Pn	**20 59 27.7**	**+1.3**
JHJ2				eSn		Sn	**21 00 21.3**	**-2.4**
JHJ	**Hachijo jima 2**	**5.08**	**200**	P		Pn	**20 59 27.8**	**+1.3**
	21nm,0.3s,baz=74,slow=20,SNR=6.1							
JHJ				S		Sn	**21 00 21.1**	**-2.7**
	28nm,0.3s,baz=271,slow=22,SNR=1.7							
JHJ				LR		LR	21 01 57.6	
	comp=Z,55nm,18.7s,baz=196,slow=44							
ASAJ	**Asahikawa**	**6.23**	**5**	P		Pn	20 59 47.2	+5.0
	2.3nm,0.3s,baz=201,slow=11,SNR=5.1							
ASAJ				S		Sn	**21 00 47.9**	**-4.2**
	1.4nm,0.3s,baz=102,slow=32,SNR=1.3							
USA0B	**Ussuriysk Arra**	**9.77**	**313**	*e*Pn		Pn	**21 00 31.9**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.77**	**313**	P		Pn	**21 00 32.5**	**+1.7**
	0.7nm,0.3s,baz=123,slow=13,SNR=9.4							
JNU	**Nakatsue**	**10.17**	**245**	*e*Pn		Pn	**21 00 35.2**	**-1.1**
JNU	**Nakatsue**	**10.17**	**245**	P		Pn	**21 00 37.2**	**+0.9**
	0.2nm,0.3s,baz=45,slow=5.7,SNR=2.2							
JNU				LR		LR	21 04 33.9	
	comp=Z,145nm,21.1s,baz=350,slow=37							
KSRS	**Korea Array**	**11.09**	**272**	P		Pn	**21 00 52.4**	**+3.6**
	0.3nm,0.3s,baz=82,slow=14,SNR=7.7							
KSRS				LR		LR	21 04 26.2	
	comp=Z,88nm,19.6s,baz=95,slow=33							
KS01	**Wonju Array Si**	**11.11**	**272**	*e*Pn		Pn	**21 00 50.2**	**+1.2**
KS15	**Wonju Array Si**	**11.12**	**272**	*e*Pn		Pn	**21 00 50.4**	**+1.2**
KLR	**Kul'dur**	**13.49**	**330**	P		P	**21 01 27.7**	**-1.9**
	0.2nm,0.3s,baz=153,slow=13,SNR=4.6							
JOW	**Kunigami**	**15.93**	**230**	P		Pn	**21 01 53.5**	**-0.4**
	0.3nm,0.3s,baz=116,slow=16,SNR=4.8							
YHNB	**Yeheng**	**21.89**	**239**	*e*P		P	**21 03 01.1**	**-0.9**
	53nm,1.2s							
NACB	**Ninganchiao**	**22.07**	**238**	*e*P		P	**21 03 01.5**	**-2.4**
	41nm,1.1s							
SSLB	**Suanglung**	**22.76**	**238**	*e*P		P	**21 03 09.4**	**-2.0**
	41nm,1.4s							
YULB	**Yu-li**	**22.80**	**237**	*e*P		P	**21 03 08.1**	**-3.6**
	11nm,1.0s							
TPUB	**Ta-pu**	**23.31**	**237**	*e*P		P	**21 03 14.8**	**-2.0**
	31nm,1.1s							
SONA1	**Songino Array**	**27.63**	**303**	*e*P		P	**21 03 55.5**	**-0.5**
SONM	**Songino Array**	**27.63**	**302**	P		P	**21 03 56.0**	**-0.1**
	1.0nm,0.7s,baz=100,slow=9.2,SNR=10.0							
ENH	**Enshi**	**27.80**	**264**	*e*P		P	**21 03 57.8**	**+0.2**
	13nm,1.0s							
H11N2	**WAKE ISLAND Hy**	**28.28**	**123**	T		T	21 34 19.1	
	baz=316,slow=75,SNR=97							
H11N1	**WAKE ISLAND Hy**	**28.29**	**123**	T		T	21 34 27.8	
	baz=316,slow=75,SNR=132							
H11N3	**WAKE ISLAND Hy**	**28.30**	**123**	T		T	21 34 20.3	
	baz=316,slow=75,SNR=116							
H11S1	**WAKE ISLAND Hy**	**29.02**	**125**	T		T	21 35 19.5	
	baz=317,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**29.02**	**125**	T		T	21 35 19.7	
	baz=317,slow=76,SNR=62							
H11S2	**WAKE ISLAND Hy**	**29.04**	**125**	T		T	21 35 20.8	
	baz=317,slow=76,SNR=41							
GTA	**Gaotai**	**32.69**	**286**	*e*P		P	**21 04 41.5**	**+0.7**
GTA				pP		pP	21 04 45.5	-7.7
GTA				sP		sP	21 04 48.6	-10
ZALV	**Zalesovo Beam**	**41.62**	**312**	P		P	**21 05 55.8**	**-0.4**
	1.1nm,0.4s,baz=77,slow=7.5,SNR=6.9							
CMAR	**Chiang Mai Arr**	**42.09**	**255**	P		P	**21 06 00.2**	**-0.3**
	0.9nm,0.3s,baz=65,slow=5.1,SNR=3.3							
MK31	**Makanchi Array**	**43.99**	**301**	*e*P		P	**21 06 15.3**	**-0.3**
	3.0nm,1.3s							
MKAR	**Makanchi Array**	**43.99**	**301**	P		P	**21 06 15.6**	**+0.1**
	0.8nm,0.6s,baz=83,slow=8.7,SNR=12							
KURK	**Kurchatov**	**45.70**	**308**	*e*P		P	**21 06 29.0**	**0.0**
	4.8nm,0.8s							
KURBB	**Kurchatov Arra**	**45.78**	**307**	P		P	**21 06 29.7**	**+0.1**
	3.0nm,0.6s,baz=82,slow=8.3,SNR=8.0							
ILAR	**Eielson Array**	**48.55**	**33**	P		P	**21 06 51.9**	**+0.8**
	0.5nm,0.5s,baz=261,slow=5.5,SNR=13							
BVAR	**Borovoye Array**	**50.28**	**312**	P		P	**21 07 04.1**	**-0.2**
	0.4nm,0.4s,baz=64,slow=8.4,SNR=6.7							
INK	**Inuvik**	**53.44**	**27**	P		P	**21 07 28.1**	**+0.5**
	0.5nm,0.5s,baz=312,slow=6.9,SNR=4.9							
GSI	**Gunungsitoli**	**54.58**	**239**	*e*P		P	**21 07 37.3**	**+0.7**
	14nm,1.1s							
WRA	**Warramunga Arr**	**57.97**	**188**	P		P	**21 07 60.0**	**-0.7**
	2.1nm,0.7s,baz=6.5,slow=7.3,SNR=16							
SPITS	**Spitsbergen Ar**	**59.75**	**349**	LR		LR	21 37 55.8	
	comp=Z,36nm,18.4s,baz=320,slow=40							
YKA	**Yellowknife Ar**	**62.86**	**30**	P		P	**21 08 34.1**	**+0.6**
	0.4nm,0.6s,baz=302,slow=6.4,SNR=9.5							
FINES	**FINESS Array B**	**68.23**	**332**	P		P	**21 09 08.4**	**+0.2**
	5.3nm,1.0s,baz=39,slow=9.0,SNR=3.5							
NOA	**NORSAR Array B**	**73.53**	**337**	P		P	**21 09 39.7**	**-0.8**
	1.1nm,0.9s,baz=58,slow=7.8,SNR=2.5							
NVAR	**Mina Array Bea**	**74.16**	**54**	P		P	**21 09 46.3**	**+1.5**
	0.3nm,0.6s,baz=286,slow=4.5,SNR=3.9							
RPZ	**Rata Peaks**	**85.43**	**159**	P		P	**21 10 44.2**	**-0.9**
	13nm,0.9s,baz=0.0,slow=4.0,SNR=2.2							
TXAR	**Lajitas Array**	**89.29**	**53**	P		P	**21 11 05.4**	**+1.0**
	0.5nm,0.5s,baz=292,slow=3.0,SNR=12							
LPAZ	**La Paz**	**145.92**	**59**	PKPbc		**PKPdf**	**21 17 46.9**	**-0.9**
	0.8nm,0.6s,baz=297,slow=5.5,SNR=3.9							

IDC 02 20:58:37.1±1.3,35.90N×140.13E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/45,mbtmp3.6/4,MS3.7/1,Ms1 3.7/1, ms1mx2.6/43,Error ellipse: s-maj=50.1km s-min=28.1km az=86.0,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**31.64**	**208**	LR		LR	21 19 23.7	
	comp=Z,130nm,18.5s,baz=90,slow=39							
KURBB	**Kurchatov Arra**	**45.90**	**309**	P		P	21 07 01.1	-0.1
	0.6nm,0.5s,baz=79,slow=8.0,SNR=8.8							
ILAR	**Eielson Array**	**51.01**	**32**	P		P	21 07 40.3	-0.1
	0.2nm,0.8s,baz=276,slow=9.0,SNR=1.0							
WRA	**Warramunga Arr**	**55.80**	**187**	P		P	21 08 16.0	-0.1
	0.5nm,0.5s,baz=4.1,slow=7.3,SNR=4.6							
ASAR	**Alice Springs**	**59.53**	**187**	P		P	21 08 42.2	-0.1
	0.5nm,0.8s,baz=8.4,slow=6.3,SNR=4.6							

ISCJB ***02*** *20:59:30.8±0.2,29.78N±0.03×139.02E±0.05,h388km, mb3.9/43,Error ellipse: s-maj=5.5km s-min=4.0km az=164.1*
JMA ***02*** *20:59:31.2±0.1,29.81N×139.38E,h422km,M3.8*
MOS ***02*** *20:59:31.5±0.9,29.82N×139.10E,h403km,mb4.1/26, Error ellipse: s-maj=13.5km s-min=6.6km az=108.7*
IDC ***02*** *20:59:33.1±0.9,29.83N×139.04E,h398km±9km,mb3.5/28, mb1 3.6/35,mb1mx3.6/51,mbtmp4.3/35,Error ellipse: s-maj=11.1km s-min=8.8km az=79.0*
ISC 02 20:59:31.7±0.4,29.83N±0.05×139.18E±0.06,h388km, n105,σ1§38/126,mb4.0/43,16C-18D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**3.31**	**9**	P		Pn	**21 00 39.3**	**+2.7**
JHJ2				S		S	**21 01 31.7**	**+2.6**
JHJ	**Hachijo jima 2**	**3.32**	**9**	P		Pn	**21 00 39.4**	**+2.8**
	30nm,0.3s,baz=322,slow=20,SNR=3.9							
JHJ				S		S	**21 01 29.4**	**+0.2**
	63nm,0.3s,baz=275,slow=23,SNR=4.6							
CBIJ	**Chichi jima**	**3.80**	**135**	P		Pn	**21 00 42.0**	**+0.8**
CBIJ				eS		S	**21 01 36.6**	**-0.7**
JCJ	**Chichijima**	**3.80**	**135**	P		Pn	**21 00 42.4**	**+1.3**
	50nm,0.3s,baz=288,slow=20,SNR=37							
JCJ				S		S	**21 01 37.7**	**+0.4**
	50nm,0.3s,baz=272,slow=23,SNR=5.3							
JHHJ	**Haha-jima-NKT**	**4.14**	**140**	P		Pn	**21 00 45.1**	**+0.6**
JHHJ				S		S	**21 01 43.3**	**-0.1**
BSO1	**Boso 1**	**5.04**	**17**	P		Pn	**21 00 55.0**	**+2.1**
BSO1				S		S	**21 01 59.5**	**+0.5**
JOD2	**Odawara 2**	**5.42**	**359**	P		Pn	**21 00 59.1**	**+1.6**
JOD2				S		S	**21 02 07.4**	**+0.2**
JRY	**Ryogami san**	**6.17**	**358**	P		Pn	**21 01 06.7**	**+1.0**
JRY				S		S	**21 02 21.3**	**-1.0**
JTO	**Tosashimizu**	**6.24**	**301**	P		Pn	**21 01 08.9**	**+2.5**
MJAR	**Matsushiro Arr**	**6.74**	**353**	P		Pn	**21 01 12.7**	**-0.1**
	0.4nm,0.3s,baz=176,slow=12,SNR=4.5							
MJAR				S		S	**21 02 32.9**	**-1.0**
	0.1nm,0.3s,baz=172,slow=9.8,SNR=5.3							
MAJO	**Matsushiro**	**6.74**	**353**	*de*P		P	**21 01 13.3**	**+0.4**
MAT	**Matsushiro**	**6.74**	**353**	P		P	**21 01 12.8**	**-0.1**
MAT				eS		S	**21 02 32.8**	**-1.2**
JNU	**Nakatsue**	**7.81**	**297**	P		P	**21 01 24.8**	**-0.1**
	0.3nm,0.3s,baz=146,slow=17,SNR=3.1							
JTU	**Tsushima**	**9.52**	**302**	P		P	**21 01 46.5**	**+2.3**
JOW	**Kunigami**	**10.06**	**255**	⇑P		Pn	**21 01 52.3**	**+1.8**
JKE	**Kume jima 2**	**11.49**	**255**	P		Pn	**21 02 09.2**	**+2.1**
TJN	**Taejon**	**11.86**	**306**	*i*P		Pn	**21 02 12.0**	**+0.7**
KSRS	**Korea Array**	**12.07**	**312**	P		Pn	**21 02 13.6**	**0.0**
	0.3nm,0.3s,baz=126,slow=10,SNR=11							
ASAJ	**Asahikawa**	**14.52**	**10**	P		Pn	**21 02 41.8**	**+0.1**
	2.6nm,0.3s,baz=237,slow=12,SNR=4.4							
USRK	**Ussuriysk Ar.**	**15.44**	**340**	P		Pn	**21 02 50.5**	**-1.7**
	0.7nm,0.3s,baz=138,slow=10,SNR=13							
YSS	**Yuzh-Sakhalins**	**17.32**	**8**	*e*P		Pn	21 03 25.7	+12
YSS				pmax		pmax		
	comp=Z,20nm,1.1s							
TIA	**Tai'an**	**19.54**	**295**	P		P	**21 03 31.1**	**-1.5**
TIA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KLR	**Kul'dur**	**20.18**	**346**	⇑*e*P		P	**21 03 40.0**	**+1.6**
KLR	**Kul'dur**	**20.18**	**346**	P		P	**21 03 39.1**	**+0.7**
	comp=Z,6.5nm,0.6s,baz=160,slow=6.6,SNR=30							
ZEA	**Zeya**	**25.42**	**343**	*e*P		P	**21 04 19.8**	**-5.8**
XAN	**Xi'an**	**25.97**	**287**	P		P	**21 04 30.4**	**-0.5**
XAN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,120nm,4.3s							
PET	**Petropavlovsk**	**27.21**	**26**	⇓*e*P		P	**21 04 40.1**	**-1.4**
PET				pmax		pmax		
	comp=Z,124nm,1.7s							
MA2	**Magadan**	**30.77**	**12**	⇑*e*P		P	**21 05 13.9**	**+1.3**
MA2				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MA2	**Magadan**	**30.77**	**12**	P		P	**21 05 13.2**	**+0.6**
	comp=Z,4.5nm,0.5s,baz=195,slow=10.0,SNR=8.5							
SONM	**Songino Array**	**30.92**	**315**	P		P	**21 05 14.3**	**0.0**
	comp=Z,2.1nm,0.5s,baz=125,slow=8.7,SNR=25							
SONM				PcP		**PcP**	**21 08 00.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=123,slow=4.2,SNR=3.7							
SONM				ScP		**ScP**	**21 11 02.6**	**-2.4**
	comp=Z,0.4nm,0.8s,baz=140,slow=2.8,SNR=3.6							
GTA	**Gaotai**	**33.55**	**297**	*e*P		P	**21 05 36.3**	**-0.8**
GTA				pmax		pmax		
	comp=Z,1.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ZAK	**Zakamensk**	**33.82**	**318**	*e*P		P	**21 05 38.8**	**-0.3**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.1s							
TLY	**Talaya**	**34.16**	**320**	*d*iP		P	**21 05 42.5**	**+0.6**
SEY	**Seymchan**	**34.20**	**11**	⇓*e*P		P	**21 05 42.7**	**+0.7**
MOY	**Mondy**	**35.65**	**319**	*e*P		P	**21 05 54.6**	**0.0**
CMAR	**Chiang Mai Arr**	**38.25**	**262**	*ce*P		P	**21 06 16.7**	**+0.2**
CMAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**38.25**	**262**	P		P	**21 06 16.3**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=66,slow=5.5,SNR=12							
CMAR				PcP		**PcP**	**21 08 22.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=72,slow=2.9,SNR=4.1							
BILL	**Bilibino**	**41.45**	**15**	⇑*e*P		P	**21 06 41.7**	**-0.1**
BILL				*e*			21 08 32.4	
BILL				eS		S	**21 12 28.1**	**+1.0**
BILL				SS		**SS**	**21 15 47.1**	**-1.5**
BILL				pmax		pmax		
	comp=Z,3.0nm,0.8s							
DGZ	**Jazzator, Alta**	**43.47**	**312**	*d*iP		P	**21 06 58.7**	**+0.3**
DGZ				pmax		pmax		
	comp=Z,6.0nm,0.7s							
ZALV	**Zalesovo Beam**	**45.70**	**318**	P		P	**21 07 14.9**	**-0.6**
	comp=Z,4.3nm,0.4s,baz=102,slow=8.0,SNR=19							
ZALV				PcP		**PcP**	**21 08 45.5**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=114,slow=4.2,SNR=4.9							
RAMN	**Ramite**	**46.02**	**280**	*e*P		P	**21 07 18.4**	**-0.3**
	comp=Z,25nm,0.6s							
JIRN	**Jiri**	**46.17**	**281**	*e*P		P	**21 07 20.3**	**+0.3**
	comp=Z,46nm,0.5s							
GUN	**Gumba**	**46.37**	**281**	*e*P		P	**21 07 21.6**	**+0.1**
	comp=Z,35nm,0.7s							
MKAR	**Makanchi Array**	**46.71**	**308**	P		P	**21 07 23.0**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=94,slow=9.2,SNR=18							
MKAR				PcP		**PcP**	**21 08 49.5**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=79,slow=6.4,SNR=6.9							
MKAR				ScP		**ScP**	**21 12 03.7**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=72,slow=5.5,SNR=4.5							
NVS	**Novosibirsk**	**46.75**	**319**	*e*P		P	**21 07 23.6**	**+0.1**
PKI	**Pulchoki**	**46.87**	**281**	*e*P		P	**21 07 24.8**	**-0.5**
PKIN	**Phulchoki**	**46.87**	**281**	*e*P		P	**21 07 24.5**	**-0.7**
KKN	**Kakani**	**46.91**	**281**	*e*P		P	**21 07 25.2**	**-0.3**
DMN	**Daman**	**47.11**	**281**	*e*P		P	**21 07 26.8**	**-0.3**
	comp=Z,11nm,0.8s							
DANN	**Dangsing**	**48.05**	**283**	*e*P		P	**21 07 34.5**	**+0.3**
	comp=Z,19nm,0.6s							
KOLN	**Koldanda**	**48.35**	**282**	*e*P		P	**21 07 36.3**	**-0.1**
	comp=Z,28nm,0.9s							
PYUN	**Piuthan**	**48.77**	**283**	*e*P		P	**21 07 39.7**	**+0.1**
	comp=Z,37nm,0.5s							
NRIK	**Noril'sk**	**49.15**	**338**	P		P	**21 07 41.5**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=112,slow=6.7,SNR=5.1							
KURK	**Kurchatov**	**49.19**	**313**	*de*P		P	**21 07 41.3**	**-0.7**
KURK				pmax		pmax		
	comp=Z,14nm,1.6s							
KURBB	**Kurchatov Arra**	**49.25**	**313**	P		P	**21 07 41.9**	**-0.6**
	comp=Z,5.2nm,0.5s,baz=92,slow=8.0,SNR=29							
WRAB	**Tennant Creek**	**49.69**	**186**	⇓*e*P		P	**21 07 46.4**	**+0.3**
WRA	**Warramunga Arr**	**49.70**	**186**	P		P	**21 07 46.6**	**+0.4**
	comp=Z,0.7nm,0.2s,baz=1.2,slow=7.9,SNR=34							
WRA				PcP		**pP**	**21 09 01.2**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=2.2,slow=7.4,SNR=2.9							
WRA				ScP		**ScP**	**21 12 17.4**	**-0.9**
	comp=Z,1.0nm,1.0s,baz=4.0,slow=5.3,SNR=4.9							
KSH	**Kashi**	**51.93**	**299**	*e*P		P	**21 08 06.0**	**+3.4**
KSH				pmax		pmax		
	comp=Z,220nm,6.0s							
ASAR	**Alice Springs**	**53.43**	**186**	P		P	**21 08 13.9**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=22,slow=11,SNR=8.7							
KDAK	**Kodiak Island**	**53.80**	**38**	*i*P		P	**21 08 17.1**	**+1.4**
KDAK	**Kodiak Island**	**53.80**	**38**	P		P	**21 08 17.0**	**+1.3**
	comp=Z,3.2nm,0.4s,baz=238,slow=1.9,SNR=9.5							
BVAR	**Borovoye Array**	**54.25**	**316**	P		P	**21 08 18.7**	**-0.2**
	comp=Z,13nm,0.5s,baz=98,slow=7.2,SNR=118							
BVAR				PcP		**PcP**	**21 09 17.3**	**-0.3**
	baz=98,slow=6.5							
BRVK	**Borovoye**	**54.31**	**316**	⇓*e*P		P	**21 08 19.0**	**-0.4**
BRVK				pmax		pmax		
	comp=Z,7.0nm,0.6s							
COLA	**College**	**56.20**	**29**	⇓*e*P		P	**21 08 33.3**	**+0.8**
COLA				pmax		pmax		
	comp=Z,5.0nm,1.3s							
ILAR	**Eielson Array**	**56.62**	**30**	P		P	**21 08 35.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=259,slow=5.2,SNR=8.0							
ARU	**Arti**	**60.65**	**321**	*c*iP		P	**21 09 02.4**	**-0.6**
ARU				*PP		**pwP**	**21 10 27.1**	**-1.3**
ARU							21 11 20.3	
ARU				S		**S**	**21 16 48.3**	**+0.4**
ARU				SS		**SS**	**21 20 55.0**	**+1.3**
ARU				pmax		pmax		
	comp=Z,9.0nm,0.6s							
STKA	**Stephens Creek**	**61.41**	**178**	P		P	**21 09 08.8**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=338,slow=8.8,SNR=3.7							
INK	**Inuvik**	**61.66**	**25**	P		P	**21 09 10.4**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=294,slow=8.5,SNR=6.8							
GEYT	**Alibeck**	**65.82**	**301**	P		P	**21 09 36.5**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=82,slow=2.2,SNR=5.1							
ARCES	**ARCESS Array B**	**70.09**	**340**	P		P	**21 10 03.3**	**+0.7**
	comp=Z,3.8nm,0.5s,baz=68,slow=8.9,SNR=27							
YKA	**Yellowknife Ar**	**70.99**	**28**	P		P	**21 10 08.9**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=296,slow=6.

	comp=Z,0.0nm,0.3s								
JHBN	**Jahan bin**		**0.41**	**314**	*e*Pg		**Pg**	**21 06 32.6**	**-2.1**
JHBN					IAMB		IAmb	21 06 46.0	
	comp=N,0.0nm,0.2s								
IPIR	**Pirpir**		**0.75**	**352**	*e*Pg		**Pb**	**21 06 39.1**	**-1.6**
IPIR					IAMB		IAmb	21 06 58.1	
	comp=Z,11μm,0.3s								
IGAR	**Gharneh**		**0.99**	**62**	*e*Pg		**Pb**	**21 06 43.3**	**-1.4**
IGAR					IAMB		IAmb	21 07 00.7	
	comp=Z,9μm,0.2s								
KLNJ	**Kolanjah**		**1.05**	**152**	*e*Pg		**Pb**	**21 06 44.5**	**-1.5**
KLNJ					IAMB		IAmb	21 07 14.0	
	comp=N,0.0nm,0.4s								
IRAM	**Rameshеh**		**1.17**	**96**	*e*Pg		**Pn**	**21 06 46.6**	**-1.1**
IRAM					IAMB		IAmb	21 07 09.5	
	comp=N,4μm,0.4s								
IKLH	**Kolahrood**		**1.45**	**19**	*e*Pn		**Pn**	**21 06 51.3**	**-0.4**
IKLH					IAMB		IAmb	21 07 23.6	
	comp=Z,3μm,0.4s								
IZEF	**Zefreh**		**1.46**	**49**	*e*Pn		**Pn**	**21 06 51.9**	**+0.1**
IZEF					IAMB		IAmb	21 07 22.9	
	comp=Z,2μm,0.5s								
SHGR	**Shooshtar-Gavs**		**1.89**	**276**	*e*Pg		**Pg**	**21 07 02.1**	**-0.2**
SHGR	**Shooshtar-Gavs**		**1.89**	**276**	*e*AML		AML	21 07 33.2	
	comp=N,171nm,0.4s								
SHGR					*e*AML		AML	21 07 53.0	
	comp=E,146nm,0.5s								
SHGR	**Shooshtar-Gavs**		**1.89**	**276**	*e*Pg		**Pg**	**21 07 02.1**	**-0.2**
SHGR					*e*Sg		**Sg**	**21 07 26.2**	**-0.6**
KHMZ	**Khomeyn**		**2.00**	**334**	*e*Pn		**Pn**	**21 07 00.4**	**+1.3**
KHMZ	**Khomeyn**		**2.00**	**334**	*e*AML		AML	21 07 38.9	
	comp=E,115nm,0.6s								
KHMZ	**Khomeyn**		**2.00**	**334**	*e*Pn		**Pn**	**21 07 00.4**	**+1.3**
KHMZ					*e*Sg		**Sg**	**21 07 32.2**	**+1.8**
IKAZ	**Kazeroun**		**2.27**	**162**	IAMB		IAmb	21 07 11.1	
	comp=Z,4μm,0.4s								
IKAZ					*e*Pn		**Pb**	**21 07 04.4**	**-2.3**
ISAD	**Sadrabad**		**2.27**	**90**	IAMB		IAmb	21 07 12.2	
	comp=Z,1μm,0.4s								
ISAD					*e*Pn		**Pb**	**21 07 07.5**	**+0.8**
ISFB	**Sefidab**		**2.61**	**23**	*e*Pn		**Pb**	**21 07 11.1**	**-1.3**
ISFB					IAMB		IAmb	21 07 53.4	
	comp=Z,1μm,0.6s								
IKMR	**Kamar-syah**		**2.72**	**306**	*e*Pn		**Pb**	**21 07 11.9**	**-2.2**
IKMR					IAMB		IAmb	21 07 58.8	
	comp=E,0.0nm,0.6s								
ASAO	**Ashtian**		**2.73**	**343**	*e*Pn		**Pn**	**21 07 10.9**	**+1.7**
ASAO	**Ashtian**		**2.73**	**343**	*e*Pn		**Pn**	**21 07 10.9**	**+1.7**
IPAR	**Pars**		**2.73**	**140**	*e*Pn		**Pb**	**21 07 14.5**	**0.0**
IPAR					IAMB		IAmb	21 07 31.2	
	comp=Z,965nm,0.7s								
ICHK	**Chekchek**		**2.90**	**83**	*e*Pn		**Pb**	**21 07 16.2**	**-1.1**
ICHK					IAMB		IAmb	21 08 08.3	
	comp=E,647nm,0.4s								
IDOB	**Doab**		**3.01**	**308**	*e*Pn		**Pn**	**21 07 16.0**	**+2.9**
YZKH	**Yazd**		**3.07**	**81**	*e*Pn		**Pn**	**21 07 15.5**	**+1.8**
YZKH	**Yazd**		**3.07**	**81**	*e*Pn		**Pn**	**21 07 15.5**	**+1.8**
YZKH					*e*Sg		**Sg**	**21 08 03.0**	**-1.6**
IKFM	**Kafar-mosalman**		**3.10**	**301**	*e*Pn		**Pn**	**21 07 16.3**	**+2.3**
IKFM					IAMB		IAmb	21 08 18.6	
	comp=Z,0.0nm,0.7s								
ISRV	**Sarvestan**		**3.13**	**144**	*e*Pn		**Pb**	**21 07 18.4**	**-2.9**
IRAZ	**Razeghan**		**3.57**	**346**	*e*Pn		**Pn**	**21 07 23.0**	**+2.3**
IRAZ					IAMB		IAmb	21 08 32.7	
	comp=Z,606nm,0.8s								
IKOM	**Komasi**		**3.69**	**308**	*e*Pn		**Pn**	**21 07 24.4**	**+2.1**
GEYT	**Alibeck**		**8.35**	**42**	Pn		Pn	21 08 31.6	+5.5
	comp=Z,0.2nm,0.3s,baz=229,slow=15,SNR=1.8								
BRTR	**Keskin Array B**		**16.07**	**304**	Pn		**P**	**21 10 13.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=130,slow=13,SNR=7.3								
MLR	**Muntele Rosu**		**23.66**	**312**	*i*P		**P**	**21 11 34.2**	**-2.3**
AKASG	**Malin Array Be**		**24.72**	**326**	P		**P**	**21 11 47.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=131,slow=8.6,SNR=3.0								
MKAR	**Makanchi Array**		**28.14**	**49**	P		**P**	**21 12 19.8**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=249,slow=11,SNR=2.4								
ZALV	**Zalesovo Beam**		**32.62**	**38**	P		**P**	**21 12 58.4**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=258,slow=7.2,SNR=2.1								
GERES	**GERESS Array B**		**32.65**	**312**	P		**P**	**21 12 56.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=111,slow=7.7,SNR=2.9								
FINES	**FINESS Array B**		**33.68**	**339**	P		**P**	**21 13 06.1**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=137,slow=8.6,SNR=3.0								
TORD	**Torodi Ar. Bea**		**48.79**	**259**	P		**P**	**21 15 09.2**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=61,slow=8.2,SNR=9.5								

IDC 02 21:20:40.1±2.0, 8°34S×124°99E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.3/42, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=119.5km s-min=29.1km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.72**	**176**	Pn		Pn	Pn	21 23 02.2	+0.9
	0.1nm,0.3s,baz=4.7,slow=12,SNR=4.2								
FITZ				Sn		Sn	Sn	21 24 44.0	-7.3
	0.2nm,0.3s,baz=121,slow=5.9,SNR=3.2								
WRA	**Warramunga Arr**	**14.67**	**143**	Pn		Pn	Pn	21 24 07.8	-1.2
	0.1nm,0.3s,baz=315,slow=14,SNR=11								
WRA				Sn		Sn	Sn	21 26 41.8	-11
	0.0nm,0.3s,baz=311,slow=24,SNR=3.7								
ASAR	**Alice Springs**	**17.47**	**152**	P		Pn	Pn	21 24 45.3	-0.1
	0.1nm,0.3s,baz=326,slow=10,SNR=6.4								
ASAR				S		Sn	Sn	21 27 54.6	-6.1
	0.0nm,0.3s,baz=328,slow=22,SNR=2.5								
MKAR	**Makanchi Array**	**66.73**	**330**	P		P	P	21 31 33.2	0.0
	0.2nm,0.6s,baz=142,slow=7.4,SNR=2.0								

*ISCJB **02** 21:29:38.5±0.4, 67°57N±0°.04×142°.7E±0°.1, h10km, mb3.6/12, Error ellipse: s-maj=7.4km s-min=6.2km az=4.8*
*IDC **02** 21:29:38.4±0.8, 67°.59N×142°.67E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.6/54, mbtmp3.6/13, ML3.0/1, Error ellipse: s-maj=20.3km s-min=15.2km az=5.0*
*YARS **02** 21:29:39.8±0.2, 67°.570N±0°.008×142°.79E±0°.02, h9km±4km*

ISC 02 21:29:39.6±0.6, 67°.57N±0°.04×142°.80E±0°.04, h10km, n19, σ1§13/26, mb3.7/12, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.12**	**171**	*i* P		**P**	**Pb**	**21 29 59.9**	**-1.1**
MOMR				Pmax				21 29 59.9	
	comp=Z,150nm,0.2s								
MOMR				*e*S		**Sb**		**21 30 14.7**	**-0.9**
MOMR				Smax				21 30 14.7	
	comp=N,826nm,0.3s								
YBGR	**Belaya Gora**	**1.60**	**51**	*i* P		**Pn**		**21 30 07.8**	**0.0**
YBGR				*e*P		**Pb**		**21 30 08.1**	**-1.0**
YBGR				Pmax				21 30 08.1	
	comp=Z,191nm,0.2s								
YBGR				*e*S		**Sb**		**21 30 29.6**	**+0.2**
YBGR				Smax				21 30 29.6	
	comp=N,2μm,0.3s								
DEPR	**Deputatskiy**	**2.12**	**331**	*e*P		**Pn**		**21 30 15.5**	**+0.5**
DEPR				*e*P		**Pb**		**21 30 17.5**	**-0.5**
DEPR				Pmax				21 30 17.5	
	comp=Z,43nm,0.3s								
DEPR				*e*S		**Sg**		**21 30 45.7**	**-1.8**
DEPR				Smax				21 30 45.7	
	comp=E,625nm,0.6s								
BTGS	**Batagay**	**3.12**	**275**	*e*P		**Pn**		**21 30 29.9**	**+1.2**
BTGS				*e*P		**Pb**		**21 30 36.2**	**+1.1**
BTGS				Pmax				21 30 36.2	
	comp=Z,24nm,0.3s								
BTGS				*e*S		**Sg**		**21 31 16.1**	**-3.6**
BTGS				Smax				21 31 16.1	
	comp=N,275nm,0.5s								
SEY	**Seymchan**	**6.15**	**135**	Pn		**Pn**		**21 31 11.4**	**+1.1**
	comp=N,0.3nm,0.3s,baz=353,slow=10,SNR=6.9								
SEY				Lg		Lg		21 32 53.2	
	comp=N,0.8nm,0.3s,baz=8.2,slow=21,SNR=7.0								
MA2	**Magadan**	**8.77**	**152**	Lg		Lg		21 34 18.0	
	comp=N,0.6nm,0.3s,baz=72,slow=22,SNR=4.5								
USRK	**Ussuriysk Ar.**	**24.12**	**199**	P		**P**		**21 34 55.0**	**-0.2**
	comp=N,0.8nm,0.7s,baz=14,slow=8.4,SNR=3.6								
SONM	**Songino Array**	**27.07**	**241**	P		**P**		**21 35 23.1**	**+1.1**
	comp=N,0.4nm,0.9s,baz=23,slow=8.4,SNR=3.3								
SONM				Lg		Lg		21 44 03.9	
	comp=N,0.2nm,0.7s,baz=21,slow=32,SNR=2.5								
ILAR	**Eielson Array**	**27.16**	**62**	P		**P**		**21 35 23.5**	**+1.0**
	comp=N,1.6nm,0.9s,baz=298,slow=5.8,SNR=9.3								
SPITS	**Spitsbergen Ar**	**31.06**	**341**	PcP		**PcP**		**21 38 51.9**	**-0.2**
	comp=N,2.7nm,0.7s,baz=64,slow=3.8,SNR=5.1								
BVAR	**Borovoye Array**	**36.29**	**283**	P		**P**		**21 36 42.8**	**+0.1**
	comp=N,0.3nm,0.6s,baz=47,slow=9.5,SNR=3.4								

ARCES	**ARCESS Array B**		**36.62**	**328**	P		**P**	**21 36 45.5**	**+0.1**
	comp=N,6.0nm,1.1s,baz=27,slow=10,SNR=3.1								
ARCES					PcP		**PcP**	**21 39 07.3**	**-0.6**
	comp=N,5.9nm,1.0s,baz=32,slow=7.1,SNR=3.7								
MKAR	**Makanchi Array**		**36.80**	**267**	P		**P**	**21 36 46.6**	**-0.5**
	comp=N,1.0nm,0.7s,baz=41,slow=6.4,SNR=11								
YKA	**Yellowknife Ar**		**38.83**	**46**	P		**P**	**21 37 04.4**	**+0.4**
	comp=N,0.3nm,0.7s,baz=324,slow=8.2,SNR=5.7								
FINES	**FINESS Array B**		**43.37**	**321**	P		**P**	**21 37 41.0**	**-0.3**
	comp=N,0.9nm,0.4s,baz=23,slow=8.5,SNR=12								
AKASG	**Malin Array Be**		**52.04**	**312**	P		**P**	**21 38 47.9**	**-0.8**
	comp=N,0.8nm,0.6s,baz=29,slow=8.4,SNR=2.8								
KBZ	**Khabaz**		**53.97**	**298**	P		**P**	**21 39 03.5**	**+0.6**
	comp=N,1.1nm,0.7s,baz=356,slow=6.5,SNR=3.7								
PDAR	**Pinedale Array**		**57.38**	**56**	P		**P**	**21 39 28.8**	**+0.9**
	comp=N,0.6nm,0.7s,baz=3.0,slow=2.4,SNR=5.3								
TXAR	**Lajitas Array**		**71.56**	**58**	P		**P**	**21 41 01.2**	**+0.6**
	comp=N,0.2nm,0.6s,baz=21,slow=4.1,SNR=3.6								

*IDC **02** 21:36:04.0±1.1, 21°.47S×66°.40W, h228km±13km, mb3.3/2, mb1 3.3/5, mb1mx3.0/41, mbtmp3.7/5, Error ellipse: s-maj=37.4km s-min=14.4km az=138.0*
*ISCJB **02** 21:36:05.2±0.8, 21°.34S±0°.05×66°.8W±0°.1, h256km±11km, mb3.4/2, Error ellipse: s-maj=16.1km s-min=7.6km az=9.8*
*GUC **02** 21:36:06.4±0.6, 21°.31S×67°.27W, h279km±10km, ML3.9*

ISC 02 21:36:07.6±1.6, 21°.31S±0°.06×67°.0W±0°.2, h255km±14km, n18, σ0§76/30, 3D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**2.17**	**257**	*e*P		**Pn**		**21 36 52.8**	**+0.5**
PB09				*e*S		**S**		**21 37 28.0**	**+0.4**
PB09				IAML				21 37 35.2	
	comp=E,175nm,0.6s								
LVC	**Limon Verde**	**2.21**	**234**	P		**Pn**		**21 36 52.8**	**-0.1**
	comp=E,2.1nm,0.3s,baz=62,slow=5.6,SNR=22								
LVC				S		**S**		**21 37 27.7**	**-1.0**
	comp=E,20nm,0.3s,baz=245,slow=21,SNR=48								
PB08	**IPOC Station P**	**2.35**	**299**	*i*P		**Pn**		**21 36 54.8**	**+0.5**
PB08				*i* S		**S**		**21 37 31.8**	**+0.8**
PB08				IAML				21 37 35.5	
	comp=E,61nm,0.2s								
PB01	**IPOC Station P**	**2.36**	**276**	*e*P		**Pn**		**21 36 54.3**	**+0.3**
PB01				*e*S		**S**		**21 37 30.7**	**0.0**
PB01				IAML				21 37 32.0	
	comp=N,474nm,0.3s								
PB02	**IPOC Station P**	**2.73**	**269**	*e*P		**Pn**		**21 36 58.0**	**+0.3**
PB02				*e*S		**S**		**21 37 36.9**	**-0.4**
PB07	**IPOC Station P**	**2.74**	**261**	*e*P		**Pn**		**21 36 58.3**	**+0.3**
PB07				*e*S		**S**		**21 37 37.3**	**-0.5**
PB07				IAML				21 37 38.3	
	comp=N,627nm,0.5s								
PB06	**IPOC Station P**	**2.78**	**240**	*e*P		**Pn**		**21 36 58.5**	**+0.1**
PB06				*e*S		**S**		**21 37 38.2**	**-0.3**
PB11	**IPOC Station P**	**2.95**	**301**	*i*P		**Pn**		**21 37 00.2**	**+0.1**
PB11				*e*S		**S**		**21 37 41.7**	**0.0**
PB15	**IPOC Station P**	**2.99**	**230**	*e*P		**Pn**		**21 37 00.5**	**0.0**
PB15				*e*S		**S**		**21 37 42.0**	**-0.5**
PB04	**IPOC Station P**	**3.12**	**250**	*e*P		**Pn**		**21 37 02.4**	**+0.4**
PB04				*e*S		**S**		**21 37 44.0**	**-1.0**
MNMC	**Minye Minye**	**3.28**	**311**	*e*P		**Pn**		**21 37 04.4**	**+0.5**
MNMC				*e*S		**S**		**21 37 48.9**	**+0.5**
PSGC	**Pisagua**	**3.41**	**299**	*e*P		**Pn**		**21 37 04.6**	**-0.5**
PSGC				*e*S		**S**		**21 37 49.3**	**-1.4**
PB10	**IPOC Station P**	**3.97**	**236**	*e*P		**Pn**		**21 37 11.4**	**0.0**
PB10				*i* S		**S**		**21 38 01.0**	**-1.0**
LPAZ	**La Paz**	**5.11**	**347**	P		**Pn**		**21 37 25.9**	**+0.2**
	comp=N,0.7nm,0.3s,baz=145,slow=7.7,SNR=17								
LPAZ				S		**S**		**21 38 25.5**	**-2.4**
	comp=N,0.5nm,0.3s,baz=345,slow=14,SNR=17								
SIV	**San Ignacio**	**7.70**	**48**	P		Pn		21 37 51.0	-6.2
	comp=N,1.6nm,0.3s,baz=240,slow=12,SNR=51								
SIV				S		S		21 39 12.8	-13
	comp=N,0.1nm,0.3s,baz=343,slow=5.6,SNR=3.1								
TORD	**Torodi Ar. Bea**	**75.60**	**70**	P		P		21 47 21.6	-3.4
	comp=N,0.4nm,0.5s,baz=236,slow=5.4,SNR=10								
YKA	**Yellowknife Ar**	**91.62**	**340**	P		**P**		**21 48 45.2**	**0.0**
	comp=N,0.3nm,0.5s,baz=124,slow=4.2,SNR=8.5								
MKAR	**Makanchi Array**	**144.41**	**37**	PKP		**PKPab**		**21 55 13.3**	**+0.9**
	comp=N,0.4nm,0.7s,baz=302,slow=3.1,SNR=5.9								

*IDC **02** 21:36:25.4±1.3, 5°.29S×151°.84E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/41, mbtmp4.0/8, MS2.7/1, Ms1 2.7/1, ms1mx2.5/36, Error ellipse: s-maj=49.6km s-min=20.6km az=123.0*
*ISCJB **02** 21:36:30.6±1.1, 5°.3S±0°.2×151°.7E±0°.3, h45km, mb3.9/8, Error ellipse: s-maj=43.8km s-min=17.2km az=34.3*

ISC 02 21:36:31.8±1.3, 5°.4S±0°.3×151°.8E±0°.3, h45km, n11, σ0§39/10, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.04**	**117**	LR		LR	LR	21 41 41.6	
	comp=Z,50nm,20.3s,baz=208,slow=35								
WRA	**Warramunga Arr**	**22.34**	**228**	P		**P**		**21 41 26.1**	**+0.2**
	1.3nm,0.4s,baz=52,slow=10,SNR=18								
ASAR	**Alice Springs**	**25.07**	**222**	P		**P**		**21 41 52.6**	**+0.3**
	4.2nm,0.8s,baz=57,slow=8.3,SNR=33								
FITZ	**Fitzroy Crossi**	**28.52**	**241**	P		**P**		**21 42 23.0**	**-0.3**
	6.5nm,1.0s,baz=55,slow=13,SNR=5.2								
SONM	**Songino Array**	**66.27**	**328**	P		**P**		**21 47 16.1**	**+0.6**
	1.0nm,0.7s,baz=144,slow=5.8,SNR=7.9								
MKAR	**Makanchi Array**	**80.09**	**319**	P		**P**		**21 48 36.9**	**-0.2**
	0.5nm,0.8s,baz=102,slow=6.5,SNR=5.0								
ZALV	**Zalesovo Beam**	**81.06**	**327**	P		**P**		**21 48 41.7**	**-0.3**
	0.3nm,0.3s,baz=100,slow=5.8,SNR=2.3								
ILAR	**Eielson Array**	**83.05**	**22**	P		**P**		**21 48 51.7**	**-0.5**
	0.3nm,0.6s,baz=251,slow=4.8,SNR=5.5								
NVAR	**Mina Array Bea**	**93.21**	**52**	P		**P**		**21 49 42.3**	**+0.3**
	1.2nm,0.8s,baz=253,slow=7.3,SNR=5.5								
GERES	**GERESS Array B**	**124.00**	**328**	PKP		**PKiKP**		**21 55 25.9**	**+0.1**
	0.4nm,0.6s,baz=191,slow=0.7,SNR=4.8								
TORD	**Torodi Ar. Bea**	**149.52**	**287**	PKPbc		**PKPbc**		**21 56 17.2**	**-0.1**
	1.4nm,0.7s,baz=80,slow=2.3,SNR=13								

*BJI **02** 21:47:15.0, 3°.56S×145°.72E, h10km, mb5.0/62, mB5.6/51, Ms5.3/66, Ms7 5.0/61*
*IDC **02** 21:47:17.9±0.6, 3°.42S×145°.10E, h0km, mb4.6/21, mb1 4.7/24, mb1mx4.7/35, mbtmp4.6/24, ML4.8/2, MS4.9/27, Ms1 4.9/27, ms1mx4.9/33, Error ellipse: s-maj=21.4km s-min=12.3km az=92.0*
*ISCJB **02** 21:47:20.3±0.2, 3°.47S±0°.03×145°.18E±0°.03, h22km, mb5.1/150, MS5.0/49, Error ellipse: s-maj=3.9km s-min=3.4km az=138.5*
*NEIC **02** 21:47:20.0±0.2, 3°.47S×145°.16E, h10km, mb5.4/96, MW5.4, Error ellipse: s-maj=5.7km s-min=4.4km az=127.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}0.30; $M_{\theta\theta}$-0.08; $M_{\phi\phi}$-0.22; $M_{r\theta}$0.49; $M_{\theta\phi}$1.25; $M_{\phi r}$0.58; Best double couple: $M_0$1.50000×10^{17} NP1: ϕ_s96.00000°, δ66.00000°, λ21.00000°. NP2:ϕ_s357.00000°, δ71.00000°, λ154.00000°. Principal axes: T 1.5500, Plg31.0000°, Azm316.0000°; N -0.1500, Plg59.0000°, Azm143.0000°; P -1.4000, Plg3.0000°, Azm48.0000°;*
*DJA **02** 21:47:20.6±0.3, 3°.3S×14°.5E, h10km, M5.4/48, mB5.8/36, mb5.1/48, MLv5.7/2, Mw(mB)5.3/36*
*MOS **02** 21:47:21.8±0.8, 3°.48S×145°.11E, h36km, mb5.3/31, MS4.9/14, Error ellipse: s-maj=10.7km s-min=6.3km az=100.2*
*GCMT **02** 21:47:23.0±0.1, 3°.39S±0°.01×145°.17E±0°.01, h12km, MW5.4/128, Moment Tensor Solution. s95,c150; s128,c239; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.15±.02; $M_{\theta\theta}$-0.23±.02; $M_{\phi\phi}$0.08±.02; $M_{r\theta}$0.07±.04; $M_{\theta\phi}$1.64±.01; $M_{\phi r}$0.22±.04; Best double couple: $M_0$1.66500×10^{17} NP1:ϕ_s357.00000°, δ86.00000°, λ172.00000°. NP2:ϕ_s87.00000°, δ82.00000°, λ4.00000°. Principal axes: T 1.6040, Plg8.0000°, Azm312.0000°; N 0.1230, Plg81.0000°, Azm153.0000°; P -1.7270, Plg3.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 21:47:22.0±0.3, 3°.47S±0°.04×145°.23E±0°.04, h22km, n377, σ1§81/394, mb5.2/157, MS5.0/52, 17C-9D, Near north coast of New Guinea

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

MANU	**Manus Island**		**2.56**	**57**	*e*Pn		**Pn**	**21 48 01.6**	**-0.7**
JAY	**Jayapura**		**4.61**	**282**	P		**Pn**	**21 48 30.5**	**0.0**
GENI	**Genyem**		**5.12**	**280**	P		**Pn**	**21 48 37.6**	**+0.1**
RABL	**Rabaul**		**6.96**	**96**	*e*Pn		**Pn**	**21 49 05.5**	**+2.7**
BAKI	**Biak**		**9.39**	**284**	P		**Pn**	**21 49 36.1**	**0.0**
COEN	**Coen**		**10.62**	**191**	P		**Pn**	**21 49 55.5**	**+2.6**
	baz=11,SNR=15								
COEN	**Coen**		**10.62**	**191**	*e*Pn		**Pn**	**21 49 54.3**	**+1.4**
FAKI	**Fak Fak**		**12.97**	**272**	*e*Pn		**Pn**	**21 50 27.8**	**+2.6**
FAKI	**Fak Fak**		**12.97**	**272**	P		**Pn**	**21 50 25.2**	**+0.1**
MTSU	**Mount Surprise**		**14.60**	**183**	P		**P**	**21 50 51.0**	**-2.8**
	baz=15								
PALU	**Palau**		**15.18**	**315**	P		**Pn**	**21 50 55.1**	**-0.2**
	baz=15,SNR=5.3								
KDU	**Kakadu**		**15.59**	**233**	P		**Pn**	**21 51 02.1**	**+1.5**
	baz=16,SNR=13								
HNR	**Honiara**		**15.78**	**113**	*e*P		**Pn**	**21 50 59.0**	**-4.0**
HNR					*e*S		**S**	**21 54 20.0**	**+8.2**
HNR	**Honiara**		**15.78**	**113**	*e*Pn		**P**	**21 51 05.3**	**-1.4**
	346nm,1.0s								
HNR	**Honiara**		**15.78**	**113**	Pn		**Pn**	**21 51 04.5**	**+1.4**
	3.7nm,0.3s,baz=109,slow=12,SNR=5.7								
HNR					LR		LR	21 56 05.3	
	comp=Z,6μm,21.6s,baz=278,slow=33								
CTA	**Charters Tower**		**16.55**	**177**	Pn		**Pn**	**21 51 13.3**	**+0.4**
	0.1nm,0.3s,baz=6.2,slow=19,SNR=1.9								
CTA					LR		LR	21 57 37.5	
	comp=Z,3μm,20.8s,baz=1.5,slow=37								
CTAO	**Charters Tower**		**16.55**	**177**	*e*Pn		**Pn**	**21 51 13.3**	**+0.4**
	47nm,1.3s								
CTAO	**Charters Tower**		**16.55**	**177**	*e*P		**Pn**	**21 51 13.3**	**+0.4**
CTAO					pmax		pmax		
	comp=Z,47nm,1.3s								
PATS	**Pohnpei**		**16.60**	**52**	P		**Pn**	**21 51 13.7**	**+0.2**
	baz=17,SNR=5.5								
PATS	**Pohnpei**		**16.60**	**52**	*e*Pn		**P**	**21 51 16.7**	**+0.8**
	comp=Z,821nm,1.4s								
MTN	**Manton Dam**		**16.76**	**235**	P		**P**	**21 51 18.1**	**+0.4**
	baz=17,SNR=6.9								
MTN	**Manton Dam**		**16.76**	**235**	*e*Pn		**P**	**21 51 16.9**	**-0.8**
	comp=Z,74nm,1.3s								
QIS	**Mount Isa**		**17.85**	**197**	P		**P**	**21 51 29.7**	**0.0**
	baz=18,SNR=11								
NLAI	**Namlea**		**18.10**	**270**	P		**Pn**	**21 51 31.3**	**-0.9**
TNTI	**Ternate**		**18.34**	**283**	*e*Pn		**Pn**	**21 51 37.1**	**+1.9**
	comp=Z,136nm,1.4s								
TNTI	**Ternate**		**18.34**	**283**	P		**Pn**	**21 51 35.5**	**+0.3**
SANI	**Sanana**		**19.27**	**274**	P		**P**	**21 51 41.9**	**-3.5**
WRAB	**Tennant Creek**		**19.50**	**212**	*e*P		**P**	**21 51 47.0**	**-0.9**
	comp=Z,90nm,0.9s								
WRAB	**Tennant Creek**		**19.50**	**212**	*d*P		**P**	**21 51 46.8**	**-1.1**
WB2	**Warramunga Arr**		**19.51**	**212**	*e*P		**P**	**21 51 47.3**	**-0.7**
WRA	**Warramunga Arr**		**19.52**	**212**	*i*P		**P**	**21 51 46.5**	**-1.6**
WRA					pmax		pmax		
	comp=Z,60nm,0.9s								
WRA	**Warramunga Arr**		**19.52**	**212**	P		**P**	**21 51 46.5**	**-1.6**
	comp=Z,3.1nm,0.3s,baz=44,slow=11,SNR=163								
WRA					LR		LR	22 00 10.1	
	comp=Z,18μm,18.6s,baz=35,slow=40								
KNRA	**Kununurra**		**20.24**	**232**	P		**P**	**21 51 54.7**	**-1.3**
	baz=20,SNR=9.9								
MATI	**Mati**		**21.57**	**299**	*e*P		**P**	**21 52 09.7**	**-0.8**
KMSI	**Cibinong**		**21.61**	**280**	P		**P**	**21 52 11.4**	**+0.6**
SOEI	**Soe**

KSM **Kuching** 35.24 277 P **P** 21 54 15.7 +0.3
NACB **Ninganchiao** 35.83 321 *e*P **P** 21 54 20.0 -0.2
comp=Z,54nm,1.0s
YHNB **Yeheng** 36.33 322 *e*P **P** 21 54 24.5 -0.1
comp=Z,128nm,1.3s
TATO **Taipei** 36.48 322 *e*P **P** 21 54 25.8 +0.1
comp=Z,548nm,1.8s
CISI **Cisompet, Garu** 37.45 262 *e*P **P** 21 54 32.4 -1.9
comp=Z,58nm,0.9s
TPI **Tanjungpandan** 37.52 270 P **P** 21 54 35.9 +1.1
LEM **Lembang** 37.59 263 P **P** 21 54 33.0 -2.7
LEM pmax pmax
comp=Z,14nm,0.7s
LEM **Lembang** 37.59 263 P **P** 21 54 33.0 -2.7
comp=Z,14nm,0.7s,baz=15,slow=12,SNR=4.4
MORW **Morawa** 37.63 224 P **P** 21 54 34.4 -1.2
baz=38,SNR=7.3
MORW **Morawa** 37.63 224 *e*P **P** 21 54 35.0 -0.6
comp=Z,170nm,1.9s
KLBR **Kellerberrin** 38.08 220 P **P** 21 54 38.6 -0.7
baz=38,SNR=4.8
BLDU **Ballidu** 38.13 222 P **P** 21 54 38.9 -0.9
baz=38
QZH **Quanzhou** 38.30 319⇑ *i*P **P** 21 54 41.0 -0.2
QZH S **S** 22 00 36.2 +1.8
QZH pmax pmax
comp=Z,38nm,0.8s
QZH pmax pmax
comp=Z,790nm,3.5s
QZH LR LR
comp=Z,790nm,10.9s
QZH LR LR
comp=Z,2μm,18.0s
QZH LR LR
comp=Z,3μm,25.1s
JNU **Nakatsue** 38.84 341 *e*P **P** 21 54 46.5 +0.8
comp=Z,125nm,2.0s
JNU **Nakatsue** 38.84 341 LR LR 22 07 58.1
comp=Z,2μm,21.3s,baz=158,slow=32
PPBI **Pangkal Pinang** 39.06 271 P **P** 21 54 48.4 +0.6
comp=Z,31nm,1.4s,comp=Z,634nm
NWAO **Narrogin (SRO)** 39.30 219 *e*P **P** 21 54 48.5 -1.1
comp=Z,51nm,1.4s
NWAO **Narrogin (SRO)** 39.30 219 *e*P **P** 21 54 48.5 -1.1
NWAO pmax pmax
comp=Z,51nm,1.4s
MJAR **Matsushiro Arr** 40.34 351 P **P** 21 54 57.5 -0.6
comp=Z,5.0nm,1.0s,baz=178,slow=7.4,SNR=6.0
MAJO **Matsushiro** 40.34 351 *e*P **P** 21 54 58.3 +0.1
comp=Z,171nm,2.0s
MAJO **Matsushiro** 40.34 351⇑ *i*P **P** 21 54 58.2 +0.1
MAJO pmax pmax
comp=Z,54nm,1.6s
MJB9 **Matsu-Tunnel** 40.34 351 *e*P **P** 21 54 57.8 -0.3
comp=Z,110nm,1.7s
KASI **Kota Agung** 40.65 266 P **P** 21 55 00.5 -0.5
comp=Z,60nm,1.6s
MDSI **Maura Dua** 40.96 267 P **P** 21 55 02.6 -0.9
comp=Z,63nm,1.9s,comp=Z,1μm
LWLI **Liwa** 41.08 266 P **P** 21 55 05.5 +0.8
comp=Z,28nm,1.0s,comp=Z,14μm
QIZ **Qiongzhong** 41.37 304 P **P** 21 55 08.6 +1.7
QIZ S **S** 22 01 23.9 +3.2
QIZ LR LR
comp=Z,1μm,17.8s
QIZ LR LR
comp=Z,1μm,22.0s
QIZ LR LR
comp=Z,2μm,24.3s
LHSI **Lahat** 41.62 268 P **P** 21 55 09.4 +0.4
comp=Z,101nm,1.8s,comp=Z,2μm
MYKOM **Kota Tinggi** 41.69 277 *e*P **P** 21 55 11.9 +2.3
comp=Z,108nm,1.9s
MYKOM **Kota Tinggi** 41.69 277 P **P** 21 55 12.6 +3.0
NJ2 **Nanjing** 43.31 327 *e*P **P** 21 55 23.0 +0.6
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KRJI **Kerinci** 43.73 271 P **P** 21 55 25.9 -0.4
comp=Z,107nm,1.1s,comp=Z,2μm
KSRS **Korea Array** 43.78 340 P **P** 21 55 25.4 -0.7
comp=Z,5.6nm,0.9s,baz=158,slow=9.5,SNR=15
KSRS LR LR 22 11 09.2
comp=Z,2μm,19.3s,baz=168,slow=33
KSAR **Wonju Array Be** 43.78 340 P **P** 21 55 25.4 -0.7
KSAR **Wonju Array Be** 43.78 340 P **P** 21 55 25.4 -0.7
KS01 **Wonju Array Si** 43.81 340 *e*P **P** 21 55 25.3 -1.1
BKNI **Bangkinang** 44.32 274 *e*P **P** 21 55 26.9 -4.0
comp=Z,381nm,1.5s
BKNI **Bangkinang** 44.32 274 P **P** 21 55 27.5 -3.4
comp=Z,140nm,0.5s,comp=Z,2μm
PDSI **Padang** 44.80 272 P **P** 21 55 32.2 -2.5
IPM **Ipoh** 44.86 280 *e*P **P** 21 55 36.4 +1.1
comp=Z,76nm,1.7s
IPM **Ipoh** 44.86 280 P **P** 21 55 36.4 +1.1
WHN **Wuhan** 44.87 321 ⇓P **P** 21 55 35.9 +1.0
WHN S **S** 22 02 09.4 -2.2
WHN LR LR
comp=Z,2μm,10.0s
WHN LR LR
comp=Z,2μm,16.8s
WHN LR LR
comp=Z,4μm,17.6s
PPI **Padang Panjang** 44.90 273 P **P** 21 55 34.4 -1.1
KULM **Kulim** 45.37 281 *e*P **P** 21 55 39.7 +0.5
comp=Z,74nm,1.6s
KULM **Kulim** 45.37 281 P **P** 21 55 40.3 +1.0
SKNT **Sakolnakorn** 45.51 298 P **P** 21 55 40.7 +0.4
comp=Z,16nm,1.2s,comp=Z,659nm
SISI **Saibi** 46.14 271 P **P** 21 55 45.0 -0.3
comp=Z,68nm,1.4s,comp=Z,967nm
RPZ **Rata Peaks** 46.14 154 P **P** 21 55 44.6 -0.4
comp=Z,14nm,0.9s,baz=95,slow=11,SNR=2.9
NIUE **Niue** 46.46 113 *e*P **P** 21 55 47.6 -0.2
comp=Z,90nm,0.9s
PSI **Prapat** 46.69 277 *e*P **P** 21 55 48.7 -1.1
PSI *es*P **P** 21 55 48.9 -1.0
PSI **Prapat** 46.69 277 *e*P **P** 21 55 48.7 -1.1
TRTT **Trang** 46.79 284 P **P** 21 55 51.5 +1.0
comp=Z,12nm,1.7s
TIA **Tai'an** 47.41 329 P **P** 21 55 54.2 -0.7
TIA S **S** 22 02 56.4 +8.4
TIA pmax pmax
comp=Z,250nm,7.5s
TIA LR LR
comp=Z,950nm,21.6s
TIA LR LR
comp=Z,700nm,14.7s
TIA LR LR
comp=Z,2μm,19.8s
DL2 **Dalian** 47.46 335 P **P** 21 55 57.0 +1.8
DL2 S **S** 22 02 54.8 +6.2
DL2 pmax pmax
comp=Z,27nm,1.1s
DL2 pmax pmax
comp=Z,430nm,4.7s
DL2 LR LR
comp=Z,2μm,17.7s
DL2 LR LR
comp=Z,2μm,19.9s
DL2 LR LR
comp=Z,2μm,21.8s
GYA **Guiyang** 47.70 311 ⇓ *i*P **P** 21 55 58.7 +1.2
GYA PP **PP** 21 57 51.0 +1.7
GYA S **S** 22 02 54.9 +2.3
GYA SS **SS** 22 06 18.4 -2.8
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,170nm,4.9s
GYA LR LR
comp=Z,440nm,17.8s
GYA LR LR
comp=Z,540nm,16.0s
GYA LR LR
comp=Z,1μm,18.5s
GSI **Gunungsitoli** 47.86 275 *e*P **P** 21 55 57.0 -1.9
comp=Z,168nm,1.6s
GSI **Gunungsitoli** 47.86 275 P **P** 21 55 57.3 -1.5
comp=Z,61nm,2.0s
ENH **Enshi** 47.87 317 *e*P **P** 21 55 58.2 -0.4
comp=Z,53nm,1.3s
VLA **Vladivostok** 47.91 347⇓ *e*P **P** 21 55 59.1 +0.4
VLA pmax pmax
comp=Z,51nm,1.5s
PBKT **Sadao Pong** 48.04 296 *e*P **P** 21 56 00.3 +0.3
PBKT **Sadao Pong** 48.04 296 P **P** 21 56 04.7 +4.6

PHET **Kaeng Krachan** 48.11 291 P **P** 21 56 01.1 +0.4
comp=Z,9.5nm,0.9s
UTTA **Uttaradit** 48.83 297 P **P** 21 56 06.7 +0.5
comp=Z,4.3nm,0.8s,comp=Z,61nm
USA0B **Ussuriysk Arra** 48.92 347 *e*P **P** 21 56 06.9 +0.5
comp=Z,29nm,1.1s
USRK **Ussuriysk Ar.** 48.92 347 P **P** 21 56 05.1 -1.3
comp=Z,5.0nm,0.7s,baz=173,slow=7.8,SNR=14
USRK LR LR 22 15 07.4
comp=Z,1μm,19.0s,baz=153,slow=34
JOHN **Johnston Islan** 48.99 64 *e*P **P** 21 56 06.2 -1.1
comp=Z,1μm,1.8s
LHMI **Lhok Sumawe** 48.99 280 *e*P **P** 21 56 08.1 +0.6
comp=Z,256nm,1.7s
SRDT **SRDT** 49.01 292 P **P** 21 56 08.1 +0.5
comp=Z,30nm,1.0s,comp=Z,2μm
UTHA **Uthaitani** 49.08 294 P **P** 21 56 08.4 +0.2
comp=Z,7.7nm,0.9s,comp=Z,66nm
NANT **Nan** 49.09 298 P **P** 21 56 09.1 +0.9
comp=Z,6.0nm,1.4s,comp=Z,66nm
SUKH **Sukhothai** 49.56 296 P 21 56 17.6 +5.8
UMPA **Umpang Tak** 49.83 294 P **P** 21 56 14.6 +0.7
comp=Z,6.0nm,0.9s,comp=Z,66nm
MDJ **Mudanjiang** 49.88 345 P P 21 56 04.1 -10
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,600nm,5.1s
LAMP **Lampang** 49.93 298 P **P** 21 56 15.7 +1.1
comp=Z,3.2nm,0.7s,comp=Z,91nm
KMI **Kunming** 50.06 307 P **P** 21 56 17.0 +1.2
KMI pP pwP 21 56 26.9 +2.2
KMI PP **PP** 21 58 13.5 +2.4
KMI S **S** 22 03 30.6 +4.3
KMI pmax pmax
comp=Z,33nm,1.1s
KMI pmax pmax
comp=Z,470nm,4.0s
KMI LR LR
comp=Z,920nm,21.9s
KMI LR LR
comp=Z,730nm,25.0s
KMI LR LR
comp=Z,2μm,28.0s
YSS **Yuzh-Sakhalins** 50.25 358 *e*P P 21 56 08.4 -8.1
YSS *e* 22 03 29.0
YSS MLR MLR
comp=Z,700nm,16.0s
YSS MLR MLR
comp=N,400nm,15.0s
CN2 **Changchun** 50.31 341 *e*P P 21 56 10.8 -6.2
CN2 *es*P pP 21 56 17.8 -5.5
CN2 *e*S **S** 22 03 23.3 -5.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,16.0s
CN2 LR LR
comp=E,760nm,16.0s
CN2 LR LR
comp=Z,2μm,18.0s
CM01 **Chiang Mai Arr** 50.49 297 *e*P **P** 21 56 19.1 +0.3
CMAR **Chiang Mai Arr** 50.51 297 *ce*P **P** 21 56 19.5 +0.5
CMAR pmax pmax
comp=Z,5.0nm,0.8s
CMAR **Chiang Mai Arr** 50.51 297 P **P** 21 56 18.5 -0.5
comp=Z,5.3nm,0.8s,baz=118,slow=5.8,SNR=38
CMAR LR LR 22 15 21.8
comp=Z,496nm,21.9s,baz=114,slow=33
XAN **Xi'an** 50.62 320 P **P** 21 56 18.2 -1.4
XAN pP pP 21 56 22.0 -3.9
XAN sP sP 21 56 24.7 -3.6
XAN PP **PP** 21 58 11.3 -4.4
XAN S **S** 22 03 35.7 +2.4
XAN sS sS 22 03 43.0 -0.6
XAN ScS **ScS** 22 06 03.9 -5.7
XAN SS **SS** 22 07 02.7 -5.2
XAN pmax pmax
comp=Z,20nm,0.9s
XAN pmax pmax
comp=Z,270nm,3.9s
XAN LR LR
comp=Z,770nm,14.6s
XAN LR LR
comp=Z,900nm,16.5s
XAN LR LR
comp=Z,1μm,17.3s
XAN **Xi'an** 50.62 320 *e*P **P** 21 56 18.6 -1.0
comp=Z,315nm,1.4s
XAN **Xi'an** 50.62 320 *e*P **P** 21 56 18.6 -1.0
XAN pmax pmax
comp=Z,315nm,1.4s
CMMT **Chiang Mai** 50.63 298 P **P** 21 56 20.6 +0.6
comp=Z,21nm,2.0s,comp=Z,984nm
CHTO **Chiang Mai** 50.64 298 *e*P **P** 21 56 20.2 +0.2
comp=Z,31nm,1.4s
CHTO **Chiang Mai** 50.64 298 *e*P **P** 21 56 20.2 +0.2
CHTO pmax pmax
comp=Z,31nm,1.4s
CHTO **Chiang Mai** 50.64 298 P **P** 21 56 20.6 +0.6
comp=Z,92nm,2.1s,comp=Z,4μm
BJI **Beijing** 50.84 331⇑ *i*P **P** 21 56 20.0 -1.1
BJI S **S** 22 03 35.9 -0.2
BJI pmax pmax
comp=Z,340nm,4.5s
BJI LR LR
comp=Z,2μm,19.1s
BJI LR LR
comp=Z,1μm,22.0s
BJI LR LR
comp=Z,2μm,23.0s
TIY **Taiyuan** 51.03 326 *e*P **P** 21 56 23.4 +0.7
TIY S **S** 22 03 42.9 +3.9
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,320nm,4.1s
TIY LR LR
comp=Z,180nm,4.8s
TIY LR LR
comp=Z,980nm,14.6s
TIY LR LR
comp=Z,2μm,20.1s
CMBY **CAMPBELL BAY** 52.25 282 *e*P **P** 21 56 29.9 -2.3
CMBY IAmb IAmb 21 56 36.1
comp=Z,74nm,1.2s
CD2 **Chengdu** 52.25 314 P **P** 21 56 32.3 +0.4
CD2 PcP **PcP** 21 57 43.0 -0.3
CD2 PP **PP** 21 58 31.0 +0.3
CD2 S **S** 22 03 54.8 -1.2
CD2 sS pS 22 04 03.7 +0.1
CD2 SS **SS** 22 07 34.8 +0.8
CD2 pmax pmax
comp=Z,80nm,1.0s
CD2 pmax pmax
comp=Z,590nm,4.1s
CD2 LR LR
comp=Z,1μm,5.3s
CD2 LR LR
comp=Z,470nm,6.9s
HHC **Hu-ho-hao-te** 53.76 329 *e*P **P** 21 56 42.5 -0.5
HHC S **S** 22 04 15.9 -0.5
HHC sS pS 22 04 23.7 -0.3
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,290nm,4.7s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,2μm,19.0s
KLR **Kul'dur** 53.77 349⇓ *e*P **P** 21 56 42.8 +0.1
KLR **Kul'dur** 53.77 349 P **P** 21 56 41.9 -0.8
comp=Z,7.2nm,1.1s,baz=70,slow=3.2,SNR=5.9
KLR LR LR 22 18 03.5
comp=Z,829nm,19.5s,baz=164,slow=34
TYV **Tymovskoe** 54.16 358 *e*P **P** 21 56 46.2 +0.7
TYV *e*S **S** 22 04 26.7 +5.5
TYV pmax pmax
comp=Z,300nm,3.2s
TYV pmax pmax
comp=Z,13nm,1.3s
TYV smax smax
comp=E,800nm,3.8s
PBA **Port Blair** 54.30 287 *e*P P 21 56 46.8 -0.4
BTO **Baotou** 54.41 327 *e*P **P** 21 56 47.2 -0.5
LZH **Lanzhou** 55.15 319 ⇑P **P** 21 56 53.7 +0.5
LZH pP sP 21 57 00.8 -1.2
LZH sP pwP 21 57 04.2 +2.1
LZH PP **PP** 21 59 00.2 +3.4
LZH S **S** 22 04 34.1 -1.3
LZH sS sS 22 04 47.1 +1.2
LZH SS **SS** 22 08 25.4 +5.6
LZH pmax pmax
comp=E,66nm,1.3s
LZH pmax pmax
comp=E,670nm,4.8s
LZH LR LR
comp=E,2μm,16.0s
LZH LR LR
comp=E,2μm,17.2s
LZH LR LR
comp=E,3μm,18.2s
PETK **Petropavlovsk-** 57.34 9 P **P** 21 57 07.2 -1.1
PETK pmax pmax
comp=Z,8.0nm,1.0s
PETK MLR MLR
comp=Z,601nm,21.2s
PETK **Petropavlovsk-** 57.34 9 P **P** 21 57 07.2 -1.1
comp=Z,7.3nm,1.0s,baz=179,slow=5.8,SNR=3.1
PETK LR LR 22 17 49.6
comp=Z,601nm,21.2s,baz=189,slow=32
ZEA **Zeya** 58.95 348 *e*P **P** 21 57 19.9 +0.3
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,97nm,1.6s
SHL **Shillong** 59.17 302 *e*P **P** 21 57 21.4 -0.5
comp=Z,48nm,1.3s
SHL **Shillong** 59.17 302 *e*P **P** 21 57 21.4 -0.5
SHL pmax pmax
comp=Z,48nm,1.3s
SHL **Shillong** 59.17 302 *e*P **P** 21 57 22.0 +0.1
GTA **Gaotai** 59.68 320 ⇑P **P** 21 57 24.7 -0.4
GTA pP pP 21 57 29.5 -2.0
GTA sP sP 21 57 31.7 -2.2
GTA S **S** 22 05 34.5 -0.2
GTA sS pS 22 05 42.4 0.0
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,340nm,5.4s
GTA LR LR
comp=Z,760nm,16.1s
GTA LR LR
comp=Z,680nm,18.9s
GTA LR LR
comp=Z,780nm,20.6s
LSA **Lhasa** 61.32 307 *e*P **P** 21 57 37.2 +0.3
comp=Z,14nm,1.1s
SONM **Songino Array** 61.35 331 P **P** 21 57 35.1 -1.2
comp=Z,4.5nm,0.8s,baz=150,slow=6.1,SNR=20
SONM LR LR 22 23 34.9
comp=Z,1μm,19.6s,baz=150,slow=36
SONA1 **Songino Array** 61.35 331 *e*P **P** 21 57 35.9 -0.5
SONA1 *es*P **P** 21 57 36.1 -0.2
MA2 **Magadan** 63.00 3 *e*P **P** 21 57 48.5 +1.5
comp=Z,31nm,1.5s
MA2 **Magadan** 63.00 3⇑ *e*P **P** 21 57 46.8 -0.2
MA2 pmax pmax
comp=Z,16nm,1.4s
BOK **Bokaro** 63.76 299 *e*P **P** 21 57 51.8 -1.0
BOK IAmb IAmb 21 57 56.5
comp=Z,9.5nm,0.8s
RAMN **Ramite** 64.10 302 *e*P **P** 21 57 55.5 +0.3
ZAK **Zakamensk** 64.59 332 *e*P **P** 21 57 56.4 -1.4
ZAK pmax pmax
comp=Z,13nm,1.2s
ZAK pmax pmax
comp=Z,4.0nm,1.3s
JIRN **Jiri** 64.67 303 *e*P **P** 21 57 59.2 +0.1
comp=Z,238nm,1.8s
GUN **Gumba** 65.01 303 *e*P **P** 21 58 01.5 +0.2
comp=Z,154nm,1.4s
TLY **Talaya** 65.30 333 *e*P **P** 21 58 02.2 0.0
comp=Z,29nm,1.8s
TLY **Talaya** 65.30 333 *e*P **P** 21 58 02.3 0.0
TLY *e*S **S** 22 06 47.1 +2.3
TLY *e*SS **SS** 22 10 50.3 -7.8
TLY pmax pmax
comp=Z,46nm,2.3s
TLY MLR MLR
comp=Z,1μm,17.0s
PKI **Pulchoki** 65.30 302 *e*P **P** 21 58 03.0 -0.2
comp=Z,161nm,1.8s
PKIN **Phulchoki** 65.31 302 *e*P **P** 21 58 03.0 -0.2
comp=Z,142nm,1.8s
PPT **Papeete** 65.33 108 LR LR 22 24 17.0
comp=Z,316nm,18.8s,baz=270,slow=34
PPT2 **Papeete2** 65.33 108 *e*S **S** 22 06 45.9 -0.5
comp=Z,1μm,28.5s
PPT2 *e*LQ LQ 22 14 58.8
comp=Z,1μm,25.2s
PPT2 *e*LR LR 22 17 44.6
comp=Z,1μm,31.8s
KKN **Kakani** 65.48 303 *e*P **P** 21 58 04.2 0.0
DMN **Daman** 65.57 302 *e*P **P** 21 58 05.0 +0.2
comp=Z,59nm,1.1s
TBI **Tubuai** 65.99 114 *e*S **S** 22 06 53.5 -0.7
comp=Z,790nm,32.0s
TBI *e*LQ LQ 22 15 14.8
comp=Z,2μm,34.2s
TBI *e*LR LR 22 18 02.2
comp=Z,2μm,38.5s
BOD **Bodaibo** 66.04 342 *e*P **P** 21 58 05.8 -1.1
BOD pmax pmax
comp=Z,21nm,1.7s
YAK **Yakutsk** 66.40 352 *e*P **P** 21 58 09.8 +0.7
YAK *e* 21 58 37.7
YAK *e* 22 00 34.8
YAK *e*PPP PPP 22 02 11.7
YAK *e*S **S** 22 07 00.9 +3.2
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,28nm,0.9s
YAK pmax pmax
comp=E,10.0nm,0.9s
YAK pmax pmax
comp=Z,785nm,2.9s
YAK pmax pmax
comp=N,722nm,3.0s
YAK pmax pmax
comp=E,308nm,2.9s
YAK smax smax
comp=N,2μm,3.7s
YAK smax smax
comp=E,2μm,3.5s
YAK MLR MLR
comp=Z,909nm,14.0s
YAK MLR MLR
comp=N,1μm,15.0s
YAK MLR MLR
comp=E,301nm,12.0s
SEY **Seymchan** 66.44 4⇑ *e*P **P** 21 58 09.1 -0.3
MOY **Mondy** 66.52 332 *e*P **P** 21 58 10.7 +0.4
MOY pmax pmax
comp=Z,59nm,2.5s
MDRS **Chennai** 66.55 286 *e*P **P** 21 58 08.3 -2.7
KOLN **Koldanda** 66.89 302 *e*P **P** 21 58 13.2 0.0
comp=Z,44nm,0.8s
DANN **Dangsing** 66.93 303 *e*P **P** 21 58 13.3 -0.3
comp=Z,40nm,0.8s
PYUN **Piuthan** 67.50 302 *e*P **P** 21 58 16.8 -0.3
comp=Z,60nm,0.8s
JBP **Jabalpur** 68.83 296 *e*P **P** 21 58 24.9 -0.3
HYB **Hyderabad** 68.93 290 *i*P **P** 21 58 25.0 -1.0
HYB **Hyderabad** 68.93 290 *e*P **P** 21 58 25.1 -1.0
HYB IAmb IAmb 21 58 29.6
comp=Z,9.2nm,0.4s
TRD **Trivandrum** 69.10 280 *e*P **P** 21 58 26.9 -0.2
NGP **Nagpur** 69.22 294 *e*P **P** 21 58 27.8 0.0
WMQ **Urumqi** 69.73 319 P **P** 21 58 30.4 -0.1
WMQ PcP **PcP** 21 58 55.3 +2.1
WMQ PP **PP** 22 01 08.9 +3.9
WMQ S **S** 22 07 39.3 +0.9
WMQ SKS **SKSac** 22 08 26.5 -3.7
WMQ SS **SS** 22 12 06.5 -0.7

WMQ pmax pmax
comp=Z,26nm,1.3s
WMQ pmax pmax
comp=Z,46nm,3.6s
WMQ LR LR
comp=Z,1μm,23.1s
WMQ LR LR
comp=Z,940nm,21.7s
WMQ LR LR
comp=Z,1μm,37.9s
WMQ Urumqi 69.73 319 *e*P **P** **21 58 30.2 -0.3**
comp=Z,50nm,1.4s
WMQ Urumqi 69.73 319 *e*P **P** **21 58 30.2 -0.3**
WMQ pmax pmax
comp=Z,50nm,1.4s
BHPL Bhopal 71.14 296 *e*P **P** **21 58 37.9 -1.6**
DDI Dehra Dun 72.26 303 *e*P **P** **21 58 45.8 -0.4**
DDI IAmb IAmb 21 58 46.5
comp=Z,20nm,0.5s
DGZ Jazzator, Alta 72.56 325 *c i*P **P** **21 58 47.2 -0.4**
DGZ pmax pmax
comp=Z,4.0nm,1.2s
BILL Bilibino 72.86 8 *e*P **P** **21 58 51.2 +2.4**
comp=Z,15nm,1.2s
BILL Bilibino 72.86 8⇑ *e*P **P** **21 58 48.9 +0.1**
BILL *e* 21 59 00.1
BILL *e* 21 59 08.5
BILL 22 01 35.0
BILL pmax pmax
comp=Z,16nm,1.3s
BILL MLR MLR
comp=Z,392nm,19.0s
MNCY Minicoy 72.93 280 *e*P **P** **21 58 50.5 +0.2**
GOA Goa 73.08 287 *e*P **P** **21 58 50.1 -1.1**
GOA IAmb IAmb 21 58 51.1
comp=Z,7.6nm,0.6s
SMLA Simla 73.20 304 *e*P **P** **21 58 51.1 -0.6**
SMLA IAmb IAmb 21 58 54.6
comp=Z,241nm,2.8s
POO Poona 73.53 290 *e*P **P** **21 58 52.3 -1.6**
DHRM DHARAMSHALA 74.20 305 *e*P **P** **21 58 56.3 -1.5**
DHRM IAmb IAmb 21 58 57.3
comp=Z,18nm,0.6s
TAOE Nuku Hiva Isla 74.29 98 *e*LR LR 22 21 49.9
comp=Z,3μm,27.9s
GAMB Gambell 74.33 18 *e*P **P** **21 58 59.4 +1.9**
comp=Z,11nm,1.0s
MK01 Makanchi Array 74.42 321 *e*P **P** **21 58 57.9 -0.6**
MK31 Makanchi Array 74.43 321 *e*P **P** **21 58 58.3 -0.3**
MK31 Makanchi Array 74.43 321 *e*P **P** **21 58 58.3 -0.3**
MKAR Makanchi Array 74.43 321 *ce*P **P** **21 58 58.2 -0.4**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR Makanchi Array 74.43 321 P **P** **21 58 57.4 -1.2**
comp=Z,4.3nm,0.8s,baz=107,slow=7.8,SNR=40
MKAR LR LR 22 30 13.1
comp=Z,552nm,21.1s,baz=88,slow=35
VNDA Vanda 74.53 176 *e*P **P** **21 58 59.5 +1.0**
comp=Z,30nm,1.8s
VNDA Vanda 74.53 176 P **P** **21 58 59.1 +0.6**
comp=Z,3.5nm,0.7s,baz=333,slow=7.3,SNR=15
VNDA LR LR 22 30 37.1
comp=Z,1μm,19.0s,baz=347,slow=35
MAKZ Makanchi 74.64 320 *e*P **P** **21 58 59.3 -0.5**
comp=Z,51nm,1.8s
MAKZ Makanchi 74.64 320 *e*P **P** **21 58 59.3 -0.5**
MAKZ pmax pmax
comp=Z,51nm,1.8s
ZAA0 Zalesovo Array 75.94 328 *e*P **P** **21 59 05.9 -1.1**
comp=Z,23nm,1.6s
ZALV Zalesovo Beam 75.94 328 *e*P **P** **21 59 05.2 -1.9**
ZALV Zalesovo Beam 75.94 328 P **P** **21 59 04.9 -2.2**
comp=Z,1.6nm,0.6s,baz=123,slow=5.5,SNR=9.0
ZALV LR LR 22 31 41.2
comp=Z,2μm,20.6s,baz=76,slow=35
KSH Kashi 76.38 312 P **P** **21 59 12.2 +2.1**
KSH sP pwP 21 59 20.2 +0.8
KSH PcP **PcP** **21 59 23.7 +1.9**
KSH S **S** **22 08 58.0 +3.7**
KSH ScS **ScS** **22 09 26.8 +2.1**
KSH pmax pmax
comp=Z,400nm,5.0s
KSH LR LR
comp=Z,190nm,9.9s
KSH LR LR
comp=Z,320nm,13.3s
KSH LR LR
comp=Z,380nm,17.4s
ANM Nome 76.92 20 *e*P **P** **21 59 13.0 +0.6**
comp=Z,32nm,1.4s
ANM Nome 76.92 20 *e*P **P** **21 59 13.0 +0.6**
ANM pmax pmax
comp=Z,32nm,1.4s
NVS Novosibirsk 77.17 328 *e*P **P** **21 59 12.7 -1.3**
NVS *e*S **S** **22 09 06.0 +4.0**
NVS pmax pmax
comp=N,16nm,1.9s
NVS pmax pmax
comp=E,20nm,1.9s
NVS pmax pmax
comp=Z,32nm,1.9s
NVS smax smax
comp=N,18nm,2.7s
NVS smax smax
comp=E,23nm,2.7s
TKM2 Tokmak 2 77.61 315 P **P** **21 59 16.8 -0.3**
SNR=6.4
KZA Kyzart 77.62 314 P **P** **21 59 17.9 +0.6**
SNR=10
OHAK Old Harbor 77.95 29 *e*P **P** **21 59 18.5 +0.2**
comp=E,70nm,1.3s
KURK Kurchatov 78.14 323 *e*P **P** **21 59 18.8 -0.7**
comp=E,23nm,1.4s
KURK Kurchatov 78.14 323⇑ *e*P **P** **21 59 18.8 -0.7**
KURK pmax pmax
comp=Z,30nm,2.5s
BHJ Bhuj 78.16 294 *e*P **P** **21 59 20.0 -0.2**
BHJ IAmb IAmb 21 59 21.6
comp=Z,18nm,0.8s
UCH Uchtor 78.19 314 P **P** **21 59 20.6 +0.1**
SNR=14
USP Ospenovka 78.48 315 P **P** **21 59 21.6 -0.1**
SNR=7.2
KDAK Kodiak Island 78.54 29 *e*P **P** **21 59 22.0 +0.5**
comp=Z,66nm,1.2s
KDAK Kodiak Island 78.54 29 *e*P **P** **21 59 22.0 +0.5**
KDAK pmax pmax
comp=Z,66nm,1.2s
SVW2 Sparrevohn 78.71 25 *e*P **P** **21 59 23.1 +0.7**
comp=Z,68nm,1.3s
AML Almayashu 78.75 314 P **P** **21 59 24.1 +0.5**
SNR=18
EKS2 Erkin-Say 78.83 315 P **P** **21 59 23.9 +0.2**
SNR=9.7
RSO Redoubt South 79.64 26 *e*P **P** **21 59 28.2 +0.4**
RDOG Red Dog Mine 79.86 17 *e*P **P** **21 59 29.3 +0.7**
comp=Z,16nm,1.0s
BRLK Bradley Lake 80.18 27 *e*P **P** **21 59 30.5 0.0**
comp=Z,18nm,0.9s
GAR Garm 80.51 310 *e*P **P** **21 59 32.8 -0.1**
comp=Z,30nm,1.1s
GAR Garm 80.51 310 *e*P **P** **21 59 32.8 -0.1**
GAR pmax pmax
comp=Z,30nm,1.1s
KBL Kabul 80.62 306 *e*P **P** **21 59 32.8 -0.9**
comp=Z,18nm,1.5s
KBL Kabul 80.62 306 *e*P **P** **21 59 32.8 -0.9**
KBL pmax pmax
comp=Z,19nm,1.5s
SUA Susitna One 80.96 26 *e*P **P** **21 59 33.9 -0.9**
SEW Seward 80.98 27 *e*P **P** **21 59 35.9 +1.2**
comp=Z,30nm,1.0s
CAST Castle Rocks 81.24 24 *e*P **P** **21 59 35.9 -0.2**
comp=Z,31nm,1.2s
RC01 Rabbit Creek A 81.25 26 *e*P **P** **21 59 35.5 -0.7**
comp=Z,54nm,1.1s
KK31 Karatay Array 81.27 314 *e*P **P** **21 59 36.7 0.0**
KK31 Karatay Array 81.27 314 *e*P **P** **21 59 36.7 0.0**
KKAR Karatay Array 81.27 314 *e*P **P** **21 59 36.7 0.0**
KKAR Karatay Array 81.27 314 *e*P **P** **21 59 36.7 0.0**
CHGR Chuyangaron 81.33 310 *e*P **P** **21 59 36.8 -0.5**
comp=Z,21nm,0.9s
PMR Palmer 81.72 26 *e*P **P** **21 59 38.0 -0.6**
comp=Z,36nm,1.2s
PMR Palmer 81.72 26 *e*P **P** **21 59 38.0 -0.6**
PMR pmax pmax
comp=Z,36nm,1.2s
IM3 Indian Mountai 81.77 21 *e*P **P** **21 59 38.7 -0.2**
KNK Knik Glacier 81.94 26 *e*P **P** **21 59 39.7 -0.2**
comp=Z,39nm,1.2s
TRF Thorofare Moun 81.98 24 *e*P **P** **21 59 40.0 -0.2**
comp=Z,15nm,0.9s
SML Sawmill 82.15 26 *e*P **P** **21 59 40.9 -0.1**
comp=Z,52nm,1.1s
SML Sawmill 82.15 26 *e*P **P** **21 59 40.9 -0.1**
SML pmax pmax
comp=Z,52nm,1.1s
NRIK Noril'sk 82.34 342 P **P** **21 59 41.1 -0.7**
comp=Z,9.6nm,0.7s,baz=118,slow=5.3,SNR=10
NRIK LR LR 22 37 42.5
comp=Z,989nm,18.4s,baz=120,slow=37
MLY Manley 82.47 23 *e*P **P** **21 59 42.6 +0.1**
comp=Z,39nm,1.3s
RND Reindeer 82.55 24 *e*P **P** **21 59 41.6 -1.5**
comp=Z,37nm,1.0s
RND Reindeer 82.55 24 *e*P **P** **21 59 41.6 -1.5**
RND pmax pmax
comp=Z,37nm,1.0s
SCM Sheep Creek Mo 82.60 26 *e*P **P** **21 59 43.8 +0.4**
comp=Z,58nm,1.2s
BWN Browne 82.61 24 *e*P **P** **21 59 45.2 +1.9**
comp=Z,77nm,1.1s
MCK McKinley 82.65 24 *e*P **P** **21 59 42.7 -0.8**
comp=Z,46nm,1.1s
MCK McKinley 82.65 24 *e*P **P** **21 59 42.7 -0.8**
MCK pmax pmax
comp=Z,47nm,1.1s
DHY Denali Highway 83.04 25 *e*P **P** **21 59 45.6 -0.2**
comp=Z,34nm,1.1s
DIV Divide 83.05 27 *e*P **P** **21 59 46.0 +0.3**
comp=Z,53nm,1.3s
KLU Klutina 83.11 27 *e*P **P** **21 59 46.7 +0.7**
comp=Z,24nm,1.1s
WRH Wood River Hil 83.28 24 *e*P **P** **21 59 45.8 -0.9**
comp=Z,50nm,1.2s
MDM Murphy Dome 83.41 23 *e*P **P** **21 59 48.4 +1.0**
comp=Z,14nm,1.2s
CCB Clear Creek Bu 83.46 24 *e*P **P** **21 59 46.1 -1.5**
comp=Z,38nm,1.1s
HMT Hamilton 83.48 28 *e*P **P** **21 59 47.9 -0.1**
comp=Z,42nm,1.1s
COLA College 83.53 23 *e*P **P** **21 59 47.4 -0.6**
comp=Z,24nm,1.0s
COLA College 83.53 23⇑ *e*P **P** **21 59 46.9 -1.1**
COLA pmax pmax
comp=Z,16nm,1.0s
COLD Coldfoot 83.60 21 *e*P **P** **21 59 50.2 +1.9**
comp=Z,7.2nm,1.2s
BVAR Borovoye Array 83.69 324 LR LR 22 36 51.2
comp=Z,256nm,20.9s,baz=94,slow=36
HDA Harding Lake 83.71 24 *e*P **P** **21 59 47.8 -1.2**
comp=Z,9.2nm,0.9s
HARP HAARP 83.76 26 *e*P **P** **21 59 49.9 +0.6**
comp=Z,30nm,1.2s
BRVK Borovoye 83.76 324 *e*P **P** **21 59 49.0 -0.5**
comp=Z,22nm,1.3s
BRVK Borovoye 83.76 324⇓ *e*P **P** **21 59 48.6 -0.9**
BRVK pmax pmax
comp=Z,20nm,1.6s
PAX Paxson 83.82 25 *e*P **P** **21 59 50.2 +0.6**
comp=Z,17nm,1.4s
ILAR Eielson Array 83.87 24 P **P** **21 59 47.8 -2.0**
comp=Z,9.1nm,0.8s,baz=255,slow=5.0,SNR=32
ILAR LR LR 22 35 38.3
comp=Z,538nm,18.7s,baz=266,slow=35
ILB Eielson Array 83.87 24 *e*P **P** **21 59 47.8 -2.0**
IL1 Eielson Array 83.87 24 *e*P **P** **21 59 47.8 -1.9**
MAW Mawson 83.89 202 LR LR 22 33 33.5
comp=Z,551nm,21.6s,baz=77,slow=33
RIDG Independ'e Rid 84.34 25 *e*P **P** **21 59 51.9 -0.4**
comp=Z,32nm,1.3s
TOLK Tolik Lake Re 84.41 20 *e*P **P** **21 59 52.7 +0.2**
comp=Z,30nm,1.5s
MENT Mentasta 84.56 26 *e*P **P** **21 59 54.7 +1.3**
comp=Z,18nm,1.1s
BALM Baldy 84.60 28 *e*P **P** **21 59 54.3 +0.6**
comp=Z,21nm,1.2s
BALM Baldy 84.60 28 *e*P **P** **21 59 54.3 +0.6**
BALM pmax pmax
comp=Z,21nm,1.2s
DOT Dot Lake 84.64 25 *e*P **P** **21 59 53.6 -0.2**
comp=Z,33nm,1.2s
SCRK Sand Creek 84.78 25 *e*P **P** **21 59 54.6 0.0**
comp=Z,15nm,1.2s
FYU Fort Yukon 85.16 22 *e*P **P** **21 59 56.8 +0.6**
comp=Z,74nm,1.4s
EGAK Eagle 86.20 24 *e*P **P** **22 00 01.4 -0.1**
comp=Z,13nm,1.0s
QSPA South Pole Qui 86.48 180 P **P** **22 00 03.7 +0.7**
comp=Z,51nm,1.1s
DAWY Dawson 86.74 25 *e*P **P** **22 00 04.3 0.0**
comp=Z,27nm,1.1s
HYT Haines Junctio 86.83 29 *e*P **P** **22 00 05.8 +1.0**
SKAG Skagway 87.61 30 *e*P **P** **22 00 08.8 +0.4**
comp=Z,22nm,1.1s
EPYK Eagle Plains 88.38 23 *e*P **P** **22 00 14.3 +2.3**
comp=Z,49nm,1.7s
ABKAR Akbulak array 89.52 319 *e*P **P** **22 00 15.7 -2.0**
GEYT Alibeck 89.83 308 P **P** **22 00 16.5 -2.9**
comp=Z,0.9nm,0.5s,baz=92,slow=6.1,SNR=3.4
GEYT PP **PP** **22 03 54.2 +2.2**
comp=Z,0.6nm,0.4s,baz=77,slow=14,SNR=4.4
GEYT LR LR 22 42 23.3
comp=Z,761nm,20.9s,baz=85,slow=37
INK Inuvik 89.96 22 *e*P **P** **22 00 19.8 +0.4**
comp=Z,16nm,1.4s
INK Inuvik 89.96 22 P **P** **22 00 17.8 -1.5**
comp=Z,4.1nm,1.1s,baz=260,slow=7.7,SNR=3.7
SYO Syowa Base 92.34 200⇓ *e*P **P** **22 00 29.2 -1.2**
PGC Sidney 93.45 42 *e*P **P** **22 00 34.7 -1.2**
comp=Z,75nm,1.3s
NVAR Mina Array Bea 97.21 52 P Pdif 22 00 54.4 +0.6
comp=Z,0.1nm,0.3s,baz=258,slow=7.9,SNR=2.6
NVAR LR LR 22 36 33.5
comp=Z,1μm,21.3s,baz=268,slow=30
YKA Yellowknife Ar 97.76 27 P **P** **22 00 54.1 -1.2**
comp=Z,1.0nm,0.9s,baz=277,slow=4.5,SNR=12
YKA PP **PP** **22 04 53.4 +0.1**
comp=Z,1.1nm,1.1s,baz=268,slow=7.9,SNR=4.0
YKA LR LR 22 41 13.2
comp=Z,54nm,21.0s,baz=295,slow=33
YKB5 Yellowknife Ar 97.76 27 *e*P Pdif 22 00 56.1 +0.8
APA Apatity 101.41 339⇓ *i*P **Pdif** **22 01 03.1 -8.4**
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,1μm,16.0s
VNA2 Neumayer--Watz 103.57 189 P PKiKP 22 05 47.5 +8.1
baz=344,slow=12
VNA3 Neumayer Olymp 103.62 188 P **PKiKP** **22 05 46.0 +6.5**
VNA1 Neumayer--Stat 103.95 189 P **PKiKP** **22 05 42.1 +2.0**
VYHS Vyhne 116.03 323 *i* P **Pdif** **22 02 14.2 -2.7**
VYHS Vyhne 116.03 323 *e*PDIF **Pdif** **22 02 14.2 -2.7**
DPC Dobruska-Polom 116.60 326 AMS AMS 22 57 40.0
comp=Z,900nm,17.3s
UPC Upice 116.69 326 AMS AMS 22 58 00.0
comp=Z,1μm,15.5s
GOPC GO Pecny, Ondr 117.67 326 AMS AMS 22 59 10.0
comp=Z,1μm,18.8s
PRU Pruhonice 117.77 326 AMS AMS 22 59 20.0
comp=Z,1μm,19.2s
CLL Collm 117.89 328 *e*PS PS 22 17 03.0 -3.4
CLL *e*SS SS 22 23 48.0 +16
CLL *e*SSS SSS 22 27 48.0
CLL *e* 22 29 36.0
KHC Kasperske Hory 118.75 326 AMS AMS 22 59 10.0
comp=Z,1μm,16.6s
NKC Novy Kostel 118.78 327 AMS AMS 23 00 30.0
comp=Z,1μm,17.9s
GERES GERESS Array B 118.83 326 PKP **PKPdf** **22 06 07.7 -1.3**
comp=Z,0.3nm,0.6s,baz=18,slow=1.8,SNR=2.8
ESK Eskdalemuir 122.37 339 *c i*PKiKP **PKPdf** **22 06 13.0 -2.5**
PGAV Gavieira, Arco 134.93 332 *e*LR LR 22 58 05.3
comp=Z,1μm,20.0s
MVO Moncorvo 134.94 330 *e*LR LR 23 00 24.2
comp=Z,1μm,20.0s
MTE Manteigas 135.78 330 *e*LR LR 23 00 43.5
comp=Z,977nm,22.0s
PMRV Marv??o 136.43 329 *e*LR LR 22 54 00.2
comp=Z,487nm,22.0s
LPAZ La Paz 141.63 122 *e*PKPdf **PKPdf** **22 06 52.3 -1.2**
LPAZ La Paz 141.63 122 *e*PKiKP **PKPdf** **22 06 52.3 -1.2**
TOA0 Torodi Ar. Sit 142.71 287 *e*PKPdf **PKPdf** **22 06 52.7 -2.0**
TOA0 *e*PKPdf **PKiKP** **22 06 53.6 -4.2**
TORD Torodi Ar. Bea 142.71 287 PKhKP PKPpre 22 06 46.3
comp=Z,1.2nm,1.0s,baz=64,slow=3.4,SNR=3.7
TORD PKP **PKPdf** **22 06 54.0 -0.7**
comp=Z,1.9nm,1.1s,baz=8.3,slow=1.8,SNR=6.5
SDV Santo Domingo 143.96 80 *e*PKPdf PKPbc 22 06 55.2 +0.1
HUMP Col San Antoni 146.26 62 *e*PKPdf **PKPdf** **22 07 00.9 +0.2**
STVI Saint Thomas 146.97 61 *e*PKPdf **PKPab** **22 07 05.1 -0.3**
KIC Kosan Boka 149.94 277 *e*PKiKP **PKPbc** **22 07 12.0 +0.1**
comp=Z,28nm,0.5s
DBIC Dimbokro 150.03 277 PKPbc **PKPbc** **22 07 10.9 -1.2**
comp=Z,2.4nm,0.9s,baz=123,slow=9.1,SNR=2.7
TIC Toumodi 150.20 277 *e*PKiKP **PKPbc** **22 07 11.7 -0.8**
LIC Lamto 150.24 276 *e*PKiKP **PKPbc** **22 07 11.6 -1.0**
comp=Z,51nm,1.2s
PTGA Pitinga 154.48 99 *e*PKPab **PKPab** **22 07 36.2 -0.3**

IDC ***02*** *21:51:32.8±1.0, 3.˚42S×145.˚10E, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.2/34, mbtmp4.3/13, ML4.4/2, MS4.4/1, Ms1 4.4/1, ms1mx3.6/36, Error ellipse: s-maj=33.1km s-min=16.8km az=99.0*
ISCJB ***02*** *21:51:34.3±0.6, 3.˚45S±0.˚08×145.˚1E±0.˚1, h22km, mb4.1/11, MS4.5/1, Error ellipse: s-maj=16.7km s-min=12.2km az=1.3*
ISC 02 21:51:36.3±0.8, 3.˚4S±0.˚1×145.˚1E±0.˚2, h22km, n14, σ0.66/13, mb4.2/11, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.90**	**113**	Pn		**Pn**		**21 55 18.8**	**-0.1**
	4.5nm,0.3s,baz=138,slow=14,SNR=2.8								
WRA	**Warramunga Arr**	**19.48**	**212**	P		**P**		**21 56 01.0**	**-0.9**
	0.8nm,0.3s,baz=35,slow=11,SNR=10								
ASAR	**Alice Springs**	**22.84**	**207**	P		**P**		**21 56 37.1**	**-1.0**
	7.9nm,1.0s,baz=29,slow=13,SNR=6.7								
FITZ	**Fitzroy Crossi**	**24.00**	**231**	P		**P**		**21 56 49.1**	**-0.5**
	4.5nm,0.5s,baz=55,slow=12,SNR=8.9								
STKA	**Stephens Creek**	**28.48**	**186**	P		**P**		**21 57 31.2**	**+1.2**
	1.4nm,0.6s,baz=15,slow=12,SNR=2.6								
USRK	**Ussuriysk Ar.**	**48.86**	**347**	P		**P**		**22 00 20.0**	**-0.2**
	3.2nm,0.9s,baz=165,slow=5.8,SNR=5.8								
CMAR	**Chiang Mai Arr**	**50.39**	**297**	P		**P**		**22 00 32.6**	**+0.3**
	0.8nm,0.3s,baz=116,slow=6.1,SNR=6.3								
KLR	**Kul'dur**	**53.72**	**349**	P		**P**		**22 00 56.8**	**+0.2**
	1.5nm,0.9s,baz=168,slow=15,SNR=3.0								
BRDH	**Bariadhala**	**58.26**	**299**	LR		LR		22 27 26.0	
	comp=Z,335nm,19.5s,baz=142,slow=37								
SONM	**Songino Array**	**61.26**	**331**	P		**P**		**22 01 50.2**	**+0.2**
	1.2nm,0.7s,baz=144,slow=6.0,SNR=4.2								
MKAR	**Makanchi Array**	**74.33**	**321**	P		**P**		**22 03 12.6**	**+0.3**
	1.6nm,0.8s,baz=108,slow=6.5,SNR=5.7								
ZALV	**Zalesovo Beam**	**75.85**	**328**	P		**P**		**22 03 21.0**	**+0.2**
	0.8nm,0.6s,baz=129,slow=5.7,SNR=3.2								
NRIK	**Noril'sk**	**82.27**	**342**	P		**P**		**22 03 55.4**	**-0.3**
	5.2nm,0.9s,baz=119,slow=6.0,SNR=4.0								
ILAR	**Eielson Array**	**83.89**	**24**	P		**P**		**22 04 03.5**	**-0.6**
	1.8nm,0.7s,baz=251,slow=5.0,SNR=11								

AZER ***02*** *21:57:51.5±0.2, 38.˚36N×46.˚58E, h26km±5km, ml3.4/21, Error ellipse: s-maj=12.2km s-min=3.9km az=33.0*
NSSP ***02*** *21:57:51.6, 38.˚45N×46.˚70E, h12km, Ms3.4*
TEH ***02*** *21:57:52.9, 38.˚43N×46.˚72E, h19km, ML3.3*
THR ***02*** *21:57:54.3, 38.˚51N×46.˚61E, h18km, ML2.9*
ISC 02 21:57:53.1±1.1, 38.˚38N±0.˚02×46.˚67E±0.˚02, h7km±10km, n65, σ1.934/91, 16C-28D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.30**	**102**	*e*Pg		**Pg**		**21 57 59.4**	**+0.3**
IHRS						IAMB	IAmb	21 57 59.7	
	comp=Z,42μm,0.2s								
IHRS				*e*Sg		**Sg**		**21 58 04.1**	**+1.0**
ITBZ	**Tabriz**	**0.43**	**250**			IAMB	IAmb	21 58 11.8	
	comp=Z,32μm,0.2s								
ITBZ				*e*Pg		**Pb**		**21 58 02.9**	**-0.3**
IBST	**Bostanabad**	**0.70**	**165**			IAMB	IAmb	21 58 20.1	
	comp=Z,21μm,0.3s								
IBST				*e*Pg		**Pg**		**21 58 06.7**	**+0.1**
ORD	**Ordubad**	**0.76**	**316**	⇑P		**Pg**		**21 58 07.3**	**-0.4**
ORD				⇑S		**Sg**		**21 58 17.6**	**+0.1**
IMRD	**Marand**	**0.82**	**294**	*e*Pg		**Pg**		**21 58 08.8**	**-0.1**
IAZR	**Azarshahr**	**0.89**	**218**	*e*Pg		**Pn**		**21 58 11.3**	**-0.9**
IAZR						IAMB	IAmb	21 58 13.8	
	comp=Z,21μm,0.3s								
ISRB	**Sarab**	**0.96**	**125**	*e*Pg		**Pg**		**21 58 11.3**	**-0.3**
ISRB						IAMB	IAmb	21 58 16.7	
	comp=Z,11μm,0.1s								
GRS	**Goris**	**1.15**	**347**	⇑*i*P		**Pb**		**21 58 14.0**	**-1.3**
GRS				⇓*i*S		**Sg**		**21 58 29.0**	**-1.0**
NAX	**Nakhchivan**	**1.21**	**311**	⇑P		**Pb**		**21 58 15.6**	**-0.7**
NAX				⇑S		**Sn**		**21 58 32.1**	**-1.1**
SBZ	**Shahbuz**	**1.33**	**320**	⇓P		**Pn**		**21 58 17.3**	**-1.0**
SBZ				⇓S		**Sg**		**21 58 36.6**	**+0.6**
LRK	**Lerik**	**1.34**	**78**	⇓P		**Pn**		**21 58 17.5**	**-0.8**
LRK				⇑S		**Sg**		**21 58 36.5**	**+0.4**
STKZ		**1.43**	**3**	⇑*i*P		**Pn**		**21 58 17.4**	**-2.1**
STKZ				⇓*i*S		**Sn**		**21 58 36.3**	**-2.4**
GLBA	**Clilabad**	**1.60**	**57**	⇑P		**Pb**		**21 58 22.6**	**-0.4**
GLBA				⇓S		**Sg**		**21 58 45.2**	**+0.8**
ASTR	**Astara**	**1.68**	**83**	⇑P		**Pb**		**21 58 23.9**	**-0.4**
ASTR				⇓S		**Sg**		**21 58 47.0**	**+0.1**
LKRN	**Lenkeran, Azer**	**1.69**	**78**	⇑P		**Pb**		**21 58 23.7**	**-0.8**
LKRN				⇓S		**Sb**		**21 58 46.4**	**+0.5**
MAKU	**Maku**	**1.83**	**303**	*e*Pn		**Pb**		**21 58 26.0**	**-1.0**
MAKU	**Maku**	**1.83**	**303**	*e*AML		AML		21 58 55.4	
	comp=E,112nm,0.3s								
MAKU	**Maku**	**1.83**	**303**	*e*Pg		**Pb**		**21 58 26.0**	**-1.0**
MAKU				*e*Sg		**Sb**		**21 58 49.0**	**-1.1**
BRDA	**Brd**	**1.92**	**12**	⇓S		**Sb**		**21 58 52.5**	**-0.1**
YOVA	**Hakkari_Yksek**	**2.04**	**248**	*i*P		**Pg**		**21 58 33.6**	**+1.4**
YOVA						IAML_P			
	comp=Z,2μm,0.6s								
GANJ	**Ganja**	**2.28**	**353**	⇑P		**Pn**		**21 58 31.5**	**+0.4**
GANJ				⇓S		**Sn**		**21 59 00.3**	**+0.8**
CLDR	**Caldiran**	**2.28**	**290**	*e*P		**Pg**		**21 58 36.1**	**-0.7**
CLDR	**Caldiran**	**2.28**	**290**	*i*P		**Pg**		**21 58 36.8**	**+0.1**
CLDR						IAML_P			
	comp=Z,1μm,0.2s								
KDMR	**Kurdemir**	**2.31**	**30**	⇓P		**Pn**		**21 58 32.4**	**+0.8**
KDMR				⇓S		**Sb**		**21 59 04.0**	**+0.2**
GNI	**Garni**	**2.31**	**320**	*e*P		**Pb**		**21 58 35.5**	**+0.3**
GNI	**Garni**	**2.31**	**320**	*i*P		**Pb**		**21 58 35.1**	**-0.1**
GNI				*i*S		**Sg**		**21 59 07.0**	**-0.4**
ZNJK	**Zanjan**	**2.34**	**136**	*e*Pn		**Pb**		**21 58 36.0**	**+0.2**
ZNJK	**Zanjan**	**2.34**	**136**	*e*Pn		**Pb**		**21 58 36.0**	**+0.2**
ALIB	**Äli-Bayra**	**2.41**	**48**	⇓P		**Pn**		**21 58 33.3**	**+0.4**
ALIB				⇓S		**Sb**		**21 59 05.0**	**-1.5**
MNGR	**Mingechevir, A**	**2.41**	**8**	⇓P		**Pn**		**21 58 32.6**	**-0.3**
MNGR				⇓S		**Sn**		**21 59 03.1**	**+0.5**
GDB	**GEDABAY**	**2.44**	**343**	⇓P		**Pn**		**21 58 34.1**	**+0.6**
GDB				⇑S		**Sb**		**21 59 05.0**	**-2.7**
TASB	**TASBURUN-IGDIR**	**2.47**	**311**	*e*P		**Pb**		**21 58 36.7**	**-1.2**
VMUR	**Van-Muradiye**	**2.50**	**285**	*i*P		**Pb**		**21 58 38.0**	**-0.4**
VMUR						IAML_P			
	comp=Z,776nm,0.7s								
IGDI	**IGDIR**	**2.50**	**307**	*i*P		**Pb**		**21 58 37.8**	**-0.6**
IGDI						IAML_P			
	comp=Z,269nm,0.3s								
TVAN	**Van**	**2.56**	**274**	*i*P		**Pb**		**21 58 39.7**	**+0.2**
TVAN						IAML_P			
	comp=Z,398nm,0.3s								
VANB	**Van**	**2.58**	**276**	*e*P		**Pg**		**21 58 41.2**	**-1.3**
DYDN	**Diyadin**	**2.59**	**297**	*i*P		**Pg**		**21 58 41.9**	**-0.9**
DYDN						IAML_P			
	comp=Z,306nm,0.2s								
CUKT	**Cukurca**	**2.67**	**246**	*i*P		**Pg**		**21 58 46.4**	**+2.0**
CUKT						IAML_P			
	comp=Z,582nm,0.3s								
IML	**Ismayilli**	**2.68**	**25**	⇓P		**Pn**		**21 58 37.2**	**+0.5**
IML				⇓S		**Sn**		**21 59 11.1**	**+1.7**
QBL	**Gabala**	**2.71**	**19**	⇓P		**Pn**		**21 58 37.9**	**+0.8**
QBL				⇓S		**Sn**		**21 59 12.1**	**+1.8**
GBS	**Qobustan**	**2.78**	**39**	⇓P		**Pn**		**21 58 39.2**	**+1.1**
GBS				⇓S		**Sb**		**21 59 14.4**	**-3.0**
PQL	**Pirkuli**	**2.83**	**31**	⇓P		**Pn**		**21 58 39.7**	**+0.9**
PQL				⇓S		**Sb**		**21 59 16.2**	**-2.7**
AKDM	**Akdamar-Van**	**2.90**	**270**	*e*P		**Pb**		**21 58 44.5**	**-0.7**
ATGJ	**Altiaghaj**	**3.03**	**35**	⇑P		**Pn**		**21 58 42.6**	**+1.0**
ATGJ				⇓S		**Sb**		**21 59 21.4**	**-3.3**

DDFL	**Dedoflistskaro**	**3.09**	**352**	P		**Pb**	**21 58 46.4**	**-2.0**
DDFL				S		**Sg**	**21 59 31.7**	**-0.6**
AGRB	**Hanur-Agry**	**3.10**	**294**	*e*P		**Pb**	**21 58 49.6**	**+0.9**
ZKTA	**Zakatala**	**3.25**	**359**	⇓P		**Pn**	**21 58 45.0**	**+0.5**
ZKTA				⇓S		**Sn**	**21 59 26.3**	**+2.8**
QUBA	**Quba, Azerbaij**	**3.29**	**25**	⇑P		**Pn**	**21 58 44.5**	**-0.5**
EAK	**Akyaka**	**3.30**	**315**	*i* P		**Pb**	**21 58 51.8**	**-0.2**
EAK				IAML_P				
	comp=Z,239nm,0.3s							
SNGE	**Sanandaj**	**3.33**	**170**	*e*Pn		**Pb**	**21 58 49.6**	**-3.0**
SNGE	**Sanandaj**	**3.33**	**170**	*e*Pn		**Pb**	**21 58 49.6**	**-3.0**
SNGE				*e*Sg		**Sg**	**21 59 42.2**	**+2.2**
QSAR	**Qusar**	**3.36**	**21**	⇑P		**Pn**	**21 58 46.7**	**+0.6**
QSAR				⇑S		**Sn**	**21 59 27.9**	**+1.6**
LGD	**Lagodekhi**	**3.46**	**355**	P		**Pn**	**21 58 50.0**	**+2.5**
LGD				S		**Sb**	**21 59 38.0**	**+0.9**
KZRT	**Kazreti**	**3.47**	**331**	P		**Pb**	**21 58 55.7**	**+0.9**
SIRN	**Sırnak**	**3.48**	**257**	*i* P		**Pg**	**21 59 00.1**	**+0.4**
SIRN				IAML_P				
	comp=Z,66nm,0.3s							
BTNK	**Botanikuri**	**3.59**	**337**	P		**Pb**	**21 58 57.8**	**+0.8**
BTNK	**Botanikuri**	**3.59**	**337**	*i* P		**Pb**	**21 58 58.2**	**+1.2**
BTNK				IAML_P				
	comp=Z,610nm,0.3s							
TBLG	**Delisi**	**3.66**	**337**	*e*P		**Pb**	**21 58 57.9**	**-0.1**
TBLG	**Delisi**	**3.66**	**337**	P		**Pb**	**21 58 58.2**	**+0.2**
TBLG	**Delisi**	**3.66**	**337**	*i* P		**Pb**	**21 58 59.5**	**+1.5**
TBLG				IAML_P				
	comp=Z,86nm,0.2s							
TRLG	**Trialeti**	**3.72**	**329**	P		**Pb**	**21 58 59.9**	**+0.8**
SRTM	**Siirt_Merkez**	**3.76**	**266**	*i* P		**Pg**	**21 59 05.5**	**+0.4**
SENK	**Senkaya-Erzuru**	**3.99**	**304**	*e*P		**Pb**	**21 59 03.7**	**-0.1**
GUDG	**Gudauri**	**4.41**	**338**	P		**Pb**	**21 59 11.8**	**+0.9**
GUDG				S		**Sb**	**22 00 08.6**	**+4.2**
BJRD	**Bojnurd**	**8.50**	**91**	*e*AML		AML	22 00 12.2	
	comp=E,1.0nm,0.3s							

BUC 02 22:00:47.1±0.5,**44°.94N**×**22°.68E**,**h10**km±2km,**MD2.4**/2,
10C,**Error ellipse: s-maj=6.9km s-min=1.7km az=133.0,**
Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HERR	**Herculane**	**0.19**	**252**	⇑*i* P	Pg	22 00 51.4	+0.2
HERR				*i* S	Sg	22 00 54.8	+0.9
HERR	**Herculane**	**0.19**	**252**	⇑*i* P	Pg	22 00 51.4	+0.2
HERR				S	Sg	22 00 54.8	+0.9
GZR	**Gura Zlata**	**0.46**	**9**	⇑*i* P	Pg	22 00 56.7	+0.6
GZR				*i* S	Sb	22 01 03.4	-0.9
GZR	**Gura Zlata**	**0.46**	**9**	⇑*i* P	Pg	22 00 56.7	+0.6
MDVR	**Moldovita**	**0.70**	**257**	⇑*i* P	Pg	22 01 01.0	+0.3
MDVR	**Moldovita**	**0.70**	**257**	⇑*i* P	Pg	22 01 01.0	+0.3
LOT	**Lotru**	**0.93**	**56**	S	Sg	22 01 17.0	0.0
BZS	**Buzias**	**1.01**	**312**	⇑*i* P	Pb	22 01 06.7	0.0
BZS				*i* S	Sn	22 01 20.8	-0.8
BZS	**Buzias**	**1.01**	**312**	⇑*i* P	Pb	22 01 06.7	0.0
BANR	**Banloc**	**1.18**	**293**	*i* S	Sn	22 01 26.6	+0.9
BANR	**Banloc**	**1.18**	**293**	S	Sn	22 01 26.6	+0.9
DRGR		**1.85**	**1**	⇑*i* P	Pn	22 01 20.0	+1.0
DRGR				*i* S	Sg	22 01 45.8	-0.8
DRGR		**1.85**	**1**	⇑*i* P	Pn	22 01 20.0	+1.0

*MOS **02** 22:05:21.0±1.1,49°.78N×156°.28E,h83km,mb4.3/1,Error ellipse: s-maj=31.0km s-min=6.1km az=74.5*
*KRSC **02** 22:05:21.8±10.0,49°.86N×156°.85E,h51km±10km,ML4.2*
*IDC **02** 22:05:25.7±3.2,50°.23N×155°.78E,h110km±28km,mb3.2/6,mb1 3.4/9,mb1mx3.2/34,mbtmp3.6/9,Error ellipse: s-maj=32.6km s-min=17.4km az=154.0*
ISC 02 22:05:21.1±2.4,**49°.8N**±0°.2×**156°.3E**±0°.1,**h63**km±22km,**n44,**
σ1§**60**/48,**mb3.5**/**6**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.93**	**352**	*e*P	**Pn**	**22 05 39.0**	**+0.7**
SKR				*e*S	**Sn**	**22 05 50.4**	**-0.7**
SKR	**Severo-Kuril's**	**0.93**	**352**	*e*PN	**Pn**	**22 05 39.4**	**+1.1**
SKR				*e*S	**Sn**	**22 05 50.5**	**-0.7**
SKR				smax	smax		
	comp=N,819nm,0.2s						
SKR				smax	smax		
	comp=E,576nm,0.2s						
PAU	**Pauzhetka**	**1.73**	**10**	*e*P	**Pn**	**22 05 49.7**	**+0.8**
PAU				*e*S	**Sn**	**22 06 08.8**	**-1.2**
PAU	**Pauzhetka**	**1.73**	**10**	PN	**Pn**	**22 05 49.7**	**+0.8**
PAU				S	**Sn**	**22 06 08.8**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.33**	**28**	S	**Sn**	**22 06 23.5**	**-1.0**
MTVR	**Mutnovka**	**2.96**	**22**	*e*P	**Pn**	**22 06 07.0**	**+1.2**
MTVR				S	**Sn**	**22 06 40.1**	**-0.1**
MTVR	**Mutnovka**	**2.96**	**22**	PN	**Pn**	**22 06 07.0**	**+1.2**
MTVR				S	**Sn**	**22 06 40.1**	**-0.1**
RUS	**Russkaya**	**3.01**	**26**	*e*P	**Pn**	**22 06 06.9**	**+0.7**
RUS				*e*S	**Sn**	**22 06 39.8**	**-1.2**
RUS	**Russkaya**	**3.01**	**26**	PN	**Pn**	**22 06 06.9**	**+0.7**
RUS				S	**Sn**	**22 06 39.8**	**-1.2**
KRMR	**Karymshinskiy**	**3.27**	**20**	*e*P	**Pn**	**22 06 11.6**	**+1.8**
KRMR	**Karymshinskiy**	**3.27**	**20**	PN	**Pn**	**22 06 11.6**	**+1.8**
PETK	**Petropavlovsk-**	**3.46**	**14**	P	**Pn**	**22 06 12.7**	**+0.3**
	comp=E,7.6nm,0.3s,baz=180,slow=13,SNR=50						
PET	**Petropavlovsk**	**3.58**	**23**	*e*PN	**Pn**	**22 06 17.4**	**+3.4**
PET				*e*S	**Sn**	**22 06 57.7**	**+2.8**
PET				smax	smax		
	comp=E,93nm,0.8s						
PET				smax	smax		
	comp=N,83nm,0.5s						
DALK	**Dalny**	**3.61**	**24**	*e*S	**Sn**	**22 06 55.2**	**-0.5**
UGLR	**Uglovaya**	**3.79**	**23**	P	**Pn**	**22 06 19.5**	**+2.5**
UGLR	**Uglovaya**	**3.79**	**23**	PN	**Pn**	**22 06 19.5**	**+2.5**
KOK	**Koryaka**	**3.82**	**21**	P	**Pn**	**22 06 19.8**	**+2.4**
KOK	**Koryaka**	**3.82**	**21**	PN	**Pn**	**22 06 19.8**	**+2.4**
SMAR	**Somma**	**3.83**	**23**	P	**Pn**	**22 06 19.3**	**+1.6**
SMAR	**Somma**	**3.83**	**23**	PN	**Pn**	**22 06 19.3**	**+1.6**
SDLR	**Sedlovina**	**3.87**	**23**	P	**Pn**	**22 06 19.5**	**+1.4**
SDLR	**Sedlovina**	**3.87**	**23**	PN	**Pn**	**22 06 19.5**	**+1.4**
KRX	**Arik**	**3.88**	**21**	*e*P	**Pn**	**22 06 20.9**	**+2.6**
KRX	**Arik**	**3.88**	**21**	PN	**Pn**	**22 06 20.9**	**+2.6**
GNL	**Ganaly**	**4.06**	**14**	*e*P	**Pn**	**22 06 22.2**	**+1.4**
GNL	**Ganaly**	**4.06**	**14**	PN	**Pn**	**22 06 22.2**	**+1.4**
KZV	**Kizimen**	**5.88**	**23**	P	**Pn**	**22 06 47.6**	**+1.9**
KZV	**Kizimen**	**5.88**	**23**	PN	**Pn**	**22 06 47.6**	**+1.9**
KBTR	**Krutoberegovo**	**7.55**	**29**	*e*P	**Pn**	**22 07 10.0**	**+1.7**
KBTR	**Krutoberegovo**	**7.55**	**29**	PN	**Pn**	**22 07 10.0**	**+1.7**
BKI	**Bering**	**8.02**	**44**	*e*P	**Pn**	**22 07 14.4**	**-0.3**
BKI	**Bering**	**8.02**	**44**	PN	**Pn**	**22 07 14.4**	**-0.3**
KLR	**Kul'dur**	**15.96**	**278**	P	**Pn**	**22 09 00.5**	**-1.0**
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=5.2						
USRK	**Ussuriysk Ar.**	**17.48**	**261**	P	**Pn**	**22 09 20.7**	**+0.4**
	comp=N,0.2nm,0.3s,baz=74,slow=12,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**32.27**	**161**	T	T	22 46 07.4	
	baz=347,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**32.28**	**161**	T	T	22 46 11.5	
	baz=347,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**32.29**	**161**	T	T	22 46 08.8	
	baz=347,slow=76,SNR=10						
ILAR	**Eielson Array**	**32.86**	**41**	P	**P**	**22 11 47.0**	**-1.4**
ILAR	**Eielson Array**	**32.86**	**41**	P	**P**	**22 11 47.0**	**-1.4**
	comp=N,0.8nm,0.7s,baz=265,slow=5.6,SNR=9.1						
YKA	**Yellowknife Ar**	**47.23**	**39**	P	**P**	**22 13 46.1**	**-1.0**
	comp=N,0.3nm,0.6s,baz=297,slow=7.5,SNR=3.8						
MKAR	**Makanchi Array**	**47.50**	**296**	P	P	22 13 44.0	-5.5
	comp=N,0.2nm,0.7s,baz=79,slow=7.5,SNR=2.7						
GEYT	**Alibeck**	**66.88**	**302**	P	P	22 16 02.7	-3.6
	comp=N,0.9nm,0.4s,baz=66,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**72.09**	**202**	P	**P**	**22 16 39.1**	**+0.7**
	comp=N,1.0nm,1.1s,baz=12,slow=8.3,SNR=3.3						
TXAR	**Lajitas Array**	**74.18**	**63**	P	**P**	**22 16 51.7**	**+0.7**
	comp=N,0.3nm,0.6s,baz=293,slow=4.0,SNR=4.4						

KRSC 02 22:10:20.6±10.0,**50°.72N**×**157°.88E**,**h48**km±10km,**ML3.8,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.01**	**319**	*e*P	Pn	22 10 40.1	+1.8
PAU				*e*S	Sn	22 10 53.7	+2.3
KDTR	**Khodutka, Kamc**	**1.10**	**6**	*e*S	Sn	22 10 54.7	+1.0
SKR	**Severo-Kuril's**	**1.12**	**269**	*e*P	Pn	22 10 40.8	+1.0
SKR				*e*S	Sn	22 10 53.7	-0.4
ALID	**Alaid**	**1.48**	**277**	*e*S	Sn	22 11 05.6	+2.3
RUS	**Russkaya**	**1.76**	**13**	*e*S	Sn	22 11 11.1	+1.2
MTVR	**Mutnovka**	**1.78**	**6**	*e*P	Pn	22 10 50.9	+1.9
MTVR				*e*S	Sn	22 11 13.2	+2.7
KRMR	**Karymshinskiy**	**2.12**	**4**	*e*P	Pn	22 10 56.9	+3.4
KRMR				*e*S	Sn	22 11 23.0	+4.3
APC	**Apacha**	**2.26**	**349**	*e*P	Pn	22 10 58.8	+3.4
PET	**Petropavlovsk**	**2.36**	**11**	*e*P	Pn	22 10 59.4	+2.6
PET				*e*S	Sn	22 11 27.4	+2.9
DALK	**Dalny**	**2.38**	**13**	*e*P	Pn	22 11 00.2	+3.1
DALK				*e*S	Sn	22 11 27.7	+2.7
AVH	**Avacha**	**2.61**	**11**	*e*P	Pn	22 11 04.5	+4.2
KOK	**Koryaka**	**2.62**	**10**	*e*P	Pn	22 11 04.7	+4.2
SDLR	**Sedlovina**	**2.64**	**13**	*e*P	Pn	22 11 03.0	+2.2
SDLR				*e*S	Sn	22 11 33.4	+1.8
KRX	**Arik**	**2.69**	**10**	*e*P	Pn	22 11 05.8	+4.4
GNL	**Ganaly**	**2.98**	**1**	*e*P	Pn	22 11 09.3	+3.8
KBTR	**Krutoberegovo**	**6.24**	**26**	*e*P	Pn	22 11 52.6	+2.6

JSN 02 22:21:58.8±1.1,**19°.57N**×**77°.60W**,**h30**km±457km,**MD3.6,**
2C,**Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBJ	**Bamboo Saint A**	**1.22**	**165**	⇑*i* P	Pn	22 22 18.2	-1.6
MCJ	**Malvern**	**1.64**	**183**	*i* P	Pn	22 22 23.1	-2.5
MCJ				*i* S	Sn	22 22 43.3	-2.3
STH	**Stony Hill**	**1.66**	**153**	⇑*i* P	Pn	22 22 24.6	-1.3
GWJ	**Greenwich**	**1.70**	**151**	*i* P	Pn	22 22 25.1	-1.4
GWJ				*i* S	Sn	22 22 44.1	-3.2
PCJ	**Portland Cotta**	**1.86**	**167**	*i* P	Pn	22 22 27.4	-1.2

*NNC **02** 22:32:06.3±3.5,40°.18N×76°.58E,h0km,mb3.0,mpv2.7,Error ellipse: s-maj=27.9km s-min=22.8km az=86.0*
*KRNET **02** 22:32:10.4±0.1,40°.28N×76°.72E,mb2.2*
ISC 02 22:32:10.6±3.2,**40°.3N**±0°.1×**76°.62E**±0°.06,**h10**km,**n13,**
σ1§**21**/20,**14C-4D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.23**	**338**	⇑*i* P	**Pg**	**22 32 34.5**	**+0.3**
NRN	baz=34			⇑*i* S	**Sn**	**22 32 52.6**	**+1.7**
	baz=34						
KDJ	**Kajisay**	**1.88**	**13**	⇑*e*P	**Pg**	**22 32 45.7**	**-0.9**
KDJ	baz=11			⇑*i* S	**Sg**	**22 33 11.0**	**+0.1**
	baz=11						
ULHL	**Ulahol**	**1.96**	**352**	⇑*e*P	**Pg**	**22 32 47.5**	**-0.8**
ULHL	baz=50			⇑*i* S	**Sg**	**22 33 14.6**	**+0.8**
	baz=50						
KZA	**Kyzart**	**2.05**	**330**	⇑*i* P	**Pg**	**22 32 49.2**	**-0.8**
KZA	baz=29			⇑*i* S	**Sg**	**22 33 17.4**	**+0.7**
	baz=29						
BOOM	**Boomskoye usch**	**2.25**	**347**	⇓*i* P	**Pb**	**22 32 51.5**	**+0.1**
BOOM	baz=45			⇓*i* S	**Sg**	**22 33 21.1**	**-1.7**
	baz=45						
ARLS	**Aral**	**2.33**	**313**	⇑*i* P	**Pb**	**22 32 52.8**	**-0.1**
ARLS	baz=12			⇑*i* S	**Sg**	**22 33 24.1**	**-1.5**
	baz=12						
UCH	**Uchtor**	**2.50**	**321**	⇑*i* P	**Pb**	**22 32 55.6**	**-0.2**
UCH	baz=20			⇑*i* S	**Sb**	**22 33 28.7**	**+1.9**
	baz=20						
IZV	**Izvestkoviy**	**2.73**	**360**	Pg	**Pb**	**22 32 59.4**	**-0.3**
IZV	0.5nm,0.2s			Lg	Lg	22 33 39.6	
	3.6nm,0.5s						
MDOK	**Medeo**	**2.88**	**6**	⇓Pg	**Pb**	**22 33 02.3**	**+0.2**
MDOK	3.2nm,0.8s			⇓Lg	Lg	22 33 42.3	
	5.8nm,1.0s						
MDOK	**Medeo**	**2.88**	**6**	Pg	**Pb**	**22 33 01.1**	**-1.1**
MDOK	0.4nm,0.1s			Lg	Lg	22 33 42.5	
	3.9nm,0.6s						
KOTS	**Kotyrbulak**	**2.95**	**7**	Pg	**Pb**	**22 33 02.3**	**-1.2**
KOTS	5.6nm,0.8s			Lg	Lg	22 33 44.9	
	14nm,0.4s						
DGS	**Degeres**	**3.01**	**348**	Pg	**Pb**	**22 33 01.8**	**-2.5**
DGS	0.9nm,0.6s			Lg	Lg	22 33 44.2	
	1.4nm,0.7s						
PDGK	**Podgornoye**	**3.71**	**34**	⇑Pg	**Pb**	**22 33 17.0**	**+0.7**
PDGK	1.8nm,1.0s			⇑Lg	Lg	22 34 04.5	
	1.5nm,0.7s						

*ATH **02** 22:32:30.5,39°.15N×26°.37E,h19km±1km,ML2.3/4,Error ellipse: s-maj=2.6km s-min=1.3km az=256.0*
*DDA **02** 22:32:30.4,39°.17N×26°.39E,h7km±4km,ML2.5*
*ISCJB **02** 22:32:31.2±0.4,39°.16N±0°.02×26°.37E±0°.03,h7km±3km,Error ellipse: s-maj=3.6km s-min=2.9km az=155.0*
*ISK **02** 22:32:31.2,39°.15N×26°.29E,h12km,ML2.3/16*
*THE **02** 22:32:32.2,39°.15N×26°.31E,h9km±1km,ML2.0/7,Error ellipse: s-maj=2.0km s-min=0.9km az=267.0*
ISC 02 22:32:31.2±0.8,**39°.15N**±0°.02×**26°.37E**±0°.02,**h14**km±6km,
n41,σ0§**63**/63,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.12**	**321**	P	**Pg**	**22 32 34.4**	**-0.2**
PRK				S	**Sg**	**22 32 37.8**	**+0.9**
PRK	**Paraskevi**	**0.12**	**321**	P	**Pg**	**22 32 34.5**	**-0.2**
PRK				AML	AML	22 32 37.6	
	comp=E,5146μm,0.8s						
PRK				S	**Sg**	**22 32 37.6**	**+0.7**
PRK				AML	AML	22 32 38.4	
	comp=N,5060μm,0.5s						
AYVA	**Ayvalik**	**0.29**	**57**	*i* P	**Pg**	**22 32 36.2**	**-1.0**
AYVA				*i* S	**Sg**	**22 32 40.5**	**-0.9**
AYVA				IAML_P			
	comp=Z,2μm,0.1s						
SIGR	**SIGRI**	**0.41**	**279**	PG	**Pg**	**22 32 38.5**	**-0.8**
SIGR				SG	**Sg**	**22 32 44.1**	**-0.7**
SIGR	**SIGRI**	**0.41**	**279**	P	**Pg**	**22 32 38.5**	**-0.8**
SIGR				S	**Sg**	**22 32 44.9**	**+0.1**
SIGR	**SIGRI**	**0.41**	**279**	P	**Pg**	**22 32 38.4**	**-0.8**
SIGR				S	**Sg**	**22 32 44.9**	**+0.1**
SIGR				AML	AML	22 32 46.5	
	comp=N,306μm,0.4s						
SIGR				AML	AML	22 32 53.0	
	comp=E,221μm,0.4s						
ZEDA	**zmir-Bergama**	**0.58**	**108**	*i* P	**Pg**	**22 32 41.9**	**-0.6**
ZEDA				*i* S	**Sg**	**22 32 50.0**	**-0.2**
ZEDA				IAML_P			
	comp=Z,2μm,0.1s						
BAYC	**CANAKKALE_Bayr**	**0.61**	**13**	*i* P	**Pg**	**22 32 41.8**	**-1.3**
EZN	**Ezine**	**0.68**	**357**	PG	**Pb**	**22 32 44.9**	**+0.1**
EZN	**Ezine**	**0.68**	**357**	P	**Pg**	**22 32 44.2**	**-0.2**
EZN				S	**Sn**	**22 32 55.8**	**-0.9**
BOZC	**Bozcaada**	**0.73**	**340**	PG	**Pg**	**22 32 45.6**	**+0.1**
CHOS	**Chios island**	**0.80**	**198**	PG	**Pg**	**22 32 46.8**	**+0.1**
CHOS				SG	**Sb**	**22 32 58.2**	**+0.6**
CHOS	**Chios island**	**0.80**	**198**	P	**Pg**	**22 32 46.8**	**+0.1**
CHOS				S	**Sn**	**22 32 59.2**	**-0.7**
CHOS	**Chios island**	**0.80**	**198**	P	**Pg**	**22 32 45.9**	**-0.8**
CHOS				S	**Sb**	**22 32 57.5**	**-0.1**
CHOS				AML	AML	22 32 59.5	
	comp=N,410μm,0.5s						
CHOS				AML	AML	22 33 00.9	
	comp=E,588μm,0.3s						
URLA	**Izmir**	**0.81**	**167**	PG	**Pb**	**22 32 47.4**	**+0.4**
URLA				SG	**Sn**	**22 32 59.3**	**-0.7**
URLA	**Izmir**	**0.81**	**167**	*i* P	**Pb**	**22 32 47.0**	**0.0**
ZEY	**zmir**	**0.91**	**174**	*i* P	**Pg**	**22 32 48.4**	**-0.5**
BLCB	**Balcova**	**0.93**	**145**	PG	**Pn**	**22 32 50.0**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.07**	**77**	*i* P	**Pg**	**22 32 51.8**	**0.0**
STEP				*i* S	**Sn**	**22 33 07.1**	**+0.7**
BALY	**Balya**	**1.13**	**58**	*i* P	**Pn**	**22 32 52.9**	**+0.3**
BALY				*i* S	**Sg**	**22 33 07.7**	**-0.1**
BALY				IAML_P			
	comp=Z,375nm,0.2s						
AKHS	**Akhisar**	**1.16**	**103**	*i* P	**Pb**	**22 32 52.8**	**-0.1**
AKHS				*i* S	**Sn**	**22 33 08.8**	**+0.3**
AKHS				IAML_P			
	comp=Z,514nm,0.1s						
LIA	**Limnos Island**	**1.19**	**309**	P	**Pn**	**22 32 53.3**	**0.0**
LIA				S	**Sn**	**22 33 10.3**	**+1.0**
LIA	**Limnos Island**	**1.19**	**309**	P	**Pn**	**22 32 53.5**	**+0.2**
LIA				S	**Sg**	**22 33 09.3**	**-0.2**
LIA				AML	AML	22 33 11.1	
	comp=N,240μm,0.4s						
LIA				AML	AML	22 33 11.6	
	comp=E,252μm,0.6s						
GELI	**Tayfur-Gelibol**	**1.25**	**4**	PN	**Pb**	**22 32 54.6**	**+0.1**
LPK	**Lapseki**	**1.26**	**14**	PN	**Pb**	**22 32 54.9**	**+0.2**
BALB	**Balikesir**	**1.27**	**67**	PN	**Pg**	**22 32 55.9**	**+0.4**
SMTH	**Samothraki Isl**	**1.47**	**334**	P	**Pn**	**22 32 57.6**	**+0.3**
SMTH				S	**Sn**	**22 33 16.9**	**+0.5**
SMTH	**Samothraki Isl**	**1.47**	**334**	P	**Pn**	**22 32 57.2**	**-0.1**
SMG	**Samos**	**1.48**	**166**	P	**Pn**	**22 32 57.5**	**+0.1**
SMG				S	**Sg**	**22 33 19.1**	**+0.2**
SMG	**Samos**	**1.48**	**166**	P	**Pn**	**22 32 57.9**	**+0.4**
SMG				S	**Sg**	**22 33 18.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.52**	**4**	PN	**Pn**	**22 32 58.5**	**+0.5**
EDC	**Edincik**	**1.66**	**43**	PN	**Pb**	**22 33 01.2**	**-0.3**
DURS	**Dursunbey**	**1.69**	**74**	*i* P	**Pn**	**22 33 00.4**	**0.0**
DURS				IAML_P			
	comp=Z,191nm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**1.69**	**135**	PN	**Pn**	**22 33 01.4**	**+1.0**
ALN	**Alexandroupoli**	**1.76**	**352**	PN	**Pn**	**22 33 02.4**	**+1.1**
ALN	**Alexandroupoli**	**1.76**	**352**	P	**Pb**	**22 33 02.7**	**-0.6**
ALN				S	**Sn**	**22 33 23.9**	**+0.4**
ALN	**Alexandroupoli**	**1.76**	**352**	P	**Pb**	**22 33 02.8**	**-0.6**
MANT	**Manisa**	**1.83**	**110**	*i* P	**Pg**	**22 33 05.7**	**-0.6**
MANT				*i* S	**Sb**	**22 33 26.9**	**-0.5**
MANT				IAML_P			
	comp=Z,125nm,0.1s						
KCTX	**Karacabey (Bur**	**1.89**	**53**	PN	**Pb**	**22 33 04.7**	**-0.8**
KULA	**Kula-Manisa**	**1.90**	**109**	PN	**Pb**	**22 33 05.2**	**-0.4**
TVSB	**Tavsanli**	**2.42**	**82**	PN	**Pn**	**22 33 12.5**	**+2.1**

MAN 02 22:52:25.3,**12°.49N**×**124°.67E**,**h48**km,**mb4.0,ML2.8,**
MS2.4,1C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.35**	**167**	⇓*e*P	Pn	22 52 48.8	+1.1
PLP				*e*S	Sn	22 53 06.1	+1.6
RCP	**Roxas**	**2.09**	**244**	⇓*e*P	Pn	22 52 58.5	+0.5

NNC 02 22:57:00.2±9.4,**37°.01N**×**70°.88E**,**h222**km±182km,**mb2.2,**
mpv3.5,3C,**Error ellipse: s-maj=112.5km s-min=56.9km**
az=3.0,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.10**	**357**	⇑P	Pn	22 58 29.7	+0.7
	2.3nm,0.4s,baz=174,slow=18,SNR=48						
KK31				⇑S	S	22 59 39.6	+0.1
	1.6nm,0.5s,baz=179,slow=21,SNR=6.2						
AAK	**Ala-Archa**	**6.28**	**25**	P	Pn	22 58 30.6	-0.7
	1.3nm,0.3s						
AAK				S	S	22 59 44.5	+0.7
	8.1nm,0.8s						
AB31	**Akbulak array**	**14.60**	**330**	⇑P	Pn	23 00 16.3	-0.1
	0.1nm,0.3s,baz=0.0,slow=0.1,SNR=6.8						

KRSC 02 22:58:27.6±10.0,**50°.97N**×**157°.99E**,**h47**km±10km,**ML3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.84**	**4**	*e*P	Pn	22 58 44.2	+1.1
KDTR				*e*S	Sn	22 58 54.6	+0.2
PAU	**Pauzhetka**	**0.89**	**304**	*e*P	Pn	22 58 45.4	+1.7
PAU				*e*S	Sn	22 58 57.3	+1.7
SKR	**Severo-Kuril's**	**1.22**	**257**	*e*P	Pn	22 58 48.9	+0.7
SKR				*e*S	Sn	22 59 04.3	+0.8
RUS	**Russkaya**	**1.50**	**12**	*e*P	Pn	22 58 55.0	+3.0
MTVR	**Mutnovka**	**1.52**	**4**	*e*P	Pn	22 58 54.3	+1.9
MTVR				*e*S	Sn	22 59 12.7	+1.6
KRMR	**Karymshinskiy**	**1.87**	**3**	*e*P	Pn	22 58 59.8	+2.8
APC	**Apacha**	**2.03**	**346**	*e*P	Pn	22 59 02.1	+2.9
PET	**Petropavlovsk**	**2.10**	**11**	*e*P	Pn	22 59 02.5	+2.3
PET				*e*S	Sn	22 59 27.7	+2.6
DALK	**Dalny**	**2.12**	**13**	*e*P	Pn	22 59 02.4	+1.9
DALK				*e*S	Sn	22 59 27.4	+1.8
UGLR	**Uglovaya**	**2.30**	**13**	P	Pn	22 59 07.2	+4.1
AVH	**Avacha**	**2.35**	**11**	*e*P	Pn	22 59 07.6	+3.9
SMAR	**Somma**	**2.35**	**12**	*e*P	Pn	22 59 07.4	+3.5
KOK	**Koryaka**	**2.36**	**9**	*e*P	Pn	22 59 06.3	+2.4
KOK				S	Sn	22 59 35.3	+3.6
SDLR	**Sedlovina**	**2.38**	**13**	*e*P	Pn	22 59 06.1	+1.9
KRX	**Arik**	**2.43**	**9**	*e*P	Pn	22 59 08.7	+3.8
SPN	**Mys Shipunski**	**2.48**	**30**	*e*S	Sn	22 59 36.7	+2

mb3.8/19,mb1 3.9/23,mb1mx3.9/41,mbtmp4.4/23,Error ellipse: s-maj=14.6km s-min=9.6km az=136.0

ISC 02 23:07:22.4±0.5, 25°40S±0.07″×177°70W±0.09, h200km, n58, σ2§02/60, mb3.9/18, 12C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.84**	**183**	P	**Pn**	**23 08 22.6**	**+0.5**
	163nm,0.3s,baz=127,slow=20,SNR=7.1						
RAO				S	**Sn**	**23 09 11.1**	**+1.9**
	264nm,0.3s,baz=295,slow=22,SNR=8.4						
URZ	**Urewera**	**13.55**	**198**	P	**Pn**	**23 10 25.4**	**-1.3**
	0.6nm,0.3s,baz=75,slow=12,SNR=4.7						
URZ				S	S	23 12 49.4	-8.2
	3.6nm,0.3s,baz=264,slow=21,SNR=9.1						
DZM	**Mont Dzumac**	**14.89**	**280**	P	**P**	**23 10 46.1**	**+1.8**
	0.4nm,0.3s,baz=75,slow=20,SNR=4.7						
RAR	**Rarotonga**	**16.99**	**79**	P	**P**	**23 11 06.7**	**-0.6**
	0.8nm,0.3s,baz=281,slow=5.6,SNR=5.0						
RPZ	**Rata Peaks**	**20.44**	**204**	P	**P**	**23 11 43.2**	**-1.2**
	10nm,0.8s,baz=270,slow=1.0,SNR=2.1						
RPZ				S	**S**	**23 15 18.9**	**-3.1**
	7.1nm,0.9s,baz=3.4,slow=17,SNR=5.1						
CTA	**Charters Tower**	**33.59**	**272**	P	**P**	**23 13 44.5**	**+0.6**
	6.8nm,0.5s,baz=97,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**36.14**	**250**	P	**P**	**23 14 05.7**	**0.0**
	1.4nm,0.6s,baz=37,slow=7.8,SNR=3.7						
ASAR	**Alice Springs**	**43.87**	**262**	P	**P**	**23 15 08.6**	**-0.8**
	0.7nm,0.4s,baz=95,slow=7.5,SNR=19						
ASAR				ScP	**ScP**	**23 20 22.8**	**-1.8**
	0.6nm,0.9s,baz=89,slow=5.7,SNR=2.8						
ASAR				S	**S**	**23 21 23.0**	**-2.4**
	0.5nm,0.9s,baz=101,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**44.40**	**267**	P	**P**	**23 15 12.2**	**-1.3**
	1.7nm,0.4s,baz=97,slow=6.8,SNR=44						
WRA				ScP	**ScP**	**23 20 25.7**	**-1.1**
	0.5nm,0.8s,baz=59,slow=5.2,SNR=3.1						
WRA				S	**S**	**23 21 33.9**	**+0.7**
	0.5nm,0.8s,baz=107,slow=15,SNR=2.1						
MJAR	**Matsushiro Arr**	**74.32**	**324**	P	**P**	**23 18 37.0**	**-0.9**
	3.6nm,1.0s,baz=269,slow=18,SNR=4.5						
KSRS	**Korea Array**	**80.74**	**319**	P	**P**	**23 19 13.5**	**+0.1**
	1.5nm,0.6s,baz=135,slow=5.9,SNR=6.9						
PETK	**Petropavlovsk-**	**81.06**	**345**	P	**P**	**23 19 13.1**	**-1.7**
	4.6nm,0.7s,baz=133,slow=6.3,SNR=2.8						
SNAA	**Sanae**	**83.12**	**178**	P	**P**	**23 19 26.8**	**+1.3**
USRK	**Ussuriysk Ar.**	**83.16**	**326**	P	**P**	**23 19 26.7**	**+0.9**
	1.3nm,0.6s,baz=174,slow=5.7,SNR=4.9						
VNA3	**Neumayer Olymp**	**83.25**	**176**	P	**P**	**23 19 27.2**	**+1.1**
VNA2	**Neumayer--Watz**	**83.69**	**177**	P	**P**	**23 19 29.7**	**+1.4**
	baz=181,slow=2.9						
VNA1	**Neumayer--Stat**	**83.92**	**176**	P	P	23 19 21.1	-8.4
YBH	**Yreka Blue Hor**	**83.95**	**38**	P	**P**	**23 19 30.3**	**+0.2**
	2.1nm,0.9s,baz=195,slow=2.7,SNR=6.0						
NVAR	**Mina Array Bea**	**84.41**	**43**	P	**P**	**23 19 32.2**	**-0.5**
	2.1nm,0.7s,baz=223,slow=8.7,SNR=15						
PLCA	**Paso Flores**	**85.72**	**133**	P	**P**	**23 19 37.9**	**-1.3**
	2.1nm,0.8s,baz=310,slow=6.3,SNR=3.6						
KLR	**Kul'dur**	**86.87**	**330**	P	**P**	**23 19 44.4**	**+0.2**
	1.0nm,0.7s,baz=132,slow=5.0,SNR=4.3						
MA2	**Magadan**	**88.56**	**345**	P	**P**	**23 19 49.8**	**-2.1**
	3.1nm,0.5s,baz=128,slow=5.2,SNR=9.5						
TXAR	**Lajitas Array**	**89.47**	**57**	P	**P**	**23 19 57.1**	**0.0**
	0.8nm,0.7s,baz=215,slow=7.1,SNR=10						
SEY	**Seymchan**	**91.19**	**347**	P	**P**	**23 20 02.5**	**-1.6**
	2.8nm,0.6s,baz=180,slow=20,SNR=7.6						
CMAR	**Chiang Mai Arr**	**92.00**	**289**	P	**P**	**23 20 09.8**	**+0.9**
	1.0nm,0.4s,baz=142,slow=3.4,SNR=13						
PDAR	**Pinedale Array**	**92.33**	**43**	P	**P**	**23 20 08.8**	**-1.4**
	1.4nm,0.9s,baz=220,slow=4.0,SNR=9.2						
ILAR	**Eielson Array**	**93.02**	**13**	P	**P**	**23 20 11.6**	**-0.9**
	0.4nm,0.6s,baz=240,slow=5.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**114.44**	**320**	PKP	PKPdf	23 25 36.1	-2.0
	0.5nm,0.4s,baz=122,slow=1.3,SNR=3.6						
MKAR	**Makanchi Array**	**114.71**	**312**	PKP	PKPdf	23 25 37.0	-1.9
	0.5nm,0.6s,baz=223,slow=1.7,SNR=6.3						
FINES	**FINESS Array B**	**140.52**	**342**	PKhKP	PKPpre	23 26 19.9	
	1.7nm,0.9s,baz=10,slow=6.4,SNR=3.6						
FINES				PKP	**PKPdf**	**23 26 24.9**	**-2.3**
	2.5nm,0.8s,baz=73,slow=2.7,SNR=5.5						
NB2	**NORSAR Subarra**	**143.86**	**353**	PKP	PKPab	23 26 30.8	-0.1
	comp=Z,0.6nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**143.86**	**353**	PKP	PKPab	23 26 30.1	-0.8
	comp=Z,3.1nm,0.8s,baz=16,slow=4.8,SNR=6.1						
AKASG	**Malin Array Be**	**147.36**	**328**	PKPbc	**PKPdf**	**23 26 40.6**	**+1.1**
	comp=Z,2.2nm,0.4s,baz=43,slow=4.2,SNR=16						
KIEV	**Kiev**	**147.37**	**328**	*i* P	**PKPdf**	**23 26 40.3**	**+0.8**
BRTR	**Keskin Array B**	**150.15**	**306**	PKPbc	**PKPdf**	**23 26 48.7**	**+4.1**
	comp=Z,1.3nm,0.5s,baz=140,slow=4.6,SNR=16						
GIRR	**Girov**	**151.15**	**324**	*i* P	**PKPbc**	**23 26 51.1**	**-0.6**
CFR	**Carcaliu**	**151.32**	**320**	*i* P	**PKPdf**	**23 26 49.0**	**+3.1**
BIZ	**Bicaz**	**151.37**	**327**	*i* P	**PKPbc**	**23 26 52.5**	**+0.2**
BURAR	**Bucovina Array**	**151.37**	**327**	*i* P	**PKPdf**	**23 26 50.3**	**+4.2**
TLB	**Topalu**	**151.71**	**319**	*i* P	**PKPdf**	**23 26 50.4**	**+3.8**
VRI	**Vrincioaia**	**151.71**	**322**	*i* P	**PKPdf**	**23 26 51.8**	**+5.2**
PLOR	**Plostina**	**151.76**	**322**	*i* P	**PKPab**	**23 27 00.8**	**-2.1**
TRPA	**Tarpa**	**152.28**	**330**	*i* P	**PKPdf**	**23 26 50.1**	**+2.8**
DOPR	**Dopca**	**152.38**	**324**	*i* P	**PKPbc**	**23 26 53.7**	**-0.9**
MLR	**Muntele Rosu**	**152.38**	**323**	*i* P	**PKPbc**	**23 26 54.6**	**-0.1**
LANS	**Liptovska Anna**	**152.77**	**335**	*e*	**PKPab**	**23 27 07.0**	**0.0**
LANS				*e*		23 27 10.4	
BRG	**Berggiesshubel**	**153.04**	**344**	*i* PKP	**PKPbc**	**23 26 55.8**	**0.0**
	comp=Z,2.7nm,0.8s						
BRG				*i*		23 27 11.0	
	comp=Z,6.6nm,0.9s						
ARR	**Arges**	**153.17**	**324**	*i* P	**PKPbc**	**23 26 57.0**	**+0.6**
VYHS	**Vyhne**	**153.54**	**335**	*e*	**PKPab**	**23 27 09.5**	**-0.8**
VYHS				*e*		23 27 13.2	
VRAC	**Vranov**	**153.66**	**339**	*i* P	**PKiKP**	**23 27 04.7**	**+7.4**
MODS	**Modra-Piesok**	**154.22**	**337**	*e*	**PKPab**	**23 27 13.1**	**-0.1**
KHC	**Kasperske Hory**	**154.73**	**342**	*e* P	**PKPab**	**23 27 14.5**	**-0.8**
GERES	**GERESS Array B**	**154.95**	**342**	PKPbc	**PKPbc**	**23 27 01.1**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=16,slow=4.5,SNR=2.6						
GERES				PKPab	**PKPab**	**23 27 13.5**	**-2.8**
	comp=Z,0.3nm,0.4s,baz=42,slow=4.2,SNR=5.8						
WTTA	**Wattenberg**	**156.96**	**344**	*e* PKPab	**PKPab**	**23 27 24.3**	**-0.8**
	comp=Z,4.6nm,0.7s						
RETA	**Reutte**	**156.96**	**345**	*e* PKPab	**PKPab**	**23 27 24.3**	**-0.7**
	comp=Z,3.2nm,0.6s						
MOTA	**Moosalm**	**157.01**	**345**	*i* PKPab	**PKPab**	**23 27 24.5**	**-0.8**
	comp=Z,4.7nm,1.0s						
ABTA	**Abfaltersbach**	**157.19**	**342**	*i* PKPab	**PKPab**	**23 27 24.2**	**-1.9**
	comp=Z,5.5nm,1.0s						
DAVA	**Damuels**	**157.34**	**347**	*i* PKPab	**PKPab**	**23 27 25.9**	**-0.9**
	comp=Z,6.0nm,0.7s						

KRSC 02 23:15:22.4±10.0, 52.77N×171.05E, h17km±10km, ML3.9
IDC 02 23:15:22.1±0.8, 52.71N×171.13E, h0km, mb3.6/12, mb1 3.9/13,mb1mx3.7/35,mbtmp3.7/13, ML3.1/1, Error ellipse: s-maj=27.5km s-min=14.7km az=160.0
ISCJB 02 23:15:25.4±0.6, 52.76N±0.07×171.11E±0.08, h33km, mb3.6/12, Error ellipse: s-maj=10.0km s-min=6.7km az=19.6

ISC 02 23:15:26.9±0.8, 52.7N±0.1×171.10E±0.06, h35km, n26, σ1§41/23, mb3.5/12, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.83**	**86**	*e* P	**Pn**	**23 15 54.2**	**-1.6**
BKI	**Bering**	**3.97**	**312**	P	**Pn**	**23 16 25.4**	**+0.2**
BKI				S	**Sn**	**23 17 07.6**	**-2.8**
KBTR	**Krutoberegovo**	**6.00**	**310**	*e* P	**Pn**	**23 16 52.7**	**-0.4**
SDLR	**Sedlovina**	**7.41**	**280**	*e* P	**Pn**	**23 17 14.0**	**+1.5**
GNL	**Ganaly**	**7.98**	**283**	*e* P	**Pn**	**23 17 22.6**	**+2.2**
OSSR	**Ossora**	**8.00**	**329**	P	**Pn**	**23 17 22.2**	**+1.7**
PETK	**Petropavlovsk-**	**8.12**	**279**	Pn	**Pn**	**23 17 22.8**	**+0.5**
	1.3nm,0.3s,baz=91,slow=20,SNR=12						
PETK				Sn	**Sn**	**23 18 50.5**	**-2.3**
	0.5nm,0.3s,baz=111,slow=16,SNR=3.0						
TILK	**Tilichiki**	**8.28**	**343**	*e* P	**Pn**	**23 17 25.9**	**+1.6**
TILK				S	**Sn**	**23 18 56.8**	**+0.4**
KDAK	**Kodiak Island**	**21.16**	**62**	P	**P**	**23 20 06.6**	**-2.1**
	7.0nm,0.9s,baz=301,slow=5.9,SNR=6.0						
ILAR	**Eielson Array**	**24.43**	**44**	P	**P**	**23 20 42.4**	**+0.5**
	0.7nm,0.5s,baz=249,slow=7.2,SNR=11						
KLR	**Kul'dur**	**24.82**	**278**	P	**P**	**23 20 46.0**	**+0.6**
	1.1nm,0.4s,baz=58,slow=5.6,SNR=7.2						
INK	**Inuvik**	**30.14**	**38**	P	**P**	**23 21 33.9**	**+1.0**
	0.2nm,0.3s,baz=281,slow=5.2,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**33.02**	**187**	T	T	23 57 25.7	
	baz=5.1,slow=76,SNR=36						
H11N3	**WAKE ISLAND Hy**	**33.03**	**187**	T	T	23 57 35.8	
	baz=5.1,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**33.04**	**187**	T	T	23 57 32.8	
	baz=5.1,slow=76,SNR=37						
H11S1	**WAKE ISLAND Hy**	**34.25**	**187**	T	T	23 58 57.2	
	baz=5.0,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**34.26**	**187**	T	T	23 58 58.3	
	baz=5.0,slow=76,SNR=30						
H11S2	**WAKE ISLAND Hy**	**34.26**	**187**	T	T	23 58 59.5	
	baz=5.0,slow=76,SNR=29						
YKA	**Yellowknife Ar**	**38.84**	**45**	P	**P**	**23 22 48.2**	**+0.2**
	0.3nm,0.5s,baz=293,slow=7.9,SNR=5.0						
SONM	**Songino Array**	**40.42**	**290**	P	**P**	**23 23 02.5**	**+0.9**
	0.4nm,0.5s,baz=64,slow=7.4,SNR=4.9						
PDAR	**Pinedale Array**	**51.72**	**67**	P	**P**	**23 24 30.6**	**-0.1**
	0.2nm,0.4s,baz=325,slow=1.1,SNR=4.3						
MKAR	**Makanchi Array**	**54.21**	**302**	P	**P**	**23 24 47.6**	**-1.1**
	0.2nm,0.6s,baz=60,slow=4.6,SNR=5.0						
ARCES	**ARCESS Array B**	**55.56**	**346**	P	**P**	**23 24 57.1**	**-1.0**
	3.8nm,0.9s,baz=353,slow=14,SNR=3.0						
TXAR	**Lajitas Array**	**64.49**	**75**	P	**P**	**23 26 00.1**	**0.0**
	0.4nm,0.4s,baz=307,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**79.03**	**215**	P	**P**	**23 27 28.0**	**+0.9**
	0.6nm,0.9s,baz=23,slow=5.8,SNR=2.7						
ASAR	**Alice Springs**	**82.62**	**214**	P	**P**	**23 27 47.5**	**+1.3**
	0.3nm,0.7s,baz=18,slow=4.8,SNR=3.7						

ATH 02 23:25:02.0, 39.75N×21.20E, h19km±5km, ML1.6/4, Error ellipse: s-maj=5.2km s-min=1.0km az=337.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPRO	**Kipourio**	**0.24**	**31**	P	Pb	23 25 07.6	0.0
KPRO				S	Sg	23 25 11.9	+0.3
JAN	**Janina**	**0.28**	**251**	P	Pg	23 25 08.1	-0.3
JAN				S	Sg	23 25 12.4	-0.3
JAN				AML	AML	23 25 14.4	
	comp=E,843μm,0.3s						
JAN				AML	AML	23 25 15.9	
	comp=N,554μm,0.3s						
PENT	**Pentalofos**	**0.45**	**354**	P	Pg	23 25 11.1	-0.2
PENT				S	Sg	23 25 17.5	0.0
THL	**Klokotos Trika**	**0.66**	**106**	P	Pg	23 25 15.3	+0.4
THL				S	Sg	23 25 23.8	+0.1
THL				AML	AML	23 25 30.2	
	comp=E,85μm,0.3s						
THL				AML	AML	23 25 33.0	
	comp=N,67μm,0.5s						
NEST	**Nestorio**	**0.68**	**350**	P	Pg	23 25 15.4	+0.1
NEST				S	Sb	23 25 24.2	0.0
IGT	**Igoumenitsa**	**0.70**	**252**	P	Pg	23 25 15.8	-0.1
IGT				S	Sn	23 25 26.5	-0.8
IGT				AML	AML	23 25 29.7	
	comp=E,138μm,0.3s						
IGT				AML	AML	23 25 30.1	
	comp=N,98μm,0.5s						
EVR	**Evrytania**	**0.96**	**150**	P	Pg	23 25 20.9	+0.2
FNA	**Florina**	**1.04**	**7**	P	Pb	23 25 21.4	-0.1
LKD2	**Lefkada island**	**1.05**	**204**	P	Pg	23 25 22.2	-0.2
AGG	**Agios Georgios**	**1.14**	**129**	P	Pn	23 25 23.0	0.0
AGG				S	Sg	23 25 39.7	+0.7
AGG				AML	AML	23 25 42.8	
	comp=E,62μm,0.3s						
AGG				AML	AML	23 25 43.9	
	comp=N,46μm,0.3s						
PVO	**Paravola**	**1.16**	**167**	P	Pn	23 25 23.2	-0.1
EVGl	**Lefkada island**	**1.20**	**201**	P	Pg	23 25 24.8	-0.5
ANX	**Ano Chora**	**1.28**	**154**	P	Pg	23 25 26.3	-0.5

ISCJB 02 23:26:45.0±0.4, 40.42N±0.02×26.15E±0.04, h10km±4km, Error ellipse: s-maj=5.0km s-min=3.4km az=152.7
ATH 02 23:26:44.4, 40.42N×26.14E, h23km±8km, ML1.6/5, Error ellipse: s-maj=8.6km s-min=1.1km az=324.0
ISK 02 23:26:44.9, 40.42N×26.17E, h10km, ML1.7/9
DDA 02 23:26:45.4, 40.37N×26.26E, h7km±2km, ML2.5

ISC 02 23:26:44.7±0.9, 40.43N±0.02×26.16E±0.03, h16km±8km, n21, σ0§22/35, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.24**	**97**	PG	**Pg**	**23 26 50.1**	**0.0**
GELI				SG	**Sg**	**23 26 53.8**	**+0.1**
ENEZ	**Enez**	**0.31**	**359**	PG	**Pb**	**23 26 51.7**	**-0.1**
ENEZ				SG	**Sb**	**23 26 56.8**	**+0.2**
ERIK	**Erikli-Kesan**	**0.36**	**48**	PG	**Pb**	**23 26 52.4**	**-0.3**
ALN	**Alexandroupoli**	**0.48**	**350**	PG	**Pb**	**23 26 55.0**	**+0.3**
ALN				SG	**Sb**	**23 27 01.4**	**-0.1**
ALN	**Alexandroupoli**	**0.48**	**350**	P	**Pb**	**23 26 54.5**	**-0.2**
ALN				S	**Sb**	**23 27 01.3**	**-0.1**
ALN				AML	AML	23 27 02.0	
	comp=E,79μm,0.2s						
ALN				AML	AML	23 27 02.2	
	comp=N,76μm,0.3s						
SMTH	**Samothraki Isl**	**0.48**	**275**	P	**Pg**	**23 26 54.3**	**-0.1**
SMTH				S	**Sg**	**23 27 01.0**	**+0.1**
SMTH				AML	AML	23 27 01.8	
	comp=E,249μm,0.3s						
SMTH				AML	AML	23 27 01.8	
	comp=N,252μm,0.2s						
BOZC	**Bozcaada**	**0.59**	**188**	PG	**Pb**	**23 26 56.8**	**+0.2**
BOZC				SG	**Sb**	**23 27 05.1**	**+0.4**
BOZC	**Bozcaada**	**0.59**	**188**	*i* P	**Pb**	**23 26 56.5**	**0.0**
BOZC				*i* S	**Sb**	**23 27 05.1**	**+0.4**
BOZC				IAML_P			
	comp=Z,498nm,0.1s						
EZN	**Ezine**	**0.61**	**168**	PG	**Pb**	**23 26 57.0**	**0.0**
EZN	**Ezine**	**0.61**	**168**	*i* P	**Sg**	**23 27 05.1**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.75**	**156**	*i* P	**Pg**	**23 26 59.1**	**-0.2**
BAYC				*i* S	**Sb**	**23 27 09.1**	**-0.1**
RDO	**Rodhopi**	**0.86**	**327**	PG	**Pn**	**23 27 02.1**	**0.0**
RDO	**Rodhopi**	**0.86**	**327**	P	**Pb**	**23 27 00.9**	**-0.2**
RDO				S	**Sg**	**23 27 12.7**	**0.0**
RDO				AML	AML	23 27 14.3	
	comp=E,53μm,0.3s						
RDO				AML	AML	23 27 15.9	
	comp=N,37μm,0.1s						
LIA	**Limnos Island**	**0.92**	**235**	P	**Pb**	**23 27 01.8**	**-0.3**
LIA				S	**Sg**	**23 27 14.4**	**-0.1**
THAS	**Thassos island**	**1.11**	**280**	P	**Pb**	**23 27 05.5**	**0.0**
THAS				S	**Sg**	**23 27 20.9**	**+0.2**
THAS				AML	AML	23 27 21.4	
	comp=N,46μm,0.4s						
THAS				AML	AML	23 27 22.2	
	comp=E,34μm,0.5s						
PRK	**Paraskevi**	**1.18**	**176**	P	**Pg**	**23 27 07.3**	**-0.2**
PRK				S	**Sg**	**23 27 22.9**	**-0.1**
PRK				AML	AML	23 27 24.8	
	comp=N,151μm,0.5s						
PRK				AML	AML	23 27 25.2	
	comp=E,142μm,0.5s						
AYVA	**Ayvalik**	**1.19**	**160**	*i* P	**Pg**	**23 27 07.8**	**+0.2**
AYVA				*i* S	**Sn**	**23 27 22.7**	**+0.3**
AYVA				IAML_P			
	comp=Z,128nm,0.3s						
SIGR	**SIGRI**	**1.24**	**191**	PN	**Pg**	**23 27 08.3**	**-0.2**
SIGR	**SIGRI**	**1.24**	**191**	P	**Pn**	**23 27 06.8**	**-0.5**
SIGR				S	**Sg**	**23 27 24.8**	**+0.1**
EDRB	**Edirne**	**1.48**	**17**	PN	**Pb**	**23 27 12.0**	**+0.2**
BALB	**Balikesir**	**1.54**	**120**	PN	**Pb**	**23 27 12.6**	**-0.1**

MOS 02 23:32:56.8±0.8, 50.57N×157.75E, h52km, mb4.2/13, Error ellipse: s-maj=13.8km s-min=4.0km az=80.7
MOS Felt (II) at Severo-Kuril'sk.
KRSC 02 23:32:56.2±10.0, 50.65N×157.78E, h49km±10km, ML4.7, FELT [II] at Severo-Kurilsk.
BJI 02 23:32:56.0, 50.70N×157.50E, h33km, mb4.4/5, mB4.9/1
ISCJB 02 23:32:58.6±0.6, 50.72N±0.05×157.54E±0.07, h68km±5km, mb3.9/19, Error ellipse: s-maj=10.1km s-min=3.8km az=137.3
IDC 02 23:33:01.9±1.9, 50.89N×157.39E, h78km±16km, mb3.7/18, mb1 3.9/22,mb1mx3.7/47,mbtmp4.0/22,MS3.3/6, Ms1 3.3/6, ms1mx3.0/42, Error ellipse: s-maj=17.9km s-min=9.3km az=140.0

ISC 02 23:32:59.0±1.0, 50.69N±0.06×157.61E±0.05, h56km±8km, n102, σ1§34/125, mb4.0/19, MS3.1/5, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.93**	**328**	*e* P	**Pn**	**23 33 15.7**	**-0.2**
PAU				*e* S	**Sn**	**23 33 28.7**	**+0.3**
PAU	**Pauzhetka**	**0.93**	**328**	PN	**Pn**	**23 33 15.7**	**-0.2**
PAU				S	**Sn**	**23 33 28.7**	**+0.3**
SKR	**Severo-Kuril's**	**0.95**	**270**	*e* P	**Pn**	**23 33 15.1**	**-1.1**
SKR				*e* S	**Sn**	**23 33 27.5**	**-1.3**
SKR	**Severo-Kuril's**	**0.95**	**270**	*de* PN	**Pn**	**23 33 15.0**	**-1.1**
SKR				*i* S	**Sn**	**23 33 27.9**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.16**	**15**	*e* P	**Pn**	**23 33 17.6**	**-1.4**
KDTR				*e* S	**Sn**	**23 33 32.4**	**-1.5**
KDTR	**Khodutka, Kamc**	**1.16**	**15**	PN	**Pn**	**23 33 17.6**	**-1.4**
KDTR				S	**Sn**	**23 33 32.4**	**-1.5**
ALID	**Alaid**	**1.32**	**279**	*e* P	**Pn**	**23 33 21.1**	**-0.2**
ALID				*e* S	**Sn**	**23 33 37.8**	**-0.1**
MTVR	**Mutnovka**	**1.83**	**11**	*e* P	**Pn**	**23 33 27.8**	**-0.5**
MTVR				*e* S	**Sn**	**23 33 50.5**	**+0.1**
MTVR	**Mutnovka**	**1.83**	**11**	PN	**Pn**	**23 33 27.8**	**-0.5**
MTVR				S	**Sn**	**23 33 50.5**	**+0.1**
RUS	**Russkaya**	**1.84**	**18**	*e* P	**Pn**	**23 33 27.4**	**-0.8**
RUS				*e* S	**Sn**	**23 33 48.6**	**-1.7**
RUS	**Russkaya**	**1.84**	**18**	PN	**Pn**	**23 33 27.4**	**-0.8**
RUS				S	**Sn**	**23 33 48.6**	**-1.7**
GRL	**Gorelyy**	**1.89**	**9**	P	**Pn**	**23 33 29.3**	**+0.3**
GRL				S	**Sn**	**23 33 52.0**	**+0.2**
GRL	**Gorelyy**	**1.89**	**9**	PN	**Pn**	**23 33 29.3**	**+0.3**
GRL				S	**Sn**	**23 33 52.0**	**+0.2**
KRMR	**Karymshinskiy**	**2.17**	**8**	*e* P	**Pn**	**23 33 33.2**	**+0.5**
KRMR				S	**Sn**	**23 34 00.1**	**+1.7**
KRMR	**Karymshinskiy**	**2.17**	**8**	PN	**Pn**	**23 33 33.2**	**+0.5**
KRMR				S	**Sn**	**23 34 00.1**	**+1.7**
APC	**Apacha**	**2.26**	**353**	*e* P	**Pn**	**23 33 33.9**	**0.0**
APC	**Apacha**	**2.26**	**353**	PN	**Pn**	**23 33 33.9**	**0.0**
PETK	**Petropavlovsk-**	**2.42**	**1**	P	**Pn**	**23 33 36.9**	**+0.7**
	18nm,0.3s,baz=147,slow=17,SNR=106						
PETK				S	**Sn**	**23 34 04.0**	**-0.6**
	20nm,0.3s,baz=149,slow=13,SNR=7.7						
PETK				LR	LR	23 34 48.6	
	comp=Z,376nm,21.2s,baz=202,slow=48						
PET	**Petropavlovsk**	**2.43**	**15**	*e* P	**Pn**	**23 33 36.1**	**-0.1**
PET				*e* S	**Sn**	**23 34 04.6**	**-0.1**
PET	**Petropavlovsk**	**2.43**	**15**	*e* PN	**Pn**	**23 33 36.4**	**+0.2**
PET				*e* S	**Sn**	**23 34 04.8**	**+0.1**
PET				pmax	pmax		
	comp=Z,230nm,0.4s						
PET				smax	smax		
	comp=N,806nm,0.5s						
PET				smax	smax		
	comp=E,851nm,0.6s						
DALK	**Dalny**	**2.45**	**16**	*e* P	**Pn**	**23 33 36.3**	**-0.3**
DALK				*e* S	**Sn**	**23 34 05.2**	**-0.1**
DALK	**Dalny**	**2.45**	**16**	PN	**Pn**	**23 33 36.3**	**-0.3**
DALK				S	**Sn**	**23 34 05.2**	**-0.1**
UGLR	**Uglovaya**	**2.63**	**16**	*e* P	**Pn**	**23 33 40.2**	**+1.0**
UGLR	**Uglovaya**	**2.63**	**16**	PN	**Pn**	**23 33 40.2**	**+1.0**
AVH	**Avacha**	**2.67**	**15**	*e* P	**Pn**	**23 33 41.1**	**+1.4**
AVH	**Avacha**	**2.67**	**15**	PN	**Pn**	**23 33 41.1**	**+1.4**
SMAR	**Somma**	**2.68**	**16**	*e* P	**Pn**	**23 33 40.9**	**+1.0**
SMAR	**Somma**	**2.68**	**16**	PN	**Pn**	**23 33 40.9**	**+1.0**
KOK	**Koryaka**	**2.69**	**13**	*e* P	**Pn**	**23 33 41.3**	**+1.5**
KOK				S	**Sn**	**23 34 14.3**	**+3.1**
KOK	**Koryaka**	**2.69**	**13**	PN	**Pn**	**23 33 41.3**	**+1.5**
KOK				S	**Sn**	**23 34 14.3**	**+3.1**
SDLR	**Sedlovina**	**2.71**	**16**	*e* P	**Pn**	**23 33 40.2**	**0.0**
SDLR	**Sedlovina**	**2.71**	**16**	PN	**Pn**	**23 33 40.2**	**0.0**
KRX	**Arik**	**2.75**	**13**	*e* P	**Pn**	**23 33 42.5**	**+1.7**
KRX	**Arik**	**2.75**	**13**	PN	**Pn**	**23 33 42.5**	**+1.7**
SPN	**Mys Shipunski**	**2.84**	**31**	*e* P	**Pn**	**23 33 41.5**	**-0.4**
SPN				*e* S	**Sn**	**23 34 14.8**	**0.0**
SPN	**Mys Shipunski**	**2.84**	**31**	PN	**Pn**	**23 33 41.5**	**-0.4**
SPN				S	**Sn**	**23 34 14.8**	**0.0**
GNL	**Ganaly**	**3.02**	**4**	*e* P	**Pn**	**23 33 45.6**	**+1.2**
GNL	**Ganaly**	**3.02**	**4**	PN	**Pn**	**23 33 45.6**	**+1.2**
KZV	**Kizimen**	**4.72**	**19**	*e* P	**Pn**	**23 34 09.8**	**+2.0**
KZV	**Kizimen**	**4.72**	**19**	PN

	comp=Z,71nm,18.1s,baz=80,slow=35									
ARU	**Arti**	**54.12**	**317**	*c*	*i*P		**P**	**23 42 15.9**	**-1.9**
ARU					S		**S**	**23 49 47.5**	**-2.5**
ARU					SS		**SS**	**23 53 30.5**	**-0.9**
ARU					pmax	pmax			
	comp=Z,15nm,2.2s								
FFC	**Flin Flon**	**55.82**	**44**		*i* P		**P**	**23 42 31.6**	**+1.5**
CMAR	**Chiang Mai Arr**	**56.16**	**257**		P		**P**	**23 42 34.4**	**+1.4**
	comp=Z,1.6nm,0.6s,baz=30,slow=7.5,SNR=12								
NVAR	**Mina Array Bea**	**58.06**	**67**		P		**P**	**23 42 46.9**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=279,slow=8.8,SNR=4.0								
PDAR	**Pinedale Array**	**60.08**	**58**		P		**P**	**23 43 01.9**	**+1.5**
	comp=Z,3.0nm,0.8s,baz=313,slow=2.9,SNR=20								
FINES	**FINESS Array B**	**61.70**	**336**	*e*	P		**P**	**23 43 09.4**	**-1.4**
FINES					pmax	pmax			
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**61.70**	**336**		P		**P**	**23 43 08.4**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=36,slow=8.0,SNR=4.0								
NOA	**NORSAR Array B**	**65.40**	**343**		P		**P**	**23 43 33.7**	**-1.5**
	comp=Z,1.3nm,1.0s,baz=17,slow=5.1,SNR=2.6								
TXAR	**Lajitas Array**	**73.03**	**64**		P		**P**	**23 44 24.0**	**+0.9**
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**73.03**	**64**		P		**P**	**23 44 23.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=300,slow=4.4,SNR=19								
WRA	**Warramunga Arr**	**73.25**	**203**		P		**P**	**23 44 24.4**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=19,slow=6.1,SNR=6.9								
CLL	**Collm**	**74.03**	**338**	*e*	P		**P**	**23 44 27.0**	**-1.3**
ASAR	**Alice Springs**	**76.94**	**202**		P		**P**	**23 44 46.2**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=14,slow=5.4,SNR=18								
BRTR	**Keskin Array B**	**77.46**	**319**	*e*	P		**P**	**23 44 48.0**	**-0.4**
BRTR	**Keskin Array B**	**77.46**	**319**		P		**P**	**23 44 47.1**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=75,slow=2.6,SNR=4.4								
PLCA	**Paso Flores**	**145.49**	**92**		PKPbc		**PKPdf**	**23 52 29.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=330,slow=2.0,SNR=6.4								

KRSC 02 23:39:42.7±10.0, **50.79N**×**157.76E, h51**km±10km, **ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.91**	**319**	*e*P		Pn	23 40 01.3	+2.1
PAU				*e*S		Sn	23 40 13.4	+2.1
KDTR	**Khodutka, Kamc**	**1.04**	**11**	*e*P		Pn	23 40 02.6	+1.6
KDTR				*e*S		Sn	23 40 16.2	+1.7
SKR	**Severo-Kuril's**	**1.05**	**265**	*e*P		Pn	23 40 02.0	+0.9
SKR				*e*S		Sn	23 40 15.3	+0.7
MTVR	**Mutnovka**	**1.72**	**9**	*e*P		Pn	23 40 12.4	+2.0
MTVR				*e*S		Sn	23 40 33.1	+1.9
PET	**Petropavlovsk**	**2.31**	**14**	*e*P		Pn	23 40 20.7	+2.5
PET				*e*S		Sn	23 40 48.3	+2.9
DALK	**Dalny**	**2.33**	**15**	*e*P		Pn	23 40 21.0	+2.5
DALK				*e*S		Sn	23 40 48.2	+2.3
KOK	**Koryaka**	**2.57**	**12**	*e*P		Pn	23 40 26.1	+4.2
SDLR	**Sedlovina**	**2.59**	**15**	*e*P		Pn	23 40 24.3	+2.1
GNL	**Ganaly**	**2.92**	**2**	*e*P		Pn	23 40 30.3	+3.6

*BJI **02** 23:42:14.8, 12°.32S×117°.62E, h33km, mb4.5/26, mB5.2/15, Ms5.0/3*
*IDC **02** 23:42:18.0±0.6, 11°.25S×117°.50E, h0km, mb4.3/12, mb1 4.6/16, mb1mx4.3/31, mbtmp4.5/16, ML4.8/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/37, Error ellipse: s-maj=25.0km s-min=13.8km az=59.0*
*NEIC **02** 23:42:18.8±0.3, 11°.47S×117°.30E, h10km, mb4.7/11, Error ellipse: s-maj=10.1km s-min=5.4km az=217.0*
*ISCJB **02** 23:42:19.2±0.2, 11°.68S±0°.03×117°.22E±0°.03, h34km, mb4.5/28, MS3.3/4, Error ellipse: s-maj=5.2km s-min=3.6km az=35.3*
*DJA **02** 23:42:19.1±1.3, 12°S±2°×11°7E±°, h13km±10km, M4.9/31, mB5.2/10, mb4.9/31, MLv5.3/11, Mw(mB)4.6/10*
ISC 02 23:42:21.6±0.4, **11°.64S**±0°.05×**117°.27E**±0°.05, **h34**km, **n112,** σ2ˢ**16**/121, **mb4.7**/33, **MS3.2**/4, **1D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**	**2.84**	**10**	P		**Pn**	**23 43 03.6**	**-1.0**
WSI	**Waingapu**	**3.57**	**57**	P		**Pn**	**23 43 16.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.40**	**316**	*e*Pn		**Pn**	**23 43 23.9**	**-2.2**
JAGI				*e*Sn		**Sn**	**23 44 10.6**	**-5.5**
JAGI	**Jajag, Banyuwa**	**4.40**	**316**	P		**Pn**	**23 43 24.0**	**-2.0**
BATI	**Baumata**	**6.44**	**78**	P		**Pn**	**23 43 54.1**	**-0.1**
PWJI	**Pagerwojo**	**6.47**	**303**	P		**Pn**	**23 43 52.6**	**-2.0**
GRJI	**Gresik**	**6.66**	**314**	P		**Pn**	**23 43 56.1**	**-1.1**
BKSI	**Bulukumba**	**6.89**	**24**	P		**Pn**	**23 44 00.6**	**+0.3**
NGJI	**Ngawi**	**7.13**	**306**	P		**Pn**	**23 44 05.7**	**+2.1**
SOEI	**Soe**	**7.13**	**75**	*e*Pn		**Pn**	**23 44 04.7**	**+0.9**
SOEI				*e*Sn		**Sn**	**23 45 21.1**	**-2.6**
SOEI	**Soe**	**7.13**	**75**	P		**Pn**	**23 44 04.2**	**+0.4**
UGM	**Wanagama**	**7.61**	**299**	*e*Pn		**Pn**	**23 44 11.6**	**+1.4**
UGM				*e*Sn		**Sn**	**23 45 30.4**	**-4.9**
UGM	**Wanagama**	**7.61**	**299**	P		**Pn**	**23 44 09.7**	**-0.5**
BNSI	**Bone**	**7.72**	**22**	P		**Pn**	**23 44 12.1**	**+0.3**
SPSI	**Sidrap Palu**	**8.02**	**18**	P		**Pn**	**23 44 16.1**	**+0.3**
BBSI	**Bau Bau**	**8.06**	**41**	P		**Pn**	**23 44 16.8**	**+0.5**
SMRI	**Semarang**	**8.13**	**304**	*e*Pn		**Pn**	**23 44 18.3**	**+0.9**
SMRI	**Semarang**	**8.13**	**304**	P		**Pn**	**23 44 16.9**	**-0.5**
KBKI	**Kotabaru**	**8.36**	**352**	P		**Pn**	**23 44 20.5**	**0.0**
TTSI	**Tana Toraja**	**8.91**	**17**	P		**Pn**	**23 44 29.2**	**+1.2**
	45nm,1.1s,1μm							
KPJI	**Karang Pucung**	**9.27**	**297**	P		**Pn**	**23 44 32.4**	**-0.6**
CMJI	**Cimerak**	**9.50**	**293**	P		**Pn**	**23 44 35.6**	**-0.5**
CISI	**Cisompet, Garu**	**10.16**	**293**	*e*Pn		**Pn**	**23 44 43.5**	**-1.8**
CISI				*e*Sn		**Sn**	**23 46 31.9**	**-6.3**
CISI	**Cisompet, Garu**	**10.16**	**293**	P		**Pn**	**23 44 43.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**10.33**	**129**	*e*Pn		**Pn**	**23 44 47.1**	**-0.4**
FITZ				*e*Sn		**Sn**	**23 46 37.6**	**-4.5**
FITZ	**Fitzroy Crossi**	**10.33**	**129**	Pn		**Pn**	**23 44 46.6**	**-0.9**
	11nm,0.3s,baz=320,slow=9.2,SNR=127							
FITZ				Sn		**Sn**	**23 46 36.4**	**-5.8**
	4.5nm,0.3s,baz=169,slow=21,SNR=5.7							
FITZ				LR		LR	23 49 16.8	
	comp=Z,131nm,18.4s,baz=300,slow=40							
LEM	**Lembang**	**10.65**	**296**	Pn		**Pn**	**23 44 51.9**	**-0.2**
	3.4nm,0.3s,baz=90,slow=20,SNR=3.1							
LEM				Sn		**Sn**	**23 46 45.4**	**-5.0**
	4.9nm,0.3s,baz=0.0,slow=20,SNR=2.6							
LEM				LR		LR	23 49 33.1	
	comp=Z,164nm,19.0s,baz=94,slow=41							
GIRL	**Giralia**	**11.32**	**194**	*e*Pn		**Pn**	**23 45 01.3**	**+0.3**
GIRL				*e*Sn		**Sn**	**23 47 05.2**	**-1.1**
MTN	**Manton Dam**	**13.61**	**96**	*e*Pn		**Pn**	**23 45 31.5**	**-0.9**
MTN				*e*Sn		Sn	23 47 54.1	-8.3
KASI	**Kota Agung**	**14.01**	**295**	P		**Pn**	**23 45 34.9**	**-2.9**
PPBI	**Pangkal Pinang**	**14.51**	**310**	P		**Pn**	**23 45 43.0**	**-1.7**
MDSI	**Maura Dua**	**14.77**	**298**	P		**Pn**	**23 45 45.2**	**-3.0**
	11nm,0.9s							
SBUM	**Sibu**	**14.87**	**340**	P		**Pn**	**23 45 51.9**	**+2.4**
LHSI	**Lahat**	**15.67**	**299**	P		**Pn**	**23 45 59.5**	**-0.5**
MNAI	**Manna**	**15.90**	**296**	*e*Pn		**Pn**	**23 46 01.2**	**-1.8**
	229nm,0.9s							
MNAI	**Manna**	**15.90**	**296**	P		**Pn**	**23 46 01.0**	**-2.1**
SDKM	**Sandakan**	**17.17**	**360**	P		**P**	**23 46 21.6**	**+1.1**
FAKI	**Fak Fak**	**17.19**	**61**	*e*Pn		**Pn**	**23 46 16.4**	**-3.0**
	39nm,1.0s							
MORW	**Morawa**	**17.38**	**184**	*e*Pn		**Pn**	**23 46 21.8**	**+0.2**
	32nm,1.3s							
MORW				*e*Sn		Sn	23 49 17.9	-16
KKM	**Kota Kinabalu**	**17.60**	**357**	P		**P**	**23 46 25.2**	**-0.1**
KRJI	**Kerinci**	**18.32**	**300**	P		**P**	**23 46 31.6**	**-1.6**
	219nm,0.8s							
WRA	**Warramunga Arr**	**18.37**	**119**	P		**P**	**23 46 33.8**	**+0.1**
	3.4nm,0.3s,baz=287,slow=13,SNR=98							
WRA				S		Sn	23 49 44.8	-13
	1.0nm,0.3s,baz=289,slow=20,SNR=6.8							
WRA				LR		LR	23 54 13.0	
	comp=Z,177nm,20.8s,baz=225,slow=39							
WRAB	**Tennant Creek**	**18.38**	**119**	*e*P		**Pn**	**23 46 34.8**	**+0.8**
	26nm,0.6s							
WB2	**Warramunga Arr**	**18.38**	**119**	*e*P		**P**	**23 46 33.5**	**-0.3**
MYKOM	**Kota Tinggi**	**18.86**	**314**	P		**Pn**	**23 46 39.5**	**-0.4**
KGM	**Kluang**	**19.40**	**314**	P		**Pn**	**23 46 46.7**	**+0.4**
AS31	**Alice Springs**	**19.83**	**129**	*e*P		**Pn**	**23 46 52.3**	**+0.8**
	12nm,0.6s							
ASAR	**Alice Springs**	**19.83**	**129**	P		**Pn**	**23 46 52.0**	**+0.6**
	1.1nm,0.3s,baz=301,slow=9.2,SNR=83							
ASAR				S		**S**	**23 50 25.1**	**-6.3**
	0.9nm,0.3s,baz=308,slow=23,SNR=8.3							
AS01	**Alice Springs**	**19.87**	**129**	*e*P		**Pn**	**23 46 52.1**	**+0.2**
BKNI	**Bangkinang**	**20.03**	**305**	P		**P**	**23 46 51.3**	**-0.6**
	52nm,0.8s,2μm							
PPI	**Padang Panjang**	**20.10**	**302**	P		**P**	**23 46 52.3**	**-0.3**
DAV	**Davao City (W)**	**20.35**	**24**	LR		LR	23 55 22.2	
	comp=Z,69nm,20.0s,baz=316,slow=39							
SISI	**Saibi**	**20.74**	**298**	P		**P**	**23 46 59.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**21.19**	**180**	P		**P**	**23 47 09.6**	**+5.3**
	1.3nm,0.6s							
NWAO				S		S	23 50 46.6	-11
NWAO	**Narrogin (SRO)**	**21.19**	**180**	P		**P**	**23 47 09.6**	**+5.3**
	12nm,0.5s,baz=240,slow=12,SNR=15							
NWAO				S		S	23 50 46.6	-11
	37nm,0.6s,baz=147,slow=11,SNR=12							
NWAO				LR		LR	23 55 14.0	
	comp=Z,93nm,22.0s,baz=216,slow=36							
FRIM	**Kepong**	**21.46**	**313**	P		**P**	**23 47 09.0**	**+1.7**
FORT	**Forrest**	**21.51**	**154**	*e*P		**P**	**23 47 10.9**	**+3.2**
	61nm,0.7s							
KTGM	**Kuala Trenggan**	**21.95**	**319**	P		**P**	**23 47 13.5**	**+0.9**
IPM	**Ipoh**	**22.75**	**314**	P		**P**	**23 47 24.0**	**+2.9**
PSI	**Prapat**	**23.20**	**307**	*e*P		**P**	**23 47 26.7**	**+0.8**
	108nm,1.4s							
PSI	**Prapat**	**23.20**	**307**	P		**P**	**23 47 27.5**	**+1.5**
	25nm,0.7s,baz=180,slow=12,SNR=18							
GSI	**Gunungsitoli**	**23.41**	**302**	*e*P		**P**	**23 47 26.2**	**-1.7**
	14nm,0.6s							
GSI	**Gunungsitoli**	**23.41**	**302**	P		**P**	**23 47 28.8**	**+0.9**
	19nm,0.6s							
KULM	**Kulim**	**23.58**	**315**	P		**P**	**23 47 32.0**	**+2.5**
COEN	**Coen**	**25.37**	**98**	*e*P		**P**	**23 47 41.4**	**-4.6**
	24nm,1.3s							
TRTT	**Trang**	**26.08**	**317**	P		**P**	**23 47 54.7**	**+2.4**
	8.7nm,0.8s							
LHMI	**Lhok Sumawe**	**26.26**	**309**	P		**P**	**23 47 52.3**	**-1.7**
	87nm,0.9s							
BBOO	**Buckleboo**	**27.23**	**144**	*e*P		**P**	**23 47 59.5**	**-3.1**
	28nm,1.4s							
BSI	**Banda Aceh**	**27.70**	**307**	P		P	23 48 15.7	+8.7
STKA	**Stephens Creek**	**30.14**	**136**	P		**P**	**23 48 31.5**	**+3.1**
	2.1nm,0.5s,baz=315,slow=11,SNR=4.5							
SRDT	**SRDT**	**31.47**	**325**	P		**P**	**23 48 42.3**	**+2.0**
	7.9nm,0.7s							
UTHA	**Uthaitani**	**32.27**	**326**	P		**P**	**23 48 48.1**	**+0.7**
	3.8nm,0.8s,51nm							
CMAR	**Chiang Mai Arr**	**34.95**	**329**	P		**P**	**23 49 10.8**	**+0.1**
	1.4nm,0.5s,baz=153,slow=6.3,SNR=8.9							
CMAR				LR		LR	00 05 08.7	
	comp=Z,48nm,18.1s,baz=178,slow=40							
KMI	**Kunming**	**39.19**	**339**	P		P	23 49 53.0	+6.1
KMI				pmax		pmax		
	comp=Z,6.0nm,1.1s							
NJ2	**Nanjing**	**43.47**	**2**	*e*P		**P**	**23 50 21.1**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
CD2	**Chengdu**	**44.25**	**343**	||P		**P**	**23 50 27.3**	**-0.7**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
SHL	**Shillong**	**44.49**	**326**	*e*P		**P**	**23 50 30.0**	**-0.2**
	12nm,0.8s							
RAMN	**Ramite**	**48.56**	**323**	*e*P		**P**	**23 51 02.3**	**+0.1**
LZH	**Lanzhou**	**49.13**	**346**	*e*P		**P**	**23 51 06.7**	**+0.4**
LZH				pP		sP	23 51 19.1	+1.0
LZH				sP		pwP	23 51 23.6	+1.4
LZH				PP		**PP**	**23 53 03.7**	**+3.3**
LZH				pmax		pmax		
	comp=Z,13nm,0.9s							
LZH				pmax		pmax		
	comp=Z,200nm,4.8s							
JIRN	**Jiri**	**49.33**	**323**	*e*P		**P**	**23 51 08.3**	**+0.1**
	35nm,0.6s							
GUN	**Gumba**	**49.70**	**323**	*e*P		**P**	**23 51 11.0**	**0.0**
	38nm,0.7s							
PKI	**Puhoki**	**49.73**	**322**	*e*P		**P**	**23 51 10.7**	**-0.5**
	12nm,0.8s							
PKIN	**Phulchoki**	**49.74**	**322**	*e*P		**P**	**23 51 10.9**	**-0.3**
	6.3nm,0.5s							
KSAR	**Wonju Array Be**	**49.83**	**11**	P		**P**	**23 51 11.4**	**0.0**
KSRS	**Korea Array**	**49.85**	**11**	P		**P**	**23 51 11.4**	**-0.1**
	1.2nm,0.7s,baz=184,slow=8.5,SNR=4.1							
DMN	**Daman**	**49.94**	**322**	*e*P		**P**	**23 51 12.6**	**-0.1**
KKN	**Kakani**	**49.97**	**322**	*e*P		**P**	**23 51 12.7**	**-0.2**
KOLN	**Koldanda**	**50.98**	**321**	*e*P		**P**	**23 51 20.6**	**+0.1**
DANN	**Dangsing**	**51.30**	**321**	*e*P		**P**	**23 51 22.7**	**-0.3**
	20nm,0.6s							
PYUN	**Puthan**	**51.59**	**321**	*e*P		**P**	**23 51 25.0**	**-0.1**
MJAR	**Matsushiro Arr**	**51.83**	**21**	P		**P**	**23 51 24.3**	**-2.2**
	1.0nm,0.7s,baz=205,slow=10.0,SNR=4.1							
HHC	**Hu-ho-hao-te**	**52.49**	**355**	*e*P		**P**	**23 51 34.9**	**+3.5**
HHC				S		**S**	**23 58 59.7**	**+3.9**
HHC				pmax		pmax		
	comp=Z,11nm,1.0s							
HHC				pmax		pmax		
	comp=Z,260nm,5.1s							
GTA	**Gaotai**	**53.33**	**343**	P		**P**	**23 51 38.0**	**+0.3**
GTA				pP		pP	23 51 47.0	+0.8
GTA				sP		sP	23 51 50.7	+1.2
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**57.17**	**13**	P		**P**	**23 52 03.2**	**-1.9**
	2.5nm,0.6s,baz=173,slow=8.5,SNR=5.6							
SONM	**Songino Array**	**60.00**	**352**	P		**P**	**23 52 23.6**	**-1.3**
	2.8nm,0.7s,baz=169,slow=8.5,SNR=23							
SONA1	**Songino Array**	**60.01**	**352**	*e*P		**P**	**23 52 24.9**	**-0.2**
WMQ	**Urumqi**	**61.42**	**336**	*e*P		**P**	**23 52 36.9**	**+2.3**
KSH	**Kashi**	**63.75**	**325**	P		**P**	**23 52 51.3**	**+1.0**
KSH				sP		pwP	23 53 05.5	-0.9
KSH				PP		**PP**	**23 55 14.0**	**+3.0**
KSH				S		**S**	**00 01 20.5**	**-2.4**
KSH				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,130nm,4.8s							
KSH				LR		LR		
	comp=N,140nm,6.4s							
KSH				LR		LR		
	comp=E,190nm,7.4s							
MK01	**Makanchi Array**	**66.03**	**334**	*e*P		**P**	**23 53 04.9**	**0.0**
MK31	**Makanchi Array**	**66.05**	**334**	*e*P		**P**	**23 53 05.1**	**0.0**
MKAR	**Makanchi Array**	**66.05**	**334**	P		**P**	**23 53 05.1**	**0.0**
	1.5nm,0.4s,baz=149,slow=6.8,SNR=52							
GAR	**Garm**	**66.70**	**322**	*e*P		**P**	**23 53 08.9**	**-0.6**
ZALV	**Zalesovo Beam**	**70.91**	**340**	P		**P**	**23 53 34.3**	**-0.9**
	4.0nm,0.6s,baz=144,slow=4.3,SNR=20							
PETK	**Petropavlovsk-**	**73.17**	**24**	P		**P**	**23 53 47.4**	**-1.3**
	7.8nm,1.0s,baz=198,slow=8.9,SNR=3.5							
ABKAR	**Akbulak array**	**78.75**	**326**	*e*P		**P**	**23 54 24.4**	**+3.7**
GNI	**Garni**	**84.45**	**313**	LR		LR	00 36 14.6	
	comp=Z,28nm,19.2s,baz=357,slow=38							
BRTR	**Keskin Array B**	**92.51**	**310**	P		**P**	**23 55 29.2**	**-0.5**
	0.4nm,0.7s,baz=123,slow=4.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**117.21**	**279**	PKP		**PKiKP**	**00 01 05.4**	**+1.0**
	0.3nm,0.9s,baz=197,slow=1.5,SNR=2.8							
YKA	**Yellowknife Ar**	**117.29**	**24**	PKP		**PKiKP**	**00 01 03.4**	**+0.3**
	0.1nm,0.3s,baz=320,slow=1.8,SNR=3.8							
NVAR	**Mina Array Bea**	**124.00**	**51**	PKP		**PKiKP**	**00 01 18.9**	**+1.5**
	0.3nm,0.5s,baz=54,slow=2.3,SNR=2.5							
BDFB	**Brasilia**	**149.22**	**209**	PKPbc		**PKiKP**	**00 02 10.3**	**+1.2**
	1.3nm,0.5s,baz=280,slow=13,SNR=3.0							
LPAZ	**La Paz**	**151.74**	**169**	PKPbc		**PKiKP**	**00 02 17.6**	**+2.7**
	2.5nm,0.8s,baz=179,slow=3.2,SNR=7.4							

*KRNET **02** 23:56:53.8±0.1, 40°.24N×69°.89E, h8km, mb2.7*
*ISCJB **02** 23:56:54.8±1.2, 40°.22N±0°.06×69°.89E±0°.08, h10km, Error ellipse: s-maj=10.7km s-min=5.3km az=43.4*
*SOME **02** 23:56:54.3, 40°.23N×69°.93E, h10km*
*NNC **02** 23:56:54.2±3.6, 40°.23N×69°.84E, h0km, mb3.3, mpv3.1, Error ellipse: s-maj=24.7km s-min=13.7km az=23.0*
ISC 02 23:56:54.1±1.6, **40°.22N**±0°.06×**69°.86E**±0°.06, **h10**km, **n16,** σ2ˢ**04**/26, **17C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BTK	**Batken**	**0.75**	**102**	⇑*i*P		**Pg**	**23 57 07.1**	**-1.6**
	baz=4.0							
BTK				⇑*i*S		**Sg**	**23 57 18.5**	**0.0**
	baz=4.0							
TAS	**Tashkent**	**1.19**	**339**	⇑*i*P		**Pg**	**23 57 16.2**	**-0.8**
	baz=38							
TAS				⇑*i*S		**Sn**	**23 57 32.1**	**-1.1**
	baz=38							
DRK	**Karamyk**	**1.67**	**116**	⇑*i*P		**Pb**	**23 57 24.6**	**-0.5**
	baz=17							
DRK				⇑*i*S		**Sg**	**23 57 46.9**	**-0.8**
	baz=17							
IUG	**Iuzhnay**	**1.93**	**4**	Pg		**Pg**	**23 57 29.5**	**-1.7**
	26nm,0.2s							
IUG				Lg		Lg	23 57 56.6	
	116nm,0.3s							
IUG	**Iuzhnay**	**1.93**	**4**	*e*P		**Pg**	**23 57 29.5**	**-1.7**
	26nm,0.3s							
IUG				*e*S		**Sg**	**23 57 55.6**	**-0.5**
	60nm,0.5s							
ARK	**Arkit**	**2.24**	**45**	⇑*i*P		**Pb**	**23 57 33.1**	**-1.7**
	baz=45							
ARK				⇑*i*S		**Sb**	**23 58 00.7**	**-1.9**
	baz=45							
ARSB	**Arslanbob**	**2.62**	**64**	⇑*i*P		**Pn**	**23 57 37.6**	**+1.0**
	baz=64							
ARSB				⇑*i*S		**Sn**	**23 58 10.1**	**+1.6**
	baz=64							
KK31	**Karatay Array**	**2.92**	**9**	⇓Pg		**Pb**	**23 57 47.2**	**+0.9**
	0.8nm,0.3s,baz=194,slow=17,SNR=45							
KK31				⇑Lg		Lg	23 58 25.5	
	11nm,0.6s,baz=191,slow=29,SNR=11							
AML	**Almayashu**	**3.47**	**55**	⇑*i*P		**Pn**	**23 57 49.4**	**+0.9**
	baz=55							
AML				⇑*i*S		**Sn**	**23 58 30.8**	**+1.0**
	baz=55							
MRKS	**Merke**	**3.57**	**44**	Pg		**Pb**	**23 57 59.0**	**+1.5**
	2.4nm,0.5s							
MRKS				Lg		Lg	23 58 46.8	
	6.2nm,0.3s							
MRKS	**Merke**	**3.57**	**44**	*e*P		**Pg**	**23 57 59.5**	**-3.0**
	2.3nm,0.4s							
MRKS				*e*S		**Sg**	**23 58 46.3**	**-2.5**
	5.2nm,0.3s							
UCH	**Uchtor**	**4.04**	**59**	⇑*e*P		**Pn**	**23 57 57.5**	**+1.0**
	baz=59							
UCH				⇑*i*S		**Sn**	**23 58 44.7**	**+0.6**
	baz=59							
AAK	**Ala-Archa**	**4.24**	**54**	⇑Pg		**Pg**	**23 58 13.4**	**-2.0**
	1.5nm,0.6s							
AAK				⇑Lg		Lg	23 59 09.1	
	1.7nm,0.5s							
DGS	**Degeres**	**5.36**	**54**	Pg		**Pb**	**23 58 29.4**	**+1.5**
	1.0nm,0.6s							
DGS				Lg		Lg	23 59 38.2	
	2.7nm,0.7s							
DGS	**Degeres**	**5.36**	**54**	*e*P		**Pb**	**23 58 29.4**	**+1.5**
	1.0nm,0.6s							
DGS				*e*S		**Sb**	**23 59 38.2**	**+6.0**
	2.7nm,0.7s							
KST	**Kastek**	**5.37**	**56**	Pg		**Pg**	**23 58 34.1**	**-2.9**
	1.9nm,0.5s							
KST				Lg		Lg	23 59 46.1	
	2.4nm,0.6s							

*ISCJB **03** 00:02:21.6±0.5, 36°.90N±0°.03×139°.40E±0°.04, h14km±4km, mb3.6/2, Error ellipse: s-maj=6.3km s-min=4.6km az=142.0*
*IDC **03** 00:02:21.0±1.9, 36°.83N×139°.42E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.2/33, mbtmp3.5/2, Error ellipse: s-maj=20.0km s-min=14.3km az=17.0*
*JMA **03** 00:02:21.8, 36°.92N×139°.39E, h4km±1km, M3.2 Broadband fault plane solution: P waves. NP1: φs254.00000°, δ68.00000°, λ130.00000°. NP2:φs8.00000°, δ45.00000°, λ32.00000°. Principal axes: T Plg50.0000°, Azm209.0000°; N Plg37.0000°, Azm57.0000°; P Plg14.0000°, Azm316.0000°;*
JMA Felt II J1.
ISC 03 00:02:21.5±1.0, **36°.91N**±0°.04×**139°.41E**±0°.04, **h12**km±8km, **n12,** σ0ˢ**32**/19, **3C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKT	**Katashina**	**0.19**	**222**	⇑P		**Pg**	**00 02 25.9**	**+0.2**
JKT				*e*S		**Sg**	**00 02 28.7**	**+0.1**
JSB	**Shiboa**	**0.42**	**82**	||P		**Pb**	**00 02 30.7**	**-0.2**
JSB				*e*S		**Sb**	**00 02 36.7**	**-0.5**
JHK	**Hiroka**	**0.46**	**318**	||P		**Pg**	**00 02 30.7**	**+0.1**
JHK				*e*S		**Sg**	**00 02 36.8**	**+0.1**
JAG	**Ashikaga**	**0.48**	**175**	||P		**Pb**	**00 02 31.6**	**-0.4**
JFY

n45,σ1°72/60,mb3.2/3,34C-29D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.18**	**254**	⇑P		**Pb**	**00 29 21.6**	**+1.8**
GALA				⇓S		**Sg**	**00 29 35.0**	**-1.1**
NDR	**Nardaran** SNR=5.3	**1.27**	**263**	⇑P		**Pg**	**00 29 21.9**	**-0.4**
NDR				⇓S		**Sb**	**00 29 40.0**	**+2.7**
GOBA	**Gobu**	**1.49**	**258**	⇓P		**Pn**	**00 29 25.4**	**+1.5**
GOBA				⇑S		**Sg**	**00 29 44.7**	**-1.4**
ATGJ	**Altiaghaj** SNR=9.6	**2.06**	**274**	⇑Pn		**Pn**	**00 29 32.1**	**+0.4**
ATGJ				⇑Sn		**Sn**	**00 29 58.2**	**+1.2**
GBS	**Qobustan**	**2.06**	**265**	⇓Pn		**Pn**	**00 29 33.2**	**+1.4**
GBS				⇑Sn		**Sn**	**00 29 58.0**	**+0.8**
SIZA	**Siyzn**	**2.11**	**280**	⇓Pn		**Pn**	**00 29 33.3**	**+0.9**
SIZA				⇓Sn		**Sn**	**00 29 59.8**	**+1.5**
ALIB	**Äli-Bayra**	**2.16**	**250**	⇓Pn		**Pn**	**00 29 35.0**	**+2.0**
ALIB				⇓Sn		**Sb**	**00 30 05.8**	**+2.9**
PQL	**Pirkuli** SNR=25	**2.32**	**272**	⇑Pn		**Pn**	**00 29 35.7**	**+0.4**
PQL				⇑Sn		**Sn**	**00 30 03.4**	**-0.2**
QUBA	**Quba, Azerbaij** SNR=11	**2.46**	**286**	⇑Pn		**Pn**	**00 29 37.2**	**0.0**
QUBA				⇓Sn		**Sn**	**00 30 06.7**	**-0.2**
IML	**Ismayilli** SNR=18	**2.63**	**272**	⇑Pn		**Pn**	**00 29 39.5**	**-0.1**
IML				⇓Sn		**Sn**	**00 30 10.6**	**-0.5**
KDMR	**Kurdemir**	**2.66**	**263**	⇓Pn		**Pn**	**00 29 39.6**	**-0.3**
KDMR				⇓Sn		**Sn**	**00 30 11.5**	**-0.2**
QSAR	**Qusar** SNR=36	**2.67**	**288**	⇑Pn		**Pn**	**00 29 39.8**	**-0.3**
QSAR				⇓Sn		**Sn**	**00 30 11.6**	**-0.5**
XNQ	**Khinaliq** SNR=9.1	**2.69**	**280**	⇓Pn		**Pn**	**00 29 39.9**	**-0.6**
XNQ				⇑Sn		**Sn**	**00 30 11.4**	**-1.4**
QBL	**Gabala**	**2.90**	**275**	⇑Pn		**Pn**	**00 29 42.3**	**-0.9**
QBL				⇓Sn		**Sn**	**00 30 15.9**	**-1.8**
GLBA	**Clilabad** SNR=28	**2.91**	**240**	Pn		**Pn**	**00 29 43.0**	**-0.4**
GLBA				⇑Sn		**Sn**	**00 30 17.4**	**-0.5**
LKRN	**Lenkeran, Azer** SNR=4.0	**3.00**	**228**	⇑Pn		**Pn**	**00 29 44.5**	**0.0**
LKRN				⇑Sn		**Sn**	**00 30 18.7**	**-1.3**
ZRD	**Zardab** SNR=6.0	**3.05**	**263**	⇑Pn		**Pn**	**00 29 45.1**	**-0.2**
ZRD				⇑Sn		**Sn**	**00 30 21.8**	**+0.3**
ASTR	**Astara** SNR=51	**3.10**	**226**	⇑Pn		**Pn**	**00 29 45.3**	**-0.6**
ASTR				⇑Sn		**Sn**	**00 30 20.0**	**-2.5**
LRK	**Lerik** SNR=40	**3.30**	**232**	⇓Pn		**Pn**	**00 29 48.3**	**-0.5**
LRK				⇑Sn		**Sn**	**00 30 25.5**	**-2.3**
SEKA	**Sheki** SNR=10	**3.40**	**279**	⇓Pn		**Pn**	**00 29 49.3**	**-0.8**
SEKA				⇑Sn		**Sn**	**00 30 28.5**	**-1.6**
BRDA	**Brd**	**3.44**	**264**	⇓Pn		**Pn**	**00 29 50.7**	**+0.1**
BRDA				⇑Sn		**Sn**	**00 30 31.2**	**+0.3**
MNGR	**Mingechevir, A**	**3.46**	**272**	⇓Pn		**Pn**	**00 29 50.5**	**-0.5**
MNGR				⇓Sn		**Sn**	**00 30 30.8**	**-0.7**
ZKTA	**Zakatala** SNR=5.5	**3.89**	**285**	⇓Pn		**Pn**	**00 29 56.7**	**-0.2**
ZKTA				⇑Sn		**Sn**	**00 30 41.5**	**-0.7**
GANJ	**Ganja** SNR=4.0	**4.05**	**270**	⇑Pn		**Pn**	**00 29 57.3**	**-1.7**
GANJ				⇓Sn		**Sn**	**00 30 41.1**	**-5.0**
GDB	**GEDABAY**	**4.47**	**272**	⇑Sn		**Sn**	**00 30 51.5**	**-5.3**
ORD	**Ordubad**	**4.71**	**249**	⇑Pn		**Pn**	**00 30 07.9**	**-0.3**
ORD				⇓Sn		**Sn**	**00 31 00.2**	**-2.2**
QZX	**Qazax, Azerbai** SNR=13	**4.76**	**276**	⇑Pn		**Pn**	**00 30 06.7**	**-2.1**
QZX				⇑Sn		**Sn**	**00 30 58.6**	**-5.1**
SBZ	**Shahbuz**	**4.86**	**256**	⇑Sn		**Sn**	**00 31 04.5**	**-1.7**
NAX	**Nakhchivan**	**4.98**	**254**	⇑Pn		**Pn**	**00 30 12.1**	**+0.3**
NAX				⇓Sn		**Sn**	**00 31 08.1**	**-0.9**
HYR	**Heyderabad**	**5.30**	**261**	⇓Sn		**Sn**	**00 31 16.1**	**-0.8**
GNI	**Garni** 0.3nm,0.3s,baz=73,slow=11,SNR=2.8	**5.30**	**266**	Pn		**Pn**	**00 30 14.4**	**-1.9**
GNI				Sn		Sn	00 31 10.3	-6.8
GEYT	**Alibeck** 0.6nm,0.3s,baz=308,slow=17,SNR=12	**5.75**	**117**	Pn		Pn	00 30 21.2	-1.2
GEYT				Sn		**Sn**	**00 31 25.8**	**-2.3**
GEYT	1.2nm,0.3s,baz=36,slow=17,SNR=5.6			Lg		Lg	00 31 58.5	
GYA0B	**ALIBECK ARRAY** 0.7nm,0.3s,baz=294,slow=16,SNR=3.6	**5.75**	**117**	⇓Pn		Pn	00 30 21.5	-0.9
GYA0B	1.2nm,0.3s			⇑Sn		Sn	00 31 24.2	-3.8
KBZ	**Khabaz** 0.1nm,0.3s,baz=109,slow=5.1,SNR=4.5	**7.14**	**298**	Pn		Pn	00 30 37.8	-3.7
KBZ				Sn		Sn	00 31 52.2	-10
KVAR	**Kislovodsk Arr** baz=120,slow=20,SNR=4.5	**7.37**	**299**	Sn		Sn	00 31 57.4	-10
AB31	**Akbulak array** 0.6nm,0.3s,baz=207,slow=13,SNR=74	**10.34**	**32**	⇓Pn		Pn	00 31 18.6	-6.7
AB31				⇓Sn		Sn	00 33 06.2	-14
AKTO	**Aktyubinsk** 3.7nm,0.4s	**10.67**	**23**	⇑Pn		Pn	00 31 23.1	-6.7
AKTO	3.6nm,0.3s			⇑Sn		Sn	00 33 12.8	-16
AKTO	**Aktyubinsk** 1.6nm,0.3s,baz=207,slow=12,SNR=22	**10.67**	**23**	Pn		Pn	00 31 23.1	-6.7
AKTO	2.3nm,0.3s,baz=165,slow=20,SNR=11			Sn		Sn	00 33 12.8	-16
KK31	**Karatay Array** 1.5nm,0.7s,baz=134,slow=38,SNR=10.0	**14.25**	**74**	Pn		Pn	00 32 12.5	-6.2
KK31	0.5nm,0.3s,baz=179,slow=43,SNR=4.0			⇓Sn		Sn	00 34 41.3	-15
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=230,slow=20,SNR=12	**17.69**	**40**	Pn		Pn	00 32 55.8	-7.4
BVAR	0.1nm,0.3s,baz=238,slow=36,SNR=3.5			Sn		Sn	00 35 59.8	-20
AKASG	**Malin Array Be** 0.7nm,0.3s,baz=112,slow=11,SNR=3.3	**18.49**	**310**	P		Pn	00 33 06.9	-6.0
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=253,slow=11,SNR=3.0	**21.12**	**53**	P		P	00 33 36.6	-4.9
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=259,slow=9.4,SNR=6.2	**22.85**	**64**	P		P	00 33 55.8	-4.4
FINES	**FINESS Array B** 2.3nm,0.9s,baz=134,slow=12,SNR=3.4	**25.91**	**332**	P		P	00 34 22.4	-6.3
CLL	**Collm**	**28.52**	**305**	*eP*		**P**	**00 34 52.0**	**-0.3**

*ISCJB **03** 00:49:09.7±1.1,8.35N±0.06×83.12W±0.03,h14km±5km, mb3.3/3,MS3.2/2,Error ellipse: s-maj=10.5km s-min=4.6km az=12.3*
*UCR **03** 00:49:10.7±2.3,8.44N×83.10W,h10km±8km*
*IDC **03** 00:49:12.5±6.0,9.30N×82.70W,h0km,mb3.4/3,mb1 3.9/4, mb1mx3.6/30,mbtmp3.6/4,ML4.1/1,MS3.1/3,Ms1 3.1/3, ms1mx2.6/29,Error ellipse: s-maj=164.1km s-min=22.1km az=12.0*

ISC 03 00:49:10.3±1.3,8.41N±0.07×83.12W±0.04,h11km±7km, n27,σ1°22/31,mb3.6/3,1C,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.22**	**305**	*eP*		**Pg**	**00 49 14.9**	**-0.1**
PTJ1				*eS*		**Sg**	**00 49 19.7**	**+1.6**
EDSV	**San Vito**	**0.44**	**19**	*eP*		**Pg**	**00 49 19.0**	**+0.1**
EDSV				*eS*		**Sb**	**00 49 27.3**	**+0.5**
BRU2	**Volcan**	**0.57**	**47**	*eP*		**Pg**	**00 49 21.2**	**-0.2**
BRU2				*eS*		**Sb**	**00 49 29.9**	**-0.8**
EDPN	**Palmar Norte**	**0.65**	**329**	*eP*		**Pg**	**00 49 21.8**	**-1.1**
DVD	**David**	**0.66**	**87**	⇑*iP*		**Pg**	**00 49 22.2**	**-0.9**
DVD				*eS*		**Sg**	**00 49 31.8**	**0.0**
EDBA	**Buenos Aires**	**0.77**	**348**	*eP*		**Pg**	**00 49 24.5**	**-0.7**
EDLM	**Las Mercedes**	**0.98**	**332**	*eP*		**Pg**	**00 49 28.0**	**-1.3**
EDDO	**Dominical**	**1.12**	**319**	*eP*		**Pb**	**00 49 30.5**	**-1.2**
LCR2	**La Lucha 2**	**1.59**	**327**	*eP*		**Pn**	**00 49 37.5**	**-1.2**
HDC	**Heredia**	**1.87**	**328**	*eP*		**Pn**	**00 49 41.3**	**-1.1**
HDC				*eS*		**Sn**	**00 50 06.9**	**+0.8**
SRA1	**San Ramn**	**2.14**	**321**	*eP*		**Pn**	**00 49 47.2**	**+1.0**
ARE1	**Arenal 1**	**2.58**	**322**	*eP*		**Pn**	**00 49 54.2**	**+2.0**
CEDE	**Laguna Cedeo**	**2.59**	**323**	*eP*		**Pn**	**00 49 53.9**	**+1.5**
JTS	**JuntasAbangare** 43nm,0.3s,baz=198,slow=19,SNR=86	**2.61**	**316**	Pn		**Pn**	**00 49 52.2**	**-0.3**
JTS				Sn		**Sn**	**00 50 24.8**	**+0.6**
JTS	15nm,0.3s,baz=54,slow=16,SNR=3.8			Lg		Lg	00 50 29.7	
JTS	**JuntasAbangare** 44nm,0.3s,baz=17,slow=19,SNR=11	**2.61**	**316**	*eP*		**Pn**	**00 49 52.0**	**-0.5**
AZU	**Azuero**	**2.88**	**102**	*eP*		**Pn**	**00 49 56.9**	**+0.7**
PLVR	**Palo Verde**	**2.93**	**311**	*eP*		**Pn**	**00 49 57.6**	**+0.5**
BCIP	**Isla Barro Col**	**3.33**	**77**	*eP*		**Pn**	**00 50 04.4**	**+2.0**
BCIP				*eS*		**Sn**	**00 50 42.5**	**+0.5**
UPA	**Univ. de Panam**	**3.59**	**81**	*eP*		**Pn**	**00 50 04.7**	**-1.3**
UPA				*eS*		**Sn**	**00 50 49.5**	**+1.1**
ACON	**Acoyapa**	**4.08**	**330**	*eP*		**Pn**	**00 50 13.9**	**+1.2**
ATAH	**Atahualpa** comp=Z,39nm,18.1s,baz=31,slow=36	**16.14**	**163**	LR		LR	00 59 27.6	
PTGA	**Pitinga** comp=Z,44nm,20.8s,baz=78,slow=40	**24.80**	**110**	LR		LR	01 05 34.1	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=139,slow=8.4,SNR=2.6	**43.53**	**319**	P		**P**	**00 57 17.0**	**+2.5**
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=141,slow=6.9,SNR=9.0	**58.64**	**344**	P		**P**	**00 59 05.4**	**-2.0**
BORG	**Borgarnes** comp=Z,22nm,18.8s,baz=5.1,slow=36	**70.62**	**24**	LR		LR	01 31 02.9	
ILAR	**Eielson Array** 0.5nm,0.8s,baz=111,slow=4.6,SNR=6.0	**71.42**	**336**	P		**P**	**01 00 30.1**	**-0.4**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=77,slow=1.2,SNR=3.1	**141.47**	**242**	PKhKP	PKPpre		01 08 34.9	

*ISCJB **03** 00:58:38.9±1.2,10.6N±0.1×126.8E±0.1,h10km,mb3.8/4, MS3.0/2,Error ellipse: s-maj=24.0km s-min=10.8km az=33.3*
*IDC **03** 00:58:42.3±3.3,9.56N×124.62E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/55,mbtmp3.6/4,MS3.0/2,Ms1 3.0/2, ms1mx2.6/26,Error ellipse: s-maj=373.4km s-min=25.2km az=67.0*

ISC 03 00:58:40.4±1.5,10.6N±0.1×126.6E±0.1,h10km,n10, σ2°45/9,mb3.8/4,2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.41**	**233**	⇓*eP*		**Pg**	**00 59 09.4**	**+1.9**
BESP	**Borongan**	**1.52**	**309**	*eP*		Pn	00 58 55.8	-12
BESP				*eS*		**Sb**	**00 59 28.4**	**+0.4**
PLP	**Palo**	**1.71**	**288**	⇓*eP*		**Pn**	**00 59 06.5**	**-3.8**
PLP				*eS*		**Sb**	**00 59 33.5**	**-0.1**
OCLP	**Ormoc**	**2.03**	**282**	*eP*		**Pb**	**00 59 17.8**	**+0.3**
KSRS	**Korea Array** comp=Z,23nm,18.2s,baz=114,slow=39	**26.73**	**2**	LR		LR	01 16 48.1	
ASAR	**Alice Springs** 0.5nm,0.9s,baz=346,slow=7.1,SNR=2.5	**34.82**	**168**	P		**P**	**01 05 30.1**	**-1.6**
MKAR	**Makanchi Array** 1.0nm,0.8s,baz=128,slow=6.4,SNR=9.7	**51.96**	**322**	P		**P**	**01 07 50.7**	**+1.0**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=150,slow=6.5,SNR=2.6	**54.48**	**331**	P		**P**	**01 08 11.7**	**+3.5**
KURBB	**Kurchatov Arra** 0.6nm,0.4s,baz=123,slow=6.9,SNR=5.4	**55.98**	**325**	P		**P**	**01 08 20.3**	**+1.3**
NRIK	**Noril'sk** comp=Z,15nm,20.0s,baz=106,slow=36	**63.75**	**346**	LR		LR	01 37 37.7	

*ISCJB **03** 01:04:31.1±1.0,11.0S±0.1×164.3E±0.1,h29km,mb3.5/5, Error ellipse: s-maj=20.5km s-min=11.1km az=34.1*
*IDC **03** 01:04:36.9±3.5,11.08S×164.16E,h67km±29km,mb3.3/5, mb1 3.6/7,mb1mx3.4/31,mbtmp3.8/7,ML4.1/2,MS3.0/1, Ms1 3.0/1,ms1mx2.6/16,Error ellipse: s-maj=30.5km s-min=21.3km az=51.0*

ISC 03 01:04:32.9±1.1,10.9S±0.1×164.4E±0.1,h29km,n13, σ1°63/8,mb3.5/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 14nm,0.3s,baz=135,slow=8.6,SNR=4.1	**4.57**	**288**	P		**Pn**	**01 05 40.9**	**+0.7**
HNR	9.3nm,0.3s,baz=131,slow=20,SNR=1.8			S		**Sn**	**01 06 33.8**	**+1.4**
HNR	comp=Z,166nm,18.6s,baz=58,slow=40			LR		LR	01 07 37.0	
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=318,slow=18,SNR=27	**11.28**	**170**	P		**Pn**	**01 07 13.7**	**+1.4**
H11S2	**WAKE ISLAND Hy** baz=184,slow=76,SNR=12	**29.30**	**5**	T		T	01 40 51.3	
H11S3	**WAKE ISLAND Hy** baz=184,slow=76,SNR=7.3	**29.31**	**5**	T		T	01 40 51.8	
H11S1	**WAKE ISLAND Hy** baz=184,slow=76,SNR=10.0	**29.32**	**5**	T		T	01 40 52.8	
WRA	**Warramunga Arr** 0.8nm,0.9s,baz=80,slow=9.1,SNR=3.6	**30.25**	**249**	P		**P**	**01 10 40.4**	**-1.1**
H11N1	**WAKE ISLAND Hy** baz=184,slow=76,SNR=11	**30.53**	**5**	T		T	01 42 25.0	
H11N3	**WAKE ISLAND Hy** baz=184,slow=76,SNR=8.8	**30.54**	**5**	T		T	01 42 27.2	
H11N2	**WAKE ISLAND Hy** baz=184,slow=76,SNR=7.2	**30.55**	**5**	T		T	01 42 26.2	
ASAR	**Alice Springs** 0.3nm,0.8s,baz=61,slow=9.9,SNR=3.1	**31.63**	**242**	P		**P**	**01 10 51.2**	**-2.6**
SONM	**Songino Array** 0.2nm,0.4s,baz=124,slow=6.8,SNR=3.2	**77.75**	**324**	P		**P**	**01 16 26.9**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.9s,baz=224,slow=4.9,SNR=6.9	**23.82**	**19**	P		**P**	**01 16 60.0**	**+0.7**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=110,slow=6.2,SNR=3.8	**92.48**	**317**	P		**P**	**01 17 40.8**	**-0.6**

*SOME **03** 01:12:38.9,45.50N×77.42E,h5km*

NNC 03 01:12:39.4±1.5,45.53N×77.42E,h0km,mb2.6,mpv2.4, 1C-1D,Error ellipse: s-maj=11.5km s-min=5.2km az=149.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARXS	**Arharly** 1.6nm,0.4s	**1.35**	**167**	P		Pg	01 13 04.5	-0.8
ARXS	4.4nm,0.3s			S		Sg	01 13 23.1	+0.4
ARXS	**Arharly** 1.6nm,0.4s	**1.35**	**167**	*eP*		Pg	01 13 04.5	-0.8
ARXS	4.4nm,0.3s			*eS*		Sg	01 13 22.8	0.0
KAPS	**Kapalarasan** 0.8nm,0.2s	**1.39**	**99**	P		Pg	01 13 05.4	-0.6
KAPS	3.3nm,0.2s			S		Sb	01 13 24.8	+0.2
KAPS	**Kapalarasan** 0.5nm,0.1s	**1.39**	**99**	*eP*		Pg	01 13 04.0	-2.0
KAPS	1.5nm,0.2s			*eS*		Sg	01 13 22.4	-1.7
CHKK	**Chushkaly** 1.2nm,0.2s	**1.70**	**190**	P		Pn	01 13 10.5	+0.1
CHKK	8.4nm,0.3s			S		Sb	01 13 33.4	-0.2
CHKK	**Chushkaly** 1.2nm,0.2s	**1.70**	**190**	*eP*		Pn	01 13 10.5	+0.1
CHKK	8.4nm,0.3s			*eS*		Sb	01 13 33.4	-0.2
KUU	**Kurty** 1.6nm,0.2s	**1.81**	**205**	P		Pn	01 13 12.0	+0.1
KUU	5.4nm,0.2s			S		Sb	01 13 36.1	-0.5
KUU	**Kurty** 1.6nm,0.2s	**1.81**	**205**	*eP*		Pn	01 13 12.1	+0.3
KUU	5.4nm,0.2s			*eS*		Sb	01 13 36.1	-0.5
KTBS	**Karatobe** 0.7nm,0.2s	**1.89**	**196**	P		Pn	01 13 13.3	+0.3
KTBS	7.0nm,0.3s			S		Sn	01 13 38.1	+0.5
KTBS	**Karatobe** 0.7nm,0.2s	**1.89**	**196**	*eP*		Pn	01 13 13.3	+0.3
KTBS	7.0nm,0.3s			*eS*		Sn	01 13 38.1	+0.5
DJR	**Jarkent** 0.3nm,0.2s	**2.07**	**125**	Pg		Pn	01 13 16.6	+1.1
DJR	1.0nm,0.4s			Lg		Lg	01 13 43.8	
DJR	**Jarkent** 0.3nm,0.1s	**2.07**	**125**	*eP*		Pn	01 13 16.6	+1.1
DJR	0.6nm,0.2s			*eS*		Sb	01 13 43.7	-0.5
KOTS	**Kotyrbulak** 3.3nm,0.6s	**2.31**	**186**	Pg		Pb	01 13 21.6	-0.4
KOTS	7.1nm,0.4s			Lg		Lg	01 13 52.3	
KOTS	**Kotyrbulak** 3.3nm,0.6s	**2.31**	**186**	*eP*		Pb	01 13 21.6	-0.4
KOTS	7.1nm,0.4s			*eS*		Sg	01 13 52.3	-1.1
MDOK	**Medeo** 0.6nm,0.3s	**2.38**	**186**	Pg		Pb	01 13 22.8	-0.5
MDOK	2.6nm,0.5s			Lg		Lg	01 13 54.2	
MDOK	**Medeo** 0.1nm,0.1s	**2.38**	**186**	*eP*		Pb	01 13 22.8	-0.5
MDOK	2.5nm,0.4s			*eS*		Sb	01 13 54.2	+1.0
PDGK	**Podgornoye** 0.3nm,0.4s	**2.66**	**145**	Pg		Pb	01 13 28.0	+0.1
PDGK	0.3nm,0.3s			Lg		Lg	01 14 03.4	
TKM2	**Tokmak 2** 1.5nm,0.7s	**2.92**	**207**	⇑Pg		Pn	01 13 29.7	+2.5
TKM2	0.7nm,0.3s			⇓Lg		Lg	01 14 19.0	

*SJA **03** 01:18:55.3±0.7,23.93S×66.87W,h212km±10km,ML2.6*
*ISCJB **03** 01:18:56.2±1.1,23.81S±0.06×66.89W±0.08, h205km±16km,Error ellipse: s-maj=12.1km s-min=8.0km az=150.6*
*GUC **03** 01:18:56.3±0.5,23.85S×67.06W,h212km±11km,ML3.8*

ISC 03 01:18:54.6±2.5,23.84S±0.06×66.83W±0.08, h219km±22km,n21,σ1°18/36,4C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.49**	**126**	*eP*		**Pn**	**01 19 30.5**	**+0.4**
SLA	comp=Z,46nm,0.5s			IAML			01 19 30.9	
LVC	**Limon Verde**	**2.27**	**302**	*eP*		**Pn**	**01 19 38.6**	**+0.9**
LVC	**Limon Verde**	**2.27**	**302**	⇑*iP*		**Pn**	**01 19 38.7**	**+0.9**
LVC				*eS*		**S**	**01 20 10.6**	**-0.5**
FSA	**Cafayete**	**2.39**	**161**	*eP*		**Pn**	**01 19 38.9**	**+0.2**
FSA	comp=Z,13nm,0.4s			IAML			01 19 39.3	
PB15	**IPOC Station P**	**2.50**	**284**	*eP*		**Pn**	**01 19 41.0**	**+1.0**
PB15				*eS*		**S**	**01 20 16.0**	**+0.8**
PB15	**IPOC Station P**	**2.50**	**284**	⇑*iP*		**Pn**	**01 19 41.0**	**+1.0**
PB15				*eS*		**S**	**01 20 14.7**	**-0.5**
PB15	comp=E,378nm,0.3s			IAML			01 20 19.5	
PB06	**IPOC Station P**	**2.76**	**294**	*eP*		**Pn**	**01 19 43.7**	**+0.9**
PB06				*eS*		**S**	**01 20 19.2**	**-1.0**
PB06	**IPOC Station P**	**2.76**	**294**	⇑*eP*		**Pn**	**01 19 43.7**	**+0.9**
PB06				*eS*		**S**	**01 20 19.2**	**-1.0**
PB06	comp=N,118nm,0.1s			IAML			01 20 22.7	
GO02	**Mina Guanaco**	**2.84**	**242**	⇑*iP*		**Pn**	**01 19 44.6**	**+0.9**
GO02				*eS*		**S**	**01 20 21.8**	**-0.1**
GO02	comp=N,303nm,0.4s			IAML			01 20 22.8	
PB09	**IPOC Station P**	**3.02**	**312**	*eP*		**Pn**	**01 19 47.0**	**+1.4**
PB09				*eS*		**S**	**01 20 25.2**	**-0.2**
PB09	**IPOC Station P**	**3.02**	**312**	*eP*		**Pn**	**01 19 46.9**	**+1.2**
PB09				*eS*		**S**	**01 20 25.8**	**+0.4**
PB09	comp=N,64nm,0.4s			IAML			01 20 30.6	
PB14	**IPOC Station P**	**3.35**	**256**	*eP*		**Pn**	**01 19 50.2**	**+0.5**
PB14				*eS*		**S**	**01 20 31.5**	**-1.1**
PB04	**IPOC Station P**	**3.41**	**296**	*eP*		**Pn**	**01 19 51.0**	**+0.9**
PB04				*eS*		**S**	**01 20 32.1**	**-1.3**
PB04	**IPOC Station P**	**3.41**	**296**	*eP*		**Pn**	**01 19 50.8**	**+0.6**
PB04				*eS*		**S**	**01 20 32.2**	**-1.3**
PB10	**IPOC Station P**	**3.43**	**275**	*eP*		**Pn**	**01 19 51.1**	**+0.9**
PB10	**IPOC Station P**	**3.43**	**275**	*i P*		**Pn**	**01 19 51.1**	**+0.9**
PB10				*eS*		**S**	**01 20 32.8**	**-0.9**
PB07	**IPOC Station P**	**3.52**	**306**	*eP*		**Pn**	**01 19 52.2**	**+0.7**
PB07				*eS*		**S**	**01 20 33.7**	**-2.3**
PB01	**IPOC Station P**	**3.72**	**318**	*eP*		**Pn**	**01 19 54.4**	**+0.6**
PB01				*eS*		**S**	**01 20 38.0**	**-2.1**
PB02	**IPOC Station P**	**3.79**	**311**	*eP*		**Pn**	**01 19 55.4**	**+0.8**
PB02				*eS*		**S**	**01 20 38.9**	**-2.7**
PB08	**IPOC Station P**	**4.27**	**329**	*eP*		**Pn**	**01 20 02.9**	**+2.1**
PB11	**IPOC Station P**	**4.84**	**327**	⇓*eP*		**Pn**	**01 20 08.1**	**+0.4**

*KRNET **03** 01:26:10.9±0.1,43.51N×77.82E,h24km,mb2.5*
*NNC **03** 01:26:10.4±0.3,43.45N×77.83E,h8km±2km,mb3.0, mpv2.7,Error ellipse: s-maj=3.8km s-min=1.7km az=169.0*
*ISCJB **03** 01:26:11.4±0.5,43.47N±0.03×77.81E±0.02,h7km±4km, Error ellipse: s-maj=4.3km s-min=2.9km az=169.8*
*SOME **03** 01:26:11.6,43.45N×77.83E,h20km*

ISC 03 01:26:10.6±1.0,43.50N±0.02×77.86E±0.01,h13km±9km, n44,σ0°50/80,15C-8D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURS	**Kuram** 8.0nm,0.7s	**0.23**	**92**	P		**Pb**	**01 26 17.3**	**+0.6**
KURS	9.3nm,0.4s			S		**Sb**	**01 26 21.7**	**+0.9**
KURS	**Kuram** baz=94	**0.23**	**92**	*eP*		**Pb**	**01 26 17.3**	**+0.6**
KURS	baz=94			*eS*		**Sb**	**01 26 21.6**	**+0.9**
KURS	**Kuram** 3.4nm,0.0s	**0.23**	**92**	*eP*		**Pb**	**01 26 17.3**	**+0.6**
KURS	11nm,0.3s			*eS*		**Sb**	**01 26 21.7**	**+0.9**
KOTS	**Kotyrbulak** 8.7nm,0.1s	**0.60**	**244**	P		**Pb**	**01 26 22.8**	**-0.3**
KOTS	76nm,0.2s			S		**Sg**	**01 26 30.9**	**+0.5**
KOTS	**Kotyrbulak** baz=42	**0.60**	**244**	*eP*		**Pb**	**01 26 22.8**	**-0.3**
KOTS	baz=42			*eS*		**Sg**	**01 26 30.9**	**+0.5**
KOTS	**Kotyrbulak** 8.7nm,0.1s	**0.60**	**244**	*eP*		**Pb**	**01 26 22.8**	**-0.3**
KOTS	76nm,0.2s			*eS*		**Sg**	**01 26 30.9**	**+0.5**
MDOK	**Medeo** 5.0nm,0.5s	**0.68**	**241**	⇑P		**Pg**	**01 26 23.4**	**-0.4**
MDOK	8.3nm,0.5s			⇓S		**Sg**	**01 26 32.5**	**-0.3**
MDOK	**Medeo** 8.4nm,0.2s	**0.68**	**241**	Pg		**Pg**	**01 26 23.8**	**0.0**
MDOK	7.9nm,0.2s			Lg		Lg	01 26 32.6	
MDOK	**Medeo** baz=39	**0.68**	**241**	*eP*		**Pg**	**01 26 23.8**	**0.0**
MDOK	baz=39			*eS*		**Sg**	**01 26 32.6**	**-0.1**
MDOK	**Medeo** 8.4nm,0.2s	**0.68**	**241**	*eP*		**Pg**	**01 26 23.8**	**0.0**
MDOK	7.9nm,0.2s			*eS*		**Sg**	**01 26 32.6**	**-0.1**
ARXS	**Arharly** 4.1nm,0.1s	**0.72**	**358**	P		Pn	**01 26 25.9**	**-0.7**
ARXS	14nm,0.2s			S		**Sb**	**01 26 36.0**	**+1.2**
ARXS

baz=12
UZB Uzynbulak 0.92 112 *e*P **Pb 01 26 28.4 -0.1**
2.8nm,0.1s
UZB *e*S **Sb 01 26 40.5 -0.3**
13nm,0.1s
PRZ Przheval'sk 1.09 158⇑*i*P **Pn 01 26 31.9 +0.2**
baz=57
PRZ ⇑*i*S **Sn 01 26 46.5 -0.3**
baz=57
MTBS Maitube 1.10 251 P **Pb 01 26 31.5 -0.1**
8.7nm,0.1s
MTBS S **Sb 01 26 45.7 -0.3**
9.0nm,0.2s
MTBS Maitube 1.10 251 *e*P **Pb 01 26 31.5 -0.1**
baz=50
MTBS ⇑*i*S **Sb 01 26 45.7 -0.3**
baz=50
MTBS Maitube 1.10 251 *e*P **Pb 01 26 31.5 -0.1**
8.7nm,0.1s
MTBS ⇑*i*S **Sb 01 26 45.7 -0.3**
9.0nm,0.2s
KUU Kurty 1.17 290 P **Pb 01 26 32.9 +0.2**
1.4nm,0.1s
KUU S **Sb 01 26 48.1 +0.3**
15nm,0.2s
KUU Kurty 1.17 290 *e*P **Pb 01 26 32.9 +0.2**
baz=90
KUU ⇑*i*S **Sb 01 26 48.1 +0.3**
baz=90
KUU Kurty 1.17 290 *e*P **Pb 01 26 32.9 +0.2**
1.4nm,0.1s
KUU ⇑*i*S **Sb 01 26 48.1 +0.3**
15nm,0.2s
PDGK Podgornoye 1.20 97 P **Pb 01 26 33.4 +0.1**
1.5nm,0.2s
PDGK S **Sn 01 26 49.2 -0.4**
2.8nm,0.2s
PDGK Podgornoye 1.20 97 ⇓P **Pb 01 26 33.2 -0.1**
1.2nm,0.4s
PDGK ⇑S **Sb 01 26 48.8 0.0**
1.4nm,0.4s
PDGK Podgornoye 1.20 97⇑*i*P **Pb 01 26 33.4 +0.1**
baz=98
PDGK ⇑*i*S **Sg 01 26 49.3 -0.1**
baz=98
SHLS Shalkode 1.22 106 P **Pg** 01 26 39.4 +5.3
3.4nm,0.3s
SHLS S **Sg** 01 26 59.3 +9.3
4.5nm,0.4s
SHLS Shalkode 1.22 106 *e*P **Pg** 01 26 39.4 +5.3
baz=2.0
SHLS *e*S **Sg** 01 26 59.3 +9.3
baz=2.0
SHLS Shalkode 1.22 106 *e*P **Pg** 01 26 39.4 +5.3
0.8nm,0.2s
SHLS *e*S **Sg** 01 26 59.3 +9.3
4.0nm,0.3s
KDJ Kajisay 1.45 200⇓*i*P **Pb 01 26 37.9 +0.3**
baz=99
KDJ ⇓*i*S **Sg 01 26 56.7 -0.7**
baz=99
DGS Degeres 1.54 261 P **Pn 01 26 37.8 -0.1**
1.9nm,0.3s
DGS S **Sn 01 26 56.5 -1.3**
6.8nm,0.1s
DJR Jarkent 1.63 58 P **Pg 01 26 41.7 -0.2**
0.4nm,0.1s
DJR S **Sg 01 27 03.2 +0.2**
2.9nm,0.4s
DJR Jarkent 1.63 58 *e*P **Pg 01 26 41.7 -0.2**
0.2nm,0.1s
DJR *e*S **Sg 01 27 03.2 +0.2**
2.7nm,0.5s
ULHL Ulahol 1.72 224⇑*i*P **Pb 01 26 41.9 -0.4**
baz=23
ULHL ⇑*i*S **Sb 01 27 03.9 0.0**
baz=23
BOOM Boomskoye usch 1.73 235⇓*i*P **Pb 01 26 42.0 -0.3**
baz=34
BOOM ⇓*i*S **Sb 01 27 04.1 +0.1**
baz=34
TKM2 Tokmak 2 1.75 252 ⇓Pn **Pn 01 26 41.3 +0.4**
1.7nm,0.5s
TKM2 ⇑Sn **Sb 01 27 04.8 +0.2**
0.7nm,0.3s
KAPS Kapalarasan 2.09 31 Pg **Pg 01 26 49.7 -1.0**
0.7nm,0.3s
KAPS Lg Lg 01 27 17.1
2.9nm,0.2s
KAPS Kapalarasan 2.09 31 *e*P **Pg 01 26 49.6 -1.0**
0.7nm,0.3s
KAPS ⇓*e*S **Sg 01 27 17.1 -0.6**
2.9nm,0.2s
KBK Karagaybulak 2.29 250⇑*i*P **Pn 01 26 49.9 +1.6**
baz=49
KBK ⇑*i*S **Sn 01 27 17.6 +1.2**
baz=49

KRSC 03 02:15:25.3±10.0, 50.91N×158.14E, h41km±10km, ML4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.90**	**357**	*e*P	Pn	02 15 43.0	+1.6
KDTR				*e*S	Sn	02 15 54.3	+1.1
PAU	**Pauzhetka**	**1.00**	**304**	*e*P	Pn	02 15 44.3	+1.4
PAU				*e*S	Sn	02 15 56.5	+0.7
SKR	**Severo-Kuril's**	**1.30**	**261**	*e*P	Pn	02 15 48.2	+1.2
SKR				*e*S	Sn	02 16 03.5	+0.3
RUS	**Russkaya**	**1.54**	**9**	*e*P	Pn	02 15 51.6	+1.4
RUS				*e*S	Sn	02 16 09.9	+0.9
MTVR	**Mutnovka**	**1.57**	**1**	*e*P	Pn	02 15 52.7	+1.9
MTVR				*e*S	Sn	02 16 11.6	+1.6
GRL	**Gorelyy**	**1.64**	**359**	*e*S	Sn	02 16 13.6	+1.9
KRMR	**Karymshinskiy**	**1.92**	**360**	*e*P	Pn	02 15 58.3	+2.9
KRMR				*e*S	Sn	02 16 22.1	+3.8
APC	**Apacha**	**2.10**	**344**	*e*P	Pn	02 16 00.7	+2.7
APC				S	Sn	02 16 26.6	+3.7
DALK	**Dalny**	**2.15**	**10**	*e*P	Pn	02 16 00.9	+2.2
DALK				*e*S	Sn	02 16 25.8	+1.7
UGLR	**Uglovaya**	**2.34**	**10**	P	Pn	02 16 04.4	+3.1
NLC	**Nalytchevo**	**2.38**	**18**	*e*S	Sn	02 16 31.9	+2.2
AVH	**Avacha**	**2.38**	**9**	*e*P	Pn	02 16 05.2	+3.3
AVH				S	Sn	02 16 34.8	+4.9
SMAR	**Somma**	**2.39**	**10**	*e*P	Pn	02 16 05.2	+3.1
KOK	**Koryaka**	**2.40**	**7**	*e*P	Pn	02 16 05.7	+3.5
KOK				S	Sn	02 16 34.4	+4.0
SDLR	**Sedlovina**	**2.41**	**11**	*e*P	Pn	02 16 04.8	+2.5
SDLR				*e*S	Sn	02 16 33.6	+2.9
KRX	**Arik**	**2.47**	**7**	*e*P	Pn	02 16 06.4	+3.2
KRX				S	Sn	02 16 37.1	+5.0
SPN	**Mys Shipunski**	**2.48**	**27**	*e*S	Sn	02 16 33.7	+1.6
GNL	**Ganaly**	**2.79**	**358**	*e*P	Pn	02 16 11.0	+3.5
GNL				*e*S	Sn	02 16 45.2	+5.3

*ISCJB **03** 02:27:09.7±0.2, 10.13S±0.04×161.18E±0.04, h85km, mb4.7/90, Error ellipse: s-maj=6.4km s-min=5.2km az=155.6*
*BJI **03** 02:27:11.1, 10.02S×161.48E, h104km, mb4.7/28, mB5.2/18*
*GCMT **03** 02:27:11.3±0.3, 10.18S±0.03×161.40E±0.02, h82km±3km, MW5.0/68, Moment Tensor Solution. s31,c31; s68,c85; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.13±.19; Mθθ=0.08±.20; Mφφ=0.05±.20; Mrθ=-0.53±.11; Mθφ=3.53±.19; Mφr=2.13±.09; Best double couple: M=4.14500×10^16 NP1: φs=181.00000°, δ85.00000°, λ=-149.00000°. NP2: φs=88.00000°, δ59.00000°, λ=-6.00000°. Principal axes: T 3.9490, Plg17.0000°, Azm311.0000°; N 0.3910, Plg59.0000°, Azm189.0000°; P -4.3400, Plg25.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 02:27:13.3±0.5, 10.18S×161.27E, h107km±4km, mb4.8/68 Error ellipse: s-maj=3.7km s-min=3.3km az=141.0*
*IDC **03** 02:27:13.6±1.5, 10.18S×161.33E, h110km±11km, mb4.2/19, mb1 4.4/20, mb1mx4.2/40, mbtmp4.6/20, MS3.6/10, Ms1 3.6/10, ms1mx3.3/30, Error ellipse: s-maj=17.4km s-min=12.7km az=96.0*
ISC 03 02:27:10.4±0.4, 10.25S±0.05×161.49E±0.06, h85km, n193, σ1s37/192, mb4.8/90, 1C-1D, Bougainville-Solomon

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.72**	**298**	*i* P	Pn	**02 27 40.0**	**+1.2**
HNR				*i* S	Sn	**02 27 55.0**	**-5.3**
HNR	**Honiara**	**1.72**	**298**	*e*Pn	Pn	**02 27 39.8**	**+1.0**
HNR				S	Sn	**02 28 02.0**	**+1.7**
HNR	**Honiara**	**1.72**	**298**	P	Pn	**02 27 40.1**	**+1.4**
	1μm,0.3s,baz=149,slow=1.7,SNR=263						
HNR				S	Sn	**02 28 02.0**	**+1.7**
	3μm,0.3s,baz=167,slow=23,SNR=27						
DZM	**Mont Dzumac**	**12.68**	**159**	*e*Pn	P	**02 30 13.4**	**-2.2**
	84nm,0.8s						
DZM				*e*Sn	Sn	**02 32 22.8**	**-4.3**
	35nm,0.6s						
DZM				*e*LR	LR	02 33 04.0	
	comp=Z,566nm,27.6s						
DZM	**Mont Dzumac**	**12.68**	**159**	P	P	**02 30 12.9**	**-2.8**
	5.3nm,0.3s,baz=46,slow=11,SNR=97						
DZM				LR	LR	02 34 51.5	
	comp=Z,375nm,18.6s,baz=16,slow=36						
MARNC	**Mare, Loyalty**	**12.82**	**151**	*e*Pn	Pn	**02 30 13.4**	**+4.0**
ONTNC	**Ouen Toro**	**12.90**	**159**	*e*Pn	Pn	**02 30 13.3**	**+2.7**
TARA	**Tarawa**	**16.20**	**45**	*e*Pn	P	**02 30 56.0**	**+1.3**
	118nm,0.6s						
TARA				*e*Sn	Sn	**02 33 46.6**	**-5.7**
MANU	**Manus Island**	**16.22**	**299**	*e*Pn	Pn	**02 30 53.2**	**-0.2**
	293nm,1.9s						
PATS	**Pohnpei**	**17.26**	**349**	*e*P	P	**02 31 06.1**	**-0.3**
	186nm,1.0s						
CTA	**Charters Tower**	**17.64**	**235**	P	Pn	**02 31 14.3**	**+3.5**
	5.3nm,0.3s,baz=59,slow=12,SNR=42						
CTAO	**Charters Tower**	**17.64**	**235**	*e*P	Pn	**02 31 13.8**	**+3.0**
	38nm,1.1s						
COEN	**Coen**	**18.28**	**257**	*e*P	P	**02 31 17.7**	**0.0**
	49nm,1.0s						
KWAJ	**Kwajalein Atol**	**19.88**	**18**	*e*P	P	**02 31 36.0**	**+0.9**
WRAB	**Tennant Creek**	**27.87**	**247**	*e*P	P	**02 32 51.7**	**-0.8**
	14nm,0.7s						
WB2	**Warramunga Arr**	**27.88**	**247**	*e*P	P	**02 32 51.6**	**-0.9**
WRA	**Warramunga Arr**	**27.89**	**247**	P	P	**02 32 52.3**	**-0.2**
	6.0nm,0.4s,baz=73,slow=9.2,SNR=148						
WRA				ScP	ScP	**02 39 37.7**	**-2.2**
	0.4nm,0.4s,baz=74,slow=3.7,SNR=4.7						
WRA				LR	LR	02 43 39.1	
	comp=Z,100nm,18.2s,baz=65,slow=36						
STKA	**Stephens Creek**	**28.32**	**218**	P	P	**02 32 57.2**	**+1.0**
	2.1nm,0.5s,baz=64,slow=14,SNR=9.9						
STKA				LR	LR	02 42 58.1	
	comp=Z,340nm,21.3s,baz=40,slow=33						
H11S2	**WAKE ISLAND Hy**	**29.02**	**10**	T	T	03 01 57.7	
	baz=194,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**29.02**	**10**	T	T	03 01 57.0	
	baz=194,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**29.03**	**10**	T	T	03 01 58.2	
	baz=194,slow=76,SNR=19						
AS01	**Alice Springs**	**29.45**	**240**	*e*P	P	**02 33 05.1**	**-1.3**
AS31	**Alice Springs**	**29.49**	**240**	*e*P	P	**02 33 05.9**	**-0.9**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**29.49**	**240**	P	P	**02 33 05.8**	**-1.0**
	4.6nm,0.6s,baz=62,slow=10.0,SNR=48						
ASAR				ScP	ScP	**02 39 42.3**	**-2.7**
	0.6nm,0.7s,baz=69,slow=2.9,SNR=5.0						
ASAR				LR	LR	02 44 29.4	
	comp=Z,125nm,18.9s,baz=66,slow=35						
H11N1	**WAKE ISLAND Hy**	**30.25**	**10**	T	T	03 04 03.1	
	baz=193,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	**30.25**	**10**	T	T	03 03 57.4	
	baz=193,slow=76,SNR=21						
H11N2	**WAKE ISLAND Hy**	**30.26**	**10**	T	T	03 03 54.9	
	baz=193,slow=76,SNR=26						
BBOO	**Buckleboo**	**32.45**	**222**	*e*P	P	**02 33 33.3**	**+0.7**
	36nm,1.4s						
FITZ	**Fitzroy Crossi**	**35.57**	**253**	*e*P	P	**02 33 59.2**	**-0.6**
	9.9nm,0.6s						
MORW	**Morawa**	**46.37**	**240**	*e*P	P	**02 35 28.0**	**-0.5**
	30nm,1.5s						
JAGI	**Jajag, Banyuwa**	**46.71**	**268**	*e*P	P	**02 35 28.6**	**-2.7**
	51nm,0.7s						
JHJ	**Hachijo jima 2**	**47.83**	**335**	LR	LR	02 55 01.0	
	comp=Z,64nm,18.6s,baz=57,slow=35						
PPT	**Papeete**	**47.95**	**104**	LR	LR	02 50 59.1	
	comp=Z,54nm,20.3s,baz=295,slow=30						
PPT2	**Papeete2**	**47.95**	**104**	*e*LR	LR	02 49 01.8	
	comp=Z,196nm,26.2s						
TBI	**Tubuai**	**48.51**	**112**	*e*LR	LR	02 49 18.0	
	comp=Z,132nm,28.8s						
MJAR	**Matsushiro Arr**	**51.44**	**336**	P	P	**02 36 05.5**	**-1.5**
	1.4nm,0.5s,baz=170,slow=8.7,SNR=12						
MJAR				LR	LR	02 56 43.1	
	comp=Z,34nm,21.9s,baz=175,slow=34						
MAJO	**Matsushiro**	**51.44**	**336**	*e*P	P	**02 36 05.8**	**-1.2**
	5.2nm,0.5s						
JNU	**Nakatsue**	**52.06**	**327**	P	P	**02 36 11.2**	**-0.5**
	13nm,0.9s,baz=166,slow=4.8,SNR=6.0						
JNU				LR	LR	02 54 56.9	
	comp=Z,31nm,19.8s,baz=114,slow=32						
ASAJ	**Asahikawa**	**56.76**	**344**	P	P	**02 36 46.4**	**+0.8**
	7.5nm,0.3s,baz=191,slow=9.5,SNR=8.2						
KSRS	**Korea Array**	**56.93**	**328**	P	P	**02 36 46.2**	**-0.6**
	5.4nm,0.9s,baz=142,slow=7.8,SNR=17						
KSRS				LR	LR	03 01 01.3	
	comp=Z,50nm,18.4s,baz=142,slow=36						
KSAR	**Wonju Array Be**	**56.94**	**328**	P	P	**02 36 46.2**	**-0.7**
KS01	**Wonju Array Si**	**56.96**	**328**	*e*P	P	**02 36 46.5**	**-0.6**
NJ2	**Nanjing**	**58.56**	**318**	*e*P	P	**02 36 58.0**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**60.44**	**336**	*e*P	P	**02 37 11.1**	**0.0**
USRK	**Ussuriysk Ar.**	**60.44**	**336**	P	P	**02 37 11.2**	**+0.1**
	18nm,1.1s,baz=174,slow=3.9,SNR=10.0						
WHN	**Wuhan**	**60.77**	**314**	P	P	**02 37 13.5**	**-0.1**
MDJ	**Mudanjiang**	**61.77**	**335**	*e*P	P	**02 37 20.2**	**+0.2**
	3.3nm,0.3s						
CN2	**Changchun**	**62.98**	**331**	*e*P	P	**02 37 27.7**	**-0.4**
CN2				*e*PP	PP	**02 39 49.0**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,380nm,8.0s						
GSI	**Gunungsitoli**	**64.61**	**276**	*e*P	P	**02 37 38.1**	**-1.5**
	9.4nm,0.7s						
XAN	**Xi'an**	**66.53**	**314**	*e*P	P	**02 37 50.1**	**-1.4**
	20nm,0.4s						
VNDA	**Vanda**	**67.25**	**180**	P	P	**02 37 56.7**	**+1.3**
	1.5nm,0.7s,baz=340,slow=6.7,SNR=8.1						
CMAR	**Chiang Mai Arr**	**67.97**	**295**	P	P	**02 38 01.1**	**+0.2**
	0.6nm,0.3s,baz=131,slow=6.2,SNR=4.4						
HHC	**Hu-ho-hao-te**	**68.56**	**321**	*e*P	P	**02 38 05.0**	**+0.7**
HHC				sP	sP	02 38 46.6	+12
HHC				PP	PP	**02 40 36.0**	**-0.8**
HHC				S	S	**02 47 02.2**	**+2.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,6.8s						
CD2	**Chengdu**	**68.82**	**309**	P	P	**02 38 04.8**	**-1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
LZH	**Lanzhou**	**71.15**	**314**	*e*P	P	**02 38 22.4**	**+2.0**
LZH				pP	pwP	02 38 47.1	+3.0
LZH				sP	sP	02 38 57.9	+7.0
LZH				PP	PP	**02 40 59.8**	**+0.5**
LZH				pmax	pmax		
	comp=Z,29nm,1.4s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
GTA	**Gaotai**	**75.52**	**315**	P	P	**02 38 45.9**	**0.0**
GTA				pP	pwP	02 39 12.7	+3.0
GTA				sP	sP	02 39 20.7	+4.0
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
SONM	**Songino Array**	**75.59**	**325**	P	P	**02 38 46.2**	**+0.1**
	7.8nm,0.5s,baz=141,slow=6.1,SNR=36						
SONA1	**Songino Array**	**75.59**	**325**	*e*P	P	**02 38 45.5**	**-0.6**
KDAK	**Kodiak Island**	**77.44**	**23**	P	P	**02 38 56.9**	**+0.8**
	9.9nm,0.7s,baz=159,slow=5.2,SNR=5.0						
BILL	**Bilibino**	**78.16**	**2**	*e*P	P	**02 38 59.5**	**-0.5**
	5.7nm,0.9s						
SVW2	**Sparrevohn**	**78.72**	**20**	*e*P	P	**02 39 04.0**	**+0.8**
	23nm,0.8s						
TLY	**Talaya**	**79.17**	**328**	*e*P	P	**02 39 05.3**	**-0.6**
	5.4nm,0.9s						
QSPA	**South Pole Qui**	**79.75**	**180**	*e*P	P	**02 39 09.2**	**+0.2**
SUA	**Susitna One**	**80.64**	**21**	*e*P	P	**02 39 14.0**	**+0.3**
	356nm,0.5s						

PMR	**Palmer**	**81.30**	**22**	*e*P	P	**02 39 17.7**	**+0.6**
	20nm,0.6s						
CAST	**Castle Rocks**	**81.53**	**19**	*e*P	P	**02 39 18.5**	**+0.2**
	14nm,0.7s						
SCM	**Sheep Creek Mo**	**82.12**	**22**	*e*P	P	**02 39 21.8**	**+0.3**
	29nm,0.8s						
KLU	**Klutina**	**82.43**	**23**	*e*P	P	**02 39 23.6**	**+0.5**
	11nm,0.5s						
MCK	**McKinley**	**82.78**	**20**	*e*P	P	**02 39 25.1**	**+0.2**
	19nm,0.9s						
MCK				*ep*P	pwP	**02 39 51.4**	**+2.1**
IM3	**Indian Mountai**	**82.83**	**17**	*e*P	P	**02 39 24.6**	**-0.4**
IM3				*ep*P	pwP	**02 39 51.6**	**+2.2**
MLY	**Manley**	**83.07**	**18**	*e*P	P	**02 39 27.0**	**+0.7**
	6.8nm,0.8s						
WRH	**Wood River Hil**	**83.55**	**20**	*e*P	P	**02 39 28.4**	**-0.3**
	5.5nm,0.8s						
BALM	**Baldy**	**83.55**	**24**	*e*P	P	**02 39 29.1**	**+0.1**
	9.9nm,0.8s						
CCB	**Clear Creek Bu**	**83.75**	**20**	*e*P	P	**02 39 29.6**	**-0.2**
	4.7nm,0.8s						
MDM	**Murphy Dome**	**83.82**	**19**	*e*P	P	**02 39 30.0**	**-0.1**
	6.3nm,0.8s						
MAW	**Mawson**	**83.87**	**202**	LR	LR	03 12 14.8	
	comp=Z,26nm,21.3s,baz=295,slow=32						
TCOL	**CIGO, UAF Yank**	**83.88**	**19**	P	P	**02 39 29.9**	**-0.5**
	baz=230						
COLA	**College**	**83.88**	**19**	*e*P	P	**02 39 29.7**	**-0.7**
	13nm,0.6s						
HDA	**Harding Lake**	**83.89**	**20**	*e*P	P	**02 39 30.8**	**+0.3**
	8.9nm,0.8s						
HDA	**Harding Lake**	**83.89**	**20**	P	P	**02 39 30.4**	**-0.1**
	baz=231						
MENT	**Mentasta**	**84.13**	**22**	*e*P	P	**02 39 32.5**	**+0.7**
	5.6nm,0.6s						
ILAR	**Eielson Array**	**84.14**	**20**	P	P	**02 39 31.2**	**-0.5**
	2.2nm,0.6s,baz=245,slow=4.8,SNR=38						
ILB	**Eielson Array**	**84.14**	**20**	*e*P	P	**02 39 31.5**	**-0.3**
IL1	**Eielson Array**	**84.14**	**20**	*e*P	P	**02 39 31.0**	**-0.7**
POKR	**Poker Plat Res**	**84.18**	**19**	P	P	**02 39 31.6**	**-0.3**
	baz=230						
RIDG	**Independ'e Rid**	**84.20**	**21**	*e*P	P	**02 39 33.0**	**+0.9**
	7.4nm,0.6s						
DOT	**Dot Lake**	**84.42**	**21**	*e*P	P	**02 39 33.8**	**+0.5**
	8.5nm,0.7s						
HYT	**Haines Junctio**	**85.43**	**25**	*e*P	P	**02 39 39.3**	**+0.8**
	4.2nm,0.7s						
WMQ	**Urumqi**	**85.59**	**316**	*e*P	P	**02 39 39.9**	**+0.3**
WMQ				LR	LR		
	comp=N,11μm,22.7s						
WMQ				LR	LR		
	comp=E,3μm,20.7s						
WMQ				LR	LR		
	comp=Z,2μm,19.9s						
TOLK	**Toolik Lake Re**	**85.85**	**16**	P	P	**02 39 39.2**	**-1.1**
	baz=228						
O02D	**Mt. Diablo Mer**	**85.85**	**48**	P	P	**02 39 42.6**	**+1.6**
	baz=253						
L02E	**Cave Junction**	**85.85**	**46**	P	P	**02 39 42.0**	**+1.1**
	baz=252						
J01E	**Myrtle Point**	**85.93**	**45**	P	P	**02 39 42.1**	**+0.9**
	baz=252						
K02D	**Willamette Mer**	**85.97**	**46**	P	P	**02 39 42.8**	**+1.2**
	baz=252						
EGAK	**Eagle**	**86.11**	**21**	*e*P	P	**02 39 42.2**	**+0.6**
	22nm,1.5s						
N02D	**Trinity Center**	**86.14**	**47**	P	P	**02 39 43.8**	**+1.4**
	baz=253						
M02C	**Callahan**	**86.16**	**47**	P	P	**02 39 44.1**	**+1.7**
	baz=253						
DAWY	**Dawson**	**86.37**	**22**	*e*P	P	**02 39 43.9**	**+1.0**
	12nm,1.2s						
HUMO	**Hull Mountain**	**86.44**	**46**	*e*P	P	**02 39 45.2**	**+1.4**
I03D	**Drain, OR**	**86.50**	**45**	P	P	**02 39 45.3**	**+1.4**
	baz=253						
O03E	**Paynes Creek**	**86.61**	**48**	P	P	**02 39 46.0**	**+1.3**
	baz=254						
ORV	**Oroville**	**86.62**	**49**	*e*P	P	**02 39 45.4**	**+0.7**
	15nm,1.8s						
L04D	**Klamath Falls**	**86.79**	**46**	P	P	**02 39 47.3**	**+1.7**
	baz=253						
AFDM	**Forest Hills D**	**86.85**	**50**	*e*P	P	**02 39 47.4**	**+1.5**
	6.8nm,1.2s						
M04C	**Macdoel**	**87.00**	**47**	P	P	**02 39 48.2**	**+1.5**
	baz=254						
CMB	**Columbia Colle**	**87.05**	**51**	*e*P	P	**02 39 48.3**	**+1.4**
	4.4nm,1.3s						
J04D	**Umpqua Nationa**	**87.22**	**45**	P	P	**02 39 49.3**	**+1.5**
	baz=253						
BEKR	**Beckworth**	**87.56**	**49**	*e*P	P	**02 39 50.9**	**+1.5**
	16nm,1.5s						
J05D	**Fort Rock, OR**	**87.85**	**45**	P	P	**02 39 52.3**	**+1.5**
	baz=254,SNR=5.6						
MWC	**Mount Wilson**	**87.92**	**55**	*e*P	P	**02 39 52.7**	**+1.4**
	16nm,1.2s						
ISA	**Isabella, Lake**	**87.94**	**53**	P	P	**02 39 52.5**	**+1.3**
	baz=256						
EDW2	**Edwards Air Fo**	**88.13**	**54**	P	P	**02 39 53.1**	**+1.0**
	baz=256						
MOD	**Modoc Plateau**	**88.14**	**47**	*e*P	P	**02 39 52.6**	**+0.5**
	8.3nm,1.2s						
PAHR	**Pah Rah Range**	**88.24**	**49**	*e*P	P	**02 39 53.3**	**+0.7**
	29nm,2.0s						
BFSC	**Mount Baldy Ra**	**88.25**	**55**	P	P	**02 39 53.6**	**+0.9**
	baz=257						
CWC	**Cottonwood Cre**	**88.43**	**53**	P	P	**02 39 55.0**	**+1.3**
	baz=256						
LRMC	**Laurel Mtn Rad**	**88.52**	**54**	P	P	**02 39 55.6**	**+1.6**
	baz=256						
EPYK	**Eagle Plains**	**88.52**	**21**	*e*P	P	**02 39 54.2**	**+1.0**
	8.9nm,0.7s						
EPYK	**Eagle Plains**	**88.52**	**21**	P	P	**02 39 54.6**	**+1.4**
	baz=240						
RYN	**Ryan**	**88.62**	**50**	*e*P	P	**02 39 55.3**	**+0.8**
	5.2nm,0.9s						
NV01	**Mina Array Sit**	**88.74**	**51**	*e*P	P	**02 39 56.2**	**+1.1**
NVAR	**Mina Array Bea**	**88.74**	**51**	P	P	**02 39 56.3**	**+1.2**
	4.1nm,0.8s,baz=235,slow=6.8,SNR=25						
DAC	**Darwin (Calif)**	**88.78**	**53**	*e*P	P	**02 39 56.6**	**+1.3**
	10nm,1.4s						
MPMC	**Manual Prospec**	**88.81**	**53**	P	P	**02 39 56.8**	**+1.4**
	baz=257						
NV11	**Mina Array Sit**	**88.85**	**51**	*e*P	P	**02 39 56.5**	**+0.9**
	0.5nm,1.0s						
MONP2	**Monument Peak**	**88.95**	**56**	P	P	**02 39 57.8**	**+1.6**
	baz=257,SNR=6.8						
KVN	**Kaiserville**	**89.04**	**50**	*e*P	P	**02 39 57.8**	**+1.3**
	35nm,1.8s						
PFO	**Pinyon Flats O**	**89.08**	**56**	P	P	**02 39 58.2**	**+1.5**
	baz=257						
GRAC	**Grapevine Rang**	**89.12**	**52**	P	P	**02 39 58.2**	**+1.5**
	baz=257						
IKP	**In-Ko-Pah, Jac**	**89.15**	**57**	P	P	**02 39 58.3**	**+1.3**
	baz=258						
GSC	**Goldstone, Bar**	**89.17**	**54**	*e*P	P	**02 39 57.9**	**+0.8**
	8.1nm,1.3s						
GSC	**Goldstone, Bar**	**89.17**	**54**	P	P	**02 39 58.3**	**+1.3**
	baz=257						
FURC	**Furnace Creek,**	**89.39**	**53**	P	P	**02 39 59.5**	**+1.6**
	baz=257,SNR=7.3						
HEC	**Hector,Ludlow**	**89.44**	**55**	P	P	**02 39 59.7**	**+1.4**
	baz=257						
SWSC	**Sam W. Stewart**	**89.47**	**57**	P	P	**02 39 59.9**	**+1.6**
	baz=258,SNR=5.1						
WVOR	**Wild Horse Val**	**89.47**	**47**	*e*P	P	**02 39 59.0**	**+0.7**
	17nm,1.4s						
BELC	**Belle Mtn. Jos**	**89.53**	**55**	P	P	**02 40 00.4**	**+1.5**
	baz=258,SNR=6.9						
SHOC	**Shoshone, Teco**	**89.73**	**54**	P	P	**02 40 00.8**	**+1.2**
	baz=257,SNR=7.1						
J08A	**Circle Bar Ran**	**89.81**	**46**	*e*P	P	**02 40 00.9**	**+1.1**
	16nm,1.4s						
HAWA	**Hanford**	**89.85**	**43**	*e*P	P	**02 40 01.0**	**+1.1**
	2.3nm,0.7s						
BC3	**Big Chuckawall**

baz=258,SNR=8.1
GLA Glamis 90.29 57 P P 02 40 03.5 +1.2
baz=258
LDFC Landfair 90.48 55 eP P 02 40 04.3 +1.0
29nm,1.4s
INK Inuvik 90.54 20 P P 02 40 02.4 -0.1
0.7nm,0.5s,baz=251,slow=4.7,SNR=8.7
Y12C Blythe 90.68 56 P P 02 40 05.7 +1.7
baz=258
SHPR Sheep Range 90.74 53 eP P 02 40 05.7 +1.2
9.9nm,1.1s
R11A Troy Canyon, C 90.80 51 eP P 02 40 05.6 +0.9
5.8nm,1.0s
R11A Troy Canyon, C 90.80 51 P P 02 40 06.0 +1.3
baz=258,SNR=7.9
BMO Blue Mountains 90.99 45 eP P 02 40 06.1 +0.7
6.4nm,1.1s
PDMCI Parker Dam,Lak 91.10 55 P P 02 40 07.5 +1.6
baz=259
SYO Syowa Base 91.29 198⇓eX P 02 40 13.0 +6.9
SYO Syowa Base 91.29 198⇑epP pP 02 40 34.2 +5.4
F10A Beach Ranch, E 91.30 44 eP P 02 40 07.7 +0.9
8.6nm,1.0s
W13A Hualapai Mount 91.47 55 eP P 02 40 08.7 +0.8
3.4nm,0.8s
ELK Elko 91.57 49 eP P 02 40 09.9 +1.6
3.7nm,0.8s
214A Organ Pipe Nat 91.74 58 P P 02 40 10.3 +1.3
baz=259
NEW Newport 91.89 41 eP P 02 40 10.1 +0.7
5.8nm,0.4s
NEW Newport 91.89 41 P P 02 40 10.5 +1.1
baz=257
LCMT Little Creek M 92.35 53 eP P 02 40 12.9 +1.1
6.1nm,1.3s
CCUT Cedar City 92.36 52 eP P 02 40 12.7 +0.6
8.0nm,1.3s
HLID Hailey 92.74 46 eP P 02 40 14.8 +1.2
5.5nm,1.0s
HLID Hailey 92.74 46 P P 02 40 15.1 +1.5
baz=259
U15A North Rim 92.99 54 eP P 02 40 15.8 +0.7
3.4nm,0.9s
KURK Kurchatov 93.37 321 P P 02 40 15.4 -0.6
KURBB Kurchatov Arra 93.40 321 P P 02 40 15.4 -0.8
0.6nm,0.3s,baz=106,slow=3.8,SNR=4.9
TUC Tucson 93.50 58 eP P 02 40 18.3 +1.1
2.5nm,0.7s
TUC Tucson 93.50 58 P P 02 40 18.6 +1.4
baz=260
HVU Hansel Valley 93.59 48 eP P 02 40 18.8 +1.3
4.1nm,1.1s
X18A Snowflake 94.55 56 eP P 02 40 22.8 +0.7
2.2nm,0.9s
PDAR Pinedale Array 96.11 48 P P 02 40 29.6 +0.5
0.4nm,0.4s,baz=215,slow=3.5,SNR=5.0
YKA Yellowknife Ar 96.20 28 P P 02 40 28.2 -0.5
2.1nm,0.6s,baz=260,slow=4.7,SNR=67
EGMT Eagleton 96.70 43 eP P 02 40 32.6 +1.1
14nm,1.4s
EGMT Eagleton 96.70 43 P P 02 40 32.1 +0.6
baz=262
ANMO Albuquerque 97.46 56 P Pdif 02 40 36.6 +1.2
baz=263
SDCO Great Sand Dun 98.56 53 P P 02 40 40.5 +0.2
baz=264
T25A Trinidad 99.36 54 P Pdif 02 40 45.3 +1.5
baz=264
LONY Lake Ozonia 121.07 44 P PKPdf 02 45 53.6 +0.1
baz=288
BOSA Boshof 122.73 226 PKP PKPdf 02 45 56.6 -0.8
1.8nm,0.7s,baz=233,slow=3.4,SNR=4.4
BRTR Keskin Array B 125.33 312 PKP PKPdf 02 46 00.4 -1.6
0.6nm,0.5s,baz=162,slow=3.4,SNR=7.2
MVO Moncorvo 147.58 344 eP PKPbc 02 46 45.6 +0.3
POLO Lamas de Olo 147.59 345 eP PKPbc 02 46 45.6 +0.2
PVIS Viseu 148.23 345 eP PKPbc 02 46 46.3 -0.8
PCBR Castelo Branco 148.94 343 eP PKPbc 02 46 49.1 +0.3
PMRV Marv??o 149.29 343 eP PKPbc 02 46 49.9 +0.1
PTOM Tomar 149.40 345 eP PKPbc 02 46 50.1 +0.1
PMTG Montargil 149.86 344 eP PKPbc 02 46 51.3 +0.2

*ISCJB **03** 02:37:18.8±0.2,36°.46N±0°.02×71°.14E±0°.03,h239km±2km, mb4.2/99, Error ellipse: s-maj=3.4km s-min=3.0km az=14.4*
*BJI **03** 02:37:19.1,36°.44N×71°.22E,h238km,mb4.6/36,mB4.7/22*
*MOS **03** 02:37:19.3±0.8,36°.47N×71°.16E,h243km,mb4.5/42, Error ellipse: s-maj=7.3km s-min=4.6km az=84.3*
*NNC **03** 02:37:20.8±2.4,36°.67N×70°.99E,h222km±22km,mb4.1, mpv5.6, Error ellipse: s-maj=23.1km s-min=12.9km az=167.0*
*NEIC **03** 02:37:20.3±0.3,36°.46N×71°.14E,h243km±2km,mb4.5/48, Error ellipse: s-maj=4.1km s-min=3.5km az=157.0*
*IDC **03** 02:37:21.6±0.6,36°.45N×71°.18E,h251km±6km,mb3.9/23, mb1 4.1/29,mb1mx3.8/59,mbtmp4.6/29, Error ellipse: s-maj=9.8km s-min=8.6km az=13.0*
ISC 03 02:37:20.2±0.4,**36°.49N**±0°.03×**71°.14E**±0°.03,**h241**km±3km, **h241km:pP-P,n310,c1921/341,mb4.4**/100,**39C-15D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.59**	**346**	*e*Pn		**Pn**	**02 38 08.2**	**+0.5**
GAR				*e*S		**S**	**02 38 42.6**	**-2.6**
GAR	**Garm**	**2.59**	**346**	*e*PN		**Pn**	**02 38 08.2**	**+0.5**
GAR				*e*S		**S**	**02 38 42.6**	**-2.6**
KBL	**Kabul**	**2.59**	**222**	*e*Pn		**Pn**	**02 38 07.7**	**-0.3**
KBL				*e*S		**S**	**02 38 42.5**	**-3.0**
KBL	**Kabul**	**2.59**	**222**	*e*PN		**Pn**	**02 38 07.7**	**-0.3**
KBL				*e*S		**S**	**02 38 42.5**	**-3.0**
CHGR	**Chuyangaron**	**2.67**	**325**	*e*Pn		**Pn**	**02 38 08.8**	**+0.2**
CHGR				*e*S		**S**	**02 38 43.0**	**-3.8**
CEP	**Cherat**	**2.74**	**166**	P		**Pn**	**02 38 08.9**	**-0.6**
CEP				S		**S**	**02 38 46.0**	**-2.2**
CHCP	**Chirah Chowk**	**3.32**	**148**	P		**Pn**	**02 38 15.5**	**-0.3**
THW	**Thamme Wali**	**3.72**	**172**	P		**Pn**	**02 38 19.6**	**-0.8**
SARP	**Sargodha**	**4.73**	**164**	P		**Pn**	**02 38 31.1**	**-1.3**
KSH	**Kashi**	**4.87**	**50**	P		Pn	02 38 29.0	-5.1
KSH				S		S	02 39 19.7	-13
KSH	comp=N,1μm,0.5s			smax		smax		
KSH	comp=E,700nm,0.5s			smax		smax		
TAS	**Tashkent**	**5.04**	**344**	PN		**Pn**	**02 38 36.4**	**+0.3**
AML	**Almayashu** SNR=1071	**5.97**	**19**	P		**Pn**	**02 38 47.9**	**-0.1**
UCH	**Uchtor** SNR=3200	**6.30**	**24**	P		**Pn**	**02 38 52.1**	**0.0**
KZA	**Kyzart** SNR=171	**6.42**	**29**	P		**Pn**	**02 38 53.2**	**-0.5**
EKS2	**Erkin-Say** SNR=242	**6.49**	**18**	P		**Pn**	**02 38 54.4**	**+0.1**
KK31	**Karatay Array**	**6.62**	**356**	*e*Pn		**Pn**	**02 38 56.0**	**+0.3**
KK31				*e*S		**S**	**02 40 09.1**	**-3.3**
KK31	**Karatay Array** 126nm,0.5s,baz=183,slow=14,SNR=1009	**6.62**	**356**	⇑P		**Pn**	**02 38 55.9**	**+0.1**
KK31	222nm,0.4s,baz=179,slow=23,SNR=17			⇑S		**S**	**02 40 08.6**	**-3.8**
KK31	**Karatay Array**	**6.62**	**356**	*e*PN		**Pn**	**02 38 56.1**	**+0.3**
KKAR	**Karatay Array**	**6.62**	**356**	*e*Pn		**Pn**	**02 38 56.0**	**+0.3**
KKAR				*e*S		**S**	**02 40 08.9**	**-3.5**
KKAR	**Karatay Array**	**6.62**	**356**	*e*PN		**Pn**	**02 38 56.1**	**+0.3**
AAK	**Ala-Archa** SNR=510	**6.66**	**22**	P		**Pn**	**02 38 56.8**	**+0.2**
AAK	**Ala-Archa** 202nm,0.3s	**6.66**	**22**	⇓P		**Pn**	**02 38 56.7**	**+0.2**
AAK	219nm,0.6s			⇓S		**S**	**02 40 11.4**	**-2.2**
AAK	**Ala-Archa**	**6.66**	**22**	PN		**Pn**	**02 38 56.7**	**+0.2**
AAK				S		**S**	**02 40 11.4**	**-2.2**
AAK	comp=Z,202nm,0.4s			pmax		pmax		
AAK	comp=N,219nm,0.6s			smax		smax		
BHK	**Bhakra**	**6.70**	**138**	*e*PN		**Pn**	**02 38 56.8**	**-0.2**
BHK				*e*SN		S	02 40 02.0	-12
KBK	**Karagaybulak** SNR=34	**6.82**	**24**	P		**Pn**	**02 38 59.2**	**+0.7**
ULHL	**Ulahol** SNR=6.6	**6.97**	**33**	P		**Pn**	**02 39 01.0**	**+0.5**
CHMS	**Chumysh** SNR=149	**7.07**	**22**	P		**Pn**	**02 39 01.3**	**-0.2**
USP	**Ospenovka**	**7.24**	**20**	P		**Pn**	**02 39 03.1**	**-0.6**
	SNR=38							
TKM2	**Tokmak 2** SNR=153	**7.28**	**27**	P		**Pn**	**02 39 04.6**	**+0.2**
TKM2	**Tokmak 2** comp=N,266nm,0.6s	**7.28**	**27**	⇑P		**Pn**	**02 39 04.4**	**0.0**
TKM2	comp=N,219nm,1.1s			⇓S		**S**	**02 40 24.9**	**-3.0**
TKM2	**Tokmak 2**	**7.28**	**27**	PN		**Pn**	**02 39 04.3**	**0.0**
TKM2	comp=Z,266nm,0.6s			pmax	pmax			
AAA	**Alma-Ata**	**8.04**	**32**	*e*PN		**Pn**	**02 39 14.7**	**+0.8**
AAA				*e*S		**S**	**02 40 44.2**	**-1.3**
AAA	comp=Z,159nm,0.8s			pmax	pmax			
AAA	comp=N,61nm,1.3s			smax	smax			
MDOK	**Medeo**	**8.06**	**32**	⇑P		**Pn**	**02 39 14.1**	**-0.2**
KNDC	**Almaty**	**8.07**	**32**	⇑P		**Pn**	**02 39 14.9**	**+0.6**
PDGK	**Podgornoye** comp=N,24nm,0.8s	**9.37**	**41**	⇑P		**Pn**	**02 39 29.5**	**-1.4**
PDGK	comp=N,52nm,0.9s			⇑S		**S**	**02 41 11.1**	**-5.3**
PDGK	**Podgornoye**	**9.37**	**41**	P		**Pn**	**02 39 29.4**	**-1.4**
PDGK	comp=Z,24nm,0.8s			pmax	pmax			
GEYT	**Alibeck** comp=Z,1.5nm,0.3s,baz=115,slow=12,SNR=15	**10.48**	**282**	P		**Pn**	**02 39 43.8**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**10.48**	**282**	*e*Pn		**Pn**	**02 39 43.9**	**-1.0**
GYA0B	**ALIBECK ARRAY** comp=Z,8.2nm,0.4s	**10.48**	**282**	⇓P		**Pn**	**02 39 43.2**	**-1.7**
GYA0B	comp=Z,31nm,0.7s			⇑S		**S**	**02 41 37.0**	**-5.5**
OTUK	**Ortayu** comp=Z,10nm,0.4s	**11.78**	**4**	⇑P		**Pn**	**02 40 01.2**	**+0.1**
PYUN	**Piuthan** comp=Z,42nm,0.5s	**13.05**	**127**	*e*P		**Pn**	**02 40 16.5**	**-0.7**
MAKZ	**Makanchi**	**13.10**	**35**	*e*Pn		**Pn**	**02 40 16.9**	**-0.5**
MAKZ	**Makanchi** comp=Z,43nm,0.6s	**13.10**	**35**	⇓P		**Pn**	**02 40 16.8**	**-0.5**
MAKZ	**Makanchi**	**13.10**	**35**	*e*P		**Pn**	**02 40 16.9**	**-0.5**
MK01	**Makanchi Array**	**13.22**	**36**	*e*Pn		**Pn**	**02 40 18.5**	**-0.4**
MK31	**Makanchi Array**	**13.23**	**35**	*e*Pn		**Pn**	**02 40 18.8**	**-0.3**
MK31	**Makanchi Array** comp=Z,27nm,0.8s,baz=224,slow=14,SNR=101	**13.23**	**35**	⇑P		**Pn**	**02 40 18.4**	**-0.7**
MK31	**Makanchi Array**	**13.23**	**35**	*e*P		**Pn**	**02 40 18.8**	**-0.3**
MKAR	**Makanchi Array**	**13.23**	**35**	*i* P		**Pn**	**02 40 18.5**	**-0.6**
MKAR	comp=Z,9.0nm,0.5s			pmax	pmax			
MKAR	**Makanchi Array** comp=Z,2.7nm,0.3s,baz=214,slow=17,SNR=54	**13.23**	**35**	P		**Pn**	**02 40 18.5**	**-0.6**
DANN	**Dangsing**	**13.39**	**124**	*e*P		**Pn**	**02 40 20.5**	**-1.0**
KOLN	**Koldanda** comp=Z,18nm,0.3s	**13.67**	**126**	*e*P		**Pn**	**02 40 24.9**	**+0.1**
WMQ	**Urumqi**	**14.61**	**55**	P		**P**	**02 40 36.2**	**0.0**
WMQ				sP		sP	02 41 34.4	
WMQ	comp=Z,45nm,0.9s			pmax	pmax			
WMQ	comp=Z,470nm,6.3s			pmax	pmax			
DMN	**Daman** comp=Z,38nm,0.6s	**14.78**	**123**	*e*P		**Pn**	**02 40 37.4**	**-0.9**
PKIN	**Phulchoki** comp=Z,22nm,0.4s	**15.00**	**122**	*e*P		**P**	**02 40 39.8**	**-1.0**
PKI	**Pulchoki**	**15.01**	**122**	*e*P		**P**	**02 40 39.8**	**-1.2**
KURBB	**Kurchatov Arra** comp=Z,25nm,0.6s	**15.10**	**18**	⇑P		**P**	**02 40 41.1**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,1.3nm,0.3s,baz=207,slow=11,SNR=39	**15.10**	**18**	P		**P**	**02 40 41.3**	**0.0**
GUN	**Gumba**	**15.12**	**120**	*e*P		**P**	**02 40 41.5**	**-0.7**
AB31	**Akbulak array** comp=Z,8.9nm,0.5s,baz=142,slow=14,SNR=346	**15.14**	**331**	⇑P		**P**	**02 40 41.6**	**-0.3**
AB31	comp=Z,11nm,0.7s,baz=148,slow=21,SNR=7.2			⇑S		**S**	**02 43 26.8**	**-2.3**
AB31	**Akbulak array**	**15.14**	**331**	*i* P		**P**	**02 40 41.5**	**-0.3**
AB31				*i* S		**S**	**02 43 28.4**	**-0.7**
AB31	comp=Z,9.0nm,0.5s			pmax	pmax			
AB31	comp=N,11nm,0.7s			smax	smax			
ABKAR	**Akbulak array**	**15.14**	**331**	*e*P		**P**	**02 40 41.7**	**-0.2**
KURK	**Kurchatov** comp=N,19nm,0.8s	**15.20**	**18**	*e*P		**Pn**	**02 40 43.1**	**+0.2**
KURK	**Kurchatov** comp=N,29nm,1.1s	**15.20**	**18**	⇑P		**P**	**02 40 42.4**	**-0.1**
KURK	**Kurchatov**	**15.20**	**18**	*e*P		**Pn**	**02 40 43.1**	**+0.2**
KURK	comp=Z,19nm,0.8s			pmax	pmax			
KURK	**Kurchatov** SNR=5.2	**15.20**	**18**	P		**Pn**	**02 40 42.9**	**0.0**
JIRN	**Jiri**	**15.49**	**120**	*e*P		**P**	**02 40 46.3**	**0.0**
RAMN	**Ramite**	**16.22**	**122**	*e*P		**P**	**02 40 54.0**	**-0.2**
BANOM	**Banah** SNR=27	**16.47**	**234**	*i* P		**P**	**02 40 56.2**	**-0.6**
BANOM	**Banah** SNR=9.8	**16.47**	**234**	P		**P**	**02 40 56.4**	**-0.4**
SHME	**Shamm**	**16.49**	**235**	P		**P**	**02 40 56.6**	**-0.4**
BVA0	**Borovoye Array** comp=Z,14nm,0.3s,baz=157,slow=8.9,SNR=230	**16.54**	**358**	⇑P		**Pn**	**02 40 58.6**	**-0.2**
BVAR	**Borovoye Array** comp=Z,14nm,0.3s,baz=164,slow=10,SNR=105	**16.54**	**358**	P		**Pn**	**02 40 58.4**	**-0.3**
BVAR	baz=175,slow=17,SNR=7.7			S		**S**	**02 43 56.2**	**-1.4**
BRVK	**Borovoye**	**16.57**	**358**	*e*P		**Pn**	**02 40 58.6**	**-0.5**
BRVK	**Borovoye** comp=Z,27nm,0.5s	**16.57**	**358**	⇑P		**P**	**02 40 58.1**	**+0.5**
BRVK	**Borovoye**	**16.57**	**358**	*c* iP		**Pn**	**02 40 58.7**	**-0.5**
BRVK	**Borovoye** SNR=16	**16.57**	**358**	P		**Pn**	**02 40 58.9**	**-0.3**
AKTO	**Aktyubinsk** comp=Z,97nm,0.6s	**16.84**	**330**	⇑P		**Pn**	**02 41 02.1**	**-0.2**
AKTO	comp=Z,16nm,0.9s			⇑S		**S**	**02 44 03.4**	**-0.3**
AKTO	**Aktyubinsk** comp=Z,13nm,0.3s,baz=137,slow=10,SNR=459	**16.84**	**330**	P		**Pn**	**02 41 02.1**	**-0.2**
AKTO	comp=Z,0.3nm,0.3s,baz=192,slow=21,SNR=5.9			S		**S**	**02 44 04.6**	**+0.9**
MDH	**Madha** SNR=8.3	**16.91**	**233**	*i* P		**Pn**	**02 41 02.5**	**-0.9**
MDH	**Madha** SNR=6.3	**16.91**	**233**	P		**P**	**02 41 01.6**	**+0.1**
MSFE	**Esma-Masafi** SNR=28	**16.95**	**233**	*i* P		**Pn**	**02 41 03.2**	**-0.8**
WSAR	**Wadi Sarin** SNR=10	**17.07**	**223**	P		**Pn**	**02 41 04.5**	**-0.8**
WSAR	**Wadi Sarin** comp=Z,1.8nm,0.3s,baz=78,slow=7.5,SNR=30	**17.07**	**223**	P		**P**	**02 41 04.2**	**+0.9**
HATD	**Hatta, Dubai** SNR=19	**17.35**	**232**	*i* P		**P**	**02 41 06.8**	**+0.5**
HATD	**Hatta, Dubai** SNR=7.3	**17.35**	**232**	P		**P**	**02 41 06.3**	**0.0**
ASHO	**Ashiyiah** SNR=68	**17.50**	**232**	*i* P		**P**	**02 41 08.5**	**+0.6**
ASHO	**Ashiyiah** SNR=20	**17.50**	**232**	P		**P**	**02 41 08.1**	**+0.1**
NAZ	**Nazwa, Dubai** SNR=12	**17.54**	**233**	*i* P		**P**	**02 41 08.7**	**+0.4**
NAZ	**Nazwa, Dubai** SNR=13	**17.54**	**233**	P		**P**	**02 41 08.4**	**+0.1**
JLN	**Jalan Bani Buh** SNR=10	**17.55**	**219**	P		**Pn**	**02 41 10.2**	**-0.7**
DGZ	**Jazzator, Alta**	**17.72**	**37**	*c* iP		**Pn**	**02 41 11.7**	**-1.1**
FAQ	**Al Faqa, Dubai** SNR=7.4	**17.75**	**233**	*i* P		**P**	**02 41 10.5**	**-0.1**
FAQ	**Al Faqa, Dubai** SNR=5.9	**17.75**	**233**	P		**P**	**02 41 10.6**	**-0.1**
LKRN	**Lenkeran, Azer**	**17.85**	**284**	P		**P**	**02 41 12.6**	**+1.0**
LSA	**Lhasa** comp=Z,9.2nm,0.8s	**18.07**	**106**	*e*P		**P**	**02 41 14.4**	**-0.2**
LSA	**Lhasa** comp=Z,9.0nm,0.8s	**18.07**	**106**	*e*P		**P**	**02 41 14.4**	**-0.2**
LSA				pmax	pmax			
ALNE	**Al Ain** SNR=10	**18.14**	**231**	*i* P		**P**	**02 41 15.3**	**+0.4**
BSY	**Bisya** SNR=5.4	**18.26**	**225**	P		**P**	**02 41 16.2**	**0.0**
AJN	**Ajban** SNR=6.0	**18.27**	**234**	P		**P**	**02 41 16.4**	**+0.1**
SEKA	**Sheki**	**19.21**	**291**	P		**Pn**	**02 41 31.1**	**+0.8**
MHTO	**MHTO** SNR=9.4	**19.25**	**220**	P		**P**	**02 41 28.8**	**+1.9**
GANJ	**Ganja**	**19.82**	**290**	P		**Pn**	**02 41 37.4**	**-0.1**
ZAA0	**Zalesovo Array** comp=Z,21nm,0.4s	**19.88**	**24**	*e*P		**P**	**02 41 33.2**	**0.0**
ZAA0				*e*S		**S**	**02 45 03.9**	**+0.5**
ZAA0	**Zalesovo Array** comp=Z,12nm,0.4s	**19.88**	**24**	⇑P		**P**	**02 41 33.0**	**-0.2**
ZALV	**Zalesovo Beam**	**19.88**	**24**	*e*P		**P**	**02 41 33.0**	**-0.1**
ZALV				*e*S		**S**	**02 45 03.2**	**-0.2**
ZALV	**Zalesovo Beam** comp=Z,8.5nm,0.3s,baz=216,slow=12,SNR=77	**19.88**	**24**	P		**P**	**02 41 33.1**	**0.0**
ZALV	comp=Z,0.7nm,0.3s,baz=213,slow=20,SNR=6.5			S		**S**	**02 45 01.9**	**-1.5**
HYB	**Hyderabad**	**20.10**	**159**	*i* P		**P**	**02 41 36.0**	**0.0**
NVS	**Novosibirsk**	**20.15**	**21**	⇑*i* P		**P**	**02 41 37.0**	**+0.9**
NVS				*i* S		**S**	**02 45 07.4**	**-1.0**
NVS	comp=Z,28nm,0.7s			pmax	pmax			
NVS	comp=N,27nm,0.6s			pmax	pmax			
NVS	comp=E,6.0nm,0.7s			pmax	pmax			
NVS	comp=N,12nm,0.7s			smax	smax			
NVS	comp=E,36nm,1.1s			smax	smax			
DQM	**DQM**	**20.36**	**219**	P		**P**	**02 41 39.6**	**+0.9**
NAX	**Nakhchivan**	**20.41**	**285**	P		**P**	**02 41 41.8**	**+2.6**
GROC	**Groznyy**	**20.53**	**297**	*e*P		**P**	**02 41 41.6**	**+1.3**
GROC				*e**SP		**sP**	**02 42 52.5**	**+2.5**
GROC				*e*S		**S**	**02 45 18.5**	**+2.9**
GROC	comp=Z,8.0nm,0.5s			pmax	pmax			
SHL	**Shillong** comp=Z,18nm,1.1s	**20.81**	**116**	*e*P		**P**	**02 41 43.6**	**0.0**
SHL	comp=Z,18nm,1.1s			pmax	pmax			
SHL	**Shillong**	**20.81**	**116**	*e*P		**P**	**02 41 42.0**	**-1.6**
SHL				*e*S		**S**	**02 45 19.0**	**-2.0**
GNI	**Garni**	**21.00**	**288**	*e*P		**P**	**02 41 45.7**	**+0.2**
GNI	**Garni**	**21.00**	**288**	*e*P		**P**	**02 41 45.7**	**+0.2**
SVE	**Sverdlovsk**	**21.53**	**344**	*e*P		**P**	**02 41 51.3**	**+1.1**
SVE	comp=Z,29nm,0.6s			pmax	pmax			
ARU	**Arti**	**21.68**	**341**	*e*P		**P**	**02 41 52.2**	**+0.6**
ARU	**Arti**	**21.68**	**341***c*	*i* P		**P**	**02 41 52.8**	**+1.2**
ARU				S		**S**	**02 45 37.4**	**+3.2**
ARU	comp=Z,30nm,0.6s			pmax	pmax			
GTA	**Gaotai**	**22.76**	**74**	⇑P		**P**	**02 42 03.9**	**+2.0**
GTA				sP		sP	02 43 12.1	-4.1
GTA	comp=Z,36nm,0.7s			pmax	pmax			
KIV	**Kislovodsk** comp=Z,3.2nm,0.5s	**22.89**	**298**	*e*P		**P**	**02 42 03.0**	**+0.1**
KIV	**Kislovodsk** comp=Z,8.0nm,1.1s	**22.89**	**298**	*e*P		**P**	**02 42 04.3**	**+1.3**
KIV				pmax	pmax			
KNGR	**Kungurtug, Tuv**	**23.60**	**45**	⇑*e*P		**P**	**02 42 09.5**	**+0.1**
RAYN	**Ar Rayn** comp=Z,9.1nm,0.8s	**25.60**	**247**	*e*P		**P**	**02 42 27.9**	**+0.3**
RAYN	**Ar Rayn** SNR=12	**25.60**	**247**	*i* P		**P**	**02 42 27.7**	**0.0**
RAYN	**Ar Rayn**	**25.60**	**247**	*e*P		**P**	**02 42 27.9**	**+0.3**
RAYN	comp=Z,9.0nm,0.8s			pmax	pmax			
MOY	**Mondy** comp=Z,14nm,1.9s	**26.03**	**45**	*e*P		**P**	**02 42 33.2**	**+1.9**
MOY				pmax	pmax			
KIRV	**Kirov** comp=Z,52nm,0.6s,baz=111,slow=2.7,SNR=24	**26.29**	**334**	P		**P**	**02 42 34.8**	**+1.4**
LZH	**Lanzhou**	**26.30**	**81**	*e*P		**P**	**02 42 33.0**	**-1.0**
LZH				pP		pP	02 43 24.6	+2.1
LZH				sP		sP	02 43 52.7	+1.7
LZH	comp=Z,25nm,1.2s			pmax	pmax			
LZH	comp=Z,95nm,4.9s			pmax	pmax			
ZAK	**Zakamensk**	**26.91**	**49**	*e*P		**P**	**02 42 39.5**	**+0.3**
ZAK				*e*			02 43 27.0	
ZAK	comp=Z,6.0nm,1.0s			pmax	pmax			
ZAK	comp=Z,4.0nm,1.6s			pmax	pmax			
VSR	**Storozhevoye**	**27.09**	**313**	*e*P		**P**	**02 42 39.7**	**-0.8**
VSR				*e**PP		**pP**	**02 43 30.7**	**+2.7**
VSR	comp=Z,6.0nm,1.2s			pmax	pmax			
TLY	**Talaya** comp=Z,5.5nm,0.6s	**27.57**	**46**	*e*P		**P**	**02 42 45.2**	**+0.3**
TLY	**Talaya**	**27.57**	**46***c*	*i* P		**P**	**02 42 46.7**	**+1.9**
CD2	**Chengdu**	**27.62**	**92**	P		**P**	**02 42 45.3**	**-0.3**
CD2	comp=Z,30nm,0.4s			pmax	pmax			
LPSR	**Galich'ya Gora**	**27.73**	**316**	*e*P		**P**	**02 42 46.8**	**+0.5**
LPSR				*e**PP		**pP**	**02 43 32.2**	**-1.7**
LPSR	comp=Z,10.0nm,0.8s			pmax	pmax			
SONM	**Songino Array** comp=Z,13nm,0.8s,baz=261,slow=9.4,SNR=50	**28.25**	**55**	P		**P**	**02 42 52.7**	**+1.6**
SONM	comp=Z,2.3nm,0.8s,baz=254,slow=11,SNR=4.1			pP		**pP**	**02 43 42.2**	**+2.3**
SONA1	**Songino Array**	**28.26**	**55**	*e*P		**P**	**02 42 51.8**	**+0.6**
ULN	**Ulaanbaatar** comp=Z,7.0nm,0.5s	**28.69**	**55**	*e*P		**P**	**02 42 55.5**	**+0.5**
ULN	**Ulaanbaatar** comp=Z,7.0nm,0.5s	**28.69**	**55**	*e*P		**P**	**02 42 55.5**	**+0.5**
ULN				pmax	pmax			
KMI	**Kunming** comp=Z,12nm,0.5s	**29.29**	**104**	P		**P**	**02 43 01.2**	**+0.6**
KMI				pmax	pmax			
MMAI	**Mount Meron Ar** comp=Z,2.2nm,0.8s,baz=338,slow=2.0,SNR=4.6	**29.46**	**274**	ScP		**ScP**	**02 49 19.2**	**-0.5**
BR131	**Keskin Array S**	**29.54**	**288**	*e*P		**P**	**02 43 03.2**	**+0.7**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,baz=89,slow=11,SNR=6.4	**29.54**	**288**	P		**P**	**02 43 03.9**	**+1.3**
BRTR	comp=Z,0.9nm,0.8s,baz=110,slow=5.4,SNR=4.4			ScP		**ScP**	**02 49 17.5**	**-2.4**
OBN	**Obninsk**	**30.01**	**319**	⇓*i* P		**P**	**02 43 07.4**	**+1.1**
OBN				*i*			02 44 18.4	
OBN				*i*			02 46 06.1	
OBN	comp=Z,44nm,1.6s			pmax	pmax			
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=301,slow=8.5,SNR=5.0	**30.36**	**119**	P		**P**	**02 43 11.1**	**+1.3**
CMAR	comp=Z,1.0nm,0.3s,baz=300,slow=11,SNR=1.8			pP		**pP**	**02 44 01.4**	**+2.8**
XAN	**Xi'an**	**30.82**	**83**	P		**P**	**02 43 15.0**	**+1.2**
XAN	comp=Z,13nm,0.6s			pmax	pmax			
XAN	comp=Z,140nm,5.2s			pmax	pmax			
KLMR	**Klimovskoe**	**31.54**	**331**	*e*P		**P**	**02 43 17.1**	**-2.5**
KLMR	comp=Z,11nm,0.6s			pmax	pmax			
KLMR	**Klimovskoe**	**31.54**	**331**	*e*P		**P**	**02 43 17.1**	**-2.5**
KLMR				AMP			02 43 20.9	
HHC	**Hu-ho-hao-te** comp=Z,4.0nm,0.9s	**31.66**	**70**	*e*P		**P**	**02 43 21.0**	**-0.1**
HHC				pmax	pmax			
HHC	comp=Z,88nm,5.2s			pmax	pmax			
AKASG	**Malin Array Be** comp=Z,0.9nm,0.5s,baz=82,slow=7.7,SNR=10	**33.03**	**309**	P		**P**	**02 43 33.2**	**+0.4**
KIEV	**Kiev** comp=Z,3.1nm,0.5s	**33.04**	**309**	*e*P		**P**	**02 43 33.1**	**+0.2**
KIEV	**Kiev** comp=Z,13nm,2.1s	**33.04**	**309**	⇑*e*P		**P**	**02 43 33.5**	**+0.7**
KIEV				pmax	pmax			
CFR	**Carcaliu**	**33.34**	**299**	⇓*i*P		P	02 43 40.8	+5.4
CFR	**Carcaliu**	**33.34**	**299**	⇓P		P	02 43 40.8	+5.4
TLB	**Topalu**	**33.41**	**298**	⇓*i*P		P	02 43 43.2	+7.1
TLB	**Topalu**	**33.41**	**298**	⇓P		P	02 43 43.2	+7.1
TMCR	**Tamitsa**	**34.10**	**335**	*e*P		**P**	**02 43 41.3**	**-0.4**
TMCR	comp=Z,25nm,0.6s			pmax	pmax			
NRIK	**Noril'sk** comp=Z,22nm,0.5s,baz=197,slow=5.5,SNR=17	**34.11**	**10**	P		**P**	**02 43 43.5**	**+1.6**
MLR	**Muntele Rosu** comp=Z,10nm,1.2s	**34.88**	**299**

TRPA	**Tarpa**	**37.19**	**304**	⇑	*i*P		P		02 44 15.3	+7.1
HIA	**Hailar**	**37.21**	**54**		*e*P		**P**		**02 44 08.4**	**+0.1**
	comp=Z,5.7nm,0.6s									
HIA	**Hailar**	**37.21**	**54**	⇓	*i*P		**P**		**02 44 10.0**	**+1.6**
HIA					pmax		pmax			
	comp=Z,7.0nm,0.8s									
FIA1	**FINESS Array S**	**37.55**	**326**		*e*P		**P**		**02 44 11.2**	**+0.2**
FINES	**FINESS Array B**	**37.55**	**326**		P		**P**		**02 44 11.9**	**+0.9**
	comp=Z,9.6nm,0.6s,baz=117,slow=9.3,SNR=52									
APA	**Apatity**	**37.69**	**337**	⇑	*i*P		**P**		**02 44 12.8**	**+0.8**
APA					*i* *PP		**pP**		**02 44 59.0**	**-3.0**
APA					pmax		pmax			
	comp=Z,4.0nm,0.6s									
NJ2	**Nanjing**	**39.37**	**82**		*e*P		**P**		**02 44 25.6**	**-0.9**
NJ2					pmax		pmax			
	comp=Z,16nm,0.5s									
VYHS	**Vyhne**	**39.65**	**304**		*e*P		**P**		**02 44 29.6**	**+0.9**
VYHS	**Vyhne**	**39.65**	**304**		*e*P		**P**		**02 44 29.6**	**+0.9**
ARCES	**ARCESS Array B**	**41.19**	**338**		*e*P		**P**		**02 44 40.8**	**-0.1**
ARCES	**ARCESS Array B**	**41.19**	**338**		P		**P**		**02 44 42.1**	**+1.2**
	comp=Z,18nm,0.6s,baz=113,slow=8.2,SNR=147									
ARE0	**ARCESS Array S**	**41.19**	**338**		*e*P		**P**		**02 44 42.3**	**+1.4**
CN2	**Changchun**	**41.51**	**63**		*e*P		P		02 44 39.0	-4.9
KTK1	**Kautokeino**	**41.67**	**336**		*e*P		**P**		**02 44 46.0**	**+1.2**
CONA	**Conrad Observa**	**41.67**	**304**		*e*P		**P**		**02 44 46.6**	**+1.4**
	comp=Z,0.6nm,0.5s									
ARSA	**Arzberg**	**41.97**	**303**		*e*P		**P**		**02 44 47.0**	**-0.5**
	comp=Z,0.2nm,0.2s									
HAMF	**Hammerfest**	**42.27**	**339**		*e*P		**P**		**02 44 51.4**	**+1.8**
GSI	**Gunungsitoli**	**42.71**	**139**		*e*P		**P**		**02 44 53.8**	**0.0**
	comp=Z,9.9nm,0.6s									
OBKA	**Obir**	**42.72**	**302**		*e*P		**P**		**02 44 56.1**	**+2.4**
	comp=Z,0.4nm,0.1s									
GERES	**GERESS Array B**	**43.02**	**305**		P		**P**		**02 44 56.9**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=77,slow=5.9,SNR=5.0									
CLL	**Collm**	**43.28**	**309**		*e*P		**P**		**02 44 59.0**	**+1.0**
TRO	**Tromso**	**43.32**	**336**		*e*P		**P**		**02 44 59.2**	**+1.2**
KBA	**Koelnbreinsper**	**43.46**	**303**		*e*P		**P**		**02 45 00.8**	**+1.1**
	comp=Z,0.4nm,0.3s									
MOR8	**Moi Rana**	**43.88**	**331**		*e*P		**P**		**02 45 02.8**	**+0.3**
STEI	**Steigen**	**44.03**	**333**		*e*P		**P**		**02 45 04.7**	**+1.1**
NC602	**NORSAR Array S**	**44.26**	**323**		*e*P		**P**		**02 45 05.8**	**+0.2**
NC303	**NORSAR Array S**	**44.40**	**323**		*e*P		**P**		**02 45 07.0**	**+0.4**
NB201	**NORSAR Array S**	**44.41**	**323**		*e*P		**P**		**02 45 06.7**	**-0.2**
NB2	**NORSAR Subarra**	**44.45**	**323**		P		**P**		**02 45 07.2**	**0.0**
	comp=Z,5.3nm,0.5s,baz=97,slow=7.9									
NOA	**NORSAR Array B**	**44.45**	**323**		P		**P**		**02 45 07.5**	**+0.3**
	comp=Z,6.8nm,0.7s,baz=96,slow=7.7,SNR=20									
KONS	**Konsvik**	**44.47**	**331**		*e*P		**P**		**02 45 08.1**	**+0.9**
STOK	**Stokkvaagen**	**44.47**	**331**		*e*P		**P**		**02 45 07.9**	**+0.7**
NSS	**Namsos**	**44.56**	**328**		*e*P		**P**		**02 45 10.4**	**+2.5**
WTTA	**Wattenberg**	**44.59**	**303**		P		**P**		**02 45 08.4**	**-0.3**
	comp=Z,5.2nm,1.3s									
WATA	**Walderalm**	**44.62**	**303**		P		**P**		**02 45 10.5**	**+1.7**
	comp=Z,0.7nm,0.5s									
LOF	**Lofoten**	**44.70**	**333**		*e*P		**P**		**02 45 09.4**	**+0.5**
KSAR	**Wonju Array Be**	**44.75**	**71**		P		**P**		**02 45 09.8**	**0.0**
KSAR					PcP		**PcP**		**02 46 47.0**	**-0.5**
KSAR	**Wonju Array Be**	**44.75**	**71**		P		**P**		**02 45 09.8**	**0.0**
KSAR									02 46 47.0	
KSRS	**Korea Array**	**44.78**	**71**		P		**P**		**02 45 09.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=272,slow=7.1,SNR=6.3									
KSRS					PcP		**PcP**		**02 46 47.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=281,slow=5.1,SNR=4.2									
SQTA	**Sankt Quirin**	**44.89**	**303**		P		**P**		**02 45 10.9**	**0.0**
	comp=Z,1.4nm,0.5s									
MOTA	**Moosalm**	**44.94**	**303**		*e*P		**P**		**02 45 10.7**	**-0.7**
	comp=Z,0.8nm,0.5s									
HOPEN	**Hopen**	**45.03**	**346**		*e*P		**P**		**02 45 13.6**	**+2.1**
KLR	**Kul'dur**	**45.06**	**54**	⇓	*i*P		**P**		**02 45 13.3**	**+1.2**
KLR	**Kul'dur**	**45.06**	**54**		P		**P**		**02 45 12.9**	**+0.9**
	comp=Z,2.6nm,0.4s,baz=274,slow=8.4,SNR=14									
RETA	**Reutte**	**45.15**	**304**		*e*P		**P**		**02 45 13.1**	**+0.3**
	comp=Z,8.5nm,1.8s									
KONO	**Kongsberg**	**45.16**	**321**		*e*P		**P**		**02 45 13.5**	**+0.8**
FETA	**Feichten**	**45.24**	**303**		*e*P		**P**		**02 45 14.1**	**+0.4**
	comp=Z,4.5nm,1.3s									
BJO	**Bjornoya**	**45.26**	**343**		*e*P		**P**		**02 45 12.5**	**-0.8**
DOMB	**Dombas**	**45.56**	**324**		*e*P		**P**		**02 45 17.1**	**+1.3**
DAVA	**Damuels**	**45.77**	**304**		*e*P		**P**		**02 45 17.4**	**-0.4**
	comp=Z,5.4nm,0.9s									
MSHR	**Mys Shultsa**	**45.85**	**63**	⇑	*e*P		**P**		**02 45 19.2**	**+0.9**
BLS5	**Blasjo**	**46.76**	**321**		*e*P		**P**		**02 45 26.2**	**+1.1**
HSPB	**Hornsund (broa**	**47.17**	**345**		*e*P		**P**		**02 45 30.1**	**+2.0**
SPA0	**Spitsbergen Ar**	**47.52**	**347**		*e*P		**P**		**02 45 32.6**	**+1.8**
SPITS	**Spitsbergen Ar**	**47.52**	**347**		P		**P**		**02 45 32.4**	**+1.6**
	comp=Z,7.8nm,0.6s,baz=119,slow=12,SNR=28									
JNU	**Nakatsue**	**48.49**	**75**		P		**P**		**02 45 39.9**	**+1.1**
	comp=Z,7.5nm,1.0s,baz=346,slow=2.8,SNR=4.2									
KBS	**Kingsbay**	**48.64**	**347**		*e*P		**P**		**02 45 39.4**	**+0.1**
KMBO	**Kilima Mbogo**	**48.91**	**228**		P		**P**		**02 45 43.6**	**+1.2**
KMBO	**Kilima Mbogo**	**48.91**	**228**		*e*P		**P**		**02 45 43.3**	**+0.9**
KMBO					pmax		pmax			
	comp=Z,2.0nm,0.6s									
KMBO	**Kilima Mbogo**	**48.91**	**228**		P		**P**		**02 45 43.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=34,slow=11,SNR=14									
NKL	**Nikolayevsk**	**50.04**	**47**		*e*P		**P**		**02 45 51.0**	**+0.9**
NKL					pmax		pmax			
	comp=Z,38nm,0.8s									
YSS	**Yuzh-Sakhalins**	**52.74**	**55**	⇓	*e*P		**P**		**02 46 10.1**	**-0.1**
YSS					pmax		pmax			
	comp=Z,55nm,2.0s									
MAJO	**Matsushiro**	**52.85**	**69**	⇓	*e*P		**P**		**02 46 13.9**	**+2.6**
MAJO					pmax		pmax			
	comp=Z,26nm,1.7s									
MA2	**Magadan**	**54.30**	**38**	⇑	*e*P		**P**		**02 46 21.8**	**+0.4**
MA2					pmax		pmax			
	comp=Z,7.0nm,0.9s									
MA2	**Magadan**	**54.30**	**38**		P		**P**		**02 46 21.7**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=291,slow=11,SNR=8.3									
SEY	**Seymchan**	**54.36**	**34**	⇓	*i*P		**P**		**02 46 23.1**	**+1.4**
DAG	**Danmarks Havn**	**54.77**	**344**	⇑	*i*P		**P**		**02 46 25.4**	**+1.0**
	comp=Z,13nm,0.8s									
DAG	**Danmarks Havn**	**54.77**	**344**	⇑	*i*P		**P**		**02 46 25.4**	**+1.0**
DAG					pmax		pmax			
	comp=Z,10.0nm,0.8s									
ES19	**SONSECA Array**	**57.50**	**298**		*e*P		**P**		**02 46 44.5**	**+0.1**
ESDC	**Sonseca Array**	**57.56**	**298**		P		**P**		**02 46 45.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=56,slow=6.0,SNR=7.0									
BILL	**Bilibino**	**58.57**	**26**		*e*P		**P**		**02 46 52.1**	**+0.9**
	comp=Z,4.4nm,0.4s									
BILL	**Bilibino**	**58.57**	**26**		*e*P		**P**		**02 46 50.7**	**-0.5**
BILL					*e*				02 47 44.9	
BILL					*e*				02 49 02.4	
BILL					pmax		pmax			
	comp=Z,12nm,0.8s									
SUMG	**Summit**	**61.10**	**341**		*e*P		**P**		**02 47 09.7**	**+0.8**
	comp=Z,18nm,1.1s									
SUMG	**Summit**	**61.10**	**341**		*i*P		**P**		**02 47 10.2**	**+1.3**
	comp=Z,34nm,1.0s									
SUMG	**Summit**	**61.10**	**341**		*i*P		**P**		**02 47 10.2**	**+1.3**
SUMG					pmax		pmax			
	comp=Z,34nm,1.0s									
LSZ	**Lusaka**	**65.53**	**226**		*e*P		**P**		**02 47 38.2**	**0.0**
	comp=Z,2.7nm,0.6s									
LSZ	**Lusaka**	**65.53**	**226**		*e*P		**P**		**02 47 38.2**	**0.0**
LSZ					pmax		pmax			
	comp=Z,3.0nm,0.6s									
TOA0	**Torodi Ar. Sit**	**65.83**	**269**		*e*P		**P**		**02 47 37.6**	**-2.5**
TORD	**Torodi Ar. Bea**	**65.83**	**269**		P		**P**		**02 47 37.8**	**-2.4**
	comp=Z,1.5nm,0.5s,baz=52,slow=5.1,SNR=33									
TORD					pP		**pP**		**02 48 39.1**	**+3.2**
	comp=Z,2.1nm,0.7s,baz=49,slow=5.1,SNR=4.6									
GAMB	**Gambell**	**68.47**	**25**		*e*P		**P**		**02 47 55.9**	**0.0**
	comp=Z,12nm,1.2s									
RES	**Resolute Bay**	**68.71**	**356**		*e*P		**P**		**02 47 58.0**	**+0.8**
	comp=Z,0.9nm,0.4s									
RES	**Resolute Bay**	**68.71**	**356**		*e*P		**P**		**02 47 58.0**	**+0.8**
RES					pmax		pmax			
	comp=Z,1.0nm,0.4s									
RES	**Resolute Bay**	**68.71**	**356**		P		**P**		**02 47 57.9**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=9.4,slow=9.6,SNR=5.1									
ANM	**Nome**	**70.00**	**23**		*e*P		**P**		**02 48 05.9**	**+0.6**
	comp=Z,12nm,1.0s									
ANM	**Nome**	**70.00**	**23**		*e*P		**P**		**02 48 05.9**	**+0.6**
ANM					pmax		pmax			
	comp=Z,12nm,1.0s									
TOLK	**Toolik Lake Re**	**70.90**	**15**		*e*P		**P**		**02 48 11.2**	**+0.5**
	comp=Z,16nm,0.8s									
COLD	**Coldfoot**	**71.95**	**16**		*e*P		**P**		**02 48 17.2**	**+0.3**
	comp=Z,7.0nm,0.9s									
IM3	**Indian Mountai**	**72.15**	**18**		*e*P		**P**		**02 48 18.2**	**+0.1**
FYU	**Fort Yukon**	**73.55**	**14**		*e*P		**P**		**02 48 27.1**	**+0.8**
	comp=Z,23nm,1.3s									
MLY	**Manley**	**73.65**	**17**		*e*P		**P**		**02 48 27.2**	**+0.2**
	comp=Z,6.0nm,0.8s									
INK	**Inuvik**	**73.89**	**9**		*e*P		**P**		**02 48 28.9**	**+0.6**
	comp=Z,24nm,1.3s									
INK	**Inuvik**	**73.89**	**9**		P		**P**		**02 48 29.3**	**+1.1**
	comp=Z,8.1nm,0.6s,baz=350,slow=6.5,SNR=74									
MDM	**Murphy Dome**	**74.30**	**16**		*e*P		**P**		**02 48 31.1**	**+0.4**
	comp=Z,13nm,0.9s									
PRP	**Porcupine Dome**	**74.40**	**15**		*e*P		**P**		**02 48 31.5**	**+0.1**
	comp=Z,27nm,2.0s									
COLA	**College**	**74.45**	**16**		*e*P		**P**		**02 48 31.8**	**+0.3**
	comp=Z,15nm,0.8s									
COLA	**College**	**74.45**	**16**	⇑	*e*P		**P**		**02 48 31.9**	**+0.4**
COLA					pmax		pmax			
	comp=Z,17nm,0.9s									
CAST	**Castle Rocks**	**74.65**	**19**		*e*P		**P**		**02 48 33.1**	**+0.4**
	comp=Z,22nm,0.9s									
CCB	**Clear Creek Bu**	**74.66**	**16**		*e*P		**P**		**02 48 33.0**	**+0.3**
	comp=Z,2.6nm,0.8s									
BWN	**Browne**	**74.68**	**17**		*e*P		**P**		**02 48 31.8**	**-1.0**
	comp=Z,29nm,0.8s									
WRH	**Wood River Hil**	**74.74**	**17**		*e*P		**P**		**02 48 32.9**	**-0.4**
	comp=Z,23nm,1.8s									
IL1	**Eielson Array**	**74.76**	**16**		*e*P		**P**		**02 48 33.0**	**-0.3**
ILAR	**Eielson Array**	**74.76**	**16**		P		**P**		**02 48 33.0**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=317,slow=4.7,SNR=35									
ILAR					pP		**pP**		**02 49 31.7**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=315,slow=4.8,SNR=3.4									
ILB	**Eielson Array**	**74.76**	**16**		*e*P		**P**		**02 48 33.3**	**0.0**
TSUM	**Tsumeb**	**75.00**	**232**		*e*P		**P**		**02 48 35.6**	**+0.1**
	comp=Z,1.2nm,0.5s									
HDA	**Harding Lake**	**75.05**	**16**		*e*P		**P**		**02 48 34.6**	**-0.4**
	comp=Z,3.6nm,0.8s									
RND	**Reindeer**	**75.47**	**17**		*e*P		**P**		**02 48 36.7**	**-0.8**
	comp=Z,14nm,1.4s									
RND	**Reindeer**	**75.47**	**17**		*e*P		**P**		**02 48 36.7**	**-0.8**
RND					pmax		pmax			
	comp=Z,14nm,1.4s									
SCRK	**Sand Creek**	**76.07**	**15**		*e*P		**P**		**02 48 41.0**	**0.0**
	comp=Z,6.0nm,0.7s									
RIDG	**Independ'e Rid**	**76.10**	**16**		*e*P		**P**		**02 48 40.3**	**-0.7**
	comp=Z,28nm,1.5s									
DHY	**Denali Highway**	**76.10**	**17**		*e*P		**P**		**02 48 41.0**	**-0.2**
	comp=Z,7.4nm,0.7s									
DOT	**Dot Lake**	**76.35**	**15**		*e*P		**P**		**02 48 41.8**	**-0.6**
	comp=Z,4.7nm,0.8s									
PAX	**Paxson**	**76.63**	**16**		*e*P		**P**		**02 48 43.9**	**-0.2**
	comp=Z,7.7nm,0.8s									
PAX	**Paxson**	**76.63**	**16**		*e*P		**P**		**02 48 43.9**	**-0.2**
PAX					pmax		pmax			
	comp=Z,8.0nm,0.8s									
DAWY	**Dawson**	**76.90**	**13**		*e*P		**P**		**02 48 45.4**	**-0.2**
	comp=Z,6.6nm,0.9s									
SML	**Sawmill**	**76.96**	**18**		*e*P		**P**		**02 48 45.3**	**-0.5**
	comp=Z,17nm,0.8s									
SML	**Sawmill**	**76.96**	**18**		*e*P		**P**		**02 48 45.3**	**-0.5**
SML					pmax		pmax			
	comp=Z,17nm,0.8s									
HARP	**HAARP**	**77.20**	**16**		*e*P		**P**		**02 48 47.5**	**+0.4**
	comp=Z,34nm,0.9s									
BOSA	**Boshof**	**77.81**	**220**		pP		pP		02 49 50.0	+0.6
BOSA	**Boshof**	**77.81**	**220**		pP		pP		02 49 50.0	+0.6
	comp=Z,6.3nm,1.1s,baz=350,slow=6.2,SNR=4.5									
KLU	**Klutina**	**77.82**	**17**		*e*P		**P**		**02 48 50.7**	**+0.1**
	comp=Z,7.3nm,0.9s									
KDAK	**Kodiak Island**	**79.16**	**22**		*i*P		**P**		**02 48 58.4**	**+0.5**
HYT	**Haines Junctio**	**80.23**	**14**		*e*P		**P**		**02 49 04.1**	**+0.3**
	comp=Z,4.4nm,0.7s									
YKA	**Yellowknife Ar**	**81.25**	**3**		P		**P**		**02 49 09.0**	**+0.1**
	comp=Z,5.5nm,0.5s,baz=350,slow=5.4,SNR=159									
YKA					pP		**pP**		**02 50 08.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=349,slow=5.3,SNR=2.5									
YKA					PP		**PP**		**02 52 17.6**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=355,slow=8.0,SNR=5.2									
WRA	**Warramunga Arr**	**81.89**	**122**		P		**P**		**02 49 11.7**	**-1.3**
	comp=Z,1.5nm,0.5s,baz=324,slow=5.0,SNR=50									
WRA					pP		**pP**		**02 50 11.5**	**-0.3**
	comp=Z,1.0nm,0.9s,baz=325,slow=5.0,SNR=2.2									
WRA					PKKPbc		**PKKPbc**		**03 07 41.3**	**0.0**
	comp=Z,0.5nm,1.1s,baz=124,slow=2.1,SNR=4.6									
WRAB	**Tennant Creek**	**81.89**	**122**		*e*P		**P**		**02 49 11.7**	**-1.3**
	comp=Z,3.2nm,0.5s									
WRAB	**Tennant Creek**	**81.89**	**122**		*e*P		**P**		**02 49 11.7**	**-1.3**
WRAB					pmax		pmax			
	comp=Z,3.0nm,0.5s									
AS31	**Alice Springs**	**84.16**	**125**		*e*P		**P**		**02 49 23.5**	**-1.0**
	comp=Z,1.0nm,0.6s									
ASAR	**Alice Springs**	**84.16**	**125**		P		**P**		**02 49 23.4**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=312,slow=4.9,SNR=51									
ASAR					pP		**pP**		**02 50 24.5**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=317,slow=5.4,SNR=3.2									
AS01	**Alice Springs**	**84.19**	**125**		*e*P		**P**		**02 49 23.2**	**-1.5**
FCC	**Fort Churchill**	**84.30**	**352**		*e*P		**P**		**02 49 24.9**	**+0.3**
	comp=Z,3.1nm,0.7s									
FCC	**Fort Churchill**	**84.30**	**352**		*e*P		**P**		**02 49 24.9**	**+0.3**
FCC					pmax		pmax			
	comp=Z,3.0nm,0.7s									
FFC	**Flin Flon**	**88.95**	**356**		*e*P		**P**		**02 49 47.5**	**+0.3**
	comp=Z,7.9nm,1.1s									
FFC	**Flin Flon**	**88.95**	**356**		*i*P		**P**		**02 49 48.3**	**+1.1**
CTAO	**Charters Tower**	**90.44**	**115**		*e*P		**P**		**02 49 53.9**	**-0.7**
CTAO	**Charters Tower**	**90.44**	**115**		*e*P		**P**		**02 49 53.9**	**-0.7**
ULM	**Lac du Bonnet**	**92.87**	**352**		P		**P**		**02 50 05.3**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=340,slow=3.4,SNR=5.7									
PMSA	**Palmer Station**	**141.26**	**209**		*e*PKPdf		**PKPdf**		**02 56 20.7**	**-0.2**
LVC	**Limon Verde**	**142.86**	**281**		*e*PKPdf		**PKPdf**		**02 56 24.8**	**-0.9**
LVC	**Limon Verde**	**142.86**	**281**		*e*PKIKP		**PKPdf**		**02 56 24.8**	**-0.9**
LCO	**Las Campanas**	**147.21**	**272**		*e*PKPbc		**PKPbc**		**02 56 35.3**	**-0.2**
LCO	**Las Campanas**	**147.21**	**272**		*e*PKP2		**PKPbc**		**02 56 35.3**	**-0.2**
PLCA	**Paso Flores**	**149.93**	**250**		PKPbc		**PKPbc**		**02 56 41.9**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=149,slow=4.0,SNR=9.8									

IDC 03 02:46:02.7±27.0, 15°86S×175°19W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.7/37, mbtmp4.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=536.4km s-min=152.2km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**30.14**	**200**	LR	LR	03 04 24.0	
	comp=Z,42nm,19.9s,baz=198,slow=36						
STKA	**Stephens Creek**	**42.32**	**240**	P	P	02 53 58.7	+0.1
	1.3nm,0.4s,baz=106,slow=9.3,SNR=4.2						
WRA	**Warramunga Arr**	**48.07**	**257**	P	P	02 54 43.9	-0.5
	0.8nm,0.5s,baz=93,slow=6.9,SNR=36						
ASAR	**Alice Springs**	**48.34**	**252**	P	P	02 54 45.9	-0.6
	9.6nm,0.6s,baz=87,slow=8.3,SNR=164						
FITZ	**Fitzroy Crossi**	**56.43**	**259**	P	P	02 55 47.3	+0.6
	1.2nm,0.8s,baz=99,slow=4.7,SNR=4.8						

*IDC **03** 02:48:22.6±1.4, 44°28N×11°52E, h0km, mb3.4/3, mb1 3.3/6, mb1mx3.2/56, mbtmp3.3/6, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/32, Error ellipse: s-maj=25.3km s-min=14.8km az=89.0*

*ROM **03** 02:48:23.0±0.2, 44°151N±0°009×11°434E±0°009, h5km±1km, ML3.1/25*

*LDG **03** 02:48:23.6±0.1, 44°24N×11°58E, h10km, Ml3.1/30, Error ellipse: s-maj=3.3km s-min=2.3km az=168.0*

*PRU **03** 02:48:24.6±0.0, 44°28N×11°50E, h9km*

*STR **03** 02:48:31.5±0.9, 44°N±6°×1°1E±°, h10km, M3.6/12, mB4.0/2, mb3.8/4, MLv3.5/12, MLv3.5/7, Mw(mB)3.1/2*

ISC 03 02:48:23.6±0.9, 44°22N±0°02×11°41E±0°02, h13km±6km, n152, σ1°67/222, mb3.4/3, 8C-7D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTRZ	**Monterenzio**	**0.16**	**13**	P	**Pg**	**02 48 26.6**	**-0.9**
MTRZ				S	**Sg**	**02 48 29.7**	**-0.5**
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
MTRZ				AML	AML		
FNVD	**Fontana Vidola**	**0.21**	**256**	*i* P	**Pg**	**02 48 28.2**	**-0.2**
FNVD				S	**Sg**	**02 48 32.1**	**+0.6**
ASQU	**Asqua**	**0.50**	**147**	P	**Pg**	**02 48 32.5**	**-1.0**
ASQU				S	**Sg**	**02 48 40.1**	**0.0**
ASQU				AML	AML		
	comp=E,2415μm,0.8s						
ASQU				AML	AML		
	comp=N,3120μm,0.5s						
ASQU				AML	AML		
	comp=E,2415μm,0.8s						
POPM	**Popiglio**	**0.50**	**250**	P	**Pg**	**02 48 33.0**	**-0.5**
POPM				S	**Sb**	**02 48 41.4**	**-0.2**
POPM	**Popiglio**	**0.50**	**250**	P	**Pg**	**02 48 33.0**	**-0.5**
POPM				S	**Sb**	**02 48 41.8**	**+0.2**
POPM				AML	AML		
	comp=E,3130μm,0.6s						
POPM				AML	AML		
	comp=N,4600μm,0.2s						
POPM				AML	AML		
	comp=E,3130μm,0.6s						
POPM				AML	AML		
	comp=N,4600μm,0.2s						
POPM				AML	AML		
	comp=E,3130μm,0.6s						
POPM				AML	AML		
	comp=N,4600μm,0.2s						
CRMI	**Carmignano**	**0.54**	**217**	P	**Pg**	**02 48 33.3**	**-0.8**
CRMI				S	**Sg**	**02 48 41.1**	**-0.1**
CRMI				AML	AML		
	comp=E,1895μm,0.9s						
CRMI				AML	AML		
	comp=N,1645μm,0.6s						
CRMI				AML	AML		
	comp=E,779μm,0.9s						
CRMI				AML	AML		
	comp=N,664μm,0.6s						
CRMI				AML	AML		
	comp=E,1895μm,0.9s						
CRMI				AML	AML		
	comp=N,1640μm,0.6s						
CRMI				AML	AML		
	comp=E,779μm,0.9s						
CRMI				AML	AML		
	comp=N,664μm,0.6s						
CRMI				AML	AML		
	comp=N,1640μm,0.6s						
CRMI				AML	AML		
	comp=E,779μm,0.9s						
CRMI				AML	AML		
	comp=E,1895μm,0.9s						
CRMI				AML	AML		
	comp=N,664μm,0.6s						
BDI	**Bagni Di Lucca**	**0.61**	**255**	P	**Pg**	**02 48 34.8**	**-0.7**
BDI				S	**Sb**	**02 48 44.9**	**+0.2**
BDI				AML	AML		
	comp=E,2075μm,0.9s						
BDI				AML	AML		
	comp=N,2170μm,0.5s						
BDI				AML	AML		
	comp=E,2265μm,0.8s						
BDI				AML	AML		
	comp=N,2035μm,0.5s						
BDI				AML	AML		
	comp=E,2075μm,0.9s						
BDI				AML	AML		
	comp=N,2170μm,0.5s						
BDI				AML	AML		
	comp=E,2265μm,0.8s						
BDI				AML	AML		
	comp=N,2035μm,0.5s						
BDI				AML	AML		
	comp=E,2075μm,0.9s						
BDI				AML	AML		
	comp=N,2170μm,0.5s						
BDI				AML	AML		
	comp=N,2035μm,0.5s						
BDI				AML	AML		
	comp=E,2265μm,0.8s						
CARD	**Cardoso**	**0.70**	**254**	P	**Pg**	**02 48 36.7**	**-0.5**
CARD				S	**Sb**	**02 48 46.9**	**-0.3**
SARO	**Sassorosso**	**0.73**	**268**	P	**Pg**	**02 48 37.6**	**-0.2**
SARO				S	**Sb**	**02 48 48.8**	**+0.6**
SARO	**Sassorosso**	**0.73**	**268**	P	**Pg**	**02 48 37.7**	**0.0**
SARO				AML	A

ARCI AML AML
comp=E,230µm,1.0s
ARCI AML AML
comp=N,306µm,0.8s
SACS San Casciano d 1.42 165 P **Pn 02 48 48.5 -0.7**
SACS AML AML
comp=E,434µm,0.9s
SACS AML AML
comp=N,424µm,0.9s
SACS AML AML
comp=N,424µm,0.9s
SACS AML AML
comp=E,434µm,0.9s
MARN Marana (Italy) 1.43 354⇓*e*Pg **Pn 02 48 49.0 -0.3**
MARN *e*Sg **Sg 02 49 11.4 +1.9**
CASP Castiglione de 1.48 196 AML AML
comp=N,270µm,0.7s
CASP AML AML
comp=E,229µm,1.1s
CASP AML AML
comp=N,270µm,0.7s
CASP AML AML
comp=E,229µm,1.1s
BOB Bobbio (Coli) 1.51 292 AML AML
comp=E,1660µm,1.0s
BOB AML AML
comp=E,1660µm,1.0s
BOB AML AML
comp=N,1180µm,0.9s
BOB AML AML
comp=E,1635µm,0.9s
BOB AML AML
comp=N,1425µm,0.9s
BOB AML AML
comp=E,1635µm,0.9s
BOB AML AML
comp=N,1180µm,0.9s
BOB AML AML
comp=N,1425µm,0.9s
BALD Monte Baldo 1.52 344 *e*Pg **Pn 02 48 50.7 -0.1**
BALD *e*Sg **Sg 02 49 13.7 +1.0**
SALO Salr 1.54 336 P **Pg 02 48 53.0 -0.1**
GORR Gorreto 1.57 285 P **Pg 02 48 55.0 +1.3**
GORR S **Sg 02 49 17.5 +3.4**
MTLO Montello 1.67 17⇓*e*Pg **Pn 02 48 52.5 0.0**
MTLO *e*Sg **Sg 02 49 17.0 -0.2**
DOSS Dosso del Somm 1.67 355 *e*Pg **Pn 02 48 52.5 -0.3**
DOSS *e*Sg **Sg 02 49 17.2 -0.2**
CGRP Cima Grappa 1.68 9 *e*Pg **Pn 02 48 52.6 -0.3**
CGRP *e*Sg **Sg 02 49 17.2 -0.6**
PANI Panarotta 1.83 358 *e*Pg **Pn 02 48 55.7 +0.6**
VARN Col Varnada, M 1.84 15 *e*Pg **Pn 02 48 54.6 -0.4**
RNI Roncone 1.85 343 *e*Pg **Pn 02 48 55.1 -0.1**
CAE Caneva 1.93 22 *e*Pg **Pn 02 48 55.9 -0.4**
MABI Malga Bissina 1.94 341 AML AML
comp=E,144µm,0.6s
MABI AML AML
comp=E,144µm,0.6s
MABI AML AML
comp=N,120µm,1.5s
MABI AML AML
comp=N,120µm,1.5s
POLC Polcenigo 1.96 23 *e*Pg **Pn 02 48 56.6 -0.1**
FINB Finale Ligure 2.22 270 AML AML
comp=N,160µm,0.6s
FINB AML AML
comp=E,120µm,0.4s
FINB AML AML
comp=N,160µm,0.6s
FINB AML AML
comp=E,120µm,0.4s
SKDS Skadanscina 2.28 53 *i* Pn **Pn 02 48 59.9 -1.1**
SKDS *e*Sn **Sn 02 49 28.6 -0.3**
comp=Z,190nm,0.4s
AQU L'Aquila 2.36 141 *e*Pn **Pn 02 49 03.6 +1.4**
MUGIO Muggio 2.39 316 AML AML
comp=N,156µm,0.7s
MUGIO AML AML
comp=E,158µm,1.2s
MUGIO AML AML
comp=N,156µm,0.7s
MUGIO AML AML
comp=E,158µm,1.2s
PGF Pioggiola 2.43 227 *e*Pn **Pn 02 49 02.3 -0.8**
PGF *e*Sn **Sn 02 49 32.2 -0.5**
comp=E,12nm,0.3s
RIY Rijeka 2.45 62⇑*i*Pn **Pn 02 49 02.5 -0.8**
KNDS Knezji Dol 2.48 57 *i* Pn **Pn 02 49 03.0 -0.9**
KNDS *e*Sn **Sn 02 49 33.5 -0.6**
comp=Z,123nm,0.6s
NVLJ Novalja 2.50 81 *e*Pn **Pn 02 49 03.9 -0.1**
NVLJ Sn **Sn 02 49 34.3 -0.1**
CEY Cerknica 2.62 54⇑*i*Pn **Pn 02 49 04.6 -1.1**
ABTA Abfaltersbach 2.64 17 Pn **Pn 02 49 06.7 +0.7**
comp=Z,6.9nm,0.3s,SNR=11
DAVOX Davos/Dischmat 2.78 338 Pn **Pn 02 49 09.8 +1.7**
baz=165,slow=18
DAVOX Lg Lg 02 49 50.2
comp=Z,3.1nm,0.3s,baz=135,slow=16,SNR=4.4
FETA Feichten 2.84 351 *e*Pn **Pn 02 49 11.3 +2.4**
comp=Z,4.8nm,0.4s,SNR=20
FETA *e*Pg **Pg 02 49 18.3 +0.2**
comp=Z,19nm,0.6s,SNR=6.4
LJU Ljubljana 2.86 49⇑*i*Pn **Pn 02 49 08.6 -0.4**
MYKA Terra Mystica 2.88 32 Pn **Pn 02 49 10.0 +0.8**
comp=Z,2.9nm,0.3s
SBF Sospel 2.89 264 *e*Pn **Pn 02 49 09.3 -0.1**
SBF *e*Sn **Sn 02 49 42.9 -1.2**
comp=Z,105nm,0.5s
TRAV Traversella 2.91 298 AML AML
comp=N,127µm,0.5s
TRAV AML AML
comp=E,143µm,0.9s
TRAV AML AML
comp=N,127µm,0.5s
TRAV AML AML
comp=E,143µm,0.9s
FUSIO Fusio 2.96 320 AML AML
comp=N,81µm,0.6s
FUSIO AML AML
comp=E,169µm,0.5s
FUSIO AML AML
comp=N,81µm,0.6s
FUSIO AML AML
comp=E,169µm,0.5s
REVF Revere 2.96 262 P **Pn 02 49 11.2 +0.9**
SQTA Sankt Quirin 3.01 357 Pn **Pn 02 49 12.9 +1.9**
comp=E,3.4nm,0.4s,SNR=38
WTTA Wattenberg 3.05 3 *e*Pn **Pn 02 49 13.3 +1.6**
comp=E,3.1nm,0.2s
PZZ Stroppo 3.10 277 AML AML
comp=E,78µm,0.9s
PZZ AML AML
comp=E,78µm,0.9s
PZZ AML AML
comp=N,113µm,0.7s
PZZ AML AML
comp=N,113µm,0.7s
WATA Walderalm 3.12 2 *e*Pn **Pn 02 49 14.2 +1.5**
SNR=20
MOTA Moosalm 3.13 356 *e*Pn **Pn 02 49 14.9 +2.0**
comp=N,5.8nm,0.4s,SNR=12
UDBI Udbina 3.13 83 *e*Pn **Pn 02 49 13.5 +0.7**
UDBI Sn **Sn 02 49 49.6 -0.5**
KBA Koelnbreinsper 3.16 25 *i* Pn **Pn 02 49 14.2 +0.9**
comp=N,5.9nm,0.2s
OBKA Obir 3.18 43 *e*Pn **Pn 02 49 13.6 +0.1**
comp=N,5.4nm,0.3s
OZLJ Ozalj 3.20 63 *e*Pn **Pn 02 49 13.8 +0.2**
OZLJ Sn **Sn 02 49 49.5 -2.0**
DAVA Damuels 3.25 341 *e*Pn **Pn 02 49 16.7 +2.3**
comp=N,3.1nm,0.2s,SNR=8.5
CRES Cresnjev 3.29 59⇑*i*Pn **Pn 02 49 14.2 -0.6**
RETA Reutte 3.30 352 *e*Pn **Pn 02 49 16.9 +1.8**
comp=N,8.3nm,0.4s,SNR=5.9
MBDF Montbardon 3.36 280 *e*Pn **Pn 02 49 17.0 +1.0**
MBDF *e*Sn **Sn 02 49 55.3 -0.6**
comp=N,10nm,0.5s
REMY Saint-Rhmy-en 3.42 300 AML AML
comp=E,153µm,0.9s
REMY AML AML
comp=N,192µm,0.8s
REMY AML AML
comp=E,153µm,0.9s
REMY AML AML
comp=N,192µm,0.8s

FRF La Foret Royal 3.51 261 *e*Pn **Pn 02 49 17.7 -0.2**
FRF *e*Sn **Sn 02 49 58.2 -1.0**
SOKA Soboth 3.54 45 *e*Pn **Pn 02 49 18.6 +0.2**
comp=N,1.5nm,0.2s
LPG La Plagne 3.55 293 *e*Pn **Pn 02 49 19.8 +1.0**
LPG *e*Sn **Sn 02 50 00.2 -0.6**
comp=N,13nm,0.3s
LPL La Plagne 3.57 293 *e*Pn **Pn 02 49 19.9 +0.9**
LPL *e*Sn **Sn 02 50 00.5 -0.6**
comp=N,9.1nm,0.3s
ZAG Zagreb 3.62 62 *e*Pn **Pn 02 49 22.8 +3.4**
LMR La Mourre 3.66 258 *e*Pn **Pn 02 49 19.5 -0.4**
LMR *e*Sn **Sn 02 50 01.2 -1.8**
comp=N,14nm,0.4s
ORIF Oris-en-Rattie 4.02 282 *e*Pn **Pn 02 49 27.2 +2.3**
ORIF *e*Sn **Sn 02 50 10.9 -1.0**
comp=N,9.3nm,0.6s
MOA Molln 4.14 28 *e*Pn **Pn 02 49 27.4 +0.9**
comp=N,2.1nm,0.2s
BLY Banja Luka 4.16 81 *e*Pn **Pn 02 49 26.9 0.0**
ARSA Arzberg 4.18 42 *e*Pn **Pn 02 49 26.9 -0.2**
comp=N,5.4nm,0.3s
SMRF Simiane la Rot 4.21 269 *e*Pn **Pn 02 49 29.8 +2.2**
SMRF *e*Sn **Sn 02 50 15.6 -1.1**
comp=N,2.3nm,0.3s
GIMEL St. Georges / 4.30 304 AML AML
comp=E,29µm,0.9s
GIMEL AML AML
comp=N,31µm,1.1s
GIMEL AML AML
comp=N,31µm,1.1s
GIMEL AML AML
comp=E,29µm,0.9s
BEHE Becsehely 4.40 57 *e*Pn **Pn 02 49 27.8 -2.3**
BEHE Becsehely 4.40 57 *e*Pn **Pn 02 49 29.0 -1.1**
BEHE Sn **Sn 02 50 21.0 -0.2**
CABF La Chapelle 4.45 304 *e*Pn **Pn 02 49 32.2 +1.3**
CABF *e*Sn **Sn 02 50 21.3 -1.2**
comp=E,3.7nm,0.3s
KIZ Kirchzarten 4.46 328 P **Pn 02 49 31.6 +0.7**
LOMF Lomont 4.48 316 P **Pn 02 49 32.3 +0.9**
LOMF S **Sn 02 50 22.0 -1.4**
MOF Molkenrain 4.70 322 P **Pn 02 49 34.6 +0.3**
MOF S **Sn 02 50 32.0 +3.3**
STON Ston 4.76 104 *e*Pn **Pn 02 49 36.1 +1.0**
HINF Hinteralfeld 4.80 320 *e*Pn **Pn 02 49 35.9 +0.3**
HINF *e*Sn **Sn 02 50 29.3 -1.8**
comp=E,7.0nm,0.3s
OPP Oppenau 4.83 334 P **Pn 02 49 36.6 +0.7**
OPP S **Sn 02 50 30.5 -1.3**
CONA Conrad Observa 4.83 38 *e*Pn **Pn 02 49 36.0 -0.1**
comp=E,3.5nm,0.5s
VIVF Saint-Julien-l 4.86 280 *e*Pn **Pn 02 49 37.8 +1.3**
VIVF *e*Sn **Sn 02 50 30.9 -1.8**
comp=E,0.8nm,0.2s
GERES GERESS Array B 4.89 18 Pn **Pn 02 49 36.4 -0.5**
comp=E,0.9nm,0.3s,baz=194,slow=12,SNR=40
GERES Sn **Sn 02 50 31.5 -1.9**
comp=E,4.1nm,0.3s,baz=195,slow=21,SNR=16
GERES LR LR 02 51 37.5
comp=E,71nm,18.2s,baz=168,slow=40
ECH Echery 4.97 325 P **Pn 02 49 38.6 +0.6**
SOP Sopron 4.99 44 *e*Pn **Pn 02 49 37.1 -1.1**
SOP Sn **Sn 02 50 34.0 -1.6**
WLS Welschbruch 5.05 328 P **Pn 02 49 39.3 +0.2**
WLS S **Sn 02 50 37.3 0.0**
CDF Champ du Feu 5.08 327 *e*Pn **Pn 02 49 40.0 +0.5**
CDF *e*Sn **Sn 02 50 35.7 -2.4**
comp=E,3.1nm,0.2s
KHC Kasperske Hory 5.13 16 *e*PN **Pn 02 49 40.1 -0.1**
KHC *ex* x 02 49 56.0
KHC *e*SN **Sn 02 50 36.3 -3.1**
HAU Haudompre 5.17 319 *e*Pn **Pn 02 49 41.0 +0.3**
HAU *e*Sn **Sn 02 50 37.4 -2.9**
comp=E,8.9nm,0.3s
TREB Trebinje 5.27 104⇑*i*Pn **Pn 02 49 42.6 +0.6**
TIH Tihany 5.28 57 *e*Pn **Pn 02 49 41.0 -1.2**
TIH Sn **Sn 02 50 41.1 -1.8**
SUBF Surbourg 5.30 334 P **Pn 02 49 43.5 +1.0**
BRY Bratogost 5.34 102 *e*Pn **Pn 02 49 45.2 +2.0**
LANF Langenberg 5.37 334 P **Pn 02 49 44.0 +0.5**
HAPS Han Pijesak,Bl 5.42 89⇑*i*Pn **Pn 02 49 43.7 -0.6**
LASF Ste Croix 5.44 271 *e*Pn **Pn 02 49 45.1 +0.7**
LASF *e*Sn **Sn 02 50 44.9 -2.0**
comp=E,2.6nm,0.4s
THEF They Montfort 5.50 319 P **Pn 02 49 46.0 +0.7**
ZST Bratislava 5.60 43 *e*PN **Pn 02 49 45.4 -1.2**
ZST *e*SN **Sn 02 50 46.3 -4.6**
TREC Trest 5.80 27 *e*PN **Pn 02 49 48.6 -0.7**
TREC *e*SN **Sn 02 50 53.3 -2.4**
MODS Modra-Piesok 5.81 42 *e*PN **Pn 02 49 49.2 -0.3**
MODS *e*SN **Sn 02 50 52.8 -3.2**
PAGF Fort de Pagny 5.86 320 *e*Pn **Pn 02 49 49.9 -0.2**
baz=138
PAGF *e*Sn **Sn 02 50 54.3 -2.8**
comp=E,6.2nm,0.3s
SMF Signal de Mont 5.86 297 *e*Pn **Pn 02 49 50.7 +0.6**
SMF *e*Sn **Sn 02 50 54.8 -2.3**
comp=E,9.9nm,0.4s
LBL Lubilhac 5.91 283 P **Pn 02 49 50.8 -0.1**
KRUC Moravsky 5.93 34 *e*PN **Pn 02 49 50.0 -1.2**
KRUC *e*SN **Sn 02 50 54.7 -4.3**
SFTF Sexfontaines 5.95 314 *e*Pn **Pn 02 49 52.3 +0.8**
baz=130
SFTF *e*Sn **Sn 02 50 56.9 -2.6**
comp=E,1.9nm,0.3s
SMOL Smolenice 5.98 42 *e*PN **Pn 02 49 51.4 -0.4**
SMOL *e*SN **Sn 02 50 58.0 -2.2**
PDG Podgorica 5.99 105 *e*Pn **Pn 02 49 53.1 +1.1**
DRME Dracevica, Mon 6.03 107 *e*Pn **Pn 02 49 53.2 +0.7**
NKC Novy Kostel 6.06 6 *e*PN **Pn 02 49 52.3 -0.6**
NKC *e*SN **Sn 02 50 59.9 -2.2**
LOR Lormes 6.10 303 *e*Pn **Pn 02 49 54.4 +0.9**
baz=120
LOR *e*Sn **Sn 02 51 00.7 -2.5**
comp=E,9.5nm,0.3s
AGO Saint Agoulin 6.14 290 P **Pn 02 49 53.8 -0.2**
MEZF Maizieres J'vi 6.14 316 *e*Pn **Pn 02 49 55.7 +1.7**
baz=126
MEZF *e*Sn **Sn 02 51 01.4 -2.7**
comp=E,2.4nm,0.3s
GOPC GO Pecny, Ondr 6.14 21 *e*PN **Pn 02 49 54.1 0.0**
GOPC *e*SN **Sn 02 51 00.8 -3.4**
PRU Pruhonice 6.15 19 *e*PN **Pn 02 49 54.3 +0.1**
PRU *e*SN **Sn 02 51 01.7 -2.7**
PYM Petit Puy Mans 6.16 287 P **Pn 02 49 54.7 +0.4**
VRAC Vranov 6.21 33 *e*PN **Pn 02 49 53.2 -1.8**
VRAC *e*SN **Sn 02 51 00.8 -5.0**
AVF Avril sur Loir 6.22 297 *e*Pn **Pn 02 49 55.3 +0.2**
AVF *e*Sn **Sn 02 51 03.7 -2.4**
comp=E,1.7nm,0.3s
SSF Saint Saulge 6.23 300 *e*Pn **Pn 02 49 55.8 +0.6**
SSF *e*Sn **Sn 02 51 03.4 -2.9**
comp=E,2.6nm,0.3s
BGF Bois d'Agland 6.47 294 *e*Pn **Pn 02 49 58.9 +0.3**
BGF *e*Sn **Sn 02 51 09.3 -2.9**
comp=E,7.5nm,0.3s
VYHS Vyhne 6.68 48 *e*PN **Pn 02 50 00.3 -1.1**
VYHS *e*SN **Sn 02 51 11.7 -5.7**
MTLF Montolieu 6.71 266 *e*Pn **Pn 02 50 02.4 +0.5**
MTLF *e*Sn **Sn 02 51 15.1 -3.2**
comp=E,1.6nm,0.4s
CAF Calviac 6.72 279 *e*Pn **Pn 02 50 03.3 +1.3**
CAF *e*Sn **Sn 02 51 15.2 -3.1**
comp=E,0.3nm,0.2s
TCF Toulx Ste Croi 6.82 291 *e*Pn **Pn 02 50 03.4 +0.1**
TCF *e*Sn **Sn 02 51 17.9 -2.9**
comp=E,3.0nm,0.3s
HYF Humbligny 6.85 299 *e*Pn **Pn 02 50 04.3 +0.5**
HYF *e*Sn **Sn 02 51 18.2 -3.5**
BRG Berggiesshubel 6.87 14 PN **Pn 02 50 04.6 +0.5**
BRG PG **Pg 02 50 35.9 +0.8**
BRG SN **Sn 02 51 18.3 -3.8**
BRG SG **Sg 02 52 08.9 +4.8**
comp=E,9.7nm,1.1s
DPC Dobruska-Polom 6.98 27 *e*SN **Sn 02 51 20.9 -4.0**
UPC Upice 7.02 25 *e*PN **Pn 02 50 05.8 -0.3**
UPC *e*SN **Sn 02 51 21.4 -4.4**
RJF Les Rejaudoux 7.13 282 *e*Pn **Pn 02 50 07.2 -0.4**
RJF *e*Sn **Sn 02 51 25.2 -3.3**
CLL Collm 7.17 8 *e*Pn **Pn 02 50 08.0 -0.2**
CLL *e* 02 51 25.0
CLL *e*Sg **Sg 02 52 10.0 -3.6**

BZS Buzias 7.38 76⇑*i*P **Pn 02 50 11.3 +0.3**
MDVR Moldovita 7.39 82⇓*i*P **Pn 02 50 10.5 -0.7**
EPF Esparros 8.12 265 *e*Pn **Pn 02 50 20.6 -0.7**
EPF *e*Sn **Sn 02 51 49.0 -4.0**
comp=E,0.4nm,0.2s
GZR Gura Zlata 8.17 78⇑*i*P **Pn 02 50 22.2 +0.3**
DRGR 8.34 68⇓*i*P **Pn 02 50 25.2 +0.9**
MFF Saint Martin d 8.47 290 *e*Pn **Pn 02 50 26.1 +0.1**
MFF *e*Sn **Sn 02 51 57.4 -4.1**
comp=E,0.5nm,0.2s
VTS Vitosha 8.74 97⇓*i*P **Pn 02 50 31.8 +2.0**
EKA Eskdalemuir Ar 14.54 325 Pn **Pn 02 51 49.7 +0.8**
baz=136,slow=14,SNR=3.2
TORD Torodi Ar. Bea 32.07 198 P **P 02 54 50.4 +0.1**
comp=E,0.4nm,0.7s,baz=12,slow=7.2,SNR=4.1
KURBB Kurchatov Arra 44.45 57 P **P 02 56 35.7 +1.6**
comp=E,0.3nm,0.6s,baz=283,slow=8.3,SNR=2.5
MKAR Makanchi Array 48.18 61 P **P 02 57 04.1 +0.5**
comp=E,0.3nm,0.7s,baz=294,slow=6.0,SNR=4.5

IDC 03 02:54:00.7±15.0,**7°.27S**×**129°.58E,h128**km±168km,
mb3.1/1,**mb1 3.1**/4,**mb1mx2.9**/42,**mbtmp3.4**/4,**ML3.2**/3,
Error ellipse: s-maj=99.6km s-min=60.2km az=20.0,
Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**199**	P		Pn		02 56 42.1	+2.0
	0.2nm,0.3s,baz=30,slow=12,SNR=12								
FITZ				S		Sn		02 58 44.3	-1.8
	0.2nm,0.3s,baz=66,slow=20,SNR=4.2								
WRA	**Warramunga Arr**	**13.41**	**160**	P		Pn		02 57 04.2	-1.9
	0.1nm,0.3s,baz=330,slow=13,SNR=12								
WRA				S		Sn		02 59 25.6	-8.5
	0.2nm,0.3s,baz=335,slow=22,SNR=8.3								
ASAR	**Alice Springs**	**16.82**	**166**	P		Pn		02 57 49.7	+1.0
	0.1nm,0.3s,baz=343,slow=9.1,SNR=4.4								
MKAR	**Makanchi Array**	**68.23**	**327**	P		P		03 04 47.4	-0.1
	0.3nm,0.5s,baz=116,slow=8.8,SNR=4.1								

*IDC **03** 02:56:11.9±4.9,35°.39N×78°.59E,h0km,mb3.6/2,*
mb1 3.6/3,mb1mx3.2/43,mbtmp3.5/3,ML3.0/1,Error
ellipse: s-maj=100.0km s-min=70.6km az=147.0
*NNC **03** 02:56:26.3±5.5,35°.89N×82°.25E,h0km,mb3.9,mpv3.9,*
Error ellipse: s-maj=45.7km s-min=38.9km az=16.0

ISC 03 02:56:15.7±1.8,**35°.6N**±0°.1×**78°.4E**±0°.2,**h10**km,**n8,**
σ3°53/12,4C-4D,Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**7.61**	**344**	⇓P		**Pb**		**02 58 32.2**	**+4.3**
	4.4nm,0.8s								
TKM2				⇓S		**Sg**		**03 00 15.7**	**-4.2**
	1.4nm,0.6s								
MDOK	**Medeo**	**7.61**	**353**	P		**Pb**		**02 58 29.3**	**+1.4**
	3.3nm,0.7s								
MDOK				S		**Sb**		**03 00 04.8**	**+6.1**
	6.6nm,0.7s								
AAK	**Ala-Archa**	**7.63**	**338**	⇑P		**Pg**		**02 58 38.8**	**-3.1**
	2.8nm,0.8s								
AAK				⇑S		**Sg**		**03 00 20.1**	**-0.7**
	13nm,1.1s								
MAKZ	**Makanchi**	**11.51**	**12**	⇑Pn		Pn		02 59 04.2	+4.1
	1.3nm,0.8s								
MAKZ				⇓S		**Sn**		**03 01 08.3**	**-0.3**
	0.3nm,0.5s								
MK31	**Makanchi Array**	**11.55**	**14**	⇑Pn		**Pn**		**02 59 01.7**	**+1.1**
	0.9nm,0.7s,baz=189,slow=13,SNR=6.6								
MK31				⇓S		**Sn**		**03 01 05.1**	**-4.6**
	0.4nm,0.6s,baz=182,slow=22								
MKAR	**Makanchi Array**	**11.55**	**14**	Pn		**Pn**		**02 59 02.1**	**+1.4**
	0.1nm,0.3s,baz=199,slow=14,SNR=7.2								
FINES	**FINESS Array B**	**41.60**	**325**	P		**P**		**03 04 03.3**	**-0.2**
	2.2nm,1.0s,baz=108,slow=8.9,SNR=5.7								
YKA	**Yellowknife Ar**	**81.67**	**6**	P		**P**		**03 08 32.7**	**-1.1**
	0.1nm,0.5s,baz=343,slow=5.3,SNR=5.1								

*IDC **03** 03:12:23.8±0.5,38°.52N×71°.63E,h0km,mb4.6/29,*
mb1 4.7/35,mb1mx4.6/49,mbtmp4.6/35,ML4.2/6,MS4.1/22,
Ms1 4.1/22,ms1mx4.0/50,Error ellipse: s-maj=12.5km
s-min=9.8km az=162.0
*ISCJB **03** 03:12:24.3±0.1,38°.61N±0°.02×71°.63E±0°.02,h10km,*
mb4.9/191,MS4.3/35,Error ellipse: s-maj=2.7km
s-min=2.2km az=177.1
*BJI **03** 03:12:24.1,38°.80N×71°.30E,h18km,mb4.7/48,mB5.0/36,*
ML5.2/4,Ms4.9/46,Ms7 4.6/40
*NEIC **03** 03:12:26.0±1.4,38°.61N×71°.59E,h12km±8km,mb5.1/105,*
Error ellipse: s-maj=4.1km s-min=2.6km az=174.0
NEIC Felt at Khorugh.
*MOS **03** 03:12:27.4±1.0,38°.56N×71°.58E,h34km,mb5.2/78,*
MS4.2/19,Error ellipse: s-maj=4.9km s-min=3.8km
az=119.8
*GCMT **03** 03:12:28.0±0.2,38°.64N±0°.02×71°.50E±0°.01,h24km±1km,*
MW5.1/81,Moment Tensor Solution. s27,c32; s81,c132;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.55±.19;
Mθθ-5.18±.17; Mφφ4.64±.15; Mrθ-0.02±.25; Mθφ-0.04±.12;
Mφr-0.24±.21; Best double couple: M=4.91700×10^16
NP1:φs225.00000°,δ88.00000°,λ3.00000°. NP2:
φs135.00000°,δ87.00000°,λ178.00000°. Principal axes:
T 4.6540, Plg3.0000°, Azm90.0000°; N 0.5310,
Plg87.0000°, Azm266.0000°; P -5.1800, Plg0.0000°,
Azm360.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*NNC **03** 03:12:28.6±2.1,38°.77N×71°.31E,h15km±9km,mb5.6,*
mpv5.4 Error ellipse: s-maj=15.8km s-min=9.4km
az=171.0
*BGR **03** 03:12:44.6±0.0,38°.99N×69°.34E,h33km,mb5.0,Ms4.2*

ISC 03 03:12:27.2±0.2,**38°.67N**±0°.03×**71°.45E**±0°.02,**h10**km,**n643,**
σ1°65/474,mb5.0/209,MS4.4/37,76C-32D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**1.80**	**270**	*e*Pn		**Pn**		**03 12 59.7**	**+1.3**
CHGR				*e*Sn		**Sn**		**03 13 21.7**	**+0.4**
TAS	**Tashkent**	**3.13**	**329**	PN		**Pn**		**03 13 19.4**	**+2.7**
KSH	**Kashi**	**3.62**	**75**	Pn		Pn		03 13 19.9	-3.6
KSH				Sn		Sn		03 13 59.0	-7.3
KSH				smax		smax			
	comp=N,3µm,0.8s								
KSH				smax		smax			
	comp=E,3µm,0.9s								
IUG	**luzhnay**	**3.64**	**343**	Pg		**Pb**		**03 13 34.2**	**+2.5**
	5µm,0.6s								
IUG				Lg		Lg		03 14 21.8	
	13µm,0.7s								
AML	**Almayashu**	**3.86**	**26**	P		**Pn**		**03 13 28.8**	**+1.8**
	SNR=542								
UCH	**Uchtor**	**4.25**	**32**	P		**Pn**		**03 13 34.7**	**+2.2**
	SNR=87								
EKS2	**Erkin-Say**	**4.36**	**23**	P		**Pn**		**03 13 35.9**	**+2.2**
	SNR=428								
KZA	**Kyzart**	**4.47**	**39**	P		**Pn**		**03 13 37.1**	**+1.7**
	SNR=22								
KK31	**Karatay Array**	**4.49**	**351**	*e*Pn		**Pn**		**03 13 36.8**	**+1.5**
KK31	**Karatay Array**	**4.49**	**351**	⇑Pn		**Pn**		**03 13 37.8**	**+2.4**
	528nm,0.6s,baz=179,slow=13,SNR=4025								
KK31				⇓Pg		**Pb**		**03 13 49.7**	**+3.6**
	1µm,0.8s,baz=173,slow=15,SNR=8.6								
KK31				⇑Sn		**Sn**		**03 14 29.2**	**+1.7**
	1µm,0.7s,baz=180,slow=22,SNR=5.3								
KK31				⇑Lg		Lg		03 14 47.3	
	2µm,0.8s								
KK31	**Karatay Array**	**4.49**	**351**	*e*PN		**Pn**		**03 13 37.7**	**+2.4**
KK31				*e*				03 13 49.1	
KK31				*i*				03 14 34.7	
KK31				pmax		pmax			
	comp=Z,528nm,0.6s								
KK31				pmax		pmax			
	comp=Z,1µm,0.8s								
KK31				smax		smax			
	comp=N,1µm,0.7s								
KKAR	**Karatay Array**	**4.49**	**351**	*e*Pn		**Pn**		**03 13 37.0**	**+1.7**
KKAR	**Karatay Array**	**4.49**	**351**	*e*PN		**Pn**		**03 13 37.0**	**+1.7**
KBL	**Kabul**	**4.55**	**206**	*e*Pn		**Pn**		**03 13 38.6**	**+2.2**
KBL				*e*Sn		**Sn**		**03 14 35.9**	**+6.4**
AAK	**Ala-Archa**	**4.59**	**29**	P		**Pn**		**03 13 39.5**	**+2.6**

SNR=205
AAK Ala-Archa 4.59 29 ⇓Pn **Pn 03 13 39.3 +2.5**
comp=N,179nm,0.5s
AAK ⇓Pg **Pb 03 13 51.6 +3.6**
comp=N,1μm,0.8s
AAK Lg Lg 03 14 52.8
comp=N,1μm,0.8s
AAK Ala-Archa 4.59 29 PN **Pn 03 13 39.3 +2.5**
AAK 03 13 51.5
AAK pmax pmax
comp=Z,179nm,0.5s
AAK pmax pmax
comp=Z,1μm,0.8s
KBK Karagaybulak 4.79 33 P **Pn 03 13 42.3 +2.7**
SNR=54
CEP Cherat 4.85 175 P **Pn 03 13 41.4 +1.0**
CHMS Chumysh 5.00 29 P **Pn 03 13 44.4 +2.0**
SNR=500
ULHL Ulahol 5.11 44 P **Pn 03 13 45.2 +1.2**
SNR=31
USP Ospenovka 5.14 26 P **Pn 03 13 46.0 +1.7**
SNR=100
CHCP Chirah Chowk 5.21 163 P **Pn 03 13 46.7 +1.4**
CHCP S **Sn 03 14 51.0 +5.5**
TKM2 Tokmak 2 5.28 35 P **Pn 03 13 48.3 +1.9**
SNR=88
TKM2 Tokmak 2 5.28 35 ⇑Pn **Pn 03 13 48.8 +2.4**
comp=Z,110nm,0.5s
TKM2 ⇑Pg **Pb 03 14 04.0 +4.2**
comp=Z,579nm,0.9s
TKM2 ⇑Sn **Sn 03 14 47.1 -0.4**
comp=Z,715nm,1.1s
TKM2 ⇓Lg Lg 03 15 14.2
comp=Z,508nm,0.9s
TKM2 Tokmak 2 5.28 35 PN **Pn 03 13 48.8 +2.4**
TKM2 03 14 04.0
TKM2 pmax pmax
comp=Z,110nm,0.5s
TKM2 pmax pmax
comp=Z,579nm,0.9s
DGS Degeres 5.62 34 Pg Pb 03 14 10.6 +5.2
comp=Z,482nm,0.7s
DGS Lg Lg 03 15 23.7
comp=Z,1μm,0.8s
MTBS Maitube 5.84 39 Pg Pb 03 14 14.2 +5.1
comp=Z,192nm,0.8s
MTBS Lg Lg 03 15 30.3
comp=Z,294nm,1.0s
THW Thamme Wali 5.87 178 P **Pn 03 13 54.3 0.0**
AAA Alma-Ata 6.14 41 *e*PN Pn 03 14 04.3 +6.3
AAA *e*S Sn 03 15 18.4 +10
AAA pmax pmax
comp=Z,100nm,1.3s
AAA smax smax
comp=N,1μm,2.4s
AAA MLR MLR
comp=Z,4μm,7.0s
KNDC Almaty 6.17 41 ⇑Pn **Pn 03 14 01.6 +3.2**
comp=Z,125nm,0.8s
KNDC ⇑Pg Pb 03 14 21.4 +6.6
comp=Z,833nm,0.9s
KNDC ⇓Lg Lg 03 15 43.3
comp=Z,3μm,1.1s
MDOK Medeo 6.17 42 ⇑Pn **Pn 03 14 00.5 +1.9**
comp=Z,75nm,0.8s
MDOK ⇓Pg **Pb 03 14 18.8 +3.9**
comp=Z,362nm,0.8s
MDOK ⇑Lg Lg 03 15 42.6
comp=Z,1μm,1.2s
SARP Sargodha 6.81 171 P Pn 03 14 05.7 -1.5
DHRM DHĀRAMSHALA 7.53 147 *e*P Pn 03 14 15.4 -1.8
DHRM *e*S Sn 03 15 32.2 -11
DHRM IAML 03 16 21.2
comp=E,633nm,1.1s
DHRM IAML 03 16 25.9
comp=N,3μm,1.0s
PDGK Podgornoye 7.65 50 ⇑Pn **Pn 03 14 19.5 +0.6**
comp=N,64nm,0.8s
PDGK ⇓Lg Lg 03 16 34.2
comp=N,1μm,1.4s
PDGK Podgornoye 7.65 50 P **Pn 03 14 19.5 +0.6**
PDGK pmax pmax
comp=Z,64nm,0.8s
BHK Bhakra 8.30 149 *e*P Pn 03 14 24.0 -3.7
BHK *e*S Sn 03 15 50.8 -11
SMLA Simla 8.87 146 *e*P Pn 03 14 32.6 -2.8
SMLA *e*S Sn 03 16 05.6 -10
OTUK Ortayu 9.59 4 ⇑Pn Pn 03 14 44.3 -1.0
comp=Z,87nm,1.2s
OTUK ⇑Pg 03 15 20.1
comp=Z,152nm,0.8s
OTUK ⇓Lg Lg 03 17 26.7
comp=Z,1μm,1.4s
OTUK Ortayu 9.59 4 P Pn 03 14 44.3 -1.1
OTUK pmax pmax
comp=Z,87nm,1.2s
OTUK pmax pmax
comp=Z,152nm,0.8s
DDI Dehra Dun 9.95 145 *e*P Pn 03 14 45.9 -4.5
DDI *e*S Sn 03 16 30.0 -12
GEYT Alibeck 10.51 270 Pn Pn 03 14 53.8 -4.2
comp=Z,4.2nm,0.3s,baz=102,slow=11,SNR=38
GEYT Sn Sn 03 16 50.5 -5.2
comp=Z,8.2nm,0.3s,baz=80,slow=12,SNR=4.5
GEYT LR LR 03 20 30.2
comp=Z,717nm,19.6s,baz=125,slow=46
GYA0B ALIBECK ARRAY 10.51 270 *e*Pn Pn 03 14 54.2 -3.8
GYA0B ALIBECK ARRAY 10.51 270 ⇑Pn Pn 03 14 56.3 -1.6
comp=Z,46nm,0.8s
GYA0B ⇑Sn Sn 03 16 50.6 -5.1
comp=Z,365nm,0.7s
NDI New Delhi 11.05 153 *e*P Pn 03 15 00.0 -5.4
MAKZ Makanchi 11.22 40 *e*Pn **Pn 03 15 07.9 +0.3**
MAKZ Makanchi 11.22 40 ⇓Pn **Pn 03 15 08.5 +0.9**
comp=Z,68nm,1.1s
MAKZ ⇑Lg Lg 03 18 24.0
comp=Z,109nm,1.4s
MAKZ Makanchi 11.22 40 *e*P **Pn 03 15 07.9 +0.3**
MK01 Makanchi Array 11.36 41 *e*Pn **Pn 03 15 09.5 -0.1**
MK31 Makanchi Array 11.37 41 *e*Pn **Pn 03 15 08.9 -0.7**
MK31 Makanchi Array 11.37 41 Pn **Pn 03 15 10.4 +0.8**
comp=Z,108nm,0.9s,baz=225,slow=13,SNR=570
MK31 ⇑Lg Lg 03 18 29.7
comp=Z,77nm,1.1s,baz=211,slow=30,SNR=3.8
MK31 Makanchi Array 11.37 41 *e*P **Pn 03 15 09.0 -0.7**
MKAR Makanchi Array 11.37 41 Pn **Pn 03 15 10.1 +0.5**
comp=Z,1.5nm,0.3s,baz=226,slow=12,SNR=140
MKAR LR LR 03 19 56.0
comp=Z,528nm,20.5s,baz=230,slow=40
KURBB Kurchatov Arra 12.96 20 ⇓Pn Pn 03 15 27.8 -3.5
comp=Z,28nm,0.7s
KURBB Kurchatov Arra 12.96 20 Pn Pn 03 15 28.3 -3.0
comp=Z,0.5nm,0.3s,baz=214,slow=12,SNR=35
KURBB Sn **Sn 03 17 53.6 -2.0**
comp=Z,0.2nm,0.3s,baz=215,slow=30,SNR=3.1
KURBB Lg Lg 03 19 08.5
comp=Z,0.4nm,0.3s,baz=205,slow=24,SNR=4.5
KURK Kurchatov 13.07 21 *e*Pn Pn 03 15 30.3 -2.6
KURK Sn **Sn 03 17 53.6 -4.6**
KURK Lg Lg 03 19 08.5
KURK Kurchatov 13.07 21 ⇑Pn Pn 03 15 29.0 -3.9
comp=Z,24nm,0.8s
KURK Kurchatov 13.07 21 *d* iP Pn 03 15 29.5 -3.3
KURK Kurchatov 13.07 21 P Pn 03 15 30.2 -2.7
SNR=15
WMQ Urumqi 13.26 62 P **Pn 03 15 35.4 -0.1**
WMQ pP P 03 15 39.5 -6.0
WMQ sP 03 15 45.0
WMQ S **Sn 03 18 05.3 +2.3**
WMQ pmax pmax
comp=Z,110nm,1.1s
WMQ pmax pmax
comp=Z,610nm,3.7s
WMQ LR LR
comp=Z,13μm,11.9s
WMQ LR LR
comp=Z,10μm,10.1s
WMQ LR LR
comp=Z,7μm,12.1s
WMQ Urumqi 13.26 62 *e*Pn Pn 03 15 33.8 -1.7
comp=Z,68nm,1.1s
WMQ Urumqi 13.26 62 *e*P Pn 03 15 33.8 -1.7
WMQ pmax pmax
comp=Z,68nm,1.1s
AB31 Akbulak array 13.42 326 ⇑P Pn 03 15 35.8 -1.9
comp=Z,38nm,0.5s,baz=132,slow=14,SNR=1311
AB31 ⇑S **Sn 03 18 04.5 -2.4**
comp=Z,155nm,0.7s,baz=157,slow=22,SNR=9.2
AB31 Akbulak array 13.42 326 *e*P Pn 03 15 35.5 -2.2
AB31 pmax pmax
comp=Z,38nm,0.5s
ABKAR Akbulak array 13.42 326 *e*Pn Pn 03 15 35.0 -2.7
PYUN Piuthan 14.27 134 *e*P Pn 03 15 41.7 -7.9
comp=Z,232nm,0.8s
BVA0 Borovoye Array 14.38 357 P Pn 03 15 48.4 -2.4
comp=Z,50nm,1.1s,baz=164,slow=11,SNR=177
BVA0 Borovoye Array 14.38 357 *i* P Pn 03 15 48.3 -2.4
BVA0 pmax pmax
comp=Z,50nm,1.1s
BVAR Borovoye Array 14.38 357 Pn Pn 03 15 48.4 -2.4
comp=Z,1.4nm,0.3s,baz=163,slow=11,SNR=57
BVAR Sn **Sn 03 18 27.6 -2.5**
comp=Z,1.4nm,0.3s,baz=167,slow=20,SNR=4.1
BVAR Lg Lg 03 20 01.6
comp=Z,1.3nm,0.3s,baz=190,slow=25,SNR=2.7
BRVK Borovoye 14.41 357 *e*Pn Pn 03 15 48.5 -2.7
BRVK Borovoye 14.41 357 ⇓P Pn 03 15 49.7 -1.5
comp=Z,69nm,0.7s
BRVK Borovoye 14.41 357 *ce*P Pn 03 15 48.9 -2.3
BRVK pmax pmax
comp=Z,96nm,1.7s
BRVK Borovoye 14.41 357 P Pn 03 15 49.0 -2.2
SNR=39
DANN Dangsing 14.52 131 *e*P Pn 03 15 45.3 -7.8
comp=Z,236nm,0.6s
KOLN Koldanda 14.87 133 *e*P Pn 03 15 49.5 -8.2
comp=Z,114nm,0.7s
AKTO Aktyubinsk 15.14 325 ⇓P **Pn 03 15 59.0 -2.1**
comp=Z,190nm,0.8s
AKTO ⇑S **Sn 03 18 42.7 -5.9**
comp=Z,242nm,1.1s
AKTO Aktyubinsk 15.14 325 P **Pn 03 15 59.0 -2.1**
AKTO pmax pmax
comp=Z,190nm,0.9s
AKTO Aktyubinsk 15.14 325 Pn **Pn 03 15 58.6 -2.5**
comp=Z,1.4nm,0.3s,baz=136,slow=15,SNR=78
AKTO Sn **Sn 03 18 45.3 -3.4**
comp=Z,4.1nm,0.3s,baz=151,slow=18,SNR=3.9
AKTO Lg Lg 03 20 32.4
baz=217,slow=18,SNR=1.6
AKTO LR LR 03 22 25.9
comp=Z,1μm,21.7s,baz=143,slow=39
BHJ Bhuj 15.44 186 *e*P Pn 03 16 00.5 -4.7
BHJ IAmb IAmb 03 16 02.2
comp=Z,105nm,1.1s
KKN Kakani 15.84 129 *e*P Pn 03 16 02.7 -7.9
comp=Z,104nm,0.6s
DGZ Jazzator, Alta 15.87 41 *d* iP **Pn 03 16 08.6 -2.1**
DMN Daman 15.87 130 *e*P Pn 03 16 02.3 -8.7
comp=Z,106nm,0.6s
PKIN Phulchoki 16.07 129 *e*P Pn 03 16 04.7 -8.8
comp=Z,102nm,0.7s
PKI Pulchoki 16.08 129 *e*P Pn 03 16 04.9 -8.8
comp=Z,87nm,0.5s
BHPL Bhopal 16.20 160 *e*P **Pn 03 16 12.5 -2.6**
BHPL IAmb IAmb 03 16 22.3
comp=Z,317nm,1.8s
JIRN Jiri 16.49 127 *e*P Pn 03 16 11.2 -7.9
comp=Z,211nm,0.6s
JBP Jabalpur 17.09 152 *e*P Pn 03 16 21.0 -5.2
JBP IAmb IAmb 03 16 34.4
comp=Z,1μm,2.9s
JBP *ex* x 03 19 20.4
RAMN Ramite 17.26 128 *e*P Pn 03 16 22.2 -6.4
comp=Z,180nm,0.7s
LKRN Lenkeran, Azer 17.70 277 P **Pn 03 16 32.8 -1.0**
ZAA0 Zalesovo Array 17.80 27 *e*Pn **Pn 03 16 32.8 -2.1**
comp=Z,76nm,0.9s
ZAA0 Zalesovo Array 17.80 27 ⇓P **Pn 03 16 32.6 -2.3**
comp=Z,58nm,0.7s
ZALV Zalesovo Beam 17.80 27 *e*Pn **Pn 03 16 31.8 -3.2**
ZALV Zalesovo Beam 17.80 27 P **Pn 03 16 32.5 -2.5**
comp=Z,7.2nm,0.3s,baz=224,slow=13,SNR=90
ZALV LR LR 03 22 53.2
comp=Z,148nm,19.9s,baz=298,slow=35
BANOM Banah 18.01 230 *i* P **Pn 03 16 37.7 -0.1**
SNR=17
BANOM Banah 18.01 230 P **Pn 03 16 36.7 -1.0**
SNR=6.4
SHME Shamm 18.01 230 P **Pn 03 16 39.2 +1.4**
NVS Novosibirsk 18.04 22 *e*P **Pn 03 16 36.0 -1.8**
NVS *e*S **Sn 03 19 59.3 +0.5**
MSFE Esma-Masafi 18.52 229 *i* P **P 03 16 43.8 0.0**
SNR=6.0
LSA Lhasa 18.56 113 *e*P P 03 16 40.8 -3.9
comp=Z,28nm,0.8s
LSA Lhasa 18.56 113 P **P 03 16 44.4 -0.4**
LSA Lhasa 18.56 113 *e*P P 03 16 40.8 -4.0
LSA pmax pmax
comp=Z,28nm,0.8s
MAK Makhachkala 18.61 291 *e*P **P 03 16 43.3 -1.3**
MAK *e*S **Sn 03 20 14.4 +1.6**
MAK pmax pmax
comp=Z,147nm,1.0s
MAK MLR MLR
comp=Z,5μm,14.0s
NGP Nagpur 18.65 157 *e*P P 03 16 39.5 -5.7
NGP IAmb IAmb 03 16 52.1
comp=Z,74nm,0.2s
SEKA Sheki 18.76 285 P **P 03 16 45.4 -1.0**
MNGR Mingechevir, A 18.85 284 P **P 03 16 47.3 0.0**
WSAR Wadi Sarin 18.88 219 P **P 03 16 47.0 -0.8**
comp=Z,0.7nm,0.3s,baz=25,slow=5.3,SNR=4.4
WSAR LR LR 03 26 08.6
comp=Z,973nm,19.5s,baz=44,slow=44
HATD Hatta, Dubai 18.94 228 P **P 03 16 50.3 +1.8**
NAZ Nazwa, Dubai 19.09 229 P **P 03 16 50.5 +0.4**
SNR=9.9
ASHO Ashiyiah 19.09 228 *i* P **P 03 16 50.1 0.0**
SNR=16
ASHO Ashiyiah 19.09 228 P **P 03 16 50.4 +0.2**
SNR=23
ZKTA Zakatala 19.19 287 P **P 03 16 51.2 +0.1**
SOHO SOHO 19.25 226 P **P 03 16 53.4 +1.6**
SNR=8.9
BOK Bokaro 19.25 136 *e*P **P 03 16 48.8 -3.0**
SMDO Samad 19.32 220 P **P 03 16 53.1 +0.4**
SNR=5.9
FAQ Al Faqa, Dubai 19.32 229 P **P 03 16 53.1 +0.6**
FAQ Al Faqa, Dubai 19.32 229 P **P 03 16 52.5 -0.1**
SNR=6.8
GANJ Ganja 19.43 284 P **P 03 16 53.1 -0.7**
JLN Jalan Bani Buh 19.43 216 P **P 03 16 53.4 -0.5**
SNR=8.7
SVE Sverdlovsk 19.52 342 ⇓*i* P **P 03 16 54.3 -0.3**
SVE *e*S **Sn 03 20 29.7 -5.1**
SVE pmax pmax
comp=Z,103nm,1.4s
SVE MLR MLR
comp=Z,2μm,11.0s
ARU Arti 19.72 338 *e*P **P 03 16 55.6 -1.2**
ARU Arti 19.72 338 *d* iP **P 03 16 56.4 -0.4**
ARU S **S 03 20 41.6 +2.7**
ARU pmax pmax
comp=Z,104nm,0.9s
ARU MLR MLR
comp=Z,1μm,16.0s
ALNE Al Ain 19.76 227 *i* P **P 03 16 56.9 -0.5**
SNR=17
GROC Groznyy 19.87 291 *e*P **P 03 16 58.7 +0.2**
GROC *e* 03 17 12.9
GROC *e*S **S 03 20 40.9 -1.2**
GROC *e* 03 21 12.8
GROC pmax pmax
comp=Z,236nm,1.0s
BSY Bisya 20.01 222 P **P 03 17 00.9 +0.7**
SNR=6.7
POO Poona 20.18 173 *e*P P 03 16 58.2 -3.8
POO IAmb IAmb 03 17 01.3
comp=Z,233nm,2.4s
NAX Nakhchivan 20.18 280 P **P 03 17 02.0 0.0**
TBLG Delisi 20.60 287 *e*P **P 03 17 06.6 +0.1**
comp=Z,79nm,0.8s
TBLG Delisi 20.60 287 *e*P **P 03 17 06.6 +0.1**
TBLG pmax pmax
comp=Z,79nm,0.8s
GNI Garni 20.67 283 P **P 03 17 10.5 +3.1**
GNI Garni 20.67 283 *e*P **P 03 17 07.4 0.0**
GNI Garni 20.67 283 *i* P **P 03 17 08.4 +1.1**
SNR=16
GNI Garni 20.67 283 *c i*P **P 03 17 09.0 +1.6**
GNI pmax pmax
comp=Z,924nm,1.7s
GNI Garni 20.67 283 P **P 03 17 09.0 +1.6**
SNR=20
GNI Garni 20.67 283 P **P 03 17 08.8 +1.4**
comp=Z,40nm,0.8s,baz=71,slow=2.3,SNR=24
GNI LR LR 03 28 04.9
comp=Z,155nm,19.2s,baz=69,slow=45
MHTO MHTO 21.11 217 P **P 03 17 11.0 -1.0**
SNR=12
MHTO P **P 03 17 11.0 -1.0**
SNR=12
ZEI Tsey 21.24 290 *e*P **P 03 17 13.3 -0.3**
ZEI pmax pmax
comp=Z,74nm,0.7s
CLDR Caldiran 21.41 280 P **P 03 17 17.7 +2.3**
SHL Shillong 21.62 121 *e*P **P 03 17 15.1 -2.6**
comp=Z,76nm,1.0s
SHL Shillong 21.62 121 *e*P **P 03 17 15.1 -2.6**
SHL pmax pmax
comp=Z,76nm,1.0s
SHL Shillong 21.62 121 *e*P **P 03 17 13.9 -3.9**
SHL IAmb IAmb 03 17 18.6
comp=Z,20nm,0.7s
SHL *e*S **S 03 21 13.5 -3.8**
VANB Van 21.89 279 P **P 03 17 26.7 +6.2**
KNGR Kungurtug, Tuv 21.93 49 ⇓*i* P **P 03 17 19.0 -1.8**
CUKT Cukurca 21.97 275 P **P 03 17 22.3 +0.9**
GTA Gaotai 22.01 79 ⇑P **P 03 17 20.2 -1.6**
GTA pP pP 03 17 24.7 -1.1
GTA sP sP 03 17 27.0 -0.6
GTA S **S 03 21 24.2 -0.5**
GTA sS sS 03 21 34.8 +3.5
GTA pmax pmax
comp=Z,36nm,1.5s
GTA pmax pmax
comp=Z,240nm,4.8s
GTA LR LR
comp=Z,2μm,14.1s
GTA LR LR
comp=Z,1μm,13.1s
GTA LR LR
comp=Z,1μm,12.2s
KBZ Khabaz 22.02 292 P **P 03 17 20.1 -1.5**
comp=Z,35nm,0.9s,baz=116,slow=8.3,SNR=45
KBZ LR LR 03 26 40.2
comp=Z,602nm,20.8s,baz=94,slow=39
GOF Gofitskoye 22.03 296 ⇓*i* P **P 03 17 22.3 +0.5**
GOF pmax pmax
comp=Z,190nm,0.8s
AGRB Hanur-Agry 22.07 281 P **P 03 17 24.4 +2.0**
HYB Hyderabad 22.07 162 *i* P P 03 17 18.5 -3.9
comp=Z,79nm,1.2s
HYB Hyderabad 22.07 162 *e*P P 03 17 17.7 -4.7
HYB IAmb IAmb 03 17 23.4
KVAR Kislovodsk Arr 22.18 293 LR LR 03 26 26.0
comp=Z,2μm,21.9s,baz=266,slow=38
KIV Kislovodsk 22.18 293 *e*P **P 03 17 22.1 -1.5**
comp=Z,114nm,0.8s
KIV Kislovodsk 22.18 293 *i* P **P 03 17 22.9 -0.7**
SNR=13
KIV Kislovodsk 22.18 293 *e*P **P 03 17 22.9 -0.7**
KIV *e*S **S 03 21 28.5 +0.7**
KIV pmax pmax
comp=Z,77nm,0.9s
KIV MLR MLR
comp=Z,369nm,14.0s
KIV Kislovodsk 22.18 293 P **P 03 17 22.9 -0.7**
SNR=12
AKDM Akdamar-Van 22.25 278 P **P 03 17 29.7 +5.2**
SENK Senkaya-Erzuru 22.46 284 P **P 03 17 31.3 +4.6**
SIRT Sirnak 22.83 276 P **P 03 17 31.6 +1.1**
SIRT Sirnak 22.83 276 *e*P **P 03 17 30.4 -0.1**
comp=Z,172nm,1.0s
KOPR Koprukoy-ERZUR 22.89 283 P **P 03 17 33.6 +2.4**
GURO Guroymak-BITLI 22.95 279 P **P 03 17 34.6 +2.8**
GOA Goa 23.18 174 *e*P P 03 17 30.2 -3.9
VRTB Varto-Mus 23.30 281 P **P 03 17 38.2 +2.8**
BRDH Bariadhala 23.49 127 LR LR 03 28 19.5
comp=Z,825nm,20.1s,baz=326,slow=41
SVAN Silvan-Diyarba 23.66 278 P **P 03 17 41.2 +2.3**
BNGB Bingl 23.92 280 P **P 03 17 43.3 +1.8**
YEDI Yedisu-Bingol 23.96 282 P **P 03 17 44.6 +2.7**
VRH Novokhopyorsk 24.31 311 *e*P **P 03 17 44.0 -0.7**
VRH pmax pmax
comp=Z,30nm,0.7s
VRH MLR MLR
comp=Z,450nm,8.0s
SOC Sochi 24.32 292 *e*P **P 03 17 45.3 +0.4**
SOC *e* 03 18 13.3
SOC *e*S **S 03 22 03.6 -0.3**
SOC pmax pmax
comp=Z,39nm,0.8s
SOC MLR MLR
comp=Z,476nm,16.0s
MOY Mondy 24.36 48 *e*P **P 03 17 45.0 -0.4**
MOY pmax pmax
comp=Z,52nm,2.5s
KIRV Kirov 24.47 332 P **P 03 17 45.9 -0.2**
comp=Z,41nm,0.7s,baz=136,slow=1.2,SNR=21
ZAK Zakamensk 25.33 52 *e*P **P 03 17 53.6 -0.6**
ZAK pmax pmax
comp=Z,46nm,1.1s
LZH Lanzhou 25.80 86 ⇑P **P 03 17 58.3 -0.3**
LZH pP pP 03 18 04.0 +1.1
LZH sP sP 03 18 07.8 +3.1
LZH PP **PnPn 03 18 42.1 +6.8**
LZH S **S 03 22 28.5 +0.4**
LZH sS pS 03 22 32.8 0.0
LZH SS **SnSn 03 23 30.9 +7.7**
LZH pmax pmax
comp=Z,86nm,1.1s
LZH pmax pmax
comp=Z,320nm,4.9s
LZH LR LR
comp=Z,2μm,17.9s
LZH LR LR
comp=Z,3μm,14.6s
LZH LR LR
comp=Z,3μm,15.7s
VSR Storozhevoye 25.84 310 ⇓*e*P **P 03 17 58.2 -0.5**
VSR pmax pmax
comp=Z,66nm,0.7s
TLY Talaya 25.92 49 *e*P **P 03 17 57.5 -2.0**
comp=Z,15nm,0.9s
TLY Talaya 25.92 49 *e*P **P 03 17 58.5 -0.9**
TLY pmax pmax
comp=Z,39nm,1.3s
TLY MLR MLR
comp=Z,1μm,14.0s
TLY Talaya 25.92 49 P **P 03 17 58.2 -1.2**
SNR=7.1
VORR Voronezh 25.95 311 *e*P **P 03 17 58.0 -1.6**
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 26.40 312 *e*P **P 03 18 03.9 +0.2**
LPSR pmax pmax
comp=Z,40nm,0.8s
IRK Irkutsk 26.46 48 *e*P **P 03 18 04.6 +0.3**
IRK pmax pmax
comp=Z,50nm,3.0s
ABTO Aybut 26.51 222 P **P 03 18 05.3 +0.3**
SNR=13
RAYN Ar Rayn 26.74 243 *e*P **P 03 18 06.7 -0.4**
comp=Z,40nm,0.8s
RAYN Ar Rayn 26.74 243 *i* P **P 03 18 06.8 -0.3**
SNR=51
RAYN Ar Rayn 26.74 243 *e*P **P 03 18 06.7 -0.4**
RAYN pmax pmax
comp=Z,40nm,0.8s
SONM Songino Array 26.85 59 P **P 03 18 06.0 -2.0**
comp=Z,3.2nm,0.8s,baz=252,slow=10,SNR=13
SONM LR LR 03 29 30.5
comp=Z,871nm,18.9s,baz=262,slow=38
SONA1 Songino Array 26.86 59 *e*P **P 03 18 06.3 -1.8**
GAZ Gaziantep 26.96 278 P **P 03 18 10.5 +1.4**
CD2 Chengdu 27.53 96 P **P 03 18 11.5 -2.7**
CD2 sP pP 03 18 20.0 +1.4
CD2 PP PP 03 19 01.0 -15
CD2 S **S 03 22 52.1 -3.2**
CD2 SS SS 03 24 13.7 -37
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,200nm,4.7s
CD2 LR LR

comp=Z,1µm,12.1s
CD2 LR LR
comp=Z,1µm,18.5s
YOZ Yozgat 27.92 284 P **P** **03 18 19.0 +1.3**
MOS Moscow 28.24 318 *e*P P 03 18 19.2 -1.0
MOS *e* 03 18 24.3
MOS *e* 03 19 10.0
MOS *e*S **S** **03 23 04.3 -1.5**
MOS pmax pmax
comp=Z,27nm,0.7s
MOS MLR MLR
comp=Z,600nm,13.0s
SIM Simferopol' 28.34 295*c i*P **P** **03 18 22.2 +1.0**
SIM *e*S **S** **03 23 14.8 +7.1**
SIM pmax pmax
comp=Z,54nm,0.9s
OBN Obninsk 28.57 317 *e*P P 03 18 22.1 -1.0
comp=Z,55nm,0.8s
OBN Obninsk 28.57 317 *e*P **P** **03 18 22.7 -0.4**
OBN *e* 03 19 13.3
OBN *e* 03 21 33.5
OBN pmax pmax
comp=Z,71nm,2.5s
OBN MLR MLR
comp=Z,452nm,15.0s
OBN Obninsk 28.57 317 P **P** **03 18 22.6 -0.5**
comp=Z,3.5nm,0.4s,baz=152,slow=9.6,SNR=4.8
OBN LR LR 03 30 43.1
comp=Z,86nm,18.4s,baz=190,slow=38
BR131 Keskin Array S 29.18 284 *e*P **P** **03 18 28.5 -0.4**
BR131 Keskin Array S 29.18 284 P **P** **03 18 29.1 +0.2**
SNR=8.0
BRTR Keskin Array B 29.18 284 P **P** **03 18 28.9 0.0**
comp=Z,13nm,0.9s,baz=100,slow=7.7,SNR=46
BRTR LR LR 03 32 05.1
comp=Z,196nm,19.7s,baz=88,slow=40
BTO Baotou 29.61 74 *e*P P 03 18 28.3 -4.3
KMI Kunming 29.64 108 P **P** **03 18 36.1 +2.9**
KMI S **S** **03 23 28.2 -0.7**
KMI SS **SnSn** **03 25 03.7 +6.4**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KMI pmax pmax
comp=Z,60nm,5.8s
KMI LR LR
comp=Z,1µm,19.1s
KMI LR LR
comp=Z,410nm,19.6s
KMI LR LR
comp=Z,580nm,20.3s
KLMR Klimovskoe 29.79 329 *e*P P 03 18 31.9 -2.0
KLMR pmax pmax
comp=Z,13nm,0.8s
KLMR Klimovskoe 29.79 329 *e*P P 03 18 31.9 -2.0
KLMR AMP 03 18 42.3
comp=Z,13nm,0.8s
ANTO Ankara 29.80 285 *e*P **P** **03 18 33.8 -0.5**
comp=Z,34nm,1.3s
ANTO Ankara 29.80 285 *e*P **P** **03 18 33.8 -0.5**
ANTO pmax pmax
comp=Z,34nm,1.3s
XAN Xi'an 30.39 87 P P 03 18 37.5 -2.0
XAN S **S** **03 23 40.3 +0.2**
XAN pmax pmax
comp=Z,130nm,1.1s
XAN pmax pmax
comp=Z,130nm,4.1s
XAN LR LR
comp=Z,580nm,15.2s
XAN LR LR
comp=Z,900nm,14.6s
XAN LR LR
comp=Z,810nm,16.0s
XAN Xi'an 30.39 87 *e*P P 03 18 37.0 -2.5
comp=Z,57nm,0.8s
XAN Xi'an 30.39 87 *e*P P 03 18 37.0 -2.5
XAN pmax pmax
comp=Z,57nm,0.8s
HHC Hu-ho-hao-te 30.73 73 *e*P **P** **03 18 41.6 -1.0**
HHC sP pP 03 18 49.3 +2.5
HHC PP PP 03 19 43.7 -8.1
HHC S **S** **03 23 40.4 -5.1**
HHC SS **SnSn** **03 25 25.0 +1.8**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,140nm,6.1s
HHC LR LR
comp=Z,1µm,12.7s
HHC LR LR
comp=Z,750nm,15.1s
HHC LR LR
comp=Z,580nm,17.3s
AKASG Malin Array Be 31.91 306 P **P** **03 18 52.2 -0.6**
comp=Z,4.2nm,0.7s,baz=114,slow=8.6,SNR=15
AKASG LR LR 03 33 01.8
comp=Z,443nm,18.9s,baz=110,slow=39
AKBB Malin Array Si 31.91 306 *e*P **P** **03 18 52.3 -0.4**
comp=Z,19nm,0.8s
KIEV Kiev 31.92 306 *e*P P 03 18 51.9 -0.9
comp=Z,20nm,0.8s
KIEV Kiev 31.92 306⇑ *i*P **P** **03 18 52.8 0.0**
KIEV Kiev 31.92 306 P **P** **03 18 52.5 -0.3**
KIEV Kiev 31.92 306⇓ *e*P **P** **03 18 52.4 -0.4**
KIEV pmax pmax
comp=Z,25nm,2.2s
NRIK Noril'sk 31.93 11 P **P** **03 18 51.9 -0.7**
comp=Z,24nm,0.9s,baz=204,slow=5.9,SNR=23
NRIK LR LR 03 31 42.7
comp=Z,397nm,19.1s,baz=216,slow=36
AK11 Malin Array Si 31.95 306 *e*P P 03 18 52.4 -0.7
TIY Taiyuan 32.04 79 *e*P P 03 18 59.9 +5.8
TIY PP **PnPn** **03 20 02.0 +2.8**
TIY S **S** **03 24 07.1 +1.2**
TIY SS **SnSn** **03 25 53.3 -1.8**
TIY pmax pmax
comp=Z,25nm,0.5s
TIY pmax pmax
comp=Z,250nm,4.5s
TIY LR LR
comp=N,880nm,12.9s
TIY LR LR
comp=E,450nm,7.7s
TIY LR LR
comp=Z,220nm,14.9s
TLCR 32.09 296⇑ *i*P **P** **03 18 54.2 -0.1**
YLV Yalova 32.25 287⇑ *i*P **P** **03 18 55.9 0.0**
TMCR Tamitsa 32.26 333 *e*P P 03 18 54.7 -0.9
TMCR pmax pmax
comp=Z,32nm,0.9s
LEOM Leova 32.43 298⇑ *i*P **P** **03 18 57.4 +0.1**
MFTR Murfatlar 32.45 294⇑ *i*P **P** **03 18 58.6 +1.1**
CFR Carcaliu 32.57 296⇑ *i*P **P** **03 18 58.8 +0.3**
TLB Topalu 32.68 295⇑ *i*P **P** **03 18 59.6 +0.1**
ICOR Ion Corvin 32.90 294⇑ *i*P **P** **03 19 02.3 +0.9**
PETR Petresti 33.17 297⇑ *i*P **P** **03 19 04.5 +0.7**
ODBI Odobesti 33.29 297⇑ *i*P **P** **03 19 05.6 +0.8**
PUL Pulkovo 33.38 323⇓ *e*P **P** **03 19 05.5 +0.1**
PUL pmax pmax
comp=Z,23nm,0.7s
BOD Bodaibo 33.46 41 *e*P P 03 19 04.7 -1.5
BOD pmax pmax
comp=Z,44nm,0.9s
VRI Vrincioaia 33.51 297⇑ *i*P **P** **03 19 07.7 +0.9**
TESR Tescani 33.53 298⇓ *i*P **P** **03 19 07.7 +0.8**
LEHL Lehliu 33.56 295⇑ *i*P **P** **03 19 08.4 +1.2**
PLOR Plostina 33.57 297⇑ *i*P **P** **03 19 08.5 +1.2**
UTHA Uthaitani 33.69 125 P P 03 19 15.3 +6.8
comp=Z,4.4nm,0.9s
ISR Istrita 33.70 296⇑ *i*P **P** **03 19 08.9 +0.4**
PRAR RASCA 33.78 300⇑ *i*P **P** **03 19 08.7 -0.4**
BIZ Bicaz 33.88 299⇑ *i*P **P** **03 19 10.5 +0.5**
PBKT Sadao Pong 33.94 122 P P 03 19 16.6 +5.9
comp=Z,9.5nm,0.9s,comp=Z,1µm
NACGM Naroch 33.95 313 *e* P 03 19 18.0 +7.5
IDID Didziasalis 34.05 314 *e*P **P** **03 19 11.6 +0.3**
IDID IAmb IAmb 03 19 22.5
comp=Z,21nm,1.1s
MLR Muntele Rosu 34.09 296 *e*P **P** **03 19 12.2 +0.2**
comp=Z,47nm,1.0s
MLR Muntele Rosu 34.09 296⇑ *i*P **P** **03 19 13.2 +1.2**
MLR Muntele Rosu 34.09 296 *e*P **P** **03 19 12.2 +0.2**
MLR pmax pmax
comp=Z,47nm,1.0s
OZUR 34.15 298⇑ *i*P **P** **03 19 13.1 +0.7**

SGRR Singureni 34.19 294⇑ *i*P **P** **03 19 13.5 +0.8**
IIGN Ignalina 34.34 314 *e*P **P** **03 19 14.1 +0.2**
IIGN IAmb IAmb 03 19 21.8
comp=Z,12nm,0.5s
SRDT SRDT 34.39 127 P P 03 19 21.1 +6.4
comp=Z,8.8nm,0.6s
IZAR Zarasai 34.40 315 *e*P **P** **03 19 14.6 +0.2**
IZAR IAmb IAmb 03 19 22.9
comp=Z,5.2nm,0.8s
DOPR Dopca 34.44 297⇓ *i*P **P** **03 19 15.6 +0.8**
ISAL Salakas 34.44 314 *e*P **P** **03 19 14.8 +0.1**
ISAL IAmb IAmb 03 19 26.0
comp=Z,13nm,1.0s
BURAR Bucovina Array 34.45 300⇑ *i*P **P** **03 19 15.8 +0.7**
BUR04 Bucovina Ar. S 34.46 300 *e*P **P** **03 19 15.0 -0.1**
BUR08 Bucovina Ar. S 34.47 300 *e*P **P** **03 19 15.0 -0.2**
VOIR 34.72 296⇑ *i*P **P** **03 19 17.9 +0.5**
VSU Vasula 34.74 320⇓ *i*P P 03 19 16.5 -0.7
VSU pmax pmax
comp=Z,48nm,0.9s
HUMR Humele 34.87 295⇑ *i*P **P** **03 19 19.2 +0.7**
ARR Arges 35.02 296⇑ *i*P **P** **03 19 20.6 +0.7**
ARCR ARCALIA 35.07 299⇑ *i*P **P** **03 19 21.6 +1.3**
LVV L'vov 35.20 304 *e*P **P** **03 19 21.2 -0.2**
LVZ Lovozero 35.59 337 *e*P P 03 19 23.5 -1.1
comp=Z,111nm,1.5s
LVZ Lovozero 35.59 337*e*P P 03 19 23.8 -0.8
LVZ pmax pmax
comp=Z,27nm,1.0s
CJR Cluj-Napoca 35.61 299⇑ *i*P **P** **03 19 25.8 +0.8**
LOT Lotru 35.61 297⇑ *i*P **P** **03 19 26.1 +1.0**
PHET Kaeng Krachan 35.81 128 P P 03 19 35.3 +8.4
comp=Z,8.2nm,0.8s
FIA1 FINESS Array S 35.91 324 *e*P **P** **03 19 26.6 -0.6**
comp=Z,82nm,1.6s
FINES FINESS Array B 35.91 324 *i* P **P** **03 19 26.8 -0.5**
FINES pmax pmax
comp=Z,12nm,0.8s
FINES FINESS Array B 35.91 324 P **P** **03 19 26.9 -0.4**
comp=Z,12nm,0.8s,baz=117,slow=8.4,SNR=40
FINES LR LR 03 34 17.8
comp=Z,337nm,20.9s,baz=108,slow=36
WHN Wuhan 35.96 90⇓ *i*P **P** **03 19 26.8 -1.3**
APE Apeiranthos 36.00 282⇑ *i*P **P** **03 19 29.3 +0.9**
DEV Deva 36.17 297⇑ *i*P **P** **03 19 30.7 +1.0**
DRGR 36.21 299⇑ *i*P **P** **03 19 30.9 +0.7**
TRPA Tarpa 36.23 301⇑ *i*P **P** **03 19 31.3 +1.1**
TRPA Tarpa 36.23 301 *e*P **P** **03 19 30.0 -0.2**
GZR Gura Zlata 36.31 297⇑ *i*P **P** **03 19 31.1 0.0**
PUNG Punghina 36.35 295⇑ *i*P **P** **03 19 30.8 -0.5**
UZH Uzhgorod 36.37 302 *e*P **P** **03 19 31.0 -0.4**
UZH *i* 03 19 36.8
UZH *i* 03 19 48.4
UZH *e*S **S** **03 25 09.0 -3.4**
VTS Vitosha 36.41 292 *e*P **P** **03 19 31.9 -0.1**
comp=Z,12nm,0.7s
VTS Vitosha 36.41 292⇑ *i*P **P** **03 19 33.1 +1.1**
VTS Vitosha 36.41 292 *e*P **P** **03 19 31.9 -0.1**
VTS pmax pmax
comp=Z,12nm,0.7s
HERR Herculane 36.63 296⇓ *i*P P 03 19 31.6 -2.1
SIRR Siria 36.99 298⇑ *i*P **P** **03 19 37.9 +1.2**
BZS Buzias 37.10 297⇑ *i*P **P** **03 19 38.3 +0.7**
MDVR Moldovita 37.14 296⇑ *i*P **P** **03 19 38.7 +0.6**
STIP Stip 37.35 291 *e*P P 03 19 38.6 -1.3
NIE Niedzica 37.63 304 *e*P **P** **03 19 43.0 +0.8**
NIE Niedzica 37.63 304 *e*P **P** **03 19 43.0 +0.8**
KLNR Kaliningrad 37.70 312⇓ *e*P **P** **03 19 42.3 -0.3**
KLNR pmax pmax
comp=Z,335nm,1.4s
OJC Ojcow 37.92 305 *e*P **P** **03 19 44.2 -0.3**
OJC Ojcow 37.92 305 *e*P **P** **03 19 44.0 -0.5**
comp=Z,37nm,1.1s
OJC Ojcow 37.92 305 *e*P **P** **03 19 44.1 -0.5**
OJC pmax pmax
comp=Z,37nm,1.1s
PSZ Piszkesteto 38.02 301 *e*P **P** **03 19 45.4 -0.1**
comp=Z,11nm,1.0s
PSZ Piszkesteto 38.02 301⇑ *i*P **P** **03 19 45.8 +0.3**
PSZ Piszkesteto 38.02 301 *e*P **P** **03 19 45.4 -0.1**
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 38.02 301 *e*P **P** **03 19 47.1 +1.6**
FNA Florina 38.15 289 *e*P **P** **03 19 46.2 -0.5**
comp=Z,18nm,0.7s
FNA Florina 38.15 289 *e*P **P** **03 19 46.2 -0.5**
FNA pmax pmax
comp=Z,18nm,0.7s
DIVS Divibare 38.47 295 *e*P **P** **03 19 49.4 0.0**
comp=Z,32nm,1.1s
QIZ Qiongzhong 38.55 109 P **P** **03 19 50.7 +0.6**
QIZ S **S** **03 25 40.6 -5.5**
QIZ LR LR
comp=Z,510nm,5.9s
VYHS Vyhne 38.67 302 *e*P **P** **03 19 51.2 +0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 38.67 302 *e*P **P** **03 19 51.2 +0.3**
DL2 Dalian 38.70 73 *e*P **P** **03 19 51.3 0.0**
DL2 *e*S **S** **03 25 49.8 +1.7**
DL2 pmax pmax
comp=Z,53nm,0.9s
DL2 pmax pmax
comp=Z,460nm,6.8s
DL2 LR LR
comp=Z,950nm,16.6s
DL2 LR LR
comp=Z,980nm,12.9s
DL2 LR LR
comp=Z,550nm,7.8s
NJ2 Nanjing 38.87 85 *e*P **P** **03 19 53.0 +0.2**
NJ2 pmax pmax
comp=Z,15nm,0.5s
ARCES ARCESS Array B 39.29 336 *e*P P 03 19 54.9 -1.0
ARCES ARCESS Array B 39.29 336 *e*P P 03 19 54.9 -0.9
ARCES ARCESS Array B 39.29 336 P **P** **03 19 55.4 -0.5**
comp=Z,34nm,0.8s,baz=111,slow=7.6,SNR=103
ARE0 ARCESS Array S 39.29 336 *e*P P 03 19 54.9 -1.0
comp=Z,2.3nm,0.9s
ARE0 ARCESS Array S 39.29 336 *e*P **P** **03 19 55.3 -0.5**
PDG Podgorica 39.33 293⇑ *i*P **P** **03 19 56.8 +0.3**
TTG Podgorica 39.33 293 *e*P **P** **03 19 56.4 -0.1**
comp=Z,22nm,1.0s
TTG Podgorica 39.33 293 *e*P **P** **03 19 56.4 -0.1**
TTG pmax pmax
comp=Z,22nm,1.0s
JAVC Velka Javorina 39.40 303 *e*P **P** **03 19 59.0 +1.9**
MORC Moravsky Berou 39.40 304 *e*P **P** **03 19 56.8 -0.3**
comp=Z,19nm,1.2s
MORC Moravsky Berou 39.40 304⇑ *i*P **P** **03 19 57.5 +0.4**
MORC Moravsky Berou 39.40 304 *e*P **P** **03 19 56.8 -0.3**
MORC pmax pmax
comp=Z,19nm,1.2s
MORC Moravsky Berou 39.40 304 *e*P **P** **03 19 57.8 +0.7**
GKP Gorka Klasztor 39.42 310 *e*P **P** **03 19 57.9 +0.8**
GKP Gorka Klasztor 39.42 310 *e*P **P** **03 19 57.9 +0.8**
MODS Modra-Piesok 39.71 302 *e*P **P** **03 20 00.0 +0.4**
MODS pmax pmax
comp=Z,6.0nm,1.0s
MODS Modra-Piesok 39.71 302 *e*P **P** **03 20 00.0 +0.4**
KTK1 Kautokeino 39.79 335 *e*P **P** **03 19 59.5 -0.5**
ZST Bratislava 39.85 302 *e*P **P** **03 20 01.4 +0.7**
ZST Bratislava 39.85 302 *e*P **P** **03 20 01.4 +0.7**
KRLC Kraliky 39.87 305 *e*P **P** **03 20 01.9 +1.0**
KRLC Kraliky 39.87 305 *e*P **P** **03 20 01.9 +1.0**
VRAC Vranov 40.06 304⇑ *i*P **P** **03 20 03.4 +0.9**
VRAC Vranov 40.06 304 *e*P **P** **03 20 02.8 +0.3**
KSP Ksiaz 40.11 306 *e*P **P** **03 20 03.4 +0.5**
KSP Ksiaz 40.11 306 *e*P **P** **03 20 03.4 +0.5**
DPC Dobruska-Polom 40.14 305 *e*P **P** **03 20 03.8 +0.6**
DPC Dobruska-Polom 40.14 305 *e*P **P** **03 20 03.8 +0.6**
KRUC Moravsky 40.22 303 *e*P **P** **03 20 04.0 +0.2**
SOP Sopron 40.28 301 *e*P **P** **03 20 04.0 -0.3**
UPC Upice 40.32 306 *e*P **P** **03 20 05.1 +0.5**
UPC Upice 40.32 306 *e*P **P** **03 20 05.1 +0.5**
CN2 Changchun 40.33 65 *e*P P 03 19 59.5 -5.2
CN2 *e*S S 03 26 04.4 -8.0
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,420nm,17.0s
CN2 LR LR
comp=Z,770nm,18.0s
BLY Banja Luka 40.33 297 *e*P **P** **03 20 04.9 +0.1**

comp=Z,19nm,1.1s
HAMF Hammerfest 40.35 338 *e*P **P** **03 20 04.4 -0.2**
ZEA Zeya 40.36 49 *e*P P 03 20 03.7 -1.2
ZEA pmax pmax
comp=Z,23nm,1.0s
CONA Conrad Observa 40.71 302 *e*pP **P** **03 20 08.5 +0.5**
comp=Z,7.4nm,0.7s,SNR=14
BSD Bornholm Skovb 40.77 313 *i* P P 03 20 07.5 -0.8
BSD Bornholm Skovb 40.77 313 *i* P P 03 20 07.5 -0.8
TREC Trest 40.78 304 *e*P **P** **03 20 09.1 +0.6**
TREC Trest 40.78 304 *e*P **P** **03 20 09.1 +0.6**
ARSA Arzberg 41.04 301 *e*P P 03 20 09.8 -0.8
comp=Z,3.7nm,0.7s
GOPC GO Pecny, Ondr 41.16 305 *e*P **P** **03 20 13.6 +2.0**
GOPC GO Pecny, Ondr 41.16 305 *e*P **P** **03 20 13.6 +2.0**
GOPC MLR MLR
comp=E,600nm,11.8s
PVCC Panska Ves 41.23 306 *e*P **P** **03 20 12.7 +0.5**
PVCC Panska Ves 41.23 306 *e*P **P** **03 20 12.7 +0.5**
PRU Pruhonice 41.31 305 *e*P **P** **03 20 12.8 0.0**
PRU AMS AMS 03 38 30.0
comp=E,500nm,14.3s
PRU Pruhonice 41.31 305 *e*P **P** **03 20 12.8 0.0**
PRU MLR MLR
comp=Z,500nm,14.3s
PERS Pernice 41.41 300 *e*P **P** **03 20 14.1 +0.3**
TRO Tromso 41.44 335 *e*P P 03 20 12.8 -0.8
SOKA Soboth 41.46 300 *i* pP **P** **03 20 14.5 +0.3**
comp=Z,10nm,0.8s
BOJS Bojanci 41.53 298 *i* P **P** **03 20 15.3 +0.6**
BRG Berggiesshubel 41.59 306 *i* P **P** **03 20 15.2 +0.1**
comp=Z,21nm,0.7s
BRG *i* 03 20 21.3
BRG comp=Z,33nm,1.1s *e*PP **PP** **03 21 54.2 +3.2**
comp=Z,6.6nm,0.9s
comp=N,451nm,13.2s
comp=E,374nm,19.7s
comp=Z,554nm,17.7s
BRG Berggiesshubel 41.59 306 *e*P **P** **03 20 15.4 +0.2**
comp=Z,30nm,0.9s,baz=82,slow=8.2
BRG Berggiesshubel 41.59 306 *i* P **P** **03 20 15.2 +0.1**
BRG *i* 03 20 21.3
BRG *e* 03 21 54.2
BRG pmax pmax
comp=Z,21nm,0.7s
BRG pmax pmax
comp=Z,33nm,1.1s
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG MLR MLR
comp=N,451nm,13.2s
BRG MLR MLR
comp=E,374nm,19.7s
BRG MLR MLR
comp=Z,554nm,17.7s
VISS Visnje 41.75 299 *e*P **P** **03 20 17.0 +0.5**
MOA Molln 41.78 302 *e*P P 03 20 15.4 -1.4
comp=Z,4.6nm,0.7s,SNR=5.0
OBKA Obir 41.82 300 *i* pP **P** **03 20 18.8 +1.7**
comp=Z,8.9nm,1.0s
FBE Freiberg 41.96 307 *e*P **P** **03 20 18.5 +0.4**
comp=Z,42nm,1.0s,baz=82,slow=8.2
GEC2 GERESS Array S 42.00 303 *e*P **P** **03 20 18.6 0.0**
comp=Z,34nm,1.4s
GEC2 pmax pmax
comp=Z,34nm,1.4s
GERES GERESS Array B 42.00 303 P **P** **03 20 18.5 0.0**
comp=Z,4.2nm,0.6s,baz=70,slow=7.8,SNR=36
GERES PP **PP** **03 21 55.1 -0.5**
comp=Z,2.6nm,0.8s,baz=72,slow=10,SNR=2.8
GERES LR LR 03 38 55.5
comp=Z,360nm,18.3s,baz=90,slow=38
GEA0 GERESS Array S 42.01 303 *e*P **P** **03 20 18.4 -0.2**
KHC Kasperske Hory 42.04 304 *e*P **P** **03 20 18.7 -0.2**
comp=Z,6.5nm,0.9s
KHC Kasperske Hory 42.04 304 *e*P **P** **03 20 19.4 +0.5**
KHC *ex* x 03 20 26.0
KHC AMS AMS 03 38 40.0
comp=Z,500nm,11.9s
KHC Kasperske Hory 42.04 304 *e*P **P** **03 20 19.4 +0.5**
KHC *e* 03 20 26.0
KHC MLR MLR
comp=Z,500nm,11.9s
MOR8 Moi Rana 42.12 329 *e*P P 03 20 17.7 -1.5
CLL Collm 42.14 307 *e*P **P** **03 20 19.5 -0.1**
comp=Z,28nm,1.0s
CLL Collm 42.14 307 *e*P **P** **03 20 19.2 -0.4**
comp=Z,37nm,1.1s,baz=82,slow=8.2
CLL Collm 42.14 307 *e*P **P** **03 20 19.0 -0.6**
comp=Z,19nm,0.7s
CLL *es*P **pP** **03 20 25.0 +1.2**
CLL *e* 03 20 29.0
comp=Z,37nm,1.1s
CLL *e*PP **PP** **03 21 58.0 +1.1**
CLL *e*(PcP) **PcP** **03 22 10.0 -3.9**
CLL *e*S **S** **03 26 42.0 +2.9**
CLL *e*SS **SS** **03 29 48.0 +1.6**
CLL LmV 03 40 00.0
comp=Z,300nm,19.5s
CLL Collm 42.14 307 *e*P **P** **03 20 19.0 -0.6**
CLL *e* 03 20 29.0
CLL pmax pmax
comp=Z,19nm,0.7s
CLL MLR MLR
comp=Z,300nm,19.5s
STEI Steigen 42.21 332 *e*P **P** **03 20 19.6 -0.3**
MYKA Terra Mystica 42.41 300 *i* P **P** **03 20 21.8 -0.2**
comp=Z,4.8nm,0.6s,SNR=4.4
KBA Koelnbreinsper 42.53 301 *i* P **P** **03 20 22.7 -0.4**
comp=Z,3.7nm,0.6s,SNR=6.4
TANN Tannenbergstha 42.59 306 *e*P **P** **03 20 23.5 +0.2**
comp=Z,58nm,1.6s,baz=82,slow=8.2
NKC Novy Kostel 42.62 306 *e*P **P** **03 20 25.3 +1.8**
NKC Novy Kostel 42.62 306 *e*P **P** **03 20 25.3 +1.8**
NC405 NORSAR Array S 42.65 322 *e*P **P** **03 20 23.4 -0.2**
KONS Konsvik 42.71 330 *e*P P 03 20 21.3 -2.6
NC602 NORSAR Array S 42.71 321 *e*P **P** **03 20 23.6 -0.5**
NC602 NORSAR Array S 42.71 321 *e*P P 03 20 22.7 -1.4
NC303 NORSAR Array S 42.82 322 *e*P **P** **03 20 24.8 -0.2**
NB201 NORSAR Array S 42.85 322 *e*P **P** **03 20 25.2 0.0**
NSS Namsos 42.87 327 *e*P P 03 20 24.1 -1.1
MANZ Manzenberg 42.87 305 *e*P **P** **03 20 25.9 +0.3**
comp=Z,18nm,1.2s,baz=82,slow=8.2
LOF Lofoten 42.88 332 *e*P P 03 20 22.6 -2.7
NB2 NORSAR Subarra 42.88 322 P P 03 20 24.2 -1.4
comp=Z,5.0nm,0.6s,baz=91,slow=7.9
NB2 NORSAR Subarra 42.88 322 P P 03 20 24.2 -1.4
baz=91,slow=7.9
NOA NORSAR Array B 42.88 322 P P 03 20 24.6 -1.0
comp=Z,8.4nm,0.7s,baz=92,slow=8.0,SNR=24
NOA LR LR 03 39 48.3
comp=Z,311nm,21.8s,baz=100,slow=38
HOPEN Hopen 42.99 346 *e*P P 03 20 19.3 -6.8
NAO01 NORSAR Array S 43.03 321 *e*P **P** **03 20 26.5 -0.3**
MDJ Mudanjiang 43.06 63 *e*P P 03 20 24.4 -2.7
comp=Z,6.3nm,0.6s
MOX Moxa 43.09 306 *e*P **P** **03 20 27.6 +0.2**
comp=Z,26nm,1.1s,baz=82,slow=8.2
MOX *e*L L 03 38 22.3
comp=Z,405nm,21.4s
NBO00 NORSAR Array S 43.10 322 *e*P **P** **03 20 26.6 -0.6**
NC204 NORSAR Array S 43.12 322 *e*P **P** **03 20 27.1 -0.4**
ABTA Abfaltersbach 43.15 301 *i* P P 03 20 25.4 -2.6
comp=Z,4.0nm,0.8s
BJO Bjornoya 43.27 342 *e*P P 03 20 24.0 -4.4
GRA1 Grafenberg Arr 43.48 305 *e*P **P** **03 20 30.4 -0.1**
comp=Z,9nm,0.9s
GRF Grafenberg Arr 43.48 305 *e*P **P** **03 20 31.4 +0.9**
comp=Z,69nm,1.6s,baz=82,slow=8.2
GRF *e*L L 03 39 10.3
comp=Z,324nm,21.2s
GRF Grafenberg Arr 43.48 305 *e*P **P** **03 20 30.4 -0.1**
GRF pmax pmax
comp=Z,29nm,0.9s
GRFO Grafenberg 43.48 305 *e*P **P** **03 20 30.6 +0.1**
comp=Z,26nm,0.9s
GRFO Grafenberg 43.48 305 *e*P **P** **03 20 30.6 +0.1**
GRFO pmax pmax
comp=Z,26nm,0.9s
BSEG Bad Segeberg 43.51 311 *e*P **P** **03 20 31.1 +0.6**
comp=Z,37nm,0.9s,baz=82,slow=8.2
KLR Kul'dur 43.60 56⇑ *e*P P 03 20 29.2 -2.2
KLR Kul'dur 43.60 56 P P 03 20 28.9 -2.5
comp=Z,3.2nm,0.5s,baz=286,slow=10,SNR=11

WTTA **Wattenberg** 43.64 301 *i* P P 03 20 31.6 -0.4
comp=Z,4.7nm,0.6s,SNR=9.2
KONO **Kongsberg** 43.65 320 *e*P P 03 20 31.4 -0.3
comp=Z,130nm,1.6s
KONO **Kongsberg** 43.65 320⇓ *e*P P 03 20 31.5 -0.2
KONO pmax pmax
comp=Z,165nm,4.3s
KONO **Kongsberg** 43.65 320 *e*P P 03 20 30.9 -0.7
WATA **Walderalm** 43.67 302 *i* P P 03 20 32.1 -0.1
comp=Z,4.0nm,0.5s,SNR=7.3
CLZ **Clausthal** 43.71 308 *e*P P 03 20 32.4 +0.1
comp=Z,58nm,1.4s,baz=82,slow=8.2
NRDL **Niedersach Rie** 43.79 309 *e*P P 03 20 33.4 +0.6
comp=Z,59nm,1.2s,baz=82,slow=8.2
KS01 **Wonju Array Si** 43.84 73 *e*P P 03 20 30.8 -2.7
KSAR **Wonju Array Be** 43.84 73 P P 03 20 31.2 -2.3
KSAR **Wonju Array Be** 43.84 73 P P 03 20 31.2 -2.4
KSRS **Korea Array** 43.87 73 P P 03 20 31.2 -2.5
comp=Z,1.8nm,0.9s,baz=305,slow=7.5,SNR=7.3
SQTA **Sankt Quirin** 43.93 301 *i* pP P 03 20 34.5 +0.2
comp=Z,1.8nm,0.4s
DOMB **Dombas** 43.96 323 *e*P P 03 20 33.2 -1.0
MOTA **Moosalm** 43.98 302 *i* P P 03 20 34.3 -0.4
comp=Z,5.0nm,0.6s,SNR=9.1
RETA **Reutte** 44.18 302 *i* P P 03 20 35.6 -0.6
comp=Z,2.6nm,0.7s
GSI **Gunungsitoli** 44.22 141 *e*P P 03 20 34.9 -1.8
comp=Z,23nm,0.6s
GSI **Gunungsitoli** 44.22 141 P P 03 20 35.0 -1.7
HOMB **Homborsund** 44.24 318 *e*P P 03 20 36.0 -0.4
FETA **Feichten** 44.30 301 *i* P P 03 20 36.0 -1.3
comp=Z,2.2nm,0.7s
UBR **Ueberruh** 44.57 302 *e*P P 03 20 38.8 -0.5
comp=Z,30nm,1.1s,baz=82,slow=8.2
MOL **Molde** 44.69 324 *e*P P 03 20 39.4 -0.5
FUORN **Ofenpass-Fuorn** 44.69 301 *e*P P 03 20 40.0 -0.6
comp=Z,15nm,1.0s
DAVA **Damuels** 44.80 302 *i* P P 03 20 40.4 -0.9
comp=Z,13nm,0.6s,SNR=16
USRK **Ussuriysk Ar.** 44.83 63 P P 03 20 39.8 -1.5
comp=Z,2.4nm,0.7s,baz=282,slow=11,SNR=7.0
SNART **Snartemo** 44.92 318 *e*P P 03 20 41.5 -0.3
AKN **Aaknes** 44.94 323 *e*P P 03 20 40.4 -1.6
STU **Stuttgart** 44.95 304 *e*P P 03 20 42.0 -0.3
comp=Z,16nm,0.9s
STU **Stuttgart** 44.95 304 *e*P P 03 20 43.6 +1.3
comp=Z,26nm,1.2s,baz=82,slow=8.2
STU **Stuttgart** 44.95 304 *e*P P 03 20 42.0 -0.3
STU pmax pmax
comp=Z,16nm,0.9s
HSPB **Hornsund (broa** 45.14 345 *e*P P 03 20 43.2 -0.2
ODD1 **Odda** 45.15 320 *e*P P 03 20 42.1 -1.6
TNS **Taunus Mts** 45.16 306 *e*P P 03 20 45.3 +1.3
comp=Z,18nm,1.0s,baz=82,slow=8.2
VLC **Villacollemand** 45.20 297 *e*P P 03 20 44.6 +0.2
comp=Z,30nm,1.1s
IBBN **Ibbenburen** 45.24 309 *e*P P 03 20 44.7 +0.3
comp=Z,58nm,1.0s,baz=82,slow=8.2
BLS5 **Blasjo** 45.25 319 *e*P P 03 20 43.0 -1.5
SPA0 **Spitsbergen Ar** 45.47 346 *e*P P 03 20 39.3 -6.8
SPITS **Spitsbergen Ar** 45.47 346 P P 03 20 46.1 0.0
comp=Z,5.8nm,0.6s,baz=116,slow=8,SNR=17
SPITS LR LR 03 41 58.8
comp=Z,332nm,18.3s,baz=155,slow=39
BFO **Black Forest** 45.60 304 *e*P P 03 20 47.0 -0.5
comp=Z,10nm,0.9s
BFO **Black Forest** 45.60 304 *e*P P 03 20 48.3 +0.8
comp=Z,15nm,1.1s,baz=82,slow=8.2
BFO **Black Forest** 45.60 304 *i* P P 03 20 48.4 +0.9
BUG **Bochum--Univer** 45.68 308 *e*P P 03 20 48.2 +0.2
comp=Z,41nm,1.1s,baz=82,slow=8.2
BER **Bergen** 45.77 321 *e*P P 03 20 47.0 -1.6
ASK **Askoy** 45.84 321 *e*P P 03 20 47.9 -1.2
ECH **Echery** 46.39 304 *e*P P 03 20 53.7 0.0
comp=Z,9.0nm,1.0s
ECH **Echery** 46.39 304 *e*P P 03 20 53.7 0.0
ECH pmax pmax
comp=Z,9.0nm,1.0s
KBS **Kingsbay** 46.58 347 *e*P P 03 20 54.1 -0.6
comp=Z,27nm,0.9s
KBS **Kingsbay** 46.58 347 *e*P P 03 20 54.1 -0.6
KBS pmax pmax
comp=Z,27nm,0.9s
KBS **Kingsbay** 46.58 347 *e*P P 03 20 52.4 -2.4
MEM **Membach** 46.62 307 ⇑P P 03 20 56.6 +1.2
comp=Z,9.5nm,1.0s
WLF **Walferdange** 46.72 306 *e*P P 03 20 55.9 -0.3
comp=Z,107nm,0.8s
WLF **Walferdange** 46.72 306 *e*P P 03 20 56.6 +0.3
baz=82,slow=8.2
WLF **Walferdange** 46.72 306 *e*P P 03 20 55.9 -0.3
WLF pmax pmax
comp=Z,107nm,0.8s
WLF **Walferdange** 46.72 306 ⇓P P 03 20 57.6 +1.3
comp=Z,23nm,0.9s
SENIN **Lac Senin/Sane** 46.74 301 *e*P P 03 20 56.1 -0.6
comp=Z,17nm,0.8s
BCLA **Clavier** 47.09 307 ⇑P P 03 20 59.7 +0.6
BNI **Bardonecchia** 47.51 300 *e*P P 03 21 02.3 -0.4
comp=Z,33nm,1.3s
BNI **Bardonecchia** 47.51 300 *e*P P 03 21 02.3 -0.4
BNI pmax pmax
comp=Z,33nm,1.3s
DOU **Dourbes** 47.61 307 ⇑P P 03 21 01.8 -1.3
JNU **Nakatsue** 47.73 78 *e*P P 03 21 02.6 -1.8
comp=Z,44nm,1.1s
RGRI **Rengat** 48.08 136 P P 03 21 16.8 +10
NKL **Nikolayevsk** 48.40 49 *e*P P 03 21 07.0 -2.2
NKL pmax pmax
comp=Z,30nm,0.8s
KEST **Kesra** 48.72 287 P P 03 21 12.5 +0.5
comp=Z,8.4nm,0.7s,baz=320,slow=2.9,SNR=8.5
SSB **Saint Sauveur** 48.90 300 *e*P P 03 21 12.2 -1.0
comp=Z,18nm,1.1s
SSB **Saint Sauveur** 48.90 300 *e*P P 03 21 12.2 -1.0
SSB pmax pmax
comp=Z,18nm,1.1s
WACR **West Acre** 49.43 311 *e*P P 03 21 16.9 -0.2
WACR IAmb IAmb 03 21 19.1
comp=Z,63nm,0.7s
CLF **Chambon-Foret** 49.62 305 *e*P P 03 21 18.3 -0.3
comp=Z,21nm,0.8s
DRUM **Mains of Drumt** 50.27 317 *e*P P 03 21 22.4 -1.0
EDMD **Edmundbyers** 50.45 314 *e*P P 03 21 24.6 -0.2
EDMD IAmb IAmb 03 21 28.1
comp=Z,34nm,1.1s
HPK **Haverah Park** 50.46 313 *e*P P 03 21 24.5 -0.4
HPK IAmb IAmb 03 21 26.4
comp=Z,19nm,0.6s
MCD **Coleburn Disti** 50.54 318 *e*P P 03 21 25.6 +0.1
KMBO **Kilima Mbogo** 50.57 227 *e*P P 03 21 25.8 -0.7
comp=Z,9.5nm,1.3s
KMBO **Kilima Mbogo** 50.57 227 *e*P P 03 21 25.8 -0.7
KMBO pmax pmax
comp=Z,9.0nm,1.3s
KMBO **Kilima Mbogo** 50.57 227 P P 03 21 26.1 -0.4
comp=Z,1.2nm,0.5s,baz=31,slow=12,SNR=6.4
LBWR **Ladybower, Pea** 50.65 312 *e*P P 03 21 26.2 -0.2
LBWR IAmb IAmb 03 21 27.8
comp=Z,11nm,0.9s
JMIC **Jan Mayen** 50.76 335 LR LR 03 43 04.8
comp=Z,205nm,20.9s,baz=70,slow=36
EDI **Edinburgh** 50.87 316 *e*P P 03 21 27.7 -0.2
ESK **Eskdalemuir** 51.02 315 *e*P P 03 21 28.8 -0.4
comp=Z,36nm,1.3s
ESK **Eskdalemuir** 51.02 315 *e*P P 03 21 28.1 -1.0
ESK IAmb IAmb 03 21 29.8
comp=Z,12nm,1.1s
ESK **Eskdalemuir** 51.02 315 *e*P P 03 21 28.8 -0.4
ESK pmax pmax
comp=Z,36nm,1.3s
KESW **Keswick, Cumbr** 51.15 314 *e*P P 03 21 29.3 -0.8
INVG **Invergeldie, C** 51.22 316 *e*P P 03 21 29.3 -1.3
INVG IAmb IAmb 03 21 31.1
comp=Z,20nm,1.2s
YSS **Yuzh-Sakhalins** 51.30 56 *e*P P 03 21 30.0 -1.3
YSS pmax pmax
comp=Z,10.0nm,1.2s
EAB **Aberfoyle** 51.44 316 *e*P P 03 21 31.9 -0.3
HLM1 **Long Mynd** 51.56 311 *e*P P 03 21 33.5 +0.3
PGBU **Glenifferbraes** 51.61 316 *e*P P 03 21 33.2 -0.3
PGBU IAmb IAmb 03 21 35.0
comp=Z,23nm,0.7s
KAC **Achnashellach** 51.64 318 *e*P P 03 21 32.7 -1.0
MONM **Monmouth** 51.70 310 *e*P P 03 21 34.0 -0.2
MCH1 **Michaelchurch** 51.77 311 *e*P P 03 21 34.5 -0.3
MCH1 IAmb IAmb 03 21 38.5
comp=Z,26nm,1.0s
MAJO **Matsushiro** 51.85 70 *e*P P 03 21 33.4 -2.2
comp=Z,10nm,0.7s
MAJO **Matsushiro** 51.85 70⇓ *e*P P 03 21 35.4 -0.3
MAJO pmax pmax
comp=Z,30nm,1.6s
MJAR **Matsushiro Arr** 51.85 70 P P 03 21 33.4 -2.3
comp=Z,5.3nm,0.8s,baz=304,slow=6.6,SNR=13
KPL **Plockton** 51.86 318 *e*P P 03 21 34.4 -1.0
WPM1 **Penmaenmawr** 51.95 312 *e*P P 03 21 35.4 -0.7
GAL1 **Galloway** 51.98 315 *e*P P 03 21 36.1 -0.2
LAWE **Loch Awe, Argy** 51.99 316 *e*P P 03 21 35.5 -0.9
WIM **Isle of Man** 52.15 314 *e*P P 03 21 38.2 +0.6
WLF1 **Llynfaes** 52.23 313 *e*P P 03 21 38.7 +0.6
WLF1 IAmb IAmb 03 21 43.9
comp=Z,37nm,0.9s
YRC **Rhoscolyn** 52.34 313 *e*P P 03 21 39.6 +0.6
LPW **Lampeter** 52.37 311 *e*P P 03 21 39.5 +0.2
LPW IAmb IAmb 03 21 41.2
comp=Z,17nm,0.8s
SEY **Seymchan** 52.42 35⇓ *e*P P 03 21 38.5 -1.0
MA2 **Magadan** 52.45 39 *e*P P 03 21 38.0 -1.7
comp=Z,42nm,1.0s
MA2 **Magadan** 52.45 39⇑ *e*P P 03 21 38.2 -1.5
MA2 pmax pmax
comp=Z,5.0nm,0.9s
DAG **Danmarks Havn** 52.76 343⇑ *i*P P 03 21 41.4 -0.4
comp=Z,15nm,0.8s
DAG **Danmarks Havn** 52.76 343⇑ *i*P P 03 21 41.4 -0.4
DAG pmax pmax
comp=Z,11nm,0.8s
MBAR **Mbarara** 54.07 234 *e*P P 03 21 51.9 -0.5
comp=Z,18nm,0.9s
MBAR **Mbarara** 54.07 234 *e*P P 03 21 51.9 -0.5
MBAR pmax pmax
comp=Z,19nm,0.9s
BILL **Bilibino** 56.51 27 *e*P P 03 22 08.4 -0.7
comp=Z,37nm,1.5s
BILL **Bilibino** 56.51 27 *e*P P 03 22 07.5 -1.6
BILL *e* 03 23 03.5
BILL *e* 03 24 14.3
BILL *e*PPP PPP 03 25 27.6
BILL pmax pmax
comp=Z,20nm,2.5s
BILL MLR MLR
comp=Z,381nm,15.0s
ES19 **SONSECA Array** 56.73 297 *e*P P 03 22 10.8 -0.3
ESDC **Sonseca Array** 56.78 297 P P 03 22 11.3 -0.3
comp=Z,3.7nm,0.7s,baz=56,slow=7.5,SNR=18
ESLA **Sonseca Array** 56.78 297 *e*P P 03 22 11.2 -0.4
comp=Z,9.3nm,0.9s
PAB **San Pablo** 57.11 297 *e*P P 03 22 13.5 -0.4
comp=Z,4.9nm,0.8s
PAB **San Pablo** 57.11 297 *e*P P 03 22 13.5 -0.4
PAB pmax pmax
comp=Z,5.0nm,0.8s
TAM **Tamanrasset** 57.70 275 *e*P P 03 22 17.8 -0.6
comp=Z,4.7nm,0.8s
TAM **Tamanrasset** 57.70 275 *e*P P 03 22 17.8 -0.6
TAM pmax pmax
comp=Z,5.0nm,0.8s
MVO **Moncorvo** 58.26 300 *e*P P 03 22 26.8 +4.8
MVO **Moncorvo** 58.26 300 *e*LR LR 03 46 26.8
comp=Z,152nm,20.0s
POLO **Lamas de Olo** 58.69 300 *e*P P 03 22 34.2 +9.2
PGAV **Gavieira, Arco** 58.75 301 *e*P P 03 22 30.6 +5.1
PGAV **Gavieira, Arco** 58.75 301 *e*LR LR 03 47 25.2
comp=Z,96nm,16.0s
MTE **Manteigas** 58.95 299 *e*LR LR 03 47 11.2
comp=Z,194nm,18.0s
PVIS **Viseu** 59.05 299 *e*P P 03 22 30.8 +3.3
SUMG **Summit** 59.13 341 *e*P P 03 22 27.1 -0.8
comp=Z,24nm,0.7s
SUMG **Summit** 59.13 341 *i* P P 03 22 28.1 +0.1
comp=Z,59nm,0.8s
SUMG **Summit** 59.13 341 *e*P P 03 22 27.1 -0.9
SUMG pmax pmax
comp=Z,24nm,0.7s
PMRV **Marv??o** 59.27 298 *e*P P 03 22 32.7 +3.7
comp=Z,29nm,1.6s
PMRV **Marv??o** 59.27 298 *e*LR LR 03 47 27.9
comp=Z,226nm,20.0s
COI **Coimbra** 59.63 299 *e*P P 03 22 35.6 +4.2
MRSI **Marisa** 59.79 117 P P 03 22 31.2 -1.6
PTOM **Tomar** 59.89 298 *e*P P 03 22 37.5 +4.3
TTSI **Tana Toraja** 60.89 121 P P 03 22 42.3 +2.0
TULEG **Thule** 62.36 350 *e*P P 03 22 47.7 -1.7
comp=Z,36nm,1.6s
ILULI **Ilulissat** 64.48 341 *e*P P 03 23 02.6 -0.9
comp=Z,24nm,0.8s
ILULI **Ilulissat** 64.48 341 *e*P P 03 23 02.6 -0.9
ILULI pmax pmax
comp=Z,24nm,0.8s
TOA0 **Torodi Ar. Sit** 66.14 268 *e*P P 03 23 13.2 -1.9
TORD **Torodi Ar. Bea** 66.14 268 P P 03 23 13.2 -1.9
comp=Z,7.0nm,0.9s,baz=57,slow=5.5,SNR=32
TORD LR LR 03 56 09.5
comp=Z,86nm,19.8s,baz=330,slow=40
GAMB **Gambell** 66.39 26 *e*P P 03 23 14.0 -2.0
comp=Z,18nm,1.6s
GAMB *e*pP P 03 23 19.2 +3.3
RES **Resolute Bay** 66.56 356 *e*P P 03 23 15.3 -1.6
comp=Z,6.6nm,1.0s
RES **Resolute Bay** 66.56 356 *e*P P 03 23 15.3 -1.6
RES pmax pmax
comp=Z,7.0nm,1.0s
LSZ **Lusaka** 67.22 226 *e*P P 03 23 20.7 -1.3
comp=Z,1.7nm,0.4s
LSZ **Lusaka** 67.22 226 *e*P P 03 23 20.7 -1.3
LSZ pmax pmax
comp=Z,2.0nm,0.4s
ANM **Nome** 67.90 23 *e*P P 03 23 24.2 -1.4
ANM **Nome** 67.90 23 *e*P P 03 23 24.2 -1.3
TOLK **Toolik Lake Re** 68.74 15 *e*P P 03 23 29.5 -1.3
comp=Z,21nm,0.6s
TOLK **Toolik Lake Re** 68.74 15 P P 03 23 29.8 -1.0
baz=326
COLD **Coldfoot** 69.79 16 *e*P P 03 23 36.4 -0.8
comp=Z,8.8nm,0.8s
IM3 **Indian Mountai** 70.00 18 *e*P P 03 23 36.9 -1.6
FYU **Fort Yukon** 71.38 15 *e*P P 03 23 46.4 -0.6
comp=Z,15nm,1.0s
MLY **Manley** 71.50 17 *e*P P 03 23 47.0 -0.8
comp=Z,8.6nm,1.0s
INK **Inuvik** 71.71 10 *e*P P 03 23 47.9 -1.0
comp=Z,15nm,0.8s
INK **Inuvik** 71.71 10 *e*P P 03 23 47.9 -1.0
INK pmax pmax
comp=Z,15nm,0.8s
MDM **Murphy Dome** 72.14 17 *e*P P 03 23 50.8 -0.8
comp=Z,32nm,1.4s
POKR **Poker Plat Res** 72.18 16 P P 03 23 51.2 -0.6
baz=329
PRP **Porcupine Dome** 72.24 15 *e*P P 03 23 51.0 -1.3
comp=Z,6.3nm,0.8s
TCOL **CIGO, UAF Yank** 72.30 16 P P 03 23 51.4 -1.0
baz=328
COLA **College** 72.30 16 *e*P P 03 23 51.6 -0.9
comp=Z,24nm,0.9s
COLA **College** 72.30 16 *c i*P P 03 23 51.3 -1.2
COLA pmax pmax
comp=Z,15nm,0.9s
CCB **Clear Creek Bu** 72.50 17 *e*P P 03 23 53.6 -0.1
comp=Z,9.8nm,1.0s
CAST **Castle Rocks** 72.52 19 *e*P P 03 23 52.5 -1.4
comp=Z,28nm,1.2s
WRH **Wood River Hil** 72.59 17 *e*P P 03 23 52.7 -1.5
comp=Z,20nm,1.4s
IL1 **Eielson Array** 72.60 16 *e*P P 03 23 52.3 -2.0
ILAR **Eielson Array** 72.60 16 P P 03 23 52.4 -2.0
comp=Z,3.5nm,0.8s,baz=321,slow=5.0,SNR=37
ILB **Eielson Array** 72.60 16 *e*P P 03 23 52.5 -1.8
HDA **Harding Lake** 72.90 16 *e*P P 03 23 54.6 -1.5
comp=Z,6.3nm,0.9s
PPLA **Purkeypile** 72.92 19 *e*P P 03 23 56.5 +0.1
comp=Z,52nm,1.6s
TRF **Thorofare Moun** 72.94 18 *e*P P 03 23 56.1 -0.4
comp=Z,7.7nm,1.0s
MCK **McKinley** 73.02 18 *e*P P 03 23 55.8 -1.1
comp=Z,6.8nm,0.8s
MCK **McKinley** 73.02 18 *e*P P 03 23 55.8 -1.1
MCK pmax pmax
comp=Z,7.0nm,0.8s
RND **Reindeer** 73.32 18 *e*P P 03 23 57.0 -1.7
comp=Z,9.9nm,1.0s
RND **Reindeer** 73.32 18 *e*P P 03 23 57.0 -1.7
RND pmax pmax
comp=Z,10.0nm,1.0s
EGAK **Eagle** 73.76 14 *e*P P 03 24 00.3 -0.8
comp=Z,9.3nm,0.9s
SCRK **Sand Creek** 73.91 15 *e*P P 03 24 00.4 -1.8
comp=Z,24nm,1.4s
RIDG **Independ'e Rid** 73.94 16 *e*P P 03 24 00.5 -1.9
comp=Z,21nm,1.1s
DHY **Denali Highway** 73.95 17 *e*P P 03 24 01.2 -1.3
comp=Z,14nm,0.6s
DOT **Dot Lake** 74.19 16 *e*P P 03 24 01.9 -1.9
comp=Z,5.5nm,0.8s
PAX **Paxson** 74.48 17 *e*P P 03 24 04.0 -1.5
comp=Z,11nm,0.9s
PAX **Paxson** 74.48 17 *e*P P 03 24 04.0 -1.5
PAX pmax pmax
comp=Z,11nm,0.9s
DAWY **Dawson** 74.73 14 *e*P P 03 24 05.7 -1.2
comp=Z,11nm,0.9s
PMR **Palmer** 74.80 19 *e*P P 03 24 06.1 -1.1
comp=Z,9.8nm,0.7s
PMR **Palmer** 74.80 19 *e*P P 03 24 06.1 -1.1
PMR pmax pmax
comp=Z,10.0nm,0.7s
SML **Sawmill** 74.81 18 *e*P P 03 24 06.3 -1.2
comp=Z,29nm,0.6s
SML **Sawmill** 74.81 18 *e*P P 03 24 06.3 -1.1
SML pmax pmax
comp=Z,29nm,0.6s
SCM **Sheep Creek Mo** 75.04 18 *e*P P 03 24 07.7 -1.1
comp=Z,22nm,0.7s
SCM **Sheep Creek Mo** 75.04 18 *e*P P 03 24 07.7 -1.1
SCM pmax pmax
comp=Z,22nm,0.7s
HARP **HAARP** 75.04 17 *e*P P 03 24 07.5 -1.2
comp=Z,45nm,0.7s
RC01 **Rabbit Creek A** 75.07 19 *e*P P 03 24 07.0 -1.9
comp=Z,47nm,1.4s
KNK **Knik Glacier** 75.12 19 *e*P P 03 24 08.3 -0.9
comp=Z,20nm,0.8s
DBIC **Dimbokro** 75.18 267 P P 03 24 08.8 -1.4
comp=Z,3.8nm,0.9s,baz=50,slow=11,SNR=3.0
DBIC LR LR 04 01 44.1
comp=Z,188nm,18.2s,baz=25,slow=39
KIC **Kosan Boka** 75.28 266 *e*PKP2 P 03 24 13.1 +2.3
comp=Z,26nm,1.1s
TIC **Toumodi** 75.32 267 *e*PKP2 P 03 24 13.3 +2.2
LIC **Lamto** 75.58 266 *e*PKP2 P 03 24 11.9 -0.6
comp=Z,42nm,1.2s
KLU **Klutina** 75.67 17 *e*P P 03 24 10.9 -1.5
comp=Z,18nm,1.0s
DIV **Divide** 76.02 18 *e*P P 03 24 12.6 -1.8
comp=Z,13nm,0.8s
EYAK **Cordova Ski Ar** 76.53 18 *e*P P 03 24 16.3 -0.9
comp=Z,20nm,0.8s
TSUM **Tsumeb** 76.54 232 *e*P P 03 24 17.4 -0.5
comp=Z,20nm,1.4s
HYT **Haines Junctio** 78.06 14 *e*P P 03 24 24.9 -1.1
comp=Z,15nm,0.8s
WHY **Whitehorse** 78.69 13 *e*P P 03 24 28.1 -1.3
comp=Z,15nm,1.4s
YKW3 **Yellowknife Ar** 79.00 3 *e*P P 03 24 29.6 -1.2
YKA **Yellowknife Ar** 79.06 3 P P 03 24 29.8 -1.5
comp=Z,6.2nm,0.8s,baz=349,slow=5.6,SNR=122
YKA LR LR 04 03 35.3
comp=Z,10nm,18.8s,baz=306,slow=39
YKB5 **Yellowknife Ar** 79.06 3 *e*P P 03 24 29.4 -1.9
BOSA **Boshof** 79.63 220 P P 03 24 33.1 -1.8
BOSA pmax pmax
comp=Z,2.0nm,0.5s
BOSA **Boshof** 79.63 220 P P 03 24 33.1 -1.8
comp=Z,2.5nm,0.8s,baz=34,slow=4.2,SNR=7.0
SCHQ **Schefferville** 80.24 337 P P 03 24 37.2 -0.7
comp=Z,4.6nm,0.8s,baz=54,slow=6.1,SNR=6.4
SCHQ LR LR 03 59 41.7
comp=Z,234nm,19.0s,baz=354,slow=35
FCC **Fort Churchill** 82.18 352 *e*P P 03 24 46.8 -1.2
comp=Z,14nm,0.9s
FCC **Fort Churchill** 82.18 352 *e*P P 03 24 46.8 -1.2
FCC pmax pmax
comp=Z,14nm,0.9s
WRA **Warramunga Arr** 82.84 122 P P 03 24 48.5 -3.5
comp=Z,3.4nm,0.6s,baz=324,slow=4.9,SNR=48
WRAB **Tennant Creek** 82.84 122 *e*P P 03 24 48.2 -3.8
comp=Z,8.9nm,0.6s
WRAB **Tennant Creek** 82.84 122⇓ *e*P P 03 24 48.5 -3.5
WRAB pmax pmax
comp=Z,20nm,1.8s
WB2 **Warramunga Arr** 82.85 122 *e*P P 03 24 49.0 -3.0
ASAR **Alice Springs** 85.21 125 P P 03 25 00.6 -3.4
comp=Z,1.2nm,0.6s,baz=310,slow=4.8,SNR=15
AS01 **Alice Springs** 85.23 125 *e*P P 03 25 00.6 -3.5
CHGQ **Chibougamau** 86.79 339 P P 03 25 11.0 -0.6
baz=26
FFC **Flin Flon** 86.80 356 *e*P P 03 25 11.0 -0.6
comp=Z,13nm,0.9s
FFC **Flin Flon** 86.80 356 *i* P P 03 25 10.9 -0.6
MATQ **Matagami** 87.82 341 P P 03 25 15.8 -0.7
baz=24
LSQQ **Lebel-sur-Quev** 88.28 340 *e*P P 03 25 18.5 -0.3
baz=24
VLDQ **Val d'Or** 89.28 340 *e*P P 03 25 22.8 -0.6
comp=Z,25nm,1.3s
LLLB **Lillooet** 90.33 8 *e*P P 03 25 27.5 -0.9
comp=Z,20nm,1.2s
ULM **Lac du Bonnet** 90.76 352 P P 03 25 28.9 -1.4
comp=Z,3.8nm,0.9s,baz=8,7,slow=3.6,SNR=4.6
CTAO **Charters Tower** 91.12 115 *e*P P 03 25 29.6 -2.8
CTAO **Charters Tower** 91.12 115 *e*P P 03 25 29.6 -2.8
D46A **Sault St. Mari** 92.04 343 P P 03 25 35.9 -0.4
baz=19
EYMN **Ely** 92.44 349 *e*P P 03 25 37.5 -0.7
comp=Z,28nm,1.6s
EYMN **Ely** 92.44 349 P P 03 25 37.1 -1.1
baz=13
WALA **Waterton Lakes** 92.52 4 *e*P P 03 25 38.0 -0.7
comp=Z,6.0nm,0.8s
AGMN **Agassiz Nation** 92.68 352 *e*P P 03 25 38.1 -1.2
comp=Z,6.9nm,0.9s
AGMN **Agassiz Nation** 92.68 352 P P 03 25 37.7 -1.6
baz=9.8
NEW **Newport** 93.11 6 *e*P P 03 25 40.5 -0.8
comp=Z,6.8nm,1.0s
NEW **Newport** 93.11 6 *e*P P 03 25 40.5 -0.8
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW **Newport** 93.11 6 P P 03 25 40.5 -0.8
baz=353
F43A **Flat Rock, Esc** 93.71 345 P P 03 25 43.7 -0.4
baz=16
BOZ **Bozeman (W)** 96.07 2 *e*P P 03 25 54.2 -0.9
comp=Z,6.8nm,0.8s
BOZ **Bozeman (W)** 96.07 2 *e*P P 03 25 54.2 -0.9
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ **Bozeman (W)** 96.07 2 P P 03 25 54.8 -0.3
baz=358
ECSD **EROS Data Cent** 97.27 351 *e*P P 03 25 58.8 -1.6
comp=Z,6.3nm,1.1s
ECSD **EROS Data Cent** 97.27 351 P P 03 25 59.6 -0.7
baz=9.3
TXAR **Lajitas Array** 112.19 355 PP PP 03 31 41.9 -4.7
comp=Z,0.2nm,0.7s,baz=357,slow=2.5,SNR=3.7
GO06 **Curarrehue** 151.35 256 *e*PKPbc PKPdf 03 32 20.8 +5.7

*BJI **03** 03:25:17.1, 7.˚30S×146.˚49E, h194km, mb5.3/80, mB5.5/54*
*ISCJB **03** 03:25:19.0±0.5, 7.˚19S±0.˚02×145.˚89E±0.˚02, h182km±5km, mb5.2/187, Error ellipse: s-maj=4.0km s-min=3.7km az=10.9*
*MOS **03** 03:25:20.1±0.9, 7.˚16S×145.˚87E, h192km, mb5.2/51, Error ellipse: s-maj=8.3km s-min=5.8km az=102.6*
*NEIC **03** 03:25:21.0±0.0, 7.˚09S×146.˚00E, h190km, Moment Tensor Solution. s18 Moment tensor: Scale 10^17^Nm; Mrr0.64; Mθθ0.08; Mϕϕ-0.72; Mrθ0.41; Mθϕ1.90; Mrϕ2.94; Best double couple: M0 3.60000×10^17^ NP1:ϕs2.00000°, δ84.00000°, λ123.00000°. NP2:ϕs102.00000°, δ33.00000°, λ11.00000°. Principal axes: T 3.6500, Plg41.0000°, Azm303.0000°; N -0.1300, Plg32.0000°, Azm178.0000°; P -3.5200, Plg31.0000°, Azm65.0000°;*
*IDC **03** 03:25:22.0±0.5, 7.˚20S×145.˚92E, h195km±4km, mb4.7/28, mb1 4.8/31, mb1mx4.7/43, mbtmp5.3/31, MS4.4/16, Ms1 4.4/16, ms1mx4.2/35 Error ellipse: s-maj=11.0km*

s-min=7.1km az=82.0
*DJA **03** 03:25:21.8±0.5, 7°S±3″×14°6E±°, h186km±5km, M5.6/60, mb5.4/60, mB6.0/49, MLv6.0/3, Mw(mB)5.6/51*
*NEIC **03** 03:25:21.2±0.4, 7°.19S±145°.90E, h190km±3km, mb5.2/115, MW5.7, MW5.6, Error ellipse: s-maj=2.8km s-min=2.7km az=87.0, Moment Tensor Solution. s25 Moment tensor: Scale 10^{17}Nm; Mrr0.68; Mθθ0.55; Mφφ-1.23; Mrθ1.22; Mrφ1.82; Mθφ2.94; Best double couple: M☉3.80000×10^{17} NP1:ϕs12.00000°,δ84.00000°,λ123.00000°. NP2: ϕs111.00000°,δ34.00000°,λ11.00000°. Principal axes: T 4.0600, Plg41.0000°, Azm313.0000°; N -0.5200, Plg33.0000°, Azm188.0000°; P -3.5300, Plg31.0000°, Azm75.0000°;*
NEIC Felt at Goroka and Lae.
*GCMT **03** 03:25:23.2±0.1, 7°.15S±0°.01×146°.00E±0°.01, h190km, MW5.7/128, Moment Tensor Solution. s113,c192; s128,c313; Duration: 1ᵗ6 Moment tensor: Scale 10^{17} Nm; Mrr0.46±.03; Mθθ0.03±.04; Mφφ-0.49±.04; Mrθ0.49±.03; Mθφ2.23±.04; Mrφ2.99±.03; Best double couple: M☉3.78400×10^{17} NP1:ϕs2.00000°,δ86.00000°, λ127.00000°. NP2:ϕs98.00000°,δ37.00000°,λ7.00000°. Principal axes: T 3.9260, Plg38.0000°, Azm305.0000°; N -0.2840, Plg37.0000°, Azm179.0000°; P -3.6420, Plg31.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 03 03:25:21.7±0.3, 7°.23S±0°.04×145°.95E±0°.04, h198km±2km, h198km:pP-P, n521, σ1ᵍ31/560, mb5.2/183, 17C-9D, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.35**	**15**	*e*Pn	**Pn**	**03 26 40.1**	**-0.5**
RABL	**Rabaul**	**6.88**	**64**	*e*Pn	**Pn**	**03 26 59.7**	**-0.8**
JAY	**Jayapura**	**7.02**	**312**	P	**Pn**	**03 27 00.0**	**-2.4**
COEN	**Coen**	**7.22**	**202**	*e*Pn	**Pn**	**03 27 05.0**	**+0.2**
GENI	**Genyem**	**7.38**	**308**	P	**Pn**	**03 27 04.6**	**-2.4**
BAKI	**Biak**	**11.51**	**301**	P	**Pn**	**03 27 58.3**	**-2.2**
CTA	**Charters Tower**	**12.78**	**179**	P	**Pn**	**03 28 17.7**	**+1.0**
	1.1nm,0.3s,baz=1.9,slow=13,SNR=10						
CTAO	**Charters Tower**	**12.78**	**179**	*e*Pn	**Pn**	**03 28 17.2**	**+0.6**
CTAO	**Charters Tower**	**12.78**	**179**	*e*P	**Pn**	**03 28 17.2**	**+0.6**
HNR	**Honiara**	**14.02**	**100**	*e*Pn	**P**	**03 28 33.3**	**-0.7**
HNR	**Honiara**	**14.02**	**100**	*e*P	**P**	**03 28 33.3**	**-0.7**
HNR	**Honiara**	**14.02**	**100**	P	**Pn**	**03 28 32.1**	**-0.1**
	66nm,0.3s,baz=204,slow=3.2,SNR=45						
FAKI	**Fak Fak**	**14.30**	**287**	*e*Pn	**Pn**	**03 28 34.0**	**-1.7**
FAKI	**Fak Fak**	**14.30**	**287**	P	**Pn**	**03 28 33.9**	**-1.7**
SAUI	**Saumlaki**	**14.54**	**266**	*e*Pn	**Pn**	**03 28 38.2**	**-0.4**
SAUI	**Saumlaki**	**14.54**	**266**	P	**Pn**	**03 28 37.3**	**-1.3**
MTN	**Manton Dam**	**15.62**	**248**	*e*Pn	**Pn**	**03 28 51.2**	**-0.5**
	187nm,1.2s						
WRAB	**Tennant Creek**	**16.91**	**221**	*e*P	**P**	**03 29 06.3**	**+0.4**
	85nm,0.5s						
WRAB	**Tennant Creek**	**16.91**	**221**	⇑*e*P	**P**	**03 29 06.3**	**+0.4**
WB2	**Warramunga Arr**	**16.92**	**221**	*e*P	**P**	**03 29 05.7**	**-0.3**
WRA	**Warramunga Arr**	**16.93**	**221**	*i* P	**P**	**03 29 06.0**	**-0.1**
WRA				pmax	pmax		
	comp=Z,55nm,0.6s						
WRA	**Warramunga Arr**	**16.93**	**221**	P	**P**	**03 29 06.0**	**-0.1**
	comp=Z,12nm,0.3s,baz=50,slow=12,SNR=199						
WRA				S	**S**	**03 32 08.2**	**-4.4**
	baz=38,slow=21,SNR=7.5						
PATS	**Pohnpei**	**18.64**	**42**	*e*P	**P**	**03 29 25.1**	**+0.3**
	comp=Z,818nm,1.0s						
EIDS	**Eidsvold**	**18.69**	**165**	*e*P	**P**	**03 29 26.1**	**+0.9**
	comp=Z,51nm,1.0s						
NLAI	**Namlea**	**19.18**	**281**	P	**P**	**03 29 30.0**	**-0.7**
AS01	**Alice Springs**	**19.99**	**214**	*e*P	**P**	**03 29 39.9**	**+0.5**
AS31	**Alice Springs**	**20.02**	**214**	*e*P	**P**	**03 29 39.9**	**+0.3**
	comp=Z,72nm,0.4s						
ASAR	**Alice Springs**	**20.02**	**214**	P	**P**	**03 29 38.8**	**-0.8**
ASAR				S	**S**	**03 33 10.2**	**-3.7**
ASAR				pmax	pmax		
	comp=Z,43nm,0.5s						
ASAR				smax	smax		
	comp=N,24nm,0.8s						
ASAR				pmax	pmax		
	comp=N,8.0nm,1.0s						
ASAR	**Alice Springs**	**20.02**	**214**	P	**P**	**03 29 38.8**	**-0.8**
	comp=N,184nm,0.6s,baz=50,slow=8.2,SNR=190						
ASAR				S	**S**	**03 33 10.2**	**-3.7**
	comp=N,24nm,0.8s,baz=34,slow=19,SNR=6.6						
ASAR				ScP	**ScP**	**03 37 08.2**	**+3.4**
	comp=N,8.3nm,1.0s,baz=58,slow=3.5,SNR=4.9						
TNTI	**Ternate**	**20.18**	**292**	*e*P	**P**	**03 29 41.9**	**+0.6**
	comp=N,218nm,1.1s						
TNTI	**Ternate**	**20.18**	**292**	P	**P**	**03 29 40.6**	**-0.7**
SANI	**Sanana**	**20.55**	**284**	P	**P**	**03 29 44.6**	**-0.7**
GUMO	**Guam**	**20.72**	**357**	P	**P**	**03 29 46.5**	**-0.5**
	comp=N,72nm,0.4s,baz=138,slow=8.1,SNR=8.9						
SOEI	**Soe**	**21.59**	**262**	*e*P	**P**	**03 29 56.0**	**-0.5**
	comp=N,376nm,1.1s						
SOEI	**Soe**	**21.59**	**262**	P	**P**	**03 29 55.9**	**-0.5**
BATI	**Baumata**	**22.23**	**261**	P	**P**	**03 30 02.5**	**0.0**
FITZ	**Fitzroy Crossi**	**22.54**	**239**	*e*P	**P**	**03 30 05.0**	**-0.3**
	comp=N,453nm,1.8s						
FITZ				pP	**pP**	**03 30 39.2**	**-1.1**
FITZ				S	**S**	**03 33 57.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.54**	**239**	P	**P**	**03 30 04.3**	**-1.0**
	comp=N,45nm,0.5s,baz=43,slow=8.7,SNR=113						
FITZ				pP	**pP**	**03 30 39.2**	**-1.1**
	comp=N,37nm,0.5s,baz=66,slow=14,SNR=2.1						
FITZ				S	**S**	**03 33 57.2**	**-0.4**
	comp=N,46nm,0.8s,baz=277,slow=23,SNR=8.0						
FITZ				LR	LR	03 40 55.2	
	comp=N,3μm,18.1s,baz=62,slow=41						
SGSI	**Sangihe**	**23.09**	**297**	P	**P**	**03 30 10.1**	**-0.2**
KMSI	**Cibinong**	**23.25**	**289**	P	**P**	**03 30 11.6**	**-0.1**
BBSI	**Bau Bau**	**23.30**	**273**	P	**P**	**03 30 12.2**	**0.0**
ARMA	**Armidale**	**23.67**	**168**	*e*P	**P**	**03 30 16.6**	**+1.1**
	comp=N,53nm,0.9s						
SARN	**Sarigan**	**23.78**	**360**	*e*P	**P**	**03 30 16.4**	**-0.1**
	comp=N,86nm,0.5s						
LUWI	**Luwuk**	**23.91**	**284**	*e*P	**P**	**03 30 17.4**	**-0.5**
	comp=N,1μm,1.6s						
LUWI	**Luwuk**	**23.91**	**284**	P	**P**	**03 30 17.7**	**-0.1**
DDMP	**Don Marcelino,**	**24.15**	**303**	*e*P	**P**	**03 30 19.5**	**-0.4**
MATI	**Mati**	**24.17**	**305**	*e*P	**P**	**03 30 19.7**	**-0.5**
DZM	**Mont Dzumac**	**24.66**	**129**	*e*P	**P**	**03 30 25.2**	**+0.6**
	comp=N,87nm,1.0s						
DZM	**Mont Dzumac**	**24.66**	**129**	P	**P**	**03 30 24.3**	**-0.3**
	comp=N,30nm,0.6s,baz=257,slow=13,SNR=32						
STKA	**Stephens Creek**	**24.85**	**189**	*e*P	**P**	**03 30 27.3**	**+1.2**
	comp=N,18nm,0.8s						
STKA	**Stephens Creek**	**24.85**	**189**	*e*P	**P**	**03 30 27.3**	**+1.2**
STKA				pmax	pmax		
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**24.85**	**189**	P	**P**	**03 30 26.9**	**+0.8**
	comp=Z,84nm,0.6s,baz=349,slow=8.8,SNR=93						
STKA				LR	LR	03 42 32.6	
	comp=Z,1μm,18.7s,baz=12,slow=41						
MRSI	**Marisa**	**25.15**	**287**	P	**P**	**03 30 28.4**	**-0.6**
KCP	**Kidapawan**	**25.16**	**304**	⇑*i*P	**P**	**03 30 28.4**	**-0.8**
KCP				*i* S	**P**	**03 30 31.5**	**+2.3**
SKMP	**Bagumbayan, Su**	**25.35**	**302**	*e*P	**P**	**03 30 29.7**	**-1.1**
MARNC	**Mare, Loyalty**	**25.60**	**126**	*e*P	**P**	**03 30 32.4**	**-0.6**
	comp=Z,201nm,1.2s						
BUKP	**Musuan**	**25.68**	**305**	*e*P	**P**	**03 30 32.9**	**-0.9**
BKSI	**Bulukumba**	**25.74**	**273**	P	**P**	**03 30 34.3**	**-0.1**
BNSI	**Bone**	**25.86**	**275**	P	**P**	**03 30 35.4**	**0.0**
BUTP	**Butuan**	**25.88**	**308**	*e*P	**P**	**03 30 35.0**	**-0.5**
CTBH	**Cotabato--PC H**	**25.98**	**303**	⇓*i*P	**P**	**03 30 36.4**	**-0.1**
TTSI	**Tana Toraja**	**26.35**	**278**	P	**P**	**03 30 39.8**	**0.0**
PCI	**Palu**	**26.78**	**282**	P	**P**	**03 30 43.6**	**-0.1**
	comp=Z,205nm,1.1s,comp=Z,5μm						
KWAJ	**Kwajalein Atol**	**26.83**	**54**	*e*P	**P**	**03 30 44.2**	**+0.1**
	comp=Z,284nm,0.6s						
KWAJ	**Kwajalein Atol**	**26.83**	**54**	*e*P	**P**	**03 30 44.2**	**+0.1**
KWAJ				pmax	pmax		
	comp=Z,284nm,0.6s						
MPSI	**Mapaga**	**27.05**	**285**	P	**P**	**03 30 45.2**	**-0.9**
	comp=Z,19nm,0.7s,comp=Z,2μm						
BBOO	**Buckleboo**	**27.06**	**199**	*e*P	**P**	**03 30 46.2**	**+0.3**
	comp=Z,41nm,0.8s						
PLAI	**Plampang**	**27.94**	**265**	P	**P**	**03 30 52.0**	**-2.0**
TARA	**Tarawa**	**28.23**	**73**	*e*P	**P**	**03 30 56.8**	**+0.2**
FORT	**Forrest**	**28.80**	**213**	*e*P	**P**	**03 31 01.6**	**+0.2**
	comp=Z,97nm,0.8s						
MBWA	**Marble Bar**	**28.88**	**239**	*e*P	**P**	**03 31 02.0**	**-0.2**
RCP	**Roxas**	**29.69**	**309**	⇓*e*P	**P**	**03 31 09.4**	**0.0**
PVCP	**Virac**	**29.95**	**314**	*e*P	**P**	**03 31 11.0**	**-0.6**
TOO	**Toolangi**	**30.20**	**181**	*e*P	**P**	**03 31 14.5**	**+0.8**
	comp=Z,24nm,0.8s						
TOO	**Toolangi**	**30.20**	**181**	*e*P	**P**	**03 31 14.5**	**+0.8**
TOO				pmax	pmax		
	comp=Z,24nm,0.8s						
TSM	**Tawau**	**30.27**	**291**	P	**P**	**03 31 14.3**	**-0.2**
OTRP	**Odiongan**	**30.74**	**309**	*e*P	**P**	**03 31 17.2**	**-1.5**
AUQP	**San Andres**	**30.85**	**311**	*e*P	**P**	**03 31 18.5**	**-1.1**
SDKM	**Sandakan**	**31.42**	**293**	P	**P**	**03 31 24.0**	**-0.7**
SJMP	**San Jose**	**31.50**	**308**	*e*P	**P**	**03 31 25.6**	**+0.3**
JAGI	**Jajag, Banyuwa**	**31.52**	**266**	*e*P	**P**	**03 31 24.2**	**-1.4**
	comp=Z,51nm,0.9s						
JAGI	**Jajag, Banyuwa**	**31.52**	**266**	P	**P**	**03 31 23.2**	**-2.4**
ENPP	**El Nido**	**32.13**	**305**	*e*P	**P**	**03 31 29.6**	**-1.3**
BATP	**Bataraza**	**32.26**	**299**	*e*P	**P**	**03 31 30.7**	**-1.3**
KKM	**Kota Kinabalu**	**32.47**	**293**	*e*P	**P**	**03 31 32.8**	**-1.1**
	comp=Z,251nm,0.9s						
KKM	**Kota Kinabalu**	**32.47**	**293**	P	**P**	**03 31 33.1**	**-0.8**
MSVF	**Nonsavu**	**32.97**	**111**	*e*P	**P**	**03 31 38.9**	**+0.6**
	comp=Z,126nm,1.3s						
MSVF	**Nonsavu**	**32.97**	**111**	*e*P	**P**	**03 31 38.9**	**+0.6**
MSVF				pmax	pmax		
	comp=Z,126nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**33.80**	**37**	T	T	04 06 32.3	
	baz=218						
H11N3	**WAKE ISLAND Hy**	**33.81**	**37**	T	T	04 06 35.9	
	baz=218,slow=74,SNR=2.1						
H11N2	**WAKE ISLAND Hy**	**33.81**	**37**	T	T	04 06 33.1	
	baz=218,slow=74,SNR=3.5						
CAUP	**Cauayan**	**33.86**	**315**	*e*P	**P**	**03 31 46.6**	**+0.8**
GIRL	**Giralia**	**34.15**	**240**	*e*P	**P**	**03 31 48.1**	**-0.1**
	comp=Z,256nm,1.0s						
CBIJ	**Chichi jima**	**34.32**	**354**	P	**P**	**03 31 48.3**	**-1.3**
JCJ	**Chichijima**	**34.32**	**354**	P	**P**	**03 31 48.3**	**-1.3**
	comp=Z,98nm,0.4s,baz=294,slow=20,SNR=6.3						
BTM	**Bintulu**	**34.40**	**286**	P	**P**	**03 31 51.2**	**+0.6**
APYP	**Conner**	**34.89**	**316**	*e*P	**P**	**03 31 53.5**	**-1.1**
SBUM	**Sibu**	**35.01**	**285**	*e*P	**P**	**03 31 55.2**	**-0.6**
	comp=Z,72nm,1.1s						
SBUM	**Sibu**	**35.01**	**285**	P	**P**	**03 31 56.0**	**+0.3**
SBUM	**Sibu**	**35.01**	**285**	P	**P**	**03 31 56.1**	**+0.3**
ABRA	**Dolores**	**35.11**	**315**	*e*P	**P**	**03 31 54.3**	**-2.3**
SMRI	**Semarang**	**35.23**	**268**	*e*P	**P**	**03 31 56.6**	**-1.1**
	comp=Z,112nm,0.9s						
MORW	**Morawa**	**35.58**	**229**	*e*P	**P**	**03 32 00.7**	**+0.3**
	comp=Z,85nm,1.1s						
KSM	**Kuching**	**36.60**	**282**	*e*P	**P**	**03 32 08.5**	**-0.8**
	comp=Z,105nm,0.9s						
KSM	**Kuching**	**36.60**	**282**	P	**P**	**03 32 10.0**	**+0.7**
KPJI	**Karang Pucung**	**36.72**	**267**	P	**P**	**03 32 10.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**36.92**	**222**	P	**P**	**03 32 12.0**	**+0.3**
	comp=Z,55nm,0.8s,baz=279,slow=9.8,SNR=35						
OUZ	**Omahuta**	**37.68**	**142**	*e*P	**P**	**03 32 19.2**	**+1.1**
	comp=Z,118nm,1.5s						
CISI	**Cicimpet, Garu**	**37.81**	**267**	*e*P	**P**	**03 32 17.8**	**-1.8**
	comp=Z,117nm,0.8s						
CISI	**Cicimpet, Garu**	**37.81**	**267**	P	**P**	**03 32 18.3**	**-1.3**
	comp=Z,179nm,0.8s,comp=Z,4μm						
JOW	**Kunigami**	**37.95**	**334**	*e*P	**P**	**03 32 20.2**	**-0.2**
	comp=Z,74nm,0.8s						
LEM	**Lembang**	**38.04**	**268**	P	**P**	**03 32 20.9**	**-0.7**
	comp=Z,39nm,0.6s,baz=53,slow=8.3,SNR=8.3						
TPI	**Tanjungpandan**	**38.40**	**275**	P	**P**	**03 32 24.4**	**0.0**
	comp=Z,222nm,1.3s						
TWG	**Pinlang**	**38.54**	**321**	*e*P	**P**	**03 32 23.9**	**-1.5**
	comp=Z,298nm,0.5s						
YULB	**Yu-li**	**38.83**	**322**	*e*P	**P**	**03 32 27.5**	**-0.3**
	comp=Z,37nm,0.8s						
TPUB	**Ta-pu**	**39.16**	**321**	*e*P	**P**	**03 32 30.1**	**-0.5**
	comp=Z,161nm,0.6s						
NACB	**Ninganchiao**	**39.23**	**323**	*e*P	**P**	**03 32 31.0**	**-0.2**
	comp=Z,918nm,1.7s						
SSLB	**Sunglung**	**39.33**	**322**	*e*P	**P**	**03 32 31.1**	**-0.8**
	comp=Z,183nm,1.6s						
YHNB	**Yeheng**	**39.74**	**324**	*e*P	**P**	**03 32 35.5**	**+0.1**
	comp=Z,158nm,0.6s						
TATO	**Taipei**	**39.91**	**324**	*e*P	**P**	**03 32 37.0**	**+0.3**
	comp=Z,180nm,0.5s						
TATO	**Taipei**	**39.91**	**324**	P	**P**	**03 32 37.3**	**+0.6**
PPBI	**Pangkal Pinang**	**39.98**	**275**	P	**P**	**03 32 37.6**	**+0.1**
H01W1	**Cape Leeuwin H**	**40.15**	**222**	P	**P**	**03 32 40.7**	**+2.4**
	baz=67,slow=6.4,SNR=9.0						
H01W3	**Cape Leeuwin H**	**40.15**	**222**	P	**P**	**03 32 40.6**	**+2.3**
	baz=67,slow=6.4,SNR=6.4						
H01W2	**Cape Leeuwin H**	**40.16**	**222**	P	**P**	**03 32 40.7**	**+2.3**
	baz=67,slow=6.4,SNR=6.5						
KASI	**Kota Agung**	**41.22**	**270**	P	**P**	**03 32 45.9**	**-1.8**
	comp=Z,170nm,1.0s,comp=Z,2μm						
MDSI	**Maura Dua**	**41.63**	**271**	P	**P**	**03 32 49.5**	**-1.5**
	comp=Z,98nm,1.7s,comp=Z,2μm						
LWLI	**Liwa**	**41.70**	**271**	P	**P**	**03 32 51.5**	**-0.2**
	comp=Z,84nm,0.7s,comp=Z,7μm						
URZ	**Urewera**	**41.80**	**142**	*e*P	**P**	**03 32 52.7**	**+0.8**
	comp=Z,48nm,1.4s						
URZ	**Urewera**	**41.80**	**142**	P	**P**	**03 32 53.0**	**+1.0**
	comp=Z,12nm,0.4s,baz=249,slow=4.6,SNR=13						
BKZ	**Black Stump Fm**	**42.01**	**144**	*e*P	**P**	**03 32 55.0**	**+1.2**
	comp=Z,31nm,0.7s						
LHSI	**Lahat**	**42.35**	**272**	P	**P**	**03 32 56.3**	**-0.5**
	comp=Z,155nm,1.3s,comp=Z,4μm						
KNTN	**Kanton**	**42.38**	**86**	*e*P	**P**	**03 32 57.8**	**+0.8**
	comp=Z,276nm,1.3s						
MLZ	**Mavora Lakes**	**42.57**	**157**	*e*P	**P**	**03 32 58.4**	**+0.3**
	comp=Z,57nm,1.2s						
JNU	**Nakatsue**	**42.62**	**341**	*e*P	**P**	**03 32 58.1**	**-0.6**
	comp=Z,267nm,1.7s						
JNU	**Nakatsue**	**42.62**	**341**	P	**P**	**03 32 58.5**	**-0.1**
	comp=Z,30nm,0.6s,baz=151,slow=3.1,SNR=35						
BFZ	**Birch Farm**	**42.88**	**146**	*e*P	**P**	**03 33 01.3**	**+0.6**
	comp=Z,251nm,1.9s						
MYKOM	**Kota Tinggi**	**42.95**	**280**	*e*P	**P**	**03 33 01.7**	**0.0**
	comp=Z,168nm,1.0s						
MYKOM	**Kota Tinggi**	**42.95**	**280**	P	**P**	**03 33 02.1**	**+0.5**
INU	**Inuyama**	**43.18**	**349**	*e*P	**P**	**03 33 02.9**	**-0.2**
	comp=Z,79nm,1.5s						
KGM	**Kluang**	**43.52**	**281**	P	**P**	**03 33 07.0**	**+0.8**
GZH	**Guangzhou**	**43.88**	**314**	P	**P**	**03 33 11.5**	**+2.7**
QIZ	**Qiongzhong**	**44.13**	**307**	P	**P**	**03 33 11.6**	**+0.6**
QIZ				S	**S**	**03 39 30.6**	**+1.6**
QIZ				pmax	pmax		
	comp=Z,88nm,1.2s						
QIZ				LR	LR		
	comp=Z,340nm,10.3s						
QIZ				LR	LR		
	comp=Z,580nm,8.6s						
QIZ				LR	LR		
	comp=Z,660nm,18.6s						
QIZ	**Qiongzhong**	**44.13**	**307**	*e*P	**P**	**03 33 10.8**	**-0.2**
	comp=Z,24nm,0.5s						
MJAR	**Matsushiro Arr**	**44.15**	**351**	P	**P**	**03 33 09.7**	**-1.1**
	comp=Z,18nm,0.5s,baz=239,slow=16,SNR=48						
MAJO	**Matsushiro**	**44.15**	**351**	*e*P	**P**	**03 33 10.2**	**-0.6**
	comp=Z,24nm,0.8s						
MAJO	**Matsushiro**	**44.15**	**351**	*e*P	**P**	**03 33 10.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,24nm,0.8s						
MAT	**Matsushiro**	**44.15**	**351**	P	**P**	**03 33 09.5**	**-1.3**
MAT				S	**S**	**03 39 24.4**	**-4.3**
MJB9	**Matsu-Tunnel**	**44.15**	**351**	*e*P	**P**	**03 33 10.3**	**-0.6**
	comp=Z,22nm,0.6s						
NIUE	**Niue**	**44.42**	**110**	*e*P	**P**	**03 33 12.9**	**-0.4**
	comp=Z,430nm,1.7s						
KTGM	**Kuala Trenggan**	**44.51**	**285**	P	**P**	**03 33 15.0**	**+0.9**
KRJI	**Kerinci**	**44.62**	**274**	P	**P**	**03 33 14.6**	**-0.4**
	comp=Z,294nm,1.0s,comp=Z,5μm						
SDSI	**Sungai Dareh**	**44.82**	**276**	P	**P**	**03 33 16.7**	**+0.2**
SSE	**Sheshan**	**44.88**	**329**	P	**P**	**03 33 17.3**	**+0.6**
SSE				pmax	pmax		
	comp=Z,57nm,0.9s						
SSE	**Sheshan**	**44.88**	**329**	*e*P	**P**	**03 33 16.6**	**0.0**
	comp=Z,328nm,1.2s						
BKNI	**Bangkinang**	**45.42**	**278**	*e*P	**P**	**03 33 21.3**	**+0.1**
	comp=Z,133nm,0.8s						
BKNI	**Bangkinang**	**45.42**	**278**	P	**P**	**03 33 21.4**	**+0.1**
FRIM	**Kepong**	**45.44**	**282**	P	**P**	**03 33 21.4**	**-0.1**
IPM	**Ipoh**	**46.32**	**283**	*e*P	**P**	**03 33 28.1**	**-0.2**
	comp=Z,261nm,0.8s						
IPM	**Ipoh**	**46.32**	**283**	P	**P**	**03 33 28.4**	**+0.1**
TJN	**Taejon**	**46.76**	**339**	⇓*i*P	**P**	**03 33 32.2**	**+0.9**
NJ2	**Nanjing**	**46.85**	**328**	⇑*i*P	**P**	**03 33 33.0**	**+1.0**
NJ2				S	**S**	**03 40 07.2**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,70nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,2μm,5.0s						
KULM	**Kulim**	**46.89**	**284**	*e*P	**P**	**03 33 31.7**	**-1.0**
	comp=Z,159nm,0.9s						
KULM	**Kulim**	**46.89**	**284**	P	**P**	**03 33 33.0**	**+0.3**
SISI	**Saibi**	**47.07**	**275**	P	**P**	**03 33 34.3**	**+0.2**
SKLT	**Songkhla**	**47.42**	**287**	P	**P**	**03 33 37.5**	**+0.7**
	comp=Z,152nm,1.1s,comp=Z,2μm						
KSRS	**Korea Array**	**47.54**	**340**	P	**P**	**03 33 37.8**	**+0.5**
	comp=Z,40nm,0.5s,baz=156,slow=8.6,SNR=218						
KS15	**Wonju Array Si**	**47.55**	**340**	*e*P	**P**	**03 33 37.8**	**+0.5**
KSAR	**Wonju Array Be**	**47.55**	**340**	P	**P**	**03 33 37.8**	**+0.5**
KSAR	**Wonju Array Be**	**47.55**	**340**	P	**P**	**03 33 37.8**	**+0.5**
KS01	**Wonju Array Si**	**47.57**	**340**	*e*P	**P**	**03 33 36.9**	**-0.6**
SKNT	**Sakolnakorn**	**47.96**	**300**	P	**P**	**03 33 41.3**	**+0.4**
	comp=Z,70nm,0.5s,comp=Z,1μm						
PSI	**Prapat**	**47.98**	**280**	*e*P	**P**	**03 33 39.6**	**-1.6**
	comp=Z,176nm,1.3s						
PSI	**Prapat**	**47.98**	**280**	*e*P	**P**	**03 33 39.6**	**-1.6**
PSI				pmax	pmax		
	comp=Z,176nm,1.3s						
WHN	**Wuhan**	**48.26**	**323**	P	**P**	**03 33 44.5**	**+1.6**
WHN				sP	**sP**	**03 34 50.1**	**+1.0**
WHN				S	**S**	**03 40 32.2**	**+4.8**
WHN				pmax	pmax		
	comp=Z,490nm,1.2s						
WHN				LR	LR		
	comp=Z,990nm,7.1s						
WHN				LR	LR		
	comp=Z,720nm,9.1s						
WHN				LR	LR		
	comp=Z,980nm,21.3s						
TRTT	**Trang**	**48.50**	**287**	P	**P**	**03 33 45.2**	**+0.2**
	comp=Z,38nm,1.2s,comp=Z,876nm						
COCO	**West Island**	**48.61**	**260**	*c*eP	**P**	**03 33 48.4**	**+2.5**
GSI	**Gunungsitoli**	**49.00**	**278**	*e*P	**P**	**03 33 47.7**	**-1.2**
	comp=Z,148nm,0.8s						
GSI	**Gunungsitoli**	**49.00**	**278**	P	**P**	**03 33 47.7**	**-1.2**
	comp=Z,221nm,0.8s,comp=Z,3μm						
PATY	**Pattaya**	**49.07**	**294**	P	**P**	**03 33 50.1**	**+0.8**
	comp=Z,21nm,1.1s						
TPTI		**49.78**	**280**	P	**P**	**03 33 53.3**	**-1.5**
	comp=Z,166nm,0.9s,comp=Z,2μm						
PKDT	**Phuket**	**49.80**	**287**	P	**P**	**03 33 55.2**	**+0.3**
	comp=Z,68nm,0.9s,comp=Z,5μm						
PHET	**Kaeng Krachan**	**50.19**	**293**	P	**P**	**03 33 58.4**	**+0.6**
	comp=Z,41nm,0.9s,comp=Z,388nm						
PBKT	**Sadao Pong**	**50.39**	**298**	*e*P	**P**	**03 33 59.2**	**-0.1**
	comp=Z,24nm,0.9s						
PBKT	**Sadao Pong**	**50.39**	**298**	P	**P**	**03 33 59.8**	**+0.5**
	comp=Z,33nm,1.1s,comp=Z,1μm						
LHMI	**Lhok Sumawe**	**50.44**	**283**	*e*P	**P**	**03 33 59.3**	**-0.4**
	comp=Z,254nm,1.0s						
LHMI	**Lhok Sumawe**	**50.44**	**283**	P	**P**	**03 33 59.7**	**-0.1**
	comp=Z,311nm,1.0s,comp=Z,3μm						
GYA	**Guiyang**	**50.73**	**313**	⇑*i*P	**P**	**03 34 03.1**	**+1.2**
GYA				sP	sP	03 35 09.1	+0.6
GYA				PP	**PP**	**03 36 03.2**	**+3.1**
GYA				S	**S**	**03 41 04.4**	**+2.2**
GYA				SS	**SS**	**03 44 38.9**	**-0.6**
GYA				pmax	pmax		
	comp=Z,110nm,1.2s						
GYA				pmax	pmax		
	comp=Z,630nm,6.4s						
GYA				LR	LR		
	comp=Z,1μm,17.8s						
GYA				LR	LR		
	comp=Z,2μm,18.9s						
GYA				LR	LR		
	comp=Z,1μm,18.9s						
ENH	**Enshi**	**51.13**	**319**	*e*P	**P**	**03 34 04.7**	**0.0**
DL2	**Dalian**	**51.16**	**336**	P	**P**	**03 34 05.1**	**+0.5**
DL2				S	**S**	**03 41 10.0**	**+2.7**
DL2				ScS	**ScS**	**03 43 33.5**	**-1.1**
DL2				pmax	pmax		
	comp=Z,52nm,0.9s						
DL2				pmax	pmax		
	comp=Z,720nm,5.6s						
SRDT	**SRDT**	**51.17**	**295**	P	**P**	**03 34 05.9**

XAN S **S** **03 41 40.2 -5.8**
XAN ScS **ScS** **03 43 52.5 -2.3**
XAN pmax pmax
comp=Z,190nm,0.9s
XAN pmax pmax
comp=Z,1μm,3.9s
XAN LR LR
comp=Z,350nm,13.6s
XAN LR LR
comp=Z,520nm,12.7s
XAN LR LR
comp=Z,520nm,13.6s
XAN Xi'an 53.98 322 *e*P **P** **03 34 25.1 -0.5**
comp=Z,651nm,1.6s
XAN Xi'an 53.98 322 *e*P **P** **03 34 25.1 -0.5**
XAN pmax pmax
comp=Z,651nm,1.6s
YSS Yuzh-Sakhalins 54.02 357 *e*P **P** **03 34 21.7 -3.8**
YSS *e**PP **pP** **03 35 02.7 -7.7**
YSS *e**SP **PcP** **03 35 28.5 +0.6**
YSS *e*SSS SSS 03 47 29.0
YSS pmax pmax
comp=Z,40nm,1.8s
CN2 Changchun 54.09 342 *e*P **P** **03 34 25.0 -1.0**
CN2 *e*S **S** **03 41 45.6 -1.3**
CN2 pmax pmax
comp=Z,30nm,1.8s
CN2 pmax pmax
comp=Z,490nm,3.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,200nm,15.0s
CN2 LR LR
comp=Z,190nm,16.0s
RAR Rarotonga 54.16 111 P **P** **03 34 28.1 +1.1**
comp=Z,18nm,0.8s,baz=258,slow=6.0,SNR=6.0
BJT Baijiatuan 54.47 332 *e*P **P** **03 34 28.8 -0.1**
comp=Z,60nm,1.0s
BJT Baijiatuan 54.47 332 *e*P **P** **03 34 28.8 -0.1**
BJT pmax pmax
comp=Z,59nm,1.0s
BJI Beijing 54.48 332 P **P** **03 34 29.1 +0.2**
BJI S **S** **03 41 53.6 +1.3**
BJI pmax pmax
comp=Z,44nm,1.3s
BJI LR LR
comp=Z,670nm,13.1s
BJI LR LR
comp=Z,1μm,13.5s
BJI LR LR
comp=Z,290nm,44.5s
TIY Taiyuan 54.56 327 *e*P **P** **03 34 31.0 +1.3**
TIY pP **pP** **03 35 16.9 +2.2**
TIY sP **sP** **03 35 39.4 +2.7**
TIY S **S** **03 41 56.8 +3.1**
TIY sS **sS** **03 43 14.3 +2.0**
TIY SS **SS** **03 45 40.1 +0.5**
TIY pmax pmax
comp=Z,89nm,0.5s
TIY LR LR
comp=Z,630nm,8.1s
TIY LR LR
comp=Z,480nm,5.4s
TIY LR LR
comp=Z,670nm,10.2s
CD2 Chengdu 55.40 315 ⇓P **P** **03 34 36.6 +0.8**
CD2 pP pP 03 35 24.9 +3.8
CD2 PP **PP** **03 36 41.4 -0.5**
CD2 S **S** **03 42 05.5 +0.5**
CD2 sS sS 03 43 25.5 +1.7
CD2 SS **SS** **03 45 56.3 +3.3**
CD2 pmax pmax
comp=Z,350nm,0.5s
CD2 pmax pmax
comp=Z,800nm,4.3s
PBA Port Blair 56.15 289 *e*P P 03 34 39.4 -1.9
HHC Hu-ho-hao-te 57.34 329 *e*P **P** **03 34 50.2 +0.8**
HHC pP PcP 03 35 38.6 -2.5
HHC S **S** **03 42 31.4 +1.1**
HHC SS **SS** **03 46 24.1 +0.8**
HHC pmax pmax
comp=Z,65nm,1.8s
HHC pmax pmax
comp=Z,940nm,7.1s
KLR Kul'dur 57.59 349 P **P** **03 34 50.8 0.0**
comp=Z,7.1nm,0.6s,baz=158,slow=7.9,SNR=6.2
KLR LR LR 03 59 19.2
comp=Z,220nm,19.3s,baz=169,slow=35
TYV Tymovskoe 57.93 358 *e*P **P** **03 34 54.5 +1.4**
TYV pmax pmax
comp=Z,23nm,0.7s
BTO Baotou 57.96 328 *e*P **P** **03 34 54.6 +0.9**
SKR Severo-Kuril's 58.35 8 *i*P **P** **03 34 55.7 -0.3**
LZH Lanzhou 58.48 320 ⇑P **P** **03 34 58.9 +1.5**
LZH pP PcP 03 35 46.9 +1.1
LZH sP sP 03 36 06.5 +1.3
LZH PP **PP** **03 37 12.6 +3.3**
LZH S **S** **03 42 47.4 +2.1**
LZH sS sS 03 44 08.7 +4.3
LZH pmax pmax
comp=Z,62nm,1.1s
LZH pmax pmax
comp=Z,560nm,5.4s
NKL Nikolayevsk 60.32 356 *e*P **P** **03 35 10.0 +0.6**
NKL *e* 03 37 23.5
NKL pmax pmax
comp=Z,33nm,0.8s
HIA Hailar 60.75 341 *e*P **P** **03 35 12.5 -0.1**
comp=Z,88nm,1.4s
HIA Hailar 60.75 341 *d i*P **P** **03 35 12.3 -0.2**
HIA pmax pmax
comp=Z,84nm,1.5s
PETK Petropavlovsk- 60.93 8 *e*P **P** **03 35 14.5 +0.9**
PETK Petropavlovsk- 60.93 8 *e*P **P** **03 35 14.5 +0.9**
PETK Petropavlovsk- 60.93 8 P **P** **03 35 14.0 +0.4**
comp=Z,15nm,0.6s,baz=161,slow=7.1,SNR=12
SHL Shillong 61.83 304 *e*P **P** **03 35 20.4 0.0**
comp=Z,354nm,1.3s
SHL Shillong 61.83 304 *e*P **P** **03 35 20.4 0.0**
SHL pmax pmax
comp=Z,354nm,1.3s
SHL Shillong 61.83 304 *e*P **P** **03 35 19.8 -0.6**
KIP Kipapa 61.90 61 *e*P **P** **03 35 21.2 +0.5**
comp=Z,178nm,1.0s
KIP Kipapa 61.90 61 *ce*P **P** **03 35 22.0 +1.3**
KIP pmax pmax
comp=Z,117nm,1.0s
ZEA Zeya 62.77 348 *e*P **P** **03 35 26.0 +0.2**
ZEA pmax pmax
comp=E,30nm,1.0s
ZEA pmax pmax
comp=N,86nm,1.2s
ZEA pmax pmax
comp=Z,110nm,1.2s
ZEA MLR MLR
comp=Z,600nm,15.0s
ZEA MLR MLR
comp=E,500nm,12.0s
GTA Gaotai 63.03 321 ⇑P **P** **03 35 29.2 +1.1**
GTA pP pP 03 36 13.4 -1.1
GTA S **S** **03 43 42.9 0.0**
GTA SS **SS** **03 47 55.5 +2.9**
GTA pmax pmax
comp=E,70nm,1.2s
GTA pmax pmax
comp=E,640nm,6.6s
GTA LR LR
comp=E,250nm,17.5s
GTA LR LR
comp=E,310nm,19.9s
GTA LR LR
comp=E,400nm,19.6s
PPT2 Papeete2 63.55 106 *e*S **S** **03 43 42.5 -7.4**
comp=E,602nm,25.0s
PPT2 *e*LQ LQ 03 51 50.6
comp=E,2μm,40.2s
PPT2 *e*LR LR 03 54 30.4
comp=E,608nm,27.0s
TIAR Tiarei 63.77 106 *e*P **P** **03 35 35.6 +2.4**
comp=E,29nm,1.0s
CASY Casey 63.80 195 *e*P **P** **03 35 32.7 +0.2**
comp=E,21nm,0.6s
TBI Tubuai 63.86 112 *e*P **P** **03 35 36.0 +2.4**
comp=E,135nm,1.0s
TBI *e*S **S** **03 43 47.5 -5.9**
comp=E,715nm,30.8s
TBI *e*LQ LQ 03 52 01.0
comp=E,1μm,36.5s
TBI *e*LR LR 03 54 41.0
comp=E,304nm,24.5s
TVO Taravao 63.86 106 *e*P **P** **03 35 35.9 +2.1**
comp=E,13nm,0.8s
LSA Lhasa 64.16 308 P **P** **03 35 37.4 +1.4**
LSA pmax pmax
comp=E,140nm,1.0s
LSA Lhasa 64.16 308 *e*P **P** **03 35 36.8 +0.8**
comp=E,103nm,0.9s
LSA Lhasa 64.16 308 *e*P **P** **03 35 36.8 +0.8**
LSA pmax pmax
comp=Z,103nm,0.9s
SONM Songino Array 64.98 332 P **P** **03 35 41.4 +0.8**
SONM pmax pmax
comp=Z,9.0nm,0.6s
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 64.98 332 P **P** **03 35 41.4 +0.8**
comp=Z,12nm,0.6s,baz=28,slow=6.6,SNR=47
SONM PKP2bc 04 04 30.4
comp=Z,2.1nm,1.2s,baz=343,slow=4.6,SNR=6.9
SONA1 Songino Array 64.98 332 *e*P **P** **03 35 40.8 +0.2**
PMOR Pomariorio Ree 65.18 103 *e*P **P** **03 35 44.2 +1.9**
comp=Z,130nm,1.0s
VAH Vaihoa 65.43 103 *e*P **P** **03 35 45.9 +2.0**
comp=Z,72nm,1.2s
ODAN Odare 66.04 303 *e*P **P** **03 35 48.7 +0.8**
comp=Z,294nm,1.0s
BOK Bokaro 66.22 300 *e*P **P** **03 35 49.0 +0.2**
PALK Pallekele 66.65 281 *e*P **P** **03 35 51.7 -0.1**
comp=Z,70nm,0.9s
PALK Pallekele 66.65 281 *ce*P **P** **03 35 52.9 +1.1**
PALK Pallekele 66.65 281 P **P** **03 35 52.4 +0.6**
RAMN Ramite 66.73 303 *e*P **P** **03 35 53.0 +0.7**
comp=Z,111nm,0.7s
JIRN Jiri 67.33 304 *e*P **P** **03 35 56.8 +0.6**
comp=Z,113nm,0.7s
PKI Pulchoki 67.94 303 *e*P **P** **03 36 00.3 +0.3**
comp=Z,72nm,0.7s
PKIN Phulchoki 67.96 303 *e*P **P** **03 36 00.3 +0.3**
comp=Z,135nm,1.0s
KKN Kakani 68.13 304 *e*P **P** **03 36 01.6 +0.6**
comp=Z,209nm,0.8s
DMN Daman 68.21 303 *e*P **P** **03 36 02.4 +0.8**
ZAK Zakamensk 68.23 332 *e*P **P** **03 36 01.6 +0.6**
ZAK pmax pmax
comp=Z,60nm,0.9s
MDRS Chennai 68.31 287 *e*P **P** **03 36 01.2 -0.8**
MDRS IAmb IAmb 03 36 02.9
comp=Z,55nm,1.1s
TLY Talaya 68.97 333 *e*P **P** **03 36 06.2 +0.7**
comp=Z,32nm,0.9s
TLY Talaya 68.97 333 *e*P **P** **03 36 06.5 +1.0**
TLY *e*S **S** **03 44 52.5 -1.3**
TLY pmax pmax
comp=Z,91nm,0.9s
TLY MLR MLR
comp=Z,343nm,17.0s
TLY Talaya 68.97 333 P **P** **03 36 06.5 +1.0**
SNR=9.8
IRK Irkutsk 69.09 334 *e*P **P** **03 36 06.5 +0.3**
IRK *e* 03 36 53.5
KOLN Koldanda 69.51 303 *e*P **P** **03 36 10.1 +0.5**
comp=Z,290nm,0.9s
DANN Dangsing 69.58 304 *e*P **P** **03 36 10.3 +0.2**
comp=Z,190nm,0.7s
BOD Bodaibo 69.83 342 *e*P **P** **03 36 09.4 -1.1**
BOD pmax pmax
comp=Z,56nm,2.0s
PYUN Piuthan 70.13 303 *e*P **P** **03 36 13.6 +0.2**
comp=Z,432nm,0.9s
TRD Trivandrum 70.52 282 *e*P **P** **03 36 14.4 -1.3**
VNDA Vanda 70.75 176 *e*P **P** **03 36 17.0 +1.1**
comp=Z,18nm,1.0s
VNDA pP **pP** **03 37 03.0 +0.3**
VNDA Vanda 70.75 176 P **P** **03 36 17.5 +1.6**
comp=Z,11nm,0.8s,baz=334,slow=6.5,SNR=36
VNDA pP **pP** **03 37 03.0 +0.3**
comp=Z,12nm,0.9s,baz=318,slow=5.7,SNR=6.5
VNDA LR LR 04 02 55.8
comp=Z,133nm,21.2s,baz=348,slow=32
HYB Hyderabad 70.92 291 ⇑*i*P **P** **03 36 18.0 -0.1**
comp=Z,100nm,1.0s
HYB *e*pP **pP** **03 37 04.0 -1.2**
HYB *e* 03 37 21.5
HYB Hyderabad 70.92 291 *e*P **P** **03 36 17.6 -0.5**
NGP Nagpur 71.43 295 *e*P **P** **03 36 20.2 -0.9**
NGP IAmb IAmb 03 36 21.4
comp=Z,55nm,1.1s
WMQ Urumqi 73.05 320 P **P** **03 36 31.4 +1.1**
WMQ pP pP 03 37 18.5 +0.3
WMQ S **S** **03 45 41.7 +0.4**
WMQ ScS **SKKSac** **03 46 18.1 +0.7**
WMQ pmax pmax
comp=Z,200nm,0.9s
WMQ pmax pmax
comp=Z,2μm,3.9s
WMQ Urumqi 73.05 320 *e*P **P** **03 36 30.2 -0.1**
comp=Z,75nm,1.0s
WMQ Urumqi 73.05 320 *e*P **P** **03 36 30.2 -0.1**
WMQ pmax pmax
comp=Z,75nm,1.0s
BHPL Bhopal 73.44 297 *e*P **P** **03 36 32.9 0.0**
MNCI Minicoy 74.28 281 *e*P **P** **03 36 38.0 +0.1**
comp=Z,145nm,1.0s
GOA Goa 74.91 288 *e*P **P** **03 36 40.0 -1.4**
GOA IAmb IAmb 03 36 42.1
comp=Z,33nm,0.8s
DDI Dehra Dun 74.93 304 *e*P **P** **03 36 40.5 -0.9**
POO Poona 75.54 291 *e*P **P** **03 36 44.8 -0.3**
SMLA Simla 75.91 304 *e*P **P** **03 36 46.2 -0.6**
DGZ Jazzator, Alta 76.04 325 *c i*P **P** **03 36 47.8 +0.4**
DGZ pmax pmax
comp=Z,24nm,0.8s
DHRM DHARAMSHALA 76.94 305 *e*P **P** **03 36 52.7 -0.3**
MK01 Makanchi Array 77.77 321 *e*P **P** **03 36 57.7 +0.6**
MK31 Makanchi Array 77.79 321 *e*P **P** **03 36 58.0 +0.9**
MK31 Makanchi Array 77.79 321 *e*P **P** **03 36 58.0 +0.9**
MKAR Makanchi Array 77.79 321 P **P** **03 36 57.6 +0.5**
comp=Z,2nm,0.5s,baz=101,slow=6.6,SNR=156
MKAR pP **pP** **03 37 45.2 -0.1**
comp=Z,3.1nm,0.5s,baz=97,slow=6.2,SNR=1.5
MKAR S **S** **03 46 35.4 +2.3**
comp=Z,1.7nm,1.2s,baz=112,slow=9.3,SNR=4.5
MKAR LR LR 04 10 24.0
comp=Z,215nm,21.1s,baz=114,slow=35
MAKZ Makanchi 77.99 321 *e*P **P** **03 36 58.8 +0.6**
comp=Z,122nm,1.4s
MAKZ Makanchi 77.99 321 *e*P **P** **03 36 58.8 +0.6**
MAKZ pmax pmax
comp=Z,122nm,1.4s
KSH Kashi 79.43 312 P **P** **03 37 07.9 +1.5**
KSH pP pP 03 37 55.2 +0.4
KSH PP **PP** **03 40 12.6 +3.0**
KSH S **S** **03 46 47.2 -3.9**
KSH pmax pmax
comp=Z,43nm,0.9s
KSH pmax pmax
comp=Z,320nm,8.2s
KSH LR LR
comp=Z,140nm,9.7s
KSH LR LR
comp=Z,280nm,8.9s
KSH LR LR
comp=Z,190nm,10.6s
ZAA0 Zalesovo Array 79.50 328 *e*P **P** **03 37 06.3 +0.1**
comp=Z,26nm,0.6s
ZALV Zalesovo Beam 79.50 328 P **P** **03 37 05.7 -0.5**
comp=Z,14nm,0.3s,baz=110,slow=4.6,SNR=42
ZALV LR LR 04 11 16.2
comp=Z,130nm,21.9s,baz=70,slow=35
ULHL Ulahol 80.12 315 P **P** **03 37 11.4 +1.2**
SNR=7.8
BHJ Bhuj 80.39 295 *e*P **P** **03 37 11.1 -0.5**
MAW Mawson 80.72 203 LR LR 04 13 05.8
comp=Z,330nm,18.3s,baz=91,slow=36
NVS Novosibirsk 80.73 329 *e*P **P** **03 37 12.9 +0.1**
NVS *e* 03 38 03.4
NVS pmax pmax
comp=Z,90nm,1.7s
NVS pmax pmax
comp=N,4.0nm,0.4s
NVS pmax pmax
comp=E,12nm,0.7s
KZA Kyzart 80.76 315 P **P** **03 37 15.4 +1.6**
SNR=157
TKM2 Tokmak 2 80.79 316 P **P** **03 37 14.4 +0.8**
SNR=20
UCH Uchtor 81.33 315 P **P** **03 37 18.0 +1.2**
SNR=87
CHMS Chumysh 81.40 315 P **P** **03 37 17.2 +0.5**
SNR=24
AAK Ala-Archa 81.47 315 P **P** **03 37 18.1 +0.9**
SNR=29
AAK Ala-Archa 81.47 315 P **P** **03 37 16.4 -0.8**
AAK pmax pmax
comp=Z,48nm,0.9s
KDAK Kodiak Island 81.47 28 *e*P **P** **03 37 17.7 +1.1**
comp=Z,26nm,0.6s
KDAK Kodiak Island 81.47 28 *ce*P **P** **03 37 17.9 +1.3**
KDAK Kodiak Island 81.47 28 LR LR 04 06 59.1
comp=Z,256nm,21.6s,baz=277,slow=31
KURK Kurchatov 81.58 324 *e*P **P** **03 37 17.3 0.0**
KURK pP **pP** **03 38 05.4 -0.6**
KURK Kurchatov 81.58 324 *ce*P **P** **03 37 17.7 +0.4**
KURK pmax pmax
comp=Z,51nm,1.0s
KURK Kurchatov 81.58 324 P **P** **03 37 17.4 +0.1**
SNR=13
KURBB Kurchatov Arra 81.59 324 P **P** **03 37 17.8 +0.4**
comp=Z,8.7nm,0.5s,baz=111,slow=4.9,SNR=39
KURBB pP **pP** **03 38 05.4 -0.7**
comp=Z,3.1nm,0.7s,baz=124,slow=4.0,SNR=2.1
USP Ospenovka 81.66 316 P **P** **03 37 18.7 +0.7**
SNR=45
SVW2 Sparrevohn 81.79 25 *e*P **P** **03 37 18.9 +0.6**
comp=Z,22nm,0.8s
AML Almayashu 81.88 314 P **P** **03 37 20.8 +1.2**
SNR=93
EKS2 Erkin-Say 81.98 315 P **P** **03 37 20.8 +1.0**
SNR=62
QSPA South Pole Qui 82.74 180 *e*P **P** **03 37 23.6 +0.2**
RDOG Red Dog Mine 83.22 17 *e*P **P** **03 37 26.1 +0.6**
comp=Z,20nm,1.0s
KBL Kabul 83.40 306 *e*P **P** **03 37 27.2 -0.2**
comp=Z,25nm,1.0s
KBL Kabul 83.40 306 *e*P **P** **03 37 27.2 -0.2**
KBL pmax pmax
comp=Z,25nm,1.0s
GAR Garm 83.49 311 *e*P **P** **03 37 27.5 -0.2**
GAR Garm 83.49 311 *e*P **P** **03 37 27.5 -0.2**
RC01 Rabbit Creek A 84.28 26 *e*P **P** **03 37 30.8 -0.2**
comp=Z,18nm,0.4s
CHGR Chuyangaron 84.28 310 *e*P **P** **03 37 31.3 -0.3**
comp=Z,179nm,1.3s
CAST Castle Rocks 84.37 24 *e*P **P** **03 37 31.7 +0.3**
comp=Z,23nm,1.0s
KK31 Karatay Array 84.41 315 *e*P **P** **03 37 31.9 -0.1**
KK31 Karatay Array 84.41 315 *e*P **P** **03 37 32.0 -0.1**
KKAR Karatay Array 84.41 315 *e*P **P** **03 37 32.1 0.0**
KKAR Karatay Array 84.41 315 *e*P **P** **03 37 32.1 0.0**
PMR Palmer 84.76 26 *e*P **P** **03 37 33.4 +0.1**
comp=Z,13nm,0.8s
PMR Palmer 84.76 26 *e*P **P** **03 37 33.4 +0.1**
PMR pmax pmax
comp=Z,13nm,0.8s
KNK Knik Glacier 84.98 26 *e*P **P** **03 37 35.0 +0.5**
comp=Z,26nm,1.0s
TRF Thorofare Moun 85.10 24 *e*P **P** **03 37 35.9 +0.6**
comp=Z,12nm,0.8s
SML Sawmill 85.20 26 *e*P **P** **03 37 35.8 +0.1**
comp=Z,23nm,0.8s
SML Sawmill 85.20 26 *e*P **P** **03 37 35.8 +0.1**
SML pmax pmax
comp=Z,23nm,0.8s
SCM Sheep Creek Mo 85.64 26 *e*P **P** **03 37 38.3 +0.4**
comp=Z,28nm,0.9s
MLY Manley 85.65 22 *e*P **P** **03 37 37.8 0.0**
comp=Z,17nm,0.8s
RND Reindeer 85.66 24 *e*P **P** **03 37 37.6 -0.4**
comp=Z,30nm,0.9s
RND Reindeer 85.66 24 *e*P **P** **03 37 37.6 -0.4**
RND pmax pmax
comp=Z,30nm,0.9s
MCK McKinley 85.77 24 *e*P **P** **03 37 38.0 -0.4**
comp=Z,27nm,0.9s
MCK McKinley 85.77 24 *e*P **P** **03 37 38.0 -0.4**
MCK pmax pmax
comp=Z,27nm,0.9s
DIV Divide 86.05 27 *e*P **P** **03 37 40.0 +0.1**
comp=Z,21nm,0.8s
KLU Klutina 86.12 27 *e*P **P** **03 37 40.3 +0.1**
comp=Z,16nm,0.9s
NRIK Noril'sk 86.13 342 P **P** **03 37 40.6 +0.6**
comp=Z,18nm,0.5s,baz=128,slow=4.8,SNR=7.5
NRIK LR LR 04 14 36.9
comp=Z,280nm,21.9s,baz=114,slow=34
DHY Denali Highway 86.13 25 *e*P **P** **03 37 40.1 -0.2**
comp=Z,27nm,1.1s
WRH Wood River Hil 86.42 23 *e*P **P** **03 37 41.2 -0.3**
comp=Z,18nm,1.0s
CCB Clear Creek Bu 86.61 23 *e*P **P** **03 37 42.0 -0.4**
comp=Z,14nm,0.9s
TCOL CIGO, UAF Yank 86.68 23 P **P** **03 37 42.5 -0.3**
baz=245
COLA College 86.68 23 *e*P **P** **03 37 42.7 0.0**
comp=Z,48nm,1.3s
COLA College 86.68 23 *e*P **P** **03 37 42.7 0.0**
COLA pmax pmax
comp=Z,48nm,1.3s
HDA Harding Lake 86.85 24 P **P** **03 37 43.2 -0.4**
baz=246
POKR Poker Plat Res 86.95 23 P **P** **03 37 45.8 +1.8**
baz=246
IL1 Eielson Array 87.02 23 *e*P **P** **03 37 43.3 -1.1**
ILAR Eielson Array 87.02 23 P **P** **03 37 43.0 -1.4**
comp=Z,8.9nm,0.7s,baz=253,slow=4.8,SNR=22
ILAR pP **pP** **03 38 32.3 -1.1**
comp=Z,7.2nm,1.0s,baz=251,slow=4.9,SNR=2.1
ILAR LR LR 04 11 48.4
comp=Z,134nm,19.6s,baz=251,slow=32
ILB Eielson Array 87.02 23 *e*P **P** **03 37 43.4 -1.0**
BVA0 Borovoye Array 87.15 324 *i*P **P** **03 37 44.3 -1.0**
BVA0 pmax pmax
comp=Z,15nm,1.0s
BVAR Borovoye Array 87.15 324 P **P** **03 37 44.6 -0.7**
comp=Z,4.3nm,0.4s,baz=119,slow=7.2,SNR=22
BVAR pP **pP** **03 38 34.9 +0.3**
comp=Z,5.4nm,0.8s,baz=102,slow=5.1,SNR=2.7
BVAR S **SKSac** **03 47 49.5 -4.2**
comp=Z,0.7nm,0.7s,baz=90,slow=3.0,SNR=5.4
BRVK Borovoye 87.22 324 *e*P **P** **03 37 45.3 -0.3**
BRVK Borovoye 87.22 324 *ce*P **P** **03 37 45.6 0.0**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
RIDG Independ'e Rid 87.44 25 *e*P **P** **03 37 46.9 +0.3**
comp=Z,29nm,1.2s
BALM Baldy 87.57 28 *e*P **P** **03 37 47.5 +0.2**
comp=Z,81nm,1.7s
BALM Baldy 87.57 28 *e*P **P** **03 37 47.5 +0.2**
BALM pmax pmax
comp=Z,81nm,1.7s
MENT Mentasta 87.62 26 *e*P **P** **03 37 47.8 +0.5**
comp=Z,10.0nm,0.7s
TOLK Toolik Lake Re 87.69 19 P **P** **03 37 49.1 +1.4**
baz=244
DOT Dot Lake 87.73 25 *e*P **P** **03 37 48.0 +0.1**
comp=Z,15nm,0.8s
SYO Syowa Base 89.08 200 ⇓*i*P **P** **03 37 52.8 -1.3**
SYO Syowa Base 89.08 200 ⇓*i*PcP **P** **03 37 54.4 +0.3**
SYO Syowa Base 89.08 200 ⇑*e*pP pP 03 38 40.6 -2.5
EGAK Eagle 89.31 24 *e*P **P** **03 37 55.0 -0.3**
comp=Z,11nm,0.8s
JLN Jalan Bani Buh 89.51 292 P **P** **03 37 56.9 -0.2**
HYT Haines Junctio 89.77 28 *e*P **P** **03 37 58.0 +0.4**
comp=Z,10.0nm,1.0s
DAWY Dawson 89.82 25 *e*P **P** **03 37 58.1 +0.4**
comp=Z,11nm,0.7s
WSAR Wadi Sarin 90.37 293 P **P** **03 38 00.9 -0.2**
SNR=5.8
MHTO MHTO 90.68 291 P **P** **03 38 02.3 -0.2**
SNR=6.1
BIDO Bidbid 90.86 293 P **P** **03 38 03.3 -0.1**
SNR=8.8
DQM DQM 90.95 290 P **P** **03 38 03.9 0.0**
EPYK Eagle Plains 91.53 23 P **P** **03 38 06.4 +0.8**
baz=256
SOHO SOHO 92.39 294 P **P** **03 38 09.9 -0.5**
SNR=6.6

GEYT	**Alibeck**	**92.69**	**308**	P	**P**	**03 38 11.0**	**-0.5**
	comp=Z,6.7nm,0.7s,baz=114,slow=3.7,SNR=11						
GEYT				pP	**pP**	**03 39 01.4**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=45,slow=2.2,SNR=2.7						
GEYT				LR	LR	04 22 49.1	
	comp=Z,79nm,20.9s,baz=35,slow=37						
DMTO	**DMTO**	**93.12**	**287**	P	**P**	**03 38 13.7**	**-0.2**
BBB	**Bella Bella**	**93.17**	**38**	LR	LR	04 16 42.4	
	comp=Z,205nm,18.2s,baz=246,slow=33						
SVE	**Sverdlovsk**	**93.44**	**327**	*e*P	**P**	**03 38 12.2**	**-2.3**
SVE				pmax	pmax		
	comp=Z,26nm,1.5s						
ARU	**Arti**	**94.53**	**326**	*e*P	**P**	**03 38 18.0**	**-1.5**
	comp=Z,31nm,1.4s						
ARU	**Arti**	**94.53**	**326**	*c i*P	**P**	**03 38 18.0**	**-1.5**
ARU						03 42 06.7	
ARU				S	**SKSac**	**03 48 34.1**	**-1.5**
ARU				SS	**SS**	**03 55 35.6**	**-6.6**
ARU				pmax	pmax		
	comp=Z,51nm,2.8s						
O02D	**Mt. Diablo Mer**	**95.57**	**50**	P	**P**	**03 38 26.3**	**+1.6**
	baz=265						
M02C	**Callahan**	**95.62**	**49**	P	**P**	**03 38 26.6**	**+1.6**
	baz=265						
YBH	**Yreka Blue Hor**	**95.76**	**49**	LR	LR	04 17 38.2	
	comp=Z,188nm,19.0s,baz=297,slow=33						
WDC	**Whiskeytown Da**	**95.79**	**50**	*e*P	**P**	**03 38 25.9**	**+0.2**
	comp=Z,24nm,1.6s						
WDC	**Whiskeytown Da**	**95.79**	**50**	*e*P	**P**	**03 38 25.9**	**+0.2**
WDC				pmax	pmax		
	comp=Z,24nm,1.6s						
ABPO	**Ambohimpanom**	**95.85**	**250**	*e*P	**P**	**03 38 26.9**	**+0.3**
	comp=Z,17nm,1.4s						
ABPO	**Ambohimpanom**	**95.85**	**250**	*e*P	**P**	**03 38 26.9**	**+0.3**
ABPO				pmax	pmax		
	comp=Z,17nm,1.4s						
OPO	**Ambohidratompo**	**95.96**	**250**	LR	LR	04 19 00.4	
	comp=Z,160nm,19.2s,baz=96,slow=34						
ORV	**Oroville**	**96.51**	**51**	*e*P	**P**	**03 38 29.0**	**0.0**
	comp=Z,8.4nm,1.3s						
ORV	**Oroville**	**96.51**	**51**	*e*P	**P**	**03 38 29.0**	**0.0**
ORV				pmax	pmax		
	comp=Z,8.0nm,1.3s						
AFDM	**Forest Hills D**	**96.88**	**52**	*e*P	**P**	**03 38 31.7**	**+1.0**
	comp=Z,19nm,1.7s						
J05D	**Fort Rock, OR**	**96.95**	**47**	P	**P**	**03 38 31.9**	**+0.8**
	baz=267						
BEKR	**Beckworth**	**97.41**	**51**	*e*P	Pdif	03 38 33.5	+0.3
	comp=Z,9.5nm,1.2s						
MOD	**Modoc Plateau**	**97.56**	**49**	*e*P	Pdif	03 38 34.0	+0.2
	comp=Z,14nm,1.5s						
E07A	**Sunnyside**	**98.08**	**44**	*e*P	Pdif	03 38 36.2	+0.3
	comp=Z,8.4nm,1.1s						
MDPB	**Devils Postpil**	**98.30**	**53**	*e*P	Pdif	03 38 43.7	+6.3
	comp=Z,16nm,1.1s						
HAWA	**Hanford**	**98.30**	**44**	*e*P	Pdif	03 38 37.5	+0.6
	comp=Z,7.1nm,0.9s						
SNAA	**Sanae**	**98.61**	**190**	P	Pdif	03 38 38.9	+1.0
WVOR	**Wild Horse Val**	**98.82**	**48**	*e*P	Pdif	03 38 39.5	+0.1
	comp=Z,5.7nm,1.3s						
WVOR	**Wild Horse Val**	**98.82**	**48**	*e*P	Pdif	03 38 39.5	+0.1
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.3s						
NV01	**Mina Array Sit**	**98.94**	**52**	*e*P	**P**	**03 38 40.2**	**0.0**
NVAR	**Mina Array Bea**	**98.94**	**52**	P	Pdif	03 38 41.5	+1.3
	comp=Z,3.1nm,0.8s,baz=254,slow=6.4,SNR=20						
NVAR				PP	**PP**	**03 42 43.5**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=260,slow=10,SNR=3.6						
NVAR				LR	LR	04 17 55.2	
	comp=Z,184nm,20.3s,baz=278,slow=32						
J08A	**Circle Bar Ran**	**98.97**	**47**	*e*P	**P**	**03 38 40.0**	**0.0**
	comp=Z,25nm,1.9s						
CWC	**Cottonwood Cre**	**99.04**	**54**	P	**Pdif**	**03 38 43.0**	**+2.4**
	baz=268						
RPN	**Rapa Nui**	**99.66**	**119**	LR	LR	04 15 32.7	
	comp=Z,75nm,19.2s,baz=250,slow=30						
BMO	**Blue Mountains**	**99.83**	**46**	*e*Pdif	**Pdif**	**03 38 44.6**	**+0.8**
	comp=Z,2.6nm,0.8s						
BMO	**Blue Mountains**	**99.83**	**46**	*e*P	**Pdif**	**03 38 44.6**	**+0.8**
BMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
F10A	**Beach Ranch, E**	**99.89**	**45**	*e*Pdif	**Pdif**	**03 38 44.7**	**+0.6**
	comp=Z,5.9nm,0.9s						
NEW	**Newport**	**99.96**	**42**	P	**Pdif**	**03 38 45.1**	**+0.8**
	baz=270						
VNA2	**Neumayer--Watz**	**99.98**	**189**	P	**Pdif**	**03 38 44.7**	**+0.8**
	baz=111,slow=8.3						
VNA3	**Neumayer Olymp**	**100.02**	**188**	P	**Pdif**	**03 38 44.9**	**+0.9**
YKA	**Yellowknife Ar**	**100.74**	**28**	P	**Pdif**	**03 38 47.6**	**+0.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**100.74**	**28**	P	**Pdif**	**03 38 47.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=273,slow=5.3,SNR=6.5						
YKA				PKKPbc	**PKKPbc**	**03 54 58.9**	**-4.0**
	comp=Z,0.7nm,0.8s,baz=91,slow=2.9,SNR=14						
YKA				PKKPab	PKKPdf	03 55 24.1	+16
	comp=Z,0.8nm,0.8s,baz=93,slow=5.2,SNR=12						
MAK	**Makhachkala**	**101.07**	**312**	*e*P	**Pdif**	**03 38 47.3**	**-1.9**
MAK				*e*		03 42 57.8	
MAK				*e*PPP	PPP	03 45 07.4	
MAK				*e*		03 49 09.3	
MAK				*e*SS	SS	03 57 11.4	-3.1
MAK				*e*SSS	SSS	04 01 04.0	
MAK				pmax	pmax		
	comp=Z,40nm,0.5s						
KLMR	**Klimovskoe**	**104.27**	**331**	*i* P	**Pdif**	**03 39 00.9**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,11nm,1.0s						
KLMR	**Klimovskoe**	**104.27**	**331**	*e*Pdif	**Pdif**	**03 39 00.9**	**-2.1**
KLMR				AMP		03 39 03.1	
	comp=Z,11nm,1.1s						
PDAR	**Pinedale Array**	**105.51**	**48**	Pdiff	**Pdif**	**03 39 09.6**	**+0.2**
	comp=Z,0.8nm,1.0s,baz=270,slow=3.0,SNR=4.2						
ARCES	**ARCESS Array B**	**107.09**	**342**	PKiKP	**PKiKP**	**03 43 24.3**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=136,slow=1.1,SNR=5.0						
ARCES				PKKPbc	**PKKPbc**	**03 54 40.7**	**-3.4**
	comp=Z,0.9nm,0.5s,baz=260,slow=3.6,SNR=8.7						
KMBO	**Kilima Mbogo**	**108.40**	**266**	PP	**PP**	**03 43 54.1**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=100,slow=8.3,SNR=5.5						
FINES	**FINESS Array B**	**110.31**	**334**	PKiKP	**PKiKP**	**03 43 31.9**	**+2.1**
	comp=Z,3.0nm,1.1s,baz=90,slow=4.2,SNR=2.9						
TXAR	**Lajitas Array**	**111.27**	**61**	PP	**PP**	**03 44 15.4**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=268,slow=8.6,SNR=4.3						
TXAR				SKP		03 46 50.2	
	comp=Z,0.7nm,0.9s,baz=242,slow=2.7,SNR=4.4						
TXAR				PKKPbc	**PKKPbc**	**03 54 29.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=118,slow=4.2,SNR=3.8						
TXAR				PKKPab	**PKKPab**	**03 54 40.2**	**+1.1**
	comp=Z,2.8nm,0.9s,baz=116,slow=6.0,SNR=21						
BRTR	**Keskin Array B**	**111.72**	**310**	PP	**PP**	**03 44 19.5**	**+0.8**
	comp=Z,2.0nm,1.1s,baz=46,slow=4.4,SNR=3.6						
AKASG	**Malin Array Be**	**112.35**	**322**	PP	**PP**	**03 44 21.1**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=62,slow=7.0,SNR=13						
KIEV	**Kiev**	**112.36**	**322**	*i* PKiKP	**PKiKP**	**03 43 35.7**	**+1.6**
ECSD	**EROS Data Cent**	**114.68**	**45**	P	PKPdf	03 43 38.0	-0.8
	baz=284						
G38A	**Ridgeland**	**117.54**	**42**	P	**PKPdf**	**03 43 43.2**	**-1.0**
	baz=289						
H39A	**Augusta**	**118.08**	**43**	P	**PKPdf**	**03 43 44.4**	**-0.9**
	baz=289						
C40A	**Isle Royale Na**	**118.32**	**39**	P	**PKPdf**	**03 43 45.4**	**-0.2**
	baz=293						
F40A	**Park Falls**	**118.43**	**41**	P	**PKPdf**	**03 43 45.2**	**-0.7**
	baz=291						
F41A	**Three Lakes**	**119.16**	**41**	P	**PKPdf**	**03 43 47.0**	**-0.3**
	baz=292						
U40A	**Yellville**	**119.25**	**52**	P	**PKPdf**	**03 43 47.1**	**-0.7**
	baz=284						
G42A	**Mountain**	**119.79**	**41**	P	**PKPdf**	**03 43 48.1**	**-0.4**
	baz=292						
Q41A	**Truxton**	**119.84**	**49**	P	**PKPdf**	**03 43 48.9**	**+0.1**
	baz=286						
R41A	**Rosebud**	**119.91**	**50**	P	**PKPdf**	**03 43 48.7**	**-0.2**
	baz=286						
U41A	**Viola**	**119.99**	**52**	P	**PKPdf**	**03 43 48.6**	**-0.6**
	baz=284						
CCM	**Cathedral Cave**	**120.07**	**50**	P	**PKPdf**	**03 43 48.6**	**-0.7**
	baz=286						
P42A	**Winchester**	**120.32**	**48**	*e*PKPdf	**PKPdf**	**03 43 49.4**	**-0.3**
P42A	**Winchester**	**120.32**	**48**	P	**PKPdf**	**03 43 49.2**	**-0.6**
	baz=287						
RUE	**Ruedersdorf**	**120.42**	**328**	*e*PP	PP	03 45 20.6	+2.2
	baz=59,slow=6.9						
MODS	**Modra-Piesok**	**120.44**	**323**	*e*PKiKP	**PKiKP**	**03 43 50.0**	**+0.2**
MODS	**Modra-Piesok**	**120.44**	**323**	*e*PKP	**PKiKP**	**03 43 50.0**	**+0.2**
CLL	**Collm**	**121.45**	**327**	*e*Pdif	**Pdif**	**03 43 20.0**	**+0.4**
CLL				*e*PKPdf	**PKPdf**	**03 43 51.0**	**-0.5**
CLL				*e*PP	**PP**	**03 45 23.0**	**-2.5**
CLL				LmV		04 39 00.0	
	comp=Z,200nm,20.0s						
CLL	**Collm**	**121.45**	**327**	*e*PKiKP	**PKPdf**	**03 43 51.0**	**-0.5**
PLCA	**Paso Flores**	**121.65**	**148**	PKP	**PKiKP**	**03 43 53.8**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=253,slow=0.5,SNR=8.1						
KHC	**Kasperske Hory**	**122.25**	**325**	*e*PG	**PKPdf**	**03 43 52.0**	**-1.2**
GUNZ	**Gunzen**	**122.31**	**327**	*e*PP	PP	03 45 33.0	+1.7
	baz=59,slow=6.9						
GEC2	**GERESS Array S**	**122.32**	**325**	*e*PP	PP	03 45 33.1	+1.5
	baz=59,slow=6.9						
GERES	**GERESS Array B**	**122.32**	**325**	PKP	**PKPdf**	**03 43 53.2**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=66,slow=1.6,SNR=7.1						
GERES				PP	**PP**	**03 45 32.7**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=32,slow=5.3,SNR=3.9						
PERS	**Pernice**	**122.53**	**322**	*i* PKPdf	**PKPdf**	**03 43 53.7**	**-0.2**
CLZ	**Clausthal**	**122.53**	**329**	*e*PP	PP	03 45 35.3	+2.5
	baz=59,slow=6.9						
MOX	**Moxa**	**122.54**	**327**	*e*PP	PP	03 45 35.1	+2.2
	baz=59,slow=6.9						
WET	**Wettzell**	**122.64**	**325**	*e*PP	PP	03 45 35.3	+1.7
	baz=59,slow=6.9						
OBKA	**Obir**	**122.93**	**322**	*i* PKiKP	**PKiKP**	**03 43 55.9**	**+1.0**
BOJS	**Bojanci**	**122.95**	**321**	*i* PKPdf	**PKPdf**	**03 43 54.6**	**0.0**
VISS	**Visnje**	**123.08**	**321**	*e*PKPdf	**PKiKP**	**03 43 55.0**	**0.0**
GRF	**Grafenberg Arr**	**123.27**	**327**	*e*PP	PP	03 45 40.0	+2.2
	baz=59,slow=6.9						
WATA	**Walderalm**	**124.31**	**324**	*i* PKPdf	**PKPdf**	**03 43 56.2**	**-1.1**
	comp=Z,1.4nm,0.5s						
WTTA	**Wattenberg**	**124.31**	**324**	*i* PKiKP	**PKPdf**	**03 43 57.0**	**-0.4**
	comp=Z,7.1nm,1.0s						
MOTA	**Moosalm**	**124.58**	**324**	*i* PKPdf	**PKPdf**	**03 43 57.0**	**-0.9**
	comp=Z,1.9nm,0.6s						
SQTA	**Sankt Quirin**	**124.58**	**324**	*i* PKiKP	**PKPdf**	**03 43 57.8**	**-0.1**
	comp=Z,3.7nm,0.8s						
FETA	**Feichten**	**124.97**	**324**	*i* PKiKP	**PKPdf**	**03 43 58.4**	**-0.2**
	comp=Z,3.3nm,1.0s						
DAVA	**Damuels**	**125.32**	**325**	*i* PKiKP	**PKPdf**	**03 43 59.3**	**-0.1**
	comp=Z,6.1nm,1.2s						
POPC	**Popayan, Colom**	**137.29**	**94**	*e*P	**PKPdf**	**03 44 22.5**	**-0.5**
POPC	**Popayan, Colom**	**137.29**	**94**	*e*P	**PKPdf**	**03 44 22.5**	**-0.5**
YOTC	**Yotoco, Valle**	**137.79**	**92**	*e*P	**PKPdf**	**03 44 23.4**	**-0.4**
YOTC	**Yotoco, Valle**	**137.79**	**92**	*e*P	**PKPdf**	**03 44 23.4**	**-0.4**
ESDC	**Sonseca Array**	**137.91**	**325**	PP	PP	03 47 17.9	+5.5
	comp=Z,0.6nm,0.7s,baz=30,slow=6.0,SNR=4.9						
ESDC				SKPbc	**SKPbc**	**03 47 38.9**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=30,slow=3.2,SNR=4.2						
RREF	**El Recreo**	**138.88**	**91**	*e*P	**PKiKP**	**03 44 28.4**	**-0.3**
RREF	**El Recreo**	**138.88**	**91**	*e*P	**PKiKP**	**03 44 28.4**	**-0.3**
LPAZ	**La Paz**	**138.96**	**125**	*e*PKPdf	**PKPdf**	**03 44 25.3**	**-1.1**
LPAZ				SKPbc	**SKiKP**	**03 47 45.2**	**-1.0**
LPAZ	**La Paz**	**138.96**	**125**	*e*PKiKP	**PKPdf**	**03 44 25.3**	**-1.1**
LPAZ	**La Paz**	**138.96**	**125**	SKPbc	**SKiKP**	**03 47 45.2**	**-1.0**
	comp=Z,15nm,1.2s,baz=243,slow=0.6,SNR=8.6						
PRAC	**Prado**	**139.21**	**93**	*e*P	**PKPdf**	**03 44 25.9**	**-0.4**
PRAC	**Prado**	**139.21**	**93**	*e*P	**PKPdf**	**03 44 25.9**	**-0.4**
ROSC	**El Rosal**	**139.89**	**91**	*e*P	**PKiKP**	**03 44 30.0**	**-0.4**
ROSC	**El Rosal**	**139.89**	**91**	*e*P	**PKiKP**	**03 44 30.0**	**-0.4**
ROSC	**El Rosal**	**139.89**	**91**	SKPbc	**SKiKP**	**03 47 47.2**	**-0.7**
	comp=Z,7.5nm,0.8s,baz=119,slow=9.2,SNR=5.4						
CHIC	**Chingaza**	**140.45**	**91**	*e*P	PKPpre	03 44 21.7	
CHIC	**Chingaza**	**140.45**	**91**	*e*P	PKPpre	03 44 21.7	
BARC	**Barichara**	**141.15**	**88**	*e*P	PKPpre	03 44 23.4	
BARC	**Barichara**	**141.15**	**88**	*e*P	PKPpre	03 44 23.4	
RUSC	**La Rusia**	**141.21**	**90**	*e*P	PKPpre	03 44 23.4	
RUSC	**La Rusia**	**141.21**	**90**	*e*P	PKPpre	03 44 23.4	
SDV	**Santo Domingo**	**143.75**	**85**	*e*PKPdf	PKPbc	03 44 32.8	+0.1
TOA0	**Torodi Ar. Sit**	**144.36**	**282**	*e*PKPdf	PKPpre	03 44 32.7	
TOA0				*e*PKPdf	PKPbc	03 44 34.3	+0.1
TOA0	**Torodi Ar. Sit**	**144.36**	**282**	P	PKPbc	03 44 34.5	+0.3
	SNR=19						
TORD	**Torodi Ar. Bea**	**144.36**	**282**	PKhKP	PKPpre	03 44 32.7	
	comp=Z,60nm,0.9s,baz=332,slow=5.0,SNR=140						
TORD				PKP	PKPbc	03 44 34.5	+0.3
	comp=Z,79nm,0.9s,baz=153,slow=1.3,SNR=197						
TORD				SKPbc	**SKiKP**	**03 47 57.5**	**+0.9**
	comp=Z,7.5nm,0.9s,baz=81,slow=3.2,SNR=5.8						
SIV	**San Ignacio**	**144.67**	**131**	SKPbc	**SKiKP**	**03 47 59.2**	**+2.0**
	comp=Z,8.1nm,1.1s,baz=224,slow=3.7,SNR=4.0						
OBIP	**Obispado Ponce**	**146.53**	**68**	*e*PKPdf	**PKPbc**	**03 44 39.9**	**-0.8**
SJG	**San Juan**	**146.93**	**68**	*e*PKPdf	**PKPbc**	**03 44 41.4**	**-0.4**
SJG	**San Juan**	**146.93**	**68**	*e*PKP2	**PKPbc**	**03 44 41.4**	**-0.4**
HUMP	**Col San Antoni**	**147.19**	**68**	*e*PKPbc	**PKPbc**	**03 44 42.1**	**-0.4**
MTP	**Monte Pirata**	**147.48**	**68**	*e*PKPbc	**PKPbc**	**03 44 44.0**	**+0.6**
STVI	**Saint Thomas**	**147.96**	**67**	*e*PKPbc	**PKPbc**	**03 44 44.7**	**+0.1**
SMRT	**St. Maarten**	**149.76**	**66**	*e*PKPbc	**PKiKP**	**03 44 50.2**	**+0.2**
KIC	**Kosan Boka**	**150.89**	**270**	*e*PKP1	**PKPbc**	**03 44 51.6**	**-0.4**
	comp=Z,154nm,1.0s						
DBIC	**Dimbokro**	**151.02**	**271**	PKPbc	**PKiKP**	**03 44 53.0**	**+0.2**
	comp=Z,56nm,0.8s,baz=76,slow=2.2,SNR=96						
DBIC				PKPab	**PKPab**	**03 45 01.4**	**+0.9**
	comp=Z,21nm,0.5s,baz=97,slow=4.3,SNR=14						
DBIC				pPKPbc	**pPKPbc**	**03 45 44.6**	**+1.0**
	comp=Z,17nm,0.8s,baz=72,slow=1.9,SNR=2.7						
LIC	**Lamto**	**151.16**	**270**	*e*PKP1	**PKPbc**	**03 44 52.6**	**0.0**
	comp=Z,331nm,0.9s						
TIC	**Toumodi**	**151.18**	**271**	*e*PKP1	**PKPbc**	**03 44 52.3**	**-0.4**
BDFB	**Brasilia**	**153.39**	**149**	*e*PKPdf	**PKPdf**	**03 44 53.0**	**+3.1**
BDFB				*e*PKPbc	**PKPbc**	**03 44 57.0**	**-0.6**
BDFB				pPKPbc	**pPKPbc**	**03 45 48.3**	**-1.0**
BDFB	**Brasilia**	**153.39**	**149**	*e*PKiKP	**PKPdf**	**03 44 53.0**	**+3.1**
BDFB						03 45 48.3	
BDFB	**Brasilia**	**153.39**	**149**	PKPbc	**PKiKP**	**03 44 59.0**	**+1.2**
	comp=Z,5.8nm,0.5s,baz=123,slow=3.2,SNR=9.2						
BDFB				pPKPbc	**pPKPbc**	**03 45 48.3**	**-1.0**
	comp=Z,24nm,0.8s,baz=15,slow=0.6,SNR=10						

*NEIC **03** 03:29:24.0±0.0, 19°.64N×64°.14W, h107km, MD3.6(RSPR), After RSPR.*

RSPR 03 03:29:24.0, 19°.64N×64°.14W, h107km±9km, MD3.6/9, 12C-4D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.92**	**192**	↓*e*P	Pn	03 29 43.6	-0.6
ABV	**Anegada**	**0.92**	**192**	*e*S	Sn	03 29 56.9	-2.5
ABVI	**Anegada Island**	**0.92**	**192**	↓*e*P	Pn	03 29 43.6	-0.6
ABVI				*e*S	Sn	03 29 56.9	-2.5
TBVI	**Tortola**	**1.30**	**201**	↑*e*P	Pn	03 29 47.8	-0.5
TBVI				*e*S	Sn	03 30 06.2	-0.4
TBVI	**Tortola**	**1.30**	**201**	↑*e*P	Pn	03 29 47.8	-0.5
TBVI				*e*S	Sn	03 30 06.2	-0.4
STVI	**Saint Thomas**	**1.50**	**211**	↑*e*P	Pn	03 29 50.3	-0.3
STVI	**Saint Thomas**	**1.50**	**211**	*e*S	Sn	03 30 11.0	+0.2
STVI	**Saint Thomas**	**1.50**	**211**	↑*e*P	Pn	03 29 50.3	-0.3
STVI				*e*S	Sn	03 30 11.0	+0.2
CUPR	**Culebra, Puert**	**1.71**	**220**	↓*e*P	Pn	03 29 52.3	-0.9
CUPR	**Culebra, Puert**	**1.71**	**220**	*e*S	Sn	03 30 15.9	+0.4
CUPR	**Culebra, Puert**	**1.71**	**220**	↓*e*P	Pn	03 29 52.3	-0.9
CUPR				*e*S	Sn	03 30 15.9	+0.4
MTP	**Monte Pirata**	**2.04**	**221**	↑*e*P	Pn	03 29 57.3	0.0
MTP	**Monte Pirata**	**2.04**	**221**	*e*S	Sn	03 30 22.7	-0.1
MTP	**Monte Pirata**	**2.04**	**221**	↑*e*P	Pn	03 29 57.3	0.0
MTP				*e*S	Sn	03 30 22.7	-0.1
CBYP	**Canovanas**	**2.12**	**230**	↑*e*P	Pn	03 29 58.0	-0.5
CBYP	**Canovanas**	**2.12**	**230**	*e*S	Sn	03 30 24.6	-0.3
CBYP	**Canovanas**	**2.12**	**230**	↑*e*P	Pn	03 29 58.0	-0.5
CBYP				*e*S	Sn	03 30 24.6	-0.3
HUMP	**Col San Antoni**	**2.20**	**228**	↑*e*P	Pn	03 29 59.3	-0.2
HUMP	**Col San Antoni**	**2.20**	**228**	↑*e*P	Pn	03 29 59.3	-0.2
SJG	**San Juan**	**2.44**	**232**	*e*Pn	Pn	03 30 02.3	-0.2
CELP	**Cerrillos**	**2.79**	**236**	↑*e*P	Pn	03 30 07.3	+0.2
CELP				*e*S	Sn	03 30 40.4	+0.1
CELP	**Cerrillos**	**2.79**	**236**	↑*e*P	Pn	03 30 07.3	+0.2
CELP				*e*S	Sn	03 30 40.4	+0.1
SDDR	**Presa de Saban**	**6.79**	**266**	*e*Pn	Pn	03 31 02.6	+1.6

*ISCJB **03** 03:29:43.7±0.1, 67°.63N±0°.02×142°.32E±0°.05, h10km, mb4.7/220, MS4.2/13, Error ellipse: s-maj=3.2km s-min=2.5km az=165.9*

*MOS **03** 03:29:43.6±0.7, 67°.61N×142°.40E, h12km, mb4.8/70, MS3.8/5, Error ellipse: s-maj=11.4km s-min=4.3km az=92.5*

*BJI **03** 03:29:43.1, 67°.51N×142°.53E, h7km, mb4.9/33, mB5.2/21, Ms4.9/14, Ms7 4.6/7*

*IDC **03** 03:29:43.7±0.4, 67°.59N×142°.45E, h0km, mb4.5/31, mb1 4.6/36, mb1mx4.5/51, mbtmp4.5/36, ML4.4/5, MS4.0/7, Ms1 4.0/7, ms1mx3.5/44, Error ellipse: s-maj=11.1km s-min=9.9km az=170.0*

*YARS **03** 03:29:45.3±0.2, 67°.59N±0°.01×142°.54E±0°.03*

*NEIC **03** 03:29:48.1±1.4, 67°.59N×142°.32E, h28km±10km, mb4.7/137, Error ellipse: s-maj=3.5km s-min=1.9km az=166.0*

*BGR **03** 03:29:49.6±0.0, 67°.37N×141°.94E, h33km, mb4.9*

ISC 03 03:29:45.3±0.3, 67°.59N±0°.03×142°.52E±0°.03, h10km, n419, σ1°01/434, mb4.8/220, MS4.0/13, 33C-26D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.16**	**166**	*e*P	**Pb**	**03 30 06.1**	**-1.2**
MOMR				*e*S	**Sb**	**03 30 21.2**	**-1.2**
MOMR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MOMR				smax	smax		
	comp=N,41nm,0.6s						
MOMR	**Moma**	**1.16**	**166**	*e*P	**Pb**	**03 30 06.1**	**-1.2**
MOMR				Pmax		03 30 06.1	
	comp=Z,3μm,0.4s						
MOMR				*e*S	**Sb**	**03 30 21.2**	**-1.2**
MOMR				Smax		03 30 21.2	
	comp=N,4μm,0.6s						
MOMR				Smax		03 30 21.2	
	comp=E,680nm,0.6s						
YBGR	**Belaya Gora**	**1.68**	**54**	*e*P	**Pn**	**03 30 14.4**	**-0.2**
YBGR				*e*S	**Sb**	**03 30 37.5**	**+0.3**
YBGR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
YBGR				smax	smax		
	comp=N,30nm,0.5s						
YBGR	**Belaya Gora**	**1.68**	**54**	*e*P	**Pn**	**03 30 14.4**	**-0.2**
YBGR				Pmax		03 30 14.4	
	comp=Z,3μm,0.4s						
YBGR				*e*S	**Sb**	**03 30 37.5**	**+0.3**
YBGR				Smax		03 30 37.5	
	comp=N,50nm,0.5s						
DEPR	**Deputatskiy**	**2.06**	**333**	*e*P	**Pn**	**03 30 19.8**	**0.0**
DEPR				*e*S	**Sb**	**03 30 49.0**	**+0.8**
DEPR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DEPR				smax	smax		
	comp=N,7.0nm,0.6s						
DEPR	**Deputatskiy**	**2.06**	**333**	*e*P	**Pn**	**03 30 19.8**	**0.0**
DEPR				*e*P	**Pb**	**03 30 21.5**	**-1.1**
DEPR				Pmax		03 30 21.5	
	comp=Z,1μm,0.4s						
DEPR				*e*S	**Sb**	**03 30 49.0**	**+0.8**
DEPR				Smax		03 30 49.0	
	comp=E,7μm,0.6s						
BTGS	**Batagay**	**3.02**	**275**	*e*P	**Pn**	**03 30 34.5**	**+1.5**
BTGS	**Batagay**	**3.02**	**275**	*e*P	**Pn**	**03 30 34.5**	**+1.5**
BTGS				*e*P	**Pb**	**03 30 39.9**	**+0.9**
BTGS				Pmax		03 30 39.9	
	comp=Z,222nm,0.4s						
BTGS				*e*S	**Sg**	**03 31 19.0**	**-3.0**
BTGS				Smax		03 31 19.0	
	comp=E,6μm,0.8s						
SEY	**Seymchan**	**6.24**	**134**	↑*e*P	**Pn**	**03 31 17.5**	**+0.3**
SEY	**Seymchan**	**6.24**	**134**	Pn	**Pn**	**03 31 18.0**	**+0.8**
	comp=E,12nm,0.3s,baz=321,slow=14,SNR=90						
SEY				Lg	Lg	03 32 57.9	
	comp=E,12nm,0.3s,baz=37,slow=16,SNR=4.5						
SEY				LR	LR	03 33 52.3	
	comp=E,2μm,19.3s,baz

TOLK Toolik Lake Re 24.19 56 *e*P P 03 35 02.0 +0.6
comp=E,20nm,0.8s
IM3 Indian Mountai 24.20 64 *e*P P 03 35 01.7 +0.2
TLY Talaya 24.69 249 *e*P P 03 35 06.8 +0.8
comp=E,4.1nm,0.7s
TLY Talaya 24.69 249 *e*P P 03 35 07.7 +1.6
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,461nm,13.0s
COLD Coldfoot 24.72 59 *e*P P 03 35 07.3 +1.1
comp=Z,15nm,0.8s
VLA Vladivostok 25.18 199⇓*e*P P 03 35 11.1 +0.6
VLA pmax pmax
comp=Z,37nm,0.6s
CN2 Changchun 25.52 210 *e*P P 03 35 12.5 -1.1
CN2 *e*S S 03 39 34.6 -6.1
CN2 *e*SS SnSn 03 40 38.1 +4.8
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,1μm,10.0s
CN2 LR LR
comp=Z,2μm,10.0s
MOY Mondy 25.66 252 *e*P P 03 35 15.6 +0.7
MOY pmax pmax
comp=Z,30nm,1.5s
MLY Manley 25.78 64 *e*P P 03 35 16.5 +0.7
comp=Z,14nm,1.1s
ZAK Zakamensk 25.89 248 *e*P P 03 35 17.2 +0.2
ZAK pmax pmax
comp=Z,6.0nm,1.0s
CAST Castle Rocks 26.28 67 *e*P P 03 35 21.7 +1.3
comp=Z,12nm,1.0s
MDM Murphy Dome 26.68 62 *e*P P 03 35 24.6 +0.7
comp=Z,11nm,0.9s
FYU Fort Yukon 26.72 58 *e*P P 03 35 26.0 +1.8
comp=Z,12nm,0.7s
COLA College 26.86 62 *e*P P 03 35 25.9 +0.4
comp=Z,15nm,0.8s
COLA College 26.86 62⇓*i*P P 03 35 26.2 +0.7
COLA pmax pmax
comp=Z,7.0nm,0.8s
TRF Thorofare Moun 26.89 66 *e*P P 03 35 27.0 +1.0
comp=Z,13nm,0.9s
SONA1 Songino Array 26.97 241 *e*P P 03 35 27.7 +0.8
SONM Songino Array 26.98 241 P P 03 35 28.2 +1.3
comp=Z,3.6nm,0.7s,baz=26,slow=9.3,SNR=26
CCB Clear Creek Bu 27.01 63 *e*P P 03 35 27.6 +0.7
comp=Z,4.9nm,0.8s
WRH Wood River Hil 27.02 63 *e*P P 03 35 27.4 +0.5
comp=Z,6.1nm,0.8s
MCK McKinley 27.19 65 *e*P P 03 35 29.5 +0.9
comp=Z,11nm,0.9s
IL1 Eielson Array 27.25 62 *e*P P 03 35 29.1 +0.1
ILAR Eielson Array 27.25 62 P P 03 35 29.2 +0.2
comp=Z,7.8nm,0.8s,baz=298,slow=8.0,SNR=64
ILB Eielson Array 27.25 62 *e*P P 03 35 29.5 +0.5
PRP Porcupine Dome 27.25 60 *e*P P 03 35 30.6 +1.4
comp=Z,5.0nm,0.9s
HDA Harding Lake 27.45 63 *e*P P 03 35 32.3 +1.4
comp=Z,6.8nm,0.9s
KNGR Kungurtug, Tuv 27.80 255⇑*e*P P 03 35 33.6 -0.7
RSO Redoubt South 27.95 73 *e*P P 03 35 37.1 +1.5
RC01 Rabbit Creek A 28.63 70 *e*P P 03 35 41.0 -0.4
comp=Z,11nm,1.1s
SML Sawmill 28.65 68 *e*P P 03 35 41.4 -0.2
comp=Z,90nm,2.0s
SML Sawmill 28.65 68 *e*P P 03 35 41.4 -0.2
SML pmax pmax
comp=Z,90nm,2.0s
KNK Knik Glacier 28.87 68 *e*P P 03 35 43.4 -0.1
comp=Z,14nm,1.1s
BRLK Bradley Lake 29.12 73 *e*P P 03 35 45.0 -0.7
comp=Z,29nm,1.0s
INK Inuvik 29.27 49 P P 03 35 47.7 +0.8
comp=Z,0.9nm,0.5s,baz=328,slow=16,SNR=11
SEW Seward 29.41 71 *e*P P 03 35 47.8 -0.4
comp=Z,65nm,1.6s
MENT Mentasta 29.50 63 *e*P P 03 35 50.5 +1.4
comp=Z,5.5nm,0.9s
KLU Klutina 29.71 67 *e*P P 03 35 50.7 -0.4
comp=Z,10nm,1.2s
KDAK Kodiak Island 29.89 77 *i*P P 03 35 53.0 +0.5
KDAK Kodiak Island 29.89 77 P P 03 35 52.7 +0.2
comp=Z,5.0nm,0.5s,baz=284,slow=4.2,SNR=6.1
ZALV Zalesovo Beam 30.00 272 P P 03 35 53.8 +0.2
comp=Z,0.7nm,0.4s,baz=15,slow=7.8,SNR=3.3
ZALV LR LR 03 48 48.0
comp=Z,203nm,18.6s,baz=84,slow=38
KSRS Korea Array 31.29 203 P P 03 36 04.0 -1.0
comp=Z,3.7nm,0.7s,baz=1.1,slow=8.7,SNR=7.6
KSAR Wonju Array Be 31.30 203 P P 03 36 04.0 -1.2
KSAR Wonju Array Be 31.30 203 P P 03 36 04.0 -1.2
HHC Hu-ho-hao-te 31.66 228 *e*P P 03 36 10.4 +2.0
HHC S S 03 41 18.4 +1.0
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,130nm,7.0s
HHC LR LR
comp=Z,620nm,13.7s
HHC LR LR
comp=Z,490nm,10.5s
DGZ Jazzator, Alta 32.34 264⇑*e*P P 03 36 15.6 +1.2
DGZ pmax pmax
comp=Z,1.0nm,0.7s
TJN Taejon 32.43 203⇑*e*P P 03 36 14.8 -0.3
YKU2 Yakutat 33.30 65 *e*P P 03 36 22.6 +0.1
comp=Z,805nm,1.1s
RES Resolute Bay 33.34 24 *e*P P 03 36 23.1 +0.4
comp=Z,18nm,1.4s
RES Resolute Bay 33.34 24 *e*P P 03 36 23.1 +0.4
RES pmax pmax
comp=Z,18nm,1.4s
KURK Kurchatov 34.90 274 *e*P P 03 36 36.8 +0.3
KURK Kurchatov 34.90 274⇑*e*P P 03 36 37.1 +0.7
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 35.01 274 P P 03 36 37.7 +0.3
comp=Z,5.1nm,0.6s,baz=35,slow=8.6,SNR=25
DAG Danmarks Havn 35.40 353⇓*i*P P 03 36 40.0 -0.5
comp=Z,16nm,0.7s
DAG Danmarks Havn 35.40 353⇓*i*P P 03 36 40.0 -0.5
DAG pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 36.19 283 P P 03 36 47.4 -0.1
comp=Z,3.0nm,0.6s,baz=51,slow=7.8,SNR=20
BRVK Borovoye 36.20 283 *e*P P 03 36 46.7 -0.9
BRVK Borovoye 36.20 283⇑*i*P P 03 36 47.5 -0.1
BRVK pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 36.55 328 P P 03 36 49.7 -0.8
comp=Z,7.2nm,0.8s,baz=34,slow=7.6,SNR=9.2
ARCES PcP PcP 03 39 13.6 +0.1
comp=Z,3.4nm,0.6s,baz=53,slow=4.9,SNR=7.7
ARCES LR LR 03 56 49.5
comp=Z,232nm,18.2s,baz=21,slow=44
MK31 Makanchi Array 36.69 267 *e*P P 03 36 51.5 -0.4
MK31 Makanchi Array 36.69 267 *e*P P 03 36 51.5 -0.4
MKAR Makanchi Array 36.69 267 P P 03 36 51.5 -0.4
comp=Z,4.1nm,0.6s,baz=40,slow=6.8,SNR=37
MK01 Makanchi Array 36.71 266 *e*P P 03 36 51.2 -0.8
SVE Sverdlovsk 36.75 295 *e*P P 03 36 53.0 +0.7
SVE pmax pmax
comp=Z,12nm,0.8s
MAKZ Makanchi 36.80 267 *e*P P 03 36 52.6 -0.2
comp=Z,122nm,1.4s
MAKZ Makanchi 36.80 267 *e*P P 03 36 52.6 -0.2
MAKZ pmax pmax
comp=Z,122nm,1.4s
WMQ Urumqi 37.14 258 *e*P P 03 36 58.8 +3.0
WMQ LR LR
comp=Z,1μm,14.3s
WMQ LR LR
comp=Z,670nm,14.3s
ARU Arti 37.78 296 *e*P P 03 37 00.6 -0.4
comp=Z,11nm,0.8s
ARU Arti 37.78 296*d*iP P 03 37 00.7 -0.3
ARU S S 03 42 52.0 +0.8
ARU SS SnSn 03 45 28.2 -2.6
ARU pmax pmax
comp=Z,20nm,2.7s
TMCR Tamitsa 37.99 316 *e*P P 03 37 02.6 0.0
TMCR pmax pmax
comp=Z,11nm,0.6s
NJ2 Nanjing 38.19 213 *e*P P 03 37 06.7 +2.1
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
LZH Lanzhou 38.36 235 *e*P P 03 37 08.2 +1.9
LZH sP sP 03 37 15.5 +4.7
LZH PP PnPn 03 38 36.4 +0.8
LZH pmax pmax
comp=Z,100nm,1.0s
LZH pmax pmax
comp=Z,420nm,4.8s
LZH LR LR
comp=Z,760nm,13.6s
LZH LR LR
comp=Z,490nm,13.0s
LZH LR LR
comp=Z,570nm,15.7s
XAN Xi'an 38.76 227 P P 03 37 21.8 +12
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,310nm,6.2s
YKW3 Yellowknife Ar 38.84 46 *e*P P 03 37 10.3 +0.5
YKA Yellowknife Ar 38.90 46 P P 03 37 10.5 +0.2
comp=Z,2.1nm,0.6s,baz=323,slow=7.9,SNR=40
YKB5 Yellowknife Ar 38.90 46 *e*P P 03 37 09.8 -0.5
SUMG Summit 40.08 0 *e*P P 03 37 20.2 -0.4
comp=Z,8.3nm,0.8s
SUMG Summit 40.08 0 *i*P P 03 37 20.8 +0.2
comp=Z,18nm,0.7s
SUMG Summit 40.08 0 *e*P P 03 37 20.2 -0.4
SUMG pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 40.26 312 *e*P P 03 37 20.7 -1.0
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 40.26 312 *e*P P 03 37 20.7 -1.0
KLMR AMP 03 37 38.4
comp=Z,18nm,1.4s
AKTO Aktyubinsk 42.82 291 P P 03 37 42.5 -0.3
comp=Z,6.1nm,0.5s,baz=52,slow=8.3,SNR=39
ABKAR Akbulak array 43.10 288 *e*P P 03 37 44.8 -0.3
CD2 Chengdu 43.19 232 P P 03 37 46.7 +0.7
CD2 pmax pmax
comp=Z,40nm,0.8s
FIA1 FINESS Array S 43.29 321 *e*P P 03 37 45.7 -0.7
FINES FINESS Array B 43.29 321 P P 03 37 46.1 -0.3
comp=Z,7.2nm,0.7s,baz=32,slow=8.9,SNR=35
FINES LR LR 04 02 03.3
comp=Z,166nm,18.1s,baz=61,slow=45
KSH Kashi 45.30 267 *e*P P 03 38 04.5 +1.5
KSH pmax pmax
comp=Z,170nm,5.2s
OBN Obninsk 45.94 310⇓*e*P P 03 38 06.1 -1.5
OBN *e* 03 39 44.9
OBN *e* 03 39 53.7
OBN *e*PPP PPP 03 40 36.0
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,205nm,18.0s
NC405 NORSAR Array S 46.71 330 *e*P P 03 38 13.2 -0.5
NB2 NORSAR Subarra 46.88 330 P P 03 38 14.0 -1.0
comp=Z,2.9nm,0.5s,baz=23,slow=7.9
NOA NORSAR Array B 46.88 330 P P 03 38 14.3 -0.7
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA NORSAR Array B 46.88 330 P P 03 38 14.3 -0.7
comp=Z,4.5nm,0.5s,baz=24,slow=7.8,SNR=17
NOA LR LR 04 03 19.4
comp=Z,106nm,18.5s,baz=10.0,slow=43
NBO00 NORSAR Array S 46.97 330 *e*P P 03 38 14.9 -0.8
FCC Fort Churchill 47.30 36 *e*P P 03 38 18.4 +0.2
comp=Z,8.5nm,0.9s
FCC Fort Churchill 47.30 36 *e*P P 03 38 18.4 +0.2
FCC pmax pmax
comp=Z,8.0nm,0.9s
LPSR Galich'ya Gora 47.40 306 *e*P P 03 38 18.5 -0.6
LPSR pmax pmax
comp=Z,7.0nm,0.8s
VRH Novokhopyorsk 47.73 303 *e*P P 03 38 19.9 -1.7
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 48.52 305⇓*i*P P 03 38 28.0 +0.2
VSR pmax pmax
comp=Z,21nm,0.9s
KMI Kunming 48.92 230 P P 03 38 31.1 -0.3
KMI pP sP 03 38 38.0 +2.0
KMI sP pP 03 38 41.4 +6.7
KMI pmax pmax
comp=Z,34nm,0.8s
FFC Flin Flon 48.97 44 *e*P P 03 38 31.1 -0.1
comp=Z,14nm,0.8s
FFC Flin Flon 48.97 44 *e*P P 03 38 31.1 -0.1
FFC pmax pmax
comp=Z,14nm,0.8s
WALA Waterton Lakes 50.47 56 *e*P P 03 38 42.7 -0.2
comp=Z,2.3nm,0.6s
AKASG Malin Array Be 51.95 312 P P 03 38 53.1 -0.7
comp=Z,3.0nm,0.5s,baz=28,slow=8.4,SNR=13
AKASG LR LR 04 03 40.8
comp=Z,116nm,20.9s,baz=265,slow=39
AKBB Malin Array Si 51.95 312 *e*P P 03 38 53.3 -0.5
comp=Z,8.6nm,0.9s
KIEV Kiev 51.96 312 *e*P P 03 38 53.0 -0.9
comp=Z,8.3nm,0.9s
KIEV Kiev 51.96 312⇑*e*P P 03 38 53.1 -0.8
KIEV pmax pmax
comp=Z,10.0nm,1.0s
AK11 Malin Array Si 51.99 312 *e*P P 03 38 53.0 -1.1
G08A Pilot Rock 52.12 62 *e*P P 03 38 56.1 +0.8
comp=Z,23nm,2.0s
PINE Pine Mountain 52.75 65 *e*P P 03 39 00.9 +0.8
comp=Z,9.0nm,0.9s
GEYT Alibeck 53.49 282 P P 03 39 04.3 -1.2
comp=Z,3.7nm,0.7s,baz=338,slow=3.2,SNR=4.8
KIV Kislovodsk 53.74 298 *e*P P 03 39 06.9 -0.3
comp=Z,14nm,0.9s
KIV Kislovodsk 53.74 298 *e*P P 03 39 07.6 +0.4
KIV pmax pmax
comp=Z,14nm,0.9s
KIV MLR MLR
comp=Z,105nm,17.0s
KBZ Khabaz 53.87 298 P P 03 39 08.9 +1.0
comp=Z,12nm,0.9s,baz=299,slow=5.9,SNR=14
MCMT McKenzie Canyo 54.55 58 *e*P P 03 39 14.3 +1.0
GCMT Greycliff 54.71 55 *e*P P 03 39 14.7 +0.4
KWP Kalwaria Pacla 54.71 316 *e*P P 03 39 14.4 +0.3
comp=Z,164nm,0.9s
ESK Eskdalemuir 54.78 337 *e*P P 03 39 14.1 -0.4
comp=Z,16nm,0.9s
ESK Eskdalemuir 54.78 337 *e*P P 03 39 14.1 -0.4
ESK pmax pmax
comp=Z,16nm,0.9s
OJC Ojcow 54.93 319 *e*P P 03 39 15.8 +0.1
OJC Ojcow 54.93 319 *e*P P 03 39 15.5 -0.2
comp=Z,15nm,1.0s
OJC Ojcow 54.93 319 *e*P P 03 39 15.5 -0.2
OJC pmax pmax
comp=Z,15nm,1.0s
NRDL Niedersach Rie 55.06 327 *e*P P 03 39 16.6 +0.1
comp=Z,10nm,0.9s,baz=20,slow=7.1
YHB Horse Butte 55.15 56 *e*P P 03 39 19.1 +1.4
comp=Z,7.0nm,1.0s
PAYA Payao 55.20 231 P P 03 39 17.5 -0.5
comp=Z,779nm,1.0s,comp=Z,72μm
KSP Ksiaz 55.21 321 *e*P P 03 39 17.5 -0.2
KSP Ksiaz 55.21 321 *e*P P 03 39 17.5 -0.2
YHH Holmes Hill 55.23 56 *e*P P 03 39 19.2 +0.9
comp=Z,5.5nm,1.0s
YMR Madison River 55.30 56 *e*P P 03 39 19.9 +1.1
comp=Z,4.4nm,0.8s
RLMT Red Lodge 55.43 55 *e*P P 03 39 20.4 +0.8
comp=Z,10nm,0.8s
NIE Niedzica 55.54 318 *e*P P 03 39 20.7 +0.6
NIE Niedzica 55.54 318 *e*P P 03 39 20.7 +0.6
YFT Old Faithful 55.54 56 *e*P P 03 39 22.0 +1.6
comp=Z,10.0nm,1.1s
CLL Collm 55.54 324 *e*P P 03 39 18.8 -1.3
comp=Z,18nm,0.8s
CLL Collm 55.54 324 *e*P P 03 39 19.5 -0.5
comp=Z,20nm,0.8s,baz=20,slow=7.1
CLL Collm 55.54 324⇓*i*P P 03 39 19.4 -0.7
comp=Z,20nm,0.8s
CLL *i* 03 39 22.4
CLL Collm 55.54 324⇓*i*P P 03 39 19.4 -0.7
CLL *i* 03 39 22.4
CLL pmax pmax
comp=Z,20nm,0.8s
LKWY Lake 55.57 56 *e*P P 03 39 22.4 +1.7
comp=Z,9.9nm,0.8s
DPC Dobruska-Polom 55.66 321 *e*P P 03 39 21.2 +0.2
DPC Dobruska-Polom 55.66 321 *e*P P 03 39 21.2 +0.2
H17A Grant Village 55.67 56 *e*P P 03 39 22.5 +1.0
comp=Z,5.5nm,1.0s
OKC Ostrava-Krasne 55.69 320 *e*P P 03 39 21.5 +0.3
OKC Ostrava-Krasne 55.69 320 *e*P P 03 39 21.5 +0.3
YPP Pitchstone Pla 55.71 56 *e*P P 03 39 23.7 +2.0
comp=Z,3.9nm,0.9s
BRG Berggiesshubel 55.73 323 *e*P P 03 39 20.9 -0.6
comp=Z,4.0nm,0.9s
BRG Berggiesshubel 55.73 323 *e*P P 03 39 20.9 -0.6
BRG pmax pmax
comp=Z,4.0nm,0.9s
KRLC Kraliky 55.81 321 *e*P P 03 39 21.9 -0.2
KRLC Kraliky 55.81 321 *e*P P 03 39 21.9 -0.2
MDND Maddock 55.82 46 *e*P P 03 39 22.3 +0.2
comp=Z,16nm,0.8s
BUR08 Bucovina Ar. S 55.85 313 *e*P P 03 39 22.4 -0.1
BUR04 Bucovina Ar. S 55.87 313 *e*P P 03 39 22.1 -0.6
BURAR Bucovina Array 55.87 313⇓*i*P P 03 39 22.3 -0.3
BURAR Bucovina Array 55.87 313⇓P P 03 39 22.3 -0.3
MORC Moravsky Berou 55.90 320 *e*P P 03 39 22.2 -0.5
comp=Z,9.6nm,0.8s
MORC Moravsky Berou 55.90 320⇑*i*P P 03 39 22.9 +0.2
MORC Moravsky Berou 55.90 320⇑P P 03 39 22.9 +0.2
MORC Moravsky Berou 55.90 320 *e*P P 03 39 22.7 0.0
FLWY Flagg Ranch 55.91 56 *e*P P 03 39 23.9 +0.8
comp=Z,11nm,1.0s
PVCC Panska Ves 55.91 323 *e*P P 03 39 22.7 0.0
PVCC Panska Ves 55.91 323 *e*P P 03 39 22.7 0.0
SCHQ Schefferville 55.95 20 P P 03 39 22.0 -1.0
comp=Z,4.9nm,0.8s,baz=284,slow=6.5,SNR=8.5
LANS Liptovska Anna 55.99 318 *e*P P 03 39 24.5 +1.1
LANS Liptovska Anna 55.99 318 *e*P P 03 39 24.5 +1.1
CHTO Chiang Mai 56.00 232 *e*P P 03 39 22.9 -0.8
comp=Z,2.7nm,0.5s
CHTO Chiang Mai 56.00 232 *e*P P 03 39 22.9 -0.8
CHTO pmax pmax
comp=Z,3.0nm,0.5s
IMW Indian Meadow 56.00 57 *e*P P 03 39 26.0 +2.2
comp=Z,5.2nm,0.8s
LAMP Lampang 56.07 231 P P 03 39 24.7 +0.5
comp=Z,15nm,0.7s,comp=Z,142nm
TRPA Tarpa 56.13 316⇑*i*P P 03 39 23.8 -0.5
MOOW Moose Ponds 56.20 57 *e*P P 03 39 26.3 +1.2
comp=Z,3.9nm,0.9s
FXWY Fox Creek 56.20 57 *e*P P 03 39 26.2 +1.0
comp=Z,3.0nm,0.8s
CMAR Chiang Mai Arr 56.34 232 P P 03 39 26.1 0.0
comp=Z,2.6nm,0.5s,baz=0.3,slow=8.4,SNR=6.7
TPAW Teton Pass 56.36 57 *e*P P 03 39 27.3 +0.9
comp=Z,5.0nm,0.7s
LOHW Long Hollow 56.36 57 *e*P P 03 39 26.9 +0.6
comp=Z,2.8nm,0.8s
AGMN Agassiz Nation 56.41 43 *e*P P 03 39 27.0 +0.6
comp=Z,9.8nm,1.1s
TESR Tescani 56.47 312⇑*i*P P 03 39 25.9 -0.9
MOX Moxa 56.47 325 *e*P P 03 39 26.7 -0.1
comp=Z,12nm,0.8s,baz=20,slow=7.1
TANN Tannenbergstha 56.50 324 *e*P P 03 39 27.0 0.0
comp=Z,13nm,0.8s,baz=20,slow=7.1
PLN Plauen 56.50 324 *e*P P 03 39 27.0 +0.1
comp=Z,17nm,0.8s,baz=20,slow=7.1
REDW Red Top Meadow 56.51 57 *e*P P 03 39 28.5 +1.1
comp=Z,13nm,1.4s
VRAC Vranov 56.56 321⇑*i*P P 03 39 28.0 +0.6
VRAC Vranov 56.56 321⇑P P 03 39 26.3 -1.1
VRAC Vranov 56.56 321 *e*P P 03 39 27.4 0.0
GUNZ Gunzen 56.58 324 *e*P P 03 39 27.7 +0.1
comp=Z,16nm,0.9s,baz=20,slow=7.1
WERN Wernitzgruen 56.64 324 *e*P P 03 39 28.2 +0.2
comp=Z,13nm,0.8s,baz=20,slow=7.1
BUG Bochum--Univer 56.64 328 *e*P P 03 39 27.9 0.0
comp=Z,11nm,1.0s,baz=20,slow=7.1
NKC Novy Kostel 56.67 324 *e*P P 03 39 28.3 +0.1
NKC Novy Kostel 56.67 324 *e*P P 03 39 28.3 +0.1
JAVC Velka Javorina 56.72 320 *e*P P 03 39 29.5 +0.9
VYHS Vyhne 56.76 319 *e*P P 03 39 28.9 +0.1
VYHS pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 56.76 319 *e*P P 03 39 28.9 +0.1
KRUC Moravsky 56.84 321 *e*P P 03 39 29.6 +0.2
TREC Trest 56.84 321 *e*P P 03 39 29.5 +0.1
TREC Trest 56.84 321 *e*P P 03 39 29.5 +0.1
PSZ Piszkesteto 57.02 318 *e*P P 03 39 30.4 -0.3
comp=Z,9.9nm,0.9s
PSZ Piszkesteto 57.02 318⇑*i*P P 03 39 31.0 +0.2
PSZ Piszkesteto 57.02 318⇑P P 03 39 31.0 +0.2
PSZ Piszkesteto 57.02 318 *e*P P 03 39 31.0 +0.2
SUKH Sukhothai 57.05 231 P P 03 39 32.5 +1.3
comp=Z,6.9nm,0.8s
PLOR Plostina 57.07 311⇓*i*P P 03 39 30.3 -0.8
PLOR Plostina 57.07 311⇓P P 03 39 30.3 -0.8
OZUR 57.10 312⇑*i*P P 03 39 31.3 0.0
CJR Cluj-Napoca 57.14 314⇑*i*P P 03 39 32.0 +0.4
CJR Cluj-Napoca 57.14 314⇑P P 03 39 32.0 +0.4
ROTZ Rotzenmuhle 57.17 324 *e*P P 03 39 31.7 0.0
comp=Z,4.5nm,0.9s,baz=20,slow=7.1
CFR Carcaliu 57.25 310⇓*i*P P 03 39 31.8 -0.5
CFR Carcaliu 57.25 310⇓P P 03 39 31.8 -0.5
MODS Modra-Piesok 57.27 320 *e*P P 03 39 33.0 +0.6
MODS pmax pmax
comp=Z,12nm,1.3s
MODS Modra-Piesok 57.27 320 *e*P P 03 39 33.0 +0.6
HVU Hansel Valley 57.30 59 *e*P P 03 39 33.8 +0.8
comp=Z,5.5nm,0.8s
DRGR 57.31 315⇑*i*P P 03 39 32.7 -0.1
DRGR 57.31 315⇑P P 03 39 32.7 -0.1
ELK Elko 57.41 62 *e*P P 03 39 34.7 +0.9
comp=Z,3.4nm,1.0s
ELK Elko 57.41 62 *e*P P 03 39 34.7 +0.9
ELK pmax pmax
comp=Z,3.0nm,1.0s
KHC Kasperske Hory 57.45 323 *e*P P 03 39 34.0 +0.3
comp=Z,1.6nm,0.8s
KHC Kasperske Hory 57.45 323 *e*P P 03 39 33.8 +0.1
KHC Kasperske Hory 57.45 323 *e*P P 03 39 33.8 +0.1
BW06 Boulder Array 57.46 56 *e*P P 03 39 34.8 +0.6
comp=Z,3.2nm,0.8s
GRA1 Grafenberg Arr 57.46 325 *e*P P 03 39 33.7 0.0
comp=Z,10.0nm,1.0s
GRF Grafenberg Arr 57.46 325 *e*P P 03 39 33.9 +0.2
comp=Z,11nm,0.9s,baz=20,slow=7.1
GRF Grafenberg Arr 57.46 325 *e*P P 03 39 33.7 0.0
GRF pmax pmax
comp=Z,10.0nm,1.0s
PD31 Pinedale Array 57.46 56 *e*P P 03 39 34.8 +0.6
PDAR Pinedale Array 57.46 56 *e*P P 03 39 33.5 -0.6
PDAR Pinedale Array 57.46 56 P P 03 39 34.0 -0.1
comp=Z,2.8nm,0.7s,baz=5.3,slow=2.9,SNR=18
GRFO Grafenberg 57.46 325 *e*P P 03 39 33.7 0.0
comp=Z,9.2nm,1.0s
GRFO Grafenberg 57.46 325 *e*P P 03 39 33.7 0.0
GRFO pmax pmax
comp=Z,9.0nm,1.0s
PBKT Sadao Pong 57.52 229 *e*P P 03 39 35.3 +0.8
comp=Z,14nm,0.9s
TNS Taunus Mts 57.55 327 *e*P P 03 39 34.5 0.0
comp=Z,6.7nm,0.8s,baz=20,slow=7.1
MLR Muntele Rosu 57.60 312 *e*P P 03 39 35.4 +0.4
comp=Z,7.6nm,0.7s
MLR Muntele Rosu 57.60 312⇑*i*P P 03 39 35.8 +0.8
MLR Muntele Rosu 57.60 312⇑P P 03 39 35.8 +0.8
GEC2 GERESS Array S 57.69 322 *e*P P 03 39 34.8 -0.7
comp=Z,7.2nm,1.0s
GEC2 GERESS Array S 57.69 322 *e*P P 03 39 35.2 -0.3
comp=Z,7.1nm,0.9s,baz=20,slow=7.1
GEC2 GERESS Array S 57.69 322 *e*P P 03 39 34.8 -0.7
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 57.69 322 P P 03 39 35.5 0.0
comp=Z,3.8nm,0.8s,baz=32,slow=6.3,SNR=28
GERES LR LR 04 09 32.7
comp=Z,140nm,21.1s,baz=51,slow=41
MEM Membach 57.69 329⇑P P 03 39 35.5 +0.2
comp=Z,11nm,1.0s
GEA0 GERESS Array S 57.69 322 *e*P P 03 39 35.1 -0.4

TLB	Topalu	57.82	310	⇑	*i*	P	P	03 39 36.2	-0.1
TLB	Topalu	57.82	310	⇓	P		P	03 39 32.4	-3.9
HWUT	Hardware Ranch	57.85	58		*e*	P	P	03 39 37.8	+1.0
	comp=Z,9.3nm,1.3s								
VOIR		57.91	312	⇓	*i*	P	P	03 39 36.9	-0.2
VOIR		57.91	312	⇓	P		P	03 39 36.9	-0.2
RSSD	Black Hills	57.94	51		*e*	P	P	03 39 37.3	-0.1
	comp=Z,3.4nm,0.8s								
RSSD	Black Hills	57.94	51		*e*	P	P	03 39 37.3	-0.1
RSSD						pmax	pmax		
	comp=Z,3.0nm,0.8s								
KVN	Kaiserville	57.94	65		*e*	P	P	03 39 38.4	+0.9
	comp=Z,4.6nm,0.8s								
KVN	Kaiserville	57.94	65		*e*	P	P	03 39 38.4	+0.9
KVN						pmax	pmax		
	comp=Z,5.0nm,0.8s								
WAKR	Walker	57.96	66		*e*	P	P	03 39 39.0	+1.3
	comp=Z,10nm,1.2s								
BCLA	Clavier	58.01	329	⇓	P		P	03 39 37.3	-0.3
	comp=Z,9.5nm,1.2s								
CONA	Conrad Observa	58.03	321		*i*	P	P	03 39 38.0	+0.2
	comp=Z,2.3nm,0.7s								
SIRR	Siria	58.08	315	⇓	*i*	P	P	03 39 37.7	-0.5
SOP	Sopron	58.09	320		*e*	P	P	03 39 38.1	-0.1
ARR	Arges	58.09	313	⇑	*i*	P	P	03 39 37.8	-0.5
TCUT	Toone Canyon	58.34	59		*e*	P	P	03 39 41.6	+1.2
	comp=Z,69nm,1.8s								
NV01	Mina Array Sit	58.42	66		*e*	P	P	03 39 42.0	+1.1
NVAR	Mina Array Bea	58.42	66		P		P	03 39 42.4	+1.4
	comp=Z,3.4nm,0.8s,baz=322,slow=5.1,SNR=9.4								
DOU	Dourbes	58.45	330	⇓	P		P	03 39 39.0	-1.7
NV11	Mina Array Sit	58.47	65		*e*	P	P	03 39 41.8	+0.5
	comp=Z,0.3nm,0.8s								
MOA	Molln	58.49	322		*i*	P	P	03 39 40.4	-0.6
	comp=Z,4.0nm,0.7s,SNR=7.4								
K22A	Casper	58.52	54		*e*	P	P	03 39 41.3	-0.2
	comp=Z,9.0nm,0.9s								
GZR	Gura Zlata	58.58	314	⇑	*i*	P	P	03 39 40.9	-0.9
GZR	Gura Zlata	58.58	314	⇑	P		P	03 39 40.9	-0.9
BZS	Buzias	58.69	315	⇓	*i*	P	P	03 39 41.9	-0.5
BZS	Buzias	58.69	315	⇓	P		P	03 39 41.9	-0.5
DUG	Dugway, Tooele	58.71	60		*e*	P	P	03 39 43.6	+0.8
	comp=Z,7.0nm,0.9s								
DUG	Dugway, Tooele	58.71	60		*e*	P	P	03 39 43.6	+0.8
DUG						pmax	pmax		
	comp=Z,7.0nm,0.9s								
ARSA	Arzberg	58.74	320		*i*	P	P	03 39 41.2	-1.6
	comp=Z,2.7nm,1.1s								
STU	Stuttgart	58.77	326		*e*	P	P	03 39 43.0	+0.1
	comp=Z,8.8nm,0.9s								
STU	Stuttgart	58.77	326		*e*	P	P	03 39 43.0	+0.1
STU						pmax	pmax		
	comp=Z,9.0nm,0.9s								
JLU	Jordanelle	58.80	59		*e*	P	P	03 39 44.0	+0.5
	comp=Z,7.8nm,1.0s								
MDPB	Devils Postpil	58.87	67		*e*	P	P	03 39 45.3	+1.2
	comp=Z,9.9nm,0.9s								
FUR	Furstenfeldbru	58.88	324		*e*	P	P	03 39 43.6	-0.1
	comp=Z,11nm,0.8s,baz=20,slow=7.1								
OMMB	Old Mammoth Mi	58.91	67		*e*	P	P	03 39 45.4	+1.0
	comp=Z,11nm,1.3s								
UTHA	Uthaitani	58.92	230		P		P	03 39 45.6	+1.3
NLU	North Lily Min	59.17	60		*e*	P	P	03 39 46.8	+0.7
	comp=Z,7.6nm,0.9s								
MPU	Maple Canyon	59.27	59		*e*	P	P	03 39 47.5	+0.7
	comp=Z,4.1nm,1.0s								
BFO	Black Forest	59.37	326		*e*	P	P	03 39 46.8	-0.4
	comp=Z,8.3nm,0.8s								
BFO	Black Forest	59.37	326		*e*	P	P	03 39 46.9	-0.3
	comp=Z,10nm,0.9s,baz=20,slow=7.1								
BFO	Black Forest	59.37	326		*e*	P	P	03 39 46.8	-0.4
BFO						pmax	pmax		
	comp=Z,8.0nm,0.8s								
SOKA	Soboth	59.40	321		*i*	P	P	03 39 44.6	-2.9
	comp=Z,2.4nm,0.6s								
KBA	Koelnbreinsper	59.43	322		*i*	P	P	03 39 47.3	-0.4
	comp=Z,13nm,1.4s,SNR=8.7								
R11A	Troy Canyon, C	59.44	63		*e*	P	P	03 39 48.0	+0.1
	comp=Z,6.3nm,1.1s								
WATA	Walderalm	59.60	323		*i*	P	P	03 39 49.0	+0.1
	comp=Z,6.4nm,0.8s,SNR=6.3								
RETA	Reutte	59.64	324		*i*	P	P	03 39 48.7	-0.4
	comp=Z,3.7nm,1.2s								
WTTA	Wattenberg	59.65	323		*i*	P	P	03 39 49.5	+0.2
	comp=Z,11nm,0.7s,SNR=13								
OBKA	Obir	59.67	321		*i*	P	P	03 39 50.0	+0.7
	comp=Z,9.8nm,0.7s,SNR=9.2								
MOTA	Moosalm	59.70	324		*i*	P	P	03 39 49.3	-0.2
	comp=Z,3.1nm,0.8s,SNR=5.0								
ECH	Echery	59.73	327		*e*	P	P	03 39 49.1	-0.5
	comp=Z,8.3nm,0.9s								
ECH	Echery	59.73	327		*e*	P	P	03 39 49.1	-0.5
ECH						pmax	pmax		
	comp=Z,8.0nm,0.9s								
MYKA	Terra Mystica	59.78	322		*i*	P	P	03 39 49.6	-0.4
	comp=Z,3.2nm,0.6s								
SQTA	Sankt Quirin	59.79	324		*i*	P	P	03 39 50.0	-0.2
	comp=Z,5.7nm,0.8s,SNR=6.0								
PSUT	Pine Spring	59.86	62		*e*	P	P	03 39 51.3	+0.4
	comp=Z,6.7nm,0.9s								
ABTA	Abfaltersbach	59.93	323		*i*	P	P	03 39 50.9	-0.3
	comp=Z,8.8nm,1.2s								
DAVA	Damuels	60.02	325		*i*	P	P	03 39 49.6	-2.2
	comp=Z,6.4nm,1.3s								
P17A	Butcher Ranch,	60.05	59		*e*	P	P	03 39 53.3	+1.2
	comp=Z,4.7nm,0.9s								
FETA	Feichten	60.09	324		*i*	P	P	03 39 51.9	-0.4
	comp=Z,2.0nm,0.8s								
N23A	Red Feather La	60.29	54		*e*	P	P	03 39 55.0	+1.1
	comp=Z,5.1nm,0.9s								
TMDB	BangkokBB_BH_I	60.38	228		P		P	03 39 45.1	-9.2
Q16A	Castle Valley	60.41	59		*e*	P	P	03 39 55.3	+0.7
	comp=Z,7.2nm,1.0s								
ECSD	EROS Data Cent	60.42	46		*e*	P	P	03 39 54.7	+0.3
	comp=Z,6.3nm,0.8s								
MSU	Marysvale	60.44	60		*e*	P	P	03 39 55.7	+0.8
MSU	Marysvale	60.44	60		*e*	P	P	03 39 55.7	+0.8
SRU	San Rafael Swe	60.45	59		*e*	P	P	03 39 55.9	+1.0
	comp=Z,5.8nm,0.7s								
SRU	San Rafael Swe	60.45	59		*e*	P	P	03 39 55.9	+1.0
SRU						pmax	pmax		
	comp=Z,6.0nm,0.7s								
BR131	Keskin Array S	60.52	303		*e*	P	P	03 39 55.0	-0.2
BRTR	Keskin Array B	60.52	303		P		P	03 39 55.3	0.0
	comp=Z,3.1nm,0.7s,baz=18,slow=3.7,SNR=19								
FUORN	Ofenpass-Fuorn	60.57	324		*e*	P	P	03 39 55.8	+0.1
	comp=Z,26nm,1.7s								
MTPU	Mount Pierson	60.87	61		*e*	P	P	03 39 58.6	+0.7
	comp=Z,8.2nm,1.4s								
CLF	Chambon-Foret	60.88	331		*e*	P	P	03 39 57.1	-0.3
	comp=Z,22nm,1.0s								
CCUT	Cedar City	60.91	62		*e*	P	P	03 39 59.0	+0.8
	comp=Z,2.3nm,0.7s								
VTS	Vitosha	61.01	313	⇑	*i*	P	P	03 39 58.1	-0.5
VTS	Vitosha	61.01	313	⇑	P		P	03 39 58.1	-0.5
PKCU	Pink Cliffs	61.36	61		*e*	P	P	03 40 02.6	+1.4
	comp=Z,16nm,1.1s								
LCMT	Little Creek M	61.44	62		*e*	P	P	03 40 02.5	+1.0
	comp=Z,2.6nm,0.9s								
PV21	Cone Mtn., Par	61.45	58		*e*	P	P	03 40 03.2	+1.4
	comp=Z,8.4nm,1.1s								
PV09	Paradox Valley	61.46	58		*e*	P	P	03 40 02.1	+0.2
SMCO	Snowmass	61.53	56		*e*	P	P	03 40 03.6	+1.1
	comp=Z,4.6nm,0.8s								
PV23	Carpenter Ridg	61.54	58		*e*	P	P	03 40 03.0	+0.6
	comp=Z,20nm,1.2s								
KNB	Kanab	61.58	62		*e*	P	P	03 40 03.8	+1.2
	comp=Z,8.2nm,1.0s								
KNB	Kanab	61.58	62		*e*	P	P	03 40 03.8	+1.2
KNB						pmax	pmax		
	comp=Z,8.0nm,1.0s								
PV14	Lion Creek, Pa	61.61	58		*e*	P	P	03 40 03.4	+0.6
	comp=Z,6.8nm,0.7s								
PV04	Paradox Valley	61.63	58		*e*	P	P	03 40 03.6	+0.7
	comp=Z,10nm,1.2s								
PV19	Morning Glory	61.68	58		*e*	P	P	03 40 03.6	+0.3
	comp=Z,5.8nm,1.0s								
PV16	Nyswonger Mesa	61.70	58		*e*	P	P	03 40 04.2	+0.8
	comp=Z,7.8nm,1.2s								
PV17	East Wray Mesa	61.71	58		*e*	P	P	03 40 04.5	+1.0
	comp=Z,6.6nm,0.8s								
PV11	David Mesa, Pa	61.72	58		*e*	P	P	03 40 03.9	+0.3
	comp=Z,12nm,1.3s								
PV03	Paradox Valley	61.77	58		*e*	P	P	03 40 04.8	+0.9
	comp=Z,5.5nm,1.0s								
PV15	Paradox Valley	61.81	58		*e*	P	P	03 40 05.3	+1.1
	comp=Z,8.1nm,0.9s								
PV02	Paradox Valley	61.85	58		*e*	P	P	03 40 05.6	+1.1
	comp=Z,5.0nm,0.7s								
PV13	Radium Mtn., P	61.87	58		*e*	P	P	03 40 05.2	+0.6
	comp=Z,3.7nm,0.7s								
PV01	Paradox Valley	61.97	58		*e*	P	P	03 40 06.0	+0.7
	comp=Z,26nm,1.9s								
KSCO	Kaye Shedlock'	63.04	52		*e*	P	P	03 40 12.9	+0.7
	comp=Z,12nm,0.9s								
SDCO	Great Sand Dun	63.31	55		*e*	P	P	03 40 14.7	+0.5
	comp=Z,6.9nm,1.4s								
CBKS	Cedar Bluff	64.08	50		*e*	P	P	03 40 20.0	+0.9
	comp=Z,8.8nm,0.8s								
CBKS	Cedar Bluff	64.08	50		*e*	P	P	03 40 20.0	+0.9
CBKS						pmax	pmax		
	comp=Z,9.0nm,0.8s								
HYB	Hyderabad	64.19	252		*i*	P	P	03 40 20.0	+0.1
Y14A	Wickenburg	64.31	63		*e*	P	P	03 40 21.6	+1.0
	comp=Z,6.0nm,1.2s								
X16A	Lo Mia Camp, P	64.40	62		*e*	P	P	03 40 22.7	+1.3
	comp=Z,6.6nm,1.4s								
KSU1	Kansas State U	64.72	48		*e*	P	P	03 40 22.8	-0.4
	comp=Z,13nm,0.8s								
CCM	Cathedral Cave	67.17	44		*e*	P	P	03 40 39.0	+0.1
	comp=Z,10nm,0.9s								
CCM	Cathedral Cave	67.17	44		*e*	P	P	03 40 39.0	+0.1
CCM						pmax	pmax		
	comp=Z,10.0nm,0.9s								
319A	Douglas	67.91	61		*e*	P	P	03 40 44.7	+0.9
	comp=Z,8.2nm,0.9s								
WMOK	Wichita Mounta	68.15	51		*e*	P	P	03 40 44.5	-0.6
	comp=Z,2.8nm,0.8s								
WMOK	Wichita Mounta	68.15	51		*e*	P	P	03 40 44.6	-0.6
WMOK						pmax	pmax		
	comp=Z,3.0nm,0.8s								
T42A	Van Buren	68.18	44		*e*	P	P	03 40 45.7	+0.4
	comp=Z,5.2nm,0.8s								
MNTX	Cornudas Mount	68.90	58		*e*	P	P	03 40 50.6	+0.7
	comp=Z,3.4nm,0.9s								
W41B	Gary Mavity, V	69.61	46		*e*	P	P	03 40 54.3	+0.1
	comp=Z,7.4nm,0.8s								
ABTX	Abilene, Hawle	69.85	53		*e*	P	P	03 40 55.4	-0.4
	comp=Z,13nm,1.2s								
WVT	Waverly	69.88	42		*e*	P	P	03 40 57.2	+1.4
	comp=Z,13nm,1.0s								
WVT	Waverly	69.88	42		*e*	P	P	03 40 57.2	+1.4
WVT						pmax	pmax		
	comp=Z,13nm,1.0s								
ES19	SONSECA Array	70.06	333		*e*	P	P	03 40 56.8	-0.2
ESDC	Sonseca Array	70.09	333		P		P	03 40 56.7	-0.5
	comp=Z,7.9nm,0.9s,baz=7.0,slow=6.0,SNR=27								
ESLA	Sonseca Array	70.09	333		*e*	P	P	03 40 56.7	-0.5
	comp=Z,6.8nm,0.9s								
PAB	San Pablo	70.28	333		*e*	P	P	03 40 58.0	-0.4
	comp=Z,3.9nm,0.6s								
PAB	San Pablo	70.28	333		*e*	P	P	03 40 58.0	-0.4
PAB						pmax	pmax		
	comp=Z,4.0nm,0.6s								
PLAL	Pickwick Lake	70.90	42		*e*	P	P	03 41 01.6	-0.5
	comp=Z,8.7nm,0.9s								
RAYN	Ar Rayn	71.12	286		*e*	P	P	03 41 03.4	-0.3
	comp=Z,4.5nm,0.6s								
RAYN	Ar Rayn	71.12	286		*e*	P	P	03 41 03.4	-0.3
RAYN						pmax	pmax		
	comp=Z,5.0nm,0.6s								
KEST	Kesra	71.13	321		P		P	03 41 03.8	+0.2
	comp=Z,4.2nm,0.9s,baz=322,slow=4.6,SNR=4.4								
PSI	Prapat	71.20	227		*e*	P	P	03 41 03.4	-0.9
	comp=Z,12nm,0.8s								
PSI	Prapat	71.20	227		*e*	P	P	03 41 03.4	-0.9
PSI						pmax	pmax		
	comp=Z,12nm,0.8s								
TX31	Lajitas Ar. Si	71.64	57		*e*	P	P	03 41 06.8	0.0
TXAR	Lajitas Array	71.64	57		P		P	03 41 07.0	+0.2
TXAR						pmax	pmax		
	comp=Z,1.0nm,0.6s								
TXAR	Lajitas Array	71.64	57		P		P	03 41 07.0	+0.2
	comp=Z,0.6nm,0.5s,baz=332,slow=2.5,SNR=13								
JCT	Junction City	71.80	54		*e*	P	P	03 41 07.6	-0.1
	comp=Z,8.9nm,0.8s								
JCT	Junction City	71.80	54		*e*	P	P	03 41 07.6	-0.1
JCT						pmax	pmax		
	comp=Z,9.0nm,0.8s								
TAM	Tamanrasset	84.44	321		*e*	P	P	03 42 21.3	+3.3
	comp=Z,14nm,1.9s								
TAM	Tamanrasset	84.44	321		*e*	P	P	03 42 21.3	+3.3
TAM						pmax	pmax		
	comp=Z,14nm,1.9s								
WRAB	Tennant Creek	87.47	188		*e*	P	P	03 42 32.2	-0.4
	comp=Z,3.4nm,0.6s								
WRA	Warramunga Arr	87.48	188		*i*	P	P	03 42 30.7	-1.9
WRA						pmax	pmax		
	comp=Z,3.0nm,0.8s								
WRA	Warramunga Arr	87.48	188		P		P	03 42 31.0	-1.6
	comp=Z,2.5nm,0.8s,baz=360,slow=5.7,SNR=18								
ASAR	Alice Springs	91.20	188		P		P	03 42 48.6	-1.5
	comp=Z,1.0nm,0.7s,baz=3.0,slow=4.5,SNR=6.2								
TORD	Torodi Ar. Bea	94.64	322		P		P	03 43 06.6	+0.4
	comp=Z,0.8nm,0.7s,baz=15,slow=5.3,SNR=5.1								
VNDA	Vanda	145.36	173		PKPbc		PKPbc	03 49 20.4	-0.6
	comp=Z,7.6nm,1.0s,baz=324,slow=4.8,SNR=29								
PLCA	Paso Flores	147.62	51		*e*PKPbc		PKPbc	03 49 29.1	+0.2
PLCA	Paso Flores	147.62	51		PKP2		PKPbc	03 49 28.0	-0.9
PLCA						pmax	pmax		
	comp=Z,6.0nm,1.1s								
PLCA	Paso Flores	147.62	51		PKPbc		PKPbc	03 49 28.0	-0.9
	comp=Z,6.0nm,1.1s,baz=358,slow=4.5,SNR=12								
QSPA	South Pole Qui	157.38	180		*e*PKPab		PKPab	03 50 10.1	-1.2

*ISCJB **03** 03:30:23.3±0.4, 21°.04S±0°.03×68°.09W±0°.05, h162km±5km, mb3.5/3, Error ellipse: s-maj=7.4km s-min=4.9km az=157.8*

*IDC **03** 03:30:23.8±0.8, 21°.06S×67°.87W, h150km±10km, mb3.4/3, mb1 3.7/7, mb1mx3.5/28, mbtmp4.0/7, Error ellipse: s-maj=18.8km s-min=10.9km az=104.0*

*SJA **03** 03:30:23.1±1.1, 21°.03S×68°.10W, h165km±9km, ML3.4, MW3.3*

*GUC **03** 03:30:24.0±0.7, 21°.02S×68°.28W, h165km±6km, ML3.8*

ISC 03 03:30:23.7±0.8, **20°.99S**±0°.04×**68°.00W**±0°.05, **h150**km±8km, **n38**, σ1**s30**/58, **mb3.8**/3, **10C-6D**, **Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	IPOC Station P	1.37	308	*e*P	Pn	03 30 53.6	+1.1
PB08				⇓*e*S	Sn	03 31 15.7	+1.4
PB08	IPOC Station P	1.37	308	⇑*i*P	Pn	03 30 53.5	+1.1
PB08				*e*S	Sn	03 31 15.4	+1.1
PB08				IAML		03 31 16.2	
	comp=E,803nm,0.4s						
PB01	IPOC Station P	1.39	267	*e*P	Pn	03 30 52.1	-0.2
PB01				*e*S	Sn	03 31 13.9	-0.3
PB01	IPOC Station P	1.39	267	⇑*i*P	Pn	03 30 52.1	-0.2
PB01				*e*S	Sn	03 31 13.1	-1.1
PB01				IAML		03 31 16.7	
	comp=N,1μm,0.3s						
PB09	IPOC Station P	1.41	235	*e*P	Pn	03 30 53.3	+0.7
PB09				⇓*e*S	Sn	03 31 14.9	+0.2
PB09	IPOC Station P	1.41	235	⇑*i*P	Pn	03 30 53.1	+0.5
PB09				*e*S	Sn	03 31 14.8	+0.1
PB09				IAML		03 31 16.0	
	comp=N,832nm,0.5s						
PB02	IPOC Station P	1.80	259	⇓*e*P	Pn	03 30 56.7	-0.1
PB02				*e*S	Sn	03 31 21.0	-1.0
PB02	IPOC Station P	1.80	259	⇑*i*P	Pn	03 30 56.4	-0.3
PB02				*e*S	Sn	03 31 20.6	-1.4
LVC	Limon Verde	1.82	207	⇓*e*P	Pn	03 30 58.1	+0.8
LVC	Limon Verde	1.82	207	*e*P	Pn	03 30 57.8	+0.5
LVC	Limon Verde	1.82	207	P	Pn	03 30 57.5	+0.3
	comp=N,10nm,0.3s,baz=23,slow=9.9,SNR=44						
LVC				S	Sn	03 31 22.9	-0.1
	comp=N,9.4nm,0.3s,baz=357,slow=18,SNR=6.1						
PB07	IPOC Station P	1.91	247	*e*P	Pn	03 30 57.7	-0.3
PB07				*e*S	Sn	03 31 22.9	-1.3
PB07	IPOC Station P	1.91	247	⇑*e*P	Pn	03 30 57.6	-0.4
PB07				*e*S	Sn	03 31 22.8	-1.5
PB07				IAML		03 31 23.4	
	comp=N,2μm,0.3s						
PB11	IPOC Station P	1.98	308	⇑*i*P	Pn	03 30 59.1	+0.3
PB11				*e*S	Sn	03 31 25.6	-0.1
PB11				IAML		03 31 26.9	
	comp=E,887nm,0.1s						
PB06	IPOC Station P	2.25	220	*e*P	Pn	03 31 01.7	-0.3
PB06				*e*S	Sn	03 31 30.6	-0.9
PB06	IPOC Station P	2.25	220	⇑*e*P	Pn	03 31 01.8	-0.3
PB06				*e*S	Sn	03 31 30.4	-1.1
PB06				IAML		03 31 31.6	
	comp=E,839nm,0.3s						
MNMC	Minye Minye	2.38	321	⇑*i*P	Pn	03 31 04.7	+0.9
MNMC				*i* S	Sn	03 31 35.2	+0.7
MNMCX	Minye Minye	2.38	321	*e*P	Pn	03 31 04.7	+1.0
PB04	IPOC Station P	2.41	236	*e*P	Pn	03 31 03.3	-0.6
PB04	IPOC Station P	2.41	236	⇑*e*P	Pn	03 31 03.1	-0.8
PB04				*e*S	Sn	03 31 32.3	-2.6
PB04				IAML		03 31 34.8	
	comp=N,526nm,0.2s						
PSGC	Pisagua	2.43	304	⇑*i*P	Pn	03 31 03.4	-0.7
PSGC				*e*S	Sn	03 31 33.8	-1.4
PSGCX	Pisagua	2.43	304	*e*P	Pn	03 31 03.8	-0.3
PB15	IPOC Station P	2.60	211	⇓*e*P	Pn	03 31 06.5	+0.2
YJA	Yavi	2.60	118	*e*P	Pn	03 31 07.9	+1.4
YJA				*e*S	Sn	03 31 39.3	-0.2
YJA				IAML		03 31 44.4	
	comp=Z,65nm,0.7s						
PB12	IPOC Station P	3.22	317	*e*P	Pn	03 31 13.0	-1.1
HJA	Humahuaca	3.26	133	⇓*e*P	Pn	03 31 16.3	+1.5
HJA				IAML		03 31 17.2	
	comp=Z,106nm,0.4s						
PB10	IPOC Station P	3.45	223	*e*P	Pn	03 31 16.3	-0.6
SLA	San Lorenzo	4.37	149	*e*P	Pn	03 31 30.3	+1.3
SLA				IAML		03 31 30.8	
	comp=Z,68nm,0.6s						
LPAZ	La Paz	4.68	358	P	Pn	03 31 35.5	+1.9
	comp=Z,3.5nm,0.3s,baz=167,slow=6.2,SNR=60						
LPAZ				S	Sn	03 32 29.9	+2.1
	baz=235,slow=23,SNR=2.3						
FSA	Cafayete	5.43	160	*e*P	Pn	03 31 44.0	+1.0
FSA				IAML		03 31 45.3	
	comp=Z,6.1nm,0.4s						
AHML	Horco Molle	6.26	158	*e*P	Pn	03 31 54.2	+0.2
AHML				IAML		03 31 55.8	
	comp=Z,9.5nm,0.6s						
SIV	San Ignacio	8.24	54	P	Pn	03 32 18.4	-2.0
	comp=Z,4.4nm,0.3s,baz=257,slow=7.9,SNR=89						
SIV				S	Sn	03 33 46.1	-6.1
	comp=Z,0.6nm,0.3s,baz=145,slow=22,SNR=7.4						
CPUP	Villa Florida	11.13	121	P	Pn	03 32 58.0	-0.6
	comp=Z,0.4nm,0.3s,baz=293,slow=11,SNR=9.3						
BDFB	Brasilia	19.70	78	P	P	03 34 41.4	-0.2
	comp=Z,0.8nm,0.3s,baz=252,slow=9.6,SNR=9.3						
TXAR	Lajitas Array	60.70	324	P	P	03 40 20.4	+0.9
	comp=Z,0.2nm,0.5s,baz=153,slow=8.5,SNR=5.2						
TORD	Torodi Ar. Bea	76.38	70	P	P	03 41 56.0	-1.0
	comp=Z,1.9nm,0.8s,baz=254,slow=5.4,SNR=20						
YKA	Yellowknife Ar	90.99	340	P	P	03 43 10.8	+0.6
	comp=Z,0.4nm,0.5s,baz=133,slow=4.5,SNR=7.0						
MKAR	Makanchi Array	144.72	36	PKP	PKPdf	03 49 43.1	+0.5
	comp=Z,0.5nm,0.4s,baz=337,slow=2.9,SNR=12						

ROM 03 03:41:54.0±0.1, **43°.154N**±0°.005×**10°.987E**±0°.009, **h9km, ML2.1**/10, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIF	Trifonti	0.07	238	P	Pg	03 41 56.5	+0.4
TRIF				S	Sg	03 41 57.9	+0.2
TRIF				AML	AML		
	comp=E,27750μm,0.9s						
TRIF				AML	AML		
	comp=N,29200μm,0.5s						
TRIF				AML	AML		
	comp=E,27750μm,0.9s						
TRIF				AML	AML		
	comp=N,29200μm,0.5s						
TRIF				AML	AML		
	comp=N,29200μm,0.5s						
TRIF				AML	AML		
	comp=E,27750μm,0.9s						
FROS	Frosini	0.14	66	P	Pg	03 41 57.5	+0.5
FROS				S	Sg	03 41 59.8	+0.6
FROS				AML	AML		
	comp=E,2270μm,0.4s						
FROS				AML	AML		
	comp=N,2015μm,1.6s						
FROS				AML	AML		
	comp=E,2270μm,0.4s						
FROS				AML	AML		
	comp=N,2015μm,1.6s						
FROS				AML	AML		
	comp=E,2270μm,0.4s						
FROS				AML	AML		
	comp=N,2015μm,1.6s						
CASP	Castiglione de	0.37	194	P	Pb	03 42 02.2	-0.6
CASP				S	Sb	03 42 07.6	-1.2
CASP				AML	AML		
	comp=E,484μm,0.7s						
CASP				AML	AML		
	comp=N,434μm,0.2s						
CASP				AML	AML		
	comp=E,484μm,0.

comp=E,214µm,0.2s
MAON AML AML
comp=N,234µm,1.1s
MAON AML AML
comp=N,234µm,1.1s
MAON AML AML
comp=E,214µm,0.2s
CAFI Castiglion Fio 0.74 76 P Pg 03 42 08.6 +0.4
PTF Prato 0.81 4 P Pg 03 42 09.5 -0.1
MAIM Mastiano 0.84 335 P Pg 03 42 09.6 -0.6
MAIM S Sg 03 42 18.8 -2.4
MAIM Mastiano 0.84 335 P Pg 03 42 09.9 -0.3
ASQU Asqua 0.87 42 P Pg 03 42 11.0 +0.3
ASQU S Sg 03 42 22.5 +0.5
POPM Popiglio 0.91 349 P Pg 03 42 11.1 -0.3
POPM S Sg 03 42 22.9 -0.3
POPM Popiglio 0.91 349 P Pg 03 42 11.2 -0.2
POPM AML AML
comp=E,40µm,1.5s
POPM AML AML
comp=N,41µm,1.3s
POPM AML AML
comp=E,40µm,1.5s
POPM AML AML
comp=N,41µm,1.3s
ATMC Monte Cedrone 0.93 71 P Pb 03 42 12.2 -0.1
BDI Bagni Di Lucca 0.95 343 P Pg 03 42 12.0 -0.3
EQUI Equi 1.18 329 P Pb 03 42 16.3 -0.2

SJA 03 03:46:17.6±0.6, 24°37S×67°36W, h167km±25km, ML2.0, MW3.7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.73**	**102**	*i* P	Pn	03 46 52.1	+1.1
SLA				IAML		03 46 54.8	
	comp=N,8.6nm,0.5s						
SLA				*i* S	Sn	03 47 16.9	+0.2
HJA	**Humahuaca**	**2.13**	**58**	*eP*	Pn	03 46 55.5	-0.2
FSA	**Cafayete**	**2.14**	**145**	*i* P	Pn	03 46 56.7	+1.1
LVC	**Limon Verde**	**2.25**	**321**	*i* P	Pn	03 46 57.9	+0.8
PB06	**IPOC Station P**	**2.62**	**309**	*i* P	Pn	03 47 02.1	+0.9
AHML	**Horco Molle**	**3.02**	**143**	*i* P	Pn	03 47 06.6	+0.6
PB04	**IPOC Station P**	**3.27**	**308**	*i* P	Pn	03 47 09.6	+0.5
PB02	**IPOC Station P**	**3.83**	**322**	*eP*	Pn	03 47 15.8	-0.5
PB01	**IPOC Station P**	**3.85**	**329**	*eP*	Pn	03 47 15.5	-0.9

IDC 03 03:48:57.0±1.1, 21°40S×66°65W, h199km±11km, mb3.1/3, mb1 3.2/6, mb1mx3.1/29, mbtmp3.5/6, Error ellipse: s-maj=32.4km s-min=13.5km az=142.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.41**	**240**	P	Pn	03 49 39.9	-0.3
	5.6nm,0.3s,baz=48,slow=10,SNR=23						
LVC				S	Sn	03 50 14.2	+0.3
	7.6nm,0.3s,baz=299,slow=22,SNR=21						
LPAZ	**La Paz**	**5.28**	**344**	P	Pn	03 50 16.8	+1.3
	0.3nm,0.3s,baz=151,slow=6.6,SNR=5.7						
SIV	**San Ignacio**	**7.55**	**45**	P	Pn	03 50 45.0	+0.6
	1.0nm,0.3s,baz=243,slow=6.4,SNR=16						
SIV				S	Sn	03 52 08.3	-1.6
	0.3nm,0.3s,baz=190,slow=11,SNR=3.2						
PDAR	**Pinedale Array**	**75.10**	**329**	P	P	04 00 17.0	-0.3
	0.1nm,0.4s,baz=121,slow=8.5,SNR=2.7						
TORD	**Torodi Ar. Bea**	**75.35**	**69**	P	P	04 00 19.4	+0.4
	0.4nm,0.5s,baz=248,slow=5.5,SNR=6.4						
YKA	**Yellowknife Ar**	**91.81**	**340**	P	P	04 01 41.7	0.0
	0.2nm,0.5s,baz=130,slow=4.5,SNR=5.3						

UCR 03 03:53:09.8±1.6, 10°66N×86°19W, h7km±11km, MD3.9, 3C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NY14	**Universidad de**	**0.64**	**91**	*i* P	Pg	03 53 22.7	+0.5
NY14				*i* S	Sb	03 53 33.4	+0.8
GBS3	**Finca Las Img**	**0.73**	**80**	*i* P	Pg	03 53 23.7	-0.2
LAPC	**Finca la Perla**	**0.75**	**82**	*i* P	Pg	03 53 23.8	-0.4
GB1A	**Borinquen Arri**	**0.79**	**78**	*eP*	Pg	03 53 24.8	-0.3
GB1A				*eS*	Sb	03 53 37.1	+0.1
GPS3	**Bodega del ICE**	**0.81**	**83**	*i* P	Pg	03 53 25.4	0.0
GPS3				*i* S	Sb	03 53 36.9	-0.7
GPS2	**Hotel Rincn d**	**0.83**	**83**	*i* P	Pg	03 53 25.4	-0.4
GPS2				*eS*	Sb	03 53 38.2	+0.3
BUAI	**Buenos Aires**	**0.87**	**75**	*i* P	Pg	03 53 26.3	-0.2
PLVR	**Palo Verde**	**0.88**	**110**	⇓*eP*	Pg	03 53 24.9	-1.8
PLVR				*eS*	Sg	03 53 38.3	+0.2
LIM1	**Limonal**	**0.92**	**87**	*i* P	Pg	03 53 26.7	-0.8
MESS	**Mesas**	**0.98**	**85**	*i* P	Pg	03 53 27.8	-0.8
MESS				⇑*eP*	Pg	03 53 27.8	-0.8
MESS				*eS*	Sg	03 53 41.8	+0.4
HORNC	**Hornillas**	**0.99**	**87**	*i* P	Pg	03 53 27.9	-1.0
CUI	**Cuipilapa**	**1.01**	**90**	⇑*eP*	Pg	03 53 28.3	-0.8
CONN	**Concepcion**	**1.06**	**31**	*eP*	Pg	03 53 29.8	-0.3
ACAL	**Aguas Claras**	**1.13**	**91**	*i* P	Pg	03 53 30.3	-1.2
JTS	**JuntasAbangare**	**1.27**	**107**	*eP*	Pn	03 53 31.6	-2.4
ARE1	**Arenal 1**	**1.46**	**98**	*eP*	Pn	03 53 35.2	-1.5
CEDE	**Laguna Cedeo**	**1.47**	**97**	*eP*	Pn	03 53 36.5	-0.3
MGAN	**Managua**	**1.48**	**358**	*eP*	Pn	03 53 36.4	-0.6
MGAN				*eS*	Sn	03 53 56.6	0.0
COPN	**Copaltepe**	**1.56**	**345**	*eP*	Pn	03 53 37.0	-1.0
ACON	**Acoyapa**	**1.64**	**37**	⇑*iP*	Pn	03 53 38.0	-1.1
ACON				*eS*	Sn	03 53 59.8	-0.7
SRA1	**San Ramn**	**1.77**	**109**	*eP*	Pn	03 53 40.2	-0.9
CNGN	**Cerro Negro**	**1.90**	**345**	*eP*	Pn	03 53 42.3	-0.4
HDC	**Heredia**	**2.14**	**108**	*eP*	Pb	03 53 48.2	-0.8
CRIN	**San Cristobal**	**2.20**	**337**	*eP*	Pn	03 53 47.1	+0.3
MATN	**Matagalpa**	**2.27**	**6**	*eP*	Pn	03 53 47.1	-0.8
LCR2	**La Lucha 2**	**2.34**	**113**	*eP*	Pn	03 53 49.8	+0.9

*SOME **03** 03:57:14.4, 39°42N×76°77E, h15km*
*KRNET **03** 03:57:19.1±0.1, 39°52N×76°62E, mb2.6*
NNC 03 03:57:12.4±3.2, 39°38N×76°60E, h0km, mb3.4, mpv3.1, 10C-11D, Error ellipse: s-maj=21.6km s-min=20.5km az=168.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**2.10**	**348**	⇑*iP*	Pg	03 57 55.8	+3.1
	baz=46						
NRN				⇑*iS*	Sg	03 58 22.6	+2.7
	baz=46						
KDJ	**Kajisay**	**2.78**	**9**	⇑*iP*	Pg	03 58 05.5	-0.2
	baz=9.0						
KDJ				⇑*iS*	Sb	03 58 39.3	+1.5
	baz=9.0						
ULHL	**Ulahol**	**2.87**	**355**	⇓*iP*	Pg	03 58 06.8	-0.7
	baz=54						
ULHL				⇓*iS*	Sb	03 58 41.5	+1.0
	baz=54						
KZA	**Kyzart**	**2.88**	**340**	⇓*iP*	Pg	03 58 07.3	-0.4
	baz=38						
KZA				⇓*iS*	Sb	03 58 42.4	+1.5
	baz=38						
ARLS	**Aral**	**3.02**	**326**	⇑*iP*	Pg	03 58 08.9	-1.5
	baz=24						
ARLS				⇑*iS*	Sb	03 58 46.0	+1.3
	baz=24						
BOOM	**Boomskoye usch**	**3.14**	**351**	⇓*iP*	Pb	03 58 10.6	+1.3
	baz=50						
BOOM				⇓*iS*	Sb	03 58 48.1	-0.1
	baz=50						
UCH	**Uchtor**	**3.25**	**332**	⇓*iP*	Pb	03 58 12.7	+1.4
	baz=30						
UCH				⇓*iS*	Sb	03 58 51.5	-0.2
	baz=30						
TKM2	**Tokmak 2**	**3.61**	**348**	⇑Pg	Pb	03 58 16.3	-1.1
	3.9nm,0.8s						
TKM2				⇑Lg	Lg	03 59 08.2	
	2.1nm,0.3s						
AAK	**Ala-Archa**	**3.62**	**335**	⇓Pg	Pb	03 58 15.1	-2.4
	1.9nm,0.9s						
AAK				⇓Lg	Lg	03 59 10.6	
	9.6nm,1.1s						
TNSS	**Tian-Shan**	**3.66**	**4**	*eP*	Pg	03 58 21.6	-1.0
	1.6nm,0.3s						
TNSS				*eS*	Sg	03 59 09.9	-0.1
	5.3nm,0.5s						
KST	**Kastek**	**3.69**	**353**	*eP*	Pg	03 58 22.8	-0.3
	1.5nm,0.3s						
KST				*eS*	Sg	03 59 12.1	+1.2
	4.0nm,0.6s						
MDOK	**Medeo**	**3.79**	**5**	Pg	Pb	03 58 22.3	+2.0
	3.8nm,0.9s						
MDOK				Lg	Lg	03 59 12.6	
	3.7nm,0.5s						
MDOK	**Medeo**	**3.79**	**5**	Pg	Pg	03 58 23.5	-1.6
	2.7nm,0.3s						
MDOK				Lg	Lg	03 59 13.2	
	5.1nm,0.4s						
MDOK	**Medeo**	**3.79**	**5**	*eP*	Pg	03 58 23.4	-1.7
	1.3nm,0.3s						
MDOK				*eS*	Sg	03 59 13.2	-1.1
	6.0nm,0.6s						
KOTS	**Kotyrbulak**	**3.87**	**6**	Pg	Pg	03 58 24.4	-2.2
	4.8nm,1.1s						
KOTS				Lg	Lg	03 59 15.1	
	26nm,0.5s						
KOTS	**Kotyrbulak**	**3.87**	**6**	*eP*	Pg	03 58 24.5	-2.1
	1.9nm,0.5s						
KOTS				*eS*	Sg	03 59 14.9	-1.8
	26nm,0.5s						
DGS	**Degeres**	**3.91**	**351**	Pg	Pg	03 58 25.5	-1.8
	1.6nm,0.4s						
DGS				Lg	Lg	03 59 16.3	
	7.3nm,0.5s						
DGS	**Degeres**	**3.91**	**351**	*eP*	Pb	03 58 24.6	+2.4
	1.6nm,0.3s						
DGS				*eS*	Sg	03 59 15.2	-2.7
	7.3nm,0.5s						
SATY	**Saty**	**3.92**	**20**	Pg	Pb	03 58 24.8	+2.3
	3.1nm,0.4s						
SATY				Lg	Lg	03 59 15.6	
	3.5nm,0.5s						
SATY	**Saty**	**3.92**	**20**	*eP*	Pb	03 58 24.9	+2.4
	1.0nm,0.2s						
SATY				*eS*	Sg	03 59 15.7	-2.6
	2.4nm,0.5s						
CHKK	**Chushkaly**	**4.48**	**4**	Pg	Pg	03 58 35.7	-2.5
	1.9nm,0.1s						
CHKK				Lg	Lg	03 59 34.1	
	6.8nm,0.3s						
CHKK	**Chushkaly**	**4.48**	**4**	*eP*	Pg	03 58 35.7	-2.5
	1.9nm,0.1s						
CHKK				*eS*	Sg	03 59 34.1	-2.1
	6.8nm,0.3s						
PDGK	**Podgornoye**	**4.50**	**28**	Pg	Pb	03 58 35.1	+2.7
	1.1nm,0.5s						
PDGK				Lg	Lg	03 59 33.3	
	1.2nm,0.5s						
PDGK	**Podgornoye**	**4.50**	**28**	⇓Pg	Pb	03 58 31.9	-0.5
	1.8nm,0.6s						
PDGK				⇑Lg	Lg	03 59 31.4	
	1.7nm,0.5s						
KUU	**Kurty**	**4.51**	**358**	Pg	Pg	03 58 36.5	-2.4
	1.0nm,0.4s						
KUU				Lg	Lg	03 59 35.6	
	2.3nm,0.4s						
KUU	**Kurty**	**4.51**	**358**	*eP*	Pg	03 58 36.5	-2.4
	1.0nm,0.4s						
KUU				⇑*iS*	Sg	03 59 35.6	-1.7
	2.3nm,0.4s						

*DDA **03** 03:58:03.8, 39°54N×28°77E, h7km±5km, ML2.6*
*ISK **03** 03:58:03.6, 39°54N×28°76E, h6km, ML2.3/11*
*ISCJB **03** 03:58:04.1±0.4, 39°55N±0°02×28°77E±0°03, h2km±6km, Error ellipse: s-maj=3.9km s-min=3.7km az=11.1*
ISC 03 03:58:04.2±1.0, 39°56N±0°02×28°75E±0°03, h10km±8km, n22, σ0°46/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DST	**Dursunbey**	**0.11**	**294**	PG	**Pg**	**03 58 06.2**	**-0.8**
DURS	**Dursunbey**	**0.22**	**281**	*i* P	**Pg**	**03 58 09.1**	**+0.3**
DURS				*i* S	**Sg**	**03 58 12.7**	**+0.9**
DURS				IAML_P			
	comp=Z,7µm,0.1s						
ORLT	**Orhaneli**	**0.50**	**13**	PG	**Pg**	**03 58 13.9**	**0.0**
ORLT				SG	**Sb**	**03 58 21.7**	**-0.8**
DEMI	**Demirci**	**0.52**	**183**	*i* P	**Pg**	**03 58 14.4**	**+0.2**
DEMI				*i* S	**Sg**	**03 58 21.1**	**+0.1**
DEMI				IAML_P			
	comp=Z,625nm,0.1s						
TVSB	**Tavsanli**	**0.56**	**101**	PG	**Pg**	**03 58 14.8**	**-0.3**
TVSB				SG	**Sg**	**03 58 22.6**	**+0.1**
BALB	**Balikesir**	**0.68**	**277**	PG	**Pg**	**03 58 17.7**	**+0.4**
BALB				SG	**Sb**	**03 58 27.7**	**+0.2**
GDZ	**Gediz**	**0.73**	**129**	*i* P	**Pb**	**03 58 18.9**	**-0.2**
KCTX	**Karacabey (Bur**	**0.77**	**337**	PG	**Pg**	**03 58 19.2**	**+0.2**
KCTX				SG	**Sb**	**03 58 30.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.82**	**7**	PG	**Pg**	**03 58 20.1**	**+0.2**
STEP	**BALIKESIR_Sava**	**0.82**	**258**	*i* P	**Pn**	**03 58 21.3**	**-0.6**
STEP				*i* S	**Sb**	**03 58 31.5**	**-0.2**
STEP				IAML_P			
	comp=Z,630nm,0.1s						
USAK	**Uak-Merkez**	**0.87**	**166**	*i* P	**Pb**	**03 58 21.2**	**-0.2**
USAK				IAML_P			
	comp=Z,443nm,0.1s						
BALY	**Balya**	**0.89**	**282**	*i* P	**Pn**	**03 58 22.4**	**-0.5**
BALY				IAML_P			
	comp=Z,307nm,0.1s						
GONE	**Gonen-Balikesi**	**0.95**	**301**	PG	**Pg**	**03 58 22.7**	**+0.2**
AKHS	**Akhisar**	**0.99**	**227**	*i* P	**Pn**	**03 58 24.8**	**+0.5**
AKHS				*i* S	**Sb**	**03 58 37.3**	**+0.6**
AKHS				IAML_P			
	comp=Z,2µm,0.2s						
ARMT	**Armutlu**	**1.01**	**5**	PG	**Pb**	**03 58 23.8**	**0.0**
ARMT				SG	**Sn**	**03 58 38.6**	**-0.1**
KULA	**Kula-Manisa**	**1.04**	**184**	PG	**Pg**	**03 58 23.6**	**-0.7**
CAVI	**Cavuskoy**	**1.06**	**52**	PG	**Pg**	**03 58 24.5**	**0.0**
MANT	**Manisa**	**1.08**	**188**	*i* P	**Pn**	**03 58 25.6**	**+0.1**
MANT				*i* S	**Sg**	**03 58 38.4**	**-0.5**
YLV	**Yalova**	**1.11**	**25**	PN	**Pn**	**03 58 25.9**	**0.0**
KHAL	**Karahalli**	**1.32**	**154**	*i* P	**Pg**	**03 58 30.5**	**+1.0**
KHAL				IAML_P			
	comp=Z,398nm,0.2s						
ZEDA	**zmir-Bergama**	**1.43**	**246**	*i* P	**Pg**	**03 58 31.3**	**-0.3**
ZEDA				IAML_P			
	comp=Z,369nm,0.2s						
GULT	**Gulveren**	**1.61**	**57**	PN	**Pn**	**03 58 33.2**	**+0.4**

IDC 03 04:02:39.1±26.0, 22°83S×178°60W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/36, mbtmp4.0/4, ML4.3/1, Error ellipse: s-maj=481.5km s-min=64.3km az=68.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**15.82**	**192**	Pn	Pn	04 06 23.3	+0.1
	1.3nm,0.3s,baz=351,slow=4.9,SNR=9.8						
STKA	**Stephens Creek**	**36.32**	**247**	P	P	04 09 44.5	-0.2
	1.0nm,0.4s,baz=90,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**43.49**	**259**	P	P	04 10 44.0	-0.5
	1.0nm,0.9s,baz=91,slow=7.6,SNR=7.8						
WRA	**Warramunga Arr**	**43.77**	**265**	P	P	04 10 47.1	+0.2
	0.9nm,0.4s,baz=102,slow=8.3,SNR=45						

IDC 03 04:07:15.6±41.0, 15°79S×173°29W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.8/36, mbtmp4.4/3, Error ellipse: s-maj=794.8km s-min=171.3km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.93**	**240**	P	P	04 15 25.6	+1.0
	1.6nm,0.4s,baz=91,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	04 16 10.3	-0.9
	1.2nm,0.6s,baz=97,slow=7.2,SNR=28						
ASAR	**Alice Springs**	**50.09**	**252**	P	P	04 16 12.7	-0.2
	13nm,0.6s,baz=87,slow=8.2,SNR=225						

*IDC **03** 04:27:28.8±1.0, 10°94N×139°44E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/30, mbtmp3.5/6, Error ellipse: s-maj=37.2km s-min=22.4km az=95.0*
*ISCJB **03** 04:27:32.0±1.0, 10°9N±0°1×139°4E±0°2, h33km, mb3.5/6, Error ellipse: s-maj=34.8km s-min=20.8km az=1.1*
ISC 03 04:27:34.1±1.1, 10°9N±0°2×139°4E±0°2, h35km, n6, σ0°90/6, mb3.6/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.05**	**189**	P	**P**	**04 33 48.2**	**-0.7**
	0.3nm,0.8s,baz=7.8,slow=9.3,SNR=2.5						
ASAR	**Alice Springs**	**34.77**	**189**	P	**P**	**04 34 22.1**	**+0.6**
	0.6nm,0.5s,baz=17,slow=13,SNR=14						
CMAR	**Chiang Mai Arr**	**39.77**	**286**	P	**P**	**04 35 04.1**	**+0.1**
	0.8nm,0.4s,baz=88,slow=6.7,SNR=6.7						
MKAR	**Makanchi Array**	**59.80**	**318**	P	**P**	**04 37 35.8**	**-0.2**
	0.4nm,0.7s,baz=107,slow=6.5,SNR=3.8						
ILAR	**Eielson Array**	**73.27**	**25**	P	**P**	**04 39 00.8**	**-0.8**
	0.6nm,0.9s,baz=248,slow=6.1,SNR=6.7						
YKA	**Yellowknife Ar**	**87.67**	**27**	P	**P**	**04 40 19.7**	**+0.9**
	0.1nm,0.7s,baz=292,slow=5.5,SNR=2.7						

*ISCJB **03** 04:44:02.8±1.0, 60°7S±0°2×52°2W±0°4, h10km, mb3.8/4, MS3.9/1, Error ellipse: s-maj=36.2km s-min=19.1km az=41.9*
*IDC **03** 04:44:02.3±1.2, 60°68S×52°01W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/26, mbtmp4.0/5, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx3.1/26, Error ellipse: s-maj=50.2km s-min=31.5km az=47.0*
ISC 03 04:44:03.8±1.1, 60°7S±0°3×51°9W±0°2, h10km, n11, σ0°94/7, mb3.9/3, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**10.57**	**296**	Pn	**Pn**	**04 46 35.9**	**+0.7**
	0.8nm,0.3s,baz=124,slow=13,SNR=9.7						
USHA				LR	LR	04 49 37.4	
	comp=Z,170nm,19.7s,baz=152,slow=32						
PLCA	**Paso Flores**	**23.04**	**322**	P	**P**	**04 49 07.8**	**-1.2**
	1.7nm,0.8s,baz=180,slow=1.8,SNR=3.6						
URZ	**Urewera**	**73.57**	**218**	LR	LR	05 26 33.1	
	comp=Z,55nm,18.1s,baz=2.0,slow=35						
TORD	**Torodi Ar. Bea**	**84.97**	**52**	P	**P**	**04 56 39.9**	**+0.9**
	0.7nm,0.9s,baz=228,slow=5.6,SNR=3.6						
ASAR	**Alice Springs**	**95.82**	**185**	P	**P**	**04 57 30.2**	**0.0**
	0.4nm,0.9s,baz=166,slow=4.1,SNR=3.9						
WRA	**Warramunga Arr**	**99.50**	**186**	P	**Pdif**	**04 57 46.6**	**-0.2**
	0.6nm,1.0s,baz=178,slow=4.0,SNR=4.8						
H08N3	**Diego Garcia H**	**99.80**	**122**	T	T	06 50 08.1	
	baz=204,slow=75,SNR=7.1						
H08N1	**Diego Carcia H**	**99.81**	**122**	T	T	06 49 59.9	
	baz=204						
H08N2	**Diego Garcia H**	**99.82**	**122**	T	T	06 50 11.0	
	baz=204,slow=75,SNR=7.0						
ILAR	**Eielson Array**	**143.59**	**314**	PKP	**PKPdf**	**05 03 36.2**	**-0.8**
	0.3nm,0.7s,baz=108,slow=0.7,SNR=4.2						
MKAR	**Makanchi Array**	**150.26**	**97**	PKPbc	**PKPbc**	**05 03 53.7**	**-0.3**
	0.3nm,0.7s,baz=272,slow=3.9,SNR=3.8						

*IDC **03** 04:44:05.6±0.6, 0°78N×125°90E, h0km, mb4.4/17, mb1 4.5/18, mb1mx4.3/42, mbtmp4.4/18, ML3.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/35, Error ellipse: s-maj=33.1km s-min=12.1km az=81.0*
*NEIC **03** 04:44:08.8±2.0, 0°77N×126°03E, h21km±14km, mb4.5/9, Error ellipse: s-maj=7.1km s-min=4.8km az=59.0*
*ISCJB **03** 04:44:10.0±0.3, 0°76N±0°03×126°04E±0°04, h44km, mb4.5/31, MS3.7/2, Error ellipse: s-maj=5.7km s-min=4.7km az=173.3*
*DJA **03** 04:44:11.0±0.3, 1°N±3°×12°6E±°, h30km, M4.6/17, mb4.9/9, mB5.0/6, MLv4.7/17, Mw(mB)4.3/6*
ISC 03 04:44:12.0±0.4, 0°72N±0°06×126°05E±0°06, h44km, n76, σ1°48/75, mb4.5/31, 2D, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.32**	**88**	*ePn*	**Pn**	**04 44 32.4**	**-1.6**
TNTI	**Ternate**	**1.32**	**88**	P	**Pn**	**04 44 32.3**	**-1.7**
KMSI	**Cibinong**	**2.08**	**266**	P	**Pn**	**04 44 43.7**	**-0.7**
SANI	**Sanana**	**2.75**	**181**	P	**Pn**	**04 44 53.9**	**+0.2**
SGSI	**Sangihe**	**2.99**	**350**	P	**Pn**	**04 44 54.7**	**-2.3**
LUWI	**Luwuk**	**3.72**	**242**	*ePn*	**Pn**	**04 45 06.5**	**-0.5**
LUWI	**Luwuk**	**3.72**	**242**	P	**Pn**	**04 45 05.5**	**-1.5**
NLAI	**Namlea**	**4.07**	**165**	P	**Pn**	**04 45 12.9**	**+1.0**
MRSI	**Marisa**	**4.12**	**267**	P	**Pn**	**04 45 11.9**	**-0.6**
KDI	**Kendari**	**5.78**	**216**	P	**Pn**	**04 45 36.1**	**+0.8**
MPSI	**Mapaga**	**6.17**	**266**	P	**Pn**	**04 45 42.1**	**+1.5**
	44nm,0.7s,1µm						
KCP	**Kidapawan**	**6.32**	**351**	⇓*iP*	**Pn**	**04 45 45.9**	**+3.1**
PCI	**Palu**	**6.42**	**255**	P	**Pn**	**04 45 44.4**	**+0.2**
CTBH	**Otabato--PC H**	**6.70**	**344**	⇓*iP*	Pn	04 45 37.8	-10
BBSI	**Bau Bau**	**7.08**	**209**	P	Pn	04 45 46.6	-6.6
FAKI	**Fak Fak**	**7.17**	**120**	P	**Pn**	**04 45 55.1**	**+0.6**
TTSI	**Tana Toraja**	**7.27**	**239**	P	**Pn**	**04 45 56.3**	**+0.5**
	286nm,0.8s,3µm						
SPSI	**Sidrap Palu**	**7.82**	**233**	P	**Pn**	**04 46 05.0**	**+1.7**
	65nm,0.6s,855nm						
BNSI	**Bone**	**7.82**	**229**	P	**Pn**	**04 46 03.7**	**+0.3**
BKSI	**Bulukumba**	**8.43**	**225**	P	**Pn**	**04 46 12.2**	**+0.5**
SBUM	**Sibu**	**13.93**	**277**	*ePn*	**Pn**	**04 47 24.1**	**-2.8**
KSM	**Kuching**	**15.76**	**273**	*ePn*	**Pn**	**04 47 49.3**	**-1.8**
	37nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.71**	**181**	P	**P**	**04 48 27.4**	**+0.4**
	0.2nm,0.3s,baz=21,slow=9.2,SNR=6.5						
FITZ				LR	LR	04 56 47.9	
	comp=Z,68nm,18.6s,baz=358,slow=41						
WRAB	**Tennant Creek**	**22.08**	**159**	*eP*	**P**	**04 49 02.7**	**-0.9**
WRA	**Warramunga Arr**	**22.09**	**159**	P	**P**	**04 49 03.0**	**-0.6**
	20nm,0.6s,baz=339,slow=11,SNR=178						
WB2	**Warramunga Arr**	**22.09**	**159**	*eP*	**P**	**04 49 02.0**	**-1.6**
COEN	**Coen**	**22.37**	**131**	*eP*	**P**	**04 49 06.3**	**-0.4**
	37nm,1.0s						
AS31	**Alice Springs**	**25.41**	**163**	*eP*	**P**	**04 49 35.9**	**+0.2**
	5.3nm,0.4s						
ASAR	**Alice Springs**	**25.42**	**163**	P	**P**	**04 49 35.8**	**+0.1**
	9.4nm,0.4s,baz=344,slow=11,SNR=148						
ASAR				PcP	**PcP**	**04 53 07.5**	**+0.2**
	1.4nm,0.7s,baz=344,slow=2.1,SNR=6.5						
AS01	**Alice Springs**	**25.43**	**163**	*eP*	**P**	**04 49 35.3**	**-0.5**
PSI	**Prapat**	**27.19**	**275**	*eP*	**P**	**04 49 50.8**	**-1.2**
	8.8nm,0.9s						
PSI	**Prapat**	**27.19**	**275**	LR	LR	05 01 45.9	
	comp=Z,127nm,20.3s,baz=328,slow=39						
FORT	**Forrest**	**31.39**	**177**	*eP*	**P**	**04 50 28.8**	**-0.1**
	29nm,0.7s						
WHN	**Wuhan**	**31.67**	**341**	P	**P**	**04 50 33.7**	**+2.3**
NJ2	**Nanjing**	**31.89**	**348**	*eP*	**P**	**04 50 31.7**	**-1.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BBOO	**Buckleboo**	**34.66**	**165**	*eP*	**P**	**04 50 57.5**	**0.0**
	comp=Z,9.3nm,0.8s						
**STK

comp=Z,98nm,21.1s

PETK	**Petropavlovsk-**	**58.45**	**22**	P		**P**	**04 54 04.4**	**+1.0**
	comp=Z,6.6nm,0.9s,baz=189,slow=4.2,SNR=5.5							
MK01	**Makanchi Array**	**59.63**	**327**	*e*P		**P**	**04 54 09.9**	**-1.8**
MK31	**Makanchi Array**	**59.65**	**327**	*e*P		**P**	**04 54 11.0**	**-0.9**
MKAR	**Makanchi Array**	**59.65**	**327**	P	P		**04 54 10.0**	**-1.8**
	comp=Z,1.8nm,0.4s,baz=124,slow=6.8,SNR=24							
MA2	**Magadan**	**61.77**	**14**	P		**P**	**04 54 26.7**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=224,slow=2.7,SNR=5.6							
KURBB	**Kurchatov Arra**	**63.91**	**328**	P		**P**	**04 54 39.3**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=127,slow=6.2,SNR=19							
KURK	**Kurchatov**	**63.92**	**329**	*e*P		**P**	**04 54 39.4**	**-1.1**
BRVK	**Borovoye**	**69.54**	**328**	*e*P		**P**	**04 55 14.6**	**-1.6**
ABKAR	**Akbulak array**	**74.05**	**321**	*e*P		**P**	**04 55 42.6**	**-0.8**
ARU	**Arti**	**77.11**	**328**	*e*P		**P**	**04 55 59.5**	**-1.3**
VNDA	**Vanda**	**80.55**	**173**	*e*P		**P**	**04 56 19.4**	**+0.1**
	comp=Z,5.0nm,0.8s							
VNDA	**Vanda**	**80.55**	**173**	P	P		**04 56 20.0**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=312,slow=6.4,SNR=20							
RAYN	**Ar Rayn**	**81.04**	**294**	*e*P		**P**	**04 56 23.1**	**0.0**
	comp=Z,2.6nm,0.8s							
SBA	**Scott Base**	**81.47**	**172**	*e*P		**P**	**04 56 25.4**	**+1.3**
SIRT	**Sirnak**	**84.49**	**307**	*e*P		**P**	**04 56 40.2**	**-0.5**
	comp=Z,29nm,0.9s							
SCM	**Sheep Creek Mo**	**87.77**	**28**	*e*P		**P**	**04 56 56.2**	**-0.1**
	comp=Z,22nm,1.4s							
ILAR	**Eielson Array**	**88.09**	**25**	P		**P**	**04 56 56.0**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=262,slow=4.4,SNR=13							
QSPA	**South Pole Qui**	**90.65**	**180**	*e*P		**P**	**04 57 10.1**	**+0.3**
BRTR	**Keskin Array B**	**91.40**	**310**	P		**P**	**04 57 13.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=141,slow=6.1,SNR=5.8							
ARCES	**ARCESS Array B**	**93.02**	**340**	P		**P**	**04 57 22.6**	**+2.0**
	comp=Z,3.6nm,1.0s,baz=66,slow=5.1,SNR=5.3							
INK	**Inuvik**	**93.19**	**21**	*e*P		**P**	**04 57 20.2**	**-1.1**
	comp=Z,2.3nm,0.8s							
INK	**Inuvik**	**93.19**	**21**	P	P		**04 57 20.5**	**-0.9**
	comp=Z,3.2nm,1.1s,baz=237,slow=3.5,SNR=6.0							
FINES	**FINESS Array B**	**94.14**	**332**	P		**P**	**04 57 26.2**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=35,slow=5.1,SNR=3.4							
YKA	**Yellowknife Ar**	**102.50**	**24**	P		**Pdif**	**04 58 03.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=303,slow=3.8,SNR=5.3							
TORD	**Torodi Ar. Bea**	**123.15**	**286**	PKP		**PKPdf**	**05 03 05.1**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=58,slow=3.6,SNR=6.6							
TXAR	**Lajitas Array**	**123.94**	**53**	PKP		**PKiKP**	**05 03 06.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=357,slow=4.4,SNR=4.0							

KRNET 03 05:01:05.7±0.1, 40.56N×70.50E, mb2.5, 8C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**1.47**	**137**	⇑*i*P	Pn	05 01 32.2	-1.5
	baz=36						
DRK				⇑*i*S	Sg	05 01 50.9	-2.0
	baz=36						
ARK	**Arkit**	**1.66**	**41**	⇑*i*P	Pn	05 01 34.5	-1.7
	baz=42						
ARK				⇑*i*S	Sn	05 01 55.6	-2.7
	baz=42						
ARSB	**Arslanbob**	**2.03**	**67**	⇑*i*P	Pn	05 01 39.3	-2.0
	baz=67						
ARSB				⇑*i*S	Sn	05 02 04.9	-2.6
	baz=67						
ARLS	**Aral**	**3.17**	**64**	⇑*e*P	Pn	05 01 55.8	-1.1
	baz=64						
ARLS				⇑*i*S	Sn	05 02 32.2	-3.3
	baz=64						

NNC 03 05:01:27.2±2.8, 38.64N×70.92E, h0km, mb3.6, mpv3.2, 6C-5D, Error ellipse: s-maj=21.4km s-min=14.3km az=3.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.47**	**356**	⇑Pn	Pn	05 02 37.0	+0.7
	3.9nm,0.7s,baz=182,slow=13,SNR=44						
KK31				⇓Sn	Sn	05 03 30.9	+1.8
	2.5nm,0.6s,baz=183,slow=22,SNR=3.6						
KK31				⇑Lg	Lg	05 03 46.7	
	3.2nm,0.6s						
AAK	**Ala-Archa**	**4.83**	**33**	⇓Pn	Pn	05 02 39.6	-1.8
	1.1nm,0.5s						
AAK				⇓Sn	Sn	05 03 39.7	+1.5
	4.7nm,0.8s						
TKM2	**Tokmak 2**	**5.56**	**38**	⇓Pn	Pn	05 02 52.1	+0.7
	1.7nm,0.6s						
TKM2				⇑Sn	Sn	05 03 57.0	+0.8
	1.7nm,0.6s						
AB31	**Akbulak array**	**13.22**	**327**	⇑Pn	Pn	05 04 36.7	+0.6
	0.5nm,0.7s,baz=64,slow=12,SNR=5.0						
AB31				⇓Sn	Sn	05 07 01.7	-2.1
	0.2nm,0.3s						
AKTO	**Aktyubinsk**	**14.93**	**326**	⇑Pn	Pn	05 05 01.1	+1.7
	2.1nm,0.9s						
AKTO				⇑Sn	Sn	05 07 44.0	-1.5
	0.9nm,0.7s						

*SJA **03** 05:17:19.2±1.5, 22.47S×70.53W, h28km±4km, ML3.4, MW3.6*
*GUC **03** 05:17:20.9±0.5, 22.47S×70.53W, h27km±2km, ML4.0*
*ISCJB **03** 05:17:21.1±0.7, 22.46S±0.03×70.59W±0.06, h37km±8km, mb3.8/5, MS3.3/1, Error ellipse: s-maj=8.9km s-min=4.9km az=3.2*
*IDC **03** 05:17:26.2±2.6, 22.38S×70.34W, h69km±21km, mb3.5/5, mb1 3.7/7, mb1mx3.5/23, mbtmp3.8/7, MS3.2/4, Ms1 3.2/4, ms1mx3.1/14, Error ellipse: s-maj=29.6km s-min=21.5km az=48.0*
ISC 03 05:17:21.2±1.2, 22.46S±0.02×70.52W±0.05, h27km±8km, n48, σ1s39/61, mb3.8/5, 2C-9D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**IPOC Station P**	**0.36**	**69**	*e*P	**Pb**	**05 17 29.4**	**-0.1**
PB04				*e*S	**Sb**	**05 17 34.9**	**-0.2**
PB04	**IPOC Station P**	**0.36**	**69**	⇓*e*P	**Pb**	**05 17 29.2**	**-0.2**
PB04				*e*S	**Sb**	**05 17 35.1**	**0.0**
PB04				IAML		05 17 36.9	
	comp=E,25μm,0.7s						
PB06	**IPOC Station P**	**0.91**	**106**	*e*P	**Pn**	**05 17 37.8**	**-0.5**
PB06				*e*S	**Sb**	**05 17 50.0**	**-0.1**
PB06	**IPOC Station P**	**0.91**	**106**	⇓*e*P	**Pn**	**05 17 37.5**	**-0.8**
PB06				*e*S	**Sb**	**05 17 49.9**	**-0.3**
PB06				IAML		05 17 50.2	
	comp=N,9μm,0.3s						
PB07	**IPOC Station P**	**0.94**	**39**	*e*P	**Pn**	**05 17 38.1**	**-0.6**
PB07				*e*S	**Sb**	**05 17 50.6**	**-0.5**
PB07	**IPOC Station P**	**0.94**	**39**	⇓*e*P	**Pn**	**05 17 38.0**	**-0.8**
PB07				*e*S	**Sb**	**05 17 50.6**	**-0.5**
PB07				IAML		05 17 53.4	
	comp=N,7μm,0.3s						
PB10	**IPOC Station P**	**1.05**	**182**	*e*P	**Pn**	**05 17 39.4**	**-0.7**
PB10				⇓*e*S	**Sn**	**05 17 53.4**	**-0.4**
PB10	**IPOC Station P**	**1.05**	**182**	⇑*e*P	**Pn**	**05 17 39.0**	**-1.0**
PB10				*e*S	**Sn**	**05 17 52.8**	**-1.0**
PB15	**IPOC Station P**	**1.22**	**128**	*e*P	**Pn**	**05 17 42.6**	**-0.1**
PB15				*e*S	**Sb**	**05 18 02.5**	**+3.4**
PB15	**IPOC Station P**	**1.22**	**128**	⇓*e*P	**Pn**	**05 17 42.5**	**-0.1**
PB15				*e*S	**Sb**	**05 17 58.8**	**-0.3**
PB02	**IPOC Station P**	**1.27**	**27**	*e*P	**Pn**	**05 17 43.3**	**0.0**
PB02				*e*S	**Sb**	**05 18 00.3**	**-0.3**
PB02	**IPOC Station P**	**1.27**	**27**	⇓*e*P	**Pn**	**05 17 43.1**	**-0.2**
PB02				*e*S	**Sb**	**05 18 00.1**	**-0.6**
PB02				IAML		05 18 06.2	
	comp=E,7μm,0.7s						
PB09	**IPOC Station P**	**1.35**	**61**	*e*P	**Pb**	**05 17 45.6**	**-0.4**
PB09				*e*S	**Sb**	**05 18 03.7**	**+0.7**
PB09	**IPOC Station P**	**1.35**	**61**	⇓*e*P	**Pn**	**05 17 45.1**	**+0.7**
PB09				*e*S	**Sb**	**05 18 03.1**	**+0.1**
PB09				IAML		05 18 10.1	
	comp=E,4μm,0.6s						
LVC	**Limon Verde**	**1.49**	**96**	⇓*e*P	**Pb**	**05 17 47.7**	**-0.8**
LVC				⇓*e*S	**Sb**	**05 18 06.8**	**-0.4**
LVC	**Limon Verde**	**1.49**	**96**	*e*P	**Pb**	**05 17 47.5**	**-1.0**
LVC				*e*S	**Sb**	**05 18 06.8**	**-0.4**
LVC	**Limon Verde**	**1.49**	**96**	P	**Pb**	**05 17 47.5**	**-1.0**
	comp=E,212nm,0.3s,baz=270,slow=10,SNR=738						
LVC				S	**Sb**	**05 18 06.7**	**-0.4**
	comp=E,389nm,0.3s,baz=340,slow=10,SNR=26						
PB01	**IPOC Station P**	**1.71**	**34**	*e*P	**Pb**	**05 17 50.9**	**-1.0**
PB01	**IPOC Station P**	**1.71**	**34**	⇑*e*P	**Pn**	**05 17 49.5**	**+0.3**
PB01				*e*S	**Sn**	**05 18 11.0**	**+0.8**
PB01				IAML		05 18 18.3	
	comp=E,2μm,0.4s						
PB14	**IPOC Station P**	**2.16**	**177**	*e*P	**Pn**	**05 17 54.8**	**-0.8**
PB14				*e*S	**Sb**	**05 18 26.4**	**+0.2**
PB08	**IPOC Station P**	**2.64**	**29**	*e*P	**Pb**	**05 18 05.3**	**-2.6**
PB08				*e*S	**Sb**	**05 18 41.3**	**+1.3**
PB08	**IPOC Station P**	**2.64**	**29**	*e*P	**Pn**	**05 18 04.6**	**+2.3**
PB08				*e*S	**Sb**	**05 18 37.9**	**-2.2**
PB08				IAML		05 18 48.8	
	comp=N,695nm,0.5s						
PB11	**IPOC Station P**	**2.81**	**17**	*e*P	**Pn**	**05 18 04.8**	**+0.4**
PB11				*e*S	**Sb**	**05 18 45.0**	**+0.3**
PSGCX	**Pisagua**	**2.88**	**7**	*e*P	**Pn**	**05 18 04.7**	**-0.6**
PSGCX				*e*S	**Sb**	**05 18 45.8**	**-0.9**
MNMCX	**Minye Minye**	**3.42**	**15**	*e*P	**Pn**	**05 18 13.3**	**+0.3**
PB12	**IPOC Station P**	**3.83**	**3**	*e*P	**Pn**	**05 18 18.2**	**-0.3**
PB12				*e*S	**Sb**	**05 19 18.6**	**+4.4**
YJA	**Yavi**	**4.64**	**87**	IAML		05 18 50.9	
	comp=Z,19nm,0.7s						
HJA	**Humahuaca**	**4.77**	**100**	*e*P	Pn	05 18 37.7	+6.1
HJA				IAML		05 18 39.9	
	comp=Z,63nm,0.5s						
FSA	**Cafayete**	**5.51**	**132**	*e*P	**Pn**	**05 18 45.1**	**+3.5**
FSA				IAML		05 18 55.3	
	comp=Z,6.6nm,0.4s						
AHML	**Horco Molle**	**6.38**	**133**	*e*P	**Pn**	**05 18 56.5**	**+3.0**
AHML				IAML		05 19 08.8	
	comp=Z,13nm,0.4s						
LPAZ	**La Paz**	**6.54**	**21**	P	**Pn**	**05 18 59.6**	**+3.4**
	comp=Z,0.7nm,0.3s,baz=228,slow=7.5,SNR=18						
LPAZ				LR	LR	05 21 47.4	
	comp=Z,196nm,19.0s,baz=186,slow=41						
NNA	**Nana**	**12.04**	**329**	LR	LR	05 24 20.6	
	comp=Z,74nm,21.4s,baz=126,slow=34						
CPUP	**Villa Florida**	**12.62**	**110**	LR	LR	05 25 55.2	
	comp=Z,109nm,20.4s,baz=306,slow=41						
PLCA	**Paso Flores**	**18.21**	**180**	P	**P**	**05 21 35.4**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=24,slow=6.9,SNR=3.9						
BDFB	**Brasilia**	**22.31**	**76**	P	**P**	**05 22 16.7**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=269,slow=12,SNR=4.7						
BDFB				LR	LR	05 32 14.1	
	comp=Z,117nm,19.8s,baz=251,slow=40						
PTGA	**Pitinga**	**23.92**	**27**	P	**P**	**05 22 32.5**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=215,slow=10,SNR=4.6						
H06E1	**SOCORRO T-PHAS**	**56.92**	**313**	T	T	06 28 37.3	
	SNR=4.8						
TXAR	**Lajitas Array**	**60.59**	**327**	P	**P**	**05 27 30.2**	**+0.6**
	comp=Z,0.2nm,0.8s,baz=183,slow=11,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.08**	**71**	P	**P**	**05 29 22.4**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=262,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**91.60**	**341**	P	**P**	**05 30 24.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=138,slow=4.3,SNR=12						
H11S2	**WAKE ISLAND Hyd**	**26.52**	**277**	T	T	07 55 43.3	
	baz=105,slow=74,SNR=105						
H11S1	**WAKE ISLAND Hyd**	**26.52**	**277**	T	T	07 55 39.7	
	baz=105,slow=74,SNR=40						
H11S3	**WAKE ISLAND Hyd**	**26.53**	**277**	T	T	07 55 44.8	
	baz=105,slow=74,SNR=41						
H11N3	**WAKE ISLAND Hyd**	**26.63**	**278**	T	T	07 55 51.7	
	baz=104,slow=74,SNR=20						
H11N2	**WAKE ISLAND Hyd**	**26.64**	**278**	T	T	07 55 52.8	
	baz=104,slow=74,SNR=27						
H11N1	**WAKE ISLAND Hyd**	**26.64**	**278**	T	T	07 55 50.0	
	baz=104,slow=74,SNR=11						
WRA	**Warramunga Arr**	**131.36**	**212**	PKP	**PKiKP**	**05 36 32.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=156,slow=1.9,SNR=4.7						
MKAR	**Makanchi Array**	**147.28**	**36**	PKPbc	**PKPdf**	**05 37 00.3**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=271,slow=1.0,SNR=19						

*KRNET **03** 05:33:02.0±0.1, 39.40N×72.54E, mb2.7*
*NNC **03** 05:33:13.3±3.4, 40.13N×72.26E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=28.4km s-min=14.8km az=179.0*
ISC 03 05:33:02.2±2.0, 39.4N±0.1×72.55E±0.05, h12km±12km, n15, σ2s18/24, 12C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.58**	**278**	⇑*i*P	**Pg**	**05 33 13.3**	**-0.3**
DRK	baz=79			⇑*i*S	**Sg**	**05 33 21.4**	**0.0**
	baz=79						
ARSB	**Arslanbob**	**1.95**	**10**	⇑*i*P	**Pb**	**05 33 38.2**	**+0.5**
ARSB	baz=10.0			⇑*i*S	**Sg**	**05 34 05.0**	**+0.1**
	baz=10.0						
ARK	**Arkit**	**2.44**	**350**	⇑*i*P	**Pb**	**05 33 45.0**	**-1.0**
ARK	baz=50			⇑*i*S	**Sb**	**05 34 16.3**	**+0.3**
	baz=50						
ARLS	**Aral**	**2.80**	**28**	⇓*i*P	**Pb**	**05 33 50.1**	**-2.2**
ARLS	baz=28			⇓*i*S	**Sb**	**05 34 25.8**	**-0.8**
	baz=28						
AML	**Almayashu**	**2.86**	**17**	⇓*i*P	**Pb**	**05 33 52.1**	**-1.3**
AML	baz=17			⇓*i*S	**Sb**	**05 34 28.2**	**-0.3**
	baz=17						
UCH	**Uchtor**	**3.19**	**27**	⇓*i*P	**Pb**	**05 33 56.8**	**-2.3**
UCH	baz=27			⇓*i*S	**Sb**	**05 34 36.8**	**-1.3**
	baz=27						
IUG	**Iuzhnay**	**3.34**	**326**	Pg	**Pb**	**05 33 58.4**	**-3.1**
IUG	6.1nm,0.3s			Lg	Lg	05 34 39.9	
	24nm,0.3s						
KZA	**Kyzart**	**3.37**	**37**	⇓*i*P	**Pb**	**05 33 59.7**	**-2.4**
KZA	baz=37			⇓*i*S	**Sb**	**05 34 41.0**	**-2.2**
	baz=37						
MRKS	**Merke**	**3.38**	**9**	Pg	**Pb**	**05 34 00.0**	**-2.0**
MRKS	3.4nm,0.4s			Lg	Lg	05 34 42.6	
	8.1nm,0.3s						
AAK	**Ala-Archa**	**3.55**	**24**	Pn	**Pb**	**05 34 02.6**	**-2.4**
AAK	3.0nm,0.6s			Lg	Lg	05 34 46.8	
	4.8nm,0.8s						
AAK	**Ala-Archa**	**3.55**	**24**	⇑*e*P	**Pb**	**05 34 01.5**	**-3.5**
AAK	baz=24			⇑*i*S	**Sb**	**05 34 44.9**	**-3.3**
	baz=24						
KK31	**Karatay Array**	**4.00**	**338**	⇑Pn	**Pn**	**05 34 07.5**	**+4.2**
	1.0nm,0.4s,baz=154,slow=12,SNR=7.2						
KK31				⇑Lg	Lg	05 34 56.2	
	3.3nm,0.5s,baz=151,slow=25,SNR=4.2						
TKM2	**Tokmak 2**	**4.20**	**32**	⇑Pg	**Pg**	**05 34 22.5**	**-0.1**
	2.1nm,0.6s						
TKM2				⇓Lg	Lg	05 35 12.5	
	2.7nm,0.7s						
MDOK	**Medeo**	**5.06**	**41**	Pg	**Pg**	**05 34 41.5**	**+2.5**
	1.3nm,0.5s						
MDOK				Lg	Lg	05 35 40.5	
	3.1nm,0.7s						
AB31	**Akbulak array**	**13.34**	**322**	⇓Pn	**Pn**	**05 36 11.9**	**+0.7**
	0.4nm,0.6s,baz=133,slow=13,SNR=10						
AB31				⇑Sn	**Sn**	**05 38 37.6**	**-1.8**
	0.2nm,0.5s,baz=127,slow=26,SNR=4.6						

*ISCJB **03** 05:41:09.6±0.4, 67.18N±0.02×20.69E±0.07, h0km, Error ellipse: s-maj=3.9km s-min=3.0km az=20.3*
*HEL **03** 05:41:10.8±0.0, 67.19N×20.65E, h1km, ML1.8, ML2.0(UPP), Confirmed Induced event*
*IDC **03** 05:41:11.3±0.8, 67.15N×20.99E, h0km, mb1 3.6/4, mb1mx3.2/50, mbtmp3.6/4, ML1.9/4, Error ellipse: s-maj=20.9km s-min=8.6km az=113.0*
*BER **03** 05:41:13.2±0.6, 67.19N×20.82E, h0km, ML1.4, Suspected explosion*
ISC 03 05:41:10.0±0.8, 67.20N±0.03×20.66E±0.03, h0km, n28, σ0s79/39, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.08**	**205**	*i* P	**Pg**	**05 41 12.0**	**+0.5**
DUNU				*i* S	**Sg**	**05 41 13.2**	**+0.6**
MASU	**Masugnsbyn**	**0.58**	**63**	*i* P	**Pg**	**05 41 21.4**	**+0.4**
MASU				*i* S	**Sg**	**05 41 29.8**	**+1.2**
KUA	**Kurravaara**	**0.77**	**351**	*i* P	**Pg**	**05 41 24.6**	**-0.1**
SALU	**Saltoluokta**	**0.85**	**284**	*i* P	**Pg**	**05 41 26.3**	**0.0**
ERTU	**Ertsjaerv**	**0.88**	**136**	*e*P	**Pg**	**05 41 26.3**	**-0.6**
ERTU				*e*S	**Sg**	**05 41 37.4**	**-0.9**
PAJU	**Pajala**	**0.98**	**99**	*e*P	**Pg**	**05 41 28.2**	**-0.4**
LANU	**Lannavaara**	**1.00**	**30**	*e*P	**Pg**	**05 41 28.8**	**-0.3**
LANU				*e*S	**Sg**	**05 41 41.8**	**-0.1**
HARU	**Harads**	**1.04**	**173**	*e*P	**Pg**	**05 41 29.1**	**-0.8**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**05 41 40.8**	**+0.4**
HEF	**Hetta**	**1.67**	**42**	*e*P	**Pn**	**05 41 40.4**	**-0.1**
HEF				*e*S	**Sn**	**05 42 01.4**	**-1.2**
HEF				MSG		05 42 05.7	
	comp=Z,5.9nm,0.2s						
KALU	**Kalix**	**1.72**	**140**	*e*P	**Pn**	**05 41 41.2**	**+0.1**
KALU				*e*S	**Sn**	**05 42 03.6**	**-0.1**
SJUU	**Sjulsmark**	**1.74**	**167**	*e*P	**Pn**	**05 41 41.5**	**+0.2**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**05 41 43.7**	**-0.3**
KIF	**Kilpisjarvi**	**1.82**	**2**	*e*P	**Pb**	**05 41 43.6**	**-0.5**
KIF				*e*S	**Sg**	**05 42 08.4**	**+0.1**
KIF				MSG		05 42 10.7	
	comp=Z,5.1nm,0.2s						
TOF	**Tornio**	**1.84**	**126**	*e*P	**Pn**	**05 41 43.3**	**+0.6**
TOF				*e*S	**Sn**	**05 42 07.1**	**+0.4**
TOF				MSG		05 42 09.9	
	comp=Z,9.2nm,0.3s						
KTK1	**Kautokeino**	**2.06**	**27**	*e*P	**Pb**	**05 41 47.2**	**-1.0**
KTK1				IAML		05 42 16.6	
	comp=Z,9.8nm,0.5s						
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	**Pn**	**05 41 48.7**	**+1.1**
RNF				*e*SB	**Sn**	**05 42 17.2**	**+1.8**
SGF	**Sodankyl**	**2.29**	**81**	*e*P	**Pn**	**05 41 50.1**	**+1.2**
SGF				*e*SB	**Sb**	**05 42 20.1**	**-0.8**
BURU	**Burvik**	**2.64**	**173**	*e*P	**Pn**	**05 41 54.7**	**+1.0**
MOR8	**Moi Rana**	**2.68**	**250**	*e*P	**Pn**	**05 41 54.3**	**0.0**
ARCES	**ARCESS Array B**	**2.96**	**35**	Pn	**Pn**	**05 41 59.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=213,slow=13,SNR=33						
ARCES				Sn	**Sn**	**05 42 35.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=213,slow=22,SNR=5.6						
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**05 41 59.3**	**+1.2**
ARE0				IAML		05 42 49.4	
	comp=Z,1.4nm,0.5s						
ARE0	**ARCESS Array S**	**2.96**	**35**	*e*P	**Pn**	**05 41 59.1**	**+1.0**
UMAU	**Umeaa**	**3.33**	**180**	*e*P	**Pn**	**05 42 03.7**	**+0.6**
FINES	**FINESS Array B**	**6.24**	**155**	Pn	**Pn**	**05 42 44.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=349,slow=14,SNR=6.3						
NOA	**NORSAR Array B**	**7.42**	**218**	Pn	**Pn**	**05 43 00.1**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=35,slow=21,SNR=2.8						
HFS	**Hagfors**	**7.73**	**207**	Pn	**Pn**	**05 43 02.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=3.5						
SPITS	**Spitsbergen Ar**	**11.11**	**355**	Pn	**Pn**	**05 43 49.6**	**-0.2**
	baz=178,slow=11,SNR=3.5						

*ISCJB **03** 05:41:15.8±0.1, 25.95N±0.02×99.76E±0.02, h12km, mb5.5/229, MS5.0/159, Error ellipse: s-maj=2.5km s-min=2.0km az=7.7*
*BJI **03** 05:41:15.8, 25.93N×99.72E, h9km, mb5.0/62, mB5.5/48, ML5.4/13, Ms5.5/84, Ms7 5.3/74*
*NEIC **03** 05:41:16.9±0.1, 25.98N×99.81E, h8km, mb5.5/67, MS5.1/91, MW5.2, Error ellipse: s-maj=3.6km s-min=2.8km az=53.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^16 Nm; Mrr=7.42; Mθθ=-0.15; Mϕϕ 7.57; Mrθ 1.56; Mθϕ=-2.08; Mϕr=2.40; Best double couple: Mo 8.30000×10^16 NP1:ϕs 339.00000°, δ55.00000°, λ=-98.00000°. NP2: ϕs 173.00000°, δ36.00000°, λ=-78.00000°. Principal axes: T 8.5600, Plg10.0000°, Azm75.0000°; N -0.5600, Plg7.0000°, Azm344.0000°; P -8.0000, Plg78.0000°, Azm219.0000°;*
NEIC Thirty people injured, 3 seriously, 700 homes collapsed and 2,500 homes damaged in the epicentral area. Felt [III] at Dali. Also felt at Kunming.
*GCMT **03** 05:41:17.9±0.1, 25.94N±0.01×99.84E±0.01, h12km, MW5.4/126, Moment Tensor Solution. s100,c151; s126,c248; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=1.27±.02; Mθθ-0.18±.02; Mϕϕ 1.46±.01; Mrθ 0.28±.04; Mθϕ=-0.22±.01; Mϕr 0.27±.04; Best double couple: Mo 1.44200×10^17 NP1:ϕs 187.00000°, δ52.00000°, λ=-71.00000°. NP2:ϕs 337.00000°, δ42.00000°, λ=-113.00000°. Principal axes: T 1.5090, Plg5.0000°, Azm263.0000°; N -0.1300, Plg15.0000°, Azm355.0000°; P -1.3740, Plg74.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **03** 05:41:18.7±1.0, 25.97N×99.82E, h32km, mb5.7/83, MS4.8/54 Error ellipse: s-maj=6.1km s-min=3.1km az=122.9*
*IDC **03** 05:41:20.3±2.9, 25.94N×99.91E, h33km±22km, mb4.9/38, mb1 5.0/40, mb1mx4.9/51, mbtmp5.1/40, ML4.8/2, MS4.7/33, Ms1 4.7/33, ms1mx4.6/48, Error ellipse: s-maj=10.7km s-min=9.1km az=54.0*
*BGR **03** 05:41:22.4±0.0, 25.64N×99.43E, h33km, mb5.7, Ms4.9*
ISC 03 05:41:18.4±0.4, 25.90N±0.03×99.75E±0.02, h18km±1km, h19km:pP-P, n1103, σ1s65/1135, mb5.6/256, MS5.0/160, 118C-77D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.81**	**105**	Pn	**Pb**	**05 42 05.0**	**-3.2**
KMI				Pg	**Pg**	**05 42 09.9**	**-2.5**
KMI				Sg	**Sg**	**05 42 47.4**	**-1.4**
KMI				smax	smax		
	comp=N,18μm,0.9s						
KMI				smax	smax		
	comp=E,9μm,0.8s						
KMI	**Kunming**	**2.81**	**105**	Pn	**Pb**	**05 42 05.0**	**-3.2**
KMI	**Kunming**	**2.81**	**105**	P	**Pb**	**05 42 05.0**	**-3.2**
LKP	**Lekhapani**	**3.77**	**293**	*e*P	**Pn**	**05 42 17.2**	**

CHTO **Chiang Mai** 7.09 186 P **Pn** 05 43 03.3 +1.9
SNR=11
CHTO **Chiang Mai** 7.09 186 P **Sg** 05 45 07.8 +1.7
CMMT **Chiang Mai** 7.09 186 P **Sg** 05 45 07.8 +1.6
comp=E,34μmcomp=E,998nm,1.1s
SHL **Shillong** 7.10 269 *e*Pn **Pn** 05 43 03.5 +1.9
SHL **Shillong** 7.10 269 *i* P **Pn** 05 43 01.0 -0.6
SHL *e*S **Sn** 05 44 19.3 -2.7
TAWA **Tawang** 7.25 285 *e*P **Pn** 05 43 03.7 0.0
TAWA *e*S **Sn** 05 44 21.1 -4.7
GUWA **GUWAHATI** 7.25 274 *e*P **Pn** 05 43 04.5 +1.0
GUWA *e*S **Sn** 05 44 19.8 -5.7
LAMP **Lampang** 7.34 181 P **Sg** 05 45 18.2 +4.0
CM31 **Chiang Mai Arr** 7.45 186 *e*Pn **Pn** 05 43 08.6 +2.4
CMAR **Chiang Mai Arr** 7.45 186 Pn **Pn** 05 43 08.2 +1.9
comp=E,8.7nm,0.3s,baz=2.5,slow=12,SNR=86
CMAR Pg **Pg** 05 43 38.3 -2.8
comp=E,8.6nm,0.3s,baz=357,slow=17,SNR=24
CMAR Lg Lg 05 45 16.2
comp=E,19nm,0.3s,baz=358,slow=30,SNR=7.2
CM01 **Chiang Mai Arr** 7.48 186 *e*Pn **Pn** 05 43 08.7 +2.0
AGT **Agartala** 7.98 257 *e*P **Pn** 05 43 12.7 -0.7
AGT *e*S **Sn** 05 44 39.0 -4.3
BELO **BELONIA** 8.01 252 *e*P **Pn** 05 43 15.2 +1.4
BELO *e*S **Sn** 05 44 40.3 -3.7
BELO IAML 05 45 22.4
comp=N,7μm,2.1s
BELO IAML 05 45 32.9
comp=E,6μm,2.2s
BRDH **Bariadhala** 8.06 248 Pn **Pn** 05 43 16.8 +2.2
comp=E,4.3nm,0.3s,baz=71,slow=9.0,SNR=7.6
TURI **Tura** 8.50 270 *e*P **Pn** 05 43 20.4 -0.2
TURI *ex* x 05 44 47.4
LSA **Lhasa** 8.50 298 P **Pn** 05 43 23.0 +1.9
LSA S **Sn** 05 44 58.3 +1.4
LSA pmax pmax
comp=E,9.0nm,0.5s
LSA LR LR
comp=E,8μm,12.9s
LSA LR LR
comp=E,4μm,8.9s
LSA LR LR
comp=E,13μm,9.4s
LSA **Lhasa** 8.50 298 *e*Pn **Pn** 05 43 23.0 +1.9
comp=E,74nm,0.6s
LSA **Lhasa** 8.50 298 *i* P **Pn** 05 43 22.8 +1.7
SNR=33
LSA **Lhasa** 8.50 298 *e*P **Pn** 05 43 23.0 +1.9
LSA pmax pmax
comp=Z,74nm,0.6s
DHUB **DHUBRI** 8.78 273 *e*P **Pn** 05 43 25.3 +0.8
DHUB *e*S **Sn** 05 44 55.6 -7.4
PBKT **Sadao Pong** 9.36 173 *e*Pn **Pn** 05 43 33.9 +1.5
ENH **Enshi** 9.63 61 *e*Pn **Pn** 05 43 36.0 -0.2
comp=Z,416nm,1.0s
ENH *e*Sn **Sn** 05 45 25.4 +1.4
GTK **Tadong** 10.08 281 *e*P **Pn** 05 43 42.1 -0.3
LZH **Lanzhou** 10.74 18 ⇑P **Pn** 05 43 53.3 +1.8
LZH pP 05 43 57.9
LZH sP 05 44 00.2
LZH PP **PnPn** 05 44 05.6 +6.2
LZH S **Sn** 05 45 56.2 +4.9
LZH sS 05 46 00.0
LZH SS **SnSn** 05 46 06.6 +3.0
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,2μm,4.3s
LZH LR LR
comp=Z,37μm,8.5s
LZH LR LR
comp=Z,44μm,8.7s
TAPN **Taplejung** 10.87 280 *e*P **Pn** 05 43 53.1 -0.3
comp=Z,502nm,0.8s
ODAN **Odare** 11.12 278 *e*P **Pn** 05 43 56.9 +0.1
comp=Z,409nm,0.7s
XAN **Xi'an** 11.35 42 P **Pn** 05 43 57.2 -2.5
XAN pP 05 44 03.4
XAN sP 05 44 08.0
XAN pmax pmax
comp=Z,10.0nm,0.6s
XAN LR LR
comp=Z,18μm,5.5s
XAN LR LR
comp=Z,19μm,8.0s
XAN LR LR
comp=Z,14μm,8.5s
XAN **Xi'an** 11.35 42 *e*Pn **Pn** 05 43 57.1 -2.6
comp=Z,884nm,1.1s
XAN **Xi'an** 11.35 42 *e*P **Pn** 05 43 57.1 -2.6
XAN pmax pmax
comp=Z,884nm,1.1s
QIZ **Qiongzhong** 11.56 124 P Pn 05 44 07.4 +4.7
QIZ S **Sn** 05 46 19.0 +7.6
QIZ LR LR
comp=Z,20μm,11.9s
QIZ LR LR
comp=Z,14μm,13.9s
QIZ LR LR
comp=Z,6μm,11.9s
QIZ **Qiongzhong** 11.56 124 Pn **Pn** 05 44 03.9 +1.2
RAMN **Ramite** 11.83 278 *e*P **Pn** 05 44 06.7 +0.1
comp=Z,281nm,0.6s
JIRN **Jiri** 12.24 281 *e*P **Pn** 05 44 12.1 -0.2
comp=Z,549nm,0.7s
GUN **Gumba** 12.54 282 *e*P **Pn** 05 44 15.4 -0.9
GZH **Guangzhou** 12.69 100 P **Pn** 05 44 22.2 +4.2
GZH S **Sn** 05 46 45.4 +6.5
GZH LR LR
comp=Z,10μm,6.6s
BOK **Bokaro** 12.76 263 *e*P **Pn** 05 44 19.9 +0.8
PKI **Pulchoki** 12.93 281 *e*P **Pn** 05 44 20.4 -1.2
comp=Z,262nm,0.7s
PKIN **Phulchoki** 12.94 281 *e*P **Pn** 05 44 20.5 -1.2
comp=Z,252nm,0.8s
KKN **Kakani** 13.06 281 *e*P **Pn** 05 44 22.4 -0.9
comp=Z,485nm,0.8s
DMN **Daman** 13.20 281 *e*P **Pn** 05 44 24.2 -1.0
comp=Z,342nm,1.0s
GTA **Gaotai** 13.47 0 ⇓P **Pn** 05 44 27.1 -1.7
GTA pP P 05 44 31.4 -6.6
GTA sP 05 44 34.6
GTA S **Sn** 05 46 55.9 -2.2
GTA SS **SnSn** 05 47 12.1 +1.4
GTA pmax pmax
comp=Z,280nm,4.8s
GTA LR LR
comp=Z,7μm,11.3s
GTA LR LR
comp=Z,7μm,12.7s
GTA LR LR
comp=Z,7μm,11.0s
WHN **Wuhan** 13.67 67 ⇓*i*P **Pn** 05 44 30.7 -0.7
WHN S **Sn** 05 47 01.4 -1.5
WHN LR LR
comp=Z,18μm,9.8s
WHN LR LR
comp=Z,23μm,5.4s
WHN LR LR
comp=Z,26μm,6.2s
DANN **Dangsing** 14.45 283 *e*P **Pn** 05 44 39.0 -3.3
comp=Z,288nm,0.8s
KOLN **Koldanda** 14.54 281 *e*P **Pn** 05 44 41.4 -2.1
comp=Z,124nm,0.7s
PYUN **Piuthan** 15.10 282 *e*P **Pn** 05 44 47.6 -3.5
comp=Z,456nm,0.9s
PBA **Port Blair** 15.64 206 *e*Pn Pn 05 44 58.6 +0.6
comp=Z,159nm,0.9s
PBA **Port Blair** 15.64 206 *e*P P 05 45 03.2 +1.2
TIY **Taiyuan** 15.95 39 *e*P **P** 05 45 05.5 +0.1
TIY S **Sn** 05 48 02.2 +3.9
TIY SS **S** 05 48 20.9 +8.7
TIY pmax pmax
comp=Z,520nm,0.8s
TIY LR LR
comp=Z,10μm,9.0s
TIY LR LR
comp=Z,13μm,7.3s
TIY LR LR
comp=Z,9μm,12.5s
BTO **Baotou** 16.97 28 *e*P **Pn** 05 45 12.7 -2.3
QZH **Quanzhou** 17.05 89 ⇑*i*P **P** 05 45 16.6 -1.0
QZH S **Sn** 05 48 29.3 +4.2
QZH LR LR
comp=Z,25μm,7.1s
QZH LR LR
comp=Z,25μm,7.1s
NJ2 Nanjing 17.79 65 *e*P **Pn** 05 45 24.1 -1.0
NJ2 sP **pP** 05 45 29.4 -2.3
NJ2 S **Sn** 05 48 45.2 +2.2
NJ2 sS **sS** 05 48 55.3 -3.6
NJ2 pmax pmax
comp=Z,30nm,0.9s
NJ2 pmax pmax
comp=Z,2μm,6.8s
NJ2 LR LR
comp=Z,6μm,5.2s
NJ2 LR LR
comp=Z,9μm,7.6s
HHC Hu-ho-hao-te 17.85 30 *e*P **Pn** 05 45 25.1 -0.8
HHC sP sP 05 45 35.8 +0.7
HHC S **Sn** 05 48 40.2 -4.3
HHC sS S 05 48 48.6 -2.4
HHC SS **SnSn** 05 49 02.8 +4.6
HHC pmax pmax
comp=Z,57nm,0.9s
HHC pmax pmax
comp=Z,1μm,7.1s
HHC LR LR
comp=Z,10μm,8.3s
HHC LR LR
comp=Z,14μm,7.9s
HHC LR LR
comp=Z,9μm,8.0s
TIA Tai'an 18.06 51 P **Pn** 05 45 27.6 -0.8
TIA S **S** 05 48 52.8 -2.4
TIA pmax pmax
comp=Z,140nm,1.1s
TIA LR LR
comp=Z,5μm,8.2s
TIA LR LR
comp=Z,3μm,7.1s
TIA LR LR
comp=Z,3μm,6.8s
JBP Jabalpur 18.19 266 *e*P **P** 05 45 32.1 +1.8
JBP *ex* x 05 49 00.6
TPUB Ta-pu 19.16 93 *e*P **Pn** 05 45 47.4 +5.5
comp=Z,91nm,1.0s
SSLB Suanglung 19.36 92 *e*P **Pn** 05 45 46.1 +1.8
comp=Z,119nm,1.4s
SSE Sheshan 19.53 70 P **P** 05 45 43.7 -1.2
SSE S **Sn** 05 49 24.2 -0.8
SSE pmax pmax
comp=Z,22nm,0.6s
SSE pmax pmax
comp=Z,730nm,5.3s
SSE LR LR
comp=Z,4μm,7.9s
NGP Nagpur 19.56 260 ⇓*e*P **Pn** 05 45 46.2 -0.4
NGP *ex* x 05 45 58.7
comp=Z,145nm,1.7s
NGP *ex* x 05 49 30.0
CMBY CAMPBELL BAY 19.59 197 *e*P **Pn** 05 45 46.4 -0.6
CMBY IAmb IAmb 05 45 50.0
comp=Z,94nm,0.4s
YHNB Yeheng 19.59 89 *e*P **Pn** 05 45 48.9 +1.8
comp=Z,213nm,1.6s
DDI Dehra Dun 19.63 288 *e*P **P** 05 45 46.4 +0.2
DDI *e*P **Pn** 05 45 47.0 -0.5
DDI IAmb IAmb 05 45 52.3
comp=Z,271nm,0.5s
BJT Baijiatuau 19.65 40 *e*P **Pn** 05 45 46.7 -0.9
comp=Z,209nm,1.2s
BJT Baijiatuau 19.65 40 *e*P **Pn** 05 45 46.7 -0.9
BJT pmax pmax
comp=Z,209nm,1.2s
TWG Pinlang 19.66 94 *e*P **Pn** 05 45 48.4 +0.5
comp=Z,320nm,1.0s
BJI Beijing 19.67 40 P **P** 05 45 46.7 +0.4
BJI S **Sn** 05 49 29.3 +1.1
BJI pmax pmax
comp=Z,87nm,1.5s
BJI LR LR
comp=Z,7μm,15.3s
BJI LR LR
comp=Z,6μm,14.5s
BJI LR LR
comp=Z,2μm,22.3s
YULB Yu-li 19.74 93 *e*P **Pn** 05 45 50.1 +1.2
comp=Z,37nm,0.9s
NACB Ninganchiao 19.87 90 *e*P **Pn** 05 45 52.3 +2.0
comp=Z,142nm,1.4s
WMQ Urumqi 20.39 334 P Pn 05 45 55.7 -0.7
WMQ pP sP 05 46 03.3 +0.4
WMQ sP pP 05 46 06.9 +6.8
WMQ PP **PnPn** 05 46 20.2 +8.7
WMQ S Sn 05 49 44.4 -1.3
WMQ pmax pmax
comp=Z,430nm,1.1s
WMQ pmax pmax
comp=Z,4μm,4.5s
WMQ LR LR
comp=Z,11μm,8.7s
WMQ LR LR
comp=Z,11μm,10.1s
WMQ LR LR
comp=Z,3μm,14.5s
WMQ Urumqi 20.39 334 *e*P Pn 05 45 55.3 -1.1
comp=Z,156nm,0.8s
WMQ Urumqi 20.39 334 *e*P Pn 05 45 55.3 -1.1
WMQ pmax pmax
comp=Z,157nm,0.8s
BHPL Bhopal 20.48 267 *e*P **P** 05 45 55.8 +0.5
BHPL IAmb IAmb 05 45 56.9
comp=Z,136nm,0.9s
SMLA Simla 20.50 290 *e*P **P** 05 45 55.4 -0.1
SMLA IAmb IAmb 05 46 00.8
KULM Kulim 20.52 177 P Pn 05 45 57.7 -0.2
KTGM Kuala Trenggan 20.71 170 P Pn 05 46 00.5 +0.2
BHK Bhakra 21.18 290 *e*P **P** 05 46 03.8 +0.9
IPM Ipoh 21.34 177 P **P** 05 46 06.1 +1.5
HYB Hyderabad 21.41 251 ⇓*i*P **P** 05 46 06.0 +0.5
comp=Z,143nm,1.2s
HYB *e*S **S** 05 50 02.0 -0.6
HYB Hyderabad 21.41 251 *e*P **P** 05 46 05.3 -0.2
HYB IAmb IAmb 05 46 10.5
comp=Z,65nm,0.8s
DHRM DHARAMSHALA 21.43 293 *e*P **P** 05 46 05.2 -0.5
DHRM IAmb IAmb 05 46 10.9
comp=Z,696nm,1.3s
MDRS Chennai 22.34 239 *e*P **P** 05 46 15.9 +0.5
DL2 Dalian 22.50 49 P **P** 05 46 17.1 +0.2
DL2 sP **sP** 05 46 30.0 +4.6
DL2 S **S** 05 50 23.2 +0.2
DL2 sS Sn 05 50 33.4 -2.9
DL2 pmax pmax
comp=Z,120nm,0.8s
DL2 pmax pmax
comp=Z,1μm,3.9s
DL2 LR LR
comp=Z,4μm,12.7s
DL2 LR LR
comp=Z,5μm,12.7s
DL2 LR LR
comp=Z,5μm,11.7s
SONM Songino Array 22.51 12 P **P** 05 46 15.5 -1.7
comp=Z,44nm,0.8s,baz=197,slow=9.9,SNR=103
SONM LR LR 05 54 57.7
comp=Z,2μm,18.6s,baz=190,slow=36
SONA1 Songino Array 22.52 12 *e*P **P** 05 46 16.1 -1.2
FRIM Kepong 22.61 175 P **P** 05 46 20.0 +1.8
TPTI 22.65 187 P **P** 05 46 20.3 +1.6
comp=Z,34nm,0.9s,comp=Z,713nm
PSI Prapat 22.98 182 *e*P **P** 05 46 24.3 +2.0
comp=Z,124nm,1.1s
PSI Prapat 22.98 182 *e*P **P** 05 46 24.3 +2.0
PSI pmax pmax
comp=Z,124nm,1.1s
PSI Prapat 22.98 182 P **P** 05 46 23.4 +1.1
comp=Z,52nm,0.9s,baz=360,slow=8.3,SNR=59
PSI LR LR 05 55 20.3
comp=Z,535nm,21.5s,baz=271,slow=36
SHLS Shalkode 23.89 321 *e*P **P** 05 46 27.8 -3.3
SHLS *e*S **S** 05 50 42.0 -4.6
SHLS pmax pmax
comp=Z,484nm,1.2s
SHLS smax smax
comp=N,585nm,3.8s
SHLS MLR MLR
comp=Z,3μm,14.0s
SHLS Shalkode 23.89 321 *e*P **P** 05 46 27.8 -3.3
comp=Z,484nm,1.2s
SHLS *e*S **S** 05 50 42.1 -4.6
comp=Z,585nm,3.8s
SHLS *e*LR LR 05 56 38.0
comp=Z,3μm,13.6s
KGM Kluang 24.00 171 P **P** 05 46 33.0 +0.8
KSH Kashi 24.09 310 P **P** 05 46 35.4 +2.4
KSH sP sP 05 46 42.4 +0.6
KSH PP **PnPn** 05 47 09.9 +7.7
KSH S **S** 05 50 52.2 +2.4
KSH sS sS 05 50 59.1 -1.3
KSH SS **SnSn** 05 51 44.5 +13
KSH pmax pmax
comp=Z,180nm,1.0s
KSH pmax pmax
comp=Z,1μm,4.7s
KSH LR LR
comp=Z,3μm,10.2s
KSH LR LR
comp=Z,2μm,8.3s
KSH LR LR
comp=Z,3μm,10.9s
UZB Uzunbulak 24.14 321 *e*P **P** 05 46 32.8 -0.6
UZB *e*S **S** 05 50 54.1 +3.6
UZB pmax pmax
comp=Z,276nm,1.7s
UZB smax smax
comp=N,423nm,4.3s
UZB MLR MLR
comp=Z,1μm,14.0s
UZB Uzunbulak 24.14 321 *e*P **P** 05 46 32.9 -0.6
comp=Z,276nm,1.7s
UZB *e*S **S** 05 50 54.2 +3.6
comp=Z,423nm,4.3s
UZB *e*LR LR 05 56 14.2
comp=Z,1μm,13.6s
NIL Nilore 24.22 295 PFAKE 05 46 50.0 +16
NIL LR LR
comp=Z,2μm,20.0s
MYKOM **Kota Tinggi** 24.30 170 P **P** 05 46 36.2 +1.3
SATY Saty 24.43 320 *e*P **P** 05 46 35.0 -1.2
SATY pmax pmax
comp=Z,982nm,0.9s
SATY MLR MLR
comp=Z,1μm,13.0s
SATY Saty 24.43 320 *e*P **P** 05 46 35.0 -1.2
comp=Z,982nm,0.9s
SATY *e*S **S** 05 51 01.5 +6.2
comp=Z,2μm,7.2s
SATY *e*LR LR 05 56 20.2
comp=Z,1μm,12.8s
ZHN Zhinishke 24.48 320 *e*P **P** 05 46 35.0 -1.6
ZHN pmax pmax
comp=Z,284nm,0.9s
ZHN MLR MLR
comp=Z,1μm,13.0s
ZHN Zhinishke 24.48 320 *e*P **P** 05 46 35.1 -1.6
comp=Z,284nm,0.9s
ZHN *e*LR LR 05 56 24.4
comp=Z,1μm,12.8s
ZSN Zaisan 24.51 335 *de*P **P** 05 46 36.7 0.0
ZSN *e*S **S** 05 51 01.9 +5.6
ZSN pmax pmax
comp=Z,376nm,0.9s
ZSN smax smax
comp=N,453nm,4.8s
ZSN MLR MLR
comp=Z,492nm,12.0s
ZSN Zaisan 24.51 335 ⇓*e*P **P** 05 46 36.7 0.0
comp=Z,376nm,0.9s
ZSN *e*S **S** 05 51 01.9 +5.6
comp=Z,453nm,4.8s
ZSN *e*LR LR 05 56 22.7
comp=Z,492nm,11.9s
KPKS Kokpek 24.53 321 *de*P **P** 05 46 35.4 -1.6
KPKS *e*S **S** 05 50 59.7 +2.9
KPKS pmax pmax
comp=Z,567nm,0.7s
KPKS smax smax
comp=N,698nm,5.5s
KPKS MLR MLR
comp=Z,4μm,14.0s
KPKS Kokpek 24.53 321 ⇓*e*P **P** 05 46 35.4 -1.6
comp=Z,567nm,0.7s
KPKS *e*S **S** 05 50 59.7 +2.9
comp=Z,698nm,5.5s
KPKS *e*LR LR 05 56 55.0
comp=Z,4μm,13.6s
GSI Gunungsitoli 24.55 185 *e*P **P** 05 46 37.1 -0.2
comp=Z,48nm,0.7s
GSI Gunungsitoli 24.55 185 P **P** 05 46 37.5 +0.3
comp=Z,102nm,1.6s,comp=Z,2μm
ZAK Zakamensk 24.59 5 *e*P **P** 05 46 38.1 +0.6
ZAK *e* 05 50 13.9
ZAK pmax pmax
comp=Z,45nm,0.9s
MK01 Makanchi Array 25.02 331 *e*P **P** 05 46 42.5 +1.2
MK31 Makanchi Array 25.04 331 *e*P **P** 05 46 42.4 +0.9
MK31 Makanchi Array 25.04 331 *e*P **P** 05 46 42.4 +0.9
MK31 pmax pmax
comp=Z,151nm,0.8s
MKAR Makanchi Array 25.04 331 P **P** 05 46 42.4 +0.9
comp=Z,143nm,0.7s,baz=141,slow=9.8,SNR=902
MKAR PcP **PcP** 05 50 15.6 -0.4
comp=Z,11nm,0.9s,baz=101,slow=6.3,SNR=5.0
MKAR LR LR 05 57 02.3
comp=Z,1μm,19.7s,baz=166,slow=38
MKAR PKiKP **PKiKP** 05 57 54.4 -2.7
comp=Z,1.2nm,0.9s,baz=144,slow=1.0,SNR=4.9
POO Poona 25.05 258 *e*P **P** 05 46 41.7 -0.1
POO IAmb IAmb 05 46 44.2
comp=Z,76nm,0.4s
MAKZ Makanchi 25.19 330 *e*P **P** 05 46 43.8 +0.9
comp=Z,52nm,0.9s
MAKZ Makanchi 25.19 330 *e*P **P** 05 46 43.8 +0.9
MAKZ pmax pmax
comp=Z,52nm,0.9s
SNY Shenyang 25.25 45 ⇓P **P** 05 46 41.1 -2.3
SNY S **S** 05 51 08.8 +0.6
SNY pmax pmax
comp=Z,47nm,1.1s
SNY pmax pmax
comp=Z,2μm,4.8s
SNY LR LR
comp=Z,11μm,17.7s
SNY LR LR
comp=Z,6μm,17.7s
ULHL Ulahol 25.27 316 P **P** 05 46 45.8 +1.9
SNR=6.0
MDOK Medeo 25.30 319 *e*P **P** 05 46 43.3 -0.7
MDOK pmax pmax
comp=Z,704nm,1.2s
MDOK MLR MLR
comp=Z,1μm,15.0s
MDOK Medeo 25.30 319 *e*P **P** 05 46 43.4 -0.7
comp=Z,704nm,1.2s
MDOK *i* S **S** 05 51 15.6 +6.4
comp=Z,2μm,7.0s
MDOK *e*LR LR 05 56 41.4
comp=Z,1μm,15.3s
AAA Alma-Ata 25.40 319 *e*P **P** 05 46 45.6 +0.7
AAA *e*S **S** 05 51 16.4 +5.7
AAA pmax pmax
comp=Z,263nm,0.8s
AAA smax smax
comp=E,2μm,5.4s
AAA MLR MLR
comp=Z,818nm,14.0s
AAA Alma-Ata 25.40 319 *e*P **P** 05 46 45.6 +0.7
comp=Z,263nm,0.8s
AAA *e*S **S** 05 51 16.4 +5.7
comp=Z,2μm,5.5s
AAA *e*LR LR 05 56 50.8
comp=Z,818nm,14.4s
BKNI Bangkinang 25.46 177 *e*P **P** 05 46 44.9 -0.6
BKNI Bangkinang 25.46 177 P **P** 05 46 46.4 +0.9
comp=Z,92nm,0.9s,comp=Z,2μm
DGZ Jazzator, Alta 25.61 341 *d i*P **P** 05 46 47.0 +0.3
DGZ pmax pmax
comp=Z,48nm,1.3s
TDK Taldyqorghan 25.66 323 *e*P **P** 05 46 46.7 -0.4
TDK MLR MLR
comp=Z,2μm,25.0s
TDK Taldyqorghan 25.66 323 *e*P **P** 05 46 46.7 -0.4
comp=Z,1μm,1.0s
TDK *e*S **S** 05 51 22.7 +7.9
comp=Z,2μm,6.7s

TDK eLR LR 05 56 16.8
comp=Z,2μm,24.7s
CHKK Chushkaly 25.74 320⇓ *e*P **P 05 46 47.0 -0.9**
CHKK pmax pmax
comp=Z,157nm,0.9s
CHKK Chushkaly 25.74 320⇓ *e*P **P 05 46 47.0 -0.9**
comp=Z,157nm,0.9s
MOY Mondy 25.75 2 *e*P **P 05 46 47.6 -0.3**
MOY pmax pmax
comp=Z,107nm,1.6s
TJN Taejon 25.76 59 *ce*P **P 05 46 46.6 -1.5**
KZA Kyzart 25.81 315 P **P 05 46 51.1 +2.1**
SNR=59
TLY Talaya 25.91 6 *e*P **P 05 46 50.0 +0.7**
comp=Z,71nm,1.8s
TLY LR LR
comp=Z,3μm,20.0s
TLY Talaya 25.91 6 *c i*P **P 05 46 50.5 +1.2**
TLY *e* 05 47 45.2
TLY *e*S **S 05 51 23.6 +5.1**
TLY pmax pmax
comp=Z,101nm,1.9s
TLY MLR MLR
comp=Z,10μm,12.0s
TLY Talaya 25.91 6 P **P 05 46 50.6 +1.2**
SNR=12
PALK Pallekele 25.94 228 *e*P **P 05 46 50.0 0.0**
comp=Z,55nm,1.1s
PALK Pallekele 25.94 228 P **P 05 46 51.2 +1.2**
PALK Pallekele 25.94 228 *e*P **P 05 46 50.0 0.0**
PALK pmax pmax
comp=Z,55nm,1.1s
PALK Pallekele 25.94 228 LR LR 05 57 56.5
comp=Z,1μm,18.7s,baz=283,slow=38
TKM2 Tokmak 2 26.04 317 P **P 05 46 52.7 +1.9**
SNR=38
KUU Kurty 26.14 319 *c i*P **P 05 46 50.1 -1.4**
KUU *e*S **S 05 51 21.3 -1.0**
KUU pmax pmax
comp=Z,319nm,1.1s
KUU smax smax
comp=N,392nm,6.2s
KUU MLR MLR
comp=Z,1μm,14.0s
KUU Kurty 26.14 319⇑ *i*P **P 05 46 50.2 -1.4**
comp=Z,319nm,1.1s
KUU *e*S **S 05 51 21.4 -1.0**
comp=Z,392nm,6.2s
KUU *e*LR LR 05 57 58.8
comp=Z,1μm,14.5s
SBUM Sibu 26.22 151 P **P 05 46 54.4 +1.9**
KBK Karagaybulak 26.30 316 P **P 05 46 55.5 +2.3**
SNR=68
GOA Goa 26.32 252 *e*P **P 05 46 53.9 +0.5**
GOA IAmb IAmb 05 46 58.0
comp=Z,254nm,0.2s
KSM Kuching 26.33 156 P **P 05 46 54.7 +1.3**
UCH Uchtor 26.36 315 P **P 05 46 56.1 +2.0**
SNR=53
KS15 Wonju Array Si 26.46 57 *e*P **P 05 46 56.4 +1.9**
KSAR Wonju Array Be 26.46 57 P **P 05 46 51.9 -2.6**
KSAR PcP **PcP 05 50 18.6 -0.7**
KSAR Wonju Array Be 26.46 57 P **P 05 46 51.9 -2.6**
KSAR 05 50 18.7
KS01 Wonju Array Si 26.48 57 *e*P **P 05 46 52.7 -2.0**
KSRS Korea Array 26.50 57 P **P 05 46 51.9 -2.9**
comp=Z,5.6nm,1.0s,baz=247,slow=7.9,SNR=10
KSRS PcP **PcP 05 50 18.6 -0.8**
comp=Z,2.1nm,0.8s,baz=273,slow=2.0,SNR=4.3
KSRS LR LR 05 58 18.5
comp=Z,3μm,18.6s,baz=272,slow=39
IRK Irkutsk 26.53 6 *e*P **P 05 46 56.2 +1.3**
IRK pmax pmax
comp=Z,185nm,1.7s
AAK Ala-Archa 26.58 315 P **P 05 46 57.5 +1.9**
SNR=69
AAK Ala-Archa 26.58 315 P **P 05 46 57.0 +1.3**
AAK pmax pmax
comp=Z,83nm,0.9s
CHMS Chumysh 26.61 316 P **P 05 46 57.4 +1.6**
SNR=16
AML Almayashu 26.84 314 P **P 05 46 59.3 +1.0**
SNR=174
USP Ospenovka 26.90 316 P **P 05 47 00.0 +1.6**
SNR=39
EKS2 Erkin-Say 27.05 315 P **P 05 47 02.2 +2.4**
SNR=77
SISI Saibi 27.08 181 P **P 05 47 00.4 +0.3**
CN2 Changchun 27.46 43 *e*P **P 05 47 01.7 -1.7**
CN2 *e*S **S 05 51 39.4 -3.7**
CN2 *e*SS **SnSn 05 52 56.5 +3.2**
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,5μm,15.0s
CN2 LR LR
comp=Z,4μm,16.0s
BHJ Bhuj 27.47 271 *e*P **P 05 47 03.6 -0.1**
KBL Kabul 27.81 295 *e*P **P 05 47 07.4 +0.5**
comp=Z,106nm,1.1s
KBL Kabul 27.81 295 *e*P **P 05 47 07.4 +0.5**
KBL pmax pmax
comp=Z,107nm,1.1s
GAR Garm 27.93 305 *e*P **P 05 47 08.3 +0.5**
comp=Z,98nm,0.9s
GAR Garm 27.93 305 *e*P **P 05 47 08.3 +0.5**
GAR pmax pmax
comp=Z,98nm,0.9s
JNU Nakatsue 27.96 68 *e*P **P 05 47 11.2 +3.2**
comp=Z,61nm,1.1s
JNU Nakatsue 27.96 68 P **P 05 47 06.4 -1.6**
comp=Z,30nm,0.9s,baz=321,slow=3.6,SNR=4.6
JNU LR LR 05 58 44.6
comp=Z,2μm,18.9s,baz=282,slow=38
HIA Hailar 28.03 28 *e*P **P 05 47 07.8 -0.5**
comp=Z,34nm,1.0s
HIA LR LR
comp=Z,3μm,19.0s
HIA Hailar 28.03 28 *i* P **P 05 47 07.9 -0.5**
HIA pmax pmax
comp=Z,79nm,1.7s
BTLS Baital 28.14 319 *c i*P **P 05 47 07.8 -1.7**
BTLS pmax pmax
comp=Z,228nm,1.2s
BTLS MLR MLR
comp=Z,863nm,14.0s
BTLS Baital 28.14 319⇑ *i*P **P 05 47 07.8 -1.7**
comp=Z,228nm,1.2s
BTLS *e*S S 05 52 09.9 +16
comp=Z,380nm,5.3s
BTLS *e*LR LR 05 58 38.7
comp=Z,863nm,14.4s
CHGR Chuyangaron 28.68 304 *e*P **P 05 47 14.8 +0.4**
comp=Z,124nm,1.1s
SEM Semipalatinsk 28.70 334 *e*P **P 05 47 12.5 -2.1**
SEM *e*S **S 05 52 03.6 +0.7**
SEM pmax pmax
comp=Z,252nm,1.2s
SEM smax smax
comp=E,1μm,4.9s
SEM MLR MLR
comp=Z,1μm,15.0s
SEM Semipalatinsk 28.70 334 *e*P **P 05 47 12.5 -2.1**
comp=Z,252nm,1.2s
SEM *e*S **S 05 52 03.7 +0.7**
comp=Z,1μm,5.0s
SEM *e*LR LR 05 58 09.0
comp=Z,1μm,15.3s
DZA Taraz 28.74 313 *e*P **P 05 47 14.7 -0.1**
DZA Taraz 28.74 313 *e*P **P 05 47 14.8 -0.1**
IUG luzhnay 29.29 311 *ce*P **P 05 47 19.2 -0.6**
IUG pmax pmax
comp=Z,658nm,1.4s
IUG MLR MLR
comp=Z,1μm,15.0s
IUG luzhnay 29.29 311⇑ *e*P **P 05 47 19.2 -0.6**
comp=Z,658nm,1.4s
IUG *e*LR LR 06 00 31.2
comp=Z,1μm,15.1s
KK31 Karatay Array 29.37 313 *e*P **P 05 47 21.5 +1.0**
KK31 Karatay Array 29.37 313 *e*P **P 05 47 21.5 +1.0**
KKAR Karatay Array 29.37 313 *e*P **P 05 47 21.5 +1.0**
KKAR Karatay Array 29.37 313 *e*P **P 05 47 21.5 +1.0**
KURBB Kurchatov Arra 29.57 332 P **P 05 47 22.4 +0.4**
comp=Z,26nm,0.7s,baz=146,slow=9.2,SNR=126
KURBB PcP **PcP 05 50 26.1 -0.6**
comp=Z,15nm,1.0s,baz=146,slow=1.7,SNR=11
KURBB PKiKP **PKiKP 05 57 57.0 -2.6**
comp=Z,0.2nm,0.3s,baz=23,slow=0.2,SNR=5.2
KURK Kurchatov 29.60 332 *e*P **P 05 47 23.0 +0.6**
comp=Z,55nm,0.8s
KURK PcP **PcP 05 50 26.1 -0.7**
KURK PKiKP **PKiKP 05 57 57.0 -2.6**
KURK LR LR
comp=Z,4μm,21.0s
KURK Kurchatov 29.60 332 *ce*P **P 05 47 23.2 +0.9**
KURK pmax pmax
comp=Z,125nm,1.7s
KURK Kurchatov 29.60 332 P **P 05 47 22.9 +0.6**
SNR=17
CHM Chimkent 29.65 311 *e*P **P 05 47 22.3 -0.6**
CHM *e*S **S 05 52 20.7 +3.1**
CHM pmax pmax
comp=Z,907nm,1.3s
CHM smax smax
comp=E,1μm,4.2s
CHM Chimkent 29.65 311 *e*P **P 05 47 22.3 -0.6**
comp=E,907nm,1.3s
CHM *e*S **S 05 52 20.7 +3.1**
comp=E,1μm,4.2s
ZAA0 Zalesovo Array 30.13 342 *e*P **P 05 47 27.6 +0.7**
ZAA0 *ep*P **P 05 47 27.8 +0.8**
ZALV Zalesovo Beam 30.13 342 *e*P **P 05 47 27.6 +0.7**
ZALV Zalesovo Beam 30.13 342 *e*P **P 05 47 27.7 +0.7**
ZALV Zalesovo Beam 30.13 342 P **P 05 47 27.4 +0.4**
comp=E,28nm,0.8s,baz=153,slow=10.0,SNR=24
ZALV LR LR 06 00 00.0
comp=E,641nm,18.8s,baz=278,slow=37
MDJ Mudanjiang 30.45 45 PFAKE
MDJ LR LR 05 47 40.0 +10
comp=Z,3μm,19.0s
MDSI Maura Dua 30.51 171 P **P 05 47 31.2 +0.5**
KCP Kidapawan 30.61 123 *i*P **P 05 47 32.8 +1.1**
DAV Davao City (W) 30.93 123 PFAKE 05 47 50.0 +16
DAV LR LR
comp=Z,1μm,20.0s
DAV Davao City (W) 30.93 123⇑ *i*P **P 05 47 36.9 +2.4**
NVS Novosibirsk 31.36 342⇑ *i*P **P 05 47 38.5 +0.7**
NVS *i* 05 48 50.5
NVS *e*S **S 05 52 48.4 +4.3**
NVS pmax pmax
comp=Z,91nm,1.8s
NVS pmax pmax
comp=N,70nm,1.9s
NVS pmax pmax
comp=E,10.0nm,0.5s
NVS smax smax
comp=E,16nm,1.4s
USA0B Ussuriysk Arra 31.81 47 *e*P **P 05 47 40.8 -1.1**
comp=E,49nm,1.3s
USRK Ussuriysk Ar. 31.81 47 P **P 05 47 40.2 -1.7**
comp=E,14nm,0.9s,baz=252,slow=8.9,SNR=24
USRK LR LR 06 01 51.3
comp=E,3μm,19.8s,baz=241,slow=39
BOD Bodaibo 33.47 14 *e*P **P 05 47 56.7 +0.5**
BOD pmax pmax
comp=Z,80nm,1.0s
KLR Kul'dur 34.02 38 P **P 05 47 59.7 -1.5**
comp=Z,3.6nm,0.9s,baz=267,slow=5.8,SNR=7.6
KLR PcP **PcP 05 50 38.1 -0.7**
comp=Z,5.9nm,0.9s,baz=308,slow=6.2,SNR=4.2
KLR LR LR 06 02 13.0
comp=Z,1μm,19.1s,baz=233,slow=37
MAJO Matsushiro 34.35 63 PFAKE 05 48 20.0 +16
MAJO LR LR
comp=Z,2μm,20.0s
MJAR Matsushiro Arr 34.35 63 P **P 05 48 02.7 -1.6**
comp=Z,7.5nm,1.0s,baz=271,slow=11,SNR=13
MJAR PcP **PcP 05 50 39.6 -0.4**
comp=Z,5.8nm,1.0s,baz=259,slow=5.2,SNR=5.9
MJAR LR LR 06 03 18.2
comp=Z,1μm,19.2s,baz=270,slow=38
ZEA Zeya 34.50 29 *e*P **P 05 48 04.8 -0.5**
ZEA pmax pmax
comp=Z,28nm,0.8s
ZEA MLR MLR
comp=Z,5μm,11.0s
ZEA MLR MLR
comp=N,5μm,10.0s
LUWI Luwuk 34.82 137 *e*P **P 05 48 09.2 +0.8**
comp=N,107nm,1.0s
BVA0 Borovoye Array 34.87 329 *i* P **P 05 48 08.9 +0.4**
BVA0 pmax pmax
comp=Z,55nm,0.9s
BVAR Borovoye Array 34.87 329 P **P 05 48 09.1 +0.6**
comp=Z,45nm,0.7s,baz=125,slow=9.6,SNR=211
BVAR PcP **PcP 05 50 40.5 -0.6**
comp=Z,8.0nm,0.8s,baz=113,slow=3.9,SNR=5.0
BVAR PKiKP **PKiKP 05 58 02.2 -1.1**
comp=Z,0.2nm,0.4s,baz=132,slow=2.2,SNR=3.7
BVAR LR LR 06 03 28.2
comp=Z,1μm,18.3s,baz=118,slow=38
BRVK Borovoye 34.94 329 *e*P **P 05 48 09.7 +0.6**
comp=Z,95nm,0.8s
BRVK *e*PcP **PcP 05 50 41.3 -0.1**
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 34.94 329 *ce*P **P 05 48 09.9 +0.8**
BRVK pmax pmax
comp=Z,92nm,0.7s
BRVK Borovoye 34.94 329 P **P 05 48 10.0 +0.8**
SNR=31
JHJ Hachijo jima 2 35.41 69 LR LR 06 03 49.7
comp=Z,1μm,18.8s,baz=286,slow=38
KAPI Kappang 36.35 145 PFAKE 05 48 30.0 +8.5
KAPI LR LR
comp=Z,645nm,20.0s
GEYT Alibeck 37.03 299 P **P 05 48 28.2 +0.9**
comp=Z,52nm,0.9s,baz=116,slow=6.8,SNR=94
GEYT LR LR 06 04 56.5
comp=Z,2μm,19.8s,baz=80,slow=38
GYA0B ALIBECK ARRAY 37.03 299 *e*P **P 05 48 28.6 +1.3**
comp=Z,82nm,1.0s
BIDO Bidbid 37.78 276 P **P 05 48 34.3 +0.6**
SNR=7.5
AB31 Akbulak array 38.60 318 *i* P **P 05 48 41.0 +0.7**
AB31 pmax pmax
comp=Z,54nm,0.9s
ABKAR Akbulak array 38.60 318 *e*P **P 05 48 41.3 +1.0**
ERM Erimo 38.98 54 PFAKE 05 48 50.0 +6.4
ERM LR LR
comp=Z,909nm,21.0s
ASAJ Asahikawa 39.01 51 P **P 05 48 43.2 -0.6**
comp=Z,38nm,1.0s,baz=257,slow=14,SNR=8.4
ASAJ LR LR 06 05 16.2
comp=Z,1μm,18.3s,baz=304,slow=37
DQM DQM 39.21 270 P **P 05 48 46.8 +1.1**
ASHO Ashiyiah 39.39 278 *i* P **P 05 48 48.0 +0.7**
SNR=9.9
ASHO Ashiyiah 39.39 278 P **P 05 48 48.2 +0.9**
SNR=11
FAQ Al Faqa, Dubai 39.79 278 P **P 05 48 51.5 +0.9**
SNR=6.4
YSS Yuzh-Sakhalins 39.85 47 PFAKE 05 49 00.0 +9.2
YSS LR LR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 39.85 47⇑ *e*P **P 05 48 47.9 -2.9**
YSS *e**SP **sP 05 48 59.9 +0.2**
YSS *e*S **S 05 54 49.0 -5.4**
YSS pmax pmax
comp=Z,30nm,1.1s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,2μm,14.0s
AKTO Aktyubinsk 40.20 319 P **P 05 48 54.9 +1.2**
comp=E,23nm,0.8s,baz=110,slow=8.7,SNR=48
AJN Ajban 40.37 278 P **P 05 48 56.7 +1.3**
SNR=5.2
NKL Nikolayevsk 40.83 37 *e*P **P 05 48 58.0 -0.7**
NKL *e* 05 49 16.0
NKL pmax pmax
comp=Z,66nm,1.5s
NKL MLR MLR
comp=E,4μm,12.0s
NKL MLR MLR
comp=Z,4μm,12.0s
TYV Tymovskoe 41.05 41 *e*P **P 05 48 59.6 -1.0**
TYV *e* 05 55 14.4
TYV pmax pmax
comp=Z,23nm,1.4s
TYV pmax pmax
comp=Z,800nm,6.1s
TYV MLR MLR
comp=E,4μm,16.0s
TYV MLR MLR
comp=Z,2μm,16.0s
YUK Yuzh-Kuril'sk 41.30 52 *e*P **P 05 48 59.0 -3.8**
YUK *e*S **S 05 55 10.0 -6.1**
YUK pmax pmax
comp=Z,414nm,0.9s
YAK Yakutsk 41.31 21 *d i*P **P 05 49 02.0 -0.6**
YAK *e**PP **sP 05 49 15.9 +4.3**
YAK *e* 05 50 38.4
YAK *e* 05 50 58.4
YAK *e*PPP PPP 05 51 09.4
YAK *e*S **S 05 55 11.8 -4.0**
YAK *e*SS **SS 05 58 17.5 -1.9**
YAK *e*SSS SSS 05 58 45.8
YAK *e* 05 59 00.8
YAK pmax pmax
comp=Z,231nm,0.9s
YAK pmax pmax
comp=N,75nm,0.9s
YAK pmax pmax
comp=E,72nm,0.9s
YAK pmax pmax
comp=Z,413nm,3.2s
YAK pmax pmax
comp=N,256nm,2.7s
YAK pmax pmax
comp=E,101nm,2.0s
YAK smax smax
comp=N,717nm,3.3s
YAK smax smax
comp=E,205nm,3.0s
YAK MLR MLR
comp=Z,6μm,17.0s
YAK MLR MLR
comp=N,3μm,15.0s
YAK MLR MLR
comp=E,5μm,16.0s
SVE Sverdlovsk 41.66 329 *c i*P **P 05 49 07.0 +1.4**
SVE pmax pmax
comp=Z,153nm,0.9s
SVE MLR MLR
comp=Z,2μm,12.0s
DMTO DMTO 42.22 268 P **P 05 49 10.9 +0.2**
DMTO P **P 05 49 10.9 +0.2**
ARU Arti 42.45 327 *e*P **P 05 49 11.5 -0.6**
comp=Z,98nm,0.9s
ARU LR LR
comp=Z,439nm,19.0s
ARU Arti 42.45 327 *d i*P **P 05 49 12.8 +0.7**
ARU 05 50 52.1
ARU 05 51 03.6
ARU S **S 05 55 35.4 +2.5**
ARU pmax pmax
comp=Z,125nm,1.0s
ARU MLR MLR
comp=Z,826nm,16.0s
FAKI Fak Fak 42.55 127 *e*P **P 05 49 13.2 -0.1**
comp=Z,143nm,1.4s
FAKI Fak Fak 42.55 127 P **P 05 49 12.6 -0.7**
SOEI Soe 42.72 143 *e*P **P 05 49 14.3 -0.6**
comp=Z,122nm,1.1s
SOEI Soe 42.72 143 P **P 05 49 13.7 -1.1**
GUMO Guam 43.99 97 PFAKE 05 49 40.0 +15
GUMO LR LR
comp=Z,111μm,21.0s
GUMO Guam 43.99 97 LR LR 06 06 25.7
comp=Z,610nm,20.2s,baz=300,slow=34
NRIK Noril'sk 44.06 354 P **P 05 49 25.4 +0.5**
comp=Z,53nm,0.8s,baz=154,slow=6.7,SNR=59
NRIK LR LR 06 08 21.0
comp=Z,808nm,19.5s,baz=162,slow=37
MAK Makhachkala 45.59 306 *e*P **P 05 49 37.4 0.0**
MAK *e* 05 51 24.1
MAK *e*PPP PPP 05 52 05.5
MAK *e*S **S 05 56 18.6 -0.3**
MAK *e*SSS SSS 06 00 38.4
MAK pmax pmax
comp=Z,24nm,0.4s
MAK MLR MLR
comp=Z,2μm,15.0s
GROC Groznyy 46.85 306 *e*P **P 05 49 45.6 -1.8**
GROC *e* 05 51 16.8
GROC *e* 05 51 38.5
GROC *e*S **S 05 56 36.9 -0.2**
GROC pmax pmax
comp=Z,170nm,1.0s
GNI Garni 47.55 302 *e*P **P 05 49 52.2 -0.9**
comp=Z,77nm,1.1s
GNI LR LR
comp=Z,854nm,20.0s
GNI Garni 47.55 302 *de*P **P 05 49 54.5 +1.4**
GNI pmax pmax
comp=Z,442nm,1.7s
TBLG Delisi 47.57 304 *e*P **P 05 49 54.6 +1.5**
comp=Z,40nm,1.1s
TBLG Delisi 47.57 304 *e*P **P 05 49 54.6 +1.5**
TBLG pmax pmax
comp=Z,40nm,1.1s
KIRV Kirov 47.84 327 P **P 05 49 55.5 +0.8**
comp=Z,42nm,0.8s,baz=127,slow=3.8,SNR=16
CLDR Calditan 48.20 300 P **P 05 49 59.9 +1.7**
ZEI Tsey 48.22 305 *e*P **P 05 49 55.9 -2.4**
ZEI pmax pmax
comp=Z,54nm,0.9s
GENI Genyem 48.28 120 P **P 05 49 58.5 -0.3**
MA2 Magadan 48.52 32 *e*P **P 05 49 58.9 -1.2**
comp=Z,28nm,1.0s
MA2 *ep*P sP 05 50 15.6 +6.5
MA2 Magadan 48.52 32 *ce*P **P 05 49 59.6 -0.5**
MA2 pmax pmax
comp=Z,54nm,1.7s
MA2 Magadan 48.52 32 P **P 05 49 59.5 -0.5**
comp=Z,16nm,0.8s,baz=246,slow=6.8,SNR=24
MA2 LR LR 06 12 02.0
comp=Z,787nm,18.3s,baz=242,slow=38
CUKT Cukurca 48.53 298 P **P 05 50 01.4 +0.8**
VANB Van 48.63 300 P **P 05 50 00.8 -0.6**
AGRB Hanur-Agry 48.91 301 P **P 05 50 04.8 +1.2**
GOF Gofitskoye 48.94 308⇓ *i*P **P 05 50 04.9 +1.4**
GOF pmax pmax
comp=Z,420nm,0.9s
AKDM Akdamar-Van 48.97 299 P **P 05 50 05.8 +1.8**
KBZ Khabaz 48.98 306 P **P 05 50 04.4 +0.5**
comp=Z,18nm,0.8s,baz=109,slow=4.8,SNR=23
KBZ LR LR 06 13 31.8
comp=Z,1μm,19.2s,baz=86,slow=39
RAYN Ar Rayn 49.05 279 *e*P **P 05 50 04.5 -0.2**
comp=Z,34nm,1.0s
RAYN LR LR
comp=Z,769nm,20.0s
RAYN Ar Rayn 49.05 279 *i* P **P 05 50 04.3 -0.4**
SNR=18
RAYN Ar Rayn 49.05 279 *e*P **P 05 50 04.5 -0.2**
RAYN pmax pmax
comp=Z,34nm,1.0s
RAYN MLR MLR
comp=Z,769nm,20.0s
KIV Kislovodsk 49.14 307 *e*P **P 05 50 06.0 +0.8**
comp=Z,179nm,1.1s
KIV LR LR
comp=Z,1μm,22.0s
KIV Kislovodsk 49.14 307⇑ *i*P **P 05 50 06.4 +1.2**
KIV Kislovodsk 49.14 307 *i* P **P 05 50 06.1 +0.9**
SNR=20
KIV Kislovodsk 49.14 307 *e*P **P 05 50 05.7 +0.5**
KIV pmax pmax
comp=Z,155nm,1.0s
KIV MLR MLR
comp=Z,677nm,16.0s
KIV Kislovodsk 49.14 307 P **P 05 50 06.0 +0.8**
SNR=29
MLAZ Malazgirt-MUS 49.27 300 P **P 05 50 07.6 +1.3**
SENK Senkaya-Erzuru 49.37 302 P **P 05 50 08.2 +1.0**
SIRT Sirnak 49.44 298 P **P 05 50 08.3 +0.7**
SIRT Sirnak 49.44 298 *e*P **P 05 50 08.5 +0.9**
comp=Z,74nm,0.9s
GURO Guroymak-BITLI 49.70 300 P **P 05 50 09.8 +0.2**
KOPR Koprukoy-ERZUR 49.77 302 P **P 05 50 12.6 +2.4**
BCA Borcka 49.91 303 P **P 05 50 12.5 +1.5**
VRTB Varto-Mus 50.11 300 P **P 05 50 15.0 +2.2**
GIRL Giralia 50.26 163 *e*P **P 05 50 16.3 +2.6**
comp=Z,210nm,1.3s

SVAN Silvan-Diyarba 50.38 299 P P 05 50 15.8 +1.2
VRH Novokhopyorsk 50.38 316 eP P 05 50 14.4 +0.1
VRH pmax pmax
comp=Z,130nm,0.9s
FITZ Fitzroy Crossi 50.47 147 eP P 05 50 15.5 +0.2
comp=Z,37nm,1.0s
SEY Seymchan 50.48 28 i P P 05 50 13.9 -1.0
PETK Petropavlovsk- 50.59 41 LR LR 06 11 38.0
comp=Z,2µm,18.0s,baz=260,slow=36
MBWA Marble Bar 50.64 156 eP P 05 50 16.6 0.0
comp=Z,331nm,1.2s
BNGB Bingl 50.73 300 P P 05 50 19.0 +1.6
YEDI Yedisu-Bingol 50.80 301 P P 05 50 19.5 +1.5
MAZI Mazidag 51.02 298 P P 05 50 20.4 +0.8
SOC Sochi 51.29 306 eP P 05 50 20.9 -0.5
SOC e 05 52 12.8
SOC eS S 05 57 36.0 -3.5
SOC pmax pmax
comp=Z,129nm,1.0s
SOC MLR MLR
comp=Z,623nm,16.0s
VSR Storozhevoye 51.98 316 d iP P 05 50 25.8 -0.6
VSR pmax pmax
comp=Z,64nm,1.0s
VORR Voronezh 51.99 317 eP P 05 50 26.0 -0.5
VORR pmax pmax
comp=Z,250nm,1.2s
LPSR Galich'ya Gora 52.26 318 eP P 05 50 28.4 0.0
LPSR pmax pmax
comp=Z,100nm,0.8s
URFA Urfa 52.31 298 P P 05 50 28.3 -0.9
ANN Anapa 52.91 308 eP P 05 50 32.1 -1.3
ANN e*PP sP 05 50 44.1 +1.7
ANN pmax pmax
comp=Z,258nm,1.8s
ANN MLR MLR
comp=Z,1µm,15.0s
DARE Darende-Malaty 53.25 300 P P 05 50 37.7 +1.5
KLMR Klimovskoe 53.29 328 eP P 05 50 34.9 -1.0
KLMR pmax pmax
comp=Z,34nm,0.9s
KLMR Klimovskoe 53.29 328 eP P 05 50 35.0 -1.0
KLMR AMP 05 50 37.2
comp=Z,34nm,0.8s
MOS Moscow 53.38 321 eP P 05 50 36.1 -0.6
MOS e 05 50 45.0
MOS pmax pmax
comp=Z,178nm,1.8s
SVSK Karacayir 53.50 302 P P 05 50 39.2 +1.4
GAZ Gaziantep 53.62 298 P P 05 50 40.3 +1.4
TOKT Tokat 53.81 302 P P 05 50 41.2 +1.0
KMRS Kahramanmaras 53.83 299 P P 05 50 40.9 +0.6
OBN Obninsk 53.91 321 eP P 05 50 40.9 +0.4
comp=Z,167nm,1.7s
OBN LR LR
comp=Z,804nm,19.0s
OBN Obninsk 53.91 321 eP P 05 50 40.6 +0.1
OBN e 05 51 45.5
OBN e 05 52 42.1
OBN pmax pmax
comp=Z,104nm,1.7s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 53.91 321 P P 05 50 40.8 +0.3
comp=Z,2.8nm,0.4s,baz=32,slow=5.3,SNR=7.8
KVT Kavak 54.12 303 P P 05 50 43.7 +1.3
BNN Bunyan 54.49 301 P P 05 50 47.1 +1.8
DIKM Dikmen 54.67 304 P P 05 50 47.2 +0.9
DIKM Dikmen 54.67 304 ⇑ iP P 05 50 47.5 +1.2
KOZT Kozan 54.67 299 P P 05 50 47.7 +1.2
SNOP Sinop 54.67 304 P P 05 50 46.2 -0.2
TMCR Tamitsa 54.72 332 eP P 05 50 46.5 +0.2
TMCR pmax pmax
comp=Z,18nm,0.9s
CEYT Ceyhan 54.80 298 P P 05 50 48.9 +1.6
YOZ Yozgat 54.81 302 P P 05 50 47.4 -0.2
SIM Simferopol' 55.27 308 d iP P 05 50 50.9 +0.3
SIM eS S 05 58 38.2 +4.7
SIM pmax pmax
comp=Z,103nm,0.9s
KARA Karaisali 55.31 299 P P 05 50 52.6 +1.5
BZK Bozkurt 55.57 304 P P 05 50 53.2 +0.4
BZK Bozkurt 55.57 304 ⇑ iP P 05 50 53.9 +1.1
ILGA Ilgaz 55.88 303 eP P 05 50 56.7 +1.3
comp=Z,140nm,1.0s
GHAJ Ghor Haditha 55.92 292 P P 05 50 56.0 +0.5
comp=Z,41nm,0.9s
YAYX Yaylak 56.06 301 P P 05 50 55.7 -0.9
BR131 Keskin Array S 56.09 302 eP P 05 50 56.9 +0.1
BRTR Keskin Array B 56.09 302 ceP P 05 50 56.7 -0.1
BRTR pmax pmax
comp=Z,13nm,0.9s
BRTR Keskin Array B 56.09 302 P P 05 50 56.5 -0.3
comp=Z,13nm,0.9s,baz=117,slow=7.9,SNR=40
SERE Sereflikochisa 56.25 301 P P 05 50 57.9 0.0
SULT Sultanhani-AKS 56.39 300 P P 05 51 00.1 +1.2
KEBE Keben-Mersin 56.50 298 P P 05 50 59.1 -0.6
AFSR Afar-Bala (An 56.56 302 P P 05 51 00.6 +0.5
WRAB Tennant Creek 56.61 140 eP P 05 51 00.6 +0.1
comp=Z,106nm,0.9s
WRAB LR LR
comp=Z,316nm,22.0s
WRAB Tennant Creek 56.61 140 ceP P 05 51 01.1 +0.6
WRAB pmax pmax
comp=Z,164nm,1.3s
WRA Warramunga Arr 56.62 140 i P P 05 51 00.2 -0.3
WRA pmax pmax
comp=Z,97nm,1.1s
WRA Warramunga Arr 56.62 140 P P 05 51 00.2 -0.3
comp=Z,88nm,1.1s,baz=328,slow=7.7,SNR=176
WB2 Warramunga Arr 56.62 140 eP P 05 51 00.7 +0.2
ANTO Ankara 56.72 302 eP P 05 51 01.5 +0.3
comp=Z,128nm,1.0s
ANTO LR LR
comp=Z,441nm,19.0s
ANTO Ankara 56.72 302 ⇑ iP P 05 51 03.3 +2.1
ANTO Ankara 56.72 302 ⇑ P P 05 51 03.4 +2.2
ANTO Ankara 56.72 302 P P 05 51 01.4 +0.2
SNR=19
ANTO P P 05 51 01.4 +0.2
SNR=19
BR231 Keskin MP Arra 56.74 302 eP P 05 51 02.6 +1.2
EIL Elat 56.79 290 P P 05 51 01.6 -0.1
comp=Z,69nm,0.9s
CHBY Cihanbeyli 56.82 301 P P 05 51 01.9 -0.1
MORW Morawa 56.85 163 eP P 05 51 02.3 +0.3
comp=Z,161nm,1.3s
BERE Bereket-Mersin 56.91 298 P P 05 51 02.2 -0.5
LADK Ladik-KONYA 57.29 300 P P 05 51 06.2 +0.9
KONT Konya--Tatoy 57.33 300 P P 05 51 06.8 +1.3
BILL Bilibino 57.48 24 eP P 05 51 04.8 -1.2
comp=Z,44nm,1.0s
BILL LR LR
comp=Z,1µm,19.0s
BILL Bilibino 57.48 24 eP P 05 51 03.7 -2.3
BILL e 05 51 56.5
BILL e 05 53 10.2
BILL ePPP PPP 05 54 29.6
BILL pmax pmax
comp=Z,80nm,1.7s
BILL MLR MLR
comp=Z,2µm,15.0s
MDUB Mudurnu 57.85 303 P P 05 51 09.8 +0.6
COEN Coen 57.93 128 eP P 05 51 10.4 +0.5
comp=Z,48nm,1.4s
AKASG Malin Array Be 58.25 315 ceP P 05 51 11.1 -0.6
AKASG pmax pmax
comp=Z,33nm,0.8s
AKASG Malin Array Be 58.25 315 P P 05 51 10.8 -0.8
comp=Z,26nm,0.8s,baz=76,slow=6.8,SNR=89
AKASG LR LR 06 20 27.3
comp=Z,622nm,20.9s,baz=75,slow=40
AKBB Malin Array Si 58.25 315 eP P 05 51 11.2 -0.4
comp=Z,42nm,0.8s
KIEV Kiev 58.26 315 eP P 05 51 10.9 -0.8
comp=Z,43nm,0.9s
KIEV LR LR
comp=Z,922nm,19.0s
KIEV Kiev 58.26 315 ⇑ iP P 05 51 11.3 -0.4
KIEV Kiev 58.26 315 i P P 05 51 11.2 -0.6
SNR=26
KIEV Kiev 58.26 315 ⇑ P P 05 51 11.3 -0.4
AK11 Malin Array Si 58.28 315 eP P 05 51 11.2 -0.8
GULT Gulveren 58.37 303 P P 05 51 13.2 +0.4

SPNC Sapanca-Adapaz 58.49 303 P P 05 51 13.9 +0.4
SHUT Suhut-Afyon 58.64 301 P P 05 51 15.0 +0.2
ISP Isparta 58.78 300 eP P 05 51 15.0 -0.8
comp=Z,38nm,1.0s
ISP Isparta 58.78 300 eP P 05 51 15.0 -0.8
ISP pmax pmax
comp=Z,38nm,1.0s
KIS Kishinev 58.79 311 ⇑ iP P 05 51 14.5 -1.0
KIS e 05 51 24.5
KIS e 05 59 20.0
KIS pmax pmax
comp=Z,250nm,2.0s
KIS MLR MLR
comp=Z,800nm,16.0s
BCK Bucak 58.80 300 P P 05 51 15.7 -0.1
RABL Rabaul 58.91 113 eP P 05 51 18.8 +2.0
comp=Z,312nm,1.0s
CAVI Cavuskoy 58.91 303 P P 05 51 16.8 +0.3
SILT Sile 58.92 304 P P 05 51 17.4 +0.9
TLCR 58.99 309 ⇑ iP P 05 51 16.3 -0.6
TLCR 58.99 309 ⇑ P P 05 51 16.3 -0.6
YLV Yalova 59.21 303 P P 05 51 17.6 -1.1
YLV Yalova 59.21 303 ⇑ iP P 05 51 19.1 +0.4
YLV Yalova 59.21 303 ⇑ P P 05 51 19.1 +0.4
LEOM Leova 59.24 310 ⇑ iP P 05 51 19.1 +0.5
LEOM Leova 59.24 310 ⇑ P P 05 51 19.1 +0.5
EFOR EFORIE 59.25 307 ⇑ iP P 05 51 19.8 +1.1
TVSB Tavsanli 59.33 302 P P 05 51 13.3 -6.2
AS31 Alice Springs 59.34 143 eP P 05 51 19.8 +0.2
ASAR Alice Springs 59.34 143 P P 05 51 19.4 -0.2
ASAR P'P' 06 20 45.9
ASAR Alice Springs 59.34 143 P P 05 51 19.4 -0.2
comp=Z,41nm,1.0s,baz=325,slow=6.6,SNR=105
ASAR PKPPKP P'P'df 06 20 45.9 -0.4
comp=Z,1.2nm,1.0s,baz=131,slow=3.8,SNR=5.0
ASAR LR LR 06 20 46.2
comp=Z,187nm,20.0s,baz=322,slow=40
KLYT Kilyos 59.35 304 P P 05 51 19.9 +0.4
KLYT Kilyos 59.35 304 ⇑ iP P 05 51 19.8 +0.3
TIRR Tirgusor 59.36 308 eP P 05 51 19.9 +0.4
comp=Z,42nm,1.0s
TIRR Tirgusor 59.36 308 ⇓ iP P 05 51 19.9 +0.4
TIRR Tirgusor 59.36 308 ⇓ P P 05 51 19.9 +0.4
AS01 Alice Springs 59.36 143 eP P 05 51 19.0 -0.7
KAVV Kandilli-Istan 59.37 304 P P 05 51 19.4 -0.2
ISK Istanbul-Kandi 59.37 304 P P 05 51 19.9 +0.3
GEMT Gemlik 59.37 303 P P 05 51 19.8 +0.1
MFTR Murfatlar 59.39 308 ⇑ iP P 05 51 20.3 +0.6
ELL Elmali 59.46 299 P P 05 51 20.6 +0.1
CFR Carcaliu 59.47 309 ⇑ iP P 05 51 20.2 0.0
CFR Carcaliu 59.47 309 ⇑ P P 05 51 20.2 0.0
VSU Vasula 59.48 324 ceP P 05 51 21.4 +1.4
VSU pmax pmax
comp=Z,90nm,1.3s
BGKT Bogazkoy 59.56 304 P P 05 51 20.7 -0.3
ARMT Armutlu 59.60 303 P P 05 51 21.0 -0.3
TLB Topalu 59.61 308 ⇑ iP P 05 51 21.3 +0.1
TLB Topalu 59.61 308 ⇑ P P 05 51 21.3 +0.1
HARR Harsova 59.67 308 ⇑ iP P 05 51 21.9 +0.3
HARR Harsova 59.67 308 ⇑ P P 05 51 21.9 +0.3
CTKS Kestanelik-??a 59.75 304 P P 05 51 22.4 +0.1
FIA1 FINESS Array S 59.82 328 eP P 05 51 22.6 +0.2
FINES FINESS Array B 59.82 328 ceP P 05 51 22.7 +0.3
FINES pmax pmax
comp=Z,11nm,0.7s
FINES FINESS Array B 59.82 328 P P 05 51 22.3 -0.1
comp=Z,11nm,0.7s,baz=100,slow=9.9,SNR=26
ICOR Ion Corvin 59.84 308 ⇑ iP P 05 51 23.5 +0.7
CTYL Yalikoy Yolu 59.88 305 P P 05 51 23.4 +0.3
KEV Kevo 59.98 337 eP P 05 51 23.8 +0.4
comp=Z,74nm,1.0s
KEV LR LR
comp=Z,973nm,19.0s
KEV Kevo 59.98 337 eP P 05 51 23.8 +0.4
KEV pmax pmax
comp=Z,74nm,1.0s
KEV MLR MLR
comp=Z,973nm,19.0s
KCTX Karacabey (Bur 60.03 303 P P 05 51 24.4 +0.2
PETR Petresti 60.03 310 ⇑ iP P 05 51 25.3 +1.2
KULA Kula-Manisa 60.10 301 P P 05 51 24.8 -0.1
ODBI Odobesti 60.15 310 ⇑ iP P 05 51 27.0 +2.1
MANT Manisa 60.19 301 eP P 05 51 25.7 +0.1
comp=Z,156nm,1.2s
PRD Provadia 60.26 307 P P 05 51 25.5 -0.2
PRD Provadia 60.26 307 P P 05 51 25.5 -0.2
TESR Tescani 60.33 310 ⇑ iP P 05 51 26.1 -0.1
VRI Vrincioaia 60.36 310 ⇑ iP P 05 51 27.3 +0.9
VRI Vrincioaia 60.36 310 ⇑ P P 05 51 27.3 +0.9
PLOR Plostina 60.41 310 ⇑ iP P 05 51 28.0 +1.2
PLOR Plostina 60.41 310 ⇑ P P 05 51 28.0 +1.2
PHSR Pinarhisar 60.42 305 ⇑ iP P 05 51 26.9 0.0
ARCES ARCESS Array B 60.48 337 eP P 05 51 27.0 +0.2
ARCES ARCESS Array B 60.48 337 eP P 05 51 27.0 +0.2
ARCES ARCESS Array B 60.48 337 P P 05 51 26.7 -0.1
comp=Z,22nm,0.9s,baz=93,slow=6.1,SNR=27
ARE0 ARCESS Array S 60.48 337 eP P 05 51 27.5 +0.7
comp=Z,1.6nm,1.0s
BALB Balikesir 60.50 303 P P 05 51 27.8 +0.4
PRAR RASCA 60.51 312 ⇑ iP P 05 51 27.3 -0.1
ISR Istrita 60.59 309 ⇑ iP P 05 51 29.7 +1.7
ISR Istrita 60.59 309 ⇑ P P 05 51 29.7 +1.7
BIZ Bicaz 60.65 311 ⇑ iP P 05 51 28.6 +0.3
NWAO Narrogin (SRO) 60.83 163 eP P 05 51 30.6 +1.1
comp=Z,89nm,1.1s
NWAO LR LR
comp=Z,1µm,21.0s
NWAO Narrogin (SRO) 60.83 163 eP P 05 51 30.6 +1.1
NWAO pmax pmax
comp=Z,89nm,1.1s
NWAO MLR MLR
comp=Z,1µm,21.0s
SULR 60.86 308 ⇑ iP P 05 51 29.7 -0.1
SECR 60.94 309 ⇑ iP P 05 51 31.1 +0.8
MLR Muntele Rosu 60.95 309 eP P 05 51 30.9 +0.3
comp=Z,180nm,0.9s
MLR Muntele Rosu 60.95 309 ⇑ iP P 05 51 32.2 +1.6
MLR Muntele Rosu 60.95 309 ⇑ P P 05 51 32.2 +1.6
MLR Muntele Rosu 60.95 309 P P 05 51 31.7 +1.1
comp=Z,135nm,0.9s,baz=10,slow=1.4,SNR=214
EDRB Edirne 60.96 305 P P 05 51 30.9 +0.4
JMB Yambol 60.97 306 P P 05 51 30.0 -0.6
JMB Yambol 60.97 306 P P 05 51 30.0 -0.6
SGRR Singureni 61.12 308 ⇑ iP P 05 51 32.1 +0.5
BURAR Bucovina Array 61.16 312 ⇑ iP P 05 51 32.0 +0.1
BURAR Bucovina Array 61.16 312 ⇑ P P 05 51 32.0 +0.1
BUR04 Bucovina Ar. S 61.16 312 eP P 05 51 31.6 -0.3
BUR08 Bucovina Ar. S 61.16 312 eP P 05 51 31.7 -0.3
DOPR Dopca 61.27 310 ⇑ iP P 05 51 33.7 +1.1
DAT Datca 61.30 299 P P 05 51 30.9 -2.2
SZH Strazhica 61.31 307 P P 05 51 32.5 -0.4
SZH Strazhica 61.31 307 P P 05 51 32.5 -0.4
ERIK Erikli-Kesan 61.34 304 P P 05 51 34.3 +1.2
BLCB Balcova 61.38 301 P P 05 51 32.1 -1.3
VOIR 61.59 309 ⇑ iP P 05 51 34.7 -0.1
VOIR 61.59 309 ⇑ P P 05 51 34.7 -0.1
ENEZ Enez 61.59 304 P P 05 51 35.5 +0.7
MTUR Matau 61.61 309 ⇑ iP P 05 51 35.3 +0.3
MTUR Matau 61.61 309 ⇑ P P 05 51 35.3 +0.3
EZN Ezine 61.64 303 ⇑ iP P 05 51 35.5 +0.4
EZN Ezine 61.64 303 ⇑ P P 05 51 35.5 +0.4
ALN Alexandroupoli 61.65 304 eP P 05 51 35.8 +0.6
comp=Z,90nm,1.1s
ALN Alexandroupoli 61.65 304 P P 05 51 34.7 -0.5
LVV L'vov 61.65 314 eP P 05 51 35.2 +0.2
ZIMR 61.65 307 ⇓ iP P 05 51 36.0 +0.8
ZIMR 61.65 307 ⇓ P P 05 51 36.0 +0.8
SMG Samos 61.67 301 P P 05 51 35.3 -0.2
SMG Samos 61.67 301 P P 05 51 35.3 -0.2
SUW Suwalki 61.69 319 eP P 05 51 35.4 +0.1
SUW Suwalki 61.69 319 eP P 05 51 35.7 +0.4
comp=Z,63nm,0.9s
SUW Suwalki 61.69 319 eP P 05 51 35.7 +0.4
SUW pmax pmax
comp=Z,63nm,0.9s
GOLR 61.74 309 ⇑ iP P 05 51 36.3 +0.5
HUMR Humele 61.78 308 ⇑ iP P 05 51 35.9 -0.1
ARCR ARCALIA 61.81 311 ⇑ iP P 05 51 37.9 +1.7
DIM Dimitrovgrad 61.81 306 P P 05 51 36.0 -0.3
DIM Dimitrovgrad 61.81 306 P P 05 51 36.0 -0.3
ARR Arges 61.89 309 ⇑ iP P 05 51 37.0 +0.2
RDO Rodhopi 61.98 305 P P 05 51 37.5 +0.1

RDO Rodhopi 61.98 305 P P 05 51 37.5 +0.1
VLAD Vladila 62.28 308 ⇑ iP P 05 51 39.9 +0.5
BMR Baia Mare 62.30 312 ⇑ iP P 05 51 40.8 +1.3
BMR Baia Mare 62.30 312 ⇑ P P 05 51 40.8 +1.3
CJR Cluj-Napoca 62.38 311 ⇑ iP P 05 51 41.6 +1.5
CJR Cluj-Napoca 62.38 311 ⇑ P P 05 51 41.6 +1.5
PLD Plovdiv 62.41 306 P P 05 51 39.0 -1.3
PLD Plovdiv 62.41 306 P P 05 51 39.0 -1.3
LOT Lotru 62.47 310 ⇑ iP P 05 51 41.5 +0.7
RZN Rozhen 62.48 305 P P 05 51 40.0 -1.0
RZN Rozhen 62.48 305 P P 05 51 40.0 -1.0
LIA Limnos Island 62.49 303 P P 05 51 39.9 -0.9
LIA Limnos Island 62.49 303 P P 05 51 39.9 -0.9
KWP Kalwaria Pacla 62.52 314 eP P 05 51 41.7 +0.8
KWP Kalwaria Pacla 62.52 314 eP P 05 51 41.7 +0.8
FORT Forrest 62.53 153 eP P 05 51 42.4 +1.3
comp=Z,77nm,1.0s
PGB Panagyurishte 62.71 306 P P 05 51 42.0 -0.4
PGB Panagyurishte 62.71 306 P P 05 51 42.0 -0.4
TRPA Tarpa 62.86 313 ⇑ iP P 05 51 43.5 +0.3
TRPA Tarpa 62.86 313 ⇓ eP P 05 51 42.0 -1.2
UZH Uzhgorod 62.95 313 c iP P 05 51 42.4 -1.3
UZH e 05 51 47.6
UZH e 05 51 54.6
UZH i 05 52 22.5
DRGR 62.97 311 ⇑ iP P 05 51 44.6 +0.5
DRGR 62.97 311 ⇑ P P 05 51 44.6 +0.5
DEV Deva 63.00 310 ⇑ iP P 05 51 45.8 +1.7
DEV Deva 63.00 310 ⇑ P P 05 51 45.8 +1.7
SANT Santorini 63.04 299 eP P 05 51 43.5 -1.2
comp=Z,303nm,1.1s
GZR Gura Zlata 63.17 310 ⇑ iP P 05 51 45.6 +0.2
GZR Gura Zlata 63.17 310 ⇑ P P 05 51 45.6 +0.2
NVR Nevrokopi 63.17 305 P P 05 51 44.5 -1.0
NVR Nevrokopi 63.17 305 P P 05 51 44.5 -1.0
PUNG Punghina 63.27 308 ⇑ iP P 05 51 46.7 +0.7
VTS Vitosha 63.38 307 eP P 05 51 47.0 +0.1
comp=Z,149nm,0.9s
VTS Vitosha 63.38 307 ⇑ iP P 05 51 47.5 +0.6
VTS Vitosha 63.38 307 P P 05 51 47.0 +0.1
VTS Vitosha 63.38 307 ⇑ P P 05 51 47.5 +0.6
VTS Vitosha 63.38 307 P P 05 51 47.0 +0.1
VTS Vitosha 63.38 307 P P 05 51 47.0 +0.1
BEL Belsk 63.40 317 eP P 05 51 47.2 +0.5
BEL Belsk 63.40 317 eP P 05 51 47.2 +0.5
LTVH Ltavrtes, Hu 63.41 312 eP P 05 51 40.1 -6.8
SPA0 Spitsbergen Ar 63.48 347 eP P 05 51 47.3 +0.5
SPITS Spitsbergen Ar 63.48 347 P P 05 51 46.3 -0.6
comp=Z,34nm,0.8s,baz=101,slow=8.7,SNR=15
SPITS LR LR 06 21 19.7
comp=Z,466nm,21.4s,baz=60,slow=38
HERR Herculane 63.52 309 ⇑ iP P 05 51 49.0 +1.4
HSPB Hornsund (broa 63.66 345 eP P 05 51 47.9 -0.1
PLG Polygyros 63.69 304 P P 05 51 48.1 -0.8
PLG Polygyros 63.69 304 P P 05 51 48.1 -0.8
PLG Polygyros 63.69 304 P P 05 51 48.1 -0.8
SIRR Siria 63.78 311 ⇑ iP P 05 51 49.9 +0.6
KNT Kendrikon 63.92 305 P P 05 51 49.6 -0.8
KNT Kendrikon 63.92 305 P P 05 51 49.6 -0.8
KNT Kendrikon 63.92 305 P P 05 51 49.6 -0.8
BZS Buzias 63.93 310 ⇑ iP P 05 51 50.4 +0.1
BZS Buzias 63.93 310 ⇑ P P 05 51 50.4 +0.1
MDVR Moldovita 64.03 309 ⇓ iP P 05 51 51.4 +0.3
NIE Niedzica 64.11 314 eP P 05 51 52.7 +1.2
NIE Niedzica 64.11 314 eP P 05 51 52.7 +1.2
VAY Valandovo 64.13 305 i P P 05 51 51.1 -0.6
CTAO Charters Tower 64.26 131 eP P 05 51 53.1 +0.4
comp=Z,100nm,1.2s
CTAO LR LR
comp=Z,644nm,21.0s
OJC Ojcow 64.28 315 eP P 05 51 53.1 +0.5
OJC Ojcow 64.28 315 eP P 05 51 53.1 +0.5
comp=Z,41nm,1.1s
OJC Ojcow 64.28 315 eP P 05 51 53.1 +0.5
BANR Banloc 64.31 310 ⇑ iP P 05 51 54.2 +1.4
STIP Stip 64.33 306 i P P 05 51 51.0 -2.0
KBS Kingsbay 64.35 348 PFAKE 05 52 00.0 +7.5
KBS LR LR
comp=Z,1µm,21.0s
AMBH Ambrzfalva 64.40 311 ⇓ eP P 05 51 54.1 +0.7
IMMV Iera Moni Meta 64.43 299 P P 05 51 53.0 -0.8
LIT Litokhoron 64.46 304 eP P 05 51 53.2 -0.8
LIT Litokhoron 64.46 304 P P 05 51 52.9 -1.1
LIT Litokhoron 64.46 304 eP P 05 51 53.2 -0.8
PSZ Piszkesteto 64.65 313 eP P 05 51 55.5 +0.4
comp=Z,89nm,1.4s
PSZ Piszkesteto 64.65 313 ⇑ iP P 05 51 56.0 +0.9
PSZ Piszkesteto 64.65 313 ⇑ P P 05 51 56.0 +0.9
PSZ Piszkesteto 64.65 313 ⇓ eP P 05 51 55.0 -0.1
LANS Liptovska Anna 64.69 314 eP P 05 51 55.9 +0.6
LANS Liptovska Anna 64.69 314 eP P 05 51 55.9 +0.6
AGG Agios Georgios 64.83 303 eP P 05 51 55.2 -1.2
AGG Agios Georgios 64.83 303 eP P 05 51 55.2 -1.2
THL Klokotos Trika 64.94 304 P P 05 51 55.0 -2.1
KZN Kozani 64.95 304 P P 05 51 55.9 -1.3
KZN Kozani 64.95 304 P P 05 51 55.9 -1.3
KZN Kozani 64.95 304 P P 05 51 55.9 -1.3
KRUS Krusevo 65.09 306 i P P 05 51 57.3 -0.8
BIA Bitola 65.12 305 i P P 05 51 57.3 -0.9
FNA Florina 65.13 305 eP P 05 51 57.5 -0.9
FNA Florina 65.13 305 P P 05 51 56.3 -1.6
FNA Florina 65.13 305 eP P 05 51 57.5 -0.9
VYHS Vyhne 65.23 314 eP P 05 51 59.2 +0.4
VYHS pmax pmax
comp=Z,27nm,1.2s
VYHS Vyhne 65.23 314 eP P 05 51 59.2 +0.4
VYHS ePP PP 05 54 21.4 -0.7
ANX Ano Chora 65.25 302 P P 05 51 57.9 -1.3
FRGS Fruska Gora 65.27 310 eP P 05 51 58.9 -0.2
LAKA Lakka 65.29 302 P P 05 51 58.1 -1.3
LAKA Lakka 65.29 302 P P 05 51 58.1 -1.3
BUD Budapest 65.31 313 ⇓ eP P 05 52 00.0 +0.7
DIVS Divibare 65.38 309 eP P 05 51 59.5 -0.5
DIVS Divibare 65.38 309 eP P 05 51 59.4 -0.5
OKC Ostrava-Krasne 65.40 315 eP P 05 52 00.8 +0.9
OKC ex x 05 52 07.8
OKC AMS AMS 06 21 40.0
comp=Z,900nm,14.9s
OKC Ostrava-Krasne 65.40 315 eP P 05 52 00.8 +0.9
OKC e 05 52 07.8
OKC MLR MLR
comp=Z,900nm,14.9s
NEST Nestorio 65.46 305 P P 05 51 58.8 -1.8
OHR Ohrid 65.48 305 i P P 05 52 00.1 -0.5
KOLL Kolacno 65.49 314 eP P 05 52 01.4 +0.9
KOLL Kolacno 65.49 314 eP P 05 52 01.4 +0.9
ITM Ithomi 65.60 301 eP P 05 51 60.0 -1.4
PHP Peshkopia 65.61 306 P P 05 51 59.5 -1.9
PHP Peshkopia 65.61 306 P P 05 51 59.5 -1.9
PHP Peshkopia 65.61 306 P P 05 51 59.5 -1.9
IVA Berane 65.72 307 ⇓ iP P 05 52 02.3 +0.1
PVY Plav 65.74 307 ⇓ iP P 05 52 02.1 +0.3
MORC Moravsky Berou 65.80 315 eP P 05 52 02.7 +0.2
comp=Z,36nm,1.1s
MORC Moravsky Berou 65.80 315 ⇑ iP P 05 52 03.0 +0.5
MORC Moravsky Berou 65.80 315 ⇑ P P 05 52 03.0 +0.5
MORC Moravsky Berou 65.80 315 eP P 05 52 03.2 +0.7
PYL PYLOS 65.81 301 P P 05 51 59.9 -2.9
PYL PYLOS 65.81 301 P P 05 51 59.9 -2.9
BBLS Lazići 65.84 309 eP P 05 52 02.4 -0.5
JAVC Velka Javorina 65.91 314 eP P 05 52 05.0 +1.8
KMBO Kilima Mbogo 65.96 256 eP P 05 52 03.9 -0.4
comp=Z,12nm,1.1s
KMBO Kilima Mbogo 65.96 256 i P P 05 52 04.7 +0.3
SNR=11
KMBO Kilima Mbogo 65.96 256 P P 05 52 04.4 +0.1
SNR=8.5
KMBO P P 05 52 04.4 +0.1
SNR=8.5
KMBO Kilima Mbogo 65.96 256 P P 05 52 04.4 +0.1
comp=Z,6.5nm,1.0s,baz=48,slow=10,SNR=13
KMBO LR LR 06 20 40.4
comp=Z,503nm,20.8s,baz=108,slow=36
PLE Pljevlja 65.98 308 ⇓ iP P 05 52 04.0 +0.1
KOME Kolasin 66.00 308 ⇓ iP P 05 52 04.0 0.0
TIR Tirane 66.11 306 eP P 05 52 03.4 -1.2
comp=Z,115nm,0.8s
TIR Tirane 66.11 306 eP P 05 52 03.4 -1.2
TIR pmax pmax
comp=Z,115nm,0.8s
HAPS Han Pijesak,Bl 66.11 309 eP P 05 52 04.5 -0.2
TIH Tihany 66.19 312 ⇓ eP P 05 52 04.0 -0.9

EVGI Lefkada island 66.20 303 P P 05 52 03.1 -2.1
KRLC Kraliky 66.22 316 eP P 05 52 06.4 +1.2
KRLC Kraliky 66.22 316 eP P 05 52 06.4 +1.2
MODS Modra-Piesok 66.27 314 eP P 05 52 06.4 +0.9
MODS pmax pmax
comp=Z,61nm,1.5s
MODS Modra-Piesok 66.27 314 eP P 05 52 06.4 +0.9
PDG Podgorica 66.29 307⇑iP P 05 52 05.1 -0.6
PDG Podgorica 66.29 307 eP P 05 52 04.8 -0.9
TTG Podgorica 66.29 307⇓iP P 05 52 05.5 -0.2
TTG Podgorica 66.29 307 eP P 05 52 04.7 -0.9
TTG Podgorica 66.29 307 eP P 05 52 04.7 -0.9
KSP Ksiaz 66.36 317 eP P 05 52 06.9 +0.9
KSP Ksiaz 66.36 317 eP P 05 52 06.9 +0.9
NKY Niksic 66.38 308⇓iP P 05 52 06.1 -0.3
DRME Dracevica, Mon 66.40 307⇓iP P 05 52 06.4 0.0
DRME Dracevica, Mon 66.40 307 eP P 05 52 06.0 -0.4
ULC Ulcinj 66.41 307⇓iP P 05 52 06.0 -0.5
NKME Niksic 66.42 308⇓iP P 05 52 05.9 -0.7
ZST Bratislava 66.42 314 eP P 05 52 06.0 -0.5
ZST Bratislava 66.42 314 eP P 05 52 05.9 -0.5
DPC Dobruska-Polom 66.44 316 eP P 05 52 07.2 +0.6
DPC AMS AMS 06 22 10.0
comp=Z,1μm,17.5s
DPC Dobruska-Polom 66.44 316 eP P 05 52 07.2 +0.6
DPC MLR MLR
comp=Z,1μm,17.5s
GAMB Gambell 66.46 29 eP P 05 52 05.9 -0.5
CEME Cevo 66.50 307⇓iP P 05 52 06.6 -0.6
VRAC Vranov 66.50 315⇑iP P 05 52 08.1 +1.1
VRAC Vranov 66.50 315 ⇑P P 05 52 08.1 +1.1
VRAC Vranov 66.50 315 eP P 05 52 07.8 +0.8
BUM Brajici-Budva 66.58 307⇓iP P 05 52 07.0 -0.7
UPC Upice 66.60 316 eP P 05 52 08.6 +1.0
UPC epP pP 05 52 12.8 -1.4
UPC AMS AMS 06 21 40.0
comp=Z,900nm,17.6s
UPC Upice 66.60 316 eP P 05 52 08.6 +1.0
UPC MLR MLR
comp=Z,900nm,17.6s
BRY Bratogost 66.68 308⇓iP P 05 52 08.2 -0.2
BRY Bratogost 66.68 308 eP P 05 52 07.8 -0.6
KRUC Moravsky 66.68 315 eP P 05 52 08.9 +0.8
NC405 NORSAR Array S 66.75 328 eP P 05 52 08.9 +0.6
HCY Herceg Novi 66.83 307⇓iP P 05 52 08.7 -0.5
HCY Herceg Novi 66.83 307 eP P 05 52 08.4 -0.8
TREB Trebinje 66.86 308 eP P 05 52 09.0 -0.4
SOP Sopron 66.89 313⇓eP P 05 52 09.0 -0.5
NB2 NORSAR Subarra 67.00 328 P P 05 52 09.0 -1.0
comp=Z,4.8nm,0.8s,baz=77,slow=6.5
NOA NORSAR Array B 67.00 328 P P 05 52 09.3 -0.7
comp=Z,9.8nm,0.8s,baz=78,slow=6.3,SNR=19
NOA pP PP 05 54 37.2 -0.1
comp=Z,3.4nm,1.0s,baz=79,slow=8.9,SNR=3.8
NOA LR LR 06 23 32.2
comp=Z,702nm,19.9s,baz=90,slow=38
BEHE Becsehely 67.04 312 eP P 05 52 11.1 +0.7
BEHE Becsehely 67.04 312⇓eP P 05 52 10.1 -0.4
NC204 NORSAR Array S 67.16 328 eP P 05 52 11.0 -0.1
BLY Banja Luka 67.18 310 eP P 05 52 11.6 +0.2
BLY Banja Luka 67.18 310⇑iP P 05 52 11.7 +0.3
BLY Banja Luka 67.18 310 eP P 05 52 11.3 -0.1
TREC Trest 67.21 315 eP P 05 52 12.4 +0.9
TREC ex x 05 52 17.2
TREC AMS AMS 06 22 50.0
comp=Z,1μm,20.7s
TREC Trest 67.21 315 eP P 05 52 12.4 +0.9
TREC MLR MLR
comp=Z,1μm,20.7s
STON Ston 67.29 308 eP P 05 52 11.0 -1.0
CONA Conrad Observa 67.29 314 iPP P 05 52 12.6 +0.4
comp=Z,79nm,1.5s,SNR=33
PVCC Panska Ves 67.50 316 eP P 05 52 14.2 +0.9
PVCC AMS AMS 06 22 20.0
comp=Z,1μm,20.1s
PVCC Panska Ves 67.50 316 eP P 05 52 14.2 +0.9
PVCC MLR MLR
comp=Z,1μm,20.1s
GOPC GO Pecny, Ondr 67.51 316 eP P 05 52 14.2 +0.8
GOPC epP pP 05 52 18.7 -1.3
GOPC AMS AMS 06 24 50.0
comp=Z,1μm,17.6s
GOPC GO Pecny, Ondr 67.51 316 eP P 05 52 14.2 +0.8
GOPC MLR MLR
comp=Z,1μm,17.6s
RUE Ruedersdorf 67.52 319 eP P 05 52 14.1 +0.8
comp=Z,78nm,1.1s,baz=74,slow=6.2
PRU Pruhonice 67.64 316 eP P 05 52 14.7 +0.5
PRU epP pP 05 52 19.4 -1.4
PRU AMS AMS 06 22 50.0
comp=Z,1μm,19.1s
PRU Pruhonice 67.64 316 eP P 05 52 14.7 +0.5
PRU MLR MLR
comp=Z,1μm,19.1s
ARSA Arzberg 67.68 313 iP P 05 52 14.6 +0.1
comp=Z,35nm,1.6s,SNR=12
BRG Berggiesshubel 67.80 317 iP P 05 52 15.8 +0.7
comp=Z,32nm,1.0s
BRG ePP PP 05 54 39.8 -4.7
comp=Z,12nm,1.5s
BRG Berggiesshubel 67.80 317 eP P 05 52 15.9 +0.7
comp=Z,32nm,1.0s,baz=74,slow=6.2
BRG Berggiesshubel 67.80 317 iP P 05 52 15.8 +0.7
BRG e 05 54 39.8
BRG pmax pmax
comp=Z,32nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.5s
BRG MLR MLR
comp=N,765nm,15.1s
BRG MLR MLR
comp=Z,1μm,16.7s
ABPO Ambohimpanom 67.81 234 eP P 05 52 16.1 +0.3
ABPO LR LR
comp=Z,322nm,19.0s
ABPO Ambohimpanom 67.81 234 eP P 05 52 16.1 +0.3
ABPO MLR MLR
comp=Z,322nm,19.0s
BBOO Buckleboo 67.86 147 eP P 05 52 15.9 +0.3
CRES Cresnjev 68.09 311 eP P 05 52 16.4 -0.7
KONO Kongsberg 68.10 327ceP P 05 52 18.4 +1.6
KONO pmax pmax
comp=Z,72nm,2.5s
PERS Pernice 68.11 312 eP P 05 52 17.4 +0.1
FBE Freiberg 68.15 317 eP P 05 52 18.3 +0.9
comp=Z,59nm,1.2s,baz=74,slow=6.2
SOKA Soboth 68.15 312 iP P 05 52 17.6 +0.1
comp=Z,42nm,1.2s,SNR=20
HNR Honiara 68.22 113 PFAKE 05 52 30.0 +12
HNR LR LR
comp=Z,677nm,20.0s
CLL Collm 68.27 318 eP P 05 52 18.4 +0.3
CLL Collm 68.27 318 eP P 05 52 18.4 +0.3
comp=Z,36nm,1.2s,baz=74,slow=6.2
CLL Collm 68.27 318⇓iP P 05 52 18.3 +0.3
comp=Z,36nm,1.2s
CLL e 05 52 27.0
CLL ePP PP 05 54 48.0 -0.5
CLL e 06 01 30.0
CLL eSS SS 06 05 36.0 -4.5
CLL e 06 06 42.0
CLL eSSS SSS 06 09 00.0
CLL Collm 68.27 318⇓iP P 05 52 18.3 +0.3
CLL e 05 52 27.0
CLL pmax pmax
comp=Z,36nm,1.2s
BOJS Bojanci 68.31 311 eP P 05 52 18.9 +0.5
MOA Molln 68.35 314 iP P 05 52 18.9 +0.2
comp=Z,29nm,1.0s,SNR=14
GEC2 GERESS Array S 68.46 315 eP P 05 52 20.0 +0.5
GEC2 GERESS Array S 68.46 315 eP P 05 52 20.3 +0.8
comp=Z,144nm,1.9s,baz=74,slow=6.2
GERES GERESS Array B 68.46 315 P P 05 52 19.6 +0.1
comp=Z,12nm,0.8s,baz=64,slow=6.1,SNR=89
GERES LR LR 06 24 03.2
comp=Z,899nm,20.1s,baz=78,slow=37
KHC Kasperske Hory 68.46 315 eP P 05 52 20.0 +0.5
KHC Kasperske Hory 68.46 315 eP P 05 52 19.9 +0.5
KHC epP pP 05 52 24.9 -1.2
KHC AMS AMS 06 25 30.0
comp=Z,1μm,19.0s
KHC Kasperske Hory 68.46 315 eP P 05 52 19.9 +0.5
KHC e 05 52 24.9
KHC MLR MLR
comp=Z,1μm,19.0s
VISS Visnje 68.51 312 iP P 05 52 19.8 +0.1
OBKA Obir 68.52 312 ipP P 05 52 20.2 +0.3
comp=Z,32nm,1.1s,SNR=8.4
MATE Matera 68.60 306⇑iP P 05 52 20.2 -0.1
LJU Ljubljana 68.66 312 eP P 05 52 20.5 -0.1
CEY Cerknica 68.80 312 eP P 05 52 21.0 -0.6
TANN Tannenbergstha 68.83 317 eP P 05 52 22.3 +0.6
comp=Z,65nm,1.1s,baz=74,slow=6.2
RIY Rijeka 68.88 311 eP P 05 52 22.0 0.0
NKC Novy Kostel 68.88 317 eP P 05 52 23.0 +1.0
NKC Novy Kostel 68.88 317 eP P 05 52 23.0 +1.0
WET Wettzell 68.90 315 eP P 05 52 23.1 +0.9
comp=Z,44nm,1.1s,baz=74,slow=6.2
WERN Wernitzgruen 68.91 317 eP P 05 52 23.1 +0.9
comp=Z,35nm,1.1s,baz=74,slow=6.2
GUNZ Gunzen 68.92 317 eP P 05 52 23.1 +0.8
comp=Z,46nm,1.1s,baz=74,slow=6.2
RDOG Red Dog Mine 68.94 24 eP P 05 52 22.0 0.0
ANM Nome 68.97 27 eP P 05 52 22.0 -0.3
ANM Nome 68.97 27 eP P 05 52 22.0 -0.3
TIP Timpagrande 68.97 304 eP P 05 52 22.3 -0.5
PLN Plauen 69.00 317 eP P 05 52 23.3 +0.6
comp=Z,26nm,1.1s,baz=74,slow=6.2
NEUB Neuenburg 69.04 318 eP P 05 52 23.6 +0.7
comp=Z,69nm,1.1s,baz=74,slow=6.2
MYKA Terra Mystica 69.09 313 iP P 05 52 23.3 -0.1
comp=Z,18nm,1.0s,SNR=6.0
MUD Monsted U'grnd 69.12 324 iP P 05 52 24.3 +1.0
comp=Z,193nm,1.7s
MUD Monsted U'grnd 69.12 324 eP P 05 52 24.3 +1.0
MUD pmax pmax
comp=Z,190nm,1.7s
ROTZ Rotzenmuhle 69.16 316 eP P 05 52 25.0 +1.3
comp=Z,80nm,1.1s,baz=74,slow=6.2
KBA Koelnbreinsper 69.16 313 iP P 05 52 23.5 -0.5
comp=Z,33nm,0.9s,SNR=17
MANZ Manzenberg 69.16 316 eP P 05 52 24.6 +0.8
comp=Z,72nm,1.6s,baz=74,slow=6.2
BSEG Bad Segeberg 69.17 321 eP P 05 52 24.8 +1.2
comp=Z,69nm,1.2s,baz=74,slow=6.2
MOX Moxa 69.29 317 eP P 05 52 25.0 +0.5
comp=Z,92nm,1.9s,baz=74,slow=6.2
MOX eL L 06 26 29.3
comp=Z,672nm,19.4s
NRDL Niedersach Rie 69.68 319 eP P 05 52 28.1 +1.4
comp=Z,71nm,1.1s,baz=74,slow=6.2
CLZ Clausthal 69.71 319 eP P 05 52 28.0 +0.9
comp=Z,75nm,1.0s,baz=74,slow=6.2
GRA1 Grafenberg Arr 69.79 316 eP P 05 52 28.7 +1.1
GRF Grafenberg Arr 69.79 316 eP P 05 52 28.8 +1.1
comp=Z,100nm,1.5s,baz=74,slow=6.2
GRF eL L 06 26 53.9
comp=Z,766nm,19.8s
GRF Grafenberg Arr 69.79 316 eP P 05 52 28.7 +1.1
GRFO Grafenberg 69.80 316 eP P 05 52 28.5 +0.9
GRFO Grafenberg 69.80 316 eP P 05 52 28.5 +0.9
ABTA Abfaltersbach 69.80 313 iP P 05 52 27.2 -0.7
comp=Z,44nm,1.4s,SNR=14
CEL Celeste 69.89 304 eP P 05 52 28.1 -0.4
STKA Stephens Creek 69.97 143 eP P 05 52 29.0 +0.2
STKA Stephens Creek 69.97 143 eP P 05 52 29.0 +0.2
STKA Stephens Creek 69.97 143 P P 05 52 28.9 +0.2
comp=Z,42nm,1.1s,baz=325,slow=7.1,SNR=34
GTTG Gvttingen 70.03 318 eP P 05 52 30.0 +0.9
comp=Z,82nm,1.1s,baz=74,slow=6.2
RETH Rethem/Aller, 70.05 320 eP P 05 52 30.0 +0.9
comp=Z,24nm,1.1s,baz=74,slow=6.2
FUR Furstenfeldbru 70.20 315 eP P 05 52 31.3 +1.1
comp=Z,148nm,1.1s,baz=74,slow=6.2
UBBA Unterbreizbach 70.22 318 eP P 05 52 30.7 +0.6
comp=Z,94nm,1.9s,baz=74,slow=6.2
WTTA Wattenberg 70.23 314 iP P 05 52 30.1 -0.5
comp=Z,46nm,1.0s,SNR=17
WATA Walderalm 70.24 314 iP P 05 52 30.1 -0.5
comp=Z,19nm,0.9s,SNR=15
AQU L'Aquila 70.48 308 eP P 05 52 31.5 -0.5
AQU L'Aquila 70.48 308 eP P 05 52 31.5 -0.5
AQU L'Aquila 70.48 308 eP P 05 52 32.0 0.0
SQTA Sankt Quirin 70.52 314 iP P 05 52 31.8 -0.4
comp=Z,49nm,0.9s,SNR=22
MOTA Moosalm 70.55 314 iP P 05 52 32.2 -0.3
comp=Z,60nm,1.0s,SNR=39
RETA Reutte 70.73 314 iP P 05 52 33.3 -0.2
comp=Z,44nm,0.9s,SNR=19
FETA Feichten 70.89 314 iP P 05 52 34.3 -0.2
comp=Z,72nm,1.0s,SNR=32
DAG Danmarks Havn 71.09 348 iP P 05 52 33.8 -1.2
comp=Z,49nm,1.3s
DAG Danmarks Havn 71.09 348 iP P 05 52 33.8 -1.2
DAG pmax pmax
comp=Z,94nm,1.3s
UBR Ueberruh 71.09 314 eP P 05 52 35.9 +0.2
comp=Z,41nm,1.0s,baz=74,slow=6.2
EIDS Eidsvold 71.09 132 eP P 05 52 36.6 +0.8
IBBN Ibbenburen 71.11 320 eP P 05 52 36.5 +0.9
comp=Z,41nm,1.1s,baz=74,slow=6.2
VAE Valguarnera 71.25 303 P P 05 52 38.5 +1.7
comp=Z,28nm,0.9s,baz=240,slow=10,SNR=6.7
FUORN Ofenpass-Fuorn 71.32 313 eP P 05 52 37.5 +0.2
STU Stuttgart 71.34 316 eP P 05 52 37.9 +0.9
STU Stuttgart 71.34 316 eP P 05 52 38.0 +0.9
comp=Z,102nm,1.0s,baz=74,slow=6.2
STU Stuttgart 71.34 316 eP P 05 52 37.9 +0.9
TNS Taunus Mts 71.35 317 eP P 05 52 37.9 +0.7
comp=Z,44nm,1.0s,baz=74,slow=6.2
DAVA Damuels 71.36 314 iP P 05 52 37.1 -0.3
comp=Z,44nm,1.2s,SNR=15
MBAR Mbarara 71.46 260 eP P 05 52 39.2 +0.7
MBAR Mbarara 71.46 260 eP P 05 52 39.2 +0.7
DAVOX Davos/Dischmat 71.52 314 P P 05 52 38.2 -0.2
comp=Z,53nm,0.8s,baz=101,slow=8.5
BUG Bochum–Univer 71.67 319 eP P 05 52 39.9 +0.9
comp=Z,49nm,1.1s,baz=74,slow=6.2
WTSB Winterswijk 71.78 319 eP P 05 52 39.8 +0.2
comp=Z,84nm,1.0s
TUE Stuetta 71.96 313 eP P 05 52 41.1 0.0
VLC Villacollemand 72.01 311 eP P 05 52 42.5 +1.2
BFO Black Forest 72.02 315 eP P 05 52 41.3 +0.1
BFO Black Forest 72.02 315 eP P 05 52 41.6 +0.4
comp=Z,57nm,1.3s,baz=74,slow=6.2
BFO Black Forest 72.02 315ceP P 05 52 41.7 +0.5
AHRW Bad Neuenahr-A 72.08 318 eP P 05 52 42.1 +0.7
comp=Z,50nm,1.1s,baz=74,slow=6.2
CLTB Cattolotta 72.13 304 eP P 05 52 41.1 -0.9
HGN Heimansgroeve 72.69 318 eP P 05 52 45.7 +0.6
comp=Z,53nm,1.1s
MEM Membach 72.70 318 ⇓P P 05 52 45.7 +0.5
comp=Z,24nm,1.2s
MEM ⇓PcP PcP 05 53 00.8 -1.7
ECH Echery 72.80 316 eP P 05 52 45.6 -0.3
ECH Echery 72.80 316 eP P 05 52 45.6 -0.3
BEBN Eben Emael 72.83 319 ⇑pP P 05 52 46.9 +1.0
WLF Walferdange 72.93 317 eP P 05 52 47.4 +0.8
WLF Walferdange 72.93 317 eP P 05 52 48.1 +1.5
baz=74,slow=6.2
WLF Walferdange 72.93 317 eP P 05 52 47.4 +0.8
WLF Walferdange 72.93 317 ⇑P P 05 52 47.2 +0.6
comp=Z,120nm,1.3s
WLF ⇑PcP PcP 05 53 02.0 -1.5
IM3 Indian Mountai 73.04 24 eP P 05 52 45.5 -1.4
BCLA Clavier 73.19 318 ⇓P P 05 52 48.4 +0.4
comp=Z,33nm,1.3s
TOLK Toolik Lake Re 73.28 21 eP P 05 52 48.4 0.0
TOLK Toolik Lake Re 73.28 21 P P 05 52 48.1 -0.3
baz=298
SENIN Lac Senin/Sane 73.34 314 eP P 05 52 49.4 +0.1
UCC Uccle 73.62 319 eP P 05 52 51.4 +0.9
UCC Uccle 73.62 319 eP P 05 52 51.4 +0.9
UCC Uccle 73.62 319 ⇓P P 05 52 50.5 -0.1
DOU Dourbes 73.73 318 ⇓P P 05 52 51.7 +0.5
DOU ⇑PcP PcP 05 53 05.4 -1.5
COLD Coldfoot 73.74 22 eP P 05 52 51.3 +0.2
BNI Bardonecchia 74.20 313 eP P 05 52 53.9 -0.4
BNI Bardonecchia 74.20 313 eP P 05 52 53.9 -0.4
SVW2 Sparrevohn 74.40 29 eP P 05 52 55.4 +0.4
MLY Manley 74.59 25 eP P 05 52 55.5 -0.6
CAST Castle Rocks 74.83 26 eP P 05 52 57.8 +0.4
ARMA Armidale 74.84 135 eP P 05 53 00.5 +2.4
MLA1 Latheron 74.86 328 eP P 05 52 58.2 +0.5
DRUM Mains of Drumt 75.02 326⇓eP P 05 52 58.7 +0.1
DRUM lAmb lAmb 05 53 00.2
comp=Z,55nm,1.0s
MME1 Meikle Cairn 75.08 327 eP P 05 52 59.0 0.0
MCD Coleburn Disti 75.11 327⇓eP P 05 52 59.5 +0.4
LMK Market Rasen 75.29 323⇓eP P 05 53 00.8 +0.6
LMK lAmb lAmb 05 53 01.9
comp=Z,169nm,1.0s
EDU Dundee 75.43 326⇓eP P 05 53 00.7 -0.3
BWN Browne 75.49 25 eP P 05 53 02.2 +1.0
ESY Stoneypath 75.49 325 eP P 05 53 01.4 0.0
SCO Scoresbysund 75.52 343 eP P 05 53 04.6 +3.4
SCO Scoresbysund 75.52 343 iP P 05 53 01.3 +0.1
comp=Z,207nm,2.1s
SCO Scoresbysund 75.52 343 iP P 05 53 01.3 +0.1
SCO pmax pmax
comp=Z,210nm,2.1s
TRF Thorofare Moun 75.53 26 eP P 05 53 01.5 -0.1
SSB Saint Sauveur 75.53 313 eP P 05 53 01.7 -0.2
SSB Saint Sauveur 75.53 313 eP P 05 53 01.7 -0.2
MDM Murphy Dome 75.56 24 eP P 05 53 01.1 -0.5
EDMD Edmundbyers 75.61 324 eP P 05 53 02.0 0.0
EDMD lAmb lAmb 05 53 03.1
comp=Z,68nm,1.0s
KEST Kesra 75.67 303 P P 05 53 03.1 +0.2
comp=Z,52nm,1.2s,baz=182,slow=1.6,SNR=15
KEST LR LR 06 31 46.6
comp=Z,188nm,20.1s,baz=320,slow=40
COLA College 75.74 24 eP P 05 53 02.1 -0.5
comp=Z,17nm,1.0s
COLA LR LR
comp=Z,1μm,19.0s
COLA College 75.74 24 eP P 05 53 02.1 -0.5
COLA pmax pmax
comp=Z,17nm,1.0s
COLA MLR MLR
comp=Z,1μm,19.0s
POKR Poker Plat Res 75.77 24 P P 05 53 02.5 -0.3
baz=301
EBL Broad Law 75.77 325 eP P 05 53 03.1 +0.1
EDI Edinburgh 75.78 326⇓eP P 05 53 03.1 +0.1
EDI lAmb lAmb 05 53 04.1
comp=Z,64nm,1.2s
HPK Haverah Park 75.79 323 eP P 05 53 03.0 -0.1
HPK lAmb lAmb 05 53 04.4
comp=Z,63nm,1.0s
WRH Wood River Hil 75.86 24 eP P 05 53 02.3 -1.0
CLF Chambon-Foret 75.92 317 eP P 05 53 04.0 0.0
RSO Redoubt South 75.92 29 eP P 05 53 04.6 +0.6
EAU Auchinoon 75.95 326⇓eP P 05 53 04.4 +0.4
EKA Eskdalemuir Ar 76.02 325 P P 05 53 04.3 -0.1
comp=Z,22nm,0.9s,baz=67,slow=6.3,SNR=51
EKA PP PP 05 55 54.9 +0.3
comp=Z,4.0nm,0.8s,baz=62,slow=9.2,SNR=6.3
ESK Eskdalemuir 76.05 325 eP P 05 53 05.2 +0.6
ESK LR LR
comp=Z,1μm,22.0s
ESK Eskdalemuir 76.05 325⇓eP P 05 53 04.7 +0.1
ESK lAmb lAmb 05 53 05.8
comp=Z,38nm,1.0s
ESK Eskdalemuir 76.05 325ceP P 05 53 05.4 +0.8
LBWR Ladybower, Pea 76.07 323 eP P 05 53 05.0 +0.2
LBWR lAmb lAmb 05 53 06.2
comp=Z,94nm,1.0s
RND Reindeer 76.11 26 eP P 05 53 04.0 -0.9
CWF Charnwood Fore 76.12 322 eP P 05 53 04.9 -0.1
CWF lAmb lAmb 05 53 06.0
comp=Z,30nm,1.0s
IL1 Eielson Array 76.14 24 eP P 05 53 03.0 -1.9
ILAR Eielson Array 76.14 24 P P 05 53 03.0 -1.9
comp=Z,6.6nm,1.0s,baz=275,slow=5.2,SNR=36
ILAR LR LR 06 29 32.7
comp=Z,997nm,19.2s,baz=300,slow=38
ILB Eielson Array 76.14 24 eP P 05 53 03.9 -1.1
KAC Achnashellach 76.14 328 eP P 05 53 05.0 -0.1
BHH Howats Hill 76.15 325 eP P 05 53 05.1 0.0
EAB Aberfoyle 76.25 326⇓eP P 05 53 05.8 +0.1
KESW Keswick, Cumbr 76.31 324⇓eP P 05 53 06.4 +0.3
KESW lAmb lAmb 05 53 07.4
comp=Z,66nm,1.1s
HDA Harding Lake 76.31 24 P P 05 53 04.4 -1.6
baz=302
TOO Toolangi 76.37 144 eP P 05 53 08.1 +1.6
TOO Toolangi 76.37 144 eP P 05 53 08.1 +1.6
PGBU Gleniffer braes 76.49 326⇓eP P 05 53 07.5 +0.4
PGBU lAmb lAmb 05 53 08.4
comp=Z,64nm,1.1s
WOL Wolverton 76.67 321⇓eP P 05 53 08.7 +0.6
WOL lAmb lAmb 05 53 09.7
comp=Z,96nm,1.1s
PMR Palmer 76.92 27 eP P 05 53 08.2 -1.1
PMR Palmer 76.92 27 eP P 05 53 08.2 -1.1
STRD Stroud 77.00 321⇓eP P 05 53 10.4 +0.4
STRD lAmb lAmb 05 53 11.4
comp=Z,81nm,0.9s
GAL1 Galloway 77.03 325 eP P 05 53 10.4 +0.3
HLM1 Long Mynd 77.08 322 eP P 05 53 10.1 -0.4
HLM1 lAmb lAmb 05 53 12.0
comp=Z,96nm,1.4s
FOEL Foel Wylfa 77.10 323 eP P 05 53 11.1 +0.5
FOEL lAmb lAmb 05 53 12.2
comp=Z,57nm,1.0s
KDAK Kodiak Island 77.26 32 PFAKE 05 53 20.0 +8.6
KDAK LR LR
comp=Z,645nm,22.0s
KDAK Kodiak Island 77.26 32ceP P 05 53 10.5 -0.9
OLDB Oldbury-Upon-S 77.27 321⇓eP P 05 53 11.9 +0.4
OLDB lAmb lAmb 05 53 12.8
comp=Z,87nm,1.0s
WPM1 Penmaenmawr 77.32 323⇓eP P 05 53 12.1 +0.3
WIM Isle of Man 77.33 324⇓eP P 05 53 12.5 +0.6
MONM Monmouth 77.33 322⇓eP P 05 53 12.2 +0.3
MONM lAmb lAmb 05 53 13.2
comp=Z,91nm,1.4s
MCH1 Michaelchurch 77.37 322⇓eP P 05 53 12.3 +0.2
MCH1 lAmb lAmb 05 53 13.5
comp=Z,63nm,1.0s
WME Myndd Eilian 77.47 323⇓eP P 05 53 13.0 +0.4
YLL Llanberis 77.51 323⇓eP P 05 53 13.2 +0.4
SEW Seward 77.54 29 eP P 05 53 12.0 -0.8
TULEG Thule 77.55 357 eP P 05 53 12.1 -0.5
WLF1 Llynfaes 77.57 323⇓eP P 05 53 13.6 +0.5
WLF1 lAmb lAmb 05 53 14.7
comp=Z,123nm,1.0s
PAX Paxson 77.64 25 eP P 05 53 11.1 -2.5
PAX Paxson 77.64 25 eP P 05 53 11.1 -2.5
YRC Rhoscolyn 77.68 323⇓eP P 05 53 13.7 0.0
SUMG Summit 77.76 348 eP P 05 53 13.7 -0.7
SUMG Summit 77.76 348⇓iP P 05 53 14.1 -0.3
comp=Z,151nm,1.1s
SUMG Summit 77.76 348⇓iP P 05 53 14.1 -0.3
SUMG pmax pmax
comp=Z,150nm,1.1s
DOT Dot Lake 77.79 24 eP P 05 53 13.9 -0.5
MAHO Mahon 77.80 308 iP P 05 53 15.8 +1.1
MAHO eS SKiKP 06 02 46.0 +19
LPW Lampeter 77.92 322 eP P 05 53 15.8 +0.7
LPW lAmb lAmb 05 53 16.8
comp=Z,101nm,1.1s
GMM Mts of Mourne 77.96 325⇓eP P 05 53 15.5 +0.2
EGAK Eagle 78.17 22 eP P 05 53 15.9 -0.4
EGAK LR LR
comp=Z,899nm,19.0s
KLU Klutina 78.28 27 eP P 05 53 17.2 +0.2
INK Inuvik 78.28 18 eP P 05 53 16.0 -0.9
comp=Z,37nm,1.1s
INK Inuvik 78.28 18 eP P 05 53 16.0 -0.9
INK pmax pmax
comp=Z,37nm,1.1s
MENT Mentasta 78.33 25 eP P 05 53 17.2 -0.1
RSBS Rosebush, Pemb 78.36 322 eP P 05 53 18.1 +0.5
RSBS lAmb lAmb 05 53 19.1
comp=Z,34nm,1.0s
IDGL Inch Island, C 78.36 326 eP P 05 53 17.2 -0.3
DIV Divide 78.54 27 eP P 05 53 18.9 +0.4
EPYK Eagle Plains 78.64 20 P P 05 53 17.7 -1.2
baz=310
DSB Dublin 78.64 324 eP P 05 53 32.5 +13
KULLO Kullorsuaq 78.65 354 iP P 05 53 18.1 -0.7
comp=Z,61nm,1.1s
KULLO Kullorsuaq 78.65 354 iP P 05 53 18.1 -0.7
KULLO pmax pmax
comp=Z,61nm,1.1s
HTL Hartland 78.65 321 eP P 05 53 20.0 +0.7
HTL lAmb lAmb 05 53 20.9
comp=Z,70nm,0.9s
DAWY Dawson 79.22 23 eP P 05 53 21.1 -1.1
comp=Z,14nm,0.9s
IWEX Carrickbyrne, 79.27 323 eP P 05 53 23.0 +0.4

IGLA Glengowla, Co 80.13 325 *e*P **P** 05 53 26.1 -1.1
IGLA Glengowla, Co 80.13 325 *e*P **P** 05 53 27.3 +0.1
IGLA IAmb IAmb 05 53 28.1
comp=Z,29nm,0.9s
DZM Mont Dzumac 80.31 120 *e*P P 05 53 35.4 +6.6
comp=Z,62nm,1.2s
LSZ Lusaka 80.73 248 *e*P **P** 05 53 31.3 +0.1
comp=Z,17nm,1.1s
LSZ LR LR
comp=Z,855nm,21.0s
LSZ Lusaka 80.73 248 *e*P **P** 05 53 31.3 +0.1
LSZ pmax pmax
comp=Z,17nm,1.1s
LSZ MLR MLR
comp=Z,855nm,21.0s
LSZ Lusaka 80.73 248 P **P** 05 53 31.3 +0.1
SNR=16
LSZ P **P** 05 53 31.3 +0.1
SNR=16
VAL Valentia 81.34 324 *e*P **P** 05 53 33.3 -0.4
CART Cartagena 82.51 308 *i* P **P** 05 53 40.7 +0.6
ESDC Sonseca Array 83.60 311 P **P** 05 53 46.0 +0.1
comp=Z,13nm,0.8s,baz=44,slow=5.4,SNR=58
ESDC LR LR 06 35 49.3
comp=Z,222nm,19.6s,baz=10.0,slow=39
ESLA Sonseca Array 83.60 311 *e*P **P** 05 53 46.8 +0.9
PAB San Pablo 83.92 311 *e*P **P** 05 53 48.4 +0.8
PAB LR LR
comp=Z,502nm,20.0s
PAB San Pablo 83.92 311 *e*P **P** 05 53 48.4 +0.8
PAB MLR MLR
comp=Z,502nm,20.0s
PBRG Braganca 84.41 314 *e*P **P** 05 53 50.5 +0.5
comp=Z,42nm,2.1s
SFJD Kangerlussuaq 84.73 349 ||*i*P **P** 05 53 50.3 -0.7
comp=Z,34nm,1.0s
SFJD Kangerlussuaq 84.73 349 ||*i*P **P** 05 53 50.3 -0.7
SFJD pmax pmax
comp=Z,34nm,1.0s
SFJD Kangerlussuaq 84.73 349 P **P** 05 53 50.4 -0.7
comp=Z,23nm,0.9s,baz=38,slow=5.3,SNR=8.8
MVO Moncorvo 84.92 313 *e*P **P** 05 53 53.3 +0.7
comp=Z,117nm,1.0s
MVO Moncorvo 84.92 313 *e*SS SS 06 10 00.4 +7.9
MVO Moncorvo 84.92 313 *e*LQ LQ 06 24 01.3
MVO eLR LR 06 30 12.7
comp=Z,227nm,20.0s
PCAB Cabril 85.29 314 *e*P **P** 05 53 55.0 +0.6
comp=Z,68nm,1.0s
PVRL Vila Real 85.31 314 *e*P **P** 05 53 55.5 +1.0
comp=Z,54nm,1.7s
POLO Lamas de Olo 85.31 314 *e*P **P** 05 53 55.4 +0.8
comp=Z,36nm,1.2s
EMAL Malaga-Limoner 85.31 309 *i* P **P** 05 53 54.0 -0.5
PGAV Gavieira, Arco 85.32 315 *e*P **P** 05 53 55.4 +0.8
comp=Z,68nm,1.7s
PGAV Gavieira, Arco 85.32 315 *e*LQ LQ 06 23 01.3
PGAV eLR LR 06 26 12.6
comp=Z,328nm,20.0s
MTE Manteigas 85.64 313 *e*P **P** 05 53 57.3 +1.1
comp=Z,154nm,1.1s
MTE Manteigas 85.64 313 *e*S **S** 06 04 32.5 +4.7
MTE Manteigas 85.64 313 *e*LQ LQ 06 25 23.9
MTE eLR LR 06 30 50.4
comp=Z,376nm,20.0s
PVIS Viseu 85.71 313 *e*P **P** 05 53 57.6 +1.1
comp=Z,74nm,1.6s
PCBR Castelo Branco 85.88 312 *e*P **P** 05 53 58.1 +0.8
comp=Z,65nm,1.2s
PTO Porto 85.95 314 *e*P **P** 05 53 58.6 +1.0
comp=Z,82nm,1.2s
PMRV Marv??o 86.03 312 *e*P **P** 05 53 58.7 +0.6
comp=Z,85nm,1.2s
COI Coimbra 86.31 313 *e*P **P** 05 54 00.7 +1.3
comp=Z,127nm,1.1s
PCAS Casmilo, Conde 86.45 313 *e*P **P** 05 54 01.0 +0.9
PESTR Estremoz 86.45 312 *e*P **P** 05 54 00.7 +0.5
comp=Z,49nm,1.2s
PTOM Tomar 86.61 313 *e*P **P** 05 54 01.9 +1.0
comp=Z,158nm,1.0s
PMTG Montargil 86.77 312 *e*P **P** 05 54 02.2 +0.5
comp=Z,71nm,1.8s
WRAK Wrangell Islan 86.92 26 PFAKE 05 54 10.0 +8.0
WRAK LR LR
comp=Z,1μm,20.0s
PBEJ Beja 87.06 311 *e*P **P** 05 54 05.0 +1.8
comp=Z,75nm,1.2s
MESJ Messejana 87.40 311 *e*P **P** 05 54 05.4 +0.6
MESJ AMS AMS 06 37 45.8
comp=Z,444nm,19.5s
MESJ Messejana 87.40 311 *e*P **P** 05 54 05.7 +0.9
comp=Z,115nm,1.1s
MESJ Messejana 87.40 311 *e*P **P** 05 54 05.4 +0.6
PNCL Nicolau / Gran 87.47 311 *e*P **P** 05 54 06.3 +1.2
comp=Z,97nm,1.1s
PBDV Barranco-do-Ve 87.51 310 *e*P **P** 05 54 07.0 +1.6
comp=Z,148nm,1.3s
PMAFR Mafra 87.53 312 *e*P **P** 05 54 06.2 +0.8
comp=Z,185nm,1.1s
MSVF Nonsavu 87.56 111 PFAKE 05 54 20.0 +14
MSVF LR LR
comp=Z,229nm,21.0s
PMST Lisbon--Monsan 87.58 312 *e*P **P** 05 54 07.4 +1.8
comp=Z,135nm,1.3s
YKA Yellowknife Ar 87.73 15 P **P** 05 54 04.5 -1.4
comp=Z,2.9nm,0.8s,baz=324,slow=4.8,SNR=46
YKA PP **PP** 05 57 27.1 -3.6
comp=Z,2.2nm,0.8s,baz=335,slow=7.9,SNR=8.8
YKA LR LR 06 38 38.9
comp=Z,64nm,18.6s,baz=321,slow=39
PTEO Sao Teotonio 87.89 311 *e*P **P** 05 54 07.8 +0.7
comp=Z,106nm,1.8s
MORF Marmelete 87.97 311 *e*P **P** 05 54 07.9 +0.3
MORF AMS AMS 06 33 50.8
comp=N,433nm,18.0s
MORF Marmelete 87.97 311 *e*P **P** 05 54 08.0 +0.4
comp=N,158nm,1.3s
MORF Marmelete 87.97 311 *e*P **P** 05 54 07.9 +0.3
PFVI Vila Bisbo 88.18 311 *e*P **P** 05 54 10.1 +1.6
comp=N,207nm,1.2s
AVE Averroes 89.15 307 ||*i*P **P** 05 54 16.4 +3.2
BOSA Boshof 89.73 238 P **P** 05 54 15.0 -0.9
comp=N,5,5nm,0.9s,baz=357,slow=5.4,SNR=4.8
BOSA LR LR 06 33 24.5
comp=N,317nm,20.3s,baz=46,slow=35
TORD Torodi Ar. Bea 91.42 285 P **P** 05 54 22.2 -1.9
comp=N,5.1nm,0.9s,baz=55,slow=3.8,SNR=22
TORD PP **PP** 05 58 01.1 -0.5
comp=N,3.2nm,1.0s,baz=50,slow=7.7,SNR=6.7
TORD PKKPbc **PKKPbc** 06 11 44.3 +0.2
comp=N,1.8nm,1.0s,baz=273,slow=2.3,SNR=6.7
TORD LR LR 06 40 58.5
comp=N,361nm,18.8s,baz=355,slow=39
TSUM Tsumeb 91.49 249 PFAKE 05 54 40.0 +16
TSUM LR LR
comp=Z,493nm,22.0s
SUR Sutherland 94.90 236 PFAKE 05 54 50.0 +10
SUR LR LR
comp=Z,16μm,21.0s
SUR Sutherland 94.90 236 LR LR 06 33 51.7
comp=Z,430nm,19.5s,baz=57,slow=33
FFC Flin Flon 97.55 13 PFAKE 05 55 00.0 +8.5
FFC LR LR
comp=Z,901nm,20.0s
SCHQ Schefferville 98.77 352 PP **PP** 05 58 58.7 +1.6
comp=Z,4.4nm,0.8s,baz=357,slow=3.4,SNR=3.9
SCHQ LR LR 06 44 02.7
comp=Z,209nm,19.7s,baz=356,slow=38
NEW Newport 99.10 24 PFAKE 05 55 10.0 +11
NEW LR LR
comp=Z,669nm,21.0s
HAWA Hanford 99.73 26 PFAKE 05 55 10.0 +8.7
HAWA LR LR
comp=Z,568nm,21.0s
EGMT Eagleton 101.78 20 PFAKE 05 55 20.0 +9.4
EGMT LR LR
comp=Z,640nm,22.0s
BMO Blue Mountains 101.88 26 PFAKE 05 55 20.0 +8.9
BMO LR LR
comp=Z,756nm,21.0s
DGMT Dagmar 102.92 16 PFAKE 05 55 30.0 +14
DGMT LR LR
comp=Z,911nm,20.0s
BOZ Bozeman (W) 103.33 22 PFAKE 05 55 30.0 +12
BOZ LR LR
comp=Z,951nm,20.0s
WVOR Wild Horse Val 103.33 28 PFAKE 05 55 30.0 +12
WVOR LR LR
comp=Z,460nm,20.0s
HLID Hailey 104.09 25 PFAKE 05 55 30.0 +9.0
HLID LR LR
comp=Z,1μm,19.0s
RLMT Red Lodge 104.52 21 PFAKE 05 55 30.0 +7.0
RLMT LR LR
comp=Z,1μm,21.0s
LKWY Lake 104.65 22 PFAKE 05 55 30.0 +6.4
LKWY LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 104.82 11 PFAKE 05 55 30.0 +6.0
AGMN LR LR
comp=Z,804nm,20.0s
EYMN Ely 105.80 8 PFAKE 05 59 50.0 +9.1
EYMN LR LR
comp=Z,779nm,20.0s
AHID Auburn Hatcher 105.99 23 PFAKE 05 59 50.0 +8.3
AHID LR LR
comp=Z,511nm,19.0s
BW06 Boulder Array 106.52 22 PFAKE 05 59 50.0 +7.3
BW06 LR LR
comp=Z,441nm,20.0s
PDAR Pinedale Array 106.52 22 PKiKP **PKiKP** 05 59 40.1 -2.7
comp=Z,1.1nm,1.1s,baz=342,slow=8.5,SNR=4.1
NVAR Mina Array Bea 106.74 30 PKiKP **PKiKP** 05 59 44.0 +0.7
comp=Z,0.6nm,0.7s,baz=212,slow=3.2,SNR=4.9
NVAR PKKPbc **PKKPbc** 06 11 00.5 -1.7
comp=Z,0.7nm,0.7s,baz=135,slow=4.2,SNR=4.4
HWUT Hardware Ranch 106.84 24 PFAKE 05 59 50.0 +6.7
HWUT LR LR
comp=Z,669nm,20.0s
DUG Dugway, Tooele 107.59 26 PFAKE 06 00 00.0 +15
DUG LR LR
comp=Z,680nm,21.0s
COWI Conover 107.89 6 PFAKE 06 00 00.0 +15
COWI LR LR
comp=Z,657nm,22.0s
PKME Peaks-Kenny Pk 108.47 352 PFAKE 06 00 00.0 +14
PKME LR LR
comp=Z,486nm,20.0s
ECSD EROS Data Cent 109.09 12 PFAKE 06 00 00.0 +13
ECSD LR LR
comp=Z,737nm,19.0s
GLMI Grayling 109.50 3 PFAKE 06 00 00.0 +12
GLMI LR LR
comp=Z,443nm,19.0s
OGNE Ogallala 110.48 17 PFAKE 06 00 00.0 +10
OGNE LR LR
comp=Z,639nm,19.0s
ISCO Idaho Springs 110.49 21 PFAKE 06 00 00.0 +10
ISCO LR LR
comp=Z,683nm,20.0s
SBA Scott Base 110.49 168 PFAKE 06 00 00.0 +11
SBA LR LR
comp=Z,323nm,19.0s
JFWS Jewell Farm 110.91 8 PFAKE 06 00 00.0 +9.4
JFWS LR LR
comp=Z,567nm,20.0s
SCIA State Center 111.47 10 PFAKE 06 00 00.0 +8.3
SCIA LR LR
comp=Z,1μm,21.0s
MVCO Mesa Verde 111.83 24 PFAKE 06 00 00.0 +7.1
MVCO LR LR
comp=Z,509nm,19.0s
AAM Ann Arbor 112.07 3 PFAKE 06 00 00.0 +7.2
AAM LR LR
comp=Z,579nm,22.0s
BINY Binghamton 112.13 357 PFAKE 06 00 00.0 +7.0
BINY LR LR
comp=Z,482nm,19.0s
WUAZ Wupatki 112.19 27 PFAKE 06 00 10.0 +16
WUAZ LR LR
comp=Z,553nm,21.0s
SDCO Great Sand Dun 112.39 21 PFAKE 06 00 10.0 +16
SDCO LR LR
comp=Z,909nm,19.0s
CBKS Cedar Bluff 113.09 16 PFAKE 06 00 10.0 +15
CBKS LR LR
comp=Z,964nm,21.0s
HDIL Hopedale 113.35 7 PFAKE 06 00 10.0 +15
HDIL LR LR
comp=Z,543nm,19.0s
KSU1 Kansas State U 113.55 14 PFAKE 06 00 10.0 +14
KSU1 LR LR
comp=Z,1μm,21.0s
ANMO Albuquerque 114.59 24 PFAKE 06 00 10.0 +12
ANMO LR LR
comp=Z,311nm,20.0s
ANMO Albuquerque 114.59 24*c* *i*PKIKP **PKiKP** 05 59 56.8 -1.3
ANMO pmax pmax
comp=Z,4.0nm,1.7s
ANMO Albuquerque 114.59 24 P **PKiKP** 05 59 57.9 -0.2
baz=334
TUC Tucson 115.20 28 PFAKE 06 00 10.0 +11
TUC LR LR
comp=Z,341nm,21.0s
TUC Tucson 115.20 28 P **PKiKP** 05 59 59.2 -0.1
baz=330
R44A Waltonville 115.65 8 P **PKiKP** 05 59 59.2 -0.6
baz=351
QSPA South Pole Qui 115.70 180 PFAKE 06 00 10.0 +11
QSPA LR LR
comp=Z,250nm,21.0s
PPT2 Papeete2 115.71 98 *e*PS PS 06 10 51.0 +6.4
comp=Z,254nm,28.8s
PPT2 *e*SS SS 06 17 13.9 +10
comp=Z,192nm,25.8s
PPT2 Papeete2 115.71 98 *e*LR LR 06 35 01.8
comp=Z,633nm,27.2s
S41A Jillco Farms, 115.93 10 P **PKiKP** 05 59 58.8 -1.6
baz=348
WCI Wyandotte Cave 115.95 5 P **PKiKP** 05 59 58.7 -1.7
baz=354
T41A Mountain View 116.46 10 P **PKiKP** 06 00 00.5 -1.0
baz=348
MSTX Muleshoe 116.73 21 P **PKpdf** 06 00 01.3 -0.9
baz=337
U40A Yellville 116.94 11 P **PKpdf** 06 00 01.0 -1.3
baz=347
T46A Princeton 116.98 7 P **PKpdf** 06 00 01.2 -1.2
baz=352
T48A Bowling Green 117.06 6 P **PKpdf** 06 00 01.3 -1.2
baz=354
WMOK Wichita Mounta 117.18 17 PFAKE 06 00 10.0 +7.1
WMOK LR LR
comp=Z,649nm,19.0s
BLA Blacksburg 117.22 0 PFAKE 06 00 10.0 +7.0
BLA LR LR
comp=Z,947nm,19.0s
T54A Tazewell 117.36 1 P **PKpdf** 06 00 01.4 -1.8
baz=359
U47A Clarksville 117.64 6 P **PKpdf** 06 00 02.1 -1.6
baz=353
TBI Tubuai 117.71 104 *e*LR LR 06 36 03.9
comp=Z,256nm,34.0s
U50A Jamestown 117.86 4 P **PKpdf** 06 00 03.1 -1.1
baz=355
WVT Waverly 117.89 7 P **PKpdf** 06 00 03.1 -1.1
baz=352
MNTX Cornudas Mount 117.90 24 PFAKE 06 00 20.0 +16
MNTX LR LR
comp=Z,401nm,22.0s
MNTX Cornudas Mount 117.90 24 P **PKpdf** 06 00 03.7 -0.7
baz=334
W39A Magazine 117.90 13 P **PKpdf** 06 00 03.1 -1.1
baz=346
MIAR Mount Ida 118.57 13 PFAKE 06 00 20.0 +14
MIAR LR LR
comp=Z,551nm,22.0s
MIAR Mount Ida 118.57 13 P **PKpdf** 06 00 04.1 -1.4
baz=346
W47A Westpoint 118.78 7 P **PKpdf** 06 00 04.0 -2.0
baz=352
W49A Belvidere 119.04 6 P **PKpdf** 06 00 04.9 -1.6
baz=354
CNNC Cliffs of the 119.15 358 PFAKE 06 00 20.0 +13
CNNC LR LR
comp=Z,572nm,20.0s
W53A Cullowhee 119.20 3 P **PKpdf** 06 00 06.0 -0.9
baz=357
X49A Woodville 119.64 6 P **PKpdf** 06 00 05.5 -2.1
baz=354
TXAR Lajitas Array 120.66 24 PKP **PKpdf** 06 00 08.6 -1.3
comp=Z,2.6nm,0.9s,baz=210,slow=0.6,SNR=22
TAOE Nuku Hiva Isla 120.85 85 *e*LR LR 06 37 31.2
comp=Z,509nm,29.2s
JCT Junction City 120.89 20 *e*PKPdf **PKPdf** 06 00 08.9 -1.2
JCT LR LR
comp=Z,703nm,20.0s
JCT Junction City 120.89 20 *e*PKIKP **PKPdf** 06 00 09.0 -1.2
JCT MLR MLR
comp=Z,703nm,20.0s
JCT Junction City 120.89 20 P **PKPdf** 06 00 09.0 -1.2
baz=340
GOGA Godfrey 120.94 3 PFAKE 06 00 20.0 +10
GOGA LR LR
comp=Z,610nm,19.0s
NATX Nacogdoches 121.03 14 PFAKE 06 00 20.0 +10
NATX LR LR
comp=Z,510nm,20.0s
NHSC New Hope 121.32 360 PFAKE 06 00 20.0 +9.0
NHSC LR LR
comp=Z,836nm,19.0s
249A Camden 122.07 7 P **PKPdf** 06 00 11.5 -0.8
baz=353
251A Midway 122.12 5 P **PKPdf** 06 00 12.0 -0.4
baz=354
BRAL Brewton 122.88 7 PFAKE 06 00 30.0 +16
BRAL LR LR
comp=Z,668nm,19.0s
KVTX Kingsville 124.21 19 PFAKE 06 00 30.0 +13
KVTX LR LR
comp=Z,683nm,20.0s
SJG San Juan 134.15 341 PFAKE 06 00 50.0 +13
SJG LR LR
comp=Z,347nm,22.0s
GTBY Guantanamo Bay 134.17 353 PFAKE 06 00 50.0 +13
GTBY LR LR
comp=Z,439nm,20.0s
SDDR Presa de Saban 134.54 348 PFAKE 06 00 50.0 +12
SDDR LR LR
comp=Z,478nm,19.0s
JTS JuntasAbangare 143.74 8 PFAKE 06 01 00.0 +3.3
JTS LR LR
comp=Z,356nm,21.0s
SDV Santo Domingo 144.18 344 *e*PKPdf **PKPab** 06 00 50.3 -1.6
SDV LR LR
comp=Z,341nm,19.0s
SDV Santo Domingo 144.18 344 *e*P **PKPab** 06 00 49.9 -2.0
SDV Santo Domingo 144.18 344 *e*P **PKPab** 06 00 49.9 -2.0
SMLC San Martn de 144.99 349 *e*P **PKPab** 06 00 53.2 -1.3
SMLC San Martn de 144.99 349 *e*P **PKPab** 06 00 53.2 -1.3
OCAC Ocana 145.40 348 *e*P **PKPbc** 06 00 54.9 -1.2
OCAC Ocana 145.40 348 *e*P **PKPbc** 06 00 54.9 -1.2
PAMC Pamplona, Colo 146.15 346 *e*P **PKPdf** 06 00 55.8 -2.3
PAMC Pamplona, Colo 146.15 346 *e*P **PKPdf** 06 00 55.8 -2.3
UREC San Jos de Ur 146.24 352 *e*P **PKPdf** 06 00 56.6 -1.0
UREC San Jos de Ur 146.24 352 *e*P **PKPdf** 06 00 56.6 -1.0
ZARC Zaragoza, Cauc 146.40 350 *e*P **PKPdf** 06 00 57.4 -0.4
ZARC Zaragoza, Cauc 146.40 350 *e*P **PKPdf** 06 00 57.4 -0.4
AZU Azuero 146.51 0 *e*P **PKiKP** 06 01 04.5 +2.1
AZU Azuero 146.51 0 *e*P **PKiKP** 06 01 04.5 +2.1
BRRC Barranca, Sant 146.58 348 *e*P **PKPdf** 06 00 57.4 -0.7
BRRC Barranca, Sant 146.58 348 *e*P **PKPdf** 06 00 57.4 -0.7
BARC Barichara 146.98 347 *e*P **PKPdf** 06 00 57.1 -2.0
BARC Barichara 146.98 347 *e*P **PKPdf** 06 00 57.1 -2.0
PTBC PUERTO BERRIO 147.26 349 *e*P **PKPdf** 06 00 58.2 -1.1
PTBC PUERTO BERRIO 147.26 349 *e*P **PKPdf** 06 00 58.2 -1.1
RUSC La Rusia 147.64 347 *e*P **PKPdf** 06 00 57.4 -3.1
RUSC La Rusia 147.64 347 *e*P **PKPdf** 06 00 57.4 -3.1
HELC Santa Helena 147.77 351 *e*P **PKPbc** 06 01 02.4 -1.0
HELC Santa Helena 147.77 351 *e*P **PKPbc** 06 01 02.4 -1.0
SOLC Bahia Solano 147.94 355 *e*P **PKPbc** 06 01 02.4 -1.0
SOLC Bahia Solano 147.94 355 *e*P **PKPbc** 06 01 02.4 -1.0
BDFB Brasilia 148.26 282 PKPbc **PKPbc** 06 01 04.2 -0.1
comp=Z,13nm,0.8s,baz=39,slow=1.6,SNR=9.9
ROSC El Rosal 148.90 349 *e*P **PKPdf** 06 01 04.1 +1.6
ROSC El Rosal 148.90 349 *e*P **PKPdf** 06 01 04.1 +1.6
ROSC El Rosal 148.90 349 PKP **PKPdf** 06 01 02.7 +0.2
comp=Z,62nm,0.8s,baz=110,slow=0.2,SNR=17
ROSC PKPbc **PKPbc** 06 01 06.7 +0.3
comp=Z,84nm,0.9s,baz=118,slow=5.4,SNR=45
CHIC Chingaza 149.00 347 *e*P **PKPbc** 06 01 04.9 -1.8
CHIC Chingaza 149.00 347 *e*P **PKPbc** 06 01 04.9 -1.8
RREF El Recreo 149.01 350 *e*P **PKPbc** 06 01 05.7 -1.3
RREF El Recreo 149.01 350 *e*P **PKPbc** 06 01 05.7 -1.3
EFI East Falkland 149.24 207 *e*PKPdf **PKPdf** 06 01 00.5 -0.8
EFI *e*PKPbc **PKPbc** 06 01 04.8 -0.8
VILC Villavicencio, 149.49 347 *e*P **PKPdf** 06 01 04.9 +1.8
VILC Villavicencio, 149.49 347 *e*P **PKPdf** 06 01 04.9 +1.8
YOTC Yotoco, Valle 150.05 352 *e*P **PKPdf** 06 01 02.4 -1.6
YOTC Yotoco, Valle 150.05 352 *e*P **PKPdf** 06 01 02.4 -1.6
PRAC Prado 150.10 349 *e*P **PKPdf** 06 01 03.2 -0.8
PRAC Prado 150.10 349 *e*P **PKPdf** 06 01 03.2 -0.8
GUVC San Jose del G 150.77 344 *e*P **PKPdf** 06 01 07.4 +2.4
GUVC San Jose del G 150.77 344 *e*P **PKPdf** 06 01 07.4 +2.4
MARP Paez Belalcaza 151.12 351 *e*P **PKPdf** 06 01 08.2 +2.4
MARP Paez Belalcaza 151.12 351 *e*P **PKPdf** 06 01 08.2 +2.4
GRGC Isla de Gorgon 151.19 356 *e*P **PKPbc** 06 01 10.7 -0.8
GRGC Isla de Gorgon 151.19 356 *e*P **PKPbc** 06 01 10.7 -0.8
POPC Popayan, Colom 151.51 352 *e*P **PKPbc** 06 01 09.9 -2.6
POPC Popayan, Colom 151.51 352 *e*P **PKPbc** 06 01 09.9 -2.6
PCON Cinco Dias 151.69 352 *e*P **PKiKP** 06 01 14.1 +0.3
PCON Cinco Dias 151.69 352 *e*P **PKiKP** 06 01 14.1 +0.3
SOTA Rioblanco 151.91 352 *e*P **PKPbc** 06 01 11.6 -2.2
SOTA Rioblanco 151.91 352 *e*P **PKPbc** 06 01 11.6 -2.2
FLOC Florencia 152.32 350 *e*P **PKPbc** 06 01 11.6 -2.5
FLOC Florencia 152.32 350 *e*P **PKPbc** 06 01 11.6 -2.5
CRUC La Cruz 152.51 353 *e*P **PKPdf** 06 01 10.7 +2.7
CRUC La Cruz 152.51 353 *e*P **PKPdf** 06 01 10.7 +2.7
OTAV Otavalo 153.95 356 *e*PKPdf **PKPdf** 06 01 10.5 +0.2
OTAV *e*PKPbc **PKiKP** 06 01 18.6 +0.2
OTAV LR LR
comp=Z,239nm,19.0s
OTAV Otavalo 153.95 356 *e*P **PKPdf** 06 01 08.2 -2.0
OTAV Otavalo 153.95 356 *e*PKIKP **PKPdf** 06 01 10.5 +0.2
OTAV *e* 06 01 18.6
OTAV MLR MLR
comp=Z,239nm,19.0s
OTAV Otavalo 153.95 356 *e*P **PKPdf** 06 01 08.2 -2.0
CPUP Villa Florida 159.42 264 PKIKP **PKPdf** 06 01 15.8 -0.5
CPUP 06 01 54.2
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP pmax pmax
comp=Z,2.0nm,0.8s
CPUP Villa Florida 159.42 264 PKP **PKPdf** 06 01 15.8 -0.5
comp=Z,4.5nm,1.0s,baz=120,slow=5.2,SNR=4.8
CPUP PKPab **PKPab** 06 01 54.2 0.0
comp=Z,2.1nm,0.8s,baz=186,slow=6.4,SNR=3.7
PLCA Paso Flores 163.15 206 PKP **PKPdf** 06 01 20.1 +0.1
comp=Z,5.5nm,1.0s,baz=30,slow=23,SNR=4.9
PLCA PKPab **PKPab** 06 02 08.3 -1.7
comp=Z,4.0nm,1.0s,baz=143,slow=8.2,SNR=3.9
LPAZ La Paz 165.20 308 PKP **PKPdf** 06 01 22.4 -0.7
comp=Z,11nm,0.9s,baz=25,slow=2.0,SNR=24
LPAZ PKPab **PKPab** 06 02 19.2 -1.1
comp=Z,4.6nm,1.2s,baz=8.7,slow=5.8,SNR=4.2
NNA Nana 165.79 346 *e*PKPdf **PKPdf** 06 01 21.8 -1.2
NNA *e*PKPab **PKPab** 06 02 15.8 -6.3
NNA LR LR
comp=Z,172nm,21.0s
NNA Nana 165.79 346 *e*PKIKP **PKPdf** 06 01 21.8 -1.2
NNA MLR MLR
comp=Z,172nm,21.0s
LVC Limon Verde 169.15 285 PFAKE 06 01 40.0 +14
LVC LR LR
comp=Z,327nm,20.0s
LCO Las Campanas 170.97 248 PFAKE 06 01 40.0 +14
LCO LR LR
comp=Z,473nm,19.0s

GUC 03 05:52:36.3±0.4, 34°89S×73°88W, h28km±3km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
GO05	**Huala**	**1.61**	**95**	*e*P	Pn	05 53 03.2	+0.3
GO05				*e*S	Sn	05 53 23.2	+0.4
GO05				IAML		05 53 24.4	
	comp=N,907nm,0.2s						
CCHI	**Chillan**	**2.25**	**140**	*e*P	Pn	05 53 12.4	+0.7
CCHI				*e*S	Sn	05 53 39.8	+1.2
ROCH	**El Roble**	**3.06**	**52**	*i* P	Pn	05 53 23.8	+0.8
ROCH				IAML		05 54 04.9	
	comp=E,61nm,0.3s						
CLCH	**Cerro Calan**	**3.15**	**63**	*e*P	Pn	05 53 24.8	+0.7
CLCH				*i* S	Sn	05 54 02.0	+1.1

CLCH					IAML		05 54 04.0	
	comp=E,93nm,0.2s							
PEL	**Peldehue**	**3.18**	**58**	*e*P	Pn		05 53 25.3	+0.9
PEL				*i* S	Sn		05 54 02.7	+1.2
LMEL	**Las Melosas**	**3.22**	**72**	*e*P	Pn		05 53 25.9	+0.8
LMEL				IAML			05 54 07.7	
	comp=N,140nm,0.2s							
FCH	**Farellones**	**3.36**	**63**	*e*P	Pn		05 53 28.3	+1.0
FCH				IAML			05 54 09.4	
	comp=E,137nm,0.2s							

ISCJB ***03*** *06:02:37.7±0.4, 12°.2N±0°.06×144°.13E±0°.10, h30km, mb4.1/19, Error ellipse: s-maj=14.2km s-min=7.2km az=23.7*
NEIC ***03*** *06:02:39.7±0.3, 12°.35N×144°.29E, h35km, mb4.3/9, Error ellipse: s-maj=11.5km s-min=6.5km az=102.0*
IDC ***03*** *06:02:40.8±2.9, 12°.38N×144°.23E, h39km±25km, mb3.8/11, mb1 4.0/11, mb1mx3.7/40, mbtmp4.0/11, Error ellipse: s-maj=27.7km s-min=16.1km az=113.0*

ISC 03 06:02:39.3±0.8, 12°.4N±0°.1×144°.2E±0°.2, h30km, n37, σ0°73/37, mb4.2/19, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.37**	**27**	*e*Pn		**Pn**	**06 03 02.9**	**+0.5**
GUMO				*e*Sn		**Sn**	**06 03 19.0**	**-0.5**
GUMO				*e*Sn		**Sb**	**06 03 21.4**	**0.0**
GUMO	**Guam**	**1.37**	**27**	Pn		**Pn**	**06 03 02.8**	**+0.5**
	112nm,0.3s,baz=38,slow=5.0,SNR=45							
GUMO				Sn		**Sb**	**06 03 21.4**	**0.0**
	202nm,0.3s,baz=32,slow=21,SNR=29							
H11N1	**WAKE ISLAND Hy**	**22.95**	**69**	T		T	06 31 19.4	
	baz=255,slow=75,SNR=28							
H11N2	**WAKE ISLAND Hy**	**22.96**	**69**	T		T	06 31 20.8	
	baz=255,slow=75,SNR=24							
H11N3	**WAKE ISLAND Hy**	**22.97**	**69**	T		T	06 31 20.6	
	baz=255,slow=75,SNR=24							
WRAB	**Tennant Creek**	**33.54**	**197**	*e*P		**P**	**06 09 15.2**	**-1.5**
	9.7nm,0.9s							
WB2	**Warramunga Arr**	**33.55**	**197**	*e*P		**P**	**06 09 16.1**	**-0.6**
WR1	**Warramunga Arr**	**33.55**	**197**	*e*P		**P**	**06 09 16.9**	**+0.2**
	14nm,1.4s							
WRA	**Warramunga Arr**	**33.55**	**197**	P		**P**	**06 09 16.9**	**+0.2**
	0.9nm,0.6s,baz=21,slow=10.0,SNR=13							
AS31	**Alice Springs**	**37.21**	**196**	*e*P		**P**	**06 09 48.8**	**+0.6**
	1.1nm,1.0s							
ASAR	**Alice Springs**	**37.21**	**196**	P		**P**	**06 09 48.7**	**+0.4**
	0.7nm,0.8s,baz=18,slow=10,SNR=6.3							
CM31	**Chiang Mai Arr**	**43.99**	**284**	*e*P		**P**	**06 10 44.5**	**+0.1**
	2.5nm,0.6s							
CMAR	**Chiang Mai Arr**	**43.99**	**284**	P		**P**	**06 10 45.0**	**+0.6**
	0.7nm,0.3s,baz=89,slow=6.5,SNR=4.9							
SONA0	**Songino Array**	**47.38**	**326**	*e*P		**P**	**06 11 11.7**	**+0.8**
SONM	**Songino Array**	**47.38**	**326**	P		**P**	**06 11 11.7**	**+0.8**
	0.4nm,0.5s,baz=151,slow=5.2,SNR=4.2							
MK01	**Makanchi Array**	**61.93**	**317**	*e*P		**P**	**06 12 56.5**	**+0.1**
MK31	**Makanchi Array**	**61.94**	**317**	*e*P		**P**	**06 12 56.3**	**-0.1**
	3.0nm,1.5s							
MK32	**Makanchi Array**	**61.94**	**317**	*e*P		**P**	**06 12 56.8**	**+0.4**
MK32				*e*PcP		**PcP**	**06 13 36.7**	**-0.3**
MKAR	**Makanchi Array**	**61.94**	**317**	P		**P**	**06 12 56.8**	**+0.3**
	1.3nm,0.6s,baz=93,slow=8.2,SNR=18							
MKAR				PcP		**PcP**	**06 13 36.7**	**-0.2**
	0.7nm,0.8s,baz=98,slow=8.0,SNR=3.9							
MAKZ	**Makanchi**	**62.15**	**317**	*e*P		**P**	**06 12 58.1**	**+0.3**
	2.4nm,0.6s							
KURK	**Kurchatov**	**65.12**	**320**	*e*P		**P**	**06 13 17.2**	**0.0**
	4.3nm,1.1s							
ILAR	**Eielson Array**	**69.93**	**25**	P		**P**	**06 13 46.7**	**-0.8**
	0.7nm,0.5s,baz=253,slow=5.5,SNR=21							
ILB	**Eielson Array**	**69.93**	**25**	*e*P		**P**	**06 13 46.2**	**-1.3**
	6.5nm,1.5s							
INK	**Inuvik**	**75.73**	**22**	*e*P		**P**	**06 14 21.7**	**-0.1**
	2.4nm,1.0s							
INK	**Inuvik**	**75.73**	**22**	P		**P**	**06 14 22.0**	**+0.2**
	0.9nm,0.6s,baz=272,slow=6.8,SNR=6.4							
ABKAR	**Akbulak array**	**77.03**	**318**	*e*P		**P**	**06 14 29.0**	**-0.5**
	2.9nm,0.8s							
YKA	**Yellowknife Ar**	**84.23**	**27**	P		**P**	**06 15 08.0**	**+0.2**
YKA	**Yellowknife Ar**	**84.23**	**27**	P		**P**	**06 15 08.0**	**+0.2**
	0.3nm,0.4s,baz=292,slow=5.2,SNR=7.7							
YKB5	**Yellowknife Ar**	**84.23**	**27**	*e*P		**P**	**06 15 08.0**	**+0.2**
RES	**Resolute Bay**	**85.88**	**13**	*e*P		**P**	**06 15 16.0**	**+0.2**
	11nm,1.5s							
RES	**Resolute Bay**	**85.88**	**13**	P		**P**	**06 15 16.6**	**+0.7**
	2.5nm,0.6s,baz=323,slow=4.5,SNR=13							
NV01	**Mina Array Sit**	**88.17**	**51**	*e*P		**P**	**06 15 27.3**	**-0.7**
NVAR	**Mina Array Bea**	**88.17**	**51**	P		**P**	**06 15 30.0**	**+2.0**
	0.7nm,0.7s,baz=277,slow=5.4,SNR=4.9							
FIA0	**FINESS Array S**	**92.00**	**335**	*e*P		**P**	**06 15 43.6**	**-1.5**
FINES	**FINESS Array B**	**92.00**	**335**	P		**P**	**06 15 43.6**	**-1.5**
	0.9nm,0.5s,baz=29,slow=4.4,SNR=5.4							
DBIC	**Dimbokro**	**143.91**	**300**	*e*PKPdf		PKPbc	06 22 11.3	+0.6
DBIC	**Dimbokro**	**143.91**	**300**	PKP		PKPbc	06 22 11.1	+0.4
	0.9nm,0.4s,baz=36,slow=3.4,SNR=5.5							

NNC 03 06:13:08.7±2.4, 48°.23N×67°.96E, h0km, mb3.7, mpv3.3, 5C-5D, Error ellipse: s-maj=24.0km s-min=14.7km az=20.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.93**	**88**	⇓Pn		Pn	06 13 57.8	+1.3
	4.6nm,0.6s							
OTUK				⇓Sn		Sn	06 14 32.5	+0.1
	12nm,0.6s							
BVA0	**Borovoye Array**	**5.05**	**17**	⇑Pn		Pn	06 14 27.4	+1.8
	2.8nm,0.5s,baz=188,slow=14,SNR=14							
BVA0				⇑Sn		Sn	06 15 22.7	-1.9
	2.6nm,0.5s							
BRVK	**Borovoye**	**5.06**	**16**	⇑Pn		Pn	06 14 28.9	+3.2
	1.7nm,0.4s							
BRVK				⇑Sn		Sn	06 15 27.2	+2.4
	5.6nm,0.6s							
AB31	**Akbulak array**	**5.40**	**284**	⇓Pn		Pn	06 14 28.6	-1.9
	2.2nm,0.7s,baz=86,slow=6.4,SNR=24							
AB31				⇓Lg		Lg	06 15 59.5	
	1.1nm,0.5s,baz=88,slow=28,SNR=3.1							
AKTO	**Aktyubinsk**	**6.86**	**292**	⇑Pn		Pn	06 14 49.6	-0.9
	2.6nm,0.9s							
AKTO				⇓Lg		Lg	06 16 45.8	
	4.3nm,0.9s							

ISCJB ***03*** *06:22:47.9±1.2, 17°.99S±0°.07×71°.3W±0°.1, h40km, mb3.7/2, Error ellipse: s-maj=15.8km s-min=8.8km az=154.1*
GUC ***03*** *06:22:50.4±0.4, 17°.96S×70°.94W, h81km±4km, ML3.5*
IDC ***03*** *06:22:53.5±3.8, 18°.04S×70°.73W, h101km±32km, mb3.4/2, mb1 3.3/4, mb1mx3.1/46, mbtmp3.5/4, Error ellipse: s-maj=56.8km s-min=20.3km az=93.0*

ISC 03 06:22:47.3±1.4, 17°.92S±0°.07×71°.3W±0°.1, h40km, n11, σ1s62/16, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.12**	**129**	⇑*i*P		**Pn**	**06 23 07.6**	**+1.0**
PB12				*e*S		**Sn**	**06 23 21.1**	**+0.3**
PB12				IAML			06 23 22.5	
	comp=N,2μm,0.3s							
MNMC	**Minye Minye**	**1.98**	**128**	*e*P		**Pn**	**06 23 19.3**	**+0.7**
MNMC				*e*S		**Sn**	**06 23 41.7**	**-0.7**
MNMC				IAML			06 23 47.6	
	comp=N,762nm,0.2s							
PSGC	**Pisagua**	**1.98**	**148**	*e*P		**Pn**	**06 23 20.0**	**+1.5**
PSGC				*e*S		**Sn**	**06 23 42.3**	**+0.1**
PB11	**IPOC Station P**	**2.38**	**141**	*e*P		**Pn**	**06 23 25.1**	**+1.2**
PB08	**IPOC Station P**	**2.97**	**139**	*e*P		**Pn**	**06 23 33.8**	**+1.5**
PB08				*e*S		**Sn**	**06 24 07.0**	**0.0**
PB08				IAML			06 24 18.0	
	comp=E,135nm,0.1s							
LPAZ	**La Paz**	**3.39**	**62**	*e*P		**Pn**	**06 23 40.4**	**+2.1**
LPAZ	**La Paz**	**3.39**	**62**	P		**Pn**	**06 23 40.4**	**+2.1**
	comp=E,2.0nm,0.3s,baz=245,slow=14,SNR=38							
PB02	**IPOC Station P**	**3.62**	**160**	*e*P		**Pn**	**06 23 43.0**	**+2.0**
PB02				IAML			06 24 42.7	
	comp=E,88nm,0.5s							
LVC	**Limon Verde**	**5.16**	**155**	P		**Pn**	**06 24 04.2**	**+1.8**
	comp=E,0.6nm,0.3s,baz=338,slow=9.5,SNR=14							
LVC				S		**Sn**	**06 25 00.6**	**-0.3**
	comp=E,1.2nm,0.3s,baz=45,slow=20,SNR=3.8							
TORD	**Torodi Ar. Bea**	**78.29**	**72**	P		**P**	**06 34 40.6**	**-3.2**
	comp=E,0.5nm,0.7s,baz=252,slow=6.1,SNR=4.2							
YKA	**Yellowknife Ar**	**87.10**	**341**	P		**P**	**06 35 28.9**	**+0.5**
	comp=E,0.3nm,0.5s,baz=136,slow=4.8,SNR=8.7							

ISCJB ***03*** *06:28:59.0±1.8, 41°.1S±0°.5×44°.4E±0°.5, h12km, mb3.7/5, MS3.5/1, Error ellipse: s-maj=87.9km s-min=21.2km az=33.9*
IDC ***03*** *06:28:59.4±1.0, 40°.90S×44°.63E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/41, mbtmp3.8/5, MS3.6/1, Ms1 3.6/1, ms1mx3.0/31, Error ellipse: s-maj=58.3km s-min=24.2km az=30.0*

ISC 03 06:29:01.1±1.3, 41°.0S±0°.4×44°.5E±0°.3, h12km, n11, σ0s46/8, mb3.8/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**24.61**	**322**	P		**P**	**06 34 20.8**	**-0.6**
	1.9nm,0.6s,baz=155,slow=9.9,SNR=8.0							
MATP				LR		LR	06 41 56.7	
	comp=Z,157nm,21.1s,baz=56,slow=32							
H01W2	**Cape Leeuwin H**	**53.91**	**108**	T		T	07 36 30.3	
	baz=242,slow=75,SNR=7.3							
H01W3	**Cape Leeuwin H**	**53.92**	**108**	T		T	07 36 31.0	
	baz=242,slow=75,SNR=8.0							
H01W1	**Cape Leeuwin H**	**53.93**	**108**	T		T	07 36 32.3	
	baz=242,slow=75,SNR=6.7							
TORD	**Torodi Ar. Bea**	**66.84**	**314**	P		**P**	**06 39 53.3**	**+0.3**
	0.7nm,0.9s,baz=108,slow=3.3,SNR=3.5							
ASAR	**Alice Springs**	**74.43**	**108**	P		**P**	**06 40 38.8**	**-0.6**
	0.5nm,0.8s,baz=231,slow=5.9,SNR=3.6							
WRA	**Warramunga Arr**	**77.06**	**105**	P		**P**	**06 40 54.4**	**0.0**
	0.7nm,0.8s,baz=227,slow=4.3,SNR=5.6							
CMAR	**Chiang Mai Arr**	**77.71**	**52**	P		**P**	**06 40 58.2**	**+0.3**
	0.7nm,0.4s,baz=230,slow=7.0,SNR=4.7							
ULM	**Lac du Bonnet**	**151.09**	**302**	PKPbc		**PKPbc**	**06 48 53.5**	**0.0**
	1.8nm,0.6s,baz=123,slow=2.0,SNR=8.0							
TXAR	**Lajitas Array**	**151.68**	**256**	PKPbc		**PKiKP**	**06 48 56.4**	**+0.3**
	1.9nm,0.9s,baz=123,slow=5.3,SNR=15							
YKA	**Yellowknife Ar**	**155.09**	**337**	PKPbc			06 49 01.6	
	0.2nm,0.6s,baz=5.4,slow=2.1,SNR=4.1							
YKA				PKPab		**PKPab**	**06 49 17.6**	**0.0**
	0.5nm,0.8s,baz=36,slow=5.0,SNR=7.9							

ISCJB ***03*** *06:29:06.7±1.5, 21°.22S±0°.03×70°.55W±0°.06, h15km±11km, Error ellipse: s-maj=9.1km s-min=4.4km az=174.5*
SJA ***03*** *06:29:07.6±1.4, 21°.25S×70°.42W, h30km±3km, MD2.7*
GUC ***03*** *06:29:08.8±0.6, 21°.28S×70°.38W, h46km±2km, ML3.5*

ISC 03 06:29:08.4±1.3, 21°.22S±0°.02×70°.42W±0°.06, h31km±13km, n22, σ1s05/42, 2C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB02	**IPOC Station P**	**0.49**	**101**	*e*P		**Pn**	**06 29 19.6**	**+0.1**
PB02				*e*S		**Sn**	**06 29 27.4**	**+0.4**
PB02	**IPOC Station P**	**0.49**	**101**	⇓*i*P		**Pn**	**06 29 19.5**	**+0.1**
PB02				*e*S		**Sn**	**06 29 27.2**	**+0.2**
PB02				IAML			06 29 27.6	
	comp=N,10μm,0.3s							
PB07	**IPOC Station P**	**0.70**	**135**	*e*P		**Pn**	**06 29 22.2**	**-0.2**
PB07				*e*S		**Sn**	**06 29 31.7**	**-0.6**
PB07	**IPOC Station P**	**0.70**	**135**	⇓*i*P		**Pn**	**06 29 22.2**	**-0.2**
PB07				*e*S		**Sn**	**06 29 32.1**	**-0.1**
PB07				IAML			06 29 32.9	
	comp=E,3μm,0.3s							
PB01	**IPOC Station P**	**0.89**	**78**	*e*P		**Pb**	**06 29 25.6**	**+0.3**
PB01				*e*S		**Sn**	**06 29 37.4**	**+0.8**
PB01	**IPOC Station P**	**0.89**	**78**	⇓*i*P		**Pb**	**06 29 25.4**	**+0.1**
PB01				*e*S		**Sn**	**06 29 37.5**	**+0.8**
PB01				IAML			06 29 38.0	
	comp=E,5μm,0.2s							
PB04	**IPOC Station P**	**1.13**	**167**	*e*P		**Pn**	**06 29 28.4**	**+0.1**
PB04				*e*S		**Sn**	**06 29 43.4**	**+0.6**
PB04	**IPOC Station P**	**1.13**	**167**	⇑*i*P		**Pn**	**06 29 28.0**	**-0.3**
PB04				*e*S		**Sn**	**06 29 43.5**	**+0.6**
PB04				IAML			06 29 45.2	
	comp=N,2μm,0.2s							
PB09	**IPOC Station P**	**1.23**	**118**	*e*P		**Pb**	**06 29 31.1**	**-0.1**
PB09				*e*S		**Sb**	**06 29 47.7**	**+0.9**
PB09	**IPOC Station P**	**1.23**	**118**	⇓*i*P		**Pb**	**06 29 31.0**	**-0.1**
PB09				*e*S		**Sb**	**06 29 47.7**	**+0.9**
PB09				IAML			06 29 49.5	
	comp=E,896nm,0.2s							
PB08	**IPOC Station P**	**1.60**	**48**	*e*P		**Pb**	**06 29 36.7**	**-0.8**
PB08				*e*S		**Sb**	**06 29 57.8**	**+0.3**
PB08	**IPOC Station P**	**1.60**	**48**	⇓*e*P		**Pb**	**06 29 36.5**	**-1.0**
PB08				*e*S		**Sb**	**06 29 57.7**	**+0.3**
PB08				IAML			06 30 00.0	
	comp=N,1μm,0.2s							
PB11	**IPOC Station P**	**1.62**	**26**	*e*P		**Pb**	**06 29 36.4**	**-1.4**
PB11				*e*S		**Sb**	**06 29 58.2**	**+0.3**
PB11	**IPOC Station P**	**1.62**	**26**	⇓*i*P		**Pn**	**06 29 35.5**	**+0.5**
PB11				*e*S		**Sb**	**06 29 56.4**	**-1.6**
PB11				IAML			06 30 02.8	
	comp=N,766nm,0.3s							
PSGC	**Pisagua**	**1.64**	**10**	⇑*e*P		**Pn**	**06 29 35.3**	**+0.1**
PSGC				*e*S		**Sn**	**06 29 56.0**	**+0.7**
PSGCX	**Pisagua**	**1.64**	**10**	*e*P		**Pn**	**06 29 35.6**	**+0.4**
PSGCX				*e*S		**Sb**	**06 30 01.6**	**+3.1**
PB06	**IPOC Station P**	**1.67**	**152**	*e*P		**Pn**	**06 29 36.0**	**+0.4**
PB06				*e*S		**Sb**	**06 29 58.8**	**-0.5**
PB06	**IPOC Station P**	**1.67**	**152**	⇓*i*P		**Pn**	**06 29 35.8**	**+0.2**
PB06				IAML			06 30 00.9	
	comp=E,705nm,0.2s							
LVC	**Limon Verde**	**1.96**	**135**	*e*P		**Pb**	**06 29 42.4**	**-1.4**
LVC				*e*S		**Sb**	**06 30 06.5**	**-1.4**
PB15	**IPOC Station P**	**2.16**	**156**	*e*P		**Pn**	**06 29 42.8**	**+0.3**
PB15				*e*S		**Sb**	**06 30 13.2**	**-0.3**
MNMCX	**Minye Minye**	**2.22**	**20**	*e*P		**Pb**	**06 29 46.0**	**-2.0**
PB10	**IPOC Station P**	**2.28**	**183**	*e*P		**Pn**	**06 29 43.1**	**-0.9**
PB10				*e*S		**Sb**	**06 30 20.0**	**+3.3**

ISCJB ***03*** *06:37:15.2±0.3, 3°.75S±0°.04×127°.48E±0°.06, h42km, mb4.5/16, MS3.4/4, Error ellipse: s-maj=9.3km s-min=4.7km az=150.3*
DJA ***03*** *06:37:15.7±0.6, 4°.5S×12°.7E±°, h10km, M4.5/6, mb4.7/4, mB4.8/3, MLv4.4/6, Mw(mB)4.0/3*
NEIC ***03*** *06:37:17.6±0.9, 3°.77S×127°.48E, h44km±9km, mb4.4/9, Error ellipse: s-maj=9.1km s-min=5.5km az=69.0*
IDC ***03*** *06:37:18.0±4.8, 3°.82S×127°.44E, h48km±47km, mb3.8/7, mb1 4.0/8, mb1mx3.7/38, mbtmp4.1/8, ML3.9/1, MS3.4/5, Ms1 3.5/5, ms1mx3.1/33, Error ellipse: s-maj=46.6km s-min=19.0km az=71.0*

ISC 03 06:37:17.4±0.4, 3°.72S±0°.05×127°.44E±0°.07, h42km, n44, σ1s30/44, mb4.4/16, MS3.2/4, 1C, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.58**	**325**	P		Pn	06 37 25.5	-3.8
NLAI				S		**Sn**	**06 37 32.3**	**-5.5**
SANI	**Sanana**	**2.20**	**319**	P		**Pn**	**06 37 50.7**	**-0.8**
SANI				S		**Sn**	**06 38 17.6**	**+0.1**
FAKI	**Fak Fak**	**4.87**	**81**	*e*Pn		**Pn**	**06 38 28.0**	**-0.2**
FAKI	**Fak Fak**	**4.87**	**81**	P		**Pn**	**06 38 27.5**	**-0.6**
LUWI	**Luwuk**	**5.37**	**300**	*e*Pn		**Pn**	**06 38 36.1**	**+1.1**
LUWI	**Luwuk**	**5.37**	**300**	P		Pn	06 38 54.2	+19
MRSI	**Marisa**	**6.90**	**307**	P		**Pn**	**06 38 56.8**	**+0.8**
BKSI	**Bulukumba**	**7.46**	**257**	P		**Pn**	**06 39 05.7**	**+1.9**
MTN	**Manton Dam**	**9.77**	**158**	*e*Pn		**Pn**	**06 39 36.1**	**+0.6**
KCP	**Kidapawan**	**10.91**	**348**	⇑*i*P		**Pn**	**06 39 50.4**	**-0.7**
KCP				*i* S			06 40 06.7	
FITZ	**Fitzroy Crossi**	**14.40**	**187**	LR		LR	06 46 54.6	
	comp=Z,139nm,18.5s,baz=0.5,slow=40							
WR1	**Warramunga Arr**	**17.47**	**158**	*e*Pn		**Pn**	**06 41 15.4**	**-2.7**
	25nm,1.3s							
WRA	**Warramunga Arr**	**17.47**	**158**	P		**Pn**	**06 41 15.4**	**-2.7**
	0.4nm,0.3s,baz=339,slow=12,SNR=20							
WB2	**Warramunga Arr**	**17.48**	**158**	*e*Pn		**Pn**	**06 41 16.1**	**-2.1**
	43nm,1.6s							
COEN	**Coen**	**18.57**	**124**	*e*P		**P**	**06 41 30.7**	**-0.2**
	14nm,1.0s							
CISI	**Cisompet, Garu**	**19.89**	**258**	*e*P		**P**	**06 41 45.4**	**-0.2**
	98nm,1.1s							
AS31	**Alice Springs**	**20.79**	**163**	*e*P		**P**	**06 41 56.0**	**+0.8**
	4.9nm,0.7s							
AS31				*e*PcP		**PcP**	**06 46 02.1**	**-1.2**
ASAR	**Alice Springs**	**20.79**	**163**	P		**P**	**06 41 55.5**	**+0.3**
	11nm,0.6s,baz=346,slow=12,SNR=140							
ASAR				PcP		**PcP**	**06 46 02.1**	**-1.2**
	0.4nm,0.4s,baz=359,slow=1.6,SNR=6.5							
AS01	**Alice Springs**	**20.80**	**163**	*e*P		**P**	**06 41 55.7**	**+0.4**
GIRL	**Giralia**	**22.75**	**213**	*e*P		**P**	**06 42 16.8**	**+0.7**
	96nm,1.1s							
GUMO	**Guam**	**24.39**	**45**	LR		LR	06 51 39.0	
	comp=Z,86nm,19.2s,baz=251,slow=35							
FORT	**Forrest**	**26.92**	**179**	*e*P		**P**	**06 42 54.7**	**0.0**
	28nm,1.0s							
YOJ	**Yonaguni jima**	**28.34**	**351**	*e*P		**P**	**06 43 07.5**	**0.0**
	192nm,1.3s							
BBOO	**Buckleboo**	**30.05**	**165**	*e*P		**P**	**06 43 22.4**	**-0.2**
	21nm,1.4s							
NWAO	**Narrogin (SRO)**	**30.59**	**197**	*e*P		**P**	**06 43 26.5**	**-0.8**
	46nm,1.5s							
CM31	**Chiang Mai Arr**	**35.69**	**309**	*e*P		**P**	**06 44 13.1**	**+1.1**
	5.4nm,1.2s							
CM31				*e*PcP		**PcP**	**06 46 40.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**35.69**	**309**	P		**P**	**06 44 13.1**	**+1.1**
	0.6nm,0.3s,baz=126,slow=7.3,SNR=4.2							
CMAR				PcP		**PcP**	**06 46 40.4**	**+0.5**
	0.6nm,0.3s,baz=215,slow=0.9,SNR=4.3							
CMAR				LR		LR	07 00 56.2	
	comp=Z,30nm,18.5s,baz=185,slow=40							
KS15	**Wonju Array Si**	**40.95**	**1**	*e*P		P	06 45 01.2	+5.3
	37nm,1.4s							
MAJO	**Matsushiro**	**41.30**	**13**	*e*P		**P**	**06 44 59.9**	**+1.0**
MJAR	**Matsushiro Arr**	**41.30**	**13**	P		**P**	**06 44 59.9**	**+1.0**
	2.0nm,0.9s,baz=201,slow=9.9,SNR=4.2							
MJAR				LR		LR	07 00 02.7	
	comp=Z,31nm,21.5s,baz=60,slow=33							
XAN	**Xi'an**	**41.42**	**337**	P		**P**	**06 44 59.9**	**-0.1**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
XAN				pmax		pmax		
	comp=Z,70nm,4.1s							
USRK	**Ussuriysk Ar.**	**47.88**	**4**	P		**P**	**06 45 51.9**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=179,slow=10,SNR=4.8							
GTA	**Gaotai**	**49.89**	**332**	*e*P		**P**	**06 46 07.6**	**+0.6**
GTA				pP		pP	06 46 13.0	-4.7
GTA				sP		sP	06 46 16.0	-6.1
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SONA0	**Songino Array**	**54.56**	**343**	*e*P		**P**	**06 46 42.1**	**+0.6**
SONM	**Songino Array**	**54.56**	**343**	P		**P**	**06 46 42.1**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=169,slow=8.8,SNR=7.4							
MK32	**Makanchi Array**	**64.10**	**327**	*e*P		**P**	**06 47 47.1**	**-0.2**
MKAR	**Makanchi Array**	**64.10**	**327**	P		**P**	**06 47 47.1**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=122,slow=8.7,SNR=7.2							
KURBB	**Kurchatov Arra**	**68.40**	**329**	P		**P**	**06 48 14.4**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=130,slow=5.8,SNR=6.6							
KURK	**Kurchatov**	**68.41**	**329**	*e*P		**P**	**06 48 14.4**	**-0.4**
VNDA	**Vanda**	**76.00**	**173**	*e*P		**P**	**06 48 59.7**	**+0.1**
VNDA	**Vanda**	**76.00**	**173**	LR		LR	07 24 02.2	
	comp=Z,57nm,18.2s,baz=250,slow=37							
GAMB	**Gambell**	**80.90**	**23**	*e*P		**P**	**06 49 26.2**	**-0.6**
	comp=Z,8.0nm,0.9s							
EKA	**Eskdalemuir Ar**	**115.08**	**331**	PKP		**PKiKP**	**06 55 54.2**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=46,slow=3.1,SNR=3.6							
LPAZ	**La Paz**	**154.86**	**143**	PKPbc		**PKPbc**	**06 57 15.7**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=146,slow=4.5,SNR=20							

MAN 03 06:40:27.0, 8°.60N×126°.62E, h14km, MS3.5, Mindanao

ISCJB ***03*** *07:00:38.8±0.5, 6°.41N±0°.02×73°.63W±0°.03, h122km±4km, mb3.4/2, Error ellipse: s-maj=5.4km s-min=3.6km az=13.1*
IDC ***03*** *07:00:39.9±4.1, 6°.31N×73°.49W, h129km±32km, mb3.0/2, mb1 3.4/2, mb1mx3.0/28, mbtmp3.3/2, Error ellipse: s-maj=76.5km s-min=35.3km az=86.0*
RSNC ***03*** *07:00:40.5±1.3, 6°.40N×73°.64W, h109km±6km, ML3.6, Mw3.7*

ISC 03 07:00:39.6±0.9, 6°.41N±0°.03×73°.64W±0°.04, h117km±6km, n28, σ1s05/51, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.49**	**68**	*i* P		**Pn**	**07 00 57.4**	**-0.1**
BARC				*e*S		**Sn**	**07 01 09.9**	**-1.0**
BARC				*i*			07 01 11.4	
	comp=Z,3μm,0.1s							
BRRC	**Barranca, Sant**	**0.70**	**354**	⇑*i*P		**Pn**	**07 00 58.5**	**-0.2**
BRRC				*e*

WRA	**Warramunga Arr**	**149.69**	**241**	PKPbc	**PKPbc**	**07 20 15.3**	**-1.3**
	comp=N,0.3nm,0.9s,baz=94,slow=2.6,SNR=7.5							
WRA				pPKPbc	**pPKPdf**	**07 20 46.0**	**+2.1**
	comp=N,0.2nm,0.4s,baz=106,slow=2.7,SNR=1.7							

NNC 03 07:08:57.1±0.9, 41°.86N×78°.18E, h0km, mb3.1, mpv2.9, 4C-4D, Error ellipse: s-maj=6.7km s-min=4.0km az=170.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.21**	**8**	P	Pg	07 09 19.6	-0.8
	4.5nm,0.2s						
SATY				S	Sb	07 09 37.5	+0.2
	10nm,0.4s						
UZB	**Uzynbulak**	**1.43**	**25**	P	Pn	07 09 22.7	-1.8
	3.8nm,0.3s						
UZB				S	Sg	07 09 42.9	-0.2
	3.5nm,0.6s						
MDOK	**Medeo**	**1.55**	**328**	Pg	Pn	07 09 25.0	-1.2
	2.0nm,0.3s						
MDOK				Lg	Lg	07 09 46.4	
	14nm,0.6s						
KOTS	**Kotyrbulak**	**1.59**	**330**	P	Pn	07 09 25.6	-1.1
	3.0nm,0.3s						
KOTS				S	Sn	07 09 47.8	-0.2
	24nm,0.5s						
SHLS	**Shalkode**	**1.61**	**36**	P	Pg	07 09 30.2	+2.3
	17nm,0.4s						
SHLS				S	Sg	07 09 55.3	+6.5
	26nm,0.6s						
KURS	**Kuram**	**1.63**	**360**	P	Pn	07 09 27.1	-0.1
	1.6nm,0.4s						
KURS				S	Sg	07 09 50.4	+0.9
	4.5nm,0.5s						
PDGK	**Podgornoye**	**1.76**	**33**	P	Pn	07 09 28.4	-0.6
	3.0nm,0.4s						
PDGK				S	Sn	07 09 52.2	0.0
	5.0nm,0.9s						
PDGK	**Podgornoye**	**1.76**	**33**	⇑Pn	Pn	07 09 28.0	-1.0
	5.1nm,0.7s						
PDGK				⇓Lg	Lg	07 09 54.8	
	8.7nm,0.6s						
MTBS	**Maitube**	**1.82**	**315**	P	Pn	07 09 29.3	-0.5
	3.6nm,0.1s						
MTBS				S	Sn	07 09 54.0	+0.5
	14nm,0.4s						
KST	**Kastek**	**2.03**	**307**	Pg	Pn	07 09 33.1	+0.4
KST				Lg	Lg	07 10 00.7	
KTBS	**Karatobe**	**2.16**	**330**	Pg	Pn	07 09 35.5	+1.0
	3.7nm,0.4s						
KTBS				Lg	Lg	07 10 04.3	
	23nm,0.7s						
CHKK	**Chushkaly**	**2.18**	**337**	Pg	Pb	07 09 36.3	-1.2
	13nm,0.3s						
CHKK				Lg	Lg	07 10 06.1	
	34nm,0.6s						
TKM2	**Tokmak 2**	**2.19**	**300**	⇑Pn	Pn	07 09 36.3	+1.3
	1.8nm,0.3s						
TKM2				⇑Lg	Lg	07 10 08.2	
	8.0nm,0.5s						
MNBS	**Baschi**	**2.23**	**4**	Pg	Pb	07 09 37.2	-1.1
MNBS				Lg	Lg	07 10 07.1	
	22nm,0.4s						
KTMS	**Ketmen**	**2.25**	**44**	Pg	Pb	07 09 37.7	-1.2
	8.1nm,0.3s						
KTMS				Lg	Lg	07 10 08.7	
	10.0nm,0.5s						
ARXS	**Arharly**	**2.37**	**354**	Pg	Pb	07 09 40.4	-0.4
	7.8nm,0.6s						
ARXS				Lg	Lg	07 10 13.3	
	9.3nm,0.7s						
KUU	**Kurty**	**2.44**	**327**	Pg	Pb	07 09 40.9	-1.2
	3.0nm,0.5s						
KUU				Lg	Lg	07 10 13.6	
	14nm,0.5s						
DJR	**Jarkent**	**2.74**	**25**	Pg	Pb	07 09 46.8	-0.2
	1.7nm,0.4s						
DJR				Lg	Lg	07 10 24.0	
	5.9nm,0.6s						
AAK	**Ala-Archa**	**2.85**	**287**	⇑Pn	Pb	07 09 46.9	-2.1
	3.1nm,0.8s						
AAK				⇓Lg	Lg	07 10 27.9	
	13nm,0.8s						
MK31	**Makanchi Array**	**5.75**	**29**	⇓Pn	Pn	07 10 23.2	-0.5
	0.2nm,0.5s,baz=203,slow=14,SNR=6.6						
MK31				⇓Lg	Lg	07 12 03.3	
	0.6nm,0.6s,baz=213,slow=22						

KRNET 03 07:09:26.8±0.1, 42°.04N×78°.08E, h16km, mb2.6, 10C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.68**	**278**	⇓*i*P	Pg	07 09 39.5	-0.6
	baz=78						
KDJ				⇓*i*S	Sb	07 09 49.6	+0.1
	baz=78						
ULHL	**Ulahol**	**1.38**	**279**	⇑*i*P	Pb	07 09 52.6	+0.2
	baz=79						
ULHL				⇑*i*S	Sg	07 10 11.7	+0.2
	baz=79						
BOOM	**Boomskoye usch**	**1.65**	**287**	⇓*i*P	Pb	07 09 57.4	+0.4
	baz=87						
BOOM				⇓*i*S	Sg	07 10 19.9	-0.1
	baz=87						
PDGK	**Podgornoye**	**1.66**	**38**	⇑*i*P	Pb	07 09 57.7	+0.6
	baz=38						
PDGK				⇑*i*S	Sg	07 10 20.6	+0.3
	baz=38						
NRN	**Naryn**	**1.67**	**250**	⇑*i*P	Pb	07 09 58.0	+0.7
	baz=49						
NRN				⇑*i*S	Sg	07 10 21.6	+1.0
	baz=49						
TKM2	**Tokmak 2**	**2.04**	**297**	⇑*i*P	Pb	07 10 03.6	0.0
	baz=97						
TKM2				⇑*i*S	Sg	07 10 30.7	-1.7
	baz=97						
ARLS	**Aral**	**2.81**	**268**	⇑*i*P	Pb	07 10 14.7	-1.9
	baz=68						
ARLS				⇑*i*S	Sb	07 10 50.0	-0.8
	baz=68						

IDC 03 07:09:39.7±15.0, 6°.35S×129°.10E, h281km±170km, mb2.6/1, mb1 3.3/4, mb1mx2.9/33, mbtmp3.8/4, Error ellipse: s-maj=122.7km s-min=48.6km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.15**	**196**	P	Pn	07 12 22.8	-1.7
	0.5nm,0.3s,baz=26,slow=8.4,SNR=5.0						
WRA	**Warramunga Arr**	**14.44**	**160**	P	Pn	07 12 52.0	-0.1
	0.4nm,0.3s,baz=342,slow=11,SNR=24						
ASAR	**Alice Springs**	**17.82**	**165**	P	P	07 13 29.1	+0.5
	1.6nm,0.3s,baz=344,slow=11,SNR=105						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	07 20 04.1	+0.2
	0.1nm,0.3s,baz=105,slow=6.9,SNR=4.1						

MAN 03 07:33:02.6, 14°.74N×123°.99E, h21km, MS3.8, Luzon

*IGQ **03** 07:34:58.7±1.3, 2°.5S×4°.7W×, h14km, MLv3.6*
*ISCJB **03** 07:35:02.3±0.4, 1°.75S±0°.04×77°.64W±0°.05, h181km, mb3.4/8, Error ellipse: s-maj=7.8km s-min=5.5km az=33.1*
*IDC **03** 07:35:11.6±9.4, 1°.55S×77°.55W, h256km±98km, mb3.0/8, mb1 3.3/8, mb1mx3.1/20, mbtmp3.6/8, Error ellipse: s-maj=41.2km s-min=14.6km az=42.0*

ISC 03 07:35:03.5±0.7, 1°.68S±0°.07×77°.67W±0°.06, h181km, n96, σ1s10/91, mb3.4/8, 2D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APUY	**Puyo**	**0.39**	**304**	P	Pn	**07 35 27.8**	**-0.3**
PUYO	**Puyo, Santa Ro**	**0.48**	**298**	P	Pn	**07 35 27.7**	**-0.4**
ATEN	**Tena**	**0.68**	**348**	P	Pn	**07 35 28.6**	**-0.7**
ARDO	**Archidona, Ten**	**0.69**	**349**	P	Pn	**07 35 28.6**	**-0.8**
BULB	**Ulba Tungurahu**	**0.78**	**288**	P	Pn	**07 35 29.6**	**-0.6**
BPAT	**Tungurahua Vol**	**0.78**	**283**	P	Pn	**07 35 29.9**	**-0.5**
BRUN	**Tungurahua Vol**	**0.79**	**289**	P	Pn	**07 35 29.6**	**-0.6**
PAT1	**Patacocha**	**0.79**	**283**	P	Pn	**07 35 29.9**	**-0.5**
RUN5	**Runtun**	**0.80**	**289**	P	Pn	**07 35 29.7**	**-0.6**
ARRY	**Arrayan**	**0.81**	**282**	P	Pn	**07 35 29.6**	**-0.8**
RETU	**Refugio**	**0.81**	**286**	P	Pn	**07 35 30.3**	**-0.4**
POND	**Pondoa**	**0.82**	**288**	P	Pn	**07 35 29.8**	**-0.7**
BMAS	**Trigal station**	**0.83**	**282**	P	Pn	**07 35 29.8**	**-0.7**
JUI6	**Juive**	**0.84**	**288**	P	Pn	**07 35 29.8**	**-0.7**
BBIL	**Ulba Tungurahu**	**0.85**	**286**	P	Pn	**07 35 30.0**	**-0.6**
BIL2	**Estacion Bilba**	**0.86**	**285**	P	Pn	**07 35 29.8**	**-0.9**
PIS1	**Pisayambo**	**0.94**	**311**	P	Pn	**07 35 31.2**	**-0.3**
PISA	**Pisayambo**	**0.94**	**311**	P	Pn	**07 35 31.3**	**-0.2**
IGUA	**Igualata**	**0.99**	**281**	P	Pn	**07 35 31.6**	**-0.2**
COV1	**Cotopaxi Volc**	**1.22**	**326**	P	Pn	**07 35 34.1**	**+0.3**
BMOR	**Cotopaxi Volca**	**1.23**	**320**	P	Pn	**07 35 33.4**	**-0.4**
BTAM	**Cotopaxi Volca**	**1.23**	**324**	P	Pn	**07 35 33.2**	**-0.6**
BVC2	**Cotopaxi Volca**	**1.26**	**324**	P	Pn	**07 35 33.4**	**-0.6**
ANTM	**Antisana-La Mi**	**1.26**	**334**	P	Pn	**07 35 33.4**	**-0.6**
BREF	**Cotopaxi Volca**	**1.27**	**322**	P	Pn	**07 35 34.8**	**+0.6**
VC1	**Cotopaxi 1**	**1.27**	**325**	P	Pn	**07 35 33.5**	**-0.6**
ANTS	**Antisana-Sarah**	**1.28**	**337**	P	Pn	**07 35 33.7**	**-0.5**
BNAS	**Cotopaxi Volca**	**1.29**	**321**	P	Pn	**07 35 33.9**	**-0.3**
CAMI	**Rancho Maria**	**1.30**	**320**	P	Pn	**07 35 34.7**	**+0.4**
NAS2	**Nasa**	**1.30**	**322**	P	Pn	**07 35 34.1**	**-0.2**
ANTG	**Antisana-Guama**	**1.31**	**333**	P	Pn	**07 35 33.8**	**-0.6**
ANTI	**Antisana**	**1.32**	**338**	P	Pn	**07 35 34.0**	**-0.5**
PITA	**Cotopaxi Volc**	**1.35**	**326**	P	Pn	**07 35 34.3**	**-0.4**
PAST	**Pastocalle**	**1.38**	**315**	P	Pn	**07 35 34.9**	**0.0**
ILLI	**Illinizas Sur**	**1.43**	**312**	P	Pn	**07 35 34.6**	**-0.8**
LAV4	**Lava4-Reventad**	**1.58**	**1**	P	Pn	**07 35 35.8**	**-0.8**
NINA	**Atacazo Ninahu**	**1.59**	**323**	P	Pn	**07 35 36.5**	**-0.5**
GGPC	**Guagua Pichinc**	**1.75**	**328**	P	Pn	**07 35 36.8**	**-1.9**
TERV	**Terraza Guagua**	**1.76**	**328**	P	Pn	**07 35 37.8**	**-0.9**
COHC	**Cochancay**	**1.77**	**244**	P	Pn	**07 35 36.5**	**-1.6**
YANA	**Yana**	**1.79**	**330**	P	Pn	**07 35 37.8**	**-1.1**
CASC	**Dorado de Casc**	**1.83**	**10**	P	Pn	**07 35 38.5**	**-0.5**
PULU	**Pululahua**	**1.88**	**334**	P	Pn	**07 35 38.6**	**-1.2**
MILO	**Milagro-Astudi**	**1.98**	**252**	P	Pn	07 35 37.4	-3.0
IMBA	**Imbabura, San**	**2.01**	**345**	P	Pn	**07 35 41.5**	**+0.2**
AIB2	**Ibarra (Univer**	**2.06**	**348**	P	Pn	**07 35 41.7**	**+0.2**
OTAV	**Otavalo**	**2.06**	**338**	*e*P	Pn	**07 35 40.4**	**-1.4**
OTAV	**Otavalo**	**2.06**	**338**	*e*P	Pn	**07 35 40.4**	**-1.4**
OTAV	**Otavalo**	**2.06**	**338**	P	Pn	**07 35 40.3**	**-1.4**
CUSW	**Cuicocha Oeste**	**2.07**	**341**	P	Pn	**07 35 41.4**	**-0.4**
YAHU	**Yahuarcocha**	**2.08**	**349**	P	Pn	**07 35 41.4**	**-0.5**
CUIC	**Cuicocha-Domo**	**2.09**	**341**	P	Pn	**07 35 41.2**	**-0.8**
CUSE	**Cuicocha Este**	**2.10**	**340**	P	Pn	**07 35 41.6**	**-0.6**
URCU	**Urcuqui**	**2.18**	**344**	P	Pn	**07 35 42.5**	**-0.6**
PAC1	**Pacto, Paraso**	**2.23**	**330**	P	Pn	**07 35 43.4**	**0.0**
TULM	**Tulcn-Chalpat**	**2.38**	**357**	P	Pn	**07 35 45.0**	**-0.3**
MAG1	**Magdalena**	**2.64**	**307**	P	Pn	**07 35 46.1**	**-1.9**
MORR	**Playas El Morr**	**2.83**	**250**	P	Pn	07 35 47.3	-2.8
GCUF	**Volcan Galeras**	**2.90**	**6**	*e*P	Pn	**07 35 51.7**	**+0.2**
GCUF	**Volcan Galeras**	**2.90**	**6**	*e*P	Pn	**07 35 51.7**	**+0.2**
GONZ	**Gonzanam**	**3.07**	**214**	P	Pn	**07 35 52.2**	**-1.2**
CRUC	**La Cruz**	**3.30**	**13**	*e*P	Pn	**07 35 55.9**	**-0.4**
CRUC	**La Cruz**	**3.30**	**13**	*e*P	Pn	**07 35 55.9**	**-0.4**
SALI	**Salinas**	**3.36**	**261**	P	Pn	07 35 53.1	-3.4
PTLC	**Puerto Leguiza**	**3.41**	**57**	*e*P	Pn	**07 35 55.1**	**-2.2**
PTLC	**Puerto Leguiza**	**3.41**	**57**	*e*P	Pn	**07 35 55.1**	**-2.2**
MCRA	**Macar, Loja**	**3.52**	**220**	P	Pn	07 35 55.0	-3.6
TUMC	**Tumaco**	**3.64**	**343**	*e*P	Pn	**07 35 58.2**	**-1.8**
TUMC	**Tumaco**	**3.64**	**343**	*e*P	Pn	**07 35 58.2**	**-1.8**
FLOC	**Florencia**	**3.82**	**32**	*e*P	Pn	**07 36 02.0**	**-0.4**
FLOC	**Florencia**	**3.82**	**32**	*e*P	Pn	**07 36 02.0**	**-0.4**
SOTA	**Rioblanco**	**3.93**	**16**	*e*P	Pn	**07 36 05.2**	**+0.9**
SOTA	**Rioblanco**	**3.93**	**16**	*e*P	Pn	**07 36 05.2**	**+0.9**
PCON	**Cinco Dias**	**4.18**	**18**	*e*P	Pn	**07 36 07.7**	**+0.2**
PCON	**Cinco Dias**	**4.18**	**18**	*e*P	Pn	**07 36 07.7**	**+0.2**
POPC	**Popayan, Colom**	**4.31**	**13**	*e*P	Pn	**07 36 07.7**	**-1.1**
POPC	**Popayan, Colom**	**4.31**	**13**	*e*P	Pn	**07 36 07.7**	**-1.1**
GRGC	**Isla de Gorgon**	**4.68**	**354**	*e*P	Pn	**07 36 11.9**	**-1.4**
GRGC	**Isla de Gorgon**	**4.68**	**354**	*e*P	Pn	**07 36 11.9**	**-1.4**
MARP	**Paez Belalcaza**	**4.81**	**21**	*e*P	Pn	**07 36 16.1**	**+0.8**
MARP	**Paez Belalcaza**	**4.81**	**21**	*e*P	Pn	**07 36 16.1**	**+0.8**
PRAC	**Prado**	**6.04**	**27**	*e*P	Pn	**07 36 29.6**	**-1.5**
PRAC	**Prado**	**6.04**	**27**	*e*P	Pn	**07 36 29.6**	**-1.5**
VILC	**Villavicencio,**	**6.99**	**35**	⇓*e*P	Pn	**07 36 39.7**	**-4.0**
VILC	**Villavicencio,**	**6.99**	**35**	⇓*e*P	Pn	**07 36 39.7**	**-4.0**
CHIC	**Chingaza**	**7.40**	**32**	*e*P	Pn	**07 36 50.4**	**+1.1**
CHIC	**Chingaza**	**7.40**	**32**	*e*P	Pn	**07 36 50.4**	**+1.1**
BDFB	**Brasilia**	**32.36**	**117**	P	**P**	**07 41 17.1**	**+0.9**
	1.1nm,0.4s,baz=292,slow=9.6,SNR=5.6						
PLCA	**Paso Flores**	**39.41**	**171**	P	**P**	**07 42 17.7**	**+1.9**
	0.8nm,0.6s,baz=17,slow=8.5,SNR=4.4						
TXAR	**Lajitas Array**	**39.62**	**323**	P	**P**	**07 42 18.7**	**+1.0**
	0.2nm,0.6s,baz=153,slow=10,SNR=3.6						
NVAR	**Mina Array Bea**	**54.71**	**321**	P	**P**	**07 44 14.8**	**+0.4**
	0.2nm,0.5s,baz=116,slow=5.1,SNR=2.6						
YKA	**Yellowknife Ar**	**69.81**	**343**	P	**P**	**07 45 53.0**	**-1.0**
	0.1nm,0.4s,baz=140,slow=6.6,SNR=3.3						
DBIC	**Dimbokro**	**73.14**	**83**	P	**P**	**07 46 14.5**	**-0.4**
	1.4nm,0.4s,baz=241,slow=2.9,SNR=8.3						
TORD	**Torodi Ar. Bea**	**80.03**	**76**	P	**P**	**07 46 52.6**	**-0.9**
	0.6nm,0.3s,baz=280,slow=5.0,SNR=14						
ILAR	**Eielson Array**	**82.78**	**336**	P	**P**	**07 47 06.7**	**-0.2**
	0.4nm,0.9s,baz=134,slow=5.1,SNR=3.3						
WRA	**Warramunga Arr**	**141.96**	**234**	PKhKP	PKPpre	07 54 09.6	
	0.4nm,0.5s,baz=119,slow=3.0,SNR=4.0						

KRSC 03 07:49:05.5±10.0, 50°.76N×157°.79E, h46km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.94**	**319**	*e*P	Pn	07 49 23.6	+1.3
PAU				*e*S	Sn	07 49 36.1	+1.4
KDTR	**Khodutka, Kamc**	**1.07**	**9**	*e*P	Pn	07 49 25.4	+1.4
KDTR				*e*S	Sn	07 49 39.4	+1.7
ALID	**Alaid**	**1.43**	**275**	*e*P	Pn	07 49 30.8	+1.7
RUS	**Russkaya**	**1.73**	**15**	*e*S	Sn	07 49 56.0	+2.0
MTVR	**Mutnovka**	**1.74**	**8**	*e*P	Pn	07 49 35.1	+1.7
MTVR				*e*S	Sn	07 49 56.7	+2.2
KRMR	**Karymshinskiy**	**2.08**	**6**	*e*P	Pn	07 49 40.8	+2.9
KRMR				*e*S	Sn	07 50 06.4	+3.8
APC	**Apacha**	**2.20**	**350**	*e*P	Pn	07 49 40.9	+1.3
PET	**Petropavlovsk**	**2.33**	**13**	*e*P	Pn	07 49 43.4	+2.1
PET				*e*S	Sn	07 50 11.3	+2.7
DALK	**Dalny**	**2.35**	**14**	*e*S	Sn	07 50 12.7	+3.5
AVH	**Avacha**	**2.58**	**13**	*e*P	Pn	07 49 47.4	+2.7
SMAR	**Somma**	**2.58**	**14**	*e*P	Pn	07 49 48.1	+3.1
SDLR	**Sedlovina**	**2.61**	**15**	*e*P	Pn	07 49 47.8	+2.5
KRX	**Arik**	**2.66**	**11**	*e*P	Pn	07 49 49.6	+3.7
GNL	**Ganaly**	**2.94**	**2**	*e*P	Pn	07 49 52.9	+3.1

*GUC **03** 08:16:39.0±0.6, 21°.15S×69°.07W, h98km±3km, ML3.7*
*SJA **03** 08:16:39.4±1.3, 21°.13S×69°.07W, h90km±7km, ML2.7, MW2.8*
*ISCJB **03** 08:16:40.1±0.7, 21°.12S±0°.03×69°.11W±0°.08, h99km±8km, Error ellipse: s-maj=12.3km s-min=4.7km az=177.0*

ISC 03 08:16:42.2±1.3, 21°.13S±0°.03×69°.08W±0°.06, h77km±9km, n26, σ1s63/47, 1C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.39**	**282**	*e*P	**Pn**	**08 16 54.0**	**-0.9**
PB01				*e*S	**Sn**	**08 17 05.7**	**+1.4**
PB01	**IPOC Station P**	**0.39**	**282**	⇓*i*P	**Pn**	**08 16 54.1**	**-0.7**
PB01				*e*S	**Sn**	**08 17 05.6**	**+1.4**
PB01				IAML		08 17 07.0	
	comp=N,5μm,0.3s						
PB09	**IPOC Station P**	**0.68**	**193**	*e*P	**Pn**	**08 16 56.6**	**-1.1**
PB09				⇓*e*S	**Sn**	**08 17 10.0**	**+0.9**
PB09	**IPOC Station P**	**0.68**	**193**	*e*P	**Pn**	**08 16 56.2**	**-1.5**
PB09				*e*S	**Sn**	**08 17 09.8**	**+0.7**
PB09				IAML		08 17 11.1	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**0.79**	**256**	*e*P	**Pn**	**08 16 57.9**	**-0.8**
PB02				*e*S	**Sn**	**08 17 12.2**	**+1.2**
PB02	**IPOC Station P**	**0.79**	**256**	*e*P	**Pn**	**08 16 57.9**	**-0.8**
PB02				*e*S	**Sn**	**08 17 12.0**	**+1.1**
PB02				IAML		08 17 12.7	
	comp=N,6μm,0.4s						
PB07	**IPOC Station P**	**0.96**	**232**	*e*P	**Pn**	**08 16 59.6**	**-1.2**
PB07	**IPOC Station P**	**0.96**	**232**	*e*P	**Pn**	**08 16 59.3**	**-1.4**
PB07				*e*S	**Sn**	**08 17 14.8**	**+0.2**
PB07				IAML		08 17 18.9	
	comp=E,2μm,0.2s						
PB08	**IPOC Station P**	**0.98**	**356**	*e*P	**Pn**	**08 17 01.0**	**-0.3**
PB08				*e*S	**Sn**	**08 17 16.7**	**+1.2**
PB08	**IPOC Station P**	**0.98**	**356**	*e*P	**Pn**	**08 17 00.6**	**-0.7**
PB08				*e*S	**Sn**	**08 17 16.6**	**+1.2**
PB11	**IPOC Station P**	**1.46**	**338**	*e*P	**Pn**	**08 17 06.2**	**-1.0**
PB11				*e*S	**Sn**	**08 17 25.9**	**0.0**
PB11	**IPOC Station P**	**1.46**	**338**	*e*P	**Pn**	**08 17 06.0**	**-1.1**
PB11				*e*S	**Sn**	**08 17 26.3**	**+0.5**
PB11				IAML		08 17 27.8	
	comp=E,822nm,0.6s						
LVC	**Limon Verde**	**1.48**	**174**	*e*P	**Pn**	**08 17 06.1**	**-1.5**
LVC				*e*S	**Sn**	**08 17 26.3**	**-0.3**
LVC	**Limon Verde**	**1.48**	**174**	*e*P	**Pn**	**08 17 06.0**	**-1.5**
LVC				*e*S	**Sn**	**08 17 26.4**	**-0.3**
PB04	**IPOC Station P**	**1.56**	**220**	*e*P	**Pn**	**08 17 07.3**	**-1.0**
PB04				*e*S	**Sn**	**08 17 28.7**	**+0.6**
PB04	**IPOC Station P**	**1.56**	**220**	*e*P	**Pn**	**08 17 06.3**	**-2.0**
PB04				*e*S	**Sn**	**08 17 27.8**	**-0.3**
PB04				IAML		08 17 36.2	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.64**	**196**	*e*P	**Pn**	**08 17 07.8**	**-1.5**
PB06				*e*S	**Sn**	**08 17 29.7**	**-0.2**
PB06	**IPOC Station P**	**1.64**	**196**	⇑*e*P	**Pn**	**08 17 07.3**	**-2.1**
PB06				*e*S	**Sn**	**08 17 29.0**	**-0.8**
PB06				IAML		08 17 32.3	
	comp=E,2μm,0.4s						
PSGC	**Pisagua**	**1.81**	**327**	*e*P	**Pn**	**08 17 10.1**	**-1.5**
PSGCX	**Pisagua**	**1.81**	**327**	*e*P	**Pn**	**08 17 10.0**	**-1.6**
PSGCX				*e*S	**Sn**	**08 17 33.0**	**-0.7**
MNMCX	**Minye Minye**	**2.05**	**346**	*e*P	**Pn**	**08 17 14.0**	**-2.9**
MNMCX				*e*S	**Sn**	**08 17 43.7**	**+3.9**
PB15	**IPOC Station P**	**2.10**	**190**	*e*P	**Pn**	**08 17 15.2**	**-0.4**
PB15				*e*S	**Sn**	**08 17 43.2**	**+2.2**
PB10	**IPOC Station P**	**2.74**	**210**	⇓*e*P	**Pn**	**08 17 22.8**	**-1.2**
PB10				*e*S	**Sn**	**08 18 02.2**	**+6.1**
PB12	**IPOC Station P**	**2.76**	**335**	*e*P	**Pn**	**08 17 21.9**	**-2.6**
PB14	**IPOC Station P**	**3.69**	**199**	*e*P	**Pn**	**08 17 38.7**	**+1.5**
HJA	**Humahuaca**	**3.98**	**122**	*e*P	**Pn**	**08 17 40.7**	**-0.5**
HJA				IAML		08 17 42.5	
	comp=Z,9.1nm,0.4s						

RSNC 03 08:21:30.4±1.7, 2°.83N×78°.15W, h9km±16km, ML2.6, Mw3.5, 1D, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRGC	**Isla de Gorgon**	**0.17**	**356**	⇓*i*P	Pg	08 21 33.6	-0.5
GRGC				*e*S	Sg	08 21 36.3	-0.2
GRGC				*i*		08 21 37.2	
	comp=N,9μm,0.2s						
MALC	**Bahia Malaga**	**1.43**	**35**	*e*P	Pn	08 21 55.5	-1.1
MALC				*e*S	Sn	08 22 15.2	-0.3
MALC				*i*		08 22 22.2	
	comp=E,54nm,0.3s						
SOTA	**Rioblanco**	**1.69**	**114**	*e*P	Pn	08 21 59.1	-1.5
SOTA				*e*S	Sn	08 22 22.1	-0.6
SOTA				*i*		08 22 24.4	
	comp=Z,100nm,0.5s						
CRUC	**La Cruz**	**1.74**	**136**	*e*P	Pn	08 22 00.4	-0.7
GCUF	**Volcan Galeras**	**1.79**	**153**	*e*P	Pn	08 22 01.4	-0.5
GCUF				*e*S	Sn	08 22 23.5	-1.5
PCON	**Cinco Dias**	**1.82**	**106**	*e*P	Pn	08 22 01.5	-0.9
PCON				*e*S	Sn	08 22 25.2	-0.8
PCON				*i*		08 22 29.8	
	comp=Z,23nm,0.5s						
OTAV	**Otavalo**	**2.59**	**187**	*e*P	Pn	08 22 11.9	-1.1
PRAC	**Prado**	**3.38**	**75**	*e*P	Pn	08 22 23.3	-0.1

*NNC **03** 08:24:50.4±0.7, 42°.95N×78°.49E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=7.7km s-min=2.5km az=173.0*
*ISCJB **03** 08:24:51.1±0.5, 42°.97N±0°.02×78°.49E±0°.03, h3km±4km, Error ellipse: s-maj=4.6km s-min=3.6km az=34.9*
*KRNET **03** 08:24:51.1±0.1, 42°.98N×78°.47E, h18km, mb2.4*
*SOME **03** 08:24:51.6, 42°.95N×78°.47E, h15km*

ISC 03 08:24:51.2±1.0, 42°.93N±0°.03×78°.43E±0°.02, h7km±7km, n45, σ1s21/88, 12C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.13**	**351**	P	**Pg**	**08 24 54.7**	**+0.6**
	254nm,0.1s						
SATY				S	**Sg**	**08 24 56.9**	**+0.9**
	2μm,0.1s						
SATY	**Saty**	**0.13**	**351**	*e*P	**Pg**	**08 24 54.7**	**+0.6**
	254nm,0.1s						
SATY				*e*S	**Sg**	**08 24 56.6**	**+0.6**
	2μm,0.1s						
PRZ	**Przheval'sk**	**0.45**	**183**	⇑*i*P	**Pb**	**08 25 00.8**	**-0.8**
	baz=85						
PRZ				⇑*i*S	**Sb**	**

12nm,0.3s
MNBS Baschi 1.15 359 P **Pb** 08 25 12.3 -1.2
3.9nm,0.1s
MNBS S **Sg** 08 25 27.1 -1.0
9.4nm,0.1s
KDJ Kajisay 1.23 230 ⇑*i*P **Pn** 08 25 14.4 -0.6
baz=28
KDJ ⇑*i*S **Sn** 08 25 32.2 +0.3
baz=28
ARXS Arharly 1.36 341 P **Pn** 08 25 16.2 -0.5
5.6nm,0.4s
ARXS S **Sb** 08 25 33.7 -0.9
10nm,0.2s
ARXS Arharly 1.36 341 *e*P **Pn** 08 25 16.2 -0.5
5.6nm,0.4s
ARXS *e*S **Sb** 08 25 33.7 -0.9
10nm,0.2s
CHKK Chushkaly 1.40 312 P **Pn** 08 25 17.1 -0.2
1.8nm,0.1s
CHKK S **Sn** 08 25 35.3 -0.8
10nm,0.2s
CHKK Chushkaly 1.40 312 *e*P **Pn** 08 25 17.1 -0.2
baz=10.0
CHKK *e*S **Sn** 08 25 35.3 -0.8
baz=10.0
CHKK Chushkaly 1.40 312 *e*P **Pn** 08 25 17.1 -0.2
1.8nm,0.1s
CHKK *e*S **Sn** 08 25 35.3 -0.8
10nm,0.2s
KTBS Karatobe 1.50 302 P **Pb** 08 25 19.4 0.0
3.3nm,0.2s
KTBS S **Sg** 08 25 39.1 -0.3
9.1nm,0.3s
KTBS Karatobe 1.50 302 *e*P **Pb** 08 25 19.4 0.0
3.3nm,0.2s
KTBS *e*S **Sg** 08 25 39.1 -0.3
9.1nm,0.3s
DJR Jarkent 1.71 35 P **Pb** 08 25 22.1 -1.0
0.5nm,0.1s
DJR S **Sb** 08 25 43.9 -1.0
5.4nm,0.2s
DJR Jarkent 1.71 35 *e*P **Pb** 08 25 22.1 -1.0
0.5nm,0.1s
DJR *e*S **Sb** 08 25 43.9 -1.0
4.1nm,0.4s
ULHL Ulahol 1.76 248 ⇓*i*P **Pb** 08 25 23.1 -0.8
baz=47
ULHL ⇓*i*S **Sg** 08 25 47.2 -0.5
baz=47
KUU Kurty 1.80 303 P **Pb** 08 25 24.5 -0.1
1.1nm,0.2s
KUU S **Sb** 08 25 48.0 +0.6
7.4nm,0.3s
KUU Kurty 1.80 303 *e*P **Pb** 08 25 24.5 -0.1
baz=1.0
KUU ⇓*i*S **Sb** 08 25 48.0 +0.6
baz=1.0
KUU Kurty 1.80 303 *e*P **Pb** 08 25 24.5 -0.1
1.1nm,0.2s
KUU ⇓*i*S **Sb** 08 25 48.0 +0.6
7.4nm,0.3s
KST Kastek 1.82 274 P **Pb** 08 25 25.4 +0.5
1.6nm,0.2s
KST S **Sg** 08 25 49.4 -0.2
3.3nm,0.3s
KST Kastek 1.82 274 *e*P **Pb** 08 25 25.4 +0.5
baz=73
KST *e*S **Sg** 08 25 49.4 -0.2
baz=73
KST Kastek 1.82 274 *e*P **Pb** 08 25 25.4 +0.5
0.7nm,0.1s
KST *e*S **Sg** 08 25 49.4 -0.2
3.1nm,0.4s
BOOM Boomskoye usch 1.89 257 ⇓*i*P **Pb** 08 25 25.2 -1.0
baz=56
BOOM ⇓*i*S **Sg** 08 25 51.4 -0.6
baz=56
DGS Degeres 1.98 280 P **Pb** 08 25 28.2 +0.6
1.2nm,0.3s
DGS S **Sn** 08 25 50.9 +0.6
7.3nm,0.3s
TKM2 Tokmak 2 2.08 271 ⇓Pn **Pb** 08 25 29.2 -0.3
0.6nm,0.6s
TKM2 ⇑Sn **Sg** 08 25 58.7 +0.5
1.3nm,0.3s
TKM2 Tokmak 2 2.08 271 ⇑*i*P **Pb** 08 25 28.5 -1.0
baz=69
TKM2 ⇑*i*S **Sb** 08 25 55.5 -0.2
baz=69
AAK Ala-Archa 2.92 266 ⇓Pg **Pb** 08 25 44.5 +0.8
0.8nm,0.6s
AAK ⇑Lg Lg 08 26 22.3
1.2nm,0.6s

IDC ***03*** *08:43:37.2s 0.7,2.765S×138.89E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.3/33, mbtmp4.4/14, ML4.6/1, MS3.5/14, Ms1 3.5/14, ms1mx3.4/33, Error ellipse: s-maj=33.3km s-min=13.9km az=85.0*
ISCJB ***03*** *08:43:41.7s 0.2,2.780S×0.704×138.769E×0.703, h46km, mb4.6/25, MS3.6/12, Error ellipse: s-maj=5.5km s-min=4.4km az=170.3*
NEIC ***03*** *08:43:43.2s 1.1,2.777S×138.76E, h46km±10km, mb4.6/7, Error ellipse: s-maj=9.0km s-min=5.4km az=68.0*
DJA ***03*** *08:43:43.9s 2.1,3.3S±6.6×13.9E±, h26km±20km, M4.9/8, mb5.1/8, mB5.4/4, MLv4.8/5, Mw(mB)4.9/4*
ISC 03 08:43:43.4±0.4,**2.77S**±0.06×**138.78E**±0.04,**h46km**,**n78,** σ1s**24**/78,**mb4.6**/25,**MS3.6**/12,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.40**	**83**	P	**Pn**	**08 44 07.7**	**+1.1**
GENI				S	**Sn**	**08 44 25.8**	**+1.9**
JAY	**Jayapura**	**1.94**	**83**	P	**Pn**	**08 44 14.6**	**+0.6**
JAY				S	**Sn**	**08 44 38.1**	**+0.8**
FAKI	**Fak Fak**	**6.52**	**268**	*e*Pn	**Pn**	**08 45 17.7**	**+0.8**
FAKI				*e*Sn	**Sn**	**08 46 28.3**	**-1.8**
FAKI	**Fak Fak**	**6.52**	**268**	P	**Pn**	**08 45 18.0**	**+1.1**
NLAI	**Namlea**	**11.67**	**267**	P	**Pn**	**08 46 29.6**	**+2.1**
147nm,0.9s							
TNTI	**Ternate**	**11.94**	**287**	*e*Pn	**Pn**	**08 46 30.1**	**-1.0**
COEN	**Coen**	**11.94**	**159**	*e*Pn	**Pn**	**08 46 30.9**	**-0.3**
MTN	**Manton Dam**	**12.55**	**217**	*e*Pn	**Pn**	**08 46 39.1**	**-0.4**
SANI	**Sanana**	**12.80**	**273**	P	**Pn**	**08 46 42.7**	**-0.1**
SOEI	**Soe**	**16.00**	**244**	*e*Pn	**Pn**	**08 47 25.0**	**-0.6**
248nm,1.1s							
SOEI	**Soe**	**16.00**	**244**	P	**P**	**08 47 28.9**	**+0.4**
BBSI	**Bau Bau**	**16.39**	**260**	P	**P**	**08 47 36.5**	**+3.9**
BATI	**Baumata**	**16.73**	**243**	P	**P**	**08 47 38.1**	**+1.7**
GUMO	**Guam**	**17.34**	**20**	*e*Pn	**Pn**	**08 47 39.0**	**-3.2**
148nm,1.1s							
GUMO	**Guam**	**17.34**	**20**	LR	LR	08 52 11.5	
comp=Z,114nm,21.7s,baz=209,slow=30							
WRAB	**Tennant Creek**	**17.60**	**194**	*e*Pn	**P**	**08 47 46.1**	**+0.1**
33nm,0.8s							
WB2	**Warramunga Arr**	**17.61**	**194**	*e*Pn	**Pn**	**08 47 44.1**	**-1.5**
WRA	**Warramunga Arr**	**17.61**	**194**	P	**Pn**	**08 47 44.7**	**-1.0**
2.0nm,0.3s,baz=9.0,slow=13,SNR=68							
WRA				LR	LR	08 55 06.4	
comp=Z,390nm,18.6s,baz=10.0,slow=39							
FITZ	**Fitzroy Crossi**	**19.95**	**219**	*e*P	**P**	**08 48 10.4**	**-1.4**
28nm,1.1s							
FITZ	**Fitzroy Crossi**	**19.95**	**219**	P	**P**	**08 48 12.2**	**+0.4**
14nm,0.8s,baz=43,slow=9.0,SNR=13							
FITZ				LR	LR	08 57 14.4	
comp=Z,24nm,21.8s,baz=36,slow=41							
AS01	**Alice Springs**	**21.29**	**192**	*e*P	**P**	**08 48 26.9**	**+0.6**
AS31	**Alice Springs**	**21.30**	**192**	*e*P	**P**	**08 48 26.2**	**-0.2**
9.9nm,0.6s							
ASAR	**Alice Springs**	**21.31**	**192**	P	**P**	**08 48 26.5**	**+0.1**
11nm,0.6s,baz=13,slow=10,SNR=126							
ASAR				LR	LR	08 57 12.4	
comp=Z,249nm,19.6s,baz=9.0,slow=38							
HNR	**Honiara**	**22.06**	**108**	*e*P	**P**	**08 48 36.0**	**+1.4**
STKA	**Stephens Creek**	**29.08**	**175**	*e*P	**P**	**08 49 38.4**	**-1.2**
2.3nm,1.1s							
STKA	**Stephens Creek**	**29.08**	**175**	P	**P**	**08 49 40.8**	**+1.1**
1.3nm,0.4s,baz=346,slow=10,SNR=9.8							
STKA				LR	LR	09 02 21.0	
comp=Z,242nm,20.3s,baz=8.2,slow=38							
FORT	**Forrest**	**29.65**	**199**	*e*P	**P**	**08 49 43.3**	**-1.4**
46nm,0.8s							
ARMA	**Armidale**	**30.08**	**157**	*e*P	**P**	**08 49 47.5**	**-1.2**
43nm,1.4s							
MJAR	**Matsushiro Arr**	**39.11**	**359**	LR	LR	09 04 53.5	
comp=Z,40nm,22.0s,baz=170,slow=33							
NJ2	**Nanjing**	**39.45**	**333**	*e*P	**P**	**08 51 09.8**	**+0.5**
NJ2				pmax	pmax		
comp=Z,16nm,0.6s							
KSAR	**Wonju Array Be**	**41.26**	**347**	P	**P**	**08 51 23.9**	**-0.3**
KSRS	**Korea Array**	**41.27**	**347**	P	**P**	**08 51 23.9**	**-0.3**
comp=Z,1.2nm,0.8s,baz=148,slow=9.4,SNR=3.6							
KSRS				LR	LR	09 05 58.7	
comp=Z,51nm,21.0s,baz=180,slow=33							
CMAR	**Chiang Mai Arr**	**44.52**	**300**	P	**P**	**08 51 52.0**	**+1.1**
comp=Z,0.6nm,0.4s,baz=130,slow=7.4,SNR=4.6							
CMAR				LR	LR	09 09 48.8	
comp=Z,40nm,19.7s,baz=192,slow=35							
XAN	**Xi'an**	**46.16**	**325**	P	**P**	**08 52 03.4**	**-0.3**
XAN				pmax	pmax		
comp=Z,8.0nm,0.9s							
XAN				pmax	pmax		
comp=Z,150nm,5.4s							
USRK	**Ussuriysk Ar.**	**47.15**	**353**	P	**P**	**08 52 11.0**	**-0.2**
comp=Z,3.1nm,0.8s,baz=186,slow=7.9,SNR=6.9							
CD2	**Chengdu**	**47.27**	**318**	P	**P**	**08 52 12.2**	**-0.3**
CD2				pmax	pmax		
comp=Z,10.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**50.01**	**333**	*e*P	**P**	**08 52 36.4**	**+2.9**
HHC				pP	sP	08 52 50.5	-1.6
HHC				S	**S**	**08 59 43.6**	**+2.4**
HHC				pmax	pmax		
comp=Z,7.0nm,1.1s							
HHC				pmax	pmax		
comp=Z,110nm,5.6s							
LZH	**Lanzhou**	**50.56**	**323**	*e*P	**P**	**08 52 39.0**	**+1.2**
LZH				pP	pP	08 52 50.9	+0.1
LZH				sP	sP	08 52 57.1	+0.9
LZH				PP	PP	08 54 42.4	+8.3
LZH				pmax	pmax		
comp=Z,28nm,1.2s							
LZH				pmax	pmax		
comp=Z,80nm,4.9s							
LZH				LR	LR		
comp=N,130nm,12.9s							
LZH				LR	LR		
comp=E,140nm,13.2s							
LZH				LR	LR		
comp=Z,180nm,16.5s							
BFZ	**Birch Farm**	**50.65**	**143**	*e*P	**P**	**08 52 37.0**	**-1.2**
comp=Z,29nm,0.9s							
GTA	**Gaotai**	**55.15**	**324**	P	**P**	**08 53 12.1**	**+0.5**
GTA				pP	sP	08 53 29.0	-1.0
GTA				sP	pP	08 53 37.4	+13
GTA				pmax	pmax		
comp=Z,5.0nm,1.2s							
SONM	**Songino Array**	**57.80**	**335**	P	**P**	**08 53 30.1**	**-0.1**
comp=Z,2.6nm,0.7s,baz=158,slow=8.1,SNR=16							
SONM				LR	LR	09 16 50.7	
comp=Z,48nm,21.7s,baz=170,slow=34							
SONA1	**Songino Array**	**57.80**	**335**	*e*P	**P**	**08 53 29.9**	**-0.4**
PETK	**Petropavlovsk-**	**57.90**	**13**	LR	LR	09 14 29.7	
comp=Z,44nm,21.2s,baz=172,slow=32							
WMQ	**Urumqi**	**65.09**	**322**	*e*P	**P**	**08 54 20.0**	**+0.5**
WMQ				pP	pP	08 54 30.5	-2.6
WMQ				pmax	pmax		
comp=Z,22nm,1.1s							
WMQ				pmax	pmax		
comp=Z,320nm,5.5s							
MK01	**Makanchi Array**	**69.86**	**322**	*e*P	**P**	**08 54 49.4**	**-0.1**
MK31	**Makanchi Array**	**69.87**	**322**	*e*P	**P**	**08 54 49.3**	**-0.4**
MKAR	**Makanchi Array**	**69.87**	**322**	P	**P**	**08 54 49.5**	**-0.1**
comp=Z,3.2nm,0.6s,baz=110,slow=7.9,SNR=37							
MAKZ	**Makanchi**	**70.07**	**322**	*e*P	**P**	**08 54 50.3**	**-0.5**
comp=Z,7.3nm,0.7s							
KSH	**Kashi**	**71.17**	**313**	*e*P	**P**	**08 55 01.5**	**+3.7**
KURK	**Kurchatov**	**73.80**	**325**	*e*P	**P**	**08 55 12.7**	**-0.4**
comp=Z,4.8nm,0.8s							
GAR	**Garm**	**75.18**	**311**	*e*P	**P**	**08 55 20.5**	**-1.1**
VNDA	**Vanda**	**75.72**	**175**	P	**P**	**08 55 25.5**	**+1.8**
comp=Z,1.8nm,0.7s,baz=327,slow=7.2,SNR=8.4							
VNDA				LR	LR	09 29 00.3	
comp=Z,67nm,18.1s,baz=310,slow=36							
BRVK	**Borovoye**	**79.47**	**325**	*e*P	**P**	**08 55 44.5**	**-0.6**
comp=Z,6.5nm,0.8s							
NRIK	**Noril'sk**	**79.79**	**344**	P	**P**	**08 55 46.6**	**+0.2**
comp=Z,5.4nm,0.7s,baz=123,slow=6.5,SNR=4.6							
MAW	**Mawson**	**82.10**	**202**	LR	LR	09 30 53.9	
comp=Z,92nm,18.1s,baz=311,slow=34							
PMR	**Palmer**	**83.99**	**27**	*e*P	**P**	**08 56 07.4**	**-1.2**
KNK	**Knik Glacier**	**84.24**	**27**	*e*P	**P**	**08 56 09.8**	**-0.2**
MLY	**Manley**	**84.36**	**24**	*e*P	**P**	**08 56 10.5**	**-0.1**
RND	**Reindeer**	**84.64**	**26**	*e*P	**P**	**08 56 11.5**	**-0.6**
MCK	**McKinley**	**84.70**	**25**	*e*P	**P**	**08 56 11.5**	**-0.8**
ABKAR	**Akbulak array**	**84.81**	**320**	*e*P	**P**	**08 56 12.5**	**-0.6**
DHY	**Denali Highway**	**85.19**	**26**	*e*P	**P**	**08 56 14.4**	**-0.5**
WRH	**Wood River Hil**	**85.27**	**25**	*e*P	**P**	**08 56 14.1**	**-1.0**
DIV	**Divide**	**85.42**	**28**	*e*P	**P**	**08 56 16.1**	**+0.1**
COLA	**College**	**85.49**	**24**	*e*P	**P**	**08 56 16.1**	**0.0**
IL1	**Eielson Array**	**85.86**	**24**	*e*P	**P**	**08 56 15.7**	**-2.3**
ILAR	**Eielson Array**	**85.86**	**24**	P	**P**	**08 56 16.3**	**-1.7**
comp=Z,5.1nm,0.7s,baz=263,slow=4.4,SNR=100							
ILAR				LR	LR	09 36 35.6	
comp=Z,22nm,18.3s,baz=263,slow=37							
TOLK	**Toolik Lake Re**	**85.95**	**20**	*e*P	**P**	**08 56 18.8**	**+0.3**
RIDG	**Independ'e Rid**	**86.46**	**26**	*e*P	**P**	**08 56 20.8**	**-0.3**
DOT	**Dot Lake**	**86.78**	**26**	*e*P	**P**	**08 56 22.4**	**-0.2**
QSPA	**South Pole Qui**	**87.18**	**180**	P	**P**	**08 56 25.3**	**+0.7**
comp=Z,1.8nm,0.7s,baz=27,slow=3.9,SNR=15							
EGAK	**Eagle**	**88.25**	**25**	*e*P	**P**	**08 56 29.1**	**-0.5**
DAWY	**Dawson**	**88.89**	**26**	*e*P	**P**	**08 56 33.2**	**+0.6**
HYT	**Haines Junctio**	**89.33**	**29**	*e*P	**P**	**08 56 35.5**	**+0.6**
YKA	**Yellowknife Ar**	**100.08**	**27**	P	**Pdif**	**08 57 23.3**	**-0.5**
comp=Z,0.4nm,0.8s,baz=288,slow=4.9,SNR=6.9							
YKA				LR	LR	09 36 53.9	
comp=Z,7.6nm,20.9s,baz=282,slow=32							
VYHS	**Vyhne**	**111.56**	**322**	*e*PDIF	**Pdif**	**08 58 17.0**	**+1.8**
CPUP	**Villa Florida**	**147.15**	**153**	PKPbc	**PKPab**	**09 03 23.4**	**-0.5**
comp=Z,5.4nm,1.1s,baz=220,slow=6.2,SNR=5.6							
LPAZ	**La Paz**	**147.36**	**126**	PKPbc	**PKPab**	**09 03 24.9**	**-0.9**
comp=Z,2.8nm,0.8s,baz=146,slow=0.9,SNR=7.1							

ISCJB ***03*** *08:49:06.0s 0.1,23.762S±0.702×179.798E±0.704, h532km, mb4.5/89, Error ellipse: s-maj=5.2km s-min=2.4km az=21.7*
NEIC ***03*** *08:49:06.4s 0.4,23.770S×179.793W, h532km±5km, mb4.6/83, Error ellipse: s-maj=5.6km s-min=4.0km az=136.0*
IDC ***03*** *08:49:06.0s 1.4,23.755S×179.796W, h524km±13km, mb3.9/14, mb1 4.1/15, mb1mx3.9/28, mbtmp4.7/15, Error ellipse: s-maj=16.7km s-min=13.3km az=160.0*
ISC 03 08:49:06.5±0.4,**23.67S**±0.705×**179.94W**±0.706,**h532**km,
n290,σ1s**67**/309,**mb4.5**/89,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.86**	**162**	P	**P**	**08 50 43.0**	**+0.3**
GLKZ				S	**S**	**08 52 01.1**	**-0.5**
MSVF	**Nonsavu**	**6.20**	**342**	*e*P	**P**	**08 50 46.3**	**0.0**
MSVF				*e*S	**S**	**08 52 05.3**	**-2.6**
NIUE	**Niue**	**10.39**	**66**	*e*P	**P**	**08 51 27.4**	**-0.9**
NIUE				*e*S	**S**	**08 53 27.4**	**+2.5**
MARNC	**Mare, Loyalty**	**11.32**	**279**	*e*P	**P**	**08 51 37.9**	**0.0**
PINNC	**Pines Island,**	**11.65**	**273**	*e*P	**P**	**08 51 43.2**	**+1.8**
DZM	**Mont Dzumac**	**12.65**	**275**	P	**P**	**08 51 52.9**	**+1.0**
1.1nm,0.3s,baz=81,slow=18,SNR=10							
OUZ	**Omahuta**	**12.80**	**205**	*e*P	**P**	**08 51 55.7**	**+2.5**
OUZ	**Omahuta**	**12.80**	**205**	P	**P**	**08 51 54.6**	**+1.4**
GRZ	**Great Barrier**	**13.15**	**197**	P	**P**	**08 52 00.3**	**+3.5**
WCZ	**Waipu Caves**	**13.19**	**201**	P	**P**	**08 51 60.0**	**+2.8**
KUZ	**Kuaotunu**	**13.56**	**195**	P	**P**	**08 52 01.8**	**+0.8**
WIAZ	**Waiheke Island**	**13.75**	**197**	P	**P**	**08 52 06.0**	**+3.0**
MXZ	**Matakaoa Point**	**13.93**	**186**	*e*P	**P**	**08 52 05.0**	**+0.2**
MXZ	**Matakaoa Point**	**13.93**	**186**	P	**P**	**08 52 06.9**	**+2.0**
ETAZ	**East Tamaki Re**	**13.96**	**197**	P	**P**	**08 52 06.5**	**+1.3**
MKAZ	**Moumakai**	**14.04**	**196**	P	**P**	**08 52 06.9**	**+0.9**
WTAZ	**Waiatarua**	**14.04**	**198**	P	**P**	**08 52 09.5**	**+3.4**
HAZ	**Te Kaha**	**14.17**	**187**	P	**P**	**08 52 05.9**	**-1.5**
HAZ				S	**S**	**08 54 34.1**	**-2.5**
HAZ	**Te Kaha**	**14.17**	**187**	P	**S**	**08 54 37.8**	**+1.2**
PKGZ	**Pakihiroa**	**14.27**	**186**	P	**P**	**08 52 08.8**	**+0.2**
PKGZ	**Pakihiroa**	**14.27**	**186**	P	**S**	**08 54 42.4**	**+3.8**
TGRZ	**Tauranga**	**14.38**	**192**	P	**P**	**08 52 10.9**	**+1.3**
RUGZ	**Raukumara Rang**	**14.39**	**188**	P	**P**	**08 52 09.0**	**-0.9**
RUGZ	**Raukumara Rang**	**14.39**	**188**	P	**S**	**08 54 38.9**	**-2.1**
PUZ	**Puketiti**	**14.44**	**186**	P	**P**	**08 52 10.2**	**0.0**
PUZ				S	**S**	**08 54 37.6**	**-4.1**
OPRZ	**Ohinepanea**	**14.44**	**191**	P	**P**	**08 52 12.6**	**+2.4**
TOZ	**Tahuroa Road**	**14.55**	**195**	P	**P**	**08 52 14.1**	**+2.7**
KMRZ	**Kaimai**	**14.56**	**193**	P	**P**	**08 52 12.4**	**+0.9**
TWGZ	**Tauwhareparae**	**14.57**	**187**	P	**P**	**08 52 11.3**	**-0.3**
TWGZ				S	**S**	**08 54 43.5**	**-0.7**
KARZ	**Kaharoa**	**14.67**	**192**	P	**P**	**08 52 14.0**	**+1.4**
URZ	**Urewera**	**14.76**	**189**	*e*P	**P**	**08 52 10.9**	**-2.6**
URZ				*e*S	**S**	**08 54 45.1**	**-2.6**
URZ	**Urewera**	**14.76**	**189**	P	**P**	**08 52 10.5**	**-3.0**
6.4nm,0.3s,baz=33,slow=2.3,SNR=33							
URZ				S	**S**	**08 54 42.6**	**-5.1**
1.2nm,0.3s,baz=61,slow=22,SNR=9.7							
URZ	**Urewera**	**14.76**	**189**	P	**P**	**08 52 10.6**	**-2.9**
URZ				S	**S**	**08 54 42.4**	**-5.4**
URZ	**Urewera**	**14.76**	**189**	P	**S**	**08 54 47.3**	**-0.5**
NGRZ	**Ngongotaha**	**14.76**	**192**	P	**P**	**08 52 17.2**	**+3.6**
MWZ	**Matawai**	**14.78**	**188**	P	**P**	**08 52 12.2**	**-1.6**
MWZ				S	**S**	**08 54 47.5**	**-0.7**
MWZ	**Matawai**	**14.78**	**188**	P	**S**	**08 54 49.8**	**+1.6**
TKGZ	**Te Karaka**	**14.84**	**187**	P	**P**	**08 52 12.8**	**-1.6**
TKGZ	**Te Karaka**	**14.84**	**187**	P	**S**	**08 54 46.6**	**-2.7**
CNGZ	**Carnagh Statio**	**14.85**	**186**	P	**P**	**08 52 14.2**	**-0.3**
CNGZ	**Carnagh Statio**	**14.85**	**186**	P	**S**	**08 54 51.2**	**+1.6**
RRRZ	**Republican Roa**	**14.93**	**191**	P	**P**	**08 52 16.7**	**+1.3**
RAGZ	**Rawiri**	**14.95**	**188**	P	**P**	**08 52 13.6**	**-2.0**
RAGZ	**Rawiri**	**14.95**	**188**	P	**S**	**08 54 48.2**	**-3.3**
HRRZ	**Handcock Road**	**15.02**	**192**	P	**P**	**08 52 16.0**	**-0.3**
PRRZ	**Plateau Road**	**15.11**	**191**	P	**P**	**08 52 16.1**	**-1.1**
TLZ	**Tolley Road**	**15.11**	**194**	P	**P**	**08 52 17.7**	**+0.5**
RIGZ	**Rimuhau**	**15.12**	**187**	P	**P**	**08 52 16.0**	**-1.3**
RIGZ	**Rimuhau**	**15.12**	**187**	P	**S**	**08 54 51.3**	**-3.2**
RTZ	**Ruatahuna**	**15.13**	**189**	P	**P**	**08 52 17.1**	**-0.3**
RTZ	**Ruatahuna**	**15.13**	**189**	P	**S**	**08 54 52.7**	**-2.1**
WPRZ	**Whakapapatarin**	**15.17**	**192**	P	**P**	**08 52 17.8**	**-0.1**
ALRZ	**Allen Road**	**15.18**	**191**	P	**P**	**08 52 16.7**	**-1.3**
SNGZ	**Shannon Statio**	**15.24**	**188**	P	**P**	**08 52 18.5**	**-0.1**
SNGZ	**Shannon Statio**	**15.24**	**188**	P	**S**	**08 54 55.5**	**-1.2**
SNGZ				P	**S**	**08 54 55.5**	**-1.2**
PRGZ	**Paritu Road**	**15.32**	**186**	P	**P**	**08 52 21.1**	**+1.7**
MTHZ	**Maungataniwha**	**15.38**	**190**	P	**P**	**08 52 16.9**	**-3.1**
RAHZ	**Arahi**	**15.41**	**189**	P	**P**	**08 52 19.7**	**-0.7**
RAHZ	**Arahi**	**15.41**	**189**	P	**S**	**08 54 57.2**	**-2.5**
MRHZ	**Matea Rd**	**15.43**	**191**	P	**P**	**08 52 19.0**	**-1.6**
WATZ	**Wairara**	**15.44**	**193**	P	**P**	**08 52 23.0**	**+2.4**
HIZ	**Hauiti**	**15.45**	**195**	*e*P	**P**	**08 52 21.0**	**+0.3**
175nm,1.5s							
HIZ	**Hauiti**	**15.45**	**195**	P	**P**	**08 52 22.8**	**+2.1**
MHGZ	**Mahia Peninsul**	**15.54**	**186**	P	**P**	**08 52 22.0**	**+0.3**
WHHZ	**Waihua**	**15.54**	**188**	P	**S**	**08 54 59.5**	**-2.6**
NMHZ	**Naumai**	**15.62**	**189**	P	**P**	**08 52 21.2**	**-1.4**
NMHZ	**Naumai**	**15.62**	**189**	P	**S**	**08 55 01.4**	**-2.3**
KATZ	**Kakaramea**	**15.70**	**193**	P	**P**	**08 52 25.5**	**+2.0**
BKZ	**Black Stump Fm**	**15.74**	**190**	*e*P	**P**	**08 52 20.7**	**-3.1**
19nm,0.5s							
BKZ				*e*S	**S**	**08 55 04.3**	**-1.4**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**P**	**08 52 20.7**	**-3.1**
BKZ	**Black Stump Fm**	**15.74**	**190**	P	**S**	**08 54 59.2**	**-6.5**
KRVZ	**Karewarewa**	**15.83**	**193**	P	**P**	**08 52 25.1**	**+0.3**
WTVZ	**West Tongariro**	**15.86**	**193**	P	**P**	**08 52 25.2**	**+0.2**
COVZ	**Chateau Observ**	**15.95**	**193**	P	**P**	**08 52 25.4**	**-0.5**
MCHZ	**McNeill Hill**	**15.98**	**189**	P	**P**	**08 52 23.5**	**-2.6**
MCHZ	**McNeill Hill**	**15.98**	**189**	P	**S**	**08 55 01.0**	**-8.7**
TUVZ	**Tukino**	**15.99**	**192**	P	**P**	**08 52 25.1**	**-1.3**
FWVZ	**Far West T-bar**	**16.00**	**193**	P	**P**	**08 52 25.2**	**-1.4**
KWHZ	**Kaweka Forest**	**16.00**	**190**	P	**P**	**08 52 24.1**	**-2.3**
KWHZ	**Kaweka Forest**	**16.00**	**190**	P	**S**	**08 55 04.6**	**-5.6**
VRZ	**Vera Road**	**16.05**	**195**	P	**P**	**08 52 28.4**	**+1.6**
BHHZ	**Black Hill Sta**	**16.13**	**191**	P	**P**	**08 52 23.4**	**-4.3**
BHHZ	**Black Hill Sta**	**16.13**	**191**	P	**S**	**08 55 10.6**	**-1.8**
KRHZ	**Kereru**	**16.23**	**190**	P	**P**	**08 52 25.7**	**-2.9**
KRHZ	**Kereru**	**16.23**	**190**	P	**S**	**08 55 10.7**	**-3.3**
KAHZ	**Kahuranaki**	**16.30**	**189**	P	**P**	**08 52 27.6**	**-1.7**
KAHZ	**Kahuranaki**	**16.30**	**189**	P	**S**	**08 55 11.8**	**-3.4**
PNHZ	**Pukenui**	**16.52**	**190**	P	**S**	**08 55 16.4**	**-2.5**
PXZ	**Pawanui**	**16.53**	**189**	P	**S**	**08 55 17.6**	**-1.4**
WAZ	**Wanganui**	**16.60**	**194**	P	**S**	**08 55 21.8**	**+1.6**
TSZ	**Takapari Road**	**16.70**	**191**	P	**S**	**08 55 17.6**	**-4.4**
PRHZ	**Porangahau**	**16.80**	**189**	P	**S**	**08 55 20.4**	**-3.1**
DVHZ	**Dannevirke**	**16.90**	**190**	P	**S**	**08 55 24.0**	**-1.2**
ANWZ	**Angora Road**	**17.01**	**189**	P	**S**	**08 55 26.7**	**-0.2**
POWZ	**Post Office Ro**	**17.06**	**191**	P	**S**	**08 55 27.7**	**-0.1**
BFZ	**Birch Farm**	**17.26**	**190**	P	**S**	**08 55 30.5**	**-0.6**
MRZ	**Mangatainoka R**	**17.35**	**191**	P	**S**	**08 55 27.6**	**-5.0**
TIWZ	**Tintock**	**17.41**	**191**	P	**S**	**08 55 32.9**	**-0.7**
OGWZ	**Otaki Gorge**	**17.58**	**192**	P	**S**	**08 55 33.7**	**-2.6**
HOWZ	**Holdsworth Sta**	**17.59**	**191**	P	**S**	**08 55 33.3**	**-3.3**
KIW	**Kapiti Island**	**17.68**	**193**	P	**S**	**08 55 35.6**	**-2.3**
DUWZ	**D'Urville Isla**	**17.84**	**195**	P	**S**	**08 55 40.6**	**0.0**
MTW	**Mount Morrison**	**17.85**	**191**	P	**S**	**08 55 40.4**	**-0.3**
CAW	**Cannon Point**	**17.88**	**192**	P	**S**	**08 55 41.9**	**+0.7**
TCW	**Tory Channel**	**18.15**	**194**	P	**S**	**08 55 45.2**	**-0.2**
SNZO	**South Karori**	**18.15**	**193**	*e*P	**P**	**08 52 45.6**	**-0.8**
83nm,1.2s							
TUWZ	**Tuamarina**	**18.43**	**195**	P	**S**	**08 55 49.7**	**-0.3**
THZ	**Tophouse**	**19.00**	**197**	*e*P	**P**	**08 52 54.0**	**-0.2**
133nm,1.7

QSPA	South Pole Qui	66.41	180	*e*P		P		08 59 04.0	+1.4
	36nm,1.8s								
QSPA	South Pole Qui	66.41	180	P		P		08 59 03.8	+1.3
	3.4nm,0.7s,baz=25,slow=0.6,SNR=16								
MJAR	Matsushiro Arr	71.74	326	P		P		08 59 34.1	-0.8
	2.0nm,0.8s,baz=160,slow=7.8,SNR=4.9								
KS15	Wonju Array Si	78.12	320	*e*P		P		09 00 09.7	-0.8
KS01	Wonju Array Si	78.14	320	*e*P		P		09 00 09.2	-1.4
NJ2	Nanjing	80.55	311	*e*P		P		09 00 23.9	+0.4
NJ2					pmax		pmax		
	comp=Z,15nm,0.5s								
DECC	Green Verdugo	82.10	47	P		P		09 00 31.3	-0.2
	baz=234								
109C	Camp Elliot, M	82.16	49	P		P		09 00 31.8	0.0
	baz=235								
ARVC	Arvin	82.28	46	P		P		09 00 32.3	0.0
	baz=234								
MURC	Murrieta	82.50	48	P		P		09 00 33.7	+0.1
	baz=235								
VES	Vestal, Richgr	82.53	46	P		P		09 00 33.6	0.0
	baz=234								
BFSC	Mount Baldy Ra	82.55	48	P		P		09 00 33.9	0.0
	baz=235								
MONP2	Monument Peak	82.64	49	P		P		09 00 35.1	+0.7
	baz=236,SNR=9.4								
EDW2	Edwards Air Fo	82.69	47	P		P		09 00 34.8	+0.2
	baz=234								
IKP	In-Ko-Pah, Jac	82.72	50	P		P		09 00 35.4	+0.7
	baz=236,SNR=5.5								
ISA	Isabella, Lake	82.83	46	*e*P		P		09 00 35.3	+0.1
	comp=Z,10nm,0.8s								
ISA	Isabella, Lake	82.83	46	P		P		09 00 35.6	+0.4
	baz=234,SNR=9.3								
O02D	Mt. Diablo Mer	82.85	40	P		P		09 00 36.1	+0.9
	baz=231								
CMB	Columbia Colle	83.00	43	*e*P		P		09 00 35.9	-0.1
	comp=Z,8.7nm,0.8s								
PFO	Pinyon Flats O	83.02	49	P		P		09 00 36.4	+0.2
	baz=236								
SWSC	Sam W. Stewart	83.10	50	P		P		09 00 36.9	+0.4
	baz=236,SNR=7.4								
AFDM	Forest Hills D	83.19	42	*e*P		P		09 00 37.1	+0.2
	comp=Z,8.2nm,1.0s								
ORV	Oroville	83.24	42	*e*P		P		09 00 37.1	0.0
	comp=Z,6.9nm,0.9s								
LRMC	Laurel Mtn Rad	83.25	47	P		P		09 00 37.7	+0.4
	baz=235								
WDC	Whiskeytown Da	83.25	40	*e*P		P		09 00 37.1	+0.1
	comp=Z,10nm,1.1s								
N02D	Trinity Center	83.40	40	P		P		09 00 38.5	+0.6
	baz=231								
O03E	Paynes Creek	83.51	41	P		P		09 00 38.6	+0.1
	baz=232								
CWC	Cottonwood Cre	83.54	46	P		P		09 00 39.0	+0.1
	baz=234								
BELC	Belle Mtn. Jos	83.55	49	P		P		09 00 39.3	+0.3
	baz=236,SNR=6.9								
M02C	Callahan	83.58	39	P		P		09 00 39.7	+0.9
	baz=231								
MPMC	Manual Prospec	83.71	46	P		P		09 00 39.9	+0.2
	baz=235,SNR=5.0								
GSC	Goldstone, Bar	83.73	47	*e*P		P		09 00 40.0	+0.2
	comp=Z,7.5nm,0.9s								
GSC	Goldstone, Bar	83.73	47	P		P		09 00 39.9	+0.2
	baz=235,SNR=7.2								
BC3	Big Chuckawall	83.73	49	P		P		09 00 40.5	+0.7
	baz=236								
HEC	Hector,Ludlow	83.78	48	P		P		09 00 40.1	+0.2
	baz=236,SNR=10								
GLA	Glamis	83.84	50	*e*P		P		09 00 41.2	+0.9
	comp=Z,15nm,0.8s								
GLA	Glamis	83.84	50	P		P		09 00 41.2	+0.9
	baz=237								
WAKR	Walker	83.88	43	*e*P		P		09 00 40.4	-0.1
	comp=Z,9.4nm,1.0s								
K02D	Willamette Mer	83.94	38	P		P		09 00 41.2	+0.7
	baz=230								
BEKR	Beckworth	84.12	42	*e*P		P		09 00 40.7	-1.0
	comp=Z,4.3nm,0.9s								
VCNR	Virginia City	84.22	43	*e*P		P		09 00 41.8	-0.4
	comp=Z,9.7nm,1.1s								
GMRC	Granite Mounta	84.22	48	P		P		09 00 42.4	+0.2
	baz=236,SNR=6.7								
IRM	Iron Mountain	84.23	49	P		P		09 00 42.8	+0.7
	baz=236,SNR=7.5								
GRAC	Grapevine Rang	84.33	46	P		P		09 00 43.1	+0.5
	baz=235								
FURC	Furnace Creek,	84.36	46	P		P		09 00 43.3	+0.7
	baz=235								
TUQ	Turquoise Moun	84.40	48	P		P		09 00 43.3	+0.2
	baz=236								
M04C	Macdoel	84.42	40	P		P		09 00 43.5	+0.5
	baz=231								
L04D	Klamath Falls	84.42	39	P		P		09 00 43.4	+0.3
	baz=231								
SHOC	Shoshone, Teco	84.43	47	P		P		09 00 43.5	+0.4
	baz=236								
Y12C	Blythe	84.44	50	*e*P		P		09 00 43.7	+0.6
	comp=Z,8.1nm,0.9s								
Y12C	Blythe	84.44	50	P		P		09 00 43.6	+0.6
	baz=237,SNR=6.3								
113A	Mohawk Valley,	84.44	51	*e*P		P		09 00 43.6	+0.4
	comp=Z,9.3nm,1.1s								
NV01	Mina Array Sit	84.55	44	*e*P		P		09 00 43.5	-0.4
NVAR	Mina Array Bea	84.55	44	P		P		09 00 43.9	0.0
	comp=Z,3.1nm,0.8s,baz=224,slow=7.8,SNR=16								
PAHR	Pah Rah Range	84.63	42	*e*P		P		09 00 44.1	0.0
	comp=Z,5.7nm,1.1s								
NV11	Mina Array Sit	84.65	44	*e*P		P		09 00 44.3	+0.1
	comp=Z,0.5nm,1.1s								
214A	Organ Pipe Nat	84.69	52	P		P		09 00 45.3	+0.9
	baz=238								
NEE2	Needles Airpor	84.92	49	P		P		09 00 46.1	+0.6
	baz=237								
K04D	Chiloquin, OR	84.99	39	P		P		09 00 46.2	+0.5
	baz=231								
PDMCI	Parker Dam,Lak	85.00	49	P		P		09 00 46.6	+0.8
	baz=237								
TPNV	Topopah Spring	85.03	46	P		P		09 00 46.4	+0.2
	baz=235								
KVN	Kaiserville	85.05	44	*e*P		P		09 00 45.4	-0.8
	comp=Z,4.3nm,0.9s								
J04D	Umpqua Nationa	85.17	38	P		P		09 00 47.2	+0.5
	baz=231								
MOD	Modoc Plateau	85.39	40	*e*P		P		09 00 47.4	-0.4
	comp=Z,5.0nm,0.9s								
SHPR	Sheep Range	85.51	47	*e*P		P		09 00 48.4	-0.1
	comp=Z,13nm,1.8s								
Y14A	Wickenburg	85.60	50	*e*P		P		09 00 49.1	+0.3
H04D	Lebanon	85.63	37	P		P		09 00 49.3	+0.6
	baz=230								
J05D	Fort Rock, OR	85.70	39	P		P		09 00 49.9	+0.7
	baz=232								
PINE	Pine Mountain	86.18	38	*e*P		P		09 00 51.8	+0.3
	comp=Z,20nm,1.3s								
R11A	Troy Canyon, C	86.26	45	P		P		09 00 52.3	+0.3
	baz=236								
TUC	Tucson	86.34	52	*e*P		P		09 00 53.1	+0.7
	comp=Z,9.7nm,0.9s								
TUC	Tucson	86.34	52	P		P		09 00 53.5	+1.1
	baz=239								
WVOR	Wild Horse Val	86.70	41	*e*P		P		09 00 53.8	-0.2
	comp=Z,10nm,1.1s								
X16A	Lo Mia Camp, P	86.95	50	*e*P		P		09 00 55.5	+0.1
	comp=Z,4.4nm,0.8s								
319A	Douglas	86.97	54	*e*P		P		09 00 56.4	+0.9
	comp=Z,20nm,1.0s								
LCMT	Little Creek M	87.08	47	*e*P		P		09 00 56.2	+0.3
	comp=Z,6.3nm,1.0s								
I07A	Izee	87.18	39	*e*P		P		09 00 56.5	+0.4
	comp=Z,10.0nm,0.9s								
CCUT	Cedar City	87.29	47	*e*P		P		09 00 57.5	+0.5
	comp=Z,4.1nm,0.9s								
J08A	Circle Bar Ran	87.35	40	*e*P		P		09 00 57.3	+0.4
	comp=Z,9.2nm,1.0s								
D03D	Eldon	87.36	35	P		P		09 00 57.5	+0.8
	baz=230								
KNB	Kanab	87.37	48	*e*P		P		09 00 57.7	+0.4
	comp=Z,7.1nm,1.0s								
U15A	North Rim	87.42	48	*e*P		P		09 00 58.4	+0.7
	comp=Z,11nm,0.8s								
PSUT	Pine Spring	87.49	46	*e*P		P		09 00 57.1	-0.8
	comp=Z,3.7nm,1.1s								
SZCU	Shurtz Canyon	87.50	47	*e*P		P		09 00 57.8	-0.2
	comp=Z,3.7nm,0.8s								
WUAZ	Wupatki	87.57	49	P		P		09 00 58.6	+0.4
	baz=238								
HPIG		87.60	59	*e*P		P		09 00 58.2	-0.4
	comp=Z,6.9nm,0.9s								
ELK	Elko	87.82	43	*e*P		P		09 00 59.0	-0.4
	comp=Z,6.1nm,1.2s								
PKCU	Pink Cliffs	87.94	47	*e*P		P		09 01 01.2	+1.0
	comp=Z,14nm,1.0s								
G08A	Pilot Rock	88.22	38	*e*P		P		09 01 00.8	-0.1
	comp=Z,10.0nm,1.0s								
MTPU	Mount Pierson	88.34	47	*e*P		P		09 01 02.0	-0.1
	comp=Z,6.3nm,0.9s								
PLCA	Paso Flores	88.39	134	P		P		09 01 03.6	+1.6
	comp=Z,0.9nm,0.7s,baz=270,slow=7.9,SNR=4.1								
E07A	Sunnyside	88.48	37	*e*P		P		09 01 02.3	+0.3
	comp=Z,9.6nm,0.9s								
W18A	Petrified Fore	88.52	50	P		P		09 01 03.0	+0.3
	baz=240								
HAWA	Hanford	88.56	37	*e*P		P		09 01 02.4	+0.1
	comp=Z,6.6nm,0.9s								
121A	Cookes Peak, D	88.65	54	P		P		09 01 03.5	+0.1
	baz=241								
BMO	Blue Mountains	88.91	39	*e*P		P		09 01 03.1	-1.1
	comp=Z,11nm,1.8s								
DUG	Dugway, Tooele	89.07	45	P		P		09 01 05.2	+0.1
	baz=238								
CM01	Chiang Mai Arr	89.47	290	*e*P		P		09 01 08.4	+1.1
Q16A	Castle Valley	89.47	47	*e*P		P		09 01 07.2	+0.1
	comp=Z,26nm,1.7s								
CM31	Chiang Mai Arr	89.50	290	*e*P		P		09 01 11.3	+3.9
CMAR	Chiang Mai Arr	89.50	290	P		P		09 01 08.8	+1.4
	comp=Z,3.0nm,0.3s,baz=132,slow=3.4,SNR=12								
TMUT	Trail Mountain	89.65	46	*e*P		P		09 01 08.3	+0.3
	comp=Z,14nm,0.8s								
MPU	Maple Canyon	89.74	46	*e*P		P		09 01 08.6	+0.3
	comp=Z,5.2nm,0.9s								
HLID	Hailey	89.89	41	*e*P		P		09 01 09.2	+0.3
	comp=Z,3.9nm,0.9s								
HLID	Hailey	89.89	41	P		P		09 01 09.4	+0.5
	baz=236								
HVU	Hansel Valley	89.94	44	*e*P		P		09 01 09.4	+0.3
	comp=Z,6.9nm,0.8s								
SRU	San Rafael Swe	90.01	47	*e*P		P		09 01 09.7	+0.2
	comp=Z,11nm,0.8s								
CTU	Camp Tracy	90.02	45	*e*P		P		09 01 09.8	+0.2
	comp=Z,5.8nm,1.0s								
LENM	Lemitar	90.03	52	*e*P		P		09 01 10.0	+0.2
MNTX	Cornudas Mount	90.04	55	*e*P		P		09 01 09.9	+0.2
	comp=Z,5.8nm,0.9s								
MNTX	Cornudas Mount	90.04	55	P		P		09 01 10.0	+0.4
	baz=242								
P17A	Butcher Ranch,	90.05	46	*e*P		P		09 01 10.3	+0.6
	comp=Z,10nm,1.2s								
JLU	Jordanelle	90.17	45	*e*P		P		09 01 10.4	+0.1
	comp=Z,3.2nm,0.8s								
TX31	Lajitas Ar. Si	90.27	58	*e*P		P		09 01 11.2	+0.3
TXAR	Lajitas Array	90.27	58	P		P		09 01 11.4	+0.5
	comp=Z,4.1nm,0.7s,baz=213,slow=6.6,SNR=58								
HHC	Hu-ho-hao-te	90.29	315	*e*P		P		09 01 11.0	+0.3
HHC					pmax		pmax		
	comp=Z,7.0nm,1.0s								
HHC					pmax		pmax		
	comp=Z,280nm,6.7s								
MVCO	Mesa Verde	90.43	49	P		P		09 01 12.3	+0.7
	baz=240								
TCUT	Toone Canyon	90.46	45	*e*P		P		09 01 11.8	+0.1
	comp=Z,16nm,0.8s								
ANMO	Albuquerque	90.78	52	*e*P		P		09 01 13.0	-0.2
	comp=Z,4.8nm,1.1s								
ANMO	Albuquerque	90.78	52	P		P		09 01 13.9	+0.7
	baz=241								
CD2	Chengdu	91.00	303	P		P		09 01 14.4	+0.3
CD2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
ILAR	Eielson Array	91.80	14	P		P		09 01 15.7	-1.3
	comp=Z,0.4nm,0.8s,baz=209,slow=4.8,SNR=7.1								
S22A	4UR Ranch, Cre	91.85	49	*e*P		P		09 01 18.2	0.0
	comp=Z,0.8nm,1.0s								
S22A	4UR Ranch, Cre	91.85	49	P		P		09 01 18.5	+0.3
	baz=241								
REDW	Red Top Meadow	91.98	43	*e*P		P		09 01 18.8	+0.2
	comp=Z,9.4nm,1.3s								
TPAW	Teton Pass	91.98	43	*e*P		P		09 01 18.0	-0.7
	comp=Z,24nm,2.0s								
O20A	White River Ci	92.04	47	P		P		09 01 19.0	0.0
	baz=240								
SNOW	Snow King Moun	92.09	43	*e*P		P		09 01 19.3	+0.2
	comp=Z,17nm,1.7s								
SMCO	Snowmass	92.44	48	*e*P		P		09 01 20.5	-0.5
	comp=Z,3.2nm,0.8s								
BW06	Boulder Array	92.49	44	P		P		09 01 21.4	+0.4
	baz=240								
PD31	Pinedale Array	92.49	44	*e*P		P		09 01 20.5	-0.5
PDAR	Pinedale Array	92.49	44	P		P		09 01 20.5	-0.5
	comp=Z,1.9nm,0.8s,baz=208,slow=4.1,SNR=16								
SDCO	Great Sand Dun	92.78	50	*e*P		P		09 01 21.9	-0.5
	comp=Z,4.1nm,1.1s								
SDCO	Great Sand Dun	92.78	50	P		P		09 01 22.6	+0.1
	baz=242								
MSTX	Muleshoe	93.03	54	P		P		09 01 23.7	+0.2
	baz=243								
T25A	Trinidad	93.27	51	P		P		09 01 24.5	-0.2
	baz=243								
LZH	Lanzhou	93.27	308	*e*P		P		09 01 26.4	+1.8
LZH				pP		pwP		09 03 30.6	+4.4
LZH				sP		sP		09 04 14.0	0.0
LZH				*e*PP		PP		09 05 35.8	+18
LZH					pmax		pmax		
	comp=Z,32nm,1.4s								
LZH					pmax		pmax		
	comp=Z,140nm,4.9s								
Q24A	Divide	93.59	49	P		P		09 01 26.3	+0.1
	baz=242								
ISCO	Idaho Springs	93.66	48	P		P		09 01 26.4	-0.1
	baz=242								
MKAR	Makanchi Array	112.04	313	SKP		SKPdf		09 09 25.4	-0.9
	comp=Z,14nm,0.6s,baz=107,slow=1.3,SNR=5.0								
ARCES	ARCESS Array B	131.67	348	PKP		PKPdf		09 07 18.2	0.0
	comp=Z,3.8nm,0.9s,baz=354,slow=2.4,SNR=4.9								
FINES	FINESS Array B	138.25	342	PKP		PKPdf		09 07 30.6	+0.1
	comp=Z,2.8nm,0.9s,baz=91,slow=5.6,SNR=4.0								
FINES				SKPbc		SKPbc		09 10 13.7	-1.1
	comp=Z,2.6nm,0.7s,baz=64,slow=4.4,SNR=6.1								
NB2	NORSAR Subarra	141.86	351	PKP		PKPpre		09 07 32.1	
	comp=Z,0.7nm,0.6s,baz=10,slow=3.2								
NOA	NORSAR Array B	141.86	351	PKhKP		PKPpre		09 07 32.4	
	comp=Z,0.9nm,0.7s,baz=14,slow=4.6,SNR=3.7								
NOA				SKPbc		SKPbc		09 10 23.5	-0.9
	comp=Z,0.5nm,0.6s,baz=16,slow=4.3,SNR=3.6								
AKASG	Malin Array Be	144.81	327	PKP		PKPdf		09 07 41.6	-1.0
	comp=Z,1.4nm,0.4s,baz=44,slow=4.6,SNR=12								
AKASG				SKPbc		SKPbc		09 10 31.0	-0.7
	comp=Z,2.1nm,0.7s,baz=44,slow=2.7,SNR=8.8								
AK11	Malin Array Si	144.85	327	*e*PKPdf		PKPdf		09 07 42.1	-0.5
BRTR	Keskin Array B	147.48	307	PKPbc		PKPbc		09 07 50.5	-0.6
	comp=Z,1.9nm,0.6s,baz=136,slow=4.1,SNR=2.5								
BRTR				PKPab		PKPab		09 07 54.6	-0.4
	comp=Z,2.0nm,0.6s,baz=80,slow=3.7,SNR=8.7								
CLL	Collm	150.65	343	*i* PKPbc		PKPbc		09 07 57.6	-0.5
	comp=Z,6.0nm,1.0s								
VYHS	Vyhne	151.10	334	*e*PKP		PKPab		09 08 09.5	0.0
ESDC	Sonseca Array	163.69	11	PKPab		PKPab		09 09 03.7	-0.5
	comp=Z,0.1nm,0.3s,baz=0.0,slow=5.9,SNR=4.6								

IDC ***03*** *09:25:12.1±5.7,25.75N×99.86E,h35km±55km,mb3.1/3, mb1 3.5/4,mb1mx3.1/35,mbtmp3.4/4,ML3.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.5/14,Error ellipse: s-maj=59.1km s-min=21.7km az=74.0*

ISC 03 09:25:08.9±1.2,25.75N±0.09×99.9E±0.3,h10km,n8, σ0s94/7,mb3.5/3,Yunnan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CHTO	Chiang Mai	6.95	187	P			Pg	09 27 21.3	-0.8
	50nm,0.8s								
CMMT	Chiang Mai	6.95	187	P			Pg	09 27 21.3	-0.8
	11nm,0.7s,4μm								
LAMP	Lampang	7.19	182	P			Pg	09 27 27.2	+0.5
	8.9nm,0.8s								
CMAR	Chiang Mai Arr	7.30	187	Pn			Pn	09 26 56.8	+1.0
	0.4nm,0.3s,baz=360,slow=13,SNR=6.1								
CMAR				Pg			Pg	09 27 26.1	-2.7
	0.8nm,0.3s,baz=359,slow=18,SNR=15								
CMAR				Lg			Lg	09 29 04.3	
	0.4nm,0.3s,baz=21,slow=28,SNR=10								
SONM	Songino Array	22.64	12	P			P	09 30 10.7	+0.5
	0.2nm,0.5s,baz=207,slow=9.2,SNR=3.7								
MKAR	Makanchi Array	25.22	331	P			P	09 30 34.6	-0.2
	0.7nm,0.7s,baz=144,slow=10,SNR=5.0								
KSRS	Korea Array	26.50	57	LR			LR	09 42 23.4	
	comp=Z,30nm,19.4s,baz=85,slow=39								
WRA	Warramunga Arr	56.44	140	P			P	09 34 50.2	-0.8
	0.4nm,0.6s,baz=332,slow=7.6,SNR=3.3								
	1.4nm,0.7s,baz=319,slow=3.3,SNR=18								
YKA	Yellowknife Ar	152.70	348	PKPbc			PKPbc	09 31 41.1	-0.5
	0.2nm,0.6s,baz=18,slow=1.8,SNR=7.9								
YKA				PKPab			PKPab	09 31 52.1	-0.2
	0.6nm,0.6s,baz=22,slow=4.6,SNR=12								

ISCJB ***03*** *09:34:39.4±0.5,45.53N±0.02×26.43E±0.03,h133km±4km, Error ellipse: s-maj=4.0km s-min=3.3km az=1.8*
SOF ***03*** *09:34:39.4,45.52N×26.38E,h13km*
BUC ***03*** *09:34:39.5±0.3,45.54N×26.42E,h140km±3km,MD3.8/5, Error ellipse: s-maj=2.2km s-min=2.1km az=346.0*

ISC 03 09:34:38.5±1.4,45.56N±0.03×26.41E±0.03,h144km±7km, n103,σ0s98/134,66C-22D,Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MLR	Muntele Rosu	0.33	259	↑*i*P			Pn	09 34 58.9	+0.4
MLR				*i* S			Sn	09 35 13.3	-0.4
MLR	Muntele Rosu	0.33	259	↑*i*P			Pn	09 34 58.9	+0.4
PLOR	Plostina	0.34	30	↓*i*P			Pn	09 34 58.8	+0.4
PLOR				*i* S			Sn	09 35 12.5	-1.1
PLOR	Plostina	0.34	30	↓*i*P			Pn	09 34 58.8	+0.4
VRI	Vrincioaia	0.38	36	↑*i*P			Pn	09 34 59.0	+0.5
VRI				*i* S			Sn	09 35 12.9	-0.9
VRI	Vrincioaia	0.38	36	↑*i*P			Pn	09 34 59.0	+0.5
GRER		0.44	114	↑*i*P			Pn	09 35 00.2	+1.5
GRER		0.44	114	↑*i*P			Pn	09 35 00.4	+1.5
ISR	Istrita	0.45	168	↑*i*P			Pn	09 34 59.6	+0.7
ISR				*i* S			Sn	09 35 14.2	-0.2
ISR	Istrita	0.45	168	↑*i*P			Pn	09 34 59.6	+0.7
ODBI	Odobesti	0.50	65	↓*i*P			Pn	09 35 00.1	+1.1
ODBI	Odobesti	0.50	65	↓*i*P			Pn	09 35 00.1	+1.1
SECR		0.57	205	↑*i*P			Pn	09 35 00.4	+0.9
SECR		0.57	205	↑*i*P			Pn	09 35 00.4	+0.9
PETR	Petresti	0.60	74	↑*i*P			Pn	09 35 00.5	+0.9
PETR				*i* S			Sn	09 35 15.8	+0.2
PETR	Petresti	0.60	74	↑*i*P			Pn	09 35 00.5	+0.9
OZUR		0.69	321	*i* S			Sn	09 35 15.5	-1.4
OZUR		0.69	321	S			Sn	09 35 15.5	-1.4
PLAR	PLOIESTI	0.70	203	↑*i*P			Pn	09 35 01.2	+1.0
PLAR	PLOIESTI	0.70	203	↑*i*P			Pn	09 35 01.2	+1.0
PGOR	Pogoanele	0.77	148	↑*i*P			Pn	09 35 01.6	+0.9
PGOR				*i* S			Sn	09 35 16.7	-0.9
PGOR	Pogoanele	0.77	148	↑*i*P			Pn	09 35 01.6	+0.9
DOPR	Dopca	0.82	300	↓*i*P			Pn	09 35 01.5	+0.3
DOPR				*i* S			Sn	09 35 17.8	-0.7
DOPR	Dopca	0.82	300	↓*i*P			Pn	09 35 01.5	+0.3
SULR		0.88	187	↑*i*P			Pn	09 35 02.5	+0.9
SULR				*i* S			Sn	09 35 18.5	-0.7
SULR		0.88	187	↑*i*P			Pn	09 35 02.5	+0.9
VOIR		0.96	263	↑*i*P			Pn	09 35 02.9	+0.5
VOIR				*i* S			Sn	09 35 19.4	-1.1
VOIR		0.96	263	↑*i*P			Pn	09 35 02.9	+0.5
TESR	Tescani	0.97	10	↓*i*P			Pn	09 35 02.5	+0.2
TESR				*i* S			Sn	09 35 19.4	-1.2
TESR	Tescani	0.97	10	↓*i*P			Pn	09 35 02.5	+0.2
MTUR	Matau	1.00	251	↑*i*P			Pn	09 35 03.4	+0.7
MTUR	Matau	1.00	251	↑*i*P			Pn	09 35 03.4	+0.7
BIR	Birlad	1.11	50	↓*i*P			Pn	09 35 04.3	+0.8
BIR				*i* S			Sn	09 35 21.7	-1.0
BIR	Birlad	1.11	50	↓*i*P			Pn	09 35 04.3	+0.8
LEHL	Lehliu	1.12	165	↑*i*P			Pn	09 35 04.1	+0.8
LEHL				*i* S			Sn	09 35 23.2	-0.3
LEHL	Lehliu	1.12	165	↑*i*P			Pn	09 35 04.5	+0.8
AMRR	Amara	1.15	145	↑*i*P			Pn	09 35 04.7	+0.7
AMRR				*i* S			Sn	09 35 23.0	-0.4
AMRR	Amara	1.15	145	↑*i*P			Pn	09 35 04.7	+0.7
BUC1	Bucharest	1.24	193	↑*i*P			Pn	09 35 05.5	+0.7
BUC1				*i* S			Sn	09 35 24.9	0.0
BUC1	Bucharest	1.24	193	↑*i*P			Pn	09 35 05.5	+0.7
GOLR		1.25	235	↑*i*P			Pn	09 35 05.7	+0.8
GOLR				*i* S			Sn	09 35 25.8	+0.7
GOLR		1.25	235	↑*i*P			Pn	09 35 05.7	+0.8
ARR	Arges	1.26	262	↑*i*P			Pn	09 35 06.4	+1.3
ARR				*i* S			Sn	09 35 24.8	-0.6
ARR	Arges	1.26	262	↑*i*P			Pn	09 35 06.4	+1.3

BURAR	Bucovina Array	2.22 339	⇑*iP*	Pn	09 35 17.9	+2.1
PSN	Preselentsi	2.26 145	P	Pn	09 35 17.5	+1.2
SZH	Strazhica	2.31 189	P	Pn	09 35 17.4	+0.4
MANR	Mangalia	2.33 137	*i* S	Sn	09 35 45.8	-1.1
MANR	Mangalia	2.33 137	S	Sn	09 35 45.8	-1.1
SRE	Strehaia	2.44 250	*i* S	Sn	09 35 48.8	-0.4
SRE	Strehaia	2.44 250	S	Sn	09 35 48.8	-0.4
PRD	Provadia	2.46 163	P	Pn	09 35 20.1	+1.4
GZR	Gura Zlata	2.56 268	⇑*iP*	Pn	09 35 22.0	+2.0
GZR	Gura Zlata	2.56 268	⇑*iP*	Pn	09 35 22.0	+2.0
PUNG	Punghina	2.78 244	*i* S	Sn	09 35 54.5	-2.3
PUNG	Punghina	2.78 244	S	Sn	09 35 54.5	-2.3
DRGR		2.85 297	⇓*iP*	Pn	09 35 24.0	+0.3
DRGR		2.85 297	⇓*iP*	Pn	09 35 24.0	+0.3
HERR	Herculane	2.90 258	⇑*iP*	Pn	09 35 24.5	+0.3
HERR			*i* S	Sn	09 35 56.9	-2.7
HERR	Herculane	2.90 258	⇑*iP*	Pn	09 35 24.5	+0.3
MDVR	Moldovita	3.41 259	⇑*iP*	Pn	09 35 31.4	+0.6
MDVR	Moldovita	3.41 259	⇑*iP*	Pn	09 35 31.4	+0.6
VTS	Vitosha	3.75 219	⇑*iP*	Pn	09 35 36.5	+1.0
VTS	Vitosha	3.75 219	⇑*iP*	Pn	09 35 36.5	+1.0

KRSC 03 10:03:10.9±10.0, 50°.98N×157°.99E, h54km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.83**	**4**	*eP*	Pn	10 03 27.6	+1.1
KDTR				*eS*	Sn	10 03 39.2	+1.3
PAU	**Pauzhetka**	**0.89**	**304**	*eP*	Pn	10 03 28.5	+1.2
PAU				*eS*	Sn	10 03 40.8	+1.6
RUS	**Russkaya**	**1.49**	**12**	*eP*	Pn	10 03 36.7	+1.4
MTVR	**Mutnovka**	**1.51**	**4**	*eP*	Pn	10 03 37.7	+2.0
MTVR				*eS*	Sn	10 03 56.3	+1.9
ALID	**Alaid**	**1.55**	**267**	*eP*	Pn	10 03 37.5	+1.2
KRMR	**Karymshinskiy**	**1.85**	**3**	*eP*	Pn	10 03 43.5	+3.2
KRMR				*eS*	Sn	10 04 06.3	+3.8
PET	**Petropavlovsk**	**2.09**	**11**	*eS*	Sn	10 04 10.4	+2.2
DALK	**Dalny**	**2.11**	**13**	*eP*	Pn	10 03 45.8	+2.1
DALK				*eS*	Sn	10 04 11.0	+2.3
SDLR	**Sedlovina**	**2.37**	**13**	*eP*	Pn	10 03 49.6	+2.2

*IDC **03** 10:12:17.3±1.4, 25°.41S×70°.97W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=71.7km s-min=43.3km az=132.0*
*ISCJB **03** 10:12:22.6±1.9, 24°.96S±0°.08×70°.9W±0°.1, h44km±15km, mb3.8/2, Error ellipse: s-maj=22.4km s-min=9.7km az=154.2*
*GUC **03** 10:12:22.9±0.5, 24°.96S×70°.75W, h47km±1km, ML3.3*
ISC 03 10:12:22.6±1.6, 24°.98S±0°.07×70°.9W±0°.1, h32km±8km, n11, σ0s69/17, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.55**	**50**	⇓*iP*	**Pb**	**10 12 34.3**	**+0.1**
PB14				*eS*	**Sb**	**10 12 42.7**	**+0.5**
PB14				IAML		10 12 43.2	
	comp=E,6μm,0.2s						
GO02	**Mina Guanaco**	**1.17**	**99**	⇓*iP*	**Pn**	**10 12 42.9**	**-0.1**
GO02				*eS*	**Sn**	**10 12 58.0**	**0.0**
GO02				IAML		10 13 05.5	
	comp=N,2μm,0.5s						
PB10	**IPOC Station P**	**1.49**	**11**	⇑*eP*	**Pn**	**10 12 47.3**	**+0.2**
PB10				*eS*	**Sn**	**10 13 06.2**	**+0.7**
PB10				IAML		10 13 19.6	
	comp=E,217nm,0.5s						
PB06	**IPOC Station P**	**2.56**	**28**	*eP*	**Pn**	**10 13 02.6**	**+0.6**
PB06				*eS*	**Sn**	**10 13 32.8**	**+0.7**
PB06				IAML		10 13 59.1	
	comp=N,151nm,0.6s						
PB04	**IPOC Station P**	**2.72**	**14**	*eP*	**Pn**	**10 13 03.9**	**-0.3**
PB04				*eS*	**Sn**	**10 13 35.3**	**-0.7**
LVC	**Limon Verde**	**2.96**	**38**	Pn	**Pb**	**10 13 13.1**	**-1.8**
	comp=N,12nm,0.3s,baz=218,slow=17,SNR=40						
LVC				Lg	Lg	10 13 57.5	
	comp=N,50nm,0.3s,baz=1.8,slow=8.8,SNR=14						
TORD	**Torodi Ar. Bea**	**80.21**	**71**	P	**P**	**10 24 30.5**	**+0.1**
TORD				pP	**pP**	**10 24 40.2**	**+0.1**
	comp=N,0.5nm,0.4s,baz=253,slow=4.9,SNR=6.4						
YKA	**Yellowknife Ar**	**93.87**	**341**	P	**P**	**10 25 36.5**	**+0.3**
	comp=N,0.2nm,0.7s,baz=136,slow=4.4,SNR=5.2						
ASAR	**Alice Springs**	**126.01**	**208**	PKP	**PKiKP**	**10 31 22.4**	**-0.2**
	comp=N,0.6nm,1.1s,baz=122,slow=1.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**145.86**	**26**	PKPbc	**PKPab**	**10 31 59.2**	**+0.5**
	comp=N,0.4nm,0.4s,baz=318,slow=4.2,SNR=4.1						
MKAR	**Makanchi Array**	**149.49**	**38**	PKPbc	**PKiKP**	**10 32 09.2**	**-0.3**
	comp=N,0.6nm,0.5s,baz=325,slow=2.6,SNR=8.0						

IDC 03 11:03:34.2±4.8, 22°.52S×179°.71E, h526km±39km, mb3.4/5, mb1 3.7/5, mb1mx3.0/42, mbtmp4.3/5, Error ellipse: s-maj=182.0km s-min=29.9km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.23**	**268**	P	P	11 09 12.3	+1.5
	9.8nm,0.4s,baz=93,slow=11,SNR=50						
ASAR	**Alice Springs**	**42.01**	**259**	P	P	11 10 38.5	-1.2
	3.0nm,0.8s,baz=96,slow=7.4,SNR=66						
ASAR				ScP	ScP	11 15 22.9	-0.1
	0.4nm,1.0s,baz=106,slow=4.7,SNR=4.3						
WRA	**Warramunga Arr**	**42.25**	**265**	P	P	11 10 40.7	-0.8
	3.2nm,0.5s,baz=94,slow=8.5,SNR=176						
FITZ	**Fitzroy Crossi**	**50.68**	**265**	P	P	11 11 45.6	+0.2
	3.7nm,1.0s,baz=111,slow=8.6,SNR=5.2						
TXAR	**Lajitas Array**	**89.93**	**58**	P	P	11 15 37.6	0.0
	0.3nm,0.8s,baz=216,slow=6.2,SNR=4.0						

JMA 03 11:08:58.0±0.1, 25°.93N×129°.58E, h46km, M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.48**	**308**	P	Pn	11 09 22.8	+0.7
JOW				S	Sn	11 09 40.1	-0.2
JMZ	**Minamidaito 2**	**1.48**	**94**	P	Pn	11 09 22.9	+0.7
JMZ				S	Sn	11 09 39.9	-0.5
JYRO	**Yoronjima**	**1.49**	**317**	P	Pn	11 09 23.0	+0.7
JYRO				*eS*	Sn	11 09 40.0	-0.5
JNTH	**Nagotoyohara**	**1.52**	**293**	P	Pn	11 09 23.1	+0.4
JNTH				S	Sn	11 09 41.1	-0.2
JJT3	**Tamagusuku3**	**1.63**	**278**	P	Pn	11 09 25.4	+1.2
JJT3				S	Sn	11 09 44.7	+0.6
JOKE	**Okinoerabujima**	**1.69**	**328**	P	Pn	11 09 26.0	+0.9
JOKE				S	Sn	11 09 45.8	+0.3
JIH	**Iheya**	**1.82**	**308**	P	Pn	11 09 27.8	+1.0
JIH				S	Sn	11 09 48.6	0.0
JTK	**Tokunoshima**	**1.93**	**343**	P	Pn	11 09 29.5	+1.1
JTK				S	Sn	11 09 51.5	0.0
JAGN	**Aguni-jima**	**2.20**	**288**	P	Pn	11 09 33.3	+1.3
JAGN				S	Sn	11 09 57.9	-0.1
JAMN	**Amaminishikomi**	**2.33**	**351**	P	Pn	11 09 35.0	+1.1
JAMN				S	Sn	11 10 01.8	+0.5
JZK	**Kikaishima**	**2.40**	**8**	P	Pn	11 09 36.8	+2.0
JZK				*eS*	Sn	11 10 04.6	+1.6
JAM	**Amami Oshima**	**2.47**	**1**	P	Pn	11 09 36.8	+1.0
JAM				*eS*	Sn	11 10 04.2	-0.5
JKE	**Kume jima 2**	**2.54**	**280**	P	Pn	11 09 36.9	+0.1
JKE				S	Sn	11 10 04.6	-1.9

*NIED **03** 11:14:00, 35°.90N×141°.00E, h32km, Mw4.1 Best double couple: M0 1.80000×10^15 NP1:φs=314.00000°, δ27.00000°, λ-105.00000°. NP2:φs=151.00000°, δ64.00000°, λ-83.00000°.*
*IDC **03** 11:14:36.3±0.6, 35°.82N×140°.89E, h0km, mb3.9/16, mb1 4.2/19, mb1mx4.0/55, mbtmp4.0/19, ML4.2/2, MS3.2/8, Ms1 3.2/8, ms1mx2.9/44, Error ellipse: s-maj=19.0km s-min=13.9km az=102.0*
*JMA **03** 11:14:39.9±0.2, 35°.87N×140°.88E, h36km±2km, M3.9 JMA Felt III J1.*
*ISCJB **03** 11:14:40.1±0.4, 35°.87N±0°.03×140°.87E±0°.05, h38km±3km, mb4.1/34, MS3.4/2, Error ellipse: s-maj=6.8km s-min=5.2km az=171.2*
*NEIC **03** 11:14:40.5±2.2, 35°.83N×140°.81E, h26km±15km, mb4.2/18, Error ellipse: s-maj=8.3km s-min=6.2km az=119.0*
NEIC Recorded [3 JMA] in Chiba and Ibaraki.
ISC 03 11:14:40.8±0.7, 35°.89N±0°.04×140°.85E±0°.05, h29km±5km, n87, σ1s15/84, mb4.1/35, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.19**	**178**	⇓*iP*	**Pb**	**11 14 46.3**	**-0.4**
CHOJ				S	**Sb**	**11 14 50.6**	**-0.2**
JIHU	**Itakohorinouch**	**0.27**	**286**	P	**Pn**	**11 14 48.3**	**-0.6**
JIHU				S	**Sn**	**11 14 54.5**	**+0.4**
JSMT	**Sammumatsuo**	**0.41**	**233**	P	**Pb**	**11 14 49.7**	**-0.1**
JSMT				S	**Sn**	**11 14 57.3**	**-0.2**
JHYU	**Hitachinakayam**	**0.50**	**335**	P	**Pb**	**11 14 51.1**	**0.0**
JHYU				S	**Sb**	**11 14 58.9**	**+0.7**
JYT	**Yasato**	**0.63**	**302**	⇓*iP*	**Pb**	**11 14 52.4**	**-0.9**
JYT				S	**Sb**	**11 15 01.1**	**-0.7**
JHO	**Hitachi**	**0.75**	**343**	⇓*iP*	**Pb**	**11 14 54.4**	**-1.0**
JHO				S	**Sb**	**11 15 04.6**	**-0.8**
BSO4	**Boso 4**	**0.99**	**205**	P	**Pb**	**11 14 59.3**	**-0.1**
MJAR	**Matsushiro Arr**	**2.23**	**288**	Pn	**Pn**	**11 15 15.3**	**-0.7**
	1.9nm,0.3s,baz=204,slow=1.9,SNR=135						
MJAR				LR		11 16 13.5	
	comp=Z,339nm,21.2s,baz=115,slow=43						
MAJO	**Matsushiro**	**2.23**	**288**	*ePn*	**Pn**	**11 15 16.6**	**+0.7**
MAT	**Matsushiro**	**2.23**	**288**	P	**Pn**	**11 15 16.4**	**+0.4**
MAT				*eS*	**Sn**	**11 15 41.8**	**-0.8**
MJB9	**Matsu-Tunnel**	**2.24**	**288**	*ePn*	**Pn**	**11 15 16.2**	**+0.2**
JHJ2	**Mitsune**	**2.90**	**197**	*ePn*	**Pn**	**11 15 24.8**	**-0.3**
JHJ	**Hachijo jima 2**	**2.90**	**198**	Pn	**Pn**	**11 15 25.0**	**-0.2**
	34nm,0.3s,baz=313,slow=22,SNR=11						
JHJ				LR	LR	11 16 25.6	
	comp=Z,142nm,20.5s,baz=58,slow=38						
INU	**Inuyama**	**3.17**	**261**	*ePn*	**Pn**	**11 15 31.1**	**+2.3**
ERM	**Erimo**	**6.37**	**16**	*ePn*	**Pn**	**11 16 12.6**	**-0.2**
ASAJ	**Asahikawa**	**8.32**	**9**	Pn	**Pn**	**11 16 38.2**	**-1.3**
	4.3nm,0.3s,baz=225,slow=8.6,SNR=47						
JNU	**Nakatsue**	**8.68**	**254**	*ePn*	**Pn**	**11 16 49.0**	**+4.4**
JNU	**Nakatsue**	**8.68**	**254**	LR	LR	11 20 33.2	
	comp=Z,299nm,19.8s,baz=34,slow=41						
KSRS	**Korea Array**	**10.50**	**282**	Pn	Pn	11 17 14.9	+5.5
	0.2nm,0.3s,baz=97,slow=14,SNR=6.1						
KSRS				LR	LR	11 21 10.7	
	comp=Z,149nm,19.8s,baz=128,slow=37						
KSAR	**Wonju Array Be**	**10.53**	**282**	Pn	Pn	11 17 14.9	+5.1
USRK	**Ussuriysk Ar.**	**10.72**	**323**	LR	LR	11 21 18.3	
	comp=Z,62nm,19.5s,baz=137,slow=37						
YSS	**Yuzh-Sakhalins**	**11.14**	**7**	*ePn*	**Pn**	**11 17 18.8**	**+0.7**
KLR	**Kul'dur**	**14.90**	**336**	Pn	**P**	**11 18 13.7**	**-1.2**
	0.2nm,0.3s,baz=143,slow=12,SNR=4.7						
KLR				LR	LR	11 23 33.1	
	comp=Z,60nm,19.7s,baz=162,slow=36						
HHC	**Hu-ho-hao-te**	**23.43**	**291**	*eP*	**P**	**11 19 46.6**	**-1.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,200nm,6.9s						
MA2	**Magadan**	**24.56**	**12**	*eP*	**P**	**11 20 00.4**	**+2.4**
	comp=Z,5.1nm,0.8s						
MA2	**Magadan**	**24.56**	**12**	P	**P**	**11 19 57.3**	**-0.7**
	comp=Z,4.6nm,0.6s,baz=180,slow=13,SNR=8.5						
H11N2	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	11 49 39.5	
	baz=311,slow=75,SNR=38						
H11N1	**WAKE ISLAND Hy**	**27.99**	**118**	T	T	11 49 39.6	
	baz=311,slow=75,SNR=35						
H11N3	**WAKE ISLAND Hy**	**28.00**	**118**	T	T	11 49 41.6	
	baz=311,slow=75,SNR=35						
SONA1	**Songino Array**	**28.06**	**306**	*eP*	**P**	**11 20 29.4**	**-0.5**
SONA0	**Songino Array**	**28.07**	**306**	*eP*	**P**	**11 20 28.8**	**-1.0**
SONM	**Songino Array**	**28.07**	**306**	P	**P**	**11 20 28.8**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=109,slow=9.1,SNR=4.4						
SONM				LR	LR	11 31 41.6	
	comp=Z,76nm,18.2s,baz=190,slow=36						
H11S1	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	11 50 23.1	
	baz=312,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	11 50 18.8	
	baz=312,slow=75,SNR=43						
H11S2	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	11 50 21.2	
	baz=312,slow=75,SNR=40						
LZH	**Lanzhou**	**29.83**	**281**	*eP*	**P**	**11 20 45.8**	**+0.1**
LZH				pP	sP	11 20 58.7	+1.2
LZH				sP	pP	11 21 03.0	+9.0
LZH				PP	**PnPn**	**11 21 39.9**	**-2.0**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,80nm,4.9s						
CD2	**Chengdu**	**31.24**	**272**	P	**P**	**11 20 56.1**	**-1.9**
CD2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.77**	**256**	LR	LR	11 40 56.3	
	comp=Z,57nm,18.3s,baz=152,slow=39						
WMQ	**Urumqi**	**40.96**	**298**	*eP*	**P**	**11 22 22.7**	**+1.7**
ZAA0	**Zalesovo Array**	**42.36**	**313**	*eP*	**P**	**11 22 31.9**	**-0.3**
	comp=Z,3.4nm,0.7s						
ZAA1	**Zalesovo Array**	**42.36**	**313**	*eP*	**P**	**11 22 32.1**	**-0.1**
ZALV	**Zalesovo Beam**	**42.36**	**313**	*eP*	**P**	**11 22 30.6**	**-1.6**
ZALV	**Zalesovo Beam**	**42.36**	**313**	P	**P**	**11 22 32.1**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=94,slow=5.9,SNR=6.8						
MK31	**Makanchi Array**	**44.35**	**303**	*eP*	**P**	**11 22 48.2**	**-0.3**
	comp=Z,1.9nm,0.8s						
MK32	**Makanchi Array**	**44.35**	**303**	*eP*	**P**	**11 22 47.9**	**-0.5**
MKAR	**Makanchi Array**	**44.35**	**303**	P	**P**	**11 22 47.9**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=89,slow=10.0,SNR=19						
MAKZ	**Makanchi**	**44.56**	**303**	*eP*	**P**	**11 22 50.0**	**-0.1**
	comp=Z,2.3nm,0.8s						
KURK	**Kurchatov**	**46.29**	**309**	*eP*	**P**	**11 23 02.9**	**-0.7**
	comp=Z,4.3nm,0.8s						
MDM	**Murphy Dome**	**50.12**	**32**	*eP*	**P**	**11 23 34.6**	**+1.4**
	comp=Z,5.7nm,1.2s						
ILAR	**Eielson Array**	**50.70**	**32**	P	**P**	**11 23 37.2**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=268,slow=6.0,SNR=13						
ILB	**Eielson Array**	**50.70**	**32**	*eP*	**P**	**11 23 38.4**	**+0.9**
	comp=Z,1.8nm,0.9s						
IL1	**Eielson Array**	**50.70**	**32**	*eP*	**P**	**11 23 37.6**	**+0.2**
RIDG	**Independ'e Rid**	**51.65**	**33**	*eP*	**P**	**11 23 44.7**	**0.0**
	comp=Z,1.8nm,0.9s						
SCRK	**Sand Creek**	**52.01**	**33**	*eP*	**P**	**11 23 48.0**	**+0.5**
	comp=Z,5.3nm,1.2s						
EGAK	**Eagle**	**53.15**	**32**	*eP*	**P**	**11 23 55.9**	**+0.3**
	comp=Z,2.8nm,1.1s						
EPYK	**Eagle Plains**	**54.74**	**29**	*eP*	**P**	**11 24 08.7**	**+1.3**
	comp=Z,5.7nm,0.9s						
HYT	**Haines Junctio**	**55.49**	**36**	*eP*	**P**	**11 24 15.6**	**+2.7**
	comp=Z,1.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.59**	**198**	*eP*	**P**	**11 24 14.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**55.59**	**198**	P	**P**	**11 24 14.2**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=24,slow=11,SNR=5.2						
INK	**Inuvik**	**55.61**	**27**	*eP*	**P**	**11 24 14.2**	**+0.7**
	comp=Z,2.2nm,1.0s						
INK	**Inuvik**	**55.61**	**27**	P	**P**	**11 24 14.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=303,slow=7.8,SNR=8.9						
WRAB	**Tennant Creek**	**55.86**	**187**	*eP*	**P**	**11 24 14.3**	**-1.6**
	comp=Z,8.7nm,1.1s						
WB2	**Warramunga Arr**	**55.87**	**187**	*eP*	**P**	**11 24 14.5**	**-1.4**
WR1	**Warramunga Arr**	**55.87**	**187**	*eP*	**P**	**11 24 14.2**	**-1.7**
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**55.87**	**187**	P	**P**	**11 24 14.2**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=2.0,slow=7.5,SNR=14						
WHY	**Whitehorse**	**56.78**	**36**	*eP*	**P**	**11 24 23.7**	**+1.6**
	comp=Z,2.1nm,1.1s						
ABKAR	**Akbulak array**	**58.33**	**311**	*eP*	**P**	**11 24 32.2**	**-0.9**
	comp=Z,1.9nm,0.8s						
AS31	**Alice Springs**	**59.60**	**187**	*eP*	**P**	**11 24 42.1**	**0.0**
	comp=Z,0.5nm,0.8s						
ASAR	**Alice Springs**	**59.60**	**187**	P	**P**	**11 24 40.6**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=2.7,slow=7.0,SNR=11						
ARA0	**ARCESS Array S**	**64.90**	**339**	*eP*	**P**	**11 25 18.7**	**+1.6**
ARCES	**ARCESS Array B**	**64.90**	**339**	P	**P**	**11 25 18.7**	**+1.6**
	comp=Z,2.2nm,0.9s,baz=27,slow=8.3,SNR=3.8						
YKA	**Yellowknife Ar**	**65.02**	**30**	P	**P**	**11 25 17.5**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=300,slow=6.8,SNR=8.8						
FIA0	**FINESS Array S**	**69.61**	**332**	*eP*	**P**	**11 25 48.3**	**+1.3**
FINES	**FINESS Array B**	**69.61**	**332**	P	**P**	**11 25 48.3**	**+1.3**
	comp=Z,0.9nm,0.4s,baz=48,slow=6.8,SNR=7.5						
NC204	**NORSAR Array S**	**75.02**	**338**	*eP*	**P**	**11 26 21.1**	**+1.7**
NB2	**NORSAR Subarra**	**75.06**	**337**	P	**P**	**11 26 20.6**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=41,slow=5.9						
NB200	**NORSAR Array S**	**75.06**	**337**	*eP*	**P**	**11 26 20.7**	**+1.0**
NOA	**NORSAR Array B**	**75.06**	**337**	P	**P**	**11 26 20.7**	**+1.0**
	comp=Z,1.3nm,0.8s,baz=39,slow=5.8,SNR=4.5						
NV01	**Mina Array Sit**	**76.04**	**53**	*eP*	**P**	**11 26 26.8**	**+0.9**
NVAR	**Mina Array Bea**	**76.04**	**53**	P	**P**	**11 26 26.8**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=290,slow=4.3,SNR=3.8						
PDAR	**Pinedale Array**	**78.79**	**45**	P	**P**	**11 26 41.0**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=233,slow=2.0,SNR=4.5						
CLL	**Collm**	**81.86**	**330**	*ePP*	**pP**	**11 27 07.0**	**+0.7**
	comp=Z,4.0nm,0.9s						
CLL				*e*		11 27 38.0	
TXAR	**Lajitas Array**	**91.18**	**52**	P	**P**	**11 27 43.6**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=303,slow=5.0,SNR=7.2						
LPAZ	**La Paz**	**147.66**	**60**	*e*PKPbc	**PKPbc**	**11 34 23.6**	**-0.2**
LPAZ	**La Paz**	**147.66**	**60**	PKPbc	**PKPbc**	**11 34 23.9**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=3.3,slow=5.0,SNR=6.4						
MNMC	**Minye Minye**	**148.43**	**66**	*e*PKPbc	**PKiKP**	**11 34 26.9**	**-0.1**
PB11	**IPOC Station P**	**148.77**	**67**	*e*PKPbc	**PKPbc**	**11 34 26.2**	**+0.1**

*ISK **03** 11:22:23.5, 35°.96N×34°.64E, h8km, ML4.1/21*
*ISCJB **03** 11:22:24.7±0.5, 35°.95N±0°.01×34°.58E±0°.02, h9km±3km, mb4.1/24, MS3.3/11, Error ellipse: s-maj=3.0km s-min=2.1km az=171.1*
*NEIC **03** 11:22:24.0±0.0, 35°.99N×34°.58E, h18km, mb4.1/7, ML4.0(ISK), After ISK.*
*GRAL **03** 11:22:25.2±0.4, 35°.99N×34°.45E, h7km±6km, MD3.8*
*DDA **03** 11:22:25.6, 36°.11N×34°.61E, h24km±2km, ML4.0*
*MOS **03** 11:22:26.8±1.4, 35°.87N×34°.50E, h33km, mb4.2/12, Error ellipse: s-maj=9.5km s-min=5.6km az=104.1*
*GII **03** 11:22:27.3±0.0, 35°.74N×34°.35E, h3km, MD3.6/6*
*NIC **03** 11:22:27.9±0.5, 35°.97N×34°.44E, h25km, mb4.3, ML4.1*
*IDC **03** 11:22:28.0±4.5, 36°.03N×34°.47E, h30km±35km, mb3.7/11, mb1 3.9/18, mb1mx3.7/56, mbtmp3.9/18, ML3.7/6, MS3.3/14, Ms1 3.3/14, ms1mx3.1/48, Error ellipse: s-maj=14.6km s-min=13.3km az=58.0*
*NSSC **03** 11:22:35.2±0.8, 35°.46N×35°.44E, h0km±999km, ML3.3*
ISC 03 11:22:24.6±1.2, 35°.97N±0°.02×34°.63E±0°.02, h1km±8km, n214, σ1s93/243, mb4.0/25, MS3.2/11, 5C-7D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREN	**Erenkoy**	**0.57**	**221**	⇓*iP*	**Pn**	**11 22 39.7**	**-0.1**
EREN				*i* S	**Sn**	**11 22 50.0**	**+0.1**
EREN				IAML_P			
	comp=Z,161μm,0.2s						
KIZK	**Mersin**	**0.65**	**323**	PG	**Pg**	**11 22 36.5**	**-0.5**
KIZK				SG	**Sg**	**11 22 46.3**	**+0.9**
KIZK	**Mersin**	**0.65**	**323**	⇑*iP*	**Pg**	**11 22 37.3**	**+0.3**
KIZK				*i* S	**Sg**	**11 22 45.7**	**+0.3**
KIZK				IAML_P			
	comp=Z,59μm,0.1s						
IKL	**Isikli**	**0.81**	**290**	PG	**Pg**	**11 22 39.8**	**-0.3**
IKL				SG	**Sg**	**11 22 51.5**	**+0.9**
KEBE	**Keben-Mersin**	**0.88**	**303**	PG	**Pg**	**11 22 40.9**	**-0.6**
AKKU	**Akkuyu-Mersin**	**0.89**	**283**	PG	**Pg**	**11 22 41.3**	**-0.4**
AKKU				SG	**Sb**	**11 22 54.1**	**-1.2**
GULN	**MERSIN_Gulnar**	**0.90**	**284**	⇓*iP*	**Pg**	**11 22 42.0**	**0.0**
GULN				*i* S	**Sg**	**11 22 54.4**	**+0.7**
GULN				IAML_P			
	comp=Z,70μm,0.5s						
MERS	**Mersin**	**0.91**	**355**	PG	**Pg**	**11 22 40.9**	**-1.1**
MERS				SG	**Sg**	**11 22 54.2**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.07**	**297**	PG	**Pg**	**11 22 44.5**	**-0.6**
TEVE				SG	**Sb**	**11 22 59.9**	**-0.5**
PHNC	**Paralimni**	**1.07**	**207**	P	**Pb**	**11 22 45.5**	**-0.5**
	baz=19						
LFK	**Lefkose**	**1.12**	**233**	PN	**Pb**	**11 22 45.7**	**-1.2**
YURE	**YUREGIR**	**1.18**	**43**	PN	**Pb**	**11 22 46.6**	**-1.3**
YURE	**YUREGIR**	**1.18**	**43**	⇓*iP*	**Pb**	**11 22 46.4**	**-1.5**
YURE				*i* S	**Sn**	**11 23 07.2**	**+2.2**
BERE	**Bereket-Mersin**	**1.20**	**289**	PN	**Pb**	**11 22 46.9**	**-1.3**
TEKE	**Tekeli-Mersin**	**1.24**	**279**	PN	**Pn**	**11 22 47.7**	**-1.4**
GULE	**Gulek**	**1.32**	**5**	⇓*iP*	**Pn**	**11 22 48.8**	**-1.6**
GULE				*i* S	**Sg**	**11 23 08.8**	**+1.7**
GULE				IAML_P			
	comp=Z,14μm,0.2s						
KARA	**Karaisali**	**1.34**	**15**	PN	**Pn**	**11 22 49.2**	**-1.3**
CEYT	**Ceyhan**	**1.38**	**41**	PN	**Pn**	**11 22 49.5**	**-1.5**
MAMC	**Mammari**	**1.40**	**236**	P	**Pn**	**11 22 48.8**	**-2.4**
	baz=50						
CSS	**Mathiatis**	**1.46**	**227**	PN	**Pn**	**11 22 50.4**	**-1

KSDI	**Kefar Szold**	**2.89**	**163**	Pn	**Pn**	**11 23 12.2**	**+0.4**
HNTI	**Hanita**	**2.91**	**171**	Pn	**Pn**	**11 23 11.6**	**-0.5**
HNTI				Sn	**Sn**	**11 23 46.9**	**-0.8**
TOTH	**TOTAH**	**2.99**	**150**	*e*P	**Pn**	**11 23 14.4**	**+1.1**
TOTH				AML	AML	11 23 16.9	
	comp=E,165nm,0.4s						
TOTH				*e*S	**Sn**	**11 23 41.8**	**-8.0**
TOTH				AML	AML	11 23 54.2	
	comp=N,313nm,0.6s						
MMA0B	**Mount Meron ar**	**3.01**	**167**	Pn	**Pn**	**11 23 13.4**	**-0.1**
MMA0B				Sn	**Sn**	**11 23 50.7**	**+0.4**
MMAI	**Mount Meron Ar**	**3.01**	**167**	Pn	**Pn**	**11 23 13.7**	**+0.2**
	comp=N,229nm,0.3s,baz=346,slow=14,SNR=476						
MMAI				Sn	**Sn**	**11 23 50.5**	**+0.2**
	comp=N,77nm,0.3s,baz=3.4,slow=32,SNR=9.1						
KSHT	**Keshet**	**3.13**	**161**	Pn	**Pn**	**11 23 16.3**	**+1.1**
DOGA	**KONYA_Doganhis**	**3.19**	**313**	*i* P	**Pn**	**11 23 17.5**	**+1.5**
DOGA				IAML_P			
	comp=Z,2µm,0.2s						
KDHN	**Kadinhani**	**3.24**	**323**	*i* P	**Pn**	**11 23 17.3**	**+0.6**
BLGI	**Bet Lehem HaGe**	**3.26**	**172**	Pn	**Pn**	**11 23 16.9**	**+0.1**
OFRI	**`Ofer**	**3.35**	**175**	Pn	**Pn**	**11 23 17.9**	**-0.2**
OFRI				Sn	**Sn**	**11 23 57.2**	**-1.3**
SHMJ	**Saham**	**3.36**	**163**	P	**Pn**	**11 23 19.8**	**+1.5**
KKUL	**Konya-Kulu**	**3.48**	**338**	*i* P	**Pn**	**11 23 21.2**	**+1.2**
KKUL				IAML_P			
	comp=Z,219nm,0.2s						
AKUM	**Antalya-Kumluc**	**3.48**	**277**	*i* P	**Pn**	**11 23 21.9**	**+1.9**
AKUM				IAML_P			
	comp=Z,2µm,0.2s						
MMLI	**Mount Malkishu**	**3.58**	**169**	P	**Pn**	**11 23 20.1**	**-1.2**
MMLI	**Mount Malkishu**	**3.58**	**169**	Pn	**Pn**	**11 23 21.9**	**+0.6**
MMLI				Sn	**Sn**	**11 24 04.2**	**0.0**
KORT	**Korkueli**	**3.60**	**288**	PN	**Pn**	**11 23 21.6**	**0.0**
KORT	**Korkueli**	**3.60**	**288**	*i* P	**Pn**	**11 23 21.1**	**-0.5**
CDAG	**Cicekdag**	**3.66**	**357**	*i* P	**Pn**	**11 23 24.0**	**+1.5**
SLTI	**Sal'it**	**3.73**	**175**	Pn	**Pn**	**11 23 24.1**	**+0.8**
ISP	**Isparta**	**3.78**	**301**	PN	**Pn**	**11 23 24.5**	**+0.4**
ISP	**Isparta**	**3.78**	**301**	*e*Pn	**Pn**	**11 23 24.8**	**+0.7**
ISP	**Isparta**	**3.78**	**301**	*e*P	**Pn**	**11 23 24.8**	**+0.7**
ISP	**Isparta**	**3.78**	**301**	Pn	**Pn**	**11 23 26.1**	**+2.0**
HMDT	**Nahal Hemdat**	**3.78**	**168**	Pn	**Pn**	**11 23 24.8**	**+0.8**
HMDT				Sn	**Sn**	**11 24 08.8**	**-0.2**
BRTR	**Keskin Array B**	**3.83**	**349**	*i* P	**Pn**	**11 23 25.7**	**+0.8**
BRTR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
BRTR	**Keskin Array B**	**3.83**	**349**	Pn	**Pn**	**11 23 25.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=159,slow=17,SNR=16						
BR131	**Keskin Array S**	**3.83**	**349**	*e*Pn	**Pn**	**11 23 26.0**	**+1.1**
HSUJ	**Al Zarqa**	**4.06**	**161**	P	**Pn**	**11 23 28.8**	**+0.8**
AKAS	**Kas**	**4.08**	**275**	PN	**Pn**	**11 23 28.2**	**0.0**
BR231	**Keskin MP Arra**	**4.14**	**340**	*e*Pn	**Pn**	**11 23 33.0**	**+4.0**
ANTO	**Ankara**	**4.16**	**340**	*e*Pn	**Pn**	**11 23 32.9**	**+3.6**
ANTO	**Ankara**	**4.16**	**340**	*e*P	**Pn**	**11 23 32.9**	**+3.6**
ASF	**Jabal al Asfar**	**4.23**	**153**	P	**Pn**	**11 23 31.8**	**+1.6**
ASF	**Jabal al Asfar**	**4.23**	**153**	Pn	**Pn**	**11 23 31.8**	**+1.6**
	comp=Z,8.6nm,0.3s,baz=286,slow=5.4,SNR=61						
ASF				Sn	**Sn**	**11 24 23.8**	**+3.6**
	comp=Z,3.8nm,0.3s,baz=37,slow=19,SNR=3.7						
ASF				LR	LR	11 25 33.1	
	comp=Z,144nm,21.5s,baz=202,slow=43						
AMAZ	**Amatzia**	**4.43**	**177**	P	**Pn**	**11 23 34.2**	**+1.3**
AMAZ	**Amatzia**	**4.43**	**177**	Pn	**Pn**	**11 23 33.8**	**+0.9**
DSI	**Dead Sea**	**4.43**	**172**	Pn	**Pn**	**11 23 33.6**	**+0.7**
FETY	**Fethiye**	**4.53**	**280**	PN	**Pn**	**11 23 34.5**	**+0.2**
YTIR	**Yattir**	**4.61**	**175**	Pn	**Pn**	**11 23 36.5**	**+1.0**
YTIR				Sn	**Sn**	**11 24 29.3**	**-0.4**
MZDA	**Masada**	**4.68**	**172**	Pn	**Pn**	**11 23 37.2**	**+0.8**
GHAJ	**Ghor Haditha**	**4.71**	**170**	P	**Pn**	**11 23 40.0**	**+3.2**
LISJ	**El Lisan**	**4.77**	**171**	P	**Pn**	**11 23 39.3**	**+1.8**
KZIT	**Kziot**	**5.05**	**182**	P	**Pn**	**11 23 42.2**	**+0.7**
KZIT	**Kziot**	**5.05**	**182**	Pn	**Pn**	**11 23 41.9**	**+0.4**
ILGA	**Ilgaz**	**5.13**	**352**	*e*Pn	Pb	11 23 48.7	-6.6
MANT	**Manisa**	**5.46**	**299**	*e*Pn	**Pn**	**11 23 49.8**	**+2.5**
PRNI	**Paran**	**5.61**	**177**	Pn	**Pn**	**11 23 50.0**	**+0.8**
HRFI	**Mount Harif**	**5.92**	**177**	P	Pn	11 23 58.8	+5.3
	comp=Z,70nm,0.8s,comp=Z,0.3nm						
HRFI	**Mount Harif**	**5.92**	**177**	Pn	**Pn**	**11 23 54.1**	**+0.6**
KARP	**Karpathos**	**6.08**	**268**	*e*Pn	**Pn**	**11 23 55.5**	**-0.2**
KARP				*e*Sn	**Sn**	**11 25 07.1**	**+1.1**
MBRI	**Mt Berech**	**6.16**	**178**	Pn	**Pn**	**11 23 58.1**	**+1.3**
AQBJ	**Aqaba**	**6.23**	**177**	P	**Pn**	**11 24 00.9**	**+3.2**
EIL	**Elat**	**6.28**	**177**	Pn	**Pn**	**11 23 59.0**	**+0.6**
EIL	**Elat**	**6.28**	**177**	Pn	**Pn**	**11 23 59.6**	**+1.2**
EIL	**Elat**	**6.28**	**177**	Pn	**Pn**	**11 23 59.6**	**+1.2**
	comp=Z,5.3nm,0.3s,baz=210,slow=2.4,SNR=23						
EIL				Sn	**Sn**	**11 25 12.7**	**+1.9**
	comp=Z,7.9nm,0.3s,baz=325,slow=20,SNR=5.2						
SIRT	**Sirnak**	**6.46**	**74**	*e*Pn	**Pn**	**11 24 02.6**	**+1.7**
APE	**Apeiranthos**	**7.41**	**281**	*i* P	**Pn**	**11 24 15.6**	**+1.7**
SANT	**Santorini**	**7.43**	**276**	*e*Pn	**Pn**	**11 24 14.1**	**0.0**
IDI	**Anoyia**	**7.96**	**268**	*e*Pn	**Pn**	**11 24 21.1**	**-0.4**
IDI	**Anoyia**	**7.96**	**268**	Pn	**Pn**	**11 24 20.1**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=286,slow=2.8,SNR=11						
IDI				Sn	**Sn**	**11 25 49.2**	**-2.9**
	comp=Z,1.2nm,0.3s,baz=128,slow=23,SNR=3.2						
ALN	**Alexandroupoli**	**8.34**	**309**	*e*Pn	**Pn**	**11 24 28.4**	**+1.8**
ALN	**Alexandroupoli**	**8.34**	**309**	*e*P	**Pn**	**11 24 28.4**	**+1.8**
TIRR	**Tirgusor**	**9.72**	**333**	*e*Pn	**Pn**	**11 24 46.5**	**+1.0**
TIRR	**Tirgusor**	**9.72**	**333**	*e*P	**Pn**	**11 24 46.5**	**+1.0**
KBZ	**Khabaz**	**10.02**	**37**	LR	LR	11 29 09.1	
	comp=Z,150nm,20.1s,baz=224,slow=40						
KIV	**Kislovodsk**	**10.09**	**35**	*e*P	**Pn**	**11 24 52.1**	**+1.4**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,31nm,9.0s						
AGG	**Agios Georgios**	**10.23**	**291**	*e*Pn	**Pn**	**11 24 54.7**	**+2.0**
AGG	**Agios Georgios**	**10.23**	**291**	*e*P	**Pn**	**11 24 54.7**	**+2.0**
MLR	**Muntele Rosu**	**11.56**	**328**	LR	LR	11 30 08.1	
	comp=Z,148nm,19.2s,baz=156,slow=40						
AK11	**Malin Array Si**	**15.23**	**347**	*e*Pn	**P**	**11 26 02.8**	**-3.0**
KIEV	**Kiev**	**15.23**	**347**	*e*Pn	**P**	**11 26 03.5**	**-2.4**
	comp=Z,13nm,1.1s						
KIEV	**Kiev**	**15.23**	**347**	*i* P	**P**	**11 26 03.5**	**-2.4**
KIEV				pmax	pmax		
	comp=Z,18nm,1.3s						
AKASG	**Malin Array Be**	**15.24**	**347**	Pn	**Pn**	**11 26 02.1**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=165,slow=11,SNR=9.5						
AKBB	**Malin Array Si**	**15.24**	**347**	*e*Pn	**P**	**11 26 03.5**	**-2.5**
	comp=Z,14nm,1.1s						
AKBB	**Malin Array Si**	**15.24**	**347**	*e*P	**P**	**11 26 03.5**	**-2.5**
AKBB				pmax	pmax		
	comp=Z,14nm,1.1s						
VSR	**Storozhevoye**	**15.59**	**11**	*i* P	**P**	**11 26 09.2**	**-0.7**
VSR				pmax	pmax		
	comp=Z,28nm,0.8s						
VRH	**Novokhopyorsk**	**16.06**	**16**	*e*P	**P**	**11 26 17.8**	**+2.7**
VRH				pmax	pmax		
	comp=Z,40nm,1.8s						
LPSR	**Galich'ya Gora**	**16.91**	**9**	*e*P	**P**	**11 26 28.2**	**+3.7**
LPSR				pmax	pmax		
	comp=Z,50nm,0.8s						
VYHS	**Vyhne**	**17.09**	**322**	*e*P	**Pn**	**11 26 24.1**	**-0.6**
VYHS	**Vyhne**	**17.09**	**322**	*e*PN	**Pn**	**11 26 24.1**	**-0.6**
ARSA	**Arzberg**	**18.15**	**314**	Pn	**P**	**11 26 37.9**	**-0.3**
	comp=Z,3.2nm,1.3s						
CONA	**Conrad Observa**	**18.32**	**317**	Pn	**Pn**	**11 26 39.1**	**-0.9**
	comp=Z,4.2nm,1.6s						
OBKA	**Obir**	**18.36**	**311**	*i* pP	**P**	**11 26 41.7**	**+1.0**
	comp=Z,5.2nm,1.0s						
GEYT	**Alibeck**	**18.87**	**77**	P	**Pn**	**11 26 47.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=276,slow=13,SNR=10						
GEYT				LR	LR	11 36 14.5	
	comp=Z,59nm,19.9s,baz=340,slow=44						
GYA0B	**ALIBECK ARRAY**	**18.87**	**77**	*e*P	**Pn**	**11 26 49.1**	**+2.3**
	comp=Z,13nm,1.0s						
MYKA	**Terra Mystica**	**18.97**	**311**	*i* Pn	**Pn**	**11 26 47.8**	**-0.1**
	comp=Z,5.2nm,1.1s						
MOA	**Molln**	**19.19**	**315**	P	**Pn**	**11 26 49.7**	**-0.8**
	comp=Z,4.1nm,1.5s						
OBN	**Obninsk**	**19.20**	**3**	*e*P	**Pn**	**11 26 51.9**	**+1.4**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,59nm,15.0s						
KBA	**Koelnbreinsper**	**19.36**	**312**	*i* P	**Pn**	**11 26 51.5**	**-1.2**
	comp=Z,5.4nm,1.5s						
ABTA	**Abfaltersbach**	**19.72**	**310**	*i* pP	**P**	**11 26 55.8**	**+0.2**
	comp=Z,3.5nm,1.0s						
GEA0	**GERESS Array S**	**20.02**	**316**	*e*P	**P**	**11 26 57.8**	**-1.1**
GEC2	**GERESS Array S**	**20.03**	**316**	*e*P	**P**	**11 26 56.1**	**-2.8**
	comp=Z,8.9nm,1.2s						
GEC2	**GERESS Array S**	**20.03**	**316**	*e*P	**P**	**11 26 56.1**	**-2.8**
	comp=Z,9.0nm,1.2s						
GERES	**GERESS Array B**	**20.03**	**316**	P	**P**	**11 26 57.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=118,slow=11,SNR=14						
GERES				LR	LR	11 37 17.3	
	comp=Z,62nm,18.4s,baz=140,slow=45						
GOPC	**GO Pecny, Ondr**	**20.05**	**320**	*e*P	**P**	**11 26 58.5**	**-0.5**
GOPC	**GO Pecny, Ondr**	**20.05**	**320**	*e*P	**P**	**11 26 58.5**	**-0.5**
PRU	**Pruhonice**	**20.22**	**320**	*e*P	**P**	**11 27 00.5**	**-0.4**
PRU	**Pruhonice**	**20.22**	**320**	*e*P	**P**	**11 27 00.5**	**-0.4**
KHC	**Kasperske Hory**	**20.25**	**317**	*e*P	**P**	**11 26 59.9**	**-1.4**
KHC	**Kasperske Hory**	**20.25**	**317**	*e*P	**P**	**11 26 59.9**	**-1.4**
WTTA	**Wattenberg**	**20.48**	**311**	*i* P	**P**	**11 27 03.4**	**-0.6**
	comp=Z,5.6nm,1.0s						
WATA	**Walderalm**	**20.55**	**311**	*i* pP	**P**	**11 27 05.2**	**+0.5**
	comp=Z,1.6nm,0.8s						
SQTA	**Sankt Quirin**	**20.73**	**310**	*i* P	Pn	11 27 09.9	+1.0
MOTA	**Moosalm**	**20.85**	**310**	*i* P	**P**	**11 27 06.9**	**-1.0**
	comp=Z,1.5nm,0.5s						
FETA	**Feichten**	**20.95**	**309**	*i* pP	**P**	**11 27 09.4**	**+0.4**
	comp=Z,3.3nm,1.1s						
BRG	**Berggiesshubel**	**21.05**	**321**	*e*P	**P**	**11 27 08.1**	**-1.8**
	comp=Z,9.2nm,1.3s						
BRG	**Berggiesshubel**	**21.05**	**321**	*e*P	**P**	**11 27 08.1**	**-1.8**
BRG				pmax	pmax		
	comp=Z,9.0nm,1.3s						
RETA	**Reutte**	**21.12**	**310**	*i* P	**P**	**11 27 09.9**	**-0.8**
	comp=Z,8.8nm,1.7s						
DAVOX	**Davos/Dischmat**	**21.40**	**308**	LR	LR	11 36 42.6	
	comp=Z,93nm,19.5s,baz=271,slow=40						
DAVA	**Damuels**	**21.59**	**309**	*i* pP	**P**	**11 27 16.4**	**+0.5**
	comp=Z,5.9nm,1.5s						
AKTO	**Aktyubinsk**	**22.23**	**42**	P	**P**	**11 27 23.3**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=245,slow=14,SNR=6.0						
AKTO				LR	LR	11 38 59.4	
	comp=Z,39nm,18.4s,baz=188,slow=44						
ABKAR	**Akbulak array**	**22.75**	**46**	*e*P	**P**	**11 27 29.4**	**+1.3**
SENIN	**Lac Senin/Sane**	**22.94**	**305**	*e*P	**P**	**11 27 30.9**	**+0.5**
	comp=Z,5.8nm,1.1s						
BFO	**Black Forest**	**22.95**	**311**	*i* P	**P**	**11 27 29.3**	**-1.0**
WSAR	**Wadi Sarin**	**24.35**	**115**	LR	LR	11 39 07.9	
	comp=Z,69nm,19.6s,baz=345,slow=41						
KLMR	**Klimovskoe**	**25.10**	**6**	*e*P	**P**	**11 27 49.6**	**-1.0**
KLMR				pmax	pmax		
	comp=Z,16nm,0.9s						
KLMR	**Klimovskoe**	**25.10**	**6**	*e*P	**P**	**11 27 49.6**	**-1.0**
KLMR				AMP		11 27 55.2	
	comp=Z,16nm,0.9s						
FINES	**FINESS Array B**	**26.07**	**351**	*i* P	**P**	**11 27 57.9**	**-1.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.6s						
FINES	**FINESS Array B**	**26.07**	**351**	P	**P**	**11 27 56.7**	**-2.7**
	comp=Z,3.7nm,0.6s,baz=149,slow=10,SNR=6.9						
FIA1	**FINESS Array S**	**26.07**	**351**	*e*P	**P**	**11 28 02.1**	**+2.8**
	comp=Z,5.8nm,1.0s						
ARU	**Arti**	**26.09**	**31**	P	**P**	**11 28 01.5**	**+1.9**
ARU						11 28 39.6	
ARU				S	**S**	**11 32 36.6**	**+5.0**
ARU				SS	**SnSn**	**11 33 33.7**	**+4.9**
SVE	**Sverdlovsk**	**27.22**	**32**	*e*P	P	11 28 16.9	+7.1
SVE				pmax	pmax		
	comp=Z,11nm,0.9s						
KK31	**Karatay Array**	**28.42**	**64**	*e*P	**P**	**11 28 21.1**	**+0.4**
KK31	**Karatay Array**	**28.42**	**64**	*e*P	**P**	**11 28 21.1**	**+0.4**
KKAR	**Karatay Array**	**28.42**	**64**	*e*P	**P**	**11 28 21.2**	**+0.5**
KKAR	**Karatay Array**	**28.42**	**64**	*e*P	**P**	**11 28 21.2**	**+0.5**
NOA	**NORSAR Array B**	**29.18**	**337**	LR	LR	11 41 27.6	
	comp=Z,47nm,19.0s,baz=125,slow=39						
BRVK	**Borovoye**	**30.23**	**44**	*i* P	**P**	**11 28 35.0**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**30.27**	**44**	LR	LR	11 42 02.9	
	comp=Z,29nm,20.1s,baz=282,slow=39						
ESDC	**Sonseca Array**	**30.55**	**289**	P	**P**	**11 28 38.1**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=75,slow=7.8,SNR=5.8						
ARCES	**ARCESS Array B**	**34.00**	**354**	*e*P	**P**	**11 29 12.9**	**+3.4**
ARCES	**ARCESS Array B**	**34.00**	**354**	*e*P	**P**	**11 29 12.9**	**+3.4**
ARCES	**ARCESS Array B**	**34.00**	**354**	*e*P	**P**	**11 29 06.9**	**-2.6**
	comp=Z,1.8nm,0.8s,baz=159,slow=7.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**34.61**	**51**	P	**P**	**11 29 14.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=266,slow=8.5,SNR=16						
KURBB				PcP	**PcP**	**11 31 48.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=269,slow=3.8,SNR=4.3						
KURK	**Kurchatov**	**34.68**	**51**	*e*P	**P**	**11 29 16.6**	**+1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MAKZ	**Makanchi**	**36.63**	**58**	*e*P	**P**	**11 29 32.6**	**+0.2**
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**36.63**	**58**	*e*P	**P**	**11 29 32.7**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MK31	**Makanchi Array**	**36.85**	**58**	*e*P	**P**	**11 29 34.6**	**+0.3**
MK31	**Makanchi Array**	**36.85**	**58**	*e*P	**P**	**11 29 34.6**	**+0.3**
MKAR	**Makanchi Array**	**36.85**	**58**	*e*P	**P**	**11 29 34.5**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**36.85**	**58**	P	**P**	**11 29 34.3**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=278,slow=6.3,SNR=16						
MK01	**Makanchi Array**	**36.86**	**58**	*e*P	**P**	**11 29 34.4**	**0.0**
TORD	**Torodi Ar. Bea**	**37.30**	**241**	P	**P**	**11 29 37.1**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=46,slow=8.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**38.87**	**46**	*e*P	**P**	**11 29 51.7**	**+0.5**
ZALV	**Zalesovo Beam**	**38.87**	**46**	*i* P	**P**	**11 29 52.5**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**38.87**	**46**	P	**P**	**11 29 50.6**	**-0.6**
	comp=Z,2.3nm,0.5s,baz=262,slow=8.0,SNR=4.5						
WMQ	**Urumqi**	**40.87**	**62**	*e*P	**P**	**11 30 09.6**	**+1.5**
WMQ				sP	sP	11 30 16.6	+8.3
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				LR	LR		
	comp=N,200nm,16.9s						
WMQ				LR	LR		
	comp=Z,180nm,16.5s						
SPA0	**Spitsbergen Ar**	**43.03**	**355**	*e*P	**P**	**11 30 27.6**	**+2.3**
SONM	**Songino Array**	**52.91**	**53**	P	**P**	**11 31 42.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=286,slow=8.7,SNR=4.3						
SONM				LR	LR	11 56 24.5	
	comp=Z,72nm,19.5s,baz=346,slow=38						
LZH	**Lanzhou**	**54.83**	**68**	*e*P	**P**	**11 31 54.3**	**-2.3**
LZH				pP	sP	11 32 01.0	+4.2
LZH				sP	pP	11 32 05.1	+8.4
LZH				PP	PP	11 33 49.0	-10
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,96nm,4.8s						
CD2	**Chengdu**	**56.82**	**74**	P	**P**	**11 32 08.9**	**-1.9**
CD2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.66**	**60**	*e*P	**P**	**11 32 24.4**	**+0.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,170nm,5.4s						
CMAR	**Chiang Mai Arr**	**58.82**	**89**	P	**P**	**11 32 24.1**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=295,slow=8.2,SNR=13						
CMAR				LR	LR	12 02 36.7	
	comp=Z,23nm,18.5s,baz=310,slow=41						
KLR	**Kul'dur**	**67.94**	**45**	LR	LR	12 07 53.6	
	comp=Z,64nm,18.1s,baz=304,slow=40						
KS01	**Wonju Array Si**	**71.49**	**57**	*e*P	**P**	**11 33 46.8**	**-0.2**
KSRS	**Korea Array**	**71.52**	**57**	LR	LR	12 09 30.0	
	comp=Z,28nm,18.8s,baz=20,slow=39						
INK	**Inuvik**	**75.66**	**355**	*e*P	**P**	**11 34 14.2**	**+3.2**
INK	**Inuvik**	**75.66**	**355**	*e*P	**P**	**11 34 14.2**	**+3.2**
YKA	**Yellowknife Ar**	**78.80**	**346**	P	**P**	**11 34 26.9**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=31,slow=5.5,SNR=6.3						

NIED ***03*** *11:24:00,35°.90N×140°.90E,h32km,Mw3.6 Best double couple: M0 3.12000×10¹⁴ NP1:φs324.00000°,δ24.00000°, λ-112.00000°. NP2:φs168.00000°,δ68.00000°, λ-80.00000°.*

ISCJB ***03*** *11:24:07.9±0.8,35°.90N±0°.05×140°.96E±0°.09,h41km±6km, mb3.5/4, Error ellipse: s-maj=12.3km s-min=7.0km az=162.3*

JMA ***03*** *11:24:08.8±0.2,35°.87N×140°.88E,h35km±2km,M3.3 Broadband fault plane solution: P waves. NP1: φs33.00000°,δ77.00000°,λ24.00000°. NP2:φs298.00000°, δ67.00000°,λ166.00000°. Principal axes: T Plg26.0000°, Azm257.0000°; N Plg63.0000°, Azm60.0000°; P Plg7.0000°, Azm164.0000°;*

JMA Felt II J1.

IDC ***03*** *11:24:09.6±3.6,35°.87N×140°.99E,h38km±29km,mb3.3/4, mb1 3.5/7,mb1mx3.2/66,mbtmp3.5/7,ML3.6/2,MS2.5/1, Ms1 2.5/1,ms1mx2.3/17 Error ellipse: s-maj=45.8km s-min=20.2km az=75.0*

ISC 03 11:24:08.6±1.3,35°.91N±0°.04×140°.92E±0°.08,h31km±8km, n21,σ0°.62/21,mb3.5/4,3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**194**	⇓P	**Pn**	**11 24 15.0**	**-0.7**
CHOJ				S	**Sb**	**11 24 19.3**	**0.0**
JIHU	**Itakohorinouch**	**0.33**	**281**	P	**Pn**	**11 24 17.1**	**-0.2**
JIHU				S	**Sn**	**11 24 23.2**	**+0.3**
JSMT	**Sammumatsuo**	**0.46**	**236**	P	**Pb**	**11 24 18.5**	**0.0**
JSMT				S	**Sn**	**11 24 26.2**	**-0.2**
JHYU	**Hitachinakayam**	**0.51**	**328**	P	**Pn**	**11 24 19.9**	**+0.1**
JHYU				S	**Sb**	**11 24 27.4**	**+0.9**
JYT	**Yasato**	**0.67**	**299**	⇓P	**Pb**	**11 24 21.2**	**-0.7**
JYT				S	**Sb**	**11 24 29.9**	**-1.0**
JHO	**Hitachi**	**0.76**	**338**	⇓P	**Pn**	**11 24 23.2**	**-0.1**
BSO3	**Boso 3**	**1.15**	**197**	P	**Pb**	**11 24 30.2**	**+0.4**
MJAR	**Matsushiro Arr**	**2.28**	**287**	Pn	**Pn**	**11 24 44.8**	**+0.5**
	0.6nm,0.3s,baz=114,slow=7.8,SNR=75						
MJAR				LR	LR	11 25 43.7	
	comp=Z,95nm,19.0s,baz=150,slow=41						
MAT	**Matsushiro**	**2.28**	**287**	P	**Pn**	**11 24 45.0**	**+0.7**
MAT				eS	**Sn**	**11 25 10.7**	**-0.7**
JHJ	**Hachijo jima 2**	**2.93**	**199**	Pn	**Pn**	**11 24 54.1**	**+0.9**
	9.6nm,0.3s,baz=108,slow=23,SNR=3.4						
ASAJ	**Asahikawa**	**8.30**	**8**	Pn	**Pn**	**11 26 07.0**	**+0.2**
	1.0nm,0.3s,baz=211,slow=12,SNR=15						
H11N2	**WAKE ISLAND Hy**	**27.94**	**118**	T	T	11 59 05.9	
	baz=311,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**27.95**	**118**	T	T	11 59 08.4	
	baz=311,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**27.96**	**118**	T	T	11 59 08.8	
	baz=311,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 59 50.5	
	baz=313,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	11 59 51.8	
	baz=313,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	11 59 57.7	
	baz=313,slow=75,SNR=12						
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**11 32 17.1**	**+0.8**
	0.3nm,0.6s,baz=94,slow=7.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**46.39**	**309**	P	**P**	**11 32 32.4**	**+0.4**
	0.4nm,0.4s,baz=82,slow=7.7,SNR=5.0						
WRA	**Warramunga Arr**	**55.89**	**187**	P	**P**	**11 33 42.9**	**-0.7**
	0.3nm,0.4s,baz=2.0,slow=7.6,SNR=9.8						
ASAR	**Alice Springs**	**59.62**	**187**	P	**P**	**11 34 09.4**	**-0.4**
	0.2nm,0.7s,baz=0.2,slow=6.1,SNR=4.9						

KRSC 03 11:24:22.9±10.0,55°.18N×158°.92E,h24km±10km,ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.71**	**81**	*e*P	Pb	11 24 36.9	+0.2
TUMR				*e*S	Sn	11 24 47.9	+0.1
ESO	**Esso**	**0.76**	**351**	*e*P	Pb	11 24 37.5	0.0
ESO				*e*S	Sn	11 24 48.2	-0.7

ZALV LR LR 11 56 05.8
comp=Z,103nm,18.2s,baz=90,slow=41
ZAA1 Zalesovo Array 4.31 337 *e*Pn **Pn 11 54 16.1 -0.8**
ZAA1 *e*Lg Lg 11 55 25.2
MK31 Makanchi Array 4.85 230 *e*Pn **Pn 11 54 25.9 +1.4**
MK31 *e*Sg **Sg 11 55 46.1 -1.0**
MK31 Makanchi Array 4.85 230 ⇑Pn **Pn 11 54 26.5 +2.0**
49nm,0.6s,baz=56,slow=12,SNR=500
MK31 ⇑Sn **Sn 11 55 24.3 +3.6**
4.4nm,0.2s,baz=338,slow=10,SNR=4.1
MK31 ⇑Lg Lg 11 55 45.8
40nm,0.5s,baz=65,slow=25,SNR=4.5
MK31 Makanchi Array 4.85 230 PN **Pn 11 54 26.2 +1.7**
MK31 11 55 24.1
MK31 pmax pmax
comp=Z,49nm,0.6s
MK31 smax smax
comp=N,4.0nm,0.3s
MK32 Makanchi Array 4.85 230 *e*Pn **Pn 11 54 26.0 +1.5**
MK32 *e*Lg Lg 11 55 46.9
MKAR Makanchi Array 4.85 230 *i* PN **Pn 11 54 26.0 +1.5**
MKAR pmax pmax
comp=Z,16nm,0.3s
MKAR Makanchi Array 4.85 230 Pn **Pn 11 54 26.0 +1.5**
comp=Z,10nm,0.3s,baz=55,slow=12,SNR=260
MKAR Lg Lg 11 55 46.9
comp=Z,26nm,0.3s,baz=59,slow=29,SNR=8.7
MK01 Makanchi Array 4.86 230 *e*Pn **Pn 11 54 25.8 +1.2**
MK01 *e*Sg **Sg 11 55 46.1 -1.4**
MAKZ Makanchi 5.00 232 *e*Pn **Pn 11 54 27.7 +1.2**
MAKZ *e*Sn **Sn 11 55 25.7 +1.4**
MAKZ *e*Sg **Sg 11 55 47.7 -4.2**
MAKZ Makanchi 5.00 232 ⇓Pn **Pn 11 54 27.5 +1.0**
comp=Z,48nm,0.8s
MAKZ ⇓Lg Lg 11 55 47.3
comp=Z,87nm,0.6s
MAKZ Makanchi 5.00 232 *e*PN **Pn 11 54 27.7 +1.2**
MAKZ *e* 11 55 25.7
NVS Novosibirsk 5.54 332 *e*Pn **Pn 11 54 33.8 0.0**
NVS *e*Pg **Pb 11 54 51.5 +3.5**
NVS *e*Sg **Sg 11 56 04.0 -4.9**
NVS Novosibirsk 5.54 332 *e*PN **Pn 11 54 33.8 0.0**
NVS *i* 11 54 51.5
NVS *i* 11 56 04.0
KURK Kurchatov 5.86 280 *e*Pn **Pn 11 54 37.8 -0.4**
KURK *e*Sn **Sn 11 55 46.5 +1.2**
KURK *e*Sg **Sg 11 56 14.8 -4.4**
KURK Kurchatov 5.86 280 ⇓Pn **Pn 11 54 37.6 -0.6**
comp=Z,17nm,0.6s
KURK ⇓Sn **Sn 11 55 45.5 +0.2**
comp=Z,36nm,0.5s
KURK ⇑Lg Lg 11 56 14.2
comp=Z,113nm,0.7s
KURK Kurchatov 5.86 280*c i*PN **Pn 11 54 38.0 -0.2**
KURBB Kurchatov Arra 5.91 279 ⇓Pn **Pn 11 54 38.5 -0.4**
comp=Z,26nm,0.5s
KURBB ⇓Sn **Sn 11 55 50.0 +3.3**
comp=Z,65nm,0.5s
KURBB ⇓Lg Lg 11 56 18.1
comp=Z,247nm,0.6s
KURBB Kurchatov Arra 5.91 279 Pn **Pn 11 54 39.1 +0.2**
comp=Z,2.1nm,0.3s,baz=91,slow=15,SNR=99
KURBB Sn **Sn 11 55 48.8 +2.2**
comp=Z,2.6nm,0.3s,baz=88,slow=27,SNR=12
KURBB Lg Lg 11 56 17.7
comp=Z,3.4nm,0.3s,baz=90,slow=34,SNR=12
WMQ Urumqi 6.22 180 *e*Pn Pn 11 54 49.7 +6.4
WMQ pP Pb 11 54 53.2 -6.6
WMQ sP Pg 11 54 55.4 -15
WMQ Sn **Sn 11 55 53.0 -1.4**
WMQ Sg **Sg 11 56 25.7 -5.2**
WMQ pmax pmax
comp=Z,62nm,0.7s
WMQ smax smax
comp=N,300nm,0.9s
WMQ smax smax
comp=E,370nm,0.9s
WMQ LR LR
comp=N,890nm,5.7s
WMQ LR LR
comp=E,560nm,4.9s
WMQ LR LR
comp=Z,550nm,5.7s
WMQ Urumqi 6.22 180 *e*Pn **Pn 11 54 42.3 -1.0**
WMQ Urumqi 6.22 180 *e*PN **Pn 11 54 42.3 -1.0**
KNGR Kungurtug, Tuv 6.31 81 *i* PN **Pn 11 54 41.6 -2.9**
PDGK Podgornoye 8.77 223 ⇑Pn **Pn 11 55 16.0 -2.3**
comp=Z,6.4nm,0.5s
PDGK ⇓Lg Lg 11 57 53.4
comp=Z,17nm,0.7s
PDGK Podgornoye 8.77 223 P **Pn 11 55 15.9 -2.3**
PDGK pmax pmax
comp=Z,6.0nm,0.5s
MDOK Medeo 10.05 231 ⇓Pn **Pn 11 55 37.5 +1.6**
comp=Z,3.0nm,0.5s
MDOK ⇑Sn **Sn 11 57 33.0 +4.3**
MDOK ⇑Lg Lg 11 58 31.7
comp=Z,23nm,1.0s
OTUK Ortayu 10.23 266 ⇓Pn **Pn 11 55 36.3 -2.0**
comp=Z,3.2nm,0.6s
OTUK ⇓Sn **Sn 11 57 33.9 +0.9**
comp=Z,2.5nm,0.5s
OTUK ⇑Lg Lg 11 58 36.1
comp=Z,55nm,1.2s
OTUK Ortayu 10.23 266 P **Pn 11 55 36.2 -2.0**
OTUK 11 57 33.9
OTUK pmax pmax
comp=Z,3.0nm,0.6s
OTUK smax smax
comp=N,3.0nm,0.5s
KDJ Kajisay 10.76 227 *e*Pn **Pn 11 55 46.6 +1.0**
KDJ Kajisay 10.76 227 *e*P **Pn 11 55 46.7 +1.0**
TKM2 Tokmak 2 10.96 234 ⇑Pn **Pn 11 55 48.7 +0.3**
comp=N,1.9nm,0.6s
TKM2 ⇓Sn **Sn 11 57 55.3 +4.1**
comp=N,3.5nm,0.7s
TKM2 ⇑Lg Lg 11 59 03.7
comp=N,10nm,0.8s
TKM2 Tokmak 2 10.96 234 P **Pn 11 55 48.7 +0.3**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s
BVA0 Borovoye Array 11.20 292 ⇓Pn **Pn 11 55 52.0 +0.6**
comp=Z,2.4nm,0.5s,baz=117,slow=15,SNR=6.2
BVA0 ⇓Sn **Sn 11 58 02.6 +6.1**
comp=Z,3.1nm,0.5s,baz=104,slow=24,SNR=5.2
BVA0 Borovoye Array 11.20 292 P **Pn 11 55 52.1 +0.7**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 11.20 292 Pn **Pn 11 55 49.6 -1.8**
comp=Z,1.7nm,0.3s,baz=106,slow=14,SNR=27
BVAR Sn **Sn 11 57 50.0 -6.5**
comp=Z,1.2nm,0.3s,baz=98,slow=21,SNR=5.1
BVAR LR LR 12 00 09.4
comp=Z,61nm,18.6s,baz=74,slow=37
BRVK Borovoye 11.26 292 *e*Pn **Pn 11 55 51.9 -0.4**
BRVK *e*Sn **Sn 11 57 51.5 -6.6**
BRVK Borovoye 11.26 292 ⇑Pn **Pn 11 55 52.6 +0.3**
comp=Z,2.1nm,0.6s
BRVK ⇑Sn **Sn 11 58 00.2 +2.1**
comp=Z,4.5nm,0.5s
BRVK Borovoye 11.26 292 *e*P **Pn 11 55 51.9 -0.4**
AAK Ala-Archa 11.74 236 ⇑Pn **Pn 11 56 00.1 +1.1**
comp=Z,3.3nm,0.8s
AAK ⇑Lg Lg 11 59 26.3
comp=Z,21nm,1.1s
SONA0 Songino Array 12.48 93 *e*Pn **Pn 11 56 07.7 -1.4**
SONM Songino Array 12.48 93 Pn **Pn 11 56 07.7 -1.4**
comp=Z,0.0nm,0.3s,baz=289,slow=12,SNR=4.6
SONM Lg Lg 11 59 40.4
comp=Z,0.3nm,0.3s,baz=293,slow=30,SNR=10.0
GTA Gaotai 13.65 137 *e*P **P 11 56 32.1 -1.9**
GTA pP Pn 11 56 37.6 +13
GTA sP 11 56 40.2
KK31 Karatay Array 13.70 246 *e*Pn **Pn 11 56 22.8 -2.8**
KK31 *e*Sn **Sn 11 58 55.6 -2.1**
KK31 Karatay Array 13.70 246 ⇓Pn **Pn 11 56 23.3 -2.2**
comp=Z,1.4nm,0.5s,baz=56,slow=14,SNR=9.8
KK31 ⇑Sn **Sn 11 59 00.8 +3.1**
comp=Z,2.6nm,0.8s,baz=51,slow=21,SNR=5.8
KK31 Karatay Array 13.70 246 *e*P **Pn 11 56 22.8 -2.8**
KK31 *e* 11 58 55.6
KKAR Karatay Array 13.70 246 *e*Pn **Pn 11 56 22.7 -2.9**
KKAR *e*Sn **Sn 11 58 55.5 -2.2**
KKAR Karatay Array 13.70 246 *e*P **Pn 11 56 22.7 -2.9**
KKAR *e* 11 58 55.5

GAR Garm 16.56 235 *e*Pn **Pn 11 57 04.3 +0.6**
comp=Z,12nm,1.1s
GAR Garm 16.56 235 *e*P **Pn 11 57 04.3 +0.6**
GAR pmax pmax
comp=Z,12nm,1.1s
SVE Sverdlovsk 17.42 303 *e*P **Pn 11 57 12.2 -2.1**
SVE *e*S **Sn 12 00 27.3 -0.8**
AB31 Akbulak array 17.96 278 P **Pn 11 57 19.7 -1.3**
comp=Z,1.0nm,0.6s,baz=81,slow=6.9,SNR=18
AB31 Akbulak array 17.96 278 *i* P **Pn 11 57 19.7 -1.3**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 17.96 278 *e*Pn **Pn 11 57 19.9 -1.2**
LZH Lanzhou 18.20 134 *e*P **P 11 57 28.9 +4.4**
LZH pP sP 11 57 34.3 +4.5
LZH sP pP 11 57 39.9 +12
LZH PP PnPn 11 57 46.4 +11
LZH pmax pmax
comp=Z,14nm,1.2s
ARU Arti 18.49 301*c i*P **Pn 11 57 29.4 +2.0**
ARU pmax pmax
comp=Z,5.0nm,1.1s
AKTO Aktyubinsk 18.95 283 ⇑P **Pn 11 57 32.9 -0.2**
comp=Z,7.7nm,1.2s
AKTO Aktyubinsk 18.95 283 P **Pn 11 57 32.8 -0.2**
AKTO pmax pmax
comp=Z,8.0nm,1.2s
AKTO Aktyubinsk 18.95 283 P **P 11 57 31.8 -0.6**
comp=Z,0.2nm,0.3s,baz=79,slow=11,SNR=9.8
HHC Hu-ho-hao-te 19.02 110 *e*P **Pn 11 57 39.9 +5.8**
HHC PP **PnPn 11 57 55.8 +9.3**
HHC S **S 12 01 10.7 +1.4**
HHC sS sS 12 01 19.9 +4.8
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,160nm,6.9s
HIA Hailar 20.68 80 *i* P **P 11 57 48.4 -2.9**
HIA pmax pmax
comp=Z,17nm,2.6s
CD2 Chengdu 22.58 142 P **P 11 58 15.9 +4.0**
CD2 pmax pmax
comp=Z,20nm,0.7s
NJ2 Nanjing 29.27 116 *e*P **P 11 59 17.7 +4.1**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
OBN Obninsk 30.91 299 *e*P **P 11 59 25.9 -1.9**
OBN pmax pmax
comp=Z,7.0nm,1.1s
CM31 Chiang Mai Arr 32.77 160 *e*P **P 11 59 42.4 -2.1**
comp=Z,1.6nm,0.6s
CMAR Chiang Mai Arr 32.77 160 P **P 11 59 42.0 -2.5**
comp=Z,0.3nm,0.4s,baz=343,slow=8.5,SNR=3.7
FIA0 FINESS Array S 35.16 313 *e*P **P 12 00 04.4 -0.5**
FIA0 FINESS Array S 35.16 313 *e*P **P 12 00 04.4 -0.5**
FINES FINESS Array B 35.16 313 P **P 12 00 04.4 -0.5**
comp=Z,3.0nm,1.1s,baz=54,slow=9.5,SNR=2.5
AKASG Malin Array Be 36.47 294 *i* P **P 12 00 20.6 +4.4**
AKASG Malin Array Be 36.47 294 pP pP 12 00 18.9 -1.3
comp=Z,0.5nm,0.3s,baz=61,slow=8.8,SNR=4.2
AKBB Malin Array Si 36.47 294 *e*P **P 12 00 18.7 +2.5**
comp=Z,1.4nm,0.8s
AKBB Malin Array Si 36.47 294 *e*P **P 12 00 18.7 +2.5**
AKBB pmax pmax
comp=Z,1.0nm,0.8s
KIEV Kiev 36.48 294 *i* P **P 12 00 18.1 +1.8**
KIEV pmax pmax
comp=Z,1.0nm,0.9s
BR101 Keskin Array S 38.89 276 *e*P **P 12 00 35.6 -1.4**
BR131 Keskin Array S 38.89 276 *e*P **P 12 00 36.0 -1.1**
BRTR Keskin Array B 38.89 276 *i* P **P 12 00 35.9 -1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 38.89 276 P **P 12 00 35.7 -1.4**
comp=Z,0.7nm,0.4s,baz=64,slow=5.3,SNR=6.0
BILL Bilibino 40.86 34 *e*P **P 12 00 52.2 -0.7**
BILL pmax pmax
comp=Z,1.0nm,1.0s
VYHS Vyhne 43.51 296 *e*P P 12 01 07.4 -7.3
VYHS Vyhne 43.51 296 *e*P P 12 01 07.4 -7.3
CLL Collm 45.43 302 *e*pP pP 12 01 34.0 0.0
CLL Collm 45.43 302 *e*P pP 12 01 34.0 0.0
LIT Litokhoron 45.76 284 *e*P **P 12 01 33.2 +0.4**
comp=Z,15nm,1.2s
LIT Litokhoron 45.76 284 *e*P **P 12 01 33.2 +0.4**
LIT pmax pmax
comp=Z,15nm,1.2s
SANT Santorini 46.09 277 *e*P **P 12 01 38.4 +2.9**
comp=Z,27nm,1.1s
GERES GERESS Array B 46.28 299 LR LR 12 20 36.1
comp=Z,18nm,21.6s,baz=4.0,slow=36
TUE Stuetta 50.04 298 *e*P **P 12 02 05.7 -0.4**
comp=Z,3.8nm,0.7s
TAMR Tamra 55.91 289 *e*P **P 12 02 48.4 -0.9**
comp=Z,24nm,1.0s
WRH Wood River Hil 57.87 25 *e*P **P 12 03 05.0 +2.2**
comp=Z,1.2nm,1.1s
ILAR Eielson Array 57.96 24 P **P 12 03 00.3 -3.2**
comp=Z,0.3nm,0.9s,baz=325,slow=5.5,SNR=4.5
INK Inuvik 58.05 17 *e*P **P 12 03 06.6 +2.7**
comp=Z,1.4nm,0.9s
INK Inuvik 58.05 17 *e*P **P 12 03 06.6 +2.7**
INK pmax pmax
comp=Z,1.0nm,0.9s
EPYK Eagle Plains 59.08 19 *e*P **P 12 03 12.4 +1.2**
ESDC Sonseca Array 61.87 299 pP pP 12 03 33.3 -1.6
comp=Z,0.5nm,0.7s,baz=44,slow=8.0,SNR=2.7
TOA0 Torodi Ar. Sit 77.50 276 *e*P **P 12 05 10.0 +2.7**
TORD Torodi Ar. Bea 77.50 276 pP pP 12 05 09.6 -1.9
comp=Z,0.7nm,0.7s,baz=27,slow=5.5,SNR=5.0
WR1 Warramunga Arr 80.94 136 *e*P **P 12 05 21.4 -4.5**
comp=Z,3.5nm,1.0s
WRA Warramunga Arr 80.94 136 P **P 12 05 21.4 -4.5**
comp=Z,0.7nm,0.7s,baz=340,slow=5.9,SNR=7.2
ASAR Alice Springs 84.02 138 P **P 12 05 37.5 -4.3**
comp=Z,0.5nm,0.6s,baz=331,slow=5.4,SNR=10

*IDC **03** 12:04:16.7±0.9, 6°.85S×154°.78E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.1/34, mbtmp4.2/12, MS3.7/9, Ms1 3.7/9, ms1mx3.4/32, Error ellipse: s-maj=33.4km s-min=17.7km az=123.0*
*ISCJB **03** 12:04:28.3±0.4, 6°.91S±0°.06×154°.58E±0°.07, h100km, mb4.1/27, Error ellipse: s-maj=10.7km s-min=8.0km az=23.3*
*NEIC **03** 12:04:29.3±1.0, 6°.90S×154°.63E, h96km±8km, mb4.3/16, Error ellipse: s-maj=9.4km s-min=7.3km az=117.0*
ISC 03 12:04:29.8±0.5, **6°.88S**±0°.09×**154°.56E**±0°.08, **h100**km, **n67,** σ1**96/63, mb4.2/27, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.58**	**318**	*e*Pn	**Pn**	**12 05 23.6**	**+0.2**
HNR	**Honiara**	**5.90**	**116**	*e*P	**Sn**	**12 07 05.0**	**+3.8**
HNR	**Honiara**	**5.90**	**116**	*e*Pn	**Pn**	**12 05 52.5**	**-2.4**
HNR				*e*		12 08 13.7	
HNR	**Honiara**	**5.90**	**116**	LR	LR	12 08 13.6	
	comp=Z,1μm,18.4s,baz=244,slow=41						
CTA	**Charters Tower**	**15.41**	**211**	Pn	**P**	**12 08 03.4**	**-0.8**
	0.2nm,0.3s,baz=36,slow=12,SNR=12						
CTAO	**Charters Tower**	**15.41**	**211**	*e*P	**P**	**12 08 03.5**	**-0.8**
	15nm,0.8s						
DZM	**Mont Dzumac**	**18.96**	**144**	LR	LR	12 15 03.0	
	comp=Z,199nm,19.4s,baz=318,slow=34						
WRAB	**Tennant Creek**	**23.52**	**235**	*e*P	**P**	**12 09 29.6**	**-1.5**
	15nm,1.1s						
WB2	**Warramunga Arr**	**23.52**	**235**	*e*P	**P**	**12 09 30.2**	**-1.0**
	9.9nm,0.9s						
WR1	**Warramunga Arr**	**23.53**	**235**	*e*P	**P**	**12 09 30.0**	**-1.3**
	8.8nm,0.8s						
WRA	**Warramunga Arr**	**23.54**	**235**	P	**P**	**12 09 30.0**	**-1.3**
	7.0nm,0.9s,baz=57,slow=9.5,SNR=21						
WRA				LR	LR	12 19 17.4	
	comp=Z,297nm,18.5s,baz=55,slow=38						
AS01	**Alice Springs**	**25.90**	**228**	*e*P	**P**	**12 09 51.6**	**-1.1**
AS31	**Alice Springs**	**25.93**	**228**	*e*P	**P**	**12 09 54.1**	**+1.1**
	1.6nm,1.0s						
ASAR	**Alice Springs**	**25.93**	**228**	P	**P**	**12 09 51.6**	**-1.4**
	4.0nm,0.8s,baz=62,slow=8.5,SNR=22						
ASAR				ScP	ScP	12 17 01.2	+11
	1.1nm,0.9s,baz=57,slow=3.4,SNR=6.2						
ASAR				LR	LR	12 20 29.9	
	comp=Z,232nm,18.4s,baz=60,slow=37						

STKA Stephens Creek 27.66 204 *e*P **P 12 10 08.3 0.0**
0.8nm,0.8s
STKA Stephens Creek 27.66 204 P **P 12 10 08.5 +0.1**
1.9nm,0.6s,baz=12,slow=14,SNR=4.5
STKA LR LR 12 21 46.1
comp=Z,201nm,18.2s,baz=24,slow=38
H11S3 WAKE ISLAND Hy 27.90 25 T T 12 38 45.4
baz=203,slow=74,SNR=3.1
H11S2 WAKE ISLAND Hy 27.91 25 T T 12 38 41.1
baz=203,slow=74,SNR=3.6
H11S1 WAKE ISLAND Hy 27.92 25 T T 12 38 13.7
baz=203
FITZ Fitzroy Crossi 30.31 246 *e*P **P 12 10 32.7 +0.6**
8.2nm,1.1s
FITZ Fitzroy Crossi 30.31 246 P **P 12 10 32.6 +0.6**
3.9nm,0.7s,baz=96,slow=9.4,SNR=8.4
FITZ LR LR 12 23 34.7
comp=Z,202nm,18.1s,baz=26,slow=38
BBOO Buckleboo 31.01 211 *e*P **P 12 10 38.1 +0.1**
6.9nm,1.0s
YULB Yu-li 44.29 314 *e*P **P 12 12 29.0 -0.9**
17nm,1.1s
TPUB Ta-pu 44.72 313 *e*P **P 12 12 33.3 0.0**
19nm,1.0s
XAN Xi'an 59.33 316 P **P 12 14 21.6 0.0**
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,88nm,6.0s
KLR Kul'dur 59.33 343 P **P 12 14 20.3 -0.9**
comp=Z,1.0nm,0.7s,baz=103,slow=8.5,SNR=4.0
PAYA Payao 59.83 297 P **P 12 14 24.6 -0.7**
CM01 Chiang Mai Arr 60.32 296 *e*P **P 12 14 30.7 +2.0**
CMAR Chiang Mai Arr 60.35 296 P **P 12 14 30.9 +2.1**
comp=Z,2.5nm,0.8s,baz=120,slow=5.4,SNR=18
CMMT Chiang Mai 60.46 296 P P 12 14 35.5 +5.9
CHTO Chiang Mai 60.47 296 P P 12 14 35.9 +6.3
GTA Gaotai 68.36 317 *e*P **P 12 15 22.5 +1.6**
GTA pP pP 12 15 27.6 -16
GTA sP PcP 12 15 30.8 -15
GTA pmax pmax
comp=Z,5.0nm,1.1s
SHL Shillong 68.87 301 *e*P **P 12 15 25.2 +0.8**
comp=Z,8.2nm,0.6s
SHL Shillong 68.87 301 *e*P **P 12 15 23.0 -1.4**
SONA0 Songino Array 69.01 327 *e*P **P 12 15 24.7 0.0**
SONM Songino Array 69.01 327 P **P 12 15 24.7 0.0**
comp=Z,1.3nm,0.9s,baz=138,slow=6.1,SNR=7.2
SONA1 Songino Array 69.01 327 *e*P **P 12 15 24.3 -0.5**
WMQ Urumqi 78.45 317 *e*P **P 12 16 19.2 -0.8**
comp=Z,8.1nm,0.6s
IM3 Indian Mountai 81.75 19 *e*P **P 12 16 37.4 +0.3**
MK01 Makanchi Array 83.02 319 *e*P **P 12 16 45.2 +1.0**
MK31 Makanchi Array 83.03 319 *e*P **P 12 16 45.4 +1.1**
comp=Z,2.7nm,0.8s
MK32 Makanchi Array 83.03 319 *e*P **P 12 16 45.0 +0.7**
MKAR Makanchi Array 83.03 319 P **P 12 16 45.0 +0.7**
comp=Z,1.9nm,0.7s,baz=104,slow=5.5,SNR=21
HDA Harding Lake 83.21 22 *e*P **P 12 16 45.1 +0.4**
comp=Z,1.5nm,1.0s
MAKZ Makanchi 83.24 319 *e*P **P 12 16 46.2 +0.9**
comp=Z,6.1nm,1.0s
ILAR Eielson Array 83.42 22 P **P 12 16 45.3 -0.5**
comp=Z,0.4nm,0.8s,baz=249,slow=5.4,SNR=4.2
ILAR LR LR 12 51 31.8
comp=Z,56nm,18.6s,baz=238,slow=34
ZALV Zalesovo Beam 83.84 326 *e*P **P 12 16 46.6 -1.6**
ZALV Zalesovo Beam 83.84 326 P **P 12 16 47.7 -0.5**
comp=Z,0.5nm,0.4s,baz=117,slow=5.5,SNR=3.6
ZALV LR LR 12 54 43.3
comp=Z,32nm,19.8s,baz=61,slow=36
ZAA1 Zalesovo Array 83.84 326 *e*P **P 12 16 47.6 -0.5**
KSH Kashi 85.61 310 *e*P **P 12 16 58.1 +0.5**
NV01 Mina Array Sit 91.98 52 *e*P **P 12 17 28.4 +0.5**
NVAR Mina Array Bea 91.98 52 P **P 12 17 28.4 +0.4**
comp=Z,2.1nm,0.8s,baz=258,slow=7.1,SNR=12
NV11 Mina Array Sit 92.10 52 *e*P **P 12 17 28.9 +0.5**
comp=Z,0.2nm,1.0s
YKA Yellowknife Ar 96.43 28 P **P 12 17 46.7 -0.7**
comp=Z,0.9nm,0.9s,baz=270,slow=4.3,SNR=11
YKA LR LR 13 00 01.5
comp=Z,5.7nm,18.3s,baz=268,slow=35
AKASG Malin Array Be 117.19 324 PKP **PKiKP 12 23 03.2 -0.1**
comp=Z,0.4nm,0.5s,baz=55,slow=2.7,SNR=4.8
AK11 Malin Array Si 117.24 324 *e*PKPdf **PKiKP 12 23 04.0 +0.5**
NB200 NORSAR Array S 119.45 341 *e*PKPdf **PKPdf 12 23 06.8 -0.7**
NOA NORSAR Array B 119.45 341 PKP **PKPdf 12 23 06.8 -0.7**
comp=Z,1.0nm,0.8s,baz=49,slow=1.9,SNR=4.0
BUR08 Bucovina Ar. S 120.89 322 *e*PKPdf **PKPdf 12 23 09.2 -1.6**
JTS JuntasAbangare 121.12 82 *e*PKPdf **PKPdf 12 23 10.6 -1.4**
MLR Muntele Rosu 121.36 320 *e*PKPdf **PKiKP 12 23 11.8 -0.1**
GEC2 GERESS Array S 126.73 329 *e*PKPdf **PKiKP 12 23 23.3 +0.9**
GERES GERESS Array B 126.73 329 PKP **PKiKP 12 23 22.7 +0.3**
comp=Z,1.1nm,0.7s,baz=42,slow=2.2,SNR=7.6
GEA0 GERESS Array S 126.73 329 *e*PKPdf **PKiKP 12 23 22.8 +0.4**
TOA0 Torodi Ar. Sit 152.58 285 *e*PKPbc **PKPbc 12 24 15.6 -0.2**
TOA0 *e*PKPab **PKPab 12 24 28.1 +1.5**
TORD Torodi Ar. Bea 152.58 285 PKPbc **PKiKP 12 24 16.1 +0.1**
comp=Z,2.1nm,0.8s,baz=45,slow=3.4,SNR=13
TORD PKPab **PKPab 12 24 26.5 -0.1**
comp=Z,3.9nm,0.9s,baz=32,slow=4.0,SNR=13
TOA1 Torodi Ar. Sit 152.58 285 *e*PKPbc **PKiKP 12 24 16.1 +0.1**
TOA1 *e*PKPab **PKPab 12 24 26.5 -0.1**

*SJA **03** 12:20:29.3±0.7, 23°.99S×66°.66W, h264km±8km, ML2.4, MW3.7*
*GUC **03** 12:20:33.9±0.6, 24°.02S×67°.35W, h253km±15km, ML3.7*
*ISCJB **03** 12:20:34.1±1.5, 24°.02S±0°.07×66°.88W±0°.05, h212km±16km, Error ellipse: s-maj=11.6km s-min=7.7km az=2.1*
ISC 03 12:20:32.8±3.0, **24°.02S**±0°.08×**66°.82W**±0°.07, **h223**km±25km, **n20,** σ1**9 05/29, 7C-1D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.39**	**120**	*i* P	**Pn**	**12 21 08.1**	**+0.2**
SLA				*i* S	**S**	**12 21 36.5**	**+1.3**
HJA	**Humahuaca**	**1.53**	**58**	*i* P	**Pn**	**12 21 08.5**	**-0.9**
HJA				IAML		12 21 09.2	
	comp=Z,13nm,0.5s						
YJA	**Yavi**	**2.20**	**33**	*i* P	**Pn**	**12 21 15.3**	**-0.3**
LVC	**Limon Verde**	**2.38**	**306**	*i* P	**Pn**	**12 21 18.2**	**+0.8**
PB15	**IPOC Station P**	**2.56**	**288**	*i* P	**Pn**	**12 21 19.9**	**+0.8**
PB15				*i* S	**S**	**12 21 57.5**	**+2.3**
PB15	**IPOC Station P**	**2.56**	**288**	⇑*i* P	**Pn**	**12 21 19.9**	**+0.8**
PB15				*i* S	**S**	**12 21 54.5**	**-0.7**
GO02	**Mina Guanaco**	**2.77**	**245**	⇑*i* P	**Pn**	**12 21 22.0**	**+0.5**
GO02				*i* S	**S**	**12 21 58.8**	**-0.5**
GO02				IAML		12 22 01.7	
	comp=E,146nm,0.1s						
PB06	**IPOC Station P**	**2.85**	**297**	*i* P	**Pn**	**12 21 22.9**	**+0.7**
PB06	**IPOC Station P**	**2.85**	**297**	⇑*i* P	**Pn**	**12 21 23.0**	**+0.7**
PB06				*i* S	**S**	**12 21 59.7**	**-1.1**
PB06				IAML		12 22 01.7	
	comp=N,145nm,0.2s						
PB09	**IPOC Station P**	**3.15**	**314**	*i* P	**Pn**	**12 21 25.8**	**+0.2**
PB09	**IPOC Station P**	**3.15**	**314**	⇑*i* P	**Pn**	**12 21 26.9**	**+1.2**
PB14	**IPOC Station P**	**3.33**	**259**	*i* P	**Pn**	**12 21 28.3**	**+0.5**
PB14	**IPOC Station P**	**3.33**	**259**	⇓*i* P	**Pn**	**12 21 28.2**	**+0.4**
PB14				*i* S	**S**	**12 22 08.3**	**-2.4**
PB10	**IPOC Station P**	**3.46**	**278**	*i* P	**Pn**	**12 21 29.5**	**+0.5**
PB10	**IPOC Station P**	**3.46**	**278**	⇑*i* P	**Pn**	**12 21 29.8**	**+0.7**
PB10				*i* S	**S**	**12 22 11.9**	**-1.2**
PB04	**IPOC Station P**	**3.50**	**298**	*i* P	**Pn**	**12 21 30.2**	**+0.5**
PB04	**IPOC Station P**	**3.50**	**298**	⇑*i* P	**Pn**	**12 21 30.1**	**+0.4**
PB04				*i* S	**S**	**12 22 12.4**	**-1.8**
PB07	**IPOC Station P**	**3.64**	**308**	*i* P	**Pn**	**12 21 31.4**	**0.0**
PB07	**IPOC Station P**	**3.64**	**308**	⇑*i* P	**Pn**	**12 21 31.7**	**+0.3**
PB08	**IPOC Station P**	**4.43**	**330**	*e*P	**Pn**	**12 21 42.2**	**+1.0**
PB08				*i* S	**S**	**12 22 35.0**	**0.0**

*KRSC **03** 12:21:10.7±10.0, 49°.34N×157°.20E, h39km±10km, ML4.7*
*ISCJB **03** 12:21:14.3±0.5, 49°.69N±0°.06×155°.8E±0°.1, h100km, mb3.8/29, Error ellipse: s-maj=13.8km s-min=3.9km az=38.8*
*IDC **03** 12:21:16.5±2.4, 49°.64N×155°.73E, h101km±20km, mb3.5/18, mb1 3.7/21, mb1mx3.6/43, mbtmp3.8/21, MS3.3/4, Ms1 3.3/4, ms1mx2.8/35, Error ellipse: s-maj=20.0km s-min=12.8km az=152.0*
ISC 03 12:21:15.3±1.3, **49°.6N**±0°.1×**156°.0E**±0°.1, **h100**km, **n62,**

σ1$47/53, **mb3.9**/29, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.29**	**347**	*eP*		**Pn**	**12 21 38.0**	**-1.2**
PAU	**Pauzhetka**	**1.92**	**15**	*eP*		**Pn**	**12 21 45.7**	**-1.2**
PAU				*eS*		**Sn**	**12 22 11.1**	**+0.2**
KDTR	**Khodutka, Kamc**	**2.56**	**30**	*eS*		**Sn**	**12 22 23.7**	**-2.1**
MTVR	**Mutnovka**	**3.18**	**25**	*eP*		**Pn**	**12 22 02.9**	**-0.7**
MTVR				*eS*		**Sn**	**12 22 40.6**	**-0.2**
RUS	**Russkaya**	**3.23**	**28**	*eS*		**Sn**	**12 22 39.6**	**-2.2**
APC	**Apacha**	**3.39**	**12**	*eP*		**Pn**	**12 22 07.4**	**+1.2**
KRMR	**Karymshinskiy**	**3.48**	**22**	*eP*		**Pn**	**12 22 07.0**	**-0.5**
KRMR				*eS*		**Sn**	**12 22 48.3**	**+0.5**
PETK	**Petropavlovsk-** 3.3nm,0.3s,baz=284,slow=16,SNR=44	**3.66**	**16**	P		**Pn**	**12 22 10.8**	**+1.0**
PET	**Petropavlovsk**	**3.80**	**25**	*eP*		**Pn**	**12 22 10.6**	**-1.1**
PET				*eS*		**Sn**	**12 22 54.8**	**-0.5**
DALK	**Dalny**	**3.83**	**26**	*eP*		**Pn**	**12 22 11.6**	**-0.5**
DALK				*eS*		**Sn**	**12 22 55.9**	**-0.2**
UGLR	**Uglovaya**	**4.01**	**25**	*eP*		**Pn**	**12 22 15.1**	**+0.5**
UGLR				*eS*		**Sn**	**12 23 01.5**	**+0.9**
KOK	**Koryaka**	**4.03**	**23**	*eP*		**Pn**	**12 22 15.7**	**+0.7**
AVH	**Avacha**	**4.04**	**24**	*eP*		**Pn**	**12 22 15.6**	**+0.6**
SMAR	**Somma**	**4.05**	**25**	*eP*		**Pn**	**12 22 15.6**	**+0.3**
SMAR				*eS*		**Sn**	**12 23 02.9**	**+1.1**
SDLR	**Sedlovina**	**4.09**	**25**	*eP*		**Pn**	**12 22 15.2**	**-0.5**
SDLR				*eS*		**Sn**	**12 23 02.3**	**-0.2**
KRX	**Arik**	**4.10**	**23**	*eP*		**Pn**	**12 22 16.4**	**+0.5**
NLC	**Nalytchevo**	**4.13**	**29**	*eS*		**Sn**	**12 23 00.3**	**-3.0**
GNL	**Ganaly**	**4.26**	**16**	*eP*		**Pn**	**12 22 19.3**	**+1.2**
SPN	**Mys Shipunskiy**	**4.30**	**34**	*eS*		**Sn**	**12 23 04.5**	**-3.0**
TUMD	**Tumrok D**	**6.21**	**24**	*eS*		**Sn**	**12 23 53.6**	**-0.2**
BKI	**Bering**	**8.27**	**44**	*eS*		Sn	12 24 34.3	-10
MA2	**Magadan** 0.3nm,0.3s,baz=155,slow=7.4,SNR=5.8	**10.43**	**345**	P		**Pn**	**12 23 42.3**	**+0.6**
MA2				LR		LR	12 28 19.5	
	comp=Z,58nm,18.5s,baz=209,slow=41							
ASAJ	**Asahikawa** 0.2nm,0.3s,baz=79,slow=16,SNR=3.5	**10.70**	**244**	P		Pn	12 23 45.8	+0.4
ASAJ				LR		LR	12 27 29.0	
	comp=Z,62nm,19.9s,baz=112,slow=35							
KSRS	**Korea Array** 1.0nm,0.8s,baz=46,slow=7.0,SNR=4.1	**25.56**	**250**	P		**P**	**12 26 16.8**	**+0.1**
H11N2	**WAKE ISLAND Hy 31.06** baz=348,slow=76,SNR=4.3	**160**		T		T	13 00 22.5	
H11N1	**WAKE ISLAND Hy 31.08** baz=348,slow=76,SNR=5.5	**160**		T		T	13 00 24.0	
H11N3	**WAKE ISLAND Hy 31.08** baz=348,slow=76,SNR=9.8	**160**		T		T	13 00 29.9	
H11S1	**WAKE ISLAND Hy 32.20** baz=347,slow=76,SNR=76	**161**		T		T	13 01 49.8	
H11S3	**WAKE ISLAND Hy 32.21** baz=347,slow=76,SNR=118	**161**		T		T	13 01 51.3	
H11S2	**WAKE ISLAND Hy 32.22** baz=347,slow=76,SNR=81	**161**		T		T	13 01 52.6	
ILAR	**Eielson Array** 0.7nm,0.8s,baz=261,slow=5.6,SNR=8.6	**33.11**	**41**	P		**P**	**12 27 42.9**	**+1.6**
INK	**Inuvik** 1.6nm,0.9s,baz=295,slow=5.8,SNR=9.4	**38.19**	**35**	P		P	12 28 27.1	+2.4
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=68,slow=6.8,SNR=4.0	**42.55**	**304**	P		**P**	**12 28 59.5**	**-1.3**
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=64,slow=8.1,SNR=9.8	**47.38**	**296**	P		**P**	**12 29 38.3**	**-0.8**
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=296,slow=7.4,SNR=5.5	**47.47**	**39**	P		**P**	**12 29 41.3**	**+1.7**
CMAR	**Chiang Mai Arr** 0.7nm,0.7s,baz=26,slow=6.5,SNR=4.9	**54.92**	**257**	P		P	12 30 36.8	+1.0
ARCES	**ARCESS Array B** 2.8nm,0.9s,baz=32,slow=8.6,SNR=6.3	**55.77**	**341**	P		**P**	**12 30 40.0**	**-1.2**
SUMG	**Summit**	**57.69**		*i* P		**P**	**12 30 56.7**	**+1.5**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=299,slow=7.3,SNR=4.3	**59.43**	**65**	P		P	12 31 09.6	+2.0
PDAR	**Pinedale Array** 0.9nm,0.9s,baz=304,slow=3.2,SNR=5.6	**61.52**	**57**	P		P	12 31 24.4	+2.6
FINES	**FINESS Array B** 1.0nm,0.4s,baz=37,slow=7.0,SNR=15	**62.26**	**335**	P		**P**	**12 31 25.6**	**-0.4**
FINES				PcP		**PcP**	**12 32 07.7**	**+2.7**
	0.7nm,0.5s,baz=90,slow=1.9,SNR=5.5							
ULM	**Lac du Bonnet** comp=Z,56nm,18.4s,baz=347,slow=39	**63.09**	**43**	LR		LR	13 02 41.2	
NOA	**NORSAR Array B** 0.6nm,0.6s,baz=28,slow=6.0,SNR=4.2	**66.12**	**342**	P		**P**	**12 31 51.2**	**-0.2**
AKASG	**Malin Array Be** 0.9nm,0.4s,baz=32,slow=6.7,SNR=6.1	**70.21**	**327**	P		**P**	**12 32 16.7**	**-0.3**
KBZ	**Khabaz** 1.0nm,0.5s,baz=53,slow=15,SNR=4.3	**70.24**	**315**	P		P	12 32 18.6	+1.3
WRA	**Warramunga Arr** 0.9nm,1.1s,baz=17,slow=6.2,SNR=2.9	**71.87**	**201**	P		P	12 32 26.6	-0.7
FITZ	**Fitzroy Crossi** comp=Z,31nm,18.2s,baz=328,slow=38	**72.59**	**24**	LR		LR	13 07 29.5	
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=301,slow=3.8,SNR=7.5	**74.43**	**63**	P		P	12 32 44.4	+1.8
GERES	**GERESS Array B** 0.8nm,0.6s,baz=30,slow=5.2,SNR=8.7	**76.69**	**335**	P		**P**	**12 32 56.3**	**+1.1**
CONA	**Conrad Observa** 2.2nm,0.7s	**76.92**	**334**	*i* P		**P**	**12 32 53.5**	**-3.0**
MOA	**Molln** 1.7nm,0.7s	**77.44**	**335**	*i* P		**P**	**12 32 58.2**	**-1.1**
BRTR	**Keskin Array B** 1.7nm,0.8s,baz=48,slow=2.7,SNR=6.6	**77.59**	**318**	P		P	12 33 01.4	+1.0
ARSA	**Arzberg** 0.7nm,0.4s	**77.63**	**334**	*eP*		**P**	**12 32 58.4**	**-1.9**
KBA	**Koelnbreinsper** 5.5nm,0.5s	**78.40**	**335**	*i* P		**P**	**12 33 03.6**	**-1.3**
OBKA	**Obir** 1.7nm,0.5s	**78.58**	**334**	*i* P		**P**	**12 33 03.8**	**-1.9**
WATA	**Walderalm** 1.0nm,0.2s	**78.64**	**336**	*i* P		**P**	**12 33 04.2**	**-1.9**
WTTA	**Wattenberg** 2.2nm,0.6s	**78.69**	**336**	*i* P		**P**	**12 33 04.8**	**-1.7**
RETA	**Reutte** 0.4nm,0.3s	**78.71**	**337**	*i* P		**P**	**12 33 04.4**	**-2.0**
MOTA	**Moosalm** 1.2nm,0.4s	**78.76**	**337**	*i* P		**P**	**12 33 06.2**	**-0.6**
SQTA	**Sankt Quirin** 1.5nm,0.4s	**78.84**	**336**	*i* P		**P**	**12 33 05.9**	**-1.3**
ABTA	**Abfaltersbach**	**78.93**	**335**	*i* P		**P**	**12 33 03.8**	**-3.8**
FETA	**Feichten** 0.7nm,0.5s	**79.15**	**337**	*i* P		**P**	**12 33 07.9**	**-1.1**

*ISCJB **03** 12:34:40.7±0.6,5.°33S±0.°08×146.°9E±0.°1,h195km, mb3.9/10,Error ellipse: s-maj=15.2km s-min=10.2km az=15.2*
*IDC **03** 12:34:43.7±2.4,5.°45S×146.°99E,h214km×23km,mb3.7/10, mb1 4.0/13,mb1mx3.7/35,mbtmp4.4/13,Error ellipse: s-maj=19.7km s-min=9.6km az=105.0*
ISC 03 12:34:41.8±0.7,5.°45S±0.°09×147.0E±0.°1,h195km,n15, σ0.°85/16,mb3.9/11,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara** 19nm,0.3s,baz=247,slow=8.5,SNR=5.7	**13.42**	**108**	P		**P**	**12 37 47.8**	**+0.1**
CTA	**Charters Tower** 1.6nm,0.3s,baz=4.2,slow=13,SNR=33	**14.57**	**183**	P		**P**	**12 38 00.4**	**+0.1**
WRA	**Warramunga Arr** 10nm,0.3s,baz=38,slow=12,SNR=536	**18.96**	**219**	P		**P**	**12 38 49.0**	**+0.5**
WRA				S		**S**	**12 42 11.9**	**-1.6**
	0.1nm,0.3s,baz=38,slow=22,SNR=8.5							
ASAR	**Alice Springs** 27nm,0.4s,baz=46,slow=8.4,SNR=989	**22.08**	**214**	P		**P**	**12 39 21.8**	**+0.5**
ASAR				S		**S**	**12 43 11.7**	**+1.1**
	12nm,0.8s,baz=31,slow=20,SNR=29							
FITZ	**Fitzroy Crossi** 20nm,0.5s,baz=53,slow=7.7,SNR=74	**24.36**	**237**	P		**P**	**12 39 42.2**	**0.0**
STKA	**Stephens Creek** 1.6nm,0.6s,baz=347,slow=12,SNR=4.4	**26.77**	**190**	P		**P**	**12 40 03.4**	**-0.3**
KSRS	**Korea Array** 0.5nm,0.6s,baz=151,slow=8.8,SNR=4.6	**46.25**	**339**	P		**P**	**12 42 48.2**	**+0.6**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=114,slow=6.0,SNR=3.1	**53.00**	**298**	P		**P**	**12 43 39.2**	**+0.3**
SONM	**Songino Array** 1.5nm,0.8s,baz=152,slow=6.4,SNR=7.6	**63.93**	**331**	P		**P**	**12 44 54.7**	**+0.6**
VNDA	**Vanda** 3.3nm,0.7s,baz=318,slow=6.3,SNR=22	**72.46**	**177**	P		**P**	**12 45 46.6**	**+0.1**
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=97,slow=7.4,SNR=7.1	**77.08**	**320**	P		**P**	**12 46 13.2**	**-0.4**
ZALV	**Zalesovo Beam** 1.2nm,0.5s,baz=117,slow=5.5,SNR=5.0	**78.56**	**328**	P		**P**	**12 46 20.4**	**-1.1**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=254,slow=5.2,SNR=9.9	**84.98**	**23**	P		**P**	**12 46 53.5**	**-1.4**
ILAR				pP		**pP**	**12 47 43.0**	**+0.9**
	0.6nm,0.7s,baz=257,slow=4.8,SNR=3.3							
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=268,slow=4.7,SNR=3.5	**98.68**	**28**	pP		pP	12 48 48.6	+2.0
TORD	**Torodi Ar. Bea** 0.8nm,0.6s,baz=58,slow=4.0,SNR=9.4	**144.96**	**285**	PKP	PKPbc		12 53 55.0	-1.5

*ISCJB **03** 12:41:42.9±0.4,24.°97N±0.°02×121.°81E±0.°02, h134km±2km,Error ellipse: s-maj=3.4km s-min=2.8km az=142.8*
*TAP **03** 12:41:42.9,25.°00N×121.°82E,h136km,ML3.3,C*
*JMA **03** 12:41:43.2±0.2,24.°91N×121.°78E,h130km±2km,M2.6*
ISC 03 12:41:42.8±1.4,25.°00N±0.°04×121.°81E±0.°03,h136km±6km, n104,σ0.°64/197,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIPB	**Shuangxi** baz=155	**0.03**	**141**	*i* P		**Pn**	**12 42 01.0**	**-0.1**
TIPB				S		**Sn**	**12 42 14.7**	**-0.4**
	baz=155							
NWF	**Wu-fen Shan** baz=348	**0.08**	**344**	P		**Pn**	**12 42 01.2**	**-0.1**
NWF				S		**Sn**	**12 42 15.0**	**-0.3**
	baz=348							
WFSB	**Wu-fen Shan** baz=348	**0.08**	**344**	P		**Pn**	**12 42 01.0**	**-0.2**
WFSB				S		**Sn**	**12 42 15.4**	**+0.3**
	baz=348							
NTC	**Toucheng** baz=173	**0.14**	**171**	P		**Pn**	**12 42 01.1**	**-0.1**
NTC				S		**Sn**	**12 42 15.5**	**+0.3**
	baz=173							
TWB1	**Santiao Chiao** baz=89	**0.17**	**85**	*i* P		**Pn**	**12 42 01.2**	**0.0**
TWB1				S		**Sn**	**12 42 15.4**	**+0.2**
	baz=89							
TWA	**Mucha** baz=278	**0.20**	**266**	P		**Pn**	**12 42 01.5**	**+0.1**
TWA				S		**Sn**	**12 42 15.1**	**-0.3**
	baz=278							
NHDH	**Xindian Distri** baz=249	**0.26**	**263**	*i* P		**Pn**	**12 42 01.6**	**+0.1**
NHDH				S		**Sn**	**12 42 15.0**	**-0.6**
	baz=249							
YM01	**YM01** baz=307	**0.26**	**305**	P		**Pn**	**12 42 01.6**	**0.0**
YM01				*e*S		**Sn**	**12 42 15.2**	**-0.6**
	baz=307							
YM11	**YM11** baz=306	**0.27**	**309**	P		**Pn**	**12 42 02.1**	**+0.4**
YM11				*e*S		**Sn**	**12 42 15.3**	**-0.6**
	baz=306							
YM08	**YM08** baz=307	**0.27**	**315**	*e*P		**Pn**	**12 42 01.7**	**+0.1**
TAP	**Taipei** baz=281	**0.28**	**279**	*e*P		**Pn**	**12 42 01.9**	**+0.4**
TAP				*e*S		**Sn**	**12 42 15.6**	**-0.1**
	baz=281							
TATO	**Taipei** baz=255	**0.29**	**266**	P		**Pn**	**12 42 01.5**	**-0.1**
TATO				S		**Sn**	**12 42 15.0**	**-0.8**
	baz=255							
YM04	**YM04** baz=301	**0.29**	**303**	P		**Pn**	**12 42 01.9**	**+0.3**
YM04				S		**Sn**	**12 42 15.9**	**0.0**
	baz=301							
TWE	**Neicheng** baz=217	**0.30**	**205**	*i* P		**Pn**	**12 42 01.8**	**+0.2**
TWE				S		**Sn**	**12 42 16.0**	**+0.1**
	baz=217							
ANP	**Anpu** baz=305	**0.32**	**306**	*e*P		**Pn**	**12 42 02.0**	**+0.2**
TWY	**Chenhua** baz=321	**0.34**	**326**	P		**Pn**	**12 42 02.0**	**+0.3**
TWY				S		**Sn**	**12 42 16.7**	**+0.5**
	baz=321							
NWLT	**Wulai** baz=223	**0.35**	**232**	*i* P		**Pn**	**12 42 01.6**	**-0.3**
NWLT				S		**Sn**	**12 42 15.4**	**-0.9**
	baz=223							
NTST	**Danshui** baz=295	**0.36**	**298**	*e*P		**Pn**	**12 42 02.1**	**+0.3**
NTST				S		**Sn**	**12 42 16.4**	**+0.1**
	baz=295							
TWS1	**Kuangyinshan** baz=285	**0.37**	**287**	*i* P		**Pn**	**12 42 02.2**	**+0.3**
TWS1				S		**Sn**	**12 42 16.5**	**+0.1**
	baz=285							
TWC	**Suao** baz=164	**0.39**	**174**	*i* P		**Pn**	**12 42 02.3**	**+0.3**
TWC				S		**Sn**	**12 42 17.5**	**+1.0**
	baz=164							
ENTT	**Nioudou** baz=219	**0.41**	**212**	*i* P		**Pn**	**12 42 02.2**	**+0.1**
ENTT				S		**Sn**	**12 42 16.4**	**-0.3**
	baz=219							
NDT	**Datong Townshi** baz=223	**0.47**	**214**	P		**Pn**	**12 42 02.7**	**+0.3**
NDT				S		**Sn**	**12 42 16.9**	**-0.4**
	baz=223							
YHNB	**Yeheng** baz=230	**0.51**	**230**	*i* P		**Pn**	**12 42 02.4**	**-0.2**
YHNB				S		**Sn**	**12 42 16.6**	**-1.2**
	baz=230							
NSK	**Sanguang** baz=224	**0.52**	**232**	*i* P		**Pn**	**12 42 02.5**	**-0.2**
NSK				*i* S		**Sn**	**12 42 16.6**	**-1.2**
	baz=224							
EOS1	**EOS1** baz=144	**0.53**	**146**	P		**Pn**	**12 42 03.1**	**+0.5**
EOS1				S		**Sn**	**12 42 17.4**	**-0.3**
	baz=144							
NCU	**National Centr** baz=266	**0.56**	**268**	*i* P		**Pn**	**12 42 03.2**	**+0.3**
NCU				*i* S		**Sn**	**12 42 18.0**	**0.0**
	baz=266							
NCUH	**Zhongli** baz=266	**0.56**	**267**	*i* P		**Pn**	**12 42 03.2**	**+0.4**
NCUH				*i* S		**Sn**	**12 42 17.9**	**-0.2**
	baz=266							
ENA	**Nanau** baz=197	**0.57**	**186**	P		**Pn**	**12 42 03.5**	**+0.5**
ENA				S		**Sn**	**12 42 19.1**	**+1.0**
	baz=197							
NANB	**Nanao** baz=197	**0.57**	**185**	P		**Pn**	**12 42 03.2**	**+0.2**
NANB				S		**Sn**	**12 42 19.0**	**+0.8**
	baz=197							
NNS	**Nan Shan** baz=215	**0.68**	**216**	*i* P		**Pn**	**12 42 04.1**	**+0.3**
NNS				S		**Sn**	**12 42 19.3**	**-0.4**
	baz=215							
NNSB	**Datong** baz=214	**0.68**	**214**	*i* P		**Pn**	**12 42 04.0**	**+0.2**
NNSB				S		**Sn**	**12 42 19.4**	**-0.3**
	baz=214							
SBCB	**Hsinchu** baz=254	**0.77**	**255**	*e*P		**Pn**	**12 42 04.7**	**+0.4**
SBCB				S		**Sn**	**12 42 21.2**	**+0.6**
	baz=254							
HSN	**Hsinchu** baz=256	**0.78**	**256**	P		**Pn**	**12 42 04.6**	**+0.2**
HSN				*e*S		**Sn**	**12 42 20.6**	**-0.1**
	baz=256							
LIOB	**Emei** baz=243	**0.80**	**244**	*i*P		**Pn**	**12 42 03.6**	**-0.9**
LIOB				S		**Sn**	**12 42 19.6**	**-1.5**
	baz=243							
NSTT	**Nanjuang** baz=246	**0.82**	**244**	*i* P		**Pn**	**12 42 04.8**	**+0.2**
NSTT				S		**Sn**	**12 42 20.6**	**-0.6**
	baz=246							
ETLH	**Xiulin Townshi** baz=204	**0.84**	**201**	*i* P		**Pn**	**12 42 04.9**	**0.0**
ETLH				*e*S		**Sn**	**12 42 21.0**	**-0.8**
	baz=204							
NACB	**Ninganchiao** baz=201	**0.84**	**193**	P		**Pn**	**12 42 03.9**	**-1.0**
NACB				S		**Sn**	**12 42 20.9**	**-0.7**
	baz=201							
TWD	**Chiawan** baz=200	**0.93**	**192**	*i* P		**Pn**	**12 42 05.0**	**-0.6**
TWD				S		**Sn**	**12 42 22.3**	**-0.7**
	baz=200							
TWT	**Tachien** baz=224	**0.94**	**218**	P		**Pn**	**12 42 06.8**	**+0.9**
TWT				S		**Sn**	**12 42 24.0**	**+0.7**
	baz=224							
TDCB	**Techi** baz=224	**0.94**	**219**	*i* P		**Pn**	**12 42 06.4**	**+0.5**
TDCB				S		**Sn**	**12 42 23.8**	**+0.4**
	baz=224							
WHF	**Hehuan Shan** baz=206	**0.98**	**210**	P		**Pn**	**12 42 07.2**	**+0.7**
WHF				S		**Sn**	**12 42 24.6**	**0.0**
	baz=206							
NMLH	**Miaoli** baz=243	**1.03**	**244**	*i* P		**Pn**	**12 42 07.1**	**+0.6**
NMLH				S		**Sn**	**12 42 24.6**	**+0.1**
	baz=243							
HWA	**Hwalien** baz=199	**1.03**	**190**	*e*P		**Pn**	**12 42 07.0**	**+0.5**
HWA				*e*S		**Sn**	**12 42 25.1**	**+0.6**
	baz=199							
WHP	**Taichung City** baz=222	**1.06**	**228**	*i* P		**Pn**	**12 42 07.5**	**+0.6**
WHP				*i* S		**Sn**	**12 42 24.8**	**-0.4**
	baz=222							
CHGB	**Renai** baz=212	**1.09**	**212**	*i* P		**Pn**	**12 42 08.3**	**+0.9**
CHGB				S		**Sn**	**12 42 26.4**	**+0.3**
	baz=212							
ENLB	**Shoufeng** baz=198	**1.10**	**190**	*e*P		**Pn**	**12 42 06.9**	**-0.3**
ENLB				S		**Sn**	**12 42 26.4**	**+0.7**
	baz=198							
NSY	**Sanyi** baz=243	**1.11**	**239**	*i* P		**Pn**	**12 42 08.0**	**+0.7**
NSY				S		**Sn**	**12 42 25.9**	**0.0**
	baz=243							
TWQ1	**Liyutan** baz=235	**1.14**	**236**	P		**Pn**	**12 42 08.0**	**+0.5**
TWQ1				S		**Sn**	**12 42 26.3**	**-0.1**
	baz=235							
JYNG	**Yonagunijimaku**	**1.17**	**117**	P		**Pn**	**12 42 08.1**	**+0.3**
JYNG				S		**Sn**	**12 42 26.3**	**-0.5**
OWD	**Renai** baz=215	**1.18**	**209**	*i* P		**Pn**	**12 42 08.9**	**+0.8**
OWD				*i* S		**Sn**	**12 42 27.5**	**+0.1**
	baz=215							
YOJ	**Yonaguni jima**	**1.22**	**116**	P		**Pn**	**12 42 08.6**	**+0.3**
YOJ				S		**Sn**	**12 42 27.1**	**-0.6**
ESL	**Shilin** baz=200	**1.22**	**196**	*i* P		**Pn**	**12 42 07.4**	**-1.0**
ESL				S		**Sn**	**12 42 26.6**	**-1.3**
	baz=200							
WDJ	**Dajia District** baz=244	**1.24**	**239**	P		**Pn**	**12 42 09.2**	**+0.6**
WDJ				S		**Sn**	**12 42 28.4**	**+0.3**
	baz=244							
TCU	**Taichung** baz=230	**1.33**	**231**	*e*P		**Pn**	**12 42 08.9**	**-0.6**
TCU				*e*S		**Sn**	**12 42 29.4**	**-0.4**
	baz=230							
EGFH	**Guangfu** baz=201	**1.36**	**195**	P		**Pn**	**12 42 09.5**	**-0.3**
EGFH				S		**Sn**	**12 42 29.3**	**-1.2**
	baz=201							
VWDT	**VWDT** baz=212	**1.38**	**206**	P		**Pn**	**12 42 11.1**	**+1.1**
VWDT				*e*S		**Sn**	**12 42 31.2**	**+0.5**
	baz=212							
SMLT	**Sun Moon Lake** baz=217	**1.38**	**217**	P		**Pn**	**12 42 10.8**	**+0.7**
SMLT				S		**Sn**	**12 42 31.5**	**+0.5**
	baz=217							
TYC	**Yuchr** baz=226	**1.39**	**219**	P		**Pn**	**12 42 10.7**	**+0.6**
TYC				S		**Sn**	**12 42 31.3**	**+0.4**
	baz=226							
SSLB	**Suanglung** baz=220	**1.43**	**213**	P		**Pn**	**12 42 11.2**	**+0.6**
SSLB				S		**Sn**	**12 42 31.7**	**-0.1**
	baz=220							
WNT	**Mingjian** baz=229	**1.51**	**223**	P		**Pn**	**12 42 12.3**	**+0.9**
WNT				S		**Sn**	**12 42 33.8**	**+0.6**
	baz=229							
WJS	**Zhushan** baz=220	**1.53**	**220**	P		**Pn**	**12 42 12.2**	**+0.6**
WJS				S		**Sn**	**12 42 33.9**	**+0.3**
	baz=220							
HGSD	**Ruisui** baz=194	**1.54**	**193**	P		**Pn**	**12 42 12.5**	**+0.8**
HGSD				S		**Sn**	**12 42 33.3**	**-0.5**
	baz=194							
EHY	**Hungye** baz=190	**1.55**	**197**	P		**Pn**	**12 42 11.1**	**-0.7**
EHY				S		**Sn**	**12 42 32.2**	**-1.8**
	baz=190							
WHYT	**Xinyi Township** baz=214	**1.56**	**214**	*i* P		**Pn**	**12 42 12.7**	**+0.7**
WHYT				S		**Sn**	**12 42 34.4**	**+0.1**
	baz=214							
YULB	**Yu-li** baz=190	**1.66**	**196**	P		**Pn**	**12 42 12.2**	**-1.0**
YULB				*e*S		**Sn**	**12 42 34.3**	**-2.0**
	baz=190							
YUS	**Yu-Shan** baz=216	**1.69**	**208**	*e*P		**Pn**	**12 42 15.1**	**+1.1**
YUS				S		**Sn**	**12 42 38.0**	**+0.3**
	baz=216							
TWF1	**Yuli** baz=191	**1.70**	**196**	P		**Pn**	**12 42 12.9**	**-0.7**
TWF1				S		**Sn**	**12 42 35.1**	**-2.0**
	baz=191							
WGK	**Gukeng** baz=221	**1.73**	**221**	*e*S		**Sn**	**12 42 38.0**	**+0.4**
CHN5	**Tsauling** baz=224	**1.73**	**217**	P		**Pn**	**12 42 14.8**	**+0.8**
CHN5				S		**Sn**	**12 42 38.2**	**+0.3**
	baz=224							
ALS	**Alishan** baz=212	**1.74**	**212**	P		**Pn**	**12 42 14.8**	**+0.5**
ALS				S		**Sn**	**12 42 38.6**	**+0.2**
	baz=212							
WDLH	**Douliu** baz=222	**1.74**	**222**	*e*P		**Pn**	**12 42 14.7**	**+0.7**
WDLH				S		**Sn**	**12 42 38.9**	**+1.0**
	baz=222							
FULB	**Fuli** baz=196	**1.85**	**195**	P		**Pn**	**12 42 15.7**	**+0.3**
FULB				S		**Sn**	**12 42 39.8**	**-0.5**
	baz=196							
IRIF	**Iriomote-Funau**	**1.87**	**110**	P		**Pn**	**12 42 15.4**	**-0.1**
IRIF				S		**Sn**	**12 42 39.7**	**-0.8**
PTTC	**Pingtan** baz=283	**1.91**	**286**	P		**Pn**	**12 42 15.8**	**-0.2**
PTTC				S		**Sn**	**12 42 40.1**	**-1.3**
	baz=283							
CHKT	**Chengkung** baz=187	**1.93**	**192**	*e*P		**Pn**	**12 42 16.2**	**0.0**
CHKT				*e*S		**Sn**	**12 42 40.5**	**-1.4**
	baz=187							
ELDTW	**Lidau** baz=203	**1.94**	**202**	P		**Pn**	**12 42 17.1**	**+0.6**
ELDTW				*e*S		**Sn**	**12 42 42.1**	**-0.1**
	baz=203							
CHN4	**Tsaushan** baz=215	**1.98**	**214**	P		**Pn**	**12 42 17.6**	**+0.8**
CHN4				S		**Sn**	**12 42 43.4**	**+0.6**
	baz=215							
TPUB	**Ta-pu** baz=213	**2.00**	**213**	P		**Pn**	**12 42 17.6**	**+0.5**
TPUB				S		**Sn**	**12 42 43.6**	**+0.2**
	baz=213							
MATB	**Ma-tsu** baz=301	**2.04**	**305**	*e*P		**Pn**	**12 42 17.6**	**+0.2**
MATB				*e*S		**Sn**	**12 42 44.3**	**+0.2**
	baz=301							
HATJ	**Hateruma jima**	**2.05**	**117**	P		**Pn**	**12 42 17.9**	**+0.3**
HATJ				S		**Sn**	**12 42 44.6**	**+0.3**
WTP	**Ta-pu** baz=212	**2.05**	**212**	P		**Pn**	**12 42 17.7**	**-0.1**
WTP				S		**Sn**	**12 42 44.8**	**+0.2**
	baz=212							
STYT	**Tauyuan** baz=209	**2.06**	**208**	P		**Pn**	**12 42 17.9**	**0.0**
STYT				S		**Sn**	**12 42 45.1**	**+0.3**
	baz=209							
TWK	**Hsinying** baz=215	**2.10**	**215**	P		**Pn**	**12 42 19.1**	**+0.7**
TWK				S		**Sn**	**12 42 45.6**	**-0.1**
	baz=215							
SNST	**

VWUC	**VWUC** baz=267	**2.14 270**	P		**Pn**	**12 42 18.7**	**0.0**
VWUC	baz=267		S		**Sn**	**12 42 45.5**	**-0.8**
JKRS	**Kuro-shima**	**2.14 110**	P		**Pn**	**12 42 19.2**	**+0.4**
JKRS			S		**Sn**	**12 42 45.8**	**-0.6**
CHN1	**Nanshi** baz=214	**2.15 213**	P		**Pn**	**12 42 19.5**	**+0.6**
CHN1	baz=214		S		**Sn**	**12 42 47.1**	**+0.5**
JIJ	**Ishigaki jima**	**2.22 106**	P		**Pn**	**12 42 19.6**	**-0.1**
JIJ			S		**Sn**	**12 42 47.0**	**-1.0**
SLGT	**Liugui** baz=209	**2.26 208**	P		**Pn**	**12 42 20.7**	**+0.4**
SLGT	baz=209		S		**Sn**	**12 42 49.6**	**+0.6**
TWG	**Pinlang** baz=191	**2.27 197**	*e*P		**Pn**	**12 42 20.7**	**+0.4**
TWG	baz=191		*e*S		**Sn**	**12 42 48.0**	**-1.2**
TWGBT	**Beinan** baz=191	**2.27 197**	*e*P		**Pn**	**12 42 20.5**	**+0.1**
TWGBT	baz=191		S		**Sn**	**12 42 48.2**	**-1.0**
JISG	**Ishigakijimahi**	**2.31 100**	P		**Pn**	**12 42 21.2**	**+0.3**
LYJJ	**Jianjiangzhen** baz=308	**2.41 310**	P		**Pn**	**12 42 22.1**	**+0.1**
XPSS	**Dashiqiu** baz=322	**2.41 323**	*e*P		**Pn**	**12 42 21.8**	**-0.3**
PTMZ	**Houxiangcun** baz=269	**2.44 272**	P		**Pn**	**12 42 22.5**	**+0.1**
SSD	**Sandimen** baz=200	**2.48 206**	*e*P		**Pn**	**12 42 23.5**	**+0.4**
ECL	**Taimali** baz=194	**2.51 198**	*e*S		**Sn**	**12 42 53.6**	**-1.0**
PHUB	**P'eng-hu** baz=234	**2.52 235**	P		**Pn**	**12 42 23.6**	**+0.1**
PHUB	baz=234		S		**Sn**	**12 42 53.3**	**-1.4**
MASBT	**Mashibuluo** baz=206	**2.60 205**	*e*P		**Pn**	**12 42 25.1**	**+0.6**
MASBT	baz=206		S		**Sn**	**12 42 56.5**	**-0.3**
JTJ	**Tarama**	**2.66 97**	P		**Pn**	**12 42 25.8**	**+0.6**
JTJ			S		**Sn**	**12 42 57.6**	**-0.2**
EAST	**Anshuo** baz=201	**2.74 199**	*e*P		**Pn**	**12 42 27.2**	**+0.8**
EAST	baz=201		*e*S		**Sn**	**12 42 59.2**	**-0.8**
VCHM	**Qimei** baz=231	**2.81 231**	*e*P		**Pn**	**12 42 26.7**	**-0.4**
VCHM	baz=231		*e*S		**Sn**	**12 43 01.4**	**+0.1**
SCZT	**Fangliau** baz=204	**2.83 203**	*e*P		**Pn**	**12 42 27.7**	**+0.2**
JIRB	**Irabujima**	**3.06 92**	P		**Pn**	**12 42 32.2**	**+1.8**

WEL 03 13:00:10.3,44°S±1°×17°3E±°,h21km±1km,ML3.6/28, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCZ	**Okains Bay**	**0.13**	**106**	P	Pb	13 00 16.5	0.0
OKCZ				S	Sb	13 00 19.5	-1.4
MQZ	**McQueen's Vall** baz=214	**0.17**	**264**	P	Pb	13 00 16.4	+0.2
MQZ				S	Sb	13 00 19.4	-0.9
AKCZ	**Akaroa Harbour**	**0.18**	**174**	P	Pb	13 00 17.0	+0.8
AKCZ				S	Sb	13 00 20.7	+0.4
CRLZ	**Canterbury Las**	**0.22**	**301**	P	Pb	13 00 17.1	+0.9
EYCZ	**Eyrewell**	**0.47**	**305**	P	Pn	13 00 21.2	-0.6
AMCZ	**Amberley**	**0.54**	**342**	P	Pn	13 00 22.4	-0.3
RACZ	**Rakaia**	**0.54**	**266**	P	Pn	13 00 22.6	-0.2
OXZ	**Oxford**	**0.71**	**300**	P	Pn	13 00 24.8	-0.4
LTZ	**Lake Taylor**	**1.01**	**334**	P	Pb	13 00 29.2	+0.1
RPZ	**Rata Peaks**	**1.33**	**268**	P	Pn	13 00 33.8	+0.1
KHZ	**Kahutara**	**1.36**	**21**	P	Pn	13 00 33.8	-0.2
INZ	**Inchbonnie**	**1.43**	**312**	P	Pn	13 00 35.4	+0.4
WVZ	**Waitaha Valley**	**1.68**	**291**	P	Pb	13 00 39.8	-0.7
THZ	**Tophouse**	**1.92**	**1**	P	Pn	13 00 41.9	0.0
LBZ	**Lake Benmore**	**2.07**	**249**	P	Pn	13 00 44.4	+0.6
DSZ	**Denniston Nort**	**2.10**	**337**	P	Pn	13 00 44.9	+0.7
ODZ	**Otahua Downs**	**2.10**	**229**	P	Pn	13 00 44.5	+0.2
BSWZ	**Blackbirch Sta**	**2.10**	**21**	P	Pn	13 00 44.7	+0.4
FOZ	**Fox Glacier**	**2.23**	**273**	P	Pb	13 00 48.0	-1.8
TUWZ	**Tuamarina**	**2.39**	**20**	P	Pn	13 00 48.2	0.0
NNZ	**Nelson**	**2.50**	**9**	P	Pn	13 00 50.4	+0.7
TCW	**Tory Channel**	**2.68**	**23**	P	Pn	13 00 52.2	-0.1
HHSZ	**Highcliff Hill**	**2.73**	**216**	P	Pn	13 00 53.0	+0.1
PLWZ	**Palliser**	**2.75**	**40**	P	Pn	13 00 52.5	-0.7
QRZ	**Quartz Range**	**2.87**	**355**	P	Pn	13 00 55.4	+0.6
DUWZ	**D'Urville Isla**	**2.99**	**15**	P	Pn	13 00 57.1	+0.7
JCZ	**Jackson Bay**	**2.99**	**261**	P	Pn	13 00 58.1	+1.6
EAZ	**Earnscleugh**	**2.99**	**238**	P	Pn	13 00 56.9	+0.4
CAW	**Cannon Point**	**3.04**	**33**	P	Pn	13 00 56.5	-0.8
MTW	**Mount Morrison**	**3.19**	**38**	P	Pn	13 00 58.0	-1.2
KIW	**Kapiti Island**	**3.20**	**29**	P	Pn	13 00 59.2	-0.2
TUZ	**Tuapeka**	**3.24**	**224**	P	Pn	13 01 00.2	+0.3
OGWZ	**Otaki Gorge**	**3.33**	**31**	P	Pn	13 00 59.8	-1.4
MRZ	**Mangatainoka R**	**3.63**	**34**	P	Pn	13 01 04.4	-0.9
TIWZ	**Tintock**	**3.67**	**38**	P	Pn	13 01 06.0	+0.2
MLZ	**Mavora Lakes**	**3.80**	**242**	P	Pn	13 01 07.9	+0.3
SYZ	**Scrubby Hill**	**3.89**	**222**	P	Pn	13 01 09.6	+0.8
BFZ	**Birch Farm**	**3.91**	**41**	P	Pn	13 01 08.3	-0.8
PREZ	**Palmer Road**	**4.45**	**13**	P	Pn	13 01 19.1	+2.5
KHEZ	**Kahui Hut**	**4.47**	**11**	P	Pn	13 01 18.9	+1.9
NBEZ	**Newall Road No**	**4.48**	**10**	P	Pn	13 01 19.3	+2.4
PKE	**Pukeiti**	**4.57**	**11**	P	Pn	13 01 20.6	+2.4
DREZ	**Durham Road**	**4.60**	**13**	P	Pn	13 01 20.5	+1.9
VRZ	**Vera Road**	**4.77**	**18**	P	Pn	13 01 22.7	+1.7
FWVZ	**Far West T-bar**	**4.86**	**25**	P	Pn	13 01 23.1	+0.7
COVZ	**Chateau Observ**	**4.91**	**25**	P	Pn	13 01 23.4	+0.5

MAN 03 13:17:23.8,17°34N×120°27E,h74km,MS3.5,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.53**	**53**	*e*P	Pn	13 17 39.3	+2.0
ABRA				*e*S	Sn	13 17 51.0	+3.8
BOLP	**Bolinao**	**1.01**	**200**	*e*P	Pn	13 17 44.1	+1.4
BOLP				*e*S	Sn	13 17 57.8	+1.1
APYP	**Conner**	**1.07**	**60**	*e*P	Pn	13 17 44.5	+1.1
APYP				*e*S	Sn	13 17 59.2	+1.2
SMPP	**San Manuel, Pa**	**1.24**	**161**	*e*P	Pn	13 17 45.2	-0.5
SMPP				*e*S	Sn	13 18 00.7	-1.3
CVP	**Callao Caves**	**1.53**	**76**	*i*P	Pn	13 17 49.9	+0.6
CVP				*i*S	Sn	13 18 09.0	+0.5
CAUP	**Cauayan**	**1.54**	**104**	*e*P	Pn	13 17 50.2	+0.8
CAUP				*e*S	Sn	13 18 10.7	+2.0
SCZP	**Santa Cruz**	**1.59**	**193**	*e*P	Pn	13 17 51.0	+0.9
SGCP	**Mt. Cagua**	**1.92**	**62**	*e*P	Pn	13 17 55.5	+1.0
SGCP				*e*S	Sn	13 18 18.3	+0.5
PALP	**Palanan**	**2.08**	**97**	*e*P	Pn	13 17 56.9	+0.3
PALP				*e*S	Sn	13 18 22.9	+1.2

IDC 03 13:24:43.2±2.9,19°35S×176°70W,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/40,mbtmp3.4/3,Error ellipse: s-maj=309.6km s-min=34.2km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.98**	**255**	P	P	13 33 08.7	+0.2
	0.2nm,0.5s,baz=89,slow=8.5,SNR=12						
WRA	**Warramunga Arr**	**45.98**	**261**	P	P	13 33 08.0	-0.5
	0.2nm,0.3s,baz=98,slow=6.1,SNR=12						
TXAR	**Lajitas Array**	**85.41**	**57**	P	P	13 37 23.2	+0.1
	0.3nm,0.7s,baz=235,slow=4.4,SNR=3.8						

AUST 03 13:25:23.9±0.0,32°29S×119°25E,h10km,Error ellipse: s-maj=0.1km s-min=0.1km az=336.0,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin** baz=1.4	**1.45**	**298**	S	Sn	13 26 09.2	-0.1
NWAO	**Narrogin (SRO)** baz=1.8	**1.81**	**249**	S	Sn	13 26 17.3	-1.0
MUN	**Mundaring** baz=2.6	**2.60**	**276**	S	Sn	13 26 34.5	-3.1
BLDU	**Ballidu** baz=2.7	**2.74**	**307**	S	Sn	13 26 39.3	-1.8
RKGY	**Rocky Gully** baz=3.0	**2.99**	**219**	P	Pn	13 26 09.7	-1.7
RKGY	baz=3.0			S	Sn	13 26 45.5	-1.9
MORW	**Morawa** baz=4.2	**4.24**	**318**	P	Pn	13 26 27.4	-1.1
MEEK	**Meekatharra** baz=5.7	**5.66**	**354**	P	Pn	13 26 46.0	-2.2
FORT	**Forrest** baz=7.7	**7.67**	**81**	P	Pn	13 27 12.4	-3.3

*IDC **03** 13:28:47.1±3.1,5.1°14S×100.7°75E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.6/37,mbtmp3.7/7,Error ellipse: s-maj=131.3km s-min=18.4km az=57.0*

ISC 03 13:28:49.5±2.7,5.0°S±0.4°×100.9°E±0.7,h10km,n8,σ0.98/8, mb3.6/7,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.43**	**355**	P	**P**	**13 33 58.8**	**-0.2**
	0.7nm,0.7s,baz=182,slow=8.3,SNR=6.2						
WRA	**Warramunga Arr**	**35.71**	**117**	P	**P**	**13 35 48.6**	**0.0**
	0.7nm,0.8s,baz=293,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**36.76**	**124**	P	**P**	**13 35 56.9**	**-0.7**
	0.5nm,0.9s,baz=297,slow=7.7,SNR=7.8						
STKA	**Stephens Creek**	**46.47**	**130**	P	**P**	**13 37 16.9**	**0.0**
	3.1nm,0.9s,baz=321,slow=10.0,SNR=4.6						
SONM	**Songino Array**	**52.86**	**5**	P	**P**	**13 38 06.1**	**+0.6**
	0.8nm,0.9s,baz=190,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**54.18**	**344**	P	**P**	**13 38 14.4**	**-0.7**
	0.7nm,0.8s,baz=143,slow=8.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.30**	**349**	P	**P**	**13 38 57.4**	**-0.8**
	1.4nm,0.8s,baz=180,slow=3.0,SNR=5.8						
TXAR	**Lajitas Array**	**146.44**	**41**	PKPbc	**PKPdf**	**13 48 32.1**	**+1.7**
	0.6nm,0.8s,baz=306,slow=1.2,SNR=8.3						

*NIED **03** 13:43:00,36.80N×141.40E,h5km,Mw3.4 Best double couple: M₀1.47000×10¹⁴ NP1:φs64.00000°,δ39.00000°, λ-14.00000°. NP2:φs166.00000°,δ81.00000°, λ-128.00000°.*
*ISCJB **03** 13:43:47.3±1.5,36.82N±0.04×141.44E±0.07,h7km±6km, mb3.2/2,MS3.1/1,Error ellipse: s-maj=10.1km s-min=7.3km az=7.3*
*IDC **03** 13:43:48.0±2.4,36.95N×141.36E,h0km,mb3.2/2, mb1 3.4/3,mb1mx3.2/32,mbtmp3.1/3,ML2.5/1,MS2.9/2, Ms1 2.9/2,ms1mx2.6/13,Error ellipse: s-maj=47.9km s-min=31.6km az=42.0*
*JMA **03** 13:43:49.1±0.1,36.81N×141.35E,h35km±1km,M3.6*

ISC 03 13:43:47.8±2.2,36.87N±0.05×141.41E±0.09,h1km±11km, n19,σ0.65/20,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**296**	P	**Pb**	**13 43 59.7**	**-0.4**
ONAJ				S	**Sb**	**13 44 07.7**	**-0.8**
JFK	**Kawauchi**	**0.66**	**319**	P	**Pb**	**13 44 02.0**	**-0.1**
JFK				S	**Sb**	**13 44 11.1**	**-0.6**
JFFD	**Fukushimafurud**	**0.72**	**288**	P	**Pg**	**13 44 02.1**	**+0.6**
JFFD				S	**Sg**	**13 44 11.8**	**+1.0**
JHO	**Hitachi**	**0.72**	**250**	P	**Pg**	**13 44 01.7**	**+0.1**
JHO				S	**Sg**	**13 44 10.9**	**-0.1**
JHYU	**Hitachinakayam**	**0.85**	**232**	P	**Pg**	**13 44 03.6**	**-0.4**
JFT	**Otama**	**1.08**	**307**	P	**Pb**	**13 44 08.9**	**-0.3**
JFT				S	**Sg**	**13 44 22.8**	**+0.4**
JMM	**Marumori**	**1.11**	**334**	P	**Pg**	**13 44 09.1**	**0.0**
JMM				S	**Sb**	**13 44 24.4**	**-0.4**
JFY	**Yanaizu**	**1.47**	**292**	P	**Pn**	**13 44 14.6**	**-0.8**
MJAR	**Matsushiro Arr**	**2.59**	**264**	Pn	**Pn**	**13 44 30.1**	**-0.7**
	1.0nm,0.3s,baz=90,slow=14,SNR=21						
MJAR				Sn	**Sn**	**13 45 04.1**	**+1.1**
	0.8nm,0.3s,baz=82,slow=16,SNR=4.0						
MAT	**Matsushiro**	**2.59**	**264**	P	**Pn**	**13 44 31.2**	**+0.3**
MAT				*e*S	**Sn**	**13 45 03.1**	**0.0**
KSRS	**Korea Array**	**10.78**	**277**	LR	LR	13 50 20.4	
	comp=Z,38nm,19.7s,baz=75,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.06**	**121**	T	T	14 19 02.4	
	baz=313,slow=75,SNR=120						
H11N1	**WAKE ISLAND Hy**	**28.07**	**121**	T	T	14 19 03.2	
	baz=313,slow=75,SNR=94						
H11N3	**WAKE ISLAND Hy**	**28.08**	**121**	T	T	14 19 06.8	
	baz=313,slow=75,SNR=94						
H11S1	**WAKE ISLAND Hy**	**28.77**	**123**	T	T	14 19 55.6	
	baz=314,slow=75,SNR=73						
H11S3	**WAKE ISLAND Hy**	**28.77**	**123**	T	T	14 19 56.0	
	baz=314,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**28.79**	**123**	T	T	14 20 01.4	
	baz=314,slow=75,SNR=45						
MKAR	**Makanchi Array**	**44.21**	**302**	P	**P**	**13 51 57.9**	**-0.5**
	0.2nm,0.7s,baz=92,slow=10,SNR=2.7						
MKAR				LR	LR	14 12 57.5	
	comp=Z,22nm,18.6s,baz=25,slow=40						
WRA	**Warramunga Arr**	**56.90**	**188**	P	**P**	**13 53 35.4**	**+1.1**
	0.2nm,0.4s,baz=6.3,slow=7.5,SNR=3.9						

*ISCJB **03** 13:50:54.9±0.3,51.50N±0.02×16.22E±0.03,h0km,Error ellipse: s-maj=3.0km s-min=2.4km az=163.9*
*VIE **03** 13:50:54.9±0.6,51.25N×15.78E,h0km,mb2.4/4,ml2.5/7, Error ellipse: s-maj=5.5km s-min=2.4km az=26.0, Suspected Mining induced.*
*IPEC **03** 13:50:57.2±0.4,51.49N×16.36E,h0km±2km,ML2.4/3, Error ellipse: s-maj=3.9km s-min=1.8km az=56.0*
*IDC **03** 13:50:58.4±1.1,51.39N×16.25E,h0km,mb1 3.5/4, mb1mx3.2/50,mbtmp3.4/4,ML2.6/4,Error ellipse: s-maj=28.2km s-min=8.4km az=114.0*
*PRU **03** 13:50:58.7±0.0,51.43N×16.18E,h0km*
*UPP **03** 13:51:00.9±2.9,51.67N×15.82E,h0km,ML2.3,Suspected explosion*

ISC 03 13:50:56.1±0.7,51.52N±0.03×16.23E±0.03,h0km,n40, σ1.9/44/74,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**176**	*i*Pg	**Pg**	**13 51 09.8**	**+0.9**
KSP				*e*Sg	**Sg**	**13 51 17.7**	**0.0**
UPC	**Upice**	**1.02**	**188**	*e*PG	**Pb**	**13 51 16.2**	**-0.4**
UPC				*e*SG	**Sg**	**13 51 28.7**	**0.0**
	comp=Z,224nm,0.4s						
DPC	**Dobruska-Polom**	**1.17**	**177**	*e*PG	**Pg**	**13 51 18.7**	**+0.3**
DPC				*e*SG	**Sg**	**13 51 33.0**	**-0.5**
	comp=Z,61nm,0.5s						
PVCC	**Panska Ves**	**1.44**	**227**	*e*PG	**Pb**	**13 51 24.7**	**+0.9**
PVCC				*e*SG	**Sb**	**13 51 43.0**	**+0.4**
	comp=Z,218nm,0.2s						
KRLC	**Kraliky**	**1.48**	**166**	*e*PG	**Pb**	**13 51 24.7**	**+0.2**
KRLC				*e*SG	**Sg**	**13 51 42.9**	**-0.8**
BRG	**Berggiesshubel**	**1.57**	**247**	PN	**Pn**	**13 51 25.5**	**+0.2**
BRG				PG	**Pg**	**13 51 26.8**	**+0.6**
BRG				SG	**Sg**	**13 51 47.6**	**+1.0**
	56nm,0.6s						
GOPC	**GO Pecny, Ondr**	**1.85**	**210**	*e*PN	**Pn**	**13 51 29.7**	**+0.7**
GOPC				*e*PG	**Pg**	**13 51 31.3**	**-0.1**
PRU	**Pruhonice**	**1.87**	**216**	*e*PN	**Pn**	**13 51 30.1**	**+0.8**
PRU				*e*PG	**Pb**	**13 51 31.2**	**+0.2**
PRU				*e*SG	**Sb**	**13 51 54.9**	**0.0**
	comp=Z,32nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**154**	*e*PN	**Pn**	**13 51 30.5**	**+0.3**
MORC				*e*SG	**Sn**	**13 51 55.9**	**+0.7**
MORC	**Moravsky Berou** baz=337	**1.93**	**154**	*e*Pn	**Pn**	**13 51 30.5**	**+0.3**
MORC				*e*Sg	**Sn**	**13 51 55.9**	**+0.7**
	21nm,0.3s,baz=337						
CLL	**Collm**	**2.03**	**265**	*e*Pn	**Pn**	**13 51 32.0**	**+0.5**
CLL				*e*Pg	**Pg**	**13 51 35.0**	**0.0**
CLL				*e*Sg	**Sg**	**13 52 02.0**	**+0.7**
	comp=Z,30nm,0.7s						
OKC	**Ostrava-Krasne**	**2.08**	**143**	*e*PG	**Pg**	**13 51 36.1**	**+0.3**
OKC				*e*SG	**Sg**	**13 52 03.0**	**+0.3**
	comp=Z,46nm,0.9s						
VRAC	**Vranov**	**2.22**	**174**	*e*PN	**Pn**	**13 51 34.6**	**+0.4**
VRAC				*e*SG	**Sb**	**13 52 05.5**	**+0.4**
VRAC	**Vranov** baz=356	**2.22**	**174**	*e*Pn	**Pn**	**13 51 34.6**	**+0.4**
VRAC				*e*Sg	**Sb**	**13 52 05.5**	**+0.4**
	comp=Z,28nm,0.4s,baz=356						
TREC	**Trest**	**2.27**	**192**	*e*PG	**Pb**	**13 51 38.9**	**+0.9**
TREC				*e*SG	**Sb**	**13 52 07.1**	**+0.5**
	comp=Z,32nm,0.4s						
KRUC	**Moravsky**	**2.46**	**177**	*e*PN	**Pn**	**13 51 38.1**	**+0.7**
KRUC				*e*SG	**Sb**	**13 52 13.2**	**+1.3**
KRUC	**Moravsky** baz=360	**2.46**	**177**	*e*Pn	**Pn**	**13 51 38.1**	**+0.7**
KRUC				*e*Sg	**Sb**	**13 52 13.2**	**+1.3**
	comp=Z,13nm,0.3s,baz=360						
OJC	**Ojcow**	**2.61**	**118**	*e*Pn	**Pn**	**13 51 40.5**	**+1.1**
OJC				*e*Pg	**Pg**	**13 51 47.4**	**+1.4**
OJC				*e*Sg	**Sg**	**13 52 21.9**	**+2.1**
NKC	**Novy Kostel**	**2.72**	**243**	*e*PN	**Pn**	**13 51 42.1**	**+1.1**
NKC				*e*PG	**Pg**	**13 51 48.0**	**-0.1**
NKC				*e*SG	**Sg**	**13 52 25.2**	**+1.9**
	comp=Z,38nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN	**Pn**	**13 51 44.7**	**+0.8**
KHC				*e*PG	**Pb**	**13 51 50.7**	**+1.5**
KHC				*e*SN	**Sn**	**13 52 17.1**	**-2.7**
KHC				*e*SG	**Sb**	**13 52 27.5**	**+2.0**
	comp=Z,13nm,0.3s						
GERES	**GERESS Array B**	**3.13**	**212**	Pn	**Pn**	**13 51 47.5**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=32,slow=13,SNR=13						
GERES				Pg	**Pb**	**13 51 54.0**	**+1.4**
	comp=Z,4.6nm,0.3s,baz=32,slow=19,SNR=61						
GERES				Lg		13 52 33.3	
	comp=Z,2.5nm,0.3s,baz=34,slow=30,SNR=4.8						
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PN	**Pn**	**13 51 48.0**	**+1.1**
LANS				*e*PG	**Pg**	**13 51 56.3**	**-0.1**
LANS				*e*		13 52 38.1	
MODS	**Modra-Piesok**	**3.22**	**167**	*e*PG	**Pg**	**13 51 57.9**	**+0.2**
MODS				*e*		13 52 38.9	
VYHS	**Vyhne**	**3.46**	**150**	*e*PN	**Pn**	**13 51 51.5**	**+0.3**
VYHS				*e*PG	**Pg**	**13 52 04.4**	**+2.0**
VYHS				*e*		13 52 46.0	
CONA	**Conrad Observa** comp=Z,0.2nm,0.1s	**3.60**	**184**	*i* Pn	Pn	13 51 48.5	-4.7
CONA				*e*Sn	**Sn**	**13 52 30.3**	**-6.1**
	comp=Z,1.7nm,0.2s						
BSD	**Bornholm Skovb**	**3.69**	**348**	*i* P	**Pn**	**13 51 55.5**	**+1.2**
BSD				*e*S	**Sn**	**13 52 37.3**	**-1.2**
MOA	**Molln** comp=Z,1.0nm,0.2s	**3.88**	**200**	*e*Pn	Pn	13 51 50.7	-6.3
MOA				Sg	**Sb**	**13 52 51.8**	**-1.2**
	comp=Z,6.9nm,0.3s						
ARSA	**Arzberg** comp=Z,0.4nm,0.2s	**4.29**	**186**	*e*Pn	Pn	13 51 57.6	-5.0
ARSA				Sg	**Sb**	**13 53 06.9**	**+2.1**
	comp=Z,1.6nm,0.3s						
LUNU	**Lund**	**4.45**	**339**	P	**Pn**	**13 52 05.1**	**+0.4**
LUNU				S	**Sn**	**13 52 56.4**	**-0.7**
BLEU	**Blekinge**	**4.80**	**357**	P	**Pn**	**13 52 11.1**	**+1.5**
BLEU				S	**Sn**	**13 53 04.1**	**-1.8**
KBA	**Koelnbreinsper** comp=Z,0.4nm,0.2s	**4.82**	**204**	*e*Pn	Pn	13 52 04.1	-6.0
KBA				Sg	**Sb**	**13 53 22.4**	**+2.2**
	comp=Z,0.4nm,0.2s						
SOKA	**Soboth**	**4.90**	**190**	*i* Pn	Pn	13 52 06.1	-5.0
BJUU	**Bjuv**	**4.95**	**339**	P	**Pn**	**13 52 12.1**	**+0.5**
DEL	**Delary**	**5.16**	**345**	P	**Pn**	**13 52 15.6**	**+1.1**
VXJU	**Vaexsjoe**	**5.47**	**353**	P	**Pn**	**13 52 20.3**	**+1.5**
VXJU				S	**Sn**	**13 53 20.2**	**-2.1**
GNOU	**Gnosjoe**	**5.96**	**347**	P	**Pn**	**13 52 26.8**	**+1.3**
BORU	**Boraas**	**6.45**	**343**	P	**Pn**	**13 52 34.3**	**+2.0**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=162,slow=12,SNR=4.2	**9.94**	**346**	Pn	**Pn**	**13 53 21.5**	**+1.4**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=212,slow=11,SNR=6.4	**11.33**	**25**	Pn	**Pn**	**13 53 38.6**	**-0.4**
FINES				Sn	**Sn**	**13 55 41.5**	**-4.7**
	comp=Z,0.2nm,0.3s,baz=222,slow=21,SNR=5.5						
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=6.4	**18.61**	**10**	Pn	**P**	**13 55 12.8**	**-1.8**

*DJA **03** 13:52:53.8±0.7,9°S±8°×10°9E±°,h10km,M4.8/13,mB5.3/2, mb5.0/5,MLv4.7/13,Mw(mB)4.7/2*
*KLM **03** 13:52:54.5,8.92S×108.60E,h20km,mb4.4*
*ISCJB **03** 13:52:55.8±0.7,8.75S±0.06×108.55E±0.04,h60km±6km, mb4.2/21,MS3.5/10,Error ellipse: s-maj=11.0km s-min=5.3km az=29.4*
*NEIC **03** 13:52:56.8±0.3,8.73S×108.55E,mb4.4/13,Error ellipse: s-maj=7.8km s-min=4.7km az=37.0*
*IDC **03** 13:52:57.3±0.7,8.56S×108.67E,h48km±5km,mb3.9/13, mb1 4.1/14,mb1mx3.8/37,mbtmp4.2/14,MS3.5/12, Ms1 3.5/12,ms1mx3.3/29,Error ellipse: s-maj=27.4km s-min=12.4km az=62.0*

ISC 03 13:52:56.2±0.5,8.89S±0.05×108.49E±0.05,h49km±5km, h49km:pP-P,n77,σ1.51/81,mb4.3/23,MS3.4/10,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.48**	**333**	*e*Pn	**Pn**	**13 53 18.8**	**-1.7**
CISI				*e*Sn	**Sn**	**13 53 36.3**	**-2.4**
CISI	**Cisompet, Garu**	**1.48**	**333**	P	**Pn**	**13 53 19.2**	**-1.3**
KPJI	**Karang Pucung**	**1.61**	**16**	P	**Pn**	**13 53 21.6**	**-0.6**
LEM	**Lembang**	**2.22**	**337**	P	**Pn**	**13 53 31.8**	**+1.1**
LEM	**Lembang** 168nm,0.3s,baz=331,slow=6.8,SNR=99	**2.22**	**337**	P	**Pn**	**13 53 31.7**	**+0.9**
LEM				S	**Sn**	**13 54 00.3**	**+3.2**
	63nm,0.3s,baz=170,slow=23,SNR=6.0						
LEM				LR	LR	13 54 33.4	
	comp=Z,2μm,18.3s,baz=142,slow=48						
UGM	**Wanagama**	**2.24**	**64**	*e*Pn	**Pn**	**13 53 28.2**	**-2.6**
UGM	**Wanagama**	**2.24**	**64**	P	**Pn**	**13 53 28.5**	**-2.3**
SMRI	**Semarang**	**2.66**	**47**	*e*Pn	**Pn**	**13 53 36.5**	**-0.2**
SMRI	**Semarang**	**2.66**	**47**	P	**Pn**	**13 53 36.7**	**+0.1**
XMIS	**Christmas Isla**	**3.21**	**240**	*e*Pn	**Pn**	**13 53 43.9**	**-0.3**
XMIS				*e*Sn	**Sn**	**13 54 17.4**	**-3.8**
TNG	**Tangerang**	**3.26**	**326**	P	**Pn**	**13 53 45.0**	**+0.2**
NGJI	**Ngawi**	**3.31**	**63**	P	**Pn**	**13 53 45.5**	**0.0**
PWJI	**Pagerwojo**	**3.39**	**76**	P	**Pn**	**13 53 45.1**	**-1.5**
TBJI	**T

baz=93,slow=76,SNR=27
H08S1 Diego Carcia H 35.65 269 T T 14 37 47.6
baz=93,slow=76,SNR=25
STKA Stephens Creek 38.29 131 *e*P **P 14 00 14.0 +1.9**
3.5nm,0.8s
STKA Stephens Creek 38.29 131 P **P 14 00 14.2 +2.1**
16nm,0.6s,baz=306,slow=7.9,SNR=33
STKA LR LR 14 15 54.9
comp=Z,71nm,21.2s,baz=7.2,slow=36
XAN Xi'an 42.69 1 P P 14 00 57.3 +8.9
XAN pmax pmax
comp=Z,5.0nm,0.8s
XAN pmax pmax
comp=Z,170nm,4.9s
KSAR Wonju Array Be 49.54 20 P **P 14 01 40.7 -1.4**
KSRS Korea Array 49.56 20 P **P 14 01 40.7 -1.6**
comp=Z,0.7nm,0.7s,baz=211,slow=8.4,SNR=4.6
KSRS LR LR 14 22 44.9
comp=Z,30nm,21.5s,baz=204,slow=36
SONA0 Songino Array 56.50 358 *e*P **P 14 02 32.8 -0.7**
SONA0 *ep*P **pP 14 02 46.1 +0.2**
SONM Songino Array 56.50 358 P **P 14 02 32.8 -0.7**
SONM pP **pP 14 02 46.1 +0.2**
comp=Z,1.4nm,0.6s,baz=177,slow=7.8,SNR=8.3
SONM LR LR 14 28 22.3
comp=Z,82nm,18.1s,baz=174,slow=38
KDJ Kajisay 58.30 333 *e*P **P 14 02 46.8 +0.5**
comp=Z,4.7nm,0.8s
GAR Garm 59.39 326 *e*P **P 14 02 52.8 -1.0**
comp=Z,8.3nm,1.0s
MK01 Makanchi Array 60.13 340 *e*P **P 14 02 57.6 -1.0**
MK32 Makanchi Array 60.16 340 *e*P **P 14 02 58.3 -0.5**
MKAR Makanchi Array 60.16 340 P **P 14 02 58.3 -0.5**
comp=Z,2.3nm,0.6s,baz=152,slow=8.0,SNR=43
MKAR LR LR 14 31 29.2
comp=Z,53nm,19.6s,baz=112,slow=39
KLR Kul'dur 61.37 17 P **P 14 03 05.3 -1.7**
comp=Z,1.8nm,0.6s,baz=215,slow=1.9,SNR=7.6
KLR pP **pP 14 03 18.8 -0.8**
comp=Z,3.2nm,0.8s,baz=298,slow=8.4,SNR=6.6
KURK Kurchatov 64.77 340 *e*P **P 14 03 28.9 -0.6**
comp=Z,3.6nm,0.8s
ZALV Zalesovo Beam 65.72 345 *e*P **P 14 03 34.3 -1.3**
ZALV pP **pP 14 03 47.6 -0.7**
ZALV Zalesovo Beam 65.72 345 P **P 14 03 34.7 -0.9**
comp=Z,0.8nm,0.3s,baz=134,slow=4.3,SNR=6.3
ZALV pP **pP 14 03 47.6 -0.7**
comp=Z,1.7nm,0.7s,baz=145,slow=6.1,SNR=4.1
ZALV LR LR 14 34 24.9
comp=Z,37nm,18.8s,baz=66,slow=38
ZAA1 Zalesovo Array 65.73 345 *e*P **P 14 03 34.7 -0.9**
ZAA1 *ep*P **pP 14 03 47.6 -0.7**
GEYT Alibeck 66.14 318 LR LR 14 35 32.1
comp=Z,20nm,18.7s,baz=5.0,slow=39
BRVK Borovoye 69.74 337 *e*P **P 14 04 00.0 -0.9**
comp=Z,2.7nm,0.8s
ABKAR Akbulak array 71.78 329 *e*P **P 14 04 13.3 -0.1**
comp=Z,8.8nm,0.8s
VNDA Vanda 73.85 170 *e*P **P 14 04 27.7 +2.4**
VNDA Vanda 73.85 170 P **P 14 04 28.2 +2.9**
comp=Z,2.0nm,0.8s,baz=300,slow=8.7,SNR=5.6
MA2 Magadan 76.12 21 P **P 14 04 38.2 -0.3**
comp=Z,2.7nm,0.6s,baz=185,slow=4.9,SNR=5.8
KBZ Khabaz 79.03 318 pP pP 14 05 11.2 +3.0
comp=Z,6.5nm,0.9s,baz=97,slow=7.0,SNR=6.3
NRIK Noril'sk 79.39 353 LR LR 14 42 46.7
comp=Z,59nm,18.5s,baz=62,slow=38
QSPA South Pole Qui 81.11 180 P **P 14 05 08.9 +2.7**
comp=Z,2.4nm,0.7s,baz=312,slow=1.6,SNR=14
BR101 Keskin Array S 84.17 312 *e*P **P 14 05 23.5 +0.9**
BR101 *ep*P **pP 14 05 38.0 +2.2**
BRTR Keskin Array B 84.17 312 P **P 14 05 23.5 +0.9**
comp=Z,0.4nm,0.5s,baz=114,slow=3.6,SNR=3.9
BRTR pP **pP 14 05 38.0 +2.2**
comp=Z,4.4nm,1.0s,baz=120,slow=7.3,SNR=9.7
AKASG Malin Array Be 90.08 321 pP pP 14 06 05.7 +1.6
comp=Z,0.8nm,0.6s,baz=87,slow=4.2,SNR=2.8
YKA Yellowknife Ar 118.10 21 PKP **PKiKP 14 11 37.6 +0.2**
comp=Z,0.1nm,0.7s,baz=331,slow=2.4,SNR=3.2
YKA pPKP **pPKPdf 14 11 53.2 +2.1**
comp=Z,0.3nm,0.8s,baz=333,slow=2.1,SNR=4.7
CCM Cathedral Cave 145.94 28 *e*PKPdf **PKPbc 14 12 29.8 -1.0**
WVT Waverly 149.08 26 *e*PKPbc **PKiKP 14 12 40.3 -0.4**

*ISK **03** 13:57:29.9, 38.69N×43.38E, h5km, ML2.8/10*
*DDA **03** 13:57:30.8, 38.62N×43.47E, h7km±3km, ML2.9*
*ISCJB **03** 13:57:31.7±0.5, 38.68N±0.03°×43.37E±0.05, h8km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=16.8*
ISC 03 13:57:31.3±0.9, 38.65N±0.03°×43.45E±0.04, h15km±6km, n20, σ0.86/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.07**	**220**	PG	**Pg**	**13 57 34.5**	**0.0**
TVAN	**Van**	**0.12**	**195**	*i* P	**Pg**	**13 57 34.8**	**-0.4**
TVAN				*i* S	**Sg**	**13 57 37.9**	**+0.2**
TVAN				IAML_P			
comp=Z,15μm,0.1s							
VMUR	**Van-Muradiye**	**0.35**	**16**	*i* P	**Pg**	**13 57 38.5**	**-0.2**
VMUR				*i* S	**Sb**	**13 57 45.8**	**+0.9**
GEVA	**Gevas**	**0.46**	**222**	*i* P	**Pg**	**13 57 39.8**	**-0.8**
AKDM	**Akdamar-Van**	**0.49**	**229**	PG	**Pg**	**13 57 40.0**	**-1.1**
AKDM				SG	**Sb**	**13 57 48.3**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.59**	**286**	*i* P	**Pb**	**13 57 43.3**	**-0.2**
CLDR	**Caldiran**	**0.61**	**36**	PG	**Pg**	**13 57 42.6**	**-0.9**
CLDR				SG	**Sb**	**13 57 52.8**	**+0.4**
CLDR	**Caldiran**	**0.61**	**36**	*i* P	**Pg**	**13 57 42.8**	**-0.7**
CLDR				*i* S	**Sb**	**13 57 53.8**	**+1.4**
CLDR				IAML_P			
comp=Z,4μm,0.2s							
BASK	**Baskale_VAN**	**0.74**	**144**	*i* P	**Pg**	**13 57 44.1**	**-1.7**
BASK				IAML_P			
comp=Z,1μm,0.1s							
MLAZ	**Malazgirt-MUS**	**0.86**	**305**	PG	**Pg**	**13 57 46.5**	**-1.5**
TUTA	**Tutak**	**0.90**	**327**	*i* P	**Pg**	**13 57 48.6**	**-0.3**
AGRB	**Hanur-Agry**	**0.99**	**339**	PG	**Pb**	**13 57 49.4**	**-0.9**
GURO	**Guroymak-BITLI**	**1.11**	**265**	PG	**Pb**	**13 57 51.2**	**-1.2**
SRTM	**Siirt_Merkez**	**1.37**	**242**	*i* P	**Pb**	**13 57 57.1**	**+0.4**
SRTM				IAML_P			
comp=Z,2μm,0.3s							
SIRT	**Sirnak**	**1.40**	**215**	PN	**Pg**	**13 57 57.9**	**-0.3**
CUKT	**Cukurca**	**1.41**	**175**	PN	**Pg**	**13 57 58.5**	**+0.1**
CUKT	**Cukurca**	**1.41**	**175**	*i* P	**Pn**	**13 57 57.0**	**+0.5**
CUKT				*i* S	**Sg**	**13 58 16.6**	**-0.1**
CUKT				IAML_P			
comp=Z,2μm,0.4s							
SIRN	**Sirnak**	**1.41**	**216**	*i* P	**Pg**	**13 57 58.9**	**+0.4**
SIRN				IAML_P			
comp=Z,2μm,0.4s							
VRTB	**Varto-Mus**	**1.64**	**289**	PN	**Pn**	**13 58 00.2**	**+0.5**
BNGB	**Bingl**	**2.19**	**280**	PN	**Pn**	**13 58 08.4**	**+1.1**

*ISCJB **03** 14:03:12.6±0.2, 53.86N±0.04°×158.71E±0.10, h196km±2km, mb3.6/26, Error ellipse: s-maj=10.3km s-min=4.3km az=29.5*
*MOS **03** 14:03:12.5±0.9, 53.89N×158.60E, h196km, mb4.0/11, Error ellipse: s-maj=16.9km s-min=5.7km az=75.7*
*KRSC **03** 14:03:12.2±10.0, 53.81N×158.89E, h196km±10km, ML4.3*
*IDC **03** 14:03:13.7±0.5, 54.08N×158.26E, h185km±5km, mb3.4/21, mb1 3.6/21, mb1mx3.5/37, mbtmp3.9/21, Error ellipse: s-maj=13.5km s-min=10.1km az=146.0*
ISC 03 14:03:13.4±0.6, 53.84N±0.04°×158.83E±0.05, h193km±5km, n103, σ1.924/136, mb3.7/26, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.42**	**62**	*e*P	**Pn**	**14 03 39.6**	**+0.1**
KII	**Karymskiy**	**0.42**	**62**	PN	**Pn**	**14 03 39.6**	**+0.1**
KRX	**Arik**	**0.50**	**192**	*e*P	**Pn**	**14 03 40.0**	**0.0**
KRX	**Arik**	**0.50**	**192**	PN	**Pn**	**14 03 40.0**	**0.0**
GNL	**Ganaly**	**0.55**	**254**	*e*P	**Pn**	**14 03 39.4**	**-0.7**
GNL				*e*S	**Sn**	**14 03 59.2**	**-1.4**
GNL	**Ganaly**	**0.55**	**254**	PN	**Pn**	**14 03 39.4**	**-0.7**
GNL				S	**Sn**	**14 03 59.2**	**-1.4**
KOK	**Koryaka**	**0.56**	**192**	*e*P	**Pn**	**14 03 40.7**	**+0.5**
KOK	**Koryaka**	**0.56**	**192**	PN	**Pn**	**14 03 40.7**	**+0.5**
SDLR	**Sedlovina**	**0.57**	**176**	*e*P	**Pn**	**14 03 40.5**	**+0.3**
SDLR				*e*S	**Sn**	**14 04 01.0**	**+0.2**
SDLR	**Sedlovina**	**0.57**	**176**	PN	**Pn**	**14 03 40.5**	**+0.3**
SDLR				S	**Sn**	**14 04 01.0**	**+0.2**
AVH	**Avacha**	**0.58**	**185**	*e*P	**Pn**	**14 03 40.6**	**+0.4**
AVH	**Avacha**	**0.58**	**185**	PN	**Pn**	**14 03 40.6**	**+0.4**
SMAR	**Somma**	**0.58**	**181**	*e*P	**Pn**	**14 03 40.7**	**+0.3**
SMAR				S	**Sn**	**14 04 01.5**	**+0.4**
SMAR	**Somma**	**0.58**	**181**	PN	**Pn**	**14 03 40.7**	**+0.3**
SMAR				S	**Sn**	**14 04 01.5**	**+0.4**
UGLR	**Uglovaya**	**0.64**	**180**	*e*P	**Pn**	**14 03 40.9**	**+0.4**
UGLR	**Uglovaya**	**0.64**	**180**	PN	**Pn**	**14 03 40.9**	**+0.4**
NLC	**Nalytchevo**	**0.74**	**155**	*e*P	**Pn**	**14 03 40.8**	**-0.1**
NLC				*e*S	**Sn**	**14 04 02.0**	**0.0**
NLC	**Nalytchevo**	**0.74**	**155**	PN	**Pn**	**14 03 40.8**	**-0.1**
NLC				S	**Sn**	**14 04 02.0**	**0.0**
INSR	**Institute**	**0.79**	**190**	*e*P	**Pn**	**14 03 39.9**	**-1.3**
INSR	**Institute**	**0.79**	**190**	PN	**Pn**	**14 03 39.9**	**-1.3**
DALK	**Dalny**	**0.82**	**183**	*e*P	**Pn**	**14 03 41.2**	**-0.1**
DALK				*e*S	**Sn**	**14 04 02.7**	**-0.1**
DALK	**Dalny**	**0.82**	**183**	PN	**Pn**	**14 03 41.2**	**-0.1**
DALK				S	**Sn**	**14 04 02.7**	**-0.1**
PET	**Petropavlovsk**	**0.83**	**187**	*i*PN	**Pn**	**14 03 41.3**	**-0.1**
PET				*i* S	**Sn**	**14 04 03.2**	**+0.3**
PET				pmax	pmax		
comp=Z,924nm,0.7s							
PET				smax	smax		
comp=E,661nm,0.9s							
PET				smax	smax		
comp=N,1μm,0.8s							
PETK	**Petropavlovsk-**	**1.00**	**223**	P	**Pn**	**14 03 42.0**	**-0.5**
comp=N,19nm,0.3s,baz=64,slow=9.7,SNR=325							
PETK				S	**Sn**	**14 04 04.3**	**-0.6**
comp=N,8.8nm,0.3s,baz=90,slow=36,SNR=12							
SPN	**Mys Shipunski**	**1.03**	**136**	*e*P	**Pn**	**14 03 42.0**	**-0.7**
SPN				*e*S	**Sn**	**14 04 04.0**	**-1.3**
SPN	**Mys Shipunski**	**1.03**	**136**	PN	**Pn**	**14 03 42.0**	**-0.7**
SPN				S	**Sn**	**14 04 04.0**	**-1.3**
KRMR	**Karymshinskiy**	**1.10**	**203**	*e*P	**Pn**	**14 03 43.1**	**-0.1**
KRMR				*e*S	**Sn**	**14 04 06.1**	**0.0**
KRMR	**Karymshinskiy**	**1.10**	**203**	PN	**Pn**	**14 03 43.1**	**-0.1**
KRMR				S	**Sn**	**14 04 06.1**	**0.0**
MTVR	**Mutnovka**	**1.42**	**196**	*e*P	**Pn**	**14 03 46.6**	**+0.6**
MTVR				*e*S	**Sn**	**14 04 12.3**	**+1.2**
MTVR	**Mutnovka**	**1.42**	**196**	PN	**Pn**	**14 03 46.6**	**+0.6**
MTVR				S	**Sn**	**14 04 12.3**	**+1.2**
RUS	**Russkaya**	**1.43**	**188**	*e*P	**Pn**	**14 03 45.4**	**-0.5**
RUS				*e*S	**Sn**	**14 04 09.6**	**-1.3**
RUS	**Russkaya**	**1.43**	**188**	PN	**Pn**	**14 03 45.4**	**-0.5**
RUS				S	**Sn**	**14 04 09.6**	**-1.3**
KZV	**Kizimen**	**1.53**	**33**	*e*P	**Pn**	**14 03 47.1**	**+0.2**
KZV				*e*S	**Sn**	**14 04 13.1**	**0.0**
KZV	**Kizimen**	**1.53**	**33**	PN	**Pn**	**14 03 47.1**	**+0.2**
KZV				S	**Sn**	**14 04 13.1**	**0.0**
TUMR	**Tumrok**	**1.63**	**28**	*e*P	**Pn**	**14 03 48.4**	**+0.6**
TUMR				*e*S	**Sn**	**14 04 16.0**	**+1.3**
TUMR	**Tumrok**	**1.63**	**28**	PN	**Pn**	**14 03 48.4**	**+0.6**
TUMR				S	**Sn**	**14 04 16.0**	**+1.3**
TUMD	**Tumrok D**	**1.64**	**33**	*e*P	**Pn**	**14 03 47.7**	**-0.1**
TUMD				S	**Sn**	**14 04 14.0**	**-0.6**
MKZ	**Mys Kozlova**	**1.85**	**66**	*e*P	**Pn**	**14 03 48.7**	**-1.1**
MKZ				*e*S	**Sn**	**14 04 15.9**	**-2.2**
MKZ	**Mys Kozlova**	**1.85**	**66**	PN	**Pn**	**14 03 48.7**	**-1.1**
MKZ				S	**Sn**	**14 04 15.9**	**-2.2**
KPT	**Kopyto**	**2.27**	**20**	*e*P	**Pn**	**14 03 54.6**	**+0.2**
KPT	**Kopyto**	**2.27**	**20**	PN	**Pn**	**14 03 54.6**	**+0.2**
KOZ	**Kozyrevsk**	**2.30**	**15**	*e*P	**Pn**	**14 03 54.7**	**+0.1**
KOZ	**Kozyrevsk**	**2.30**	**15**	PN	**Pn**	**14 03 54.7**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**2.36**	**26**	*e*P	**Pn**	**14 03 56.8**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**2.36**	**26**	PN	**Pn**	**14 03 56.8**	**+1.4**
ZLN	**Zelenaya**	**2.46**	**27**	*e*P	**Pn**	**14 03 57.9**	**+1.5**
ZLN	**Zelenaya**	**2.46**	**27**	PN	**Pn**	**14 03 57.9**	**+1.5**
LGNR	**Loginova**	**2.49**	**25**	*e*P	**Pn**	**14 03 58.3**	**+1.3**
LGNR	**Loginova**	**2.49**	**25**	PN	**Pn**	**14 03 58.3**	**+1.3**
CIRR	**Tsirk**	**2.53**	**25**	*e*P	**Pn**	**14 03 59.3**	**+2.0**
CIRR	**Tsirk**	**2.53**	**25**	PN	**Pn**	**14 03 59.3**	**+2.0**
SRDR	**Sredinnyy**	**2.53**	**11**	*e*P	**Pn**	**14 03 57.0**	**-0.2**
SRDR	**Sredinnyy**	**2.53**	**11**	PN	**Pn**	**14 03 57.0**	**-0.2**
PAU	**Pauzhetka**	**2.68**	**208**	*e*P	**Pn**	**14 03 58.9**	**0.0**
PAU	**Pauzhetka**	**2.68**	**208**	PN	**Pn**	**14 03 58.9**	**0.0**
KLY	**Klyuchi**	**2.69**	**22**	*e*P	**Pn**	**14 03 59.8**	**+0.9**
KLY				*e*S	**Sn**	**14 04 37.0**	**+2.4**
KLY	**Klyuchi**	**2.69**	**22**	PN	**Pn**	**14 03 59.8**	**+0.9**
KLY				S	**Sn**	**14 04 37.0**	**+2.4**
BDR	**Baidarnaya**	**3.05**	**26**	*e*P	**Pn**	**14 04 03.9**	**+0.6**
BDR	**Baidarnaya**	**3.05**	**26**	PN	**Pn**	**14 04 03.9**	**+0.6**
SRKR	**Sorokina**	**3.12**	**25**	*e*P	**Pn**	**14 04 04.6**	**+0.5**
SRKR	**Sorokina**	**3.12**	**25**	PN	**Pn**	**14 04 04.6**	**+0.5**
SMKR	**Semkarok**	**3.13**	**28**	*e*P	**Pn**	**14 04 04.4**	**+0.1**
SMKR	**Semkarok**	**3.13**	**28**	PN	**Pn**	**14 04 04.4**	**+0.1**
KBTR	**Krutoberegovo**	**3.30**	**43**	*e*P	**Pn**	**14 04 05.2**	**-1.0**
KBTR				*e*S	**Sn**	**14 04 44.7**	**-2.9**
KBTR	**Krutoberegovo**	**3.30**	**43**	PN	**Pn**	**14 04 05.2**	**-1.0**
KBTR				S	**Sn**	**14 04 44.7**	**-2.9**
BKI	**Bering**	**4.38**	**69**	*e*P	**Pn**	**14 04 19.8**	**+0.2**
BKI				S	**Sn**	**14 05 08.7**	**-3.0**
BKI	**Bering**	**4.38**	**69**	PN	**Pn**	**14 04 19.8**	**+0.2**
BKI				S	**Sn**	**14 05 08.7**	**-3.0**
PALN	**Palana**	**5.30**	**6**	*e*P	**Pn**	**14 04 30.9**	**-0.4**
PALN	**Palana**	**5.30**	**6**	PN	**Pn**	**14 04 30.9**	**-0.4**
MA2	**Magadan**	**7.25**	**326**	*ce*PN	Pn	14 05 05.4	+8.7
MA2				pmax	pmax		
comp=Z,14nm,1.7s							
ASAJ	**Asahikawa**	**14.40**	**234**	P	**P**	**14 06 30.4**	**+0.5**
comp=Z,1.0nm,0.3s,baz=42,slow=14,SNR=14							
KLR	**Kul'dur**	**17.41**	**266**	P	**Pn**	**14 07 04.0**	**-0.7**
KLR	**Kul'dur**	**17.41**	**266**	P	**Pn**	**14 07 04.0**	**-0.7**
comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=4.2							
MJA0	**Matsu Arr-Jizo**	**22.44**	**228**	*e*P	**P**	**14 08 00.3**	**+4.1**
MJA0				pmax	pmax		
comp=Z,3.0nm,0.6s							
MJAR	**Matsushiro Arr**	**22.45**	**228**	P	**P**	**14 07 56.8**	**+0.5**
MJAR				pmax	pmax		
comp=Z,3.0nm,0.6s							
MJAR	**Matsushiro Arr**	**22.45**	**228**	P	**P**	**14 07 56.8**	**+0.5**
comp=Z,1.6nm,0.6s,baz=11,slow=11,SNR=12							
KSRS	**Korea Array**	**26.82**	**245**	P	**P**	**14 08 36.5**	**+0.9**
comp=Z,0.9nm,0.6s,baz=82,slow=25,SNR=4.4							
ILAR	**Eielson Array**	**28.83**	**46**	P	**P**	**14 08 54.1**	**+0.9**
comp=Z,1.0nm,0.7s,baz=258,slow=5.4,SNR=18							
SONM	**Songino Array**	**33.00**	**281**	P	**P**	**14 09 28.7**	**-1.3**
comp=Z,0.6nm,0.5s,baz=61,slow=8.5,SNR=6.1							
SONM				PcP	**PcP**		
comp=Z,0.7nm,0.7s,baz=125,slow=2.5,SNR=5.2							
INK	**Inuvik**	**33.74**	**38**	P	**P**	**14 09 37.5**	**+1.5**
comp=Z,0.8nm,0.3s,baz=286,slow=8.2,SNR=22							
ZALV	**Zalesovo Beam**	**41.73**	**301**	P	**P**	**14 10 40.5**	**-2.5**
comp=Z,0.7nm,0.5s,baz=44,slow=9.1,SNR=3.7							
YKA	**Yellowknife Ar**	**43.12**	**43**	P	**P**	**14 10 55.5**	**+1.4**
comp=Z,0.2nm,0.3s,baz=299,slow=7.3,SNR=7.8							
MKAR	**Makanchi Array**	**47.15**	**294**	P	**P**	**14 11 23.8**	**-2.3**
comp=Z,2.6nm,0.5s,baz=56,slow=7.3,SNR=44							
ARCES	**ARCESS Array B**	**52.33**	**341**	P	**P**	**14 12 02.5**	**-2.2**
comp=Z,3.4nm,1.0s,baz=36,slow=7.8,SNR=6.4							
NVAR	**Mina Array Bea**	**56.20**	**70**	P	**P**	**14 12 36.8**	**+3.5**
comp=Z,0.3nm,0.4s,baz=295,slow=7.4,SNR=3.5							
PDAR	**Pinedale Array**	**57.81**	**60**	P	**P**	**14 12 47.0**	**+2.4**
comp=Z,0.4nm,0.4s,baz=342,slow=3.8,SNR=6.1							
FINES	**FINESS Array B**	**59.12**	**336**	P	**P**	**14 12 51.7**	**-1.3**
comp=Z,0.9nm,0.5s,baz=33,slow=9.1,SNR=11							
NB2	**NORSAR Subarra**	**62.60**	**343**	P	**P**	**14 13 15.2**	**-1.3**
comp=Z,0.8nm,0.5s,baz=30,slow=6.2							
NOA	**NORSAR Array B**	**62.60**	**343**	P	**P**	**14 13 15.4**	**-1.1**
comp=Z,0.4nm,0.4s,baz=28,slow=6.0,SNR=9.1							
AKASG	**Malin Array Be**	**67.58**	**328**	P	**P**	**14 13 46.6**	**-2.0**
comp=Z,0.6nm,0.3s,baz=28,slow=6.6,SNR=4.4							
KBZ	**Khabaz**	**68.47**	**316**	P	**P**	**14 13 53.0**	**-1.2**
comp=Z,2.0nm,0.8s,baz=270,slow=5.1,SNR=3.3							
TXAR	**Lajitas Array**	**71.03**	**66**	P	**P**	**14 14 12.8**	**+2.5**
comp=Z,0.2nm,0.4s,baz=291,slow=5.7,SNR=6.9							
GERES	**GERESS Array B**	**73.53**	**337**	P	**P**	**14 14 23.9**	**-0.9**
comp=Z,0.2nm,0.3s,baz=32,slow=6.1,SNR=4.9							
SOKA	**Soboth**	**75.23**	**335**	*e*P	**P**	**14 14 32.6**	**-1.9**
comp=Z,0.9nm,0.3s							
KBA	**Koelnbreinsper**	**75.27**	**336**	*e*P	**P**	**14 14 35.1**	**+0.2**
comp=Z,2.9nm,0.7s							
WATA	**Walderalm**	**75.43**	**338**	*e*P	**P**	**14 14 36.0**	**+0.3**
comp=Z,1.3nm,0.5s							
WTTA	**Wattenberg**	**75.49**	**338**	*e*P	**P**	**14 14 34.5**	**-1.6**
comp=Z,0.6nm,0.4s							
BRTR	**Keskin Array B**	**75.56**	**319**	P	**P**	**14 14 35.5**	**-1.1**
comp=Z,0.6nm,0.6s,baz=123,slow=3.7,SNR=3.7							
FETA	**Feichten**	**75.92**	**338**	*e*P	**P**	**14 14 38.2**	**-0.4**
comp=Z,1.1nm,0.6s							
WRA	**Warramunga Arr**	**76.45**	**204**	P	**P**	**14 14 42.4**	**+0.8**
comp=Z,1.8nm,0.6s,baz=24,slow=6.3,SNR=22							
ASAR	**Alice Springs**	**80.14**	**203**	P	**P**	**14 15 03.2**	**+1.4**
comp=Z,2.5nm,0.8s,baz=15,slow=5.0,SNR=42							
ESDC	**Sonseca Array**	**85.68**	**347**	P	**P**	**14 15 30.9**	**+0.6**
comp=Z,0.9nm,0.5s,baz=1.0,slow=4.7,SNR=13							
PLCA	**Paso Flores**	**144.76**	**89**	PKPbc	**PKPdf**	**14 22 27.8**	**+1.3**
comp=Z,2.3nm,0.6s,baz=323,slow=4.7,SNR=14							

JSN 03 14:07:22.4±2.6, 19.32N×75.79W, h9km±722km, MD3.9, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJ	**Castle Mountai**	**1.30**	**205**	*i* P	Pn	14 07 45.9	-1.0
STH	**Stony Hill**	**1.57**	**218**	*i* P	Pn	14 07 48.3	-2.3
STH				*i* S	Sn	14 08 08.9	-2.2
HOJ	**Hope**	**1.60**	**215**	*i* P	Pn	14 07 50.4	-0.5
HOJ				*i* S	Sn	14 08 08.1	-3.5
BBJ	**Bamboo Saint A**	**1.68**	**236**	*i* P	Pn	14 07 49.4	-2.7
BBJ				*i* S	Sn	14 08 11.6	-2.2
PCJ	**Portland Cotta**	**2.04**	**220**	*i* P	Pn	14 07 56.5	-0.5
MCJ	**Malvern**	**2.27**	**233**	*i* P	Pn	14 07 58.4	-1.9
MCJ				*i* S	Sn	14 08 28.1	-0.4
MCJ				*i* S	Sb	14 08 31.2	-0.8

*ISCJB **03** 14:07:57.4±0.8, 44.02N±0.07°×147.20E±0.10, h102km±5km, mb4.0/1, Error ellipse: s-maj=15.6km s-min=6.0km az=137.7*
*MOS **03** 14:07:57.2±0.6, 44.04N×147.24E, h103km, mb4.1/1, Error ellipse: s-maj=20.5km s-min=17.1km az=136.6*
*SKHL **03** 14:07:57.2±0.2, 44.05N×147.18E, h91km±7km, mb4.3/6, msh5.1/6*
*JMA **03** 14:07:58.6±0.2, 43.91N×147.20E, h98km±4km, M3.6*
ISC 03 14:07:58.0±1.2, 44.01N±0.07°×147.24E±0.07, h97km±7km, n32, σ0.961/50, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.33**	**245**	*i* P	**Pn**	**14 08 12.0**	**-0.4**
SHO				AMB	AMB	14 08 13.0	
127nm,0.2s							
SHO				*i* S	**Sn**	**14 08 23.0**	**-0.2**
SHO				A	A	14 08 24.0	
900nm,0.3s							
SHO				A	A	14 08 24.0	
172nm,0.3s							
SHO	**Shikotan**	**0.33**	**245**	*d* iPN	**Pn**	**14 08 12.9**	**+0.5**
SHO				*i* S	**Sn**	**14 08 23.8**	**+0.6**
SHO				pmax	pmax		
comp=N,331nm,0.1s							
SHO				pmax	pmax		
comp=E,396nm,0.1s							
SHO				pmax	pmax		
comp=Z,1μm,0.1s							
SHO				smax	smax		
comp=N,992nm,0.2s							
SHO				smax	smax		
comp=E,2μm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.00**	**272**	*i* P	**Pn**	**14 08 18.0**	**-0.1**
YUK				AMB	AMB	14 08 18.0	
comp=E,40nm,0.2s							
YUK				*i* S	**Sn**	**14 08 33.0**	**-0.3**
YUK				A	A	14 08 34.0	
comp=E,144nm,0.2s							
YUK				A	A	14 08 34.0	
comp=E,61nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.00**	**272**	*d* iPN	**Pn**	**14 08 18.3**	**+0.2**
YUK				*i* S	**Sn**	**14 08 33.4**	**+0.1**
YUK				pmax	pmax		
comp=Z,802nm,0.2s							
YUK				pmax	pmax		
comp=N,118nm,0.1s							
YUK				pmax	pmax		
comp=E,158nm,0.1s							
YUK				smax	smax		
comp=N,1μm,0.2s							
YUK				smax	smax		
comp=E,610nm,0.2s							
LAGR	**Lagunnoye**	**1.05**	**273**	*i* P	**Pn**	**14 08 19.0**	**+0.2**
LAGR				AMB	AMB	14 08 19.0	
comp=E,30nm,0.2s							
LAGR				*i* S	**Sn**	**14 08 34.0**	**-0.4**
LAGR				A	A	14 08 35.0	
comp=E,141nm,0.2s							
LAGR				A	A	14 08 35.0	
comp=E,71nm,0.2s							
LAGR	**Lagunnoye**	**1.05**	**273**	*d* iPN	**Pn**	**14 08 19.0**	**+0.2**
LAGR				*i* S	**Sn**	**14 08 34.6**	**+0.2**
LAGR				pmax	pmax		
comp=E,85nm,0.1s							
LAGR				pmax	pmax		
comp=Z,651nm,0.1s							
LAGR				smax	smax		
comp=N,1μm,0.2s							
LAGR				smax	smax		
comp=E,706nm,0.2s							
GRPR	**Tuman**	**1.06**	**270**	*i* P	**Pn**	**14 08 19.0**	**+0.1**
GRPR				AMB	AMB	14 08 19.0	
comp=E,

JOB	**Onbets**	**2.72**	**247**	P	**Pn**	**14 08 40.5**	**+0.6**
JOB				*e*S	**Sn**	**14 09 11.2**	**-0.9**
JMP	**Maruseppu**	**2.80**	**271**	P	**Pn**	**14 08 41.4**	**+0.4**
JCH	**Churui**	**3.16**	**245**	P	**Pn**	**14 08 45.7**	**-0.1**
JCH				*e*S	**Sn**	**14 09 20.9**	**-1.7**
ERM	**Erimo**	**3.60**	**238**	*e*P	**Pn**	**14 08 53.0**	**+1.3**
ERM	**Erimo**	**3.60**	**238**	*i* PN	**Pn**	**14 08 53.0**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.71**	**244**	P	**Pn**	**14 08 52.6**	**-0.6**
YSS	**Yuzh-Sakhalins**	**4.31**	**315**	*e*P	**Pn**	**14 09 01.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**4.31**	**315**	*i* PN	**Pn**	**14 09 01.4**	**+0.1**
EKMR	**Ekimchan**	**13.09**	**319**	*e*rx	rx	14 11 22.5	
BILL	**Bilibino**	**26.09**	**16**	*e*P	**P**	**14 13 22.8**	**+0.6**
BILL	**Bilibino**	**26.09**	**16**	*e*P	**P**	**14 13 22.8**	**+0.6**
OBN	**Obninsk**	**65.14**	**324**	*e*P	**P**	**14 18 27.9**	**-0.2**
OBN	**Obninsk**	**65.14**	**324**	*e*P	**P**	**14 18 27.9**	**-0.2**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*NNC **03** 14:16:50.7±0.8,42.°99N×77.°56E,h3km±4km,mb2.7, mpv2.8,Error ellipse: s-maj=8.2km s-min=3.0km az=168.0*
*SOME **03** 14:16:51.3,42.°93N×77.°52E,h20km*
KRNET 03 14:16:51.0±0.1,42.°96N×77.°55E,h24km,mb2.6,27C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MDOK	**Medeo**	**0.42**	**300**	P		Pb	14 16 59.1	-0.8
MDOK	14nm,0.8s			S		Sb	14 17 05.2	-0.8
MDOK	**Medeo**	**0.42**	**300**	*e*P		Pb	14 16 59.5	-0.4
MDOK	23nm,0.2s			*e*S		Sb	14 17 05.2	-0.8
KOTS	**Kotyrbulak**	**0.42**	**311**	P		Pb	14 16 59.8	-0.2
KOTS	52nm,0.1s			S		Sb	14 17 05.4	-0.6
KOTS	**Kotyrbulak**	**0.42**	**311**	*e*P		Pb	14 16 59.8	-0.2
KOTS	baz=11			*e*S		Sb	14 17 05.5	-0.6
KOTS	**Kotyrbulak**	**0.42**	**311**	*e*P		Pb	14 16 59.8	-0.2
KOTS	52nm,0.1s			*e*S		Sb	14 17 05.4	-0.7
TNSS	**Tian-Shan**	**0.45**	**280**	*e*P		Pb	14 17 00.4	-0.1
TNSS	63nm,0.4s 7.1nm,0.1s			*e*S		Sb	14 17 06.4	-0.6
KNDC	**Almaty**	**0.50**	**302**	⇑P		Pb	14 17 00.2	-1.0
KNDC	55nm,0.1s 8.6nm,0.5s			⇑S		Sb	14 17 08.0	-0.1
AAA	**Alma-Ata**	**0.53**	**299**	P		Pb	14 17 01.9	+0.3
AAA	42nm,0.5s 31nm,0.1s			S		Sb	14 17 09.4	+0.5
AAA	**Alma-Ata**	**0.53**	**299**	*e*P		Pb	14 17 02.0	+0.3
AAA	95nm,0.2s baz=99			*e*S		Sb	14 17 09.3	+0.4
ZHN	**Zhinishke**	**0.69**	**72**	*e*P		Pb	14 17 04.1	-0.2
ZHN	10nm,0.1s			*e*S		Sb	14 17 12.8	-0.6
KURS	**Kuram**	**0.70**	**40**	P		Pb	14 17 04.7	+0.1
KURS	1.1nm,0.1s			S		Sb	14 17 14.0	+0.2
KURS	**Kuram**	**0.70**	**40**	*e*P		Pb	14 17 04.7	+0.1
KURS	baz=40			*e*S		Sb	14 17 14.0	+0.2
KURS	**Kuram**	**0.70**	**40**	*e*P		Pb	14 17 04.7	+0.1
KURS	1.1nm,0.1s			*e*S		Sb	14 17 14.0	+0.2
PRZ	**Przheval'sk**	**0.79**	**127**	⇑*i*P		Pb	14 17 05.7	-0.4
PRZ	baz=26			⇑*i*S		Sb	14 17 17.1	+0.6
MTBS	**Maitube**	**0.84**	**282**	P		Pn	14 17 07.1	-0.2
MTBS	3.8nm,0.3s			S		Sb	14 17 18.1	+0.3
MTBS	**Maitube**	**0.84**	**282**	*e*P		Pb	14 17 07.1	+0.2
MTBS	14nm,0.5s baz=82			*e*S		Sb	14 17 18.1	+0.3
MTBS	**Maitube**	**0.84**	**282**	*e*P		Pn	14 17 07.1	-0.2
MTBS	3.8nm,0.3s			*e*S		Sb	14 17 18.1	+0.3
KDJ	**Kajisay**	**0.87**	**198**	⇑*i*P		Pb	14 17 07.5	0.0
KDJ	14nm,0.5s baz=98			⇑*i*S		Sn	14 17 19.5	-0.4
KPKS	**Kokpek**	**0.97**	**58**	*e*P		Pn	14 17 09.4	+0.2
KPKS	7.0nm,0.1s			*e*S		Sn	14 17 22.1	-0.2
KTBS	**Karatobe**	**0.98**	**320**	P		Pb	14 17 09.5	+0.2
KTBS	24nm,0.1s 7.4nm,0.2s			S		Sb	14 17 20.7	-1.3
KTBS	**Karatobe**	**0.98**	**320**	*e*P		Pb	14 17 09.6	+0.2
KTBS	9.2nm,0.4s 7.4nm,0.2s			*e*S		Sn	14 17 22.4	-0.1
CHKK	**Chushkaly**	**0.98**	**336**	P		Pb	14 17 09.7	+0.3
CHKK	17nm,0.2s 6.3nm,0.1s			S		Sn	14 17 22.7	+0.2
CHKK	**Chushkaly**	**0.98**	**336**	*e*P		Pb	14 17 09.7	+0.3
CHKK	18nm,0.3s baz=36			*e*S		Sb	14 17 22.7	+0.2
CHKK	**Chushkaly**	**0.98**	**336**	*e*P		Pb	14 17 09.7	+0.3
CHKK	baz=36 6.3nm,0.1s			*e*S		Sn	14 17 22.7	+0.2
UZB	**Uzynbulak**	**1.10**	**80**	*e*P		Pb	14 17 12.0	+0.6
UZB	18nm,0.3s 4.2nm,0.1s			*e*S		Sn	14 17 26.2	+0.7
ULHL	**Ulahol**	**1.20**	**234**	⇑*i*P		Pn	14 17 12.7	+0.3
ULHL	9.5nm,0.1s baz=34			⇑*i*S		Sb	14 17 29.4	+1.2
ARXS	**Arharly**	**1.27**	**9**	P		Pb	14 17 14.6	+0.3
ARXS	baz=34 5.6nm,0.6s			S		Sb	14 17 30.9	+0.7
ARXS	**Arharly**	**1.27**	**9**	*e*P		Pb	14 17 14.6	+0.3
ARXS	6.4nm,0.4s 5.6nm,0.6s			*e*S		Sb	14 17 30.9	+0.7
BOOM	**Boomskoye usch**	**1.27**	**249**	⇑*i*P		Pb	14 17 13.9	-0.5
BOOM	6.4nm,0.4s baz=49			⇑*i*S		Sb	14 17 31.5	+1.1
KUU	**Kurty**	**1.28**	**317**	P		Pb	14 17 14.8	+0.3
KUU	13nm,0.4s 2.7nm,0.3s			S		Sb	14 17 31.2	+0.7
KUU	**Kurty**	**1.28**	**317**	*e*P		Pb	14 17 14.8	+0.3
KUU	baz=17			*e*S		Sb	14 17 31.3	+0.7
KUU	**Kurty**	**1.28**	**317**	*e*P		Pb	14 17 14.8	+0.3
KUU	13nm,0.4s 2.7nm,0.3s			*e*S		Sb	14 17 31.2	+0.7
DGS	**Degeres**	**1.33**	**283**	P		Pn	14 17 13.6	-0.5
DGS	14nm,0.4s 3.3nm,0.2s			S		Sn	14 17 29.2	-2.0
TKM2	**Tokmak 2**	**1.43**	**269**	⇓P		Pb	14 17 17.3	+0.2
TKM2	9.4nm,0.4s 0.6nm,0.3s			⇓S		Sb	14 17 37.1	+2.1
TKM2	**Tokmak 2**	**1.43**	**269**	⇑*i*P		Pb	14 17 16.7	-0.4
TKM2	baz=69			⇑*i*S		Sb	14 17 36.4	+1.4
	baz=69							

PDGK	**Podgornoye**	**1.47**	**75**	⇑P		Pb	14 17 17.4	-0.3
PDGK	1.0nm,0.4s 2.6nm,0.3s			⇓S		Sb	14 17 36.7	+0.7
PDGK	**Podgornoye**	**1.47**	**75**	⇑*i*P		Pb	14 17 17.4	-0.3
PDGK	baz=75			⇑*i*S		Sb	14 17 37.7	+1.7
KZA	**Kyzart**	**1.91**	**243**	⇑*i*P		Pb	14 17 24.4	-1.0
KZA	baz=43			⇑*i*S		Sb	14 17 49.0	0.0
CHMS	**Chumysh**	**2.05**	**272**	⇑*i*P		Pb	14 17 26.1	-1.4
CHMS	baz=72			⇑*i*S		Sb	14 17 52.9	+0.3
DJR	**Jarkent**	**2.13**	**49**	Pg		Pb	14 17 28.8	-0.2
DJR	0.5nm,0.4s 1.7nm,0.3s			Lg		Lg	14 17 55.3	
USP	**Ospenovka**	**2.25**	**279**	⇓*i*P		Pb	14 17 29.1	-1.9
USP	baz=79			⇓*i*S		Sb	14 17 57.7	-0.7
AAK	**Ala-Archa**	**2.27**	**263**	Pn		Pb	14 17 32.4	+1.1
AAK	3.5nm,0.6s 3.4nm,0.7s			Sn		Sb	14 18 01.5	+2.5
AAK	**Ala-Archa**	**2.27**	**263**	⇑*i*P		Pb	14 17 29.4	-1.9
AAK	baz=63			⇑*i*S		Sb	14 17 58.6	-0.4
UCH	**Uchtor**	**2.35**	**253**	⇑*i*P		Pn	14 17 30.4	+1.8
UCH	baz=53			⇑*i*S		Sb	14 18 00.1	-1.7
ARLS	**Aral**	**2.63**	**246**	⇑*i*P		Pn	14 17 33.9	+1.9
ARLS	baz=47			⇑*i*S		Sn	14 18 06.1	+2.9
KAPS	**Kapalarasan**	**2.67**	**29**	Pg		Pb	14 17 38.4	+0.3
KAPS	1.7nm,0.5s 2.7nm,0.6s			Lg		Lg	14 18 11.7	
MK31	**Makanchi Array**	**5.11**	**40**	⇓Pg		Pb	14 18 23.1	+3.5
MK31	0.3nm,0.7s 0.3nm,0.6s,baz=218,slow=29,SNR=4.3			⇑Lg		Lg	14 19 28.3	
KK31	**Karatay Array** 0.6nm,0.6s,baz=86,slow=28,SNR=5.0	**5.16**	**274**	⇑Lg		Lg	14 19 31.7	

*ISCJB **03** 14:38:22.6±1.0, 15.°44S±0.°08×167.°4E±0.°2, h124km, mb3.4/5, Error ellipse: s-maj=29.7km s-min=11.2km az=5.5*
*IDC **03** 14:38:28.1±7.5, 15.°71S×167.°55E, h169km±80km, mb3.3/5, mb1 3.6/6, mb1mx3.3/27, mbtmp3.8/6, Error ellipse: s-maj=74.2km s-min=26.7km az=161.0*
ISC 03 14:38:23.8±1.0,15.°4S±0.°1×167.°5E±0.°2,h124km,n7, σ1§05/8,mb3.5/5,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.69**	**188**	P		**Pn**	**14 40 01.0**	**+1.4**
DZM	4.9nm,0.3s,baz=307,slow=14,SNR=48			S		**Sn**	**14 41 13.2**	**-1.4**
WRA	**Warramunga Arr**	**31.87**	**257**	P		**P**	**14 44 36.9**	**-0.5**
ASAR	1.7nm,0.3s,baz=112,slow=19,SNR=2.5 0.1nm,0.5s,baz=85,slow=9.1,SNR=3.1 **Alice Springs**	**32.63**	**250**	P		**P**	**14 44 43.9**	**-0.2**
SONM	0.8nm,0.4s,baz=75,slow=9.1,SNR=35 **Songino Array**	**83.17**	**324**	P		**P**	**14 50 37.0**	**+0.8**
ILAR	0.6nm,0.6s,baz=131,slow=4.0,SNR=4.9 **Eielson Array**	**87.11**	**18**	P		**P**	**14 50 55.2**	**0.0**
YKA	0.4nm,0.8s,baz=218,slow=5.7,SNR=3.7 **Yellowknife Ar**	**98.06**	**27**	P		**P**	**14 51 45.0**	**-0.8**
ARCES	0.1nm,0.6s,baz=256,slow=5.3,SNR=3.8 **ARCESS Array B**	**120.97**	**345**	PKP		**PKPdf**	**14 57 00.7**	**-0.3**
	0.8nm,0.8s,baz=102,slow=1.7,SNR=5.2							

NNC 03 14:50:56.4±2.4,43.°87N×77.°54E,h8km±12km,mb2.3, mpv2.2,Error ellipse: s-maj=30.3km s-min=7.3km az=97.0,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.57**	**116**	P		Pg	14 51 28.8	+2.4
SHLS	2.8nm,0.2s			S		Sg	14 51 52.7	+5.9
KAPS	**Kapalarasan**	**1.92**	**42**	Pg		Pb	14 51 31.5	-0.2
KAPS	0.3nm,0.3s 0.7nm,0.3s			Lg		Lg	14 51 57.5	

*ISCJB **03** 15:00:08.0±1.3,24.°4S±0.°1×179.°9E±0.°2, h500km, mb3.6/4, Error ellipse: s-maj=24.1km s-min=15.4km az=169.3*
*IDC **03** 15:00:09.3±4.6,24.°45S×179.°90E, h506km±54km, mb3.2/4, mb1 3.4/6, mb1mx3.0/29, mbtmp4.1/6, Error ellipse: s-maj=43.2km s-min=27.9km az=1.0*
ISC 03 15:00:08.8±1.4,24.°5S±0.°1×180.°0E±0.°2,h500km,n6, σ1§09/7,mb3.7/4,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.69**	**278**	P		**P**	**15 02 55.8**	**+1.0**
URZ	0.3nm,0.3s,baz=72,slow=20,SNR=3.8 **Urewera**	**13.92**	**189**	P		**P**	**15 03 07.0**	**-0.5**
URZ	0.5nm,0.3s,baz=322,slow=19,SNR=4.6 0.4nm,0.3s,baz=258,slow=20,SNR=4.6			S		**S**	**15 05 35.6**	**+0.8**
STKA	**Stephens Creek**	**34.49**	**249**	P		**P**	**15 06 14.8**	**+0.3**
ASAR	1.8nm,0.6s,baz=98,slow=11,SNR=12 **Alice Springs**	**41.93**	**261**	P		**P**	**15 07 14.6**	**-0.8**
WRA	1.3nm,0.8s,baz=95,slow=7.1,SNR=40 **Warramunga Arr**	**42.36**	**267**	P		**P**	**15 07 17.3**	**-1.5**
TXAR	2.3nm,0.5s,baz=97,slow=8.2,SNR=70 **Lajitas Array**	**90.76**	**58**	P		**P**	**15 12 18.8**	**+0.3**
	0.4nm,0.7s,baz=218,slow=7.2,SNR=5.9							

MEX 03 15:03:03.6±0.3,16.°16N×92.°84W,h222km±4km,MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.58**	**219**	*e*P		Pn	15 03 31.9	-1.7
PCIG				*e*S		S	15 03 54.1	-2.8
CCIG	**Comitan**	**0.69**	**79**	*e*P		Pn	15 03 32.9	-1.3
CCIG				*i* S		S	15 03 55.2	-2.8
THIG		**1.36**	**156**	*i* P		Pn	15 03 36.5	-1.7
THIG				*i* S		S	15 04 02.3	-2.8

*ATH **03** 15:18:23.2,39.°70N×25.°66E,h27km±1km,ML2.1/5, Error ellipse: s-maj=2.2km s-min=1.2km az=244.0*
*ISK **03** 15:18:23.1,39.°71N×25.°66E,h8km,ML2.6/11*
*ISCJB **03** 15:18:24.2±0.6,39.°69N±0.°03×25.°64E±0.°04,h15km±8km, Error ellipse: s-maj=5.0km s-min=4.1km az=43.0*
*DDA **03** 15:18:26.5,39.°73N×25.°90E,h36km±1km,ML2.9*
ISC 03 15:18:22.2±1.0,39.°65N±0.°03×25.°59E±0.°02,h17km±9km, n31,σ0§69/42,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.40**	**309**	P		**Pn**	**15 18 32.7**	**-0.5**
LIA				S		**Sb**	**15 18 38.3**	**+1.6**
LIA	comp=E,475μm,0.4s			AML	AML		15 18 47.4	
LIA	comp=N,390μm,0.6s			AML	AML		15 18 48.4	
BOZC	**Bozcaada**	**0.41**	**62**	PG		**Pg**	**15 18 30.5**	**-0.1**
BOZC				SG		**Sg**	**15 18 35.5**	**-0.7**
BOZC	**Bozcaada**	**0.41**	**62**	*i* P		**Pb**	**15 18 31.0**	**0.0**
BOZC				*i* S		**Sg**	**15 18 36.5**	**+0.3**
BOZC	comp=Z,7μm,0.2s			IAML_P				
SIGR	**SIGRI**	**0.48**	**155**	PG		**Pn**	**15 18 33.6**	**-0.7**
SIGR				SG		**Sn**	**15 18 41.1**	**-1.3**
SIGR	**SIGRI**	**0.48**	**155**	P		**Pn**	**15 18 33.6**	**-0.7**
SIGR				S		**Sn**	**15 18 41.1**	**-1.3**
SIGR	comp=E,2064μm,0.5s			AML	AML		15 18 41.6	
SIGR				AML	AML		15 18 41.6	
	comp=N,2011μm,0.4s							
EZN	**Ezine**	**0.59**	**73**	PG		**Pg**	**15 18 33.9**	**-0.1**
EZN				SG		**Sg**	**15 18 41.3**	**-0.7**
PRK	**Paraskevi**	**0.67**	**127**	P		**Pn**	**15 18 37.5**	**+0.6**
PRK	comp=E,566μm,0.5s			AML	AML		15 18 47.5	
PRK	comp=N,518μm,0.3s			AML	AML		15 18 51.0	
BAYC	**CANAKKALE_Bayr**	**0.74**	**83**	*i* P		**Pn**	**15 18 37.8**	**-0.2**
BAYC				*i* S		**Sb**	**15 18 46.2**	**-0.4**
SMTH	**Samothraki Isl**	**0.82**	**357**	P		**Pn**	**15 18 38.9**	**-0.2**
SMTH				S		**Sb**	**15 18 49.2**	**+0.4**
SMTH	comp=E,184μm,0.2s			AML	AML		15 18 52.0	
SMTH	comp=N,189μm,0.2s			AML	AML		15 18 52.7	
AYVA	**Ayvalik**	**0.92**	**111**	*i* P		**Pn**	**15 18 41.8**	**+1.4**
GELI	**Tayfur-Gelibol**	**1.01**	**42**	PG		**Pb**	**15 18 41.4**	**+0.1**
LPK	**Lapseki**	**1.15**	**51**	PG		**Pb**	**15 18 44.2**	**+0.5**
ENEZ	**Enez**	**1.17**	**22**	PN		**Pg**	**15 18 44.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.24**	**35**	PN		**Pb**	**15 18 45.6**	**+0.4**
ALN	**Alexandroupoli**	**1.29**	**16**	PN		**Pb**	**15 18 46.8**	**+0.7**
ALN	**Alexandroupoli**	**1.29**	**16**	P		**Pb**	**15 18 46.5**	**+0.4**
ALN				S		**Sn**	**15 19 02.6**	**+0.2**
ALN	comp=E,96μm,0.6s			AML	AML		15 19 03.9	
ALN	comp=N,78μm,0.5s			AML	AML		15 19 10.9	
CHOS	**Chios island**	**1.31**	**164**	PN		**Pg**	**15 18 48.9**	**+1.3**
CHOS	**Chios island**	**1.31**	**164**	P		**Pg**	**15 18 47.7**	**+0.1**
AOS	**Alonnisos**	**1.41**	**251**	P		**Pg**	**15 18 50.1**	**+0.7**
OUR	**Ouranopolis**	**1.41**	**299**	PN		**Pg**	**15 18 49.6**	**+0.2**
OUR	**Ouranopolis**	**1.41**	**299**	P		**Pg**	**15 18 49.6**	**+0.2**
KESN	**Edirne-Kesan**	**1.44**	**35**	*i* P		**Pg**	**15 18 49.7**	**-0.4**
KESN				*i* S		**Sg**	**15 19 08.9**	**0.0**
KESN	comp=Z,210nm,0.1s			IAML_P				
RDO	**Rodhopi**	**1.50**	**359**	PN		**Pb**	**15 18 50.1**	**+0.6**
RDO	**Rodhopi**	**1.50**	**359**	P		**Pb**	**15 18 49.7**	**+0.2**
URLA	**Izmir**	**1.51**	**148**	PN		**Pg**	**15 18 51.4**	**+0.1**
BALY	**Balya**	**1.57**	**86**	*i* P		**Pg**	**15 18 51.7**	**-0.7**
BALY				*i* S		**Sb**	**15 19 11.4**	**+1.0**
BALY	comp=Z,458nm,0.1s			IAML_P				
KAVA	**Kavala**	**1.58**	**329**	P		**Pb**	**15 18 50.9**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.67**	**99**	*i* P		**Pb**	**15 18 53.2**	**+0.7**
STEP	comp=Z,602nm,0.2s			IAML_P				
PLG	**Polygyros**	**1.80**	**294**	P		**Pb**	**15 18 54.9**	**+0.2**
SRS	**Serrai**	**2.12**	**314**	P		**Pb**	**15 18 59.4**	**-0.7**
AGG	**Agios Georgios**	**2.60**	**257**	P		**Pb**	**15 19 07.7**	**-0.7**

IDC 03 15:51:49.8±2.2,6.°22S×130.°14E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.4/30,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=89.4km s-min=27.9km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.60**	**200**	Pn		Pn	15 54 50.8	+0.5
FITZ	0.1nm,0.3s,baz=25,slow=10.0,SNR=6.9			Sn		Sn	15 56 58.1	-13
WRA	0.4nm,0.3s,baz=45,slow=18,SNR=7.5 **Warramunga Arr**	**14.24**	**164**	Pn		Pn	15 55 12.1	-0.7
WRA	0.2nm,0.3s,baz=346,slow=13,SNR=18			Sn		Sn	15 57 35.7	-16
ASAR	0.3nm,0.3s,baz=338,slow=23,SNR=7.2 **Alice Springs**	**17.72**	**169**	P		Pn	15 55 58.5	+0.3
	0.1nm,0.3s,baz=346,slow=14,SNR=8.2							

IDC 03 16:06:05.5±1.2,29.°53N×101.°07E,h0km,mb3.3/4, mb1 3.5/5,mb1mx3.2/43,mbtmp3.3/5,ML3.8/1,MS2.3/1, Ms1 2.5/1,ms1mx2.3/22,Error ellipse: s-maj=73.7km s-min=20.0km az=61.0,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.19**	**190**	LR		LR	16 13 08.7	
SONM	comp=Z,14nm,19.9s,baz=25,slow=38 **Songino Array**	**18.74**	**11**	P		P	16 10 25.7	-0.1
MKAR	0.3nm,0.3s,baz=195,slow=10,SNR=3.5 **Makanchi Array**	**22.60**	**325**	P		P	16 11 08.1	+0.4
KURBB	0.3nm,0.5s,baz=123,slow=13,SNR=3.6 **Kurchatov Arra**	**27.04**	**328**	P		P	16 11 48.9	-0.4
WRA	0.3nm,0.8s,baz=131,slow=10.0,SNR=3.6 **Warramunga Arr**	**58.72**	**143**	P		P	16 16 03.9	-1.4
ASAR	0.8nm,0.9s,baz=326,slow=9.0,SNR=5.4 **Alice Springs**	**61.59**	**146**	P		P	16 16 26.3	+1.3
	0.5nm,1.0s,baz=327,slow=6.6,SNR=3.6							

*THR **03** 16:11:13.8,30.°56N×57.°28E,h14km,ML3.9*
*TEH **03** 16:11:13.2,30.°54N×57.°26E,h10km,ML3.4*
*ISCJB **03** 16:11:14.4±0.3,30.°53N±0.°02×57.°24E±0.°04,h11km, mb3.5/7,Error ellipse: s-maj=4.8km s-min=3.4km az=12.9*
*IDC **03** 16:11:14.3±1.2,30.°48N×57.°37E,h0km,mb3.6/7, mb1 3.7/10,mb1mx3.5/38,mbtmp3.6/10,ML3.4/3,Error ellipse: s-maj=25.6km s-min=20.1km az=127.0*
ISC 03 16:11:15.5±0.6,30.°52N±0.°04×57.°22E±0.°03,h11km,n54, σ1§58/57,mb3.6/7,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KHGB	**Koh Gabri**	**0.66**	**257**	*e*Pg		**Pg**	**16 11 26.1**	**-2.2**
KHGB				*e*Sg		**Sg**	**16 11 35.5**	**-1.5**
KHGB	comp=Z,0.0nm,0.2s			IAMB	IAmb		16 11 37.6	
TVBK	**TV Kerman**	**0.67**	**217**	*e*Pg		**Pg**	**16 11 27.2**	**-1.3**
TVBK	comp=Z,0.0nm,0.2s			IAMB	IAmb		16 11 38.7	
KRBR	**Kerman**	**0.67**	**216**	*e*Pg		**Pb**	**16 11 27.9**	**-1.5**
KRBR	**Kerman**	**0.67**	**216**	*e*Pg		**Pb**	**16 11 27.9**	**-1.5**
CHMN	**Cheshme madani**	**0.72**	**157**	*e*Pg		**Pg**	**16 11 26.6**	**-2.9**
CHMN	comp=Z,0.0nm,0.3s			IAMB	IAmb		16 11 39.1	
NGRK	**Negar Kerman**	**0.97**	**206**	*e*Pg		**Pg**	**16 11 32.6**	**-1.7**
NGRK	comp=Z,0.0nm,0.2s			IAMB	IAmb		16 11 33.1	
IMEH	**Mehriz**	**2.40**	**292**	*e*Pn		**Pn**	**16 11 55.2**	**+0.2**
IMEH	comp=Z,6μm,0.5s			IAMB	IAmb		16 12 40.8	
IKOO	**Kooshah**	**2.43**	**38**	*e*Pn		**Pn**	**16 11 54.2**	**-1.3**
IKOO	comp=Z,12μm,0.3s			IAMB	IAmb		16 12 33.5	
TPRV	**Parvadeh(Tabas**	**2.54**	**350**	*e*Pn		**Pn**	**16 11 55.8**	**-1.0**
TPRV	comp=Z,0.0nm,0.4s			IAMB	IAmb		16 12 40.8	
ITEG	**Tejag**	**2.70**	**28**	*e*Pn		**Pn**	**16 11 57.6**	**-1.5**
ITEG	comp=Z,4μm,0.3s			IAMB	IAmb		16 12 38.2	
YZKH	**Yazd**	**2.92**	**310**	*e*Pn		**Pn**	**16 12 02.5**	**+0.5**
YZKH	**Yazd**	**2.92**	**310**	*e*Pn		**Pn**	**16 12 02.5**	**+0.5**
ICHK	**Chekchek**	**2.95**	**306**	*e*Pn		**Pn**	**16 12 03.1**	**+0.5**
ICHK	comp=Z,3μm,0.6s			IAMB	IAmb		16 12 58.7	
NIAN	**Nian**	**2.97**	**187**	IAMB	IAmb		16 12 57.1	
NIAN	comp=Z,0.0nm,0.4s			*e*Pn		**Pb**	**16 12 07.5**	**-1.0**
TKDS	**Koohdasht(Taba**	**3.08**	**359**	*e*Pn		**Pn**	**16 12 03.2**	**-1.1**
TKDS	comp=Z,0.0nm,0.4s			IAMB	IAmb		16 12 59.2	
TABS	**Tabas**	**3.12**	**358**	*e*Pn		**Pn**	**16 12 04.0**	**-0.8**
TABS	**Tabas**	**3.12**	**358**	*e*AML	AML		16 12 59.0	
TABS	comp=N,318nm,0.5s **Tabas**	**3.12**	**358**	*e*Pn		**Pn**	**16 12 04.0**	**-0.8**
TABS				*e*Sg		**Sb**	**16 12 50.1**	**+1.0**
IDAH	**Dahanechah**	**3.16**	**45**	*e*Pn		**Pn**	**16 12 05.8**	**+0.3**
IDAH	comp=E,5μm,0.6s			IAMB	IAmb		16 13 01.6	
ZHSF	**Zahedan**	**3.21**	**106**	*e*Pn		**Pn**	**16 12 05.6**	**-0.5**
ZHSF	**Zahedan**	**3.21**	**106**	*e*Pn		**Pn**	**16 12 05.6**	**-0.5**
ZHSF				*e*Sg		**Sb**	**16 12 52.6**	**+0.6**
GENO	**Geno**	**3.24**	**197**	IAMB	IAmb		16 12 58.0	
GENO	comp=Z,0.0nm,0.4s			*e*Pn		**Pn**	**16 12 07.0**	**+0.4**
ISAD	**Sadrabad**	**3.33**	**296**	*e*Pn		**Pn**	**16 12 08.4**	**+0.6**
ISAD	comp=Z,2μm,0.6s			IAMB	IAmb		16 13 11.7	
TNSJ	**Nastanj**	**3.47**	**352**	*e*Pn		**Pn**	**16 12 08.6**	**-1.0**
TNSJ	comp=Z,0.0nm,0.5s			IAMB	IAmb		16 13 07.9	
IPAR	**Pars**	**3.67**	**260**	*e*Pn		**Pb**	**16 12 16.2**	**-4.5**

IPAR					IAMB	IAmb	16 13 20.9	
	comp=N,3μm,0.8s							
ISRV	**Sarvestan**	**3.74**	**253**	*e*Pn	**Pn**		**16 12 14.4**	**+0.9**
ISRV					IAMB	IAmb	16 13 30.7	
	comp=Z,2μm,0.9s							
ANAR	**Anarak**	**3.98**	**313**	*e*Pn	**Pn**		**16 12 16.9**	**+0.2**
ANAR					IAMB	IAmb	16 13 42.3	
	comp=Z,0.0nm,1.0s							
IRAM	**Ramesheh**	**4.34**	**288**	*e*Pn	**Pn**		**16 12 22.4**	**+0.7**
IRAM					IAMB	IAmb	16 13 52.9	
	comp=Z,707nm,1.1s							
SHME	**Shamm**	**4.56**	**192**	*e*Pn	**Pn**		**16 12 26.0**	**+1.5**
IKAZ	**Kazeroun**	**4.72**	**262**	*e*Pn	**Pn**		**16 12 27.2**	**+0.3**
IKAZ					IAMB	IAmb	16 12 48.6	
	comp=Z,773nm,0.5s							
IZEF	**Zefreh**	**4.79**	**301**	*e*Pn	**Pn**		**16 12 28.8**	**+0.9**
IZEF					IAMB	IAmb	16 14 04.0	
	comp=Z,371nm,0.6s							
MSFE	**Esma-Masafi**	**5.23**	**191**	*e*Pn	**Pn**		**16 12 35.6**	**+1.9**
MDH	**Madha**	**5.27**	**189**	*e*Pn	**Pn**		**16 12 37.2**	**+3.0**
KRSH	**Karshahi**	**5.51**	**310**	*e*Pn	**Pn**		**16 12 37.8**	**+0.1**
IANJ	**Anjilo**	**5.66**	**331**	*e*Pn	**Pn**		**16 12 39.4**	**-0.4**
IANJ					IAMB	IAmb	16 13 12.7	
	comp=Z,340nm,0.4s							
ISFB	**Sefidab**	**5.68**	**314**	*e*Pn	**Pn**		**16 12 41.6**	**+1.6**
ISFB					IAMB	IAmb	16 14 23.1	
	comp=Z,292nm,0.6s							
NAZ	**Nazwa, Dubai**	**5.68**	**194**	*e*Pn	**Pn**		**16 12 42.7**	**+2.8**
HATD	**Hatta, Dubai**	**5.76**	**190**	*e*Pn	**Pn**		**16 12 44.5**	**+3.5**
SBZV	**Sabzevar**	**5.86**	**3**	*e*Pn	**Pn**		**16 12 42.7**	**+0.2**
ASHO	**Ashiyiah**	**5.91**	**190**	*e*Pn	**Pn**		**16 12 44.2**	**+1.1**
FAQ	**Al Faqa, Dubai**	**5.93**	**194**	*e*Pn	**Pn**		**16 12 45.3**	**+1.9**
IPAY	**Payeh**	**6.09**	**14**	*e*Pn	**Pn**		**16 12 46.1**	**+0.3**
IPAY					IAMB	IAmb	16 13 59.5	
	comp=N,624nm,0.4s							
IMYA	**Miami**	**6.28**	**22**	*e*Pn	**Pn**		**16 12 50.5**	**+2.2**
IMYA					IAMB	IAmb	16 15 01.6	
	comp=N,260nm,1.0s							
IKRD	**Kardeh**	**6.33**	**9**	*e*Pn	**Pn**		**16 12 52.6**	**+3.6**
IKRD					IAMB	IAmb	16 14 49.1	
	comp=Z,190nm,0.8s							
WSAR	**Wadi Sarin**	**7.36**	**170**	Pn	**Pn**		**16 13 02.2**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=18,slow=11,SNR=13							
WSAR					Sn	**Sn**	**16 14 27.9**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=75,slow=21,SNR=5.7							
GEYT	**Alibeck**	**7.43**	**6**	Pn	**Pn**		**16 13 04.8**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=198,slow=17,SNR=4.3							
AKTO	**Aktyubinsk**	**19.90**	**2**	P	**P**		**16 15 46.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=174,slow=9.2,SNR=3.7							
BRTR	**Keskin Array B**	**21.31**	**302**	P	**P**		**16 16 04.5**	**+2.0**
	comp=Z,2.0nm,0.8s,baz=109,slow=12,SNR=11							
BVAR	**Borovoye Array**	**24.46**	**19**	P	**P**		**16 16 34.0**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=165,slow=6.2,SNR=8.3							
MKAR	**Makanchi Array**	**25.29**	**43**	P	**P**		**16 16 41.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=230,slow=8.5,SNR=8.7							
KURBB	**Kurchatov Arra**	**25.63**	**32**	P	**P**		**16 16 45.7**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=230,slow=9.6,SNR=5.7							
ZALV	**Zalesovo Beam**	**30.72**	**32**	P	**P**		**16 17 31.6**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=253,slow=9.4,SNR=3.9							
GERES	**GERESS Array B**	**37.55**	**312**	P	**P**		**16 18 32.0**	**+2.2**
	comp=Z,0.9nm,0.8s,baz=113,slow=8.8,SNR=7.2							
TORD	**Torodi Ar. Bea**	**53.84**	**264**	P	**P**		**16 20 39.7**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=56,slow=7.3,SNR=4.6							

*IDC **03** 16:15:53.4±0.8, 16.74N×91.22W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/38, mbtmp3.7/10, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=22.5km s-min=10.9km az=53.0*

*NEIC **03** 16:15:55.5±0.5, 16.64N×91.21W, h10km, mb4.4/18, Error ellipse: s-maj=9.8km s-min=7.3km az=223.0*

*ISCJB **03** 16:15:57.2±0.3, 16.74N±0.03×91.22W±0.04, h33km, mb4.0/16, Error ellipse: s-maj=5.4km s-min=4.2km az=39.2*

*MEX **03** 16:15:57.2±0.4, 16.85N×91.21W, h10km±8km, MD3.7*

ISC 03 16:15:58.9±0.6, 16.79N±0.04×91.24W±0.05, h35km, n50, σ1s78/54, mb4.4/19, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.00**	**240**	*e*Pn	**Pn**	**16 16 14.3**	**-2.3**
CCIG	**Comitan**	**1.00**	**240**	*e*P	**Pn**	**16 16 14.5**	**-2.1**
CCIG				*e*S	**Sn**	**16 16 27.3**	**-2.3**
APG	**El Apazote**	**1.93**	**157**	Pn	**Pn**	**16 16 26.9**	**-2.5**
	24nm,0.3s,baz=336,slow=21,SNR=48						
APG				LR	LR	16 16 52.3	
	comp=Z,106nm,18.7s,baz=324,slow=32						
APG				Lg	Lg	16 16 52.8	
	174nm,0.3s,baz=213,slow=15,SNR=11						
THIG		**2.12**	**208**	*e*P	**Pn**	**16 16 31.2**	**-0.6**
THIG				*i* S	**Sn**	**16 16 56.4**	**-0.6**
PCIG		**2.19**	**241**	*e*P	**Pn**	**16 16 31.5**	**-1.3**
PCIG				*i* S	**Sn**	**16 16 57.9**	**-0.8**
CMIG	**Matias Romero**	**3.50**	**275**	Pn	**Pn**	**16 16 49.3**	**-1.6**
	1.7nm,0.3s,baz=86,slow=11,SNR=12						
CMIG				Sn	**Sn**	**16 17 29.2**	**-2.0**
	19nm,0.3s,baz=12,slow=21,SNR=12						
CMIG				Lg	Lg	16 17 44.6	
	32nm,0.3s,baz=35,slow=23,SNR=7.6						
CMIG				LR	LR	16 18 32.2	
	comp=Z,247nm,19.4s,baz=19,slow=45						
MYIG	**Mrida**	**4.38**	**19**	*e*Pn	**Pn**	**16 16 59.5**	**-3.4**
MYIG	**Mrida**	**4.38**	**19**	*i* P	**Pn**	**16 17 01.1**	**-1.8**
MYIG				*e*S	**Sn**	**16 17 50.4**	**-2.4**
TEIG	**Tepich**	**4.42**	**39**	*e*Pn	**Pn**	**16 17 02.1**	**-1.4**
TGUH	**Tegucigalpa,Un**	**4.69**	**125**	*e*Pn	**Pn**	**16 17 07.3**	**+0.1**
LVIG	**Laguna Verde**	**5.72**	**301**	*e*Pn	**Pn**	**16 17 19.0**	**-2.4**
MOIG	**Morelia**	**9.88**	**288**	*e*Pn	Pn	16 18 25.9	+7.2
LNIG	**Linares**	**11.14**	**318**	*e*Pn	**Pn**	**16 18 38.9**	**+3.1**
KVTX	**Kingsville**	**12.35**	**331**	*e*Pn	**Pn**	**16 18 54.4**	**+2.2**
435B	**Jarrell**	**15.08**	**339**	*e*Pn	**Pn**	**16 19 31.1**	**+1.7**
	11nm,0.4s						
555A	**McAlpin**	**15.27**	**28**	*e*Pn	**Pn**	**16 19 32.1**	**+0.1**
	80nm,1.1s						
GTBY	**Guantanamo Bay**	**15.62**	**76**	*e*Pn	**Pn**	**16 19 37.0**	**+0.4**
	55nm,1.1s						
WHTX	**Lake Whitney,**	**16.15**	**341**	*e*Pn	**P**	**16 19 45.2**	**-0.9**
	22nm,0.8s						
456A	**Hilliard**	**16.22**	**30**	*e*Pn	**P**	**16 19 45.9**	**-1.0**
	253nm,1.5s						
TXAR	**Lajitas Array**	**16.91**	**320**	Pn	**P**	**16 19 55.8**	**+1.0**
	0.1nm,0.3s,baz=138,slow=14,SNR=11						
TXAR					Sn	**Sn**	**16 22 59.4**	**-0.6**
	0.1nm,0.3s,baz=120,slow=18,SNR=4.4						
TX31	**Lajitas Ar. Si**	**16.91**	**320**	*e*Pn	**P**	**16 19 58.1**	**+3.4**
ABTX	**Abilene, Hawle**	**17.50**	**336**	*e*Pn	**P**	**16 20 03.5**	**+2.4**
	44nm,1.9s						
MIAR	**Mount Ida**	**17.80**	**354**	*e*Pn	**P**	**16 20 06.5**	**+2.1**
	9.2nm,1.1s						
GOGA	**Godfrey**	**17.97**	**22**	*e*Pn	**P**	**16 20 06.9**	**+0.7**
	34nm,1.6s						
WMOK	**Wichita Mounta**	**19.10**	**341**	*e*P	Pn	**16 20 21.0**	**+1.2**
	22nm,1.9s						
MSTX	**Muleshoe**	**20.00**	**331**	*e*P	Pn	16 20 30.3	-0.3
	25nm,1.6s						
AMTX	**Amarillo**	**20.29**	**335**	*e*P	Pn	16 20 33.4	-0.6
	8.1nm,0.6s						
SIUC	**Southern Illin**	**20.92**	**4**	*e*P	**P**	**16 20 38.5**	**+0.1**
	19nm,0.7s						
SDV	**Santo Domingo**	**21.56**	**109**	*e*P	**P**	**16 20 44.8**	**-0.9**
	7.7nm,0.9s						
SDV	**Santo Domingo**	**21.56**	**109**	P	**P**	**16 20 45.3**	**-0.4**
	3.6nm,0.7s,baz=287,slow=3.8,SNR=6.6						
WCI	**Wyandotte Cave**	**21.79**	**11**	*e*P	**P**	**16 20 49.6**	**+1.8**
	22nm,0.8s						
ANMO	**Albuquerque**	**22.63**	**326**	P	**P**	**16 20 57.5**	**+0.5**
	0.3nm,0.3s,baz=144,slow=14,SNR=2.6						
T25A	**Trinidad**	**23.37**	**333**	*e*P	**P**	**16 21 07.5**	**+2.9**
	20nm,1.6s						
TUC	**Tucson**	**23.49**	**315**	*e*P	**P**	**16 21 07.3**	**+1.6**
	4.0nm,0.8s						
SDCO	**Great Sand Dun**	**24.36**	**332**	*e*P	**P**	**16 21 13.5**	**-0.5**
	5.2nm,1.3s						
PHWY	**Pilot Hill**	**27.33**	**336**	*e*P	**P**	**16 21 38.8**	**-2.0**
	9.3nm,0.8s						
PDAR	**Pinedale Array**	**30.24**	**333**	PcP	**PcP**	**16 25 09.1**	**+2.2**
	0.2nm,0.6s,baz=54,slow=4.6,SNR=3.8						
NVAR	**Mina Array Bea**	**32.04**	**318**	P	**P**	**16 22 24.4**	**+1.8**
	1.1nm,0.8s,baz=118,slow=9.3,SNR=8.2						
NVAR				PcP	**PcP**	**16 25 11.5**	**-0.3**
	0.5nm,0.7s,baz=131,slow=2.7,SNR=3.9						
LPAZ	**La Paz**	**40.00**	**144**	P	**P**	**16 23 30.3**	**-0.9**
	0.3nm,0.6s,baz=320,slow=16,SNR=1.7						
YKA	**Yellowknife Ar**	**48.50**	**346**	P	**P**	**16 24 37.4**	**-0.6**
	1.4nm,0.7s,baz=145,slow=7.6,SNR=17						
ILAR	**Eielson Array**	**60.59**	**336**	P	**P**	**16 26 04.9**	**-0.8**
	0.3nm,0.8s,baz=160,slow=5.5,SNR=3.9						
RETA	**Reutte**	**85.64**	**42**	*i* PcP	**P**	**16 28 36.1**	**+2.0**
	4.9nm,1.1s						
FETA	**Feichten**	**85.78**	**42**	*i* P	**P**	**16 28 34.9**	**-0.1**
	3.5nm,1.3s						
MOTA	**Moosalm**	**85.91**	**42**	*i* P	**P**	**16 28 35.2**	**-0.3**
	1.8nm,0.7s						
SQTA	**Sankt Quirin**	**86.02**	**42**	*i* pP	**P**	**16 28 39.5**	**+3.4**
	4.6nm,1.4s						
GERES	**GERESS Array B**	**86.99**	**40**	P	**P**	**16 28 41.4**	**+0.6**
	1.5nm,0.9s,baz=307,slow=4.9,SNR=8.5						
GEA0	**GERESS Array S**	**87.00**	**40**	*e*P	**P**	**16 28 40.6**	**-0.2**
ABTA	**Abfaltersbach**	**87.02**	**42**	*i* P	**P**	**16 28 39.9**	**-1.1**
	4.1nm,0.9s						
FINES	**FINESS Array B**	**87.67**	**25**	P	**P**	**16 28 42.5**	**-1.2**
	1.7nm,0.8s,baz=272,slow=5.2,SNR=3.4						
MOA	**Molln**	**87.72**	**41**	*i* pP	**P**	**16 28 47.3**	**+3.1**
	3.3nm,1.1s						

*ISCJB **03** 16:33:20.7±0.5, 5.37S±0.08×152.74E±0.09, h40km, mb4.3/26, MS3.3/8, Error ellipse: s-maj=14.5km s-min=9.0km az=32.4*

*NEIC **03** 16:33:22.3±1.4, 5.36S×152.73E, h44km±11km, mb4.7/14, Error ellipse: s-maj=12.3km s-min=6.4km az=119.0*

*IDC **03** 16:33:24.1±9.0, 5.33S×152.66E, h56km±81km, mb3.8/12, mb1 4.0/12, mb1mx3.8/29, mbtmp4.0/12, MS3.4/9, Ms1 3.4/9, ms1mx3.2/27, Error ellipse: s-maj=33.8km s-min=25.5km az=107.0*

ISC 03 16:33:22.8±0.6, 5.26S±0.09×152.6E±0.1, h40km, n57, σ1s16/51, mb4.2/26, MS3.4/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.15**	**338**	*e*Pn	**Pn**	**16 33 43.6**	**+1.1**
HNR	**Honiara**	**8.38**	**120**	LR	LR	16 38 12.4	
	comp=Z,151nm,18.2s,baz=298,slow=35						
GUMO	**Guam**	**20.24**	**338**	LR	LR	16 46 10.9	
	comp=Z,32nm,19.6s,baz=158,slow=38						
DZM	**Mont Dzumac**	**21.42**	**143**	P	**P**	**16 38 11.5**	**+3.9**
	7.1nm,1.0s,baz=221,slow=20,SNR=2.9						
DZM				LR	LR	16 45 30.3	
	comp=Z,142nm,18.2s,baz=290,slow=34						
WR1	**Warramunga Arr**	**22.99**	**229**	*e*P	**P**	**16 38 23.9**	**-0.4**
	8.1nm,0.9s						
WRA	**Warramunga Arr**	**22.99**	**229**	P	**P**	**16 38 23.9**	**-0.4**
	2.6nm,0.9s,baz=53,slow=9.9,SNR=12						
AS31	**Alice Springs**	**25.68**	**223**	*e*P	**P**	**16 38 48.4**	**-0.9**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**25.68**	**223**	P	**P**	**16 38 48.8**	**-0.5**
	1.4nm,0.8s,baz=60,slow=9.4,SNR=17						
ASAR				LR	LR	16 50 21.0	
	comp=Z,94nm,18.2s,baz=50,slow=40						
STKA	**Stephens Creek**	**28.42**	**200**	*e*P	**P**	**16 39 13.4**	**-0.3**
	4.9nm,2.0s						
STKA	**Stephens Creek**	**28.42**	**200**	P	**P**	**16 39 13.4**	**-0.3**
	1.4nm,0.7s,baz=347,slow=14,SNR=2.8						
STKA				LR	LR	16 50 26.4	
	comp=Z,100nm,19.7s,baz=22,slow=36						
FITZ	**Fitzroy Crossi**	**29.27**	**242**	*e*P	**P**	**16 39 20.8**	**-0.6**
	6.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.27**	**242**	P	**P**	**16 39 21.0**	**-0.5**
	3.5nm,0.9s,baz=50,slow=5.5,SNR=2.8						
MJAR	**Matsushiro Arr**	**43.71**	**343**	LR	LR	16 57 40.1	
	comp=Z,33nm,21.6s,baz=160,slow=33						
KSRS	**Korea Array**	**48.32**	**334**	LR	LR	17 00 57.2	
	comp=Z,25nm,19.5s,baz=179,slow=34						
KS15	**Wonju Array Si**	**48.33**	**334**	*e*P	**P**	**16 42 01.0**	**+0.5**
	92nm,1.9s						
ENH	**Enshi**	**54.32**	**313**	*e*P	**P**	**16 42 46.8**	**+1.2**
	13nm,1.3s						
CM01	**Chiang Mai Arr**	**57.87**	**295**	*e*P	**P**	**16 43 11.7**	**+0.6**
CM31	**Chiang Mai Arr**	**57.90**	**295**	*e*P	**P**	**16 43 11.0**	**-0.3**
	16nm,1.6s						
CMAR	**Chiang Mai Arr**	**57.90**	**295**	P	**P**	**16 43 12.2**	**+0.9**
	0.9nm,0.4s,baz=114,slow=5.6,SNR=9.2						
PETK	**Petropavlovsk-**	**58.31**	**4**	P	**P**	**16 43 13.1**	**-0.4**
	1.4nm,0.6s,baz=161,slow=7.3,SNR=5.9						
PEA1	**Petropavlovsk-**	**58.31**	**4**	*e*P	**P**	**16 43 13.1**	**-0.5**
SONA0	**Songino Array**	**66.61**	**328**	*e*P	**P**	**16 44 10.0**	**+0.7**
SONM	**Songino Array**	**66.61**	**328**	P	**P**	**16 44 10.0**	**+0.7**
	0.6nm,0.5s,baz=154,slow=5.0,SNR=5.5						
GAMB	**Gambell**	**73.88**	**16**	*e*P	**P**	**16 44 53.5**	**+0.3**
	4.9nm,1.0s						
RDOG	**Red Dog Mine**	**79.48**	**16**	*e*P	**P**	**16 45 25.3**	**+0.5**
	13nm,0.7s						
MK01	**Makanchi Array**	**80.53**	**319**	*e*P	**P**	**16 45 30.5**	**-0.5**
MK31	**Makanchi Array**	**80.54**	**319**	*e*P	**P**	**16 45 31.5**	**+0.5**
	2.2nm,1.0s						
MK32	**Makanchi Array**	**80.54**	**319**	*e*P	**P**	**16 45 30.6**	**-0.4**
MKAR	**Makanchi Array**	**80.54**	**319**	P	**P**	**16 45 30.6**	**-0.4**
	1.8nm,0.9s,baz=110,slow=6.5,SNR=12						
IM3	**Indian Mountai**	**80.88**	**20**	*e*P	**P**	**16 45 32.4**	**0.0**
MCK	**McKinley**	**81.36**	**23**	*e*P	**P**	**16 45 33.9**	**-1.1**
	22nm,1.4s						
MLY	**Manley**	**81.38**	**21**	*e*P	**P**	**16 45 34.5**	**-0.6**
	16nm,1.6s						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**16 45 34.9**	**-0.6**
	0.9nm,0.5s,baz=99,slow=6.2,SNR=4.3						
ZAA1	**Zalesovo Array**	**81.43**	**326**	*e*P	**P**	**16 45 34.9**	**-0.7**
IL1	**Eielson Array**	**82.66**	**22**	*e*P	**P**	**16 45 39.9**	**-1.9**
ILAR	**Eielson Array**	**82.66**	**22**	P	**P**	**16 45 40.9**	**-0.9**
	2.9nm,0.9s,baz=245,slow=5.4,SNR=32						
ILB	**Eielson Array**	**82.66**	**22**	*e*P	**P**	**16 45 39.9**	**-1.9**
	5.0nm,0.9s						
TKM2	**Tokmak 2**	**84.11**	**314**	P	**P**	**16 45 50.8**	**+0.8**
	SNR=6.5						
KZA	**Kyzart**	**84.17**	**313**	P	**P**	**16 45 52.5**	**+1.9**
	SNR=6.0						
CHMS	**Chumysh**	**84.73**	**314**	P	**P**	**16 45 53.8**	**+0.9**
	SNR=6.1						
UCH	**Uchtor**	**84.74**	**313**	P	**P**	**16 45 55.1**	**+1.5**
	SNR=7.3						
AAK	**Ala-Archa**	**84.84**	**314**	P	**P**	**16 45 54.9**	**+1.2**
	SNR=5.3						
HYT	**Haines Junctio**	**84.93**	**28**	*e*P	**P**	**16 45 54.3**	**+0.6**
	26nm,1.9s						
USP	**Ospenovka**	**84.97**	**314**	P	**P**	**16 45 55.2**	**+1.0**
	SNR=7.2						
MAW	**Mawson**	**85.07**	**203**	LR	LR	17 20 12.2	
	comp=Z,46nm,20.5s,baz=58,slow=33						
AML	**Almayashu**	**85.32**	**313**	P	**P**	**16 45 57.9**	**+1.6**
	SNR=10						
ARSB	**Arslanbob**	**85.69**	**312**	*e*P	**P**	**16 45 58.7**	**+0.8**
	12nm,1.1s						
EPYK	**Eagle Plains**	**87.17**	**22**	*e*P	**P**	**16 46 04.4**	**-0.1**
	10nm,1.1s						
NV01	**Mina Array Sit**	**92.52**	**52**	*e*P	**P**	**16 46 28.9**	**-1.6**
NVAR	**Mina Array Bea**	**92.52**	**52**	P	**P**	**16 46 30.7**	**+0.2**
	0.5nm,0.8s,baz=238,slow=7.1,SNR=3.8						
WSAR	**Wadi Sarin**	**95.69**	**293**	LR	LR	17 33 40.3	
	comp=Z,15nm,18.2s,baz=74,slow=38						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	**P**	**16 46 45.2**	**+0.1**
	0.5nm,0.7s,baz=271,slow=4.8,SNR=9.1						
YKB5	**Yellowknife Ar**	**95.92**	**28**	*e*P	**P**	**16 46 42.9**	**-2.3**
LRM	**Limekiln Ridge**	**97.19**	**45**	*e*P	**P**	**16 46 50.3**	**-1.4**
GERES	**GERESS Array B**	**124.34**	**328**	PKP	**PKPdf**	**16 52 16.6**	**-1.1**
	0.4nm,0.6s,baz=48,slow=2.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**150.26**	**287**	PKPbc	**PKPbc**	**16 53 09.3**	**-1.4**
	1.1nm,0.9s,baz=341,slow=4.0,SNR=5.8						
TOA1	**Torodi Ar. Sit**	**150.26**	**287**	*e*PKPbc	**PKPbc**	**16 53 09.3**	**-1.4**

IDC 03 16:59:57.2±7.1, 18.97S×176.41W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/19, mbtmp3.6/2, Error ellipse: s-maj=299.8km s-min=112.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.32**	**260**	P	P	17 08 25.4	+0.2
	0.2nm,0.3s,baz=96,slow=7.5,SNR=27						
ASAR	**Alice Springs**	**46.35**	**255**	P	P	17 08 25.0	-0.5
	0.5nm,0.5s,baz=96,slow=7.7,SNR=10						
AKASG	**Malin Array Be**	**142.37**	**333**	PKP	PKPdf	17 19 31.1	-0.7
	0.7nm,0.4s,baz=43,slow=4.3,SNR=7.9						

*IDC **03** 17:14:43.9±8.7, 37.23N×71.86E, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.2/55, mbtmp3.5/5, ML2.7/4, MS2.6/1, Ms1 2.8/1, ms1mx2.2/34, Error ellipse: s-maj=124.0km s-min=36.0km az=170.0*

*NNC **03** 17:14:59.1±2.8, 38.63N×71.25E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=23.8km s-min=15.8km az=29.0*

ISC 03 17:14:54.8±2.4, 38.3N±0.2×71.2E±0.1, h10km, n13, σ1s74/16, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.83**	**354**	⇓Pn	**Pn**	**17 16 09.9**	**+2.3**
	2.7nm,0.4s,baz=175,slow=13,SNR=65						
KK31				⇑Pg	**Pb**	**17 16 18.4**	**-1.1**
	3.8nm,0.3s,baz=171,slow=12,SNR=31						
KK31				Sn	**Sn**	**17 17 03.9**	**+0.3**
	2.2nm,0.4s,baz=177,slow=19,SNR=5.2						
KK31				⇑Lg	Lg	17 17 20.3	
	3.5nm,0.5s						
AAK	**Ala-Archa**	**5.01**	**29**	⇑Pn	**Pn**	**17 16 13.6**	**+3.5**
	5.9nm,0.8s						
AAK				Lg	Lg	17 17 25.8	
	15nm,1.1s						
TKM2	**Tokmak 2**	**5.70**	**34**	⇑Pn	**Pn**	**17 16 19.9**	**+0.2**
	2.2nm,0.6s						
TKM2				⇓Lg	Lg	17 17 50.9	
	6.5nm,0.8s						
MDOK	**Medeo**	**6.58**	**40**	Pn	**Pn**	**17 16 33.6**	**+1.9**
	2.8nm,0.9s						
MDOK				Lg	Lg	17 18 18.3	
	7.8nm,1.2s						
PDGK	**Podgornoye**	**8.04**	**49**	⇓Pn	**Pn**	**17 16 52.3**	**+0.6**
	2.7nm,0.9s						
PDGK				⇓Lg	Lg	17 19 08.0	
	3.8nm,0.9s						
MKAR	**Makanchi Array**	**11.78**	**40**	Pn	**Pn**	**17 17 42.2**	**-0.5**
	0.0nm,0.3s,baz=221,slow=13,SNR=11						
KURBB	**Kurchatov Arra**	**13.38**	**21**	Pn	**Pn**	**17 18 04.0**	**-0.5**
	0.0nm,0.3s,baz=215,slow=13,SNR=4.5						
AB31	**Akbulak array**	**13.63**	**327**	⇑Pn	**Pn**	**17 18 06.5**	**-1.5**
	1.7nm,0.9s,baz=149,slow=11,SNR=11						
AB31				⇓Sn	**Sn**	**17 20 39.9**	**+0.4**
	1.0nm,0.7s,baz=141,slow=23,SNR=2.7						
AKTO	**Aktyubinsk**	**15.34**	**327**	⇓Pn	**P**	**17 18 35.6**	**-0.4**
	3.0nm,0.8s						
AKTO				⇑Sn	**Sn**	**17 21 19.8**	**-1.4**
	1.3nm,0.9s						
AKTO	**Aktyubinsk**	**15.34**	**327**	Pn	**Pn**	**17 18 34.0**	**+2.7**
	0.1nm,0.3s,baz=148,slow=13,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.23**	**26**	P	**Pn**	**17 19 05.6**	**-2.1**
	0.2nm,0.3s,baz=229,slow=10,SNR=5.3						
CMAR	**Chiang Mai Arr**	**31.21**	**122**	LR	LR	17 34 36.4	
	comp=Z,11nm,19.5s,baz=195,slow=40						
ARCES	**ARCESS Array B**	**39.56**	**337**	P	**P**	**17 22 26.0**	**+0.4**
	0.7nm,0.6s,baz=116,slow=8.1,SNR=3.5						

*IDC **03** 17:16:12.1±1.4, 50.16N×173.62W, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.8/57, mbtmp3.8/15, MS3.0/1, Ms1 3.0/1, ms1mx2.4/41, Error ellipse: s-maj=37.6km s-min=18.5km az=0.0*

*ISCJB **03** 17:16:16.1±0.7, 50.37N±0.08×173.58W±0.09, h33km, mb3.8/14, MS2.8/1, Error ellipse: s-maj=12.0km s-min=6.7km az=27.0*

*NEIC **03** 17:16:16.8±0.0, 50.45N×173.78W, h16km, ML2.7(AEIC), After AEIC.*

ISC 03 17:16:18.4±0.9, 50.4N±0.1×173.62W±0.07, h35km, n28, σ1s14/32, mb3.8/14, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**1.90**	**351**	P	**Pn**	**17 16 47.6**	**-0.8**
KOKL	**Mount Kliuchef**	**1.96**	**350**	P	**Pn**	**17 16 48.4**	**-0.8**
KOKL				S	**Sn**	**17 17 12.1**	**-0.5**
KOWE	**Korovin West**	**2.01**	**349**	P	**Pn**	**17 16 48.8**	**-1.0**
GSMY	**Great Sitkin M**	**2.25**	**318**	P	**Pn**	**17 16 52.3**	**-0.8**
ETKA	**Kagalaska Isla**	**2.29**	**311**	P	**Pn**	**17 16 52.8**	**-0.7**
GSTD	**Great Sitkin T**	**2.30**	**317**	P	**Pn**	**17 16 53.2**	**-0.5**
GSTD				S	**Sn**	**17 17 20.

GO02	**Mina Guanaco**	**8.69**	**164**	*e*Pn	**Pn**	**17 42 35.8**	**-2.7**
GO06	**Curarrehue**	**22.73**	**179**	*e*Sn	Sn	17 49 55.8	-0.2
BDFB	**Brasilia**	**23.25**	**91**	*e*Sn	Sn	17 50 00.4	-8.5

ANF ***03*** *17:46:49.7±0.6,40.˚48N×124.˚55W,ML3.8/16,Error ellipse: s-maj=7.8km s-min=3.6km az=81.0*
NEIC ***03*** *17:46:51.3±0.0,40.˚31N×124.˚67W,h14km,MW4.2(BRK), After NCEDC.*
NEIC Felt [III] at Scotia and Whitethorn and [II] at Eureka, Ferndale, Fortuna and Rio Dell. Also felt at Bayside, Carlotta, Hydesville, Loleta, Myers Flat, Petrolia, Piercy, Redway and Samoa.
NCEDC ***03*** *17:46:51.3,40.˚31N×124.˚67W,h14km,MW4.2(BRK)*
IDC ***03*** *17:46:53.4±1.3,40.˚41N×124.˚05W,h0km,mb3.4/4, mb1 3.5/7,mb1mx3.4/37,mbtmp3.3/7,ML3.2/3,MS3.3/8, Ms1 3.3/8,ms1mx3.0/22,Error ellipse: s-maj=16.9km s-min=10.6km az=67.0*

ISC 03 17:46:49.0±2.0,40.˚33N±0.˚04×124.˚79W±0.˚08, h15km±10km,n103,σ1§72/114,MS3.3/5,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	**0.76**	**49**	*e*Pg	**Pg**	**17 47 03.7**	**0.0**
KMRM	**Mail Ridge**	**0.83**	**97**	*e*Pg	**Pn**	**17 47 05.8**	**-0.4**
KMRM				*e*Sn	**Sg**	**17 47 14.8**	**-1.4**
KHMM	**Horse Mountain**	**0.98**	**55**	*e*Pg	**Pb**	**17 47 07.5**	**-0.1**
KHMM				*e*Sg	**Sb**	**17 47 18.8**	**-1.6**
KCPM	**Cahto Peak**	**1.13**	**124**	*e*Pg	**Pb**	**17 47 09.8**	**-0.5**
KCPM				*e*Sg	**Sb**	**17 47 21.8**	**-2.9**
O02D	**Mt. Diablo Mer** baz=277,SNR=1000	**1.54**	**95**	P	**Pn**	**17 47 15.9**	**0.0**
O02D				S	**Sn**	**17 47 35.7**	**0.0**
N02D	**Trinity Center** baz=249,SNR=1000	**1.71**	**67**	P	**Pn**	**17 47 17.9**	**-0.5**
N02D				S	**Sn**	**17 47 38.4**	**-1.7**
WDC	**Whiskeytown Da**	**1.73**	**81**	*e*Pn	**Pn**	**17 47 18.2**	**-0.4**
M02C	**Callahan** baz=235,SNR=1000	**1.81**	**53**	P	**Pn**	**17 47 19.3**	**-0.5**
M02C				S	**Sn**	**17 47 40.4**	**-2.1**
HOPS	**Hopland Field**	**1.88**	**135**	*e*Pn	**Pn**	**17 47 20.2**	**-0.3**
HOPS				*e*Sn	**Sn**	**17 47 41.5**	**-2.4**
L02E	**Cave Junction** baz=207,SNR=297	**2.04**	**26**	P	**Pn**	**17 47 22.4**	**-0.4**
L02E				S	**Sn**	**17 47 45.5**	**-2.4**
YBH	**Yreka Blue Hor**	**2.11**	**48**	*e*Pn	**Pn**	**17 47 23.7**	**-0.2**
YBH				*e*Sn	**Sn**	**17 47 49.6**	**-0.3**
YBH	**Yreka Blue Hor** 48nm,0.3s,baz=269,slow=9.3,SNR=808	**2.11**	**48**	Pn	**Pn**	**17 47 23.6**	**-0.2**
YBH				Sn	**Sn**	**17 47 47.4**	**-2.4**
GDXM	**Geysers** 60nm,0.3s,baz=271,slow=20,SNR=11	**2.16**	**134**	*e*Pn	**Pn**	**17 47 25.0**	**+0.5**
O03E	**Paynes Creek** baz=272,SNR=56	**2.29**	**90**	P	**Pn**	**17 47 25.8**	**-0.5**
O03E				S	**Sn**	**17 47 53.6**	**-0.5**
K02D	**Willamette Mer** baz=200,SNR=361	**2.51**	**19**	P	**Pn**	**17 47 29.0**	**-0.3**
K02D				S	**Sn**	**17 47 57.2**	**-2.6**
MCCM	**Marconi Confer**	**2.63**	**145**	*e*Pn	**Pn**	**17 47 30.4**	**-0.5**
ORV	**Oroville**	**2.64**	**106**	*e*Pn	**Pn**	**17 47 30.5**	**-0.5**
ORV				*e*Sn	**Sn**	**17 48 00.5**	**-2.3**
L04D	**Klamath Falls** baz=226,SNR=72	**2.66**	**44**	P	**Pn**	**17 47 32.7**	**+1.3**
L04D				Sb	**Sn**	**17 48 04.7**	**+1.2**
HUMO	**Hull Mountain**	**2.66**	**31**	*e*Pn	**Pn**	**17 47 31.3**	**0.0**
M04C	**Macdoel** baz=238,SNR=72	**2.66**	**56**	P	**Pn**	**17 47 32.0**	**+0.5**
J01E	**Myrtle Point** baz=193	**2.91**	**12**	P	**Pn**	**17 47 34.5**	**-0.1**
J01E				S	**Sn**	**17 48 06.0**	**-3.3**
K04D	**Chiloquin, OR** baz=226,SNR=14	**3.24**	**44**	P	**Pn**	**17 47 40.0**	**+0.7**
K04D				S	**Sn**	**17 48 15.8**	**-1.9**
AFDM	**Forest Hills D**	**3.25**	**114**	*e*Pn	**Pn**	**17 47 39.8**	**+0.3**
AFDM				*e*Sn	**Sn**	**17 48 16.9**	**-1.0**
BEKR	**Beckworth**	**3.43**	**96**	*e*Pn	**Pn**	**17 47 42.9**	**+0.8**
J04D	**Umpqua Nationa** baz=216,SNR=16	**3.54**	**34**	P	**Pn**	**17 47 44.4**	**+0.9**
I03D	**Drain, OR** baz=198,SNR=13	**3.54**	**17**	P	**Pn**	**17 47 43.9**	**+0.6**
I03D				S	**Sn**	**17 48 23.4**	**-1.4**
MOD	**Modoc Plateau**	**3.74**	**64**	*e*Pn	**Pn**	**17 47 46.1**	**-0.2**
RUBR	**Rubicon Trail**	**3.80**	**108**	*e*Pn	**Pn**	**17 47 48.6**	**+1.5**
I02D	**Swisshome** baz=191	**3.84**	**10**	P	**Pn**	**17 47 49.3**	**+1.8**
I02D				S	**Sn**	**17 48 30.7**	**-1.7**
I04A	**Tendick Farm,** baz=208	**3.89**	**26**	P	**Pn**	**17 47 49.5**	**+1.3**
I04A				S	**Sn**	**17 48 32.5**	**-1.2**
J05D	**Fort Rock, OR** baz=223,SNR=36	**3.98**	**41**	P	**Pn**	**17 47 50.7**	**+1.2**
J05D				S	**Sn**	**17 48 34.5**	**-1.4**
VCNR	**Virginia City**	**4.09**	**103**	*e*Pn	**Pn**	**17 47 52.5**	**+1.3**
CMB	**Columbia Colle**	**4.12**	**122**	*e*Pn	**Pn**	**17 47 52.5**	**+1.1**
PNTR	**Pine Nut**	**4.19**	**105**	*e*Pn	**Pn**	**17 47 54.1**	**+1.6**
PAHR	**Pah Rah Range**	**4.20**	**97**	*e*Pn	**Pn**	**17 47 52.7**	**+0.1**
SAO	**San Andreas Ge**	**4.42**	**143**	*e*Pn	**Pn**	**17 47 54.5**	**-1.0**
H04D	**Lebanon** baz=201	**4.46**	**19**	S	**Sn**	**17 48 46.3**	**-1.3**
YERR	**Yerington**	**4.49**	**106**	*e*Pn	**Pn**	**17 47 57.9**	**+1.3**
PINE	**Pine Mountain**	**4.50**	**38**	*e*Pn	**Pn**	**17 47 58.6**	**+1.9**
WAKR	**Walker**	**4.53**	**112**	*e*Pn	**Pn**	**17 47 59.0**	**+1.9**
H04A	**Detroit Lake**	**4.76**	**23**	*e*Pn	**Pn**	**17 48 01.1**	**+0.9**
WVOR	**Wild Horse Val**	**5.09**	**64**	*e*P	**Pb**	**17 48 18.5**	**+0.8**
RYN	**Ryan**	**5.14**	**107**	*e*Pn	**Pn**	**17 48 07.1**	**+1.6**
MDPB	**Devils Postpil**	**5.20**	**119**	*e*Pn	**Pn**	**17 48 09.6**	**+3.2**
OMMB	**Old Mammoth Mi**	**5.26**	**119**	*e*Pn	**Pn**	**17 48 10.9**	**+3.5**
KVN	**Kaiserville**	**5.32**	**102**	*e*Pn	**Pn**	**17 48 08.8**	**+0.8**
NVAR	**Mina Array Bea** 1.8nm,0.3s,baz=290,slow=14,SNR=48	**5.37**	**109**	Pn	**Pn**	**17 48 10.0**	**+1.2**
NVAR				Lg	Lg	17 49 26.8	
NVAR	baz=283,slow=21,SNR=2.4			LR	LR	17 50 28.2	
NV01	**Mina Array Sit** comp=Z,203nm,20.7s,baz=210,slow=43	**5.37**	**109**	*e*Pn	**Pn**	**17 48 10.0**	**+1.2**
I07A	**Izee**	**5.43**	**45**	*e*Pn	**Pn**	**17 48 11.6**	**+2.1**
J08A	**Circle Bar Ran**	**5.61**	**55**	*e*Pn	**Pn**	**17 48 11.9**	**0.0**
PAGB	**Antelope Grade**	**5.82**	**141**	*e*Pn	**Pn**	**17 48 14.4**	**-0.4**
VOG	**Valley Oaks Go** baz=315	**5.83**	**132**	P	**Pn**	**17 48 16.7**	**+1.8**
VES	**Vestal, Richgr** baz=317	**6.35**	**133**	P	**Pn**	**17 48 23.4**	**+1.4**
PKM	**Mcpherson Peak** baz=326	**6.71**	**142**	P	**Pn**	**17 48 26.9**	**-0.2**
ISA	**Isabella, Lake**	**6.82**	**131**	*e*Pn	**Pn**	**17 48 30.8**	**+2.3**
ISA	**Isabella, Lake** baz=315	**6.82**	**131**	P	**Pn**	**17 48 31.0**	**+2.5**
D04E	**Lakebay** baz=193	**7.00**	**11**	P	**Pn**	**17 48 28.9**	**-2.0**
ARVC	**Arvin** baz=320	**7.01**	**136**	P	**Pn**	**17 48 32.2**	**+1.0**
BMO	**Blue Mountains**	**7.14**	**48**	*e*Pn	**Pn**	**17 48 35.8**	**+2.9**
MPMC	**Manual Prospec** baz=309	**7.15**	**124**	P	**Pn**	**17 48 36.3**	**+3.0**
HAWA	**Hanford**	**7.17**	**31**	*e*Pn	**Pn**	**17 48 36.6**	**+3.3**
ELK	**Elko** 0.1nm,0.3s,baz=254,slow=15,SNR=3.5	**7.29**	**84**	Pn	**Pn**	**17 48 36.0**	**+0.9**
ELK				Lg	Lg	17 50 27.1	
R11A	**Troy Canyon, C** 0.1nm,0.3s,baz=101,slow=17,SNR=2.3	**7.40**	**103**	*e*Pn	**Pn**	**17 48 37.5**	**+0.9**
R11A	**Troy Canyon, C** baz=288	**7.40**	**103**	P	**Pn**	**17 48 37.3**	**+0.7**
OSI	**Osito Audit: C**	**7.47**	**138**	*e*Pn	**Pn**	**17 48 39.1**	**+1.7**
OSI	**Osito Audit: C** baz=322	**7.47**	**138**	P	**Pn**	**17 48 39.9**	**+2.5**
EDW2	**Edwards Air Fo** baz=317	**7.66**	**133**	P	**Pn**	**17 48 42.2**	**+2.2**
GSC	**Goldstone, Bar**	**8.06**	**126**	*e*Pn	**Pn**	**17 48 47.9**	**+2.2**
GSC	**Goldstone, Bar** baz=311	**8.06**	**126**	P	**Pn**	**17 48 47.8**	**+2.2**
PASC	**Pasadena Art C**	**8.09**	**137**	*e*Pn	**Pn**	**17 48 47.9**	**+2.0**
MWC	**Mount Wilson**	**8.11**	**137**	*e*Pn	**Pn**	**17 48 47.9**	**+1.5**
RRX	**Edison Barstow** baz=314	**8.23**	**129**	P	**Pn**	**17 48 50.1**	**+2.2**
HLID	**Hailey**	**8.38**	**64**	*e*Pn	**Pn**	**17 48 53.0**	**+2.9**
HLID	**Hailey** baz=251	**8.38**	**64**	P	**Pn**	**17 48 52.1**	**+2.1**
CIS	**Catalina Islan** baz=325	**8.59**	**142**	P	Pn	17 48 57.9	+5.1
HEC	**Hector,Ludlow** baz=312	**8.67**	**127**	P	**Pn**	**17 48 56.6**	**+2.7**
GMRC	**Granite Mounta** baz=310	**9.12**	**124**	P	**Pn**	**17 49 02.6**	**+2.5**
DUG	**Dugway, Tooele**	**9.16**	**87**	*e*Pn	**Pn**	**17 49 02.6**	**+1.9**
DUG	**Dugway, Tooele** baz=275	**9.16**	**87**	P	**Pn**	**17 49 02.9**	**+2.2**
PFO	**Pinyon Flats O**	**9.45**	**133**	*e*Pn	**Pn**	**17 49 06.2**	**+1.6**
PFO	**Pinyon Flats O** baz=318	**9.45**	**133**	P	**Pn**	**17 49 05.3**	**+0.7**
PFO	**Pinyon Flats O** 2.8nm,0.3s,baz=326,slow=10,SNR=23	**9.45**	**133**	Pn	**Pn**	**17 49 06.7**	**+2.1**
XPFO	**Pion Flat**	**9.45**	**133**	*e*Pn	**Pn**	**17 49 06.4**	**+1.7**
IRM	**Iron Mountain** baz=312	**9.85**	**126**	P	**Pn**	**17 49 11.9**	**+1.9**
BC3	**Big Chuckawall** baz=314	**10.00**	**129**	P	**Pn**	**17 49 13.6**	**+1.4**
MONP2	**Monument Peak** baz=320	**10.01**	**135**	P	**Pn**	**17 49 14.1**	**+1.7**
MSO	**Missoula**	**10.20**	**47**	*e*Pn	**Pn**	**17 49 17.4**	**+2.5**
MSO	**Missoula** baz=234	**10.20**	**47**	P	**Pn**	**17 49 17.3**	**+2.3**
Y12C	**Blythe** baz=312	**10.50**	**125**	P	**Pn**	**17 49 20.9**	**+1.9**
GLA	**Glamis**	**10.80**	**129**	*e*Pn	**Pn**	**17 49 23.1**	**0.0**
GLA	**Glamis** baz=315	**10.80**	**129**	P	**Pn**	**17 49 24.2**	**+1.2**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=274,slow=11,SNR=2.4	**11.67**	**73**	Pn	**Pn**	**17 49 37.7**	**+2.5**
PDAR	comp=Z,99nm,18.5s,baz=274,slow=35			LR	LR	17 53 25.7	
ANMO	**Albuquerque** comp=Z,98nm,21.9s,baz=290,slow=37	**15.48**	**104**	LR	LR	17 56 00.4	
LPIG	**La Paz** comp=Z,127nm,19.7s,baz=210,slow=36	**20.25**	**139**	LR	LR	17 58 55.9	
TX31	**Lajitas Ar. Si**	**20.46**	**116**	*e*P	Pn	17 51 29.6	+1.3
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=299,slow=9.1,SNR=31	**20.46**	**116**	P	Pn	17 51 29.8	+1.5
TXAR	comp=Z,70nm,20.2s,baz=0.0,slow=39			LR	LR	17 59 56.5	
ULM	**Lac du Bonnet** 1.9nm,0.8s,baz=258,slow=10.0,SNR=3.1	**22.50**	**54**	P	**P**	**17 51 47.1**	**-0.7**
ULM	comp=Z,147nm,21.4s,baz=256,slow=39			LR	LR	18 01 19.4	
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=194,slow=12,SNR=3.8	**23.03**	**12**	P	**P**	**17 51 57.4**	**+4.2**
KDAK	**Kodiak Island** comp=Z,109nm,19.4s,baz=120,slow=32	**24.96**	**324**	LR	LR	18 00 16.3	
ILAR	**Eielson Array** 0.3nm,0.6s,baz=148,slow=8.7,SNR=6.8	**27.63**	**340**	P	P	17 52 45.2	+10
INK	**Inuvik** comp=Z,59nm,20.6s,baz=139,slow=37	**28.44**	**353**	LR	LR	18 04 32.8	
KURK	**Kurchatov**	**87.04**	**345**	*e*P	P	17 59 41.3	+7.7
KURBB	**Kurchatov Arra** 1.0nm,0.8s,baz=16,slow=4.0,SNR=7.5	**87.15**	**345**	P	P	17 59 41.3	+7.2

IDC 03 17:50:45.5±1.7,25.˚90N×100.˚00E,h0km,mb3.4/2, mb1 3.5/3,mb1mx3.1/38,mbtmp3.2/3,ML3.4/1,Error ellipse: s-maj=52.4km s-min=22.0km az=81.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=359,slow=13,SNR=6.9	**7.47**	**188**	Pn	Pn	17 52 36.6	+0.7
CMAR	0.2nm,0.3s,baz=355,slow=18,SNR=6.8			Pg	Pg	17 53 03.6	-5.2
CMAR	0.1nm,0.3s,baz=15,slow=29,SNR=5.9			Lg	Lg	17 54 42.1	
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=146,slow=9.9,SNR=6.0	**25.15**	**331**	P	P	17 56 12.7	+0.3
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=330,slow=7.7,SNR=4.6	**56.47**	**140**	P	P	18 00 28.9	-0.7

ISCJB ***03*** *17:58:55.0±0.3,24.˚26N±0.˚01×122.˚15E±0.˚01,h22km±2km, Error ellipse: s-maj=2.5km s-min=1.8km az=139.2*
JMA ***03*** *17:58:54.7±0.1,24.˚19N×122.˚08E,h49km±2km,M3.1*
TAP ***03*** *17:58:55.3,24.˚30N×122.˚06E,h26km,ML3.8,C*

ISC 03 17:58:55.1±1.0,24.˚26N±0.˚02×122.˚11E±0.˚02,h23km±8km, n113,σ1§00/197,5C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=20	**0.29**	**4**	⇓*i*P	**Pb**	**17 59 01.9**	**+0.1**
EOS1				*e*S	**Sb**	**17 59 07.1**	**+0.8**
NANB	**Nanao** baz=298	**0.36**	**297**	⇓*e*P	**Pb**	**17 59 02.7**	**-0.3**
NANB				*e*S	**Sb**	**17 59 08.3**	**-0.1**
ENA	**Nanau** baz=298	**0.37**	**297**	⇓*i*P	**Pb**	**17 59 02.7**	**-0.4**
ENA				S	**Sb**	**17 59 08.3**	**-0.3**
TWC	**Suao** baz=334	**0.42**	**326**	⇓*i*P	**Pb**	**17 59 03.3**	**-0.6**
TWC				*e*S	**Sb**	**17 59 08.7**	**-1.1**
NACB	**Ninganchiao** baz=252	**0.47**	**260**	⇑*e*P	**Pb**	**17 59 05.2**	**+0.4**
NACB				*e*S	**Sn**	**17 59 13.1**	**-1.0**
TWD	**Chiawan** baz=225	**0.50**	**249**	⇑P	**Pb**	**17 59 05.8**	**+0.6**
TWD				*e*S	**Sn**	**17 59 14.6**	**0.0**
HWA	**Hwalien** baz=215	**0.54**	**238**	*e*P	**Pb**	**17 59 06.5**	**+0.7**
HWA				*e*S	**Sn**	**17 59 14.9**	**-0.7**
ETLH	**Xiulin Townshi** baz=259	**0.57**	**265**	P	**Pn**	**17 59 07.1**	**-0.8**
ETLH				*e*S	**Sn**	**17 59 16.6**	**0.0**
ENLB	**Shoufeng** baz=212	**0.58**	**232**	*e*P	**Pb**	**17 59 06.7**	**0.0**
ENLB				*e*S	**Sn**	**17 59 16.7**	**0.0**
ILA	**Ilan** baz=330	**0.60**	**327**	P	**Pb**	**17 59 06.8**	**-0.2**
ILA				*e*S	**Sn**	**17 59 15.2**	**-2.0**
EGS	baz=356	**0.60**	**345**	P	**Pb**	**17 59 06.8**	**-0.2**
EGS				*e*S	**Sn**	**17 59 14.9**	**-2.3**
TWE	**Neicheng** baz=324	**0.61**	**319**	⇓*i*P	**Pb**	**17 59 06.7**	**-0.4**
TWE				*e*S	**Sn**	**17 59 15.0**	**-2.3**
ENTT	**Nioudou** baz=308	**0.62**	**308**	P	**Pn**	**17 59 07.1**	**-1.3**
ENTT				*e*S	**Sn**	**17 59 16.2**	**-1.5**
NDT	**Datong Townshi** baz=309	**0.64**	**302**	*e*P	**Pn**	**17 59 07.7**	**-1.0**
NDT				*e*S	**Sn**	**17 59 16.3**	**-1.8**
NTC	**Toucheng** baz=347	**0.64**	**337**	*e*P	**Pb**	**17 59 07.3**	**-0.3**
NNSB	**Datong** baz=289	**0.68**	**284**	⇑*e*P	**Pn**	**17 59 08.7**	**-0.7**
NNSB				*e*S	**Sn**	**17 59 18.5**	**-0.8**
NNS	**Nan Shan** baz=287	**0.69**	**285**	P	**Pn**	**17 59 08.9**	**-0.6**
NNS				*e*S	**Sn**	**17 59 18.9**	**-0.8**
NWLT	**Wulai** baz=314	**0.75**	**313**	*e*P	**Pn**	**17 59 09.7**	**-0.6**
NWLT				*e*S	**Sn**	**17 59 19.5**	**-1.5**
TIPB	**Shuangxi** baz=350	**0.75**	**340**	⇓*e*P	**Pn**	**17 59 09.3**	**-1.0**
TIPB				*e*S	**Sb**	**17 59 18.5**	**-0.9**
TWB1	**Santiao Chiao** baz=349	**0.75**	**352**	P	**Pn**	**17 59 09.4**	**-0.9**
TWB1				*e*S	**Sn**	**17 59 19.0**	**-1.9**
ESL	**Shilin** baz=227	**0.76**	**234**	P	**Pb**	**17 59 09.0**	**-0.7**
ESL				*e*S	**Sn**	**17 59 21.2**	**+0.1**
WHF	**Hehuan Shan** baz=257	**0.78**	**262**	P	**Pn**	**17 59 10.4**	**-0.5**
WHF				*e*S	**Sn**	**17 59 21.8**	**-0.3**
YHNB	**Yeheng** baz=309	**0.78**	**302**	*e*P	**Pn**	**17 59 10.2**	**-0.5**
YHNB				*e*S	**Sn**	**17 59 20.4**	**-1.4**
JYNG	**Yonagunijimaku**	**0.79**	**76**	P	**Pb**	**17 59 10.3**	**+0.2**
JYNG				S	**Sb**	**17 59 21.1**	**+0.7**
NSK	**Sanguang** baz=309	**0.80**	**301**	P	**Pn**	**17 59 10.4**	**-0.5**
NSK				*e*S	**Sn**	**17 59 21.3**	**-0.8**
TWT	**Tachien** baz=266	**0.85**	**270**	*e*P	**Pn**	**17 59 11.8**	**+0.1**
TWT				*e*S	**Sn**	**17 59 24.0**	**+0.5**
YOJ	**Yonaguni jima** baz=72	**0.85**	**76**	*e*P	**Pb**	**17 59 11.1**	**0.0**
YOJ				S	**Sb**	**17 59 22.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.85**	**76**	P	**Pb**	**17 59 11.2**	**0.0**
YOJ				S	**Sb**	**17 59 22.8**	**+0.7**
EGFH	**Guangfu** baz=205	**0.86**	**227**	*e*P	**Pb**	**17 59 10.5**	**-0.8**
EGFH				*e*S	**Sn**	**17 59 23.2**	**-0.3**
NWF	**Wu-fen Shan** baz=359	**0.86**	**340**	P	**Pn**	**17 59 11.6**	**-0.2**
NWF				*e*S	**Sn**	**17 59 22.6**	**-1.1**
TWA	**Mucha** baz=320	**0.86**	**327**	*e*P	**Pn**	**17 59 11.9**	**+0.1**
TWA				*e*S	**Sn**	**17 59 23.2**	**-0.4**
WFSB	**Wu-fen Shan** baz=359	**0.86**	**340**	*e*P	**Pn**	**17 59 11.5**	**-0.2**
WFSB				*e*S	**Sn**	**17 59 22.4**	**-1.2**
TDCB	**Techi** baz=266	**0.86**	**270**	P	**Pn**	**17 59 11.8**	**-0.1**
TDCB				*e*S	**Sn**	**17 59 23.6**	**-0.3**
CHGB	**Renai** baz=239	**0.87**	**257**	*e*P	**Pn**	**17 59 11.7**	**-0.4**
CHGB				*e*S	**Sn**	**17 59 24.4**	**+0.1**
NHDH	**Xindian Distri** baz=318	**0.88**	**323**	*e*P	**Pn**	**17 59 12.3**	**+0.3**
NHDH				*e*S	**Sn**	**17 59 24.1**	**+0.1**
OWD	**Renai** baz=232	**0.90**	**250**	*e*P	**Pn**	**17 59 12.5**	**0.0**
OWD				*e*S	**Sn**	**17 59 23.9**	**-1.0**
TATO	**Taipei** baz=339	**0.91**	**322**	*e*P	**Pn**	**17 59 12.8**	**+0.4**
TATO				*e*S	**Sn**	**17 59 24.4**	**-0.4**
TAP	**Taipei** baz=328	**0.95**	**325**	*e*P	**Pb**	**17 59 13.7**	**+0.8**
TAP				*e*S	**Sn**	**17 59 25.3**	**-0.4**
HGSD	**Ruisui** baz=201	**0.99**	**219**	*e*P	**Pn**	**17 59 12.0**	**-1.5**
HGSD				*e*S	**Sn**	**17 59 27.6**	**+0.8**
YM01	**YM01** baz=348	**1.01**	**331**	*e*P	**Pb**	**17 59 14.2**	**+0.3**
YM01				*e*S	**Sn**	**17 59 27.0**	**-0.3**
VWDT	**VWDT** baz=234	**1.02**	**240**	*e*P	**Pn**	**17 59 13.5**	**-0.4**
VWDT				*e*S	**Sn**	**17 59 27.0**	**-0.4**
YM11	**YM11** baz=348	**1.02**	**332**	*e*P	**Pb**	**17 59 13.9**	**-0.2**
YM11				*e*S	**Sn**	**17 59 27.3**	**-0.4**
YM04	**YM04** baz=345	**1.03**	**330**	*e*P	**Pb**	**17 59 14.0**	**-0.2**
YM04				*e*S	**Sn**	**17 59 28.6**	**+0.8**
YM08	**YM08** baz=348	**1.03**	**333**	*e*P	**Pb**	**17 59 13.8**	**-0.6**
YM08				*e*S	**Sn**	**17 59 27.5**	**-0.4**
EHY	**Hungye** baz=216	**1.04**	**224**	*e*P	**Pn**	**17 59 12.7**	**-1.5**
EHY				*e*S	**Sb**	**17 59 29.9**	**+2.3**
TWS1	**Kuangyinshan** baz=338	**1.04**	**323**	P	**Pb**	**17 59 14.9**	**+0.4**
TWS1				*e*S	**Sn**	**17 59 28.9**	**+0.7**
WHP	**Taichung City** baz=268	**1.06**	**271**	P	**Pb**	**17 59 15.3**	**+0.5**
WHP				*e*S	**Sn**	**17 59 29.5**	**+0.9**
ANP	**Anpu** baz=345	**1.06**	**330**	*e*P	**Pb**	**17 59 14.9**	**0.0**
ANP				*e*S	**Sn**	**17 59 27.5**	**-1.2**
LIOB	**Emei** baz=290	**1.06**	**291**	⇑*e*P	**Pb**	**17 59 14.3**	**-0.5**
LIOB				*e*S	**Sn**	**17 59 29.1**	**+0.4**
NSTT	**Nanjuang** baz=289	**1.07**	**290**	P	**Pb**	**17 59 15.4**	**+0.5**
NSTT				*e*S	**Sn**	**17 59 29.9**	**+1.1**
NTST	**Danshui** baz=329	**1.08**	**327**	*e*P	**Pb**	**17 59 15.5**	**+0.4**
NCU	**National Centr** baz=312	**1.09**	**310**	*e*P	**Pb**	**17 59 15.4**	**+0.1**
NCU				*e*S	**Sb**	**17 59 31.8**	**+2.6**
NCUH	**Zhongli** baz=312	**1.09**	**310**	*e*P	**Pb**	**17 59 15.8**	**+0.4**
NCUH				*e*S	**Sb**	**17 59 31.1**	**+1.9**
TWY	**Chenhua** baz=340	**1.11**	**336**	P	**Pb**	**17 59 16.2**	**+0.6**
TWY				*e*S	**Sb**	**17 59 30.3**	**+0.7**
YULB	**Yu-li** baz=215	**1.14**	**221**	*e*P	**Pn**	**17 59 14.1**	**-1.5**
SBCB	**Hsinchu** baz=298	**1.15**	**298**	⇑*e*P	**Pb**	**17 59 16.6**	**+0.3**
SBCB				*e*S	**Sb**	**17 59 32.7**	**+1.9**
SSLB	**Suanglung** baz=241	**1.15**	**246**	*e*P	**Pn**	**17 59 15.8**	**0.0**
SSLB				*e*S	**Sn**	**17 59 29.9**	**-0.9**
SMLT	**Sun Moon Lake** baz=234	**1.17**	**251**	*e*P	**Pb**	**17 59 16.2**	**-0.4**
SMLT				*e*S	**Sb**	**17 59 31.4**	**0.0**
HSN	**Hsinchu** baz=300	**1.17**	**298**	*e*P	**Pb**	**17 59 15.9**	**-0.7**
HSN				*e*S	**Sb**	**17 59 32.6**	**+1.3**
TWF1	**Yuli** baz=211	**1.17**	**219**	*e*P	**Pn**	**17 59 14.6**	**-1.4**
TWF1				*e*S	**Sn**	**17 59 30.7**	**-0.6**
TYC	**Yuchr** baz=236	**1.20**	**253**	*e*P	**Pb**	**17 59 16.6**	**-0.5**
TYC				*e*S	**Sb**	**17 59 33.0**	**+0.9**
TWQ1	**Liyutan** baz=271	**1.22**	**274**	*e*P	**Pb**	**17 59 17.9**	**+0.5**
TWQ1				*e*S	**Sb**	**17 59 34.1**	**+1.3**
NMLH	**Miaoli** baz=281	**1.23**	**283**	*e*P	**Pb**	**17 59 18.3**	**+0.6**
NMLH				*e*S	**Sb**	**17 59 35.4**	**+2.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=281						
NSY	**Sanyi**	**1.24**	**277**	*e*P	**Pb**	**17 59 18.7**	**+0.9**
	baz=275						
NSY				*e*S	**Sb**	**17 59 35.5**	**+2.2**
	baz=275						
WHYT	**Xinyi Township**	**1.28**	**244**	*e*P	**Pb**	**17 59 18.2**	**-0.3**
	baz=231						
FULB	**Fuli**	**1.29**	**215**	*e*P	**Pn**	**17 59 16.4**	**-1.3**
	baz=195						
FULB				*e*S	**Sn**	**17 59 34.9**	**+0.5**
	baz=195						
YUS	**Yu-Shan**	**1.31**	**234**	*e*P	**Pn**	**17 59 17.8**	**-0.5**
	baz=229						
TCU	**Taichung**	**1.31**	**265**	*e*P	**Pb**	**17 59 19.4**	**+0.4**
	baz=261						
TCU				*e*S	**Sb**	**17 59 37.7**	**+2.3**
	baz=261						
WJS	**Zhushan**	**1.33**	**251**	*e*P	**Pb**	**17 59 20.1**	**+0.7**
	baz=237						
WJS				*e*S	**Sb**	**17 59 38.8**	**+2.7**
	baz=237						
WDJ	**Dajia District**	**1.34**	**274**	*e*P	**Pb**	**17 59 19.7**	**+0.1**
	baz=271						
CHKT	**Chengkung**	**1.34**	**211**	*e*P	**Pn**	**17 59 17.9**	**-0.5**
	baz=193						
WNT	**Mingjian**	**1.35**	**254**	*e*P	**Pb**	**17 59 20.1**	**+0.4**
	baz=232						
WNT				*e*S	**Sb**	**17 59 38.4**	**+1.7**
	baz=232						
PCYT	**Pengchaiyu**	**1.36**	**359**	*e*P	**Pn**	**17 59 18.1**	**-0.5**
	baz=3.0						
WCHH	**Zhanghua**	**1.43**	**263**	*e*P	**Pb**	**17 59 20.9**	**0.0**
	baz=258						
WCHH				*e*S	**Sb**	**17 59 39.7**	**+1.0**
	baz=258						
ELDTW	**Lidau**	**1.46**	**223**	*e*P	**Pn**	**17 59 18.7**	**-1.4**
	baz=204						
ELDTW				*e*S	**Sn**	**17 59 35.8**	**-2.8**
	baz=204						
CHN5	**Tsauling**	**1.46**	**243**	*e*P	**Pb**	**17 59 21.1**	**-0.6**
	baz=222						
CHN5				*e*S	**Sb**	**17 59 40.6**	**+0.7**
	baz=222						
IRIF	**Iriomote-Funau**	**1.48**	**87**	P	**Pn**	**17 59 20.4**	**+0.1**
IRIF				S	**Sn**	**17 59 38.9**	**-0.1**
WGK	**Gukeng**	**1.52**	**248**	*e*P	**Pb**	**17 59 22.4**	**-0.2**
	baz=242						
WGK				*e*S	**Sb**	**17 59 43.4**	**+1.9**
	baz=242						
WDLH	**Douliu**	**1.54**	**249**	*e*P	**Pb**	**17 59 22.6**	**-0.4**
	baz=229						
HATJ	**Hateruma jima**	**1.57**	**97**	P	**Pb**	**17 59 23.9**	**+0.5**
RLNB	**Erlin**	**1.64**	**257**	*e*P	**Pb**	**17 59 23.7**	**-0.8**
	baz=252						
RLNB				*e*S	**Sb**	**17 59 45.4**	**+0.6**
	baz=252						
STYT	**Tauyuan**	**1.65**	**229**	*e*P	**Pn**	**17 59 23.2**	**+0.5**
	baz=208						
STYT				*e*S	**Sb**	**17 59 45.5**	**+0.3**
	baz=208						
CHN4	**Tsaushan**	**1.66**	**237**	*e*P	**Pb**	**17 59 24.2**	**-0.7**
	baz=215						
CHN4				*e*S	**Sb**	**17 59 46.2**	**+0.9**
	baz=215						
TPUB	**Ta-pu**	**1.66**	**235**	*e*P	**Pb**	**17 59 23.9**	**-1.1**
	baz=218						
TPUB				*e*S	**Sb**	**17 59 45.7**	**+0.4**
	baz=218						
CHN2	**Minshiung**	**1.66**	**244**	*e*P	**Pb**	**17 59 25.0**	**0.0**
	baz=240						
WTP	**Ta-pu**	**1.70**	**234**	*e*P	**Pb**	**17 59 24.5**	**-1.2**
	baz=210						
WTP				*e*S	**Sb**	**17 59 46.4**	**-0.3**
	baz=210						
CHY	**Chiayi**	**1.72**	**244**	*e*P	**Pb**	**17 59 25.1**	**-0.8**
	baz=239						
TWGBT	**Beinan**	**1.72**	**213**	*e*P	**Pn**	**17 59 21.9**	**-1.6**
	baz=208						
TWG	**Pinlang**	**1.72**	**214**	*e*P	**Pn**	**17 59 22.0**	**-1.6**
	baz=208						
JKRS	**Kuro-shima**	**1.74**	**90**	P	**Pn**	**17 59 24.6**	**+0.8**
JKRS				S	**Sn**	**17 59 46.0**	**+0.8**
TWK	**Hsinying**	**1.78**	**237**	*e*P	**Pn**	**17 59 25.6**	**+1.1**
	baz=215						
TWK				*e*S	**Sb**	**17 59 48.6**	**-0.5**
	baz=215						
CHN1	**Nanshi**	**1.80**	**234**	*e*P	**Pb**	**17 59 26.8**	**-0.6**
	baz=226						
CHN1				*e*S	**Sb**	**17 59 49.2**	**-0.3**
	baz=226						
SNST	**Tainan City**	**1.80**	**235**	*e*P	**Pb**	**17 59 26.1**	**-1.3**
	baz=229						
SLGT	**Liugui**	**1.84**	**227**	*e*P	**Pn**	**17 59 26.0**	**+0.8**
	baz=212						
JIJ	**Ishigaki jima**	**1.86**	**86**	P	**Pn**	**17 59 25.7**	**+0.2**
JIJ				*e*S	**Sn**	**17 59 47.4**	**-0.9**
ECL	**Taimali**	**1.96**	**213**	*e*P	**Pn**	**17 59 24.9**	**-2.0**
	baz=207						
SSD	**Sandimen**	**2.03**	**222**	*e*P	**Pn**	**17 59 28.2**	**+0.5**
	baz=208						
JISG	**Ishigakijimahi**	**2.04**	**80**	P	**Pn**	**17 59 27.9**	**0.0**
JISG				*e*S	**Sn**	**17 59 51.7**	**-0.9**
TWM1	**Shoushan**	**2.11**	**228**	*e*P	**Pb**	**17 59 31.1**	**-1.5**
	baz=222						
MASBT	**Mashibuluo**	**2.13**	**220**	*e*P	**Pn**	**17 59 29.4**	**+0.3**
	baz=199						
MASBT				*e*S	**Sn**	**17 59 57.1**	**+2.3**
	baz=199						
TAW	**Tawu**	**2.20**	**211**	*e*P	**Pn**	**17 59 31.2**	**+1.1**
	baz=204						
EAST	**Anshuo**	**2.20**	**212**	*e*P	**Pn**	**17 59 28.6**	**-1.6**
	baz=206						
SSPT	**Xinbi**	**2.26**	**219**	*e*P	**Pn**	**17 59 32.6**	**+1.6**
	baz=212						
LAY	**Lan-yu**	**2.27**	**193**	*e*P	**Pn**	**17 59 28.8**	**-2.3**
	baz=180						
SCZT	**Fangliau**	**2.32**	**216**	*e*P	**Pn**	**17 59 33.6**	**+1.7**
	baz=194						
SCZT				*e*S	**Sb**	**18 00 02.5**	**-2.1**
	baz=194						
JTJ	**Tarama**	**2.40**	**80**	P	**Pn**	**17 59 33.7**	**+0.8**
JTJ				*e*S	**Sn**	**18 00 02.0**	**+0.5**
PHUB	**P'eng-hu**	**2.44**	**253**	*e*P	**Pn**	**17 59 33.3**	**-0.1**
	baz=244						
PHUB				*e*S	**Sn**	**18 00 01.9**	**-0.6**
	baz=244						
WDGT	**Dungji**	**2.45**	**247**	*e*P	**Pn**	**17 59 33.7**	**0.0**
	baz=241						
VWUC	**VWUC**	**2.52**	**287**	*e*P	**Pn**	**17 59 34.2**	**-0.5**
	baz=286						
VCHM	**Qimei**	**2.67**	**247**	*e*S	**Sn**	**18 00 08.4**	**+0.2**
	baz=223						
MATB	**Ma-tsu**	**2.71**	**314**	*e*P	**Pn**	**17 59 36.5**	**-0.7**
	baz=316						
KNM	**Kinmen**	**3.35**	**273**	*e*P	**Pn**	**17 59 47.2**	**+1.2**
	baz=270						
KNMB	**Chin-men Tao**	**3.40**	**274**	*e*P	**Pn**	**17 59 46.0**	**-0.6**
	baz=271						

IDC 03 18:21:35.2±1.9**, 8°.15S**×**145°.22E, h0**km**, mb3.5**/3**, mb1 3.7**/5**, mb1mx3.5**/26**, mbtmp3.4**/5**, ML2.8**/2**, Error ellipse: s-maj=57.7km s-min=25.5km az=124.0, Near south coast of New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.76**	**221**	Pn	Pn	18 25 18.5	-0.2
	0.0nm,0.3s,baz=45,slow=11,SNR=2.7						
WRA				Sn	Sn	18 28 01.1	-13
	0.1nm,0.3s,baz=44,slow=21,SNR=3.6						
WRA				Lg	Lg	18 29 54.0	
	0.1nm,0.3s,baz=33,slow=28,SNR=3.3						
ASAR	**Alice Springs**	**18.86**	**214**	P	Pn	18 25 58.0	+0.5
	0.1nm,0.3s,baz=50,slow=9.0,SNR=16						
ASAR				S	Sn	18 29 14.8	-15
	0.0nm,0.3s,baz=44,slow=24,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.46**	**241**	P	P	18 26 24.6	-0.8
	1.6nm,0.7s,baz=47,slow=12,SNR=6.0						
CMAR	**Chiang Mai Arr**	**52.76**	**300**	P	P	18 30 52.4	0.0
	0.4nm,0.7s,baz=126,slow=4.7,SNR=4.8						
ILAR	**Eielson Array**	**88.14**	**23**	P	P	18 34 27.6	0.0
	0.4nm,0.8s,baz=233,slow=5.9,SNR=3.9						

IDC 03 18:47:18.9±3.4**, 3°.28N**×**128°.43E, h0**km**, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.4**/38**, mbtmp3.6**/4**, ML4.4**/1**, Error ellipse: s-maj=254.3km s-min=21.9km az=66.0, North of Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.72**	**323**	Pn	Pn	18 48 29.5	-1.8
	17nm,0.3s,baz=99,slow=4.0,SNR=4.2						
WRA	**Warramunga Arr**	**23.79**	**166**	P	P	18 52 32.5	-1.0
	0.8nm,0.5s,baz=348,slow=11,SNR=16						
ASAR	**Alice Springs**	**27.31**	**169**	P	P	18 53 06.4	+0.9
	0.2nm,0.8s,baz=357,slow=9.8,SNR=3.1						
MKAR	**Makanchi Array**	**58.90**	**325**	P	P	18 57 20.2	+0.4
	0.2nm,0.4s,baz=110,slow=8.3,SNR=6.3						

SOME ***03*** *18:59:43.7, 40°.22N×77°.22E, h0km*
NNC ***03*** *18:59:44.8±0.9, 40°.20N×77°.24E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=6.3km s-min=4.1km az=168.0*
KRNET ***03*** *18:59:45.7±0.1, 40°.22N×77°.16E, mb2.5*
ISC 03 18:59:43.1±3.0**, 40°.1N**±0°.1×**77°.19E**±0°.04**, h11**km±16km**, n23, σ1s75**/38**, 18C-10D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.58**	**326**	⇑*i*P	**Pg**	**19 00 13.9**	**+0.5**
	baz=24						
NRN				⇑*i*S	**Sg**	**19 00 34.6**	**+0.6**
	baz=24						
KDJ	**Kajisay**	**2.00**	**360**	⇑*i*P	**Pg**	**19 00 21.4**	**0.0**
	baz=1.0						
KDJ				⇑*i*S	**Sg**	**19 00 47.6**	**+0.3**
	baz=1.0						
ULHL	**Ulahol**	**2.23**	**342**	⇓*i*P	**Pb**	**19 00 24.7**	**+1.2**
	baz=41						
ULHL				⇓*i*S	**Sg**	**19 00 53.4**	**-1.3**
	baz=41						
KZA	**Kyzart**	**2.43**	**324**	⇑*i*P	**Pb**	**19 00 28.0**	**+0.9**
	baz=23						
KZA				⇑*i*S	**Sb**	**19 00 58.7**	**+1.4**
	baz=23						
PRZ	**Przheval'sk**	**2.52**	**21**	⇑*i*P	**Pb**	**19 00 28.8**	**+0.3**
	baz=22						
PRZ				⇑*i*S	**Sb**	**19 01 00.6**	**+1.0**
	baz=22						
BOOM	**Boomskoye usch**	**2.54**	**339**	⇑*i*P	**Pb**	**19 00 29.1**	**+0.4**
	baz=38						
BOOM				⇑*i*S	**Sb**	**19 01 01.1**	**+1.1**
	baz=38						
ARLS	**Aral**	**2.77**	**310**	⇑*i*P	**Pb**	**19 00 32.8**	**+0.1**
	baz=9.0						
ARLS				⇑*i*S	**Sb**	**19 01 06.8**	**0.0**
	baz=9.0						
UCH	**Uchtor**	**2.91**	**317**	⇓*i*P	**Pb**	**19 00 34.7**	**-0.5**
	baz=16						
UCH				⇓*i*S	**Sb**	**19 01 10.4**	**-0.6**
	baz=16						
MDOK	**Medeo**	**3.03**	**358**	Pg	**Pb**	**19 00 39.3**	**+2.2**
	2.2nm,0.6s						
MDOK				Lg	Lg	19 01 18.8	
	14nm,0.7s						
TKM2	**Tokmak 2**	**3.03**	**337**	⇓Pg	**Pb**	**19 00 39.0**	**+1.8**
	1.3nm,0.7s						
TKM2				⇑Lg	Lg	19 01 19.9	
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**3.03**	**337**	⇑*i*P	**Pb**	**19 00 36.1**	**-1.1**
	baz=37						
TKM2				⇑*i*S	**Sb**	**19 01 13.0**	**-1.3**
	baz=37						
SATY	**Saty**	**3.06**	**17**	Pg	**Pb**	**19 00 39.9**	**+2.2**
	5.2nm,0.7s						
SATY				Lg	Lg	19 01 20.5	
	5.4nm,0.7s						
SATY	**Saty**	**3.06**	**17**	*e*P	**Pb**	**19 00 39.9**	**+2.2**
	5.5nm,0.6s						
SATY				*e*S	**Sg**	**19 01 20.5**	**-1.0**
	6.3nm,0.5s						
KOTS	**Kotyrbulak**	**3.10**	**359**	S	**Sg**	**19 01 22.3**	**-0.3**
	13nm,0.8s						
AAK	**Ala-Archa**	**3.22**	**322**	⇓Pg	**Pb**	**19 00 43.1**	**+2.7**
	1.9nm,0.9s						
AAK				⇓Lg	Lg	19 01 26.9	
	7.3nm,0.9s						
AAK	**Ala-Archa**	**3.22**	**322**	⇓*i*P	**Pb**	**19 00 38.7**	**-1.7**
	baz=21						
AAK				⇓*i*S	**Sb**	**19 01 17.4**	**-2.3**
	baz=21						
UZB	**Uzynbulak**	**3.31**	**24**	Pg	**Pb**	**19 00 43.7**	**+1.8**
	1.3nm,0.7s						
UZB				Lg	Lg	19 01 26.9	
	2.6nm,0.5s						
UZB	**Uzynbulak**	**3.31**	**24**	*e*P	**Pb**	**19 00 43.7**	**+1.8**
	0.3nm,0.2s						
UZB				*e*S	**Sg**	**19 01 26.9**	**-2.5**
	2.7nm,0.4s						
SHLS	**Shalkode**	**3.47**	**29**	*e*P	**Pg**	**19 00 49.2**	**-0.3**
	0.6nm,0.1s						
SHLS				*e*S	**Sg**	**19 01 36.3**	**+1.8**
	6.7nm,0.7s						
PDGK	**Podgornoye**	**3.63**	**28**	⇑Pg	**Pb**	**19 00 49.4**	**+2.0**
	2.1nm,0.9s						
PDGK				⇓Lg	Lg	19 01 37.3	
	4.3nm,0.6s						
PDGK	**Podgornoye**	**3.63**	**28**	⇑*i*P	**Pb**	**19 00 45.1**	**-2.2**
	baz=28						
PDGK				⇑*i*S	**Sb**	**19 01 27.7**	**-3.8**
	baz=28						
CHKK	**Chushkaly**	**3.72**	**358**	Pg	**Pb**	**19 00 51.2**	**+2.4**
	1.6nm,0.6s						
CHKK	**Chushkaly**	**3.72**	**358**	*e*P	**Pb**	**19 00 51.2**	**+2.4**
	1.6nm,0.6s						
CHKK				*e*S	**Sg**	**19 01 40.0**	**-2.6**
	13nm,0.4s						

SOME 03 19:00:23.6, 41°.43N×**77°.32E, h10**km**, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**1.63**	**350**	*e*P	Pb	19 00 54.2	+0.2
	2.7nm,0.5s						
TNSS				*e*S	Sg	19 01 16.1	+0.1
	8.8nm,0.6s						
MDOK	**Medeo**	**1.74**	**354**	*e*P	Pb	19 00 56.1	+0.4
	1.6nm,0.5s						
MDOK				*e*S	Sg	19 01 19.4	-0.2
	14nm,0.6s						
KOTS	**Kotyrbulak**	**1.81**	**355**	*e*P	Pb	19 00 57.4	+0.6
	7.6nm,1.1s						
KOTS				*e*S	Sg	19 01 21.7	0.0
	35nm,0.6s						
KOTS	**Kotyrbulak**	**1.81**	**355**	P	Pb	19 00 57.4	+0.6
	7.6nm,1.1s						
KURS	**Kuram**	**2.15**	**17**	*e*P	Pb	19 01 03.4	+0.8
	1.1nm,0.6s						
KURS				*e*S	Sg	19 01 32.2	-0.5
	2.8nm,0.7s						
KTBS	**Karatobe**	**2.33**	**349**	Pg	Pb	19 01 05.9	+0.2
	1.0nm,0.8s						
KTBS				Lg	Lg	19 01 36.7	
	4.2nm,0.5s						
KTBS	**Karatobe**	**2.33**	**349**	*e*P	Pg	19 01 07.3	-0.9
	0.6nm,0.2s						
KTBS				*e*S	Sg	19 01 38.9	+0.6
	3.2nm,0.2s						
CHKK	**Chushkaly**	**2.43**	**354**	*e*P	Pb	19 01 08.4	+1.0
	1.0nm,0.3s						
CHKK				*e*S	Sg	19 01 40.8	-0.9
	13nm,0.4s						
CHKK	**Chushkaly**	**2.43**	**354**	Pg	Pb	19 01 07.7	+0.3
	0.4nm,0.1s						
KAPS	**Kapalarasan**	**4.13**	**20**	Pg	Pg	19 01 39.6	-3.0
	0.2nm,0.4s						
KAPS				Lg	Lg	19 02 34.6	
	0.5nm,0.5s						

IDC ***03*** *19:01:29.2±2.1, 43°.44N×105°.29W, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.4/33, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=53.8km s-min=9.0km az=154.0*
ISCJB ***03*** *19:01:30.1±0.6, 43°.79N±0°.05×105°.28W±0°.06, h0km, mb4.0/2, Error ellipse: s-maj=7.9km s-min=6.3km az=166.7*
NEIC ***03*** *19:01:31.9±0.6, 43°.80N×105°.29W, h0km, ML3.0, Error ellipse: s-maj=9.8km s-min=7.9km az=151.0, Suspected Mining explosion.*
NEIC 58 km [36 miles] SSE of Gillette.
ISC 03 19:01:31.2±0.8**, 43°.80N**±0°.07×**105°.29W**±0°.05**, h0**km**, n12, σ1s09**/14**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**70**	*e*Pg	**Pb**	**19 01 50.7**	**-0.3**
RSSD				*e*Sg	**Sg**	**19 02 02.1**	**-0.1**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**19 02 24.5**	**+0.4**
	5.0nm,0.3s,baz=75,slow=15,SNR=82						
PDAR				Lg	Lg	19 03 08.6	
	13nm,0.3s,baz=76,slow=33,SNR=9.0						
OGNE	**Ogallala**	**3.74**	**139**	*e*Pn	**Pn**	**19 02 30.3**	**+0.1**
OGNE				*e*Sn	**Sn**	**19 03 14.8**	**-0.2**
DGMT	**Dagmar**	**4.73**	**9**	*e*Pn	**Pn**	**19 02 46.5**	**+2.7**
HWUT	**Hardware Ranch**	**5.11**	**247**	*e*Pn	**Pn**	**19 02 49.5**	**+0.3**
	4.3nm,0.4s						
HWUT				*e*Sg	**Sg**	**19 04 14.6**	**-0.9**
EGMT	**Eagleton**	**5.25**	**325**	*e*Pn	**Pn**	**19 02 51.7**	**+0.8**
	8.6nm,0.4s						
SDCO	**Great Sand Dun**	**6.05**	**182**	Pn	**Pn**	**19 03 03.9**	**+1.7**
	7.5nm,1.0s						
ECSD	**EROS Data Cent**	**6.29**	**88**	*e*Pn	**Pn**	**19 03 05.9**	**+0.7**
	4.9nm,0.4s						
I10CA	**LAC DU BONNET**	**9.00**	**41**	*i*		19 59 00.0	
	baz=221,slow=334,SNR=1.6						
ULM	**Lac du Bonnet**	**9.11**	**42**	Pn	**Pn**	**19 03 43.2**	**-0.6**
	0.7nm,0.3s,baz=229,slow=11,SNR=8.4						
ULM				Lg	Lg	19 06 19.7	
	0.3nm,0.3s,baz=131,slow=14,SNR=3.4						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 11 48.0**	**-0.3**
	2.3nm,0.8s,baz=324,slow=6.0,SNR=3.2						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**19 14 29.9**	**-0.4**
	0.3nm,0.8s,baz=352,slow=6.0,SNR=2.9						

IDC 03 19:11:29.5±2.7**, 3°.65S**×**129°.84E, h0**km**, mb3.2**/2**, mb1 3.4**/3**, mb1mx3.2**/23**, mbtmp3.2**/3**, ML2.8**/1**, MS2.8**/1**, Ms1 3.0**/1**, ms1mx2.6**/6**, Error ellipse: s-maj=202.1km s-min=28.2km az=70.0, Seram**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.77**	**165**	Pn	Pn	19 15 24.8	-1.3
	0.0nm,0.3s,baz=349,slow=13,SNR=3.8						
ASAR	**Alice Springs**	**20.28**	**169**	P	P	19 16 07.5	+0.5
	0.8nm,0.8s,baz=338,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**37.54**	**307**	LR	LR	19 34 18.4	
	comp=Z,14nm,20.4s,baz=295,slow=36						
MKAR	**Makanchi Array**	**65.37**	**326**	P	P	19 22 13.8	0.0
	0.2nm,0.8s,baz=126,slow=8.2,SNR=2.5						

IDC 03 19:14:56.7±2.3**, 7°.10S**×**127°.70E, h0**km**, mb3.8**/1**, mb1 3.7**/3**, mb1mx3.4**/21**, mbtmp3.6**/3**, ML3.8**/2**, Error ellipse: s-maj=297.0km s-min=30.6km az=65.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.29**	**154**	Pn	Pn	19 18 18.9	-1.7
	0.5nm,0.3s,baz=331,slow=13,SNR=36						
WRA				Sn	Sn	19 20 44.5	-15
	0.7nm,0.3s,baz=335,slow=22,SNR=9.1						
ASAR	**Alice Springs**	**17.51**	**161**	P	P	19 19 03.6	-0.1
	0.2nm,0.3s,baz=336,slow=9.0,SNR=10						
ASAR				S	Sn	19 22 08.1	-10
	0.1nm,0.3s,baz=346,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**67.08**	**328**	P	P	19 25 52.0	0.0
	0.5nm,0.5s,baz=116,slow=8.2,SNR=11						

MEX 03 19:50:03.4±0.3**, 15°.91N**×**94°.16W, h78**km±6km**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PCIG		**0.93**	**103**	*e*P	Pn	19 50 20.1	-1.3
PCIG				*e*S	Sn	19 50 33.3	-1.7
CMIG	**Matias Romero**	**1.36**	**330**	*e*P	Pn	19 50 25.7	-1.2
CMIG				*e*S	Sn	19 50 43.0	-1.5
HUIG	**Huatulco**	**1.88**	**266**	*i* P	Pn	19 50 31.6	-2.0
HUIG				*i* S	Sn	19 50 54.9	-1.7
CCIG	**Comitan**	**1.98**	**79**	*e*P	Pn	19 50 33.5	-1.6
CCIG				*i* S	Sn	19 50 57.3	-2.1
THIG		**2.08**	**118**	*i* P	Pn	19 50 35.6	-0.8
THIG				*i* S	Sn	19 50 59.5	-2.1
TUIG	**Tuzandepetl**	**2.12**	**353**	*i* P	Pn	19 50 36.4	-0.6
TUIG				*i* S	Sn	19 51 00.1	-2.4
VHO	**Vista Hermosa**	**2.72**	**295**	*i* P	Pn	19 50 44.4	-0.8
VHO				*i* S	Sn	19 51 15.6	-1.6

ISCJB ***03*** *19:55:09.1±1.6, 36°.37N±0°.06×71°.4E±0°.2, h200km, Error ellipse: s-maj=24.7km s-min=6.3km az=165.9*
NNC ***03*** *19:55:12.1±6.5, 36°.78N×71°.31E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=50.7km s-min=43.9km az=159.0*
DMN ***03*** *19:57:10.5±18.0, 31°.19N×81°.24E, h10km, Mb4.5/1, Error ellipse: s-maj=486.1km s-min=33.4km az=141.0*
ISC 03 19:55:09.8±2.3**, 36°.4N**±0°.1×**71°.3E**±0°.2**, h200**km**, n9, σ1s38**/9**, 3C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.69**	**20**	⇓P	**Pn**	**19 56 47.9**	**+1.8**
	3.6nm,0.8s						
AAK				⇑S	**Sn**	**19 58 02.1**	**-0.3**
	4.4nm,0.6s						
KK31	**Karatay Array**	**6.73**	**355**	⇓P	**Pn**	**19 56 46.8**	**+0.4**
	3.0nm,0.4s,baz=181,slow=14,SNR=53						
KK31				⇑S	**Sn**	**19 58 02.1**	**-1.0**
	1.5nm,0.5s,baz=174,slow=22,SNR=4.2						
TKM2	**Tokmak 2**	**7.29**	**25**	⇑P	**Pn**	**19 56 55.3**	**+1.3**
	3.0nm,0.8s						
TKM2				⇓S	**Sn**	**19 58 14.9**	**-1.8**
	5.2nm,1.1s						
PYUN	**Piuthan**	**12.86**	**127**	*e*P	Pn	19 58 05.4	-0.4
	2.9nm,0.3s						
DANN	**Dangsing**	**13.20**	**124**	*e*P	Pn	19 58 08.1	-2.1
GKN	**Gorkha**	**14.02**	**123**	*e*P	Pn	19 58 18.6	-1.6
	3.0nm,0.3s						
PKIN	**Phulchoki**	**14.81**	**122**	*e*P	**Pn**	**19 58 29.0**	**-1.0**
PKI	**Pulchoki**	**14.82**	**122**	*e*P	**Pn**	**19 58 29.3**	**-0.9**
JIRN	**Jiri**	**15.30**	**121**	*e*P	**Pn**	**19 58 36.3**	**+0.2**
	4.4nm,0.2s						

IDC 03 20:05:59.3±1.9**, 10°.21S**×**160°.75E, h0**km**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/26**, mbtmp3.4**/3**, Error ellipse: s-maj=33.8km s-min=15.8km az=56.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.10**	**314**	*e*P	Pn	20 06 22.0	0.0
HNR				*e*S	Sg	20 06 33.0	-1.8
HNR	**Honiara**	**1.10**	**314**	Pg	Pb	20 06 21.5	+0.2
	23nm,0.3s,baz=164,slow=12,SNR=10						
HNR				Lg	Lg	20 06 34.8	
	252nm,0.3s,baz=176,slow=19,SNR=22						
WRA	**Warramunga Arr**	**27.24**	**246**	P	P	20 11 45.9	+0.5
	0.6nm,0.7s,baz=74,slow=9.7,SNR=5.3						
ASAR	**Alice Springs**	**28.89**	**239**	P	P	20 11 59.5	-0.6
	0.3nm,1.0s,baz=57,slow=9.1,SNR=2.6						
ILAR	**Eielson Array**	**84.34**	**20**	P	P	20 18 32.8	-0.2
	0.4nm,1.0s,baz=247,slow=4.9,SNR=4.4						

ISCJB ***03*** *20:44:06.8±1.5, 34°.46N±0°.05×24°.13E±0°.06, h3km±9km, mb3.4/5, Error ellipse: s-maj=10.2km s-min=7.3km az=136.9*
IDC ***03*** *20:44:06.2±1.4, 34°.40N×24°.30E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.4/49, mbtmp3.4/8, ML3.6/2, Error ellipse: s-maj=30.7km s-min=16.6km az=138.0*
THE ***03*** *20:44:07.2, 34°.53N×23°.84E, h0km±2km, ML3.3/4, Error ellipse: s-maj=4.2km s-min=1.2km az=237.0*
ATH ***03*** *20:44:10.2, 34°.67N×24°.24E, h8km±2km, ML3.2/4, Error ellipse: s-maj=5.1km s-min=1.4km az=21.0*
ISC 03 20:44:08.3±1.6**, 34°.56N**±0°.07×**24°.19E**±0°.04**, h7**km±10km**, n29, σ1s09**/35**, mb3.5**/5**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.29**	**343**	P	**Pg**	**20 44 14.3**	**+0.3**

GVD S **Sb** **20 44 20.3 -0.6**
GVD Gavdhos 0.29 343 P **Pg** **20 44 14.4 +0.4**
GVD S **Sg** **20 44 17.6 -0.3**
GVD AML AML 20 44 26.8
comp=E,22495μm,0.5s
GVD AML AML 20 44 27.0
comp=N,24969μm,0.5s
PRNS Prines Rethymn 0.84 18 P **Pb** **20 44 25.1 -0.1**
PRNS S **Sn** **20 44 39.4 +0.3**
VAM Vamos 0.84 0 P **Pb** **20 44 25.4 +0.1**
VAM Vamos 0.84 0 P **Pb** **20 44 24.8 -0.5**
VAM AML AML 20 44 49.2
comp=N,3200μm,1.0s
VAM AML AML 20 44 58.4
comp=E,4103μm,0.9s
IMMV Iera Moni Meta 0.91 349 P **Pg** **20 44 24.8 -1.0**
IMMV S **Sb** **20 44 39.7 +0.9**
IMMV Iera Moni Meta 0.91 349 P **Pg** **20 44 25.0 -0.9**
IMMV S **Sg** **20 44 36.7 -1.1**
IMMV AML AML 20 44 49.9
comp=E,5009μm,0.7s
IMMV AML AML 20 44 51.9
comp=N,3952μm,0.9s
IDI Anoyia 0.93 38 Pg **Pb** **20 44 26.8 +0.1**
comp=N,12nm,0.3s,baz=210,slow=16,SNR=22
KERA Keramoti 0.96 327 P **Pb** **20 44 27.3 +0.1**
KERA S **Sg** **20 44 39.9 +0.7**
KERA AML AML 20 44 51.1
comp=E,3056μm,0.8s
KERA AML AML 20 44 52.8
comp=N,1981μm,0.4s
KSTL Kastelli Herak 1.03 44 P **Pn** **20 44 32.8 +3.6**
KSTL S Sn 20 44 53.5 +10
LAST Lasithi 1.22 60 P **Pb** **20 44 30.9 -0.7**
LAST Lasithi 1.22 60 P **Pn** **20 44 31.4 -0.3**
NPS Neapolis 1.36 59 P **Pb** **20 44 36.2 +2.1**
NPS Neapolis 1.36 59 P **Pb** **20 44 34.8 +0.7**
ANKY Antikythira Is 1.49 331 P **Pb** **20 44 36.6 +0.3**
ZKR Zakros 1.75 71 P **Pg** **20 44 42.0 +0.1**
KYTH Kithira 1.94 332 P **Pg** **20 44 45.1 -0.4**
VLI Veliai 2.38 335 P **Pb** **20 44 50.9 -0.6**
KARP Karpathos 2.63 67 P **Pb** **20 44 54.8 -0.9**
KARP Karpathos 2.63 67 P **Pb** **20 44 53.6 -2.0**
BRTR Keskin Array B 9.13 53 Pn **Pn** **20 46 20.0 -0.6**
comp=N,0.0nm,0.3s,baz=213,slow=5.0,SNR=2.6
MMAI Mount Meron Ar 9.46 96 Pn **Pn** **20 46 26.6 +1.6**
comp=N,0.4nm,0.3s,baz=280,slow=17,SNR=3.0
GERES GERESS Array B 16.26 335 Pn **P** **20 48 00.8 +0.6**
comp=N,0.1nm,0.3s,baz=145,slow=9.8,SNR=6.4
AKASG Malin Array Be 16.54 11 Pn **Pn** **20 48 00.7 +0.1**
comp=N,0.4nm,0.3s,baz=203,slow=11,SNR=3.7
ESDC Sonseca Array 22.98 291 P **P** **20 49 14.0 +0.6**
comp=N,0.6nm,0.7s,baz=88,slow=9.6,SNR=5.1
NOA NORSAR Array B 27.78 346 P **P** **20 49 57.1 -0.5**
comp=N,0.4nm,0.7s,baz=142,slow=11,SNR=2.9
TORD Torodi Ar. Bea 29.50 229 P **P** **20 50 12.8 -0.4**
comp=N,0.4nm,0.5s,baz=25,slow=8.8,SNR=4.1
MKAR Makanchi Array 44.77 56 P **P** **20 52 22.6 +0.2**
comp=N,0.7nm,0.6s,baz=278,slow=6.4,SNR=9.2
ZALV Zalesovo Beam 45.99 46 P **P** **20 52 30.1 -1.8**
comp=N,0.4nm,0.3s,baz=274,slow=5.6,SNR=2.6

*NSSP **03** 20:59:01.0,38.47N×46.68E,h10km,Ms4.2*
*AZER **03** 20:59:01.3±0.2,38.43N×46.55E,h10km±1km,ml4.5/28, Error ellipse: s-maj=8.9km s-min=2.0km az=22.0*
*IDC **03** 20:59:02.5±1.3,38.39N×46.60E,h0km,mb4.0/10, mb1 4.1/15,mb1mx3.8/50,mbtmp4.0/15,ML3.5/5,MS3.3/17, Ms1 3.3/17,ms1mx3.1/52,Error ellipse: s-maj=24.7km s-min=12.3km az=171.0*
*THR **03** 20:59:02.5,38.64N×46.85E,h14km,ML4.0*
*NEIC **03** 20:59:02.0±0.0,38.40N×46.68E,h6km,mb4.2/4, MN4.1(TEH),After TEH.*
*TEH **03** 20:59:02.9,38.40N×46.68E,h6km,ML4.1*
*ISCJB **03** 20:59:02.8±0.5,38.39N±0.02×46.62E±0.02,h1km±3km, mb4.1/32,MS3.4/7,Error ellipse: s-maj=3.1km s-min=2.2km az=34.4*
*MOS **03** 20:59:05.5±1.5,38.37N×46.68E,h28km,mb4.4/15,Error ellipse: s-maj=8.0km s-min=4.4km az=102.7*
*NNC **03** 20:59:17.1±4.2,39.18N×47.85E,h0km,mb4.4,mpv4.5, Error ellipse: s-maj=57.8km s-min=35.2km az=50.0*

ISC 03 20:59:03.9±1.0,38.43N±0.02×46.68E±0.02,h5km±7km, n294,σ2s04/324,mb4.1/37,MS3.4/7,53C-39D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
IHRS	**Heris**	**0.31**	**112**	IAMB	IAmb	20 59 09.7	
	comp=Z,1508μm,0.3s						
IHRS				*e*Pg	**Pg**	**20 59 09.1**	**-0.9**
IHRS				*e*Sg	**Sg**	**20 59 13.9**	**-0.2**
ITBZ	**Tabriz**	**0.46**	**245**	*e*Pg	**Pg**	**20 59 12.5**	**-0.4**
ITBZ				IAMB	IAmb	20 59 20.7	
	comp=Z,98μm,0.2s						
ORD	**Ordubad**	**0.73**	**313**	*e*Pg	**Pg**	**20 59 16.8**	**-1.1**
ORD	**Ordubad**	**0.73**	**313**	↑P	**Pg**	**20 59 16.9**	**-1.1**
ORD				↓S	**Sg**	**20 59 24.3**	**-3.2**
IBST	**Bostanabad**	**0.75**	**167**	*e*Pg	**Pg**	**20 59 16.4**	**-2.0**
IBST				IAMB	IAmb	20 59 30.1	
	comp=Z,56μm,0.5s						
IMRD	**Marand**	**0.81**	**290**	*e*Pg	**Pg**	**20 59 18.5**	**-1.1**
IMRD				IAMB	IAmb	20 59 34.7	
	comp=Z,55μm,0.3s						
IAZR	**Azarshahr**	**0.94**	**216**	*e*Pg	**Pg**	**20 59 20.9**	**-1.0**
IAZR				IAMB	IAmb	20 59 40.4	
	comp=Z,28μm,0.4s						
ISRB	**Sarab**	**0.99**	**128**	*e*Sg	**Sg**	**20 59 35.8**	**+0.1**
GRS	**Goris**	**1.10**	**346**	↑*i*P	**Pn**	**20 59 28.0**	**+1.9**
GRS				↓*i*S	**Sn**	**20 59 43.0**	**+1.3**
NAX	**Nakhchivan**	**1.18**	**309**	PG	**Pg**	**20 59 25.2**	**-1.5**
NAX	**Nakhchivan**	**1.18**	**309**	*e*Pg	**Pg**	**20 59 25.2**	**-1.5**
NAX	**Nakhchivan**	**1.18**	**309**	P	**Pg**	**20 59 25.2**	**-1.5**
	SNR=452						
NAX				↑S	**Sg**	**20 59 40.0**	**-2.0**
SBZ	**Shahbuz**	**1.30**	**318**	*e*Pg	**Pn**	**20 59 27.0**	**-1.9**
SBZ	**Shahbuz**	**1.30**	**318**	↑P	**Pn**	**20 59 27.0**	**-1.9**
SBZ				↑S	**Sg**	**20 59 45.6**	**-0.2**
LRK	**Lerik**	**1.32**	**80**	*e*Pg	**Pn**	**20 59 26.9**	**-2.2**
LRK	**Lerik**	**1.32**	**80**	↑P	**Pn**	**20 59 27.0**	**-2.2**
	SNR=3665						
LRK				↑S	**Sb**	**20 59 45.6**	**-0.9**
STKZ		**1.38**	**2**	↓*i*P	**Pn**	**20 59 28.1**	**-1.8**
STKZ				↓*i*S	**Sb**	**20 59 46.7**	**-1.4**
GLBA	**Clilabad**	**1.56**	**58**	*e*Pn	**Pn**	**20 59 32.4**	**+0.1**
GLBA	**Clilabad**	**1.56**	**58**	P	**Pn**	**20 59 32.4**	**+0.1**
	SNR=282						
GLBA				↓S	**Sb**	**20 59 54.7**	**+1.4**
ASTR	**Astara**	**1.66**	**85**	*e*Pn	**Pn**	**20 59 33.5**	**-0.2**
ASTR	**Astara**	**1.66**	**85**	↑P	**Pn**	**20 59 33.5**	**-0.2**
	SNR=1101						
ASTR				↓S	**Sb**	**20 59 57.2**	**+1.0**
LKRN	**Lenkeran, Azer**	**1.67**	**80**	PN	**Pn**	**20 59 33.0**	**-0.8**
LKRN	**Lenkeran, Azer**	**1.67**	**80**	*e*Pn	**Pn**	**20 59 33.0**	**-0.8**
LKRN	**Lenkeran, Azer**	**1.67**	**80**	↑P	**Pn**	**20 59 33.0**	**-0.8**
	SNR=126						
LKRN				↑S	**Sn**	**20 59 56.6**	**+1.0**
MAKU	**Maku**	**1.81**	**301**	*e*Pn	**Pn**	**20 59 35.8**	**-0.1**
MAKU	**Maku**	**1.81**	**301**	*e*Pn	**Pn**	**20 59 35.8**	**-0.1**
MAKU				*e*Sg	**Sb**	**21 00 00.6**	**-0.1**
BRDA	**Brd**	**1.87**	**12**	*e*Pn	**Pb**	**20 59 38.0**	**-0.5**
BRDA	**Brd**	**1.87**	**12**	P	**Pb**	**20 59 38.0**	**-0.5**
	SNR=54						
BRDA				↑S	**Sg**	**21 00 04.7**	**+0.7**
HYR	**Heyderabad**	**1.92**	**313**	*e*Pn	**Pn**	**20 59 37.3**	**+0.1**
HYR	**Heyderabad**	**1.92**	**313**	↑P	**Pn**	**20 59 37.4**	**+0.1**
HYR				↓S	**Sg**	**21 00 05.6**	**+0.1**
SAAT	**Saatly**	**1.97**	**43**	*e*Pn	**Pn**	**20 59 37.8**	**0.0**
SAAT	**Saatly**	**1.97**	**43**	↓P	**Pn**	**20 59 37.9**	**0.0**
	SNR=37						
SAAT				↓S	**Sb**	**21 00 04.8**	**-0.2**
ZRD	**Zardab**	**2.00**	**23**	*e*Pn	**Pb**	**20 59 40.0**	**-0.8**
ZRD	**Zardab**	**2.00**	**23**	P	**Pb**	**20 59 40.0**	**-0.8**
	SNR=52						
ZRD				↑S	**Sg**	**21 00 08.9**	**+0.7**
GANJ	**Ganja**	**2.23**	**353**	PN	**Pn**	**20 59 42.3**	**+0.8**
GANJ	**Ganja**	**2.23**	**353**	*e*Pn	**Pn**	**20 59 42.3**	**+0.8**
GANJ	**Ganja**	**2.23**	**353**	P	**Pn**	**20 59 42.4**	**+0.8**
	SNR=286						
GANJ				↓S	**Sn**	**21 00 11.2**	**+1.8**
KDMR	**Kurdemir**	**2.26**	**31**	*e*Pn	**Pn**	**20 59 43.3**	**+1.4**
KDMR	**Kurdemir**	**2.26**	**31**	P	**Pn**	**20 59 43.3**	**+1.4**
	SNR=30						
KDMR				↑S	**Sb**	**21 00 14.3**	**+0.8**
CLDR	**Caldiran**	**2.27**	**289**	P	**Pb**	**20 59 43.7**	**-1.9**
GNI	**Garni**	**2.28**	**319**	*d*↓PN	**Pn**	**20 59 43.6**	**+1.2**
GNI	**Garni**	**2.28**	**319**	↓*i*P	**Pn**	**20 59 43.8**	**+1.4**
GNI				↓*i*S	**Sg**	**21 00 15.9**	**-1.3**
GNI	**Garni**	**2.28**	**319**	*e*Pn	**Pn**	**20 59 43.7**	**+1.4**
GNI	**Garni**	**2.28**	**319**	Pn	**Pn**	**20 59 43.9**	**+1.4**
	comp=Z,90nm,0.3s,baz=139,slow=2.4,SNR=498						
GNI				LR	LR	21 00 08.9	
	comp=Z,270nm,18.1s,baz=272,slow=29						
GNI				Lg	Lg	21 00 17.9	
	comp=Z,92nm,0.3s,baz=235,slow=19,SNR=5.7						
MNGR	**Mingechevir, A**	**2.36**	**8**	PN	**Pb**	**20 59 45.8**	**-1.0**
MNGR	**Mingechevir, A**	**2.36**	**8**	*e*Pn	**Pb**	**20 59 45.8**	**-1.0**
MNGR	**Mingechevir, A**	**2.36**	**8**	P	**Pb**	**20 59 45.9**	**-1.0**
	SNR=17						
MNGR				↓S	**Sn**	**21 00 14.9**	**+2.3**
ALIB	**Äli-Bayra**	**2.36**	**49**	*e*Pn	**Pb**	**20 59 45.7**	**-1.2**
ALIB	**Äli-Bayra**	**2.36**	**49**	↓P	**Pb**	**20 59 45.8**	**-1.2**
	SNR=23						
ALIB				↓S	**Sb**	**21 00 18.4**	**+2.0**
ZNJK	**Zanjan**	**2.38**	**137**	*e*Pn	**Pn**	**20 59 43.9**	**+0.2**
ZNJK	**Zanjan**	**2.38**	**137**	*e*Pn	**Pn**	**20 59 43.9**	**+0.2**
GDB	**GEDABAY**	**2.39**	**343**	*e*Pn	**Pn**	**20 59 45.1**	**+1.2**
GDB	**GEDABAY**	**2.39**	**343**	↓P	**Pn**	**20 59 45.2**	**+1.2**
	SNR=152						
GDB				↑S	**Sb**	**21 00 16.8**	**-0.6**
TASB	**TASBURUN-IGDIR**	**2.45**	**310**	P	**Pn**	**20 59 44.2**	**-0.4**
VANB	**Van**	**2.59**	**275**	P	**Pn**	**20 59 47.3**	**+0.8**
VANB	**Van**	**2.59**	**275**	*e*Pn	**Pb**	**20 59 49.2**	**-1.6**
IML	**Ismayilli**	**2.63**	**26**	*e*Pn	**Pn**	**20 59 48.0**	**+1.0**
IML	**Ismayilli**	**2.63**	**26**	P	**Pn**	**20 59 48.0**	**+1.0**
	SNR=22						
IML				↑S	**Sb**	**21 00 22.6**	**-1.4**
QBL	**Gabala**	**2.66**	**19**	*e*Pn	**Pn**	**20 59 48.8**	**+1.3**
QBL	**Gabala**	**2.66**	**19**	P	**Pn**	**20 59 48.8**	**+1.3**
	SNR=60						
QBL				↓S	**Sn**	**21 00 22.5**	**+2.3**
CUKT	**Cukurca**	**2.71**	**245**	P	**Pn**	**20 59 48.6**	**+0.4**
GBS	**Qobustan**	**2.73**	**39**	*e*Pn	**Pn**	**20 59 50.7**	**+2.2**
GBS	**Qobustan**	**2.73**	**39**	↓P	**Pn**	**20 59 50.7**	**+2.2**
	SNR=77						
PQL	**Pirkuli**	**2.78**	**32**	*e*Pn	**Pn**	**20 59 50.5**	**+1.3**
PQL	**Pirkuli**	**2.78**	**32**	P	**Pn**	**20 59 50.6**	**+1.3**
	SNR=40						
PQL				↑S	**Sb**	**21 00 26.9**	**-1.6**
SEKA	**Sheki**	**2.80**	**8**	PN	**Pn**	**20 59 50.3**	**+0.9**
SEKA	**Sheki**	**2.80**	**8**	*e*Pn	**Pn**	**20 59 50.3**	**+0.9**
SEKA	**Sheki**	**2.80**	**8**	P	**Pn**	**20 59 50.3**	**+0.9**
	SNR=59						
QZX	**Qazax, Azerbai**	**2.81**	**339**	*e*Pn	**Pn**	**20 59 51.6**	**+2.1**
QZX	**Qazax, Azerbai**	**2.81**	**339**	↓P	**Pn**	**20 59 51.6**	**+2.1**
	SNR=87						
QZX				↑S	**Sn**	**21 00 23.0**	**-0.8**
AKDM	**Akdamar-Van**	**2.91**	**269**	P	**Pb**	**20 59 55.9**	**-0.5**
XNQ	**Khinaliq**	**2.96**	**22**	*e*Pn	**Pn**	**20 59 52.2**	**+0.5**
XNQ	**Khinaliq**	**2.96**	**22**	↓P	**Pn**	**20 59 52.3**	**+0.5**
	SNR=12						
XNQ				↑S	**Sn**	**21 00 29.3**	**+1.7**
ATGJ	**Altiaghaj**	**2.99**	**35**	*e*Pn	**Pn**	**20 59 54.5**	**+2.5**
ATGJ	**Altiaghaj**	**2.99**	**35**	↓P	**Pn**	**20 59 54.5**	**+2.5**
	SNR=122						
DDFL	**Dedoflistskaro**	**3.04**	**352**	P	**Pb**	**20 59 58.9**	**+0.4**
DDFL				S	**Sb**	**21 00 39.1**	**+3.1**
AGRB	**Hanur-Agry**	**3.09**	**293**	P	**Pb**	**20 59 59.2**	**-0.3**
AGRB	**Hanur-Agry**	**3.09**	**293**	*e*Pn	**Pn**	**20 59 55.2**	**+1.7**
STEZ	**Stepenevan**	**3.11**	**326**	↑*e*P	**Pb**	**20 59 58.0**	**-1.8**
STEZ				↑*e*S	**Sg**	**21 00 42.0**	**-1.8**
SIZA	**Siyzn**	**3.15**	**32**	*e*Pn	**Pn**	**20 59 56.6**	**+2.5**
SIZA	**Siyzn**	**3.15**	**32**	↓P	**Pn**	**20 59 56.7**	**+2.5**
	SNR=20						
AKT	**Akhty**	**3.15**	**15**	*i* PN	**Pn**	**20 59 55.3**	**+1.1**
AKT	**Akhty**	**3.15**	**15**	*e*Pn	**Pn**	**20 59 55.3**	**+1.1**
ZKTA	**Zakatala**	**3.20**	**359**	PN	**Pn**	**20 59 56.8**	**+1.9**
ZKTA	**Zakatala**	**3.20**	**359**	*e*Pn	**Pn**	**20 59 56.8**	**+1.9**
ZKTA	**Zakatala**	**3.20**	**359**	P	**Pn**	**20 59 56.9**	**+1.9**
	SNR=34						
ZKTA				↓S	**Sn**	**21 00 35.2**	**+1.8**
QUB	**Quba**	**3.21**	**23**	*e*Pn	**Pn**	**20 59 57.6**	**+2.5**
QUBA	**Quba, Azerbaij**	**3.23**	**25**	P	**Pn**	**20 59 57.6**	**+2.3**
	SNR=81						
MLAZ	**Malazgirt-MUS**	**3.30**	**284**	P	**Pb**	**21 00 02.4**	**-0.7**
QSAR	**Qusar**	**3.31**	**21**	*e*Pn	**Pn**	**20 59 58.5**	**+2.1**
QSAR	**Qusar**	**3.31**	**21**	P	**Pn**	**20 59 58.6**	**+2.1**
	SNR=134						
SNGE	**Sanandaj**	**3.38**	**171**	*e*Pn	**Pn**	**20 59 59.8**	**+2.3**
SNGE	**Sanandaj**	**3.38**	**171**	*e*AML	AML	21 00 59.2	
	comp=E,258nm,0.8s						
SNGE	**Sanandaj**	**3.38**	**171**	*e*Pn	**Pn**	**20 59 59.8**	**+2.3**
SNGE				*e*Sg	**Sg**	**21 00 53.2**	**+0.7**
LGD	**Lagodekhi**	**3.41**	**355**	P	**Pb**	**21 00 01.8**	**-3.1**
LGD				S	**Sb**	**21 00 47.5**	**+0.8**
LGD	**Lagodekhi**	**3.41**	**355**	*e*Pn	**Pb**	**21 00 01.7**	**-3.1**
LGD				*e*S	**Sb**	**21 00 47.4**	**+0.8**
KZRT	**Kazreti**	**3.43**	**330**	P	**Pb**	**21 00 05.2**	**-0.1**
KZRT				S	**Sb**	**21 00 50.6**	**+3.3**
HSRG	**Sareghieh**	**3.43**	**158**	*e*Pn	**Pn**	**21 00 00.4**	**+2.0**
HSRG				IAMB	IAmb	21 01 00.5	
	comp=N,0.0nm,2.0s						
SIRT	**Sirnak**	**3.48**	**256**	P	**Pb**	**21 00 04.1**	**-1.9**
ILIN	**Lien**	**3.52**	**176**	*e*Pn	**Pn**	**21 00 01.4**	**+2.0**
ILIN				IAMB	IAmb	21 01 00.7	
	comp=Z,4μm,0.7s						
BTNK	**Botanikuri**	**3.55**	**337**	P	**Pb**	**21 00 07.2**	**-0.1**
BTNK				S	**Sb**	**21 00 53.2**	**+2.6**
TBLG	**Delisi**	**3.61**	**336**	P	**Pb**	**21 00 07.7**	**-0.6**
TBLG	**Delisi**	**3.61**	**336**	P	**Pb**	**21 00 08.2**	**-0.2**
TBLG				S	**Sb**	**21 00 56.5**	**+4.0**
TBLG	**Delisi**	**3.61**	**336**	*e*Pg	**Pb**	**21 00 07.8**	**-0.5**
TBLG	**Delisi**	**3.61**	**336**	*e*PN	**Pb**	**21 00 08.1**	**-0.2**
TBLG				*e*S	**Sb**	**21 00 56.4**	**+4.0**
SEAG	**Tbilisi Sea**	**3.62**	**337**	P	**Pb**	**21 00 10.0**	**+1.5**
SEAG				S	**Sb**	**21 00 56.4**	**+3.7**
TRLG	**Trialeti**	**3.68**	**328**	P	**Pb**	**21 00 09.5**	**0.0**
TRLG				S	**Sb**	**21 00 57.9**	**+3.4**
BGD	**Bogdanovka**	**3.69**	**321**	P	**Pb**	**21 00 11.5**	**+1.8**
BGD				S	**Sg**	**21 01 01.3**	**-1.2**
IVIS	**Veis**	**3.90**	**178**	*e*Pn	**Pn**	**21 00 07.9**	**+3.3**
IVIS				IAMB	IAmb	21 01 28.1	
	comp=Z,5μm,1.4s						
GNBR	**Gunib**	**3.96**	**3**	*i* PN	**Pn**	**21 00 07.6**	**+2.3**
SENK	**Senkaya-Erzuru**	**3.97**	**304**	P	**Pb**	**21 00 12.2**	**-2.2**
IRAZ	**Razeghan**	**3.99**	**138**	IAMB	IAmb	21 00 25.0	
	comp=Z,5μm,0.6s						
IRAZ				*e*Pn	**Pn**	**21 00 06.2**	**+0.3**
HAGD	**Aghdareh**	**4.11**	**150**	*e*Pn	**Pn**	**21 00 08.6**	**+1.0**
HAGD				IAMB	IAmb	21 02 58.6	
	comp=Z,0.0nm,0.0s						
VRTB	**Varto-Mus**	**4.14**	**282**	P	**Pb**	**21 00 14.3**	**-3.1**
THKV	**Tehran--Karaj**	**4.19**	**126**	*e*AML	AML	21 01 21.2	
	comp=N,158nm,0.5s						
IMHD	**Mahdasht**	**4.21**	**129**	IAMB	IAmb	21 00 28.3	
	comp=Z,3μm,0.7s						
IMHD				*e*Pn	**Pn**	**21 00 09.1**	**+0.3**
IKOM	**Komasi**	**4.30**	**171**	*e*Pn	**Pn**	**21 00 12.5**	**+2.3**
GUDG	**Gudauri**	**4.36**	**338**	P	**Pb**	**21 00 19.0**	**-2.2**
GUDG				S	**Sg**	**21 01 21.1**	**-2.9**
IR5	**Iran Long-Peri**	**4.49**	**135**	*e*Pn	**Pn**	**21 00 13.5**	**+0.8**
IR5				IAMB	IAmb	21 01 30.4	
	comp=Z,2μm,0.7s						
HSAM	**Samen**	**4.49**	**159**	*e*Pn	**Pn**	**21 00 15.3**	**+2.5**
MAK	**Makhachkala**	**4.57**	**8**	↓*i*PN	**Pn**	**21 00 12.7**	**-0.9**
MAK				*e*		21 00 29.1	
MAK				*e*		21 01 22.2	
MAK				pmax	pmax		
	comp=Z,79nm,0.2s						
MAK				MLR	MLR		
	comp=Z,1μm,13.0s						
ASAO	**Ashtian**	**4.72**	**144**	*e*Pn	**Pn**	**21 00 16.7**	**+0.7**
ASAO	**Ashtian**	**4.72**	**144**	*e*Pn	**Pn**	**21 00 16.7**	**+0.7**
BNGB	**Bingl**	**4.73**	**279**	P	**Pb**	**21 00 22.8**	**-4.5**
IHSB	**Hasanabad**	**4.74**	**128**	*e*Pn	Pb	21 00 22.0	-5.6
GROC	**Groznyy**	**4.81**	**352**	*e*PN	**Pn**	**21 00 17.3**	**+0.3**
GROC				pmax	pmax		
	comp=Z,31nm,1.5s						
ZEI	**Tsey**	**4.84**	**335**	*e*PN	**Pb**	**21 00 28.3**	**-0.9**
ZEI				*e*S	**Sb**	**21 01 33.4**	**+5.6**
ZEI				pmax	pmax		
	comp=Z,22nm,0.6s						
ZEI				smax	smax		
	comp=N,83nm,0.6s						
ZEI				smax	smax		
	comp=E,81nm,0.8s						
IKFM	**Kafar-mosalman**	**4.99**	**169**	*e*Pn	Pn	21 00 25.1	+5.7
IKFM				IAMB	IAmb	21 02 11.1	
	comp=Z,0.0nm,2.6s						
IPRN	**Peran**	**5.01**	**114**	*e*Pn	**Pn**	**21 00 21.0**	**+1.1**
IPRN				IAMB	IAmb	21 01 33.3	
	comp=Z,2μm,0.4s						
IDMV	**Damavand**	**5.14**	**122**	*e*Pn	**Pn**	**21 00 25.8**	**+3.9**
IDMV				IAMB	IAmb	21 00 52.5	
	comp=Z,1μm,0.7s						
GHVR	**GHOM**	**5.42**	**135**	*e*Pn	**Pn**	**21 00 25.4**	**-0.1**
GHVR	**GHOM**	**5.42**	**135**	*e*Pn	**Pn**	**21 00 25.4**	**-0.1**
IALA	**Alasht**	**5.42**	**114**	*e*Pn	**Pn**	**21 00 27.1**	**+1.4**
IFIR	**Firoozkooh**	**5.60**	**118**	*e*Pn	**Pn**	**21 00 30.8**	**+2.7**
IFIR				IAMB	IAmb	21 00 59.2	
	comp=E,640nm,0.4s						
ISHM	**Shahmirzad**	**5.90**	**114**	*e*Pn	**Pn**	**21 00 34.7**	**+2.5**
ISHM				IAMB	IAmb	21 00 54.5	
	comp=Z,1μm,0.4s						
IKIA	**Kiasar**	**6.01**	**110**	*e*Pn	**Pn**	**21 00 35.0**	**+1.3**
IKIA				IAMB	IAmb	21 00 59.2	
	comp=Z,709nm,0.5s						
KBZ	**Khabaz**	**6.01**	**333**	Pn	Pn	21 00 41.1	+7.7
	comp=Z,0.1nm,0.3s,baz=143,slow=7.1,SNR=7.0						
KBZ				Lg	Lg	21 02 11.7	
	baz=234,slow=7.8,SNR=2.1						
KBZ				LR	LR	21 02 39.4	
	comp=Z,154nm,19.1s,baz=154,slow=36						
ISFB	**Sefidab**	**6.06**	**131**	*e*Pn	**Pn**	**21 00 34.5**	**+0.3**
ISFB				IAMB	IAmb	21 00 55.3	
	comp=Z,659nm,0.4s						
SHA1	**Shidzhatmaz**	**6.11**	**331**	*i* P	**Pn**	**21 00 36.5**	**+1.5**
KRSH	**Karshahi**	**6.27**	**134**	*e*Pn	**Pn**	**21 00 37.5**	**+0.3**
KVAR	**Kislovodsk Arr**	**6.28**	**333**	LR	LR	21 02 52.3	
	comp=Z,488nm,18.1s,baz=92,slow=36						
KIV	**Kislovodsk**	**6.28**	**333**	*e*P	**Pn**	**21 00 38.8**	**+1.5**
KIV				*e*S	**Sn**	**21 01 48.4**	**-1.1**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV				MLR	MLR		
	comp=Z,60nm,9.0s						
IKLH	**Kolahrood**	**6.47**	**141**	*e*Pn	**Pn**	**21 00 42.1**	**+2.1**
IKLH				IAMB	IAmb	21 01 07.3	
	comp=Z,591nm,0.9s						
IPIR	**Pirpir**	**6.69**	**148**	*e*Pn	**Pn**	**21 00 44.5**	**+1.5**
IPIR				IAMB	IAmb	21 01 42.9	
	comp=Z,317nm,1.0s						
ZNGN	**Zangian**	**7.17**	**150**	*e*Pn	**Pn**	**21 00 51.0**	**+1.3**
IZEF	**Zefreh**	**7.19**	**139**	*e*Pn	**Pn**	**21 00 51.6**	**+1.7**
IZEF				IAMB	IAmb	21 01 31.8	
	comp=Z,157nm,0.7s						
SOC	**Sochi**	**7.36**	**317**	*e*P	**Pn**	**21 00 52.0**	**0.0**
SOC				*e*		21 02 12.8	
SOC				MLR	MLR		
	comp=Z,150nm,7.0s						
ANAR	**Anarak**	**7.75**	**130**	*e*Pn	**Pn**	**21 00 59.0**	**+1.4**
ISAD	**Sadrabad**	**8.67**	**137**	*e*Pn	**Pn**	**21 01 12.1**	**+1.8**
ISAD				IAMB	IAmb	21 02 03.9	
	comp=Z,144nm,1.0s						
SBZV	**Sabzevar**	**8.93**	**100**	*e*Pn	**Pn**	**21 01 14.7**	**+0.9**
GEYT	**Alibeck**	**9.02**	**90**	Pn	**Pn**	**21 01 14.2**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=288,slow=15,SNR=21						
GEYT				Sn	**Sn**	**21 02 55.1**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=42,slow=2.3,SNR=3.0						
GEYT				LR	LR	21 06 15.0	
	comp=Z,118nm,19.2s,baz=290,slow=48						
GYA0B	**ALIBECK ARRAY**	**9.02**	**90**	*e*Pn	**Pn**	**21 01 13.9**	**-0.9**
GYA0B	**ALIBECK ARRAY**	**9.02**	**90**	↓P	**Pn**	**21 01 18.0**	**+3.2**
	comp=Z,12nm,0.5s						
GYA0B				↓S	Sn	21 02 47.2	-10
	comp=Z,49nm,1.2s						
ISFR	**Sfrayin**	**9.07**	**95**	*e*Pn	**Pn**	**21 01 16.5**	**+0.7**
ISFR				IAMB	IAmb	21 01 22.4	
	comp=Z,1μm,0.5s						
IEMG	**Emamgholi**	**9.52**	**92**	*e*Pn	**Pn**	**21 01 21.4**	**-0.5**
IEMG				IAMB	IAmb	21 01 35.8	
	comp=Z,370nm,0.4s						
IKRD	**Kardeh**	**9.54**	**96**	*e*Pn	Pn	21 01 33.6	+11
IKRD				IAMB	IAmb	21 01 40.3	
	comp=Z,239nm,0.3s						
BR101	**Keskin Array S**	**10.22**	**281**	*e*Pn	**Pn**	**21 01 34.1**	**+2.7**
BRTR	**Keskin Array

MDVR	Moldovita	19.68	297	⇑	*i*	P	Pn	21 03 35.1 0.0
TRPA	Tarpa	20.00	307	⇓	*i*	P	P	21 03 36.8 -0.3
SIRR	Siria	20.02	301	⇑	*i*	P	Pn	21 03 38.7 -0.5
KIRV	Kirov	20.25	4	P			P	21 03 39.8 +0.1
	comp=Z,13nm,0.7s,baz=213,slow=7.9,SNR=6.4							
KIRV				LR		LR		21 13 10.2
	comp=Z,175nm,18.4s,baz=201,slow=42							
UZH	Uzhgorod	20.33	308		*eP*		P	21 03 37.0 -3.7
UZH					*e*			21 03 44.8
UZH					*e*			21 04 01.6
SVE	Sverdlovsk	20.59	22		*eP*		Pn	21 03 45.1 -0.7
SVE					*eS*		S	21 07 26.0 -8.0
SVE					pmax		pmax	
	comp=Z,37nm,1.7s							
AML	Almayashu	20.90	71		P		Pn	21 03 53.5 +3.5
	SNR=7.3							
EKS2	Erkin-Say	20.98	70		P		P	21 03 53.2 +5.2
	SNR=6.7							
OTUK	Ortayu	20.99	54	⇓	P		P	21 03 50.7 +2.7
	comp=Z,10nm,0.7s							
AAK	Ala-Archa	21.51	70		P		P	21 04 01.2 +7.4
	SNR=19							
AAK	Ala-Archa	21.51	70	⇑	P		P	21 03 59.4 +5.6
	comp=Z,21nm,0.9s							
USP	Ospenovka	21.54	68		P		P	21 03 57.9 +3.9
	SNR=8.4							
CHMS	Chumysh	21.71	69		P		P	21 04 02.6 +6.8
	SNR=11							
KBK	Karagaybulak	21.84	70		P		P	21 04 01.3 +3.9
	SNR=11							
BRVK	Borovoye	21.89	40		*eP*		P	21 03 59.9 +2.3
	comp=Z,19nm,0.7s							
BRVK	Borovoye	21.89	40	⇑	P		P	21 04 00.4 +2.9
	comp=Z,20nm,0.8s							
BRVK	Borovoye	21.89	40		*i* P		P	21 03 59.0 +1.5
BRVK					pmax		pmax	
	comp=Z,21nm,0.8s							
BVA0	Borovoye Array	21.92	41	⇑	P		P	21 03 59.8 +1.9
	comp=Z,13nm,1.1s,baz=231,slow=7.5,SNR=59							
BVAR	Borovoye Array	21.92	41		P		P	21 03 57.8 -0.1
	comp=Z,3.2nm,0.7s,baz=234,slow=9.0,SNR=27							
BVAR					S		S	21 07 56.7 -3.5
	comp=Z,0.5nm,0.5s,baz=232,slow=27,SNR=2.6							
BVAR					LR		LR	21 13 56.7
	comp=Z,70nm,20.2s,baz=222,slow=41							
LANS	Liptovska Anna	22.26	308		*eP*		P	21 04 04.5 +2.9
LANS	Liptovska Anna	22.26	308		*eS*	P	P	21 04 04.5 +2.9
TKM2	Tokmak 2	22.33	69		P		P	21 04 09.7 +7.1
	SNR=25							
TKM2	Tokmak 2	22.33	69	⇑	P		P	21 04 06.5 +3.9
	comp=Z,28nm,0.9s							
VYHS	Vyhne	22.46	306		*eP*		P	21 04 03.5 -0.3
VYHS	Vyhne	22.46	306		*eP*		P	21 04 03.5 -0.3
KSH	Kashi	22.76	78		P		P	21 04 09.5 +2.3
KSH					sP		sP	21 04 16.2 +6.1
KSH					S		S	21 08 08.3 -8.2
KSH					pmax		pmax	
	comp=Z,130nm,8.0s							
KLMR	Klimovskoe	22.89	351		*eP*		P	21 04 06.1 -2.0
KLMR					pmax		pmax	
	comp=Z,27nm,1.5s							
KLMR	Klimovskoe	22.89	351		*eP*		P	21 04 06.2 -1.9
KLMR					AMP			21 04 09.1
	comp=Z,27nm,1.5s							
JAVC	Velka Javorina	23.30	306		*eP*		P	21 04 14.8 +2.2
MORC	Moravsky Berou	23.64	308		*eP*		P	21 04 15.6 -0.4
KRUC	Moravsky	24.17	306		*eP*		P	21 04 15.2 -5.7
KRUC					*e*			21 04 21.2
CONA	Conrad Observa	24.25	303		*i* pP		P	21 04 21.7 -0.1
	comp=Z,4.0nm,1.5s							
ARSA	Arzberg	24.35	301		*i* P		P	21 04 21.9 -0.8
	comp=Z,2.4nm,0.6s							
SOKA	Soboth	24.59	300		*i* pP		P	21 04 25.8 +0.8
	comp=Z,8.3nm,1.9s							
OBKA	Obir	24.90	299		*i* P		P	21 04 28.2 +0.5
	comp=Z,2.6nm,0.8s							
PDGK	Podgornoye	25.19	68	⇓	P		P	21 04 33.3 +2.9
	comp=Z,5.7nm,1.2s							
MOA	Molln	25.29	302		*i* pP		P	21 04 30.9 -0.3
	comp=Z,6.1nm,1.9s							
KURBB	Kurchatov Arra	25.56	51	⇓	P		P	21 04 34.2 +0.7
	comp=Z,12nm,1.1s							
KURBB	Kurchatov Arra	25.56	51		P		P	21 04 34.5 +1.0
	comp=Z,5.0nm,0.8s,baz=260,slow=9.7,SNR=29							
KURK	Kurchatov	25.64	51		*eP*		P	21 04 34.5 +0.3
KURK	Kurchatov	25.64	51	⇓	P		P	21 04 36.4 +2.2
	comp=Z,12nm,0.9s							
KURK	Kurchatov	25.64	51		*i* P		P	21 04 33.4 -0.8
KURK					pmax		pmax	
	comp=Z,12nm,1.0s							
KBA	Koelnbreinsper	25.80	300		*i* pP		P	21 04 38.4 +2.5
	comp=Z,4.8nm,1.1s							
GEA0	GERESS Array S	25.85	304		*eP*		P	21 04 34.3 -2.0
GERES	GERESS Array B	25.85	304		*eP*		P	21 04 36.1 -0.2
GERES					pmax		pmax	
	comp=Z,2.0nm,0.6s							
GERES	GERESS Array B	25.85	304		P		P	21 04 35.6 -0.7
	comp=Z,1.7nm,0.6s,baz=102,slow=9.2,SNR=20							
KHC	Kasperske Hory	25.98	305		*eP*		P	21 04 36.5 -1.0
KHC	Kasperske Hory	25.98	305		*eP*		P	21 04 36.5 -1.0
TMCR	Tamitsa	26.28	351		*eP*		P	21 04 37.4 -2.4
TMCR					pmax		pmax	
	comp=Z,11nm,1.0s							
ABTA	Abfaltersbach	26.32	299		*i* P		P	21 04 39.8 -0.8
	comp=Z,3.0nm,1.1s							
FIA0	FINESS Array S	26.35	338		*eP*		P	21 04 40.9 +0.4
FIA0	FINESS Array S	26.35	338		*eP*		P	21 04 40.9 +0.4
FINES	FINESS Array B	26.35	338		P		P	21 04 40.9 +0.4
	comp=Z,1.7nm,0.9s,baz=142,slow=12,SNR=3.3							
FINES					LR		LR	21 16 18.4
	comp=Z,100nm,18.8s,baz=95,slow=39							
CLL	Collm	26.86	310		*eP*		P	21 04 45.0 -0.2
	comp=Z,4.0nm,1.1s							
CLL					*e*			21 04 52.0
	comp=Z,4.0nm,1.1s							
CLL	Collm	26.86	310		*eP*		P	21 04 45.0 -0.2
CLL					*e*			21 04 52.0
CLL					pmax		pmax	
	comp=Z,4.0nm,1.1s							
WTTA	Wattenberg	26.98	300		*i* pP		P	21 04 50.9 +4.2
	comp=Z,6.9nm,1.4s							
WATA	Walderalm	27.02	301		P		P	21 04 45.9 -1.1
	comp=Z,1.9nm,0.9s							
MAKZ	Makanchi	27.10	61	⇓	P		P	21 04 49.7 +2.2
	comp=Z,6.3nm,1.0s							
SQTA	Sankt Quirin	27.26	300		*i* pP		P	21 04 48.7 -0.4
	comp=Z,6.9nm,1.8s							
MK31	Makanchi Array	27.32	61	⇓	P		P	21 04 53.3 +3.8
	comp=Z,3.5nm,0.7s,baz=263,slow=8.1,SNR=30							
MK32	Makanchi Array	27.32	61		*eP*		P	21 04 52.8 +3.3
MKAR	Makanchi Array	27.32	61		P		P	21 04 52.8 +3.2
	comp=Z,3.5nm,0.7s,baz=263,slow=8.4,SNR=34							
MOTA	Moosalm	27.34	301		*i* P		P	21 04 49.1 -0.8
	comp=Z,1.5nm,0.7s							
RETA	Reutte	27.59	301		P		P	21 04 51.1 -0.8
	comp=Z,2.6nm,0.9s							
DAVOX	Davos/Dischmat	28.13	299		P		P	21 04 56.0 -0.9
	comp=Z,1.3nm,0.6s,baz=101,slow=5.2,SNR=3.0							
ZALV	Zalesovo Beam	30.18	47		P		P	21 05 16.6 +1.8
	comp=Z,1.0nm,0.5s,baz=270,slow=10,SNR=6.6							
ZALV					LR		LR	21 19 53.5
	comp=Z,46nm,19.2s,baz=80,slow=41							
ZAA1	Zalesovo Array	30.18	47		*eP*		P	21 05 16.6 +1.8
DGZ	Jazzator, Alta	31.01	55		*i* P		P	21 05 25.0 +2.6
DGZ					pmax		pmax	
	comp=Z,2.0nm,1.0s							
NOA	NORSAR Array B	31.56	327		LR		LR	21 19 01.3
	comp=Z,66nm,18.2s,baz=110,slow=38							
ARA0	ARCESS Array S	33.17	347		*eP*		P	21 05 44.0 +3.0
ARCES	ARCESS Array B	33.17	347		P		P	21 05 44.0 +3.0
ARCES					pmax		pmax	
	comp=Z,3.0nm,0.8s							
ARCES	ARCESS Array B	33.17	347		P		P	21 05 44.0 +3.0
	comp=Z,2.6nm,0.8s,baz=143,slow=7.6,SNR=5.9							
KNGR	Kungurtug, Tuv	37.52	54		*i* P		P	21 06 17.0 -1.8
NRIK	Noril'sk	37.86	22		LR		LR	21 26 15.7
	comp=Z,79nm,18.8s,baz=146,slow=43							
SPITS	Spitsbergen Ar	41.79	351		P		P	21 06 53.6 -0.3
	comp=Z,8.4nm,0.9s,baz=90,slow=12,SNR=3.4							
SONA0	Songino Array	43.59	58		*eP*		P	21 07 12.1 +3.2
SONM	Songino Array	43.59	58		P		P	21 07 12.1 +3.2
	comp=Z,0.4nm,0.6s,baz=279,slow=10,SNR=2.6							
TOA1	Torodi Ar. Sit	47.08	250		*eP*		P	21 07 33.6 -3.2
TORD	Torodi Ar. Bea	47.08	250		P		P	21 07 33.6 -3.2
	comp=Z,0.9nm,0.9s,baz=32,slow=8.7,SNR=6.1							
KLR	Kul'dur	59.22	49		*i* P		P	21 09 06.9 +1.0
KLR	Kul'dur	59.22	49		LR		LR	21 38 47.6
	comp=Z,74nm,18.5s,baz=275,slow=40							
KSAR	Wonju Array Be	61.94	63		P		P	21 09 26.9 +2.3
KSAR	Wonju Array Be	61.94	63		P		P	21 09 27.0 +2.3
KSRS	Korea Array	61.97	63		*eP*		P	21 09 26.8 +2.0
KSRS					pmax		pmax	
	comp=Z,2.0nm,0.8s							
KSRS	Korea Array	61.97	63		P		P	21 09 26.9 +2.2
	comp=Z,1.7nm,0.8s,baz=284,slow=9.9,SNR=5.3							
SEY	Seymchan	63.05	30		*i* P		P	21 09 32.2 +0.6
YKA	Yellowknife Ar	78.29	351		P		P	21 11 04.0 -0.5
YKA	Yellowknife Ar	78.29	351		P		P	21 11 04.0 -0.5
YKA	Yellowknife Ar	78.29	351		P		P	21 11 04.0 -0.5
	comp=Z,0.3nm,0.7s,baz=8.2,slow=6.5,SNR=6.1							

*IDC **03** 21:00:19.8±0.6, 10.96N×138.67E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.0/54, mbtmp4.1/18, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=23.1km s-min=14.3km az=83.0*

*ISCJB **03** 21:00:22.5±0.3, 10.89N±0.05×138.70E±0.08, h33km, mb4.4/36, MS3.1/3, Error ellipse: s-maj=10.8km s-min=7.3km az=175.9*

*NEIC **03** 21:00:24.5±0.3, 10.91N×138.77E, h35km, mb4.4/18, Error ellipse: s-maj=9.7km s-min=7.0km az=87.0*

ISC 03 21:00:24.5±0.5, **10.93N**±0.08×**138.7E**±0.1, **h35**km, **n64,** σ1§**11**/56, **mb4.3**/36, **MS3.1**/3, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	6.56	66	LR		LR	21 04 17.2	
	comp=Z,115nm,18.1s,baz=215,slow=36							
SSLB	Suanglung	21.21	309	*eP*	P		21 05 08.4	+1.0
	26nm,1.3s							
JHJ2	Mitsune	22.10	2	*eP*	P		21 05 14.2	-2.6
	596nm,1.5s							
JHJ	Hachijo jima 2	22.11	2	LR	LR		21 11 23.0	
	comp=Z,71nm,20.7s,baz=88,slow=30							
H11S3	WAKE ISLAND Hy	28.04	71	T	T		21 34 58.3	
	baz=249,slow=74							
H11S1	WAKE ISLAND Hy	28.06	71	T	T		21 35 01.5	
	baz=249							
H11S2	WAKE ISLAND Hy	28.06	71	T	T		21 34 59.7	
	baz=249,slow=74							
KSRS	Korea Array	28.15	342	LR	LR		21 17 17.7	
	comp=Z,22nm,18.6s,baz=110,slow=36							
KS15	Wonju Array Si	28.15	341	*eP*	P		21 06 12.3	-1.1
	25nm,1.4s							
H11N1	WAKE ISLAND Hy	28.50	69	T	T		21 35 37.9	
	baz=254,slow=75,SNR=3.7							
H11N2	WAKE ISLAND Hy	28.51	69	T	T		21 35 37.9	
	baz=254,slow=75,SNR=4.0							
H11N3	WAKE ISLAND Hy	28.52	69	T	T		21 35 37.9	
	baz=254,slow=75,SNR=2.9							
WR1	Warramunga Arr	30.98	188	*eP*	P		21 06 38.6	-0.1
	3.6nm,0.9s							
WRA	Warramunga Arr	30.98	188	P	P		21 06 38.6	-0.1
	0.5nm,0.9s,baz=13,slow=9.9,SNR=3.7							
JAGI	Jajag, Banyuwa	31.13	233	*eP*	P		21 06 40.3	+0.1
	11nm,0.9s							
FITZ	Fitzroy Crossi	31.60	204	*eP*	P		21 06 42.5	-1.7
	8.8nm,1.4s							
CTA	Charters Tower	31.70	166	P	P		21 06 47.4	+2.3
	4.3nm,0.9s,baz=315,slow=4.3,SNR=3.0							
AS01	Alice Springs	34.69	188	*eP*	P		21 07 10.7	-0.5
AS31	Alice Springs	34.70	188	*eP*	P		21 07 11.3	+0.1
	1.0nm,0.6s							
ASAR	Alice Springs	34.70	188	P	P		21 07 11.3	+0.1
	0.8nm,0.5s,baz=16,slow=12,SNR=15							
PBKT	Sadao Pong	37.06	283	*eP*	P		21 07 32.5	+0.9
CM01	Chiang Mai Arr	39.12	286	*eP*	P		21 07 49.6	+0.7
CM31	Chiang Mai Arr	39.14	286	*eP*	P		21 07 50.3	+1.1
	4.3nm,0.7s							
CMAR	Chiang Mai Arr	39.14	286	P	P		21 07 49.6	+0.5
	3.3nm,0.7s,baz=92,slow=6.9,SNR=31							
STKA	Stephens Creek	42.65	176	*eP*	P		21 08 17.4	-0.3
	0.5nm,0.9s							
STKA	Stephens Creek	42.65	176	P	P		21 08 17.4	-0.3
	2.2nm,0.8s,baz=331,slow=10,SNR=4.0							
STKA				LR	LR		21 28 13.8	
	comp=Z,54nm,18.7s,baz=26,slow=39							
FORT	Forrest	42.71	194	*eP*	P		21 08 16.2	-2.1
	21nm,1.0s							
SONA0	Songino Array	45.71	330	*eP*	P		21 08 42.6	+0.3
SONM	Songino Array	45.71	330	P	P		21 08 42.6	+0.3
	1.1nm,0.9s,baz=130,slow=8.1,SNR=6.2							
SONA1	Songino Array	45.72	330	*eP*	P		21 08 42.1	-0.2
SEY	Seymchan	52.84	8	P	P		21 09 36.2	-0.1
	2.4nm,0.7s,baz=181,slow=7.3,SNR=10							
MK01	Makanchi Array	59.33	318	*eP*	P		21 10 23.5	+0.4
MK31	Makanchi Array	59.34	318	*eP*	P		21 10 24.1	+0.9
	1.6nm,0.9s							
MK32	Makanchi Array	59.34	318	*eP*	P		21 10 23.8	+0.6
MK32				*eP*	cP	cP	21 11 11.2	+0.2
MKAR	Makanchi Array	59.34	318	P	P		21 10 23.8	+0.6
	2.2nm,0.8s,baz=104,slow=8.6,SNR=17							
MKAR				*P*	cP	cP	21 11 11.2	+0.2
	0.5nm,0.7s,baz=90,slow=4.3,SNR=2.7							
MAKZ	Makanchi	59.55	318	*eP*	P		21 10 25.6	+0.9
	1.8nm,0.8s							
ZALV	Zalesovo Beam	60.41	327	*eP*	P		21 10 30.0	-0.3
KHLH	Kahului Airpor	62.80	72	*eP*	P		21 10 46.9	-0.1
	157nm,1.3s							
KURK	Kurchatov	62.84	322	*eP*	P		21 10 47.0	+0.2
KURBB	Kurchatov Arra	62.87	322	P	P		21 10 47.0	0.0
	2.5nm,0.8s,baz=103,slow=7.1,SNR=12							
MHA	Mahukona	63.32	73	*eP*	P		21 10 47.6	-2.9
PUH	Pauahi	64.00	74	*eP*	P		21 10 52.5	-2.7
	54nm,0.8s							
ARSB	Arslanbob	64.68	311	*eP*	P		21 10 57.8	-1.5
	2.6nm,0.9s							
BVAR	Borovoye Array	68.34	323	P	P		21 11 22.4	+0.1
	3.5nm,0.8s,baz=106,slow=7.9,SNR=14							
BRVK	Borovoye	68.41	323	*eP*	P		21 11 23.3	+0.6
	3.2nm,0.6s							
PPLA	Purkeypile	70.85	27	*eP*	P		21 11 38.3	+0.5
	15nm,1.4s							
IM3	Indian Mountai	71.00	24	*eP*	P		21 11 38.6	+0.2
CAST	Castle Rocks	71.03	26	*eP*	P		21 11 38.4	-0.3
	6.1nm,1.4s							
ILAR	Eielson Array	73.53	25	P	P		21 11 53.5	-0.1
	1.7nm,0.7s,baz=247,slow=5.8,SNR=27							
ILB	Eielson Array	73.53	25	*eP*	P		21 11 53.9	+0.3
	5.2nm,1.4s							
AKTO	Aktyubinsk	75.75	319	P	P		21 12 06.8	0.0
	0.6nm,0.6s,baz=120,slow=8.1,SNR=2.9							
INK	Inuvik	79.10	22	*eP*	P		21 12 25.8	+0.8
	2.8nm,0.9s							
INK	Inuvik	79.10	22	P	P		21 12 25.8	+0.8
	1.7nm,0.8s,baz=273,slow=3.8,SNR=7.9							
DLBC	Dease Lake	81.44	32	*eP*	P		21 12 39.9	+1.9
	7.7nm,1.4s							
DLBC	Dease Lake	81.44	32	P	P		21 12 39.9	+1.9
	0.8nm,0.3s,baz=308,slow=5.4,SNR=3.4							
KBZ	Khabaz	86.71	314	P	P		21 13 10.1	+5.1
	2.0nm,0.9s,baz=90,slow=8.1,SNR=3.1							
YKA	Yellowknife Ar	87.94	26	P	P		21 13 11.9	+1.4
	1.3nm,0.8s,baz=292,slow=5.2,SNR=15							
YKB5	Yellowknife Ar	87.94	26	*eP*	P		21 13 11.7	+1.2
RES	Resolute Bay	88.47	12	*eP*	P		21 13 13.6	+0.8
	5.0nm,1.4s							
RES	Resolute Bay	88.47	12	P	P		21 13 13.6	+0.8
	1.9nm,0.9s,baz=348,slow=4.0,SNR=5.8							
FIA0	FINESS Array S	90.95	334	*eP*	P		21 13 23.7	-1.0
FINES	FINESS Array B	90.95	334	P	P		21 13 23.7	-1.0
	1.9nm,0.9s,baz=35,slow=5.1,SNR=3.5							
NV01	Mina Array Sit	93.24	50	*eP*	P		21 13 37.4	+1.3
NVAR	Mina Array Bea	93.24	50	P	P		21 13 37.4	+1.3
	0.6nm,0.6s,baz=256,slow=7.3,SNR=3.6							

*ISCJB **03** 21:00:49.3±0.2, 60.77N±0.02×151.86W±0.05, h102km±2km, mb3.6/8, Error ellipse: s-maj=4.6km s-min=2.9km az=44.1*

*IDC **03** 21:00:50.6±1.9, 60.68N×151.31W, h107km±23km, mb3.4/8, mb1 3.5/14, mb1mx3.3/63, mbtmp3.8/14, Error ellipse: s-maj=30.3km s-min=19.8km az=133.0*

*NEIC **03** 21:00:51.8±0.0, 60.76N×151.90W, h85km, ML3.8(AEIC), After AEIC.*

NEIC Felt at Kenai.

ISC 03 21:00:49.7±0.7, **60.75N**±0.04×**151.84W**±0.04, **h96**km±5km, **n104,** σ1§**26**/117, **mb3.5**/8, **Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NKA	Nikishka	0.30	91	P	P		Pn	21 01 06.1 +2.4
RDJH	Redoubt Jeurge	0.50	252	P	P		Pn	21 01 05.1 -0.1
RDJH				S	S		Sn	21 01 15.9 -0.8
SPCN	Chakachatna No	0.50	341	P	P		Pn	21 01 05.4 +0.3
SPCN				S	S		Sn	21 01 16.4 -0.2
RDN	Redoubt North	0.51	243	P	P		Pn	21 01 05.3 0.0
RDSO	Redoubt South	0.54	237	P	P		Pn	21 01 05.6 +0.1
RDSO				S	S		Sn	21 01 16.8 -0.5
SPCP	Crater Peak Br	0.54	344	P	P		Pn	21 01 05.8 +0.3
SPCP				S	S		Sn	21 01 16.7 -0.6
RDWB	Redoubt West	0.56	242	P	P		Pn	21 01 05.7 0.0
RDWB				S	S		Sn	21 01 17.1 -0.5
SPWE	Spurr West	0.63	327	P	P		Pn	21 01 06.5 +0.3
SLKM	Skilak Lake	0.84	106	P	P		Pn	21 01 09.0 +0.9
SUA	Susitna One	0.89	36	P	P		Pn	21 01 09.8 +1.1
SUA				S	S		Sn	21 01 24.2 +1.2
IVE	Iliamna Volcan	0.94	219	P	P		Pn	21 01 09.5 +0.2
ILW	Iliamna West	0.94	223	P	P		Pn	21 01 09.7 +0.3
ILS	Iliamna Low So	1.00	218	P	P		Pn	21 01 10.4 +0.5
RC01	Rabbit Creek A	1.08	71	P	P		Pn	21 01 12.0 +1.3
RC01				S	S		Sn	21 01 28.0 +1.5
BRLK	Bradley Lake	1.10	154	P	P		Pn	21 01 11.8 +0.9
HOM	Homer	1.10	175	P	P		Pn	21 01 12.6 +1.7
SEW	Seward	1.35	118	P	P		Pn	21 01 14.9 +1.1
PTE	Portage	1.39	84	P	P		Pn	21 01 15.2 +1.0
PMR	Palmer	1.56	56	P	P		Pn	21 01 17.1 +0.7
PMR				S	S		Sn	21 01 37.1 +0.4
AUL	Augustine Lava	1.59	211	P	P		Pn	21 01 18.2 +1.4
AUE	Augustine Isla	1.59	209	P	P		Pn	21 01 17.9 +1.1
AUP	Augustine Pinn	1.60	210	P	P		Pn	21 01 18.0 +1.3
AUJK	Augustine Jueg	1.61	210	P	P		Pn	21 01 18.3 +1.2
AUI	Augustine Isla	1.63	210	P	P		Pn	21 01 18.4 +1.2
PWL	Port Wells	1.72	85	P	P		Pn	21 01 19.0 +0.5
PWL				S	S		Sn	21 01 41.0 +0.6
GHO	Glory Hole Cre	1.74	53	P	P		Pn	21 01 19.7 +0.9
KNK	Knik Glacier	1.77	67	P	P		Pn	21 01 20.0 +0.9
SVW2	Sparrevohn	1.86	282	P	P		Pn	21 01 20.1 -0.1
SML	Sawmill	2.00	56	P	P		Pn	21 01 22.8 +0.8
PPLA	Purkeypile	2.16	356	P	P		Pn	21 01 25.4 +1.1
FONW	Fourpeaked Sta	2.19	210	P	P		Pn	21 01 25.8 +1.2
SCM	Sheep Creek Mo	2.44	62	P	P		Pn	21 01 28.7 +0.9
HUR	Hurricane	2.47	24	P	P		Pn	21 01 29.8 +1.6
JPK	Jack Peak	2.58	81	P	P		Pn	21 01 29.8 +0.1
KAHG	Katmai Hook Gl	2.65	212	P	P		Pn	21 01 32.2 +1.6
CAST	Castle Rocks	2.68	358	P	P		Pn	21 01 31.6 +0.6
VMT	TAPS Tl Valdez	2.69	81	P	P		Pn	21 01 31.9 +0.8
TRF	Thorofare Moun	2.81	14	P	P		Pn	21 01 33.5 +0.7
TT01	Tatalina	2.93	319	P	P		Pn	21 01 34.0 +0.6
KLU	Klutina	2.97	73	P	P		Pn	21 01 35.4 +0.5
KLU				S	S		Sn	21 02 10.6 +0.8
DIV	Divide	2.99	80	P	P		Pn	21 01 35.3 +0.2
KDAK	Kodiak Island	3.00	188	P	P		Pn	21 01 35.7 +0.4
	9.4nm,0.3s,baz=15,slow=9.6,SNR=140							
KDAK				S	S		Sn	21 02 09.0 -1.4
	22nm,0.3s,baz=150,slow=18,SNR=6.8							
EYAK	Cordova Ski Ar	3.01	91	P	P		Pn	21 01 35.2 -0.1
RND	Reindeer	3.01	27	P	P		Pn	21 01 36.5 +1.0
KABU	Katmai Buttres	3.04	217	P	P		Pn	21 01 37.5 +1.6
KELA	Mount Kelaz	3.05	222	P	P		Pn	21 01 37.2 +1.2
DHY	Denali Highway	3.15	40	P	P		Pn	21 01 38.5 +1.1
CHUM	Lake Minchumin	3.15	356	P	P		Pn	21 01 38.2 +1.0
ANCK	Angle Creek	3.17	218	P	P		Pn	21 01 39.1 +1.5
MCK	McKinley	3.29	23	P	P		Pn	21 01 40.3 +1.2
PS12	TAPS Pump St12	3.33	74	P	P		Pn	21 01 40.1 +0.4
PS11	TAPS Pump St11	3.34	64	P	P		Pn	21 01 41.2 +1.4
HARP	HAARP	3.60	60	P	P		Pn	21 01 44.8 +1.5
BWN	Browne	3.61	17	P	P		Pn	21 01 44.6 +1.2
OHAK	Old Harbor	3.62	193	P	P		Pn	21 01 43.2 -0.3
PAX	Paxson	3.75	51	P	P		Pn	21 01 47.0 +1.6
PLK1	Peulik 1	3.84	222	P	P		Pn	21 01 48.0 +1.5
PS10	TAPS Pump St10	3.92	44	P	P		Pn	21 01 49.9 +2.3
NEA	Nenana	4.05	17	P	P		Pn	21 01 49.5 +0.2
WRH	Wood River Hil	4.12	23	P	P		Pn	21 01 50.6 +0.3
HDA	Harding Lake	4.31	30	P	P		Pn

EFSA				S	Sb	21 07 23.8	0.0	
SIGR	**SIGRI**	**0.54**	**160**	PG	Pb	21 07 15.4	-1.1	
SIGR				SG	Sb	21 07 23.3	-1.1	
SIGR	**SIGRI**	**0.54**	**160**	P	Pg	21 07 15.1	0.0	
SIGR				S	Sb	21 07 23.4	-1.1	
SIGR				AML	AML	21 07 24.1		
	comp=E,778µm,0.4s							
SIGR				AML	AML	21 07 24.1		
	comp=N,1067µm,0.5s							
EZN	**Ezine**	**0.56**	**79**	PG	Pb	21 07 15.9	-0.9	
EZN				SG	Sb	21 07 24.5	-0.4	
PRK	**Paraskevi**	**0.69**	**133**	P	Pb	21 07 16.1	0.0	
PRK				S	Sb	21 07 28.7	-0.2	
BAYC	**CANAKKALE_Bayr**	**0.72**	**88**	*i* P	Pb	21 07 19.5	-0.1	
BAYC				*i* S	Sb	21 07 29.8	+0.2	
BAYC				IAML_P				
	comp=Z,2µm,0.2s							
SMTH	**Samothraki Isl**	**0.75**	**355**	P	Pb	21 07 20.2	0.0	
SMTH				S	Sb	21 07 31.0	+0.3	
AYVA	**Ayvalik**	**0.93**	**116**	*i* P	Pn	21 07 24.4	+0.3	
AYVA				*i* S	Sn	21 07 38.1	+0.4	
GELI	**Tayfur-Gelibol**	**0.95**	**44**	PG	Pn	21 07 24.1	-0.3	
GELI				SG	Sn	21 07 38.0	-0.1	
LPK	**Lapseki**	**1.09**	**53**	PN	Pn	21 07 26.4	0.0	
ENEZ	**Enez**	**1.10**	**22**	PN	Pn	21 07 26.3	-0.2	
THAS	**Thassos island**	**1.12**	**323**	P	Pn	21 07 26.6	-0.2	
THAS				S	Sb	21 07 41.9	+0.7	
ERIK	**Erikli-Kesan**	**1.17**	**36**	PN	Pb	21 07 27.2	-0.1	
ALN	**Alexandroupoli**	**1.22**	**15**	PN	Pg	21 07 27.9	-0.2	
ALN	**Alexandroupoli**	**1.22**	**15**	P	Pn	21 07 28.2	+0.1	
ALN				S	Sn	21 07 45.1	+0.2	
ZEDA	**zmir-Bergama**	**1.36**	**123**	*i* P	Pg	21 07 31.0	+0.2	
ZEDA				*i* S	Sn	21 07 51.6	+3.2	
ZEDA				IAML_P				
	comp=Z,232nm,0.1s							
CHOS	**Chios island**	**1.37**	**165**	PN	Pg	21 07 31.2	+0.2	
CHOS	**Chios island**	**1.37**	**165**	P	Pn	21 07 29.9	-0.5	
CHOS				S	Sn	21 07 48.3	-0.5	
OUR	**Ouranopolis**	**1.40**	**297**	PN	Pg	21 07 31.9	+0.4	
OUR	**Ouranopolis**	**1.40**	**297**	P	Pn	21 07 30.4	-0.2	
RDO	**Rodhopi**	**1.43**	**358**	PN	Pn	21 07 31.1	+0.1	
RDO	**Rodhopi**	**1.43**	**358**	P	Pn	21 07 31.0	0.0	
AOS	**Alonnisos**	**1.45**	**248**	P	Pg	21 07 32.4	-0.1	
KRBG	**Karabiga-Canak**	**1.46**	**62**	PN	Pg	21 07 32.8	+0.2	
PAIG	**Paliouri**	**1.50**	**279**	P	Pb	21 07 32.6	-0.4	
KAVA	**Kavala**	**1.53**	**327**	P	Pn	21 07 32.0	-0.4	
RKY	**Sarkoy-Tekirda**	**1.54**	**51**	PN	Pg	21 07 34.2	0.0	
BALY	**Balya**	**1.55**	**89**	*i* P	Pg	21 07 33.9	-0.4	
BALY				*i* S	Sg	21 07 54.3	-0.1	
STEP	**BALIKESIR_Sava**	**1.66**	**101**	*i* P	Pg	21 07 35.7	-0.9	
STEP				*i* S	Sg	21 08 00.1	+2.0	
STEP				IAML_P				
	comp=Z,184nm,0.2s							
SBT4	**Kumbag-Tekirda**	**1.84**	**52**	PN	Pb	21 07 38.3	-0.2	
SRS	**Serrai**	**2.08**	**313**	P	Pn	21 07 40.2	+0.2	
NVR	**Nevrokopi**	**2.11**	**321**	P	Pn	21 07 40.9	+0.4	
HORT	**Hortiatis**	**2.12**	**295**	PN	Pb	21 07 43.1	-0.4	
EDRB	**Edirne**	**2.29**	**22**	PN	Pb	21 07 45.4	-1.0	
KNT	**Kendrikon**	**2.52**	**306**	PN	Pb	21 07 48.4	-2.0	
KNT	**Kendrikon**	**2.52**	**306**	P	Pn	21 07 46.7	+0.6	

*ATH **03** 21:14:54.5, 38°.61N×25°.64E, h30km±1km, ML3.6/8, Error ellipse: s-maj=1.5km s-min=0.7km az=89.0*
*DDA **03** 21:14:54.0, 38°.66N×25°.61E, h8km±4km, ML3.3*
*ISK **03** 21:14:54.3, 38°.61N×25°.59E, h16km, ML3.6/32*
*ISCJB **03** 21:14:55.5±0.3, 38°.62N±0°.01×25°.62E±0°.02, h25km±3km, Error ellipse: s-maj=2.3km s-min=2.1km az=153.2*
*THE **03** 21:14:55.5, 38°.61N×25°.61E, h12km±1km, ML3.2/12, Error ellipse: s-maj=1.3km s-min=0.7km az=75.0*

ISC 03 21:14:55.6±1.0, 38°.61N±0°.02×25°.62E±0°.02, h19km±2km, n165, σ0°60/201, 14C-5D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.08**	**212**	P	**Pg**	**21 14 59.5**	**+0.3**
PSRA				S	**Sg**	**21 15 01.6**	**0.0**
PSRA				AML	AML	21 15 01.7	
PSRA				AML	AML	21 15 02.3	
CHOS	**Chios island**	**0.41**	**123**	PG	**Pg**	**21 15 03.8**	**-0.4**
CHOS				SG	**Sg**	**21 15 09.4**	**-0.5**
CHOS	**Chios island**	**0.41**	**123**	P	**Pg**	**21 15 03.7**	**-0.4**
CHOS				S	**Sg**	**21 15 09.4**	**-0.5**
CHOS	**Chios island**	**0.41**	**123**	P	**Pg**	**21 15 03.6**	**-0.5**
CHOS				S	**Sg**	**21 15 09.4**	**-0.5**
CHOS				AML	AML	21 15 09.5	
	comp=N,23973µm,0.5s						
CHOS				AML	AML	21 15 14.0	
	comp=E,17756µm,0.3s						
SIGR	**SIGRI**	**0.63**	**17**	PG	**Pb**	**21 15 07.5**	**-0.4**
SIGR				SG	**Sg**	**21 15 16.9**	**+0.3**
SIGR	**SIGRI**	**0.63**	**17**	P	**Pb**	**21 15 07.3**	**-0.6**
SIGR				S	**Sb**	**21 15 16.3**	**0.0**
SIGR	**SIGRI**	**0.63**	**17**	P	**Pb**	**21 15 07.4**	**-0.6**
SIGR				S	**Sb**	**21 15 16.1**	**-0.2**
SIGR				AML	AML	21 15 19.2	
	comp=N,17474µm,0.3s						
SIGR				AML	AML	21 15 20.6	
	comp=E,13283µm,0.4s						
KRBN	**Karaburun**	**0.73**	**91**	PG	**Pb**	**21 15 09.2**	**-0.6**
URLA	**Izmir**	**0.81**	**108**	PG	**Pb**	**21 15 10.7**	**-0.3**
URLA	**Izmir**	**0.81**	**108**	*i* P	**Pg**	**21 15 11.5**	**+0.1**
URLA				*i* S	**Sg**	**21 15 22.6**	**+0.4**
PRK	**Paraskevi**	**0.82**	**39**	P	**Pg**	**21 15 11.6**	**0.0**
PRK				S	**Sn**	**21 15 23.6**	**0.0**
PRK	**Paraskevi**	**0.82**	**39**	P	**Pb**	**21 15 11.3**	**+0.1**
PRK				S	**Sg**	**21 15 22.2**	**-0.2**
PRK				AML	AML	21 15 25.3	
	comp=N,10380µm,0.4s						
PRK				AML	AML	21 15 26.3	
	comp=E,7766µm,0.4s						
SKY	**Skiros Island**	**0.88**	**288**	P	**Pn**	**21 15 12.7**	**-0.2**
SKY				S	**Sg**	**21 15 24.4**	**0.0**
SKY	**Skiros Island**	**0.88**	**288**	P	**Pn**	**21 15 12.7**	**-0.2**
FOCM	**Foa**	**0.88**	**83**	PG	**Pb**	**21 15 12.1**	**-0.1**
EFSA	**Agios Efstrati**	**1.05**	**332**	P	**Pn**	**21 15 15.3**	**0.0**
EFSA				S	**Sn**	**21 15 29.1**	**-0.3**
EFSA				AML	AML	21 15 32.1	
	comp=N,6381µm,0.3s						
EFSA				AML	AML	21 15 32.2	
	comp=E,6730µm,0.7s						
AYVA	**Ayvalik**	**1.09**	**50**	*i* P	**Pn**	**21 15 15.7**	**-0.1**
AYVA				*i* S	**Sn**	**21 15 30.6**	**+0.2**
TNSA	**Tinos**	**1.12**	**199**	P	**Pb**	**21 15 16.6**	**+0.2**
TNSA				S	**Sn**	**21 15 31.5**	**+0.2**
TNSA				AML	AML	21 15 35.2	
	comp=N,4953µm,0.2s						
TNSA				AML	AML	21 15 36.0	
	comp=E,3134µm,0.2s						
BLCB	**Balcova**	**1.14**	**101**	PN	**Pb**	**21 15 16.6**	**-0.1**
DGB	**zmir**	**1.14**	**119**	*i* P	**Pn**	**21 15 16.3**	**-0.2**
DGB				*i* S	**Sn**	**21 15 32.0**	**+0.4**
GMLD	**Gumuldur**	**1.15**	**117**	PN	**Pb**	**21 15 16.8**	**-0.1**
ZEDA	**zmir-Bergama**	**1.20**	**72**	*i* P	**Pn**	**21 15 17.4**	**+0.1**
ZEDA				*i* S	**Sg**	**21 15 34.7**	**+0.2**
BOZC	**Bozcaada**	**1.28**	**15**	PN	**Pn**	**21 15 17.4**	**-1.0**
BOZC	**Bozcaada**	**1.28**	**15**	*i* P	**Pn**	**21 15 17.9**	**-0.5**
BOZC				*i* S	**Sg**	**21 15 38.0**	**+0.9**
SMG	**Samos**	**1.32**	**133**	P	**Pb**	**21 15 19.4**	**-0.3**
SMG				S	**Sb**	**21 15 36.9**	**+0.7**
SMG	**Samos**	**1.32**	**133**	P	**Pb**	**21 15 19.6**	**-0.1**
SMG				S	**Sb**	**21 15 36.5**	**+0.3**
SMG				AML	AML	21 15 40.0	
	comp=N,3196µm,0.5s						
SMG				AML	AML	21 15 40.5	
	comp=E,2947µm,0.2s						
LIA	**Limnos Island**	**1.33**	**345**	P	**Pn**	**21 15 18.7**	**-0.5**
LIA				S	**Sg**	**21 15 38.3**	**-0.5**
LIA	**Limnos Island**	**1.33**	**345**	P	**Pn**	**21 15 18.9**	**-0.2**
LIA				S	**Sb**	**21 15 36.7**	**+0.1**
LIA				AML	AML	21 15 39.2	
	comp=N,3209µm,0.3s						
LIA				AML	AML	21 15 40.8	
	comp=E,2557µm,0.5s						
EREA	**Eretria**	**1.33**	**262**	P	**Pn**	**21 15 19.2**	**-0.1**
EREA				S	**Sn**	**21 15 36.3**	**-0.2**
EREA	**Eretria**	**1.33**	**262**	P	**Pn**	**21 15 19.2**	**-0.1**
EZN	**Ezine**	**1.33**	**24**	PN	**Pn**	**21 15 18.4**	**-0.8**
EZN	**Ezine**	**1.33**	**24**	⇑*i* P	**Pn**	**21 15 18.3**	**-0.9**
EZN	**Ezine**	**1.33**	**24**	S	**Sg**	**21 15 38.2**	**-0.7**
EZN	**Ezine**	**1.33**	**24**	P	**Pn**	**21 15 18.3**	**-0.9**
EZN				S	**Sb**	**21 15 36.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.34**	**32**	*i* P	**Pn**	**21 15 18.6**	**-0.7**
BAYC				*i* S	**Sn**	**21 15 36.7**	**0.0**
AOS	**Alonnisos**	**1.47**	**293**	PN	**Pn**	**21 15 20.8**	**-0.2**
AOS	**Alonnisos**	**1.47**	**293**	P	**Pn**	**21 15 20.8**	**-0.2**
ALNA	**Alonissos**	**1.47**	**292**	P	**Pn**	**21 15 21.0**	**-0.1**
PTL	**Penteli**	**1.49**	**248**	P	**Pn**	**21 15 21.2**	**-0.2**
APE	**Apeiranthos**	**1.54**	**183**	PN	**Pn**	**21 15 21.4**	**-0.7**
APE	**Apeiranthos**	**1.54**	**183**	⇑*i* P	**Pn**	**21 15 21.3**	**-0.8**
APE	**Apeiranthos**	**1.54**	**183**	S	**Sb**	**21 15 42.1**	**-0.5**
APE	**Apeiranthos**	**1.54**	**183**	P	**Pn**	**21 15 21.2**	**-0.9**
ATHU	**Athens Univers**	**1.58**	**247**	P	**Pn**	**21 15 22.3**	**-0.2**
MRKA	**Markates**	**1.59**	**274**	P	**Pn**	**21 15 22.8**	**0.0**
VLY	**Voula,Athens**	**1.62**	**243**	P	**Pn**	**21 15 23.1**	**-0.1**
VLY				S	**Sb**	**21 15 44.1**	**-0.9**
VLY	**Voula,Athens**	**1.62**	**243**	P	**Pn**	**21 15 23.0**	**-0.1**
ATH	**Athens Observa**	**1.62**	**248**	P	**Pn**	**21 15 23.1**	**-0.1**
SERI	**Serifos**	**1.70**	**212**	P	**Pb**	**21 15 25.1**	**-1.1**
AKS	**Akhisar**	**1.74**	**80**	PN	**Pn**	**21 15 25.3**	**+0.5**
AKHS	**Akhisar**	**1.74**	**80**	*i* P	**Pg**	**21 15 28.7**	**-0.4**
AKHS				*i* S	**Sg**	**21 15 51.6**	**-0.1**
AKHS				IAML_P			
	comp=Z,4µm,0.2s						
SKIA	**Skiathos**	**1.77**	**289**	P	**Pn**	**21 15 25.5**	**+0.3**
AMGA	**Amorgos Island**	**1.79**	**173**	P	**Pn**	**21 15 25.0**	**-0.4**
GOMA	**Golmarmara-Man**	**1.80**	**86**	PN	**Pn**	**21 15 26.6**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.81**	**64**	*i* P	**Pn**	**21 15 25.9**	**+0.1**
STEP				*i* S	**Sg**	**21 15 54.8**	**+0.8**
STEP				IAML_P			
	comp=Z,930nm,0.1s						
SMTH	**Samothraki Isl**	**1.86**	**358**	P	**Pn**	**21 15 25.7**	**-0.8**
VIL2	**Platees**	**1.89**	**259**	P	**Pn**	**21 15 26.8**	**0.0**
SMIA	**Simia**	**1.90**	**279**	P	**Pn**	**21 15 27.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.91**	**20**	PN	**Pn**	**21 15 27.3**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.91**	**110**	PN	**Pn**	**21 15 27.5**	**+0.3**
LPK	**Lapseki**	**1.97**	**26**	PN	**Pn**	**21 15 28.8**	**+0.8**
NEO	**Neokhori**	**1.99**	**291**	P	**Pn**	**21 15 28.2**	**-0.1**
NEO				S	**Sn**	**21 15 52.7**	**0.0**
NEO	**Neokhori**	**1.99**	**291**	P	**Pn**	**21 15 28.1**	**-0.1**
PAIG	**Paliouri**	**2.00**	**312**	P	**Pn**	**21 15 28.1**	**-0.2**
AYDN	**Tasoluk**	**2.02**	**117**	*i* P	**Pg**	**21 15 34.9**	**+0.5**
AYDN				*i* S	**Sg**	**21 16 00.9**	**+0.3**
ATAL	**Atalanti**	**2.03**	**273**	P	**Pn**	**21 15 29.0**	**+0.1**
XOR	**Xorichti**	**2.04**	**293**	P	**Pn**	**21 15 28.7**	**-0.2**
BALB	**Balikesir**	**2.04**	**59**	PN	**Pn**	**21 15 28.7**	**-0.2**
BODT	**Bodrum**	**2.04**	**139**	PN	**Pn**	**21 15 29.4**	**+0.4**
MHLA	**Plaka, Milos I**	**2.09**	**207**	P	**Pn**	**21 15 29.2**	**-0.3**
BDRM	**Kayabasi**	**2.11**	**136**	*i* P	**Pn**	**21 15 29.7**	**-0.3**
BDRM				*i* S	**Sg**	**21 16 04.2**	**+0.5**
BDRM				IAML_P			
	comp=Z,349nm,0.1s						
THAS	**Thassos island**	**2.11**	**341**	P	**Pn**	**21 15 29.4**	**-0.5**
OUR	**Ouranopolis**	**2.14**	**324**	PN	**Pn**	**21 15 30.5**	**+0.2**
OUR	**Ouranopolis**	**2.14**	**324**	P	**Pn**	**21 15 30.3**	**+0.1**
MHLO	**Agia Marina, M**	**2.14**	**207**	P	**Pn**	**21 15 29.6**	**-0.7**
MLSB	**Milas**	**2.15**	**127**	PN	**Pn**	**21 15 31.6**	**+1.1**
GONE	**Gonen-Balikesi**	**2.15**	**48**	PN	**Pn**	**21 15 30.9**	**+0.4**
PROD	**Prodromos**	**2.16**	**262**	P	**Pn**	**21 15 30.5**	**-0.1**
THR2	**Thira island,**	**2.16**	**184**	P	**Pn**	**21 15 30.1**	**-0.5**
ENEZ	**Enez**	**2.17**	**11**	PN	**Pn**	**21 15 30.9**	**+0.3**
LOUT	**Loutraki**	**2.17**	**254**	P	**Pn**	**21 15 30.9**	**+0.2**
ERIK	**Erikli-Kesan**	**2.17**	**18**	PN	**Pn**	**21 15 30.9**	**+0.2**
THR5	**Thira Island,**	**2.20**	**186**	P	**Pn**	**21 15 30.2**	**+0.9**
EPID	**Epidavros**	**2.21**	**244**	P	**Pn**	**21 15 30.8**	**-0.4**
KRBG	**Karabiga-Canak**	**2.21**	**36**	PN	**Pn**	**21 15 30.9**	**-0.3**
FYTO	**Fytoko, Volos**	**2.23**	**292**	P	**Pn**	**21 15 31.7**	**+0.2**
KRND	**KRANIDI**	**2.30**	**239**	P	**Pn**	**21 15 32.7**	**+0.2**
MANT	**Manisa**	**2.31**	**92**	*i* P	**Pn**	**21 15 33.1**	**+0.2**
MANT				*i* S	**Sg**	**21 16 08.5**	**-1.4**
ALN	**Alexandroupoli**	**2.31**	**8**	PN	**Pn**	**21 15 32.8**	**+0.2**
ALN	**Alexandroupoli**	**2.31**	**8**	P	**Pn**	**21 15 31.9**	**-0.7**
ALN				S	**Sn**	**21 16 01.0**	**+0.5**
ALN	**Alexandroupoli**	**2.31**	**8**	P	**Pn**	**21 15 31.9**	**-0.7**
KULA	**Kula-Manisa**	**2.39**	**91**	PN	**Pn**	**21 15 33.9**	**+0.1**
KULA	**Kula-Manisa**	**2.39**	**91**	P	**Pn**	**21 15 33.8**	**0.0**
KULA				S	**Sn**	**21 16 02.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.40**	**30**	PN	**Pn**	**21 15 34.7**	**+0.8**
DSF	**Desfina**	**2.43**	**266**	P	**Pn**	**21 15 34.5**	**+0.1**
DSF	**Desfina**	**2.43**	**266**	P	**Pn**	**21 15 34.5**	**+0.1**
PLG	**Polygyros**	**2.44**	**317**	P	**Pn**	**21 15 33.9**	**-0.5**
DAT	**Datca**	**2.44**	**140**	PN	**Pn**	**21 15 35.3**	**+0.8**
DAT	**Datca**	**2.44**	**140**	*i* P	**Pn**	**21 15 34.5**	**0.0**
EDC	**Edincik**	**2.46**	**44**	PN	**Pn**	**21 15 34.5**	**-0.2**
DEMI	**Demirci**	**2.46**	**79**	*i* P	**Pn**	**21 15 35.3**	**+0.5**
DEMI				*i* S	**Sg**	**21 16 13.2**	**-1.5**
DEMI				IAML_P			
	comp=Z,211nm,0.1s						
KAVA	**Kavala**	**2.53**	**341**	P	**Pn**	**21 15 35.5**	**-0.2**
KAVA				S	**Sn**	**21 16 07.3**	**+1.3**
KAVA	**Kavala**	**2.53**	**341**	P	**Pn**	**21 15 35.5**	**-0.2**
RDO	**Rodhopi**	**2.54**	**359**	P	**Pn**	**21 15 35.4**	**-0.3**
RDO				S	**Sn**	**21 16 06.0**	**-0.1**
RDO	**Rodhopi**	**2.54**	**359**	P	**Pn**	**21 15 35.3**	**-0.3**
DST	**Dursunbey**	**2.54**	**66**	PN	**Pn**	**21 15 36.9**	**+1.1**
YER	**Yerkesik**	**2.57**	**124**	PN	**Pn**	**21 15 37.3**	**+1.0**
AGG	**Agios Georgios**	**2.60**	**280**	P	**Pn**	**21 15 37.1**	**+0.4**
GUR	**Goura**	**2.66**	**256**	P	**Pn**	**21 15 38.0**	**+0.4**
SBT4	**Kumbag-Tekirda**	**2.67**	**33**	PN	**Pn**	**21 15 38.2**	**+0.9**
KCTX	**Karacabey (Bur**	**2.69**	**51**	PN	**Pn**	**21 15 38.9**	**+1.0**
TRAZ	**Trapeza**	**2.71**	**262**	P	**Pn**	**21 15 39.1**	**+0.9**
KALE	**Kalithea**	**2.74**	**267**	P	**Pn**	**21 15 39.1**	**+0.6**
HORT	**Hortiatis**	**2.78**	**316**	P	**Pn**	**21 15 39.7**	**+0.5**
KLV	**Kalavryta, Ach**	**2.78**	**259**	P	**Pn**	**21 15 39.6**	**+0.4**
TRIZ	**Trizonía**	**2.79**	**266**	P	**Pn**	**21 15 39.8**	**+0.6**
SERG	**Sergoula**	**2.80**	**267**	P	**Pn**	**21 15 39.9**	**+0.5**
SOH	**Sokhos**	**2.82**	**322**	P	**Pn**	**21 15 40.3**	**+0.6**
VLX	**Vlachokerasia**	**2.84**	**245**	P	**Pn**	**21 15 40.6**	**+0.6**
LIT	**Litokhoron**	**2.85**	**303**	P	**Pn**	**21 15 40.6**	**+0.5**
TRIP	**Tripoli**	**2.85**	**249**	P	**Pn**	**21 15 40.8**	**+0.7**
LAKA	**Lakka**	**2.88**	**264**	P	**Pn**	**21 15 41.5**	**+1.0**
EFP	**Efpalio**	**2.92**	**268**	P	**Pn**	**21 15 41.7**	**+0.7**
TURN	**Turunc**	**2.93**	**125**	PN	**Pn**	**21 15 39.8**	**-1.4**
SRS	**Serrai**	**2.95**	**329**	P	**Pn**	**21 15 41.5**	**0.0**
THL	**Kilcolos Trika**	**2.96**	**290**	P	**Pn**	**21 15 42.5**	**+0.9**
EVR	**Evrytania**	**2.99**	**277**	P	**Pn**	**21 15 43.4**	**+1.2**
DALY	**Dalyan (Mula)**	**3.00**	**126**	PN	**Pn**	**21 15 43.2**	**+1.1**
NVR	**Nevrokopi**	**3.05**	**334**	P	**Pn**	**21 15 42.9**	**+0.1**
KYTH	**Kithira**	**3.11**	**222**	P	**Pn**	**21 15 43.5**	**-0.2**
DRO	**Drossia**	**3.14**	**259**	P	**Pn**	**21 15 45.0**	**+0.9**
RZN	**Rozhen**	**3.15**	**348**	*e*P	**Pn**	**21 15 44.8**	**+0.4**
PVO	**Paravola**	**3.21**	**271**	P	**Pn**	**21 15 45.9**	**+1.0**
ITM	**Ithomi**	**3.25**	**245**	P	**Pn**	**21 15 46.7**	**+1.1**
AMT	**Artemida-Makis**	**3.27**	**252**	P	**Pn**	**21 15 46.6**	**+0.8**
KARP	**Karpathos**	**3.29**	**158**	P	**Pn**	**21 15 46.1**	**-0.1**
KNT	**Kendrikon**	**3.30**	**322**	P	**Pn**	**21 15 47.0**	**+0.8**
MMB	**Musomiste**	**3.31**	**335**	*e*P	**Pn**	**21 15 46.8**	**+0.4**
NPS	**Neapolis**	**3.34**	**180**	P	**Pn**	**21 15 46.1**	**-0.7**
PHSR	**Pinarhisar**	**3.35**	**25**	⇑*i* P	**Pn**	**21 15 46.4**	**-0.6**
IDI	**Anoyia**	**3.37**	**190**	⇑*i* P	**Pn**	**21 15 47.7**	**+0.5**
LAST	**Lasithi**	**3.44**	**182**	P	**Pn**	**21 15 47.4**	**-0.8**
YLV	**Yalova**	**3.50**	**55**	⇑*i* P	**Pn**	**21 15 48.8**	**-0.2**
PYL	**PYLOS**	**3.52**	**242**	P	**Pn**	**21 15 50.7**	**+1.5**
ZKR	**Zakros**	**3.52**	**172**	P	**Pn**	**21 15 49.3**	**0.0**
CTYL	**Yalikoy Yolu**	**3.52**	**35**	⇓*i* P	**Pn**	**21 15 48.7**	**-0.6**
KPRO	**Kipourio**	**3.56**	**293**	P	**Pn**	**21 15 51.2**	**+1.3**
KLYT	**Kilyos**	**3.73**	**44**	⇑*i* P	**Pn**	**21 15 51.9**	**-0.2**
KLYT	**Kilyos**	**3.73**	**44**	S	**Sn**	**21 16 35.0**	**-0.5**
KKB	**Krupnik**	**3.79**	**330**	*e*P	**Pn**	**21 15 53.4**	**+0.4**
STIP	**Stip**	**4.05**	**321**	*i* Pn	**Pn**	**21 15 56.7**	**+0.1**
VTS	**Vitosha**	**4.40**	**336**	⇑*i* P	**Pn**	**21 16 02.9**	**+1.4**
VTS	**Vitosha**	**4.40**	**336**	*e*P	**Pn**	**21 16 03.5**	**+2.0**
SZH	**Strazhica**	**4.66**	**3**	*e*P	**Pn**	**21 16 04.8**	**-0.1**
TIRR	**Tirgusor**	**6.21**	**19**	⇓*i* P	**Pn**	**21 16 25.9**	**-0.3**
TLB	**Topalu**	**6.24**	**16**	⇑*i* P	**Pn**	**21 16 26.3**	**-0.3**
ARR	**Arges**	**6.79**	**354**	⇑*i* P	**Pn**	**21 16 34.5**	**+0.2**
MDVR	**Moldovita**	**6.82**	**336**	⇓*i* P	**Pn**	**21 16 35.5**	**+0.8**
VOIR		**6.84**	**357**	⇑*i* P	**Pn**	**21 16 34.6**	**-0.3**
GZR	**Gura Zlata**	**7.10**	**344**	⇑*i* P	**Pn**	**21 16 38.7**	**+0.2**
VRI	**Vrinceioaia**	**7.30**	**6**	⇓*i* P	**Pn**	**21 16 42.8**	**+1.6**
DOPR	**Dopca**	**7.36**	**359**	⇑*i* P	**Pn**	**21 16 41.7**	**-0.3**
OZUR		**7.48**	**1**	⇑*i* P	**Pn**	**21 16 44.5**	**+0.8**
TESR	**Tescani**	**7.94**	**5**	⇑*i* P	**Pn**	**21 16 50.6**	**+0.7**
DRGR		**8.45**	**346**	⇓*i* P	**Pn**	**21 16 57.2**	**+0.1**

*ISK **03** 21:22:58.2, 37°.33N×38°.75E, h15km, ML1.8/5*
*ISCJB **03** 21:23:00.2±0.6, 37°.46N±0°.04×38°.74E±0°.06, h19km±7km, Error ellipse: s-maj=7.8km s-min=6.6km az=8.1*
*DDA **03** 21:23:00.1, 37°.48N×38°.69E, h7km±2km, ML2.6*

ISC 03 21:22:59.0±1.0, 37°.37N±0°.05×38°.76E±0°.04, h15km±6km, n9, σ0°46/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.08**	**35**	PG	**Pg**	**21 23 02.2**	**-0.1**
URFA				SG	**Sg**	**21 23 04.8**	**+0.4**
SANL	**SANLIURFA_Merk**	**0.27**	**138**	*i* P	**Pn**	**21 23 08.0**	**-0.5**
SANL				*i* S	**Sn**	**21 23 14.3**	**-0.1**
SANL				IAML_P			
	comp=Z,971nm,0.1s						
SURC	**SANLIURFA_SURC**	**0.51**	**194**	*i* P	**Pn**	**21 23 12.1**	**+0.4**
SURC				*i* S	**Sn**	**21 23 21.0**	**+0.8**
SURC				IAML_P			
	comp=Z,141nm,0.1s						
GZT	**Gaziantep**	**0.95**	**269**	*i* P	**Pb**	**21 23 16.7**	**-0.6**
GZT				*i* S	**Sn**	**21 23 31.8**	**+0.4**
GZT				IAML_P			
	comp=Z,925nm,0.1s						
ELZG	**Elazig**	**1.14**	**9**	*i* P	**Pb**	**21 23 20.6**	**+0.1**
ELZG				*i* S	**Sb**	**21 23 35.1**	**0.0**
ELZG				IAML_P			
	comp=Z,764nm,0.1s						
GAZ	**Gaziantep**	**1.25**	**261**	PN	**Pn**	**21 23 21.7**	**-0.4**
GAZ				SN	**Sb**	**21 23 38.8**	**+0.4**
MAZI	**Mazidag**	**1.34**	**86**	PN	**Pn**	**21 23 23.2**	**-0.2**
KMRS	**Kahramanmaras**	**1.49**	**276**	PN	**Pn**	**21 23 24.8**	**-0.5**
DARE	**Darende-Malaty**	**1.56**	**320**	PN	**Pn**	**21 23 26.4**	**0.0**

IDC 03 21:33:49.8±5.2, 27°.78S×176°.27W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/34, mbtmpg3.8/3, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/27, Error ellipse: s-maj=117.2km s-min=39.7km az=118.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.06**	**224**	Pn	Pn	21 34 26.2	+0.4
	56nm,0.3s,baz=148,slow=21,SNR=3.3						
RAO				Sn	Sn	21 34 51.8	-0.4
	339nm,0.3s,baz=89,slow=22,SNR=7.3						
DZM	**Mont Dzumac**	**16.67**	**286**	LR	LR	21 42 34.8	
	comp=Z,61nm,20.8s,baz=74,slow=32						
ASAR	**Alice Springs**	**44.83**	**264**	P	P	21 42 05.8	-0.2
	0.4nm,0.5s,baz=102,slow=6.7,SNR=4.1						
WRA	**Warramunga Arr**	**45.59**	**269**	P	P	21 42 12.1	+0.1
	0.7nm,0.4s,baz=109,slow=7.9,SNR=8.8						
MA2	**Magadan**	**91.18**	**344**	LR	LR	22 26 12.5	
	comp=Z,21nm

baz=10.0
PRZ ⇑eS Sg 22 12 40.3 +1.3
baz=10.0
ULHL Ulahol 2.20 319 ⇑iP Pb 22 12 18.0 -1.0
baz=22
ULHL ⇑iS Sb 22 12 46.1 -0.8
baz=22
SATY Saty 2.47 4 Pg Pb 22 12 23.8 +0.3
16nm,0.7s
SATY Lg Lg 22 12 58.6
17nm,1.0s
SATY Saty 2.47 4 eP Pb 22 12 23.8 +0.3
16nm,0.7s
SATY eS Sg 22 12 58.6 +1.1
17nm,1.0s
BOOM Boomskoye usch 2.53 319 ⇓iP Pb 22 12 22.9 -1.8
baz=22
BOOM ⇓iS Sb 22 12 54.2 -2.2
baz=22
TNSS Tian-Shan 2.61 340 eP Pb 22 12 26.8 +0.7
8.9nm,0.5s
TNSS eS Sg 22 13 03.4 +1.3
13nm,0.6s
UZB Uzynbulak 2.62 14 Pg Pb 22 12 25.2 -1.0
2.6nm,0.5s
UZB Lg Lg 22 13 00.9
10.0nm,0.6s
UZB Uzynbulak 2.62 14 eP Pb 22 12 25.2 -1.0
1.0nm,0.4s
UZB eS Sg 22 13 00.9 -1.6
10.0nm,0.6s
KZA Kyzart 2.66 305 ⇑iP Pn 22 12 24.1 +1.4
baz=6.0
KZA ⇑iS Sn 22 12 56.3 +0.5
baz=6.0
MDOK Medeo 2.70 342 Pn Pb 22 12 26.2 -1.3
6.0nm,0.4s
MDOK Lg Lg 22 13 03.5
8.6nm,0.6s
MDOK Medeo 2.70 342 eP Pb 22 12 27.7 +0.2
7.7nm,0.4s
MDOK eS Sg 22 13 04.9 -0.1
6.8nm,0.9s
SHLS Shalkode 2.73 20 Pg Pb 22 12 28.1 +0.1
2.8nm,0.5s
SHLS Lg Lg 22 13 05.8
SHLS Shalkode 2.73 20 eP Pb 22 12 28.1 +0.1
2.8nm,0.3s
SHLS eS Sg 22 13 05.8 -0.1
24nm,0.8s
KOTS Kotyrbulak 2.75 343 Pg Pg 22 12 31.9 +0.9
6.4nm,0.4s
KOTS Lg Lg 22 13 12.8
KOTS Kotyrbulak 2.75 343 eP Pb 22 12 29.7 +1.2
2.2nm,0.3s
KOTS eS Sg 22 13 08.6 +1.9
32nm,0.5s
MTBS Maitube 2.85 333 Pg Pb 22 12 28.0 -2.0
5.5nm,0.6s
MTBS Lg Lg 22 13 05.8
3.8nm,0.6s
KURS Kuram 2.89 360 Pg Pb 22 12 30.1 -0.5
6.4nm,0.8s
KURS Lg Lg 22 13 10.1
9.3nm,0.6s
KURS Kuram 2.89 360 eP Pb 22 12 30.5 -0.2
6.4nm,0.8s
KURS eS Sg 22 13 09.6 -1.4
7.8nm,1.3s
PDGK Podgornoye 2.90 19 ⇑Pn Pb 22 12 28.4 -2.5
3.4nm,0.5s
PDGK ⇓Lg Lg 22 13 06.4
9.2nm,0.6s
PDGK Podgornoye 2.90 19 ⇑iP Pb 22 12 29.9 -1.0
baz=22
PDGK ⇑iS Sb 22 13 06.8 -0.1
baz=22
TKM2 Tokmak 2 3.02 321 ⇑Pn Pn 22 12 29.9 +2.3
3.1nm,0.9s
TKM2 ⇑Lg Lg 22 13 13.4
7.1nm,0.8s
ARLS Aral 3.17 295 ⇓iP Pn 22 12 31.2 +1.7
baz=96
ARLS ⇓iS Sn 22 13 08.4 +0.2
baz=96
DGS Degeres 3.20 327 Pg Pb 22 12 32.9 -3.0
2.3nm,0.6s
DGS Lg Lg 22 13 14.6
7.0nm,0.4s
KTBS Karatobe 3.31 341 Pg Pg 22 12 41.6 0.0
3.4nm,0.5s
KTBS Lg Lg 22 13 29.5
10nm,1.7s
CHKK Chushkaly 3.37 345 Pg Pb 22 12 35.5 -3.4
0.6nm,0.5s
CHKK Lg Lg 22 13 19.0
2.6nm,0.4s
CHKK Chushkaly 3.37 345 eP Pb 22 12 40.8 +1.9
0.8nm,0.2s
CHKK eS Sg 22 13 27.7 +1.1
6.9nm,0.4s
AAK Ala-Archa 3.44 308 ⇑Pn Pb 22 12 40.1 +0.1
2.7nm,0.7s
AAK ⇑Lg Lg 22 13 26.3
13nm,1.1s
KUU Kurty 3.57 338 Pg Pb 22 12 40.0 -2.2
2.0nm,0.7s
KUU Lg Lg 22 13 26.4
2.4nm,0.5s
DJR Jarkent 3.92 17 Pg Pb 22 12 46.4 -1.8
0.4nm,0.6s
DJR Lg Lg 22 13 37.6
1.2nm,0.7s
KAPS Kapalarasan 4.76 10 eP Pb 22 13 03.9 +1.3
1.5nm,0.6s
KAPS eS Sg 22 14 07.0 -4.2
2.5nm,1.0s
MK31 Makanchi Array 6.87 24 ⇓Pn Pn 22 13 21.4 +1.2
0.3nm,0.8s,baz=197,slow=14,SNR=4.3
MK31 ⇓Sn Sn 22 14 38.9 -0.2
0.3nm,0.6s,baz=202,slow=21,SNR=3.9

IDC 03 22:11:55.5±1.2, 1°.78N×126°.98E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/41, mbtmp3.8/6, ML3.7/1, Error ellipse: s-maj=91.7km s-min=17.6km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.79**	**184**	P	Pn	22 16 28.8	-0.2
	0.2nm,0.3s,baz=24,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**22.76**	**162**	P	P	22 16 58.6	-1.0
	1.4nm,0.4s,baz=340,slow=11,SNR=30						
ASAR	**Alice Springs**	**26.17**	**165**	P	P	22 17 31.6	-0.2
	0.2nm,0.3s,baz=353,slow=16,SNR=4.9						
STKA	**Stephens Creek**	**36.23**	**159**	P	P	22 19 00.7	+0.3
	0.9nm,0.4s,baz=325,slow=15,SNR=2.6						
SONM	**Songino Array**	**49.22**	**342**	P	P	22 20 46.1	+0.3
	0.4nm,0.7s,baz=150,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**59.30**	**326**	P	P	22 21 58.8	-0.4
	1.5nm,0.4s,baz=118,slow=7.9,SNR=39						

*AZER **03** 22:14:39.5±0.1, 38°.36N×46°.57E, h17km±2km, ml3.4/18, Error ellipse: s-maj=6.4km s-min=2.3km az=30.0*
*NSSP **03** 22:14:40.4, 38°.45N×46°.68E, h12km, Ms3.3*
*TEH **03** 22:14:41.3, 38°.42N×46°.71E, h7km, ML3.2*

ISC 03 22:14:41.3±1.2, 38°.45N±0°.03×46°.71E±0°.02, h1km±11km, n42, σ1°33/66, 11C-16D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHRS	**Heris**	**0.29**	**117**	ePg	**Pg**	**22 14 47.5**	**+0.6**
IHRS				IAMB	IAmb	22 14 52.8	
	comp=Z,30μm,0.1s						
ITBZ	**Tabriz**	**0.49**	**244**	ePg	**Pg**	**22 14 51.0**	**+0.2**
ITBZ				IAMB	IAmb	22 14 59.1	
	comp=Z,17μm,0.2s						
ORD	**Ordubad**	**0.73**	**311**	⇑P	**Pg**	**22 14 55.3**	**-0.1**
ORD				⇓S	**Sg**	**22 15 05.5**	**+0.5**
IBST	**Bostanabad**	**0.76**	**169**	ePg	**Pg**	**22 14 54.7**	**-1.2**
IBST				IAMB	IAmb	22 14 55.2	
	comp=Z,16μm,0.2s						
IMRD	**Marand**	**0.83**	**289**	ePg	**Pg**	**22 14 57.1**	**-0.2**
IMRD				IAMB	IAmb	22 15 13.1	
	comp=Z,35μm,0.4s						
IAZR	**Azarshahr**	**0.96**	**217**	ePg	**Pg**	**22 14 59.6**	**-0.2**
IAZR				IAMB	IAmb	22 15 02.6	
	comp=Z,15μm,0.2s						
ISRB	**Sarab**	**0.98**	**129**	ePg	**Pg**	**22 14 59.3**	**-0.8**
ISRB				IAMB	IAmb	22 15 17.0	
	comp=Z,14μm,0.2s						
GRS	**Goris**	**1.09**	**344**	⇑iP	**Pn**	**22 15 06.0**	**+2.2**
GRS				⇓iS	**Sn**	**22 15 21.0**	**+1.4**
NAX	**Nakhchivan**	**1.19**	**308**	P	**Pb**	**22 15 03.6**	**-1.1**
	SNR=74						
NAX				⇓S	**Sb**	**22 15 20.0**	**-0.8**
LRK	**Lerik**	**1.29**	**81**	P	**Pn**	**22 15 05.3**	**-1.3**
	SNR=618						
LRK				⇓S	**Sn**	**22 15 23.8**	**-0.9**
SBZ	**Shahbuz**	**1.31**	**317**	⇑P	**Pn**	**22 15 05.8**	**-1.1**
SBZ				⇓S	**Sn**	**22 15 24.0**	**-0.9**
STKZ		**1.36**	**1**	⇓iP	**Pn**	**22 15 06.8**	**-0.7**
STKZ				⇑iS	**Sb**	**22 15 25.3**	**-0.3**
GLBA	**Clilabad**	**1.53**	**58**	P	**Pg**	**22 15 10.7**	**0.0**
	SNR=50						
GLBA				⇑S	**Sg**	**22 15 33.0**	**+2.4**
ASTR	**Astara**	**1.64**	**86**	P	**Pb**	**22 15 11.8**	**-0.4**
	SNR=97						
ASTR				⇓S	**Sg**	**22 15 34.7**	**+0.8**
LKRN	**Lenkeran, Azer**	**1.64**	**80**	P	**Pb**	**22 15 11.6**	**-0.7**
	SNR=46						
LKRN				⇑S	**Sg**	**22 15 34.5**	**+0.4**
BRDA	**Brd**	**1.85**	**11**	P	**Pb**	**22 15 16.4**	**+0.6**
	SNR=9.4						
BRDA				⇑S	**Sg**	**22 15 42.7**	**+2.1**
HYR	**Heyderabad**	**1.92**	**312**	⇓P	**Pn**	**22 15 15.6**	**+0.4**
HYR				⇑S	**Sb**	**22 15 42.1**	**+0.3**
ZRD	**Zardab**	**1.98**	**22**	P	**Pb**	**22 15 18.6**	**+0.6**
	SNR=4.7						
ZRD				⇓S	**Sg**	**22 15 47.3**	**+2.5**
GANJ	**Ganja**	**2.21**	**352**	⇓P	**Pb**	**22 15 20.9**	**-1.2**
	SNR=77						
GANJ				⇓S	**Sb**	**22 15 49.4**	**-0.7**
KDMR	**Kurdemir**	**2.24**	**30**	P	**Pb**	**22 15 22.1**	**-0.4**
	SNR=4.2						
KDMR				⇑S	**Sg**	**22 15 52.5**	**-0.6**
GNI	**Garni**	**2.28**	**319**	P	**Pb**	**22 15 23.4**	**0.0**
GNI	**Garni**	**2.28**	**319**	*i* P	**Pb**	**22 15 23.1**	**-0.3**
GNI				*i* S	**Sg**	**22 15 54.4**	**-0.3**
CLDR	**Caldiran**	**2.29**	**288**	P	**Pb**	**22 15 24.1**	**+0.5**
GDB	**GEDABAY**	**2.38**	**342**	⇓P	**Pn**	**22 15 21.7**	**0.0**
	SNR=17						
GDB				⇑S	**Sb**	**22 15 54.2**	**-1.0**
TASB	**TASBURUN-IGDIR**	**2.46**	**309**	P	**Pg**	**22 15 27.9**	**-0.5**
IML	**Ismayilli**	**2.60**	**25**	⇓S	**Sb**	**22 15 59.3**	**-1.9**
VANB	**Van**	**2.61**	**274**	eP	**Pg**	**22 15 30.9**	**-0.4**
QBL	**Gabala**	**2.64**	**19**	P	**Pb**	**22 15 27.0**	**-2.4**
	SNR=6.0						
QBL				⇓S	**Sb**	**22 16 00.5**	**-1.8**
CUKT	**Cukurca**	**2.73**	**245**	eP	**Pg**	**22 15 33.2**	**-0.5**
PQL	**Pirkuli**	**2.75**	**31**	⇑P	**Pn**	**22 15 28.5**	**+1.8**
	SNR=17						
SEKA	**Sheki**	**2.78**	**8**	P	**Pn**	**22 15 28.5**	**+1.5**
	SNR=27						
XNQ	**Khinaliq**	**2.93**	**22**	⇓P	**Pn**	**22 15 30.0**	**+0.7**
XNQ				⇓S	**Sb**	**22 16 10.8**	**-0.1**
DDFL	**Dedoflistskaro**	**3.03**	**352**	P	**Pb**	**22 15 36.6**	**+0.6**
DDFL				S	**Sg**	**22 16 20.3**	**+1.8**
AGRB	**Hanur-Agry**	**3.11**	**292**	eP	**Pb**	**22 15 37.9**	**+0.4**
LGD	**Lagodekhi**	**3.40**	**354**	P	**Pb**	**22 15 40.0**	**-2.3**
LGD				S	**Sb**	**22 16 25.2**	**+1.1**
KZRT	**Kazreti**	**3.43**	**330**	P	**Pb**	**22 15 43.4**	**+0.5**
KZRT				S	**Sb**	**22 16 28.5**	**+3.4**
SIRT	**Sirnak**	**3.50**	**256**	eP	**Pb**	**22 15 45.5**	**+1.3**
BTNK	**Botanikuri**	**3.55**	**336**	P	**Pb**	**22 15 45.5**	**+0.6**
BTNK				S	**Sg**	**22 16 32.6**	**-2.6**
TBLG	**Delisi**	**3.61**	**336**	eP	**Pb**	**22 15 47.7**	**+1.4**
TBLG	**Delisi**	**3.61**	**336**	P	**Pb**	**22 15 46.7**	**+0.8**
TBLG				S	**Sg**	**22 16 34.5**	**-2.7**
TRLG	**Trialeti**	**3.68**	**328**	P	**Pb**	**22 15 48.0**	**+0.8**
TRLG				S	**Sg**	**22 16 36.3**	**-3.1**
IRAZ	**Razeghan**	**3.99**	**139**	ePn	**Pn**	**22 15 44.7**	**+0.9**
IRAZ				IAMB	IAmb	22 15 59.2	
	comp=Z,401nm,0.5s						

*BJI **03** 22:24:07.4, 2°.40N×95°.68E, h11km, mb4.8/69, mB5.2/49, Ms4.9/50, Ms7 4.7/48*
*KLM **03** 22:24:11.9, 2°.62N×95°.38E, h24km, mb4.8*
*DJA **03** 22:24:11.5±0.7, 3°N±4°×9°6E±°, h10km, M4.8/19, mb4.9/19, mB5.2/13, MLv5.1/10, Mw(mB)4.6/13*
*ISCJB **03** 22:24:12.5±0.2, 2°.69N±0°.03×95°.75E±0°.03, h25km, mb4.7/72, MS4.5/32, Error ellipse: s-maj=4.5km s-min=3.2km az=39.0*
*GCMT **03** 22:24:13.7±0.4, 2°.28N±0°.03×95°.75E±0°.03, h38km±1km, MW4.9/44, Moment Tensor Solution. s35,c42; s44,c61; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.41±.19; Mθθ-1.76±.12; Mφφ-0.64±.13; Mre1.24±.11; Mθφ1.34±.08; Mθr-0.76±.14; Best double couple: Mo2.91900×10^{16} NP1:φs122.00000°, δ60.00000°, λ89.00000°. NP2: φs305.00000°, δ30.00000°, λ92.00000°. Principal axes: T 2.7980, Plg75.0000°, Azm29.0000°; N 0.2500, Plg1.0000°, Azm123.0000°; P -3.0400, Plg15.0000°, Azm213.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 22:24:15.7±1.9, 2°.72N×95°.83E, h34km±13km, mb4.9/45 Error ellipse: s-maj=7.6km s-min=4.1km az=47.0*
*IDC **03** 22:24:18.2±2.7, 2°.80N×95°.89E, h54km±23km, mb4.1/23, mb1 4.2/26, mb1mx4.1/39, mbtmp4.4/26, ML4.3/3, MS4.3/20, Ms1 4.3/20, ms1mx4.2/31, Error ellipse: s-maj=20.2km s-min=10.6km az=46.0*

ISC 03 22:24:14.6±0.4, 2°.71N±0°.04×95°.80E±0°.05, h25km, n193, σ2°.11/198, mb4.8/72, MS4.5/33, 8C-6D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.76**	**25**	ePn	**Pn**	**22 24 58.4**	**+1.1**
LHMI				eSn	**Sn**	**22 25 31.0**	**+1.3**
LHMI	**Lhok Sumawe**	**2.76**	**25**	P	**Pn**	**22 24 58.1**	**+0.9**
BSI	**Banda Aceh**	**2.81**	**350**	P	**Pn**	**22 24 56.4**	**-1.6**
PSI	**Prapat**	**3.13**	**88**	P	**Pn**	**22 25 03.8**	**+1.3**
	16nm,0.3s,baz=350,slow=0.5,SNR=72						
PSI				S	**Sn**	**22 25 40.0**	**+0.9**
	33nm,0.3s,baz=180,slow=10,SNR=6.5						
PSI				LR	LR	22 26 37.8	
	comp=Z,6μm,18.5s,baz=269,slow=46						
SISI	**Saibi**	**5.19**	**141**	P	**Pn**	**22 25 30.7**	**0.0**
	95nm,0.9s,3μm1.0nm						
KULM	**Kulim**	**5.48**	**62**	ePn	**Pn**	**22 25 35.1**	**+0.4**
KULM				eSn	**Sn**	**22 26 40.4**	**+3.4**
IPM	**Ipoh**	**5.51**	**71**	ePn	**Pn**	**22 25 36.3**	**+1.2**
IPM				eSn	**Sn**	**22 26 39.0**	**+1.3**
PPI	**Padang Panjang**	**5.57**	**124**	P	**Pn**	**22 25 36.8**	**+0.8**
PKDT	**Phuket**	**5.74**	**26**	P	Pn	22 25 45.7	+7.5
BKNI	**Bangkinang**	**5.75**	**114**	ePn	**Pn**	**22 25 39.1**	**+0.7**
BKNI	**Bangkinang**	**5.75**	**114**	P	**Pn**	**22 25 39.4**	**+1.0**
	214nm,0.9s,2μm2.3nm						
FRIM	**Kepong**	**5.85**	**85**	P	**Pn**	**22 25 42.2**	**+2.5**
TRTT	**Trang**	**6.40**	**37**	P	**Pn**	**22 25 49.4**	**+2.0**
	30nm,0.6s,727nm0.3nm						
KRAB	**Krabi**	**6.44**	**32**	P	Pn	22 25 53.7	+5.8
	406nm,0.5s,15μm3.4nm						
SKLT	**Songkhla**	**6.54**	**47**	P	**Pn**	**22 25 51.7**	**+2.5**
	144nm,1.7s,2μm0.7nm						
PPSI	**Pulau Pagai**	**6.88**	**142**	P	**Pn**	**22 25 54.9**	**+1.0**
KRJI	**Kerinci**	**7.40**	**130**	P	**Pn**	**22 26 02.7**	**+1.5**
	231nm,1.0s,3μm2.3nm						
KGM	**Kluang**	**7.55**	**95**	P	**Pn**	**22 26 05.3**	**+2.2**
KTGM	**Kuala Trenggan**	**7.77**	**70**	P	**Pn**	**22 26 07.0**	**+0.8**
MYKOM	**Kota Tinggi**	**8.10**	**96**	ePn	**Pn**	**22 26 08.6**	**-2.1**
MYKOM	**Kota Tinggi**	**8.10**	**96**	P	**Pn**	**22 26 12.3**	**+1.6**
LHSI	**Lahat**	**10.09**	**130**	P	**Pn**	**22 26 40.0**	**+2.0**
	109nm,0.7s,1μm						
MDSI	**Maura Dua**	**11.01**	**130**	P	**Pn**	**22 26 50.4**	**-0.2**
	48nm,0.8s,652nm						
LWLI	**Liwa**	**11.27**	**133**	P	**Pn**	**22 26 55.1**	**+0.8**
	80nm,0.8s						
KASI	**Kota Agung**	**11.93**	**133**	P	**Pn**	**22 27 03.9**	**+0.7**
	44nm,0.6s						
KSM	**Kuching**	**14.56**	**95**	ePn	**Pn**	**22 27 37.0**	**-2.1**
KSM	**Kuching**	**14.56**	**95**	P	**Pn**	**22 27 35.3**	**-3.8**
PBKT	**Sadao Pong**	**14.69**	**20**	ePn	**Pn**	**22 27 40.8**	**-0.1**
	45nm,1.1s,1μm						
PBKT	**Sadao Pong**	**14.69**	**20**	P	**P**	**22 27 45.9**	**-0.9**
	45nm,1.1s,1μm						
UTTA	**Uttaradit**	**15.66**	**17**	P	**P**	**22 27 57.1**	**-0.5**
	8.6nm,0.9s,86nm						
PALK	**Pallekele**	**15.70**	**287**	ePn	**Pn**	**22 27 54.7**	**+0.3**
	48nm,1.3s						
PALK				eSn	Sn	22 30 31.8	-16
PALK	**Pallekele**	**15.70**	**287**	P	**P**	**22 27 58.6**	**+0.4**
	0.5nm,0.3s,baz=116,slow=9.0,SNR=3.5						
PALK				S	Sn	22 30 31.9	-16
	2.7nm,0.3s,baz=116,slow=5.5,SNR=9.0						
CISI	**Cisompet, Garu**	**15.74**	**130**	ePn	**Pn**	**22 27 49.9**	**-5.0**
	88nm,1.4s						
CM01	**Chiang Mai Arr**	**15.92**	**11**	ePn	**Pn**	**22 27 56.0**	**-1.1**
CM31	**Chiang Mai Arr**	**15.95**	**11**	ePn	**Pn**	**22 27 57.0**	**-0.5**
	66nm,1.4s						
CMAR	**Chiang Mai Arr**	**15.95**	**11**	P	**Pn**	**22 27 58.6**	**+1.1**
	1.1nm,0.3s,baz=199,slow=11,SNR=46						
CMAR				LR	LR	22 34 08.0	
	comp=Z,1μm,19.9s,baz=199,slow=37						
LAMP	**Lampang**	**16.16**	**13**	P	**P**	**22 28 02.9**	**-0.3**
	8.4nm,1.1s,81nm						
CHTO	**Chiang Mai**	**16.30**	**11**	ePn	**Pn**	**22 28 01.0**	**-1.0**
	33nm,1.3s						
CHTO	**Chiang Mai**	**16.30**	**11**	P	**Pn**	**22 28 01.8**	**-0.2**
	96nm,1.8s						
CMMT	**Chiang Mai**	**16.30**	**11**	P	**Pn**	**22 28 01.7**	**-0.3**
	21nm,1.8s						
SKNT	**Sakolnakorn**	**16.30**	**29**	P	P	22 28 17.4	+13
SBUM	**Sibu**	**16.41**	**91**	ePn	**Pn**	**22 28 02.4**	**-1.1**
	74nm,1.5s						
PAYA	**Payao**	**17.02**	**13**	P	**P**	**22 28 12.0**	**-0.8**
	8.5nm,0.8s,239nm						
UGM	**Wanagama**	**18.09**	**126**	ePn	**Pn**	**22 28 17.3**	**-7.0**
	300nm,1.5s						
BRDH	**Bariadhala**	**20.26**	**349**	P	**P**	**22 28 47.7**	**-0.6**
	14nm,0.3s,baz=184,slow=7.9,SNR=4.4						
KKM	**Kota Kinabalu**	**20.63**	**80**	eP	**P**	**22 28 52.6**	**+0.1**
	62nm,1.0s						
QIZ	**Qiongzhong**	**21.26**	**39**	P	**P**	**22 29 00.8**	**+1.6**
QIZ				S	Sn	22 33 00.2	-2.0
QIZ				LR	LR		
	comp=N,2μm,14.9s						
QIZ				LR	LR		
	comp=E,2μm,15.7s						
QIZ				LR	LR		
	comp=Z,1μm,16.0s						
QIZ	**Qiongzhong**	**21.26**	**39**	eP	**P**	**22 28 58.6**	**-0.6**
	69nm,1.3s						
BKB	**Balikpapan**	**21.46**	**100**	P	**P**	**22 29 02.7**	**+1.3**
HYB	**Hyderabad**	**22.37**	**312**	*i* P	**P**	**22 29 14.0**	**+2.9**
SHL	**Shillong**	**23.04**	**351**	eP	**P**	**22 29 14.7**	**-3.6**
	31nm,0.7s						
SHL	**Shillong**	**23.04**	**351**	eP	**P**	**22 29 13.0**	**-5.3**
SHL				*i* S	**S**	**22 33 20.0**	**-7.8**
KMI	**Kunming**	**23.27**	**16**	P	**P**	**22 29 21.5**	**+0.8**
KMI				pP	pP	22 29 28.7	+1.0
KMI				sP	sP	22 29 31.6	+0.7
KMI				PP	**PnPn**	**22 29 49.0**	**+2.1**
KMI				S	**S**	**22 33 25.7**	**-6.1**
KMI				sS	pS	22 33 37.6	-2.2
KMI				pmax	pmax		
	comp=Z,32nm,1.7s						
KMI				pmax	pmax		
	comp=Z,460nm,4.6s						
KMI				LR	LR		
	comp=N,2μm,14.8s						
KMI				LR	LR		
	comp=E,900nm,18.7s						
KMI				LR	LR		
	comp=Z,2μm,14.2s						
KMI	**Kunming**	**23.27**	**16**	eP	**P**	**22 29 23.3**	**+2.7**
	46nm,1.2s						
MPSI	**Mapaga**	**24.21**	**95**	P	**P**	**22 29 31.4**	**+1.9**
PCI	**Palu**	**24.30**	**98**	P	**P**	**22 29 31.9**	**+1.5**
	115nm,1.8s,2μm						
TTSI	**Tana Toraja**	**24.68**	**103**	P	**P**	**22 29 37.5**	**+3.6**
BNSI	**Bone**	**25.30**	**106**	P	**P**	**22 29 40.4**	**+1.0**
DGAR	**Diego Garcia**	**25.37**	**247**	eP	**P**	**22 29 39.0**	**-1.1**
	176nm,1.3s						
H08S2	**Diego Garcia H**	**25.42**	**246**	T	T	22 55 48.5	
	baz=67,slow=75						
H08S3	**Diego Garcia H**	**25.42**	**246**	T	T	22 55 49.3	
	baz=67,slow=75						
H08S1	**Diego Carcia H**	**25.44**	**246**	T	T	22 55 49.3	
	baz=67,slow=75,SNR=2951						
BKSI	**Bulukumba**	**25.58**	**108**	P	**P**	**22 29 44.2**	**+2.3**
	22nm,0.8s,424nm						
GYA	**Guiyang**	**25.82**	**23**	⇑iP	**P**	**22 29 45.8**	**+1.7**
GYA				pP	pP	22 29 51.4	-0.2
GYA				PP	**PnPn**	**22 29 52.6**	**+8.0**
GYA				S	**S**	**22 34 15.5**	**+3.1**
GYA				SS	**SnSn**	**22 35 21.0**	**+12**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,430nm,16.6s						
GYA				LR	LR		
	comp=E,500nm,16.5s						
GYA				LR	LR		
	comp=Z,460nm,16.9s						
MRSI	**Marisa**	**26.23**	**94**	P	**P**	**22 29 48.0**	**+0.1**
LSA	**Lhasa**	**27.20**	**351**	P	**P**	**22 29 56.5**	**-0.5**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
LSA	**Lhasa**	**27.20**	**351**	eP	**P**	**22 29 57.5**	**+0.4**
	20nm,0.9s						
CD2	**Chengdu**	**29.04**	**14**	⇑P	**P**	**22 30 11.6**	**-1.3**
CD2				sP	pP	22 30 18.7	-1.7
CD2				S	**S**	**22 35 06.1**	**+3.0**
CD2				sS	pS	22 35 12.3	+0.8
CD2				pmax	pmax		
	comp=Z,50nm,0.5s						
CD2				pmax	pmax		
	comp=Z,320nm,5.6s						
CD2				LR	LR		
	comp=N,2μm,15.8s						
CD2				LR	LR		
	comp=Z,2μm,13.7s						
DAV	**Davao City (W)**	**29.98**	**81**	LR	LR	22 45 10.4	
	comp=Z,293nm,18.7s,baz=245,slow=42						
ENH	**Enshi**	**30.33**	**24**	eP	**P**	**22 30 24.1**	**-0.2**
	42nm,1.4s						
BATI	**Baumata**	**30.57**	**115**	P	**P**	**22 30 24.7**	**-1.9**
	52nm,0.9s,baz=94,slow=6.6,SNR=2.5						
WHN	**Wuhan**	**32.78**	**30**	⇓P	**P**	**22 30 45.9**	**0.0**
WHN				pmax	pmax		
	comp=Z,280nm,2.0s						
WHN				LR	LR		
	comp=N,2μm,13.4s						
WHN				LR	LR		
	comp=E,1μm,10.9s						
WHN				LR	LR		
	comp=Z,3μm,13.8s						
XAN	**Xi'an**	**33.49**	**20**	P	**P**	**22 30 50.7**	**-1.4**
XAN				pP	pP	22 30 55.1	-4.5
XAN				sP	sP	22 30 57.7	-5.0
XAN				pmax	pmax		
	comp=Z,20nm,1.0s						
XAN				pmax	pmax		
	comp=Z,110nm,3.7s						
XAN				LR	LR		
	comp=N,600nm,15.7s						
XAN				LR	LR		
	comp=E,530nm,14.6s						
XAN				LR	LR		
	comp=Z,890nm,12.7s						
XAN	**Xi'an**	**33.49**	**20**	eP	**P**	**22 30 50.8**	**-1.4**
	28nm,1.1s						
LZH	**Lanzhou**	**34.04**	**12**	⇑P	**P**	**22 30 55.9**	**-1.1**
LZH				pP	pP	22 31 05.1	+0.6
LZH				sP	sP	22 31 09.0	+1.5
LZH				pmax	pmax		
	comp=Z,29nm,1.5s						
LZH				pmax	pmax		
	comp=Z,140nm,4.3s						
LZH				LR	LR		
	comp=N,950nm,15.2s						
LZH				LR	LR		
	comp=E,1μm,19.5s						
LZH				LR	LR		
	comp=Z,810nm,18.4s						
FITZ	**Fitzroy Crossi**	**35.94**	**126**	eP	**P**	**22 31 12.2**	**-1.3**
	8.5nm,1.1s						

FITZ	**Fitzroy Crossi**	**35.94**	**126**	P	**P**	**22 31 12.1**	**-1.3**
	2.3nm,0.7s,baz=323,slow=10,SNR=3.4							
NJ2	**Nanjing**	**36.37**	**34**	*e*P	**P**	**22 31 17.0**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,17nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,310nm,5.4s							
NJ2				LR	LR			
	comp=N,970nm,14.1s							
NJ2				LR	LR			
	comp=E,1μm,14.6s							
NJ2				LR	LR			
	comp=Z,1μm,19.5s							
GTA	**Gaotai**	**36.72**	**5**	⇑P	**P**	**22 31 18.6**	**-1.3**
GTA				pP	pP	22 31 21.7	-5.7
GTA				sP	sP	22 31 24.8	-5.7
GTA				PcP	**PcP**	**22 33 43.5**	**+1.2**
GTA				pmax	pmax			
	comp=Z,19nm,1.4s							
GTA				pmax	pmax			
	comp=Z,190nm,5.0s							
GTA				LR	LR			
	comp=N,480nm,16.8s							
GTA				LR	LR			
	comp=E,610nm,17.2s							
GTA				LR	LR			
	comp=Z,640nm,14.8s							
NIL	**Nilore**	**37.30**	**328**	*e*P	**P**	**22 31 24.2**	**-0.7**
	20nm,0.6s							
BTO	**Baotou**	**39.86**	**17**	*e*P	**P**	**22 31 46.3**	**0.0**
HHC	**Hu-ho-hao-te**	**40.55**	**18**	*e*P	**P**	**22 31 53.1**	**+1.0**
HHC				sP	pP	22 31 59.8	+0.1
HHC				S	**S**	**22 38 07.4**	**+7.4**
HHC				sS	sS	22 38 14.9	+2.6
HHC				pmax	pmax			
	comp=Z,40nm,0.9s							
HHC				pmax	pmax			
	comp=Z,320nm,7.4s							
HHC				LR	LR			
	comp=N,1μm,16.4s							
HHC				LR	LR			
	comp=E,720nm,17.3s							
HHC				LR	LR			
	comp=Z,2μm,16.4s							
KSH	**Kashi**	**40.83**	**336**	P	**P**	**22 31 52.4**	**-2.0**
KSH				sP	pP	22 31 58.8	-3.3
KSH				S	**S**	**22 37 58.9**	**-5.4**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KSH				pmax	pmax			
	comp=Z,230nm,5.4s							
KSH				LR	LR			
	comp=N,150nm,9.4s							
KSH				LR	LR			
	comp=E,190nm,8.8s							
KSH				LR	LR			
	comp=Z,240nm,14.3s							
H01W3	**Cape Leeuwin H**	**41.17**	**157**	T	T	23 15 27.0		
	baz=332,slow=76,SNR=368							
H01W2	**Cape Leeuwin H**	**41.18**	**157**	T	T	23 15 25.5		
	baz=332,slow=76,SNR=361							
H01W1	**Cape Leeuwin H**	**41.18**	**157**	T	T	23 15 30.6		
	baz=332,slow=76,SNR=313							
BJT	**Baijiatuan**	**41.48**	**24**	*e*P	**P**	**22 31 58.0**	**-1.6**
	40nm,0.9s							
BJI	**Beijing**	**41.50**	**24**	P	**P**	**22 32 00.4**	**+0.7**
BJI				pmax	pmax			
	comp=Z,19nm,1.2s							
WMQ	**Urumqi**	**41.57**	**351**	P	**P**	**22 32 00.8**	**+0.5**
WMQ				pP	pP	22 32 07.5	-0.5
WMQ				PP	**PnPn**	**22 33 41.6**	**0.0**
WMQ				S	**S**	**22 38 17.5**	**+2.6**
WMQ				SS	**SS**	**22 41 17.3**	**-3.1**
WMQ				pmax	pmax			
	comp=Z,58nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,730nm,4.9s							
WMQ				LR	LR			
	comp=N,800nm,17.5s							
WMQ				LR	LR			
	comp=E,1μm,17.3s							
WMQ				LR	LR			
	comp=Z,580nm,20.9s							
WMQ	**Urumqi**	**41.57**	**351**	*e*P	**P**	**22 32 01.0**	**+0.7**
	55nm,1.4s							
NRN	**Naryn**	**42.47**	**338**	*e*P	**P**	**22 32 08.2**	**+0.1**
	10nm,0.6s							
PRZ	**Przheval'sk**	**42.55**	**341**	*e*P	**P**	**22 32 11.3**	**+2.8**
	24nm,1.1s							
KDJ	**Kajisay**	**42.65**	**339**	*e*P	**P**	**22 32 11.4**	**+2.0**
	19nm,0.8s							
GAR	**Garm**	**42.94**	**331**	*e*P	**P**	**22 32 11.2**	**-0.5**
	35nm,1.1s							
DL2	**Dalian**	**43.04**	**30**	P	**P**	**22 32 11.4**	**-0.9**
DL2				*e*S	**S**	**22 38 37.6**	**+0.9**
DL2				pmax	pmax			
	comp=Z,44nm,1.0s							
DL2				pmax	pmax			
	comp=Z,270nm,5.9s							
DL2				LR	LR			
	comp=N,600nm,16.2s							
DL2				LR	LR			
	comp=E,750nm,17.2s							
DL2				LR	LR			
	comp=Z,630nm,13.7s							
CHGR	**Chuyangaron**	**43.26**	**329**	*e*P	**P**	**22 32 13.3**	**-0.9**
	48nm,1.3s							
KZA	**Kyzart**	**43.31**	**338**	P	**P**	**22 32 16.9**	**+1.9**
	SNR=5.3							
UCH	**Uchtor**	**43.72**	**337**	P	**P**	**22 32 18.9**	**+0.6**
	SNR=14							
TKM2	**Tokmak 2**	**43.91**	**339**	P	**P**	**22 32 19.9**	**+0.4**
	SNR=13							
KBK	**Karagaybulak**	**43.92**	**338**	P	**P**	**22 32 20.4**	**+0.8**
	SNR=20							
AML	**Almayashu**	**43.96**	**336**	P	**P**	**22 32 20.9**	**+0.7**
	SNR=10.0							
WRA	**Warramunga Arr**	**44.02**	**122**	P	**P**	**22 32 20.3**	**-0.3**
	4.8nm,0.8s,baz=302,slow=9.1,SNR=20							
WRA				LR	LR	22 51 36.4		
	comp=Z,632nm,20.9s,baz=280,slow=37							
WR1	**Warramunga Arr**	**44.02**	**122**	*e*P	**P**	**22 32 20.3**	**-0.3**
	23nm,1.4s							
WRAB	**Tennant Creek**	**44.03**	**122**	*e*P	**P**	**22 32 20.1**	**-0.4**
	25nm,1.3s							
WB2	**Warramunga Arr**	**44.03**	**122**	*e*P	**P**	**22 32 20.0**	**-0.7**
AAK	**Ala-Archa**	**44.08**	**337**	P	**P**	**22 32 24.2**	**+3.4**
	SNR=6.4							
CHMS	**Chumysh**	**44.29**	**338**	P	**P**	**22 32 24.3**	**+2.0**
	SNR=8.4							
EKS2	**Erkin-Say**	**44.38**	**337**	P	**P**	**22 32 24.1**	**+0.9**
	SNR=10							
USP	**Ospenovka**	**44.61**	**338**	P	**P**	**22 32 25.4**	**+0.4**
	SNR=19							
KS15	**Wonju Array Si**	**45.41**	**36**	*e*P	**P**	**22 32 30.8**	**-0.6**
	22nm,1.3s							
KSAR	**Wonju Array Be**	**45.41**	**36**	P	**P**	**22 32 30.8**	**-0.6**
ASAR	**Alice Springs**	**45.42**	**127**	P	**P**	**22 32 31.5**	**-0.2**
	2.6nm,0.9s,baz=304,slow=7.6,SNR=14							
AS31	**Alice Springs**	**45.42**	**127**	*e*P	**P**	**22 32 31.5**	**-0.2**
	1.2nm,0.6s							
MK01	**Makanchi Array**	**45.43**	**347**	*e*P	**P**	**22 32 30.6**	**-0.8**
KS01	**Wonju Array Si**	**45.44**	**36**	*e*P	**P**	**22 32 29.7**	**-1.9**
KSRS	**Korea Array**	**45.44**	**36**	P	**P**	**22 32 30.8**	**-0.8**
	4.2nm,0.9s,baz=228,slow=8.4,SNR=12							
KSRS				LR	LR	22 54 11.1		
	comp=Z,922nm,18.2s,baz=240,slow=40							
AS01	**Alice Springs**	**45.46**	**127**	*e*P	**P**	**22 32 31.4**	**-0.6**
MK31	**Makanchi Array**	**45.46**	**347**	*e*P	**P**	**22 32 31.2**	**-0.4**
	13nm,0.6s							
MK32	**Makanchi Array**	**45.46**	**347**	*e*P	**P**	**22 32 31.4**	**-0.3**
MKAR	**Makanchi Array**	**45.46**	**347**	P	**P**	**22 32 31.4**	**-0.3**
	12nm,0.4s,baz=160,slow=8.7,SNR=214							
MKAR				LR	LR	22 54 33.3		
	comp=Z,265nm,21.7s,baz=162,slow=40							
MAKZ	**Makanchi**	**45.54**	**347**	*e*P	**P**	**22 32 30.6**	**-1.7**
	17nm,0.6s							
SONA0	**Songino Array**	**45.88**	**10**	*e*P	**P**	**22 32 34.5**	**-0.5**
SONA0				*e*PcP	**PcP**	**22 34 12.5**	**+0.5**
SONM	**Songino Array**	**45.88**	**10**	P	**P**	**22 32 34.5**	**-0.5**
	6.4nm,0.5s,baz=190,slow=8.9,SNR=36							
SONM				PcP	**PcP**	**22 34 12.5**	**+0.5**
	1.5nm,0.5s,baz=197,slow=4.5,SNR=5.4							
SONM				LR	LR	22 54 03.2		
	comp=Z,741nm,19.4s,baz=188,slow=39							
SONA1	**Songino Array**	**45.89**	**10**	*e*P	**P**	**22 32 34.2**	**-1.0**
SONA1				*e*PcP	**PcP**	**22 34 12.6**	**+0.5**
KK31	**Karatay Array**	**46.09**	**334**	*e*P	**P**	**22 32 37.5**	**+0.8**
KKAR	**Karatay Array**	**46.09**	**334**	*e*P	**P**	**22 32 37.5**	**+0.8**
	18nm,1.1s							
SNY	**Shenyang**	**46.24**	**29**	⇓P	**P**	**22 32 37.3**	**-0.5**
SNY				S	**S**	**22 39 19.6**	**-3.4**
SNY				pmax	pmax			
	comp=Z,17nm,0.5s							
SNY				pmax	pmax			
	comp=Z,540nm,6.4s							
SNY				LR	LR			
	comp=N,1μm,20.7s							
SNY				LR	LR			
	comp=E,720nm,18.6s							
SNY				LR	LR			
	comp=Z,1μm,19.0s							
CN2	**Changchun**	**48.63**	**29**	*e*P	**P**	**22 32 55.6**	**-0.8**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
GEYT	**Ailbeck**	**49.16**	**320**	P	**P**	**22 33 00.7**	**0.0**
	6.0nm,0.6s,baz=147,slow=8.5,SNR=13							
GYA0B	**ALIBECK ARRAY**	**49.16**	**320**	*e*P	**P**	**22 33 00.9**	**+0.3**
	7.1nm,0.6s							
KURK	**Kurchatov**	**49.99**	**346**	*e*P	**P**	**22 33 06.5**	**-0.1**
	33nm,1.3s							
HIA	**Hailar**	**50.70**	**20**	*e*P	**P**	**22 33 13.1**	**+1.0**
	21nm,1.2s							
MDJ	**Mudanjiang**	**51.27**	**31**	P	**P**	**22 33 17.0**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,18nm,1.4s							
MDJ				pmax	pmax			
	comp=Z,350nm,7.3s							
MJAR	**Matsushiro Arr**	**51.56**	**44**	LR	LR	22 57 49.3		
	comp=Z,264nm,18.1s,baz=255,slow=39							
ZAA0	**Zalesovo Array**	**51.87**	**352**	*e*P	**P**	**22 33 20.4**	**-0.4**
	35nm,1.0s							
ZALV	**Zalesovo Beam**	**51.87**	**352**	*e*P	**P**	**22 33 19.8**	**-1.0**
ZALV	**Zalesovo Beam**	**51.87**	**352**	P	**P**	**22 33 20.4**	**-0.4**
	16nm,0.5s,baz=180,slow=7.2,SNR=74							
ZAA1	**Zalesovo Array**	**51.87**	**352**	*e*P	**P**	**22 33 20.4**	**-0.4**
USA0B	**Ussuriysk Arra**	**52.24**	**32**	*e*P	**P**	**22 33 23.8**	**+0.2**
	36nm,1.4s							
USRK	**Ussuriysk Ar.**	**52.24**	**32**	P	**P**	**22 33 23.1**	**-0.6**
	2.3nm,0.5s,baz=247,slow=6.2,SNR=14							
RAYN	**Ar Rayn**	**52.81**	**298**	*e*P	**P**	**22 33 29.2**	**+0.8**
	4.8nm,0.9s							
CTA	**Charters Tower**	**54.43**	**117**	P	**P**	**22 33 40.4**	**+0.1**
	4.2nm,0.7s,baz=308,slow=4.9,SNR=4.1							
BRVK	**Borovoye**	**54.44**	**341**	*e*P	**P**	**22 33 39.0**	**-0.7**
	23nm,1.4s							
STKA	**Stephens Creek**	**55.40**	**132**	*e*P	**P**	**22 33 47.6**	**+0.5**
	2.0nm,1.1s							
STKA	**Stephens Creek**	**55.40**	**132**	P	**P**	**22 33 47.5**	**+0.4**
	2.6nm,0.7s,baz=304,slow=10,SNR=5.1							
STKA				LR	LR	23 02 13.9		
	comp=Z,159nm,18.3s,baz=298,slow=41							
ABKAR	**Akbulak array**	**55.53**	**332**	*e*P	**P**	**22 33 47.4**	**-0.3**
	19nm,1.1s							
KMBO	**Kilima Mbogo**	**58.65**	**267**	*e*P	**P**	**22 34 12.7**	**+2.0**
	5.9nm,1.1s							
KMBO	**Kilima Mbogo**	**58.65**	**267**	P	**P**	**22 34 12.7**	**+2.0**
	0.3nm,0.3s,baz=46,slow=8.5,SNR=4.8							
ARU	**Arti**	**61.26**	**337**	*e*P	**P**	**22 34 26.9**	**-0.7**
	9.1nm,0.9s							
KBZ	**Khabaz**	**62.02**	**319**	P	**P**	**22 34 33.3**	**+0.4**
	3.1nm,0.9s,baz=102,slow=5.2,SNR=6.5							
NRIK	**Noril'sk**	**66.75**	**357**	P	**P**	**22 35 02.7**	**-0.7**
	2.1nm,0.4s,baz=169,slow=4.8,SNR=13							
NRIK				LR	LR	23 08 53.7		
	comp=Z,226nm,18.6s,baz=183,slow=40							
BR101	**Keskin Array S**	**67.06**	**312**	*e*P	**P**	**22 35 05.2**	**-1.0**
BRTR	**Keskin Array B**	**67.06**	**312**	P	**P**	**22 35 05.2**	**-1.0**
	0.6nm,0.7s,baz=144,slow=7.1,SNR=5.6							
BRTR				LR	LR	23 06 53.7		
	comp=Z,77nm,18.7s,baz=94,slow=38							
PETK	**Petropavlovsk-**	**71.27**	**34**	LR	LR	23 09 02.4		
	comp=Z,257nm,19.1s,baz=218,slow=38							
KLMR	**Klimovskoe**	**71.80**	**335**	*e*P	P	22 35 41.3	+6.5	
KLMR				AMP		22 35 45.0		
	comp=Z,24nm,1.4s							
DZM	**Mont Dzumac**	**73.17**	**114**	*e*SS	SS	22 49 44.8	-7.9	
	comp=Z,216nm,31.9s							
DZM				*e*LR	LR	22 58 10.0		
	comp=Z,86nm,26.1s							
AKASG	**Malin Array Be**	**73.22**	**322**	P	**P**	**22 35 42.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=94,slow=5.5,SNR=5.4							
AKBB	**Malin Array Si**	**73.22**	**322**	*e*P	**P**	**22 35 42.3**	**-1.2**
	comp=Z,2.5nm,0.9s							
VRI	**Vrincioaia**	**73.56**	**317**	⇓*i*P	**P**	**22 35 46.0**	**+0.3**
MLR	**Muntele Rosu**	**74.01**	**317**	⇑*i*P	P	22 35 57.2	+8.7
BOSA	**Boshof**	**74.32**	**239**	P	**P**	**22 35 54.2**	**+3.6**
	comp=Z,2.6nm,0.7s,baz=74,slow=7.0,SNR=4.3							
BOSA				LR	LR	23 05 46.9		
	comp=Z,416nm,18.3s,baz=58,slow=33							
VOIR		**74.62**	**316**	⇑*i*P	**P**	**22 35 50.7**	**-1.2**
ARR	**Arges**	**74.89**	**316**	⇓*i*P	**P**	**22 35 49.9**	**-3.6**
BURAR	**Bucovina Array**	**74.97**	**319**	⇓*i*P	**P**	**22 35 54.3**	**+0.4**
BUR04	**Bucovina Ar. S**	**74.98**	**319**	*e*P	**P**	**22 35 54.2**	**+0.2**
DRGR		**76.48**	**317**	⇑*i*P	**P**	**22 36 02.9**	**+0.4**
TRPA	**Tarpa**	**76.84**	**319**	⇓*i*P	**P**	**22 36 00.9**	**-3.5**
FIA0	**FINESS Array S**	**78.02**	**333**	*e*P	**P**	**22 36 10.2**	**-0.6**
FINES	**FINESS Array B**	**78.02**	**333**	P	**P**	**22 36 10.2**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=108,slow=6.2,SNR=12							
FINES				LR	LR	23 15 23.7		
	comp=Z,194nm,19.5s,baz=113,slow=39							
ARA0	**ARCESS Array S**	**80.65**	**340**	*e*P	**P**	**22 36 24.9**	**-0.2**
ARCES	**ARCESS Array B**	**80.65**	**340**	P	**P**	**22 36 24.9**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=93,slow=5.5,SNR=25							
ARCES				LR	LR	23 15 45.0		
	comp=Z,221nm,21.3s,baz=154,slow=38							
SYO	**Syowa Base**	**81.00**	**198**	⇑*e*pP	**P**	**22 36 30.0**	**+3.2**
GEA0	**GERESS Array S**	**82.76**	**319**	*e*P	**P**	**22 36 36.8**	**+0.1**
BRG	**Berggiesshubel**	**82.76**	**321**	*e*(P)	P	22 36 44.2	+7.7
	comp=Z,1.6nm,0.8s							
GEC2	**GERESS Array S**	**82.76**	**319**	*e*P	**P**	**22 36 36.6**	**-0.1**
	comp=Z,6.8nm,1.4s							
GERES	**GERESS Array B**	**82.76**	**319**	P	**P**	**22 36 36.6**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=100,slow=5.5,SNR=8.8							
GERES				LR	LR	23 19 31.0		
	comp=Z,57nm,19.4s,baz=82,slow=40							
CLL	**Collm**	**83.39**	**321**	*e*(P)	**P**	**22 36 43.0**	**+3.3**
CLL				*e*S	**S**	**22 46 58.0**	**-1.3**
CLL				*e*SS	**SS**	**22 52 27.0**	**+2.2**
CLL				*e*SSS	SSS	22 56 00.0		
CLL				*e*		22 57 36.0		
CLL				*e*SSSS		22 58 48.0		
CLL				Lm	MLR	23 16 00.0		
	comp=Z,100nm,20.9s							
NB200	**NORSAR Array S**	**85.01**	**331**	*e*P	**P**	**22 36 47.7**	**-0.1**
NOA	**NORSAR Array B**	**85.01**	**331**	P	**P**	**22 36 47.7**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=99,slow=5.7,SNR=3.2							
NOA				LR	LR	23 19 15.1		
	comp=Z,97nm,19.8s,baz=90,slow=39							
KEST	**Kesra**	**85.55**	**305**	*e*P	**P**	**22 36 51.9**	**+0.8**
	comp=Z,7.0nm,1.1s							
KEST	**Kesra**	**85.55**	**305**	P	**P**	**22 36 51.9**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=161,slow=2.3,SNR=3.4							
KEST				LR	LR	23 17 51.5		
	comp=Z,42nm,21.7s,baz=275,slow=38							
VNDA	**Vanda**	**87.57**	**169**	P	**P**	**22 37 00.9**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=339,slow=8.6,SNR=2.6							
VNDA				LR	LR	23 11 45.3		
	comp=Z,191nm,18.4s,baz=308,slow=32							
TORD	**Torodi Ar. Bea**	**93.38**	**283**	LR	LR	23 20 07.1		
	comp=Z,132nm,18.0s,baz=30,slow=36							
YKA	**Yellowknife Ar**	**111.01**	**15**	PP	**PP**	**22 43 19.6**	**-3.8**
	comp=Z,0.2nm,0.4s,baz=329,slow=6.9,SNR=4.5							
TBI	**Tubuai**	**113.75**	**114**	*e*LR	LR	23 17 03.9		
	comp=Z,163nm,30.0s							
PPT2	**Papeete2**	**114.28**	**108**	*e*LR	LR	23 17 19.8		
	comp=Z,186nm,27.5s							
NV01	**Mina Array Sit**	**128.36**	**34**	*e*PKPdf	**PKPdf**	**22 43 20.1**	**+0.2**
NVAR	**Mina Array Bea**	**128.36**	**34**	PKP	**PKPdf**	**22 43 20.1**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=242,slow=3.2,SNR=4.5							
PD31	**Pinedale Array**	**129.27**	**24**	*e*PKPdf	**PKPdf**	**22 43 21.7**	**+0.2**
PDAR	**Pinedale Array**	**129.27**	**24**	PKP	**PKPdf**	**22 43 21.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=236,slow=1.6,SNR=4.1							
TXAR	**Lajitas Array**	**143.08**	**29**	PKhKP	PKPpre	22 43 43.6		
	comp=Z,0.2nm,0.4s,baz=307,slow=0.5,SNR=6.6							
TXAR				PKP	**PKPdf**	**22 43 46.6**	**-0.6**	
	comp=Z,0.2nm,0.4s,baz=215,slow=1.2,SNR=6.5							
HPIG		**143.98**	**34**	*e*PKPdf	**PKPdf**	**22 43 48.2**	**-0.8**	
656A	**Willston**	**148.07**	**357**	*e*PKPbc	**PKPbc**	**22 43 58.6**	**-0.2**	

*SOME **03** 23:00:49.9, 42°.93N×77°.28E, h10km*
*KRNET **03** 23:00:49.8±0.1, 42°.95N×77°.30E, h22km, mb2.1*

*NNC **03** 23:00:50.0±0.8, 42°.99N×77°.32E, h5km±7km, mb2.3, mpv2.1, Error ellipse: s-maj=12.2km s-min=3.8km az=174.0*

ISC 03 23:00:49.8±1.0, 42°.94N±0°.03×77°.30E±0°.02, h14km±7km, n23, σ0°.68/44, 14C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TNSS	**Tian-Shan**	**0.28**	**291**	*e*P		**Pg**	**23 00 55.7**	**-0.2**
	baz=90							
TNSS				*e*S		**Sg**	**23 01 00.1**	**+0.1**
	baz=90							
TNSS	**Tian-Shan**	**0.28**	**291**	*e*P		**Pg**	23 00 55.7	-0.2
	2.1nm,0.1s							
TNSS				*e*S		**Sg**	**23 01 00.1**	**+0.1**
	11nm,0.2s							
MDOK	**Medeo**	**0.29**	**321**	⇑P		**Pg**	23 00 55.8	-0.2
	0.7nm,0.4s							
MDOK				⇓S		**Sg**	**23 01 00.1**	**-0.1**
	5.2nm,0.4s							
MDOK	**Medeo**	**0.29**	**321**	*e*P		**Pg**	23 00 55.8	-0.2
	baz=20							
MDOK				*e*S		**Sg**	**23 01 00.3**	**+0.1**
	baz=20							
MDOK	**Medeo**	**0.29**	**321**	*e*P		**Pg**	23 00 55.8	-0.2
	1.3nm,0.2s							
MDOK				*e*S		**Sg**	**23 01 00.3**	**+0.1**
	12nm,0.2s							
KOTS	**Kotyrbulak**	**0.33**	**335**	P		**Pg**	23 00 56.5	-0.1
	6.7nm,0.6s							
KOTS				S		**Sg**	**23 01 01.6**	**+0.4**
	40nm,0.3s							
KOTS	**Kotyrbulak**	**0.33**	**335**	*e*P		**Pg**	23 00 56.5	-0.1
	baz=35							
KOTS				*e*S		**Sg**	**23 01 01.6**	**+0.4**
	baz=35							
KOTS	**Kotyrbulak**	**0.33**	**335**	*e*P		**Pg**	23 00 56.5	-0.1
	1.1nm,0.1s							
KOTS				*e*S		**Sg**	**23 01 01.6**	**+0.4**
	40nm,0.3s							
KDJ	**Kajisay**	**0.81**	**186**	⇑*i*P		**Pg**	23 01 05.7	+0.1
	baz=85							
KDJ				⇑*i*S		**Sg**	**23 01 16.3**	**0.0**
	baz=85							
SATY	**Saty**	**0.82**	**81**	P		**Pg**	23 01 06.1	+0.3
	1.9nm,0.2s							
SATY				S		**Sb**	**23 01 17.9**	**+1.0**
	5.8nm,0.2s							
PRZ	**Przheval'sk**	**0.93**	**119**	⇑*i*P		**Pg**	23 01 07.9	+0.1
	baz=19							
PRZ				⇑*i*S		**Sb**	**23 01 20.8**	**+0.7**
	baz=19							
CHKK	**Chushkaly**	**0.94**	**346**	P		**Pg**	23 01 07.5	-0.5
	1.7nm,0.1s							
CHKK				S		**Sg**	**23 01 20.4**	**0.0**
	17nm,0.2s							
CHKK	**Chushkaly**	**0.94**	**346**	*e*P		**Pg**	23 01 07.5	-0.5
	baz=47							
CHKK				*e*S		**Sg**	**23 01 20.3**	**-0.1**
	baz=47							
CHKK	**Chushkaly**	**0.94**	**346**	*e*P		**Pg**	23 01 07.5	-0.5
	1.7nm,0.1s							
CHKK				*e*S		**Sg**	**23 01 20.3**	**-0.1**
	17nm,0.2s							
ULHL	**Ulahol**	**1.04**	**229**	⇓*i*P		**Pg**	23 01 09.3	-0.7
	baz=28							
ULHL				⇓*i*S		**Sg**	**23 01 23.3**	**-0.4**
	baz=28							
BOOM	**Boomskoye usch**	**1.10**	**246**	⇑*i*P		**Pg**	23 01 10.5	-0.5
	baz=46							
BOOM				⇑*i*S		**Sg**	**23 01 24.9**	**-0.5**
	baz=46							
TKM2	**Tokmak 2**	**1.25**	**270**	⇑P		**Pg**	23 01 15.5	+1.6
	0.4nm,0.6s							
TKM2				⇑S		**Sn**	**23 01 30.6**	**+0.8**
	0.3nm,0.3s							
TKM2	**Tokmak 2**	**1.25**	**270**	⇓*i*P		**Pn**	23 01 13.2	+0.1
	baz=69							
TKM2				⇓*i*S		**Sb**	**23 01 29.7**	**+0.3**
	baz=69							
UZB	**Uzynbulak**	**1.28**	**80**	P		**Pn**	23 01 11.8	-1.6
	0.8nm,0.3s							
UZB				S		**Sb**	**23 01 27.7**	**-2.4**
	1.4nm,0.4s							
SHLS	**Shalkode**	**1.60**	**81**	Pg		Pg	23 01 26.3	+5.8
	1.3nm,0.5s							
SHLS				Lg		Lg	23 01 52.6	
	1.5nm,0.5s							
PDGK	**Podgornoye**	**1.65**	**76**	⇑P		**Pn**	23 01 19.0	+0.6
	0.8nm,0.7s							
PDGK				⇓S		**Sb**	**23 01 41.3**	**+0.6**
	0.8nm,0.5s							
PDGK	**Podgornoye**	**1.65**	**76**	⇑*i*P		**Pn**	23 01 19.2	+0.7
	baz=76							
PDGK				⇑*i*S		**Sn**	**23 01 40.0**	**+0.5**
	baz=76							
ARLS	**Aral**	**2.45**	**245**	⇑*i*P		**Pn**	23 01 29.7	+0.1
	baz=45							
ARLS				⇑*i*S		**Sn**	**23 01 58.3**	**-1.1**
	baz=45							

*ISCJB **03** 23:08:49.5±0.5, 17°.9S±0°.1×177°.9W±0°.1, h300km, mb3.8/12, Error ellipse: s-maj=20.6km s-min=13.4km az=33.3*

*IDC **03** 23:08:51.8±8.0, 17°.84S×178°.00W, h307km±78km, mb3.5/12, mb1 3.8/12, mb1mx3.6/33, mbtmp4.1/12, Error ellipse: s-maj=27.6km s-min=19.5km az=175.0*

ISC 03 23:08:50.7±0.6, 17°.9S±0°.1×177°.9W±0°.2, h300km, n38, σ1§18/37, mb3.8/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
URZ	**Urewera**	**20.72**	**191**	P		**P**	**23 13 09.3**	**+0.5**
	5.4nm,0.3s,baz=301,slow=5.2,S

1.4nm,0.7s
OBKA Obir 149.68 343 PKPdf **PKPdf 23 27 59.9 -0.4**
5.9nm,1.6s
WTTA Wattenberg 149.70 347 *e*PKPbc **PKPbc 23 28 04.5 -0.9**
5.2nm,0.7s
MOTA Moosalm 149.74 348 PKPdf **PKPdf 23 28 00.9 +0.5**
0.3nm,0.4s
MYKA Terra Mystica 149.82 344 *e*PKPbc **PKPbc 23 28 04.1 -1.5**
2.5nm,0.5s
SQTA Sankt Quirin 149.83 348 *e*PKPdf **PKPdf 23 28 00.5 0.0**
3.7nm,0.5s
ABTA Abfaltersbach 149.99 346 *e*PKPbc **PKPbc 23 28 04.3 -1.7**
3.5nm,0.6s
DAVA Damuels 150.02 349 *e*PKPbc **PKPbc 23 28 05.6 -0.5**
0.8nm,0.4s
FETA Feichten 150.12 348 *e*PKPbc **PKPbc 23 28 05.7 -0.7**
2.6nm,0.9s

*ISCJB **03** 23:12:34.1±0.6,52.°0N±0.°1×170.°88W±0.°07, h48km, mb3.7/10, MS3.0/1, Error ellipse: s-maj=16.0km s-min=3.0km az=161.6*
*NEIC **03** 23:12:34.1±0.0,52.°06N×170.°86W, h29km, ML3.9(AEIC), After AEIC.*
*IDC **03** 23:12:39.6±6.3,52.°59N×171.°12W, h89km±53km, mb3.5/10, mb1 3.8/12, mb1mx3.4/48, mbtmp3.8/12, ML3.8/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/32, Error ellipse: s-maj=37.9km s-min=20.5km az=24.0*
ISC 03 23:12:35.3±0.8,**52.°3N**±0.°1×**170.°97W**±0.°05,**h48**km,**n47,** σ1§**99**/**47**,**mb3.8**/10,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.48**	**60**	P	**Pn**	**23 12 59.3**	**-0.2**
NIKH				S	**Sn**	**23 13 18.3**	**+0.6**
KOSE	**Korovin Southe**	**1.89**	**274**	P	**Pn**	**23 13 06.5**	**+1.4**
OKSP	**Okmok Steeple**	**1.92**	**57**	P	**Pn**	**23 13 06.0**	**+0.6**
KOFP	**Korovin Flat P**	**1.92**	**272**	P	**Pn**	**23 13 06.8**	**+1.3**
KONE	**Korovin Northe**	**1.94**	**276**	P	**Pn**	**23 13 06.7**	**+1.0**
OKWE	**Okmok W'ng Wal**	**2.06**	**52**	P	**Pn**	**23 13 08.7**	**+1.3**
OKWE				S	**Sn**	**23 13 36.3**	**+4.4**
MGOD	**Makushin Gods**	**2.92**	**56**	P	**Pn**	**23 13 20.1**	**+0.9**
MCIR	**Makushin Cirqu**	**2.99**	**54**	P	**Pn**	**23 13 21.1**	**+0.9**
MREP	**Makushin Rep't**	**2.99**	**57**	P	**Pn**	**23 13 21.2**	**+1.0**
MSW	**Makushin Switc**	**3.03**	**55**	P	**Pn**	**23 13 21.5**	**+0.8**
MSW				S	**Sn**	**23 13 59.1**	**+3.5**
GSIG	**Igitkin Island**	**3.07**	**267**	P	**Pn**	**23 13 21.9**	**+0.7**
MTBL	**Makushin Table**	**3.11**	**55**	P	**Pn**	**23 13 23.0**	**+1.2**
UNV	**Unalaska Valle**	**3.14**	**58**	P	**Pn**	**23 13 23.2**	**+1.2**
UNV				S	**Sn**	**23 14 01.4**	**+3.1**
GSMY	**Great Sitkin M**	**3.14**	**268**	P	**Pn**	**23 13 23.1**	**+0.9**
GSTD	**Great Sitkin T**	**3.19**	**269**	P	**Pn**	**23 13 23.9**	**+1.0**
GSTD				S	**Sn**	**23 14 02.8**	**+3.0**
ETKA	**Kagalaska Isla**	**3.38**	**266**	P	**Pn**	**23 13 26.1**	**+0.7**
ADAG	**Mount Adagdak**	**3.48**	**268**	P	**Pn**	**23 13 28.5**	**+1.7**
AKRB	**Akutan Reef Bi**	**3.50**	**55**	P	**Pn**	**23 13 29.3**	**+2.2**
AKRB				S	**Sn**	**23 14 11.6**	**+4.3**
ZRO	**Akutan Zero**	**3.53**	**56**	P	**Pn**	**23 13 29.5**	**+2.0**
ADK	**Adak**	**3.54**	**266**	P	**Pn**	**23 13 28.8**	**+1.1**
ADK				S	**Sn**	**23 14 12.6**	**+4.3**
AKGG	**Akutan Green G**	**3.57**	**55**	P	**Pn**	**23 13 29.5**	**+1.4**
AHB	**Akutan Harbor**	**3.62**	**57**	P	**Pn**	**23 13 30.4**	**+1.6**
AKSA	**Akutan Strait**	**3.69**	**57**	P	**Pn**	**23 13 31.4**	**+1.7**
KIMD	**Kanaga Island**	**3.90**	**265**	P	**Pn**	**23 13 33.4**	**+0.8**
TAFP	**Tanaga Falls P**	**4.34**	**268**	P	**Pn**	**23 13 40.0**	**+1.4**
TASE	**Tanaga Southea**	**4.38**	**267**	P	**Pn**	**23 13 40.7**	**+1.4**
SSBA	**Shishaldin**	**4.80**	**56**	P	**Pn**	**23 13 47.4**	**+2.4**
SPIA	**Saint Paul Isl**	**4.96**	**5**	P	**Pn**	**23 13 48.3**	**+1.2**
KDAK	**Kodiak Island**	**11.90**	**55**	P	**Pn**	**23 15 24.7**	**+2.6**
	0.6nm,0.3s,baz=210,slow=1.4,SNR=5.3						
ILAR	**Eielson Array**	**17.61**	**35**	P	**Pn**	**23 16 35.8**	**-1.0**
	0.2nm,0.3s,baz=238,slow=9.8,SNR=16						
DLBC	**Dease Lake**	**23.79**	**59**	P	**P**	**23 17 44.3**	**+1.1**
	2.3nm,0.5s,baz=287,slow=9.9,SNR=6.0						
INK	**Inuvik**	**23.99**	**34**	P	**P**	**23 17 42.6**	**-2.3**
	0.7nm,0.4s,baz=248,slow=9.2,SNR=9.3						
YKA	**Yellowknife Ar**	**31.06**	**49**	P	**P**	**23 18 47.3**	**-0.9**
	0.4nm,0.3s,baz=274,slow=8.0,SNR=9.0						
H11N2	**WAKE ISLAND Hy**	**36.76**	**216**	T	T	23 58 15.2	
	baz=21,slow=76,SNR=7.6						
H11N3	**WAKE ISLAND Hy**	**36.77**	**216**	T	T	23 58 16.4	
	baz=21,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**36.78**	**216**	T	T	23 58 14.1	
	baz=21,slow=76,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**37.95**	**216**	T	T	23 59 47.4	
	baz=23,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**37.97**	**216**	T	T	23 59 47.4	
	baz=23,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**37.97**	**216**	T	T	23 59 47.4	
	baz=23,slow=76,SNR=12						
NVAR	**Mina Array Bea**	**38.65**	**90**	P	**P**	**23 19 55.4**	**+1.3**
	1.0nm,0.7s,baz=291,slow=7.3,SNR=7.7						
PDAR	**Pinedale Array**	**41.39**	**78**	P	**P**	**23 20 17.1**	**+0.2**
	1.8nm,0.8s,baz=310,slow=4.2,SNR=16						
KSRS	**Korea Array**	**44.44**	**276**	LR	LR	23 39 37.5	
	comp=Z,17nm,19.3s,baz=45,slow=36						
TXAR	**Lajitas Array**	**53.73**	**88**	P	**P**	**23 21 52.4**	**-0.1**
	1.2nm,0.8s,baz=287,slow=5.4,SNR=12						
FINES	**FINESS Array B**	**65.84**	**351**	P	**P**	**23 23 11.6**	**-3.5**
	1.3nm,0.9s,baz=27,slow=6.5,SNR=3.0						
NOA	**NORSAR Array B**	**67.05**	**359**	P	**P**	**23 23 20.1**	**-2.8**
	0.3nm,0.6s,baz=2.8,slow=6.5,SNR=2.8						
CMAR	**Chiang Mai Arr**	**75.68**	**282**	P	**P**	**23 24 14.3**	**-1.2**
	0.5nm,0.3s,baz=40,slow=7.1,SNR=3.1						
AKASG	**Malin Array Be**	**76.01**	**347**	P	**P**	**23 24 16.5**	**-0.4**
	0.2nm,0.3s,baz=8.5,slow=6.3,SNR=2.6						

*NNC **03** 23:15:54.9±0.9,42.°99N×77.°59E, h2km±10km, mpv2.2, Error ellipse: s-maj=7.8km s-min=2.0km az=5.0*
SOME 03 23:15:55.2,42.°98N×77.°60E, h0km,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOTS	**Kotyrbulak**	**0.44**	**305**	P	Pg	23 16 03.6	0.0
KOTS				S	Sg	23 16 09.8	+0.5
	2.9nm,0.3s						
KOTS	**Kotyrbulak**	**0.44**	**305**	*e*P	Pg	23 16 03.7	+0.1
	0.8nm,0.1s						
KOTS				*e*S	Sg	23 16 09.8	+0.6
	4.2nm,0.3s						
SATY	**Saty**	**0.60**	**82**	P	Pg	23 16 07.0	+0.4
	1.0nm,0.2s						
SATY				S	Sg	23 16 15.5	+1.1
	6.4nm,0.2s						
SATY	**Saty**	**0.60**	**82**	*e*P	Pg	23 16 07.0	+0.4
	1.2nm,0.1s						
SATY				*e*S	Sg	23 16 15.4	+1.1
	7.7nm,0.2s						

*ISCJB **03** 23:22:10.7±0.5,20.°18S±0.°07×177.°56W±0.°08, h400km, mb3.8/15, Error ellipse: s-maj=10.5km s-min=8.5km az=24.5*
*IDC **03** 23:22:12.9±1.7,20.°23S×177.°53W, h412km±18km, mb3.6/14, mb1 3.9/16, mb1mx3.8/31, mbtmp4.5/16, Error ellipse: s-maj=12.5km s-min=9.3km az=136.0*
ISC 03 23:22:11.8±0.5,**20.°28S**±0.°08×**177.°50W**±0.°09,**h400**km, **n32,** σ1§**69**/**35**,**mb3.9**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.94**	**182**	S	**S**	**23 25 57.2**	**-3.5**
	174nm,0.3s,baz=100,slow=23,SNR=5.8						
DZM	**Mont Dzumac**	**15.08**	**260**	P	**P**	**23 25 26.3**	**+0.9**
	1.4nm,0.3s,baz=84,slow=15,SNR=16						
RAR	**Rarotonga**	**16.61**	**96**	P	**P**	**23 25 43.2**	**+1.5**
	0.8nm,0.3s,baz=327,slow=7.1,SNR=2.8						
URZ	**Urewera**	**18.51**	**193**	P	**P**	**23 26 02.2**	**+0.5**
	4.5nm,0.3s,baz=314,slow=4.7,SNR=12						
URZ				S	**S**	**23 29 10.7**	**-0.3**
	0.5nm,0.3s,baz=102,slow=22,SNR=3.2						
CTA	**Charters Tower**	**33.98**	**264**	P	**P**	**23 28 19.8**	**-0.3**
	12nm,0.4s,baz=94,slow=12,SNR=11						
STKA	**Stephens Creek**	**38.30**	**244**	P	**P**	**23 28 56.6**	**+0.5**
	2.7nm,0.5s,baz=88,slow=10,SNR=12						
STKA				S	**S**	**23 34 23.0**	**+2.7**
	0.4nm,0.2s,baz=1.2,slow=23,SNR=1.4						
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**23 29 49.6**	**-0.4**
	26nm,0.6s,baz=94,slow=8.1,SNR=275						
ASAR				S	**S**	**23 35 56.8**	**-1.5**
	2.7nm,0.8s,baz=92,slow=16,SNR=16						
WRA	**Warramunga Arr**	**45.09**	**262**	P	**P**	**23 29 49.4**	**-1.1**
	7.1nm,0.5s,baz=98,slow=7.7,SNR=151						
WRA				S	**S**	**23 35 58.2**	**-1.2**
	1.3nm,0.8s,baz=98,slow=13,SNR=6.1						
VNDA	**Vanda 58.17 185**			P	**P**	**23 31 26.6**	**+1.6**
	1.3nm,0.8s,baz=43,slow=8.5,SNR=4.3						
QSPA	**South Pole Qui 69.78 180**			P	**P**	**23 32 40.4**	**+0.3**
	6.7nm,0.9s,baz=13,slow=1.1,SNR=22						
MJAR	**Matsushiro Arr 70.31 323**			P	**P**	**23 32 42.4**	**-1.1**
	2.6nm,0.5s,baz=164,slow=6.2,SNR=9.9						
KSRS	**Korea Array 77.03 318**			P	**P**	**23 33 22.5**	**+0.4**
	0.7nm,0.5s,baz=261,slow=32,SNR=2.6						
USRK	**Ussuriysk Ar. 79.05 326**			P	**P**	**23 33 33.6**	**+0.8**
	2.1nm,0.8s,baz=116,slow=6.6,SNR=4.7						
NVAR	**Mina Array Bea 80.55 43**			P	**P**	**23 33 40.9**	**-0.3**
	1.7nm,0.7s,baz=224,slow=8.8,SNR=11						
TXAR	**Lajitas Array 86.55 57**			P	**P**	**23 34 11.6**	**+0.3**
	0.9nm,0.8s,baz=215,slow=6.5,SNR=13						
ILAR	**Eielson Array 88.00 13**			P	**P**	**23 34 14.5**	**-2.8**
	0.4nm,0.6s,baz=233,slow=5.9,SNR=7.0						
PDAR	**Pinedale Array 88.48 43**			P	**P**	**23 34 19.7**	**-0.7**
	0.6nm,0.7s,baz=219,slow=3.0,SNR=7.4						
CMAR	**Chiang Mai Arr 90.48 289**			P	**P**	**23 34 30.1**	**+0.2**
	0.3nm,0.3s,baz=107,slow=0.9,SNR=2.9						
YKA	**Yellowknife Ar 96.12 25**			P	**P**	**23 34 54.0**	**-0.7**
	0.2nm,0.6s,baz=238,slow=4.3,SNR=3.3						
MKAR	**Makanchi Array 111.39 313**			PKiKP	**PKiKP**	**23 39 57.6**	**-1.5**
	0.2nm,0.6s,baz=115,slow=0.9,SNR=3.2						
AKASG	**Malin Array Be 143.05 332**			PKhKP	PKPpre	23 40 53.9	
	0.7nm,0.4s,baz=42,slow=4.3,SNR=6.7						
MBAR	**Mbarara 145.42 236**			PKPbc	**PKPdf**	**23 41 04.2**	**+0.1**
	2.5nm,0.2s,baz=8.1,slow=22,SNR=3.8						
BRTR	**Keskin Array B 147.04 313**			PKPbc	**PKPdf**	**23 41 07.5**	**+1.5**
	1.4nm,0.6s,baz=126,slow=4.5,SNR=10						
GERES	**GERESS Array B 150.12 345**			PKPbc	**PKPbc**	**23 41 14.6**	**-1.5**
	1.5nm,0.6s,baz=28,slow=3.2,SNR=13						
CONA	**Conrad Observa 150.38 342**			*e*PKPdf	**PKPdf**	**23 41 14.0**	**+2.9**
	2.0nm,0.6s						
MOA	**Molln 150.89 344**			*e*PKPdf	**PKPdf**	**23 41 14.9**	**+3.1**
	0.6nm,0.5s						
SOKA	**Soboth 151.75 342**			*e*PKPdf	**PKPdf**	**23 41 16.9**	**+3.8**
	0.4nm,0.3s						
KBA	**Koelnbreinsper 151.85 344**			*e*PKPbc	**PKPbc**	**23 41 19.4**	**-0.9**
	1.0nm,0.8s						
OBKA	**Obir 152.04 342**			*e*PKPbc	**PKPbc**	**23 41 20.7**	**+0.1**
	0.6nm,0.4s						
WTTA	**Wattenberg 152.08 347**			*e*PKPdf	**PKPbc**	**23 41 18.8**	**-2.0**
	1.5nm,0.3s						
ABTA	**Abfaltersbach 152.36 345**			*e*PKPdf	**PKPdf**	**23 41 16.5**	**+2.4**
	1.6nm,0.6s						
FETA	**Feichten 152.50 348**			*e*PKPdf	**PKPdf**	**23 41 14.5**	**+0.1**
	0.5nm,0.6s						

*DJA **03** 23:33:35.4±2.7,4.°S±8.°×9.°9E±1.°5, h26km±23km, M4.1/10, mb4.2/2, MLv4.1/10*
*ISCJB **03** 23:33:37.3±1.0,3.°49S±0.°06×99.°08E±0.°07, h33km, mb3.8/6, Error ellipse: s-maj=11.5km s-min=7.4km az=151.4*
*IDC **03** 23:33:39.9±2.9,2.°65S×98.°95E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/47, mbtmp3.8/6, Error ellipse: s-maj=158.8km s-min=21.8km az=52.0*
ISC 03 23:33:40.0±1.3,**3.°42S**±0.°08×**99.°07E**±0.°10,**h35**km,**n16,** σ1§**23**/**16**,**mb3.8**/6,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.14**	**55**	P	**Pn**	**23 33 59.3**	**-0.1**
SISI	**Saibi**	**2.08**	**0**	P	**Pn**	**23 34 10.3**	**-2.1**
SISI				S	**Sn**	**23 34 37.4**	**+0.4**
KRJI	**Kerinci**	**2.73**	**61**	P	**Pn**	**23 34 20.3**	**-1.1**
KRJI				S	**Sn**	**23 34 53.8**	**+0.6**
PPI	**Padang Panjang**	**3.23**	**24**	P	**Pn**	**23 34 26.8**	**-1.4**
PPI				S	**Sn**	**23 35 04.9**	**-0.5**
MNAI	**Manna**	**3.98**	**104**	P	**Pn**	**23 34 37.6**	**-1.0**
LHSI	**Lahat**	**4.46**	**95**	P	**Pn**	**23 34 43.8**	**-1.3**
MDSI	**Maura Dua**	**5.20**	**102**	P	**Pn**	**23 34 54.4**	**-0.9**
	7.9nm,0.4s,0.1nm						
LWLI	**Liwa**	**5.22**	**108**	P	**Pn**	**23 34 53.9**	**-1.8**
KASI	**Kota Agung**	**5.80**	**111**	P	**Pn**	**23 35 01.9**	**-1.6**
WRA	**Warramunga Arr**	**38.11**	**118**	P	P	23 41 03.8	+7.9
	0.6nm,0.8s,baz=304,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**39.20**	**124**	P	P	23 41 15.9	+11
	0.2nm,0.4s,baz=306,slow=8.7,SNR=3.1						
STKA	**Stephens Creek**	**48.92**	**130**	P	P	23 42 33.9	+11
	0.8nm,0.4s,baz=315,slow=16,SNR=2.4						
MKAR	**Makanchi Array**	**52.15**	**345**	P	**P**	**23 42 48.0**	**+1.0**
	0.4nm,0.6s,baz=146,slow=8.2,SNR=6.8						
ZALV	**Zalesovo Beam**	**56.39**	**350**	P	**P**	**23 43 31.9**	**+0.2**
	0.8nm,0.6s,baz=173,slow=5.8,SNR=3.6						
FINES	**FINESS Array B**	**84.93**	**333**	P	**P**	**23 46 11.8**	**+0.6**
	3.0nm,1.1s,baz=121,slow=5.4,SNR=4.5						
TXAR	**Lajitas Array**	**146.38**	**38**	PKPbc	**PKPbc**	**23 53 19.1**	**+1.0**
	0.3nm,0.7s,baz=320,slow=3.6,SNR=3.7						

*IDC **03** 23:43:42.5±1.4,53.°47N×35.°48W, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/46, mbtmp3.6/7, ML3.4/1, MS3.5/16, Ms1 3.5/16, ms1mx3.2/41, Error ellipse: s-maj=40.7km s-min=27.9km az=19.0*
*ISCJB **03** 23:43:43.4±1.1,53.°5N±0.°2×35.°4W±0.°2, h16km, mb3.5/6, MS3.4/14, Error ellipse: s-maj=27.8km s-min=18.6km az=11.2*
ISC 03 23:43:44.9±1.2,**53.°5N**±0.°2×**35.°5W**±0.°2,**h16**km,**n21,** σ0§**93**/**8**,**mb3.6**/6,**MS3.4**/14,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**15.45**	**337**	LR	LR	23 52 19.1	
	comp=Z,143nm,19.1s,baz=66,slow=34						
EKA	**Eskdalemuir Ar**	**18.81**	**71**	P	**P**	**23 48 02.7**	**-0.7**
	baz=280,slow=14,SNR=3.7						
FRB	**Frobisher Bay**	**19.83**	**314**	LR	LR	23 54 24.3	
	comp=Z,94nm,20.1s,baz=70,slow=32						
ESDC	**Sonseca Array**	**25.42**	**110**	P	**P**	**23 49 12.1**	**+0.5**
	0.4nm,0.5s,baz=316,slow=8.0,SNR=3.1						
ESDC				LR	LR	23 57 34.2	
	comp=Z,94nm,18.1s,baz=320,slow=33						
NOA	**NORSAR Array B**	**25.86**	**54**	LR	LR	23 57 33.9	
	comp=Z,55nm,20.4s,baz=270,slow=32						
HFS	**Hagfors**	**27.17**	**56**	P	**P**	**23 49 28.8**	**+1.6**
	2.8nm,0.9s,baz=252,slow=8.8,SNR=3.0						
HFS				LR	LR	23 58 55.7	
	comp=Z,81nm,21.5s,baz=294,slow=34						
DAVOX	**Davos/Dischmat**	**29.41**	**84**	LR	LR	00 00 09.6	
	comp=Z,93nm,20.2s,baz=296,slow=34						
SADO	**Sadowa**	**29.48**	**271**	LR	LR	00 01 02.2	
	comp=Z,194nm,18.4s,baz=55,slow=35						
GERES	**GERESS Array B**	**30.67**	**78**	LR	LR	00 01 52.7	
	comp=Z,50nm,21.0s,baz=308,slow=36						
FINES	**FINESS Array B**	**32.87**	**51**	LR	LR	00 02 05.4	
	comp=Z,98nm,18.9s,baz=294,slow=34						
KEST	**Kesra**	**35.78**	**101**	LR	LR	00 04 06.7	
	comp=Z,40nm,21.5s,baz=270,slow=34						
ULM	**Lac du Bonnet**	**36.48**	**290**	LR	LR	00 03 07.5	
	comp=Z,69nm,18.0s,baz=106,slow=32						
BRTR	**Keskin Array B**	**47.56**	**77**	LR	LR	00 13 25.8	
	comp=Z,23nm,18.4s,baz=316,slow=38						
PDAR	**Pinedale Array**	**48.48**	**289**	P	**P**	**23 52 27.2**	**+0.3**
	0.3nm,0.5s,baz=48,slow=8.8,SNR=2.7						
PDAR				LR	LR	00 11 39.1	
	comp=Z,64nm,18.2s,baz=80,slow=35						
TORD	**Torodi Ar. Bea**	**49.80**	**130**	P	**P**	**23 52 36.7**	**-0.2**
	1.0nm,1.0s,baz=333,slow=10,SNR=3.7						
DBIC	**Dimbokro**	**52.86**	**141**	LR	LR	00 13 01.2	
	comp=Z,67nm,19.4s,baz=315,slow=33						
TXAR	**Lajitas Array**	**54.24**	**272**	LR	LR	00 15 54.1	
	comp=Z,60nm,19.0s,baz=0.0,slow=36						
NVAR	**Mina Array Bea**	**56.32**	**291**	LR	LR	00 15 56.2	
	comp=Z,64nm,18.3s,baz=155,slow=34						
MKAR	**Makanchi Array**	**66.98**	**41**	P	**P**	**23 54 36.4**	**-0.1**
	0.3nm,0.7s,baz=332,slow=5.7,SNR=3.1						
SONM	**Songino Array**	**74.01**	**26**	P	**P**	**23 55 19.0**	**-0.6**
	0.5nm,0.7s,baz=318,slow=6.0,SNR=2.3						
ASAR	**Alice Springs**	**149.18**	**19**	PKPbc	**PKPbc**	**00 03 31.8**	**-0.6**
	0.4nm,0.8s,baz=352,slow=2.0,SNR=3.3						

*ISCJB **03** 23:44:28.8±0.9,36.°57N±0.°04×52.°24E±0.°05, h8km±7km, Error ellipse: s-maj=7.9km s-min=4.7km az=140.0*
*TEH **03** 23:44:29.8,36.°38N×52.°34E, h8km, ML3.0*
*THR **03** 23:44:30.6,36.°37N×52.°31E, h14km, ML2.9*
*AZER **03** 23:44:35.8±1.6,36.°67N×51.°89E, h10km, ml3.8/12, Error ellipse: s-maj=22.4km s-min=12.3km az=41.0*
ISC 03 23:44:29.7±1.2,**36.°37N**±0.°04×**52.°25E**±0.°03,**h18**km±3km,

n47, σ1§**72**/**63**,**16C-16D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPRN	**Peran**	**0.15**	**151**	*e*Pg	**Pb**	**23 44 32.9**	**-0.1**
IPRN				IAMB	IAmb	23 44 37.7	
	comp=Z,75μm,0.2s						
IALA	**Alasht**	**0.54**	**122**	*e*Pg	**Pg**	**23 44 39.8**	**-0.8**
IALA				IAMB	IAmb	23 44 48.4	
	comp=E,75μm,0.2s						
IDMV	**Damavand**	**0.81**	**193**	*e*Pg	**Pb**	**23 44 45.7**	**+0.3**
IDMV				IAMB	IAmb	23 45 00.2	
	comp=Z,5μm,0.3s						
ISHM	**Shahmirzad**	**1.02**	**123**	*e*Pg	**Pb**	**23 44 47.4**	**-1.5**
ISHM				IAMB	IAmb	23 45 03.5	
	comp=Z,6μm,0.4s						
CHTH	**Charan**	**1.02**	**243**	*e*Pg	**Pg**	**23 44 50.5**	**+1.0**
CHTH	**Charan**	**1.02**	**243**	*e*Pg	**Pg**	**23 44 50.5**	**+1.0**
ILAS	**Lasjerd**	**1.15**	**150**	*e*Pg	**Pn**	**23 44 51.0**	**0.0**
ILAS				IAMB	IAmb	23 45 10.8	
	comp=Z,3μm,0.2s						
THKV	**Tehran--Karaj**	**1.20**	**248**	*e*Pg	**Pg**	**23 44 53.8**	**+0.9**
THKV	**Tehran--Karaj**	**1.20**	**248**	*e*AML	AML	23 45 14.4	
	comp=N,200nm,0.7s						
THKV	**Tehran--Karaj**	**1.20**	**248**	*e*Pg	**Pg**	**23 44 53.8**	**+0.9**
IHSB	**Hasanabad**	**1.22**	**221**	*e*Pg	**Pg**	**23 44 53.2**	**-0.1**
IHSB				IAMB	IAmb	23 44 56.6	
	comp=Z,0.0nm,0.2s						
IVRN	**Varamin**	**1.44**	**197**	*e*Pn	**Pg**	**23 44 57.5**	**+0.1**
IMHD	**Mahdasht**	**1.45**	**242**	*e*Pn	**Pg**	**23 44 58.3**	**+0.6**
IMHD				IAMB	IAmb	23 45 00.4	
	comp=Z,2μm,0.2s						
IANJ	**Anjilo**	**1.63**	**123**	*e*Pn	**Pn**	**23 44 58.4**	**+0.8**
IANJ				IAMB	IAmb	23 45 27.5	
	comp=Z,2μm,0.3s						
IR5	**Iran Long-Peri**	**1.78**	**230**	IAMB	IAmb	23 45 30.7	
	comp=Z,1μm,0.3s						
IR5				*e*Pn	**Pg**	**23 45 04.1**	**+0.1**
ISFB	**Sefidab**	**2.02**	**180**	IAMB	IAmb	23 45 07.8	
	comp=Z,3μm,0.5s						
ISFB				*e*Pn	**Pb**	**23 45 06.5**	**+0.7**
IRAZ	**Razeghan**	**2.12**	**244**	IAMB	IAmb	23 45 42.3	
	comp=Z,1μm,0.3s						
IRAZ				*e*Pn	**Pb**	**23 45 08.4**	**+0.8**
ASAO	**Ashtian**	**2.57**	**226**	*e*Pn	**Pb**	**23 45 14.7**	**-0.7**
ASAO	**Ashtian**	**2.57**	**226**	*e*Pn	**Pb**	**23 45 14.7**	**-0.7**
ASAO				*e*Sg	**Sg**	**23 45 52.2**	**-0.2**
ZNJK	**Zanjan**	**2.89**	**277**	*e*Pn	**Pb**	**23 45 19.1**	**-1.6**
ZNJK	**Zanjan**	**2.89**	**277**	*e*Pn	**Pb**	**23 45 19.1**	**-1.6**
IKLH	**Kolahrood**	**3.10**	**190**	*e*Pn	**Pb**	**23 45 22.9**	**-1.4**
IKLH				IAMB	IAmb	23 45 30.3	
	comp=Z,429nm,0.3s						
MRVT	**Maraveh tapeh**	**3.33**	**66**	*e*Pn	**Pn**	**23 45 23.7**	**+2.8**
MRVT	**Maraveh tapeh**	**3.33**	**66**	*e*P	**Pn**	**23 45 23.7**	**+2.8**
IZEF	**Zefreh**	**3.47**	**179**	*e*Pn	**Pn**	**23 45 26.4**	**+3.4**
IZEF				IAMB	IAmb	23 46 28.6	
	comp=Z,184nm,0.4s						
ASTR	**Astara**	**3.51**	**309**	⇑P	**Pn**	**23 45 24.8**	**+1.5**
ASTR				⇓S	**Sn**	**23 46 03.5**	**-0.8**
LKRN	**Lenkeran, Azer**	**3.61**	**311**	⇑P	**Pn**	**23 45 25.0**	**+0.3**
LKRN				⇑S	**Sn**	**23 46 05.7**	**-1.1**
LRK	**Lerik**	**3.85**	**307**	⇓P	**Pn**	**23 45 28.8**	**+0.8**
LRK				⇓S	**Sn**	**23 46 11.8**	**-1.0**
GLBA	**Clilabad**	**4.19**	**314**	⇓P	**Pn**	**23 45 33.3**	**+0.8**
GLBA				⇑S	**Sn**	**23 46 20.5**	**-0.5**
TNSJ	**Nastanj**	**4.30**	**123**	*e*Pn	**Pn**	**23 45 37.2**	**+2.9**
IRAM	**Ramesheh**	**4.55**	**179**	*e*Pn	**Pb**	**23 45 44.8**	**-4.4**
IRAM				IAMB	IAmb	23 46 04.5	
	comp=Z,95nm,0.6s						
TKDS	**Koohdasht(Taba**	**4.86**	**123**	*e*Pn	**Pn**	**23 45 45.0**	**+3.1**
GBS	**Qobustan**	**4.90**	**329**	P	**Pn**	**23 45 45.1**	**+2.7**
	SNR=4.1						
GBS				⇑S	**Sn**	**23 46 37.5**	**-1.2**
TPRV	**Parvadeh(Tabas**	**4.95**	**131**	*e*Pn	**Pn**	**23 45 46.8**	**+3.6**
KDMR	**Kurdemir**	**5.12**	**323**

DAGI	**Agillar**	**1.84**	**219**	*i* P	**Pb**	**00 19 31.3**	**+0.7**
DAGI				*i* S	**Sg**	**00 19 56.9**	**+0.6**
DAGI				IAML_P			
	comp=Z,340nm,0.2s						
ARXR	**Arkhyz**	**1.90**	**304**	*e*Pg	**Pb**	**00 19 31.4**	**-0.1**
ARXR				*e*Sg	**Sb**	**00 19 55.9**	**+0.7**
DBAD	**Bademkaya**	**1.99**	**222**	*i* P	**Pb**	**00 19 33.0**	**-0.1**
DBAD				*i* S	**Sg**	**00 20 00.2**	**-1.0**
DBAD				IAML_P			
	comp=Z,706nm,0.2s						
DVE	**Vedeno**	**2.02**	**77**	*e*Pg	**Pb**	**00 19 34.0**	**+0.3**
DVE				*e*Sg	**Sg**	**00 20 01.9**	**-0.3**
LGD	**Lagodekhi**	**2.19**	**107**	P	**Pb**	**00 19 35.6**	**-0.9**
LGD				S	**Sg**	**00 20 05.7**	**-1.9**
LGD	**Lagodekhi**	**2.19**	**107**	*e*Pn	**Pb**	**00 19 35.6**	**-0.9**
LGD				*e*Sn	**Sg**	**00 20 05.7**	**-1.9**
DDFL	**Dedoflistskaro**	**2.27**	**117**	P	**Pg**	**00 19 41.5**	**+0.9**
DDFL				S	**Sg**	**00 20 12.9**	**+2.9**

MEX 04 00:28:56.8±0.5, 17°38N×95°18W, h131km±5km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.40**	**135**	*e*P	Pn	00 29 14.1	-1.4
CMIG				*e*S	Sn	00 29 27.6	-2.0
TUIG	**Tuzandepetl**	**0.97**	**48**	*i* P	Pn	00 29 17.7	-1.8
TUIG				*i* S	Sn	00 29 33.9	-2.8
HUIG	**Huatulco**	**1.83**	**209**	*e*P	Pn	00 29 27.4	-1.4
HUIG				*e*S	Sn	00 29 51.8	-1.5
TPIG	**Tehuac#an**	**2.32**	**297**	*i* P	Pn	00 29 34.4	-0.6
TPIG				*i* S	Sn	00 30 01.6	-2.6
PCIG		**2.51**	**131**	*e*P	Pn	00 29 36.5	-0.7
PCIG				*i* S	Sn	00 30 06.7	-1.5
PNIG	**Pinotepa**	**2.99**	**251**	*i* P	Pn	00 29 41.2	-2.1
PNIG				*i* S	Sn	00 30 17.1	-2.1
CCIG	**Comitan**	**3.11**	**110**	*i* P	Pn	00 29 43.4	-1.7
CCIG				*i* S	Sn	00 30 20.4	-1.9

*IDC **04** 00:48:35.0±3.7, 7°.20S×144°.47E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/35, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=90.2km s-min=31.3km az=101.0*
ISC 04 00:48:37.8±2.9, 7°.2S±0°.2×144°.6E±0°.5, h24km, n6, σ1s 52/6, mb3.6/3, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.07**	**217**	Pn	**Pn**	**00 52 23.1**	**+0.8**
	0.1nm,0.3s,baz=34,slow=13,SNR=9.1						
ASAR	**Alice Springs**	**19.29**	**211**	P	**P**	**00 53 01.9**	**+0.7**
	0.3nm,0.3s,baz=40,slow=8.9,SNR=18						
FITZ	**Fitzroy Crossi**	**21.38**	**238**	P	**P**	**00 53 22.3**	**-1.5**
	1.6nm,0.6s,baz=51,slow=13,SNR=5.6						
CMAR	**Chiang Mai Arr**	**51.76**	**300**	P	**P**	**00 57 44.2**	**+0.3**
	1.1nm,0.3s,baz=124,slow=6.1,SNR=6.1						
MKAR	**Makanchi Array**	**76.95**	**321**	P	**P**	**01 00 29.2**	**+0.8**
	0.3nm,0.7s,baz=118,slow=4.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**143.04**	**282**	PKP	**PKPdf**	**01 08 09.1**	**-1.6**
	0.6nm,0.9s,baz=90,slow=3.2,SNR=3.7						

IDC 04 00:53:13.1±4.9, 7°.95S×128°.03E, h214km±50km, mb2.6/1, mb1 3.4/5, mb1mx3.1/36, mbtmp3.8/5, Error ellipse: s-maj=54.9km s-min=19.4km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.86**	**242**	P	Pn	00 54 26.6	+0.4
	9.2nm,0.3s,baz=287,slow=3.5,SNR=10						
BATI				S	S	00 55 24.6	+1.0
	7.8nm,0.3s,baz=333,slow=23,SNR=7.1						
FITZ	**Fitzroy Crossi**	**10.35**	**193**	P	Pn	00 55 35.8	-0.9
	0.6nm,0.3s,baz=21,slow=9.5,SNR=29						
FITZ				S	S	00 57 31.8	-1.1
	0.5nm,0.3s,baz=165,slow=19,SNR=4.5						
WRA	**Warramunga Arr**	**13.40**	**154**	P	Pn	00 56 13.9	-1.2
	0.4nm,0.3s,baz=328,slow=13,SNR=17						
WRA				S	S	00 58 37.1	-6.6
	1.3nm,0.3s,baz=328,slow=23,SNR=13						
ASAR	**Alice Springs**	**16.61**	**161**	P	Pn	00 56 55.0	+0.8
	0.6nm,0.3s,baz=341,slow=11,SNR=35						
ASAR				S	S	00 59 57.2	+1.3
	0.4nm,0.3s,baz=246,slow=16,SNR=6.1						
MKAR	**Makanchi Array**	**67.96**	**328**	P	P	01 03 48.9	-0.1
	0.1nm,0.4s,baz=127,slow=7.8,SNR=3.3						

*SOME **04** 00:54:32.3, 42°.28N×75°.87E, h15km*
*KNET **04** 00:54:32.6±0.3, 42°.31N×75°.84E, h0km, ml1.8, Error ellipse: s-maj=2.8km s-min=1.8km az=10.0*
*NNC **04** 00:54:32.1±0.4, 42°.30N×75°.86E, h0km, mb3.0, mpv3.1, Error ellipse: s-maj=2.6km s-min=1.3km az=175.0*
*KRNET **04** 00:54:33.0±0.1, 42°.31N×75°.88E, h18km, mb2.7*
ISC 04 00:54:32.9±0.9, 42°.32N±0°.02×75°.84E±0°.01, h12km±7km, n69, σ1s 13/126, 36C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOOM	**Boomskoye usch**	**0.18**	**24**	⇑*i* P	**Pg**	**00 54 37.3**	**+0.2**
	baz=14						
BOOM				⇑*i* S	**Sg**	**00 54 40.5**	**+0.5**
	baz=14						
ULHL	**Ulahol**	**0.31**	**104**	P	**Pg**	**00 54 38.6**	**-0.6**
	14nm,0.1s,SNR=106						
ULHL				⇑S	**Sg**	**00 54 42.7**	**-0.7**
	171nm,0.1s						
ULHL	**Ulahol**	**0.31**	**104**	*i* P	**Pg**	**00 54 38.6**	**-0.6**
	baz=3.0						
ULHL				*i* S	**Sg**	**00 54 42.6**	**-0.9**
	baz=3.0						
KZA	**Kyzart**	**0.50**	**241**	⇓P	**Pb**	**00 54 43.3**	**-0.6**
	11nm,0.1s,SNR=9.8						
KZA				⇓S	**Sb**	**00 54 50.8**	**-0.6**
	47nm,0.2s						
KZA	**Kyzart**	**0.50**	**241**	⇑*i*P	**Pb**	**00 54 43.3**	**-0.6**
	baz=44						
KZA				⇑*i*S	**Sb**	**00 54 50.6**	**-0.8**
	baz=44						
TKM2	**Tokmak 2**	**0.62**	**343**	P	**Pg**	**00 54 45.3**	**+0.2**
	17nm,0.1s,SNR=175						
TKM2				⇓S	**Sb**	**00 54 54.5**	**-0.3**
	276nm,0.1s						
TKM2	**Tokmak 2**	**0.62**	**343**	⇑P	**Pg**	**00 54 45.2**	**+0.1**
	5.1nm,0.2s						
TKM2				⇓S	**Sg**	**00 54 54.0**	**+0.7**
	35nm,0.3s						
TKM2	**Tokmak 2**	**0.62**	**343**	⇑*i*P	**Pg**	**00 54 45.3**	**+0.2**
	baz=41						
TKM2				⇑*i*S	**Sb**	**00 54 54.4**	**-0.3**
	baz=41						
KST	**Kastek**	**0.73**	**7**	P	**Pg**	**00 54 47.0**	**0.0**
	14nm,0.1s						
KST				S	**Sb**	**00 54 57.1**	**-0.4**
	222nm,0.3s						
KST	**Kastek**	**0.73**	**7**	*e*P	**Pg**	**00 54 47.0**	**0.0**
	baz=5.0						
KST				*e*S	**Sb**	**00 54 57.2**	**-0.4**
	baz=5.0						
KST	**Kastek**	**0.73**	**7**	*e*P	**Pg**	**00 54 47.0**	**0.0**
	14nm,0.1s						
KST				*e*S	**Sb**	**00 54 57.1**	**-0.4**
	222nm,0.3s						
KBK	**Karagaybulak**	**0.74**	**297**	⇑P	**Pb**	**00 54 47.8**	**-0.1**
	9.5nm,0.1s,SNR=7.1						
KBK				⇓S	**Sb**	**00 54 58.5**	**+0.5**
	30nm,0.1s						
KBK	**Karagaybulak**	**0.74**	**297**	⇑*i*P	**Pb**	**00 54 47.7**	**-0.1**
	baz=97						
KBK				⇑*i*S	**Sb**	**00 54 58.4**	**+0.4**
	baz=97						
NRN	**Naryn**	**0.90**	**172**	⇑*i*P	**Pb**	**00 54 49.8**	**-0.8**
	baz=76						
NRN				⇑*i*S	**Sb**	**00 55 01.7**	**-0.9**
	baz=76						
IZV	**Izvestkoviy**	**0.91**	**38**	P	**Pb**	**00 54 50.2**	**-0.6**
	104nm,0.1s						
IZV				S	**Sg**	**00 55 02.7**	**+0.2**
	87nm,0.3s						
IZV	**Izvestkoviy**	**0.91**	**38**	*e*P	**Pb**	**00 54 50.2**	**-0.6**
	baz=36						
IZV				*e*S	**Sg**	**00 55 02.7**	**+0.2**
	baz=36						
IZV	**Izvestkoviy**	**0.91**	**38**	*e*P	**Pb**	**00 54 50.2**	**-0.6**
	104nm,0.1s						
IZV				*e*S	**Sg**	**00 55 02.7**	**+0.2**
	87nm,0.3s						
MTBS	**Maitube**	**0.92**	**28**	P	**Pb**	**00 54 50.1**	**-0.7**
	7.7nm,0.2s						
MTBS				S	**Sg**	**00 55 02.6**	**0.0**
	109nm,0.2s						
MTBS	**Maitube**	**0.92**	**28**	*e*P	**Pb**	**00 54 50.1**	**-0.7**
	baz=26						
MTBS				*e*S	**Sg**	**00 55 02.6**	**0.0**
	baz=26						
MTBS	**Maitube**	**0.92**	**28**	*e*P	**Pb**	**00 54 50.1**	**-0.7**
	7.7nm,0.2s						
MTBS				*e*S	**Sg**	**00 55 02.6**	**0.0**
	109nm,0.2s						
DGS	**Degeres**	**0.92**	**357**	*e*P	**Pb**	**00 54 46.6**	**-4.3**
	5.4nm,0.1s						
DGS				*e*S	**Sb**	**00 54 58.4**	**-4.7**
	53nm,0.1s						
UCH	**Uchtor**	**0.99**	**265**	⇑P	**Pb**	**00 54 51.9**	**-0.4**
	1.3nm,0.2s,SNR=8.6						
UCH				⇓S	**Sg**	**00 55 05.8**	**+0.9**
	5.1nm,0.1s						
UCH	**Uchtor**	**0.99**	**265**	⇑*i*P	**Pb**	**00 54 51.9**	**-0.4**
	baz=66						
UCH				⇑*i*S	**Sg**	**00 55 05.8**	**+0.9**
	baz=66						
KDJ	**Kajisay**	**1.01**	**101**	⇑*i*P	**Pb**	**00 54 51.6**	**-0.9**
	baz=0.0						
KDJ				⇑*i*S	**Sg**	**00 55 05.2**	**-0.4**
	baz=0.0						
AAK	**Ala-Archa**	**1.04**	**288**	⇑P	**Pb**	**00 54 52.8**	**-0.3**
	3.9nm,0.2s,SNR=11						
AAK				⇑S	**Sg**	**00 55 07.0**	**+0.4**
	8.9nm,0.2s						
AAK	**Ala-Archa**	**1.04**	**288**	⇑P	**Pb**	**00 54 52.7**	**-0.3**
	0.9nm,0.3s						
AAK				⇓S	**Sb**	**00 55 06.7**	**-0.1**
	5.2nm,0.5s						
AAK	**Ala-Archa**	**1.04**	**288**	⇑*i*P	**Pb**	**00 54 52.8**	**-0.3**
	baz=88						
AAK				⇑*i*S	**Sg**	**00 55 07.5**	**+0.9**
	baz=88						
CHMS	**Chumysh**	**1.05**	**310**	⇑*i*P	**Pb**	**00 54 52.7**	**-0.3**
	baz=10.0						
CHMS				⇑*i*S	**Sn**	**00 55 07.7**	**-0.4**
	baz=10.0						
TNSS	**Tian-Shan**	**1.08**	**48**	P	**Pb**	**00 54 52.9**	**-1.0**
	6.7nm,0.2s						
TNSS				S	**Sg**	**00 55 07.6**	**-0.4**
	25nm,0.2s						
TNSS	**Tian-Shan**	**1.08**	**48**	*e*P	**Pb**	**00 54 52.9**	**-1.0**
	baz=47						
TNSS				*e*S	**Sg**	**00 55 07.6**	**-0.4**
	baz=47						
TNSS	**Tian-Shan**	**1.08**	**48**	*e*P	**Pb**	**00 54 52.9**	**-1.0**
	6.7nm,0.2s						
TNSS				*e*S	**Sg**	**00 55 07.6**	**-0.4**
	25nm,0.2s						
KNDC	**Almaty**	**1.22**	**42**	⇓P	**Pb**	**00 54 55.7**	**-0.2**
	11nm,0.6s						
KNDC				⇑S	**Sg**	**00 55 12.4**	**+0.3**
	14nm,0.3s						
MDOK	**Medeo**	**1.22**	**46**	⇑P	**Pn**	**00 54 55.3**	**-0.7**
	3.7nm,0.4s						
MDOK				S	**Sn**	**00 55 11.4**	**-1.2**
	15nm,0.6s						
MDOK	**Medeo**	**1.22**	**46**	Pg	**Pn**	**00 54 55.3**	**-0.7**
	8.4nm,0.3s						
MDOK				Lg	Lg	00 55 11.4	
	18nm,0.4s						
MDOK	**Medeo**	**1.22**	**46**	*e*P	**Pn**	**00 54 55.3**	**-0.7**
	baz=45						
MDOK				*e*S	**Sn**	**00 55 11.5**	**-1.2**
	baz=45						
MDOK	**Medeo**	**1.22**	**46**	*e*P	**Pn**	**00 54 55.3**	**-0.7**
	8.4nm,0.3s						
MDOK				*e*S	**Sn**	**00 55 11.4**	**-1.2**
	18nm,0.4s						
KOTS	**Kotyrbulak**	**1.31**	**45**	P	**Pb**	**00 54 57.0**	**-0.5**
	20nm,0.3s						
KOTS				S	**Sg**	**00 55 14.4**	**-0.6**
	37nm,0.4s						
KOTS	**Kotyrbulak**	**1.31**	**45**	*e*P	**Pb**	**00 54 57.0**	**-0.5**
	baz=44						
KOTS				*e*S	**Sg**	**00 55 14.4**	**-0.6**
	baz=44						
KOTS	**Kotyrbulak**	**1.31**	**45**	*e*P	**Pb**	**00 54 57.0**	**-0.5**
	20nm,0.3s						
KOTS				*e*S	**Sg**	**00 55 14.4**	**-0.6**
	37nm,0.4s						
USP	**Ospenovka**	**1.36**	**314**	⇑P	**Pb**	**00 54 58.8**	**+0.4**
	2.7nm,0.1s,SNR=6.9						
USP	**Ospenovka**	**1.36**	**314**	⇑*i*P	**Pb**	**00 54 58.8**	**+0.4**
	baz=14						
USP				⇑*i*S	**Sg**	**00 55 17.2**	**+0.3**
	baz=14						
SGDS	**Sogindy**	**1.44**	**322**	P	**Pb**	**00 54 59.6**	**0.0**
	4.8nm,0.1s						
SGDS				S	**Sg**	**00 55 19.0**	**-0.2**
	13nm,0.1s						
KTBS	**Karatobe**	**1.52**	**24**	P	**Pb**	**00 55 00.8**	**-0.3**
	6.5nm,0.1s						
KTBS				S	**Sb**	**00 55 20.8**	**+0.5**
	15nm,0.2s						
KTBS	**Karatobe**	**1.52**	**24**	*e*P	**Pb**	**00 55 00.8**	**-0.3**
	6.5nm,0.1s						
KTBS				*e*S	**Sb**	**00 55 20.8**	**+0.5**
	15nm,0.2s						
EKS2	**Erkin-Say**	**1.56**	**283**	⇑*i*P	**Pb**	**00 55 02.2**	**+0.4**
	baz=83						
EKS2				⇑*i*S	**Sg**	**00 55 23.5**	**+0.3**
	baz=83						
AML	**Almayashu**	**1.60**	**264**	⇑*i*P	**Pg**	**00 55 03.2**	**-0.5**
	baz=64						
AML				⇑*i*S	**Sg**	**00 55 24.8**	**+0.2**
	baz=64						
KUU	**Kurty**	**1.61**	**13**	P	**Pb**	**00 55 02.7**	**+0.1**
	3.2nm,0.1s						
KUU				S	**Sg**	**00 55 24.1**	**-0.6**
	27nm,0.2s						
KUU	**Kurty**	**1.61**	**13**	*e*P	**Pb**	**00 55 02.7**	**+0.1**
	baz=12						
KUU				*e*S	**Sg**	**00 55 24.1**	**-0.6**
	baz=12						
KUU	**Kurty**	**1.61**	**13**	*e*P	**Pb**	**00 55 02.7**	**+0.1**
	3.2nm,0.1s						
KUU				*e*S	**Sg**	**00 55 24.1**	**-0.6**
	27nm,0.2s						
MRKS	**Merke**	**1.98**	**283**	Pg	**Pb**	**00 55 09.7**	**+0.9**
	3.6nm,0.2s						
MRKS				Lg	Lg	00 55 36.2	
	5.8nm,0.2s						
MRKS	**Merke**	**1.98**	**283**	*e*P	**Pb**	**00 55 09.8**	**+0.9**
	baz=83						
MRKS				*e*S	**Sg**	**00 55 36.3**	**-0.2**
	baz=83						
MRKS	**Merke**	**1.98**	**283**	*e*P	**Pb**	**00 55 09.8**	**+0.9**
	3.6nm,0.2s						
MRKS				*e*S	**Sg**	**00 55 36.2**	**-0.2**
	5.8nm,0.2s						
KURS	**Kuram**	**2.07**	**55**	Pg	**Pb**	**00 55 10.6**	**+0.1**
	5.8nm,0.4s						
KURS				Lg	Lg	00 55 37.6	
	15nm,0.6s						
KURS	**Kuram**	**2.07**	**55**	*e*P	**Pb**	**00 55 10.6**	**+0.1**
	baz=54						
KURS				*e*S	**Sg**	**00 55 37.7**	**-1.7**
	baz=54						
KURS	**Kuram**	**2.07**	**55**	*e*P	**Pb**	**00 55 10.6**	**+0.1**
	5.8nm,0.4s						
KURS				*e*S	**Sg**	**00 55 37.6**	**-1.7**
	15nm,0.6s						
ARXS	**Arharly**	**2.38**	**37**	Pg	**Pb**	**00 55 15.1**	**-0.7**
	6.6nm,0.3s						
ARXS				Lg	Lg	00 55 46.1	
	17nm,0.2s						
ARXS	**Arharly**	**2.38**	**37**	*e*P	**Pb**	**00 55 15.1**	**-0.7**
	6.6nm,0.3s						
ARXS				*e*S	**Sb**	**00 55 46.1**	**+0.9**
	17nm,0.2s						
UZB	**Uzynbulak**	**2.48**	**70**	Pg	**Pb**	**00 55 17.1**	**-0.5**
	1.8nm,0.2s						
UZB				Lg	Lg	00 55 49.2	
	11nm,0.4s						
UZB	**Uzynbulak**	**2.48**	**70**	*e*P	**Pb**	**00 55 17.1**	**-0.5**
	1.8nm,0.2s						
UZB				*e*S	**Sb**	**00 55 49.2**	**+1.0**
	11nm,0.4s						
MNBS	**Baschi**	**2.57**	**46**	Pg	**Pb**	**00 55 18.5**	**-0.4**
	2.7nm,0.3s						
MNBS				Lg	Lg	00 55 51.8	
	7.5nm,0.3s						
MNBS	**Baschi**	**2.57**	**46**	*e*P	**Pb**	**00 55 18.5**	**-0.4**
	2.7nm,0.3s						
MNBS				*e*S	**Sb**	**00 55 51.8**	**+1.2**
	7.5nm,0.3s						
SHLS	**Shalkode**	**2.79**	**71**	Pg	**Pg**	**00 55 28.8**	**+2.3**
	2.1nm,0.1s						
SHLS				Lg	Lg	00 56 09.0	
	8.9nm,0.4s						
SHLS	**Shalkode**	**2.79**	**71**	*e*P	**Pg**	**00 55 28.8**	**+2.3**
	2.1nm,0.1s						
SHLS				*e*S	**Sg**	**00 56 08.9**	**+6.3**
	8.9nm,0.4s						
PDGK	**Podgornoye**	**2.87**	**68**	⇓Pg	**Pb**	**00 55 23.8**	**-0.2**
	1.1nm,0.4s						
PDGK				⇓Lg	Lg	00 56 00.2	
	4.0nm,0.5s						
DJR	**Jarkent**	**3.51**	**54**	Pg	**Pb**	**00 55 35.4**	**+0.3**
	0.4nm,0.1s						
DJR				Lg	Lg	00 56 20.1	
	2.5nm,0.5s						
DJR	**Jarkent**	**3.51**	**54**	*e*P	**Pb**	**00 55 35.4**	**+0.3**
	0.4nm,0.1s						
DJR				*e*S	**Sb**	**00 56 20.1**	**+2.4**
	2.5nm,0.5s						
KAPS	**Kapalarasan**	**3.91**	**39**	*e*P	**Pb**	**00 55 42.5**	**+0.8**
	2.5nm,0.4s						
KAPS				*e*S	**Sb**	**00 56 32.4**	**+3.4**
	3.0nm,0.4s						
KK31	**Karatay Array**	**4.00**	**283**	Pg	**Pb**	**00 55 45.1**	**+1.7**
	0.4nm,0.6s,baz=96,slow=17,SNR=6.5						
KK31				⇓Lg	Lg	00 56 38.3	
	0.4nm,0.3s,baz=98,slow=29,SNR=5.1						
MK31	**Makanchi Array**	**6.42**	**44**	⇑Pn	**Pn**	**00 56 07.7**	**+0.4**
	0.3nm,0.6s,baz=219,slow=14,SNR=6.7						
MK31				⇓Lg	Lg	00 57 55.4	
	0.4nm,0.6s						

*IDC **04** 01:07:07.1±2.2, 6°.15S×103°.73E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/38, mbtmp3.9/7, ML3.9/1, MS3.6/2, Ms1 3.6/2, ms1mx2.7/43, Error ellipse: s-maj=85.2km s-min=20.4km az=52.0*
*ISCJB **04** 01:07:13.6±0.8, 5°.57S±0°.06×104°.68E±0°.06, h25km±7km, mb3.8/6, MS3.6/1, Error ellipse: s-maj=11.2km s-min=7.6km az=42.8*
*DJA **04** 01:07:14.3±0.3, 5°.3S±3°×10°.5E±°, h10km, M4.0/13, MLv4.0/13*
ISC 04 01:07:13.0±1.5, 5°.42S±0°.05×104°.67E±0°.05, h13km±10km, n23, σ1s 25/24, mb3.7/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.20**	**240**	Pg	**Pb**	**01 07 18.3**	**-0.2**
BLSI	**Bandar Lampung**	**0.58**	**85**	Pg	**Pg**	**01 07 23.7**	**-0.6**
KLI	**Kotabumi**	**0.59**	**19**	Pg	**Pn**	**01 07 27.1**	**0.0**
KLI				S	**Sn**	**01 07 36.9**	**+0.4**
LWLI	**Liwa**	**0.73**	**304**	Pg	**Pn**	**01 07 30.7**	**+1.6**
MDSI	**Maura Dua**	**1.05**	**332**	Pg	**Pn**	**01 07 35.3**	**+1.8**
LHSI	**Lahat**	**1.95**	**324**	P	**Pb**	**01 07 47.9**	**-0.6**
MNAI	**Manna**	**2.01**	**302**	Pn	**Pb**	**01 07 48.7**	**-0.7**
TNG	**Tangerang**	**2.10**	**111**	P	**Pn**	**01 07 48.7**	**+0.8**
TNG				S	**Sn**	**01 08 15.9**	**+1.9**
PMBI	**Palembang**	**2.48**	**2**	P	**Pb**	**01 07 56.3**	**-1.2**
LEM	**Lembang**	**3.25**	**116**	P	**Pn**	**01 08 03.9**	**+0.1**
LEM	**Lembang**	**3.25**	**116**	Pn	**Pb**	**01 08 10.9**	**+0.2**
	9.1nm,0.3s,baz=307,slow=20,SNR=6.6						
LEM				Sn	**Sg**	**01 08 59.0**	**+1.6**
	3.7nm,0.3s,baz=241,slow=18,SNR=3.8						
PPBI	**Pangkal Pinang**	**3.56**	**24**	P	**Pn**	**01 08 10.8**	**+2.9**
CISI	**Cisompet, Garu**	**3.78**	**124**	P	**Pn**	**01 08 12.2**	**+1.2**
KPJI	**Karang Pucung**	**4.64**	**114**	P	**Pn**	**01 08 23.3**	**+0.4**
BATI	**Baumata**	**19.41**	**105**	LR	LR	01 19 53.0	
	comp=Z,218nm,19.8s,baz=54,slow=38						
FITZ	**Fitzroy Crossi**	**24.05**	**123**	P	**P**	**01 12 27.0**	**-1.2**
	1.6nm,0.6s,baz=318,slow=9.5,SNR=3.9						
WRA	**Warramunga Arr**	**32.26**	**119**	P	**P**	**01 13 40.5**	**-1.1**
	0.5nm,0.7s,baz=288,slow=12,SNR=6.9						
ASAR	**Alice Springs**	**33.48**	**126**	P	**P**	**01 13 51.6**	**-0.8**
	5.7nm,0.3s,baz=297,slow=8.4,SNR=10						
STKA	**Stephens Creek**	**43.41**	**132**	P	**P**	**01 15 14.6**	**-1.1**
	2.5nm,0.5s,baz=306,slow=8.1,SNR=8.5						
SONM	**Songino Array**	**53.05**	**1**	P	**P**	**01 16 30.8**	**+0.8**
	0.6nm,0.8s,baz=201,slow=7.9,SNR=4.4						
MKAR	**Makanchi Array**	**55.65**	**342**	P	**P**	**01 16 47.9**	**-0.9**
	0.2nm,0.6s,baz=154,slow=9.7,SNR=4.9						
KVAR	**Kislovodsk Ar**	**74.16**	**318**	LR	LR	01 54 53.9	
	comp=Z,31nm,18.1s,baz=104,slow=39						
TXAR	**Lajitas Array**	**144.19**	**45**	PKPbc	**PKPab**	**01 26 48.0**	**+0.7**
	0.3nm,0.6s,baz=278,slow=1.3,SNR=5.2						

*ISK **04** 01:19:19.6, 39°.03N×29°.93E, h2km, ML2.4/13*
*DDA **04** 01:19:19.8, 39°.06N×29°.92E, h7km±3km, ML2.6*
*ISCJB **04** 01:19:20.6±0.5, 39°.04N±0°.03×29°.94E±0°.02, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.2km az=11.0*
ISC 04 01:19:20.3±1.1, 39°.03N±0°.03×29°.95E±0°.02, h7km±10km, n24, σ0s 93/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFYO	**Afyonkarahisar**	**0.36**	**131**	*i* P	**Pg**	**01 19 27.9**	**+0.4**
AFYO				*i* S	**Sb**	**01 19 34.9**	**-0.3**
AFYO				IAML_P			
	comp=Z,3μm,0.2s						
GDZ	**Gediz**	**0.37**	**280**	*i* P	**Pg**	**01 19 27.9**	**+0.3**
GDZ				*i* S	**Sg**	**01 19 33.0**	**+0.6**
GEDZ	**Gediz**	**0.42**	**272**	PG	**Pg**	**01 19 28.3**	**-0.2**
GEDZ				SG	**Sg**	**01 19 34.9**	**+0.9**
AUKIR	**Kırka- Seyitga**	**0.52**	**61**	*i* P	**Pg**	**01 19 30.1**	**-0.2**
AUKIR				*i* S	**Sb**	**01 19 39.0**	**-0.6**
SHAP	**Saphane-Kutahy**	**0.56**	**270**	PG	**Pg**	**01 19 31.2**	**-0.1**
TVSB	**Tavsanli**	**0.56**	**318**	PG	**Pg**	**01 19 31.5**	**+0.2**
SHUT	**Suhut-Afyon**	**0.67**	**135**	PG	**Pg**	**01 19 33.7**	**+0.4**
SHUT				SG	**Sb**	**01 19 43.9**	**0.0**
KHAL	**Karahalli**	**0.75**	**209**	*i* P	**Pg**	**01 19 35.0**	**+0.3**
KHAL				*i* S	**Sb**	**01 19 45.8**	**-0.4**
KHAL				IAML_P			
	comp=Z,439nm,0.1s						
KZIL	**AFYON_Kizioren**	**0.79**	**169**	*i* P	**Pb**	**01 19 36.5**	**+0.1**
KZIL				*i

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**53.19**	**5**	P	P	01 37 11.1	-0.2
	0.6nm,0.9s,baz=183,slow=7.2,SNR=3.8						
MKAR	**Makanchi Array**	**54.21**	**345**	P	P	01 37 18.5	-0.2
	0.5nm,0.8s,baz=159,slow=6.2,SNR=4.8						
KURBB	**Kurchatov Arra**	**58.72**	**344**	P	P	01 37 50.7	0.0
	0.2nm,0.6s,baz=163,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**60.40**	**350**	P	P	01 38 02.5	+0.2
	1.0nm,0.7s,baz=165,slow=6.2,SNR=5.4						
BVAR	**Borovoye Array**	**63.29**	**340**	P	P	01 38 21.7	-0.1
	0.2nm,0.4s,baz=134,slow=4.2,SNR=2.3						
TXAR	**Lajitas Array**	**147.18**	**40**	PKPbc	PKPbc	01 47 36.5	-0.8
	0.5nm,0.8s,baz=211,slow=1.5,SNR=5.6						

*IDC **04** 01:35:58.7±2.1,6.44S×103.60E,h0km,mb4.0/4, mb1 4.2/5,mb1mx3.6/55,mbtmp4.0/5,ML3.8/1,MS3.2/3, Ms1 3.2/3,ms1mx2.8/41,Error ellipse: s-maj=65.7km s-min=37.8km az=26.0*

*ISCJB **04** 01:36:03.5±0.6,5.63S±0.05×104.76E±0.04,h10km, mb3.9/4,MS3.0/1,Error ellipse: s-maj=7.2km s-min=5.4km az=33.3*

*DJA **04** 01:36:04.7±0.3,6°S±3°×10°E±°,h10km,M4.1/11, MLv4.1/11*

ISC 04 01:36:04.5±0.8,5.54S±0.05×104.75E±0.04,h10km,n20, σ1⁹94/23,mb4.0/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.25**	**274**	P	**Pg**	**01 36 09.4**	**-0.2**
BLSI	**Bandar Lampung**	**0.53**	**71**	P	**Pg**	**01 36 14.5**	**-0.3**
BLSI				S	**Sg**	**01 36 21.8**	**0.0**
KLI	**Kotabumi**	**0.68**	**9**	P	**Pb**	**01 36 18.7**	**+0.2**
KLI				S	**Sb**	**01 36 28.8**	**+0.8**
LWLI	**Liwa**	**0.86**	**307**	P	**Pg**	**01 36 22.0**	**+0.9**
MDSI	**Maura Dua**	**1.19**	**332**	P	**Pn**	**01 36 26.8**	**-0.5**
TNG	**Tangerang**	**1.99**	**108**	P	**Pn**	**01 36 38.1**	**-0.2**
LHSI	**Lahat**	**2.09**	**324**	P	**Pn**	**01 36 40.4**	**+0.7**
MNAI	**Manna**	**2.13**	**303**	P	**Pn**	**01 36 40.9**	**+0.6**
LEM	**Lembang**	**3.13**	**114**	Pn	**Pg**	**01 36 54.3**	**+0.2**
LEM				S	**Pn**	**01 36 53.7**	**-0.4**
LEM	**Lembang**	**3.13**	**114**	Pn	**Pg**	**01 37 03.4**	**-1.1**
	6.7nm,0.3s,baz=322,slow=19,SNR=3.6						
LEM				Sn	**Sg**	**01 37 53.2**	**+8.0**
	6.5nm,0.3s,baz=307,slow=20,SNR=5.0						
LEM				LR	LR	01 38 19.6	
	comp=Z,275nm,20.1s,baz=256,slow=35						
JCJI	**Jatiwangi**	**3.63**	**105**	P	**Pn**	**01 37 01.5**	**+0.7**
PPBI	**Pangkal Pinang**	**3.63**	**23**	P	**Pn**	**01 37 01.1**	**+0.2**
CISI	**Cisompet, Garu**	**3.65**	**123**	P	**Pn**	**01 37 01.1**	**-0.1**
PSI	**Prapat**	**10.12**	**325**	LR	LR	01 42 57.8	
	comp=Z,148nm,20.0s,baz=92,slow=41						
FITZ	**Fitzroy Crossi**	**23.92**	**123**	P	**P**	**01 41 18.1**	**-0.8**
	5.1nm,1.0s,baz=282,slow=7.5,SNR=6.8						
PALK	**Pallekele**	**27.16**	**298**	LR	LR	01 52 01.0	
	comp=Z,40nm,18.5s,baz=116,slow=36						
WRA	**Warramunga Arr**	**32.14**	**119**	P	**P**	**01 42 31.4**	**-1.2**
	0.5nm,0.9s,baz=279,slow=9.6,SNR=7.5						
ASAR	**Alice Springs**	**33.35**	**126**	P	**P**	**01 42 42.5**	**-0.7**
	1.1nm,0.6s,baz=298,slow=8.3,SNR=14						
ASAR				PcP	**PcP**	**01 45 23.7**	**-1.4**
	0.4nm,0.6s,baz=319,slow=2.9,SNR=4.3						
STKA	**Stephens Creek**	**43.28**	**132**	P	**P**	**01 44 05.5**	**-1.1**
	2.9nm,0.6s,baz=305,slow=8.4,SNR=11						
TXAR	**Lajitas Array**	**144.21**	**45**	PKPbc	**PKPab**	**01 55 38.7**	**-0.7**
	0.2nm,0.6s,baz=308,slow=1.5,SNR=5.2						

*NORS **04** 01:38:15.8±0.0,42.56N×45.45E,h13km,MPVA4.0*
*MOS **04** 01:38:15.3±0.0,42.57N×45.43E,h10km,MPVA4.0*
*DRS **04** 01:38:16.9±0.0,42.58N×45.42E,h12km*
*TIF **04** 01:38:18.7,42.58N×45.28E,h15km±2km*

ISC 04 01:38:17.6±1.0,42.57N±0.02×45.41E±0.01,h15km±8km, n42,σ1⁰32/82,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.60**	**81**	*e*Pg	**Pb**	**01 38 29.3**	**-0.5**
BTLR				*e*Sg	**Sb**	**01 38 37.5**	**-0.7**
DVE	**Vedeno**	**0.65**	**54**	*i* Pg	**Pg**	**01 38 29.5**	**-0.9**
DVE				*e*Sg	**Sb**	**01 38 38.6**	**-0.9**
GROC	**Groznyy**	**0.69**	**24**	*i* Pg	**Pb**	**01 38 31.2**	**-0.1**
GROC				*e*Sg	**Sn**	**01 38 41.9**	**-1.3**
GUDG	**Gudauri**	**0.70**	**261**	P	**Pb**	**01 38 31.1**	**-0.5**
GUDG				S	**Sg**	**01 38 40.0**	**-0.7**
VLKR	**Vladikavkaz**	**0.72**	**311**	*e*Pg	**Pb**	**01 38 31.4**	**-0.5**
VLKR				*e*Sg	**Sb**	**01 38 41.7**	**+0.2**
SEAG	**Tbilisi Sea**	**0.93**	**210**	P	**Pn**	**01 38 36.6**	**+0.5**
SEAG				S	**Sn**	**01 38 49.0**	**-0.2**
XNZR	**Khunzakh**	**0.95**	**92**	*e*Pg	**Pb**	**01 38 35.5**	**-0.4**
XNZR				*e*Sg	**Sb**	**01 38 48.6**	**+0.2**
LGD	**Lagodekhi**	**0.96**	**140**	P	**Pg**	**01 38 35.4**	**-0.8**
LGD				S	**Sn**	**01 38 49.1**	**-0.9**
LGD	**Lagodekhi**	**0.96**	**140**	*e*Pg	**Pg**	**01 38 35.4**	**-0.8**
LGD				*e*Sg	**Sn**	**01 38 49.1**	**-0.9**
TBLG	**Delisi**	**0.98**	**211**	P	**Pn**	**01 38 36.3**	**-0.6**
TBLG				S	**Sn**	**01 38 50.6**	**+0.2**
TBLG	**Delisi**	**0.98**	**211**	*e*Pg	**Pn**	**01 38 36.3**	**-0.6**
TBLG				*e*Sg	**Sn**	**01 38 50.6**	**+0.2**
BTNK	**Botanikuri**	**1.00**	**207**	P	**Pn**	**01 38 36.8**	**-0.3**
BTNK				S	**Sn**	**01 38 51.6**	**+0.6**
BTKR	**Batakoyurt**	**1.02**	**322**	*i* Pg	**Pn**	**01 38 37.8**	**+0.3**
BTKR				*e*Sg	**Sn**	**01 38 54.7**	**+3.2**
ARNR	**Ardon**	**1.03**	**306**	*i* Pg	**Pn**	**01 38 37.3**	**-0.1**
ARNR				*e*Sg	**Sn**	**01 38 52.7**	**+1.1**
UNCR	**Uncukul**	**1.03**	**82**	*e*Pg	**Pn**	**01 38 37.0**	**-0.5**
UNCR				*e*Sg	**Sg**	**01 38 50.5**	**-0.4**
KORR	**Kora**	**1.11**	**298**	*i* Pg	**Pg**	**01 38 38.6**	**-0.6**
KORR				*e*Sg	**Sn**	**01 38 55.0**	**+1.2**
KRNR	**Karanay**	**1.13**	**77**	*e*Pg	**Pb**	**01 38 38.0**	**-0.9**
KRNR				*e*Sg	**Sn**	**01 38 53.5**	**-0.7**
DBC	**Dubki**	**1.13**	**66**	*e*Pg	**Pn**	**01 38 38.5**	**-0.5**
DBC				*e*Sg	**Sn**	**01 38 56.2**	**+1.9**
ZEI	**Tsey**	**1.14**	**281**	*e*Pg	**Pb**	**01 38 37.2**	**-1.8**
ZEI				*e*Sg	**Sb**	**01 38 51.6**	**-2.1**
GNBR	**Gunib**	**1.16**	**99**	*i* Pg	**Pg**	**01 38 39.2**	**-0.8**
GNBR				*e*Sg	**Sn**	**01 38 55.5**	**+0.6**
ARKR	**Arakani**	**1.17**	**88**	*e*Pg	**Pg**	**01 38 39.5**	**-0.6**
ARKR				*i* Sg	**Sn**	**01 38 55.5**	**+0.4**
DDFL	**Dedoflistskaro**	**1.24**	**155**	P	**Pg**	**01 38 43.6**	**+2.0**
DDFL				S	**Sg**	**01 39 04.8**	**+7.1**
TRKR	**Terskaya**	**1.25**	**337**	*i* Pg	**Pg**	**01 38 41.1**	**-0.7**
TRKR				*e*Sg	**Sg**	**01 38 59.8**	**+1.7**
STDR	**Stavd-Durt**	**1.27**	**309**	*e*Pg	**Pg**	**01 38 41.8**	**-0.3**
STDR				*e*Sg	**Sg**	**01 39 00.9**	**+2.3**
BUJR	**Buynaksk**	**1.27**	**78**	*e*Pg	**Pg**	**01 38 42.0**	**-0.1**
BUJR				*e*Sg	**Sg**	**01 39 01.0**	**+2.2**
KMKR	**Kumukh**	**1.32**	**109**	*e*Pg	**Pg**	**01 38 42.0**	**-1.1**
KMKR				*e*Sg	**Sn**	**01 38 59.0**	**-0.2**
LSNR	**Lesken**	**1.36**	**302**	*e*Pg	**Pg**	**01 38 43.0**	**-0.8**
LSNR				*e*Sg	**Sg**	**01 39 02.4**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.39**	**284**	*e*Pg	**Pn**	**01 38 41.9**	**-0.7**
DIGR				*e*Sg	**Sn**	**01 38 59.7**	**-1.1**
KZRT	**Kazreti**	**1.41**	**213**	P	**Pb**	**01 38 43.4**	**-0.1**
KZRT				S	**Sg**	**01 39 02.0**	**-1.0**
TRLG	**Trialeti**	**1.42**	**224**	P	**Pg**	**01 38 44.0**	**-1.0**
TRLG				S	**Sg**	**01 39 03.2**	**-0.3**
PRTR	**Priterechnaya**	**1.44**	**325**	*i* Pg	**Pb**	**01 38 43.8**	**-0.3**
PRTR				*e*Sg	**Sg**	**01 39 04.0**	**0.0**
MAK	**Makhachkala**	**1.59**	**75**	*e*Pg	**Pn**	**01 38 45.0**	**-0.2**
MAK				*e*Sg	**Sg**	**01 39 10.1**	**+1.3**
URKR	**Urkarakh**	**1.69**	**103**	*e*Pg	**Pg**	**01 38 49.4**	**-0.8**
URKR				*e*Sg	**Sg**	**01 39 13.0**	**+0.8**
BGD	**Bogdanovka**	**1.88**	**227**	P	**Pb**	**01 38 51.6**	**-0.2**
BGD				S	**Sb**	**01 39 14.7**	**-0.5**
KBTC	**Kuba-Taba**	**1.92**	**311**	*e*Pg	**Pb**	**01 38 51.3**	**-1.1**
KBTC				*e*Sg	**Sg**	**01 39 18.2**	**-1.3**
AKT	**Akhty**	**2.04**	**122**	*e*Pg	**Pb**	**01 38 54.4**	**0.0**
AKT				*e*Sg	**Sg**	**01 39 22.0**	**-1.3**
PYA1	**Pyatigorsk**	**2.25**	**312**	*e*Pn	**Pn**	**01 38 54.3**	**-0.1**
PYA1				*e*Sn	**Sn**	**01 39 22.4**	**+0.6**
SHA1	**Shidzhatmaz**	**2.33**	**301**	*e*Pn	**Pn**	**01 38 56.1**	**+0.5**
KIV0	**Kislovodsk Arr**	**2.42**	**306**	*e*Pn	**Pn**	**01 38 57.6**	**+0.9**
KIV0				*e*Sn	**Sb**	**01 39 30.4**	**-0.1**
KIV	**Kislovodsk**	**2.42**	**306**	*e*Pn	**Pn**	**01 38 57.6**	**+0.9**
KIV				*e*Sn	**Sb**	**01 39 31.4**	**+0.7**
GNI	**Garni**	**2.48**	**192**	*e*Pn	**Pb**	**01 39 01.6**	**-0.2**
ARXR	**Arkhyz**	**3.19**	**289**	*e*Pn	**Pn**	**01 39 09.4**	**+2.0**
ARXR				*e*Sn	**Sn**	**01 39 48.3**	**+3.1**

*IDC **04** 01:41:59.6±1.9,36.22N×76.93E,h0km,mb3.7/7, mb1 3.7/11,mb1mx3.5/50,mbtmp3.6/11,ML3.2/4,MS2.7/1, Ms1 2.7/1,ms1mx2.3/37,Error ellipse: s-maj=40.7km s-min=23.0km az=151.0*

*ISCJB **04** 01:42:09.3±1.0,36.56N±0.08×76.9E±0.1,h77km,Error ellipse: s-maj=14.6km s-min=10.9km az=180.0*

*NNC **04** 01:42:14.2±8.1,36.78N×75.72E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=81.6km s-min=54.2km az=108.0*

ISC 04 01:42:11.0±1.3,36.6N±0.1×77.0E±0.1,h77km,n16, σ1⁹80/20,4C-4D,Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.31**	**343**	⇓Pn	**Pn**	**01 43 44.6**	**+3.0**
	2.8nm,0.9s						
AAK				⇑Sn	**Sn**	**01 44 53.2**	**+0.9**
	3.8nm,0.6s						
TKM2	**Tokmak 2**	**6.39**	**351**	⇑Pn	**Pn**	**01 43 46.0**	**+3.3**
	1.0nm,0.5s						
TKM2				⇑Sn	**Sn**	**01 44 55.7**	**+1.4**
	2.4nm,0.7s						
KK31	**Karatay Array**	**8.16**	**325**	⇓Pn	**Pn**	**01 44 06.7**	**+0.1**
	0.4nm,0.3s,baz=154,slow=14,SNR=22						
KK31				⇓Sn	**Sn**	**01 45 33.6**	**-3.6**
	2.3nm,0.6s,baz=151,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**10.93**	**20**	Pn	**Pn**	**01 44 44.1**	**-0.2**
	0.5nm,0.3s,baz=206,slow=13,SNR=37						
MKAR				Sn	**Sn**	**01 46 41.3**	**-3.4**
	0.1nm,0.3s,baz=204,slow=26,SNR=3.6						
KURBB	**Kurchatov Arra**	**14.05**	**4**	Pn	**Pn**	**01 45 25.8**	**-0.5**
	0.0nm,0.3s,baz=196,slow=10,SNR=2.7						
AB31	**Akbulak array**	**17.70**	**321**	⇑Pn	**Pn**	**01 46 13.0**	**+0.8**
	0.4nm,0.4s,baz=128,slow=12,SNR=17						
ZALV	**Zalesovo Beam**	**18.18**	**15**	P	**Pn**	**01 46 18.3**	**+0.4**
	0.1nm,0.3s,baz=297,slow=6.3,SNR=2.6						
AKTO	**Aktyubinsk**	**19.41**	**321**	⇓Pn	**P**	**01 46 31.4**	**+0.6**
	2.7nm,0.8s						
AKTO	**Aktyubinsk**	**19.41**	**321**	P	**P**	**01 46 30.8**	**+0.1**
	0.3nm,0.3s,baz=127,slow=11,SNR=5.0						
AKTO				LR	LR	01 55 27.6	
	comp=Z,21nm,18.6s,baz=42,slow=41						
SONM	**Songino Array**	**24.37**	**53**	P	**P**	**01 47 22.0**	**+0.2**
	0.4nm,0.7s,baz=245,slow=9.2,SNR=2.5						
GNI	**Garni**	**25.43**	**288**	P	**P**	**01 47 29.4**	**-2.2**
	6.4nm,0.8s,baz=346,slow=11,SNR=3.2						
FINES	**FINESS Array B**	**40.12**	**325**	P	**P**	**01 49 39.4**	**+0.6**
	0.7nm,0.4s,baz=116,slow=9.4,SNR=8.8						
ARCES	**ARCESS Array B**	**42.93**	**336**	P	**P**	**01 50 02.0**	**+0.3**
	5.1nm,0.9s,baz=106,slow=8.9,SNR=8.2						
NOA	**NORSAR Array B**	**47.19**	**323**	P	**P**	**01 50 35.6**	**0.0**
	0.6nm,0.9s,baz=87,slow=9.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**70.51**	**272**	P	**P**	**01 53 17.3**	**-0.6**
	0.2nm,0.6s,baz=37,slow=7.0,SNR=4.0						
YKA	**Yellowknife Ar**	**80.80**	**5**	P	**P**	**01 54 16.1**	**+0.4**
	0.1nm,0.6s,baz=342,slow=5.3,SNR=4.1						

*ISCJB **04** 02:13:43.8±0.4,53.03S±0.07×21.6E±0.2,h10km, mb4.0/6,MS3.7/16,Error ellipse: s-maj=16.3km s-min=10.6km az=173.5*

*IDC **04** 02:13:43.8±0.6,53.03S×21.67E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.0/40,mbtmp4.1/15,MS3.7/16, Ms1 3.7/16,ms1mx3.6/24,Error ellipse: s-maj=22.1km s-min=15.2km az=84.0*

*NEIC **04** 02:13:45.0±0.3,53.03S×21.89E,h10km,mb4.2/2,Error ellipse: s-maj=12.1km s-min=10.2km az=85.0*

ISC 04 02:13:45.1±0.5,53.0S±0.1×21.9E±0.1,h10km,n58, σ0⁹99/46,mb4.0/16,MS3.7/16,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**20.39**	**83**	*e*P	**P**	**02 18 18.3**	**-3.5**
SUR	**Sutherland**	**20.65**	**358**	P	**P**	**02 18 25.2**	**+0.3**
	11nm,1.0s,baz=167,slow=13,SNR=3.2						
SUR				LR	LR	02 24 36.2	
	comp=Z,332nm,19.1s,baz=187,slow=32						
SNAA	**Sanae**	**21.62**	**201**	P	**P**	**02 18 35.9**	**+1.0**
	5.4nm,0.8s,baz=69,slow=11,SNR=9.3						
SNAA				LR	LR	02 25 15.7	
	comp=Z,280nm,18.6s,baz=44,slow=32						
MAW	**Mawson**	**24.39**	**142**	LR	LR	02 27 41.7	
	comp=Z,138nm,18.9s,baz=316,slow=34						
BOSA	**Boshof**	**24.52**	**7**	P	**P**	**02 19 04.0**	**-0.7**
	1.2nm,0.6s,baz=195,slow=14,SNR=3.8						
BOSA				LR	LR	02 26 59.2	
	comp=Z,276nm,20.1s,baz=175,slow=32						
LBTB	**Lobatse**	**28.12**	**7**	LR	LR	02 28 35.9	
	comp=Z,299nm,20.3s,baz=182,slow=32						
TSUM	**Tsumeb**	**33.92**	**353**	P	**P**	**02 20 30.0**	**+1.6**
	1.9nm,1.0s,baz=194,slow=12,SNR=3.1						
QSPA	**South Pole Qui**	**37.20**	**180**	P	**P**	**02 20 57.7**	**+1.6**
	13nm,1.0s,baz=239,slow=3.8,SNR=21						
QSPA				LR	LR	02 34 20.6	
	comp=Z,192nm,19.4s,baz=240,slow=33						
PMSA	**Palmer Station**	**42.39**	**219**	LR	LR	02 34 40.6	
	comp=Z,224nm,19.5s,baz=152,slow=30						
VNDA	**Vanda**	**47.37**	**169**	P	**P**	**02 22 19.8**	**+1.2**
	1.2nm,1.0s,baz=237,slow=8.6,SNR=3.8						
VNDA				LR	LR	02 40 48.5	
	comp=Z,141nm,21.6s,baz=216,slow=34						
H10S2	**ASCENSION HYDR**	**52.91**	**313**	T	T	03 20 00.2	
	baz=153,slow=75,SNR=4.3						
H10S3	**ASCENSION HYDR**	**52.93**	**313**	T	T	03 19 56.2	
	baz=153,slow=75,SNR=3.8						
H10S1	**ASCENSION HYDR**	**52.93**	**313**	T	T	03 19 57.8	
	baz=153,slow=75,SNR=4.6						
PLCA	**Paso Flores**	**60.08**	**241**	P	**P**	**02 23 50.5**	**-1.7**
	1.9nm,1.0s,baz=226,slow=8.3,SNR=2.9						
CPUP	**Villa Florida**	**63.04**	**261**	P	**P**	**02 24 10.4**	**-1.9**
	2.2nm,0.9s,baz=135,slow=11,SNR=2.8						
CPUP				LR	LR	02 47 31.9	
	comp=Z,31nm,19.1s,baz=179,slow=32						
DBIC	**Dimbokro**	**63.64**	**330**	LR	LR	02 45 56.8	
	comp=Z,48nm,19.8s,baz=142,slow=30						
BDFB	**Brasilia**	**65.55**	**276**	P	**P**	**02 24 28.8**	**-0.2**
	3.0nm,0.9s,baz=258,slow=2.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**68.15**	**339**	P	**P**	**02 24 46.8**	**+1.6**
	0.8nm,1.1s,baz=177,slow=5.2,SNR=3.0						
TORD				LR	LR	02 49 46.6	
	comp=Z,39nm,19.8s,baz=325,slow=32						
TOA1	**Torodi Ar. Sit**	**68.15**	**339**	*e*P	**P**	**02 24 46.8**	**+1.6**
SIV	**San Ignacio**	**73.16**	**266**	P	**P**	**02 25 15.5**	**-0.4**
	1.4nm,0.9s,baz=130,slow=10,SNR=4.9						
LPAZ	**La Paz**	**77.15**	**260**	LR	LR	02 58 01.7	
	comp=Z,25nm,18.0s,baz=100,slow=34						
STKA	**Stephens Creek**	**80.57**	**132**	P	**P**	**02 25 58.1**	**+0.6**
	0.5nm,0.4s,baz=10,slow=5.1,SNR=3.7						
ASAR	**Alice Springs**	**83.68**	**121**	P	**P**	**02 26 13.8**	**-0.2**
	1.7nm,1.0s,baz=211,slow=5.7,SNR=9.5						
AS31	**Alice Springs**	**83.68**	**121**	*e*P	**P**	**02 26 13.8**	**-0.2**
	1.0nm,1.0s						
AS01	**Alice Springs**	**83.70**	**121**	*e*P	**P**	**02 26 14.8**	**+0.7**
WRA	**Warramunga Arr**	**86.97**	**119**	P	**P**	**02 26 30.6**	**+0.1**
	1.4nm,1.1s,baz=201,slow=3.6,SNR=5.0						
WR1	**Warramunga Arr**	**86.97**	**119**	*e*P	**P**	**02 26 30.6**	**+0.1**
	2.1nm,0.8s						
KEST	**Kesra**	**89.06**	**350**	LR	LR	03 06 22.3	
	comp=Z,68nm,19.1s,baz=238,slow=36						
BR101	**Keskin Array S**	**92.54**	**9**	P	**P**	**02 26 58.6**	**+0.6**
BRTR	**Keskin Array B**	**92.94**	**9**	P	**P**	**02 26 58.6**	**+0.6**
	0.5nm,0.8s,baz=154,slow=7.7,SNR=3.6						
BRTR				LR	LR	03 10 18.3	
	comp=Z,23nm,19.1s,baz=134,slow=36						
GEYT	**Alibeck**	**95.90**	**28**	LR	LR	03 08 26.5	
	comp=Z,14nm,21.8s,baz=325,slow=34						
CMAR	**Chiang Mai Arr**	**97.05**	**69**	LR	LR	03 02 54.7	
	comp=Z,20nm,19.6s,baz=215,slow=30						
SONA	**Songino Array**	**123.38**	**55**	*e*PKPdf	**PKPdf**	**02 32 41.0**	**-0.5**
SONM	**Songino Array**	**123.38**	**53**	PKP	**PKPdf**	**02 32 41.1**	**-0.5**
	0.4nm,0.7s,baz=241,slow=1.3,SNR=3.2						
TXAR	**Lajitas Array**	**134.01**	**261**	PKP	**PKiKP**	**02 33 03.7**	**+0.1**
	0.9nm,1.1s,baz=152,slow=5.5,SNR=4.1						
SRU	**San Rafael Swe**	**144.83**	**266**	*e*PKPdf	**PKPab**	**02 33 19.8**	**-1.0**
KNB	**Kanab**	**144.85**	**261**	*e*PKPdf	**PKPab**	**02 33 19.4**	**-1.6**
FCC	**Fort Churchill**	**144.87**	**305**	*e*PKPdf	PKPbc	02 33 19.9	-0.2
TMUT	**Trail Mountain**	**145.36**	**266**	*e*PKPbc	**PKPbc**	**02 33 21.8**	**-0.9**
MSU	**Marysvale**	**145.44**	**264**	*e*PKPdf	**PKPab**	**02 33 23.6**	**+0.4**
CCUT	**Cedar City**	**145.53**	**262**	*e*PKPdf	**PKPab**	**02 33 23.6**	**+0.1**
SHPR	**Sheep Range**	**145.90**	**258**	*e*PKPdf	**PKPdf**	**02 33 23.8**	**+0.1**
MPU	**Maple Canyon**	**146.06**	**266**	*e*PKPdf	**PKPbc**	**02 33 24.6**	**-0.2**
NLU	**North Lily Min**	**146.29**	**266**	*e*PKPdf	**PKPbc**	**02 33 25.5**	**0.0**
BW06	**Boulder Array**	**146.45**	**272**	*e*PKPdf	**PKPbc**	**02 33 25.2**	**-0.8**
PD31	**Pinedale Array**	**146.45**	**272**	*e*PKPdf	**PKPdf**	**02 33 24.8**	**+0.2**
PDAR	**Pinedale Array**	**146.45**	**272**	PKPbc	**PKPbc**	**02 33 25.2**	**-0.7**
	2.0nm,0.8s,baz=124,slow=5.1,SNR=13						
RES	**Resolute Bay**	**147.20**	**334**	*e*PKPbc	**PKPbc**	**02 33 26.9**	**+0.1**
FXWY	**Fox Creek**	**147.83**	**272**	*e*PKPbc	**PKPbc**	**02 33 28.9**	**-0.8**
ELK	**Elko**	**148.68**	**264**	*e*PKPbc	**PKPbc**	**02 33 31.3**	**-0.7**
NV11	**Mina Array Sit**	**148.96**	**258**	*e*PKPbc	**PKPbc**	**02 33 32.8**	**+0.1**
NV01	**Mina Array Sit**	**149.04**	**258**	*e*PKPbc	**PKiKP**	**02 33 33.6**	**-0.7**
NVAR	**Mina Array Bea**	**149.04**	**258**	PKPbc	**PKPbc**	**02 33 32.6**	**-0.4**
	3.2nm,0.9s,baz=133,slow=4.0,SNR=12						
YERR	**Yerington**	**149.96**	**258**	*e*PKPbc	**PKPbc**	**02 33 34.8**	**-0.4**
MSO	**Missoula**	**151.25**	**276**	*e*PKPbc	**PKPbc**	**02 33 37.7**	**-0.2**
BMO	**Blue Mountains**	**152.28**	**269**	*e*PKPbc	**PKiKP**	**02 33 40.7**	**+0.1**
G08A	**Pilot Rock**	**153.50**	**269**	*e*PKPbc	**PKiKP**	**02 33 44.0**	**+0.8**
YKA	**Yellowknife Ar**	**155.39**	**310**	PKPbc	PKPdf	02 33 45.3	+8.1
	1.0nm,0.9s,baz=82,slow=2.1,SNR=9.6						
YKA				PKPab	**PKPab**	**02 34 02.6**	**-0.3**
	1.1nm,0.7s,baz=93,slow=5.0,SNR=16						

*IDC **04** 02:40:53.9±1.6,11.43S×164.99E,h0km,mb3.7/5, mb1 3.9/6,mb1mx3.7/24,mbtmp3.8/6,ML3.7/1,MS3.2/2, Ms1 3.2/2,ms1mx2.7/27,Error ellipse: s-maj=47.9km s-min=28.0km az=122.0*

*ISCJB **04** 02:40:57.3±1.1,11.6S±0.1×165.0E±0.2,h34km,mb3.6/5, MS3.5/1,Error ellipse: s-maj=30.5km s-min=18.8km az=175.9*

ISC 04 02:40:59.0±1.2,11.5S±0.1×165.0E±0.3,h34km,n8, σ0⁹65/6,mb3.6/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.38**	**292**	LR	LR	02 44 26.7	
	comp=Z,141nm,19.0s,baz=136,slow=40						
DZM	**Mont Dzumac**	**10.60**	**173**	Pn	**Pn**	**02 43 28.9**	**+0.2**
	0.5nm,0.3s,baz=143,slow=20,SNR=4.9						
WRA	**Warramunga Arr**	**30.64**	**250**	P	**P**	**02 47 10.2**	**-0.2**
	0.5nm,0.8s,baz=76,slow=8.0,SNR=8.2						
ASAR	**Alice Springs**	**31.93**	**244**	P	**P**	**02 47 21.4**	**-0.5**
	0.5nm,0.6s,baz=62,slow=11,SNR=5.3						
SONM	**Songino Array**	**78.50**	**324**	P	**P**	**02 52 58.1**	**+0.7**
	0.4nm,0.7s,baz=132,slow=6.0,SNR=3.7						
ILAR	**Eielson Array**	**84.17**	**19**	P	**P**	**02 53 25.8**	**-0.7**
	0.3nm,0.5s,baz=242,slow=4.7,SNR=9.8						
MKAR	**Makanchi Array**	**93.35**	**317**	P	**P**	**02 54 11.0**	**+0.3**
	0.4nm,0.6s,baz=93,slow=6.5,SNR=4.2						
NRIK	**Noril'sk**	**96.29**	**340**	LR	LR	03 41 02.4	
	comp=Z,14nm,18.2s,baz=84,slow=38						

IDC 04 02:45:07.3±3.6,6.68S×154.47E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.3/22,mbtmp3.5/2,MS3.9/1,Ms1 3.9/1, ms1mx2.8/16,Error ellipse: s-maj=131.8km s-min=46.5km az=121.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.57**	**234**	P	P	02 50

ellipse: s-maj=11.7km s-min=0.6km az=138.0
ISC 04 02:55:25.4±0.9,**39°61N**±0″02×**26°05E**±0″02,**h11**km±7km,
n36,σ0**°46**/54,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.23**	**0**	PG	**Pg**	**02 55 29.9**	**-0.4**
BOZC				SG	**Sg**	**02 55 33.9**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**0**	*i* P	**Pg**	**02 55 30.2**	**0.0**
BOZC				*i* S	**Sg**	**02 55 34.2**	**+0.7**
BOZC				IAML_P			
	comp=Z,6μm,0.2s						
EZN	**Ezine**	**0.30**	**44**	PG	**Pg**	**02 55 31.1**	**-0.4**
EZN				SG	**Sg**	**02 55 35.8**	**+0.2**
EZN	**Ezine**	**0.30**	**44**	P	**Pg**	**02 55 31.2**	**-0.3**
EZN				S	**Sg**	**02 55 35.8**	**+0.2**
PRK	**Paraskevi**	**0.40**	**155**	P	**Pb**	**02 55 34.0**	**-0.5**
PRK				S	**Sb**	**02 55 39.9**	**-0.7**
PRK	**Paraskevi**	**0.40**	**155**	P	**Pg**	**02 55 33.8**	**+0.5**
PRK				S	**Sg**	**02 55 39.0**	**+0.4**
PRK				AML	AML	02 55 40.0	
	comp=N,649μm,0.4s						
PRK				AML	AML	02 55 41.3	
	comp=E,704μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.40**	**71**	*i* P	**Pg**	**02 55 33.9**	**+0.4**
BAYC				*i* S	**Sg**	**02 55 38.6**	**-0.2**
BAYC				IAML_P			
	comp=Z,5μm,0.1s						
SIGR	**SIGRI**	**0.42**	**201**	PG	**Pg**	**02 55 33.4**	**-0.4**
SIGR				SG	**Sg**	**02 55 39.6**	**+0.2**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pg**	**02 55 33.4**	**-0.4**
SIGR				S	**Sg**	**02 55 39.5**	**+0.2**
SIGR	**SIGRI**	**0.42**	**201**	P	**Pg**	**02 55 33.4**	**-0.4**
SIGR				S	**Sg**	**02 55 39.3**	**-0.1**
SIGR				AML	AML	02 55 40.7	
	comp=N,359μm,0.3s						
SIGR				AML	AML	02 55 41.1	
	comp=E,412μm,0.2s						
AYVA	**Ayvalik**	**0.58**	**121**	*i* P	**Pg**	**02 55 36.7**	**+0.1**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**02 55 39.4**	**-0.2**
LIA				S	**Sb**	**02 55 50.0**	**-0.1**
LIA	**Limnos Island**	**0.73**	**294**	P	**Pg**	**02 55 39.3**	**-0.2**
LIA				S	**Sg**	**02 55 49.7**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.85**	**22**	PG	**Pg**	**02 55 41.5**	**-0.4**
GELI				SG	**Sb**	**02 55 54.3**	**+0.6**
LPK	**Lapseki**	**0.94**	**35**	PG	**Pg**	**02 55 42.9**	**-0.6**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**02 55 43.3**	**-0.4**
SMTH				S	**Sb**	**02 55 56.7**	**+0.2**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**02 55 42.6**	**-1.1**
ZEDA	**zmir-Bergama**	**1.02**	**129**	*i* P	**Pg**	**02 55 44.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.12**	**18**	PN	**Pg**	**02 55 46.0**	**-0.9**
ENEZ	**Enez**	**1.13**	**4**	PN	**Pg**	**02 55 46.8**	**-0.3**
BALY	**Balya**	**1.22**	**83**	*i* P	**Pg**	**02 55 48.1**	**-0.7**
BALY				*i* S	**Sb**	**02 56 04.6**	**+0.4**
CHOS	**Chios island**	**1.22**	**180**	PN	**Pb**	**02 55 48.4**	**-0.1**
CHOS	**Chios island**	**1.22**	**180**	P	**Pb**	**02 55 48.0**	**-0.5**
KRBG	**Karabiga-Canak**	**1.24**	**50**	PN	**Pb**	**02 55 48.2**	**-0.6**
ALN	**Alexandroupoli**	**1.29**	**360**	PN	**Pn**	**02 55 49.0**	**-0.4**
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pn**	**02 55 49.5**	**+0.1**
ALN				S	**Sn**	**02 56 07.0**	**+0.4**
ALN	**Alexandroupoli**	**1.29**	**360**	P	**Pn**	**02 55 49.0**	**-0.4**
KESN	**Edirne-Kesan**	**1.31**	**21**	*i* P	**Pn**	**02 55 50.1**	**+0.1**
KESN				*i* S	**Sn**	**02 56 08.0**	**+0.4**
KESN				IAML_P			
	comp=Z,375nm,0.1s						
KNL	**Balıkesir**	**1.31**	**59**	*i* P	**Pb**	**02 55 50.1**	**0.0**
KNL				*i* S	**Sn**	**02 56 08.1**	**+0.9**
KNL				IAML_P			
	comp=Z,1μm,0.2s						
GONE	**Gonen-Balikesi**	**1.33**	**70**	PN	**Pn**	**02 55 50.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.38**	**38**	PN	**Pn**	**02 55 50.6**	**-0.1**
BALB	**Balikesir**	**1.41**	**88**	PN	**Pn**	**02 55 51.0**	**-0.1**
EDC	**Edincik**	**1.57**	**61**	PN	**Pn**	**02 55 53.2**	**-0.1**
RDO	**Rodhopi**	**1.59**	**346**	PN	**Pn**	**02 55 53.8**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.67**	**43**	PN	**Pn**	**02 55 54.9**	**+0.5**
OUR	**Ouranopolis**	**1.75**	**295**	PN	**Pn**	**02 55 56.2**	**+0.5**

UCR 04 02:59:12.9±1.5,**9°13N**×**84°12W**,**h13**km±14km,**MD4.1**,
1C-2D,**Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.62**	**11**↓	*eP*	Pg	02 59 24.6	-0.5
LCR2				*eS*	Sb	02 59 34.2	-0.3
SJS	**Escuela Geolog**	**0.81**	**5**	*eP*	Pb	02 59 29.0	0.0
SJS				*eS*	Sb	02 59 39.6	-0.3
HDC	**Heredia**	**0.87**	**1**↓	*eP*	Pg	02 59 28.9	-0.9
HDC				*eS*	Sg	02 59 41.0	-0.2
PTJ1	**Puerto Jimnez**	**1.00**	**126**↑	*eP*	Pb	02 59 30.8	-1.3
JTS	**JuntasAbangare**	**1.42**	**325**	*eP*	Pn	02 59 37.1	-1.3
FORC	**Fortuna**	**1.44**	**338**	*i* P	Pn	02 59 38.0	-0.7
FORC				*i* S	Sb	02 59 57.7	-0.1
ARE1	**Arenal 1**	**1.45**	**336**	*eP*	Pn	02 59 39.0	+0.1
CEDE	**Laguna Cedeo**	**1.47**	**337**	*eP*	Pn	02 59 39.1	-0.1
PLVR	**Palo Verde**	**1.71**	**315**	*eP*	Pn	02 59 42.2	-0.5
ACAL	**Aguas Claras**	**1.75**	**329**	*i* P	Pn	02 59 43.1	+0.1
COLC	**Colonia**	**1.86**	**325**	*i* P	Pn	02 59 44.7	+0.1
MESS	**Mesas**	**1.92**	**327**	*i* P	Pn	02 59 46.0	+0.6
ESPN	**Las Esperanzas**	**3.05**	**357**	*eP*	Pn	03 00 04.0	+3.0
AZU	**Azuero**	**4.03**	**109**	*eP*	Pn	03 00 16.9	+2.5

*DDA **04** 02:59:48.8,39°14N×29°11E,h7km±4km,ML3.6*
*ISK **04** 02:59:48.8,39°13N×29°09E,h2km,ML3.0/33*
ISC 04 02:59:49.2±1.0,**39°14N**±0″02×**29°09E**±0″02,**h8**km±8km,
n43,σ0**°73**/51,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.10**	**243**	PG	**Pg**	**02 59 51.6**	**0.0**
SHAP	**Saphane-Kutahy**	**0.16**	**140**	PG	**Pg**	**02 59 52.7**	**+0.1**
SHAP				SG	**Sg**	**02 59 55.4**	**+0.5**
GEDZ	**Gediz**	**0.27**	**112**	PG	**Pg**	**02 59 54.9**	**+0.3**
TVSB	**Tavsanli**	**0.42**	**43**	PG	**Pg**	**02 59 58.1**	**-0.9**
DST	**Dursunbey**	**0.59**	**322**	PG	**Pg**	**03 00 00.7**	**+0.1**
DURS	**Dursunbey**	**0.66**	**314**	*i* P	**Pb**	**03 00 02.9**	**-0.2**
DURS				IAML_P			
	comp=Z,7μm,0.1s						
KULA	**Kula-Manisa**	**0.71**	**208**	PG	**Pg**	**03 00 02.7**	**-0.3**
MANT	**Manisa**	**0.77**	**213**	*i* P	**Pg**	**03 00 04.2**	**0.0**
MANT				*i* S	**Sb**	**03 00 14.9**	**-0.9**
MANT				IAML_P			
	comp=Z,8μm,0.1s						
KHAL	**Karahalli**	**0.83**	**158**	*i* P	**Pb**	**03 00 05.8**	**-0.2**
KHAL				*i* S	**Sg**	**03 00 16.0**	**-0.1**
KHAL				IAML_P			
	comp=Z,5μm,0.1s						
KHL	**Karahalli**	**0.89**	**157**	PG	**Pb**	**03 00 06.2**	**-0.7**
ORLT	**Orhaneli**	**0.91**	**351**	PG	**Pg**	**03 00 06.9**	**+0.1**
GOMA	**Golmarmara-Man**	**1.01**	**245**	PG	**Pb**	**03 00 09.1**	**+0.1**
AKHS	**Akhisar**	**1.03**	**256**	*i* P	**Pn**	**03 00 09.9**	**0.0**
AKHS				*i* S	**Sn**	**03 00 24.9**	**+0.3**
BALB	**Balikesir**	**1.06**	**298**	PN	**Pn**	**03 00 10.4**	**0.0**
STEP	**BALIKESIR_Sava**	**1.09**	**283**	*i* P	**Pn**	**03 00 11.2**	**+0.3**
STEP				*i* S	**Sn**	**03 00 26.4**	**+0.2**
CAVI	**Cavuskoy**	**1.21**	**29**	PN	**Pn**	**03 00 12.7**	**+0.3**
KZIL	**AFYON_Kizioren**	**1.21**	**137**	*i* P	**Pn**	**03 00 12.4**	**-0.1**
KZIL				*i* S	**Sn**	**03 00 30.1**	**+1.0**
IZI	**Iznik**	**1.23**	**14**	PN	**Pn**	**03 00 13.1**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.23**	**353**	PN	**Pb**	**03 00 12.8**	**0.0**
MDNY				SN	**Sn**	**03 00 31.4**	**+1.8**
KCTX	**Karacabey (Bur**	**1.25**	**333**	PN	**Pg**	**03 00 12.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.28**	**117**	PN	**Pn**	**03 00 13.5**	**-0.1**
BALY	**Balya**	**1.29**	**298**	*i* P	**Pb**	**03 00 14.4**	**+0.7**
BALY				*i* S	**Sn**	**03 00 31.1**	**+0.1**
GEMT	**Gemlik**	**1.29**	**3**	PN	**Pb**	**03 00 14.6**	**+0.8**
GONE	**Gonen-Balikesi**	**1.41**	**310**	PN	**Pg**	**03 00 16.1**	**-0.2**
ARMT	**Armutlu**	**1.43**	**353**	PN	**Pg**	**03 00 16.7**	**0.0**
YLV	**Yalova**	**1.44**	**9**	PN	**Pg**	**03 00 16.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.52**	**219**	PN	**Pb**	**03 00 17.7**	**-0.1**
EDC	**Edincik**	**1.53**	**322**	PN	**Pg**	**03 00 18.1**	**-0.5**
GULT	**Gulveren**	**1.69**	**40**	PN	**Pb**	**03 00 20.4**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.80**	**31**	PN	**Pb**	**03 00 22.1**	**-0.4**
SAUV	**Serdivan-Sakar**	**1.86**	**30**	PN	**Pb**	**03 00 22.7**	**-0.7**
KRBG	**Karabiga-Canak**	**1.86**	**313**	PN	**Pb**	**03 00 22.8**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.91**	**80**	PN	**Pb**	**03 00 23.8**	**-0.6**
KAVV	**Kandilli-Istan**	**1.92**	**359**	PN	**Pb**	**03 00 23.8**	**-0.6**
ISK	**Istanbul-Kandi**	**1.92**	**359**	PN	**Pb**	**03 00 23.8**	**-0.7**
SILT	**Sile**	**2.05**	**12**	PN	**Pb**	**03 00 25.7**	**-1.0**
SBT4	**Kumbag-Tekirda**	**2.06**	**325**	PN	**Pb**	**03 00 25.5**	**-1.3**
MDUB	**Mudurnu**	**2.10**	**50**	PN	**Pb**	**03 00 26.5**	**-1.0**
KLYT	**Kilyos**	**2.11**	**359**	PN	**Pb**	**03 00 26.5**	**-1.2**
RKY	**Sarkoy-Tekirda**	**2.13**	**317**	PN	**Pb**	**03 00 26.8**	**-1.3**
CTKS	**Kestanelik-??a**	**2.14**	**348**	PN	**Pb**	**03 00 26.8**	**-1.4**
SLVT	**Silivri**	**2.19**	**342**	PN	**Pb**	**03 00 27.9**	**-1.2**
CTYL	**Yalikoy Yolu**	**2.41**	**346**	PN	**Pn**	**03 00 30.7**	**+1.8**

IDC 04 03:16:02.6±7.7,**17°52N**×**95°64E**,**h109**km±83km,**mb3.5**/2,
mb1 3.5/3,**mb1mx3.0**/45,**mbtmp3.8**/3,**ML4.0**/1,**Error**
ellipse: s-maj=70.8km s-min=44.4km az=77.0,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.28**	**73**	P	Pn	03 16 52.1	-0.1
	4.1nm,0.3s,baz=254,slow=15,SNR=21						
CMAR				S	Sn	03 17 31.2	+0.5
	2.9nm,0.3s,baz=258,slow=25,SNR=6.7						
MKAR	**Makanchi Array**	**31.21**	**342**	P	P	03 22 11.2	-0.4
	0.4nm,0.6s,baz=152,slow=9.2,SNR=5.6						
ZALV	**Zalesovo Beam**	**37.31**	**349**	P	P	03 23 04.2	+0.2
	1.3nm,0.4s,baz=178,slow=8.5,SNR=7.6						

DJA 04 03:21:19.0±0.8,**2°N**±10°×**12°2E**±°,**h444**km±6km,**M4.0**/11,
mb4.3/**3**,**MLv3.9**/11,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.50**	**198**	P	P	03 22 16.7	+0.1
MRSI				S	S	03 23 03.4	+0.3
KMSI	**Cibinong**	**2.07**	**130**	P	P	03 22 19.4	0.0
MPSI	**Mapaga**	**2.95**	**238**	P	P	03 22 25.5	+0.2
MPSI				S	S	03 23 19.6	+0.6
LUWI	**Luwuk**	**2.96**	**173**	P	P	03 22 25.2	-0.2
SGSI	**Sangihe**	**3.58**	**61**	P	P	03 22 30.1	-0.1
PCI	**Palu**	**3.80**	**222**	P	P	03 22 32.2	+0.1
TTSI	**Tana Toraja**	**5.57**	**208**	P	P	03 22 49.0	+0.3
	63nm,0.8s,0.3nm						
SPSI	**Sidrap Palu**	**6.41**	**204**	P	P	03 22 56.6	-0.8
BNSI	**Bone**	**6.68**	**200**	P	P	03 23 00.7	+0.4

*ISCJB **04** 03:26:02.0±0.5,64°38N±0°03×3°80W±0°06,h10km,*
mb3.3/6,MS3.5/1,Error ellipse: s-maj=4.5km s-min=3.6km
az=150.8
*NAO **04** 03:26:02.9±2.7,64°50N×4°07W,ML2.6*
*IDC **04** 03:26:02.3±0.9,64°52N×4°61W,h0km,mb3.4/6,*
mb1 3.6/12,mb1mx3.5/42,mbtmp3.5/12,ML2.6/3,MS3.5/1,
Ms1 3.5/1,ms1mx2.4/33,Error ellipse: s-maj=23.3km
s-min=16.8km az=43.0
*BGS **04** 03:26:04.5±0.4,64°51N×4°21W,h10km,ML3.5*
*BER **04** 03:26:05.9±2.4,64°50N×4°32W,h10km,ML2.7,MW2.7,*
ML3.6(BGS),Confirmed Earthquake
ISC 04 03:26:03.7±0.7,**64°44N**±0°06×**4°16W**±0°06,**h10**km,**n81**,
σ1**°86**/105,**mb3.5**/**6**,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOFL	**Sornfelli, Far**	**2.69**	**209**	*eP*	**Pn**	**03 26 46.8**	**-0.3**
SOFL				*eS*	**Sn**	**03 27 18.0**	**-1.8**
SOFL				IAML		03 27 19.4	
	comp=E,198nm,0.6s						
SOFL				IAML		03 27 21.4	
	comp=N,147nm,0.5s						
SOFL	**Sornfelli, Far**	**2.69**	**209**	*eP*	**Pn**	**03 26 46.9**	**-0.3**
SOFL				*eS*	**Sn**	**03 27 18.0**	**-1.8**
SOFL				IAML		03 27 19.4	
	comp=E,198nm,0.6s						
SOFL				IAML		03 27 21.4	
	comp=N,147nm,0.5s						
LRW	**Lerwick**	**4.54**	**161**	*eP*	**Pn**	**03 27 13.4**	**+1.0**
LRW				*eS*	**Sn**	**03 28 02.0**	**-3.1**
LRW				IAML		03 28 04.5	
	comp=N,56nm,0.2s						
LRW				IAML		03 28 04.5	
	comp=E,43nm,0.3s						
LRW	**Lerwick**	**4.54**	**161**	*eP*	**Pn**	**03 27 13.4**	**+1.0**
LRW				*eS*	**Sn**	**03 28 02.0**	**-3.1**
LRW				IAML		03 28 04.5	
	comp=N,56nm,0.2s						
LRW				IAML		03 28 04.5	
	comp=E,44nm,0.3s						
FOO	**Floro**	**5.07**	**120**	*eP*	**Pn**	**03 27 21.5**	**+1.9**
FOO				*eS*	**Sn**	**03 28 15.8**	**-2.3**
FOO				IAML		03 28 23.2	
	comp=Z,14nm,0.2s						
SUE	**Sulen**	**5.32**	**126**	*eP*	**Pn**	**03 27 24.6**	**+1.5**
SUE				*eS*	**Sn**	**03 28 21.1**	**-3.3**
AKN	**Aaknes**	**5.52**	**109**	Pn	**Pn**	**03 27 28.3**	**+2.5**
AKN				Sn	**Sn**	**03 28 38.6**	**-0.6**
AKN	**Aaknes**	**5.52**	**109**	*eP*	**Pn**	**03 27 28.3**	**+2.5**
AKN				*eS*	**Sn**	**03 28 38.3**	**-0.9**
AKN				IAML		03 28 33.8	
	comp=Z,20nm,0.3s						
MOL	**Molde**	**5.57**	**104**	*eS*	**Sn**	**03 28 28.6**	**-1.8**
MOL				IAML		03 28 33.9	
	comp=Z,13nm,0.4s						
HYA	**Hoyanger**	**5.77**	**120**	*eP*	**Pn**	**03 27 30.9**	**+1.6**
HYA				*eS*	**Sn**	**03 28 34.9**	**-0.5**
HYA				IAML		03 28 40.2	
	comp=Z,8.7nm,0.2s						
ASK	**Askoy**	**5.88**	**128**	*eP*	**Pn**	**03 27 31.7**	**+1.0**
ASK				*eS*	**Sn**	**03 28 34.2**	**-3.9**
ASK				IAML		03 29 04.8	
	comp=Z,20nm,1.1s						
BIGH	**Upper Bighouse**	**5.97**	**179**	*eP*	**Pn**	**03 27 32.0**	**0.0**
BIGH				IAML		03 28 38.3	
	comp=N,16nm,0.3s						
BIGH				IAML		03 28 42.4	
	comp=E,12nm,0.3s						
BIGH	**Upper Bighouse**	**5.97**	**179**	*eP*	**Pn**	**03 27 31.6**	**-0.4**
BIGH				IAML		03 28 38.3	
	comp=N,16nm,0.3s						
BIGH				IAML		03 28 42.4	
	comp=E,12nm,0.3s						
BER	**Bergen**	**6.00**	**128**	Pn	**Pn**	**03 27 33.1**	**+0.7**
BER				Sn	**Sn**	**03 28 38.1**	**-2.9**
BER	**Bergen**	**6.00**	**128**	*eP*	**Pn**	**03 27 34.2**	**+1.8**
BER				*eS*	**Sn**	**03 28 36.9**	**-4.1**
BER				IAML		03 28 43.9	
	comp=Z,6.4nm,0.3s						
DOMB	**Dombas**	**6.44**	**106**	*eP*	**Pn**	**03 27 41.1**	**+2.6**
DOMB				*eS*	**Sn**	**03 28 51.2**	**-0.7**
DOMB				IAML		03 28 55.8	
	comp=Z,6.8nm,0.2s						
ODD1	**Odda**	**6.79**	**127**	*eP*	**Pn**	**03 27 44.5**	**+1.2**
ODD1				*eS*	**Sn**	**03 28 56.7**	**-3.8**
ODD1				IAML		03 28 58.7	
	comp=Z,6.1nm,0.3s						
KMY	**Karmoy**	**6.88**	**135**	*eP*	**Pn**	**03 27 45.3**	**+0.8**
KMY				*eS*	Sn	03 28 57.6	-5.0
KMY				IAML		03 29 01.5	
	comp=Z,11nm,0.3s						
MCD	**Coleburn Disti**	**6.89**	**176**	*eP*	**Pn**	**03 27 45.5**	**+0.8**
MCD	**Coleburn Disti**	**6.89**	**176**	*eP*	**Pn**	**03 27 45.5**	**+0.8**
NSS	**Namsos**	**6.97**	**82**	*eP*	**Pn**	**03 27 46.2**	**+0.5**
NSS				*eS*	Sn	03 28 59.1	-5.7
NSS				IAML		03 29 04.7	
	comp=Z,11nm,0.4s						
KAC	**Achnashellach**	**6.99**	**185**	*eP*	**Pn**	**03 27 46.0**	**0.0**
KAC	**Achnashellach**	**6.99**	**185**	*eP*	**Pn**	**03 27 45.8**	**-0.1**
MDO	**Dochfour**	**7.02**	**181**	*eP*	**Pn**	**03 27 46.4**	**-0.1**
MDO	**Dochfour**	**7.02**	**181**	*eP*	**Pn**	**03 27 46.4**	**-0.1**
BLS5	**Blasjo**	**7.09**	**130**	*eP*	**Pn**	**03 27 48.5**	**+1.1**
BLS5				*eS*	Sn	03 29 02.8	-5.3
BLS5				IAML		03 29 16.3	
	comp=Z,3.2nm,0.5s						
KPL	**Plockton**	**7.16**	**186**	*eP*	**Pn**	**03 27 48.0**	**-0.3**
KPL	**Plockton**	**7.16**	**186**	*eP*	**Pn**	**03 27 48.0**	**-0.3**
KPL				*eS*	Sn	03 29 01.9	-7.7
STOK	**Stokkvaagen**	**7.42**	**67**	*eP*	**Pn**	**03 27 51.9**	**+0.1**
STOK				*eS*	Sn	03 29 06.8	-9.1
KONS	**Konsvik**	**7.48**	**66**	*eP*	**Pn**	**03 27 52.5**	**-0.2**
KONS				*eS*	Sn	03 29 08.5	-8.8
KONS				IAML		03 29 11.6	
	comp=Z,16nm,0.2s						
DRUM	**Mains of Drumt**	**7.60**	**173**	*eP*	**Pn**	**03 27 54.6**	**+0.2**
DRUM	**Mains of Drumt**	**7.60**	**173**	*eP*	**Pn**	**03 27 54.5**	**+0.1**
NB2	**NORSAR Subarra**	**7.83**	**109**	Pn	**Pn**	**03 27 58.8**	**+1.1**
	baz=308,slow=14						
NB2	**NORSAR Subarra**	**7.83**	**109**	Pn	**Pn**	**03 27 58.8**	**+1.1**
	baz=308,slow=14						
NOA	**NORSAR Array B**	**7.83**	**109**	Pn	**Pn**	**03 27 58.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=304,slow=14,SNR=8.4						
NOA				Sn	**Sn**	**03 29 22.4**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=305,slow=23,SNR=3.4						
MOR8	**Moi Rana**	**7.97**	**69**	*eP*	**Pn**	**03 28 01.7**	**+2.2**
MOR8				*eP*	**Pn**	**03 28 01.9**	**+2.4**
MOR8				*eS*	**Sn**	**03 29 25.5**	**-4.1**
MOR8				IAML		03 29 35.6	
	comp=Z,18nm,0.2s						
LOF	**Lofoten**	**8.03**	**55**	*eP*	**Pn**	**03 27 58.0**	**-2.2**
LOF				*eS*	Sn	03 29 19.6	-11
LOF				IAML		03 29 24.2	
	comp=Z,9.9nm,0.5s						
INVG	**Invergeldie, C**	**8.04**	**180**	*eP*	**Pn**	**03 28 00.5**	**+0.1**
INVG	**Invergeldie, C**	**8.04**	**180**	*eP*	**Pn**	**03 28 00.4**	**0.0**
KONO	**Kongsberg**	**8.04**	**120**	*eP*	**Pn**	**03 28 02.0**	**+1.5**
KONO				*eS*	**Sn**	**03 29 27.6**	**-3.8**
NC602	**NORSAR Array S**	**8.13**	**110**	*eP*	**Pn**	**03 28 03.3**	**+1.6**
NC602				*eS*	**Sn**	**03 29 30.6**	**-3.0**
NRA0	**NORESS Array S**	**8.13**	**110**	Pn	**Pn**	**03 28 02.6**	**+0.9**
	baz=315,slow=12						
NRA0				Sn	**Sn**	**03 29 29.7**	**-3.9**
	baz=306,slow=22						
NRA0	**NORESS Array S**	**8.13**	**110**	Pn	**Pn**	**03 28 02.6**	**+0.9**
	baz=315,slow=12						
NRA0				Sn	**Sn**	**03 29 29.7**	**-3.9**
	baz=306,slow=22						
SNART	**Snartemo**	**8.19**	**133**	*eP*	**Pn**	**03 28 03.4**	**+1.0**
SNART				*eS*	Sn	03 29 29.0	-5.9
LAWE	**Loch Awe, Argy**	**8.23**	**185**	*eP*	**Pn**	**03 28 03.0**	**0.0**
LAWE	**Loch Awe, Argy**	**8.23**	**185**	*eP*	**Pn**	**03 28 02.6**	**-0.4**
EAB	**Aberfoyle**	**8.28**	**181**	*eP*	**Pn**	**03 28 04.1**	**+0.4**
EAB	**Aberfoyle**	**8.28**	**181**	*eP*	**Pn**	**03 28 03.9**	**+0.2**
NOD	**Norderasen**	**8.43**	**88**	*eP*	**Pn**	**03 28 07.5**	**+1.8**
NOD				*eS*	**Sn**	**03 29 36.7**	**-4.1**
EDI	**Edinburgh**	**8.56**	**176**	*eP*	**Pn**	**03 28 07.9**	**+0.4**
EDI	**Edinburgh**	**8.56**	**176**	*eP*	**Pn**	**03 28 07.9**	**+0.4**
EDI				*eS*	Sn	03 29 37.5	-6.5
STEI	**Steigen**	**8.58**	**57**	*eP*	**Pn**	**03 28 06.2**	**-1.5**
STEI				*eS*	Sn	03 29 32.7	-12
STEI				IAML		03 29 38.4	
	comp=Z,6.8nm,0.3s						
ESY	**Stoneypath**	**8.58**	**174**	*eP*	**Pn**	**03 28 08.5**	**+0.7**
ESY	**Stoneypath**	**8.58**	**174**	*eP*	**Pn**	**03 28 08.5**	**+0.7**
EKA	**Eskdalemuir Ar**	**9.15**	**176**	Pn	**Pn**	**03 28 15.4**	**-0.2**
EKA				Sn	Sn	03 29 51.1	-7.4
EKA	**Eskdalemuir Ar**	**9.15**	**176**	Pn	**Pn**	**03 28 15.7**	**+0.1**
	baz=0.9,slow=13,SNR=59						
EKA				Sn	Sn	03 29 52.7	-5.8
	baz=345,slow=24,SNR=6.2						
EKA	**Eskdalemuir Ar**	**9.15**	**176**	Pn	**Pn**	**03 28 15.4**	**-0.2**
EKA				Sn	Sn	03 29 51.1	-7.4
ESK	**Eskdalemuir**	**9.16**	**177**	*eP*	**Pn**	**03 28 16.1**	**+0.2**
ESK	**Eskdalemuir**	**9.16**	**177**	*eP*	**Pn**	**03 28 15.9**	**+0.1**
HFS	**Hagfors**	**9.36**	**109**	Pn	**Pn**	**03 28 19.5**	**+1.1**
	baz=300,slow=14						
HFS				Sn	**Sn**	**03 30 00.6**	**-2.9**
	baz=305,slow=28						
HFS	**Hagfors**	**9.36**	**109**	Pn	**Pn**	**03 28 19.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=314,slow=12,SNR=10						
HFS				Sn	**Sn**	**03 30 00.4**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=298,slow=26,SNR=4.2						
HFS	**Hagfors**	**9.36**	**109**	Pn	**Pn**	**03 28 19.5**	**+1.1**
	baz=300,slow=14						
HFS				Sn	**Sn**	**03 30 00.6**	**-2.9**
	baz=305,slow=28						
EDMD	**Edmundbyers**	**9.70**	**172**	*eP*	**Pn**	**03 28 23.4**	**+0.2**
EDMD	**Edmundbyers**	**9.70**	**172**	*eP*	**Pn**	**03 28 23.2**	**0.0**
KIF	**Kilpisjarvi**	**10.83**	**54**	Pn	**Pn**	**03 28 37.9**	**-0.6**
KIF				Sn	Sn	03 30 29.5	-10
KIF	**Kilpisjarvi**	**10.83**	**54**	Pn	**Pn**	**03 28 37.9**	**-0.6**
KIF				Sn	Sn	03 30 29.5	-10
ARA0	**ARCESS Array S**	**12.58**	**53**	Pn	**Pn**	**03 29 01.0**	**-1.4**
	baz=250,slow=14						
ARA0	**ARCESS Array S**	**12.58**	**53**	Pn	**Pn**	**03 29 01.0**	**-1.4**
	baz=250,slow=14						
ARCES	**ARCESS

J05D	Fort Rock, OR	4.40	91	P	Pn	03 43 48.6	-0.1
	baz=277,SNR=7.7						
E04D	Cinebar	4.52	46	P	Pn	03 43 49.9	-0.4
	baz=231,SNR=76						
NLWA	Neilton Lookou	4.57	30	*e*Pn	Pn	03 43 49.4	-1.6
NLWA				*e*S	Sn	03 44 42.8	-1.0
PINE	Pine Mountain	4.60	84	*e*Pn	Pn	03 43 51.8	+0.3
G05D	Wamic, OR	4.61	66	P	Pn	03 43 51.8	+0.3
	baz=252,SNR=40						
F05D	White Salmon	4.78	58	P	Pn	03 43 54.3	+0.5
	baz=244,SNR=18						
D04E	Lakebay	4.86	39	P	Pn	03 43 54.4	-0.4
	baz=224,SNR=16						
D03D	Eldon	4.99	35	P	Pn	03 43 55.3	-1.5
	baz=219,SNR=12						
D03D				S	Sn	03 44 54.3	+0.2
	baz=219						
LON	Longmire	5.05	48	*e*Pn	Pn	03 43 57.9	+0.3
D05A	Enumclaw	5.24	43	*e*Pn	Pn	03 44 00.7	+0.5
D05A				*e*Sn	Sn	03 44 48.5	-12
MOD	Modoc Plateau	5.37	105	*e*Pn	Pn	03 44 01.5	-0.5
I07A	Izee	5.65	81	*e*Pn	Pn	03 44 06.6	+0.7
F07A	Phinny Hill Vi	5.75	63	*e*Pn	Pn	03 44 07.7	+0.5
PGC	Sidney	5.80	26	*e*Pn	Pn	03 44 06.2	-1.6
	18nm,0.3s						
ORV	Oroville	5.85	130	*e*Pn	Pn	03 44 12.9	+4.4
LTY	Liberty	5.97	49	*e*Pn	Pn	03 44 10.7	+0.4
B05A	Bryant	5.98	35	P	Pn	03 44 09.6	-0.7
	baz=220,SNR=5.9						
B05A				S	Sn	03 45 19.6	+1.2
	baz=220						
E07A	Sunnyside	6.08	57	*e*Pn	Pn	03 44 11.5	-0.1
HAWA	Hanford	6.20	59	*e*Pn	Pn	03 44 13.7	+0.3
	12nm,0.3s						
G08A	Pilot Rock	6.21	70	*e*Pn	Pn	03 44 13.8	+0.1
C06D	Leavenworth	6.28	43	P	Pn	03 44 14.5	+0.1
	baz=229						
C06D				S	Sn	03 45 29.1	+3.2
	baz=229						
J08A	Circle Bar Ran	6.40	88	*e*Pn	Pn	03 44 18.5	+2.3
WVOR	Wild Horse Val	6.42	97	*e*Pn	Pn	03 44 16.1	-0.3
B06A	Marblemount	6.43	37	*e*Pn	Pn	03 44 16.1	-0.4
E08A	Dider Farm, El	6.54	60	*e*Pn	Pn	03 44 18.5	+0.5
D08A	Wollman Farm,	6.88	56	*e*Pn	Pn	03 44 23.4	+0.7
PNTR	Pine Nut	7.25	125	*e*Pn	Pn	03 44 31.9	+3.8
BMO	Blue Mountains	7.29	76	*e*Pn	Pn	03 44 27.9	-0.5
	3.8nm,0.5s						
B08A	Colville Reser	7.36	46	*e*Pn	Pn	03 44 30.5	+1.2
YERR	Yerington	7.54	124	*e*Pn	Pn	03 44 35.4	+3.5
CMB	Columbia Colle	7.54	134	*e*Pn	Pn	03 44 36.0	+4.1
F10A	Beach Ranch, E	7.56	67	*e*Pn	Pn	03 44 32.1	-0.1
C09A	Chrisman Ranch	7.63	53	*e*Pn	Pn	03 44 33.3	+0.3
LLLB	Lillooet	8.01	25	*e*Pn	Pn	03 44 39.2	+1.0
RYN	Ryan	8.20	123	*e*Pn	Pn	03 44 44.0	+3.1
NVAR	Mina Array Bea	8.45	124	Pn	Pn	03 44 48.2	+3.7
	0.1nm,0.3s,baz=278,slow=12,SNR=7.7						
NV01	Mina Array Sit	8.46	124	*e*Pn	Pn	03 44 48.2	+3.7
NEW	Newport	8.53	52	*e*Pn	Pn	03 44 45.3	0.0
NEW	Newport	8.53	52	P	Pn	03 44 45.1	-0.2
	baz=241						
NEW	Newport	8.53	52	Pn	Pn	03 44 44.0	-1.3
	0.8nm,0.3s,baz=248,slow=12,SNR=14						
NEW				LR	LR	03 48 07.1	
	comp=Z,194nm,19.8s,baz=268,slow=39						
MDPB	Devils Postpil	8.54	130	*e*Pn	Pn	03 44 50.9	+5.1
OMMB	Old Mammoth Mi	8.60	130	*e*Pn	Pn	03 44 52.3	+5.7
BBB	Bella Bella	8.71	357	*e*Pn	Pn	03 44 47.0	-0.8
ELK	Elko	9.35	103	Pn	Pn	03 44 59.1	+2.4
	0.1nm,0.3s,baz=324,slow=9.5,SNR=5.0						
MSO	Missoula	9.98	66	*e*Pn	Pn	03 45 04.7	-0.6
ISA	Isabella, Lake	10.35	136	*e*Pn	Pn	03 45 13.2	+2.9
DLMT	Dillon	10.66	75	*e*Pn	Pn	03 45 13.8	-0.7
WALA	Waterton Lakes	10.78	54	*e*Pn	Pn	03 45 17.4	+1.2
QLMT	Earthquake Lak	11.45	78	*e*Pn	Pn	03 45 27.7	+2.2
SHPR	Sheep Range	11.60	123	*e*Pn	Pn	03 45 33.5	+6.0
YHH	Holmes Hill	11.87	78	*e*Pn	Pn	03 45 33.0	+1.7
PDAR	Pinedale Array	12.96	87	Pn	Pn	03 45 48.0	+1.9
	0.1nm,0.3s,baz=271,slow=14,SNR=5.8						
PDAR				LR	LR	03 50 08.2	
	comp=Z,58nm,20.3s,baz=293,slow=35						
PFO	Pinyon Flats O	12.98	136	LR	LR	03 50 30.9	
	comp=Z,85nm,19.2s,baz=329,slow=36						
DLBC	Dease Lake	15.06	354	Pn	Pn	03 46 13.6	-1.0
	0.0nm,0.3s,baz=227,slow=7.9,SNR=2.7						
ISCO	Idaho Springs	16.59	95	*e*Pn	Pn	03 46 35.2	+0.6
	5.5nm,1.2s						
Q24A	Divide	17.22	98	*e*Pn	P	03 46 44.5	+0.4
	8.8nm,1.1s						
SDCO	Great Sand Dun	17.47	102	*e*Pn	Pn	03 46 45.3	-0.4
	15nm,1.7s						
FFC	Flin Flon	19.89	47	*e*Pn	P	03 47 13.5	+0.5
	5.6nm,0.8s						
YKA	Yellowknife Ar	20.43	17	P	P	03 47 17.9	-0.8
	0.7nm,0.6s,baz=202,slow=10,SNR=15						
YKB5	Yellowknife Ar	20.43	17	*e*P	P	03 47 17.9	-0.8
ECSD	EROS Data Cent	22.13	79	*e*P	P	03 47 38.7	+1.4
	5.7nm,1.2s						
ULM	Lac du Bonnet	22.38	61	P	P	03 47 39.4	-0.5
	1.5nm,0.8s,baz=258,slow=12,SNR=3.0						
TXAR	Lajitas Array	23.56	119	P	P	03 47 54.0	+1.6
	0.4nm,0.6s,baz=298,slow=8.6,SNR=7.3						
ILAR	Eielson Array	24.02	339	P	P	03 47 53.8	-2.5
	1.1nm,0.7s,baz=152,slow=9.2,SNR=16						
INK	Inuvik	25.09	355	P	P	03 48 04.7	-1.3
	0.9nm,0.9s,baz=194,slow=5.7,SNR=3.4						
H11N3	WAKE ISLAND Hy	59.29	269	T	T	04 56 30.9	
	baz=50,slow=75,SNR=59						
H11N2	WAKE ISLAND Hy	59.29	269	T	T	04 56 27.9	
	baz=50,slow=75,SNR=63						
H11N1	WAKE ISLAND Hy	59.30	269	T	T	04 56 29.5	
	baz=50,slow=75,SNR=43						
H11S1	WAKE ISLAND Hy	60.21	268	T	T	04 57 34.4	
	baz=50,slow=75,SNR=438						
H11S2	WAKE ISLAND Hy	60.22	268	T	T	04 57 39.2	
	baz=50,slow=75,SNR=404						
H11S3	WAKE ISLAND Hy	60.23	268	T	T	04 57 32.4	
	baz=50,slow=75,SNR=250						

*IDC **04** 03:53:15.8±1.0, 44°.11N×11°.70E, h0^{km}, mb3.7/6, mb1 3.8/11, mb1mx3.6/48, mbtmp3.6/11, ML3.3/5, MS2.9/4, Ms1 2.9/4, ms1mx2.6/40, Error ellipse: s-maj=28.1km s-min=13.6km az=105.0*

*ROM **04** 03:53:15.5±0.1, 44°.041N±0°.004×11°.566E±0°.005, h9^{km}, ML3.4/104*

*PRU **04** 03:53:16.6±0.0, 44°.10N×11°.82E, h0^{km}*

*LDG **04** 03:53:16.8±0.1, 43°.99N×11°.63E, h9^{km}, Ml3.4/27, Error ellipse: s-maj=3.8km s-min=2.4km az=160.0*

*STR **04** 03:53:21.2±0.7, 44°N±3°×1°1E±°, h20^{km}, M3.9/8, mB4.7/1, mb4.7/3, MLv3.8/8, MLv3.7/7, Mw(mB)4.0/1*

ISC 04 03:53:16.3±0.9**, 44°.05N**±0°.02×**11°.56E**±0°.02**, h11**^{km}±6^{km}**, n226, σ1ˢ.94**/253**, mb3.8**/6**, 6C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SEI	Scarperia	0.14	271	*i* P	Pg	03 53 19.2	-0.5
SEI				S	Sg	03 53 22.0	-0.1
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
SEI				AML	AML		
ASQU	Asqua	0.31	147	P	Pg	03 53 21.8	-0.7
ASQU				S	Sg	03 53 26.7	0.0
ASQU	comp=E,10185µm,0.3s			AML	AML		
ASQU	comp=N,10500µm,0.9s			AML	AML		
ASQU	comp=E,10185µm,0.3s			AML	AML		
ASQU	comp=N,10500µm,0.9s			AML	AML		
ASQU	comp=E,10185µm,0.3s			AML	AML		
ASQU	comp=N,10500µm,0.9s			AML	AML		
ASQU	comp=N,10500µm,0.9s			AML	AML		
ASQU	comp=E,10185µm,0.3s			AML	AML		
FAEN	Faenza	0.33	44	P	Pb	03 53 23.4	-0.8
MTRZ	Monterenzio	0.33	349	P	Pg	03 53 22.0	-1.0
MTRZ	comp=E,37550µm,0.6s			AML	AML		
MTRZ	comp=N,44450µm,0.7s			AML	AML		
MTRZ	comp=E,38600µm,0.5s			AML	AML		
MTRZ	comp=N,44750µm,0.7s			AML	AML		
MTRZ	comp=E,37500µm,0.6s			AML	AML		
MTRZ	comp=N,44450µm,0.7s			AML	AML		
MTRZ	comp=E,38600µm,0.5s			AML	AML		
MTRZ	comp=N,44750µm,0.7s			AML	AML		
MTRZ	comp=E,37500µm,0.6s			AML	AML		
MTRZ	comp=N,44450µm,0.7s			AML	AML		
MTRZ	comp=E,38600µm,0.5s			AML	AML		
MTRZ	comp=N,44750µm,0.7s			AML	AML		
MTRZ	comp=N,44450µm,0.7s			AML	AML		
MTRZ	comp=N,44750µm,0.7s			AML	AML		
MTRZ	comp=E,38600µm,0.5s			AML	AML		
MTRZ	comp=E,37500µm,0.6s			AML	AML		
FNVD	Fontana Vidola	0.33	290	P	Pg	03 53 22.5	-0.6
FNVD				S	Sg	03 53 28.3	+0.8
IMOL	Imola, Italy	0.33	23	P	Pb	03 53 23.1	-1.2
IMOL	comp=E,25450µm,0.7s			AML	AML		
IMOL	comp=N,29250µm,0.9s			AML	AML		
IMOL	comp=E,3135µm,0.8s			AML	AML		
IMOL	comp=N,3885µm,1.0s			AML	AML		
IMOL	comp=E,25450µm,0.7s			AML	AML		
IMOL	comp=N,29250µm,0.9s			AML	AML		
IMOL	comp=E,3105µm,0.8s			AML	AML		
IMOL	comp=N,3880µm,1.0s			AML	AML		
IMOL	comp=E,25500µm,0.7s			AML	AML		
IMOL	comp=N,29250µm,0.9s			AML	AML		
IMOL	comp=E,3100µm,0.8s			AML	AML		
IMOL	comp=N,3880µm,1.0s			AML	AML		
IMOL	comp=E,3100µm,0.8s			AML	AML		
IMOL	comp=E,25500µm,0.7s			AML	AML		
IMOL	comp=N,3880µm,1.0s			AML	AML		
IMOL	comp=N,29250µm,0.9s			AML	AML		
PTF	Prato	0.36	255	P	Pg	03 53 23.1	-0.5
MTCR	Monte La Croce	0.41	266	P	Pg	03 53 23.8	-0.6
MTCR				S	Sg	03 53 30.3	+0.6
MTCR	comp=E,8480µm,1.0s			AML	AML		
MTCR	comp=N,8015µm,1.5s			AML	AML		
MTCR	comp=E,8470µm,1.0s			AML	AML		
MTCR	comp=N,8015µm,1.5s			AML	AML		
MTCR	comp=E,8470µm,1.0s			AML	AML		
MTCR	comp=N,8020µm,1.5s			AML	AML		
MTCR	comp=E,8470µm,1.0s			AML	AML		
MTCR	comp=N,8020µm,1.5s			AML	AML		
CRMI	Carmignano	0.50	238	P	Pg	03 53 25.4	-0.6
CRMI				S	Sg	03 53 33.1	+0.4
CRMI	comp=E,5905µm,0.5s			AML	AML		
CRMI	comp=N,6600µm,0.5s			AML	AML		
CRMI	comp=E,2480µm,0.5s			AML	AML		
CRMI	comp=N,2660µm,0.5s			AML	AML		
CRMI	comp=E,5905µm,0.5s			AML	AML		
CRMI	comp=N,6600µm,0.5s			AML	AML		
CRMI	comp=E,2480µm,0.5s			AML	AML		
CRMI	comp=N,2660µm,0.5s			AML	AML		
CRMI	comp=E,5905µm,0.5s			AML	AML		
CRMI	comp=N,6600µm,0.5s			AML	AML		
CRMI	comp=E,2480µm,0.5s			AML	AML		
CRMI	comp=N,2660µm,0.5s			AML	AML		
CRMI	comp=N,6600µm,0.5s			AML	AML		
CRMI	comp=N,2660µm,0.5s			AML	AML		
CRMI	comp=E,5905µm,0.5s			AML	AML		
CRMI	comp=E,2480µm,0.5s			AML	AML		
ZCCA	Zocca	0.51	306	P	Pg	03 53 26.8	+0.5
ZCCA	comp=E,3635µm,0.4s			AML	AML		
ZCCA	comp=N,4525µm,0.6s			AML	AML		
ZCCA	comp=E,3770µm,0.4s			AML	AML		
ZCCA	comp=N,4545µm,0.7s			AML	AML		
ZCCA	comp=E,3635µm,0.4s			AML	AML		
ZCCA	comp=N,4525µm,0.6s			AML	AML		
ZCCA	comp=E,3775µm,0.4s			AML	AML		
ZCCA	comp=N,4545µm,0.7s			AML	AML		
ZCCA	comp=E,3640µm,0.4s			AML	AML		
ZCCA	comp=N,4520µm,0.6s			AML	AML		
ZCCA	comp=E,3775µm,0.4s			AML	AML		
ZCCA	comp=N,4545µm,0.7s			AML	AML		
ZCCA	comp=N,4545µm,0.7s			AML	AML		
ZCCA	comp=N,4520µm,0.6s			AML	AML		
ZCCA	comp=E,3775µm,0.4s			AML	AML		
ZCCA	comp=E,3640µm,0.4s			AML	AML		
POPM	Popiglio	0.58	269	P	Pg	03 53 26.9	-0.7
POPM				S	Sg	03 53 36.3	+1.1
POPM	Popiglio	0.58	269	P	Pg	03 53 26.9	-0.7
POPM				S	Sg	03 53 36.6	+1.4
POPM	comp=E,6845µm,1.3s			AML	AML		
POPM	comp=N,5590µm,0.6s			AML	AML		
POPM	comp=E,6845µm,1.3s			AML	AML		
POPM	comp=N,5590µm,0.6s			AML	AML		
POPM	comp=N,5590µm,0.6s			AML	AML		
POPM	comp=E,6845µm,1.3s			AML	AML		
FIU	Minerbio Fiu	0.59	355	P	Pb	03 53 28.2	-0.4
FIU	comp=E,9610µm,0.9s			AML	AML		
FIU	comp=N,13500µm,1.2s			AML	AML		
FIU	comp=N,13500µm,1.2s			AML	AML		
FIU	comp=E,9610µm,0.9s			AML	AML		
CPGN	Carpegna, Ital	0.61	114	P	Pg	03 53 27.6	-0.5
CPGN	comp=E,2550µm,1.1s			AML	AML		
CPGN	comp=N,3550µm,0.9s			AML	AML		
CPGN	comp=E,2525µm,1.1s			AML	AML		
CPGN	comp=N,3765µm,0.9s			AML	AML		
CPGN	comp=E,2555µm,1.1s			AML	AML		
CPGN	comp=N,3550µm,0.9s			AML	AML		
CPGN	comp=E,2528µm,1.1s			AML	AML		
CPGN	comp=N,3770µm,0.9s			AML	AML		
CPGN	comp=E,2528µm,1.1s			AML	AML		
CPGN	comp=N,3770µm,0.9s			AML	AML		
CPGN	comp=N,3550µm,0.9s			AML	AML		
CPGN	comp=E,2555µm,1.1s			AML	AML		
CSNT	Castellina Chi	0.61	198	P	Pg	03 53 27.2	-1.0
CSNT				S	Sg	03 53 36.6	+0.3
CSNT	comp=E,4465µm,0.8s			AML	AML		
CSNT	comp=N,8595µm,0.7s			AML	AML		
CSNT	comp=E,4465µm,0.8s			AML	AML		
CSNT	comp=N,8595µm,0.7s			AML	AML		
CSNT	comp=E,4465µm,0.8s			AML	AML		
CSNT	comp=N,8595µm,0.7s			AML	AML		
CSNT	comp=E,4465µm,0.8s			AML	AML		
CSNT	comp=N,8595µm,0.7s			AML	AML		
SSP9	Sansepolcro	0.63	139	P	Pg	03 53 27.6	-1.0
SSP9	comp=E,2730µm,1.3s			AML	AML		
SSP9	comp=N,2990µm,1.4s			AML	AML		
SSP9	comp=E,2735µm,1.3s			AML	AML		
SSP9	comp=N,2990µm,1.4s			AML	AML		
SSP9	comp=E,2735µm,1.3s			AML	AML		
SSP9	comp=N,2990µm,1.4s			AML	AML		
PARC	Parchiule	0.64	129	P	Pg	03 53 27.5	-1.2
PARC	comp=E,1585µm,0.6s			AML	AML		
PARC	comp=N,2030µm,0.9s			AML	AML		
PARC	comp=E,1585µm,0.6s			AML	AML		
PARC	comp=N,2030µm,0.9s			AML	AML		
PARC	comp=E,1585µm,0.6s			AML	AML		
PARC	comp=N,2030µm,0.9s			AML	AML		
RSM	Repubblica di	0.66	100	P	Pb	03 53 28.7	-1.1
BLLA	Bellaria	0.66	82	P	Pb	03 53 28.9	-1.0
BLLA	comp=E,4250µm,0.3s			AML	AML		
BLLA	comp=N,5360µm,0.4s			AML	AML		
BLLA	comp=E,4245µm,0.3s			AML	AML		
BLLA	comp=N,5360µm,0.4s			AML	AML		
BLLA	comp=E,4245µm,0.3s			AML	AML		
BLLA	comp=N,5360µm,0.4s			AML	AML		
BDI	Bagni Di Lucca	0.69	271	P	Pg	03 53 29.0	-0.7
BDI	comp=E,5920µm,0.8s			AML	AML		
BDI	comp=N,4290µm,0.5s			AML	AML		
BDI	comp=E,5610µm,0.8s			AML	AML		
BDI	comp=N,4200µm,0.5s			AML	AML		
BDI	comp=E,5610µm,0.8s			AML	AML		
BDI	comp=N,4200µm,0.5s			AML	AML		
BDI	comp=N,4290µm,0.5s			AML	AML		
BDI	comp=E,5920µm,0.8s			AML	AML		
BADI	Badiali	0.74	137	P	Pg	03 53 29.2	-1.4
BADI	comp=E,2245µm,0.9s			AML	AML		
BADI	comp=N,3020µm,0.9s			AML	AML		
BADI	comp=E,2245µm,0.9s			AML	AML		
BADI	comp=N,3020µm,0.9s			AML	AML		
BADI	comp=N,3020µm,0.9s			AML	AML		
BADI	comp=E,2245µm,0.9s			AML	AML		
ATMC	Monte Cedrone	0.76	143	P	Pg	03 53 29.8	-1.2
ATMC	comp=E,2745µm,1.3s			AML	AML		
ATMC	comp=N,3495µm,1.0s			AML	AML		
ATMC	comp=E,2745µm,1.3s			AML	AML		
ATMC	comp=N,3500µm,1.0s			AML	AML		
ATMC	comp=E,2745µm,1.3s			AML	AML		
ATMC	comp=N,3500µm,1.0s			AML	AML		
PE3	Peglio	0.77	117	P	Pg	03 53 30.0	-1.2
PE3	comp=E,5490µm,0.8s			AML	AML		
PE3	comp=N,3725µm,1.2s			AML	AML		
PE3	comp=E,5485µm,0.8s			AML	AML		
PE3	comp=N,3725µm,1.2s			AML	AML		
PE3	comp=N,3725µm,1.2s			AML	AML		
PE3	comp=E,5485µm,0.8s			AML	AML		
CDCA	Citt‘ di Caste	0.77	140	P	Pg	03 53 30.0	-1.2
CDCA	comp=E,4285µm,1.3s			AML	AML		
CDCA	comp=N,6425µm,0.9s			AML	AML		
CDCA	comp=E,2780µm,0.8s			AML	AML		
CDCA	comp=N,2305µm,0.9s			AML	AML		
CDCA	comp=N,2305µm,0.9s			AML	AML		
CDCA	comp=N,6425µm,0.9s			AML	AML		
CDCA	comp=E,4285µm,1.3s			AML	AML		
CDCA	comp=E,2780µm,0.8s			AML	AML		
RAVA	Ravarino	0.77	336	AML	AML		

comp=N,7710µm,1.4s
RAVA AML AML
comp=E,9515µm,0.9s
RAVA AML AML
comp=E,9515µm,0.9s
RAVA AML AML
comp=N,7710µm,1.4s
CARD Cardoso 0.78 268 P **Pg 03 53 31.1 -0.2**
CARD S **Sg 03 53 42.1 +0.7**
CAFI Castiglion Fio 0.78 158 *e*P **Pg 03 53 30.2 -1.2**
CAFI AML AML
comp=E,2795µm,1.1s
CAFI AML AML
comp=N,2235µm,1.4s
CAFI AML AML
comp=E,2795µm,1.1s
CAFI AML AML
comp=N,2235µm,1.4s
CAFI AML AML
comp=E,2795µm,1.1s
CAFI AML AML
comp=N,2235µm,1.4s
MAIM Mastiano 0.78 260 P **Pg 03 53 30.7 -0.7**
MAIM S **Sg 03 53 42.5 +0.9**
MAIM Mastiano 0.78 260 P **Pg 03 53 30.3 -1.1**
MAIM AML AML
comp=E,2215µm,0.6s
MAIM AML AML
comp=N,2990µm,0.5s
MAIM AML AML
comp=E,2215µm,0.6s
MAIM AML AML
comp=N,2990µm,0.5s
MAIM AML AML
comp=E,2215µm,0.6s
MAIM AML AML
comp=N,2990µm,0.5s
SARO Sassorosso 0.84 279 P **Pg 03 53 31.8 -0.8**
SARO S **Sb 03 53 45.6 +1.1**
SARO Sassorosso 0.84 279 P **Pg 03 53 31.7 -0.9**
SARO AML AML
comp=E,3385µm,0.6s
SARO AML AML
comp=N,5270µm,0.6s
SARO AML AML
comp=E,3385µm,0.6s
SARO AML AML
comp=N,5270µm,0.6s
SARO AML AML
comp=N,5270µm,0.6s
SARO AML AML
comp=E,3385µm,0.6s
VLC Villacollemand 0.85 278 P **Pg 03 53 32.3 -0.4**
VLC AML AML
comp=E,2040µm,1.2s
VLC AML AML
comp=N,1860µm,1.4s
VLC AML AML
comp=E,2025µm,1.2s
VLC AML AML
comp=N,1845µm,1.4s
VLC AML AML
comp=E,2035µm,1.2s
VLC AML AML
comp=N,1860µm,1.4s
VLC AML AML
comp=E,2025µm,1.2s
VLC AML AML
comp=N,1845µm,1.4s
VLC AML AML
comp=E,2035µm,1.2s
VLC AML AML
comp=E,2025µm,1.2s
VLC AML AML
comp=N,1845µm,1.4s
VLC AML AML
comp=N,1860µm,1.4s
ATPI Pietralunga - 0.86 134 P **Pg 03 53 31.5 -1.4**
ATPI AML AML
comp=E,1170µm,1.4s
ATPI AML AML
comp=N,1425µm,1.5s
ATPI AML AML
comp=E,1170µm,1.4s
ATPI AML AML
comp=N,1425µm,1.5s
ATPI AML AML
comp=N,1425µm,1.5s
ATPI AML AML
comp=E,1170µm,1.4s
ATPC Poggio Castell 0.87 131 P **Pg 03 53 31.6 -1.4**
ATPC AML AML
comp=E,888µm,1.1s
ATPC AML AML
comp=N,2185µm,1.2s
ATPC AML AML
comp=E,2530µm,1.1s
ATPC AML AML
comp=N,2230µm,0.8s
ATPC AML AML
comp=E,888µm,1.1s
ATPC AML AML
comp=N,2185µm,1.2s
ATPC AML AML
comp=E,2530µm,1.1s
ATPC AML AML
comp=N,2230µm,0.8s
ATPC AML AML
comp=N,2185µm,1.2s
ATPC AML AML
comp=E,2530µm,1.1s
ATPC AML AML
comp=E,888µm,1.1s
ATPC AML AML
comp=N,2230µm,0.8s
PIEI Pieia 0.88 126 P **Pg 03 53 31.4 -1.9**
PIEI AML AML
comp=E,890µm,1.4s
PIEI AML AML
comp=N,880µm,1.1s
PIEI AML AML
comp=E,890µm,1.4s
PIEI AML AML
comp=N,880µm,1.1s
PIEI AML AML
comp=E,890µm,1.4s
PIEI AML AML
comp=N,880µm,1.1s
FROS Frosini 0.89 199 *e*P **Pg 03 53 32.8 -0.7**
FROS AML AML
comp=E,4490µm,0.9s
FROS AML AML
comp=N,3720µm,1.0s
FROS AML AML
comp=N,3720µm,1.0s
FROS AML AML
comp=E,4490µm,0.9s
ERBM Eremo 0.90 294 P **Pb 03 53 34.5 +0.5**
ATVO AVT- Monte Val 0.91 137 AML AML
comp=N,1740µm,0.8s
ATVO AML AML
comp=E,1965µm,0.8s
ATVO AML AML
comp=N,1740µm,0.8s
ATVO AML AML
comp=E,1965µm,0.8s
ATVO AML AML
comp=N,1740µm,0.8s
ATVO AML AML
comp=E,1965µm,0.8s
ATBU Serra di Buran 0.92 128 AML AML
comp=N,3105µm,1.4s
ATBU AML AML
comp=E,2995µm,1.1s
ATBU AML AML
comp=E,3000µm,1.1s
ATBU AML AML
comp=N,3105µm,1.4s
ATBU AML AML
comp=N,3105µm,1.4s
ATBU AML AML
comp=E,3000µm,1.1s
PESA Pesaro 0.93 96 AML AML
comp=N,1495µm,1.1s
PESA AML AML
comp=E,1765µm,1.0s
PESA AML AML
comp=N,1495µm,1.1s
PESA AML AML
comp=E,1765µm,1.0s
PESA AML AML
comp=N,1495µm,1.1s
PESA AML AML
comp=E,1765µm,1.0s
FSSB Fossombrone 0.95 112 P **Pg 03 53 33.2 -1.4**
FSSB AML AML
comp=E,1980µm,1.1s
FSSB AML AML
comp=N,2250µm,0.8s
FSSB AML AML
comp=E,1980µm,1.1s
FSSB AML AML
comp=N,2255µm,0.8s
FSSB AML AML
comp=N,2255µm,0.8s
FSSB AML AML
comp=E,1980µm,1.1s
NOVE Novellara 0.96 321 AML AML
comp=N,11450µm,0.6s
NOVE AML AML
comp=E,5260µm,0.6s
NOVE AML AML
comp=N,11450µm,0.6s
NOVE AML AML
comp=E,5260µm,0.6s
MPAG Monte Paganucc 0.97 116 P **Pg 03 53 33.5 -1.5**
MPAG AML AML
comp=E,1605µm,0.8s
MPAG AML AML
comp=N,1410µm,0.9s
MPAG AML AML
comp=E,1600µm,0.8s
MPAG AML AML
comp=N,1380µm,0.9s
MPAG AML AML
comp=E,1610µm,0.8s
MPAG AML AML
comp=N,1410µm,0.9s
MPAG AML AML
comp=E,1600µm,0.8s
MPAG AML AML
comp=N,1380µm,0.9s
MPAG AML AML
comp=N,1410µm,0.9s
MPAG AML AML
comp=N,1380µm,0.9s
MPAG AML AML
comp=E,1600µm,0.8s
MPAG AML AML
comp=E,1610µm,0.8s
SERM Sermide 0.97 349 P **Pb 03 53 35.5 +0.3**
SERM AML AML
comp=E,4145µm,0.7s
SERM AML AML
comp=N,2175µm,0.6s
SERM AML AML
comp=E,6200µm,0.7s
SERM AML AML
comp=N,3440µm,0.5s
SERM AML AML
comp=E,6200µm,0.7s
SERM AML AML
comp=N,3440µm,0.5s
SERM AML AML
comp=N,2175µm,0.6s
SERM AML AML
comp=E,4145µm,0.7s
FRON Frontone 1.00 122 P **Pg 03 53 33.8 -1.8**
FRON AML AML
comp=E,1014µm,0.9s
FRON AML AML
comp=N,1520µm,1.2s
FRON AML AML
comp=N,1520µm,1.2s
FRON AML AML
comp=E,1014µm,0.9s
EQUI Equi 1.02 277 P **Pg 03 53 35.1 -0.8**
EQUI S **Sg 03 53 50.1 +1.0**
EQUI Equi 1.02 277 AML AML
comp=E,1135µm,0.8s
EQUI AML AML
comp=E,1135µm,0.8s
EQUI AML AML
comp=N,1360µm,0.8s
EQUI AML AML
comp=N,1360µm,0.8s
ATTE AVT- Monte Tez 1.03 146 AML AML
comp=E,1460µm,1.0s
ATTE AML AML
comp=N,1420µm,1.0s
ATTE AML AML
comp=N,1420µm,1.0s
ATTE AML AML
comp=E,1460µm,1.0s
ADRI Adria, Italy 1.04 18⇑ *e*Pg **Pn 03 53 36.6 -0.2**
ADRI *e*Sg **Sn 03 53 54.3 +3.0**
TRIF Trifonti 1.05 207 P **Pg 03 53 35.7 -0.9**
TRIF AML AML
comp=E,1685µm,0.9s
TRIF AML AML
comp=N,972µm,0.7s
TRIF AML AML
comp=N,972µm,0.7s
TRIF AML AML
comp=E,1685µm,0.9s
MURB Monte Urbino 1.06 138 AML AML
comp=N,3415µm,0.4s
MURB AML AML
comp=E,3445µm,0.3s
MURB AML AML
comp=N,3405µm,0.4s
MURB AML AML
comp=E,3385µm,0.3s
MURB AML AML
comp=E,3385µm,0.3s
MURB AML AML
comp=E,3445µm,0.3s
MURB AML AML
comp=N,3405µm,0.4s
MURB AML AML
comp=N,3415µm,0.4s
SSFR Montelago di S 1.08 124 AML AML
comp=N,1350µm,0.8s
SSFR AML AML
comp=E,1400µm,1.2s
SSFR AML AML
comp=N,1350µm,0.8s
SSFR AML AML
comp=E,1400µm,1.2s
GAZZ Gazzo Veronese 1.11 343 *e*Pg **Pn 03 53 38.7 +0.9**
GAZZ *e*Sg **Sn 03 53 56.2 +3.0**
ARVD Arcevia 1.15 118 AML AML
comp=N,625µm,1.3s
ARVD AML AML
comp=E,787µm,1.5s
ARVD AML AML
comp=N,625µm,1.3s
ARVD AML AML
comp=E,787µm,1.5s
GRAM Graiana 1.16 293 P **Pg 03 53 38.8 +0.2**
GRAM S **Sn 03 53 56.0 +1.6**
GRAM Graiana 1.16 293 AML AML
comp=N,4655µm,0.6s
GRAM AML AML
comp=E,4220µm,0.7s
GRAM AML AML
comp=E,4220µm,0.7s
GRAM AML AML
comp=N,4655µm,0.6s
ATCC AVT- Casa Cast 1.17 137 P **Pg 03 53 37.6 -1.2**
ATCC AML AML
comp=E,2260µm,1.1s
ATCC AML AML
comp=N,1170µm,1.4s
ATCC AML AML
comp=E,2260µm,1.1s
ATCC AML AML
comp=N,1170µm,1.4s
ARCI Arcidosso 1.20 183 P **Pg 03 53 37.7 -1.7**
ARCI AML AML
comp=E,488µm,0.9s
ARCI AML AML
comp=N,768µm,0.9s
ARCI AML AML
comp=E,488µm,0.9s
ARCI AML AML
comp=N,768µm,0.9s
MGAB Montegabbione 1.21 160 AML AML
comp=E,2015µm,0.7s
MGAB AML AML
comp=E,2015µm,0.7s
MGAB AML AML
comp=N,2005µm,0.8s
MGAB AML AML
comp=E,2060µm,0.7s
MGAB AML AML
comp=N,2035µm,0.9s
MGAB AML AML
comp=N,2005µm,0.8s
MGAB AML AML
comp=N,2035µm,0.9s
MGAB AML AML
comp=E,2060µm,0.7s
PLMA Palmaria, Port 1.23 270 P **Pg 03 53 37.8 -2.2**
PLMA AML AML
comp=E,769µm,0.5s
PLMA AML AML
comp=N,982µm,1.2s
PLMA AML AML
comp=E,769µm,0.5s
PLMA AML AML
comp=N,982µm,1.2s
SACS San Casciano d 1.23 168 P **Pg 03 53 38.3 -1.7**
SACS AML AML
comp=E,1185µm,1.1s
SACS AML AML
comp=N,1170µm,0.8s
SACS AML AML
comp=E,1159µm,1.1s
SACS AML AML
comp=N,1160µm,0.8s
SACS AML AML
comp=N,1160µm,0.8s
SACS AML AML
comp=E,1159µm,1.1s
SACS AML AML
comp=E,1185µm,1.1s
SACS AML AML
comp=N,1170µm,0.8s
SENI Senigallia 1.26 105 AML AML
comp=E,2490µm,0.6s
SENI AML AML
comp=E,2490µm,0.6s
SENI AML AML
comp=N,4550µm,0.5s
SENI AML AML
comp=E,1090µm,1.0s
SENI AML AML
comp=N,2052µm,1.5s
SENI AML AML
comp=E,1090µm,1.0s
SENI AML AML
comp=N,2052µm,1.5s
SENI AML AML
comp=N,4550µm,0.5s
MCIV Monte Civitell 1.28 176 AML AML
comp=N,538µm,1.1s
MCIV AML AML
comp=E,378µm,1.3s
MCIV AML AML
comp=N,538µm,1.1s
MCIV AML AML
comp=E,378µm,1.3s
SNTG Esanatoglia 1.28 128 AML AML
comp=N,786µm,0.7s
SNTG AML AML
comp=E,608µm,0.9s
SNTG AML AML
comp=N,786µm,0.7s
SNTG AML AML
comp=E,608µm,0.9s
ASSB Assisi San Ben 1.29 141 AML AML
comp=E,670µm,1.1s
ASSB AML AML
comp=E,670µm,1.1s
ASSB AML AML
comp=N,786µm,1.2s
ASSB AML AML
comp=N,786µm,1.2s
TEOL Teolo 1.31 3⇑ *e*Pg **Pg 03 53 39.7 -1.8**
TEOL *e*Sg **Sn 03 54 00.5 +2.4**
TEOL Teolo 1.31 3 P **Pg 03 53 39.6 -1.8**
TEOL AML AML
comp=E,3845µm,0.8s
TEOL AML AML
comp=N,2760µm,0.7s
TEOL AML AML
comp=E,3845µm,0.8s
TEOL AML AML
comp=N,2760µm,0.7s
CASP Castiglione de 1.36 202 P **Pn 03 53 39.4 -1.8**
CASP AML AML
comp=E,608µm,1.0s
CASP AML AML
comp=N,397µm,0.7s
CASP AML AML
comp=E,608µm,1.0s
CASP AML AML
comp=N,397µm,0.7s
CING Cingoli 1.37 119 AML AML
comp=N,656µm,1.4s
CING AML AML
comp=E,584µm,0.8s
CING AML AML
comp=N,656µm,1.4s
CING AML AML
comp=E,584µm,0.8s
MSSA Maissana 1.49 281 P **Pn 03 53 42.3 -0.9**
MSSA AML AML
comp=E,965µm,0.9s
MSSA AML AML
comp=N,1106µm,1.2s
MSSA AML AML
comp=E,965µm,0.9s
MSSA AML AML
comp=N,1106µm,1.2s
FDMO Fiordimonte 1.51 132 P **Pn 03 53 42.6 -0.7**
FDMO AML AML
comp=E,372µm,1.5s
FDMO AML AML
comp=N,828µm,1.5s
FDMO AML AML
comp=E,372µm,1.5s
FDMO AML AML
comp=N,828µm,1.5s
CSP1 Cessapalombo 1.54 128 AML AML
comp=N,858µm,0.6s
CSP1 AML AML
comp=E,900µm,1.4s
CSP1 AML AML
comp=N,858µm,0.6s
CSP1 AML AML
comp=E,900µm,1.4s
MARN Marana (Italy) 1.60 351⇑ *e*Pg **Pn 03 53 44.0 -0.7**
MARN *e*Sg **Sb 03 54 06.5 +0.2**
ROVR Rover Verones 1.63 348 P **Pn 03 53 44.5 -0.6**
NRCA Norcia 1.67 137 P **Pn 03 53 44.8 -0.7**
NRCA AML AML
comp=E,469µm,1.4s
NRCA AML AML
comp=N,363µm,1.6s
NRCA AML AML
comp=N,363µm,1.6s
NRCA AML AML
comp=E,469µm,1.4s
BALD Monte Baldo 1.71 342 *e*Pg **Pn 03 53 46.3 0.0**
MTLO Montello 1.80 12⇑ *e*Pg **Pn 03 53 46.6 -0.8**
MTLO *e*Sg **Sg 03 54 12.9 -1.3**
LNSS Leonessa 1.81 143 P **Pn 03 53 46.5 -1.0**
LNSS AML AML
comp=E,988µm,1.3s
LNSS AML AML
comp=N,655µm,1.1s
LNSS AML AML
comp=E,988µm,1.3s
LNSS AML AML
comp=N,655µm,1.1s
CGRP Cima Grappa 1.83 5⇑ *e*Pg **Pn 03 53 47.0 -1.0**
CGRP Cima Grappa 1.83 5 P **Pn 03 53 46.9 -1.0**
CGRP AML AML
comp=E,872µm,0.6s
CGRP AML AML
comp=N,1028µm,0.7s

CGRP AML AML
comp=E,872µm,0.6s
CGRP AML AML
comp=N,1028µm,0.7s
MAGA Magasa 1.84 339 P **Pn** 03 53 47.5 -0.6
MAGA AML AML
comp=E,6715µm,0.6s
MAGA AML AML
comp=N,3520µm,0.5s
MAGA AML AML
comp=E,6715µm,0.6s
MAGA AML AML
comp=N,3520µm,0.5s
DOSS Dosso del Somm 1.85 352 *e*Pg **Pn** 03 53 47.5 -0.7
CTI Castel Tesino 2.00 2 AML AML
comp=N,745µm,0.3s
CTI AML AML
comp=E,588µm,0.4s
CTI AML AML
comp=N,745µm,0.3s
CTI AML AML
comp=E,588µm,0.4s
CAMP Campotosto 2.03 138 AML AML
comp=E,345µm,1.2s
CAMP AML AML
comp=N,366µm,1.5s
CAMP AML AML
comp=E,345µm,1.2s
CAMP AML AML
comp=N,366µm,1.5s
POLC Polcenigo 2.08 18 AML AML
comp=E,799µm,1.0s
POLC AML AML
comp=N,801µm,0.6s
POLC AML AML
comp=N,801µm,0.6s
POLC AML AML
comp=E,799µm,1.0s
FIAM Fiamignano 2.12 147 AML AML
comp=E,392µm,1.0s
FIAM AML AML
comp=E,392µm,1.0s
FIAM AML AML
comp=N,402µm,1.1s
FIAM AML AML
comp=N,402µm,1.1s
MABI Malga Bissina 2.13 340 P **Pn** 03 53 51.9 -0.2
MABI AML AML
comp=E,322µm,0.5s
MABI AML AML
comp=N,330µm,0.6s
MABI AML AML
comp=E,322µm,0.5s
MABI AML AML
comp=N,330µm,0.6s
AQU L'Aquila 2.17 141 *e*Pn **Pn** 03 53 53.3 +0.9
MTCE Montecelio 2.21 156 AML AML
comp=E,224µm,1.3s
MTCE AML AML
comp=E,224µm,1.3s
MTCE AML AML
comp=N,137µm,1.1s
MTCE AML AML
comp=N,137µm,1.1s
PCP Piancastagn 2.22 284 AML AML
comp=E,318µm,0.7s
PCP AML AML
comp=E,318µm,0.7s
PCP AML AML
comp=N,308µm,0.8s
PCP AML AML
comp=N,308µm,0.8s
TRI Trieste 2.28 43 AML AML
comp=N,190µm,0.8s
TRI AML AML
comp=E,194µm,0.7s
TRI AML AML
comp=N,190µm,0.8s
TRI AML AML
comp=E,194µm,0.7s
FAGN Fagnano 2.32 140 AML AML
comp=E,1018µm,0.9s
FAGN AML AML
comp=E,1018µm,0.9s
FAGN AML AML
comp=N,560µm,0.6s
FAGN AML AML
comp=N,560µm,0.6s
QLNO Quiliano 2.33 278 AML AML
comp=E,241µm,0.6s
QLNO AML AML
comp=N,336µm,1.0s
QLNO AML AML
comp=N,336µm,1.0s
QLNO AML AML
comp=E,241µm,0.6s
PGF Pioggiola 2.40 232 *e*Pn **Pn** 03 53 54.1 -1.5
PGF *e*Sn **Sn** 03 54 22.5 -2.6
comp=E,24nm,0.3s
SABO M.te Sabotino 2.41 36 AML AML
comp=N,550µm,0.7s
SABO AML AML
comp=E,539µm,0.9s
SABO AML AML
comp=N,550µm,0.7s
SABO AML AML
comp=E,539µm,0.9s
KOSI Kohlern 2.41 357 AML AML
comp=N,668µm,0.8s
KOSI AML AML
comp=E,645µm,0.9s
KOSI AML AML
comp=N,668µm,0.8s
KOSI AML AML
comp=E,645µm,0.9s
NVLJ Novalja 2.43 77 *e*Pn **Pn** 03 53 55.7 -0.3
NVLJ Sn **Sn** 03 54 26.0 +0.2
APPI Appiano 2.44 355 AML AML
comp=N,432µm,1.6s
APPI AML AML
comp=E,507µm,0.6s
APPI AML AML
comp=N,432µm,1.6s
APPI AML AML
comp=E,507µm,0.6s
RIY Rijeka 2.44 58 *e*Pn **Pn** 03 53 55.2 -1.0
GEPF Gemona 2.49 26 AML AML
comp=E,257µm,0.8s
GEPF AML AML
comp=N,308µm,0.6s
GEPF AML AML
comp=N,308µm,0.6s
GEPF AML AML
comp=E,257µm,0.8s
KNDS Knezji Dol 2.49 53 *i* Pn **Pn** 03 53 55.5 -1.4
RORO Rocca Rossa 2.52 273 AML AML
comp=E,126µm,0.8s
RORO AML AML
comp=N,117µm,0.6s
RORO AML AML
comp=E,126µm,0.8s
RORO AML AML
comp=N,117µm,0.6s
SMPL Sampolo 2.57 221 P **Pn** 03 53 58.1 +0.2
MUGIO Muggio 2.58 317 AML AML
comp=N,442µm,0.4s
MUGIO AML AML
comp=E,341µm,0.5s
MUGIO AML AML
comp=E,341µm,0.5s
MUGIO AML AML
comp=N,442µm,0.4s
CEY Cerknica 2.65 49 *e*Pn **Pn** 03 53 57.2 -1.8
IMI Imperia 2.65 268 AML AML
comp=E,142µm,0.8s
IMI AML AML
comp=N,200µm,1.0s
IMI AML AML
comp=N,200µm,1.0s
IMI AML AML
comp=E,142µm,0.8s
MOSI Grossmontoni 2.66 345 AML AML
comp=N,1360µm,0.8s
MOSI AML AML
comp=E,596µm,0.7s
MOSI AML AML
comp=N,1360µm,0.8s
MOSI AML AML
comp=E,596µm,0.7s
CADS Cadrg 2.67 35 *i* Pn **Pn** 03 53 57.9 -1.4
PTCC Patocco-Chiusa 2.67 28 AML AML
comp=E,226µm,1.5s
PTCC AML AML
comp=E,226µm,1.5s
PTCC AML AML
comp=N,232µm,0.9s
PTCC AML AML
comp=N,232µm,0.9s
ABSI Aberstueckl 2.68 357 AML AML
comp=N,788µm,0.9s
ABSI AML AML
comp=E,800µm,0.7s
ABSI AML AML
comp=N,788µm,0.9s
ABSI AML AML
comp=E,800µm,0.7s
FVI Forni Avoltri 2.69 18 AML AML
comp=E,290µm,0.7s
FVI AML AML
comp=N,280µm,0.8s
FVI AML AML
comp=E,290µm,0.7s
FVI AML AML
comp=N,280µm,0.8s
FUORN Ofenpass-Fuorn 2.73 341 AML AML
comp=E,487µm,0.7s
FUORN AML AML
comp=N,292µm,0.7s
FUORN AML AML
comp=E,487µm,0.7s
FUORN AML AML
comp=N,292µm,0.7s
ABTA Abfaltersbach 2.78 14 *e*Pn **Pn** 03 54 00.7 -0.1
comp=N,42nm,0.7s,SNR=28
ABTA Sn **Sn** 03 54 35.3 +0.9
comp=N,62nm,0.7s
ACOM Acomizza, Ital 2.85 28 AML AML
comp=E,418µm,0.8s
ACOM AML AML
comp=N,281µm,0.5s
ACOM AML AML
comp=E,418µm,0.8s
ACOM AML AML
comp=N,281µm,0.5s
ROSI Rosskopf 2.88 358 AML AML
comp=N,586µm,0.6s
ROSI AML AML
comp=E,534µm,0.9s
ROSI AML AML
comp=E,534µm,0.9s
ROSI AML AML
comp=N,586µm,0.6s
SAOF Saorge 2.89 270 P **Pn** 03 54 01.7 -0.6
SAOF S **Sn** 03 54 34.9 -2.1
LJU Ljubljana 2.90 46 *e*Pn **Pn** 03 53 59.7 -2.7
LJU Ljubljana 2.90 46 AML AML
comp=E,445µm,0.6s
LJU AML AML
comp=E,445µm,0.6s
LJU AML AML
comp=N,640µm,0.9s
LJU AML AML
comp=N,640µm,0.9s
RISI Rein 2.92 7 AML AML
comp=E,444µm,0.6s
RISI AML AML
comp=E,444µm,0.6s
RISI AML AML
comp=N,614µm,0.5s
RISI AML AML
comp=N,614µm,0.5s
MYKA Terra Mystica 2.97 29 *e*Pn **Pn** 03 54 03.0 -0.4
comp=N,3.6nm,0.2s,SNR=5.7
MYKA Sn **Sn** 03 54 39.5 +0.5
comp=N,28nm,0.4s
DAVOX Davos/Dischmat 2.97 337 Pn **Pn** 03 54 04.1 +0.5
comp=N,7.5nm,0.3s,baz=170,slow=7.5,SNR=70
DAVOX Sn **Sb** 03 54 44.9 -1.0
comp=N,5.8nm,0.3s,baz=208,slow=22,SNR=5.5
DAVOX Davos/Dischmat 2.97 337 AML AML
comp=N,224µm,0.5s
DAVOX AML AML
comp=E,160µm,0.6s
DAVOX AML AML
comp=E,160µm,0.6s
DAVOX AML AML
comp=N,224µm,0.5s
SBF Sospel 2.98 268 *e*Pn **Pn** 03 54 03.0 -0.6
SBF *e*Sn **Sn** 03 54 37.5 -1.9
comp=N,158nm,0.5s
BOJS Bojanci 3.00 60 AML AML
comp=E,113µm,1.4s
BOJS AML AML
comp=E,113µm,1.4s
BOJS AML AML
comp=N,118µm,0.9s
BOJS AML AML
comp=N,118µm,0.9s
FETA Feichten 3.02 349 *e*Pn **Pn** 03 54 05.7 +1.4
comp=N,40nm,0.6s,SNR=57
FETA Sn **Sn** 03 54 40.8 +0.2
comp=N,13nm,0.5s
VNDS Vrh nad Dolski 3.03 46 *i* Pn **Pn** 03 54 03.4 -0.8
ESCA l'Escarene 3.03 267 P **Pn** 03 54 02.9 -1.3
REVF Revere 3.04 266 P **Pn** 03 54 03.5 -1.0
UDBI Udbina 3.06 80 *e*Pn **Pn** 03 54 05.5 +0.8
UDBI Sn **Sn** 03 54 42.0 +0.8
TRAV Traversella 3.08 300 AML AML
comp=N,204µm,0.9s
TRAV AML AML
comp=E,192µm,0.6s
TRAV AML AML
comp=N,204µm,0.9s
TRAV AML AML
comp=E,192µm,0.6s
FUSIO Fusio 3.15 321 AML AML
comp=E,329µm,0.7s
FUSIO AML AML
comp=N,204µm,0.7s
FUSIO AML AML
comp=E,329µm,0.7s
FUSIO AML AML
comp=N,204µm,0.7s
SQTA Sankt Quirin 3.18 356 *e*Pn **Pn** 03 54 07.1 +0.8
comp=N,1.8nm,0.2s,SNR=38
SQTA *e*Sn **Sn** 03 54 44.7 +0.4
comp=N,29nm,0.3s
OZLJ Ozalj 3.19 59 *e*Pn **Pn** 03 54 06.2 -0.2
OZLJ Sn **Sn** 03 54 41.4 -3.0
WTTA Wattenberg 3.21 1 *e*Pn **Pn** 03 54 08.4 +1.5
comp=N,3.3nm,0.2s,SNR=10
WTTA *e*Sn **Sn** 03 54 44.6 -0.6
comp=N,31nm,0.5s
WTTA Wattenberg 3.21 1 AML AML
comp=N,372µm,0.9s
WTTA AML AML
comp=E,466µm,0.6s
WTTA AML AML
comp=N,372µm,0.9s
WTTA AML AML
comp=E,466µm,0.6s
OBKA Obir 3.24 40 *i* Pn **Pn** 03 54 06.5 -0.7
comp=E,1.6nm,0.2s
OBKA *e*Sn **Sn** 03 54 46.8 +1.0
comp=E,26nm,0.4s
ISO Isola 3.25 274 P **Pn** 03 54 06.8 -0.5
ISO S **Sn** 03 54 45.2 -0.8
KBA Koelnbreinsper 3.27 22 *i* Pn **Pn** 03 54 07.7 -0.1
comp=E,2.9nm,0.2s,SNR=10
KBA *e*Sn **Sn** 03 54 46.9 +0.1
comp=E,36nm,0.8s
WATA Walderalm 3.28 0 *i* Pn **Pn** 03 54 09.7 +1.9
comp=E,7.0nm,0.2s
CRES Cresnjev 3.29 56 *e*Pn **Pn** 03 54 06.6 -1.2
MOTA Moosalm 3.31 355 *i* Pn **Pn** 03 54 09.1 +0.9
comp=E,3.2nm,0.2s,SNR=44
DAVA Damuels 3.44 341 *e*Pn **Pn** 03 54 12.0 +1.9
comp=E,17nm,0.4s,SNR=28
DAVA *e*Sn **Sn** 03 54 50.3 -0.6
comp=E,109nm,0.6s
LSD Lago del Serru 3.45 296 AML AML
comp=N,83µm,1.2s
LSD AML AML
comp=E,71µm,1.3s
LSD AML AML
comp=N,83µm,1.2s
LSD AML AML
comp=E,71µm,1.3s
RETA Reutte 3.48 351 *e*Pn **Pn** 03 54 11.6 +1.2
comp=E,9.9nm,0.3s,SNR=35
RETA *e*Sn **Sn** 03 54 52.3 +0.6
comp=E,12nm,0.4s
MBDF Montbardon 3.50 283 *e*Pn **Pn** 03 54 10.1 -0.7
MBDF *e*Sn **Sn** 03 54 50.6 -1.6
comp=E,38nm,0.5s
FRF La Foret Royal 3.59 264 *e*Pn **Pn** 03 54 10.7 -1.2
FRF *e*Sn **Sn** 03 54 51.4 -2.9
comp=E,25nm,0.4s
SOKA Soboth 3.59 42 *i* Pn **Pn** 03 54 11.4 -0.6
comp=E,0.7nm,0.2s
SOKA Sn **Sn** 03 54 54.8 +0.4
comp=E,2.7nm,0.3s
LPG La Plagne 3.71 295 *e*P **Pn** 03 54 14.7 +0.8
LPG *e*Sn **Sn** 03 54 56.4 -1.4
comp=E,13nm,0.4s
LMR La Mourre 3.73 261 *e*Pn **Pn** 03 54 12.4 -1.5
LMR *e*Sn **Sn** 03 54 54.7 -3.1
comp=E,9.0nm,0.2s
LPL La Plagne 3.73 295 *e*Pn **Pn** 03 54 15.4 +1.3
LPL *e*Sn **Sn** 03 54 56.7 -1.5
comp=E,21nm,0.4s
SGRT San Giovanni R 3.84 125 AML AML
comp=E,97µm,1.0s
SGRT AML AML
comp=N,74µm,1.3s
SGRT AML AML
comp=E,97µm,1.0s
SGRT AML AML
comp=N,74µm,1.3s
BLY Banja Luka 4.09 78 *e*Pn **Pn** 03 54 18.7 -0.1
ORIF Oris-en-Rattie 4.15 284 *e*P **Pn** 03 54 21.4 +1.6
ORIF *e*Sn **Sn** 03 55 06.3 -2.1
comp=N,6.9nm,0.4s
ARSA Arzberg 4.24 40 *i* Pn **Pn** 03 54 20.1 -0.8
comp=N,2.7nm,0.2s
ARSA *e*Sn **Sn** 03 55 10.4 +0.1
comp=N,6.0nm,0.5s
MOA Molln 4.24 25 *i* Pn **Pn** 03 54 21.1 +0.2
comp=N,7.1nm,0.3s,SNR=8.9
MOA *e*Sn **Sn** 03 55 10.4 0.0
comp=N,8.3nm,0.3s
SMRF Simiane la Rot 4.32 271 *e*Pn **Pn** 03 54 21.8 -0.1
SMRF *e*Sn **Sn** 03 55 09.4 -2.9
comp=N,8.8nm,0.4s
BEHE Becsehely 4.41 55 *e*Pn **Pn** 03 54 22.9 -0.2
GIMEL St. Georges / 4.48 305 AML AML
comp=N,52µm,1.6s
GIMEL AML AML
comp=E,48µm,1.1s
GIMEL AML AML
comp=N,52µm,1.6s
GIMEL AML AML
comp=E,48µm,1.1s
STON Ston 4.62 103 *i* Pn **Pn** 03 54 27.4 +1.3
STON Sn **Sn** 03 55 19.9 +0.1
STON Ston 4.62 103 *e*Pn **Pn** 03 54 26.6 +0.5
CABF La Chapelle 4.63 305 *e*Pn **Pn** 03 54 27.9 +1.6
CABF *e*Sn **Sn** 03 55 15.7 -4.3
comp=E,5.9nm,0.3s
LOMF Lomont 4.67 317 P **Pn** 03 54 27.9 +1.0
LOMF S **Sn** 03 55 24.4 +3.2
MOF Molkenrain 4.89 322 P **Pn** 03 54 30.7 +0.8
MOF S **Sn** 03 55 29.8 +3.2
CONA Conrad Observa 4.90 36 *i* Pn **Pn** 03 54 29.6 -0.4
comp=E,1.8nm,0.2s
CONA *e*Sn **Sn** 03 55 27.4 +0.6
comp=E,3.2nm,0.4s
HINF Hinteralfeld 4.99 321 *e*Pn **Pn** 03 54 30.9 -0.3
HINF *e*Sn **Sn** 03 55 24.4 -4.6
comp=E,13nm,0.3s
VIVF Saint-Julien-l 4.99 282 *e*Pn **Pn** 03 54 29.9 -1.4
VIVF *e*Sn **Sn** 03 55 26.0 -3.0
comp=E,13nm,0.6s
GERES GERESS Array B 5.02 16 Pn **Pn** 03 54 30.6 -1.1
comp=E,1.6nm,0.3s,baz=195,slow=13,SNR=47
GERES Sn **Sn** 03 55 28.9 -0.7
comp=E,1.8nm,0.3s,baz=198,slow=21,SNR=13
GERES LR LR 03 56 38.9
comp=E,81nm,18.7s,baz=207,slow=41
TREB Trebinje 5.13 103 *e*Pn **Pn** 03 54 32.8 -0.2
BRY Bratogost 5.21 100 *e*Pn **Pn** 03 54 33.6 -0.7
STR Strasbourg 5.24 331 P **Pn** 03 54 35.2 +0.6
KHC Kasperske Hory 5.27 15 *e*PN **Pn** 03 54 34.2 -0.8
KHC *e*SN **Sn** 03 55 33.3 -2.4
CDF Champ du Feu 5.28 327 *e*Pn **Pn** 03 54 35.3 +0.1
CDF *e*Sn **Sn** 03 55 31.3 -4.7
comp=E,22nm,0.4s
HAPS Han Pijesak,Bl 5.33 87 *e*Pn **Pn** 03 54 37.1 +1.2
HAU Haudompre 5.36 319 *e*Pn **Pn** 03 54 36.6 +0.3
HAU *e*Sn **Sn** 03 55 33.6 -4.5
comp=E,69nm,0.5s
LASF Ste Croix 5.55 273 *e*Pn **Pn** 03 54 37.3 -1.6
LASF *e*Sn **Sn** 03 55 39.1 -3.6
comp=E,4.1nm,0.6s
LANF Langenberg 5.57 334 P **Pn** 03 54 39.4 +0.3
ZST Bratislava 5.66 41 *e*PN **Pn** 03 54 38.6 -1.7
THEF They Montfort 5.69 319 P **Pn** 03 54 41.5 +0.6
PDG Podgorica 5.85 103 *e*Pn **Pn** 03 54 44.9 +1.9
MODS Modra-Piesok 5.87 41 *e*PN **Pn** 03 54 42.6 -0.6
MODS *e* 03 55 46.2
DRME Dracevica, Mon 5.88 106 *e*Pn **Pn** 03 54 43.9 +0.4
TREC Trest 5.90 26 *e*PN **Pn** 03 54 42.4 -1.2
TREC *e*SN **Sn** 03 55 48.6 -2.6
KRUC Moravsky 6.02 32 *e*PN **Pn** 03 54 43.8 -1.5
SMF Signal de Mont 6.02 298 *e*Pn **Pn** 03 54 45.1 -0.3
SMF *e*Sn **Sn** 03 55 49.7 -4.6
comp=E,10nm,0.4s
SMOL Smolenice 6.04 40 *e*PN **Pn** 03 54 43.2 -2.3
SMOL *e* 03 55 47.3
LBL Lubilhac 6.05 284 P **Pn** 03 54 45.8 +0.1
PAGF Fort de Pagny 6.05 320 *e*Pn **Pn** 03 54 46.9 +1.2
baz=155
PAGF *e*Sn **Sn** 03 55 49.9 -5.0
comp=E,24nm,0.5s
SFTF Sexfontaines 6.14 315 *e*Pn **Pn** 03 54 47.7 +0.7
SFTF *e*Sn **Sn** 03 55 52.3 -5.0
comp=E,6.7nm,0.4s
NKC Novy Kostel 6.21 5 *e*PN **Pn** 03 54 48.0 0.0
NKC *e*SN **Sn** 03 55 56.0 -3.0
GOPC GO Pecny, Ondr 6.26 19 *e*PN **Pn** 03 54 48.2 -0.5
PRU Pruhonice 6.28 18 *e*PN **Pn** 03 54 47.8 -1.0
PRU *e*SN **Sn** 03 55 57.9 -2.6
LOR Lormes 6.28 303 *e*Pn **Pn** 03 54 49.4 +0.5
baz=125
LOR *e*Sn **Sn** 03 55 57.5 -3.1
comp=E,15nm,0.3s
AGO Saint Agoulin 6.29 291 P **Pn** 03 54 48.8 -0.3
MEZF Maizieres J'vi 6.33 317 *e*Pn **Pn** 03 54 50.6 +1.0
baz=138
MEZF *e*Sn **Sn** 03 55 56.7 -5.2
comp=E,3.5nm,0.3s
AVF Avril sur Loir 6.39 298 *e*Pn **Pn** 03 54 50.8 +0.4
AVF *e*Sn **Sn** 03 55 58.3 -5.0
comp=E,2.8nm,0.4s
JAVC Velka Javorina 6.40 39 *e*PN **Pn** 03 54 49.5 -1.0
SSF Saint Saulge 6.40 301 *e*Pn **Pn** 03 54 51.1 +0.5
SSF *e*Sn **Sn** 03 55 59.7 -3.9
comp=E,9.1nm,0.5s
BGF Bois d'Agland 6.63 295 *e*Pn **Pn** 03 54 54.7 +1.0
BGF *e*Sn **Sn** 03 56 04.6 -4.7
comp=E,19nm,0.5s
VYHS Vyhne 6.72 46 *e*PN **Pn** 03 54 53.1 -1.8
VYHS *e* 03 56 08.0
MTLF Montolieu 6.81 267 *e*Pn **Pn** 03 54 55.6 -0.5
MTLF *e*Sn **Sn** 03 56 08.8 -4.8
comp=E,2.8nm,0.5s
CAF Calviac 6.85 281 *e*Pn **Pn** 03 54 56.3 -0.4
CAF *e*Sn **Sn** 03 56 09.8 -4.8
TCF Toulx Ste Croi 6.97 292 *e*Pn **Pn** 03 54 56.8 -1.6
TCF *e*Sn **Sn** 03 56 12.4 -5.4
comp=E,11nm,0.6s
BRG Berggiesshubel 7.01 12 PN **Pn** 03 54 58.6 -0.3
BRG SN **Sn** 03 56 15.5 -3.0
BRG SG Sg 03 57 19.6 +18
comp=E,13nm,1.0s
HYF Humbligny 7.03 300 *e*Pn **Pn** 03 54 58.9 -0.2
HYF *e*Sn **Sn** 03 56 13.4 -5.6
DPC Dobruska-Polom 7.08 26 *e*SN **Sn** 03 56 15.8 -4.7
UPC Upice 7.13 24 *e*PN **Pn** 03 54 59.7 -0.8
RJF Les Rejaudoux 7.27 283 *e*Pn **Pn** 03 55 02.4 0.0
RJF *e*Sn **Sn** 03 56 21.8 -3.1

CLL	**Collm**	**7.32**	**7**	*e*Pn	**Pn**	03 55 02.0	**-1.2**
CLL				*e*		03 55 08.0	
CLL				*e*Sn	Sn	03 56 09.0	-17
CLL				*e*		03 56 39.0	
CLL				*e*		03 56 53.0	
CLL				*e*Sg	**Sg**	**03 57 10.0**	**-1.2**
	comp=Z,17nm,1.1s						
EPF	**Esparros**	**8.21**	**267**	*e*Pn	**Pn**	**03 55 14.1**	**-1.4**
EPF				*e*Sn	**Sn**	**03 56 42.1**	**-6.2**
	comp=Z,0.3nm,0.2s						
KEST	**Kesra**	**8.48**	**192**	Pn	**Pn**	**03 55 23.1**	**+3.9**
	comp=Z,0.2nm,0.3s,baz=147,slow=3.8,SNR=6.2						
MFF	**Saint Martin d**	**8.63**	**291**	*e*Pn	**Pn**	**03 55 19.2**	**-1.9**
MFF				*e*Sn	**Sn**	**03 56 52.0**	**-6.4**
	comp=Z,1.1nm,0.3s						
ETSF	**Etsaut**	**8.89**	**267**	*e*Pn	**Pn**	**03 55 26.1**	**+1.4**
LDF	**La Druitiere**	**9.27**	**303**	*e*Pn	**Pn**	**03 55 30.9**	**+1.1**
LDF				*e*Sn	**Sn**	**03 57 09.2**	**-4.8**
FLN	**La Foliniere**	**9.55**	**304**	*e*Pn	**Pn**	**03 55 33.9**	**+0.1**
FLN				*e*Sn	**Sn**	**03 57 16.1**	**-5.0**
GRR	**Gorron**	**9.63**	**301**	*e*Pn	**Pn**	**03 55 35.3**	**+0.5**
GRR				*e*Sn	**Sn**	**03 57 17.5**	**-5.5**
EKA	**Eskdalemuir Ar**	**14.73**	**325**	Pn	**Pn**	**03 56 45.3**	**+0.8**
	baz=135,slow=14,SNR=3.5						
NB2	**NORSAR Subarra**	**17.02**	**359**	P	**P**	**03 57 16.8**	**+0.8**
	comp=Z,4.2nm,1.1s,baz=177,slow=14						
NOA	**NORSAR Array B**	**17.02**	**359**	Pn	**Pn**	**03 57 12.9**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=178,slow=11,SNR=8.7						
NOA				LR	LR	04 03 59.8	
	comp=Z,13nm,18.5s,baz=300,slow=38						
FINES	**FINESS Array B**	**19.43**	**21**	LR	LR	04 05 09.7	
	comp=Z,52nm,20.4s,baz=266,slow=37						
TORD	**Torodi Ar. Bea**	**31.94**	**198**	P	**P**	**03 59 42.3**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=356,slow=11,SNR=3.9						
NRIK	**Noril'sk**	**44.79**	**29**	LR	LR	04 21 56.3	
	comp=Z,33nm,18.1s,baz=52,slow=38						
MKAR	**Makanchi Array**	**48.17**	**61**	P	**P**	**04 01 56.5**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=284,slow=6.0,SNR=10						
SONM	**Songino Array**	**61.90**	**50**	P	**P**	**04 03 36.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=278,slow=4.2,SNR=4.7						
YKA	**Yellowknife Ar**	**65.41**	**336**	P	**P**	**04 03 60.0**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=39,slow=5.7,SNR=5.3						
ILAR	**Eielson Array**	**70.21**	**350**	P	**P**	**04 04 30.1**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=8.0,slow=6.2,SNR=14						
TXAR	**Lajitas Array**	**86.02**	**308**	P	**P**	**04 05 58.2**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=69,slow=4.9,SNR=5.4						

*IDC **04** 04:05:49.5±0.9, 8.°59S×157.°52E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/30, mbtmp3.8/8, ML4.0/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/27, Error ellipse: s-maj=28.9km s-min=19.8km az=157.0*

*ISCJB **04** 04:05:50.9±0.7, 8.°6S±0.°1×157.°40E±0.°07, h16km, mb3.7/7, MS2.9/1, Error ellipse: s-maj=19.3km s-min=10.3km az=6.7*

ISC 04 04:05:51.9±0.8, 8.°6S±0.°2×157.°59E±0.°09, h16km, n12, σ1§13/12, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.46**	**109**	*e*P	**Pn**	**04 06 30.0**	**-1.4**
HNR				*e*S	**Sb**	**04 07 07.0**	**+1.1**
HNR	**Honiara**	**2.46**	**109**	Pn	**Pn**	**04 06 30.4**	**-1.0**
	30nm,0.3s,baz=208,slow=4.6,SNR=10						
HNR				Sn	**Sb**	**04 07 06.2**	**+0.3**
	126nm,0.3s,baz=294,slow=16,SNR=10						
HNR				LR	LR	04 07 25.0	
	comp=Z,530nm,19.6s,baz=258,slow=38						
DZM	**Mont Dzumac**	**15.84**	**148**	LR	LR	04 14 07.9	
WRA	**Warramunga Arr**	**25.14**	**241**	P	**P**	**04 11 15.2**	**-1.3**
	3.4nm,1.0s,baz=67,slow=9.1,SNR=8.1						
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**04 11 34.5**	**-0.2**
	0.5nm,0.8s,baz=75,slow=7.8,SNR=3.7						
STKA	**Stephens Creek**	**27.49**	**211**	P	**P**	**04 11 38.9**	**+1.3**
	1.8nm,0.7s,baz=32,slow=15,SNR=4.8						
KSRS	**Korea Array**	**53.60**	**331**	LR	LR	04 37 41.8	
	comp=Z,10nm,18.7s,baz=250,slow=36						
ILAR	**Eielson Array**	**63.97**	**21**	P	**P**	**04 18 19.9**	**-1.2**
	1.0nm,1.2s,baz=277,slow=2.6,SNR=4.4						
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**04 18 33.7**	**+0.4**
	0.2nm,0.6s,baz=114,slow=7.0,SNR=2.5						
NVAR	**Mina Array Bea**	**90.72**	**51**	P	**P**	**04 18 56.0**	**+1.4**
	0.9nm,0.8s,baz=241,slow=7.3,SNR=6.1						
YKA	**Yellowknife Ar**	**96.58**	**28**	P	**P**	**04 19 21.2**	**+0.5**
	0.2nm,0.8s,baz=252,slow=3.9,SNR=3.2						
BDFB	**Brasilia**	**145.00**	**133**	PKPbc	**PKPab**	**04 25 28.4**	**-0.5**
	2.0nm,0.9s,baz=104,slow=4.2,SNR=4.4						

*SOME **04** 04:29:07.4, 44.°33N×81.°53E, h5km*

*NNC **04** 04:29:07.4±2.5, 44.°40N×81.°52E, h0km, mb2.5, mpv2.1, Error ellipse: s-maj=49.0km s-min=8.3km az=122.0*

ISC 04 04:29:07.3±2.0, 44.°21N±0.°07×81.°73E±0.°09, h26km±19km, n11, σ1§01/20, 6C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.40**	**276**	*e*P	**Pn**	**04 29 32.0**	**+0.8**
	1.4nm,0.1s						
DJR				*e*S	**Sb**	**04 29 49.6**	**-0.6**
	6.5nm,0.1s						
PDGK	**Podgornoye**	**1.85**	**242**	⇑Pn	**Pb**	**04 29 40.0**	**-0.4**
	0.8nm,0.3s						
PDGK				⇑Lg	Lg	04 30 04.7	
	9.3nm,0.4s						
SHLS	**Shalkode**	**1.96**	**238**	*e*P	**Pn**	**04 29 38.5**	**-0.3**
	4.4nm,0.1s						
SHLS				*e*S	**Sn**	**04 30 01.4**	**-1.3**
	42nm,0.3s						
KAPS	**Kapalarasan**	**2.00**	**303**	*e*P	**Pn**	**04 29 41.2**	**+1.7**
	3.8nm,0.1s						
KAPS				*e*S	**Sb**	**04 30 05.8**	**-1.8**
	35nm,0.4s						
UZB	**Uzynbulak**	**2.23**	**243**	*e*P	**Pb**	**04 29 46.6**	**-0.4**
	1.1nm,0.1s						
UZB				*e*S	**Sb**	**04 30 15.5**	**+1.2**
	15nm,0.3s						
MNBS	**Baschi**	**2.40**	**268**	*e*P	**Pb**	**04 29 49.2**	**-0.7**
	2.3nm,0.3s						
MNBS				*e*S	**Sb**	**04 30 20.1**	**+1.1**
	17nm,0.2s						
MAKZ	**Makanchi**	**2.60**	**4**	⇑Pg	**Pb**	**04 29 52.6**	**-0.6**
	0.8nm,0.6s						
MAKZ				⇑Lg	Lg	04 30 23.6	
	1.5nm,0.5s						
MK31	**Makanchi Array**	**2.61**	**8**	Pn	**Pn**	**04 29 48.0**	**+0.2**
	0.1nm,0.2s,baz=76,slow=13,SNR=20						
MK31				⇑Pg	**Pb**	**04 29 53.7**	**+0.3**
	0.8nm,0.4s,baz=186,slow=16,SNR=8.0						
MK31				⇑Lg	Lg	04 30 23.3	
	2.1nm,0.5s,baz=188,slow=28,SNR=8.5						
SATY	**Saty**	**2.67**	**246**	*e*P	**Pb**	**04 29 54.1**	**-0.5**
	1.7nm,0.1s						
SATY				*e*S	**Sb**	**04 30 28.0**	**+1.0**
	28nm,0.2s						
ARXS	**Arharly**	**2.81**	**271**	*e*P	**Pb**	**04 29 56.2**	**-0.6**
	2.7nm,0.3s						
ARXS				*e*S	**Sb**	**04 30 31.4**	**+0.7**
	7.7nm,0.4s						
CHKK	**Chushkaly**	**3.44**	**266**	*e*P	**Pb**	**04 30 07.0**	**-0.5**
	1.3nm,0.2s						
CHKK				*e*S	**Sb**	**04 30 50.0**	**+1.1**
	6.6nm,0.2s						

*IDC **04** 04:30:18.8±0.7, 5.°39S×104.°79E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/43, mbtmp3.9/13, ML3.3/1, MS3.4/8, Ms1 3.5/8, ms1mx3.1/35, Error ellipse: s-maj=33.3km s-min=14.1km az=49.0*

*DJA **04** 04:30:21.3±0.4, 6.°S±3.°×10.°5E±.°, h10km, M4.5/9, MLv4.5/9*

*NEIC **04** 04:30:25.4±0.9, 5.°42S×104.°84E, h50km±8km, mb4.0/6, Error ellipse: s-maj=16.9km s-min=6.2km az=224.0*

NEIC Felt [III] at Tanggamus.

ISC 04 04:30:20.9±1.2, 5.°52S±0.°06×104.°77E±0.°05, h16km±7km, n54, σ1§23/54, mb4.0/15, MS3.4/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.27**	**270**	P	**Pg**	**04 30 26.8**	**0.0**
KASI				S	**Sg**	**04 30 30.6**	**-0.2**
BLSI	**Bandar Lampung**	**0.50**	**72**	P	**Pn**	**04 30 32.1**	**-1.4**
BLSI				S	**Sn**	**04 30 39.9**	**-1.9**
KLI	**Kotabumi**	**0.66**	**8**	P	**Pn**	**04 30 36.6**	**+0.9**
KLI				S	**Sn**	**04 30 47.2**	**+1.4**
LWLI	**Liwa**	**0.87**	**305**	P	**Pn**	**04 30 38.9**	**+0.3**
LWLI				S	**Sn**	**04 30 51.8**	**+0.8**
MDSI	**Maura Dua**	**1.19**	**330**	P	**Pg**	**04 30 45.0**	**+1.1**
LHSI	**Lahat**	**2.09**	**324**	P	**Pb**	**04 30 57.3**	**-1.2**
MNAI	**Manna**	**2.14**	**303**	*e*Pn	**Pb**	**04 30 59.8**	**+0.3**
MNAI				*e*Sn	**Sb**	**04 31 25.3**	**-0.5**
MNAI	**Manna**	**2.14**	**303**	P	**Pb**	**04 30 57.6**	**-1.8**
MNAI				S	**Sb**	**04 31 25.4**	**-0.4**
LEM	**Lembang**	**3.12**	**115**	P	**Pn**	**04 31 10.2**	**+0.6**
LEM	**Lembang**	**3.12**	**115**	Pn	**Pn**	**04 31 10.9**	**+1.3**
	3.6nm,0.3s,baz=300,slow=20,SNR=1.5						
PPBI	**Pangkal Pinang**	**3.61**	**22**	P	**Pn**	**04 31 18.9**	**+2.7**
CISI	**Cisompet, Garu**	**3.64**	**124**	*e*Pn	**Pn**	**04 31 20.6**	**+3.9**
CISI	**Cisompet, Garu**	**3.64**	**124**	P	**Pn**	**04 31 17.3**	**+0.6**
UGM	**Wanagama**	**6.19**	**113**	*e*Pn	**Pn**	**04 31 53.9**	**+2.2**
BKNI	**Bangkinang**	**6.90**	**327**	*e*Pn	**Pn**	**04 32 00.6**	**-1.0**
PSI	**Prapat**	**10.12**	**325**	LR	LR	04 37 16.1	
	comp=Z,447nm,20.3s,baz=94,slow=42						
LUWI	**Luwuk**	**18.51**	**77**	*e*P	**P**	**04 34 35.4**	**-1.4**
	30nm,1.1s						
PBA	**Port Blair**	**20.84**	**325**	*e*P	P	04 35 01.2	-1.0
	112nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.91**	**123**	*e*P	**P**	**04 35 34.9**	**+0.6**
	4.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.91**	**123**	P	**P**	**04 35 34.9**	**+0.6**
	3.3nm,0.7s,baz=342,slow=7.0,SNR=8.2						
FITZ				LR	LR	04 44 30.8	
	comp=Z,55nm,20.4s,baz=327,slow=36						
CMAR	**Chiang Mai Arr**	**24.51**	**347**	P	**P**	**04 35 40.4**	**+0.5**
	0.5nm,0.3s,baz=179,slow=8.9,SNR=5.4						
CMAR				LR	LR	04 47 15.5	
	comp=Z,47nm,20.3s,baz=184,slow=42						
PALK	**Pallekele**	**27.17**	**298**	LR	LR	04 46 01.5	
	comp=Z,120nm,18.0s,baz=116,slow=35						
NWAO	**Narrogin (SRO)**	**29.64**	**158**	LR	LR	04 47 40.2	
	comp=Z,118nm,19.4s,baz=199,slow=35						
H01W3	**Cape Leeuwin H**	**30.47**	**165**	T	T	05 08 22.4	
	baz=342,slow=76,SNR=19						
H01W1	**Cape Leeuwin H**	**30.49**	**165**	T	T	05 08 24.8	
	baz=342,slow=76,SNR=20						
H01W2	**Cape Leeuwin H**	**30.49**	**165**	T	T	05 08 24.7	
	baz=342,slow=76,SNR=18						
WR1	**Warramunga Arr**	**32.12**	**119**	*e*P	**P**	**04 36 48.3**	**+0.3**
	2.3nm,0.8s						
WR1				*e*PcP	**PcP**	**04 39 37.6**	**+0.5**
WRA	**Warramunga Arr**	**32.12**	**119**	P	**P**	**04 36 48.3**	**+0.3**
	1.3nm,0.7s,baz=288,slow=12,SNR=6.3						
WRA				PcP	**PcP**	**04 39 37.6**	**+0.5**
	0.6nm,0.8s,baz=299,slow=1.9,SNR=4.8						
AS31	**Alice Springs**	**33.35**	**126**	*e*P	**P**	**04 36 58.0**	**-0.6**
	1.9nm,1.1s						
ASAR	**Alice Springs**	**33.35**	**126**	P	**P**	**04 37 00.0**	**+1.4**
	2.4nm,0.6s,baz=299,slow=8.3,SNR=18						
ASAR				PcP	**PcP**	**04 39 41.5**	**+1.0**
	0.8nm,0.7s,baz=306,slow=2.5,SNR=5.7						
AS01	**Alice Springs**	**33.38**	**126**	*e*P	**P**	**04 36 58.6**	**-0.3**
STKA	**Stephens Creek**	**43.27**	**132**	*e*P	**P**	**04 38 22.9**	**+0.9**
	1.2nm,0.6s						
STKA	**Stephens Creek**	**43.27**	**132**	P	**P**	**04 38 22.6**	**+0.6**
	4.8nm,0.5s,baz=288,slow=6.4,SNR=12						
SONA0	**Songino Array**	**53.15**	**1**	*e*P	**P**	**04 39 38.8**	**+0.6**
SONM	**Songino Array**	**53.15**	**1**	P	**P**	**04 39 38.8**	**+0.6**
	0.9nm,0.7s,baz=168,slow=7.6,SNR=6.0						
SONA1	**Songino Array**	**53.16**	**1**	*e*P	**P**	**04 39 39.8**	**+1.5**
MK32	**Makanchi Array**	**55.77**	**341**	*e*P	**P**	**04 39 55.4**	**-1.7**
MKAR	**Makanchi Array**	**55.77**	**341**	P	**P**	**04 39 55.4**	**-1.7**
	0.5nm,0.7s,baz=151,slow=8.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**61.58**	**347**	P	**P**	**04 40 36.9**	**-0.5**
	0.4nm,0.3s,baz=178,slow=4.3,SNR=3.2						
ZALV				LR	LR	05 11 28.4	
	comp=Z,24nm,19.1s,baz=89,slow=40						
ZAA1	**Zalesovo Array**	**61.58**	**347**	*e*P	**P**	**04 40 36.9**	**-0.5**
DZM	**Mont Dzumac**	**61.72**	**112**	LR	LR	05 09 30.1	
	comp=Z,47nm,18.2s,baz=324,slow=38						
ABKAR	**Akbulak array**	**67.02**	**330**	*e*P	**P**	**04 41 11.9**	**-1.3**
	1.2nm,0.6s						
BOSA	**Boshof**	**78.18**	**242**	P	**P**	**04 42 21.2**	**+0.9**
	0.8nm,0.5s,baz=96,slow=3.7,SNR=4.2						
BR101	**Keskin Array S**	**79.20**	**312**	*e*P	**P**	**04 42 26.4**	**+0.8**
BRTR	**Keskin Array B**	**79.20**	**312**	P	**P**	**04 42 26.4**	**+0.8**
	0.7nm,0.8s,baz=111,slow=6.9,SNR=4.9						
AKASG	**Malin Array Be**	**85.17**	**322**	P	**P**	**04 42 55.6**	**-0.9**
	0.6nm,0.5s,baz=94,slow=5.3,SNR=4.6						
BUR04	**Bucovina Ar. S**	**87.04**	**318**	*e*P	**P**	**04 43 04.7**	**-1.2**
FIA0	**FINESS Array S**	**89.43**	**332**	*e*P	**P**	**04 43 16.9**	**0.0**
FINES	**FINESS Array B**	**89.43**	**332**	P	**P**	**04 43 16.9**	**0.0**
	0.4nm,0.5s,baz=157,slow=7.4,SNR=3.0						
NOA	**NORSAR Array B**	**96.52**	**331**	LR	LR	05 33 44.6	
	comp=Z,12nm,18.1s,baz=325,slow=40						
YKA	**Yellowknife Ar**	**116.23**	**19**	PKP	**PKiKP**	**04 49 02.4**	**-0.9**
	0.2nm,0.6s,baz=346,slow=1.9,SNR=4.2						
PDAR	**Pinedale Array**	**132.07**	**34**	PKP	**PKPdf**	**04 49 32.7**	**-1.9**
	0.2nm,0.6s,baz=347,slow=3.7,SNR=2.7						
TXAR	**Lajitas Array**	**144.19**	**45**	PKP	**PKPdf**	**04 49 56.4**	**-0.6**
	0.9nm,0.7s,baz=310,slow=1.1,SNR=12						
BDFB	**Brasilia**	**145.81**	**232**	PKPbc	**PKPab**	**04 50 02.0**	**+1.0**
	1.9nm,0.6s,baz=98,slow=6.0,SNR=7.2						

IDC 04 04:31:20.8±1.7, 4.°85S×145.°49E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/40, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=87.0km s-min=25.2km az=125.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.52**	**215**	P	Pn	04 35 39.1	+0.1
	0.1nm,0.3s,baz=35,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**21.80**	**210**	P	P	04 36 13.4	-1.2
	0.4nm,0.7s,baz=47,slow=7.0,SNR=3.6						
FITZ	**Fitzroy Crossi**	**23.46**	**234**	P	P	04 36 33.1	+1.0
	1.6nm,0.5s,baz=51,slow=11,SNR=14						
ILAR	**Eielson Array**	**85.02**	**23**	P	P	04 43 57.8	-0.2
	0.5nm,0.6s,baz=248,slow=4.8,SNR=11						

*NNC **04** 04:32:03.2±2.8, 40.°71N×77.°28E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=19.8km s-min=12.8km az=170.0*

*SOME **04** 04:32:04.4, 40.°83N×77.°17E, h5km*

KRNET 04 04:32:04.1±0.1, 40.°68N×77.°27E, h13km, mb2.6, 14C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.22**	**308**	⇓*i*P	Pn	04 32 27.1	-0.1
	baz=7.0						
NRN				⇓*i*S	Sn	04 32 44.3	+0.5
	baz=7.0						
KDJ	**Kajisay**	**1.45**	**357**	⇑*i*P	Pb	04 32 31.3	+0.2
	baz=58						
KDJ				⇑*i*S	Sg	04 32 50.7	-0.2
	baz=58						
ULHL	**Ulahol**	**1.75**	**334**	⇓*i*P	Pb	04 32 36.6	+0.4
	baz=34						
ULHL				⇓*i*S	Sg	04 32 59.9	-0.4
	baz=34						
PRZ	**Przheval'sk**	**1.99**	**25**	⇑*i*P	Pb	04 32 40.4	+0.1
	baz=25						
PRZ				⇑*i*S	Sg	04 33 06.7	-1.5
	baz=25						
KZA	**Kyzart**	**2.07**	**313**	⇑*i*P	Pb	04 32 42.1	+0.4
	baz=13						
KZA				⇑*i*S	Sg	04 33 09.8	-0.8
	baz=13						
BOOM	**Boomskoye usch**	**2.07**	**332**	⇑*i*P	Pb	04 32 41.8	+0.2
	baz=32						
BOOM				⇑*i*S	Sg	04 33 09.4	-1.2
	baz=32						
TNSS	**Tian-Shan**	**2.37**	**354**	Pg	Pb	04 32 47.3	+0.4
	3.2nm,0.2s						
TNSS				Lg	Lg	04 33 18.6	
	0.7nm,0.0s						
TNSS	**Tian-Shan**	**2.37**	**354**	*e*P	Pb	04 32 47.3	+0.4
	3.2nm,0.2s						
TNSS				*e*S	Sg	04 33 18.6	-1.7
	0.7nm,0.0s						
MDOK	**Medeo**	**2.49**	**356**	Pg	Pb	04 32 49.5	+0.8
	1.8nm,0.2s						
MDOK				Lg	Lg	04 33 22.2	
	13nm,0.4s						
MDOK	**Medeo**	**2.49**	**356**	*e*P	Pb	04 32 49.5	+0.8
	1.8nm,0.2s						
MDOK				*e*S	Sg	04 33 22.1	-1.9
	13nm,0.4s						
ARLS	**Aral**	**2.52**	**299**	⇑*i*P	Pb	04 32 48.3	-0.9
	baz=99						
ARLS				⇑*i*S	Sb	04 33 19.6	-0.6
	baz=99						
SATY	**Saty**	**2.52**	**19**	Pg	Pb	04 32 49.7	+0.4
	3.4nm,0.2s						
SATY				Lg	Lg	04 33 22.4	
	5.8nm,0.2s						
SATY	**Saty**	**2.52**	**19**	*e*P	Pb	04 32 49.8	+0.4
	3.4nm,0.2s						
SATY				*e*S	Sb	04 33 22.4	+2.0
	5.8nm,0.2s						
KOTS	**Kotyrbulak**	**2.56**	**357**	*e*P	Pb	04 32 50.7	+0.8
	5.1nm,0.4s						
KOTS				*e*S	Sg	04 33 24.0	-2.2
	7.3nm,0.3s						
TKM2	**Tokmak 2**	**2.57**	**331**	⇓Pg	Pb	04 32 48.1	-2.0
	3.1nm,1.1s						
TKM2				⇑Lg	Lg	04 33 25.3	
	3.8nm,0.9s						
KBK	**Karagaybulak**	**2.63**	**319**	⇑*i*P	Pb	04 32 49.5	-1.7
	baz=19						
KBK				⇑*i*S	Sb	04 33 23.0	-0.6
	baz=19						
UZB	**Uzynbulak**	**2.79**	**27**	*e*P	Pb	04 32 53.2	-0.7
	1.5nm,0.4s						
UZB				*e*S	Sb	04 33 28.2	+0.1
	1.0nm,0.3s						
DGS	**Degeres**	**2.79**	**337**	Pg	Pb	04 32 52.6	-1.4
	0.7nm,0.3s						
DGS				Lg	Lg	04 33 27.1	
	4.7nm,0.5s						
DGS	**Degeres**	**2.79**	**337**	*e*P	Pb	04 32 52.6	-1.4
	0.7nm,0.3s						
DGS				*e*S	Sb	04 33 27.1	-1.0
	4.7nm,0.5s						
AAK	**Ala-Archa**	**2.86**	**314**	⇓Pg	Pb	04 32 55.4	+0.4
	1.5nm,0.8s						
AAK				⇑Lg	Lg	04 33 34.6	
	3.1nm,1.0s						
PDGK	**Podgornoye**	**3.12**	**31**	⇓Pg	Pb	04 32 58.2	-1.3
	2.3nm,1.1s						
PDGK				⇓Lg	Lg	04 33 40.2	
	4.5nm,1.1s						

*IDC **04** 04:35:31.7±1.0, 8.°36S×157.°67E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/40, mbtmp3.9/7, ML3.9/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=28.8km s-min=21.6km az=160.0*

*ISCJB **04** 04:35:33.0±0.8, 8.°4S±0.°1×157.°58E±0.°08, h16km, mb3.7/6, Error ellipse: s-maj=21.0km s-min=10.6km az=12.5*

ISC 04 04:35:34.1±0.9, 8.°4S±0.°2×157.°7E±0.°1, h16km, n7, σ1§39/8, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.39**	**114**	Pn	**Pn**	**04 36 11.4**	**-1.2**
	23nm,0.3s,baz=267,slow=17,SNR=3.3						
HNR				Sn	**Sb**	**04 36 46.4**	**+0.4**
	99nm,0.3s,baz=254,slow=7.7,SNR=7.1						
HNR				LR	LR	04 36 47.7	
	comp=Z,87nm,19.7s,baz=326,slow=30						
WRA	**Warramunga Arr**	**25.37**	**241**	P	**P**	**04 40 59.4**	**-1.5**
	1.6nm,0.7s,baz=67,slow=9.5,SNR=5.3						
ASAR	**Alice Springs**	**27.39**	**234**	P	**P**	**04 41 19.0**	**-0.1**
	0.4nm,0.8s,baz=67,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**27.73**	**211**	P	**P**	**04 41 23.8**	**+1.8**
	2.0nm,0.7s,baz=54,slow=8.7,SNR=4.9						
ILAR	**Eielson Array**	**83.73**	**21**	P	**P**	**04 48 02.9**	**+0.8**
	1.3nm,1.2s,baz=259,slow=1.8,SNR=4.1						
MKAR	**Makanchi Array**	**86.29**	**318**	P	**P**	**04 48 14.2**	**-1.2**
	0.4nm,0.8s,baz=67,slow=5.9,SNR=3.1						
NVAR	**Mina Array Bea**	**90.48**	**51**	P	**P**	**04 48 36.6**	**+0.9**
	0.7nm,0.8s,baz=255,slow=6.9,SNR=4.7						

*SOME **04** 04:39:05.4, 42.°57N×79.°55E, h5km*

*NNC **04** 04:39:05.7±1.1, 42.°62N×79.°62E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=7.0km s-min=3.6km az=130.0*

*KRNET **04** 04:39:06.2±0.1, 42.°61N×79.°58E, h15km, mb3.3*

ISC 04 04:39:06.0±1.7, 42.°62N±0.°05×79.°58E±0.°05, h3km±11km, n58, σ1§10/100, 24C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.54**	**351**	*e*P	**Pb**	**04 39 17.5**	**-0.8**
	baz=22						
SHLS				*e*S	**Sb**	**04 39 26.6**	**0.0**
	baz=22						
SHLS	**Shalkode**	**0.54**	**351**	*e*P	**Pb**	**04 39 17.4**	**-0.8**
	160nm,0.1s						
SHLS				*e*S	**Sb**	**04 39 26.6**	**0.0**
	163nm,0.3s						
UZB	**Uzynbulak**	**0.67**	**322**	⇑*i*P	**Pb**	**04 39 19.5**	**-0.9**
	baz=22						
UZB				⇑*e*S	**Sb**	**04 39 29.6**	**-0.5**
	baz=22						
UZB	**Uzynbulak**	**0.67**	**322**	⇑*i*P	**Pb**	**04 39 19.5**	**-0.9**
	22nm,0.1s						
UZB				*e*S	**Sb**	**04 39 29.6**	**-0.5**
	118nm,0.2s						
PDGK	**Podgornoye**	**0.71**	**

MDOK	**Medeo**	**1.94**	**287**	⇓Pg	**Pb**	**04 39 41.5**	**-0.5**
	8.2nm,0.6s						
MDOK				⇑Lg	Lg	04 40 09.3	
	9.0nm,0.5s						
MDOK	**Medeo**	**1.94**	**287**	Pg	**Pb**	**04 39 41.1**	**-1.0**
	13nm,0.3s						
MDOK				Lg	Lg	04 40 06.1	
	20nm,0.3s						
MDOK	**Medeo**	**1.94**	**287**	*e*P	**Pb**	**04 39 41.1**	**-1.0**
	13nm,0.3s						
MDOK				*e*S	**Sb**	**04 40 06.1**	**-0.7**
	20nm,0.3s						
TNSS	**Tian-Shan**	**1.98**	**283**	Pg	**Pb**	**04 39 42.2**	**-0.7**
	14nm,0.3s						
TNSS				Lg	Lg	04 40 08.1	
	19nm,0.3s						
TNSS	**Tian-Shan**	**1.98**	**283**	*e*P	**Pb**	**04 39 42.2**	**-0.7**
	14nm,0.3s						
TNSS				*e*S	**Sb**	**04 40 08.1**	**-0.1**
	19nm,0.3s						
ARXS	**Arharly**	**2.04**	**322**	Pg	**Pb**	**04 39 43.4**	**-0.4**
	5.6nm,0.3s						
ARXS				Lg	Lg	04 40 10.4	
	43nm,0.4s						
ARXS	**Arharly**	**2.04**	**322**	*e*P	**Pb**	**04 39 43.4**	**-0.4**
	5.6nm,0.3s						
ARXS				*e*S	**Sg**	**04 40 10.4**	**-1.1**
	43nm,0.4s						
IZV	**Izvestkoviy**	**2.22**	**282**	Pg	**Pb**	**04 39 46.3**	**-0.6**
	60nm,0.1s						
IZV				Lg	Lg	04 40 15.1	
	20nm,0.3s						
IZV	**Izvestkoviy**	**2.22**	**282**	*e*P	**Pb**	**04 39 46.3**	**-0.6**
	baz=82						
IZV				*e*S	**Sb**	**04 40 15.1**	**+0.2**
	baz=82						
IZV	**Izvestkoviy**	**2.22**	**282**	*e*P	**Pb**	**04 39 46.3**	**-0.6**
	60nm,0.1s						
IZV				*e*S	**Sb**	**04 40 15.1**	**+0.2**
	20nm,0.3s						
CHKK	**Chushkaly**	**2.26**	**304**	Pg	**Pb**	**04 39 47.4**	**-0.1**
	2.9nm,0.1s						
CHKK				Lg	Lg	04 40 16.8	
	28nm,0.2s						
CHKK	**Chushkaly**	**2.26**	**304**	*e*P	**Pb**	**04 39 47.4**	**-0.1**
	baz=4.0						
CHKK				*e*S	**Sb**	**04 40 16.8**	**+0.9**
	baz=4.0						
CHKK	**Chushkaly**	**2.26**	**304**	*e*P	**Pb**	**04 39 47.4**	**-0.1**
	2.9nm,0.1s						
CHKK				*e*S	**Sb**	**04 40 16.8**	**+0.9**
	28nm,0.2s						
MTBS	**Maitube**	**2.37**	**283**	Pg	**Pb**	**04 39 49.0**	**-0.4**
	16nm,0.2s						
MTBS				Lg	Lg	04 40 19.7	
	22nm,0.3s						
MTBS	**Maitube**	**2.37**	**283**	*e*P	**Pb**	**04 39 49.0**	**-0.4**
	baz=84						
MTBS				*e*S	**Sb**	**04 40 19.7**	**+0.6**
	baz=84						
MTBS	**Maitube**	**2.37**	**283**	*e*P	**Pb**	**04 39 49.0**	**-0.4**
	16nm,0.2s						
MTBS				*e*S	**Sb**	**04 40 19.7**	**+0.6**
	22nm,0.3s						
KTBS	**Karatobe**	**2.38**	**298**	Pg	**Pb**	**04 39 49.2**	**-0.4**
	4.3nm,0.2s						
KTBS				Lg	Lg	04 40 20.0	
	13nm,0.2s						
KTBS	**Karatobe**	**2.38**	**298**	*e*P	**Pb**	**04 39 49.2**	**-0.4**
	4.3nm,0.2s						
KTBS				*e*S	**Sb**	**04 40 20.0**	**+0.5**
	13nm,0.2s						
ULHL	**Ulahol**	**2.50**	**262**	⇑*i*P	**Pb**	**04 39 49.9**	**-1.8**
	baz=63						
ULHL				⇑*i*S	**Sb**	**04 40 22.8**	**-0.1**
	baz=63						
TDK	**Taldyqorghan**	**2.53**	**341**	Pg	**Pb**	**04 39 50.9**	**-1.1**
	51nm,0.1s						
TDK				Lg	Lg	04 40 23.1	
	53nm,0.2s						
TDK	**Taldyqorghan**	**2.53**	**341**	*e*P	**Pb**	**04 39 50.9**	**-1.1**
	51nm,0.1s						
TDK				*e*S	**Sb**	**04 40 23.1**	**-0.5**
	53nm,0.2s						
KAPS	**Kapalarasan**	**2.67**	**357**	Pg	**Pb**	**04 39 54.2**	**-0.3**
	1.5nm,0.1s						
KAPS				Lg	Lg	04 40 28.5	
	11nm,0.3s						
KAPS	**Kapalarasan**	**2.67**	**357**	*e*P	**Pb**	**04 39 54.2**	**-0.3**
	1.5nm,0.1s						
KAPS				*e*S	**Sb**	**04 40 28.5**	**+0.8**
	11nm,0.3s						
KUU	**Kurty**	**2.69**	**299**	Pg	**Pb**	**04 39 55.3**	**+0.6**
	1.6nm,0.3s						
KUU				Lg	Lg	04 40 30.4	
	8.0nm,0.3s						
KUU	**Kurty**	**2.69**	**299**	*e*P	**Pb**	**04 39 55.3**	**+0.6**
	1.6nm,0.3s						
KUU				*e*S	**Sg**	**04 40 30.4**	**-1.8**
	8.0nm,0.3s						
BOOM	**Boomskoye usch**	**2.69**	**268**	⇑*i*P	**Pb**	**04 39 52.9**	**-2.0**
	baz=69						
BOOM				⇑*i*S	**Sb**	**04 40 27.3**	**-1.2**
	baz=69						
KST	**Kastek**	**2.69**	**280**	Pg	**Pb**	**04 39 54.1**	**-0.8**
	12nm,0.2s						
KST				Lg	Lg	04 40 28.4	
	10nm,0.4s						
KST	**Kastek**	**2.69**	**280**	*e*P	**Pb**	**04 39 54.9**	**0.0**
	12nm,0.2s						
KST				*e*S	**Sg**	**04 40 30.7**	**-1.8**
	10nm,0.4s						
DGS	**Degeres**	**2.86**	**284**	*e*P	**Pb**	**04 39 56.3**	**-1.5**
	7.1nm,0.3s						
DGS				*e*S	**Sb**	**04 40 31.3**	**-2.1**
	14nm,0.5s						
TKM2	**Tokmak 2**	**2.95**	**277**	⇑Pg	**Pb**	**04 39 59.6**	**+0.3**
	1.5nm,0.4s						
TKM2				⇓Lg	Lg	04 40 40.2	
	5.9nm,0.5s						
TKM2	**Tokmak 2**	**2.95**	**277**	⇑*i*P	**Pb**	**04 39 56.4**	**-2.9**
	baz=77						
TKM2				⇑*i*S	**Sb**	**04 40 33.5**	**-2.3**
	baz=77						
KZA	**Kyzart**	**3.25**	**262**	⇑*i*P	**Pn**	**04 40 00.6**	**+2.2**
	baz=62						
KZA				⇑*i*S	**Sb**	**04 40 41.1**	**-3.8**
	baz=62						
AAK	**Ala-Archa**	**3.75**	**272**	⇓Pg	**Pb**	**04 40 14.0**	**+1.0**
	2.1nm,0.8s						
AAK				⇑Lg	Lg	04 41 03.9	
	3.7nm,0.6s						
ARLS	**Aral**	**3.98**	**261**	⇑*i*P	**Pn**	**04 40 10.2**	**+2.1**
	baz=61						
ARLS				⇑*i*S	**Sn**	**04 40 57.2**	**+1.9**
	baz=61						
MAKZ	**Makanchi**	**4.52**	**21**	⇓Pn	**Pn**	**04 40 16.2**	**+0.7**
	0.6nm,0.2s						
MAKZ				⇓Lg	Lg	04 41 28.5	
	1.8nm,1.1s						
MK31	**Makanchi Array**	**4.60**	**24**	⇑Pn	**Pn**	**04 40 16.8**	**+0.4**
	0.2nm,0.2s,baz=204,slow=13,SNR=26						
MK31				⇑Sn	**Sn**	**04 41 10.1**	**-0.3**
	0.1nm,0.2s						
MK31				⇑Lg	Lg	04 41 29.3	
	1.1nm,0.6s,baz=203,slow=28						
MRKS	**Merke**	**4.69**	**274**	*e*P	**Pb**	**04 40 32.1**	**+3.2**
	1.8nm,0.2s						
MRKS				*e*S	**Sg**	**04 41 33.5**	**-3.0**
	1.4nm,0.2s						

SOME **04** *04:44:34.6, 43˚.70N×74˚.00E, h5km*
KRNET **04** *04:44:35.0±0.1, 43˚.68N×73˚.94E, h20km, mb2.6*
KNET **04** *04:44:35.9±0.5, 43˚.58N×73˚.92E, h0km, ml1.6, Error ellipse: s-maj=3.6km s-min=2.2km az=6.0*
NNC **04** *04:44:35.8±0.7, 43˚.59N×73˚.99E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=4.3km s-min=3.0km az=147.0*

ISC 04 04:44:34.4±1.2, **43˚.69N**±0˚.02×**73˚.94E**±0˚.03, **h2**km±11km, **n44, σ0s72/82, 28C-12D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGDS	**Sogindy**	**0.55**	**115**	P	**Pg**	**04 44 45.8**	**+0.8**
	11nm,0.1s						
SGDS				S	**Sg**	**04 44 53.3**	**+1.1**
	59nm,0.1s						
USP	**Ospenovka**	**0.59**	**136**	⇓P	**Pg**	**04 44 46.3**	**+0.6**
	14nm,0.1s,SNR=134						
USP				⇓S	**Sg**	**04 44 54.3**	**+1.0**
	20nm,0.1s						
USP	**Ospenovka**	**0.59**	**136**	⇑*i*P	**Pg**	**04 44 46.2**	**+0.6**
	baz=35						
USP				⇑*i*S	**Sg**	**04 44 54.2**	**+1.0**
	baz=35						
CHMS	**Chumysh**	**0.91**	**139**	⇓P	**Pg**	**04 44 51.7**	**-0.1**
	3.9nm,0.1s,SNR=26						
CHMS				⇑S	**Sg**	**04 45 04.5**	**+0.9**
	6.5nm,0.1s						
CHMS	**Chumysh**	**0.91**	**139**	⇑*i*P	**Pg**	**04 44 51.7**	**-0.1**
	baz=39						
CHMS				⇑*i*S	**Sg**	**04 45 04.3**	**+0.7**
	baz=39						
EKS2	**Erkin-Say**	**1.04**	**187**	⇑P	**Pg**	**04 44 54.1**	**-0.2**
	3.8nm,0.2s,SNR=26						
EKS2				⇑S	**Sg**	**04 45 08.3**	**+0.7**
	8.8nm,0.1s						
EKS2	**Erkin-Say**	**1.04**	**187**	⇑*i*P	**Pg**	**04 44 54.0**	**-0.2**
	baz=86						
EKS2				⇑*i*S	**Sg**	**04 45 08.2**	**+0.6**
	baz=86						
MRKS	**Merke**	**1.08**	**209**	P	**Pg**	**04 44 55.1**	**0.0**
	2.6nm,0.1s						
MRKS				S	**Sg**	**04 45 09.1**	**0.0**
	10nm,0.2s						
MRKS	**Merke**	**1.08**	**209**	*e*P	**Pg**	**04 44 55.1**	**0.0**
	baz=9.0						
MRKS				*e*S	**Sg**	**04 45 09.1**	**0.0**
	baz=9.0						
MRKS	**Merke**	**1.08**	**209**	*e*P	**Pg**	**04 44 54.6**	**-0.5**
	2.6nm,0.1s						
MRKS				*e*S	**Sg**	**04 45 09.1**	**0.0**
	9.8nm,0.1s						
AAK	**Ala-Archa**	**1.13**	**159**	⇓P	**Pg**	**04 44 55.6**	**-0.4**
	1.9nm,0.1s,SNR=15						
AAK				⇑S	**Sg**	**04 45 11.2**	**+0.6**
	5.7nm,0.2s						
AAK	**Ala-Archa**	**1.13**	**159**	⇑P	**Pg**	**04 44 55.5**	**-0.5**
	2.7nm,0.6s						
AAK				⇑S	**Sg**	**04 45 09.8**	**-0.8**
	2.4nm,0.5s						
AAK	**Ala-Archa**	**1.13**	**159**	⇓*i*P	**Pg**	**04 44 55.5**	**-0.5**
	baz=58						
AAK				⇓*i*S	**Sg**	**04 45 11.2**	**+0.6**
	baz=58						
KBK	**Karagaybulak**	**1.27**	**144**	⇓P	**Pg**	**04 44 58.4**	**-0.3**
	3.3nm,0.1s,SNR=9.5						
KBK				⇑S	**Sn**	**04 45 16.7**	**-0.3**
	22nm,0.3s						
KBK	**Karagaybulak**	**1.27**	**144**	⇑*i*P	**Pg**	**04 44 58.3**	**-0.4**
	baz=44						
KBK				⇑*i*S	**Sb**	**04 45 15.8**	**-0.1**
	baz=44						
BTLS	**Baital**	**1.35**	**3**	*e*P	**Pg**	**04 45 00.4**	**+0.1**
	baz=3.0						
BTLS				*e*S	**Sg**	**04 45 18.0**	**+0.2**
	baz=3.0						
BTLS	**Baital**	**1.35**	**3**	*e*P	**Pg**	**04 45 00.0**	**-0.3**
	1.1nm,0.1s						
BTLS				*e*S	**Sg**	**04 45 18.0**	**+0.2**
	9.3nm,0.1s						
DGS	**Degeres**	**1.41**	**108**	*e*P	Pn	04 44 56.0	-5.1
	3.2nm,0.2s						
DGS				*e*S	**Sg**	**04 45 15.3**	**-4.2**
	25nm,0.4s						
TKM2	**Tokmak 2**	**1.43**	**122**	⇓P	**Pn**	**04 45 00.5**	**-1.1**
	0.8nm,0.4s						
TKM2				⇑S	**Sg**	**04 45 19.6**	**-0.8**
	1.9nm,0.2s						
TKM2	**Tokmak 2**	**1.43**	**122**	⇓*i*P	**Pn**	**04 45 01.0**	**-0.6**
	baz=22						
TKM2				⇓*i*S	**Sg**	**04 45 20.0**	**-0.4**
	baz=22						
UCH	**Uchtor**	**1.52**	**164**	⇑P	**Pn**	**04 45 02.6**	**-0.4**
	2.0nm,0.2s,SNR=14						
UCH	**Uchtor**	**1.52**	**164**	⇑*i*P	**Pn**	**04 45 02.5**	**-0.5**
	baz=64						
UCH				⇑*i*S	**Sg**	**04 45 23.1**	**-0.2**
	baz=64						
AML	**Almayashu**	**1.57**	**187**	⇑P	**Pn**	**04 45 03.4**	**-0.3**
	1.2nm,0.1s,SNR=6.0						
AML	**Almayashu**	**1.57**	**187**	⇑*i*P	**Pn**	**04 45 03.3**	**-0.3**
	baz=87						
AML				⇑*i*S	**Sg**	**04 45 24.5**	**-0.3**
	baz=87						
KST	**Kastek**	**1.61**	**113**	P	**Pg**	**04 45 05.3**	**+0.1**
	3.5nm,0.2s						
KST				S	**Sg**	**04 45 26.7**	**+0.6**
	15nm,0.4s						
KST	**Kastek**	**1.61**	**113**	*e*P	**Pg**	**04 45 05.3**	**+0.1**
	baz=13						
KST				*e*S	**Sg**	**04 45 26.6**	**+0.6**
	baz=13						
KST	**Kastek**	**1.61**	**113**	*e*P	**Pb**	**04 45 05.1**	**+0.2**
	1.5nm,0.1s						
KST				*e*S	**Sb**	**04 45 25.8**	**+0.1**
	15nm,0.4s						
KUU	**Kurty**	**1.75**	**83**	P	**Pb**	**04 45 07.2**	**0.0**
	0.5nm,0.2s						
KUU				S	**Sb**	**04 45 29.8**	**+0.3**
	12nm,0.3s						
KUU	**Kurty**	**1.75**	**83**	*e*P	**Pb**	**04 45 07.2**	**0.0**
	baz=82						
KUU				*e*S	**Sb**	**04 45 29.9**	**+0.3**
	baz=82						
KUU	**Kurty**	**1.75**	**83**	*e*P	**Pb**	**04 45 07.2**	**0.0**
	0.5nm,0.2s						
KUU				*e*S	**Sb**	**04 45 29.8**	**+0.3**
	12nm,0.3s						
ARLS	**Aral**	**1.85**	**171**	⇓*i*P	**Pn**	**04 45 08.1**	**+0.8**
	baz=71						
ARLS				⇓*i*S	**Sn**	**04 45 32.2**	**+0.9**
	baz=71						
BOOM	**Boomskoye usch**	**1.89**	**129**	⇑*i*P	**Pn**	**04 45 08.5**	**+0.6**
	baz=28						
BOOM				⇑*i*S	**Sb**	**04 45 33.7**	**-0.2**
	baz=28						
MTBS	**Maitube**	**1.90**	**106**	P	**Pb**	**04 45 09.4**	**-0.4**
	2.4nm,0.1s						
MTBS				S	**Sb**	**04 45 33.4**	**-0.5**
	13nm,0.4s						
MTBS	**Maitube**	**1.90**	**106**	*e*P	**Pb**	**04 45 09.4**	**-0.4**
	baz=6.0						
MTBS				*e*S	**Sb**	**04 45 33.5**	**-0.5**
	baz=6.0						
MTBS	**Maitube**	**1.90**	**106**	*e*P	**Pb**	**04 45 09.4**	**-0.4**
	2.4nm,0.1s						
MTBS				*e*S	**Sb**	**04 45 33.4**	**-0.5**
	13nm,0.4s						
KTBS	**Karatobe**	**1.99**	**88**	P	**Pb**	**04 45 11.1**	**-0.2**
	0.7nm,0.2s						
KTBS				S	**Sb**	**04 45 36.6**	**+0.1**
	22nm,0.3s						
KTBS	**Karatobe**	**1.99**	**88**	*e*P	**Pb**	**04 45 11.1**	**-0.2**
	0.7nm,0.2s						
KTBS				*e*S	**Sb**	**04 45 36.6**	**+0.1**
	22nm,0.3s						
CHKK	**Chushkaly**	**2.21**	**85**	Pg	**Pb**	**04 45 15.0**	**-0.2**
	0.8nm,0.1s						
CHKK				Lg	Lg	04 45 43.1	
	7.4nm,0.3s						
CHKK	**Chushkaly**	**2.21**	**85**	*e*P	**Pb**	**04 45 14.9**	**-0.2**
	0.8nm,0.1s						
CHKK				*e*S	**Sb**	**04 45 43.1**	**+0.2**
	7.4nm,0.3s						
ULHL	**Ulahol**	**2.22**	**130**	⇑*i*P	**Pn**	**04 45 13.5**	**+1.1**
	baz=30						
ULHL				⇑*i*S	**Sn**	**04 45 41.6**	**+1.0**
	baz=30						
TNSS	**Tian-Shan**	**2.29**	**106**	Pg	**Pb**	**04 45 15.7**	**-0.9**
	4.2nm,0.3s						
TNSS				Lg	Lg	04 45 44.8	
	4.1nm,0.5s						
TNSS	**Tian-Shan**	**2.29**	**106**	*e*P	**Pb**	**04 45 15.7**	**-0.9**
	baz=5.0						
TNSS				*e*S	**Sb**	**04 45 44.8**	**-0.7**
	baz=5.0						
TNSS	**Tian-Shan**	**2.29**	**106**	*e*P	**Pb**	**04 45 15.7**	**-0.9**
	4.2nm,0.3s						
TNSS				*e*S	**Sb**	**04 45 44.8**	**-0.7**
	4.1nm,0.5s						
KK31	**Karatay Array**	**2.57**	**258**	⇑Pg	**Pg**	**04 45 24.1**	**+0.5**
	0.2nm,0.3s,baz=78,slow=16,SNR=2.5						
KK31				⇑Lg	Lg	04 45 56.2	
	1.2nm,0.4s,baz=75,slow=28,SNR=9.8						

WEL 04 04:46:28.4, 44˚S±5˚×16˚9E±˚, h5km, ML4.1/17, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCZ	**Jackson Bay**	**0.22**	**49**	P	Pg	04 46 34.1	+1.5
JCZ				S	Sg	04 46 38.0	+2.4
MSZ	**Milford Sound**	**0.64**	**224**	P	Pg	04 46 39.1	-1.6
WKZ	**Wanaka**	**0.69**	**152**	P	Pb	04 46 42.6	-0.3
WKZ				S	Sb	04 46 52.7	-0.1
FOZ	**Fox Glacier**	**1.14**	**53**	P	Pb	04 46 50.6	+0.1
FOZ				S	Sn	04 47 07.8	+0.9
EAZ	**Earnscleugh**	**1.15**	**152**	P	Pn	04 46 51.1	0.0
EAZ				S	Sb	04 47 06.3	+0.5
LBZ	**Lake Benmore**	**1.18**	**99**	P	Pn	04 46 52.3	+0.8
LBZ				S	Sn	04 47 09.4	+1.4
MLZ	**Mavora Lakes**	**1.19**	**195**	P	Pg	04 46 49.8	-1.4
DCZ	**Deep Cove**	**1.60**	**218**	P	Pn	04 46 55.6	-1.6
DCZ				S	Sn	04 47 17.0	-1.2
ODZ	**Otahua Downs**	**1.71**	**120**	P	Pn	04 46 59.9	-0.3
WHZ	**Wether Hill Ro**	**1.73**	**194**	P	Pn	04 46 59.4	+0.4
RPZ	**Rata Peaks**	**1.87**	**75**	P	Pb	04 47 02.4	-0.6
TUZ	**Tuapeka**	**1.90**	**157**	P	Pb	04 47 02.5	-0.9
WVZ	**Waitaha Valley**	**1.95**	**55**	P	Pn	04 47 01.4	-0.7
HHSZ	**Highcliff Hill**	**2.21**	**140**	P	Pb	04 47 09.4	+0.7
SYZ	**Scrubby Hill**	**2.35**	**170**	P	Pn	04 47 08.8	+1.2
PYZ	**Puysegur Point**	**2.36**	**214**	P	Pn	04 47 09.4	+1.7
INZ	**Inchbonnie**	**2.58**	**56**	P	Pn	04 47 10.2	-0.6
OXZ	**Oxford**	**2.67**	**72**	P	Pn	04 47 11.9	-0.1
MQZ	**McQueen's Vall**	**3.00**	**82**	P	Pn	04 47 16.8	+0.2
LTZ	**Lake Taylor**	**3.06**	**63**	P	Pn	04 47 17.7	+0.3
DSZ	**Denniston Nort**	**3.43**	**45**	P	Pn	04 47 21.5	-1.0
THZ	**Tophouse**	**4.03**	**54**	P	Pn	04 47 30.9	+0.2
KHZ	**Kahutara**	**4.06**	**65**	P	Pn	04 47 31.7	+0.7
QRZ	**Quartz Range**	**4.48**	**42**	P	Pn	04 47 36.3	-0.7
BSWZ	**Blackbirch Sta**	**4.64**	**59**	P	Pn	04 47 41.8	+2.8
NNZ	**Nelson**	**4.65**	**51**	P	Pn	04 47 39.5	+0.4
TUWZ	**Tuamarina**	**4.84**	**57**	P	Pn	04 47 43.1	+1.2
TCW	**Tory Channel**	**5.17**	**56**	P	Pn	04 47 48.2	+1.8
DUWZ	**D'Urville Isla**	**5.23**	**51**	P	Pn	04 47 47.9	+0.7
CAW	**Cannon Point**	**5.72**	**59**	P	Pn	04 47 52.9	-1.0
KIW	**Kapiti Island**	**5.77**	**57**	P	Pn	04 47 54.1	-0.5
OGWZ	**Otaki Gorge**	**5.95**	**57**	P	Pn	04 47 57.5	+0.4
NBEZ	**Newall Road No**	**6.34**	**41**	P	Pn	04 48 01.9	-0.5
KHEZ	**Kahui Hut**	**6.39**	**42**	P	Pn	04 48 03.1	-0.1
PREZ	**Palmer Road**	**6.42**	**43**	P	Pn	04 48 04.2	+0.6
PKE	**Pukeiti**	**6.46**	**41**	P	Pn	04 48 04.0	-0.1
WAZ	**Wanganui**	**6.54**	**49**	P	Pn	04 48 07.3	+2.1

ISCJB **04** *05:00:20.9±0.4, 36˚.47N±0˚.04×54˚.40E±0˚.04, h10km, Error ellipse: s-maj=5.6km s-min=4.2km az=179.5*
TEH **04** *05:00:20.7, 36˚.38N×54˚.42E, h10km, ML3.4*
THR **04** *05:00:21.3, 36˚.41N×54˚.48E, h14km, ML3.4*
AZER **04** *05:00:33.7±8.0, 36˚.83N×53˚.50E, h10km, ml3.7/2, Error ellipse: s-maj=102.6km s-min=58.6km az=30.0*

ISC 04 05:00:20.5±0.8, **36˚.45N**±0˚.05×**54˚.34E**±0˚.03, **h10**km, **n47, σ2s46/52, 7C-10D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**1.18**	**46**	*e*Pg	**Pb**	**05 00 41.9**	**-1.1**
IMND				IAMB	IAmb	05 01 03.6	
	comp=N,2μm,0.3s						
IALA	**Alasht**	**1.28**	**254**	*e*Pg	**Pg**	**05 00 46.3**	**+1.1**
IALA				IAMB	IAmb	05 01 13.7	
	comp=Z,11μm,0.3s						
SHRO	**Shahrood**	**1.43**	**108**	*e*Pg	**Pn**	**05 00 45.4**	**-1.2**
SHRO	**Shahrood**	**1.43**	**108**	*e*Pg	**Pn**	**05 00 45.4**	**-1.2**
IFIR	**Firoozkooh**	**1.51**	**238**	*e*Pn	**Pb**	**05 00 49.0**	**+0.2**
IFIR				IAMB	IAmb	05 01 20.4	
	comp=Z,12μm,0.3s						
IPRN	**Peran**	**1.62**	**263**	*e*Pn	**Pb**	**05 00 52.1**	**+1.5**
IPRN				IAMB	IAmb	05 01 26.5	
	comp=Z,10μm,0.4s						
MRVT	**Maraveh tapeh**	**1.85**	**49**	*e*Pg	**Pb**	**05 00 54.1**	**-0.4**
MRVT	**Maraveh tapeh**	**1.85**	**49**	*e*Pg	**Pb**	**05 00 54.1**	**-0.4**
IDMV	**Damavand**	**2.06**	**246**	*e*Pn	**Pb**	**05 00 59.2**	**+1.1**
IDMV				IAMB	IAmb	05 01 04.6	
	comp=Z,5μm,0.4s						
IVRN	**Varamin**	**2.57**	**236**	*e*Pn	**Pb**	**05 01 05.3**	**-1.4**
SBZV	**Sabzevar**	**2.64**	**90**	*e*Pn	**Pn**	**05 01 04.4**	**+1.0**
SBZV				IAMB	IAmb	05 01 59.1	
	comp=Z,0.0nm,1.2s						
IHSB	**Hasanabad**	**2.68**	**249**	IAMB	IAmb	05 01 14.8	
	comp=Z,0.0nm,0.3s						
IHSB				*e*Pn	**Pb**	**05 01 09.9**	**+1.3**
ISFB	**Sefidab**	**2.70**	**220**	*e*Pn	**Pn**	**05 01 05.8**	**+1.8**
ISFB				IAMB	IAmb	05 01 50.1	
	comp=Z,2μm,0.3s						
THKV	**Tehran--Karaj**	**2.85**	**260**	*e*AML	AML	05 02 01.9	
	comp=N,108nm,0.5s						
ISFR	**Sfrayin**	**3.00**	**77**	*e*Pn	**Pn**	**05 01 10.4**	**+2.0**
ISFR				IAMB	IAmb	05 02 12.6	
	comp=Z,816nm,0.6s						
KRSH	**Karshahi**	**3.06**	**217**	*e*Pn	**Pn**	**05 01 10.9**	**+1.9**
KRSH				IAMB	IAmb	05 02 09.7	
	comp=Z,0.0nm,0.6s						
TNSJ	**Nastanj**	**3.10**	**142**	*e*Pn	**Pn**	**05 01 10.3**	**+0.8**
TNSJ				IAMB	IAmb	05 02 10.5	
	comp=Z,0.0nm,0.7s						
GHVR	**GHOM**	**3.16**	**233**	*e*Pn	**Pb**	**05 01 14.3**	**-2.5**
GHVR	**GHOM**	**3.16**	**233**	*e*Pn	**Pb**	**05 01 14.2**	**-2.5**
ANAR	**Anarak**	**3.29**	**189**	*e*Pn	**Pn**	**05 01 12.5**	**+0.4**
ANAR				IAMB	IAmb	05 02 15.5	
	comp=Z,0.0nm,0.6s						
IKRD	**Kardeh**	**3.38**	**83**	*e*Pn	**Pg**	**05 01 27.6**	**+2.4**
IKRD				IAMB	IAmb	05 03 10.2	
	comp=Z,152nm,0.1s						
IEMG	**Emamgholi**	**3.59**	**73**	*e*Pn	**Pn**	**05 01 19.8**	**+3.3**
IEMG				IAMB	IAmb	05 02 20.8	
	comp=Z,459nm,0.9s						
TABS	**Tabas**	**3.61**	**140**	*e*Pn	**Pn**	**05 01 17.5**	**+1.0**
TABS	**Tabas**	**3.61**	**140**	*e*Pn	**Pn**	**05 01 17.5**	**+1.0**
TKDS	**Koohdasht(Taba**	**3.64**	**140**	*e*Pn	**Pn**	**05 01 18.9**	**+2.0**
TKDS				IAMB	IAmb	05 02 22.5	
	comp=N,0.0nm,0.9s						
IPAY	**Payeh**	**3.76**	**89**	*e*Pn	**Pn**	**05 01 21.2**	**+2.5**
IPAY				IAMB	IAmb	05 01 41.5	
	comp=Z,215nm,0.3s						
IKLH	**Kolahrood**	**3

AKTO	**Aktyubinsk**	**14.23**	**10**	⇓Pn		**P**		**05 03 47.4**	**-2.0**
	comp=Z,2.2nm,1.0s								
AKTO				⇑Sn		Sn		05 06 05.8	-14
	comp=Z,2.5nm,1.4s								

IDC 04 05:04:52.8±9.6, 5°.83S × 103°.86E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.5/40, mbtmp3.8/4, Error ellipse: s-maj=258.6km s-min=60.0km az=178.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LEM	**Lembang**	**3.87**	**105**	Pn	Pn		05 05 53.9	+0.2
	baz=319,slow=20,SNR=3.1							
LEM				Sn	Sn		05 06 41.3	+1.3
	8.8nm,0.3s,baz=294,slow=20,SNR=2.8							
WRA	**Warramunga Arr**	**32.77**	**118**	P		P	05 11 27.2	-0.7
	0.7nm,0.8s,baz=286,slow=9.6,SNR=4.1							
ASAR	**Alice Springs**	**33.91**	**125**	P		P	05 11 37.6	-0.2
	0.7nm,0.4s,baz=296,slow=8.3,SNR=9.7							
STKA	**Stephens Creek**	**43.74**	**131**	P		P	05 13 00.8	+0.6
	1.5nm,0.5s,baz=287,slow=7.6,SNR=7.3							

MEX 04 05:17:58.0±0.5, 15°.53N × 96°.02W, h8km±4km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HUIG	**Huatulco**	**0.25**	**341**	*e*P		Pg	05 18 02.5	-0.4
HUIG				*i* S		Sg	05 18 06.4	+0.1
VHO	**Vista Hermosa**	**1.68**	**336**	*i* P		Pn	05 18 23.8	-4.0
VHO				*e*S		Sn	05 18 45.6	-4.0
CMIG	**Matias Romero**	**1.90**	**35**	*e*P		Pn	05 18 27.2	-3.5
CMIG				*i* S		Sn	05 18 49.8	-5.0
PNIG	**Pinotepa**	**2.20**	**293**	*i* P		Pn	05 18 32.5	-2.3
PNIG				*i* S		Sn	05 18 57.3	-5.0
PCIG		**2.71**	**86**	*i* P		Pn	05 18 38.0	-3.8
PCIG				*i* S		Sn	05 19 10.7	-4.1

NNC ***04*** *05:34:54.4±2.2, 36°.83N × 70°.51E, h0km, mb4.9, mpv5.2, Error ellipse: s-maj=21.8km s-min=11.8km az=157.0*
ISCJB ***04*** *05:34:58.2±0.2, 36°.54N±0°.02 × 70°.92E±0°.03, h195km±2km, mb4.0/54, Error ellipse: s-maj=3.9km s-min=2.8km az=158.8*
MOS ***04*** *05:34:58.9±1.0, 36°.56N × 70°.95E, h204km, mb4.3/28, Error ellipse: s-maj=7.8km s-min=4.7km az=92.4*
BJI ***04*** *05:34:58.6, 36°.53N × 70°.89E, h189km, mb4.6/11, mB4.7/9*
NEIC ***04*** *05:34:59.6±0.5, 36°.57N × 70°.94E, h192km±4km, mb4.3/15, Error ellipse: s-maj=7.8km s-min=6.4km az=143.0*
IDC ***04*** *05:35:00.0±0.7, 36°.44N × 70°.88E, h206km±6km, mb3.7/25, mb1 3.9/28, mb1mx3.7/55, mbtmp4.3/28, Error ellipse: s-maj=10.5km s-min=9.8km az=4.0*
ISC 04 05:34:59.0±0.4, 36°.51N±0°.04 × 70°.86E±0°.04, h195km±4km, h195km↑pP-P, n218, σ1↑93/259, mb4.2/55, 22C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KBL	**Kabul**	**2.46**	**217**	*e*Pn		**Pn**	**05 35 43.6**	**+1.2**
KBL				*e*Sn		**Sn**	**05 36 15.7**	**-0.4**
KBL	**Kabul**	**2.46**	**217**	*e*PN		**Pn**	**05 35 43.6**	**+1.2**
KBL				*e*			05 36 15.7	
GAR	**Garm**	**2.52**	**350**	*e*Pn		**Pn**	**05 35 43.4**	**+0.6**
GAR				*e*Sn		**Sn**	**05 36 15.3**	**-1.9**
GAR	**Garm**	**2.52**	**350**	*e*PN		**Pn**	**05 35 43.4**	**+0.6**
GAR				*e*			05 36 15.3	
CHGR	**Chuyangaron**	**2.53**	**328**	*e*Pn		**Pn**	**05 35 44.3**	**+1.4**
CHGR				*e*Sn		**Sn**	**05 36 15.0**	**-2.3**
CEP	**Cherat**	**2.82**	**162**	P		**Pn**	**05 35 47.8**	**+1.4**
CEP				S		**Sn**	**05 36 24.0**	**+0.6**
CHCP	**Chirah Chowk**	**3.47**	**145**	P		**Pn**	**05 35 55.6**	**+1.5**
NIL	**Nilore**	**3.47**	**145**	*e*Pn		**Pn**	**05 35 55.5**	**+1.5**
NIL				*e*Sn		**Sn**	**05 36 34.3**	**-2.9**
NIL	**Nilore**	**3.47**	**145**	*e*PN		**Pn**	**05 35 55.5**	**+1.5**
NIL				*e*			05 36 34.3	
BTK	**Batken**	**3.54**	**360**	*e*Pn		**Pn**	**05 35 56.0**	**+1.1**
BTK				*e*Sn		**Sn**	**05 36 38.7**	**-0.1**
BTK	**Batken**	**3.54**	**360**	*e*PN		**Pn**	**05 35 56.0**	**+1.1**
BTK				*e*			05 36 38.7	
THW	**Thamme Wali**	**3.78**	**169**	P		**Pn**	**05 35 59.1**	**+1.1**
SARP	**Sargodha**	**4.82**	**161**	P		**Pn**	**05 36 11.5**	**+0.5**
KSH	**Kashi**	**5.03**	**52**	*i* P		**Pn**	**05 36 09.4**	**-4.3**
KSH				S		Sn	05 37 00.7	-12
KSH				smax		smax		
	comp=N,600nm,0.6s							
KSH				smax		smax		
	comp=E,370nm,0.4s							
ARSB	**Arslanbob**	**5.08**	**18**	*e*Pn		**Pn**	**05 36 13.7**	**-0.7**
ARSB				*e*Sn		**Sn**	**05 37 06.4**	**-7.4**
AML	**Almayashu**	**6.03**	**21**	P		**Pn**	**05 36 26.5**	**-0.3**
	SNR=1217							
DHRM	**DHARAMSHALA**	**6.19**	**132**	*e*P		**Pn**	**05 36 29.1**	**+0.2**
DHRM				*e*S		**Sn**	**05 37 37.1**	**-2.8**
NRN	**Naryn**	**6.34**	**38**	*e*Pn		**Pn**	**05 36 29.0**	**-1.8**
NRN				*e*Sn		**Sn**	**05 37 39.0**	**-4.4**
NRN	**Naryn**	**6.34**	**38**	*e*PN		**Pn**	**05 36 29.0**	**-1.8**
NRN				*e*			05 37 39.0	
UCH	**Uchtor**	**6.37**	**25**	P		**Pn**	**05 36 31.1**	**-0.2**
	SNR=298							
KZA	**Kyzart**	**6.52**	**30**	P		**Pn**	**05 36 32.3**	**-0.9**
	SNR=36							
EKS2	**Erkin-Say**	**6.54**	**19**	P		**Pn**	**05 36 33.0**	**-0.2**
	SNR=149							
KK31	**Karatay Array**	**6.59**	**358**	*e*Pn		**Pn**	**05 36 33.5**	**-0.2**
KK31				*e*Sn		**Sn**	**05 37 43.7**	**-5.1**
KK31	**Karatay Array**	**6.59**	**358**	⇑P		Pn	05 36 28.8	-4.9
	42nm,0.3s,baz=188,slow=13,SNR=1366							
KK31				⇓S		**Sn**	**05 37 43.3**	**-5.4**
	40nm,0.3s,baz=192,slow=24,SNR=8.5							
KK31	**Karatay Array**	**6.59**	**358**	*e*PN		**Pn**	**05 36 33.5**	**-0.2**
KKAR	**Karatay Array**	**6.59**	**358**	*e*Pn		**Pn**	**05 36 33.4**	**-0.3**
KKAR				*e*Sn		**Sn**	**05 37 43.5**	**-5.3**
KKAR	**Karatay Array**	**6.59**	**358**	*e*PN		**Pn**	**05 36 33.4**	**-0.3**
AAK	**Ala-Archa**	**6.73**	**24**	P		**Pn**	**05 36 35.7**	**0.0**
	SNR=166							
AAK	**Ala-Archa**	**6.73**	**24**	⇑P		**Pn**	**05 36 34.1**	**-1.6**
	39nm,0.3s							
AAK				⇓S		**Sn**	**05 37 49.2**	**-3.2**
	75nm,0.5s							
AAK	**Ala-Archa**	**6.73**	**24**	*e*PN		**Pn**	**05 36 35.5**	**-0.2**
BHK	**Bhakra**	**6.87**	**136**	*e*S		**Sn**	**05 37 51.0**	**-4.6**
KBK	**Karagaybulak**	**6.90**	**26**	P		**Pn**	**05 36 38.1**	**+0.2**
	SNR=50							
FRU1	**Bishkek**	**6.93**	**24**	*e*Pn		**Pn**	**05 36 38.6**	**+0.4**
FRU1				*e*Sn		**Sn**	**05 37 53.2**	**-3.7**
FRU1	**Bishkek**	**6.93**	**24**	*e*PN		**Pn**	**05 36 38.6**	**+0.4**
ULHL	**Ulahol**	**7.08**	**34**	P		**Pn**	**05 36 39.6**	**-0.7**
	SNR=5.4							
CHMS	**Chumysh**	**7.14**	**24**	P		**Pn**	**05 36 40.2**	**-0.6**
	SNR=55							
USP	**Ospenovka**	**7.30**	**21**	P		**Pn**	**05 36 42.0**	**-1.1**
	SNR=93							
TKM2	**Tokmak 2**	**7.37**	**28**	P		**Pn**	**05 36 43.9**	**-0.2**
	SNR=294							
TKM2	**Tokmak 2**	**7.37**	**28**	⇓P		**Pn**	**05 36 43.8**	**-0.3**
	204nm,0.6s							
TKM2				⇓S		**Sn**	**05 38 03.2**	**-4.3**
	43nm,0.9s							
TKM2	**Tokmak 2**	**7.37**	**28**	*e*PN		**Pn**	**05 36 43.5**	**-0.5**
KDJ	**Kajisay**	**7.45**	**39**	*e*Pn		**Pn**	**05 36 45.3**	**+0.2**
KDJ	**Kajisay**	**7.45**	**39**	*e*PN		**Pn**	**05 36 45.3**	**+0.2**
SMLA	**Simla**	**7.51**	**134**	*e*P		**Pn**	**05 36 44.1**	**-1.7**
SMLA				*e*S		**Sn**	**05 38 05.4**	**-5.3**
SMLA				IAML			05 38 09.0	
	comp=N,306nm,0.3s							
SMLA				IAML			05 38 10.6	
	comp=E,482nm,0.2s							
MDOK	**Medeo**	**8.17**	**34**	⇑P		**Pn**	**05 36 54.2**	**-0.3**
	comp=E,58nm,0.5s							
DDI	**Dehra Dun**	**8.62**	**134**	*e*P		**Pn**	**05 37 00.0**	**-0.4**
DDI				*e*S		**Sn**	**05 38 28.8**	**-8.4**
DDI				IAML			05 38 34.6	
	comp=N,268nm,0.5s							
DDI				IAML			05 38 36.2	
	comp=E,295nm,0.5s							
NDI	**New Delhi**	**9.47**	**144**	*e*P		**Pn**	**05 37 13.0**	**+1.6**
NDI				*e*S		**Sn**	**05 38 50.0**	**-7.4**
PDGK	**Podgornoye**	**9.50**	**42**	⇑P		**Pn**	**05 37 10.1**	**-1.7**
	comp=E,7.9nm,0.9s							
PDGK				⇑S		**Sn**	**05 39 00.4**	**+2.4**
	comp=E,16nm,1.0s							
GEYT	**Alibeck**	**10.26**	**282**	P		**Pn**	**05 37 19.8**	**-1.8**
	comp=E,1.3nm,0.3s,baz=99,slow=9.2,SNR=6.1							
GEYT				S		**Sn**	**05 39 12.2**	**-3.9**
	comp=E,3.6nm,0.3s,baz=80,slow=17,SNR=3.7							
GYA0B	**ALIBECK ARRAY**	**10.26**	**282**	*e*Pn		**Pn**	**05 37 20.9**	**-0.8**
GYA0B				*e*Sn		**Sn**	**05 39 10.6**	**-5.5**
GYA0B	**ALIBECK ARRAY**	**10.26**	**282**	⇓P		**Pn**	**05 37 19.8**	**-1.8**
	comp=E,4.0nm,0.4s							
GYA0B				⇑S		**Sn**	**05 39 11.0**	**-5.0**
	comp=E,31nm,0.5s							
OTUK	**Ortayu**	**11.77**	**5**	⇓P		**Pn**	**05 37 39.4**	**-1.5**
	comp=E,19nm,0.9s							
OTUK				⇑S		**S**	**05 39 52.9**	**-0.3**
	comp=E,18nm,0.8s							
MAKZ	**Makanchi**	**13.21**	**35**	*e*Pn		**Pn**	**05 37 58.2**	**-0.9**
MAKZ	**Makanchi**	**13.21**	**35**	⇑Pn		**Pn**	**05 37 57.6**	**-1.5**
	comp=E,8.3nm,0.4s							
MAKZ				⇑Lg		Lg	05 38 23.6	
	comp=E,7.1nm,0.2s							
MAKZ	**Makanchi**	**13.21**	**35**	*e*P		**Pn**	**05 37 58.2**	**-0.9**
PYUN	**Piuthan**	**13.24**	**126**	*e*P		**Pn**	**05 37 57.7**	**-2.2**
	comp=E,35nm,0.4s							
PYUN				*e*S		Sn	05 40 14.0	-14
BHJ	**Bhuj**	**13.26**	**185**	*e*P		**Pn**	**05 38 00.0**	**+0.1**
MK01	**Makanchi Array**	**13.34**	**36**	*e*Pn		**Pn**	**05 38 00.1**	**-0.6**
MK31	**Makanchi Array**	**13.35**	**36**	*e*Pn		**Pn**	**05 38 01.2**	**+0.4**
MK31	**Makanchi Array**	**13.35**	**36**	Pn		**Pn**	**05 37 59.4**	**-1.5**
	comp=E,7.6nm,0.8s,baz=286,slow=15,SNR=47							
MK31				⇑Lg		Lg	05 38 30.5	
	comp=E,5.2nm,0.2s,baz=294,slow=27,SNR=8.3							
MK31	**Makanchi Array**	**13.35**	**36**	*e*P		**Pn**	**05 38 01.2**	**+0.4**
MKAR	**Makanchi Array**	**13.35**	**36**	*ce*P		**Pn**	**05 38 00.3**	**-0.5**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**13.35**	**36**	P		**Pn**	**05 38 00.6**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=222,slow=11,SNR=46							
DANN	**Dangsing**	**13.59**	**123**	*e*P		**Pn**	**05 38 03.4**	**-0.9**
	comp=Z,77nm,0.5s							
DANN				*e*S		Sn	05 40 21.6	-15
KOLN	**Koldanda**	**13.87**	**125**	*e*P		**Pn**	**05 38 05.9**	**-1.8**
	comp=Z,20nm,0.4s							
KOLN				*e*S		Sn	05 40 28.0	-15
BHPL	**Bhopal**	**14.40**	**155**	*e*P		**Pn**	**05 38 14.4**	**+0.3**
GKN	**Gorkha**	**14.41**	**122**	*e*P		**Pn**	**05 38 13.4**	**-0.9**
	comp=Z,89nm,0.6s							
GKN				*e*S		S	05 40 42.4	-13
WMQ	**Urumqi**	**14.78**	**55**	*e*P		**P**	**05 38 19.9**	**+0.2**
WMQ				sP		sP	05 39 11.1	
WMQ				LR		LR		
	comp=Z,47nm,13.9s							
WMQ				LR		LR		
	comp=Z,6.0nm,13.9s							
WMQ				LR		LR		
	comp=Z,63nm,14.9s							
DMN	**Daman**	**14.98**	**122**	*e*P		**Pn**	**05 38 20.7**	**-0.7**
	comp=Z,41nm,0.6s							
DMN				*e*S		S	05 40 55.6	-13
KKN	**Kakani**	**14.98**	**121**	*e*P		**Pn**	**05 38 21.1**	**-0.3**
	comp=Z,87nm,0.5s							
AB31	**Akbulak array**	**15.02**	**331**	⇓P		**Pn**	**05 38 20.3**	**-1.1**
	comp=Z,20nm,0.7s,baz=145,slow=12,SNR=406							
AB31				⇓S		**S**	**05 41 04.0**	**-4.4**
	comp=Z,5.0nm,0.6s,baz=153,slow=23,SNR=3.8							
AB31	**Akbulak array**	**15.02**	**331**	*e*P		**Pn**	**05 38 20.5**	**-0.9**
ABKAR	**Akbulak array**	**15.02**	**331**	*e*Pn		**Pn**	**05 38 20.4**	**-0.9**
ABKAR				*e*S		**S**	**05 41 04.4**	**-4.0**
KURBB	**Kurchatov Arra**	**15.15**	**19**	⇓P		**P**	**05 38 25.1**	**+1.6**
	comp=Z,5.3nm,0.6s							
KURBB	**Kurchatov Arra**	**15.15**	**19**	P		**Pn**	**05 38 20.7**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=215,slow=8.6,SNR=26							
PKIN	**Phulchoki**	**15.20**	**122**	*e*P		**Pn**	**05 38 23.9**	**-0.2**
	comp=Z,150nm,0.9s							
PKI	**Pulchoki**	**15.21**	**122**	*e*P		**Pn**	**05 38 24.5**	**+0.2**
	comp=Z,112nm,0.7s							
KURK	**Kurchatov**	**15.25**	**19**	*e*Pn		**Pn**	**05 38 20.6**	**-3.6**
	comp=Z,5.2nm,0.8s							
KURK	**Kurchatov**	**15.25**	**19**	⇑P		**P**	**05 38 26.5**	**+1.8**
	comp=Z,6.7nm,1.0s							
KURK	**Kurchatov**	**15.25**	**19**	*d iP*		**Pn**	**05 38 22.1**	**-2.1**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GUN	**Gumba**	**15.32**	**120**	*e*P		**Pn**	**05 38 25.5**	**-0.2**
	comp=Z,34nm,0.4s							
JIRN	**Jiri**	**15.70**	**120**	*e*P		**P**	**05 38 30.7**	**+0.5**
	comp=Z,135nm,0.5s							
RAMN	**Ramite**	**16.42**	**121**	*e*P		**P**	**05 38 38.2**	**+0.1**
	comp=Z,48nm,0.5s							
BVA0	**Borovoye Array**	**16.51**	**359**	⇓P		**Pn**	**05 38 41.1**	**+1.7**
	comp=Z,7.4nm,0.6s,baz=163,slow=13,SNR=69							
BVAR	**Borovoye Array**	**16.51**	**359**	P		**P**	**05 38 38.4**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=167,slow=13,SNR=58							
BVAR				S		**S**	**05 41 37.6**	**-3.5**
	comp=Z,0.5nm,0.3s,baz=158,slow=23,SNR=4.7							
BRVK	**Borovoye**	**16.55**	**359**	*e*P		**Pn**	**05 38 39.8**	**0.0**
	comp=Z,12nm,1.0s							
BRVK	**Borovoye**	**16.55**	**359**	⇑P		**Pn**	**05 38 41.1**	**+1.3**
	comp=Z,7.3nm,0.6s							
BRVK	**Borovoye**	**16.55**	**359**	*c iP*		**P**	**05 38 39.3**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.71**	**330**	⇓P		**Pn**	**05 38 43.8**	**+1.9**
	comp=Z,15nm,0.6s							
AKTO				⇓S		**S**	**05 41 45.9**	**+0.7**
	comp=Z,10nm,0.8s							
AKTO	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**05 38 42.6**	**+0.8**
	comp=Z,3.6nm,0.3s,baz=139,slow=10.0,SNR=72							
ODAN	**Odare**	**17.03**	**120**	*e*P		**Pn**	**05 38 47.8**	**+1.7**
	comp=Z,36nm,0.6s							
DGZ	**Jazzator, Alta**	**17.84**	**37**	*d iP*		**Pn**	**05 38 55.2**	**-0.1**
DGZ				pmax		pmax		
	comp=Z,4.0nm,0.6s							
BOK	**Bokaro**	**18.12**	**130**	*e*P		**Pn**	**05 38 58.0**	**-0.7**
AKT	**Akhty**	**18.63**	**292**	*i* P		**Pn**	**05 39 03.5**	**-1.1**
AKT				pmax		pmax		
	comp=Z,9.0nm,0.5s							
GNBR	**Gunib**	**19.33**	**295**	*i* P		**Pn**	**05 39 12.5**	**-0.4**
ZAA0	**Zalesovo Array**	**19.95**	**25**	*e*P		**P**	**05 39 16.7**	**+0.8**
	comp=Z,8.3nm,0.6s							
ZALV	**Zalesovo Beam**	**19.95**	**25**	*e*P		**P**	**05 39 15.9**	**0.0**
ZALV	**Zalesovo Beam**	**19.95**	**25**	P		**P**	**05 39 16.4**	**+0.5**
	comp=Z,7.3nm,0.4s,baz=222,slow=12,SNR=31							
ZALV				sP		**sP**	**05 40 17.5**	**+2.9**
	comp=Z,7.7nm,0.6s,baz=222,slow=11,SNR=3.7							
ZALV				S		**S**	**05 42 46.7**	**-2.6**
	comp=Z,1.1nm,0.6s,baz=224,slow=12,SNR=2.5							
HYB	**Hyderabad**	**20.21**	**158**	*i* P		Pn	05 39 22.5	-1.1
HYB				*e*S		**S**	**05 42 54.5**	**-0.5**
HYB	**Hyderabad**	**20.21**	**158**	*e*P		**P**	**05 39 18.6**	**-0.3**
NVS	**Novosibirsk**	**20.21**	**21**	*e*P		**P**	**05 39 19.7**	**+1.1**
NVS				*e*			05 40 17.2	
NVS				*e*S		**S**	**05 42 46.2**	**-8.1**
NVS				pmax		pmax		
	comp=Z,5.0nm,0.8s							
NVS				smax		smax		
	comp=N,7.0nm,0.8s							
GNI	**Garni**	**20.78**	**288**	⇑*i*P		Pn	05 39 27.9	-2.9
GNI				pmax		pmax		
	comp=Z,90nm,1.5s							
SHL	**Shillong**	**21.02**	**115**	*e*P		**P**	**05 39 28.0**	**+0.3**
	comp=Z,6.9nm,0.7s							
SHL	**Shillong**	**21.02**	**115**	*e*P		**P**	**05 39 28.0**	**+0.3**
SHL				pmax		pmax		
	comp=Z,7.0nm,0.7s							
SHL	**Shillong**	**21.02**	**115**	*e*P		**P**	**05 39 28.8**	**+1.1**
ARU	**Arti**	**21.58**	**341**	*e*P		**P**	**05 39 34.2**	**+1.1**
	comp=Z,4.7nm,0.6s							
ARU	**Arti**	**21.58**	**341**	*d iP*		**P**	**05 39 34.1**	**+1.1**
ARU					*PP	**pP**	**05 40 06.0**	**-0.7**
ARU							05 40 13.1	
ARU				S		**S**	**05 43 20.8**	**+1.9**
ARU				pmax		pmax		
	comp=Z,9.0nm,1.3s							
ZEI	**Tsey**	**21.63**	**295**	*e*P		**P**	**05 39 33.7**	**-0.3**
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KBZ	**Khabaz**	**22.49**	**297**	P		**P**	**05 39 42.5**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=127,slow=6.0,SNR=5.3							
SHA1	**Shidzhatmaz**	**22.66**	**297**	*i* P		**P**	**05 39 45.6**	**+1.8**
KIV	**Kislovodsk**	**22.68**	**298**	*e*P		**P**	**05 39 44.9**	**+1.1**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KNGR	**Kungurtug, Tuv**	**23.74**	**45**	⇓*i*P		**P**	**05 39 51.9**	**-1.5**
LZH	**Lanzhou**	**26.52**	**81**	*e*P		**P**	**05 40 20.7**	**+2.0**
LZH				pP		pP	05 41 00.9	+1.4
LZH				PP		**PnPn**	**05 41 14.7**	**+3.2**
LZH				sP		sP	05 41 24.9	+2.3
LZH				pmax		pmax		
	comp=Z,25nm,1.3s							
LZH				pmax		pmax		
	comp=Z,120nm,4.4s							
VSR	**Storozhevoye**	**26.91**	**313**	*e*P		**P**	**05 40 22.3**	**+0.6**
VSR				pmax		pmax		
	comp=Z,10.0nm,1.2s							
LPSR	**Galich'ya Gora**	**27.56**	**316**	*e*P		**P**	**05 40 28.3**	**+0.8**
LPSR				pmax		pmax		
	comp=Z,10.0nm,1.3s							
TLY	**Talaya**	**27.71**	**46**	*e*P		**P**	**05 40 27.7**	**-1.2**
TLY				pmax		pmax		
	comp=Z,4.0nm,0.9s							
CD2	**Chengdu**	**27.85**	**92**	P		**P**	**05 40 29.7**	**-0.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
SONM	**Songino Array**	**28.42**	**55**	P		**P**	**05 40 36.6**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=272,slow=9.6,SNR=4.8							
SONM				pP		**pP**	**05 41 18.6**	**+2.3**
	comp=Z,0.8nm,0.8s,baz=271,slow=7.5,SNR=4.0							
BRTR	**Keskin Array B**	**29.32**	**288**	*ce*P		**P**	**05 40 45.2**	**+1.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**29.32**	**288**	P		**P**	**05 40 44.8**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=112,slow=10,SNR=5.1							
KMI	**Kunming**	**29.51**	**104**	P		**P**	**05 40 49.5**	**+4.1**
KMI				pmax		pmax		
	comp=Z,14nm,0.5s							
OBN	**Obninsk**	**29.85**	**319**	*e*P		**P**	**05 40 47.5**	**-0.2**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.56**	**118**	P		**P**	**05 40 55.4**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=300,slow=8.2,SNR=6.0							
XAN	**Xi'an**	**31.04**	**83**	P		P	05 41 08.6	+10
XAN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,140nm,4.6s							
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P		**P**	**05 41 01.0**	**-0.3**
KLMR				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KLMR	**Klimovskoe**	**31.41**	**331**	*e*P		**P**	**05 41 01.1**	**-0.3**
KLMR				AMP			05 41 03.8	
	comp=Z,7.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**31.87**	**70**	*e*P		**P**	**05 41 06.8**	**+1.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.9s							
HHC				pmax		pmax		
	comp=Z,150nm,5.2s							
AKASG	**Malin Array Be**	**32.85**	**309**	P		**P**	**05 41 15.2**	**+1.2**
	comp=Z,3.9nm,0.4s,baz=83,slow=7.8,SNR=21							
AKASG				sP		**sP**	**05 42 19.1**	**+2.3**
	comp=Z,1.9nm,0.6s,baz=83,slow=8.1,SNR=4.2							
AKBB	**Malin Array Si**	**32.85**	**309**	*e*P		**P**	**05 41 15.4**	**+1.4**
	comp=Z,7.6nm,0.6s							
KIEV	**Kiev**	**32.85**	**309**	*e*P		**P**	**05 41 15.1**	**+1.0**
	comp=Z,7.1nm,0.6s							
KIEV	**Kiev**	**32.85**	**309**	⇑*i*P		**P**	**05 41 15.3**	**+1.2**
KIEV	**Kiev**	**32.85**	**309**	*e*P		**P**	**05 41 15.1**	**+1.0**
KIEV				pmax		pmax		
	comp=Z,7.0nm,0.6s							
AK11	**Malin Array Si**	**32.88**	**309**	*e*P		**P**	**05 41 15.6**	**+1.3**
NRIK	**Noril'sk**	**34.13**	**10**	P		**P**	**05 41 25.6**	**+0.8**
	comp=Z,3.9nm,0.5s,baz=180,slow=7.3,SNR=3.6							
MLR	**Muntele Rosu**	**34.67**	**299**	*e*P		**P**	**05 41 32.6**	**+2.6**
	comp=Z,6.4nm,0.8s							
MLR	**Muntele Rosu**	**34.67**	**299**	⇑*i*P		**P**	**05 41 32.4**	**+2.4**
MLR	**Muntele Rosu**	**34.67**	**299**	*e*P		**P**	**05 41 32.6**	**+2.6**
MLR				pmax		pmax		
	comp=Z,6.0nm,0.8s							
MLR	**Muntele Rosu**	**34.67**	**299**	P		**P**	**05 41 31.7**	**+1.7**
	comp=Z,4.8nm,0.6s,baz=123,slow=0.9,SNR=8.8							
BURAR	**Bucovina Array**	**35.18**	**303**	⇓*i*P		**P**	**05 41 36.3**	**+2.0**
BUR04	**Bucovina Ar. S**	**35.18**	**303**	*e*P		**P**	**05 41 35.9**	**+1.6**
BUR08	**Bucovina Ar. S**	**35.19**	**303**	*e*P		**P**	**05 41 36.2**	**+1.8**
VOIR		**35.30**	**299**	⇑*i*P		**P**	**05 41 37.3**	**+2.0**
ARR	**Arges**	**35.60**	**299**	⇓*i*P		**P**	**05 41 39.7

KEST	Kesra	48.92	288	*e*P	P	05 43 27.0	+1.7	
EKA	Eskdalemuir Ar	52.20	316	P	P	05 43 49.5	0.0	
	comp=Z,0.5nm,0.5s,baz=92,slow=6.8,SNR=5.1							
MBAR	Mbarara	52.42	234	P	P	05 43 50.9	-0.9	
	comp=Z,3.3nm,0.2s,baz=186,slow=20,SNR=4.5							
ESDC	Sonseca Array	57.35	298	P	P	05 44 25.9	-0.9	
	comp=Z,0.2nm,0.3s,baz=51,slow=7.5,SNR=5.9							
BILL	Bilibino	58.65	26	*e*P	P	05 44 35.9	+0.7	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TOA0	Torodi Ar. Sit	65.60	269	*e*P	P	05 45 21.2	-1.1	
	comp=Z,3.0nm,0.8s							
TORD	Torodi Ar. Bea	65.60	269	P	P	05 45 20.7	-1.5	
	comp=Z,1.3nm,0.3s,baz=57,slow=5.9,SNR=38							
TOLK	Toolik Lake Re	70.94	15	*e*P	P	05 45 55.7	+1.1	
	comp=Z,6.4nm,0.6s							
IM3	Indian Mountai	72.19	18	*e*P	P	05 46 02.1	0.0	
INK	Inuvik	73.91	9	*e*P	P	05 46 13.2	+1.2	
	comp=Z,6.4nm,1.1s							
INK	Inuvik	73.91	9	*e*P	P	05 46 13.2	+1.2	
INK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
DBIC	Dimbokro	74.58	267	P	P	05 46 15.3	-1.5	
	comp=Z,1.2nm,0.5s,baz=30,slow=8.6,SNR=3.7							
ILAR	Eielson Array	74.80	16	P	P	05 46 16.2	-1.0	
	comp=Z,0.8nm,0.5s,baz=325,slow=4.9,SNR=12							
ILAR				pP	pP	05 47 06.0	+1.1	
	comp=Z,0.3nm,0.9s,baz=317,slow=5.2,SNR=1.8							
BOSA	Boshof	77.68	220	P	P	05 46 34.0	-0.1	
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
BOSA	Boshof	77.68	220	P	P	05 46 34.0	-0.1	
	comp=Z,2.4nm,0.4s,baz=13,slow=3.4,SNR=11							
YKA	Yellowknife Ar	81.24	3	P	P	05 46 53.2	+0.6	
	comp=Z,3.9nm,0.4s,baz=351,slow=5.4,SNR=124							
YKA				pP	pP	05 47 42.9	+2.0	
	comp=Z,0.5nm,0.5s,baz=351,slow=5.4,SNR=2.6							
WRA	Warramunga Arr	82.10	122	*e*P	P	05 46 57.0	-0.8	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
WRA	Warramunga Arr	82.10	122	P	P	05 46 57.0	-0.8	
	comp=Z,1.7nm,0.5s,baz=324,slow=4.9,SNR=19							
ASAR	Alice Springs	84.36	125	P	P	05 47 08.6	-0.7	
	comp=Z,2.4nm,0.6s,baz=311,slow=4.9,SNR=34							
ULM	Lac du Bonnet	92.82	352	P	P	05 47 49.0	-0.1	
	comp=Z,1.4nm,0.8s,baz=337,slow=4.6,SNR=3.0							
CPUP	Villa Florida	135.10	268	PKP	PKPdf	05 53 54.5	-0.7	
	comp=Z,1.7nm,0.9s,baz=84,slow=11,SNR=2.8							
PLCA	Paso Flores	149.72	250	PKPbc	PKPbc	05 54 25.8	+0.3	
	comp=Z,4.0nm,0.9s,baz=20,slow=10,SNR=7.8							

IDC ***04*** *05:39:06.5±4.2,24.°03S×179.°83E,h550*km*±48*km*,mb3.4/5, mb1 3.6/7,mb1mx3.2/34,mbtmp4.3/7,Error ellipse: s-maj=57.2km s-min=26.4km az=179.0*

ISC 04 05:39:03.4±1.2,23.°7S±0.°2×179.°8W±0.°2,h526km,n9, σ1=**31/9,mb3.9/5,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	12.75	274	P	P	05 41 51.9	+1.9
	0.3nm,0.3s,baz=107,slow=20,SNR=3.9						
URZ	Urewera	14.78	189	P	P	05 42 11.2	+0.4
	0.5nm,0.3s,baz=45,slow=19,SNR=3.3						
CTA	Charters Tower	31.63	270	P	P	05 44 43.3	-0.1
	9.1nm,0.3s,baz=93,slow=13,SNR=23						
ASAR	Alice Springs	42.22	260	P	P	05 46 09.6	-0.9
	2.0nm,0.5s,baz=100,slow=7.1,SNR=24						
WRA	Warramunga Arr	42.26	261	P	P	05 46 11.8	-1.4
	3.7nm,0.5s,baz=93,slow=8.5,SNR=280						
FITZ	Fitzroy Crossi	51.00	265	P	P	05 47 15.9	-1.0
	1.8nm,0.5s,baz=117,slow=9.9,SNR=9.7						
TXAR	Lajitas Array	90.18	58	P	P	05 51 08.9	+0.9
	0.2nm,0.7s,baz=218,slow=5.7,SNR=2.9						
AKASG	Malin Array Be	144.85	328	PKPbc	PKPdf	05 57 39.0	-1.2
	0.7nm,0.3s,baz=45,slow=4.0,SNR=4.6						
BRTR	Keskin Array B	147.55	308	PKPbc	PKiKP	05 57 49.9	-0.5
	0.7nm,0.6s,baz=76,slow=3.7,SNR=4.1						

ISCJB ***04*** *05:48:07.6±0.3,3.°69S±0.°04×127.°43E±0.°04,h42*km*, mb4.2/18,MS3.4/9,Error ellipse: s-maj=7.2km s-min=4.3km az=140.6*
NEIC ***04*** *05:48:07.0±3.1,3.°71S×127.°13E,h26*km*±22*km*,mb4.4/10, Error ellipse: s-maj=13.3km s-min=6.5km az=82.0*
IDC ***04*** *05:48:08.1±3.6,3.°72S×127.°00E,h33*km*±27*km*,mb4.0/14, mb1 4.1/16,mb1mx3.9/45,mbtmp4.1/16,ML3.8/2,MS3.5/12, Ms1 3.5/12,ms1mx3.2/36,Error ellipse: s-maj=39.1km s-min=13.1km az=77.0*
DJA ***04*** *05:48:09.8±0.6,3.°5S×12.°7E±.°,h10*km*,M5.0/2,mb5.5/1, MLv4.8/2*

ISC 04 05:48:09.4±0.5,3.°67S±0.°06×127.°39E±0.°06,h42km**,n61,** σ1=**83/57,mb4.2/18,MS3.5/9,1C,Seram**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	Namlea	0.51	326	P	Pn	05 48 17.0	-3.4
NLAI				S	Sn	05 48 22.7	-5.5
SANI	Sanana	2.13	319	P	Pn	05 48 42.6	+0.1
SANI				S	Sn	05 49 09.6	+1.8
FAKI	Fak Fak	4.91	81	*e*Pn	Pn	05 49 22.2	+1.4
FAKI				*e*Sn	Sn	05 50 18.1	+1.7
LUWI	Luwuk	5.30	299	P	Pn	05 49 27.9	+1.8
KMSI	Cibinong	5.42	321	P	Pn	05 49 29.5	+1.8
MRSI	Marisa	6.83	307	P	Pn	05 49 48.6	+1.6
BKSI	Bulukumba	7.42	257	P	Pn	05 49 58.6	+3.3
BATI	Baumata	7.47	209	LR	LR	05 52 55.0	
	comp=Z,419nm,18.1s,baz=33,slow=40						
TTSI	Tana Toraja	7.58	274	P	Pn	05 50 00.5	+3.1
SPSI	Sidrap Palu	7.61	268	P	Pn	05 50 01.6	+3.8
MPSI	Mapaga	8.47	298	P	Pn	05 50 12.1	+2.4
WSI	Waingapu	9.22	229	P	Pn	05 50 33.2	+13
KCP	Kidapawan	10.85	348	⇑*i*P	Pn	05 50 44.4	+2.0
KCP				*i* S		05 50 50.1	
JAGI	Jajag, Banyuwa	13.99	249	P	P	05 51 34.9	+2.6
FITZ	Fitzroy Crossi	14.44	187	*e*Pn	Pn	05 51 29.1	-2.2
FITZ	Fitzroy Crossi	14.44	187	Pn	Pn	05 51 29.2	-2.1
	0.2nm,0.3s,baz=23,slow=13,SNR=4.7						
FITZ				LR	LR	05 57 58.3	
	comp=Z,174nm,18.0s,baz=7.0,slow=41						
WRAB	Tennant Creek	17.54	158	*e*Pn	P	05 52 11.1	-0.5
	34nm,1.3s						
WR1	Warramunga Arr	17.54	158	*e*Pn	Pn	05 52 10.1	-0.9
	40nm,1.3s						
WRA	Warramunga Arr	17.54	158	P	Pn	05 52 10.1	-0.9
	0.5nm,0.3s,baz=339,slow=12,SNR=33						
WRA				LR	LR	05 59 35.4	
	comp=Z,207nm,19.2s,baz=350,slow=39						
WB2	Warramunga Arr	17.54	158	*e*Pn	Pn	05 52 04.7	-6.3
WC3	Warramunga Arr	17.57	158	*e*Pn	Pn	05 52 08.8	-2.4
	22nm,1.0s						
COEN	Coen	18.64	124	*e*P	Pn	05 52 24.8	+0.5
	43nm,1.3s						
KPJI	Karang Pucung	18.72	258	P	Pn	05 52 32.8	+7.4
AS31	Alice Springs	20.85	163	*e*P	P	05 52 47.5	-0.4
	14nm,1.0s						
ASAR	Alice Springs	20.85	163	P	Pn	05 52 49.5	-1.2
	29nm,0.9s,baz=343,slow=11,SNR=141						
ASAR				S	Sn	05 56 45.4	0.0
	1.9nm,1.0s,baz=346,slow=22,SNR=4.9						
ASAR				PcP	PcP	05 56 55.1	-0.3
	0.4nm,0.3s,baz=16,slow=1.7,SNR=4.7						
ASAR				ScP	ScP	06 00 29.4	+0.4
	0.6nm,0.7s,baz=336,slow=2.7,SNR=4.2						
ASAR				LR	LR	06 01 51.6	
	comp=Z,75nm,18.2s,baz=339,slow=39						
AS01	Alice Springs	20.87	163	*e*P	P	05 52 49.0	+0.9
GUMO	Guam	24.39	45	LR	LR	06 02 29.1	
	comp=Z,63nm,20.9s,baz=194,slow=35						
BBOO	Buckleboo	30.11	165	*e*P	P	05 54 15.2	+0.1
	12nm,1.2s						
STKA	Stephens Creek	31.08	156	*e*P	P	05 54 24.3	+0.6
	1.9nm,1.4s						
STKA	Stephens Creek	31.08	156	P	P	05 54 23.6	-0.1
	1.1nm,0.5s,baz=315,slow=8.7,SNR=4.1						
STKA				LR	LR	06 08 02.4	
	comp=Z,168nm,19.4s,baz=12,slow=38						
CMAR	Chiang Mai Arr	35.62	309	LR	LR	06 10 32.2	
	comp=Z,96nm,18.1s,baz=174,slow=38						
JNU	Nakatsue	36.74	5	LR	LR	06 08 58.4	
	comp=Z,77nm,20.7s,baz=174,slow=34						
KSAR	Wonju Array Be	40.90	1	P	P	05 55 47.6	0.0
KSRS	Korea Array	40.92	1	P	P	05 55 47.6	-0.1
	1.4nm,0.8s,baz=186,slow=10,SNR=4.8						
MAJO	Matsushiro	41.26	13	*e*P	P	05 55 52.0	+1.4
MJAR	Matsushiro Arr	41.26	13	P	P	05 55 52.0	+1.4
	1.0nm,0.4s,baz=194,slow=12,SNR=4.5						
MJAR				LR	LR	06 11 35.9	
	comp=Z,30nm,19.8s,baz=115,slow=34						
USRK	Ussuriysk Ar.	47.83	4	P	P	05 56 42.2	-0.7
	1.7nm,0.7s,baz=191,slow=7.3,SNR=6.1						
GTA	Gaotai	49.82	332	*e*P	P	05 56 59.7	+1.2
GTA				pP	pP	05 57 11.6	+1.7
GTA				sP	sP	05 57 15.3	+0.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	Songino Array	54.49	343	*e*P	P	05 57 32.5	-0.6
SONM	Songino Array	54.49	343	P	P	05 57 32.5	-0.6
	comp=Z,1.2nm,1.0s,baz=162,slow=8.1,SNR=7.1						
SONM				LR	LR	06 23 51.4	
	comp=Z,33nm,18.3s,baz=172,slow=39						
SONA1	Songino Array	54.50	343	*e*P	P	05 57 32.3	-0.8
BKZ	Black Stump Fm	56.78	135	*e*P	P	05 57 49.3	-0.2
	comp=Z,12nm,0.9s						
URZ	Urewera	56.83	134	*e*P	P	05 57 51.6	+1.8
	comp=Z,29nm,1.2s						
MK01	Makanchi Array	64.01	327	*e*P	P	05 58 38.1	-0.6
MK31	Makanchi Array	64.03	327	*e*P	P	05 58 38.9	0.0
	comp=Z,1.9nm,0.8s						
MK32	Makanchi Array	64.03	327	*e*P	P	05 58 38.0	-0.9
MKAR	Makanchi Array	64.03	327	P	P	05 58 38.0	-0.9
	comp=Z,2.2nm,0.7s,baz=130,slow=7.9,SNR=28						
ZALV	Zalesovo Beam	67.47	334	*e*P	P	05 58 59.7	-1.1
ZALV	Zalesovo Beam	67.47	334	P	P	05 58 58.9	-1.9
	comp=Z,1.7nm,0.7s,baz=132,slow=4.5,SNR=7.4						
ZAA1	Zalesovo Array	67.47	334	*e*P	P	05 58 58.9	-1.9
KURBB	Kurchatov Arra	68.33	329	P	P	05 59 05.0	-1.3
	comp=Z,2.4nm,0.7s,baz=130,slow=5.5,SNR=16						
KURK	Kurchatov	68.34	329	*e*P	P	05 59 05.0	-1.3
SEY	Seymchan	69.07	12	P	P	05 59 11.9	+1.2
	comp=Z,3.0nm,0.6s,baz=219,slow=6.9,SNR=10						
BVAR	Borovoye Array	73.88	328	P	P	05 59 38.8	-1.1
	comp=Z,1.1nm,0.7s,baz=142,slow=7.5,SNR=6.0						
VNDA	Vanda	76.05	173	P	P	05 59 51.9	-0.1
	comp=Z,1.5nm,0.9s,baz=314,slow=9.5,SNR=4.2						
VNDA				LR	LR	06 30 43.4	
	comp=Z,56nm,21.9s,baz=204,slow=34						
NRIK	Noril'sk	77.73	347	P	P	06 00 01.9	+0.4
	comp=Z,2.3nm,0.4s,baz=129,slow=7.1,SNR=3.7						
NRIK				LR	LR	06 36 08.9	
	comp=Z,28nm,20.3s,baz=72,slow=37						
ILAR	Eielson Array	91.47	25	P	P	06 01 10.7	-0.3
	comp=Z,0.2nm,0.5s,baz=286,slow=4.8,SNR=2.8						
TORD	Torodi Ar. Bea	125.56	283	PKP	PKPdf	06 07 05.1	-2.1
	comp=Z,0.3nm,0.8s,baz=151,slow=3.3,SNR=2.9						
TOA1	Torodi Ar. Sit	125.56	283	*e*PKPdf	PKPdf	06 07 05.1	-2.1
PLCA	Paso Flores	132.86	161	PKP	PKiKP	06 07 21.4	-0.3
	comp=Z,2.9nm,1.2s,baz=226,slow=6.8,SNR=2.6						
CPUP	Villa Florida	149.83	172	PKPbc	PKPbc	06 07 55.0	-0.8
	comp=Z,1.8nm,0.9s,baz=189,slow=3.7,SNR=3.3						

JMA 04 06:40:55.2±0.2,39.°64N×143.°53E,h49km,M3.6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	Tanohata	1.32	284	P	Pn	06 41 17.6	+0.4
JTH				*e*S	Sn	06 41 34.1	+0.5
MIYJ	Miyakonagasawa	1.32	268	P	Pn	06 41 17.9	+0.6
MIYJ				*e*S	Sn	06 41 34.0	+0.2
JKEN	Kujiedanarisaw	1.51	293	P	Pn	06 41 20.0	+0.2
JKEN				*e*S	Sn	06 41 38.1	-0.2
JANG	Nango	1.71	296	P	Pn	06 41 22.9	+0.3
JANG				*e*S	Sn	06 41 43.1	-0.2
JOM	Ohasama	1.74	265	P	Pn	06 41 24.0	+1.1
JOM				*e*S	Sn	06 41 45.4	+1.5
JMK	Ichinoseki	1.92	250	P	Pn	06 41 26.1	+0.7
JMK				*e*S	Sn	06 41 48.4	0.0
JIO	Ouri	2.07	236	P	Pn	06 41 27.3	-0.2
JIO				*e*S	Sn	06 41 50.4	-1.6
JTM	Tenmabayashi	2.21	302	P	Pn	06 41 30.6	+1.3
JTM				*e*S	Sn	06 41 56.8	+1.4
JYK	Kaneyama	2.56	255	P	Pn	06 41 35.7	+1.4
JYK				*e*S	Sn	06 42 06.0	+1.8
JOT	Ohata	2.57	313	P	Pn	06 41 35.4	+1.1
JOT				S	Sn	06 42 05.0	+0.7
JNBK	Urakawa-nobuka	2.70	348	P	Pn	06 41 37.1	+1.0
JNBK				S	Sn	06 42 08.8	+1.2
JKB	Kayabe	2.94	321	*e*S	Sn	06 42 13.1	-0.3
JCH	Churui	2.97	358	P	Pn	06 41 40.0	+0.1
JFT	Otama	3.28	231	P	Pn	06 41 44.5	+0.4

TIF ***04*** *06:47:01.3,42.°21N×40.°63E,h22*km*±1*km
DDA* ***04*** *06:47:03.3,42.°15N×40.°84E,h7*km*±3*km*,ML2.7
MOS* ***04*** *06:47:03.3±0.0,42.°52N×41.°00E,h11*km*,MPVA3.3*

ISC 04 06:47:00.1±1.2,42.°40N±0.°02×41.°00E±0.°04,h2km**±12**km**, n16,** σ0=**63/34,Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	Batumi	0.95	147	P	Pn	06 47 20.5	+0.1
BATM				S	Sn	06 47 34.6	+0.2
DOMR	Dombai	1.00	27	*e*Pg	Pn	06 47 20.3	-1.1
DOMR				*e*Sg	Sg	06 47 32.8	+0.4
DBOC	Borcka	1.16	155	*i* P	Pg	06 47 23.6	+1.2
DBOC				*i* S	Sn	06 47 40.5	+0.6
DBOC				IAML_P			
	comp=Z,1μm,0.2s						
ARXR	Arkhyz	1.18	10	*i* Pg	Pg	06 47 23.9	+1.2
ARXR				*i* Sg	Sg	06 47 38.6	+0.6
ARTV	Artvin	1.40	150	*i* P	Pg	06 47 27.1	+0.3
ARTV				*i* S	Sg	06 47 45.8	+0.9
ARTV				IAML_P			
	comp=Z,1μm,0.2s						
RPOR	Krasnaya Polya	1.41	338	*e*Pg	Pg	06 47 27.0	-0.1
RPOR				*e*Sg	Sg	06 47 45.2	-0.1
DBAD	Bademkaya	1.47	159	*i* P	Pg	06 47 28.3	0.0
DBAD				*i* S	Sg	06 47 47.2	-0.2
DBAD				IAML_P			
	comp=Z,491nm,0.1s						
DAGI	Agillar	1.49	152	*i* P	Pg	06 47 28.9	+0.3
DAGI				*i* S	Sg	06 47 47.7	-0.1
DAGI				IAML_P			
	comp=Z,155nm,0.1s						
NEY	Neytrino	1.52	56	*i* Pg	Pg	06 47 29.4	+0.1
NEY				*e*Sg	Sb	06 47 49.2	+0.2
DDEM	Demirkent	1.61	159	*i* P	Pb	06 47 30.0	-0.5
DDEM				*i* S	Sb	06 47 50.5	-0.8
DDEM				IAML_P			
	comp=Z,728nm,0.2s						
GUZR	Guzeripl'	1.72	338	*i* Pg	Pg	06 47 32.7	-0.4
GUZR				*i* Sg	Sg	06 47 55.1	-0.3
SHA1	Shidzhatmaz	1.81	42	*i* Pg	Pg	06 47 34.6	-0.1
SHA1				*e*Pg	Pb	06 47 34.8	+0.8
SHA1				*e*Sg	Sb	06 47 57.1	-0.1
SHA1				*i* Sg	Sg	06 47 57.4	-0.7
DIGR	Digorskoe uzhe	1.97	74	*e*Pg	Pg	06 47 38.1	+0.3
DIGR				*e*Sg	Sb	06 48 02.5	+0.7
KIV0	Kislovodsk Arr	1.99	38	*e*Pg	Pg	06 47 37.8	-0.4
KIV0				*e*Sg	Sb	06 48 02.7	+0.3
BEYR	Belyy Ugol+	2.09	39	*e*Pg	Pg	06 47 39.7	-0.4
BEYR				*e*Sg	Sb	06 48 05.7	+0.6
TRLG	Trialeti	2.47	109	P	Pg	06 47 46.5	-0.9
TRLG				S	Sg	06 48 18.2	-1.1

AZER ***04*** *06:50:21.9±6.9,38.°50N×46.°69E,h10*km*±1*km*,ml3.3/19, Error ellipse: s-maj=5.7km s-min=2.3km az=22.0*
NSSP ***04*** *06:50:21.4,38.°48N×46.°72E,h10*km*,Ms3.4*
THR ***04*** *06:50:22.5,38.°69N×46.°87E,h14*km*,ML2.9*
TEH ***04*** *06:50:23.6,38.°42N×46.°69E,h10*km*,ML3.4*

ISC 04 06:50:23.5±1.1,38.°43N±0.°03×46.°68E±0.°02,h7km**±11**km**, n35,** σ1=**46/57,24C-13D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHRS	Heris	0.31	111	*e*Pg	Pg	06 50 29.7	+0.1
IHRS				*e*Sg	Sg	06 50 34.6	+0.9
IHRS				IAMB	IAmb	06 50 35.2	
	comp=Z,2μm,0.2s						
ITBZ	Tabriz	0.46	245	*e*Pg	Pg	06 50 33.0	+0.6
ITBZ				IAMB	IAmb	06 50 40.9	
	comp=Z,29μm,0.1s						
ORD	Ordubad	0.73	313	⇑P	Pg	06 50 37.4	-0.1
ORD				⇑S	Sg	06 50 47.8	+0.7
IBST	Bostanabad	0.75	167	*e*Pg	Pg	06 50 37.0	-0.9
IBST				IAMB	IAmb	06 50 50.3	
	comp=Z,23μm,0.3s						
IMRD	Marand	0.81	291	*e*Pg	Pg	06 50 39.1	-0.1
IMRD				IAMB	IAmb	06 50 54.7	
	comp=Z,40μm,0.2s						
IAZR	Azarshahr	0.93	216	*e*Pg	Pg	06 50 41.7	+0.3
IAZR				IAMB	IAmb	06 50 43.3	
	comp=Z,19μm,0.3s						
GRS	Goris	1.10	346	⇓*i*P	Pg	06 50 40.0	-4.7
GRS				⇑*i*S	Sg	06 50 55.0	-4.0
NAX	Nakhchivan	1.19	309	⇑P	Pb	06 50 45.7	-0.7
NAX				⇑S	Sg	06 51 02.4	+0.8
SBZ	Shahbuz	1.30	318	⇑P	Pn	06 50 48.0	-0.3
SBZ				⇑S	Sg	06 51 06.6	+1.1
LRK	Lerik	1.32	80	⇓P	Pn	06 50 47.9	-0.7
LRK				⇓S	Sg	06 51 06.8	+0.8
GLBA	Clilabad	1.57	58	⇓P	Pb	06 50 53.0	+0.2
GLBA				⇑S	Sg	06 51 15.5	+1.6
ASTR	Astara	1.66	85	⇓P	Pb	06 50 54.1	-0.3
ASTR				⇑S	Sg	06 51 17.2	+0.2
LKRN	Lenkeran, Azer	1.67	80	⇑P	Pb	06 50 54.3	-0.3
LKRN				⇑S	Sg	06 51 17.8	+0.6
MAKU	Maku	1.81	301	*e*Pn	Pn	06 50 56.1	+0.8
MAKU	Maku	1.81	301	*e*AML	AML	06 51 21.6	
	comp=N,111nm,0.5s						
MAKU				*e*Pg	Pn	06 50 56.0	+0.8
MAKU				*e*Sg	Sb	06 51 20.2	+0.2
MAKU				*e*AML	AML	06 51 25.4	
	comp=E,116nm,0.3s						
BRDA	Brd	1.87	12	⇓S	Sb	06 51 21.1	-0.5
HYR	Heyderabad	1.92	313	⇑P	Pb	06 50 58.1	-0.8
HYR				⇑S	Sb	06 51 23.9	+0.9
ZRD	Zardab	2.00	23	⇑P	Pn	06 50 58.5	+0.7
ZRD				⇑S	Sg	06 51 27.5	-0.4
GANJ	Ganja	2.23	353	⇓P	Pn	06 51 01.6	+0.7
GANJ				⇑S	Sb	06 51 31.3	-0.7
GNI	Garni	2.28	319	*i* P	Pb	06 51 05.2	+0.1
GNI				*i* S	Sb	06 51 37.5	+0.7
ALIB	Äli-Bayra	2.37	49	⇑P	Pn	06 51 03.9	+1.2
ALIB				⇓S	Sb	06 51 35.4	-0.5
ZNJK	Zanjan	2.37	137	*e*Pn	Pn	06 51 04.5	+1.4
ZNJK	Zanjan	2.37	137	*e*Pn	Pn	06 51 04.5	+1.4
GDB	GEDABAY	2.40	343	⇑P	Pn	06 51 04.8	+1.4
GDB				⇓S	Sb	06 51 36.4	-0.5
QBL	Gabala	2.67	19	⇓P	Pn	06 51 07.7	+0.8
QBL				⇑S	Sb	06 51 42.3	-2.3
PQL	Pirkuli	2.78	32	⇑P	Pn	06 51 10.1	+1.5
PQL				⇑S	Sb	06 51 47.2	-0.8
SEKA	Sheki	2.81	8	⇓P	Pn	06 51 09.9	+1.0
SEKA				⇑S	Sn	06 51 43.6	+0.6
QZX	Qazax, Azerbai	2.81	339	⇑P	Pb	06 51 14.6	+0.5
QZX				⇓S	Sb	06 51 48.6	-0.1
ATGJ	Altiaghaj	2.99	35	⇑P	Pn	06 51 13.1	+1.7
ZKTA	Zakatala	3.21	359	⇑S	Sb	06 51 56.6	-3.5
SNGE	Sanandaj	3.37	171	*e*Pn	Pb	06 51 20.5	-3.3
SNGE	Sanandaj	3.37	171	*e*Pn	Pb	06 51 20.5	-3.3
SNGE				*e*Sg	Sg	06 52 14.8	+2.9
LGD	Lagodekhi	3.42	355	P	Pb	06 51 22.6	-1.8
LGD				S	Sb	06 52 07.9	+1.8
BTNK	Botanikuri	3.56	337	P	Pb	06 51 27.8	+1.1
TRLG	Trialeti	3.68	328	P	Pb	06 51 29.8	+0.8
TRLG				S	Sg	06 52 18.4	-3.4

WEL 04 07:05:59.8,40.°5S±0.°7×17.°6E±.°,h25km±1km,ML3.8/19, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRWZ	Pori Road	0.04	148	P	Pb	07 06 04.4	+0.3
PRWZ				S	Sb	07 06 08.0	+1.0
POWZ	Post Office Ro	0.19	314	P	Pb	07 06 05.7	+0.4
TIWZ	Tintock	0.26	190	P	Pb	07 06 06.8	+0.7
TIWZ				S	Sn	07 06 12.1	-1.2
BFZ	Birch Farm	0.28	125	P	Pb	07 06 06.7	+0.3
BFZ				S	Sb	07 06 12.2	+1.1
DVHZ	Dannevirke	0.28	37	P	Pb	07 06 06.3	-0.2
DVHZ				S	Sb	07 06 11.1	0.0
MRZ	Mangatainoka R	0.31	244	P	Pb	07 06 07.4	+0.5
MRZ				S	Sb	07 06 13.0	+1.2
ANWZ	Angora Road	0.41	81	P	Pb	07 06 09.0	+0.5
ANWZ				S	Sn	07 06 16.5	-0.4
CPWZ	Castlepoint	0.43	153	P	Pn	07 06 07.4	-0.1
TSZ	Takapari Road	0.47	2	P	Pb	07 06 09.5	+0.1
HOWZ	Holdsworth Sta	0.50	221	P	Pb	07 06 10.6	+0.6
OHWZ	Ohakea	0.58	303	P	Pn	07 06 12.7	+0.3
TMWZ	Te Maipa	0.58

INZ	**Inchbonnie**	**4.03**	**235**	P	Pn	07 06 57.7	-2.1

IDC 04 07:34:00.8±2.2, 6°86S×129°58E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/34, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=77.5km s-min=29.2km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.81**	**199**	Pn	Pn	07 36 52.1	+1.5
	0.2nm,0.3s,baz=25,slow=10,SNR=7.9						
FITZ				Sn	Sn	07 39 02.0	-1.2
	0.1nm,0.3s,baz=286,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**13.80**	**161**	Pn	Pn	07 37 16.8	-1.1
	0.2nm,0.3s,baz=338,slow=13,SNR=14						
WRA				Sn	Sn	07 39 50.7	-1.3
	0.2nm,0.3s,baz=333,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**17.22**	**166**	P	Pn	07 38 02.5	-0.5
	0.2nm,0.3s,baz=350,slow=11,SNR=9.8						
MKAR	**Makanchi Array**	**67.88**	**327**	P	P	07 45 01.2	0.0
	0.4nm,0.7s,baz=132,slow=7.0,SNR=4.2						

*IDC **04** 07:47:45.9±2.4, 19°40S×178°05W, h471km±27km, mb3.5/9, mb1 3.8/10, mb1mx3.5/36, mbtmp4.3/10, Error ellipse: s-maj=47.4km s-min=11.7km az=153.0*
*ISCJB **04** 07:47:47.5±0.6, 19°6S±0°2×178°0W±0°1, h500km, Error ellipse: s-maj=23.5km s-min=12.3km az=156.8*

ISC 04 07:47:48.1±0.8, 19°6S±0°2×178°0W±0°1, h500km, n16, σ1s03/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.79**	**258**	P	**P**	**07 50 55.6**	**-0.6**
	0.3nm,0.3s,baz=125,slow=18,SNR=3.2						
STKA	**Stephens Creek**	**38.23**	**243**	P	**P**	**07 54 24.6**	**-0.1**
	4.4nm,0.6s,baz=90,slow=10,SNR=21						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**07 55 16.1**	**-0.7**
	24nm,0.5s,baz=88,slow=8.4,SNR=393						
ASAR				PcP	**pP**	**07 56 48.7**	**+0.1**
	1.1nm,0.6s,baz=89,slow=4.7,SNR=4.1						
ASAR				S	**S**	**08 01 18.7**	**+1.5**
	0.4nm,0.8s,baz=94,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**44.77**	**261**	P	**P**	**07 55 15.4**	**-1.4**
	10nm,0.3s,baz=97,slow=6.7,SNR=311						
WRA				S	**S**	**08 01 19.2**	**+2.0**
	0.4nm,0.8s,baz=101,slow=9.3,SNR=2.8						
PETK	**Petropavlovsk-**	**75.39**	**345**	P	**P**	**07 58 39.2**	**-0.5**
	2.8nm,0.7s,baz=129,slow=7.7,SNR=2.4						
NVAR	**Mina Array Bea**	**80.33**	**43**	P	**P**	**07 59 07.5**	**+0.4**
	0.5nm,0.6s,baz=222,slow=8.2,SNR=4.5						
TXAR	**Lajitas Array**	**86.53**	**57**	P	**P**	**07 59 39.0**	**+1.0**
	0.7nm,0.6s,baz=220,slow=7.0,SNR=10						
PDAR	**Pinedale Array**	**88.27**	**43**	P	**P**	**07 59 47.0**	**+0.9**
	0.3nm,0.8s,baz=259,slow=1.5,SNR=3.5						
SNAA	**Sanae**	**88.93**	**178**	P	**P**	**07 59 48.1**	**-0.4**
VNA3	**Neumayer Olymp**	**89.06**	**176**	P	**P**	**07 59 49.0**	**-0.1**
VNA2	**Neumayer--Watz**	**89.50**	**177**	P	**P**	**07 59 51.3**	**+0.2**
	baz=189,slow=3.4						
CMAR	**Chiang Mai Arr**	**89.84**	**290**	P	**P**	**07 59 54.8**	**+1.1**
	0.7nm,0.3s,baz=79,slow=2.9,SNR=5.3						
YKA	**Yellowknife Ar**	**95.66**	**25**	P	**P**	**08 00 18.5**	**-0.8**
	0.1nm,0.7s,baz=260,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**110.59**	**314**	PKiKP	**PKiKP**	**08 05 21.6**	**-1.9**
	0.3nm,0.8s,baz=83,slow=2.0,SNR=3.1						
BRTR	**Keskin Array B**	**146.24**	**313**	PKPbc	**PKPdf**	**08 06 31.0**	**+0.5**
	0.8nm,0.6s,baz=130,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**149.32**	**345**	PKPbc	**PKPbc**	**08 06 40.1**	**-0.1**
	0.4nm,0.4s,baz=68,slow=3.6,SNR=3.9						

*ISCJB **04** 07:50:07.9±1.4, 19°56S±0°04×70°81W±0°07, h20km±10km, mb3.7/4, Error ellipse: s-maj=10.9km s-min=6.8km az=158.7*
*SJA **04** 07:50:07.3±0.7, 19°58S×70°76W, h30km±3km, ML3.1, MW3.5*
*GUC **04** 07:50:09.8±0.7, 19°55S×70°66W, h37km±4km, ML3.7*
*IDC **04** 07:50:15.9±3.2, 19°62S×70°23W, h81km±28km, mb3.4/4, mb1 3.6/6, mb1mx3.3/26, mbtmp3.7/6, MS2.5/2, Ms1 2.6/2, ms1mx2.5/12, Error ellipse: s-maj=58.6km s-min=19.9km az=100.0*

ISC 04 07:50:09.3±1.9, 19°52S±0°04×70°73W±0°08, h26km±12km, n29, σ0s91/31, mb3.8/4, 2C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.57**	**98**	⇓*iP*	**Pb**	**07 50 20.5**	**-0.4**
PSGC				*eS*	**Sb**	**07 50 28.2**	**-0.6**
PSGC				IAML		07 50 28.6	
	comp=N,7μm,0.4s						
PSGCX	**Pisagua**	**0.57**	**98**	*i* P	**Pb**	**07 50 20.4**	**-0.5**
PSGCX				*i* S	**Sb**	**07 50 29.1**	**+0.3**
PB12	**IPOC Station P**	**0.97**	**23**	*i* P	**Pn**	**07 50 27.6**	**+0.3**
PB12	**IPOC Station P**	**0.97**	**23**	⇓*iP*	**Pn**	**07 50 27.6**	**+0.3**
PB12				*eS*	**Sn**	**07 50 40.9**	**+0.6**
PB12				IAML		07 50 43.8	
	comp=N,4μm,0.3s						
PB11	**IPOC Station P**	**1.04**	**104**	*i* P	**Pn**	**07 50 27.6**	**-0.7**
PB11	**IPOC Station P**	**1.04**	**104**	⇓*iP*	**Pn**	**07 50 27.9**	**-0.4**
PB11				*eS*	**Sn**	**07 50 41.0**	**-1.0**
PB11				IAML		07 50 44.9	
	comp=N,7μm,0.4s						
MNMC	**Minye Minye**	**1.13**	**71**	⇓*iP*	**Pn**	**07 50 30.0**	**+0.3**
MNMC				*eS*	**Sn**	**07 50 44.5**	**0.0**
MNMC				IAML		07 50 48.2	
	comp=E,6μm,0.3s						
MNMCX	**Minye Minye**	**1.13**	**71**	*i* P	**Pn**	**07 50 30.1**	**+0.4**
MNMCX				*i* S	**Sb**	**07 50 46.8**	**+1.9**
PB08	**IPOC Station P**	**1.61**	**113**	*i* P	**Pn**	**07 50 36.6**	**+0.3**
PB08	**IPOC Station P**	**1.61**	**113**	⇓*iP*	**Pn**	**07 50 37.1**	**+0.8**
PB08				*eS*	**Sn**	**07 50 57.5**	**+1.2**
PB08				IAML		07 50 59.8	
	comp=N,1μm,0.2s						
PB01	**IPOC Station P**	**1.91**	**143**	⇑*iP*	**Pn**	**07 50 40.7**	**+0.4**
PB01				*eS*	**Sn**	**07 51 04.8**	**+1.3**
PB02	**IPOC Station P**	**1.96**	**157**	*i* P	**Pn**	**07 50 40.1**	**-0.8**
PB02	**IPOC Station P**	**1.96**	**157**	⇑*eP*	**Pn**	**07 50 41.3**	**+0.4**
PB02				*eS*	**Sn**	**07 51 04.2**	**-0.4**
PB02				IAML		07 51 18.7	
	comp=E,1μm,0.4s						
PB07	**IPOC Station P**	**2.34**	**160**	*i* P	**Pn**	**07 50 45.3**	**-0.9**
LVC	**Limon Verde**	**3.52**	**151**	P	**Pn**	**07 51 03.9**	**+1.3**
	comp=E,3.4nm,0.3s,baz=344,slow=9.2,SNR=30						
LVC				S	**Sn**	**07 51 44.8**	**+1.3**
	comp=E,9.5nm,0.3s,baz=36,slow=17,SNR=4.0						
LVC				LR	LR	07 52 32.1	
	comp=E,99nm,18.1s,baz=330,slow=42						
LPAZ	**La Paz**	**4.05**	**38**	P	Pn	07 51 15.7	+5.6
	comp=E,1.9nm,0.3s,baz=281,slow=3.4,SNR=34						
LPAZ				LR	LR	07 52 54.5	
	comp=E,45nm,19.7s,baz=270,slow=41						
HJA	**Humahuaca**	**6.17**	**127**	IAML		07 51 59.1	
	comp=Z,5.8nm,0.7s						
PLCA	**Paso Flores**	**21.15**	**180**	P	**P**	**07 54 53.2**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=348,slow=9.1,SNR=4.7						
PTGA	**Pitinga**	**21.44**	**31**	P	**P**	**07 54 54.4**	**-1.2**
	comp=Z,1.6nm,0.4s,baz=219,slow=17,SNR=6.4						
TORD	**Torodi Ar. Bea**	**78.32**	**71**	P	**P**	**08 02 05.8**	**-1.8**
	comp=Z,0.5nm,0.5s,baz=245,slow=6.4,SNR=4.2						
YKA	**Yellowknife Ar**	**88.76**	**341**	P	**P**	**08 03 00.8**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=134,slow=4.7,SNR=10						
H11S2	**WAKE ISLAND Hyd**	**25.91**	**279**	T	T	10 28 21.5	
	baz=101,slow=75,SNR=67						
H11S1	**WAKE ISLAND Hyd**	**25.92**	**279**	T	T	10 28 22.3	
	baz=101,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hyd**	**25.93**	**279**	T	T	10 28 20.9	
	baz=101,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hyd**	**25.95**	**281**	T	T	10 28 23.9	
	baz=100,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hyd**	**25.96**	**281**	T	T	10 28 23.4	
	baz=100,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hyd**	**25.97**	**281**	T	T	10 28 18.1	
	baz=100,slow=75,SNR=6.4						
WRA	**Warramunga Arr**	**133.73**	**213**	PKP	**PKPdf**	**08 09 25.2**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=157,slow=1.6,SNR=3.1						
MKAR	**Makanchi Array**	**144.97**	**33**	PKP	**PKPdf**	**08 09 44.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=316,slow=2.8,SNR=11						

*JMA **04** 07:50:49.0±1.0, 45°21N×151°32E, h30km, M4.0*
SKHL 04 07:50:50.8±0.3, 44°86N×151°45E, h61km±8km, mb4.2/2,

East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.57**	**280**	*eP*	Pn	07 51 29.6	-0.3
KUR				AMB	AMB	07 51 30.0	
	34nm,0.3s						
KUR				*eS*	Sn	07 51 59.0	-1.0
KUR				A	A	07 52 03.0	
	137nm,0.3s						
KUR				A	A	07 52 03.0	
	129nm,0.3s						
SHO	**Shikotan**	**3.46**	**255**	*eP*	Pn	07 51 41.9	-0.2
SHO				AMB	AMB	07 51 43.0	
	15nm,0.2s						
SHO				*eS*	Sn	07 52 20.0	-1.8
SHO				A	A	07 52 23.0	
	52nm,0.2s						
SHO				A	A	07 52 23.0	
	64nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.09**	**260**	*eP*	Pn	07 51 51.0	+0.3
YUK				*eS*	Sn	07 52 36.0	-1.2
YUK				A	A	07 52 41.0	
	100nm,0.3s						
YUK				A	A	07 52 41.0	
	16nm,0.3s						
LAGR	**Lagunnoye**	**4.13**	**261**	*eS*	Sn	07 52 38.0	-0.4
GRPR	**Tuman**	**4.16**	**260**	*eS*	Sn	07 52 39.0	0.0
NEM2	**Nemuro 2**	**4.37**	**252**	P	Pn	07 51 52.9	-1.7
NEM2				*eS*	Sn	07 52 40.2	-4.1
GLVR	**Golovnino**	**4.40**	**257**	*eP*	Pn	07 51 56.0	+1.0
GLVR				*eS*	Sn	07 52 45.0	0.0
GLVR				A	A	07 52 49.0	
	15nm,0.3s						
GLVR				A	A	07 52 49.0	
	12nm,0.3s						
JRA	**Rausu**	**4.63**	**261**	P	Pn	07 51 58.3	+0.2
JNK	**Nakash**	**5.00**	**258**	P	Pn	07 52 02.6	-0.7
JNK				*eS*	Sn	07 52 58.2	-1.5
JAK	**Akkeshi**	**5.22**	**251**	P	Pn	07 52 04.4	-1.8
JTKR	**Abashiri--Toko**	**5.47**	**263**	P	Pn	07 52 10.1	+0.4
JAR	**Ashorobuto**	**5.75**	**257**	P	Pn	07 52 13.5	0.0
JOB	**Onbets**	**5.84**	**253**	P	Pn	07 52 13.6	-1.1
JCH	**Churui**	**6.27**	**252**	P	Pn	07 52 19.5	-1.2
JCH				*eS*	Sn	07 53 28.4	-2.5
JKK2	**Kamakawa 2**	**6.32**	**264**	P	Pn	07 52 22.6	+1.3
MYR	**Moyori**	**6.46**	**249**	*eP*	Pn	07 52 22.8	-0.4
JKB	**Kayabe**	**8.15**	**252**	P	Pn	07 52 44.9	-1.4

TAP 04 08:42:21.4, 24°47N×121°93E, h15km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.16**	**333**	P	Pb	08 42 26.4	+0.2
	baz=335						
TWC				S	Sb	08 42 28.8	-0.5
	baz=335						
NANB	**Nanao**	**0.17**	**257**	P	Pb	08 42 26.7	+0.4
	baz=257						
NANB				S	Sb	08 42 29.5	-0.1
	baz=257						
ENA	**Nanau**	**0.18**	**258**	P	Pb	08 42 26.7	+0.3
	baz=256						
ENA				S	Sb	08 42 29.6	-0.2
	baz=256						
EOS1	**EOS1**	**0.20**	**65**	P	Pb	08 42 26.6	-0.2
	baz=65						
EOS1				S	Sb	08 42 30.3	0.0
	baz=65						
ENTT	**Nioudou**	**0.38**	**298**	*eP*	Pb	08 42 30.3	+0.4
	baz=297						
EGS		**0.38**	**0**	*eP*	Pb	08 42 30.5	+0.6
	baz=1.0						
NDT	**Datong Townshi**	**0.41**	**290**	*eP*	Pb	08 42 30.1	-0.2
	baz=285						
NACB	**Ninganchiao**	**0.42**	**227**	P	Pb	08 42 30.6	0.0
	baz=226						
NACB				S	Sb	08 42 36.7	-0.1
	baz=226						
NNSB	**Datong**	**0.50**	**266**	*eP*	Pb	08 42 32.7	+0.7
	baz=265						
NNSB				*eS*	Sb	08 42 39.6	+0.4
	baz=265						
TIPB	**Shuangxi**	**0.51**	**349**	*eP*	Pb	08 42 32.9	+0.6
	baz=349						
TIPB				*eS*	Sb	08 42 39.4	-0.1
	baz=349						
YHNB	**Yeheng**	**0.55**	**292**	*eP*	Pb	08 42 32.9	+0.1
	baz=291						
YHNB				*eS*	Sb	08 42 40.6	+0.2
	baz=291						

*NIED **04** 08:42:00, 23°00N×121°50E, h35km, Mw4.2 Best double couple: M0=2.00000×10^15 NP1:φ=27.00000°, δ=11.00000°, λ=-85.00000°. NP2:φ=202.00000°, δ=79.00000°, λ=-91.00000°.*
*NEIC **04** 08:42:21.6±1.1, 22°92N×121°50E, h12km±6km, mb4.3/20, ML4.6(TAP), Error ellipse: s-maj=10.0km s-min=6.2km az=82.0*
NEIC Recorded [4 TAP] in Taitung, [2 TAP] in Kaohsiung and [1 TAP] in Chiayi, Hualien, Pingtung, Tainan and Yunlin.
*ISCJB **04** 08:42:22.6±0.2, 22°93N±0°01×121°44E±0°01, h25km±1km, mb4.1/38, MS3.7/10, Error ellipse: s-maj=2.3km s-min=1.9km az=42.2*
*JMA **04** 08:42:22.3±0.1, 23°00N×121°46E, h18km±4km, M4.4*
*BJI **04** 08:42:22.4, 23°01N×121°41E, h18km, mb4.1/23, mB4.5/16, ML4.1/8, Ms4.0/18, Ms7 4.0/18*
*TAP **04** 08:42:24.0, 23°00N×121°33E, h24km, ML4.6, B*
*ASIES **04** 08:42:24.1, 23°00N×121°38E, h25km, MW3.9*
*IDC **04** 08:42:29.6±4.5, 22°90N×121°34E, h82km±43km, mb3.7/18, mb1 3.8/20, mb1mx3.7/44, mbtmp4.0/20, ML3.3/2, MS3.5/11, Ms1 3.6/11, ms1mx3.3/43, Error ellipse: s-maj=18.1km s-min=11.4km az=70.0*

ISC 04 08:42:23.6±0.8, 22°97N±0°02×121°46E±0°02, h23km±5km, n212, σ1s64/285, mb4.1/38, MS3.8/10, 39C-19D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.15**	**327**	⇓*iP*	**Pn**	**08 42 28.9**	**-1.7**
CHKT	baz=31						
				S	**Sb**	**08 42 32.4**	**+0.6**
	baz=31						
FULB	**Fuli**	**0.27**	**327**	⇓*iP*	**Pb**	**08 42 29.9**	**-0.3**
FULB	baz=350						
				eS	**Sb**	**08 42 34.7**	**+0.2**
	baz=350						
TWGBT	**Beinan**	**0.38**	**246**	⇓P	**Pb**	**08 42 30.9**	**-0.9**
TWGBT	baz=243						
				eS	**Sb**	**08 42 35.8**	**-1.5**
	baz=243						
TWG	**Pinlang**	**0.38**	**247**	*ePg*	**Pb**	**08 42 30.9**	**-1.0**
TWG				*eSg*	**Sb**	**08 42 36.2**	**-1.3**
TWG	**Pinlang**	**0.38**	**247**	⇓*iP*	**Pb**	**08 42 30.9**	**-1.0**
TWG	baz=243						
				eS	**Sb**	**08 42 35.7**	**-1.8**
	baz=243						
TWF1	**Yuli**	**0.41**	**339**	⇓*iP*	**Pb**	**08 42 31.4**	**-0.9**
TWF1	baz=343						
				eS	**Sb**	**08 42 36.3**	**-1.8**
	baz=343						
YULB	**Yu-li**	**0.44**	**341**	*ePg*	**Pb**	**08 42 31.2**	**-1.6**
YULB				*eSg*	**Sb**	**08 42 37.1**	**-2.0**
YULB	**Yu-li**	**0.44**	**341**	⇓P	**Pb**	**08 42 31.8**	**-1.1**
YULB	baz=343						
				eS	**Sb**	**08 42 37.3**	**-1.8**
	baz=343						
ELDTW	**Lidau**	**0.46**	**298**	⇓*iP*	**Pb**	**08 42 31.4**	**-1.8**
ELDTW	baz=303						
				S	**Sb**	**08 42 36.1**	**-3.5**
	baz=303						
HGSD	**Ruisui**	**0.52**	**357**	⇓*eP*	**Pb**	**08 42 34.1**	**0.0**
HGSD	baz=20						
				eS	**Sn**	**08 42 42.2**	**-1.6**
	baz=20						
EHY	**Hungye**	**0.55**	**347**	⇓P	**Pb**	**08 42 33.4**	**-1.2**
EHY	baz=347						
				eS	**Sb**	**08 42 40.0**	**-2.0**
	baz=347						
ECL	**Taimali**	**0.59**	**231**	⇑*iP*	**Pb**	**08 42 33.8**	**-1.6**
	baz=229						
ECL				*eS*	**Sb**	**08 42 40.7**	**-2.7**
	baz=229						
STYT	**Tauyuan**	**0.67**	**287**	⇓*iP*	**Pb**	**08 42 35.1**	**-1.6**
	baz=290						
STYT				S	**Sb**	**08 42 42.8**	**-2.8**
	baz=290						
EGFH	**Guangfu**	**0.69**	**358**	*eP*	**Pb**	**08 42 36.4**	**-0.7**
	baz=354						
SLGT	**Liugui**	**0.74**	**272**	⇓*iP*	**Pb**	**08 42 36.6**	**-1.4**
	baz=270						
SLGT				S	**Sb**	**08 42 44.8**	**-2.9**
	baz=270						
SSD	**Sandimen**	**0.79**	**254**	⇑*iP*	**Pb**	**08 42 37.0**	**-1.8**
	baz=249						
SSD				*eS*	**Sb**	**08 42 45.0**	**-4.0**
	baz=249						
TAW	**Tawu**	**0.80**	**220**	*eP*	**Pb**	**08 42 37.3**	**-1.6**
	baz=213						
TAW				*eS*	**Sb**	**08 42 46.8**	**-2.5**
	baz=213						
EAST	**Anshuo**	**0.81**	**224**	*eP*	**Pb**	**08 42 37.3**	**-1.8**
	baz=216						
WTP	**Ta-pu**	**0.82**	**290**	⇓*iP*	**Pb**	**08 42 38.2**	**-1.1**
	baz=290						
WTP				*eS*	**Sb**	**08 42 48.3**	**-1.6**
	baz=290						
TPUB	**Ta-pu**	**0.83**	**293**	*ePg*	**Pb**	**08 42 38.5**	**-0.9**
TPUB				*eSg*	**Sb**	**08 42 49.2**	**-0.9**
TPUB	**Ta-pu**	**0.83**	**293**	⇓P	**Pb**	**08 42 38.3**	**-1.1**
	baz=303						
TPUB				S	**Sb**	**08 42 48.4**	**-1.7**
	baz=303						
VWDT	**VWDT**	**0.83**	**340**	⇓P	**Pb**	**08 42 38.3**	**-1.1**
	baz=355						
VWDT				*eS*	**Sb**	**08 42 48.3**	**-1.8**
	baz=355						
ESL	**Shilin**	**0.84**	**359**	*eP*	**Pb**	**08 42 37.8**	**-1.8**
	baz=6.0						
MASBT	**Mashibuluo**	**0.84**	**245**	⇑P	**Pb**	**08 42 37.9**	**-1.7**
	baz=237						
MASBT				*eS*	**Sb**	**08 42 47.4**	**-3.0**
	baz=237						
CHN4	**Tsaushan**	**0.88**	**296**	⇑*iP*	**Pb**	**08 42 39.5**	**-0.8**
	baz=297						
CHN4				*i* S	**Sb**	**08 42 50.7**	**-0.9**
	baz=297						
CHN1	**Nanshi**	**0.88**	**284**	⇑*iP*	**Pb**	**08 42 39.6**	**-0.6**
	baz=284						
CHN1				S	**Sb**	**08 42 50.7**	**-0.9**
	baz=284						
WHYT	**Xinyi Township**	**0.91**	**323**	⇓*eP*	**Pb**	**08 42 40.0**	**-0.8**
	baz=335						
SNST	**Tainan City**	**0.92**	**286**	⇑*iP*	**Pb**	**08 42 40.2**	**-0.7**
	baz=286						
SNST				S	**Sb**	**08 42 52.0**	**-0.6**
	baz=286						
SGLT	**Jiouru**	**0.92**	**255**	*eP*	**Pb**	**08 42 40.4**	**-0.5**
	baz=251						
SSLB	**Suanglung**	**0.93**	**331**	*ePg*	**Pb**	**08 42 40.0**	**-1.2**
SSLB				*eSg*	**Sb**	**08 42 52.3**	**-0.8**
SSLB	**Suanglung**	**0.93**	**331**	⇓*eP*	**Pb**	**08 42 39.8**	**-1.4**
	baz=343						
SSLB				*eS*	**Sb**	**08 42 50.3**	**-2.9**
	baz=343						
LAY	**Lan-yu**	**0.93**	**175**	*eP*	**Pb**	**08 42 40.2**	**-1.0**
	baz=160						
ENLB	**Shoufeng**	**0.94**	**8**	*eP*	**Pb**	**08 42 40.3**	**-1.0**
	baz=2.0						
ENLB				*eS*	**Sn**	**08 42 53.3**	**-0.8**
	baz=2.0						
TWK	**Hsinying**	**0.94**	**288**	⇓*iP*	**Pb**	**08 42 40.3**	**-1.0**
	baz=289						
TWK				S	**Sb**	**08 42 52.2**	**-1.1**
	baz=289						
CHN5	**Tsauling**	**0.95**	**311**	⇓*iP*	**Pb**	**08 42 40.7**	**-0.7**
	baz=320						
CHN5				*eS*	**Sb**	**08 42 52.8**	**-0.9**
	baz=320						
SSPT	**Xinbi**	**0.95**	**239**	⇑*eP*	**Pb**	**08 42 40.6**	**-0.8**
	baz=231						
TWM1	**Shoushan**	**0.96**	**261**	⇑*eP*	**Pn**	**08 42 41.8**	**0.0**
	baz=258						
TWM1				*eS*	**Sn**	**08 42 56.0**	**+1.2**
	baz=258						
SCZT	**Fangliau**	**0.98**	**232**	⇓*eP*	**Pb**	**08 42 40.5**	**-1.4**
	baz=224						
CHN3	**Shinhua**	**1.01**	**276**	⇑*eP*	**Pb**	**08 42 42.9**	**+0.5**
	baz=275						
CHN3				*eS*	**Sn**	**08 42 56.1**	**+0.3**
	baz=275						
HWA	**Hwalien**	**1.01**	**8**	*eP*	**Pb**	**08 42 42.3**	**-0.2**
	baz=2.0						
OWD	**Renai**	**1.01**	**345**	*eP*	**Pb**	**08 42 41.3**	**-1.3**
	baz=359						
SMLT	**Sun Moon Lake**	**1.04**	**331**	⇑P	**Pn**	**08 42 42.1**	**-0.8**
	baz=340						
SMLT				*eS*	**Sb**	**08 42 54.8**	**-1.5**
	baz=340						
SNJT	**Kaohsiung City**	**1.05**	**258**	*eP*	**Pb**	**08 42 44.1**	**+0.9**
	baz=255						
SNJT				*eS*	**Sn**	**08 42 59.6**	**+2.6**
	baz=255						
CHN2	**Minshiung**	**1.06**	**302**	⇑*iP*	**Pb**	**08 42 43.2**	**-0.1**
	baz=304						
CHN2				*eS*	**Sn**	**08 42 56.9**	**-0.2**
	baz=304						
WJS	**Zhushan**	**1.08**	**322**	⇑*iP*	**Pb**	**08 42 43.5**	**-0.1**
	baz=325						
WJS				S	**Sn**	**08 42 57.7**	**+0.1**
	baz=325						
TYC	**Yuchr**	**1.08**	**329**	⇑P	**Pb**	**08 42 42.9**	**-0.8**
	baz=334						
TYC				*eS*	**Sb**	**08 42 56.5**	**-0.7**
	baz=334						
CHY	**Chiayi**	**1.08**	**299**	⇑P	**Pb**	**08 42 43.3**	**-0.4**
	baz=301						
CHY				*eS*	**Sn**	**08 42 57.8**	**+0.1**
	baz=301						
WGK	**Gukeng**	**1.08**	**311**	*eP*	**Pb**	**08 42 43.5**	**-0.3**
	baz=314						
WGK				*eS*	**Sn**	**08 42 57.6**	**-0.1**
	baz=314						
WDLH	**Douliu**	**1.10**	**310**	⇑*eP*	**Pb**	**08 42 43.7**	**-0.3**
	baz=313						
WDLH				*eS*	**Sn**	**08 42 59.1**	**+0.9**
	baz=313						
TWD	**Chiawan**	**1.11**	**7**	*eP*	**Pn**	**08 42 42.3**	**-1.4**
	baz=10.0						
CHGB	**Renai**	**1.11**	**347**	⇑P	**Pb**	**08 42 42.8**	**-1.2**
	baz=358						
KAU	**Kaohsiung**	**1.13**	**249**	*eP*	**Pb**	**08 42 44.5**	**0.0**
	baz=246						
TAI1	**Yung-k'ang**	**1.13**	**274**	*eP*	**Pn**	**08 42 43.4**	**-0.7**
	baz=273						
WNT	**Mingjian**	**1.15**	**322**	⇑*iP*	**Pb**	**08 42 44.6**	**-0.2**
	baz=326						
WNT				S	**Sn**	**08 42 58.8**	**-0.5**
	baz=326						
HEN	**Hengchun**	**1.17**	**215**	*eP*	**Pb**	**08 42 45.9**	**+0.8**
	baz=204						
WLCH	**Liuqiu**	**1.17**	**238**	*eP*	**Pb**	**08 42 47.1**	**+1.9**
	baz=236						
WLGB	**Puzi**	**1.18**

CHN8	**Yiju**	**1.20**	**288**	*e*P		**Pn**	**08 42 43.8**	**-1.3**
	baz=289								
CHN8				*e*S		**Sb**	**08 43 00.6**	**-0.3**
	baz=289								
ETLH	**Xiulin Townshi**	**1.23**	**1**⇑	*e*P		**Pn**	**08 42 43.5**	**-2.0**
	baz=15								
TWT	**Tachien**	**1.30**	**349**⇑	*e*P		**Pn**	**08 42 46.0**	**-0.6**
	baz=352								
TDCB	**Techi**	**1.30**	**348**	⇑P		**Pn**	**08 42 46.1**	**-0.5**
	baz=352								
WSF	**Szhu**	**1.31**	**301**	*e*P		**Pn**	**08 42 46.0**	**-0.6**
	baz=302								
WSF				*e*S		**Sn**	**08 43 02.5**	**-0.8**
	baz=302								
RLNB	**Erlin**	**1.36**	**312**	*e*P		**Pb**	**08 42 47.2**	**-1.2**
	baz=314								
RLNB				*e*S		**Sn**	**08 43 03.7**	**-0.8**
	baz=314								
TCU	**Taichung**	**1.37**	**329**	*e*P		**Pb**	**08 42 48.2**	**-0.5**
	baz=332								
TCU				*e*S		**Sb**	**08 43 05.8**	**+0.1**
	baz=332								
WCHH	**Zhanghua**	**1.38**	**323**	*e*P		**Pb**	**08 42 48.1**	**-0.6**
	baz=326								
WCHH				*e*S		**Sb**	**08 43 05.9**	**0.0**
	baz=326								
WHP	**Taichung City**	**1.38**	**340**	*e*P		**Pb**	**08 42 47.8**	**-1.1**
	baz=348								
WHP				*e*S		**Sb**	**08 43 05.9**	**-0.2**
	baz=348								
WTCT	**Ta-ch'eng**	**1.40**	**310**	*e*P		**Pn**	**08 42 47.0**	**-0.7**
	baz=311								
WTCT				*e*S		**Sn**	**08 43 04.5**	**-0.9**
	baz=311								
WMLT	**Mailiao**	**1.40**	**306**	*e*P		**Pn**	**08 42 47.6**	**-0.2**
	baz=308								
WMLT				*e*S		**Sn**	**08 43 05.3**	**-0.2**
	baz=308								
NNSB	**Datong**	**1.45**	**357**	*e*P		**Pn**	**08 42 47.5**	**-1.1**
	baz=11								
NNS	**Nan Shan**	**1.46**	**357**	*e*P		**Pn**	**08 42 47.8**	**-0.9**
	baz=11								
ENA	**Nanau**	**1.47**	**10**	*e*P		**Pn**	**08 42 46.9**	**-1.9**
	baz=11								
NANB	**Nanao**	**1.47**	**11**	*e*P		**Pn**	**08 42 47.3**	**-1.5**
	baz=11								
TWQ1	**Liyutan**	**1.50**	**336**⇑	*i*P		**Pb**	**08 42 50.3**	**-0.7**
	baz=338								
TWQ1				*e*S		**Sb**	**08 43 09.2**	**-0.5**
	baz=338								
WDJ	**Dajia District**	**1.56**	**332**	*e*P		**Pb**	**08 42 50.8**	**-1.1**
	baz=334								
WDJ				*e*S		**Sb**	**08 43 12.1**	**+1.0**
	baz=334								
NSY	**Sanyi**	**1.57**	**336**	*e*P		**Pb**	**08 42 50.8**	**-1.3**
	baz=338								
NSY				*e*S		**Sb**	**08 43 11.4**	**-0.1**
	baz=338								
NDT	**Datong Townshi**	**1.62**	**2**	*e*P		**Pn**	**08 42 50.8**	**-0.1**
	baz=15								
ENTT	**Nioudou**	**1.66**	**3**	*e*P		**Pn**	**08 42 50.9**	**-0.5**
	baz=16								
TWC	**Suao**	**1.67**	**12**	*e*P		**Pn**	**08 42 51.3**	**-0.2**
	baz=3.0								
NMLH	**Miaoli**	**1.67**	**339**	*e*P		**Pb**	**08 42 52.3**	**-1.5**
	baz=342								
WDGT	**Dungji**	**1.68**	**280**	⇑P		**Pn**	**08 42 50.5**	**-1.1**
	baz=280								
EOS1	**EOS1**	**1.69**	**21**	*e*P		**Pb**	**08 42 52.6**	**-1.3**
	baz=32								
YHNB	**Yeheng**	**1.69**	**358**	*e*Pn		**Pn**	**08 42 52.0**	**+0.1**
YHNB				*e*Sn		**Sb**	**08 43 16.2**	**+1.2**
YHNB	**Yeheng**	**1.69**	**358**	*e*P		**Pn**	**08 42 51.5**	**-0.3**
	baz=11								
NSK	**Sanguang**	**1.70**	**357**	*e*P		**Pn**	**08 42 51.6**	**-0.4**
	baz=13								
NSK				*e*S		**Sn**	**08 43 11.1**	**-1.9**
	baz=13								
NSTT	**Nanjuang**	**1.70**	**346**	*e*P		**Pn**	**08 42 52.4**	**+0.4**
	baz=350								
LIOB	**Emei**	**1.71**	**347**⇑	*e*P		**Pn**	**08 42 51.8**	**-0.3**
	baz=350								
TWE	**Neicheng**	**1.75**	**6**	*e*P		**Pn**	**08 42 52.7**	**+0.1**
	baz=7.0								
NWLT	**Wulai**	**1.80**	**1**	*e*P		**Pn**	**08 42 53.6**	**+0.3**
	baz=14								
PHUB	**P'eng-hu**	**1.81**	**288**	⇑P		**Pn**	**08 42 52.0**	**-1.5**
	baz=288								
PHUB				*e*S		**Sn**	**08 43 12.2**	**-3.6**
	baz=288								
PNG	**Penghu**	**1.84**	**289**	⇑P		**Pn**	**08 42 52.8**	**-1.1**
	baz=290								
SBCB	**Hsinchu**	**1.86**	**347**	*e*P		**Pn**	**08 42 54.2**	**+0.1**
	baz=350								
WLTB	**Daxi**	**1.88**	**354**	*e*P		**Pb**	**08 42 55.3**	**-2.0**
	baz=7.0								
NTC	**Toucheng**	**1.91**	**10**	*e*P		**Pb**	**08 42 55.8**	**-1.9**
	baz=9.0								
EGS		**1.92**	**13**	*e*P		**Pb**	**08 42 55.7**	**-2.2**
	baz=3.0								
NHDH	**Xindian Distri**	**1.98**	**2**	*e*P		**Pn**	**08 42 56.2**	**+0.4**
	baz=12								
TATO	**Taipei**	**1.99**	**1**	*e*Pn		**Pn**	**08 42 56.3**	**+0.3**
TATO				*e*Sn		**Sb**	**08 43 22.6**	**-1.1**
TATO	**Taipei**	**1.99**	**1**	*e*P		**Pn**	**08 42 55.8**	**-0.1**
	baz=13								
TWA	**Mucha**	**2.00**	**3**	*e*P		**Pb**	**08 42 57.2**	**-2.2**
	baz=13								
NCU	**National Centr**	**2.00**	**353**	*e*P		**Pb**	**08 42 57.6**	**-1.8**
	baz=340								
JYNG	**Yonagunijimaku**	**2.01**	**43**	P		**Pb**	**08 42 57.4**	**-2.1**
JYNG				S		**Sb**	**08 43 22.1**	**-2.0**
TIPB	**Shuangxi**	**2.02**	**10**	*e*P		**Pn**	**08 42 56.2**	**-0.1**
	baz=8.0								
YOJ	**Yonaguni jima**	**2.06**	**44**	*e*Pn		**Pb**	**08 42 58.5**	**-1.9**
YOJ				*e*Sn		**Sn**	**08 43 22.2**	**+0.4**
YOJ	**Yonaguni jima**	**2.06**	**44**	*e*P		**Pb**	**08 42 58.4**	**-1.9**
	baz=55								
YOJ				*e*S		**Sn**	**08 43 22.6**	**+0.9**
	baz=55								
YOJ	**Yonaguni jima**	**2.06**	**44**	P		**Pb**	**08 42 58.4**	**-1.9**
YOJ				S		**Sb**	**08 43 23.2**	**-2.3**
NWF	**Wu-fen Shan**	**2.11**	**8**	*e*P		**Pn**	**08 42 57.3**	**-0.4**
	baz=6.0								
WFSB	**Wu-fen Shan**	**2.11**	**8**	*e*P		**Pn**	**08 42 57.7**	**+0.1**
	baz=6.0								
TWS1	**Kuangyinshan**	**2.12**	**359**	*e*P		**Pn**	**08 42 57.2**	**-0.4**
	baz=11								
YM01	**YM01**	**2.17**	**3**	*e*P		**Pn**	**08 42 58.1**	**-0.3**
	baz=14								
YM04	**YM04**	**2.17**	**2**	*e*P		**Pn**	**08 42 57.9**	**-0.5**
	baz=13								
YM11	**YM11**	**2.19**	**3**	*e*P		**Pn**	**08 42 58.0**	**-0.6**
	baz=13								
YM08	**YM08**	**2.21**	**3**	*e*P		**Pn**	**08 42 57.7**	**-1.3**
	baz=13								
TWY	**Chenhua**	**2.30**	**3**	*e*P		**Pn**	**08 43 01.2**	**+1.1**
	baz=13								
HATJ	**Hateruma jima**	**2.41**	**63**	P		**Pn**	**08 43 02.8**	**+1.1**
HATJ				S		**Sn**	**08 43 31.8**	**+1.3**
IRIF	**Iriomote-Funau**	**2.49**	**57**	P		**Pb**	**08 43 04.6**	**-3.1**
IRIF				S		**Sb**	**08 43 35.4**	**-2.5**
JKRS	**Kuro-shima**	**2.66**	**61**	P		**Pn**	**08 43 06.5**	**+1.4**
JKRS				*e*S		**Sb**	**08 43 39.5**	**-3.3**
PCYT	**Pengchaiyu**	**2.70**	**12**	*e*P		**Pn**	**08 43 06.3**	**+0.6**
	baz=8.0								
JIJ	**Ishigaki jima**	**2.83**	**60**	P		**Pn**	**08 43 08.7**	**+1.3**
JIJ				*e*S		**Sn**	**08 43 41.0**	**+0.2**
PTTC	**Pingtan**	**2.95**	**329**	*e*P		**Pn**	**08 43 08.0**	**-1.0**
	baz=334								
PTMZ	**Houxiangcun**	**2.96**	**314**⇑	*e*P		**Pn**	**08 43 08.2**	**-1.1**
	baz=318								
JISG	**Ishigakijimahi**	**3.07**	**58**	P		**Pn**	**08 43 11.6**	**+0.9**
JISG				S		**Sn**	**08 43 47.7**	**+0.9**
KNM	**Kinmen**	**3.12**	**298**⇑	*e*P		**Pn**	**08 43 11.6**	**+0.2**
	baz=298								
KNMB	**Chin-men Tao**	**3.18**	**298**	*e*P		**Pn**	**08 43 10.8**	**-1.4**
	baz=300								
QZH	**Quanzhou**	**3.27**	**307**⇑	*i*Pn		**Pn**	**08 43 12.3**	**-1.2**
QZH				Sn		**Sn**	**08 43 47.6**	**-4.1**
QZH				smax		smax			
	comp=N,320nm,0.6s								
QZH				smax		smax			
	comp=E,280nm,0.9s								
JTJ	**Tarama**	**3.41**	**60**	P		**Pn**	**08 43 16.7**	**+1.3**
JTJ				S		**Sn**	**08 43 56.3**	**+1.3**
MATB	**Ma-tsu**	**3.45**	**337**⇑	*e*P		**Pn**	**08 43 15.1**	**-0.9**
	baz=342								
ZPLA	**Ao Xicun**	**3.53**	**286**⇑	*e*P		**Pn**	**08 43 16.1**	**-1.0**
	baz=287								
AXDP	**Jialang**	**3.72**	**302**⇑	*e*P		**Pn**	**08 43 18.6**	**-1.1**
	baz=304								
ZZJH	**Jiuhuzhen**	**3.81**	**294**⇑	*e*P		**Pn**	**08 43 19.6**	**-1.3**
	baz=295								
MHZQ	**Yeshan**	**3.82**	**325**	*e*P		**Pn**	**08 43 20.6**	**-0.5**
	baz=330								
JIRB	**Irabujima**	**3.87**	**61**	P		**Pn**	**08 43 23.0**	**+1.2**
JIRB				S		**Sn**	**08 44 07.3**	**+0.8**
LYJJ	**Jianjiangzhen**	**3.88**	**337**⇑	*e*P		**Pn**	**08 43 21.0**	**-0.9**
	baz=343								
JMJ	**Miyako jima 2**	**3.96**	**62**	P		**Pn**	**08 43 25.2**	**+2.2**
JMJ				*e*S		**Sn**	**08 44 10.5**	**+1.7**
JIKM	**Ikemajima**	**3.98**	**60**	P		**Pn**	**08 43 23.9**	**+0.7**
JIKM				*e*S		**Sn**	**08 44 09.7**	**+0.6**
JOGS	**Gusukube**	**4.03**	**63**	P		**Pn**	**08 43 26.0**	**+2.0**
JOGS				*e*S		**Sn**	**08 44 13.4**	**+2.9**
XPSS	**Dashiqiu**	**4.10**	**344**⇑	*e*P		**Pn**	**08 43 23.8**	**-1.1**
	baz=350								
GZH	**Guangzhou**	**7.47**	**272**	Pn		**Pn**	**08 44 07.8**	**-3.4**
GZH				smax		smax			
	comp=N,150nm,0.8s								
GZH				smax		smax			
	comp=E,160nm,0.8s								
WHN	**Wuhan**	**9.85**	**321**	⇑P		**Pn**	**08 44 43.5**	**-0.4**
GYA	**Guiyang**	**13.88**	**287**⇑	*i*P		**Pn**	**08 45 39.7**	**+0.5**
GYA				PP		**P**	**08 45 51.2**	**+4.0**
GYA				S		**Sn**	**08 48 17.2**	**+4.5**
GYA				SS		**S**	**08 48 31.0**	**-3.4**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
GYA				pmax		pmax			
	comp=Z,80nm,4.0s								
GYA				LR		LR			
	comp=N,260nm,11.0s								
GYA				LR		LR			
	comp=E,280nm,12.5s								
GYA				LR		LR			
	comp=Z,180nm,11.8s								
KSRS	**Korea Array**	**15.47**	**20**	P		**P**	**08 46 02.5**	**-2.2**
	0.3nm,0.3s,baz=192,slow=10.0,SNR=5.3								
KSRS				LR		LR	08 52 48.2		
	comp=Z,113nm,19.9s,baz=186,slow=40								
XAN	**Xi'an**	**15.57**	**318**	P		**P**	**08 46 09.1**	**+3.2**
XAN				S		**Sn**	**08 48 53.5**	**-0.1**
XAN				pmax		pmax			
	comp=Z,8.0nm,1.3s								
XAN				LR		LR			
	comp=N,550nm,10.6s								
XAN				LR		LR			
	comp=E,500nm,11.1s								
XAN				LR		LR			
	comp=Z,780nm,12.7s								
KMI	**Kunming**	**17.23**	**281**	P		**P**	**08 46 23.2**	**-1.3**
KMI				pmax		pmax			
	comp=Z,12nm,0.6s								
KMI				LR		LR			
	comp=Z,250nm,11.1s								
KMI				LR		LR			
	comp=Z,240nm,11.5s								
CD2	**Chengdu**	**17.63**	**300**	P		**P**	**08 46 28.8**	**0.0**
CD2				S		**Sn**	**08 49 37.6**	**-6.2**
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
CD2				LR		LR			
	comp=Z,610nm,11.1s								
CD2				LR		LR			
	comp=Z,820nm,15.8s								
JCJ	**Chichijima**	**19.22**	**73**	LR		LR	08 52 46.5		
	comp=Z,100nm,19.9s,baz=312,slow=32								
HHC	**Hu-ho-hao-te**	**19.68**	**337**	*e*P		**Pn**	**08 46 55.1**	**+2.4**
HHC				sP		sP	08 47 04.7	+4.1
HHC				PP		PnPn	08 47 20.0	+13
HHC				S		**Sn**	**08 50 33.7**	**+0.6**
HHC				SS		**SnSn**	**08 50 57.0**	**+9.4**
HHC				pmax		pmax			
	comp=Z,10.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,85nm,4.7s								
HHC				LR		LR			
	comp=N,400nm,10.8s								
HHC				LR		LR			
	comp=E,260nm,6.1s								
HHC				LR		LR			
	comp=Z,420nm,8.2s								
HHC	**Hu-ho-hao-te**	**19.68**	**337**	*e*P		**Pn**	**08 46 53.0**	**+0.3**
HHC				sP		sP	08 47 04.0	+3.4
HHC				S		**S**	**08 50 30.9**	**-1.1**
HHC				pmax		pmax			
	comp=Z,11nm,1.0s								
HHC				pmax		pmax			
	comp=Z,85nm,4.9s								
HHC				LR		LR			
	comp=Z,200nm,9.2s								
HHC				LR		LR			
	comp=Z,360nm,12.7s								
MJAR	**Matsushiro Arr**	**19.82**	**43**	P		**Pn**	**08 46 54.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=229,slow=10,SNR=8.5								
MJAR				LR		LR	08 54 40.8		
	comp=Z,42nm,19.1s,baz=210,slow=37								
NANT	**Nan**	**19.83**	**262**	P		**Pn**	**08 47 00.2**	**+5.7**
PBKT	**Sadao Pong**	**20.29**	**255**	P		Pn	08 47 02.2	+2.2
CHTO	**Chiang Mai**	**21.43**	**263**	*e*P		**P**	**08 47 08.4**	**-1.9**
	comp=Z,3.7nm,0.8s								
CMAR	**Chiang Mai Arr**	**21.52**	**262**	P		**P**	**08 47 12.7**	**+1.4**
	comp=Z,2.2nm,0.8s,baz=67,slow=8.6,SNR=12								
CMAR				LR		LR	08 56 17.8		
	comp=Z,156nm,18.1s,baz=75,slow=39								
LUWI	**Luwuk**	**23.90**	**177**	*e*P		**P**	**08 47 35.4**	**-0.4**
	comp=Z,43nm,1.0s								
GTA	**Gaotai**	**24.62**	**317**	*e*P		**P**	**08 47 43.9**	**+1.4**
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,100nm,5.9s								
GTA				LR		LR			
	comp=Z,180nm,13.3s								
GTA				LR		LR			
	comp=Z,450nm,15.6s								
ASAJ	**Asahikawa**	**27.34**	**34**	P		**P**	**08 48 09.6**	**+2.8**
	comp=Z,3.9nm,0.7s,baz=255,slow=12,SNR=3.1								
ULN	**Ulaanbaatar**	**27.38**	**339**	*e*P		**P**	**08 48 06.8**	**-0.6**
	comp=Z,2.5nm,0.6s								
KLR	**Kul'dur**	**27.44**	**15**	P		**P**	**08 48 09.2**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=192,slow=14,SNR=2.8								
SONM	**Songino Array**	**27.58**	**338**	P		**P**	**08 48 07.8**	**-1.3**
	comp=Z,1.7nm,0.7s,baz=155,slow=10,SNR=16								
SONM				LR		LR	09 00 33.3		
	comp=Z,328nm,18.4s,baz=178,slow=39								
SONA1	**Songino Array**	**27.59**	**338**	*e*P		**P**	**08 48 07.7**	**-1.5**
LSA	**Lhasa**	**27.92**	**290**	*e*P		**P**	**08 48 13.8**	**+1.0**
	comp=Z,7.7nm,1.1s								
WMQ	**Urumqi**	**34.68**	**315**	*e*P		**P**	**08 49 13.8**	**+2.2**
WMQ				pP		pP	08 49 18.4	-0.1
WMQ				PP		**PnPn**	**08 50 27.9**	**+0.3**
WMQ				LR		LR			
	comp=Z,130nm,16.1s								
WMQ				LR		LR			
	comp=Z,140nm,16.7s								
WMQ				LR		LR			
	comp=Z,170nm,16.1s								
MK01	**Makanchi Array**	**39.37**	**317**	*e*P		**P**	**08 49 51.6**	**+0.3**
MK31	**Makanchi Array**	**39.38**	**317**	*e*P		**P**	**08 49 51.6**	**+0.1**
	comp=Z,2.6nm,0.8s								
MKAR	**Makanchi Array**	**39.38**	**317**	P		**P**	**08 49 51.8**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=111,slow=9.7,SNR=26								
MAKZ	**Makanchi**	**39.59**	**317**	*e*P		**P**	**08 49 53.6**	**+0.4**
	comp=Z,3.7nm,0.9s								
PETK	**Petropavlovsk-**	**40.73**	**33**	LR		LR	09 09 46.9		
	comp=Z,38nm,18.2s,baz=92,slow=40								
FITZ	**Fitzroy Crossi**	**41.02**	**174**	*e*P		**P**	**08 50 02.5**	**-2.7**
	comp=Z,4.3nm,0.8s								
ZAA0	**Zalesovo Array**	**41.40**	**328**	*e*P		**P**	**08 50 07.0**	**-1.0**
	comp=Z,5.5nm,0.7s								
ZALV	**Zalesovo Beam**	**41.40**	**328**	*e*P		**P**	**08 50 07.2**	**-0.7**
ZALV	**Zalesovo Beam**	**41.40**	**328**	P		**P**	**08 50 07.0**	**-1.0**
	comp=Z,6.2nm,0.8s,baz=118,slow=7.9,SNR=21								
ZALV				LR		LR	09 08 11.4		
	comp=Z,65nm,19.0s,baz=70,slow=37								
NRN	**Naryn**	**42.10**	**307**	*e*P		**P**	**08 50 15.4**	**+1.1**
	comp=Z,2.3nm,0.8s								
H11N1	**WAKE ISLAND Hy**	**42.32**	**86**	T		T	09 35 32.7		
	baz=283,slow=74,SNR=562								
H11N2	**WAKE ISLAND Hy**	**42.32**	**86**	T		T	09 35 34.7		
	baz=283,slow=74,SNR=531								
H11N3	**WAKE ISLAND Hy**	**42.34**	**86**	T		T	09 35 32.7		
	baz=283,slow=74,SNR=402								
H11S3	**WAKE ISLAND Hy**	**42.41**	**87**	T		T	09 35 36.7		
	baz=284,slow=75,SNR=1118								
COEN	**Coen**	**42.42**	**148**	*e*P		**P**	**08 50 16.2**	**-0.5**
	comp=Z,18nm,0.8s								
H11S1	**WAKE ISLAND Hy**	**42.42**	**87**	T		T	09 35 37.3		
	baz=284,slow=75,SNR=869								
H11S2	**WAKE ISLAND Hy**	**42.43**	**87**	T		T	09 35 38.0		
	baz=284,slow=75,SNR=1292								
KURK	**Kurchatov**	**43.18**	**321**	*e*P		**P**	**08 50 22.6**	**0.0**
	comp=Z,3.6nm,1.1s								
KURBB	**Kurchatov Arra**	**43.20**	**321**	P		**P**	**08 50 22.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=110,slow=9.7,SNR=3.8								
MBWA	**Marble Bar**	**43.90**	**182**	*e*P		**P**	**08 50 27.3**	**-1.3**
	comp=Z,3.7nm,0.8s								
WRAB	**Tennant Creek**	**44.46**	**163**	*e*P		**P**	**08 50 30.6**	**-2.6**
	comp=Z,4.4nm,0.8s								
WRA	**Warramunga Arr**	**44.47**	**163**	P		**P**	**08 50 31.4**	**-1.8**
	comp=Z,2.4nm,0.5s,baz=344,slow=8.9,SNR=14								
WB2	**Warramunga Arr**	**44.47**	**163**	*e*P		**P**	**08 50 31.6**	**-1.6**
	comp=Z,2.3nm,0.7s								
GIRL	**Giralia**	**45.88**	**189**	*e*P		**P**	**08 50 44.6**	**+0.2**
	comp=Z,74nm,1.0s								
GAR	**Garm**	**46.07**	**303**	*e*P		**P**	**08 50 46.9**	**+0.9**
	comp=Z,5.9nm,1.0s								
KK31	**Karatay Array**	**46.41**	**308**	*e*P		**P**	**08 50 49.6**	**+1.2**
KKAR	**Karatay Array**	**46.41**	**308**	*e*P		**P**	**08 50 49.6**	**+1.1**
	comp=Z,1.4nm,0.7s								
KBL	**Kabul**	**46.91**	**296**	*e*P		**P**	**08 50 54.4**	**+1.6**
	comp=Z,4.9nm,0.5s								
ASAR	**Alice Springs**	**47.91**	**165**	P		**P**	**08 50 59.2**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=352,slow=11,SNR=21								
AS01	**Alice Springs**	**47.92**	**164**	*e*P		**P**	**08 50 59.0**	**-1.4**
CTA	**Charters Tower**	**49.17**	**149**	P		**P**	**08 51 09.7**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=352,slow=13,SNR=4.0								
CTAO	**Charters Tower**	**49.17**	**149**	*e*P		**P**	**08 51 10.9**	**+0.9**
	comp=Z,5.7nm,0.8s								
NRIK	**Noril'sk**	**50.63**	**345**	LR		LR	09 16 03.1		
	comp=Z,41nm,18.1s,baz=36,slow=40								
GEYT	**Alibeck**	**55.63**	**301**	LR		LR	09 19 51.2		
	comp=Z,68nm,20.1s,baz=65,slow=40								
AKTO	**Aktyubinsk**	**55.81**	**316**	LR		LR	09 17 42.3		
	comp=Z,77nm,19.1s,baz=88,slow=38								
BBOO	**Buckleboo**	**57.20**	**165**	*e*P		**P**	**08 52 07.8**	**-1.1**
	comp=Z,9.2nm,1.0s								
STKA	**Stephens Creek**	**57.85**	**160**	*e*P		**P**	**08 52 12.8**	**-0.7**
	comp=Z,1.0nm,0.8s								
STKA	**Stephens Creek**	**57.85**	**160**	P		**P**	**08 52 12.9**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=340,slow=6.6,SNR=13								
ILAR	**Eielson Array**	**70.17**	**27**	P		**P**	**08 53 34.2**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=269,slow=5.3,SNR=6.7								
ARCES	**ARCESS Array B**	**70.75**	**338**	P		**P**	**08 53 36.9**	**-0.8**
	comp=Z,4.4nm,0.9s,baz=10,slow=7.5,SNR=3.6								
FINES	**FINESS Array B**	**72.61**	**330**	P		**P**	**08 53 48.4**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=67,slow=6.4,SNR=4.8								
AKASG	**Malin Array Be**	**73.94**	**319**	P		**P**	**08 53 55.2**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=63,slow=6.5,SNR=3.9								
BRTR	**Keskin Array B**	**74.09**	**307**	P		**P**	**08 53 56.8**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=90,slow=5.2,SNR=2.6								
NOA	**NORSAR Array B**	**79.41**	**332**	P		**P**	**08 54 25.8**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=62,slow=5.2,SNR=2.3								
NOA				LR		LR	09 33 45.5		
	comp=Z,53nm,19.8s,baz=55,slow=39								
VYHS	**Vyhne**	**81.03**	**319**	*e*P		**P**	**08 54 37.9**	**+1.2**
YKA	**Yellowknife Ar**	**83.98**	**23**	P		**P**	**08 54 51.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=309,slow=5.1,SNR=7.7								

IDC 04 08:44:23.6±28.0, 20.46S×178.33W, h674km±274km, mb2.7/3, mb1 3.0/3, mb1mx2.7/28, mbtmp3.8/3, Error ellipse: s-maj=380.1km s-min=67.1km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**44.22**	**257**	P		P	08 51 37.0	+0.1
	1.1nm,0.6s,baz=94,slow=6.9,SNR=6.9							
WRA	**Warramunga Arr**	**44.30**	**262**	P		P	08 51 37.3	-0.1
	2.0nm,1.2s,baz=97,slow=8.2,SNR=3.0							
ILAR	**Eielson Array**	**88.34**	**13**	P		P	08 56 05.8	+0.1
	0.2nm,0.4s,baz=217,slow=5.3,SNR=7.7							
AKASG	**Malin Array Be**	**142.82**	**331**	PKP		PKPdf	09 02 41.8	-0.7
	0.1nm,0.3s,baz=42,slow=4.4,SNR=7.2							

*ISCJB **04** 08:44:35.3±0.6, 5.8S±0.1×154.7E±0.1, h61km, mb4.1/13, Error ellipse: s-maj=18.4km s-min=14.2km az=168.8*
*IDC **04** 08:44:48.3±5.7, 5.955S×154.66E, h170km±53km, mb3.7/13, mb1 3.9/14, mb1mx3.7/34, mbtmp4.2/14, MS3.2/1, Ms1 3.2/1, ms1mx2.5/24, Error ellipse: s-maj=19.4km s-min=16.9km az=24.0*

ISC 04 08:44:36.8±0.7, 5.8S±0.1×154.7E±0.2, h61km, n15, σ1°46/17, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.75**	**146**	P		**Pn**	**08 49 04

STKA	**Stephens Creek** 0.4nm,0.7s	**30.01 223**	*e*P	**P**	**09 13 10.2**	**+0.4**
STKA	**Stephens Creek** 1.5nm,0.6s,baz=44,slow=9.1,SNR=8.4	**30.01 223**	P	**P**	**09 13 10.2**	**+0.4**
STKA			LR	LR	09 23 24.0	
	comp=Z,74nm,18.3s,baz=27,slow=33					
WB2	**Warramunga Arr**	**30.90 250**	*e*P	**P**	**09 13 16.7**	**-1.0**
WR1	**Warramunga Arr** 5.7nm,0.9s	**30.91 250**	*e*P	**P**	**09 13 17.1**	**-0.8**
WRA	**Warramunga Arr** 3.8nm,0.6s,baz=80,slow=9.1,SNR=28	**30.91 250**	P	**P**	**09 13 17.1**	**-0.8**
WRA			LR	LR	09 23 58.9	
	comp=Z,32nm,20.6s,baz=0.0,slow=33					
AS01	**Alice Springs**	**32.20 243**	*e*P	**P**	**09 13 28.2**	**-1.1**
AS31	**Alice Springs** 1.0nm,0.6s	**32.24 243**	*e*P	**P**	**09 13 28.9**	**-0.7**
ASAR	**Alice Springs** 3.1nm,0.6s,baz=62,slow=10,SNR=51	**32.24 243**	P	**P**	**09 13 28.7**	**-0.9**
FITZ	**Fitzroy Crossi** 8.0nm,1.0s	**38.79 255**	*e*P	**P**	**09 14 25.5**	**-0.4**
FITZ	**Fitzroy Crossi** comp=Z,59nm,18.2s,baz=69,slow=36	**38.79 255**	LR	LR	09 30 34.4	
BRDH	**Bariadhala** comp=Z,51nm,18.1s,baz=71,slow=39	**79.36 296**	LR	LR	09 58 49.1	
ILAR	**Eielson Array** 0.3nm,0.8s,baz=247,slow=5.3,SNR=4.1	**83.72 19**	P	**P**	**09 19 30.1**	**+0.6**
MK32	**Makanchi Array**	**93.12 317**	*e*P	**P**	**09 20 14.7**	**-0.4**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=89,slow=7.3,SNR=5.0	**93.12 317**	P	**P**	**09 20 14.7**	**-0.3**
Y22D	**IRIS PASSCAL I** 28nm,0.6s	**94.43 56**	*e*P	**P**	**09 20 21.3**	**-0.3**
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=266,slow=4.8,SNR=2.5	**95.27 27**	P	**P**	**09 20 23.7**	**-0.7**

*NEIC **04** 09:28:24.2±0.0, 19.86N×68.92W, h83km, MD3.6(RSPR), After RSPR.*

RSPR 04 09:28:24.2, 19.86N×68.92W, h83km±12km, MD3.6/6, 12C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.20**	**129**	*e*P	Pn	09 28 58.3	-0.5
AGPR	**Aguadilla, PR**	**2.20**	**129**	*e*S	Sn	09 29 24.7	-0.6
AGPR	**Aguadilla, PR**	**2.20**	**129**	*e*P	Pn	09 28 58.3	-0.5
AGPR				*e*S	Sn	09 29 24.7	-0.6
LSP	**Las Mesas**	**2.41**	**134**	*e*P	Pn	09 29 01.3	-0.4
LSP	**Las Mesas**	**2.41**	**134**	*e*S	Sn	09 29 30.2	-0.3
LSP	**Las Mesas**	**2.41**	**134**	*e*P	Pn	09 29 01.3	-0.4
LSP				*e*S	Sn	09 29 30.2	-0.3
EMPR	**Esperanza - Ma**	**2.64**	**121**	*e*S	Sn	09 29 34.9	-1.1
CELP	**Cerrillos**	**2.84**	**128**	*e*P	Pn	09 29 07.3	-0.1
CELP				*e*S	Sn	09 29 41.0	+0.3
CELP	**Cerrillos**	**2.84**	**128**	*e*P	Pn	09 29 07.3	-0.1
CELP				*e*S	Sn	09 29 41.0	+0.3
OBIP	**Obispado Ponce**	**2.84**	**129**	*e*S	Sn	09 29 40.6	-0.1
CBYP	**Canovanas**	**3.30**	**118**	*e*P	Pn	09 29 12.4	-1.3
CBYP	**Canovanas**	**3.30**	**118**	*e*S	Sn	09 29 52.3	+0.3
CBYP	**Canovanas**	**3.30**	**118**	*e*P	Pn	09 29 12.4	-1.3
CBYP				*e*S	Sn	09 29 52.3	+0.3
HUMP	**Col San Antoni**	**3.37**	**120**	*e*P	Pn	09 29 14.2	-0.4
HUMP	**Col San Antoni**	**3.37**	**120**	*e*S	Sn	09 29 53.6	0.0
HUMP	**Col San Antoni**	**3.37**	**120**	*e*P	Pn	09 29 14.2	-0.4
HUMP				*e*S	Sn	09 29 53.6	0.0
MTP	**Monte Pirata**	**3.63**	**118**	*e*P	Pn	09 29 18.3	+0.1
MTP	**Monte Pirata**	**3.63**	**118**	*e*S	Sn	09 30 00.1	0.0
MTP	**Monte Pirata**	**3.63**	**118**	*e*P	Pn	09 29 18.3	+0.1
MTP				*e*S	Sn	09 30 00.1	0.0

IDC 04 09:42:16.7±6.1, 20.45S×139.23E, h0km, mb1 2.4/2, mb1mx2.4/23, mbtmp2.2/2, ML1.8/2, Error ellipse: s-maj=43.2km s-min=28.7km az=89.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=93,slow=12,SNR=5.3	**4.62**	**275**	Pn	Pn	09 43 28.6	+0.6
WRA				Sn	Sn	09 44 24.2	+1.9
	0.2nm,0.3s,baz=92,slow=24,SNR=8.7						
WRA				Lg	Lg	09 44 45.4	
	0.3nm,0.3s,baz=100,slow=28,SNR=6.8						
I07AU	**WARRAMUNGA INF** baz=99,slow=314,SNR=2.3	**4.63**	**275**	*i*		10 11 27.6	
ASAR	**Alice Springs** 0.0nm,0.3s,baz=54,slow=14,SNR=3.4	**5.89**	**236**	Pn	Pn	09 43 44.6	-0.8
ASAR				Sn	Sn	09 44 52.9	-0.7
	0.1nm,0.3s,baz=49,slow=25,SNR=6.5						
ASAR				Lg	Lg	09 45 22.7	
	0.1nm,0.3s,baz=55,slow=28,SNR=5.3						

WEL 04 09:46:47.7, 43.6S±0.7×172.2E±0.8, h9km±1km, ML3.5/21, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RACZ	**Rakaia**	**0.14**	**209**	P	Pg	09 46 52.3	+1.6
EYCZ	**Eyrewell**	**0.21**	**26**	P	Pg	09 46 53.6	+1.6
EYCZ				S	Sg	09 46 57.1	+2.3
CRLZ	**Canterbury Las**	**0.29**	**83**	P	Pb	09 46 55.1	0.0
CRLZ				S	Sb	09 46 59.8	-0.2
OXZ	**Oxford**	**0.32**	**333**	P	Pb	09 46 55.2	-0.3
OXZ				S	Sb	09 46 59.8	-1.0
MQZ	**McQueen's Vall**	**0.32**	**108**	P	Pb	09 46 55.5	-0.2
AMCZ	**Amberley**	**0.53**	**36**	P	Pb	09 47 00.1	+0.9
AKCZ	**Akaroa Harbour**	**0.56**	**118**	P	Pb	09 47 00.1	+0.4
OKCZ	**Okains Bay**	**0.61**	**101**	P	Pb	09 47 01.2	+0.6
LTZ	**Lake Taylor**	**0.83**	**2**	P	Pn	09 47 05.2	-0.4
RPZ	**Rata Peaks**	**0.86**	**262**	P	Pb	09 47 05.5	+0.2
INZ	**Inchbonnie**	**1.05**	**327**	P	Pn	09 47 08.5	-0.2
WVZ	**Waitaha Valley**	**1.21**	**296**	P	Pg	09 47 11.3	+0.3
KHZ	**Kahutara**	**1.53**	**39**	P	Pn	09 47 15.1	-0.1
LBZ	**Lake Benmore**	**1.67**	**242**	P	Pn	09 47 17.8	+0.6
FOZ	**Fox Glacier**	**1.76**	**272**	P	Pb	09 47 19.8	-0.3
ODZ	**Otahua Downs**	**1.83**	**218**	P	Pn	09 47 19.4	0.0
DSZ	**Denniston Nort**	**1.89**	**350**	P	Pn	09 47 20.5	+0.2
THZ	**Tophouse**	**1.91**	**15**	P	Pn	09 47 20.5	0.0
BSWZ	**Blackbirch Sta**	**2.25**	**33**	P	Pn	09 47 25.4	+0.2
TUWZ	**Tuamarina**	**2.52**	**31**	P	Pn	09 47 28.9	+0.1
JCZ	**Jackson Bay**	**2.54**	**258**	P	Pn	09 47 30.0	+0.9
NNZ	**Nelson**	**2.54**	**20**	P	Pn	09 47 29.7	+0.6
WKZ	**Wanaka**	**2.61**	**241**	P	Pn	09 47 30.4	+0.2
EAZ	**Earnscleugh**	**2.65**	**231**	P	Pn	09 47 30.6	-0.1
QRZ	**Quartz Range**	**2.79**	**5**	P	Pn	09 47 32.5	-0.1
TCW	**Tory Channel**	**2.83**	**33**	P	Pn	09 47 33.3	+0.1
TUZ	**Tuapeka**	**2.99**	**217**	P	Pn	09 47 35.2	-0.1
DUWZ	**D'Urville Isla**	**3.07**	**25**	P	Pn	09 47 37.0	+1.9
CAW	**Cannon Point**	**3.27**	**41**	P	Pn	09 47 38.1	-1.0
KIW	**Kapiti Island**	**3.39**	**37**	P	Pn	09 47 40.9	+0.1
MLZ	**Mavora Lakes**	**3.43**	**238**	P	Pn	09 47 42.1	+0.7
MTW	**Mount Morrison**	**3.44**	**46**	P	Pn	09 47 40.5	-1.0
WHZ	**Wether Hill Ro**	**3.81**	**232**	P	Pn	09 47 45.8	-0.8
WHZ				P	Pb	09 47 45.9	-9.3
MRZ	**Mangatainoka R**	**3.86**	**41**	P	Pn	09 47 46.0	-1.2
BFZ	**Birch Farm**	**4.18**	**47**	P	Pn	09 47 50.8	-0.8
WAZ	**Wanganui**	**4.37**	**29**	P	Pn	09 47 54.9	+0.6
NMEZ	**Namu Road**	**4.37**	**17**	P	Pn	09 47 56.6	+2.3
NBEZ	**Newall Road No**	**4.51**	**16**	P	Pn	09 47 57.9	+1.8
KHEZ	**Kahui Hut**	**4.51**	**18**	P	Pn	09 47 58.5	+2.2
PKE	**Pukeiti**	**4.60**	**17**	P	Pn	09 47 59.7	+2.2
DREZ	**Durham Road**	**4.66**	**19**	P	Pn	09 47 59.7	+1.5
VRZ	**Vera Road**	**4.87**	**24**	P	Pn	09 48 03.2	+2.0

*TEH **04** 09:47:53.9, 34.31N×54.50E, h11km, ML4.0*
*IDC **04** 09:47:53.0±1.9, 34.24N×54.37E, h0km, mb3.5/7, mb1 3.6/10, mb1mx3.5/39, mbtmp3.5/10, ML3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=43.7km s-min=16.4km az=150.0*
*THR **04** 09:47:53.7, 34.31N×54.44E, h14km, ML3.9*
*ISCJB **04** 09:47:54.8±0.3, 34.34N±0.03×54.51E±0.04, h10km, mb3.4/7, MS2.6/1, Error ellipse: s-maj=4.7km s-min=4.2km az=17.4*

ISC 04 09:47:55.4±0.7, 34.33N±0.04×54.46E±0.03, h10km, n50, σ1°19/50, mb3.5/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.22**	**339**	*e*Pg	**Pb**	**09 48 18.5**	**-0.2**
IANJ				IAMB	IAmb	09 48 40.5	
	comp=Z,22μm,0.3s						
ANAR	**Anarak**	**1.29**	**208**	*e*Pg	**Pn**	**09 48 18.6**	**-1.0**
ANAR				IAMB	IAmb	09 48 41.0	
	comp=Z,0.0nm,0.3s						
ILAS	**Lasjerd**	**1.62**	**311**	*e*Pn	**Pn**	**09 48 25.0**	**+0.8**
ILAS				IAMB	IAmb	09 48 50.5	
	comp=Z,32μm,0.6s						
ISHM	**Shahmirzad**	**1.76**	**327**	*e*Pn	**Pn**	**09 48 26.8**	**+0.6**
ISHM				IAMB	IAmb	09 48 55.2	
	comp=Z,23μm,0.3s						
TNSJ	**Nastanj**	**1.82**	**101**	*e*Pn	**Pn**	**09 48 26.4**	**-0.5**
ISFB	**Sefidab**	**1.83**	**271**	*e*Pn	**Pn**	**09 48 27.7**	**+0.7**
ISFB				IAMB	IAmb	09 48 55.6	
	comp=Z,16μm,0.2s						
IFIR	**Firoozkooh**	**1.92**	**314**	*e*Pn	**Pn**	**09 48 28.6**	**+0.3**
IFIR				IAMB	IAmb	09 49 00.4	
	comp=Z,14μm,0.2s						
YZKH	**Yazd**	**1.94**	**177**	*e*Pg	**Pn**	**09 48 28.9**	**+0.4**
YZKH	**Yazd**	**1.94**	**177**	*e*Pg	**Pn**	**09 48 28.9**	**+0.4**
YZKH				*e*Sg	**Sn**	**09 48 54.7**	**+1.7**
IKIA	**Kiasar**	**1.98**	**342**	*e*Pn	**Pn**	**09 48 29.8**	**+0.7**
IKIA				IAMB	IAmb	09 49 00.4	
	comp=Z,9μm,0.5s						
ICHK	**Chekchek**	**2.08**	**181**	*e*Pn	**Pn**	**09 48 31.2**	**+0.6**
SHRO	**Shahrood**	**2.09**	**37**	*e*Pn	**Pn**	**09 48 30.9**	**+0.3**
SHRO	**Shahrood**	**2.09**	**37**	*e*AML	AML	09 49 02.6	
	comp=E,817nm,0.3s						
SHRO				*e*AML	AML	09 49 04.8	
	comp=N,978nm,0.5s						
SHRO	**Shahrood**	**2.09**	**37**	*e*Pn	**Pn**	**09 48 30.9**	**+0.3**
TPRV	**Parvadeh(Tabas**	**2.27**	**124**	*e*Pn	**Pn**	**09 48 32.9**	**-0.1**
TPRV				IAMB	IAmb	09 49 19.1	
	comp=Z,0.0nm,0.5s						
IZEF	**Zefreh**	**2.28**	**232**	*e*Pn	**Pn**	**09 48 34.0**	**+0.6**
IZEF				IAMB	IAmb	09 49 08.4	
	comp=Z,9μm,0.3s						
TABS	**Tabas**	**2.31**	**106**	*e*Pn	**Pn**	**09 48 33.5**	**-0.1**
TABS	**Tabas**	**2.31**	**106**	*e*Pn	**Pn**	**09 48 33.5**	**-0.1**
TABS				*e*Sg	**Sn**	**09 49 06.6**	**+4.4**
TKDS	**Koohdasht(Taba**	**2.33**	**107**	*e*Pn	**Pn**	**09 48 33.5**	**-0.3**
TKDS				IAMB	IAmb	09 49 26.2	
	comp=Z,0.0nm,0.7s						
IVRN	**Varamin**	**2.35**	**287**	*e*Pn	**Pn**	**09 48 34.8**	**+0.7**
IVRN				IAMB	IAmb	09 49 11.3	
	comp=E,0.0nm,0.2s						
IDMV	**Damavand**	**2.35**	**303**	*e*Pn	**Pn**	**09 48 34.8**	**+0.5**
IDMV				IAMB	IAmb	09 49 31.4	
	comp=Z,8μm,1.0s						
ISAD	**Sadrabad**	**2.50**	**195**	*e*Pn	**Pn**	**09 48 36.1**	**-0.2**
ISAD				IAMB	IAmb	09 49 18.1	
	comp=Z,6μm,0.4s						
IPRN	**Peran**	**2.58**	**318**	*e*Pn	**Pn**	**09 48 39.0**	**+1.7**
IPRN				IAMB	IAmb	09 49 18.8	
	comp=E,24μm,0.4s						
IKLH	**Kolahrood**	**2.60**	**248**	*e*Pn	**Pn**	**09 48 38.1**	**+0.4**
IKLH				IAMB	IAmb	09 49 24.3	
	comp=Z,5μm,0.3s						
GHVR	**GHOM**	**2.62**	**274**	*e*AML	AML	09 49 21.9	
	comp=N,422nm,0.4s						
IGAR	**Gharneh**	**2.79**	**227**	*e*Pn	**Pn**	**09 48 41.5**	**+1.2**
IGAR				IAMB	IAmb	09 49 32.9	
	comp=Z,1μm,0.2s						
IHSB	**Hasanabad**	**2.84**	**294**	*e*Pn	**Pn**	**09 48 41.1**	**+0.2**
IHSB				IAMB	IAmb	09 50 28.6	
	comp=Z,0.0nm,1.2s						
IMEH	**Mehriz**	**2.94**	**177**	*e*Pn	**Pn**	**09 48 42.7**	**+0.4**
IMEH				IAMB	IAmb	09 49 42.2	
	comp=Z,2μm,0.5s						
IMND	**Minoodasht**	**3.02**	**15**	*e*Pn	**Pn**	**09 48 43.7**	**+0.4**
IMND				IAMB	IAmb	09 49 37.9	
	comp=Z,4μm,1.0s						
IRAM	**Ramesheh**	**3.06**	**215**	*e*Pn	**Pn**	**09 48 44.6**	**+0.6**
IRAM				IAMB	IAmb	09 48 54.8	
	comp=Z,1μm,0.6s						
SBZV	**Sabzevar**	**3.29**	**51**	*e*Pn	**Pn**	**09 48 47.2**	**0.0**
SBZV				IAMB	IAmb	09 50 02.7	
	comp=Z,0.0nm,0.8s						
IPIR	**Pirpir**	**3.40**	**242**	*e*Pn	**Pn**	**09 48 51.2**	**+2.4**
ROKH	**ROKH**	**3.48**	**236**	*e*Pn	**Pn**	**09 48 51.7**	**+1.9**
ROKH				IAMB	IAmb	09 49 53.3	
	comp=Z,0.0nm,0.8s						
ZNGN	**Zangian**	**3.74**	**235**	*e*Pn	**Pn**	**09 48 55.1**	**+1.6**
ITEG	**Tejag**	**3.85**	**111**	*e*Pn	**Pn**	**09 48 55.2**	**+0.3**
ITEG				IAMB	IAmb	09 50 03.6	
	comp=Z,2μm,0.5s						
IRAZ	**Razeghan**	**3.88**	**287**	*e*Pn	**Pn**	**09 48 56.3**	**+1.1**
IRAZ				IAMB	IAmb	09 50 05.0	
	comp=Z,3μm,0.6s						
IKOO	**Kooshah**	**4.25**	**115**	*e*Pn	**Pn**	**09 49 00.0**	**-0.4**
IKOO				IAMB	IAmb	09 50 18.8	
	comp=N,1μm,0.3s						
GEYT	**Alibeck**	**4.65**	**38**	Pn	**Pn**	**09 49 06.9**	**+1.1**
	comp=N,0.9nm,0.3s,baz=223,slow=14,SNR=6.1						
GEYT				Pg	**Pb**	**09 49 19.4**	**+2.3**
	comp=N,2.5nm,0.3s,baz=241,slow=15,SNR=8.2						
GEYT				Lg	Lg	09 50 25.8	
	comp=N,0.9nm,0.3s,baz=228,slow=36,SNR=3.3						
IDAH	**Dahanechah**	**4.79**	**108**	*e*Pn	**Pn**	**09 49 07.1**	**-0.7**
CHMN	**Cheshme madani**	**5.17**	**149**	*e*Pn	**Pn**	**09 49 13.9**	**+0.8**
AKTO	**Aktyubinsk** comp=N,0.1nm,0.3s,baz=175,slow=13,SNR=3.1	**16.30**	**8**	Pn	**Pn**	**09 51 41.8**	**-2.5**
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=107,slow=8.3,SNR=3.8	**17.46**	**294**	P	**Pn**	**09 51 58.2**	**-0.9**
BVAR	**Borovoye Array** comp=N,2.3nm,0.7s,baz=216,slow=7.3,SNR=17	**21.86**	**26**	P	**P**	**09 52 48.1**	**0.0**
KURBB	**Kurchatov Arra** comp=N,1.0nm,0.8s,baz=241,slow=11,SNR=5.0	**23.93**	**40**	P	**P**	**09 53 09.1**	**-0.3**
MKAR	**Makanchi Array** comp=N,0.5nm,0.8s,baz=243,slow=8.0,SNR=4.8	**24.40**	**51**	P	**P**	**09 53 14.8**	**+1.0**
MLR	**Muntele Rosu** comp=N,21nm,19.5s,baz=278,slow=44	**24.42**	**306**	LR	LR	10 05 36.5	
AKASG	**Malin Array Be** comp=N,0.5nm,0.4s,baz=120,slow=8.9,SNR=2.5	**24.59**	**319**	P	**P**	**09 53 14.2**	**-1.3**
GERES	**GERESS Array B** comp=N,0.6nm,0.6s,baz=92,slow=5.9,SNR=4.1	**33.33**	**308**	P	**P**	**09 54 33.4**	**0.0**
TORD	**Torodi Ar. Bea** comp=N,0.6nm,0.9s,baz=61,slow=6.8,SNR=3.7	**52.07**	**259**	P	**P**	**09 57 04.2**	**-1.6**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.4s,baz=2.8,slow=5.0,SNR=5.1	**83.11**	**355**	P	**P**	**10 00 20.3**	**-0.7**

IDC 04 10:04:43.2±2.0, 2.21S×128.14E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=148.7km s-min=24.5km az=67.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=340,slow=12,SNR=19	**18.64**	**161**	P	Pn	10 09 03.2	+0.4
ASAR	**Alice Springs** 0.9nm,0.6s,baz=344,slow=11,SNR=13	**22.05**	**166**	P	P	10 09 39.0	-0.8
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=125,slow=7.9,SNR=12	**63.23**	**326**	P	P	10 15 13.6	+0.1

*ISCJB **04** 10:20:35.5±0.4, 5.42S±0.05×147.71E±0.08, h170km, mb4.2/19, Error ellipse: s-maj=11.2km s-min=6.0km az=16.8*
*NEIC **04** 10:20:39.5±0.8, 5.51S×147.79E, h201km±8km, mb4.5/12, Error ellipse: s-maj=8.2km s-min=5.2km az=113.0*
*IDC **04** 10:20:41.7±3.2, 5.55S×147.69E, h218km±30km, mb3.8/12, mb1 4.0/15, mb1mx3.8/35, mbtmp4.5/15, MS3.8/1, Ms1 3.8/1, ms1mx2.8/36, Error ellipse: s-maj=18.9km s-min=11.2km az=89.0*

ISC 04 10:20:36.8±0.5, 5.47S±0.07×147.70E±0.08, h170km, n47, σ1°23/53, mb4.2/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.63**	**74**	*e*Pn	**Pn**	**10 21 47.5**	**+1.7**
COEN	**Coen**	**9.54**	**208**	*e*Pn	**Pn**	**10 22 53.3**	**+2.8**
HNR	**Honiara**	**12.77**	**109**	*e*Pn	**Pn**	**10 23 33.0**	**+0.6**
HNR				*e*Pn	**P**	**10 23 36.0**	**-0.9**
HNR	**Honiara** 18nm,0.3s,baz=300,slow=4.9,SNR=4.3	**12.77**	**109**	P	**P**	**10 23 36.0**	**-0.9**
CTA	**Charters Tower** 0.5nm,0.3s,baz=264,slow=10,SNR=4.2	**14.60**	**185**	P	**P**	**10 23 59.0**	**+1.8**
CTAO	**Charters Tower**	**14.60**	**185**	*e*Pn	**P**	**10 23 56.4**	**-0.9**
MTN	**Manton Dam** 18nm,1.1s	**17.91**	**245**	*e*P	**P**	**10 24 35.0**	**+1.1**
WRAB	**Tennant Creek** 19nm,0.5s	**19.37**	**221**	*e*P	**P**	**10 24 50.3**	**+0.7**
WB2	**Warramunga Arr**	**19.38**	**221**	*e*P	**P**	**10 24 49.2**	**-0.5**
WB2				*e*P	**Pn**	**10 24 50.4**	**-2.4**
WR1	**Warramunga Arr**	**19.39**	**221**	*e*P	**P**	**10 24 50.5**	**+0.7**
WR1				*e*S	**S**	**10 28 17.9**	**-2.1**
WRA	**Warramunga Arr** 4.0nm,0.3s,baz=49,slow=9.9,SNR=211	**19.39**	**221**	P	**P**	**10 24 50.5**	**+0.7**
WRA				S	**S**	**10 28 17.9**	**-2.1**
	0.2nm,0.3s,baz=40,slow=20,SNR=8.1						
EIDS	**Eidsvold** 16nm,1.1s	**20.05**	**171**	*e*P	**P**	**10 24 57.3**	**+0.4**
AS01	**Alice Springs**	**22.42**	**215**	*e*P	**P**	**10 25 22.0**	**+0.4**
AS31	**Alice Springs** 8.2nm,0.6s	**22.44**	**215**	*e*P	**P**	**10 25 22.5**	**+0.6**
AS31				*e*S	**S**	**10 29 20.0**	**+4.4**
ASAR	**Alice Springs** 24nm,0.7s,baz=51,slow=8.6,SNR=408	**22.45**	**215**	P	**P**	**10 25 22.5**	**+0.6**
ASAR				S	**S**	**10 29 16.3**	**+0.6**
	5.4nm,0.8s,baz=28,slow=23,SNR=18						
BATI	**Baumata** 19nm,0.5s,baz=352,slow=1.7,SNR=3.1	**24.26**	**257**	P	**P**	**10 25 38.6**	**+0.1**
BATI				LR	LR	10 37 44.8	
	comp=Z,195nm,18.1s,baz=18,slow=42						
FITZ	**Fitzroy Crossi** 18nm,0.6s	**24.93**	**238**	*e*P	**P**	**10 25 44.9**	**+0.4**
FITZ	**Fitzroy Crossi** 17nm,0.5s,baz=58,slow=9.2,SNR=54	**24.93**	**238**	P	**P**	**10 25 44.2**	**-0.3**
ARMA	**Armidale** 7.2nm,0.6s	**25.09**	**172**	*e*P	**P**	**10 25 45.8**	**-0.1**
STKA	**Stephens Creek** 0.5nm,0.7s	**26.88**	**192**	*e*P	**P**	**10 26 01.0**	**-0.9**
STKA	**Stephens Creek** 2.4nm,0.5s,baz=0.2,slow=8.1,SNR=13	**26.88**	**192**	P	**P**	**10 26 01.0**	**-0.9**
BBOO	**Buckleboo** 4.9nm,0.6s	**29.29**	**200**	*e*P	**P**	**10 26 22.9**	**-0.4**
FORT	**Forrest** 20nm,0.7s	**31.22**	**214**	*e*P	**P**	**10 26 40.2**	**-0.1**
MJAR	**Matsushiro Arr** 3.1nm,0.8s,baz=174,slow=8.5,SNR=8.8	**42.73**	**349**	P	**P**	**10 28 16.7**	**-0.5**
MAJO	**Matsushiro**	**42.73**	**349**	*e*P	**P**	**10 28 16.7**	**-0.5**
KSRS	**Korea Array** 0.9nm,0.7s,baz=154,slow=6.7,SNR=3.4	**46.52**	**338**	P	**P**	**10 28 47.9**	**+0.8**
KSAR	**Wonju Array Be**	**46.52**	**338**	P	**P**	**10 28 47.9**	**+0.7**
USRK	**Ussuriysk Ar.** 1.5nm,0.5s,baz=172,slow=8.1,SNR=6.3	**51.43**	**346**	P	**P**	**10 29 26.1**	**+1.7**
SONA0	**Songino Array**	**64.29**	**330**	*e*P	**P**	**10 30 55.3**	**+1.2**
SONM	**Songino Array** 1.5nm,0.7s,baz=150,slow=6.0,SNR=11	**64.29**	**330**	P	**P**	**10 30 55.3**	**+1.2**
SONA1	**Songino Array**	**64.29**	**330**	*e*P	**P**	**10 30 55.1**	**+1.0**
VNDA	**Vanda** 2.0nm,0.6s,baz=332,slow=6.5,SNR=12	**72.40**	**177**	P	**P**	**10 31 43.8**	**-0.1**
MK01	**Makanchi Array**	**77.52**	**320**	*e*P	**P**	**10 32 13.6**	**-0.2**
MK31	**Makanchi Array** 1.2nm,0.5s	**77.54**	**320**	*e*P	**P**	**10 32 13.9**	**0.0**
MK32	**Makanchi Array**	**77.54**	**320**	*e*P	**P**	**10 32 14.1**	**+0.2**
MKAR	**Makanchi Array** 1.6nm,0.4s,baz=98,slow=8.2,SNR=47	**77.54**	**320**	P	**P**	**10 32 14.1**	**+0.2**
MAKZ	**Makanchi** 2.7nm,0.5s	**77.74**	**320**	*e*P	**P**	**10 32 14.5**	**-0.5**
ZALV	**Zalesovo Beam**	**78.94**	**328**	*e*P	**P**	**10 32 20.6**	**-0.8**
ZALV	**Zalesovo Beam** 2.2nm,0.5s,baz=123,slow=5.1,SNR=8.4	**78.94**	**328**	P	**P**	**10 32 20.1**	**-1.2**
ZAA1	**Zalesovo Array**	**78.94**	**328**	*e*P	**P**	**10 32 20.1**	**-1.2**
QSPA	**South Pole Qui** 11nm,1.0s	**84.49**	**180**	*e*P	**P**	**10 32 49.3**	**-1.1**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=238,slow=5.3,SNR=5.5	**84.73**	**23**	P	**P**	**10 32 50.4**	**-1.0**
PLCA	**Paso Flores** 1.1nm,0.9s,baz=254,slow=4.7,SNR=4.9	**122.18**	**146**	PKP	**PKPdf**	**10 39 10.6**	**-1.2**
SIV	**San Ignacio** 3.4nm,0.7s,baz=257,slow=4.5,SNR=14	**144.42**	**127**	PKP	**PKPab**	**10 39 51.5**	**-1.0**
TORD	**Torodi Ar. Bea** 2.7nm,0.6s,baz=63,slow=4.1,SNR=30	**145.63**	**285**	PKPbc	**PKPdf**	**10 39 55.5**	**-0.4**
TOA1	**Torodi Ar. Sit**	**145.63**	**285**	*e*PKPdf	**PKPdf**	**10 39 55.5**	**-0.4**
PTGA	**Pitinga** 1.1nm,0.4s,baz=244,slow=22,SNR=7.8	**151.69**	**102**	PKPbc	**PKPbc**	**10 40 10.9**	**-1.4**

*NEIC **04** 10:22:54.2±0.2, 34.19N×96.68W, h5km, MN3.5, Error ellipse: s-maj=3.6km s-min=2.8km az=170.0*
NEIC Felt [IV] at Madill and [III] at Tishomingo. Also felt at Ada, Durant, Maud, Mill Creek, Oklahoma City, Spencer and Stillwater. Felt at Denison, Texas.
*ANF **04** 10:22:56.1±0.5, 34.16N×96.63W, h24km±4km, ML4.2/23, Error ellipse: s-maj=2.3km s-min=1.6km az=153.0*

ISC 04 10:22:56.2±1.3, 34.20N±0.03×96.66W±0.03, h24km±14km, n103, σ1°42/138, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**1.42**	**342**	*e*Pn	**Pn**	**10 23 20.7**	**+0.2**
OK001	**

W42A	**Bald Knob**	**4.37**	**74**	Sb	**Sb**	**10 25 08.3**	**+3.9**		
	baz=257								
U41A	**Viola**	**4.43**	**60**	P	**Pn**	**10 24 01.6**	**-0.3**		
	baz=242,SNR=24								
U41A				Sb	**Sb**	**10 25 10.6**	**+4.3**		
	baz=242								
JCT	**Junction City**	**4.56**	**216**	*e*Pn	**Pn**	**10 24 02.3**	**-1.4**		
JCT	**Junction City**	**4.56**	**216**	P	**Pn**	**10 24 02.1**	**-1.6**		
	baz=35								
JCT				Sb	**Sb**	**10 25 13.2**	**+3.1**		
	baz=35								
KSU1	**Kansas State U**	**4.89**	**0**	*e*Pn	**Pn**	**10 24 09.3**	**+1.0**		
KSU1	**Kansas State U**	**4.89**	**0**	P	**Pn**	**10 24 08.3**	**+0.1**		
	baz=180								
KSU1				S	**Sn**	**10 25 05.9**	**+1.8**		
	baz=180								
T41A	**Mountain View**	**4.90**	**53**	P	**Pn**	**10 24 08.4**	**+0.1**		
	baz=235,SNR=44								
T41A				S	**Sn**	**10 25 04.7**	**+0.5**		
	baz=235								
U42A	**Revenden**	**4.93**	**63**	P	**Pn**	**10 24 08.4**	**-0.3**		
	baz=245								
U42A				S	**Sn**	**10 25 04.9**	**-0.1**		
	baz=245								
MSTX	**Muleshoe**	**5.07**	**269**	*e*Pn	**Pn**	**10 24 11.0**	**+0.2**		
MSTX	**Muleshoe**	**5.07**	**269**	P	**Pn**	**10 24 11.0**	**+0.2**		
	baz=86								
MSTX				S	**Sn**	**10 25 10.0**	**+1.3**		
	baz=86								
HBAR	**Harrisburg**	**5.12**	**73**	*e*Pn	**Pn**	**10 24 11.2**	**-0.1**		
CBKS	**Cedar Bluff**	**5.23**	**333**	*e*Pn	**Pn**	**10 24 12.1**	**-0.8**		
CBKS	**Cedar Bluff**	**5.23**	**333**	P	**Pn**	**10 24 14.0**	**+1.1**		
	baz=151								
CBKS				S	**Sn**	**10 25 15.4**	**+2.9**		
	baz=151								
S41A	**Jillco Farms,**	**5.23**	**48**	P	**Pn**	**10 24 13.3**	**+0.4**		
	baz=230,SNR=28								
S41A				S	**Sn**	**10 25 13.4**	**+0.9**		
	baz=230								
T42A	**Van Buren**	**5.35**	**56**	*e*Pn	**Pn**	**10 24 14.6**	**+0.2**		
T42A	**Van Buren**	**5.35**	**56**	P	**Pn**	**10 24 14.5**	**0.0**		
	baz=239,SNR=17								
T42A				S	**Sn**	**10 25 15.3**	**+0.1**		
	baz=239								
U43A	**Rector**	**5.56**	**65**	S	**Sn**	**10 25 21.9**	**+1.5**		
	baz=248								
PBMO	**Poplar Bluff**	**5.70**	**61**	*e*Pn	**Pn**	**10 24 20.2**	**+0.9**		
V44A	**Blytheville**	**5.79**	**72**	Sb	**Sb**	**10 25 51.9**	**+6.6**		
	baz=255								
CCM	**Cathedral Cave**	**5.84**	**47**	*e*Pn	**Pn**	**10 24 21.7**	**+0.5**		
CCM	**Cathedral Cave**	**5.84**	**47**	P	**Pn**	**10 24 21.5**	**+0.3**		
	baz=230								
CCM				S	**Sn**	**10 25 26.7**	**-0.6**		
	baz=230								
R41A	**Rosebud**	**5.91**	**45**	P	**Pn**	**10 24 22.5**	**+0.2**		
	baz=227,SNR=9.8								
R41A				S	**Sn**	**10 25 29.4**	**+0.2**		
	baz=227								
T43A	**Greenville**	**5.94**	**59**	P	**Pn**	**10 24 22.6**	**0.0**		
	baz=242								
T43A				S	**Sn**	**10 25 30.7**	**+0.9**		
	baz=242								
S42A	**Caledonia**	**5.95**	**51**	P	**Pn**	**10 24 22.6**	**-0.1**		
	baz=234								
S42A				S	**Sn**	**10 25 28.7**	**-1.3**		
	baz=234								
OXF	**Oxford**	**6.01**	**85**	*e*Pn	**Pn**	**10 24 23.9**	**+0.4**		
CPRX	**Cap Rock**	**6.12**	**261**	*e*Pn	**Pn**	**10 24 25.2**	**0.0**		
U44A	**Portageville**	**6.15**	**66**	Sb	Sb	10 26 04.6	+9.0		
	baz=250								
W45A	**Hickory Valley**	**6.24**	**79**	P	**Pn**	**10 24 26.5**	**-0.1**		
	baz=263								
R42A	**Luebbering**	**6.25**	**48**	P	**Pn**	**10 24 26.7**	**-0.2**		
	baz=230,SNR=8.2								
R42A				S	**Sn**	**10 25 37.5**	**0.0**		
	baz=230								
833A	**Chaparral WMA,**	**6.30**	**202**	*e*Pn	**Pn**	**10 24 27.5**	**-0.1**		
FVM	**French Village**	**6.31**	**51**	*e*Pn	**Pn**	**10 24 28.1**	**+0.5**		
S43A	**Fulton Ridge,**	**6.32**	**56**	P	**Pn**	**10 24 27.7**	**-0.1**		
	baz=239								
S43A				S	**Sn**	**10 25 38.7**	**-0.5**		
	baz=239								
Q41A	**Truxton**	**6.45**	**41**	P	**Pn**	**10 24 29.7**	**+0.1**		
	baz=224								
Q41A				S	**Sn**	**10 25 41.1**	**-1.4**		
	baz=224								
GDL2	**Guadalupe Moun**	**6.75**	**255**	*e*Pn	**Pn**	**10 24 34.5**	**+0.6**		
GDL2				*e*Pg	Pb	10 24 58.1	+5.1		
GDL2				*e*Sg	Sb	10 26 26.0	+13		
KSCO	**Kaye Shedlock'**	**6.79**	**317**	*e*Pn	**Pn**	**10 24 35.1**	**+0.7**		
KSCO	**Kaye Shedlock'**	**6.79**	**317**	P	**Pn**	**10 24 34.9**	**+0.6**		
	baz=133								
R43A	**Red Bud**	**6.79**	**51**	S	**Sn**	**10 25 50.5**	**-0.4**		
	baz=235								
Q42A	**Golden Eagle**	**6.82**	**45**	S	**Sn**	**10 25 51.2**	**-0.2**		
	baz=228								
S44A	**Carbondale**	**6.95**	**58**	S	**Sn**	**10 25 55.1**	**+0.4**		
	baz=242								
T25A	**Trinidad**	**6.96**	**297**	*e*Pn	**Pn**	**10 24 38.7**	**+2.0**		
P41A	**Barry, Barry**	**7.07**	**38**	P	**Pn**	**10 24 38.4**	**+0.3**		
	baz=221								
PLAL	**Pickwick Lake**	**7.13**	**81**	*e*Pn	**Pn**	**10 24 39.7**	**+0.8**		
U46A	**Springville**	**7.27**	**70**	P	**Pn**	**10 24 40.7**	**-0.1**		
	baz=255								
BGNE	**Belgrade**	**7.29**	**351**	*e*Pn	**Pn**	**10 24 39.9**	**-1.3**		
BGNE	**Belgrade**	**7.29**	**351**	P	**Pn**	**10 24 41.3**	**0.0**		
	baz=170								
BGNE				S	**Sn**	**10 26 00.8**	**-2.4**		
	baz=170								
Q43A	**New Douglas**	**7.33**	**48**	S	**Sn**	**10 26 04.3**	**+0.1**		
	baz=231								
R44A	**Waltonville**	**7.34**	**54**	S	**Sn**	**10 26 01.9**	**-2.4**		
	baz=238								
P42A	**Winchester**	**7.38**	**41**	*e*Pn	**Pn**	**10 24 42.5**	**+0.1**		
P42A	**Winchester**	**7.38**	**41**	S	**Sn**	**10 26 04.0**	**-1.4**		
	baz=225								
S45A	**Carrier Mills**	**7.42**	**60**	P	**Pn**	**10 24 42.6**	**-0.3**		
	baz=244								
S45A				S	**Sn**	**10 26 06.4**	**+0.2**		
	baz=244								
WVT	**Waverly**	**7.49**	**73**	*e*Pn	**Pn**	**10 24 44.0**	**+0.2**		
O41A	**Passleys Farm,**	**7.50**	**36**	S	**Sn**	**10 26 07.2**	**-0.9**		
	baz=219								
TX31	**Lajitas Ar. Si**	**7.68**	**233**	*e*Pn	**Pn**	**10 24 46.9**	**+0.3**		
TX31				*e*Pn	**Pn**	**10 24 47.4**	**+0.8**		
MNTX	**Cornudas Mount**	**7.74**	**254**	*e*Pn	**Pn**	**10 24 46.4**	**-0.9**		
MNTX	**Cornudas Mount**	**7.74**	**254**	P	**Pn**	**10 24 47.0**	**-0.3**		
	baz=69								
OGNE	**Ogallala**	**7.97**	**329**	*e*Pn	**Pn**	**10 24 50.7**	**+0.2**		
SDCO	**Great Sand Dun**	**7.99**	**299**	*e*Pn	**Pn**	**10 24 51.1**	**+0.1**		
ANMO	**Albuquerque**	**8.11**	**278**	*e*Pn	**Pn**	**10 24 52.8**	**+0.2**		
LRAL	**Lakeview Retre**	**8.15**	**95**	*e*Pn	**Pn**	**10 24 53.0**	**+0.1**		
BNM	**Barren Site**	**8.26**	**272**	*e*Pn	**Pn**	**10 24 55.0**	**+0.4**		
BNM				*e*Sg	Sb	10 27 12.5	+16		
Q24A	**Divide**	**8.32**	**307**	*e*Pg	Pb	10 25 28.7	+9.0		
Q24A				*e*Lg	Lg	10 27 20.9			
ISCO	**Idaho Springs**	**9.08**	**311**	*e*Pn	**Pn**	**10 25 05.7**	**-0.3**		
ECSD	**EROS Data Cent**	**9.52**	**0**	*e*Pn	**Pn**	**10 25 10.3**	**-1.4**		
N23A	**Red Feather La**	**9.95**	**315**	*e*Pn	**Pn**	**10 25 18.3**	**+0.5**		
JFWS	**Jewell Farm**	**10.05**	**28**	*e*Pn	**Pn**	**10 25 17.9**	**-1.0**		
I39A	**Houston**	**10.44**	**21**	*e*Pn	**Pn**	**10 25 23.6**	**-0.7**		
I42A	**Draeger Farm,**	**11.40**	**30**	*e*Pn	**Pn**	**10 25 36.7**	**-0.7**		
G40A	**Rib Lake**	**12.12**	**22**	*e*Pn	**Pn**	**10 25 45.5**	**-1.8**		

IDC 04 10:36:57.9±4.0,2.74S×130.81E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.4/40,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=292.5km s-min=27.1km az=72.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.44**	**169**	P	Pn	10 41 01.0	-1.7
	0.1nm,0.3s,baz=348,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**21.01**	**172**	P	P	10 41 43.8	+0.5
	1.5nm,0.6s,baz=348,slow=11,SNR=40						
MKAR	**Makanchi Array**	**65.16**	**325**	P	P	10 47 41.0	+0.1
	0.1nm,0.4s,baz=115,slow=6.7,SNR=2.9						

IDC 04 10:41:20.3±5.5,2.59S×131.35E,h0km,mb3.5/2, mb1 3.7/3,mb1mx3.5/35,mbtmp3.5/3,ML3.3/1,Error ellipse: s-maj=390.0km s-min=27.8km az=73.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.49**	**171**	P	Pn	10 45 24.4	-1.4
	0.1nm,0.3s,baz=351,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.09**	**173**	P	P	10 46 07.3	+0.7
	1.3nm,0.4s,baz=349,slow=11,SNR=46						
MKAR	**Makanchi Array**	**65.35**	**325**	P	P	10 52 04.5	0.0
	0.2nm,0.4s,baz=110,slow=7.8,SNR=6.0						

MEX 04 10:48:28.2±0.4,14.20N×92.60W,h16km±94km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.77**	**25**	*i* P	Pb	10 48 41.0	-2.3
THIG				*i* S	Sg	10 48 49.7	-3.9
PCIG		**1.61**	**338**	*e*P	Pn	10 48 52.1	-3.8
PCIG				*i* S	Sn	10 49 11.5	-4.8
CCIG	**Comitan**	**2.12**	**12**	*i* P	Pn	10 49 00.1	-3.0
CCIG				*i* S	Sn	10 49 25.3	-3.9

IDC 04 10:54:21.1±9.0,5.36S×151.14E,h174km±84km,mb3.8/8, mb1 4.0/9,mb1mx3.5/44,mbtmp4.2/9,MS3.5/2,Ms1 3.5/2, ms1mx2.7/29,Error ellipse: s-maj=40.5km s-min=31.0km az=156.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.39**	**198**	P	P	10 57 50.6	+0.5
	0.4nm,0.3s,baz=20,slow=13,SNR=6.3						
WRA	**Warramunga Arr**	**21.84**	**227**	P	P	10 58 59.5	-0.6
	12nm,0.6s,baz=51,slow=10.0,SNR=94						
WRA				S	S	11 02 58.6	+9.1
	2.0nm,1.0s,baz=48,slow=17,SNR=6.5						
ASAR	**Alice Springs**	**24.64**	**221**	P	P	10 59 26.1	+0.3
	6.3nm,0.7s,baz=55,slow=8.7,SNR=89						
BATI	**Baumata**	**27.63**	**258**	P	P	10 59 51.5	-1.2
	22nm,0.6s,baz=72,slow=20,SNR=2.8						
BATI				LR	LR	11 13 52.4	
	comp=Z,183nm,19.2s,baz=358,slow=42						
FITZ	**Fitzroy Crossi**	**27.94**	**241**	P	P	10 59 55.8	+0.4
	7.1nm,0.6s,baz=59,slow=6.3,SNR=20						
JNU	**Nakatsue**	**42.82**	**335**	LR	LR	11 18 31.9	
	comp=Z,33nm,18.3s,baz=334,slow=34						
CMAR	**Chiang Mai Arr**	**56.62**	**296**	P	P	11 03 47.8	+1.4
	1.2nm,0.6s,baz=124,slow=5.4,SNR=6.8						
ILAR	**Eielson Array**	**83.30**	**22**	P	P	11 06 28.0	0.0
	0.2nm,0.6s,baz=258,slow=5.7,SNR=3.7						
BVAR	**Borovoye Array**	**88.69**	**323**	P	P	11 06 52.8	-1.9
	0.7nm,0.5s,baz=116,slow=9.8,SNR=3.6						
YKA	**Yellowknife Ar**	**96.69**	**28**	P	P	11 07 31.3	+0.1
	0.1nm,0.6s,baz=283,slow=4.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**148.89**	**287**	PKPbc	PKPbc	11 13 48.7	-0.6
	4.1nm,0.9s,baz=62,slow=2.8,SNR=14						

*SOME **04** 10:54:38.9,42.53N×79.70E,h15km*
*KRNET **04** 10:54:39.8±0.1,42.64N×79.87E,mb2.3*

NNC 04 10:54:39.9±1.9,42.59N×79.63E,h0km,mb2.7,mpv2.7, 8C-7D,Error ellipse: s-maj=12.7km s-min=7.7km az=127.0,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.58**	**348**	P	Pg	10 54 51.9	+0.9
	44nm,0.1s						
SHLS				S	Sb	10 55 01.3	-0.5
	32nm,0.2s						
SHLS	**Shalkode**	**0.58**	**348**	*e*P	Pb	10 54 52.1	-0.9
	44nm,0.1s						
SHLS				*e*S	Sb	10 55 01.7	-0.1
	32nm,0.2s						
UZB	**Uzynbulak**	**0.71**	**321**	P	Pg	10 54 52.9	-0.7
	2.7nm,0.1s						
UZB				S	Sg	10 55 02.9	+0.1
	8.5nm,0.1s						
UZB	**Uzynbulak**	**0.71**	**321**	*e*P	Pg	10 54 53.3	-0.3
	2.7nm,0.1s						
UZB				*e*S	Sg	10 55 03.8	+1.0
	8.5nm,0.1s						
PDGK	**Podgornoye**	**0.74**	**352**	P	Pg	10 54 54.1	-0.1
	3.5nm,0.1s						
PDGK				S	Sg	10 55 04.8	+1.0
	7.2nm,0.2s						
PDGK	**Podgornoye**	**0.74**	**352**	⇓P	Pg	10 54 53.8	-0.3
	1.1nm,0.2s						
PDGK				⇓S	Sg	10 55 04.9	+1.1
	5.2nm,0.3s						
PDGK	**Podgornoye**	**0.74**	**352**	⇓*i*P	Pg	10 54 54.1	0.0
	baz=38						
PDGK				⇓*i*S	Sg	10 55 05.1	+1.3
	baz=38						
PRZ	**Przheval'sk**	**0.92**	**264**	⇑*i*P	Pn	10 55 00.1	-0.1
	baz=62						
PRZ				⇑*i*S	Sn	10 55 14.4	+0.2
	baz=62						
DJR	**Jarkent**	**1.74**	**4**	P	Pn	10 55 11.7	+0.2
	1.0nm,0.3s						
DJR				S	Sb	10 55 35.3	0.0
	2.0nm,0.3s						
DJR	**Jarkent**	**1.74**	**4**	*e*P	Pn	10 55 11.7	+0.2
	2.7nm,0.3s						
DJR				*e*S	Sb	10 55 35.3	0.0
	5.1nm,0.2s						
KDJ	**Kajisay**	**1.88**	**257**	⇑*i*P	Pb	10 55 14.3	-0.8
	baz=56						
KDJ				⇑*i*S	Sb	10 55 38.9	-0.3
	baz=56						
MDOK	**Medeo**	**1.98**	**288**	⇑Pg	Pb	10 55 16.1	-0.8
	1.2nm,0.4s						
MDOK				Lg	Lg	10 55 41.7	
	3.5nm,0.5s						
ULHL	**Ulahol**	**2.54**	**263**	⇓*i*P	Pn	10 55 23.5	+1.0
	baz=63						
ULHL				⇓*i*S	Sn	10 55 55.4	+1.2
	baz=63						
KAPS	**Kapalarasan**	**2.70**	**356**	*e*P	Pb	10 55 28.5	-0.6
	0.8nm,0.3s						
KAPS				*e*S	Sb	10 56 04.1	+1.3
	3.5nm,0.6s						
BOOM	**Boomskoye usch**	**2.73**	**269**	⇑*i*P	Pn	10 55 25.8	+0.7
	baz=68						
BOOM				⇑*i*S	Sn	10 55 59.8	+0.8
	baz=68						
TKM2	**Tokmak 2**	**2.99**	**278**	⇓Pg	Pb	10 55 34.8	+0.7
	2.3nm,1.1s						
TKM2				⇑Lg	Lg	10 56 12.1	
	1.4nm,0.6s						

*ISCJB **04** 11:00:26.7±0.4,51.24N±0.06×97.86E±0.05,h10km, mb3.6/10,Error ellipse: s-maj=8.1km s-min=4.6km az=0.1*
*ASRS **04** 11:00:26.4±1.6,51.09N×97.91E,h15km,Ms3.9/2*
*IDC **04** 11:00:27.6±0.8,51.28N×98.07E,h0km,mb3.7/9, mb1 3.8/13,mb1mx3.5/56,mbtmp3.6/13,ML3.1/4,MS2.9/2, Ms1 2.9/2,ms1mx2.5/42,Error ellipse: s-maj=21.7km s-min=14.5km az=4.0*
*MOS **04** 11:00:27.2±1.7,51.16N×97.96E,h13km,mb4.0/4,Error ellipse: s-maj=10.2km s-min=9.3km az=43.8*
*NNC **04** 11:00:52.5±4.0,51.70N×96.50E,h0km,mb4.0,Error ellipse: s-maj=50.6km s-min=38.9km az=167.0*

ISC 04 11:00:28.4±0.5,51.25N±0.05×97.88E±0.04,h10km,n43, σ2.5 45/45,mb3.6/10,11C-4D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNGR	**Kungurtug, Tuv**	**0.69**	**200**	*d* PG	**Pg**	**11 00 38.8**	**-2.8**
ORL	**Orlik**	**1.76**	**42**	*e*PN	**Pn**	**11 00 59.2**	**+0.2**
ORL				*e*		11 01 22.7	
	comp=Z,223nm,0.5s			pmax	pmax		
ORL				smax	smax		
	comp=N,1μm,0.6s						
MOY	**Mondy**	**1.99**	**77**	⇑*i*PN	**Pb**	**11 01 01.9**	**-2.8**
MOY				*e*		11 01 28.4	
MOY				pmax	pmax		
	comp=Z,575nm,0.6s						
MOY				smax	smax		
	comp=N,2μm,0.6s						
KZLR	**Kyzyl**	**2.19**	**283**	*e*Pg	**Pb**	**11 01 07.1**	**-1.0**
KZLR	**Kyzyl**	**2.19**	**283**	*e*PN	**Pb**	**11 01 07.1**	**-1.0**
ARS	**Arshan**	**2.91**	**75**	*e*PN	**Pn**	**11 01 15.7**	**+0.9**
ARS				*e*		11 01 56.5	
ARS				pmax	pmax		
	comp=Z,195nm,0.3s						
ARS				smax	smax		
	comp=E,2μm,0.8s						
ZAK	**Zakamensk**	**3.53**	**102**	*e*PN	**Pn**	**11 01 22.7**	**-0.6**
ZAK				*e*		11 01 28.1	
ZAK				*e*		11 02 14.1	
ZAK				pmax	pmax		
	comp=Z,140nm,0.3s						
ZAK				smax	smax		
	comp=N,801nm,0.9s						
TLY	**Talaya**	**3.63**	**81**	*e*PN	**Pb**	**11 01 31.0**	**-1.6**
TLY				*e*		11 02 18.0	
TLY				pmax	pmax		
	comp=Z,88nm,0.3s						
TLY				smax	smax		
	comp=N,1.0nm,0.5s						
IRK	**Irkutsk**	**4.09**	**73**	*e*PN	**Pb**	**11 01 39.1**	**-1.4**
IRK				*e*		11 02 31.0	
IRK				pmax	pmax		
	comp=Z,131nm,0.2s						
IRK				smax	smax		
	comp=E,1μm,0.4s						
MINR	**Mina**	**4.28**	**330**	*e*Pg	**Pg**	**11 01 48.1**	**-2.1**
TRG	**Tyrgan**	**5.44**	**71**	*e*PN	**Pn**	**11 01 49.7**	**+0.2**
TRG				*e*		11 02 05.5	
TRG				*e*S	**Sn**	**11 02 51.1**	**-1.1**
TRG				*e*		11 03 15.3	
TRG				pmax	pmax		
	comp=Z,30nm,0.5s						
TRG				smax	smax		
	comp=N,295nm,0.9s						
KRAR	**Krasnoyarsk**	**5.62**	**330**	⇑*e*PN	**Pn**	**11 01 51.3**	**-0.6**
TASR	**Tashtagol**	**6.36**	**288**	*e*Pg	Pb	11 02 24.7	+5.6
TASR				*e*Sg	**Sg**	**11 03 46.1**	**-6.2**
TASR	**Tashtagol**	**6.36**	**288**	*e*PN	Pb	11 02 24.7	+5.6
TASR				*e*		11 03 46.1	
SONM	**Songino Array**	**6.51**	**118**	Pn	**Pn**	**11 02 02.8**	**-1.5**
	comp=N,0.3nm,0.3s,baz=299,slow=15,SNR=2.8						
SONM				Pg	**Pb**	**11 02 19.9**	**-1.7**
	comp=N,6.0nm,0.3s,baz=301,slow=18,SNR=111						
SONM				Lg	Lg	11 03 48.8	
	comp=N,9.8nm,0.3s,baz=299,slow=25,SNR=8.9						
SONM				LR	LR	11 04 40.1	
	comp=N,106nm,19.9s,baz=358,slow=39						
ULN	**Ulaanbaatar**	**6.86**	**116**	⇓*e*PN	**Pn**	**11 02 09.3**	**+0.2**
ELT	**Eltsovka**	**7.43**	**290**	*e*Pn	**Pn**	**11 02 14.4**	**-2.3**
ELT				*e*Pg	**Pb**	**11 02 39.4**	**+2.2**
ELT				*e*Sg	**Sg**	**11 04 21.4**	**-5.1**
ELT	**Eltsovka**	**7.43**	**290**	*e*P	**Pn**	**11 02 14.4**	**-2.3**
UKR	**Ust'-Kan**	**8.26**	**273**	*e*Sg	**Sg**	**11 04 45.3**	**-8.0**
ZALV	**Zalesovo Beam**	**8.40**	**294**	Pn	**Pn**	**11 02 34.4**	**+4.3**
	comp=N,0.4nm,0.3s,baz=102,slow=12,SNR=5.3						
ZALV				Pg	**Pb**	**11 02 57.5**	**+3.8**
	comp=N,0.6nm,0.3s,baz=101,slow=15,SNR=7.9						
ZALV				Sn	**Sn**	**11 04 06.2**	**+1.4**
	comp=N,0.8nm,0.3s,baz=111,slow=21,SNR=3.5						
ZALV				Lg	Lg	11 04 49.1	
	comp=N,1.4nm,0.3s,baz=121,slow=24,SNR=5.1						
ZALV				LR	LR	11 05 51.8	
	comp=N,71nm,19.3s,baz=196,slow=38						
NVS	**Novosibirsk**	**9.53**	**298**	*e*Pg	Pn	11 03 21.6	+36
NVS				*e*Sg	Sn	11 05 22.9	+50
MK31	**Makanchi Array**	**11.16**	**253**	⇓Pn	Pn	11 03 24.1	+16
	comp=N,2.5nm,0.8s,baz=72,slow=16,SNR=4.7						
MK31				⇑Lg	Lg	11 06 25.4	
	comp=N,8.6nm,0.8s,baz=63,slow=31,SNR=3.8						
MKAR	**Makanchi Array**	**11.16**	**253**	Pn	**Pn**	**11 03 09.7**	**+1.8**
	comp=N,0.1nm,0.3s,baz=70,slow=14,SNR=5.5						
MKAR				Pg		11 03 54.1	
	comp=N,0.2nm,0.3s,baz=54,slow=14,SNR=4.8						
MKAR				Sn	**Sn**	**11 05 14.7**	**+2.0**
	comp=N,0.2nm,0.3s,baz=50,slow=16,SNR=3.1						
MKAR				Lg	Lg	11 06 21.4	
	comp=N,0.2nm,0.3s,baz=58,slow=38,SNR=4.2						
MAKZ	**Makanchi**	**11.34**	**253**	⇑Pn	Pn	11 03 27.4	+17
	comp=N,5.9nm,1.5s						
MAKZ				⇑Lg	Lg	11 06 31.3	
	comp=N,13nm,0.9s						
KURK	**Kurchatov**	**12.15**	**275**	⇑Pn	Pn	11 03 34.3	+13
	comp=N,2.8nm,0.9s						
KURK				⇑Lg	Lg	11 06 52.4	
	comp=N,13nm,0.8s						
KURK	**Kurchatov**	**12.15**	**275**	⇑*e*P	**Pn**	**11 03 22.2**	**+0.8**
KURBB	**Kurchatov Arra**	**12.22**	**275**	⇑Pn	Pn	11 03 35.2	+13
	comp=N,1.9nm,0.6s						
KURBB				⇑Lg	Lg	11 06 51.7	
	comp=N,34nm,0.9s						
KURBB	**Kurchatov Arra**	**12.22**	**275**	Pn	**Pn**	**11 03 25.0**	**+2.7**
	comp=N,0.0nm,0.3s,baz=81,slow=14,SNR=5.7						
KURBB				Lg	Lg	11 06 53.8	
	comp=N,0.1nm,0.3s,baz=84,slow=33,SNR=8.8						
BVAR	**Borovoye Array**	**16.93**	**287**	P	**P**	**11 04 28.0**	**+0.9**
	comp=N,0.3nm,0.3s,baz=88,slow=11,SNR=10						
BRVK	**Borovoye**	**16.99**	**287**	⇑*e*P	**P**	**11 04 29.2**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,22nm,4.2s						
ARU	**Arti**	**23.53**	**298**	P	**P**	**11 05 39.0**	**+0.7**
ARU						11 06 04.9	
ARU				S	**S**	**11 09 53.0**	**+1.0**
AKTO	**Aktyubinsk**	**24.98**	**284**	P	**P**	**11 05 52.8**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=87,slow=11,SNR=17						
BILL	**Bilibino**	**36.12**	**36**	⇓*e*P	**P**	**11 07 28.1**	**-1.9**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
ARCES	**ARCESS Array B**	**37.34**	**326**	P	**P**	**11 07 42.1**	**+1.7**
	comp=Z,6.0nm,1.0s,baz=74,slow=9.5,SNR=3.8						
BRTR	**Keskin Array B**	**45.11**	**281**	P	**P**	**11 08 47.5**	**+2.7**
	comp=Z,0.5nm,0.8s,baz=29,slow=3.3,SNR=3.3						
NOA	**NORSAR Array B**	**45.79**	**317**	P	**P**	**11 08 50.1**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**45.79**	**317**	P	**P**	**11 08 50.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=60,slow=7.7,SNR=2.7						
ILAR	**

BRRC			*i*			11 23 17.0	
	comp=N,358nm,0.8s						
BRRC			*i*			11 23 20.2	
	comp=Z,47nm,0.3s						
CHIC	**Chingaza**	**1.79**	**222**	*e*P	Pn	11 22 55.9	-0.3
CHIC				*e*S	Sn	11 23 18.3	-1.4
CHIC				*i*		11 23 26.1	
	comp=E,93nm,0.4s						

IDC ***04*** *11:23:57.4±1.0, 10°.16S×161°.06E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/28, mbtmp3.9/10, ML3.9/1, MS3.4/5, Ms1 3.5/5, ms1mx3.0/34, Error ellipse: s-maj=26.8km s-min=19.6km az=164.0*
NEIC ***04*** *11:24:03.7±0.8, 10°.13S×160°.97E, h46km±7km, mb4.4/12, Error ellipse: s-maj=6.9km s-min=6.1km az=68.0*
ISCJB ***04*** *11:24:04.3±0.4, 10°.18S±0°.06×160°.87E±0°.06, h67km, mb4.0/20, Error ellipse: s-maj=9.5km s-min=7.6km az=146.6*

ISC 04 11:24:05.7±0.6, 10°.16S±0°.08×160°.83E±0°.09, h67km, n42, σ1ŝ29/36, mb4.1/20, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.13**	**310**	*i* P	**Pn**	**11 24 23.5**	**-2.1**
HNR				*i* S	**Sn**	**11 24 38.0**	**-2.5**
HNR	**Honiara**	**1.13**	**310**	*e*Pn	**Pn**	**11 24 23.8**	**-1.8**
HNR				*e*Sn	**Sn**	**11 24 39.7**	**-0.8**
HNR	**Honiara**	**1.13**	**310**	Pn	**Pn**	**11 24 24.0**	**-1.6**
	409nm,0.3s,baz=154,slow=4.7,SNR=238						
HNR				Sn	**Sn**	**11 24 40.8**	**+0.2**
	1μm,0.3s,baz=342,slow=19,SNR=19						
RABL	**Rabaul**	**10.44**	**304**	*e*Pn	**Pn**	**11 26 32.2**	**-0.4**
DZM	**Mont Dzumac**	**13.02**	**156**	Pn	**Pn**	**11 27 06.6**	**-1.3**
	0.4nm,0.3s,baz=355,slow=10,SNR=11						
DZM				LR	LR	11 31 12.8	
	comp=Z,61nm,19.1s,baz=5.5,slow=34						
MARNC	**Mare, Loyalty**	**13.22**	**149**	*e*Pn	**Pn**	**11 27 07.6**	**-2.8**
CTA	**Charters Tower**	**17.17**	**233**	P	**P**	**11 28 02.9**	**+0.9**
	0.3nm,0.3s,baz=66,slow=15,SNR=4.7						
CTAO	**Charters Tower**	**17.17**	**233**	*e*Pn	**P**	**11 28 02.2**	**+0.2**
	15nm,1.1s						
WRAB	**Tennant Creek**	**27.31**	**246**	*e*P	**P**	**11 29 46.2**	**+1.8**
	15nm,1.4s						
WB2	**Warramunga Arr**	**27.32**	**246**	*e*P	**P**	**11 29 45.4**	**+1.0**
	10nm,0.9s						
WR1	**Warramunga Arr**	**27.33**	**246**	*e*P	**P**	**11 29 46.3**	**+1.8**
	4.1nm,0.9s						
WRA	**Warramunga Arr**	**27.33**	**246**	P	**P**	**11 29 46.3**	**+1.8**
	0.8nm,0.5s,baz=78,slow=8.9,SNR=12						
GUMO	**Guam**	**28.41**	**326**	LR	LR	11 40 41.9	
	comp=Z,50nm,21.2s,baz=144,slow=35						
AS31	**Alice Springs**	**28.98**	**239**	*e*P	**P**	**11 29 59.9**	**+0.7**
	1.0nm,1.1s						
ASAR	**Alice Springs**	**28.98**	**239**	P	**P**	**11 29 59.9**	**+0.7**
	0.5nm,0.5s,baz=66,slow=10,SNR=8.2						
ASAR				LR	LR	11 41 33.5	
	comp=Z,118nm,18.1s,baz=81,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.05**	**12**	T	T	11 58 59.1	
	baz=194,slow=75,SNR=10						
H11S3	**WAKE ISLAND Hy**	**29.05**	**12**	T	T	11 58 52.0	
	baz=194,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.07**	**12**	T	T	11 59 05.4	
	baz=194,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**30.28**	**11**	T	T	12 00 34.7	
	baz=193,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy**	**30.29**	**11**	T	T	12 00 28.3	
	baz=193,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**30.30**	**11**	T	T	12 00 49.2	
	baz=193,slow=76,SNR=25						
BBOO	**Buckleboo**	**32.08**	**222**	*e*P	**P**	**11 30 26.9**	**+0.5**
	11nm,1.3s						
BKZ	**Black Stump Fm**	**32.10**	**157**	*e*P	**P**	**11 30 26.0**	**-0.5**
	50nm,1.5s						
FITZ	**Fitzroy Crossi**	**34.97**	**253**	*e*P	**P**	**11 30 52.0**	**+0.3**
	13nm,1.3s						
USRK	**Ussuriysk Ar.**	**60.09**	**336**	P	**P**	**11 34 07.0**	**+1.0**
	1.9nm,0.8s,baz=90,slow=8.0,SNR=4.5						
VNDA	**Vanda**	**67.35**	**180**	*e*P	**P**	**11 34 53.8**	**+0.6**
	4.3nm,1.6s						
SONA0	**Songino Array**	**75.14**	**325**	*e*P	**P**	**11 35 42.4**	**+1.6**
SONM	**Songino Array**	**75.14**	**325**	P	**P**	**11 35 42.4**	**+1.6**
	0.8nm,0.7s,baz=143,slow=6.0,SNR=5.8						
QSPA	**South Pole Qui**	**79.84**	**180**	*e*P	**P**	**11 36 06.9**	**+0.1**
	22nm,1.6s						
PALK	**Pallekele**	**81.63**	**279**	LR	LR	12 17 42.1	
	comp=Z,28nm,20.9s,baz=297,slow=39						
CAST	**Castle Rocks**	**81.66**	**19**	*e*P	**P**	**11 36 15.6**	**-0.7**
	5.1nm,1.1s						
IM3	**Indian Mountai**	**82.94**	**17**	*e*P	**P**	**11 36 22.7**	**-0.2**
MLY	**Manley**	**83.19**	**19**	*e*P	**P**	**11 36 23.9**	**-0.3**
	6.8nm,1.5s						
IL1	**Eielson Array**	**84.27**	**20**	*e*P	**P**	**11 36 29.5**	**-0.2**
ILAR	**Eielson Array**	**84.27**	**20**	P	**P**	**11 36 29.6**	**-0.2**
	0.4nm,0.4s,baz=242,slow=5.1,SNR=9.5						
ILB	**Eielson Array**	**84.27**	**20**	*e*P	**P**	**11 36 29.6**	**-0.2**
	2.9nm,1.2s						
NVAR	**Mina Array Bea**	**89.18**	**51**	P	**P**	**11 36 56.5**	**+1.9**
	0.7nm,0.7s,baz=232,slow=7.9,SNR=5.5						
MK32	**Makanchi Array**	**89.59**	**318**	*e*P	**P**	**11 36 57.0**	**+1.0**
MKAR	**Makanchi Array**	**89.59**	**318**	P	**P**	**11 36 57.0**	**+1.0**
	0.2nm,0.5s,baz=97,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**11 37 26.2**	**-0.9**
	0.2nm,0.6s,baz=259,slow=4.5,SNR=5.0						
PDAR	**Pinedale Array**	**96.53**	**48**	P	**P**	**11 37 28.8**	**+0.4**
	0.1nm,0.5s,baz=232,slow=4.4,SNR=2.3						
TXAR	**Lajitas Array**	**99.67**	**62**	LR	LR	12 15 33.8	
	comp=Z,45nm,20.0s,baz=0.0,slow=31						

NEIC ***04*** *11:50:17.8±0.0, 18°.79N×68°.87W, h108km, MD3.4(RSPR), After RSPR.*

RSPR 04 11:50:17.8, 18°.79N×68°.87W, h108km±3km, MD3.4/6, 3C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.48**	**269**	⇓*e*P	Pn	11 50 33.3	-1.0
DR12				*e*S	Sn	11 50 46.6	-0.1
DR12	**Loma Pena Alta**	**0.48**	**269**	*e*Pn	Pn	11 50 33.3	-1.0
DR12				*e*Sn	Sn	11 50 46.6	-0.1
BANI	**BANI**	**1.47**	**254**	*e*Pn	Pn	11 50 43.5	-0.7
BANI				*e*Sn	Sn	11 51 04.5	+0.4
AGP	**Aguadilla**	**1.69**	**103**	*e*Pn	Pn	11 50 46.4	-0.3
AGP				*e*Sn	Sn	11 51 08.6	-0.1
LSP	**Las Mesas**	**1.80**	**110**	⇑*e*P	Pn	11 50 48.0	-0.2
LSP	**Las Mesas**	**1.80**	**110**	*e*S	Sn	11 51 11.5	+0.1
LSP	**Las Mesas**	**1.80**	**110**	*e*Pn	Pn	11 50 48.0	-0.2
LSP				*e*Sn	Sn	11 51 11.5	+0.1
EMPR	**Esperanza - Ma**	**2.24**	**98**	⇑*e*P	Pn	11 50 54.2	+0.5
EMPR	**Esperanza - Ma**	**2.24**	**98**	*e*S	Sn	11 51 20.9	-0.5
EMPR	**Esperanza - Ma**	**2.24**	**98**	*e*Pn	Pn	11 50 54.2	+0.5
EMPR				*e*Sn	Sn	11 51 20.9	-0.5
CELP	**Cerrillos**	**2.29**	**108**	⇑*e*P	Pn	11 50 54.7	+0.3
CELP				*e*S	Sn	11 51 23.0	+0.5
CELP	**Cerrillos**	**2.29**	**108**	*e*Pn	Pn	11 50 54.7	+0.3
CELP				*e*Sn	Sn	11 51 23.0	+0.5
SDDR	**Presa de Saban**	**2.29**	**275**	*e*Pn	Pn	11 50 55.0	+0.5
SDDR				*e*Sn	Sn	11 51 23.7	+1.0
MTP	**Monte Pirata**	**3.23**	**102**	⇓*e*P	Pn	11 51 06.6	-0.1
MTP	**Monte Pirata**	**3.23**	**102**	*e*Pn	Pn	11 51 06.6	-0.1

IDC 04 12:02:02.0±3.6, 9°.97S×66°.40E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/40, mbtmp3.7/5, Error ellipse: s-maj=94.0km s-min=50.4km az=179.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N3	**Diego Garcia H**	**5.80**	**52**	T	T	12 09 26.5	
	baz=228,slow=75,SNR=162						
H08N1	**Diego Garcia H**	**5.82**	**52**	T	T	12 09 26.7	
	baz=228,slow=75,SNR=168						
H08N2	**Diego Garcia H**	**5.82**	**52**	T	T	12 09 23.2	
	baz=228,slow=75,SNR=341						
H08S1	**Diego Garcia H**	**6.43**	**69**	T	T	12 10 10.5	
	baz=246,slow=75,SNR=46						
H08S3	**Diego Garcia H**	**6.44**	**69**	T	T	12 10 12.0	
	baz=246,slow=75,SNR=47						
H08S2	**Diego Garcia H**	**6.45**	**69**	T	T	12 10 14.7	
	baz=246,slow=75,SNR=67						
CMAR	**Chiang Mai Arr**	**42.77**	**49**	P	P	12 10 02.1	+0.5
	0.5nm,0.5s,baz=240,slow=9.1,SNR=4.8						
H01W3	**Cape Leeuwin H**	**50.01**	**127**	T	T	13 04 38.6	
	baz=288,slow=75,SNR=8.0						
H01W2	**Cape Leeuwin H**	**50.01**	**127**	T	T	13 04 13.8	
	baz=288,slow=75,SNR=9.0						
H01W1	**Cape Leeuwin H**	**50.03**	**127**	T	T	13 04 43.9	
	baz=288,slow=75,SNR=7.1						
MMAI	**Mount Meron Ar**	**51.97**	**327**	P	P	12 11 13.6	+0.5
	1.0nm,0.3s,baz=152,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**58.27**	**13**	P	P	12 11 58.3	-0.1
	0.2nm,0.7s,baz=212,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**65.56**	**12**	P	P	12 12 46.6	-0.7
	0.5nm,0.4s,baz=235,slow=5.1,SNR=3.7						
SONM	**Songino Array**	**67.58**	**28**	P	P	12 13 00.4	-0.2
	0.5nm,0.8s,baz=228,slow=4.9,SNR=5.1						
NVAR	**Mina Array Bea**	**151.35**	**8**	PKPbc	PKPbc	12 21 58.1	-0.3
	0.4nm,0.8s,baz=344,slow=2.9,SNR=3.2						

SOME ***04*** *12:07:06.4, 42°.55N×79°.58E, h10km*
NNC ***04*** *12:07:06.5±0.7, 42°.57N×79°.58E, h0km, mb3.2, mpv3.1, Error ellipse: s-maj=4.7km s-min=2.6km az=140.0*
KRNET ***04*** *12:07:07.6±0.1, 42°.58N×79°.62E, h18km, mb3.0*

ISC 04 12:07:06.4±1.2, 42°.54N±0°.04×79°.59E±0°.03, h10km, n51, σ1ŝ11/90, 12C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.62**	**351**	P	**Pb**	**12 07 19.3**	**-0.1**
	66nm,0.1s						
SHLS				S	**Sb**	**12 07 28.6**	**+0.2**
	336nm,0.2s						
SHLS	**Shalkode**	**0.62**	**351**	*e*P	**Pb**	**12 07 19.3**	**-0.1**
	baz=18						
SHLS				*e*S	**Sb**	**12 07 28.5**	**+0.2**
	baz=18						
SHLS	**Shalkode**	**0.62**	**351**	*e*P	**Pb**	**12 07 19.3**	**-0.1**
	66nm,0.1s						
SHLS				*e*S	**Sb**	**12 07 28.6**	**+0.2**
	336nm,0.2s						
UZB	**Uzynbulak**	**0.74**	**326**	P	**Pg**	**12 07 20.4**	**-0.2**
	24nm,0.1s						
UZB				S	**Sb**	**12 07 30.8**	**-0.8**
	38nm,0.2s						
UZB	**Uzynbulak**	**0.74**	**326**	*e*P	**Pg**	**12 07 20.4**	**-0.2**
	baz=23						
UZB				*e*S	**Sb**	**12 07 30.8**	**-0.8**
	baz=23						
UZB	**Uzynbulak**	**0.74**	**326**	*e*P	**Pg**	**12 07 20.4**	**-0.2**
	24nm,0.1s						
UZB				*e*S	**Sb**	**12 07 30.8**	**-0.8**
	38nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**355**	P	**Pg**	**12 07 21.2**	**-0.5**
	11nm,0.2s						
PDGK				S	**Sb**	**12 07 32.0**	**-1.2**
	14nm,0.2s						
PDGK	**Podgornoye**	**0.79**	**355**	⇓P	**Pg**	**12 07 21.1**	**-0.5**
	3.5nm,0.2s						
PDGK				⇓S	**Sb**	**12 07 32.0**	**-1.2**
	13nm,0.4s						
PDGK	**Podgornoye**	**0.79**	**355**	⇑*i*P	**Pg**	**12 07 21.2**	**-0.5**
	baz=52						
PDGK				⇑*i*S	**Sb**	**12 07 32.0**	**-1.2**
	baz=52						
PRZ	**Przheval'sk**	**0.88**	**267**	⇑*i*P	**Pb**	**12 07 23.8**	**-0.1**
	baz=64						
PRZ				⇑*i*S	**Sb**	**12 07 36.3**	**+0.5**
	baz=64						
KTMS	**Ketmen**	**1.06**	**31**	P	**Pg**	**12 07 26.2**	**-0.7**
	3.7nm,0.1s						
KTMS				S	**Sg**	**12 07 39.6**	**-1.1**
	14nm,0.1s						
KTMS	**Ketmen**	**1.06**	**31**	*e*P	**Pg**	**12 07 26.2**	**-0.7**
	baz=31						
KTMS				*e*S	**Sg**	**12 07 39.6**	**-1.1**
	baz=31						
KTMS	**Ketmen**	**1.06**	**31**	*e*P	**Pg**	**12 07 26.2**	**-0.7**
	3.7nm,0.1s						
KTMS				*e*S	**Sg**	**12 07 39.6**	**-1.1**
	14nm,0.1s						
KURS	**Kuram**	**1.41**	**313**	P	**Pg**	**12 07 32.9**	**-0.5**
	2.8nm,0.3s						
KURS				S	**Sg**	**12 07 51.6**	**0.0**
	5.6nm,0.2s						
KURS	**Kuram**	**1.41**	**313**	*e*P	**Pg**	**12 07 32.9**	**-0.5**
	baz=11						
KURS				*e*S	**Sg**	**12 07 51.6**	**0.0**
	baz=11						
KURS	**Kuram**	**1.41**	**313**	*e*P	**Pg**	**12 07 32.9**	**-0.5**
	2.8nm,0.3s						
KURS				*e*S	**Sg**	**12 07 51.6**	**0.0**
	5.6nm,0.2s						
MNBS	**Baschi**	**1.77**	**331**	*e*P	**Pb**	**12 07 38.8**	**-0.1**
	5.0nm,0.1s						
MNBS				*e*S	**Sg**	**12 08 02.7**	**-0.5**
	15nm,0.3s						
DJR	**Jarkent**	**1.80**	**5**	P	**Pb**	**12 07 38.9**	**-0.5**
	2.6nm,0.2s						
DJR				S	**Sg**	**12 08 03.0**	**-1.2**
	5.3nm,0.2s						
DJR	**Jarkent**	**1.80**	**5**	*e*P	**Pb**	**12 07 38.9**	**-0.5**
	2.6nm,0.2s						
DJR				*e*S	**Sg**	**12 08 03.0**	**-1.2**
	5.3nm,0.2s						
KDJ	**Kajisay**	**1.83**	**258**	⇓*i*P	**Pg**	**12 07 41.1**	**-0.4**
	baz=57						
KDJ				⇓*i*S	**Sg**	**12 08 05.8**	**+0.5**
	baz=57						
KOTS	**Kotyrbulak**	**1.95**	**292**	Pg	**Pb**	**12 07 42.6**	**+0.5**
	3.8nm,0.1s						
KOTS				Lg	Lg	12 08 09.4	
	38nm,0.5s						
KOTS	**Kotyrbulak**	**1.95**	**292**	*e*P	**Pb**	**12 07 42.6**	**+0.5**
	baz=90						
KOTS				*e*S	**Sg**	**12 08 09.4**	**+0.4**
	baz=90						
KOTS	**Kotyrbulak**	**1.95**	**292**	*e*P	**Pb**	**12 07 42.6**	**+0.5**
	3.8nm,0.1s						
KOTS				*e*S	**Sg**	**12 08 09.4**	**+0.4**
	38nm,0.5s						
MDOK	**Medeo**	**1.97**	**289**	⇑Pg	**Pb**	**12 07 42.5**	**+0.1**
	2.5nm,0.5s						
MDOK				Lg	Lg	12 08 09.0	
	11nm,0.5s						
MDOK	**Medeo**	**1.97**	**289**	Pg	**Pb**	**12 07 43.0**	**+0.6**
	3.8nm,0.5s						
MDOK				Lg	Lg	12 08 09.0	
	16nm,0.5s						
MDOK	**Medeo**	**1.97**	**289**	*e*P	**Pb**	**12 07 43.0**	**+0.6**
	baz=88						
MDOK				*e*S	**Sg**	**12 08 09.1**	**-0.6**
	baz=88						
MDOK	**Medeo**	**1.97**	**289**	*e*P	**Pb**	**12 07 43.0**	**+0.6**
	3.8nm,0.5s						
MDOK				*e*S	**Sg**	**12 08 09.0**	**-0.6**
	16nm,0.5s						
TNSS	**Tian-Shan**	**2.01**	**285**	Pg	**Pb**	**12 07 42.9**	**-0.3**
	2.8nm,0.2s						
TNSS				Lg	Lg	12 08 09.7	
	13nm,0.2s						
TNSS	**Tian-Shan**	**2.01**	**285**	*e*P	**Pb**	**12 07 42.9**	**-0.3**
	baz=84						
TNSS				*e*S	**Sg**	**12 08 09.7**	**-1.2**
	baz=84						
TNSS	**Tian-Shan**	**2.01**	**285**	*e*P	**Pb**	**12 07 42.9**	**-0.3**
	2.8nm,0.2s						
TNSS				*e*S	**Sg**	**12 08 09.7**	**-1.2**
	13nm,0.2s						
ARXS	**Arharly**	**2.11**	**323**	Pg	**Pb**	**12 07 44.3**	**-0.5**
	5.5nm,0.4s						
ARXS				Lg	Lg	12 08 12.7	
	19nm,0.4s						
ARXS	**Arharly**	**2.11**	**323**	*e*P	**Pb**	**12 07 44.4**	**-0.3**
	5.5nm,0.4s						
ARXS				*e*S	**Sg**	**12 08 12.0**	**-2.1**
	19nm,0.4s						
IZV	**Izvestkoviy**	**2.25**	**284**	Pg	**Pb**	**12 07 47.5**	**+0.4**
	186nm,0.3s						
IZV				Lg	Lg	12 08 16.8	
	30nm,0.3s						
IZV	**Izvestkoviy**	**2.25**	**284**	*e*P	**Pb**	**12 07 47.5**	**+0.4**
	baz=83						
IZV				*e*S	**Sg**	**12 08 16.8**	**-1.8**
	baz=83						
IZV	**Izvestkoviy**	**2.25**	**284**	*e*P	**Pb**	**12 07 47.5**	**+0.4**
	4.7nm,0.2s						
IZV				*e*S	**Sg**	**12 08 16.8**	**-1.8**
	30nm,0.3s						
CHKK	**Chushkaly**	**2.31**	**305**	Pg	**Pb**	**12 07 48.5**	**+0.4**
	2.0nm,0.1s						
CHKK				Lg	Lg	12 08 18.7	
	23nm,0.2s						
CHKK	**Chushkaly**	**2.31**	**305**	*e*P	**Pb**	**12 07 48.5**	**+0.4**
	2.0nm,0.1s						
CHKK				*e*S	**Sg**	**12 08 18.7**	**-1.9**
	23nm,0.2s						
KTBS	**Karatobe**	**2.43**	**300**	Pg	**Pb**	**12 07 50.7**	**+0.5**
	2.0nm,0.2s						
KTBS				Lg	Lg	12 08 22.1	
	22nm,0.3s						
KTBS	**Karatobe**	**2.43**	**300**	*e*P	**Pb**	**12 07 50.7**	**+0.5**
	baz=98						
KTBS				*e*S	**Sg**	**12 08 22.1**	**-2.3**
	baz=98						
KTBS	**Karatobe**	**2.43**	**300**	*e*P	**Pb**	**12 07 50.7**	**+0.5**
	2.0nm,0.2s						
KTBS				*e*S	**Sg**	**12 08 22.1**	**-2.3**
	22nm,0.3s						
ULHL	**Ulahol**	**2.50**	**264**	⇓*i*P	**Pb**	**12 07 50.7**	**-0.7**
	baz=64						
ULHL				⇓*i*S	**Sb**	**12 08 23.0**	**+0.7**
	baz=64						
BOOM	**Boomskoye usch**	**2.70**	**270**	⇓*i*P	**Pb**	**12 07 53.3**	**-1.5**
	baz=69						
BOOM				⇓*i*S	**Sb**	**12 08 27.2**	**-0.9**
	baz=69						
KST	**Kastek**	**2.72**	**282**	Pg	**Pb**	**12 07 55.7**	**+0.6**
	4.3nm,0.1s						
KST				Lg	Lg	12 08 30.7	
	11nm,0.5s						
KST	**Kastek**	**2.72**	**282**	*e*P	**Pb**	**12 07 55.7**	**+0.6**
	4.3nm,0.1s						
KST				*e*S	**Sb**	**12 08 30.7**	**+2.1**
	11nm,0.5s						
KAPS	**Kapalarasan**	**2.75**	**357**	Pg	**Pb**	**12 07 55.6**	**-0.1**
	1.4nm,0.4s						
KAPS				Lg	Lg	12 08 31.7	
	2.9nm,0.3s						
KAPS	**Kapalarasan**	**2.75**	**357**	*e*P	**Pb**	**12 07 55.6**	**-0.1**
	1.4nm,0.4s						
KAPS				*e*S	**Sg**	**12 08 31.7**	**-2.9**
	2.9nm,0.3s						
TKM2	**Tokmak 2**	**2.97**	**279**	⇑Pg	**Pb**	**12 07 59.3**	**-0.1**
	2.0nm,0.8s						
TKM2				⇑Lg	Lg	12 08 38.4	
	5.2nm,0.5s						
TKM2	**Tokmak 2**	**2.97**	**279**	⇑*i*P	**Pb**	**12 07 57.1**	**-2.3**
	baz=78						
TKM2				⇑*i*S	**Sb**	**12 08 34.0**	**-1.8**
	baz=78						
KZA	**Kyzart**	**3.25**	**263**	⇓*i*P	**Pb**	**12 08 01.6**	**-2.8**
	baz=63						
KZA				⇓*i*S	**Sb**	**12 08 41.3**	**-2.9**
	baz=63						
AAK	**Ala-Archa**	**3.76**	**273**	⇑Pg	**Pb**	**12 08 14.0**	**+1.0**
	1.6nm,0.8s						
AAK				⇓Lg	Lg	12 09 03.4	
	4.9nm,1.0s						
MK31	**Makanchi Array**	**4.67**	**23**	⇑Pn	**Pn**	**12 08 19.3**	**+2.3**
	0.1nm,0.2s,baz=206,slow=14,SNR=5.5						
MK31				Sn	**Sn**	**12 09 14.0**	**+2.9**
	0.2nm,0.3s,baz=223,slow=19,SNR=4.8						
MK31				⇑Lg	Lg	12 09 31.6	
	0.5nm,0.6s,baz=211,slow=31						

IDC 04 12:17:58.0±2.6, 6°.78S×128°.42E, h0km, mb4.0/1, mb1 3.5/3, mb1mx3.2/37, mbtmp3.4/3, ML3.3/2, Error ellipse: s-maj=301.4km s-min=30.5km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.29**	**157**	Pn	Pn	12 21 20.7	-1.1
	0.2nm,0.3s,baz=334,slow=14,SNR=14						
WRA				Sn	Sn	12 23 49.2	-12
	0.4nm,0.3s,baz=334,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**17.60**	**163**	P	P	12 22 05.7	-0.3
	0.1nm,0.3s,baz=344,slow=9.0,SNR=9.2						
ASAR				S	Sn	12 25 13.0	-8.7
	0.1nm,0.3s,baz=332,slow=13,SNR=5.6						
MKAR	**Makanchi Array**	**67.19**	**327**	P	P	12 28 54.0	0.0
	0.7nm,0.5s,baz=121,slow=7.6,SNR=11						

IDC ***04*** *12:18:04.9±2.5, 41°.02N×48°.96E, h0km, mb3.5/5, mb1 3.7/8, mb1mx3.4/45, mbtmp3.6/8, ML3.6/3, MS2.5/1, Ms1 2.5/1, ms1mx2.0/40, Error ellipse: s-maj=44.2km s-min=13.5km az=5.0*
DRS ***04*** *12:18:08.9±0.0, 41°.53N×49°.33E, h14km*
ISCJB ***04*** *12:18:10.4±0.3, 41°.52N±0°.02×49°.17E±0°.03, h10km, mb3.4/5, Error ellipse: s-maj=3.0km s-min=2.1km az=147.5*
AZER ***04*** *12:18:11.8±1.1, 41°.41N×49°.09E, h42km, ml3.5/27, Error ellipse: s-maj=2.3km s-min=0.9km az=231.0*
MOS ***04*** *12:18:12.7±0.0, 41°.32N×48°.99E, h19km, MPVA4.4*
NORS ***04*** *12:18:14.0±0.0, 41°.52N×48°.88E, h3km, MPVA4.3*
MOS ***04*** *12:18:14.0±2.9, 41°.53N×48°.88E, h3km, mb4.0/2, Error ellipse: s-maj=8.6km s-min=5.1km az=42.7*

ISC 04 12:18:10.5±0.6, 41°.42N±0°.02×49°.15E±0°.03, h10km, n95, σ2ŝ21/155, mb3.4/5, 37C-28D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**0.39**	**209**	⇑P	**Pn**	**12 18 22.4**	**+0.1**
	SNR=193						
SIZA				⇑S	**Sb**	**12 18 29.8**	**+4.1**
QUBA	**Quba, Azerbaij**	**0.50**	**263**	⇓P	**Pn**	**12 18 25.0**	**+1.2**
	SNR=27						
QUBA				⇓S	**Sb**	**12 18 33.4**	**+4.6**
ATGJ	**Altiaghaj**	**0.58**	**196**	⇑P	**Pn**	**12 18 25.0**	**+0.1**
	SNR=377						
ATGJ				⇑S	**Sb**	**12 18 34.0**	**+2.9**
QSAR	**Qusar**	**0.68**	**279**	⇑P	**Pn**	**12 18 27.7**	**+1.5**
	SNR=40						
QSAR				⇑S	**Sn**	**12 18 38.3**	**+1.5**
PQL	**Pirkuli**	**0.76**	**214**	⇓P	**Pn**	**12 18 27.7**	**+0.3**
	SNR=200						
PQL				⇑S	**Sn**	**12 18 38.8**	**-0.1**
KSMR	**Kasumkent**	**0.79**	**284**	*i* PG	**Pn**	**12 18 28.0**	**+0.2**
KSMR				pmax	pmax		
	comp=Z,503nm,0.2s						
KSMR	**Kasumkent**	**0.79**	**284**	*i*

SGKR				*e*Sg		**Sg**	**12 19 03.0**	**+3.4**
ZRD	**Zardab**	**1.59**	**225**	⇑Pn		**Pn**	**12 18 38.4**	**-0.3**
ZRD				⇑Sn		**Sn**	**12 18 58.8**	**-0.5**
MNGR	**Mingechevir, A**	**1.69**	**248**	⇓Pn		**Pn**	**12 18 40.0**	**0.0**
MNGR				⇑Sg		**Sg**	**12 19 06.0**	**+1.2**
KMKR	**Kumukh**	**1.69**	**296**	*i* PG		**Pg**	**12 18 44.0**	**+1.0**
KMKR				*e*S		**Sg**	**12 19 07.0**	**+2.0**
KMKR				pmax	pmax			
	comp=Z,70nm,0.2s							
KMKR	**Kumukh**	**1.69**	**296**	*i* Pg		**Pg**	**12 18 44.0**	**+1.0**
KMKR				*e*Sg		**Sg**	**12 19 07.0**	**+2.0**
BRDA	**Brd**	**1.89**	**233**	⇑Pn		**Pn**	**12 18 42.4**	**-0.4**
BRDA				⇓Sn		**Sn**	**12 19 06.8**	**+0.1**
GNBR	**Gunib**	**1.90**	**301**	⇑*e*PN		**Pg**	**12 18 46.9**	**-0.1**
GNBR				*e*			12 19 15.7	
GNBR				pmax	pmax			
	comp=Z,159nm,0.6s							
GNBR				smax	smax			
	comp=N,512nm,0.8s							
GNBR	**Gunib**	**1.90**	**301**	*e*Pg		**Pg**	**12 18 46.8**	**-0.1**
GNBR				*e*Sg		**Sg**	**12 19 09.9**	**-1.7**
ZKTA	**Zakatala**	**1.91**	**277**	PN		**Pb**	**12 18 44.8**	**-0.7**
ZKTA	**Zakatala**	**1.91**	**277**	⇑Pg		**Pb**	**12 18 44.8**	**-0.7**
	SNR=6.6							
ZKTA				⇓Sn		**Sn**	**12 19 07.6**	**+0.2**
MAK	**Makhachkala**	**1.97**	**322**	*e*PN		**Pb**	**12 18 45.8**	**-0.6**
MAK				*e*			12 19 14.9	
MAK				pmax	pmax			
	comp=Z,153nm,0.2s							
MAK	**Makhachkala**	**1.97**	**322**	*e*Pg		**Pg**	**12 18 48.1**	**-0.1**
MAK				*e*Sg		**Sg**	**12 19 16.9**	**+3.1**
ARKR	**Arakani**	**2.00**	**307**	*e*PN		**Pg**	**12 18 48.8**	**0.0**
ARKR				*e*S		**Sg**	**12 19 19.5**	**+4.8**
ARKR				pmax	pmax			
	comp=Z,119nm,0.2s							
ARKR	**Arakani**	**2.00**	**307**	*e*Pg		**Pg**	**12 18 48.8**	**0.0**
ARKR				*e*Sg		**Sg**	**12 19 19.5**	**+4.8**
BUJR	**Buynaksk**	**2.07**	**313**	*e*PN		**Pg**	**12 18 51.5**	**+1.3**
BUJR				*e*S		**Sg**	**12 19 19.0**	**+1.9**
BUJR				pmax	pmax			
	comp=Z,68nm,0.2s							
BUJR	**Buynaksk**	**2.07**	**313**	*e*Pg		**Pg**	**12 18 51.5**	**+1.3**
BUJR				*e*Sg		**Sg**	**12 19 19.0**	**+1.9**
XNZR	**Khunzakh**	**2.14**	**302**	*e*Pg		**Pb**	**12 18 50.0**	**+0.5**
XNZR				*e*Sg		**Sg**	**12 19 18.0**	**-1.4**
UNCR	**Uncukul**	**2.18**	**307**	*e*PN		**Pg**	**12 18 51.0**	**-1.3**
UNCR				*e*S		**Sg**	**12 19 22.0**	**+1.4**
UNCR				pmax	pmax			
	comp=Z,68nm,0.3s							
UNCR	**Uncukul**	**2.18**	**307**	*e*Pg		**Pg**	**12 18 51.0**	**-1.3**
UNCR				*e*Sg		**Sg**	**12 19 22.0**	**+1.4**
KRNR	**Karanay**	**2.19**	**311**	*e*PN		**Pg**	**12 18 51.5**	**-0.9**
KRNR				*e*S		**Sg**	**12 19 21.0**	**+0.3**
KRNR				pmax	pmax			
	comp=Z,41nm,0.2s							
KRNR	**Karanay**	**2.19**	**311**	*e*Pg		**Pg**	**12 18 51.5**	**-0.9**
KRNR				*e*Sg		**Sg**	**12 19 21.0**	**+0.3**
GLBA	**Clilabad**	**2.25**	**195**	⇓Pn		**Pn**	**12 18 46.5**	**-1.2**
	SNR=3.1							
GLBA				⇑Sn		**Sn**	**12 19 11.6**	**-4.0**
GANJ	**Ganja**	**2.28**	**251**	PN		**Pn**	**12 18 47.5**	**-0.6**
GANJ	**Ganja**	**2.28**	**251**	⇑Pn		**Pn**	**12 18 47.6**	**-0.6**
	SNR=16							
GANJ				⇑Sn		**Sn**	**12 19 12.8**	**-3.4**
DDFL	**Dedoflistskaro**	**2.28**	**272**	P		**Pg**	**12 18 54.4**	**+0.1**
DDFL				S		**Sg**	**12 19 31.0**	**+7.2**
DBC	**Dubki**	**2.35**	**314**	⇑*e*PN		**Pb**	**12 18 53.4**	**+0.4**
DBC				*e*			12 19 27.4	
DBC	**Dubki**	**2.35**	**314**	*e*Pn		**Pb**	**12 18 53.0**	**0.0**
DBC				*e*Sn		**Sb**	**12 19 22.9**	**+0.7**
BTLR	**Botlikh**	**2.51**	**301**	⇑*e*PN		**Pg**	**12 18 58.1**	**-0.5**
BTLR				*e*			12 19 31.6	
BTLR				pmax	pmax			
	comp=Z,55nm,0.5s							
BTLR				smax	smax			
	comp=N,168nm,0.9s							
BTLR	**Botlikh**	**2.51**	**301**	*e*Pn		**Pg**	**12 18 58.2**	**-0.5**
BTLR				*e*Sn		**Sg**	**12 19 31.6**	**+0.4**
GDB	**GEDABAY**	**2.66**	**256**	⇑Pn		**Pn**	**12 18 52.8**	**-0.8**
	SNR=3.9							
GDB				⇓Sn		**Sn**	**12 19 21.6**	**-4.4**
LKRN	**Lenkeran, Azer**	**2.72**	**186**	⇑Sn		**Sn**	**12 19 22.4**	**-4.7**
DVE	**Vedeno**	**2.73**	**305**	*e*PN		**Pg**	**12 19 01.3**	**-1.4**
DVE				*e*S		**Sg**	**12 19 35.5**	**-2.5**
DVE	**Vedeno**	**2.73**	**305**	*e*Pn		**Pb**	**12 18 58.0**	**-1.3**
DVE				*e*Sn		**Sb**	**12 19 30.6**	**-2.2**
LRK	**Lerik**	**2.84**	**193**	⇓Pn		**Pn**	**12 18 57.3**	**+1.2**
LRK				⇑Sn		**Sn**	**12 19 25.1**	**-5.3**
ASTR	**Astara**	**2.87**	**186**	⇑Sn		**Sn**	**12 19 25.2**	**-5.6**
QZX	**Qazax, Azerbai**	**2.87**	**264**	⇓Pn		**Pn**	**12 18 56.1**	**-0.3**
	SNR=18							
QZX				⇑Sn		**Sn**	**12 19 27.9**	**-3.2**
GROC	**Groznyy**	**3.06**	**307**	*e*PN		**Pn**	**12 18 59.0**	**+0.1**
GROC				*e*			12 19 40.3	
GROC				pmax	pmax			
	comp=Z,36nm,0.5s							
GROC				smax	smax			
	comp=N,213nm,0.8s							
GROC				smax	smax			
	comp=N,418nm,0.8s							
BTNK	**Botanikuri**	**3.28**	**276**	P		**Pg**	**12 19 12.3**	**-1.0**
BTNK				S		**Sn**	**12 19 39.6**	**-1.5**
ORD	**Ordubad**	**3.47**	**225**	⇓Pn		**Pn**	**12 19 03.8**	**-0.8**
ORD				⇓Sn		**Sn**	**12 19 42.7**	**-3.2**
GNI	**Garni**	**3.58**	**251**	⇓*e*PN		**Pn**	**12 19 08.4**	**+2.2**
GNI	**Garni**	**3.58**	**251**	Pg		**Pb**	**12 19 16.3**	**+2.3**
	comp=N,1.5nm,0.3s,baz=0.0,slow=10,SNR=2.6							
GNI	**Garni**	**3.58**	**251**	*e*Pn		**Pn**	**12 19 08.4**	**+2.2**
GUDG	**Gudauri**	**3.64**	**288**	P		**Pb**	**12 19 16.2**	**+1.1**
GUDG				S		**Sg**	**12 20 06.8**	**-0.6**
TRLG	**Trialeti**	**3.80**	**274**	P		**Pn**	**12 19 08.8**	**-0.4**
TRLG				S		**Sn**	**12 19 49.8**	**-4.2**
LACR	**Lac**	**3.88**	**293**	*e*Pn		**Pn**	**12 19 13.4**	**+3.2**
LACR				*e*Sn		**Sn**	**12 19 55.5**	**-0.4**
ZEI	**Tsey**	**4.14**	**291**	*e*PN		**Pg**	**12 19 27.1**	**-2.7**
ZEI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
ZEI	**Tsey**	**4.14**	**291**	*e*Pn		**Pn**	**12 19 18.3**	**+4.3**
ZEI				*e*Sn		**Sn**	**12 20 04.2**	**+1.7**
DIGR	**Digorskoe uzhe**	**4.40**	**292**	*e*Pn		**Pn**	**12 19 18.8**	**+1.3**
DIGR				*e*Sn		**Sn**	**12 20 09.4**	**+0.5**
KBZ	**Khabaz**	**5.16**	**299**	Pn		**Pn**	**12 19 27.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=41,slow=4.1,SNR=5.8							
KBZ				Sn		**Sn**	**12 20 28.9**	**+1.5**
	comp=Z,1.1nm,0.3s,baz=115,slow=20,SNR=5.0							
SHA1	**Shidzhatmaz**	**5.33**	**298**	⇑*e*PN		**Pn**	**12 19 31.5**	**+1.2**
SHA1	**Shidzhatmaz**	**5.33**	**298**	*e*Pn		**Pn**	**12 19 31.5**	**+1.2**
KIV0	**Kislovodsk Arr**	**5.39**	**300**	*e*Pn		**Pn**	**12 19 33.2**	**+2.1**
KIV0				*e*Sn		**Sn**	**12 20 31.6**	**-1.7**
KVAR	**Kislovodsk Arr**	**5.39**	**300**	Sn		**Sn**	**12 20 32.4**	**-0.8**
	baz=63,slow=16,SNR=3.9							
KVAR				Lg	Lg		12 20 44.8	
	baz=145,slow=14,SNR=12							
KIV	**Kislovodsk**	**5.40**	**300**	*e*PN		**Pn**	**12 19 33.1**	**+2.0**
KIV				*e*S		**Sn**	**12 20 37.5**	**+4.1**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KIV	**Kislovodsk**	**5.40**	**300**	*e*Pn		**Pn**	**12 19 35.0**	**+3.9**
KIV				*e*Sn		**Sn**	**12 20 31.6**	**-1.8**
GOF	**Gofitskoye**	**5.76**	**311**	*e*P		Pn	12 19 23.1	-13
GOF				*e*S		**Sn**	**12 20 39.1**	**-3.0**
GOF				pmax	pmax			
	comp=Z,20nm,0.5s							
GOF				smax	smax			
	comp=E,40nm,1.0s							
GEYT	**Alibeck**	**7.74**	**114**	Pn		**Pn**	**12 20 02.2**	**-1.0**
	comp=E,0.9nm,0.3s,baz=294,slow=16,SNR=3.4							
AB31	**Akbulak array**	**10.90**	**40**	⇑Pn		**Pn**	**12 20 46.5**	**0.0**
	comp=E,0.6nm,0.3s,baz=224,slow=12,SNR=37							
AB31				⇑Sn		**Sn**	**12 22 44.7**	**-3.8**
	comp=E,3.3nm,0.7s,baz=223,slow=22,SNR=5.8							
AKTO	**Aktyubinsk**	**10.92**	**31**	⇓Pn		**Pn**	**12 20 47.0**	**+0.2**
	comp=E,4.3nm,1.1s							
AKTO				⇑Sn		**Sn**	**12 22 44.9**	**-4.0**
	comp=E,6.4nm,0.8s							
AKTO	**Aktyubinsk**	**10.92**	**31**	Pn		**Pn**	**12 20 46.9**	**+0.1**
	comp=E,0.7nm,0.3s,baz=210,slow=10,SNR=14							
AKTO				Sn		**Sn**	**12 22 44.2**	**-4.7**
	comp=E,0.5nm,0.3s,baz=351,slow=23,SNR=5.9							
AKTO				LR		LR	12 25 47.1	
	comp=E,23nm,18.2s,baz=24,slow=41							
OBN	**Obninsk**	**16.02**	**333**	*e*P		**Pn**	**12 21 56.5**	**+0.8**
OBN				pmax	pmax			
	comp=Z,4.0nm,1.2s							
ARU	**Arti**	**16.22**	**19**	*d* iP		**Pn**	**12 21 55.2**	**-3.1**
ARU				SS		**Sn**	**12 25 03.2**	**+5.1**
ARU				pmax	pmax			
	comp=Z,9.0nm,1.5s							
BRVK	**Borovoye**	**18.40**	**44**	⇑*e*P		**P**	**12 22 26.3**	**+0.8**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BVAR	**Borovoye Array**	**18.43**	**44**	P		**P**	**12 22 26.1**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=243,slow=11,SNR=11							
BVAR				S		Sn	12 25 41.5	-10
	comp=Z,0.1nm,0.3s,baz=241,slow=21,SNR=2.6							
KURBB	**Kurchatov Arra**	**22.25**	**56**	P		**P**	**12 23 07.8**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=259,slow=12,SNR=3.2							
KURK	**Kurchatov**	**22.33**	**55**	⇓*e*P		**P**	**12 23 09.8**	**+1.6**
KLNR	**Kaliningrad**	**23.23**	**314**	⇓*e*P		**P**	**12 23 20.2**	**+2.7**
MKAR	**Makanchi Array**	**24.28**	**66**	P		**P**	**12 23 27.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=266,slow=10,SNR=6.4							
FINES	**FINESS Array B**	**24.43**	**333**	P		**P**	**12 23 26.7**	**-2.3**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**24.43**	**333**	P		**P**	**12 23 26.6**	**-2.3**
	comp=Z,1.5nm,0.5s,baz=140,slow=10,SNR=7.5							
HFS	**Hagfors**	**28.70**	**323**	P		**P**	**12 24 05.2**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=122,slow=11,SNR=5.7							
YKA	**Yellowknife Ar**	**75.61**	**352**	P		**P**	**12 29 52.6**	**-2.5**
	comp=Z,0.2nm,0.5s,baz=13,slow=5.6,SNR=4.4							

*IDC **04** 12:19:48.1±1.3, 17.°38N×121.°83E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, Error ellipse: s-maj=60.4km s-min=20.1km az=62.0*
*ISCJB **04** 12:20:03.9±0.8, 17.°19N±0.°09×121.°4E±0.°1, h150km, mb3.3/6, Error ellipse: s-maj=17.5km s-min=12.9km az=11.7*
*MAN **04** 12:20:05.5, 17.°41N×121.°06E, h135km, MS3.4*
ISC 04 12:20:05.2±1.0, 17.°2N±0.°1×121.°4E±0.°1, h150km, n9, σ1§16/11, mb3.3/6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.65**	**350**	*e*P		**Pn**		**12 20 26.6**	**-0.8**
APYP				*e*S		**Sn**		**12 20 42.4**	**-2.0**
CVP	**Callao Caves**	**0.66**	**43**	⇓*e*P		**Pn**		**12 20 28.4**	**+1.0**
SGCP	**Mt. Cagua**	**1.21**	**33**	*e*P		**Pn**		**12 20 32.5**	**+0.7**
SGCP				*e*S		**Sn**		**12 20 51.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**21.37**	**277**	P		**P**		**12 24 42.7**	**+1.7**
	0.3nm,0.4s,baz=102,slow=8.4,SNR=2.4								
SONM	**Songino Array**	**32.91**	**341**	P		**P**		**12 26 25.4**	**+0.2**
	0.3nm,0.5s,baz=160,slow=10,SNR=2.5								
WRA	**Warramunga Arr**	**39.07**	**160**	P		**P**		**12 27 16.7**	**-1.1**
	0.3nm,0.6s,baz=342,slow=8.8,SNR=1.5								
ASAR	**Alice Springs**	**42.45**	**163**	P		**P**		**12 27 45.3**	**-0.1**
	0.3nm,0.4s,baz=339,slow=6.9,SNR=10								
MKAR	**Makanchi Array**	**43.65**	**321**	P		**P**		**12 27 54.9**	**0.0**
	0.6nm,0.8s,baz=119,slow=9.9,SNR=5.4								
KURBB	**Kurchatov Arra**	**47.68**	**324**	P		**P**		**12 28 26.6**	**+0.2**
	1.1nm,0.5s,baz=120,slow=8.8,SNR=7.4								

ARO 04 12:26:60.0, 11.°N±4.°×4.°4E±.°, h10km±12km, Ml3.8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATA	**Atar**	**0.70**	**271**	*e*P		Pg		12 27 11.7	-1.8
MCAD	**Moucha**	**0.75**	**292**	*e*P		Pg		12 27 12.9	-1.6
OBO	**Obock**	**0.82**	**311**	*e*P		Pg		12 27 13.9	-1.9
ATD	**Arta Tunnel**	**1.05**	**275**	*e*P		Pg		12 27 17.5	-2.8
ATD				*e*S		Sg		12 27 32.4	-1.7
ATD	**Arta Tunnel**	**1.05**	**275**	*e*P		Pg		12 27 17.4	-2.9
TDD	**Tadjoura Ara**	**1.05**	**290**	*e*P		Pg		12 27 17.9	-2.4
SGH	**Sud-Ghoubbet**	**1.26**	**270**	*e*P		Pn		12 27 20.9	-2.8
KSDD	**Koussour**	**1.45**	**274**	*e*P		Pn		12 27 24.0	-2.2
GBR	**Grand-Bara**	**1.46**	**259**	*e*P		Pn		12 27 24.4	-2.0
MAOD	**Malaho**	**1.78**	**291**	*e*P		Pn		12 27 29.1	-1.7

VIE 04 12:28:35.1±0.2, 46.°69N×13.°76E, h0km, mb1.0/1, ml0.9/3, Error ellipse: s-maj=1.5km s-min=1.5km az=74.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MYKA	**Terra Mystica**	**0.10**	**236**	*i* Pg		Pg		12 28 37.1	+0.1
	0.7nm,0.1s								
MYKA				*e*Sg		Sg		12 28 38.3	-0.1
	3.7nm,0.1s								
KBA	**Koelnbreinsper**	**0.48**	**324**	*i* Pg		Pg		12 28 44.9	+0.4
	0.2nm,0.1s								
KBA				*e*Sg		Sg		12 28 51.2	+0.5
	0.2nm,0.1s								
OBKA	**Obir**	**0.57**	**108**	Pg		Pg		12 28 45.8	-0.3
	0.4nm,0.1s								
OBKA				Sg		Sg		12 28 54.0	+0.6
	3.3nm,0.2s								

*SOME **04** 12:31:30.7, 41.°23N×79.°73E, h5km*
NNC 04 12:31:31.2±1.7, 41.°19N×79.°70E, h0km, mb3.4, mpv3.0, 2C-2D, Error ellipse: s-maj=11.6km s-min=7.7km az=155.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.98**	**355**	Pg		Pn		12 32 07.0	+1.0
	10.0nm,0.3s								
SHLS				Lg		Lg		12 32 32.9	
	27nm,0.4s								
SHLS	**Shalkode**	**1.98**	**355**	*e*P		Pn		12 32 07.0	+1.0
	10.0nm,0.3s								
SHLS				*e*S		Sb		12 32 32.9	-0.4
	27nm,0.4s								
UZB	**Uzynbulak**	**2.02**	**346**	Pg		Pb		12 32 09.1	+0.2
	2.2nm,0.2s								
UZB				Lg		Lg		12 32 36.9	
	18nm,0.7s								
UZB	**Uzynbulak**	**2.02**	**346**	*e*P		Pb		12 32 09.1	+0.2
	2.2nm,0.2s								
UZB				*e*S		Sg		12 32 36.9	+0.8
	18nm,0.7s								
PDGK	**Podgornoye**	**2.14**	**356**	Pg		Pb		12 32 10.6	-0.4
	5.4nm,0.5s								
PDGK				Lg		Lg		12 32 39.5	
	22nm,0.6s								
PDGK	**Podgornoye**	**2.14**	**356**	⇓Pg		Pb		12 32 10.9	0.0
	5.9nm,0.5s								
PDGK				⇑Lg		Lg		12 32 39.6	
	51nm,0.8s								
KTMS	**Ketmen**	**2.31**	**12**	Pg		Pb		12 32 12.7	-1.1
	6.3nm,0.2s								
KTMS				Lg		Lg		12 32 42.9	
	13nm,0.4s								
KTMS	**Ketmen**	**2.31**	**12**	*e*P		Pb		12 32 12.7	-1.0
	6.3nm,0.2s								
KTMS				*e*S		Sb		12 32 42.9	+0.1
	13nm,0.4s								
KURS	**Kuram**	**2.56**	**334**	Pg		Pb		12 32 17.6	-0.4
	1.9nm,0.6s								
KURS				Lg		Lg		12 32 51.5	
	3.7nm,0.4s								
KURS	**Kuram**	**2.56**	**334**	*e*P		Pb		12 32 17.6	-0.4
	1.9nm,0.6s								
KURS				*e*S		Sb		12 32 51.5	+1.3
	3.7nm,0.4s								
TNSS	**Tian-Shan**	**2.76**	**313**	Pg		Pb		12 32 22.7	+1.1
	2.3nm,0.4s								
TNSS				Lg		Lg		12 33 00.1	
	7.8nm,0.6s								
TNSS	**Tian-Shan**	**2.76**	**313**	*e*P		Pb		12 32 22.7	+1.1
	2.3nm,0.4s								
TNSS				*e*S		Sg		12 33 00.1	+0.3
	7.8nm,0.6s								
MDOK	**Medeo**	**2.79**	**316**	Pg		Pb		12 32 21.3	-0.7
	1.3nm,0.5s								
MDOK				Lg		Lg		12 32 59.5	
	7.1nm,0.5s								
MDOK	**Medeo**	**2.79**	**316**	Pg		Pb		12 32 22.4	+0.4
	1.4nm,0.3s								
MDOK				Lg		Lg		12 32 59.6	
	5.6nm,0.7s								
MDOK	**Medeo**	**2.79**	**316**	*e*P		Pb		12 32 22.4	+0.4
	1.4nm,0.3s								
MDOK				*e*S		Sg		12 32 59.6	-1.2
	5.6nm,0.7s								
KOTS	**Kotyrbulak**	**2.81**	**318**	Pg		Pb		12 32 23.2	+0.9
	13nm,0.9s								
KOTS				Lg		Lg		12 33 01.0	
	23nm,0.7s								
KOTS	**Kotyrbulak**	**2.81**	**318**	*e*P		Pb		12 32 23.2	+0.9
	13nm,0.9s								
KOTS				*e*S		Sg		12 33 01.0	-0.3
	23nm,0.7s								
IZV	**Izvestkoviy**	**2.95**	**310**	Pg		Pb		12 32 25.7	+1.1
	90nm,0.2s								
IZV				Lg		Lg		12 33 05.1	
	6.3nm,0.6s								
IZV	**Izvestkoviy**	**2.95**	**310**	*e*P		Pb		12 32 25.7	+1.1
	90nm,0.2s								
IZV				*e*S		Sg		12 33 05.1	-0.7
	6.3nm,0.6s								
TKM2	**Tokmak 2**	**3.51**	**301**	⇑Pg		Pb		12 32 32.8	-1.5
	1.1nm,0.8s								
TKM2				⇓Lg		Lg		12 33 22.5	
	2.2nm,0.5s								
KAPS	**Kapalarasan**	**4.10**	**357**	Pg		Pg		12 32 47.6	-2.2
	1.2nm,0.5s								
KAPS				Lg		Lg		12 33 43.4	
	2.7nm,0.6s								
KAPS	**Kapalarasan**	**4.10**	**357**	*e*P		Pg		12 32 47.6	-2.2
	1.2nm,0.5s								
KAPS				*e*S		Sg		12 33 43.4	+0.5
	2.7nm,0.6s								

*IDC **04** 12:57:56.9±2.0, 36.°73N×142.°23E, h0km, mb3.5/4, mb1 3.5/6, mb1mx3.2/45, mbtmp3.4/6, ML2.9/2, Error ellipse: s-maj=38.0km s-min=30.7km az=80.0*
*JMA **04** 12:58:02.4±0.3, 36.°91N×141.°88E, h43km, M3.0*
ISC 04 12:58:01.2±1.3, 36.°90N±0.°06×141.°86E±0.°08, h19km, n21, σ1§15/21, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.88**	**284**	P		P	**Pn**	**12 58 18.5**	**-0.1**
JFK	**Kawauchi**	**0.92**	**301**	P		P	**Pg**	**12 58 18.8**	**-0.3**
JFFD	**Fukushimafurud**	**1.06**	**281**	P		P	**Pg**	**12 58 21.0**	**-0.8**
JHO	**Hitachi**	**1.08**	**255**	P		P	**Pg**	**12 58 21.5**	**-0.8**
JHYU	**Hitachinakayam**	**1.17**	**242**	P		P	**Pb**	**12 58 22.4**	**-0.4**
JMM	**Marumori**	**1.29**	**319**	P		P	**Pb**	**12 58 24.2**	**-0.6**
JFT	**Otama**	**1.36**	**297**	P		P	**Pg**	**12 58 26.4**	**-1.2**
JIO	**Ouri**	**1.60**	**345**	P		P	**Pb**	**12 58 29.6**	**-0.6**
JOU	**Okura**	**1.75**	**327**	P		P	**Pb**	**12 58 31.9**	**-0.8**
JFY	**Yanaizu**	**1.80**	**287**	P		P	**Pb**	**12 58 33.1**	**-0.4**
JYS	**Shirataka**	**1.94**	**313**	P		P	**Pb**	**12 58 34.7**	**-1.3**
MJAR	**Matsushiro Arr**	**2.96**	**264**	Pn		Pn	**Pn**	**12 58 48.8**	**+1.6**
	0.8nm,0.3s,baz=102,slow=13,SNR=36								
MJAR				Sn		Sn	**Sb**	**12 59 29.3**	**+0.2**
	0.3nm,0.3s,baz=202,slow=32,SNR=1.9								
MAT	**Matsushiro**	**2.96**	**264**	P		P	**Pn**	**12 58 49.0**	**+1.8**
MAT				S		S	**Sb**	**12 59 28.1**	**-1.0**
ASAJ	**Asahikawa**	**7.23**	**4**	Pn		Pn	**Pn**	**12 59 46.4**	**+0.5**
	0.3nm,0.3s,baz=196,slow=12,SNR=4.7								
ASAJ				Sn			**Sn**	**13 01 07.9**	**+0.5**
	0.1nm,0.3s,baz=318,slow=30,SNR=1.8								
H11N2	**WAKE ISLAND Hy**	**27.77**	**121**	T		T	T	13 32 55.3	
	baz=313,slow=75,SNR=3.8								
H11N1	**WAKE ISLAND Hy**	**27.78**	**121**	T		T	T	13 33 11.7	
	baz=313,slow=75,SNR=4.3								
H11N3	**WAKE ISLAND Hy**	**27.79**	**121**	T		T	T	13 33 08.0	
	baz=313,slow=75,SNR=3.7								
SONM	**Songino Array**	**28.16**	**304**	P		P	**P**	**13 03 54.1**	**+1.8**
	0.7nm,0.7s,baz=91,slow=6.6,SNR=6.0								
MKAR	**Makanchi Array**	**44.49**	**302**	P		P	**P**	**13 06 11.8**	**+0.6**
	0.2nm,0.8s,baz=96,slow=10,SNR=2.0								
KURBB	**Kurchatov Arra**	**46.37**	**308**	P		P	**P**	**13 06 27.3**	**+1.3**
	0.5nm,0.7s,baz=83,slow=7.8,SNR=2.6								
WRA	**Warramunga Arr**	**56.98**	**188**	P		P	**P**	**13 07 43.4**	**-2.1**
	0.5nm,0.9s,baz=6.3,slow=7.5,SNR=2.1								

IDC 04 13:10:33.8±18.0, 0.°30N×28.°03W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/26, mbtmp3.8/4, MS3.5/8, Ms1 3.6/8, ms1mx3.2/34, Error ellipse: s-maj=417.5km s-min=92.6km az=23.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**15.72**	**121**	T		T	T	13 30 35.4	
	baz=303,slow=74,SNR=28								
H10N2	**ASCENSION HYDR**	**15.73**	**121**	T		T	T	13 30 33.4	
	baz=303,slow

VWDT	**VWDT** baz=258	**0.47**	**265**	⇓P	**Pb**	**13 16 47.5**	**-0.3**
VWDT	baz=258			S	**Sb**	**13 16 54.2**	**-0.6**
WHF	**Hehuan Shan** baz=317	**0.49**	**315**	⇓P	**Pb**	**13 16 47.7**	**-0.9**
WHF	baz=317			*e*S	**Sb**	**13 16 55.1**	**-0.9**
CHGB	**Renai** baz=308	**0.51**	**301**	⇓P	**Pb**	**13 16 48.1**	**-0.4**
CHGB	baz=308			S	**Sb**	**13 16 55.2**	**-1.0**
YULB	**Yu-li** baz=226	**0.52**	**219**	P	**Pb**	**13 16 47.3**	**-1.2**
TWF1	**Yuli** baz=224	**0.55**	**216**	⇑*i*P	**Pb**	**13 16 47.8**	**-1.2**
TWF1	baz=224			*e*S	**Sb**	**13 16 55.2**	**-1.7**
TWT	**Tachien** baz=311	**0.63**	**317**	⇓*i*P	**Pb**	**13 16 50.1**	**-0.3**
TWT	baz=311			S	**Sb**	**13 16 58.4**	**-0.9**
ENA	**Nanau** baz=17	**0.64**	**8**	*e*P	**Pn**	**13 16 49.7**	**-0.5**
NANB	**Nanao** baz=17	**0.64**	**8**	P	**Pn**	**13 16 49.7**	**-0.4**
NANB	baz=17			*e*S	**Sb**	**13 16 59.6**	**+0.4**
SSLB	**Suanglung** baz=269	**0.64**	**269**	⇓P	**Pn**	**13 16 49.4**	**-0.7**
TDCB	**Techi** baz=312	**0.64**	**316**	⇓P	**Pn**	**13 16 50.1**	**-0.1**
TDCB	baz=312			S	**Sb**	**13 16 58.4**	**-1.1**
NNSB	**Datong** baz=340	**0.68**	**339**	⇓P	**Pn**	**13 16 50.2**	**-0.6**
NNSB	baz=340			S	**Sb**	**13 16 59.0**	**-1.5**
NNS	**Nan Shan** baz=340	**0.69**	**339**	*e*P	**Pn**	**13 16 50.5**	**-0.5**
NNS	baz=340			*e*S	**Sb**	**13 16 59.9**	**-1.0**
SMLT	**Sun Moon Lake** baz=280	**0.69**	**277**	⇓*i*P	**Pn**	**13 16 50.7**	**-0.3**
SMLT	baz=280			S	**Sb**	**13 16 59.6**	**-1.3**
YUS	**Yu-Shan** baz=244	**0.71**	**245**	⇓*i*P	**Pn**	**13 16 51.3**	**-0.3**
YUS	baz=244			*i* S	**Sb**	**13 17 00.3**	**-1.4**
TYC	**Yuchr** baz=283	**0.73**	**279**	⇓*i*P	**Pn**	**13 16 51.2**	**-0.3**
TYC	baz=283			S	**Sn**	**13 17 00.3**	**-1.1**
WHYT	**Xinyi Township** baz=256	**0.73**	**262**	⇓P	**Pn**	**13 16 51.5**	**0.0**
WHYT	baz=256			*e*S	**Sn**	**13 17 01.2**	**-0.4**
CHKT	**Chengkung** baz=188	**0.74**	**201**	*e*P	**Pn**	**13 16 51.0**	**-0.6**
WHP	**Taichung City** baz=307	**0.80**	**307**	*e*P	**Pn**	**13 16 52.5**	**0.0**
NDT	**Datong Townshi** baz=352	**0.81**	**351**	*e*P	**Pn**	**13 16 52.2**	**-0.4**
ALS	**Alishan** baz=250	**0.82**	**250**	P	**Pn**	**13 16 53.1**	**+0.1**
ALS	baz=250			*e*S	**Sn**	**13 17 03.6**	**-0.5**
TWC	**Suao** baz=20	**0.83**	**13**	*e*P	**Pn**	**13 16 53.0**	**+0.2**
ELDTW	**Lidau** baz=218	**0.84**	**224**	⇓*e*P	**Pn**	**13 16 52.0**	**-1.1**
ELDTW	baz=218			*e*S	**Sn**	**13 17 03.0**	**-1.2**
WJS	**Zhushan** baz=272	**0.84**	**272**	*e*P	**Pn**	**13 16 53.8**	**+0.7**
WJS	baz=272			*e*S	**Sb**	**13 17 05.8**	**+0.9**
ENTT	**Nioudou** baz=356	**0.84**	**355**	⇓*i*P	**Pn**	**13 16 52.6**	**-0.4**
EOS1	**EOS1** baz=45	**0.87**	**30**	*e*P	**Pn**	**13 16 53.8**	**+0.5**
WNT	**Mingjian** baz=276	**0.89**	**276**	⇓P	**Pn**	**13 16 54.5**	**+0.9**
WNT	baz=276			S	**Sn**	**13 17 06.4**	**+1.2**
YHNB	**Yeheng** baz=352	**0.91**	**344**	⇓P	**Pn**	**13 16 53.9**	**-0.1**
YHNB	baz=352			S	**Sn**	**13 17 05.2**	**-0.6**
CHN5	**Tsauling** baz=258	**0.91**	**258**	⇓P	**Pn**	**13 16 54.5**	**+0.5**
CHN5	baz=258			S	**Sn**	**13 17 06.9**	**+1.0**
NSK	**Sanguang** baz=352	**0.92**	**343**	⇓*i*P	**Pn**	**13 16 54.0**	**0.0**
NSK	baz=352			*e*S	**Sn**	**13 17 05.6**	**-0.5**
TWE	**Neicheng** baz=353	**0.92**	**1**	P	**Pn**	**13 16 53.9**	**-0.1**
SLBB	**Yuanshan** baz=359	**0.95**	**359**	*e*P	**Pn**	**13 16 54.3**	**-0.3**
TCU	**Taichung** baz=291	**0.96**	**292**	*e*P	**Pn**	**13 16 55.5**	**+0.9**
TWQ1	**Liyutan** baz=305	**0.97**	**305**	⇓*i*P	**Pn**	**13 16 55.9**	**+1.1**
TWQ1	baz=305			S	**Sb**	**13 17 09.2**	**+0.6**
NWLT	**Wulai** baz=352	**0.99**	**352**	*e*P	**Pn**	**13 16 54.7**	**-0.3**
WGK	**Gukeng** baz=264	**1.00**	**264**	*e*P	**Pn**	**13 16 55.5**	**+0.3**
WGK	baz=264			*e*S	**Sn**	**13 17 09.6**	**+1.5**
NSY	**Sanyi** baz=307	**1.02**	**307**	*e*P	**Pn**	**13 16 56.7**	**+1.2**
NSY	baz=307			*e*S	**Sb**	**13 17 10.6**	**+0.6**
NSTT	**Nanjuang** baz=324	**1.02**	**325**	⇓*i*P	**Pn**	**13 16 56.5**	**+1.0**
NSTT	baz=324			S	**Sn**	**13 17 09.5**	**+0.9**
WDLH	**Douliu** baz=264	**1.02**	**264**	*e*P	**Pn**	**13 16 56.1**	**+0.7**
LIOB	**Emei** baz=325	**1.02**	**326**	⇓*i*P	**Pn**	**13 16 55.6**	**+0.1**
LIOB	baz=325			*e*S	**Sn**	**13 17 09.0**	**+0.3**
WCHH	**Zhanghua** baz=286	**1.04**	**286**	*e*P	**Pn**	**13 16 56.7**	**+1.1**
WCHH	baz=286			*e*S	**Sb**	**13 17 12.4**	**+1.9**
TPUB	**Ta-pu** baz=243	**1.06**	**242**	*e*P	**Pn**	**13 16 56.6**	**+0.6**
TPUB	baz=243			S	**Sn**	**13 17 11.0**	**+1.5**
CHN4	**Tsaushan** baz=239	**1.06**	**246**	*e*P	**Pn**	**13 16 56.9**	**+0.8**
CHN4	baz=239			*e*S	**Sb**	**13 17 11.3**	**+0.1**
NTC	**Toucheng** baz=358	**1.07**	**9**	*e*P	**Pn**	**13 16 56.8**	**+0.8**
WDJ	**Dajia District** baz=301	**1.07**	**301**	*e*P	**Pn**	**13 16 57.3**	**+1.1**
EGS	baz=14	**1.08**	**14**	*e*P	**Pn**	**13 16 56.4**	**+0.2**
NMLH	**Miaoli** baz=313	**1.08**	**313**	*e*P	**Pn**	**13 16 57.4**	**+1.2**
PTSB	**Yuanli** baz=307	**1.08**	**307**	*e*P	**Pn**	**13 16 57.2**	**+1.0**
PTSB	baz=307			*e*S	**Sb**	**13 17 11.7**	**0.0**
WTP	**Ta-pu** baz=241	**1.10**	**240**	*e*P	**Pn**	**13 16 57.4**	**+0.8**
WTP	baz=241			*e*S	**Sn**	**13 17 11.8**	**+1.3**
TWGBT	**Beinan** baz=197	**1.10**	**208**	⇑*e*P	**Pn**	**13 16 54.8**	**-1.8**
TWG	**Pinlang** baz=196	**1.11**	**209**	*e*P	**Pn**	**13 16 54.9**	**-1.7**
CHN2	**Minshiung** baz=256	**1.11**	**257**	*e*P	**Pn**	**13 16 57.8**	**+1.1**
CHY	**Chiayi** baz=255	**1.16**	**255**	*e*P	**Pn**	**13 16 58.3**	**+1.0**
SBCB	**Hsinchu** baz=328	**1.16**	**329**	*e*P	**Pn**	**13 16 58.6**	**+1.2**
NHDH	**Xindian Distri** baz=353	**1.17**	**355**	*e*P	**Pn**	**13 16 58.3**	**+0.8**
TWA	**Mucha** baz=356	**1.18**	**357**	*e*P	**Pn**	**13 16 57.6**	**0.0**
TIPB	**Shuangxi** baz=356	**1.18**	**8**	*e*P	**Pn**	**13 16 58.2**	**+0.5**
TIPB	baz=356			*e*S	**Sb**	**13 17 14.4**	**-0.2**
RLNB	**Erlin** baz=266	**1.18**	**275**	*e*P	**Pn**	**13 16 58.4**	**+0.7**
RLNB	baz=266			*e*S	**Sb**	**13 17 14.7**	**+0.1**
TATO	**Taipei** baz=352	**1.18**	**353**	⇓P	**Pn**	**13 16 58.0**	**+0.4**
TWK	**Hsinying** baz=244	**1.19**	**244**	P	**Pn**	**13 16 59.1**	**+1.3**
TWK	baz=244			*e*S	**Sn**	**13 17 14.2**	**+1.4**
CHN1	**Nanshi** baz=240	**1.20**	**240**	*e*P	**Pn**	**13 16 58.8**	**+0.9**
CHN1	baz=240			*e*S	**Sn**	**13 17 14.4**	**+1.4**
SNST	**Tainan City** baz=243	**1.20**	**242**	*e*P	**Pn**	**13 16 59.0**	**+1.1**
SNST	baz=243			*e*S	**Sn**	**13 17 14.8**	**+1.8**
SLGT	**Liugui** baz=229	**1.22**	**229**	*e*P	**Pn**	**13 16 59.2**	**+1.0**
NCUH	**Zhongli** baz=339	**1.24**	**340**	*e*P	**Pb**	**13 17 00.9**	**+0.3**
TWB1	**Santiao Chiao** baz=14	**1.25**	**14**	*e*P	**Pn**	**13 16 58.7**	**+0.1**
WTCT	**Ta-ch'eng** baz=273	**1.25**	**273**	P	**Pn**	**13 16 59.7**	**+1.1**
WTCT	baz=273			*e*S	**Sb**	**13 17 16.4**	**-0.2**
NWF	**Wu-fen Shan** baz=352	**1.28**	**5**	*e*P	**Pn**	**13 16 59.6**	**+0.6**
WFSB	**Wu-fen Shan** baz=353	**1.28**	**5**	*e*P	**Pn**	**13 16 59.4**	**+0.4**
TWS1	**Kuangyinshan** baz=349	**1.32**	**351**	*e*P	**Pn**	**13 16 59.5**	**0.0**
WSF	**Szhu** baz=264	**1.32**	**263**	*e*P	**Pn**	**13 17 00.5**	**+1.0**
WSF	baz=264			*e*S	**Sb**	**13 17 18.0**	**-0.4**
YM01	**YM01** baz=355	**1.35**	**357**	*e*P	**Pn**	**13 17 00.5**	**+0.5**
JYNG	**Yonagunijimaku** JYNG	**1.35**	**61**	P S	**Pn** **Sn**	**13 17 00.4** **13 17 17.4**	**+0.4** **+0.6**
ANP	**Anpu** baz=354	**1.39**	**355**	*e*P	**Pn**	**13 17 02.2**	**+1.6**
CHN8	**Yiju** baz=252	**1.39**	**252**	*e*P	**Pn**	**13 17 01.2**	**+0.6**
CHN8	baz=252			*e*S	**Sn**	**13 17 19.4**	**+1.6**
SSD	**Sandimen** baz=222	**1.40**	**222**	*e*P	**Pn**	**13 17 00.8**	**+0.1**
YOJ	**Yonaguni jima** baz=64	**1.41**	**62**	*e*P	**Pn**	**13 17 01.2**	**+0.4**
YOJ	baz=64			*e*S	**Sn**	**13 17 18.7**	**+0.5**
YOJ	**Yonaguni jima** YOJ	**1.41**	**62**	P S	**Pn** **Sn**	**13 17 01.3** **13 17 18.5**	**+0.5** **+0.3**
SCLT	**Jiali** baz=246	**1.47**	**245**	*e*P	**Pn**	**13 17 01.9**	**+0.3**
TWM1	**Shoushan** baz=230	**1.48**	**230**	*e*P	**Pn**	**13 17 04.0**	**+2.2**
MASBT	**Mashibuluo** baz=222	**1.50**	**219**	*e*P	**Pn**	**13 17 02.2**	**+0.1**
MASBT	baz=222			*e*S	**Sn**	**13 17 22.5**	**+2.0**
SSPT	**Xinbi** baz=206	**1.64**	**217**	*e*P	**Pn**	**13 17 05.3**	**+1.3**
SCZT	**Fangliau** baz=215	**1.70**	**214**	*e*P	**Pn**	**13 17 05.4**	**+0.6**
WDGT	**Dungji** baz=254	**1.90**	**254**	*e*P	**Pn**	**13 17 07.5**	**0.0**
PHUB	**P'eng-hu** baz=250	**1.92**	**262**	*e*P	**Pn**	**13 17 08.4**	**+0.5**
PHUB	baz=250			*e*S	**Sn**	**13 17 30.9**	**0.0**
PNG	**Penghu** baz=264	**1.93**	**264**	*e*P	**Pn**	**13 17 08.1**	**+0.1**
IRIF	**Iriomote-Funau** IRIF	**1.98**	**74**	P S	**Pn** **Sn**	**13 17 09.2** **13 17 32.8**	**+0.6** **+0.6**
HATJ	**Hateruma jima** HATJ	**1.99**	**82**	P S	**Pn** **Sn**	**13 17 09.2** **13 17 32.4**	**+0.4** **-0.1**
TWK1	**Hengchun** baz=194	**2.00**	**203**	*e*P	**Pn**	**13 17 09.8**	**+0.9**
TWKBT	**Hengchun** baz=194	**2.00**	**203**	*e*P	**Pn**	**13 17 09.6**	**+0.7**
VCHM	**Qimei** baz=255	**2.12**	**254**	*e*P	**Pn**	**13 17 10.5**	**-0.1**
JKRS	**Kuro-shima** JKRS	**2.20**	**78**	P S	**Pn** **Sn**	**13 17 12.7** **13 17 38.7**	**+1.0** **+0.9**
VWUC	**VWUC** baz=300	**2.33**	**301**	*e*P	**Pn**	**13 17 12.8**	**-0.7**
JIJ	**Ishigaki jima** JIJ	**2.35**	**76**	P S	**Pn** **Sn**	**13 17 13.9** **13 17 41.0**	**+0.2** **-0.4**
PTTC	**Pingtan** baz=313	**2.41**	**315**	*e*P	**Pn**	**13 17 14.1**	**-0.4**
JISG	**Ishigakijimahi** JISG	**2.56**	**72**	P S	**Pn** **Sn**	**13 17 16.7** **13 17 46.0**	**+0.1** **-0.5**
PTMZ	**Houxiangcun** baz=297	**2.62**	**299**	*e*P	**Pn**	**13 17 16.7**	**-0.7**
MATB	**Ma-tsu** baz=324	**2.81**	**327**	*e*P	**Pn**	**13 17 19.5**	**-0.6**
JTJ	**Tarama** JTJ	**2.91**	**73**	P S	**Pn** **Sn**	**13 17 21.8** **13 17 55.4**	**+0.3** **+0.1**
KNM	**Kinmen** baz=281	**3.00**	**283**	*e*P	**Pn**	**13 17 24.0**	**+1.3**
KNMB	**Chin-men Tao** baz=282	**3.05**	**283**	*e*P	**Pn**	**13 17 23.0**	**-0.4**
LYJJ	**Jianjiangzhen** baz=326	**3.23**	**328**	*e*P	**Pn**	**13 17 25.1**	**-0.7**
MHZQ	**Yeshan** baz=313	**3.30**	**315**	*e*P	**Pn**	**13 17 26.6**	**-0.3**
JIRB	**Irabujima** JIRB	**3.38**	**72**	P *e*S	**Pn** **Sn**	**13 17 28.6** **13 18 06.7**	**+0.8** **0.0**
XPSS	**Dashiqiu** baz=345	**3.39**	**337**	*e*P	**Pn**	**13 17 27.3**	**-0.7**
AXDP	**Jialang** baz=287	**3.53**	**289**	*e*P	**Pn**	**13 17 29.6**	**-0.4**
ZPLA	**Ao Xicun** baz=272	**3.57**	**273**	*e*P	**Pn**	**13 17 30.7**	**+0.2**

*ISCJB **04** 13:16:50.7±1.0,43.°53N±0.°07×147.°26E±0.°08, h74km±11km, Error ellipse: s-maj=14.4km s-min=6.5km az=143.4*
*JMA **04** 13:16:51.4±0.2,43.°41N×147.°27E,h63km±5km,M3.1*
*SKHL **04** 13:16:51.0±0.6,43.°47N×147.°34E,h67km±3km,mb3.6/6*
ISC 04 13:16:50.7±2.0,43.°50N±0.°09×147.°35E±0.°10,h66km±17km, n19,σ0°91/34,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.53**	**315**	*i* P		**Pn**	**Pn**	**13 17 04.0**	**+0.6**
SHO	56nm,0.2s				AMB	AMB	AMB	13 17 04.0	
SHO	48nm,0.2s				AMB	AMB	AMB	13 17 04.0	
SHO	19nm,0.2s				AMB	AMB	AMB	13 17 04.0	
SHO				*i* S		**Sn**	**Sn**	**13 17 13.8**	**+1.0**
SHO	758nm,0.2s				A	A	A	13 17 14.0	
SHO	1μm,0.2s				A	A	A	13 17 14.0	
NEM2	**Nemuro 2**	**1.18**	**264**	P		**Pn**	**Pn**	**13 17 11.2**	**0.0**
NEM2				*e*S		**Sn**	**Sn**	**13 17 26.0**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**1.21**	**297**	*i* P		**Pn**	**Pn**	**13 17 11.0**	**-0.6**
YUK	16nm,0.2s				AMB	AMB	AMB	13 17 12.0	
YUK	14nm,0.2s				AMB	AMB	AMB	13 17 12.0	
YUK				*i* S		**Sn**	**Sn**	**13 17 26.2**	**-1.0**
YUK	378nm,0.2s				A	A	A	13 17 28.0	
YUK	225nm,0.2s				A	A	A	13 17 28.0	
GRPR	**Tuman**	**1.25**	**294**	*i* P		**Pn**	**Pn**	**13 17 12.0**	**-0.1**
GRPR	90nm,0.2s				AMB	AMB	AMB	13 17 13.0	
GRPR	78nm,0.2s				AMB	AMB	AMB	13 17 13.0	
GRPR	14nm,0.2s				AMB	AMB	AMB	13 17 13.0	
GRPR					*e*S	**Sn**	**Sn**	**13 17 27.0**	**-1.2**
GRPR	340nm,0.2s				A	A	A	13 17 29.0	
GRPR	160nm,0.2s				A	A	A	13 17 29.0	
LAGR	**Lagunnoye**	**1.26**	**297**	*e*P		**Pn**	**Pn**	**13 17 12.0**	**-0.3**
LAGR	32nm,0.1s				AMB	AMB	AMB	13 17 13.0	
LAGR	55nm,0.1s				AMB	AMB	AMB	13 17 13.0	
LAGR	13nm,0.1s				AMB	AMB	AMB	13 17 13.0	
LAGR					*e*S	**Sn**	**Sn**	**13 17 28.0**	**-0.6**
LAGR	426nm,0.3s				A	A	A	13 17 33.0	
LAGR	508nm,0.3s				A	A	A	13 17 33.0	
GLVR	**Golovnino**	**1.35**	**281**	*e*P		**Pn**	**Pn**	**13 17 13.0**	**-0.5**
GLVR	23nm,0.2s				AMB	AMB	AMB	13 17 14.0	
GLVR	47nm,0.2s				AMB	AMB	AMB	13 17 14.0	
GLVR	12nm,0.2s				AMB	AMB	AMB	13 17 14.0	
GLVR					*e*S	**Sn**	**Sn**	**13 17 30.0**	**-0.6**
GLVR	284nm,0.2s				A	A	A	13 17 34.0	
GLVR	68nm,0.2s				A	A	A	13 17 34.0	
JKHN	**Kushirohamanak**	**1.65**	**256**	P		**Pn**	**Pn**	**13 17 18.2**	**+0.7**
JKHN				*e*S		**Sn**	**Sn**	**13 17 37.1**	**-0.7**
JRA	**Rausu**	**1.67**	**286**	P		**Pn**	**Pn**	**13 17 18.5**	**+0.7**
JRA				*e*S		**Sn**	**Sn**	**13 17 38.8**	**+0.5**
KUR	**Kuril'sk**	**1.77**	**12**	*i* P		**Pn**	**Pn**	**13 17 19.2**	**0.0**
KUR	4.0nm,0.2s				AMB	AMB	AMB	13 17 21.6	
KUR	12nm,0.2s				AMB	AMB	AMB	13 17 21.6	
KUR				*i* S		**Sn**	**Sn**	**13 17 40.0**	**-0.8**
KUR	55nm,0.2s				A	A	A	13 17 44.3	
KUR	73nm,0.2s				A	A	A	13 17 44.3	
JNK	**Nakash**	**1.92**	**274**	P		**Pn**	**Pn**	**13 17 21.2**	**+0.1**
JNK				*e*S		**Sn**	**Sn**	**13 17 43.3**	**-0.9**
JAK	**Akkeshi**	**2.00**	**256**	P		**Pn**	**Pn**	**13 17 22.1**	**-0.1**
JAK				*e*S		**Sn**	**Sn**	**13 17 44.7**	**-1.5**
JTKR	**Abashiri--Toko**	**2.54**	**282**	P		**Pn**	**Pn**	**13 17 30.6**	**+1.1**
JAR	**Ashorobuto**	**2.62**	**267**	P		**Pn**	**Pn**	**13 17 31.5**	**+0.9**
JAR				*e*S		**Sn**	**Sn**	**13 18 01.0**	**-0.2**
JOB	**Onbets**	**2.64**	**258**	P		**Pn**	**Pn**	**13 17 31.2**	**+0.4**
JMP	**Maruseppu**	**2.94**	**281**	P		**Pn**	**Pn**	**13 17 36.4**	**+1.5**
JCH	**Churui**	**3.05**	**255**	P		**Pn**	**Pn**	**13 17 36.7**	**+0.2**
JCH				*e*S		**Sn**	**Sn**	**13 18 10.7**	**-1.1**
JEM	**Erimo**	**3.42**	**246**	*e*S		**Sn**	**Sn**	**13 18 21.9**	**+1.0**
JFR	**Furan**	**3.49**	**266**	P		**Pn**	**Pn**	**13 17 44.2**	**+1.8**
JFR				*e*S		**Sn**	**Sn**	**13 18 23.3**	**+0.8**
JNBK	**Urakawa-nobuka**	**3.59**	**252**	P		**Pn**	**Pn**	**13 17 44.1**	**+0.3**
JNBK				*e*S		**Sn**	**Sn**	**13 18 23.1**	**-1.9**

*IDC **04** 13:23:43.1±1.1,10.°84N×62.°14W,h0km,mb3.6/8, mb1 4.0/9,mb1mx3.7/35,mbtmp3.8/9,ML4.4/1,MS3.3/1, Ms1 3.3/1,ms1mx2.5/32,Error ellipse: s-maj=35.4km s-min=26.6km az=38.0*
*ISCJB **04** 13:23:49.7±0.3,10.°72N±0.°03×62.°04W±0.°04,h72km±5km, mb3.7/8,Error ellipse: s-maj=6.2km s-min=3.9km az=20.6*
*TRN **04** 13:23:49.9,10.°63N×62.°06W,h68km,MD3.8*
TRN Felt in parts of North-west Trinidad.MMI II, III.
*NEIC **04** 13:23:51.0±0.8,10.°70N×62.°09W,h65km±6km, MD3.8(TRN),Error ellipse: s-maj=9.0km s-min=8.3km az=91.0*
NEIC Felt at Diego Martin, Mucurapo and Port of Spain, Trinidad and Tobago.
ISC 04 13:23:49.8±0.7,10.°65N±0.°04×62.°06W±0.°04,h59km±8km, n109,σ1°61/122,mb3.7/8,1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.64**	**90**	*e*P		**Pn**	**Pn**	**13 24 04.0**	**+0.7**
TPP	**Pointe-a-Pierr**	**0.68**	**119**	*e*P		**Pn**	**Pn**	**13 24 03.5**	**-0.2**
TPP				*e*S		**Sn**	**Sn**	**13 24 15.0**	**+1.0**
TBH	**Brigand Hill**	**0.99**	**99**	*e*P		**Pn**	**Pn**	**13 24 07.6**	**0.0**
GRGR	**Grenville**	**1.53**	**15**	*e*Pn		**Pn**	**Pn**	**13 24 14.6**	**-0.3**
GRGR	**Grenville**	**1.53**	**15**	*e*P		**Pn**	**Pn**	**13 24 14.8**	**-0.1**
GRGR	**Grenville**	**1.53**	**15**	*e*		**Sn**	**Sn**	**13 24 16.4**	**+1.5**
GRGR	**Grenville**	**1.53**	**15**	*e*		**Sn**	**Sn**	**13 24 32.1**	**-1.7**
GRGR				*e*S		**Sn**	**Sn**	**13 24 35.4**	**+1.6**
GRHS	**Sauteurs**	**1.62**	**15**	*e*		**Sn**	**Sn**	**13 24 34.0**	**-2.0**
GRHS				*e*S		**Sn**	**Sn**	**13 24 36.8**	**+0.8**
TOSP	**Speyside**	**1.63**	**66**	*e*P		**Pn**	**Pn**	**13 24 16.3**	**+0.1**
TOSP				*e*S		**Sn**	**Sn**	**13 24 36.6**	**+0.4**
GRSS	**Sisters**	**1.70**	**15**	*e*P		**Pn**	**Pn**	**13 24 17.5**	**+0.4**
GRSS	**Sisters**	**1.70**	**15**	*e*		**Sn**	**Sn**	**13 24 36.5**	**-1.3**
GRSS	**Sisters**	**1.70**	**15**	*e*		**Sn**	**Sn**	**13 24 43.0**	**+5.2**
FCV	**Fort Charlotte**	**2.62**	**18**	*e*P		**Pn**	**Pn**	**13 24 30.6**	**+0.9**
FCV				*e*S		**Sn**	**Sn**	**13 24 59.7**	**-0.6**
SVB	**Belmont**	**2.73**	**17**	*e*Pn		**Pn**	**Pn**	**13 24 30.8**	**-0.4**
SVB	**Belmont**	**2.73**	**17**	*e*P		**Pn**	**Pn**	**13 24 31.6**	**+0.5**
SVB				*e*S		**Sn**	**Sn**	**13 25 02.2**	**-0.8**
SVCV	**St. Vincent, C**	**2.76**	**19**	*e*P		**Pn**	**Pn**	**13 24 32.0**	**+0.3**
SVCV				*e*S		**Sn**	**Sn**	**13 25 03.3**	**-0.4**
SVV	**Soufriere Volc**	**2.78**	**17**	*e*P		**Pn**	**Pn**	**13 24 33.0**	**+1.0**
SVV				*e*S		**Sn**	**Sn**	**13 25 04.4**	**+0.1**
SSV	**Crater Summit**	**2.80**	**18**	*e*P		**Pn**	**Pn**	**13 24 33.4**	**+1.2**
SFAN	**Fancy Village**	**2.86**	**18**	*e*P		**Pn**	**Pn**	**13 24 34.5**	**+1.6**
SFAN				*e*S		**Sn**	**Sn**	**13 25 05.3**	**-0.8**
MCLT	**Moule a Chique**	**3.23**	**20**	*e*P		**Pn**	**Pn**	**13 24 38.9**	**+0.7**
MCLT				*e*S		**Sn**	**Sn**	**13 25 14.4**	**-1.0**
SLB	**Belfond**	**3.31**	**17**	*e*P		**Pn**	**Pn**	**13 24 40.7**	**+1.4**
SLB				*e*S		**Sn**	**Sn**	**13 25 16.9**	**-0.6**
BBGH	**Gun Hill**	**3.48**	**44**	*e*P		**Pn**	**Pn**	**13 24 43.0**	**+1.5**
BBGH				*e*S		**Sn**	**Sn**	**13 25 20.9**	**-0.7**
BBSP	**Saint Philip**	**3.53**	**46**	*e*P		**Pn**	**Pn**	**13 24 43.2**	**+1.1**
BBSP				*e*S		**Sn**	**Sn**	**13 25 22.0**	**-0.6**
H05S1	**Guadeloupe/Mar**	**3.94**	**17**	Pn		**Pn**	**Pn**	**13 24 48.3**	**+0.6**
H05S1				Sn		**Sn**	**Sn**	**13 25 29.7**	**-3.1**
TRMF	**Trois Ilets**	**3.99**	**14**	⇓*e*P		**Pn**	**Pn**	**13 24 49.0**	**+0.5**
ZAM	**Aeronautique**	**4.03**	**14**	*e*P		**Pn**	**Pn**	**13 24 49.6**	**+0.6**
FDF	**Fort de France**	**4.16**	**12**	*e*Pn		**Pn**	**Pn**	**13 24 50.8**	**0.0**
FDF	**Fort de France**	**4.16**	**12**	*e*P		**Pn**	**Pn**	**13 24 51.5**	**+0.7**
FDF	**Fort de France**	**4.16**	**12**	*e*S		**Sn**	**Sn**	**13 25 37.5**	**-0.7**
PML	**Morne Lenard**	**4.20**	**12**	*e*P		**Pn**	**Pn**	**13 24 51.9**	**+0.5**
GBMF	**Grand Be**	**4.22**	**12**	*e*P		**Pn**	**Pn**	**13 24 52.2**	**+0.6**
PCM	**Pelee Case Pet**	**4.23**	**11**	*e*P		**Pn**	**Pn**	**13 24 52.3**	**+0.6**
CXM	**Morne La Croix**	**4.23**	**12**	*e*P		**Pn**	**Pn**	**13 24 52.2**	**+0.3**
BAMF	**Morne Balai**	**4.24**	**12**	*e*P		**Pn**	**Pn**	**13 24 52.5**	**+0.6**
ILAM	**Ilet Lapin Mar**	**4.26**	**16**	*e*P		**Pn**	**Pn**	**13 24 52.9**	**+0.7**
BBL	**Barber's Block**	**4.88**	**7**	*e*P		**Pn**	**Pn**	**13 25 01.3**	**+0.6**
MDPO	**Dominica; Chan**	**4.94**	**7**	*e*P		**Pn**	**Pn**	**13 25 02.5**	**+1.1**
TDBA	**Terre de Bas,**	**5.19**	**4**	*e*P		**Pn**	**Pn**	**13 25 05.7**	**+0.9**
TBG	**Guadaloupe-3**	**5.19**	**4**	*e*P		**Pn**	**Pn**	**13 25 05.7**	**+0.8**
TBG	**Guadaloupe-3**	**5.19**	**4**	*e*S		**Sn**	**Sn**	**13 26 01.9**	**-1.6**
MGG	**Marie-Galante**	**5.29**	**8**	*e*P		**Pn**	**Pn**	**13 25 07.7**	**+1.4**
MGG	**Marie-Galante**	**5.29**	**8**	*e*S		**Sn**	**Sn**	**13 26 04.5**	**-1.5**
MAGL	**Barre de l'ile**	**5.33**	**8**	*e*P		**Pn**	**Pn**	**13 25 08.2**	**+1.4**
CBE	**Ff, Capester**	**5.41**	**5**	*e*P		**Pn**	**Pn**	**13 25 09.3**	**+1.4**
H05N	**Guadeloupe/Mar**	**5.72**	**10**	Pn		**Pn**	**Pn**	**13 25 12.6**	**+0.4**
H05N1				Sn		**Sn**	**Sn**	**13 26 10.6**	**-5.9**
ABD	**La Joyeuse, An**	**5.82**	**5**	*e*P		**Pn**	**Pn**	**13 25 15.0**	**+1.5**
MLYT	**Lee's Yard**	**6.04**	**359**	*e*P		**Pn**	**Pn**	**13 25 18.3**	**+1.7**
MLYT	**Lee's Yard**	**6.04**	**359**	*e*		**Pn**	**Pn**	**13 25 19.0**	**+2.4**
MLYT	**Lee's Yard**	**6.04**	**359**	*e*S		**Sn**	**Sn**	**13 26 21.8**	**-2.6**
BPA

SDV				Sn	**Sn**	13 27 28.0	-0.3	
SDV	**Santo Domingo**	**8.63**	**259**	*e*P	**Pn**	13 25 54.8	+2.5	
SDV	**Santo Domingo**	**8.63**	**259**	*e*P	**Pn**	13 25 54.8	+2.5	
SDV	**Santo Domingo**	**8.63**	**259**	Pn	**Pn**	13 25 55.3	+3.1	
	2.0nm,0.3s,baz=127,slow=6.9,SNR=17							
SDV				Sn	**Sn**	13 27 28.0	-0.3	
	3.4nm,0.3s,baz=45,slow=20,SNR=9.3							
MDP	**Montagnes des**	**10.83**	**120**	Pn	**Pn**	13 26 18.7	-3.5	
	0.9nm,0.3s,baz=319,slow=16,SNR=8.1							
MDP				Sn	Sn	13 28 11.0	-11	
	16nm,0.3s,baz=40,slow=17,SNR=22							
PAMC	**Pamplona, Colo**	**11.01**	**254**	*e*P	**Pn**	13 26 26.8	+1.8	
PAMC	**Pamplona, Colo**	**11.01**	**254**	*e*P	**Pn**	13 26 26.8	+1.8	
PTGA	**Pitinga**	**11.49**	**169**	Pn	**Pn**	13 26 32.3	+1.1	
	2.4nm,0.3s,baz=353,slow=18,SNR=24							
PTGA				Sn	**Sn**	13 28 34.4	-3.7	
	2.1nm,0.3s,baz=39,slow=19,SNR=11							
BARC	**Barichara**	**11.71**	**251**	*e*P	**Pn**	13 26 36.8	+2.3	
BARC	**Barichara**	**11.71**	**251**	*e*P	**Pn**	13 26 36.8	+2.3	
RUSC	**La Rusia**	**11.89**	**247**	*e*P	**Pn**	13 26 39.2	+2.2	
RUSC	**La Rusia**	**11.89**	**247**	*e*P	**Pn**	13 26 39.2	+2.2	
CHIC	**Chingaza**	**13.02**	**244**	*e*P	**Pn**	13 26 54.9	+2.5	
CHIC	**Chingaza**	**13.02**	**244**	*e*P	**Pn**	13 26 54.9	+2.5	
ZARC	**Zaragoza, Cauc**	**13.02**	**257**	*e*P	**Pn**	13 26 52.5	+0.3	
ZARC	**Zaragoza, Cauc**	**13.02**	**257**	*e*P	**Pn**	13 26 52.5	+0.3	
RREF	**El Recreo**	**14.35**	**248**	*e*P	**Pn**	13 27 12.3	+1.8	
RREF	**El Recreo**	**14.35**	**248**	*e*P	**Pn**	13 27 12.3	+1.8	
PRAC	**Prado**	**14.47**	**243**	*e*P	**P**	13 27 14.8	-1.9	
PRAC	**Prado**	**14.47**	**243**	*e*P	**P**	13 27 14.8	-1.9	
GTBY	**Guantanamo Bay**	**15.60**	**308**	*e*Pn	**Pn**	13 27 25.8	-0.3	
	151nm,1.6s							
MTDJ	**Mount Denham**	**16.77**	**298**	*e*Pn	**Pn**	13 27 40.4	-0.5	
	145nm,1.3s							
ATAH	**Atahualpa**	**24.01**	**223**	LR	LR	13 40 32.0		
	comp=Z,68nm,20.4s,baz=59,slow=42							
TXAR	**Lajitas Array**	**43.01**	**302**	P	**P**	13 31 44.5	+0.8	
	0.9nm,1.1s,baz=70,slow=8.1,SNR=4.2							
TXAR				PcP	**PcP**	13 33 34.9	+1.6	
	0.3nm,0.5s,baz=117,slow=4.8,SNR=6.8							
SCHQ	**Schefferville**	**44.24**	**356**	*e*P	**P**	13 31 53.0	-0.1	
	45nm,1.9s							
SCHQ	**Schefferville**	**44.24**	**356**	P	**P**	13 31 54.0	+0.9	
	3.0nm,0.9s,baz=201,slow=9.0,SNR=3.9							
H10N3	**ASCENSION HYDR**	**50.77**	**109**	T	T	14 28 14.1		
	baz=293,slow=75,SNR=5.8							
H10N2	**ASCENSION HYDR**	**50.78**	**109**	T	T	14 28 12.3		
	baz=293,slow=75,SNR=6.3							
H10N1	**ASCENSION HYDR**	**50.79**	**109**	T	T	14 28 11.6		
	baz=293,slow=75,SNR=5.3							
H10S3	**ASCENSION HYDR**	**51.02**	**111**	T	T	14 28 31.6		
	baz=296,slow=75							
H10S1	**ASCENSION HYDR**	**51.03**	**111**	T	T	14 28 32.2		
	baz=296							
H10S2	**ASCENSION HYDR**	**51.04**	**111**	T	T	14 28 30.8		
	baz=296,slow=75							
PD31	**Pinedale Array**	**52.18**	**317**	*e*P	**P**	13 32 53.7	-1.1	
	8.6nm,1.8s							
PDAR	**Pinedale Array**	**52.18**	**317**	P	**P**	13 32 54.5	-0.4	
	0.3nm,0.5s,baz=113,slow=8.9,SNR=4.2							
PDAR				PcP	**PcP**	13 34 06.7	+0.8	
	0.4nm,0.8s,baz=112,slow=5.9,SNR=2.7							
TOA1	**Torodi Ar. Sit**	**62.29**	**81**	*e*P	**P**	13 34 07.3	+1.0	
TORD	**Torodi Ar. Bea**	**62.29**	**81**	P	**P**	13 34 07.3	+1.0	
	0.2nm,0.6s,baz=259,slow=3.8,SNR=2.5							
YKA	**Yellowknife Ar**	**63.89**	**336**	P	**P**	13 34 14.2	-1.9	
	0.2nm,0.5s,baz=107,slow=7.3,SNR=5.1							
YKB5	**Yellowknife Ar**	**63.89**	**336**	*e*P	**P**	13 34 15.3	-0.8	
NB200	**NORSAR Array S**	**72.66**	**29**	*e*P	**P**	13 35 11.9	+0.9	
NOA	**NORSAR Array B**	**72.66**	**29**	P	**P**	13 35 11.9	+0.9	
	1.4nm,0.9s,baz=242,slow=6.6,SNR=3.1							
ILAR	**Eielson Array**	**78.24**	**334**	P	**P**	13 35 42.4	-0.5	
	0.3nm,0.6s,baz=99,slow=5.6,SNR=3.8							
FIA0	**FINESS Array S**	**79.84**	**29**	*e*P	**P**	13 35 53.6	+1.9	
FINES	**FINESS Array B**	**79.84**	**29**	P	**P**	13 35 53.6	+1.9	
	4.1nm,1.1s,baz=274,slow=6.8,SNR=3.9							
CMAR	**Chiang Mai Arr**	**145.54**	**33**	PKPbc	**PKPab**	13 43 24.1	+1.5	
	1.5nm,0.5s,baz=308,slow=4.4,SNR=6.9							
ASAR	**Alice Springs**	**160.02**	**228**	PKP	**PKPdf**	13 43 43.2	0.0	
	0.2nm,0.8s,baz=85,slow=2.0,SNR=2.9							

*SOME **04** 13:25:53.9, 40°.97N × 78°.97E, h0km*
NNC 04 13:25:54.1±2.6, 40°.89N × 78°.95E, h0km, mb2.9, mpv2.6, 4C-2D, Error ellipse: s-maj=17.9km s-min=11.5km az=163.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**2.25**	**1**	Pg	Pb	13 26 36.0	+0.2
	0.9nm,0.3s						
UZB				Lg	Lg	13 27 06.1	
	2.5nm,0.5s						
UZB	**Uzynbulak**	**2.25**	**1**	*e*P	Pb	13 26 36.0	+0.2
	0.9nm,0.3s						
UZB				*e*S	Sg	13 27 06.1	-0.4
	2.5nm,0.5s						
SHLS	**Shalkode**	**2.29**	**9**	Pg	Pg	13 26 37.9	-0.2
	3.6nm,0.3s						
SHLS				Lg	Lg	13 27 09.4	
	5.2nm,0.5s						
SHLS	**Shalkode**	**2.29**	**9**	*e*P	Pg	13 26 37.9	-0.2
	3.6nm,0.3s						
SHLS				*e*S	Sg	13 27 09.4	+1.6
	5.2nm,0.5s						
PDGK	**Podgornoye**	**2.47**	**9**	Pg	Pb	13 26 38.8	-0.6
	0.5nm,0.2s						
PDGK				Lg	Lg	13 27 11.2	
	2.2nm,0.7s						
PDGK	**Podgornoye**	**2.47**	**9**	⇓Pg	Pb	13 26 39.0	-0.4
	0.6nm,0.4s						
PDGK				⇑Lg	Lg	13 27 11.0	
	2.7nm,0.6s						
TNSS	**Tian-Shan**	**2.61**	**326**	Pg	Pg	13 26 43.4	-0.7
	1.5nm,0.3s						
TNSS				Lg	Lg	13 27 18.9	
	4.0nm,0.6s						
TNSS	**Tian-Shan**	**2.61**	**326**	*e*P	Pg	13 26 43.4	-0.7
	1.5nm,0.3s						
TNSS				*e*S	Sg	13 27 18.9	+1.0
	4.0nm,0.6s						
MDOK	**Medeo**	**2.67**	**329**	⇑Pg	Pb	13 26 40.9	-2.1
	3.0nm,1.0s						
MDOK				⇑Lg	Lg	13 27 18.8	
	4.6nm,0.8s						
MDOK	**Medeo**	**2.67**	**329**	Pg	Pb	13 26 43.9	+1.0
	1.3nm,0.2s						
MDOK				Lg	Lg	13 27 19.9	
	4.0nm,0.7s						
MDOK	**Medeo**	**2.67**	**329**	*e*P	Pb	13 26 43.9	+1.0
	1.3nm,0.2s						
MDOK				*e*S	Sg	13 27 19.9	0.0
	4.0nm,0.7s						
TKM2	**Tokmak 2**	**3.22**	**310**	⇓Pg	Pb	13 26 52.5	+0.3
	1.5nm,1.2s						
TKM2				⇑Lg	Lg	13 27 37.4	
	1.9nm,0.6s						

*IDC **04** 13:50:46.5±1.6, 14°.16N × 90°.44W, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.7/4, MS3.5/6, Ms1 3.5/6, ms1mx3.1/34, Error ellipse: s-maj=39.0km s-min=14.1km az=86.0*
*ISCJB **04** 13:50:48.2±0.6, 14°.14N±0°.05 × 90°.31W±0°.04, h21km±5km, mb3.5/3, MS3.5/4, Error ellipse: s-maj=10.1km s-min=4.2km az=33.6*
*UCR **04** 13:50:48.0±1.4, 14°.13N × 90°.29W, h13km±6km, MD3.7, ML3.6*
ISC 04 13:50:47.6±1.3, 14°.24N±0°.05 × 90°.22W±0°.03, h4km±10km, n28, σ0°89/30, mb3.8/3, MS3.4/4, 5C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.24**	**255**	⇓*i*P	**Pg**	13 50 52.6	+0.4
NBG	**Las Nubes**	**0.37**	**340**	⇓*e*P	**Pb**	13 50 56.6	-0.3
PCG	**Pacaya**	**0.41**	**292**	*e*P	**Pb**	13 50 56.7	-0.8
PCG				*e*S	**Sb**	13 51 02.7	-1.5
FUG	**Fuego 3**	**0.64**	**289**	*e*P	**Pb**	13 51 00.5	-1.0
RTR	**El Retiro**	**0.65**	**121**	⇑*i*P	**Pg**	13 51 00.5	+0.5
SNJE	**San Jose**	**0.70**	**122**	⇑*i*P	**Pg**	13 51 01.3	+0.3
SBLS	**San Blas**	**0.70**	**124**	⇑*i*P	**Pg**	13 51 01.6	+0.6
SBLS				*e*S	**Sb**	13 51 12.9	+0.4
CEVE	**Cerro Verde**	**0.70**	**125**	*e*P	**Pb**	13 51 01.9	-0.7
CEVE				IAML		13 51 14.9	
	comp=Z,5μm,0.4s						
APG	**El Apazote**	**0.80**	**343**	Pg	**Pg**	13 51 03.0	+0.1
	comp=Z,282nm,0.3s,baz=170,slow=9.5,SNR=1397						
APG				Lg	Lg	13 51 14.5	
	comp=Z,318nm,0.3s,baz=27,slow=18,SNR=22						
APG				LR	LR	13 51 38.7	
	comp=Z,1μm,20.1s,baz=1.0,slow=62						
MRL	**Marmol**	**0.97**	**32**	*e*P	**Pn**	13 51 07.8	-0.4
MRL				*e*S	Sn	13 51 24.0	+1.5
BOQS	**Boqueron**	**1.04**	**119**	*e*P	**Pg**	13 51 07.5	0.0
LFU	**La Fuente**	**1.18**	**114**	*e*P	**Pg**	13 51 09.7	-0.5
LFU				*e*S	**Sb**	13 51 26.2	+0.1
LBRS	**Las Brisas**	**1.24**	**113**	*e*P	**Pg**	13 51 10.8	-0.6
LFRS	**El Faro**	**1.28**	**118**	⇑*i*P	**Pg**	13 51 11.5	-0.6
PAVA	**Las Pavas**	**1.35**	**113**	*e*P	**Pn**	13 51 12.5	-0.8
PAVA				IAML		13 51 37.4	
	comp=Z,1μm,0.5s						
VICT	**Victoria**	**1.56**	**100**	⇑*i*P	**Pn**	13 51 15.8	-0.4
VICT				*e*S	**Sg**	13 51 37.7	+0.1
VICT				IAML		13 51 45.4	
	comp=Z,618nm,0.3s						
TECA	**Tecapa**	**1.82**	**114**	*e*P	**Pn**	13 51 20.6	+0.7
CMIG	**Matias Romero**	**5.32**	**303**	Pn	**Pn**	13 52 08.5	+0.7
	comp=Z,0.5nm,0.3s,baz=116,slow=6.9,SNR=4.5						
CMIG				Pg	**Pb**	13 52 22.0	+0.9
	comp=Z,2.0nm,0.3s,baz=135,slow=11,SNR=16						
CMIG				Lg	Lg	13 53 30.1	
	comp=Z,2.0nm,0.3s,baz=20,slow=6.0,SNR=4.6						
CMIG				LR	LR	13 54 10.7	
	comp=Z,353nm,18.7s,baz=138,slow=39						
JTS	**JuntasAbangare**	**6.47**	**127**	Sn	**Sn**	13 53 39.7	+1.6
	comp=Z,0.6nm,0.3s,baz=90,slow=15,SNR=2.2						
TXAR	**Lajitas Array**	**19.51**	**323**	P	**Pn**	13 55 18.4	+1.2
	comp=Z,0.1nm,0.3s,baz=153,slow=9.4,SNR=11						
SDV	**Santo Domingo**	**19.90**	**103**	P	**Pn**	13 55 22.7	+0.6
	comp=Z,5.0nm,0.6s,baz=281,slow=12,SNR=4.6						
SDV				LR	LR	14 03 26.3	
	comp=Z,65nm,18.2s,baz=68,slow=38						
LPIG	**La Paz**	**21.34**	**300**	LR	LR	14 03 49.2	
	comp=Z,185nm,18.2s,baz=130,slow=37						
SJG	**San Juan**	**23.43**	**77**	LR	LR	14 04 57.9	
	comp=Z,111nm,19.3s,baz=248,slow=36						
ATAH	**Atahualpa**	**24.26**	**150**	LR	LR	14 02 43.3	
	comp=Z,58nm,21.3s,baz=333,slow=30						
NVAR	**Mina Array Bea**	**34.60**	**319**	P	**P**	13 57 38.7	+0.7
	comp=Z,0.1nm,0.5s,baz=130,slow=9.5,SNR=1.7						
YKA	**Yellowknife Ar**	**51.21**	**346**	P	**P**	13 59 51.2	-0.7
	comp=Z,0.9nm,0.7s,baz=147,slow=7.6,SNR=9.5						
ILAR	**Eielson Array**	**63.31**	**336**	P	**P**	14 01 15.5	-1.9
	comp=Z,0.8nm,1.0s,baz=140,slow=5.7,SNR=6.0						
PETK	**Petropavlovsk-**	**91.42**	**326**	LR	LR	14 45 41.7	
	comp=Z,44nm,18.6s,baz=83,slow=36						

WEL 04 13:52:29.3, 46°S±4° × 16°7E±°, h76km±4km, ML3.5/13, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.18**	**233**	P	Pn	13 52 41.2	+0.6
PYZ				S	Sn	13 52 49.5	+0.7
DCZ	**Deep Cove**	**0.62**	**18**	P	Pn	13 52 43.8	0.0
DCZ				S	Sn	13 52 54.7	+0.2
WHZ	**Wether Hill Ro**	**0.76**	**78**	P	Pn	13 52 45.8	+0.6
WHZ				S	Sn	13 52 57.6	+0.4
MLZ	**Mavora Lakes**	**1.11**	**52**	P	Pn	13 52 49.9	+0.4
MLZ				S	Sn	13 53 05.2	+0.7
MSZ	**Milford Sound**	**1.57**	**28**	P	Pn	13 52 55.0	-0.3
SYZ	**Scrubby Hill**	**1.64**	**108**	P	Pn	13 52 56.9	+0.7
EAZ	**Earnscleugh**	**1.89**	**65**	P	Pn	13 52 59.8	+0.2
TUZ	**Tuapeka**	**1.92**	**88**	P	Pn	13 53 00.3	+0.4
WKZ	**Wanaka**	**1.94**	**51**	P	Pn	13 53 01.1	+0.7
JCZ	**Jackson Bay**	**2.40**	**35**	P	Pn	13 53 06.7	+0.2
HHSZ	**Highcliff Hill**	**2.59**	**87**	P	Pn	13 53 09.2	+0.1
ODZ	**Otahua Downs**	**2.83**	**70**	P	Pn	13 53 10.9	-1.3
LBZ	**Lake Benmore**	**2.87**	**56**	P	Pn	13 53 11.7	-1.1
FOZ	**Fox Glacier**	**3.28**	**51**	P	Pn	13 53 17.5	-0.8
RPZ	**Rata Peaks**	**3.78**	**53**	P	Pn	13 53 23.1	-2.0
LTZ	**Lake Taylor**	**5.06**	**52**	P	Pn	13 53 42.4	-0.3
DSZ	**Denniston Nort**	**5.59**	**41**	P	Pn	13 53 48.1	-1.7
THZ	**Tophouse**	**6.11**	**47**	P	Pn	13 53 56.6	-0.4

IDC 04 14:07:19.8±1.2, 9°.07S × 159°.58E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/32, mbtmp3.4/4, Error ellipse: s-maj=30.8km s-min=9.1km az=41.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**0.51**	**135**	*i* P	Pg	14 07 30.0	+0.5
HNR				*i* S	Sg	14 07 32.0	-4.2
HNR	**Honiara**	**0.51**	**135**	Pg	Pg	14 07 29.7	+0.1
	308nm,0.3s,baz=121,slow=11,SNR=818						
HNR				Lg	Lg	14 07 36.5	
	2μm,0.3s,baz=158,slow=19,SNR=44						
WRA	**Warramunga Arr**	**26.68**	**243**	P	P	14 12 58.9	-1.9
	0.3nm,0.7s,baz=74,slow=9.6,SNR=1.8						
ASAR	**Alice Springs**	**28.52**	**236**	P	P	14 13 18.4	+1.1
	0.3nm,0.9s,baz=63,slow=9.9,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**29.50**	**14**	T	T	14 43 35.4	
	baz=194,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**29.50**	**14**	T	T	14 43 35.9	
	baz=194,slow=76,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**29.52**	**14**	T	T	14 43 37.2	
	baz=194,slow=76,SNR=8.3						
ILAR	**Eielson Array**	**83.68**	**20**	P	P	14 19 49.3	-0.8
	0.3nm,0.4s,baz=245,slow=4.9,SNR=10						
MKAR	**Makanchi Array**	**87.97**	**318**	P	P	14 20 13.4	+1.6
	0.3nm,0.9s,baz=101,slow=6.0,SNR=1.9						

*ISCJB **04** 14:16:27.7±0.4, 12°.11N±0°.05 × 88°.42W±0°.03, h33km, mb4.5/41, MS3.4/10, Error ellipse: s-maj=7.2km s-min=3.8km az=28.3*
*UCR **04** 14:16:28.2±0.9, 12°.09N × 88°.44W, h18km±4km, ML3.9, mb4.5(NEIC)*
*NEIC **04** 14:16:32.9±0.6, 12°.33N × 88°.21W, h54km±5km, mb4.5/43, Error ellipse: s-maj=8.5km s-min=4.8km az=218.0*
*IDC **04** 14:16:32.1±2.6, 12°.41N × 88°.17W, h39km±22km, mb4.0/12, mb1 4.1/16, mb1mx3.8/45, mbtmp4.1/16, ML3.0/4, MS3.4/11, Ms1 3.4/11, ms1mx3.2/37, Error ellipse: s-maj=29.0km s-min=13.8km az=53.0*
ISC 04 14:16:30.4±0.6, 12°.23N±0°.06 × 88°.27W±0°.05, h33km, n241, σ1s04/234, mb4.5/41, MS3.4/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.13**	**22**	*e*P	**Pb**	**14 16 51.5**	**0.0**
CNCH				*e*S	**Sb**	**14 17 09.6**	**+3.7**
CNCH				IAML		14 17 19.8	
	comp=Z,5μm,0.5s						
LCND	**La Caada**	**1.14**	**19**	*e*P	**Pb**	**14 16 51.5**	**-0.1**
LCND				IAML		14 17 16.9	
	comp=Z,1μm,0.3s						
LCY	**Lacayo**	**1.19**	**359**	*e*P	**Pb**	**14 16 51.9**	**-0.7**
VSM	**San Miguel**	**1.19**	**360**	*e*P	**Pb**	**14 16 52.5**	**-0.2**
BLLM	**Bellamira**	**1.21**	**2**	*e*P	**Pb**	**14 16 52.3**	**-0.5**
TECA	**Tecapa**	**1.28**	**350**	*e*P	**Pn**	**14 16 52.6**	**+0.4**
CRIN	**San Cristobal**	**1.28**	**68**	*e*P	**Pb**	**14 16 54.4**	**+0.3**
SNVI	**San Vicente**	**1.48**	**338**	*e*P	**Pn**	**14 16 55.3**	**+0.3**
CAHU	**Cacacuatique**	**1.54**	**2**	*e*P	**Pn**	**14 16 57.3**	**+1.6**
CAHU				*e*P	**Pn**	**14 16 57.4**	**+1.6**
LFRS	**El Faro**	**1.59**	**331**	*e*P	**Pn**	**14 16 55.6**	**-0.7**
PAVA	**Las Pavas**	**1.61**	**336**	*e*P	**Pn**	**14 16 56.8**	**+0.1**
PAVA				IAML		14 17 21.0	
	comp=Z,922nm,0.4s						
COPN	**Copaltepe**	**1.64**	**91**	*e*P	**Pn**	**14 16 58.3**	**+1.3**
MOMN	**Momotombo**	**1.70**	**84**	*e*P	**Pn**	**14 16 59.2**	**+1.4**
VICT	**Victoria**	**1.76**	**348**	*e*P	**Pn**	**14 16 59.9**	**+1.2**
BOQS	**Boqueron**	**1.79**	**327**	*e*P	**Pn**	**14 16 59.0**	**-0.3**
MGAN	**Managua**	**1.98**	**92**	*e*P	**Pn**	**14 17 03.0**	**+1.4**
MGAN				*e*S	**Sb**	**14 17 29.4**	**-0.8**
TGUH	**Tegucigalpa,Un**	**2.06**	**28**	*e*Pn	**Pb**	**14 17 05.2**	**-2.0**
TGUH	**Tegucigalpa,Un**	**2.06**	**28**	*e*P	**Pb**	**14 17 05.4**	**-1.8**
CEVE	**Cerro Verde**	**2.06**	**321**	*e*P	**Pn**	**14 17 02.3**	**-0.7**
CEVE				IAML		14 17 33.8	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**2.07**	**321**	*e*P	**Pn**	**14 17 02.5**	**-0.6**
RTR	**El Retiro**	**2.13**	**321**	*e*P	**Pn**	**14 17 03.5**	**-0.4**
MATN	**Matagalpa**	**2.40**	**73**	*e*P	**Pn**	**14 17 09.2**	**+1.7**
APG	**El Apazote**	**3.49**	**323**	Pn	**Pn**	**14 17 24.2**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=261,slow=3.9,SNR=4.2						
JTS	**JuntasAbangare**	**3.78**	**120**	*e*Pn	**Pn**	**14 17 28.6**	**+2.1**
JTS				Sn	**Sn**	**14 18 10.4**	**+0.5**
JTS	**JuntasAbangare**	**3.78**	**120**	Pn	**Pn**	**14 17 29.3**	**+2.8**
	comp=Z,4.6nm,0.3s,baz=9.2,slow=18,SNR=7.1						
JTS				Sn	**Sn**	**14 18 10.4**	**+0.5**
	comp=Z,6.7nm,0.3s,baz=340,slow=19,SNR=2.9						
JTS				LR	LR	14 19 09.2	
	comp=Z,374nm,21.7s,baz=306,slow=42						
ESPN	**Las Esperanzas**	**3.88**	**90**	*e*Pn	**Pn**	**14 17 29.3**	**+1.5**
HDC	**Heredia**	**4.64**	**118**	*e*Pn	**Pn**	**14 17 40.2**	**+1.8**
CCIG	**Comitan**	**5.50**	**318**	*e*Pn	**Pn**	**14 17 52.7**	**+2.4**
CMIG	**Matias Romero**	**8.02**	**308**	Pn	**Pn**	**14 18 24.6**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=147,slow=11,SNR=6.4						
CMIG				Sn	**Sn**	**14 20 00.1**	**+5.8**
	comp=Z,0.1nm,0.3s,baz=300,slow=20,SNR=2.0						
MYIG	**Mrida**	**8.79**	**351**	*e*Pn	**Pn**	**14 18 34.8**	**-0.5**
FSCY	**Frank Sound, G**	**9.80**	**43**	*e*Pn	**Pn**	**14 18 49.1**	**0.0**
LNIG	**Linares**	**16.46**	**322**	*e*P	**P**	**14 20 22.3**	**+0.9**
	comp=Z,20nm,0.8s						
ZAIG	**Zacatecas**	**17.18**	**310**	*e*Pn	**P**	**14 20 30.4**	**+0.7**
	comp=Z,22nm,1.8s						
SDV	**Santo Domingo**	**17.66**	**99**	*e*Pn	**P**	**14 20 35.0**	**+0.1**
	comp=Z,6.2nm,0.8s						
SDV	**Santo Domingo**	**17.66**	**99**	P	**P**	**14 20 35.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=228,slow=15,SNR=3.8						
SDDR	**Presa de Saban**	**17.68**	**66**	*e*Pn	**Pn**	**14 20 33.5**	**-0.8**
	comp=Z,54nm,1.4s						
451A	**Vernon**	**18.45**	**7**	*e*P	**P**	**14 20 42.0**	**-1.3**
	comp=Z,78nm,0.9s						
833A	**Chaparral WMA,**	**19.09**	**329**	*e*P	**Pn**	**14 20 51.5**	**+0.1**
	comp=Z,49nm,0.8s						
833A	**Chaparral WMA,**	**19.09**	**329**	P	**Pn**	**14 20 51.6**	**+0.3**
	baz=145						
456A	**Hilliard**	**19.30**	**16**	*e*P	**P**	**14 20 52.5**	**-0.1**
	comp=Z,79nm,0.6s						
352A	**Blakely**	**19.41**	**9**	*e*P	**P**	**14 20 52.5**	**-1.3**
	comp=Z,34nm,0.8s						
352A	**Blakely**	**19.41**	**9**	P	**Pn**	**14 20 55.4**	**+0.3**
	baz=190						
TIGA	**Tifton**	**19.60**	**12**	P	**Pn**	**14 20 57.4**	**-0.1**
	baz=194						
252A	**Lumpkin**	**19.94**	**9**	P	**Pn**	**14 21 01.3**	**-0.2**
	baz=190						
251A	**Midway**	**19.95**	**7**	P	**Pn**	**14 21 01.8**	**+0.3**
	baz=188,SNR=5.8						
VBMS	**Vicksburg**	**20.00**	**354**	*e*P	Pn	14 21 01.8	-0.4
	comp=Z,51nm,0.7s						
253A	**Americus**	**20.11**	**10**	P	Pn	14 21 03.2	-0.2
	baz=192						
254A	**Abbeville**	**20.15**	**12**	P	Pn	14 21 03.0	-1.0
	baz=194						
255A	**Hazlehurst**	**20.32**	**14**	P	Pn	14 21 05.1	-0.8
	baz=196						
149A	**Jones**	**20.32**	**4**	P	Pn	14 21 05.5	-0.5
	baz=184						
147A	**Livingston**	**20.35**	**0**	P	Pn	14 21 05.8	-0.4
	baz=180						
151A	**Opelika**	**20.39**	**7**	P	Pn	14 21 06.1	-0.6
	baz=188						
150A	**Eclectic**	**20.39**	**5**	P	Pn	14 21 06.5	-0.2
	baz=186						
152A	**Waverly Hall**	**20.61**	**9**	*e*P	Pn	14 21 08.4	-0.9
	comp=Z,16nm,1.0s						
152A	**Waverly Hall**	**20.61**	**9**	P	**P**	**14 21 07.6**	**+0.8**
	baz=190						
LRAL	**Lakeview Retre**	**20.74**	**3**	*e*Pn	Pn	14 21 10.9	0.0
	comp=Z,7.3nm,0.8s						
LRAL	**Lakeview Retre**	**20.74**	**3**	P	Pn	14 21 10.0	-0.8
	baz=183						
Z49A	**Columbiana**	**20.93**	**4**	P	Pn	14 21 12.0	-1.0
	baz=185						
155A	**Kite**	**20.99**	**14**	P	**P**	**14 21 11.6**	**+0.7**
	baz=196						
Z50A	**Ashland**	**21.04**	**5**	*e*P	**P**	**14 21 12.7**	**+1.2**
	comp=Z,14nm,0.9s						
Z50A	**Ashland**	**21.04**	**5**	P	**P**	**14 21 12.7**	**+1.2**
	baz=186						
JCT	**Junction City**	**21.07**	**331**	*e*P	**P**	**14 21 12.1**	**+0.1**
	comp=Z,16nm,0.8s						
JCT	**Junction City**	**21.07**	**331**	P	**P**	**14 21

TKL	Tuckaleechee C	23.68	9	*e*P		P		14 21 39.3	+0.2	
	comp=Z,33nm,1.4s									
TKL	Tuckaleechee C	23.68	9	P		P		14 21 39.6	+0.4	
	comp=Z,14nm,1.1s,baz=190,slow=11,SNR=6.6									
TKL				LR		LR		14 30 32.5		
	comp=Z,72nm,20.6s,baz=206,slow=36									
WVT	Waverly	23.80	1	P		P		14 21 39.6	-0.6	
	baz=181									
V53A	Saluda	23.86	11	P		P		14 21 40.8	-0.1	
	baz=193									
U47A	Clarksville	24.12	2	P		P		14 21 42.6	-0.7	
	baz=182									
V54A	Nebo	24.13	13	P		P		14 21 43.7	+0.3	
	baz=195									
U42A	Revenden	24.17	354	P		P		14 21 43.8	+0.1	
	baz=173									
U48A	Cassie Pea, Po	24.23	3	P		P		14 21 43.4	-0.8	
	baz=184									
U41A	Viola	24.24	353	P		P		14 21 43.5	-0.8	
	baz=171									
U50A	Jamestown	24.28	7	P		P		14 21 43.7	-1.1	
	baz=188									
WMOK	Wichita Mounta	24.36	339	*e*P		P		14 21 44.8	-0.7	
	comp=Z,9.5nm,1.0s									
WMOK	Wichita Mounta	24.36	339	P		P		14 21 45.0	-0.5	
	baz=154,SNR=7.1									
U40A	Yellville	24.38	351	P		P		14 21 45.6	-0.1	
	baz=169,SNR=23									
U52A	Thorn Hill	24.46	10	P		P		14 21 45.7	-0.7	
	baz=192									
HHAR	Hobbs	24.49	349	*e*P		P		14 21 46.7	0.0	
	comp=Z,13nm,1.0s									
TUL1	Leonard	24.54	345	P		P		14 21 45.7	-1.4	
	baz=162									
T47A	Sharon Grove	24.68	2	*e*P		P		14 21 46.8	-1.5	
	comp=Z,14nm,1.0s									
T47A	Sharon Grove	24.68	2	P		P		14 21 47.1	-1.3	
	baz=183									
T43A	Greenville	24.82	356	P		P		14 21 48.1	-1.4	
	baz=175									
T42A	Van Buren	24.83	355	P		P		14 21 48.5	-1.2	
	baz=173									
T49A	Edmonton	24.89	5	P		P		14 21 48.7	-1.6	
	baz=186									
T41A	Mountain View	24.91	353	P		P		14 21 50.0	-0.4	
	baz=172									
T51A	Gray	24.94	8	P		P		14 21 49.3	-1.4	
	baz=190									
MNTX	Cornudas Mount	24.98	324	*e*P		P		14 21 50.6	-0.6	
	comp=Z,7.4nm,1.3s									
MNTX	Cornudas Mount	24.98	324	P		P		14 21 50.0	-1.2	
	baz=137									
U55A	TA2, Sparta	25.03	14	P		P		14 21 51.0	-0.7	
	baz=197									
T53A	Wise	25.18	11	P		P		14 21 52.7	-0.3	
	baz=193									
S43A	Fulton Ridge,	25.29	357	P		P		14 21 52.9	-0.9	
	baz=176									
MSTX	Muleshoe	25.36	331	*e*P		P		14 21 53.8	-1.0	
	comp=Z,28nm,1.2s									
MSTX	Muleshoe	25.36	331	P		P		14 21 54.4	-0.3	
	baz=145									
S44A	Carbondale	25.37	358	P		P		14 21 53.4	-1.2	
	baz=178									
S48A	Wiedeman Farm,	25.40	4	P		P		14 21 54.6	-0.3	
	baz=185									
S41A	Jillco Farms,	25.44	354	P		P		14 21 55.4	+0.1	
	baz=172									
S42A	Caledonia	25.54	355	P		P		14 21 55.4	-0.7	
	baz=174									
AMTX	Amarillo	25.63	334	*e*P		P		14 21 57.0	-0.1	
	comp=Z,38nm,1.2s									
AMTX	Amarillo	25.63	334	P		P		14 21 57.4	+0.3	
	baz=148									
CCM	Cathedral Cave	25.86	355	*e*P		P		14 21 58.4	-0.6	
	comp=Z,13nm,0.9s									
CCM	Cathedral Cave	25.86	355	P		P		14 21 59.3	+0.3	
	baz=173									
R44A	Waltonville	25.92	359	P		P		14 21 59.4	-0.2	
	baz=178									
WCI	Wyandotte Cave	25.95	4	P		P		14 21 59.4	-0.5	
	baz=184									
R45A	Skylar, Fairfi	25.96	360	P		P		14 21 59.2	-0.7	
	baz=180									
R41A	Rosebud	26.11	354	P		P		14 22 01.2	-0.1	
	baz=173,SNR=8.7									
Q44A	Meyer Farm, Va	26.57	359	P		P		14 22 04.1	-1.4	
	baz=178									
NNA	Nana	26.60	154	LR		LR		14 32 06.9		
	comp=Z,37nm,19.9s,baz=332,slow=35									
121A	Cookes Peak, D	27.00	322	P		P		14 22 10.4	+0.8	
	baz=134									
Q51A	Peebles	27.05	8	P		P		14 22 10.4	+0.6	
	baz=190									
Q54A	Coxs Mills	27.45	13	P		P		14 22 13.9	+0.5	
	baz=196									
Q55A	Buckhannon	27.64	14	P		P		14 22 14.1	-1.0	
	baz=197									
LENM	Lemitar	27.69	325	*e*P		P		14 22 14.8	-1.1	
O50A	Cable	28.11	8	P		P		14 22 18.7	-0.6	
	baz=190									
SDCO	Great Sand Dun	29.72	332	*e*P		P		14 22 33.9	0.0	
	comp=Z,7.7nm,1.2s									
L41A	Preston	29.80	357	P		P		14 22 31.8	-2.4	
	baz=176									
K43A	Burlington	30.36	360	P		P		14 22 38.3	-1.0	
	baz=180									
K40A	Colesburg	30.46	356	P		P		14 22 39.4	-0.7	
	baz=174									
K39A	Oelwein	30.53	355	P		P		14 22 40.0	-0.7	
	baz=173									
I43A	Langenfeld Bro	31.54	0	P		P		14 22 48.3	-1.3	
	baz=180									
I42A	Draeger Farm,	31.55	359	P		P		14 22 49.5	-0.2	
	baz=179									
PV12	Saucer Basin,	31.78	328	*e*P		P		14 22 50.4	-1.6	
	comp=Z,9.4nm,1.1s									
ECSD	EROS Data Cent	32.21	349	*e*P		P		14 22 53.9	-1.6	
	comp=Z,16nm,1.2s									
ECSD	EROS Data Cent	32.21	349	P		P		14 22 54.3	-1.2	
	baz=164									
H40A	Chili	32.33	357	P		P		14 22 55.8	-0.7	
	baz=176									
H39A	Augusta	32.44	356	P		P		14 22 56.8	-0.7	
	baz=174									
O20A	White River Ci	32.91	331	*e*P		P		14 23 03.1	+1.2	
	comp=Z,13nm,1.2s									
O20A	White River Ci	32.91	331	P		P		14 23 03.4	+1.5	
	baz=142									
G40A	Rib Lake	32.97	357	P		P		14 23 01.9	-0.3	
	baz=176									
G38A	Ridgeland	32.97	355	P		P		14 23 01.9	-0.2	
	baz=173									
G39A	Holcombe	33.04	356	P		P		14 23 01.8	-1.0	
	baz=175,SNR=5.9									
SPMN	Marine on St.	33.11	354	*e*P		P		14 23 02.3	-1.0	
	comp=Z,24nm,0.6s									
SPMN	Marine on St.	33.11	354	P		P		14 23 02.2	-1.2	
	baz=172,SNR=8.2									
SADO	Sadowa	33.36	12	P		P		14 23 05.3	-0.2	
	comp=Z,3.9nm,0.5s,baz=232,slow=6.2,SNR=4.3									
F45A	CMU Biological	33.42	4	P		P		14 23 06.5	+0.4	
	baz=185									
F40A	Park Falls	33.62	358	P		P		14 23 07.0	-0.8	
	baz=177									
F39A	Loretta	33.65	357	P		P		14 23 07.5	-0.5	
	baz=175									
F44A	Big Bay de Noc	33.67	2	P		P		14 23 07.9	-0.3	
	baz=183									
F38A	Pierce - Schro	33.76	355	P		P		14 23 08.7	-0.2	
	baz=174									
E43A	Lone Tree Farm	34.05	2	P		P		14 23 11.0	-0.6	
	baz=182									
E42A	Champion	34.09	0	P		P		14 23 10.6	-1.3	
	baz=180									
E39A	Mellen	34.09	357	P		P		14 23 11.8	0.0	
	baz=176									
E40A	Wakefield	34.13	358	P		P		14 23 11.0	-1.3	
	baz=177									
E46A	Sault Ste Mari	34.19	5	P		P		14 23 11.9	-0.8	
	baz=187									
E44A	Grand Marais A	34.34	3	P		P		14 23 14.1	+0.2	
	baz=184									
LONY	Lake Ozonia	34.35	17	P		P		14 23 14.7	+0.6	
	baz=204									
G55A	Calabogie	34.36	15	P		P		14 23 14.4	+0.2	
	baz=200									
E38A	The Farm, Brul	34.38	356	P		P		14 23 13.6	-0.7	
	baz=174									
E48A	Lockeyer	34.53	7	P		P		14 23 14.5	-1.2	
	baz=190									
RSSD	Black Hills	34.55	340	*e*P		P		14 23 15.2	-0.9	
	comp=Z,7.1nm,1.0s									
EDW2	Edwards Air Fo	35.13	315	P		P		14 23 19.9	-1.3	
	baz=122									
D48A	Paudash Townsh	35.26	8	P		P		14 23 20.5	-1.4	
	baz=191									
PDAR	Pinedale Array	35.59	333	P		P		14 23 24.8	-0.4	
	comp=Z,0.6nm,0.8s,baz=116,slow=10,SNR=4.2									
PDAR				PcP		PcP		14 25 54.5	+0.9	
	comp=Z,0.4nm,0.7s,baz=108,slow=4.8,SNR=3.4									
PDAR				LR		LR		14 40 14.8		
	comp=Z,62nm,18.7s,baz=133,slow=40									
EYMN	Ely	35.71	356	P		P		14 23 24.8	-1.0	
	baz=174									
D53A	Lac Vacive, Po	35.86	12	P		P		14 23 26.8	-0.3	
	baz=198									
D54A	Lac Fusel, La	36.16	13	P		P		14 23 29.3	-0.3	
	baz=199									
AGMN	Agassiz Nation	36.51	351	*e*P		P		14 23 31.3	-1.3	
	comp=Z,21nm,1.2s									
AGMN	Agassiz Nation	36.51	351	P		P		14 23 31.5	-1.1	
	baz=167,SNR=7.6									
REDW	Red Top Meadow	36.65	332	*e*P		P		14 23 33.8	-0.4	
	comp=Z,12nm,1.1s									
SNOW	Snow King Moun	36.68	332	*e*P		P		14 23 34.2	-0.3	
	comp=Z,6.3nm,0.8s									
MDND	Maddock	36.76	347	*e*P		P		14 23 34.3	-0.5	
	comp=Z,26nm,0.8s									
MDND	Maddock	36.76	347	P		P		14 23 34.2	-0.5	
	baz=161									
TPAW	Teton Pass	36.79	332	*e*P		P		14 23 35.6	+0.2	
	comp=Z,9.8nm,1.4s									
MOOW	Moose Ponds	36.90	333	*e*P		P		14 23 36.0	-0.4	
	comp=Z,1.8nm,0.8s									
NVAR	Mina Array Bea	37.34	320	P		P		14 23 40.8	+0.7	
	comp=Z,0.5nm,0.8s,baz=153,slow=5.9,SNR=4.1									
NVAR				PcP		PcP		14 26 00.5	+1.6	
	comp=Z,1.3nm,0.9s,baz=111,slow=5.1,SNR=4.5									
LATQ	La Tuque	37.38	17	P		P		14 23 39.4	-0.7	
	baz=205									
LSQQ	Lebel-sur-Quev	37.90	12	P		P		14 23 43.1	-1.3	
	baz=198									
ULM	Lac du Bonnet	38.42	352	*e*P		P		14 23 46.9	-1.9	
	comp=Z,10nm,0.7s									
ULM	Lac du Bonnet	38.42	352	P		P		14 23 47.2	-1.6	
	comp=Z,9.3nm,0.6s,baz=171,slow=9.2,SNR=22									
ULM				LR		LR		14 40 47.8		
	comp=Z,106nm,18.9s,baz=168,slow=38									
MATQ	Matagami	38.44	11	P		P		14 23 47.9	-1.1	
	baz=197									
DGMT	Dagmar	38.49	343	P		P		14 23 49.1	-0.4	
	baz=154									
HLID	Hailey	38.51	329	P		P		14 23 48.5	-1.4	
	baz=136									
MCMT	McKenzie Canyo	38.69	332	*e*P		P		14 23 51.8	+0.3	
CHGQ	Chibougamau	39.28	14	P		P		14 23 55.1	-0.9	
	baz=202									
EGMT	Eagleton	39.95	337	P		P		14 24 02.7	+1.0	
	baz=146									
I05D	Terrebonne, OR	42.74	325	P		P		14 24 25.2	+0.6	
	baz=128									
I03D	Drain, OR	43.52	323	P		P		14 24 30.7	-0.1	
	baz=125									
J01E	Myrtle Point	43.56	322	P		P		14 24 31.3	+0.1	
	baz=124									
FFC	Flin Flon	43.75	349	*e*P		P		14 24 31.5	-1.1	
	comp=Z,30nm,1.9s									
SCHQ	Schefferville	45.72	17	P		P		14 24 46.7	-1.6	
	comp=Z,9.1nm,0.9s,baz=226,slow=6.9,SNR=6.8									
SCHQ				LR		LR		14 45 20.4		
	comp=Z,128nm,19.3s,baz=300,slow=38									
FCC	Fort Churchill	46.65	356	*e*P		P		14 24 54.0	-1.5	
	comp=Z,6.0nm,0.6s									
BDFB	Brasilia	48.52	124	P		P		14 25 11.4	+0.6	
	comp=Z,1.1nm,0.3s,baz=143,slow=4.4,SNR=3.7									
CPUP	Villa Florida	48.73	142	LR		LR		14 47 16.2		
	comp=Z,44nm,19.2s,baz=202,slow=38									
YKA	Yellowknife Ar	53.62	345	P		P		14 25 47.2	-1.0	
	comp=Z,2.3nm,0.9s,baz=140,slow=7.5,SNR=38									
YKA				PcP		PcP		14 26 54.4	0.0	
	comp=Z,0.4nm,0.7s,baz=146,slow=4.2,SNR=5.5									
PLCA	Paso Flores	55.19	164	P		P		14 26 00.6	+0.5	
	comp=Z,1.4nm,0.7s,baz=358,slow=5.2,SNR=5.2									
EPYK	Eagle Plains	63.00	340	P		P		14 26 52.8	-1.0	
	baz=125									
INK	Inuvik	63.18	343	*e*P		P		14 26 53.8	-1.1	
	comp=Z,6.6nm,1.3s									
INK	Inuvik	63.18	343	P		P		14 26 54.6	-0.3	
	comp=Z,3.2nm,1.0s,baz=128,slow=10,SNR=7.3									
HDA	Harding Lake	65.78	336	P		P		14 27 10.9	-1.1	
	baz=114									
IL1	Eielson Array	65.90	336	*e*P		P		14 27 11.8	-0.9	
ILAR	Eielson Array	65.90	336	P		P		14 27 12.1	-0.6	
	comp=Z,2.2nm,1.1s,baz=166,slow=4.0,SNR=9.0									
RND	Reindeer	66.17	335	*e*P		P		14 27 14.3	-0.3	
	comp=Z,27nm,1.6s									
NOA	NORSAR Array B	83.95	29	LR		LR		15 05 00.6		
	comp=Z,18nm,19.5s,baz=290,slow=35									
NRIK	Noril'sk	98.59	1	LR		LR		15 17 20.5		
	comp=Z,45nm,18.2s,baz=32,slow=37									
LZH	Lanzhou	130.60	347	*e*PKP		PKPdf		14 35 38.4	-0.3	
LZH				pPKP		pPKPdf		14 35 47.4	-1.8	
LZH				sPKP				14 35 53.0		
CD2	Chengdu	135.58	345	PKP		PKPdf		14 35 45.0	-3.0	
WRA	Warramunga Arr	138.44	254	PKP		PKPdf		14 35 54.0	+0.5	
	comp=Z,0.3nm,0.9s,baz=92,slow=2.8,SNR=2.6									
ASAR	Alice Springs	138.44	248	PKP		PKiKP		14 35 55.0	-0.6	
	comp=Z,0.4nm,0.7s,baz=74,slow=2.7,SNR=5.0									
CMAR	Chiang Mai Arr	148.69	347	PKPbc		PKiKP		14 36 16.2	-0.5	
	comp=Z,3.0nm,0.8s,baz=350,slow=3.7,SNR=16									

*IDC **04** 14:29:51.9±0.8,27.5′54N±56.5′53E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/40, mbtmp4.0/18, ML4.0/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/36, Error ellipse: s-maj=17.6km s-min=16.2km az=110.0*

*THR **04** 14:29:53.2, 27.42N±56.61E, h15km, ML3.5*

*NEIC **04** 14:29:53.2±0.0, 27.42N±56.61E, h15km, mb4.1/13, ML3.5(THR), MN3.7(TEH), After THR.*

*TEH **04** 14:29:53.2, 27.58N±56.67E, h7km, ML3.7*

*ISCJB **04** 14:29:53.4±0.6, 27.66N±0.02×56.71E±0.04, h16km±4km, mb4.0/25, Error ellipse: s-maj=5.4km s-min=4.1km az=3.6*

*OMAN **04** 14:29:54.7±0.4, 27.59N×56.99E, h15km, ml4.0/5, Error ellipse: s-maj=8.9km s-min=6.5km az=315.0*

*DSN **04** 14:29:55.7±0.8, 27.67N×56.22E, h15km, ML3.7/9, Error ellipse: s-maj=13.0km s-min=5.3km az=67.0*

ISC 04 14:29:53.3±1.0, **27.61N**±0.02×**56.66E**±0.04, **h10**km±6km, **n100**, σ1§**44**/103, **mb4.0**/26, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	Nian	0.16	109	Pg	Pg	14 29 56.9	0.0
NIAN	Nian	0.16	109	*e*Pg	Pg	14 29 56.5	-0.4
NIAN				*e*Sg	Sg	14 29 59.0	-0.3
NIAN				IAMB	IAmb	14 30 02.0	
	comp=Z,0.0nm,0.2s						
GENO	Geno	0.48	244	Pg	Pg	14 30 03.2	+0.5
GENO				Sg	Sb	14 30 11.2	-0.1
GENO	Geno	0.48	244	IAMB	IAmb	14 30 16.1	
	comp=Z,0.0nm,0.4s						
GENO				*e*Pg	Pg	14 30 03.3	+0.5
SHME	Shamm	1.62	197	*e*P	Pb	14 30 24.1	+0.6
	SNR=52						
SHME				S	Sg	14 30 45.7	+0.1
SHME	Shamm	1.62	197	*e*Pn	Pn	14 30 22.6	+0.5
BANOM	Banah	1.71	191	*e*P	Pb	14 30 24.7	-0.2
	SNR=92						
BANOM				S	Sb	14 30 48.1	+1.5
BANOM	Banah	1.71	191	P	Pb	14 30 24.9	-0.1
	SNR=92						
BANOM				S	Sb	14 30 48.0	+1.4
NGRK	Negar Kerman	2.03	2	Pn	Pg	14 30 31.6	-0.7
NGRK	Negar Kerman	2.03	2	*e*Pn	Pg	14 30 31.5	-0.7
NGRK				IAMB	IAmb	14 31 03.6	
	comp=Z,0.0nm,0.3s						
UMQ	Umm Al-Quwin	2.26	203	*e*Pn	Pn	14 30 32.7	+1.9
MSFE	Esma-Masafi	2.29	191	*e*P	Pn	14 30 33.2	+1.9
	SNR=27						
MSFE	Esma-Masafi	2.29	191	*e*Pn	Pn	14 30 33.0	+1.8
MDH	Madha	2.33	188	P	Pb	14 30 34.7	-0.7
MDH	Madha	2.33	188	P	Pn	14 30 32.9	+1.2
MDH	Madha	2.33	188	*e*Pn	Pb	14 30 34.2	-1.2
KRBR	Kerman	2.36	2	*e*Pn	Pb	14 30 36.6	+0.4
KRBR	Kerman	2.36	2	*e*AML	AML	14 31 12.9	
	comp=N,223nm,0.6s						
KRBR				*e*AML	AML	14 31 28.6	
	comp=E,215nm,0.5s						
KRBR	Kerman	2.36	2	*e*Pn	Pb	14 30 36.6	+0.4
TVBK	TV Kerman	2.37	2	*e*Pn	Pb	14 30 36.1	-0.2
TVBK					IAMB	IAmb	14 31 31.3
	comp=Z,0.0nm,0.8s						
CHMN	Cheshme madani	2.37	19	Pn	Pg	14 30 37.2	-1.6
CHMN	Cheshme madani	2.37	19	*e*Pn	Pb	14 30 35.9	-0.5
CHMN					IAMB	IAmb	14 31 19.2
	comp=Z,0.0nm,0.8s						
KHGB	Koh Gabri	2.76	357	*e*Pn	Pb	14 30 41.5	-1.4
KHGB					IAMB	IAmb	14 30 48.8
	comp=Z,0.0nm,0.5s						
NAZ	Nazwa, Dubai	2.76	199	*e*P	Pn	14 30 39.4	+1.7
	SNR=6.1						
HATD	Hatta, Dubai	2.81	190	*e*P	Pn	14 30 41.2	+2.7
	SNR=18						
ASHO	Ashiyiah	2.97	191	*e*P	Pn	14 30 42.5	+1.9
	SNR=18						
ASHO	Ashiyiah	2.97	191	P	Pn	14 30 42.2	+1.7
	SNR=7.4						
ASHO	Ashiyiah	2.97	191	*e*Pn	Pn	14 30 42.3	+1.7
FAQ	Al Faqa, Dubai	3.01	199	*e*P	Pn	14 30 43.0	+1.8
	SNR=22						
GHIR	Ghir-Karzin	3.32	283	*e*Pn	Pn	14 30 46.8	+1.3
GHIR	Ghir-Karzin	3.32	283	*e*AML	AML	14 31 52.2	
	comp=N,103nm,0.5s						
GHIR	Ghir-Karzin	3.32	283	*e*Pn	Pn	14 30 46.8	+1.3
ALNE	Al Ain	3.63	193	P	Pn	14 30 51.0	+1.3
ALNE	Al Ain	3.63	193	*e*Pn	Pn	14 30 50.8	+1.1
CHBR	Chabahar	3.97	120	*e*Pn	Pn	14 30 54.8	+0.5
CHBR	Chabahar	3.97	120	*e*Pn	Pn	14 30 54.8	+0.5
HOQ	Hoqain	4.05	172	*e*Pn	Pn	14 30 58.0	+2.5
IMEH	Mehriz	4.17	335	*e*Pn	Pn	14 31 00.1	+2.8
IMEH					IAMB	IAmb	14 32 27.8
	comp=Z,387nm,0.7s						
BIDO	Bidbid	4.28	162	*e*Pn	Pn	14 30 58.8	+0.1
WSAR	Wadi Sarin	4.71	157	Pn	Pn	14 31 05.2	+0.8
	comp=Z,7.0nm,0.3s,baz=355,slow=5.2,SNR=69						
WSAR				Sn	Sn	14 31 58.8	-0.3
	comp=Z,6.3nm,0.3s,baz=25,slow=18,SNR=11						
WSAR				LR	LR	14 33 20.1	
	comp=Z,60nm,20.1s,baz=1.5,slow=44						
IKAZ	Kazeroun	4.75	298	Pn	Pn	14 31 06.8	+1.4
IKAZ	Kazeroun	4.75	298	*e*Pn	Pn	14 31 06.9	+1.5
IKAZ					IAMB	IAmb	14 32 08.6
	comp=Z,863nm,0.3s						
YZKH	Yazd	5.09	340	*e*Pn	Pn	14 31 13.2	+3.4
YZKH	Yazd	5.09	340	*e*Pn	Pn	14 31 13.2	+3.4
IKOO	Kooshah	5.21	22	*e*Pn	Pn	14 31 16.3	+4.7
IKOO					IAMB	IAmb	14 32 51.5
	comp=Z,433nm,0.6s						
TPRV	Parvadeh(Tabas	5.40	0	IAMB	IAmb	14 32 53.9	
	comp=Z,0.0nm,2.4s						
MZR	Muzera	5.42	213	*e*Pn	Pn	14 31 15.4	+1.1
ITEG	Tejag	5.57	18	*e*Pn	Pn	14 31 20.7	+4.2
ITEG					IAMB	IAmb	14 33 09.7
	comp=Z,311nm,0.8s						
IRAM	Ramesheh	5.60	319	Pn	Pn	14 31 18.6	+1.7
JLN	Jalan Bani Buh	5.98	155	P	Pn	14 31 22.0	-0.1
	SNR=10						
JLN				S	Sn	14 32 28.9	-1.7
IZEF	Zefreh	6.46	326	*e*Pn	Pn	14 31 30.7	+1.9
IZEF					IAMB	IAmb	14 32 47.5
	comp=Z,133nm,0.7s						
ROKH	ROKH	6.79	315	*e*Pn	Pn	14 31 35.9	+2.7
RAYN	Ar Rayn	10.86	250	*e*Pn	Pn	14 32 25.7	-3.3
RAYN	Ar Rayn	10.86	250	*i* P	Pn	14 32 25.9	-3.2
	SNR=7.8						
GAR	Garm	16.08	42	*e*Pn	P	14 33 43.4	+0.3
	comp=Z,11nm,1.1s						
TBLG	Delisi	17.14	328	*e*Pn	Pn	14 33 52.9	-0.1
	comp=Z,38nm,1.6s						
DAMY	Dhamar	17.28	224	*e*Pn	Pn	14 33 53.3	-2.0
	comp=Z,77nm,2.0s						
KK31	Karatay Array	19.10	32	*e*P	Pn	14 34 17.3	+0.2
	comp=Z,2.5nm,0.9s						
KKAR	Karatay Array	19.10	32	*e*P	Pn	14 34 17.1	0.0
	comp=Z,2.5nm,0.9s						
ARSB	Arslanbob	19.14	40	*e*P	Pn	14 34 18.0	+0.2
	comp=Z,26nm,2.0s						
KIV	Kislovodsk	19.81	329	*e*P	P	14 34 24.1	0.0
	comp=Z,19nm,1.3s						
NRN	Naryn	21.01	44	*e*P	P	14 34 37.6	+0.2
	comp=Z,3.2nm,0.6s						
ABKAR	Akbulak array	21.76	6	*e*P	P	14 34 45.0	0.0
	comp=Z,8.6nm,0.8s						
KDJ	Kajisay	22.13	44	*e*P	P	14 34 51.2	+1.9
	comp=Z,3.7nm,0.8s						
BRTR	Keskin Array B	22.58	308	P	P	14 34 54.5	+0.4
	comp=Z,2.4nm,0.8s,baz=132,slow=11,SNR=11						
BR101	Keskin Array S	22.58	308	*e*P	P	14 34 54.5	+0.4
BR131	Keskin Array S	22.58	308	*e*P	P	14 34 54.7	+0.6
	comp=Z,7.1nm,1.1s						
AKTO	Aktyubinsk	22.82	2	P	P	14 34 57.6	+1.3
	comp=Z,11nm,0.7s,baz=184,slow=10,SNR=29						
BVAR	Borovoye Array	27.36	18	P	P	14 35 39.1	+0.5
	comp=Z,2.4nm,0.8s,baz=198,slow=4.4,SNR=7.5						

IEMG	**Emamgholi**	**1.16**	**130**	IAMB	IAmb	14 46 26.6		
	comp=Z,20μm,0.4s							
IEMG				*e*Pg	**Pb**	**14 46 05.3**	**-2.0**	
ISFR	**Sfrayin**	**1.18**	**162**	IAMB	IAmb	14 46 27.9		
	comp=Z,16μm,0.4s							
ISFR				*e*Pg	**Pb**	**14 46 05.6**	**-2.0**	
MRVT	**Maraveh tapeh**	**1.26**	**246**	*e*Pg	**Pn**	**14 46 08.9**	**+0.5**	
MRVT	**Maraveh tapeh**	**1.26**	**246**	*e*AML	AML	14 46 30.6		
	comp=N,612nm,0.4s							
MRVT	**Maraveh tapeh**	**1.26**	**246**	*e*Pg	**Pn**	**14 46 08.9**	**+0.5**	
MRVT				*e*Sg	**Sg**	**14 46 25.8**	**-0.6**	
IKRD	**Kardeh**	**1.60**	**151**	*e*Pn	Pg	14 46 22.0	+5.6	
IKRD				IAMB	IAmb	14 47 01.5		
	comp=Z,3μm,0.6s							
SBZV	**Sabzevar**	**1.78**	**178**	*e*Pn	**Pb**	**14 46 16.5**	**-1.4**	
SBZV				IAMB	IAmb	14 46 17.8		
	comp=Z,0.0nm,0.2s							
IAKL	**Akhelmad**	**1.84**	**148**	*e*Pn	**Pb**	**14 46 17.6**	**-1.4**	
IAKL				IAMB	IAmb	14 46 51.4		
	comp=Z,4μm,0.4s							
IMND	**Minoodasht**	**1.93**	**242**	*e*Pn	**Pb**	**14 46 19.4**	**-0.8**	
IMND				IAMB	IAmb	14 46 21.3		
	comp=Z,2μm,0.3s							
IPAY	**Payeh**	**2.08**	**146**	*e*Pn	**Pb**	**14 46 22.0**	**-0.9**	
IPAY				IAMB	IAmb	14 46 55.2		
	comp=Z,3μm,0.2s							
SHRO	**Shahrood**	**2.50**	**210**	*e*Pn	**Pn**	**14 46 27.2**	**+1.7**	
SHRO	**Shahrood**	**2.50**	**210**	*e*Pn	**Pn**	**14 46 27.1**	**+1.7**	
SHRO				*e*Sg	**Sb**	**14 46 59.1**	**-1.4**	
IMYA	**Miami**	**2.74**	**131**	*e*Pn	**Pn**	**14 46 30.4**	**+1.5**	
IMYA				IAMB	IAmb	14 47 28.7		
	comp=Z,2μm,0.7s							
IANJ	**Anjilo**	**3.97**	**228**	*e*Pn	**Pn**	**14 46 48.0**	**+2.2**	
IANJ				IAMB	IAmb	14 47 57.2		
	comp=Z,512nm,0.8s							
TNSJ	**Nastanj**	**4.27**	**190**	*e*Pn	**Pn**	**14 46 51.3**	**+1.5**	
TPRV	**Parvadeh(Tabas**	**5.18**	**188**	*e*Pn	**Pn**	**14 47 04.4**	**+2.0**	
ITEG	**Tejag**	**5.36**	**169**	IAMB	IAmb	14 47 09.8		
	comp=Z,167nm,0.3s							
ITEG				*e*Pn	**Pn**	**14 47 06.7**	**+1.9**	
IDAH	**Dahanechah**	**5.75**	**160**	*e*Pn	**Pn**	**14 47 12.4**	**+2.2**	
IDAH				IAMB	IAmb	14 47 15.9		
	comp=N,204nm,0.2s							
AB31	**Akbulak array**	**11.21**	**8**	⇓Pn	**Pn**	**14 48 25.5**	**+0.6**	
	comp=N,1.5nm,0.7s,baz=192,slow=12,SNR=18							
AB31				⇑Sn	**Sn**	**14 50 30.2**	**+0.5**	
	comp=N,1.3nm,0.5s,baz=197,slow=24,SNR=6.7							
AKTO	**Aktyubinsk**	**12.26**	**1**	⇓Pn	**Pn**	**14 48 39.9**	**+0.7**	
	comp=N,4.5nm,1.1s							
AKTO				⇓Sn	**Sn**	**14 50 53.5**	**-1.9**	
	comp=N,6.4nm,1.2s							

IDC 04 14:50:22.2±1.8, 14°38S×166°42E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/35, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=52.5km s-min=33.0km az=124.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.65**	**180**	Pn	Pn	14 52 13.7	-1.4
	0.3nm,0.3s,baz=298,slow=22,SNR=10.0						
DZM				Sn	Sn	14 53 35.1	-7.6
	0.1nm,0.3s,baz=96,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**31.12**	**255**	P	P	14 56 41.7	-1.1
	0.5nm,1.1s,baz=80,slow=8.6,SNR=1.8						
ASAR	**Alice Springs**	**32.04**	**248**	P	P	14 56 52.2	+1.3
	0.3nm,0.9s,baz=73,slow=9.5,SNR=2.5						
ILAR	**Eielson Array**	**86.45**	**18**	P	P	15 03 06.5	+0.1
	0.5nm,0.8s,baz=232,slow=4.9,SNR=8.2						

IDC 04 15:05:33.0±3.8, 11°59S×117°10E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.2/25, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=233.4km s-min=28.1km az=45.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.54**	**119**	P	P	15 09 50.1	-1.2
	0.1nm,0.3s,baz=290,slow=13,SNR=12						
WRA				S	Sn	15 13 00.8	-19
	0.1nm,0.3s,baz=295,slow=26,SNR=3.6						
ASAR	**Alice Springs**	**19.99**	**129**	P	Pn	15 10 08.4	-0.6
	0.1nm,0.3s,baz=304,slow=9.3,SNR=7.6						
ASAR				S	S	15 13 37.5	-16
	0.1nm,0.3s,baz=301,slow=22,SNR=4.1						
MKAR	**Makanchi Array**	**65.94**	**335**	P	P	15 16 20.9	-0.1
	0.1nm,0.4s,baz=138,slow=5.8,SNR=6.6						

TAP 04 15:34:29.8, 22°30N×120°98E, h17km±1km, ML1.5, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAW	**Tawu**	**0.09**	**308**	*e*P	Pg	15 34 33.5	+0.2
	baz=310						
EAST	**Anshuo**	**0.14**	**305**	P	Pb	15 34 34.2	+0.2
	baz=306						
ECL	**Taimali**	**0.30**	**356**	P	Pb	15 34 37.0	+0.3
	baz=357						
SCZT	**Fangliau**	**0.34**	**282**	*e*S	Sb	15 34 42.9	+0.5
	baz=282						
HEN	**Hengchun**	**0.37**	**217**	*e*P	Pb	15 34 38.7	+0.9
	baz=215						
HEN				*e*S	Sb	15 34 44.1	+0.8
	baz=215						
TWK1	**Hengchun**	**0.39**	**204**	*i* P	Pb	15 34 38.4	+0.2
	baz=202						
TWK1				*e*S	Sg	15 34 43.0	-0.2
	baz=202						
TWKBT	**Hengchun**	**0.39**	**203**	⇓P	Pb	15 34 38.3	+0.2
	baz=202						
TWKBT				*e*S	Sg	15 34 43.0	-0.2
	baz=202						
TPUB	**Ta-pu**	**1.05**	**342**	*e*P	Pb	15 34 49.1	-0.3
	baz=342						

MEX 04 15:36:27.5±0.4, 17°23N×97°00W, h70km±4km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.29**	**121**	*e*P	Pn	15 36 37.5	-1.4
VHO				*i* S	Sn	15 36 45.3	-1.8
TPIG	**Tehuac#an**	**1.24**	**344**	*i* P	Pn	15 36 47.4	-1.8
TPIG				*i* S	Sn	15 37 04.1	-1.3
PNIG	**Pinotepa**	**1.36**	**233**	*e*P	Pn	15 36 48.4	-2.3
PNIG				*e*S	Sn	15 37 06.0	-2.1
HUIG	**Huatulco**	**1.68**	**149**	*i* P	Pn	15 36 53.1	-1.7
HUIG				*i* S	Sn	15 37 13.7	-1.9
CMIG	**Matias Romero**	**2.02**	**93**	*e*P	Pn	15 36 58.6	-0.8
CMIG				*i* S	Sn	15 37 22.2	-1.6
YAIG	**Yautepec**	**2.56**	**310**	*i* P	Pn	15 37 06.5	-0.4
YAIG				*i* S	Sn	15 37 34.9	-2.1
PCIG		**3.93**	**112**	*i* P	Pn	15 37 24.3	-1.1
PCIG				*i* S	Sn	15 38 09.5	-0.7

*PAS **04** 15:42:15.0±0.0, 31°.87N×114°.95W, h10km*
*NEIC **04** 15:42:15.6±0.0, 31°.89N×114°.89W, h10km, ML3.0(PAS), ML3.1(ECX), After ECX.*

ECX 04 15:42:15.6±0.5, 31°.89N×114°.89W, h10km, MD2.9, ML3.1, 2C-2D, Fault plane solution: NP1:φ≈48.33000°, δ60.00000°, λ0.00000°, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.44**	**198**	*i* P	Pg	15 42 23.7	-0.4
ECBX				⇓*e*P	Pb	15 42 23.8	-1.6
ECBX				*e*S	Sg	15 42 29.7	-0.3
CPBX	**Cerro Prieto**	**0.63**	**327**	*e*P	Pg	15 42 26.9	-1.0
CPBX				*e*S	Sg	15 42 35.4	-0.8
CPBX				IAML		15 42 39.8	
	comp=N,5μm,0.5s						
CPBX				⇑*e*		15 42 39.8	
YMD	**Yuma Desert**	**0.73**	**24**	*e*P	Pg	15 42 28.6	-1.1
SPX	**San Pedro Mart**	**0.97**	**210**	*e*P	Pg	15 42 32.2	-2.1
GLA	**Glamis**	**1.16**	**3**	*e*Pg	Pb	15 42 35.0	-2.8
IKP	**In-Ko-Pah, Jac**	**1.28**	**307**	⇑*e*P	Pn	15 42 37.9	-1.7
113A	**Mohawk Valley,**	**1.29**	**47**	*e*Pn	Pn	15 42 37.8	-2.0
113A				*e*Sn	Sb	15 42 54.4	-2.3
CBX	**Cerro Bola**	**1.56**	**286**	*e*P	Pn	15 42 42.2	-1.4
CBX				⇓*e*		15 43 03.5	
CBX				IAML		15 43 03.5	
	comp=E,235nm,0.2s						
BAR	**Barrett**	**1.70**	**298**	*e*Pn	Pn	15 42 42.3	-3.1
BAR				*e*Pg	Pb	15 42 45.0	-2.0
BAR				*e*Sn	Sn	15 43 05.8	-1.4
Y12C	**Blythe**	**1.88**	**9**	*e*Pn	Pn	15 42 47.3	-0.6
CPE	**Camp Elliot**	**2.12**	**299**	*e*Pn	Pn	15 42 49.3	-1.8
XPFO	**Pion Flat**	**2.16**	**323**	*e*Pn	Pn	15 42 50.3	-1.6
PFO	**Pinyon Flats O**	**2.17**	**323**	*e*Pn	Pn	15 42 50.2	-1.7
Y14A	**Wickenburg**	**2.59**	**37**	*e*Pn	Pn	15 42 56.3	-1.3
W13A	**Hualapai Mount**	**3.31**	**14**	*e*Pn	Pn	15 43 07.3	-0.4
GSC	**Goldstone, Bar**	**3.76**	**335**	*e*Pn	Pn	15 43 10.8	-2.9
X16A	**Lo Mia Camp, P**	**3.84**	**48**	*e*Pn	Pn	15 43 14.2	-0.8
WUAZ	**Wupatki**	**4.66**	**38**	*e*Pn	Pn	15 43 25.6	-0.6
U15A	**North Rim**	**5.01**	**25**	*e*Pn	Pn	15 43 31.8	+0.7
TPNV	**Topopah Spring**	**5.17**	**348**	*e*Pn	Pn	15 43 32.1	-1.1
LCMT	**Little Creek M**	**5.29**	**14**	*e*Pn	Pn	15 43 34.9	+0.1
W18A	**Petrified Fore**	**5.38**	**52**	*e*Pn	Pn	15 43 36.2	+0.2
KNB	**Kanab**	**5.39**	**18**	*e*Pn	Pn	15 43 37.0	+0.7

*IDC **04** 15:42:17.6±0.8, 30°.99N×103°.63E, h0km, mb3.8/13, mb1 3.9/15, mb1mx3.8/44, mbtmp3.8/15, ML3.0/1, MS3.2/6, Ms1 3.2/6, ms1mx2.8/46, Error ellipse: s-maj=23.4km s-min=15.7km az=53.0*
*BJI **04** 15:42:20.4, 30°.98N×103°.44E, h13km, mb4.1/10, ML4.0/18, Ms3.6/6, Ms7 3.5/5*
*ISCJB **04** 15:42:21.1±0.5, 30°.96N±0°.05×103°.68E±0°.04, h36km±6km, mb3.9/17, Error ellipse: s-maj=8.1km s-min=5.4km az=162.9*
*NEIC **04** 15:42:22.9±0.8, 31°.00N×103°.59E, h36km±8km, mb4.1/2, Error ellipse: s-maj=7.0km s-min=5.6km az=56.0*

ISC 04 15:42:21.1±1.0, 31°.07N±0°.03×103°.72E±0°.05, h17km±7km, n53, σ1°54/56, mb3.9/15, 3D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.17**	**167**	⇓*i* Pg	**Pg**	**15 42 24.8**	**-0.8**
CD2				Sg	**Sb**	**15 42 31.9**	**+3.0**
CD2				smax	smax		
	comp=N,52μm,0.6s						
CD2				smax	smax		
	comp=E,64μm,0.8s						
CD2	**Chengdu**	**0.17**	**167**	⇓*i* Pg	**Pg**	**15 42 25.1**	**-0.5**
CD2				Sg	**Sb**	**15 42 30.1**	**+1.2**
CD2				smax	smax		
	comp=E,52μm,0.6s						
CD2				smax	smax		
	comp=E,64μm,0.8s						
LZH	**Lanzhou**	**5.00**	**1**	Pg	**Pg**	**15 43 59.0**	**+2.1**
LZH				Sg	**Sg**	**15 45 04.9**	**+3.2**
LZH				smax	smax		
	comp=N,150nm,1.2s						
LZH				smax	smax		
	comp=E,140nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,7.0s						
LZH				LR	LR		
	comp=E,760nm,8.2s						
LZH				LR	LR		
	comp=Z,750nm,9.0s						
ENH	**Enshi**	**5.04**	**98**	*e*Pn	**Pn**	**15 43 37.3**	**+1.4**
GYA	**Guiyang**	**5.28**	**150**	Pn	**Pn**	**15 43 38.7**	**-0.6**
GYA				Sn	**Sn**	**15 44 44.9**	**+5.1**
GYA				Sg	**Sg**	**15 45 12.9**	**+2.3**
GYA				smax	smax		
	comp=Z,200nm,0.8s						
GYA				smax	smax		
	comp=Z,120nm,0.8s						
GYA				LR	LR		
	comp=Z,310nm,7.5s						
GYA				LR	LR		
	comp=Z,530nm,9.6s						
GYA				LR	LR		
	comp=Z,310nm,9.0s						
XAN	**Xi'an**	**5.30**	**55**	Pn	**Pn**	**15 43 40.5**	**+1.0**
XAN				Pg	**Pg**	**15 44 00.2**	**-2.4**
XAN				Sn	**Sn**	**15 44 43.9**	**+3.7**
XAN				Sg	**Sg**	**15 45 08.6**	**-2.6**
XAN				smax	smax		
	comp=Z,460nm,0.9s						
XAN				smax	smax		
	comp=Z,250nm,0.7s						
XAN	**Xi'an**	**5.30**	**55**	Pn	**Pn**	**15 43 40.4**	**+0.9**
GTA	**Gaotai**	**8.91**	**340**	*e*P	Pn	15 44 41.3	+12
GTA				pP		15 44 45.8	
GTA				sP		15 44 48.4	
GTA				pmax	pmax		
	comp=Z,1.0nm,1.8s						
GTA				pmax	pmax		
	comp=Z,35nm,5.9s						
GTA				smax	smax		
	comp=N,2.0nm,1.4s						
GTA				smax	smax		
	comp=E,4.0nm,1.2s						
GTA				LR	LR		
	comp=N,220nm,10.5s						
GTA				LR	LR		
	comp=E,350nm,10.3s						
GTA				LR	LR		
	comp=Z,170nm,10.6s						
WHN	**Wuhan**	**9.16**	**91**	⇓P	**Pn**	**15 44 31.4**	**-1.1**
WHN				S	**Sn**	**15 46 15.2**	**0.0**
WHN				LR	LR		
	comp=N,1μm,5.5s						
WHN				LR	LR		
	comp=E,900nm,8.7s						
WHN				LR	LR		
	comp=Z,1μm,6.7s						
HHC	**Hu-ho-hao-te**	**11.64**	**31**	*e*P	Pn	15 45 11.2	+4.7
HHC				S	Sn	15 47 29.6	+14
HHC				sS		15 47 36.5	
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**13.29**	**200**	Pn	**Pn**	**15 45 27.7**	**-1.3**
	baz=6.1,slow=12,SNR=3.9						
BRDH	**Bariadhala**	**13.63**	**235**	LR	LR	15 51 50.9	
	comp=Z,70nm,18.1s,baz=330,slow=42						
JIRN	**Jiri**	**15.65**	**262**	*e*P	**Pn**	**15 46 00.4**	**-0.9**
GUN	**Gumba**	**15.85**	**263**	*e*P	**Pn**	**15 46 03.3**	**-0.5**
PKI	**Pulchoki**	**16.34**	**262**	*e*P	**Pn**	**15 46 09.5**	**-0.6**
	comp=Z,8.1nm,0.5s						
PKIN	**Phulchoki**	**16.35**	**262**	*e*P	**Pn**	**15 46 09.5**	**-0.7**
	comp=Z,5.7nm,0.5s						
KKN	**Kakani**	**16.39**	**263**	*e*P	**Pn**	**15 46 10.2**	**-0.4**
	comp=Z,9.8nm,0.6s						
DMN	**Daman**	**16.59**	**263**	*e*P	**Pn**	**15 46 13.4**	**+0.2**
SONA0	**Songino Array**	**16.86**	**6**	*e*Pn	**Pn**	**15 46 16.8**	**+0.4**
SONM	**Songino Array**	**16.86**	**6**	Pn	**Pn**	**15 46 16.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=185,slow=9.7,SNR=5.0						
SONM				LR	LR	15 53 44.9	
	comp=Z,44nm,20.0s,baz=143,slow=40						
SONA1	**Songino Array**	**16.88**	**6**	*e*Pn	**Pn**	**15 46 17.2**	**+0.6**
GKN	**Gorkha**	**16.88**	**264**	*e*P	**Pn**	**15 46 15.7**	**-1.1**
	comp=Z,11nm,0.6s						
ULN	**Ulanbaatar**	**16.96**	**8**	*e*Pn	**P**	**15 46 19.8**	**+0.2**
	comp=Z,1.6nm,0.7s						
DANN	**Dangsing**	**17.55**	**266**	*e*P	**Pn**	**15 46 24.1**	**-1.1**
	comp=Z,7.6nm,0.5s						
KOLN	**Koldanda**	**17.83**	**264**	*e*P	**Pn**	**15 46 27.9**	**-0.7**
	comp=Z,7.1nm,0.7s						
WMQ	**Urumqi**	**17.95**	**320**	*e*P	**Pn**	**15 46 28.6**	**-1.3**
WMQ				LR	LR		
	comp=Z,56nm,15.7s						
WMQ				LR	LR		
	comp=Z,55nm,15.1s						
WMQ				LR	LR		
	comp=Z,67nm,18.7s						
PYUN	**Piuthan**	**18.27**	**266**	*e*P	**Pn**	**15 46 32.1**	**-1.9**
	comp=Z,14nm,0.9s						
KS15	**Wonju Array Si**	**20.93**	**66**	*e*P	Pn	15 47 05.5	-0.1
	comp=Z,96nm,1.9s						
KSAR	**Wonju Array Be**	**20.93**	**66**	P	Pn	15 47 04.3	-1.2
KSRS	**Korea Array**	**20.97**	**66**	P	**P**	**15 47 04.3**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=242,slow=8.7,SNR=13						
KSRS				LR	LR	15 54 53.4	
	comp=Z,30nm,19.3s,baz=192,slow=36						
CN2	**Changchun**	**21.35**	**47**	*e*P	**P**	**15 47 09.7**	**+2.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
MK01	**Makanchi Array**	**22.77**	**320**	*e*P	**P**	**15 47 21.8**	**-0.8**
MK31	**Makanchi Array**	**22.78**	**320**	*e*P	**P**	**15 47 22.4**	**-0.4**
	comp=Z,1.4nm,1.0s						
MK32	**Makanchi Array**	**22.78**	**320**	*e*P	**P**	**15 47 22.2**	**-0.5**
MKAR	**Makanchi Array**	**22.78**	**320**	P	**P**	**15 47 22.2**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=128,slow=11,SNR=10.0						
MKAR				LR	LR	15 57 09.9	
	comp=Z,41nm,18.3s,baz=262,slow=39						
USRK	**Ussuriysk Ar.**	**25.80**	**52**	P	**P**	**15 47 51.7**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=251,slow=10,SNR=7.2						
ZALV	**Zalesovo Beam**	**26.60**	**335**	*e*P	**P**	**15 47 57.6**	**-0.7**
ZALV	**Zalesovo Beam**	**26.60**	**335**	P	**P**	**15 47 57.9**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=134,slow=8.5,SNR=10						
ZAA1	**Zalesovo Array**	**26.61**	**335**	*e*P	**P**	**15 47 57.9**	**-0.5**
KURBB	**Kurchatov Arra**	**27.06**	**323**	P	**P**	**15 48 02.1**	**-0.4**
	comp=Z,2.2nm,0.2s,baz=131,slow=8.5,SNR=5.8						
KURK	**Kurchatov**	**27.07**	**324**	*e*P	**P**	**15 48 02.1**	**-0.5**
GEYT	**Alibeck**	**37.90**	**293**	P	**P**	**15 49 37.4**	**0.0**
	comp=Z,1.7nm,0.7s,baz=82,slow=10,SNR=3.8						
NRIK	**Noril'sk**	**39.41**	**351**	P	**P**	**15 49 49.9**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=128,slow=5.5,SNR=3.8						
FIA0	**FINESS Array S**	**57.41**	**326**	*e*P	**P**	**15 52 07.5**	**-0.9**
FINES	**FINESS Array B**	**57.41**	**326**	P	**P**	**15 52 07.5**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=122,slow=5.2,SNR=3.5						
WR1	**Warramunga Arr**	**58.64**	**146**	*e*P	**P**	**15 52 16.2**	**-1.3**
	comp=Z,38nm,1.9s						
WRA	**Warramunga Arr**	**58.64**	**146**	P	**P**	**15 52 16.2**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=338,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**61.64**	**148**	P	**P**	**15 52 36.9**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=338,slow=6.5,SNR=6.5						
NB200	**NORSAR Array S**	**64.50**	**327**	*e*P	**P**	**15 52 55.0**	**-1.7**
NOA	**NORSAR Array B**	**64.50**	**327**	P	**P**	**15 52 55.0**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=170,slow=9.8,SNR=2.7						
NOA				LR	LR	16 21 06.7	
	comp=Z,13nm,21.0s,baz=290,slow=36						
HNR	**Honiara**	**67.24**	**117**	LR	LR	16 18 45.7	
	comp=Z,92nm,21.1s,baz=28,slow=32						
ILAR	**Eielson Array**	**70.01**	**25**	P	**P**	**15 53 30.6**	**-0.8**
	comp=Z,0.8nm,1.1s,baz=309,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**81.82**	**17**	P	**P**	**15 54 38.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=327,slow=5.4,SNR=7.9						

*IDC **04** 16:02:10.3±1.8, 4°.30N×127°.05E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/51, mbtmp3.7/5, Error ellipse: s-maj=94.0km s-min=24.5km az=68.0*

ISC 04 16:02:12.2±1.2, 4°.1N±0°.2×126°.4E±0°.4, h10km, n8, σ1°90/9, mb3.8/5, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**3.07**	**343**	⇑*e*P	Pn	16 02 52.0	-8.9
DMPH				*e*S	**Sb**	**16 03 46.8**	**+2.2**
KCP	**Kidapawan**	**3.15**	**336**	⇓*i* P	**Pg**	**16 03 11.6**	**-1.0**
KCP				*i* S	**Sb**	**16 03 47.9**	**+1.0**
CTBH	**Cotabato--PC H**	**3.75**	**325**	⇑*i* P	**Pb**	**16 03 16.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**22.09**	**182**	P	**P**	**16 07 10.5**	**+2.8**
	1.4nm,0.3s,baz=6.3,slow=9.8,SNR=10						
WRA	**Warramunga Arr**	**25.16**	**162**	P	**P**	**16 07 36.9**	**-1.0**
	2.5nm,0.7s,baz=343,slow=11,SNR=23						
ASAR	**Alice Springs**	**28.57**	**165**	P	**P**	**16 08 08.0**	**-0.7**
	0.1nm,0.5s,baz=339,slow=7.4,SNR=8.5						
STKA	**Stephens Creek**	**38.61**	**159**	P	**P**	**16 09 34.7**	**-1.0**
	1.8nm,0.7s,baz=317,slow=14,SNR=4.4						
MKAR	**Makanchi Array**	**57.05**	**325**	P	**P**	**16 11 59.9**	**+1.4**
	0.2nm,0.3s,baz=116,slow=8.6,SNR=5.0						

NDI 04 16:05:27.5±2.3, 26°.06N×91°.36E, h10km, ML4.0, Northeastern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**0.68**	**136**	*e*P	Pg	16 05 39.9	-0.9
SHL				*e*S	Sg	16 05 48.4	-1.3
TURI	**Tura**	**1.05**	**241**	*e*P	Pn	16 05 49.2	+0.9
TURI				*e*S	Sn	16 06 04.4	+1.4
TURI				IAML		16 06 06.5	
	comp=E,9μm,0.3s						
TURI				IAML		16 06 07.7	
	comp=N,10μm,0.1s						
DHUB	**DHUBRI**	**1.22**	**269**	*e*P	Pn	16 05 50.3	-0.4
DHUB				*e*S	Sg	16 06 07.0	+0.1
TEZP	**TEZPUR**	**1.41**	**66**	*e*P	Pn	16 05 52.7	-0.5
TEZP				*e*S	Sn	16 06 11.6	-0.3
TAWA	**Tawang**	**1.60**	**17**	*e*P	Pn	16 05 56.7	+0.6
TAWA				*e*S	Sb	16 06 17.7	-0.1
TAWA				IAML		16 06 20.6	
TAWA				IAML		16 06 21.2	
	comp=N,3μm,0.3s						
AGT	**Agartala**	**2.17**	**183**	*e*S	Sn	16 06 31.6	+1.0
AGT				IAML		16 06 41.5	
	comp=N,750nm,0.2s						
AGT				IAML		16 06 45.1	
	comp=E,599nm,0.4s						
KOHI	**KOHIMA**	**2.50**	**97**	*e*S	Sg	16 06 46.6	-1.3
KOHI				IAML		16 06 50.0	
	comp=E,574nm,0.4s						
ZIRO	**ZIRO**	**2.67**	**56**	*e*P	Pn	16 06 10.4	-0.3
ZIRO				*e*S	Sn	16 06 43.1	-0.1
ZIRO				IAML		16 06 55.2	
	comp=E,2μm,0.6s						
ZIRO				IAML		16 06 55.2	
	comp=N,3μm,0.6s						
JORH	**JORHAT**	**2.69**	**75**	*e*S	Sn	16 06 42.9	-0.5
JORH				IAML		16 06 54.7	
	comp=N,576nm,0.2s						
GTK	**Tadong**	**2.77**	**298**	*e*P	Pn	16 06 13.3	+1.3
GTK				*ex*	x	16 06 50.1	
MOKO	**MOKOCHONG**	**2.85**	**84**	*e*P	Pn	16 06 12.4	-0.9
MOKO				*e*S	Sn	16 06 49.3	+1.5
MOKO				IAML		16 06 59.5	
	comp=E,491nm,0.1s						
MOKO				IAML		16 07 03.2	
	comp=N,510nm,0.4s						
SAIH	**SAIHA**	**3.85**	**157**	*e*P	Pn	16 06 28.3	+1.3
SAIH				*e*S	Sn	16 07 11.7	-0.6
LKP	**Lekhapani**	**4.21**	**71**	IAML		16 07 41.5	
LKP				IAML		16 07 48.6	
BOK	**Bokaro**	**5.45**	**247**	*e*P	Pn	16 06 48.2	-0.7
JBP	**Jabalpur**	**10.74**	**257**	*e*P	Pn	16 08 02.7	+1.3

baz=24,SNR=7.8
ARMA Armidale 23.89 220 P **P** 16 11 36.5 +1.9
baz=24,SNR=8.3
MANU Manus Island 24.14 295 *e*P **P** 16 11 37.8 +0.8
50nm,0.6s
COEN Coen 25.36 264 *e*P **P** 16 11 49.1 +1.5
60nm,0.8s
URZ Urewera 26.28 166 *e*P **P** 16 11 55.7 +0.4
29nm,0.7s
URZ S **S** 16 15 43.3 -2.5
URZ Urewera 26.28 166 P **P** 16 11 55.3 -0.1
20nm,0.5s,baz=348,slow=4.7,SNR=20
URZ S **S** 16 15 43.3 -2.5
21nm,1.1s,baz=338,slow=19,SNR=5.3
BKZ Black Stump Fm 27.01 167 *e*P **P** 16 12 01.9 +0.1
76nm,0.8s
BFZ Birch Farm 28.42 169 *e*P **P** 16 12 13.1 -0.8
68nm,0.4s
THZ Tophouse 29.00 174 *e*P **P** 16 12 20.0 +1.0
105nm,1.3s
RPZ Rata Peaks 30.81 177 P **P** 16 12 34.5 +0.1
18nm,0.8s,baz=282,slow=2.4,SNR=6.2
STKA Stephens Creek 31.66 229 *e*P **P** 16 12 43.0 +1.2
7.1nm,1.8s
STKA ScP **ScP** 16 17 57.5 -1.6
STKA Stephens Creek 31.66 229 P **P** 16 12 42.9 +1.0
4.0nm,0.3s,baz=49,slow=8.6,SNR=34
STKA ScP **ScP** 16 17 57.5 -1.6
4.3nm,0.7s,baz=46,slow=4.9,SNR=7.7
WB2 Warramunga Arr 34.14 253 *e*P **P** 16 13 02.6 -0.2
94nm,0.5s
WRAB Tennant Creek 34.14 253 *e*P **P** 16 13 02.7 -0.1
103nm,0.4s
WRA Warramunga Arr 34.15 253 P **P** 16 13 02.7 -0.2
106nm,0.4s,baz=84,slow=8.7,SNR=1535
WRA S **S** 16 17 43.0 -3.9
24nm,0.8s,baz=82,slow=14,SNR=8.2
WRA ScP **ScP** 16 18 06.6 -1.5
11nm,0.9s,baz=78,slow=4.2,SNR=9.5
HTT Hallett 34.38 228 P **P** 16 13 06.1 +1.4
baz=35,SNR=11
AS01 Alice Springs 35.09 247 *e*P **P** 16 13 10.6 -0.1
AS31 Alice Springs 35.13 247 *e*P **P** 16 13 11.3 +0.2
75nm,0.3s
ASAR Alice Springs 35.13 247 P **P** 16 13 11.4 +0.4
92nm,0.4s,baz=76,slow=9.8,SNR=3654
ASAR S **S** 16 17 58.7 -2.9
13nm,0.9s,baz=73,slow=17,SNR=30
KDU Kakadu 35.82 266 P **P** 16 13 17.0 +0.3
baz=36,SNR=186
BBOO Buckleboo 36.23 231 *e*P **P** 16 13 20.8 +1.0
18nm,0.8s
MTN Manton Dam 37.11 266 P **P** 16 13 27.7 +0.4
baz=37,SNR=41
MTN Manton Dam 37.11 266 *e*P **P** 16 13 28.0 +0.7
60nm,0.7s
FAKI Fak Fak 37.87 282 *e*P **P** 16 13 33.6 +0.1
59nm,0.6s
KNRA Kununurra 39.27 261 P **P** 16 13 45.0 +0.4
baz=39,SNR=162
WRKA Warakurna 40.41 246 P **P** 16 13 54.4 +0.7
baz=40,SNR=103
FORT Forrest 41.89 238 *e*P **P** 16 14 05.6 +0.4
53nm,0.6s
FITZ Fitzroy Crossi 42.25 257 P **P** 16 14 08.6 +0.4
21nm,0.6s,baz=121,slow=5.0,SNR=130
SOEI Soe 44.15 269 *e*P **P** 16 14 24.2 +1.2
93nm,1.0s
BATI Baumata 44.67 268 P **P** 16 14 28.8 +1.9
250nm,0.5s,baz=135,slow=2.1,SNR=53
AIN Ainahou 47.27 48 *e*P **P** 16 14 47.6 +1.0
428nm,1.2s
LUWI Luwuk 47.47 281 *e*P **P** 16 14 48.4 +0.3
107nm,0.9s
HPAH Hawaii Prepara 47.52 47 *e*P **P** 16 14 49.0 +0.7
156nm,0.8s
MEEK Meekatharra 49.27 246 P **P** 16 15 01.5 +0.3
baz=49,SNR=38
KLBR Kellerberrin 50.68 240 P **P** 16 15 11.1 -0.2
baz=51,SNR=10.0
NWAO Narrogin (SRO) 51.35 238 P **P** 16 15 16.0 -0.1
baz=52,SNR=13
NWAO Narrogin (SRO) 51.35 238 P **P** 16 15 15.6 -0.5
16nm,0.6s,baz=317,slow=4.6,SNR=16
BLDU Ballidu 51.42 241 P **P** 16 15 16.7 +0.1
baz=52,SNR=6.5
MORW Morawa 51.80 243 P **P** 16 15 19.9 +0.5
baz=52,SNR=6.2
MORW Morawa 51.80 243 *e*P **P** 16 15 19.6 +0.2
50nm,1.5s
RKGY Rocky Gully 51.87 236 P **P** 16 15 20.6 +0.8
baz=52,SNR=7.8
MUN Mundaring 52.04 239 P **P** 16 15 22.5 +1.5
baz=52,SNR=4.3
GIRL Giralia 53.02 251 P **P** 16 15 29.5 +1.4
baz=53,SNR=4.3
MJAR Matsushiro Arr 57.16 330 P **P** 16 15 56.1 -0.4
4.5nm,0.6s,baz=173,slow=7.6,SNR=13
MJAR PcP **PcP** 16 16 41.6 -0.5
3.7nm,0.8s,baz=154,slow=4.1,SNR=4.4
CISI Cisompet, Garu 60.55 269 *e*P **P** 16 16 18.6 -1.0
77nm,0.6s
LEM Lembang 60.88 269 P **P** 16 16 22.3 +0.5
69nm,0.6s,baz=18,slow=6.6,SNR=23
ASAJ Asahikawa 61.65 338 P **P** 16 16 26.9 +0.9
18nm,0.8s,baz=210,slow=6.7,SNR=25
KSRS Korea Array 63.29 324 P **P** 16 16 37.5 +0.8
1.4nm,0.8s,baz=138,slow=5.7,SNR=5.9
KSAR Wonju Array Be 63.30 324 P **P** 16 16 37.5 +0.7
YSS Yuzh-Sakhalins 64.07 340 *e*P **P** 16 16 42.5 +1.1
20nm,0.7s
NJ2 Nanjing 65.68 314 *e*P **P** 16 16 51.6 -0.3
NJ2 pmax pmax
comp=Z,11nm,0.5s
USRK Ussuriysk Ar. 66.10 332 P **P** 16 16 55.1 +0.9
4.1nm,0.7s,baz=174,slow=4.9,SNR=13
PET Petropavlovsk 66.22 353 *e*P **P** 16 16 54.9 +0.3
140nm,1.7s
PETK Petropavlovsk- 66.42 352 *e*P **P** 16 16 56.2 +0.3
PETK Petropavlovsk- 66.42 352 P **P** 16 16 56.6 +0.7
36nm,0.7s,baz=155,slow=6.3,SNR=82
MDJ Mudanjiang 67.54 330 P **P** 16 17 04.4 +1.4
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,77nm,4.1s
MDJ Mudanjiang 67.54 330 *e*P **P** 16 17 03.6 +0.6
9.5nm,0.8s
CN2 Changchun 69.04 328 *e*P **P** 16 17 12.9 +0.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s
UNV Unalaska Valle 69.57 15 *e*P **P** 16 17 14.3 -0.7
56nm,0.8s
IPM Ipoh 69.87 280 *e*P **P** 16 17 17.3 -0.4
13nm,0.9s
KLR Kul'dur 70.08 335 P **P** 16 17 18.8 +0.7
6.8nm,0.7s,baz=129,slow=3.4,SNR=33
PSI Prapat 71.47 277 *e*P **P** 16 17 25.3 -1.9
13nm,0.9s
PSI Prapat 71.47 277 P **P** 16 17 26.1 -1.1
13nm,0.9s,baz=180,slow=13,SNR=7.8
GYA Guiyang 72.23 303 *e*P **P** 16 17 32.4 +1.1
GYA pP pP 16 19 42.7 +5.2
GYA PP **PP** 16 20 27.0 +3.1
GYA S **S** 16 26 04.5 -1.3
GYA SKS **SKSac** 16 26 33.2 -3.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 73.69 350 *e*P **P** 16 17 38.1 -0.6
21nm,0.8s
MA2 Magadan 73.69 350 P **P** 16 17 38.0 -0.7
19nm,0.7s,baz=153,slow=6.0,SNR=72
KMI Kunming 74.95 301 P **P** 16 17 47.4 +0.6
KMI pmax pmax
comp=Z,14nm,0.5s
HHC Hu-ho-hao-te 75.40 319 *e*P **P** 16 17 47.7 -1.1
HHC sP sP 16 21 07.9 +8.0
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,150nm,4.8s
CM01 Chiang Mai Arr 75.91 293 *e*P **P** 16 17 52.3 +0.3
CM31 Chiang Mai Arr 75.94 293 *e*P **P** 16 17 53.1 +1.0
CMAR Chiang Mai Arr 75.94 293 P **P** 16 17 53.4 +1.3
4.2nm,0.8s,baz=123,slow=4.0,SNR=27
CMAR pP **pwP** 16 20 09.7 +7.0
0.9nm,0.8s,baz=114,slow=4.2,SNR=3.0

CHTO Chiang Mai 76.05 293 *e*P **P** 16 17 52.8 0.0
4.1nm,0.7s
CHTO Chiang Mai 76.05 293 P **P** 16 17 54.0 +1.3
26nm,1.2s
OHAK Old Harbor 76.37 20 *e*P **P** 16 17 54.0 +0.4
56nm,0.8s
CD2 Chengdu 76.39 306 P **P** 16 17 53.6 -0.8
CD2 pmax pmax
comp=Z,10.0nm,0.6s
SEY Seymchan 76.66 352 P **P** 16 17 55.4 +0.3
32nm,0.5s,baz=168,slow=5.7,SNR=310
KDAK Kodiak Island 77.04 20 *e*P **P** 16 17 57.6 +0.4
KDAK Kodiak Island 77.04 20 P **P** 16 17 57.1 -0.1
33nm,0.9s,baz=222,slow=5.1,SNR=10
QSPA South Pole Qui 77.18 180 *e*P **P** 16 17 58.7 +0.5
QSPA *e*pP **pwP** 16 20 09.8 0.0
GAMB Gambell 77.77 9 *e*P **P** 16 18 01.1 +0.1
32nm,1.0s
LZH Lanzhou 78.48 311 *e*P **P** 16 18 05.7 0.0
LZH pP pwP 16 20 23.0 +5.2
LZH pmax pmax
comp=Z,23nm,1.5s
SVW2 Sparrevohn 78.80 17 *e*P **P** 16 18 07.1 +0.5
44nm,1.6s
RSO Redoubt South 79.11 18 *e*P **P** 16 18 07.8 -0.7
BRLK Bradley Lake 79.14 19 *e*P **P** 16 18 08.8 +0.3
80nm,0.9s
ANM Nome 79.55 11 *e*P **P** 16 18 11.2 +0.8
38nm,1.3s
SEW Seward 79.87 20 *e*P **P** 16 18 12.3 +0.1
61nm,1.0s
SUA Susitna One 80.50 18 *e*P **P** 16 18 15.6 0.0
130nm,1.0s
RC01 Rabbit Creek A 80.53 19 *e*P **P** 16 18 15.6 0.0
153nm,1.2s
BILL Bilibino 80.69 359 *e*P **P** 16 18 16.0 -0.3
32nm,0.8s
PMR Palmer 81.10 19 *e*P **P** 16 18 18.4 -0.2
38nm,0.6s
KNK Knik Glacier 81.18 19 *e*P **P** 16 18 19.1 +0.1
60nm,0.8s
KNK *e*pP **pwP** 16 20 34.0 +0.8
PPLA Purkeypile 81.20 17 *e*P **P** 16 18 19.0 -0.3
22nm,0.8s
KCPM Cahto Peak 81.30 46 *e*P **P** 16 18 21.1 +0.9
55nm,1.0s
KMRM Mail Ridge 81.44 45 *e*P **P** 16 18 21.9 +1.1
47nm,0.7s
SML Sawmill 81.52 19 *e*P **P** 16 18 20.5 -0.2
127nm,1.8s
CAST Castle Rocks 81.64 17 *e*P **P** 16 18 20.4 -0.9
126nm,0.7s
SAO San Andreas Ge 81.67 49 *e*P **P** 16 18 22.9 +0.8
20nm,0.9s
KHMM Horse Mountain 81.69 45 *e*P **P** 16 18 23.4 +1.2
32nm,0.7s
ULN Ulaanbaatar 81.75 323 *e*P **P** 16 18 22.4 0.0
11nm,1.1s
HMT Hamilton 81.82 21 *e*P **P** 16 18 22.1 -0.2
56nm,0.6s
DIV Divide 81.86 20 *e*P **P** 16 18 22.0 -0.4
30nm,0.8s
SCM Sheep Creek Mo 81.86 19 *e*P **P** 16 18 22.4 -0.1
67nm,1.0s
O02D Mt. Diablo Mer 82.06 46 P **P** 16 18 25.6 +1.6
baz=246,SNR=24
KLU Klutina 82.07 20 *e*P **P** 16 18 23.2 -0.3
18nm,0.7s
SONM Songino Array 82.12 323 P **P** 16 18 23.9 -0.3
3.6nm,0.6s,baz=135,slow=5.3,SNR=27
SONM pP **pwP** 16 20 44.4 +7.2
0.6nm,0.9s,baz=134,slow=8.3,SNR=2.5
SONA1 Songino Array 82.12 323 *e*P **P** 16 18 23.8 -0.4
PAGB Antelope Grade 82.18 51 *e*P **P** 16 18 25.3 +0.6
32nm,1.3s
TRF Thorofare Moun 82.18 17 *e*P **P** 16 18 23.4 -0.8
47nm,0.8s
PKM Mcpherson Peak 82.20 52 P **P** 16 18 26.2 +1.2
baz=248
L02E Cave Junction 82.32 44 P **P** 16 18 26.2 +1.0
baz=245
WDC Whiskeytown Da 82.39 46 *e*P **P** 16 18 26.3 +0.7
46nm,1.5s
DIB Dawson Inlet, 82.42 31 *e*P **P** 16 18 25.9 +0.5
30nm,1.0s
N02D Trinity Center 82.44 45 P **P** 16 18 27.3 +1.3
baz=246,SNR=17
BLG Laguna Peak, P 82.49 53 P **P** 16 18 27.2 +1.0
baz=249
K02D Willamette Mer 82.50 43 P **P** 16 18 27.1 +0.9
baz=245,SNR=5.8
M02C Callahan 82.51 45 P **P** 16 18 27.6 +1.3
baz=246,SNR=15
J01E Myrtle Point 82.52 43 P **P** 16 18 27.3 +1.2
baz=245
RND Reindeer 82.56 18 *e*P **P** 16 18 25.4 -0.6
154nm,1.5s
ORV Oroville 82.72 47 *e*P **P** 16 18 27.2 -0.1
20nm,0.9s
GTA Gaotai 82.75 313 ⇓P **P** 16 18 28.3 +0.7
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,44nm,5.7s
YBH Yreka Blue Hor 82.75 44 *e*P **P** 16 18 27.9 +0.5
39nm,1.1s
DHY Denali Highway 82.76 18 *e*P **P** 16 18 26.6 -0.5
14nm,0.7s
O03E Paynes Creek 82.80 46 P **P** 16 18 28.2 +0.5
baz=246,SNR=14
AFDM Forest Hills D 82.86 48 *e*P **P** 16 18 28.2 +0.2
32nm,0.9s
CMB Columbia Colle 82.94 49 *e*P **P** 16 18 28.7 +0.2
22nm,0.9s
HUMO Hull Mountain 82.94 44 *e*P **P** 16 18 29.2 +0.9
34nm,0.9s
BWN Browne 82.97 17 *e*P **P** 16 18 27.2 -0.7
78nm,0.6s
HARP HAARP 82.98 20 *e*P **P** 16 18 27.6 -0.5
42nm,0.9s
I02D Swisshome 82.98 42 P **P** 16 18 29.8 +1.4
baz=245
BALM Baldy 82.98 22 *e*P **P** 16 18 27.6 -0.6
35nm,0.7s
ARVC Arvin 83.04 52 P **P** 16 18 29.8 +0.9
baz=249
VES Vestal, Richgr 83.10 51 P **P** 16 18 29.9 +0.7
baz=249
RDOG Red Dog Mine 83.13 10 *e*P **P** 16 18 29.4 +0.7
27nm,0.8s
I03D Drain, OR 83.14 42 P **P** 16 18 30.1 +0.9
baz=245
L04D Klamath Falls 83.22 44 P **P** 16 18 30.6 +0.7
baz=246,SNR=9.0
IM3 Indian Mountai 83.27 14 *e*P **P** 16 18 29.5 +0.2
PAX Paxson 83.28 19 *e*P **P** 16 18 28.9 -0.7
37nm,1.8s
MWC Mount Wilson 83.31 53 *e*P **P** 16 18 30.8 +0.2
21nm,0.8s
M04C Macdoel 83.36 45 P **P** 16 18 31.3 +0.8
baz=246
ISA Isabella, Lake 83.50 51 *e*P **P** 16 18 31.8 +0.5
20nm,1.0s
ISA Isabella, Lake 83.50 51 P **P** 16 18 32.1 +0.8
baz=249,SNR=13
WRH Wood River Hil 83.59 17 *e*P **P** 16 18 29.8 -1.2
31nm,0.7s
EDW2 Edwards Air Fo 83.59 52 P **P** 16 18 32.7 +0.9
baz=250,SNR=14
109C Camp Elliot, M 83.61 54 P **P** 16 18 32.7 +0.9
baz=250
BFSC Mount Baldy Ra 83.63 53 P **P** 16 18 32.6 +0.5
baz=250,SNR=10
BEKR Beckworth 83.65 47 *e*P **P** 16 18 32.5 +0.4
17nm,1.0s
MDPB Devils Postpil 83.75 49 *e*P **P** 16 18 33.1 +0.4
27nm,0.9s
J04D Umpqua Nationa 83.77 43 P **P** 16 18 33.5 +0.8
baz=246,SNR=9.3
MURC Murrieta 83.78 54 P **P** 16 18 33.4 +0.8
baz=250
I04A Tendick Farm, 83.79 43 P **P** 16 18 32.9 +0.4
baz=246,SNR=7.6
CCB Clear Creek Bu 83.80 17 *e*P **P** 16 18 30.7 -1.3
29nm,0.8s
WAKR Walker 83.81 48 *e*P **P** 16 18 33.3 +0.4
42nm,1.3s
MENT Mentasta 83.82 20 *e*P **P** 16 18 31.6 -0.6
13nm,0.8s
G03D McMinnville, O 83.83 41 P **P** 16 18 33.4 +0.8
baz=245
HDA Harding Lake 83.87 18 *e*P **P** 16 18 31.5 -0.9
82nm,0.9s
HDA Harding Lake 83.87 18 P **P** 16 18 31.5 -0.9
baz=223,SNR=51
H04D Lebanon 83.88 42 P **P** 16 18 33.7 +0.8
baz=245
BAR Barrett 83.88 55 *e*P **P** 16 18 32.6 -0.6
10.0nm,0.8s
PNTR Pine Nut 83.90 48 *e*P **P** 16 18 33.8 +0.4
17nm,0.9s
MDM Murphy Dome 83.91 17 *e*P **P** 16 18 31.1 -1.5
28nm,0.8s
TCOL CIGO, UAF Yank 83.95 17 P **P** 16 18 31.9 -0.8
baz=222,SNR=11
COLA College 83.96 17 *e*P **P** 16 18 31.5 -1.3
49nm,0.8s
RIDG Independ'e Rid 84.03 19 *e*P **P** 16 18 32.3 -0.9
32nm,0.9s
LRMC Laurel Mtn Rad 84.04 52 P **P** 16 18 35.0 +1.0
baz=250,SNR=13
CWC Cottonwood Cre 84.07 51 P **P** 16 18 35.0 +0.8
baz=249
YERR Yerington 84.12 48 *e*P **P** 16 18 34.2 -0.2
7.4nm,0.6s
MONP2 Monument Peak 84.15 55 P **P** 16 18 35.7 +1.0
baz=251,SNR=10
IL1 Eielson Array 84.16 17 *e*P **P** 16 18 32.1 -1.6
ILAR Eielson Array 84.16 17 P **P** 16 18 32.5 -1.3
33nm,0.7s,baz=236,slow=5.1,SNR=591
ILB Eielson Array 84.16 17 *e*P **P** 16 18 32.2 -1.5
TIN Tinemaha, Big 84.17 50 P **P** 16 18 35.9 +1.2
baz=249
DOT Dot Lake 84.21 19 *e*P **P** 16 18 33.0 -1.1
22nm,0.8s
BBRC Big Bear Solar 84.21 53 P **P** 16 18 35.7 +0.7
baz=250
POKR Poker Plat Res 84.26 17 P **P** 16 18 32.6 -1.6
baz=222,SNR=27
PAHR Pah Rah Range 84.29 47 *e*P **P** 16 18 35.4 +0.2
20nm,1.1s
IKP In-Ko-Pah, Jac 84.32 55 P **P** 16 18 36.5 +1.0
baz=251,SNR=6.9
F04D Rainier, OR 84.36 40 P **P** 16 18 36.5 +1.3
baz=245
PFO Pinyon Flats O 84.36 54 *e*P **P** 16 18 35.9 +0.2
14nm,0.8s
PFO Pinyon Flats O 84.36 54 P **P** 16 18 36.4 +0.7
baz=250,SNR=8.5
XPFO Pion Flat 84.36 54 *e*P **P** 16 18 36.1 +0.4
15nm,0.8s
J05D Fort Rock, OR 84.37 43 P **P** 16 18 36.6 +1.1
baz=247,SNR=22
DAC Darwin (Calif) 84.38 51 *e*P **P** 16 18 36.1 +0.3
19nm,1.1s
MPMC Manual Prospec 84.39 51 P **P** 16 18 36.7 +0.9
baz=250,SNR=18
SCRK Sand Creek 84.47 19 *e*P **P** 16 18 34.5 -0.9
20nm,0.8s
MOD Modoc Plateau 84.47 45 *e*P **P** 16 18 36.3 +0.2
24nm,1.3s
RYN Ryan 84.52 49 *e*P **P** 16 18 36.2 -0.2
10nm,0.8s
NV01 Mina Array Sit 84.61 49 *e*P **P** 16 18 36.9 +0.1
NVAR Mina Array Bea 84.61 49 P **P** 16 18 37.3 +0.5
11nm,0.7s,baz=229,slow=6.7,SNR=57
HYT Haines Junctio 84.64 23 *e*P **P** 16 18 35.7 -0.7
GSC Goldstone, Bar 84.65 52 *e*P **P** 16 18 36.8 -0.2
22nm,1.4s
GSC Goldstone, Bar 84.65 52 P **P** 16 18 37.8 +0.8
baz=250,SNR=5.4
SWSC Sam W. Stewart 84.66 55 P **P** 16 18 38.0 +1.1
baz=251,SNR=6.8
SKAG Skagway 84.68 25 *e*P **P** 16 18 36.1 -0.3
12nm,1.0s
NV11 Mina Array Sit 84.72 49 *e*P **P** 16 18 37.6 +0.3
2.6nm,1.4s
I05D Terrebonne, OR 84.72 42 P **P** 16 18 37.9 +0.8
baz=246
PINE Pine Mountain 84.77 43 *e*P **P** 16 18 38.2 +0.7
27nm,0.7s
E04D Cinebar 84.83 40 P **P** 16 18 38.6 +1.1
baz=245,SNR=5.8
BELC Belle Mtn. Jos 84.85 54 P **P** 16 18 39.0 +0.9
baz=251,SNR=6.6
HEC Hector,Ludlow 84.86 53 P **P** 16 18 38.6 +0.7
baz=250,SNR=11
D03D Eldon 84.92 39 P **P** 16 18 38.9 +1.0
baz=245,SNR=9.4
D04E Lakebay 84.97 39 P **P** 16 18 39.3 +1.2
baz=245
KVN Kaiserville 84.98 48 *e*P **P** 16 18 38.7 +0.1
36nm,1.5s
FURC Furnace Creek, 85.00 51 P **P** 16 18 39.4 +0.9
baz=250,SNR=8.9
G05D Wamic, OR 85.10 42 P **P** 16 18 39.5 +0.7
baz=246,SNR=5.1
PRP Porcupine Dome 85.10 17 *e*P **P** 16 18 36.6 -1.9
18nm,1.4s
COLD Coldfoot 85.12 15 *e*P **P** 16 18 38.9 +0.5
3.7nm,0.8s
BC3 Big Chuckawall 85.17 54 P **P** 16 18 40.6 +1.1
baz=251,SNR=11
SHOC Shoshone, Teco 85.26 52 P **P** 16 18 40.3 +0.5
baz=250
F05D White Salmon 85.26 41 P **P** 16 18 40.2 +0.7
baz=246
GMRC Granite Mounta 85.37 53 P **P** 16 18 41.2 +0.7
baz=251,SNR=15
LON Longmire 85.39 40 *e*P **P** 16 18 40.4 +0.2
6.8nm,0.9s
D05A Enumclaw 85.46 40 *e*P **P** 16 18 41.3 +0.9
53nm,1.2s
GLA Glamis 85.47 55 *e*P **P** 16 18 42.0 +1.1
30nm,0.9s
GLA Glamis 85.47 55 P **P** 16 18 42.1 +1.2
baz=252,SNR=11
IRM Iron Mountain 85.57 54 P **P** 16 18 42.5 +1.1
baz=251,SNR=11
TPNV Topopah Spring 85.63 51 *e*P **P** 16 18 42.3 +0.6
16nm,0.7s
TPNV Topopah Spring 85.63 51 P **P** 16 18 42.5 +0.8
baz=250,SNR=15
A04D Lummi Island 85.65 38 P **P** 16 18 42.3 +1.1
baz=245,SNR=7.4
WVOR Wild Horse Val 85.81 45 *e*P **P** 16 18 43.0 +0.6
24nm,1.4s
B05A Bryant 85.83 39 P **P** 16 18 43.0 +0.8
baz=246,SNR=7.7
I07A Izee 85.84 43 *e*P **P** 16 18 43.2 +0.7
20nm,0.7s
EGAK Eagle 85.91 19 *e*P **P** 16 18 41.3 -0.8
12nm,0.6s
Y12C Blythe 85.93 54 *e*P **P** 16 18 43.5 +0.5
27nm,1.0s
Y12C Blythe 85.93 54 P **P** 16 18 44.1 +1.1
baz=252,SNR=10
FYU Fort Yukon 85.94 17 *e*P **P** 16 18 40.8 -1.5
26nm,1.4s
DAWY Dawson 86.02 20 *e*P **P** 16 18 41.6 -1.2
5.2nm,0.8s
NEE2 Needles Airpor 86.17 53 P **P** 16 18 45.2 +1.0
baz=252
F07A Phinny Hill Vi 86.25 41 *e*P **P** 16 18 44.2 0.0
17nm,0.7s
J08A Circle Bar Ran 86.26 44 *e*P **P** 16 18 44.2 -0.3
47nm,1.4s
LTY Liberty 86.31 40 *e*P **P** 16 18 44.5 0.0
19nm,0.6s
SHPR Sheep Range 86.31 51 *e*P **P** 16 18 45.8 +0.8
25nm,1.1s
TOLK Toolik Lake Re 86.36 14 *e*P **P** 16 18 44.3 0.0
6.6nm,0.5s
TOLK Toolik Lake Re 86.36 14 P **P** 16 18 44.4 +0.1
baz=220
PDMCI Parker Dam,Lak 86.40 54 P **P** 16 18 46.3 +1.1
baz=252,SNR=21
C06D Leavenworth 86.43 39 P **P** 16 18 45.5 +0.4
baz=246
R11A Troy Canyon, C 86.59 50 *e*P **P** 16 18 46.6 +0.3
19nm,1.4s
R11A Troy Canyon, C 86.59 50 P **P** 16 18 46.8 +0.6
baz=251,SNR=18
G08A Pilot Rock 86.65 42 *e*P **P** 16 18 46.8 +0.5
31nm,0.9s
HAWA Hanford 86.69 41 *e*P **P** 16 18 46.6 +0.3

22nm,0.8s
214A Organ Pipe Nat 86.76 56 P **P 16 18 48.3 +1.3**
baz=253,SNR=6.8
W13A Hualapai Mount 86.85 53 *e*P **P 16 18 48.2 +0.6**
23nm,1.0s
LLLB Lillooet 86.93 37 *e*P **P 16 18 47.5 +0.1**
18nm,1.1s
E08A Dider Farm, El 87.03 41 *e*P **P 16 18 48.5 +0.7**
36nm,0.8s
Y14A Wickenburg 87.19 54 *e*P **P 16 18 49.7 +0.7**
9.3nm,0.9s
D08A Wollman Farm, 87.33 41 *e*P **P 16 18 49.5 +0.2**
26nm,1.1s
B08A Colville Reser 87.56 39 *e*P **P 16 18 50.3 -0.1**
25nm,1.3s
BMO Blue Mountains 87.58 43 *e*P **P 16 18 50.8 +0.2**
22nm,1.0s
ELK Elko 87.62 47 *e*P **P 16 18 51.5 +0.4**
22nm,1.2s
LCMT Little Creek M 87.93 51 *e*P **P 16 18 53.2 +0.7**
22nm,0.9s
PSUT Pine Spring 87.93 50 *e*P **P 16 18 53.0 +0.4**
14nm,0.8s
CCUT Cedar City 88.00 51 *e*P **P 16 18 53.9 +0.9**
13nm,0.8s
C09A Chrisman Ranch 88.02 40 *e*P **P 16 18 52.3 -0.2**
8.5nm,0.6s
F10A Beach Ranch, E 88.03 42 *e*P **P 16 18 52.8 +0.1**
38nm,0.7s
SZCU Shurtz Canyon 88.22 51 *e*P **P 16 18 54.7 +0.8**
13nm,1.0s
KNB Kanab 88.25 52 *e*P **P 16 18 54.5 +0.5**
26nm,1.2s
EPYK Eagle Plains 88.35 19 *e*P **P 16 18 52.7 -0.9**
18nm,0.3s
U15A North Rim 88.48 52 *e*P **P 16 18 56.5 +1.3**
22nm,0.8s
TIXI Tiksi 88.51 348 P **P 16 18 55.3 +1.2**
0.2nm,0.4s,baz=130,slow=4.5,SNR=15
TUC Tucson 88.51 57 *e*P **P 16 18 56.2 +1.0**
14nm,0.8s
TUC Tucson 88.51 57 P **P 16 18 56.4 +1.2**
baz=254
X16A Lo Mia Camp, P 88.57 54 *e*P **P 16 18 56.6 +1.0**
16nm,0.8s
NEW Newport 88.90 40 *e*P **P 16 18 56.4 -0.2**
13nm,0.8s
NEW Newport 88.90 40 P **P 16 18 57.2 +0.6**
baz=249
WUAZ Wupatki 88.94 53 *e*P **P 16 18 58.0 +0.7**
17nm,0.9s
WUAZ Wupatki 88.94 53 P **P 16 18 58.4 +1.2**
baz=253
MTPU Mount Pierson 89.04 51 *e*P **P 16 18 59.0 +1.1**
15nm,0.9s
HLID Hailey 89.11 45 *e*P **P 16 18 58.6 +0.7**
8.2nm,1.1s
HLID Hailey 89.11 45 P **P 16 18 58.8 +0.9**
baz=251
MSU Marysvale 89.18 50 *e*P **P 16 18 59.3 +0.9**
DUG Dugway, Tooele 89.21 49 *e*P **P 16 18 59.0 +0.6**
12nm,1.3s
DUG Dugway, Tooele 89.21 49 P **P 16 18 58.9 +0.6**
baz=252
319A Douglas 89.49 58 *e*P **P 16 19 00.7 +0.8**
30nm,0.8s
NLU North Lily Min 89.68 49 *e*P **P 16 19 01.4 +0.7**
7.1nm,0.8s
HVU Hansel Valley 89.71 47 *e*P **P 16 19 01.0 +0.4**
6.3nm,0.9s
X18A Snowflake 89.78 55 *e*P **P 16 19 01.5 +0.3**
12nm,0.8s
Q16A Castle Valley 90.05 50 *e*P **P 16 19 03.1 +0.7**
8.2nm,1.0s
W18A Petrified Fore 90.11 54 *e*P **P 16 19 03.4 +0.7**
19nm,0.8s
W18A Petrified Fore 90.11 54 P **P 16 19 03.4 +0.7**
baz=254
JLU Jordanelle 90.32 48 *e*P **P 16 19 03.9 +0.3**
5.8nm,0.8s
MSO Missoula 90.46 42 *e*P **P 16 19 03.6 -0.3**
16nm,1.8s
MSO Missoula 90.46 42 P **P 16 19 04.6 +0.7**
baz=252
TCUT Toone Canyon 90.50 48 *e*P **P 16 19 04.8 +0.3**
10nm,0.7s
INK Inuvik 90.50 18 *e*P **P 16 19 01.8 -1.7**
22nm,2.0s
INK Inuvik 90.50 18 P **P 16 19 01.6 -1.9**
1.2nm,0.4s,baz=259,slow=6.7
P17A Butcher Ranch, 90.53 50 *e*P **P 16 19 05.1 +0.6**
4.1nm,0.8s
MCMT McKenzie Canyo 90.57 44 *e*P **P 16 19 05.7 +1.0**
SRU San Rafael Swe 90.59 50 *e*P **P 16 19 04.8 0.0**
5.3nm,0.7s
DLMT Dillon 90.90 44 *e*P **P 16 19 06.4 +0.3**
7.9nm,0.7s
121A Cookes Peak, D 91.01 57 P **P 16 19 07.9 +0.9**
baz=255
WALA Waterton Lakes 91.18 40 *e*P **P 16 19 08.0 +0.8**
8.1nm,1.3s
PV05 Paradox Valley 91.39 51 *e*P **P 16 19 09.6 +1.0**
8.3nm,0.8s
PV09 Paradox Valley 91.47 51 *e*P **P 16 19 09.6 +0.5**
FXWY Fox Creek 91.48 46 *e*P **P 16 19 09.3 +0.4**
1.4nm,0.7s
PV14 Lion Creek, Pa 91.52 51 *e*P **P 16 19 09.5 +0.2**
12nm,1.0s
PV19 Morning Glory 91.54 51 *e*P **P 16 19 09.4 +0.1**
7.1nm,0.7s
PV17 East Wray Mesa 91.55 51 *e*P **P 16 19 09.2 -0.1**
6.3nm,0.9s
PV23 Carpenter Ridg 91.55 51 *e*P **P 16 19 09.8 +0.4**
26nm,0.7s
PV16 Nyswonger Mesa 91.59 51 *e*P **P 16 19 09.7 +0.1**
20nm,1.6s
PV21 Cone Mtn., Par 91.61 51 *e*P **P 16 19 10.1 +0.5**
19nm,0.7s
PV04 Paradox Valley 91.62 51 *e*P **P 16 19 09.9 +0.3**
8.4nm,0.7s
PV11 David Mesa, Pa 91.62 51 *e*P **P 16 19 10.0 +0.4**
6.8nm,0.5s
BOZ Bozeman (W) 91.62 44 *e*P **P 16 19 09.6 +0.2**
6.4nm,1.3s
BOZ Bozeman (W) 91.62 44 P **P 16 19 10.4 +1.0**
baz=253
PV13 Radium Mtn., P 91.62 51 *e*P **P 16 19 09.5 -0.2**
6.0nm,1.0s
PV03 Paradox Valley 91.62 51 *e*P **P 16 19 09.7 0.0**
4.1nm,0.6s
MVCO Mesa Verde 91.63 52 P **P 16 19 10.4 +0.7**
baz=255
PV12 Saucer Basin, 91.68 51 *e*P **P 16 19 09.9 0.0**
12nm,0.7s
YHB Horse Butte 91.68 45 *e*P **P 16 19 10.4 +0.6**
5.3nm,0.9s
PV02 Paradox Valley 91.70 51 *e*P **P 16 19 10.4 +0.4**
28nm,1.8s
PV01 Paradox Valley 91.81 51 *e*P **P 16 19 10.7 +0.2**
4.9nm,0.6s
PV07 Paradox Valley 91.83 51 *e*P **P 16 19 10.8 +0.2**
11nm,0.7s
PV15 Paradox Valley 91.93 51 *e*P **P 16 19 11.1 0.0**
9.7nm,1.1s
H17A Grant Village 92.00 45 *e*P **P 16 19 12.0 +0.7**
4.4nm,0.9s
H17A Grant Village 92.00 45 P **P 16 19 13.2 +1.9**
baz=254
BW06 Boulder Array 92.28 47 *e*P **P 16 19 11.7 -0.9**
1.6nm,0.5s
BW06 Boulder Array 92.28 47 P **P 16 19 12.9 +0.3**
baz=255
PD31 Pinedale Array 92.28 47 *e*P **P 16 19 12.1 -0.5**
PDAR Pinedale Array 92.28 47 P **P 16 19 11.8 -0.8**
1.1nm,0.5s,baz=230,slow=4.0,SNR=12
PDAR PP **PP 16 23 03.3 -1.6**
1.2nm,1.1s,baz=235,slow=5.2,SNR=4.5
BNM Barren Site 92.35 56 *e*P **P 16 19 13.5 +0.4**
O20A White River Ci 92.56 50 *e*P **P 16 19 14.2 +0.3**
10.0nm,0.7s
O20A White River Ci 92.56 50 P **P 16 19 14.5 +0.6**
baz=255
ANMO Albuquerque 92.67 55 *e*P **P 16 19 14.8 +0.3**
11nm,1.4s
ANMO Albuquerque 92.67 55 P **P 16 19 15.0 +0.4**
baz=256
WMQ Urumqi 92.76 314 P **P 16 19 14.9 +0.3**
WMQ pP pwP 16 21 32.8 +1.1
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,240nm,4.5s
MNTX Cornudas Mount 92.79 58 P **P 16 19 15.6 +0.7**
baz=257
S22A 4UR Ranch, Cre 93.05 52 *e*P **P 16 19 16.8 +0.5**
15nm,1.8s
S22A 4UR Ranch, Cre 93.05 52 P **P 16 19 17.0 +0.7**
baz=256
SMCO Snowmass 93.28 51 *e*P **P 16 19 17.7 +0.2**
5.4nm,0.8s
TX31 Lajitas Ar. Si 93.71 61 *e*P **P 16 19 19.3 0.0**
TXAR Lajitas Array 93.71 61 P **P 16 19 19.4 +0.1**
1.7nm,0.8s,baz=226,slow=5.2,SNR=21
N23A Red Feather La 94.44 49 P **P 16 19 23.2 +0.6**
baz=257
ISCO Idaho Springs 94.44 50 P **P 16 19 23.2 +0.6**
baz=257
YKA Yellowknife Ar 95.01 27 P **P 16 19 23.4 -0.7**
12nm,0.8s,baz=255,slow=4.6,SNR=132
YKA PKiKP **PKiKP 16 24 00.2 -1.0**
0.3nm,0.4s,baz=255,slow=1.5,SNR=4.7
ZALV Zalesovo Beam 96.99 324 *e*P **P 16 19 32.2 -1.1**
ZALV Zalesovo Beam 96.99 324 P **P 16 19 31.9 -1.4**
2.6nm,0.7s,baz=120,slow=4.8,SNR=7.2
MK01 Makanchi Array 97.14 316 *e*Pdif Pdif 16 19 34.0 -0.2
MK31 Makanchi Array 97.15 316 *e*Pdif Pdif 16 19 34.0 -0.2
MKAR Makanchi Array 97.15 316 P Pdif 16 19 34.0 -0.2
2.3nm,0.5s,baz=80,slow=6.9,SNR=37
MKAR PKiKP **PKiKP 16 24 04.0 -1.6**
0.2nm,0.4s,baz=96,slow=1.4,SNR=4.5
MKAR PKKPbc **PKKPbc 16 36 09.8 -2.4**
0.2nm,0.4s,baz=294,slow=1.4,SNR=4.4
MAKZ Makanchi 97.36 316 *e*Pdif Pdif 16 19 34.6 -0.5
3.3nm,1.1s
NRIK Noril'sk 98.98 339 P Pdif 16 19 41.3 -0.5
4.0nm,0.7s,baz=91,slow=4.7,SNR=12
KURK Kurchatov 100.19 320 PKKPbc PKKPbc 16 36 01.4 -2.5
KURBB Kurchatov Arra 100.23 320 PKKPbc PKKPbc 16 36 01.4 -2.4
0.3nm,0.3s,baz=299,slow=3.3,SNR=4.2
KSH Kashi 100.52 308 *e*P **Pdif 16 19 48.0 -1.5**
BVAR Borovoye Array 105.45 322 PKiKP **PKiKP 16 24 19.4 -1.0**
0.5nm,0.6s,baz=126,slow=1.3,SNR=4.7
SPA0 Spitsbergen Ar 113.26 354 *e*PKPdf **PKiKP 16 24 33.0 -1.6**
HSPB Hornsund (broa 114.39 354 *e*PKPdf PKPdf 16 24 36.3 -0.4
LPAZ La Paz 116.35 116 PKP **PKPdf 16 24 41.5 -1.4**
1.7nm,0.6s,baz=181,slow=0.7,SNR=6.9
ARCES ARCESS Array B 118.89 346 PKP **PKPdf 16 24 44.4 -1.1**
7.3nm,0.3s,baz=61,slow=2.2,SNR=82
ARE0 ARCESS Array S 118.89 346 *e*PKPdf **PKPdf 16 24 44.6 -0.9**
SCHQ Schefferville 119.68 34 PKP **PKPdf 16 24 45.6 -1.8**
3.7nm,0.7s,baz=214,slow=2.8,SNR=4.0
KTK1 Kautokeino 119.81 347 *e*PKPdf **PKPdf 16 24 46.0 -1.3**
TRO Tromso 120.22 348 *e*PKPdf **PKPdf 16 24 46.8 -1.2**
CPUP Villa Florida 120.31 131 PKP **PKPdf 16 24 47.9 -1.6**
0.9nm,0.4s,baz=155,slow=2.3,SNR=4.8
SDV Santo Domingo 121.19 87 *e*PKPdf **PKPdf 16 24 50.1 -1.7**
STEI Steigen 122.38 349 *e*PKPdf **PKPdf 16 24 51.0 -1.2**
STEI *e*PP **PP 16 26 41.0 +1.9**
MOR8 Moi Rana 124.07 348 *e*PKPdf **PKPdf 16 24 53.4 -2.1**
FINES FINESS Array B 124.65 339 PKP **PKPdf 16 24 55.9 -0.9**
2.2nm,0.5s,baz=62,slow=1.5,SNR=22
FINES SKPbc SKPbc 16 27 12.0
2.2nm,0.9s,baz=47,slow=3.7,SNR=5.0
RAYN Ar Rayn 125.77 290 *e*PKPdf **PKPdf 16 24 59.6 -0.5**
NSS Namsos 126.01 348 *e*PKPdf **PKPdf 16 24 58.5 -0.8**
NSS *e*SKPdf **SKPdf 16 27 31.0 -5.4**
SJG San Juan 126.54 77 *e*PKPdf **PKPdf 16 25 00.4 -1.2**
HUMP Col San Antoni 126.83 77 *e*PKPdf **PKPdf 16 25 00.6 -1.6**
DOMB Dombas 128.83 348 *e*PKPdf **PKPdf 16 25 03.7 -1.1**
NB2 NORSAR Subarra 129.27 346 PKPdf **PKPdf 16 25 05.3 -0.4**
comp=Z,2.6nm,0.6s,baz=28,slow=1.9
NB2 NORSAR Subarra 129.27 346 PKPdf **PKPdf 16 25 05.3 -0.4**
baz=28,slow=1.9
NOA NORSAR Array B 129.27 346 PKP **PKPdf 16 25 04.6 -1.0**
comp=Z,2.4nm,0.7s,baz=30,slow=2.1,SNR=8.9
NOA SKPbc SKPab 16 27 29.1 -0.7
comp=Z,2.6nm,0.9s,baz=28,slow=3.1,SNR=2.2
NC602 NORSAR Array S 129.46 346 *e*PKPdf **PKPdf 16 25 04.8 -1.2**
AKASG Malin Array Be 130.20 328 PKP **PKPdf 16 25 06.7 -1.0**
comp=Z,1.5nm,0.6s,baz=64,slow=1.9,SNR=6.8
AKASG SKPbc **SKPbc 16 27 32.4 -1.2**
comp=Z,1.7nm,0.5s,baz=47,slow=4.2,SNR=8.2
AK11 Malin Array Si 130.24 328 *e*PKPdf **PKPdf 16 25 06.5 -1.2**
KMBO Kilima Mbogo 130.37 257 SKPbc **SKPbc 16 27 35.9 +0.1**
comp=Z,5.2nm,1.0s,baz=357,slow=4.2,SNR=9.3
KONO Kongsberg 130.88 346 *e*PKPdf **PKPdf 16 25 05.7 -3.0**
BLS5 Blasjo 131.75 348 *e*PKPdf **PKPdf 16 25 09.2 -1.2**
BRTR Keskin Array B 132.67 313 PKP **PKPdf 16 25 12.4 -0.4**
comp=Z,1.2nm,0.7s,baz=132,slow=2.2,SNR=6.7
BRTR SKP **SKPab 16 27 45.3 0.0**
comp=Z,1.8nm,0.7s,baz=72,slow=3.7,SNR=8.8
BDFB Brasilia 133.55 126 PKP **PKPdf 16 25 15.3 +0.2**
comp=Z,2.9nm,0.4s,baz=291,slow=1.5,SNR=5.1
BUR04 Bucovina Ar. S 134.14 326 *e*PKPdf **PKPdf 16 25 15.9 +0.6**
GERES GERESS Array B 138.77 335 PKhKP PKPpre 16 25 13.8
GERES PKP **PKPdf 16 25 23.4 -0.5**
comp=Z,2.4nm,0.8s,baz=48,slow=2.0,SNR=8.4
GERES SKPbc **SKPbc 16 27 58.3 -2.7**
comp=Z,1.4nm,0.7s,baz=44,slow=3.0,SNR=8.2
GEA0 GERESS Array S 138.78 335 *e*PKPpre PKPpre 16 25 14.0
FNA Florina 140.43 321 *e*PKPpre PKPpre 16 25 19.2
WATA Walderalm 140.83 336 *i* PKPdf PKPpre 16 25 23.7
comp=Z,3.0nm,0.4s
ABTA Abfaltersbach 140.92 334 *i* PKPdf PKPpre 16 25 22.1
comp=Z,5.0nm,0.8s
MOTA Moosalm 141.01 336 *i* PKPdf PKPpre 16 25 23.1
comp=Z,2.1nm,0.4s
RETA Reutte 141.03 337 *i* PKPdf PKPpre 16 25 22.6
comp=Z,2.9nm,0.8s
SQTA Sankt Quirin 141.07 336 *e*PKPdf PKPpre 16 25 23.3
comp=Z,4.3nm,0.7s
BFO Black Forest 141.20 340 *e*PKPpre PKPpre 16 25 22.6
FETA Feichten 141.43 336 *e*PKPdf PKPpre 16 25 24.3
comp=Z,3.8nm,0.7s,SNR=6.3
DAVA Damuels 141.53 337 *i* PKPdf PKPpre 16 25 24.8
comp=Z,7.5nm,0.6s,SNR=4.8
FUORN Ofenpass-Fuorn 141.94 336 *e*PKPpre PKPpre 16 25 26.1
ITM Ithomi 142.03 315 *e*PKPpre PKPpre 16 25 25.8
TUE Stuetta 142.41 337 *e*PKPpre PKPpre 16 25 27.5
SENIN Lac Senin/Sane 143.25 339 *e*PKPbc PKPab 16 25 30.2 -0.3
CLF Chambon-Foret 143.27 345 *e*PKPbc PKPbc 16 25 30.7 +0.2
AQU L'Aquila 143.87 329 *e*PKPbc PKPbc 16 25 32.2 -0.3
TIP Timpagrande 144.20 322 *e*PKPdf PKPbc 16 25 33.5 -0.1
BNI Bandonecchia 144.61 338 *e*PKPdf **PKPdf 16 25 34.3 -0.1**
SSB Saint Sauveur 145.13 341 *e*PKPdf **PKPbc 16 25 36.2 -0.1**
KEST Kesra 150.86 325 *e*PKPbc **PKPbc 16 25 50.8 -0.3**
KEST Kesra 150.86 325 PKPbc **PKPbc 16 25 50.5 -0.7**
comp=Z,13nm,0.7s,baz=320,slow=1.3,SNR=14
PBRG Braganca 150.92 354 *e*PKPbc **PKPbc 16 25 49.5 -1.5**
POLO Lamas de Olo 151.45 355 *e*PKPbc **PKPbc 16 25 52.3 0.0**
POLO Lamas de Olo 151.45 355 *e*PKPab **PKPab 16 26 04.4 +0.8**
PVRL Vila Real 151.54 355 *e*PKPbc **PKPbc 16 25 52.4 0.0**
MVO Moncorvo 151.59 354 *e*PKPbc **PKPbc 16 25 52.6 0.0**
MVO Moncorvo 151.59 354 *e*PKPab **PKPab 16 26 03.4 -0.8**
MTE Manteigas 152.39 355 *e*PKPbc **PKiKP 16 25 54.5 0.0**
MTE Manteigas 152.39 355 *e*PKPab **PKPab 16 26 08.4 +0.8**
ES19 SONSECA Array 152.56 348 *e*PKPbc **PKPbc 16 25 54.0 -0.7**
ES19 *e*PKPab **PKPab 16 26 08.1 -0.2**
ESDC Sonseca Array 152.60 349 PKPbc **PKPbc 16 25 54.2 -0.6**
comp=Z,0.6nm,0.4s,baz=8.4,slow=3.3,SNR=7.2
ESDC PKPab **PKPab 16 26 08.7 +0.2**
comp=Z,3.0nm,0.6s,baz=12,slow=3.7,SNR=11
TOA0 Torodi Ar. Sit 167.84 273 *e*PKPdf **PKPdf 16 26 02.2 -2.0**
TORD Torodi Ar. Bea 167.84 273 PKP **PKPdf 16 26 02.4 -1.8**
comp=Z,3.2nm,1.2s,baz=86,slow=2.5,SNR=5.8
TORD PKPab **PKPab 16 27 14.3 -1.6**
comp=Z,0.3nm,0.4s,baz=82,slow=4.1,SNR=2.9

*IDC **04** 16:10:00.2±2.1, 1°.90N×98°.65E, h122km±11km, mb3.6/7, mb1 3.7/8, mb1mx3.3/56, mbtmp4.0/8, Error ellipse: s-maj=54.1km s-min=17.9km az=57.0*
*ISCJB **04** 16:10:01.3±0.5, 2°.06N±0°.05×98°.89E±0°.06, h136km±4km, mb4.2/16, Error ellipse: s-maj=9.8km s-min=8.3km az=175.0*
*BJI **04** 16:10:02.5, 2°.20N×98°.80E, h132km, mb4.5/14, mB4.9/7*
*DJA **04** 16:10:02.3±0.8, 2°N±4°×9°9E±°, h114km±7km, M3.4/6, MLv3.4/6*
*NEIC **04** 16:10:03.2±0.6, 2°.19N×98°.82E, h132km±5km, mb4.6/5, Error ellipse: s-maj=9.5km s-min=8.8km az=91.0*

ISC 04 16:10:01.9±0.8, 2°.06N±0°.05×98°.96E±0°.06, h126km±7km, n36, σ1°20/41, mb4.3/16, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.74**	**357**	*e*P	n	**Pn**	**16 10 22.4**	**+0.1**
PSI				*e*Sn	n	**Sn**	**16 10 35.3**	**-2.5**
PSI	**Prapat**	**0.74**	**357**	P	n	**Pn**	**16 10 22.3**	**-0.1**
	27nm,0.3s,baz=180,slow=8.0,SNR=48							
PSI				S	n	**Sn**	**16 10 37.5**	**-0.3**
	19nm,0.3s,baz=0.7,slow=23,SNR=45							
GSI	**Gunungsitoli**	**1.57**	**242**	*e*Pn	n	**Pn**	**16 10 31.6**	**+1.0**
GSI				*e*Sn	n	**Sn**	**16 10 52.3**	**-0.1**
GSI	**Gunungsitoli**	**1.57**	**242**	P	n	**Pn**	**16 10 31.6**	**+1.0**
GSI				S	n	**Sn**	**16 10 53.1**	**+0.7**
TPTI		**2.14**	**304**	P	n	**Pn**	**16 10 38.1**	**+0.7**
TPTI				S	n	**Sn**	**16 11 04.7**	**+0.1**
IPM	**Ipoh**	**3.17**	**41**	*e*Pn	n	**Pn**	**16 10 51.7**	**+1.0**
SISI	**Saibi**	**3.36**	**178**	P	n	**Pn**	**16 10 52.0**	**-1.2**
KULM	**Kulim**	**3.63**	**28**	*e*Pn	n	**Pn**	**16 10 56.6**	**-0.1**
LHMI	**Lhok Sumawe**	**3.73**	**328**	*e*Pn	n	**Pn**	**16 10 58.5**	**+0.5**
LHMI	**Lhok Sumawe**	**3.73**	**328**	P	n	**Pn**	**16 10 58.6**	**+0.5**
CM01	**Chiang Mai Arr**	**16.26**	**0**	*e*Pn	n	**Pn**	**16 13 43.3**	**+0.1**
CM31	**Chiang Mai Arr**	**16.30**	**360**	*e*Pn	n	**Pn**	**16 13 43.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.30**	**360**	P	n	**P**	**16 13 44.0**	**-0.2**
	0.5nm,0.3s,baz=190,slow=11,SNR=22							
KKM	**Kota Kinabalu**	**17.66**	**77**	*e*P	n	**Pn**	**16 14 01.9**	**+1.6**
	89nm,1.7s							
KMI	**Kunming**	**23.22**	**9**	P	n	**P**	**16 14 59.4**	**+1.2**
KMI				pmax	n	pmax		
	comp=Z,12nm,0.6s							
CD2	**Chengdu**	**29.05**	**9**	P	n	**P**	**16 15 51.1**	**+0.7**
CD2				pmax	n	pmax		
	comp=Z,20nm,0.5s							
LZH	**Lanzhou**	**34.16**	**7**	*e*P	n	**P**	**16 16 36.9**	**+1.7**
LZH				pP	n	pP	16 17 05.7	+2.7
LZH				sP	n	sP	16 17 18.8	+1.2
LZH				*e*PP	n	**PP**	**16 17 56.0**	**+0.8**
LZH				pmax	n	pmax		
	comp=Z,27nm,1.4s							
LZH				pmax	n	pmax		
	comp=Z,95nm,4.3s							
LZH				LR	n	LR		
	comp=N,650nm,15.2s							
LZH				LR	n	LR		
	comp=E,610nm,15.5s							
LZH				LR	n	LR		
	comp=Z,810nm,17.4s							
NJ2	**Nanjing**	**35.23**	**30**	*e*P	n	**P**	**16 16 44.1**	**-0.2**
NJ2				pmax	n	pmax		
	comp=Z,9.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**40.26**	**15**	*e*P	n	**P**	**16 17 27.7**	**+1.1**
HHC				pmax	n	pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax	n	pmax		
	comp=Z,110nm,5.0s							
WRA	**Warramunga Arr**	**41.02**	**124**	P	n	**P**	**16 17 32.9**	**-0.2**
	3.2nm,0.4s,baz=302,slow=9.1,SNR=5.5							
WRAB	**Tennant Creek**	**41.03**	**124**	*e*P	n	**P**	**16 17 36.1**	**+3.0**
	27nm,0.8s							
WB2	**Warramunga AR**	**41.03**	**124**	*e*P	n	**P**	**16 17 35.6**	**+2.5**
ASAR	**Alice Springs**	**42.54**	**129**	P	n	**P**	**16 17 44.9**	**-0.5**
	0.5nm,0.4s,baz=299,slow=7.6,SNR=3.3							
WMQ	**Urumqi**	**42.77**	**348**	*e*P	n	**P**	**16 17 47.5**	**+0.5**
WMQ				pP	n	pP	16 18 17.4	+1.5
WMQ				LR	n	LR		
	comp=N,56nm,17.3s							
WMQ				LR	n	LR		
	comp=E,58nm,17.3s							
WMQ				LR	n	LR		
	comp=Z,68nm,18.5s							
NRN	**Naryn**	**44.32**	**335**	*e*P	n	**P**	**16 17 58.9**	**-0.9**
	1.9nm,0.6s							
SONM	**Songino Array**	**46.05**	**7**	P	n	**P**	**16 18 14.1**	**+1.0**
	0.3nm,0.4s,baz=189,slow=7.2,SNR=4.4							
MK01	**Makanchi Array**	**46.84**	**344**	*e*P	n	**P**	**16 18 17.9**	**-1.2**
MK31	**Makanchi Array**	**46.87**	**344**	*e*P	n	**P**	**16 18 18.4**	**-0.9**
MKAR	**Makanchi Array**	**46.87**	**344**	P	n	**P**	**16 18 18.6**	**-0.7**
	2.0nm,0.6s,baz=155,slow=9.0,SNR=26							
MAKZ	**Makanchi**	**46.97**	**344**	*e*P	n	**P**	**16 18 19.1**	**-1.0**
	3.3nm,1.1s							
ZALV	**Zalesovo Beam**	**53.02**	**350**	*e*P	n	**P**	**16 19 04.6**	**-1.0**
ZALV	**Zalesovo Beam**	**53.02**	**350**	P	n	**P**	**16 19 04.7**	**-0.9**
	1.4nm,0.3s,baz=175,slow=5.5,SNR=8.2							
BOSA	**Boshof**	**76.73**	**240**	*e*P	n	**P**	**16 21 39.9**	**0.0**
	11nm,0.4s							
FINES	**FINESS Array B**	**80.06**	**332**	P	n	**P**	**16 21 55.3**	**-2.0**
	1.5nm,0.9s,baz=104,slow=12,SNR=1.0							
SYO	**Syowa Base**	**81.36**	**198**	*e*PcP	n	P	16 22 11.2	+7.1

*ISCJB **04** 16:12:48.3±0.7, 12°.9S±0°.1×169°.4E±0°.1, h645km, mb4.0/14, Error ellipse: s-maj=19.9km s-min=12.6km az=39.1*
*IDC **04** 16:12:49.0±2.3, 12°.97S×169°.45E, h643km±34km, mb3.4/14, mb1 3.6/16, mb1mx3.2/48, mbtmp4.4/16, Error ellipse: s-maj=20.4km s-min=18.6km az=173.0*

ISC 04 16:12:49.5±0.8, 12°.9S±0°.1×169°.4E±0°.1, h645km, n16, σ0°75/15, mb4.0/13, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.53**	**197**	P	n	**P**	**16 15 05.3**	**+0.6**
	3.8nm,0.3s,baz=273,slow=11,SNR=16							
HNR	**Honiara**	**9.90**	**290**	P	n	**P**	**16 15 07.5**	**-0.8**
	12nm,0.3s,baz=189,slow=4.5,SNR=12							
CTA	**Charters Tower**	**23.29**	**249**	P	n	**P**	**16 17 10.8**	**+0.2**
	1.7nm,0.5s,baz=82,slow=14,SNR=3.5							
URZ	**Urewera**	**26.15**	**166**	P	n	**P**	**16 17 33.6**	**-1.9**
	9.1nm,0.8s,baz=152,slow=15,SNR=7.6							
STKA	**Stephens Creek**	**31.73**	**229**	P	n	**P**	**16 18 24.8**	**+1.1**
	2.6nm,0.3s,baz=56,slow=9.7,SNR=12							
WRA	**Warramunga AR**	**34.30**	**254**	P	n	**P**	**16 18 44.8**	**-0.5**
	5.0nm,0.4s,baz=85,slow=8.8,SNR=9.0							
ASAR	**Alice Springs**	**35.26**	**247**	P	n	**P**	**16 18 53.1**	**-0.1**
	8.6nm,0.5s,baz=75,slow=9.7,SNR=25							
FITZ	**Fitzroy Crossi**	**42.41**	**257**	P	n	**P**	**16 19 50.0**	**-0.3**
	2.9nm,0.7s,baz=61,slow=3.4,SNR=5.4							
BATI	**Baumata**	**44.85**	**268**	P	n	**P**	**16 20 09.2**	**0.0**
	19nm,0.4s,baz=60,slow=20,SNR=3.3							
KLR	**Kul'dur**	**70.23**	**335**	P	n	**P**	**16 22 59.5**	**-0.1**
	0.8nm,0.6s,baz=142,slow=7.3,SNR=3.8							
MA2	**Magadan**	**73.80**	**350**	P	n	**P**	**16 23 19.9**	**+0.1**
	1.0nm,0.5s,baz=185,slow=8.8,SNR=4.3							
SEY	**Seymchan**	**76.77**	**352**	P	n	**P**	**16 23 36.6**	**+0.5**
	3.5nm,0.7s,baz=142,slow=6.5,SNR=16							
ILAR	**Eielson Array**	**84.19**	**17**	P	n	**P**	**16 24 14.2**	**-0.1**
	2.5nm,0.7s,baz=234,slow=5.2,SNR=24							
NVAR	**Mina Array Bea**	**84.53**	**49**	P	n	**P**	**16 24 17.5**	**+0.6**
	0.7nm,0.7s,baz=225,slow=6.9,SNR=4.2							
YKA	**Yellowknife Ar**	**95.00**	**27**	P	n	**P**	**16 25 04.5**	**0.0**
	0.8nm,0.8s,baz=254,slow=4.7,SNR=8.8							
MKAR	**Makanchi Array**	**97.33**	**316**	P	n	Pdif	16 25 15.3	-0.2
	0.3nm,0.5s,baz=94,slow=6.2,SNR=2.3							

*BJI **04** 16:13:23.9, 12°.63S×169°.44E, h648km, mb4.6/51, mB4.7/26*
*ISCJB **04** 16:13:24.2±0.6, 12°.91S±0°.04×169°.14E±0°.03, h650km±9km, mb4.8/235, Error ellipse: s-maj=5.9km s-min=4.5km az=16.5*
*NEIC **04** 16:13:25.2±0.1, 12°.84S×169°.18E, mb4.9/192, Error ellipse: s-maj=3.4km s-min=2.7km az=129.0*
*IDC **04** 16:13:25.2±0.8, 12°.91S×169°.21E, h648km±10km, mb4.0/32, mb1 4.1/34, mb1mx4.0/45, mbtmp5.1/34, Error ellipse: s-maj=7.9km s-min=7.0km az=108.0*

ISC 04 16:13:25.1±0.4, 12°.87S±0°.05×169°.24E±0°.05, h646km±4km, h648km: pP-P, n517, σ1°10/564, mb4.9/229, 7C-4D, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**8.64**	**188**	*e*P	n	**P**	**16 15 32.3**	**+0.3**
DZM	**Mont Dzumac**	**9.53**	**196**	*e*P	n	**P**	**16 15 38.7**	**-1.8**
	2µm,1.9s							
DZM	**Mont Dzumac**	**9.53**	**196**	P	n	**P**	**16 15 41.2**	**+0.8**
DZM				S	n	**S**	**16 17 33.8**	**+2.3**
DZM	**Mont Dzumac**	**9.53**	**196**	P	n	**P**	**16 15 41.2**	**+0.8**
	22nm

HNR S **S** **16 17 35.9 +0.9**
HNR Honiara 9.74 290 P **P** **16 15 42.2 -0.3**
158nm,0.3s,baz=174,slow=5.4,SNR=100
HNR S **S** **16 17 35.9 +0.9**
0.6nm,0.3s,baz=148,slow=17,SNR=3.9
MSVF Nonsavu 9.78 121 *eP* **P** **16 15 43.5 +0.7**
PINNC Pines Island, 9.84 190 *eP* **P** **16 15 44.2 +1.0**
RAO Raoul Island 20.20 146 *eP* **P** **16 17 18.6 0.0**
353nm,0.4s
RAO Raoul Island 20.20 146 P **P** **16 17 18.5 -0.1**
359nm,0.5s,baz=160,slow=3.1,SNR=10.0
GLKZ Green Lake 20.21 146 P **P** **16 17 19.1 +0.5**
NIUE Niue 20.95 110 *eP* **P** **16 17 26.0 +0.5**
200nm,1.2s
OUZ Omahuta 22.60 171 *eP* **P** **16 17 42.1 +2.2**
95nm,1.3s
OUZ Omahuta 22.60 171 P **P** **16 17 42.3 +2.5**
CTA Charters Tower 23.17 249 P **P** **16 17 45.2 0.0**
CTA Charters Tower 23.17 249 P **P** **16 17 45.2 0.0**
8.1nm,0.9s,baz=74,slow=10.0,SNR=5.5
WCZ Waipu Caves 23.43 170 P **P** **16 17 49.3 +2.1**
GRZ Great Barrier 23.95 168 P **P** **16 17 53.9 +2.1**
MANU Manus Island 24.18 295 *eP* **P** **16 17 54.7 +0.5**
188nm,1.7s
WIAZ Waiheke Island 24.40 168 P **P** **16 17 56.4 +0.6**
KUZ Kuaotunu 24.48 167 P **P** **16 17 57.8 +1.4**
MKAZ Moumakai 24.71 169 P **P** **16 18 00.1 +1.6**
COEN Coen 25.38 265 *eP* **P** **16 18 05.4 +0.7**
22nm,0.8s
TOZ Tahuroa Road 25.38 168 P **P** **16 18 06.0 +1.6**
MXZ Matakaoa Point 25.89 163 P **P** **16 18 08.3 -0.5**
HAZ Te Kaha 25.93 164 P **P** **16 18 09.1 0.0**
HIZ Hauiti 26.02 170 *eP* **P** **16 18 11.7 +1.7**
181nm,1.2s
RUGZ Raukumara Rang 26.10 165 P **P** **16 18 10.1 -0.7**
PKGZ Pakihiroa 26.13 164 P **P** **16 18 10.6 -0.4**
URZ Urewera 26.24 166 *eP* **P** **16 18 11.2 -0.6**
76nm,0.8s
URZ S **S** **16 21 59.2 -1.9**
URZ Urewera 26.24 166 P **P** **16 18 11.6 -0.3**
56nm,0.8s,baz=354,slow=3.8,SNR=27
URZ S **S** **16 21 59.2 -1.9**
5.8nm,0.8s,baz=180,slow=20,SNR=4.8
VRZ Vera Road 26.61 170 P **P** **16 18 17.0 +2.0**
NGZ Ngauruhoe 26.80 169 P **P** **16 18 18.6 +1.6**
COVZ Chateau Observ 26.81 169 P **P** **16 18 18.5 +1.5**
PKVZ Pokaka 26.86 169 P **P** **16 18 17.7 +0.3**
FWVZ Far West T-bar 26.87 169 P **P** **16 18 18.9 +1.3**
TRVZ Turoa 26.91 169 P **P** **16 18 19.4 +1.3**
BKZ Black Stump Fm 26.97 168 *eP* **P** **16 18 18.1 -0.2**
163nm,0.9s
BKZ Black Stump Fm 26.97 168 P **P** **16 18 18.1 -0.2**
MOVZ Moawhango 27.05 169 P **P** **16 18 19.0 0.0**
BHHZ Black Hill Sta 27.19 168 P **P** **16 18 20.2 0.0**
KWHZ Kaweka Forest 27.20 168 P **P** **16 18 20.5 +0.1**
WAZ Wanganui 27.26 170 P **P** **16 18 22.2 +1.5**
KRHZ Kereru 27.40 168 P **P** **16 18 21.6 -0.5**
PNHZ Pukenui 27.63 168 P **P** **16 18 23.5 -0.5**
TSZ Takapari Road 27.72 169 P **P** **16 18 24.5 -0.3**
DVHZ Dannevirke 28.00 169 P **P** **16 18 26.1 -1.1**
PRWZ Pori Road 28.21 169 P **P** **16 18 28.3 -0.6**
MRZ Mangatainoka R 28.24 170 P **P** **16 18 28.5 -0.7**
OGWZ Otaki Gorge 28.32 170 P **P** **16 18 28.8 -1.2**
KIW Kapiti Island 28.33 171 P **P** **16 18 29.6 -0.4**
BFZ Birch Farm 28.38 169 *eP* **P** **16 18 29.3 -1.1**
107nm,0.9s
BFZ Birch Farm 28.38 169 P **P** **16 18 29.4 -1.1**
HOWZ Holdsworth Sta 28.46 170 P **P** **16 18 30.2 -0.9**
CAW Cannon Point 28.59 171 P **P** **16 18 31.5 -0.7**
MTW Mount Morrison 28.71 170 P **P** **16 18 32.6 -0.7**
SNZO South Karori 28.73 171 *eP* **P** **16 18 32.9 -0.6**
276nm,0.7s
PAWZ Paruwai Farm 28.92 170 P **P** **16 18 34.5 -0.6**
THZ Tophouse 28.96 174 *eP* **P** **16 18 36.0 +0.5**
117nm,1.0s
KHZ Kahutara 29.68 174 *eP* **P** **16 18 41.2 -0.3**
129nm,1.1s
LTZ Lake Taylor 29.92 176 *eP* **P** **16 18 43.9 +0.2**
40nm,0.8s
OXZ Oxford 30.45 176 *eP* **P** **16 18 47.3 -0.8**
57nm,0.3s
RPZ Rata Peaks 30.78 177 *eP* **P** **16 18 50.2 -0.7**
56nm,0.9s
RPZ Rata Peaks 30.78 177 P **P** **16 18 50.6 -0.3**
56nm,0.9s,baz=278,slow=1.9,SNR=12
STKA Stephens Creek 31.66 229 *eP* **P** **16 18 59.4 +0.8**
2.4nm,0.7s
STKA S **S** **16 23 23.9 -0.8**
STKA ScP **ScP** **16 24 14.0 +0.9**
STKA Stephens Creek 31.66 229 P **P** **16 18 59.6 +1.0**
8.5nm,0.6s,baz=51,slow=9.8,SNR=14
STKA S **S** **16 23 23.9 -0.8**
1.1nm,0.6s,baz=151,slow=18,SNR=2.1
STKA ScP **ScP** **16 24 14.0 +0.9**
2.9nm,0.6s,baz=25,slow=2.6,SNR=5.8
TOO Toolangi 32.48 217 *eP* **P** **16 19 06.4 +1.0**
8.8nm,0.8s
DCZ Deep Cove 32.54 183 *eP* **P** **16 19 05.5 -0.2**
50nm,0.9s
WB2 Warramunga Arr 34.15 253 *eP* **P** **16 19 18.8 -0.8**
15nm,0.6s
WRAB Tennant Creek 34.15 253 *eP* **P** **16 19 18.8 -0.8**
14nm,0.6s
WRA Warramunga Arr 34.16 253 P **P** **16 19 19.1 -0.6**
WRA S **S** **16 24 00.4 -2.5**
WRA ScP **ScP** **16 24 23.4 +1.2**
WRA PKKP **PKKPdf** **16 43 49.7 -2.2**
WRA Warramunga Arr 34.16 253 P **P** **16 19 19.1 -0.6**
14nm,0.5s,baz=83,slow=8.5,SNR=28
WRA S **S** **16 24 00.4 -2.5**
20nm,0.9s,baz=85,slow=14,SNR=18
WRA ScP **ScP** **16 24 23.4 +1.2**
3.2nm,0.9s,baz=77,slow=4.6,SNR=6.5
WRA PKKP **PKKPdf** **16 43 49.7 -2.2**
0.5nm,0.7s,baz=265,slow=2.3,SNR=6.9
AS01 Alice Springs 35.10 247 *eP* **P** **16 19 27.0 -0.4**
AS31 Alice Springs 35.14 247 *eP* **P** **16 19 27.4 -0.4**
6.0nm,0.6s
ASAR Alice Springs 35.14 247 P **P** **16 19 27.7 -0.1**
ASAR S **S** **16 24 15.6 -1.9**
ASAR PKKP **PKKPdf** **16 43 46.6 -4.6**
18nm,0.7s,baz=73,slow=9.4,SNR=25
ASAR S **S** **16 24 15.6 -1.9**
6.2nm,1.0s,baz=73,slow=18,SNR=16
ASAR PKKP **PKKPdf** **16 43 46.6 -4.6**
0.3nm,0.7s,baz=257,slow=4.0,SNR=5.9
BBOO Buckleboo 36.23 231 *eP* **P** **16 19 36.8 +0.2**
23nm,0.7s
MTN Manton Dam 37.13 266 *eP* **P** **16 19 44.2 +0.1**
18nm,0.8s
PAE Paea 39.95 102 *eP* **P** **16 20 07.7 +1.1**
5.7nm,0.5s
PPT Papeete 39.95 102 P **P** **16 20 08.1 +1.4**
PPT Papeete 39.95 102 P **P** **16 20 08.1 +1.4**
26nm,0.5s,baz=46,slow=15,SNR=6.7
PPT2 Papeete2 39.95 102 *eP* **P** **16 20 07.8 +1.0**
19nm,0.6s
TIAR Tiarei 40.17 102 *eP* **P** **16 20 09.6 +1.2**
8.1nm,0.5s
TVO Taravao 40.27 102 *eP* **P** **16 20 10.4 +1.2**
11nm,0.6s
FITZ Fitzroy Crossi 42.27 257 P **P** **16 20 24.8 0.0**
FITZ Fitzroy Crossi 42.27 257 P **P** **16 20 24.8 0.0**
2.4nm,0.3s,baz=76,slow=4.1,SNR=25
BATI Baumata 44.70 268 P **P** **16 20 44.1 +0.5**
BATI Baumata 44.70 268 P **P** **16 20 44.1 +0.5**
36nm,0.5s,baz=190,slow=2.5,SNR=5.9
KHU Kahuku 47.08 48 *eP* **P** **16 21 01.8 +0.1**
146nm,0.7s
AIN Ainahou 47.28 48 *eP* **P** **16 21 03.7 +0.7**
256nm,0.7s
HMH Humu'ula Sheep 47.41 48 *eP* **P** **16 21 05.0 +0.8**
231nm,0.8s
HPAH Hawaii Prepara 47.53 47 *eP* **P** **16 21 05.3 +0.5**
168nm,0.7s
NWAO Narrogin (SRO) 51.35 238 P **P** **16 21 31.9 -0.6**
NWAO Narrogin (SRO) 51.35 238 P **P** **16 21 31.9 -0.6**
4.9nm,0.9s,baz=329,slow=4.5,SNR=5.2
MJAR Matsushiro Arr 57.20 330 P **P** **16 22 12.8 -0.2**
MJAR PcP **PcP** **16 22 56.8 -1.3**
MJAR Matsushiro Arr 57.20 330 P **P** **16 22 12.8 -0.2**
6.3nm,0.7s,baz=171,slow=8.2,SNR=21
MJAR PcP **PcP** **16 22 56.8 -1.3**
4.1nm,0.8s,baz=169,slow=4.4,SNR=4.4

MAJO Matsushiro 57.20 330 *eP* **P** **16 22 12.9 -0.1**
43nm,1.5s
MAT Matsushiro 57.20 330 P **P** **16 22 12.9 -0.1**
MJB9 Matsu-Tunnel 57.20 330 *eP* **P** **16 22 12.9 -0.1**
47nm,1.6s
JNU Nakatsue 58.58 322 P **P** **16 22 22.1 -0.3**
JNU Nakatsue 58.58 322 P **P** **16 22 22.1 -0.3**
17nm,1.0s,baz=31,slow=3.8,SNR=5.1
ASAJ Asahikawa 61.69 338 P **P** **16 22 43.6 +1.1**
ASAJ PcP **PcP** **16 23 17.0 +0.9**
ASAJ Asahikawa 61.69 338 P **P** **16 22 43.6 +1.1**
37nm,0.9s,baz=211,slow=7.9,SNR=31
ASAJ PcP **PcP** **16 23 17.0 +0.9**
10nm,0.9s,baz=141,slow=13,SNR=1.9
KSRS Korea Array 63.33 324 P **P** **16 22 53.5 +0.3**
5.7nm,0.9s,baz=136,slow=6.4,SNR=16
KSRS PcP **PcP** **16 23 23.6 +0.7**
1.6nm,0.8s,baz=137,slow=5.5,SNR=2.7
KSRS pP **pwP** **16 25 02.2 +1.0**
2.6nm,1.1s,baz=138,slow=6.7,SNR=4.5
KSAR Wonju Array Be 63.34 324 P **P** **16 22 53.5 +0.2**
KSAR PcP **PcP** **16 23 23.6 +0.6**
KSAR pP **pwP** **16 25 02.2 +0.9**
KS01 Wonju Array Si 63.36 324 *eP* **P** **16 22 53.8 +0.4**
KS01 *epP* **pP** **16 24 56.7 -0.3**
YSS Yuzh-Sakhalins 64.11 340 *eP* **P** **16 22 58.7 +0.8**
33nm,0.9s
VNDA Vanda 64.76 182 *eP* **P** **16 23 02.3 +0.7**
57nm,1.9s
VNDA Vanda 64.76 182 P **P** **16 23 02.0 +0.5**
4.9nm,0.6s,baz=356,slow=5.9,SNR=23
NJ2 Nanjing 65.73 314 *eP* **P** **16 23 08.8 +0.5**
NJ2 pmax pmax
comp=Z,18nm,0.8s
USA0B Ussuriysk Arra 66.14 332 *eP* **P** **16 23 11.2 +0.6**
16nm,0.9s
USRK Ussuriysk Ar. 66.14 332 P **P** **16 23 11.1 +0.5**
USRK Ussuriysk Ar. 66.14 332 P **P** **16 23 11.1 +0.5**
12nm,0.8s,baz=134,slow=6.1,SNR=17
PETK Petropavlovsk- 66.45 352 *eP* **P** **16 23 12.5 +0.2**
PETK Petropavlovsk- 66.45 352 P **P** **16 23 12.8 +0.5**
43nm,0.8s,baz=148,slow=8.7,SNR=9.5
MDJ Mudanjiang 67.58 330 P **P** **16 23 20.2 +0.8**
MDJ pmax pmax
comp=Z,33nm,0.9s
MDJ pmax pmax
comp=Z,190nm,5.0s
MDJ Mudanjiang 67.58 330 *eP* **P** **16 23 19.9 +0.5**
28nm,1.0s
WHN Wuhan 68.16 311 ⇑P **P** **16 23 23.9 +0.7**
CN2 Changchun 69.08 328 *eP* **P** **16 23 28.7 +0.3**
CN2 pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 70.12 335 P **P** **16 23 34.9 +0.5**
KLR Kul'dur 70.12 335 P **P** **16 23 34.9 +0.5**
10.0nm,0.7s,baz=120,slow=2.6,SNR=48
ENH Enshi 71.70 308 *eP* **P** **16 23 44.1 -0.1**
14nm,0.8s
SPIA Saint Paul Isl 71.83 12 *eP* **P** **16 23 44.2 0.0**
1µm,1.7s
BJI Beijing 72.06 320 P **P** **16 23 46.3 +0.4**
BJI pmax pmax
comp=Z,11nm,1.0s
GYA Guiyang 72.27 303 *eP* **P** **16 23 48.0 +0.4**
GYA pP **pP** **16 25 59.8 +2.4**
GYA PP **PP** **16 26 43.4 +2.5**
GYA S **S** **16 32 22.6 +1.5**
GYA SKS **SKSac** **16 32 49.5 -2.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 73.72 350 *eP* **P** **16 23 53.9 -1.1**
25nm,0.8s
MA2 Magadan 73.72 350 P **P** **16 23 54.3 -0.7**
24nm,0.8s,baz=146,slow=5.8,SNR=63
UTTA Uttaradit 74.29 293 P **P** **16 24 00.8 +1.7**
2.3nm,0.9s
NANT Nan 74.51 294 P **P** **16 24 01.3 +1.0**
KMI Kunming 74.99 301 P **P** **16 24 02.8 -0.3**
KMI pmax pmax
comp=Z,28nm,0.5s
PAYA Payao 75.44 294 P **P** **16 24 07.0 +1.5**
HHC Hu-ho-hao-te 75.44 319 *eP* **P** **16 24 04.7 -0.5**
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.5s
CM01 Chiang Mai Arr 75.95 293 *eP* **P** **16 24 09.0 +0.7**
CM31 Chiang Mai Arr 75.97 293 *eP* **P** **16 24 09.0 +0.6**
CMAR Chiang Mai Arr 75.97 293 P **P** **16 24 09.4 +1.0**
CMAR pP **pwP** **16 26 24.1 -0.4**
CMAR Chiang Mai Arr 75.97 293 P **P** **16 24 09.4 +1.0**
7.9nm,0.8s,baz=120,slow=4.0,SNR=40
CMAR pP **pwP** **16 26 24.1 -0.4**
0.2nm,0.8s,baz=308,slow=40,SNR=2.4
CMMT Chiang Mai 76.08 293 P **P** **16 24 10.3 +1.3**
CMMT Chiang Mai 76.08 293 P **P** **16 24 10.3 +1.3**
CHTO Chiang Mai 76.09 293 *eP* **P** **16 24 09.5 +0.5**
11nm,1.0s
CHTO Chiang Mai 76.09 293 P **P** **16 24 10.3 +1.3**
61nm,1.2s
CHTO Chiang Mai 76.09 293 P **P** **16 24 10.3 +1.3**
61nm,1.2s
OHAK Old Harbor 76.39 20 *eP* **P** **16 24 10.2 +0.4**
72nm,0.8s
CD2 Chengdu 76.43 306 P **P** **16 24 12.0 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
SEY Seymchan 76.69 352 P **P** **16 24 11.6 +0.3**
SEY Seymchan 76.69 352 P **P** **16 24 11.6 +0.3**
41nm,0.8s,baz=155,slow=5.6,SNR=107
KDAK Kodiak Island 77.06 20 *eP* **P** **16 24 13.5 +0.1**
83nm,1.1s
KDAK Kodiak Island 77.06 20 P **P** **16 24 13.5 +0.1**
47nm,1.0s,baz=228,slow=6.0,SNR=8.2
QSPA South Pole Qui 77.15 180 *eP* **P** **16 24 14.5 +0.4**
54nm,1.0s
GAMB Gambell 77.80 9 *eP* **P** **16 24 17.5 +0.3**
37nm,1.0s
LZH Lanzhou 78.52 311 *eP* **P** **16 24 23.2 +1.2**
LZH pP pwP **16 26 40.0 +2.7**
LZH PP **sP** **16 27 36.0 -2.8**
LZH pmax pmax
comp=Z,23nm,1.3s
SVW2 Sparrevohn 78.82 17 *eP* **P** **16 24 23.2 +0.4**
46nm,1.5s
RSO Redoubt South 79.13 18 *eP* **P** **16 24 24.2 -0.5**
BRLK Bradley Lake 79.17 19 *eP* **P** **16 24 25.0 +0.3**
88nm,0.8s
ANM Nome 79.58 11 *eP* **P** **16 24 27.3 +0.7**
40nm,1.2s
SEW Seward 79.89 20 *eP* **P** **16 24 28.3 0.0**
72nm,1.0s
SUA Susitna One 80.53 18 *eP* **P** **16 24 31.8 0.0**
174nm,1.1s
RC01 Rabbit Creek A 80.55 19 *eP* **P** **16 24 32.1 +0.3**
149nm,1.0s
BILL Bilibino 80.72 359 *eP* **P** **16 24 32.5 0.0**
51nm,1.0s
PMR Palmer 81.12 19 *eP* **P** **16 24 34.6 -0.1**
228nm,1.7s
KNK Knik Glacier 81.20 19 *eP* **P** **16 24 35.3 +0.2**
68nm,0.8s
PPLA Purkeypile 81.23 17 *eP* **P** **16 24 35.4 0.0**
31nm,0.8s
KCPM Cahto Peak 81.30 46 *eP* **P** **16 24 37.3 +1.0**
78nm,1.0s
HOPS Hopland Field 81.38 47 *eP* **P** **16 24 37.6 +1.1**
68nm,1.2s
KMRM Mail Ridge 81.44 45 *eP* **P** **16 24 38.3 +1.4**
60nm,0.7s
EYAK Cordova Ski Ar 81.47 21 *eP* **P** **16 24 36.7 +0.2**
72nm,1.1s
GDXM Geysers 81.50 47 *eP* **P** **16 24 38.4 +1.1**
30nm,1.1s
SML Sawmill 81.54 19 *eP* **P** **16 24 36.9 0.0**
150nm,1.7s
CAST Castle Rocks 81.67 17 *eP* **P** **16 24 36.7 -0.8**
143nm,0.7s
SAO San Andreas Ge 81.67 49 *eP* **P** **16 24 39.2 +1.1**
27nm,0.9s
KHMM Horse Mountain 81.70 45 *eP* **P** **16 24 39.3 +1.0**
45nm,0.8s
ULN Ulaanbaatar 81.79 323 *eP* **P** **16 24 38.5 -0.1**
20nm,1.1s
ULN *epP* **pP** **16 26 53.5 +1.1**
HMT Hamilton 81.84 21 *eP* **P** **16 24 38.0 -0.4**
64nm,0.8s
DIV Divide 81.88 20 *eP* **P** **16 24 38.2 -0.4**
35nm,0.8s
SCM Sheep Creek Mo 81.88 19 *eP* **P** **16 24 38.4 -0.2**
66nm,0.9s
SCZ2 Santa Cruz Isl 82.01 53 P **P** **16 24 40.7 +0.8**
baz=249
O02D Mt. Diablo Mer 82.06 46 P **P** **16 24 41.7 +1.6**
baz=246,SNR=24
KLU Klutina 82.09 20 *eP* **P** **16 24 39.5 -0.2**
22nm,0.8s
SONM Songino Array 82.17 323 P **P** **16 24 40.3 -0.2**
SONM pP **pP** **16 26 51.1 -3.3**
SONM Songino Array 82.17 323 P **P** **16 24 40.3 -0.2**
5.7nm,0.7s,baz=138,slow=5.1,SNR=34
SONM pP **pP** **16 26 51.1 -3.3**
0.8nm,1.0s,baz=132,slow=2.1,SNR=1.9
SONA1 Songino Array 82.17 323 *eP* **P** **16 24 40.2 -0.3**
SONA1 *epP* **pP** **16 26 55.1 +0.7**
PAGB Antelope Grade 82.18 51 *eP* **P** **16 24 41.9 +1.2**
32nm,1.3s
PKM Mcpherson Peak 82.20 52 P **P** **16 24 41.7 +0.7**
baz=248
TRF Thorofare Moun 82.20 17 *eP* **P** **16 24 39.5 -0.8**
55nm,0.8s
L02E Cave Junction 82.32 44 P **P** **16 24 42.5 +1.3**
baz=245
WDC Whiskeytown Da 82.40 46 *eP* **P** **16 24 42.4 +0.8**
70nm,1.5s
N02D Trinity Center 82.45 45 P **P** **16 24 43.3 +1.3**
baz=246,SNR=17
K02D Willamette Mer 82.51 43 P **P** **16 24 43.4 +1.1**
baz=245,SNR=5.7
M02C Callahan 82.52 45 P **P** **16 24 43.6 +1.3**
baz=246,SNR=23
J01E Myrtle Point 82.53 43 P **P** **16 24 43.3 +1.1**
baz=255,SNR=5.0
RND Reindeer 82.58 18 *eP* **P** **16 24 41.6 -0.5**
151nm,1.4s
ORV Oroville 82.72 47 *eP* **P** **16 24 43.5 +0.3**
27nm,0.9s
CIS Catalina Islan 82.75 53 P **P** **16 24 44.2 +0.6**
baz=250
YBH Yreka Blue Hor 82.75 44 *eP* **P** **16 24 44.1 +0.6**
48nm,1.1s
DHY Denali Highway 82.78 18 *eP* **P** **16 24 42.5 -0.8**
14nm,0.6s
GTA Gaotai 82.79 313 ⇓P **P** **16 24 44.7 +0.9**
GTA pP pP **16 26 55.1 -2.8**
GTA pmax pmax
comp=Z,33nm,1.0s
GTA pmax pmax
comp=Z,77nm,6.5s
O03E Paynes Creek 82.80 46 P **P** **16 24 44.3 +0.5**
baz=246,SNR=16
AFDM Forest Hills D 82.86 48 *eP* **P** **16 24 44.3 +0.3**
40nm,1.0s
CMB Columbia Colle 82.94 49 *eP* **P** **16 24 44.8 +0.3**
29nm,0.9s
HUMO Hull Mountain 82.95 44 *eP* **P** **16 24 45.1 +0.8**
43nm,0.9s
BWN Browne 82.99 17 *eP* **P** **16 24 43.4 -0.6**
87nm,0.6s
I02D Swisshome 82.99 42 P **P** **16 24 45.7 +1.3**
baz=245
HARP HAARP 83.00 20 *eP* **P** **16 24 43.8 -0.4**
45nm,0.9s
BALM Baldy 83.00 22 *eP* **P** **16 24 43.6 -0.7**
37nm,0.8s
ARVC Arvin 83.04 52 P **P** **16 24 45.7 +0.7**
baz=249
VES Vestal, Richgr 83.10 51 P **P** **16 24 45.5 +0.3**
baz=249
DECC Green Verdugo 83.11 53 P **P** **16 24 45.0 -0.4**
baz=249
I03D Drain, OR 83.14 42 P **P** **16 24 46.0 +0.8**
baz=245
RDOG Red Dog Mine 83.16 10 *eP* **P** **16 24 44.8 0.0**
41nm,1.0s
L04D Klamath Falls 83.23 44 P **P** **16 24 46.7 +0.8**
baz=246,SNR=10
IM3 Indian Mountai 83.29 14 *eP* **P** **16 24 45.8 +0.3**
PAX Paxson 83.30 19 *eP* **P** **16 24 45.3 -0.4**
7.2nm,0.8s
MWC Mount Wilson 83.31 53 *eP* **P** **16 24 46.8 +0.3**
162nm,1.8s
M04C Macdoel 83.37 45 P **P** **16 24 47.3 +0.7**
baz=246,SNR=9.4
RUBR Rubicon Trail 83.49 48 *eP* **P** **16 24 48.0 +0.6**
26nm,0.8s
ISA Isabella, Lake 83.50 51 *eP* **P** **16 24 48.3 +1.0**
30nm,1.0s
ISA Isabella, Lake 83.50 51 P **P** **16 24 48.1 +0.8**
baz=249,SNR=17
EDW2 Edwards Air Fo 83.59 52 P **P** **16 24 48.9 +1.1**
baz=250,SNR=21
109C Camp Elliot, M 83.61 54 P **P** **16 24 48.5 +0.8**
baz=250
WRH Wood River Hil 83.61 17 *eP* **P** **16 24 46.1 -1.0**
36nm,0.8s
BFSC Mount Baldy Ra 83.63 53 P **P** **16 24 48.7 +0.6**
baz=250,SNR=12
BEKR Beckworth 83.65 47 *eP* **P** **16 24 48.5 +0.4**
27nm,1.0s
MDPB Devils Postpil 83.75 49 *eP* **P** **16 24 49.4 +0.6**
38nm,1.0s
MURC Murrieta 83.77 54 P **P** **16 24 49.5 +0.8**
baz=250
J04D Umpqua Nationa 83.77 43 P **P** **16 24 49.6 +0.9**
baz=246,SNR=9.6
I04A Tendick Farm, 83.80 43 P **P** **16 24 49.0 +0.5**
baz=246
OMMB Old Mammoth Mi 83.80 49 *eP* **P** **16 24 49.5 +0.4**
40nm,1.3s
WAKR Walker 83.81 48 *eP* **P** **16 24 49.9 +1.0**
58nm,1.3s
CCB Clear Creek Bu 83.82 17 *eP* **P** **16 24 46.8 -1.3**
30nm,0.8s
G03D McMinnville, O 83.84 41 P **P** **16 24 49.4 +0.8**
baz=245
MENT Mentasta 83.84 20 *eP* **P** **16 24 47.7 -0.7**
19nm,0.9s
MENT *epP* **pP** **16 27 04.2 +1.6**
BAR Barrett 83.88 55 *eP* **P** **16 24 49.3 +0.1**
13nm,0.9s
H04D Lebanon 83.89 42 P **P** **16 24 49.6 +0.7**
baz=245
HDA Harding Lake 83.90 18 *eP* **P** **16 24 47.4 -1.1**
78nm,0.8s
HDA Harding Lake 83.90 18 P **P** **16 24 48.0 -0.5**
baz=223
PNTR Pine Nut 83.91 48 *eP* **P** **16 24 49.9 +0.5**
25nm,1.0s
MDM Murphy Dome 83.94 17 *eP* **P** **16 24 47.3 -1.4**
33nm,0.8s
TCOL CIGO, UAF Yank 83.98 17 P **P** **16 24 47.9 -0.9**
baz=222
COLA College 83.98 17 *eP* **P** **16 24 47.5 -1.3**
60nm,0.8s
LRMC Laurel Mtn Rad 84.04 52 P **P** **16 24 50.9 +0.8**
baz=250,SNR=12
RIDG Independ'e Rid 84.05 19 *eP* **P** **16 24 48.6 -0.8**
37nm,0.9s
CWC Cottonwood Cre 84.07 51 P **P** **16 24 51.3 +1.1**
baz=249
MONP2 Monument Peak 84.15 55 P **P** **16 24 51.9 +1.2**
baz=251,SNR=15
TIN Tinemaha, Big 84.17 50 P **P** **16 24 52.0 +1.4**
baz=249
ILAR Eielson Array 84.18 17 P **P** **16 24 48.6 -1.3**
ILAR Eielson Array 84.18 17 P **P** **16 24 48.6 -1.3**
36nm,0.7s,baz=236,slow=5.1,SNR=178
ILB Eielson Array 84.18 17 *eP* **P** **16 24 48.4 -1.5**
IL1 Eielson Array 84.18 17 *eP* **P** **16 24 48.4 -1.5**
BBRC Big Bear Solar 84.21 53 P **P** **16 24 51.9 +0.8**
baz=250
DOT Dot Lake 84.23 19 *eP* **P** **16 24 49.6 -0.6**
26nm,0.8s
POKR Poker Plat Res 84.28 17 P **P** **16 24 48.8 -1.6**
baz=222
PAHR Pah Rah Range 84.29 47 *eP* **P** **16 24 51.4 +0.2**
33nm,1.1s
IKP In-Ko-Pah, Jac 84.32 55 P **P** **16 24 52.6 +1.1**
baz=251,SNR=7.4
PFO Pinyon Flats O 84.36 54 *eP* **P** **16 24 52.0 +0.4**
16nm,0.8s
PFO Pinyon Flats O 84.36 54 P **P** **16 24 52.3 +0.7**
baz=251,SNR=11

RRX **Edison Barstow** 84.36 52 P P 16 24 52.1 +0.6
baz=250
XPFO **Pion Flat** 84.36 54 eP P 16 24 52.0 +0.3
16nm,0.8s
F04D **Rainier, OR** 84.36 40 P P 16 24 52.5 +1.3
baz=245
J05D **Fort Rock, OR** 84.38 43 P P 16 24 52.7 +1.1
baz=247,SNR=31
DAC **Darwin (Calif)** 84.38 51 eP P 16 24 52.1 +0.3
21nm,1.0s
MPMC **Manual Prospec** 84.39 51 P P 16 24 52.9 +1.0
baz=250,SNR=19
MOD **Modoc Plateau** 84.47 45 eP P 16 24 52.3 +0.3
29nm,1.3s
SCRK **Sand Creek** 84.49 19 eP P 16 24 50.7 -0.8
23nm,0.8s
RYN **Ryan** 84.52 49 eP P 16 24 52.4 0.0
17nm,1.0s
NV01 **Mina Array Sit** 84.61 49 eP P 16 24 52.6 -0.3
NVAR **Mina Array Bea** 84.61 49 P P 16 24 53.7 +0.8
NVAR **Mina Array Bea** 84.61 49 P P 16 24 53.7 +0.8
14nm,0.7s,baz=230,slow=7.5,SNR=57
GSC **Goldstone, Bar** 84.65 52 eP P 16 24 53.5 +0.5
44nm,1.5s
GSC **Goldstone, Bar** 84.65 52 P P 16 24 53.9 +0.9
baz=250,SNR=7.9
SWSC **Sam W. Stewart** 84.66 55 P P 16 24 54.1 +1.2
baz=251,SNR=10
HYT **Haines Junctio** 84.67 23 eP P 16 24 51.6 -0.9
11nm,0.8s
SKAG **Skagway** 84.70 25 eP P 16 24 52.1 -0.4
19nm,1.1s
NV11 **Mina Array Sit** 84.72 49 eP P 16 24 53.7 +0.4
3.4nm,1.4s
I05D **Terrebonne, OR** 84.73 42 P P 16 24 53.8 +0.8
baz=246
PINE **Pine Mountain** 84.77 43 eP P 16 24 53.9 +0.4
32nm,0.8s
E04D **Cinebar** 84.84 40 P P 16 24 54.4 +0.9
baz=245
BELC **Belle Mtn. Jos** 84.85 54 P P 16 24 55.2 +1.1
baz=251,SNR=10
HEC **Hector,Ludlow** 84.86 53 P P 16 24 54.7 +0.7
baz=251,SNR=15
D03D **Eldon** 84.93 39 P P 16 24 55.2 +1.3
baz=245
D04E **Lakebay** 84.98 39 P P 16 24 55.8 +1.8
baz=245
KVN **Kaiserville** 84.98 48 eP P 16 24 54.7 +0.1
49nm,1.5s
FURC **Furnace Creek,** 85.00 51 P P 16 24 55.5 +1.1
baz=250
G05D **Wamic, OR** 85.10 42 P P 16 24 55.5 +0.7
baz=246
PRP **Porcupine Dome** 85.12 17 eP P 16 24 52.6 -2.0
21nm,1.4s
COLD **Coldfoot** 85.15 15 eP P 16 24 52.4 -0.3
5.5nm,1.0s
BC3 **Big Chuckawall** 85.16 54 P P 16 24 56.8 +1.3
baz=251,SNR=12
PGC **Sidney** 85.19 38 eP P 16 24 55.4 +0.4
SHOC **Shoshone, Teco** 85.26 52 P P 16 24 56.6 +0.8
baz=250
F05D **White Salmon** 85.27 41 P P 16 24 56.3 +0.7
baz=246
GMRC **Granite Mounta** 85.37 53 P P 16 24 57.3 +0.9
baz=251,SNR=12
TUQ **Turquoise Moun** 85.38 52 P P 16 24 57.4 +0.9
baz=251
LON **Longmire** 85.40 40 eP P 16 24 56.1 -0.2
6.7nm,0.8s
D05A **Enumclaw** 85.47 40 eP P 16 24 57.4 +0.9
219nm,1.8s
GLA **Glamis** 85.47 55 eP P 16 24 57.0 +0.1
38nm,0.9s
GLA **Glamis** 85.47 55 P P 16 24 58.4 +1.5
baz=252,SNR=13
IRM **Iron Mountain** 85.57 54 P P 16 24 58.6 +1.2
baz=251,SNR=23
WHY **Whitehorse** 85.59 24 eP P 16 24 55.8 -1.1
6.9nm,0.8s
TPNV **Topopah Spring** 85.63 51 eP P 16 24 57.6 -0.1
19nm,0.8s
TPNV **Topopah Spring** 85.63 51 P P 16 24 58.5 +0.8
baz=250,SNR=24
A04D **Lummi Island** 85.66 38 P P 16 24 58.4 +1.1
baz=245
WVOR **Wild Horse Val** 85.82 45 eP P 16 24 58.7 +0.2
45nm,1.4s
B05A **Bryant** 85.84 39 P P 16 24 59.0 +0.8
baz=246
I07A **Izee** 85.84 43 eP P 16 24 59.1 +0.6
23nm,0.7s
Y12C **Blythe** 85.93 54 eP P 16 24 59.6 +0.6
40nm,1.0s
Y12C **Blythe** 85.93 54 P P 16 25 00.2 +1.2
baz=252,SNR=12
EGAK **Eagle** 85.93 19 eP P 16 24 57.5 -0.7
14nm,0.8s
FYU **Fort Yukon** 85.96 17 eP P 16 24 56.9 -1.4
39nm,1.6s
DAWY **Dawson** 86.04 20 eP P 16 24 57.9 -1.0
9.8nm,1.0s
NEE2 **Needles Airpor** 86.17 53 P P 16 25 01.5 +1.4
baz=252
LSA **Lhasa** 86.22 301 eP P 16 25 01.2 +0.1
3.0nm,0.8s
113A **Mohawk Valley,** 86.23 55 eP P 16 25 01.1 +0.7
16nm,0.9s
F07A **Phinny Hill Vi** 86.26 41 eP P 16 25 00.6 +0.3
58nm,1.4s
J08A **Circle Bar Ran** 86.27 44 eP P 16 25 00.7 +0.2
70nm,1.4s
SHPR **Sheep Range** 86.31 51 eP P 16 25 01.9 +1.0
42nm,1.2s
LTY **Liberty** 86.32 40 eP P 16 25 00.8 +0.2
20nm,0.6s
TOLK **Toolik Lake Re** 86.39 14 eP P 16 25 00.6 +0.2
20nm,1.4s
TOLK **Toolik Lake Re** 86.39 14 P P 16 25 00.8 +0.4
baz=220
PDMCI **Parker Dam,Lak** 86.40 54 P P 16 25 02.4 +1.2
baz=252,SNR=26
DLBC **Dease Lake** 86.41 27 eP P 16 25 00.4 -0.3
13nm,1.2s
DLBC **Dease Lake** 86.41 27 P P 16 25 00.3 -0.4
6.5nm,1.1s,baz=238,slow=8.0,SNR=4.5
C06D **Leavenworth** 86.44 39 P P 16 25 01.6 +0.5
baz=246
R11A **Troy Canyon, C** 86.59 50 eP P 16 25 02.6 +0.4
22nm,1.3s
R11A **Troy Canyon, C** 86.59 50 P P 16 25 02.9 +0.7
baz=251,SNR=25
G08A **Pilot Rock** 86.66 42 eP P 16 25 02.9 +0.6
40nm,0.9s
HAWA **Hanford** 86.70 41 eP P 16 25 03.1 +0.8
33nm,0.9s
214A **Organ Pipe Nat** 86.76 56 P P 16 25 04.2 +1.2
baz=253,SNR=8.3
W13A **Hualapai Mount** 86.85 53 eP P 16 25 04.2 +0.7
29nm,1.0s
LLLB **Lillooet** 86.94 37 eP P 16 25 03.9 +0.5
26nm,1.2s
E08A **Dider Farm, El** 87.04 41 eP P 16 25 04.7 +0.8
58nm,0.9s
D08A **Wollman Farm,** 87.34 41 eP P 16 25 05.9 +0.6
31nm,1.1s
B08A **Colville Reser** 87.57 39 eP P 16 25 06.6 +0.2
39nm,1.3s
BMO **Blue Mountains** 87.59 43 eP P 16 25 07.0 +0.3
30nm,1.1s
ELK **Elko** 87.62 47 eP P 16 25 07.2 +0.1
26nm,1.1s
LCMT **Little Creek M** 87.93 51 eP P 16 25 09.4 +0.9
30nm,0.9s
PSUT **Pine Spring** 87.93 50 eP P 16 25 09.2 +0.7
17nm,0.8s
CCUT **Cedar City** 88.00 51 eP P 16 25 10.1 +1.2
18nm,0.9s
C09A **Chrisman Ranch** 88.02 40 eP P 16 25 08.8 +0.3
65nm,1.8s
F10A **Beach Ranch, E** 88.04 42 eP P 16 25 08.9 +0.2
48nm,0.8s
SZCU **Shurtz Canyon** 88.22 51 eP P 16 25 10.8 +0.9
16nm,0.9s
KNB **Kanab** 88.25 52 eP P 16 25 11.1 +1.1
40nm,1.2s
EPYK **Eagle Plains** 88.38 19 eP P 16 25 08.5 -1.2
8.1nm,0.6s
EPYK **Eagle Plains** 88.38 19 P P 16 25 09.3 -0.4
baz=232
U15A **North Rim** 88.48 52 eP P 16 25 12.5 +1.2
30nm,0.9s
TUC **Tucson** 88.50 57 eP P 16 25 12.3 +1.2
18nm,0.8s
TUC **Tucson** 88.50 57 P P 16 25 12.4 +1.2
baz=254
X16A **Lo Mia Camp, P** 88.57 54 eP P 16 25 12.7 +1.1
22nm,0.9s
PKCU **Pink Cliffs** 88.77 51 eP P 16 25 14.3 +1.7
29nm,1.0s
NEW **Newport** 88.91 40 eP P 16 25 12.8 +0.1
17nm,0.8s
NEW **Newport** 88.91 40 P P 16 25 13.0 +0.4
baz=249
WUAZ **Wupatki** 88.93 53 eP P 16 25 14.3 +1.1
20nm,0.9s
WUAZ **Wupatki** 88.93 53 P P 16 25 14.4 +1.2
baz=254
MTPU **Mount Pierson** 89.04 51 eP P 16 25 15.5 +1.6
20nm,0.9s
HLID **Hailey** 89.12 45 eP P 16 25 14.8 +0.9
10nm,1.0s
HLID **Hailey** 89.12 45 P P 16 25 14.4 +0.5
baz=251
MSU **Marysvale** 89.18 50 eP P 16 25 15.8 +1.5
DUG **Dugway, Tooele** 89.21 49 eP P 16 25 14.3 0.0
16nm,1.3s
DUG **Dugway, Tooele** 89.21 49 P P 16 25 14.8 +0.5
baz=252
319A **Douglas** 89.48 58 eP P 16 25 16.6 +0.8
33nm,0.8s
NLU **North Lily Min** 89.68 49 eP P 16 25 17.1 +0.5
7.9nm,0.8s
HVU **Hansel Valley** 89.71 47 eP P 16 25 17.3 +0.6
34nm,1.7s
X18A **Snowflake** 89.78 55 eP P 16 25 17.4 +0.2
15nm,0.9s
Q16A **Castle Valley** 90.05 50 eP P 16 25 19.4 +1.1
24nm,1.4s
W18A **Petrified Fore** 90.11 54 P P 16 25 19.4 +0.7
baz=254
CTU **Camp Tracy** 90.13 48 eP P 16 25 19.1 +0.5
7.4nm,0.9s
JLU **Jordanelle** 90.33 48 eP P 16 25 19.9 +0.3
7.2nm,0.8s
MSO **Missoula** 90.47 42 eP P 16 25 20.3 +0.3
3.6nm,0.9s
MSO **Missoula** 90.47 42 P P 16 25 20.4 +0.4
baz=252
TCUT **Toone Canyon** 90.50 48 eP P 16 25 21.0 +0.6
17nm,1.1s
INK **Inuvik** 90.53 18 P P 16 25 17.7 -1.9
INK **Inuvik** 90.53 18 P P 16 25 17.7 -1.9
1.8nm,0.7s,baz=283,slow=5.6,SNR=7.3
MCMT **McKenzie Canyo** 90.58 44 eP P 16 25 21.0 +0.3
MCMT epP pP 16 27 37.4 +0.1
SRU **San Rafael Swe** 90.59 50 eP P 16 25 21.4 +0.6
6.3nm,0.6s
DLMT **Dillon** 90.91 44 eP P 16 25 22.8 +0.7
10.0nm,1.0s
121A **Cookes Peak, D** 91.01 57 P P 16 25 23.7 +0.8
baz=255
SYO **Syowa Base** 91.02 196 ⇑eX P 16 25 15.4 -6.5
SYO **Syowa Base** 91.02 196 ⇓eSP sP 16 28 43.4 +1.2
LRM **Limekiln Ridge** 91.14 43 eP P 16 25 23.7 +0.4
WALA **Waterton Lakes** 91.18 40 eP P 16 25 24.0 +0.7
25nm,1.8s
HPIG 91.44 63 eP P 16 25 25.0 -0.1
7.7nm,0.7s
PV09 **Paradox Valley** 91.47 51 eP P 16 25 25.8 +0.8
FXWY **Fox Creek** 91.49 46 eP P 16 25 25.5 +0.6
2.7nm,0.8s
PV14 **Lion Creek, Pa** 91.52 51 eP P 16 25 25.5 +0.3
12nm,0.9s
PV19 **Morning Glory** 91.54 51 eP P 16 25 25.8 +0.5
8.8nm,0.7s
PV17 **East Wray Mesa** 91.55 51 eP P 16 25 25.8 +0.6
6.6nm,0.7s
PV23 **Carpenter Ridg** 91.55 51 eP P 16 25 26.0 +0.6
26nm,0.7s
PV20 **West Nyswonger** 91.56 51 eP P 16 25 25.8 +0.5
12nm,1.0s
PV16 **Nyswonger Mesa** 91.59 51 eP P 16 25 25.8 +0.3
6.1nm,0.8s
PV21 **Cone Mtn., Par** 91.61 51 eP P 16 25 25.9 +0.3
22nm,0.7s
PV04 **Paradox Valley** 91.62 51 eP P 16 25 26.2 +0.7
12nm,0.9s
PV11 **David Mesa, Pa** 91.62 51 eP P 16 25 26.0 +0.5
8.1nm,0.6s
PV13 **Radium Mtn., P** 91.62 51 eP P 16 25 26.1 +0.5
4.1nm,0.8s
MVCO **Mesa Verde** 91.62 52 P P 16 25 26.3 +0.6
baz=255
PV03 **Paradox Valley** 91.62 51 eP P 16 25 26.0 +0.3
4.9nm,0.7s
BOZ **Bozeman (W)** 91.63 44 eP P 16 25 26.0 +0.6
9.5nm,1.3s
BOZ **Bozeman (W)** 91.63 44 P P 16 25 26.3 +0.9
baz=253
PV12 **Saucer Basin,** 91.68 51 eP P 16 25 26.4 +0.5
14nm,0.8s
PV02 **Paradox Valley** 91.70 51 eP P 16 25 26.4 +0.3
5.8nm,0.7s
PV01 **Paradox Valley** 91.81 51 eP P 16 25 26.9 +0.4
6.3nm,0.7s
PV07 **Paradox Valley** 91.83 51 eP P 16 25 27.1 +0.6
14nm,0.8s
FLWY **Flagg Ranch** 91.84 45 eP P 16 25 27.3 +0.8
26nm,1.9s
PV15 **Paradox Valley** 91.93 51 eP P 16 25 27.5 +0.4
16nm,1.3s
H17A **Grant Village** 92.01 45 P P 16 25 29.0 +1.7
baz=254
BW06 **Boulder Array** 92.28 47 P P 16 25 28.8 +0.2
baz=255
PD31 **Pinedale Array** 92.28 47 eP P 16 25 28.3 -0.2
PDAR **Pinedale Array** 92.28 47 eP P 16 25 28.4 -0.2
PDAR PP PP 16 29 19.6 -1.9
PDAR **Pinedale Array** 92.28 47 P P 16 25 27.9 -0.7
1.2nm,0.6s,baz=233,slow=3.5,SNR=10
PDAR PP PP 16 29 19.6 -1.9
0.9nm,0.9s,baz=240,slow=5.0,SNR=4.5
BNM **Barren Site** 92.34 56 eP P 16 25 29.1 0.0
O20A **White River Ci** 92.56 50 eP P 16 25 30.5 +0.6
11nm,0.8s
O20A **White River Ci** 92.56 50 P P 16 25 30.6 +0.7
baz=255
ANMO **Albuquerque** 92.67 55 eP P 16 25 30.8 +0.3
4.1nm,0.8s
ANMO **Albuquerque** 92.67 55 P P 16 25 30.9 +0.3
baz=256
MNTX **Cornudas Mount** 92.79 58 P P 16 25 31.3 +0.4
baz=257
WMQ **Urumqi** 92.81 314 P P 16 25 31.3 +0.6
WMQ sP sP 16 28 50.8 -0.4
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.8s
WMQ **Urumqi** 92.81 314 eP P 16 25 30.9 +0.2
11nm,0.9s
S22A **4UR Ranch, Cre** 93.04 52 eP P 16 25 32.4 +0.1
6.6nm,0.5s
S22A **4UR Ranch, Cre** 93.04 52 P P 16 25 33.1 +0.9
baz=256
SMCO **Snowmass** 93.28 51 eP P 16 25 33.9 +0.5
EGMT **Eagleton** 93.53 42 P P 16 25 35.7 +1.7
baz=255
TX31 **Lajitas Ar. Si** 93.70 61 eP P 16 25 35.5 +0.3
TXAR **Lajitas Array** 93.70 61 P P 16 25 35.3 +0.1
TXAR **Lajitas Array** 93.70 61 P P 16 25 35.3 +0.1
1.9nm,0.8s,baz=224,slow=5.5,SNR=19
SDCO **Great Sand Dun** 94.07 52 P P 16 25 37.7 +0.8
baz=257
ISCO **Idaho Springs** 94.44 50 P P 16 25 39.6 +1.1
baz=257
N23A **Red Feather La** 94.44 49 P P 16 25 39.2 +0.7
baz=257
Q24A **Divide** 94.61 51 P P 16 25 40.5 +1.1
baz=257
YKA **Yellowknife Ar** 95.03 27 P P 16 25 39.6 -0.6
YKA PP PP 16 29 39.7 -1.9
YKA **Yellowknife Ar** 95.03 27 P P 16 25 39.6 -0.6
14nm,0.8s,baz=255,slow=4.6,SNR=122
YKA PP PP 16 29 39.7 -1.9
0.5nm,0.7s,baz=252,slow=6.9,SNR=4.5
YKB5 **Yellowknife Ar** 95.03 27 eP P 16 25 39.0 -1.2
YKW3 **Yellowknife Ar** 95.04 27 eP P 16 25 39.4 -0.9
MSTX **Muleshoe** 95.43 57 P P 16 25 44.2 +1.3
baz=258
ZAA0 **Zalesovo Array** 97.04 324 eP Pdif 16 25 48.5 -1.0
4.6nm,0.8s
ZALV **Zalesovo Beam** 97.04 324 eP Pdif 16 25 48.0 -1.5
ZALV **Zalesovo Beam** 97.04 324 P Pdif 16 25 48.3 -1.1
3.4nm,0.7s,baz=126,slow=4.7,SNR=12
MK01 **Makanchi Array** 97.18 316 ePdif Pdif 16 25 49.7 -0.6
MK31 **Makanchi Array** 97.19 316 ePdif Pdif 16 25 50.3 -0.1
MKAR **Makanchi Array** 97.19 316 P Pdif 16 25 50.2 -0.2
MKAR **Makanchi Array** 97.19 316 P Pdif 16 25 50.2 -0.2
5.8nm,0.8s,baz=89,slow=6.1,SNR=29
MAKZ **Makanchi** 97.41 316 ePdif Pdif 16 25 51.1 -0.2
7.7nm,1.1s
NRIK **Noril'sk** 99.02 339 P Pdif 16 25 57.4 -0.5
5.8nm,0.8s,baz=102,slow=3.7,SNR=12
KURK **Kurchatov** 100.23 320 P Pdif 16 26 02.0 -1.7
KURBB **Kurchatov Arra** 100.27 320 P Pdif 16 26 02.0 -1.9
0.4nm,0.6s,baz=99,slow=4.5,SNR=3.4
LPAZ **La Paz** 116.31 116 PKP PKPdf 16 30 57.9 -0.8
LPAZ **La Paz** 116.31 116 PKP PKPdf 16 30 57.9 -0.8
0.9nm,0.6s,baz=231,slow=2.3,SNR=4.1
ARCES **ARCESS Array B** 118.93 346 PKP PKPdf 16 31 00.7 -0.7
ARCES **ARCESS Array B** 118.93 346 PKP PKPdf 16 31 00.6 -0.7
8.3nm,0.4s,baz=59,slow=2.1,SNR=62
SIV **San Ignacio** 122.57 119 PKP PKPdf 16 31 09.4 -0.6
SIV **San Ignacio** 122.57 119 PKP PKPdf 16 31 09.4 -0.6
1.1nm,0.5s,baz=284,slow=4.2,SNR=4.5
FINES **FINESS Array B** 124.69 339 PKP PKPdf 16 31 11.6 -1.0
FINES PKKPbc PKKPab 16 40 57.2 -0.5
FINES **FINESS Array B** 124.69 339 PKP PKPdf 16 31 11.6 -1.0
1.1nm,0.3s,baz=54,slow=1.7,SNR=15
FINES PKKPbc PKKPab 16 40 57.2 -0.5
2.9nm,1.1s,baz=214,slow=4.7,SNR=5.7
RAYN **Ar Rayn** 125.80 290 ePKPdf PKPdf 16 31 15.7 -0.3
HUMP **Col San Antoni** 126.81 77 ePKPdf PKPdf 16 31 17.1 -0.9
NB2 **NORSAR Subarra** 129.31 346 PKPdf PKPdf 16 31 21.1 -0.4
comp=Z,1.2nm,0.5s,baz=28,slow=1.9
NOA **NORSAR Array B** 129.31 346 PKP PKPdf 16 31 20.6 -0.9
NOA SKPbc SKPbc 16 33 45.5 +1.3
NOA **NORSAR Array B** 129.31 346 PKP PKPdf 16 31 20.6 -0.9
comp=Z,2.1nm,0.7s,baz=30,slow=2.0,SNR=7.5
NOA SKPbc SKPbc 16 33 45.5 +1.3
comp=Z,9.7nm,0.8s,baz=30,slow=2.9,SNR=28
PTGA **Pitinga** 129.36 102 SKPbc SKPbc 16 33 46.4 +0.4
PTGA **Pitinga** 129.36 102 SKPbc SKPbc 16 33 46.3 +0.4
comp=Z,5.0nm,0.7s,baz=239,slow=4.9,SNR=9.2
AKASG **Malin Array Be** 130.24 328 PKP PKPdf 16 31 22.5 -1.0
AKASG SKPbc SKPab 16 33 49.4 +1.0
AKASG **Malin Array Be** 130.24 328 PKP PKPdf 16 31 22.5 -1.0
comp=Z,0.5nm,0.4s,baz=62,slow=2.4,SNR=6.0
AKASG SKPbc SKPab 16 33 49.4 +1.0
comp=Z,7.3nm,0.8s,baz=48,slow=4.6,SNR=16
KMBO **Kilima Mbogo** 130.39 257 SKPbc SKPab 16 33 51.8 +1.3
KMBO **Kilima Mbogo** 130.39 257 SKPbc SKPab 16 33 51.8 +1.3
comp=Z,1.1nm,0.8s,baz=14,slow=10,SNR=3.1
BRTR **Keskin Array B** 132.71 313 PKP PKPdf 16 31 28.8 +0.1
BRTR SKPbc SKPab 16 33 58.4 -1.2
BRTR **Keskin Array B** 132.71 313 PKP PKPdf 16 31 28.8 +0.1
comp=Z,2.2nm,1.0s,baz=94,slow=2.3,SNR=6.7
BRTR SKPbc SKPab 16 33 58.4 -1.2
comp=Z,1.4nm,0.7s,baz=132,slow=6.2,SNR=7.0
CFR **Carcaliu** 133.89 322 ⇑iP PKPdf 16 31 30.4 -0.1
BURAR **Bucovina Array** 134.18 326 ⇑iP PKiKP 16 31 32.3 -0.4
LANS **Liptovska Anna** 136.07 332 ePKP PKPdf 16 31 35.3 +0.7
DPC **Dobruska-Polom** 136.57 335 ePKPDF SKPdf 16 34 11.5 +1.0
GZR **Gura Zlata** 136.87 325 ⇑iP PKPdf 16 31 32.6 -3.6
CLL **Collm** 137.10 338 ePKPdf SKPbc 16 34 11.7 +1.6
CLL **Collm** 137.10 338 ePKPdf PKPdf 16 31 37.0 +0.7
CLL ⇓iSKPbc SKPbc 16 34 12.1 +2.0
comp=Z,9.0nm,0.8s
BRG **Berggiesshubel** 137.10 337 ePKP PKiKP 16 31 38.6 +0.2
comp=Z,4.5nm,0.9s
BRG **Berggiesshubel** 137.10 337 i PKP SKPdf 16 34 12.0 +0.6
comp=Z,14nm,1.2s
GOPC **GO Pecny, Ondr** 137.53 336 ePKPDF SKPdf 16 34 14.1 +1.9
PRU **Pruhonice** 137.57 336 ePKPDF SKPdf 16 34 13.7 +1.5
CONA **Conrad Observa** 138.60 333 i PKiKP PKiKP 16 31 42.1 +0.5
comp=Z,2.6nm,0.6s
CONA i SKPbc SKiKP 16 34 16.9 -0.9
comp=Z,5.3nm,0.8s
KHC **Kasperske Hory** 138.63 336 ePKPdf SKPdf 16 34 14.8 +0.6
KHC **Kasperske Hory** 138.63 336 ePKPDF SKPdf 16 34 16.3 +2.1
GERES **GERESS Array B** 138.81 335 PKPpre PKPpre 16 31 29.3
GERES PKP PKPdf 16 31 39.6 -0.1
GERES SKPbc SKPbc 16 34 15.8 +0.7
GERES **GERESS Array B** 138.81 335 PKhKP PKPpre 16 31 29.3
comp=Z,1.3nm,0.8s,baz=35,slow=3.3,SNR=6.9
GERES PKP PKPdf 16 31 39.6 -0.1
comp=Z,1.7nm,0.8s,baz=67,slow=3.3,SNR=7.4
GERES SKPbc SKPbc 16 34 15.8 +0.7
comp=Z,3.8nm,0.7s,baz=42,slow=3.1,SNR=20
GEA0 **GERESS Array S** 138.82 335 ePKPpre PKPpre 16 31 30.9
GEA0 ePKPdf PKPdf 16 31 39.4 -0.3
GEA0 **GERESS Array S** 138.82 335 ePKPdf SKPdf 16 34 15.1 +0.5
SOKA **Soboth** 139.91 332 eSKPbc SKPbc 16 34 18.9 +0.7
comp=Z,4.0nm,0.9s
OBKA **Obir** 140.26 332 i SKPbc SKPbc 16 34 19.4 +0.3
comp=Z,2.5nm,0.8s
KBA **Koelnbreinsper** 140.35 334 ePKPdf PKPdf 16 31 37.9 -4.7
comp=Z,4.3nm,0.6s
KBA eSKPbc SKPbc 16 34 19.9 +0.5
comp=Z,5.6nm,1.0s
FNA **Florina** 140.45 321 ePKPpre PKPpre 16 31 36.9
PDG **Podgorica** 140.71 324 ⇓iP PKPdf 16 31 38.0 -5.2
ABTA **Abfaltersbach** 140.96 334 i PKPdf PKPdf 16 31 38.5 -5.2
comp=Z,8.6nm,1.3s
ABTA i SKPbc SKPbc 16 34 21.3 +0.4
comp=Z,5.6nm,0.7s
MOTA **Moosalm** 141.05 336 i SKPbc SKiKP 16 34 22.1 -0.8
comp=Z,9.7nm,0.9s
SQTA **Sankt Quirin** 141.11 336 i PKPdf PKPdf 16 31 38.9 -5.0
comp=Z,3.7nm,0.6s
SQTA eSKPbc SKiKP 16 34 22.6 -0.4
comp=Z,10nm,0.7s
FETA **Feichten** 141.47 336 i PKPdf PKPdf 16 31 40.6 -4.0
comp=Z,7.5nm,1.0s
FETA i SKPbc SKiKP 16 34 23.4 -0.4
comp=Z,6.2nm,0.8s
DAVA **Damuels** 141.57 337 ePKPdf PKPdf 16 31 41.0 -3.8
comp=Z,9.6nm,0.6s
DAVA i SKPbc SKiKP 16 34 23.4 -0.7
comp=Z,10nm,1.4s
ECH **Echery** 141.73 341 ePKPpre PKPpre 16 31 40.9
FUORN **Ofenpass-Fuorn** 141.98 336 ePKPpre PKPpre 16 31 42.5
TUE **Stuetta** 142.45 337 ePKPpre PKPpre 16 31 44.0
SENIN **Lac Senin/Sane** 143.29 339 ePKPbc PKPbc 16 31 46.6 -0.1
CLF **Chambon-Foret** 143.31 345 ePKPbc PKPbc 16 31 46.8 +0.4
CLF ePKPdf PKPdf 16 31 46.9 -0.7
MATE **Matera** 143.32 324 ⇑iP PKPab 16 31 46.0 -0.5
AQU **L'Aquila** 143.91 329 ePKPbc PKPab 16 31 48.8 0.0
TIP **Timpagrande** 144.24 322 ePKPdf PKPbc 16 31 49.6 0.0
TIP **Timpagrande** 144.24 322 ⇑iP PKPab 16 31 50.6 +0.4
BNI **Bardonecchia** 144.65 338 ePKPdf PKPdf 16 31 50.3 +0.1
SSB **Saint Sauveur** 145.17 341 ePKPdf PKPbc 16 31 52.5 +0.3
KEST **Kesra** 150.90 325 ePKPbc PKPbc 16 32 06.9 -0.1
KEST ePKPab PKPab 16 32 18.1 +0.7
KEST **Kesra** 150.90 325 PKPbc PKiKP 16 32 07.4 0.0
comp=Z,12nm,0.8s,baz=212,slow=1.5,SNR=13
KEST PKPab PKPab 16 32 17.9 +0.4
comp=Z,8.0nm,0.9s,baz=352,slow=8.5,SNR=3.7
PBRG **Braganca** 150.96 354 ePKPbc PKPbc 16 32 06.0 -0.9
PBRG **Braganca** 150.96 354 ePKPab PKPab 16 32 17.9 +0.5
POLO **Lamas de Olo** 151.48 355 ePKPbc PKiKP 16 32 08.5 +0.1
PVRL **Vila Real** 151.57 355 ePKPbc PKiKP 16 32 08.6 +0.1
PVRL **Vila Real** 151.57 355 ePKPab PKPab 16 32 21.1 +1.1
MVO **Moncorvo** 151.62 354 ePKPbc PKPbc 16 32 07.8 -0.6
MVO **Moncorvo** 151.62 354 ePKPab PKPab 16 32 20.4 +0.2
MTE **Manteigas** 152.43 355 ePKPab PKPab 16 32 24.8 +1.1
ES19 **SONSECA Array** 152.59 348 ePKPbc PKiKP 16 32 10.7 0.0
ES19 ePKPab PKPab 16 32 24.5 +0.1
ESDC **Sonseca Array** 152.63 349 PKPbc PKPbc 16 32 10.2 -0.4
ESDC PKPab PKPab 16 32 24.6 0.0
ESDC **Sonseca Array** 152.63 349 PKPbc PKPbc 16 32 10.2 -0.4
comp=Z,1.8nm,0.7s,baz=12,slow=3.5,SNR=7.2
ESDC PKPab PKPab 16 32 24.6 0.0
comp=Z,4.3nm,0.7s,baz=11,slow=3.5,SNR=11
PMRV **Marv??o** 153.38 354 ePKPbc PKPbc 16 32 12.1 -0.1
TOA0 **Torodi Ar. Sit** 167.86 273 ePKPdf PKPdf 16 32 18.8 -1.2

TORD	**Torodi Ar. Bea**	**167.86**	**273**	PKP	**PKPdf**	**16 32 18.2**	**-1.8**
TORD				PKPab	**PKPab**	**16 33 30.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**167.86**	**273**	PKP	**PKPdf**	**16 32 18.2**	**-1.8**
	comp=Z,1.8nnm,1.1s,baz=90,slow=1.4,SNR=4.8						
TORD				PKPab	**PKPab**	**16 33 30.9**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=49,slow=4.5,SNR=5.3						

*IDC **04** 16:14:44.1±2.5,15.7ºS×166.3ºE,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.8/41,mbtmp4.2/5,MS3.7/1,Ms1 3.7/1, ms1mx2.8/30,Error ellipse: s-maj=111.3km s-min=31.5km az=138.0*

*NEIC **04** 16:14:47.7±0.6,16.4ºS×166.5ºE,h35km,mb4.8/2,Error ellipse: s-maj=18.4km s-min=17.6km az=131.0*

ISC 04 16:14:47.5±1.2,**16.3S**±0.2×**166.7E**±0.2,**h35km,n11,** σ1§**87**/8,**mb4.1**/5,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.71**	**183**	LR		LR	16 18 01.1	
	comp=Z,723nm,21.3s,baz=20,slow=32							
OUZ	**Omahuta**	**19.79**	**163**	*e*P		**P**	**16 19 13.9**	**-0.9**
	107nm,1.9s							
STKA	**Stephens Creek**	**27.56**	**231**	P		**P**	**16 20 34.2**	**+2.9**
	11nm,1.1s,baz=61,slow=11,SNR=3.9							
WR1	**Warramunga Arr**	**30.95**	**258**	*e*P		**P**	**16 20 59.8**	**-1.7**
	32nm,1.6s							
WRA	**Warramunga Arr**	**30.95**	**258**	P		**P**	**16 20 59.8**	**-1.7**
	1.1nm,0.6s,baz=86,slow=6.8,SNR=4.1							
ASAR	**Alice Springs**	**31.63**	**251**	P		**P**	**16 21 07.2**	**-0.3**
	2.7nm,0.8s,baz=74,slow=7.8,SNR=4.7							
ILAR	**Eielson Array**	**88.21**	**18**	P		**P**	**16 27 35.5**	**+0.9**
	0.6nm,0.9s,baz=234,slow=5.5,SNR=2.7							
MK32	**Makanchi Array**	**97.99**	**316**	*e*P		Pdif	16 28 20.5	+0.4
MKAR	**Makanchi Array**	**97.99**	**316**	P		Pdif	16 28 20.5	+0.4
	0.6nm,0.7s,baz=94,slow=5.8,SNR=4.1							
ARA0	**ARCESS Array S**	**121.66**	**345**	*e*PKPdf		**PKPdf**	**16 33 36.2**	**-0.8**
ARCES	**ARCESS Array B**	**121.66**	**345**	PKP		**PKPdf**	**16 33 36.2**	**-0.8**
	5.4nm,1.1s,baz=90,slow=0.5,SNR=3.6							

*MOS **04** 16:20:17.5±1.0,50.7ºN×157.6ºE,h61km,mb4.2/1,Error ellipse: s-maj=19.2km s-min=4.7km az=82.6*

*KRSC **04** 16:20:17.1±10.0,50.7ºN×157.8ºE,h40km±10km,ML4.4*

*ISCJB **04** 16:20:18.4±0.9,50.7ºN±0.7ºx157.6ºE±0.1,h64km±7km, mb3.5/5,Error ellipse: s-maj=14.5km s-min=5.7km az=136.7*

*IDC **04** 16:20:21.2±7.2,50.8ºN×157.4ºE,h72km±54km,mb3.1/5, mb1 3.3/6,mb1mx3.0/52,mbtmp3.4/6,ML2.2/1,Error ellipse: s-maj=57.1km s-min=24.8km az=176.0*

ISC 04 16:20:18.1±1.8,**50.71N**±0.1×**157.72E**±0.07,**h45**km±15km, **n57,**σ1§**36**/76,**mb3.5**/5,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.95**	**323**	*e*P		**Pn**	**16 20 35.2**	**+0.2**
PAU				*e*S		**Sn**	**16 20 46.9**	**-0.5**
PAU	**Pauzhetka**	**0.95**	**323**	PN		**Pn**	**16 20 35.2**	**+0.2**
PAU				S		**Sn**	**16 20 46.9**	**-0.5**
SKR	**Severo-Kuril's**	**1.02**	**269**	*e*P		**Pn**	**16 20 36.6**	**+0.6**
SKR				*e*S		**Sn**	**16 20 49.3**	**+0.2**
SKR	**Severo-Kuril's**	**1.02**	**269**	*e*PN		**Pn**	**16 20 36.5**	**+0.6**
SKR				*e*S		**Sn**	**16 20 48.9**	**-0.2**
SKR				pmax		pmax		
	comp=Z,146nm,0.9s							
SKR				smax		smax		
	comp=N,2μm,0.6s							
SKR				smax		smax		
	comp=E,2μm,0.3s							
KDTR	**Khodutka, Kamc**	**1.12**	**11**	*e*P		**Pn**	**16 20 36.7**	**-0.6**
KDTR				*e*S		**Sn**	**16 20 50.2**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.12**	**11**	PN		**Pn**	**16 20 36.7**	**-0.6**
KDTR				S		**Sn**	**16 20 50.2**	**-1.4**
ALID	**Alaid**	**1.39**	**277**	*e*P		**Pn**	**16 20 42.1**	**+1.0**
ALID	**Alaid**	**1.39**	**277**	PN		**Pn**	**16 20 42.1**	**+1.0**
ASAK	**Asacha**	**1.68**	**4**	*e*P		**Pn**	**16 20 45.2**	**+0.2**
ASAK	**Asacha**	**1.68**	**4**	PN		**Pn**	**16 20 45.2**	**+0.2**
RUS	**Russkaya**	**1.79**	**16**	*e*P		**Pn**	**16 20 46.0**	**-0.5**
RUS				*e*S		**Sn**	**16 21 06.2**	**-1.8**
RUS	**Russkaya**	**1.79**	**16**	PN		**Pn**	**16 20 46.0**	**-0.5**
RUS				S		**Sn**	**16 21 06.2**	**-1.8**
MTVR	**Mutnovka**	**1.80**	**9**	*e*P		**Pn**	**16 20 46.7**	**0.0**
MTVR				*e*S		**Sn**	**16 21 07.5**	**-0.9**
MTVR	**Mutnovka**	**1.80**	**9**	PN		**Pn**	**16 20 46.7**	**0.0**
MTVR				S		**Sn**	**16 21 07.5**	**-0.9**
GRL	**Gorelyy**	**1.86**	**7**	*e*P		**Pn**	**16 20 47.8**	**+0.3**
GRL	**Gorelyy**	**1.86**	**7**	PN		**Pn**	**16 20 47.8**	**+0.3**
KRMR	**Karymshinskiy**	**2.14**	**7**	*e*P		**Pn**	**16 20 52.1**	**+0.9**
KRMR				*e*S		**Sn**	**16 21 17.0**	**+0.5**
KRMR	**Karymshinskiy**	**2.14**	**7**	PN		**Pn**	**16 20 52.1**	**+0.9**
KRMR				S		**Sn**	**16 21 17.0**	**+0.5**
APC	**Apacha**	**2.25**	**351**	*e*P		**Pn**	**16 20 53.6**	**+0.9**
APC	**Apacha**	**2.25**	**351**	PN		**Pn**	**16 20 53.6**	**+0.9**
PET	**Petropavlovsk**	**2.39**	**14**	*e*P		**Pn**	**16 20 55.0**	**+0.4**
PET				*e*S		**Sn**	**16 21 22.3**	**-0.3**
PET	**Petropavlovsk**	**2.39**	**14**	PN		**Pn**	**16 20 55.0**	**+0.4**
PET				S		**Sn**	**16 21 22.3**	**-0.3**
PETK	**Petropavlovsk-**	**2.40**	**360**	P		**Pn**	**16 20 55.9**	**+1.0**
	comp=E,3.1nm,0.3s,baz=195,slow=17,SNR=68							
PETK				S		**Sn**	**16 21 24.1**	**+1.0**
	comp=E,5.3nm,0.3s,baz=130,slow=20,SNR=6.2							
UGLR	**Uglovaya**	**2.59**	**15**	*e*P		**Pn**	**16 20 58.6**	**+1.0**
UGLR	**Uglovaya**	**2.59**	**15**	PN		**Pn**	**16 20 58.6**	**+1.0**
AVH	**Avacha**	**2.63**	**13**	*e*P		**Pn**	**16 20 59.7**	**+1.6**
AVH	**Avacha**	**2.63**	**13**	PN		**Pn**	**16 20 59.7**	**+1.6**
SMAR	**Somma**	**2.64**	**14**	*e*P		**Pn**	**16 20 59.5**	**+1.2**
SMAR	**Somma**	**2.64**	**14**	PN		**Pn**	**16 20 59.5**	**+1.2**
KOK	**Koryaka**	**2.65**	**12**	*e*P		**Pn**	**16 21 00.0**	**+1.7**
KOK				*e*S		**Sn**	**16 21 30.6**	**+1.4**
KOK	**Koryaka**	**2.65**	**12**	PN		**Pn**	**16 21 00.0**	**+1.7**
KOK				S		**Sn**	**16 21 30.6**	**+1.4**
SDLR	**Sedlovina**	**2.67**	**15**	*e*P		**Pn**	**16 20 59.0**	**+0.4**
SDLR	**Sedlovina**	**2.67**	**15**	PN		**Pn**	**16 20 59.0**	**+0.4**
KRER	**Koryakskii**	**2.67**	**13**	*e*P		**Pn**	**16 21 00.1**	**+1.3**
KRER				*e*S		**Sn**	**16 21 30.6**	**+0.6**
KRER	**Koryakskii**	**2.67**	**13**	PN		**Pn**	**16 21 00.1**	**+1.3**
KRER				S		**Sn**	**16 21 30.6**	**+0.6**
KRX	**Arik**	**2.71**	**12**	*e*P		**Pn**	**16 21 00.7**	**+1.4**
KRX	**Arik**	**2.71**	**12**	PN		**Pn**	**16 21 00.7**	**+1.4**
SPN	**Mys Shipunski**	**2.78**	**30**	*e*P		**Pn**	**16 21 00.7**	**+0.6**
SPN	**Mys Shipunski**	**2.78**	**30**	PN		**Pn**	**16 21 00.7**	**+0.6**
GNL	**Ganaly**	**2.99**	**2**	*e*P		**Pn**	**16 21 04.9**	**+1.8**
GNL	**Ganaly**	**2.99**	**2**	PN		**Pn**	**16 21 04.9**	**+1.8**
KII	**Karymskiy**	**3.50**	**17**	*e*P		**Pn**	**16 21 12.2**	**+2.3**
KII	**Karymskiy**	**3.50**	**17**	PN		**Pn**	**16 21 12.2**	**+2.3**
MKZ	**Mys Kozlova**	**4.56**	**31**	*e*P		**Pn**	**16 21 25.1**	**+0.7**
MKZ	**Mys Kozlova**	**4.56**	**31**	PN		**Pn**	**16 21 25.1**	**+0.7**
KZV	**Kizimen**	**4.68**	**18**	*e*P		**Pn**	**16 21 30.1**	**+3.9**
KZV	**Kizimen**	**4.68**	**18**	PN		**Pn**	**16 21 30.1**	**+3.9**
TUMR	**Tumrok**	**4.81**	**17**	*e*P		**Pn**	**16 21 31.2**	**+3.2**
TUMR	**Tumrok**	**4.81**	**17**	PN		**Pn**	**16 21 31.2**	**+3.2**
YKA	**Yellowknife Ar**	**45.92**	**40**	P		**P**	**16 28 35.2**	**-0.6**
	comp=E,0.2nm,0.7s,baz=299,slow=7.0,SNR=2.7							
KURK	**Kurchatov**	**47.76**	**303**	P		**P**	**16 28 49.4**	**-0.9**
KURBB	**Kurchatov Arra**	**47.86**	**302**	P		**P**	**16 28 49.4**	**-1.7**
	comp=E,0.2nm,0.5s,baz=58,slow=6.9,SNR=4.0							
MKAR	**Makanchi Array**	**47.88**	**296**	P		**P**	**16 28 50.8**	**-0.6**
	comp=E,0.8nm,0.9s,baz=58,slow=6.6,SNR=5.8							
BVAR	**Borovoye Array**	**50.73**	**309**	P		**P**	**16 29 11.0**	**-2.0**
	comp=E,0.4nm,0.5s,baz=42,slow=7.8,SNR=3.6							
AKASG	**Malin Array Be**	**69.88**	**328**	*e*P		**P**	**16 31 23.7**	**-0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
TXAR	**Lajitas Array**	**72.96**	**65**	P		**P**	**16 31 44.0**	**+1.1**
TXAR	**Lajitas Array**	**72.96**	**65**	P		**P**	**16 31 44.0**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=314,slow=4.8,SNR=5.6							

*ISK **04** 16:30:21.4,38.6ºN×43.1ºE,h7km,ML2.2/7*

*ISCJB **04** 16:30:22.2±0.5,38.6ºN±0.0ºx43.1ºE±0.0ºd,h12km±6km, Error ellipse: s-maj=6.2km s-min=4.6km az=26.0*

*DDA **04** 16:30:22.3,38.65N×43.15E,h7km,3km,ML2.6*

ISC 04 16:30:21.7±1.1,**38.69N**±0.0ºx**43.16E**±0.0ºd,**h15**km±11km, **n13,**σ0§**67**/19,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.20**	**118**	PG		**Pb**	**16 30 27.2**	**+0.1**
VANB				SG		**Sb**	**16 30 31.6**	**+0.8**
TVAN	**Van**	**0.25**	**130**	*i* P		**Pg**	**16 30 27.2**	**-0.1**
TVAN				*i* S		**Sb**	**16 30 32.5**	**+0.2**
	comp=Z,5μm,0.1s				IAML_P			
ADCV	**BITLIS_Adilcev**	**0.36**	**289**	*i* P		**Pb**	**16 30 30.3**	**+0.3**
ADCV				*i* S		**Sb**	**16 30 36.3**	**+0.7**
ADCV					IAML_P			
	comp=Z,1μm,0.1s							
GEVA	**Gevas**	**0.39**	**192**	*i* P		**Pg**	**16 30 29.2**	**-0.4**
AKDM	**Akdamar-Van**	**0.39**	**202**	PG		**Pg**	**16 30 29.1**	**-0.5**
AKDM				SG		**Sg**	**16 30 34.9**	**-0.1**
VMUR	**Van-Muradiye**	**0.44**	**47**	*i* P		**Pb**	**16 30 31.4**	**+0.1**
VMUR				*i* S		**Sn**	**16 30 39.5**	**-1.9**
MLAZ	**Malazgirt-MUS**	**0.66**	**313**	PG		**Pg**	**16 30 34.5**	**-0.1**
MLAZ				SG		**Sb**	**16 30 44.3**	**+0.3**
CLDR	**Caldiran**	**0.74**	**52**	PG		**Pb**	**16 30 36.4**	**-0.1**
CLDR	**Caldiran**	**0.74**	**52**	*i* P		**Pn**	**16 30 38.8**	**+0.9**
CLDR					IAML_P			
	comp=Z,983nm,0.2s							
TUTA	**Tutak**	**0.76**	**339**	*i* P		**Pg**	**16 30 36.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.90**	**351**	PG		**Pb**	**16 30 39.1**	**0.0**
GURO	**Guroymak-BITLI**	**0.90**	**261**	PG		**Pg**	**16 30 38.5**	**-0.6**
SIRT	**Sirnak**	**1.32**	**206**	PN		**Pg**	**16 30 46.8**	**-0.2**

*SJA **04** 16:33:18.4±0.7,21.1ºS×67.5ºW,h196km±14km,ML2.6, MW3.0*

*IDC **04** 16:33:18.1±1.1,21.1ºS×67.3ºW,h172km±20km,mb3.3/1, mb1 3.2/4,mb1mx3.0/28,mbtmp3.6/4,Error ellipse: s-maj=39.5km s-min=12.5km az=105.0*

*ISCJB **04** 16:33:19.1±0.6,21.1ºS±0.0ºx67.5ºW±0.0ºd,h183km, mb3.3/1,Error ellipse: s-maj=9.2km s-min=7.1km az=6.3*

ISC 04 16:33:18.9±1.0,**21.08S**±0.0ºx**67.49W**±0.0ºd,**h183**km,**n17,** σ1§**02**/20,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PB09	**IPOC Station P**	**1.78**	**246**	*e*P		**Pn**	**16 33 55.3**	**+1.3**
PB08	**IPOC Station P**	**1.82**	**301**	*e*P		**Pn**	**16 33 56.0**	**+1.4**
PB08				*e*S		**Sn**	**16 34 23.3**	**+1.0**
LVC	**Limon Verde**	**2.02**	**221**	*e*P		**Pn**	**16 33 56.9**	**+0.2**
LVC	**Limon Verde**	**2.02**	**221**	P		**Pn**	**16 33 56.8**	**+0.1**
	13nm,0.3s,baz=34,slow=7.9,SNR=15							
LVC				S		**Sn**	**16 34 24.8**	**-1.3**
	5.1nm,0.3s,baz=239,slow=19,SNR=9.5							
YJA	**Yavi**	**2.14**	**121**	*e*P		**Pn**	**16 33 59.5**	**+1.4**
YJA				IAML			16 34 31.4	
	comp=Z,22nm,0.4s							
PB02	**IPOC Station P**	**2.26**	**263**	*e*P		**Pn**	**16 33 59.5**	**+0.4**
PB03	**IPOC Station P**	**2.32**	**245**	*e*P		**Pn**	**16 33 59.5**	**-0.4**
PB07	**IPOC Station P**	**2.32**	**253**	*e*P		**Pn**	**16 34 00.1**	**+0.2**
PB11	**IPOC Station P**	**2.42**	**302**	*e*P		**Pn**	**16 34 01.6**	**+0.6**
PB06	**IPOC Station P**	**2.52**	**230**	*e*P		**Pn**	**16 34 01.5**	**-0.7**
PB15	**IPOC Station P**	**2.80**	**221**	*e*P		**Pn**	**16 34 06.7**	**+1.1**
HJA	**Humahuaca**	**2.87**	**138**	*e*P		**Pn**	**16 34 07.8**	**+1.3**
PB05	**IPOC Station P**	**3.08**	**234**	*e*P		**Pn**	**16 34 08.5**	**-0.2**
LPAZ	**La Paz**	**4.80**	**353**	P		**Pn**	**16 34 32.1**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=166,slow=6.9,SNR=18							
LPAZ				S		**Sn**	**16 35 27.2**	**-0.4**
	baz=266,slow=16,SNR=2.2							
SIV	**San Ignacio**	**7.92**	**51**	P		**Pn**	**16 35 09.2**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=216,slow=18,SNR=15							
TORD	**Torodi Ar. Bea**	**75.97**	**70**	P		**P**	**16 44 45.7**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=250,slow=5.1,SNR=4.9							
MKAR	**Makanchi Array**	**144.51**	**37**	PKP		**PKPdf**	**16 52 33.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=332,slow=2.2,SNR=1.9							

*ISCJB **04** 17:00:31.0±0.6,5.5ºS±0.0ºx104.6ºE±0.0ºd,h30km±3km, mb4.5/41,MS3.9/17,Error ellipse: s-maj=7.3km s-min=5.1km az=32.0*

*BJI **04** 17:00:30.5,5.5ºS×104.7ºE,h13km,mb4.5/23,mB4.9/16, Ms4.5/11,Ms7 4.3/8*

*DJA **04** 17:00:31.7±0.3,6˚S±3˚x10˚5E±˚,h10km,M4.8/12, MLv4.8/12*

*NEIC **04** 17:00:35.8±0.7,5.5ºS×104.6ºE,h57km±6km,mb4.8/17, Error ellipse: s-maj=11.1km s-min=4.7km az=225.0*

*IDC **04** 17:00:38.7±2.1,5.4ºS×104.7ºE,h80km±19km,mb3.9/19, mb1 4.1/22,mb1mx4.0/38,mbtmp4.3/22,MS3.8/15, Ms1 3.8/15,ms1mx3.5/41,Error ellipse: s-maj=20.1km s-min=10.5km az=46.0*

ISC 04 17:00:31.2±0.9,**5.60S**±0.0ºx**104.71E**±0.0ºd,**h17**km±5km, **n112,**σ1§**53**/116,**mb4.5**/41,**MS3.9**/19,**1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KASI	**Kota Agung**	**0.22**	**289**	P		**Pg**	**17 00 36.6**	**+0.2**
KASI				S		**Sg**	**17 00 40.3**	**+0.4**
BLSI	**Bandar Lampung**	**0.58**	**67**	P		**Pg**	**17 00 41.6**	**-1.2**
BLSI				S		**Sg**	**17 00 50.3**	**-0.3**
KLI	**Kotabumi**	**0.74**	**12**	P		**Pg**	**17 00 45.0**	**-0.8**
KLI				S		**Sb**	**17 00 56.1**	**+0.6**
LWLI	**Liwa**	**0.86**	**312**	P		**Pb**	**17 00 48.5**	**+0.7**
MDSI	**Maura Dua**	**1.22**	**334**	P		**Pb**	**17 00 53.8**	**0.0**
SBJI	**Serang**	**1.51**	**110**	P		**Pn**	**17 00 58.0**	**+0.6**
LHSI	**Lahat**	**2.12**	**326**	P		**Pn**	**17 01 06.9**	**+1.1**
MNAI	**Manna**	**2.13**	**305**	*e*Pn		**Pn**	**17 01 06.3**	**+0.3**
MNAI	**Manna**	**2.13**	**305**	P		**Pn**	**17 01 07.3**	**+1.3**
PMBI	**Palembang**	**2.65**	**1**	P		**Pn**	**17 01 15.3**	**+2.1**
LEM	**Lembang**	**3.14**	**113**	P		**Pn**	**17 01 22.7**	**+2.6**
LEM	**Lembang**	**3.14**	**113**	P		**Pb**	**17 01 25.4**	**-1.3**
	8.4nm,0.3s,baz=225,slow=6.0,SNR=23							
LEM				S		**Sb**	**17 02 07.0**	**+2.2**
	6.5nm,0.3s,baz=286,slow=19,SNR=2.5							
LEM				LR		LR	17 02 46.8	
	comp=Z,2μm,20.9s,baz=280,slow=40							
CISI	**Cisompet, Garu**	**3.65**	**122**	*e*Pn		**Pn**	**17 01 29.8**	**+2.8**
CISI	**Cisompet, Garu**	**3.65**	**122**	P		**Pn**	**17 01 28.3**	**+1.3**
PPBI	**Pangkal Pinang**	**3.70**	**23**	P		**Pn**	**17 01 29.6**	**+2.0**
BKNI	**Bangkinang**	**6.93**	**328**	*e*Pn		**Pn**	**17 02 16.0**	**+4.0**
MYKOM	**Kota Tinggi**	**7.39**	**353**	*e*Pn		**Pn**	**17 02 21.2**	**+3.0**
PSI	**Prapat**	**10.14**	**325**	P		**Pn**	**17 02 57.6**	**+1.3**
	0.7nm,0.3s,baz=180,slow=13,SNR=3.3							
PSI				LR		LR	17 07 25.5	
	comp=Z,922nm,19.7s,baz=92,slow=41							
BATI	**Baumata**	**19.32**	**105**	P		**P**	**17 04 57.3**	**+1.5**
	6.1nm,0.3s,baz=181,slow=2.7,SNR=7.2							
BATI				LR		LR	17 12 59.6	
	comp=Z,284nm,19.3s,baz=298,slow=38							
SOEI	**Soe**	**19.82**	**103**	*e*P		**P**	**17 05 02.4**	**+1.1**
	62nm,0.9s							
FITZ	**Fitzroy Crossi**	**23.92**	**123**	*e*P		**P**	**17 05 45.5**	**+1.0**
	45nm,1.8s							
FITZ	**Fitzroy Crossi**	**23.92**	**123**	P		**P**	**17 05 45.5**	**+1.0**
	3.3nm,0.6s,baz=315,slow=6.5,SNR=11							
CM01	**Chiang Mai Arr**	**24.53**	**347**	*e*P		**P**	**17 05 48.6**	**-1.5**
CM31	**Chiang Mai Arr**	**24.57**	**347**	*e*P		**P**	**17 05 49.7**	**-0.7**
CM31				*e*PcP		**PcP**	**17 09 28.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**24.57**	**347**	P		**P**	**17 05 49.6**	**-0.8**
	2.8nm,0.9s,baz=182,slow=8.6,SNR=21							
CMAR				PcP		**PcP**	**17 09 28.8**	**+0.3**
	1.1nm,0.9s,baz=188,slow=2.5,SNR=5.0							
CMAR				LR		LR	17 17 33.5	
	comp=Z,122nm,20.0s,baz=164,slow=42							
CMMT	**Chiang Mai**	**24.91**	**347**	P		**P**	**17 05 56.2**	**+2.7**
	3.6nm,1.6s							
CHTO	**Chiang Mai**	**24.91**	**347**	*e*P		**P**	**17 05 51.8**	**-1.7**
	11nm,1.4s							
CHTO	**Chiang Mai**	**24.91**	**347**	P		**P**	**17 05 56.3**	**+2.8**
	19nm,1.8s							
QIZ	**Qiongzhong**	**24.99**	**12**	P		P	17 05 44.9	-9.3
QIZ				S		**S**	**17 10 19.3**	**+1.8**
QIZ				LR		LR		
	comp=N,320nm,4.7s							
QIZ				LR		LR		
	comp=E,380nm,13.8s							
QIZ				LR		LR		
	comp=Z,270nm,3.6s							
PALK	**Pallekele**	**27.15**	**298**	LR		LR	17 15 42.8	
	comp=Z,271nm,20.5s,baz=117,slow=33							
H01W3	**Cape Leeuwin H**	**30.42**	**165**	T		T	17 38 31.4	
	baz=342,slow=76,SNR=20							
H01W1	**Cape Leeuwin H**	**30.43**	**165**	T		T	17 38 25.1	
	baz=342,slow=76,SNR=24							
H01W2	**Cape Leeuwin H**	**30.43**	**165**	T		T	17 38 24.2	
	baz=342,slow=76,SNR=22							
KMI	**Kunming**	**30.59**	**356**	P		**P**	**17 06 48.6**	**+4.0**
KMI				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KMI				LR		LR		
	comp=Z,190nm,7.8s							
KMI				LR		LR		
	comp=Z,350nm,11.2s							
H08S2	**Diego Garcia H**	**32.06**	**265**	T		T	17 40 24.9	
	baz=88,slow=75,SNR=26							
H08S3	**Diego Garcia H**	**32.07**	**265**	T		T	17 40 23.4	
	baz=88,slow=75,SNR=15							
H08S1	**Diego Garcia H**	**32.08**	**265**	T		T	17 40 24.2	
	baz=88,slow=75,SNR=10							
WRA	**Warramunga Arr**	**32.14**	**119**	P		**P**	**17 06 58.2**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=309,slow=8.9,SNR=20							
WRA				PcP		**PcP**	**17 09 46.9**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=310,slow=1.9,SNR=6.8							
WR1	**Warramunga Arr**	**32.14**	**119**	*e*P		**P**	**17 06 58.2**	**+0.1**
	comp=Z,11nm,1.3s							
WR1				*e*PcP		**PcP**	**17 09 46.9**	**-0.4**
WB2	**Warramunga Arr**	**32.15**	**119**	*e*P		**P**	**17 06 58.3**	**+0.1**
ASAR	**Alice Springs**	**33.35**	**126**	P		**P**	**17 07 09.2**	**+0.4**
	comp=Z,5.0nm,0.7s,baz=297,slow=7.9,SNR=58							
ASAR				PcP		**PcP**	**17 09 49.9**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=301,slow=3.1,SNR=7.0							
ASAR				LR		LR	17 23 36.3	
	comp=E,65nm,18.2s,baz=323,slow=41							
AS31	**Alice Springs**	**33.35**	**126**	*e*P		**P**	**17 07 08.7**	**-0.1**
	comp=Z,2.3nm,0.8s							
AS31				*e*PcP		**PcP**	**17 09 49.9**	**-0.7**
AS01	**Alice Springs**	**33.39**	**126**	*e*P		**P**	**17 07 09.1**	**0.0**
CD2	**Chengdu**	**36.31**	**359**	P		**P**	**17 07 33.9**	**-0.2**
CD2				PP		**PnPn**	**17 08 55.7**	**-0.6**
CD2				S		**S**	**17 13 15.6**	**+1.2**
CD2				sS		sS	17 13 25.8	+2.3
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				LR		LR		
	comp=Z,540nm,11.1s							
CD2				LR		LR		
	comp=Z,440nm,14.2s							
LSA	**Lhasa**	**37.43**	**340**	*e*P		**P**	**17 07 43.3**	**-0.9**
	comp=Z,2.9nm,0.8s							
NJ2	**Nanjing**	**39.79**	**19**	*e*P		**P**	**17 08 03.1**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
BBOO	**Buckleboo**	**39.82**	**137**	*e*P		**P**	**17 08 03.6**	**-0.2**
	comp=Z,32nm,1.6s							
LZH	**Lanzhou**	**41.47**	**359**	*e*P		**P**	**17 08 20.5**	**+3.0**
LZH				pP		sP	17 08 26.4	+1.4
LZH				sP		pP	17 08 29.1	+6.3
LZH				PP		**PnPn**	**17 10 01.0**	**+2.8**
LZH				pmax		pmax		
	comp=Z,27nm,1.2s							
LZH				pmax		pmax		
	comp=Z,110nm,5.3s							
LZH				LR		LR		
	comp=Z,620nm,16.2s							
LZH				LR		LR		
	comp=Z,630nm,16.8s							
LZH				LR		LR		
	comp=Z,710nm,18.4s							
STKA	**Stephens Creek**	**43.27**	**132**	*e*P		**P**	**17 08 32.3**	**+0.2**
	comp=Z,3.2nm,0.9s							
STKA	**Stephens Creek**	**43.27**	**132**	P		**P**	**17 08 32.8**	**+0.8**
	comp=Z,11nm,0.7s,baz=303,slow=8.6,SNR=24							
STKA				LR		LR	17 26 55.7	
	comp=Z,70nm,21.5s,baz=341,slow=36							
GTA	**Gaotai**	**45.01**	**355**	*e*P		**P**	**17 08 46.1**	**+0.1**
GTA				pP		pP	17 08 50.5	-0.9
GTA				sP		sP	17 08 52.8	-0.8
GTA				pmax		pmax		
	comp=Z,73nm,5.4s							
GTA				LR		LR		
	comp=Z,120nm,17.5s							
GTA				LR		LR		
	comp=Z,240nm,18.4s							
GTA				LR		LR		
	comp=Z,190nm,17.8s							
HHC	**Hu-ho-hao-te**	**46.65**	**7**	*e*P		**P**	**17 09 01.2**	**+2

comp=Z,27nm,1.4s
BUR04 **Bucovina Ar. S** 87.05 318 *e*P P 17 13 16.1 0.0
BUR08 **Bucovina Ar. S** 87.06 318 *e*P P 17 13 14.6 -1.5
FIA0 **FINESS Array S** 89.47 332 *e*P P 17 13 25.8 -1.3
FINES **FINESS Array B** 89.47 332 P P 17 13 25.8 -1.3
comp=Z,2.7nm,1.0s,baz=116,slow=4.4,SNR=4.2
FINES LR LR 17 58 06.8
comp=Z,43nm,18.7s,baz=9.0,slow=39
SUW **Suwalki** 89.52 324 *e*P P 17 13 27.2 -0.2
comp=Z,40nm,1.2s
DIVS **Divibare** 90.06 314 *e*P P 17 13 30.6 +0.2
comp=Z,9.8nm,1.2s
LANS **Liptovska Anna** 91.08 319 *e*P P 17 13 36.5 +1.6
VYHS **Vyhne** 91.41 318 *e*P P 17 13 38.5 +2.0
MODS **Modra-Piesok** 92.43 318 *e*P P 17 13 43.0 +1.8
NOA **NORSAR Array B** 96.55 331 LR LR 18 02 01.0
comp=Z,38nm,18.8s,baz=285,slow=38
WVOR **Wild Horse Val** 126.94 39 *e*PKPdf PKPdf 17 19 34.6 -0.1
NV01 **Mina Array Sit** 129.17 44 *e*PKPdf PKPdf 17 19 38.6 -0.6
NVAR **Mina Array Bea** 129.17 44 PKP PKPdf 17 19 39.2 0.0
comp=Z,1.6nm,1.0s,baz=252,slow=1.7,SNR=6.0
R11A **Troy Canyon, C** 131.05 42 *e*PKPdf PKPdf 17 19 44.1 +1.3
U15A **North Rim** 134.30 43 *e*PKPdf PKPdf 17 19 50.8 +1.7
TX31 **Lajitas Ar. Si** 144.28 45 *e*PKPdf PKPab 17 20 05.3 +0.3
TXAR **Lajitas Array** 144.28 45 PKP PKPab 17 20 05.6 +0.5
comp=Z,1.2nm,0.8s,baz=226,slow=1.0,SNR=10
T42A **Van Buren** 145.54 23 *e*PKPdf PKPbc 17 20 08.3 -0.7
JCT **Junction City** 146.17 40 *e*PKPdf PKPdf 17 20 11.1 +0.7
WVT **Waverly** 147.50 19 *e*PKPbc PKPdf 17 20 14.2 +1.9
HKT **Hockley** 148.98 36 *e*PKPbc PKPdf 17 20 17.3 +2.5
CPCT **Cooper Cave** 149.10 15 *e*PKPbc PKPbc 17 20 18.7 -0.4
152A **Waverly Hall** 151.66 17 *e*PKPbc PKPbc 17 20 24.2 -1.1

*IDC **04** 17:06:05.2± 1.3, 30.˚68N× 132.˚32E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.3/39, mbtmp3.3/5, ML2.7/2, MS2.6/3, Ms1 2.6/3, ms1mx2.5/20, Error ellipse: s-maj=46.6km s-min=21.3km az=84.0*

*JMA **04** 17:06:08.9± 0.1, 30.˚71N× 132.˚46E, h68km± 4km, M3.4*

ISC 04 17:06:06.2± 2.0, 30.˚75N± 0.˚06 × 132.˚50E± 0.˚07, h10km± 12km, n17, σ1$56/26, mb3.3/3, Southeast of Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNAR	**Kushima--Naru**	**1.30**	**306**	P		**Pg**	**17 06 31.6**	**+0.4**
JNAR				*e*S		**Sg**	**17 06 48.6**	**+0.5**
JTN	**Tanegashima 3**	**1.31**	**266**	P		**Pg**	**17 06 31.0**	**-0.4**
JTN				*e*S		**Sg**	**17 06 47.8**	**-0.6**
JTSR	**Tashiro 2**	**1.42**	**287**	P		**Pb**	**17 06 32.6**	**-0.1**
JMTN	**Minamitane**	**1.42**	**256**	P		**Pb**	**17 06 32.5**	**-0.3**
JMTN				*e*S		**Sg**	**17 06 50.5**	**-1.5**
JTZ	**Takazaki**	**1.66**	**314**	P		**Pn**	**17 06 36.5**	**+1.2**
JTZ				*e*S		**Sn**	**17 06 56.9**	**+0.2**
JYAK	**Yakushimahirau**	**1.79**	**254**	P		**Pn**	**17 06 37.4**	**+0.3**
JYAK				*e*S		**Sn**	**17 06 59.3**	**-0.6**
JTO	**Tosashimizu**	**2.12**	**7**	P		**Pn**	**17 06 41.4**	**-0.2**
JTO				*e*S		**Sn**	**17 07 04.0**	**-3.9**
JNN	**Nakanoshima**	**2.44**	**249**	P		**Pn**	**17 06 46.6**	**+0.5**
JNN				*e*S		**Sn**	**17 07 15.0**	**-1.1**
UWA2	**Uwa jima 2**	**2.45**	**2**	P		**Pn**	**17 06 46.9**	**+0.6**
UWA2				S		**Sn**	**17 07 13.0**	**-3.3**
JSJ	**Shimokoshiki**	**2.56**	**292**	P		**Pn**	**17 06 47.7**	**+0.1**
JNU	**Nakatsue**	**2.73**	**330**	Pn		**Pn**	**17 06 50.7**	**+0.6**
	2.4nm,0.3s,baz=190,slow=8.3,SNR=38							
JNU				Sn		**Sn**	**17 07 23.8**	**+0.6**
	10nm,0.3s,baz=167,slow=17,SNR=12							
JNU				LR		LR	17 07 39.7	
	comp=Z,22nm,18.1s,baz=142,slow=35							
JNA	**Nagahama**	**2.79**	**360**	P		**Pn**	**17 06 52.2**	**+1.3**
JNA				S		**Sn**	**17 07 21.9**	**-2.8**
MJAR	**Matsushiro Arr**	**7.48**	**38**	Pn		**Pn**	**17 07 58.2**	**+2.9**
	0.1nm,0.3s,baz=248,slow=13,SNR=5.8							
MJAR				LR		LR	17 10 32.5	
	comp=Z,25nm,19.9s,baz=330,slow=35							
ZALV	**Zalesovo Beam**	**41.15**	**318**	LR		LR	17 32 30.3	
	comp=Z,42nm,18.8s,baz=43,slow=39							
WRA	**Warramunga Arr**	**50.44**	**178**	P		**P**	**17 15 04.6**	**+0.6**
	0.2nm,0.6s,baz=356,slow=8.0,SNR=3.1							
ASAR	**Alice Springs**	**54.13**	**178**	P		**P**	**17 15 31.0**	**-0.4**
	0.2nm,0.6s,baz=4.0,slow=8.1,SNR=5.3							
NVAR	**Mina Array Bea**	**84.69**	**48**	P		**P**	**17 18 41.9**	**+1.3**
	0.3nm,0.6s,baz=308,slow=4.4,SNR=3.5							

*SJA **04** 17:19:32.0± 0.5, 23.˚92S× 66.˚79W, h235km± 4km, ML3.9, MW4.3*

*IDC **04** 17:19:33.7± 1.0, 23.˚90S× 66.˚68W, h188km± 8km, mb3.9/12, mb1 4.1/18, mb1mx3.9/33, mbtmp4.4/18, MS2.5/1, Ms1 2.5/1, ms1mx2.3/23, Error ellipse: s-maj=15.0km s-min=11.4km az=24.0*

*ISCJB **04** 17:19:33.3± 0.2, 23.˚97S± 0.˚02 × 66.˚89W± 0.˚03, h206km± 2km, mb4.4/36, Error ellipse: s-maj=4.0km s-min=3.0km az=147.4*

*NEIC **04** 17:19:33.0± 0.5, 23.˚96S× 66.˚70W, h185km± 4km, mb4.6/28, ML4.5(GUC), Error ellipse: s-maj=7.4km s-min=5.2km az=77.0*

*VAO **04** 17:19:34.0± 0.4, 24.˚11S× 66.˚99W, h220km± 6km, mb4.3*

*GUC **04** 17:19:36.1± 0.5, 23.˚76S× 67.˚43W, h242km± 6km, ML4.5*

ISC 04 17:19:34.1± 0.6, 23.˚95S± 0.˚04 × 66.˚91W± 0.˚04, h200km± 6km, n159, σ1$30/179, mb4.5/36, 12C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.49**	**121**	*e*P		**Pn**	**17 20 09.0**	**+1.1**
SLA				IAML			17 20 10.5	
	comp=Z,970nm,0.7s							
SLA				*e*S		**Sn**	**17 20 36.4**	**+2.2**
HJA	**Humahuaca**	**1.56**	**62**	*e*P		**Pn**	**17 20 09.6**	**+0.8**
HJA				*e*S		**Sn**	**17 20 37.2**	**+1.6**
YJA	**Yavi**	**2.18**	**36**	*e*P		**Pn**	**17 20 15.9**	**+0.8**
YJA				*e*S		**Sn**	**17 20 47.9**	**+1.1**
YJA				IAML			17 20 49.1	
	comp=Z,58nm,0.6s							
LVC	**Limon Verde**	**2.27**	**306**	*e*P		**Pn**	**17 20 17.5**	**+1.6**
LVC	**Limon Verde**	**2.27**	**306**	⇑*i*P		**Pn**	**17 20 17.4**	**+1.6**
LVC				*e*S		**Sn**	**17 20 49.5**	**+1.1**
LVC	**Limon Verde**	**2.27**	**306**	P		**Pn**	**17 20 17.4**	**+1.6**
	comp=Z,267nm,0.3s,baz=118,slow=6.8,SNR=16							
LVC				S		**Sn**	**17 20 49.3**	**+0.9**
	comp=Z,96nm,0.3s,baz=267,slow=20,SNR=16							
LVC				LR		LR	17 21 07.3	
	comp=Z,118nm,21.8s,baz=215,slow=39							
LVC	**Limon Verde**	**2.27**	**306**	*e*P		**Pn**	**17 20 17.5**	**+1.6**
FSA	**Cafayete**	**2.31**	**159**	*e*P		**Pn**	**17 20 16.5**	**+0.5**
FSA				IAML			17 20 16.9	
	comp=Z,312nm,0.5s							
PB15	**IPOC Station P**	**2.46**	**287**	*e*P		**Pn**	**17 20 19.4**	**+1.5**
PB15	**IPOC Station P**	**2.46**	**287**	⇑*i*P		**Pn**	**17 20 19.3**	**+1.5**
PB15				*e*S		**Sn**	**17 20 52.2**	**+0.5**
GO02	**Mina Guanaco**	**2.72**	**243**	*e*Pn		**Pn**	**17 20 21.9**	**+1.1**
GO02				*e*Sn		**Sn**	**17 20 57.4**	**+0.2**
PB06	**IPOC Station P**	**2.74**	**296**	*e*P		**Pn**	**17 20 22.4**	**+1.4**
PB06	**IPOC Station P**	**2.74**	**296**	⇑*i*P		**Pn**	**17 20 22.3**	**+1.4**
PB06				*e*S		**Sn**	**17 20 57.2**	**-0.2**
PB06				IAML			17 20 59.1	
	comp=N,1μm,0.5s							
PB09	**IPOC Station P**	**3.04**	**314**	⇑*i*P		**Pn**	**17 20 26.0**	**+1.6**
PB09				*e*S		**Sn**	**17 21 03.7**	**+0.1**
PB09				IAML			17 21 07.9	
	comp=E,525nm,0.4s							
AHML	**Horco Molle**	**3.16**	**154**	*e*P		**Pn**	**17 20 25.7**	**0.0**
PB05	**IPOC Station P**	**3.22**	**289**	*e*P		**Pn**	**17 20 27.6**	**+1.1**
PB05	**IPOC Station P**	**3.22**	**289**	⇑*i*P		**Pn**	**17 20 27.1**	**+0.7**
PB05				*e*S		**Sn**	**17 21 05.7**	**-1.7**
PB05				IAML			17 21 10.9	
	comp=N,802nm,0.3s							
PB03	**IPOC Station P**	**3.23**	**305**	*e*P		**Pn**	**17 20 27.6**	**+0.9**
PB03	**IPOC Station P**	**3.23**	**305**	⇑*i*P		**Pn**	**17 20 27.6**	**+0.9**
PB03				*e*S		**Sn**	**17 21 06.7**	**-1.1**
PB03				IAML			17 21 10.6	
	comp=E,1μm,0.3s							
PB14	**IPOC Station P**	**3.26**	**257**	⇑*i*P		**Pn**	**17 20 27.9**	**+0.7**
PB14				*i* S		**Sn**	**17 21 07.2**	**-1.3**
PB10	**IPOC Station P**	**3.37**	**277**	*e*Pn		**Pn**	**17 20 28.9**	**+0.7**
PB10	**IPOC Station P**	**3.37**	**277**	*e*P		**Pn**	**17 20 29.3**	**+1.1**
PB10	**IPOC Station P**	**3.37**	**277**	⇑*i*P		**Pn**	**17 20 29.3**	**+1.1**
PB10				*i* S		**Sn**	**17 21 08.5**	**-1.9**
PB04	**IPOC Station P**	**3.39**	**298**	*e*Pn		**Pn**	**17 20 28.9**	**+0.3**
PB04	**IPOC Station P**	**3.39**	**298**	*e*P		**Pn**	**17 20 29.4**	**+0.7**
PB04	**IPOC Station P**	**3.39**	**298**	⇑*e*P		**Pn**	**17 20 29.3**	**+0.7**
PB04				*e*S		**Sn**	**17 21 09.6**	**-1.6**
PB07	**IPOC Station P**	**3.53**	**308**	*e*P		**Pn**	**17 20 31.1**	**+0.8**
PB07	**IPOC Station P**	**3.53**	**308**	⇑*e*P		**Pn**	**17 20 31.0**	**+0.8**
PB07				*e*S		**Sn**	**17 21 12.5**	**-1.7**
PB01	**IPOC Station P**	**3.75**	**320**	*e*Pn		**Pn**	**17 20 33.2**	**+0.3**
PB01	**IPOC Station P**	**3.75**	**320**	⇑*i*P		**Pn**	**17 20 33.4**	**+0.4**
PB01				*e*S		**Sn**	**17 21 17.3**	**-1.7**
PB02	**IPOC Station P**	**3.80**	**313**	*e*P		**Pn**	**17 20 33.9**	**+0.3**
PB02	**IPOC Station P**	**3.80**	**313**	⇑*e*P		**Pn**	**17 20 34.0**	**+0.3**
PB02				*i* S		**Sn**	**17 21 18.1**	**-2.1**
PB08	**IPOC Station P**	**4.33**	**331**	*e*P		**Pn**	**17 20 42.5**	**+2.1**
PB08				*i* S		**Sn**	**17 21 32.0**	**-0.4**
CYA	**Choya**	**4.58**	**168**	*e*P		**Pn**	**17 20 43.8**	**+0.5**
PB11	**IPOC Station P**	**4.89**	**328**	*e*Pn		**Pn**	**17 20 46.2**	**-1.1**
PB11	**IPOC Station P**	**4.89**	**328**	*e*P		**Pn**	**17 20 46.7**	**-0.6**
PB11	**IPOC Station P**	**4.89**	**328**	*e*P		**Pn**	**17 20 46.9**	**-0.4**
PB11				*i* S		**Sn**	**17 21 42.0**	**-2.9**
MNMC	**Minye Minye**	**5.41**	**332**	*e*Pn		**Pn**	**17 20 53.5**	**-0.5**
MNMCX	**Minye Minye**	**5.41**	**332**	*e*P		**Pn**	**17 20 53.9**	**-0.2**
AGUA	**GUÁNDACOL**	**5.69**	**194**	*e*P		**Pn**	**17 20 57.8**	**+0.3**
LCO	**Las Campanas**	**6.08**	**213**	*e*Pn		**Pn**	**17 21 01.0**	**-1.6**
LCO	**Las Campanas**	**6.08**	**213**	*e*P		**Pn**	**17 21 00.5**	**-2.1**
APLL	**PUNTA DE LOS L**	**6.43**	**177**	*e*P		**Pn**	**17 21 06.1**	**-0.8**
APLL				IAML			17 21 07.2	
	comp=Z,108nm,0.4s							
ACDV	**Cuesta del Vie**	**6.50**	**197**	*e*P		**Pn**	**17 21 08.6**	**+0.6**
AROD	**Rodeo**	**6.60**	**200**	*e*P		**Pn**	**17 21 09.9**	**+0.5**
ACCO	**Cerro Coronel**	**6.88**	**196**	*e*P		**Pn**	**17 21 13.1**	**0.0**
GO04	**Tololo Observa**	**7.10**	**208**	*e*Pn		**Pn**	**17 21 13.8**	**-2.0**
AMOG	**MOGNA**	**7.10**	**191**	*e*P		**Pn**	**17 21 14.6**	**-1.1**
RTLL	**Cerro Villicun**	**7.48**	**190**	*e*P		**Pn**	**17 21 19.8**	**-0.9**
TCAL	**Tanti**	**7.64**	**165**	*e*P		**Pn**	**17 21 21.4**	**-1.3**
LPAZ	**La Paz**	**7.71**	**351**	*e*Pn		**Pn**	**17 21 24.4**	**+0.2**
LPAZ				S		**Sn**	**17 22 49.6**	**-2.1**
LPAZ	**La Paz**	**7.71**	**351**	P		**Pn**	**17 21 24.9**	**+0.6**
	comp=Z,3.3nm,0.3s,baz=126,slow=4.6,SNR=51							
LPAZ				S		**Sn**	**17 22 49.6**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=29,slow=21,SNR=6.1							
LPAZ	**La Paz**	**7.71**	**351**	*e*P		**Pn**	**17 21 25.1**	**+0.8**
CFA	**Coronel Fontan**	**7.71**	**188**	*e*P		**Pn**	**17 21 22.7**	**-1.0**
ZON	**Zonda**	**7.73**	**191**	*e*P		**Pn**	**17 21 23.1**	**-0.8**
RTCV	**Cerro Valdivia**	**8.01**	**190**	*e*P		**Pn**	**17 21 26.3**	**-1.3**
RTLS	**Leoncito**	**8.10**	**195**	*e*P		**Pn**	**17 21 28.7**	**-0.2**
ACAN	**Cantantal**	**8.30**	**182**	*e*P		**Pn**	**17 21 29.8**	**-1.4**
MRA	**San Martin**	**8.50**	**173**	*e*P		**Pn**	**17 21 32.4**	**-1.6**
AUSP	**Uspallata**	**8.53**	**194**	*e*P		**Pn**	**17 21 34.1**	**-0.4**
ASAL	**Sagasta**	**8.77**	**191**	*e*P		**Pn**	**17 21 36.3**	**-1.2**
CPUP	**Villa Florida**	**9.00**	**107**	P		**Pn**	**17 21 37.9**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=289,slow=11,SNR=11							
CPUP	**Villa Florida**	**9.00**	**107**	*e*P		**Pn**	**17 21 39.2**	**-1.2**
AAGR	**Agrelo**	**9.26**	**190**	*e*P		**Pn**	**17 21 42.6**	**-1.1**
SIV	**San Ignacio**	**9.63**	**36**	P		**Pn**	**17 21 46.9**	**-1.9**
	comp=Z,6.1nm,0.3s,baz=228,slow=12,SNR=100							
PTGB	**Pitanga**	**13.56**	**96**	*e*P		**Pn**	**17 22 39.1**	**+0.4**
CPSB	**Cacapava Do Su**	**13.60**	**121**	*e*P		**Pn**	**17 22 38.0**	**-1.1**
ITAB	**Concordia**	**13.73**	**107**	*e*P		**Pn**	**17 22 40.1**	**-0.7**
PLTB	**Pedras Altas**	**14.10**	**126**	*e*P		**Pn**	**17 22 43.5**	**-1.9**
TRQA	**Tornquist**	**14.68**	**164**	*e*Pn		**Pn**	**17 22 50.8**	**-1.6**
FRTB	**Fartura**	**15.91**	**91**	*e*P		**Pn**	**17 23 02.8**	**-0.4**
ITRB	**Iturama**	**15.94**	**78**	*e*P		**Pn**	**17 23 08.5**	**+0.6**
GO06	**Curarrehue**	**16.06**	**193**	*e*P		**Pn**	**17 23 09.5**	**+0.3**
	comp=Z,6.3nm,0.8s							
TIJ01	**Guaruva-PR**	**16.34**	**98**	*e*P		**P**	**17 23 11.4**	**-0.6**
PLCA	**Paso Flores**	**17.01**	**189**	*e*P		**Pn**	**17 23 20.2**	**-0.3**
	comp=Z,6.3nm,0.7s							
PLCA	**Paso Flores**	**17.01**	**189**	P		**Pn**	**17 23 20.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=33,slow=14,SNR=18							
PLCA	**Paso Flores**	**17.01**	**189**	*e*P		**P**	**17 23 15.7**	**-3.5**
BB19B	**Bebedouro**	**17.23**	**84**	*e*P		**P**	**17 23 20.5**	**-1.2**
IPMB	**Ipameri, GO**	**18.43**	**75**	*e*P		**P**	**17 23 35.1**	**+0.2**
BDFB	**Brasilia**	**19.59**	**69**	*e*P		**P**	**17 23 46.3**	**-1.1**
	comp=Z,15nm,0.6s							
BDFB	**Brasilia**	**19.59**	**69**	P		**P**	**17 23 47.2**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=243,slow=11,SNR=20							
PMNB	**Patos De Minas**	**19.82**	**78**	*e*P		**P**	**17 23 49.3**	**-0.6**
BSCB	**Bom Sucesso**	**20.66**	**86**	*e*P		**P**	**17 23 58.2**	**-0.6**
DUB01	**Friburgo-RJ**	**22.65**	**90**	*e*P		**P**	**17 24 17.3**	**-1.2**
MCI6	**Montes Claros**	**22.70**	**76**	*e*P		**P**	**17 24 17.7**	**-1.3**
MCI8	**Montes Claros**	**22.73**	**76**	*e*P		**P**	**17 24 17.7**	**-1.6**
MCI9	**Montes Claros**	**22.74**	**76**	*e*P		**P**	**17 24 17.7**	**-1.7**
JANB	**Januaria**	**23.04**	**72**	*e*P		**P**	**17 24 21.3**	**-0.8**
PTGA	**Pitinga**	**24.04**	**17**	*e*P		**P**	**17 24 30.5**	**-0.6**
	comp=Z,43nm,1.9s							
PTGA	**Pitinga**	**24.04**	**17**	P		**P**	**17 24 30.3**	**-0.9**
	comp=Z,5.5nm,0.3s,baz=203,slow=14,SNR=27							
PTGA	**Pitinga**	**24.04**	**17**	*e*P		**P**	**17 24 30.8**	**-0.3**
ALF01	**Guarapari-ES**	**24.44**	**87**	*e*P		**P**	**17 24 33.6**	**-1.1**
SJMB	**Sao Joao De Ma**	**24.51**	**83**	*e*P		**P**	**17 24 34.2**	**-1.1**
RIB01	**Linhares ES**	**25.06**	**85**	*e*P		**P**	**17 24 39.0**	**-1.3**
MDP	**Montagnes des**	**32.05**	**28**	P		**P**	**17 25 40.9**	**-1.4**
	comp=Z,7.4nm,0.4s,baz=203,slow=10,SNR=12							
SDV	**Santo Domingo**	**32.84**	**353**	*e*P		**P**	**17 25 48.1**	**-1.2**
	comp=Z,9.0nm,0.9s							
SDV	**Santo Domingo**	**32.84**	**353**	P		**P**	**17 25 48.6**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=260,slow=14,SNR=7.8							
SDV	**Santo Domingo**	**32.84**	**353**	*e*P		**P**	**17 25 47.8**	**-1.6**
NBLI	**Livramento-PB**	**33.11**	**65**	*e*P		**P**	**17 25 50.5**	**-1.2**
APG	**El Apazote**	**45.04**	**327**	P		**P**	**17 27 32.5**	**+2.0**
	comp=Z,7.7nm,0.7s,baz=10,slow=2.1,SNR=5.6							
VNA3	**Neumayer Olymp**	**57.17**	**161**	P		**P**	**17 29 01.2**	**+1.4**
VNA1	**Neumayer--Stat**	**57.37**	**160**	P		**P**	**17 29 02.7**	**+1.6**
VNA2	**Neumayer--Watz**	**57.74**	**160**	P		**P**	**17 29 05.1**	**+1.4**
	baz=283,slow=7.5							
SNAA	**Sanae**	**59.37**	**161**	P		**P**	**17 29 16.2**	**+1.1**
SNAA	**Sanae**	**59.37**	**161**	*e*P		**P**	**17 29 14.6**	**-0.5**
	comp=Z,6.0nm,0.8s							
Z50A	**Ashland**	**59.70**	**342**	*e*P		**P**	**17 29 17.1**	**-0.6**
	comp=Z,11nm,0.6s							
X48A	**Hartselle**	**61.15**	**341**	*e*P		**P**	**17 29 27.8**	**+0.4**
	comp=Z,14nm,0.8s							
SWET	**Sewanee**	**61.55**	**342**	*e*P		**P**	**17 29 30.6**	**+0.5**
	comp=Z,41nm,1.6s							
435B	**Jarrell**	**61.86**	**330**	*e*P		**P**	**17 29 31.1**	**-1.2**
	comp=Z,622nm,0.4s							
JCT	**Junction City**	**62.65**	**328**	*e*P		**P**	**17 29 38.5**	**+1.0**
	comp=Z,9.2nm,0.6s							
WVT	**Waverly**	**62.94**	**341**	*e*P		**P**	**17 29 39.1**	**-0.3**
	comp=Z,15nm,0.7s							
T47A	**Sharon Grove**	**63.53**	**342**	*e*P		**P**	**17 29 43.2**	**0.0**
	comp=Z,22nm,0.4s							
TXAR	**Lajitas Array**	**63.69**	**324**	P		**P**	**17 29 45.9**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=151,slow=8.5,SNR=14							
TX31	**Lajitas Ar. Si**	**63.69**	**324**	*e*P		**P**	**17 29 44.9**	**+0.4**
W39A	**Magazine**	**64.10**	**336**	*e*P		**P**	**17 29 48.5**	**+1.6**
	comp=Z,8.3nm,0.7s							
PBMO	**Poplar Bluff**	**64.35**	**339**	*e*P		**P**	**17 29 48.6**	**+0.1**
	comp=Z,14nm,0.7s							
FVM	**French Village**	**65.45**	**340**	*e*P		**P**	**17 29 56.0**	**+0.4**
	comp=Z,15nm,0.4s							
CCM	**Cathedral Cave**	**65.78**	**339**	*e*P		**P**	**17 29 57.5**	**-0.2**
	comp=Z,16nm,0.6s							
QSPA	**South Pole Qui**	**66.25**	**180**	*e*P		**P**	**17 30 02.4**	**+1.7**
	comp=Z,7.1nm,0.6s							
MSTX	**Muleshoe**	**66.94**	**328**	*e*P		**P**	**17 30 06.8**	**+1.5**
	comp=Z,12nm,0.9s							
ANMO	**Albuquerque**	**69.55**	**326**	*e*P		**P**	**17 30 23.1**	**+1.5**
	comp=Z,7.1nm,1.0s							
JFWS	**Jewell Farm**	**69.92**	**342**	*e*P		**P**	**17 30 23.8**	**+0.4**
	comp=Z,15nm,0.6s							
SDCO	**Great Sand Dun**	**71.29**	**329**	*e*P		**P**	**17 30 34.6**	**+2.4**
	comp=Z,7.9nm,0.8s							
SYO	**Syowa Base**	**73.57**	**159**	⇓*e*P		**P**	**17 30 43.4**	**-1.4**
U15A	**North Rim**	**73.76**	**323**	*e*P		**P**	**17 30 48.7**	**+1.9**
	comp=Z,3.7nm,1.0s							
KNB	**Kanab**	**74.48**	**323**	*e*P		**P**	**17 30 54.0**	**+3.1**
	comp=Z,34nm,2.0s							
PSUT	**Pine Spring**	**76.15**	**324**	*e*P		**P**	**17 31 01.1**	**+0.8**
	comp=Z,2.6nm,0.8s							
TOA1	**Torodi Ar. Sit**	**76.47**	**69**	*e*P		**P**	**17 31 00.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**76.47**	**69**	P		**P**	**17 31 00.8**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=257,slow=5.9,SNR=14							
PD31	**Pinedale Array**	**77.15**	**329**	*e*P		**P**	**17 31 07.6**	**+1.7**
PDAR	**Pinedale Array**	**77.15**	**329**	P		**P**	**17 31 07.2**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=129,slow=7.4,SNR=11							
ULM	**Lac du Bonnet**	**78.21**	**341**	P		**P**	**17 31 12.0**	**+0.8**
	comp=Z,5.5nm,0.6s,baz=154,slow=6.1,SNR=16							
LOHW	**Long Hollow**	**78.29**	**329**	*e*P		**P**	**17 31 14.4**	**+2.3**
	comp=Z,2.4nm,0.7s							
SCHQ	**Schefferville**	**78.46**	**0**	P		**P**	**17 31 13.2**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=172,slow=6.1,SNR=4.1							
NV01	**Mina Array Sit**	**78.55**	**321**	*e*P		**P**	**17 31 15.6**	**+1.9**
NVAR	**Mina Array Bea**	**78.55**	**321**	P		**P**	**17 31 15.8**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=152,slow=5.8,SNR=5.0							
KVN	**Kaiserville**	**78.86**	**322**	*e*P		**P**	**17 31 17.6**	**+2.3**
	comp=Z,5.6nm,1.2s							
YHH	**Holmes Hill**	**79.30**	**330**	*e*P		**P**	**17 31 20.3**	**+2.6**
	comp=Z,3.7nm,0.8s							
HLID	**Hailey**	**80.09**	**327**	*e*P		**P**	**17 31 24.8**	**+2.9**
	comp=Z,3.7nm,0.8s							
BOSA	**Boshof**	**80.68**	**117**	P		**P**	**17 31 25.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=264,slow=4.2,SNR=6.2							
YKA	**Yellowknife Ar**	**94.11**	**340**	P		**P**	**17 32 30.5**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=132,slow=4.3,SNR=33							
YKB5	**Yellowknife Ar**	**94.11**	**340**	*e*P		**P**	**17 32 30.6**	**+1.2**
ASAR	**Alice Springs**	**128.53**	**205**	PKP		**PKPdf**	**17 38 17.6**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=129,slow=1.5,SNR=6.9							
WR1	**Warramunga Arr**	**131.71**	**207**	*e*PKPdf		**PKiKP**	**17 38 24.9**	**-0.2**
WRA	**Warramunga Arr**	**131.71**	**207**	PKP		**PKiKP**	**17 38 24.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=152,slow=2.0,SNR=14							
ZAA1	**Zalesovo Array**	**143.31**	**28**	*e*PKPpre		PKPbc	17 38 42.6	+0.7
ZALV	**Zalesovo Beam**	**143.31**	**28**	PKP		PKPbc	17 38 42.6	+0.7
	comp=Z,1.8nm,0.5s,baz=312,slow=4.5,SNR=4.1							
MK32	**Makanchi Array**	**146.43**	**40**	*e*PKPdf		**PKPbc**	**17 38 51.3**	**-0.3**
MKAR	**Makanchi Array**	**146.43**	**40**	PKP		**PKPbc**	**17 38 51.3**	**-0.3**
	comp=Z,1.7nm,0.5s,baz=290,slow=3.8,SNR=18							
KLR	**Kul'dur**	**150.82**	**335**	PKPbc		**PKiKP**	**17 39 03.6**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=44,slow=2.0,SNR=8.6							
KLR				PKPab		**PKPab**	**17 39 12.0**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=54,slow=2.8,SNR=5.6							
KLR	**Kul'dur**	**150.82**	**335**	*e*PKPab		**PKPab**	**17 39 12.0**	**+1.5**
WMQ	**Urumqi**	**151.25**	**40**	*e*PKPbc		**PKPdf**	**17 38 57.9**	**+0.1**
WMQ				LR		LR		
	comp=Z,49nm,20.9s							
WMQ				LR		LR		
	comp=Z,86nm,17.3s							
WMQ				LR		LR		
	comp=Z,67nm,17.3s							
SONA0	**Songino Array**	**155.57**	**11**	*

ABTX	**Abilene, Hawle**	**46.70**	**332**	*e*P		**P**	**17 31 27.4**	**-0.2**
	13nm,0.8s								
T42A	**Van Buren**	**47.37**	**343**	*e*P		**P**	**17 31 31.7**	**-0.9**
	5.9nm,0.7s								
WMOK	**Wichita Mounta**	**48.09**	**334**	*e*P		**P**	**17 31 40.2**	**+1.9**
	8.2nm,1.1s								
MNTX	**Cornudas Mount**	**48.92**	**326**	*e*P		**P**	**17 31 44.7**	**0.0**
	3.6nm,0.8s								
M54A	**Oil Creek Stat**	**49.69**	**356**	*e*P		**P**	**17 31 51.4**	**+0.9**
	61nm,1.8s								
HDIL	**Hopedale**	**50.22**	**346**	*e*P		**P**	**17 31 53.4**	**-1.0**
	32nm,0.6s								
ANMO	**Albuquerque**	**51.97**	**328**	*e*P		**P**	**17 32 08.0**	**+0.1**
	7.1nm,1.0s								
T25A	**Trinidad**	**52.64**	**331**	*e*P		**P**	**17 32 13.6**	**+0.6**
	8.4nm,0.8s								
SDCO	**Great Sand Dun**	**53.65**	**331**	*e*P		**P**	**17 32 20.9**	**+0.4**
	7.9nm,0.8s								
X16A	**Lo Mia Camp, P**	**54.37**	**323**	*e*P		**P**	**17 32 26.2**	**+0.5**
	3.0nm,0.8s								
PV15	**Paradox Valley**	**55.60**	**329**	*e*P		**P**	**17 32 33.3**	**-1.2**
	10nm,1.0s								
PV02	**Paradox Valley**	**55.63**	**329**	*e*P		**P**	**17 32 35.0**	**+0.3**
	8.2nm,0.9s								
PV13	**Radium Mtn., P**	**55.64**	**328**	*e*P		**P**	**17 32 35.4**	**+0.6**
	9.9nm,0.9s								
PV05	**Paradox Valley**	**55.72**	**328**	*e*P		**P**	**17 32 35.6**	**+0.2**
	49nm,2.0s								
U15A	**North Rim**	**56.27**	**325**	*e*P		**P**	**17 32 40.6**	**+1.1**
	3.7nm,1.0s								
KNB	**Kanab**	**56.99**	**325**	*e*P		**P**	**17 32 45.4**	**+1.0**
	34nm,2.0s								
TPNV	**Topopah Spring**	**58.96**	**322**	*e*P		**P**	**17 32 58.5**	**+0.2**
	3.4nm,0.9s								
AGMN	**Agassiz Nation**	**59.12**	**344**	*e*P		**P**	**17 32 58.8**	**-0.1**
	7.6nm,0.8s								
TCUT	**Toone Canyon**	**59.17**	**329**	*e*P		**P**	**17 33 00.1**	**+0.4**
	14nm,0.8s								
DUG	**Dugway, Tooele**	**59.23**	**327**	*e*P		**P**	**17 33 00.7**	**+0.6**
	5.9nm,0.8s								
PD31	**Pinedale Array**	**59.50**	**331**	*e*P		**P**	**17 33 01.3**	**-0.7**
PDAR	**Pinedale Array**	**59.50**	**331**	P		**P**	**17 33 01.3**	**-0.7**
	0.8nm,0.6s,baz=123,slow=7.2,SNR=7.0								
ULM	**Lac du Bonnet**	**60.91**	**345**	P		**P**	**17 33 09.8**	**-1.3**
	7.5nm,0.8s,baz=158,slow=6.7,SNR=15								
ELK	**Elko**	**60.94**	**326**	*e*P		**P**	**17 33 12.1**	**+0.2**
	3.0nm,1.1s								
OMMB	**Old Mammoth Mi**	**61.06**	**321**	*e*P		**P**	**17 33 12.1**	**-0.8**
	14nm,1.5s								
NV01	**Mina Array Sit**	**61.16**	**323**	*e*P		**P**	**17 33 13.2**	**-0.2**
NVAR	**Mina Array Bea**	**61.16**	**323**	P		**P**	**17 33 13.2**	**-0.2**
	1.1nm,0.7s,baz=142,slow=7.3,SNR=8.2								
YHH	**Holmes Hill**	**61.65**	**332**	*e*P		**P**	**17 33 17.8**	**+1.1**
	3.9nm,1.0s								
YHB	**Horse Butte**	**61.78**	**332**	*e*P		**P**	**17 33 18.5**	**+1.0**
	5.6nm,0.8s								
BMN	**Battle Mountai**	**61.83**	**325**	*e*P		**P**	**17 33 18.1**	**+0.3**
	4.7nm,0.9s								
GCMT	**Greycliff**	**61.89**	**334**	*e*P		**P**	**17 33 17.9**	**-0.2**
HLID	**Hailey**	**62.48**	**329**	*e*P		**P**	**17 33 22.6**	**+0.5**
BEKR	**Beckworth**	**63.30**	**323**	*e*P		**P**	**17 33 28.4**	**+0.7**
	20nm,2.0s								
ORV	**Oroville**	**63.80**	**322**	*e*P		**P**	**17 33 31.9**	**+1.1**
WVOR	**Wild Horse Val**	**63.95**	**326**	*e*P		**P**	**17 33 32.2**	**+0.3**
MSO	**Missoula**	**64.61**	**332**	*e*P		**P**	**17 33 36.8**	**+0.8**
	7.6nm,1.2s								
I07A	**Izee**	**65.52**	**327**	*e*P		**P**	**17 33 41.8**	**-0.2**
	7.6nm,0.8s								
F10A	**Beach Ranch, E**	**65.60**	**329**	*e*P		**P**	**17 33 43.2**	**+0.7**
	4.9nm,0.8s								
PINE	**Pine Mountain**	**66.12**	**326**	*e*P		**P**	**17 33 46.5**	**+0.5**
	11nm,0.8s								
WALA	**Waterton Lakes**	**66.25**	**334**	*e*P		**P**	**17 33 46.7**	**+0.1**
	3.9nm,0.8s								
FCC	**Fort Churchill**	**68.47**	**350**	*e*P		**P**	**17 34 00.5**	**+0.2**
	5.2nm,0.8s								
LIC	**Lamto**	**71.81**	**81**	*e*P		**P**	**17 34 22.5**	**+0.7**
	49nm,1.6s								
TIC	**Toumodi**	**71.89**	**80**	*e*P		**P**	**17 34 23.0**	**+0.7**
DBIC	**Dimbokro**	**72.06**	**80**	*e*P		**P**	**17 34 23.7**	**+0.4**
	21nm,1.1s								
DBIC	**Dimbokro**	**72.06**	**80**	P		**P**	**17 34 23.4**	**+0.2**
	7.3nm,0.5s,baz=240,slow=6.3,SNR=12								
KIC	**Kosan Boka**	**72.11**	**81**	*e*P		**P**	**17 34 24.5**	**+0.9**
	54nm,1.1s								
YKA	**Yellowknife Ar**	**76.69**	**343**	P		**P**	**17 34 48.3**	**-0.9**
	0.8nm,0.6s,baz=137,slow=6.0,SNR=13								
YKB5	**Yellowknife Ar**	**76.69**	**343**	*e*P		**P**	**17 34 48.3**	**-0.9**
TOA1	**Torodi Ar. Sit**	**79.63**	**75**	*e*P		**P**	**17 35 05.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**79.63**	**75**	P		**P**	**17 35 05.7**	**-0.8**
	9.5nm,0.7s,baz=264,slow=4.8,SNR=45								
ESDC	**Sonseca Array**	**81.38**	**48**	P		**P**	**17 35 15.1**	**-0.4**
	0.3nm,0.4s,baz=256,slow=6.4,SNR=4.6								
QSPA	**South Pole Qui**	**81.82**	**180**	*e*P		**P**	**17 35 18.1**	**+0.6**
	11nm,1.1s								
SUMG	**Summit**	**84.19**	**11**	*e*P		**P**	**17 35 30.8**	**+0.9**
	7.2nm,0.8s								
SUMG	**Summit**	**84.19**	**11**	*i* P		**P**	**17 35 29.8**	**-0.1**
	25nm,0.9s								
TULEG	**Thule**	**84.77**	**2**	*e*P		**P**	**17 35 33.3**	**+1.1**
	10nm,0.9s								
TAM	**Tamanrasset**	**85.06**	**66**	*e*P		**P**	**17 35 36.8**	**+1.7**
	4.3nm,0.9s								
KLU	**Klutina**	**88.05**	**333**	*e*P		**P**	**17 35 48.8**	**+0.1**
	8.1nm,0.6s								
DOT	**Dot Lake**	**88.06**	**335**	*e*P		**P**	**17 35 49.0**	**+0.4**
	5.8nm,0.8s								
SCRK	**Sand Creek**	**88.16**	**336**	*e*P		**P**	**17 35 49.5**	**+0.2**
	5.0nm,0.8s								
PAX	**Paxson**	**88.39**	**335**	*e*P		**P**	**17 35 50.0**	**-0.3**
	4.6nm,0.8s								
PRP	**Porcupine Dome**	**89.35**	**337**	*e*P		**P**	**17 35 55.1**	**+0.2**
	4.8nm,0.9s								
ILAR	**Eielson Array**	**89.62**	**336**	P		**P**	**17 35 55.1**	**-0.9**
	1.5nm,0.8s,baz=147,slow=2.9,SNR=13								
ILAR				PP		**PP**	**17 39 27.3**	**-0.5**
	0.4nm,0.8s,baz=103,slow=7.3,SNR=5.7								
ILB	**Eielson Array**	**89.62**	**336**	*e*P		**P**	**17 35 55.1**	**-0.9**
ILB				*e*PP		**PP**	**17 39 27.3**	**-0.5**
RND	**Reindeer**	**89.98**	**334**	*e*P		**P**	**17 35 58.3**	**+0.6**
	18nm,1.5s								
MDM	**Murphy Dome**	**90.23**	**336**	*e*P		**P**	**17 35 58.9**	**+0.1**
	11nm,1.3s								
TSUM	**Tsumeb**	**90.27**	**109**	*e*P		**P**	**17 36 01.8**	**+1.6**
	6.9nm,1.0s								
DAG	**Danmarks Havn**	**90.86**	**11**	*i* P		**P**	**17 36 01.6**	**+0.1**
	3.2nm,0.9s								
SYO	**Syowa Base**	**91.04**	**161⇑**	*e*P		**P**	**17 36 01.6**	**-0.9**
SYO	**Syowa Base**	**91.04**	**161⇓**	*e*sP		sP	17 36 15.2	+8.0
ABKAR	**Akbulak array**	**124.81**	**34**	*e*PKPdf		**PKiKP**	**17 41 59.1**	**+0.3**
ZAA1	**Zalesovo Array**	**131.80**	**15**	*e*PKPdf		**PKPdf**	**17 42 12.2**	**+0.5**
ZALV	**Zalesovo Beam**	**131.80**	**15**	*e*PKPdf		**PKPdf**	**17 42 11.8**	**+0.1**
ZALV	**Zalesovo Beam**	**131.80**	**15**	PKP		**PKPdf**	**17 42 12.2**	**+0.5**
	1.2nm,0.3s,baz=270,slow=2.9,SNR=6.2								
KLR	**Kul'dur**	**133.20**	**336**	*e*PKPdf		**PKPdf**	**17 42 13.8**	**-0.7**
KLR	**Kul'dur**	**133.20**	**336**	PKP		**PKPdf**	**17 42 13.8**	**-0.7**
	0.6nm,0.6s,baz=135,slow=8.7,SNR=4.5								
MK32	**Makanchi Array**	**137.22**	**22**	*e*PKPdf		**PKPdf**	**17 42 21.4**	**-0.7**
MKAR	**Makanchi Array**	**137.22**	**22**	PKP		**PKPdf**	**17 42 21.4**	**-0.7**
	1.0nm,1.0s,baz=2.3,slow=1.3,SNR=4.5								
WR1	**Warramunga Arr**	**139.33**	**226**	*e*PKPdf		**PKPdf**	**17 42 26.5**	**-0.2**
WRA	**Warramunga Arr**	**139.33**	**226**	PKP		**PKPdf**	**17 42 26.5**	**-0.2**
	1.7nm,1.2s,baz=144,slow=34,SNR=3.6								
WMQ	**Urumqi**	**141.71**	**20**	*e*PKP		**PKPdf**	**17 42 30.1**	**-0.3**
WMQ				LR		LR			
	comp=N,64nm,20.1s								
WMQ				LR		LR			
	comp=E,89nm,18.7s								
WMQ				LR		LR			
	comp=Z,72nm,18.7s								
KSRS	**Korea Array**	**144.00**	**327**	PKP		**PKPab**	**17 42 31.8**	**0.0**
	1.3nm,0.7s,baz=49,slow=4.2,SNR=5.7								
KS15	**Wonju Array Si**	**144.03**	**327**	*e*PKPdf		**PKPab**	**17 42 31.8**	**-0.1**
KSAR	**Wonju Array Be**	**144.03**	**327**	PKP		**PKPab**	**17 42 31.8**	**-0.1**
HHC	**Hu-ho-hao-te**	**146.96**	**350**	*e*PKPbc		**PKPdf**	**17 42 38.0**	**-1.7**
GTA	**Gaotai**	**148.74**	**7**	⇓PKPbc		**PKPbc**	**17 42 46.9**	**+0.4**
LZH	**Lanzhou**	**152.32**	**1**	*e*PKPbc		**PKPdf**	**17 42 46.0**	**-2.4**
LZH				pPKP		PKiKP	17 42 57.0	+1.5
LZH				sPKP			17 43 00.8		
NJ2	**Nanjing**	**152.81**	**332**	*e*PKPbc		**PKPdf**	**17 42 49.4**	**+0.4**
CD2	**Chengdu**	**157.48**	**1**	PKP		**PKPdf**	**17 42 53.7**	**-1.8**
CM31	**Chiang Mai Arr**	**168.57**	**27**	*e*PKPdf		**PKPdf**	**17 43 05.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**168.57**	**27**	PKP		**PKPdf**	**17 43 05.8**	**-0.6**
	0.9nm,1.1s,baz=270,slow=0.9,SNR=4.8								
CM01	**Chiang Mai Arr**	**168.61**	**27**	*e*PKPdf		**PKPdf**	**17 43 06.2**	**-0.3**

NNC ***04*** *17:30:01.5±1.6, 54.˚30N×86.˚12E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=17.0km s-min=7.9km az=163.0, Suspected Mining explosion.*

ISCJB ***04*** *17:30:02.1±0.9, 54.˚15N±0.˚05×85.˚93E±0.˚08, h0km, mb3.9/1, MS3.0/3, Error ellipse: s-maj=8.7km s-min=4.1km az=136.0*

ASRS ***04*** *17:30:03.6±0.7, 54.˚29N×86.˚13E, h8km, Ms3.9/2*

IDC ***04*** *17:30:04.2±1.8, 54.˚22N×85.˚97E, h0km, mb3.8/1, mb1 3.9/5, mb1mx3.4/40, mbtmp3.9/5, ML3.8/4, MS3.1/3, Ms1 3.1/3, ms1mx2.6/41, Error ellipse: s-maj=14.6km s-min=10.4km az=52.0*

ISC 04 17:30:02.9±1.3, 54˚23N±0˚07×86˚03E±0˚06, h0km, n21, σ1§62/29, MS2.8/3, 10C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.77**	**249**	⇑P		**Pg**	**17 30 17.3**	**-0.3**
	46nm,0.8s							
ZAA0				⇓S		**Sb**	**17 30 29.7**	**-0.5**
	3µm,1.3s							
ZALV	**Zalesovo Beam**	**0.77**	**249**	Pg		**Pg**	**17 30 17.5**	**-0.2**
	13nm,0.3s,baz=64,slow=17,SNR=64							
ZALV				Lg		Lg	17 30 29.6	
	95nm,0.3s,baz=69,slow=28,SNR=112							
ELT	**Eltsovka**	**0.98**	**173**	*e*Pg		**Pb**	**17 30 22.0**	**-0.7**
ELT				*e*Sg		**Sb**	**17 30 37.0**	**+0.8**
NVS	**Novosibirsk**	**1.74**	**292**	*e*Pg		**Pb**	**17 30 35.0**	**-0.7**
NVS				*e*Sg		**Sg**	**17 30 59.7**	**+0.9**
TASR	**Tashtagol**	**1.84**	**142**	*e*Pg		**Pg**	**17 30 37.5**	**-0.7**
TASR				*e*Sg		**Sg**	**17 31 01.5**	**-0.5**
UKR	**Ust'-Kan**	**3.39**	**194**	*e*Sg		**Sg**	**17 31 50.5**	**-1.2**
KURK	**Kurchatov**	**5.74**	**235**	⇓Pn		**Pn**	**17 31 31.6**	**+2.3**
	18nm,0.8s							
KURK				⇑Lg		Lg	17 33 05.8	
	218nm,1.2s							
KURBB	**Kurchatov Arra**	**5.84**	**235**	⇑Pn		**Pn**	**17 31 33.1**	**+2.5**
	27nm,0.7s							
KURBB				⇓Sn		**Sn**	**17 32 40.4**	**+2.1**
	29nm,0.8s							
KURBB				⇓Lg		Lg	17 33 11.6	
	249nm,0.9s							
KURBB	**Kurchatov Arra**	**5.84**	**235**	Pn		**Pn**	**17 31 32.9**	**+2.2**
	1.3nm,0.3s,baz=52,slow=14,SNR=182							
KURBB				Sn		**Sn**	**17 32 37.9**	**-0.4**
	0.3nm,0.3s,baz=56,slow=26,SNR=8.6							
KURBB				Lg		Lg	17 33 06.9	
	0.2nm,0.3s,baz=53,slow=33,SNR=6.0							
MK31	**Makanchi Array**	**7.82**	**199**	⇑Pn		**Pn**	**17 31 60.0**	**+2.1**
	4.1nm,0.5s,baz=29,slow=13,SNR=283							
MK31				⇓Sn		**Sn**	**17 33 26.9**	**-0.1**
	14nm,0.8s,baz=34,slow=30,SNR=10							
MK31				⇑Lg		Lg	17 34 13.0	
	81nm,1.1s,baz=23,slow=29,SNR=18							
MKAR	**Makanchi Array**	**7.82**	**199**	Pn		**Pn**	**17 31 59.3**	**+1.5**
	3.9nm,0.3s,baz=25,slow=13,SNR=248							
MKAR				Sn		**Sn**	**17 33 27.1**	**+0.1**
	1.3nm,0.3s,baz=20,slow=24,SNR=16							
MKAR				Lg		Lg	17 34 11.1	
	0.6nm,0.3s,baz=15,slow=29,SNR=17							
MAKZ	**Makanchi**	**7.87**	**201**	⇑Pn		**Pn**	**17 31 59.7**	**+1.2**
	9.3nm,1.0s							
MAKZ				⇓Sn		**Sn**	**17 33 28.0**	**-0.3**
	13nm,0.8s							
MAKZ				⇓Lg		Lg	17 34 12.9	
	54nm,1.1s							
BVA0	**Borovoye Array**	**9.38**	**269**	⇑Pn		**Pn**	**17 32 19.3**	**+0.1**
	7.8nm,1.5s,baz=75,slow=13,SNR=36							
BVA0				⇑Sn		**Sn**	**17 34 05.5**	**+0.2**
	14nm,0.8s,baz=73,slow=25,SNR=15							
BVA0				⇓Lg		Lg	17 35 04.0	
	26nm,1.4s							
BVAR	**Borovoye Array**	**9.38**	**269**	Pn		**Pn**	**17 32 19.4**	**+0.2**
	1.3nm,0.3s,baz=72,slow=14,SNR=27							
BVAR				Sn		**Sn**	**17 33 59.6**	**-5.6**
	2.1nm,0.3s,baz=72,slow=24,SNR=18							
BVAR				Lg		Lg	17 35 02.4	
	baz=79,slow=24,SNR=1.4							
BRVK	**Borovoye**	**9.43**	**269**	⇑Pn		**Pn**	**17 32 19.4**	**-0.5**
	3.7nm,0.9s							
BRVK				⇑Sn		**Sn**	**17 34 05.5**	**-1.1**
	12nm,0.7s							
SONM	**Songino Array**	**14.29**	**108**	Lg		Lg	17 37 38.4	
	0.2nm,0.3s,baz=307,slow=15,SNR=9.4							
AKTO	**Aktyubinsk**	**17.48**	**269**	P		**Pn**	**17 34 08.2**	**+0.2**
	0.1nm,0.3s,baz=40,slow=7.9,SNR=2.3							
KIRV	**Kirov**	**20.54**	**297**	LR		LR	17 42 48.2	
	comp=Z,47nm,21.8s,baz=145,slow=37							
GEYT	**Ailbeck**	**25.07**	**241**	P		**P**	**17 35 30.0**	**+1.1**
	1.2nm,0.5s,baz=47,slow=6.9,SNR=4.1							
OBN	**Obninsk**	**28.14**	**292**	LR		LR	17 46 55.7	
	comp=Z,24nm,19.0s,baz=352,slow=36							
GERES	**GERESS Array B**	**43.49**	**294**	LR		LR	17 57 22.1	
	comp=Z,41nm,18.7s,baz=84,slow=38							

ISCJB ***04*** *17:32:35.7±0.2, 10.˚92S±0.˚04×165.˚77E±0.˚04, h10km, mb4.7/72, MS4.0/19, Error ellipse: s-maj=5.9km s-min=5.4km az=36.4*

IDC ***04*** *17:32:35.6±0.5, 10.˚81S×165.˚86E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.5/31, mbtmp4.4/21, ML5.2/2, MS3.8/18, Ms1 3.8/18, ms1mx3.7/25, Error ellipse: s-maj=17.4km s-min=14.2km az=103.0*

BJI ***04*** *17:32:36.8, 10.˚90S×165.˚70E, h10km, mb4.7/29, mB5.2/20, Ms4.9/10, Ms7 4.6/9*

NEIC ***04*** *17:32:37.3±0.1, 10.˚85S×165.˚80E, h10km, mb4.8/50, Error ellipse: s-maj=5.1km s-min=3.8km az=123.0*

GCMT ***04*** *17:32:40.3±0.3, 10.˚90S±0.˚02×165.˚75E±0.˚02, h12km, MW4.8/67, Moment Tensor Solution. s20,c21; s67,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.38±.10; Mθθ 1.27±.09; Mφφ-0.88±.09; Mrθ-0.31±.28; Mθφ-1.79±.08; Mφr-0.57±.27; Best double couple: Mo2.20900×10^16 NP1:φs343.00000°, δ76.00000°, λ-15.00000°. NP2: φs76.00000°, δ76.00000°, λ-166.00000°. Principal axes: T 2.2810, Plg0.0000°, Azm29.0000°; N -0.1400, Plg70.0000°, Azm120.0000°; P -2.1360, Plg20.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 17:32:36.9±0.4, 10˚93S±0˚06×165˚91E±0˚07, h10km, n131, σ1§37/126, mb4.8/72, MS3.9/20, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.06**	**284**	*i* P		**Pn**	**17 34 09.0**	**+2.4**
HNR				*i* S		**Pn**	**17 34 09.0**	**+2.4**
HNR	**Honiara**	**6.06**	**284**	Pn		**Pn**	**17 34 07.1**	**+0.5**
	105nm,0.3s,baz=144,slow=5.0,SNR=98							
HNR				Sn		**Sn**	**17 35 15.4**	**-0.6**
	baz=18,slow=19,SNR=1.9							
DZM	**Mont Dzumac**	**11.09**	**177**	*e*Pn		**Pn**	**17 35 17.1**	**+1.4**
	76nm,0.7s							
DZM				*e*Sn		**Sn**	**17 37 13.3**	**-6.7**
	40nm,0.6s							
DZM				*e*LR		LR	17 37 42.9	
	comp=Z,1µm,28.9s							
DZM	**Mont Dzumac**	**11.09**	**177**	Pn		**Pn**	**17 35 17.4**	**+1.6**
	8.8nm,0.3s,baz=12,slow=14,SNR=26							
DZM				Sn		**Sn**	**17 37 14.7**	**-5.3**
	baz=319,slow=19,SNR=2.1							
DZM				LR		LR	17 39 01.4	
	comp=Z,270nm,18.1s,baz=22,slow=34							
ONTNC	**Ouen Toro**	**11.33**	**177**	*e*Pn		**Pn**	**17 35 21.1**	**+2.3**
OUENC	**Ouen Island, N**	**11.46**	**176**	*e*Pn		**Pn**	**17 35 22.6**	**+1.9**
PINNC	**Pines Island,**	**11.71**	**173**	*e*Pn		**Pn**	**17 35 26.5**	**+2.4**
TARA	**Tarawa**	**14.05**	**30**	*e*P		**Pn**	**17 35 55.4**	**-0.8**
	9.0nm,0.6s							
MANU	**Manus Island**	**20.42**	**294**	*e*P		Pn	17 37 15.4	-1.1
	65nm,0.8s							
CTA	**Charters Tower**	**21.00**	**242**	P		**P**	**17 37 21.2**	**+0.5**
	18nm,1.0s,baz=69,slow=11,SNR=14							
CTAO	**Charters Tower**	**21.00**	**242**	*e*P		**P**	**17 37 22.1**	**+1.4**
	56nm,1.3s							
URZ	**Urewera**	**29.00**	**162**	P		**P**	**17 38 38.3**	**+1.4**
	6.5nm,0.6s,baz=358,slow=13,SNR=3.7							
URZ				LR		LR	17 48 17.1	
	comp=Z,225nm,19.9s,baz=346,slow=32							
H11S2	**WAKE ISLAND Hy**	**29.24**	**2**	T		T	18 08 57.8	
	baz=181,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.25**	**2**	T		T	18 08 58.2	
	baz=181,slow=76							
H11S1	**WAKE ISLAND Hy**	**29.26**	**2**	T		T	18 08 59.2	
	baz=181,slow=76							
BKZ	**Black Stump Fm**	**29.66**	**163**	*e*P		**P**	**17 38 43.5**	**+0.7**
	194nm,2.0s							
H11N1	**WAKE ISLAND Hy**	**30.46**	**2**	T		T	18 10 29.3	
	baz=182,slow=76							
H11N3	**WAKE ISLAND Hy**	**30.47**	**2**	T		T	18 10 29.7	
	baz=182,slow=76							
H11N2	**WAKE ISLAND Hy**	**30.48**	**2**	T		T	18 10 30.7	
	baz=182,slow=76							
STKA	**Stephens Creek**	**30.64**	**223**	*e*P		**P**	**17 38 52.6**	**+1.1**
STKA	**Stephens Creek**	**30.64**	**223**	P		**P**	**17 38 52.3**	**+0.8**
	2.0nm,0.6s,baz=34,slow=9.3,SNR=8.0							
STKA				LR		LR	17 50 26.6	
	comp=Z,521nm,18.4s,baz=34,slow=35							
WRAB	**Tennant Creek**	**31.66**	**250**	*e*P		**P**	**17 38 59.3**	**-1.4**
	18nm,1.1s							
WB2	**Warramunga Arr**	**31.67**	**250**	*e*P		**P**	**17 38 59.5**	**-1.3**
WR1	**Warramunga Arr**	**31.68**	**250**	*e*P		**P**	**17 38 59.7**	**-1.1**
	15nm,1.0s							
WR1				*e*PcP		**PcP**	**17 41 52.7**	**-0.1**
WRA	**Warramunga Arr**	**31.68**	**250**	P		**P**	**17 38 59.7**	**-1.1**
	5.4nm,0.5s,baz=81,slow=8.9,SNR=51							
WRA				PcP		**PcP**	**17 41 52.7**	**-0.1**
	0.7nm,0.8s,baz=72,slow=3.5,SNR=3.2							
WRA				LR		LR	17 50 12.1	
	comp=Z,186nm,19.6s,baz=65,slow=33							
GUMO	**Guam**	**32.08**	**319**	LR		LR	17 51 19.0	
	comp=Z,223nm,18.7s,baz=180,slow=35							
LTZ	**Lake Taylor**	**32.21**	**171**	*e*P		**P**	**17 39 06.5**	**+1.2**
	29nm,0.9s							
AS01	**Alice Springs**	**32.95**	**243**	*e*P		**P**	**17 39 11.3**	**-0.7**
RPZ	**Rata Peaks**	**32.97**	**173**	P		**P**	**17 39 13.3**	**+1.4**
	23nm,0.6s,baz=260,slow=6.7,SNR=5.4							
AS31	**Alice Springs**	**32.99**	**243**	*e*P		**P**	**17 39 11.3**	**-1.1**
	1.5nm,0.6s							
ASAR	**Alice Springs**	**32.99**	**243**	P		**P**	**17 39 11.5**	**-0.9**
	3.6nm,0.5s,baz=65,slow=10,SNR=92							
ASAR				PcP		**PcP**	**17 41 56.7**	**+0.2**
	0.7nm,0.7s,baz=69,slow=2.4,SNR=4.7							
ASAR				LR		LR	17 51 41.7	
	comp=Z,197nm,19.6s,baz=74,slow=35							
RAR	**Rarotonga**	**34.45**	**112**	LR		LR	17 50 27.7	
	comp=Z,154nm,20.1s,baz=266,slow=31							
FITZ	**Fitzroy Crossi**	**39.57**	**255**	*e*P		**P**	**17 40 07.5**	**-1.1**
	8.7nm,0.8s							
PPT	**Papeete**	**43.56**	**104**	LR		LR	17 55 10.2	
	comp=Z,112nm,21.9s,baz=262,slow=31							
PPT2	**Papeete2**	**43.56**	**104**	*e*S		S	17 47 20.2	+9.1
	90nm,26.8s							
PPT2				*e*LQ		LQ	17 51 07.8	
	725nm,28.0s							
PPT2				*e*LR		LR	17 52 57.4	
	comp=Z,337nm,22.2s							
MBWA	**Marble Bar**	**45.39**	**251**	*e*P		**P**	**17 40 56.4**	**+0.4**
MJAR	**Matsushiro Arr**	**53.94**	**332**	P		**P**	**17 41 59.8**	**-1.1**
	4.2nm,0.9s,baz=168,slow=8.4,SNR=6.7							
MAJO	**Matsushiro**	**53.95**	**332**	*e*P		**P**	**17 41 59.8**	**-1.1**
MAT	**Matsushiro**	**53.95**	**332**	P		**P**	**17 42 00.3**	**-0.6**
KSRS	**Korea Array**	**59.87**	**326**	LR		LR	18 07 06.4	
	comp=Z,77nm,18.8s,baz=130,slow=35							
NJ2	**Nanjing**	**62.05**	**315**	*e*P		**P**	**17 42 57.2**	**-0.6**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**62.92**	**333**	P		**P**	**17 43 03.8**	**+0.4**
	5.8nm,1.1s,baz=124,slow=8.8,SNR=4.2							
PETK	**Petropavlovsk-**	**64.17**	**355**	LR		LR	18 08 49.9	
	comp=Z,52nm,18.0s,baz=150,slow=34							
CN2	**

12nm,1.4s
MDPB Devils Postpil 85.00 50 *e*P **P 17 45 13.4 +0.3**
5.6nm,1.0s
EGAK Eagle 85.21 20 *e*P **P 17 45 13.9 +0.7**
34nm,0.8s
DAWY Dawson 85.39 21 *e*P **P 17 45 14.6 +0.3**
5.0nm,0.8s
MOD Modoc Plateau 85.45 46 *e*P **P 17 45 16.1 +1.0**
4.3nm,0.9s
NV01 Mina Array Sit 85.82 50 *e*P **P 17 45 17.3 +0.1**
NVAR Mina Array Bea 85.82 50 P **P 17 45 17.5 +0.3**
1.9nm,0.9s,baz=234,slow=8.0,SNR=11
NVAR LR LR 18 17 21.7
comp=Z,68nm,18.0s,baz=317,slow=31
NV11 Mina Array Sit 85.94 50 *e*P **P 17 45 18.3 +0.6**
0.4nm,0.9s
KVN Kaiserville 86.16 49 *e*P **P 17 45 19.2 +0.4**
3.4nm,0.9s
I07A Izee 86.70 44 *e*P **P 17 45 21.8 +0.5**
6.0nm,1.0s
WVOR Wild Horse Val 86.79 46 *e*P **P 17 45 22.9 +1.1**
7.0nm,1.2s
J08A Circle Bar Ran 87.18 45 *e*P **P 17 45 24.7 +1.0**
4.1nm,0.7s
G08A Pilot Rock 87.45 43 *e*P **P 17 45 26.3 +1.5**
5.4nm,1.0s
F10A Beach Ranch, E 88.81 43 *e*P **P 17 45 32.0 +0.7**
11nm,1.6s
WMQ Urumqi 89.13 315 *e*P **P 17 45 33.4 +0.6**
WMQ LR LR
comp=N,100nm,22.9s
WMQ LR LR
comp=E,140nm,28.1s
WMQ LR LR
comp=Z,140nm,28.1s
PSUT Pine Spring 89.21 51 *e*P **P 17 45 34.3 +0.7**
2.6nm,0.9s
U15A North Rim 89.91 53 *e*P **P 17 45 37.7 +0.8**
5.7nm,0.8s
MTPU Mount Pierson 90.36 51 *e*P **P 17 45 40.2 +1.1**
4.1nm,1.0s
MSU Marysvale 90.48 51 *e*P **P 17 45 40.1 +0.7**
HVU Hansel Valley 90.81 48 *e*P **P 17 45 41.0 +0.1**
6.1nm,0.9s
NLU North Lily Min 90.89 50 *e*P **P 17 45 42.0 +0.6**
6.8nm,1.2s
DLMT Dillon 91.78 44 *e*P **P 17 45 45.9 +0.6**
5.2nm,0.9s
FXWY Fox Creek 92.49 46 *e*P **P 17 45 48.3 -0.4**
10nm,1.8s
BOZ Bozeman (W) 92.50 44 *e*P **P 17 45 49.2 +0.6**
3.0nm,0.9s
PD31 Pinedale Array 93.35 47 *e*P **P 17 45 53.1 +0.4**
5.5nm,1.5s
PDAR Pinedale Array 93.35 47 *e*P **P 17 45 53.4 +0.7**
PDAR Pinedale Array 93.35 47 P **P 17 45 53.1 +0.4**
1.4nm,1.0s,baz=227,slow=3.6,SNR=6.5
PDAR LR LR 18 22 39.2
comp=Z,57nm,18.4s,baz=313,slow=32
MK01 Makanchi Array 93.54 317 *e*P **P 17 45 52.8 -0.4**
MK31 Makanchi Array 93.55 317 *e*P **P 17 45 53.0 -0.3**
2.3nm,0.8s
MK32 Makanchi Array 93.55 317 *e*P **P 17 45 52.5 -0.7**
MK32 *e*SS SS 18 03 08.3 -11
MKAR Makanchi Array 93.55 317 P **P 17 45 52.5 -0.7**
1.9nm,0.7s,baz=97,slow=6.1,SNR=21
MKAR PKKP PKKPbc 18 03 08.3 +7.6
0.2nm,0.8s,baz=260,slow=2.1,SNR=3.8
MKAR LR LR 18 26 35.7
comp=Z,44nm,21.6s,baz=79,slow=35
ZALV Zalesovo Beam 93.56 324 P **P 17 45 52.3 -0.7**
0.6nm,0.4s,baz=118,slow=8.3,SNR=2.9
ZAA1 Zalesovo Array 93.56 324 *e*P **P 17 45 52.3 -0.7**
MAKZ Makanchi 93.76 317 *e*P **P 17 45 53.8 -0.4**
3.9nm,1.1s
YKA Yellowknife Ar 94.80 27 P **P 17 45 57.2 -1.3**
0.8nm,0.6s,baz=258,slow=4.7,SNR=12
YKB5 Yellowknife Ar 94.80 27 *e*P **P 17 45 57.1 -1.4**
TXAR Lajitas Array 95.63 61 P **P 17 46 03.2 -0.1**
0.3nm,0.7s,baz=224,slow=3.8,SNR=2.6
TXAR LR LR 18 24 31.5
comp=Z,33nm,18.6s,baz=0.0,slow=33
NRIK Noril'sk 96.07 340 LR LR 18 29 41.7
comp=Z,320nm,19.2s,baz=77,slow=36
KSH Kashi 96.81 309 *e*P **P 17 46 10.3 +1.9**
KSH sP sP 17 46 16.8 +3.8
KSH S **S 17 57 28.0 -2.8**
KSH pmax pmax
comp=Z,73nm,5.7s
KSH LR LR
comp=N,120nm,7.1s
KSH LR LR
comp=E,83nm,9.0s
KSH LR LR
comp=Z,110nm,9.9s
ARA0 ARCESS Array S 116.26 346 *e*PKPdf **PKPdf 17 51 19.1 -1.1**
ARCES ARCESS Array B 116.26 346 PKP **PKPdf 17 51 19.1 -1.1**
1.9nm,0.7s,baz=59,slow=1.9,SNR=7.1
FIA0 FINESS Array S 121.72 339 *e*PKPdf **PKiKP 17 51 30.0 -0.9**
FINES FINESS Array B 121.72 339 PKP **PKiKP 17 51 30.0 -0.9**
2.2nm,0.9s,baz=48,slow=2.1,SNR=6.0
BOSA Boshof 125.31 223 PKP **PKiKP 17 51 39.6 +0.4**
5.4nm,1.1s,baz=206,slow=2.1,SNR=3.7
BR101 Keskin Array S 129.00 313 *e*PKPdf **PKiKP 17 51 44.6 -1.7**
BRTR Keskin Array B 129.01 313 PKP **PKiKP 17 51 44.6 -1.7**
0.3nm,0.5s,baz=139,slow=3.5,SNR=2.8
VYHS Vyhne 133.55 330 *e*PDIF **Pdif 17 48 50.8 -0.8**
CLL Collm 134.06 337 *ep*PKiKP **PKiKP 17 52 00.0 +4.1**
KEST Kesra 147.42 323 PKPbc **PKPab 17 52 22.1 -1.5**
8.6nm,1.0s,baz=194,slow=0.6,SNR=8.5
ESDC Sonseca Array 149.99 344 PKPbc **PKiKP 17 52 28.5 -0.5**
1.1nm,0.6s,baz=37,slow=2.7,SNR=5.5
TORD Torodi Ar. Bea 164.41 280 PKP **PKPdf 17 52 41.9 0.0**
0.3nm,0.5s,baz=133,slow=1.5,SNR=2.5
TOA1 Torodi Ar. Sit 164.41 280 *e*PKPdf **PKPdf 17 52 41.9 0.0**

SOME ***04*** *17:52:28.4, 42.°55N×79.°63E, h10km*
KRNET ***04*** *17:52:30.0±0.1, 42.°64N×79.°66E, h23km, mb2.3*
NNC 04 17:52:28.5±0.9, 42.°59N×79.°64E, h0km, mb2.7, mpv2.4, 12C-1D, Error ellipse: s-maj=5.5km s-min=3.3km az=139.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SHLS	**Shalkode**	**0.58**	**347**	P		Pb	17 52 40.9	-0.7
	2.2nm,0.1s							
SHLS				S		Sb	17 52 49.9	-0.6
	28nm,0.2s							
SHLS	**Shalkode**	**0.58**	**347**	*e*P		Pb	17 52 40.9	-0.7
	baz=18							
SHLS				*e*S		Sb	17 52 49.8	-0.6
	baz=18							
SHLS	**Shalkode**	**0.58**	**347**	*e*P		Pb	17 52 40.9	-0.7
	2.2nm,0.1s							
SHLS				*e*S		Sb	17 52 49.9	-0.6
	28nm,0.2s							
UZB	**Uzynbulak**	**0.72**	**321**	P		Pg	17 52 42.4	+0.2
	4.4nm,0.1s							
UZB				S		Sg	17 52 52.7	+1.2
	6.1nm,0.3s							
UZB	**Uzynbulak**	**0.72**	**321**	*e*P		Pg	17 52 42.4	+0.2
	baz=17							
UZB				*e*S		Sg	17 52 52.7	+1.2
	baz=17							
UZB	**Uzynbulak**	**0.72**	**321**	*e*P		Pg	17 52 42.4	+0.2
	4.4nm,0.1s							
UZB				*e*S		Sg	17 52 52.7	+1.2
	6.1nm,0.3s							
PDGK	**Podgornoye**	**0.74**	**351**	P		Pg	17 52 42.9	+0.2
	0.8nm,0.1s							
PDGK				S		Sg	17 52 53.5	+1.1
	2.5nm,0.2s							
PDGK	**Podgornoye**	**0.74**	**351**	⇑P		Pg	17 52 42.6	-0.1
	1.7nm,0.8s							
PDGK				⇑S		Sg	17 52 53.4	+1.0
	4.2nm,0.6s							
PDGK	**Podgornoye**	**0.74**	**351**	⇑*i*P		Pg	17 52 43.0	+0.3
	baz=50							
PDGK				⇑*i*S		Sg	17 52 53.6	+1.2
	baz=50							
PRZ	**Przheval'sk**	**0.92**	**264**	⇑*i*P		Pb	17 52 47.2	-0.3
	baz=61							
PRZ				⇑*i*S		Sb	17 53 01.0	+0.6
	baz=61							
KTMS	**Ketmen**	**1.00**	**31**	P		Pg	17 52 47.6	0.0
	0.8nm,0.2s							
KTMS				S		Sg	17 53 01.1	+0.5
	2.3nm,0.2s							
KTMS	**Ketmen**	**1.00**	**31**	*e*P		Pg	17 52 47.6	0.0
	baz=31							
KTMS				*e*S		Sg	17 53 01.1	+0.5
	baz=31							
KTMS	**Ketmen**	**1.00**	**31**	*e*P		Pg	17 52 47.6	0.0
	0.8nm,0.2s							
KTMS				*e*S		Sg	17 53 01.1	+0.5
	2.3nm,0.2s							
SATY	**Saty**	**1.02**	**297**	P		Pg	17 52 47.9	-0.2
	1.5nm,0.2s							
SATY				S		Sb	17 53 02.3	-0.9
	4.6nm,0.1s							
SATY	**Saty**	**1.02**	**297**	*e*P		Pg	17 52 47.9	-0.2
	1.5nm,0.2s							
SATY				*e*S		Sb	17 53 02.3	-0.9
	4.6nm,0.1s							
DJR	**Jarkent**	**1.74**	**4**	P		Pn	17 53 00.7	+0.6
	0.3nm,0.2s							
DJR				S		Sg	17 53 24.2	-0.2
	1.3nm,0.2s							
DJR	**Jarkent**	**1.74**	**4**	*e*P		Pn	17 53 00.7	+0.6
	0.3nm,0.2s							
DJR				*e*S		Sg	17 53 24.2	-0.2
	1.3nm,0.2s							
KDJ	**Kajisay**	**1.88**	**257**	⇑*i*P		Pb	17 53 03.9	0.0
	baz=55							
KDJ				⇑*i*S		Sb	17 53 28.2	+0.2
	baz=55							
MDOK	**Medeo**	**1.99**	**287**	Pg		Pb	17 53 05.4	-0.2
	4.6nm,1.5s							
MDOK				⇓Lg		Lg	17 53 32.5	
	2.6nm,0.6s							
TNSS	**Tian-Shan**	**2.03**	**283**	Pg		Pb	17 53 06.1	-0.5
	0.6nm,0.2s							
TNSS				Lg		Lg	17 53 33.0	
	1.7nm,0.3s							
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P		Pb	17 53 06.1	-0.4
	baz=82							
TNSS				*e*S		Sb	17 53 33.0	+0.5
	baz=82							
TNSS	**Tian-Shan**	**2.03**	**283**	*e*P		Pb	17 53 06.1	-0.5
	0.6nm,0.2s							
TNSS				*e*S		Sb	17 53 33.0	+0.5
	1.7nm,0.3s							
ULHL	**Ulahol**	**2.54**	**263**	⇑*e*P		Pn	17 53 12.9	+1.7
	baz=62							
ULHL				⇑*i*S		Sn	17 53 44.2	+1.2
	baz=62							
TKM2	**Tokmak 2**	**3.00**	**278**	⇑Pg		Pb	17 53 22.5	-0.4
	0.8nm,0.8s							
TKM2				⇑Lg		Lg	17 54 00.7	
	0.6nm,0.5s							

SOME ***04*** *17:59:42.4, 42.°90N×77.°85E, h5km*
NNC ***04*** *17:59:42.3±0.6, 42.°91N×77.°84E, h0km, mb2.2, mpv2.4, Error ellipse: s-maj=5.6km s-min=1.8km az=179.0*
KRNET 04 17:59:43.0±0.1, 42.°92N×77.°84E, h20km, mb2.2, 13C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SATY	**Saty**	**0.43**	**71**	P		Pb	17 59 51.8	-0.3
	4.1nm,0.1s							
SATY				S		Sb	17 59 58.4	+0.3
	16nm,0.2s							
SATY	**Saty**	**0.43**	**71**	*e*P		Pb	17 59 51.8	-0.3
	4.1nm,0.1s							
SATY				*e*S		Sb	17 59 58.4	+0.3
	16nm,0.2s							
KURS	**Kuram**	**0.61**	**23**	P		Pb	17 59 54.9	-0.2
	1.5nm,0.2s							
KURS				S		Sb	18 00 03.5	+0.2
	3.1nm,0.4s							
KURS	**Kuram**	**0.61**	**23**	*e*P		Pb	17 59 54.9	-0.2
	baz=23							
KURS				*e*S		Sb	18 00 03.5	+0.2
	baz=23							
KURS	**Kuram**	**0.61**	**23**	*e*P		Pb	17 59 54.9	-0.2
	1.5nm,0.2s							
KURS				*e*S		Sb	18 00 03.5	+0.2
	3.1nm,0.4s							
KOTS	**Kotyrbulak**	**0.62**	**300**	P		Pb	17 59 54.6	-0.6
	3.6nm,0.5s							
KOTS				S		Sb	18 00 03.8	+0.2
	3.6nm,0.2s							
MDOK	**Medeo**	**0.63**	**293**	⇑P		Pb	17 59 54.8	-0.6
	1.0nm,0.6s							
MDOK				⇑S		Sb	18 00 03.2	-0.7
	1.9nm,0.7s							
TNSS	**Tian-Shan**	**0.67**	**280**	P		Pb	17 59 55.8	-0.4
	0.3nm,0.1s							
TNSS				S		Sb	18 00 05.0	-0.2
	1.5nm,0.1s							
TNSS	**Tian-Shan**	**0.67**	**280**	*e*P		Pb	17 59 55.8	-0.4
	baz=80							
TNSS				*e*S		Sb	18 00 05.1	-0.1
	baz=80							
TNSS	**Tian-Shan**	**0.67**	**280**	*e*P		Pb	17 59 55.8	-0.4
	0.3nm,0.1s							
TNSS				*e*S		Sb	18 00 05.0	-0.2
	1.5nm,0.1s							
UZB	**Uzynbulak**	**0.89**	**75**	P		Pb	17 59 59.6	-0.3
	3.1nm,0.1s							
UZB				S		Sb	18 00 11.5	+0.1
	8.3nm,0.1s							
UZB	**Uzynbulak**	**0.89**	**75**	*e*P		Pb	17 59 59.6	-0.2
	baz=75							
UZB				*e*S		Sb	18 00 11.6	+0.2
	baz=75							
UZB	**Uzynbulak**	**0.89**	**75**	*e*P		Pb	17 59 59.6	-0.3
	3.1nm,0.1s							
UZB				*e*S		Sb	18 00 11.5	+0.1
	8.3nm,0.1s							
KDJ	**Kajisay**	**0.93**	**212**	⇓*i*P		Pb	18 00 00.6	+0.1
	baz=11							
KDJ				⇓*i*S		Sn	18 00 13.4	-0.5
	baz=11							
CHKK	**Chushkaly**	**1.12**	**326**	*e*P		Pb	18 00 03.7	0.0
	baz=27							
CHKK				*e*S		Sn	18 00 19.0	+0.6
	baz=27							
CHKK	**Chushkaly**	**1.12**	**326**	*e*P		Pb	18 00 03.7	0.0
	1.3nm,0.2s							
CHKK				*e*S		Sn	18 00 18.9	+0.5
	9.8nm,0.3s							
KTBS	**Karatobe**	**1.16**	**313**	P		Pb	18 00 04.8	+0.4
	0.5nm,0.1s							
KTBS				S		Sn	18 00 21.0	+1.6
	5.3nm,0.4s							
KTBS	**Karatobe**	**1.16**	**313**	*e*P		Pb	18 00 04.8	+0.4
	0.5nm,0.1s							
KTBS				*e*S		Sn	18 00 21.0	+1.6
	5.3nm,0.4s							
SHLS	**Shalkode**	**1.21**	**78**	P		Pb	18 00 10.8	+5.6
	1.6nm,0.3s							
SHLS				S		Sn	18 00 32.0	+11
	6.0nm,0.5s							
SHLS	**Shalkode**	**1.21**	**78**	*e*P		Pb	18 00 10.8	+5.6
	baz=80							
SHLS				*e*S		Sn	18 00 32.0	+11
	baz=80							
SHLS	**Shalkode**	**1.21**	**78**	*e*P		Pb	18 00 10.8	+5.6
	1.6nm,0.3s							
SHLS				*e*S		Sn	18 00 32.0	+11
	6.0nm,0.5s							
MNBS	**Baschi**	**1.23**	**19**	P		Pb	18 00 06.0	+0.5
	0.8nm,0.1s							
MNBS				S		Sn	18 00 23.4	+2.2
	9.9nm,0.3s							
MNBS	**Baschi**	**1.23**	**19**	*e*P		Pb	18 00 06.0	+0.5
	0.8nm,0.1s							
MNBS				*e*S		Sn	18 00 23.4	+2.2
	9.9nm,0.3s							
PDGK	**Podgornoye**	**1.27**	**71**	P		Pn	18 00 05.9	+0.2
	0.5nm,0.3s							
PDGK				S		Sb	18 00 22.8	+0.5
	1.1nm,0.5s							
PDGK	**Podgornoye**	**1.27**	**71**	⇑P		Pn	18 00 05.9	+0.2
	3.1nm,1.2s							
PDGK				⇑S		Sb	18 00 22.8	+0.5
	0.6nm,0.3s							
PDGK	**Podgornoye**	**1.27**	**71**	⇑*i*P		Pb	18 00 06.1	-0.2
	baz=71							
PDGK				⇑*i*S		Sb	18 00 22.8	+0.5
	baz=71							
ARXS	**Arharly**	**1.29**	**359**	P		Pb	18 00 06.7	+0.1
	1.5nm,0.1s							
ARXS				S		Sb	18 00 24.2	+1.4
	6.0nm,0.3s							
ARXS	**Arharly**	**1.29**	**359**	*e*P		Pb	18 00 06.7	+0.1
	1.5nm,0.1s							
ARXS				*e*S		Sb	18 00 24.2	+1.4
	6.0nm,0.3s							
ULHL	**Ulahol**	**1.36**	**241**	⇑*i*P		Pb	18 00 07.8	-0.1
	baz=41							
ULHL				⇑*i*S		Sb	18 00 25.8	+0.8
	baz=41							
BOOM	**Boomskoye usch**	**1.47**	**254**	⇑*i*P		Pb	18 00 09.8	+0.1
	baz=54							
BOOM				⇑*i*S		Sb	18 00 29.1	+1.1
	baz=54							
TKM2	**Tokmak 2**	**1.65**	**271**	⇓P		Pb	18 00 14.7	+1.9
	0.7nm,0.6s							
TKM2				⇑S		Sb	18 00 34.8	+1.5
	1.0nm,0.3s							
TKM2	**Tokmak 2**	**1.65**	**271**	⇑*i*P		Pb	18 00 13.0	+0.2
	baz=71							
TKM2				⇑*i*S		Sb	18 00 35.1	+1.8
	baz=71							
KTMS	**Ketmen**	**1.91**	**73**	Pg		Pb	18 00 16.8	-0.3
	0.8nm,0.1s							
KTMS				Lg		Lg	18 00 42.4	
	2.4nm,0.3s							
KTMS	**Ketmen**	**1.91**	**73**	*e*P		Pb	18 00 16.8	-0.3
	baz=73							
KTMS				*e*S		Sb	18 00 42.4	+1.8
	baz=73							
KTMS	**Ketmen**	**1.91**	**73**	*e*P		Pb	18 00 16.8	-0.3
	0.8nm,0.1s							
KTMS				*e*S		Sb	18 00 42.4	+1.8
	2.4nm,0.3s							
DJR	**Jarkent**	**2.00**	**44**	Pg		Pb	18 00 19.4	+0.8
	0.4nm,0.2s							
DJR				Lg		Lg	18 00 46.0	
	0.8nm,0.2s							
DJR	**Jarkent**	**2.00**	**44**	*e*P		Pb	18 00 19.4	+0.8
	0.4nm,0.2s							
DJR				*e*S		Sb	18 00 46.0	+2.9
	0.8nm,0.2s							
KAPS	**Kapalarasan**	**2.60**	**24**	Pg		Pb	18 00 29.4	+0.5
	0.4nm,0.3s							
KAPS				Lg		Lg	18 01 03.4	
	1.4nm,0.4s							
KAPS	**Kapalarasan**	**2.60**	**24**	*e*P		Pb	18 00 29.4	+0.5
	0.4nm,0.3s							
KAPS				*e*S		Sb	18 01 03.4	+2.9
	1.4nm,0.4s							

MDD ***04*** *18:07:32.6±1.4, 42.°15N×11.°16W, h0km, mb4.2/11, Error ellipse: s-maj=12.4km s-min=7.1km az=102.0, PRXIMO*
INMG ***04*** *18:07:33.9±1.4, 42.°32N×11.°61W, h10km, ML2.5, Error ellipse: s-maj=7.2km s-min=3.5km az=103.0*
ISC 04 18:07:27.6±2.4, 42.°23N±0.°06×11.°4W±0.°1, h10km, n60, σ2s 46/100, 1C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
EMAZ	**Mazaricos**	**1.96**	**68**	P		Pn	**18 08 02.1**	**+1.2**
	7.4nm,0.1s,SNR=7.9							
EMAZ				S		Sn	**18 08 23.5**	**-2.1**
	18nm,0.1s,SNR=7.9							
EZAM	**Zamans**	**2.04**	**91**	P		Pn	**18 08 03.9**	**+1.8**
	2.5nm,0.0s,SNR=7.9							
EZAM				S		Sn	**18 08 26.9**	**-0.7**
	2.4nm,0.0s,SNR=7.9							
PGAV	**Gavieira, Arco**	**2.38**	**95**	⇑*e*Pn		Pn	**18 08 09.1**	**+2.4**
PGAV				*e*Sn		Sn	**18 08 35.8**	**-0.2**
PGAV				A		A	18 08 46.1	
	20nm,0.5s							
PGAV	**Gavieira, Arco**	**2.38**	**95**	P		Pn	**18 08 09.1**	**+2.4**
PGAV				S		Sn	**18 08 35.8**	**-0.2**
	20nm,0.5s							
PTO	**Porto**	**2.39**	**116**	*e*Sn		Sn	**18 08 35.9**	**-0.2**
PTO	**Porto**	**2.39**	**116**	S		Sn	**18 08 35.9**	**-0.2**
ELOB	**Lobios**	**2.54**	**97**	P		Pn	**18 08 11.9**	**+2.9**
	6.7nm,0.0s,SNR=22							
ELOB				S		Sn	**18 08 40.1**	**0.0**
	3.5nm,0.1s							
EAGO	**Agolada(Pontev**	**2.55**	**76**	P		Pn	**18 08 10.3**	**+1.3**
	SNR=7.9							
EAGO				S		Sn	**18 08 37.7**	**-2.4**
	7.6nm,0.1s,SNR=7.9							
PCAB	**Cabril**	**2.60**	**100**	*e*Pn		Pn	**18 08 12.1**	**+2.4**
PCAB				*e*Sn		Sn	**18 08 41.1**	**-0.3**
PCAB				A		A	18 08 42.8	
	11nm,0.2s							
PCAB	**Cabril**	**2.60**	**100**	P		Pn	**18 08 12.1**	**+2.4**
PCAB				S		Sn	**18 08 41.1**	**-0.3**
	5.5nm,0.2s							
POLO	**Lamas de Olo**	**2.86**	**106**	*e*Pn		Pn	**18 08 15.9**	**+2.5**
POLO				*e*Sn		Sn	**18 08 47.2**	**-0.7**
POLO				A		A	18 08 57.4	
	3.0nm,0.6s							
POLO	**Lamas de Olo**	**2.86**	**106**	P		Pn	**18 08 15.9**	**+2.5**
POLO				S		Sn	**18 08 47.2**	**-0.7**
	3.0nm,0.6s							
PVRL	**Vila Real**	**2.95**	**108**	*e*Pn		Pn	**18 08 16.6**	**+2.1**
PVRL				*e*Sn		Sn	**18 08 49.3**	**-0.7**
PVRL				A		A	18 08 51.3	
	8.7nm,0.3s							
PVRL	**Vila Real**	**2.95**	**108**	P		Pn	**18 08 16.6**	**+2.1**
PVRL				S		Sn	**18 08 49.3**	**-0.7**
	4.3nm,0.3s							
PVIS	**Viseu**	**3.06**	**118**	*e*Pn		Pn	**18 08 18.6**	**+2.5**
PVIS				*e*Sn		Sn	**18 08 52.4**	**-0.5**
PVIS				A		A	18 08 54.0	
	14nm,0.2s							
PVIS	**Viseu**	**3.06**	**118**	P		Pn	**18 08 18.6**	**+2.5**
PVIS				S		Sn	**18 08 52.4**	**-0.5**
	6.9nm,0.2s							
PCAS	**Casmilo, Conde**	**3.11**	**133**	*e*Pn		Pn	**18 08 19.6**	**+2.9**
PCAS				*e*Sn		Sn	**18 08 53.0**	**-0.9**
PCAS				A		A	18 08 54.6	
	6.1nm,0.3s							
PCAS	**Casmilo, Conde**	**3.11**	**133**	P		Pn	**18 08 19.6**	**+2.9**
PCAS				S		Sn	**18 08 53.0**	**-0.9**
	6.1nm,0.3s							
EPON	**Pontenova**	**3.35**	**69**	P		Pn	**18 08 20.9**	**+0.9**
	0.8nm,0.1s,SNR=7.9							
EPON				S		Sn	**18 08 56.2**	**-3.6**
	7.1nm,0.2s,SNR=12							
MTE	**Manteigas**	**3.46**	**121**	*e*Sn		Sn	**18 09 01.1**	**-1.5**
MTE	**Manteigas**	**3.46**	**121**	S		Sn	**18 09 01.1**	**-1.5**
MVO	**Moncorvo**	**3.47**	**106**	*e*Pn		Pn	**18 08 23.8**	**+2.1**
MVO				*e*Sn		Sn	**18 09 01.1**	**-1.9**
MVO				A		A	18 09 03.4	
	4.0nm,0.2s							
MVO	**Moncorvo**	**3.47**	**106**	P		Pn	**18 08 23.8**	**+2.1**
	3.5nm,0.1s,SNR=13							
MVO				S		Sn	**18 09 00.4**	**-2.6**
	2.3nm,0.0s							
PTOM	**Tomar**	**3.47**	**138**	*e*Sn		Sn	**18 09 01.3**	**-1.6**
PTOM				A		A	18 09 02.2	
	15nm,0.2s							
PTOM	**Tomar**	**3.47**	**138**	S		Sn	**18 09 01.3**	**-1.6**
	7.6nm,0.2s							
ECAL	**Calabor**	**3.52**	**93**	P		Pn	**18 08 24.5**	**+2.1**
	3.5nm,0.1s,SNR=7.2							
ECAL				S		Sn	**18 09 01.5**	**-2.5**
	2.8nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**3.53**	**95**	*e*Pn		Pn	**18 08 25.2**	**+2.7**
PBRG				*e*Sn		Sn	**18 09 02.8**	**-1.6**
PBRG				A		A	18 09 26.5	
	1.7nm,0.4s							
PBRG	**Braganca**	**3.53**	**95**	P		Pn	**18 08 25.2**	**+2.7**
PBRG				S		Sn	**18 09 02.8**	**-1.6**
	0.9nm,0.4s							
PMAFR	**Mafra**	**3.66**	**153**	*e*Pn		Pn	**18 08 26.8**	**+2.6**
PMAFR				*e*Sn		Sn	**18 09 06.2**	**-1.2**
PMAFR				A		A	18 09 09.7	
	31nm,0.9s							
PMAFR	**Mafra**	**3.66**	**153**	S		Sn	**18 09 05.9**	**-1.6**
	25nm,0.2s,SNR=13							
PCBR	**Castelo Branco**	**3.83**	**127**	*e*Pn		Pn	**18 08 29.1**	**+2.5**
PCBR				*e*Sn		Sn	**18 09 10.8**	**-0.9**
PCBR				A		A	18 09 12.0	
	3.9nm,0.3s							
PCBR	**Castelo Branco**	**3.83**	**127**	P		Pn	**18 08 29.1**	**+2.5**
PCBR				S		Sn	**18 09 10.8**	**-0.9**
	1.9nm,0.3s							

PMTG	**Montargil**	**3.99**	**141**	*e*Pn	**Pn**	**18 08 31.0**	**+2.2**
PMTG				*e*Sn	**Sn**	**18 09 13.9**	**-1.8**
PMTG				A	A	18 09 15.3	
	3.6nm,0.1s						
PMTG	**Montargil**	**3.99**	**141**	P	**Pn**	**18 08 31.0**	**+2.2**
PMTG				S	**Sn**	**18 09 13.9**	**-1.8**
	3.6nm,0.1s						
PMRV	**Marv??o**	**4.15**	**131**	*e*Pn	**Pn**	**18 08 33.2**	**+2.1**
PMRV				*e*Sn	**Sn**	**18 09 17.4**	**-2.3**
PMRV				A	A	18 09 18.1	
	7.4nm,0.2s						
PMRV	**Marv??o**	**4.15**	**131**	P	**Pn**	**18 08 33.2**	**+2.1**
PMRV				S	**Sn**	**18 09 17.4**	**-2.3**
	7.4nm,0.2s						
PESTR	**Estremoz**	**4.46**	**138**	*e*Pn	**Pn**	**18 08 37.2**	**+1.9**
PESTR				*e*Sn	**Sn**	**18 09 24.1**	**-3.1**
PESTR				A	A	18 09 24.9	
	5.0nm,0.6s						
EVO	**Evora**	**4.52**	**143**	*e*Sn	**Sn**	**18 09 27.9**	**-0.9**
EVO				A	A	18 09 31.0	
	7.4nm,0.1s						
EVO	**Evora**	**4.52**	**143**	S	**Sn**	**18 09 27.9**	**-0.9**
	7.4nm,0.1s						
PNCL	**Nicolau / Gran**	**4.68**	**151**	*e*Pn	**Pn**	**18 08 41.3**	**+3.1**
PNCL				*e*Sn	**Sn**	**18 09 29.9**	**-2.6**
PNCL				A	A	18 09 33.0	
	5.7nm,0.1s						
PNCL	**Nicolau / Gran**	**4.68**	**151**	P	**Pn**	**18 08 41.3**	**+3.1**
PNCL				S	**Sn**	**18 09 29.9**	**-2.6**
	5.7nm,0.1s						
EARI	**Arriondas**	**4.71**	**75**	P	**Pn**	**18 08 40.8**	**+1.9**
	1.6nm,0.2s,SNR=8.4						
EARI				S	**Sn**	**18 09 31.1**	**-2.5**
	0.3nm,0.2s						
EBAD	**Badajoz**	**4.84**	**134**	P	**Pn**	**18 08 42.6**	**+2.2**
	1.3nm,0.1s,SNR=10.0						
EBAD				S	**Sn**	**18 09 32.4**	**-4.2**
	2.6nm,0.1s,SNR=12						
MESJ	**Messejana**	**5.03**	**149**	*e*Sn	**Sn**	**18 09 37.9**	**-3.4**
MESJ	**Messejana**	**5.03**	**149**	S	**Sn**	**18 09 37.9**	**-3.4**
PTEO	**Sao Teotonio**	**5.12**	**155**	*e*Sn	**Sn**	**18 09 40.2**	**-3.3**
PTEO				A	A	18 09 44.0	
	8.6nm,1.0s						
PTEO	**Sao Teotonio**	**5.12**	**155**	S	**Sn**	**18 09 40.2**	**-3.3**
	4.3nm,1.0s						
MORF	**Marmelete**	**5.36**	**155**	*e*Sn	**Sn**	**18 09 47.0**	**-2.6**
MORF				A	A	18 09 49.4	
	9.3nm,0.4s						
MORF	**Marmelete**	**5.36**	**155**	S	**Sn**	**18 09 47.0**	**-2.6**
	9.3nm,0.4s						
PFVI	**Vila Bisbo**	**5.47**	**157**	*e*Sn	**Sn**	**18 09 49.8**	**-2.3**
PFVI				A	A	18 09 50.5	
	19nm,0.6s						
PFVI	**Vila Bisbo**	**5.47**	**157**	S	**Sn**	**18 09 49.4**	**-2.8**
	10.0nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.59**	**146**	S	**Sn**	**18 09 50.8**	**-4.2**
	1.1nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.61**	**148**	*e*Sn	**Sn**	**18 09 50.8**	**-4.6**
PBDV	**Barranco-do-Ve**	**5.66**	**150**	*e*Pn	**Pn**	**18 08 55.0**	**+3.1**
PBDV				*e*Sn	**Sn**	**18 09 53.0**	**-4.0**
PBDV				A	A	18 09 56.9	
	6.5nm,1.0s						
PBDV	**Barranco-do-Ve**	**5.66**	**150**	P	**Pn**	**18 08 55.0**	**+3.1**
PBDV				S	**Sn**	**18 09 53.0**	**-4.0**
	6.5nm,1.0s						
EMIN	**Mina Concepcio**	**5.76**	**139**	P	**Pn**	**18 08 55.7**	**+2.5**
	1.8nm,0.1s,SNR=11						
EMIN				S	**Sn**	**18 09 55.0**	**-4.4**
	0.4nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**6.01**	**114**	P	**Pn**	**18 08 58.5**	**+1.9**
	1.2nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**18 09 59.7**	**-5.8**
	0.2nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**6.20**	**130**	P	**Pn**	**18 09 01.1**	**+1.9**
	5.3nm,1.1s,SNR=5.7						
ECAB				S	**Sn**	**18 10 05.3**	**-4.9**
	0.3nm,0.2s,SNR=8.5						
ESDC	**Sonseca Array**	**6.21**	**112**	P	**Pn**	**18 09 01.8**	**+2.4**
	0.6nm,0.2s,baz=297,slow=13,SNR=8.8						
ESDC				S	Sn	18 10 02.2	-8.3
	0.4nm,0.3s,baz=287,slow=24,SNR=4.5						
EADA	**Adamuz**	**6.64**	**125**	P	**Pn**	**18 09 07.4**	**+2.2**
	1.0nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**18 10 17.5**	**-3.4**
	0.8nm,0.1s,SNR=7.9						

IDC 04 18:26:54.7±2.9, 49°84N×114°45W, h0km, mb2.9/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, ML2.6/2, Error ellipse: s-maj=34.0km s-min=17.7km az=37.0, British Columbia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.36**	**229**	*i*		18 44 22.4	
	baz=52,slow=307,SNR=2.5						
I10CA	**LAC DU BONNET**	**11.86**	**81**	*i*		19 45 20.0	
	baz=272,slow=312,SNR=1.2						
ULM	**Lac du Bonnet**	**11.95**	**81**	Pn	Pn	18 29 43.0	-3.2
	0.4nm,0.3s,baz=280,slow=11,SNR=3.9						
ULM				Lg	Lg	18 33 04.5	
	0.1nm,0.3s,baz=14,slow=19,SNR=3.1						
YKA	**Yellowknife Ar**	**12.68**	**360**	Pn	Pn	18 29 51.8	-4.3
	0.1nm,0.3s,baz=179,slow=13,SNR=9.6						
YKA				Sn	Sn	18 32 07.5	-10
	0.1nm,0.3s,baz=174,slow=22,SNR=5.9						
YKA				Lg	Lg	18 33 26.2	
	0.0nm,0.3s,baz=177,slow=28,SNR=3.7						
ILAR	**Eielson Array**	**22.66**	**323**	P	P	18 31 57.0	-0.2
	0.5nm,0.9s,baz=112,slow=9.0,SNR=5.2						

*ISCJB **04** 18:51:19.3±0.6, 12°80S±0°09×169°3E±0°1, h625km, mb4.2/18, Error ellipse: s-maj=14.9km s-min=11.9km az=13.7*

*IDC **04** 18:51:22.1±1.5, 12°82S×169°22E, h644km±19km, mb3.5/18, mb1 3.7/20, mb1mx3.6/32, mbtmp4.6/20, Error ellipse: s-maj=14.9km s-min=12.1km az=84.0*

ISC 04 18:51:20.8±0.6, 12°76S±0°09×169°2E±0°1, h625km, n27, σ1°45/29, mb4.2/18, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.62**	**195**	P	**P**	**18 53 38.7**	**+2.2**
	5.2nm,0.3s,baz=50,slow=17,SNR=25						
HNR	**Honiara**	**9.64**	**289**	P	**P**	**18 53 38.8**	**+2.2**
	7.9nm,0.3s,baz=179,slow=5.3,SNR=7.2						
CTA	**Charters Tower**	**23.14**	**249**	P	**P**	**18 55 42.2**	**+0.7**
	3.7nm,0.6s,baz=73,slow=12,SNR=9.4						
URZ	**Urewera**	**26.36**	**166**	P	**P**	**18 56 09.5**	**-0.1**
	3.8nm,0.3s,baz=5.7,slow=10,SNR=4.3						
RPZ	**Rata Peaks**	**30.89**	**177**	P	**P**	**18 56 48.4**	**-0.3**
	10nm,0.6s,baz=342,slow=6.4,SNR=4.2						
STKA	**Stephens Creek**	**31.68**	**229**	P	**P**	**18 56 56.2**	**+0.7**
	7.1nm,0.5s,baz=55,slow=9.5,SNR=43						
WRA	**Warramunga Arr**	**34.13**	**253**	P	**P**	**18 57 16.1**	**-0.2**
	17nm,0.4s,baz=84,slow=8.7,SNR=445						
WRA				PcP	**PcP**	**18 59 33.9**	**-0.8**
	0.6nm,0.6s,baz=80,slow=2.9,SNR=3.5						
WRA				S	**S**	**19 01 56.2**	**-3.9**
	3.6nm,0.9s,baz=84,slow=14,SNR=8.9						
ASAR	**Alice Springs**	**35.12**	**247**	P	**P**	**18 57 24.4**	**0.0**
	29nm,0.5s,baz=76,slow=9.8,SNR=1156						
ASAR				PcP	**PcP**	**18 59 36.1**	**-1.5**
	0.8nm,0.6s,baz=97,slow=3.9,SNR=4.7						
ASAR				S	**S**	**19 02 11.9**	**-3.0**
	0.7nm,0.8s,baz=75,slow=15,SNR=4.9						
ASAR				ScP	**ScP**	**19 02 24.4**	**-0.7**
	0.8nm,0.6s,baz=93,slow=3.7,SNR=6.2						
FITZ	**Fitzroy Crossi**	**42.23**	**257**	P	**P**	**18 58 21.9**	**+0.5**
	3.0nm,0.3s,baz=90,slow=8.9,SNR=8.1						
BATI	**Baumata**	**44.63**	**268**	P	**P**	**18 58 41.6**	**+1.5**
	32nm,0.5s,baz=127,slow=4.3						
MJAR	**Matsushiro Arr**	**57.07**	**330**	P	**P**	**19 00 09.4**	**+0.1**
	2.1nm,0.6s,baz=171,slow=7.8,SNR=9.9						
VNDA	**Vanda**	**64.87**	**182**	P	**P**	**19 00 59.4**	**-0.2**
	1.3nm,0.6s,baz=348,slow=6.1,SNR=8.3						
USRK	**Ussuriysk Ar.**	**66.01**	**332**	P	**P**	**19 01 07.8**	**+0.6**
	1.6nm,0.6s,baz=140,slow=7.1,SNR=5.3						
PETK	**Petropavlovsk-**	**66.33**	**352**	P	**P**	**19 01 09.8**	**+0.9**
	8.1nm,0.7s,baz=156,slow=7.1,SNR=14						
CMAR	**Chiang Mai Arr**	**75.86**	**293**	P	**P**	**19 02 06.6**	**+1.4**
	1.0nm,0.8s,baz=120,slow=3.4,SNR=6.6						
SONM	**Songino Array**	**82.03**	**323**	P	**P**	**19 02 37.2**	**-0.1**
	0.6nm,0.6s,baz=135,slow=4.6,SNR=6.2						
ILAR	**Eielson Array**	**84.10**	**17**	P	**P**	**19 02 45.8**	**-1.2**
	4.5nm,0.7s,baz=236,slow=5.2,SNR=71						
NVAR	**Mina Array Bea**	**84.59**	**49**	P	**P**	**19 02 50.8**	**+0.5**
	1.4nm,0.8s,baz=230,slow=7.2,SNR=7.9						
YKA	**Yellowknife Ar**	**94.96**	**27**	P	**P**	**19 03 36.7**	**-0.8**
	1.5nm,0.7s,baz=254,slow=4.6,SNR=14						
MKAR	**Makanchi Array**	**97.06**	**316**	P	**P**	**19 03 47.4**	**+0.1**
	0.3nm,0.5s,baz=82,slow=6.6,SNR=9.6						
ARCES	**ARCESS Array B**	**118.80**	**346**	PKP	**PKPdf**	**19 08 57.4**	**-1.4**
	3.2nm,0.9s,baz=74,slow=4.4,SNR=4.9						
NOA	**NORSAR Array B**	**129.18**	**346**	SKPbc	SKPab	19 11 42.7	-0.3
	1.5nm,0.8s,baz=27,slow=4.0,SNR=4.4						
HFS	**Hagfors**	**129.36**	**344**	SKPbc	SKPab	19 11 43.0	-0.7
	2.8nm,0.8s,baz=344,slow=4.7,SNR=4.1						
AKASG	**Malin Array Be**	**130.11**	**328**	SKPbc	**SKPbc**	**19 11 46.5**	**-0.4**
	1.3nm,0.7s,baz=44,slow=4.3,SNR=6.1						
EKA	**Eskdalemuir Ar**	**137.10**	**354**	SKP		19 12 08.3	
	0.9nm,0.6s,baz=11,slow=4.0,SNR=3.6						
GERES	**GERESS Array B**	**138.68**	**335**	SKPbc	**SKPbc**	**19 12 12.2**	**-2.1**
	0.5nm,0.6s,baz=15,slow=4.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**167.79**	**273**	PKPab	**PKPab**	**19 11 27.8**	**-1.5**
	0.4nm,0.8s,baz=82,slow=3.1,SNR=2.8						

*ISCJB **04** 18:55:54.9±0.5, 5°57S±0°05×35°50E±0°07, h10km, mb4.0/9, Error ellipse: s-maj=10.5km s-min=6.2km az=21.4*

*IDC **04** 18:55:55.4±0.8, 5°70S×35°66E, h0km, mb3.7/7, mb1 3.9/10, mb1mx3.6/52, mbtmp3.8/10, ML4.1/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/46, Error ellipse: s-maj=34.2km s-min=15.6km az=121.0*

*NEIC **04** 18:55:56.7±0.4, 5°71S×35°65E, h10km, mb4.3/2, Error ellipse: s-maj=14.1km s-min=6.2km az=119.0*

ISC 04 18:55:56.1±0.6, 5°68S±0°05×35°62E±0°07, h10km, n29, σ2°49/42, mb4.0/9, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**4.81**	**20**	*i* P	**Pn**	**18 57 08.3**	**-0.6**
KMBO				*i* S	**Sn**	**18 58 02.4**	**-2.4**
KMBO	**Kilima Mbogo**	**4.81**	**20**	*e*Pn	**Pn**	**18 57 08.7**	**-0.2**
KMBO				Sn	**Sn**	**18 57 59.5**	**-5.4**
KMBO				Lg	Lg	18 58 19.9	
	27nm,0.3s,baz=229,slow=22,SNR=13						
KMBO	**Kilima Mbogo**	**4.81**	**20**	*i* P	**Pn**	**18 57 08.3**	**-0.6**
KMBO				*i* S	**Sn**	**18 58 02.4**	**-2.4**
KMBO	**Kilima Mbogo**	**4.81**	**20**	Pn	**Pn**	**18 57 08.2**	**-0.6**
	3.6nm,0.3s,baz=188,slow=15,SNR=55						
KMBO				Sn	**Sn**	**18 57 59.5**	**-5.4**
	26nm,0.3s,baz=246,slow=23,SNR=8.2						
KMBO				Lg	Lg	18 58 19.9	
	27nm,0.3s,baz=229,slow=22,SNR=13						
VWZMW	**Thunduwike**	**5.82**	**200**	*i* P	**Pn**	**18 57 24.1**	**+1.4**
VWZMW				S	**Sg**	**18 58 59.1**	**-4.1**
VWZMW	**Thunduwike**	**5.82**	**200**	*i* P	**Pn**	**18 57 24.1**	**+1.4**
VWZMW				S	**Sg**	**18 58 59.1**	**-4.1**
MBAR	**Mbarara**	**7.01**	**316**	*e*Pn	**Pn**	**18 57 40.4**	**+1.3**
MBAR				Sn	**Sn**	**18 58 55.7**	**-3.4**
MBAR				Lg	Lg	18 59 36.9	
	69nm,0.3s,baz=122,slow=22,SNR=4.3						
MBAR	**Mbarara**	**7.01**	**316**	Pn	**Pn**	**18 57 40.1**	**+1.0**
	11nm,0.3s,baz=128,slow=19,SNR=19						
MBAR				Sn	**Sn**	**18 58 55.7**	**-3.4**
	61nm,0.3s,baz=199,slow=21,SNR=4.6						
MBAR				Lg	Lg	18 59 36.9	
	69nm,0.3s,baz=122,slow=22,SNR=4.3						
LSZ	**Lusaka**	**12.01**	**217**	*i* P	**Pn**	**18 58 49.2**	**+1.6**
LSZ				*i* S	**Sn**	**19 01 03.7**	**+1.9**
LSZ	**Lusaka**	**12.01**	**217**	*i* P	**Pn**	**18 58 49.2**	**+1.6**
LSZ				*i* S	**Sn**	**19 01 03.7**	**+1.9**
LSZ	**Lusaka**	**12.01**	**217**	Pn	**Pn**	**18 58 48.4**	**+0.9**
	1.3nm,0.3s,baz=41,slow=8.7,SNR=10						
LSZ				Sn	**Sn**	**19 00 56.0**	**-5.8**
	0.5nm,0.3s,baz=103,slow=18,SNR=2.0						
LSZ				Lg	Lg	19 02 08.9	
	1.3nm,0.3s,baz=310,slow=20,SNR=7.4						
MATP	**Matopo**	**16.21**	**205**	*i* P	**P**	**18 59 49.4**	**+2.1**
MATP				*i* S	**S**	**19 02 55.2**	**-2.1**
MATP	**Matopo**	**16.21**	**205**	*i* P	**P**	**18 59 49.4**	**+2.1**
MATP				*i* S	**S**	**19 02 55.2**	**-2.1**
MATP	**Matopo**	**16.21**	**205**	Pn	**Pn**	**18 59 44.1**	**-0.1**
	0.1nm,0.3s,baz=23,slow=15,SNR=3.0						
MATP				Lg	Lg	19 04 20.1	
	0.1nm,0.3s,baz=114,slow=20,SNR=3.7						
MATP				LR	LR	19 06 22.8	
	comp=Z,44nm,18.6s,baz=345,slow=39						
LBTB	**Lobatse**	**21.49**	**206**	*e*P	**P**	**19 00 45.6**	**+0.3**
	13nm,1.2s						
LBTB				Lg	Lg	19 07 02.1	
LBTB	**Lobatse**	**21.49**	**206**	P	**P**	**19 00 46.3**	**+1.0**
	4.1nm,0.7s,baz=20,slow=12,SNR=5.4						
LBTB				Lg	Lg	19 07 02.1	
	2.6nm,0.8s,baz=114,slow=20,SNR=2.3						
TSUM	**Tsumeb**	**22.12**	**231**	P	**P**	**19 00 52.5**	**+0.4**
	1.3nm,0.9s,baz=59,slow=12,SNR=1.6						
TSUM				Lg	Lg	19 07 37.3	
	1.2nm,0.4s,baz=180,slow=18,SNR=4.0						
BOSA	**Boshof**	**24.83**	**202**	*i* P	**P**	**19 01 22.7**	**+3.8**
BOSA	**Boshof**	**24.83**	**202**	*i* P	**P**	**19 01 22.7**	**+3.8**
BOSA	**Boshof**	**24.83**	**202**	P	**P**	**19 01 19.8**	**+0.9**
	2.7nm,0.9s,baz=17,slow=13,SNR=3.0						
NIL	**Nilore**	**52.91**	**40**	*e*P	**P**	**19 05 12.5**	**-0.1**
	21nm,0.3s						
AKASG	**Malin Array Be**	**56.43**	**355**	P	**P**	**19 05 39.2**	**+1.4**
	0.6nm,0.6s,baz=181,slow=6.8,SNR=4.4						
MK01	**Makanchi Array**	**66.56**	**33**	*e*P	**P**	**19 06 46.6**	**+0.1**
MK31	**Makanchi Array**	**66.57**	**33**	*e*P	**P**	**19 06 47.0**	**+0.5**
	4.4nm,1.8s						
MK32	**Makanchi Array**	**66.57**	**33**	*e*P	**P**	**19 06 47.0**	**+0.5**
MKAR	**Makanchi Array**	**66.57**	**33**	P	**P**	**19 06 47.0**	**+0.5**
	1.2nm,0.8s,baz=230,slow=6.4,SNR=9.7						
CMAR	**Chiang Mai Arr**	**66.85**	**67**	P	**P**	**19 06 49.1**	**+0.3**
	0.8nm,0.8s,baz=259,slow=8.0,SNR=7.8						
SONA0	**Songino Array**	**81.48**	**40**	*e*P	**P**	**19 08 15.9**	**+2.0**
SONM	**Songino Array**	**81.48**	**40**	P	**P**	**19 08 15.9**	**+2.0**
	0.4nm,0.8s,baz=262,slow=4.4,SNR=3.4						

*ISCJB **04** 19:09:16.2±0.6, 24°17S±0°05×179°62E±0°04, h525km±7km, mb4.5/93, Error ellipse: s-maj=8.4km s-min=5.8km az=166.8*

*NEIC **04** 19:09:16.5±0.2, 24°19S×179°71E, mb4.5/70, Error ellipse: s-maj=7.5km s-min=4.4km az=161.0*

*IDC **04** 19:09:16.6±0.6, 24°09S×179°71E, h523km±6km, mb4.0/28, mb1 4.1/31, mb1mx4.0/47, mbtmp4.8/31, Error ellipse: s-maj=10.1km s-min=9.8km az=111.0*

*BGR **04** 19:09:19.0±0.0, 23°88S×178°89W, h554km*

ISC 04 19:09:16.7±0.5, 24°20S±0°06×179°67E±0°06, h527km±4km, h529km; pP-P, n247, σ1°01/278, mb4.5/93, 7C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.48**	**157**	P	**P**	**19 10 50.6**	**+1.3**
	54nm,0.3s,baz=46,slow=18,SNR=17						
RAO				S	**S**	**19 12 02.9**	**-2.2**
	baz=294,slow=20,SNR=1.6						
MSVF	**Nonsavu**	**6.61**	**346**	*e*P	**P**	**19 10 59.8**	**-0.5**
NIUE	**Niue**	**10.94**	**64**	*e*Pn	P	19 11 34.7	-9.5
MARNC	**Mare, Loyalty**	**11.07**	**282**	*e*P	**P**	**19 11 46.3**	**+0.8**
PINNC	**Pines Island,**	**11.33**	**276**	*e*P	**P**	**19 11 50.5**	**+2.2**
OUENC	**Ouen Island, N**	**11.92**	**276**	*e*Sn	**P**	**19 11 50.1**	**-4.4**
DZM	**Mont Dzumac**	**12.35**	**277**	P	**P**	**19 12 01.0**	**+2.0**
	5.8nm,0.3s,baz=197,slow=12,SNR=32						
URZ	**Urewera**	**14.18**	**188**	P	**P**	**19 12 17.2**	**-0.6**
	1.4nm,0.3s,baz=84,slow=2.0,SNR=6.4						
URZ				S	**S**	**19 14 45.3**	**-1.9**
	0.9nm,0.3s,baz=343,slow=19,SNR=10						
RPZ	**Rata Peaks**	**20.71**	**198**	P	**P**	**19 13 22.0**	**+1.8**
	7.1nm,0.5s,baz=343,slow=7.0,SNR=4.0						
HNR	**Honiara**	**23.87**	**305**	P	**P**	**19 13 47.8**	**-1.1**
	113nm,0.7s,baz=162,slow=3.7,SNR=8.9						
PPT	**Papeete**	**29.44**	**83**	*e*P	**P**	**19 14 37.4**	**-0.5**
CTA	**Charters Tower**	**31.17**	**271**	P	**P**	**19 14 53.8**	**+1.0**
	52nm,0.4s,baz=93,slow=11,SNR=237						
CTA				ScP	**ScP**	**19 20 26.9**	**+2.1**
	8.8nm,1.2s,baz=66,slow=2.8,SNR=3.9						
CTAO	**Charters Tower**	**31.17**	**271**	*e*P	**P**	**19 14 53.9**	**+1.0**
	95nm,1.0s						
STKA	**Stephens Creek**	**34.33**	**248**	P	**P**	**19 15 20.2**	**+0.8**
	5.2nm,0.7s,baz=84,slow=7.6,SNR=12						
COEN	**Coen**	**35.86**	**280**	*e*P	**P**	**19 15 32.8**	**+0.5**
	20nm,0.8s						
BBOO	**Buckleboo**	**39.05**	**247**	*e*P	**P**	**19 15 58.5**	**+0.3**
	13nm,0.9s						
AS01	**Alice Springs**	**41.64**	**261**	*e*P	**P**	**19 16 19.4**	**+0.2**
AS31	**Alice Springs**	**41.69**	**261**	*e*P	**P**	**19 16 19.4**	**0.0**
	9.3nm,1.3s						
ASAR	**Alice Springs**	**41.69**	**261**	P	**P**	**19 16 19.9**	**+0.4**
	18nm,0.9s,baz=95,slow=7.0,SNR=125						
ASAR				ScP	**ScP**	**19 21 05.8**	**+1.8**
	3.7nm,0.9s,baz=109,slow=4.5,SNR=12						
ASAR				S	**S**	**19 21 56.6**	**-1.7**
	1.9nm,0.8s,baz=97,slow=15,SNR=9.4						
WB2	**Warramunga Arr**	**42.07**	**267**	*e*P	**P**	**19 16 21.8**	**-0.8**
WRAB	**Tennant Creek**	**42.08**	**267**	*e*P	**P**	**19 16 22.0**	**-0.5**
	34nm,1.0s						
WR1	**Warramunga Arr**	**42.08**	**267**	*e*P	**P**	**19 16 22.4**	**-0.2**
	34nm,0.8s						
WR1				*e*ScP	**ScP**	**19 21 08.0**	**+2.5**
WR1				*e*S	**S**	**19 22 00.8**	**-3.2**
WRA	**Warramunga Arr**	**42.08**	**267**	P	**P**	**19 16 22.4**	**-0.2**
	14nm,0.5s,baz=93,slow=8.3,SNR=146						
WRA				ScP	**ScP**	**19 21 08.0**	**+2.5**
	6.5nm,0.9s,baz=98,slow=3.9,SNR=22						
WRA				S	**S**	**19 22 00.8**	**-3.3**
	6.2nm,1.2s,baz=105,slow=15,SNR=7.0						
FORT	**Forrest**	**45.92**	**250**	*e*P	**P**	**19 16 51.7**	**-0.5**
	34nm,0.7s						
FITZ	**Fitzroy Crossi**	**50.50**	**266**	*e*P	**P**	**19 17 27.1**	**+0.6**
	21nm,0.8s						
FITZ	**Fitzroy Crossi**	**50.50**	**266**	P	**P**	**19 17 26.6**	**+0.1**
	20nm,0.7s,baz=126,slow=8.8,SNR=33						
GUMO	**Guam**	**50.66**	**314**	P	**P**	**19 17 27.2**	**-0.4**
	70nm,0.8s,baz=135,slow=8.6,SNR=2.9						
VNDA	**Vanda**	**54.06**	**185**	*e*P	**P**	**19 17 52.6**	**+1.5**
VNDA	**Vanda**	**54.06**	**185**	P	**P**	**19 17 52.8**	**+1.7**
	2.8nm,0.7s,baz=15,slow=7.3,SNR=7.3						
SOEI	**Soe**	**54.57**	**275**	*e*P	**P**	**19 17 57.3**	**+1.5**
	79nm,1.1s						
BATI	**Baumata**	**54.94**	**274**	P	**P**	**19 18 00.1**	**+1.7**
	66nm,0.9s,baz=180,slow=20,SNR=4.0						
MBWA	**Marble Bar**	**55.02**	**260**	*e*P	**P**	**19 17 58.7**	**-0.1**
	20nm,0.9s						
QSPA	**South Pole Qui**	**65.88**	**180**	P	**P**	**19 19 11.2**	**+1.3**
	26nm,0.9s,baz=18,slow=0.9,SNR=80						
LEM	**Lembang**	**70.88**	**271**	P	**P**	**19 19 41.6**	**+0.4**
	17nm,0.5s,baz=173,slow=13,SNR=4.0						
MJAR	**Matsushiro Arr**	**71.97**	**326**	P	**P**	**19 19 45.8**	**-1.1**
	8.0nm,0.8s,baz=167,slow=5.8,SNR=8.1						
MAJO	**Matsushiro**	**71.97**	**326**	*e*P	**P**	**19 19 45.8**	**-1.1**
KSRS	**Korea Array**	**78.28**	**320**	P	**P**	**19 20 22.9**	**+0.8**
	3.1nm,0.7s,baz=136,slow=5.6,SNR=10						
KSAR	**Wonju Array Be**	**78.30**	**320**	P	**P**	**19 20 22.9**	**+0.7**
PETK	**Petropavlovsk-**	**79.32**	**347**	P	**P**	**19 20 27.2**	**0.0**
	14nm,1.1s,baz=141,slow=7.3,SNR=5.2						
PEA1	**Petropavlovsk-**	**79.32**	**347**	*e*P	**P**	**19 20 27.2**	**0.0**
USRK	**Ussuriysk Ar.**	**80.85**	**327**	P	**P**	**19 20 36.4**	**+0.9**
	1.7nm,0.6s,baz=125,slow=3.0,SNR=5.1						
BLG	**Laguna Peak, P**	**82.14**	**47**	P	**P**	**19 20 43.0**	**+0.6**
	baz=234						
SYO	**Syowa Base**	**82.65**	**193↓**	*e*P	P	19 20 37.0	-7.3
MURC	**Murrieta**	**83.12**	**49**	P	**P**	**19 20 47.7**	**+0.4**
	baz=235						
VES	**Vestal, Richgr**	**83.15**	**46**	P	**P**	**19 20 47.9**	**+0.5**
	baz=234						
BFSC	**Mount Baldy Ra**	**83.17**	**48**	P	**P**	**19 20 48.0**	**+0.3**
	baz=235						
MONP2	**Monument Peak**	**83.25**	**50**	P	**P**	**19 20 48.9**	**+0.7**
	baz=236,SNR=5.7						
EDW2	**Edwards Air Fo**	**83.31**	**47**	P	**P**	**19 20 48.8**	**+0.5**
	baz=234,SNR=5.2						
IKP	**In-Ko-Pah, Jac**	**83.33**	**50**	P	**P**	**19 20 49.3**	**+0.8**
	baz=236						
ISA	**Isabella, Lake**	**83.45**	**46**	*e*P	**P**	**19 20 49.3**	**+0.3**
	14nm,0.8s						
ISA	**Isabella, Lake**	**83.45**	**46**	P	**P**	**19 20 49.4**	**+0.4**
	baz=234,SNR=10						
O02D	**Mt. Diablo Mer**	**83.48**	**41**	P	**P**	**19 20 50.4**	**+1.3**
	baz=231,SNR=7.5						
CMB	**Columbia Colle**	**83.63**	**43**	*e*P	**P**	**19 20 49.8**	**0.0**
	11nm,0.9s						
PFO	**Pinyon Flats O**	**83.63**	**49**

baz=235,SNR=8.5
KVN Kaiserville 85.67 44 eP P 19 20 59.7 -0.2
6.1nm,0.7s
J04D Umpqua Nationa 85.81 39 P P 19 21 01.2 +0.7
baz=231
I04A Tendick Farm, 85.98 38 P P 19 21 01.3 +0.2
baz=231
MOD Modoc Plateau 86.03 40 eP P 19 21 02.1 +0.5
6.2nm,0.8s
SHPR Sheep Range 86.13 47 eP P 19 21 02.7 +0.6
7.0nm,1.2s
W13A Hualapai Mount 86.22 49 eP P 19 21 02.9 +0.2
3.6nm,0.8s
H04D Lebanon 86.26 37 P P 19 21 02.9 +0.5
baz=230
J05D Fort Rock, OR 86.33 39 P P 19 21 03.8 +0.9
baz=232
MA2 Magadan 86.79 346 P P 19 21 04.1 -0.4
3.3nm,0.7s,baz=166,slow=7.8,SNR=4.0
PINE Pine Mountain 86.81 39 eP P 19 21 06.2 +0.9
30nm,1.3s
R11A Troy Canyon, C 86.88 45 P P 19 21 05.4 -0.3
baz=236
I05D Terrebonne, OR 86.93 38 P P 19 21 06.2 +0.6
baz=232
TUC Tucson 86.94 53 eP P 19 21 06.8 +0.9
11nm,0.9s
TUC Tucson 86.94 53 P P 19 21 07.3 +1.3
baz=239
WVOR Wild Horse Val 87.34 41 eP P 19 21 08.0 +0.3
15nm,1.3s
G05D Wamic, OR 87.50 37 P P 19 21 08.6 +0.4
baz=232
X16A Lo Mia Camp, P 87.56 51 eP P 19 21 09.8 +0.8
6.2nm,1.0s
319A Douglas 87.57 54 eP P 19 21 10.5 +1.5
24nm,1.1s
LCMT Little Creek M 87.70 48 eP P 19 21 10.2 +0.7
8.0nm,1.1s
I07A Izee 87.81 39 eP P 19 21 10.4 +0.6
13nm,0.9s
CCUT Cedar City 87.91 47 eP P 19 21 11.2 +0.6
5.8nm,0.9s
J08A Circle Bar Ran 87.98 40 eP P 19 21 10.7 +0.1
24nm,1.3s
KNB Kanab 87.98 48 eP P 19 21 11.6 +0.7
8.5nm,1.0s
D03D Eldon 87.99 35 P P 19 21 11.2 +0.8
baz=230
U15A North Rim 88.03 48 eP P 19 21 11.9 +0.7
14nm,1.0s
PSUT Pine Spring 88.11 46 eP P 19 21 11.6 +0.1
2.3nm,0.8s
LON Longmire 88.17 36 eP P 19 21 10.9 -0.5
5.0nm,0.7s
WUAZ Wupatki 88.18 50 eP P 19 21 10.0 -1.8
5.0nm,0.7s
WUAZ Wupatki 88.18 50 P P 19 21 12.1 +0.3
baz=238
PLCA Paso Flores 88.28 134 eP P 19 21 13.4 +1.2
45nm,2.0s
PLCA Paso Flores 88.28 134 P P 19 21 13.2 +1.0
2.5nm,0.7s,baz=230,slow=2.1,SNR=6.7
D05A Enumclaw 88.35 36 eP P 19 21 13.9 +1.8
27nm,1.0s
ELK Elko 88.44 44 eP P 19 21 12.9 -0.2
7.7nm,1.3s
ELK Elko 88.44 44 P P 19 21 13.2 +0.1
3.0nm,0.8s,baz=257,slow=4.2,SNR=11
PKCU Pink Cliffs 88.56 48 eP P 19 21 16.0 +2.3
32nm,1.2s
BBB Bella Bella 88.67 29 P P 19 21 13.0 -0.4
13nm,0.9s,baz=204,slow=6.4,SNR=3.5
X18A Snowflake 88.68 51 eP P 19 21 13.3 -0.9
6.0nm,0.9s
G08A Pilot Rock 88.85 38 eP P 19 21 15.0 +0.4
12nm,1.2s
A04D Lummi Island 88.95 34 P P 19 21 16.1 +1.3
baz=230
MTPU Mount Pierson 88.96 47 eP P 19 21 17.0 +1.4
14nm,1.1s
B05A Bryant 88.97 35 P P 19 21 16.0 +1.1
baz=231
LTY Liberty 89.10 36 eP P 19 21 15.8 +0.1
4.8nm,0.7s
E07A Sunnyside 89.11 37 eP P 19 21 16.7 +1.0
8.9nm,0.8s
KMI Kunming 89.13 298 P P 19 21 18.1 +1.5
KMI pmax pmax
comp=Z,10.0nm,0.5s
HAWA Hanford 89.19 37 eP P 19 21 15.8 -0.3
comp=Z,12nm,1.0s
MSU Marysvale 89.21 47 eP P 19 21 16.7 +0.1
121A Cookes Peak, D 89.25 54 P P 19 21 17.2 +0.3
baz=240
CM01 Chiang Mai Arr 89.31 290 eP P 19 21 18.8 +1.5
CMAR Chiang Mai Arr 89.34 290 P P 19 21 18.9 +1.5
comp=Z,2.4nm,0.9s,baz=135,slow=3.6,SNR=13
CMAR pP pwP 19 23 15.5 -2.5
comp=Z,1.1nm,0.9s,baz=142,slow=4.6,SNR=3.0
CMAR PKKPbc PKKPbc 19 38 50.1 +0.4
comp=Z,0.5nm,0.6s,baz=290,slow=4.2,SNR=6.6
C06D Leavenworth 89.39 35 P P 19 21 17.6 +0.7
baz=232
SEY Seymchan 89.50 348 P P 19 21 16.7 -0.3
comp=Z,2.4nm,0.9s,baz=143,slow=5.1,SNR=4.4
SEY pP pP 19 23 12.0 -0.1
comp=Z,0.5nm,0.4s,baz=83,slow=8.1,SNR=1.8
BMO Blue Mountains 89.54 39 eP P 19 21 17.5 -0.3
DUG Dugway, Tooele 89.69 45 P P 19 21 19.5 +0.7
baz=237
F10A Beach Ranch, E 90.23 38 eP P 19 21 20.2 -0.8
comp=Z,5.7nm,0.8s
HLID Hailey 90.52 42 eP P 19 21 22.6 +0.1
comp=Z,8.3nm,1.4s
HLID Hailey 90.52 42 P P 19 21 23.1 +0.6
baz=236
HVU Hansel Valley 90.56 44 eP P 19 21 22.7 -0.1
comp=Z,8.3nm,0.7s
SRU San Rafael Swe 90.62 47 eP P 19 21 23.5 +0.4
comp=Z,11nm,0.8s
LENM Lemitar 90.63 53 eP P 19 21 23.9 +0.6
MNTX Cornudas Mount 90.63 55 eP P 19 21 22.9 -0.2
comp=Z,6.3nm,0.9s
MNTX Cornudas Mount 90.63 55 P P 19 21 23.7 +0.6
baz=242
CTU Camp Tracy 90.64 45 eP P 19 21 23.5 +0.3
comp=Z,9.6nm,0.9s
JLU Jordanelle 90.79 45 eP P 19 21 24.2 +0.3
comp=Z,4.8nm,0.8s
TX31 Lajitas Ar. Si 90.85 58 eP P 19 21 24.4 +0.1
TXAR Lajitas Array 90.85 58 P P 19 21 24.9 +0.7
comp=Z,5.0nm,0.7s,baz=212,slow=6.7,SNR=52
TXAR pP pwP 19 23 25.4 +2.8
comp=Z,0.4nm,0.8s,baz=193,slow=4.9,SNR=3.6
TCUT Toone Canyon 91.09 45 eP P 19 21 24.4 -0.9
comp=Z,16nm,0.9s
ANMO Albuquerque 91.38 52 eP P 19 21 25.1 -1.6
comp=Z,4.4nm,1.0s
ANMO Albuquerque 91.38 52 P P 19 21 26.7 -0.1
baz=241
PV01 Paradox Valley 91.45 49 eP P 19 21 26.8 -0.2
comp=Z,2.8nm,0.8s
ILAR Eielson Array 92.39 14 P P 19 21 29.1 -1.2
comp=Z,0.9nm,0.9s,baz=236,slow=6.4,SNR=2.5
ILAR pP pP 19 23 26.6 +0.4
comp=Z,0.5nm,0.8s,baz=228,slow=5.2,SNR=2.2
S22A 4UR Ranch, Cre 92.46 50 eP P 19 21 32.0 +0.2
comp=Z,5.7nm,1.0s
S22A 4UR Ranch, Cre 92.46 50 P P 19 21 32.2 +0.4
baz=241
O20A White River Ci 92.66 47 P P 19 21 32.4 -0.1
baz=240
SMCO Snowmass 93.05 48 eP P 19 21 34.4 -0.2
comp=Z,23nm,1.9s
PDAR Pinedale Array 93.12 44 eP P 19 21 34.0 -0.6
PDAR Pinedale Array 93.12 44 P P 19 21 34.3 -0.3
comp=Z,1.3nm,0.7s,baz=228,slow=2.3,SNR=8.9
BOZ Bozeman (W) 93.29 41 P P 19 21 35.9 +0.7
baz=238
SDCO Great Sand Dun 93.39 50 eP P 19 21 35.4 -0.6
comp=Z,2.4nm,0.9s
SDCO Great Sand Dun 93.39 50 P P 19 21 36.1 +0.2
baz=242
T25A Trinidad 93.87 51 P P 19 21 38.2 +0.1
baz=242
Q24A Divide 94.20 49 P P 19 21 40.2 +0.5
baz=242

KSCO Kaye Shedlock' 95.97 50 P P 19 21 47.6 +0.1
baz=244
WMOK Wichita Mounta 96.94 55 P P 19 21 51.9 +0.1
baz=245
LAO LASA Array 97.10 42 P Pdif 19 21 52.5 +0.3
baz=242
SONA0 Songino Array 97.13 319 ePP PP 19 26 00.8 +3.0
SONM Songino Array 97.13 319 PP PP 19 26 00.8 +3.0
comp=Z,1.2nm,0.9s,baz=125,slow=6.1,SNR=5.1
D46A Sault St. Mari 111.43 47 P PKiKP 19 26 49.0 -1.8
baz=257
MK32 Makanchi Array 112.13 313 ePKiKP PKiKP 19 26 51.0 -1.2
MK32 eSKPdf SKiKP 19 29 37.4 -0.2
MK32 ePKKPbc PKKPbc 19 37 45.1 -0.7
MK32 ePKKPab PKKPab 19 37 55.2 +0.9
MKAR Makanchi Array 112.13 313 PKiKP PKiKP 19 26 51.0 -1.2
comp=Z,0.2nm,0.6s,baz=74,slow=1.9,SNR=4.1
MKAR SKP 19 29 37.4
comp=Z,0.5nm,0.7s,baz=90,slow=2.9,SNR=4.2
MKAR PKKPbc PKKPbc 19 37 45.1 -0.7
comp=Z,0.7nm,0.8s,baz=286,slow=2.9,SNR=7.9
MKAR PKKP PKKPab 19 37 55.2 +0.9
comp=Z,1.0nm,0.8s,baz=288,slow=3.8,SNR=10
KURK Kurchatov 115.21 316 ePKPdf PKPdf 19 26 56.9 -0.9
KURK ePP PP 19 28 07.0 -1.4
KURBB Kurchatov Arra 115.25 316 PKP PKPdf 19 26 56.9 -1.0
comp=Z,1.2nm,0.7s,baz=101,slow=1.8,SNR=8.7
KURBB PP PP 19 28 07.0 -1.7
comp=Z,0.7nm,0.9s,baz=98,slow=6.5,SNR=5.4
E54A Lac Daplat, Po 115.98 49 P PKPdf 19 26 57.4 -2.2
baz=262
N59A State Game Lan 116.10 55 P PKPdf 19 26 57.7 -2.3
baz=260
BVAR Borovoye Array 120.46 319 PKP PKPdf 19 27 07.0 -1.0
comp=Z,1.8nm,0.6s,baz=59,slow=0.8,SNR=10
BVAR PP PP 19 28 44.6 +0.4
comp=Z,0.6nm,0.8s,baz=73,slow=5.0,SNR=3.8
BOSA Boshof 122.00 207 PKP PKPdf 19 27 12.0 0.0
comp=Z,1.6nm,0.6s,baz=174,slow=3.5,SNR=3.9
MDP Montagnes des 126.31 102 PKP PKPdf 19 27 19.3 -1.0
comp=Z,9.5nm,0.8s,baz=166,slow=3.5,SNR=3.2
SFJD Kangerlussuaq 127.17 22 PKP PKPdf 19 27 19.1 -1.3
comp=Z,2.4nm,0.5s,baz=33,slow=2.6,SNR=2.9
AKTO Aktyubinsk 128.30 316 PKP PKPdf 19 27 23.1 0.0
comp=Z,0.9nm,0.7s,baz=138,slow=4.2,SNR=3.6
AKTO SKPbc SKPbc 19 29 54.5
comp=Z,1.2nm,0.6s,baz=157,slow=1.6,SNR=4.5
GEYT Alibeck 126.85 300 PKP PKPdf 19 27 24.8 +0.3
comp=Z,1.5nm,0.6s,baz=155,slow=4.3,SNR=3.6
GEYT SKPbc SKPbc 19 29 58.0
comp=Z,3.3nm,0.8s,baz=85,slow=3.6,SNR=7.6
KIRV Kirov 131.02 328 SKPbc SKPbc 19 30 03.2 0.0
comp=Z,47nm,0.7s,baz=61,slow=0.9,SNR=20
ARA0 ARCESS Array S 132.12 348 ePKPdf PKPdf 19 27 29.0 -0.8
ARCES ARCESS Array B 132.12 348 PKP PKPdf 19 27 29.0 -0.8
comp=Z,4.1nm,0.8s,baz=46,slow=3.5,SNR=6.4
FIA0 FINESS Array S 138.63 341 ePKPpre PKPpre 19 27 31.8
FIA0 eSKPbc SKPbc 19 30 27.1 0.0
FINES FINESS Array B 138.63 341 PKHKP PKPpre 19 27 31.8
comp=Z,1.3nm,0.7s,baz=57,slow=5.1,SNR=2.9
FINES SKPbc SKPbc 19 30 27.1 0.0
comp=Z,7.7nm,0.8s,baz=64,slow=4.4,SNR=16
KBZ Khabaz 139.74 310 SKPbc SKPbc 19 30 31.4 +0.8
comp=Z,2.0nm,0.8s,baz=53,slow=5.1,SNR=3.8
NB200 NORSAR Array S 142.33 351 ePKPpre PKPpre 19 27 44.8
NB200 eSKPbc SKPbc 19 30 36.9 +0.1
NOA NORSAR Array B 142.33 351 PKHKP PKPpre 19 27 44.8
comp=Z,2.3nm,0.8s,baz=16,slow=4.6,SNR=7.5
NOA SKPbc SKPbc 19 30 36.9 +0.1
comp=Z,1.4nm,0.7s,baz=16,slow=4.2,SNR=6.7
AKASG Malin Array Be 145.06 327 PKP PKPdf 19 27 53.6 -0.2
comp=Z,1.0nm,0.4s,baz=42,slow=4.3,SNR=10.0
AKASG SKPbc SKiKP 19 30 43.9 0.0
comp=Z,5.8nm,0.7s,baz=44,slow=2.8,SNR=16
AK11 Malin Array Si 145.10 327 ePKPdf PKPdf 19 27 53.2 -0.6
BR101 Keskin Array S 147.51 307 ePKPbc PKPbc 19 28 01.4 -0.5
BR101 epPKPdf pPKPdf 19 30 01.1 -0.5
BRTR Keskin Array B 147.51 307 PKPbc PKPbc 19 28 01.4 -0.5
comp=Z,1.3nm,0.6s,baz=137,slow=3.5,SNR=4.5
BRTR pPKP pPKPdf 19 30 01.1 -0.5
comp=Z,1.6nm,0.9s,baz=64,slow=2.9,SNR=5.3
KWP Kalwaria Pacla 148.88 331 ePKP PKPbc 19 28 05.1 +0.3
KWP Kalwaria Pacla 148.88 331 ePKPbc PKPbc 19 28 04.8 0.0
BSEG Bad Segeberg 149.25 348 ePKPbc PKPbc 19 28 05.6 +0.2
baz=21,slow=2.2
OJC Ojcow 149.67 334 ePKP PKPbc 19 28 06.9 +0.3
OJC Ojcow 149.67 334 ePKPbc PKPbc 19 28 06.4 -0.3
NIE Niedzica 150.09 333 ePKP PKiKP 19 28 08.5 +0.1
KSP Ksiaz 150.45 338 ePKP PKiKP 19 28 08.9 0.0
LANS Liptovska Anna 150.64 333 ePKP PKiKP 19 28 10.2 +0.7
NRDL Niedersach Rie 150.65 347 ePKPbc PKPbc 19 28 08.8 +0.1
baz=21,slow=2.2
UPC Upice 150.83 338⇑ePKP PKPbc 19 28 09.4 0.0
DPC Dobruska-Polom 150.86 338⇑ePKP PKiKP 19 28 10.0 +0.1
MORC Moravsky Berou 150.90 336 ePKPbc PKPbc 19 28 09.6 0.0
KRLC Kraliky 150.93 337⇑ePKP PKiKP 19 28 09.9 -0.2
CLL Collm 151.05 343 ePKPbc PKPbc 19 28 09.8 -0.1
baz=21,slow=2.2
CLL epPKPbc pPKPab 19 30 18.3 +1.2
BRG Berggiesshubel 151.17 341 ePKPbc PKPbc 19 28 10.3 +0.2
baz=21,slow=2.2
CLZ Clausthal 151.21 346 ePKPbc PKiKP 19 28 10.4 -0.1
baz=21,slow=2.2
PVCC Panska Ves 151.28 340⇑ePKP PKiKP 19 28 10.8 +0.1
FBE Freiberg 151.30 342 ePKPbc PKiKP 19 28 10.8 +0.1
baz=21,slow=2.2
VYHS Vyhne 151.41 333 ePKP PKPbc 19 28 10.8 0.0
NEUB Neuenburg 151.46 344 ePKPbc PKPbc 19 28 10.8 +0.1
baz=21,slow=2.2
PRU Pruhonice 151.76 339⇑ePKP PKPbc 19 28 11.1 -0.4
TANN Tannenbergstha 152.00 342 ePKPbc PKPbc 19 28 12.0 -0.1
baz=21,slow=2.2
MOX Moxa 152.02 344 ePKPbc PKPbc 19 28 11.8 -0.3
baz=21,slow=2.2
PLN Plauen 152.02 343 ePKPbc PKPbc 19 28 11.8 -0.2
baz=21,slow=2.2
TREC Trest 152.04 338⇑ePKP PKPbc 19 28 12.2 0.0
MODS Modra-Piesok 152.14 334 ePKP PKiKP 19 28 13.4 +0.8
ZST Bratislava 152.35 334 ePKP PKiKP 19 28 15.1 +2.1
MANZ Manzenberg 152.49 342 ePKPbc PKPbc 19 28 13.0 -0.1
baz=21,slow=2.2
KHC Kasperske Hory 152.82 340⇑ePKP PKPbc 19 28 13.7 -0.2
GERES GERESS Array B 153.03 339 PKPbc PKPbc 19 28 13.8 -0.7
comp=Z,1.1nm,0.6s,baz=48,slow=2.0,SNR=7.6
GERES pPKPbc pPKPbc 19 30 17.7 +0.8
comp=Z,1.0nm,0.9s,baz=3.6,slow=3.1,SNR=3.2
DBIC Dimbokro 162.04 165 PKP PKPdf 19 28 17.8 -0.7
comp=Z,6.6nm,1.0s,baz=153,slow=6.8,SNR=3.4
DBIC PKPab PKPab 19 29 08.1 0.0
comp=Z,5.8nm,1.2s,baz=225,slow=4.9,SNR=3.9
ESDC Sonseca Array 164.27 10 PKPab PKPab 19 29 16.9 -0.7
comp=Z,0.3nm,0.5s,baz=347,slow=4.7,SNR=4.5
TOA0 Torodi Ar. Sit 168.84 190 ePKPdf PKPdf 19 28 22.0 -2.0
TOA0 ePKPab PKPab 19 29 36.9 -1.2
TOA0 ePKPab PKPab 19 29 37.4 -0.7
TORD Torodi Ar. Bea 168.84 190 PKP PKPdf 19 28 22.1 -1.9
comp=Z,2.5nm,1.0s,baz=157,slow=1.0,SNR=7.4
TORD PKPab PKPab 19 29 37.0 -1.1
comp=Z,4.9nm,0.9s,baz=174,slow=1.8,SNR=20
TORD PP PP 19 33 28.6 +1.5
comp=Z,0.4nm,0.7s,baz=180,slow=4.2,SNR=3.9
TOA1 Torodi Ar. Sit 168.85 190 ePKPdf PKPdf 19 28 22.1 -1.9
TOA1 ePKPab PKPab 19 29 37.0 -1.1
TOA1 ePP PP 19 33 28.6 +1.4

NIED **04** *19:12:00,45.˙20N×149.˙40E,h104km,Mw4.4 Best double couple: M0 5.16000×10^15 NP1:φ=326.00000°, δ49.00000°,λ-6.00000°. NP2:φ=60.00000°,δ85.00000°, λ-139.00000°.*

BJI **04** *19:12:53.9,45.˙91N×149.˙31E,h144km,mb5.0/56, mb4.9/35*

SKHL **04** *19:12:54.7±0.6,45.˙61N×149.˙38E,h136km±8km, mb5.3/2, msh5.1/2*

ISCJB **04** *19:12:55.1±0.3,45.˙78N±0.˙03×149.˙21E±0.˙03, h148km±2km,mb4.5/186,Error ellipse: s-maj=4.9km s-min=3.2km az=140.4*

IDC **04** *19:12:56.0±0.6,45.˙99N×148.˙99E,h135km±5km,mb4.2/36, mb1 4.3/42,mb1mx4.1/64,mbtmp4.6/42,MS3.3/12, Ms1 3.4/12,ms1mx3.1/49,Error ellipse: s-maj=10.3km s-min=8.1km az=152.0*

MOS **04** *19:12:55.4±1.1,45.˙94N×149.˙00E,h147km,mb4.5/69, Error ellipse: s-maj=6.6km s-min=4.9km az=91.3*

JMA **04** *19:12:57.4±0.4,45.˙22N×149.˙37E,h156km,M4.5*
NEIC **04** *19:12:57.3±0.6,45.˙93N×149.˙06E,h151km±5km, mb4.6/103,Error ellipse: s-maj=5.7km s-min=3.2km az=151.0*

ISC 04 19:12:55.4±0.5, 45.75N±0.˙04×149.25E±0.˙04, h139km±3km, h139km:pP-P,n542,σ1942/614,mb4.6/190,31C-39D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.10**	**243**	*i* P	**Pn**	**19 13 21.0**	**+1.0**
KUR				AMB	AMB	19 13 21.0	
	370nm,0.5s						
KUR				AMB	AMB	19 13 21.0	
	169nm,0.5s						
KUR				AMB	AMB	19 13 21.0	
	206nm,0.5s						
KUR				*i* S	**Sn**	**19 13 40.2**	**+1.5**
KUR				A	A	19 13 42.0	
	6μm,0.5s						
KUR				A	A	19 13 42.0	
	2μm,0.5s						
KUR	**Kuril'sk**	**1.10**	**243**	*c i* PN	**Pn**	**19 13 21.1**	**+1.0**
KUR				*i* S	**Sn**	**19 13 40.3**	**+1.5**
KUR				pmax	pmax		
	comp=Z,2μm,0.6s						
KUR				pmax	pmax		
	comp=N,369nm,0.5s						
KUR				pmax	pmax		
	comp=E,189nm,0.5s						
KUR				pmax	pmax		
	comp=Z,4μm,1.0s						
KUR				pmax	pmax		
	comp=N,439nm,0.6s						
KUR				pmax	pmax		
	comp=E,632nm,1.0s						
KUR				smax	smax		
	comp=N,9μm,0.8s						
KUR				smax	smax		
	comp=E,7μm,1.0s						
KUR				smax	smax		
	comp=N,6μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.3s						
SHO	**Shikotan**	**2.55**	**223**	*i* P	**Pn**	**19 13 36.0**	**-0.6**
SHO				AMB	AMB	19 13 37.0	
	comp=E,91nm,0.5s						
SHO				AMB	AMB	19 13 37.0	
	comp=E,96nm,0.5s						
SHO				AMB	AMB	19 13 37.0	
	comp=E,205nm,0.5s						
SHO				*i* S	**Sn**	**19 14 07.2**	**-1.1**
SHO				A	A	19 14 20.0	
	comp=E,359nm,0.3s						
SHO				A	A	19 14 20.0	
	comp=E,2μm,0.3s						
SHO	**Shikotan**	**2.55**	**223**	⇓*i* PN	**Pn**	**19 13 36.3**	**-0.3**
SHO				*i* S	**Sn**	**19 14 06.8**	**-1.5**
SHO				pmax	pmax		
	comp=Z,205nm,0.6s						
SHO				pmax	pmax		
	comp=N,91nm,0.5s						
SHO				pmax	pmax		
	comp=E,96nm,0.5s						
SHO				smax	smax		
	comp=N,359nm,0.2s						
SHO				smax	smax		
	comp=E,2μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.96**	**236**	*i* P	**Pn**	**19 13 43.0**	**+1.2**
YUK				AMB	AMB	19 13 43.0	
	comp=E,79nm,0.4s						
YUK				AMB	AMB	19 13 43.0	
	comp=E,59nm,0.4s						
YUK				AMB	AMB	19 13 43.0	
	comp=E,888nm,0.4s						
YUK				*i* S	**Sn**	**19 14 19.0**	**+1.5**
YUK				A	A	19 14 22.0	
	comp=E,1μm,0.4s						
YUK				A	A	19 14 22.0	
	comp=E,158nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.96**	**236**	⇑*i* PN	**Pn**	**19 13 43.0**	**+1.2**
YUK				*i* S	**Sn**	**19 14 19.3**	**+1.8**
YUK				pmax	pmax		
	comp=N,79nm,0.4s						
YUK				pmax	pmax		
	comp=Z,888nm,0.4s						
YUK				pmax	pmax		
	comp=E,59nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
LAGR	**Lagunnoye**	**2.99**	**237**	*i* P	**Pn**	**19 13 43.0**	**+0.8**
LAGR				AMB	AMB	19 13 44.0	
	comp=E,119nm,0.5s						
LAGR				AMB	AMB	19 13 44.0	
	comp=E,292nm,0.5s						
LAGR				AMB	AMB	19 13 44.0	
	comp=E,554nm,0.5s						
LAGR				*e*S	**Sn**	**19 14 20.0**	**+1.8**
LAGR				A	A	19 14 34.0	
	comp=E,391nm,0.5s						
LAGR				A	A	19 14 34.0	
	comp=E,2μm,0.5s						
LAGR	**Lagunnoye**	**2.99**	**237**	⇓*i* PN	**Pn**	**19 13 43.8**	**+1.6**
LAGR				*e*S	**Sn**	**19 14 20.8**	**+2.6**
LAGR				pmax	pmax		
	comp=Z,554nm,0.5s						
LAGR				pmax	pmax		
	comp=N,119nm,0.6s						
LAGR				pmax	pmax		
	comp=E,292nm,0.5s						
LAGR				smax	smax		
	comp=E,2μm,0.6s						
LAGR				smax	smax		
	comp=N,4μm,0.5s						
GRPR	**Tuman**	**3.03**	**236**	*i* P	**Pn**	**19 13 44.0**	**+1.2**
GRPR				AMB	AMB	19 13 44.0	
	comp=N,147nm,0.4s						
GRPR				AMB	AMB	19 13 44.0	
	comp=N,146nm,0.4s						
GRPR				AMB	AMB	19 13 44.0	
	comp=N,573nm,0.4s						
GRPR				*e*S	**Sn**	**19 14 21.0**	**+1.7**
GRPR				A	A	19 14 26.0	
	comp=N,2μm,0.4s						
GRPR				A	A	19 14 26.0	
	comp=N,737nm,0.4s						
GRPR	**Tuman**	**3.03**	**236**	⇓*i* PN	**Pn**	**19 13 44.3**	**+1.5**
GRPR				*e*S	**Sn**	**19 14 21.5**	**+2.2**
GRPR				pmax	pmax		
	comp=Z,573nm,0.5s						
GRPR				pmax	pmax		
	comp=N,147nm,0.4s						
GRPR				pmax	pmax		
	comp=E,146nm,0.3s						
GRPR				smax	smax		
	comp=E,737nm,0.3s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GLVR	**Golovnino**	**3.33**	**234**	*i* P	**Pn**	**19 13 47.0**	**+0.4**
GLVR				AMB	AMB	19 13 48.0	
	comp=N,76nm,0.4s						
GLVR				AMB	AMB	19 13 48.0	
	comp=N,138nm,0.4s						
GLVR				AMB	AMB	19 13 48.0	
	comp=N,483nm,0.4s						
GLVR				*i* S	**Sn**	**19 14 26.0**	**-0.2**
GLVR				A	A	19 14 46.0	
	comp=N,374nm,0.3s						
GLVR				A	A	19 14 46.0	
	comp=N,831nm,0.3s						
GLVR	**Golovnino**	**3.33**	**234**	⇑*i* PN	**Pn**	**19 13 47.7**	**+1.1**
GLVR				*i* S	**Sn**	**19 14 26.7**	**+0.5**
GLVR				pmax	pmax		
	comp=Z,483nm,0.4s						
GLVR				pmax	pmax		
	comp=N,76nm,0.3s						
GLVR				pmax	pmax		
	comp=E,138nm,0.5s						
GLVR				smax	smax		
	comp=N,4μm,0.3s						
GLVR				smax	smax		
	comp=E,831nm,0.2s						
JRA	**Rausu**	**3.45**	**240**	P	**Pn**	**19 13 49.5**	**+1.4**
JRA				*e*S	**Sn**	**19 14 30.2**	**+1.3**
NEM2	**Nemuro 2**	**3.46**	**228**	P	**Pn**	**19 13 47.7**	**-0.6**

NEM2 eS Sn 19 14 26.6 -2.5
JNK Nakash 3.89 238 P Pn 19 13 55.1 +1.2
JTKR Abashiri--Toko 4.19 247 P Pn 19 13 59.5 +1.6
JTKR eS Sn 19 14 47.4 +1.0
JAK Akkeshi 4.27 231 P Pn 19 13 58.5 -0.4
JAK eS Sn 19 14 46.1 -2.1
JMP Maruseppu 4.54 249 P Pn 19 14 04.2 +1.7
JAR Ashorobuto 4.62 240 P Pn 19 14 05.0 +1.4
YSS Yuzh-Sakhalins 4.66 287 ePn Pn 19 14 05.4 +1.4
YSS Yuzh-Sakhalins 4.66 287 *i* P Pn 19 14 06.2 +2.2
YSS AMB AMB 19 14 06.9
comp=E,230nm,0.9s
YSS eS Sn 19 14 58.9 +1.6
YSS A A 19 15 03.9
comp=E,150nm,1.0s
YSS A A 19 15 03.9
comp=E,360nm,1.0s
YSS Yuzh-Sakhalins 4.66 287K *i* PN Pn 19 14 06.2 +2.2
YSS pmax pmax
comp=Z,230nm,0.9s
JSE Soyaes 4.76 263 P Pn 19 14 07.7 +2.3
JOB Onbets 4.82 236 P Pn 19 14 06.3 +0.2
JOB eS Sn 19 14 59.8 -1.4
HRIK Horoka 4.93 245 eP Pn 19 14 09.8 +2.1
JKK2 Kamakawa 2 4.99 250 P Pn 19 14 10.6 +2.1
JKA Kamikawa-asahi 5.00 253 eP Pn 19 14 11.0 +2.4
ASAJ Asahikawa 5.00 253 P Pn 19 14 11.4 +2.8
ASAJ Asahikawa 5.00 253 P Pn 19 14 10.9 +2.4
comp=Z,9.3nm,0.3s,baz=80,slow=16,SNR=146
ASAJ S Sn 19 15 06.5 +0.9
comp=Z,4.1nm,0.3s,baz=102,slow=19,SNR=2.5
JWK2 Keihoku 5.18 268 P Pn 19 14 14.6 +3.6
JCH Churui 5.27 236 P Pn 19 14 11.9 -0.3
JCH eS Sn 19 15 09.3 -2.7
JFR Furan 5.42 244 P Pn 19 14 16.3 +2.1
JAB Ashibetsu 5.49 248 P Pn 19 14 18.2 +3.0
MYR Moyori 5.52 233 eP Pn 19 14 14.9 -0.6
JBT2 Biratori 2 5.77 241 P Pn 19 14 19.4 +0.5
JBT2 eS Sn 19 15 22.0 -2.0
JEM Erimo 5.77 232 P Pn 19 14 19.0 +0.1
ERM Erimo 5.77 232 ePn Pn 19 14 19.0 +0.1
ERM Erimo 5.77 232 eP Pn 19 14 19.0 +0.1
ERM Erimo 5.77 232 *de* PN Pn 19 14 19.0 +0.1
ERM pmax pmax
comp=Z,55nm,0.6s
JNBK Urakawa-nobuka 5.83 236 P Pn 19 14 18.5 -1.2
JNBK eS Sn 19 15 20.8 -4.6
UGL Uglegorsk 5.90 307 *i* P Pn 19 14 23.3 +2.7
UGL AMB AMB 19 14 23.9
comp=Z,130nm,1.0s
UGL AMB AMB 19 14 24.0
comp=Z,66nm,0.8s
UGL eS Sn 19 15 29.0 +1.9
UGL A A 19 15 34.0
comp=Z,2μm,3.0s
UGL Uglegorsk 5.90 307⇓ *i* PN Pn 19 14 23.3 +2.7
UGL pmax pmax
comp=Z,1μm,1.3s
UGL pmax pmax
comp=Z,656nm,0.8s
JEW Eniwo 6.31 245 P Pn 19 14 27.9 +1.8
TYV Tymovskoe 6.75 322 eP Pn 19 14 33.8 +1.9
TYV AMB AMB 19 14 34.7
comp=Z,400nm,2.0s
TYV AMB AMB 19 14 35.6
comp=Z,90nm,1.0s
TYV eS Sn 19 15 50.7 +3.3
TYV A A 19 15 54.6
comp=Z,300nm,4.0s
TYV A A 19 15 55.5
comp=Z,27nm,1.0s
TYV Tymovskoe 6.75 322 ePN Pn 19 14 33.8 +1.9
TYV pmax pmax
comp=Z,400nm,1.9s
TYV pmax pmax
comp=Z,90nm,1.1s
JNB Noboribetsu 6.76 244 P Pn 19 14 31.9 -0.2
JNB eS Sn 19 15 46.1 -1.7
JKB Kayabe 7.09 240 P Pn 19 14 35.4 -1.1
JSH Shimam 7.31 248 P Pn 19 14 40.7 +1.2
JYM2 Yakumo 2 7.37 244 P Pn 19 14 39.9 -0.4
JYM2 eS Sn 19 15 59.2 -3.2
JSR Shiriuchi 7.67 240 P Pn 19 14 42.9 -1.4
JTM Tenmabayashi 7.76 233 P Pn 19 14 43.2 -2.4
JTM eS Sn 19 16 03.2 -8.8
JANG Nango 7.80 229 P Pn 19 14 42.9 -3.3
JTH Tanohata 7.95 226 P Pn 19 14 44.7 -3.4
JOSM Okushiri--Mats 7.95 246 P Pn 19 14 48.0 -0.1
OFUJ Ofunato 8.71 223 P Pn 19 14 55.5 -2.8
OKH Okha 8.81 335 erx rx 19 14 55.8
TEY Ternei 8.93 270 eP Pn 19 15 03.8 +2.6
TEY AMB AMB 19 15 04.7
comp=Z,80nm,0.9s
TEY Ternei 8.93 270⇓ ePN Pn 19 15 03.8 +2.6
TEY pmax pmax
comp=Z,80nm,0.9s
TEY pmax pmax
comp=E,80nm,0.9s
TEY pmax pmax
comp=Z,90nm,0.8s
TEY pmax pmax
comp=E,70nm,1.2s
JRG Rokugo 8.98 228 P Pn 19 14 59.9 -2.0
JRG eS Sn 19 16 34.3 -7.1
PETK Petropavlovsk- 9.19 34 ePn Pn 19 15 04.8 +0.2
PETK Petropavlovsk- 9.19 34 ePN Pn 19 15 04.8 +0.2
PETK Petropavlovsk- 9.19 34 P Pn 19 15 04.5 -0.1
comp=E,1.4nm,0.3s,baz=184,slow=9.4,SNR=24
PEA1 Petropavlovsk- 9.19 34 ePn Pn 19 15 04.5 -0.1
NKL Nikolayevsk 9.27 326 eP Pn 19 15 06.5 +0.9
NKL AMB AMB 19 15 09.0
comp=E,19nm,1.0s
NKL AMB AMB 19 15 09.0
comp=E,50nm,1.0s
NKL AMB AMB 19 15 09.0
comp=E,83nm,1.0s
NKL Nikolayevsk 9.27 326 *i* PN Pn 19 15 06.5 +0.9
NKL pmax pmax
comp=N,19nm,1.1s
NKL pmax pmax
comp=E,50nm,1.1s
NKL pmax pmax
comp=Z,83nm,1.1s
JIO Ouri 9.36 222 P Pn 19 15 03.7 -3.3
GRNR Gornyy 9.92 305 eP Pn 19 15 18.1 +3.8
GRNR AMB AMB 19 15 18.8
comp=Z,42nm,0.9s
GRNR AMB AMB 19 15 18.8
comp=Z,70nm,0.9s
GRNR AMB AMB 19 15 18.8
comp=Z,71nm,0.9s
GRNR Gornyy 9.92 305⇓ *i* PN Pn 19 15 18.1 +3.8
GRNR pmax pmax
comp=N,42nm,0.9s
GRNR pmax pmax
comp=E,70nm,0.9s
GRNR pmax pmax
comp=Z,71nm,0.9s
JYA Atsumi 10.06 228 eS Sn 19 16 59.5 -7.9
USA0B Ussuriysk Arra 12.32 269 ePn Pn 19 15 45.7 -0.4
USRK Ussuriysk Ar. 12.32 269 P Pn 19 15 46.3 +0.2
comp=Z,1.6nm,0.3s,baz=84,slow=12,SNR=25
KLR Kul'dur 12.34 293 P Pn 19 15 48.0 +1.8
comp=Z,0.5nm,0.3s,baz=103,slow=16,SNR=96
KLR LR LR 19 20 52.2
comp=Z,69nm,19.4s,baz=108,slow=39
MJB9 Matsu-Tunnel 12.39 226 ePn Pn 19 15 47.3 +0.2
MAJO Matsushiro 12.39 226 ePn Pn 19 15 46.9 -0.2
MAJO eSn Sn 19 18 03.4 -0.5
MAJO Matsushiro 12.39 226 eP Pn 19 15 46.9 -0.2
MAJO Matsushiro 12.39 226⇓ ePN Pn 19 15 46.9 -0.2
MAT Matsushiro 12.39 226 P Pn 19 15 47.3 +0.2
MAT eS Sn 19 17 55.0 -8.9
MJAR Matsushiro Arr 12.39 226 P Pn 19 15 45.6 -1.5
comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=20
MJAR S Sn 19 18 03.4 -0.5
comp=Z,0.1nm,0.3s,baz=55,slow=23,SNR=3.2
EKMR Ekimchan 12.88 311 eP Pn 19 15 54.0 +0.8
EKMR AMB AMB 19 16 14.5
comp=Z,29nm,0.7s
MSHR Mys Shultsa 13.37 263⇑ ePN Pn 19 15 58.5 -1.1
MA2 Magadan 13.88 3 ePn Pn 19 16 05.6 -0.4
MA2 Magadan 13.88 3 eP Pn 19 16 05.3 -0.7
MA2 Magadan 13.88 3‖ eP Pn 19 16 05.3 -0.7
comp=Z,0.5nm,0.3s,baz=181,slow=14,SNR=4.3
MA2 LR LR 19 20 49.5
comp=Z,64nm,18.4s,baz=151,slow=35
MDJ Mudanjiang 13.91 272 P Pn 19 16 06.9 +0.4
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,220nm,4.6s
MDJ Mudanjiang 13.91 272 ePn Pn 19 16 05.3 -1.3
INU Inuyama 13.93 226 ePn Pn 19 16 08.1 +1.3
BMKR Bomnak 15.79 312 eP Pn 19 16 30.0 +0.1
BMKR AMB AMB 19 16 33.9
comp=Z,32nm,0.8s
BMKR AMB AMB 19 16 33.9
comp=Z,83nm,0.8s
ZEA Zeya 16.26 307 eP P 19 16 36.8 +0.7
ZEA AMB AMB 19 16 37.8
comp=Z,110nm,1.0s
ZEA AMB AMB 19 16 37.8
comp=Z,170nm,1.0s
ZEA Zeya 16.26 307 eP P 19 16 36.8 +0.7
ZEA pmax pmax
comp=N,110nm,1.0s
ZEA pmax pmax
comp=E,110nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.0s
KROS Kirovskiy 16.67 309 eP P 19 16 36.8 -3.8
KROS AMB AMB 19 16 38.0
comp=Z,10.0nm,0.5s
KROS AMB AMB 19 16 38.0
comp=Z,19nm,0.5s
KROS AMB AMB 19 16 38.0
comp=Z,31nm,0.5s
CN2 Changchun 17.00 272 eP P 19 16 42.6 -1.7
CN2 pmax pmax
comp=Z,10.0nm,1.1s
SEY Seymchan 17.31 5 eP P 19 16 47.1 -0.5
SEY Seymchan 17.31 5⇑ eP P 19 16 47.1 -0.5
SEY Seymchan 17.31 5 P P 19 16 47.3 -0.2
comp=Z,0.9nm,0.3s,baz=182,slow=8.3,SNR=49
KSRS Korea Array 17.94 250 P Pn 19 16 55.6 -0.3
comp=Z,3.6nm,0.3s,baz=57,slow=11,SNR=51
KS01 Wonju Array Si 17.94 250 eP P 19 16 55.1 +0.4
KS15 Wonju Array Si 17.97 250 eP P 19 16 55.1 +0.1
comp=Z,25nm,1.0s
KSAR Wonju Array Be 17.97 250 P P 19 16 55.6 +0.7
KSAR Wonju Array Be 17.97 250 P P 19 16 55.7 +0.7
TJN Taejon 18.92 248 *de* P Pn 19 17 06.9 -0.7
JNU Nakatsue 18.93 235 eP Pn 19 17 07.6 -0.2
JNU Nakatsue 18.93 235 P Pn 19 17 07.0 -0.7
comp=Z,1.2nm,0.3s,baz=38,slow=1.4,SNR=9.5
YAK Yakutsk 19.84 332 eP P 19 17 13.6 -1.4
YAK Yakutsk 19.84 332 eP P 19 17 13.6 -1.4
YAK eS S 19 20 47.2 -3.3
YAK pmax pmax
comp=E,281nm,1.2s
YAK pmax pmax
comp=Z,408nm,0.9s
YAK pmax pmax
comp=N,342nm,1.1s
YAK smax smax
comp=E,596nm,2.8s
YAK smax smax
comp=N,383nm,2.0s
HIA Hailar 20.18 291 eP P 19 17 16.5 -2.4
comp=N,59nm,0.9s
HIA Hailar 20.18 291 eP P 19 17 16.5 -2.4
HIA Hailar 20.18 291 eP P 19 17 16.5 -2.4
HIA pmax pmax
comp=Z,59nm,0.9s
BILL Bilibino 24.03 16 eP P 19 17 55.2 -1.9
comp=Z,4.7nm,0.8s
BILL Bilibino 24.03 16 eP P 19 17 54.9 -2.2
BILL Bilibino 24.03 16 eP P 19 17 54.9 -2.2
BILL *e**PP pP 19 18 22.6 -1.5
BILL pmax pmax
comp=Z,20nm,2.3s
BOD Bodaibo 24.61 312 eP P 19 18 00.5 -2.0
BOD *e* 19 18 34.9
BOD pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuan 24.79 269 eP P 19 18 03.9 -0.4
BJT pmax pmax
comp=Z,86nm,1.1s
BJT Baijiatuan 24.79 269 eP P 19 18 03.9 -0.4
BJT pmax pmax
comp=Z,86nm,1.1s
TIA Tai'an 25.91 260 P P 19 18 15.3 +0.9
TIA pmax pmax
comp=Z,26nm,0.9s
NJ2 Nanjing 27.14 250 eP P 19 18 26.6 +1.1
NJ2 pmax pmax
comp=Z,14nm,0.8s
HHC Hu-ho-hao-te 27.68 273 eP P 19 18 31.2 +0.8
HHC S S 19 22 59.6 -2.7
HHC pmax pmax
comp=Z,55nm,0.8s
HHC pmax pmax
comp=Z,110nm,4.2s
ULN Ulaanbaatar 28.70 290 eP P 19 18 38.2 -1.2
comp=Z,5.5nm,0.9s
ULN Ulaanbaatar 28.70 290 eP P 19 18 37.7 -1.7
ULN Ulaanbaatar 28.70 290 *de* P 19 18 37.7 -1.7
ULN pmax pmax
comp=Z,10.0nm,1.5s
BTO Baotou 28.86 274 eP P 19 18 41.7 +0.9
SONA0 Songino Array 29.14 290 eP P 19 18 41.8 -1.5
SONA0 ePcP PcP 19 21 48.0 +0.7
SONM Songino Array 29.14 290 P P 19 18 41.8 -1.5
comp=Z,2.0nm,0.6s,baz=93,slow=6.0,SNR=15
SONM PcP PcP 19 21 48.0 +0.7
comp=Z,1.5nm,0.6s,baz=114,slow=3.0,SNR=4.0
SONM ScP ScP 19 25 16.1 +0.3
comp=Z,0.4nm,0.6s,baz=132,slow=2.1,SNR=3.7
SONM LR LR 19 30 35.1
comp=Z,54nm,18.6s,baz=88,slow=37
H11N2 WAKE ISLAND Hy 29.75 145 T T 19 50 03.3
baz=334,slow=76,SNR=1017
H11N1 WAKE ISLAND Hy 29.77 145 T T 19 50 04.3
baz=334,slow=76,SNR=403
H11N3 WAKE ISLAND Hy 29.77 145 T T 19 50 00.6
baz=334,slow=76,SNR=482
ZAK Zakamensk 30.68 296 eP P 19 18 54.2 -2.6
ZAK Zakamensk 30.68 296 eP P 19 18 54.2 -2.6
ZAK *e* 19 21 48.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s
ZAK pmax pmax
comp=Z,3.0nm,1.0s
H11S1 WAKE ISLAND Hy 30.78 146 T T 19 51 15.4
baz=335,slow=76,SNR=416
H11S3 WAKE ISLAND Hy 30.79 146 T T 19 51 17.7
baz=335,slow=76,SNR=619
H11S2 WAKE ISLAND Hy 30.80 146 T T 19 51 19.4
baz=335,slow=76,SNR=383
TPUB Ta-pu 32.23 236 eP P 19 19 11.9 +1.4
comp=Z,28nm,0.8s
XAN Xi'an 32.75 263 P P 19 19 15.6 +0.6
XAN pmax pmax
comp=Z,59nm,0.8s
ENH Enshi 34.54 257 eP P 19 19 30.5 0.0
comp=Z,18nm,0.8s
LZH Lanzhou 35.23 270⇓ P P 19 19 38.0 +1.5
LZH pP pwP 19 20 07.9 -1.5
LZH sP sP 19 20 24.9 +3.6
LZH pmax pmax
comp=Z,36nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.9s
IM3 Indian Mountai 36.15 36 eP P 19 19 44.7 +0.8
GTA Gaotai 36.47 278⇓ P P 19 19 47.9 +0.9
GTA pP pP 19 20 18.4 +2.1
GTA sP sP 19 20 36.5 +4.7
GTA PcP PcP 19 22 09.9 +2.0
GTA S S 19 25 19.9 +1.3
GTA ScP ScP 19 25 43.3 +2.0
GTA PcS PcS 19 25 58.2 +2.3
GTA ScS ScS 19 29 49.1 +1.0
GTA pmax pmax
comp=Z,60nm,1.0s
GTA pmax pmax
comp=Z,130nm,6.5s
GTA LR LR
comp=Z,140nm,16.2s
GTA LR LR
comp=Z,100nm,16.8s
GTA LR LR
comp=Z,80nm,16.5s
CAST Castle Rocks 36.73 40 eP P 19 19 50.2 +1.4
comp=Z,5.2nm,0.7s
KDAK Kodiak Island 36.80 49 eP P 19 19 49.7 +0.3
comp=Z,226nm,2.0s
KDAK Kodiak Island 36.80 49 P P 19 19 49.7 +0.3
comp=Z,1.1nm,0.8s,baz=270,slow=6.1,SNR=5.4
COLD Coldfoot 37.66 34 eP P 19 19 57.4 +0.8
comp=Z,3.6nm,0.8s
BWN Browne 37.89 39 eP P 19 19 59.0 +0.5
comp=Z,30nm,1.1s
TOLK Toolik Lake Re 38.00 31 eP P 19 19 59.9 +0.4
comp=Z,12nm,0.6s
CD2 Chengdu 38.11 263 P P 19 19 59.5 -1.4
CD2 pmax pmax
comp=Z,3.0nm,0.5s
CD2 Chengdu 38.11 263 P P 19 20 01.9 +1.0
NRIK Noril'sk 38.25 330 P P 19 19 59.5 -2.0
comp=Z,1.9nm,0.3s,baz=94,slow=6.6,SNR=3.7
MDM Murphy Dome 38.41 37 eP P 19 20 04.2 +1.3
comp=Z,6.8nm,0.8s
COLA College 38.57 38 eP P 19 20 05.9 +1.7
COLA College 38.57 38 *ce* P P 19 20 05.9 +1.7
COLA pmax pmax
comp=Z,12nm,0.8s
CCB Clear Creek Bu 38.60 38 eP P 19 20 05.0 +0.6
comp=Z,15nm,1.7s
GYA Guiyang 38.87 255⇑ *i* P P 19 20 07.8 +0.4
GYA pP pwP 19 20 41.6 +1.6
GYA sP sP 19 20 58.0 +5.0
GYA PP PnPn 19 21 44.2 +1.2
GYA S S 19 25 55.8 +0.7
GYA sS sS 19 26 51.5 +3.4
GYA pmax pmax
comp=Z,20nm,0.7s
HDA Harding Lake 38.98 38 eP P 19 20 07.8 +0.1
comp=Z,4.3nm,0.6s
ILAR Zeilsoon Array 38.99 38 P P 19 20 08.0 +0.3
comp=Z,3.1nm,0.7s,baz=261,slow=6.6,SNR=34
ILAR PcP PcP 19 22 14.4 -0.6
comp=Z,0.8nm,0.7s,baz=276,slow=3.4,SNR=4.0
ILAR ScP ScP 19 25 49.5 -0.7
comp=Z,0.6nm,0.8s,baz=257,slow=4.4,SNR=4.4
ILB Eielson Array 38.99 38 eP P 19 20 07.6 -0.1
ILB ePcP PcP 19 22 14.4 -0.6
ILB eScP ScP 19 25 49.5 -0.7
IL1 Eielson Array 38.99 38 eP P 19 20 08.0 +0.3
PRP Porcupine Dome 39.53 36 eP P 19 20 13.7 +1.3
comp=Z,9.1nm,1.0s
FYU Fort Yukon 39.61 35 eP P 19 20 14.7 +1.9
comp=Z,90nm,1.8s
SCRK Sand Creek 40.31 39 eP P 19 20 19.2 +0.4
comp=Z,30nm,1.9s
DOT Dot Lake 40.31 39 eP P 19 20 18.4 -0.3
comp=Z,4.3nm,0.7s
ZAA1 Zalesovo Array 41.02 306 eP P 19 20 21.3 -3.2
ZAA1 ePcP PcP 19 22 22.6 +0.8
ZAA1 eScP ScP 19 25 58.2 -0.1
ZAA1 *e* 19 38 09.2
ZAA0 Zalesovo Array 41.02 306 eP P 19 20 22.4 -2.2
comp=Z,3.2nm,0.7s
ZAA0 ePcP PcP 19 22 21.8 +0.1
ZALV Zalesovo Beam 41.02 306 eP P 19 20 21.9 -2.6
ZALV ePcP PcP 19 22 22.3 +0.6
ZALV ScP ScP 19 25 58.2 -0.1
ZALV Zalesovo Beam 41.02 306 *i* P P 19 20 22.7 -1.9
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 41.02 306 P P 19 20 21.3 -3.2
comp=Z,3.0nm,0.5s,baz=65,slow=6.8,SNR=8.8
ZALV PcP PcP 19 22 22.6 +0.8
comp=Z,11nm,0.6s,baz=78,slow=2.7,SNR=25
ZALV ScP ScP 19 25 58.2 -0.1
comp=Z,0.7nm,0.4s,baz=66,slow=3.5,SNR=3.2
ZALV LR LR 19 38 09.2
comp=Z,46nm,18.9s,baz=47,slow=37
EGAK Eagle 41.44 37 eP P 19 20 28.0 +0.2
comp=Z,6.3nm,0.7s
EGAK ePcP PcP 19 22 23.3 +0.4
NVS Novosibirsk 41.67 307 eP P 19 20 27.7 -2.1
NVS Novosibirsk 41.67 307 eP P 19 20 27.7 -2.1
NVS *e* 19 22 21.7
NVS pmax pmax
comp=Z,5.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,1.5s
KMI Kunming 42.41 257 P P 19 20 38.4 +1.9
KMI pmax pmax
comp=E,18nm,0.6s
WMQ Urumqi 42.78 290 eP P 19 20 40.6 +1.5
WMQ sP sP 19 21 30.4 +6.1
WMQ pmax pmax
comp=E,27nm,0.9s
WMQ pmax pmax
comp=E,230nm,4.5s
WMQ LR LR
comp=E,120nm,21.3s
WMQ LR LR
comp=E,41nm,19.1s
WMQ LR LR
comp=E,77nm,19.1s
EPYK Eagle Plains 43.03 35 eP P 19 20 41.9 +1.1
comp=E,32nm,1.4s
HYT Haines Junctio 43.84 43 eP P 19 20 48.7 +1.3
comp=E,9.5nm,1.1s
INK Inuvik 43.92 32 eP P 19 20 48.6 +0.8
comp=E,16nm,0.9s
INK Inuvik 43.92 32 eP P 19 20 48.6 +0.8
INK Inuvik 43.92 32 eP P 19 20 48.6 +0.8
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 43.92 32 P P 19 20 48.5 +0.7
comp=Z,9.5nm,0.7s,baz=297,slow=7.4,SNR=52
MK31 Makanchi Array 45.01 297 eP P 19 20 55.5 -1.3
comp=Z,7.1nm,0.8s
MK31 Makanchi Array 45.01 297 eP P 19 20 55.5 -1.3
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK32 Makanchi Array 45.01 297 eP P 19 20 55.5 -1.3
MK32 ePcP PcP 19 22 36.1 +0.8
MK32 eScP ScP 19 26 14.4 -0.2
MK32 *e* 19 40 20.8
MKAR Makanchi Array 45.01 297 eP P 19 20 55.7 -1.1
MKAR Makanchi Array 45.01 297 *ce* P P 19 20 55.7 -1.1
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 45.01 297 P P 19 20 55.5 -1.3
comp=Z,5.7nm,0.6s,baz=71,slow=7.8,SNR=47
MKAR PcP PcP 19 22 36.1 +0.8
comp=Z,7.3nm,0.6s,baz=83,slow=2.1,SNR=14
MKAR ScP ScP 19 26 14.4 -0.2
comp=Z,0.9nm,0.7s,baz=59,slow=4.7,SNR=6.0
MKAR LR LR 19 40 20.8
comp=Z,50nm,18.4s,baz=50,slow=37
MK01 Makanchi Array 45.01 297 eP P 19 20 55.4 -1.4
MAKZ Makanchi 45.20 297 eP P 19 20 57.1 -1.1
comp=Z,8.3nm,0.7s
MAKZ Makanchi 45.20 297 P P 19 20 57.6 -0.7
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
KURK Kurchatov 45.67 303 eP P 19 21 00.6 -1.3
comp=Z,14nm,0.8s
KURK ePcP PcP 19 22 38.5 +1.0
KURK eScP ScP 19 26 17.6 +0.3
KURK Kurchatov 45.67 303 eP P 19 21 00.2 -1.7
KURK Kurchatov 45.67 303 *di* P P 19 21 00.2 -1.7
KURK pmax pmax
comp=Z,14nm,0.7s
KURBB Kurchatov Arra 45.76 303 P P 19 21 01.1 -1.5
comp=Z,13nm,0.7s,baz=70,slow=8.7,SNR=75
KURBB PcP PcP 19 22 38.5 +0.7
comp=Z,5.6nm,0.7s,baz=70,slow=3.4,SNR=11
KURBB ScP ScP 19 26 17.6 0.0
comp=Z,0.4nm,0.7s,baz=82,slow=3.7,SNR=3.9
LSA Lhasa 47.63 271 eP P 19 21 19.7 +1.7
comp=Z,14nm,0.6s
LSA Lhasa 47.63 271 P P 19 21 20.1 +2.1
LSA Lhasa 47.63 271 eP P 19 21 19.7 +1.7
LSA pmax pmax
comp=Z,14nm,0.6s
DLBC Dease Lake 48.20 44 eP P 19 21 23.2 +1.7
comp=Z,29nm,1.9s
DLBC Dease Lake 48.20 44 P P 19 21 23.2 +1.7

comp=Z,3.1nm,1.1s,baz=249,slow=8.6,SNR=3.3
PAYA Payao 48.27 254 P **P** **19 21 24.5 +2.0**
comp=Z,11nm,0.9s,comp=Z,152nm
PDGK Podgornoye 48.32 294 P **P** **19 21 22.0 -0.8**
PDGK pmax pmax
comp=Z,9.0nm,1.0s
UTTA Uttaradit 48.95 252 P **P** **19 21 29.3 +1.7**
comp=Z,7.1nm,0.8s,comp=Z,51nm
CMMT Chiang Mai 49.27 254 P **P** **19 21 31.5 +1.4**
comp=Z,26nm,0.9s
CHTO Chiang Mai 49.27 254 *e*P **P** **19 21 31.4 +1.3**
comp=Z,15nm,0.8s
CHTO Chiang Mai 49.27 254 P **P** **19 21 31.6 +1.5**
comp=Z,112nm,0.9s
BVA0 Borovoye Array 49.41 309 P **P** **19 21 29.3 -1.4**
BVA0 pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 49.41 309 P **P** **19 21 29.2 -1.5**
comp=Z,1.8nm,0.5s,baz=41,slow=7.5,SNR=20
BVAR PcP **PcP** **19 22 51.2 +0.3**
comp=Z,3.0nm,0.3s,baz=88,slow=2.8,SNR=14
BVAR ScP **ScP** **19 26 33.5 +0.5**
comp=Z,0.6nm,0.7s,baz=42,slow=2.3,SNR=3.6
BRVK Borovoye 49.45 309 *e*P **P** **19 21 29.5 -1.6**
comp=Z,8.2nm,0.8s
BRVK Borovoye 49.45 309 *e*P **P** **19 21 29.7 -1.3**
BRVK Borovoye 49.45 309⇓ *e*P **P** **19 21 29.7 -1.3**
BRVK pmax pmax
comp=Z,9.0nm,1.4s
PBKT Sadao Pong 49.52 250 P **P** **19 21 33.6 +1.7**
comp=Z,20nm,0.6s
CM31 Chiang Mai Arr 49.52 254 *e*P **P** **19 21 33.8 +1.7**
comp=Z,38nm,1.5s
CM31 *e*PcP **PcP** **19 22 53.6 +1.8**
CMAR Chiang Mai Arr 49.52 254 *e*P **P** **19 21 33.6 +1.6**
CMAR Chiang Mai Arr 49.52 254 P **P** **19 21 33.7 +1.7**
comp=Z,6.4nm,0.7s,baz=38,slow=7.3,SNR=52
CMAR PcP **PcP** **19 22 53.6 +1.8**
comp=Z,1.7nm,0.7s,baz=17,slow=1.7,SNR=7.1
CM01 Chiang Mai Arr 49.54 254 *e*P **P** **19 21 33.0 +0.9**
SHL Shillong 49.65 266 *e*P **P** **19 21 33.5 +0.4**
comp=Z,51nm,0.7s
SHL Shillong 49.65 266 *e*P **P** **19 21 33.5 +0.4**
SHL pmax pmax
comp=Z,51nm,0.7s
SHL Shillong 49.65 266 *e*P **P** **19 21 33.0 -0.1**
SHL IAmb IAmb 19 21 34.3
comp=Z,39nm,0.5s
SUKH Sukhothai 49.75 252 P **P** **19 21 36.0 +2.3**
KDJ Kajisay 50.39 293 *e*P **P** **19 21 39.7 +1.1**
comp=Z,15nm,0.8s
KDJ Kajisay 50.39 293 *e*P **P** **19 21 39.7 +1.1**
KDJ pmax pmax
comp=Z,15nm,0.8s
OTUK Ortayu 50.43 302 P **P** **19 21 37.2 -1.4**
OTUK pmax pmax
comp=Z,6.0nm,0.6s
ULHL Ulahol 50.94 294 P **P** **19 21 43.2 +0.5**
SNR=10
TKM2 Tokmak 2 51.01 295 P **P** **19 21 43.0 -0.2**
SNR=16
TKM2 Tokmak 2 51.01 295 P **P** **19 21 43.6 +0.4**
TKM2 pmax pmax
comp=Z,9.0nm,1.1s
UMPA Umpang Tak 51.18 252 P **P** **19 21 48.1 +3.6**
comp=Z,15nm,1.0s,comp=Z,106nm
UTHA Uthaitani 51.26 251 P **P** **19 21 47.2 +2.2**
comp=Z,14nm,0.8s,comp=Z,111nm
NRN Naryn 51.51 293 *e*P **P** **19 21 46.9 -0.1**
comp=Z,4.3nm,0.6s
NRN Naryn 51.51 293 *e*P **P** **19 21 46.9 -0.1**
NRN pmax pmax
comp=Z,4.0nm,0.6s
USP Ospenovka 51.53 296 P **P** **19 21 46.8 -0.1**
SNR=16
KBK Karagaybulak 51.55 295 P **P** **19 21 47.6 +0.4**
SNR=18
KZA Kyzart 51.66 294 P **P** **19 21 49.4 +1.1**
SNR=15
FRU1 Bishkek 51.68 295 *e*P **P** **19 21 48.3 +0.3**
comp=Z,8.2nm,0.6s
FRU1 Bishkek 51.68 295 *e*P **P** **19 21 48.3 +0.3**
FRU1 pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 51.85 295 P **P** **19 21 49.5 +0.1**
SNR=11
AAK Ala-Archa 51.85 295 *e*P **P** **19 21 49.4 0.0**
AAK Ala-Archa 51.85 295 P **P** **19 21 49.4 0.0**
AAK pmax pmax
comp=Z,11nm,1.0s
ODAN Odare 51.99 271 *e*P **P** **19 21 51.8 +1.1**
EKS2 Erkin-Say 52.29 296 P **P** **19 21 52.9 +0.3**
SNR=14
JIRN Jiri 52.33 273 *e*P **P** **19 21 54.7 +1.3**
comp=Z,118nm,0.6s
SRDT SRDT 52.35 250 P **P** **19 21 55.9 +2.8**
comp=Z,22nm,0.7s,comp=Z,2µm
GUN Gumba 52.40 273 *e*P **P** **19 21 54.8 +1.0**
comp=Z,97nm,0.7s
RAMN Ramite 52.48 272 *e*P **P** **19 21 55.4 +1.0**
KSH Kashi 52.53 291 P **P** **19 21 58.9 +4.5**
KSH PcP **PcP** **19 23 06.7 +3.8**
KSH S **S** **19 29 12.1 +1.7**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,81nm,4.4s
KSH LR LR
comp=Z,94nm,8.8s
KSH LR LR
comp=Z,110nm,8.0s
RES Resolute Bay 52.62 18 *e*P **P** **19 21 53.7 -0.6**
comp=Z,17nm,0.8s
RES Resolute Bay 52.62 18 P **P** **19 21 53.9 -0.4**
comp=Z,14nm,0.7s,baz=327,slow=7.8,SNR=76
AML Almayashu 52.62 295 P **P** **19 21 55.4 0.0**
SNR=14
SVE Sverdlovsk 52.72 316 *e*P **P** **19 21 54.2 -1.2**
SVE Sverdlovsk 52.72 316*e*P **P** **19 21 54.2 -1.2**
SVE pmax pmax
comp=Z,22nm,0.7s
KKN Kakani 52.89 273 *e*P **P** **19 21 58.4 +1.1**
comp=Z,84nm,0.8s
PKI Pulchoki 52.93 273 *e*P **P** **19 21 58.6 +0.8**
comp=Z,60nm,0.8s
PKIN Phulchoki 52.94 273 *e*P **P** **19 21 58.5 +0.8**
comp=Z,34nm,0.6s
PHET Kaeng Krachan 53.07 248 P **P** **19 22 01.1 +2.6**
SPITS Spitsbergen Ar 53.10 349 P **P** **19 21 55.9 -2.0**
comp=Z,6.6nm,1.0s,baz=60,slow=9.0,SNR=6.1
DMN Daman 53.12 273 *e*P **P** **19 22 00.3 +1.2**
comp=Z,142nm,1.0s
GKN Gorkha 53.21 274 *e*P **P** **19 22 00.7 +1.1**
comp=Z,111nm,0.7s
YKW3 Yellowknife Ar 53.27 35 *e*P **P** **19 21 58.7 -0.6**
comp=Z,5.2nm,0.6s
YKA Yellowknife Ar 53.31 35 P **P** **19 22 00.3 +0.7**
comp=Z,4.4nm,0.6s,baz=299,slow=7.0,SNR=55
YKA pP **pP** **19 22 31.1 +0.2**
comp=Z,1.7nm,0.7s,baz=300,slow=6.9,SNR=3.9
YKB5 Yellowknife Ar 53.31 35 *e*P **P** **19 21 58.8 -0.7**
ARSB Arslanbob 53.50 294 *e*P **P** **19 22 01.5 0.0**
comp=Z,19nm,0.9s
DANN Dangsing 53.61 275 *e*P **P** **19 22 04.2 +1.6**
comp=Z,211nm,0.7s
ARU Arti 53.92 317 *e*P **P** **19 22 02.0 -2.0**
comp=Z,23nm,0.6s
ARU Arti 53.92 317 *e*P **P** **19 22 02.2 -1.8**
ARU Arti 53.92 317*d i*P **P** **19 22 02.3 -1.8**
ARU *PP **pwP** **19 22 38.6 -1.3**
ARU 19 23 06.9
ARU 19 24 02.3
ARU S **S** **19 29 26.4 -2.0**
ARU SS **SKiKP** **19 33 02.2 +0.5**
ARU pmax pmax
comp=Z,18nm,0.6s
KOLN Koldanda 54.08 275 *e*P **P** **19 22 07.2 +1.3**
KK31 Karatay Array 54.11 298 *e*P **P** **19 22 05.1 -0.6**
comp=Z,6.9nm,0.8s
KK31 Karatay Array 54.11 298 P **P** **19 22 05.2 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 54.11 298 *e*P **P** **19 22 05.1 -0.6**
comp=Z,6.9nm,0.8s
KKAR Karatay Array 54.11 298 *e*P **P** **19 22 05.1 -0.6**
KKAR pmax pmax

comp=Z,7.0nm,0.8s
PYUN Piuthan 54.30 275 *e*P **P** **19 22 08.8 +1.2**
comp=Z,223nm,0.9s
BOK Bokaro 54.97 269 *e*P **P** **19 22 12.8 +0.6**
TULEG Thule 55.60 10 *e*P **P** **19 22 14.7 -1.3**
comp=Z,7.8nm,0.8s
DDI Dehra Dun 56.37 281 *e*P **P** **19 22 21.4 -0.7**
DHRM DHARAMSHALA 56.42 283 IAmb IAmb 19 22 22.8
comp=Z,1µm,3.1s
DHRM *e*P **P** **19 22 22.9 +0.2**
SMLA Simla 56.50 282 *e*P **P** **19 22 22.1 -0.8**
SMLA IAmb IAmb 19 22 24.1
comp=Z,553nm,0.2s
KIRV Kirov 56.94 322 P **P** **19 22 23.8 -1.9**
comp=Z,9.8nm,0.6s,baz=4.4,slow=3.3,SNR=5.0
KIRV PcP **PcP** **19 23 19.8 +0.5**
comp=Z,18nm,0.5s,baz=68,slow=1.5,SNR=8.7
AB31 Akbulak array 56.98 309 *i* P **P** **19 22 25.0 -1.1**
AB31 pmax pmax
comp=Z,6.0nm,0.5s
ABKAR Akbulak array 56.98 309 *e*P **P** **19 22 24.8 -1.3**
comp=Z,10nm,0.7s
BWNR Bhubaneshwar 57.31 266 *ex* P 19 22 23.3 -5.5
AKTO Aktyubinsk 57.37 311 P **P** **19 22 27.1 -1.8**
comp=Z,2.8nm,0.6s,baz=54,slow=5.8,SNR=13
AKTO LR LR 19 47 33.1
comp=Z,39nm,18.4s,baz=30,slow=36
DAG Danmarks Havn 57.51 357 *i* P **PcP** **19 23 20.7 -0.6**
comp=Z,4.2nm,0.8s
NIL Nilore 57.65 287 *e*P **P** **19 22 31.5 +0.4**
comp=Z,87nm,0.9s
ARA0 ARCESS Array S 57.89 340 *e*P **P** **19 22 30.1 -2.1**
ARA0 *e*PcP **PcP** **19 23 23.3 +0.4**
ARCES ARCESS Array B 57.89 340 P **P** **19 22 30.1 -2.1**
comp=Z,4.9nm,1.0s,baz=44,slow=9.2,SNR=2.7
ARCES PcP **PcP** **19 23 23.3 +0.4**
comp=Z,3.6nm,0.8s,baz=53,slow=4.6,SNR=5.6
TMCR Tamitsa 57.94 331 *e*P **P** **19 22 30.0 -2.6**
TMCR pmax pmax
comp=Z,15nm,0.8s
PBA Port Blair 58.54 253 *e*P P 19 22 37.1 -0.3
KLMR Klimovskoe 59.55 328 *e*P **P** **19 22 41.1 -2.6**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 59.55 328 *e*P **P** **19 22 41.1 -2.6**
KLMR AMP 19 22 42.7
comp=Z,8.0nm,0.8s
KBL Kabul 59.92 290 *e*P **P** **19 22 46.0 -1.0**
comp=Z,42nm,0.7s
KBL Kabul 59.92 290 *e*P **P** **19 22 46.0 -1.0**
KBL pmax pmax
comp=Z,42nm,0.7s
CMBY CAMPBELL BAY 61.18 249 *ex* P 19 22 50.5 -4.9
PSI Prapat 61.24 241 *e*P **P** **19 22 57.0 +1.0**
comp=Z,16nm,1.1s
PSI Prapat 61.24 241 *e*P **P** **19 22 57.0 +1.0**
PSI pmax pmax
comp=Z,17nm,1.1s
BHPL Bhopal 61.25 275 *e*P **P** **19 22 55.3 -0.6**
BHPL IAmb IAmb 19 22 56.0
comp=Z,2µm,3.9s
NGP Nagpur 61.48 272 *e*P **P** **19 22 56.8 -0.6**
SUMG Summit 61.85 3 *i* P **P** **19 22 59.2 -0.5**
SUMG Summit 61.85 3 *e*P **P** **19 22 59.2 -0.5**
MSO Missoula 62.48 50 *e*P **P** **19 23 04.9 +1.0**
comp=Z,12nm,1.4s
BEKR Beckworth 63.12 60 *e*P **P** **19 23 09.3 +1.0**
comp=Z,8.0nm,1.3s
FFC Flin Flon 63.20 38 *e*P **P** **19 23 08.8 +0.4**
comp=Z,7.1nm,0.8s
FFC Flin Flon 63.20 38 *e*P **P** **19 23 09.5 +1.1**
FFC Flin Flon 63.20 38 *e*P **P** **19 23 08.8 +0.4**
FFC pmax pmax
comp=Z,7.0nm,0.8s
FCC Fort Churchill 63.54 31 *e*P **P** **19 23 10.2 -0.3**
comp=Z,5.6nm,0.6s
FIA0 FINESS Array S 63.77 333 *e*P **P** **19 23 10.0 -2.0**
FIA0 *e*PcP **PcP** **19 23 46.0 -0.7**
FIA0 *e* 19 55 00.4
FIA0 FINESS Array S 63.77 333 *e*P **P** **19 23 10.0 -2.0**
FIA0 *e* 19 23 46.1
FINES FINESS Array B 63.77 333 *e*P **P** **19 23 10.3 -1.7**
FINES FINESS Array B 63.77 333 *i* P **P** **19 23 10.3 -1.7**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 63.77 333 P **P** **19 23 10.0 -2.0**
comp=Z,8.5nm,0.8s,baz=32,slow=7.4,SNR=22
FINES PcP **PcP** **19 23 46.0 -0.7**
comp=Z,5.2nm,0.9s,baz=46,slow=4.8,SNR=4.6
FINES LR LR 19 55 00.4
comp=Z,32nm,18.4s,baz=26,slow=40
HYB Hyderabad 64.32 269 *i* P **P** **19 23 17.0 +0.7**
comp=Z,31nm,0.8s
HYB Hyderabad 64.32 269 *e*P **P** **19 23 16.1 -0.1**
YERR Yerington 64.34 60 *e*P **P** **19 23 16.4 0.0**
comp=Z,11nm,1.3s
BOZ Bozeman (W) 64.50 50 *e*P **P** **19 23 18.8 +1.5**
comp=Z,3.0nm,0.8s
BOZ Bozeman (W) 64.50 50 *e*P **P** **19 23 18.9 +1.6**
BOZ Bozeman (W) 64.50 50 *e*P **P** **19 23 18.8 +1.5**
BOZ pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 64.58 324 *e*P **P** **19 23 15.7 -1.7**
OBN Obninsk 64.58 324 *e*P **P** **19 23 15.7 -1.7**
OBN *i* 19 23 48.1
OBN *e**PP **PcP** **19 23 51.4 +1.3**
OBN *e* 19 25 37.6
OBN pmax pmax
comp=Z,9.0nm,0.6s
GEYT Alibeck 64.78 299 P **P** **19 23 18.7 -0.4**
comp=Z,8.0nm,0.7s,baz=35,slow=3.6,SNR=20
GYA0B ALIBECK ARRAY 64.78 299 *e*P **P** **19 23 18.6 -0.4**
comp=Z,11nm,0.8s
KVN Kaiserville 64.99 59 *e*P **P** **19 23 22.3 +1.7**
comp=Z,6.3nm,1.1s
KVN Kaiserville 64.99 59 *e*P **P** **19 23 22.3 +1.7**
KVN pmax pmax
comp=Z,6.0nm,1.1s
VRH Novokhopyorsk 65.02 319 *e*P **P** **19 23 18.0 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
NV01 Mina Array Sit 65.26 60 *e*P **P** **19 23 23.6 +1.2**
NVAR Mina Array Bea 65.26 60 P **P** **19 23 24.3 +1.9**
comp=Z,1.9nm,0.7s,baz=295,slow=7.4,SNR=10.0
LPSR Galich'ya Gora 65.33 321 *e*P **P** **19 23 20.0 -2.2**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
NV11 Mina Array Sit 65.35 60 *e*P **P** **19 23 24.1 +1.2**
comp=Z,0.4nm,1.2s
CTA Charters Tower 65.58 183 P **P** **19 23 26.0 +1.8**
CTA pmax pmax
comp=Z,8.0nm,1.1s
CTA Charters Tower 65.58 183 P **P** **19 23 25.9 +1.8**
comp=Z,7.7nm,1.1s,baz=333,slow=2.3,SNR=3.1
MDRS Chennai 66.12 264 *e*P **P** **19 23 27.4 -0.4**
MDRS IAmb IAmb 19 23 29.5
comp=Z,81nm,1.5s
VSR Storozhevoye 66.18 320*d i*P **P** **19 23 26.3 -1.4**
VSR pmax pmax
comp=Z,11nm,0.5s
BHJ Bhuj 66.64 280 *e*P **P** **19 23 30.6 -0.5**
BHJ IAmb IAmb 19 23 32.5
comp=Z,10µm,6.0s
WRAB Tennant Creek 66.76 195 *i* P **P** **19 23 32.7 +1.0**
WRAB pmax pmax
comp=Z,21nm,1.9s
WB2 Warramunga Arr 66.77 195 *e*P **P** **19 23 32.6 +0.8**
WR1 Warramunga Arr 66.77 195 *e*P **P** **19 23 32.4 +0.6**
comp=Z,33nm,1.8s
WRA Warramunga Arr 66.77 195 P **P** **19 23 32.4 +0.6**
comp=Z,3.4nm,0.8s,baz=12,slow=6.7,SNR=21
POO Poona 66.86 273 *e*P **P** **19 23 32.4 -0.2**
POO IAmb IAmb 19 23 33.6
comp=Z,62nm,1.0s
R11A Troy Canyon, C 66.95 58 *e*P **P** **19 23 32.4 -0.7**
comp=Z,8.8nm,1.6s
PD31 Pinedale Array 67.48 51 *e*P **P** **19 23 36.3 -0.2**
PDAR Pinedale Array 67.48 51 *e*P **P** **19 23 36.2 -0.3**
PDAR pP **pP** **19 24 09.5 -0.4**
PDAR Pinedale Array 67.48 51 P **P** **19 23 37.7 +1.2**
comp=Z,1.8nm,0.6s,baz=263,slow=2.3,SNR=12
PDAR pP **pP** **19 24 09.5 -0.4**
comp=Z,1.3nm,0.8s,baz=22,slow=1.6,SNR=3.2
NB2 NORSAR Subarra 68.27 339 P **P** **19 23 39.2 -1.5**
comp=Z,1.3nm,0.5s,baz=29,slow=6.5
NB200 NORSAR Array S 68.27 339 *e*P **P** **19 23 39.3 -1.5**

NOA NORSAR Array B 68.27 339 P **P** **19 23 39.3 -1.5**
comp=Z,3.0nm,0.7s,baz=29,slow=6.6,SNR=15
NOA LR LR 19 58 57.7
comp=Z,15nm,18.8s,baz=280,slow=41
SHPR Sheep Range 68.41 60 *e*P **P** **19 23 42.7 +0.4**
comp=Z,7.0nm,1.2s
GOF Gofitskoye 68.58 313⇑ *i*P **P** **19 23 42.3 -0.7**
GOF pmax pmax
comp=Z,40nm,0.7s
SZCU Shurtz Canyon 68.93 58 *e*P **P** **19 23 45.0 -0.6**
comp=Z,5.3nm,1.2s
GOA Goa 68.94 271 *e*P **P** **19 23 45.1 -0.4**
ULM Lac du Bonnet 69.00 39 P **P** **19 23 45.0 -0.5**
comp=Z,1.5nm,0.6s,baz=318,slow=4.2,SNR=5.4
LCMT Little Creek M 69.22 58 *e*P **P** **19 23 47.1 -0.2**
comp=Z,3.9nm,0.8s
DZM Mont Dzumac 69.28 163 LR LR 19 49 07.1
comp=Z,19nm,20.6s,baz=29,slow=31
SRU San Rafael Swe 69.40 55 *e*P **P** **19 23 49.7 +1.3**
comp=Z,5.1nm,1.0s
KIV Kislovodsk 69.53 312 *e*P **P** **19 23 48.4 -0.6**
comp=Z,21nm,0.7s
KIV Kislovodsk 69.53 312⇑ *i*P **P** **19 23 49.8 +0.8**
KIV Kislovodsk 69.53 312 *e*P **P** **19 23 50.0 +1.0**
KIV Kislovodsk 69.53 312 *i* P **P** **19 23 49.6 +0.6**
SNR=9.4
KIV Kislovodsk 69.53 312 *e*P **P** **19 23 50.0 +1.0**
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,29nm,18.0s
KBZ Khabaz 69.58 312 P **P** **19 23 49.4 +0.2**
comp=Z,12nm,0.8s,baz=48,slow=6.4,SNR=30
KBZ LR LR 19 58 05.8
comp=Z,41nm,18.6s,baz=56,slow=39
BORG Borgarnes 69.60 356 *e*P **P** **19 23 50.6 +1.7**
comp=Z,226nm,1.4s
BORG Borgarnes 69.60 356 P **P** **19 23 50.6 +1.7**
comp=Z,38nm,1.1s,baz=18,slow=6.4,SNR=3.8
ZEI Tsey 69.71 311 *e*P **P** **19 23 48.5 -1.7**
ZEI Tsey 69.71 311 *e*P **P** **19 23 48.5 -1.7**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
PALK Pallekele 69.89 260 *e*P **P** **19 23 50.7 -0.8**
comp=Z,22nm,0.9s
PALK Pallekele 69.89 260 P **P** **19 23 52.4 +0.9**
PALK Pallekele 69.89 260 *e*P **P** **19 23 50.7 -0.8**
PALK pmax pmax
comp=Z,22nm,0.9s
TBLG Delisi 69.99 310 *e*P **P** **19 23 49.5 -2.2**
comp=Z,24nm,0.7s
TBLG Delisi 69.99 310 *e*P **P** **19 23 49.5 -2.2**
TBLG pmax pmax
comp=Z,24nm,0.7s
U15A North Rim 70.18 58 *e*P **P** **19 23 51.1 -2.2**
comp=Z,3.7nm,0.9s
AGMN Agassiz Nation 70.45 40 *e*P **P** **19 23 54.4 +0.1**
comp=Z,28nm,1.8s
AS01 Alice Springs 70.47 195 *e*P **P** **19 23 55.9 +1.2**
AS31 Alice Springs 70.48 195 *e*P **P** **19 23 56.4 +1.6**
comp=Z,1.2nm,0.6s
ASAR Alice Springs 70.48 195 P **P** **19 23 56.6 +1.8**
comp=Z,3.8nm,0.7s,baz=9.2,slow=5.4,SNR=38
PV21 Cone Mtn., Par 70.66 54 *e*P **P** **19 23 55.5 -0.6**
comp=Z,6.9nm,0.9s
AKASG Malin Array Be 70.84 324 *i* P **P** **19 23 55.4 -1.3**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 70.84 324 P **P** **19 23 55.1 -1.6**
comp=Z,2.2nm,0.3s,baz=36,slow=6.3,SNR=27
AKBB Malin Array Si 70.84 324 *e*P **P** **19 23 54.2 -2.5**
comp=Z,7.2nm,0.6s
KIEV Kiev 70.85 324 *e*P **P** **19 23 53.9 -2.8**
comp=Z,6.9nm,0.7s
KIEV Kiev 70.85 324⇑ *i*P **P** **19 23 55.6 -1.1**
KIEV Kiev 70.85 324 *i* P **P** **19 23 55.3 -1.5**
SNR=6.3
KIEV Kiev 70.85 324 *e*P **P** **19 23 53.9 -2.8**
KIEV pmax pmax
comp=Z,7.0nm,0.7s
AK11 Malin Array Si 70.88 324 *e*P **P** **19 23 55.2 -1.7**
ECSD EROS Data Cent 73.48 44 *e*P **P** **19 24 11.5 -1.1**
comp=Z,4.1nm,0.8s
BANOM Banah 73.86 291 *i* P **P** **19 24 15.8 +0.7**
SNR=17
BANOM Banah 73.86 291 P **P** **19 24 15.8 +0.7**
SNR=6.0
SHME Shamm 73.88 291 *i* P **P** **19 24 15.4 +0.2**
SNR=7.9
SIRT Sirnak 74.23 308 *e*P **P** **19 24 17.1 0.0**
comp=Z,31nm,0.8s
KWP Kalwaria Pacla 74.26 327 *e*P **P** **19 24 16.3 -0.7**
comp=Z,95nm,0.6s
KWP Kalwaria Pacla 74.26 327 *e*P **P** **19 24 16.3 -0.7**
KWP pmax pmax
comp=Z,95nm,0.6s
MDH Madha 74.29 290 *i* P **P** **19 24 17.2 -0.3**
SNR=7.5
BIDO Bidbid 74.29 288 P **P** **19 24 19.5 +1.9**
SNR=7.0
MSFE Esma-Masafi 74.34 290 *i* P **P** **19 24 18.2 +0.4**
SNR=8.7
JLN Jalan Bani Buh 74.37 286 P **P** **19 24 19.7 +1.6**
SNR=15
ANMO Albuquerque 74.63 56⇓ *i*P **P** **19 24 20.0 +0.4**
ANMO pmax pmax
comp=Z,1.0nm,0.8s
HATD Hatta, Dubai 74.72 290 *i* P **P** **19 24 20.9 +0.8**
SNR=24
HATD Hatta, Dubai 74.72 290 P **P** **19 24 20.9 +0.8**
OJC Ojcow 74.85 329 *e*P **P** **19 24 19.8 -0.6**
comp=Z,5.3nm,0.6s
OJC Ojcow 74.85 329 *e*P **P** **19 24 19.8 -0.6**
OJC Ojcow 74.85 329 *e*P **P** **19 24 19.8 -0.6**
OJC pmax pmax
comp=Z,5.0nm,0.6s
ASHO Ashiyiah 74.87 290 *i* P **P** **19 24 21.4 +0.5**
SNR=18
ASHO Ashiyiah 74.87 290 P **P** **19 24 21.6 +0.7**
SNR=10
BUR08 Bucovina Ar. S 74.88 325 *e*P **P** **19 24 19.1 -1.5**
comp=Z,7.5nm,0.6s
BURAR Bucovina Array 74.89 324⇓ *i*P **P** **19 24 20.0 -0.8**
SOHO SOHO 74.93 289 P **P** **19 24 21.8 +0.5**
SNR=7.8
BIZ Bicaz 75.07 324⇑ *i*P **P** **19 24 21.0 -0.7**
FAQ Al Faqa, Dubai 75.13 290 *i* P **P** **19 24 22.8 +0.4**
SNR=17
FAQ Al Faqa, Dubai 75.13 290 P **P** **19 24 22.8 +0.4**
TESR Tescani 75.18 323⇑ *i*P **P** **19 24 21.9 -0.4**
SCHQ Schefferville 75.23 21 *e*P **P** **19 24 22.7 +0.2**
comp=Z,26nm,1.3s
SCHQ Schefferville 75.23 21 P **P** **19 24 22.7 +0.2**
comp=Z,9.9nm,0.9s,baz=320,slow=5.6,SNR=14
TLCR 75.29 321⇓ *i*P **P** **19 24 22.5 -0.4**
NIE Niedzica 75.33 328 *e*P **P** **19 24 24.2 +1.1**
NIE Niedzica 75.33 328 *e*P **P** **19 24 24.3 +1.1**
319A Douglas 75.47 60 *e*P **P** **19 24 24.6 +0.2**
comp=Z,11nm,0.9s
ALNE Al Ain 75.50 290 *i* P **P** **19 24 25.1 +0.6**
SNR=14
TRPA Tarpa 75.54 326⇑ *i*P **P** **19 24 24.2 -0.1**
CFR Carcaliu 75.59 321⇑ *i*P **P** **19 24 23.6 -1.0**
ODBI Odobesti 75.60 322⇑ *i*P **P** **19 24 25.1 +0.4**
VRI Vrincioaia 75.66 323⇑ *i*P **P** **19 24 25.1 0.0**
PLOR Plostina 75.70 323⇓ *i*P **P** **19 24 25.6 +0.2**
LANS Liptovska Anna 75.86 329 *e*P **P** **19 24 27.2 +1.0**
LANS Liptovska Anna 75.86 329 *e*P **P** **19 24 27.2 +1.0**
OZUR 75.87 323⇓ *i*P **P** **19 24 26.0 -0.3**
DPC Dobruska-Polom 75.95 331 *e*P **P** **19 24 26.7 0.0**
DPC Dobruska-Polom 75.95 331 *e*P **P** **19 24 26.7 0.0**
MORC Moravsky Berou 76.02 330 *e*P **P** **19 24 26.6 -0.5**
comp=Z,12nm,1.4s
MORC Moravsky Berou 76.02 330⇓ *i*P **P** **19 24 26.6 -0.5**
TIRR Tirgusor 76.04 321⇑ *i*P **P** **19 24 27.4 +0.2**
TLB Topalu 76.10 321⇑ *i*P **P** **19 24 28.0 +0.5**
MHTO MHTO 76.14 286 P **P** **19 24 29.5 +1.3**
SNR=28
DOPR Dopca 76.14 323⇑ *i*P **P** **19 24 26.4 -1.4**
CLL Collm 76.21 333 *e*P **P** **19 24 26.2 -1.9**
comp=Z,9.3nm,0.6s
CLL Collm 76.21 333 *e*P **P** **19 24 27.0 -1.0**
comp=Z,9.4nm,0.6s,baz=29,slow=4.7
CLL Collm 76.21 333⇓ *i*P **P** **19 24 26.9 -1.2**
comp=Z,9.0nm,0.6s
CLL *e*(pP) **pP** **19 25 03.0 +1.6**

CLL	**Collm**	**76.21 333**	*eP*	**P**	**19 24 26.9**	**-1.2**
CLL	**Collm**	**76.21 333** ⇓	*iP*	**P**	**19 24 26.9**	**-1.2**
CLL			*e**PP	**pP**	**19 25 03.0**	**+1.6**
CLL			pmax	pmax		
	comp=Z,9.0nm,0.6s					
MLR	**Muntele Rosu**	**76.29 323** ⇓	*iP*	**P**	**19 24 29.1**	**+0.3**
BRG	**Berggiesshubel**	**76.29 333**	*eP*	**P**	**19 24 28.1**	**-0.4**
	comp=Z,2.2nm,0.5s					
BRG	**Berggiesshubel**	**76.29 333**	*eP*	**P**	**19 24 28.1**	**-0.4**
BRG	**Berggiesshubel**	**76.29 333**	*eP*	**P**	**19 24 28.1**	**-0.4**
BRG			pmax	pmax		
	comp=Z,2.0nm,0.5s					
ISR	**Istrita**	**76.33 322** ⇓	*iP*	**P**	**19 24 28.9**	**0.0**
PVCC	**Panska Ves**	**76.39 332**	*eP*	**P**	**19 24 30.7**	**+1.6**
PVCC	**Panska Ves**	**76.39 332**	*eP*	**P**	**19 24 30.7**	**+1.6**
DRGR		**76.57 325** ⇓	*iP*	**P**	**19 24 29.9**	**-0.4**
ICOR	**Ion Corvin**	**76.58 321** ⇑	*iP*	**P**	**19 24 30.6**	**+0.4**
VYHS	**Vyhne**	**76.64 329**	*eP*	**P**	**19 24 30.4**	**-0.1**
VYHS			pmax	pmax		
	comp=Z,8.0nm,1.6s					
VYHS	**Vyhne**	**76.64 329**	*eP*	**P**	**19 24 30.4**	**-0.1**
VOIR		**76.71 323** ⇓	*iP*	**P**	**19 24 30.8**	**-0.3**
PSZ	**Piszkesteto**	**76.73 328**	*eP*	**P**	**19 24 27.7**	**-3.4**
	comp=Z,5.4nm,0.9s					
PSZ	**Piszkesteto**	**76.73 328** ⇑	*iP*	**P**	**19 24 30.9**	**-0.2**
PSZ	**Piszkesteto**	**76.73 328**	*eP*	**P**	**19 24 27.7**	**-3.4**
PSZ			pmax	pmax		
	comp=Z,5.0nm,0.9s					
VRAC	**Vranov**	**76.75 330** ⇓	*iP*	**P**	**19 24 31.3**	**+0.1**
GOPC	**GO Pecny, Ondr**	**76.84 332**	*eP*	**P**	**19 24 31.4**	**-0.3**
GOPC			*ex*	x	19 24 36.3	
GOPC	**GO Pecny, Ondr**	**76.84 332**	*eP*	**P**	**19 24 31.4**	**-0.3**
GOPC			*e*		19 24 36.3	
PRU	**Pruhonice**	**76.86 332**	*eP*	**P**	**19 24 31.5**	**-0.2**
PRU			*ex*	x	19 24 35.8	
PRU	**Pruhonice**	**76.86 332**	*eP*	**P**	**19 24 31.5**	**-0.2**
PRU	**Pruhonice**	**76.86 332**	*eP*	**P**	**19 24 31.5**	**-0.2**
PRU			*e*		19 24 35.8	
ARR	**Arges**	**76.94 323** ⇓	*iP*	**P**	**19 24 31.8**	**-0.6**
DQM	**DQM**	**77.16 285**	P	**P**	**19 24 34.8**	**+0.9**
BR101	**Keskin Array S**	**77.23 315**	*eP*	**P**	**19 24 34.4**	**+0.2**
BR131	**Keskin Array S**	**77.23 315**	*eP*	**P**	**19 24 34.4**	**+0.2**
	comp=Z,6.2nm,0.8s					
BRTR	**Keskin Array B**	**77.23 315**	*i* P	**P**	**19 24 35.0**	**+0.8**
BRTR			pmax	pmax		
	comp=Z,3.0nm,0.7s					
BRTR	**Keskin Array B**	**77.23 315**	P	**P**	**19 24 34.4**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=107,slow=3.1,SNR=17					
MODS	**Modra-Piesok**	**77.30 329**	*eP*	**P**	**19 24 35.9**	**+1.6**
MODS			pmax	pmax		
	comp=Z,10.0nm,1.1s					
MODS	**Modra-Piesok**	**77.30 329**	*eP*	**P**	**19 24 35.9**	**+1.6**
ANTO	**Ankara**	**77.54 315**	*eP*	**P**	**19 24 36.4**	**+0.6**
	comp=Z,12nm,0.6s					
ANTO	**Ankara**	**77.54 315** ⇑	*iP*	**P**	**19 24 36.2**	**+0.4**
ANTO	**Ankara**	**77.54 315**	*eP*	**P**	**19 24 36.4**	**+0.6**
ANTO			pmax	pmax		
	comp=Z,12nm,0.6s					
GZR	**Gura Zlata**	**77.68 325** ⇑	*iP*	**P**	**19 24 36.3**	**-0.2**
KHC	**Kasperske Hory**	**77.92 332**	*eP*	**P**	**19 24 37.2**	**-0.5**
	comp=Z,2.1nm,0.7s					
KHC	**Kasperske Hory**	**77.92 332**	*eP*	**P**	**19 24 37.4**	**-0.3**
KHC			*ex*	x	19 24 41.9	
KHC	**Kasperske Hory**	**77.92 332**	*eP*	**P**	**19 24 37.4**	**-0.3**
KHC	**Kasperske Hory**	**77.92 332**	*eP*	**P**	**19 24 37.4**	**-0.3**
KHC			*e*		19 24 41.9	
GEC2	**GERESS Array S**	**78.12 332**	*eP*	**P**	**19 24 38.2**	**-0.7**
	comp=Z,14nm,1.8s					
GEC2	**GERESS Array S**	**78.12 332**	*eP*	**P**	**19 24 38.2**	**-0.7**
GEC2			pmax	pmax		
	comp=Z,14nm,1.8s					
GERES	**GERESS Array B**	**78.12 332**	P	**P**	**19 24 38.2**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=36,slow=5.8,SNR=23					
GEA0	**GERESS Array S**	**78.13 332**	*eP*	**P**	**19 24 38.3**	**-0.7**
CONA	**Conrad Observa**	**78.18 330**	*eP*	**P**	**19 24 39.7**	**+0.5**
	comp=Z,6.9nm,1.1s					
GRF	**Grafenberg Arr**	**78.18 334**	*eP*	**P**	**19 24 39.0**	**-0.1**
	comp=Z,5.8nm,1.1s,baz=29,slow=4.7					
HERR	**Herculane**	**78.25 324** ⇓	*iP*	**P**	**19 24 39.6**	**+0.1**
PUNG	**Punghina**	**78.53 324** ⇑	*iP*	**P**	**19 24 40.6**	**-0.5**
MDVR	**Moldovita**	**78.62 325** ⇓	*iP*	**P**	**19 24 41.2**	**-0.4**
PHSR	**Pinarhisar**	**78.67 319** ⇓	*iP*	**P**	**19 24 41.7**	**-0.2**
MOA	**Molln**	**78.80 331**	*i* P	**P**	**19 24 42.8**	**+0.3**
	comp=Z,2.7nm,0.7s					
MPEP	**Malo Peshtene**	**78.94 323**	*eP*	**P**	**19 24 44.2**	**+0.8**
BCLA	**Clavier**	**79.24 337** ⇑	P	**P**	**19 24 44.3**	**-0.6**
	comp=Z,7.5nm,0.6s					
SOKA	**Soboth**	**79.54 330**	*i* P	**P**	**19 24 47.4**	**+0.7**
	comp=Z,8.7nm,0.8s					
WLF	**Walferdange**	**79.70 337** ⇓	PcP	**P**	**19 24 51.1**	**+3.8**
	comp=Z,7.1nm,0.9s					
VTS	**Vitosha**	**79.76 323**	*eP*	**P**	**19 24 47.9**	**-0.1**
	comp=Z,13nm,0.9s					
VTS	**Vitosha**	**79.76 323** ⇑	*iP*	**P**	**19 24 48.1**	**+0.1**
VTS	**Vitosha**	**79.76 323**	*eP*	**P**	**19 24 48.1**	**+0.1**
KBA	**Koelnbreinsper**	**79.78 331**	*i* P	**P**	**19 24 48.5**	**+0.4**
	comp=Z,12nm,0.7s					
DIVS	**Divibare**	**79.87 325**	*eP*	**P**	**19 24 47.1**	**-1.4**
	comp=Z,5.9nm,0.9s					
ALN	**Alexandroupoli**	**79.92 320**	*eP*	**P**	**19 24 47.3**	**-1.4**
	comp=Z,6.6nm,1.1s					
ALN	**Alexandroupoli**	**79.92 320**	*eP*	**P**	**19 24 47.3**	**-1.4**
ALN			pmax	pmax		
	comp=Z,7.0nm,1.1s					
MYKA	**Terra Mystica**	**80.06 331**	*i* P	**P**	**19 24 49.5**	**0.0**
	comp=Z,3.6nm,0.9s					
WATA	**Walderalm**	**80.14 332**	*i* P	**P**	**19 24 50.2**	**+0.2**
	comp=Z,7.0nm,0.5s					
RETA	**Reutte**	**80.27 333**	*i* P	**P**	**19 24 50.6**	**0.0**
	comp=Z,8.5nm,1.1s					
BFO	**Black Forest**	**80.27 335**	*eP*	**P**	**19 24 49.7**	**-0.8**
	comp=Z,12nm,0.7s					
BFO	**Black Forest**	**80.27 335**	*eP*	**P**	**19 24 49.7**	**-0.8**
BFO			pmax	pmax		
	comp=Z,12nm,0.7s					
MOTA	**Moosalm**	**80.28 333**	*i* P	**P**	**19 24 50.7**	**-0.1**
	comp=Z,11nm,0.9s					
TX31	**Lajitas Ar. Si**	**80.31 58**	*eP*	**P**	**19 24 52.0**	**+0.9**
TXAR	**Lajitas Array**	**80.31 58**	P	**P**	**19 24 52.5**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=301,slow=4.3,SNR=14					
TXAR			pP	**pP**	**19 25 25.0**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=298,slow=3.6,SNR=8.0					
ABTA	**Abfaltersbach**	**80.34 331**	*i* P	**P**	**19 24 51.0**	**0.0**
	comp=Z,3.1nm,0.7s					
SQTA	**Sankt Quirin**	**80.36 332**	*i* P	**P**	**19 24 51.4**	**+0.3**
	comp=Z,11nm,0.9s					
MMB	**Musomiste**	**80.39 322**	*eP*	**P**	**19 24 51.3**	**0.0**
EZN	**Ezine**	**80.66 319** ⇓	*iP*	**P**	**19 24 52.5**	**-0.1**
MANT	**Manisa**	**80.67 317**	*eP*	**P**	**19 24 53.1**	**0.0**
	comp=Z,47nm,1.1s					
FETA	**Feichten**	**80.69 333**	*i* P	**P**	**19 24 53.6**	**+0.7**
	comp=Z,9.0nm,1.1s					
ECH	**Echery**	**80.72 335**	*eP*	**P**	**19 24 52.4**	**-0.5**
	comp=Z,14nm,0.9s					
ECH	**Echery**	**80.72 335**	*eP*	**P**	**19 24 52.4**	**-0.5**
ECH			pmax	pmax		
	comp=Z,14nm,0.9s					
DAVA	**Damuels**	**80.72 333**	*i* P	**P**	**19 24 53.6**	**+0.5**
	comp=Z,8.2nm,1.0s					
STIP	**Stip**	**80.96 323**	*i* P	**P**	**19 24 54.0**	**-0.3**
VAY	**Valandovo**	**81.11 322**	*i* P	**P**	**19 24 56.0**	**+0.9**
DAVOX	**Davos/Dischmat**	**81.17 333**	P	**P**	**19 24 54.6**	**-1.0**
	comp=Z,3.7nm,0.6s,baz=4.9,slow=12,SNR=7.3					
FUORN	**Ofenpass-Fuorn**	**81.19 333**	*eP*	**P**	**19 24 56.2**	**+0.5**
	comp=Z,13nm,1.1s					
PDG	**Podgorica**	**81.56 325** ⇓	*iP*	**P**	**19 24 56.9**	**-0.5**
TTG	**Podgorica**	**81.56 325**	*eP*	**P**	**19 24 56.7**	**-0.7**
	comp=Z,21nm,1.0s					
TTG	**Podgorica**	**81.56 325**	*eP*	**P**	**19 24 56.7**	**-0.7**
TTG			pmax	pmax		
	comp=Z,21nm,1.0s					
FNA	**Florina**	**82.06 323**	*eP*	**P**	**19 24 59.3**	**-0.8**
	comp=Z,12nm,0.8s					
FNA	**Florina**	**82.06 323**	*eP*	**P**	**19 24 59.3**	**-0.8**
FNA			pmax	pmax		
	comp=Z,12nm,0.8s					
LIT	**Litokhoron**	**82.15 322**	*eP*	**P**	**19 25 00.1**	**-0.5**
	comp=Z,8.4nm,0.9s					
LIT	**Litokhoron**	**82.15 322**	*eP*	**P**	**19 25 00.1**	**-0.5**
LIT			pmax	pmax		
	comp=Z,8.0nm,0.9s					
SENIN	**Lac Senin/Sane**	**82.34 334**	*eP*	**P**	**19 25 00.5**	**-1.2**
	comp=Z,33nm,1.7s					
RAYN	**Ar Rayn**	**82.50 296**	*eP*	**P**	**19 25 03.3**	**+0.6**
	comp=Z,15nm,0.8s					
RAYN	**Ar Rayn**	**82.50 296**	*i* P	**P**	**19 25 03.5**	**+0.8**
	SNR=28					
RAYN	**Ar Rayn**	**82.50 296**	*eP*	**P**	**19 25 03.3**	**+0.6**
RAYN			pmax	pmax		
	comp=Z,15nm,0.8s					
AGG	**Agios Georgios**	**83.11 321**	*eP*	**P**	**19 25 04.1**	**-1.5**
AGG	**Agios Georgios**	**83.11 321**	*eP*	**P**	**19 25 04.1**	**-1.5**
BNI	**Bardonecchia**	**83.72 334**	*eP*	**P**	**19 25 09.4**	**+0.7**
	comp=Z,8.6nm,0.8s					
PPT	**Papeete**	**83.81 123**	LR	LR	20 06 02.8	
	comp=Z,20nm,18.5s,baz=15,slow=38					
AQU	**L'Aquila**	**83.87 329**	*eP*	**P**	**19 25 07.4**	**-2.0**
	comp=Z,20nm,0.9s					
AQU	**L'Aquila**	**83.87 329**	*eP*	**P**	**19 25 07.4**	**-2.0**
AQU			pmax	pmax		
	comp=Z,20nm,0.9s					
MATE	**Matera**	**84.08 326** ⇓	*iP*	**P**	**19 25 09.9**	**-0.5**
ITM	**Ithomi**	**84.81 320**	*eP*	**P**	**19 25 13.4**	**-0.8**
	comp=Z,31nm,0.8s					
IDI	**Anoyia**	**84.99 317**	*eP*	**P**	**19 25 14.0**	**-1.3**
	comp=Z,23nm,0.8s					
IDI	**Anoyia**	**84.99 317** ⇑	*iP*	**P**	**19 25 13.9**	**-1.3**
TIP	**Timpagrande**	**85.32 325**	*eP*	**P**	**19 25 16.4**	**-0.4**
	comp=Z,29nm,1.1s					
TIP	**Timpagrande**	**85.32 325** ⇓	*iP*	**P**	**19 25 16.6**	**-0.2**
TKL	**Tuckaleechee C**	**85.91 41**	*eP*	**P**	**19 25 20.3**	**+0.6**
	comp=Z,64nm,1.9s					
TKL	**Tuckaleechee C**	**85.91 41**	P	**P**	**19 25 20.3**	**+0.6**
	comp=Z,2.9nm,0.6s,baz=225,slow=2.9,SNR=3.8					
KEST	**Kesra**	**91.19 328**	*eP*	**P**	**19 25 44.3**	**-0.4**
	comp=Z,11nm,0.8s					
KEST	**Kesra**	**91.19 328**	P	**P**	**19 25 44.1**	**-0.7**
	comp=Z,11nm,0.8s,baz=310,slow=7.9,SNR=10					
ESDC	**Sonseca Array**	**91.63 340**	P	**P**	**19 25 45.7**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=14,slow=4.0,SNR=6.2					
ESDC			LR	LR	20 15 41.1	
	comp=Z,19nm,18.3s,baz=350,slow=41					
TOA1	**Torodi Ar. Sit**	**114.47 325**	*e*PKiKP	**PKiKP**	**19 31 18.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**114.47 325**	PKiKP	**PKiKP**	**19 31 18.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=13,slow=2.9,SNR=4.4					
DBIC	**Dimbokro**	**122.91 329**	PKP	**PKPdf**	**19 31 35.2**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=3.6,slow=3.7,SNR=6.5					
VNDA	**Vanda**	**123.24 177**	PKP	**PKiKP**	**19 31 35.0**	**+0.7**
	comp=Z,1.9nm,0.9s,baz=14,slow=2.7,SNR=3.2					
BDFB	**Brasilia**	**146.67 31**	PKPbc	**PKPab**	**19 32 22.1**	**-0.5**
	comp=Z,5.4nm,0.7s,baz=290,slow=1.3,SNR=7.7					
PLCA	**Paso Flores**	**150.79 95**	PKPbc	**PKiKP**	**19 32 32.4**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=292,slow=1.9,SNR=8.7					
PLCA			*e*PKPbc	**pPKPbc**	**19 33 08.8**	**+1.0**
	comp=Z,6.2nm,0.8s,baz=272,slow=3.8,SNR=6.2					
CPUP	**Villa Florida**	**151.27 57**	PKPbc	**PKiKP**	**19 32 32.6**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=285,slow=3.6,SNR=4.7					

*IDC **04** 19:28:55.3±1.0, 3.°78N×126.°90E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/35, mbtmp3.6/6, Error ellipse: s-maj=88.0km s-min=17.9km az=71.0*
*ISCJB **04** 19:28:59.4±0.8, 3.°73N±0.°06×126.°91E±0.°08, h36km, mb3.5/6, Error ellipse: s-maj=12.5km s-min=6.8km az=144.7*
*DJA **04** 19:29:00.1±1.4, 4.°N±14.°×12.°7E±.°, h49km±10km, M3.8/5, mb3.7/2, MLv3.8/5*
ISC 04 19:29:01.3±0.9, 3.°73N±0.°07×126.°81E±0.°09, h36km, n13, σ1§48/15, mb3.6/6, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.28**	**268**	P		P	**Pn**	**19 29 21.3**	**-1.3**
SGSI				S		S	**Sn**	**19 29 39.0**	**+0.5**
TNTI	**Ternate**	**2.99**	**169**	P		P	**Pn**	**19 29 47.8**	**+1.7**
SKMP	**Bagumbayan, Su**	**3.58**	**321**	*eP*		P	**Pn**	**19 29 56.2**	**+2.0**
SKMP				*eS*		S	**Sn**	**19 30 37.1**	**+1.9**
KCP	**Kidapawan**	**3.68**	**332**	⇑	*iP*	P	Pn	19 30 00.2	+4.5
CTBH	**Cotabato--PC H**	**4.31**	**324**	⇑	*iP*	P	Pn	19 30 08.3	+4.0
SANI	**Sanana**	**5.80**	**188**	P		P	**Pn**	**19 30 26.0**	**+1.3**
MRSI	**Marisa**	**5.84**	**237**	P		P	**Pn**	**19 30 28.1**	**+2.8**
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P		P	**P**	**19 33 48.6**	**-0.8**
	1.6nm,0.7s,baz=348,slow=9.3,SNR=3.8								
WRA	**Warramunga Arr**	**24.66**	**163**	P		P	**P**	**19 34 17.6**	**-1.2**
	1.5nm,0.5s,baz=344,slow=10,SNR=20								
WRA				PcP		**PcP**	**PcP**	**19 37 55.9**	**+0.1**
	0.3nm,0.7s,baz=336,slow=2.3,SNR=3.0								
ASAR	**Alice Springs**	**28.09**	**166**	P		P	**P**	**19 34 48.9**	**-0.8**
	0.2nm,0.3s,baz=345,slow=7.8,SNR=4.5								
ASAR				PcP		**PcP**	**PcP**	**19 38 04.1**	**+0.3**
	0.3nm,0.8s,baz=356,slow=2.2,SNR=4.4								
STKA	**Stephens Creek**	**38.10**	**159**	P		P	**P**	**19 36 16.8**	**+0.1**
	1.1nm,0.6s,baz=349,slow=7.8,SNR=5.0								
SONM	**Songino Array**	**47.33**	**341**	P		P	**P**	**19 37 30.7**	**-0.9**
	0.1nm,0.4s,baz=152,slow=6.5,SNR=2.9								
MKAR	**Makanchi Array**	**57.60**	**325**	P		P	**P**	**19 38 46.8**	**-0.9**
	0.4nm,0.5s,baz=117,slow=7.6,SNR=10								

*ISCJB **04** 19:39:01.5±0.6, 1.°96N±0.°03×127.°34E±0.°07, h112km, mb4.0/9, Error ellipse: s-maj=9.9km s-min=4.5km az=170.1*
*DJA **04** 19:39:03.1±0.7, 2.°N±3.°×12.°7E±.°, h115km±8km, M4.4/9, mb4.4/4, mB4.7/2, MLv4.4/9, Mw(mB)4.0/2*
*IDC **04** 19:39:05.4±3.3, 1.°80N×127.°18E, h134km±29km, mb3.7/9, mb1 3.8/9, mb1mx3.5/49, mbtmp4.1/9, Error ellipse: s-maj=49.8km s-min=13.2km az=76.0*
ISC 04 19:39:02.8±0.7, 1.°94N±0.°04×127.°33E±0.°09, h112km, n22, σ1§34/30, mb3.9/9, 2C-1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.16**	**178**	P		P	**Pn**	**19 39 26.1**	**+0.2**
TNTI				S		S	**Sn**	**19 39 43.6**	**+0.3**
SGSI	**Sangihe**	**2.50**	**314**	P		P	**Pn**	**19 39 42.8**	**+0.5**
KMSI	**Cibinong**	**3.62**	**248**	P		P	**Pn**	**19 39 56.9**	**-0.1**
KMSI				S		S	**Sn**	**19 40 39.4**	**+0.4**
SANI	**Sanana**	**4.19**	**199**	P		P	**Pn**	**19 40 02.6**	**-2.1**
DDMP	**Don Marcelino,**	**4.44**	**339**	*eP*		P	**Pn**	**19 40 07.3**	**-0.8**
DDMP				*eS*		S	**Sn**	**19 40 57.0**	**-1.8**
GSPH	**General Santos**	**4.75**	**330**	⇓	*iP*	P	**Pn**	**19 40 13.4**	**+1.0**
GSPH				*i*	S	S	**Sn**	**19 41 06.2**	**-0.4**
SKMP	**Bagumbayan, Su**	**5.33**	**329**	*eP*		P	**Pn**	**19 40 20.9**	**+0.8**
SKMP				*eS*		S	**Sn**	**19 41 18.4**	**-1.9**
LUWI	**Luwuk**	**5.44**	**237**	P		P	**Pn**	**19 40 22.5**	**+0.9**
KCP	**Kidapawan**	**5.51**	**336**	⇑	*iP*	P	**Pn**	**19 40 24.7**	**+2.2**
KCP				*i*	S	S	**Sn**	**19 41 25.6**	**+0.8**
MRSI	**Marisa**	**5.58**	**255**	P		P	**Pn**	**19 40 24.6**	**+1.1**
CTBH	**Cotabato--PC H**	**6.08**	**330**	⇑	*iP*	P	**Pn**	**19 40 29.1**	**-1.1**
IPIL	**Ipil**	**7.50**	**321**	*eP*		P	**Pn**	**19 40 49.4**	**-0.1**
IPIL				*eS*		S	**Sn**	**19 42 10.0**	**-3.0**
ASAR	**Alice Springs**	**26.25**	**166**	P		P	**P**	**19 44 28.6**	**+0.9**
	0.4nm,0.4s,baz=346,slow=12,SNR=5.7								
ASAR				ScP		**ScP**	**ScP**	**19 51 18.8**	**-2.5**
	0.2nm,0.6s,baz=1.2,slow=3.8,SNR=3.5								
KSRS	**Korea Array**	**35.34**	**1**	P		P	**P**	**19 45 49.0**	**+1.6**
	0.5nm,0.5s,baz=180,slow=8.7,SNR=3.5								
NWAO	**Narrogin (SRO)**	**35.97**	**195**	P		P	**P**	**19 45 51.7**	**-1.1**
	18nm,1.3s,baz=21,slow=14,SNR=2.5								
STKA	**Stephens Creek**	**36.26**	**159**	P		P	**P**	**19 45 54.1**	**-1.2**
	1.3nm,0.6s,baz=348,slow=8.5,SNR=5.0								
SONM	**Songino Array**	**49.17**	**341**	P		P	**P**	**19 47 40.8**	**+1.3**
	0.8nm,0.6s,baz=156,slow=8.2,SNR=8.9								
MKAR	**Makanchi Array**	**59.36**	**326**	P		P	**P**	**19 48 54.4**	**+1.1**
	3.0nm,0.4s,baz=114,slow=7.8,SNR=84								
KURBB	**Kurchatov Arra**	**63.56**	**328**	P		P	**P**	**19 49 22.0**	**+0.6**
	2.6nm,0.5s,baz=128,slow=6.2,SNR=32								
BVAR	**Borovoye Array**	**69.14**	**327**	P		P	**P**	**19 49 57.0**	**0.0**
	1.1nm,0.6s,baz=134,slow=8.5,SNR=11								
AKTO	**Aktyubinsk**	**75.43**	**322**	P		P	**P**	**19 50 34.4**	**0.0**
	1.4nm,0.7s,baz=108,slow=13,SNR=2.9								
TORD	**Torodi Ar. Bea**	**124.03**	**287**	PKP		**PKPdf**	**P**	**19 57 48.1**	**-1.0**
	0.4nm,0.8s,baz=74,slow=2.2,SNR=2.9								

*AZER **04** 19:45:39.0±0.2, 38.°39N×46.°67E, h9km±9km, ml3.7/27, Error ellipse: s-maj=18.6km s-min=2.9km az=19.0*
*NSSP **04** 19:45:40.7, 38.°50N×46.°80E, h10km, Ms3.5*
*ISCJB **04** 19:45:43.2±0.6, 38.°39N±0.°04×46.°69E±0.°03, h10km, mb3.3/4, MS3.2/1, Error ellipse: s-maj=5.4km s-min=3.0km az=11.2*
*IDC **04** 19:45:43.1±2.2, 38.°29N×46.°42E, h0km, mb3.5/4, mb1 3.7/7, mb1mx3.4/41, mbtmp3.7/7, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.3/40, Error ellipse: s-maj=34.6km s-min=14.3km az=25.0*
ISC 04 19:45:43.9±0.8, 38.°47N±0.°04×46.°63E±0.°03, h10km, n57, σ1§46/82, mb3.4/4, 20C-29D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ORD	**Ordubad**	**0.68**	**313**	⇑	P	P	**Pg**	**19 45 56.2**	**-0.9**
ORD				⇑	S	S	**Sb**	**19 46 06.8**	**-0.6**
GRS	**Goris**	**1.05**	**347**	⇑	*iP*	P	**Pg**	**19 46 03.0**	**-1.2**
GRS				⇓	*iS*	S	**Sg**	**19 46 18.0**	**0.0**
NAX	**Nakhchivan**	**1.13**	**309**	⇓	P	P	**Pb**	**19 46 04.5**	**-1.2**
	SNR=67								
NAX				⇓	S	S	**Sn**	**19 46 21.3**	**-0.3**
SBZ	**Shahbuz**	**1.25**	**318**	⇓	P	P	**Pn**	**19 46 06.0**	**-1.6**
SBZ				⇓	S	S	**Sn**	**19 46 25.5**	**+0.9**
LRK	**Lerik**	**1.35**	**82**	⇓	P	P	**Pn**	**19 46 06.2**	**-2.8**
	SNR=41								
LRK				⇓	S	S	**Sb**	**19 46 24.6**	**-2.3**
GLBA	**Clilabad**	**1.58**	**60**	⇑	P	P	**Pn**	**19 46 11.2**	**-0.8**
	SNR=47								
GLBA				⇓	S	S	**Sb**	**19 46 33.4**	**+0.2**
ASTR	**Astara**	**1.70**	**86**	⇓	P	P	**Pn**	**19 46 12.1**	**-1.5**
	SNR=16								
ASTR				⇓	S	S	**Sn**	**19 46 35.1**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.70**	**81**	⇓	P	P	**Pn**	**19 46 12.3**	**-1.3**
	SNR=51								
LKRN				⇓	S	S	**Sn**	**19 46 34.8**	**-0.6**
BRDA	**Brd**	**1.84**	**13**	⇓	P	P	**Pb**	**19 46 17.2**	**-0.5**
	SNR=5.7								
BRDA				⇑	S	S	**Sb**	**19 46 41.5**	**+0.8**
HYR	**Heyderabad**	**1.86**	**313**	⇓	P	P	**Pn**	**19 46 15.5**	**-0.5**
HYR				⇓	S	S	**Sb**	**19 46 41.4**	**-0.1**
SAAT	**Saatly**	**1.97**	**45**	⇑	S	S	**Sb**	**19 46 43.5**	**-0.9**
ZRD	**Zardab**	**1.98**	**24**	⇓	P	P	**Pn**	**19 46 17.5**	**0.0**
	SNR=6.5								
ZRD				⇑	S	S	**Sb**	**19 46 46.0**	**+1.2**
GANJ	**Ganja**	**2.19**	**354**	⇓	P	P	**Pn**	**19 46 20.5**	**+0.1**
	SNR=25								
GANJ				⇑	S	S	**Sb**	**19 46 50.7**	**-0.1**
CLDR	**Caldiran**	**2.23**	**288**	*i*	P	P	**Pb**	**19 46 24.7**	**+0.3**
CLDR					IAML_P				
	comp=Z,2μm,0.5s								
GNI	**Garni**	**2.23**	**319**	*i*	P	P	**Pb**	**19 46 22.9**	**-1.5**
GNI	**Garni**	**2.23**	**319**		Pn	P	**Pb**	**19 46 24.1**	**-0.3**
	comp=Z,33nm,0.3s,baz=141,slow=3.9,SNR=141								
GNI					Lg	Lg		19 46 56.2	
	comp=Z,14nm,0.3s,baz=94,slow=23,SNR=3.8								
KDMR	**Kurdemir**	**2.25**	**32**	⇑	P	P	**Pn**	**19 46 20.8**	**-0.4**
KDMR				⇑	S	S	**Sb**	**19 46 51.1**	**-1.5**
MNGR	**Mingechevir, A**	**2.33**	**8**	⇓	P	P	**Pn**	**19 46 21.9**	**-0.3**
GDB	**GEDABAY**	**2.35**	**343**	⇓	P	P	**Pn**	**19 46 23.2**	**+0.4**
	SNR=20								
GDB				⇓	S	S	**Sb**	**19 46 55.1**	**-0.5**
ALIB	**Äli-Bayra**	**2.37**	**50**	⇓	P	P	**Pn**	**19 46 22.1**	**-0.8**
IGDI	**IGDIR**	**2.43**	**306**	*i*	P	P	**Pb**	**19 46 26.6**	**-1.2**
IGDI					IAML_P				
	comp=Z,310nm,0.4s								
VMUR	**Van-Muradiye**	**2.45**	**283**	*i*	P	P	**Pg**	**19 46 29.7**	**-1.2**
VMUR					IAML_P				
	comp=Z,1μm,0.7s								
DYDN	**Diyadin**	**2.53**	**296**	*i*	P	P	**Pb**	**19 46 29.2**	**-0.4**
DYDN					IAML_P				
	comp=

0.8nm,1.0s,baz=352,slow=10,SNR=4.5
MKAR Makanchi Array 60.20 325 P P 20 00 08.6 +0.3
0.4nm,0.3s,baz=114,slow=7.6,SNR=11
KURBB Kurchatov Arra 64.38 327 P P 20 00 35.7 -0.5
0.6nm,0.6s,baz=127,slow=6.0,SNR=6.6

IDC 04 20:07:04.2±9.8, 3°.68N×63°.67E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/42, mbtmp3.6/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/43, Error ellipse: s-maj=311.5km s-min=29.7km az=73.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08N2	**Diego Garcia H**	**12.34**	**144**	T	T	20 22 24.5	
	baz=324,slow=76,SNR=117						
H08N3	**Diego Garcia H**	**12.35**	**144**	T	T	20 22 25.4	
	baz=324,slow=76,SNR=99						
H08N1	**Diego Garcia H**	**12.36**	**144**	T	T	20 22 26.2	
	baz=324,slow=76,SNR=104						
WSAR	**Wadi Sarin**	**20.05**	**346**	LR	LR	20 18 06.4	
	comp=Z,39nm,18.8s,baz=204,slow=33						
MKAR	**Makanchi Array**	**45.88**	**18**	P	P	20 15 27.9	-0.6
	0.1nm,0.4s,baz=203,slow=9.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**53.02**	**15**	P	P	20 16 22.5	-0.3
	0.4nm,0.3s,baz=218,slow=9.1,SNR=2.7						
SONM	**Songino Array**	**57.24**	**33**	P	P	20 16 54.6	+0.9
	0.2nm,0.4s,baz=236,slow=8.6,SNR=3.7						
WRA	**Warramunga Arr**	**73.19**	**112**	P	P	20 18 37.5	-0.2
	1.2nm,0.8s,baz=292,slow=5.2,SNR=7.5						
ASAR	**Alice Springs**	**73.50**	**116**	P	P	20 18 39.5	+0.1
	1.0nm,0.9s,baz=293,slow=6.1,SNR=9.2						

IDC 04 20:15:28.6±5.4, 50°.23N×114°.11W, h0km, mb1 4.0/1, mb1mx3.1/32, mbtmp3.7/1, ML3.5/1, Error ellipse: s-maj=86.5km s-min=40.9km az=74.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.79**	**226**	*i*		20 33 40.0	
	baz=44,slow=325,SNR=0.7						
I10CA	**LAC DU BONNET**	**11.59**	**83**	*i*		21 32 00.0	
	baz=276,slow=373,SNR=1.4						
YKA	**Yellowknife Ar**	**12.30**	**359**	Pn	Pn	20 18 20.9	-3.9
	0.4nm,0.3s,baz=180,slow=13,SNR=17						
YKA				Sn	Sn	20 20 32.2	-10
	0.2nm,0.3s,baz=177,slow=23,SNR=5.9						
YKA				Lg	Lg	20 21 50.1	
	0.0nm,0.3s,baz=171,slow=27,SNR=3.2						

*ISCJB **04** 20:15:52.3±0.4, 24°.98N±0°.03×92°.94E±0°.03, h61km±5km, mb3.4/7, Error ellipse: s-maj=5.1km s-min=4.4km az=4.7*
*NDI **04** 20:15:53.0±2.2, 24°.96N×93°.08E, h36km±6km, ML3.8*
*IDC **04** 20:15:55.0±2.4, 24°.82N×93°.04E, h62km±25km, mb3.2/7, mb1 3.4/9, mb1mx3.2/42, mbtmp3.5/9, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/23, Error ellipse: s-maj=20.8km s-min=15.2km az=76.0*
ISC 04 20:15:53.3±0.8, 24°.99N±0°.04×92°.94E±0°.05, h49km±8km, n38, σ1°.90/60, mb3.4/7, 1C, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SILR	**SILCHAR**	**0.24**	**211**	*eP*	**Pn**	**20 16 02.4**	**+0.5**
SILR				*eS*	**Sn**	**20 16 08.6**	**+0.7**
SHL	**Shillong**	**1.12**	**301**	*eP*	**Pn**	**20 16 14.2**	**+1.4**
SHL				*eS*	**Sn**	**20 16 29.9**	**+2.7**
SHL				IAML		20 16 33.2	
	comp=E,2μm,0.1s						
SHL				IAML		20 16 34.0	
	comp=N,2μm,0.2s						
KOHI	**KOHIMA**	**1.28**	**55**	*ex*	**Pn**	**20 16 15.2**	**+0.2**
KOHI				*eS*	**Sn**	**20 16 34.8**	**+3.7**
TEZP	**TEZPUR**	**1.62**	**355**	*eP*	**Pn**	**20 16 19.9**	**+0.4**
TEZP				*eS*	**Sn**	**20 16 38.6**	**-0.7**
MOKO	**MOKOCHONG**	**1.94**	**47**	*eP*	**Pn**	**20 16 24.2**	**+0.2**
MOKO				*eS*	**Sn**	**20 16 45.9**	**-1.5**
MOKO				IAML		20 16 49.9	
	comp=N,2μm,0.3s						
MOKO				IAML		20 16 51.6	
	comp=E,1μm,0.1s						
BELO	**BELONIA**	**2.21**	**219**	*eP*	**Pn**	**20 16 27.2**	**-0.3**
BELO				*eS*	**Sn**	**20 16 54.7**	**+1.1**
TURI	**Tura**	**2.43**	**284**	*eP*	**Pn**	**20 16 32.9**	**+2.4**
TURI				*eS*	**Sn**	**20 17 02.6**	**+3.6**
SAIH	**SAIHA**	**2.49**	**179**	*eP*	**Pn**	**20 16 31.0**	**-0.5**
SAIH				*eS*	**Sn**	**20 16 58.5**	**-2.2**
SAIH				IAML		20 17 09.8	
	comp=N,1μm,1.0s						
SAIH				IAML		20 17 11.4	
	comp=E,273nm,0.8s						
BRDH	**Bariadhala**	**2.59**	**208**	P	**Pn**	**20 16 33.1**	**+0.3**
	comp=E,18nm,0.3s,baz=60,slow=9.9,SNR=14						
BRDH				S	**Sn**	**20 17 03.1**	**0.0**
	comp=E,93nm,0.3s,baz=72,slow=19,SNR=17						
ZIRO	**ZIRO**	**2.65**	**18**	*eP*	**Pn**	**20 16 33.7**	**-0.1**
ZIRO				*eS*	**Sn**	**20 17 02.8**	**-2.1**
TAWA	**Tawang**	**2.77**	**340**	*eP*	**Pn**	**20 16 37.0**	**+1.5**
TAWA				*eS*	**Sn**	**20 17 08.7**	**+0.8**
LKP	**Lekhapani**	**3.50**	**48**	*eP*	**Pn**	**20 16 45.0**	**-0.2**
LKP				*eS*	**Sn**	**20 17 21.3**	**-4.1**
GTK	**Tadong**	**4.54**	**302**	*eP*	**Pn**	**20 17 01.5**	**+1.9**
GTK				*eS*	**Sn**	**20 17 51.5**	**+0.3**
ODAN	**Odare**	**5.33**	**292**	*ePn*	**Pn**	**20 17 12.6**	**+1.9**
ODAN				*eSn*	**Sn**	**20 18 10.2**	**-0.7**
	comp=E,219nm,0.5s						
RAMN	**Ramite**	**6.03**	**290**	*ePn*	**Pn**	**20 17 22.0**	**+1.8**
BOK	**Bokaro**	**6.54**	**261**	*eP*	**Pn**	**20 17 27.9**	**+0.8**
JIRN	**Jiri**	**6.62**	**295**	*ePn*	**Pn**	**20 17 30.2**	**+1.8**
JIRN				*eSn*	**Sn**	**20 18 41.6**	**-1.0**
	comp=E,126nm,0.2s						
GUN	**Gumba**	**6.97**	**296**	*ePn*	**Pn**	**20 17 35.0**	**+1.9**
GUN				*eSn*	**Sn**	**20 18 49.4**	**-1.8**
	comp=E,113nm,0.5s						
PKI	**Pulchoki**	**7.23**	**292**	*ePn*	**Pn**	**20 17 38.0**	**+1.2**
PKI				*eSn*	**Sn**	**20 18 55.8**	**-2.0**
	comp=E,42nm,0.5s						
PKIN	**Phulchoki**	**7.25**	**292**	*ePn*	**Pn**	**20 17 37.9**	**+1.0**
KKN	**Kakani**	**7.41**	**294**	*ePn*	**Pn**	**20 17 40.3**	**+1.1**
KKN				*eSn*	**Sn**	**20 19 00.0**	**-2.1**
	comp=E,30nm,0.2s						
DMN	**Daman**	**7.50**	**292**	*ePn*	**Pn**	**20 17 41.2**	**+0.8**
DMN				*eSn*	**Sn**	**20 19 01.4**	**-2.8**
	comp=E,37nm,0.4s						
GKN	**Gorkha**	**8.02**	**294**	*ePn*	**Pn**	**20 17 48.4**	**+1.0**
GKN				*eSn*	**Sn**	**20 19 15.0**	**-1.9**
	comp=E,95nm,0.3s						
CMAR	**Chiang Mai Arr**	**8.56**	**138**	P	**Pn**	**20 17 54.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=316,slow=13,SNR=3.7						
KOLN	**Koldanda**	**8.82**	**290**	*ePn*	**Pn**	**20 17 58.6**	**+0.1**
KOLN				*eSn*	**Sn**	**20 19 32.5**	**-4.1**
	comp=E,54nm,0.5s						
DANN	**Dangsing**	**8.87**	**294**	*ePn*	**Pn**	**20 17 58.8**	**-0.4**
DANN				*eSn*	**Sn**	**20 19 34.6**	**-3.3**
	comp=E,56nm,0.5s						
PYUN	**Piuthan**	**9.43**	**291**	*ePn*	**Pn**	**20 18 06.3**	**-0.5**
PYUN				*eSn*	**Sn**	**20 19 46.8**	**-4.8**
	comp=E,48nm,0.5s						
NGP	**Nagpur**	**13.35**	**256**	*i x*	**Pn**	**20 18 58.0**	**-2.2**
NGP				*ex*	Sn	20 21 03.4	-24
BHPL	**Bhopal**	**14.28**	**266**	*eP*	**Pn**	**20 19 11.2**	**-1.6**
SMLA	**Simla**	**15.20**	**297**	*eP*	**Pn**	**20 19 24.9**	**+0.1**
MKAR	**Makanchi Array**	**23.36**	**341**	P	**P**	**20 20 59.0**	**+1.6**
	comp=E,0.3nm,0.3s,baz=173,slow=8.6,SNR=14						
SONM	**Songino Array**	**25.16**	**22**	P	**P**	**20 21 15.5**	**+1.5**
	comp=E,0.8nm,0.7s,baz=203,slow=9.5,SNR=10						
KURBB	**Kurchatov Arra**	**27.91**	**340**	P	**P**	**20 21 41.7**	**+3.1**
	comp=E,0.4nm,0.9s,baz=149,slow=9.7,SNR=3.6						
KSRS	**Korea Array**	**32.21**	**59**	LR	LR	20 37 35.8	
	comp=E,16nm,18.8s,baz=40,slow=40						
WRA	**Warramunga Arr**	**60.14**	**134**	P	**P**	**20 25 54.9**	**-1.2**
	comp=E,0.4nm,0.5s,baz=321,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**62.57**	**137**	P	**P**	**20 26 11.8**	**-0.8**
	comp=E,0.4nm,0.5s,baz=318,slow=6.9,SNR=13						
GERES	**GERESS Array B**	**64.70**	**314**	P	**P**	**20 26 27.7**	**+1.3**
	comp=E,0.3nm,0.5s,baz=63,slow=8.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**85.66**	**282**	P	**P**	**20 28 28.1**	**+0.7**
	comp=E,0.1nm,0.4s,baz=49,slow=6.5,SNR=3.0						

*IDC **04** 20:33:14.3±2.5, 36°.40N×141°.36E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/38, mbtmp3.2/3, ML2.2/1, MS2.1/1, Ms1 2.1/1, ms1mx1.9/33, Error ellipse: s-maj=53.7km s-min=29.0km az=45.0*
*ISCJB **04** 20:33:18.6±0.9, 36°.25N±0°.04×141°.27E±0°.07, h41km±10km, mb3.2/2, Error ellipse: s-maj=9.4km s-min=5.6km az=14.5*
*JMA **04** 20:33:18.3±0.1, 36°.24N×141°.22E, h53km±2km, M3.1*
ISC 04 20:33:18.7±1.5, 36°.26N±0°.04×141°.28E±0°.07, h29km±10km, n22, σ0°.73/29, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.57**	**279**	P	**Pb**	**20 33 30.3**	**+0.1**
JHYU				S	**Sb**	**20 33 38.6**	**+0.6**
CHOJ	**Chosi**	**0.65**	**212**	P	**Pb**	**20 33 31.1**	**-0.5**
CHOJ				S	**Sb**	**20 33 40.2**	**-0.1**
JHO	**Hitachi**	**0.67**	**302**	P	**Pb**	**20 33 31.3**	**-0.6**
JHO				S	**Sb**	**20 33 40.9**	**-0.1**
JIHU	**Itakohorinouch**	**0.68**	**245**	P	**Pb**	**20 33 32.0**	**0.0**
JIHU				*eS*	**Sb**	**20 33 41.8**	**+0.7**
JYT	**Yasato**	**0.88**	**268**	P	**Pn**	**20 33 34.0**	**-1.0**
JYT				S	**Sn**	**20 33 45.5**	**-1.3**
ONAJ	**Iwakimizuishiy**	**0.93**	**335**	P	**Pn**	**20 33 35.1**	**-0.7**
ONAJ				S	**Sn**	**20 33 47.3**	**-0.8**
JFK	**Kawauchi**	**1.15**	**344**	P	**Pn**	**20 33 38.4**	**-0.5**
JFK				S	**Sn**	**20 33 52.8**	**-0.9**
JFT	**Otama**	**1.47**	**329**	P	**Pn**	**20 33 43.9**	**+0.7**
JFT				S	**Sn**	**20 34 02.1**	**+0.7**
JAG	**Ashikaga**	**1.48**	**277**	P	**Pn**	**20 33 42.6**	**-0.8**
JAG				S	**Sn**	**20 34 00.5**	**-1.3**
JMM	**Marumori**	**1.65**	**346**	P	**Pn**	**20 33 45.7**	**0.0**
JMM				S	**Sn**	**20 34 06.0**	**+0.1**
JFY	**Yanaizu**	**1.71**	**313**	P	**Pn**	**20 33 47.0**	**+0.5**
JKT	**Katashina**	**1.71**	**288**	P	**Pn**	**20 33 46.9**	**+0.3**
JKT				S	**Sn**	**20 34 07.4**	**-0.2**
MJAR	**Matsushiro Arr**	**2.50**	**277**	Pn	**Pn**	**20 33 57.5**	**+0.2**
	0.5nm,0.3s,baz=95,slow=13,SNR=32						
MJAR				Sn	**Sn**	**20 34 27.3**	**+0.5**
	0.6nm,0.3s,baz=90,slow=18,SNR=6.1						
MJAR				LR	LR	20 35 02.4	
	comp=Z,41nm,21.9s,baz=75,slow=43						
MAT	**Matsushiro**	**2.50**	**277**	P	**Pn**	**20 33 58.2**	**+0.9**
MAT				S	**Sn**	**20 34 27.4**	**+0.6**
H11N2	**WAKE ISLAND Hy**	**27.85**	**119**	T	T	21 08 31.8	
	baz=311						
H11N1	**WAKE ISLAND Hy**	**27.86**	**119**	T	T	21 08 15.2	
	baz=311						
H11N3	**WAKE ISLAND Hy**	**27.87**	**119**	T	T	21 08 20.9	
	baz=311						
H11S1	**WAKE ISLAND Hy**	**28.54**	**122**	T	T	21 09 16.4	
	baz=313,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.54**	**122**	T	T	21 09 12.4	
	baz=313,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.55**	**122**	T	T	21 09 18.8	
	baz=313						
MKAR	**Makanchi Array**	**44.44**	**303**	P	**P**	**20 41 26.4**	**-0.5**
	0.1nm,0.4s,baz=81,slow=8.9,SNR=3.0						
WRA	**Warramunga Arr**	**56.28**	**188**	P	**P**	**20 42 57.6**	**+1.1**
	0.2nm,0.5s,baz=4.4,slow=7.6,SNR=4.4						

*ISK **04** 20:38:58.5, 38°.67N×43°.57E, h5km, ML2.5/14*
*DDA **04** 20:38:58.8, 38°.68N×43°.63E, h9km±2km, ML2.6*
ISC 04 20:38:58.8±1.0, 38°.64N±0°.03×43°.63E±0°.03, h14km±8km, n28, σ1°.15/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**256**	PG	**Pg**	**20 39 03.2**	**-0.2**
VANB				SG	**Sg**	**20 39 06.6**	**+0.1**
TVAN	**Van**	**0.21**	**238**	*i* P	**Pb**	**20 39 03.9**	**-0.7**
TVAN				*i* S	**Sg**	**20 39 08.0**	**+1.0**
VMUR	**Van-Muradiye**	**0.35**	**352**	*i* P	**Pb**	**20 39 06.0**	**-1.1**
VMUR				IAML_P			
	comp=Z,1μm,0.2s						
CLDR	**Caldiran**	**0.55**	**24**	PG	**Pb**	**20 39 09.4**	**-1.0**
CLDR				SG	**Sb**	**20 39 17.6**	**-0.7**
CLDR	**Caldiran**	**0.55**	**24**	*i* P	**Pb**	**20 39 09.6**	**-0.8**
CLDR				IAML_P			
	comp=Z,2μm,0.1s						
GEVA	**Gevas**	**0.56**	**234**	*i* P	**Pg**	**20 39 09.3**	**-0.5**
GEVA				*i* S	**Sb**	**20 39 19.4**	**+1.0**
GEVA				IAML_P			
	comp=Z,1μm,0.1s						
AKDM	**Akdamar-Van**	**0.60**	**239**	PG	**Pg**	**20 39 10.1**	**-0.5**
AKDM				SG	**Sg**	**20 39 18.4**	**-0.2**
BASK	**Baskale_VAN**	**0.66**	**153**	*i* P	**Pg**	**20 39 10.0**	**-1.7**
ADCV	**BITLIS_Adilcev**	**0.73**	**283**	*i* P	**Pb**	**20 39 13.6**	**+0.1**
MLAZ	**Malazgirt-MUS**	**0.98**	**301**	PG	**Pg**	**20 39 16.9**	**-0.9**
MLAZ				SG	**Sg**	**20 39 29.8**	**-0.9**
TUTA	**Tutak**	**0.99**	**320**	*i* P	**Pn**	**20 39 18.2**	**-0.5**
AGRB	**Hanur-Agry**	**1.06**	**332**	PG	**Pg**	**20 39 18.4**	**-0.9**
GURO	**Guroymak-BITLI**	**1.26**	**266**	PN	**Pn**	**20 39 21.5**	**-0.7**
IGDI	**IGDIR**	**1.27**	**16**	*i* P	**Pg**	**20 39 24.6**	**+1.2**
IGDI				*i* S	**Sg**	**20 39 44.2**	**+4.3**
IGDI				IAML_P			
	comp=Z,134nm,0.3s						
CUKT	**Cukurca**	**1.39**	**181**	PN	**Pg**	**20 39 25.4**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.42**	**19**	PN	**Pg**	**20 39 25.7**	**-0.5**
SIRT	**Sirnak**	**1.48**	**220**	PN	**Pb**	**20 39 26.4**	**+0.2**
SIRN	**Sirnak**	**1.49**	**220**	*i* P	**Pg**	**20 39 28.5**	**+1.0**
SIRN				IAML_P			
	comp=Z,324nm,0.2s						
SRTM	**Siirt_Merkez**	**1.49**	**245**	*i* P	**Pg**	**20 39 28.5**	**+1.0**
SRTM				IAML_P			
	comp=Z,714nm,0.3s						
EATA	**Eleskirt**	**1.51**	**324**	*i* P	**Pg**	**20 39 27.3**	**-0.6**
EATA				*i* S	**Sg**	**20 39 46.0**	**-1.5**
EATA				IAML_P			
	comp=Z,448nm,0.3s						
GNI	**Garni**	**1.73**	**29**	PN	**Pb**	**20 39 30.3**	**-0.3**
VRTB	**Varto-Mus**	**1.78**	**288**	PN	**Pn**	**20 39 29.9**	**+0.6**
VRTB	**Varto-Mus**	**1.78**	**288**	*i* P	**Pg**	**20 39 33.0**	**0.0**
VRTB				IAML_P			
	comp=Z,839nm,0.4s						
KOPR	**Koprukoy-ERZUR**	**1.93**	**315**	PN	**Pn**	**20 39 32.2**	**+0.7**
HOMI	**Horasan**	**1.94**	**317**	*i* P	**Pb**	**20 39 33.7**	**-0.4**
HOMI				IAML_P			
	comp=Z,226nm,0.3s						
BTMN	**Batman**	**2.00**	**249**	*i* P	**Pb**	**20 39 35.4**	**+0.2**
BTMN				*i* S	**Sg**	**20 40 01.5**	**-1.8**
BTMN				IAML_P			
	comp=Z,119nm,0.4s						
SENK	**Senkaya-Erzuru**	**2.16**	**333**	PN	**Pn**	**20 39 35.5**	**+0.9**
BNGB	**Bingl**	**2.33**	**280**	PN	**Pn**	**20 39 38.0**	**+1.0**

KRSC 04 20:39:52.7±10.0, 50°.81N×157°.74E, h41km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.88**	**319**	*eP*	Pn	20 40 10.2	+1.6
PAU				*eS*	Sn	20 40 21.9	+1.7
KDTR	**Khodutka, Kamc**	**1.03**	**12**	*eP*	Pn	20 40 11.8	+1.2
KDTR				*eS*	Sn	20 40 25.1	+1.4
SKR	**Severo-Kuril's**	**1.04**	**264**	*eP*	Pn	20 40 11.6	+0.9
SKR				*eS*	Sn	20 40 24.4	+0.4
ASAK	**Asacha**	**1.58**	**4**	*eP*	Pn	20 40 19.9	+1.6
RUS	**Russkaya**	**1.70**	**16**	*eP*	Pn	20 40 21.0	+1.2
RUS				*eS*	Sn	20 40 41.4	+1.1
MTVR	**Mutnovka**	**1.70**	**9**	*eP*	Pn	20 40 22.0	+2.0
MTVR				*eS*	Sn	20 40 42.7	+2.1
KRMR	**Karymshinskiy**	**2.04**	**7**	*eS*	Sn	20 40 53.4	+4.7
DALK	**Dalny**	**2.31**	**15**	*eP*	Pn	20 40 30.5	+2.2
DALK				*eS*	Sn	20 40 57.5	+2.0
UGLR	**Uglovaya**	**2.50**	**15**	*eP*	Pn	20 40 34.3	+3.4
AVH	**Avacha**	**2.54**	**14**	*eP*	Pn	20 40 35.0	+3.6
SMAR	**Somma**	**2.55**	**15**	*eP*	Pn	20 40 35.4	+3.7
KOK	**Koryaka**	**2.55**	**12**	*eP*	Pn	20 40 35.0	+3.4
SDLR	**Sedlovina**	**2.58**	**16**	*eP*	Pn	20 40 34.0	+2.0
KRX	**Arik**	**2.62**	**12**	*eP*	Pn	20 40 36.4	+3.8
SPN	**Mys Shipunski**	**2.70**	**31**	*eS*	Sn	20 41 08.3	+3.4

*NIED **04** 20:42:00, 38°.20N×141°.70E, h56km, Mw3.9 Best double couple: M0 7.19000×10^14 NP1:φ=262.00000°, δ=26.00000°, λ=142.00000°. NP2:φ=27.00000°, δ=75.00000°, λ=69.00000°.*
*ISCJB **04** 20:42:48.5±0.6, 38°.25N±0°.04×141°.75E±0°.07, h59km±3km, mb4.0/18, Error ellipse: s-maj=9.4km s-min=4.6km az=26.4*
*JMA **04** 20:42:49.8±0.1, 38°.25N×141°.68E, h51km±1km, M3.8*
JMA Felt II J1.
*IDC **04** 20:42:51.9±1.0, 38°.28N×141°.65E, h72km±8km, mb3.5/13, mb1 3.6/15, mb1mx3.5/44, mbtmp3.8/15, MS2.8/2, Ms1 2.8/2, ms1mx2.4/36, Error ellipse: s-maj=20.0km s-min=14.7km az=83.0*
*BJI **04** 20:42:59.2, 38°.12N×140°.48E, h102km, mb4.4/20, mB5.0/10*
ISC 04 20:42:50.2±0.8, 38°.28N±0°.05×141°.72E±0°.06, h60km±5km, n55, σ1°.68/68, mb4.0/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.20**	**279**	P	**Pn**	**20 42 58.3**	**-1.4**
JIKH				S	**Sn**	**20 43 03.9**	**-2.6**
JIO	**Ouri**	**0.34**	**301**	P	**Pn**	**20 42 59.5**	**-1.2**
JIO				S	**Sn**	**20 43 06.0**	**-2.2**
JKMT	**Kesennumamotoy**	**0.56**	**340**	P	**Pn**	**20 43 02.2**	**-0.7**
JKMT				S	**Sn**	**20 43 10.7**	**-1.4**
JOFO	**Osakifurukawao**	**0.71**	**297**	P	**Pn**	**20 43 03.9**	**-0.7**
JOFO				*eS*	**Sn**	**20 43 14.9**	**-0.2**
JMK	**Ichinoseki**	**0.78**	**330**	P	**Pn**	**20 43 05.0**	**-0.4**
JMK				S	**Sn**	**20 43 15.7**	**-0.9**
OFUJ	**Ofunato**	**0.80**	**357**	P	**Pn**	**20 43 05.2**	**-0.6**
OFUJ				*eS*	**Sn**	**20 43 16.0**	**-1.1**
JOU	**Okura**	**0.83**	**276**	P	**Pn**	**20 43 05.2**	**-1.0**
JOU				S	**Sn**	**20 43 16.4**	**-1.5**
JMM	**Marumori**	**0.84**	**241**	P	**Pn**	**20 43 04.5**	**-1.7**
JMM				*eS*	**Sn**	**20 43 15.3**	**-2.6**
JFK	**Kawauchi**	**1.13**	**216**	P	**Pn**	**20 43 08.5**	**-1.5**
JFK				S	**Sn**	**20 43 22.2**	**-2.5**
JOM	**Ohasama**	**1.24**	**345**	P	**Pn**	**20 43 11.3**	**-0.1**
JOM				S	**Sn**	**20 43 27.2**	**0.0**
JYK	**Kaneyama**	**1.24**	**301**	P	**Pn**	**20 43 10.9**	**-0.5**
JYS	**Shirataka**	**1.30**	**268**	P	**Pn**	**20 43 11.6**	**-0.7**
JYS				*eS*	**Sn**	**20 43 27.4**	**-1.4**
JFT	**Otama**	**1.33**	**236**	P	**Pn**	**20 43 11.8**	**-0.9**
JFT				S	**Sn**	**20 43 27.8**	**-1.6**
JRG	**Rokugo**	**1.40**	**323**	P	**Pn**	**20 43 13.7**	**+0.1**
JYA	**Atsumi**	**1.60**	**282**	P	**Pn**	**20 43 15.9**	**-0.4**
JYA				*eS*	**Sn**	**20 43 35.0**	**-1.0**
MJAR	**Matsushiro Arr**	**3.29**	**239**	P	**Pn**	**20 43 40.0**	**+0.7**
	1.1nm,0.3s,baz=46,slow=10,SNR=45						
MJAR				S	**Sn**	**20 44 20.1**	**+2.9**
	0.6nm,0.3s,baz=40,slow=22,SNR=5.5						
MAT	**Matsushiro**	**3.29**	**239**	P	**Pn**	**20 43 39.9**	**+0.6**
MAT				*eS*	**Sn**	**20 44 18.5**	**+1.3**
ASAJ	**Asahikawa**	**5.87**	**6**	P	**Pn**	**20 44 14.1**	**-0.5**
	1.5nm,0.3s,baz=220,slow=15,SNR=24						
ASAJ				S	**Sn**	**20 45 17.3**	**-3.1**
	1.2nm,0.3s,baz=197,slow=19,SNR=2.0						
USRK	**Ussuriysk Ar.**	**9.41**	**312**	P	**Pn**	**20 45 03.9**	**+0.9**
	0.9nm,0.3s,baz=128,slow=14,SNR=13						
JNU	**Nakatsue**	**10.20**	**243**	P	**Pn**	**20 45 17.3**	**+3.3**
	0.3nm,0.3s,baz=50,slow=6.1,SNR=4.1						
JNU				LR	LR	20 49 42.6	
	comp=Z,47nm,18.8s,baz=24,slow=40						
KSRS	**Korea Array**	**10.94**	**270**	P	**Pn**	**20 45 27.8**	**+3.9**
	0.2nm,0.3s,baz=80,slow=13,SNR=3.5						
KSRS				LR	LR	20 48 42.2	
	comp=Z,43nm,19.3s,baz=58,slow=32						
NJ2	**Nanjing**	**19.67**	**259**	*eP*	**P**	**20 47 10.3**	**-4.0**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC	**Hu-ho-hao-te**	**23.33**	**286**	*eP*	**P**	**20 47 49.0**	**-4.3**
HHC				sP	sP	20 48 22.7	+8.3
HHC				S	S	20 51 44.9	-16
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,210nm,5.2s						
SONM	**Songino Array**	**27.31**	**302**	P	**P**	**20 48 29.0**	**-0.2**
	0.7nm,0.8s,baz=102,slow=9.9,SNR=7.0						
H11N2	**WAKE ISLAND Hy**	**28.60**	**123**	T	T	21 18 56.7	
	baz=316,slow=75,SNR=611						
H11N1	**WAKE ISLAND Hy**	**28.61**	**123**	T	T	21 18 59.0	
	baz=316,slow=75,SNR=656						
H11N3	**WAKE ISLAND Hy**	**28.62**	**123**	T	T	21 18 59.5	
	baz=316,slow=75,SNR=639						
H11S1	**WAKE ISLAND Hy**	**29.36**	**125**	T	T	21 20 03.1	
	baz=318,slow=76,SNR=89						
H11S3	**WAKE ISLAND Hy**	**29.36**	**125**	T	T	21 19 59.8	
	baz=318,slow=76,SNR=185						
H11S2	**WAKE ISLAND Hy**	**29.37**	**125**	T	T	21 20 00.9	
	baz=318,slow=76,SNR=123						
LZH	**Lanzhou**	**30.12**	**278**	*eP*	**P**	**20 48 51.4**	**-3.0**
LZH				pP	pP	20 49 14.9	+5.7
LZH				sP	sP	20 49 25.4	+9.1
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
CD2	**Chengdu**	**31.93**	**268**	P	**P**	**20 49 06.8**	**-3.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
KMI	**Kunming**	**35.40**	**260**	P	**P**	**20 49 39.2**	**-1.5**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KMI				LR	LR		
	comp

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**2.61**	**53**	*e*P	Pn	20 47 51.8	+0.1
CCHI				*e*S	Sn	20 48 24.4	+0.7
CCHI				IAML		20 48 37.3	
	comp=E,820nm,0.6s						
GO06	**Curarrehue**	**2.84**	**120**⇑	*e*P	Pn	20 47 55.3	+0.3
GO06				*i* S	Sn	20 48 30.6	+0.9
GO06				IAML		20 48 33.4	
	comp=N,237nm,0.6s						
GO05	**Huala**	**3.88**	**35**	*e*P	Pn	20 48 09.4	+0.2
PLCA	**Paso Flores**	**4.06**	**130**⇑	*e*P	Pn	20 48 12.3	+0.5
LMEL	**Las Melosas**	**5.66**	**41**	*e*P	Pn	20 48 34.0	+0.3

IDC 04 20:51:09.5±17.0, 23°83S×69°34E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/52, mbtmp3.8/4, MS3.9/1, Ms1 3.9/1, ms1mx3.0/40, Error ellipse: s-maj=573.8km s-min=32.7km az=51.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.38**	**11**	T	T	21 11 32.0	
	baz=191,slow=76,SNR=14						
H08S2	**Diego Garcia H**	**16.38**	**11**	T	T	21 11 28.0	
	baz=191,slow=76,SNR=13						
H08S3	**Diego Garcia H**	**16.39**	**11**	T	T	21 11 27.1	
	baz=191,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**40.27**	**116**	T	T	21 41 40.2	
	baz=272						
H01W3	**Cape Leeuwin H**	**40.27**	**116**	T	T	21 41 36.3	
	baz=272						
H01W1	**Cape Leeuwin H**	**40.29**	**116**	T	T	21 41 42.6	
	baz=272						
BATI	**Baumata**	**53.38**	**85**	LR	LR	21 17 22.1	
	comp=Z,119nm,20.5s,baz=44,slow=30						
ASAR	**Alice Springs**	**58.60**	**104**	P	P	21 01 08.6	-0.1
	0.7nm,0.7s,baz=253,slow=6.1,SNR=9.6						
WRA	**Warramunga Arr**	**59.98**	**100**	P	P	21 01 18.2	0.0
	0.7nm,0.7s,baz=254,slow=7.1,SNR=3.9						
MKAR	**Makanchi Array**	**71.27**	**9**	P	P	21 02 29.9	-0.5
	0.6nm,0.8s,baz=190,slow=5.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**78.61**	**9**	P	P	21 03 13.3	+0.6
	0.5nm,0.3s,baz=186,slow=5.9,SNR=2.2						

*BJI **04** 20:56:30.9, 50°.75N×157°.71E, h45km, mb5.2/78, mB5.1/56, Ms5.0/80, Ms7 4.9/74*

*KRSC **04** 20:56:33.6±10.0, 50°.63N×157°.66E, h51km±10km, ML6.1, FELT [IV-V] at Severo-Kurilsk; [III] at Zaporojye, Ozernovskiy; [II-III] at Viluchinsk, Ribachiy, Paratunka, Petropavlovsk, Institute; [II] at cape Lopatka, lighthouse Chibuiny, Paujetka, lighthouse Krugliy.*

*MOS **04** 20:56:35.8±0.9, 50°.73N×157°.28E, h72km, mb5.4/81, MS4.7/28, Error ellipse: s-maj=6.0km s-min=2.8km az=79.0*

MOS Felt (IV-V) at Severo-Kuril'sk, (III) at Zaporozh'e, Ozernovskiy, (II-III) at Petropavlovsk-Kamchatskiy, Vilyuchinsk, Rybachiy, Paratunka, (II) at Pauzhetka.

*NEIC **04** 20:56:35.4±0.1, 50°.81N×157°.22E, mb5.3/296, MS4.8/78, Error ellipse: s-maj=3.2km s-min=1.7km az=161.0*

*GCMT **04** 20:56:36.4±0.1, 50°.61N±0°.01×157°.71E±0°.02, h44km, MW5.3/112, Moment Tensor Solution. s100,c177; s112,c202; Duration: 1ŝ1 Moment tensor: Scale 10^17 Nm; Mrr1.14±.02; Mθθ-0.35±.02; Mϕϕ-0.78±.02; Mrθ0.26±.01; Mθϕ-0.55±.01; Mϕr0.45±.01; Best double couple: Mo1.25900×10^17 NP1:ϕs32.00000°, δ57.00000°, λ88.00000°. NP2:ϕs216.00000°, δ33.00000°, λ93.00000°. Principal axes: T 1.2510, Plg78.0000°, Azm297.0000°; N 0.0180, Plg1.0000°, Azm33.0000°; P -1.2670, Plg12.0000°, Azm124.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **04** 20:56:36.2±0.3, 50°.75N±0°.02×157°.31E±0°.02, h72km±2km, mb5.2/490 Error ellipse: s-maj=3.4km s-min=1.7km az=158.2*

*IDC **04** 20:56:38.4±1.7, 50°.82N×157°.21E, h74km±14km, mb4.6/42, mb1 4.8/48, mb1mx4.7/59, mbtmp5.0/48, MS4.5/31, Ms1 4.5/31, ms1mx4.3/43, Error ellipse: s-maj=11.4km s-min=7.0km az=148.0*

*BGR **04** 20:56:45.5±0.0, 52°.18N×155°.33E, h33km, mb5.2, Ms4.9*

ISC 04 20:56:35.4±0.4, 50°.69N±0°.04×157°.41E±0°.03, h52km±2km, h52km:pP-P, n1720, σ1ŝ18/1768, mb5.3/526, MS4.8/143, 126C-31D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**270**	*i* P	**Pn**	**20 56 51.3**	**+0.5**
SKR				*i* S	**Sn**	**20 57 03.7**	**+1.7**
SKR	**Severo-Kuril's**	**0.82**	**270**	PN	**Pn**	**20 56 51.3**	**+0.5**
SKR				S	**Sn**	**20 57 03.7**	**+1.7**
PAU	**Pauzhetka**	**0.87**	**335**	*i* P	**Pn**	**20 56 53.0**	**+1.6**
PAU				*e*S	**Sn**	**20 57 06.4**	**+3.3**
PAU	**Pauzhetka**	**0.87**	**335**	PN	**Pn**	**20 56 53.0**	**+1.6**
PAU				S	**Sn**	**20 57 06.4**	**+3.3**
ALID	**Alaid**	**1.19**	**279**	*i* P	**Pn**	**20 56 57.4**	**+1.5**
ALID	**Alaid**	**1.19**	**279**	PN	**Pn**	**20 56 57.4**	**+1.5**
KDTR	**Khodutka, Kamc**	**1.20**	**20**	*i* P	**Pn**	**20 56 55.8**	**0.0**
KDTR				*e*S	**Sn**	**20 57 11.2**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.20**	**20**	PN	**Pn**	**20 56 55.8**	**0.0**
KDTR				S	**Sn**	**20 57 11.2**	**+0.2**
ASAK	**Asacha**	**1.73**	**10**	*e*P	**Pn**	**20 57 04.0**	**+0.9**
ASAK	**Asacha**	**1.73**	**10**	PN	**Pn**	**20 57 04.0**	**+0.9**
MTVR	**Mutnovka**	**1.86**	**15**	*e*P	**Pn**	**20 57 05.6**	**+0.6**
MTVR	**Mutnovka**	**1.86**	**15**	PN	**Pn**	**20 57 05.6**	**+0.6**
RUS	**Russkaya**	**1.88**	**21**	*e*P	**Pn**	**20 57 05.0**	**-0.1**
RUS	**Russkaya**	**1.88**	**21**	PN	**Pn**	**20 57 05.0**	**-0.1**
GRL	**Gorelyy**	**1.91**	**12**	*i* P	**Pn**	**20 57 07.1**	**+1.4**
GRL	**Gorelyy**	**1.91**	**12**	PN	**Pn**	**20 57 07.1**	**+1.4**
KRMR	**Karymshinskiy**	**2.19**	**12**	*e*P	**Pn**	**20 57 11.1**	**+1.7**
KRMR				*e*S	**Sn**	**20 57 39.0**	**+3.7**
KRMR	**Karymshinskiy**	**2.19**	**12**	PN	**Pn**	**20 57 11.1**	**+1.7**
KRMR				S	**Sn**	**20 57 39.0**	**+3.7**
APC	**Apacha**	**2.25**	**356**	*e*P	**Pn**	**20 57 12.3**	**+2.2**
APC	**Apacha**	**2.25**	**356**	PN	**Pn**	**20 57 12.3**	**+2.2**
PEA0B	**Petropavlovsk-**	**2.43**	**4**	*e*Pn	**Pn**	**20 57 14.3**	**+1.6**
PETK	**Petropavlovsk-**	**2.43**	**4**	*e*Pn	**Pn**	**20 57 13.9**	**+1.3**
PETK				S	**Sn**	**20 57 43.1**	**+1.9**
PETK	**Petropavlovsk-**	**2.43**	**4**	P	**Pn**	**20 57 14.5**	**+1.9**
	328nm,0.3s,baz=185,slow=14,SNR=1708						
PETK				S	**Sn**	**20 57 43.1**	**+1.9**
	327nm,0.3s,baz=166,slow=22,SNR=9.7						
PETK				LR	LR	20 58 30.4	
	comp=Z,19μm,20.0s,baz=197,slow=48						
PEA1	**Petropavlovsk-**	**2.44**	**4**	*e*Pn	**Pn**	**20 57 14.5**	**+1.8**
PEA1				*e*Sn	**Sn**	**20 57 43.1**	**+1.8**
PET	**Petropavlovsk**	**2.46**	**18**	*e*Pn	**Pn**	**20 57 13.8**	**+0.7**
PET	**Petropavlovsk**	**2.46**	**18**	*i* P	**Pn**	**20 57 14.2**	**+1.1**
PET				*e*S	**Sn**	**20 57 42.9**	**+1.0**
PET	**Petropavlovsk**	**2.46**	**18**	⇓*i* PN	**Pn**	**20 57 14.0**	**+0.9**
PET				*e*S	**Sn**	**20 57 42.7**	**+0.8**
PET				pmax	pmax		
	comp=Z,3μm,0.5s						
PET				smax	smax		
	comp=N,39μm,0.6s						
PET				smax	smax		
	comp=E,34μm,0.5s						
PET				MLR	MLR		
	comp=Z,9μm,13.0s						
DALK	**Dalny**	**2.49**	**19**	*e*P	**Pn**	**20 57 14.4**	**+0.9**
DALK				*e*S	**Sn**	**20 57 43.9**	**+1.3**
DALK	**Dalny**	**2.49**	**19**	PN	**Pn**	**20 57 14.4**	**+0.9**
DALK				S	**Sn**	**20 57 43.9**	**+1.3**
UGLR	**Uglovaya**	**2.67**	**19**	*i* P	**Pn**	**20 57 17.7**	**+1.6**
UGLR	**Uglovaya**	**2.67**	**19**	PN	**Pn**	**20 57 17.7**	**+1.6**
AVH	**Avacha**	**2.71**	**17**	*i* P	**Pn**	**20 57 18.6**	**+2.1**
AVH	**Avacha**	**2.71**	**17**	PN	**Pn**	**20 57 18.6**	**+2.1**
KOK	**Koryaka**	**2.72**	**16**	*i* P	**Pn**	**20 57 19.1**	**+2.4**
KOK	**Koryaka**	**2.72**	**16**	PN	**Pn**	**20 57 19.1**	**+2.4**
SMAR	**Somma**	**2.72**	**18**	*e*P	**Pn**	**20 57 18.1**	**+1.3**
SMAR	**Somma**	**2.72**	**18**	PN	**Pn**	**20 57 18.1**	**+1.3**
KRER	**Koryakskii**	**2.75**	**17**	*e*P	**Pn**	**20 57 19.1**	**+1.9**
KRER	**Koryakskii**	**2.75**	**17**	PN	**Pn**	**20 57 19.1**	**+1.9**
SDLR	**Sedlovina**	**2.75**	**19**	*i* P	**Pn**	**20 57 18.1**	**+1.0**
SDLR	**Sedlovina**	**2.75**	**19**	PN	**Pn**	**20 57 18.1**	**+1.0**
NLC	**Nalytchevo**	**2.76**	**25**	*e*P	**Pn**	**20 57 17.2**	**+0.1**
NLC	**Nalytchevo**	**2.76**	**25**	PN	**Pn**	**20 57 17.2**	**+0.1**
KRX	**Arik**	**2.78**	**16**	*e*P	**Pn**	**20 57 19.7**	**+2.1**
KRX	**Arik**	**2.78**	**16**	PN	**Pn**	**20 57 19.7**	**+2.1**
SPN	**Mys Shipunski**	**2.91**	**33**	*e*P	**Pn**	**20 57 19.7**	**+0.5**
SPN				*e*S	**Sn**	**20 57 53.0**	**+0.2**
SPN	**Mys Shipunski**	**2.91**	**33**	PN	**Pn**	**20 57 19.7**	**+0.5**
SPN				S	**Sn**	**20 57 53.0**	**+0.2**
GNL	**Ganaly**	**3.03**	**6**	*i* P	**Pn**	**20 57 23.2**	**+2.2**
GNL	**Ganaly**	**3.03**	**6**	PN	**Pn**	**20 57 23.2**	**+2.2**
KII	**Karymskiy**	**3.58**	**20**	*e*P	**Pn**	**20 57 30.7**	**+2.2**
KII	**Karymskiy**	**3.58**	**20**	PN	**Pn**	**20 57 30.7**	**+2.2**
MKZ	**Mys Kozlova**	**4.69**	**33**	*e*P	**Pn**	**20 57 44.3**	**+0.8**
MKZ	**Mys Kozlova**	**4.69**	**33**	PN	**Pn**	**20 57 44.3**	**+0.8**
KZV	**Kizimen**	**4.76**	**20**	*e*P	**Pn**	**20 57 47.1**	**+2.3**
KZV	**Kizimen**	**4.76**	**20**	PN	**Pn**	**20 57 47.1**	**+2.3**
TUMD	**Tumrok D**	**4.87**	**21**	*e*P	**Pn**	**20 57 48.3**	**+2.2**
TUMD				*e*S	**Sn**	**20 58 42.0**	**+0.9**
TUMR	**Tumrok**	**4.89**	**19**	*e*P	**Pn**	**20 57 49.8**	**+3.3**
TUMR	**Tumrok**	**4.89**	**19**	PN	**Pn**	**20 57 48.3**	**+1.8**
TUMR				S	**Sn**	**20 58 42.0**	**+0.2**
ESO	**Esso**	**5.30**	**8**	*e*P	**Pn**	**20 57 55.3**	**+3.3**
ESO	**Esso**	**5.30**	**8**	PN	**Pn**	**20 57 55.3**	**+3.3**
KPT	**Kopyto**	**5.55**	**17**	*e*P	**Pn**	**20 57 59.5**	**+4.0**
KPT	**Kopyto**	**5.55**	**17**	PN	**Pn**	**20 57 59.5**	**+4.0**
KIRR	**Kirishev**	**5.56**	**17**	*e*P	**Pn**	**20 57 59.6**	**+4.0**
KIRR	**Kirishev**	**5.56**	**17**	PN	**Pn**	**20 57 59.6**	**+4.0**
ZLN	**Zelenaya**	**5.71**	**20**	*e*P	**Pn**	**20 58 01.7**	**+4.0**
ZLN	**Zelenaya**	**5.71**	**20**	PN	**Pn**	**20 58 01.7**	**+4.0**
LGNR	**Loginova**	**5.75**	**19**	*e*P	**Pn**	**20 58 02.1**	**+3.7**
LGNR	**Loginova**	**5.75**	**19**	PN	**Pn**	**20 58 02.1**	**+3.7**
SRDR	**Sredinnyy**	**5.81**	**13**	*e*P	**Pn**	**20 58 02.8**	**+3.9**
SRDR	**Sredinnyy**	**5.81**	**13**	PN	**Pn**	**20 58 02.8**	**+3.9**
KLY	**Klyuchi**	**5.96**	**18**	*e*P	**Pn**	**20 58 04.6**	**+3.7**
KLY				*e*S	**Sn**	**20 59 10.8**	**+3.0**
KLY	**Klyuchi**	**5.96**	**18**	PN	**Pn**	**20 58 04.6**	**+3.7**
KLY				S	**Sn**	**20 59 10.8**	**+3.0**
BDR	**Baidarnaya**	**6.31**	**20**	*e*P	**Pn**	**20 58 08.2**	**+2.4**
BDR	**Baidarnaya**	**6.31**	**20**	PN	**Pn**	**20 58 08.2**	**+2.4**
SMKR	**Semkarok**	**6.38**	**21**	*e*P	**Pn**	**20 58 08.9**	**+2.1**
SMKR	**Semkarok**	**6.38**	**21**	PN	**Pn**	**20 58 08.9**	**+2.1**
SRKR	**Sorokina**	**6.38**	**19**	*e*P	**Pn**	**20 58 09.4**	**+2.6**
SRKR	**Sorokina**	**6.38**	**19**	PN	**Pn**	**20 58 09.4**	**+2.6**
KBTR	**Krutoberegovo**	**6.40**	**28**	*i* P	**Pn**	**20 58 08.4**	**+1.3**
KBTR	**Krutoberegovo**	**6.40**	**28**	PN	**Pn**	**20 58 08.4**	**+1.3**
KBG	**Krutoberegovo**	**6.41**	**27**	*e*P	**Pn**	**20 58 08.7**	**+1.6**
KBG	**Krutoberegovo**	**6.41**	**27**	PN	**Pn**	**20 58 08.7**	**+1.6**
KUR	**Kuril'sk**	**8.41**	**233**	*e*PN	**Pn**	**20 58 37.6**	**+3.1**
KUR				pmax	pmax		
	comp=E,106nm,1.0s						
KUR				pmax	pmax		
	comp=Z,297nm,1.0s						
KUR				pmax	pmax		
	comp=N,94nm,0.9s						
KUR				pmax	pmax		
	comp=Z,2μm,2.8s						
KUR				pmax	pmax		
	comp=E,1μm,2.9s						
KUR				MLR	MLR		
	comp=N,4μm,16.0s						
PALN	**Palana**	**8.55**	**9**	*e*P	**Pn**	**20 58 38.6**	**+2.2**
PALN	**Palana**	**8.55**	**9**	PN	**Pn**	**20 58 38.6**	**+2.2**
OSSR	**Ossora**	**9.17**	**19**	*e*P	**Pn**	**20 58 47.9**	**+3.0**
OSSR	**Ossora**	**9.17**	**19**	PN	**Pn**	**20 58 47.9**	**+3.0**
TYV	**Tymovskoe**	**9.35**	**277**	*e*PN	**Pn**	**20 58 51.1**	**+3.7**
TYV				*e*S	**Sn**	**21 00 35.0**	**+4.0**
TYV				pmax	pmax		
	comp=Z,1μm,2.1s						
TYV				pmax	pmax		
	comp=Z,198nm,1.4s						
TYV				smax	smax		
	comp=N,200nm,3.5s						
TYV				smax	smax		
	comp=N,30nm,1.4s						
TYV				MLR	MLR		
	comp=E,6μm,14.0s						
TYV				MLR	MLR		
	comp=Z,5μm,14.0s						
MA2	**Magadan**	**9.68**	**340**	*e*Pn	**Pn**	**20 58 52.7**	**+0.9**
MA2	**Magadan**	**9.68**	**340**	*i* PN	**Pn**	**20 58 53.4**	**+1.6**
MA2	**Magadan**	**9.68**	**340**	P	**Pn**	**20 58 53.9**	**+2.0**
	comp=Z,18nm,0.3s,baz=144,slow=8.5,SNR=78						
MA2				LR	LR	21 03 36.2	
	comp=Z,3μm,18.0s,baz=185,slow=44						
SHO	**Shikotan**	**9.90**	**231**	⇓*i* PN	**Pn**	**20 58 53.6**	**-1.4**
SHO				pmax	pmax		
	comp=Z,120nm,0.5s						
SHO				pmax	pmax		
	comp=N,32nm,0.6s						
SHO				pmax	pmax		
	comp=E,66nm,0.6s						
UGL	**Uglegorsk**	**10.04**	**267**	⇓*i* PN	**Pn**	**20 59 01.2**	**+4.5**
UGL				*e*S	Sn	21 00 59.0	+11
UGL				pmax	pmax		
	comp=Z,1μm,0.8s						
UGL				smax	smax		
	comp=E,2μm,6.7s						
UGL				MLR	MLR		
	comp=N,3μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**10.27**	**234**	*d i* PN	**Pn**	**20 58 59.7**	**-0.3**
YUK				pmax	pmax		
	comp=Z,754nm,0.4s						
YUK				pmax	pmax		
	comp=N,51nm,0.5s						
YUK				pmax	pmax		
	comp=E,294nm,0.5s						
LAGR	**Lagunnoye**	**10.29**	**234**	*d i* PN	**Pn**	**20 59 01.7**	**+1.4**
LAGR				pmax	pmax		
	comp=N,312nm,0.4s						
LAGR				pmax	pmax		
	comp=Z,742nm,0.4s						
LAGR				pmax	pmax		
	comp=E,114nm,0.3s						
GRPR	**Tuman**	**10.35**	**234**	⇓*i* PN	**Pn**	**20 59 02.2**	**+1.2**
GRPR				pmax	pmax		
	comp=N,196nm,0.4s						
GRPR				pmax	pmax		
	comp=Z,317nm,0.4s						
GRPR				pmax	pmax		
	comp=E,516nm,0.5s						
YSS	**Yuzh-Sakhalins**	**10.36**	**255**	*e*Pn	**Pn**	**20 59 03.5**	**+2.3**
YSS	**Yuzh-Sakhalins**	**10.36**	**255**	*de*PN	**Pn**	**20 59 05.0**	**+3.8**
YSS				*e*S	**Sn**	**21 01 00.5**	**+4.8**
YSS				pmax	pmax		
	comp=N,80nm,1.0s						
YSS				pmax	pmax		
	comp=E,190nm,1.0s						
YSS				pmax	pmax		
	comp=Z,160nm,1.0s						
YSS				pmax	pmax		
	comp=Z,500nm,3.2s						
YSS				pmax	pmax		
	comp=N,600nm,2.5s						
YSS				pmax	pmax		
	comp=E,900nm,2.5s						
YSS				MLR	MLR		
	comp=Z,900nm,15.0s						
YSS				MLR	MLR		
	comp=N,800nm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
SMY	**Shemya**	**10.56**	**72**	*e*Pn	**Pn**	**20 59 02.4**	**-1.5**
SMY	**Shemya**	**10.56**	**72**	*e*PN	**Pn**	**20 59 02.4**	**-1.5**
NKL	**Nikolayevsk**	**10.62**	**290**	*e*PN	**Pn**	**20 59 05.0**	**+0.3**
NKL				pmax	pmax		
	comp=E,1μm,4.0s						
NKL				pmax	pmax		
	comp=Z,1μm,2.0s						
NKL				pmax	pmax		
	comp=Z,260nm,1.0s						
GLVR	**Golovnino**	**10.65**	**234**	*c i* PN	**Pn**	**20 59 06.1**	**+0.9**
GLVR				pmax	pmax		
	comp=Z,267nm,0.5s						
GLVR				pmax	pmax		
	comp=N,104nm,0.3s						
GLVR				pmax	pmax		
	comp=E,59nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,916nm,1.5s						
TILK	**Tilichiki**	**10.95**	**23**	*e*P	**Pn**	**20 59 11.1**	**+2.0**
TILK	**Tilichiki**	**10.95**	**23**	PN	**Pn**	**20 59 11.1**	**+2.0**
ASAJ	**Asahikawa**	**11.98**	**242**	P	**Pn**	**20 59 25.0**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=77,slow=13,SNR=59						
ASAJ				LR	LR	21 03 58.9	
	comp=Z,3μm,19.0s,baz=54,slow=37						
SEY	**Seymchan**	**12.57**	**349**	*i* PN	**Pn**	**20 59 33.1**	**+1.8**
SEY	**Seymchan**	**12.57**	**349**	P	**Pn**	**20 59 33.8**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=158,slow=13,SNR=29						
SEY				LR	LR	21 04 53.1	
	comp=Z,4μm,19.6s,baz=164,slow=40						
ERM	**Erimo**	**13.10**	**234**	*e*Pn	**Pn**	**20 59 35.7**	**-2.9**
ERM	**Erimo**	**13.10**	**234**	*i* PN	**Pn**	**20 59 36.0**	**-2.6**
GRNR	**Gornyy**	**13.29**	**278**	*e*PN	**P**	**20 59 46.1**	**-3.4**
GRNR				pmax	pmax		
	comp=E,48nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,63nm,1.0s						
KLR	**Kul'dur**	**16.55**	**275**⇑	*i* P	**P**	**21 00 25.2**	**-0.4**
KLR	**Kul'dur**	**16.55**	**275**	P	**P**	**21 00 26.3**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=79,slow=12,SNR=37						
KLR				LR	LR	21 07 39.8	
	comp=Z,4μm,18.3s,baz=78,slow=40						
BILL	**Bilibino**	**17.95**	**11**	*e*Pn	**P**	**21 00 39.6**	**-1.3**
	comp=Z,63nm,0.7s						
BILL	**Bilibino**	**17.95**	**11**	*c i* P	**P**	**21 00 40.6**	**-0.3**
BILL				pmax	pmax		
	comp=Z,48nm,0.8s						
BILL				MLR	MLR		
	comp=Z,4μm,21.0s						
USA0B	**Ussuriysk Arra**	**18.32**	**259**	*e*P	**P**	**21 00 44.7**	**-0.5**
	comp=Z,73nm,1.3s						
USRK	**Ussuriysk Ar.**	**18.32**	**259**	P	**P**	**21 00 45.5**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=59,slow=11,SNR=17						
USRK				LR	LR	21 07 40.4	
	comp=Z,3μm,21.7s,baz=54,slow=36						
ZEA	**Zeya**	**18.66**	**291**	*e*P	**P**	**21 00 49.2**	**+0.4**
ZEA				*e*S	**Sn**	**21 04 16.0**	**-1.3**
ZEA				pmax	pmax		
	comp=N,71nm,1.0s						
ZEA				pmax	pmax		
	comp=E,71nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,120nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,800nm,9.0s						
ZEA				smax	smax		
	comp=E,800nm,10.0s						
ZEA				smax	smax		
	comp=N,1μm,11.0s						
ZEA				MLR	MLR		
	comp=N,600nm,15.0s						
YAK	**Yakutsk**	**18.93**	**317**	*c i* P	**P**	**21 00 51.3**	**-0.3**
YAK				*e*S	**S**	**21 04 22.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,2μm,0.8s						
YAK				pmax	pmax		
	comp=E,564nm,1.1s						
YAK				pmax	pmax		
	comp=N,243nm,1.0s						
YAK				pmax	pmax		
	comp=Z,2μm,1.0s						
YAK				pmax	pmax		
	comp=N,635nm,1.4s						
YAK				smax	smax		
	comp=E,943nm,2.6s						
YAK				smax	smax		
	comp=N,744nm,2.3s						
YAK				MLR	MLR		
	comp=Z,24μm,20.0s						
YAK				MLR	MLR		
	comp=E,12μm,16.0s						
YAK				MLR	MLR		
	comp=N,8μm,16.0s						
MDJ	**Mudanjiang**	**19.63**	**263**	P	**P**	**21 00 58.0**	**-1.5**
MDJ				S	**S**	**21 04 34.4**	**-3.6**
MDJ				pmax	pmax		
	comp=N,36nm,1.2s						
MDJ				LR	LR		
	comp=N,2μm,21.5s						
MDJ				LR	LR		
	comp=N,3μm,23.4s						
MDJ				LR	LR		
	comp=N,4μm,19.2s						
MDJ	**Mudanjiang**	**19.63**	**263**	*e*P	**P**	**21 00 57.4**	**-2.0**
	comp=N,96nm,1.1s						
MSHR	**Mys Shultsa**	**19.69**	**256**⇑	*e*P	**P**	**21 01 00.7**	**+0.6**
MAJO	**Matsushiro**	**19.74**	**232**	*e*P	**P**	**21 00 59.8**	**-1.0**
	comp=N,110nm,0.8s						
MAJO	**Matsushiro**	**19.74**	**232**	*c i* P	**P**	**21 01 00.6**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,99nm,0.9s						
MJAR	**Matsushiro Arr**	**19.74**	**232**	P	**P**	**21 01 00.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=22,slow=8.8,SNR=110						
MJAR				LR	LR	21 08 52.4	
	comp=Z,2μm,22.0s,baz=55,slow=37						
MJB9	**Matsu-Tunnel**	**19.74**	**232**	*e*P	**P**	**21 01 00.6**	**-0.2**
	comp=Z,109nm,0.8s						
GAMB	**Gambell**	**20.97**	**40**	*e*P	**P**	**21 01 14.3**	**+0.5**
	comp=Z,165nm,1.6s						
INU	**Inuyama**	**21.28**	**232**	*e*P	**P**	**21 01 16.9**	**-0.5**
	comp=Z,196nm,0.9s						
JHJ	**Hachijo jima 2**	**21.82**	**223**	LR	LR	21 09 24.0	
	comp=Z,668nm,21.9s,baz=65,slow=35						
CN2	**Changchun**	**22.64**	**265**	*e*P	**P**	**21 01 29.0**	**-2.8**
CN2				*e*S	**S**	**21 05 31.9**	**-4.1**
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,300nm,7.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
CN2				LR	LR		
	comp=Z,2μm,19.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
ANM	**Nome**	**23.84**	**40**	*e*P	**P**	**21 01 43.6**	**+0.2**
	comp=Z,44nm,0.9s						
ANM	**Nome**	**23.84**	**40**	*e*P	**P**	**21 01 43.6**	**+0.2**
ANM				pmax	pmax		
	comp=Z,44nm,0.9s						
HIA	**Hailar**	**24.10**	**281**	*e*P	**P**	**21 01 44.7**	**-1.3**
	comp=Z,84nm,1.3s						
HIA				LR	LR		
	comp=Z,2μm,20.0s						
HIA	**Hailar**	**24.10**	**281**	*e*P	**P**	**21 01 44.7**	**-1.3**
HIA				pmax	pmax		
	comp=Z,84nm,1.3s						
HIA				MLR	MLR		
	comp=Z,2μm,20.0s						
KSRS	**Korea Array**	**24.78**	**249**	P	**P**	**21 01 52.7**	**+0.5**
	comp=Z,25nm,0.8s,baz=51,slow=9.2,SNR=59						
KSRS				LR	LR	21 10 34.0	
	comp=Z,1μm,21.0s,baz=52,slow=34						
KS01	**Wonju Array Si**	**24.79**	**249**	*e*P	**P**	**21 01 51.3**	**-0.9**
KS15	**Wonju Array Si**	**24.81**	**249**	*e*P	**P**	**21 01 53.2**	**+0.7**
	comp=Z,46nm,1.0s					

DL2 sS **sS** **21 07 22.4 +3.0**
DL2 pmax pmax
comp=Z,22nm,0.8s
DL2 pmax pmax
comp=Z,220nm,5.7s
DL2 LR LR
comp=Z,1µm,19.2s
DL2 LR LR
comp=Z,1µm,19.4s
DL2 LR LR
comp=Z,2µm,24.8s
SVW2 Sparrevohn 27.73 50 *e*P **P** **21 02 18.7 +0.1**
comp=Z,26nm,1.0s
IM3 Indian Mountai 28.91 40 *e*P **P** **21 02 28.5 -0.6**
KDAK Kodiak Island 29.48 57 *e*P **P** **21 02 33.5 -0.6**
comp=Z,135nm,1.7s
KDAK *e*PcP **PcP** **21 05 38.9 +0.6**
KDAK LR LR
comp=Z,753nm,19.0s
KDAK Kodiak Island 29.48 57 P **P** **21 02 33.5 -0.6**
comp=Z,20nm,0.9s,baz=287,slow=7.4,SNR=3.8
KDAK PcP **PcP** **21 05 38.9 +0.6**
comp=Z,12nm,0.7s,baz=226,slow=3.9,SNR=4.1
SUA Susitna One 30.06 49 *e*P **P** **21 02 38.9 -0.5**
comp=Z,59nm,1.6s
SUA *e*PcP **PcP** **21 05 40.3 +0.4**
BJT Baijiatuau 30.51 266 PFAKE 21 02 50.0 +6.6
BJT LR LR
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 30.89 35 P **P** **21 02 46.7 +0.2**
baz=262
KNK Knik Glacier 31.16 49 *e*P **P** **21 02 48.9 -0.1**
comp=Z,98nm,1.2s
SML Sawmill 31.18 48 *e*P **P** **21 02 49.1 -0.1**
comp=Z,82nm,0.9s
SML Sawmill 31.18 48 *e*P **P** **21 02 49.1 -0.1**
SML pmax pmax
comp=Z,82nm,0.9s
TCOL CIGO, UAF Yank 31.29 42 P **P** **21 02 50.3 +0.3**
baz=270
COLA College 31.29 42 PFAKE 21 03 00.0 +10
COLA LR LR
comp=Z,880nm,22.0s
COLA College 31.29 42*c i*P **P** **21 02 50.3 +0.2**
COLA pmax pmax
comp=Z,28nm,0.9s
POKR Poker Flat Res 31.47 42 P **P** **21 02 52.4 +0.7**
baz=270
SCM Sheep Creek Mo 31.66 48 *e*P **P** **21 02 53.4 -0.1**
comp=Z,43nm,0.8s
ILAR Eielson Array 31.71 42 P **P** **21 02 53.4 -0.4**
comp=Z,11nm,1.1s,baz=274,slow=9.2,SNR=8.6
ILAR ScP **ScP** **21 09 20.7 -2.1**
comp=Z,0.5nm,0.5s,baz=283,slow=3.5,SNR=5.8
ILAR LR LR 21 16 54.1
comp=Z,778nm,19.9s,baz=276,slow=38
ILB Eielson Array 31.71 42 *e*P **P** **21 02 53.4 -0.4**
comp=Z,20nm,0.8s
ILB *e*ScP **ScP** **21 09 20.7 -2.1**
H11N2 WAKE ISLAND Hy 31.79 163 T T 21 36 34.2
baz=348,slow=76,SNR=1405
H11N3 WAKE ISLAND Hy 31.81 163 T T 21 36 36.8
baz=348,slow=76,SNR=1948
H11N1 WAKE ISLAND Hy 31.81 163 T T 21 36 35.4
baz=348,slow=76,SNR=1536
WAKE Wake Island 32.19 163 PFAKE 21 03 10.0 +12
WAKE LR LR
comp=Z,2µm,21.0s
TIA Tai'an 32.19 259 P **P** **21 02 57.3 -1.0**
TIA LR LR
comp=Z,400nm,17.7s
TIA LR LR
comp=Z,440nm,20.6s
TIA LR LR
comp=Z,730nm,18.1s
ULN Ulaanbaatar 32.46 285 *e*P **P** **21 03 00.0 -0.7**
comp=Z,21nm,0.9s
ULN Ulaanbaatar 32.46 285*c i*P **P** **21 02 59.8 -0.9**
ULN pmax pmax
comp=Z,26nm,1.0s
ULN Ulaanbaatar 32.46 285 P **P** **21 03 01.0 +0.3**
SNR=11
DIV Divide 32.48 49 *e*P **P** **21 03 00.9 +0.2**
comp=Z,71nm,1.5s
IRK Irkutsk 32.53 294 *e*P **P** **21 02 59.7 -1.4**
IRK pmax pmax
comp=Z,59nm,0.7s
SONA0 Songino Array 32.88 285 *e*P **P** **21 03 03.7 -0.6**
SONA0 *e*PcP **PcP** **21 05 47.8 0.0**
SONM Songino Array 32.88 285 P **P** **21 03 03.7 -0.6**
comp=Z,5.0nm,0.6s,baz=74,slow=7.1,SNR=60
SONM PcP **PcP** **21 05 47.8 0.0**
comp=Z,8.4nm,0.8s,baz=88,slow=1.2,SNR=9.9
SONM LR LR 21 17 33.1
comp=Z,2µm,20.1s,baz=68,slow=38
H11S1 WAKE ISLAND Hy 32.95 164 T T 21 38 05.1
baz=349,slow=76,SNR=4874
H11S3 WAKE ISLAND Hy 32.96 164 T T 21 38 04.1
baz=349,slow=76,SNR=5240
H11S2 WAKE ISLAND Hy 32.97 164 T T 21 38 06.5
baz=349,slow=76,SNR=3748
HHC Hu-ho-hao-te 32.98 271 *e*P **P** **21 03 05.9 +0.7**
HHC pP pP 21 03 19.4 +0.9
HHC S **S** **21 08 23.6 +3.8**
HHC sS sS 21 08 41.3 -0.9
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,170nm,5.6s
HHC LR LR
comp=Z,2µm,15.5s
HHC LR LR
comp=Z,1µm,15.5s
HHC LR LR
comp=Z,2µm,15.8s
TLY Talaya 33.08 293 *e*P **P** **21 03 05.7 -0.2**
comp=Z,40nm,0.9s
TLY LR LR
comp=Z,1µm,19.0s
TLY Talaya 33.08 293*c i*P **P** **21 03 06.3 +0.4**
TLY *e*S **S** **21 08 23.3 +2.3**
TLY pmax pmax
comp=Z,88nm,0.8s
TLY MLR MLR
comp=Z,4µm,17.0s
TLY Talaya 33.08 293 P **P** **21 03 06.7 +0.8**
SNR=19
TLY P **P** **21 03 06.7 +0.8**
SNR=19
SSE Sheshan 33.20 248 P **P** **21 03 08.2 +1.1**
SSE S **S** **21 08 24.1 +1.0**
SSE pmax pmax
comp=Z,35nm,0.7s
SSE pmax pmax
comp=Z,150nm,3.6s
SSE LR LR
comp=Z,200nm,23.3s
SSE LR LR
comp=Z,280nm,22.5s
SSE Sheshan 33.20 248 PFAKE 21 03 20.0 +13
SSE LR LR
comp=Z,651nm,20.0s
ZAK Zakamensk 33.76 291 *e*P **P** **21 03 11.9 0.0**
ZAK *e* 21 05 48.9
ZAK pmax pmax
comp=Z,28nm,1.2s
NJ2 Nanjing 33.91 252⇑ *i*P **P** **21 03 13.9 +0.6**
NJ2 pP **pP** **21 03 23.1 -3.5**
NJ2 S **S** **21 08 35.8 +1.7**
NJ2 pmax pmax
comp=Z,27nm,0.5s
NJ2 LR LR
comp=Z,580nm,17.4s
NJ2 LR LR
comp=Z,790nm,17.4s
NJ2 LR LR
comp=Z,1µm,18.4s
BTO Baotou 34.09 271 *e*P **P** **21 03 14.1 -0.8**
EGAK Eagle 34.16 42 PFAKE 21 03 30.0 +15
EGAK LR LR
comp=Z,673nm,19.0s
TIY Taiyuan 34.22 265 *e*P **P** **21 03 16.3 +0.3**
TIY PP **PP** **21 04 37.5 +3.4**
TIY S **S** **21 08 35.7 -3.3**
TIY SS **SnSn** **21 10 48.6 -2.6**
TIY pmax pmax
comp=Z,91nm,1.4s
TIY pmax pmax
comp=Z,190nm,3.5s
TIY LR LR
comp=Z,1µm,18.8s
TIY LR LR
comp=Z,260nm,7.7s
TIY LR LR
comp=Z,590nm,24.5s
MOY Mondy 34.63 294 *e*P **P** **21 03 19.7 +0.2**
MOY pmax pmax
comp=Z,16nm,1.1s
EPYK Eagle Plains 35.81 39 P **P** **21 03 30.1 +0.8**
baz=278
INK Inuvik 36.80 35 *e*P **P** **21 03 38.2 +0.6**
comp=Z,36nm,0.7s
INK *e*S **S** **21 09 17.6 -0.1**
INK Inuvik 36.80 35 P **P** **21 03 38.2 +0.6**
comp=Z,38nm,0.8s,baz=282,slow=7.5,SNR=27
INK S **S** **21 09 17.6 -0.1**
comp=Z,2.7nm,1.1s,baz=207,slow=16,SNR=5.0
INK LR LR 21 20 55.8
comp=Z,280nm,21.4s,baz=276,slow=40
NRIK Noril'sk 36.95 326 P **P** **21 03 37.3 -1.7**
comp=Z,3.8nm,0.5s,baz=106,slow=11,SNR=4.2
NRIK PcP **PcP** **21 05 59.6 +0.5**
comp=Z,13nm,0.6s,baz=111,slow=4.1,SNR=6.0
NRIK LR LR 21 19 58.5
comp=Z,1µm,19.2s,baz=65,slow=38
TATO Taipei 37.67 241 PFAKE 21 04 00.0 +14
TATO LR LR
comp=Z,799nm,19.0s
WHN Wuhan 37.71 254⇓ P **P** **21 03 45.4 -0.4**
WHN pmax pmax
comp=Z,62nm,0.7s
WHN LR LR
comp=Z,700nm,11.2s
WHN LR LR
comp=Z,3µm,19.4s
WHN LR LR
comp=Z,2µm,15.3s
WHY Whitehorse 37.78 48 *e*P **P** **21 03 47.3 +1.0**
comp=Z,52nm,1.3s
SKAG Skagway 37.91 50 *e*P **P** **21 03 48.6 +1.4**
comp=Z,33nm,1.0s
GUMO Guam 38.38 200 LR LR 21 21 57.5
comp=Z,176nm,18.1s,baz=8.0,slow=40
XAN Xi'an 38.74 264 P **P** **21 03 53.8 -0.7**
XAN pP pP 21 04 04.1 -3.9
XAN pmax pmax
comp=Z,21nm,1.3s
XAN pmax pmax
comp=Z,120nm,4.3s
XAN LR LR
comp=Z,900nm,17.2s
XAN LR LR
comp=Z,1µm,19.9s
XAN LR LR
comp=Z,1µm,18.2s
YULB Yu-li 39.03 239 *e*P **P** **21 03 57.2 +0.2**
comp=Z,29nm,0.9s
QZH Quanzhou 39.33 244 P **P** **21 03 59.5 +0.1**
QZH S **S** **21 09 59.2 +2.4**
QZH LR LR
comp=Z,450nm,15.2s
QZH LR LR
comp=Z,340nm,14.7s
QZH LR LR
comp=Z,430nm,13.3s
TPUB Ta-pu 39.47 240 *e*P **P** **21 04 00.2 -0.5**
comp=Z,82nm,1.0s
TWG Pinlang 39.62 239 *e*P **P** **21 04 02.7 +0.9**
comp=Z,316nm,1.3s
LZH Lanzhou 40.67 270⇑ P **P** **21 04 10.8 +0.1**
LZH pP pP 21 04 24.7 +0.5
LZH sP sP 21 04 29.6 -0.7
LZH PP **PnPn** **21 05 49.0 -0.3**
LZH S **S** **21 10 16.5 -0.5**
LZH sS sS 21 10 41.4 +1.6
LZH SS **SS** **21 13 15.9 -2.7**
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,280nm,5.4s
LZH LR LR
comp=Z,2µm,16.5s
LZH LR LR
comp=Z,2µm,16.8s
LZH LR LR
comp=Z,3µm,19.5s
DLBC Dease Lake 40.84 50 *e*P **P** **21 04 11.9 +0.1**
comp=Z,21nm,0.9s
DLBC Dease Lake 40.84 50 P **P** **21 04 14.1 +2.3**
comp=Z,19nm,1.0s,baz=301,slow=10,SNR=8.9
ENH Enshi 40.90 259 *e*P **P** **21 04 11.6 -0.9**
comp=Z,46nm,0.8s
ENH LR LR
comp=Z,1µm,19.0s
GTA Gaotai 41.23 277⇑ P **P** **21 04 14.6 -0.7**
GTA pP pP 21 04 27.6 -1.2
GTA sP sP 21 04 33.2 -1.7
GTA PcP **PcP** **21 06 13.8 +0.5**
GTA PcS **PcS** **21 10 05.3 +0.7**
GTA S **S** **21 10 26.2 +0.9**
GTA pmax pmax
comp=Z,15nm,1.3s
GTA pmax pmax
comp=Z,190nm,6.2s
GTA LR LR
comp=Z,780nm,18.7s
GTA LR LR
comp=Z,820nm,18.1s
GTA LR LR
comp=Z,1µm,17.8s
ZAA1 Zalesovo Array 42.70 304 *e*P **P** **21 04 25.5 -1.3**
ZAA1 *e*PcP **PcP** **21 06 17.9 +0.3**
ZAA0 Zalesovo Array 42.70 304 *e*P **P** **21 04 25.4 -1.4**
comp=Z,12nm,0.6s
ZALV Zalesovo Beam 42.70 304 *e*P **P** **21 04 24.9 -2.0**
ZALV PcP **PcP** **21 06 17.9 +0.3**
ZALV Zalesovo Beam 42.70 304 *i* P **P** **21 04 25.7 -1.2**
ZALV pmax pmax
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 42.70 304 P **P** **21 04 25.5 -1.3**
comp=Z,12nm,0.7s,baz=61,slow=6.6,SNR=35
ZALV PcP **PcP** **21 06 17.9 +0.3**
comp=Z,23nm,0.9s,baz=50,slow=2.3,SNR=12
ZALV LR LR 21 22 49.3
comp=Z,688nm,20.6s,baz=66,slow=37
NVS Novosibirsk 43.13 306 *e*P **P** **21 04 30.0 -0.3**
NVS *e* 21 04 48.9
NVS pmax pmax
comp=Z,102nm,0.9s
NVS pmax pmax
comp=N,25nm,0.9s
NVS pmax pmax
comp=E,63nm,0.9s
GZH Guangzhou 43.80 248 P **P** **21 04 31.9 -4.1**
CD2 Chengdu 44.07 264⇑ *i*P **P** **21 04 38.2 -0.1**
CD2 sP pP 21 04 53.8 +1.9
CD2 PP **PP** **21 06 19.7 -1.8**
CD2 S **S** **21 11 02.6 -4.4**
CD2 sS sS 21 11 25.3 -4.6
CD2 pmax pmax
comp=E,70nm,0.9s
CD2 pmax pmax
comp=E,250nm,4.9s
CD2 LR LR
comp=E,1µm,15.3s
CD2 LR LR
comp=E,1µm,17.9s
BBB Bella Bella 44.54 58 P **P** **21 04 42.4 +0.8**
comp=E,20nm,1.0s,baz=310,slow=6.4,SNR=3.4
GYA Guiyang 45.35 257⇑ *i*P **P** **21 04 48.4 -0.2**
GYA pP pP 21 05 02.6 +0.3
GYA PP **PP** **21 06 36.8 +1.5**
GYA S **S** **21 11 24.2 -1.5**
GYA sS sS 21 11 48.0 -0.7
GYA SS **ScS** **21 14 39.3 -1.2**
GYA pmax pmax
comp=E,90nm,0.9s
GYA pmax pmax
comp=E,130nm,4.9s
GYA LR LR
comp=E,660nm,17.0s
GYA LR LR
comp=E,620nm,17.5s
GYA LR LR
comp=E,680nm,16.8s
YKW3 Yellowknife Ar 46.03 40 *e*P **P** **21 04 53.9 +0.6**
comp=E,22nm,0.7s
YKA Yellowknife Ar 46.07 40 P **P** **21 04 54.3 +0.7**
comp=E,16nm,0.7s,baz=298,slow=7.6,SNR=111
YKA PcP **PcP** **21 06 29.9 +0.8**
comp=E,4.4nm,0.8s,baz=314,slow=2.9,SNR=6.6
YKA LR LR 21 27 41.5
comp=E,45nm,19.0s,baz=296,slow=40
YKB5 Yellowknife Ar 46.07 40 *e*P **P** **21 04 52.1 -1.5**
YKB5 *e*PcP **PcP** **21 06 29.9 +0.8**
RES Resolute Bay 46.17 21 *e*P **P** **21 04 54.6 +0.4**
comp=E,29nm,0.6s
RES *e*PcP **PcP** **21 06 29.8 +0.6**
RES Resolute Bay 46.17 21 *e*P **P** **21 04 54.7 +0.4**
RES *e* 21 06 29.8
RES pmax pmax
comp=E,29nm,0.6s
RES Resolute Bay 46.17 21 P **P** **21 04 54.8 +0.6**
comp=Z,30nm,0.7s,baz=284,slow=7.5,SNR=103
RES PcP **PcP** **21 06 29.9 +0.6**
comp=Z,7.9nm,0.6s,baz=305,slow=1.8,SNR=4.8
WMQ Urumqi 46.21 290 P **P** **21 04 55.5 +0.4**
WMQ pP pP 21 05 08.7 -0.1
WMQ sP sP 21 05 13.4 -1.4
WMQ pmax pmax
comp=Z,140nm,1.1s
WMQ LR LR
comp=Z,2µm,22.5s
WMQ LR LR
comp=Z,2µm,23.9s
WMQ LR LR
comp=Z,3µm,23.9s
WMQ Urumqi 46.21 290 *e*P **P** **21 04 55.4 +0.4**
comp=Z,69nm,1.0s
TGY Tagaytay City 46.91 232 P **P** **21 05 02.3 +1.5**
comp=Z,153nm,0.5s,baz=36,slow=19,SNR=5.3
KURK Kurchatov 47.60 302 *e*P **P** **21 05 04.3 -1.4**
comp=Z,64nm,0.6s
KURK LR LR
comp=Z,2µm,19.0s
KURK Kurchatov 47.60 302*c i*P **P** **21 05 04.6 -1.2**
KURK pmax pmax
comp=Z,118nm,1.3s
KURK Kurchatov 47.60 302 P **P** **21 05 04.7 -1.0**
SNR=23
MK31 Makanchi Array 47.71 296 *e*P **P** **21 05 05.6 -1.1**
comp=Z,35nm,1.3s
MK31 Makanchi Array 47.71 296 *e*P **P** **21 05 05.6 -1.1**
MK31 pmax pmax
comp=Z,35nm,1.3s
MK32 Makanchi Array 47.71 296 *e*P **P** **21 05 05.9 -0.8**
MKAR Makanchi Array 47.71 296 P **P** **21 05 05.9 -0.8**
comp=Z,12nm,0.5s,baz=59,slow=6.4,SNR=352
MKAR LR LR 21 25 54.3
comp=Z,2µm,21.2s,baz=46,slow=37
MK01 Makanchi Array 47.72 296 *e*P **P** **21 05 05.2 -1.5**
MAKZ Makanchi 47.88 296 *e*P **P** **21 05 06.8 -1.2**
comp=Z,97nm,1.8s
MAKZ Makanchi 47.88 296 *e*P **P** **21 05 06.8 -1.2**
MAKZ pmax pmax
comp=Z,97nm,1.8s
LLLB Lillooet 48.69 57 *e*P **P** **21 05 15.0 +0.7**
comp=Z,31nm,1.3s
KMI Kunming 48.76 260 P **P** **21 05 15.5 +0.2**
KMI pP pP 21 05 29.3 +0.2
KMI sP sP 21 05 33.7 -1.3
KMI PcP **PcP** **21 06 40.4 +0.8**
KMI S **S** **21 12 13.6 -0.9**
KMI SS **SS** **21 15 35.3 -10**
KMI pmax pmax
comp=Z,64nm,1.3s
KMI pmax pmax
comp=Z,380nm,4.4s
KMI LR LR
comp=Z,750nm,18.3s
KMI LR LR
comp=Z,390nm,17.6s
KMI LR LR
comp=Z,740nm,20.4s
KMI Kunming 48.76 260 *e*P **P** **21 05 15.3 +0.1**
comp=Z,89nm,1.2s
KMI Kunming 48.76 260 *e*P **P** **21 05 15.4 +0.2**
KMI pmax pmax
comp=Z,89nm,1.2s
QIZ Qiongzhong 48.99 248 P **P** **21 05 16.8 0.0**
QIZ S **S** **21 12 18.6 +1.1**
QIZ pmax pmax
comp=Z,46nm,1.8s
QIZ LR LR
comp=Z,510nm,14.8s
QIZ LR LR
comp=Z,460nm,19.0s
QIZ Qiongzhong 48.99 248 PFAKE 21 05 30.0 +13
QIZ LR LR
comp=Z,78nm,20.0s
KBS Kingsbay 49.02 352 *e*P **P** **21 05 16.0 -0.3**
comp=Z,49nm,1.1s
KBS LR LR
comp=Z,696nm,19.0s
KBS Kingsbay 49.02 352*d i*P **P** **21 05 16.7 +0.4**
KBS pmax pmax
comp=Z,204nm,1.3s
KBS Kingsbay 49.02 352 *e*P **P** **21 05 16.7 +0.4**
SPA0 Spitsbergen Ar 49.23 350 *e*P **P** **21 05 17.8 -0.2**
SPA0 Spitsbergen Ar 49.23 350 *e*P **P** **21 05 17.5 -0.5**
SPITS Spitsbergen Ar 49.23 350 P **P** **21 05 17.3 -0.6**
comp=Z,28nm,0.4s,baz=57,slow=10.0,SNR=256
A04D Lummi Island 49.30 59 P **P** **21 05 19.6 +0.8**
baz=305
NLWA Neiton Lookou 49.41 61 *e*P **P** **21 05 21.7 +1.9**
comp=Z,21nm,1.0s
HOPEN Hopen 49.51 347 *e*P **P** **21 05 19.1 -0.9**
TULEG Thule 49.68 13 *e*P **P** **21 05 20.8 -0.5**
comp=Z,26nm,0.8s
D03D Eldon 49.76 61 P **P** **21 05 23.4 +1.0**
baz=305,SNR=6.0
B05A Bryant 49.89 60 P **P** **21 05 24.2 +0.9**
baz=305
HSPB Hornsund (broa 50.33 350 *e*P **P** **21 05 27.1 +0.8**
BRVK Borovoye 50.62 309 *e*P **P** **21 05 27.2 -1.6**
comp=Z,23nm,0.6s
BRVK LR LR
comp=Z,752nm,20.0s
BRVK Borovoye 50.62 309 *i* P **P** **21 05 27.2 -1.6**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 50.62 309 P **P** **21 05 27.4 -1.4**
SNR=10
BRVK P **P** **21 05 27.4 -1.4**
SNR=10
E04D Cinebar 50.62 62 P **P** **21 05 30.1 +1.2**
baz=306
C06D Leavenworth 50.75 59 P **P** **21 05 30.5 +0.6**
baz=306
TARA Tarawa 50.89 160 PFAKE 21 05 40.0 +8.9
TARA LR LR
comp=Z,117nm,19.0s
G03D McMinnville, O 51.02 63 P **P** **21 05 32.0 +0.1**
baz=307
KCP Kidapawan 51.16 223⇓ *i*P **P** **21 05 35.1 +1.8**
B08A Colville Reser 51.34 58 *e*P **P** **21 05 34.8 +0.5**
comp=Z,27nm,1.1s
I02D Swisshome 51.35 65 P **P** **21 05 35.3 +1.0**
baz=307
G05D Wamic, OR 52.10 62 P **P** **21 05 40.9 +0.8**
baz=308
I04A Tendick Farm, 52.36 64 P **P** **21 05 42.6 +0.6**
baz=308
F07A Phinny Hill Vi 52.48 61 *e*P **P** **21 05 44.1 +1.3**
comp=Z,18nm,0.8s
PRZ Przheval'sk 52.49 294 *e*P **P** **21 05 43.1 0.0**
comp=Z,18nm,0.7s
PRZ Przheval'sk 52.49 294 *e*P **P** **21 05 43.1 0.0**
PRZ pmax pmax
comp=Z,18nm,0.7s
NEW Newport 52.58 57 P **P** **21 05 43.9 +0.3**
baz=307,SNR=5.9
NEW Newport 52.58 57 P **P** **21 05 43.8 +0.3**
comp=Z,11nm,1.0s,baz=305,slow=7.8,SNR=7.8
I05D Terrebonne, OR 52.64 63 P **P** **21 05 44.9 +0.8**
baz=308
L02E Cave Junction 52.68 67 P **P** **21 05 44.6 +0.3**
baz=309
DAG Danmarks Havn 52.79 359⇑ *i*P **P** **21 05 44.4 -0.2**

comp=Z,51nm,0.6s
DAG Danmarks Havn 52.79 359⇑ *i*P P 21 05 44.4 -0.2
DAG pmax pmax
comp=Z,34nm,0.6s
J04D Umpqua Nationa 52.87 65 P P 21 05 46.7 +0.7
baz=308
KULLO Kullorsuaq 52.88 11⇑ *i*P P 21 05 45.1 -0.2
comp=Z,51nm,0.7s
KULLO Kullorsuaq 52.88 11⇑ *i*P P 21 05 45.1 -0.2
KULLO pmax pmax
comp=Z,51nm,0.7s
SVE Sverdlovsk 52.89 317*d* *i*P P 21 05 44.5 -1.1
SVE pmax pmax
comp=Z,58nm,0.9s
SVE MLR MLR
comp=Z,1μm,17.0s
LSA Lhasa 52.90 273 *e*P P 21 05 47.0 +0.3
comp=Z,11nm,0.9s
LSA LR LR
comp=Z,984nm,19.0s
LSA Lhasa 52.90 273 P P 21 05 47.7 +1.0
LSA Lhasa 52.90 273 *e*P P 21 05 47.0 +0.3
LSA pmax pmax
comp=Z,11nm,0.9s
LSA MLR MLR
comp=Z,984nm,19.0s
E09A Wood Farm, Sta 53.09 59 *e*P P 21 05 47.9 +0.6
comp=Z,35nm,1.2s
PINE Pine Mountain 53.20 63 *e*P P 21 05 49.5 +1.1
comp=Z,41nm,1.6s
J05D Fort Rock, OR 53.35 64 P P 21 05 50.3 +0.9
baz=309,SNR=6.6
L04D Klamath Falls 53.40 66 P P 21 05 50.3 +0.5
baz=309,SNR=6.1
KDJ Kajisay 53.41 294 *e*P P 21 05 50.6 +0.6
comp=Z,64nm,1.2s
KDJ Kajisay 53.41 294 *e*P P 21 05 50.6 +0.6
KDJ pmax pmax
comp=Z,64nm,1.2s
YBH Yreka Blue Hor 53.46 67 *e*P P 21 05 51.8 +1.6
comp=Z,35nm,1.5s
YBH Yreka Blue Hor 53.46 67 P P 21 05 52.0 +1.8
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 53.46 67 P P 21 05 52.0 +1.8
comp=Z,4.3nm,0.9s,baz=311,slow=2.2,SNR=5.0
M02C Callahan 53.59 67 P P 21 05 52.3 +1.2
baz=309
TKM2 Tokmak 2 53.83 296 P P 21 05 52.6 -0.4
SNR=38
TKM2 Tokmak 2 53.83 296 *i* P P 21 05 52.5 -0.6
TKM2 pmax pmax
comp=Z,14nm,0.6s
ULHL Ulahol 53.89 295 P P 21 05 53.3 -0.2
SNR=28
M04C Macdoel 53.94 66 P P 21 05 55.0 +1.2
baz=309
N02D Trinity Center 53.94 67 P P 21 05 55.6 +1.9
baz=310,SNR=7.4
ARU Arti 54.04 317 *e*P P 21 05 52.1 -1.9
comp=Z,80nm,0.5s
ARU LR LR
comp=Z,863nm,19.0s
ARU Arti 54.04 317*c* *i*P P 21 05 52.1 -1.9
ARU 21 06 56.9
ARU 21 07 54.4
ARU S **S 21 13 25.7 -0.3**
ARU SS **SS 21 17 05.7 -1.5**
ARU pmax pmax
comp=Z,60nm,0.6s
ARU MLR MLR
comp=Z,1μm,19.0s
SKNT Sakolnakorn 54.08 252 P P 21 05 56.1 +1.2
comp=Z,55nm,0.8s,comp=Z,901nm
USP Ospenovka 54.24 297 P P 21 05 55.6 -0.2
SNR=59
CHMS Chumysh 54.27 296 P P 21 05 55.7 -0.3
SNR=20
LVZ Lovozero 54.27 337 PFAKE 21 06 10.0 +14
LVZ LR LR
comp=Z,3μm,19.0s
WDC Whiskeytown Da 54.29 68 *e*P P 21 05 57.5 +1.4
comp=Z,14nm,1.1s
WDC Whiskeytown Da 54.29 68 *e*P P 21 05 57.5 +1.4
WDC pmax pmax
comp=Z,14nm,1.1s
KBK Karagaybulak 54.37 296 P P 21 05 56.6 -0.3
SNR=16
O02D Mt. Diablo Mer 54.40 68 P P 21 05 58.4 +1.3
baz=310
FRU1 Bishkek 54.46 296 *e*P P 21 05 56.9 -0.5
comp=Z,52nm,0.6s
FRU1 Bishkek 54.46 296 *e*P P 21 05 56.9 -0.5
FRU1 pmax pmax
comp=Z,52nm,0.6s
NRN Naryn 54.54 294 *e*P P 21 05 57.7 -0.6
comp=Z,12nm,0.8s
NRN Naryn 54.54 294 *e*P P 21 05 57.7 -0.6
NRN pmax pmax
comp=Z,12nm,0.8s
KEV Kevo 54.56 341 PFAKE 21 06 10.0 +12
KEV LR LR
comp=Z,2μm,20.0s
KZA Kyzart 54.56 295 P P 21 05 58.5 -0.1
SNR=13
BMO Blue Mountains 54.58 60 *e*P P 21 05 59.2 +0.9
comp=Z,7.8nm,0.8s
BMO LR LR
comp=Z,596nm,19.0s
AAK Ala-Archa 54.64 296 P P 21 05 58.7 -0.1
SNR=9.8
AAK Ala-Archa 54.64 296 *i* P P 21 05 58.4 -0.5
AAK pmax pmax
comp=Z,18nm,0.5s
MOD Modoc Plateau 54.75 65 *e*P P 21 06 01.2 +1.5
comp=Z,67nm,1.5s
PAYA Payao 54.79 257 P P 21 06 01.6 +1.6
comp=Z,114nm,0.8s,comp=Z,843nm
APA Apatity 54.83 337⇓ *i*P P 21 06 04.9 +5.3
APA *i* 21 06 55.2
APA *i* 21 08 09.5
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,1μm,14.0s
J08A Circle Bar Ran 54.87 63 *e*P P 21 06 01.5 +1.0
comp=Z,19nm,1.3s
UCH Uchtor 54.89 296 P P 21 06 00.7 -0.3
SNR=6.7
O03E Paynes Creek 54.91 67 P P 21 06 01.2 +0.5
baz=310,SNR=7.4
EKS2 Erkin-Say 55.04 297 P P 21 06 01.6 0.0
SNR=13
ARA0 ARCESS Array S 55.05 341 *e*P P 21 05 59.1 -2.1
ARCES ARCESS Array B 55.05 341 P P 21 05 59.1 -2.1
comp=Z,11nm,1.0s,baz=35,slow=7.6,SNR=12
ARE0 ARCESS Array S 55.05 341 *e*P P 21 05 59.1 -2.1
MSO Missoula 55.16 57 *e*P P 21 06 03.1 +0.6
comp=Z,32nm,1.2s
MSO Missoula 55.16 57 P P 21 06 02.8 +0.3
baz=310,SNR=11
SHL Shillong 55.30 269 *e*P P 21 06 03.8 -0.1
comp=Z,52nm,1.0s
SHL Shillong 55.30 269 *e*P P 21 06 03.8 -0.1
SHL pmax pmax
comp=Z,52nm,1.0s
SHL Shillong 55.30 269 *e*P P 21 06 03.0 -0.8
SHL IAmb IAmb 21 06 04.8
comp=Z,29nm,1.0s
WVOR Wild Horse Val 55.37 63 *e*P P 21 06 05.3 +1.3
comp=Z,19nm,0.8s
WVOR LR LR
comp=Z,1μm,22.0s
WVOR Wild Horse Val 55.37 63 *e*P P 21 06 05.3 +1.3
WVOR pmax pmax
comp=Z,19nm,0.8s
WVOR MLR MLR
comp=Z,1μm,22.0s
AML Almayashu 55.42 296 P P 21 06 04.7 0.0
SNR=15
UTTA Uttaradit 55.58 255 P P 21 06 07.1 +1.4
comp=Z,53nm,0.9s,comp=Z,381nm
CMMT Chiang Mai 55.77 258 P P 21 06 08.0 +0.9
comp=Z,272nm,0.9s,comp=Z,2μm
CHTO Chiang Mai 55.77 258 *e*P P 21 06 07.8 +0.7
comp=Z,218nm,0.8s
CHTO LR LR
comp=Z,580nm,21.0s
CHTO Chiang Mai 55.77 258 P P 21 06 08.5 +1.4
SNR=49
CHTO P P 21 06 08.5 +1.4
SNR=49
CHTO Chiang Mai 55.77 258 P P 21 06 08.1 +1.0
comp=Z,1μm,0.9s,comp=Z,10μm
KSH Kashi 55.78 292 P P 21 06 10.6 +3.5
KSH pP pP 21 06 23.7 +2.5
KSH PcP **PcP 21 07 08.8 +3.2**
KSH S **S 21 13 52.8 +2.6**
KSH sS sS 21 14 14.7 +1.1
KSH ScS **ScS 21 15 50.9 -0.7**
KSH pmax pmax
comp=Z,28nm,1.1s
KSH pmax pmax
comp=Z,220nm,5.3s
KSH LR LR
comp=Z,580nm,11.9s
KSH LR LR
comp=Z,480nm,13.9s
KSH LR LR
comp=Z,820nm,15.0s
FFC Flin Flon 55.91 44 *e*P P 21 06 07.8 +0.2
comp=Z,66nm,1.4s
FFC Flin Flon 55.91 44 *e*P P 21 06 07.8 +0.2
FFC pmax pmax
comp=Z,66nm,1.4s
KTK1 Kautokeino 55.94 342 *e*P P 21 06 06.3 -1.3
BEKR Beckworth 56.03 67 *e*P P 21 06 09.6 +0.7
comp=Z,31nm,1.5s
CM31 Chiang Mai Arr 56.04 257 *e*P P 21 06 10.4 +1.4
comp=Z,133nm,0.8s
CMAR Chiang Mai Arr 56.04 257 P P 21 06 10.6 +1.6
comp=Z,97nm,0.9s,baz=27,slow=7.1,SNR=459
CMAR LR LR 21 33 05.6
comp=Z,464nm,18.8s,baz=40,slow=39
CM01 Chiang Mai Arr 56.06 257 *e*P P 21 06 10.0 +0.9
TMCR Tamitsa 56.16 333 *e*P P 21 06 07.9 -1.3
TMCR pmax pmax
comp=Z,7.0nm,0.5s
KKM Kota Kinabalu 56.17 232 P P 21 06 11.2 +1.2
TRO Tromso 56.22 344 *e*P P 21 06 07.4 -2.1
PBKT Sadao Pong 56.22 254 *e*P P 21 06 11.3 +1.1
comp=Z,49nm,0.8s
PBKT Sadao Pong 56.22 254 P P 21 06 11.6 +1.3
comp=Z,82nm,1.0s
AFDM Forest Hills D 56.27 68 *e*P P 21 06 11.6 +1.2
comp=Z,20nm,1.6s
AFDM *e*pP **pP 21 06 21.2 -3.2**
SUKH Sukhothai 56.35 256 P P 21 06 13.1 +1.9
comp=Z,28nm,0.9s
HRY Holter Researc 56.35 56 *e*P P 21 06 11.9 +0.9
FCC Fort Churchill 56.41 36 *e*P P 21 06 11.0 0.0
comp=Z,48nm,0.6s
FCC Fort Churchill 56.41 36 *e*P P 21 06 11.0 0.0
FCC pmax pmax
comp=Z,48nm,0.6s
SUMG Summit 56.53 6 *e*P P 21 06 12.6 +0.3
comp=Z,76nm,0.9s
SUMG Summit 56.53 6⇑ *i*P P 21 06 12.9 +0.6
comp=Z,181nm,0.8s
SUMG Summit 56.53 6⇑ *i*P P 21 06 12.9 +0.6
SUMG pmax pmax
comp=Z,180nm,0.8s
EGMT Eagleton 56.58 53 *e*P P 21 06 12.2 -0.4
comp=Z,43nm,1.2s
EGMT LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 56.58 53 P P 21 06 13.2 +0.6
baz=311,SNR=5.9
KK31 Karatay Array 56.59 299 *e*P P 21 06 11.3 -1.4
KK31 Karatay Array 56.59 299 *e*P P 21 06 11.3 -1.4
KKAR Karatay Array 56.59 299 *e*P P 21 06 11.4 -1.3
KKAR Karatay Array 56.59 299 *e*P P 21 06 11.4 -1.3
PAHR Pah Rah Range 56.70 66 *e*P P 21 06 14.5 +0.8
comp=Z,32nm,1.5s
DLMT Dillon 56.82 57 *e*P P 21 06 15.9 +1.5
comp=Z,46nm,1.8s
TSM Tawau 56.87 229 P P 21 06 15.3 +0.5
PNTR Pine Nut 56.98 67 *e*P P 21 06 15.8 +0.1
comp=Z,14nm,0.8s
HLID Hailey 57.01 60 *e*P P 21 06 16.9 +1.1
comp=Z,27nm,1.4s
HLID Hailey 57.01 60 P P 21 06 16.3 +0.6
baz=311,SNR=8.9
MCMT McKenzie Canyo 57.03 58 *e*P P 21 06 16.6 +0.6
BOZ Bozeman (W) 57.18 57 *e*P P 21 06 17.7 +0.7
comp=Z,20nm,0.8s
BOZ LR LR
comp=Z,360nm,19.0s
BOZ Bozeman (W) 57.18 57 *e*P P 21 06 17.7 +0.7
BOZ pmax pmax
comp=Z,20nm,0.8s
BOZ MLR MLR
comp=Z,360nm,19.0s
BOZ Bozeman (W) 57.18 57 P P 21 06 17.7 +0.7
baz=311,SNR=15
CMB Columbia Colle 57.21 69 *e*P P 21 06 18.3 +1.1
comp=Z,37nm,1.6s
CMB Columbia Colle 57.21 69 *e*P P 21 06 18.3 +1.1
CMB pmax pmax
comp=Z,37nm,1.6s
YERR Yerington 57.26 67 *e*P P 21 06 18.6 +0.9
comp=Z,24nm,1.2s
JIRN Jiri 57.45 275 *e*P P 21 06 19.3 -0.1
comp=Z,71nm,0.8s
WAKR Walker 57.46 68 *e*P P 21 06 20.3 +1.2
comp=Z,23nm,1.4s
BMN Battle Mountai 57.48 64 *e*P P 21 06 19.0 -0.1
comp=Z,30nm,1.5s
BMN Battle Mountai 57.48 64 *e*P P 21 06 19.0 -0.1
BMN pmax pmax
comp=Z,30nm,1.5s
GUN Gumba 57.48 275 *e*P P 21 06 19.3 -0.2
comp=Z,65nm,0.7s
BRDH Bariadhala 57.52 267 P P 21 06 20.4 +1.0
comp=Z,97nm,0.8s,baz=70,slow=9.8,SNR=42
FAKI Fak Fak 57.59 210 *e*P P 21 06 20.4 +0.5
comp=Z,87nm,1.1s
FAKI Fak Fak 57.59 210 P P 21 06 21.1 +1.2
comp=Z,79nm,1.2s
RAMN Ramite 57.69 274 *e*P P 21 06 20.8 -0.1
comp=Z,171nm,0.9s
QLMT Earthquake Lak 57.79 57 *e*P P 21 06 22.4 +1.0
UMPA Umpang Tak 57.80 256 P P 21 06 24.3 +2.8
comp=Z,35nm,1.1s,comp=Z,278nm
KVN Kaiserville 57.88 66 *e*P P 21 06 23.1 +1.1
comp=Z,38nm,1.5s
KVN Kaiserville 57.88 66 *e*P P 21 06 23.1 +1.1
KVN pmax pmax
comp=Z,38nm,1.5s
RYN Ryan 57.91 67 *e*P P 21 06 23.3 +1.1
comp=Z,10nm,1.0s
UTHA Uthaitani 57.93 255 P P 21 06 24.1 +1.7
comp=Z,24nm,0.8s,comp=Z,228nm
KKN Kakani 57.94 276 *e*P P 21 06 22.7 +0.1
comp=Z,76nm,0.5s
YHB Horse Butte 57.97 57 *e*P P 21 06 24.0 +1.4
comp=Z,92nm,1.5s
PKI Pulchoki 58.01 275 *e*P P 21 06 23.0 -0.2
comp=Z,48nm,0.6s
PKIN Phulchoki 58.01 276 *e*P P 21 06 22.9 -0.3
comp=Z,35nm,0.6s
ABKAR Akbulak array 58.08 310 *e*P P 21 06 21.3 -1.7
YHH Holmes Hill 58.13 57 *e*P P 21 06 25.2 +1.3
comp=Z,16nm,0.7s
YMR Madison River 58.15 57 *e*P P 21 06 25.0 +1.1
comp=Z,54nm,0.5s
DMN Daman 58.17 276 *e*P P 21 06 24.6 +0.3
comp=Z,105nm,0.6s
NV01 Mina Array Sit 58.17 67 *e*P P 21 06 25.1 +1.0
NVAR Mina Array Bea 58.17 67 P P 21 06 25.7 +1.6
comp=Z,2.4nm,0.7s,baz=293,slow=7.6,SNR=12
NVAR LR LR 21 27 30.7
comp=Z,183nm,21.9s,baz=306,slow=32
KLMR Klimovskoe 58.19 329 *e*P P 21 06 21.0 -2.5
KLMR pmax pmax
comp=Z,12nm,0.6s
KLMR Klimovskoe 58.19 329 *e*P P 21 06 21.1 -2.5
KLMR AMP 21 06 22.6
comp=Z,12nm,0.7s
GKN Gorkha 58.20 276 *e*P P 21 06 24.3 0.0
comp=Z,87nm,0.6s
NV11 Mina Array Sit 58.26 67 *e*P P 21 06 26.1 +1.5
comp=Z,1.2nm,1.2s
YNR Norris Junctio 58.27 57 *e*P P 21 06 26.3 +1.5
comp=Z,79nm,1.7s
STEI Steigen 58.36 344 *e*P P 21 06 23.0 -1.6
YFT Old Faithful 58.36 57 *e*P P 21 06 26.1 +0.7
comp=Z,21nm,0.8s
MRSI Marisa 58.37 223 P P 21 06 26.0 +0.6
comp=Z,18nm,1.2s,comp=Z,374nm
ELK Elko 58.40 63 *e*P P 21 06 26.1 +0.4
comp=Z,6.6nm,0.8s
ELK Elko 58.40 63 P P 21 06 27.2 +1.5
comp=Z,3.0nm,0.8s,baz=318,slow=4.3,SNR=4.1
LOF Lofoten 58.47 345 *e*P P 21 06 24.1 -1.3
YPP Pitchstone Pla 58.50 57 *e*P P 21 06 28.3 +1.9
DANN Dangsing 58.51 277 *e*P P 21 06 26.9 +0.2
comp=Z,178nm,0.6s
LKWY Lake 58.52 57 PFAKE 21 06 40.0 +14
LKWY LR LR
comp=Z,649nm,19.0s
H17A Grant Village 58.54 57 *e*P P 21 06 29.5 +2.9
comp=Z,85nm,0.3s
ILULI Ilulissat 58.59 12 *e*P P 21 06 25.9 -0.3
comp=Z,43nm,0.7s
ILULI Ilulissat 58.59 12⇑ *i*P P 21 06 25.7 -0.5
comp=Z,41nm,0.7s
ILULI Ilulissat 58.59 12 *e*P P 21 06 25.9 -0.3
ILULI pmax pmax
comp=Z,43nm,0.7s
IMW Indian Meadow 58.68 58 *e*P P 21 06 29.4 +1.7
comp=Z,62nm,1.5s
FLWY Flagg Ranch 58.68 57 *e*P P 21 06 29.4 +1.8
comp=Z,39nm,1.2s
RLMT Red Lodge 58.75 56 *e*P P 21 06 29.3 +1.3
comp=Z,70nm,1.3s
RLMT Red Lodge 58.75 56 P P 21 06 29.6 +1.6
baz=312,SNR=18
FXWY Fox Creek 58.80 58 *e*P P 21 06 30.1 +1.7
comp=Z,13nm,0.9s
MOOW Moose Ponds 58.88 58 *e*P P 21 06 30.4 +1.4
comp=Z,26nm,1.3s
TPAW Teton Pass 58.94 58 *e*P P 21 06 30.4 +0.9
comp=Z,28nm,0.9s
SANI Sanana 59.00 217 P P 21 06 29.6 -0.1
comp=Z,58nm,1.4s
KOLN Koldanda 59.02 277 *e*P P 21 06 30.0 -0.1
comp=Z,108nm,0.8s
LOHW Long Hollow 59.05 58 *e*P P 21 06 31.8 +1.7
comp=Z,44nm,1.3s
SRDT SRDT 59.06 254 P P 21 06 31.8 +1.6
comp=Z,55nm,0.8s
DGMT Dagmar 59.06 50 PFAKE 21 06 40.0 +10
DGMT LR LR
comp=Z,924nm,21.0s
DGMT Dagmar 59.06 50 P P 21 06 30.7 +0.8
baz=313
SNOW Snow King Moun 59.07 58 *e*P P 21 06 31.9 +1.6
comp=Z,33nm,1.1s
REDW Red Top Meadow 59.08 58 *e*P P 21 06 31.9 +1.5
comp=Z,84nm,1.4s
HVU Hansel Valley 59.09 61 *e*P P 21 06 31.3 +0.9
comp=Z,16nm,1.3s
HVU Hansel Valley 59.09 61 *e*P P 21 06 31.3 +0.9
HVU pmax pmax
comp=Z,16nm,1.3s
PATY Pattaya 59.11 251 P P 21 06 33.5 +2.9
comp=Z,16nm,1.0s
SCO Scoresbysund 59.14 360 *e*P P 21 06 30.4 +0.4
comp=Z,46nm,1.1s
SCO Scoresbysund 59.14 360⇑ *i*P P 21 06 30.7 +0.7
comp=Z,53nm,1.2s
SCO Scoresbysund 59.14 360⇑ *i*P P 21 06 30.7 +0.7
SCO pmax pmax
comp=Z,53nm,1.2s
PYUN Piuthan 59.17 278 *e*P P 21 06 31.2 0.0
comp=Z,355nm,1.0s
LAO LASA Array 59.26 53 PFAKE 21 06 40.0 +8.6
LAO LR LR
comp=Z,1μm,19.0s
LAO LASA Array 59.26 53 P P 21 06 32.1 +0.7
baz=313
AHID Auburn Hatcher 59.35 59 *e*P P 21 06 33.4 +1.2
comp=Z,15nm,0.8s
CWC Cottonwood Cre 59.64 68 P P 21 06 35.2 +0.9
baz=313
PKM Mcpherson Peak 59.66 71 P P 21 06 35.5 +1.1
baz=313
R11A Troy Canyon, C 59.81 65 *e*P P 21 06 36.2 +0.8
comp=Z,29nm,1.6s
R11A Troy Canyon, C 59.81 65 P P 21 06 36.2 +0.8
baz=313,SNR=9.5
PHET Kaeng Krachan 59.87 253 P P 21 06 38.0 +2.2
comp=Z,78nm,0.8s,comp=Z,503nm
HWUT Hardware Ranch 59.88 60 *e*P P 21 06 37.3 +1.4
comp=Z,8.9nm,0.9s
HNR Honiara 59.91 177 PFAKE 21 06 50.0 +14
HNR LR LR
comp=Z,885nm,21.0s
MOR8 Moi Rana 60.08 344 *e*P P 21 06 34.0 -2.6
DUG Dugway, Tooele 60.14 62 *e*P P 21 06 37.9 +0.3
comp=Z,32nm,1.3s
DUG LR LR
comp=Z,573nm,22.0s
DUG Dugway, Tooele 60.14 62 *e*P P 21 06 37.9 +0.3
DUG pmax pmax
comp=Z,32nm,1.3s
DUG MLR MLR
comp=Z,573nm,22.0s
DUG Dugway, Tooele 60.14 62 P P 21 06 39.2 +1.6
baz=313,SNR=9.6
BW06 Boulder Array 60.18 58 *e*P P 21 06 38.8 +0.8
comp=Z,34nm,1.0s
BW06 *e*pP **pP 21 06 52.8 +0.7**
BW06 LR LR
comp=Z,527nm,21.0s
BW06 Boulder Array 60.18 58 P P 21 06 39.0 +1.0
baz=313,SNR=16
PD31 Pinedale Array 60.18 58 *e*P P 21 06 38.5 +0.6
comp=Z,29nm,1.0s
PDAR Pinedale Array 60.18 58 P P 21 06 39.1 +1.1
comp=Z,17nm,0.8s,baz=307,slow=3.2,SNR=17
BTM Bintulu 60.19 234 P P 21 06 38.7 +0.7
MPMC Manual Prospec 60.25 68 P P 21 06 39.7 +1.2
baz=313
TCUT Toone Canyon 60.29 60 *e*P P 21 06 40.1 +1.4
comp=Z,40nm,1.4s
TPNV Topopah Spring 60.38 67 *e*P P 21 06 39.9 +0.6
comp=Z,17nm,0.9s
TPNV Topopah Spring 60.38 67 *e*P P 21 06 39.9 +0.6
TPNV pmax pmax
comp=Z,17nm,0.9s
TPNV Topopah Spring 60.38 67 P P 21 06 40.2 +0.9
baz=313,SNR=5.8
BOK Bokaro 60.38 272 *e*P P 21 06 39.1 -0.1
BOK IAmb IAmb 21 06 41.0
comp=Z,20nm,0.9s
DHRM DHARAMSHALA 60.46 286 *e*P P 21 06 38.6 -1.3
PCI Palu 60.53 224 P P 21 06 40.5 +0.2
comp=Z,51nm,1.1s
JLU Jordanelle 60.62 61 *e*P P 21 06 42.7 +1.6
comp=Z,27nm,1.4s
SMLA Simla 60.70 284 *e*P P 21 06 40.4 -0.9
DDI Dehra Dun 60.71 283 *e*P P 21 06 40.8 -0.7
NLU North Lily Min 60.72 62 *e*P P 21 06 42.6 +1.0
comp=Z,22nm,1.3s
SFJD Kangerlussuaq 60.74 12 *e*P P 21 06 40.6 -0.4
comp=Z,28nm,0.6s
SFJD Kangerlussuaq 60.74 12⇑ *i*P P 21 06 40.7 -0.3
SFJD Kangerlussuaq 60.74 12⇑ *i*P P 21 06 40.7 -0.3
EDW2 Edwards Air Fo 60.76 70 P P 21 06 42.6 +0.8
baz=314,SNR=6.3
SBUM Sibu 61.27 234 *e*P P 21 06 46.5 +1.1
comp=Z,30nm,0.9s
SBUM Sibu 61.27 234 P P 21 06 47.0 +1.7
SHPR Sheep Range 61.31 67 *e*P P 21 06 46.6 +0.9
comp=Z,18nm,1.4s
NIL Nilore 61.34 289 *e*P P 21 06 45.8 +0.1
comp=Z,68nm,0.8s
NIL LR LR
comp=Z,52nm,20.0s
CCUT Cedar City 61.64 65 *e*P P 21 06 49.0 +1.1
comp=Z,20nm,1.3s
FIA1 FINESS Array S 61.65 336 *e*P P 21 06 44.8 -2.5
comp=Z,89nm,1.9s
MSU Marysvale 61.65 63 *e*P P 21 06 48.7 +0.7
MSU Marysvale 61.65 63 *e*P P 21 06 48.7 +0.7
FIA0 FINESS Array S 61.65 336 *e*P P 21 06 45.5 -1.8
FIA0 FINESS Array S 61.65 336 *e*P P 21 06 45.5 -1.8
FINES FINESS Array B 61.65 336 P P 21 06 45.5 -1.8
comp=Z,8.6nm,0.6s,baz=34,slow=7.7,SNR=51

TMUT Trail Mountain 61.65 62 *e*P P 21 06 48.7 +0.6
comp=Z,11nm,0.8s
ULM Lac du Bonnet 61.70 44 *e*P P 21 06 47.6 -0.1
comp=Z,32nm,1.5s
ULM Lac du Bonnet 61.70 44 *e*P P 21 06 47.7 -0.1
ULM pmax pmax
comp=Z,32nm,1.5s
ULM Lac du Bonnet 61.70 44 P P 21 06 47.5 -0.3
comp=Z,6.0nm,0.7s,baz=313,slow=6.8,SNR=6.7
ULM LR LR 21 36 02.8
comp=Z,274nm,19.5s,baz=319,slow=38
MDND Maddock 61.71 48 *e*P P 21 06 49.0 +1.0
comp=Z,44nm,0.8s
MDND Maddock 61.71 48 P P 21 06 49.2 +1.2
baz=316
SCI2 San Clemente I 61.74 72 P P 21 06 49.3 +0.9
baz=314
SZCU Shurtz Canyon 61.76 64 *e*P P 21 06 49.7 +1.0
comp=Z,19nm,1.4s
HEC Hector,Ludlow 61.78 69 P P 21 06 49.7 +0.9
baz=314
P17A Butcher Ranch, 61.79 61 *e*P P 21 06 50.2 +1.3
comp=Z,40nm,1.4s
K22A Casper 61.88 56 P P 21 06 50.5 +1.1
baz=314
Q16A Castle Valley 61.94 62 *e*P P 21 06 50.7 +0.9
comp=Z,24nm,1.4s
MTPU Mount Pierson 61.97 63 *e*P P 21 06 51.9 +1.6
comp=Z,11nm,1.2s
MTPU *e*pP **pP** 21 07 02.6 -1.9
NSS Namsos 62.02 344 *e*P P 21 06 48.7 -1.0
LCMT Little Creek M 62.08 65 *e*P P 21 06 51.8 +1.1
comp=Z,32nm,1.5s
RSSD Black Hills 62.15 54 *e*P P 21 06 51.8 +0.6
comp=Z,50nm,0.7s
RSSD Black Hills 62.15 54 *e*P P 21 06 51.8 +0.6
RSSD pmax pmax
comp=Z,50nm,0.7s
RSSD Black Hills 62.15 54 P P 21 06 52.3 +1.0
baz=315
SRU San Rafael Swe 62.17 62 *e*P P 21 06 52.1 +0.7
comp=Z,38nm,1.2s
SRU San Rafael Swe 62.17 62 *e*P P 21 06 52.1 +0.7
SRU pmax pmax
comp=Z,38nm,1.2s
RWWY Rawlins 62.19 57 *e*P P 21 06 52.1 +0.5
comp=Z,31nm,1.1s
GMRC Granite Mounta 62.21 68 P P 21 06 52.2 +0.6
baz=314,SNR=8.1
PKCU Pink Cliffs 62.31 64 *e*P P 21 06 53.3 +0.7
comp=Z,30nm,1.4s
KNB Kanab 62.32 65 *e*P P 21 06 53.7 +1.3
comp=Z,43nm,1.4s
KNB Kanab 62.32 65 *e*P P 21 06 53.7 +1.3
KNB pmax pmax
comp=Z,43nm,1.4s
LDFC Landfair 62.33 68 *e*P P 21 06 53.3 +0.8
comp=Z,18nm,0.7s
PFO Pinyon Flats O 62.55 70 P P 21 06 54.0 0.0
PFO pmax pmax
comp=Z,3.0nm,0.9s
PFO Pinyon Flats O 62.55 70 P P 21 06 54.5 +0.6
baz=315
PFO Pinyon Flats O 62.55 70 P P 21 06 54.0 0.0
comp=Z,2.5nm,0.8s,baz=0.3,slow=7.0,SNR=4.1
O20A White River Ci 62.72 59 *e*P P 21 06 55.2 +0.2
comp=Z,31nm,1.3s
O20A White River Ci 62.72 59 P P 21 06 55.7 +0.7
baz=315
MOS Moscow 62.76 326 *e*P P 21 07 03.8 +9.0
MOS *e* 21 07 22.9
MOS *e* 21 07 40.5
MOS MLR MLR
comp=Z,700nm,17.0s
IRM Iron Mountain 62.95 68 P P 21 06 57.2 +0.7
baz=315,SNR=6.6
BWNR Bhubaneshwar 62.97 269 *ex* P 21 06 50.7 -5.9
U15A North Rim 63.03 65 *e*P P 21 06 56.7 -0.6
comp=Z,21nm,1.4s
W13A Hualapai Mount 63.04 67 *e*P P 21 06 57.5 +0.3
comp=Z,7.1nm,0.6s
W13A *e*pP **pP** 21 07 07.0 -4.5
MONP2 Monument Peak 63.08 70 P P 21 06 58.2 +0.6
baz=315
KSM Kuching 63.09 235 *e*P P 21 06 58.5 +1.0
comp=Z,52nm,1.0s
KSM Kuching 63.09 235 P P 21 06 58.9 +1.4
BC3 Big Chuckawall 63.12 69 P P 21 06 58.1 +0.4
baz=315
AGMN Agassiz Nation 63.12 46 *e*P P 21 06 56.4 -1.0
comp=Z,22nm,1.1s
AGMN Agassiz Nation 63.12 46 P P 21 06 57.6 +0.2
baz=317
KBL Kabul 63.22 292 *e*P P 21 06 56.7 -1.8
comp=Z,25nm,0.6s
KBL Kabul 63.22 292 *e*P P 21 06 56.7 -1.8
KBL pmax pmax
comp=Z,25nm,0.6s
SPSI Sidrap Palu 63.29 223 P P 21 07 00.4 +1.6
PV09 Paradox Valley 63.37 61 *e*P P 21 06 59.7 +0.2
PV21 Cone Mtn., Par 63.41 61 *e*P P 21 07 00.0 +0.3
comp=Z,27nm,0.9s
N23A Red Feather La 63.42 57 *e*P P 21 07 01.2 +1.3
comp=Z,23nm,0.8s
N23A Red Feather La 63.42 57 P P 21 07 00.5 +0.7
baz=315,SNR=9.1
IKP In-Ko-Pah, Jac 63.44 70 P P 21 07 00.5 +0.7
baz=315
PDMCI Parker Dam,Lak 63.44 68 P P 21 07 00.8 +1.1
baz=315
ANGG Ammassalik, Gr 63.45 7 *e*P P 21 06 58.5 -0.7
comp=Z,26nm,0.8s
PV23 Carpenter Ridg 63.47 61 *e*P P 21 07 01.4 +1.2
comp=Z,42nm,1.1s
PV10 Paradox Valley 63.51 61 *e*P P 21 07 01.2 +0.8
comp=Z,48nm,1.1s
PV14 Lion Creek, Pa 63.52 61 *e*P P 21 07 01.1 +0.7
comp=Z,94nm,1.8s
BNSI Bone 63.53 222 P P 21 07 00.6 +0.2
PV04 Paradox Valley 63.57 61 *e*P P 21 07 01.5 +0.8
comp=Z,43nm,1.2s
PV04 *e*pP **pP** 21 07 15.5 +0.6
PV19 Morning Glory 63.59 61 *e*P P 21 07 01.0 +0.2
comp=Z,46nm,1.3s
PV19 *e*pP **pP** 21 07 15.6 +0.5
Y12C Blythe 63.60 68 *e*P P 21 07 00.7 -0.1
comp=Z,11nm,1.0s
Y12C Blythe 63.60 68 P P 21 07 02.0 +1.2
baz=315
PV17 East Wray Mesa 63.62 61 *e*P P 21 07 02.2 +1.1
comp=Z,38nm,0.7s
PV16 Nyswonger Mesa 63.62 61 *e*P P 21 07 02.1 +1.0
comp=Z,47nm,1.2s
OBN Obninsk 63.63 327 PFAKE 21 07 10.0 +9.5
OBN LR LR
comp=Z,858nm,22.0s
OBN Obninsk 63.63 327 *e*P P 21 06 59.7 -0.8
OBN *e* 21 07 34.8
OBN *e* 21 09 19.6
OBN *e*PPP PPP 21 10 50.1
OBN pmax pmax
comp=Z,40nm,2.5s
OBN MLR MLR
comp=Z,1μm,23.0s
PV11 David Mesa, Pa 63.66 61 *e*P P 21 07 02.0 +0.7
comp=Z,70nm,1.2s
PV12 Saucer Basin, 63.68 61 *e*P P 21 07 02.3 +0.8
comp=Z,69nm,1.5s
PV07 Paradox Valley 63.68 61 *e*P P 21 07 02.3 +0.8
comp=Z,25nm,1.2s
PV05 Paradox Valley 63.69 61 *e*P P 21 07 02.4 +0.8
comp=Z,49nm,1.1s
PV03 Paradox Valley 63.70 61 *e*P P 21 07 01.0 -0.7
comp=Z,43nm,1.2s
PV13 Radium Mtn., P 63.78 61 *e*P P 21 07 02.9 +0.7
comp=Z,63nm,1.3s
PV02 Paradox Valley 63.80 61 *e*P P 21 07 02.8 +0.6
comp=Z,54nm,1.6s
SKLT Songkhla 63.81 248 P P 21 07 04.8 +2.5
comp=Z,74nm,1.5s,comp=Z,1μm
TRTT Trang 63.82 249 P P 21 07 04.6 +2.2
comp=Z,12nm,1.3s
PV15 Paradox Valley 63.84 61 *e*P P 21 07 03.1 +0.5
comp=Z,22nm,1.0s
GLA Glamis 63.92 69 *e*P P 21 07 03.4 +0.5
comp=Z,45nm,1.6s
GLA Glamis 63.92 69 *e*P P 21 07 03.4 +0.5
GLA pmax pmax
comp=Z,45nm,1.6s
GLA Glamis 63.92 69 P P 21 07 03.9 +1.0
baz=315
PV01 Paradox Valley 63.94 61 *e*P P 21 07 03.5 +0.3
comp=Z,10nm,0.7s
VSU Vasula 63.99 334⇓ *e*P P 21 07 01.6 -1.3
VSU pmax pmax
comp=Z,27nm,0.8s
VSU Vasula 63.99 334 *e*P P 21 07 01.6 -1.3
VSU IAmb IAmb 21 07 02.5
comp=Z,42nm,0.7s
SMCO Snowmass 64.08 59 *e*P P 21 07 05.0 +0.6
comp=Z,22nm,1.0s
WUAZ Wupatki 64.20 65 *e*P P 21 07 06.1 +1.2
comp=Z,47nm,1.6s
WUAZ LR LR
comp=Z,562nm,20.0s
WUAZ Wupatki 64.20 65 P P 21 07 05.9 +1.0
baz=315,SNR=5.0
Y14A Wickenburg 64.37 67 *e*P P 21 07 06.3 +0.5
comp=Z,18nm,1.4s
ISCO Idaho Springs 64.38 58 *e*P P 21 07 07.3 +1.1
comp=Z,39nm,1.1s
ISCO LR LR
comp=Z,293nm,20.0s
ISCO Idaho Springs 64.38 58 *e*P P 21 07 07.3 +1.1
ISCO pmax pmax
comp=Z,39nm,1.1s
ISCO MLR MLR
comp=Z,293nm,20.0s
ISCO Idaho Springs 64.38 58 P P 21 07 07.8 +1.7
baz=316,SNR=24
MOL Molde 64.59 345 *e*P P 21 07 06.3 -0.4
PKDT Phuket 64.59 250 P P 21 07 09.7 +2.3
comp=Z,34nm,1.3s,comp=Z,430nm
MVCO Mesa Verde 64.64 62 *e*P P 21 07 08.6 +0.8
comp=Z,38nm,1.4s
MVCO LR LR
comp=Z,904nm,19.0s
MVCO Mesa Verde 64.64 62 P P 21 07 08.8 +1.1
baz=316,SNR=5.4
113A Mohawk Valley, 64.75 69 *e*P P 21 07 08.1 -0.1
comp=Z,26nm,1.7s
LPSR Galich'ya Gora 64.76 324 *e*P P 21 07 05.8 -2.2
LPSR pmax pmax
comp=Z,30nm,0.8s
LPSR MLR MLR
comp=Z,1μm,18.0s
VRH Novokhopyorsk 64.77 321 *e*P P 21 07 05.8 -2.3
VRH pmax pmax
comp=Z,30nm,0.7s
VRH MLR MLR
comp=Z,910nm,17.0s
DOMB Dombas 64.83 344 *e*P P 21 07 07.1 -1.3
BORG Borgarnes 64.90 359 *e*P P 21 07 10.0 +1.3
comp=Z,684nm,1.9s
BORG Borgarnes 64.90 359 *e*P P 21 07 10.0 +1.3
X16A Lo Mia Camp, P 64.94 66 *e*P P 21 07 11.0 +1.3
comp=Z,31nm,1.6s
AKN Aaknes 65.05 345 *e*P P 21 07 09.3 -0.4
PBA Port Blair 65.07 258 *e*P P 21 07 09.6 -0.9
NC303 NORSAR Array S 65.17 343 *e*P P 21 07 09.5 -1.0
S22A 4UR Ranch, Cre 65.18 60 *e*P P 21 07 11.5 +0.1
comp=Z,31nm,1.1s
S22A 4UR Ranch, Cre 65.18 60 P P 21 07 12.7 +1.3
baz=316,SNR=12
NC405 NORSAR Array S 65.20 342 *e*P P 21 07 09.6 -1.2
comp=Z,27nm,0.8s
Q24A Divide 65.23 58 *e*P P 21 07 12.3 +0.6
comp=Z,15nm,1.1s
Q24A Divide 65.23 58 P P 21 07 12.6 +0.9
baz=316,SNR=5.9
NC204 NORSAR Array S 65.23 343 *e*P P 21 07 10.2 -0.8
comp=Z,28nm,0.6s
KULM Kulim 65.30 246 *e*P P 21 07 13.3 +1.3
comp=Z,62nm,1.2s
KULM Kulim 65.30 246 P P 21 07 13.2 +1.2
EYMN Ely 65.34 44 *e*P P 21 07 11.6 -0.3
comp=Z,25nm,0.9s
EYMN LR LR
comp=Z,711nm,19.0s
EYMN Ely 65.34 44 P P 21 07 11.7 -0.2
baz=320,SNR=6.0
NB201 NORSAR Array S 65.34 343 *e*P P 21 07 10.5 -1.2
comp=Z,28nm,0.6s
NB2 NORSAR Subarra 65.37 343 P P 21 07 10.7 -1.2
comp=Z,12nm,0.6s,baz=23,slow=6.5
NB2 NORSAR Subarra 65.37 343 P P 21 07 10.7 -1.2
baz=23,slow=6.5
NB200 NORSAR Array S 65.37 343 *e*P P 21 07 10.7 -1.2
NOA NORSAR Array B 65.37 343 P P 21 07 10.7 -1.2
comp=Z,15nm,0.7s,baz=23,slow=6.5,SNR=78
W18A Petrified Fore 65.42 64 P P 21 07 13.9 +1.0
baz=316
OGNE Ogallala 65.45 55 *e*P P 21 07 13.9 +1.0
comp=Z,95nm,0.8s
OGNE LR LR
comp=Z,409nm,19.0s
OGNE Ogallala 65.45 55 P P 21 07 13.5 +0.6
baz=317,SNR=5.2
NBO00 NORSAR Array S 65.46 343 *e*P P 21 07 11.4 -1.0
comp=Z,44nm,1.4s
COEN Coen 65.56 195 *e*P P 21 07 13.8 +0.3
comp=Z,43nm,1.0s
NC602 NORSAR Array S 65.58 342 *e*P P 21 07 11.8 -1.4
comp=Z,72nm,1.8s
NC602 NORSAR Array S 65.58 342 *e*P P 21 07 12.2 -1.1
NAO01 NORSAR Array S 65.61 343 *e*P P 21 07 12.0 -1.4
comp=Z,14nm,0.8s
X18A Snowflake 65.72 65 *e*P P 21 07 16.2 +1.4
comp=Z,38nm,1.5s
IPM Ipoh 65.73 246 *e*P P 21 07 15.2 +0.3
comp=Z,25nm,0.9s
IPM Ipoh 65.73 246 P P 21 07 15.8 +1.0
VSR Storozhevoye 65.76 323 *e*P P 21 07 12.4 -2.1
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,2μm,19.0s
214A Organ Pipe Nat 65.89 69 P P 21 07 16.2 +0.5
baz=316
SDCO Great Sand Dun 65.91 60 *e*P P 21 07 16.4 +0.3
comp=Z,32nm,1.4s
SDCO LR LR
comp=Z,499nm,19.0s
SDCO Great Sand Dun 65.91 60 P P 21 07 17.4 +1.3
baz=317,SNR=11
HYA Hoyanger 66.13 345 *e*P P 21 07 15.8 -0.9
ECSD EROS Data Cent 66.13 50 *e*P P 21 07 17.1 0.0
comp=Z,43nm,0.9s
ECSD LR LR
comp=Z,1μm,21.0s
ECSD EROS Data Cent 66.13 50 P P 21 07 17.2 +0.1
baz=318,SNR=23
BHPL Bhopar 66.14 278 *e*P P 21 07 16.4 -1.0
MYKOM Kota Tinggi 66.32 241 P P 21 07 19.6 +1.0
E38A The Farm, Brul 66.33 45 *e*P P 21 07 17.0 -1.3
comp=Z,28nm,0.9s
E38A The Farm, Brul 66.33 45 P P 21 07 18.0 -0.3
baz=320,SNR=5.5
KGM Kluang 66.43 242 P P 21 07 20.5 +1.2
IZAR Zarasai 66.44 332 *e*P P 21 07 17.5 -1.3
IZAR IAmb IAmb 21 07 30.0
comp=Z,7.5nm,0.8s
KSCO Kaye Shedlock' 66.55 57 P P 21 07 20.1 +0.2
baz=317
IVI Ivigtut 66.59 13 *e*P P 21 07 19.7 +0.1
comp=Z,54nm,0.7s
ISAL Salakas 66.63 332 *e*P P 21 07 18.8 -1.2
ISAL IAmb IAmb 21 07 19.3
comp=Z,7.0nm,0.4s
NGP Nagpur 66.63 275 *e*P P 21 07 20.3 -0.2
IDID Didziasalis 66.66 332 *e*P P 21 07 18.9 -1.3
IDID IAmb IAmb 21 07 20.1
comp=Z,4.5nm,0.8s
IIGN Ignalina 66.79 332 *e*P P 21 07 19.8 -1.2
IIGN IAmb IAmb 21 07 20.9
comp=Z,17nm,0.5s
SPMN Marine on St. 66.81 46 *e*P P 21 07 21.5 +0.1
comp=Z,78nm,1.6s
SPMN Marine on St. 66.81 46 P P 21 07 21.3 -0.1
baz=320,SNR=5.0
TUC Tucson 66.83 67 *e*P P 21 07 21.9 +0.2
comp=Z,10nm,1.3s
TUC Tucson 66.83 67 *e*P P 21 07 22.0 +0.2
TUC pmax pmax
comp=Z,10.0nm,1.3s
TUC Tucson 66.83 67 P P 21 07 22.5 +0.7
baz=317
ASK Askoy 66.94 345 *e*P P 21 07 21.9 0.0
E39A Mellen 66.95 44 P P 21 07 22.2 -0.1
baz=320,SNR=5.2
T25A Trinidad 66.95 59 *e*P P 21 07 23.6 +1.0
comp=Z,57nm,1.4s
T25A Trinidad 66.95 59 P P 21 07 23.5 +0.8
baz=317,SNR=9.0
KONO Kongsberg 66.96 343⇑ *e*P P 21 07 22.7 +0.7
KONO pmax pmax
comp=Z,47nm,2.5s
KONO Kongsberg 66.96 343 *e*P P 21 07 21.6 -0.5
GEYT Alibeck 66.98 302 P P 21 07 22.3 -0.3
comp=Z,14nm,0.6s,baz=32,slow=4.2,SNR=22
GEYT LR LR 21 39 44.6
comp=Z,701nm,18.8s,baz=90,slow=39
GYA0B ALIBECK ARRAY 66.98 302 *e*P P 21 07 22.1 -0.5
comp=Z,19nm,0.8s
NRS Narsarsuaq 67.01 12 *e*P P 21 07 22.1 -0.2
comp=Z,44nm,1.1s
NRS Narsarsuaq 67.01 12 *e*P P 21 07 22.1 -0.2
NRS pmax pmax
comp=Z,44nm,1.1s
BER Bergen 67.01 345 *e*P P 21 07 22.2 -0.1
BGNE Belgrade 67.10 52 *e*P P 21 07 23.3 0.0
comp=Z,79nm,0.9s
BGNE Belgrade 67.10 52 P P 21 07 23.3 0.0
baz=318
F39A Loretta 67.14 45 P P 21 07 23.4 -0.1
baz=320,SNR=7.2
E40A Wakefield 67.19 44 P P 21 07 24.0 +0.3
baz=321,SNR=11
ODD1 Odda 67.24 345 *e*P P 21 07 24.1 +0.2
G38A Ridgeland 67.29 46 P P 21 07 24.1 -0.4
baz=320,SNR=8.2
D41A Chassel 67.29 43 *e*P P 21 07 24.5 +0.1
comp=Z,24nm,0.7s
D41A Chassel 67.29 43 P P 21 07 24.5 +0.1
baz=321
MTN Manton Dam 67.30 208 *e*P P 21 07 24.6 -0.1
comp=Z,53nm,1.0s
ANMO Albuquerque 67.41 62 *e*P P 21 07 26.5 +1.0
comp=Z,16nm,1.3s
ANMO *e*pP **pP** 21 07 40.5 +0.5
ANMO LR LR
comp=Z,625nm,22.0s
ANMO Albuquerque 67.41 62⇑ *i*P P 21 07 26.6 +1.0
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO Albuquerque 67.41 62 P P 21 07 26.5 +1.0
baz=317
ANMO Albuquerque 67.41 62 P P 21 07 26.6 +1.0
comp=Z,6.2nm,1.1s,baz=313,slow=7.8,SNR=11
LAZ Ladron 67.42 63 *e*P P 21 07 26.3 +0.7
LAZ *e*pP **pP** 21 07 40.7 +0.7
H38A Maiden Rock 67.47 46 P P 21 07 25.7 +0.1
baz=320
F40A Park Falls 67.50 44 P P 21 07 25.5 -0.2
baz=321
G39A Holcombe 67.51 45 P P 21 07 25.4 -0.4
baz=320
LHMI Lhok Sumawe 67.53 250 *e*P P 21 07 26.5 +0.2
comp=Z,212nm,0.9s
E41A Kenton 67.58 43 P P 21 07 25.9 -0.3
baz=321,SNR=6.2
LENM Lemitar 67.69 63 *e*P P 21 07 27.5 +0.2
BLS5 Blasjo 67.74 344 *e*P P 21 07 26.8 -0.2
COWI Conover 67.79 44 *e*P P 21 07 27.2 -0.4
comp=Z,12nm,0.8s
BNM Barren Site 67.89 63 *e*P P 21 07 29.6 +0.9
H39A Augusta 67.93 46 P P 21 07 28.2 -0.3
baz=320
CMBY CAMPBELL BAY 67.95 253 *e*P P 21 07 26.0 -2.9
G40A Rib Lake 67.96 45 *e*P P 21 07 28.3 -0.3
comp=Z,16nm,1.0s
G40A Rib Lake 67.96 45 P P 21 07 28.4 -0.3
baz=321
E42A Champion 68.06 43 P P 21 07 29.2 -0.1
baz=322,SNR=9.1
F41A Three Lakes 68.08 44 *e*P P 21 07 29.1 -0.3
comp=Z,19nm,0.7s
F41A Three Lakes 68.08 44 P P 21 07 29.1 -0.3
baz=321,SNR=8.5
CBKS Cedar Bluff 68.22 55 *e*P P 21 07 30.2 -0.2
comp=Z,35nm,0.8s
CBKS LR LR
comp=Z,383nm,19.0s
CBKS Cedar Bluff 68.22 55 *e*P P 21 07 30.2 -0.2
CBKS pmax pmax
comp=Z,35nm,0.8s
CBKS MLR MLR
comp=Z,383nm,19.0s
CBKS Cedar Bluff 68.22 55 P P 21 07 30.2 -0.2
baz=318
PSI Prapat 68.31 246 *e*P P 21 07 32.0 +0.7
comp=Z,13nm,0.8s
PSI Prapat 68.31 246 *e*P P 21 07 32.0 +0.7
PSI pmax pmax
comp=Z,13nm,0.8s
PSI Prapat 68.31 246 P P 21 07 31.6 +0.3
comp=Z,13nm,0.8s,baz=0.1,slow=5.5,SNR=7.0
H40A Chili 68.38 45 P P 21 07 31.1 -0.1
baz=321,SNR=6.8
319A Douglas 68.39 67 *e*P P 21 07 31.5 -0.2
comp=Z,22nm,1.1s
I39A Houston 68.45 47 *e*P P 21 07 31.0 -0.8
comp=Z,38nm,0.9s
I39A Houston 68.45 47 P P 21 07 31.4 -0.4
baz=321,SNR=6.4
E43A Lone Tree Farm 68.50 42 *e*P P 21 07 31.4 -0.6
comp=Z,17nm,0.9s
E43A Lone Tree Farm 68.50 42 P P 21 07 31.9 -0.1
baz=322
SCHQ Schefferville 68.55 26 *e*P P 21 07 32.0 -0.1
SCHQ Schefferville 68.55 26 P P 21 07 32.2 0.0
comp=Z,36nm,0.7s,baz=345,slow=5.7,SNR=37
SCHQ LR LR 21 41 11.4
comp=Z,166nm,20.1s,baz=321,slow=39
MAK Makhachkala 68.59 312 *e*P P 21 07 33.2 +0.6
MAK *e* 21 10 04.5
MAK *e*S **S** 21 16 34.4 +3.5
MAK *e*SS **SS** 21 21 00.1 +5.1
H41A Junction City 68.71 45 *e*P P 21 07 32.9 -0.5
comp=Z,19nm,0.7s
H41A Junction City 68.71 45 P P 21 07 33.2 -0.2
baz=321,SNR=7.9
E44A Grand Marais A 68.76 41 *e*P P 21 07 33.7 +0.1
comp=Z,48nm,0.6s
E44A Grand Marais A 68.76 41 P P 21 07 33.7 +0.1
baz=323
J39A Decorah 68.77 47 P P 21 07 33.1 -0.6
baz=321,SNR=9.8
G42A Mountain 68.77 44 *e*P P 21 07 33.5 -0.2
comp=Z,13nm,0.8s
G42A Mountain 68.77 44 P P 21 07 33.5 -0.2
baz=322
I40A Norwalk 68.84 46 P P 21 07 33.9 -0.2
baz=321,SNR=6.2
F43A Flat Rock, Esc 68.86 43 P P 21 07 34.0 -0.2
baz=322,SNR=7.9
GOF Gofitskoye 69.00 316⇑ *i*P P 21 07 34.5 -0.6
GOF pmax pmax
comp=Z,40nm,0.6s
I41A Arkdale 69.05 45 *e*P P 21 07 35.2 -0.2
comp=Z,13nm,0.7s
I41A Arkdale 69.05 45 P P 21 07 35.2 -0.2
baz=321
F44A Big Bay de Noc 69.06 42 P P 21 07 35.3 -0.2
baz=323,SNR=8.0
G43A Wallace 69.08 43 *e*P P 21 07 35.3 -0.3
comp=Z,30nm,0.6s
G43A Wallace 69.08 43 P P 21 07 35.5 -0.1
baz=322,SNR=7.6
BKNI Bangkinang 69.10 243 *e*P P 21 07 37.3 +1.2
comp=Z,151nm,0.4s
BKNI Bangkinang 69.10 243 P P 21 07 38.1 +2.0
comp=Z,131nm,1.1s,comp=Z,1μm
HSIG 69.12 70 *e*P P 21 07 36.3 +0.2
comp=Z,24nm,1.4s
SCIA State Center 69.15 49 *e*P P 21 07 36.3 +0.2
comp=Z,186nm,0.6s
SCIA LR LR
comp=Z,908nm,19.0s
SCIA State Center 69.15 49 P P 21 07 36.6 +0.5
baz=320,SNR=21

J40A Soldiers Grove 69.17 46 P P 21 07 35.6 -0.6
baz=321
K39A Oelwein 69.17 48 P P 21 07 35.5 -0.7
baz=321
H42A Shiocton 69.30 44 *e*P P 21 07 36.6 -0.3
comp=Z,35nm,0.3s
D46A Sault St. Mari 69.33 40 P P 21 07 36.4 -0.8
baz=324,SNR=8.2
MATQ Matagami 69.45 35 P P 21 07 37.2 -0.6
baz=326,SNR=5.7
K40A Colesburg 69.52 47 P P 21 07 38.0 -0.3
baz=321,SNR=7.3
J41A Loganville 69.52 46 P P 21 07 38.0 -0.4
baz=322,SNR=5.6
L39A Vinton 69.56 48 P P 21 07 38.5 -0.1
baz=321,SNR=6.4
D47A Chapleau 69.58 39 P P 21 07 37.7 -1.0
baz=324,SNR=7.5
KSU1 Kansas State U 69.61 53 *e*P P 21 07 38.2 -0.8
comp=Z,36nm,0.8s
KSU1 LR LR
comp=Z,762nm,19.0s
KSU1 Kansas State U 69.61 53 P P 21 07 38.2 -0.8
baz=320,SNR=5.4
I42A Draeger Farm, 69.61 45 *e*P P 21 07 38.7 -0.2
comp=Z,62nm,1.4s
I42A Draeger Farm, 69.61 45 P P 21 07 38.7 -0.2
baz=322,SNR=6.7
E46A Sault Ste Mari 69.64 41 P P 21 07 38.3 -0.8
baz=324
H43A Windswept, Lux 69.67 44 *e*P P 21 07 38.5 -0.7
comp=Z,28nm,0.8s
H43A Windswept, Lux 69.67 44 P P 21 07 39.1 -0.1
baz=322
F45A CMU Biological 69.68 42 P P 21 07 39.0 -0.3
baz=323,SNR=8.3
HYB Hyderabad 69.70 273⇑ *i*P P 21 07 40.0 +0.2
comp=Z,225nm,1.0s
HYB Hyderabad 69.70 273 *e*P P 21 07 38.9 -1.0
JFWS Jewell Farm 69.77 46 PFAKE 21 07 50.0 +10
JFWS LR LR
comp=Z,723nm,20.0s
JFWS Jewell Farm 69.77 46 P P 21 07 39.2 -0.7
baz=321
AKASG Malin Array Be 69.79 328 *i* P P 21 07 38.0 -1.9
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 69.79 328 P P 21 07 38.0 -1.9
comp=Z,2.8nm,0.3s,baz=31,slow=6.5,SNR=15
AKASG LR LR 21 41 25.8
comp=Z,1μm,19.9s,baz=25,slow=39
AKBB Malin Array Si 69.79 328 *e*P P 21 07 37.6 -2.2
comp=Z,9.5nm,0.6s
KIEV Kiev 69.80 328 *e*P P 21 07 37.5 -2.4
comp=Z,8.9nm,0.6s
KIEV LR LR
comp=Z,1μm,20.0s
KIEV Kiev 69.80 328⇑ *i*P P 21 07 38.3 -1.7
KIEV Kiev 69.80 328 P P 21 07 38.2 -1.7
KIEV Kiev 69.80 328⇓ *e*P P 21 07 38.2 -1.7
KIEV pmax pmax
comp=Z,7.0nm,0.9s
AK11 Malin Array Si 69.83 328 *e*P P 21 07 37.9 -2.2
F46A Macinaw City C 69.92 41 P P 21 07 40.5 -0.3
baz=324,SNR=13
I43A Langenfeld Bro 69.96 44 P P 21 07 40.7 -0.3
baz=322,SNR=5.7
J42A Columbus 69.97 45 P P 21 07 40.7 -0.4
baz=322,SNR=11
L40A Anamosa 69.98 48 *e*P P 21 07 40.5 -0.6
comp=Z,73nm,1.4s
L40A Anamosa 69.98 48 P P 21 07 40.6 -0.6
baz=321,SNR=5.7
M39A Webster 69.98 49 P P 21 07 41.2 0.0
baz=321,SNR=16
K41A Shullsburg 69.98 47 P P 21 07 40.7 -0.5
baz=322
NCK Nalchik 69.98 315⇓ *i*P P 21 07 40.9 -0.3
NCK pmax pmax
comp=Z,16nm,0.8s
E47A Iron Bridge 69.99 40 P P 21 07 40.3 -0.8
baz=324,SNR=6.6
D48A Paudash Townsh 70.00 39 P P 21 07 40.2 -1.1
baz=325,SNR=6.8
BSD Bornholm Skovb 70.02 338 *i* P P 21 07 40.3 -0.9
BSD Bornholm Skovb 70.02 338 *e*P P 21 07 40.3 -0.9
KIV Kislovodsk 70.03 316 *e*P P 21 07 40.7 -0.9
comp=Z,63nm,1.7s
KIV LR LR
comp=Z,731nm,22.0s
KIV Kislovodsk 70.03 316⇓ *i*P P 21 07 41.1 -0.5
KIV Kislovodsk 70.03 316 P P 21 07 41.3 -0.3
KIV Kislovodsk 70.03 316 *e*P P 21 07 40.5 -1.1
KIV *e*S S 21 16 48.2 +0.1
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,542nm,18.0s
D49A Beulah Townshi 70.10 38 P P 21 07 41.0 -0.9
baz=325,SNR=5.6
AMTX Amarillo 70.11 59 *e*P P 21 07 42.8 +0.5
comp=Z,32nm,1.1s
AMTX Amarillo 70.11 59 P P 21 07 42.5 +0.3
baz=319
KBZ Khabaz 70.11 315 P P 21 07 41.5 -0.4
comp=Z,15nm,0.8s,baz=87,slow=2.8,SNR=48
KBZ LR LR 21 41 58.6
comp=Z,810nm,20.8s,baz=30,slow=39
G45A Suttons Bay 70.13 42 P P 21 07 41.8 -0.3
baz=323
MSTX Muleshoe 70.19 61 *e*P P 21 07 43.1 +0.4
comp=Z,36nm,1.0s
MSTX Muleshoe 70.19 61 P P 21 07 43.1 +0.4
baz=318
J43A Natural Harves 70.23 45 P P 21 07 42.3 -0.5
baz=322
G46A Petoskey 70.25 42 P P 21 07 42.5 -0.3
baz=324,SNR=9.0
LSQQ Lebel-sur-Quev 70.27 35 P P 21 07 42.5 -0.4
baz=327
K42A Prairie Point, 70.29 46 P P 21 07 42.6 -0.5
baz=322,SNR=5.1
H45A Beulah 70.30 43 P P 21 07 43.0 -0.1
baz=323
GSI Gunungsitoli 70.30 247 *e*P P 21 07 44.2 +0.7
comp=Z,181nm,1.9s
GSI Gunungsitoli 70.30 247 P P 21 07 45.9 +2.4
comp=Z,29nm,0.8s
L41A Preston 70.31 47 P P 21 07 42.6 -0.6
baz=322
M40A Post Highland 70.35 48 P P 21 07 43.3 -0.2
baz=321,SNR=5.7
ZEI Tsey 70.40 314 *e*P P 21 07 41.8 -2.2
ZEI pmax pmax
comp=Z,13nm,0.8s
MNTX Cornudas Mount 70.40 64 *e*P P 21 07 44.7 +0.8
comp=Z,29nm,1.4s
MNTX LR LR
comp=Z,701nm,21.0s
MNTX Cornudas Mount 70.40 64 P P 21 07 45.2 +1.2
baz=318
E48A Lockeyer 70.42 39 P P 21 07 43.0 -0.9
baz=325
CHGQ Chibougamau 70.47 33 P P 21 07 43.5 -0.6
baz=328,SNR=7.7
PWJI Pagerwojo 70.50 229 P P 21 07 44.5 -0.1
comp=Z,133nm,1.1s
N40A Mertquake, Sal 70.72 49 P P 21 07 45.7 0.0
baz=321,SNR=11
H46A Fife Lake 70.72 42 P P 21 07 45.5 -0.2
baz=324,SNR=5.7
GLMI Grayling 70.75 42 *e*P P 21 07 45.4 -0.4
comp=Z,54nm,0.6s
GLMI LR LR
comp=Z,513nm,20.0s
GLMI Grayling 70.75 42 P P 21 07 45.3 -0.5
baz=324
L42A Oliver, Polo 70.75 47 *e*P P 21 07 44.9 -1.0
comp=Z,30nm,0.7s
L42A Oliver, Polo 70.75 47 P P 21 07 45.2 -0.7
baz=322
F48A Evansville 70.77 40 P P 21 07 45.2 -0.7
baz=325
D50A G1974 Best Tow 70.78 37 P P 21 07 45.1 -0.8
baz=326
G47A Hillman 70.79 41 P P 21 07 45.6 -0.5
baz=324
K43A Burlington 70.81 45 *e*P P 21 07 45.4 -0.8
comp=Z,31nm,0.8s
K43A Burlington 70.81 45 P P 21 07 45.7 -0.5
baz=322
M41A Milan 70.83 48 P P 21 07 46.1 -0.3
baz=322
TBLG Delisi 70.84 313 *e*P P 21 07 46.1 -0.4
comp=Z,24nm,1.1s
TBLG Delisi 70.84 313 *e*P P 21 07 46.1 -0.4
TBLG pmax pmax
comp=Z,24nm,1.1s
KRJI Kerinci 70.85 241 P P 21 07 48.2 +1.3
comp=Z,176nm,1.0s,comp=Z,2μm
VLDQ Val d'Or 70.89 35 *e*P P 21 07 44.9 -1.8
comp=Z,44nm,1.0s
BHJ Bhuj 70.98 284 *e*P P 21 07 47.2 -0.3
BHJ IAmb IAmb 21 07 48.4
comp=Z,72nm,0.8s
D51A Lot 18 Range I 71.02 37 P P 21 07 46.5 -0.9
baz=326
L43A Garden Prairie 71.03 46 P P 21 07 46.9 -0.7
baz=322
E50A Wahnapitae 71.04 38 P P 21 07 46.7 -0.9
baz=325
F49A Sandfield 71.05 40 P P 21 07 46.8 -0.9
baz=325
J45A Montague 71.09 44 P P 21 07 47.8 -0.2
baz=323
I46A Reed City 71.10 43 P P 21 07 48.0 0.0
baz=324
H47A Mio 71.10 42 P P 21 07 47.8 -0.2
baz=324
M42A Sheffield 71.14 47 P P 21 07 47.9 -0.3
baz=322
CTAO Charters Tower 71.15 191 *e*P P 21 07 48.7 +0.3
comp=Z,117nm,1.8s
CTAO LR LR
comp=Z,506nm,21.0s
CTAO Charters Tower 71.15 191 *e*P P 21 07 48.7 +0.3
CTAO pmax pmax
comp=Z,117nm,1.8s
CTAO MLR MLR
comp=Z,506nm,21.0s
LHSI Lahat 71.16 238 P P 21 07 49.9 +1.3
comp=Z,46nm,0.9s
MDO Dochfour 71.19 350⇑ *e*P P 21 07 48.2 -0.1
N41A Harden Midland 71.20 48 *e*P P 21 07 48.3 -0.4
comp=Z,133nm,1.0s
N41A Harden Midland 71.20 48 P P 21 07 48.8 +0.1
baz=322,SNR=5.0
KAC Achnashellach 71.24 350⇑ *e*P P 21 07 48.4 -0.1
MDSI Maura Dua 71.36 237 P P 21 07 49.7 -0.1
comp=Z,21nm,1.1s
H48A Harrisville 71.39 41 P P 21 07 49.6 -0.2
baz=324
E51A G1948 Merrick 71.43 38 P P 21 07 48.9 -1.0
baz=326
KPL Plockton 71.44 350⇑ *e*P P 21 07 49.6 -0.1
KPL IAmb IAmb 21 07 50.5
comp=Z,45nm,0.9s
DRUM Mains of Drumt 71.48 349⇑ *e*P P 21 07 49.7 -0.4
DRUM IAmb IAmb 21 07 51.0
comp=Z,27nm,0.6s
J46A Howard City 71.49 43 P P 21 07 50.4 +0.1
baz=324
N42A Yates City 71.50 48 P P 21 07 50.2 -0.2
baz=322,SNR=6.6
SOC Sochi 71.62 317 *e*P P 21 07 48.1 -3.0
SOC *i* *PP pP 21 08 02.9 -2.8
SOC *e* 21 10 37.9
SOC *e*S S 21 17 00.1 -6.3
SOC *e*SSS SSS 21 24 54.9
SOC MLR MLR
comp=Z,470nm,18.0s
I48A Sherman Twp 71.65 42 P P 21 07 51.1 -0.1
baz=324
O41A Passleys Farm, 71.65 49 P P 21 07 51.4 +0.1
baz=322,SNR=11
WMOK Wichita Mounta 71.78 57 *e*P P 21 07 52.5 +0.2
comp=Z,27nm,0.9s
WMOK Wichita Mounta 71.78 57 *e*P P 21 07 52.5 +0.2
WMOK pmax pmax
comp=Z,27nm,0.9s
WMOK Wichita Mounta 71.78 57 P P 21 07 52.7 +0.4
baz=320,SNR=12
N43A Stutzman Famil 71.81 47 P P 21 07 52.2 -0.1
baz=322
POO Peona 71.85 277 *e*P P 21 07 52.5 -0.4
MDRS Chennai 71.87 269 *e*P P 21 07 52.6 -0.4
P41A Barry, Barry 71.91 49 P P 21 07 53.0 +0.1
baz=322,SNR=15
J47A Sunmer 71.94 43 P P 21 07 53.5 +0.5
baz=324,SNR=5.6
K46A Dorr 71.96 44 P P 21 07 52.9 -0.2
baz=324
E52A Mattawa 71.96 37 P P 21 07 52.0 -1.2
baz=327
O42A Bath 71.97 48 P P 21 07 53.1 -0.2
baz=322
M44A Midewin, Midew 71.98 46 *e*P P 21 07 52.8 -0.5
comp=Z,24nm,0.8s
M44A Midewin, Midew 71.98 46 P P 21 07 53.0 -0.3
baz=323
D54A Lac Fusel, La 71.99 36 P P 21 07 52.5 -0.8
baz=328,SNR=5.8
HDIL Hopedale 72.06 47 *e*P P 21 07 53.7 -0.1
comp=Z,67nm,0.6s
HDIL LR LR
comp=Z,818nm,21.0s
HDIL Hopedale 72.06 47 P P 21 07 53.5 -0.3
baz=322,SNR=6.6
GNI Garni 72.08 312 *e*P P 21 07 54.3 +0.1
comp=Z,19nm,0.6s
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 72.08 312 P P 21 07 54.6 +0.5
GNI Garni 72.08 312 *e*P P 21 07 54.3 +0.1
GNI pmax pmax
comp=Z,44nm,0.8s
F52A Sundridge 72.11 38 P P 21 07 53.3 -0.7
baz=326
KLBO Killbear Provi 72.12 39 P P 21 07 53.4 -0.7
baz=326
BSEG Bad Segeberg 72.15 340 *e*P P 21 07 53.9 -0.2
comp=Z,21nm,1.4s,baz=22,slow=5.9
INVG Invergeldie, C 72.15 349⇑ *e*P P 21 07 53.6 -0.5
INVG IAmb IAmb 21 07 54.5
comp=Z,32nm,0.7s
I49A Point Hope 72.22 41 P P 21 07 54.6 -0.1
baz=325
LVV L'vov 72.25 330 *e*P P 21 07 53.9 -0.9
LVV *e* 21 12 26.1
LVV MLR MLR
comp=E,100nm,19.0s
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=Z,500nm,19.0s
E53A Dumoine, Ponti 72.26 37 P P 21 07 54.2 -0.8
baz=327
O43A Sugar Creek Fa 72.26 48 P P 21 07 55.0 0.0
baz=322
L46A Eue Claire 72.27 45 P P 21 07 54.5 -0.5
baz=324
K47A Vermontville 72.31 43 P P 21 07 55.2 -0.1
baz=324
P42A Winchester 72.33 49 *e*P P 21 07 55.0 -0.4
comp=Z,103nm,1.4s
P42A Winchester 72.33 49 P P 21 07 55.5 +0.1
baz=322,SNR=8.6
J48A Bridge Port 72.33 42 P P 21 07 56.5 +1.1
baz=324
BUKO Buck Lake 72.37 38 P P 21 07 55.0 -0.6
baz=326
Q41A Truxton 72.39 50 P P 21 07 55.9 +0.1
baz=322,SNR=18
E54A Lac Daplat, Po 72.40 36 P P 21 07 55.0 -0.7
baz=327
N44A Piper City 72.41 46 P P 21 07 55.9 0.0
baz=323
EAB Aberfoyle 72.42 349⇑ *e*P P 21 07 55.6 -0.1
TUL1 Leonard 72.46 55 *e*P P 21 07 56.3 0.0
comp=Z,85nm,1.4s
TUL1 Leonard 72.46 55 P P 21 07 56.5 +0.2
baz=321,SNR=5.9
LAWE Loch Awe, Argy 72.47 350⇑ *e*P P 21 07 56.0 0.0
LAWE IAmb IAmb 21 07 56.6
comp=Z,91nm,1.0s
ALGO Algonquin Park 72.47 37 P P 21 07 55.2 -0.9
baz=327
ESY Stoneypath 72.47 348⇑ *e*P P 21 07 55.8 -0.2
BCA Borcka 72.50 315⇑ *i*P P 21 07 55.9 -0.5
EDI Edinburgh 72.54 349 *e*P P 21 07 56.3 -0.1
EDI IAmb IAmb 21 07 56.5
comp=Z,35nm,0.9s
J49A Marlette 72.56 42 P P 21 07 56.7 0.0
baz=325
K48A Perry 72.59 43 P P 21 07 57.2 +0.3
baz=324,SNR=13
EAU Auchinoon 72.65 349⇑ *e*P P 21 07 57.0 0.0
N45A Kentland 72.65 46 P P 21 07 57.1 -0.2
baz=323
EBL Broad Law 72.67 349⇑ *e*P P 21 07 56.9 -0.3
P43A Skaggs, Pawnee 72.67 48 P P 21 07 57.3 -0.2
baz=322,SNR=5.7
M46A Old House Fiel 72.73 45 *e*P P 21 07 57.6 -0.1
comp=Z,24nm,0.7s
M46A Old House Fiel 72.73 45 P P 21 07 57.7 -0.1
baz=324
O44A Mansfield 72.76 47 P P 21 07 57.6 -0.4
baz=323
Q42A Golden Eagle 72.76 49 P P 21 07 58.3 +0.3
baz=322,SNR=14
L47A Sherwood 72.79 44 P P 21 07 57.8 -0.3
baz=324,SNR=5.3
PGBU Glenifferbraes 72.81 349⇑ *e*P P 21 07 57.9 0.0
PGBU IAmb IAmb 21 07 58.6
comp=Z,116nm,0.7s
KWP Kalwaria Pacla 72.82 331 *e*P P 21 07 57.9 -0.3
KWP Kalwaria Pacla 72.82 331 *e*P P 21 07 57.5 -0.7
comp=Z,323nm,1.1s
KWP Kalwaria Pacla 72.82 331 *e*P P 21 07 57.9 -0.3
R41A Rosebud 72.83 50 P P 21 07 58.2 -0.2
baz=322,SNR=7.7
DZM Mont Dzumac 72.88 171 *e*LR LR 21 30 22.0
comp=Z,804nm,23.4s
K49A Clarkson 72.89 42 P P 21 07 59.1 +0.4
baz=325,SNR=6.2
ABTX Abilene, Hawle 72.92 59 *e*P P 21 07 59.5 +0.4
comp=Z,57nm,1.2s
ABTX Abilene, Hawle 72.92 59 P P 21 07 59.8 +0.7
baz=320,SNR=6.4
G53A Haliburton 72.94 38 P P 21 07 58.4 -0.6
baz=327,SNR=5.8
N46A Monticello 72.97 46 P P 21 07 58.7 -0.5
baz=324
O45A Potomac 73.03 47 P P 21 07 59.6 0.0
baz=323,SNR=5.5
I51A Listowel 73.08 40 P P 21 07 59.8 0.0
baz=326,SNR=5.1
KIS Kishinev 73.08 326 *e*P P 21 07 53.0 -6.8
KIS *e*S S 21 17 18.0 -5.0
KIS *e*L L 21 34 50.0
KIS LRM MLR 21 42 04.0
comp=Z,1μm,22.0s
KIS Kishinev 73.08 326 *e*P P 21 07 53.0 -6.8
KIS *e*S S 21 17 18.0 -5.0
KIS *e* 21 18 04.0
CCM Cathedral Cave 73.09 50 *e*P P 21 07 59.7 -0.3
comp=Z,34nm,1.0s
CCM Cathedral Cave 73.09 50 *e*P P 21 07 59.7 -0.3
CCM pmax pmax
comp=Z,34nm,1.0s
CCM Cathedral Cave 73.09 50 P P 21 07 59.7 -0.3
baz=322
M47A Cromwell 73.10 45 P P 21 07 59.6 -0.4
baz=324
SLM Saint Louis 73.12 49 *e*P P 21 08 00.1 0.0
comp=Z,43nm,0.8s
SLM Saint Louis 73.12 49 *e*P P 21 08 00.1 0.0
SLM pmax pmax
comp=Z,43nm,0.8s
HHAR Hobbs 73.13 53 *e*P P 21 08 00.1 -0.2
comp=Z,112nm,1.6s
ESK Eskdalemuir 73.13 349 *e*P P 21 07 59.8 -0.1
comp=Z,52nm,0.6s
ESK LR LR
comp=Z,365nm,19.0s
ESK Eskdalemuir 73.13 349⇑ *e*P P 21 07 60.0 0.0
ESK IAmb IAmb 21 08 00.7
comp=Z,36nm,0.6s
ESK Eskdalemuir 73.13 349 *i* P P 21 08 00.1 +0.2
R42A Luebbering 73.13 50 P P 21 08 00.2 0.0
baz=322,SNR=9.6
Q43A New Douglas 73.14 49 P P 21 08 00.4 +0.1
baz=322
TX31 Lajitas Ar. Si 73.15 64 *e*P P 21 08 01.1 +0.5
TXAR Lajitas Array 73.15 64 P P 21 08 01.5 +0.9
comp=Z,4.8nm,0.6s,baz=298,slow=4.0,SNR=13
L48A N Adams 73.15 43 P P 21 08 00.3 0.0
baz=324
OJC Ojcow 73.17 333 *e*P P 21 07 59.9 -0.4
OJC Ojcow 73.17 333 *e*P P 21 07 59.4 -0.8
comp=Z,23nm,1.3s
OJC Ojcow 73.17 333 *e*P P 21 07 59.9 -0.4
LATQ La Tuque 73.18 33 P P 21 08 00.4 +0.1
baz=330,SNR=5.8
WRAB Tennant Creek 73.19 203 *e*P P 21 08 00.6 0.0
comp=Z,56nm,1.0s
WRAB LR LR
comp=Z,463nm,22.0s
WRAB Tennant Creek 73.19 203 *c i*P P 21 08 00.4 -0.2
WRAB pmax pmax
comp=Z,74nm,1.3s
AAM Ann Arbor 73.20 43 *e*P P 21 08 00.5 0.0
comp=Z,48nm,0.6s
AAM Ann Arbor 73.20 43 P P 21 08 00.8 +0.3
baz=325
I52A Shelburne 73.20 39 P P 21 07 59.9 -0.6
baz=326
WB2 Warramunga Arr 73.20 203 *e*P P 21 07 59.3 -1.4
WR1 Warramunga Arr 73.20 203 *e*P P 21 08 00.5 -0.2
comp=Z,52nm,1.0s
WRA Warramunga Arr 73.20 203 *i* P P 21 08 00.5 -0.2
WRA pmax pmax
comp=Z,33nm,0.9s
WRA Warramunga Arr 73.20 203 P P 21 08 00.5 -0.2
comp=Z,32nm,0.9s,baz=19,slow=6.4,SNR=81
WRA LR LR 21 40 16.4
comp=Z,134nm,20.4s,baz=40,slow=36
S41A Jillco Farms, 73.21 51 P P 21 08 00.3 -0.4
baz=322,SNR=9.4
F55A Otter Lake 73.22 36 P P 21 07 59.8 -0.8
baz=328
SFIN Lafayette 73.22 46 *e*P P 21 08 00.1 -0.6
comp=Z,111nm,1.6s
SFIN Lafayette 73.22 46 P P 21 08 00.5 -0.2
baz=323
P44A Sand Creek, Wi 73.23 48 P P 21 08 00.9 +0.1
baz=323,SNR=9.5
L49A Milan 73.31 43 P P 21 08 01.6 +0.4
baz=325
BHH Howats Hill 73.35 349⇑ *e*P P 21 08 01.4 +0.2
M48A Edgerton 73.40 44 *e*P P 21 08 01.0 -0.7
comp=Z,78nm,1.3s
M48A Edgerton 73.40 44 P P 21 08 01.6 -0.1
baz=324
EDMD Edmundbyers 73.45 348 *e*P P 21 08 00.8 -1.0
EDMD IAmb IAmb 21 08 02.3
comp=Z,28nm,0.8s
N47A Urbana 73.45 45 P P 21 08 01.4 -0.6
baz=324
ELFO Elginfield 73.46 41 P P 21 08 02.1 +0.1
baz=326
RETH Rethem/Aller, 73.47 340 *e*P P 21 08 02.0 0.0
comp=Z,51nm,1.7s,baz=22,slow=5.9
Q44A Meyer Farm, Va 73.50 48 *e*P P 21 08 02.2 -0.1
comp=Z,36nm,0.8s
Q44A Meyer Farm, Va 73.50 48 P P 21 08 02.3 -0.1
baz=323,SNR=5.7
S42A Caledonia 73.53 50 P P 21 08 02.6 -0.1
baz=322,SNR=15
NRDL Niedersach Rie 73.54 340 *e*P P 21 08 02.1 -0.1
comp=Z,12nm,1.3s,baz=22,slow=5.9
FVM French Village 73.55 50 *e*P P 21 08 02.5 -0.2
FVM French Village 73.55 50 *e*P P 21 08 02.5 -0.2
TRQ Mont Tremblant 73.55 35 *e*P P 21 08 02.0 -0.6
R43A Red Bud 73.56 49 P P 21 08 02.5 -0.2
baz=323
G55A Calabogie 73.57 37 P P 21 08 01.9 -0.8
baz=328,SNR=5.0
KSP Ksiaz 73.57 335 *e*P P 21 08 02.4 -0.2
KSP Ksiaz 73.57 335 *e*P P 21 08 02.4 -0.2
P45A Graceland, Par 73.60 47 *e*P P 21 08 02.6 -0.3
comp=Z,19nm,0.8s

P45A Graceland, Par 73.60 47 P P 21 08 02.7 -0.3
baz=323
U40A Yellville 73.62 52 P P 21 08 02.8 -0.4
baz=322,SNR=17
T41A Mountain View 73.63 51 P P 21 08 02.7 -0.5
baz=322,SNR=13
PRAR RASCA 73.67 328⇑ *iP* P 21 08 02.9 -0.4
CLGH Cloghs, Cushen 73.70 350‖ *eP* P 21 08 03.4 +0.1
CLGH lAmb lAmb 21 08 03.8
comp=Z,76nm,0.6s
M49A Liberty Center 73.73 43 P P 21 08 03.7 0.0
baz=325,SNR=5.2
PKRO Pickering 73.73 39 P P 21 08 03.3 -0.4
baz=327
LEOM Leova 73.74 326⇑ *iP* P 21 08 04.3 +0.7
NIE Niedzica 73.74 332 *eP* P 21 08 03.8 +0.1
NIE Niedzica 73.74 332 *eP* P 21 08 03.8 +0.1
O47A Sheridan 73.75 46 P P 21 08 03.0 -0.8
baz=324
ASSE Asse, Remlinge 73.76 339 *eP* P 21 08 03.4 -0.2
comp=Z,20nm,1.4s,baz=22,slow=5.9
GAL1 Galloway 73.76 349‖ *eP* P 21 08 03.5 -0.1
GAL1 lAmb lAmb 21 08 04.2
comp=Z,38nm,0.6s
J52A Paris 73.77 40 P P 21 08 03.8 0.0
baz=326
N48A Decatur 73.77 44 P P 21 08 03.6 -0.3
baz=324,SNR=10
BUR08 Bucovina Ar. S 73.77 329 *eP* P 21 08 02.8 -1.2
comp=Z,20nm,1.4s
L50A Kingsville 73.77 42 P P 21 08 04.1 +0.2
baz=325,SNR=12
P46A Rosedale 73.77 47 P P 21 08 03.8 -0.1
baz=324,SNR=6.6
BURAR Bucovina Array 73.79 329⇑ *iP* P 21 08 03.0 -1.1
KESW Keswick, Cumbr 73.83 348⇑ *eP* P 21 08 04.3 +0.2
KESW lAmb lAmb 21 08 05.1
comp=Z,132nm,0.8s
UZH Uzhgorod 73.84 331 *eP* P 21 08 04.8 +0.6
UZH *e**PP **sP** 21 08 22.6 -2.0
UZH *e* 21 10 44.4
UZH *eS* **SKiKP** 21 17 29.0 +0.9
UZH *i* 21 18 07.0
UZH *e*SSS SSS 21 25 23.5
DELO Deloro Mine 73.84 38 P P 21 08 03.8 -0.5
baz=327
ORIO Orleans, Innes 73.85 36 P P 21 08 03.6 -0.7
baz=328
IDGL Inch Island, C 73.86 351⇑ *eP* P 21 08 04.3 +0.2
IDGL lAmb lAmb 21 08 05.1
comp=Z,110nm,0.8s
Q45A Warren Harvey, 73.91 48 P P 21 08 04.9 +0.1
baz=323,SNR=8.3
DRWO Darlington Wes 73.94 39 P P 21 08 04.7 -0.2
baz=327
DRCO St. Marys Ceme 73.95 39 P P 21 08 04.7 -0.2
baz=327
UPC Upice 73.95 336 AMS AMS 21 45 10.0
comp=Z,1µm,16.7s
FITZ Fitzroy Crossi 73.97 211 P P 21 08 05.6 +0.5
comp=Z,20nm,0.9s,baz=13,slow=5.0,SNR=6.8
T42A Van Buren 73.97 51 *eP* P 21 08 04.7 -0.4
comp=Z,19nm,0.8s
T42A Van Buren 73.97 51 P P 21 08 04.8 -0.4
baz=322,SNR=6.4
CLL Collm 73.98 338 *eP* P 21 08 03.6 -1.3
comp=Z,33nm,1.5s
CLL Collm 73.98 338 *eP* P 21 08 04.1 -0.8
comp=Z,33nm,1.5s,baz=22,slow=5.9
CLL Collm 73.98 338⇑ *iP* P 21 08 04.0 -1.0
comp=Z,33nm,1.5s
CLL *i* 21 08 09.9
comp=Z,7.0nm,0.7s
CLL *eP* **PcP** 21 08 19.0 -1.1
CLL *eS*P **pP** 21 08 23.0 +3.4
CLL *eP*P **PP** 21 10 49.0 -0.8
CLL *eP*PP PPP 21 12 36.0
CLL *eS* **S** 21 17 33.0 +0.1
CLL *eS*KSac **SKSac** 21 18 05.0 -2.5
CLL *eS*S SS 21 22 36.0 +19
CLL *e* 21 26 42.0
CLL Lm MLR 21 43 00.0
comp=Z,500nm,22.0s
CLL Collm 73.98 338⇑ *iP* P 21 08 04.0 -1.0
CLL *e* 21 08 19.0
CLL *e* 21 08 23.0
CLL *eS* **S** 21 17 33.0 +0.1
CLL pmax pmax
comp=Z,33nm,1.5s
CLL MLR MLR
comp=Z,500nm,22.0s
OKC Ostrava-Krasne 73.98 334 AMS AMS 21 46 40.0
comp=Z,900nm,18.1s
H55A Tweed 73.98 37 P P 21 08 04.5 -0.6
baz=328
R44A Waltonville 73.98 49 P P 21 08 05.2 0.0
baz=323,SNR=11
DPC Dobruska-Polom 74.01 335 *eP* P 21 08 05.3 0.0
DPC AMS AMS 21 45 10.0
comp=Z,900nm,19.2s
DPC Dobruska-Polom 74.01 335 *eP* P 21 08 05.3 0.0
DPC MLR MLR
comp=Z,900nm,19.2s
WLVO Wesleyville 74.03 38 P P 21 08 05.2 -0.2
baz=327
S43A Fulton Ridge, 74.04 50 P P 21 08 05.5 -0.1
baz=323,SNR=13
W39A Magazine 74.05 54 *eP* P 21 08 05.6 0.0
comp=Z,60nm,1.6s
W39A Magazine 74.05 54 P P 21 08 05.7 0.0
baz=322,SNR=5.3
OLIL Olney 74.06 48 *eP* P 21 08 04.6 -1.1
comp=Z,118nm,1.8s
I55A Frankford 74.07 38 P P 21 08 04.8 -0.8
baz=327
BIZ Bicaz 74.08 328⇓ *iP* P 21 08 04.4 -1.3
PLIO Pelee Island, 74.09 42 P P 21 08 05.8 +0.1
baz=325
N49A Columbus Grove 74.09 44 *eP* P 21 08 05.9 +0.1
comp=Z,87nm,1.6s
N49A Columbus Grove 74.09 44 P P 21 08 05.5 -0.3
baz=325,SNR=5.3
CLZ Clausthal 74.09 339 *eP* P 21 08 05.7 0.0
comp=Z,71nm,1.9s,baz=22,slow=5.9
U41A Viola 74.10 52 P P 21 08 05.5 -0.5
baz=322,SNR=5.3
TYNO Tyneside 74.13 40 P P 21 08 05.7 -0.3
baz=326
GOA Goa 74.14 275 *eP* P 21 08 06.5 +0.1
KRLC Kraliky 74.14 335 *eP* P 21 08 05.8 -0.2
KRLC *ex* x 21 08 11.9
KRLC Kraliky 74.14 335 *eP* P 21 08 05.8 -0.2
BRG Berggiesshubel 74.15 337 *eP* P 21 08 05.7 -0.3
comp=Z,7.2nm,0.8s
BRG *e* 21 08 12.7
comp=Z,22nm,1.4s
BRG Berggiesshubel 74.15 337 *eP* P 21 08 05.2 -0.8
comp=Z,13nm,1.3s,baz=22,slow=5.9
BRG Berggiesshubel 74.15 337 *eP* P 21 08 05.7 -0.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
M50A Fremont 74.19 43 *eP* P 21 08 06.0 -0.4
comp=Z,35nm,0.8s
M50A Fremont 74.19 43 P P 21 08 06.2 -0.2
baz=325,SNR=5.5
O48A Farmland 74.19 45 P P 21 08 05.9 -0.6
baz=324,SNR=8.0
TRPA Tarpa 74.20 330⇑ *iP* P 21 08 05.7 -0.6
TRPA Tarpa 74.20 330⇓ *eP* P 21 08 06.0 -0.3
MORC Moravsky Berou 74.20 334 *eP* P 21 08 06.0 -0.4
comp=Z,11nm,1.0s
MORC Moravsky Berou 74.20 334⇓ *iP* P 21 08 06.4 0.0
MORC Moravsky Berou 74.20 334 *eP* P 21 08 06.0 -0.4
MORC pmax pmax
comp=Z,11nm,1.0s
MORC Moravsky Berou 74.20 334 *eP* P 21 08 06.0 -0.4
IBBN Ibbenburen 74.22 341 *eP* P 21 08 06.2 -0.1
comp=Z,28nm,1.1s,baz=22,slow=5.9
LANS Liptovska Anna 74.22 333 *eP* P 21 08 06.8 +0.3
LANS Liptovska Anna 74.22 333 *eP* P 21 08 06.8 +0.3
FBE Freiberg 74.25 337 *eP* P 21 08 06.2 -0.4
comp=Z,56nm,2.0s,baz=22,slow=5.9
HPK Haverah Park 74.25 347⇑ *eP* P 21 08 06.7 +0.2
HPK lAmb lAmb 21 08 07.5
comp=Z,112nm,0.8s
TESR Tescani 74.26 327⇓ *iP* P 21 08 05.8 -0.9

P47A Martinsville 74.31 46 P P 21 08 06.8 -0.3
baz=324,SNR=8.6
T43A Greenville 74.32 50 P P 21 08 07.1 -0.1
baz=323,SNR=5.8
R45A Skylar, Fairfi 74.33 48 P P 21 08 07.3 +0.1
baz=323
S44A Carbondale 74.34 49 P P 21 08 07.4 +0.1
baz=323,SNR=9.5
SIUC Southern Illin 74.34 49 *eP* P 21 08 07.2 -0.1
comp=Z,38nm,0.7s
U42A Revenden 74.43 51 P P 21 08 07.3 -0.6
baz=322
BLO Bloomington 74.45 46 *eP* P 21 08 07.2 -0.7
comp=Z,39nm,1.3s
BLO Bloomington 74.45 46 *eP* P 21 08 07.2 -0.7
BLO pmax pmax
comp=Z,39nm,1.3s
WIM Isle of Man 74.46 349⇑ *eP* P 21 08 07.8 +0.1
GTTG Gvttingen 74.46 340 *eP* P 21 08 07.9 +0.1
comp=Z,13nm,0.9s,baz=22,slow=5.9
JCT Junction City 74.46 61 *eP* P 21 08 08.6 +0.4
comp=Z,29nm,1.0s
JCT LR LR
comp=Z,679nm,22.0s
JCT Junction City 74.46 61 *eP* P 21 08 08.6 +0.4
JCT pmax pmax
comp=Z,29nm,1.0s
JCT MLR MLR
comp=Z,679nm,22.0s
JCT Junction City 74.46 61 P P 21 08 08.4 +0.2
baz=320,SNR=5.7
PBMO Poplar Bluff 74.50 51 *eP* P 21 08 08.2 0.0
comp=Z,193nm,1.7s
PBMO *ep*P PcP 21 08 22.2 -0.3
GMM Mts of Mourne 74.52 350⇑ *eP* P 21 08 08.0 0.0
ARCR ARCALIA 74.54 329⇑ *iP* P 21 08 07.2 -1.1
WHTX Lake Whitney, 74.59 58 *eP* P 21 08 09.1 +0.2
comp=Z,72nm,1.4s
WHTX Lake Whitney, 74.59 58 P P 21 08 09.2 +0.2
baz=321
O49A Covington 74.62 44 *eP* P 21 08 08.0 -0.9
comp=Z,19nm,0.8s
O49A Covington 74.62 44 P P 21 08 08.7 -0.2
baz=325
M51A Elyria 74.62 42 P P 21 08 08.7 -0.2
baz=326
TLCR 74.64 325⇑ *iP* P 21 08 07.7 -1.2
MEDO Medina 74.65 39 P P 21 08 08.9 -0.1
baz=327
T44A Benton 74.66 50 P P 21 08 09.4 +0.2
baz=323,SNR=15
MIAR Mount Ida 74.67 54 *eP* P 21 08 09.0 -0.2
comp=Z,29nm,0.9s
MIAR Mount Ida 74.67 54 *eP* P 21 08 09.0 -0.2
MIAR pmax pmax
comp=Z,29nm,0.9s
MIAR Mount Ida 74.67 54 P P 21 08 09.4 +0.1
baz=322,SNR=6.9
N50A Nevada 74.67 43 P P 21 08 09.3 +0.1
baz=325
S45A Carrier Mills 74.68 49 P P 21 08 09.4 +0.1
baz=323
Q47A Bedord North L 74.68 47 P P 21 08 09.3 0.0
baz=324,SNR=6.0
P48A Milroy 74.72 46 P P 21 08 09.2 -0.3
baz=324,SNR=7.1
WTSB Winterswijk 74.73 342 *eP* P 21 08 09.1 -0.2
comp=Z,95nm,1.7s
WHAR Wooly Hollow 74.74 53 *eP* P 21 08 09.6 -0.1
comp=Z,79nm,1.4s
R46A Gibon Southern 74.76 48 P P 21 08 09.8 +0.1
baz=324
VRI Vrincioaia 74.79 327⇑ *iP* P 21 08 09.6 -0.2
M52A Chesterland 74.80 42 P P 21 08 10.2 +0.2
baz=326,SNR=15
LBWR Ladybower, Pea 74.81 347⇑ *eP* P 21 08 09.9 +0.2
LBWR lAmb lAmb 21 08 10.7
comp=Z,139nm,1.0s
PRU Pruhonice 74.81 336 *eP* P 21 08 09.7 -0.1
PRU AMS AMS 21 46 30.0
comp=Z,2µm,16.7s
PRU Pruhonice 74.81 336 *eP* P 21 08 09.7 -0.1
PRU MLR MLR
comp=Z,2µm,16.7s
GOPC GO Pecny, Ondr 74.81 336 *eP* P 21 08 09.6 -0.3
GOPC AMS AMS 21 46 20.0
comp=Z,1µm,19.3s
GOPC GO Pecny, Ondr 74.81 336 *eP* P 21 08 09.6 -0.3
GOPC MLR MLR
comp=Z,1µm,19.3s
J55A Hilton 74.81 38 P P 21 08 09.5 -0.4
baz=328
U43A Rector 74.83 51 P P 21 08 10.3 +0.2
baz=323,SNR=6.2
PLOR Plostina 74.83 327⇓ *iP* P 21 08 09.6 -0.5
W41B Gary Mavity, V 74.85 53 *eP* P 21 08 10.1 -0.2
comp=Z,41nm,0.9s
W41B Gary Mavity, V 74.85 53 P P 21 08 10.1 -0.2
baz=322,SNR=11
N51A Ashland 74.88 43 *eP* P 21 08 10.1 -0.3
N51A Ashland 74.88 43 P P 21 08 10.4 0.0
baz=326,SNR=15
USIN University of 74.88 48 *eP* P 21 08 10.5 +0.1
comp=Z,62nm,0.8s
CFR Carcaliu 74.89 325⇑ *iP* P 21 08 10.2 -0.1
VRAC Vranov 74.89 335⇑ *iP* P 21 08 10.4 +0.1
VRAC Vranov 74.89 335 *eP* P 21 08 09.9 -0.4
ERPA Erie 74.90 40 *eP* P 21 08 10.6 +0.1
comp=Z,58nm,0.8s
ERPA Erie 74.90 40 P P 21 08 10.4 -0.1
baz=327,SNR=7.2
LONY Lake Ozonia 74.91 36 *eP* P 21 08 09.5 -1.0
comp=Z,13nm,0.8s
LONY LR LR
comp=Z,423nm,22.0s
LONY Lake Ozonia 74.91 36 P P 21 08 09.8 -0.7
baz=329
PARMO Parma 74.92 50 *eP* P 21 08 11.2 +0.5
comp=Z,217nm,0.7s
L53A Girard 74.92 41 P P 21 08 10.8 +0.2
baz=326,SNR=19
OZUR 74.92 327⇓ *iP* P 21 08 10.5 -0.1
MOX Moxa 74.92 338 *eP* P 21 08 10.1 -0.4
comp=Z,18nm,1.4s,baz=22,slow=5.9
MOX *eL* L 21 44 34.7
comp=Z,623nm,20.9s
TANN Tannenbergstha 74.94 338 *eP* P 21 08 10.3 -0.4
comp=Z,144nm,2.2s,baz=22,slow=5.9
PLN Plauen 74.94 338 *eP* P 21 08 10.3 -0.3
comp=Z,27nm,1.7s,baz=22,slow=5.9
O50A Cable 74.97 44 P P 21 08 10.8 -0.2
baz=325
P49A Miami Univ. Ec 74.98 45 P P 21 08 10.7 -0.3
baz=325,SNR=5.3
VYHS Vyhne 75.00 333 *eP* P 21 08 10.6 -0.3
VYHS pmax pmax
comp=Z,5.0nm,0.9s
VYHS Vyhne 75.00 333 *eP* P 21 08 10.6 -0.3
JAVC Velka Javorina 75.00 334 *eP* P 21 08 11.6 +0.6
Q48A North Vernon 75.01 46 P P 21 08 10.8 -0.3
baz=324
GUNZ Gunzen 75.01 338 *eP* P 21 08 10.9 -0.1
comp=Z,136nm,2.9s,baz=22,slow=5.9
WERN Wernitzgruen 75.07 338 *eP* P 21 08 11.3 -0.1
comp=Z,13nm,1.0s,baz=22,slow=5.9
U44A Portageville 75.08 50 P P 21 08 11.9 +0.3
baz=323
S46A Don Dixon Farm 75.08 48 P P 21 08 11.6 0.0
baz=324
X40A Basin Creek Fa 75.09 54 *eP* P 21 08 11.2 -0.5
comp=Z,39nm,1.3s
X40A Basin Creek Fa 75.09 54 P P 21 08 11.9 +0.2
baz=322
DIKM Dikmen 75.10 319⇑ *iP* P 21 08 11.7 +0.1
NKC Novy Kostel 75.11 338 AMS AMS 21 46 30.0
comp=Z,800nm,17.4s
CJR Cluj-Napoca 75.11 329⇓ *iP* P 21 08 12.4 +0.7
UBBA Unterbreizbach 75.13 339 *eP* P 21 08 11.4 -0.2
comp=Z,37nm,1.7s,baz=22,slow=5.9
BUG Bochum--Univer 75.14 341 *eP* P 21 08 11.4 -0.2
comp=Z,27nm,1.2s,baz=22,slow=5.9
R47A Wooly Knot Far 75.15 47 P P 21 08 12.1 +0.2
baz=324
WME Myndd Eilian 75.15 349⇑ *eP* P 21 08 11.4 -0.3
MOQ Mont Orford 75.16 34 *eP* P 21 08 12.2 +0.2
K55A Perry 75.17 39 P P 21 08 11.8 -0.2
baz=327,SNR=9.9

KRUC Moravsky 75.17 335 *eP* P 21 08 12.0 +0.1
T45A Paducah 75.17 49 *eP* P 21 08 11.1 -1.0
comp=Z,79nm,0.8s
T45A Paducah 75.17 49 P P 21 08 12.3 +0.2
baz=323
WPS Cemaes, Angles 75.17 349 *eP* P 21 08 11.6 -0.2
WPS lAmb lAmb 21 08 12.3
comp=Z,48nm,0.8s
M53A WI Miller and 75.17 41 P P 21 08 12.3 +0.3
baz=326,SNR=15
ACSO Alum Creek Sta 75.18 44 *eP* P 21 08 12.1 0.0
comp=Z,84nm,1.6s
ACSO LR LR
comp=Z,351nm,22.0s
ACSO Alum Creek Sta 75.18 44 P P 21 08 12.1 0.0
baz=325
TREC Trest 75.20 335 *eP* P 21 08 12.4 +0.3
TREC AMS AMS 21 47 00.0
comp=Z,1µm,18.0s
TREC Trest 75.20 335 *eP* P 21 08 12.4 +0.3
TREC MLR MLR
comp=Z,1µm,18.0s
PSZ Piszkesteto 75.20 332 *eP* P 21 08 11.8 -0.4
comp=Z,24nm,1.1s
PSZ Piszkesteto 75.20 332⇑ *iP* P 21 08 12.2 0.0
PSZ Piszkesteto 75.20 332 *eP* P 21 08 11.8 -0.4
PSZ pmax pmax
comp=Z,24nm,1.1s
PSZ Piszkesteto 75.20 332 *eP* P 21 08 11.1 -1.1
ALLY Allegheny Colle 75.22 41 *eP* P 21 08 12.6 +0.2
comp=Z,60nm,0.6s
V43A Jonesboro 75.22 51 P P 21 08 12.9 +0.5
baz=323
MMNY Mt. Morris Dam 75.23 39 *eP* P 21 08 11.9 -0.4
comp=Z,77nm,0.7s
N52A McGinn's Farm, 75.26 42 P P 21 08 12.4 -0.2
baz=326
WLF1 Llynfaes 75.27 349⇑ *eP* P 21 08 11.8 -0.6
WLF1 lAmb lAmb 21 08 12.6
comp=Z,57nm,0.7s
SIRT Sirnak 75.27 312 *eP* P 21 08 12.4 -0.4
comp=Z,48nm,0.9s
WCI Wyandotte Cave 75.31 47 P P 21 08 13.0 +0.1
baz=324
P50A Jamestown 75.33 44 P P 21 08 12.9 -0.1
baz=325
YRC Rhoscolyn 75.33 349⇑ *eP* P 21 08 12.3 -0.4
DRGR 75.33 330⇑ *iP* P 21 08 12.8 -0.2
GNAR Gosnell 75.34 51 *eP* P 21 08 13.9 +0.8
comp=Z,182nm,1.3s
HBAR Harrisburg 75.35 51 *eP* P 21 08 13.8 +0.6
comp=Z,244nm,0.3s
R48A Northridge Ran 75.37 46 P P 21 08 12.6 -0.6
baz=324
U44B Burton Farm, H 75.37 50 P P 21 08 13.7 +0.4
baz=323
SMOL Smolenice 75.38 334 *eP* P 21 08 12.8 -0.3
SMOL Smolenice 75.38 334 *eP* P 21 08 12.8 -0.3
YLL Llanberis 75.39 349 *eP* P 21 08 13.1 +0.1
CWF Charnwood Fore 75.39 347⇑ *eP* P 21 08 13.1 0.0
MLR Muntele Rosu 75.39 327 *eP* P 21 08 12.8 -0.7
comp=Z,13nm,0.8s
MLR Muntele Rosu 75.39 327⇓ *iP* P 21 08 13.8 +0.4
MLR Muntele Rosu 75.39 327 *eP* P 21 08 12.8 -0.7
MLR pmax pmax
comp=Z,13nm,0.8s
TIRR Tirgusor 75.41 325⇓ *iP* P 21 08 13.1 -0.2
O51A Pataskala 75.41 43 P P 21 08 13.4 -0.1
baz=326,SNR=7.2
MANZ Manzenberg 75.42 338 *eP* P 21 08 13.0 -0.3
comp=Z,17nm,1.5s,baz=22,slow=5.9
TLB Topalu 75.43 325⇑ *iP* P 21 08 13.2 -0.3
435B Jarrell 75.45 59 P P 21 08 14.2 +0.4
baz=321
L55A Hinsdale 75.48 39 P P 21 08 13.8 0.0
baz=327,SNR=5.0
BATG Bathurst New B 75.48 29 *eP* P 21 08 14.2 +0.5
comp=Z,48nm,0.8s
FOEL Foel Wylfa 75.51 348⇑ *eP* P 21 08 13.9 +0.1
FOEL lAmb lAmb 21 08 14.9
comp=Z,108nm,0.8s
ISR Istrita 75.51 326⇑ *iP* P 21 08 13.6 -0.4
V44A Blytheville 75.51 51 P P 21 08 14.3 +0.2
baz=323
T46A Princeton 75.51 49 P P 21 08 14.7 +0.7
baz=324,SNR=14
M54A Oil Creek Stat 75.54 41 *eP* P 21 08 13.8 -0.3
comp=Z,41nm,0.7s
M54A Oil Creek Stat 75.54 41 P P 21 08 14.2 +0.1
baz=327,SNR=8.7
DSB Dublin 75.54 350 *eP* P 21 08 13.8 -0.1
comp=Z,127nm,0.7s
MODS Modra-Piesok 75.55 334 *eP* P 21 08 15.3 +1.2
MODS pmax pmax
comp=Z,14nm,1.1s
MODS Modra-Piesok 75.55 334 *eP* P 21 08 15.3 +1.2
S47A Hartford 75.55 48 P P 21 08 14.3 0.0
baz=324
WLAR White Oak Lake 75.58 54 *eP* P 21 08 14.6 +0.1
comp=Z,97nm,1.4s
NCB Newcomb 75.59 36 *eP* P 21 08 13.7 -0.8
comp=Z,19nm,0.9s
ROTZ Rotzenmuhle 75.60 338 *eP* P 21 08 14.4 +0.1
comp=Z,20nm,1.4s,baz=22,slow=5.9
LLW Llanuwchllyn 75.61 348⇑ *eP* P 21 08 14.4 +0.1
N53A Lisbon 75.63 42 P P 21 08 14.9 +0.2
baz=326,SNR=9.6
MFTR Murfatlar 75.64 325⇑ *iP* P 21 08 15.0 +0.3
U45A Rockin P Farm, 75.65 50 P P 21 08 15.2 +0.3
baz=323
IGLA Glengowla, Co 75.67 352⇑ *eP* P 21 08 14.5 -0.1
IGLA lAmb lAmb 21 08 15.2
comp=Z,102nm,0.9s
VOIR 75.75 328⇑ *iP* P 21 08 15.0 -0.4
ZST Bratislava 75.76 334 *eP* P 21 08 14.1 -1.2
ZST Bratislava 75.76 334 *eP* P 21 08 14.1 -1.2
P51A Williamsport 75.76 44 *eP* P 21 08 14.9 -0.6
comp=Z,30nm,0.9s
P51A Williamsport 75.76 44 P P 21 08 15.0 -0.5
baz=326
O52A Adamsville 75.77 43 *eP* P 21 08 15.2 -0.3
comp=Z,58nm,0.9s
O52A Adamville 75.77 43 P P 21 08 15.4 -0.1
baz=326,SNR=7.0
R49A Shelbyville 75.78 46 P P 21 08 15.9 +0.3
baz=325
HLM1 Long Mynd 75.83 348⇑ *eP* P 21 08 15.5 -0.1
HLM1 lAmb lAmb 21 08 16.2
comp=Z,48nm,0.8s
KHC Kasperske Hory 75.85 336 *eP* P 21 08 15.5 -0.3
comp=Z,4.7nm,0.8s
KHC Kasperske Hory 75.85 336 *eP* P 21 08 15.8 0.0
KHC *ex* x 21 08 22.0
KHC AMS AMS 21 45 50.0
comp=Z,2µm,18.6s
KHC Kasperske Hory 75.85 336 *eP* P 21 08 15.8 0.0
KHC *e* 21 08 22.0
KHC MLR MLR
comp=Z,2µm,18.6s
BUD Budapest 75.85 332 *eP* P 21 08 15.1 -0.7
N54A Moraine State 75.86 41 *eP* P 21 08 15.9 -0.1
comp=Z,43nm,0.8s
N54A Moraine State 75.86 41 P P 21 08 16.2 +0.2
baz=327,SNR=9.1
Q50A Georgetown 75.87 45 P P 21 08 16.2 +0.1
baz=325,SNR=6.4
S48A Wiedeman Farm, 75.89 47 P P 21 08 16.2 0.0
baz=324
GRA1 Grafenberg Arr 75.90 338 *eP* P 21 08 16.2 +0.1
comp=Z,96nm,1.8s
GRF Grafenberg Arr 75.90 338 *eP* P 21 08 16.4 +0.3
comp=Z,87nm,1.8s,baz=22,slow=5.9
GRF *eL* L 21 45 34.7
comp=Z,601nm,19.6s
GRF Grafenberg Arr 75.90 338 *eP* P 21 08 16.3 +0.1
GRF pmax pmax
comp=Z,97nm,1.8s
GRFO Grafenberg 75.91 338 *eP* P 21 08 16.4 +0.3
comp=Z,75nm,1.7s
GRFO Grafenberg 75.91 338 *eP* P 21 08 16.4 +0.3
GRFO pmax pmax
comp=Z,75nm,1.7s
ICOR Ion Corvin 75.92 325⇑ *iP* P 21 08 16.5 +0.2
U46A Springville 75.92 49 P P 21 08 16.7 +0.2
baz=324
O53A New Philadelph 75.93 42 P P 21 08 16.3 -0.1

baz=326,SNR=5.1
T47A **Sharon Grove** 75.93 48 eP P 21 08 16.7 +0.2
comp=Z,63nm,1.2s
T47A **Sharon Grove** 75.93 48 P P 21 08 17.1 +0.6
baz=324,SNR=7.7
M55A **Ridgway** 75.94 40 P P 21 08 16.5 0.0
baz=327,SNR=11
ARR **Arges** 75.95 328⇓iP P 21 08 16.8 +0.3
PALK **Pallekele** 75.99 264 eP P 21 08 17.2 +0.1
comp=Z,53nm,0.9s
PALK **Pallekele** 75.99 264 i P P 21 08 17.8 +0.7
SNR=8.3
PALK **Pallekele** 75.99 264 i P P 21 08 18.1 +1.0
PALK **Pallekele** 75.99 264 P P 21 08 17.3 +0.2
comp=Z,46nm,0.8s,baz=118,slow=2.4,SNR=21
Q51A **Peebles** 76.01 44 eP P 21 08 16.7 -0.2
comp=Z,34nm,0.6s
Q51A **Peebles** 76.01 44 P P 21 08 16.9 +0.1
baz=325,SNR=6.7
WET **Wettzell** 76.01 337 eP P 21 08 17.0 +0.2
comp=Z,29nm,1.4s,baz=22,slow=5.9
AHRW **Bad Neuenahr-A** 76.03 341 eP P 21 08 16.9 +0.1
comp=Z,40nm,1.3s,baz=22,slow=5.9
TNS **Taunus Mts** 76.04 340 eP P 21 08 17.0 +0.1
comp=Z,23nm,1.2s,baz=22,slow=5.9
V45A **Humboldt** 76.04 50 P P 21 08 17.4 +0.3
baz=323
P52A **Corning** 76.04 43 P P 21 08 16.6 -0.5
baz=326
HGN **Heimansgroeve** 76.05 342 eP P 21 08 17.0 +0.1
comp=Z,63nm,1.1s
X43A **Marvell** 76.06 52 P P 21 08 17.5 +0.3
baz=323
BEBN **Eben Emael** 76.07 342⇑P P 21 08 17.1 +0.1
Z41A **Richland Creek** 76.07 54 eP P 21 08 17.3 -0.1
comp=Z,135nm,1.9s
Z41A **Richland Creek** 76.07 54 P P 21 08 18.0 +0.7
baz=322
GEC2 **GERESS Array S** 76.08 336 eP P 21 08 16.6 -0.7
comp=Z,16nm,1.3s
GEC2 **GERESS Array S** 76.08 336 eP P 21 08 16.7 -0.3
comp=Z,16nm,1.4s,baz=22,slow=5.9
GEC2 **GERESS Array S** 76.08 336 eP P 21 08 16.6 -0.7
GEC2 pmax pmax
comp=Z,16nm,1.3s
GERES **GERESS Array B** 76.08 336 P P 21 08 16.8 -0.4
comp=Z,2.5nm,0.4s,baz=34,slow=6.1,SNR=34
CCAR **Cane Creek** 76.08 53 eP P 21 08 17.4 +0.1
comp=Z,51nm,0.5s
GEA0 **GERESS Array S** 76.08 336 eP P 21 08 16.3 -0.9
S49A **Springfield** 76.14 46 P P 21 08 18.0 +0.4
baz=325,SNR=7.1
T48A **Bowling Green** 76.17 48 P P 21 08 18.1 +0.3
baz=324,SNR=5.2
R50A **Paris** 76.17 46 P P 21 08 18.0 +0.1
baz=325
MEM **Membach** 76.18 342⇑P P 21 08 17.6 0.0
comp=Z,36nm,1.4s
MEM ⇑PP PP 21 11 05.3 -3.1
LBNH **Lisbon** 76.20 34 eP P 21 08 17.6 -0.3
comp=Z,64nm,1.5s
LBNH **Lisbon** 76.20 34 eP P 21 08 17.6 -0.3
LBNH pmax pmax
comp=Z,64nm,1.5s
LBNH **Lisbon** 76.20 34 P P 21 08 18.3 +0.4
baz=330
PKME **Peaks-Kenny Pk** 76.22 32 PFAKE 21 08 30.0 +12
PKME LR LR
comp=Z,1µm,22.0s
PKME **Peaks-Kenny Pk** 76.22 32 P P 21 08 18.3 +0.3
baz=332
ILGA **Ilgaz** 76.23 320 eP P 21 08 17.4 -1.0
comp=Z,22nm,0.7s
NATX **Nacogdoches** 76.27 57 PFAKE 21 08 30.0 +12
NATX LR LR
comp=Z,717nm,19.0s
NATX **Nacogdoches** 76.27 57 P P 21 08 19.3 +0.8
baz=322
WVT **Waverly** 76.28 49 eP P 21 08 18.4 0.0
comp=Z,23nm,0.6s
WVT **Waverly** 76.28 49 eP P 21 08 18.4 0.0
WVT pmax pmax
comp=Z,23nm,0.6s
WVT **Waverly** 76.28 49 P P 21 08 18.7 +0.2
baz=324
U47A **Clarksville** 76.28 49 P P 21 08 18.8 +0.3
baz=324
ACCN **Adirondack Com** 76.31 36 eP P 21 08 18.1 -0.4
comp=Z,28nm,0.8s
UCC **Uccle** 76.32 343 ⇓P P 21 08 17.6 -0.8
833A **Chaparral WMA,** 76.34 62 P P 21 08 19.8 +0.9
baz=321
O54A **Avella** 76.34 42 P P 21 08 18.9 +0.1
baz=327
CONA **Conrad Observa** 76.35 335 eP P 21 08 19.0 +0.3
comp=Z,9.3nm,1.0s,SNR=7.2
MCH1 **Michaelchurch** 76.35 348⇑eP P 21 08 18.7 +0.1
MCH1 IAmb IAmb 21 08 19.1
comp=Z,39nm,0.7s
SOP **Sopron** 76.38 334 eP P 21 08 19.1 +0.2
LPW **Lampeter** 76.38 348 eP P 21 08 18.2 -0.5
LPW IAmb IAmb 21 08 19.6
comp=Z,42nm,0.9s
W45A **Hickory Valley** 76.39 51 P P 21 08 19.3 +0.2
baz=323
V46A **Holladay** 76.40 50 P P 21 08 19.4 +0.2
baz=324,SNR=5.2
N55A **Marion Center** 76.43 41 P P 21 08 19.3 0.0
baz=327,SNR=7.6
BINY **Binghamton** 76.44 38 P P 21 08 19.0 -0.3
baz=329
IWEX **Carrickbyrne,** 76.44 350 eP P 21 08 19.0 -0.1
STRD **Stroud** 76.45 347⇑eP P 21 08 19.2 +0.1
STRD IAmb IAmb 21 08 20.2
comp=Z,125nm,1.0s
MONM **Monmouth** 76.48 348⇑eP P 21 08 19.4 +0.1
MONM IAmb IAmb 21 08 20.3
comp=Z,75nm,0.7s
P53A **Whipple** 76.49 43 P P 21 08 19.4 -0.1
baz=326
R51A **Hillsboro** 76.49 45 P P 21 08 20.0 +0.3
baz=325
BCLA **Clavier** 76.50 342⇑P P 21 08 19.4 -0.1
Q52A **Bidwell** 76.54 44 P P 21 08 19.6 -0.3
baz=326,SNR=5.1
GZR **Gura Zlata** 76.55 329⇑iP P 21 08 19.9 -1.0
ELSH **Elham, Standar** 76.55 345⇑eP P 21 08 20.2 +0.5
ELSH IAmb IAmb 21 08 21.0
comp=Z,169nm,0.9s
HUMR **Humele** 76.57 327⇑iP P 21 08 20.1 +0.2
T49A **Edmonton** 76.58 47 eP P 21 08 20.1 0.0
comp=Z,24nm,0.8s
T49A **Edmonton** 76.58 47 P P 21 08 20.3 +0.2
baz=325,SNR=7.8
U48A **Cassie Pea, Po** 76.58 48 P P 21 08 20.3 +0.1
baz=324,SNR=7.7
OLDB **Oldbury-Upon-S** 76.62 347 eP P 21 08 19.9 -0.1
OLDB IAmb IAmb 21 08 20.4
comp=Z,33nm,0.9s
RSBS **Rosebush, Pemb** 76.62 349⇑eP P 21 08 19.9 -0.2
RSBS IAmb IAmb 21 08 21.1
comp=Z,15nm,0.9s
S50A **Richmond** 76.63 46 P P 21 08 20.7 +0.2
baz=325
SWN1 **Swindon** 76.66 347⇑eP P 21 08 20.9 +0.6
V47A **Nunnelly** 76.67 49 P P 21 08 20.7 0.0
baz=324
TIH **Tihany** 76.71 333 eP P 21 08 21.0 +0.3
WVL **Waterville** 76.71 33 eP P 21 08 20.4 -0.4
comp=Z,45nm,1.0s
WOL **Wolverton** 76.77 346⇑eP P 21 08 20.8 -0.2
WOL IAmb IAmb 21 08 21.7
comp=Z,124nm,0.7s
O55A **Ligonier** 76.77 41 P P 21 08 20.9 -0.3
baz=327,SNR=5.1
P54A **Burton** 76.78 42 P P 21 08 21.6 +0.3
baz=327
OXF **Oxford** 76.80 51 P P 21 08 21.6 +0.2
baz=323
W46A **Michie** 76.81 50 P P 21 08 21.5 0.0
baz=324
MOA **Molln** 76.85 335 eP P 21 08 21.5 0.0
comp=Z,4.6nm,0.6s
AS01 **Alice Springs** 76.88 202 eP P 21 08 21.7 -0.1
R52A **Catlettsburg** 76.89 44 P P 21 08 21.8 0.0
baz=326
AS31 **Alice Springs** 76.89 202 eP P 21 08 22.4 +0.6
comp=Z,4.6nm,0.8s
ASAR **Alice Springs** 76.89 202 P P 21 08 22.5 +0.6
comp=Z,14nm,0.8s,baz=15,slow=5.5,SNR=90
ASAR LR LR 21 39 15.8
comp=Z,158nm,22.0s,baz=28,slow=33
U49A **Red Boiling Sp** 76.94 48 P P 21 08 22.3 +0.1
baz=325,SNR=7.5
DOU **Dourbes** 76.95 342⇑P P 21 08 21.8 -0.2
HMNX **Herstmonceux** 76.96 345 eP P 21 08 23.0 +1.0
HMNX IAmb IAmb 21 08 23.5
comp=Z,126nm,0.8s
T50A **Nancy** 76.97 47 P P 21 08 22.6 +0.3
baz=325,SNR=10
SHME **Shamm** 76.98 295 iP P 21 08 22.2 -0.4
SNR=22
BANOM **Banah** 76.99 295 iP P 21 08 22.8 +0.1
SNR=12
BANOM i P P 21 08 22.9 +0.3
SNR=46
BANOM **Banah** 76.99 295 P P 21 08 22.2 -0.5
SNR=17
SSPA **Standing Stone** 77.00 40 eP P 21 08 22.3 -0.1
comp=Z,25nm,0.9s
SSPA **Standing Stone** 77.00 40 P P 21 08 22.5 0.0
baz=328
MCWV **Mont Chateau** 77.00 42 P P 21 08 22.7 +0.2
baz=327
O56A **Blue Knob Stat** 77.03 41 eP P 21 08 22.9 +0.2
comp=Z,68nm,1.5s
O56A **Blue Knob Stat** 77.03 41 P P 21 08 22.7 0.0
baz=328
WLF **Walferdange** 77.05 341 eP P 21 08 22.9 +0.4
baz=22,slow=5.9
WLF **Walferdange** 77.05 341⇑P P 21 08 23.0 +0.4
comp=Z,10nm,1.1s
ARSA **Arzberg** 77.06 334 eP P 21 08 22.3 -0.4
comp=Z,9.8nm,1.0s,SNR=6.4
V48A **Smith Brothers** 77.07 49 eP P 21 08 22.8 -0.2
comp=Z,27nm,0.8s
V48A **Smith Brothers** 77.07 49 P P 21 08 23.1 +0.1
baz=324
PLAL **Pickwick Lake** 77.08 50 eP P 21 08 22.7 -0.3
comp=Z,19nm,0.7s
W47A **Westpoint** 77.09 50 P P 21 08 23.1 0.0
baz=324
LMN **Caledonia Moun** 77.14 29 eP P 21 08 23.4 +0.3
comp=Z,51nm,0.7s
P55A **Reedsville** 77.14 42 P P 21 08 23.6 +0.3
baz=327,SNR=6.7
Q54A **Coxs Mills** 77.14 43 P P 21 08 23.6 +0.3
baz=327
GGN **Saint George** 77.16 30 eP P 21 08 23.3 +0.1
comp=Z,48nm,0.8s
X46A **Booneville** 77.17 51 P P 21 08 23.3 -0.2
baz=324
R53A **Hurricane** 77.20 44 P P 21 08 23.6 0.0
baz=326
VLAD **Vladila** 77.23 327⇑iP P 21 08 24.0 +0.3
STU **Stuttgart** 77.24 339 eP P 21 08 23.5 -0.2
comp=Z,54nm,1.7s,baz=22,slow=5.9
FUR **Furstenfeldbru** 77.31 338 eP P 21 08 24.3 +0.2
comp=Z,23nm,1.1s,baz=22,slow=5.9
HEX **Exmoor** 77.37 348 eP P 21 08 24.6 +0.2
BR101 **Keskin Array S** 77.38 319 eP P 21 08 24.2 -0.6
BR131 **Keskin Array S** 77.38 319 eP P 21 08 23.9 -0.9
comp=Z,23nm,1.6s
BRTR **Keskin Array B** 77.38 319 P P 21 08 24.2 -0.6
comp=Z,4.1nm,0.7s,baz=44,slow=2.9,SNR=18
BRTR LR LR 21 47 33.9
comp=Z,240nm,20.4s,baz=15,slow=40
TRD **Trivandrum** 77.42 268 eP P 21 08 25.0 -0.2
BEHE **Becsehely** 77.42 333 eP P 21 08 19.1 -5.6
T51A **Gray** 77.42 46 P P 21 08 24.8 -0.1
baz=325
MDVR **Moldovita** 77.44 329⇑iP P 21 08 24.3 -0.6
Q55A **Buckhannon** 77.46 42 P P 21 08 25.2 +0.1
baz=327
U50A **Jamestown** 77.46 47 P P 21 08 25.3 +0.2
baz=325,SNR=7.8
MDH **Madha** 77.47 295 iP P 21 08 24.2 -1.1
SNR=37
MDH **Madha** 77.47 295 P P 21 08 23.9 -1.4
SNR=16
MDH P P 21 08 23.9 -1.4
SNR=16
PUNG **Punghina** 77.48 328⇑iP P 21 08 24.6 -0.5
V49A **McMinnville** 77.49 48 P P 21 08 25.3 0.0
baz=325,SNR=5.1
MSFE **Esma-Masafi** 77.50 295 iP P 21 08 25.3 -0.3
SNR=22
W48A **Pulaski** 77.50 49 P P 21 08 25.5 +0.1
baz=324,SNR=9.0
HTL **Hartland** 77.53 348⇑eP P 21 08 25.5 +0.3
HTL IAmb IAmb 21 08 26.4
comp=Z,83nm,0.8s
X47A **Russelville** 77.56 50 P P 21 08 25.4 -0.3
baz=324
ANTO **Ankara** 77.61 320 PFAKE 21 08 40.0 +14
ANTO LR LR
comp=Z,369nm,22.0s
ANTO **Ankara** 77.61 320⇓iP P 21 08 25.6 -0.4
N59A **State Game Lan** 77.61 38 P P 21 08 25.9 0.0
baz=329
UMQ **Umm Al-Quwin** 77.66 295 iP P 21 08 26.9 +0.6
SNR=6
UMQ **Umm Al-Quwin** 77.66 295 P P 21 08 27.0 +0.6
SNR=7.2
UMQ P P 21 08 27.0 +0.6
SNR=7.2
FRGS **Fruska Gora** 77.70 331⇑iP P 21 08 25.4 -1.0
SOKA **Soboth** 77.72 335 eP P 21 08 26.5 0.0
comp=Z,23nm,1.2s,SNR=16
PERS **Pernice** 77.73 334 iP P 21 08 26.4 -0.1
R54A **Victor** 77.74 43 P P 21 08 26.8 +0.1
baz=327
BIDO **Bidbid** 77.76 292 P P 21 08 26.9 -0.1
SNR=16
KBA **Koelnbreinsper** 77.80 336 eP P 21 08 27.6 +0.6
comp=Z,28nm,1.1s,SNR=13
HRV **Adam Dziewonsk** 77.84 35 eP P 21 08 27.5 +0.4
comp=Z,113nm,1.4s
HRV **Adam Dziewonsk** 77.84 35 eP P 21 08 27.5 +0.4
HRV pmax pmax
comp=Z,113nm,1.4s
HRV **Adam Dziewonsk** 77.84 35 P P 21 08 27.0 -0.1
baz=331
W49A **Belvidere** 77.84 49 P P 21 08 27.3 +0.1
baz=325
BFO **Black Forest** 77.85 339 eP P 21 08 26.7 -0.4
comp=Z,14nm,0.9s
BFO LR LR
comp=Z,23nm,20.0s
BFO **Black Forest** 77.85 339 eP P 21 08 27.0 -0.1
comp=Z,18nm,0.9s,baz=22,slow=5.9
BFO **Black Forest** 77.85 339 iP P 21 08 27.2 +0.1
U51A **La Follette** 77.87 46 P P 21 08 27.4 0.0
baz=325
SWET **Sewanee** 77.92 48 eP P 21 08 27.5 -0.2
comp=Z,93nm,1.5s
HATD **Hatta, Dubai** 77.93 294 iP P 21 08 27.9 0.0
SNR=93
V50A **Pikeville** 77.94 48 P P 21 08 27.9 0.0
baz=325,SNR=6.5
TZTN **Tazewell** 77.95 46 eP P 21 08 28.1 +0.2
comp=Z,28nm,0.8s
TZTN **Tazewell** 77.95 46 P P 21 08 28.0 +0.2
baz=326,SNR=5.1
WBK **Wadi Bani Khal** 77.95 291 P P 21 08 28.9 +0.8
SNR=5.3
X48A **Hartselle** 78.00 50 P P 21 08 27.9 -0.2
baz=324
OBKA **Obir** 78.01 335 eP P 21 08 28.0 -0.1
comp=Z,11nm,0.7s,SNR=7.6
WATA **Walderalm** 78.01 337 iP P 21 08 28.3 +0.1
comp=Z,5.2nm,0.4s,SNR=12
R55A **Marlinton** 78.04 43 P P 21 08 28.5 +0.1
baz=327,SNR=5.8
JLN **Jalan Bani Buh** 78.04 290 P P 21 08 29.0 +0.5
SNR=27
UBR **Ueberruh** 78.05 338 eP P 21 08 28.3 0.0
comp=Z,40nm,1.4s,baz=22,slow=5.9
T53A **Wise** 78.05 45 P P 21 08 28.9 +0.4
baz=326,SNR=5.1
145A **Houston Renfro** 78.06 53 P P 21 08 29.1 +0.6
baz=323
WTTA **Wattenberg** 78.07 337 iP P 21 08 29.1 +0.5
comp=Z,45nm,1.1s,SNR=18
RETA **Reutte** 78.07 338 iP P 21 08 28.7 +0.2
comp=Z,15nm,0.9s,SNR=7.5
NAZ **Nazwa, Dubai** 78.07 295 iP P 21 08 28.6 -0.1
SNR=15
ASHO **Ashiyiah** 78.08 294 iP P 21 08 28.6 -0.2
SNR=11
ASHO **Ashiyiah** 78.08 294 P P 21 08 28.3 -0.5
SNR=39
ASHO P P 21 08 28.3 -0.5
SNR=39
MOTA **Moosalm** 78.12 337 iP P 21 08 28.9 +0.1
comp=Z,30nm,1.0s,SNR=25
MYKA **Terra Mystica** 78.14 335 eP P 21 08 28.6 -0.2
comp=Z,16nm,1.2s,SNR=6.6
SMDO **Samad** 78.16 292 P P 21 08 29.8 +0.5
SNR=9.4
U52A **Thorn Hill** 78.16 46 P P 21 08 29.3 +0.2
baz=326,SNR=6.9
PHSR **Pinarhisar** 78.18 324⇑iP P 21 08 28.9 -0.1
V51A **Loudon** 78.19 47 eP P 21 08 29.1 0.0
comp=Z,39nm,1.1s
V51A **Loudon** 78.19 47 P P 21 08 29.3 +0.2
baz=325,SNR=5.5
HOQ **Hoqain** 78.19 293 P P 21 08 29.4 0.0
SNR=9.3
ECH **Echery** 78.21 340 eP P 21 08 28.9 -0.2
comp=Z,22nm,0.9s
ECH **Echery** 78.21 340 eP P 21 08 28.9 -0.2
ECH pmax pmax
comp=Z,22nm,0.9s
SQTA **Sankt Quirin** 78.21 337 iP P 21 08 29.7 +0.5
comp=Z,36nm,1.0s,SNR=18
SOHO **SOHO** 78.22 294 P P 21 08 28.7 -0.8
SNR=43
SOHO P P 21 08 28.7 -0.8
SNR=43
W50A **Signal Mountai** 78.23 48 P P 21 08 29.5 0.0
baz=325
PAL **Palisades** 78.26 37 P P 21 08 29.4 -0.1
baz=330
S55A **Lewisburg** 78.30 43 P P 21 08 29.6 -0.2
baz=327
FAQ **Al Faqa, Dubai** 78.30 295 iP P 21 08 29.5 -0.5
SNR=67
X49A **Woodville** 78.30 49 P P 21 08 29.8 -0.1
baz=325,SNR=10.0
ABTA **Abfaltersbach** 78.32 336 iP P 21 08 29.6 -0.3
comp=Z,34nm,1.3s,SNR=15
Y48A **Jasper** 78.38 50 P P 21 08 29.7 -0.5
baz=324
CRES **Cresnjev** 78.38 334⇑iP P 21 08 29.4 -0.7
CPCT **Cooper Cave** 78.40 47 eP P 21 08 30.2 -0.2
comp=Z,19nm,0.8s
T54A **Tazewell** 78.41 44 P P 21 08 30.8 +0.3
baz=326,SNR=5.5
CCA1 **Carnmenellis** 78.42 349 eP P 21 08 30.4 +0.3
CCA1 IAmb IAmb 21 08 31.2
comp=Z,54nm,0.9s
LJU **Ljubljana** 78.44 335 eP P 21 08 29.6 -0.8
DAVA **Damuels** 78.47 338 iP P 21 08 30.8 +0.1
comp=Z,30nm,1.0s,SNR=8.0
V52A **Sevierville** 78.50 46 eP P 21 08 31.2 +0.2
comp=Z,26nm,0.9s
V52A **Sevierville** 78.50 46 P P 21 08 31.2 +0.2
baz=326
FETA **Feichten** 78.52 337 iP P 21 08 31.4 +0.4
comp=Z,24nm,0.9s,SNR=13
GBN **Guysborough** 78.52 27 eP P 21 08 31.6 +0.8
comp=Z,136nm,1.7s
W51A **Cleveland** 78.52 48 P P 21 08 31.0 0.0
baz=325
U53A **Fall Branch** 78.54 45 P P 21 08 31.3 +0.2
baz=326,SNR=5.8
OZLJ **Ozalj** 78.57 334 P P 21 08 31.0 -0.1
TKL **Tuckaleechee C** 78.57 47 eP P 21 08 31.0 -0.3
comp=Z,48nm,1.5s
TKL **Tuckaleechee C** 78.57 47 P P 21 08 31.0 -0.3
comp=Z,11nm,0.8s,baz=22,slow=0.3,SNR=3.8
VISS **Visnje** 78.58 334 iP P 21 08 30.5 -0.7
DIVS **Divibare** 78.60 330 eP P 21 08 30.4 -1.0
comp=Z,14nm,0.9s
DIVS **Divibare** 78.60 330⇑iP P 21 08 30.4 -1.0
HAL **Halifax** 78.61 29 eP P 21 08 31.6 +0.3
comp=Z,36nm,0.8s
JMDO **Jabal Madar** 78.65 291 P P 21 08 32.3 +0.4
SNR=12
X50B **Fort Payne** 78.67 49 P P 21 08 31.8 -0.1
baz=325,SNR=6.8
BOJS **Bojanci** 78.74 334 eP P 21 08 31.6 -0.4
ALNE **Al Ain** 78.74 294 iP P 21 08 32.1 -0.3
SNR=88
CEY **Cerknica** 78.75 335⇑iP P 21 08 31.1 -1.0
AJN **Ajban** 78.79 295 iP P 21 08 32.1 -0.5
SNR=12
AJN **Ajban** 78.79 295 P P 21 08 31.8 -0.8
SNR=20
AJN P P 21 08 31.8 -0.8
SNR=20
Y49A **Blount Mountai** 78.79 50 eP P 21 08 32.1 -0.5
comp=Z,265nm,1.8s
Y49A **Blount Mountai** 78.79 50 P P 21 08 32.4 -0.1
baz=325
BLA **Blacksburg** 78.80 44 P P 21 08 32.5 -0.1
baz=327
147A **Livingston** 78.84 52 eP P 21 08 33.0 +0.3
comp=Z,263nm,1.9s
147A **Livingston** 78.84 52 P P 21 08 33.0 +0.3
baz=324
ARQ **Araqi** 78.84 293 P P 21 08 33.1 +0.1
SNR=10
VTS **Vitosha** 78.85 327 eP P 21 08 31.7 -1.2
comp=Z,25nm,0.7s
VTS **Vitosha** 78.85 327⇑iP P 21 08 32.4 -0.5
VTS **Vitosha** 78.85 327 P P 21 08 32.2 -0.6
VTS **Vitosha** 78.85 327 eP P 21 08 31.7 -1.2
VTS pmax pmax
comp=Z,25nm,0.7s
VTS **Vitosha** 78.85 327 eP P 21 08 32.3 -0.6
BLY **Banja Luka** 78.87 332 eP P 21 08 31.4 -1.4
comp=Z,17nm,1.4s
BLY **Banja Luka** 78.87 332⇑iP P 21 08 32.6 -0.2
BLY **Banja Luka** 78.87 332 eP P 21 08 31.3 -1.4
MBWA **Marble Bar** 78.87 216 eP P 21 08 33.4 +0.5
comp=Z,29nm,1.1s
BSY **Bisya** 78.90 292 P P 21 08 33.5 +0.2
SNR=25
HAPS **Han Pijesak,Bl** 78.94 331 eP P 21 08 33.2 -0.1
JRS **Jersey** 78.96 346⇑eP P 21 08 33.4 +0.2
X51A **Calhoun** 78.96 48 eP P 21 08 32.7 -0.7
comp=Z,130nm,1.8s
X51A **Calhoun** 78.96 48 P P 21 08 33.4 -0.1
baz=325
W52A **Murphy** 78.97 47 P P 21 08 33.4 -0.1
baz=326
JSA **Saint Aubin** 78.98 347⇑eP P 21 08 33.4 +0.2
JSA IAmb IAmb 21 08 34.3
comp=Z,124nm,0.9s
BBLS **Lazići** 78.99 330⇑iP P 21 08 32.8 -0.8
FUORN **Ofenpass-Fuorn** 79.00 338 eP P 21 08 34.3 +0.5
comp=Z,33nm,0.9s
V53A **Saluda** 79.01 46 P P 21 08 33.6 -0.1
baz=326
Y50A **Piedmont** 79.09 49 P P 21 08 34.1 -0.1
baz=325
U55A **TA2, Sparta** 79.11 44 P P 21 08 34.5 +0.1
baz=327
LRAL **Lakeview Retre** 79.17 50 eP P 21 08 33.8 -0.8
comp=Z,13nm,0.9s
LRAL **Lakeview Retre** 79.17 50 P P 21 08 34.3 -0.3
baz=325
W53A **Cullowhee** 79.26 47 P P 21 08 35.5 +0.2
baz=326
R58B **Mineral** 79.26 41 eP P 21 08 35.3 +0.2
comp=Z,23nm,0.9s
R58B **Mineral** 79.26 41 P P 21 08 35.2 +0.2
baz=328
CBN **Corbin Frederi** 79.27 41 PFAKE 21 08 50.0 +15
CBN LR LR
comp=Z,525nm,21.0s
Z49A **Columbiana** 79.27 50 P P 21 08 35.1 -0.1
baz=325
V54A **Nebo** 79.31 45 P P 21 08 35.6 +0.2
baz=326
RDO **Rodhopi** 79.33 325 P P 21 08 34.9 -0.4
ALN **Alexandroupoli** 79.36 325 P P 21 08 34.7 -0.8
ALN **Alexandroupoli** 79.36 325 P P 21 08 34.7 -0.8
ALN **Alexandroupoli** 79.36 325 P P 21 08 34.7 -0.8
TUE **Stuetta** 79.36 338 eP P 21 08 36.0 +0.3

comp=Z,33nm,0.8s
CLF Chambon-Foret 79.37 343 *e*P **P 21 08 35.8 +0.4**
comp=Z,409nm,1.6s
X52A Dahlonega 79.38 47 P **P 21 08 36.1 +0.3**
baz=326
Y51A Rockmart 79.41 49 P **P 21 08 35.7 -0.3**
baz=325,SNR=6.1
UDBI Udbina 79.49 333 P **P 21 08 35.6 -0.6**
BG3 Lake Jocassee 79.51 47 *e*P **P 21 08 36.9 +0.5**
comp=Z,94nm,1.5s
Z50A Ashland 79.52 50 *e*P **P 21 08 34.7 -1.8**
comp=Z,39nm,0.9s
Z50A Ashland 79.52 50 P **P 21 08 36.3 -0.2**
baz=325,SNR=10
KKB Krupnik 79.57 327 *e*P **P 21 08 34.9 -1.7**
V55A Taylorsville 79.58 45 P **P 21 08 36.9 +0.1**
baz=327
MMB Musomiste 79.59 327 *e*P **P 21 08 36.3 -0.5**
149A Jones 79.63 51 P **P 21 08 37.2 +0.1**
baz=325
NVLJ Novalja 79.71 334 P **P 21 08 36.4 -0.9**
X53A Estanollee 79.74 47 P **P 21 08 38.3 +0.5**
baz=326,SNR=5.1
NVR Nevrokopi 79.75 326 P **P 21 08 36.9 -0.8**
W54A Cherokee Point 79.78 46 P **P 21 08 38.1 +0.2**
baz=326
MHTO MHTO 79.79 291 P **P 21 08 38.4 +0.2**
SNR=118
MHTO P **P 21 08 38.4 +0.2**
SNR=118
Z51A Franklin 79.83 49 P **P 21 08 38.2 0.0**
baz=325
Y52A Lilburn 79.91 48 P **P 21 08 38.9 +0.2**
baz=326
SENIN Lac Senin/Sane 79.94 339 *e*P **P 21 08 38.6 -0.2**
comp=Z,12nm,0.9s
249A Camden 79.97 51 P **P 21 08 39.6 +0.7**
baz=325
150A Eclectic 80.00 50 P **P 21 08 39.2 +0.1**
baz=325
STIP Stip 80.03 328 *i* P **P 21 08 38.0 -1.1**
TAOE Nuku Hiva Isla 80.05 117 *e*LR LR 21 32 50.5
comp=Z,3µm,33.9s
SRS Serrai 80.05 326 P **P 21 08 38.4 -0.9**
MNCI Minicoy 80.07 271 *e*P **P 21 08 40.5 +0.8**
comp=Z,80nm,0.9s
MNCY Minicoy 80.10 271 *e*P **P 21 08 39.8 -0.1**
THAS Thassos island 80.10 325 P **P 21 08 38.6 -0.9**
KMSC Kings Mountain 80.12 45 P **P 21 08 39.6 -0.1**
baz=327
BRY Bratogost 80.14 331 ⇑*i*P **P 21 08 38.1 -1.8**
X54A Belton 80.14 46 P **P 21 08 40.2 +0.4**
baz=326
Y53A Monroe 80.14 48 P **P 21 08 40.1 +0.2**
baz=326
EZN Ezine 80.19 324 ⇓*i*P **P 21 08 39.0 -1.0**
VAY Valandovo 80.23 327 *i* P **P 21 08 40.1 0.0**
KNT Kendrikon 80.26 327 P **P 21 08 39.9 -0.5**
Z52A Williamson 80.30 49 P **P 21 08 41.0 +0.2**
baz=327
PDG Podgorica 80.33 330 ⇑*i*P **P 21 08 39.8 -1.0**
PDG Podgorica 80.33 330 ⇑*i*P **P 21 08 39.7 -1.0**
TTG Podgorica 80.33 330 *e*P **P 21 08 39.2 -1.5**
comp=Z,34nm,0.8s
TTG Podgorica 80.33 330 *e*P **P 21 08 39.2 -1.5**
TTG pmax pmax
comp=Z,34nm,0.8s
TREB Trebinje 80.36 331 *e*P **P 21 08 39.2 -1.7**
250A Grady 80.39 51 P **P 21 08 41.7 +0.4**
baz=325
151A Opelika 80.40 50 P **P 21 08 41.1 -0.2**
baz=325
STON Ston 80.42 331 P **P 21 08 39.5 -1.6**
STON Ston 80.42 331 ⇑*i*P **P 21 08 39.5 -1.6**
349A Repton 80.44 52 P **P 21 08 42.3 +0.8**
baz=325
448A Bay Minette 80.45 52 P **P 21 08 42.5 +1.0**
baz=324
MANT Manisa 80.49 322 *e*P **P 21 08 41.0 -1.0**
comp=Z,111nm,0.8s
X55A Gracelyn & Ava 80.54 46 P **P 21 08 41.8 -0.2**
baz=327
LIA Limnos Island 80.55 325 P **P 21 08 41.0 -0.9**
Y54A Tignall 80.56 47 P **P 21 08 42.5 +0.5**
baz=326,SNR=12
HCY Herceg Novi 80.56 330 ⇑*i*P **P 21 08 40.5 -1.5**
GOGA Godfrey 80.56 48 PFAKE 21 08 50.0 +7.9
GOGA LR LR
comp=Z,987nm,22.0s
GOGA Godfrey 80.56 48 P **P 21 08 41.9 -0.3**
baz=326
DRME Dracevica, Mon 80.58 330 ⇑*i*P **P 21 08 41.2 -0.9**
152A Waverly Hall 80.58 49 P **P 21 08 42.2 0.0**
baz=326
OUR Ouranopolis 80.61 326 P **P 21 08 41.2 -1.0**
PHP Peshkopia 80.62 329 *e*P **P 21 08 41.3 -1.1**
PHP Peshkopia 80.62 329 P **P 21 08 41.3 -1.1**
PHP Peshkopia 80.62 329 *e*P **P 21 08 41.3 -1.1**
Z53A Monticello 80.62 48 P **P 21 08 42.5 0.0**
baz=326
KRUS Krusevo 80.64 328 *i* P **P 21 08 42.2 -0.3**
BRAL Brewton 80.66 52 P **P 21 08 43.6 +0.9**
baz=325
251A Midway 80.72 50 P **P 21 08 43.0 +0.1**
baz=325
PLG Polygyros 80.76 326 P **P 21 08 42.0 -1.1**
X56A White Oak 80.80 45 P **P 21 08 43.5 +0.1**
baz=327
350A Dozier 80.81 51 P **P 21 08 44.3 +0.8**
baz=325
DQM DQM 80.86 290 P **P 21 08 43.6 -0.3**
SNR=14
DQM P **P 21 08 43.6 -0.3**
SNR=14
Y55A Saluda 80.88 46 P **P 21 08 44.2 +0.4**
baz=327
SIGR SIGRI 80.91 324 P **P 21 08 40.9 -2.9**
BIA Bitola 80.92 328 *i* P **P 21 08 43.8 -0.2**
PMOR Pomariorio Ree 80.98 127 *e*T T 22 37 36.1
comp=Z,5.1nm,0.2s
Z54A Sparta 81.00 47 P **P 21 08 45.0 +0.5**
baz=326,SNR=5.3
OHR Ohrid 81.02 328 *i* P **P 21 08 43.8 -0.7**
PAIG Paliouri 81.07 326 *e*P **P 21 08 43.6 -1.1**
PAIG Paliouri 81.07 326 P **P 21 08 43.6 -1.1**
PAIG Paliouri 81.07 326 *e*P **P 21 08 43.6 -1.1**
TIR Tirane 81.11 329 *e*P **P 21 08 44.3 -0.6**
comp=Z,81nm,0.6s
TIR Tirane 81.11 329 *e*P **P 21 08 44.3 -0.6**
TIR pmax pmax
comp=Z,81nm,0.6s
FNA Florina 81.11 328 *e*P **P 21 08 43.8 -1.2**
comp=Z,27nm,0.9s
FNA Florina 81.11 328 P **P 21 08 43.9 -1.1**
FNA Florina 81.11 328 *e*P **P 21 08 43.8 -1.2**
FNA pmax pmax
comp=Z,27nm,0.9s
252A Lumpkin 81.12 49 P **P 21 08 45.3 +0.1**
baz=326
VLC Villacollemand 81.28 337 *e*P **P 21 08 45.9 +0.1**
comp=Z,58nm,0.6s
351A Pinckard 81.29 51 P **P 21 08 46.9 +0.9**
baz=325
BNI Bardonecchia 81.32 339 *e*P **P 21 08 46.5 +0.4**
comp=Z,31nm,0.7s
LIT Litokhoron 81.34 327 *e*P **P 21 08 45.0 -1.2**
comp=Z,242nm,0.5s
LIT Litokhoron 81.34 327 *e*P **P 21 08 45.0 -1.2**
253A Americus 81.36 49 P **P 21 08 46.9 +0.5**
baz=326
154A Montrose 81.39 48 P **P 21 08 47.0 +0.4**
baz=326
352A Blakely 81.45 50 P **P 21 08 47.4 +0.5**
baz=326
X58A Rowland 81.50 44 P **P 21 08 47.7 +0.6**
baz=328
CSS Mathiatis 81.52 317 *e*P **P 21 08 46.6 -0.6**
comp=Z,44nm,0.7s
NEST Nestorio 81.56 328 P **P 21 08 46.6 -0.8**
CNNC Cliffs of the 81.56 43 PFAKE 21 09 00.0 +13
CNNC LR LR
comp=Z,582nm,19.0s
SSB Saint Sauveur 81.56 341 *e*P **P 21 08 47.7 +0.4**
comp=Z,50nm,0.8s
SSB Saint Sauveur 81.56 341 *e*P **P 21 08 47.7 +0.4**
SSB pmax pmax
comp=Z,50nm,0.8s
LEF Lefka 81.58 317 ⇑*i*P **P 21 08 46.6 -0.9**
Z56A Williston 81.61 46 P **P 21 08 48.0 +0.3**
baz=327
SKY Skiros Island 81.68 325 P **P 21 08 47.2 -0.8**
155A Kite 81.69 48 P **P 21 08 48.5 +0.4**
baz=326
PENT Pentalofos 81.72 328 P **P 21 08 47.3 -1.0**
XOR Xorichti 81.74 326 *e*P **P 21 08 46.8 -1.6**
XOR Xorichti 81.74 326 P **P 21 08 46.8 -1.6**
451A Vernon 81.76 51 P **P 21 08 49.0 +0.5**
baz=325
NEO Neokhori 81.79 326 *e*P **P 21 08 46.6 -2.0**
NEO Neokhori 81.79 326 P **P 21 08 46.6 -2.0**
FYTO Fytoko, Volos 81.80 326 P **P 21 08 47.2 -1.4**
X59A McDuffie Farm, 81.81 44 P **P 21 08 48.8 +0.1**
baz=328
452A Marianna 81.84 50 P **P 21 08 49.6 +0.7**
baz=326
254A Abbeville 81.86 48 P **P 21 08 49.4 +0.4**
baz=326
KPRO Kipourio 81.86 327 P **P 21 08 47.7 -1.3**
Y58A Scranton 81.90 45 P **P 21 08 49.7 +0.5**
baz=328
353A Camilla 81.91 49 P **P 21 08 49.9 +0.6**
baz=326
Z57A Bowman 81.94 46 P **P 21 08 49.7 +0.2**
baz=327
156A Sylvania 82.11 47 P **P 21 08 50.9 +0.6**
baz=327
TIGA Tifton 82.13 49 *e*P **P 21 08 51.1 +0.6**
comp=Z,52nm,0.8s
TIGA Tifton 82.13 49 P **P 21 08 50.9 +0.4**
baz=326,SNR=5.9
AQU L'Aquila 82.16 334 *e*P **P 21 08 50.7 +0.2**
comp=Z,49nm,1.0s
AQU L'Aquila 82.16 334 ⇑*i*P **P 21 08 50.7 +0.2**
SMIA Simia 82.17 326 P **P 21 08 49.4 -1.2**
255A Hazlehurst 82.26 48 P **P 21 08 51.8 +0.7**
baz=327
PPT Papeete 82.33 130 LR LR 21 39 10.1
comp=Z,290nm,20.8s,baz=332,slow=31
NHSC New Hope 82.34 46 PFAKE 21 09 00.0 +8.5
NHSC LR LR
comp=Z,582nm,20.0s
PPT2 Papeete2 82.34 130 *e*S **S 21 19 08.7 +5.2**
comp=Z,95nm,22.8s
PPT2 Papeete2 82.34 130 *e*LR LR 21 34 41.0
comp=Z,478nm,21.8s
AGG Agios Georgios 82.36 326 *e*P **P 21 08 49.6 -1.9**
comp=Z,19nm,0.9s
AGG Agios Georgios 82.36 326 *e*P **P 21 08 49.7 -1.9**
AGG pmax pmax
comp=Z,19nm,0.9s
552A Lynn Haven 82.38 51 P **P 21 08 51.9 +0.1**
baz=326
ATAL Atalanti 82.40 326 P **P 21 08 49.7 -2.1**
LKR Lokris 82.45 326 *e*P **P 21 08 47.8 -4.2**
LKR Lokris 82.45 326 P **P 21 08 47.8 -4.2**
AXAR Agios Charalam 82.47 326 *e*P **P 21 08 52.3 +0.2**
AXAR Agios Charalam 82.47 326 P **P 21 08 52.3 +0.2**
256A Glennville 82.49 47 P **P 21 08 53.0 +0.6**
baz=327
355A Pearson 82.56 49 P **P 21 08 53.4 +0.7**
baz=326
IGT Igoumenitsa 82.59 328 P **P 21 08 51.4 -1.3**
KEK Kerkira 82.61 328 P **P 21 08 51.3 -1.5**
Z59A Georgetown, SC 82.64 45 P **P 21 08 53.3 +0.3**
baz=328
158A Hollywood 82.64 46 P **P 21 08 53.6 +0.5**
baz=328
PTL Pentelli 82.67 325 P **P 21 08 51.4 -1.8**
454A Quitman 82.71 49 P **P 21 08 54.2 +0.7**
baz=326
MATE Matera 82.75 331 ⇑*i*P **P 21 08 52.9 -0.6**
VILL Villia 82.77 325 P **P 21 08 51.8 -1.9**
DSF Desfina 82.83 326 *e*P **P 21 08 51.8 -2.3**
DSF Desfina 82.83 326 P **P 21 08 51.8 -2.3**
VLY Voula,Athens 82.87 325 P **P 21 08 52.0 -2.2**
APE Apeiranthos 82.91 323 ⇓*i*P P 21 08 45.4 -9.1
455A Stateville 82.98 49 P **P 21 08 55.5 +0.7**
baz=326
KALE Kalithea 82.98 326 P **P 21 08 53.0 -1.9**
SERG Sergoula 83.00 326 P **P 21 08 53.1 -1.8**
PVO Paravola 83.00 327 P **P 21 08 53.9 -1.0**
LTK Loutraki 83.02 325 P **P 21 08 52.4 -2.6**
TRIZ Trizonia 83.03 326 P **P 21 08 53.1 -1.9**
EFP Efpalio 83.04 326 P **P 21 08 53.9 -1.1**
LKD2 Lefkada island 83.15 327 P **P 21 08 54.5 -1.2**
TRAZ Trapeza 83.16 326 P **P 21 08 54.1 -1.7**
LAKA Lakka 83.18 326 P **P 21 08 54.5 -1.3**
554A Perry 83.20 50 P **P 21 08 56.6 +0.6**
baz=326
KLV Kalavryta, Ach 83.29 326 *e*P **P 21 08 54.6 -1.9**
KLV Kalavryta, Ach 83.29 326 P **P 21 08 54.6 -1.9**
EVGI Lefkada island 83.30 327 P **P 21 08 55.2 -1.2**
GUR Goura 83.32 326 *e*P **P 21 08 54.6 -2.1**
GUR Goura 83.32 326 P **P 21 08 54.6 -2.1**
DID Didima 83.38 325 P **P 21 08 53.7 -3.2**
STKA Stephens Creek 83.39 193 *e*P **P 21 08 56.7 +0.1**
comp=Z,3.3nm,1.0s
STKA Stephens Creek 83.39 193 *e*P **P 21 08 56.7 +0.1**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 83.39 193 P **P 21 08 56.8 +0.1**
comp=Z,11nm,0.9s,baz=356,slow=7.2,SNR=20
STKA LR LR 21 44 27.7
comp=Z,173nm,20.7s,baz=24,slow=34
KRND KRANIDI 83.52 325 P **P 21 08 54.3 -3.2**
RLS Riolos of Patr 83.52 326 *e*P **P 21 08 56.8 -0.7**
RLS Riolos of Patr 83.52 326 P **P 21 08 56.8 -0.7**
555A McAlpin 83.52 49 P **P 21 08 58.4 +0.8**
baz=326
DRO Drossia 83.53 326 P **P 21 08 56.8 -0.8**
VLS Valsamata 83.72 327 P **P 21 08 57.5 -1.1**
VTN Vitineika 83.75 327 P **P 21 08 58.5 -0.2**
VLX Vlachokerasia 83.81 326 *e*P **P 21 08 57.3 -1.9**
VLX Vlachokerasia 83.81 326 P **P 21 08 57.3 -1.9**
556A Lake Butler 83.89 49 P **P 21 09 00.5 +0.9**
baz=327
AMT Artemida-Makis 83.90 326 P **P 21 08 58.3 -1.3**
TIP Timpagrande 84.08 330 *e*P **P 21 08 59.9 -0.6**
comp=Z,58nm,1.1s
TIP Timpagrande 84.08 330 ⇑*i*P **P 21 08 59.9 -0.6**
TIP Timpagrande 84.08 330 P **P 21 09 00.1 -0.4**
ITM Ithomi 84.14 326 *e*P **P 21 08 59.0 -1.7**
comp=Z,50nm,0.6s
ITM Ithomi 84.14 326 P **P 21 08 59.1 -1.7**
VLI Veliai 84.19 325 *e*P **P 21 08 56.6 -4.4**
VLI Veliai 84.19 325 P **P 21 08 56.6 -4.4**
PYL PYLOS 84.46 326 P **P 21 09 00.5 -1.9**
KYTH Kithira 84.55 325 *e*P **P 21 09 01.3 -1.6**
KYTH Kithira 84.55 325 P **P 21 09 01.3 -1.6**
KTHR Kythira 84.57 325 P **P 21 09 00.7 -2.2**
LAST Lasithi 84.60 322 *e*P **P 21 09 02.1 -1.1**
LAST Lasithi 84.60 322 P **P 21 09 02.1 -1.1**
IDI Anoyia 84.72 323 *e*P **P 21 09 01.9 -1.8**
comp=Z,41nm,1.1s
IDI Anoyia 84.72 323 ⇓*i*P **P 21 09 02.0 -1.8**
ANKY Antikythira Is 84.81 324 *e*P **P 21 09 02.1 -2.0**
ANKY Antikythira Is 84.81 324 P **P 21 09 02.1 -2.0**
VAM Vamos 84.88 323 *e*P **P 21 09 00.6 -3.9**
VAM Vamos 84.88 323 P **P 21 09 00.6 -3.9**
VAM Vamos 84.88 323 *e*P **P 21 09 00.6 -3.9**
IMMV Iera Moni Meta 84.91 323 P **P 21 09 03.5 -1.2**
RAYN Ar Rayn 84.93 301 *e*P **P 21 09 04.6 -0.4**
comp=Z,108nm,0.8s
RAYN LR LR
comp=Z,586nm,21.0s
RAYN Ar Rayn 84.93 301 *i* P **P 21 09 04.8 -0.2**
SNR=27
RAYN Ar Rayn 84.93 301 *e*P **P 21 09 04.6 -0.4**
RAYN pmax pmax
comp=Z,108nm,0.8s
RAYN MLR MLR
comp=Z,586nm,21.0s
FORT Forrest 85.16 205 *e*P **P 21 09 06.0 +0.4**
comp=Z,60nm,0.8s
BBOO Buckleboo 85.25 198 *e*P **P 21 09 06.2 +0.2**
comp=Z,62nm,1.3s
BBOO epP **pP 21 09 18.9 -2.0**
857A Zephyrhills 85.42 50 P **P 21 09 08.3 +1.0**
baz=327
859A Kempfer Cattle 86.23 49 P **P 21 09 12.1 +0.8**
baz=328
058A Arcadia 86.63 50 P **P 21 09 14.3 +1.0**
baz=327
PBRG Braganca 86.85 348 *e*P **P 21 09 14.0 -0.2**
POLO Lamas de Olo 87.41 349 *e*P **P 21 09 17.2 +0.2**
MORW Morawa 87.42 215 *e*P **P 21 09 16.5 -0.3**
comp=Z,68nm,1.2s
PVRL Vila Real 87.50 349 *e*P **P 21 09 17.4 +0.1**
MVO Moncorvo 87.52 348 *e*P **P 21 09 17.4 -0.1**
TOO Toolangi 88.51 189 *e*P **P 21 09 22.9 +1.1**
comp=Z,37nm,1.3s
TOO Toolangi 88.51 189 *e*P **P 21 09 22.9 +1.1**
TOO pmax pmax
comp=Z,37nm,1.3s
ESDC Sonseca Array 88.54 346 P **P 21 09 21.8 -0.6**
comp=Z,12nm,0.9s,baz=5.1,slow=4.2,SNR=32
ESDC LR LR 21 55 28.7
comp=Z,342nm,20.1s,baz=350,slow=40
ESLA Sonseca Array 88.54 346 *e*P **P 21 09 21.3 -1.0**
comp=Z,28nm,1.1s
PAB San Pablo 88.73 346 *e*P **P 21 09 22.5 -0.8**
comp=Z,32nm,1.3s
PAB LR LR
comp=Z,793nm,19.0s
PAB San Pablo 88.73 346 *e*P **P 21 09 22.5 -0.8**
PAB pmax pmax
comp=Z,32nm,1.3s
PAB MLR MLR
comp=Z,793nm,19.0s
PCAS Casmilo, Conde 88.80 349 *e*P **P 21 09 23.2 -0.3**
PCBR Castelo Branco 88.88 348 *e*P **P 21 09 23.3 -0.5**
PTOM Tomar 89.21 349 *e*P **P 21 09 26.2 +0.8**
PMRV Marv??o 89.27 348 *e*P **P 21 09 27.8 +2.1**
KEST Kesra 89.46 335 *e*P **P 21 09 26.6 -0.2**
comp=Z,51nm,0.9s
KEST Kesra 89.46 335 P **P 21 09 26.9 +0.1**
comp=Z,39nm,0.8s,baz=314,slow=1.8,SNR=32
NWAO Narrogin (SRO) 90.50 213 *e*P **P 21 09 30.8 -0.4**
comp=Z,40nm,1.2s
NWAO Narrogin (SRO) 90.50 213 *e*P **P 21 09 30.8 -0.4**
NWAO pmax pmax
comp=Z,40nm,1.2s
SNZO South Karori 92.86 167 PFAKE 21 09 50.0 +8.1
SNZO LR LR
comp=Z,809nm,20.0s
GTBY Guantanamo Bay 95.90 49 PFAKE 21 10 10.0 +13
GTBY LR LR
comp=Z,711nm,20.0s
SDDR Presa de Saban 98.50 46 PFAKE 21 10 20.0 +12
SDDR LR LR
comp=Z,475nm,19.0s
PTCN Pitcairn Islan 98.72 119 PFAKE 21 10 20.0 +11
PTCN LR LR
comp=Z,5µm,20.0s
JTS JuntasAbangare 98.83 62 PFAKE 21 10 20.0 +10
JTS LR LR
comp=Z,298nm,19.0s
SJG San Juan 101.54 42 PFAKE 21 10 30.0 +8.1
SJG LR LR
comp=Z,317nm,19.0s
ANWB Willy Bob 103.72 38 PFAKE 21 10 40.0 +8.4
ANWB LR LR
comp=Z,227nm,22.0s
SDV Santo Domingo 107.57 50 PFAKE 21 15 10.0 +13
SDV LR LR
comp=Z,281nm,22.0s
GRGR Grenville 108.78 41 PFAKE 21 15 10.0 +11
GRGR LR LR
comp=Z,190nm,21.0s
KMBO Kilima Mbogo 109.55 293 PFAKE 21 15 10.0 +9.3
KMBO LR LR
comp=Z,230nm,20.0s
OTAV Otavalo 110.72 62 PFAKE 21 15 20.0 +17
OTAV LR LR
comp=Z,244nm,21.0s
MBAR Mbarara 112.82 300 PFAKE 21 15 20.0 +13
MBAR LR LR
comp=Z,988nm,21.0s
TOA1 Torodi Ar. Sit 112.97 334 *e*PKiKP **PKiKP 21 15 06.2 -0.7**
TORD Torodi Ar. Bea 112.98 334 PKiKP **PKiKP 21 15 06.2 -0.7**
comp=Z,1.4nm,0.9s,baz=41,slow=2.2,SNR=6.8
SACV Santiago Islan 114.62 1 PFAKE 21 15 20.0 +10
SACV LR LR
comp=Z,234nm,20.0s
DBIC Dimbokro 120.85 339 PKP **PKiKP 21 15 22.0 -0.1**
comp=Z,7.0nm,0.7s,baz=7.7,slow=1.8,SNR=9.7
PTGA Pitinga 121.01 45 PFAKE 21 15 30.0 +7.5
PTGA LR LR
comp=Z,18µm,20.0s
LSZ Lusaka 126.17 292 *e*PKPdf **PKiKP 21 15 32.9 +0.2**
LSZ LR LR
comp=Z,271nm,20.0s
LSZ Lusaka 126.17 292 *e*PKiKP **PKiKP 21 15 32.9 +0.2**
LSZ MLR MLR
comp=Z,271nm,20.0s
VNDA Vanda 127.97 179 PKP **PKPdf 21 15 33.6 -0.1**
comp=Z,1.8nm,0.9s,baz=28,slow=5.6,SNR=3.7
LPAZ La Paz 130.01 63 *e*PKPdf **PKPdf 21 15 40.2 +0.1**
LPAZ La Paz 130.01 63 *e*PKiKP **PKPdf 21 15 40.2 +0.1**
LPAZ La Paz 130.01 63 PKP **PKPdf 21 15 40.3 +0.2**
comp=Z,3.2nm,0.7s,baz=42,slow=5.6,SNR=10
MNMC Minye Minye 131.41 67 *e*PKPdf **PKPdf 21 15 42.7 +0.4**
PB11 IPOC Station P 131.87 68 *e*PKPdf **PKPdf 21 15 43.2 +0.2**
LBTB Lobatse 135.17 286 *e*PKPdf **PKPdf 21 15 49.6 +0.6**
LBTB Lobatse 135.17 286 *e*PKiKP **PKPdf 21 15 49.6 +0.6**
TSUM Tsumeb 135.36 300 PFAKE 21 16 00.0 +8.9
TSUM LR LR
comp=Z,365nm,22.0s
BOSA Boshof 137.98 283 PKiKP **PKPdf 21 15 54.0 -0.2**
BOSA pmax pmax
comp=Z,5.0nm,0.9s
BOSA Boshof 137.98 283 PKP **PKPdf 21 15 54.0 -0.2**
comp=Z,4.7nm,0.9s,baz=305,slow=2.8,SNR=5.5
BDFB Brasilia 139.49 40 *e*PKPdf **PKPdf 21 15 57.4 +0.2**
BDFB Brasilia 139.49 40 *e*PKiKP **PKPdf 21 15 57.4 +0.2**
BDFB Brasilia 139.49 40 PKhKP PKPpre 21 15 51.2
comp=Z,3.7nm,0.6s,baz=55,slow=1.4,SNR=3.5
BDFB PKP **PKPdf 21 15 57.7 +0.4**
comp=Z,3.3nm,0.5s,baz=65,slow=6.3,SNR=5.3
QSPA South Pole Qui 140.43 180 *e*PKPpre PKPpre 21 15 50.1
QSPA LR LR
comp=Z,512nm,20.0s
CPUP Villa Florida 144.05 61 *e*PKPdf PKPbc 21 16 03.5 +0.4
CPUP Villa Florida 144.05 61 PKP PKPbc 21 16 03.3 +0.2
comp=Z,9.4nm,0.9s,baz=312,slow=3.3,SNR=13
GO06 Curarrehue 144.39 91 *e*PKPdf **PKPab 21 16 03.0 -0.6**
PLCA Paso Flores 145.62 92 *e*PKPdf **PKPbc 21 16 07.6 -0.1**
PLCA Paso Flores 145.62 92 *e*PKP2 **PKPbc 21 16 07.6 -0.1**
PLCA Paso Flores 145.62 92 PKPbc **PKPbc 21 16 07.8 +0.1**
comp=Z,20nm,0.9s,baz=320,slow=3.8,SNR=44
SYO Syowa Base 145.76 215 ⇓*i*PKiKP **PKiKP 21 16 14.6 +4.0**
SPB Sao Paulo 146.79 45 *e*PKPdf **PKPdf 21 16 10.3 +0.6**
TRQA Tornquist 149.51 81 *e*PKPbc **PKPbc 21 16 18.4 0.0**
TRQA LR LR
comp=Z,2.0nm,19.0s
TRQA Tornquist 149.51 81 *e*PKP2 **PKPbc 21 16 18.4 0.0**
NVL N'lazarevskaya 154.41 206 *e*PKP2 **PKPab 21 16 42.5 -0.5**
NVL pmax pmax
comp=Z,6.0nm,0.7s
SNAA Sanae 157.13 196 *e*PKPab **PKPab 21 16 54.9 +0.1**
SNAA Sanae 157.13 196 *e*PKP2 **PKPab 21 16 54.9 +0.1**

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*ISCJB **04** 20:57:06.2±0.2, 51°.73N±0°.04×175°.17W±0°.03, h47km, mb4.4/24, Error ellipse: s-maj=5.9km s-min=2.9km az=178.8*
*AEIC **04** 20:57:07.6, 51°.56N×175°.32W, h30km, ML4.8*
*NEIC **04** 20:57:07.6±0.0, 51°.56N×175°.32W, h30km, ML4.8(AEIC), After AEIC.*
*IDC **04** 20:57:07.7±3.3, 51°.77N×175°.46W, h51km±28km, mb4.1/18, mb1 4.2/19, mb1mx4.0/59, mbtmp4.3/19, ML4.8/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/39, Error ellipse: s-maj=28.1km s-min=14.1km az=175.0*

ISC 04 20:57:07.7±0.5, 51°.65N±0°.09×175°.32W±0°.04, h47km, n531, σ0s97/534, mb4.4/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSMY	**Great Sitkin M**	**0.61**	**311**	*e*Pg	**Pn**	**20 57 20.7**	**+0.6**
GSCK	**Great Sitkin C**	**0.64**	**305**	*e*Sn	**Sn**	**20 57 31.1**	**+1.4**
GSTR	**Great Sitkin T**	**0.64**	**315**	*e*Pg	**Pn**	**20 57 20.9**	**+0.4**
GSTD	**Great Sitkin T**	**0.66**	**309**	*e*Pg	**Pn**	**20 57 21.4**	**+0.6**
GSSP	**Great Sitkin S**	**0.69**	**310**	P	**Pn**	**20 57 22.0**	**+0.8**
ETKA	**Kagalaska Isla**	**0.71**	**288**	*e*Pg	**Pn**	**20 57 21.6**	**+0.2**

ADAG Mount Adagdak 0.86 293 ePn Pn 20 57 24.4 +0.9
ADK Adak 0.88 286 ePn Pn 20 57 23.1 -0.6
KIRH Kanaga Island 1.13 284 ePn Pn 20 57 27.9 +0.8
KIWB Kanaga Island 1.16 281 ePn Pn 20 57 27.7 +0.3
KIMD Kanaga Island 1.20 276 P Pn 20 57 28.3 +0.3
TAFP Tanaga Falls P 1.68 280 ePn Pn 20 57 35.6 +1.1
TASE Tanaga Southea 1.70 277 ePn Pn 20 57 36.1 +1.2
GAEA Gareloi East 2.14 275 ePn Pn 20 57 42.3 +1.5
NIKH Nikolski High 4.18 69 ePn Pn 20 58 10.5 +1.6
OKWR Okmok West Rim 4.70 65 ePn Pn 20 58 18.6 +2.6
MREP Makushin Rep't 5.64 64 P Pn 20 58 30.9 +2.0
UNV Unalaska Valle 5.79 64 ePn Pn 20 58 31.4 +0.6
UNV eSn Sn 20 59 39.3 +3.4
ZRO Akutan Zero 6.16 63 ePn Pn 20 58 38.5 +2.5
SPIA Saint Paul Isl 6.28 26 ePn Pn 20 58 40.2 +2.6
AKUT Akutan 6.29 63 ePn Pn 20 58 42.3 +4.5
GAMB Gambell 12.31 8 ePn Pn 21 00 01.6 +1.6
ANM Nome 13.95 18 ePn Pn 21 00 24.7 +2.3
OHAK Old Harbor 13.95 58 ePn Pn 21 00 19.2 -3.2
SVW2 Sparrevohn 14.40 41 ePn Pn 21 00 30.4 +1.9
KDAK Kodiak Island 14.46 56 ePn Pn 21 00 25.6 -3.6
KDAK esP P 21 00 26.0 -8.9
KDAK S Sn 21 03 03.1 -4.9
KDAK Kodiak Island 14.46 56 P Pn 21 00 25.9 -3.4
2.4nm,0.3s,baz=235,slow=1.8,SNR=15
KDAK S Sn 21 03 03.1 -4.9
1.0nm,0.3s,baz=342,slow=20,SNR=2.9
RSO Redoubt South 15.31 46 ePn Pn 21 00 40.0 -0.6
BRLK Bradley Lake 15.91 50 ePn Pn 21 00 48.0 -0.1
SUA Susitna One 16.63 44 ePn P 21 00 58.0 -1.1
SEW Seward 16.71 49 ePn Pn 21 00 56.1 -1.9
PPLA Purkeypile 16.72 39 ePn Pn 21 00 58.1 -0.3
CAST Castle Rocks 17.04 37 ePn P 21 01 03.1 -0.4
PMR Palmer 17.39 45 ePn P 21 01 06.8 -0.5
KNK Knik Glacier 17.62 46 ePn Pn 21 01 08.4 -1.0
TRF Thorofare Moun 17.74 39 ePn P 21 01 12.4 +1.0
SML Sawmill 17.82 45 ePn P 21 01 12.0 -0.2
IM3 Indian Mountai 18.05 29 ePn Pn 21 01 15.7 +1.1
SCM Sheep Creek Mo 18.27 45 eP P 21 01 16.2 -1.0
RND Reindeer 18.29 40 eP P 21 01 16.6 -0.7
BWN Browne 18.42 37 ePn Pn 21 01 19.8 +0.6
DHY Denali Highway 18.74 42 eP P 21 01 21.4 -1.0
DIV Divide 18.75 48 eP P 21 01 20.1 -2.3
KLU Klutina 18.79 47 eP P 21 01 21.4 -1.5
WRH Wood River Hil 19.09 37 eP P 21 01 24.8 -1.3
HMT Hamilton 19.29 51 eP Pn 21 01 29.6 +0.3
CCB Clear Creek Bu 19.29 37 eP P 21 01 26.5 -1.5
MDM Murphy Dome 19.29 36 eP P 21 01 27.9 -0.3
HARP HAARP 19.43 45 eP Pn 21 01 30.6 -0.7
PAX Paxson 19.50 43 eP Pn 21 01 31.9 -0.3
HDA Harding Lake 19.50 38 eP P 21 01 30.3 -0.2
HDA Harding Lake 19.50 38 P P 21 01 30.5 0.0
baz=242,SNR=28
POKR Poker Plat Res 19.66 36 P P 21 01 32.2 0.0
baz=240,SNR=8.0
ILAR Eielson Array 19.69 37 P P 21 01 30.3 -2.3
2.8nm,0.3s,baz=231,slow=10,SNR=65
ILB Eielson Array 19.69 37 eP P 21 01 31.3 -1.3
IL1 Eielson Array 19.69 37 eP P 21 01 31.2 -1.4
COLD Coldfoot 19.93 29 eP Pn 21 01 38.2 +1.0
RIDG Independ'e Rid 20.05 41 eP P 21 01 36.0 -0.6
MENT Mentasta 20.23 44 eP P 21 01 38.0 -0.5
BALM Baldy 20.33 50 eP P 21 01 38.4 -1.3
DOT Dot Lake 20.34 42 eP P 21 01 38.7 -1.0
SCRK Sand Creek 20.49 41 eP P 21 01 40.1 -1.4
PRP Porcupine Dome 20.55 36 eP P 21 01 41.7 -0.4
TOLK Toolik Lake Re 21.03 26 eP P 21 01 47.9 +0.7
TOLK Toolik Lake Re 21.03 26 P P 21 01 47.8 +0.7
baz=229,SNR=24
FYU Fort Yukon 21.17 34 eP P 21 01 48.7 +0.2
EGAK Eagle 21.93 40 eP P 21 01 55.5 -1.2
HYT Haines Junctio 22.63 51 eP P 21 02 05.4 +1.1
EPYK Eagle Plains 24.20 38 eP P 21 02 18.7 -0.8
EPYK Eagle Plains 24.20 38 P P 21 02 19.9 +0.4
baz=251,SNR=12
DIB Dawson Inlet, 25.89 70 eP P 21 02 35.5 +0.8
INK Inuvik 26.00 34 P P 21 02 35.1 -0.5
3.1nm,0.4s,baz=219,slow=6.1,SNR=23
INK PcP PcP 21 05 59.5 -2.9
3.4nm,0.5s,baz=283,slow=2.5,SNR=3.4
DLBC Dease Lake 26.39 57 P P 21 02 41.8 +2.4
0.8nm,0.3s,baz=288,slow=8.8,SNR=3.5
BBB Bella Bella 28.72 70 P P 21 03 01.9 +1.8
7.0nm,0.7s,baz=256,slow=4.2,SNR=3.5
BBB LR LR 21 13 22.3
comp=Z,100nm,18.4s,baz=241,slow=34
LLLB Lillooet 32.93 70 eP P 21 03 38.7 +1.3
KLR Kul'dur 33.19 287 P P 21 03 38.5 -1.1
4.4nm,0.6s,baz=45,slow=7.7,SNR=3.2
YKA Yellowknife Ar 33.46 47 P P 21 03 40.8 -0.9
1.0nm,0.4s,baz=277,slow=9.1,SNR=18
YKA PcP PcP 21 06 21.6 -0.2
2.5nm,0.6s,baz=279,slow=3.0,SNR=6.6
YKA ScP ScP 21 10 01.4 -0.7
0.9nm,0.9s,baz=280,slow=3.5,SNR=1.4
YKB5 Yellowknife Ar 33.46 47 eP P 21 03 41.4 -0.4
YKB5 ePcP PcP 21 06 21.6 -0.2
YKB5 eScP ScP 21 10 01.4 -0.7
B05A Bryant 33.78 74 P P 21 03 45.7 +1.1
baz=296,SNR=7.4
D05A Enumclaw 34.33 76 eP P 21 03 50.9 +1.4
LON Longmire 34.64 77 eP P 21 03 54.0 +1.7
H11N2 WAKE ISLAND Hy 34.78 210 T T 21 41 31.1
baz=20,slow=76,SNR=14
H11N3 WAKE ISLAND Hy 34.78 210 T T 21 41 27.7
baz=20,slow=76,SNR=14
H11N1 WAKE ISLAND Hy 34.80 210 T T 21 41 26.5
baz=20,slow=76,SNR=12
LTY Liberty 35.09 75 eP P 21 03 56.7 +0.5
B08A Colville Reser 35.39 73 eP P 21 03 59.1 +0.5
H11S1 WAKE ISLAND Hy 35.99 210 T T 21 43 14.0
baz=19,slow=76,SNR=19
H11S2 WAKE ISLAND Hy 36.00 210 T T 21 43 15.2
baz=19,slow=76,SNR=31
H11S3 WAKE ISLAND Hy 36.00 210 T T 21 43 15.3
baz=19,slow=76,SNR=13
HAWA Hanford 36.19 76 eP P 21 04 05.0 -0.5
D08A Wollman Farm, 36.24 74 eP P 21 04 06.3 +0.4
C09A Chrisman Ranch 36.27 73 eP P 21 04 06.8 +0.5
E08A Dider Farm, El 36.43 75 eP P 21 04 08.1 +0.6
YBH Yreka Blue Hor 36.69 84 P P 21 04 11.2 +1.3
1.3nm,0.7s,baz=342,slow=3.2,SNR=3.4
YBH LR LR 21 15 23.3
comp=Z,252nm,21.7s,baz=359,slow=30
NEW Newport 36.74 72 eP P 21 04 10.3 +0.1
NEW Newport 36.74 72 P P 21 04 10.6 +0.3
baz=298,SNR=17
NEW Newport 36.74 72 P P 21 04 10.0 -0.3
17nm,0.7s,baz=302,slow=13,SNR=15
G08A Pilot Rock 37.09 77 eP P 21 04 13.6 +0.3
I07A Izee 37.39 79 eP P 21 04 16.6 +0.8
MOD Modoc Plateau 38.08 83 eP P 21 04 22.1 +0.4
BMO Blue Mountains 38.32 77 eP P 21 04 23.5 -0.1
J08A Circle Bar Ran 38.41 79 eP P 21 04 24.1 -0.3
RES Resolute Bay 38.59 25 P P 21 04 25.8 +0.3
0.5nm,0.4s,baz=315,slow=5.7,SNR=4.1
WVOR Wild Horse Val 38.81 81 eP P 21 04 28.0 +0.1
MSO Missoula 39.32 72 eP P 21 04 32.2 +0.1
MSO Missoula 39.32 72 P P 21 04 32.2 +0.1
baz=300,SNR=8.9
PAHR Pah Rah Range 39.92 85 eP P 21 04 37.7 +0.5
PNTR Pine Nut 40.16 86 eP P 21 04 39.9 +0.7
YERR Yerington 40.44 86 eP P 21 04 42.3 +0.8
WAKR Walker 40.61 86 eP P 21 04 42.7 -0.2
HRY Holter Researc 40.63 71 eP P 21 04 43.1 +0.2
HLID Hailey 40.77 77 eP P 21 04 44.3 +0.2
HLID Hailey 40.77 77 P P 21 04 44.5 +0.3
baz=304,SNR=8.6
MCMT McKenzie Canyo 41.02 74 eP P 21 04 46.5 +0.2
KVN Kaiserville 41.11 85 eP P 21 04 47.5 +0.5
EGMT Eagleton 41.17 68 eP P 21 04 47.4 +0.1
EGMT Eagleton 41.17 68 P P 21 04 47.1 -0.2
baz=300
BOZ Bozeman (W) 41.34 72 eP P 21 04 48.6 -0.2
BOZ Bozeman (W) 41.34 72 P P 21 04 49.1 +0.4
baz=302,SNR=13
NV01 Mina Array Sit 41.36 86 eP P 21 04 49.3 +0.2
NVAR Mina Array Bea 41.36 86 P P 21 04 49.7 +0.6
2.5nm,0.8s,baz=293,slow=8.8,SNR=12
MDPB Devils Postpil 41.37 87 eP P 21 04 50.2 +0.9
OMMB Old Mammoth Mi 41.43 87 eP P 21 04 50.3 +0.5
KSRS Korea Array 41.80 273 P P 21 04 52.5 0.0
3.5nm,0.8s,baz=52,slow=7.8,SNR=4.0
KSAR Wonju Array Be 41.83 273 P P 21 04 52.5 -0.2
QLMT Earthquake Lak 41.87 73 eP P 21 04 53.6 +0.4
ELK Elko 41.87 81 eP P 21 04 53.4 +0.1
ELK Elko 41.87 81 P P 21 04 53.7 +0.4
6.3nm,0.8s,baz=303,slow=10.0,SNR=18
YHB Horse Butte 42.05 73 eP P 21 04 55.1 +0.4
YHH Holmes Hill 42.24 73 eP P 21 04 56.6 +0.3
HVU Hansel Valley 42.77 78 eP P 21 05 01.0 +0.5
RLMT Red Lodge 42.99 72 eP P 21 05 02.7 +0.3
RLMT Red Lodge 42.99 72 P P 21 05 02.6 +0.3
baz=303,SNR=14
REDW Red Top Meadow 43.03 75 eP P 21 05 02.5 -0.2
R11A Troy Canyon, C 43.10 84 eP P 21 05 03.1 0.0
R11A Troy Canyon, C 43.10 84 P P 21 05 03.2 0.0
baz=308,SNR=8.4
BGU Big Grassy Mou 43.12 79 eP P 21 05 04.8 +1.4
MPMC Manual Prospec 43.35 88 P P 21 05 05.5 +0.2
baz=310
TPNV Topopah Spring 43.56 86 eP P 21 05 07.4 +0.5
TPNV Topopah Spring 43.56 86 P P 21 05 06.9 0.0
baz=309
DUG Dugway, Tooele 43.68 80 eP P 21 05 07.8 -0.1
DUG Dugway, Tooele 43.68 80 P P 21 05 08.4 +0.5
baz=307,SNR=9.2
TCUT Toone Canyon 43.99 78 eP P 21 05 10.9 +0.5
PSUT Pine Spring 44.05 82 eP P 21 05 11.3 +0.4
DGMT Dagmar 44.11 65 eP P 21 05 10.9 -0.1
DGMT Dagmar 44.11 65 P P 21 05 11.0 -0.1
baz=302
BW06 Boulder Array 44.15 75 eP P 21 05 11.7 +0.1
BW06 Boulder Array 44.15 75 P P 21 05 12.1 +0.5
baz=305,SNR=11
PD31 Pinedale Array 44.15 75 eP P 21 05 11.6 -0.1
PDAR Pinedale Array 44.15 75 eP P 21 05 11.6 -0.1
PDAR Pinedale Array 44.15 75 P P 21 05 11.9 +0.2
9.7nm,0.7s,baz=303,slow=3.6,SNR=53
GSC Goldstone, Bar 44.26 88 eP P 21 05 12.8 +0.3
JLU Jordanelle 44.27 78 eP P 21 05 12.5 -0.2
NLU North Lily Min 44.28 79 eP P 21 05 12.0 -0.7
MPU Maple Canyon 44.52 79 eP P 21 05 14.3 -0.3
CCUT Cedar City 44.97 83 eP P 21 05 18.8 +0.5
MSU Marysvale 45.10 81 eP P 21 05 19.7 +0.4
GMRC Granite Mounta 45.31 88 P P 21 05 21.1 +0.2
baz=311
LCMT Little Creek M 45.38 84 eP P 21 05 22.0 +0.6
MTPU Mount Pierson 45.39 82 eP P 21 05 22.2 +0.5
P17A Butcher Ranch, 45.39 79 eP P 21 05 22.4 +0.8
KNB Kanab 45.64 83 eP P 21 05 24.1 +0.6
SRU San Rafael Swe 45.75 79 eP P 21 05 24.8 +0.4
U15A North Rim 46.34 83 eP P 21 05 29.5 +0.3
O20A White River Ci 46.51 77 P P 21 05 30.4 +0.1
baz=308
PDMCI Parker Dam,Lak 46.57 87 P P 21 05 30.7 +0.1
baz=311
RSSD Black Hills 46.64 70 eP P 21 05 30.7 -0.6
RSSD Black Hills 46.64 70 P P 21 05 31.1 -0.2
baz=306
Y12C Blythe 46.70 88 P P 21 05 32.0 +0.4
baz=312
PV09 Paradox Valley 46.98 79 eP P 21 05 33.6 -0.6
MDND Maddock 47.03 63 eP P 21 05 33.7 -0.4
MDND Maddock 47.03 63 P P 21 05 34.2 +0.2
baz=304
PV04 Paradox Valley 47.18 79 eP P 21 05 35.3 -0.3
PV19 Morning Glory 47.19 79 eP P 21 05 35.4 -0.3
PV16 Nyswonger Mesa 47.23 79 eP P 21 05 36.4 +0.3
PV11 David Mesa, Pa 47.26 79 eP P 21 05 35.9 -0.3
PV12 Saucer Basin, 47.29 79 eP P 21 05 36.3 -0.2
PV03 Paradox Valley 47.30 79 eP P 21 05 36.4 -0.2
PV13 Radium Mtn., P 47.38 79 eP P 21 05 37.1 -0.1
PV02 Paradox Valley 47.40 79 eP P 21 05 37.3 -0.1
N23A Red Feather La 47.43 74 eP P 21 05 37.6 0.0
N23A Red Feather La 47.43 74 P P 21 05 37.6 0.0
baz=308
WUAZ Wupatki 47.50 84 eP P 21 05 38.5 +0.4
WUAZ Wupatki 47.50 84 P P 21 05 38.5 +0.4
baz=311
Y14A Wickenburg 47.52 87 eP P 21 05 37.5 -0.6
PV01 Paradox Valley 47.55 79 eP P 21 05 38.0 -0.5
ULM Lac du Bonnet 47.70 59 P P 21 05 38.3 -0.9
1.2nm,0.3s,baz=308,slow=7.8,SNR=4.8
SMCO Snowmass 47.87 77 eP P 21 05 40.8 -0.4
X16A Lo Mia Camp, P 48.17 85 eP P 21 05 43.7 +0.4
MVCO Mesa Verde 48.18 80 eP P 21 05 42.6 -0.8
MVCO Mesa Verde 48.18 80 P P 21 05 43.2 -0.2
baz=310
ISCO Idaho Springs 48.30 75 eP P 21 05 44.2 -0.2
ISCO Idaho Springs 48.30 75 P P 21 05 44.4 -0.1
baz=308
SONA0 Songino Array 48.45 298 eScP ScP 21 10 59.7 -1.7
SONM Songino Array 48.45 298 ScP ScP 21 10 59.7 -1.7
2.0nm,0.9s,baz=58,slow=3.0,SNR=4.8
W18A Petrified Fore 48.77 83 P P 21 05 48.5 +0.6
baz=311
AGMN Agassiz Nation 48.83 61 eP P 21 05 47.1 -0.8
AGMN Agassiz Nation 48.83 61 P P 21 05 47.2 -0.7
baz=305,SNR=5.8
S22A 4UR Ranch, Cre 48.86 78 eP P 21 05 49.4 +0.6
S22A 4UR Ranch, Cre 48.86 78 P P 21 05 49.1 +0.4
baz=310
Q24A Divide 49.11 76 P P 21 05 50.3 -0.3
baz=309
SDCO Great Sand Dun 49.67 77 eP P 21 05 54.8 0.0
SDCO Great Sand Dun 49.67 77 P P 21 05 54.9 0.0
baz=310,SNR=10
HHC Hu-ho-hao-te 49.69 288 eP P 21 05 57.0 +2.2
HHC pP pP 21 06 07.2 -0.3
HHC S S 21 12 59.5 -0.6
HHC sS sS 21 13 23.7 +3.4
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,210nm,5.8s
TUC Tucson 49.99 87 eP P 21 05 57.1 0.0
TUC Tucson 49.99 87 P P 21 05 57.2 +0.1
baz=313
KSCO Kaye Shedlock' 50.60 74 P P 21 06 01.5 -0.2
baz=310
T25A Trinidad 50.72 77 eP P 21 06 03.2 +0.4
T25A Trinidad 50.72 77 P P 21 06 03.4 +0.7
baz=310,SNR=12
ANMO Albuquerque 50.91 81 eP P 21 06 04.5 +0.3
ANMO Albuquerque 50.91 81 P P 21 06 04.5 +0.3
baz=312
ANMO Albuquerque 50.91 81 P P 21 06 04.2 0.0
comp=Z,2.4nm,1.0s,baz=304,slow=8.6,SNR=4.3
NJ2 Nanjing 50.97 274 eP P 21 06 07.4 +3.0
NJ2 pmax pmax
comp=Z,15nm,0.5s
ECSD EROS Data Cent 51.15 66 eP P 21 06 04.0 -1.6
ECSD EROS Data Cent 51.15 66 P P 21 06 04.5 -1.2
baz=308,SNR=15
EYMN Ely 51.38 59 P P 21 06 07.2 -0.1
baz=308
BGNE Belgrade 51.72 69 P P 21 06 09.4 -0.6
baz=309
E38A The Farm, Brul 52.18 60 P P 21 06 12.3 -0.9
baz=308
SPMN Marine on St. 52.36 62 eP P 21 06 13.9 -0.7
SPMN Marine on St. 52.36 62 P P 21 06 14.0 -0.6
baz=309
CBKS Cedar Bluff 52.45 73 P P 21 06 14.5 -1.0
baz=310
E39A Mellen 52.86 60 P P 21 06 17.5 -0.8
baz=309
G38A Ridgeland 52.91 62 P P 21 06 17.8 -0.9
baz=309,SNR=6.4
F39A Loretta 52.95 61 P P 21 06 17.6 -1.4
baz=309
H38A Maiden Rock 52.99 62 P P 21 06 18.7 -0.6
baz=309
E40A Wakefield 53.17 59 P P 21 06 20.1 -0.5
baz=309
G39A Holcombe 53.21 61 P P 21 06 20.0 -0.9
baz=309
F40A Park Falls 53.38 60 P P 21 06 21.2 -0.9
baz=309,SNR=6.1
D41A Chssel 53.49 58 P P 21 06 22.5 -0.5
baz=309
H39A Augusta 53.54 62 P P 21 06 22.3 -1.0
baz=310
G40A Rib Lake 53.75 61 eP P 21 06 23.1 -1.8
G40A Rib Lake 53.75 61 P P 21 06 23.7 -1.2
baz=310
MNTX Cornudas Mount 53.76 83 P P 21 06 25.2 +0.1
baz=314
MSTX Muleshoe 53.82 79 eP P 21 06 24.0 -1.7
MSTX Muleshoe 53.82 79 P P 21 06 24.9 -0.8
baz=313
AMTX Amarillo 53.87 78 P P 21 06 25.8 -0.2
baz=312
I39A Houston 53.93 63 eP P 21 06 24.8 -1.5
I39A Houston 53.93 63 P P 21 06 25.4 -0.8
baz=310,SNR=8.9
F41A Three Lakes 54.05 60 eP P 21 06 26.0 -1.1
F41A Three Lakes 54.05 60 P P 21 06 26.0 -1.1
baz=310
H40A Chili 54.06 61 P P 21 06 26.3 -0.8
baz=310
KSU1 Kansas State U 54.11 70 eP P 21 06 26.7 -0.9
KSU1 Kansas State U 54.11 70 P P 21 06 26.7 -0.9
baz=311
J39A Decorah 54.17 63 P P 21 06 26.6 -1.3
baz=310,SNR=13
E42A Champion 54.24 58 P P 21 06 27.8 -0.6
baz=310
SCIA State Center 54.24 66 eP P 21 06 28.0 -0.5
SCIA State Center 54.24 66 P P 21 06 28.1 -0.3
baz=310
I40A Norwalk 54.41 62 P P 21 06 28.6 -1.0
baz=310
H41A Junction City 54.47 61 eP P 21 06 28.6 -1.5
H41A Junction City 54.47 61 P P 21 06 29.1 -1.0
baz=310
K39A Ashwein 54.47 64 P P 21 06 29.0 -1.1
baz=310
J40A Soldiers Grove 54.66 63 P P 21 06 30.5 -1.0
baz=310
I41A Arkdale 54.71 62 eP P 21 06 30.9 -0.9
I41A Arkdale 54.71 62 P P 21 06 30.9 -0.9
baz=310
G42A Mountain 54.73 60 P P 21 06 31.2 -0.8
baz=310
E43A Lone Tree Farm 54.76 58 eP P 21 06 31.6 -0.6
E43A Lone Tree Farm 54.76 58 P P 21 06 31.5 -0.6
baz=310
L39A Vinton 54.79 65 P P 21 06 31.7 -0.7
baz=311
K40A Colesburg 54.90 64 P P 21 06 32.2 -1.0
baz=311
F43A Flat Rock, Esc 55.02 59 P P 21 06 33.5 -0.6
baz=310
J41A Loganville 55.09 62 P P 21 06 33.7 -0.9
baz=311,SNR=14
M39A Webster 55.11 65 P P 21 06 34.5 -0.3
baz=311,SNR=6.9
G43A Wallace 55.12 59 P P 21 06 33.9 -0.9
baz=311
JFWS Jewell Farm 55.25 63 eP P 21 06 34.5 -1.3
JFWS Jewell Farm 55.25 63 P P 21 06 35.1 -0.7
baz=311
L40A Anamosa 55.27 64 eP P 21 06 35.3 -0.6
L40A Anamosa 55.27 64 P P 21 06 35.1 -0.8
baz=311
F44A Big Bay de Noc 55.32 58 P P 21 06 35.4 -0.8
baz=311
I42A Draeger Farm, 55.35 61 eP P 21 06 35.0 -1.4
I42A Draeger Farm, 55.35 61 P P 21 06 35.2 -1.3
baz=311
K41A Shullsburg 55.42 63 P P 21 06 35.9 -1.1
baz=311,SNR=12
M40A Post Highland 55.53 65 P P 21 06 37.3 -0.5
baz=311
H43A Windswept, Lux 55.59 60 P P 21 06 37.7 -0.5
baz=311
J42A Columbus 55.61 62 P P 21 06 37.5 -0.8
baz=311
L41A Preston 55.66 64 P P 21 06 37.8 -0.9
baz=311
WMOK Wichita Mounta 55.73 76 P P 21 06 38.6 -0.8
baz=313
I43A Langenfeld Bro 55.77 61 P P 21 06 38.8 -0.7
baz=311
N40A Mertquake, Sal 55.84 66 P P 21 06 39.8 -0.2
baz=312
K42A Prairie Point, 55.84 63 P P 21 06 39.5 -0.5
baz=311
J43A Natural Harves 55.95 61 P P 21 06 40.0 -0.8
baz=311
D46A Sault St. Mari 55.97 56 P P 21 06 40.2 -0.7
baz=311
F45A CMU Biological 55.99 58 P P 21 06 40.2 -0.8
baz=311
M41A Milan 56.10 65 P P 21 06 41.2 -0.7
baz=312
E46A Sault Ste Mari 56.17 56 P P 21 06 41.4 -0.9
baz=311
L42A Oliver, Polo 56.17 63 P P 21 06 40.9 -1.5
baz=312
F46A Macinaw City C 56.33 57 P P 21 06 42.1 -1.3
baz=312
D47A Chapleau 56.34 55 P P 21 06 42.5 -1.1
baz=312
K43A Burlington 56.45 62 P P 21 06 42.7 -1.6
baz=312
TX31 Lajitas Ar. Si 56.46 84 eP P 21 06 43.9 -0.8
TXAR Lajitas Array 56.46 84 P P 21 06 44.0 -0.8
comp=Z,1.6nm,0.6s,baz=310,slow=5.9,SNR=11
L43A Garden Prairie 56.57 63 P P 21 06 44.5 -0.7
baz=312
E47A Iron Bridge 56.65 56 P P 21 06 45.0 -0.7
baz=312
ABTX Abilene, Hawle 56.65 78 eP P 21 06 46.1 +0.2
ABTX Abilene, Hawle 56.65 78 P P 21 06 45.8 -0.2
baz=314
O41A Passleys Farm, 56.75 66 P P 21 06 45.6 -0.9
baz=312
N42A Yates City 56.75 65 P P 21 06 45.4 -1.1
baz=312
D48A Paudan Townsh 56.92 54 P P 21 06 47.3 -0.4
baz=312
P41A Barry, Barry 56.94 66 P P 21 06 48.4 +0.5
baz=312
D49A Beulah Townshi 57.08 54 P P 21 06 48.4 -0.4
baz=312
MATQ Matagami 57.22 50 P P 21 06 49.4 -0.3
baz=313
Q41A Truxton 57.33 67 P P 21 06 50.0 -0.6
baz=313,SNR=6.4
HDIL Hopedale 57.35 65 P P 21 06 50.0 -0.8
baz=312
LZH Lanzhou 57.38 288 eP P 21 06 51.4 +0.2
LZH pP pP 21 07 04.4 +0.2
LZH sP sP 21 07 10.7 +1.1
LZH PP PP 21 09 19.1 +20
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,99nm,4.8s
M44A Midewin, Midew 57.49 63 P P 21 06 50.9 -0.8
baz=312
R41A Rosebud 57.69 68 P P 21 06 52.7 -0.5
baz=313
Q42A Golden Eagle 57.76 67 P P 21 06 53.2 -0.4
baz=313,SNR=5.4
N44A Piper City 57.84 64 P P 21 06 54.0 -0.2
baz=313
P43A Skaggs, Pawnee 57.84 65 P P 21 06 54.2 +0.1
baz=313
D50A G1974 Best Tow 57.91 53 P P 21 06 53.7 -0.9
baz=313
CCM Cathedral Cave 57.93 68 eP P 21 06 53.6 -1.3
CCM Cathedral Cave 57.93 68 P P 21 06 54.4 -0.5
baz=313
I48A Sherman Twp 57.95 58 P P 21 06 54.2 -0.7
baz=313
S41A Jillco Farms, 57.96 69 P P 21 06 54.5 -0.6
baz=313,SNR=10
E50A Wahnapitae 57.97 54 P P 21 06 54.0 -1.0
baz=313
LSQQ Lebel-sur-Quev 58.02 50 P P 21 06 54.5 -0.8
baz=313
R42A Luebbering 58.04 67 P P 21 06 54.8 -0.9
baz=313
JCT Junction City 58.04 80 eP P 21 06 54.6 -1.2
JCT Junction City 58.04 80 P P 21 06 55.1 -0.7
baz=315
U40A Yellville 58.16 70 P P 21 06 55.9 -0.6
baz=313
D51A Lot 18 Range I 58.20 53 P P 21 06 55.5 -1.1
baz=313
Q43A New Douglas 58.22 66 P P 21 06 56.2 -0.6

baz=313
K47A **Vermontville** 58.29 60 P P 21 06 57.2 -0.1
baz=313
T41A **Mountain View** 58.32 69 P P 21 06 56.7 -1.0
baz=313
S42A **Caledonia** 58.39 68 P P 21 06 57.5 -0.5
baz=313
W39A **Magazine** 58.41 72 P P 21 06 57.6 -0.6
baz=314
M46A **Old House Fiel** 58.41 62 P P 21 06 57.5 -0.6
baz=313
WHTX **Lake Whitney,** 58.42 77 P P 21 06 58.4 0.0
baz=314
SCHQ **Schefferville** 58.42 40 P P 21 06 56.6 -1.5
comp=Z,2.8nm,0.6s,baz=308,slow=12,SNR=4.8
O45A **Potomac** 58.44 64 P P 21 06 58.4 0.0
baz=313,SNR=6.4
VLDQ **Val d'Or** 58.44 51 eP P 21 06 56.3 -1.9
FVM **French Village** 58.45 67 eP P 21 06 59.2 +0.6
P44A **Sand Creek, Wi** 58.47 65 P P 21 06 58.0 -0.6
baz=313,SNR=11
E51A **G1948 Merrick** 58.52 54 P P 21 06 58.4 -0.5
baz=313
R43A **Red Bud** 58.54 67 P P 21 06 58.2 -0.8
baz=313
N46A **Monticello** 58.55 63 P P 21 06 58.7 -0.4
baz=313
Q44A **Meyer Farm, Va** 58.63 66 P P 21 06 58.6 -1.1
baz=313
CHGQ **Chibougamau** 58.65 48 P P 21 06 58.6 -1.1
baz=314
L47A **Sherwood** 58.65 61 P P 21 06 58.6 -1.2
baz=313
K48A **Perry** 58.67 59 P P 21 06 58.7 -1.2
baz=313
SFIN **Lafayette** 58.70 63 eP P 21 06 59.3 -0.9
SFIN **Lafayette** 58.70 63 P P 21 06 59.6 -0.6
baz=313
U41A **Viola** 58.71 70 P P 21 06 59.3 -1.1
baz=314
T42A **Van Buren** 58.72 69 eP P 21 06 58.5 -1.9
T42A **Van Buren** 58.72 69 P P 21 06 59.1 -1.3
baz=314
P45A **Graceland, Par** 58.92 64 eP P 21 07 00.6 -1.2
P45A **Graceland, Par** 58.92 64 P P 21 07 01.0 -0.7
baz=313
S43A **Fulton Ridge,** 58.94 68 P P 21 07 01.6 -0.3
baz=314
KLBO **Killbear Provi** 58.97 55 P P 21 07 01.5 -0.4
baz=314
MIAR **Mount Ida** 58.98 72 P P 21 07 01.8 -0.3
baz=314
K49A **Clarkson** 59.04 59 P P 21 07 02.4 -0.1
baz=313
R44A **Waltonville** 59.04 66 P P 21 07 01.1 -1.5
baz=314
L48A **N Adams** 59.09 60 P P 21 07 02.1 -0.8
baz=314
U42A **Revenden** 59.10 69 P P 21 07 02.3 -0.7
baz=314
E52A **Mattawa** 59.11 53 P P 21 07 01.6 -1.3
baz=314
F52A **Sundridge** 59.11 54 P P 21 07 01.9 -1.1
baz=314
Q45A **Warren Harvey,** 59.12 65 P P 21 07 02.0 -1.2
baz=314,SNR=6.7
N47A **Urbana** 59.13 62 P P 21 07 01.9 -1.3
baz=314
T43A **Greenville** 59.15 68 P P 21 07 02.2 -1.2
baz=314,SNR=7.7
P46A **Rosedale** 59.16 64 P P 21 07 03.0 -0.4
baz=314,SNR=5.0
M48A **Edgerton** 59.25 61 P P 21 07 03.1 -0.9
baz=314
OLIL **Olney** 59.27 65 eP P 21 07 03.1 -1.0
O47A **Sheridan** 59.31 63 P P 21 07 03.1 -1.3
baz=314,SNR=5.7
S44A **Carbondale** 59.33 67 P P 21 07 04.4 -0.1
baz=314
W41B **Gary Mavity, V** 59.33 71 P P 21 07 04.3 -0.3
baz=314
L49A **Milan** 59.34 60 P P 21 07 03.8 -0.8
baz=314
R45A **Skylar, Fairfi** 59.47 66 P P 21 07 05.3 -0.3
baz=314,SNR=5.1
D54A **Lac Fusel, La** 59.49 52 P P 21 07 05.0 -0.6
baz=314
N48A **Decatur** 59.52 62 P P 21 07 04.4 -1.4
baz=314
E53A **Dumoine, Ponti** 59.54 53 P P 21 07 04.8 -1.1
baz=314
T44A **Benton** 59.55 68 P P 21 07 06.7 +0.5
baz=314
ALGO **Algonquin Park** 59.64 53 P P 21 07 06.2 -0.4
baz=314
M49A **Liberty Center** 59.66 61 P P 21 07 06.2 -0.6
baz=314
E54A **Lac Daplat, Po** 59.74 52 P P 21 07 06.6 -0.7
baz=314
P47A **Martinsville** 59.78 64 P P 21 07 06.9 -0.7
baz=314,SNR=21
BLO **Bloomington** 59.85 64 eP P 21 07 06.6 -1.6
O48A **Farmland** 59.86 62 P P 21 07 07.3 -0.9
baz=314
SADO **Sadowa** 59.92 55 P P 21 07 07.5 -1.0
comp=Z,7.6nm,0.6s,baz=291,slow=8.3,SNR=6.7
G53A **Haliburton** 59.94 54 P P 21 07 08.3 -0.3
baz=314,SNR=7.1
USIN **University of** 60.04 66 eP P 21 07 08.8 -0.7
Q47A **Bedord North L** 60.07 64 P P 21 07 08.7 -1.0
baz=314
PLIO **Pelee Island,** 60.20 59 P P 21 07 09.2 -1.3
baz=314
P48A **Milroy** 60.26 63 P P 21 07 10.4 -0.6
baz=314
R47A **Wooly Knot Far** 60.46 65 P P 21 07 11.7 -0.6
baz=314
Q48A **North Vernon** 60.46 64 P P 21 07 11.8 -0.5
baz=314
T46A **Princeton** 60.56 67 P P 21 07 12.8 -0.2
baz=314
N50A **Nevada** 60.60 61 P P 21 07 13.0 -0.3
baz=314
P49A **Miami Univ. Ec** 60.60 63 P P 21 07 12.9 -0.4
baz=314
WCI **Wyandotte Cave** 60.64 65 P P 21 07 14.2 +0.6
baz=314
TYNO **Tyneside** 60.72 57 P P 21 07 13.9 -0.1
baz=315
S47A **Hartford** 60.75 66 P P 21 07 14.5 +0.2
baz=314
R48A **Northridge Ran** 60.75 64 P P 21 07 14.1 -0.3
baz=314
DRWO **Darlington Wes** 60.76 55 P P 21 07 14.4 +0.2
baz=315
DRCO **St. Marys Ceme** 60.77 55 P P 21 07 14.5 +0.2
baz=315
O50A **Cable** 60.78 61 P P 21 07 14.1 -0.4
baz=314
G55A **Calabogie** 60.80 53 P P 21 07 14.1 -0.4
baz=315
DELO **Deloro Mine** 60.87 54 P P 21 07 14.3 -0.8
baz=315
U46A **Springville** 60.87 67 P P 21 07 16.1 +0.9
baz=315
N51A **Ashland** 60.92 60 P P 21 07 15.5 0.0
baz=315
WMQ **Urumqi** 61.00 305 eP P 21 07 20.0 +4.0
WMQ sP sP 21 07 32.2 -2.4
WMQ LR LR
comp=N,410nm,19.5s
WMQ LR LR
comp=E,310nm,16.5s
WMQ LR LR
comp=Z,300nm,19.5s
M52A **Chesterland** 61.02 59 P P 21 07 15.7 -0.4
baz=315
CD2 **Chengdu** 61.03 284 P P 21 07 16.7 +0.3
CD2 pmax pmax
comp=Z,5.0nm,0.6s
T47A **Sharon Grove** 61.05 66 P P 21 07 16.5 +0.2
baz=315
I55A **Frankford** 61.05 55 P P 21 07 16.2 -0.1
baz=315
P50A **Jamestown** 61.06 62 P P 21 07 15.8 -0.6
baz=315,SNR=6.4
H55A **Tweed** 61.07 54 P P 21 07 16.6 +0.3
baz=315
ACSO **Alum Creek Sta** 61.07 61 P P 21 07 16.3 -0.2
baz=315
S48A **Wiedeman Farm,** 61.17 65 P P 21 07 17.6 +0.4
baz=315
LATQ **La Tuque** 61.19 49 P P 21 07 17.0 -0.2
baz=316
WVT **Waverly** 61.23 67 P P 21 07 17.8 +0.2
baz=315
V46A **Holladay** 61.30 68 P P 21 07 17.9 -0.1
baz=315
L53A **Girard** 61.32 58 P P 21 07 18.1 0.0
baz=315
O51A **Pataskala** 61.33 61 P P 21 07 18.2 -0.1
baz=315
ERPA **Erie** 61.34 58 P P 21 07 18.6 +0.3
baz=315
N52A **McGinn's Farm,** 61.36 60 P P 21 07 17.9 -0.5
baz=315
T48A **Bowling Green** 61.36 66 P P 21 07 18.5 0.0
baz=315
MEDO **Medina** 61.40 56 P P 21 07 18.9 +0.3
baz=315
M53A **WI Miller and** 61.46 59 P P 21 07 19.6 +0.5
baz=315
Q50A **Georgetown** 61.50 63 P P 21 07 18.9 -0.5
baz=315,SNR=5.6
S49A **Springfield** 61.51 64 P P 21 07 19.2 -0.3
baz=315
MK32 **Makanchi Array** 61.55 310 eP P 21 07 17.9 -1.7
MKAR **Makanchi Array** 61.55 310 P P 21 07 17.9 -1.8
comp=Z,0.7nm,0.4s,baz=44,slow=6.3,SNR=2.7
ALLY **Alegheny Colle** 61.59 58 eP P 21 07 19.6 -0.4
V47A **Nunnelly** 61.62 67 P P 21 07 20.0 -0.2
baz=315
J55A **Hilton** 61.66 55 P P 21 07 20.3 0.0
baz=315
R50A **Paris** 61.70 63 P P 21 07 20.7 0.0
baz=315,SNR=6.4
U48A **Cassie Pea, Po** 61.70 66 P P 21 07 20.2 -0.6
baz=315
Q51A **Peebles** 61.72 62 eP P 21 07 20.2 -0.7
Q51A **Peebles** 61.72 62 P P 21 07 20.7 -0.2
baz=315,SNR=6.9
O52A **Adamsville** 61.77 60 eP P 21 07 20.2 -1.0
O52A **Adamsville** 61.77 60 P P 21 07 21.0 -0.2
baz=315
N53A **Lisbon** 61.82 59 P P 21 07 21.0 -0.5
baz=315
T49A **Edmonton** 61.85 65 P P 21 07 21.6 -0.3
baz=315
X46A **Booneville** 61.91 69 P P 21 07 22.4 +0.3
baz=315
K55A **Perry** 61.91 56 P P 21 07 21.9 -0.2
baz=316
M54A **Oil Creek Stat** 61.95 58 P P 21 07 22.2 -0.2
baz=315
P52A **Corning** 61.95 61 P P 21 07 22.8 +0.4
baz=315
W47A **Westpoint** 61.99 68 P P 21 07 22.5 -0.2
baz=315
O53A **New Philadelph** 62.02 60 P P 21 07 22.7 -0.2
baz=315
S50A **Richmond** 62.09 64 P P 21 07 23.3 0.0
baz=315
R51A **Hillsboro** 62.10 63 P P 21 07 23.4 0.0
baz=315,SNR=32
L55A **Hinsdale** 62.11 57 P P 21 07 23.4 -0.1
baz=316
N54A **Moraine State** 62.16 59 P P 21 07 23.6 -0.2
baz=316
T50A **Nancy** 62.31 65 P P 21 07 24.5 -0.4
baz=315
LONY **Lake Ozonia** 62.31 52 P P 21 07 24.5 -0.3
baz=316
X47A **Russelville** 62.35 69 P P 21 07 25.4 +0.3
baz=315
Q52A **Bidwell** 62.36 62 P P 21 07 25.0 -0.1
baz=315
M55A **Ridgway** 62.45 57 P P 21 07 25.5 -0.2
baz=316
W48A **Pulaski** 62.45 68 P P 21 07 25.6 -0.2
baz=315
P53A **Whipple** 62.46 61 eP P 21 07 25.1 -0.7
P53A **Whipple** 62.46 61 P P 21 07 25.4 -0.4
baz=316
O54A **Avella** 62.51 59 P P 21 07 26.0 -0.2
baz=316
V49A **McMinnville** 62.59 66 P P 21 07 26.5 -0.2
baz=316
R52A **Catlettsburg** 62.59 62 P P 21 07 26.6 -0.1
baz=316
U50A **Jamestown** 62.73 65 P P 21 07 27.2 -0.5
baz=316
N55A **Marion Center** 62.82 58 P P 21 07 27.6 -0.7
baz=316
T51A **Gray** 62.85 64 P P 21 07 27.3 -1.2
baz=316,SNR=6.3
P54A **Burton** 62.87 60 P P 21 07 28.5 -0.1
baz=316
X48A **Hartselle** 62.87 68 P P 21 07 28.7 0.0
baz=316
R53A **Hurricane** 62.98 62 P P 21 07 29.0 -0.3
baz=316,SNR=6.8
O55A **Ligonier** 63.07 59 P P 21 07 29.5 -0.4
baz=316
V50A **Pikevile** 63.12 66 P P 21 07 30.2 -0.1
baz=316
Q54A **Coxs Mills** 63.12 61 P P 21 07 30.1 -0.1
baz=316
MCWV **Mont Chateau** 63.17 59 P P 21 07 30.4 -0.1
baz=316
U51A **La Follette** 63.23 65 P P 21 07 31.6 +0.6
baz=316
X49A **Woodville** 63.24 68 P P 21 07 30.8 -0.3
baz=316
P55A **Reedsville** 63.29 60 P P 21 07 31.1 -0.3
baz=316
W50A **Signal Mountai** 63.33 66 P P 21 07 31.8 +0.1
baz=316
BINY **Binghamton** 63.36 55 P P 21 07 31.8 0.0
baz=317
TZTN **Tazewell** 63.37 64 P P 21 07 32.0 +0.1
baz=316
O56A **Blue Knob Stat** 63.41 58 P P 21 07 32.5 +0.2
baz=316
V51A **Loudon** 63.45 65 P P 21 07 32.2 -0.2
baz=316
SSPA **Standing Stone** 63.51 57 P P 21 07 32.6 -0.2
baz=316
Q55A **Buchannon** 63.52 60 P P 21 07 32.5 -0.4
baz=316,SNR=5.1
U52A **Thorn Hill** 63.58 64 P P 21 07 32.6 -0.7
baz=316
R54A **Victor** 63.61 61 P P 21 07 33.6 +0.1
baz=316,SNR=14
T53A **Wise** 63.62 63 P P 21 07 34.1 +0.5
baz=316
X50B **Fort Payne** 63.67 67 P P 21 07 33.7 -0.2
baz=316
W51A **Cleveland** 63.68 66 P P 21 07 33.8 -0.2
baz=316
V52A **Sevierville** 63.85 65 P P 21 07 34.1 -1.0
baz=316
LRAL **Lakeview Retre** 63.91 69 P P 21 07 35.5 0.0
baz=316
R55A **Marlinton** 64.02 61 P P 21 07 36.3 +0.1
baz=316
Z49A **Columbiana** 64.07 69 P P 21 07 36.6 +0.1
baz=316
T54A **Tazewell** 64.10 63 P P 21 07 37.0 +0.2
baz=316,SNR=7.9
S55A **Lewisburg** 64.17 61 P P 21 07 37.6 +0.4
baz=316
149A **Jones** 64.35 69 P P 21 07 38.6 +0.2
baz=316
Z50A **Ashland** 64.38 68 eP P 21 07 36.6 -2.0
Z50A **Ashland** 64.38 68 P P 21 07 39.0 +0.4
baz=316
PKME **Peaks-Kenny Pk** 64.39 49 P P 21 07 39.0 +0.5
baz=318
N59A **State Game Lan** 64.41 56 P P 21 07 38.8 +0.2
baz=317
Y51A **Rockmart** 64.41 67 P P 21 07 39.4 +0.6
baz=316
V53A **Saluda** 64.41 64 P P 21 07 39.0 +0.2
baz=316
X52A **Dahlonega** 64.57 66 P P 21 07 39.4 -0.5
baz=316
W53A **Cullowhee** 64.58 65 P P 21 07 39.7 -0.4
baz=316
BLA **Blacksburg** 64.63 62 eP P 21 07 40.4 +0.2
BLA **Blacksburg** 64.63 62 P P 21 07 40.4 +0.2
baz=317
150A **Eclectic** 64.79 69 P P 21 07 41.4 +0.1
baz=316
U55A **TA2, Sparta** 64.80 63 P P 21 07 41.5 +0.1
baz=317,SNR=7.8
V54A **Nebo** 64.82 64 P P 21 07 41.4 0.0
baz=317
LUPA **Lehigh Univers** 64.84 56 eP P 21 07 41.9 +0.3
X53A **Estanollee** 64.98 66 P P 21 07 43.1 +0.6
baz=317
Y52A **Lilburn** 65.01 67 P P 21 07 43.0 +0.3
baz=317
349A **Repton** 65.02 71 P P 21 07 43.3 +0.6
baz=317
250A **Grady** 65.10 70 P P 21 07 43.4 +0.1
baz=317
V55A **Taylorsville** 65.17 63 P P 21 07 43.5 -0.2
baz=317
W54A **Cherokee Point** 65.19 64 P P 21 07 43.6 -0.2
baz=317
151A **Opelika** 65.25 68 P P 21 07 45.1 +0.9
baz=317
Y53A **Monroe** 65.29 66 P P 21 07 44.3 -0.2
baz=317
PAL **Palisades** 65.30 55 P P 21 07 44.9 +0.5
baz=318
Z52A **Williamson** 65.30 67 P P 21 07 44.4 -0.2
baz=317
R58B **Mineral** 65.46 59 P P 21 07 45.8 +0.3
baz=317
X54A **Belton** 65.47 65 P P 21 07 45.4 -0.3
baz=317
251A **Midway** 65.52 69 P P 21 07 46.5 +0.6
baz=317
KMSC **Kings Mountain** 65.62 64 eP P 21 07 45.2 -1.4
KMSC **Kings Mountain** 65.62 64 P P 21 07 46.3 -0.3
baz=317,SNR=5.9
GOGA **Godfrey** 65.68 67 P P 21 07 46.2 -0.8
baz=317
Z53A **Monticello** 65.72 67 P P 21 07 46.5 -0.7
baz=317
HODGE **Hodges** 65.77 65 eP P 21 07 49.0 +1.4
Y54A **Tignall** 65.80 66 P P 21 07 47.3 -0.5
baz=317
KMI **Kunming** 65.83 280 P P 21 07 50.7 +2.3
KMI pmax pmax
comp=Z,12nm,0.6s
X55A **Gracelyn & Ava** 65.95 65 P P 21 07 48.3 -0.4
baz=317
Z54A **Sparta** 66.16 66 P P 21 07 49.9 -0.3
baz=317
Y55A **Saluda** 66.21 65 P P 21 07 50.4 0.0
baz=317
X56A **White Oak** 66.27 64 P P 21 07 51.0 +0.2
baz=317,SNR=5.5
JSC **Jenkinsville** 66.30 64 eP P 21 07 53.1 +2.1
KSH **Kashi** 70.06 309 eP P 21 08 18.4 +3.8
KSH sP sP 21 08 32.2 -1.1
WR1 **Warramunga Arr** 83.75 227 eP P 21 09 30.4 -1.2
WRA **Warramunga Arr** 83.75 227 P P 21 09 30.4 -1.2
comp=Z,0.8nm,0.7s,baz=34,slow=5.8,SNR=4.0
TOA1 **Torodi Ar. Sit** 115.42 3 ePKPdf PKiKP 21 15 44.1 -0.3
TORD **Torodi Ar. Bea** 115.43 3 PKP PKiKP 21 15 44.1 -0.3
comp=Z,0.6nm,0.5s,baz=2.4,slow=3.0,SNR=5.8
LBTB **Lobatse** 148.98 321 ePKPdf PKPbc 21 16 49.9 -0.4
BOSA **Boshof** 152.31 318 PKPbc PKPbc 21 16 57.5 -0.6
comp=Z,9.3nm,0.7s,baz=52,slow=1.7,SNR=10

SOME **04** *21:11:58.4, 42.57N x 79.67E, h15km*
KRNET **04** *21:11:59.5 ± 0.1, 42.60N x 79.66E, h20km, mb2.5*
NNC 04 21:11:58.2 ± 0.9, 42.59N x 79.64E, h0km, mb3.0, mpv2.7,
9C-8D, Error ellipse: s-maj=5.6km s-min=3.2km
az=139.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 27nm,0.1s	**0.58**	**347**	P		Pb	21 12 10.8	-0.6
SHLS				S		Sb	21 12 19.8	-0.5
SHLS	**Shalkode** 26nm,0.3s baz=16	**0.58**	**347**	*e*P		Pb	21 12 10.8	-0.6
SHLS				*e*S		Sb	21 12 19.8	-0.5
SHLS	**Shalkode** 27nm,0.1s	**0.58**	**347**	*e*P		Pb	21 12 10.8	-0.6
SHLS				*e*S		Sb	21 12 19.8	-0.5
UZB	**Uzynbulak** 1.3nm,0.1s	**0.72**	**321**	P		Pg	21 12 12.9	+0.8
UZB				S		Sb	21 12 22.8	-1.4
UZB	**Uzynbulak** 18nm,0.2s baz=19	**0.72**	**321**	*e*P		Pg	21 12 12.9	+0.9
UZB				*e*S		Sb	21 12 22.9	-1.4
UZB	**Uzynbulak** 1.3nm,0.1s baz=19	**0.72**	**321**	*e*P		Pg	21 12 12.9	+0.8
UZB				*e*S		Sb	21 12 22.8	-1.4
PDGK	**Podgornoye** 1.1nm,0.1s	**0.75**	**351**	P		Pg	21 12 13.0	+0.4
PDGK				S		Sg	21 12 23.6	+1.4
PDGK	**Podgornoye** 3.5nm,0.1s	**0.75**	**351**	⇓P		Pg	21 12 12.2	-0.3
PDGK				⇓S		Sg	21 12 23.2	+1.0
PDGK	**Podgornoye** 3.4nm,0.4s baz=50	**0.75**	**351**	⇓*i*P		Pg	21 12 13.0	+0.4
PDGK				⇓*i*S		Sg	21 12 23.6	+1.3
PRZ	**Przheval'sk** baz=63	**0.93**	**264**	⇓*i*P		Pb	21 12 16.7	-0.6
PRZ				⇓*i*S		Sb	21 12 29.8	-0.4
KTMS	**Ketmen** 3.0nm,0.1s baz=63	**1.00**	**31**	P		Pg	21 12 17.4	0.0
KTMS				S		Sg	21 12 30.9	+0.5
KTMS	**Ketmen** 11nm,0.2s baz=30	**1.00**	**31**	*e*P		Pg	21 12 17.4	0.0
KTMS				*e*S		Sg	21 12 30.9	+0.5
KTMS	**Ketmen** 3.0nm,0.1s baz=30	**1.00**	**31**	*e*P		Pg	21 12 17.4	0.0
KTMS				*e*S		Sg	21 12 30.9	+0.5
SATY	**Saty** 1.4nm,0.1s	**1.02**	**298**	P		Pg	21 12 18.2	+0.3
SATY				S		Sg	21 12 31.9	+0.7
SATY	**Saty** 8.3nm,0.2s 1.4nm,0.1s	**1.02**	**298**	*e*P		Pg	21 12 18.2	+0.3
SATY				*e*S		Sg	21 12 31.9	+0.8
KURS	**Kuram** 8.3nm,0.2s 1.3nm,0.6s	**1.40**	**310**	P		Pg	21 12 24.8	-0.3
KURS				S		Sb	21 12 43.8	-0.1
KURS	**Kuram** 5.0nm,0.5s baz=9.0	**1.40**	**310**	*e*P		Pg	21 12 24.8	-0.3
KURS				*e*S		Sb	21 12 43.8	-0.1
KURS	**Kuram** baz=9.0 1.3nm,0.6s	**1.40**	**310**	*e*P		Pg	21 12 24.8	-0.3
KURS				*e*S		Sb	21 12 43.8	0.0
MNBS	**Baschi** 5.0nm,0.5s 2.1nm,0.1s	**1.74**	**329**	*e*P		Pb	21 12 30.8	-0.4
MNBS				*e*S		Sg	21 12 54.1	-0.1
DJR	**Jarkent** 13nm,0.1s 1.3nm,0.2s	**1.75**	**3**	P		Pb	21 12 30.9	-0.3
DJR				S		Sg	21 12 54.8	+0.5
DJR	**Jarkent** 2.4nm,0.3s 1.3nm,0.2s	**1.75**	**3**	*e*P		Pb	21 12 30.9	-0.3
DJR				*e*S		Sg	21 12 54.8	+0.5
KDJ	**Kajisay** 2.4nm,0.3s baz=56	**1.88**	**257**	⇑*i*P		Pb	21 12 33.7	+0.1

KDJ			⇑*i*S		Sg	21 12 58.7	0.0	
	baz=56							
KOTS	**Kotyrbulak**	**1.97 290**	Pg	Pg	Pb	21 12 35.7	-0.3	
	3.3nm,0.3s							
KOTS			Lg	Lg	Lg	21 13 03.0		
	15nm,0.5s							
KOTS	**Kotyrbulak**	**1.97 290**	*e*P	Pg	Pb	21 12 35.6	-0.3	
	3.3nm,0.3s							
KOTS			*e*S	Sg	Sg	21 13 03.0	+1.6	
	15nm,0.5s							
MDOK	**Medeo**	**1.99 288**	⇑Pg	Pb	Pb	21 12 34.5	-1.0	
	1.5nm,0.5s							
MDOK			Lg	Lg	Lg	21 13 01.5		
	3.0nm,0.6s							
MDOK	**Medeo**	**1.99 288**	Pg	Pb	Pb	21 12 35.0	-0.4	
	2.1nm,0.2s							
MDOK			Lg	Lg	Lg	21 13 01.3		
	4.8nm,0.4s							
MDOK	**Medeo**	**1.99 288**	*e*P	Pb	Pb	21 12 35.0	-0.4	
	baz=87							
MDOK			*e*S	Sb	Sb	21 13 01.2	+0.4	
	baz=87							
MDOK	**Medeo**	**1.99 288**	*e*P	Pb	Pb	21 12 35.0	-0.4	
	2.1nm,0.2s							
MDOK			*e*S	Sb	Sb	21 13 01.2	+0.4	
	4.8nm,0.4s							
TNSS	**Tian-Shan**	**2.03 284**	Pg	Pb	Pb	21 12 35.4	-0.9	
	2.4nm,0.2s							
TNSS			Lg	Lg	Lg	21 13 03.0		
	3.2nm,0.3s							
TNSS	**Tian-Shan**	**2.03 284**	*e*P	Pb	Pb	21 12 35.4	-0.9	
	baz=83							
TNSS			*e*S	Sg	Sg	21 13 03.0	-0.6	
	baz=83							
TNSS	**Tian-Shan**	**2.03 284**	*e*P	Pb	Pb	21 12 35.4	-0.9	
	2.4nm,0.2s							
TNSS			*e*S	Sg	Sg	21 13 03.0	-0.6	
	3.2nm,0.3s							
ARXS	**Arharly**	**2.09 321**	Pg	Pb	Pb	21 12 37.0	-0.1	
	0.3nm,0.1s							
ARXS			Lg	Lg	Lg	21 13 04.6		
	4.4nm,0.2s							
ARXS	**Arharly**	**2.09 321**	*e*P	Pb	Pb	21 12 37.0	-0.1	
	0.3nm,0.1s							
ARXS			*e*S	Sb	Sb	21 13 04.6	+0.9	
	4.4nm,0.2s							
IZV	**Izvestkoviy**	**2.27 282**	*e*P	Pb	Pb	21 12 39.9	-0.3	
	2.8nm,0.1s							
IZV			*e*S	Sb	Sb	21 13 09.9	+1.0	
	3.7nm,0.3s							
ULHL	**Ulahol**	**2.54 263**	⇑*i*P	Pb	Pb	21 12 43.1	-1.7	
	baz=63							
ULHL			⇑*i*S	Sb	Sb	21 13 15.5	-1.2	
	baz=63							
KAPS	**Kapalarasan**	**2.70 356**	Pg	Pb	Pb	21 12 47.0	-0.5	
	0.6nm,0.2s							
KAPS			Lg	Lg	Lg	21 13 22.7		
	2.3nm,0.4s							
KAPS	**Kapalarasan**	**2.70 356**	*e*P	Pb	Pb	21 12 47.0	-0.5	
	0.6nm,0.2s							
KAPS			*e*S	Sb	Sb	21 13 22.7	+1.5	
	2.3nm,0.4s							
BOOM	**Boomskoye usch**	**2.74 269**	⇑*i*P	Pn	Pn	21 12 45.5	+1.9	
	baz=69							
BOOM			⇑*i*S	Sn	Sn	21 13 19.2	+1.7	
	baz=69							
KST	**Kastek**	**2.75 281**	Pg	Pb	Pb	21 12 47.6	-0.7	
	3.0nm,0.2s							
KST			Lg	Lg	Lg	21 13 22.9		
	2.2nm,0.6s							
KST	**Kastek**	**2.75 281**	*e*P	Pb	Pb	21 12 47.6	-0.7	
	3.0nm,0.2s							
KST			*e*S	Sb	Sb	21 13 22.9	+0.4	
	2.2nm,0.6s							
DGS	**Degeres**	**2.92 284**	*e*P	Pb	Pb	21 12 49.5	-1.7	
	0.8nm,0.2s							
DGS			*e*S	Sb	Sb	21 13 26.6	-0.9	
	3.9nm,0.4s							
TKM2	**Tokmak 2**	**3.00 278**	⇑Pg	Pb	Pb	21 12 51.7	-0.9	
	3.4nm,1.1s							
TKM2			⇑Lg	Lg	Lg	21 13 30.8		
	2.3nm,0.8s							
TKM2	**Tokmak 2**	**3.00 278**	⇓*i*P	Pn	Pn	21 12 49.4	+2.2	
	baz=77							
TKM2			⇓*i*S	Sn	Sn	21 13 26.5	+2.6	
	baz=77							

IDC 04 21:20:48.8±5.8, 20°29S×169°43E, h112km±42km, mb3.5/3, mb1 3.7/4, mb1mx3.3/20, mbtmp3.8/4, Error ellipse: s-maj=114.0km s-min=45.7km az=147.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.30**	**237**	P	Pn	21 21 40.0	+1.1
	6.2nm,0.3s,baz=94,slow=13,SNR=130						
DZM				S	Sn	21 22 17.5	0.0
	32nm,0.3s,baz=121,slow=22,SNR=18						
STKA	**Stephens Creek**	**27.45**	**240**	P	P	21 26 23.9	-0.4
	0.9nm,0.6s,baz=99,slow=13,SNR=3.5						
WRA	**Warramunga Arr**	**32.91**	**264**	P	P	21 27 12.7	0.0
	0.6nm,0.6s,baz=92,slow=8.5,SNR=20						
ASAR	**Alice Springs**	**33.06**	**258**	P	P	21 27 14.6	+0.6
	1.1nm,0.5s,baz=92,slow=8.8,SNR=22						
GERES	**GERESS Array B**	**145.50**	**331**	PKPbc	PKPdf	21 40 12.6	-1.2
	0.3nm,0.6s,baz=24,slow=2.7,SNR=3.5						

*ISCJB **04** 21:27:06.8±0.9, 21°.4S±0°.2×178°.7W±0°.2, h536km, mb3.7/8, Error ellipse: s-maj=27.2km s-min=17.5km az=39.8*
*IDC **04** 21:27:10.2±5.0, 21°.60S×178°.64W, h575km±55km, mb3.2/8, mb1 3.3/9, mb1mx3.1/28, mbtmp4.1/9, Error ellipse: s-maj=38.1km s-min=27.7km az=144.0*
ISC 04 21:27:06.7±0.9, 21°.5S±0°.2×178°.6W±0°.2, h536km, n15, σ1°03/15, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.10**	**192**	P	**P**	**21 30 36.8**	**-0.1**
	0.8nm,0.3s,baz=29,slow=17,SNR=6.8						
CTA	**Charters Tower**	**32.90**	**266**	P	**P**	**21 32 57.3**	**+0.4**
	4.7nm,0.6s,baz=90,slow=12,SNR=7.6						
STKA	**Stephens Creek**	**36.90**	**245**	P	**P**	**21 33 31.1**	**+1.0**
	1.0nm,0.4s,baz=92,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**43.80**	**258**	P	**P**	**21 34 25.4**	**-0.1**
	3.3nm,0.5s,baz=93,slow=7.8,SNR=52						
ASAR				PcP	**PcP**	**21 35 58.5**	**-1.7**
	0.6nm,0.6s,baz=105,slow=4.6,SNR=5.5						
WRA	**Warramunga Arr**	**43.97**	**263**	P	**P**	**21 34 25.9**	**-0.9**
	2.3nm,0.5s,baz=96,slow=7.7,SNR=149						
PETK	**Petropavlovsk-**	**77.12**	**346**	P	**P**	**21 38 04.5**	**-0.2**
	2.3nm,0.8s,baz=106,slow=5.9,SNR=3.0						
ILAR	**Eielson Array**	**89.41**	**13**	P	**P**	**21 39 05.8**	**-0.1**
	0.2nm,0.7s,baz=217,slow=5.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.97**	**290**	P	**P**	**21 39 10.8**	**+1.3**
	0.3nm,0.4s,baz=130,slow=3.8,SNR=4.6						
PDAR	**Pinedale Array**	**90.05**	**43**	P	**P**	**21 39 11.2**	**+1.6**
	0.3nm,0.7s,baz=241,slow=1.7,SNR=2.6						
MKAR	**Makanchi Array**	**111.52**	**313**	PKiKP	**PKiKP**	**21 44 38.7**	**-1.5**
	0.2nm,0.6s,baz=119,slow=0.5,SNR=2.9						
ARCES	**ARCESS Array B**	**129.82**	**349**	PKP	**PKPdf**	**21 45 14.3**	**-0.2**
	6.2nm,0.9s,baz=14,slow=1.1,SNR=3.6						
FINES	**FINESS Array B**	**136.60**	**343**	PKP	**PKiKP**	**21 45 28.6**	**-0.7**
	0.8nm,0.7s,baz=63,slow=2.3,SNR=3.7						
AKASG	**Malin Array Be**	**143.64**	**330**	PKP	PKPab	21 45 37.8	-1.4
	1.4nm,0.5s,baz=41,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**147.13**	**311**	PKPbc	**PKPbc**	**21 45 49.1**	**-1.0**
	0.6nm,0.7s,baz=73,slow=2.9,SNR=3.5						
GERES	**GERESS Array B**	**151.03**	**343**	PKPbc	**PKPbc**	**21 45 58.8**	**-0.3**
	0.6nm,0.6s,baz=59,slow=3.8,SNR=5.3						

MEX 04 21:30:54.6±0.6, 16°25N×98°06W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**335**	*i*P	Pg	21 30 57.2	-0.7
PNIG				*i*S	Sg	21 31 00.0	0.0
VHO	**Vista Hermosa**	**1.51**	**57**	*i*P	Pn	21 31 18.0	-4.5
VHO				*i*S	Sn	21 31 38.3	-4.4

*ISK **04** 21:32:29.0, 40°.14N×33°.41E, h2km, ML2.5/11*
DDA 04 21:32:29.4, 40°.15N×33°.42E, h10km±2km, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.34**	**1**	*i*P	Pg	21 32 36.8	+0.5
ELDT				*i*S	Sg	21 32 42.1	+1.2
DELI	**KIRIKKALE**	**0.41**	**111**	*i*P	Pb	21 32 38.3	-0.6
DELI				IAML_P			
	comp=Z,3μm,0.1s						
ANTO	**Ankara**	**0.56**	**240**	PG	Pg	21 32 40.3	+0.1
ANTO				SG	Sb	21 32 48.9	-0.4
BBAL	**Bala**	**0.65**	**201**	*i*P	Pb	21 32 43.7	+0.8
BBAL				IAML_P			
	comp=Z,599nm,0.2s						
AFSR	**Afar-Bala (An**	**0.75**	**201**	PG	Pb	21 32 44.3	-0.3
CMDR	**Camlidere-ANKA**	**0.80**	**296**	*i*P	Pb	21 32 45.5	0.0
CMDR				IAML_P			
	comp=Z,2μm,0.2s						
CDAG	**Cicekdag**	**0.90**	**125**	*i*P	Pb	21 32 47.6	+0.4
CDAG				*i*S	Sb	21 32 59.2	-0.1
ILGA	**Ilgaz**	**0.93**	**14**	*i*P	Pg	21 32 47.4	0.0
ILGA				IAML_P			
	comp=Z,749nm,0.1s						
KIRS	**Kırehir-Merke**	**1.08**	**159**	*i*P	Pg	21 32 50.2	0.0
KIRS				IAML_P			
	comp=Z,550nm,0.3s						
KULU	**Kulu**	**1.15**	**196**	PN	Pn	21 32 51.9	+0.2
PELI	**Kastamonı-Ara**	**1.16**	**356**	*i*P	Pn	21 32 51.8	+0.1
PELI				IAML_P			
	comp=Z,474nm,0.2s						
CTAK	**Corum_Osmancik**	**1.16**	**64**	*i*P	Pb	21 32 39.7	-12
COAL	**Corum-Alaca**	**1.20**	**84**	*i*P	Pg	21 32 53.0	+0.5
COAL				*i*S	Sn	21 33 11.2	+2.3
COAL				IAML_P			
	comp=Z,109nm,0.1s						
SERE	**Sereflikochisa**	**1.20**	**175**	PN	Pg	21 32 52.9	+0.4
BCAM	**Yenicaga**	**1.23**	**303**	*i*P	Pg	21 32 53.2	+0.1
BCAM				IAML_P			
	comp=Z,832nm,0.2s						
KIBS	**BOLU**	**1.23**	**283**	*i*P	Pg	21 32 53.8	+0.8
KIBS				*i*S	Sb	21 33 08.1	-0.7
KIBS				IAML_P			
	comp=Z,929nm,0.2s						
KBUK	**KARABUK-Merkez**	**1.24**	**331**	*i*P	Pn	21 32 52.5	-0.5
KBUK				*i*S	Sb	21 33 08.5	-0.7
KBUK				IAML_P			
	comp=Z,544nm,0.2s						
YAYX	**Yaylak**	**1.24**	**166**	PN	Pn	21 32 52.8	-0.2
AKSY	**AKSARAY - Alti**	**1.52**	**170**	*i*P	Pg	21 32 58.6	+0.1
AKSY				*i*S	Sg	21 33 19.4	+1.1
YOZ	**Yozgat**	**1.55**	**108**	PN	Pb	21 32 58.6	+0.4
SIRC	**Yozgat**	**1.56**	**121**	*i*P	Pg	21 32 59.2	-0.1
SIRC				*i*S	Sg	21 33 21.8	+2.3
SIRC				IAML_P			
	comp=Z,488nm,0.2s						
AUSIV	**SIVRIHISAR**	**1.61**	**245**	*i*P	Pb	21 32 59.3	0.0
SVRH	**Sivrihisar-ESK**	**1.62**	**245**	PN	Pb	21 32 59.6	+0.1
YIGI	**Dzce**	**1.71**	**299**	*i*P	Pg	21 33 02.4	+0.2
YIGI				*i*S	Sb	21 33 22.6	+0.1
YIGI				IAML_P			
	comp=Z,196nm,0.2s						
MDUB	**Mudurnu**	**1.73**	**282**	PN	Pb	21 33 01.3	0.0
AVNS	**Nevsehir-Avano**	**1.74**	**140**	*i*P	Pg	21 33 03.2	+0.5
AVNS				*i*S	Sg	21 33 26.6	+1.4
BTAS	**Taskesti**	**1.90**	**284**	*i*P	Pn	21 33 02.8	+0.9
BTAS				*i*S	Sg	21 33 31.7	+1.3
BTAS				IAML_P			
	comp=Z,137nm,0.2s						
KDHN	**Kadinhani**	**1.91**	**212**	*i*P	Pg	21 33 06.3	+0.2
KDHN				IAML_P			
	comp=Z,162nm,0.4s						
SULT	**Sultanhani-AKS**	**1.95**	**178**	PN	Pb	21 33 04.0	-1.0
HAVZ	**Havza**	**1.98**	**61**	*i*P	Pg	21 33 06.7	-0.7
HAVZ				*i*S	Sg	21 33 32.3	-0.7
HAVZ				IAML_P			
	comp=Z,1μm,0.4s						
DIKM	**Dikmen**	**2.05**	**42**	PN	Pb	21 33 05.8	-0.9
BNN	**Bunyan**	**2.28**	**124**	PN	Pn	21 33 08.9	+1.6

BUC 04 21:33:55.0±0.4, 45°.09N×28°.17E, h4km±5km, MD2.2/2, 9C, Error ellipse: s-maj=5.0km s-min=4.0km az=331.0, Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.09**	**343**	⇑*i*P	Pg	21 33 57.2	+0.3
CFR				*i*S	Sg	21 33 58.8	+0.7
CFR	**Carcaliu**	**0.09**	**343**	⇑*i*P	Pg	21 33 57.2	+0.3
CFR				S	Sg	21 33 58.8	+0.7
TLCR		**0.46**	**78**	⇑*i*P	Pb	21 34 05.3	-0.4
TLCR				*i*S	Sb	21 34 11.7	-1.3
TLCR		**0.46**	**78**	⇑*i*P	Pb	21 34 05.3	-0.4
TLB	**Topalu**	**0.52**	**190**	⇑*i*P	Pb	21 34 06.1	-0.5
TLB				*i*S	Sg	21 34 12.8	+1.3
TLB	**Topalu**	**0.52**	**190**	⇑*i*P	Pb	21 34 06.1	-0.5
TIRR	**Tirgusor**	**0.66**	**165**	⇑*i*P	Pb	21 34 08.7	-0.3
TIRR				*i*S	Sb	21 34 18.5	0.0
ISR	**Istrita**	**1.16**	**272**	⇑*i*P	Pn	21 34 19.0	+1.0
ISR				*i*S	Sn	21 34 35.3	+1.0
ISR	**Istrita**	**1.16**	**272**	⇑*i*P	Pn	21 34 19.0	+1.0
ISR				S	Sn	21 34 35.3	+1.0

*NEIC **04** 21:34:60.0±0.0, 19°.66N×64°.33W, h51km, MD3.3(RSPR), After RSPR.*
RSPR 04 21:34:60.0, 19°.66N×64°.33W, h51km±14km, MD3.3/5, 2C-10D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.92**	**180**	⇓*e*P	Pn	21 35 15.8	-0.9
ABV	**Anegada**	**0.92**	**180**	*e*S	Sn	21 35 28.0	-1.0
ABVI	**Anegada Island**	**0.92**	**180**	⇓*e*P	Pn	21 35 15.8	-0.9
ABVI				*e*S	Sn	21 35 28.0	-1.0
TBVI	**Tortola**	**1.26**	**192**	⇓*e*P	Pn	21 35 20.6	-0.7
TBVI	**Tortola**	**1.26**	**192**	⇓*e*P	Pn	21 35 20.6	-0.7
STVI	**Saint Thomas**	**1.43**	**205**	⇓*e*P	Pn	21 35 22.3	-1.2
STVI	**Saint Thomas**	**1.43**	**205**	*e*S	Sn	21 35 40.5	-0.7
STVI	**Saint Thomas**	**1.43**	**205**	⇓*e*P	Pn	21 35 22.3	-1.2
STVI				*e*S	Sn	21 35 40.5	-0.7
CUPR	**Culebra, Puert**	**1.62**	**214**	⇓*e*P	Pn	21 35 24.9	-1.2
CUPR	**Culebra, Puert**	**1.62**	**214**	*e*S	Sn	21 35 45.0	-0.8
CUPR	**Culebra, Puert**	**1.62**	**214**	⇓*e*P	Pn	21 35 24.9	-1.2
CUPR				*e*S	Sn	21 35 45.0	-0.8
MTP	**Monte Pirata**	**1.94**	**217**	⇓*e*P	Pn	21 35 30.1	-0.4
MTP	**Monte Pirata**	**1.94**	**217**	*e*S	Sn	21 35 52.5	-1.1
MTP	**Monte Pirata**	**1.94**	**217**	⇓*e*P	Pn	21 35 30.1	-0.4
MTP				*e*S	Sn	21 35 52.5	-1.1
CBYP	**Canovanas**	**2.00**	**227**	⇓*e*P	Pn	21 35 30.4	-1.0
CBYP	**Canovanas**	**2.00**	**227**	⇓*e*P	Pn	21 35 30.4	-1.0
SDDR	**Presa de Saban**	**6.61**	**265**	*e*Pn	Pn	21 36 35.5	+0.9
SDDR				*e*S	Sn	21 37 46.0	-2.6

*IDC **04** 21:46:13.6±0.8, 9°.42N×126°.79E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.7/48, mbtmp3.8/10, Error ellipse: s-maj=38.2km s-min=17.1km az=74.0*
*MAN **04** 21:46:20.7, 9°.23N×126°.42E, h13km, MS3.7*
ISC 04 21:46:17.4±1.2, 9°.31N±0°.03×126°.59E±0°.05, h20km±4km, n30, σ1°73/37, mb3.7/10, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.01**	**251**	*e*P	**Pb**	**21 46 36.2**	**-0.1**
BUTP				*e*S	**Sn**	**21 46 51.5**	**+1.3**
BIPH	**Bislig**	**1.14**	**191**	⇓*e*P	**Pg**	**21 46 41.1**	**+1.5**
BIPH				*e*S	**Sg**	**21 46 54.6**	**0.0**
SCPH	**Surigao**	**1.18**	**293**	⇑*e*P	**Pg**	**21 46 39.9**	**-0.4**
MSLP	**Maasin**	**1.89**	**296**	*e*P	**Pb**	**21 46 51.6**	**+0.3**
MSLP				*e*S	**Sg**	**21 47 18.3**	**-0.1**
CGP	**Cagayan de Oro**	**2.06**	**246**	⇑*e*P	**Pb**	**21 46 53.0**	**-1.2**
CGP				*i*S	**Sn**	**21 47 16.8**	**+0.8**
BUKP	**Musuan**	**2.08**	**227**	*e*P	**Pb**	**21 46 53.5**	**-0.9**
BUKP				*e*S	**Sb**	**21 47 20.5**	**+0.7**
PLP	**Palo**	**2.43**	**319**	⇓*e*P	**Pb**	**21 46 59.4**	**-1.1**
PLP				*e*S	**Sb**	**21 47 32.1**	**+2.0**
DAV	**Davao City (W)**	**2.44**	**204**	Sn	**Sb**	**21 47 31.5**	**+1.2**
	139nm,0.3s,baz=5.2,slow=1.6,SNR=5.2						
DMPH	**Davao City--Mi**	**2.46**	**206**	⇑*e*P	Pn	21 46 48.9	-7.6
DMPH				*e*S	**Sg**	**21 47 34.0**	**-2.6**
TBP	**Tagbilaran**	**2.72**	**278**	*e*P	**Pn**	**21 47 02.4**	**+2.4**
TBP				*i*S	**Sb**	**21 47 36.9**	**-1.4**
KCP	**Kidapawan**	**2.73**	**213**	⇑*i*P	**Pb**	**21 47 03.2**	**-2.3**
KCP				*i*S	Sg	21 47 46.2	+1.0
LLP	**Lapu-Lapu**	**2.77**	**291**	*e*P	**Pb**	**21 47 04.8**	**-1.6**
LLP				*e*S	**Sb**	**21 47 40.7**	**+0.8**
CTBH	**Cotabato--PC H**	**3.11**	**228**	⇑*i*P	**Pn**	**21 47 07.7**	**+2.3**
SNPH	**Sibulan**	**3.31**	**271**	*e*P	**Pb**	**21 47 12.5**	**-3.0**
SNPH				*e*S	**Sb**	**21 47 52.7**	**-2.7**
PAGZ	**Pagadian**	**3.49**	**246**	*e*P	**Pn**	**21 47 12.8**	**+2.1**
PAGZ				*e*S	**Sn**	**21 47 52.6**	**+1.2**
GUIM	**Jordan**	**4.15**	**289**	*e*P	**Pn**	**21 47 22.8**	**+3.1**
RCP	**Roxas**	**4.39**	**301**	⇓*e*P	**Pn**	**21 47 26.9**	**+3.8**
FITZ	**Fitzroy Crossi**	**27.25**	**182**	P	**P**	**21 52 01.5**	**+1.1**
	1.9nm,0.5s,baz=355,slow=12						
CMAR	**Chiang Mai Arr**	**28.30**	**292**	P	**P**	**21 52 10.3**	**+0.3**
	0.4nm,0.7s,baz=105,slow=6.7,SNR=3.7						
WRA	**Warramunga Arr**	**30.05**	**165**	P	**P**	**21 52 23.8**	**-1.7**
	0.5nm,0.6s,baz=343,slow=8.2,SNR=9.5						
ASAR	**Alice Springs**	**33.55**	**168**	P	**P**	**21 52 56.9**	**+0.7**
	0.2nm,0.3s,baz=348,slow=7.6,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**39.90**	**72**	T	T	22 36 14.8	
	baz=262						
H11S1	**WAKE ISLAND Hy**	**39.91**	**72**	T	T	22 36 12.6	
	baz=262						
H11S2	**WAKE ISLAND Hy**	**39.92**	**72**	T	T	22 36 10.4	
	baz=262						
SONM	**Songino Array**	**42.02**	**340**	P	**P**	**21 54 07.4**	**-0.3**
	0.3nm,0.6s,baz=168,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**52.98**	**323**	P	**P**	**21 55 32.2**	**-0.6**
	1.0nm,0.7s,baz=122,slow=8.4,SNR=16						
ILAR	**Eielson Array**	**80.16**	**26**	P	**P**	**21 58 24.2**	**-1.8**
	0.3nm,0.9s,baz=248,slow=4.8,SNR=2.8						
ARCES	**ARCESS Array B**	**85.20**	**340**	P	**P**	**21 58 51.5**	**-0.6**
	1.7nm,0.6s,baz=67,slow=6.9,SNR=5.0						
FINES	**FINESS Array B**	**86.88**	**332**	P	**P**	**21 58 59.5**	**-1.2**
	1.9nm,0.9s,baz=55,slow=4.8,SNR=2.8						
YKA	**Yellowknife Ar**	**94.50**	**24**	P	**P**	**21 59 35.8**	**-0.4**
	0.3nm,0.7s,baz=302,slow=5.1,SNR=4.0						

*THR **04** 21:58:09.3, 33°.16N×46°.39E, h14km, ML2.8*
*ISCJB **04** 21:58:10.8±0.8, 33°.26N±0°.04×46°.60E±0°.04, h7km±6km, Error ellipse: s-maj=6.7km s-min=5.2km az=154.2*
*ISN **04** 21:58:10.8±0.5, 33°.23N×46°.63E, h15km±2km, ML3.0*
ISC 04 21:58:13.2±1.8, 33°.20N±0°.05×46°.50E±0°.04, h10km±13km, n9, σ0°89/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.48**	**260**	*e*Pg	**Pg**	**21 58 22.6**	**0.0**
IBDR				AML	AML	21 58 27.2	
	comp=Z,3μm,0.1s						
IBDR				*e*Sg	**Sb**	**21 58 31.0**	**+0.1**
BHD	**Baghdad**	**1.78**	**273**	*e*Pn	**Pn**	**21 58 44.0**	**+0.1**
BHD				AML	AML	21 58 49.1	
	comp=Z,3μm,0.4s						
BHD				*e*Sn	**Sb**	**21 59 08.5**	**+0.4**
SNGE	**Sanandaj**	**2.02**	**20**	*e*AML	AML	21 59 19.7	
	comp=E,78nm,0.6s						
SNGE				*e*Pg	**Pn**	**21 58 47.3**	**-0.2**
SNGE				*e*Sg	**Sb**	**21 59 15.3**	**-0.1**
SNGE				*e*AML	AML	21 59 25.9	
	comp=N,69nm,0.6s						
NSR	**Nassriya**	**2.20**	**188**	*e*Pn	**Pn**	**21 58 49.0**	**-0.8**
NSR				AML	AML	21 58 53.2	
	comp=Z,91nm,0.3s						
NSR				*e*Sn	**Sn**	**21 59 17.0**	**-0.1**
IKRK	**Kirkuk**	**2.83**	**321**	*e*Pn	**Pn**	**21 58 58.0**	**-0.5**
IKRK				AML	AML	21 59 08.6	
	comp=Z,19nm,0.4s						
IKRK				*e*Sn	**Sn**	**21 59 33.0**	**+0.3**
KHMZ	**Khomeyn**	**2.94**	**78**	*e*Pn	**Pn**	**21 58 59.3**	**-0.9**
KHMZ				*e*Sg	**Sb**	**21 59 44.5**	**+2.5**
ASAO	**Ashtian**	**3.23**	**64**	*e*Pn	**Pn**	**21 59 03.3**	**-0.9**
MSL	**Mosul**	**4.24**	**320**	*e*Pn	**Pn**	**21 59 17.6**	**-0.2**
MSL				AML	AML	21 59 18.3	
	comp=Z,34nm,0.3s						
MSL				*e*Sn	**Sn**	**22 00 06.5**	**-0.9**
RTB	**Rutbah**	**5.20**	**270**	*e*Pn	**Pn**	**21 59 31.7**	**+0.7**
RTB				*e*Sn	**Sn**	**22 00 31.0**	**-0.1**

*SOME **04** 21:59:07.4, 42°.58N×79°.57E, h0km*
*KRNET **04** 21:59:07.8±0.1, 42°.61N×79°.73E, h30km, mb2.2*
NNC 04 21:59:07.9±0.8, 42°.59N×79°.59E, h0km, mb2.4, mpv2.4, 13C-3D, Error ellipse: s-maj=5.2km s-min=2.7km az=133.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**0.57**	**351**	P	Pb	21 59 20.1	-0.8
	7.9nm,0.3s						
SHLS				S	Sb	21 59 29.2	-0.4
SHLS	**Shalkode**	**0.57**	**351**	*e*P	Pb	21 59 20.1	-0.8
	7.9nm,0.3s						
SHLS				*e*S	Sb	21 59 29.2	-0.4
PDGK	**Podgornoye**	**0.74**	**355**	P	Pg	21 59 22.1	0.0
	1.8nm,0.2s						
PDGK				S	Sg	21 59 33.0	+1.3
	1.0nm,0.1s						
PDGK	**Podgornoye**	**0.74**	**355**	⇑P	Pg	21 59 22.0	0.0
	0.6nm,0.2s						
PDGK				⇑S	Sg	21 59

mb3.5/5, Error ellipse: s-maj=13.2km s-min=4.4km az=150.2
*IDC **04** 22:10:14.8±1.6, 14°.78S×71°.79W, h132km±15km, mb3.4/5, mb1 3.6/9, mb1mx3.4/40, mbtmp3.9/9, Error ellipse: s-maj=24.1km s-min=13.5km az=43.0*

ISC 04 22:10:15.1±0.6, 14°.97S±0'.07×71°.91W±0'.09, h150km, n26, σ1§45/35, mb3.5/5, 1D, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.87**	**110**	P	**Pn**	**22 11 14.2**	**0.0**
	1.1nm,0.3s,baz=319,slow=9.0,SNR=31						
PB12	**IPOC Station P**	**3.92**	**158**	*e*P	**Pn**	**22 11 15.3**	**+0.8**
PB12				*e*S	**Sn**	**22 12 01.9**	**+1.2**
PB12				IAML		22 12 04.2	
	comp=N,216nm,0.4s						
MNMC	**Minye Minye**	**4.69**	**152**	*e*P	**Pn**	**22 11 25.5**	**+0.8**
MNMC				*e*S	**Sn**	**22 12 19.7**	**+0.8**
PSGC	**Pisagua**	**4.91**	**160**⇓	*e*P	**Pn**	**22 11 27.3**	**-0.1**
PSGC				*i* S	**Sn**	**22 12 22.6**	**-1.1**
PB11	**IPOC Station P**	**5.23**	**156**	*e*P	**Pn**	**22 11 31.6**	**-0.1**
PB11				*e*S	**Sn**	**22 12 30.5**	**-1.0**
NNA	**Nana**	**5.64**	**301**	P	**Pn**	**22 11 36.9**	**-0.2**
	comp=N,1.2nm,0.3s,baz=166,slow=11,SNR=3.1						
NNA				S	**Sn**	**22 12 39.3**	**-1.9**
	comp=N,2.4nm,0.3s,baz=66,slow=6.9,SNR=4.1						
PB08	**IPOC Station P**	**5.77**	**153**	*e*P	**Pn**	**22 11 39.7**	**+0.5**
PB08				*e*S	**Sn**	**22 12 44.8**	**-0.1**
PB01	**IPOC Station P**	**6.46**	**159**	*e*P	**Pn**	**22 11 47.6**	**-0.5**
PB01				*e*S	**Sn**	**22 12 59.0**	**-1.9**
PB02	**IPOC Station P**	**6.60**	**163**	*e*P	**Pn**	**22 11 49.7**	**-0.2**
PB07	**IPOC Station P**	**6.99**	**164**	*e*P	**Pn**	**22 11 55.1**	**0.0**
PB07				*e*S	**Sn**	**22 13 10.6**	**-3.1**
PB09	**IPOC Station P**	**7.24**	**160**	*e*P	**Pn**	**22 11 59.1**	**+0.4**
PB03	**IPOC Station P**	**7.33**	**164**	*e*P	**Pn**	**22 11 59.4**	**-0.3**
PB04	**IPOC Station P**	**7.51**	**167**	*e*P	**Pn**	**22 12 01.6**	**-0.5**
PB05	**IPOC Station P**	**8.00**	**169**	*e*P	**Pn**	**22 12 08.0**	**-0.7**
LVC	**Limon Verde**	**8.11**	**160**	P	**Pn**	**22 12 10.7**	**+0.3**
	comp=N,3.3nm,0.3s,baz=1.3,slow=9.7,SNR=41						
LVC				S	**Sn**	**22 13 38.5**	**-2.4**
	comp=N,0.9nm,0.3s,baz=162,slow=19,SNR=7.0						
PTGA	**Pitinga**	**18.42**	**41**	P	**Pn**	**22 14 18.7**	**-2.4**
	comp=N,1.5nm,0.3s,baz=221,slow=17,SNR=15						
PLCA	**Paso Flores**	**25.69**	**178**	P	**P**	**22 15 35.5**	**+4.2**
	comp=N,0.6nm,0.7s,baz=17,slow=10,SNR=6.3						
PDAR	**Pinedale Array**	**67.06**	**331**	P	**P**	**22 20 54.2**	**+1.7**
	comp=N,0.2nm,0.5s,baz=112,slow=9.8,SNR=3.4						
ULM	**Lac du Bonnet**	**68.28**	**344**	P	**P**	**22 21 00.3**	**+0.7**
	comp=N,1.5nm,0.5s,baz=173,slow=4.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**78.01**	**73**	P	**P**	**22 21 56.4**	**-1.2**
	comp=N,0.1nm,0.3s,baz=268,slow=4.1,SNR=6.8						
YKA	**Yellowknife Ar**	**84.12**	**342**	P	**P**	**22 22 30.5**	**+1.7**
	comp=N,1.1nm,0.8s,baz=135,slow=5.2,SNR=19						
PETK	**Petropavlovsk-**	**125.62**	**326**	PKP	**PKiKP**	**22 28 57.9**	**-1.1**
	comp=N,12nm,1.1s,baz=264,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**136.75**	**217**	PKP	**PKiKP**	**22 29 21.0**	**-1.4**
	comp=N,0.9nm,1.2s,baz=132,slow=2.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**137.04**	**20**	PKP	**PKiKP**	**22 29 21.5**	**-0.5**
	comp=N,0.8nm,0.3s,baz=225,slow=1.6,SNR=3.3						
SONM	**Songino Array**	**147.20**	**2**	PKPbc	**PKiKP**	**22 29 42.2**	**-1.0**
	comp=N,0.8nm,0.7s,baz=328,slow=2.6,SNR=5.7						
KSRS	**Korea Array**	**151.52**	**326**	PKPbc	**PKiKP**	**22 29 53.8**	**+1.6**
	comp=N,1.6nm,0.8s,baz=46,slow=3.6,SNR=6.5						

*IDC **04** 22:13:03.7±6.5, 2°.08S×100°.42E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/32, mbtmp3.8/5, Error ellipse: s-maj=183.7km s-min=91.3km az=114.0*
*DJA **04** 22:13:24.2±0.5, 1°.5±3°×10°.0E±1°, h63km±8km, M3.4/7, MLv3.4/7*

ISC 04 22:13:21.8±0.8, 0°.66S±0'.05×99°.76E±0'.05, h35km, n21, σ3§05/22, mb4.2/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.67**	**73**	P	**Pn**	**22 13 38.5**	**+3.7**
PPI				S	**Sn**	**22 13 49.3**	**+5.3**
SISI	**Saibi**	**0.94**	**225**	P	**Pn**	**22 13 42.6**	**+4.1**
SISI				S	**Sn**	**22 13 57.2**	**+6.4**
BKNI	**Bangkinang**	**1.61**	**53**	P	**Pn**	**22 13 50.2**	**+2.5**
BKNI				S	**Sn**	**22 14 10.7**	**+3.4**
PPSI	**Pulau Pagai**	**2.10**	**173**	P	**Pn**	**22 13 55.2**	**+0.7**
PPSI				S	**Sn**	**22 14 20.1**	**+0.6**
KRJI	**Kerinci**	**2.22**	**130**	P	**Pn**	**22 13 57.9**	**+1.7**
GSI	**Gunungsitoli**	**2.93**	**312**	P	**Pn**	**22 14 08.8**	**+2.9**
CMAR	**Chiang Mai Arr**	**19.01**	**358**	P	**Pn**	**22 17 44.8**	**+3.1**
	0.5nm,0.6s,baz=190,slow=8.2,SNR=4.5						
H08S2	**Diego Garcia H**	**28.05**	**255**	T	T	22 47 23.9	
	baz=75						
H08S3	**Diego Garcia H**	**28.05**	**255**	T	T	22 47 23.5	
	baz=75						
H08S1	**Diego Garcia H**	**28.07**	**255**	T	T	22 47 23.9	
	baz=75						
JIRN	**Jiri**	**31.03**	**336**	*e*P	**P**	**22 19 36.1**	**-0.7**
	5.2nm,0.4s						
GUN	**Gumba**	**31.38**	**336**	*e*P	**P**	**22 19 39.0**	**-0.8**
	10nm,0.4s						
KKN	**Kakani**	**31.52**	**335**	*e*P	**P**	**22 19 39.8**	**-1.2**
	3.8nm,0.4s						
GKN	**Gorkha**	**31.98**	**334**	*e*P	**P**	**22 19 43.8**	**-1.1**
KOLN	**Koldanda**	**32.25**	**332**	*e*P	**P**	**22 19 46.4**	**-0.9**
	3.1nm,0.6s						
DANN	**Dangsing**	**32.67**	**333**	*e*P	**P**	**22 19 49.9**	**-1.2**
	3.6nm,0.4s						
PYUN	**Piuthan**	**32.81**	**332**	*e*P	**P**	**22 19 51.8**	**-0.5**
	3.5nm,0.3s						
SONM	**Songino Array**	**48.64**	**6**	P	**P**	**22 21 59.5**	**-2.8**
	0.3nm,0.6s,baz=187,slow=9.5,SNR=3.8						
MKAR	**Makanchi Array**	**49.68**	**344**	P	**P**	**22 22 08.2**	**-2.0**
	0.9nm,0.3s,baz=157,slow=8.8,SNR=44						
ZALV	**Zalesovo Beam**	**55.81**	**349**	P	**P**	**22 22 52.4**	**-2.9**
	1.1nm,0.4s,baz=168,slow=7.4,SNR=3.5						
FINES	**FINESS Array B**	**82.82**	**332**	P	**P**	**22 25 39.0**	**-3.3**
	1.4nm,0.8s,baz=116,slow=6.3,SNR=3.4						

KRSC 04 22:24:43.4±10.0, 50°.57N×157°.76E, h40km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.05**	**277**	*e*P	Pn	22 25 02.6	+1.1
SKR				*e*S	Sn	22 25 15.7	+0.8
PAU	**Pauzhetka**	**1.08**	**327**	*e*P	Pn	22 25 03.7	+1.8
PAU				*e*S	Sn	22 25 17.5	+1.8
KDTR	**Khodutka, Kamc**	**1.26**	**9**	*e*P	Pn	22 25 05.6	+1.2
KDTR				*e*S	Sn	22 25 21.2	+1.1
ASAK	**Asacha**	**1.82**	**3**	*e*P	Pn	22 25 14.8	+2.6
RUS	**Russkaya**	**1.92**	**14**	*e*P	Pn	22 25 14.7	+1.1
MTVR	**Mutnovka**	**1.93**	**8**	*e*P	Pn	22 25 15.8	+2.0
MTVR				*e*S	Sn	22 25 39.3	+2.3
KRMR	**Karymshinskiy**	**2.27**	**6**	*e*P	Pn	22 25 21.9	+3.5
APC	**Apacha**	**2.39**	**351**	*e*P	Pn	22 25 22.2	+2.3
UGLR	**Uglovaya**	**2.72**	**14**	*e*P	Pn	22 25 27.9	+3.2
AVH	**Avacha**	**2.77**	**12**	*e*P	Pn	22 25 28.5	+3.3
SMAR	**Somma**	**2.77**	**13**	*e*P	Pn	22 25 29.3	+3.9
KOK	**Koryaka**	**2.78**	**11**	*e*P	Pn	22 25 29.0	+3.6
SDLR	**Sedlovina**	**2.80**	**14**	*e*P	Pn	22 25 27.7	+2.0
KRER	**Koryakskii**	**2.81**	**12**	*e*P	Pn	22 25 29.2	+3.3
KRX	**Arik**	**2.85**	**11**	*e*P	Pn	22 25 30.5	+4.1
SPN	**Mys Shipunski**	**2.90**	**28**	*e*S	Sn	22 26 03.8	+3.4
GNL	**Ganaly**	**3.13**	**2**	*e*P	Pn	22 25 34.1	+3.8

MEX 04 22:29:55.9±0.4, 15°.59N×96°.71W, h16km±7km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.60**	**73**	*e*P	Pg	22 30 05.8	-2.0
HUIG				*e*S	Sg	22 30 13.4	-2.5
VHO	**Vista Hermosa**	**1.47**	**359**	*i* P	Pn	22 30 19.0	-2.9
VHO				*e*S	Sn	22 30 36.0	-5.0
CMIG	**Matias Romero**	**2.30**	**49**	*e*P	Pn	22 30 29.5	-3.6
CMIG				*i* S	Sn	22 30 57.2	-3.9

IDC 04 22:45:08.3±1.2, 44°.32N×28°.34W, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.4/52, mbtmp3.7/6, MS3.2/5, Ms1 3.3/5, ms1mx2.9/41, Error ellipse: s-maj=35.7km s-min=29.5km az=3.0, Northern Mid-Atlantic Ridge

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

ESDC	**Sonseca Array**	**18.68**	**96**	LR	LR	22 55 26.8	
	comp=Z,69nm,18.1s,baz=325,slow=33						
NOA	**NORSAR Array B**	**28.65**	**40**	LR	LR	23 00 55.9	
	comp=Z,12nm,19.9s,baz=300,slow=33						
GERES	**GERESS Array B**	**28.97**	**66**	LR	LR	23 02 15.6	
	comp=Z,51nm,18.5s,baz=297,slow=36						
TORD	**Torodi Ar. Bea**	**40.30**	**131**	P	P	22 52 47.2	-0.1
	1.5nm,0.8s,baz=320,slow=8.0,SNR=7.8						
TORD				LR	LR	23 08 23.5	
	comp=Z,85nm,20.1s,baz=260,slow=35						
TXAR	**Lajitas Array**	**60.12**	**283**	P	P	22 55 17.6	0.0
	0.4nm,0.7s,baz=69,slow=4.9,SNR=2.0						
TXAR				LR	LR	23 20 52.6	
	comp=Z,35nm,18.9s,baz=0.0,slow=36						
BVAR	**Borovoye Array**	**60.72**	**43**	P	P	22 55 21.6	+0.3
	0.9nm,0.9s,baz=244,slow=9.5,SNR=3.6						
KURBB	**Kurchatov Arra**	**66.17**	**42**	P	P	22 55 57.1	-0.2
	1.1nm,0.8s,baz=316,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**70.60**	**43**	P	P	22 56 25.0	-0.2
	0.5nm,0.7s,baz=324,slow=5.2,SNR=7.0						
SONM	**Songino Array**	**79.97**	**29**	P	P	22 57 19.4	+0.2
	0.6nm,1.0s,baz=356,slow=4.3,SNR=3.8						

RSNC 04 22:59:18.3±1.1, 6°.82N×73°.15W, h144km±6km, ML3.1, Mw3.5, 4C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**188**	*e*P	Pn	22 59 37.9	-0.4
BARC				*e*S	Sn	22 59 52.5	-0.8
BARC				*i*		22 59 55.4	
	comp=Z,499nm,0.3s						
BRRC	**Barranca, Sant**	**0.62**	**297**⇑	*i*P	Pn	22 59 39.6	0.0
BRRC				*e*S	Sn	22 59 56.2	+0.4
BRRC				*i*		23 00 01.0	
	comp=Z,164nm,0.3s						
PAMC	**Pamplona, Colo**	**0.68**	**41**⇑	*e*P	Pn	22 59 40.5	-0.1
PAMC				*e*S	Sn	22 59 57.5	0.0
PAMC				*i*		22 59 59.7	
	comp=Z,256nm,0.5s						
RUSC	**La Rusia**	**0.93**	**176**⇓	*e*P	Pn	22 59 41.9	-0.5
RUSC				*e*S	Sn	23 00 00.2	-0.6
RUSC				*i*		23 00 02.4	
	comp=Z,269nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*e*P	Pn	22 59 44.4	-1.2
PTBC				*e*S	Sn	23 00 05.5	-0.9
PTBC				*i*		23 00 08.4	
	comp=Z,231nm,0.1s						
TAMC	**Tame, Arauca**	**1.41**	**106**⇑	*i*P	Pn	22 59 46.2	-0.2
OCAC	**Ocana**	**1.42**	**353**	*e*P	Pn	22 59 46.4	-0.4
OCAC				*e*S	Sn	23 00 07.3	-1.1
OCAC				*i*		23 00 12.3	
	comp=Z,168nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P	Pn	22 59 50.3	-0.6
ZARC				*e*S	Sn	23 00 16.1	+0.2
ZARC				*i*		23 00 22.6	
	comp=Z,121nm,0.3s						
NORC	**Norcasia**	**2.12**	**234**⇑	*e*P	Pn	22 59 54.4	-0.1
NORC				*e*S	Sn	23 00 22.1	-0.2
NORC				*i*		23 00 27.1	
	comp=Z,125nm,0.2s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	22 59 56.2	-0.3
CHIC				*e*S	Sn	23 00 25.0	-0.9
CHIC				*i*		23 00 32.1	
	comp=Z,42nm,0.4s						
ROSC	**El Rosal**	**2.29**	**211**⇓	*e*P	Pn	22 59 57.8	+0.8
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	22 59 58.6	-0.2
HELC				*e*S	Sn	23 00 29.1	-0.8
HELC				*i*		23 00 36.4	
	comp=Z,90nm,0.6s						
UREC	**San Jos de Ur**	**2.54**	**292**	*e*P	Pn	22 59 57.6	-2.0
UREC				*e*S	Sn	23 00 28.9	-2.5
RREF	**El Recreo**	**2.90**	**229**	*e*P	Pn	23 00 05.1	+0.3
CODC	**Agustn Codazz**	**3.11**	**355**	*e*P	Pn	23 00 05.5	-1.3
CODC				*i*		23 00 51.4	
	comp=Z,13nm,0.3s						
SDV	**Santo Domingo**	**3.23**	**50**	*e*P	Pn	23 00 07.3	-1.2
PRAC	**Prado**	**3.54**	**209**	*e*P	Pn	23 00 10.9	-1.6
PRAC				*e*S	Sn	23 00 53.8	-0.6
PRAC				*i*		23 01 00.2	
	comp=Z,66nm,0.3s						

*NNC **04** 23:15:46.5±0.6, 43°.20N×78°.24E, h0km, mb2.2, mpv2.2, Error ellipse: s-maj=7.7km s-min=3.1km az=179.0*
*KRNET **04** 23:15:47.2±0.1, 43°.24N×78°.28E, h29km, mb2.2*

SOME 04 23:15:47.7, 43°.20N×78°.23E, h10km, 12C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.19**	**138**	P	Pg	23 15 51.4	-0.4
	11nm,0.1s						
SATY				S	Sg	23 15 53.9	-0.7
	119nm,0.1s						
SATY	**Saty**	**0.19**	**138**	*e*P	Pg	23 15 51.4	-0.4
	11nm,0.1s						
SATY				*e*S	Sg	23 15 53.9	-0.7
	119nm,0.1s						
KURS	**Kuram**	**0.29**	**351**	P	Pg	23 15 53.4	-0.2
	3.4nm,0.1s						
KURS				S	Sg	23 15 57.7	+0.1
	3.2nm,0.1s						
KURS	**Kuram**	**0.29**	**351**	*e*P	Pg	23 15 53.4	-0.2
	baz=43						
KURS				*e*S	Sg	23 15 57.7	+0.1
	baz=43						
KURS	**Kuram**	**0.29**	**351**	*e*P	Pg	23 15 53.4	-0.2
	3.4nm,0.1s						
KURS				*e*S	Sg	23 15 57.7	+0.1
	3.2nm,0.1s						
UZB	**Uzynbulak**	**0.58**	**95**	*e*P	Pg	23 15 58.2	-0.8
	baz=99						
UZB				*e*S	Sg	23 16 05.7	-0.9
	baz=99						
UZB	**Uzynbulak**	**0.58**	**95**	*e*P	Pg	23 15 58.2	-0.8
	2.6nm,0.1s						
UZB				*e*S	Sg	23 16 05.7	-1.0
	6.8nm,0.1s						
KOTS	**Kotyrbulak**	**0.82**	**273**	P	Pg	23 16 03.5	0.0
	1.9nm,0.2s						
KOTS				S	Sb	23 16 15.4	+0.1
	5.1nm,0.2s						
KOTS	**Kotyrbulak**	**0.82**	**273**	*e*P	Pg	23 16 03.5	0.0
	baz=70						
KOTS				*e*S	Sb	23 16 15.4	+0.1
	baz=70						
KOTS	**Kotyrbulak**	**0.82**	**273**	*e*P	Pg	23 16 03.5	0.0
	1.9nm,0.2s						
KOTS				*e*S	Sb	23 16 15.4	+0.1
	5.1nm,0.2s						
MDOK	**Medeo**	**0.87**	**268**	P	Pg	23 16 04.7	+0.3
	1.8nm,0.9s						
MDOK				⇑S	Sg	23 16 14.3	-1.5
	2.7nm,1.1s						
PDGK	**Podgornoye**	**0.93**	**82**	P	Pg	23 16 04.6	-1.0
	0.2nm,0.1s						
PDGK				S	Sg	23 16 16.2	-1.4
	0.4nm,0.2s						
PDGK	**Podgornoye**	**0.93**	**82**	⇓P	Pg	23 16 04.9	-0.7
	1.5nm,0.8s						
PDGK				⇑S	Sg	23 16 16.2	-1.4
	0.6nm,0.4s						
PDGK	**Podgornoye**	**0.93**	**82**⇑	*i*P	Pg	23 16 04.2	-1.4
	baz=84						
PDGK				⇑*i*S	Sg	23 16 16.3	-1.4
	baz=84						
TNSS	**Tian-Shan**	**0.96**	**261**	P	Pg	23 16 05.8	-0.4
	0.5nm,0.1s						
TNSS				S	Sg	23 16 18.8	+0.2
	1.8nm,0.3s						
TNSS	**Tian-Shan**	**0.96**	**261**	*e*P	Pg	23 16 05.8	-0.3
	baz=59						
TNSS				*e*S	Sg	23 16 18.9	+0.3
	baz=59						
TNSS	**Tian-Shan**	**0.96**	**261**	*e*P	Pg	23 16 05.8	-0.4
	0.5nm,0.1s						
TNSS				*e*S	Sg	23 16 18.8	+0.2
	1.8nm,0.3s						
ARXS	**Arharly**	**1.05**	**344**	P	Pg	23 16 07.1	-0.9
	0.9nm,0.2s						
ARXS				S	Sg	23 16 21.1	-0.6
	1.7nm,0.1s						
ARXS	**Arharly**	**1.05**	**344**	*e*P	Pg	23 16 07.1	-0.9
	0.9nm,0.2s						
ARXS				*e*S	Sg	23 16 21.1	-0.6
	1.7nm,0.1s						
KDJ	**Kajisay**	**1.32**	**216**⇑	*e*P	Pb	23 16 12.8	+0.1
	baz=16						
KDJ				⇑*i*S	Sg	23 16 30.2	0.0
	baz=16						
KUU	**Kurty**	**1.54**	**297**	P	Pb	23 16 16.0	-0.4
	0.4nm,0.2s						
KUU				S	Sb	23 16 36.1	+0.2
	1.6nm,0.2s						
KUU	**Kurty**	**1.54**	**297**	*e*P	Pb	23 16 16.0	-0.4
	baz=96						
KUU				*e*S	Sb	23 16 36.1	+0.1
	baz=96						
KUU	**Kurty**	**1.54**	**297**	*e*P	Pb	23 16 16.0	-0.4
	0.4nm,0.2s						
KUU				*e*S	Sb	23 16 36.1	+0.2
	1.6nm,0.2s						
ULHL	**Ulahol**	**1.75**	**238**⇑	*i*P	Pn	23 16 18.6	+0.3
	baz=37						
ULHL				⇑*i*S	Sn	23 16 40.5	-0.3
	baz=37						
BOOM	**Boomskoye usch**	**1.83**	**248**⇑	*i*P	Pn	23 16 18.9	-0.5
	baz=47						
BOOM				⇑*i*S	Sn	23 16 42.1	-0.6
	baz=47						
TKM2	**Tokmak 2**	**1.95**	**263**	⇑Pg	Pn	23 16 22.2	+1.1
	1.9nm,1.1s						
TKM2				⇑Lg	Lg	23 16 49.3	
	0.6nm,0.5s						

*ANF **04** 23:17:39.6±0.1, 34°.02N×117°.25W, h18km±1km, ML3.4/36, Error ellipse: s-maj=0.8km s-min=0.7km az=15.0*
*ISCJB **04** 23:17:40.5±0.3, 34°.01N±0°.01×117°.24W±0°.02, h27km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=30.3*
*NEIC **04** 23:17:40.8±0.0, 34°.03N×117°.25W, h16km, ML3.5(PAS), After PAS.*
NEIC Felt [III] in southwestern San Bernardino and northwestern Riverside Counties. Also felt in parts of Los Angeles, Orange and San Diego Counties.
*PAS **04** 23:17:40.8, 34°.03N×117°.25W, h16km, ML3.5*
*SCEDC **04** 23:17:40.8, 34°.03N×117°.25W, h16km*

ISC 04 23:17:40.1±0.9, 34°.00N±0'.02×117°.24W±0'.02, h16km±7km, n70, σ0§99/107, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.37**	**46**	P	**Pg**	**23 17 47.7**	**-0.2**
	baz=230,SNR=132						
BBRC				S	**Sg**	**23 17 52.7**	**-0.4**
	baz=230						
MURC	**Murrieta**	**0.41**	**174**	P	**Pg**	**23 17 48.9**	**+0.6**
	baz=354,SNR=373						
MURC				S	**Sg**	**23 17 55.0**	**+1.0**
	baz=354						
BFSC	**Mount Baldy Ra**	**0.42**	**304**	P	**Pg**	**23 17 48.1**	**-0.5**
	baz=121,SNR=482						
BFSC				S	**Sg**	**23 17 53.9**	**-0.4**
	baz=121						
MWC	**Mount Wilson**	**0.71**	**288**	*e*Pg	**Pg**	**23 17 53.3**	**-0.8**
PFO	**Pinyon Flats O**	**0.76**	**121**	*e*Pg	**Pg**	**23 17 54.9**	**-0.1**
PFO				*e*Sg	**Sg**	**23 18 04.8**	**-0.3**
PFO	**Pinyon Flats O**	**0.76**	**121**	P	**Pg**	**23 17 54.8**	**-0.1**
	baz=303,SNR=170						
PFO				S	**Sg**	**23 18 04.9**	**-0.1**
	baz=303						
XPFO	**Pion Flat**	**0.76**	**121**	*e*Pg	**Pg**	**23 17 54.9**	**-0.1**
XPFO				*e*Sn	**Sg**	**23 18 05.0**	**-0.1**
PASC	**Pasadena Art C**	**0.80**	**282**	*e*Pg	**Pb**	**23 17 54.7**	**-0.9**
PASC				*e*Sn	**Sb**	**23 18 05.3**	**-0.9**
RRX	**Edison Barstow**	**0.89**	**13**	P	**Pb**	**23 17 56.6**	**-0.6**
	baz=194,SNR=56						
RRX				S	**Sb**	**23 18 08.4**	**-0.5**
	baz=194						
FMP	**Fort Macarthur**	**0.92**	**252**	P	**Pb**	**23 17 57.3**	**-0.4**
	baz=69						
FMP				S	**Sb**	**23 18 09.7**	**0.0**
	baz=69						
DECC	**Green Verdugo**	**0.94**	**286**	P	**Pb**	**23 17 57.2**	**-0.8**
	baz=103,SNR=41						
DECC				S	**Sb**	**23 18 10.1**	**-0.2**
	baz=103						
BELC	**Belle Mtn. Jos**	**1.03**	**90**	P	**Pb**	**23 17 59.6**	**-0.1**
	baz=272,SNR=498						
BELC				S	**Sb**	**23 18 13.3**	**+0.2**
	baz=272						
EDW2	**Edwards Air Fo**	**1.07**	**325**	P	**Pb**	**23 17 59.6**	**-0.7**
	baz=144,SNR=120						
EDW2				S	**Sb**	**23 18 13.4**	**-0.8**
	baz=144						
HEC	**Hector,Ludlow**	**1.11**	**42**	P	**Pb**	**23 18 00.5**	**-0.6**
	baz=224,SNR=80						
HEC				S	**Sb**	**23 18 15.0**	**-0.4**
	baz=224						
109C	**Camp Elliot, M**	**1.12**	**174**	P	**Pn**	**23 18 00.5**	**-0.6**
	baz=354,SNR=9.2						
109C				S	**Sb**	**23 18 15.5**	**+0.1**
	baz=354						
CPE	**Camp Elliot**	**1.12**	**174**	*e*Pn	**Pn**	**23 18 00.4**	**-0.7**
CPE				*e*Sn	**Sb**	**23 18 15.0**	**-0.3**
CIS	**Catalina Islan**	**1.15**	**239**	P	**Pn**	**23 18 00.7**	**-0.8**
	baz=57,SNR=25						
CIS				S	**Sb**	**23 18 16.9**	**+0.7**
	baz=57						
MONP2	**Monument Peak**	**1.30**	**148**	Pb	**Pn**	**23 18 04.2**	**+0.4**
	baz=329,SNR=34						
MONP2				S	**Sn**	**23 18 21.3**	**+0.3**
	baz=329						
GSC	**Goldstone, Bar**	**1.34**	**15**	*e*Pn	**Pn**	**23 18 04.0**	**-0.3**
GSC				*e*Sn	**Sb**	**23 18 21.5**	**-0.5**
GSC	**Goldstone, Bar**	**1.34**	**15**	Pb	**Pn**	**23 18 04.0**	**-0.3**
	baz=196,SNR=247						
GSC				Sb	**Sn**	**23 18 22.0**	**+0.1**
	baz=196						
OSI	**Osito Audit: C**	**1.37**	**297**	*e*Pn	**Pb**	**23 18 05.4**	**0.0**
OSI	**Osito Audit: C**	**1.37**	**297**	Pb	**Pn**	**23 18 04.8**	**+0.2**
	baz=115						
OSI				Sb	**Sn**	**23 18 22.7**	**+0.3**
	baz=115						
BAR	**Barrett**	**1.41**	**160**	*e*Pn	**Pn**	**23 18 05.2**	**+

SHOC					Sb	**Sb**	**23 18 43.8**	**+1.5**
	baz=203								
MPMC	**Manual Prospec**	**2.06**	**354**		P	**Pn**	**23 18 13.6**	**-0.6**
	baz=174,SNR=35								
MPMC					Sb	**Sb**	**23 18 44.2**	**+1.5**
	baz=174								
LDFC	**Landfair**	**2.06**	**58**		*e*Pn	**Pn**	**23 18 13.3**	**-0.9**
GLA	**Glamis**	**2.23**	**115**		*e*Pn	**Pn**	**23 18 16.7**	**+0.2**
GLA	**Glamis**	**2.23**	**115**		P	**Pn**	**23 18 15.7**	**-0.7**
	baz=297,SNR=27								
Y12C	**Blythe**	**2.28**	**96**		*e*Pn	**Pn**	**23 18 16.4**	**-0.7**
Y12C	**Blythe**	**2.28**	**96**		P	**Pn**	**23 18 16.3**	**-0.7**
	baz=278,SNR=14								
DAC	**Darwin (Calif)**	**2.29**	**353**		*e*Pn	**Pn**	**23 18 17.5**	**+0.1**
DAC					*e*S	**Sb**	**23 18 50.9**	**+1.7**
NEE2	**Needles Airpor**	**2.30**	**70**		P	**Pn**	**23 18 16.9**	**-0.4**
	baz=252,SNR=11								
PKM	**Mcpherson Peak**	**2.30**	**293**		P	**Pn**	**23 18 18.0**	**+0.5**
	baz=111,SNR=14								
FURC	**Furnace Creek,**	**2.48**	**7**		P	**Pn**	**23 18 20.2**	**+0.5**
	baz=188,SNR=10								
PDMCI	**Parker Dam,Lak**	**2.59**	**83**		P	**Pn**	**23 18 21.5**	**+0.2**
	baz=265,SNR=7.6								
W13A	**Hualapai Mount**	**2.98**	**68**		*e*Pn	**Pn**	**23 18 27.1**	**+0.1**
W13A					*e*Sn	**Sn**	**23 18 59.8**	**-2.6**
PAGB	**Antelope Grade**	**3.01**	**306**		*e*Pn	**Pn**	**23 18 28.1**	**+0.9**
SHPR	**Sheep Range**	**3.02**	**34**		*e*Pn	**Pn**	**23 18 27.9**	**+0.5**
TPNV	**Topopah Spring**	**3.05**	**15**		*e*Pn	**Pn**	**23 18 28.2**	**+0.5**
TPNV	**Topopah Spring**	**3.05**	**15**		P	**Pn**	**23 18 28.3**	**+0.5**
	baz=196,SNR=19								
113A	**Mohawk Valley,**	**3.16**	**112**		*e*Pn	**Pn**	**23 18 28.4**	**-0.7**
Y14A	**Wickenburg**	**3.52**	**90**		*e*Pn	**Pn**	**23 18 34.5**	**+0.2**
OMMB	**Old Mammoth Mi**	**3.87**	**339**		*e*Pn	**Pn**	**23 18 41.6**	**+2.3**
MDPB	**Devils Postpil**	**3.92**	**338**		*e*Pn	**Pn**	**23 18 42.2**	**+2.4**
SAO	**San Andreas Ge**	**4.40**	**310**		*e*Pn	**Pn**	**23 18 47.9**	**+1.7**
SAO					*e*S	**Sn**	**23 19 36.5**	**-0.7**
NV11	**Mina Array Sit**	**4.48**	**351**		*e*Pn	**Pn**	**23 18 47.2**	**-0.2**
NV01	**Mina Array Sit**	**4.50**	**349**		*e*Pn	**Pn**	**23 18 48.2**	**+0.4**
R11A	**Troy Canyon, C**	**4.54**	**17**		*e*Pn	**Pn**	**23 18 49.3**	**+1.0**
U15A	**North Rim**	**4.72**	**58**		*e*Pn	**Pn**	**23 18 52.0**	**+1.1**
RYN	**Ryan**	**4.73**	**348**		*e*Pn	**Pn**	**23 18 52.5**	**+1.6**
CMB	**Columbia Colle**	**4.76**	**329**		*e*Pn	**Pn**	**23 18 52.9**	**+1.7**
CMB					*e*Sn	**Sn**	**23 19 44.8**	**-1.3**
CMB					*e*Sg	**Sb**	**23 20 03.6**	**+3.3**
X16A	**Lo Mia Camp, P**	**4.83**	**83**		*e*Pn	**Pn**	**23 18 53.0**	**+0.8**
WAKR	**Walker**	**4.83**	**339**		*e*Pn	**Pn**	**23 18 55.2**	**+2.9**
WUAZ	**Wupatki**	**5.06**	**71**		*e*Pn	**Pn**	**23 18 56.0**	**+0.5**
KVN	**Kaiserville**	**5.08**	**352**		*e*Pn	**Pn**	**23 18 57.8**	**+1.9**
PSUT	**Pine Spring**	**5.28**	**30**		*e*Pn	**Pn**	**23 19 00.1**	**+1.5**
X18A	**Snowflake**	**6.06**	**83**		*e*Pn	**Pn**	**23 19 10.7**	**+1.5**

MEX 04 23:28:08.0±0.6, 14.71N×92.29W, h85km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.20**	**8**	*e*P	Pn	23 28 18.8	-1.6
THIG				*i* S	Sn	23 28 27.8	-1.6
PCIG		**1.33**	**318**	*e*P	Pn	23 28 30.5	-0.9
PCIG				*e*S	Sn	23 28 47.1	-1.9
CCIG	**Comitan**	**1.57**	**5**	*i* P	Pn	23 28 32.8	-1.8
CCIG				*i* S	Sn	23 28 53.0	-1.7

IDC 04 23:33:16.8±35.0, 21.01S×178.58W, h522km±318km, mb3.0/2, mb1 3.2/2, mb1mx2.7/33, mbtmp3.9/2, Error ellipse: s-maj=288.6km s-min=111.7km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.88**	**257**	P	P	23 40 37.2	+0.1
	1.0nm,0.5s,baz=96,slow=8.0,SNR=14						
ASAR				PcP	pP	23 42 11.5	0.0
	0.4nm,0.6s,baz=97,slow=4.8,SNR=4.2						
WRA	**Warramunga Arr**	**44.00**	**263**	P	P	23 40 37.7	-0.4
	1.4nm,0.9s,baz=96,slow=8.7,SNR=8.0						
AKASG	**Malin Array Be**	**143.19**	**330**	PKP	PKPab	23 51 48.8	-0.2
	0.6nm,0.4s,baz=45,slow=4.2,SNR=4.4						
BRTR	**Keskin Array B**	**146.77**	**311**	PKPbc	PKPbc	23 52 00.4	-0.3
	0.7nm,0.6s,baz=163,slow=6.4,SNR=4.3						
GERES	**GERESS Array B**	**150.53**	**343**	PKPbc	PKiKP	23 52 09.9	-0.2
	0.2nm,0.5s,baz=72,slow=4.5,SNR=3.6						

*SOME **04** 23:40:38.8, 42.58N×74.82E, h10km*
*KNET **04** 23:40:38.8±0.3, 42.57N×74.81E, h13km±3km, ml1.3, Error ellipse: s-maj=1.8km s-min=1.5km az=79.0*
*NNC **04** 23:40:39.6±0.2, 42.70N×74.79E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=14.9km s-min=0.9km az=161.0*

KRNET 04 23:40:39.0±0.1, 42.58N×74.80E, h18km, mb2.3, 36C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.13**	**55**	⇓P	Pb	23 40 42.8	+0.4
	60nm,0.1s,SNR=73						
KBK				⇓S	Sg	23 40 45.6	-0.5
	217nm,0.1s						
KBK	**Karagaybulak**	**0.13**	**55**	⇓*i*P	Pb	23 40 42.6	+0.2
	baz=55						
KBK				⇓*i*S	Sg	23 40 45.4	-0.7
	baz=55						
AAK	**Ala-Archa**	**0.23**	**284**	⇑P	Pg	23 40 44.4	-0.3
	7.6nm,0.1s,SNR=36						
AAK				⇑S	Sg	23 40 48.0	-0.5
	67nm,0.2s						
AAK	**Ala-Archa**	**0.23**	**284**	⇑P	Pg	23 40 44.1	-0.6
	1.4nm,0.2s						
AAK				⇑S	Sg	23 40 47.6	-0.9
	16nm,0.2s						
AAK	**Ala-Archa**	**0.23**	**284**	⇑*i*P	Pg	23 40 44.2	-0.4
	baz=84						
AAK				⇑*i*S	Sg	23 40 47.8	-0.7
	baz=84						
FRU1	**Bishkek**	**0.26**	**331**	⇑*i*P	Pg	23 40 44.7	-0.3
	baz=31						
FRU1				⇑*i*S	Sg	23 40 48.8	-0.3
	baz=31						
UCH	**Uchtor**	**0.41**	**211**	⇓P	Pg	23 40 47.4	-0.3
	22nm,0.1s,SNR=168						
UCH				⇑S	Sg	23 40 53.2	-0.4
	23nm,0.2s						
UCH	**Uchtor**	**0.41**	**211**	⇑*i*P	Pg	23 40 47.3	-0.5
	baz=11						
UCH				⇑*i*S	Sg	23 40 53.0	-0.6
	baz=11						
CHMS	**Chumysh**	**0.42**	**355**	⇓P	Pg	23 40 47.5	-0.2
	6.7nm,0.1s,SNR=57						
CHMS				⇑S	Sg	23 40 53.4	-0.1
	20nm,0.1s						
CHMS	**Chumysh**	**0.42**	**355**	⇓*i*P	Pg	23 40 47.3	-0.4
	baz=55						
CHMS				⇓*i*S	Sg	23 40 53.1	-0.4
	baz=55						
KZA	**Kyzart**	**0.60**	**146**	⇓P	Pg	23 40 51.0	-0.2
	4.3nm,0.1s,SNR=14						
KZA				⇑S	Sg	23 40 59.3	0.0
	16nm,0.2s						
KZA	**Kyzart**	**0.60**	**146**	⇑*i*P	Pg	23 40 50.7	-0.5
	baz=46						
KZA				⇑*i*S	Sg	23 40 59.0	-0.3
	baz=46						
TKM2	**Tokmak 2**	**0.68**	**60**	⇑P	Pb	23 40 51.9	-0.5
	4.0nm,0.1s,SNR=40						
TKM2	**Tokmak 2**	**0.68**	**60**	⇓P	Pb	23 40 51.6	-0.9
	1.0nm,0.3s						
TKM2				⇑S	Sg	23 41 00.7	-0.9
	9.6nm,0.5s						
TKM2	**Tokmak 2**	**0.68**	**60**	⇑*i*P	Pb	23 40 51.8	-0.6
	baz=60						
TKM2				⇑*i*S	Sg	23 41 00.9	-0.6
	baz=60						
USP	**Ospenovka**	**0.72**	**342**	P	Pb	23 40 52.9	-0.3
	6.8nm,0.1s,SNR=55						
USP				⇑S	Sb	23 41 02.7	0.0
	27nm,0.2s						
USP	**Ospenovka**	**0.72**	**342**	⇑*i*P	Pb	23 40 52.6	-0.5
	baz=42						
USP				⇑*i*S	Sb	23 41 02.4	-0.3
	baz=42						
EKS2	**Erkin-Say**	**0.76**	**276**	⇓P	Pg	23 40 54.2	+0.2
	1.2nm,0.1s,SNR=14						
EKS2	**Erkin-Say**	**0.76**	**276**	⇑*i*P	Pb	23 40 53.5	-0.3
	baz=76						
EKS2				⇑*i*S	Sb	23 41 04.0	+0.1
	baz=76						
ARLS	**Aral**	**0.80**	**207**	⇓*i*P	Pb	23 40 54.2	-0.4
	baz=7.0						
ARLS				⇓*i*S	Sb	23 41 04.9	-0.2
	baz=7.0						
BOOM	**Boomskoye usch**	**0.85**	**96**	⇑*i*P	Pb	23 40 54.9	-0.4
	baz=96						
BOOM				⇑*i*S	Sb	23 41 06.3	-0.1
	baz=96						
AML	**Almayashu**	**0.94**	**242**	⇓P	Pb	23 40 57.0	0.0
	2.6nm,0.1s,SNR=11						
AML	**Almayashu**	**0.94**	**242**	⇓*i*P	Pb	23 40 56.8	-0.2
	baz=42						
AML				⇓*i*S	Sb	23 41 09.2	0.0
	baz=42						
KST	**Kastek**	**0.97**	**61**	P	Pb	23 40 57.4	0.0
	1.5nm,0.1s						
KST				S	Sg	23 41 10.6	-0.1
	8.6nm,0.2s						
KST	**Kastek**	**0.97**	**61**	*e*P	Pb	23 40 57.5	+0.1
	baz=61						
KST				*e*S	Sg	23 41 10.7	0.0
	baz=61						
KST	**Kastek**	**0.97**	**61**	*e*P	Pb	23 40 57.5	0.0
	1.5nm,0.1s						
KST				*e*S	Sg	23 41 10.6	-0.1
	8.6nm,0.2s						
DGS	**Degeres**	**0.97**	**47**	*e*P	Pb	23 40 52.9	-4.6
	1.7nm,0.1s						
DGS				*e*S	Sb	23 41 06.0	-4.0
	17nm,0.2s						
ULHL	**Ulahol**	**1.12**	**107**	⇑*i*P	Pb	23 40 59.5	-0.5
	baz=7.0						
ULHL				⇑*i*S	Sn	23 41 14.7	-0.3
	baz=7.0						
MRKS	**Merke**	**1.17**	**279**	P	Pg	23 41 01.4	-0.4
	4.5nm,0.1s						
MRKS				S	Sn	23 41 16.7	+0.4
	12nm,0.2s						
MRKS	**Merke**	**1.17**	**279**	*e*P	Pg	23 41 01.4	-0.4
	baz=79						
MRKS				*e*S	Sn	23 41 16.7	+0.4
	baz=79						
MRKS	**Merke**	**1.17**	**279**	*e*P	Pg	23 41 01.4	-0.4
	4.5nm,0.1s						
MRKS				*e*S	Sn	23 41 16.7	+0.4
	12nm,0.2s						
MTBS	**Maitube**	**1.32**	**65**	*e*P	Pb	23 41 03.7	+0.4
	baz=65						
MTBS				*e*S	Sg	23 41 21.6	-0.1
	baz=65						
MTBS	**Maitube**	**1.32**	**65**	*e*P	Pb	23 41 03.6	+0.4
	3.1nm,0.2s						
MTBS				*e*S	Sg	23 41 21.6	-0.1
	7.2nm,0.4s						
NRN	**Naryn**	**1.45**	**142**	⇑*i*P	Pb	23 41 05.8	+0.1
	baz=43						
NRN				⇑*i*S	Sb	23 41 25.0	+1.0
	baz=43						
TNSS	**Tian-Shan**	**1.64**	**73**	*e*P	Pb	23 41 09.5	+0.5
	baz=73						
TNSS				*e*S	Sg	23 41 31.1	-1.0
	baz=73						
TNSS	**Tian-Shan**	**1.64**	**73**	*e*P	Pb	23 41 09.5	+0.5
	1.4nm,0.2s						
TNSS				*e*S	Sg	23 41 31.2	-1.0
	2.6nm,0.5s						
KNDC	**Almaty**	**1.71**	**67**	⇓P	Pb	23 41 09.8	-0.2
	4.0nm,0.5s						
KNDC				⇑S	Sg	23 41 33.8	-0.4
	5.2nm,0.3s						
KUU	**Kurty**	**1.73**	**40**	*e*P	Pb	23 41 10.7	+0.5
	baz=40						
KUU				*e*S	Sg	23 41 33.5	-1.2
	baz=40						
KUU	**Kurty**	**1.73**	**40**	*e*P	Pb	23 41 10.7	+0.5
	3.1nm,0.2s						
KUU				*e*S	Sg	23 41 33.5	-1.3
	8.1nm,0.3s						
MDOK	**Medeo**	**1.75**	**70**	⇓P	Pb	23 41 10.8	+0.1
	1.4nm,0.7s						
MDOK				⇑S	Sg	23 41 34.0	-1.5
	2.4nm,0.4s						
MDOK	**Medeo**	**1.75**	**70**	Pg	Pg	23 41 11.8	-0.9
	1.5nm,0.2s						
MDOK				Lg	Lg	23 41 34.5	
	2.5nm,0.2s						
MDOK	**Medeo**	**1.75**	**70**	*e*P	Pg	23 41 11.8	-0.9
	baz=70						
MDOK				*e*S	Sg	23 41 34.5	-1.0
	baz=70						
MDOK	**Medeo**	**1.75**	**70**	*e*P	Pb	23 41 11.8	-0.9
	1.5nm,0.2s						
MDOK				*e*S	Sg	23 41 34.5	-1.0
	2.5nm,0.2s						
KTBS	**Karatobe**	**1.78**	**50**	P	Pb	23 41 11.7	+0.5
	2.0nm,0.2s						
KTBS				S	Sb	23 41 34.8	+1.6
	10.0nm,0.2s						
KTBS	**Karatobe**	**1.78**	**50**	*e*P	Pb	23 41 11.7	+0.5
	2.0nm,0.2s						
KTBS				*e*S	Sb	23 41 34.8	+1.6
	10.0nm,0.2s						
KOTS	**Kotyrbulak**	**1.82**	**68**	P	Pg	23 41 13.4	-0.7
	3.3nm,0.3s						
KOTS				S	Sg	23 41 37.1	-0.5
	20nm,0.5s						
KOTS	**Kotyrbulak**	**1.82**	**68**	*e*P	Pg	23 41 13.3	-0.7
	3.3nm,0.3s						
KOTS				*e*S	Sg	23 41 37.1	-0.5
	20nm,0.5s						
KDJ	**Kajisay**	**1.82**	**104**	⇑*i*P	Pb	23 41 11.9	0.0
	baz=4.0						
KDJ				⇑*i*S	Sb	23 41 35.5	+1.1
	baz=4.0						
CHKK	**Chushkaly**	**2.04**	**51**	Pg	Pb	23 41 16.0	+0.4
	2.4nm,0.2s						
CHKK				Lg	Lg	23 41 43.0	
	18nm,0.2s						
CHKK	**Chushkaly**	**2.04**	**51**	*e*P	Pb	23 41 16.0	+0.4
	baz=51						
CHKK				*e*S	Sg	23 41 43.0	-1.8
	baz=51						
CHKK	**Chushkaly**	**2.04**	**51**	*e*P	Pb	23 41 16.0	+0.4
	2.4nm,0.2s						
CHKK				*e*S	Sg	23 41 43.0	-1.8
	18nm,0.2s						
SATY	**Saty**	**2.69**	**79**	*e*P	Pb	23 41 28.2	+1.4
	2.2nm,0.4s						
SATY				*e*S	Sg	23 42 03.6	-2.1
	4.0nm,0.4s						
ARXS	**Arharly**	**2.74**	**52**	Pg	Pb	23 41 27.8	+0.2
	0.8nm,0.3s						
ARXS				Lg	Lg	23 42 02.5	
	4.4nm,0.4s						
ARXS	**Arharly**	**2.74**	**52**	*e*P	Pb	23 41 27.8	+0.2
	0.8nm,0.3s						
ARXS				*e*S	Sb	23 42 02.5	+1.6
	4.4nm,0.4s						
PDGK	**Podgornoye**	**3.52**	**76**	⇑Pg	Pb	23 41 42.3	+1.4
	2.4nm,1.5s						
PDGK				⇑Lg	Lg	23 42 28.4	
	1.6nm,0.7s						

*ISCJB **04** 23:47:49.7±0.4, 12.15S±0.05×166.58E±0.07, h10km, mb4.3/21, MS3.5/12, Error ellipse: s-maj=10.3km s-min=7.7km az=174.4*
*NEIC **04** 23:47:51.0±0.4, 12.10S×166.71E, h10km, mb4.5/9, Error ellipse: s-maj=11.9km s-min=9.5km az=135.0*
*IDC **04** 23:47:57.7±3.3, 12.10S×166.58E, h58km±28km, mb4.0/13, mb1 4.2/15, mb1mx3.9/38, mbtmp4.3/15, ML4.7/2, MS3.5/14, Ms1 3.6/14, ms1mx3.3/34, Error ellipse: s-maj=22.2km s-min=15.1km az=68.0*

ISC 04 23:47:51.3±0.6, 12.06S±0.08×166.65E±0.09, h10km, n41, σ1s62/38, mb4.3/21, MS3.6/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.09**	**291**	*e*Pn	**Pn**	**23 49 38.1**	**+2.9**
HNR				*e*Sn	**Sn**	**23 50 49.7**	**-6.1**
HNR	**Honiara**	**7.09**	**291**	P	**Pn**	**23 49 39.1**	**+3.9**
	42nm,0.3s,baz=216,slow=4.6,SNR=7.6						
HNR				S	**Sn**	**23 50 55.5**	**-0.3**
	3.9nm,0.3s,baz=194,slow=17,SNR=3.1						
HNR				LR	LR	23 52 49.4	
	comp=Z,309nm,19.0s,baz=129,slow=42						
DZM	**Mont Dzumac**	**9.96**	**181**	P	Pn	23 50 19.0	+4.4
	2.3nm,0.3s,baz=337,slow=9.4,SNR=15						
DZM				S	**Sn**	**23 52 06.3**	**-0.2**
	0.3nm,0.3s,baz=139,slow=19,SNR=2.0						
DZM				LR	LR	23 53 48.5	
	comp=Z,344nm,21.9s,baz=10.0,slow=35						
CTA	**Charters Tower**	**21.15**	**245**	P	**P**	**23 52 38.7**	**+2.0**
	4.5nm,0.8s,baz=73,slow=14,SNR=2.6						
URZ	**Urewera**	**27.71**	**162**	LR	LR	00 03 03.8	
	comp=Z,75nm,20.7s,baz=352,slow=33						
BKZ	**Black Stump Fm**	**28.38**	**164**	*e*P	**P**	**23 53 45.0**	**-0.8**
	19nm,1.2s						
STKA	**Stephens Creek**	**30.34**	**225**	P	**P**	**23 54 03.8**	**+0.4**
	6.7nm,0.6s,baz=52,slow=9.0,SNR=23						
STKA				LR	LR	00 05 12.0	
	comp=Z,141nm,21.4s,baz=26,slow=34						
RPZ	**Rata Peaks**	**31.77**	**174**	P	**P**	**23 54 15.3**	**-0.5**
	11nm,0.8s,baz=68,slow=19,SNR=3.2						
WB2	**Warramunga Arr**	**31.98**	**252**	*e*P	**P**	**23 54 17.1**	**-0.8**
WR1	**Warramunga Arr**	**31.99**	**252**	*e*P	**P**	**23 54 17.1**	**-0.9**
	1.6nm,1.0s						
WRA	**Warramunga Arr**	**31.99**	**252**	P	**P**	**23 54 17.1**	**-0.9**
	1.9nm,0.6s,baz=82,slow=9.0,SNR=18						
WRA				LR	LR	00 05 54.6	
	comp=Z,73nm,20.6s,baz=200,slow=34						
AS31	**Alice Springs**	**33.15**	**245**	*e*P	**P**	**23 54 27.5**	**-0.7**
	1.0nm,0.6s						
ASAR	**Alice Springs**	**33.16**	**245**	P	**P**	**23 54 27.4**	**-0.9**
	2.6nm,0.6s,baz=68,slow=9.7,SNR=40						
ASAR				LR	LR	00 06 59.4	
	comp=Z,72nm,18.5s,baz=96,slow=34						
GUMO	**Guam**	**33.41**	**319**	LR	LR	00 08 42.6	
	comp=Z,17nm,19.5s,baz=174,slow=37						
BBOO	**Buckleboo**	**34.81**	**229**	*e*P	**P**	**23 54 42.8**	**+0.4**
	7.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**39.99**	**256**	LR	LR	00 11 48.7	
	comp=Z,76nm,18.3s,baz=95,slow=36						
BATI	**Baumata**	**42.19**	**268**	LR	LR	00 12 46.2	
	comp=Z,86nm,18.2s,baz=150,slow=35						
PPT	**Papeete**	**42.60**	**103**	LR	LR	00 10 44.5	
	comp=Z,95nm,18.3s,baz=254,slow=32						
KSRS	**Korea Array**	**61.21**	**325**	P	**P**	**23 58 07.1**	**+0.6**
	0.6nm,0.4s,baz=140,slow=7.5,SNR=4.2						
KS15	**Wonju Array Si**	**61.22**	**325**	*e*P	**P**	**23 58 07.1**	**+0.5**
	1.4nm,0.3s						
KSAR	**Wonju Array Be**	**61.22**	**325**	P	**P**	**23 58 07.1**	**+0.5**
VNDA	**Vanda**	**65.50**	**181**	P	**P**	**23 58 34.6**	**+0.3**
	1.6nm,0.7s,baz=10,slow=6.0,SNR=7.3						
PSI	**Prapat**	**68.89**	**278**	*e*P	**P**	**23 58 56.6**	**-0.5**
	6.6nm,0.8s						
CM01	**Chiang Mai Arr**	**73.30**	**294**	*e*P	**P**	**23 59 24.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**73.33**	**294**	P	**P**	**23 59 24.9**	**+1.1**
	3.8nm,0.7s,baz=128,slow=4.7,SNR=22						
CMAR				LR	LR	00 30 13.2	
	comp=Z,17nm,21.3s,baz=320,slow=35						
SONA0	**Songino Array**	**80.00**	**324**	*e*P	**P**	**00 00 01.0**	**-0.1**
SONM	**Songino Array**	**80.00**	**324**	P	**P**	**00 00 01.0**	**-0.1**
	1.0nm,0.7s,baz=139,slow=5.2,SNR=8.0						
SONM				LR	LR	00 35 51.2	
	comp=Z,30nm,18.4s,baz=116,slow=36						
ILAR	**Eielson Array**	**84.19**	**18**	P	**P**	**00 00 21.6**	**-0.9**
	0.9nm,0.7s,baz=237,slow=5.1,SNR=15						
ILAR				LR	LR	00 34 31.7	
	comp=Z,50nm,20.4s,baz=158,slow=33						
ILB	**Eielson Array**	**84.19**	**18**	*e*P	**P**	**00 00 22.8**	**+0.3**
	1.6nm,0.8s						
NV01	**Mina Array Sit**	**86.00**	**50**	*e*P	**P**	**00 00 33.5**	**+1.1**
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**00 00 34.1**	**+1.7**
	0.7nm,0.9s,baz=234,slow=7.7,SNR=4.0						
NVAR				LR	LR	00 35 18.8	
	comp=Z,69nm,18.7s,baz=318,slow=33						
LCMT	**Little Creek M**	**89.42**	**52**	*e*P	**P**	**00 00 50.0**	**+1.1**
	2.8nm,0.6s						
MK01	**Makanchi Array**	**94.85**	**317**	*e*P	**P**	**00 01 12.8**	**-0.8**
MK31	**Makanchi Array**	**94.86**	**317**	*e*P	**P**	**00 01 13.2**	**-0.5**
	1.4nm,0.8s						
MK32	**Makanchi Array**	**94.86**	**317**	*e*P	**P**	**00 01 13.1**	**-0.5**
MKAR	**Makanchi Array**	**94.86**	**317**	P	**P**	**00 01 13.1**	**-0.6**
	1.9nm,0.6s,baz=92,slow=6.6,SNR=30						
YKA	**Yellowknife Ar**	**95.46**	**27**	*e*P	**P**	**00 01 15.1**	**-0.8**
	0.2nm,0.6s,baz=257,slow=4.5,SNR=4.7						
YKB5	**Yellowknife Ar**	**95.46**	**27**	*e*P	**P**	**00 01 15.1**	**-0.8**
ARA0	**ARCESS Array S**	**117.53**	**346**	*e*PKPdf	**PKPdf**	**00 06 34.9**	**-2.1**
ARCES	**ARCESS Array B**	**117.53**	**346**	PKP	**PKPdf**	**00 06 34.9**	**-2.1**
	3.2nm,1.0s,baz=64,slow=1.7,SNR=5.9						
KEST	**Kesra**	**148.76**	**323**	PKPbc	**PKPbc**	**00 07 38.9**	**-0.7**
	3.6nm,0.8s,baz=187,slow=4.0,SNR=5.1						

ISC 05 00:04:12.8±1.9, 42.3N±0.3×43.6E±0.2, h5km, n5, σ0s67/9, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUDG	**Gudauri**	**0.66**	**71**	P	**Pg**	**00 04 25.6**	**-0.1**
GUDG				S	**Sb**	**00 04 36.3**	**-0.3**
EPOS	**Posof**	**1.01**	**222**	*i* P	**Pb**	**00 04 32.6**	**-0.2**
EPOS				*i* S	**Sb**	**00 04 45.8**	**-0.6**
DBOC	**Borcka**	**1.73**	**239**	*i* P	**Pn**	**00 04 43.5**	**0.0**
DAGI	**Agillar**	**1.74**	**228**	*i* P	**Pb**	**00 04 45.1**	**-0.3**
DAGI				*i* S	**Sg**	**00 05 09.4**	**+0.6**
DBAD	**Bademkaya**	**1.90**	**230**	*i* P	**Pn**	**00 04 47.2**	**+1.2**
DBAD				*i* S	**Sg**	**00 05 13.5**	**-0.5**

KRSC 05 00:05:28.7±10.0, 50.77N×157.75E, h40km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.92**	**320**	*e*P	Pn	00 05 46.7	+1.6
PAU				*e*S	Sn	00 05 59.3	+2.2
SKR	**Severo-Kuril's**	**1.04**	**266**	*e*P	Pn	00 05 48.0	+1.2
SKR				*e*S	Sn	00 06 01.1	+1.0
KDTR	**Khodutka, Kamc**	**1.06**	**11**	*e*P	Pn	00 05 48.3	+1.2
KDT

ASAR	**Alice Springs**	**21.56**	**212**	P	P	00 35 56.2	+0.1
	4.8nm,0.6s,baz=42,slow=8.7,SNR=37						
FITZ	**Fitzroy Crossi**	**23.59**	**236**	P	P	00 36 15.5	+0.7
	13nm,0.5s,baz=47,slow=9.2,SNR=59						
STKA	**Stephens Creek**	**26.60**	**189**	P	P	00 36 40.8	-1.1
	1.6nm,0.3s,baz=355,slow=9.8,SNR=7.5						
MKAR	**Makanchi Array**	**76.52**	**321**	P	P	00 42 50.0	+0.3
	0.1nm,0.4s,baz=96,slow=4.3,SNR=2.0						
ILAR	**Eielson Array**	**85.36**	**23**	P	P	00 43 35.5	-0.4
	0.3nm,0.6s,baz=256,slow=4.5,SNR=5.5						

MEX 05 00:32:25.1±0.3, 16°30N×98°48W, h5km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**75**	*i* P	Pg	00 32 31.5	-0.3
PNIG				*i* S	Sg	00 32 36.5	+0.1
CAIG	**El Cayaco**	**1.87**	**294**	*i* P	Pn	00 32 54.1	-3.7
CAIG				*i* S	Sn	00 33 17.1	-4.6

IDC 05 00:42:39.6±4.7, 17°63S×174°56W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/25, mbtmp4.3/3, Error ellipse: s-maj=167.8km s-min=94.8km az=155.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.98**	**242**	P	P	00 50 32.8	0.0
	1.5nm,0.5s,baz=76,slow=8.3,SNR=4.5						
WRA	**Warramunga Arr**	**48.28**	**259**	P	P	00 51 22.6	-0.4
	1.5nm,0.3s,baz=96,slow=7.0,SNR=84						
ASAR	**Alice Springs**	**48.39**	**254**	P	P	00 51 23.9	0.0
	4.4nm,0.6s,baz=92,slow=7.7,SNR=44						
ASAR				PcP	PcP	00 52 50.2	-0.2
	0.4nm,0.5s,baz=106,slow=3.8,SNR=4.0						

IDC 05 00:44:49.2±1.2, 28°89S×179°69W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/20, mbtmp3.4/3, Error ellipse: s-maj=40.3km s-min=18.7km az=4.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.59**	**104**	Pn	Pg	00 45 19.7	+0.1
	180nm,0.3s,baz=300,slow=23,SNR=6.1						
RAO				Sn	Sn	00 45 39.1	-0.7
	233nm,0.3s,baz=282,slow=23,SNR=12						
ASAR	**Alice Springs**	**41.73**	**266**	P	P	00 52 40.7	+0.4
	0.3nm,0.6s,baz=98,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**42.58**	**271**	P	P	00 52 46.5	-0.7
	0.4nm,0.8s,baz=113,slow=6.6,SNR=3.2						
TXAR	**Lajitas Array**	**92.82**	**58**	P	P	00 58 03.5	-0.5
	0.2nm,0.9s,baz=203,slow=6.7,SNR=2.2						

MDD 05 00:50:26.5±0.5, 38°02N×3°31W, h2km±10km, mbLg1.0/2, Error ellipse: s-maj=6.7km s-min=2.9km az=58.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EQES	**Quesada**	**0.29**	**139**	Pg	Pg	00 50 31.8	-0.3
	0.3nm,0.1s,SNR=7.9						
EQES				Lg	Lg	00 50 36.5	
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**1.01**	**279**	Pg	Pg	00 50 44.9	-0.9
	0.2nm,0.1s,SNR=7.9						
EADA				Lg	Lg	00 50 59.7	
	0.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**1.52**	**65**	Pg	Pn	00 50 54.8	0.0
	SNR=7.9						
ETOB				Lg	Lg	00 51 12.7	
	SNR=7.9						
ECAB	**El Cabril**	**1.66**	**272**	Lg	Lg	00 51 19.3	
	0.4nm,0.1s,SNR=7.9						

*INMG **05** 00:51:41.3±1.3, 42°27N×6°33W, h0km, ML1.3, Error ellipse: s-maj=5.6km s-min=2.4km az=96.0*

MDD 05 00:51:41.0±0.7, 42°28N×6°32W, h0km, mbLg1.3/9, Error ellipse: s-maj=7.6km s-min=4.0km az=115.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECAL	**Calabor**	**0.46**	**223**	Pg	Pg	00 51 49.6	-0.2
	1.5nm,0.1s,SNR=13						
ECAL				Lg	Lg	00 51 55.7	
	7.4nm,0.1s,SNR=18						
PBRG	**Braganca**	**0.56**	**214**	*e*Pg	Pg	00 51 51.6	-0.3
PBRG				*e*Sg	Sg	00 51 58.7	-0.5
PBRG				A	A	00 52 03.0	
	4.0nm,0.3s						
PBRG	**Braganca**	**0.56**	**214**	Pg	Pg	00 51 51.6	-0.3
PBRG	**Braganca**	**0.56**	**214**	Lg	Lg	00 51 58.7	
	2.0nm,0.3s						
EPON	**Pontenova**	**1.22**	**330**	Pg	Pg	00 52 03.4	-0.9
	0.0nm,0.0s,SNR=6.5						
EPON				Lg	Lg	00 52 19.1	
	2.6nm,0.2s,SNR=17						
MVO	**Moncorvo**	**1.23**	**206**	*e*P	Pg	00 52 03.5	-1.1
MVO				*e*S	Sg	00 52 20.1	-0.5
MVO				A	A	00 52 21.7	
	7.1nm,0.3s						
MVO	**Moncorvo**	**1.23**	**206**	Pg	Pg	00 52 03.3	-1.3
	1.0nm,0.1s,SNR=6.3						
MVO				Lg	Lg	00 52 20.1	
	3.4nm,0.1s,SNR=13						
EARI	**Arriondas**	**1.31**	**38**	Pg	Pg	00 52 04.9	-1.3
	0.5nm,0.3s,SNR=6.3						
EARI				Lg	Lg	00 52 22.0	
	0.6nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**1.36**	**253**	Pg	Pg	00 52 06.4	-0.7
	0.9nm,0.2s,SNR=7.9						
ELOB				Lg	Lg	00 52 24.2	
	1.0nm,0.1s,SNR=4.8						
PCAB	**Cabril**	**1.39**	**247**	*e*S	Sg	00 52 25.2	-0.5
PCAB				A	A	00 52 36.7	
	4.4nm,0.6s						
PCAB	**Cabril**	**1.39**	**247**	Lg	Lg	00 52 25.2	
	2.2nm,0.6s						
EAGO	**Agolada(Pontev**	**1.41**	**293**	Pg	Pn	00 52 07.2	-0.8
	0.4nm,0.1s,SNR=7.9						
EAGO				Lg	Lg	00 52 25.6	
	2.4nm,0.1s,SNR=7.9						
POLO	**Lamas de Olo**	**1.42**	**231**	*e*S	Sg	00 52 26.3	-0.4
POLO				A	A	00 52 28.9	
	1.6nm,0.8s						
POLO	**Lamas de Olo**	**1.42**	**231**	Lg	Lg	00 52 26.3	
	1.6nm,0.8s						
PVRL	**Vila Real**	**1.45**	**227**	*e*P	Pn	00 52 07.7	-0.8
PVRL				*e*S	Sg	00 52 26.7	-0.7
PVRL				A	A	00 52 27.7	
	4.3nm,0.1s						
PVRL	**Vila Real**	**1.45**	**227**	P	Pn	00 52 07.7	-0.8
PVRL				Lg	Lg	00 52 26.7	
	2.2nm,0.1s						
PGAV	**Gavieira, Arco**	**1.48**	**259**	*e*S	Sg	00 52 28.2	-0.5
PGAV	**Gavieira, Arco**	**1.48**	**259**	Lg	Lg	00 52 28.2	
PVIS	**Viseu**	**1.96**	**218**	*e*Sg	Sb	00 52 42.1	-0.4
PVIS				A	A	00 52 46.1	
	3.1nm,0.9s						
PVIS	**Viseu**	**1.96**	**218**	Lg	Lg	00 52 42.1	
	1.6nm,0.9s						

*MAN **05** 01:09:15.2, 20°46N×121°88E, h1km, MS2.9*
MAN INTENSITY III - BASCO BATANES.

IDC 05 01:09:16.9±2.6, 20°19N×121°85E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/31, mbtmp3.3/4, Error ellipse: s-maj=248.1km s-min=21.9km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.68**	**319**	P	P	01 17 07.5	+0.2
	0.2nm,0.5s,baz=108,slow=10.0,SNR=4.7						
WRA	**Warramunga Arr**	**41.72**	**162**	P	P	01 17 06.8	-1.0
	0.3nm,0.8s,baz=341,slow=8.3,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**42.25**	**84**	T	T	02 02 06.8	
	baz=281,slow=75,SNR=163						
H11S1	**WAKE ISLAND Hy**	**42.26**	**84**	T	T	02 02 07.3	
	baz=281,slow=75,SNR=219						
H11S2	**WAKE ISLAND Hy**	**42.26**	**84**	T	T	02 02 08.2	
	baz=281,slow=75,SNR=217						
ZALV	**Zalesovo Beam**	**43.95**	**329**	P	P	01 17 25.2	-0.3
	0.3nm,0.3s,baz=98,slow=6.4,SNR=2.6						
ASAR	**Alice Springs**	**45.15**	**164**	P	P	01 17 36.2	+0.6
	0.1nm,0.4s,baz=354,slow=7.8,SNR=2.8						

*IDC **05** 01:46:44.6±3.7, 36°04N×71°55E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/47, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=87.2km s-min=28.1km az=145.0*
*ISCJB **05** 01:47:01.5±1.3, 37°0N±0°1×71°1E±0°1, h150km, mb3.0/2, Error ellipse: s-maj=17.0km s-min=11.6km az=44.3*
*NNC **05** 01:47:02.9±3.0, 37°08N×71°11E, h160km±49km, mb2.6, mpv3.6, Error ellipse: s-maj=28.5km s-min=17.6km az=16.0*

ISC 05 01:47:03.3±1.9, 37°1N±0°1×70°9E±0°1, h150km, n16, σ1s78/17, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.46**	**22**	P	**Pn**	**01 48 22.3**	**-0.8**
	SNR=50						
UCH	**Uchtor**	**5.82**	**28**	P	**Pn**	**01 48 26.9**	**-1.1**
	SNR=5.7						
EKS2	**Erkin-Say**	**5.97**	**21**	P	**Pn**	**01 48 29.4**	**-0.2**
	SNR=8.5						
KK31	**Karatay Array**	**6.00**	**357**	⇓P	**Pn**	**01 48 30.3**	**+0.5**
KK31	1.1nm,0.4s,baz=151,slow=7.8,SNR=36			⇑S	**Sn**	**01 49 38.4**	**+0.8**
	0.7nm,0.3s,baz=177,slow=20,SNR=4.4						
AAK	**Ala-Archa**	**6.18**	**25**	⇑P	**Pn**	**01 48 31.7**	**-0.7**
	SNR=12						
AAK	**Ala-Archa**	**6.18**	**25**	⇑P	**Pn**	**01 48 31.5**	**-0.9**
	4.5nm,0.4s						
AAK				⇓S	**Sn**	**01 49 42.0**	**-0.2**
	2.5nm,0.6s						
CHMS	**Chumysh**	**6.58**	**25**	P	**Pn**	**01 48 37.0**	**-0.7**
	SNR=7.2						
TKM2	**Tokmak 2**	**6.83**	**30**	P	**Pn**	**01 48 40.1**	**-1.1**
	SNR=5.7						
TKM2	**Tokmak 2**	**6.83**	**30**	⇓P	**Pn**	**01 48 39.7**	**-1.5**
	2.6nm,0.6s						
GEYT	**Alibeck**	**10.19**	**278**	Pn	Pn	01 49 22.3	-3.4
	0.3nm,0.3s,baz=93,slow=16,SNR=3.5						
GEYT				Sn	**Sn**	**01 51 14.3**	**-4.1**
	1.0nm,0.3s,baz=223,slow=55,SNR=8.0						
MK31	**Makanchi Array**	**12.85**	**38**	P	**Pn**	**01 49 57.9**	**-2.6**
	0.7nm,0.8s,baz=218,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**12.85**	**38**	Pn	**Pn**	**01 49 58.3**	**-2.1**
	0.1nm,0.3s,baz=222,slow=12,SNR=7.1						
AB31	**Akbulak array**	**14.51**	**330**	P	**Pn**	**01 50 23.0**	**+1.6**
	0.1nm,0.3s,baz=353,slow=24,SNR=7.0						
ZALV	**Zalesovo Beam**	**19.40**	**25**	P	**Pn**	**01 51 19.3**	**-0.9**
	0.8nm,0.3s,baz=224,slow=12,SNR=3.8						
NOA	**NORSAR Array B**	**43.85**	**323**	P	P	01 55 02.2	+8.0
	0.2nm,0.5s,baz=102,slow=7.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.65**	**268**	P	**P**	**01 57 33.9**	**+2.2**
	0.1nm,0.5s,baz=49,slow=6.5,SNR=4.6						

*IDC **05** 01:50:43.3±1.3, 11°59S×165°09E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.7/47, mbtmp4.0/7, ML3.3/1, Error ellipse: s-maj=30.5km s-min=29.1km az=69.0*
*ISCJB **05** 01:50:46.8±1.1, 11°7S±0°1×165°1E±0°2, h34km, mb3.9/6, Error ellipse: s-maj=25.9km s-min=18.7km az=155.7*

ISC 05 01:50:48.5±1.2, 11°6S±0°1×165°1E±0°2, h34km, n7, σ0s73/7, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.49**	**173**	Pn	**Pn**	**01 53 17.4**	**+0.8**
	0.2nm,0.3s,baz=344,slow=20,SNR=3.7						
URZ	**Urewera**	**28.64**	**160**	P	**P**	**01 56 40.8**	**-1.1**
	3.5nm,0.3s,baz=305,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**30.67**	**250**	P	**P**	**01 56 59.9**	**-0.3**
	0.9nm,0.8s,baz=78,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**31.95**	**244**	P	**P**	**01 57 11.4**	**0.0**
	1.2nm,0.8s,baz=75,slow=9.7,SNR=10						
FITZ	**Fitzroy Crossi**	**38.59**	**256**	P	**P**	**01 58 08.5**	**-0.1**
	3.0nm,1.0s,baz=101,slow=10,SNR=2.4						
ILAR	**Eielson Array**	**84.25**	**19**	P	**P**	**02 03 16.7**	**+0.4**
	0.2nm,0.6s,baz=240,slow=4.7,SNR=4.6						
MKAR	**Makanchi Array**	**93.48**	**317**	P	**P**	**02 04 00.8**	**0.0**
	1.2nm,1.1s,baz=93,slow=4.9,SNR=3.7						

*ISCJB **05** 01:54:50.5±0.4, 67°62N±0°04×142°3E±0°1, h10km, mb3.6/13, MS2.7/1, Error ellipse: s-maj=7.3km s-min=6.1km az=164.8*
*IDC **05** 01:54:50.4±0.8, 67°57N×142°32E, h0km, mb3.7/13, mb1 3.9/16, mb1mx3.7/45, mbtmp3.6/16, ML3.3/3, MS2.8/2, Ms1 2.8/2, ms1mx2.4/42, Error ellipse: s-maj=22.0km s-min=15.7km az=177.0*
*YARS **05** 01:54:51.9±0.3, 67°64N±0°02×142°41E±0°04*

ISC 05 01:54:51.9±0.5, 67°60N±0°05×142°44E±0°04, h10km, n24, σ1s36/29, mb3.6/13, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.18**	**165**	*e*P	**Pb**	**01 55 13.9**	**-0.3**
MOMR				Pmax		01 55 13.9	
	comp=Z,217nm,0.5s						
MOMR				*e*S	**Sb**	**01 55 30.1**	**+0.7**
MOMR				Smax		01 55 30.1	
	comp=N,4μm,0.6s						
YBGR	**Belaya Gora**	**1.70**	**55**	*e*P	**Pn**	**01 55 21.7**	**+0.3**
YBGR				Pmax		01 55 21.7	
	comp=Z,385nm,0.3s						
YBGR				*e*S	**Sn**	**01 55 43.9**	**+0.8**
YBGR				Smax		01 55 43.9	
	comp=N,4μm,0.3s						
DEPR	**Deputatskiy**	**2.03**	**334**	*e*P	**Pn**	**01 55 25.9**	**-0.2**
DEPR				*e*P	**Pb**	**01 55 27.7**	**-1.1**
DEPR				Pmax		01 55 27.7	
	comp=Z,71nm,0.2s						
DEPR				*e*S	**Sn**	**01 55 53.9**	**+2.4**
DEPR				Smax		01 55 53.9	
	comp=E,662nm,0.2s						
BTGS	**Batagay**	**2.98**	**275**	*e*P	**Pn**	**01 55 40.9**	**+1.8**
BTGS				*e*P	**Pb**	**01 55 43.9**	**-1.1**
BTGS				Pmax		01 55 43.9	
	comp=Z,108nm,0.4s						
BTGS				*e*S	**Sb**	**01 56 24.2**	**+2.8**
BTGS				Smax		01 56 24.2	
	comp=N,677nm,0.4s						
TIXI	**Tiksi**	**6.24**	**317**	Pn	**Pn**	**01 56 23.6**	**-0.1**
	comp=N,0.1nm,0.3s,baz=132,slow=18,SNR=48						
TIXI				Sn	**Sn**	**01 57 30.3**	**-4.6**
	comp=N,0.1nm,0.3s,baz=315,slow=24,SNR=8.0						
TIXI				Lg	Lg	01 58 00.4	
	comp=N,0.1nm,0.3s,baz=42,slow=24,SNR=6.9						
SEY	**Seymchan**	**6.27**	**134**	Pn	**Pn**	**01 56 23.3**	**-0.9**
	comp=N,0.3nm,0.3s,baz=315,slow=20,SNR=2.6						
SEY				Lg	Lg	01 58 03.4	
	comp=N,1.1nm,0.3s,baz=40,slow=13,SNR=4.9						
MA2	**Magadan**	**8.86**	**151**	Lg	Lg	01 59 24.6	
	comp=N,0.8nm,0.3s,baz=323,slow=20,SNR=3.0						
MA2				LR	LR	02 00 25.0	
	comp=N,49nm,20.7s,baz=90,slow=38						
KLR	**Kul'dur**	**19.20**	**202**	P	**P**	**01 59 15.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=60,slow=8.1,SNR=2.3						
NRIK	**Noril'sk**	**19.65**	**300**	P	**P**	**01 59 20.4**	**+0.1**
	comp=N,0.3nm,0.3s,baz=151,slow=19,SNR=1.8						
NRIK				Lg	Lg	02 05 00.5	
	comp=N,0.3nm,0.3s,baz=93,slow=3.0,SNR=3.7						
ILAR	**Eielson Array**	**27.27**	**62**	P	**P**	**02 00 36.3**	**+0.5**
	comp=N,0.8nm,0.8s,baz=301,slow=7.2,SNR=12						
INK	**Inuvik**	**29.29**	**49**	P	**P**	**02 00 54.7**	**+1.0**
	comp=N,0.2nm,0.4s,baz=331,slow=5.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**29.96**	**272**	PcP	**PcP**	**02 04 01.1**	**-0.7**
	comp=N,0.5nm,0.4s,baz=42,slow=2.3,SNR=2.6						
KSRS	**Korea Array**	**31.28**	**203**	LR	LR	02 13 14.6	
	comp=N,17nm,18.3s,baz=175,slow=35						
MKAR	**Makanchi Array**	**36.66**	**266**	P	**P**	**02 01 58.4**	**+0.1**
	comp=N,2.8nm,0.8s,baz=27,slow=6.6,SNR=23						
YKA	**Yellowknife Ar**	**38.91**	**46**	P	**P**	**02 02 17.9**	**+0.9**
	comp=N,0.5nm,0.8s,baz=323,slow=8.1,SNR=7.8						
FINES	**FINESS Array B**	**43.26**	**321**	P	**P**	**02 02 53.0**	**+0.3**
	comp=N,0.9nm,0.6s,baz=28,slow=8.6,SNR=6.1						
NOA	**NORSAR Array B**	**46.85**	**330**	P	**P**	**02 03 21.2**	**-0.2**
	comp=N,1.0nm,0.8s,baz=23,slow=7.8,SNR=2.9						
AKASG	**Malin Array Be**	**51.92**	**312**	P	**P**	**02 03 59.9**	**-0.3**
	comp=N,0.3nm,0.3s,baz=27,slow=8.3,SNR=1.6						
SCHQ	**Schefferville**	**55.95**	**20**	P	**P**	**02 04 29.1**	**-0.4**
	comp=N,2.3nm,0.8s,baz=312,slow=12,SNR=2.9						
PDAR	**Pinedale Array**	**57.48**	**56**	P	**P**	**02 04 41.7**	**+0.8**
	comp=N,0.6nm,0.6s,baz=6.5,slow=1.8,SNR=7.3						
NVAR	**Mina Array Bea**	**58.45**	**65**	P	**P**	**02 04 48.4**	**+0.7**
	comp=N,0.4nm,0.6s,baz=331,slow=5.4,SNR=3.7						
ESDC	**Sonseca Array**	**70.07**	**333**	P	**P**	**02 06 03.1**	**-0.5**
	comp=N,0.4nm,0.6s,baz=352,slow=7.9,SNR=3.7						
TXAR	**Lajitas Array**	**71.67**	**57**	P	**P**	**02 06 13.9**	**+0.3**
	comp=N,0.2nm,0.6s,baz=318,slow=3.5,SNR=3.8						
WRA	**Warramunga Arr**	**87.49**	**188**	P	**P**	**02 07 38.2**	**-1.1**
	comp=N,0.2nm,0.7s,baz=2.9,slow=5.8,SNR=4.0						

*IDC **05** 01:58:03.9±43.0, 6°57S×104°69E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/36, mbtmp3.6/3, Error ellipse: s-maj=741.1km s-min=192.3km az=132.0*
*DJA **05** 01:58:11.6±2.1, 7°S±7°×10°5E±°, h28km±25km, M3.7/6, MLv3.7/6*
*ISCJB **05** 01:58:12.5±0.9, 7°13S±0°07×105°35E±0°07, h23km, mb3.3/3, Error ellipse: s-maj=12.4km s-min=7.3km az=137.5*

ISC 05 01:58:11.9±1.2, 7°06S±0°09×105°2E±0°1, h23km, n17, σ2s38/12, mb3.3/3, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**1.29**	**44**	P	**Pn**	**01 58 35.0**	**+0.4**
SBJI				S	**Sn**	**01 58 51.6**	**+0.4**
KASI	**Kota Agung**	**1.69**	**334**	P	**Pn**	**01 58 41.5**	**-0.9**
KASI				S	**Sb**	**01 59 05.8**	**+2.5**
LWLI	**Liwa**	**2.34**	**330**	P	**Pb**	**01 58 50.7**	**-2.8**
LEM	**Lembang**	**2.38**	**84**	P	Pn	01 58 43.7	-6.0
CISI	**Cisompet, Garu**	**2.61**	**101**	P	**Pn**	**01 58 52.3**	**-0.5**
MDSI	**Maura Dua**	**2.77**	**338**	P	**Pb**	**01 58 57.7**	**-3.0**
MNAI	**Manna**	**3.51**	**320**	P	**Pb**	**01 59 11.5**	**-1.9**
KPJI	**Karang Pucung**	**3.68**	**94**	P	**Pn**	**01 59 03.7**	**-3.8**
H01W3	**Cape Leeuwin H**	**28.88**	**165**	T	T	02 34 15.7	
	baz=343,slow=76,SNR=76						
H01W1	**Cape Leeuwin H**	**28.89**	**165**	T	T	02 34 22.5	
	baz=343,slow=76,SNR=56						
H01W2	**Cape Leeuwin H**	**28.89**	**165**	T	T	02 34 20.4	
	baz=343,slow=76,SNR=90						
WRA	**Warramunga Arr**	**31.00**	**117**	P	**P**	**02 04 29.2**	**+1.3**
	0.3nm,0.7s,baz=289,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**32.09**	**124**	P	**P**	**02 04 40.0**	**+2.3**
	0.2nm,0.5s,baz=302,slow=8.1,SNR=4.4						
H08S2	**Diego Garcia H**	**32.47**	**267**	T	T	02 38 49.3	
	baz=91,slow=76,SNR=228						
H08S3	**Diego Garcia H**	**32.47**	**267**	T	T	02 38 50.1	
	baz=91,slow=76,SNR=368						
H08S1	**Diego Garcia H**	**32.49**	**267**	T	T	02 38 50.8	
	baz=91,slow=76,SNR=54						
STKA	**Stephens Creek**	**41.91**	**131**	P	**P**	**02 06 02.1**	**+1.2**
	0.4nm,0.3s,baz=319,slow=9.3,SNR=3.7						

*BJI **05** 02:08:59.1, 5°40S×104°80E, h21km, mb4.7/31, mB5.0/25, Ms4.6/14, Ms7 4.4/12*
*IDC **05** 02:08:59.9±2.0, 5°42S×104°79E, h24km±11km, mb4.4/22, mb1 4.5/22, mb1mx4.5/32, mbtmp4.5/22, ML5.5/1, MS3.9/23, Ms1 3.9/23, ms1mx3.7/39, Error ellipse: s-maj=16.3km s-min=9.9km az=49.0*
*DJA **05** 02:09:00.2±0.2, 6°S±2°×10°5E±°, h10km, M4.9/16, mb5.1/16, mB5.2/4, MLv5.0/12, Mw(mB)4.6/4*
*ISCJB **05** 02:09:01.5±0.5, 5°43S±0°04×104°79E±0°03, h51km±3km, mb4.7/82, MS4.0/30, Error ellipse: s-maj=7.2km s-min=3.7km az=42.0*
*NEIC **05** 02:09:01.8±0.2, 5°40S×104°75E, h35km, mb4.8/35, Error ellipse: s-maj=9.7km s-min=4.9km az=46.0*
NEIC Felt [III] at Tanggamus.
*MOS **05** 02:09:01.2±1.1, 5°10S×104°54E, h33km, mb4.8/28, MS4.1/6, Error ellipse: s-maj=11.6km s-min=7.2km az=95.2*
*KLM **05** 02:09:05.9, 5°66S×104°82E, h56km, mb4.8*

ISC 05 02:08:60.0±0.8, 5°51S±0°04×104°70E±0°03, h23km±5km, n742, σ1s59/761, mb4.8/87, MS4.0/32, 28C-8D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.20**	**267**	P	**Pb**	**02 09 03.7**	**-1.8**
KASI				S	**Sb**	**02 09 08.3**	**-0.9**
BLSI	**Bandar Lampung**	**0.56**	**75**	P	**Pb**	**02 09 09.0**	**-2.2**
BLSI				S	**Sb**	**02 09 17.1**	**-1.7**
KLI	**Kotabumi**	**0.66**	**13**	P	**Pb**	**02 09 12.8**	**-0.1**
KLI				S	**Sb**	**02 09 23.4**	**+1.7**
LWLI	**Liwa**	**0.81**	**307**	P	**Pb**	**02 09 16.2**	**+0.8**
MDSI	**Maura Dua**	**1.15**	**333**	P	**Pn**	**02 09 21.3**	**+0.7**
SBJI	**Serang**	**1.54**	**113**	P	**Pn**	**02 09 26.0**	**-0.1**
TNG	**Tangerang**	**2.04**	**109**	P	**Pn**	**02 09 34.9**	**+1.9**
LHSI	**Lahat**	**2.04**	**325**	P	**Pn**	**02 09 36.1**	**+3.1**
MNAI	**Manna**	**2.08**	**303**	*e*Pn	**Pn**	**02 09 36.5**	**+2.9**
MNAI				*e*Sn	**Sn**	**02 09 59.1**	**+0.3**
MNAI	**Manna**	**2.08**	**303**	P	**Pn**	**02 09 36.9**	**+3.4**
PMBI	**Palembang**	**2.57**	**2**	P	Pb	02 09 51.7	+6.3
JCJI	**Jatiwangi**	**3.68**	**105**	P	**Pb**	**02 10 08.0**	**+3.7**
CISI	**Cisompet, Garu**	**3.70**	**123**	*e*Pn	**Pn**	**02 09 56.5**	**+0.7**
CISI				*e*Sn	**Sn**	**02 10 39.4**	**+0.6**
CISI	**Cisompet, Garu**	**3.70**	**123**	P	**Pn**	**02 09 55.8**	**-0.1**
KPJI	**Karang Pucung**	**4.58**	**114**	P	**Pn**	**02 10 09.8**	**+2.0**
KRJI	**Kerinci**	**4.69**	**316**	P	**Pn**	**02 10 14.2**	**+4.7**
XMIS	**Christmas Isla**	**5.03**	**169**	*e*Pn	Pn	02 10 09.4	-4.7
XMIS				*e*Sn	**Sn**	**02 11 04.7**	**-6.8**
UGM	**Wanagama**	**6.25**	**113**	*e*Pn	**Pn**	**02 10 29.1**	**-1.8**
UGM				*e*Sn	**Sn**	**02 11 35.9**	**-5.9**
NGJI	**Ngawi**	**6.96**	**106**	P	Pb	02 10 54.2	-6.1
MYKOM	**Kota Tinggi**	**7.30**	**353**	P	Pn	02 10 52.4	+7.0
PWJI	**Pagerwojo**	**7.48**	**110**	P	**Pn**	**02 10 51.6**	**+3.8**
	199nm,1.0s,0.6nm						
KGM	**Kluang**	**7.60**	**349**	P

CM01 ePcP PcP 02 17 56.2 +0.2
CM31 Chiang Mai Arr 24.48 347 eP P 02 14 16.6 -1.1
9.4nm,0.9s
CM31 ePcP PcP 02 17 56.2 0.0
CMAR Chiang Mai Arr 24.48 347 ceP P 02 14 16.1 -1.6
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR Chiang Mai Arr 24.48 347 P P 02 14 16.6 -1.1
comp=Z,3.0nm,0.7s,baz=182,slow=9.3,SNR=13
CMAR PcP PcP 02 17 56.2 0.0
comp=Z,2.1nm,0.5s,baz=205,slow=3.0,SNR=9.8
CMAR LR LR 02 26 01.9
comp=Z,221nm,18.7s,baz=174,slow=42
QIZ Qiongzhong 24.91 12 P P 02 14 22.6 +1.2
QIZ S S 02 18 45.4 +1.8
QIZ LR LR
comp=Z,360nm,12.1s
QIZ LR LR
comp=Z,280nm,4.6s
MORW Morawa 25.77 157 eP P 02 14 29.4 +0.2
comp=Z,14nm,1.0s
MTN Manton Dam 27.07 107 eP P 02 14 43.1 +1.9
comp=Z,36nm,0.8s
PALK Pallekele 27.11 298 LR LR 02 24 10.9
comp=Z,503nm,20.4s,baz=116,slow=34
H01W3 Cape Leeuwin H 30.50 165 T T 02 46 52.5
baz=342,slow=76,SNR=48
KMI Kunming 30.51 356 P P 02 15 16.2 +4.3
KMI pmax pmax
comp=Z,19nm,0.5s
KMI LR LR
comp=Z,350nm,10.1s
KMI LR LR
comp=Z,400nm,16.3s
KMI LR LR
comp=Z,290nm,13.7s
H01W1 Cape Leeuwin H 30.52 165 T T 02 46 52.5
baz=342,slow=76,SNR=66
H01W2 Cape Leeuwin H 30.52 165 T T 02 46 52.7
baz=342,slow=76,SNR=88
GYA Guiyang 31.84 3 eP P 02 15 26.0 +2.6
GYA pmax pmax
comp=Z,10.0nm,0.8s
H08S2 Diego Garcia H 32.06 264 T T 02 48 49.5
baz=89,slow=76,SNR=12
H08S3 Diego Garcia H 32.07 264 T T 02 48 51.6
baz=89,slow=76,SNR=12
H08S1 Diego Carcia H 32.08 264 T T 02 48 48.4
baz=89,slow=76,SNR=4.7
WRA Warramunga Arr 32.19 119 P P 02 15 25.2 -1.3
comp=Z,12nm,0.8s,baz=292,slow=10,SNR=60
WRA PcP PcP 02 18 14.7 -0.5
comp=Z,3.3nm,0.7s,baz=319,slow=2.1,SNR=12
WR1 Warramunga Arr 32.19 119 eP P 02 15 25.2 -1.3
comp=Z,11nm,0.7s
WR1 ePcP PcP 02 18 14.7 -0.5
WRAB Tennant Creek 32.19 119 eP P 02 15 25.2 -1.3
comp=Z,15nm,0.8s
WRAB Tennant Creek 32.19 119 d iP P 02 15 25.5 -1.1
WRAB pmax pmax
comp=Z,40nm,2.5s
WB2 Warramunga Arr 32.20 119 eP P 02 15 25.4 -1.2
comp=Z,11nm,0.8s
WB2 ePcP PcP 02 18 15.2 -0.1
FORT Forrest 33.37 142 eP P 02 15 38.0 +1.2
comp=Z,13nm,0.8s
FORT ePcP PcP 02 18 18.9 +0.7
ASAR Alice Springs 33.41 126 P P 02 15 36.8 -0.4
comp=Z,18nm,0.7s,baz=300,slow=8.2,SNR=161
ASAR PcP PcP 02 18 18.7 +0.1
comp=Z,6.8nm,0.7s,baz=307,slow=2.1,SNR=24
ASAR S S 02 20 55.5 -1.9
comp=Z,3.0nm,0.9s,baz=293,slow=16,SNR=12
ASAR LR LR 02 29 59.0
comp=Z,104nm,21.1s,baz=303,slow=38
AS31 Alice Springs 33.41 126 eP P 02 15 36.7 -0.5
comp=Z,8.4nm,0.9s
AS31 ePcP PcP 02 18 18.7 +0.1
AS31 eS S 02 20 55.5 -1.9
AS01 Alice Springs 33.44 126 eP P 02 15 36.5 -1.0
AS01 ePcP PcP 02 18 18.3 -0.3
CD2 Chengdu 36.23 359 P P 02 16 02.6 +1.2
CD2 PP PP 02 17 27.3 +3.2
CD2 S S 02 21 36.3 -4.3
CD2 sS sS 02 21 52.4 +0.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.8s
CD2 LR LR
comp=Z,680nm,12.9s
CD2 LR LR
comp=Z,670nm,15.3s
JIRN Jiri 37.51 332 ePn P 02 16 11.0 -1.8
GUN Gumba 37.87 332 ePn P 02 16 14.1 -1.7
GKN Gorkha 38.54 331 ePn P 02 16 19.3 -1.9
COEN Coen 38.79 105 eP P 02 16 22.2 -1.1
comp=Z,21nm,0.9s
KOLN Koldanda 38.86 329 ePn P 02 16 22.0 -1.9
comp=Z,16nm,0.8s
DANN Dangsing 39.26 330 ePn P 02 16 25.4 -2.0
comp=Z,23nm,0.7s
PYUN Piuthan 39.44 329 ePn P 02 16 26.8 -2.0
comp=Z,9.1nm,0.6s
XAN Xi'an 39.54 6 P P 02 16 27.1 -2.2
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN pmax pmax
comp=Z,78nm,3.6s
NJ2 Nanjing 39.71 19 eP P 02 16 30.5 -0.2
NJ2 pmax pmax
comp=Z,14nm,0.5s
BBOO Buckleboo 39.89 137 eP P 02 16 31.7 -0.6
comp=Z,19nm,0.8s
LZH Lanzhou 41.39 359 eP P 02 16 48.1 +3.4
LZH pP pP 02 16 54.2 +2.3
LZH sP sP 02 16 57.2 +2.5
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.5s
LZH LR LR
comp=Z,590nm,13.0s
LZH LR LR
comp=Z,770nm,14.1s
LZH LR LR
comp=Z,720nm,14.1s
STKA Stephens Creek 43.33 132 eP P 02 17 00.2 -0.3
comp=Z,7.8nm,0.8s
STKA Stephens Creek 43.33 132 P P 02 17 00.5 0.0
comp=Z,31nm,0.7s,baz=307,slow=8.1,SNR=88
STKA PcP PcP 02 18 48.9 -0.3
comp=Z,6.3nm,0.6s,baz=318,slow=8.1,SNR=3.4
STKA LR LR 02 35 10.3
comp=Z,165nm,21.7s,baz=315,slow=36
GTA Gaotai 44.92 355 eP P 02 17 17.1 +3.8
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,97nm,5.4s
GTA LR LR
comp=Z,250nm,16.5s
GTA LR LR
comp=Z,200nm,16.5s
GTA LR LR
comp=Z,330nm,16.8s
HHC Hu-ho-hao-te 46.56 7 eP P 02 17 29.4 +3.2
HHC pP pP 02 17 36.8 +3.5
HHC PP PP 02 19 12.5 -3.4
HHC S S 02 24 20.4 +6.7
HHC sS sS 02 24 26.9 +1.2
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,100nm,4.7s
HHC LR LR
comp=Z,340nm,12.7s
HHC LR LR
comp=Z,180nm,12.2s
HHC LR LR
comp=Z,520nm,12.6s
KS15 Wonju Array Si 47.89 25 eP P 02 17 37.1 +0.7
comp=Z,14nm,1.5s
KSAR Wonju Array Be 47.89 25 P P 02 17 37.1 +0.8
KSAR Wonju Array Be 47.89 25 P P 02 17 37.2 +0.8
KSRS Korea Array 47.92 25 P P 02 17 37.1 +0.6
comp=Z,2.1nm,0.5s,baz=221,slow=7.6,SNR=13
KS01 Wonju Array Si 47.92 25 eP P 02 17 35.9 -0.8
NIL Nilore 49.02 325 eP P 02 17 43.5 -1.8
comp=Z,7.2nm,0.8s
NIL Nilore 49.02 325 eP P 02 17 43.5 -1.8
NIL pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 51.45 344 P P 02 18 04.2 +0.6
WMQ pP pP 02 18 10.7 -0.1
WMQ sP sP 02 18 17.7 +4.0
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,200nm,4.3s
WMQ LR LR
comp=Z,220nm,21.1s
WMQ LR LR
comp=Z,210nm,27.1s
KSH Kashi 52.07 332 eP P 02 18 11.8 +3.5
KSH pmax pmax
comp=Z,4.0nm,0.5s
MAJO Matsushiro 52.27 34 eP P 02 18 08.4 -1.4
MAJO Matsushiro 52.27 34 eP P 02 18 08.4 -1.4
MJAR Matsushiro Arr 52.27 34 P P 02 18 08.4 -1.4
comp=Z,5.6nm,0.9s,baz=216,slow=6.8,SNR=6.9
MJAR LR LR 02 41 57.9
comp=Z,46nm,19.7s,baz=105,slow=38
CN2 Changchun 52.54 19 eP P 02 18 13.2 +1.6
SONA0 Songino Array 53.14 1 eP P 02 18 16.1 0.0
SONA0 ePcP PcP 02 19 23.1 -1.0
SONA0 eScP ScP 02 23 18.4 -2.1
SONM Songino Array 53.14 1 P P 02 18 16.1 0.0
comp=Z,5.4nm,0.8s,baz=176,slow=8.3,SNR=36
SONM PcP PcP 02 19 23.1 -1.0
comp=Z,2.0nm,0.5s,baz=181,slow=4.5,SNR=6.7
SONM ScP ScP 02 23 18.4 -2.1
comp=Z,0.5nm,0.8s,baz=171,slow=4.1,SNR=3.9
ULN Ulaanbaatar 53.19 2⇑ iP P 02 18 16.2 -0.3
ULN pmax pmax
comp=Z,2.0nm,0.8s
NRN Naryn 53.59 333 eP P 02 18 17.7 -2.0
comp=Z,2.0nm,0.8s
NRN ePcP PcP 02 19 26.4 +0.1
NRN Naryn 53.59 333 eP P 02 18 17.7 -2.0
NRN e 02 19 26.4
NRN pmax pmax
comp=Z,2.0nm,0.8s
HNR Honiara 54.87 98 LR LR 02 44 51.6
comp=Z,32nm,20.4s,baz=250,slow=39
USA0B Ussuriysk Arra 55.25 24 eP P 02 18 30.6 -0.8
comp=Z,19nm,1.4s
USA0B Ussuriysk Arra 55.25 24 eP P 02 18 30.6 -0.8
USA0B pmax pmax
comp=Z,19nm,1.4s
USRK Ussuriysk Ar. 55.25 24 P P 02 18 31.0 -0.4
USRK Ussuriysk Ar. 55.25 24 P P 02 18 31.0 -0.4
comp=Z,6.4nm,0.7s,baz=199,slow=6.3,SNR=21
MK01 Makanchi Array 55.72 342 eP P 02 18 32.2 -2.5
MK31 Makanchi Array 55.74 342 eP P 02 18 33.2 -1.7
MK31 Makanchi Array 55.74 342 eP P 02 18 33.2 -1.7
MK32 Makanchi Array 55.74 342 eP P 02 18 32.9 -2.0
MK32 eScP ScP 02 23 31.8 0.0
MKAR Makanchi Array 55.74 342 P P 02 18 32.9 -2.0
comp=Z,2.2nm,0.7s,baz=147,slow=7.8,SNR=29
MKAR ScP ScP 02 23 31.8 0.0
comp=Z,0.2nm,0.6s,baz=146,slow=2.8,SNR=2.6
MKAR LR LR 02 45 36.4
comp=Z,132nm,22.0s,baz=168,slow=39
ALNE Al Ain 56.02 304 P P 02 18 38.3 +0.9
ASHO Ashiyiah 56.03 305 i P P 02 18 38.0 +0.6
SNR=6.8
HATD Hatta, Dubai 56.03 305 i P P 02 18 38.4 +1.0
SNR=6.1
MDH Madha 56.11 305 P P 02 18 37.6 -0.4
HIA Hailar 56.11 12⇑ eP P 02 18 36.4 -1.1
HIA pmax pmax
comp=Z,3.0nm,1.0s
MSFE Esma-Masafi 56.25 305 P P 02 18 39.9 +0.9
FAQ Al Faqa, Dubai 56.44 304 i P P 02 18 41.0 +0.7
SNR=6.5
NAZ Nazwa, Dubai 56.49 305 P P 02 18 40.9 +0.2
TLY Talaya 56.98 359 eP P 02 18 43.4 -0.2
TLY eS S 02 26 27.0 -10
TLY eSS SS 02 30 24.1 -1.4
TLY pmax pmax
comp=Z,7.0nm,0.8s
TLY MLR MLR
comp=Z,316nm,14.0s
KLR Kul'dur 59.40 20 deP P 02 18 59.3 -1.3
KURK Kurchatov 60.35 341 eP P 02 19 05.1 -2.0
comp=Z,3.2nm,0.9s
KURK Kurchatov 60.35 341 eP P 02 19 05.1 -2.0
KURK pmax pmax
comp=Z,3.0nm,0.9s
GEYT Alibeck 61.15 319 P P 02 19 12.0 -0.9
comp=Z,2.0nm,0.4s,baz=147,slow=6.7,SNR=6.5
GEYT LR LR 02 48 48.0
comp=Z,120nm,20.3s,baz=165,slow=39
GYA0B ALIBECK ARRAY 61.15 319 eP P 02 19 11.8 -1.1
comp=Z,7.0nm,1.1s
ZAA0 Zalesovo Array 61.55 347 eP P 02 19 13.1 -2.0
comp=Z,3.5nm,0.9s
ZALV Zalesovo Beam 61.55 347 eP P 02 19 12.6 -2.6
ZALV Zalesovo Beam 61.55 347 P P 02 19 12.9 -2.3
comp=Z,1.1nm,0.4s,baz=157,slow=4.8,SNR=7.2
ZALV PcP PcP 02 19 55.7 -1.1
comp=Z,2.0nm,0.6s,baz=158,slow=3.3,SNR=3.9
ZALV LR LR 02 48 15.4
comp=Z,88nm,21.0s,baz=48,slow=38
ZAA1 Zalesovo Array 61.56 347 eP P 02 19 12.9 -2.3
ZAA1 ePcP PcP 02 19 55.6 -1.1
DZM Mont Dzumac 61.78 112 eSS SS 02 31 43.1 +1.0
comp=Z,85nm,23.0s
DZM eLR LR 02 37 42.3
comp=Z,203nm,25.7s
DZM Mont Dzumac 61.78 112 LR LR 02 49 08.6
comp=Z,70nm,19.0s,baz=223,slow=39
YSS Yuzh-Sakhalins 62.13 29 eP P 02 19 18.7 -0.5
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
BOD Bodaibo 63.57 6 eP P 02 19 26.4 -2.2
BOD pmax pmax
comp=Z,7.0nm,1.8s
RAYN Ar Rayn 64.53 299 eP P 02 19 35.9 +0.2
comp=Z,3.4nm,0.8s
RAYN Ar Rayn 64.53 299 i P P 02 19 35.8 +0.1
SNR=7.5
RAYN Ar Rayn 64.53 299 eP P 02 19 35.9 +0.2
RAYN pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 65.19 338⇓ iP P 02 19 38.8 -0.5
BRVK pmax pmax
comp=Z,2.0nm,0.9s
ABKAR Akbulak array 66.98 330 eP P 02 19 48.8 -2.1
KMBO Kilima Mbogo 67.45 271 eP P 02 19 56.4 +1.5
comp=Z,3.7nm,1.3s
KMBO ePcP PcP 02 20 22.7 +0.4
KMBO Kilima Mbogo 67.45 271 eP P 02 19 56.4 +1.5
KMBO e 02 20 22.7
KMBO pmax pmax
comp=Z,4.0nm,1.3s
KMBO Kilima Mbogo 67.45 271 P P 02 19 56.4 +1.5
comp=Z,1.3nm,0.7s,baz=81,slow=11,SNR=5.8
KMBO PcP PcP 02 20 22.7 +0.4
comp=Z,0.8nm,0.7s,baz=48,slow=15,SNR=3.1
KMBO LR LR 02 44 45.1
comp=Z,146nm,20.7s,baz=100,slow=32
MAW Mawson 68.14 196 LR LR 02 48 17.1
comp=Z,104nm,18.4s,baz=16,slow=34
ODZ Otahua Downs 69.21 136 eP P 02 20 02.8 -2.3
comp=Z,42nm,1.5s
GNI Garni 71.30 316⇓ eP P 02 20 19.1 +1.0
GNI pmax pmax
comp=Z,49nm,1.2s
ARU Arti 72.31 335 d iP P 02 20 21.8 -1.8
ARU 02 22 58.7
ARU S S 02 29 44.9 -0.5
ARU SS SS 02 34 19.9 -4.0
ARU pmax pmax
comp=Z,5.0nm,1.1s
ARU MLR MLR
comp=Z,214nm,25.0s
BKZ Black Stump Fm 72.43 129 eP P 02 20 24.3 -0.5
comp=Z,46nm,1.3s
ZEI Tsey 72.97 318 eP P 02 20 25.5 -2.6
ZEI pmax pmax
comp=Z,8.0nm,0.6s
PETK Petropavlovsk- 73.44 30 P P 02 20 29.1 -1.2
comp=Z,2.9nm,0.8s,baz=241,slow=11,SNR=2.9
PETK LR LR 02 56 19.4
comp=Z,49nm,18.2s,baz=187,slow=39
PEA1 Petropavlovsk- 73.44 30 eP P 02 20 29.1 -1.3
KBZ Khabaz 74.02 318 P P 02 20 33.6 -0.4
comp=Z,6.4nm,0.8s,baz=117,slow=5.6,SNR=9.9
KBZ LR LR 02 56 45.6
comp=Z,40nm,20.5s,baz=104,slow=39
MA2 Magadan 74.37 22⇓ eP P 02 20 34.3 -1.4
MA2 pmax pmax
comp=Z,12nm,2.5s
LSZ Lusaka 75.58 256 eP P 02 20 44.5 +0.7
comp=Z,4.9nm,0.8s
LSZ Lusaka 75.58 256 eP P 02 20 44.5 +0.7
LSZ pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 77.84 169 P P 02 20 55.2 -0.1
comp=Z,5.3nm,1.0s,baz=326,slow=5.7,SNR=7.2
VRH Novokhopyorsk 77.86 325 eP P 02 20 53.8 -1.9
VRH pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 78.13 242 P P 02 20 58.5 +0.5
comp=Z,4.8nm,0.7s,baz=106,slow=5.9,SNR=13
BOSA LR LR 02 48 42.5
comp=Z,64nm,18.6s,baz=84,slow=30
BR101 Keskin Array S 79.14 312 eP P 02 21 01.9 -1.3
BR131 Keskin Array S 79.14 312 eP P 02 21 02.2 -1.1
BRTR Keskin Array B 79.14 312 P P 02 21 02.0 -1.3
BRTR Keskin Array B 79.14 312 P P 02 21 01.9 -1.3
comp=Z,2.6nm,0.8s,baz=126,slow=6.5,SNR=15
BRTR LR LR 02 58 18.1
comp=Z,113nm,20.1s,baz=104,slow=37
VSR Storozhevoye 79.33 324 eP P 02 21 01.5 -2.4
VSR pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 80.01 326 eP P 02 21 06.3 -1.2
LPSR pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 82.25 327⇑ eP P 02 21 18.6 -0.7
OBN e 02 24 22.5
OBN ePPP PPP 02 26 19.1
OBN eS S 02 31 34.7 +1.4
OBN pmax pmax
comp=Z,46nm,2.5s
OBN MLR MLR
comp=Z,129nm,19.0s
YLV Yalova 82.52 312⇑ iP P 02 21 21.0 -0.2
KLMR Klimovskoe 83.03 333 eP P 02 21 21.9 -1.4
KLMR pmax pmax
comp=Z,17nm,1.4s
KLMR Klimovskoe 83.03 333 eP P 02 21 21.9 -1.4
KLMR AMP 02 21 23.8
comp=Z,17nm,1.4s
MFTR Murfatlar 84.05 315⇑ iP P 02 21 28.1 -0.8
QSPA South Pole Qui 84.47 180 eP P 02 21 31.1 +0.3
comp=Z,5.8nm,0.7s
LEOM Leova 84.71 318⇑ iP P 02 21 32.0 -0.2
BILL Bilibino 84.84 19⇑ eP P 02 21 31.5 -0.9
BILL e 02 24 51.2
BILL pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 85.12 322 P P 02 21 33.0 -1.1
comp=Z,3.0nm,0.6s,baz=89,slow=4.7,SNR=20
AKASG LR LR 03 04 09.4
comp=Z,43nm,20.6s,baz=75,slow=39
AKBB Malin Array Si 85.12 322 eP P 02 21 33.1 -1.0
comp=Z,7.1nm,0.6s
AKBB Malin Array Si 85.12 322 eP P 02 21 33.2 -1.0
AKBB pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 85.13 322 eP P 02 21 33.1 -1.1
comp=Z,6.9nm,0.6s
KIEV Kiev 85.13 322⇑ iP P 02 21 33.0 -1.2
KIEV Kiev 85.13 322 i P P 02 21 33.1 -1.1
SNR=6.3
KIEV Kiev 85.13 322 eP P 02 21 33.1 -1.1
KIEV pmax pmax
comp=Z,7.0nm,0.6s
AK11 Malin Array Si 85.15 322 eP P 02 21 33.0 -1.3
VRI Vrincioaia 85.60 317⇑ iP P 02 21 37.4 +0.6
PLOR Plostina 85.65 317⇑ iP P 02 21 37.7 +0.7
NVL N'lazarevskaya 85.78 199 eP P 02 21 37.1 0.0
NVL pmax pmax
comp=Z,3.0nm,0.7s
TESR Tescani 85.80 317⇑ iP P 02 21 37.1 -0.6
MLR Muntele Rosu 86.06 316 eP P 02 21 39.5 +0.3
comp=Z,24nm,1.2s
MLR Muntele Rosu 86.06 316⇓ iP P 02 21 39.5 +0.3
MLR Muntele Rosu 86.06 316 eP P 02 21 39.5 +0.3
MLR pmax pmax
comp=Z,24nm,1.2s
BIZ Bicaz 86.25 318⇑ iP P 02 21 39.8 -0.1
PRAR RASCA 86.26 318⇑ iP P 02 21 40.1 +0.1
VOIR 86.67 316⇑ iP P 02 21 41.1 -1.0
ARR Arges 86.94 316⇑ iP P 02 21 43.1 -0.3
BURAR Bucovina Array 86.98 318⇑ iP P 02 21 44.4 +0.8
BUR08 Bucovina Ar. S 87.00 318 eP P 02 21 44.4 +0.6
VTS Vitosha 87.44 313 eP P 02 21 46.0 0.0
comp=Z,3.0nm,0.9s
VTS Vitosha 87.44 313⇑ iP P 02 21 45.4 -0.6
VTS Vitosha 87.44 313 eP P 02 21 46.0 0.0
VTS pmax pmax
comp=Z,3.0nm,0.9s
IDID Didziasalis 87.69 326 eP P 02 21 46.3 -0.4
IDID IAmb IAmb 02 21 47.2
comp=Z,9.7nm,0.8s
IIGN Ignalina 87.98 326 eP P 02 21 47.7 -0.4
IIGN IAmb IAmb 02 21 48.6
comp=Z,12nm,0.7s
IZAR Zarasai 88.06 326 eP P 02 21 48.7 +0.2
IZAR IAmb IAmb 02 21 50.6
comp=Z,4.4nm,0.7s
ISAL Salakas 88.08 326 eP P 02 21 48.1 -0.4
ISAL IAmb IAmb 02 21 49.8
comp=Z,7.9nm,0.8s
BMR Baia Mare 88.14 318⇑ iP P 02 21 49.4 +0.4
DEV Deva 88.23 316⇑ iP P 02 21 49.9 +0.4
GZR Gura Zlata 88.23 316⇑ iP P 02 21 49.8 +0.2
VSU Vasula 88.40 329 eP P 02 21 49.1 -0.9
VSU IAmb IAmb 02 21 50.1
comp=Z,31nm,0.8s
DRGR 88.51 317⇑ iP P 02 21 50.9 0.0
TRPA Tarpa 88.85 318⇑ iP P 02 21 51.3 -1.1
MDVR Moldovita 88.88 315⇑ iP P 02 21 53.0 +0.3
KWP Kalwaria Pacla 88.99 320 eP P 02 21 53.0 0.0
KWP Kalwaria Pacla 88.99 320 eP P 02 21 52.4 -0.7
comp=Z,109nm,0.9s
KWP Kalwaria Pacla 88.99 320 eP P 02 21 53.0 0.0
SIRR Siria 89.14 316⇑ iP P 02 21 54.1 +0.3
FIA0 FINESS Array S 89.39 332 eP P 02 21 53.7 -0.9
FIA0 FINESS Array S 89.39 332 eP P 02 21 53.7 -0.9
FINES FINESS Array B 89.39 332 i P P 02 21 54.4 -0.2
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 89.39 332 P P 02 21 53.7 -0.9
comp=Z,4.3nm,0.8s,baz=120,slow=5.3,SNR=14
FINES LR LR 03 06 46.2
comp=Z,62nm,19.1s,baz=111,slow=39
SUW Suwalki 89.45 324 eP P 02 21 54.5 -0.5
SUW Suwalki 89.45 324 eP P 02 21 54.5 -0.5
comp=Z,34nm,0.9s
SUW Suwalki 89.45 324 eP P 02 21 54.5 -0.5
SUW pmax pmax
comp=Z,34nm,0.9s
DIVS Divibare 90.00 314 eP P 02 21 58.0 0.0
comp=Z,17nm,1.3s
SNAA Sanae 90.25 198 P P 02 22 00.8 +2.2
SNAA SKS SKSac 02 32 36.8 +8.6
SNAA Sanae 90.25 198 eP P 02 22 00.4 +1.8
comp=Z,13nm,0.9s
SNAA Sanae 90.25 198 eP P 02 22 00.4 +1.8
SNAA pmax pmax
comp=Z,13nm,0.9s
PDG Podgorica 90.32 312⇑ iP P 02 21 58.4 -1.0
NIE Niedzica 90.51 319 eP P 02 22 00.6 +0.4
NIE Niedzica 90.51 319 eP P 02 22 00.6 +0.4
VYHS Vyhne 91.35 318 eP P 02 22 03.7 -0.4
VYHS Vyhne 91.35 318 eP P 02 22 03.7 -0.4
VNA2 Neumayer--Watz 91.89 198 P P 02 22 08.9 +2.8
baz=108,slow=5.3
VNA2 SKS SKSac 02 32 13.2 -24

baz=15,slow=15
MODS Modra-Piesok 92.37 318 *e*P **P** **02 22 08.5 -0.3**
MODS Modra-Piesok 92.37 318 *e*P **P** **02 22 08.5 -0.3**
VNA3 Neumayer Olymp 92.44 197 P **P** **02 22 10.6 +1.9**
VNA3 SKS SKSac 02 32 23.2 -17
GEC2 GERESS Array S 94.77 318 *e*P **P** **02 22 18.8 -1.1**
comp=Z,2.2nm,0.8s
GEC2 GERESS Array S 94.77 318 *e*P **P** **02 22 18.8 -1.1**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s
GERES GERESS Array B 94.77 318 P **P** **02 22 18.8 -1.1**
comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=7.1
GERES LR LR 03 12 50.9
comp=Z,26nm,18.2s,baz=106,slow=40
KHC Kasperske Hory 94.86 319 *e*P **P** **02 22 20.1 -0.2**
KHC Kasperske Hory 94.86 319 *e*P **P** **02 22 20.1 -0.2**
NB200 NORSAR Array S 96.48 331 *e*P **P** **02 22 25.8 -1.6**
NOA NORSAR Array B 96.48 331 P **P** **02 22 25.8 -1.6**
comp=Z,0.8nm,0.8s,baz=95,slow=4.5,SNR=2.7
NOA LR LR 03 10 08.4
comp=Z,57nm,21.7s,baz=295,slow=38
COLA College 102.34 25⎍ *e*P **Pdif** **02 22 52.0 -1.4**
COLA pmax pmax
comp=Z,2.0nm,0.8s
ILAR Eielson Array 102.77 25 PP **PP** **02 27 08.7 -0.3**
comp=Z,0.2nm,0.6s,baz=282,slow=5.2,SNR=3.4
PPT2 Papeete2 103.22 109 *e*LR LR 02 56 57.5
comp=Z,148nm,29.2s
EPYK Eagle Plains 106.22 22 P **PKiKP** **02 27 22.6 +0.4**
baz=294
INK Inuvik 106.47 19 PKiKP **PKiKP** **02 27 20.8 -1.8**
comp=Z,1.3nm,0.9s,baz=225,slow=6.6,SNR=4.8
YKA Yellowknife Ar 116.24 19 PKP **PKiKP** **02 27 40.0 -1.2**
YKA Yellowknife Ar 116.24 19 PKIKP **PKiKP** **02 27 40.0 -1.2**
YKA Yellowknife Ar 116.24 19 PKP **PKiKP** **02 27 40.0 -1.2**
comp=Z,1.2nm,0.7s,baz=329,slow=1.9,SNR=30
YKA PKKPbc **PKKPbc** **02 38 13.3 +0.3**
comp=Z,0.4nm,0.7s,baz=130,slow=4.5,SNR=9.3
D03D Eldon 121.56 36 P **PKPdf** **02 27 52.3 +0.4**
baz=300
B05A Bryant 121.76 35 P **PKPdf** **02 27 52.5 +0.3**
baz=302
E04D Cinebar 122.36 37 P **PKPdf** **02 27 53.7 +0.2**
baz=300
G03D McMinnville, O 122.59 39 P **PKPdf** **02 27 54.1 +0.1**
baz=299
J01E Myrtle Point 123.12 41 P **PKPdf** **02 27 55.2 +0.1**
baz=297
H04D Lebanon 123.25 39 P **PKPdf** **02 27 55.2 -0.1**
baz=299
I03D Drain, OR 123.25 40 P **PKPdf** **02 27 55.6 +0.3**
baz=298
B08A Colville Reser 123.26 34 *e*PKPdf **PKPdf** **02 27 54.8 -0.4**
I04A Tendick Farm, 123.81 40 P **PKPdf** **02 27 56.3 -0.1**
baz=299
I05D Terrebonne, OR 124.21 39 P **PKPdf** **02 27 57.2 0.0**
baz=300
D08A Wollman Farm, 124.22 35 *e*PKPdf **PKPdf** **02 27 57.1 0.0**
HAWA Hanford 124.23 36 *e*PKPdf **PKPdf** **02 27 57.5 +0.4**
J04D Umpqua Nationa 124.26 40 P **PKPdf** **02 27 57.7 +0.2**
baz=299
NEW Newport 124.52 33 *e*PKPdf **PKPdf** **02 27 58.5 +0.8**
NEW Newport 124.52 33 P **PKPdf** **02 27 58.0 +0.3**
baz=306
L04D Klamath Falls 124.62 41 P **PKPdf** **02 27 57.9 -0.3**
baz=298
M02C Callahan 124.63 42 P **PKPdf** **02 27 58.3 +0.1**
baz=297
PINE Pine Mountain 124.73 39 *e*PKPdf **PKPdf** **02 27 59.1 +0.6**
J05D Fort Rock, OR 124.80 40 P **PKPdf** **02 27 58.7 +0.2**
baz=300
N02D Trinity Center 124.92 43 P **PKPdf** **02 27 59.1 +0.4**
baz=297
FCC Fort Churchill 124.93 12 *e*PKPdf **PKPdf** **02 27 57.1 -0.9**
FCC Fort Churchill 124.93 12 *e*PKIKP **PKPdf** **02 27 57.1 -0.9**
M04C Macdoel 125.13 42 P **PKPdf** **02 27 59.3 +0.1**
baz=298
O02D Mt. Diablo Mer 125.22 44 P **PKPdf** **02 27 59.4 +0.1**
baz=296
F10A Beach Ranch, E 125.79 35 *e*PKPdf **PKPdf** **02 28 00.5 +0.3**
O03E Paynes Creek 125.84 43 P **PKPdf** **02 28 00.3 -0.2**
baz=297
MOD Modoc Plateau 126.08 41 *e*PKPdf **PKPdf** **02 28 01.3 +0.3**
ORV Oroville 126.38 44 *e*PKPdf **PKPdf** **02 28 01.6 +0.1**
FFC Flin Flon 126.42 19 *e*PKPdf **PKPdf** **02 28 00.4 -0.7**
FFC Flin Flon 126.42 19 *e*PKIKP **PKPdf** **02 28 00.4 -0.7**
J08A Circle Bar Ran 126.50 38 *e*PKPdf **PKPdf** **02 28 02.2 +0.5**
WVOR Wild Horse Val 126.88 39 *e*PKPdf **PKPdf** **02 28 03.4 +0.9**
WVOR Wild Horse Val 126.88 39 *e*PKIKP **PKPdf** **02 28 03.4 +0.9**
BEKR Beckworth 127.02 43 *e*PKPdf **PKPdf** **02 28 02.9 0.0**
AFDM Forest Hills D 127.02 44 *e*PKPdf **PKPdf** **02 28 03.1 +0.3**
MSO Missoula 127.10 33 *e*PKPdf **PKPdf** **02 28 02.2 -0.5**
MSO Missoula 127.10 33 P **PKPdf** **02 28 02.6 -0.2**
baz=309
PAHR Pah Rah Range 127.76 43 *e*PKPdf **PKPdf** **02 28 04.7 +0.4**
VCNR Virginia City 127.77 43 *e*PKPdf **PKPdf** **02 28 05.4 +1.0**
PNTR Pine Nut 127.90 44 *e*PKPdf **PKPdf** **02 28 05.7 +1.0**
EGMT Eagleton 128.44 29 *e*PKPdf **PKPdf** **02 28 05.0 -0.2**
EGMT Eagleton 128.44 29 P **PKPdf** **02 28 04.6 -0.6**
baz=314,SNR=5.9
LRM Limekiln Ridge 128.54 33 *e*PKPdf **PKPdf** **02 28 06.0 +0.3**
HLID Hailey 128.83 36 *e*PKPdf **PKPdf** **02 28 07.3 +1.1**
HLID Hailey 128.83 36 P **PKPdf** **02 28 06.6 +0.3**
baz=306
RYN Ryan 128.86 44 *e*PKPdf **PKPdf** **02 28 07.7 +1.3**
KVN Kaiserville 128.94 43 *e*PKPdf **PKPdf** **02 28 07.6 +1.0**
NV01 Mina Array Sit 129.11 44 *e*PKPdf **PKPdf** **02 28 07.6 +0.6**
NVAR Mina Array Bea 129.11 44 PKP **PKPdf** **02 28 07.5 +0.5**
comp=Z,2.7nm,0.8s,baz=265,slow=1.5,SNR=18
BOZ Bozeman (W) 129.12 32 *e*PKPdf **PKPdf** **02 28 06.9 +0.2**
BOZ Bozeman (W) 129.12 32 *e*PKIKP **PKPdf** **02 28 06.9 +0.2**
BOZ Bozeman (W) 129.12 32 P **PKPdf** **02 28 06.7 0.0**
baz=311
YHB Horse Butte 129.91 33 *e*PKPdf **PKiKP** **02 28 09.9 +0.8**
ELK Elko 129.93 40 *e*PKPdf **PKPdf** **02 28 09.8 +1.3**
ELK Elko 129.93 40 *e*PKIKP **PKPdf** **02 28 09.8 +1.3**
YHH Holmes Hill 130.07 33 *e*PKPdf **PKPdf** **02 28 10.0 +1.3**
YMR Madison River 130.08 33 *e*PKPdf **PKiKP** **02 28 10.2 +0.7**
CWC Cottonwood Cre 130.21 46 P **PKPdf** **02 28 09.4 +0.3**
baz=298
ISA Isabella, Lake 130.28 47 P **PKPdf** **02 28 09.2 +0.1**
baz=297
SCHQ Schefferville 130.35 354 PKP **PKPdf** **02 28 08.3 -0.2**
comp=Z,3.9nm,0.8s,baz=22,slow=2.5,SNR=6.5
RLMT Red Lodge 130.68 31 P **PKPdf** **02 28 10.8 +1.0**
baz=313
FXWY Fox Creek 130.72 34 *e*PKPdf **PKPdf** **02 28 06.8 -3.1**
MPMC Manual Prospec 130.81 46 P **PKPdf** **02 28 11.4 +1.2**
baz=298
HVU Hansel Valley 130.86 37 *e*PKPdf **PKPdf** **02 28 11.2 +1.1**
HVU Hansel Valley 130.86 37 *e*PKIKP **PKPdf** **02 28 11.2 +1.1**
LRMC Laurel Mtn Rad 130.94 47 P **PKPdf** **02 28 11.5 +1.1**
baz=298
LOHW Long Hollow 130.97 34 *e*PKPdf **PKPdf** **02 28 11.4 +1.0**
EDW2 Edwards Air Fo 130.98 48 P **PKPdf** **02 28 11.6 +1.2**
baz=297
REDW Red Top Meadow 130.99 34 *e*PKPdf **PKPdf** **02 28 11.0 +0.5**
R11A Troy Canyon, C 131.00 42 *e*PKPdf **PKPdf** **02 28 09.8 -0.7**
R11A Troy Canyon, C 131.00 42 P **PKPdf** **02 28 11.5 +1.0**
baz=302
LAO LASA Array 131.07 28 P **PKPdf** **02 28 11.2 +0.9**
baz=317
TPNV Topopah Spring 131.25 44 P **PKPdf** **02 28 11.8 +0.8**
baz=300
GSC Goldstone, Bar 131.65 47 *e*PKPdf **PKiKP** **02 28 13.6 +0.9**
GSC Goldstone, Bar 131.65 47 P **PKPdf** **02 28 12.4 +0.6**
baz=298
DUG Dugway, Tooele 131.77 39 *e*PKPdf **PKPdf** **02 28 13.0 +1.1**
DUG Dugway, Tooele 131.77 39 P **PKPdf** **02 28 12.7 +0.8**
baz=306
PSUT Pine Spring 132.04 41 *e*PKPdf **PKPdf** **02 28 14.0 +1.5**
TCUT Toone Canyon 132.08 37 *e*PKPdf **PKiKP** **02 28 14.3 +0.6**
BW06 Boulder Array 132.10 34 P **PKPdf** **02 28 12.7 +0.2**
baz=311
PD31 Pinedale Array 132.10 34 *e*PKPdf **PKPdf** **02 28 12.3 -0.2**
PD31 *e*SKPbc **SKPbc** **02 31 36.4 -1.3**
PDAR Pinedale Array 132.10 34 *e*PKPdf **PKPdf** **02 28 12.4 -0.2**
PDAR Pinedale Array 132.10 34 PKP **PKPdf** **02 28 12.6 +0.1**
comp=Z,0.8nm,0.7s,baz=79,slow=0.6,SNR=12
PDAR SKPbc **SKPbc** **02 31 36.4 -1.3**
comp=Z,0.5nm,0.7s,baz=289,slow=4.5,SNR=3.6
ULM Lac du Bonnet 132.18 18 *e*PKPdf **PKPdf** **02 28 11.9 -0.2**
ULM Lac du Bonnet 132.18 18 PKP **PKPdf** **02 28 11.7 -0.4**
comp=Z,5.6nm,0.9s,baz=344,slow=3.2,SNR=13
TUQ Turquoise Moun 132.22 46 P **PKPdf** **02 28 13.8 +1.0**
baz=299
GMRC Granite Mounta 132.73 47 P **PKPdf** **02 28 14.8 +1.0**
baz=299
BELC Belle Mtn. Jos 132.85 48 P **PKPdf** **02 28 15.2 +1.1**
baz=298
CCUT Cedar City 132.91 42 *e*PKPdf **PKiKP** **02 28 16.4 +1.0**
TCRU Three Creeks R 132.91 40 *e*PKPdf **PKiKP** **02 28 16.2 +0.8**
SZCU Shurtz Canyon 133.06 42 *e*PKPdf **PKPdf** **02 28 15.9 +1.4**
MSU Marysvale 133.14 40 *e*PKPdf **PKPdf** **02 28 15.6 +1.0**
LCMT Little Creek M 133.28 43 *e*PKPdf **PKiKP** **02 28 16.6 +0.6**
TMUT Trail Mountain 133.30 39 *e*PKPdf **PKiKP** **02 28 16.8 +0.5**
IRM Iron Mountain 133.40 47 P **PKPdf** **02 28 16.2 +1.2**
baz=299
BC3 Big Chuckawall 133.41 48 P **PKPdf** **02 28 15.6 +0.5**
baz=298
Q16A Castle Valley 133.55 39 *e*PKPdf **PKiKP** **02 28 17.2 +0.6**
K22A Casper 133.82 32 *e*PKPdf **PKPdf** **02 28 15.4 -0.3**
K22A Casper 133.82 32 P **PKPdf** **02 28 15.5 -0.2**
baz=314
SRU San Rafael Swe 133.84 38 *e*PKPdf **PKPdf** **02 28 16.3 +0.5**
RSSD Black Hills 134.01 29 *e*PKPdf **PKPdf** **02 28 15.5 -0.6**
RSSD Black Hills 134.01 29 *e*PKIKP **PKPdf** **02 28 15.5 -0.6**
RSSD Black Hills 134.01 29 P **PKPdf** **02 28 15.8 -0.2**
baz=318
Y12C Blythe 134.05 47 P **PKPdf** **02 28 17.2 +1.1**
baz=299
PDMCI Parker Dam,Lak 134.06 46 P **PKPdf** **02 28 17.3 +1.2**
baz=300
RWWY Rawlins 134.12 33 *e*PKPdf **PKPdf** **02 28 15.3 -1.1**
GLA Glamis 134.16 48 P **PKPdf** **02 28 17.6 +1.1**
baz=298
U15A North Rim 134.24 43 *e*PKPdf **PKPdf** **02 28 18.0 +1.2**
O20A White River Ci 134.56 36 *e*PKPdf **PKPdf** **02 28 17.2 0.0**
O20A White River Ci 134.56 36 P **PKPdf** **02 28 17.9 +0.7**
baz=311
PV09 Paradox Valley 135.07 38 *e*PKPdf **PKiKP** **02 28 20.9 +1.1**
PV14 Lion Creek, Pa 135.21 38 *e*PKPdf **PKiKP** **02 28 20.5 +0.5**
WUAZ Wupatki 135.36 43 *e*PKPdf **PKPdf** **02 28 20.2 +1.4**
WUAZ Wupatki 135.36 43 P **PKPdf** **02 28 20.0 +1.2**
baz=304
PV13 Radium Mtn., P 135.47 38 *e*PKPdf **PKPdf** **02 28 19.9 +0.8**
X16A Lo Mia Camp, P 135.91 44 *e*PKPdf **PKPdf** **02 28 20.9 +1.0**
C40A Isle Royale Na 136.12 13 P **PKPdf** **02 28 20.4 +0.8**
baz=340
MVCO Mesa Verde 136.26 39 P **PKPdf** **02 28 21.2 +0.7**
baz=308
W18A Petrified Fore 136.69 43 P **PKPdf** **02 28 22.2 +0.9**
baz=305
S22A 4UR Ranch, Cre 136.95 37 P **PKPdf** **02 28 22.7 +0.8**
baz=310
D41A Chassel 137.06 13 P **PKPdf** **02 28 22.7 +1.4**
baz=340
Q24A Divide 137.12 35 *e*PKPpre PKPpre 02 28 08.9
E39A Mellen 137.20 16 P **PKPdf** **02 28 22.8 +1.2**
baz=337
F37A Hinrichs Farm, 137.20 18 P **PKPdf** **02 28 22.8 +1.2**
baz=334
F38A Pierce - Schro 137.21 17 P **PKPdf** **02 28 22.9 +1.2**
baz=335
E40A Wakefield 137.31 15 P **PKPdf** **02 28 23.1 +1.2**
baz=338
E41A Kenton 137.52 14 P **PKPdf** **02 28 23.6 +1.3**
baz=340
F39A Loretta 137.53 16 P **PKPdf** **02 28 23.6 +1.3**
baz=337
ECSD EROS Data Cent 137.56 23 *e*PKPdf **PKPdf** **02 28 21.9 -0.6**
ECSD EROS Data Cent 137.56 23 P **PKPdf** **02 28 23.9 +1.5**
baz=328
F40A Park Falls 137.74 15 P **PKPdf** **02 28 24.1 +1.4**
baz=338
SDCO Great Sand Dun 137.74 36 *e*PKPdf **PKPdf** **02 28 25.4 +2.0**
G39A Holcombe 138.03 17 P **PKPdf** **02 28 24.5 +1.3**
baz=336
E43A Lone Tree Farm 138.05 12 P **PKPdf** **02 28 24.7 +1.5**
baz=342
D47A Chapleau 138.07 8 P **PKPdf** **02 28 24.6 +1.3**
baz=348
D46A Sault St. Mari 138.09 9 P **PKPdf** **02 28 24.5 +1.2**
baz=347
F41A Three Lakes 138.17 15 *e*PKPdf **PKPdf** **02 28 23.1 -0.3**
F41A Three Lakes 138.17 15 P **PKPdf** **02 28 24.6 +1.1**
baz=339
LATQ La Luque 138.23 357 P **PKPdf** **02 28 24.5 +1.0**
baz=3.7
G40A Rib Lake 138.32 16 P **PKPdf** **02 28 24.9 +1.1**
baz=337
E45A Wooded Hills, 138.42 10 P **PKPdf** **02 28 25.7 +1.8**
baz=345
F44A Big Bay de Noc 138.55 12 P **PKPdf** **02 28 25.5 +1.4**
baz=343
H39A Augusta 138.55 17 P **PKPdf** **02 28 25.5 +1.3**
baz=336
E46A Sault Ste Mari 138.56 9 P **PKPdf** **02 28 25.6 +1.5**
baz=346
E47A Iron Bridge 138.63 8 P **PKPdf** **02 28 25.6 +1.3**
baz=348
E48A Lockeyer 138.76 7 P **PKPdf** **02 28 25.9 +1.4**
baz=350
T25A Trinidad 138.79 36 *e*PKPdf **PKiKP** **02 28 27.6 +0.2**
T25A Trinidad 138.79 36 P **PKPdf** **02 28 27.0 +1.8**
baz=313
G42A Mountain 138.80 14 P **PKPdf** **02 28 26.0 +1.3**
baz=340
BGNE Belgrade 138.84 26 P **PKPdf** **02 28 26.2 +1.4**
baz=324
H40A Chili 138.86 16 P **PKPdf** **02 28 26.3 +1.6**
baz=337
ANMO Albuquerque 138.95 40 *e*PKPdf **PKPdf** **02 28 26.3 +0.7**
ANMO Albuquerque 138.95 40⎍ *e*PKIKP **PKPdf** **02 28 26.2 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO Albuquerque 138.95 40 P **PKPdf** **02 28 26.5 +1.0**
baz=308
G43A Wallace 138.96 13 P **PKPdf** **02 28 26.5 +1.6**
baz=341
E50A Wahnapitae 138.97 6 P **PKPdf** **02 28 26.4 +1.5**
baz=352
E51A G1948 Merrick 138.97 4 P **PKPdf** **02 28 26.1 +1.2**
baz=354
F45A CMU Biological 139.01 11 P **PKPdf** **02 28 26.4 +1.5**
baz=344
F46A Macnaw City C 139.06 10 P **PKPdf** **02 28 26.5 +1.5**
baz=346
H41A Junction City 139.07 16 *e*PKPdf **PKPdf** **02 28 26.4 +1.3**
H41A Junction City 139.07 16 P **PKPdf** **02 28 26.0 +0.8**
baz=338
E54A Lac Daplat, Po 139.20 2 P **PKPdf** **02 28 26.1 +0.7**
baz=357
I39A Houston 139.23 18 *e*PKPdf **PKPdf** **02 28 26.4 +1.0**
I39A Houston 139.23 18 P **PKPdf** **02 28 26.5 +1.0**
baz=335
E53A Dumoine, Ponti 139.24 3 P **PKPdf** **02 28 26.5 +1.1**
baz=356
F48A Evansville 139.34 8 P **PKPdf** **02 28 27.0 +1.4**
baz=349
H42A Shiocton 139.46 15 P **PKPdf** **02 28 27.3 +1.5**
baz=340
F49A Sandfield 139.48 7 P **PKPdf** **02 28 27.4 +1.5**
baz=350
G46A Petoskey 139.48 10 P **PKPdf** **02 28 27.5 +1.6**
baz=345
J39A Decorah 139.64 19 P **PKPdf** **02 28 27.1 +0.9**
baz=334
F52A Sundridge 139.72 4 P **PKPdf** **02 28 27.8 +1.5**
baz=354
G47A Hillman 139.79 9 P **PKPdf** **02 28 28.6 +2.1**
baz=347
I42A Draeger Farm, 139.94 15 P **PKPdf** **02 28 28.1 +1.4**
baz=339
PEMO Pembroke 139.95 2 P **PKPdf** **02 28 28.1 +1.4**
baz=357
ALFO Alfred 140.04 360 P **PKPdf** **02 28 28.5 +1.6**
baz=0.6
K40A Colesburg 140.39 18 P **PKPdf** **02 28 29.3 +1.7**
baz=335
SCIA State Center 140.40 21 P **PKPdf** **02 28 29.4 +1.7**
baz=331
I45A Fountain 140.44 12 P **PKPdf** **02 28 29.3 +1.6**
baz=343
J43A Natural Harves 140.55 15 P **PKPdf** **02 28 29.5 +1.6**
baz=339
BANO Bancroft 140.58 3 P **PKPdf** **02 28 29.7 +1.8**
baz=356
BMRO Meriville Lake 140.73 7 P **PKPdf** **02 28 30.0 +1.9**
baz=351
K41A Shullsburg 140.73 18 P **PKPdf** **02 28 30.0 +1.8**
baz=336
I48A Sherman Twp 140.78 10 P **PKPdf** **02 28 30.3 +2.1**
baz=347
K42A Prairie Point, 140.85 16 P **PKPdf** **02 28 29.8 +1.3**
baz=338
L40A Anamosa 140.94 19 *e*PKPdf **PKPdf** **02 28 27.9 -0.8**
L40A Anamosa 140.94 19 P **PKPdf** **02 28 30.2 +1.6**
baz=334
LBNH Lisbon 141.31 356 P **PKPdf** **02 28 31.3 +2.1**
baz=5.3
I55A Frankford 141.40 3 P **PKPdf** **02 28 31.6 +2.3**
baz=356
KSU1 Kansas State U 141.40 27 P **PKPdf** **02 28 31.7 +2.2**
baz=325
M40A Post Highland 141.43 20 P **PKPdf** **02 28 31.2 +1.7**
baz=334
L42A Oliver, Polo 141.47 17 P **PKPdf** **02 28 31.3 +1.7**
baz=337
J47A Sumner 141.50 11 P **PKPdf** **02 28 31.9 +2.3**
baz=345
J48A Bridge Port 141.63 10 P **PKPdf** **02 28 32.1 +2.3**
baz=348
DRWO Darlington Wes 141.68 4 P **PKPdf** **02 28 31.9 +2.0**
baz=354
K46A Dorr 141.83 13 P **PKPdf** **02 28 32.5 +2.3**
baz=343
K47A Vermontville 142.01 12 P **PKPdf** **02 28 32.4 +1.9**
baz=344
K48A Perry 142.05 11 P **PKPdf** **02 28 32.7 +2.1**
baz=346
ELFO Elginfield 142.10 7 P **PKPdf** **02 28 32.7 +2.0**
baz=350
M43A Waltham Townsh 142.20 17 P **PKPdf** **02 28 32.9 +2.0**
baz=338
TYNO Tyneside 142.35 5 P **PKPdf** **02 28 33.1 +1.9**
baz=352
MEDO Medina 142.40 4 P **PKPdf** **02 28 33.1 +1.9**
baz=355
N42A Yates City 142.44 18 P **PKPdf** **02 28 33.4 +2.0**
baz=336
L47A Sherwood 142.63 12 P **PKPdf** **02 28 34.0 +2.3**
baz=344
L49A Milan 142.79 10 P **PKPdf** **02 28 34.2 +2.3**
baz=346
O41A Passleys Farm, 142.80 20 P **PKPdf** **02 28 33.9 +1.9**
baz=334
L48A N Adams 142.82 11 P **PKPdf** **02 28 34.3 +2.3**
baz=345
K55A Perry 142.86 3 P **PKPdf** **02 28 34.2 +2.1**
baz=355
M46A Old House Fiel 142.92 14 P **PKPdf** **02 28 34.9 +2.7**
baz=342
L50A Kingsville 143.01 9 P **PKPdf** **02 28 34.8 +2.5**
baz=348
N45A Kentland 143.15 16 P **PKPdf** **02 28 35.2 +2.6**
baz=340
O43A Sugar Creek Fa 143.16 18 P **PKPdf** **02 28 35.1 +2.5**
baz=336
N46A Monticello 143.31 15 P **PKPdf** **02 28 35.4 +2.5**
baz=341
P42A Winchester 143.46 20 P **PKPdf** **02 28 35.2 +2.0**
baz=334
BINY Binghamton 143.46 1 P **PKPdf** **02 28 35.6 +2.4**
baz=359
O44A Mansfield 143.53 17 P **PKPdf** **02 28 35.4 +2.1**
baz=338
M50A Fremont 143.60 10 P **PKPdf** **02 28 35.8 +2.4**
baz=347
O45A Potomac 143.65 16 P **PKPdf** **02 28 36.1 +2.6**
baz=339
P43A Skaggs, Pawnee 143.68 19 P **PKPdf** **02 28 36.2 +2.7**
baz=336
M52A Chesterland 143.72 8 P **PKPdf** **02 28 36.2 +2.6**
baz=350
N48A Decatur 143.74 13 P **PKPdf** **02 28 36.0 +2.4**
baz=344
M51A Elyria 143.81 9 P **PKPdf** **02 28 36.2 +2.4**
baz=348
N49A Columbus Grove 143.85 11 P **PKPdf** **02 28 36.6 +2.7**
baz=345
CPUP Villa Florida 143.87 208 *e*PKPdf PKPbc 02 28 33.5 +1.6
CPUP Villa Florida 143.87 208 PKP PKPbc 02 28 32.9 +1.0
comp=Z,3.0nm,0.8s,baz=64,slow=2.3,SNR=5.0
M53A WI Miller and 143.91 7 P **PKPdf** **02 28 35.9 +2.0**
baz=351
M54A Oil Creek Stat 143.95 6 P **PKPdf** **02 28 36.5 +2.4**
baz=353
Q42A Golden Eagle 144.00 20 P **PKiKP** **02 28 37.1 -0.5**
baz=334
HPIG 144.07 50 *e*PKPdf **PKPab** **02 28 33.1 +0.8**
O47A Sheridan 144.07 14 P **PKPdf** **02 28 36.6 +2.3**
baz=341
N50A Nevada 144.19 10 P **PKiKP** **02 28 37.4 -0.7**
baz=347
TX31 Lajitas Ar. Si 144.22 45 *e*PKPdf **PKPab** **02 28 32.3 -0.4**
TX31 *e*PKPdf PKPbc 02 28 32.8 -0.4
TXAR Lajitas Array 144.22 45 PKP **PKPab** **02 28 33.1 +0.4**
comp=Z,5.5nm,0.7s,baz=282,slow=1.4,SNR=78
TXAR SKPbc **SKPbc** **02 32 13.4 +0.6**
comp=Z,0.7nm,0.8s,baz=198,slow=0.8,SNR=3.8
R41A Rosebud 144.24 22 P **PKPdf** **02 28 37.2 +2.6**
baz=332
Q43A New Douglas 144.25 19 P **PKiKP** **02 28 37.7 -0.5**
baz=335
O48A Farmland 144.29 13 P **PKiKP** **02 28 37.5 -0.7**
baz=343
P45A Graceland, Par 144.32 17 P **PKPdf** **02 28 37.5 +2.8**
baz=338
P46A Rosedale 144.38 16 P **PKPab** **02 28 32.1 -0.7**
baz=339
N52A McGinn's Farm, 144.39 8 P **PKPdf** **02 28 37.6 +2.9**
baz=349
R42A Luebbering 144.47 21 P **PKPab** **02 28 32.3 -0.9**
baz=333
CCM Cathedral Cave 144.50 22 P **PKPab** **02 28 32.7 -0.7**
baz=332
N53A Lisbon 144.51 7 P **PKPab** **02 28 32.4 -0.9**
baz=350
O49A Covington 144.53 12 P **PKPab** **02 28 32.7 -0.7**
baz=344
S41A Jilco Farms, 144.72 23 P **PKPab** **02 28 32.7 -1.5**
baz=331,SNR=8.0
N55A Marion Center 144.73 5 P **PKPab** **02 28 32.6 -1.6**
baz=354
N59A State Game Lan 144.75 1 P **PKPab** **02 28 33.2 -1.0**
baz=359
R43A Red Bud 144.78 20 P **PKPab** **02 28 33.4 -1.0**
baz=334
Q45A Warren Harvey, 144.78 18 P **PKPab** **02 28 34.1 -0.3**
baz=338
O51A Pataskala 144.90 10 P **PKPab** **02 28 32.9 -1.9**
baz=347
S42A Caledonia 144.92 22 P **PKPab** **02 28 32.4 -2.5**
baz=332,SNR=6.1
O53A New Philadelph 145.01 8 P **PKPab** **02 28 33.0 -2.1**
baz=350
O52A Adamsville 145.05 9 P **PKPbc** **02 28 33.2 -2.1**
baz=349
P49A Miami Univ. Ec 145.08 13 P **PKPbc** **02 28 33.7 -1.7**
baz=344
R44A Waltonville 145.09 19 P **PKPbc** **02 28 33.8 -1.7**
baz=336
O54A Avella 145.18 7 P **PKPbc** **02 28 34.3 -1.4**
baz=351
T41A Mountain View 145.19 23 P **PKPbc** **02 28 34.0 -1.8**
baz=330,SNR=7.2
P50A Jamestown 145.20 12 P **PKPbc** **02 28 33.9 -1.9**
baz=345
Q47A Bedord North L 145.23 15 P **PKPbc** **02 28 34.5 -1.4**
baz=340
O55A Ligonier 145.27 5 P **PKPbc** **02 28 34.7 -1.3**
baz=353
O56A Blue Knob Stat 145.27 4 *e*PKPbc **PKPbc** **02 28 34.9 -1.2**
O56A Blue Knob Stat 145.27 4 P **PKPbc** **02 28 34.4 -1.7**
baz=354
R45A Skylar, Fairfi 145.30 18 P **PKPbc** **02 28 34.3 -1.9**
baz=337
U40A Yellville 145.33 25 P **PKPbc** **02 28 34.5 -1.8**
baz=328,SNR=17
S43A Fulton Ridge, 145.36 21 P **PKPbc** **02 28 34.5 -1.9**
baz=334
LCO Las Campanas 145.39 187 *e*PKPdf **PKPbc** **02 28 37.5 +0.5**
Q48A North Vernon 145.42 14 P **PKPbc** **02 28 35.1 -1.4**
baz=342
P51A Williamsport 145.46 11 *e*PKPbc **PKPbc** **02 28 34.7 -1.9**
P51A Williamsport 145.46 11 P **PKPbc** **02 28 34.5 -2.1**
baz=346
T42A Van Buren 145.46 23 P **PKPbc** **02 28 35.0 -1.7**
baz=332,SNR=10

P52A	Corning	145.47	9	P		PKPbc	02 28 34.6	-2.1
	baz=348							
SIUC	Southern Illin	145.53	20	ePKPdf		PKPdf	02 28 35.7	-1.1
S44A	Carbondale	145.53	20	P		PKPdf	02 28 35.0	-1.8
	baz=335							
Q49A	Aurora	145.54	13	P		PKPdf	02 28 35.2	-1.6
	baz=343							
R46A	Gibon Southern	145.61	17	P		PKPdf	02 28 35.0	-1.9
	baz=338							
T43A	Greenville	145.72	22	P		PKPdf	02 28 35.8	-1.3
	baz=333							
U41A	Viola	145.73	24	P		PKPdf	02 28 35.7	-1.6
	baz=330,SNR=6.0							
P53A	Whipple	145.73	8	ePKPdf		PKPdf	02 28 36.3	-0.8
P53A	Whipple	145.73	8	P		PKPdf	02 28 35.7	-1.4
	baz=349							
P54A	Burton	145.74	7	P		PKPdf	02 28 36.0	-1.2
	baz=351							
MCWV	Mont Chateau	145.76	6	ePKPdf		PKPdf	02 28 36.8	-0.4
MCWV	Mont Chateau	145.76	6	P		PKPdf	02 28 36.3	-0.9
	baz=352							
S45A	Carrier Mills	145.77	19	P		PKPdf	02 28 36.2	-1.0
	baz=336							
BDFB	Brasilia	145.77	232	ePKPdf		PKPdf	02 28 38.9	+0.9
BDFB				ePKPdf		PKPbc	02 28 39.7	+1.3
BDFB	Brasilia	145.77	232	PKPbc		PKPdf	02 28 38.9	+0.9
	comp=Z,16nm,0.6s,baz=128,slow=2.3,SNR=35							
R47A	Wooly Knot Far	145.81	16	P		PKPdf	02 28 36.0	-1.3
	baz=340							
Q51A	Peebles	145.85	11	ePKPdf		PKPdf	02 28 36.2	-1.2
Q51A	Peebles	145.85	11	P		PKPdf	02 28 36.0	-1.4
	baz=346							
R48A	Northridge Ran	145.88	15	P		PKPdf	02 28 36.1	-1.3
	baz=341							
W39A	Magazine	145.89	28	P		PKPdf	02 28 36.1	-1.4
	baz=326							
Q50A	Georgetown	145.90	12	P		PKPdf	02 28 35.9	-1.5
	baz=344							
P55A	Reedsville	145.91	6	P		PKPdf	02 28 36.2	-1.3
	baz=352							
WCI	Wyandotte Cave	145.93	16	ePKPdf		PKPdf	02 28 37.0	-0.5
WCI	Wyandotte Cave	145.93	16	ePKP2		PKPdf	02 28 37.0	-0.5
WCI	Wyandotte Cave	145.93	16	P		PKPdf	02 28 36.5	-1.0
	baz=340							
PBMO	Poplar Bluff	145.93	22	ePKPdf		PKPdf	02 28 36.7	-0.9
T44A	Benton	145.96	21	P		PKPdf	02 28 36.4	-1.2
	baz=334							
U42A	Revenden	146.00	23	P		PKPdf	02 28 36.6	-1.1
	baz=331,SNR=10							
S46A	Don Dixon Farm	146.03	18	P		PKPdf	02 28 36.6	-1.0
	baz=338							
Q52A	Bidwell	146.11	10	P		PKPdf	02 28 36.6	-1.2
	baz=348							
JCT	Junction City	146.11	40	ePKPdf		PKPdf	02 28 38.8	+0.7
JCT	Junction City	146.11	40	ePKP2		PKPdf	02 28 38.8	+0.7
JCT	Junction City	146.11	40	P		PKPdf	02 28 38.8	+0.7
	baz=312							
R49A	Shelbyville	146.16	14	P		PKPdf	02 28 37.0	-0.9
	baz=342							
Q54A	Coxs Mills	146.30	8	P		PKPdf	02 28 37.8	-0.4
	baz=350							
R50A	Paris	146.36	13	P		PKPdf	02 28 37.4	-0.8
	baz=344							
S47A	Hartford	146.36	17	P		PKPdf	02 28 37.3	-1.0
	baz=339							
Q55A	Buckhannon	146.39	7	P		PKPdf	02 28 37.8	-0.5
	baz=351							
WHTX	Lake Whitney,	146.48	35	ePKPdf		PKPdf	02 28 38.5	-0.1
WHTX	Lake Whitney,	146.48	35	P		PKPdf	02 28 38.9	+0.3
	baz=317							
MIAR	Mount Ida	146.52	28	ePKPdf		PKPdf	02 28 39.7	+1.1
MIAR	Mount Ida	146.52	28	ePKP2		PKPdf	02 28 39.7	+1.1
MIAR	Mount Ida	146.52	28	P		PKPdf	02 28 38.2	-0.5
	baz=326							
S48A	Wiedeman Farm,	146.53	16	P		PKPdf	02 28 38.2	-0.4
	baz=340							
T46A	Princeton	146.57	18	P		PKPdf	02 28 38.0	-0.6
	baz=337							
W41B	Gary Mavity, V	146.59	26	P		PKPdf	02 28 37.7	-1.0
	baz=328							
S49A	Springfield	146.61	14	P		PKPdf	02 28 38.2	-0.5
	baz=342							
R52A	Catlettsburg	146.65	11	P		PKPdf	02 28 38.7	-0.1
	baz=347							
R53A	Hurricane	146.78	10	P		PKPdf	02 28 39.1	+0.2
	baz=348							
T47A	Sharon Grove	146.86	17	P		PKPdf	02 28 39.3	+0.2
	baz=338							
S50A	Richmond	146.92	13	P		PKPdf	02 28 39.3	0.0
	baz=343							
T48A	Bowling Green	146.95	16	P		PKPdf	02 28 39.8	+0.5
	baz=340							
R54A	Victor	147.07	8	P		PKPdf	02 28 40.1	+0.6
	baz=350							
T49A	Edmonton	147.19	15	P		PKPdf	02 28 39.9	+0.2
	baz=341							
435B	Jarrell	147.28	37	ePKPbc		PKPbc	02 28 42.3	0.0
U47A	Clarksville	147.31	18	P		PKPdf	02 28 40.5	+0.6
	baz=338							
WVT	Waverly	147.42	19	ePKPdf		PKPdf	02 28 40.8	+0.7
WVT	Waverly	147.42	19	ePKP2		PKPdf	02 28 40.8	+0.7
WVT	Waverly	147.42	19	P		PKPdf	02 28 41.1	+1.0
	baz=336							
T50A	Nancy	147.45	14	P		PKPdf	02 28 40.5	+0.4
	baz=342							
U48A	Cassie Pea, Po	147.47	17	P		PKPdf	02 28 41.2	+1.0
	baz=339							
R58B	Mineral	147.61	4	P		PKPdf	02 28 41.2	+0.9
	baz=355							
V46A	Holladay	147.63	20	P		PKPdf	02 28 41.2	+0.8
	baz=336,SNR=5.2							
U49A	Red Boiling Sp	147.68	16	P		PKPdf	02 28 41.4	+0.9
	baz=340							
T51A	Gray	147.71	13	P		PKPdf	02 28 41.5	+0.9
	baz=344							
833A	Chaparral WMA,	147.79	42	ePKPbc		PKPdf	02 28 43.2	+2.3
833A	Chaparral WMA,	147.79	42	P		PKPdf	02 28 42.6	+1.7
	baz=310							
V47A	Nunnelly	147.80	19	P		PKPdf	02 28 41.9	+1.1
	baz=337							
Z41A	Richland Creek	147.94	28	P		PKPdf	02 28 42.5	+1.4
	baz=326							
T53A	Wise	147.99	11	P		PKPdf	02 28 42.3	+1.2
	baz=346							
U50A	Jamestown	148.02	15	P		PKPdf	02 28 42.5	+1.4
	baz=342							
T54A	Tazewell	148.08	10	P		PKPdf	02 28 42.5	+1.3
	baz=348							
V48A	Smith Brothers	148.10	18	ePKPdf		PKPdf	02 28 43.0	+1.8
V48A	Smith Brothers	148.10	18	P		PKPdf	02 28 42.6	+1.3
	baz=338,SNR=6.2							
BLA	Blacksburg	148.10	8	P		PKPdf	02 28 42.7	+1.4
	baz=350							
W46A	Michie	148.15	21	P		PKPdf	02 28 42.5	+1.2
	baz=335							
TZTN	Tazewell	148.20	13	ePKPbc		PKPdf	02 28 43.6	+2.2
TZTN	Tazewell	148.20	13	P		PKPdf	02 28 43.1	+1.7
	baz=344							
NATX	Nacogdoches	148.21	32	P		PKPdf	02 28 43.8	+2.3
	baz=321							
U51A	La Follette	148.25	13	P		PKPdf	02 28 43.4	+1.9
	baz=343							
W47A	Westpoint	148.30	19	P		PKPdf	02 28 43.2	+1.7
	baz=336,SNR=8.8							
OXF	Oxford	148.32	23	ePKPbc		PKPdf	02 28 43.9	+2.3
OXF	Oxford	148.32	23	ePKP2		PKPdf	02 28 43.9	+2.3
OXF	Oxford	148.32	23	P		PKPdf	02 28 43.2	+1.6
	baz=333							
V49A	McMinnville	148.35	17	P		PKPdf	02 28 43.1	+1.4
	baz=340,SNR=5.4							
PLAL	Pickwick Lake	148.39	20	ePKPdf		PKPdf	02 28 43.2	+1.5
U52A	Thorn Hill	148.39	12	P		PKPdf	02 28 43.5	+1.8
	baz=345							
U53A	Fall Branch	148.57	11	P		PKPdf	02 28 43.7	+1.6
	baz=346							
X46A	Booneville	148.59	21	P		PKPdf	02 28 43.7	+1.7
	baz=334							
W48A	Pulaski	148.62	19	P		PKPdf	02 28 43.9	+1.8
	baz=337,SNR=6.6							
V50A	Pikevile	148.66	15	P		PKPdf	02 28 44.4	+2.2
	baz=341							
U55A	TA2, Sparta	148.71	9	P		PKPdf	02 28 44.5	+2.2
	baz=349							
V51A	Loudon	148.72	14	ePKPbc		PKPdf	02 28 45.0	+2.7
V51A	Loudon	148.72	14	P		PKPdf	02 28 44.8	+2.6
	baz=342							
W49A	Belvidere	148.84	18	P		PKPdf	02 28 44.7	+2.2
	baz=339,SNR=10							
SWET	Sewanee	148.85	17	ePKPbc		PKPdf	02 28 44.9	+2.4
V52A	Sevierville	148.87	13	ePKPbc		PKPdf	02 28 45.1	+2.7
V52A	Sevierville	148.87	13	P		PKPdf	02 28 45.2	+2.7
	baz=344							
X47A	Russelville	148.88	20	P		PKPdf	02 28 44.4	+1.9
	baz=335							
HKT	Hockley	148.92	36	ePKPbc		PKPbc	02 28 47.1	+0.5
TKL	Tuckaleechee C	149.00	13	ePKPbc		PKPbc	02 28 45.9	-0.9
TKL	Tuckaleechee C	149.00	13	ePKP2		PKPbc	02 28 45.9	-0.9
CPCT	Cooper Cave	149.02	15	ePKPbc		PKPbc	02 28 45.9	-0.9
W50A	Signal Mountai	149.04	16	ePKPbc		PKPdf	02 28 45.7	+2.9
W50A	Signal Mountai	149.04	16	P		PKPdf	02 28 45.2	+2.4
	baz=340							
V53A	Saluda	149.20	12	ePKPbc		PKPbc	02 28 46.4	-0.9
V53A	Saluda	149.20	12	P		PKPdf	02 28 45.7	+2.6
	baz=345							
X48A	Hartselle	149.22	19	ePKPbc		PKPdf	02 28 45.6	+2.6
X48A	Hartselle	149.22	19	P		PKPdf	02 28 45.3	+2.2
	baz=337,SNR=7.5							
W51A	Cleveland	149.23	15	P		PKPdf	02 28 45.8	+2.7
	baz=341,SNR=6.5							
V54A	Nebo	149.26	11	P		PKPdf	02 28 45.7	+2.5
	baz=347							
V55A	Taylorsville	149.32	9	P		PKPdf	02 28 46.0	+2.8
	baz=348							
X49A	Woodville	149.39	18	P		PKPdf	02 28 46.1	+2.8
	baz=338,SNR=11							
W52A	Murphy	149.50	14	ePKPbc		PKPbc	02 28 46.9	-1.1
W52A	Murphy	149.50	14	P		PKPdf	02 28 46.8	+3.2
	baz=343,SNR=8.1							
W53A	Cullowhee	149.61	13	P		PKPdf	02 28 47.2	+3.3
	baz=344,SNR=19							
X50B	Fort Payne	149.64	17	P		PKPdf	02 28 46.5	+2.7
	baz=339							
Y48A	Jasper	149.67	20	P		PKPdf	02 28 46.5	+2.7
	baz=336,SNR=5.7							
X51A	Calhoun	149.76	16	P		PKPdf	02 28 47.2	+3.2
	baz=341							
145A	Houston Renfro	149.78	25	P		PKPbc	02 28 48.4	-0.4
	baz=330							
BG3	Lake Jocassee	149.83	13	ePKPbc		PKPbc	02 28 48.2	-0.6
LNIG	Linares	149.85	48	ePKPbc		PKPbc	02 28 48.5	-0.7
VBMS	Vicksburg	149.86	26	ePKPbc		PKPbc	02 28 48.8	-0.2
VBMS	Vicksburg	149.86	26	P		PKPbc	02 28 48.0	-0.9
	baz=329							
W54A	Cherokee Point	149.89	11	P		PKPbc	02 28 47.9	-1.0
	baz=346							
Y49A	Blount Mountai	149.97	19	ePKPbc		PKPdf	02 28 47.8	+3.4
Y49A	Blount Mountai	149.97	19	P		PKPdf	02 28 47.6	+3.3
	baz=338,SNR=14							
X52A	Dahlonega	149.98	14	P		PKPbc	02 28 48.2	-1.0
	baz=343,SNR=5.6							
KMSC	Kings Mountain	149.99	10	P		PKPbc	02 28 47.9	-1.3
	baz=348,SNR=6.6							
Y50A	Piedmont	150.15	18	P		PKPdf	02 28 47.9	+3.3
	baz=339,SNR=5.4							
X53A	Estanollee	150.22	13	P		PKPbc	02 28 48.6	-1.2
	baz=344,SNR=6.3							
PAULI	Pauline	150.22	11	ePKPbc		PKPbc	02 28 48.8	-1.0
CNNC	Cliffs of the	150.32	4	P		PKPbc	02 28 49.0	-1.0
	baz=355							
Y51A	Rockmart	150.33	17	P		PKPdf	02 28 48.3	+3.4
	baz=340,SNR=5.3							
X54A	Belton	150.37	12	P		PKPbc	02 28 48.9	-1.2
	baz=346,SNR=9.5							
147A	Livingston	150.39	23	ePKPbc		PKPbc	02 28 49.7	-0.5
147A	Livingston	150.39	23	P		PKPbc	02 28 49.2	-1.0
	baz=333							
LRAL	Lakeview Retre	150.53	20	ePKPbc		PKPbc	02 28 49.1	-1.4
LRAL	Lakeview Retre	150.53	20	P		PKPbc	02 28 49.2	-1.4
	baz=336							
Z49A	Columbiana	150.54	19	P		PKPbc	02 28 49.1	-1.5
	baz=337							
X55A	Gracelyn & Ava	150.59	11	P		PKPbc	02 28 49.2	-1.5
	baz=347,SNR=8.5							
Y52A	Lilburn	150.64	15	ePKPbc		PKPbc	02 28 50.5	-0.3
Y52A	Lilburn	150.64	15	P		PKPbc	02 28 49.7	-1.1
	baz=342,SNR=13							
X56A	White Oak	150.68	10	P		PKPbc	02 28 49.4	-1.4
	baz=348,SNR=5.6							
Z50A	Ashland	150.68	18	ePKPbc		PKPbc	02 28 49.9	-1.1
Z50A	Ashland	150.68	18	P		PKPbc	02 28 49.5	-1.4
	baz=338,SNR=6.6							
HODGE	Hodges	150.70	12	ePKPbc		PKPbc	02 28 50.2	-0.7
Y53A	Monroe	150.77	14	P		PKPbc	02 28 50.2	-0.9
	baz=343,SNR=8.7							
JSC	Jenkinsville	150.84	10	ePKPbc		PKPbc	02 28 50.4	-0.8
JSC	Jenkinsville	150.84	10	ePKIKP		PKPbc	02 28 50.4	-0.8
Z51A	Franklin	150.85	17	P		PKPbc	02 28 50.0	-1.3
	baz=340							
X57A	Johnson Farm,	150.85	8	P		PKPbc	02 28 49.8	-1.5
	baz=350							
X58A	Rowland	150.86	7	P		PKPbc	02 28 50.0	-1.2
	baz=352							
X59A	McDuffie Farm,	150.92	6	P		PKPbc	02 28 50.2	-1.2
	baz=353							
Y54A	Tignall	150.97	13	P		PKPbc	02 28 50.4	-1.1
	baz=345,SNR=7.0							
149A	Jones	150.99	20	P		PKPbc	02 28 50.6	-1.1
	baz=336							
Y55A	Saluda	151.07	11	P		PKPbc	02 28 50.7	-1.1
	baz=346,SNR=7.1							
Z52A	Williamson	151.18	16	P		PKPbc	02 28 51.3	-0.8
	baz=341,SNR=9.5							
GOGA	Godfrey	151.22	14	ePKPbc		PKPbc	02 28 51.7	-0.4
GOGA	Godfrey	151.22	14	ePKIKP		PKPbc	02 28 51.7	-0.4
GOGA	Godfrey	151.22	14	P		PKPbc	02 28 51.4	-0.8
	baz=343,SNR=5.7							
150A	Eclectic	151.24	19	P		PKPbc	02 28 51.0	-1.3
	baz=337							
Y57A	Sumter	151.25	9	P		PKPbc	02 28 51.2	-1.0
	baz=349							
Y56A	Pelion	151.31	10	P		PKPbc	02 28 51.3	-1.1
	baz=348							
Z53A	Monticello	151.32	15	P		PKPbc	02 28 51.5	-0.9
	baz=343,SNR=12							
LVC	Limon Verde	151.36	192	ePKPbc		PKiKP	02 28 55.0	+1.2
LVC	Limon Verde	151.36	192	ePKIKP		PKiKP	02 28 55.0	+1.2
249A	Camden	151.44	21	P		PKPbc	02 28 52.1	-0.6
	baz=335							
Y58A	Scranton	151.46	8	P		PKPbc	02 28 51.9	-0.8
	baz=351,SNR=7.2							
Z54A	Sparta	151.53	13	P		PKPbc	02 28 51.7	-1.1
	baz=344,SNR=11							
151A	Opelika	151.54	18	P		PKPbc	02 28 52.0	-0.9
	baz=339							
152A	Waverly Hall	151.59	17	ePKPbc		PKPbc	02 28 52.2	-0.8
152A	Waverly Hall	151.59	17	P		PKPbc	02 28 52.2	-0.8
	baz=340							
Z55A	Blythe	151.70	12	P		PKPbc	02 28 52.3	-0.9
	baz=346,SNR=6.5							
250A	Grady	151.74	20	ePKPbc		PKPbc	02 28 53.0	-0.4
250A	Grady	151.74	20	P		PKPbc	02 28 52.4	-1.0
	baz=336							
Z56A	Williston	151.75	11	P		PKPbc	02 28 52.2	-1.2
	baz=347							
153A	Fort Valley	151.85	15	P		PKPbc	02 28 52.6	-1.1
	baz=342							
Z57A	Bowman	151.90	10	P		PKPbc	02 28 52.3	-1.4
	baz=348,SNR=14							
251A	Midway	151.91	18	P		PKPbc	02 28 53.1	-0.7
	baz=338							
349A	Repton	151.98	22	P		PKPbc	02 28 53.2	-0.7
	baz=334							
Z58A	St. Stephen	152.00	8	P		PKPbc	02 28 53.0	-0.9
	baz=350							
154A	Montrose	152.07	14	ePKPbc		PKPbc	02 28 53.9	-0.3
154A	Montrose	152.07	14	P		PKPbc	02 28 53.2	-0.9
	baz=349							
Z59A	Georgetown, SC	152.16	7	P		PKPbc	02 28 53.3	-1.0
	baz=352							
NHSC	New Hope	152.17	9	P		PKPbc	02 28 53.7	-0.6
	baz=350							
BRAL	Brewton	152.19	22	ePKPbc		PKPbc	02 28 54.8	+0.3
BRAL	Brewton	152.19	22	P		PKPbc	02 28 54.2	-0.2
	baz=334							
155A	Kite	152.21	13	P		PKPbc	02 28 53.2	-1.2
	baz=345,SNR=5.8							
252A	Lumpkin	152.21	17	P		PKPbc	02 28 53.5	-1.0
	baz=340							
350A	Dozier	152.22	21	P		PKPbc	02 28 53.9	-0.6
	baz=336							
253A	Americus	152.32	16	ePKPbc		PKPbc	02 28 54.4	-0.3
253A	Americus	152.32	16	P		PKPbc	02 28 54.0	-0.7
	baz=341							
RGRS	Roger Stewart	152.36	9	ePKPbc		PKPbc	02 28 54.3	-0.4
156A	Sylvania	152.38	11	P		PKPbc	02 28 54.4	-0.4
	baz=347							
158A	Hollywood	152.53	9	P		PKPbc	02 28 54.6	-0.5
	baz=349							
351A	Pinckard	152.60	19	P		PKPbc	02 28 54.5	-0.8
	baz=337							
352A	Blakely	152.63	18	ePKPbc		PKPbc	02 28 55.2	-0.2
352A	Blakely	152.63	18	P		PKPbc	02 28 54.8	-0.6
	baz=339							
254A	Abbeville	152.66	15	P		PKPbc	02 28 54.7	-0.8
	baz=342							
255A	Hazlehurst	152.88	13	P		PKPbc	02 28 55.7	-0.2
	baz=344							
256A	Glennville	152.96	12	P		PKPbc	02 28 55.6	-0.5
	baz=346							
353A	Camilla	152.97	17	P		PKPbc	02 28 55.6	-0.6
	baz=340							
TIGA	Tifton	153.06	16	ePKPbc		PKPbc	02 28 56.2	-0.2
TIGA	Tifton	153.06	16	P		PKPbc	02 28 55.7	-0.6
	baz=342							
257A	Skidaway Islan	153.13	11	P		PKPbc	02 28 56.0	-0.5
	baz=347							
452A	Marianna	153.14	19	P		PKPbc	02 28 55.9	-0.7
	baz=338							
355A	Pearson	153.34	15	P		PKPbc	02 28 56.4	-0.6
	baz=343							
453A	Whigham	153.40	18	ePKPbc		PKPbc	02 28 57.4	+0.2
453A	Whigham	153.40	18	P		PKPbc	02 28 57.0	-0.1
	baz=340							
356A	Blackshear	153.53	13	P		PKPbc	02 28 56.6	-0.7
	baz=345							
552A	Lynn Haven	153.76	20	P		PKPbc	02 28 57.7	-0.2
	baz=337							
455A	Stateville	153.87	15	P		PKPbc	02 28 58.0	-0.1
	baz=342							
555A	McAlpin	154.47	16	P		PKPbc	02 28 58.7	-0.8
	baz=342							
556A	Lake Butler	154.73	15	P		PKPbc	02 28 59.3	-0.7
	baz=343							
557A	Orange Park	154.88	13	P		PKPbc	02 28 59.6	-0.7
	baz=345							
LPAZ	La Paz	157.21	198	PKP		PKPdf	02 28 56.5	+0.7
	comp=Z,0.7nm,0.8s,baz=223,slow=7.4,SNR=4.7							
LPAZ				PKPab		PKPab	02 29 26.8	+0.4
	comp=Z,1.7nm,0.9s,baz=84,slow=4.8,SNR=4.7							

IDC 05 02:23:50.7±2.1,5°82S×129°60E,h0km,mb3.2/1, mb1 3.6/4,mb1mx3.4/30,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=88.6km s-min=27.5km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.80	197	Pn	Pn	02 26 54.0	-0.2
	0.1nm,0.3s,baz=20,slow=9.4,SNR=2.5						
FITZ				Sn	Sn	02 29 00.4	-17
	0.4nm,0.3s,baz=90,slow=10,SNR=3.3						
WRA	Warramunga Arr	14.78	162	Pn	Pn	02 27 22.2	+1.0
	0.1nm,0.3s,baz=342,slow=12,SNR=4.3						
WRA				Sn	Sn	02 29 58.3	-7.5
	0.1nm,0.3s,baz=329,slow=23,SNR=3.5						
ASAR	Alice Springs	18.23	167	P	Pn	02 28 04.7	-0.7
	0.3nm,0.3s,baz=344,slow=10,SNR=11						
MKAR	Makanchi Array	67.02	327	P	P	02 34 45.8	+0.1
	0.1nm,0.5s,baz=136,slow=6.6,SNR=2.1						

*IDC **05** 02:29:22.7±4.4,5°.35S×104°.44E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/37,mbtmp3.6/4,Error ellipse: s-maj=189.8km s-min=68.2km az=46.0*
*ISCJB **05** 02:29:27.2±1.2,5°.69S±0°.05×104°.77E±0°.06,h11km±9km, mb3.5/4,Error ellipse: s-maj=10.6km s-min=7.9km az=147.0*
*DJA **05** 02:29:29.3±0.5,6°S±5°×10°5E±°,h10km,M3.3/7,MLv3.3/7*
ISC 05 02:29:28.5±1.0,5°.57S±0°.05×104°.73E±0°.04,h18km±6km, n12,σ0°69/18,mb3.6/4,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	Kota Agung	0.24	281	P	Pg	02 29 33.7	-0.3
KASI				S	Sg	02 29 38.0	+0.3
BLSI	Bandar Lampung	0.55	69	P	Pg	02 29 39.0	-0.5
BLSI				S	Sg	02 29 47.0	+0.2
KLI	Kotabumi	0.71	10	P	Pg	02 29 42.8	+0.3
KLI				S	Sn	02 29 53.3	-0.9
LWLI	Liwa	0.87	309	P	Pb	02 29 45.5	+0.4
MDSI	Maura Dua	1.21	333	P	Pb	02 29 51.7	+0.8
MDSI				S	Sg	02 30 08.1	+0.4
SBJI	Serang	1.49	112	P	Pg	02 29 57.5	+0.2
SBJI				S	Sg	02 30 16.5	-0.3
MNAI	Manna	2.14	304	P	Pb	02 30 07.6	+0.8
MNAI				S	Sg	02 30 36.5	-0.9
FITZ	Fitzroy Crossi	23.92	123	P	P	02 34 41.9	+0.3
	1.8nm,0.7s,baz=325,slow=12,SNR=3.1						
WRA	Warramunga Arr	32.13	119	P	P	02 35 54.6	-0.7
	0.6nm,1.0s,baz=293,slow=9.7,SNR=3.6						
ASAR	Alice Springs	33.35	126	P	P	02 36 06.9	+1.0
	0.5nm,0.8s,baz=298,slow=8.5,SNR=4.2						
STKA	Stephens Creek	43.27	132	P	P	02 37 29.3	+0.1
	0.7nm,0.5s,baz=296,slow=9.0,SNR=3.6						
TXAR	Lajitas Array	144.24	45	PKP	PKPab	02 49 01.0	-1.1
	0.1nm,0.7s,baz=204,slow=2.0,SNR=3.0						

*IDC **05** 02:57:27.7±3.0,34°.55S×179°.81W,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.8/25,mbtmp3.9/4,ML3.6/1,Error ellipse: s-maj=65.4km s-min=45.4km az=121.0*
*ISCJB **05** 02:57:37.2±1.8,35°.1S±0°.1×179°.8W±0°.2,h103km±17km, mb3.8/3,Error ellipse: s-maj=23.0km s-min=16.6km az=160.6*
*WEL **05** 02:57:38.9±1.2,35°S±7°×18°0W±1°2,h33km,ML4.3/21*
**ISC 05 02:57

SOME ***05*** *03:06:14.4, 42.60N×79.85E, h10km*
NNC 05 03:06:15.1±3.3, 42.65N×79.82E, h0km, mb2.2, mpv2.2, Error ellipse: s-maj=21.7km s-min=13.2km az=129.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye** 0.2nm,0.2s	**0.72**	**341**	P	Pg	03 06 29.0	0.0
PDGK	0.8nm,0.2s			S	Sg	03 06 39.5	+1.2
SATY	**Saty** 4.6nm,0.6s	**1.12**	**292**	P	Pg	03 06 36.0	-0.6
SATY	2.5nm,0.2s			S	Sg	03 06 51.4	+0.4
SATY	**Saty** 4.6nm,0.6s	**1.12**	**292**	*e*P	Pg	03 06 36.0	-0.6
SATY	2.5nm,0.2s			*e*S	Sg	03 06 51.4	+0.5

ISCJB ***05*** *03:29:07.4±2.0, 13.24S±0.08×166.83E±0.08, h134km±20km, mb4.3/40, Error ellipse: s-maj=13.6km s-min=11.8km az=35.9*
NEIC ***05*** *03:29:08.7±1.3, 13.16S×166.85E, h131km±13km, mb4.5/26, Error ellipse: s-maj=9.8km s-min=7.5km az=137.0*
IDC ***05*** *03:29:08.3±3.4, 13.26S×166.91E, h131km±32km, mb4.0/19, mb1 4.1/20, mb1mx4.0/40, mbtmp4.4/20, MS3.1/3, Ms1 3.1/3, ms1mx2.8/27, Error ellipse: s-maj=23.3km s-min=16.2km az=120.0*
ISC 05 03:29:06.9±0.8, 13.17S±0.06×166.9E±0.1, h115km±7km, n69, σ0.99/83, mb4.4/39, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara** comp=Z,64nm,19.8s,baz=32,slow=35	**7.74**	**298**	LR	LR	03 33 40.0	
DZM	**Mont Dzumac** 15nm,0.3s,baz=38,slow=19,SNR=108	**8.86**	**183**	P	**Pn**	**03 31 13.4**	**+1.3**
DZM	3.3nm,0.3s,baz=135,slow=20,SNR=5.6			S	**Sn**	**03 32 48.3**	**-1.9**
ONTNC	**Ouen Toro**	**9.09**	**182**	*e*Pn	**Pn**	**03 31 17.6**	**+2.4**
ONTNC				*e*Sn	**Sn**	**03 32 53.7**	**-2.1**
OUENC	**Ouen Island, N**	**9.20**	**180**	*e*Pn	**Pn**	**03 31 18.4**	**+1.8**
OUENC				*e*Sn	**Sn**	**03 32 58.4**	**+0.1**
EIDS	**Eidsvold** 22nm,0.7s	**19.19**	**228**	*e*P	**Pn**	**03 33 23.0**	**-0.9**
CTA	**Charters Tower** 11nm,0.6s,baz=83,slow=12,SNR=16	**20.90**	**248**	P	**P**	**03 33 40.8**	**+0.5**
CTAO	**Charters Tower** 15nm,0.8s	**20.90**	**248**	*e*P	**P**	**03 33 40.4**	**+0.1**
PATS	**Pohnpei** 166nm,1.2s	**21.62**	**336**	*e*P	**P**	**03 33 45.9**	**-2.0**
ARMA	**Armidale**	**22.20**	**217**	*e*P	**P**	**03 33 56.5**	**+2.5**
COEN	**Coen** 15nm,1.1s	**23.04**	**265**	*e*P	**P**	**03 34 03.4**	**+0.9**
BKZ	**Black Stump Fm** 28nm,1.5s	**27.26**	**164**	*e*P	**P**	**03 34 40.7**	**+0.3**
STKA	**Stephens Creek** 1.4nm,0.9s	**29.73**	**227**	*e*P	**P**	**03 35 03.3**	**+0.9**
STKA				*e*PcP	**PcP**	**03 38 03.1**	**-0.6**
STKA	**Stephens Creek** 3.4nm,0.7s,baz=50,slow=8.6,SNR=11	**29.73**	**227**	P	**P**	**03 35 02.9**	**+0.5**
STKA	2.4nm,0.6s,baz=73,slow=4.3,SNR=4.0			PcP	**PcP**	**03 38 03.1**	**-0.6**
STKA	comp=Z,58nm,19.2s,baz=27,slow=34			LR	LR	03 45 44.1	
TOO	**Toolangi** 3.3nm,0.6s	**30.89**	**214**	*e*P	**P**	**03 35 12.9**	**+0.3**
WB2	**Warramunga Arr**	**31.84**	**253**	*e*P	**P**	**03 35 19.3**	**-1.9**
WR1	**Warramunga Arr** 13nm,1.4s	**31.85**	**253**	*e*P	**P**	**03 35 20.4**	**-0.9**
WR1				*e*		03 47 57.6	
WRA	**Warramunga Arr** 1.7nm,0.5s,baz=84,slow=8.9,SNR=18	**31.85**	**253**	P	**P**	**03 35 20.4**	**-0.9**
WRA	comp=Z,35nm,18.4s,baz=315,slow=35			LR	LR	03 47 57.6	
AS31	**Alice Springs** 1.4nm,0.5s	**32.89**	**247**	*e*P	**P**	**03 35 29.7**	**-0.7**
AS31				*e*PcP	**PcP**	**03 38 12.7**	**+0.2**
ASAR	**Alice Springs** 2.8nm,0.6s,baz=74,slow=9.4,SNR=62	**32.89**	**247**	P	**P**	**03 35 29.4**	**-0.9**
ASAR	1.4nm,0.9s,baz=92,slow=4.3,SNR=5.1			PcP	**PcP**	**03 38 12.7**	**+0.2**
BBOO	**Buckleboo** 7.2nm,0.7s	**34.24**	**230**	*e*P	**P**	**03 35 42.4**	**+0.5**
BBOO				*e*pP	**pP**	**03 36 04.0**	**-1.7**
BBOO				*e*PcP	**PcP**	**03 38 14.5**	**-1.6**
FITZ	**Fitzroy Crossi** 4.9nm,1.2s	**39.94**	**258**	*e*P	**P**	**03 36 31.2**	**+1.0**
FITZ				*e*PcP	**PcP**	**03 38 33.1**	**-0.6**
FITZ	**Fitzroy Crossi** 1.4nm,0.8s,baz=80,slow=6.1,SNR=4.7	**39.94**	**258**	P	**P**	**03 36 31.2**	**+1.0**
MJAR	**Matsushiro Arr** 4.4nm,0.7s,baz=173,slow=8.9,SNR=10	**56.35**	**332**	P	**P**	**03 38 35.8**	**-0.3**
MAJO	**Matsushiro**	**56.35**	**332**	*e*P	**P**	**03 38 35.8**	**-0.3**
JNU	**Nakatsue** 24nm,1.3s	**57.44**	**324**	*e*P	**P**	**03 38 43.5**	**-0.3**
JNU	**Nakatsue** 10nm,1.0s,baz=71,slow=3.9,SNR=4.5	**57.44**	**324**	P	**P**	**03 38 43.5**	**-0.3**
ASAJ	**Asahikawa** 3.1nm,0.6s,baz=231,slow=6.2,SNR=16	**61.15**	**340**	P	**P**	**03 39 09.7**	**+0.5**
KSRS	**Korea Array** 1.3nm,0.7s,baz=137,slow=7.7,SNR=7.3	**62.24**	**326**	P	**P**	**03 39 17.1**	**+0.6**
KS15	**Wonju Array Si** 14nm,1.3s	**62.25**	**326**	*e*P	**P**	**03 39 17.1**	**+0.5**
KSAR	**Wonju Array Be**	**62.25**	**326**	P	**P**	**03 39 17.1**	**+0.5**
USRK	**Ussuriysk Ar.** 3.9nm,0.7s,baz=111,slow=6.7,SNR=7.7	**65.33**	**333**	P	**P**	**03 39 37.7**	**+1.0**
PETK	**Petropavlovsk-** 4.3nm,0.9s,baz=158,slow=7.2,SNR=3.1	**66.48**	**354**	P	**P**	**03 39 45.1**	**+1.2**
PEA1	**Petropavlovsk-**	**66.48**	**354**	*e*P	**P**	**03 39 45.1**	**+1.1**
XAN	**Xi'an**	**72.35**	**312**	P	**P**	**03 40 21.5**	**+0.9**
XAN	comp=Z,7.0nm,0.7s			pmax	pmax		
XAN	comp=Z,75nm,4.6s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.5s,baz=116,slow=4.1,SNR=5.6	**73.96**	**294**	P	**P**	**03 40 30.0**	**-0.3**
CM31	**Chiang Mai Arr** comp=Z,10nm,1.4s	**73.96**	**294**	*e*P	**P**	**03 40 30.0**	**-0.3**
SEY	**Seymchan** comp=Z,3.2nm,0.6s,baz=165,slow=5.1,SNR=15	**76.70**	**353**	P	**P**	**03 40 45.0**	**0.0**
ULN	**Ulaanbaatar** comp=Z,6.0nm,0.9s	**80.65**	**324**	*e*P	**P**	**03 41 08.4**	**+1.2**
BILL	**Bilibino** comp=Z,7.3nm,1.0s	**80.99**	**360**	*e*P	**P**	**03 41 08.7**	**+0.3**
SONA0	**Songino Array**	**81.02**	**324**	*e*P	**P**	**03 41 09.7**	**+0.5**
SONM	**Songino Array** comp=Z,1.3nm,0.6s,baz=158,slow=3.3,SNR=12	**81.02**	**324**	P	**P**	**03 41 09.7**	**+0.5**
GTA	**Gaotai**	**81.31**	**314**	∥P	**P**	**03 41 12.6**	**+1.7**
GTA				pP	PcP	03 41 23.8	+7.1
GTA				sP	pP	03 41 30.5	-9.3
GTA	comp=Z,7.0nm,1.1s			pmax	pmax		
CAST	**Castle Rocks** comp=Z,2.5nm,1.2s	**82.63**	**17**	*e*P	**P**	**03 41 16.8**	**-0.3**
RND	**Reindeer** comp=Z,8.5nm,1.2s	**83.59**	**18**	*e*P	**P**	**03 41 22.0**	**-0.1**
RND				*e*pP	**pP**	**03 41 52.1**	**+1.0**
TLY	**Talaya** comp=Z,5.8nm,0.8s	**84.49**	**326**	*e*P	**P**	**03 41 27.7**	**+0.9**
WRH	**Wood River Hil** comp=Z,5.8nm,1.0s	**84.60**	**18**	*e*P	**P**	**03 41 27.1**	**+0.1**
WRH				*e*pP	**pP**	**03 41 55.9**	**-0.1**
CCB	**Clear Creek Bu** comp=Z,3.1nm,0.8s	**84.81**	**18**	*e*P	**P**	**03 41 27.5**	**-0.6**
CCB				*e*pP	**pP**	**03 41 57.3**	**+0.2**
HDA	**Harding Lake** comp=Z,10.0nm,1.0s	**84.90**	**18**	*e*P	**P**	**03 41 29.1**	**+0.5**
HDA				*e*pP	**pP**	**03 41 57.4**	**-0.2**
MDM	**Murphy Dome** comp=Z,8.3nm,1.1s	**84.91**	**18**	*e*P	**P**	**03 41 28.6**	**-0.1**
ILAR	**Eielson Array** comp=Z,2.4nm,0.8s,baz=234,slow=6.1,SNR=25	**85.18**	**18**	P	**P**	**03 41 29.6**	**-0.3**
ILB	**Eielson Array** comp=Z,4.8nm,1.0s	**85.18**	**18**	*e*P	**P**	**03 41 29.9**	**-0.1**
IL1	**Eielson Array**	**85.18**	**18**	*e*P	**P**	**03 41 28.6**	**-1.4**
MK01	**Makanchi Array**	**95.80**	**317**	*e*P	**P**	**03 42 20.6**	**+0.3**
MK31	**Makanchi Array** comp=Z,2.2nm,0.8s	**95.81**	**317**	*e*P	**P**	**03 42 20.9**	**+0.6**
MK32	**Makanchi Array**	**95.81**	**317**	*e*P	**P**	**03 42 20.0**	**-0.3**
MKAR	**Makanchi Array**	**95.81**	**317**	P	**P**	**03 42 20.0**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=92,slow=6.5,SNR=30						
ZALV	**Zalesovo Beam**	**95.91**	**324**	*e*P	**P**	**03 42 19.7**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,2.4nm,0.7s,baz=129,slow=4.1,SNR=9.5	**95.91**	**324**	P	**P**	**03 42 19.6**	**-0.9**
ZAA1	**Zalesovo Array**	**95.91**	**324**	*e*P	**P**	**03 42 19.6**	**-1.0**
MAKZ	**Makanchi** comp=Z,5.2nm,1.3s	**96.02**	**317**	*e*P	**P**	**03 42 22.4**	**+1.1**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.6s,baz=256,slow=4.9,SNR=5.0	**96.35**	**27**	P	**P**	**03 42 21.3**	**-1.0**
YKB5	**Yellowknife Ar**	**96.35**	**27**	*e*P	**P**	**03 42 21.3**	**-1.0**
KURK	**Kurchatov**	**98.96**	**320**	*e*P	**P**	**03 42 33.9**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,0.4nm,0.7s,baz=90,slow=4.6,SNR=3.6	**99.00**	**320**	P	**Pdif**	**03 42 33.9**	**-0.7**
ARA0	**ARCESS Array S**	**118.66**	**346**	*e*PKPdf	**PKPdf**	**03 47 39.5**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,3.6nm,1.0s,baz=26,slow=2.2,SNR=5.7	**118.66**	**346**	PKP	**PKPdf**	**03 47 39.5**	**-1.4**
FIA0	**FINESS Array S**	**124.14**	**338**	*e*PKPdf	**PKPdf**	**03 47 50.2**	**-1.3**
FINES	**FINESS Array B** comp=Z,0.6nm,0.7s,baz=318,slow=8.2,SNR=3.8	**124.14**	**338**	PKP	**PKPdf**	**03 47 50.2**	**-1.3**
ESDC	**Sonseca Array** comp=Z,0.2nm,0.4s,baz=17,slow=1.9,SNR=3.7	**152.39**	**345**	PKPbc	**PKPbc**	**03 48 49.2**	**-0.7**
ESDC	comp=Z,1.0nm,0.7s,baz=20,slow=3.8,SNR=7.2			PKPab	**PKPab**	**03 49 00.2**	**-0.1**

ISCJB ***05*** *03:30:05.1±0.7,20.21S±0.09×178.1W±0.1, h534km, mb3.9/12, Error ellipse: s-maj=18.6km s-min=10.8km az=20.3*
IDC ***05*** *03:30:10.2±2.5,20.35S×178.07W, h586km±27km, mb3.5/12, mb1 3.7/13, mb1mx3.4/36, mbtmp4.4/13, Error ellipse: s-maj=18.7km s-min=12.9km az=124.0*
ISC 05 03:30:05.2±0.7, 20.3S±0.1×178.0W±0.1, h534km, n45, σ1.18/48, mb4.1/12, 9C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 2.4nm,0.3s,baz=283,slow=2.3,SNR=15	**18.43**	**192**	P	**P**	**03 33 49.1**	**+1.5**
URZ	0.3nm,0.3s,baz=28,slow=23,SNR=3.6			S	**S**	**03 36 47.0**	**-1.6**
CTA	**Charters Tower** 9.0nm,0.6s,baz=111,slow=9.3,SNR=10	**33.51**	**264**	P	**P**	**03 36 01.8**	**+1.0**
STKA	**Stephens Creek** 5.6nm,0.8s,baz=89,slow=9.7,SNR=9.0	**37.89**	**244**	P	**P**	**03 36 38.2**	**+1.3**
ASAR	**Alice Springs** 14nm,0.7s,baz=96,slow=7.6,SNR=74	**44.57**	**256**	P	**P**	**03 37 30.9**	**+0.9**
ASAR	1.6nm,0.5s,baz=107,slow=3.8,SNR=8.1			PcP	**PcP**	**03 39 01.9**	**+0.4**
ASAR	0.4nm,0.7s,baz=94,slow=14,SNR=3.5			S	**S**	**03 43 24.1**	**-3.0**
WRA	**Warramunga Arr** 6.7nm,0.4s,baz=96,slow=7.6,SNR=197	**44.63**	**262**	P	**P**	**03 37 30.8**	**+0.3**
WRA	0.6nm,0.5s,baz=95,slow=3.3,SNR=3.6			PcP	**PcP**	**03 39 01.8**	**0.0**
FITZ	**Fitzroy Crossi** 2.0nm,0.7s,baz=114,slow=3.7,SNR=8.1	**53.05**	**262**	P	**P**	**03 38 33.7**	**+0.8**
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=156,slow=6.5,SNR=3.4	**70.02**	**324**	P	**P**	**03 40 22.7**	**-0.6**
PETK	**Petropavlovsk-** 7.7nm,1.2s,baz=149,slow=5.2,SNR=3.1	**76.04**	**345**	P	**P**	**03 40 57.9**	**+0.4**
NVAR	**Mina Array Bea** 1.0nm,0.9s,baz=232,slow=10,SNR=5.3	**80.86**	**43**	P	**P**	**03 41 25.4**	**+1.5**
SEY	**Seymchan** 2.1nm,0.5s,baz=131,slow=5.7,SNR=8.0	**86.14**	**347**	P	**P**	**03 41 49.9**	**+0.6**
ILAR	**Eielson Array** 1.0nm,0.5s,baz=213,slow=5.3,SNR=11	**88.09**	**13**	P	**P**	**03 41 58.5**	**+0.1**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=240,slow=4.3,SNR=2.7	**88.79**	**43**	P	**P**	**03 42 02.2**	**-0.3**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=108,slow=1.4,SNR=2.8	**90.03**	**290**	P	**P**	**03 42 09.2**	**+0.7**
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=180,slow=1.3,SNR=3.8	**110.31**	**321**	PKiKP	**PKiKP**	**03 47 34.7**	**-1.5**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=0.9,slow=0.0,SNR=6.5	**111.03**	**313**	PKiKP	**PKiKP**	**03 47 36.8**	**-1.1**
KURBB	**Kurchatov Arra** 0.8nm,0.7s,baz=82,slow=2.1,SNR=6.4	**113.87**	**317**	PKiKP	**PKiKP**	**03 47 41.3**	**-1.9**
BVAR	**Borovoye Array** 1.0nm,0.4s,baz=118,slow=1.9,SNR=8.2	**118.90**	**320**	PKP	**PKPdf**	**03 47 52.2**	**-0.6**
ARCES	**ARCESS Array B** 2.1nm,0.8s,baz=47,slow=5.8,SNR=3.5	**128.69**	**350**	PKP	**PKPdf**	**03 48 10.7**	**-0.4**
FINES	**FINESS Array B** 3.7nm,1.0s,baz=307,slow=9.9,SNR=4.3	**135.55**	**344**	PKP	**PKPdf**	**03 48 22.3**	**-1.9**
HFS	**Hagfors** 1.1nm,0.4s,baz=78,slow=8.2,SNR=14	**139.31**	**351**	PKhKP	PKPpre	03 48 22.9	
AKASG	**Malin Array Be** 1.1nm,0.3s,baz=44,slow=4.4,SNR=24	**142.81**	**331**	PKhKP	PKPpre	03 48 34.6	
KIEV	**Kiev**	**142.82**	**331**	∥P	**PKPdf**	**03 48 33.6**	**-4.1**
EKA	**Eskdalemuir Ar** 0.9nm,0.6s,baz=0.0,slow=3.5,SNR=5.3	**144.77**	**5**	PKP	**PKPdf**	**03 48 40.7**	**-0.3**
BZK	**Bozkurt**	**145.40**	**316**	⇑*i*P	**PKPab**	**03 48 45.3**	**+0.4**
BRTR	**Keskin Array B** 2.1nm,0.6s,baz=137,slow=3.7,SNR=18	**146.68**	**313**	PKPbc	**PKPbc**	**03 48 47.9**	**+0.3**
BURAR	**Bucovina Array**	**146.85**	**331**	⇑*i*P	**PKiKP**	**03 48 48.8**	**-0.9**
BIZ	**Bicaz**	**146.93**	**329**	⇑*i*P	**PKPbc**	**03 48 48.7**	**+0.9**
CFR	**Carcaliu**	**147.09**	**325**	⇑*i*P	**PKPbc**	**03 48 46.9**	**-1.3**
PLOR	**Plostina**	**147.42**	**327**	∥*i*P	**PKPdf**	**03 48 47.0**	**+1.2**
TRPA	**Tarpa**	**147.63**	**334**	⇑*i*P	**PKPbc**	**03 48 50.2**	**+0.7**
CLL	**Collm** comp=Z,9.0nm,0.9s	**147.83**	**347**	∥*i*PKPbc	**PKPbc**	**03 48 50.6**	**+0.6**
CLL	comp=Z,6.0nm,0.9s			*i* PKPab	**PKPab**	**03 48 54.6**	**+0.3**
DPC	**Dobruska-Polom**	**147.90**	**343**	*e*pPKP	**PKiKP**	**03 48 51.6**	**-0.1**
DPC				*ex*	x	03 48 56.5	
DOPR	**Dopca**	**147.97**	**329**	⇑*i*P	**PKPbc**	**03 48 50.7**	**+0.2**
MLR	**Muntele Rosu**	**148.02**	**327**	⇑*i*P	**PKPbc**	**03 48 51.6**	**+0.8**
MLR	**Muntele Rosu** comp=Z,2.1nm,0.6s,baz=127,slow=20,SNR=4.7	**148.02**	**327**	PKPbc	**PKPbc**	**03 48 51.0**	**+0.1**
BRG	**Berggiesshubel** comp=Z,6.1nm,0.8s	**148.03**	**346**	*i* PKP	**PKiKP**	**03 48 51.4**	**-0.4**
BRG	comp=Z,3.7nm,0.8s			*e*		03 48 55.9	
VOIR		**148.51**	**328**	∥*i*P	**PKiKP**	**03 48 53.2**	**+0.1**
PRU	**Pruhonice**	**148.71**	**344**	*e*pPKP	**PKiKP**	**03 48 53.2**	**-0.1**
ARR	**Arges**	**148.77**	**328**	∥*i*P	**PKiKP**	**03 48 54.6**	**+1.0**
SIRR	**Siria**	**149.46**	**333**	∥*i*P	**PKiKP**	**03 48 54.7**	**-0.3**
GZR	**Gura Zlata**	**149.63**	**330**	⇑*i*P	**PKPbc**	**03 48 52.7**	**-2.0**
KHC	**Kasperske Hory**	**149.74**	**345**	*e*pPKP	**PKiKP**	**03 48 55.7**	**+0.2**
KHC				*ex*	x	03 49 03.4	
GERES	**GERESS Array B** 2.1nm,0.8s,baz=33,slow=3.2,SNR=12	**149.97**	**344**	PKPbc	**PKPbc**	**03 48 55.2**	**-0.2**
HERR	**Herculane**	**150.19**	**330**	⇑*i*P	**PKPbc**	**03 48 55.0**	**-0.9**
DAVOX	**Davos/Dischmat** comp=Z,1.3nm,0.3s,baz=275,slow=2.7,SNR=7.3	**152.78**	**348**	PKPbc	**PKiKP**	**03 49 02.2**	**+0.2**

MEX 05 03:45:40.5±0.5, 16.34N×98.22W, h14km±1km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.10**	**57**	*i* P	Pg	03 45 42.7	-1.0
PNIG				*i* S	Sg	03 45 45.4	-0.5
VHO	**Vista Hermosa**	**1.60**	**63**	*i* P	Pn	03 46 04.5	-4.1
VHO				*i* S	Sn	03 46 24.6	-4.4
CAIG	**El Cayaco**	**2.09**	**290**	*i* P	Pn	03 46 11.9	-3.1
CAIG				*i* S	Sn	03 46 36.3	-4.6
HUIG	**Huatulco**	**2.10**	**105**	*i* P	Pn	03 46 12.4	-2.9
HUIG				*i* S	Sn	03 46 36.8	-4.5

IDC ***05*** *03:54:21.6±1.6, 53.42N×108.25E, h0km, mb3.6/2, mb1 3.5/5, mb1mx3.2/48, mbtmp3.3/5, ML2.8/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/48, Error ellipse: s-maj=28.0km s-min=19.1km az=112.0*
BYKL ***05*** *03:54:23.6±0.2, 53.40N×107.92E, FELT I–II-III MSK at Onguren*
MOS ***05*** *03:54:23.3±2.0, 53.41N×107.95E, h9km, mb4.1/1, Error ellipse: s-maj=12.9km s-min=7.5km az=61.5*
ISC 05 03:54:22.2±0.6, 53.39N±0.02×108.00E±0.02, h10km, n57, σ2.28/108, 2C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGRR	**Ongureny**	**0.35**	**317**	*e*Pg	**Pb**	**03 54 31.7**	**+1.1**
OGRR				*e*Sg	**Sb**	**03 54 36.4**	**+0.2**
OGRR	1μm,0.2s			Pmax			
OGRR	5μm,0.2s			Smax			
OGRR	**Ongureny**	**0.35**	**317**	*e*PG	**Pb**	**03 54 31.2**	**+0.6**
OGRR				*e*		03 54 33.9	
OGRR	comp=Z,1μm,0.2s			pmax	pmax		
OGRR				smax	smax		
	comp=E,6μm,0.4s						
MXMB	**Maximikha**	**0.47**	**106**	*e*Pg	**Pb**	**03 54 32.9**	**+0.3**
MXMB				*i* Sg	**Sb**	**03 54 40.7**	**+1.2**
KELR	**Kotokel**	**0.63**	**175**	*e*Pg	**Pg**	**03 54 35.2**	**+0.7**
KELR				*e*Sg	**Sb**	**03 54 44.4**	**+0.1**
ZRHB	**Zarechye**	**0.98**	**212**	⇑*i*Pg	**Pb**	**03 54 42.2**	**+0.9**
ZRHB				Sg	**Sb**	**03 54 55.6**	**+1.3**
ZRHB	comp=E,474nm,0.6s			Pmax			
ZRHB	comp=E,4μm,0.7s			Smax			
TRG	**Tyrgan**	**1.18**	**238**	*e*Pg	**Pb**	**03 54 44.0**	**-0.7**
TRG				*e*Sg	**Sb**	**03 54 59.6**	**-0.4**
TRG	comp=E,61nm,0.1s			Pmax			
TRG	comp=E,1μm,0.2s			Smax			
TRG	**Tyrgan**	**1.18**	**238**	⇑*i*PG	**Pb**	**03 54 44.1**	**-0.7**
TRG				*e*		03 55 00.1	
TRG	comp=Z,180nm,0.1s			pmax	pmax		
TRG	comp=E,1μm,0.2s			smax	smax		
TRTB	**Turuntaevo**	**1.18**	**191**	*e*Pg	**Pb**	**03 54 45.0**	**+0.2**
TRTB				*e*Sg	**Sn**	**03 55 01.3**	**+0.3**
SYVR	**Suvo**	**1.23**	**77**	*e*Pg	**Pg**	**03 54 46.6**	**+0.8**
SYVR				*e*Sg	**Sn**	**03 55 03.9**	**+1.9**
SYVR	comp=E,134nm,0.5s			max			
SYVR	comp=E,629nm,0.3s			Smax			
SYVR	**Suvo**	**1.23**	**77**	*e*PG	**Pg**	**03 54 46.5**	**+0.8**
SYVR				*e*		03 55 03.4	
SYVR	comp=Z,164nm,0.3s			pmax	pmax		
SYVR	comp=E,640nm,0.3s			smax	smax		
KAB	**Kabansk**	**1.57**	**212**	*e*Pg	**Pb**	**03 54 52.3**	**+0.9**
KAB				*e*Sg	**Sb**	**03 55 12.7**	**+1.4**
KAB	comp=E,363nm,0.3s			Pmax			
KAB	comp=E,3μm,0.9s			max			
KAB	**Kabansk**	**1.57**	**212**	*e*PG	**Pb**	**03 54 52.4**	**+1.0**
KAB				*e*		03 55 13.6	
KAB	comp=Z,408nm,0.8s			pmax	pmax		
KAB	comp=N,3μm,1.1s			smax	smax		
STDB	**Stepnoy Dvoret**	**1.57**	**220**	*e*Pg	**Pn**	**03 54 50.7**	**+0.5**
STDB				*e*		03 54 53.4	
STDB				*e*Sg	**Sb**	**03 55 12.5**	**+1.1**
STDB				*e*		03 55 15.7	
HRMR	**Khuramsha**	**1.88**	**200**	*e*Pg	**Pb**	**03 54 57.2**	**+0.6**
HRMR				*e*Sg	**Sg**	**03 55 22.5**	**0.0**
HRMR	comp=N,1μm,0.4s			Pmax			
HRMR	comp=N,4μm,0.6s			Smax			
BGT	**Bolshoye Golou**	**2.07**	**230**	*e*	**Pb**	**03 55 00.1**	**+0.2**
BGT				*e*Sg	**Sb**	**03 55 26.6**	**+0.9**
BGT	comp=N,43nm,0.6s			max			
BGT	comp=N,224nm,0.9s			Smax			
YLYR	**Ulyunkhan**	**2.38**	**50**	*e*Pn	**Pn**	**03 55 02.1**	**+0.7**
YLYR				Pg	**Pb**	**03 55 05.9**	**+0.7**
YLYR				*e*Sg	**Sg**	**03 55 38.5**	**-0.3**
YLYR	comp=N,96nm,0.7s			Pmax			
YLYR	comp=N,338nm,0.3s			Smax			
LSTR	**Listvyanka**	**2.46**	**233**	*e*Pn	**Pn**	**03 55 03.0**	**+0.6**
LSTR				*e*Pg	**Pb**	**03 55 06.8**	**+0.3**
LSTR				*e*		03 55 19.9	
LSTR				*e*Sn	**Sn**	**03 55 32.3**	**-0.2**
LSTR				*e*Sg	**Sb**	**03 55 38.2**	**+1.4**
LSTR	comp=N,24nm,0.5s			Pmax			
LSTR	comp=N,168nm,0.7s			Smax			
IRK	**Irkutsk**	**2.54**	**245**	*e*Sn	**Sn**	**03 55 33.6**	**-0.8**
IRK				*e*Sg	**Sb**	**03 55 39.8**	**+0.7**
IRK	comp=N,708nm,0.8s			Smax			
IRK	**Irkutsk**	**2.54**	**245**	*e*PN	**Pb**	**03 55 08.7**	**+0.9**
IRK				*e*S	**Sn**	**03 55 34.8**	**+0.4**
IRK				*e*		03 55 41.2	
IRK	comp=Z,366nm,0.1s			pmax	pmax		
IRK	comp=N,693nm,0.5s			smax	smax		
NIZ	**Nizh Angarsk**	**2.55**	**20**	*e*Pn	**Pn**	**03 55 05.4**	**+1.7**
NIZ				*e*Pg	**Pb**	**03 55 08.8**	**+0.7**
NIZ				*e*		03 55 38.1	
NIZ				Sg	**Sg**	**03 55 42.1**	**-2.1**
NIZ				Pmax			
NIZ	comp=N,61nm,0.3s			Smax			
NIZ	comp=N,384nm,0.6s						
NIZ	**Nizh Angarsk**	**2.55**	**20**	*e*PN	**Pb**	**03 55 06.2**	**-1.9**
NIZ				*e*		03 55 09.0	
NIZ				*e*S	**Sn**	**03 55 33.9**	**-0.9**
IVK	**Ivanovka**	**2.70**	**235**	*e*Pn	**Pn**	**03 55 07.0**	**+1.2**
IVK				*e*		03 55 10.2	
IVK				*e*		03 55 15.4	
IVK				*e*Sn	**Sn**	**03 55 36.5**	**-2.0**
IVK				*e*Sg	**Sg**	**03 55 47.5**	**-1.5**
IVK	comp=N,17nm,0.2s			max			
IVK	comp=N,209nm,0.3s			Smax			
KMO	**Kumora**	**3.12**	**35**	Pn	**Pn**	**03 55 11.8**	**+0.4**
KMO				*e*		03 55 16.6	
KMO				*e*Pg	**Pb**	**03 55 19.1**	**+1.4**
KMO				*e*Sg	**Sg**	**03 56 01.2**	**-1.1**
KMO	comp=N,69nm,0.7s			Pmax			
KMO	comp=N,443nm,1.2s			Smax			
KMO	**Kumora**	**3.12**	**35**	*e*PN	**Pb**	**03 55 16.6**	**-1.1**
KMO				*e*S	**Sn**	**03 55 48.8**	**+0.1**
KMO				*e*		03 55 59.8	
KMO	comp=Z,55nm,0.4s			pmax	pmax		
KMO	comp=N,441nm,0.8s			smax	smax		
TLY	**Talaya**	**3.16**	**239**	*e*Pn	**Pn**	**03 55 13.2**	**+1.1**
TLY				*e*		03 55 18.0	
TLY				*e*Sn	**Sn**	**03 55 49.5**	**-0.3**
TLY				*e*Sg	**Sb**	**03 55 59.9**	**+2.8**
TLY				max			
TLY	comp=N,136nm,0.4s			Smax			
TLY	**Talaya**

ARS					smax		smax			
	comp=E,746nm,0.8s									
UKT	**Uakit**	**3.90**	**55**	*e*Pn		**Pn**		**03 55 24.9**	**+2.6**	
UKT				*e*				03 55 32.4		
UKT				*e*Sg		**Sg**		**03 56 25.4**	**-2.0**	
UKT				max						
	comp=E,29nm,0.7s									
UKT				Smax						
	comp=E,135nm,0.9s									
ZAK	**Zakamensk**	**4.20**	**226**	*e*Pn		**Pn**		**03 55 27.7**	**+1.3**	
ZAK				Pg		**Pb**		**03 55 38.6**	**+2.4**	
ZAK				*e*Sg		**Sg**		**03 56 33.2**	**-3.7**	
ZAK				Smax						
	comp=E,71nm,1.1s									
SVKR	**Severomuysk**	**4.22**	**47**	*e*		**Pb**		**03 55 38.0**	**+1.4**	
SVKR				*e*Sg		**Sg**		**03 56 36.0**	**-1.8**	
SVKR				Smax						
	comp=E,601nm,0.7s									
KPC	**Khapcheranga**	**4.59**	**142**	*e*Pn		**Pn**		**03 55 32.1**	**+0.3**	
KPC				*e*				03 55 35.5		
KPC				*e*Pg		**Pb**		**03 55 45.5**	**+2.6**	
KPC				*e*Sn		**Sn**		**03 56 23.3**	**-1.9**	
KPC				*e*Sg		**Sg**		**03 56 46.3**	**-3.3**	
KPC				Pmax						
	comp=E,14nm,0.4s									
KPC				Smax						
	comp=E,300nm,0.9s									
KPC	**Khapcheranga**	**4.59**	**142**	*e*PN		**Pn**		**03 55 32.2**	**+0.4**	
KPC				*e*				03 55 45.6		
KPC				*e*S		**Sn**		**03 56 22.8**	**-2.4**	
KPC				*e*				03 56 46.2		
KPC				pmax		pmax				
	comp=Z,14nm,0.4s									
KPC				smax		smax				
	comp=E,302nm,1.0s									
MOY	**Mondy**	**4.61**	**251**	*e*Pn		**Pn**		**03 55 33.4**	**+1.3**	
MOY				Pg		**Pb**		**03 55 44.9**	**+1.6**	
MOY				*e*				03 56 29.3		
MOY				*e*Sg		**Sb**		**03 56 44.2**	**+5.3**	
MOY				Pmax						
	comp=E,22nm,0.9s									
MOY				Smax						
	comp=E,228nm,1.1s									
MOY	**Mondy**	**4.61**	**251**	*e*PN		**Pn**		**03 55 34.8**	**+2.7**	
MOY				*e*				03 55 46.6		
MOY				*e*				03 56 43.9		
MOY				pmax		pmax				
	comp=Z,35nm,0.7s									
MOY				smax		smax				
	comp=E,227nm,1.2s									
ORL	**Orlik**	**5.02**	**264**	*e*Pn		**Pn**		**03 55 38.3**	**+0.6**	
ORL				*e*				03 55 44.5		
ORL				*e*Sn		**Sn**		**03 56 34.2**	**-1.6**	
ORL				*e*Sg		**Sg**		**03 56 58.3**	**-5.1**	
ORL				max						
	comp=E,19nm,0.8s									
ORL				Smax						
	comp=E,110nm,1.6s									
ORL	**Orlik**	**5.02**	**264**	*e*PN		**Pn**		**03 55 40.7**	**+3.0**	
ORL				*e*				03 55 54.0		
ORL				*e*S		**Sn**		**03 56 36.4**	**+0.6**	
ORL				*e*				03 56 56.3		
ORL				pmax		pmax				
	comp=Z,19nm,0.8s									
ORL				smax		smax				
	comp=N,110nm,1.5s									
NLYR	**Nelyaty**	**5.42**	**52**	*e*		Pn		03 55 48.8	+5.7	
NLYR				*e*Pg		**Pb**		**03 56 00.9**	**+4.0**	
NLYR				*e*Sg		**Sg**		**03 57 12.5**	**-3.6**	
NLYR				Pmax						
	comp=N,19nm,0.7s									
NLYR				Smax						
	comp=N,158nm,1.5s									
NLYR	**Nelyaty**	**5.42**	**52**	*e*PN		**Pn**		**03 55 44.3**	**+1.2**	
NLYR				*e*				03 55 59.8		
NLYR				*e*				03 57 11.1		
NLYR				pmax		pmax				
	comp=Z,24nm,1.7s									
NLYR				smax		smax				
	comp=E,158nm,1.5s									
ULN	**Ulaanbaatar**	**5.56**	**187**	*e*Pn		**Pn**		**03 55 47.2**	**+2.0**	
ULN				*e*Pg		**Pb**		**03 56 03.1**	**+3.6**	
ULN				*e*				03 57 10.7		
ULN				*e*Sg		**Sg**		**03 57 15.9**	**-4.9**	
BOD	**Bodaibo**	**5.59**	**35**	Pn		**Pg**		**03 56 08.2**	**-1.0**	
BOD				*e*Sg		**Sg**		**03 57 17.8**	**-3.8**	
BOD				Smax						
	comp=E,71nm,2.0s									
BOD	**Bodaibo**	**5.59**	**35**	*e*PN		**Pn**		**03 55 47.7**	**+2.3**	
BOD				*e*S		**Sg**		**03 57 17.5**	**-4.1**	
BOD				smax		smax				
	comp=E,69nm,0.9s									
SONM	**Songino Array**	**5.66**	**191**	Pn		**Pn**		**03 55 48.4**	**+2.0**	
	comp=E,0.7nm,0.3s,baz=6.6,slow=15,SNR=12									
SONM				Pg		Pb		03 56 06.0	+4.9	
	comp=E,3.9nm,0.3s,baz=9.1,slow=15,SNR=20									
SONM				Lg		Lg		03 57 22.6		
	comp=E,7.6nm,0.3s,baz=6.0,slow=29,SNR=11									
SONM				LR		LR		03 58 20.2		
	comp=E,82nm,18.2s,baz=65,slow=42									
CRS	**Chara**	**6.86**	**55**	Pg		Pb		03 56 26.4	+5.0	
CRS				*e*Sg		**Sg**		**03 57 56.6**	**-5.5**	
CRS				Pmax						
	comp=E,11nm,0.9s									
CRS				Smax						
	comp=E,71nm,1.6s									
KNGR	**Kungurtug, Tuv**	**7.05**	**251**	*e*		**Pb**		**03 56 28.2**	**+3.5**	
KNGR				*e*Pg		Pg		03 56 31.0	-6.1	
KNGR				*e*Sg		**Sg**		**03 58 01.4**	**-6.8**	
TUP	**Tupik**	**7.14**	**77**	*e*Pn		**Pn**		**03 56 08.2**	**+1.5**	
TUP				*e*				03 56 13.4		
TUP				*e*Sg		**Sg**		**03 58 05.8**	**-5.4**	
TUP				Smax						
	comp=E,74nm,1.1s									
TUP	**Tupik**	**7.14**	**77**	*e*PN		**Pn**		**03 56 08.1**	**+1.4**	
TUP				*e*				03 56 31.2		
TUP				*e*S		**Sn**		**03 57 28.0**	**+0.2**	
TUP				*e*				03 58 05.4		
TUP				pmax		pmax				
	comp=Z,5.0nm,0.5s									
TUP				smax		smax				
	comp=N,74nm,1.0s									
TDJR	**Todzha**	**7.27**	**267**	*e*				03 57 49.7		
TDJR				*e*Sg		**Sg**		**03 58 07.5**	**-7.8**	
ERNS	**Erzin**	**8.55**	**254**	*e*Sg		Sg		03 58 45.1	-11	
ZALV	**Zalesovo Beam**	**13.74**	**282**	Lg		Lg		04 01 42.9		
	comp=N,0.2nm,0.3s,baz=84,slow=18,SNR=4.7									
MKAR	**Makanchi Array**	**17.70**	**259**	Pn		**Pn**		**03 58 29.3**	**+0.5**	
	comp=N,0.0nm,0.3s,baz=61,slow=13,SNR=2.9									
MKAR				Lg		Lg		04 03 48.1		
	comp=N,0.1nm,0.3s,baz=56,slow=28,SNR=2.9									
KURK	**Kurchatov**	**18.20**	**273**	P		**Pn**		**03 58 34.9**	**+0.1**	
KURBB	**Kurchatov Arra**	**18.29**	**273**	Pn		**Pn**		**03 58 34.9**	**-0.9**	
	comp=N,0.0nm,0.3s,baz=72,slow=12,SNR=2.8									
KURBB				Lg		Lg		04 04 04.7		
	comp=N,0.0nm,0.3s,baz=79,slow=30,SNR=5.5									
FINES	**FINESS Array B**	**42.03**	**315**	P		**P**		**04 02 15.9**	**+2.6**	
	comp=N,1.6nm,0.8s,baz=59,slow=7.6,SNR=2.6									
ILAR	**Eielson Array**	**48.96**	**33**	P		**P**		**04 03 07.4**	**-0.8**	
	comp=N,0.3nm,0.8s,baz=317,slow=7.6,SNR=5.6									

BYKL 05 03:54:29.2±0.4**, 53°40N×107°95E, h16**km±4km**, Lake Baikal region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OGRR	**Ongureny**	**0.32**	**319**	*e*Sg	Sb	03 54 41.5		-0.1
OGRR				Smax				
	3μm,0.3s							
MXMB	**Maximikha**	**0.50**	**106**	*e*Sg	Sb	03 54 46.2		-0.4
KELR	**Kotokel**	**0.65**	**173**	*e*Pg	Pg	03 54 40.8		-1.1
KELR				*e*Sg	Sg	03 54 49.2		-1.2
ZRHB	**Zarechye**	**0.97**	**210**	*e*Sg	Sb	03 55 00.2		-0.1
ZRHB				Smax				
	2μm,0.9s							
TRG	**Tyrgan**	**1.16**	**237**	*e*Pg	Pn	03 54 49.7		-1.1
TRG				*e*Sg	Sb	03 55 05.8		+0.1
TRG				Smax				
	1μm,0.2s							
TRTB	**Turuntaevo**	**1.19**	**190**	*e*Pg	Pb	03 54 51.5		+0.2
TRTB				*e*Sg	Sn	03 55 06.8		-0.2
STDB	**Stepnoy Dvoret**	**1.56**	**219**	*e*Pg	Pb	03 54 57.9		+0.2
STDB				*e*Sg	Sg	03 55 18.6		-1.0
KAB	**Kabansk**	**1.56**	**211**	*e*Pg	Pb	03 54 57.6		-0.2
KAB				*e*Sg	Sg	03 55 19.0		-0.6
KAB				Pmax				
	312nm,0.3s							
KAB				Smax				
	3μm,0.9s							
HRMR	**Khuramsha**	**1.88**	**199**	*e*Pg	Pb	03 55 02.6		-0.5
HRMR				*e*Sg	Sb	03 55 27.9		+1.6
HRMR				Pmax				
	1μm,0.3s							
HRMR				Smax				
	2μm,0.3s							
BGT	**Bolshoye Golou**	**2.06**	**230**	*e*Sg	Sb	03 55 33.1		+1.6
BGT				Smax				
	201nm,0.4s							
YLYR	**Ulyunkhan**	**2.40**	**51**	*e*Sg	Sb	03 55 43.6		+2.3
YLYR				Smax				
	310nm,1.1s							
LSTR	**Listvyanka**	**2.44**	**232**	*e*Pg	Pb	03 55 12.3		-0.4
LSTR				*e*Sg	Sb	03 55 44.2		+1.7
LSTR				Smax				
	168nm,0.7s							
IRK	**Irkutsk**	**2.52**	**244**	*e*Sg	Sb	03 55 46.3		+1.7
IRK				Smax				
	717nm,0.8s							
NIZ	**Nizh Angarsk**	**2.55**	**21**	*e*Sg	Sb	03 55 47.8		+2.0
NIZ				Smax				
	381nm,0.6s							
TLY	**Talaya**	**3.14**	**239**	*e*Sg	Sb	03 56 05.6		+2.9
TLY				Smax				
	123nm,0.6s							
ZAK	**Zakamensk**	**4.18**	**226**	*e*Sg	Sg	03 56 40.1		-3.3
ZAK				Smax				
	50nm,0.7s							

*NEIC **05** 03:58:28.7±0.2,5°.14S×152°.59E,h10km,mb5.1/85,Error ellipse: s-maj=6.4km s-min=4.2km az=117.0*

*MOS **05** 03:58:31.7±1.0,5°.04S×152°.47E,h36km,mb5.1/32,Error ellipse: s-maj=12.0km s-min=7.7km az=100.8*

*BJI **05** 03:58:32.0,5°.07S×152°.94E,h59km,mb4.8/51,mB5.1/39, Ms4.9/35,Ms7 4.6/34*

*IDC **05** 03:58:33.1±2.2,5°.20S×152°.58E,h47km±21km,mb4.4/25, mb1 4.5/26,mb1mx4.5/35,mbtmp4.6/26,ML3.9/1,MS4.4/36, Ms1 4.4/36,ms1mx4.3/43,Error ellipse: s-maj=14.7km s-min=9.1km az=106.0*

*ISCJB **05** 03:58:33.0±0.2,5°.23S±0°.03×152°.59E±0°.04,h55km, mb4.9/128,MS4.5/47,Error ellipse: s-maj=5.4km s-min=4.4km az=24.1*

*GCMT **05** 03:58:34.7±0.2,5°.50S±0°.01×152°.58E±0°.01,h28km, MW5.2/88,Moment Tensor Solution. s81,c119; s88,c142; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}5.26±.18; $M_{\theta\theta}$-5.19±.12; $M_{\phi\phi}$-0.07±.12; $M_{r\theta}$5.14±.24; $M_{\theta\phi}$-0.22±.09; $M_{r\phi}$0.66±.22; Best double couple: $M_0$7.36200×10¹⁶ NP1:ϕ_s84.00000°,δ67.00000°, λ87.00000°. NP2:ϕ_s271.00000°,δ23.00000°,λ96.00000°. Principal axes: T 7.4010, Plg68.0000°, Azm349.0000°; N -0.0800, Plg2.0000°, Azm85.0000°; P -7.3220, Plg22.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **05** 03:58:39.0±0.6,5°.5S±5°.15°.3E±°,h140km±6km, M5.0/13, mB5.5/3,mb5.0/13,Mw(mB)4.9/3*

ISC 05 03:58:34.4±0.3**,5°.22S**±0°.05×**152°.61E**±0°.06**, h55**km**, n293,** σ1**§29**/299**, mb5.0**/127**, MS4.5**/47**, 16C-3D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RABL	**Rabaul**	**1.11**	**336**	*e*Pn	**Pn**	**03 58 52.9**		**-0.9**
RABL				*e*Sn	**Sn**	**03 59 08.7**		**+0.4**
HNR	**Honiara**	**8.39**	**120**	LR	LR	04 03 16.4		
	comp=Z,923nm,19.6s,baz=311,slow=34							
JAY	**Jayapura**	**12.18**	**282**	P	**Pn**	**04 01 28.7**		**+3.3**
GENI	**Genyem**	**12.69**	**281**	P	**Pn**	**04 01 34.9**		**+2.7**
COEN	**Coen**	**12.72**	**226**	*e*Pn	**Pn**	**04 01 31.3**		**-1.4**
CTA	**Charters Tower**	**16.02**	**202**	P	**Pn**	**04 02 16.8**		**+0.4**
	0.3nm,0.3s,baz=17,slow=10,SNR=5.6							
CTA				LR	LR	04 08 18.5		
	comp=Z,2μm,19.1s,baz=34,slow=36							
CTAO	**Charters Tower**	**16.02**	**202**	*e*Pn	**Pn**	**04 02 17.1**		**+0.8**
	30nm,1.1s							
CTAO	**Charters Tower**	**16.02**	**202**	*e*P	**Pn**	**04 02 17.1**		**+0.8**
CTAO				pmax	pmax			
	comp=Z,30nm,1.1s							
EIDS	**Eidsvold**	**20.09**	**184**	*e*P	**P**	**04 03 03.7**		**+0.1**
	comp=Z,37nm,1.0s							
GUMO	**Guam**	**20.20**	**338**	P	**P**	**04 03 04.7**		**-0.2**
	comp=Z,22nm,0.4s,baz=180,slow=20,SNR=1.6							
GUMO				LR	LR	04 11 37.2		
	comp=Z,600nm,18.3s,baz=158,slow=39							
FAKI	**Fak Fak**	**20.44**	**276**	*e*P	**P**	**04 03 05.1**		**-2.4**
	comp=Z,61nm,0.9s							
FAKI	**Fak Fak**	**20.44**	**276**	P	Pn	04 03 10.5		+0.4
	comp=Z,82nm,1.0s							
DZM	**Mont Dzumac**	**21.45**	**143**	*e*P	**P**	**04 03 23.3**		**+5.0**
	comp=Z,145nm,1.4s							
DZM				*e*S	**S**	**04 07 16.3**		**+2.8**
	comp=Z,1μm,26.9s							
DZM				*e*LR	LR	04 08 42.9		
	comp=Z,3μm,24.2s							
DZM	**Mont Dzumac**	**21.45**	**143**	P	**P**	**04 03 17.6**		**-0.7**
	comp=Z,18nm,0.7s,baz=294,slow=20,SNR=4.3							
DZM				LR	LR	04 10 45.9		
	comp=Z,1μm,19.9s,baz=324,slow=34							
MARNC	**Mare, Loyalty**	**22.02**	**139**	*e*P	**P**	**04 03 25.9**		**+1.5**
	comp=Z,135nm,1.0s							
MTN	**Manton Dam**	**22.51**	**249**	*e*P	**P**	**04 03 30.6**		**+0.8**
	comp=Z,50nm,0.8s							
WRAB	**Tennant Creek**	**23.02**	**229**	*e*P	**P**	**04 03 35.4**		**+0.4**
	comp=Z,78nm,1.0s							
WRAB	**Tennant Creek**	**23.02**	**229**	*e*P	**P**	**04 03 34.3**		**-0.7**
WRAB				pmax	pmax			
	comp=Z,50nm,1.7s							
WB2	**Warramunga Arr**	**23.02**	**229**	*e*P	**P**	**04 03 35.0**		**-0.1**
	comp=Z,87nm,1.0s							
WR1	**Warramunga Arr**	**23.03**	**229**	*e*P	**P**	**04 03 35.2**		**+0.1**
	comp=Z,100nm,1.0s							
WR1				*e*S	**S**	**04 07 41.8**		**-0.1**
WRA	**Warramunga Arr**	**23.03**	**229**	P	**P**	**04 03 35.2**		**+0.1**
	comp=Z,26nm,0.9s,baz=53,slow=9.8,SNR=52							
WRA				S	**S**	**04 07 41.8**		**-0.1**
	comp=Z,4.3nm,0.9s,baz=55,slow=18,SNR=6.3							
WRA				LR	LR	04 13 57.6		
	comp=Z,974nm,18.3s,baz=55,slow=40							
ARMA	**Armidale**	**25.09**	**182**	*e*P	**P**	**04 03 54.8**		**+0.7**
	comp=Z,17nm,1.0s							
AS01	**Alice Springs**	**25.69**	**223**	*e*P	**P**	**04 03 59.1**		**-0.4**
AS31	**Alice Springs**	**25.72**	**223**	*e*P	**P**	**04 04 00.2**		**+0.3**
	comp=Z,9.9nm,1.0s							
AS31				*e*S	**S**	**04 08 26.1**		**+1.1**
ASAR	**Alice Springs**	**25.72**	**223**	P	**P**	**04 03 59.8**		**-0.1**
	comp=Z,8.1nm,0.8s,baz=57,slow=8.9,SNR=37							
ASAR				S	**S**	**04 08 26.1**		**+1.0**
	comp=Z,1.0nm,0.8s,baz=50,slow=10.0,SNR=2.8							
ASAR				LR	LR	04 13 38.0		
	comp=Z,897nm,21.7s,baz=35,slow=35							
SOEI	**Soe**	**28.45**	**259**	*e*P	**P**	**04 04 26.3**		**+1.6**
	comp=Z,35nm,0.9s							
SOEI	**Soe**	**28.45**	**259**	P	**P**	**04 04 25.9**		**+1.3**
	comp=Z,43nm,0.8s							
STKA	**Stephens Creek**	**28.46**	**200**	P	**P**	**04 04 23.2**		**-1.2**
	comp=Z,2.8nm,0.7s,baz=357,slow=8.2,SNR=8.2							
STKA				LR	LR	04 16 20.5		
	comp=Z,1μm,18.8s,baz=16,slow=38							
BATI	**Baumata**	**29.10**	**258**	P	**P**	**04 04 28.4**		**-1.9**
	comp=Z,36nm,0.6s,baz=126,slow=19,SNR=2.5							
BATI				LR	LR	04 18 35.9		
	comp=Z,2μm,20.1s,baz=94,slow=41							
FITZ	**Fitzroy Crossi**	**29.30**	**242**	*e*P	**P**	**04 04 31.0**		**-1.0**
	comp=Z,39nm,1.0s							
FITZ	**Fitzroy Crossi**	**29.30**	**242**	P	**P**	**04 04 30.4**		**-1.5**
	comp=Z,12nm,0.7s,baz=62,slow=7.8,SNR=39							
FITZ				LR	LR	04 16 24.8		
	comp=Z,370nm,18.9s,baz=64,slow=37							
BBOO	**Buckleboo**	**31.50**	**207**	*e*P	**P**	**04 04 50.3**		**-0.9**
	comp=Z,25nm,1.0s							
FORT	**Forrest**	**34.35**	**219**	*e*P	**P**	**04 05 14.9**		**-1.2**
	comp=Z,39nm,0.9s							
PLAI	**Plampang**	**34.75**	**262**	P	**P**	**04 05 17.3**		**-2.5**
MBWA	**Marble Bar**	**35.60**	**241**	*e*P	**P**	**04 05 25.6**		**-1.5**
	comp=Z,18nm,1.0s							
URZ	**Urewera**	**39.72**	**149**	P	**P**	**04 06 00.2**		**-1.4**
	comp=Z,9.8nm,0.9s,baz=73,slow=1.4,SNR=2.6							
JHJ	**Hachijo jima 2**	**40.02**	**343**	LR	LR	04 21 34.5		
	comp=Z,275nm,21.4s,baz=87,slow=35							
BKZ	**Black Stump Fm**	**40.12**	**151**	*e*P	**P**	**04 06 05.6**		**+0.7**
	comp=Z,14nm,1.1s							
MORW	**Morawa**	**41.94**	**231**	*e*P	**P**	**04 06 18.1**		**-1.9**
	comp=Z,9.0nm,0.8s							
JNU	**Nakatsue**	**43.35**	**333**	*e*P	**P**	**04 06 30.9**		**-0.5**
	comp=Z,19nm,1.0s							
JNU	**Nakatsue**	**43.35**	**333**	P	**P**	**04 06 30.2**		**-1.2**
	comp=Z,11nm,0.8s,baz=100,slow=6.0,SNR=6.2							
JNU				LR	LR	04 22 31.9		
	comp=Z,195nm,20.9s,baz=160,slow=33							
MJAR	**Matsushiro Arr**	**43.67**	**343**	P	**P**	**04 06 31.9**		**-2.1**
	comp=Z,1.2nm,0.4s,baz=162,slow=9.5,SNR=3.7							
MJAR				LR	LR	04 22 59.6		
	comp=Z,379nm,21.6s,baz=190,slow=34							
MAJO	**Matsushiro**	**43.67**	**343**	*e*P	**P**	**04 06 31.9**		**-2.1**
MAJO	**Matsushiro**	**43.67**	**343**↑	*e*P	**P**	**04 06 34.6**		**+0.6**
MAJO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
QZH	**Quanzhou**	**44.65**	**314**↑↓	*i*P	**P**	**04 06 45.2**		**+3.3**
QZH				*e*S	**S**	**04 13 14.2**		**-0.2**
QZH				LR	LR			
	comp=Z,380nm,18.0s							
QZH				LR	LR			
	comp=Z,480nm,15.6s							
QZH				LR	LR			
	comp=Z,500nm,19.4s							
TJN	**Taejon**	**47.65**	**332**	*e*P	**P**	**04 07 05.0**		**-0.3**
KSRS	**Korea Array**	**48.29**	**334**	P	**P**	**04 07 09.6**		**-0.6**
	comp=Z,3.8nm,0.9s,baz=146,slow=8.3,SNR=8.2							
KSRS				LR	LR	04 25 46.5		
	comp=Z,184nm,20.7s,baz=108,slow=34							
KS15	**Wonju Array Si**	**48.29**	**334**	*e*P	**P**	**04 07 09.6**		**-0.7**
	comp=Z,11nm,1.1s							
QIZ	**Qiongzhong**	**48.52**	**301**	P	**P**	**04 07 13.7**		**+1.3**
QIZ				S	**S**	**04 14 11.4**		**+1.3**
QIZ				LR	LR			
	comp=Z,550nm,17.4s							
QIZ				LR	LR			
	comp=Z,470nm,17.7s							
NJ2	**Nanjing**	**49.05**	**321**	*e*P	**P**	**04 07 16.1**		**-0.1**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.6s							
NJ2				LR	LR			
	comp=Z,570nm,20.1s							
NJ2				LR	LR			
	comp=Z,470nm,16.3s							
NJ2				LR	LR			
	comp=Z,880nm,17.9s							
ASAJ	**Asahikawa**	**49.93**	**351**	P	**P**	**04 07 21.9**		**-0.7**
	comp=Z,9.9nm,0.8s,baz=228,slow=21,SNR=8.9							
ASAJ				LR	LR	04 25 24.7		
	comp=Z,247nm,21.9s,baz=140,slow=32							
USRK	**Ussuriysk Ar.**	**52.58**	**341**	P	**P**	**04 07 41.0**		**-1.5**
	comp=Z,3.2nm,0.8s,baz=132,slow=8.0,SNR=6.5							
USRK				LR	LR	04 29 17.7		
	comp=Z,145nm,18.8s,baz=144,slow=35							
SKNT	**Sakolnakorn**	**52.87**	**296**	P	**P**	**04 07 46.6**		**+1.5**
	comp=Z,9.1nm,0.9s							
MDJ	**Mudanjiang**	**53.74**	**340**	P	**P**	**04 07 52.9**		**+1.8**
MDJ				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,90nm,4.1s							
ENH	**Enshi**	**54.30**	**313**	*e*P	**P**	**04 07 55.7**		**+0.2**
	comp=Z,28nm,0.9s							
GYA	**Guiyang**	**54.50**	**308**	*e*P	**P**	**04 07 57.1**		**0.0**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2	**Changchun**	**54.60**	**336**	*e*P	**P**	**04 08 00.3**		**+3.0**
UTTA	**Uttaradit**	**56.21**	**295**	P	**P**	**04 08 10.1**		**+0.8**
	comp=Z,5.9nm,0.9s							
NANT	**Nan**	**56.42**	**297**	P	**P**	**04 08 11.3**		**+0.4**
	comp=Z,8.0nm,0.7s							
XAN	**Xi'an**	**56.79**	**317**	P	**P**	**04 08 12.6**		**-0.7**
XAN				pP	pP	04 08 28.6		+1.5
XAN				sP	sP	04 08 35.8		+2.9
XAN				pmax	pmax			
	comp=Z,17nm,0.9s							
XAN				pmax	pmax			
	comp=Z,94nm,4.1s							
XAN				LR	LR			
	comp=Z,310nm,21.4s							
XAN				LR	LR			
	comp=Z,360nm,20.9s							
XAN				LR	LR			
	comp=Z,510nm,21.7s							
XAN	**Xi'an**	**56.79**	**317**	*e*P	**P**	**04 08 12.4**		**-0.9**
	comp=Z,12nm,0.6s							
XAN	**Xi'an**	**56.79**	**317**	*e*P	**P**	**04 08 12.4**		**-0.9**
XAN				pmax	pmax			
	comp=Z,12nm,0.6s							
SUKH	**Sukhothai**	**56.96**	**295**	P	**P**	**04 08 15.9**		**+1.2**
	comp=Z,4.7nm,1.0s							
KMI	**Kunming**	**57.06**	**304**	P	**P**	**04 08 16.8**		**+1.2**
KMI				pP	pwP	04 08 32.3		-1.1
KMI				sP	sP	04 08 39.5		+4.0
KMI				S	**S**	**04 16 06.6**		**-0.3**
KMI				pmax	pmax			
	comp=Z,12nm,1.0s							
KMI				pmax	pmax			
	comp=Z,89nm,6.1s							
KMI				LR	LR			
	comp=Z,110nm,7.8s							
KMI				LR	LR			
	comp=Z,340nm,15.6s							
KMI				LR	LR			
	comp=Z,370nm,17.7s							
KLR	**Kul'dur**	**57.19**	**344**↑↓	*e*P	**P**	**04 08 15.2**		**-0.6**
KLR	**Kul'dur**	**57.19**	**344**	P	**P**	**04 08 14.7**		**-1.1**
	comp=Z,3.2nm,0.7s,baz=168,slow=4.9,SNR=14							
KLR				LR	LR	04 30 54.1		
	comp=Z,170nm,21.0s,baz=166,slow=34							
PPT	**Papeete**	**57.78**	**107**	LR	LR	04 30 15.1		
	comp=Z,176nm,19.3s,baz=168,slow=33							
PPT2	**Papeete2**	**57.78**	**107**	*e*LR	LR	04 25 18.7		
	comp=Z,132nm,21.2s							
CM01	**Chiang Mai Arr**	**57.86**	**295**	*e*P	**P**	**04 08 21.3**		**+0.3**
CM31	**Chiang Mai Arr**	**57.89**	**295**	*e*P	**P**	**04 08 22.1**		**+0.9**
	comp=Z,

HHC LR LR
comp=Z,460nm,17.6s
HIA Hailar 61.34 336⇑ *e*P **P 04 08 43.6 -0.8**
HIA pmax pmax
comp=Z,3.0nm,1.0s
LZH Lanzhou 61.40 316 *e*P **P 04 08 46.3 +1.0**
LZH pP pP 04 09 01.3 +2.1
LZH sP sP 04 09 10.1 +5.1
LZH PP **PP 04 10 59.8 -1.3**
LZH sS sS 04 17 31.4 +3.3
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.7s
LZH LR LR
comp=Z,470nm,13.6s
LZH LR LR
comp=Z,590nm,14.2s
LZH LR LR
comp=Z,600nm,14.6s
ZEA Zeya 62.49 343 *e*P P 04 09 06.6 +15
ZEA pmax pmax
comp=Z,14nm,1.2s
MA2 Magadan 64.61 359 *e*P **P 04 09 05.5 -0.3**
comp=Z,9.3nm,0.9s
MA2 Magadan 64.61 359 *c i*P **P 04 09 05.1 -0.8**
MA2 pmax pmax
comp=Z,10.0nm,1.0s
MA2 Magadan 64.61 359 P **P 04 09 05.2 -0.8**
comp=Z,3.7nm,0.4s,baz=140,slow=6.8,SNR=8.3
GTA Gaotai 65.83 317 ⇑P **P 04 09 15.0 +0.5**
GTA pP pP 04 09 25.8 -2.7
GTA S **S 04 17 57.3 -0.2**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,150nm,6.0s
GTA LR LR
comp=Z,230nm,22.2s
GTA LR LR
comp=Z,470nm,23.2s
GTA LR LR
comp=Z,400nm,20.6s
ULN Ulaanbaatar 66.25 328⇓ *e*P **P 04 09 17.8 +0.8**
ULN pmax pmax
comp=Z,4.0nm,1.3s
SHL Shillong 66.36 301 *e*P **P 04 09 18.3 +0.1**
comp=Z,31nm,0.8s
SHL Shillong 66.36 301 *e*P **P 04 09 18.3 +0.1**
SHL pmax pmax
comp=Z,31nm,0.8s
SHL Shillong 66.36 301 *e*P **P 04 09 17.0 -1.2**
SONA0 Songino Array 66.58 328 *e*P **P 04 09 19.3 +0.3**
SONM Songino Array 66.58 328 P **P 04 09 19.3 +0.3**
comp=Z,2.7nm,0.5s,baz=147,slow=5.5,SNR=16
SONM LR LR 04 36 22.9
comp=Z,315nm,21.2s,baz=150,slow=34
LSA Lhasa 68.32 305 *e*P **P 04 09 31.7 +0.9**
comp=Z,8.9nm,0.7s
LSA Lhasa 68.32 305 *e*P **P 04 09 31.7 +0.9**
LSA pmax pmax
comp=Z,9.0nm,0.7s
ZAK Zakamensk 69.75 329 *e*P **P 04 09 38.7 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
BOD Bodaibo 70.11 339 *e*P **P 04 09 38.8 -1.9**
BOD pmax pmax
comp=Z,6.0nm,2.2s
TLY Talaya 70.34 330 *e*P **P 04 09 39.7 -2.7**
TLY *e*S **S 04 18 50.9 +0.3**
TLY pmax pmax
comp=Z,9.0nm,0.8s
TLY MLR MLR
comp=Z,607nm,20.0s
ODAN Odare 70.59 301 *e*P **P 04 09 44.6 -0.1**
comp=Z,45nm,0.8s
MOY Mondy 71.67 329 *e*P **P 04 09 51.0 +0.5**
MOY pmax pmax
comp=Z,18nm,1.6s
JIRN Jiri 71.84 301 *e*P **P 04 09 52.3 -0.1**
comp=Z,17nm,0.6s
GUN Gumba 72.18 301 *e*P **P 04 09 54.3 0.0**
comp=Z,67nm,0.9s
VNDA Vanda 72.42 178 P **P 04 09 55.2 +0.8**
comp=Z,2.2nm,1.0s,baz=114,slow=6.4,SNR=2.5
VNDA LR LR 04 39 41.4
comp=Z,204nm,18.5s,baz=344,slow=34
PKI Pulchoki 72.48 301 *e*P **P 04 09 55.7 -0.5**
comp=Z,38nm,1.0s
PKIN Phulchoki 72.50 301 *e*P **P 04 09 55.6 -0.6**
KKN Kakani 72.65 301 *e*P **P 04 09 56.8 -0.2**
DMN Daman 72.75 301 *e*P **P 04 09 57.6 -0.1**
comp=Z,86nm,1.0s
KNGR Kungurtug, Tuv 72.93 327⇑ *e*P **P 04 09 58.6 +0.5**
GKN Gorkha 73.26 301 *e*P **P 04 10 00.2 -0.3**
comp=Z,85nm,1.1s
BILL Bilibino 73.72 5 *e*P **P 04 10 02.4 +0.2**
comp=Z,22nm,1.0s
BILL Bilibino 73.72 5 *c i*P **P 04 10 02.4 +0.2**
BILL *e* 04 10 15.0
BILL *e* 04 12 45.8
BILL pmax pmax
comp=Z,26nm,1.0s
BILL MLR MLR
comp=Z,354nm,20.0s
KOLN Koldanda 74.08 301 *e*P **P 04 10 05.0 -0.4**
comp=Z,57nm,1.0s
DANN Dangsing 74.10 301 *e*P **P 04 10 05.0 -0.6**
comp=Z,41nm,0.9s
PYUN Piuthan 74.69 301 *e*P **P 04 10 08.2 -0.8**
comp=Z,82nm,0.9s
WMQ Urumqi 75.92 317 P **P 04 10 16.6 +1.1**
WMQ pP pP 04 10 32.1 +2.2
WMQ sP sP 04 10 38.3 +2.7
WMQ pmax pmax
comp=Z,33nm,0.7s
WMQ pmax pmax
comp=Z,490nm,6.5s
WMQ LR LR
comp=Z,140nm,21.5s
WMQ LR LR
comp=Z,360nm,21.5s
WMQ LR LR
comp=Z,460nm,23.9s
ANM Nome 76.23 17 *e*P **P 04 10 17.8 +1.1**
comp=Z,21nm,0.8s
ANM Nome 76.23 17 *e*P **P 04 10 17.8 +1.1**
ANM pmax pmax
comp=Z,21nm,0.8s
HYB Hyderabad 76.45 289 *i* P **P 04 10 18.5 -0.5**
HYB *e* 04 10 27.0
KDAK Kodiak Island 76.63 27 *i* P **P 04 10 21.7 +2.6**
SVW2 Sparrevohn 77.28 23 *e*P **P 04 10 24.0 +1.3**
comp=Z,20nm,1.0s
RSO Redoubt South 78.04 24 *e*P **P 04 10 26.1 -1.1**
BRLK Bradley Lake 78.45 26 *e*P **P 04 10 29.0 -0.2**
comp=Z,25nm,0.8s
SEW Seward 79.24 26 *e*P **P 04 10 34.2 +0.6**
comp=Z,42nm,1.1s
RDOG Red Dog Mine 79.43 16 *e*P **P 04 10 35.8 +1.4**
comp=Z,116nm,1.1s
PPLA Purkeypile 79.63 22 *e*P **P 04 10 36.5 +0.7**
comp=Z,14nm,1.2s
RC01 Rabbit Creek A 79.63 25 *e*P **P 04 10 35.8 +0.1**
comp=Z,30nm,0.8s
CAST Castle Rocks 79.96 22 *e*P **P 04 10 37.3 -0.2**
comp=Z,30nm,1.0s
PMR Palmer 80.14 24 *e*P **P 04 10 38.0 -0.4**
comp=Z,35nm,1.1s
PMR Palmer 80.14 24 *e*P **P 04 10 38.0 -0.4**
PMR pmax pmax
comp=Z,35nm,1.1s
KNK Knik Glacier 80.33 25 *e*P **P 04 10 40.2 +0.7**
comp=Z,23nm,1.0s
MK01 Makanchi Array 80.50 319 *e*P **P 04 10 39.9 -0.9**
MK31 Makanchi Array 80.52 319 *e*P **P 04 10 40.8 0.0**
MK31 Makanchi Array 80.52 319 *e*P **P 04 10 40.8 0.0**
MK32 Makanchi Array 80.52 319 *e*P **P 04 10 40.1 -0.7**
MKAR Makanchi Array 80.52 319 *ce*P **P 04 10 40.7 -0.1**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 80.52 319 P **P 04 10 40.1 -0.7**
comp=Z,2.5nm,0.5s,baz=96,slow=7.2,SNR=33
MKAR LR LR 04 46 06.2
comp=Z,277nm,19.8s,baz=96,slow=36
SML Sawmill 80.58 24 *e*P **P 04 10 41.2 +0.4**
comp=Z,60nm,1.0s
SML Sawmill 80.58 24 *e*P **P 04 10 41.2 +0.4**
SML pmax pmax
comp=Z,60nm,1.0s
TRF Thorofare Moun 80.65 22 *e*P **P 04 10 40.9 -0.4**
comp=Z,19nm,0.9s
MAKZ Makanchi 80.72 319 *e*P **P 04 10 42.3 +0.4**
comp=Z,8.0nm,1.0s
MAKZ Makanchi 80.72 319 *e*P **P 04 10 42.3 +0.4**
MAKZ pmax pmax
comp=Z,8.0nm,1.0s
IM3 Indian Mountai 80.84 20 *e*P **P 04 10 41.5 -0.6**
SCM Sheep Creek Mo 81.00 25 *e*P **P 04 10 44.0 +0.8**
comp=Z,48nm,1.1s
RND Reindeer 81.18 23 *e*P **P 04 10 43.5 -0.6**
comp=Z,31nm,0.8s
RND Reindeer 81.18 23 *e*P **P 04 10 43.5 -0.6**
RND pmax pmax
comp=Z,31nm,0.8s
DIV Divide 81.33 26 *e*P **P 04 10 45.8 +0.9**
comp=Z,19nm,0.9s
BWN Browne 81.34 22 *e*P **P 04 10 45.3 +0.5**
comp=Z,39nm,0.9s
ZAA0 Zalesovo Array 81.39 326 *e*P **P 04 10 44.6 -0.6**
comp=Z,4.4nm,0.6s
ZALV Zalesovo Beam 81.39 326 *e*P **P 04 10 44.2 -1.1**
ZALV Zalesovo Beam 81.39 326 *i* P **P 04 10 44.2 -1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.4s
ZALV Zalesovo Beam 81.39 326 P **P 04 10 44.3 -0.9**
comp=Z,4.9nm,0.5s,baz=114,slow=6.0,SNR=18
ZALV LR LR 04 45 38.1
comp=Z,192nm,21.8s,baz=72,slow=35
ZAA1 Zalesovo Array 81.40 326 *e*P **P 04 10 44.3 -0.9**
KLU Klutina 81.43 25 *e*P **P 04 10 46.5 +1.0**
comp=Z,41nm,1.0s
DHY Denali Highway 81.59 23 *e*P **P 04 10 46.5 +0.1**
comp=Z,28nm,1.0s
HMT Hamilton 81.63 27 *e*P **P 04 10 47.4 +1.0**
comp=Z,27nm,1.0s
WRH Wood River Hil 82.01 22 *e*P **P 04 10 47.4 -0.9**
comp=Z,33nm,1.1s
HARP HAARP 82.18 25 *e*P **P 04 10 50.1 +0.9**
comp=Z,29nm,1.0s
CCB Clear Creek Bu 82.21 22 *e*P **P 04 10 48.5 -0.8**
comp=Z,25nm,1.0s
MDM Murphy Dome 82.21 22 *e*P **P 04 10 48.4 -1.0**
comp=Z,39nm,1.2s
COLA College 82.30 22 *e*P **P 04 10 49.6 -0.2**
comp=Z,38nm,0.8s
COLA College 82.30 22 *c i*P **P 04 10 48.9 -0.9**
COLA pmax pmax
comp=Z,37nm,1.0s
PAX Paxson 82.31 24 *e*P **P 04 10 50.3 +0.3**
comp=Z,7.8nm,0.9s
PAX Paxson 82.31 24 *e*P **P 04 10 50.3 +0.3**
PAX pmax pmax
comp=Z,8.0nm,0.9s
HDA Harding Lake 82.41 22 *e*P **P 04 10 49.8 -0.7**
comp=Z,8.9nm,1.0s
NVS Novosibirsk 82.58 327 *e*P **P 04 10 51.1 -0.3**
IL1 Eielson Array 82.61 22 *e*P **P 04 10 49.2 -2.2**
ILAR Eielson Array 82.61 22 P **P 04 10 50.4 -1.1**
comp=Z,20nm,1.0s,baz=254,slow=5.0,SNR=120
ILAR LR LR 04 43 10.0
comp=Z,253nm,19.4s,baz=240,slow=32
ILB Eielson Array 82.61 22 *e*P **P 04 10 50.4 -1.1**
COLD Coldfoot 82.71 19 *e*P **P 04 10 53.4 +1.5**
comp=Z,9.7nm,1.0s
KDJ Kajisay 82.76 313 *e*P **P 04 10 54.3 +1.3**
comp=Z,16nm,0.9s
BALM Baldy 82.78 26 *e*P **P 04 10 53.2 +0.6**
comp=Z,9.8nm,0.8s
BALM Baldy 82.78 26 *e*P **P 04 10 53.2 +0.6**
BALM pmax pmax
comp=Z,10.0nm,0.8s
RIDG Independ'e Rid 82.91 23 *e*P **P 04 10 53.3 +0.2**
comp=Z,38nm,1.2s
MENT Mentasta 83.01 24 *e*P **P 04 10 54.2 +0.6**
comp=Z,16nm,1.0s
KSH Kashi 83.06 311 P **P 04 10 56.6 +2.1**
KSH pP pwP 04 11 14.0 +0.4
KSH PP **PP 04 14 11.7 +5.5**
KSH S **S 04 21 08.5 -1.7**
KSH pmax pmax
comp=Z,18nm,1.1s
KSH pmax pmax
comp=Z,230nm,5.0s
KSH LR LR
comp=Z,97nm,8.5s
KSH LR LR
comp=Z,120nm,9.3s
KSH LR LR
comp=Z,110nm,10.2s
DOT Dot Lake 83.18 24 *e*P **P 04 10 54.8 +0.3**
comp=Z,31nm,0.9s
SCRK Sand Creek 83.36 23 *e*P **P 04 10 55.7 +0.2**
comp=Z,17nm,1.0s
NRN Nan 83.46 313 *e*P **P 04 10 58.1 +1.3**
comp=Z,5.5nm,0.9s
NRN Naryn 83.46 313 *e*P **P 04 10 58.1 +1.3**
NRN pmax pmax
comp=Z,6.0nm,0.9s
ULHL Ulahol 83.47 313 P **P 04 10 58.1 +1.4**
SNR=5.2
PRP Porcupine Dome 83.48 22 *e*P **P 04 10 54.0 -2.1**
comp=Z,3.6nm,0.8s
TOLK Toolik Lake Re 83.67 18 *e*P **P 04 10 57.9 +1.0**
comp=Z,30nm,1.1s
KURK Kurchatov 83.98 322 *e*P **P 04 10 58.4 -0.3**
comp=Z,7.9nm,0.8s
KURK Kurchatov 83.98 322 *c i*P **P 04 10 58.2 -0.6**
KURK pmax pmax
comp=Z,11nm,1.0s
NIL Nilore 84.06 304 *e*P **P 04 11 00.0 +0.4**
comp=Z,32nm,0.9s
NIL Nilore 84.06 304 *e*P **P 04 11 00.0 +0.4**
NIL pmax pmax
comp=Z,32nm,0.9s
FYU Fort Yukon 84.07 21 *e*P **P 04 11 00.2 +1.3**
comp=Z,19nm,0.8s
KZA Kyzart 84.15 313 P **P 04 11 02.4 +2.0**
SNR=43
KBK Karagaybulak 84.49 314 P **P 04 11 03.2 +1.4**
SNR=15
CHMS Chumysh 84.71 314 P **P 04 11 03.9 +1.2**
SNR=16
UCH Uchtor 84.72 313 P **P 04 11 04.3 +1.0**
SNR=39
QSPA South Pole Qui 84.75 180 *e*P **P 04 11 03.0 +0.4**
comp=Z,8.8nm,0.8s
FRU Bishkek 84.77 314 *e*P **P 04 11 02.0 -1.0**
FRU pmax pmax
comp=Z,43nm,1.6s
EGAK Eagle 84.81 23 *e*P **P 04 11 03.2 +0.6**
comp=Z,27nm,1.1s
AAK Ala-Archa 84.82 314 P **P 04 11 04.7 +1.3**
SNR=22
HYT Haines Junctio 84.89 28 *e*P **P 04 11 04.9 +1.6**
comp=Z,33nm,1.2s
USP Ospenovka 84.94 314 P **P 04 11 05.2 +1.3**
SNR=28
MAW Mawson 85.12 203 LR LR 04 47 02.5
comp=Z,337nm,19.4s,baz=92,slow=34
DAWY Dawson 85.24 24 *e*P **P 04 11 05.9 +1.0**
comp=Z,9.4nm,1.1s
AML Almayashu 85.30 313 P **P 04 11 07.2 +1.1**
SNR=72
EKS2 Erkin-Say 85.34 313 P **P 04 11 07.6 +1.6**
SNR=25
SKAG Skagway 85.47 29 *e*P **P 04 11 07.4 +1.4**
comp=Z,8.5nm,1.1s
ARSB Arslanbob 85.67 312 *e*P **P 04 11 09.0 +1.3**
comp=Z,58nm,1.0s
WHY Whitehorse 86.05 28 *e*P **P 04 11 10.2 +1.1**
comp=Z,4.9nm,0.9s
NRIK Noril'sk 86.30 341 LR LR 04 52 25.5
comp=Z,84nm,18.1s,baz=100,slow=38
EPYK Eagle Plains 87.12 22 *e*P **P 04 11 14.9 +0.8**
comp=Z,48nm,1.0s
GAR Garm 87.28 309 *e*P **P 04 11 16.0 +0.3**
comp=Z,17nm,1.1s
GAR Garm 87.28 309 *e*P **P 04 11 16.0 +0.3**
GAR pmax pmax
comp=Z,17nm,1.1s
BBB Bella Bella 87.54 37 LR LR 04 42 48.9
comp=Z,181nm,21.4s,baz=228,slow=30
KK31 Karatay Array 87.78 313 *e*P **P 04 11 17.7 -0.1**
KK31 Karatay Array 87.78 313 *e*P **P 04 11 17.7 -0.1**
KKAR Karatay Array 87.78 313 *e*P **P 04 11 17.7 -0.1**
KKAR Karatay Array 87.78 313 *e*P **P 04 11 17.7 -0.1**
DLBC Dease Lake 87.83 31 *e*P **P 04 11 19.3 +1.5**
comp=Z,14nm,1.1s
DLBC Dease Lake 87.83 31 LR LR 04 45 03.6
comp=Z,626nm,19.8s,baz=325,slow=32
INK Inuvik 88.91 21 *e*P **P 04 11 22.6 +0.1**
comp=Z,4.8nm,1.0s
INK Inuvik 88.91 21 *e*P **P 04 11 22.6 +0.1**
INK pmax pmax
comp=Z,5.0nm,1.0s
BVAR Borovoye Array 89.46 323 P **P 04 11 24.6 -0.8**
baz=109,slow=6.0
BVAR LR LR 04 51 58.9
comp=Z,103nm,19.2s,baz=94,slow=36
YBH Yreka Blue Hor 89.47 48 LR LR 04 47 25.2
comp=Z,484nm,18.8s,baz=286,slow=33
BRVK Borovoye 89.53 323 *e*P **P 04 11 25.3 -0.4**
comp=Z,5.8nm,1.0s
BRVK Borovoye 89.53 323⇓ *i*P **P 04 11 25.2 -0.6**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
NV01 Mina Array Sit 92.49 52 *e*P **P 04 11 39.9 -0.3**
NVAR Mina Array Bea 92.49 52 P **P 04 11 40.0 -0.1**
comp=Z,1.8nm,0.8s,baz=258,slow=6.8,SNR=11
NVAR LR LR 04 46 58.9
comp=Z,549nm,20.0s,baz=292,slow=31
KVN Kaiserville 92.69 51 *e*P **P 04 11 41.9 +0.8**
comp=Z,2.1nm,0.9s
KVN Kaiserville 92.69 51 *e*P **P 04 11 41.9 +0.8**
KVN pmax pmax
comp=Z,2.0nm,0.9s
DAC Darwin (Calif) 92.88 54 *e*P **P 04 11 43.4 +1.4**
comp=Z,1.7nm,0.9s
DAC Darwin (Calif) 92.88 54 *e*P **P 04 11 43.4 +1.4**
DAC pmax pmax
comp=Z,2.0nm,0.9s
TPNV Topopah Spring 94.01 53 *e*P **P 04 11 47.5 +0.4**
comp=Z,3.9nm,1.1s
TPNV Topopah Spring 94.01 53 *e*P **P 04 11 47.6 +0.4**
TPNV pmax pmax
comp=Z,4.0nm,1.1s
ABKAR Akbulak array 95.66 319 *e*P **P 04 11 51.4 -2.7**
YKW3 Yellowknife Ar 95.87 28 *e*P **P 04 11 53.7 -1.1**
comp=Z,3.9nm,1.1s
YKA Yellowknife Ar 95.88 28 P **P 04 11 55.0 +0.2**
comp=Z,1.4nm,0.5s,baz=271,slow=4.8,SNR=37
YKA LR LR 04 49 12.3
comp=Z,46nm,21.8s,baz=268,slow=32
YKB5 Yellowknife Ar 95.88 28 *e*P **P 04 11 54.0 -0.8**
WALA Waterton Lakes 96.19 41 *e*P **P 04 11 54.7 -2.0**
comp=Z,5.2nm,1.0s
ARU Arti 96.56 326⇑ *i*P **P 04 11 56.7 -1.4**
ARU pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 96.72 307 LR LR 04 56 20.4
comp=Z,130nm,20.7s,baz=60,slow=36
AKTO Aktyubinsk 96.92 320 LR LR 04 57 21.6
comp=Z,161nm,18.8s,baz=97,slow=36
LPIG La Paz 98.56 67 LR LR 04 51 41.5
comp=Z,282nm,18.3s,baz=248,slow=32
PD31 Pinedale Array 99.27 48 *e*P **Pdif 04 12 10.6 -0.4**
comp=Z,0.3nm,0.9s
PDAR Pinedale Array 99.27 48 P **Pdif 04 12 10.6 -0.4**
comp=Z,0.2nm,0.6s,baz=292,slow=3.4,SNR=2.7
PDAR LR LR 04 53 53.6
comp=Z,578nm,18.6s,baz=268,slow=33
NVL N'lazarevskaya 99.81 192 *e*P **Pdif 04 12 08.3 -4.1**
NVL pmax pmax
comp=Z,4.0nm,0.7s
FIA0 FINESS Array S 111.35 336 *e*Pdif **Pdif 04 13 01.9 -2.0**
FIA0 *e*PKiKP **PKiKP 04 17 01.9 -0.1**
FIA0 FINESS Array S 111.35 336 *e*P **Pdif 04 13 01.9 -2.0**
FIA0 *i* 04 17 01.9
FINES FINESS Array B 111.35 336 Pdiff **Pdif 04 13 01.9 -2.0**
comp=Z,1.1nm,0.8s,baz=72,slow=6.2,SNR=4.7
FINES PKiKP **PKiKP 04 17 01.9 -0.1**
comp=Z,2.0nm,0.9s,baz=29,slow=3.2,SNR=4.1
AKASG Malin Array Be 114.72 324 PKP **PKiKP 04 17 07.7 -1.1**
comp=Z,0.9nm,0.7s,baz=63,slow=2.7,SNR=4.6
AKBB Malin Array Si 114.72 324 *e*PKiKP **PKiKP 04 17 07.7 -1.1**
AKBB Malin Array Si 114.72 324 *e*PKiKP **PKiKP 04 17 07.7 -1.1**
NB2 NORSAR Subarra 117.24 340 PKPdf **PKPdf 04 17 13.3 -0.2**
comp=Z,1.4nm,0.9s,baz=44,slow=1.9
NB200 NORSAR Array S 117.24 340 *e*PKPdf **PKPdf 04 17 13.2 -0.2**
NOA NORSAR Array B 117.24 340 PKP **PKPdf 04 17 13.2 -0.2**
comp=Z,1.2nm,0.8s,baz=42,slow=1.7,SNR=4.0
VYHS Vyhne 121.72 326 *e*PKiKP **PKPdf 04 17 20.0 -2.4**
VYHS Vyhne 121.72 326 *e*PKP **PKPdf 04 17 20.0 -2.4**
BRG Berggiesshubel 122.94 330 *e*PKiKP **PKiKP 04 17 25.0 +0.2**
BRG *e* 04 17 30.6
BRG pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 123.12 331 *e*PKPdf **PKPdf 04 17 24.0 -0.9**
comp=Z,5.0nm,1.0s
CLL *e* 04 17 40.0
CLL *e*PP **PP 04 19 12.0 +7.4**
CLL *e* 04 28 47.0
CLL *e*PPS PPS 04 30 29.0
CLL *e*SS SS 04 35 54.0 +9.0
CLL *e*SSS SSS 04 40 18.0
CLL LmV 05 16 00.0
comp=Z,100nm,20.7s
CLL Collm 123.12 331 *e*PKiKP **PKPdf 04 17 24.0 -0.9**
CLL *e* 04 17 40.0
CLL pmax pmax
comp=Z,5.0nm,1.0s
DIVS Divibare 123.27 321 *e*PKPdf **PKPdf 04 17 24.5 -1.0**
CONA Conrad Observa 123.69 326 *e*PKiKP **PKiKP 04 17 26.8 +0.2**
comp=Z,1.5nm,0.6s
FNA Florina 123.87 317 *e*PKPdf **PKPdf 04 17 26.6 -0.2**
FNA Florina 123.87 317 *e*PKiKP **PKPdf 04 17 26.6 -0.2**
KHC Kasperske Hory 124.20 329 *e*PKPdf **PKiKP 04 17 28.0 +0.5**
KHC Kasperske Hory 124.20 329 *e*PKP **PKiKP 04 17 27.7 +0.3**
KHC *ex* x 04 17 36.5
KHC Kasperske Hory 124.20 329 *e*PKiKP **PKiKP 04 17 28.0 +0.5**
GEC2 GERESS Array S 124.31 328 *e*PKPdf **PKiKP 04 17 28.1 +0.3**
GEC2 GERESS Array S 124.31 328 *e*PKiKP **PKiKP 04 17 28.1 +0.3**
GERES GERESS Array B 124.31 328 PKP **PKPdf 04 17 27.1 -0.4**
comp=Z,2.5nm,0.8s,baz=70,slow=1.9,SNR=16
GEA0 GERESS Array S 124.31 328 *e*PKPdf **PKPdf 04 17 27.5 +0.1**
SOKA Soboth 124.87 326 *e*PKiKP **PKiKP 04 17 29.1 +0.2**
comp=Z,4.0nm,1.0s
ABTA Abfaltersbach 126.23 327 *e*PKiKP **PKPdf 04 17 31.4 +0.2**
comp=Z,7.0nm,1.1s
MOTA Moosalm 126.61 328 *i* PKiKP **PKiKP 04 17 32.5 0.0**
comp=Z,2.2nm,0.6s
SQTA Sankt Quirin 126.63 328 *i* PKPdf **PKPdf 04 17 31.6 -0.4**
comp=Z,3.8nm,0.7s
MEM Membach 126.83 334 ⇑PKiKP **PKiKP 04 17 33.2 +0.7**
FETA Feichten 127.01 328 *i* PKiKP **PKiKP 04 17 33.8 +0.6**
comp=Z,8.9nm,1.1s
DAVA Damuels 127.28 329 *i* PKiKP **PKiKP 04 17 34.2 +0.4**
comp=Z,4.5nm,0.9s
WLF Walferdange 127.45 333 ⇑PKiKP **PKPdf 04 17 32.1 -1.2**
FUORN Ofenpass-Fuorn 127.51 328 *e*PKPdf **PKiKP 04 17 35.0 +0.6**
DOU Dourbes 127.82 334 ⇑PKiKP **PKPdf 04 17 31.6 -2.3**
LPAZ La Paz 134.38 119 *e*PKPdf **PKiKP 04 17 49.8 +0.3**
LPAZ La Paz 134.38 119 *e*PKiKP **PKiKP 04 17 49.8 +0.3**
LPAZ La Paz 134.38 119 PKP **PKiKP 04 17 49.1 -0.4**
comp=Z,2.4nm,0.8s,baz=12,slow=0.8,SNR=8.2
SDV Santo Domingo 136.94 83 *e*PKPdf **PKiKP 04 17 53.6 -0.6**
TAM Tamanrasset 143.74 302 *e*PKPdf **PKPdf 04 18 04.2 -0.3**
TAM Tamanrasset 143.74 302 *e*PKiKP **PKPdf 04 18 04.2 -0.3**
FDF Fort de France 145.48 72 *e*PKPdf **PKPab 04 18 08.4 +0.6**
FDF Fort de France 145.48 72 *e*PKP2 **PKPab 04 18 08.4 +0.6**
SVB Belmont 145.66 74 *e*PKPdf **PKPdf 04 18 06.7 -1.1**
PTGA Pitinga 146.93 99 *e*PKPdf **PKPbc 04 18 12.5 +0.5**
TOA0 Torodi Ar. Sit 150.26 287 *e*PKPbc **PKPbc 04 18 20.5 -0.1**
TORD Torodi Ar. Bea 150.26 287 PKPbc **PKPdf 04 18 17.6 +2.3**
comp=Z,6.9nm,1.0s,baz=114,slow=2.8,SNR=21
TOA1 Torodi Ar. Sit 150.26 287 *e*PKPdf **PKPdf 04 18 17.6 +2.3**
BDFB Brasilia 150.90 136 PKPbc **PKPbc 04 18 22.2 0.0**
comp=Z,6.4nm,0.7s,baz=80,slow=2.9,SNR=13
DBIC Dimbokro 157.54 275 *e*PKPab **PKPab 04 18 58.2 +0.4**
DBIC Dimbokro 157.54 275 *e*PKP2 **PKPab 04 18 58.2 +0.4**
DBIC Dimbokro 157.54 275 PKPab **PKPab 04 18 56.7 -1.1**
comp=Z,13nm,0.9s,baz=90,slow=3.9,SNR=9.1

*IDC **05** 04:28:04.4± 1.3, 29.01N× 142.63E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/51, mbtmp3.7/9, ML2.7/2, Error*

ellipse: s-maj=33.0km s-min=26.2km az=72.0
*ISCJB **05** 04:28:07.3±0.8,29°21'N±0°06'×142°6'E±0°2',h27km, mb3.8/7, Error ellipse: s-maj=24.6km s-min=9.0km az=0.9*

ISC 05 04:28:08.6±0.9,29°06'N±0°08'×142°6'E±0°2',h27km,n10, σ0s81/10,mb3.7/7,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.98**	**190**	Sn	**Sb**	**04 29 08.3**	**0.0**
	20nm,0.3s,baz=273,slow=23,SNR=6.8						
MJAR	**Matsushiro Arr**	**8.31**	**335**	Pn	**Pn**	**04 30 07.0**	**-0.2**
	0.2nm,0.3s,baz=164,slow=12,SNR=4.6						
USRK	**Ussuriysk Ar.**	**17.30**	**334**	P	**Pn**	**04 32 06.5**	**-1.6**
	0.1nm,0.3s,baz=142,slow=13,SNR=2.8						
SONM	**Songino Array**	**33.56**	**314**	P	**P**	**04 34 46.9**	**+0.6**
	0.4nm,0.6s,baz=117,slow=9.2,SNR=3.7						
SEY	**Seymchan**	**34.48**	**9**	P	**P**	**04 34 54.0**	**+0.2**
	1.9nm,0.3s,baz=198,slow=20,SNR=4.1						
ZALV	**Zalesovo Beam**	**48.24**	**318**	P	**P**	**04 36 47.8**	**+1.0**
	0.6nm,0.3s,baz=87,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**49.50**	**308**	P	**P**	**04 36 57.0**	**+0.4**
	0.4nm,0.5s,baz=88,slow=8.6,SNR=6.1						
ILAR	**Eielson Array**	**55.84**	**29**	P	**P**	**04 37 43.2**	**-0.1**
	0.2nm,0.6s,baz=259,slow=6.5,SNR=3.0						
STKA	**Stephens Creek**	**60.61**	**181**	P	**P**	**04 38 16.3**	**-0.6**
	1.0nm,0.3s,baz=13,slow=9.5,SNR=3.7						
YKA	**Yellowknife Ar**	**70.27**	**29**	P	**P**	**04 39 19.3**	**+0.3**
	0.2nm,0.6s,baz=295,slow=6.6,SNR=3.7						

IDC 05 04:29:19.5±1.6,6°16S×128°84E,h0km,mb3.9/2, mb1 4.3/4,mb1mx3.7/34,mbtmp4.1/4,ML4.3/2,MS3.8/1, Ms1 3.8/1,ms1mx2.8/25,Error ellipse: s-maj=110.8km s-min=28.1km az=69.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.71**	**159**	Pn	Pn	04 32 48.6	-0.4
	0.8nm,0.3s,baz=338,slow=13,SNR=25						
WRA				Sn	Sn	04 35 20.3	-13
	0.6nm,0.3s,baz=335,slow=23,SNR=5.9						
ASAR	**Alice Springs**	**18.08**	**165**	P	Pn	04 33 32.5	+0.2
	2.2nm,0.3s,baz=339,slow=12,SNR=111						
ASAR				S	Sn	04 36 41.3	-13
	0.2nm,0.3s,baz=351,slow=21,SNR=7.1						
GUMO	**Guam**	**25.26**	**39**	LR	LR	04 46 08.7	
	comp=Z,196nm,19.5s,baz=188,slow=40						
MKAR	**Makanchi Array**	**66.90**	**327**	P	P	04 40 14.5	+0.8
	0.4nm,0.3s,baz=113,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**70.33**	**334**	P	P	04 40 34.0	-0.9
	0.5nm,0.3s,baz=143,slow=6.4,SNR=3.0						

MEX 05 04:57:53.9±0.5,17°97N×101°38W,h56km±7km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.37**	**192**	*e*P	Pn	04 58 02.8	-1.4
ZIIG				*e*S	Sn	04 58 09.9	-1.7
ARIG	**Puente Sto Nin**	**1.03**	**72**	*i* P	Pn	04 58 10.7	-1.5
ARIG				*e*S	Sn	04 58 23.3	-2.6
CAIG	**El Cayaco**	**1.40**	**131**	*e*P	Pn	04 58 14.9	-2.3
CAIG				*i* S	Sn	04 58 32.8	-1.9
MEIG	**Mezcala**	**1.68**	**91**	*e*P	Pn	04 58 19.5	-1.5
MEIG				*i* S	Sn	04 58 39.7	-1.8
PLIG	**Platanillo**	**1.84**	**76**	*e*P	Pn	04 58 22.2	-0.9
PLIG				*i* S	Sn	04 58 43.5	-1.8

*IDC **05** 04:58:25.0±0.9,56°72S×24°79W,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.0/23,mbtmp4.2/7,ML3.8/1,MS3.8/1, Ms1 3.8/1,ms1mx3.0/24,Error ellipse: s-maj=28.4km s-min=23.6km az=71.0*
*ISCJB **05** 04:58:27.8±0.9,56°8S±0°1×24°7W±0°3,h35km,mb4.0/5, MS3.7/1,Error ellipse: s-maj=22.6km s-min=11.2km az=146.0*

ISC 05 04:58:29.8±0.9,56°8S±0°1×24°8W±0°2',h35km,n14, σ1s07/14,mb4.0/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.59**	**159**	P	**Pn**	**05 02 05.7**	**-0.8**
VNA3	**Neumayer Olymp**	**15.83**	**162**	P	**Pn**	**05 02 07.9**	**-1.8**
VNA2	**Neumayer--Watz**	**15.98**	**159**	P	**Pn**	**05 02 09.9**	**-1.7**
	baz=329,slow=15						
SNAA	**Sanae**	**17.50**	**157**	P	**Pn**	**05 02 31.0**	**+0.3**
SNAA	**Sanae**	**17.50**	**157**	P	**Pn**	**05 02 29.6**	**-1.0**
	0.3nm,0.3s,baz=36,slow=6.7,SNR=24						
PMSA	**Palmer Station**	**20.45**	**231**	P	**P**	**05 03 03.9**	**+0.1**
	23nm,0.5s,baz=170,slow=20,SNR=5.3						
USHA	**Ushuaia**	**24.31**	**256**	P	**P**	**05 03 43.8**	**0.0**
	5.4nm,0.8s,baz=132,slow=12,SNR=2.5						
USHA				LR	LR	05 11 19.8	
	comp=Z,240nm,19.2s,baz=192,slow=32						
CPUP	**Villa Florida**	**38.34**	**309**	P	**P**	**05 05 46.1**	**-1.0**
	1.1nm,0.5s,baz=148,slow=6.5,SNR=4.8						
VNDA	**Vanda**	**45.86**	**182**	P	**P**	**05 06 49.5**	**+1.7**
	0.6nm,0.5s,baz=189,slow=8.6,SNR=4.5						
LPAZ	**La Paz**	**51.93**	**303**	P	**P**	**05 07 36.0**	**+0.2**
	8.3nm,0.5s,baz=109,slow=4.7,SNR=56						
TORD	**Torodi Ar. Bea**	**73.09**	**27**	P	**P**	**05 09 56.4**	**+0.1**
	0.6nm,0.9s,baz=212,slow=6.2,SNR=4.2						
YKA	**Yellowknife Ar**	**137.66**	**316**	PKP	**PKPdf**	**05 17 48.0**	**-0.5**
	0.3nm,0.6s,baz=123,slow=2.3,SNR=8.0						
SONM	**Songino Array**	**149.42**	**86**	PKPbc	**PKPbc**	**05 18 14.9**	**+0.7**
	1.1nm,0.5s,baz=214,slow=3.9,SNR=8.6						
ILAR	**Eielson Array**	**151.64**	**310**	PKPbc	**PKPbc**	**05 18 19.2**	**+0.4**
	2.4nm,0.9s,baz=135,slow=1.7,SNR=18						

*ISCJB **05** 05:01:44.1±0.6,8°26S±0°06×119°73E±0°05,h172km, mb3.7/2,Error ellipse: s-maj=9.2km s-min=6.5km az=36.4*
*DJA **05** 05:01:45.7±0.6,8°S±6'×12°0E±°,h158km±7km,M4.1/6, mb4.4/1,mB4.8/1,MLv3.9/6,Mw(mB)4.0/1*
*IDC **05** 05:01:47.8±2.1,8°30S×119°98E,h192km±16km,mb3.4/3, mb1 3.5/6,mb1mx3.2/30,mbtmp3.9/6,Error ellipse: s-maj=48.3km s-min=13.5km az=48.0*

ISC 05 05:01:45.0±1.0,8°30S±0°07×119°75E±0°06,h172km,n12, σ1s06/18,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.46**	**158**	P	**Pn**	**05 02 16.3**	**+0.4**
WSI				S	**Sn**	**05 02 40.5**	**+0.6**
PLAI	**Plampang**	**2.02**	**255**	P	**Pn**	**05 02 21.8**	**+0.1**
PLAI				S	**Sn**	**05 02 49.5**	**-0.6**
BKSI	**Bulukumba**	**2.99**	**7**	P	**Pn**	**05 02 32.3**	**-0.8**
BATI	**Baumata**	**4.30**	**116**	P	**Pn**	**05 02 50.6**	**+0.8**
BATI	**Baumata**	**4.30**	**116**	P	**Pn**	**05 02 49.8**	**0.0**
	12nm,0.3s,baz=349,slow=2.2,SNR=5.2						
BATI				S	**Sn**	**05 03 40.5**	**0.0**
	16nm,0.3s,baz=346,slow=21,SNR=4.6						
SOEI	**Soe**	**4.69**	**108**	P	**Pn**	**05 02 54.8**	**-0.1**
KDI	**Kendari**	**5.18**	**34**	P	**Pn**	**05 03 01.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**11.30**	**150**	P	**Pn**	**05 04 22.2**	**+0.6**
	0.6nm,0.3s,baz=333,slow=12,SNR=24						
FITZ				S	**Sn**	**05 06 26.8**	**-0.2**
	0.6nm,0.3s,baz=210,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**18.26**	**131**	P	**P**	**05 05 45.4**	**-0.3**
	0.6nm,0.3s,baz=305,slow=12,SNR=18						
WRA				S	**S**	**05 09 03.8**	**-1.8**
	0.2nm,0.3s,baz=308,slow=26,SNR=5.6						
ASAR	**Alice Springs**	**20.43**	**140**	P	**P**	**05 06 09.1**	**+0.1**
	2.4nm,0.4s,baz=314,slow=8.2,SNR=25						
ASAR				S	**S**	**05 09 45.5**	**-3.0**
	0.6nm,0.8s,baz=322,slow=23,SNR=7.9						
STKA	**Stephens Creek**	**31.03**	**142**	P	**P**	**05 07 47.3**	**+0.7**
	3.0nm,0.5s,baz=313,slow=9.8,SNR=11						
MKAR	**Makanchi Array**	**64.18**	**332**	P	**P**	**05 12 02.1**	**+0.9**
	0.2nm,0.5s,baz=143,slow=8.4,SNR=3.7						

NNC 05 05:03:30.5±2.4,43°26N×84°70E,h0km,mb3.5,mpv3.2, 5C-5D,Error ellipse: s-maj=18.2km s-min=8.9km az=132.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**3.72**	**289**	Pg	Pb	05 04 35.4	-1.6
	1.5nm,0.5s						
DJR				Lg	Lg	05 05 26.4	
	7.2nm,0.7s						
PDGK	**Podgornoye**	**3.81**	**273**	Pg	Pb	05 04 37.7	-0.9
	1.1nm,0.2s						
PDGK				Lg	Lg	05 05 30.5	
	8.7nm,0.4s						
PDGK	**Podgornoye**	**3.81**	**273**	⇓Pg	Pb	05 04 39.1	+0.4
	0.8nm,0.4s						
PDGK				⇑Lg	Lg	05 05 32.5	
	11nm,0.5s						
MK31	**Makanchi Array**	**3.93**	**335**	⇑Pn	Pn	05 04 34.2	+2.1
	0.3nm,0.3s,baz=149,slow=15,SNR=9.4						
MK31				⇓Pg	Pg	05 04 43.6	-2.2
	0.7nm,0.3s,baz=145,slow=17,SNR=10						
MK31				⇑Sn	Sn	05 05 21.3	+2.4
	2.7nm,0.4s,baz=145,slow=17,SNR=4.7						
MK31				Lg	Lg	05 05 34.3	
	5.6nm,0.4s,baz=144,slow=29,SNR=12						
MAKZ	**Makanchi**	**4.04**	**332**	⇓Pn	Pn	05 04 35.4	+1.8
	1.4nm,0.9s						
MAKZ				⇑Pg	Pb	05 04 44.6	+2.0
	1.4nm,0.5s						
MAKZ				⇓Sn	Sn	05 05 23.0	+1.2
	2.2nm,0.6s						
MAKZ				⇓Lg	Lg	05 05 37.6	
	24nm,1.1s						
UZB	**Uzynbulak**	**4.15**	**270**	Pg	Pb	05 04 46.7	+2.1
	3.2nm,0.3s						
UZB				Lg	Lg	05 05 45.7	
	11nm,0.3s						
ZSN	**Zaisan**	**4.20**	**2**	Pg	Pb	05 04 43.2	-2.0
	1.5nm,0.2s						
ZSN				Lg	Lg	05 05 39.8	
	6.1nm,0.2s						
KAPS	**Kapalarasan**	**4.34**	**300**	Pg	Pb	05 04 49.7	+1.9
	2.9nm,0.6s						
KAPS				Lg	Lg	05 05 51.1	
	10nm,1.1s						
SATY	**Saty**	**4.61**	**270**	Pg	Pb	05 04 54.2	+1.8
	5.0nm,0.3s						
SATY				Lg	Lg	05 05 59.0	
	14nm,0.4s						
KURS	**Kuram**	**4.77**	**275**	Pg	Pg	05 04 58.5	-3.4
	2.1nm,0.3s						
KURS				Lg	Lg	05 06 06.0	
	6.4nm,0.4s						
ARXS	**Arharly**	**5.07**	**283**	Pg	Pb	05 05 02.6	+2.3
	7.5nm,0.3s						
ARXS				Lg	Lg	05 06 13.3	
	13nm,0.3s						
KUU	**Kurty**	**6.11**	**279**	Pg	Pb	05 05 21.9	+4.1
	1.1nm,0.5s						
KUU				Lg	Lg	05 06 46.9	
	3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**8.49**	**332**	⇑Lg	Lg	05 07 58.2	
	8.3nm,0.7s						

WEL 05 05:05:11.1,38°S±2°×17°7E±°,h49km±2km,ML4.0/48,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.25**	**139**	P	Pn	05 05 19.5	-0.4
RUGZ				S	Sn	05 05 26.0	-0.1
HAZ	**Te Kaha**	**0.25**	**85**	P	Pn	05 05 19.6	-0.1
HAZ				S	Sn	05 05 26.9	+0.6
WIZ	**White Island**	**0.34**	**318**	P	Pn	05 05 20.8	+0.3
WHRZ	**Whale Island**	**0.40**	**259**	P	Pn	05 05 22.0	+0.9
WHRZ				S	Sn	05 05 30.2	+1.9
PKGZ	**Pakihiroa**	**0.49**	**103**	P	Pn	05 05 22.1	-0.2
MWZ	**Matawai**	**0.56**	**175**	P	Pn	05 05 23.1	+0.1
MWZ				S	Sn	05 05 32.7	+1.1
URZ	**Urewera**	**0.56**	**210**	P	Pn	05 05 23.3	+0.3
URZ				S	Sn	05 05 32.5	+0.9
TWGZ	**Tauwhareparae**	**0.57**	**135**	P	Pn	05 05 24.0	+0.8
TWGZ				S	Sn	05 05 34.6	+2.8
MARZ	**Manawahe**	**0.66**	**252**	P	Pn	05 05 24.8	+0.4
EDRZ	**Edgecumbe**	**0.66**	**240**	P	Pn	05 05 25.0	+0.6
PUZ	**Puketiti**	**0.69**	**115**	P	Pn	05 05 25.3	+0.6
PUZ				S	Sn	05 05 36.5	+2.0
MXZ	**Matakaoa Point**	**0.70**	**72**	P	Pn	05 05 24.8	0.0
RAGZ	**Rawiri**	**0.72**	**183**	P	Pn	05 05 25.7	+0.6
TKGZ	**Te Karaka**	**0.72**	**156**	P	Pn	05 05 26.3	+1.1
OPRZ	**Ohinepanea**	**0.73**	**264**	P	Pn	05 05 25.4	+0.3
WMNZ	**Waiomatatini S**	**0.75**	**93**	P	Pn	05 05 26.3	+0.8
MKRZ	**Makatiti**	**0.87**	**245**	P	Pn	05 05 28.0	+0.8
LIRZ	**Lichensteins R**	**0.89**	**255**	P	Pn	05 05 28.1	+0.8
TARZ	**Mount Tarawera**	**0.89**	**239**	P	Pn	05 05 28.1	+0.7
MUGZ	**Murupara**	**0.89**	**218**	P	Pn	05 05 27.5	+0.1
CNGZ	**Carnagh Statio**	**0.91**	**141**	P	Pn	05 05 28.4	+0.8
RTZ	**Ruatahuna**	**0.92**	**205**	P	Pn	05 05 27.8	0.0
OMRZ	**Omania**	**0.93**	**249**	P	Pn	05 05 28.4	+0.6
RRRZ	**Republican Roa**	**0.94**	**233**	P	Pn	05 05 28.5	+0.5
RIGZ	**Rimuhau**	**0.95**	**166**	P	Pn	05 05 28.9	+0.7
TGRZ	**Tauranga**	**0.96**	**273**	P	Pn	05 05 28.4	+0.2
KARZ	**Kaharoa**	**1.00**	**256**	P	Pn	05 05 29.3	+0.5
HLRZ	**Highlands Stat**	**1.00**	**241**	P	Pn	05 05 29.6	+0.8
SNGZ	**Shannon Statio**	**1.01**	**186**	P	Pn	05 05 30.0	+1.1
NGRZ	**Ngongotaha**	**1.06**	**252**	P	Pn	05 05 30.6	+0.9
UTU	**Utuhina**	**1.08**	**248**	P	Pn	05 05 31.3	+1.3
MYRZ	**Mayor Island**	**1.09**	**297**	P	Pn	05 05 30.5	+0.4
HSRZ	**Hossack Road**	**1.10**	**241**	P	Pn	05 05 31.2	+1.0
PRRZ	**Plateau Road**	**1.11**	**229**	P	Pn	05 05 30.7	+0.4
HRRZ	**Handcock Road**	**1.12**	**236**	P	Pn	05 05 31.1	+0.6
RAHZ	**Arahi**	**1.18**	**195**	P	Pn	05 05 31.9	+0.6
MTHZ	**Maungataniwha**	**1.18**	**205**	P	Pn	05 05 31.4	+0.1
ALRZ	**Allen Road**	**1.18**	**228**	P	Pn	05 05 31.7	+0.4
PRGZ	**Paritu Road**	**1.19**	**164**	P	Pn	05 05 31.5	+0.1
KMRZ	**Kaimai**	**1.21**	**266**	P	Pn	05 05 31.9	+0.2
GRRZ	**Galatos Road**	**1.22**	**242**	P	Pn	05 05 32.7	+0.9
KNZ	**Kokohu**	**1.25**	**173**	P	Pn	05 05 32.3	0.0
WPRZ	**Whakapapatarin**	**1.27**	**234**	P	Pn	05 05 33.1	+0.6
WHHZ	**Waihua**	**1.31**	**188**	P	Pn	05 05 34.1	+1.0
MRHZ	**Matea Rd**	**1.34**	**218**	P	Pn	05 05 33.7	+0.2
MHGZ	**Mahia Peninsul**	**1.42**	**166**	P	Pn	05 05 34.5	0.0
NMHZ	**Naumai**	**1.42**	**201**	P	Pn	05 05 35.4	+0.9
KUTZ	**Kaahu Road**	**1.48**	**241**	P	Pn	05 05 36.2	+0.9
WHTZ	**Whakaora**	**1.48**	**233**	P	Pn	05 05 36.7	+1.2
ARHZ	**Aropaoanui**	**1.53**	**194**	P	Pn	05 05 36.9	+0.9
HATZ	**Hinemaiaia**	**1.55**	**224**	P	Pn	05 05 36.6	+0.3
TOZ	**Tahuroa Road**	**1.56**	**271**	P	Pn	05 05 36.7	+0.3
BKZ	**Black Stump Fm**	**1.58**	**209**	P	Pn	05 05 36.9	+0.1
TLZ	**Tolley Road**	**1.62**	**250**	P	Pn	05 05 37.8	+0.5
WATZ	**Wairara**	**1.65**	**235**	P	Pn	05 05 38.4	+0.6
RATZ	**Rangitukua**	**1.72**	**230**	P	Pn	05 05 39.4	+0.7
KUZ	**Kuaotunu**	**1.73**	**306**	P	Pn	05 05 38.7	-0.1
RITZ	**Rihia Road**	**1.74**	**226**	P	Pn	05 05 39.9	+0.9
MCHZ	**McNeill Hill**	**1.77**	**200**	P	Pn	05 05 40.1	+0.8
KATZ	**Kakaramea**	**1.84**	**229**	P	Pn	05 05 41.0	+0.7
KWHZ	**Kaweka Forest**	**1.84**	**206**	P	Pn	05 05 41.0	+0.7
CKHZ	**Cape Kidnapper**	**1.90**	**189**	P	Pn	05 05 40.7	-0.4
KRVZ	**Karewarewa**	**1.95**	**227**	P	Pn	05 05 42.6	+0.8
MKAZ	**Moumakai**	**1.96**	**289**	P	Pn	05 05 42.2	+0.4
WTVZ	**West Tongariro**	**1.99**	**227**	P	Pn	05 05 43.3	+0.9
NGZ	**Ngauruhoe**	**2.02**	**226**	P	Pn	05 05 43.7	+0.8
BHHZ	**Black Hill Sta**	**2.03**	**212**	P	Pn	05 05 43.2	+0.2
KRHZ	**Kereru**	**2.05**	**204**	P	Pn	05 05 43.2	0.0
TWVZ	**Taurewa**	**2.05**	**230**	P	Pn	05 05 44.0	+0.7
TUVZ	**Tukino**	**2.06**	**223**	P	Pn	05 05 44.0	+0.6
KAHZ	**Kahuranaki**	**2.07**	**193**	P	Pn	05 05 43.1	-0.3
COVZ	**Chateau Observ**	**2.07**	**226**	P	Pn	05 05 44.7	+1.1
FWVZ	**Far West T-bar**	**2.10**	**225**	P	Pn	05 05 44.7	+0.6
WHVZ	**Whangaehu Hut**	**2.10**	**224**	P	Pn	05 05 44.7	+0.6
WIAZ	**Waiheke Island**	**2.11**	**297**	P	Pn	05 05 44.4	+0.5
MOVZ	**Moawhango**	**2.11**	**219**	P	Pn	05 05 44.2	+0.2
DRZ	**Dome Shelter**	**2.11**	**224**	P	Pn	05 05 45.6	+1.3
TRVZ	**Turoa**	**2.14**	**224**	P	Pn	05 05 45.1	+0.5
KBAZ	**Karaka Road Bo**	**2.16**	**288**	P	Pn	05 05 46.4	+1.8
ETAZ	**East Tamaki Re**	**2.19**	**291**	P	Pn	05 05 45.8	+0.9
HIZ	**Hauiti**	**2.19**	**250**	P	Pn	05 05 46.3	+1.2
GRZ	**Great Barrier**	**2.22**	**313**	P	Pn	05 05 45.7	+0.3
MTVZ	**Mangateitei**	**2.24**	**224**	P	Pn	05 05 46.7	+0.8
PKVZ	**Pokaka**	**2.25**	**227**	P	Pn	05 05 47.0	+1.1
MBAZ	**Motutapu North**	**2.29**	**295**	P	Pn	05 05 47.2	+0.9
PXZ	**Pawanui**	**2.30**	**192**	P	Pn	05 05 45.3	-1.3
PNHZ	**Pukenui**	**2.35**	**205**	P	Pn	05 05 46.7	-0.7
EPAZ	**Eden Park BICE**	**2.35**	**292**	P	Pn	05 05 48.4	+1.1
AWAZ	**Awhitu Peninsu**	**2.36**	**287**	P	Pn	05 05 48.5	+1.1
ABAZ	**Army Bay**	**2.41**	**298**	P	Pn	05 05 49.3	+1.2
WPHZ	**Waipukurau**	**2.42**	**199**	P	Pn	05 05 47.3	-0.9
WTAZ	**Waiatarua**	**2.46**	**289**	P	Pn	05 05 50.0	+1.3
VRZ	**Vera Road**	**2.52**	**237**	P	Pn	05 05 51.2	+1.6
TSZ	**Takapari Road**	**2.56**	**207**	P	Pn	05 05 49.6	-0.6
PRHZ	**Porangahau**	**2.57**	**194**	P	Pn	05 05 48.9	-1.4
DVHZ	**Dannevirke**	**2.71**	**202**	P	Pn	05 05 50.5	-1.7
WAZ	**Wanganui**	**2.77**	**224**	P	Pn	05 05 54.5	+1.5
ANWZ	**Angora Road**	**2.79**	**196**	P	Pn	05 05 51.6	-1.6
MHEZ	**Mangahewa**	**2.79**	**241**	P	Pn	05 05 55.5	+2.2
DREZ	**Durham Road**	**2.93**	**240**	P	Pn	05 05 57.1	+2.0
POWZ	**Post Office Ro**	**2.93**	**206**	P	Pn	05 05 54.0	-1.1
LREZ	**Lake Rotokare**	**2.93**	**234**	P	Pn	05 05 57.9	+2.7
OHWZ	**Ohakea**	**2.95**	**214**	P	Pn	05 05 55.9	+0.5
PRWZ	**Pori Road**	**3.01**	**202**	P	Pn	05 05 54.6	-1.6
PREZ	**Palmer Road**	**3.03**	**238**	P	Pn	05 06 00.7	+4.1
BFZ	**Birch Farm**	**3.05**	**198**	P	Pn	05 05 54.5	-2.3
PKE	**Pukeiti**	**3.08**	**242**	P	Pn	05 06 00.2	+2.9
KHEZ	**Kahui Hut**	**3.10**	**240**	P	Pn	05 05 59.9	+2.3
WCZ	**Waipu Caves**	**3.11**	**305**	P	Pn	05 05 58.6	+1.0
NBEZ	**Newall Road No**	**3.19**	**241**	P	Pn	05 06 01.1	+2.3
MRZ	**Mangatainoka R**	**3.23**	**206**	P	Pn	05 05 57.2	-2.1
TIWZ	**Tintock**	**3.24**	**202**	P	Pn	05 05 57.5	-2.0
CPWZ	**Castlepoint**	**3.28**	**197**	P	Pn	05 05 58.3	-1.6
OGWZ	**Otaki Gorge**	**3.52**	**210**	P	Pn	05 06 01.3	-2.0
KIW	**Kapiti Island**	**3.66**	**212**	P	Pn	05 06 03.3	-1.9
OUZ	**Omahuta**	**4.03**	**308**	P	Pn	05 06 11.9	+1.6
DUWZ	**D'Urville Isla**	**4.08**	**221**	P	Pn	05 06 09.3	-1.7

*ISCJB **05** 05:39:36.8±0.6,15°3N±0°1×91°64W±0°08,h200km, mb3.5/6,Error ellipse: s-maj=16.2km s-min=8.8km az=22.3*
*IDC **05** 05:39:37.5±1.5,15°12N×91°46W,h210km±6km,mb3.2/6, mb1 3.4/7,mb1mx3.1/48,mbtmp3.7/7,Error ellipse: s-maj=44.3km s-min=17.7km az=31.0*
*MEX **05** 05:39:37.8±0.7,15°30N×91°82W,h221km±9km,MD3.8*

ISC 05 05:39:37.3±0.9,15°3N±0°1×91°69W±0°08,h200km,n12, σ1s84/17,mb3.5/6,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.67**	**236**	*e*P	**Pn**	**05 40 05.7**	**+0.6**
THIG				*i* S	**Sn**	**05 40 28.7**	**+2.1**
CCIG	**Comitan**	**1.08**	**337**	*e*P	**Pn**	**05 40 09.2**	**+1.4**
CCIG				*i* S	**Sn**	**05 40 32.3**	**+0.7**
APG	**El Apazote**	**1.22**	**103**	P	**Pn**	**05 40 08.6**	**-0.3**
	14nm,0.3s,baz=304,slow=5.7,SNR=387						
APG				S	**Sn**	**05 40 32.6**	**-0.7**
	45nm,0.3s,baz=320,slow=18,SNR=20						
PCIG		**1.53**	**286**	*i* P	**Pn**	**05 40 11.6**	**+0.3**
PCIG				*i* S	**Sn**	**05 40 36.8**	**-0.7**
CMIG	**Matias Romero**	**3.56**	**301**	P	**Pn**	**05 40 33.3**	**-0.3**
	20nm,0.3s,baz=146,slow=9.3,SNR=487						
CMIG				S	**Sn**	**05 41 13.0**	**-4.8**
	19nm,0.3s,baz=29,slow=22,SNR=29						
TXAR	**Lajitas Array**	**17.82**	**324**	P	**Pn**	**05 43 33.9**	**+0.6**
	0.1nm,0.3s,baz=142,slow=10.0,SNR=8.3						
TKL	**Tuckaleechee C**	**21.49**	**18**	P	**P**	**05 44 11.5**	**+1.1**
	2.2nm,0.5s,baz=198,slow=8.4,SNR=5.4						
SDV	**Santo Domingo**	**21.54**	**105**	P	**P**	**05 44 08.6**	**-2.7**
	1.8nm,0.3s,baz=306,slow=9.4,SNR=5.6						
NVAR	**Mina Array Bea**	**32.88**	**320**	P	**P**	**05 45 54.9**	**+2.2**
	0.7nm,0.6s,baz=132,slow=7.3,SNR=6.5						
YKA	**Yellowknife Ar**	**49.85**	**346**	P	**P**	**05 48 10.2**	**+0.4**
	0.6nm,0.6s,baz=148,slow=7.6,SNR=17						
ILAR	**Eielson Array**	**61.79**	**336**	P	**P**	**05 49 34.4**	**-0.1**
	0.2nm,0.3s,baz=112,slow=6.6,SNR=5.9						
EKA	**Eskdalemuir Ar**	**76.76**	**36**	P	**P**	**05 51 05.0**	**-1.4**
	0.6nm,0.5s,baz=282,slow=4.2,SNR=5.5						

*ISCJB **05** 05:44:19.3±0.3,70°75N±0°03×6°31W±0°06,h10km, mb3.2/7,MS3.2/3,Error ellipse: s-maj=4.1km s-min=2.7km az=159.5*
*IDC **05** 05:44:20.6±0.7,70°79N×6°91W,h0km,mb3.3/7, mb1 3.7/12,mb1mx3.5/52,mbtmp3.5/12,ML3.4/4,MS3.2/5, Ms1 3.2/5,ms1mx2.8/

HEF	Hetta	10.75	88	*e*P		Pn	05 46 53.8	-2.0
ARA0	ARCESS Array S	10.89	82	Pn		Pn	05 46 56.1	-1.6
	baz=288,slow=11							
ARA0	ARCESS Array S	10.89	82	Pn		Pn	05 46 56.1	-1.6
	baz=288,slow=11							
ARCES	ARCESS Array B	10.89	82	Pn		Pn	05 46 56.2	-1.5
	comp=Z,0.5nm,0.3s,baz=286,slow=11,SNR=15							
ARE0	ARCESS Array S	10.89	82	*e*P		Pn	05 46 56.3	-1.4
KEV	Kevo	11.30	79	Pn		Pn	05 47 01.7	-1.5
KEV	Kevo	11.30	79	Pn		Pn	05 47 01.7	-1.5
NOA	NORSAR Array B	12.16	135	Pn		Pn	05 47 14.3	-0.7
	comp=Z,0.0nm,0.3s,baz=332,slow=13,SNR=3.0							
NOA				LR		LR	05 51 17.5	
	comp=Z,87nm,21.3s,baz=330,slow=34							
NRA0	NORESS Array S	12.50	135	Pn		Pn	05 47 18.8	-0.9
NRA0	NORESS Array S	12.50	135	Pn		Pn	05 47 18.8	-0.9
HFS	Hagfors	13.54	132	Pn		Pn	05 47 34.2	+0.3
	baz=331,slow=14							
HFS	Hagfors	13.54	132	Pn		Pn	05 47 33.9	0.0
	comp=Z,0.7nm,0.3s,baz=330,slow=11,SNR=17							
HFS				LR		LR	05 52 43.3	
	comp=Z,106nm,18.6s,baz=296,slow=37							
HFS	Hagfors	13.54	132	Pn		Pn	05 47 34.2	+0.3
	baz=331,slow=14							
EKA	Eskdalemuir Ar	15.64	173	Pn		Pn	05 48 02.3	+0.2
	baz=357,slow=13,SNR=3.3							
FIA0	FINESS Array S	15.98	110	Pn		Pn	05 48 04.0	-2.5
	baz=322,slow=12							
FIA0	FINESS Array S	15.98	110	Pn		Pn	05 48 04.0	-2.5
	baz=322,slow=12							
FINES	FINESS Array B	15.98	110	Pn		Pn	05 48 05.5	-1.1
	comp=Z,0.6nm,0.3s,baz=321,slow=8.2,SNR=15							
KLMR	Klimovskoe	20.75	95	*e*P		P	05 49 01.5	-0.9
KLMR				AMP			05 49 08.2	
	comp=Z,19nm,1.2s							
GERES	GERESS Array B	24.05	146	P		P	05 49 37.3	+0.3
	comp=Z,0.2nm,0.4s,baz=335,slow=11,SNR=3.0							
RES	Resolute Bay	24.14	319	LR		LR	05 57 33.5	
	comp=Z,50nm,20.0s,baz=187,slow=33							
AKASG	Malin Array Be	26.01	122	P		P	05 49 54.5	-0.1
	comp=Z,0.6nm,0.6s,baz=330,slow=9.4,SNR=2.3							
MLR	Muntele Rosu	29.92	131	LR		LR	06 03 20.2	
	comp=Z,104nm,19.4s,baz=328,slow=38							
BRTR	Keskin Array B	37.32	125	LR		LR	06 05 45.1	
	comp=Z,25nm,19.0s,baz=284,slow=34							
YKA	Yellowknife Ar	37.95	314	P		P	05 51 39.1	+0.1
	comp=Z,0.2nm,0.5s,baz=30,slow=8.6,SNR=4.1							
YKA				PcP		PcP	05 53 52.6	-1.9
	comp=Z,0.3nm,0.9s,baz=41,slow=2.6,SNR=3.1							
ILAR	Eielson Array	41.93	336	P		P	05 52 12.3	+0.2
	comp=Z,0.3nm,0.8s,baz=23,slow=7.2,SNR=3.4							
MKAR	Makanchi Array	46.35	72	P		P	05 52 49.3	+1.6
	comp=Z,0.2nm,0.7s,baz=339,slow=6.7,SNR=3.0							
TORD	Torodi Ar. Bea	57.88	170	P		P	05 54 14.6	+0.8
	comp=Z,1.1nm,0.8s,baz=359,slow=6.3,SNR=5.4							
TXAR	Lajitas Array	64.88	287	P		P	05 55 02.7	+1.6
	comp=Z,0.3nm,0.8s,baz=30,slow=7.6,SNR=3.2							

IDC ***05*** *06:01:29.4±0.6, 10°.69S×164°.91E, h0km, mb4.5/19, mb1 4.7/21, mb1mx4.6/32, mbtmp4.6/21, ML5.6/2, MS5.0/3, Ms1 5.0/3, ms1mx4.2/20, Error ellipse: s-maj=7.3km s-min=14.5km az=112.0*

BJI ***05*** *06:01:30.8, 10°.56S×165°.07E, h14km, mb4.8/44, mB5.2/26, Ms5.7/11, Ms7 5.5/11*

ISCJB ***05*** *06:01:33.3±0.2, 10°.78S±0°.03×164°.86E±0°.03, h35km, mb4.8/103, Error ellipse: s-maj=5.2km s-min=4.4km az=140.5*

NEIC ***05*** *06:01:33.4±1.9, 10°.67S×164°.87E, h24km±14km, mb4.9/79, Error ellipse: s-maj=5.7km s-min=4.3km az=179.0*

ISC 05 06:01:35.3±0.4, 10°.77S±0°.06×164°.90E±0°.06, h35km, n169, σ1§16/169, mb4.9/103, 1C, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	Honiara	5.05	285	*i* P			Pn	06 02 48.5	-0.1
HNR				*i* S			Sn	06 03 43.0	-2.8
HNR	Honiara	5.05	285	*e*Pn			Pn	06 02 47.4	-1.2
HNR				*e*Pn			Pn	06 02 48.3	-0.3
HNR				*e*Sn			Sn	06 03 45.8	-0.1
HNR				*e*Sn			Sn	06 03 46.7	+0.8
HNR	Honiara	5.05	285	Pn			Pn	06 02 48.3	-0.3
	278nm,0.3s,baz=186,slow=2.3,SNR=21								
HNR				Sn			Sn	06 03 46.7	+0.8
	42nm,0.3s,baz=204,slow=20,SNR=1.9								
MARNC	Mare, Loyalty	11.07	165	*e*Pn			Pn	06 04 11.3	+0.1
DZM	Mont Dzumac	11.34	173	Pn			Pn	06 04 15.3	+0.4
	36nm,0.3s,baz=13,slow=11,SNR=238								
DZM				Sn			Sn	06 06 18.8	-1.6
	2.0nm,0.3s,baz=183,slow=19,SNR=6.2								
DZM				LR			LR	06 08 22.4	
	comp=Z,3μm,18.3s,baz=32,slow=36								
ONTNC	Quen Toro	11.57	179	*e*Pn			Pn	06 04 18.5	+0.5
PINNC	Pines Island,	12.03	169	*e*Pn			Pn	06 04 24.8	+0.6
MSVF	Nonsavu	14.50	120	*e*Pn			Pn	06 04 58.1	0.0
EIDS	Eidsvold	19.56	220	P			Pn	06 06 01.4	-0.2
	baz=20,SNR=4.9								
EIDS	Eidsvold	19.56	220	*e*P			Pn	06 06 01.6	0.0
	44nm,0.9s								
CTA	Charters Tower	20.20	240	P			P	06 06 07.9	+0.6
	5.0nm,0.5s,baz=63,slow=10,SNR=7.5								
CTAO	Charters Tower	20.20	240	*e*P			P	06 06 07.0	-0.2
	34nm,1.0s								
MTSU	Mount Surprise	21.22	247	P			P	06 06 18.1	-0.2
	baz=21,SNR=7.5								
COEN	Coen	21.45	259	P			P	06 06 20.6	-0.2
	baz=21,SNR=8.7								
COEN	Coen	21.45	259	*e*P			P	06 06 20.2	-0.6
	47nm,1.5s								
RMQ	Roma	21.83	222	P			P	06 06 27.1	+2.3
	baz=22,SNR=13								
ARMA	Armidale	23.12	210	P			P	06 06 40.2	+1.7
	baz=23,SNR=5.5								
ARMA	Armidale	23.12	210	*e*P			P	06 06 39.8	+1.3
	40nm,1.1s								
JAY	Jayapura	25.37	287	P			P	06 06 58.9	-0.6
OUZ	Omahuta	25.60	163	*e*P			P	06 07 02.5	+1.2
	35nm,1.0s								
GENI	Genyem	25.85	287	P			P	06 07 04.9	+1.1
CMSA	Cobar Meteorol	27.26	218	P			P	06 07 17.2	+0.8
	baz=28,SNR=6.3								
H11S2	WAKE ISLAND Hy	29.13	4	T			T	06 37 48.2	
	baz=183,slow=76,SNR=349								
H11S3	WAKE ISLAND Hy	29.13	3	T			T	06 37 46.6	
	baz=183,slow=76,SNR=522								
H11S1	WAKE ISLAND Hy	29.14	4	T			T	06 37 49.6	
	baz=183,slow=76,SNR=689								
URZ	Urewera	29.48	160	*e*P			P	06 07 36.2	+0.1
URZ				*e*P			P	06 07 36.9	+0.9
URZ	Urewera	29.48	160	P			P	06 07 36.2	+0.1
	4.7nm,0.5s,baz=265,slow=3.4,SNR=7.8								
STKA	Stephens Creek	30.08	222	P			P	06 07 42.5	+1.0
	baz=30,SNR=31								
STKA	Stephens Creek	30.08	222	*e*P			P	06 07 42.2	+0.8
	3.6nm,0.8s								
STKA	Stephens Creek	30.08	222	P			P	06 07 42.0	+0.5
	12nm,0.7s,baz=28,slow=9.7,SNR=46								
BKZ	Black Stump Fm	30.11	162	*e*P			P	06 07 42.7	+1.0
	51nm,1.3s								
H11N1	WAKE ISLAND Hy	30.35	4	T			T	06 39 16.1	
	baz=183,slow=76,SNR=389								
H11N3	WAKE ISLAND Hy	30.36	4	T			T	06 39 16.5	
	baz=183,slow=76,SNR=355								
H11N2	WAKE ISLAND Hy	30.37	4	T			T	06 39 17.3	
	baz=183,slow=76,SNR=326								
WB2	Warramunga Arr	30.79	249	*e*P			P	06 07 45.6	-2.3
WR1	Warramunga Arr	30.80	249	*e*P			P	06 07 46.2	-1.8
	8.2nm,0.8s								
WRA	Warramunga Arr	30.80	249	P			P	06 07 46.2	-1.8
	3.0nm,0.6s,baz=80,slow=9.2,SNR=20								
KDU	Kakadu	31.80	263	P			P	06 07 54.6	-2.2
	baz=32,SNR=3.5								
TOO	Toolangi	31.89	210	P			P	06 07 59.1	+1.8
	baz=32,SNR=4.7								
TOO	Toolangi	31.89	210	*e*P			P	06 07 58.5	+1.1
	17nm,1.3s								
AS31	Alice Springs	32.18	242	*e*P			P	06 07 58.6	-1.5
	1.3nm,0.6s								
ASAR	Alice Springs	32.18	242	P			P	06 07 58.2	-1.9
	2.1nm,0.5s,baz=61,slow=10,SNR=32								
ASAR				PcP			PcP	06 10 48.1	-0.4
	0.9nm,0.9s,baz=77,slow=2.1,SNR=5.0								
HTT	Hallett	32.81	223	P			P	06 08 06.4	+0.8
	baz=33,SNR=19								
BBOO	Buckleboo	34.42	226	P			P	06 08 19.7	+0.2
	baz=35,SNR=26								
BBOO	Buckleboo	34.42	226	*e*P			P	06 08 19.7	+0.2
	22nm,0.8s								
KNRA	Kununurra	35.49	258	P			P	06 08 26.9	-2.0
	baz=35,SNR=6.4								
WRKA	Warakurna	37.47	243	P			P	06 08 44.2	-1.6
	baz=38,SNR=9.9								
FITZ	Fitzroy Crossi	38.65	255	P			P	06 08 53.7	-2.0
	baz=39,SNR=10.0								
FITZ	Fitzroy Crossi	38.65	255	*e*P			P	06 08 53.9	-1.9
	7.2nm,0.8s								
FITZ	Fitzroy Crossi	38.65	255	P			P	06 08 53.8	-2.0
	4.3nm,0.6s,baz=88,slow=8.3,SNR=15								
FORT	Forrest	39.53	234	P			P	06 09 04.0	+1.0
	baz=40,SNR=7.4								
FORT	Forrest	39.53	234	*e*P			P	06 09 02.2	-0.7
	22nm,0.8s								
KCP	Kidapawan	43.39	292	*e*P			P	06 09 43.7	+8.8
MEEK	Meekatharra	46.33	243	P			P	06 09 57.0	-1.1
	baz=46								
MJAR	Matsushiro Arr	53.35	333	P			P	06 10 49.5	-1.7
	12nm,1.1s,baz=164,slow=7.7,SNR=4.2								
MAJO	Matsushiro	53.35	333	*e*P			P	06 10 49.5	-1.7
JNU	Nakatsue	54.37	325	*e*P			P	06 10 58.4	-0.4
	41nm,1.2s								
KSRS	Korea Array	59.18	326	P			P	06 11 32.6	-0.3
	1.4nm,0.6s,baz=143,slow=6.5,SNR=8.3								
KSAR	Wonju Array Be	59.20	326	P			P	06 11 32.5	-0.4
NJ2	Nanjing	61.24	316	*e*P			P	06 11 48.5	+1.5
NJ2					pmax		pmax		
	comp=Z,20nm,0.5s								
USRK	Ussuriysk Ar.	62.33	334	P			P	06 11 53.5	-0.7
	1.9nm,0.6s,baz=143,slow=4.8,SNR=8.2								
MDJ	Mudanjiang	63.72	333	P			P	06 12 04.0	+0.6
MDJ				pP		pP		06 12 08.9	-4.2
MDJ				sP		sP		06 12 11.8	-5.0
MDJ				S		S		06 20 40.5	+5.0
MDJ				sS		pS		06 20 48.9	+1.4
MDJ					pmax		pmax		
	comp=Z,10.0nm,1.5s								
MDJ					pmax		pmax		
	comp=Z,250nm,5.2s								
MDJ					LR		LR		
	comp=N,2μm,17.8s								
MDJ					LR		LR		
	comp=E,800nm,16.2s								
MDJ					LR		LR		
	comp=Z,2μm,19.5s								
CN2	Changchun	65.08	330	*e*P			P	06 12 15.4	+3.1
VNDA	Vanda	66.76	181	*e*P			P	06 12 24.9	+2.3
	26nm,1.3s								
VNDA	Vanda	66.76	181	P			P	06 12 23.1	+0.5
	12nm,1.1s,baz=350,slow=7.6,SNR=8.0								
GYA	Guiyang	67.58	304	*e*P			P	06 12 30.0	+1.2
GYA					pmax		pmax		
	comp=Z,10.0nm,0.9s								
XAN	Xi'an	69.32	313	P			P	06 12 40.2	+0.7
XAN					pmax		pmax		
	comp=Z,7.0nm,1.2s								
XAN					pmax		pmax		
	comp=Z,120nm,4.1s								
KMI	Kunming	70.27	302	P			P	06 12 47.0	+1.3
KMI				pP		pP		06 12 54.3	-0.8
KMI				sP		sP		06 12 56.3	-2.3
KMI					pmax		pmax		
	comp=Z,23nm,0.5s								
KMI					LR		LR		
	comp=N,2μm,21.5s								
KMI					LR		LR		
	comp=E,2μm,24.5s								
KMI					LR		LR		
	comp=Z,3μm,24.5s								
HHC	Hu-ho-hao-te	71.09	320	*e*P			P	06 12 51.4	+1.2
HHC				pP		pP		06 12 58.0	-1.6
HHC				S		S		06 22 06.4	+1.9
HHC					pmax		pmax		
	comp=Z,14nm,1.1s								
HHC					pmax		pmax		
	comp=Z,230nm,5.9s								
HHC					LR		LR		
	comp=N,2μm,17.7s								
HHC					LR		LR		
	comp=E,2μm,18.0s								
HHC					LR		LR		
	comp=Z,3μm,19.2s								
CMAR	Chiang Mai Arr	71.24	294	P			P	06 12 51.4	-0.1
	2.5nm,0.7s,baz=114,slow=3.9,SNR=8.6								
CHTO	Chiang Mai	71.36	294	P			P	06 12 54.6	+2.4
	31nm,1.6s								
CD2	Chengdu	71.78	308	P			P	06 12 53.6	-0.9
CD2					pmax		pmax		
	comp=Z,30nm,0.5s								
LZH	Lanzhou	73.96	312	*e*P			P	06 13 10.2	+2.7
LZH				pP		pP		06 13 15.2	-1.7
LZH				sP		sP		06 13 18.5	-1.9
LZH					pmax		pmax		
	comp=Z,23nm,1.2s								
SEY	Seymchan	74.11	354	LR		LR		06 42 22.8	
	comp=Z,1μm,21.4s,baz=142,slow=33								
ULN	Ulaanbaatar	77.59	324	*e*P			P	06 13 28.8	+0.8
	16nm,1.2s								
SONA0	Songino Array	77.95	324	*e*P			P	06 13 29.7	-0.3
SONM	Songino Array	77.95	324	P			P	06 13 29.7	-0.3
	4.3nm,1.0s,baz=138,slow=5.4,SNR=21								
SVW2	Sparrevohn	78.11	18	*e*P			P	06 13 28.8	-1.6
	29nm,1.4s								
GTA	Gaotai	78.27	314	*e*P			P	06 13 31.8	-0.1
GTA				pP		PcP		06 13 39.3	-2.0
GTA				sP		sP		06 13 43.4	-1.5
GTA					pmax		pmax		
	comp=Z,3.0nm,1.3s								
GTA					pmax		pmax		
	comp=Z,71nm,3.8s								
GTA					LR		LR		
	comp=N,2μm,19.0s								
GTA					LR		LR		
	comp=E,2μm,20.3s								
GTA					LR		LR		
	comp=Z,3μm,19.4s								
ANM	Nome	78.40	13	*e*P			P	06 13 31.6	-0.3
	17nm,1.4s								
BILL	Bilibino	78.61	1	*e*P			P	06 13 32.8	-0.2
	20nm,1.3s								
QSPA	South Pole Qui	79.23	180	*e*P			P	06 13 37.5	+0.7
	29nm,1.1s								
SUA	Susitna One	79.95	20	*e*P			P	06 13 40.3	-0.3
	15nm,1.2s								
CAST	Castle Rocks	80.94	18	*e*P			P	06 13 44.6	-1.2
	6.0nm,0.9s								
KLU	Klutina	81.64	22	*e*P			P	06 13 50.3	+0.6
	23nm,1.3s								
RND	Reindeer	81.95	19	*e*P			P	06 13 51.0	-0.2
	16nm,1.4s								
IM3	Indian Mountai	82.38	16	*e*P			P	06 13 52.8	-0.5
BALM	Baldy	82.69	23	*e*P			P	06 13 55.3	+0.2
	9.5nm,0.8s								
CCB	Clear Creek Bu	83.14	19	*e*P			P	06 13 57.6	+0.4
	9.7nm,1.5s								
MDM	Murphy Dome	83.23	18	*e*P			P	06 13 57.1	-0.7
	11nm,1.1s								
HDA	Harding Lake	83.25	19	*e*P			P	06 13 56.6	-1.3
	17nm,1.1s								
COLA	College	83.28	18	*e*P			P	06 13 58.6	+0.7
	13nm,1.0s								
MENT	Mentasta	83.37	21	*e*P			P	06 13 56.5	-2.0
	15nm,1.3s								
RIDG	Independ'e Rid	83.50	20	*e*P			P	06 13 59.1	-0.1
	18nm,1.2s								
IL1	Eielson Array	83.52	19	*e*P			P	06 13 56.7	-2.5
ILAR	Eielson Array	83.52	19	P			P	06 13 58.4	-0.9
	4.7nm,0.8s,baz=242,slow=5.3,SNR=35								
ILB	Eielson Array	83.52	19	*e*P			P	06 13 57.9	-1.3
DOT	Dot Lake	83.71	20	*e*P			P	06 13 59.5	-0.7
	6.4nm,0.9s								
SCRK	Sand Creek	83.94	20	*e*P			P	06 14 01.3	-0.2
	7.7nm,1.0s								
YBH	Yreka Blue Hor	84.29	46	*e*P			P	06 14 02.7	-1.1
	7.3nm,1.1s								
ORV	Oroville	84.45	48	*e*P			P	06 14 03.6	-0.9
	12nm,1.5s								
AFDM	Forest Hills D	84.64	49	*e*P			P	06 14 04.8	-0.8
	14nm,1.4s								
SKAG	Skagway	84.66	26	*e*P			P	06 14 05.0	-0.1
	14nm,1.2s								
CMB	Columbia Colle	84.80	50	*e*P			P	06 14 05.5	-0.9
	5.8nm,1.3s								
BEKR	Beckworth	85.38	48	*e*P			P	06 14 08.9	-0.6
	18nm,1.7s								
EGAK	Eagle	85.41	20	*e*P			P	06 14 08.7	0.0
	22nm,1.1s								
ISA	Isabella, Lake	85.56	53	*e*P			P	06 14 09.6	-0.7
	5.8nm,1.3s								
DAWY	Dawson	85.60	21	*e*P			P	06 14 09.7	-0.2
	17nm,1.6s								
WAKR	Walker	85.65	50	*e*P			P	06 14 10.6	-0.2
	7.8nm,1.2s								
MDPB	Devils Postpil	85.66	51	*e*P			P	06 14 10.5	-0.5
	10nm,1.3s								
PNTR	Pine Nut	85.70	49	*e*P			P	06 14 10.3	-0.8
	16nm,1.5s								
OMMB	Old Mammoth Mi	85.72	51	*e*P			P	06 14 10.6	-0.7
	8.3nm,1.4s								
PAHR	Pah Rah Range	86.05	49	*e*P			P	06 14 12.0	-0.7
	14nm,1.4s								
MOD	Modoc Plateau	86.05	46	*e*P			P	06 14 12.0	-0.7
	3.0nm,0.8s								
PINE	Pine Mountain	86.20	44	*e*P			P	06 14 13.0	-0.4
	10nm,1.1s								
RYN	Ryan	86.37	50	*e*P			P	06 14 13.8	-0.6
	5.4nm,1.2s								
NV01	Mina Array Sit	86.48	50	*e*P			P	06 14 13.6	-1.4
NVAR	Mina Array Bea	86.48	50	P			P	06 14 13.8	-1.2
	7.2nm,1.1s,baz=239,slow=7.1,SNR=17								
NV11	Mina Array Sit	86.59	50	*e*P			P	06 14 14.1	-1.3
	0.8nm,1.3s								
KVN	Kaiserville	86.81	49	*e*P			P	06 14 15.8	-0.8
	3.9nm,1.1s								
I07A	Izee	87.28	44	*e*P			P	06 14 18.1	-0.5
	8.2nm,1.2s								
WVOR	Wild Horse Val	87.39	46	*e*P			P	06 14 18.7	-0.5
	8.5nm,1.3s								
J08A	Circle Bar Ran	87.78	45	*e*P			P	06 14 20.4	-0.6
	9.3nm,1.2s								
E07A	Sunnyside	87.80	42	*e*P			P	06 14 20.5	-0.5
	16nm,1.4s								
EPYK	Eagle Plains	87.83	20	*e*P			P	06 14 19.6	-1.1
	12nm,1.1s								
G08A	Pilot Rock	88.01	43	*e*P			P	06 14 22.0	-0.1
	7.3nm,1.0s								
Y12C	Blythe	88.20	55	*e*P			P	06 14 23.0	-0.1
	14nm,1.4s								
WMQ	Urumqi	88.31	315	*e*P			P	06 14 23.3	-0.2
WMQ					pP		pP	06 14 29.6	-3.5
WMQ					sP		sP	06 14 32.4	-4.1
WMQ					pmax		pmax		
	comp=Z,14nm,0.6s								
WMQ					pmax		pmax		
	comp=Z,180nm,4.1s								
WMQ					LR		LR		
	comp=N,2μm,18.9s								
WMQ					LR		LR		
	comp=E,2μm,22.1s								
WMQ					LR		LR		
	comp=Z,3μm,21.1s								
SHPR	Sheep Range	88.38	53	*e*P			P	06 14 23.7	-0.4
	7.7nm,1.4s								
R11A	Troy Canyon, C	88.52	51	*e*P			P	06 14 23.8	-1.0
	3.3nm,1.3s								
113A	Mohawk Valley,	88.58	56	*e*P			P	06 14 23.8	-1.1
	6.0nm,1.3s								
BMO	Blue Mountains	89.01	44	*e*P			P	06 14 25.8	-1.0
	6.0nm,1.4s								
W13A	Hualapai Mount	89.04	54	*e*P			P	06 14 26.2	-1.1
	5.2nm,1.2s								
ELK	Elko	89.38	48	*e*P			P	06 14 29.0	+0.2
	6.9nm,1.4s								
CCUT	Cedar City	90.02	52	*e*P			P	06 14 31.3	-0.5
	15nm,1.5s								
U15A	North Rim	90.60	53	*e*P			P	06 14 34.3	-0.4
	7.2nm,1.1s								
HLID	Hailey	90.68	46	*e*P			P	06 14 34.4	-0.3
	6.1nm,1.3s								
MTPU	Mount Pierson	91.04	52	*e*P			P	06 14 37.2	+0.4
	7.6nm,1.2s								
BGU	Big Grassy Mou	91.05	49	*e*P			P	06 14 36.2	-0.3
	14nm,1.7s								
MSU	Marysvale	91.15	51	*e*P			P	06 14 37.4	+0.2
HVU	Hansel Valley	91.44	48	*e*P			P	06 14 37.9	-0.3
	15nm,1.3s								
NLU	North Lily Min	91.55	50	*e*P			P	06 14 39.1	+0.2
	3.3nm,0.9s								
SPUT	South Promonto	91.57	48	*e*P			P	06 14 38.6	-0.3
	7.1nm,1.4s								
MCMT	McKenzie Canyo	92.07	45	*e*P			P	06 14 41.0	-0.3
WALA	Waterton Lakes	92.34	41	*e*P			P	06 14 41.1	-1.1
	26nm,1.6s								
DLMT	Dillon	92.36	44	*e*P			P	06 14 42.2	-0.3
	20nm,1.4s								
P17A	Butcher Ranch,	92.45	50	*e*P			P	06 14 41.9	-1.2
	8.7nm,0.6s								
LRM	Limekiln Ridge	92.57	44	*e*P			P	06 14 42.8	-0.7
MK01	Makanchi Array	92.74	317	*e*P			P	06 14 43.5	-0.5
MK31	Makanchi Array	92.75	317	*e*P			P	06 14 44.0	-0.1
MK32	Makanchi Array	92.75	317	*e*P			P	06 14 43.6	-0.5
MKAR	Makanchi Array	92.75	317	P			P	06 14 43.6	-0.5
	3.3nm,0.8s,baz=102,slow=5.8,SNR=22								
ZAA0	Zalesovo Array	92.85	324	*e*P			P	06 14 42.7	-1.6
	5.7nm,1.2s								
ZALV	Zalesovo Beam	92.85	324	P			P	06 14 43.5	-0.7
	1.3nm,0.6s,baz=116,slow=6.8,SNR=9.6								
ZAA1	Zalesovo Array	92.85	324	*e*P			P	06 14 43.5	-0.7
MAKZ	Makanchi	92.97	317	*e*P			P	06 14 45.0	0.0
	7.3nm,1.0s								
BOZ	Bozeman (W)	93.08	44	*e*P			P	06 14 45.3	-0.4
	13nm,1.5s								
PD

GCMT ***05*** *06:06:39.0±0.1,5.46S±0.01×152.55E±0.01,h27km, MW5.8/131,Moment Tensor Solution. s131,c264; s127,c354; Duration: 1s9 Moment tenso: Scale 10^17 Nm; Mrr4.72±.05; Mθθ-4.41±.04; Mφφ-0.30±.04; Mrθ4.29±.09; Mθφ-0.65±.03; Mrφ0.30±.08; Best double couple: M₀6.30800×10^17 NP1:φs84.00000°,δ67.00000°, λ92.00000°. NP2:φs258.00000°,δ24.00000°,λ85.00000°. Principal axes: T 6.4200, Plg68.0000°, Azm359.0000°; N -0.2190, Plg2.0000°, Azm263.0000°; P -6.1960, Plg21.0000°, Azm173.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

DJA ***05*** *06:06:39.7±0.7,5.5S±4×15.3E±1,h77km±8km,M5.5/19, mB5.9/12,mb5.4/19,Mw(mB)5.5/12,Mwp6.0/2*

ISC 05 06:06:36.3±0.2,5.23S±0.03×152.65E±0.04,h35km,n1018, σ1s76/635,mb5.3/205,MS5.8/627,32C-10D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.14**	**335**	*e*Pn	**Pn**	**06 06 56.5**	**+0.8**
MANU	**Manus Island**	**6.15**	**301**	*e*Pn	**Pn**	**06 08 06.6**	**+2.0**
HNR	**Honiara**	**8.36**	**120**	Pn	**Pn**	**06 08 34.4**	**-0.6**
	4.0nm,0.3s,baz=333,slow=15,SNR=2.2						
JAY	**Jayapura**	**12.22**	**282**	P	**Pn**	**06 09 30.6**	**+2.6**
GENI	**Genyem**	**12.72**	**281**	P	**Pn**	**06 09 38.6**	**+3.8**
COEN	**Coen**	**12.74**	**226**	P	**Pn**	**06 09 34.8**	**-0.4**
	baz=13,SNR=9.4						
COEN	**Coen**	**12.74**	**226**	*e*Pn	**Pn**	**06 09 34.5**	**-0.6**
PATS	**Pohnpei**	**13.25**	**25**	P	**Pn**	**06 09 42.4**	**+0.4**
	baz=13,SNR=4.0						
PATS	**Pohnpei**	**13.25**	**25**	*e*Pn	**Pn**	**06 09 42.2**	**+0.2**
MTSU	**Mount Surprise**	**15.20**	**212**	P	**Pn**	**06 10 07.9**	**-0.6**
	baz=15,SNR=20						
CTA	**Charters Tower**	**16.03**	**202**	Pn	**Pn**	**06 10 18.3**	**-0.9**
	0.8nm,0.3s,baz=24,slow=15,SNR=6.7						
CTA				Sn	**Sn**	**06 13 17.6**	**+1.6**
	0.3nm,0.3s,baz=77,slow=11,SNR=1.5						
CTA				LR	LR	06 16 23.1	
	comp=Z,14μm,19.0s,baz=28,slow=37						
CTAO	**Charters Tower**	**16.03**	**202**	*e*Pn	**Pn**	**06 10 18.9**	**-0.3**
	53nm,1.0s						
CTAO	**Charters Tower**	**16.03**	**202**	*e*P	**Pn**	**06 10 18.9**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,53nm,1.0s						
QIS	**Mount Isa**	**19.82**	**219**	P	**P**	**06 11 04.3**	**+0.1**
	baz=20,SNR=32						
EIDS	**Eidsvold**	**20.09**	**184**	P	**P**	**06 11 06.9**	**0.0**
	baz=20,SNR=4.7						
EIDS	**Eidsvold**	**20.09**	**184**	*e*P	**P**	**06 11 07.0**	**+0.1**
	comp=Z,161nm,1.4s						
EIDS				LR	LR		
	comp=Z,14μm,20.0s						
GUMO	**Guam**	**20.23**	**338**	*e*P	**P**	**06 11 07.0**	**-1.4**
GUMO				*e*P	Pn	06 11 08.6	-2.0
GUMO				*e*S	**S**	**06 14 55.8**	**+2.1**
GUMO				LR	LR		
	comp=Z,7μm,20.0s						
GUMO	**Guam**	**20.23**	**338**	*e*P	**P**	**06 11 07.1**	**-1.4**
GUMO				MLR	MLR		
	comp=Z,7μm,20.0s						
GUMO	**Guam**	**20.23**	**338**	P	**P**	**06 11 07.0**	**-1.4**
	comp=Z,48nm,0.7s,baz=66,slow=19,SNR=2.2						
GUMO				S	**S**	**06 14 55.8**	**+2.1**
	comp=Z,15nm,0.3s,baz=3.5,slow=18,SNR=1.6						
KWAJ	**Kwajalein Atol**	**20.41**	**47**	PFAKE		06 11 20.0	+7.2
KWAJ				LR	LR		
	comp=Z,27μm,19.0s						
FAKI	**Fak Fak**	**20.48**	**276**	*e*P	**P**	**06 11 10.3**	**-1.0**
	comp=Z,155nm,1.0s						
FAKI				LR	LR		
	comp=Z,13μm,21.0s						
FAKI	**Fak Fak**	**20.48**	**276**	P	**P**	**06 11 10.7**	**-0.6**
	comp=Z,112nm,0.8s,comp=Z,3μmcomp=Z,10μm						
KDU	**Kakadu**	**21.25**	**248**	P	**P**	**06 11 17.9**	**-1.7**
	baz=21,SNR=405						
TARA	**Tarawa**	**21.28**	**73**	PFAKE		06 11 30.0	+10
TARA				LR	LR		
	comp=Z,25μm,18.0s						
SAUI	**Saumlaki**	**21.38**	**261**	PFAKE		06 11 30.0	+9.0
SAUI				LR	LR		
	comp=Z,19μm,18.0s						
DZM	**Mont Dzumac**	**21.42**	**143**	*e*P	**P**	**06 11 23.5**	**+2.1**
	comp=Z,348nm,1.1s						
DZM				*e*S	**S**	**06 15 13.3**	**-4.1**
	comp=Z,6μm,19.9s						
DZM				*e*LR	LR	06 16 32.0	
	comp=Z,19μm,24.1s						
DZM	**Mont Dzumac**	**21.42**	**143**	P	**P**	**06 11 21.2**	**-0.2**
	comp=Z,28nm,0.7s,baz=237,slow=10,SNR=18						
DZM				S	**S**	**06 15 20.9**	**+3.4**
	comp=Z,17nm,1.0s,baz=322,slow=19,SNR=1.9						
DZM				LR	LR	06 18 51.0	
	comp=Z,12μm,19.6s,baz=318,slow=34						
RMQ	**Roma**	**21.47**	**190**	P	**P**	**06 11 21.8**	**0.0**
	baz=22,SNR=17						
ONTNC	**Ouen Toro**	**21.60**	**143**	*e*P	**P**	**06 11 23.7**	**+0.4**
	comp=Z,101nm,1.0s						
MTN	**Manton Dam**	**22.54**	**249**	P	**P**	**06 11 33.0**	**-0.5**
	baz=23,SNR=90						
MTN	**Manton Dam**	**22.54**	**249**	*e*P	**P**	**06 11 33.4**	**-0.1**
	comp=Z,110nm,0.7s						
MTN				*e*S	**S**	**06 15 35.0**	**-3.7**
BNDI	**Bandanaira**	**22.67**	**271**	P	**P**	**06 11 30.3**	**-4.6**
WRAB	**Tennant Creek**	**23.04**	**229**	*e*P	**P**	**06 11 37.5**	**-1.2**
	comp=Z,100nm,0.8s						
WRAB	**Tennant Creek**	**23.04**	**229**	*ce*P	**P**	**06 11 38.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,24nm,0.7s						
WB2	**Warramunga Arr**	**23.05**	**229**	*e*P	**P**	**06 11 37.6**	**-1.1**
WB2				*e*P	**P**	**06 11 38.4**	**-0.3**
WR1	**Warramunga Arr**	**23.05**	**229**	*e*P	**P**	**06 11 37.6**	**-1.2**
	comp=Z,207nm,1.0s						
WR1				*e*S	**S**	**06 15 44.6**	**-2.8**
WR1				*e*ScP	**ScP**	**06 19 08.9**	**+5.9**
WR1				*e*		06 21 35.7	
WRA	**Warramunga Arr**	**23.05**	**229**	P	**P**	**06 11 37.6**	**-1.2**
	comp=Z,19nm,0.6s,baz=54,slow=9.8,SNR=59						
WRA				S	**S**	**06 15 44.6**	**-2.9**
	comp=Z,8.1nm,0.9s,baz=53,slow=17,SNR=4.7						
WRA				ScP	**ScP**	**06 19 08.9**	**+5.9**
	comp=Z,3.0nm,1.0s,baz=50,slow=3.1,SNR=3.7						
WRA				LR	LR	06 21 35.7	
	comp=Z,8μm,18.2s,baz=55,slow=39						
ARMA	**Armidale**	**25.08**	**182**	PFAKE		06 12 10.0	+12
ARMA				LR	LR		
	comp=Z,22μm,19.0s						
KNRA	**Kununurra**	**25.65**	**244**	P	**P**	**06 12 02.1**	**-0.9**
	baz=26,SNR=39						
AS01	**Alice Springs**	**25.70**	**223**	*e*P	**P**	**06 12 02.2**	**-1.2**
AS31	**Alice Springs**	**25.74**	**223**	*e*P	**P**	**06 12 02.9**	**-0.9**
	comp=Z,19nm,0.8s						
ASAR	**Alice Springs**	**25.74**	**223**	P	**P**	**06 12 02.6**	**-1.1**
	comp=Z,18nm,0.4s,baz=58,slow=8.7,SNR=47						
ASAR				S	**S**	**06 16 29.5**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=53,slow=13,SNR=2.2						
ASAR				ScP	**ScP**	**06 19 15.2**	**+4.8**
	comp=Z,0.8nm,0.6s,baz=33,slow=3.1,SNR=2.5						
ASAR				LR	LR	06 21 42.9	
	comp=Z,7μm,21.8s,baz=37,slow=36						
TNTI	**Ternate**	**25.95**	**283**	PFAKE		06 12 20.0	+14
TNTI				LR	LR		
	comp=Z,3μm,20.0s						
SANI	**Sanana**	**26.79**	**276**	P	**P**	**06 12 13.3**	**0.0**
	comp=Z,76nm,0.7s,comp=Z,1μm						
LHI	**Lord Howe Isla**	**26.84**	**168**	PFAKE		06 12 30.0	+16
LHI				LR	LR		
	comp=Z,11μm,19.0s						
CMSA	**Cobar Meteorol**	**26.98**	**193**	P	**P**	**06 12 13.3**	**-1.6**
	baz=27,SNR=20						
MSVF	**Nonsavu**	**27.77**	**119**	PFAKE		06 12 30.0	+7.8
MSVF				LR	LR		
	comp=Z,12μm,20.0s						
WAKE	**Wake Island**	**27.99**	**29**	PFAKE		06 12 40.0	+16
WAKE				LR	LR		
	comp=Z,15μm,22.0s						
STKA	**Stephens Creek**	**28.47**	**200**	P	**P**	**06 12 26.5**	**-1.7**
	baz=29,SNR=9.2						
STKA	**Stephens Creek**	**28.47**	**200**	*e*P	**P**	**06 12 26.5**	**-1.7**
	comp=Z,6.0nm,0.9s						
STKA				S	**S**	**06 17 16.2**	**+2.8**
STKA	**Stephens Creek**	**28.47**	**200**	*e*P	**P**	**06 12 26.5**	**-1.7**
STKA				S	**S**	**06 17 16.2**	**+2.8**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
STKA	**Stephens Creek**	**28.47**	**200**	P	**P**	**06 12 26.4**	**-1.7**
	comp=Z,8.5nm,0.9s,baz=0.4,slow=8.5,SNR=11						
STKA				S	**S**	**06 17 16.2**	**+2.8**
	comp=Z,2.1nm,0.9s,baz=344,slow=7.1,SNR=1.3						
STKA				LR	LR	06 24 25.5	
	comp=Z,9μm,18.8s,baz=14,slow=38						
SOEI	**Soe**	**28.49**	**259**	*e*P	**P**	**06 12 27.6**	**-1.1**
	comp=Z,98nm,0.9s						
SOEI				LR	LR		
	comp=Z,2μm,18.0s						
SOEI	**Soe**	**28.49**	**259**	P	P	06 12 45.2	+17
BATI	**Baumata**	**29.14**	**258**	P	**P**	**06 12 33.2**	**-1.1**
	comp=Z,61nm,0.4s,baz=69,slow=5.6,SNR=7.1						
BATI				S	**S**	**06 17 26.7**	**+2.3**
	comp=Z,9.9nm,0.3s,baz=270,slow=20,SNR=1.9						
KMSI	**Cibinong**	**29.21**	**281**	P	**P**	**06 12 33.3**	**-1.6**
	comp=Z,492nm,0.7s,comp=Z,9μm						
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P	**P**	**06 12 34.1**	**-1.9**
	baz=29,SNR=121						
FITZ	**Fitzroy Crossi**	**29.33**	**242**	*e*P	**P**	**06 12 34.4**	**-1.5**
	comp=Z,63nm,0.8s						
FITZ				*e*S	**S**	**06 17 24.4**	**-2.8**
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P	**P**	**06 12 34.3**	**-1.5**
	comp=Z,34nm,0.5s,baz=54,slow=7.8,SNR=100						
FITZ				S	**S**	**06 17 24.4**	**-2.8**
	comp=Z,28nm,1.2s,baz=77,slow=22,SNR=3.3						
DAV	**Davao City (W)**	**29.65**	**294**	LR	LR	06 24 00.6	
	comp=Z,7μm,18.4s,baz=96,slow=36						
CNB	**Canberra Magne**	**30.10**	**185**	P	**P**	**06 12 42.5**	**-0.2**
	baz=30,SNR=4.9						
CAN	**Canberra**	**30.14**	**186**	PFAKE		06 12 50.0	+7.0
CAN				LR	LR		
	comp=Z,6μm,21.0s						
WRKA	**Warakurna**	**30.56**	**227**	P	**P**	**06 12 45.1**	**-1.8**
	baz=31,SNR=77						
HTT	**Hallett**	**30.84**	**203**	P	**P**	**06 12 47.8**	**-1.3**
	baz=31,SNR=13						
MRSI	**Marisa**	**31.19**	**280**	P	**P**	**06 12 50.1**	**-2.4**
	comp=Z,22nm,0.7s						
BBOO	**Buckleboo**	**31.51**	**207**	P	**P**	**06 12 53.5**	**-1.5**
	baz=32,SNR=14						
BBOO	**Buckleboo**	**31.51**	**207**	*e*P	**P**	**06 12 53.6**	**-1.5**
	comp=Z,41nm,1.2s						
BBOO				LR	LR		
	comp=Z,12μm,20.0s						
TOO	**Toolangi**	**32.85**	**191**	*e*P	**P**	**06 13 06.2**	**-0.6**
	comp=Z,20nm,1.3s						
TOO				LR	LR		
	comp=Z,18μm,19.0s						
TOO	**Toolangi**	**32.85**	**191**	*e*P	**P**	**06 13 06.2**	**-0.6**
TOO				pmax	pmax		
	comp=Z,20nm,1.3s						
TOO				MLR	MLR		
	comp=Z,18μm,19.0s						
ARPS	**Mount Arapiles**	**32.92**	**196**	P	**P**	**06 13 06.5**	**-0.9**
	baz=33,SNR=7.7						
PCI	**Palu**	**33.04**	**276**	P	P	06 13 26.6	+18
MPSI	**Mapaga**	**33.17**	**279**	P	P	06 13 02.3	-7.6
FORT	**Forrest**	**34.37**	**219**	P	**P**	**06 13 18.7**	**-1.3**
	baz=34,SNR=13						
FORT	**Forrest**	**34.37**	**219**	*e*P	**P**	**06 13 18.6**	**-1.4**
	comp=Z,109nm,0.9s						
FORT				LR	LR		
	comp=Z,6μm,19.0s						
OUZ	**Omahuta**	**35.56**	**150**	PFAKE		06 13 40.0	+10
OUZ				LR	LR		
	comp=Z,8μm,19.0s						
MBWA	**Marble Bar**	**35.63**	**241**	*e*P	**P**	**06 13 30.1**	**-1.0**
	comp=Z,37nm,0.8s						
MBWA				LR	LR		
	comp=Z,4μm,18.0s						
MOO	**Moorlands**	**37.38**	**187**	P	**P**	**06 13 46.9**	**+1.2**
	baz=38,SNR=3.6						
TAU	**Tasmania Unive**	**37.83**	**186**	PFAKE		06 14 00.0	+11
TAU				LR	LR		
	comp=Z,7μm,21.0s						
KKM	**Kota Kinabalu**	**38.06**	**287**	PFAKE		06 14 00.0	+8.0
KKM				LR	LR		
	comp=Z,2μm,19.0s						
JAGI	**Jajag, Banyuwa**	**38.35**	**263**	PFAKE		06 14 00.0	+5.7
JAGI				LR	LR		
	comp=Z,3μm,21.0s						
HIZ	**Hauiti**	**38.79**	**152**	PFAKE		06 14 10.0	+12
HIZ				LR	LR		
	comp=Z,5μm,21.0s						
MEEK	**Meekatharra**	**38.83**	**233**	P	**P**	**06 13 57.3**	**-0.9**
	baz=39,SNR=25						
URZ	**Urewera**	**39.70**	**149**	P	**P**	**06 14 05.0**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=208,slow=3.1,SNR=6.0						
URZ				S	**S**	**06 20 10.9**	**+4.4**
	comp=Z,6.2nm,0.9s,baz=138,slow=18,SNR=2.4						
URZ				LR	LR	06 29 43.1	
	comp=Z,5μm,19.4s,baz=329,slow=35						
MXZ	**Matakaoa Point**	**39.80**	**147**	PFAKE		06 14 20.0	+14
MXZ				LR	LR		
	comp=Z,6μm,19.0s						
BKZ	**Black Stump Fm**	**40.09**	**151**	*e*P	**P**	**06 14 08.1**	**-0.5**
	comp=Z,63nm,1.5s						
THZ	**Tophouse**	**40.62**	**157**	*e*P	**P**	**06 14 12.0**	**-0.9**
	comp=Z,52nm,1.0s						
THZ				LR	LR		
	comp=Z,8μm,20.0s						
GIRL	**Giralia**	**40.93**	**241**	P	**P**	**06 14 15.7**	**+0.1**
	baz=41,SNR=6.5						
SNZO	**South Karori**	**40.99**	**154**	PFAKE		06 14 30.0	+14
SNZO				LR	LR		
	comp=Z,8μm,21.0s						
FOZ	**Fox Glacier**	**41.05**	**161**	PFAKE		06 14 30.0	+14
FOZ				LR	LR		
	comp=Z,16μm,20.0s						
SBUM	**Sibu**	**41.10**	**280**	PFAKE		06 14 30.0	+13
SBUM				LR	LR		
	comp=Z,2μm,21.0s						
BFZ	**Birch Farm**	**41.17**	**152**	PFAKE		06 14 30.0	+13
BFZ				LR	LR		
	comp=Z,6μm,18.0s						
LTZ	**Lake Taylor**	**41.25**	**158**	PFAKE		06 14 30.0	+12
LTZ				LR	LR		
	comp=Z,8μm,21.0s						
YOJ	**Yonaguni jima**	**41.27**	**317**	PFAKE		06 14 30.0	+12
YOJ				LR	LR		
	comp=Z,6μm,21.0s						
KHZ	**Kahutara**	**41.43**	**156**	PFAKE		06 14 30.0	+11
KHZ				LR	LR		
	comp=Z,12μm,19.0s						
TWG	**Pinlang**	**41.59**	**313**	PFAKE		06 14 30.0	+8.9
TWG				LR	LR		
	comp=Z,22μm,18.0s						
RPZ	**Rata Peaks**	**41.63**	**160**	*e*P	**P**	**06 14 20.6**	**-0.5**
	comp=Z,41nm,0.9s						
RPZ				*e*P	**P**	**06 14 21.3**	**+0.2**
RPZ	**Rata Peaks**	**41.63**	**160**	P	**P**	**06 14 21.3**	**+0.2**
	comp=Z,18nm,0.8s,baz=32,slow=4.6,SNR=4.1						
RPZ				LR	LR	06 30 54.2	
	comp=Z,20μm,18.8s,baz=328,slow=35						
OXZ	**Oxford**	**41.63**	**159**	*e*P	**P**	**06 14 20.9**	**-0.3**
	comp=Z,33nm,0.7s						
OXZ				LR	LR		
	comp=Z,11μm,19.0s						
YULB	**Yu-li**	**41.78**	**314**	*e*P	**P**	**06 14 20.9**	**-1.8**
	comp=Z,22nm,0.7s						
YULB				LR	LR		
	comp=Z,7μm,21.0s						
KLBR	**Kellerberrin**	**41.91**	**227**	P	**P**	**06 14 22.0**	**-1.6**
	baz=42,SNR=16						
LBZ	**Lake Benmore**	**41.93**	**161**	PFAKE		06 14 40.0	+16
LBZ				LR	LR		
	comp=Z,15μm,20.0s						
MORW	**Morawa**	**41.97**	**231**	P	**P**	**06 14 23.2**	**-0.9**
	baz=42,SNR=10						
MORW	**Morawa**	**41.97**	**231**	*e*P	**P**	**06 14 23.3**	**-0.9**
	comp=Z,26nm,0.9s						
MORW				LR	LR		
	comp=Z,6μm,19.0s						
WKZ	**Wanaka**	**41.97**	**163**	PFAKE		06 14 40.0	+16
WKZ				LR	LR		
	comp=Z,18μm,20.0s						
DCZ	**Deep Cove**	**42.03**	**165**	PFAKE		06 14 40.0	+16
DCZ				LR	LR		
	comp=Z,6μm,20.0s						
CRLZ	**Canterbury Las**	**42.06**	**158**	PFAKE		06 14 40.0	+15
CRLZ				LR	LR		
	comp=Z,8μm,20.0s						
NACB	**Ninganchiao**	**42.07**	**315**	*e*P	**P**	**06 14 23.3**	**-1.6**
	comp=Z,40nm,0.9s						
NACB				LR	LR		
	comp=Z,6μm,21.0s						
BLDU	**Ballidu**	**42.19**	**229**	P	**P**	**06 14 24.2**	**-1.7**
	baz=42,SNR=6.6						
MQZ	**McQueen's Vall**	**42.19**	**158**	PFAKE		06 14 40.0	+14
MQZ				LR	LR		
	comp=Z,6μm,20.0s						
MLZ	**Mavora Lakes**	**42.20**	**164**	PFAKE		06 14 40.0	+14
MLZ				LR	LR		
	comp=Z,8μm,20.0s						
TPUB	**Ta-pu**	**42.20**	**313**	PFAKE		06 14 40.0	+14
TPUB				LR	LR		
	comp=Z,7μm,22.0s						
SSLB	**Suanglung**	**42.27**	**314**	*e*P	**P**	**06 14 25.2**	**-1.5**
	comp=Z,56nm,1.4s						
SSLB				LR	LR		
	comp=Z,8μm,21.0s						
YHNB	**Yeheng**	**42.54**	**316**	*e*P	**P**	**06 14 27.3**	**-1.6**
	comp=Z,103nm,1.3s						
YHNB				LR	LR		
	comp=Z,8μm,21.0s						
PYZ	**Puysegur Point**	**42.56**	**166**	PFAKE		06 14 40.0	+11
PYZ				LR	LR		
	comp=Z,6μm,20.0s						
WHZ	**Wether Hill Ro**	**42.64**	**164**	PFAKE		06 14 40.0	+11
WHZ				LR	LR		
	comp=Z,6μm,20.0s						
TATO	**Taipei**	**42.66**	**316**	PFAKE		06 14 40.0	+10
TATO				LR	LR		
	comp=Z,9μm,20.0s						
ODZ	**Otahua Downs**	**42.67**	**161**	PFAKE		06 14 40.0	+10
ODZ				LR	LR		
	comp=Z,10μm,20.0s						
KSM	**Kuching**	**42.81**	**278**	PFAKE		06 14 40.0	+8.8
KSM				LR	LR		
	comp=Z,2μm,21.0s						
INU	**Inuyama**	**42.95**	**341**	PFAKE		06 14 40.0	+8.0
INU				LR	LR		
	comp=Z,3μm,22.0s						
NWAO	**Narrogin (SRO)**	**42.98**	**226**	PFAKE		06 14 40.0	+7.7
NWAO				LR	LR		
	comp=Z,9μm,18.0s						
MUN	**Mundaring**	**43.24**	**227**	P	**P**	**06 14 33.4**	**-1.0**
	baz=43,SNR=3.5						
JOHN	**Johnston Islan**	**43.29**	**59**	PFAKE		06 14 50.0	+15
JOHN				LR	LR		
	comp=Z,6μm,20.0s						
JNU	**Nakatsue**	**43.37**	**333**	*e*P	**P**	**06 14 34.2**	**-1.2**
	comp=Z,46nm,0.8s						
KPJI	**Karang Pucung**	**43.49**	**265**	P	**P**	**06 14 38.6**	**+1.9**
	comp=Z,58nm,0.4s						
MJAR	**Matsushiro Arr**	**43.69**	**343**	P	**P**	**06 14 36.7**	**-1.2**
	comp=Z,4.0nm,0.7s,baz=172,slow=7.9,SNR=7.4						
MJAR				ScP	**ScP**	**06 20 17.5**	**+3.7**
	comp=Z,1.2nm,0.5s,baz=167,slow=4.7,SNR=4.3						
MAJO	**Matsushiro**	**43.69**	**343**	*e*P	**P**	**06 14 36.7**	**-1.2**
MAJO				*e*ScP	**ScP**	**06 20 17.5**	**+3.7**
MAJO				LR	LR		
	comp=Z,4μm,22.0s						
MAJO	**Matsushiro**	**43.69**	**343**	*e*P	**P**	**06 14 36.7**	**-1.2**
MAJO				MLR	MLR		
	comp=Z,4μm,22.0s						
MAT	**Matsushiro**	**43.69**	**343**	P	**P**	**06 14 36.2**	**-1.8**
MAT				S	**S**	**06 21 07.6**	**+1.9**
MJB9	**Matsu-Tunnel**	**43.70**	**343**	PFAKE		06 14 50.0	+12
MJB9				LR	LR		
	comp=Z,4μm,22.0s						
RKGY	**Rocky Gully**	**44.07**	**224**	P	**P**	**06 14 40.6**	**-0.5**
	baz=44,SNR=8.8						
CISI	**Cisompet, Garu**	**44.60**	**265**	*e*P	P	06 14 43.0	-2.7
	comp=Z,138nm,0.6s						
CISI				LR	LR		
	comp=Z,2μm,22.0s						
CISI	**Cisompet, Garu**	**44.60**	**265**	P	**P**	**06 14 44.7**	**-1.0**
	comp=Z,194nm,0.5s,comp=Z,4μm						
QZH	**Quanzhou**	**44.68**	**314**	⇑*i*P	**P**	**06 14 45.1**	**-0.9**
QZH				pmax	pmax		
	comp=Z,700nm,8.5s						
QZH				LR	LR		
	comp=Z,2μm,17.1s						
QZH				LR	LR		
	comp=Z,3μm,18.9s						
QZH				LR	LR		
	comp=Z,3μm,19.4s						
SSE	**Sheshan**	**46.98**	**322**	P	**P**	**06 15 05.0**	**+0.9**
SSE				S	**S**	**06 21 51.1**	**-2.2**
SSE				pmax	pmax		
	comp=Z,26nm,0.7s						
SSE				pmax	pmax		
	comp=Z,300nm,12.0s						
SSE				LR	LR		
	comp=Z,1μm,18.2s						
SSE				LR	LR		
	comp=Z,1μm,17.6s						
SSE	**Sheshan**	**46.98**	**322**	PFAKE		06 15 10.0	+5.9
SSE				LR	LR		
	comp=Z,4μm,19.0s						
GZH	**Guangzhou**	**47.60**	**308**	P	**P**	**06 15 10.9**	**+1.9**
GZH				S	**S**	**06 22 08.7**	**+6.4**
GZH				LR	LR		
	comp=Z,2μm,17.8s						
GZH				LR	LR		
	comp=Z,6μm,17.7s						
TJN	**Taejon**	**47.68**	**332**	*ce*P	**P**	**06 15 09.0**	**-0.4**
ERM	**Erimo**	**47.80**	**350**	PFAKE		06 15 20.0	+10
ERM				LR	LR		
	comp=Z,3μm,19.0s						
KASI	**Kota Agung**	**47.93**	**267**	P	P	06 15 25.0	+13
MDSI	**Maura Dua**	**48.30**	**269**	P	**P**	**06 15 15.3**	**+0.7**
	comp=Z,20nm,1.0s						
KSRS	**Korea Array**	**48.31**	**334**	P	**P**	**06 15 13.5**	**-0.8**
	comp=Z,4.9nm,0.6s,baz=148,slow=8.4,SNR=13						
KS15	**Wonju Array Si**	**48.32**	**333**	*e*P	**P**	**06 15 13.4**	**-0.9**
KSAR	**Wonju Array Be**	**48.32**	**333**	P	**P**	**06 15 13.4**	**-0.9**
KSAR	**Wonju Array Be**	**48.32**	**333**	P	**P**	**06 15 13.5**	**-0.9**
KS01	**Wonju Array Si**	**48.34**	**334**	*e*P	**P**	**06 15 12.9**	**-1.6**
QIZ	**Qiongzhong**	**48.56**	**301**	P	**P**	**06 15 16.6**	**+0.1**
QIZ				PP	**PP**	**06 17 09.3**	**-0.4**
QIZ				S	**S**	**06 22 17.8**	**+1.7**
QIZ				pmax	pmax		
	comp=Z,18nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,640nm,10.0s						
QIZ				LR	LR		
	comp=Z,1μm,26.1s						
QIZ				LR	LR		
	comp=Z,2μm,23.0s						
QIZ				LR	LR		
	comp=Z,4μm,23.2s						
QIZ	**Qiongzhong**	**48.56**	**301**	PFAKE		06 15 30.0	+13
QIZ				LR	LR		
	comp=Z,4μm,21.0s						
RAR	**Rarotonga**	**48.75**	**114**	LR	LR	06 32 58.9	
	comp=Z,2μm,20.2s,baz=277,slow=32						
NJ2	**Nanjing**	**49.08**	**321**	*e*P	**P**	**06 15 20.3**	**0.0**
NJ2				S	**S**	**06 22 24.7**	**+1.7**
NJ2				sS	**sS**	**06 22 35.9**	**-3.0**
NJ2				SS	**SS**	**06 25 54.2**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s				

comp=N,9μm,18.9s
WHN LR LR
comp=N,14μm,21.2s
TEY Ternei 52.06 346⇑ *e*P P 06 15 48.9 +6.4
TEY pmax pmax
comp=Z,10.0nm,1.9s
TEY MLR MLR
comp=E,150nm,21.0s
TEY MLR MLR
comp=Z,110nm,18.0s
IPM Ipoh 52.45 280 PFAKE 06 16 00.0 +14
IPM LR LR
comp=Z,1μm,20.0s
DL2 Dalian 52.46 330 P **P** **06 15 45.0 -0.6**
DL2 S **S** **06 23 07.8 -1.9**
DL2 pmax pmax
comp=Z,28nm,0.9s
DL2 pmax pmax
comp=Z,650nm,5.6s
DL2 LR LR
comp=Z,2μm,16.1s
DL2 LR LR
comp=Z,2μm,16.6s
DL2 LR LR
comp=Z,3μm,18.2s
USA0B Ussuriysk Arra 52.60 341 *e*P **P** **06 15 45.2 -1.4**
comp=Z,110nm,1.8s
USA0B LR LR
comp=Z,2μm,19.0s
USA0B Ussuriysk Arra 52.60 341 P **P** **06 15 45.2 -1.4**
USRK Ussuriysk Ar. 52.60 341 P **P** **06 15 46.0 -0.6**
comp=Z,7.2nm,0.7s,baz=126,slow=5.0,SNR=9.6
USRK S **S** **06 23 14.9 +3.5**
comp=Z,0.5nm,0.6s,baz=147,slow=17,SNR=2.1
USRK LR LR 06 37 02.8
comp=Z,1μm,19.1s,baz=140,slow=35
YSS Yuzh-Sakhalins 52.69 351 PFAKE 06 16 00.0 +13
YSS LR LR
comp=Z,1μm,19.0s
YSS Yuzh-Sakhalins 52.69 351*ce*P **P** **06 15 46.8 -0.4**
YSS *e**SP **pP** **06 15 58.5 +1.7**
YSS *e* 06 16 04.4
YSS *e* 06 17 49.0
YSS *e*PPP PPP 06 18 51.0
YSS *e*S **S** **06 23 10.1 -2.4**
YSS *e*PS PKiKP 06 23 24.0 -12
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS pmax pmax
comp=Z,200nm,9.0s
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,17.0s
SKNT Sakolnakorn 52.90 296 P **P** **06 15 50.7 +1.4**
comp=N,19nm,0.6s
KULM Kulim 52.97 281 PFAKE 06 16 00.0 +10
KULM LR LR
comp=Z,1μm,21.0s
MDJ Mudanjiang 53.76 340 P **P** **06 15 54.1 -1.1**
MDJ pP pP 06 16 02.9 -2.1
MDJ sP pwP 06 16 05.5 -2.5
MDJ pmax pmax
comp=Z,620nm,6.6s
MDJ LR LR
comp=Z,1μm,14.2s
MDJ LR LR
comp=Z,890nm,19.0s
MDJ LR LR
comp=Z,2μm,18.6s
MDJ Mudanjiang 53.76 340 PFAKE 06 16 10.0 +15
MDJ LR LR
comp=Z,2μm,19.0s
SNY Shenyang 53.81 333 ⇓P **P** **06 15 55.4 -0.1**
SNY pmax pmax
comp=Z,8.0nm,0.5s
SNY LR LR
comp=Z,3μm,20.6s
SNY LR LR
comp=Z,2μm,20.6s
SNY LR LR
comp=Z,4μm,19.6s
PSI Prapat 54.26 277 *e*P P 06 15 54.1 -5.4
PSI LR LR
comp=Z,1μm,20.0s
PSI Prapat 54.26 277 *e*P P 06 15 54.1 -5.4
PSI MLR MLR
comp=Z,1μm,20.0s
ENH Enshi 54.33 313 *e*P **P** **06 15 59.2 -0.4**
comp=Z,54nm,0.9s
ENH LR LR
comp=Z,4μm,22.0s
GYA Guiyang 54.53 308⇑ *i*P **P** **06 16 03.0 +1.7**
GYA pP pP 06 16 11.8 +1.0
GYA PP **PP** **06 18 07.2 +3.3**
GYA S **S** **06 23 38.9 +0.4**
GYA sS pS 06 23 53.6 +3.8
GYA SS **SS** **06 27 21.9 +0.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=Z,560nm,17.6s
GYA LR LR
comp=Z,520nm,17.5s
GYA LR LR
comp=Z,580nm,17.8s
CN2 Changchun 54.62 336 *e*P **P** **06 16 01.7 +0.3**
CN2 *e*S **S** **06 23 38.1 -0.8**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,570nm,12.0s
CN2 LR LR
comp=Z,2μm,16.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,2μm,16.0s
GSI Gunungsitoli 55.39 275 *e*P P 06 16 05.1 -2.5
comp=Z,29nm,0.8s
PBKT Sadao Pong 55.49 294 *e*P **P** **06 16 07.7 -0.5**
PBKT Sadao Pong 55.49 294 P **P** **06 16 11.1 +2.9**
comp=Z,14nm,1.3s
BJT Baijiatuau 56.15 327 PFAKE 06 16 20.0 +7.5
BJT LR LR
comp=Z,4μm,21.0s
UTTA Uttaradit 56.24 295 P **P** **06 16 13.9 +0.3**
comp=Z,9.2nm,1.2s,comp=Z,91nm
NANT Nan 56.46 296 P **P** **06 16 14.9 -0.2**
comp=Z,31nm,0.5s,comp=Z,341nm
TYV Tymovskoe 56.52 352 *e*P **P** **06 16 13.9 -1.0**
TYV *e* 06 24 03.7
TYV pmax pmax
comp=Z,11nm,1.5s
TYV pmax pmax
comp=Z,300nm,5.5s
TYV MLR MLR
comp=Z,1μm,21.0s
SRDT SRDT 56.53 291 P **P** **06 16 18.1 +2.4**
comp=Z,32nm,1.5s
UTHA Uthaitani 56.58 292 P **P** **06 16 17.2 +1.2**
comp=Z,7.5nm,0.8s
HPAH Hawaii Prepara 56.62 62 PFAKE 06 16 30.0 +14
HPAH LR LR
comp=Z,4μm,20.0s
WRMHI West Rim 56.76 63 PFAKE 06 16 30.0 +13
WRMHI LR LR
comp=Z,4μm,20.0s
OBL Observatory Le 56.77 63 PFAKE 06 16 30.0 +13
OBL LR LR
comp=Z,4μm,20.0s
BYL Byron's Ledge 56.79 63 PFAKE 06 16 30.0 +12
BYL LR LR
comp=Z,4μm,21.0s
XAN Xi'an 56.83 317 P **P** **06 16 16.3 -1.2**
XAN pP pP 06 16 24.2 -2.9
XAN sP sP 06 16 28.3 -2.5
XAN PP **PP** **06 18 19.7 -4.5**
XAN S **S** **06 24 04.1 -4.6**
XAN ScS **ScS** **06 25 59.3 -5.2**
XAN SS **SS** **06 27 51.3 -6.1**
XAN pmax pmax
comp=Z,8.0nm,0.5s
XAN pmax pmax
comp=Z,550nm,5.0s
XAN LR LR
comp=Z,2μm,20.6s
XAN LR LR
comp=Z,3μm,20.1s
XAN LR LR
comp=Z,4μm,21.1s
XAN Xi'an 56.83 317 *e*P **P** **06 16 16.6 -0.9**
comp=Z,28nm,0.6s
XAN LR LR
comp=Z,5μm,20.0s
XAN Xi'an 56.83 317 *e*P **P** **06 16 16.6 -0.9**
XAN pmax pmax
comp=Z,28nm,0.6s
XAN MLR MLR
comp=Z,5μm,20.0s
JCUZ Jacuzzi 56.92 63 PFAKE 06 16 30.0 +12
JCUZ LR LR
comp=Z,2μm,18.0s
SUKH Sukhothai 56.99 295 P **P** **06 16 20.5 +1.6**
comp=Z,5.5nm,0.7s
KMI Kunming 57.10 304 P **P** **06 16 20.3 +0.5**
KMI pP pP 06 16 28.1 -1.3
KMI sP sP 06 16 31.9 -1.2
KMI PP **PP** **06 18 23.4 -3.6**
KMI S **S** **06 24 12.9 -0.1**
KMI SS **SS** **06 28 05.0 +2.6**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI pmax pmax
comp=Z,470nm,11.4s
KMI LR LR
comp=Z,690nm,17.1s
KMI LR LR
comp=Z,3μm,18.4s
KMI LR LR
comp=Z,3μm,18.0s
KMI Kunming 57.10 304 PFAKE 06 16 30.0 +10
KMI LR LR
comp=Z,3μm,22.0s
KLR Kul'dur 57.21 344 *i* P **P** **06 16 18.2 -1.7**
UMPA Umpang Tak 57.31 293 P **P** **06 16 24.2 +3.0**
comp=Z,5.0nm,0.9s
PAYA Payao 57.39 297 P **P** **06 16 22.1 +0.4**
comp=Z,24nm,0.9s,comp=Z,183nm
PPT Papeete 57.74 107 LR LR 06 38 20.4
comp=Z,1μm,19.2s,baz=274,slow=33
PPT2 Papeete2 57.74 107 *e*S **S** **06 24 22.1 +0.8**
comp=Z,679nm,22.5s
PPT2 *e*LQ LQ 06 30 59.2
comp=Z,4μm,27.2s
PPT2 *e*LR LR 06 33 23.2
comp=Z,1μm,22.2s
CM01 Chiang Mai Arr 57.90 295 *e*P **P** **06 16 24.9 -0.4**
CM31 Chiang Mai Arr 57.92 295 *e*P **P** **06 16 25.4 -0.1**
comp=Z,49nm,1.1s
CM31 ⇑*e* 06 46 19.3
CMAR Chiang Mai Arr 57.92 295*ce*P **P** **06 16 25.6 +0.1**
CMAR pmax pmax
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 57.92 295 P **P** **06 16 25.4 -0.1**
comp=Z,22nm,0.9s,baz=116,slow=5.2,SNR=34
CMAR PKP2bc 06 46 19.3
comp=Z,0.5nm,0.4s,baz=265,slow=3.2,SNR=3.7
CMMT Chiang Mai 58.03 296 P **P** **06 16 26.3 0.0**
comp=Z,22nm,1.1s
CHTO Chiang Mai 58.04 296 *e*P **P** **06 16 24.9 -1.4**
comp=Z,20nm,0.9s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 58.04 296 *e*P **P** **06 16 24.9 -1.4**
CHTO pmax pmax
comp=Z,20nm,0.9s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 58.04 296 P **P** **06 16 26.4 +0.1**
comp=Z,101nm,1.1s
PET Petropavlovsk 58.25 4 *e*P **P** **06 16 26.7 -0.4**
PET *e*S S 06 24 39.7 +13
PET pmax pmax
comp=Z,1μm,20.3s
PET MLR MLR
comp=Z,3μm,17.0s
PEA0B Petropavlovsk- 58.27 4 PFAKE 06 16 40.0 +13
PEA0B LR LR
comp=Z,4μm,22.0s
PETK Petropavlovsk- 58.27 4 *e*P **P** **06 16 25.8 -1.4**
PETK Petropavlovsk- 58.27 4 *e*P **P** **06 16 25.8 -1.4**
PETK Petropavlovsk- 58.27 4 P **P** **06 16 26.9 -0.4**
comp=Z,18nm,0.4s,baz=167,slow=7.6,SNR=33
PETK LR LR 06 37 51.5
comp=Z,3μm,22.0s,baz=194,slow=32
PEA1 Petropavlovsk- 58.27 4 *e*P **P** **06 16 26.9 -0.4**
CD2 Chengdu 58.90 311⇓ *i*P **P** **06 16 32.0 -0.1**
CD2 sP sP 06 16 47.0 +1.5
CD2 PP **PP** **06 18 48.9 +6.2**
CD2 S **S** **06 24 39.3 +3.3**
CD2 sS pS 06 24 51.5 +4.0
CD2 SS **SS** **06 28 34.8 +4.6**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,900nm,12.0s
CD2 LR LR
comp=Z,6μm,21.1s
CD2 LR LR
comp=Z,6μm,22.2s
NKL Nikolayevsk 59.03 352 *e*P **P** **06 16 30.3 -2.2**
NKL pmax pmax
comp=Z,17nm,0.9s
HHC Hu-ho-hao-te 59.30 325 *e*P **P** **06 16 34.2 -0.6**
HHC sP pwP 06 16 48.7 -0.1
HHC S **S** **06 24 41.5 +0.5**
HHC sS pS 06 24 55.4 +2.9
HHC ScS **ScS** **06 26 14.8 -7.7**
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,570nm,10.0s
HHC LR LR
comp=Z,1μm,17.7s
HHC LR LR
comp=Z,3μm,20.6s
HHC LR LR
comp=Z,3μm,19.2s
BTO Baotou 60.05 323 *e*P P 06 16 29.8 -10
SMY Shemya 60.53 15 PFAKE 06 16 50.0 +7.2
SMY LR LR
comp=Z,7μm,20.0s
HIA Hailar 61.36 336 PFAKE 06 17 00.0 +11
HIA LR LR
comp=Z,2μm,18.0s
LZH Lanzhou 61.43 316 *e*P **P** **06 16 51.3 +1.8**
LZH pP pP 06 16 56.9 -2.3
LZH sP sP 06 17 00.5 -2.4
LZH PP **PP** **06 19 04.1 -1.1**
LZH S **S** **06 25 09.8 +1.3**
LZH pmax pmax
comp=Z,52nm,1.1s
LZH pmax pmax
comp=Z,790nm,5.4s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,4μm,15.7s
KIWB Kanaga Island 62.42 21 *e*P **P** **06 16 55.5 -0.2**
ZEA Zeya 62.51 343 *e*P **P** **06 16 54.6 -1.6**
ZEA pmax pmax
comp=Z,64nm,1.8s
ADK Adak 62.62 21 PFAKE 06 17 10.0 +13
ADK LR LR
comp=Z,3μm,20.0s
MA2 Magadan 64.61 359 *e*P **P** **06 17 08.2 -1.8**
comp=Z,21nm,0.6s
MA2 LR LR
comp=Z,3μm,19.0s
MA2 Magadan 64.61 359*c i*P **P** **06 17 08.7 -1.3**
MA2 pmax pmax
comp=Z,21nm,0.7s
GTA Gaotai 65.87 317⇑ P **P** **06 17 18.4 -0.3**
GTA pP pP 06 17 24.8 -3.6
GTA sP pwP 06 17 28.6 -4.2
GTA PcP **PcP** **06 17 51.8 +2.3**
GTA ScP 06 21 51.8
GTA S **S** **06 26 05.6 +2.0**
GTA sS pS 06 26 18.3 +3.0
GTA ScS **SKSac** **06 27 10.2 -2.0**
GTA SS **SS** **06 30 22.9 +3.9**
GTA pmax pmax
comp=Z,12nm,1.3s
GTA pmax pmax
comp=Z,560nm,5.9s
GTA LR LR
comp=Z,2μm,19.4s
GTA LR LR
comp=Z,2μm,20.0s
GTA LR LR
comp=Z,3μm,19.7s
ULN Ulaanbaatar 66.28 328 *e*P **P** **06 17 20.6 -0.6**
comp=Z,53nm,1.7s
ULN LR LR
comp=Z,3μm,21.0s
ULN Ulaanbaatar 66.28 328*ce*P **P** **06 17 20.8 -0.4**
ULN pmax pmax
comp=Z,10.0nm,1.3s
SHL Shillong 66.39 301 *e*P **P** **06 17 20.4 -2.0**
comp=Z,86nm,1.2s
SHL LR LR
comp=Z,2μm,22.0s
SHL Shillong 66.39 301 *e*P **P** **06 17 20.4 -2.0**
SHL pmax pmax
comp=Z,87nm,1.2s
SHL MLR MLR
comp=Z,2μm,22.0s
SONA0 Songino Array 66.60 328 *e*P **P** **06 17 22.9 -0.4**
SONA0 ⇑*e* 06 45 57.3
SONM Songino Array 66.60 328 P **P** **06 17 22.9 -0.4**
comp=Z,6.9nm,0.5s,baz=145,slow=5.4,SNR=50
SONM PKP2bc 06 45 57.3
comp=Z,0.3nm,0.4s,baz=318,slow=1.9,SNR=2.6
TAOE Nuku Hiva Isla 66.72 97 *e*S **S** **06 26 16.3 +1.5**
comp=Z,1μm,26.9s
TAOE Nuku Hiva Isla 66.72 97 *e*LR LR 06 37 35.0
comp=Z,2μm,20.8s
CASY Casey 67.57 197 PFAKE 06 17 40.0 +11
CASY LR LR
comp=Z,4μm,19.0s
SEY Seymchan 67.97 360*ce*P **P** **06 17 31.2 -0.2**
UNV Unalaska Valle 68.07 25 *e*P **P** **06 17 32.1 -0.1**
comp=Z,234nm,1.6s
LSA Lhasa 68.36 305 *e*P **P** **06 17 35.3 +0.2**
comp=Z,20nm,0.7s
LSA LR LR
comp=Z,2μm,21.0s
LSA Lhasa 68.36 305 *e*P **P** **06 17 35.3 +0.2**
LSA pmax pmax
comp=Z,20nm,0.7s
LSA MLR MLR
comp=Z,2μm,21.0s
YAK Yakutsk 69.36 349 *e*P **P** **06 17 38.7 -1.4**
YAK *e**PP **pP** **06 17 48.0 -2.1**
YAK *e* 06 18 03.5
YAK *e* 06 20 13.2
YAK *e*PPP PPP 06 21 54.5
YAK *e*S **S** **06 26 48.7 +4.5**
YAK *e*SSS SSS 06 34 17.9
YAK pmax pmax
comp=Z,93nm,1.0s
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=E,17nm,0.9s
YAK pmax pmax
comp=Z,33nm,0.3s
YAK smax smax
comp=N,2μm,17.5s
ZAK Zakamensk 69.78 329 *e*P **P** **06 17 42.2 -0.9**
ZAK pmax pmax
comp=Z,11nm,1.4s
BOD Bodaibo 70.13 339 *e*P **P** **06 17 42.6 -2.3**
BOD *e* 06 18 03.4
BOD pmax pmax
comp=Z,10.0nm,1.4s
TLY Talaya 70.37 330 PFAKE 06 18 00.0 +13
TLY LR LR
comp=Z,2μm,18.0s
TLY Talaya 70.37 330*c i*P **P** **06 17 45.6 -1.0**
TLY *e* 06 17 57.6
TLY *e*S **S** **06 26 56.4 -0.2**
TLY *e* 06 27 42.2
TLY pmax pmax
comp=Z,21nm,1.4s
TLY MLR MLR
comp=Z,4μm,15.0s
RAMN Ramite 71.33 301 *e*P **P** **06 17 52.3 -0.9**
comp=Z,23nm,0.5s
SDPT Sand Point 71.66 26 PFAKE 06 18 10.0 +16
SDPT LR LR
comp=Z,4μm,20.0s
MOY Mondy 71.70 329 *e*P **P** **06 17 53.9 -0.9**
MOY pmax pmax
comp=Z,67nm,3.0s
JIRN Jiri 71.88 301 *e*P **P** **06 17 55.5 -1.2**
comp=Z,70nm,0.7s
GUN Gumba 72.21 301 *e*P **P** **06 17 57.7 -0.9**
comp=Z,126nm,0.8s
VNDA Vanda 72.41 178 P **P** **06 17 58.8 +0.3**
comp=Z,3.0nm,0.9s,baz=344,slow=6.8,SNR=4.5
VNDA LR LR 06 47 46.4
comp=Z,1μm,18.7s,baz=352,slow=34
PKI Pulchoki 72.52 301 *e*P **P** **06 17 58.9 -1.6**
PKIN Phulchoki 72.53 301 *e*P **P** **06 17 59.0 -1.5**
KKN Kakani 72.69 301 *e*P **P** **06 18 00.2 -1.1**
comp=Z,51nm,0.5s
DMN Daman 72.79 301 *e*P **P** **06 18 01.3 -0.7**
comp=Z,140nm,0.9s
CHGN Chignik 73.17 26 PFAKE 06 18 10.0 +6.8
CHGN LR LR
comp=Z,3μm,20.0s
GKN Gorkha 73.30 301 *e*P **P** **06 18 03.6 -1.2**
comp=Z,109nm,0.8s
BILL Bilibino 73.72 5 *e*P **P** **06 18 06.2 -0.1**
comp=Z,34nm,0.9s
BILL Bilibino 73.72 5 *e*P **P** **06 18 06.2 -0.1**
BILL pmax pmax
comp=Z,34nm,0.9s
GAMB Gambell 73.83 16 *e*P **P** **06 18 07.1 +0.1**
comp=Z,58nm,1.0s
GAMB LR LR
comp=Z,4μm,20.0s
KOLN Koldanda 74.12 301 *e*P **P** **06 18 08.3 -1.4**
comp=Z,94nm,0.8s
DANN Dangsing 74.13 301 *e*P **P** **06 18 08.4 -1.5**
comp=Z,73nm,0.5s
PYUN Piuthan 74.73 301 *e*P **P** **06 18 11.9 -1.4**
comp=Z,142nm,0.9s
WMQ Urumqi 75.95 317 P **P** **06 18 19.5 -0.2**
WMQ pP pP 06 18 31.4 +1.8
WMQ sP pwP 06 18 35.1 +0.9
WMQ PP **PP** **06 21 13.0 +2.4**
WMQ S **S** **06 27 58.6 -1.8**
WMQ sS pS 06 28 15.4 +2.8
WMQ SS **SS** **06 32 58.9 +5.2**
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ pmax pmax
comp=Z,1μm,5.7s
WMQ LR LR
comp=Z,2μm,18.3s
WMQ LR LR
comp=Z,3μm,20.9s
WMQ LR LR
comp=Z,4μm,20.9s
WMQ Urumqi 75.95 317 *e*P **P** **06 18 19.6 -0.2**
comp=Z,44nm,1.4s
WMQ LR LR
comp=Z,3μm,20.0s
WMQ Urumqi 75.95 317 *e*P **P** **06 18 19.6 -0.2**
WMQ pmax pmax
comp=Z,44nm,1.4s
WMQ MLR MLR
comp=Z,3μm,20.0s
OHAK Old Harbor 75.99 27 *e*P **P** **06 18 19.6 0.0**
comp=Z,44nm,0.8s
OHAK LR LR
comp=Z,3μm,22.0s
ANM Nome 76.22 17 *e*P **P** **06 18 21.3 +0.5**
comp=Z,180nm,1.6s
ANM LR LR
comp=Z,3μm,20.0s

ANM Nome 76.22 17 *e*P P 06 18 21.3 +0.5
ANM pmax pmax
comp=Z,180nm,1.6s
ANM MLR MLR
comp=Z,3µm,20.0s
HYB Hyderabad 76.49 289 *i* P P 06 18 24.0 +0.7
KDAK Kodiak Island 76.62 27 PFAKE 06 18 30.0 +6.9
KDAK LR LR
comp=Z,5µm,22.0s
KDAK Kodiak Island 76.62 27 *i* P P 06 18 23.5 +0.4
SVW2 Sparrevohn 77.27 23 *e*P P 06 18 27.4 +0.6
comp=Z,35nm,0.8s
SVW2 LR LR
comp=Z,2µm,20.0s
RSO Redoubt South 78.03 24 *e*P P 06 18 31.6 +0.3
HOM Homer 78.06 25 *e*P P 06 18 31.8 +0.6
comp=Z,297nm,1.1s
HOM LR LR
comp=Z,4µm,22.0s
BRLK Bradley Lake 78.44 26 *e*P P 06 18 33.4 +0.1
comp=Z,36nm,0.9s
BRLK LR LR
comp=Z,6µm,22.0s
ZSN Zaisan 79.10 320*c i*P P 06 18 35.4 -1.8
ZSN pmax pmax
comp=Z,27nm,1.8s
ZSN Zaisan 79.10 320⇑ *i*P P 06 18 35.5 -1.8
comp=Z,27nm,1.8s
ZSN *e*LR LR 06 51 31.6
comp=Z,374nm,22.0s
SEW Seward 79.23 26 *e*P P 06 18 37.6 0.0
comp=Z,57nm,0.9s
SEW LR LR
comp=Z,7µm,22.0s
SUA Susitna One 79.41 24 *e*P P 06 18 38.0 -0.8
comp=Z,61nm,0.7s
RDOG Red Dog Mine 79.43 16 *e*P P 06 18 39.3 +0.7
comp=Z,141nm,0.6s
RDOG LR LR
comp=Z,4µm,22.0s
PPLA Purkeypile 79.62 22 *e*P P 06 18 38.8 -1.1
comp=Z,94nm,1.6s
PPLA LR LR
comp=Z,3µm,20.0s
RC01 Rabbit Creek A 79.62 25 *e*P P 06 18 39.6 -0.2
comp=Z,136nm,1.2s
RC01 LR LR
comp=Z,4µm,22.0s
CAST Castle Rocks 79.95 22 *e*P P 06 18 40.8 -0.7
comp=Z,46nm,0.8s
CAST LR LR
comp=Z,3µm,20.0s
PMR Palmer 80.13 24 *e*P P 06 18 41.7 -0.8
comp=Z,47nm,1.0s
PMR LR LR
comp=Z,3µm,20.0s
PMR Palmer 80.13 24 *e*P P 06 18 41.7 -0.8
PMR pmax pmax
comp=Z,47nm,1.0s
PMR MLR MLR
comp=Z,3µm,20.0s
GHO Glory Hole Cre 80.31 24 PFAKE 06 18 50.0 +6.4
GHO LR LR
comp=Z,3µm,20.0s
KNK Knik Glacier 80.32 25 *e*P P 06 18 44.1 +0.5
comp=Z,85nm,1.3s
KNK LR LR
comp=Z,6µm,22.0s
MK01 Makanchi Array 80.53 319 *e*P P 06 18 44.4 -0.7
MK31 Makanchi Array 80.55 319 *e*P P 06 18 44.4 -0.7
MK31 Makanchi Array 80.55 319 *e*P P 06 18 44.0 -1.1
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK32 Makanchi Array 80.55 319 *e*P P 06 18 44.5 -0.6
MKAR Makanchi Array 80.55 319*ce*P P 06 18 44.2 -0.9
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 80.55 319 P P 06 18 44.5 -0.6
comp=Z,6.0nm,0.5s,baz=94,slow=8.3,SNR=56
SML Sawmill 80.57 24 *e*P P 06 18 44.6 -0.3
comp=Z,112nm,0.7s
SML LR LR
comp=Z,4µm,20.0s
SML Sawmill 80.57 24 *e*P P 06 18 44.6 -0.3
SML pmax pmax
comp=Z,112nm,0.7s
SML MLR MLR
comp=Z,4µm,20.0s
TRF Thorofare Moun 80.65 22 *e*P P 06 18 44.8 -0.7
comp=Z,34nm,0.8s
TRF LR LR
comp=Z,3µm,20.0s
MAKZ Makanchi 80.75 319 *e*P P 06 18 44.8 -1.4
comp=Z,29nm,1.3s
MAKZ LR LR
comp=Z,3µm,20.0s
MAKZ Makanchi 80.75 319 P P 06 18 44.5 -1.7
MAKZ pmax pmax
comp=Z,26nm,1.3s
IM3 Indian Mountai 80.83 19 *e*P P 06 18 46.3 +0.1
SCM Sheep Creek Mo 81.00 25 *e*P P 06 18 47.3 0.0
comp=Z,58nm,0.8s
SCM LR LR
comp=Z,6µm,22.0s
SCM Sheep Creek Mo 81.00 25 *e*P P 06 18 47.3 0.0
SCM pmax pmax
comp=Z,58nm,0.8s
SCM MLR MLR
comp=Z,6µm,22.0s
EYAK Cordova Ski Ar 81.06 26 *e*P P 06 18 47.4 -0.1
comp=Z,85nm,1.4s
EYAK LR LR
comp=Z,10µm,21.0s
RND Reindeer 81.17 23 *e*P P 06 18 47.5 -0.6
comp=Z,72nm,0.8s
RND LR LR
comp=Z,2µm,18.0s
RND Reindeer 81.17 23 *e*P P 06 18 47.5 -0.6
RND pmax pmax
comp=Z,72nm,0.8s
RND MLR MLR
comp=Z,2µm,18.0s
MCK McKinley 81.31 23 PFAKE 06 19 00.0 +11
MCK LR LR
comp=Z,3µm,20.0s
DIV Divide 81.32 26 *e*P P 06 18 49.7 +0.7
comp=Z,51nm,1.1s
DIV LR LR
comp=Z,4µm,22.0s
MLY Manley 81.33 21 PFAKE 06 19 00.0 +11
MLY LR LR
comp=Z,3µm,20.0s
BWN Browne 81.34 22 *e*P P 06 18 48.7 -0.2
comp=Z,151nm,1.2s
BWN LR LR
comp=Z,3µm,20.0s
ZAA0 Zalesovo Array 81.42 326 *e*P P 06 18 48.0 -1.5
comp=Z,12nm,0.8s
ZAA0 LR LR
comp=Z,2µm,22.0s
ZALV Zalesovo Beam 81.42 326 *e*P P 06 18 47.7 -1.9
ZALV Zalesovo Beam 81.42 326 *e*P P 06 18 47.7 -1.9
ZALV Zalesovo Beam 81.42 326 P P 06 18 48.1 -1.4
comp=Z,17nm,0.5s,baz=115,slow=6.0,SNR=36
KLU Klutina 81.42 25 *e*P P 06 18 49.4 -0.1
comp=Z,86nm,1.2s
KLU LR LR
comp=Z,4µm,21.0s
ZAA1 Zalesovo Array 81.42 326 *e*P P 06 18 48.1 -1.5
PDGK Podgornoye 81.45 315 P P 06 18 49.0 -1.1
PDGK pmax pmax
comp=Z,13nm,0.8s
DHY Denali Highway 81.59 23 *e*P P 06 18 50.5 +0.1
comp=Z,41nm,0.9s
DHY LR LR
comp=Z,2µm,21.0s
HMT Hamilton 81.62 27 *e*P P 06 18 51.4 +0.9
comp=Z,64nm,1.0s
HMT LR LR
comp=Z,8µm,22.0s
UZB Uzynbulak 81.73 315*de*P P 06 18 49.0 -2.7
UZB pmax pmax
comp=Z,101nm,1.7s
UZB MLR MLR
comp=Z,330nm,19.0s
UZB Uzynbulak 81.73 315⇓ *e*P P 06 18 49.1 -2.6
comp=Z,101nm,1.7s
UZB *e*LR LR 06 54 43.0
comp=Z,330nm,18.9s
PRZ Przheval'sk 82.00 314 *e*P P 06 18 51.3 -1.9
comp=Z,34nm,1.1s
PRZ Przheval'sk 82.00 314 *e*P P 06 18 51.3 -1.9
PRZ pmax pmax
comp=Z,34nm,1.1s
WRH Wood River Hil 82.01 22 *e*P P 06 18 51.7 -0.7
comp=Z,122nm,1.3s
WRH LR LR
comp=Z,3µm,21.0s
KPKS Kokpek 82.05 315 *e*P P 06 18 50.4 -2.9
KPKS pmax pmax
comp=Z,104nm,1.4s
KPKS MLR MLR
comp=Z,1µm,22.0s
KPKS Kokpek 82.05 315 *e*P P 06 18 50.5 -2.8
comp=Z,104nm,1.4s
KPKS *e*LR LR 06 54 22.8
comp=Z,1µm,21.8s
ZHN Zhinishke 82.15 315*c i*P P 06 18 51.6 -2.2
ZHN pmax pmax
comp=Z,35nm,1.4s
ZHN MLR MLR
comp=Z,394nm,19.0s
ZHN Zhinishke 82.15 315⇑ *i*P P 06 18 51.6 -2.2
comp=Z,35nm,1.4s
ZHN *e*LR LR 06 55 08.6
comp=Z,394nm,18.9s
HARP HAARP 82.17 25 *e*P P 06 18 54.1 +0.8
comp=Z,47nm,0.8s
HARP LR LR
comp=Z,6µm,22.0s
CCB Clear Creek Bu 82.20 22 *e*P P 06 18 51.9 -1.5
comp=Z,129nm,1.4s
CCB LR LR
comp=Z,3µm,18.0s
MDM Murphy Dome 82.20 22 *e*P P 06 18 52.6 -0.8
comp=Z,53nm,1.2s
MDM LR LR
comp=Z,3µm,20.0s
TCOL CIGO, UAF Yank 82.29 22 P P 06 18 52.9 -1.0
baz=240
COLA College 82.30 22 *e*P P 06 18 53.1 -0.8
comp=Z,85nm,0.8s
COLA LR LR
comp=Z,2µm,20.0s
COLA College 82.30 22*c i*P P 06 18 52.7 -1.2
PAX Paxson 82.30 24 *e*P P 06 18 52.8 -1.3
comp=Z,25nm,1.1s
PAX LR LR
comp=Z,3µm,20.0s
PAX Paxson 82.30 24 *e*P P 06 18 52.8 -1.3
PAX pmax pmax
comp=Z,25nm,1.1s
PAX MLR MLR
comp=Z,3µm,20.0s
HDA Harding Lake 82.41 22 *e*P P 06 18 53.7 -0.8
comp=Z,28nm,0.6s
HDA LR LR
comp=Z,3µm,20.0s
HDA Harding Lake 82.41 22 P P 06 18 53.5 -1.0
baz=241
POKR Poker Plat Res 82.57 22 P P 06 18 54.2 -1.2
baz=240
NVS Novosibirsk 82.60 327 *e*P P 06 18 54.2 -1.5
NVS pmax pmax
comp=Z,37nm,1.7s
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,18nm,1.4s
ILAR Eielson Array 82.61 22 P P 06 18 54.7 -0.9
comp=E,30nm,0.6s,baz=249,slow=4.7,SNR=108
ILAR LR LR 06 51 14.7
comp=E,2µm,21.4s,baz=238,slow=32
ILB Eielson Array 82.61 22 *e*P P 06 18 53.7 -1.8
IL1 Eielson Array 82.61 22 *e*P P 06 18 54.0 -1.6
COLD Coldfoot 82.70 19 *e*P P 06 18 56.6 +0.5
comp=E,22nm,1.0s
COLD LR LR
comp=Z,2µm,21.0s
BALM Baldy 82.77 26 *e*P P 06 18 56.9 +0.3
comp=Z,20nm,0.7s
BALM LR LR
comp=Z,5µm,22.0s
BALM Baldy 82.77 26 *e*P P 06 18 56.9 +0.3
BALM pmax pmax
comp=Z,20nm,0.7s
BALM MLR MLR
comp=Z,5µm,22.0s
KDJ Kajisay 82.80 313 *e*P P 06 18 55.7 -1.6
comp=Z,45nm,1.1s
KDJ Kajisay 82.80 313 *e*P P 06 18 55.7 -1.6
KDJ pmax pmax
comp=Z,45nm,1.1s
RIDG Independ'e Rid 82.91 23 *e*P P 06 18 57.1 -0.1
comp=Z,262nm,2.0s
RIDG LR LR
comp=Z,3µm,20.0s
MENT Mentasta 83.00 24 *e*P P 06 18 57.9 +0.2
comp=Z,21nm,0.7s
MENT LR LR
comp=Z,7µm,22.0s
KSH Kashi 83.10 311 P P 06 19 00.5 +1.7
KSH pP pP 06 19 08.6 -0.1
KSH PP **PP** 06 22 14.5 +4.2
KSH S **S** 06 29 16.5 +0.1
KSH sS pS 06 29 29.7 +0.8
KSH SS **SS** 06 34 44.7 +3.6
KSH pmax pmax
comp=Z,13nm,0.9s
KSH pmax pmax
comp=Z,640nm,5.2s
KSH LR LR
comp=Z,480nm,13.8s
KSH LR LR
comp=Z,1µm,18.5s
KSH LR LR
comp=Z,1µm,20.0s
MDOK Medeo 83.14 314*c i*P P 06 18 56.5 -2.5
MDOK pmax pmax
comp=Z,88nm,1.4s
MDOK MLR MLR
comp=Z,648nm,20.0s
MDOK Medeo 83.14 314⇑ *i*P P 06 18 56.5 -2.5
comp=Z,88nm,1.4s
MDOK *e*LR LR 06 55 20.4
comp=Z,648nm,20.4s
DOT Dot Lake 83.17 24 *e*P P 06 18 58.2 -0.4
comp=Z,57nm,0.8s
DOT LR LR
comp=Z,3µm,20.0s
AAA Alma-Ata 83.24 314*c i*P P 06 18 52.0 -7.4
AAA MLR MLR
comp=Z,367nm,22.0s
AAA Alma-Ata 83.24 314⇑ *i*P P 06 18 52.0 -7.4
AAA *e*LR LR 06 54 34.9
comp=Z,367nm,22.0s
SCRK Sand Creek 83.35 23 *e*P P 06 18 59.2 -0.4
comp=Z,27nm,0.8s
SCRK LR LR
comp=Z,3µm,18.0s
PRP Porcupine Dome 83.47 22 *e*P P 06 18 58.9 -1.3
comp=Z,9.2nm,0.8s
PRP LR LR
comp=Z,3µm,20.0s
NRN Naryn 83.50 313 *e*P P 06 19 00.8 -0.3
comp=Z,31nm,1.4s
NRN Naryn 83.50 313 *e*P P 06 19 00.8 -0.3
NRN pmax pmax
comp=Z,31nm,1.4s
ULHL Ulahol 83.50 313 P P 06 19 00.9 -0.1
SNR=12
BCPM Bancas Point 83.58 28 PFAKE 06 19 10.0 +9.3
BCPM LR LR
comp=Z,4µm,20.0s
TOLK Toolik Lake Re 83.66 18 *e*P P 06 19 01.4 +0.3
comp=Z,62nm,1.0s
TOLK LR LR
comp=Z,3µm,22.0s
TOLK Toolik Lake Re 83.66 18 P P 06 19 01.4 +0.3
baz=238
KUU Kurty 83.81 315*d i*P P 06 18 59.5 -2.8
KUU pmax pmax
comp=Z,210nm,1.7s
KUU MLR MLR
comp=Z,540nm,22.0s
KUU Kurty 83.81 315⇓ *i*P P 06 18 59.6 -2.7
comp=Z,210nm,1.7s
KUU *e*LR LR 06 54 33.9
comp=Z,540nm,22.1s
KURK Kurchatov 84.01 322 *e*P P 06 19 02.2 -0.8
comp=Z,28nm,1.1s
KURK LR LR
comp=Z,3µm,21.0s
KURK Kurchatov 84.01 322 *e*P P 06 19 02.2 -0.8
KURK pmax pmax
comp=Z,27nm,1.1s
KURK MLR MLR
comp=Z,3µm,21.0s
FYU Fort Yukon 84.07 21 *e*P P 06 19 03.4 +0.4
comp=Z,39nm,0.7s
FYU LR LR
comp=Z,3µm,20.0s
NIL Nilore 84.09 304 *e*P P 06 19 03.7 -0.3
comp=Z,145nm,1.4s
NIL Nilore 84.09 304 *e*P P 06 19 03.7 -0.3
NIL pmax pmax
comp=Z,145nm,1.4s
TKM2 Tokmak 2 84.12 314 P P 06 19 03.5 -0.7
SNR=16
TKM2 Tokmak 2 84.12 314 P P 06 19 03.4 -0.7
TKM2 pmax pmax
comp=Z,16nm,0.5s
KZA Kyzart 84.18 313 P P 06 19 05.4 +0.7
SNR=67
KBK Karagaybulak 84.53 314 P P 06 19 06.5 +0.4
SNR=25
QSPA South Pole Qui 84.74 180 *e*P P 06 19 06.2 -0.5
comp=Z,29nm,0.9s
QSPA LR LR
comp=Z,2µm,19.0s
CHMS Chumysh 84.74 314 P P 06 19 07.3 +0.2
SNR=31
UCH Uchtor 84.75 313 P P 06 19 07.9 +0.2
SNR=47
FRU1 Bishkek 84.79 314 PFAKE 06 19 20.0 +13
FRU1 LR LR
comp=Z,2µm,21.0s
FRU Bishkek 84.80 314 *e*P P 06 19 06.0 -1.3
FRU pmax pmax
comp=Z,90nm,1.6s
EGAK Eagle 84.81 23 *e*P P 06 19 07.2 +0.4
comp=Z,41nm,0.9s
EGAK LR LR
comp=Z,3µm,18.0s
AAK Ala-Archa 84.85 314 P P 06 19 07.9 +0.2
SNR=50
AAK Ala-Archa 84.85 314 P P 06 19 07.2 -0.6
AAK pmax pmax
comp=Z,38nm,0.8s
HYT Haines Junctio 84.88 28 *e*P P 06 19 08.2 +0.7
comp=Z,45nm,1.0s
USP Ospenovka 84.97 314 P P 06 19 08.3 +0.1
SNR=44
MAW Mawson 85.12 203 LR LR 06 53 55.4
comp=Z,3µm,21.6s,baz=94,slow=33
DAWY Dawson 85.23 24 *e*P P 06 19 09.4 +0.3
comp=Z,83nm,1.4s
DAWY LR LR
comp=Z,6µm,22.0s
AML Almayashu 85.33 313 P P 06 19 10.6 +0.2
SNR=90
EKS2 Erkin-Say 85.37 313 P P 06 19 10.2 -0.1
SNR=52
BESE Bessie Mountai 85.42 30 PFAKE 06 19 20.0 +10
BESE LR LR
comp=Z,7µm,22.0s
SKAG Skagway 85.46 29 *e*P P 06 19 10.9 +0.7
comp=Z,45nm,1.3s
JIS Juneau Island 85.56 30 PFAKE 06 19 20.0 +9.3
JIS LR LR
comp=Z,7µm,20.0s
ARSB Arslanbob 85.70 312 *e*P P 06 19 11.8 -0.2
comp=Z,160nm,1.2s
ARSB LR LR
comp=Z,3µm,21.0s
WHY Whitehorse 86.04 28 *e*P P 06 19 14.2 +0.9
comp=Z,63nm,1.4s
WHY LR LR
comp=Z,4µm,20.0s
WRAK Wrangell Islan 86.10 33 *e*P P 06 19 12.5 -0.9
comp=Z,41nm,1.3s
NRIK Noril'sk 86.31 341 P P 06 19 13.7 -0.5
comp=Z,18nm,0.6s,baz=131,slow=3.9,SNR=15
EPYK Eagle Plains 87.11 22 *e*P P 06 19 18.4 +0.2
comp=Z,84nm,0.9s
EPYK LR LR
comp=Z,3µm,21.0s
EPYK Eagle Plains 87.11 22 P P 06 19 18.4 +0.2
baz=250
OTUK Ortayu 87.44 319 P P 06 19 18.5 -1.7
OTUK pmax pmax
comp=Z,14nm,1.3s
BBB Bella Bella 87.52 37 PFAKE 06 19 30.0 +10
BBB LR LR
comp=Z,3µm,18.0s
BRZS Berezniki 87.54 320*d i*P P 06 19 16.8 -3.9
BRZS pmax pmax
comp=Z,77nm,1.4s
BRZS MLR MLR
comp=Z,670nm,18.0s
BRZS Berezniki 87.54 320⇓ *i*P P 06 19 16.8 -3.8
comp=Z,77nm,1.4s
BRZS *e*LR LR 06 59 44.8
comp=Z,670nm,18.4s
KBL Kabul 87.68 305 *e*P P 06 19 20.3 -1.6
comp=Z,73nm,1.9s
KBL LR LR
comp=Z,2µm,22.0s
KBL Kabul 87.68 305 *e*P P 06 19 20.3 -1.6
KBL pmax pmax
comp=Z,73nm,1.9s
KBL MLR MLR
comp=Z,2µm,22.0s
KK31 Karatay Array 87.81 313 *e*P P 06 19 21.6 -0.6
KK31 Karatay Array 87.81 313 *e*P P 06 19 21.6 -0.6
KKAR Karatay Array 87.81 313 *e*P P 06 19 21.6 -0.6
KKAR Karatay Array 87.81 313 *e*P P 06 19 21.6 -0.6
DLBC Dease Lake 87.82 31 *e*P P 06 19 23.1 +1.2
comp=Z,89nm,1.5s
DLBC LR LR
comp=Z,6µm,20.0s
IUG Iuzhnay 88.01 312*c i*P P 06 19 21.4 -1.8
IUG pmax pmax
comp=Z,139nm,1.5s
IUG Iuzhnay 88.01 312⇑ *i*P P 06 19 21.4 -1.8
comp=Z,139nm,1.5s
JCC Jacoby Creek, 88.34 49 PFAKE 06 19 40.0 +15
JCC LR LR
comp=Z,6µm,18.0s
KEBM Edson Butte 88.41 47 PFAKE 06 19 40.0 +15
KEBM LR LR
comp=Z,4µm,20.0s
KMRM Mail Ridge 88.50 50 PFAKE 06 19 40.0 +15
KMRM LR LR
comp=Z,8µm,19.0s
KCPM Cahto Peak 88.52 50 PFAKE 06 19 40.0 +14
KCPM LR LR
comp=Z,9µm,19.0s
KHMM Horse Mountain 88.57 49 PFAKE 06 19 40.0 +14
KHMM LR LR
comp=Z,6µm,20.0s
HOPS Hopland Field 88.81 51 PFAKE 06 19 40.0 +13
HOPS LR LR
comp=Z,9µm,19.0s
MCCM Marconi Confer 88.85 52 PFAKE 06 19 40.0 +13
MCCM LR LR
comp=Z,7µm,20.0s
INK Inuvik 88.90 21 *e*P P 06 19 26.0 -0.6
comp=Z,77nm,1.4s
INK LR LR
comp=Z,3µm,18.0s
INK Inuvik 88.90 21 *e*P P 06 19 26.0 -0.6
INK pmax pmax
comp=Z,77nm,1.4s
INK MLR MLR
comp=Z,3µm,18.0s
GDXM Geysers 89.00 51 PFAKE 06 19 40.0 +12
GDXM LR LR
comp=Z,11µm,20.0s
M02C Callahan 89.30 49 P P 06 19 30.9 +1.7
baz=262

HUMO **Hull Mountain** **89.38** **47** PFAKE 06 19 40.0 +10
HUMO LR LR
comp=Z,4μm,20.0s
COR **Corvallis** **89.40** **45** PFAKE 06 19 40.0 +11
COR LR LR
comp=Z,5μm,22.0s
NLWA **Neilton Lookou** **89.40** **42** PFAKE 06 19 40.0 +10
NLWA LR LR
comp=Z,2μm,21.0s
WDC **Whiskeytown Da** **89.43** **49** PFAKE 06 19 40.0 +10
WDC LR LR
comp=Z,6μm,19.0s
YBH **Yreka Blue Hor** **89.45** **48** PFAKE 06 19 40.0 +10
YBH LR LR
comp=Z,5μm,20.0s
BVA0 **Borovoye Array** **89.49** **323** P **P** **06 19 27.7 -2.1**
BVA0 pmax pmax
comp=Z,23nm,1.1s
BRVK **Borovoye** **89.56** **323** *eP* **P** **06 19 28.7 -1.4**
comp=Z,18nm,0.9s
BRVK LR LR
comp=Z,3μm,18.0s
BRVK **Borovoye** **89.56** **323** *c i*P **P** **06 19 29.1 -1.0**
BRVK pmax pmax
comp=Z,24nm,1.4s
SAO **San Andreas Ge** **89.81** **53** PFAKE 06 19 40.0 +8.3
SAO LR LR
comp=Z,4μm,19.0s
PGC **Sidney** **89.86** **41** PFAKE 06 19 40.0 +8.5
PGC LR LR
comp=Z,4μm,20.0s
J04D **Umpqua Nationa** **90.08** **47** P **P** **06 19 34.6 +1.6**
baz=263
ORV **Oroville** **90.09** **50** PFAKE 06 19 40.0 +7.1
ORV LR LR
comp=Z,4μm,20.0s
AFDM **Forest Hills D** **90.43** **51** PFAKE 06 19 50.0 +15
AFDM LR LR
comp=Z,5μm,20.0s
D05A **Enumclaw** **90.64** **43** PFAKE 06 19 50.0 +15
D05A LR LR
comp=Z,4μm,22.0s
PAGB **Antelope Grade** **90.66** **54** PFAKE 06 19 50.0 +14
PAGB LR LR
comp=Z,3μm,18.0s
LON **Longmire** **90.71** **43** PFAKE 06 19 50.0 +14
LON LR LR
comp=Z,4μm,22.0s
J05D **Fort Rock, OR** **90.72** **47** P **P** **06 19 36.5 +0.6**
baz=264
CMB **Columbia Colle** **90.79** **52** *eP* **P** **06 19 36.4 +0.1**
comp=Z,3.2nm,0.9s
CMB LR LR
comp=Z,6μm,20.0s
CMB **Columbia Colle** **90.79** **52** *eP* **P** **06 19 36.4 +0.1**
CMB pmax pmax
comp=Z,3.0nm,0.9s
CMB MLR MLR
comp=Z,6μm,20.0s
PINE **Pine Mountain** **90.99** **46** *eP* **P** **06 19 38.0 +0.7**
comp=Z,82nm,1.9s
PINE LR LR
comp=Z,4μm,19.0s
BEKR **Beckworth** **91.00** **50** *eP* **P** **06 19 38.0 +0.6**
comp=Z,4.9nm,0.7s
BEKR LR LR
comp=Z,7μm,20.0s
RUBR **Rubicon Trail** **91.08** **51** PFAKE 06 19 50.0 +12
RUBR LR LR
comp=Z,6μm,20.0s
LLLB **Lillooet** **91.12** **39** PFAKE 06 19 50.0 +13
LLLB LR LR
comp=Z,2μm,20.0s
B06A **Marblemount** **91.14** **42** PFAKE 06 19 50.0 +12
B06A LR LR
comp=Z,3μm,20.0s
MOD **Modoc Plateau** **91.25** **48** *eP* **P** **06 19 39.1 +0.6**
comp=Z,7.9nm,1.0s
MOD LR LR
comp=Z,6μm,19.0s
G06A **Carlson Farm,** **91.36** **45** PFAKE 06 19 50.0 +11
G06A LR LR
comp=Z,5μm,20.0s
VCNR **Virginia City** **91.49** **51** PFAKE 06 19 50.0 +10
VCNR LR LR
comp=Z,6μm,20.0s
PNTR **Pine Nut** **91.51** **51** *eP* **P** **06 19 39.9 +0.1**
comp=Z,8.2nm,0.9s
PNTR LR LR
comp=Z,6μm,19.0s
LTY **Liberty** **91.54** **43** PFAKE 06 19 50.0 +10
LTY LR LR
comp=Z,3μm,22.0s
WAKR **Walker** **91.58** **52** PFAKE 06 19 50.0 +10
WAKR LR LR
comp=Z,6μm,19.0s
PAHR **Pah Rah Range** **91.74** **50** PFAKE 06 19 50.0 +9.3
PAHR LR LR
comp=Z,6μm,20.0s
YERR **Yerington** **91.78** **51** *eP* **P** **06 19 41.1 +0.1**
comp=Z,4.9nm,1.0s
YERR LR LR
comp=Z,5μm,20.0s
OMMB **Old Mammoth Mi** **91.84** **53** PFAKE 06 19 50.0 +8.5
OMMB LR LR
comp=Z,6μm,21.0s
F07A **Phinny Hill Vi** **91.92** **44** PFAKE 06 19 50.0 +8.8
F07A LR LR
comp=Z,6μm,20.0s
E07A **Sunnyside** **92.03** **44** *eP* **P** **06 19 42.3 +0.5**
comp=Z,37nm,1.8s
E07A LR LR
comp=Z,6μm,20.0s
I07A **Izee** **92.05** **46** *eP* **P** **06 19 42.6 +0.6**
comp=Z,16nm,1.3s
I07A LR LR
comp=Z,4μm,20.0s
PASC **Pasadena Art C** **92.21** **56** PFAKE 06 19 50.0 +7.1
PASC LR LR
comp=Z,2μm,21.0s
HAWA **Hanford** **92.24** **44** *eP* **P** **06 19 43.1 +0.4**
comp=Z,16nm,1.4s
HAWA LR LR
comp=Z,6μm,20.0s
RYN **Ryan** **92.31** **52** *eP* **P** **06 19 43.7 +0.2**
comp=Z,4.6nm,0.9s
RYN LR LR
comp=Z,5μm,20.0s
MWC **Mount Wilson** **92.32** **56** *eP* **P** **06 19 43.1 -0.5**
comp=Z,17nm,1.0s
MWC LR LR
comp=Z,3μm,22.0s
MWC **Mount Wilson** **92.32** **56** *eP* **P** **06 19 43.1 -0.5**
MWC pmax pmax
comp=Z,17nm,1.0s
MWC MLR MLR
comp=Z,3μm,22.0s
EDW2 **Edwards Air Fo** **92.42** **55** P **P** **06 19 44.2 +0.3**
baz=265
NV01 **Mina Array Sit** **92.46** **52** *eP* **P** **06 19 45.0 +0.7**
NVAR **Mina Array Bea** **92.46** **52** P **P** **06 19 44.8 +0.6**
comp=Z,1.7nm,0.6s,baz=258,slow=6.3,SNR=13
NVAR LR LR 06 55 03.7
comp=Z,5μm,20.1s,baz=274,slow=31
CWC **Cottonwood Cre** **92.48** **54** P **P** **06 19 44.2 -0.1**
baz=265
WVOR **Wild Horse Val** **92.54** **48** *eP* **P** **06 19 44.3 -0.1**
comp=Z,9.2nm,1.1s
WVOR LR LR
comp=Z,6μm,20.0s
WVOR **Wild Horse Val** **92.54** **48** *eP* **P** **06 19 44.3 -0.1**
WVOR pmax pmax
comp=Z,9.0nm,1.1s
WVOR MLR MLR
comp=Z,6μm,20.0s
G08A **Pilot Rock** **92.54** **45** *eP* P 06 19 40.7 -3.6
comp=Z,10.0nm,1.1s
G08A LR LR
comp=Z,5μm,20.0s
B08A **Colville Reser** **92.55** **42** *eP* **P** **06 19 43.3 -0.8**
comp=Z,21nm,1.8s
B08A LR LR
comp=Z,2μm,20.0s
E08A **Dider Farm, El** **92.57** **44** *eP* **P** **06 19 44.0 -0.2**
comp=Z,8.6nm,1.1s
E08A LR LR
comp=Z,6μm,20.0s

NV11 **Mina Array Sit** **92.58** **52** *eP* **P** **06 19 45.4 +0.7**
comp=Z,0.7nm,0.9s
NV11 LR LR
comp=Z,400nm,20.0s
KVN **Kaiserville** **92.67** **51** *eP* **P** **06 19 45.8 +0.6**
comp=Z,7.0nm,1.0s
KVN LR LR
comp=Z,5μm,19.0s
KVN **Kaiserville** **92.67** **51** *eP* **P** **06 19 45.8 +0.6**
KVN pmax pmax
comp=Z,7.0nm,1.0s
KVN MLR MLR
comp=Z,5μm,19.0s
D08A **Wollman Farm,** **92.71** **43** *eP* **P** **06 19 44.5 -0.4**
D08A LR LR
comp=Z,4μm,21.0s
LRMC **Laurel Mtn Rad** **92.73** **55** P **P** **06 19 46.3 +0.9**
baz=266
J08A **Circle Bar Ran** **92.73** **47** *eP* **P** **06 19 43.5 -1.7**
comp=Z,18nm,1.3s
J08A LR LR
comp=Z,3μm,20.0s
DAC **Darwin (Calif)** **92.86** **54** *eP* **P** **06 19 46.1 0.0**
comp=Z,11nm,1.1s
DAC LR LR
comp=Z,3μm,20.0s
DAC **Darwin (Calif)** **92.86** **54** *eP* **P** **06 19 46.1 0.0**
DAC pmax pmax
comp=Z,11nm,1.1s
DAC MLR MLR
comp=Z,3μm,20.0s
MPMC **Manual Prospec** **92.93** **54** P **P** **06 19 47.0 +0.6**
baz=266
CPE **Camp Elliot** **93.01** **57** PFAKE 06 20 00.0 +13
CPE LR LR
comp=Z,3μm,20.0s
E09A **Wood Farm, Sta** **93.20** **44** *eP* **P** **06 19 47.3 +0.1**
comp=Z,14nm,1.1s
E09A LR LR
comp=Z,6μm,20.0s
C09A **Chrisman Ranch** **93.21** **42** PFAKE 06 20 00.0 +13
C09A LR LR
comp=Z,3μm,21.0s
SYO **Syowa Base** **93.22** **199** *e*PcP **P** **06 19 48.0 +1.2**
BAR **Barrett** **93.36** **58** PFAKE 06 20 00.0 +12
BAR LR LR
comp=Z,3μm,20.0s
BMN **Battle Mountai** **93.45** **50** PFAKE 06 20 00.0 +11
BMN LR LR
comp=Z,5μm,20.0s
FURC **Furnace Creek,** **93.46** **54** P **P** **06 19 49.6 +1.1**
baz=266
PFO **Pinyon Flats O** **93.60** **57** PFAKE 06 20 00.0 +11
PFO LR LR
comp=Z,3μm,20.0s
XPFO **Pion Flat** **93.60** **57** PFAKE 06 20 00.0 +11
XPFO LR LR
comp=Z,3μm,20.0s
BMO **Blue Mountains** **93.68** **45** *eP* **P** **06 19 47.9 -1.6**
comp=Z,9.3nm,1.1s
BMO LR LR
comp=Z,5μm,21.0s
BMO **Blue Mountains** **93.68** **45** *eP* **P** **06 19 47.9 -1.6**
BMO pmax pmax
comp=Z,9.0nm,1.1s
BMO MLR MLR
comp=Z,5μm,21.0s
F10A **Beach Ranch, E** **93.80** **44** *eP* **P** **06 19 49.1 -0.9**
comp=Z,48nm,1.9s
F10A LR LR
comp=Z,5μm,20.0s
SHOC **Shoshone, Teco** **93.90** **54** P **P** **06 19 51.5 +0.8**
baz=266
TPNV **Topopah Spring** **93.98** **53** *eP* **P** **06 19 52.0 +0.8**
comp=Z,8.7nm,0.9s
TPNV LR LR
comp=Z,3μm,21.0s
TPNV **Topopah Spring** **93.98** **53** P **P** **06 19 51.8 +0.6**
baz=266
NEW **Newport** **94.01** **42** *eP* **P** **06 19 49.1 -1.8**
comp=Z,16nm,1.4s
NEW LR LR
comp=Z,2μm,21.0s
NEW **Newport** **94.01** **42** *eP* **P** **06 19 49.1 -1.8**
NEW pmax pmax
comp=Z,16nm,1.4s
NEW MLR MLR
comp=Z,2μm,21.0s
NEW **Newport** **94.01** **42** P **P** **06 19 51.3 +0.4**
baz=267
TUQ **Turquoise Moun** **94.16** **55** P **P** **06 19 52.7 +0.7**
baz=267
R11A **Troy Canyon, C** **94.59** **52** *eP* **P** **06 19 53.7 -0.3**
comp=Z,9.9nm,1.4s
R11A LR LR
comp=Z,5μm,20.0s
R11A **Troy Canyon, C** **94.59** **52** P **P** **06 19 54.0 0.0**
baz=267
IRM **Iron Mountain** **94.72** **56** P **P** **06 19 55.7 +1.2**
baz=267
LDFC **Landfair** **94.80** **55** *eP* **P** **06 19 56.1 +1.2**
comp=Z,26nm,1.3s
LDFC LR LR
comp=Z,3μm,21.0s
SHPR **Sheep Range** **94.83** **54** *eP* **P** **06 19 55.6 +0.5**
comp=Z,7.6nm,1.1s
SHPR LR LR
comp=Z,3μm,19.0s
ELK **Elko** **94.97** **50** *eP* **P** **06 19 55.3 -0.5**
comp=Z,17nm,1.8s
ELK LR LR
comp=Z,5μm,20.0s
ELK **Elko** **94.97** **50** *eP* **P** **06 19 55.3 -0.5**
ELK pmax pmax
comp=Z,17nm,1.8s
ELK MLR MLR
comp=Z,5μm,20.0s
AB31 **Akbulak array** **95.69** **319** *i* P P 06 19 55.6 -2.9
AB31 pmax pmax
comp=Z,5.0nm,1.1s
ABKAR **Akbulak array** **95.69** **319** *eP* **P** **06 19 56.0 -2.5**
HLID **Hailey** **95.69** **47** PFAKE 06 20 10.0 +11
HLID LR LR
comp=Z,4μm,21.0s
W13A **Hualapai Mount** **95.80** **55** *eP* **P** **06 20 00.5 +0.9**
comp=Z,13nm,1.4s
W13A LR LR
comp=Z,2μm,20.0s
YKA **Yellowknife Ar** **95.87** **28** P **P** **06 19 58.7 -0.3**
comp=Z,3.6nm,0.6s,baz=270,slow=4.7,SNR=62
YKA LR LR 06 57 27.6
comp=Z,430nm,21.9s,baz=281,slow=32
PSUT **Pine Spring** **95.95** **52** PFAKE 06 20 10.0 +10
PSUT LR LR
comp=Z,5μm,20.0s
MSO **Missoula** **96.11** **44** PFAKE 06 20 10.0 +9.4
MSO LR LR
comp=Z,5μm,20.0s
WALA **Waterton Lakes** **96.17** **41** *eP* **P** **06 20 01.6 +0.7**
comp=Z,38nm,1.7s
CCUT **Cedar City** **96.31** **53** *eP* **P** **06 20 01.7 -0.3**
comp=Z,8.3nm,1.3s
CCUT LR LR
comp=Z,5μm,19.0s
LCMT **Little Creek M** **96.39** **53** PFAKE 06 20 10.0 +7.8
LCMT LR LR
comp=Z,3μm,22.0s
Y14A **Wickenburg** **96.49** **57** PFAKE 06 20 10.0 +7.4
Y14A LR LR
comp=Z,2μm,19.0s
SZCU **Shurtz Canyon** **96.53** **53** PFAKE 06 20 10.0 +7.1
SZCU LR LR
comp=Z,4μm,20.0s
ARU **Arti** **96.58** **326** *eP* **P** **06 20 01.8 -0.5**
comp=Z,14nm,1.0s
ARU LR LR
comp=Z,3μm,20.0s
ARU **Arti** **96.58** **326** P **P** **06 20 00.2 -2.2**
ARU 06 23 54.5
ARU S **SKSac** **06 30 34.1 -2.4**
ARU SP SP 06 32 39.8 -0.8
ARU MLR MLR
comp=Z,3μm,19.0s
BGU **Big Grassy Mou** **96.65** **50** PFAKE 06 20 10.0 +6.7
BGU LR LR
comp=Z,4μm,19.0s
KNB **Kanab** **96.73** **53** PFAKE 06 20 10.0 +6.2

KNB LR LR
comp=Z,3μm,22.0s
GEYT **Alibeck** **96.75** **307** P **P** **06 20 03.1 -0.6**
comp=Z,1.1nm,0.3s,baz=45,slow=2.3,SNR=3.9
GEYT LR LR 07 04 24.2
comp=Z,1μm,20.8s,baz=45,slow=36
GYA0B **ALIBECK ARRAY** **96.75** **307** PFAKE 06 20 10.0 +6.3
GYA0B LR LR
comp=Z,1μm,20.0s
DUG **Dugway, Tooele** **96.81** **50** PFAKE 06 20 20.0 +16
DUG LR LR
comp=Z,4μm,19.0s
HVU **Hansel Valley** **96.86** **49** PFAKE 06 20 20.0 +16
HVU LR LR
comp=Z,4μm,19.0s
SRIG **Santa Rosalia** **96.90** **63** PFAKE 06 20 20.0 +16
SRIG LR LR
comp=Z,4μm,20.0s
DLMT **Dillon** **97.03** **45** PFAKE 06 20 20.0 +15
DLMT LR LR
comp=Z,4μm,21.0s
TCRU **Three Creeks R** **97.06** **52** PFAKE 06 20 20.0 +15
TCRU LR LR
comp=Z,6μm,20.0s
SPUT **South Promonto** **97.10** **49** PFAKE 06 20 20.0 +15
SPUT LR LR
comp=Z,4μm,20.0s
U15A **North Rim** **97.14** **54** PFAKE 06 20 20.0 +14
U15A LR LR
comp=Z,2μm,19.0s
PKCU **Pink Cliffs** **97.14** **53** *eP* **P** **06 20 05.3 -0.5**
comp=Z,19nm,1.3s
PKCU LR LR
comp=Z,4μm,21.0s
MTPU **Mount Pierson** **97.26** **52** PFAKE 06 20 20.0 +14
MTPU LR LR
comp=Z,4μm,19.0s
NLU **North Lily Min** **97.37** **51** PFAKE 06 20 20.0 +13
NLU LR LR
comp=Z,5μm,20.0s
CTU **Camp Tracy** **97.62** **50** PFAKE 06 20 20.0 +12
CTU LR LR
comp=Z,3μm,20.0s
BOZ **Bozeman (W)** **97.71** **45** PFAKE 06 20 20.0 +12
BOZ LR LR
comp=Z,4μm,21.0s
MPU **Maple Canyon** **97.71** **50** PFAKE 06 20 20.0 +12
MPU LR LR
comp=Z,5μm,19.0s
X16A **Lo Mia Camp, P** **97.80** **56** PFAKE 06 20 20.0 +11
X16A LR LR
comp=Z,2μm,21.0s
JLU **Jordanelle** **97.85** **50** PFAKE 06 20 20.0 +11
JLU LR LR
comp=Z,4μm,19.0s
WUAZ **Wupatki** **97.87** **55** PFAKE 06 20 20.0 +11
WUAZ LR LR
comp=Z,2μm,20.0s
TCUT **Toone Canyon** **97.88** **49** PFAKE 06 20 20.0 +11
TCUT LR LR
comp=Z,5μm,20.0s
YHB **Horse Butte** **98.02** **46** *eP* **P** **06 20 09.6 +0.1**
comp=Z,4.9nm,0.8s
YHB *eS* **S** **06 31 37.3 +3.1**
YHB LR LR
comp=Z,4μm,19.0s
TMUT **Trail Mountain** **98.03** **51** PFAKE 06 20 20.0 +10
TMUT LR LR
comp=Z,3μm,20.0s
Q16A **Castle Valley** **98.06** **52** PFAKE 06 20 20.0 +10
Q16A LR LR
comp=Z,4μm,20.0s
HSIG **98.10** **62** PFAKE 06 20 20.0 +10
HSIG LR LR
comp=Z,4μm,20.0s
AHID **Auburn Hatcher** **98.11** **48** PFAKE 06 20 20.0 +10
AHID LR LR
comp=Z,7μm,20.0s
YMR **Madison River** **98.19** **46** PFAKE 06 20 20.0 +10
YMR LR LR
comp=Z,4μm,20.0s
TPAW **Teton Pass** **98.21** **47** PFAKE 06 20 20.0 +10
TPAW LR LR
comp=Z,5μm,21.0s
IMW **Indian Meadow** **98.22** **47** PFAKE 06 20 20.0 +10
IMW LR LR
comp=Z,3μm,21.0s
YHH **Holmes Hill** **98.27** **46** PFAKE 06 20 20.0 +9.3
YHH LR LR
comp=Z,5μm,20.0s
YFT **Old Faithful** **98.28** **46** PFAKE 06 20 20.0 +9.3
YFT LR LR
comp=Z,6μm,18.0s
REDW **Red Top Meadow** **98.28** **47** PFAKE 06 20 20.0 +9.3
REDW LR LR
comp=Z,6μm,20.0s
YPP **Pitchstone Pla** **98.31** **46** PFAKE 06 20 20.0 +9.1
YPP LR LR
comp=Z,4μm,20.0s
TUC **Tucson** **98.31** **58** PFAKE 06 20 20.0 +9.1
TUC LR LR
comp=Z,3μm,20.0s
SNOW **Snow King Moun** **98.35** **47** PFAKE 06 20 20.0 +8.9
SNOW LR LR
comp=Z,6μm,20.0s
MOOW **Moose Ponds** **98.36** **47** PFAKE 06 20 20.0 +9.0
MOOW LR LR
comp=Z,4μm,21.0s
FLWY **Flagg Ranch** **98.39** **46** PFAKE 06 20 20.0 +8.9
FLWY LR LR
comp=Z,2μm,21.0s
YNR **Norris Junctio** **98.39** **46** PFAKE 06 20 20.0 +8.8
YNR LR LR
comp=Z,4μm,20.0s
P17A **Butcher Ranch,** **98.39** **51** PFAKE 06 20 20.0 +8.8
P17A LR LR
comp=Z,4μm,20.0s
LOHW **Long Hollow** **98.46** **47** PFAKE 06 20 20.0 +8.5
LOHW LR LR
comp=Z,5μm,21.0s
H17A **Grant Village** **98.47** **46** PFAKE 06 20 20.0 +8.4
H17A LR LR
comp=Z,6μm,19.0s
LPIG **La Paz** **98.53** **67** LR LR 06 59 36.8
comp=Z,2μm,18.8s,baz=276,slow=32
SRU **San Rafael Swe** **98.56** **51** PFAKE 06 20 20.0 +8.0
SRU LR LR
comp=Z,3μm,20.0s
LKWY **Lake** **98.59** **46** PFAKE 06 20 20.0 +7.9
LKWY LR LR
comp=Z,6μm,19.0s
EGMT **Eagleton** **98.94** **42** PFAKE 06 20 20.0 +6.7
EGMT LR LR
comp=Z,3μm,21.0s
X18A **Snowflake** **99.03** **56** PFAKE 06 20 30.0 +16
X18A LR LR
comp=Z,2μm,21.0s
BW06 **Boulder Array** **99.24** **48** PFAKE 06 20 30.0 +15
BW06 LR LR
comp=Z,6μm,19.0s
BW06 **Boulder Array** **99.24** **48** P **Pdif** **06 20 15.5 +0.5**
baz=272
PD31 **Pinedale Array** **99.24** **48** *eP* **Pdif** **06 20 14.6 -0.4**
PDAR **Pinedale Array** **99.24** **48** *eP* **Pdif** **06 20 14.3 -0.7**
PDAR PP **PP** **06 24 18.6 +0.5**
PDAR **Pinedale Array** **99.24** **48** P **Pdif** **06 20 14.9 -0.1**
comp=Z,0.8nm,0.7s,baz=198,slow=1.4,SNR=7.9
PDAR PP **PP** **06 24 18.6 +0.5**
comp=Z,0.4nm,0.8s,baz=245,slow=5.5,SNR=3.3
PDAR LR LR 07 02 07.5
comp=Z,5μm,18.5s,baz=264,slow=34
RLMT **Red Lodge** **99.38** **45** PFAKE 06 20 30.0 +14
RLMT LR LR
comp=Z,4μm,21.0s
319A **Douglas** **99.58** **59** PFAKE 06 20 30.0 +13
319A LR LR
comp=Z,3μm,19.0s
PV14 **Lion Creek, Pa** **99.75** **52** PFAKE 06 20 30.0 +13
PV14 LR LR
comp=Z,7μm,21.0s
PV19 **Morning Glory** **99.78** **52** PFAKE 06 20 30.0 +13
PV19 LR LR
comp=Z,6μm,20.0s
PV21 **Cone Mtn., Par** **99.78** **52** PFAKE 06 20 30.0 +12
PV21 LR LR
comp=Z,6μm,20.0s

PV17 **East Wray Mesa** **99.80** **52** PFAKE 06 20 30.0 +12
PV17 LR LR
comp=Z,8µm,21.0s
NVL **N'lazarevskaya** **99.81** **192** *e*P **Pdif** **06 20 22.2 +5.6**
NVL pmax pmax
comp=Z,5.0nm,0.7s
PV16 **Nyswonger Mesa** **99.83** **52** PFAKE 06 20 30.0 +12
PV16 LR LR
comp=Z,6µm,20.0s
PV04 **Paradox Valley** **99.84** **52** PFAKE 06 20 30.0 +12
PV04 LR LR
comp=Z,7µm,20.0s
PV03 **Paradox Valley** **99.89** **52** PFAKE 06 20 30.0 +12
PV03 LR LR
comp=Z,6µm,20.0s
PV12 **Saucer Basin,** **99.92** **52** PFAKE 06 20 30.0 +12
PV12 LR LR
comp=Z,7µm,20.0s
PV07 **Paradox Valley** **100.04** **52** PFAKE 06 20 30.0 +11
PV07 LR LR
comp=Z,6µm,20.0s
PV01 **Paradox Valley** **100.11** **52** PFAKE 06 20 30.0 +11
PV01 LR LR
comp=Z,6µm,21.0s
MVCO **Mesa Verde** **100.18** **53** PFAKE 06 20 30.0 +11
MVCO LR LR
comp=Z,2µm,22.0s
O20A **White River Ci** **100.31** **50** PFAKE 06 20 30.0 +10
O20A LR LR
comp=Z,5µm,20.0s
RES **Resolute Bay** **100.85** **14** *e*Pdif **Pdif** **06 20 20.9 -0.1**
RES LR LR
comp=Z,2µm,20.0s
RES **Resolute Bay** **100.85** **14** *e*P **Pdif** **06 20 21.0 -0.1**
RES MLR MLR
comp=Z,2µm,20.0s
SMCO **Snowmass** **101.32** **51** PFAKE 06 20 40.0 +15
SMCO LR LR
comp=Z,4µm,21.0s
LAO **LASA Array** **101.42** **44** PFAKE 06 20 40.0 +16
LAO LR LR
comp=Z,4µm,20.0s
K22A **Casper** **101.48** **48** PFAKE 06 20 40.0 +15
K22A LR LR
comp=Z,4µm,20.0s
S22A **4UR Ranch, Cre** **101.50** **53** PFAKE 06 20 40.0 +15
S22A LR LR
comp=Z,4µm,20.0s
Y22D **IRIS PASSCAL I** **101.54** **56** PFAKE 06 20 40.0 +15
Y22D LR LR
comp=Z,3µm,21.0s
SNAA **Sanae** **101.59** **188** PFAKE 06 20 40.0 +15
SNAA LR LR
comp=Z,4µm,18.0s
ANMO **Albuquerque** **101.90** **56** PFAKE 06 20 40.0 +13
ANMO LR LR
comp=Z,1µm,20.0s
N23A **Red Feather La** **102.02** **49** PFAKE 06 20 40.0 +13
N23A LR LR
comp=Z,3µm,20.0s
ISCO **Idaho Springs** **102.34** **51** PFAKE 06 20 40.0 +11
ISCO LR LR
comp=Z,3µm,20.0s
PHWY **Pilot Hill** **102.36** **49** PFAKE 06 20 40.0 +11
PHWY LR LR
comp=Z,2µm,19.0s
SDCO **Great Sand Dun** **102.55** **53** PFAKE 06 20 40.0 +10
SDCO LR LR
comp=Z,4µm,21.0s
DGMT **Dagmar** **102.61** **42** PFAKE 06 20 40.0 +10
DGMT LR LR
comp=Z,2µm,19.0s
Q24A **Divide** **102.75** **51** PFAKE 06 20 40.0 +9.2
Q24A LR LR
comp=Z,4µm,20.0s
HPIG **102.76** **64** PFAKE 06 20 40.0 +9.1
HPIG LR LR
comp=Z,4µm,18.0s
ABPO **Ambohimpanom** **102.78** **249** PFAKE 06 20 40.0 +8.8
ABPO LR LR
comp=Z,2µm,18.0s
MNTX **Cornudas Mount** **102.91** **59** PFAKE 06 20 40.0 +8.7
MNTX LR LR
comp=Z,3µm,18.0s
FFC **Flin Flon** **103.11** **35** PFAKE 06 20 40.0 +8.4
FFC LR LR
comp=Z,2µm,20.0s
RSSD **Black Hills** **103.17** **46** PFAKE 06 20 40.0 +7.6
RSSD LR LR
comp=Z,2µm,18.0s
T25A **Trinidad** **103.45** **53** PFAKE 06 20 50.0 +16
T25A LR LR
comp=Z,3µm,19.0s
KBS **Kingsbay** **103.75** **353** PFAKE 06 20 40.0 +6.0
KBS LR LR
comp=Z,1µm,20.0s
TXAR **Lajitas Array** **104.47** **61** PP **PP** **06 24 57.1 -0.5**
comp=Z,0.4nm,0.8s,baz=251,slow=5.6,SNR=3.1
MAK **Makhachkala** **104.62** **313** *e*P **Pdif** **06 20 35.4 -3.2**
MAK *i* 06 24 51.1
MAK *e* 06 31 13.4
MAK *e* 06 31 55.8
MAK *e*SS SS 06 39 43.5 -4.2
MAK pmax pmax
comp=Z,305nm,1.2s
KSCO **Kaye Shedlock'** **104.71** **51** PFAKE 06 20 50.0 +11
KSCO LR LR
comp=Z,5µm,21.0s
OGNE **Ogallala** **104.97** **49** PFAKE 06 25 10.0 +15
OGNE LR LR
comp=Z,2µm,18.0s
TULEG **Thule** **105.23** **9** PFAKE 06 25 10.0 +15
TULEG LR LR
comp=Z,2µm,21.0s
ZAIG **Zacatecas** **105.63** **68** PFAKE 06 25 10.0 +13
ZAIG LR LR
comp=Z,2µm,21.0s
APA **Apatity** **105.68** **340** ⇓ *i*P **Pdif** **06 20 40.2 -2.5**
APA pmax pmax
comp=Z,4.0nm,1.0s
APA MLR MLR
comp=Z,2µm,22.0s
MDND **Maddock** **105.74** **42** PFAKE 06 25 10.0 +14
MDND LR LR
comp=Z,2µm,20.0s
AMTX **Amarillo** **105.82** **55** PFAKE 06 25 10.0 +13
AMTX LR LR
comp=Z,2µm,20.0s
FCC **Fort Churchill** **106.39** **30** PFAKE 06 25 10.0 +13
FCC LR LR
comp=Z,4µm,20.0s
MOIG **Morelia** **106.95** **71** PFAKE 06 25 10.0 +10
MOIG LR LR
comp=Z,2µm,20.0s
CBKS **Cedar Bluff** **106.97** **51** PFAKE 06 25 10.0 +11
CBKS LR LR
comp=Z,5µm,20.0s
ARA0 **ARCESS Array S** **107.23** **343** *e*Pdif **Pdif** **06 20 47.5 -2.1**
ARA0 *e*PKiKP **PKiKP** **06 24 58.1 -0.3**
ARCES **ARCESS Array B** **107.23** **343** Pdiff **Pdif** **06 20 47.5 -2.1**
comp=Z,2.5nm,0.8s,baz=73,slow=6.7,SNR=2.8
ARCES PKiKP **PKiKP** **06 24 58.1 -0.3**
comp=Z,2.7nm,0.8s,baz=70,slow=1.4,SNR=7.6
ULM **Lac du Bonnet** **107.66** **39** PKiKP **PKiKP** **06 24 59.7 0.0**
ULM LR LR
comp=Z,3µm,19.0s
ULM **Lac du Bonnet** **107.66** **39** PKiKP **PKiKP** **06 24 59.7 0.0**
comp=Z,0.7nm,0.4s,baz=336,slow=0.4,SNR=4.6
ABTX **Abilene, Hawle** **107.71** **58** PFAKE 06 25 10.0 +10
ABTX LR LR
comp=Z,2µm,20.0s
JCT **Junction City** **107.75** **60** PFAKE 06 25 10.0 +9.4
JCT LR LR
comp=Z,4µm,20.0s
RAYN **Ar Rayn** **107.78** **293** PFAKE 06 25 10.0 +9.2
RAYN LR LR
comp=Z,700nm,20.0s
BGNE **Belgrade** **107.82** **48** PFAKE 06 25 10.0 +10
BGNE LR LR
comp=Z,2µm,20.0s
U32A **Winter Ranch,** **107.84** **54** PFAKE 06 25 10.0 +9.4
U32A LR LR
comp=Z,2µm,20.0s
KIV **Kislovodsk** **107.95** **314** PFAKE 06 25 10.0 +9.4
KIV LR LR
comp=Z,1µm,20.0s
AGMN **Agassiz Nation** **108.11** **41** PFAKE 06 25 10.0 +9.3
AGMN LR LR
comp=Z,2µm,22.0s
WMOK **Wichita Mounta** **108.21** **55** PFAKE 06 25 10.0 +8.7
WMOK LR LR
comp=Z,2µm,18.0s
833A **Chaparral WMA,** **108.26** **62** PFAKE 06 25 10.0 +8.5
833A LR LR
comp=Z,4µm,19.0s
LNIG **Linares** **108.40** **66** PFAKE 06 25 10.0 +8.1
LNIG LR LR
comp=Z,3µm,19.0s
ECSD **EROS Data Cent** **108.54** **46** PFAKE 06 25 10.0 +8.4
ECSD LR LR
comp=Z,4µm,20.0s
OBN **Obninsk** **109.00** **327** PFAKE 06 25 10.0 +8.0
OBN LR LR
comp=Z,2µm,21.0s
KSU1 **Kansas State U** **109.34** **50** PFAKE 06 25 10.0 +6.7
KSU1 LR LR
comp=Z,4µm,20.0s
435B **Jarrell** **109.63** **59** PFAKE 06 25 20.0 +16
435B LR LR
comp=Z,3µm,19.0s
KVTX **Kingsville** **109.64** **63** PFAKE 06 25 20.0 +16
KVTX LR LR
comp=Z,4µm,19.0s
SOC **Sochi** **110.13** **315** *e*P **Pdif** **06 20 49.4 -14**
SOC *e* 06 25 32.5
SOC *e*PS **PS** **06 35 01.5 -6.9**
SOC *e*SSS SSS 06 45 02.8
SOC MLR MLR
comp=Z,1µm,20.0s
TUL1 **Leonard** **110.48** **54** PFAKE 06 25 20.0 +15
TUL1 LR LR
comp=Z,2µm,18.0s
SPMN **Marine on St.** **110.88** **43** PFAKE 06 25 20.0 +14
SPMN LR LR
comp=Z,3µm,21.0s
EYMN **Ely** **111.04** **40** PFAKE 06 25 20.0 +14
EYMN LR LR
comp=Z,2µm,18.0s
HKT **Hockley** **111.22** **60** PFAKE 06 25 20.0 +13
HKT LR LR
comp=Z,5µm,20.0s
SCIA **State Center** **111.36** **47** PFAKE 06 25 20.0 +13
SCIA LR LR
comp=Z,4µm,20.0s
E38A **The Farm, Brul** **111.36** **42** PFAKE 06 25 20.0 +13
E38A LR LR
comp=Z,4µm,20.0s
FIA0 **FINESS Array S** **111.38** **336** *e*Pdif **Pdif** **06 21 06.5 -1.7**
FIA0 *e*PKiKP **PKiKP** **06 25 05.3 -1.1**
FIA0 **FINESS Array S** **111.38** **336** *e*P **Pdif** **06 21 06.5 -1.7**
FIA0 *i* 06 25 05.3
FINES **FINESS Array B** **111.38** **336** Pdiff **Pdif** **06 21 06.5 -1.7**
comp=Z,1.4nm,0.5s,baz=60,slow=4.6,SNR=12
FINES PKiKP **PKiKP** **06 25 05.3 -1.1**
comp=Z,2.4nm,0.6s,baz=102,slow=3.0,SNR=9.0
LVIG **Laguna Verde** **111.44** **71** PFAKE 06 25 20.0 +12
LVIG LR LR
comp=Z,2µm,20.0s
HHAR **Hobbs** **111.90** **53** PFAKE 06 25 20.0 +12
HHAR LR LR
comp=Z,2µm,20.0s
NATX **Nacogdoches** **112.00** **58** PFAKE 06 25 20.0 +12
NATX LR LR
comp=Z,2µm,19.0s
I39A **Houston** **112.11** **45** PFAKE 06 25 20.0 +12
I39A LR LR
comp=Z,5µm,20.0s
W39A **Magazine** **112.21** **54** PFAKE 06 25 20.0 +11
W39A LR LR
comp=Z,2µm,20.0s
MIAR **Mount Ida** **112.49** **55** PFAKE 06 25 20.0 +11
MIAR LR LR
comp=Z,3µm,19.0s
C40A **Isle Royale Na** **112.55** **40** PFAKE 06 25 20.0 +11
C40A LR LR
comp=Z,2µm,18.0s
G40A **Rib Lake** **112.64** **43** PFAKE 06 25 20.0 +11
G40A LR LR
comp=Z,4µm,18.0s
L40A **Anamosa** **112.77** **46** PFAKE 06 25 20.0 +10
L40A LR LR
comp=Z,3µm,21.0s
WLAR **White Oak Lake** **113.01** **56** PFAKE 06 25 20.0 +10
WLAR LR LR
comp=Z,2µm,19.0s
X40A **Basin Creek Fa** **113.10** **55** PFAKE 06 25 20.0 +10
X40A LR LR
comp=Z,2µm,20.0s
COWI **Conover** **113.11** **42** PFAKE 06 25 20.0 +10
COWI LR LR
comp=Z,3µm,20.0s
D41A **Chassel** **113.19** **41** PFAKE 06 25 20.0 +10
D41A LR LR
comp=Z,2µm,19.0s
H41A **Junction City** **113.20** **43** PFAKE 06 25 20.0 +10
H41A LR LR
comp=Z,4µm,22.0s
I41A **Arkdale** **113.20** **44** PFAKE 06 25 20.0 +10
I41A LR LR
comp=Z,5µm,20.0s
F41A **Three Lakes** **113.24** **42** PFAKE 06 25 20.0 +10
F41A LR LR
comp=Z,4µm,21.0s
JFWS **Jewell Farm** **113.25** **45** PFAKE 06 25 20.0 +9.5
JFWS LR LR
comp=Z,3µm,18.0s
Z41A **Richland Creek** **113.33** **56** PFAKE 06 25 20.0 +9.1
Z41A LR LR
comp=Z,2µm,19.0s
N41A **Harden Midland** **113.36** **48** PFAKE 06 25 20.0 +9.2
N41A LR LR
comp=Z,4µm,20.0s
WHAR **Wooly Hollow** **113.40** **54** PFAKE 06 25 20.0 +9.0
WHAR LR LR
comp=Z,2µm,20.0s
UALR **University of** **113.45** **54** PFAKE 06 25 20.0 +8.9
UALR LR LR
comp=Z,3µm,20.0s
W41B **Gary Mavity, V** **113.45** **54** PFAKE 06 25 20.0 +8.9
W41B LR LR
comp=Z,2µm,19.0s
CCM **Cathedral Cave** **113.67** **51** PFAKE 06 25 20.0 +8.5
CCM LR LR
comp=Z,3µm,20.0s
G42A **Mountain** **113.85** **43** PFAKE 06 25 20.0 +8.4
G42A LR LR
comp=Z,4µm,19.0s
L42A **Oliver, Polo** **113.90** **46** PFAKE 06 25 20.0 +8.2
L42A LR LR
comp=Z,2µm,20.0s
I42A **Draeger Farm,** **113.91** **44** PFAKE 06 25 20.0 +8.2
I42A LR LR
comp=Z,6µm,20.0s
H42A **Shiocton** **114.00** **43** PFAKE 06 25 20.0 +8.1
H42A LR LR
comp=Z,4µm,22.0s
T42A **Van Buren** **114.01** **52** PFAKE 06 25 20.0 +7.9
T42A LR LR
comp=Z,5µm,20.0s
P42A **Winchester** **114.01** **49** PFAKE 06 25 20.0 +7.9
P42A LR LR
comp=Z,2µm,19.0s
P42A **Winchester** **114.01** **49** P PKPdf 06 25 12.2 +0.2
baz=284
CCAR **Cane Creek** **114.07** **55** PFAKE 06 25 20.0 +7.7
CCAR LR LR
comp=Z,2µm,20.0s
SLM **Saint Louis** **114.31** **50** PFAKE 06 25 20.0 +7.3
SLM LR LR
comp=Z,5µm,20.0s
FVM **French Village** **114.32** **51** PFAKE 06 25 20.0 +7.3
FVM LR LR
comp=Z,3µm,20.0s
G43A **Wallace** **114.34** **42** PFAKE 06 25 20.0 +7.5
G43A LR LR
comp=Z,3µm,18.0s
E43A **Lone Tree Farm** **114.44** **41** PFAKE 06 25 20.0 +7.3
E43A LR LR
comp=Z,3µm,20.0s
FURI **Furi** **114.44** **277** PFAKE 06 25 30.0 +16
FURI LR LR
comp=Z,700nm,20.0s
H43A **Windswept, Lux** **114.53** **43** PFAKE 06 25 20.0 +7.1
H43A LR LR
comp=Z,3µm,21.0s
HDIL **Hopedale** **114.55** **48** PFAKE 06 25 20.0 +6.9
HDIL LR LR
comp=Z,3µm,20.0s
HBAR **Harrisburg** **114.65** **53** PFAKE 06 25 20.0 +6.6
HBAR LR LR
comp=Z,2µm,19.0s
K43A **Burlington** **114.66** **45** PFAKE 06 25 20.0 +6.8
K43A LR LR
comp=Z,4µm,19.0s
X43A **Marvell** **114.68** **54** PFAKE 06 25 30.0 +17
X43A LR LR
comp=Z,2µm,19.0s
AKASG **Malin Array Be** **114.75** **324** PKP **PKiKP** **06 25 11.9 -1.3**
comp=Z,1.0nm,0.5s,baz=56,slow=2.6,SNR=8.6
AKBB **Malin Array Si** **114.75** **324** PFAKE 06 25 20.0 +6.9
AKBB LR LR
comp=Z,1µm,19.0s
KIEV **Kiev** **114.76** **324** PFAKE 06 25 20.0 +6.8
KIEV LR LR
comp=Z,1µm,20.0s
E44A **Grand Marais A** **115.05** **40** PFAKE 06 25 30.0 +16
E44A LR LR
comp=Z,2µm,19.0s
GNAR **Gosnell** **115.08** **53** PFAKE 06 25 30.0 +16
GNAR LR LR
comp=Z,2µm,20.0s
PARMO **Parma** **115.14** **52** PFAKE 06 25 30.0 +16
PARMO LR LR
comp=Z,4µm,20.0s
KMBO **Kilima Mbogo** **115.17** **266** PFAKE 06 25 30.0 +15
KMBO LR LR
comp=Z,700nm,19.0s
Q44A **Meyer Farm, Va** **115.17** **49** PFAKE 06 25 30.0 +16
Q44A LR LR
comp=Z,4µm,19.0s
PVMO **Portageville** **115.23** **52** PFAKE 06 25 30.0 +15
PVMO LR LR
comp=Z,4µm,20.0s
M44A **Midewin, Midew** **115.24** **47** PFAKE 06 25 30.0 +16
M44A LR LR
comp=Z,3µm,20.0s
SIUC **Southern Illin** **115.31** **51** PFAKE 06 25 30.0 +15
SIUC LR LR
comp=Z,4µm,21.0s
VBMS **Vicksburg** **115.41** **57** PFAKE 06 25 30.0 +15
VBMS LR LR
comp=Z,2µm,19.0s
BR101 **Keskin Array S** **115.47** **312** *e*PKPdf **PKiKP** **06 25 13.7 -1.4**
BR101 *e*PKKPbc **PKKPbc** **06 35 46.9 -2.9**
BRTR **Keskin Array B** **115.47** **312** PKP **PKiKP** **06 25 13.7 -1.4**
comp=Z,1.4nm,0.8s,baz=170,slow=1.9,SNR=2.6
BRTR PKKPbc **PKKPbc** **06 35 46.9 -2.9**
comp=Z,0.9nm,0.9s,baz=270,slow=4.3,SNR=3.6
GLAT **Glass** **115.59** **52** PFAKE 06 25 30.0 +15
GLAT LR LR
comp=Z,4µm,20.0s
MMAI **Mount Meron Ar** **115.60** **304** PKP **PKPdf** **06 25 15.4 -0.1**
comp=Z,0.9nm,0.3s,baz=20,slow=2.7,SNR=4.6
HALT **Halls** **115.63** **53** PFAKE 06 25 30.0 +15
HALT LR LR
comp=Z,3µm,20.0s
OXF **Oxford** **115.87** **54** PFAKE 06 25 30.0 +14
OXF LR LR
comp=Z,1µm,19.0s
OLIL **Olney** **115.91** **49** PFAKE 06 25 30.0 +14
OLIL LR LR
comp=Z,4µm,19.0s
T45A **Paducah** **115.92** **51** PFAKE 06 25 30.0 +14
T45A LR LR
comp=Z,2µm,21.0s
P45A **Graceland, Par** **115.97** **48** PFAKE 06 25 30.0 +14
P45A LR LR
comp=Z,3µm,20.0s
SFIN **Lafayette** **116.21** **47** PFAKE 06 25 30.0 +14
SFIN LR LR
comp=Z,4µm,19.0s
USIN **University of** **116.44** **50** PFAKE 06 25 30.0 +13
USIN LR LR
comp=Z,5µm,20.0s
M46A **Old House Fiel** **116.45** **46** PFAKE 06 25 30.0 +13
M46A LR LR
comp=Z,4µm,19.0s
SUW **Suwalki** **116.53** **329** PFAKE 06 25 30.0 +14
SUW LR LR
comp=Z,2µm,20.0s
GLMI **Grayling** **116.54** **42** PFAKE 06 25 30.0 +13
GLMI LR LR
comp=Z,4µm,19.0s
D47A **Chapleau** **116.69** **39** P **PKPdf** **06 25 17.5 +0.5**
baz=293
WVT **Waverly** **116.77** **52** PFAKE 06 25 30.0 +13
WVT LR LR
comp=Z,4µm,20.0s
PLAL **Pickwick Lake** **116.84** **53** PFAKE 06 25 30.0 +12
PLAL LR LR
comp=Z,2µm,18.0s
BLO **Bloomington** **116.98** **49** PFAKE 06 25 30.0 +12
BLO LR LR
comp=Z,4µm,21.0s
HFS **Hagfors** **117.02** **338** PKP **PKPdf** **06 25 15.9 -1.3**
comp=Z,1.7nm,0.5s,baz=116,slow=3.4,SNR=11
L47A **Sherwood** **117.09** **45** P **PKPdf** **06 25 18.2 +0.2**
baz=289
T47A **Sharon Grove** **117.12** **51** PFAKE 06 25 30.0 +12
T47A LR LR
comp=Z,4µm,22.0s
147A **Livingston** **117.18** **56** PFAKE 06 25 30.0 +12
147A LR LR
comp=Z,2µm,20.0s
R47A **Wooly Knot Far** **117.22** **49** P **PKPdf** **06 25 18.3 +0.1**
baz=286
NB2 **NORSAR Subarra** **117.26** **340** PKPdf **PKPdf** **06 25 17.2 -0.6**
comp=Z,1.1nm,0.6s,baz=44,slow=1.9
NB200 **NORSAR Array S** **117.26** **340** *e*PKPdf **PKPdf** **06 25 16.9 -0.9**
NOA **NORSAR Array B** **117.26** **340** PKP **PKPdf** **06 25 16.9 -0.9**
comp=Z,1.4nm,0.6s,baz=48,slow=1.9,SNR=7.9
WCI **Wyandotte Cave** **117.41** **49** PFAKE 06 25 30.0 +11
WCI LR LR
comp=Z,3µm,19.0s
WCI **Wyandotte Cave** **117.41** **49** P **PKPdf** **06 25 19.0 +0.3**
baz=286
E48A **Lockeyer** **117.51** **40** P **PKPdf** **06 25 18.7 0.0**
baz=294
M48A **Edgerton** **117.59** **46** PFAKE 06 25 30.0 +11
M48A LR LR
comp=Z,3µm,20.0s
MYIG **Mrida** **117.62** **69** PFAKE 06 25 30.0 +10
MYIG LR LR
comp=Z,2µm,20.0s
L48A **N Adams** **117.64** **45** P **PKPdf** **06 25 19.7 +0.7**
baz=290
V48A **Smith Brothers** **117.66** **52** PFAKE 06 25 30.0 +11
V48A LR LR
comp=Z,4µm,20.0s
S48A **Wiedeman Farm,** **117.75** **50** P **PKPdf** **06 25 20.0 +0.7**
baz=286
X48A **Hartselle** **117.79** **54** PFAKE 06 25 30.0 +10
X48A LR LR
comp=Z,2µm,20.0s
AAM **Ann Arbor** **118.07** **44** PFAKE 06 25 30.0 +10
AAM LR LR
comp=Z,4µm,20.0s
M49A **Liberty Center** **118.12** **45** P **PKPdf** **06 25 20.8 +0.8**
baz=290
LRAL **Lakeview Retre** **118.15** **55** PFAKE 06 25 30.0 +10
LRAL LR LR
comp=Z,2µm,19.0s
N49A **Columbus Grove** **118.16** **46** PFAKE 06 25 30.0 +10
N49A LR LR
comp=Z,3µm,20.0s
N49A **Columbus Grove** **118.16** **46** P **PKPdf** **06 25 21.0 +0.9**
baz=289
O49A **Covington** **118.28** **47** PFAKE 06 25 30.0 +10
O49A LR LR
comp=Z,3µm,20.0s
T49A **Edmonton** **118.30** **50** PFAKE 06 25 30.0 +10
T49A LR LR
comp=Z,5µm,21.0s
Y49A **Blount Mountai** **118.44** **54** PFAKE 06 25 30.0 +9.2
Y49A LR LR
comp=Z,2µm,20.0s

SWET **Sewanee** 118.49 53 PFAKE 06 25 30.0 +9.1
SWET LR LR
comp=Z,4µm,20.0s
BRAL **Brewton** 118.51 57 PFAKE 06 25 30.0 +9.0
BRAL LR LR
comp=Z,1µm,20.0s
D50A **G1974 Best Tow** 118.68 38 P **PKPdf** **06 25 21.5 +0.7**
baz=296
M50A **Fremont** 118.81 45 PFAKE 06 25 30.0 +8.7
M50A LR LR
comp=Z,3µm,20.0s
KONO **Kongsberg** 118.82 340 PFAKE 06 25 30.0 +9.2
KONO LR LR
comp=Z,2µm,20.0s
T50A **Nancy** 118.86 50 P **PKPdf** **06 25 21.8 +0.3**
baz=287
MLR **Muntele Rosu** 118.88 320 PFAKE 06 25 30.0 +8.5
MLR LR LR
comp=Z,2µm,22.0s
KWP **Kalwaria Pacla** 118.98 325 *e*PKPdf **PKPdf** **06 25 20.4 -1.0**
KWP **Kalwaria Pacla** 118.98 325 *e*PKIKP **PKPdf** **06 25 20.4 -1.0**
Z50A **Ashland** 118.98 55 PFAKE 06 25 30.0 +8.1
Z50A LR LR
comp=Z,1µm,19.0s
W50A **Signal Mountai** 118.98 53 PFAKE 06 25 30.0 +8.1
W50A LR LR
comp=Z,4µm,21.0s
250A **Grady** 118.99 56 PFAKE 06 25 30.0 +8.1
250A LR LR
comp=Z,2µm,21.0s
S50A **Richmond** 119.00 50 P **PKPdf** **06 25 21.6 -0.1**
baz=287
U50A **Jamestown** 119.02 51 P **PKPdf** **06 25 21.8 -0.1**
baz=286
TEIG **Tepich** 119.05 70 PFAKE 06 25 30.0 +7.7
TEIG LR LR
comp=Z,1µm,21.0s
E51A **G1948 Merrick** 119.17 39 P **PKPdf** **06 25 22.2 +0.4**
baz=296
ACSO **Alum Creek Sta** 119.25 46 PFAKE 06 25 30.0 +7.8
ACSO LR LR
comp=Z,2µm,20.0s
BOSA **Boshof** 119.25 233 PKP **PKPdf** **06 25 22.6 -0.1**
comp=Z,1.7nm,0.8s,baz=270,slow=1.0,SNR=2.5
Q51A **Peebles** 119.38 48 PFAKE 06 25 30.0 +7.5
Q51A LR LR
comp=Z,4µm,19.0s
P51A **Williamsport** 119.44 47 PFAKE 06 25 30.0 +7.4
P51A LR LR
comp=Z,2µm,19.0s
N51A **Ashland** 119.45 45 PFAKE 06 25 30.0 +7.4
N51A LR LR
comp=Z,3µm,19.0s
N51A **Ashland** 119.45 45 P **PKPdf** **06 25 22.2 -0.4**
baz=291
X51A **Calhoun** 119.51 53 PFAKE 06 25 30.0 +7.1
X51A LR LR
comp=Z,4µm,21.0s
PLCA **Paso Flores** 119.53 143 PKP **PKPdf** **06 25 22.6 -0.3**
comp=Z,0.8nm,0.4s,baz=292,slow=2.2,SNR=13
PLCA PKKPbc **PKKPbc** **06 35 33.9 -1.4**
comp=Z,1.8nm,0.8s,baz=74,slow=7.2,SNR=6.1
CPCT **Cooper Cave** 119.54 52 PFAKE 06 25 30.0 +7.1
CPCT LR LR
comp=Z,3µm,19.0s
O51A **Pataskala** 119.55 46 P **PKPdf** **06 25 22.7 0.0**
baz=290
V51A **Loudon** 119.58 52 PFAKE 06 25 30.0 +7.0
V51A LR LR
comp=Z,2µm,20.0s
F52A **Sundridge** 119.59 39 P **PKPdf** **06 25 22.6 0.0**
baz=296
MANT **Manisa** 119.61 312 PFAKE 06 25 30.0 +6.7
MANT LR LR
comp=Z,2µm,21.0s
D52A **ZEK Kipawa Sen** 119.64 38 P **PKPdf** **06 25 23.1 +0.4**
baz=297
151A **Opelika** 119.64 55 P **PKPdf** **06 25 23.2 +0.1**
baz=284
VLDQ **Val d'Or** 119.68 36 PFAKE 06 25 30.0 +7.2
VLDQ LR LR
comp=Z,3µm,18.0s
UZH **Uzhgorod** 119.70 324 *e*PKIKP **PKiKP** **06 25 26.9 +4.1**
UZH *e* 06 25 37.0
451A **Vernon** 119.72 58 PFAKE 06 25 30.0 +6.6
451A LR LR
comp=Z,2µm,20.0s
E52A **Mattawa** 119.80 39 P **PKPdf** **06 25 23.7 +0.7**
baz=297
TZTN **Tazewell** 119.99 51 PFAKE 06 25 40.0 +16
TZTN LR LR
comp=Z,5µm,21.0s
TKL **Tuckaleechee C** 120.07 52 PFAKE 06 25 40.0 +16
TKL LR LR
comp=Z,2µm,19.0s
152A **Waverly Hall** 120.10 55 PFAKE 06 25 40.0 +16
152A LR LR
comp=Z,2µm,20.0s
W52A **Murphy** 120.11 52 PFAKE 06 25 40.0 +16
W52A LR LR
comp=Z,4µm,19.0s
O52A **Adamsville** 120.11 46 PFAKE 06 25 40.0 +16
O52A LR LR
comp=Z,2µm,20.0s
SADO **Sadowa** 120.15 40 PFAKE 06 25 40.0 +16
SADO LR LR
comp=Z,3µm,21.0s
V52A **Sevierville** 120.15 51 PFAKE 06 25 40.0 +16
V52A LR LR
comp=Z,2µm,20.0s
352A **Blakely** 120.21 57 PFAKE 06 25 40.0 +16
352A LR LR
comp=Z,2µm,21.0s
ALGO **Algonquin Park** 120.32 39 P **PKPdf** **06 25 23.6 -0.4**
baz=297
Y52A **Lilburn** 120.33 54 PFAKE 06 25 40.0 +15
Y52A LR LR
comp=Z,3µm,20.0s
TGUH **Tegucigalpa,Un** 120.41 77 PFAKE 06 25 40.0 +15
TGUH LR LR
comp=Z,2µm,20.0s
N53A **Lisbon** 120.58 45 P **PKPdf** **06 25 25.0 +0.3**
baz=292
ALN **Alexandroupoli** 120.61 315 PFAKE 06 25 40.0 +15
ALN LR LR
comp=Z,400nm,20.0s
P53A **Whipple** 120.65 47 PFAKE 06 25 40.0 +15
P53A LR LR
comp=Z,2µm,20.0s
ERPA **Erie** 120.67 43 PFAKE 06 25 40.0 +15
ERPA LR LR
comp=Z,4µm,19.0s
253A **Americus** 120.73 56 PFAKE 06 25 40.0 +15
253A LR LR
comp=Z,2µm,20.0s
ALLY **Alegheny Colle** 120.74 44 PFAKE 06 25 40.0 +15
ALLY LR LR
comp=Z,5µm,21.0s
U53A **Fall Branch** 120.79 51 P **PKPdf** **06 25 25.2 -0.1**
baz=288
V53A **Saluda** 120.81 51 PFAKE 06 25 40.0 +15
V53A LR LR
comp=Z,3µm,21.0s
453A **Whigham** 120.86 57 PFAKE 06 25 40.0 +14
453A LR LR
comp=Z,2µm,20.0s
RGN **Rugen** 120.90 334 PFAKE 06 25 40.0 +15
RGN LR LR
comp=Z,2µm,21.0s
BG3 **Lake Jocassee** 120.92 52 PFAKE 06 25 40.0 +14
BG3 LR LR
comp=Z,3µm,19.0s
GOGA **Godfrey** 120.93 54 PFAKE 06 25 40.0 +14
GOGA LR LR
comp=Z,2µm,21.0s
N54A **Moraine State** 121.11 45 PFAKE 06 25 40.0 +14
N54A LR LR
comp=Z,4µm,20.0s
M54A **Oil Creek Stat** 121.13 44 PFAKE 06 25 40.0 +14
M54A LR LR
comp=Z,4µm,20.0s
O54A **Avella** 121.13 46 P **PKPdf** **06 25 26.7 +0.9**
baz=292
SCHQ **Schefferville** 121.23 25 PKP **PKPdf** **06 25 25.6 0.0**
SCHQ LR LR
comp=Z,4µm,20.0s
SCHQ **Schefferville** 121.23 25 PKP **PKPdf** **06 25 25.6 0.0**
comp=Z,5.7nm,1.2s,baz=304,slow=3.6,SNR=4.5
Q54A **Coxs Mills** 121.23 47 P **PKPdf** **06 25 25.8 -0.2**
baz=291
TIGA **Tifton** 121.33 56 PFAKE 06 25 40.0 +13
TIGA LR LR
comp=Z,2µm,22.0s
LSZ **Lusaka** 121.34 249 PFAKE 06 25 40.0 +13
LSZ LR LR
comp=Z,1µm,19.0s
PLVO **Plevna** 121.35 39 PFAKE 06 25 40.0 +14
PLVO LR LR
comp=Z,3µm,21.0s
OKC **Ostrava-Krasne** 121.39 327 AMS AMS 07 18 10.0
comp=Z,2µm,20.9s
154A **Montrose** 121.43 55 PFAKE 06 25 40.0 +13
154A LR LR
comp=Z,2µm,20.0s
PSZ **Piszkesteto** 121.45 325 PFAKE 06 25 40.0 +14
PSZ LR LR
comp=Z,2µm,20.0s
G55A **Calabogie** 121.47 39 P **PKPdf** **06 25 27.1 +0.8**
baz=298
H55A **Tweed** 121.50 40 P **PKPdf** **06 25 27.1 +0.7**
baz=297
HODGE **Hodges** 121.67 53 PFAKE 06 25 40.0 +13
HODGE LR LR
comp=Z,3µm,20.0s
L55A **Hinsdale** 121.70 43 P **PKPdf** **06 25 27.8 +0.9**
baz=295
MCWV **Mont Chateau** 121.71 46 PFAKE 06 25 40.0 +13
MCWV LR LR
comp=Z,2µm,20.0s
VYHS **Vyhne** 121.75 326 *e*PKIKP **PKPdf** **06 25 23.8 -2.9**
VYHS **Vyhne** 121.75 326 *e*PKP **PKPdf** **06 25 23.8 -2.9**
MORC **Moravsky Berou** 121.75 327 PFAKE 06 25 40.0 +13
MORC LR LR
comp=Z,2µm,22.0s
MMNY **Mt. Morris Dam** 121.83 42 PFAKE 06 25 40.0 +13
MMNY LR LR
comp=Z,3µm,22.0s
PAULI **Pauline** 121.85 52 PFAKE 06 25 40.0 +13
PAULI LR LR
comp=Z,3µm,20.0s
VTS **Vitosha** 121.86 318 PFAKE 06 25 40.0 +13
VTS LR LR
comp=Z,1µm,20.0s
R55A **Marlinton** 122.00 48 P **PKPdf** **06 25 27.9 +0.3**
baz=291
DPC **Dobruska-Polom** 122.07 329 *e*PKP **PKPdf** **06 25 29.0 +1.7**
DPC AMS AMS 07 18 20.0
comp=Z,1µm,21.3s
DPC **Dobruska-Polom** 122.07 329 *e*PKIKP **PKPdf** **06 25 29.0 +1.7**
DPC MLR MLR
comp=Z,1µm,21.3s
KMSC **Kings Mountain** 122.12 52 PFAKE 06 25 40.0 +12
KMSC LR LR
comp=Z,4µm,21.0s
255A **Hazlehurst** 122.13 55 PFAKE 06 25 40.0 +12
255A LR LR
comp=Z,2µm,18.0s
UPC **Upice** 122.14 329 *e*PP PP 06 27 09.9 +7.9
UPC *e*PS **PS** **06 36 58.1 +1.1**
UPC *ex* x 06 44 31.4
UPC AMS AMS 07 21 10.0
comp=Z,2µm,19.5s
BLA **Blacksburg** 122.15 49 PFAKE 06 25 40.0 +12
BLA LR LR
comp=Z,3µm,21.0s
555A **McAlpin** 122.17 58 PFAKE 06 25 40.0 +12
555A LR LR
comp=Z,2µm,19.0s
O56A **Blue Knob Stat** 122.38 45 PFAKE 06 25 40.0 +12
O56A LR LR
comp=Z,4µm,19.0s
JSC **Jenkinsville** 122.44 52 PFAKE 06 25 40.0 +11
JSC LR LR
comp=Z,2µm,20.0s
MODS **Modra-Piesok** 122.68 326 *e*PKIKP **PKPdf** **06 25 26.7 -1.8**
MODS **Modra-Piesok** 122.68 326 *e*PKP **PKPdf** **06 25 26.7 -1.8**
SSPA **Standing Stone** 122.71 44 PFAKE 06 25 40.0 +11
SSPA LR LR
comp=Z,4µm,20.0s
656A **Willston** 122.71 58 PFAKE 06 25 40.0 +11
656A LR LR
comp=Z,2µm,20.0s
JTS **JuntasAbangare** 122.76 81 PKP **PKPdf** **06 25 29.9 +0.2**
JTS LR LR
comp=Z,2µm,21.0s
JTS **JuntasAbangare** 122.76 81 PKP **PKPdf** **06 25 29.9 +0.2**
comp=Z,3.6nm,0.5s,baz=62,slow=19,SNR=4.2
KRUC **Moravsky** 122.78 327 *e*PKP **PKPdf** **06 25 30.1 +1.4**
456A **Hilliard** 122.81 57 PFAKE 06 25 40.0 +11
456A LR LR
comp=Z,2µm,20.0s
PVCC **Panska Ves** 122.86 329 AMS AMS 07 22 50.0
comp=Z,µm,18.6s
BRG **Berggiesshubel** 122.96 330 *e*PKP **PKPdf** **06 25 28.8 -0.2**
comp=Z,3.6nm,0.6s
BRG *i* 06 25 30.6
comp=Z,5.6nm,0.7s
BRG PP **PP** **06 27 11.0 +3.5**
BRG SS SS 06 44 32.0 +43
comp=N,1µm,19.7s
comp=E,743nm,16.4s
comp=Z,2µm,19.3s
BRG **Berggiesshubel** 122.96 330 *e*PKIKP **PKPdf** **06 25 28.8 -0.2**
BRG 06 27 11.0
BRG pmax pmax
comp=Z,4.0nm,0.6s
BRG MLR MLR
comp=N,1µm,19.7s
BRG MLR MLR
comp=E,743nm,16.4s
BRG MLR MLR
comp=Z,2µm,19.3s
LONY **Lake Ozonia** 123.11 39 PFAKE 06 25 40.0 +10
LONY LR LR
comp=Z,2µm,20.0s
GOPC **GO Pecny, Ondr** 123.12 329 *e*PKP **PKPdf** **06 25 28.6 -0.7**
GOPC *e*PP **PP** **06 27 13.1 +4.4**
GOPC *e*SP SP 06 37 07.8 +7.3
GOPC AMS AMS 07 24 40.0
comp=Z,1µm,18.8s
GOPC **GO Pecny, Ondr** 123.12 329 *e*PKIKP **PKPdf** **06 25 28.6 -0.7**
GOPC *e* 06 27 13.1
GOPC *e*SP SP 06 37 07.8 +7.3
GOPC MLR MLR
comp=Z,1µm,18.8s
TREC **Trest** 123.13 328 AMS AMS 07 19 00.0
comp=Z,2µm,20.8s
CLL **Collm** 123.15 331 *e*PKPdf **PKPdf** **06 25 29.4 +0.1**
CLL LR LR
comp=Z,1µm,20.0s
CLL **Collm** 123.15 331 *i* PKPdf **PKPdf** **06 25 29.0 -0.3**
comp=Z,12nm,1.1s
CLL *e* 06 25 55.0
CLL *e*PP **PP** **06 27 11.0 +2.2**
CLL *e*PKSdf PKSdf 06 29 12.0 +6.3
CLL *e*PPP PPP 06 29 48.0
CLL *e*SKSac **SKSac** **06 32 33.0 +4.9**
CLL *e*SKKSac **SKKSac** **06 34 12.0 +6.5**
CLL *e* 06 35 30.0
CLL *e* 06 36 48.0
CLL *e*PPS PPS 06 38 33.0
CLL *e*SS **SS** **06 43 55.0 +4.1**
CLL *e*SSS SSS 06 48 13.0
CLL *e*SSSS 06 51 48.0
CLL LmV 07 24 00.0
comp=Z,1µm,19.0s
CLL **Collm** 123.15 331 *i* PKIKP **PKPdf** **06 25 29.0 -0.3**
CLL *e* 06 27 11.0
CLL *e* 06 32 33.0
CLL pmax pmax
comp=Z,12nm,1.1s
CLL MLR MLR
comp=Z,1µm,19.0s
PRU **Pruhonice** 123.20 329 *e*PKP **PKPdf** **06 25 29.2 -0.2**
PRU *e*PP **PP** **06 27 13.8 +4.6**
PRU *e*PS PS 06 37 08.1 +1.7
PRU *ex* x 06 44 22.9
PRU AMS AMS 07 22 00.0
comp=Z,2µm,21.0s
PRU **Pruhonice** 123.20 329 *e*PKIKP **PKPdf** **06 25 29.2 -0.2**
PRU *e* 06 27 13.8
PRU *e*SP SP 06 37 08.1 +7.0
PRU MLR MLR
comp=Z,2µm,21.0s
DIVS **Divibare** 123.30 321 *e*PKPdf **PKPdf** **06 25 29.6 -0.3**
DIVS LR LR
comp=Z,800nm,20.0s
257A **Skidaway Islan** 123.30 55 PFAKE 06 25 40.0 +10
257A LR LR
comp=Z,3µm,21.0s
BINY **Binghamton** 123.34 42 PFAKE 06 25 40.0 +10
BINY LR LR
comp=Z,3µm,20.0s
957A **Wimauma** 123.36 60 PFAKE 06 25 40.0 +9.4
957A LR LR
comp=Z,1µm,20.0s
ESPN **Las Esperanzas** 123.37 79 PFAKE 06 25 40.0 +9.0
ESPN LR LR
comp=Z,1µm,22.0s
LIT **Litokhoron** 123.42 315 PFAKE 06 25 40.0 +10
LIT LR LR
comp=Z,800nm,21.0s
IDI **Anoyia** 123.43 309 PFAKE 06 25 40.0 +9.3
IDI LR LR
comp=Z,600nm,21.0s
FRNY **Flat Rock** 123.62 38 PFAKE 06 25 40.0 +9.4
FRNY LR LR
comp=Z,3µm,18.0s
NCB **Newcomb** 123.65 39 PFAKE 06 25 40.0 +9.2
NCB LR LR
comp=Z,3µm,19.0s
NHSC **New Hope** 123.66 53 PFAKE 06 25 40.0 +8.9
NHSC LR LR
comp=Z,3µm,21.0s
PAGS **Pennsylvania G** 123.69 44 PFAKE 06 25 40.0 +9.1
PAGS LR LR
comp=Z,4µm,19.0s
CONA **Conrad Observa** 123.72 326 *e*PKiKP **PKPdf** **06 25 29.8 -0.9**
comp=Z,3.9nm,0.6s
R58B **Mineral** 123.77 47 PFAKE 06 25 40.0 +8.9
R58B LR LR
comp=Z,4µm,19.0s
658A **Bunnell** 123.78 58 PFAKE 06 25 40.0 +8.6
658A LR LR
comp=Z,2µm,20.0s
FNA **Florina** 123.90 317 *e*PKPdf **PKPdf** **06 25 30.9 -0.3**
FNA LR LR
comp=Z,900nm,21.0s
FNA **Florina** 123.90 317 *e*PKIKP **PKPdf** **06 25 30.9 -0.3**
FNA MLR MLR
comp=Z,900nm,21.0s
SDMD **Soldier's Deli** 123.94 45 PFAKE 06 25 40.0 +8.5
SDMD LR LR
comp=Z,2µm,20.0s
DWPF **Disney Wildern** 123.95 60 PFAKE 06 25 40.0 +8.2
DWPF LR LR
comp=Z,2µm,20.0s
PEL **Peldehue** 123.95 136 PFAKE 06 25 40.0 +8.2
PEL LR LR
comp=Z,1µm,20.0s
CBN **Corbin Frederi** 124.04 47 PFAKE 06 25 40.0 +8.3
CBN LR LR
comp=Z,4µm,20.0s
N59A **State Game Lan** 124.05 43 PFAKE 06 25 40.0 +8.3
N59A LR LR
comp=Z,4µm,21.0s
KHC **Kasperske Hory** 124.22 329 *e*PKPdf **PKPdf** **06 25 31.3 -0.1**
KHC LR LR
comp=Z,600nm,20.0s
KHC **Kasperske Hory** 124.22 329 *e*PKP **PKPdf** **06 25 31.4 -0.1**
KHC *ex* x 06 25 46.0
KHC *ex* x 06 25 57.9
KHC *e*PP **PP** **06 27 22.6 +6.4**
KHC *e*SP SP 06 37 14.5 +4.3
KHC *ex* x 06 44 31.1
KHC AMS AMS 07 19 20.0
comp=Z,2µm,19.8s
KHC **Kasperske Hory** 124.22 329 *e*PKIKP **PKPdf** **06 25 31.4 -0.1**
KHC *e* 06 25 46.0
KHC *e* 06 27 22.6
KHC *e*SP SP 06 37 14.5 +4.3
KHC *e*SS SS 06 44 31.1 +26
KHC MLR MLR
comp=Z,2µm,19.8s
MOX **Moxa** 124.25 331 *e*L L 07 22 33.1
comp=Z,1µm,20.9s
ACCN **Adirondack Com** 124.29 40 PFAKE 06 25 40.0 +8.0
ACCN LR LR
comp=Z,2µm,19.0s
ARSA **Arzberg** 124.29 326 *i* PKiKP **PKPdf** **06 25 31.8 +0.1**
comp=Z,3.4nm,0.9s
GEC2 **GERESS Array S** 124.34 328 *e*PKPdf **PKPdf** **06 25 31.9 +0.1**
GEC2 LR LR
comp=Z,2µm,20.0s
GEC2 **GERESS Array S** 124.34 328 *e*PKIKP **PKPdf** **06 25 31.9 +0.1**
GEC2 MLR MLR
comp=Z,2µm,20.0s
GERES **GERESS Array B** 124.34 328 PKP **PKPdf** **06 25 31.5 -0.3**
comp=Z,5.2nm,0.5s,baz=73,slow=1.7,SNR=36
GEA0 **GERESS Array S** 124.34 328 *e*PKPdf **PKPdf** **06 25 31.2 -0.6**
VT1 **Waterbury** 124.39 38 PFAKE 06 25 40.0 +7.8
VT1 LR LR
comp=Z,2µm,19.0s
LUPA **Lehigh Univers** 124.46 43 PFAKE 06 25 40.0 +7.5
LUPA LR LR
comp=Z,400nm,20.0s
TTG **Podgorica** 124.57 319 PFAKE 06 25 40.0 +7.4
TTG LR LR
comp=Z,1µm,21.0s
MOA **Molln** 124.64 327 *e*PKiKP **PKPdf** **06 25 32.2 -0.1**
comp=Z,2.0nm,0.5s
TIR **Tirane** 124.67 318 PFAKE 06 25 40.0 +7.2
TIR LR LR
comp=Z,2µm,21.0s
BLY **Banja Luka** 124.70 323 PFAKE 06 25 40.0 +7.2
BLY LR LR
comp=Z,2µm,20.0s
CNNC **Cliffs of the** 124.75 50 PFAKE 06 25 40.0 +6.8
CNNC LR LR
comp=Z,3µm,21.0s
ODNJ **Ogdensburg** 124.76 43 PFAKE 06 25 40.0 +7.0
ODNJ LR LR
comp=Z,4µm,21.0s
PERS **Pernice** 124.87 325 *e*PKPdf **PKPdf** **06 25 31.9 -0.9**
SOKA **Soboth** 124.90 326 *e*PKiKP **PKPdf** **06 25 32.6 -0.3**
comp=Z,5.0nm,0.9s
061Z **Ochoppi** 124.91 62 PFAKE 06 25 40.0 +6.3
061Z LR LR
comp=Z,1µm,20.0s
LBNH **Lisbon** 124.94 38 PFAKE 06 25 40.0 +6.7
LBNH LR LR
comp=Z,3µm,20.0s
BRNJ **Basking Ridge** 124.97 43 PFAKE 06 25 40.0 +6.6
BRNJ LR LR
comp=Z,4µm,21.0s
HNH **Hanover** 125.00 39 PFAKE 06 25 40.0 +6.6
HNH LR LR
comp=Z,3µm,20.0s
GRA1 **Grafenberg Arr** 125.06 330 PFAKE 06 25 40.0 +6.6
GRA1 LR LR
comp=Z,2µm,21.0s
GRF **Grafenberg Arr** 125.06 330 *e*PKPdf **PKPdf** **06 25 32.5 -0.5**
baz=52,slow=1.2
GRF *e*L L 07 21 23.5
comp=Z,2µm,21.5s
GRFO **Grafenberg** 125.06 330 PFAKE 06 25 40.0 +6.6
GRFO LR LR
comp=Z,2µm,22.0s
060A **Indiantown** 125.12 61 PFAKE 06 25 50.0 +16
060A LR LR
comp=Z,2µm,19.0s
PAL **Palisades** 125.27 42 PFAKE 06 25 50.0 +16
PAL LR LR
comp=Z,5µm,21.0s
CPNY **Central Park** 125.33 43 PFAKE 06 25 50.0 +16
CPNY LR LR
comp=Z,6µm,22.0s
BOJS **Bojanci** 125.44 324 *i* PKPdf **PKPdf** **06 25 34.1 +0.2**
VISS **Visnje** 125.51 325 *i* PKPdf **PKPdf** **06 25 34.1 +0.1**
KBA **Koelnbreinsper** 125.60 327 *e*PKiKP **PKPdf** **06 25 33.7 -0.7**
comp=Z,3.9nm,0.7s
QUA2 **Belchertown** 125.68 40 PFAKE 06 25 50.0 +15
QUA2 LR LR
comp=Z,3µm,19.0s
YLE **Yale** 125.77 42 PFAKE 06 25 50.0 +15
YLE LR LR

comp=Z,3µm,20.0s
PQI Presque Isle 125.86 34 PFAKE 06 25 50.0 +15
PQI LR LR
comp=Z,3µm,19.0s
PKME Peaks-Kenny Pk 125.96 36 PFAKE 06 25 50.0 +15
PKME LR LR
comp=Z,3µm,20.0s
HRV Adam Dziewonsk 126.07 40 PFAKE 06 25 50.0 +14
HRV LR LR
comp=Z,3µm,19.0s
ABTA Abfaltersbach 126.25 327 *e*PKiKP **PKPdf 06 25 35.0 -0.5**
comp=Z,8.0nm,1.0s
WES Weston 126.28 40 PFAKE 06 25 50.0 +14
WES LR LR
comp=Z,3µm,19.0s
WATA Walderalm 126.39 328 *i* PKiKP **PKPdf 06 25 35.2 -0.6**
comp=Z,5.3nm,0.4s
EKA Eskdalemuir Ar 126.39 343 PKP **PKPdf 06 25 35.2 -0.2**
comp=Z,1.0nm,0.4s,baz=10,slow=2.4,SNR=15
BATG Bathurst New B 126.54 32 PFAKE 06 25 50.0 +14
BATG LR LR
comp=Z,3µm,22.0s
MOTA Moosalm 126.63 328 *e*PKiKP **PKPdf 06 25 35.8 -0.6**
comp=Z,4.3nm,0.5s
SQTA Sankt Quirin 126.66 328 *i* PKiKP **PKPdf 06 25 35.9 -0.4**
comp=Z,6.3nm,0.7s
RETA Reutte 126.72 329 *e*PKiKP **PKPdf 06 25 36.6 +0.2**
comp=Z,6.1nm,0.9s
MEM Membach 126.85 334 ⇑PKiKP **PKPdf 06 25 38.0 +1.6**
FETA Feichten 127.04 328 *i* PKiKP **PKPdf 06 25 37.6 +0.4**
comp=Z,16nm,1.3s
BCLA Clavier 127.30 334 ⇑PKiKP **PKPdf 06 25 38.0 +0.7**
DAVA Damuels 127.31 329 *e*PKiKP **PKPdf 06 25 38.0 +0.4**
comp=Z,4.9nm,0.5s
EMMW East Machias 127.34 35 PFAKE 06 25 50.0 +12
EMMW LR LR
comp=Z,2µm,19.0s
BFO Black Forest 127.39 331 PFAKE 06 25 50.0 +12
BFO LR LR
comp=Z,900nm,19.0s
UCC Uccle 127.41 335 PFAKE 06 25 50.0 +12
UCC LR LR
comp=Z,2µm,20.0s
WLF Walferdange 127.47 333 PFAKE 06 25 50.0 +12
WLF LR LR
comp=Z,10µm,20.0s
FUORN Ofenpass-Fuorn 127.54 328 PFAKE 06 25 50.0 +11
FUORN LR LR
comp=Z,2µm,20.0s
ATAH Atahualpa 127.60 103 PKP **PKPdf 06 25 39.7 +0.2**
comp=Z,3.2nm,0.6s,baz=201,slow=8.6,SNR=2.4
DAVOX Daos/Dischmat 127.64 328 PKP **PKPdf 06 25 37.8 -0.5**
comp=Z,6.2nm,0.5s,baz=257,slow=3.1,SNR=9.6
TIP Timpagrande 127.79 317 PFAKE 06 25 50.0 +11
TIP LR LR
comp=Z,1µm,20.0s
DOU Dourbes 127.84 334 ⇑PKiKP **PKPdf 06 25 38.1 -0.2**
NNA Nana 127.90 109 PKP **PKPdf 06 25 39.4 -0.1**
comp=Z,3.2nm,0.4s,baz=211,slow=12,SNR=2.0
ECH Echery 128.03 331 PFAKE 06 25 50.0 +11
ECH LR LR
comp=Z,1µm,22.0s
LMN Caledonia Moun 128.12 33 PFAKE 06 25 50.0 +10
LMN LR LR
comp=Z,2µm,20.0s
TUE Stuetta 128.12 328 PFAKE 06 25 50.0 +10
TUE LR LR
comp=Z,2µm,21.0s
AQU L'Aquila 128.31 322 PFAKE 06 25 50.0 +10
AQU LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 128.74 94 PFAKE 06 25 50.0 +7.7
OTAV LR LR
comp=Z,1µm,20.0s
CEL Celeste 128.82 316 PFAKE 06 25 50.0 +8.7
CEL LR LR
comp=Z,1µm,22.0s
VLC Villacollemand 129.03 325 PFAKE 06 25 50.0 +8.5
VLC LR LR
comp=Z,2µm,21.0s
GO02 Mina Guanaco 129.04 128 PFAKE 06 25 50.0 +7.5
GO02 LR LR
comp=Z,1µm,20.0s
SENIN Lac Senin/Sane 129.24 329 PFAKE 06 25 50.0 +7.9
SENIN LR LR
comp=Z,2µm,22.0s
TSUM Tsumeb 129.55 240 PFAKE 06 25 50.0 +6.6
TSUM LR LR
comp=Z,1µm,18.0s
HAL Halifax 129.55 33 PFAKE 06 25 50.0 +7.5
HAL LR LR
comp=Z,3µm,22.0s
GBN Guysborough 130.14 31 PFAKE 06 25 50.0 +6.4
GBN LR LR
comp=Z,4µm,20.0s
CLF Chambon-Foret 130.41 334 PFAKE 06 25 50.0 +5.9
CLF LR LR
comp=Z,3µm,20.0s
BNI Bardonecchia 130.46 329 PFAKE 06 25 50.0 +5.5
BNI LR LR
comp=Z,3µm,21.0s
POPC Popayan, Colom 130.72 91 *e*P **PKPdf 06 25 45.6 +0.4**
POPC Popayan, Colom 130.72 91 *e*P **PKPdf 06 25 45.6 +0.4**
LVC Limon Verde 130.84 126 PKP **PKPdf 06 25 44.9 -0.4**
comp=Z,0.8nm,0.4s,baz=148,slow=2.7,SNR=2.8
WDD Wied Dalam 130.94 314 PFAKE 06 26 00.0 +14
WDD LR LR
comp=Z,600nm,21.0s
YOTC Yotoco, Valle 131.16 89 *e*P **PKPdf 06 25 44.9 -0.9**
YOTC Yotoco, Valle 131.16 89 *e*P **PKPdf 06 25 44.9 -0.9**
SSB Saint Sauveur 131.38 330 PFAKE 06 26 00.0 +14
SSB LR LR
comp=Z,1µm,20.0s
HELC Santa Helena 132.06 86 *e*P **PKPdf 06 25 48.2 +0.4**
HELC Santa Helena 132.06 86 *e*P **PKPdf 06 25 48.2 +0.4**
RREF El Recreo 132.20 88 *e*P **PKPdf 06 25 50.9 +2.4**
RREF El Recreo 132.20 88 *e*P **PKPdf 06 25 50.9 +2.4**
PRAC Prado 132.59 90 *e*P **PKPdf 06 25 48.2 -0.2**
PRAC Prado 132.59 90 *e*P **PKPdf 06 25 48.2 -0.2**
ZARC Zaragoza, Cauc 132.75 85 *e*P **PKPdf 06 25 47.6 -1.1**
ZARC Zaragoza, Cauc 132.75 85 *e*P **PKPdf 06 25 47.6 -1.1**
ROSC El Rosal 133.22 88 *e*PKPdf **PKPdf 06 25 52.1 +2.1**
ROSC LR LR
comp=Z,500nm,18.0s
ROSC El Rosal 133.22 88 *e*P **PKPdf 06 25 50.9 +0.8**
ROSC El Rosal 133.22 88 *e*P **PKPdf 06 25 50.9 +0.8**
ROSC El Rosal 133.22 88 PKP **PKPdf 06 25 49.9 -0.1**
comp=Z,3.2nm,0.4s,baz=154,slow=17,SNR=5.1
OCAC Ocana 134.27 84 *e*P **PKPdf 06 25 50.9 -0.8**
OCAC Ocana 134.27 84 *e*P **PKPdf 06 25 50.9 -0.8**
LPAZ La Paz 134.35 119 *e*PKPpre **PKPdf 06 25 50.5 -1.9**
LPAZ *e*PKPdf **PKiKP 06 25 50.7 -3.0**
LPAZ SKPbc **SKPab 06 29 23.6 +0.9**
LPAZ La Paz 134.35 119 *e*PKiKP **PKPdf 06 25 50.5 -1.9**
LPAZ La Paz 134.35 119 PKP **PKPdf 06 25 52.0 -0.4**
comp=Z,2.0nm,0.5s,baz=34,slow=4.7,SNR=11
LPAZ SKPbc **SKPab 06 29 23.6 +0.9**
comp=Z,3.3nm,0.8s,baz=198,slow=3.2,SNR=5.3
KEST Kesra 134.61 317 PKP **PKPdf 06 25 51.1 -0.6**
KEST LR LR
comp=Z,900nm,20.0s
KEST Kesra 134.61 317 PKP **PKPdf 06 25 51.1 -0.6**
comp=Z,2.7nm,0.6s,baz=315,slow=1.4,SNR=3.0
SDDR Presa de Saban 135.06 68 PFAKE 06 26 00.0 +5.6
SDDR LR LR
comp=Z,1µm,20.0s
SDD Santo Domingo 136.44 69 PFAKE 06 26 10.0 +13
SDD LR LR
comp=Z,1µm,21.0s
SDV Santo Domingo 136.91 83 *e*PKPpre PKPpre 06 25 48.2
SDV PKP **PKPdf 06 25 56.6 0.0**
SDV *e*SKPbc **SKiKP 06 29 32.0 -0.2**
SDV LR LR
comp=Z,1µm,20.0s
SDV Santo Domingo 136.91 83 *e*P **PKPdf 06 25 58.9 +2.2**
SDV Santo Domingo 136.91 83 *e*P **PKPdf 06 25 58.9 +2.2**
SDV Santo Domingo 136.91 83 PKP **PKPdf 06 25 56.6 0.0**
comp=Z,6.4nm,0.7s,baz=287,slow=3.0,SNR=11
SDV SKPbc **SKPbc 06 29 30.7 +3.6**
comp=Z,5.1nm,0.9s,baz=258,slow=9.4,SNR=5.5
CPUP Villa Florida 137.25 139 PKP **PKPdf 06 25 56.4 -0.4**
comp=Z,1.4nm,0.7s,baz=274,slow=1.9,SNR=4.1
AGP Aguadilla 139.02 68 PFAKE 06 26 10.0 +7.6
AGP LR LR
comp=Z,2µm,20.0s
MPR Mayaguez 139.07 68 PFAKE 06 26 10.0 +7.5
MPR LR LR
comp=Z,1µm,20.0s
CRPR Cabo Rojo, PR 139.14 68 PFAKE 06 26 10.0 +7.4
CRPR LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 139.73 332 PKhKP PKPpre 06 25 52.2
comp=Z,0.3nm,0.4s,baz=1.0,slow=3.0,SNR=4.9
ESDC PKP **PKPdf 06 26 01.2 +0.2**
comp=Z,0.4nm,0.4s,baz=26,slow=2.1,SNR=4.7
ESDC SKPbc **SKPbc 06 29 37.1 +2.9**
comp=Z,0.2nm,0.4s,baz=47,slow=3.1,SNR=2.4
CART Cartagena 139.81 327 PFAKE 06 26 10.0 +6.5
CART LR LR
comp=Z,1µm,21.0s
SJG San Juan 140.01 68 PFAKE 06 26 10.0 +5.6
SJG LR LR
comp=Z,1µm,20.0s
CBYP Canovanas 140.24 68 PFAKE 06 26 10.0 +5.0
CBYP LR LR
comp=Z,1µm,20.0s
HUMP Col San Antoni 140.28 68 PFAKE 06 26 10.0 +5.0
HUMP LR LR
comp=Z,1µm,19.0s
MTP Monte Pirata 140.56 68 PFAKE 06 26 10.0 +4.4
MTP LR LR
comp=Z,1µm,20.0s
STVI Saint Thomas 141.05 67 PFAKE 06 26 20.0 +13
STVI LR LR
comp=Z,2µm,22.0s
PESTR Estremoz 142.02 335 PFAKE 06 26 20.0 +12
PESTR LR LR
comp=Z,900nm,20.0s
SMRT St. Maarten 142.85 67 *e*PKPpre PKPpre 06 26 02.0
SMRT LR LR
comp=Z,1µm,20.0s
SEUS St. Eustatius 143.08 68 PFAKE 06 26 20.0 +9.3
SEUS LR LR
comp=Z,1µm,20.0s
TAM Tamanrasset 143.78 302 *e*PKPpre PKPpre 06 26 02.2
TAM LR LR
comp=Z,600nm,20.0s
TAM Tamanrasset 143.78 302 *e*PKHKP PKPpre 06 26 02.2
TAM MLR MLR
comp=Z,600nm,20.0s
ANWB Willy Bob 144.13 67 PFAKE 06 26 20.0 +7.1
ANWB LR LR
comp=Z,2µm,20.0s
SPB Sao Paulo 145.29 146 *e*PKPbc **PKPbc 06 26 10.3 -0.7**
SPB LR LR
comp=Z,800nm,19.0s
MDT Midelt 145.31 325 PKPbc **PKPbc 06 26 11.0 +0.1**
comp=Z,5.9nm,0.5s,baz=48,slow=1.3,SNR=28
GRGR Grenville 145.43 76 PFAKE 06 26 20.0 +4.3
GRGR LR LR
comp=Z,1µm,21.0s
FDF Fort de France 145.44 72 *e*PKPdf **PKPbc 06 26 11.4 -0.4**
FDF LR LR
comp=Z,1µm,20.0s
FDF Fort de France 145.44 72 *e*PKP2 **PKPbc 06 26 11.4 -0.4**
FDF MLR MLR
comp=Z,1µm,20.0s
SVB Belmont 145.63 74 *e*PKPdf **PKPdf 06 26 11.1 -1.0**
PTGA Pitinga 146.89 99 *e*PKPdf **PKPdf 06 26 16.0 +1.8**
PTGA LR LR
comp=Z,1µm,20.0s
PTGA Pitinga 146.89 99 PKPbc **PKPdf 06 26 16.4 +2.1**
comp=Z,16nm,0.5s,baz=252,slow=4.2,SNR=42
TOA0 Torodi Ar. Sit 150.29 287 *e*PKPdf **PKPdf 06 26 21.5 +1.8**
TOA0 *e*PKPbc **PKPbc 06 26 23.8 -1.1**
TORD Torodi Ar. Bea 150.29 287 PKPbc **PKPbc 06 26 24.6 -0.3**
comp=Z,6.0nm,0.4s,baz=104,slow=3.2,SNR=35
TOA1 Torodi Ar. Sit 150.29 287 *e*PKPbc **PKPbc 06 26 24.6 -0.3**
TOC4 Torodi Ar. Sit 150.29 287 PFAKE 06 26 30.0 -1.2
TOC4 LR LR
comp=Z,900nm,20.0s
TOB5 Torodi Ar. Sit 150.31 287 PFAKE 06 26 30.0 -1.2
TOB5 LR LR
comp=Z,900nm,20.0s
TOC5 Torodi Ar. Sit 150.32 287 PFAKE 06 26 30.0 -1.3
TOC5 LR LR
comp=Z,900nm,20.0s
BDFB Brasilia 150.87 136 *e*pPKPdf **PKPdf 06 26 23.6 +2.9**
BDFB *e*PKPbc **PKPbc 06 26 26.6 +0.2**
BDFB LR LR
comp=Z,2µm,19.0s
BDFB Brasilia 150.87 136 *e*PKIKP **PKPdf 06 26 23.6 +2.9**
BDFB MLR MLR
comp=Z,2µm,19.0s
BDFB Brasilia 150.87 136 PKPbc **PKPbc 06 26 26.6 +0.2**
comp=Z,7.2nm,0.5s,baz=239,slow=2.2,SNR=16
KIC Kosan Boka 157.48 274 *e*P **PKPab 06 27 00.3 -1.4**
comp=Z,48nm,0.7s
DBIC Dimbokro 157.58 275 PKPab **PKPab 06 27 01.2 -0.9**
comp=Z,20nm,0.5s,baz=77,slow=3.8,SNR=23
TIC Tinomodi 157.75 275 *e*P **PKPab 06 27 01.9 -1.0**
LIC Lamto 157.77 274 *e*P **PKPab 06 27 01.9 -1.1**
comp=Z,77nm,0.6s

IDC 05 06:18:56.2±1.9,**4°87S**×**152°38E**,**h0km**,**mb3.8**/5,
mb1 4.0/5,**mb1mx3.6**/39,**mbtmp3.8**/5,**Error ellipse:**
s-maj=82.0km s-min=23.8km az=125.0,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.08**	**228**	P	P	06 24 03.3	-0.4
	0.8nm,0.7s,baz=51,slow=9.9,SNR=7.1						
ASAR	**Alice Springs**	**25.81**	**222**	P	P	06 24 29.9	+0.5
	0.9nm,0.7s,baz=52,slow=8.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**29.25**	**241**	P	P	06 24 59.8	-0.4
	1.1nm,0.5s,baz=68,slow=8.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**80.98**	**326**	P	P	06 31 14.0	+1.4
	0.4nm,0.3s,baz=95,slow=4.6,SNR=2.2						
ILAR	**Eielson Array**	**82.39**	**22**	P	P	06 31 19.1	-0.7
	1.2nm,0.7s,baz=245,slow=5.7,SNR=13						
TORD	**Torodi Ar. Bea**	**149.93**	**288**	PKPbc	PKPbc	06 38 48.6	-1.0
	0.6nm,0.8s,baz=48,slow=2.1,SNR=2.9						

BJI ***05*** *06:21:04.2,5.°01S×152.°84E,h7km,mb4.9/48,mB5.2/26, Ms5.2/18,Ms7 4.9/17*
ISCJB ***05*** *06:21:05.9±0.3,5.°11S±0.°04×152.°55E±0.°05,h10km, mb4.9/109,Error ellipse: s-maj=8.1km s-min=4.7km az=40.6*
IDC ***05*** *06:21:05.2±0.5,5.°15S×152.°58E,h0km,mb4.6/26, mb1 4.7/26,mb1mx4.6/40,mbtmp4.6/26,Error ellipse: s-maj=18.5km s-min=10.8km az=109.0*
NEIC ***05*** *06:21:07.2±0.2,5.°12S×152.°55E,h10km,mb5.2/73,Error ellipse: s-maj=6.5km s-min=3.7km az=127.0*
MOS ***05*** *06:21:09.8±0.8,4.°98S×152.°44E,h33km,mb5.1/30,Error ellipse: s-maj=12.4km s-min=7.6km az=102.3*

ISC 05 06:21:06.2±0.4,**5°30S**±0.°06×**152°83E**±0.°07,**h10km**,**n233,**
σ1**°33**/250,**mb5.1**/108,**3C**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.28**	**329**	*e*Pn	**Pg**	**06 21 31.6**	**+0.8**
MANU	**Manus Island**	**6.33**	**300**	*e*Pn	**Pn**	**06 22 43.1**	**+3.4**
COEN	**Coen**	**12.83**	**227**	*e*Pn	**Pn**	**06 24 09.3**	**+0.6**
PATS	**Pohnpei**	**13.24**	**24**	*e*Pn	**Pn**	**06 24 14.4**	**+0.1**
CTA	**Charters Tower**	**16.04**	**203**	Pn	**P**	**06 24 55.2**	**-0.2**
	0.2nm,0.3s,baz=32,slow=10,SNR=6.1						
KWAJ	**Kwajalein Atol**	**20.33**	**47**	*e*P	**P**	**06 25 40.2**	**-2.5**
	719nm,0.4s						
KWAJ	**Kwajalein Atol**	**20.33**	**47**	*e*P	**P**	**06 25 40.2**	**-2.5**
KWAJ				pmax	pmax		
	comp=Z,719nm,0.4s						
FAKI	**Fak Fak**	**20.66**	**276**	*e*P	Pn	06 25 47.1	-1.6
	comp=Z,33nm,0.9s						
DZM	**Mont Dzumac**	**21.26**	**143**	P	**P**	**06 25 56.6**	**+3.8**
	comp=Z,15nm,0.9s,baz=330,slow=20,SNR=3.6						
MTN	**Manton Dam**	**22.68**	**249**	*e*P	**P**	**06 26 07.0**	**-1.1**
	comp=Z,32nm,0.7s						
WRAB	**Tennant Creek**	**23.13**	**229**	*e*P	**P**	**06 26 13.8**	**+1.1**
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**23.13**	**229**	*i* P	**P**	**06 26 13.3**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**23.13**	**229**	*e*P	**P**	**06 26 13.5**	**+0.7**
WB2				*e*P	**P**	**06 26 14.3**	**+1.5**
WR1	**Warramunga Arr**	**23.14**	**229**	*e*P	**P**	**06 26 12.8**	**0.0**
	comp=Z,36nm,0.9s						
WR1				*e*S	**S**	**06 30 19.8**	**-4.8**
WRA	**Warramunga Arr**	**23.14**	**229**	P	**P**	**06 26 12.8**	**0.0**
	comp=Z,12nm,0.7s,baz=52,slow=9.9,SNR=36						
WRA				S	**S**	**06 30 19.8**	**-4.8**
	comp=Z,3.5nm,0.9s,baz=53,slow=17,SNR=4.7						
WRA				ScP	**ScP**	**06 33 41.3**	**+1.4**
	comp=Z,1.1nm,1.0s,baz=43,slow=3.1,SNR=3.4						
AS01	**Alice Springs**	**25.77**	**223**	*e*P	**P**	**06 26 39.5**	**+2.1**
AS31	**Alice Springs**	**25.81**	**223**	*e*P	**P**	**06 26 38.8**	**+1.1**
	comp=Z,7.4nm,0.7s						
ASAR	**Alice Springs**	**25.81**	**223**	P	**P**	**06 26 37.8**	**+0.1**
	comp=Z,4.5nm,0.5s,baz=57,slow=8.5,SNR=30						
ASAR				S	**S**	**06 31 09.4**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=45,slow=18,SNR=2.6						
ASAR				ScP	**ScP**	**06 33 48.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=7.6,slow=2.8,SNR=2.6						
STKA	**Stephens Creek**	**28.46**	**200**	*e*P	**P**	**06 27 01.6**	**+0.1**
	comp=Z,2.2nm,1.0s						
STKA	**Stephens Creek**	**28.46**	**200**	*e*P	**P**	**06 27 01.6**	**+0.1**
STKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**28.46**	**200**	P	**P**	**06 27 01.9**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=0.0,slow=10,SNR=9.4						
FITZ	**Fitzroy Crossi**	**29.45**	**242**	*e*P	**P**	**06 27 09.2**	**-1.2**
	comp=Z,2.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**29.45**	**242**	P	**P**	**06 27 09.2**	**-1.2**
	comp=Z,14nm,0.7s,baz=62,slow=7.4,SNR=35						
BBOO	**Buckleboo**	**31.53**	**208**	*e*P	**P**	**06 27 28.6**	**0.0**
	comp=Z,12nm,1.1s						
FORT	**Forrest**	**34.43**	**220**	*e*P	**P**	**06 27 54.1**	**+0.1**
	comp=Z,22nm,0.7s						
MBWA	**Marble Bar**	**35.75**	**241**	*e*P	**P**	**06 28 04.6**	**-1.0**
	comp=Z,62nm,1.8s						
JNU	**Nakatsue**	**43.51**	**333**	*e*P	**P**	**06 29 07.0**	**-3.0**
	comp=Z,19nm,1.0s						
JNU	**Nakatsue**	**43.51**	**333**	P	**P**	**06 29 07.0**	**-3.0**
	comp=Z,30nm,1.3s,baz=110,slow=5.9,SNR=6.0						
MJAR	**Matsushiro Arr**	**43.81**	**343**	P	**P**	**06 29 10.4**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=168,slow=8.4,SNR=5.2						
MAJO	**Matsushiro**	**43.81**	**343**	*e*P	**P**	**06 29 10.4**	**-2.0**
MAJO	**Matsushiro**	**43.81**	**343**	*e*P	**P**	**06 29 10.4**	**-2.0**
CISI	**Cisompet, Garu**	**44.77**	**265**	*e*P	**P**	**06 29 18.4**	**-2.2**
	comp=Z,43nm,0.6s						
KSRS	**Korea Array**	**48.45**	**333**	P	**P**	**06 29 47.7**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=150,slow=7.7,SNR=8.8						
KS15	**Wonju Array Si**	**48.46**	**333**	*e*P	**P**	**06 29 47.6**	**-1.3**
KSAR	**Wonju Array Be**	**48.46**	**333**	P	**P**	**06 29 47.6**	**-1.3**
KSAR	**Wonju Array Be**	**48.46**	**333**	P	**P**	**06 29 47.7**	**-1.3**
NJ2	**Nanjing**	**49.24**	**321**	*e*P	**P**	**06 29 55.2**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAJ	**Asahikawa**	**50.04**	**350**	P	**P**	**06 30 00.6**	**-0.4**
	comp=Z,8.5nm,0.7s,baz=207,slow=9.3,SNR=9.8						
USRK	**Ussuriysk Ar.**	**52.72**	**341**	P	**P**	**06 30 20.4**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=207,slow=11,SNR=9.2						
GYA	**Guiyang**	**54.72**	**308**	*e*P	**P**	**06 30 38.2**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**54.76**	**336**	*e*P	**P**	**06 30 36.2**	**+0.2**
UTTA	**Uttaradit**	**56.43**	**295**	P	**P**	**06 30 48.6**	**+0.1**
TYV	**Tymovskoe**	**56.62**	**352**	*e*P	**P**	**06 30 49.0**	**-0.2**
TYV				*e*		06 38 38.9	
TYV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
TYV				MLR	MLR		
	comp=N,1µm,19.0s						
TYV				MLR	MLR		
	comp=Z,1µm,19.0s						
XAN	**Xi'an**	**57.00**	**317**	P	**P**	**06 30 51.5**	**-0.8**
XAN				pmax	pmax		
	comp=Z,17nm,0.7s						
XAN	**Xi'an**	**57.00**	**317**	*e*P	**P**	**06 30 50.2**	**-2.1**
	comp=Z,13nm,0.8s						
XAN	**Xi'an**	**57.00**	**317**	*e*P	**P**	**06 30 50.2**	**-2.1**
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI	**Kunming**	**57.28**	**304**	P	**P**	**06 30 55.5**	**+0.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
KMI				LR	LR		
	comp=Z,340nm,18.3s						
KMI				LR	LR		
	comp=Z,330nm,17.1s						
KMI				LR	LR		
	comp=Z,680nm,16.5s						
KLR	**Kul'dur**	**57.32**	**344**	*i* P	**P**	**06 30 54.0**	**-0.3**
KLR	**Kul'dur**	**57.32**	**344**	P	**P**	**06 30 53.7**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=165,slow=3.9,SNR=21						
KLR				PcP	**PcP**	**06 31 48.0**	**-0.4**
	comp=Z,6.7nm,0.8s,baz=140,slow=2.8,SNR=8.2						
PAYA	**Payao**	**57.58**	**297**	P	**P**	**06 30 56.7**	**0.0**
	comp=Z,12nm,0.8s						
CM01	**Chiang Mai Arr**	**58.09**	**295**	*e*P	**P**	**06 30 59.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**58.11**	**295**	*i* P	**P**	**06 31 00.6**	**+0.2**
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**06 31 00.1**	**-0.4**
	comp=Z,7.8nm,0.9s,baz=106,slow=5.2,SNR=34						
CMMT	**Chiang Mai**	**58.22**	**296**	P	**P**	**06 31 01.0**	**-0.2**
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**58.23**	**296**	*e*P	**P**	**06 30 59.6**	**-1.6**
	comp=Z,14nm,1.0s						
CHTO	**Chiang Mai**	**58.23**	**296**	*e*P	**P**	**06 30 59.6**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s						
CHTO	**Chiang Mai**	**58.23**	**296**	P	**P**	**06 31 01.1**	**-0.1**
	comp=Z,56nm,1.2s						
PETK	**Petropavlovsk-**	**58.33**	**3**	P	**P**	**06 31 01.2**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=167,slow=7.9,SNR=11						
PEA1	**Petropavlovsk-**	**58.33**	**3**	*e*P	**P**	**06 31 01.2**	**-0.1**
CD2	**Chengdu**	**59.08**	**311**	P	**P**	**06 31 06.2**	**-0.8**
CD2				pmax	pmax		
	comp=Z,70nm,0.6s						
HHC	**Hu-ho-hao-te**	**59.46**	**324**	*e*P	**P**	**06 31 09.7**	**+0.2**
HHC				sP	pwP	06 31 15.9	0.0
HHC				S	**S**	**06 39 20.5**	**+1.4**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,320nm,6.1s						
HHC				LR	LR		
	comp=Z,460nm,14.9s						
HHC				LR	LR		
	comp=Z,610nm,16.5s						
HHC				LR	LR		
	comp=Z,840nm,16.0s						
LZH	**Lanzhou**	**61.60**	**316**	*e*P	**P**	**06 31 25.2**	**+0.9**
LZH				pP	pwP	06 31 29.7	-0.9
LZH				sP	sP	06 31 33.2	+5.8
LZH				pmax	pmax		
	comp=Z,32nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,5.7s						
LZH				LR	LR		
	comp=Z,1µm,13.0s						
LZH				LR	LR		
	comp=Z,1µm,12.8s						
LZH				LR	LR		
	comp=Z,2µm,13.5s						
MA2	**Magadan**	**64.69**	**359**	*e*P	**P**	**06 31 41.2**	**-2.9**
	comp=Z,8.2nm,0.8s						
MA2	**Magadan**	**64.69**	**359**	*i* P	**P**	**06 31 44.1**	**0.0**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MA2	**Magadan**	**64.69**	**359**	P	**P**	**06 31 43.9**	**-0.2**
	comp=Z,6.0nm,0.6s,baz=147,slow=4.7,SNR=14						
GTA	**Gaotai**	**66.04**	**317**	⇑P	**P**	**06 31 53.6**	**+0.1**
GTA				pP	sP	06 31 56.8	+0.2
GTA				sP	pwP	06 32 00.3	+0.5
GTA				PcP	**PcP**	**06 32 23.8**	**-0.2**
GTA				ScS	**SKSac**	**06 41 44.8**	**-5.1**
GTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,170nm,6.2s						
GTA				LR	LR		
	comp=Z,380nm,17.8s						
GTA				LR	LR		
	comp=Z,620nm,17.5s						
GTA				LR	LR		
	comp=Z,710nm,17.5s						
ULN	**Ulaanbaatar**	**66.43**	**328**	*e*P	**P**	**06 31 55.5**	**-0.3**
	comp=Z,3.1nm,0.9s						
ULN	**Ulaanbaatar**	**66.43**	**328**	*i* P	**P**	**06 31 55.5**	**-0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s						

SHL	Shillong	66.58	301	*e*P		P	06 31 56.2	-1.1	
	comp=Z,27nm,0.9s								
SHL	Shillong	66.58	301	*e*P		P	06 31 56.2	-1.1	
SHL				pmax		pmax			
	comp=Z,27nm,0.9s								
SONA0	Songino Array	66.75	328	*e*P		P	06 31 57.2	-0.7	
SONM	Songino Array	66.75	328	P		P	06 31 57.2	-0.7	
	comp=Z,2.7nm,0.8s,baz=149,slow=5.8,SNR=15								
SEY	Seymchan	68.04	360	*i* P		P	06 32 05.5	0.0	
SEY	Seymchan	68.04	360	P		P	06 32 05.7	+0.2	
	comp=Z,0.7nm,0.3s,baz=184,slow=6.1,SNR=6.2								
LSA	Lhasa	68.54	305	*e*P		P	06 32 09.1	-0.9	
	comp=Z,12nm,0.9s								
LSA	Lhasa	68.54	305	*e*P		P	06 32 09.1	-0.9	
LSA				pmax		pmax			
	comp=Z,12nm,0.9s								
ZAK	Zakamensk	69.93	329	*e*P		P	06 32 16.8	-0.9	
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.3s								
TLY	Talaya	70.52	330	*e*P		P	06 32 20.9	-0.3	
TLY				pmax		pmax			
	comp=Z,2.0nm,0.4s								
RAMN	Ramite	71.52	301	*e*P		P	06 32 26.6	-1.4	
	comp=Z,10nm,0.7s								
MOY	Mondy	71.85	329	*e*P		P	06 32 28.4	-0.9	
MOY				pmax		pmax			
	comp=Z,18nm,2.9s								
JIRN	Jiri	72.07	301	*e*P		P	06 32 30.6	-0.9	
GUN	Gumba	72.40	301	*e*P		P	06 32 32.7	-0.7	
	comp=Z,41nm,0.8s								
PKI	Pulchoki	72.71	301	*e*P		P	06 32 34.2	-1.1	
	comp=Z,40nm,1.2s								
PKIN	Phulchoki	72.72	301	*e*P		P	06 32 34.5	-0.8	
KKN	Kakani	72.88	301	*e*P		P	06 32 35.6	-0.5	
DMN	Daman	72.98	301	*e*P		P	06 32 36.3	-0.5	
	comp=Z,60nm,1.0s								
GKN	Gorkha	73.48	301	*e*P		P	06 32 38.7	-0.9	
	comp=Z,72nm,1.1s								
BILL	Bilibino	73.78	5	*e*P		P	06 32 40.1	-0.2	
	comp=Z,19nm,1.1s								
BILL	Bilibino	73.78	5	*e*P		P	06 32 40.1	-0.2	
BILL				pmax		pmax			
	comp=Z,19nm,1.1s								
KOLN	Koldanda	74.31	301	*e*P		P	06 32 43.4	-1.1	
	comp=Z,38nm,0.8s								
DANN	Dangsing	74.32	301	*e*P		P	06 32 43.3	-1.4	
	comp=Z,27nm,0.7s								
PYUN	Piuthan	74.91	301	*e*P		P	06 32 46.8	-1.3	
	comp=Z,58nm,0.8s								
WMQ	Urumqi	76.12	317	P		P	06 32 55.0	+0.5	
WMQ				sP		pwP	06 33 03.0	+2.2	
WMQ				S		S	06 42 43.4	+4.9	
WMQ				pmax		pmax			
	comp=Z,23nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,140nm,4.3s								
WMQ				LR		LR			
	comp=Z,860nm,20.5s								
WMQ				LR		LR			
	comp=Z,710nm,19.3s								
WMQ				LR		LR			
	comp=Z,680nm,26.1s								
ANM	Nome	76.24	17	*e*P		P	06 32 55.3	+0.7	
	comp=Z,32nm,1.0s								
ANM	Nome	76.24	17	*e*P		P	06 32 55.3	+0.7	
ANM				pmax		pmax			
	comp=Z,32nm,1.0s								
SVW2	Sparrevohn	77.27	23	*e*P		P	06 33 02.0	+1.5	
	comp=Z,19nm,0.9s								
RSO	Redoubt South	78.03	24	*e*P		P	06 33 06.4	+1.5	
SEW	Seward	79.22	26	*e*P		P	06 33 12.9	+1.7	
	comp=Z,56nm,1.2s								
RDOG	Red Dog Mine	79.45	15	*e*P		P	06 33 14.5	+2.1	
	comp=Z,83nm,0.9s								
RC01	Rabbit Creek A	79.61	25	*e*P		P	06 33 14.6	+1.2	
	comp=Z,34nm,0.9s								
PPLA	Purkeypile	79.62	22	*e*P		P	06 33 14.3	+0.7	
	comp=Z,54nm,1.6s								
CAST	Castle Rocks	79.95	22	*e*P		P	06 33 15.9	+0.7	
	comp=Z,33nm,1.0s								
PMR	Palmer	80.12	24	*e*P		P	06 33 16.4	+0.3	
	comp=Z,29nm,1.0s								
PMR	Palmer	80.12	24	*e*P		P	06 33 16.4	+0.3	
PMR				pmax		pmax			
	comp=Z,29nm,1.0s								
KNK	Knik Glacier	80.31	25	*e*P		P	06 33 18.9	+1.6	
	comp=Z,36nm,1.2s								
SML	Sawmill	80.56	24	*e*P		P	06 33 19.8	+1.2	
	comp=Z,58nm,0.9s								
SML	Sawmill	80.56	24	*e*P		P	06 33 19.8	+1.2	
SML				pmax		pmax			
	comp=Z,58nm,0.9s								
TRF	Thorofare Moun	80.64	22	*e*P		P	06 33 18.6	-0.5	
	comp=Z,12nm,0.7s								
MK01	Makanchi Array	80.70	319	*e*P		P	06 33 18.7	-0.9	
MK31	Makanchi Array	80.71	319	*e*P		P	06 33 19.5	-0.3	
	comp=Z,5.4nm,1.2s								
MK31	Makanchi Array	80.71	319	*e*P		P	06 33 19.5	-0.3	
MK31				pmax		pmax			
	comp=Z,5.0nm,1.2s								
MK32	Makanchi Array	80.71	319	*e*P		P	06 33 19.3	-0.5	
MKAR	Makanchi Array	80.71	319	P		P	06 33 19.3	-0.5	
	comp=Z,2.7nm,0.8s,baz=109,slow=5.6,SNR=15								
IM3	Indian Mountai	80.84	19	*e*P		P	06 33 21.1	+1.1	
MAKZ	Makanchi	80.92	319	*e*P		P	06 33 19.9	-1.0	
	comp=Z,6.9nm,0.9s								
MAKZ	Makanchi	80.92	319	*e*P		P	06 33 19.9	-1.0	
MAKZ				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SCM	Sheep Creek Mo	80.99	25	*e*P		P	06 33 22.6	+1.7	
	comp=Z,44nm,1.0s								
RND	Reindeer	81.17	23	*e*P		P	06 33 22.3	+0.4	
	comp=Z,34nm,0.8s								
RND	Reindeer	81.17	23	*e*P		P	06 33 22.3	+0.4	
RND				pmax		pmax			
	comp=Z,34nm,0.8s								
DIV	Divide	81.30	26	*e*P		P	06 33 24.1	+1.5	
	comp=Z,22nm,0.9s								
BWN	Browne	81.34	22	*e*P		P	06 33 24.6	+2.0	
	comp=Z,38nm,1.0s								
KLU	Klutina	81.41	25	*e*P		P	06 33 25.2	+2.0	
	comp=Z,45nm,1.0s								
ZAA0	Zalesovo Array	81.58	326	*e*P		P	06 33 22.9	-1.2	
	comp=Z,4.6nm,0.8s								
ZALV	Zalesovo Beam	81.58	326	*e*P		P	06 33 22.5	-1.6	
ZALV	Zalesovo Beam	81.58	326	*e*P		P	06 33 22.5	-1.6	
ZALV	Zalesovo Beam	81.58	326	P		P	06 33 22.9	-1.2	
	comp=Z,4.2nm,0.5s,baz=114,slow=4.9,SNR=17								
ZAA1	Zalesovo Array	81.58	326	*e*P		P	06 33 22.9	-1.2	
DHY	Denali Highway	81.58	23	*e*P		P	06 33 25.3	+1.1	
	comp=Z,24nm,1.0s								
WRH	Wood River Hil	82.00	22	*e*P		P	06 33 26.2	+0.1	
	comp=Z,27nm,1.0s								
HARP	HAARP	82.16	25	*e*P		P	06 33 28.8	+1.7	
	comp=Z,26nm,0.8s								
CCB	Clear Creek Bu	82.20	22	*e*P		P	06 33 27.2	0.0	
	comp=Z,22nm,0.9s								
MDM	Murphy Dome	82.20	22	*e*P		P	06 33 27.8	+0.6	
	comp=Z,26nm,1.2s								
PAX	Paxson	82.29	24	*e*P		P	06 33 28.2	+0.5	
	comp=Z,9.6nm,1.0s								
PAX	Paxson	82.29	24	*e*P		P	06 33 28.3	+0.5	
PAX				pmax		pmax			
	comp=Z,10.0nm,1.0s								
COLA	College	82.30	22	*e*P		P	06 33 28.3	+0.7	
	comp=Z,37nm,0.8s								
COLA	College	82.30	22	*i* P		P	06 33 27.6	0.0	
COLA				pmax		pmax			
	comp=Z,35nm,1.0s								
HDA	Harding Lake	82.40	22	*e*P		P	06 33 28.8	+0.6	
	comp=Z,11nm,1.1s								
IL1	Eielson Array	82.60	22	*e*P		P	06 33 29.0	-0.3	
ILAR	Eielson Array	82.60	22	P		P	06 33 29.4	+0.1	
	comp=Z,15nm,0.9s,baz=252,slow=5.2,SNR=100								
ILB	Eielson Array	82.60	22	*e*P		P	06 33 29.2	-0.1	
	comp=Z,19nm,0.8s								
COLD	Coldfoot	82.71	19	*e*P		P	06 33 32.2	+2.4	
	comp=Z,6.1nm,0.9s								
BALM	Baldy	82.76	26	*e*P		P	06 33 31.0	+0.7	
	comp=Z,22nm,1.1s								
BALM	Baldy	82.76	26	*e*P		P	06 33 31.0	+0.7	
BALM				pmax		pmax			
	comp=Z,22nm,1.1s								
NVS	Novosibirsk	82.76	327	*e*P		P	06 33 29.6	-0.7	
RIDG	Independ'e Rid	82.90	23	*e*P		P	06 33 32.3	+1.4	
	comp=Z,116nm,1.9s								
KDJ	Kajisay	82.97	313	*e*P		P	06 33 32.2	+0.3	
	comp=Z,15nm,0.9s								
MENT	Mentasta	82.99	24	*e*P		P	06 33 32.9	+1.5	
	comp=Z,12nm,0.9s								
DOT	Dot Lake	83.17	24	*e*P		P	06 33 33.3	+1.1	
	comp=Z,31nm,0.9s								
KSH	Kashi	83.28	311	P		P	06 33 36.1	+2.6	
KSH				pP		pwP	06 33 41.0	+1.2	
KSH				PP		PP	06 36 49.7	+4.5	
KSH				S		S	06 43 54.3	-0.2	
KSH				sS		SKKSac	06 44 02.0	+1.5	
KSH				SS		SS	06 49 22.4	+2.9	
KSH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
KSH				pmax		pmax			
	comp=Z,130nm,5.5s								
KSH				LR		LR			
	comp=Z,740nm,15.2s								
KSH				LR		LR			
	comp=Z,440nm,12.1s								
KSH				LR		LR			
	comp=Z,400nm,15.7s								
SCRK	Sand Creek	83.34	23	*e*P		P	06 33 34.4	+1.1	
	comp=Z,14nm,0.9s								
PRP	Porcupine Dome	83.47	22	*e*P		P	06 33 33.9	-0.1	
	comp=Z,26nm,1.9s								
NRN	Naryn	83.67	313	*e*P		P	06 33 36.4	+0.6	
	comp=Z,6.1nm,1.0s								
NRN	Naryn	83.67	313	*e*P		P	06 33 36.4	+0.6	
NRN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
TOLK	Toolik Lake Re	83.67	18	*e*P		P	06 33 36.4	+1.6	
	comp=Z,27nm,1.0s								
ULHL	Ulahol	83.68	313	P		P	06 33 36.6	+1.0	
	SNR=5.1								
FYU	Fort Yukon	84.07	21	*e*P		P	06 33 38.8	+2.1	
	comp=Z,18nm,1.0s								
KURK	Kurchatov	84.17	322	*e*P		P	06 33 37.2	-0.5	
	comp=Z,16nm,1.1s								
KURK				*e*P		P	06 33 37.3	-0.4	
KURK	Kurchatov	84.17	322	*e*P		P	06 33 37.2	-0.5	
KURK				pmax		pmax			
	comp=Z,16nm,1.1s								
KURBB	Kurchatov Arra	84.20	322	P		P	06 33 37.3	-0.5	
	comp=Z,5.9nm,0.9s,baz=107,slow=4.3,SNR=18								
NIL	Nilore	84.28	304	*e*P		P	06 33 38.5	-0.1	
	comp=Z,20nm,0.9s								
NIL	Nilore	84.28	304	*e*P		P	06 33 38.5	-0.1	
NIL				pmax		pmax			
	comp=Z,20nm,0.9s								
TKM2	Tokmak 2	84.29	314	P		P	06 33 39.6	+0.9	
	SNR=9.2								
KZA	Kyzart	84.36	313	P		P	06 33 40.2	+0.8	
	SNR=33								
KBK	Karagaybulak	84.70	314	P		P	06 33 41.8	+1.0	
	SNR=14								
EGAK	Eagle	84.80	23	*e*P		P	06 33 42.0	+1.5	
	comp=Z,14nm,0.9s								
HYT	Haines Junctio	84.86	27	*e*P		P	06 33 42.8	+1.7	
	comp=Z,32nm,1.2s								
CHMS	Chumysh	84.91	314	P		P	06 33 42.5	+0.8	
	SNR=15								
UCH	Uchtor	84.93	313	P		P	06 33 43.1	+0.8	
	SNR=38								
FRU	Bishkek	84.98	314	*e*P		P	06 33 41.0	-1.0	
FRU				pmax		pmax			
	comp=Z,50nm,1.8s								
AAK	Ala-Archa	85.03	313	P		P	06 33 43.4	+1.0	
	SNR=24								
USP	Ospenovka	85.15	314	P		P	06 33 42.8	0.0	
	SNR=23								
DAWY	Dawson	85.22	24	*e*P		P	06 33 45.0	+2.2	
	comp=Z,24nm,1.4s								
SKAG	Skagway	85.43	29	*e*P		P	06 33 46.2	+2.4	
	comp=Z,39nm,1.8s								
AML	Almayashu	85.50	313	P		P	06 33 45.7	+0.6	
	SNR=57								
EKS2	Erkin-Say	85.55	313	P		P	06 33 46.2	+1.2	
	SNR=33								
ARSB	Arslanbob	85.88	312	*e*P		P	06 33 47.1	+0.5	
	comp=Z,67nm,1.1s								
WHY	Whitehorse	86.02	28	*e*P		P	06 33 48.6	+1.7	
	comp=Z,8.8nm,1.1s								
NRIK	Noril'sk	86.44	341	P		P	06 33 48.1	-0.5	
	comp=Z,5.4nm,0.7s,baz=116,slow=4.7,SNR=8.6								
EPYK	Eagle Plains	87.11	22	*e*P		P	06 33 53.5	+1.5	
	comp=Z,33nm,0.9s								
DLBC	Dease Lake	87.79	31	*e*P		P	06 33 56.0	+0.5	
	comp=Z,29nm,1.3s								
KK31	Karatay Array	87.99	313	*e*P		P	06 33 56.8	0.0	
	comp=Z,14nm,1.4s								
KK31	Karatay Array	87.99	313	*e*P		P	06 33 56.8	0.0	
KK31				pmax		pmax			
	comp=Z,14nm,1.4s								
KKAR	Karatay Array	87.99	313	*e*P		P	06 33 56.8	0.0	
	comp=Z,14nm,1.4s								
KKAR	Karatay Array	87.99	313	*e*P		P	06 33 56.8	0.0	
KKAR				pmax		pmax			
	comp=Z,14nm,1.4s								
INK	Inuvik	88.91	21	*e*P		P	06 34 01.4	+0.9	
	comp=Z,70nm,1.9s								
INK	Inuvik	88.91	21	P		P	06 34 00.6	+0.2	
	comp=Z,8.4nm,1.0s,baz=246,slow=4.3,SNR=14								
BVAR	Borovoye Array	89.65	323	P		P	06 34 03.2	-1.1	
	comp=Z,2.4nm,0.7s,baz=113,slow=3.4,SNR=12								
BRVK	Borovoye	89.72	323	*e*P		P	06 34 03.6	-1.0	
	comp=Z,8.1nm,1.3s								
BRVK	Borovoye	89.72	323	*i* P		P	06 34 02.9	-1.7	
BRVK				pmax		pmax			
	comp=Z,9.0nm,1.5s								
NV01	Mina Array Sit	92.37	52	*e*P		P	06 34 19.3	+1.7	
NVAR	Mina Array Bea	92.37	52	P		P	06 34 19.0	+1.5	
	comp=Z,1.1nm,0.5s,baz=309,slow=5.7,SNR=12								
KVN	Kaiserville	92.58	51	*e*P		P	06 34 16.4	-2.1	
	comp=Z,12nm,1.8s								
KVN	Kaiserville	92.58	51	*e*P		P	06 34 16.4	-2.1	
KVN				pmax		pmax			
	comp=Z,12nm,1.8s								
SYO	Syowa Base	93.21	199	⇑*e*sP		sP	06 34 28.0	+4.2	
YKA	Yellowknife Ar	95.85	28	P		P	06 34 33.5	+0.9	
	comp=Z,1.5nm,0.7s,baz=274,slow=4.9,SNR=25								
WALA	Waterton Lakes	96.10	41	*e*P		P	06 34 35.3	+1.0	
ARU	Arti	96.74	326	*i* P		P	06 34 35.1	-1.8	
ARU				pmax		pmax			
	comp=Z,9.0nm,1.5s								
PD31	Pinedale Array	99.16	48	*e*P		Pdif	06 34 49.1	+0.7	
	comp=Z,16nm,2.0s								
PDAR	Pinedale Array	99.16	48	P		Pdif	06 34 49.1	+0.7	
	comp=Z,0.4nm,0.8s,baz=243,slow=4.0,SNR=2.3								
PDAR				PP		PP	06 38 49.1	-1.8	
	comp=Z,0.1nm,0.3s,baz=328,slow=3.2,SNR=2.9								
APA	Apatity	105.81	340	⇑*i* P		Pdif	06 35 15.6	-1.5	
APA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
FIA0	FINESS Array S	111.51	336	*e*PKiKP		PKiKP	06 39 40.5	0.0	
FIA0	FINESS Array S	111.51	336	*e*PKiKP		PKiKP	06 39 40.5	0.0	
FINES	FINESS Array B	111.51	336	PKiKP		PKiKP	06 39 40.5	0.0	
	comp=Z,1.5nm,0.7s,baz=168,slow=2.6,SNR=5.1								
AKASG	Malin Array Be	114.91	324	PKP		PKiKP	06 39 46.5	-0.9	
	comp=Z,1.2nm,0.7s,baz=59,slow=2.7,SNR=4.5								
NB2	NORSAR Subarra	117.38	340	PKPdf		PKPdf	06 39 51.4	-0.5	
	comp=Z,0.4nm,0.7s,baz=44,slow=1.9								
NB200	NORSAR Array S	117.38	340	*e*PKPdf		PKPdf	06 39 51.7	-0.2	
NOA	NORSAR Array B	117.38	340	PKP		PKPdf	06 39 51.7	-0.2	
	comp=Z,0.4nm,0.6s,baz=47,slow=1.8,SNR=4.7								
PLCA	Paso Flores	119.37	143	PKP		PKiKP	06 39 57.6	+1.1	
	comp=Z,0.6nm,0.7s,baz=270,slow=5.1,SNR=2.6								
CLL	Collm	123.30	331	*e*PKPdf		PKPdf	06 40 03.0	-0.5	
CLL				*e*			06 40 12.0		
CLL				*e*			06 40 21.0		
CLL	Collm	123.30	331	*e*PKiKP		PKPdf	06 40 03.0	-0.5	
KHC	Kasperske Hory	124.38	329	*e*PKP		PKiKP	06 40 06.6	+0.6	
KHC	Kasperske Hory	124.38	329	*e*PKiKP		PKiKP	06 40 06.6	+0.6	
GEC2	GERESS Array S	124.49	328	*e*PKPdf		PKiKP	06 40 06.3	0.0	
GEC2	GERESS Array S	124.49	328	*e*PKiKP		PKiKP	06 40 06.3	0.0	
GERES	GERESS Array B	124.49	328	PKP		PKiKP	06 40 06.3	0.0	
	comp=Z,2.3nm,0.7s,baz=77,slow=1.8,SNR=17								
GEA0	GERESS Array S	124.49	328	*e*PKPdf		PKPdf	06 40 06.1	+0.1	
LPAZ	La Paz	134.16	119	PKP		PKiKP	06 40 27.3	0.0	
	comp=Z,1.4nm,0.7s,baz=0.0,slow=0.0,SNR=5.3								
SDV	Santo Domingo	136.74	83	*e*PKPdf		PKiKP	06 40 32.3	+0.2	
FDF	Fort de France	145.30	72	*e*PKPdf		PKPdf	06 40 47.2	+1.8	
FDF	Fort de France	145.30	72	*e*PKP2		PKPdf	06 40 47.2	+1.8	
MDT	Midelt	145.47	325	PKPbc		PKPbc	06 40 45.0	-0.3	
	comp=Z,4.1nm,0.8s,baz=360,slow=2.4,SNR=6.5								
SVB	Belmont	145.48	74	*e*PKPdf		PKPab	06 40 46.4	+0.4	
PTGA	Pitinga	146.70	99	*e*PKPdf		PKPbc	06 40 50.5	+1.0	
TOA0	Torodi Ar. Sit	150.48	287	*e*PKPbc		PKPbc	06 40 59.1	-0.1	
TORD	Torodi Ar. Bea	150.48	287	PKPbc		PKPbc	06 40 58.8	-0.4	
	comp=Z,4.1nm,0.8s,baz=56,slow=3.5,SNR=23								
TOA1	Torodi Ar. Sit	150.49	287	*e*PKPbc		PKPbc	06 40 58.8	-0.4	
BDFB	Brasilia	150.70	136	*e*PKPdf		PKPdf	06 40 54.7	+0.3	
BDFB				*e*PKPdf		PKPdf	06 40 54.9	+0.6	
BDFB				*e*PKPbc		PKiKP	06 41 00.7	+0.2	
BDFB	Brasilia	150.70	136	*e*PKIKP		PKPdf	06 40 54.7	+0.3	
BDFB				*e*			06 40 54.9		
BDFB				*e*			06 41 00.7		
BDFB	Brasilia	150.70	136	PKP		PKPdf	06 40 54.9	+0.6	
	comp=Z,4.9nm,1.0s,baz=252,slow=1.8,SNR=3.3								
BDFB				PKPbc		PiKiKP	06 41 00.7	+0.2	
	comp=Z,4.3nm,0.7s,baz=195,slow=3.5,SNR=8.8								
KIC	Kosan Boka	157.66	274	*e*PKP2		PKPab	06 41 35.7	-0.6	
	comp=Z,38nm,0.8s								
DBIC	Dimbokro	157.76	275	PKPab		PKPab	06 41 35.8	-1.0	
	comp=Z,11nm,0.8s,baz=79,slow=4.0,SNR=12								
TIC	Toumodi	157.93	275	*e*PKP2		PKPab	06 41 36.8	-0.7	
LIC	Lamto	157.95	273	*e*PKP2		PKPab	06 41 36.8	-0.7	
	comp=Z,100nm,1.8s								

MEX 05 06:23:05.9±0.3, 17°.93N×101°.57W, h40km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.33	163	*i* P		Pn		06 23 12.8	-1.6
ZIIG				*i* S		Sn		06 23 18.8	-1.9
ARIG	Puente Sto Nin	1.21	73	*e*P		Pn		06 23 24.9	-1.5
ARIG				*i* S		Sn		06 23 39.1	-2.6
CAIG	El Cayaco	1.52	125	*i* P		Pn		06 23 29.6	-0.9
CAIG				*i* S		Sn		06 23 46.5	-2.6
MEIG	Mezcala	1.85	90	*i* P		Pn		06 23 34.0	-1.3
MEIG				*i* S		Sn		06 23 55.2	-2.3
PLIG	Platanillo	2.02	76	*i* P		Pn		06 23 35.5	-2.0
PLIG				*i* S		Sn		06 23 59.4	-2.2

MEX 05 06:44:56.1±0.3, 15°.07N×94°.28W, h17km±4km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		1.21	58	*e*P		Pn		06 45 14.6	-3.6
PCIG				*e*S		Sb		06 45 29.1	-4.8
HUIG	Huatulco	1.89	292	*e*P		Pn		06 45 24.4	-3.3
HUIG				*i* S		Sn		06 45 46.7	-4.5
THIG		1.96	94	*i* P		Pn		06 45 25.0	-3.6
THIG				*e*S		Sn		06 45 48.2	-4.5
CCIG	Comitan	2.40	59	*e*P		Pn		06 45 35.1	+0.3
CCIG				*i* S		Sn		06 46 00.2	-3.7

GUC 05 07:02:00.1±0.4, 39°.86S×73°.07W, h76km±16km, ML3.5, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO06	Curarrehue	1.27	78	*e*P		Pn		07 02 22.2	-0.1
GO06				*e*S		Sn		07 02 39.1	0.0
PLCA	Paso Flores	2.12	115	*e*P		Pn		07 02 33.5	0.0
GO07	Milladeo Hill,	3.29	188	*e*P		Pn		07 02 49.2	0.0
GO07				*e*S		Sn		07 03 24.6	-2.6
GO07				IAML				07 03 36.8	
	comp=E,86nm,0.7s								
GO05	Huala	4.92	11	*e*P		Pn		07 03 11.2	-0.4
GO05				*e*S		Sn		07 04 06.3	-0.9

IDC 05 07:19:15.4±2.4, 3°.27S×177°.64E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/34, mbtmp3.7/4, Error ellipse: s-maj=155.7km s-min=29.2km az=135.0, Gilbert Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.23	226	P		P		07 27 27.6	+0.9
	0.8nm,0.5s,baz=36,slow=8.0,SNR=4.9								
WRA	Warramunga Arr	45.35	245	P		P		07 27 35.6	-0.2
	1.8nm,0.7s,baz=80,slow=9.2,SNR=13								
ASAR	Alice Springs	46.84	240	P		P		07 27 46.8	-0.7
	1.5nm,0.7s,baz=64,slow=10,SNR=16								
YKA	Yellowknife Ar	82.80	26	P		P		07 31 41.1	-0.1
	0.1nm,0.6s,baz=251,slow=5.8,SNR=3.3								

*NNC **05** 07:26:50.8±6.5, 36°.76N×70°.34E, h165km±141km, mb2.7, mpv3.5, Error ellipse: s-maj=69.3km s-min=39.1km az=27.0*

ISC 05 07:26:49.4±3.7, 36°.7N±0°.2×70°.3E±0°.2, h150km, n9, σ0s62/11, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	Almayashu	6.06	24	P		Pn		07 28 17.6	+0.4
	SNR=34								
UCH	Uchtor	6.44	29	P		Pn		07 28 22.6	+0.2
	SNR=14								
KK31	Kar

WR1	**Warramunga Arr**	**23.04**	**229**	*eP*	**P**	**07 36 06.0**	**-0.8**
	53nm,1.4s						
WR1				*eS*	**S**	**07 40 14.2**	**+0.7**
WRA	**Warramunga Arr**	**23.04**	**229**	P	**P**	**07 36 06.0**	**-0.8**
	2.9nm,0.5s,baz=56,slow=10,SNR=30						
WRA				S	**S**	**07 40 14.3**	**+0.7**
	1.2nm,0.8s,baz=56,slow=15,SNR=3.6						
WRA				LR	LR	07 46 38.3	
	comp=Z,413nm,18.5s,baz=50,slow=41						
AS01	**Alice Springs**	**25.69**	**223**	*eP*	**P**	**07 36 31.4**	**+0.2**
AS31	**Alice Springs**	**25.72**	**223**	*eP*	**P**	**07 36 32.1**	**+0.6**
	3.4nm,0.6s						
ASAR	**Alice Springs**	**25.72**	**223**	P	**P**	**07 36 31.4**	**-0.1**
	3.7nm,0.5s,baz=57,slow=8.8,SNR=47						
ASAR				LR	LR	07 46 09.9	
	comp=Z,395nm,21.5s,baz=35,slow=35						
STKA	**Stephens Creek**	**28.45**	**200**	*eP*	**P**	**07 36 55.4**	**-0.4**
	1.1nm,0.8s						
STKA	**Stephens Creek**	**28.45**	**200**	P	**P**	**07 36 55.8**	**0.0**
	0.6nm,0.3s,baz=18,slow=14,SNR=4.4						
STKA				LR	LR	07 48 23.0	
	comp=Z,451nm,20.4s,baz=16,slow=37						
BATI	**Baumata**	**29.13**	**258**	LR	LR	07 50 55.0	
	comp=Z,701nm,20.9s,baz=118,slow=41						
FITZ	**Fitzroy Crossi**	**29.31**	**242**	*eP*	**P**	**07 37 02.9**	**-0.8**
	34nm,1.3s						
FITZ	**Fitzroy Crossi**	**29.31**	**242**	P	**P**	**07 37 02.8**	**-0.8**
	6.2nm,0.7s,baz=53,slow=7.4,SNR=19						
FITZ				LR	LR	07 50 17.9	
	comp=Z,281nm,18.4s,baz=80,slow=40						
FORT	**Forrest**	**34.35**	**219**	*eP*	**P**	**07 37 47.5**	**-0.2**
	18nm,0.8s						
MBWA	**Marble Bar**	**35.62**	**241**	*eP*	**P**	**07 37 58.3**	**-0.5**
	17nm,1.1s						
RPZ	**Rata Peaks**	**41.61**	**160**	LR	LR	07 55 32.0	
	comp=Z,838nm,18.4s,baz=319,slow=35						
MORW	**Morawa**	**41.95**	**231**	*eP*	**P**	**07 38 51.6**	**-0.2**
	24nm,1.3s						
SSLB	**Suanglung**	**42.28**	**314**	*eP*	**P**	**07 38 53.9**	**-0.6**
	17nm,1.2s						
JNU	**Nakatsue**	**43.38**	**333**	*eP*	**P**	**07 39 02.4**	**-0.9**
	34nm,1.4s						
MJAR	**Matsushiro Arr**	**43.71**	**343**	LR	LR	07 55 08.7	
	comp=Z,121nm,21.8s,baz=205,slow=33						
KSRS	**Korea Array**	**48.33**	**334**	P	**P**	**07 39 41.0**	**-1.1**
	0.7nm,0.5s,baz=146,slow=7.7,SNR=4.1						
KSRS				LR	LR	07 58 56.7	
	comp=Z,63nm,18.8s,baz=175,slow=35						
KS15	**Wonju Array Si**	**48.33**	**333**	*eP*	**P**	**07 39 41.0**	**-1.2**
RAR	**Rarotonga**	**48.74**	**114**	LR	LR	07 58 13.1	
	comp=Z,134nm,18.8s,baz=280,slow=34						
NJ2	**Nanjing**	**49.09**	**321**	*eP*	**P**	**07 39 47.0**	**-1.1**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.62**	**341**	P	**P**	**07 40 13.8**	**-0.6**
	1.8nm,0.7s,baz=128,slow=6.4,SNR=5.4						
MDJ	**Mudanjiang**	**53.78**	**340**	P	**P**	**07 40 24.2**	**+1.3**
MDJ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,250nm,5.4s						
ENH	**Enshi**	**54.34**	**313**	*eP*	**P**	**07 40 26.6**	**-0.7**
	35nm,1.4s						
GYA	**Guiyang**	**54.54**	**308**	*eP*	**P**	**07 40 31.2**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2	**Changchun**	**54.64**	**336**	*eP*	**P**	**07 40 33.5**	**+4.3**
BJI	**Beijing**	**56.18**	**327⇑**	*eP*	**P**	**07 40 39.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.4s						
NANT	**Nan**	**56.47**	**297**	P	**P**	**07 40 45.0**	**+2.2**
XAN	**Xi'an**	**56.84**	**317**	P	**P**	**07 40 44.7**	**-0.5**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,96nm,4.9s						
XAN	**Xi'an**	**56.84**	**317**	*eP*	**P**	**07 40 43.9**	**-1.3**
	6.1nm,0.6s						
KMI	**Kunming**	**57.11**	**304**	P	**P**	**07 40 47.7**	**+0.2**
KMI				pmax	pmax		
	comp=Z,21nm,0.5s						
CM01	**Chiang Mai Arr**	**57.90**	**295**	*eP*	**P**	**07 40 52.9**	**-0.1**
CM31	**Chiang Mai Arr**	**57.93**	**295**	*eP*	**P**	**07 40 52.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**57.93**	**295**	P	**P**	**07 40 53.4**	**+0.3**
	2.6nm,0.8s,baz=108,slow=5.3,SNR=17						
CHTO	**Chiang Mai**	**58.04**	**296**	*eP*	**P**	**07 40 53.4**	**-0.5**
	9.3nm,1.3s						
CHTO	**Chiang Mai**	**58.04**	**296**	P	**P**	**07 40 56.0**	**+2.1**
	31nm,1.2s						
PEA0B	**Petropavlovsk-**	**58.29**	**4**	*eP*	**P**	**07 40 55.2**	**+0.2**
	35nm,1.2s						
PETK	**Petropavlovsk-**	**58.29**	**4**	P	**P**	**07 40 55.2**	**+0.2**
	2.2nm,0.3s,baz=166,slow=7.6,SNR=24						
PETK				LR	LR	08 01 11.2	
	comp=Z,159nm,20.8s,baz=167,slow=31						
PEA1	**Petropavlovsk-**	**58.29**	**4**	*eP*	**P**	**07 40 55.2**	**+0.2**
CD2	**Chengdu**	**58.91**	**311**	P	**P**	**07 40 59.9**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC	**Hu-ho-hao-te**	**59.32**	**325**	*eP*	**P**	**07 41 06.2**	**+3.7**
HHC				pP	pP	07 41 16.0	-0.4
HHC				S	**S**	**07 49 11.4**	**+4.3**
HHC				sS	sS	07 49 29.7	-2.8
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,6.1s						
HHC				LR	LR		
	comp=N,150nm,15.5s						
HHC				LR	LR		
	comp=E,200nm,16.5s						
HHC				LR	LR		
	comp=Z,310nm,18.0s						
LZH	**Lanzhou**	**61.44**	**316**	*eP*	**P**	**07 41 20.2**	**+3.0**
LZH				pP	pP	07 41 33.4	+2.3
LZH				sP	sP	07 41 39.4	+2.5
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
MA2	**Magadan**	**64.63**	**359**	*eP*	**P**	**07 41 37.5**	**-0.2**
	5.6nm,0.8s						
GTA	**Gaotai**	**65.88**	**317**	*eP*	**P**	**07 41 47.2**	**+0.9**
GTA				pP	pP	07 41 58.5	-1.9
GTA				sP	pwP	07 42 02.5	-2.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,140nm,5.7s						
GTA				LR	LR		
	comp=N,120nm,17.1s						
GTA				LR	LR		
	comp=E,410nm,17.5s						
GTA				LR	LR		
	comp=Z,170nm,17.1s						
SHL	**Shillong**	**66.40**	**301**	*eP*	**P**	**07 41 49.1**	**-0.9**
	14nm,1.1s						
SONA0	**Songino Array**	**66.62**	**328**	*eP*	**P**	**07 41 50.8**	**-0.1**
SONM	**Songino Array**	**66.62**	**328**	P	**P**	**07 41 50.8**	**-0.1**
	2.8nm,1.1s,baz=141,slow=5.2,SNR=9.6						
SONM				LR	LR	08 09 25.2	
	comp=Z,130nm,20.5s,baz=358,slow=35						
UNV	**Unalaska Valle**	**68.09**	**25**	*eP*	**P**	**07 42 00.1**	**+0.3**
	92nm,1.3s						
VNDA	**Vanda**	**72.39**	**178**	*eP*	**P**	**07 42 27.0**	**+1.1**
VNDA	**Vanda**	**72.39**	**178**	P	**P**	**07 42 27.4**	**+1.5**
	0.9nm,0.8s,baz=38,slow=6.1,SNR=2.0						
PKI	**Pulchoki**	**72.53**	**301**	*eP*	**P**	**07 42 27.3**	**-0.7**
PKIN	**Phulchoki**	**72.54**	**301**	*eP*	**P**	**07 42 27.6**	**-0.4**
DMN	**Daman**	**72.80**	**301**	*eP*	**P**	**07 42 29.9**	**+0.4**
	34nm,1.0s						
GKN	**Gorkha**	**73.30**	**301**	*eP*	**P**	**07 42 32.3**	**-0.1**
BILL	**Bilibino**	**73.74**	**5**	*eP*	**P**	**07 42 34.4**	**+0.5**
	9.4nm,1.1s						
KOLN	**Koldanda**	**74.13**	**301**	*eP*	**P**	**07 42 37.0**	**-0.3**
	12nm,0.7s						
DANN	**Dangsing**	**74.14**	**301**	*eP*	**P**	**07 42 37.1**	**-0.3**
PYUN	**Piuthan**	**74.73**	**301**	*eP*	**P**	**07 42 40.5**	**-0.3**
	24nm,0.9s						
WMQ	**Urumqi**	**75.96**	**317**	P	**P**	**07 42 48.1**	**+0.8**
WMQ				pP	pwP	07 43 04.9	-0.8
WMQ				pmax	pmax		
	comp=Z,15nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,270nm,3.7s						
WMQ				LR	LR		
	comp=N,200nm,19.3s						
WMQ				LR	LR		
	comp=E,220nm,23.7s						
WMQ				LR	LR		
	comp=Z,190nm,20.7s						
WMQ	**Urumqi**	**75.96**	**317**	*eP*	**P**	**07 42 47.0**	**-0.3**
	6.0nm,0.4s						
OHAK	**Old Harbor**	**76.01**	**27**	*eP*	**P**	**07 42 47.3**	**+0.2**
	37nm,1.4s						
ANM	**Nome**	**76.24**	**17**	*eP*	**P**	**07 42 49.2**	**+0.8**
	35nm,1.4s						
SVW2	**Sparrevohn**	**77.29**	**23**	*eP*	**P**	**07 42 55.0**	**+0.6**
	9.4nm,0.7s						
RDOG	**Red Dog Mine**	**79.45**	**16**	*eP*	**P**	**07 43 06.7**	**+0.5**
	43nm,0.7s						
PPLA	**Purkeypile**	**79.64**	**22**	*eP*	**P**	**07 43 07.8**	**+0.3**
	20nm,1.3s						
RC01	**Rabbit Creek A**	**79.64**	**25**	*eP*	**P**	**07 43 07.9**	**+0.5**
	22nm,1.0s						
CAST	**Castle Rocks**	**79.97**	**22**	*eP*	**P**	**07 43 08.9**	**-0.2**
	14nm,0.7s						
MK01	**Makanchi Array**	**80.54**	**319**	*eP*	**P**	**07 43 12.4**	**-0.2**
MK31	**Makanchi Array**	**80.56**	**319**	*eP*	**P**	**07 43 12.8**	**+0.2**
MK32	**Makanchi Array**	**80.56**	**319**	*eP*	**P**	**07 43 12.8**	**+0.1**
MKAR	**Makanchi Array**	**80.56**	**319**	P	**P**	**07 43 12.8**	**+0.1**
	0.8nm,0.5s,baz=90,slow=7.8,SNR=12						
SML	**Sawmill**	**80.59**	**24**	*eP*	**P**	**07 43 13.1**	**+0.6**
	36nm,0.9s						
TRF	**Thorofare Moun**	**80.67**	**22**	*eP*	**P**	**07 43 12.9**	**-0.2**
	12nm,0.8s						
MAKZ	**Makanchi**	**80.77**	**319**	*eP*	**P**	**07 43 13.5**	**-0.3**
	2.5nm,0.9s						
IM3	**Indian Mountai**	**80.85**	**19**	*eP*	**P**	**07 43 14.4**	**+0.7**
SCM	**Sheep Creek Mo**	**81.02**	**25**	*eP*	**P**	**07 43 15.4**	**+0.6**
	17nm,0.9s						
RND	**Reindeer**	**81.19**	**23**	*eP*	**P**	**07 43 15.8**	**+0.1**
	23nm,0.9s						
DIV	**Divide**	**81.34**	**26**	*eP*	**P**	**07 43 16.8**	**+0.3**
	15nm,1.0s						
ZALV	**Zalesovo Beam**	**81.43**	**326**	P	**P**	**07 43 16.6**	**-0.4**
	2.8nm,0.5s,baz=114,slow=6.2,SNR=5.0						
ZAA1	**Zalesovo Array**	**81.44**	**326**	*eP*	**P**	**07 43 16.6**	**-0.4**
KLU	**Klutina**	**81.44**	**25**	*eP*	**P**	**07 43 17.9**	**+0.8**
	33nm,1.1s						
DHY	**Denali Highway**	**81.61**	**23**	*eP*	**P**	**07 43 18.4**	**+0.4**
	13nm,1.0s						
WRH	**Wood River Hil**	**82.03**	**22**	*eP*	**P**	**07 43 20.0**	**0.0**
	27nm,1.3s						
HARP	**HAARP**	**82.19**	**25**	*eP*	**P**	**07 43 21.4**	**+0.5**
	24nm,1.1s						
CCB	**Clear Creek Bu**	**82.22**	**22**	*eP*	**P**	**07 43 20.8**	**-0.2**
	11nm,0.8s						
MDM	**Murphy Dome**	**82.22**	**22**	*eP*	**P**	**07 43 21.0**	**-0.1**
	15nm,1.2s						
COLA	**College**	**82.32**	**22**	*eP*	**P**	**07 43 21.4**	**0.0**
	25nm,0.9s						
IL1	**Eielson Array**	**82.63**	**22**	*eP*	**P**	**07 43 22.7**	**-0.4**
ILAR	**Eielson Array**	**82.63**	**22**	P	**P**	**07 43 23.0**	**-0.1**
	8.3nm,0.7s,baz=250,slow=5.6,SNR=86						
ILB	**Eielson Array**	**82.63**	**22**	*eP*	**P**	**07 43 22.7**	**-0.5**
	13nm,0.9s						
COLD	**Coldfoot**	**82.72**	**19**	*eP*	**P**	**07 43 24.4**	**+0.9**
	5.0nm,1.0s						
RIDG	**Independ'e Rid**	**82.93**	**23**	*eP*	**P**	**07 43 25.3**	**+0.5**
	46nm,1.7s						
MENT	**Mentasta**	**83.02**	**24**	*eP*	**P**	**07 43 26.1**	**+0.9**
	6.9nm,0.8s						
KSH	**Kashi**	**83.11**	**311**	*eP*	**P**	**07 43 29.6**	**+3.3**
KSH				pP	pwP	07 43 43.1	-2.0
KSH				S	**S**	**07 53 41.7**	**-0.5**
KSH				sS	sS	07 54 05.4	-2.9
KSH				SS	**SS**	**07 59 10.7**	**+3.3**
KSH				pmax	pmax		
	comp=Z,110nm,5.3s						
KSH				LR	LR		
	comp=N,430nm,13.9s						
KSH				LR	LR		
	comp=E,290nm,14.7s						
DOT	**Dot Lake**	**83.19**	**24**	*eP*	**P**	**07 43 26.5**	**+0.4**
	21nm,1.0s						
SCRK	**Sand Creek**	**83.37**	**23**	*eP*	**P**	**07 43 27.6**	**+0.5**
	7.7nm,0.9s						
TOLK	**Toolik Lake Re**	**83.68**	**18**	*eP*	**P**	**07 43 29.7**	**+1.1**
	13nm,1.0s						
KURK	**Kurchatov**	**84.02**	**322**	*eP*	**P**	**07 43 30.6**	**0.0**
	12nm,1.3s						
KURBB	**Kurchatov Arra**	**84.05**	**322**	P	**P**	**07 43 30.7**	**0.0**
	1.6nm,0.8s,baz=106,slow=3.9,SNR=9.9						
FYU	**Fort Yukon**	**84.09**	**21**	*eP*	**P**	**07 43 31.0**	**+0.5**
	9.2nm,0.9s						
NIL	**Nilore**	**84.10**	**304**	*eP*	**P**	**07 43 31.0**	**-0.4**
	13nm,1.0s						
QSPA	**South Pole Qui**	**84.72**	**180**	*eP*	**P**	**07 43 34.6**	**+0.6**
	9.0nm,1.2s						
QSPA	**South Pole Qui**	**84.72**	**180**	P	**P**	**07 43 34.8**	**+0.8**
	1.7nm,0.7s,baz=352,slow=0.5,SNR=6.7						
EGAK	**Eagle**	**84.83**	**23**	*eP*	**P**	**07 43 34.8**	**+0.5**
	11nm,1.0s						
HYT	**Haines Junctio**	**84.90**	**28**	*eP*	**P**	**07 43 35.9**	**+0.9**
	25nm,1.2s						
DAWY	**Dawson**	**85.25**	**24**	*eP*	**P**	**07 43 37.2**	**+0.6**
	9.2nm,1.1s						
ARSB	**Arslanbob**	**85.71**	**312**	*eP*	**P**	**07 43 39.6**	**+0.1**
	38nm,1.2s						
WHY	**Whitehorse**	**86.06**	**28**	*eP*	**P**	**07 43 41.0**	**+0.3**
	5.0nm,1.0s						
NRIK	**Noril'sk**	**86.33**	**341**	P	**P**	**07 43 41.5**	**-0.2**
	1.3nm,0.3s,baz=115,slow=4.3,SNR=4.4						
EPYK	**Eagle Plains**	**87.13**	**22**	*eP*	**P**	**07 43 46.5**	**+0.7**
	34nm,1.2s						
INK	**Inuvik**	**88.92**	**21**	*eP*	**P**	**07 43 54.4**	**+0.2**
	15nm,1.3s						
BVAR	**Borovoye Array**	**89.50**	**323**	P	**P**	**07 43 56.9**	**-0.3**
	1.4nm,0.5s,baz=101,slow=5.1,SNR=8.8						
NV01	**Mina Array Sit**	**92.48**	**52**	*eP*	**P**	**07 44 12.5**	**+0.8**
NVAR	**Mina Array Bea**	**92.48**	**52**	P	**P**	**07 44 12.6**	**+0.8**
	0.4nm,0.5s,baz=266,slow=5.4,SNR=4.8						
NVAR				LR	LR	08 19 32.5	
	comp=Z,227nm,19.9s,baz=50,slow=32						
YKA	**Yellowknife Ar**	**95.89**	**28**	P	**P**	**07 44 27.2**	**+0.8**
	1.0nm,0.5s,baz=270,slow=4.8,SNR=24						
GEYT	**Alibeck**	**96.76**	**307**	P	**P**	**07 44 31.2**	**+0.1**
	1.1nm,0.4s,baz=358,slow=4.6,SNR=3.8						
NB200	**NORSAR Array S**	**117.28**	**340**	*e*PKPdf	**PKiKP**	**07 49 45.5**	**+0.4**
NOA	**NORSAR Array B**	**117.28**	**340**	PKP	**PKiKP**	**07 49 45.5**	**+0.4**
	0.3nm,0.5s,baz=61,slow=2.0,SNR=2.9						
PLCA	**Paso Flores**	**119.52**	**143**	PKP	**PKiKP**	**07 49 51.2**	**+1.1**
	0.7nm,0.8s,baz=263,slow=4.0,SNR=3.2						
CLL	**Collm**	**123.16**	**331**	*e*PKPdf	**PKiKP**	**07 49 57.0**	**+0.2**
GERES	**GERESS Array B**	**124.35**	**328**	PKP	**PKiKP**	**07 49 59.5**	**+0.1**
	1.0nm,0.5s,baz=66,slow=3.2,SNR=6.9						
MDT	**Midelt**	**145.32**	**325**	PKPbc	**PKPdf**	**07 50 39.4**	**+0.9**
	3.5nm,0.9s,baz=335,slow=1.9,SNR=6.1						
SVB	**Belmont**	**145.64**	**74**	*e*PKPdf	**PKPdf**	**07 50 39.2**	**-0.1**
PTGA	**Pitinga**	**146.89**	**99**	*e*PKPdf	**PKPdf**	**07 50 42.5**	**+1.0**
TOA0	**Torodi Ar. Sit**	**150.29**	**287**	*e*PKPdf	**PKPdf**	**07 50 45.7**	**-1.3**
TOA0				*e*PKPbc	**PKPbc**	**07 50 51.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**150.29**	**287**	PKPbc	**PKPbc**	**07 50 52.3**	**+0.1**
	2.4nm,0.7s,baz=89,slow=2.3,SNR=14						
TOA1	**Torodi Ar. Sit**	**150.30**	**287**	*e*PKPbc	**PKPbc**	**07 50 52.3**	**+0.1**
BDFB	**Brasilia**	**150.86**	**136**	PKPbc	**PKiKP**	**07 50 54.7**	**+0.5**
	2.9nm,0.8s,baz=145,slow=5.6,SNR=4.7						
DBIC	**Dimbokro**	**157.58**	**275**	PKPab	**PKPab**	**07 51 29.6**	**+0.1**
	1.1nm,0.3s,baz=78,slow=4.1,SNR=6.4						

IDC 05 07:32:54.1±612.0, 54.04N×8.90E, h0km, Error ellipse: s-maj=270.1km s-min=121.2km az=138.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**6.00**	**148**	*i*		08 09 40.0	
	baz=332,slow=333,SNR=1.5						
I43RU	**DUBNA INFRASON**	**6.26**	**69**	*i*		09 14 40.0	
	baz=274,slow=332,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**29.83**	**77**	*i*		10 36 10.0	
	baz=294,slow=328,SNR=0.3						

NNC 05 07:42:43.7±1.2, 41.96N×78.18E, h0km, mb3.0, mpv2.8, 1C-4D, Error ellipse: s-maj=8.3km s-min=4.9km az=165.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**1.12**	**9**	P	Pg	07 43 03.2	-1.9
	4.2nm,0.3s						
SATY				S	Sg	07 43 18.3	-1.2
	4.2nm,0.1s						
UZB	**Uzynbulak**	**1.34**	**27**	P	Pg	07 43 08.9	-0.5
	0.8nm,0.1s						
UZB				S	Sb	07 43 27.8	+0.1
	1.7nm,0.1s						
MDOK	**Medeo**	**1.47**	**326**	Pg	Pn	07 43 10.3	-1.3
	3.4nm,0.3s						
MDOK				Lg	Lg	07 43 30.1	
	6.2nm,0.5s						
KOTS	**Kotyrbulak**	**1.50**	**329**	P	Pn	07 43 11.6	-0.4
	1.6nm,0.2s						
KOTS				S	Sn	07 43 32.6	+0.2
	7.4nm,0.6s						
KURS	**Kuram**	**1.53**	**360**	P	Pn	07 43 11.9	-0.4
	2.1nm,0.5s						
KURS				S	Sn	07 43 33.2	+0.3
	4.1nm,0.4s						
PDGK	**Podgornoye**	**1.68**	**35**	P	Pn	07 43 14.4	-0.1
PDGK				S	Sg	07 43 37.6	0.0
PDGK	**Podgornoye**	**1.68**	**35**	⇓Pg	Pn	07 43 14.4	-0.1
	2.3nm,0.6s						
KTBS	**Karatobe**	**2.07**	**328**	Pg	Pb	07 43 22.1	0.0
	6.6nm,0.3s						
KTBS				Lg	Lg	07 43 50.6	
	13nm,0.3s						
TKM2	**Tokmak 2**	**2.14**	**298**	⇓Pg	Pn	07 43 21.9	+1.1
	2.5nm,0.4s						
TKM2				⇓Lg	Lg	07 43 51.2	
	5.9nm,0.7s						
KZA	**Kyzart**	**2.18**	**274**	P	Pb	07 43 23.9	-0.4
	SNR=5.8						
ARXS	**Arharly**	**2.27**	**354**	Pg	Pb	07 43 24.9	-0.7
	8.4nm,0.3s						
ARXS				Lg	Lg	07 43 55.7	
	9.1nm,0.4s						
KUU	**Kurty**	**2.36**	**326**	Pg	Pb	07 43 26.2	-0.9
	5.0nm,0.8s						
KUU				Lg	Lg	07 43 58.0	
	5.0nm,0.7s						
UCH	**Uchtor**	**2.74**	**277**	P	Pg	07 43 37.5	+1.3
	SNR=10.0						
AAK	**Ala-Archa**	**2.81**	**285**	P	Pg	07 43 36.6	-1.0
	SNR=8.5						
AAK	**Ala-Archa**	**2.81**	**285**	⇓Pg	Pb	07 43 36.2	+1.3
	9.7nm,0.8s						
AAK				⇑Lg	Lg	07 44 11.5	
	8.1nm,1.1s						
USP	**Ospenovka**	**3.01**	**297**	P	Pb	07 43 37.2	-1.1
	SNR=14						
EKS2	**Erkin-Say**	**3.34**	**284**	P	Pn	07 43 39.6	+2.3
	SNR=11						
AML	**Almayashu**	**3.34**	**274**	P	Pn	07 43 39.9	+2.4
	SNR=27						

IDC 05 07:46:35.7±3.4, 4.86S×151.62E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/33, mbtmp3.4/3, Error ellipse: s-maj=119.9km s-min=47.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.54**	**227**	P	P	07 51 37.4	-0.1
	0.4nm,0.8s,baz=51,slow=10.0,SNR=5.3						
ASAR	**Alice Springs**	**25.33**	**221**	P	P	07 52 04.4	0.0
	0.3nm,0.7s,baz=57,slow=9.0,SNR=5.4						
FITZ	**Fitzroy Crossi**	**28.60**	**241**	P	P	07 52 34.1	+0.1
	1.9nm,0.8s,baz=71,slow=10,SNR=4.6						
TORD	**Torodi Ar. Bea**	**149.21**	**288**	PKPbc	PKPbc	08 06 26.8	-0.6
	0.3nm,0.8s,baz=87,slow=3.0,SNR=2.7						

KRSC 05 08:03:04.1±10.0, 50.73N×157.74E, h48km±10km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.94**	**322**	*e*P	Pn	08 03 22.4	+1.5
PAU				*e*S	Sn	08 03 35.2	+1.9
SKR	**Severo-Kuril's**	**1.03**	**268**	*e*P	Pn	08 03 22.6	+0.5
SKR				*e*S	Sn	08 03 35.4	-0.1
KDTR	**Khodutka, Kamc**	**1.10**	**11**	*e*P	Pn	08 03 24.3	+1.2
KDTR				*e*S	Sn	08 03 38.5	+1.3
ALID	**Alaid**	**1.40**	**277**	*e*P	Pn	08 03 28.4	+1.1
ALID				*e*S	Sn	08 03 45.9	+1.3
ASAK	**Asacha**	**1.66**	**3**	*e*P	Pn	08 03 33.2	+2.4
ASAK				*e*S	Sn	08 03 53.8	+2.9
RUS	**Russkaya**	**1.77**	**16**	*e*P	Pn	08 03 33.6	+1.3
RUS				*e*S	Sn	08 03 54.7	+1.1
MTVR	**Mutnovka**	**1.78**	**9**	*e*P	Pn	08 03 35.3	+2.8
MTVR				*e*S	Sn	08 03 56.2	+2.3
KRMR	**Karymshinskiy**	**2.12**	**6**	*e*P	Pn	08 03 39.8	+2.8
KRMR				*e*S	Sn	08 04 05.0	+3.0
PET	**Petropavlovsk**	**2.37**	**14**	*e*P	Pn	08 03 43.3	+2.9
PET				*e*S	Sn	08 04 10.7	+2.5
DALK	**Dalny**	**2.39**	**15**	*e*P	Pn	08 03 43.0	+2.3
DALK				*e*S	Sn	08 04 11.0	+2.3
UGLR	**Uglovaya**	**2.57**	**15**	*e*P	Pn	08 03 46.9	+3.6
AVH	**Avacha**	**2.61**	**13**	*e*P	Pn	08 03 47.9	+4.0
AVH				*e*S	Sn	08 04 18.6	+4.2
SMAR	**Somma**	**2.62**	**14**	*e*P	Pn	08 03 47.9	+3.8
KOK	**Koryaka**	**2.62**	**12**	*e*P	Pn	08 03 47.9	+3.9
KOK				*e*S	Sn	08 04 19.1	+4.4
NLC	**Nalytchevo**	**2.64**	**22**	*e*S	Sn	08 04 18.9	+4.0
SDLR	**Sedlovina**	**2.65**	**15**	*e*P	Pn	08 03 47.2	+2.8
SDLR				*e*S	Sn	08 04 18.2	+2.9
KRER	**Koryakskii**	**2.65**	**13**	*e*P	Pn	08 03 48.0	+3.5
KRER				*e*S	Sn	08 04 19.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	region						
LAY	**Lan-yu**	**0.89**	**346**	P	Pn	08 17 54.9	-0.5
	baz=347						
LAY				S	Sn	08 18 15.1	-2.0
	baz=347						
TSEB	**Hengchuen, Pin**	**1.09**	**312**	P	Pn	08 17 57.7	+1.0
	baz=307						
TSEB				S	Sn	08 18 19.4	0.0
	baz=307						
TWKBT	**Hengchun**	**1.18**	**310**	*e*P	Pn	08 17 57.9	+0.4
	baz=308						
TWKBT				*e*S	Sn	08 18 19.0	-1.6
	baz=308						
TWK1	**Hengchun**	**1.19**	**310**	P	Pn	08 17 58.0	+0.5
	baz=308						
TWK1				S	Sn	08 18 19.5	-1.3
	baz=308						
HEN	**Hengchun**	**1.27**	**311**	*e*P	Pn	08 17 58.0	-0.2
	baz=303						
HEN				*e*S	Sn	08 18 21.1	-0.9
	baz=303						
EAST	**Anshuo**	**1.48**	**324**	*i* P	Pn	08 17 59.9	-0.2
	baz=325						
EAST				S	Sn	08 18 24.2	-1.3
	baz=325						
SCZT	**Fangliau**	**1.60**	**318**	P	Pn	08 18 01.5	+0.3
	baz=322						
SCZT				*e*S	Sn	08 18 25.4	-2.0
	baz=322						
SSPT	**Xinbi**	**1.72**	**319**	*e*P	Pn	08 18 02.9	+0.6
	baz=323						
SSPT				*e*S	Sn	08 18 27.2	-2.2
	baz=323						
WLCH	**Liuqiu**	**1.75**	**312**	*e*P	Pn	08 18 04.9	+2.3
	baz=312						
WLCH				*e*S	Sn	08 18 29.5	-0.4
	baz=312						
TWGBT	**Beinan**	**1.76**	**339**	*e*P	Pn	08 18 01.9	-0.8
	baz=331						
TWGBT				*e*S	Sn	08 18 28.4	-1.8
	baz=331						
TWP	**Hsiaoliuchiu**	**1.76**	**312**	*e*S	Sn	08 18 28.7	-1.3
	baz=312						
TWG	**Pinlang**	**1.76**	**338**	*e*P	Pn	08 18 02.1	-0.7
	baz=331						
TWG				*e*S	Sn	08 18 26.8	-3.5
	baz=331						
MASBT	**Mashibuluo**	**1.78**	**324**	*e*P	Pn	08 18 03.3	+0.3
	baz=327						
MASBT				*e*S	Sn	08 18 29.4	-1.2
	baz=327						
SSD	**Sandimen**	**1.89**	**326**	*i* P	Pn	08 18 04.5	+0.4
	baz=331						
SSD				S	Sn	08 18 31.3	-1.2
	baz=331						
TWM1	**Shoushan**	**2.07**	**323**	*e*P	Pn	08 18 07.2	+1.3
	baz=316						
TWM1				*e*S	Sn	08 18 35.2	-0.8
	baz=316						
SLGT	**Liugui**	**2.09**	**330**	*e*P	Pn	08 18 06.4	+0.2
	baz=330						
SLGT				*e*S	Sn	08 18 34.4	-2.0
	baz=330						
ELDTW	**Lidau**	**2.12**	**341**	*e*P	Pn	08 18 07.0	+0.4
	baz=337						
ELDTW				*e*S	Sn	08 18 35.7	-1.6
	baz=337						
STYT	**Tauyuan**	**2.19**	**335**	P	Pn	08 18 07.7	+0.3
	baz=335						
STYT				*e*S	Sn	08 18 37.2	-1.3
	baz=335						
TWF1	**Yuli**	**2.21**	**348**	*e*P	Pn	08 18 07.5	-0.1
	baz=342						
TWF1				*e*S	Sn	08 18 37.3	-1.5
	baz=342						
YULB	**Yu-li**	**2.25**	**349**	*e*P	Pn	08 18 07.3	-0.7
	baz=349						
CHN1	**Nanshi**	**2.31**	**330**	P	Pn	08 18 08.8	+0.1
	baz=335						
CHN1				S	Sn	08 18 39.5	-1.3
	baz=335						
WTP	**Ta-pu**	**2.33**	**333**	*e*P	Pn	08 18 08.6	-0.3
	baz=333						
WTP				*e*S	Sn	08 18 40.2	-0.9
	baz=333						
SNST	**Tainan City**	**2.36**	**330**	*e*P	Pn	08 18 09.2	+0.1
	baz=335						
SNST				*e*S	Sn	08 18 38.9	-2.7
	baz=335						
TPUB	**Ta-pu**	**2.37**	**334**	P	Pn	08 18 09.0	-0.3
	baz=333						
TPUB				S	Sn	08 18 39.8	-2.1
	baz=333						
TWK	**Hsinying**	**2.40**	**330**	*e*P	Pn	08 18 10.1	+0.4
	baz=331						
TWK				S	Sn	08 18 41.5	-1.1
	baz=331						
CHN4	**Tsaushan**	**2.43**	**333**	P	Pn	08 18 10.1	+0.2
	baz=333						
CHN4				S	Sn	08 18 41.3	-1.7
	baz=333						
ALS	**Alishan**	**2.49**	**339**	P	Pn	08 18 10.9	0.0
	baz=339						
ALS				*e*S	Sn	08 18 43.2	-1.6
	baz=339						
CHN5	**Tsauling**	**2.62**	**337**	*e*P	Pn	08 18 11.6	-0.6
	baz=337						
CHN5				*e*S	Sn	08 18 45.4	-1.7
	baz=337						
VWDT	**VWDT**	**2.63**	**347**	*e*P	Pn	08 18 13.3	+1.1
	baz=341						
VWDT				*e*S	Sn	08 18 46.3	-1.0
	baz=341						
SSLB	**Suanglung**	**2.71**	**344**	*e*P	Pn	08 18 12.7	-0.5
	baz=344						
SSLB				*e*S	Sn	08 18 47.1	-1.8
	baz=344						
OWD	**Renai**	**2.82**	**349**	*e*P	Pn	08 18 15.5	+0.9
	baz=342						
OWD				*e*S	Sn	08 18 50.6	-0.9
	baz=342						
TYC	**Yuchr**	**2.85**	**343**	*e*P	Pn	08 18 14.8	+0.1
	baz=343						
TYC				*e*S	Sn	08 18 50.4	-1.3
	baz=343						
WHF	**Hehuan Shan**	**2.99**	**351**	*e*P	Pn	08 18 17.2	+0.3
	baz=351						
WHF				*e*S	Sn	08 18 54.3	-1.3
	baz=351						
WHP	**Taichung City**	**3.18**	**346**	*e*P	Pn	08 18 19.4	+0.5
	baz=341						
WHP				*e*S	Sn	08 18 58.0	-1.1
	baz=341						
NNSB	**Datong**	**3.26**	**354**	*e*P	Pn	08 18 20.9	+1.1
	baz=358						

SJA 05 08:30:16.7±0.7, 31°.56S×69°.31W, h111km±3km, ML3.4, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.23**	**177**	*e*P	Pn	08 30 33.7	+1.0
RTLS				*e*S	Sn	08 30 46.2	+1.5
RTLS				IAML		08 30 46.8	
	comp=Z,1μm,0.2s						
ZON	**Zonda**	**0.54**	**88**	*e*P	Pn	08 30 34.9	+0.9
ZON				*e*S	Sn	08 30 48.0	+1.0
AUSP	**Uspallata**	**0.66**	**186**	*e*P	Pn	08 30 36.4	+1.2
AUSP				*e*S	Sn	08 30 50.6	+1.5
RTCV	**Cerro Valdivia**	**0.72**	**115**	*e*P	Pn	08 30 36.5	+1.1
RTLL	**Cerro Villicun**	**0.75**	**72**	*e*P	Pn	08 30 36.2	+0.6
RTLL				*e*S	Sn	08 30 50.9	+0.9
CFA	**Coronel Fontan**	**0.92**	**93**	*e*P	Pn	08 30 37.8	+0.6
CFA				*e*S	Sn	08 30 53.4	+0.8
AMOG	**MOGNA**	**0.94**	**49**	*e*P	Pn	08 30 38.2	+0.8
ACCO	**Cerro Coronel**	**1.00**	**12**	*e*P	Pn	08 30 39.2	+0.8
ASAL	**Salagasta**	**1.10**	**159**	*e*P	Pn	08 30 40.5	+1.4
ASAL				*e*S	Sn	08 30 57.1	+1.1
ARCO	**CERRO ARCO**	**1.31**	**166**	IAML		08 31 04.3	
	comp=Z,442nm,0.2s						
ACDV	**Cuesta del Vie**	**1.40**	**7**	*e*P	Pn	08 30 43.6	+1.0
ACDV				*e*S	Sn	08 31 03.8	+1.6
AROD	**Rodeo**	**1.40**	**354**	*e*P	Pn	08 30 44.0	+1.3
AROD				*e*S	Sn	08 31 04.0	+1.6
AAGR	**Agrelo**	**1.57**	**165**	*e*P	Pn	08 30 45.6	+1.1
AAGR				*e*S	Sn	08 31 06.5	+0.8
ACAN	**Cantantal**	**1.94**	**112**	*e*P	Pn	08 30 49.8	+0.8
AGUA	**GUANDACOL**	**2.19**	**19**	*e*P	Pn	08 30 53.5	+1.3

ISCJB ***05*** *08:33:16.1±0.5, 60°.09S±0°.08×25°.8W±0°.2, h16km, mb4.4/13, MS4.0/1, Error ellipse: s-maj=16.4km s-min=7.8km az=141.7*

IDC ***05*** *08:33:16.1±2.9, 60°.00S×25°.77W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, MS4.0/1, Ms1 4.0/1, ms1mx3.1/22, Error ellipse: s-maj=111.6km s-min=40.4km az=171.0*

NEIC ***05*** *08:33:20.8±0.4, 60°.03S×25°.93W, h35km, mb4.6/10, Error ellipse: s-maj=15.2km s-min=9.2km az=221.0*

ISC 05 08:33:17.4±0.6, 60°.2S±0°.1×25°.8W±0°.1, h16km, n29, σ2°.50/33, mb4.6/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.32**	**311**	*e*Pn	**Pn**	**08 35 13.7**	**-3.5**
VNA1	**Neumayer--Stat**	**12.66**	**153**	P	**Pn**	**08 36 19.7**	**+3.2**
VNA1				S	**Sn**	**08 38 33.7**	**-3.2**
VNA3	**Neumayer Olymp**	**12.81**	**156**	P	**Pn**	**08 36 21.2**	**+2.7**
VNA3				S	**Sn**	**08 38 34.5**	**-6.0**
VNA2	**Neumayer--Watz**	**13.06**	**153**	P	**Pn**	**08 36 24.6**	**+2.6**
	baz=319,slow=14						
VNA2				S	**Sn**	**08 38 41.6**	**-5.1**
	baz=315,slow=21						
SNAA	**Sanae**	**14.64**	**151**	P	**Pn**	**08 36 45.6**	**+2.0**
SNAA				S	**Sn**	**08 39 18.8**	**-6.5**
SNAA	**Sanae**	**14.64**	**151**	*e*Pn	**Pn**	**08 36 45.7**	**+2.1**
QSPA	**South Pole Qui**	**29.99**	**180**	*e*P	**P**	**08 39 28.6**	**+3.7**
TRQA	**Tornquist**	**31.80**	**298**	*e*P	**P**	**08 39 40.4**	**-0.6**
	8.1nm,1.3s						
PLCA	**Paso Flores**	**33.64**	**285**	*e*P	**P**	**08 39 57.4**	**+0.3**
	1.1nm,0.8s						
PLCA	**Paso Flores**	**33.64**	**285**	P	**P**	**08 39 57.7**	**+0.6**
	0.5nm,0.5s,baz=145,slow=6.5,SNR=5.8						
PLCA				LR	LR	08 51 22.1	
	comp=Z,279nm,20.1s,baz=225,slow=32						
GO05	**Huala**	**38.86**	**289**	*e*P	**P**	**08 40 41.6**	**0.0**
	22nm,1.4s						
ROC1	**El Roble**	**40.11**	**292**	*e*P	**P**	**08 40 52.0**	**-0.3**
	9.7nm,0.9s						
GO02	**Mina Guanaco**	**46.15**	**300**	*e*P	**P**	**08 41 40.6**	**-0.7**
	2.5nm,0.8s						
BOSA	**Boshof**	**46.48**	**71**	*e*P	**P**	**08 41 44.0**	**+0.4**
	12nm,1.4s						
LVC	**Limon Verde**	**48.11**	**302**	*e*P	**P**	**08 41 56.0**	**-0.7**
	11nm,1.5s						
PB11	**IPOC Station P**	**50.95**	**303**	*e*P	**P**	**08 42 17.8**	**-0.3**
	7.7nm,1.0s						
MNMC	**Minye Minye**	**51.49**	**303**	*e*P	**P**	**08 42 22.1**	**-0.2**
	23nm,1.5s						
LPAZ	**La Paz**	**53.44**	**306**	*e*P	**P**	**08 42 35.5**	**-1.6**
LPAZ	**La Paz**	**53.44**	**306**	P	**P**	**08 42 37.4**	**+0.2**
	0.7nm,0.3s,baz=126,slow=8.7,SNR=4.2						
TOA0	**Torodi Ar. Sit**	**76.40**	**28**	*e*P	**P**	**08 45 05.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**76.40**	**28**	P	**P**	**08 45 05.9**	**+0.1**
	0.3nm,0.4s,baz=199,slow=6.8,SNR=5.0						
TOA1	**Torodi Ar. Sit**	**76.40**	**28**	*e*P	**P**	**08 45 05.9**	**+0.1**
SDV	**Santo Domingo**	**77.50**	**314**	*e*P	**P**	**08 45 11.2**	**-1.1**
	6.9nm,1.3s						
URZ	**Urewera**	**80.05**	**198**	*e*P	**P**	**08 45 27.8**	**+1.9**
	31nm,1.4s						
YKA	**Yellowknife Ar**	**139.72**	**314**	PKP	**PKPdf**	**08 52 43.4**	**+0.7**
	0.5nm,0.7s,baz=127,slow=2.2,SNR=8.9						
YKB5	**Yellowknife Ar**	**139.72**	**314**	*e*PKPdf	**PKPdf**	**08 52 44.0**	**+1.2**
INK	**Inuvik**	**149.44**	**316**	*e*PKPbc	**PKPbc**	**08 53 04.6**	**+0.8**
INK	**Inuvik**	**149.44**	**316**	PKPbc	**PKPbc**	**08 53 04.4**	**+0.6**
	0.8nm,0.6s,baz=103,slow=4.1,SNR=6.7						
ILAR	**Eielson Array**	**153.31**	**305**	PKPbc	**PKPbc**	**08 53 14.0**	**+1.0**
	0.2nm,0.4s,baz=123,slow=2.9,SNR=4.1						

BJI ***05*** *08:33:50.0, 67°.57N×142°.85E, h5km, mb5.3/76, mB5.6/56, Ms5.6/84, Ms7 5.4/77*

MOS ***05*** *08:33:51.5±0.9, 67°.67N×142°.48E, h10km, mb5.5/109, MS4.8/47, Error ellipse: s-maj=8.2km s-min=3.5km az=92.6*

IDC ***05*** *08:33:51.9±0.3, 67°.61N×142°.46E, h0km, mb4.9/36, mb1 5.0/41, mb1mx4.9/50, mbtmp4.9/41, ML4.5/5, MS4.5/40, Ms1 4.5/40, ms1mx4.4/51, Error ellipse: s-maj=9.3km s-min=8.5km az=23.0*

YARS ***05*** *08:33:52.9±0.2, 67°.65N±0°.01×142°.67E±0°.03, h14km±2km*

NEIC ***05*** *08:33:53.2±0.1, 67°.64N×142°.42E, h10km, mb5.2/295, MW5.2, Error ellipse: s-maj=3.0km s-min=1.8km az=165.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{16} Nm; M_{rr}6.56; $M_{\theta\theta}$-3.17; $M_{\phi\phi}$-3.38; $M_{r\theta}$3.12; $M_{\theta\phi}$2.06; $M_{\phi r}$-0.30; Best double couple: $M_0$6.80000×10^{16} NP1: ϕ_s121.00000°, δ58.00000°, λ76.00000°. NP2: ϕ_s326.00000°, δ35.00000°, λ111.00000°. Principal axes: T 7.4800, Plg73.0000°, Azm354.0000°; N -1.6400, Plg12.0000°, Azm129.0000°; P -5.8300, Plg12.0000°, Azm221.0000°;*

GCMT ***05*** *08:33:54.2±0.1, 67°.70N±0°.01×142°.44E±0°.04, h12km, MW5.1/117, Moment Tensor Solution. s71,c106; s117,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.80±.13; $M_{\theta\theta}$-3.15±.12; $M_{\phi\phi}$-1.65±.12; $M_{r\theta}$0.87±.34; $M_{\theta\phi}$4.31±.11; $M_{\phi r}$-1.30±.37; Best double couple: $M_0$6.01000×10^{16} NP1:ϕ_s137.00000°, δ53.00000°, λ100.00000°. NP2:ϕ_s301.00000°, δ38.00000°, λ77.00000°. Principal axes: T 5.0520, Plg79.0000°, Azm88.0000°; N 1.9150, Plg8.0000°, Azm311.0000°; P -6.9670, Plg7.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***05*** *08:33:54.2±0.8, 67°.70N±0°.02×142°.61E±0°.03, h31km±6km, mb5.2/489, MS4.8/93 Error ellipse: s-maj=2.7km s-min=1.8km az=160.4*

BGR ***05*** *08:34:00.2±0.0, 67°.82N×140°.79E, h17km, mb5.5, Ms4.4*

ISC 05 08:33:53.2±0.5, 67°.66N±0°.02×142°.63E±0°.03, h11km±2km, h11km:pP-P, n1346, σ1°.936/1433, mb5.3/522, MS4.8/96, 76C-46D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.22**	**169**	*e*P	**Pn**	**08 34 14.2**	**-1.9**
MOMR				*e*S	**Sb**	**08 34 30.6**	**-1.3**
MOMR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MOMR				smax	smax		
	comp=N,30nm,0.6s						
MOMR	**Moma**	**1.22**	**169**	*e*P	**Pn**	**08 34 14.2**	**-1.9**
MOMR				Pmax		08 34 14.2	
	comp=Z,2μm,0.4s						
MOMR				*e*S	**Sb**	**08 34 30.6**	**-1.3**
MOMR				Smax		08 34 30.6	
	comp=N,60nm,0.6s						
YBGR	**Belaya Gora**	**1.60**	**55**	*e*P	**Pn**	**08 34 20.7**	**-0.6**
YBGR				*e*S	**Sb**	**08 34 42.6**	**-0.2**
YBGR				pmax	pmax		
	comp=Z,4.0nm,0.3s						
YBGR				smax	smax		
	comp=N,19nm,0.4s						
YBGR	**Belaya Gora**	**1.60**	**55**	*e*P	**Pn**	**08 34 20.7**	**-0.6**
YBGR				Pmax		08 34 20.7	
	comp=Z,4μm,0.3s						
YBGR				*e*S	**Sb**	**08 34 42.6**	**-0.2**
YBGR				Smax		08 34 42.6	
	comp=N,9μm,0.4s						
DEPR	**Deputatskiy**	**2.01**	**331**	*e*P	**Pn**	**08 34 26.9**	**0.0**
DEPR				*e*S	**Sb**	**08 34 55.7**	**+1.1**
DEPR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DEPR				smax	smax		
	comp=N,20nm,0.3s						
DEPR	**Deputatskiy**	**2.01**	**331**	*e*P	**Pn**	**08 34 26.9**	**0.0**
DEPR				*e*P	**Pb**	**08 34 29.2**	**-0.4**
DEPR				Pmax		08 34 29.2	
	comp=Z,682nm,0.3s						
DEPR				*e*S	**Sb**	**08 34 55.7**	**+1.1**
DEPR				Smax		08 34 55.7	
	comp=N,2μm,0.3s						
DEPR				Smax		08 34 55.7	
	comp=E,210nm,0.3s						
BTGS	**Batagay**	**3.05**	**274**	*e*P	**Pn**	**08 34 41.5**	**+0.3**
BTGS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BTGS	**Batagay**	**3.05**	**274**	*e*P	**Pn**	**08 34 41.5**	**+0.3**
BTGS				*e*P	**Pb**	**08 34 48.3**	**+0.9**
BTGS				Pmax		08 34 48.3	
	comp=Z,7μm,1.0s						
BTGS				*e*S	**Sb**	**08 35 27.4**	**+2.9**
BTGS				Smax		08 35 27.4	
	comp=N,320nm,0.8s						
TIXI	**Tiksi**	**6.24**	**316**	Pn	**Pn**	**08 35 25.3**	**+0.3**
	comp=N,0.1nm,0.3s,baz=304,slow=24,SNR=513						
TIXI				Sn	**Sn**	**08 36 32.5**	**-3.6**
	comp=N,0.1nm,0.3s,baz=142,slow=24,SNR=16						
TIXI				Lg	Lg	08 37 02.6	
	comp=N,0.1nm,0.3s,baz=34,slow=24,SNR=9.0						
SEY	**Seymchan**	**6.26**	**135**	*i* P	**Pn**	**08 35 26.6**	**+1.3**
SEY	**Seymchan**	**6.26**	**135**	Pn	**Pn**	**08 35 25.1**	**-0.1**
	comp=N,1.8nm,0.3s,baz=74,slow=23,SNR=40						
SEY				Pg	Pb	08 35 35.4	-6.6
	comp=N,4.8nm,0.3s,baz=320,slow=16,SNR=26						
SEY				Sn	**Sn**	**08 36 34.4**	**-2.3**
	comp=N,8.6nm,0.3s,baz=304,slow=15,SNR=3.0						
SEY				Lg	Lg	08 37 10.5	
	comp=N,15nm,0.3s,baz=279,slow=15,SNR=13						
SEY				LR	LR	08 37 44.4	
	comp=N,870nm,21.6s,baz=130,slow=37						
YAK	**Yakutsk**	**7.88**	**230**	*e*P	Pn	08 35 33.3	-14
YAK				pmax	pmax		
	comp=Z,52nm,0.3s						
YAK				pmax	pmax		
	comp=N,57nm,0.4s						
YAK				pmax	pmax		
	comp=E,22nm,0.5s						
MA2	**Magadan**	**8.88**	**152**	*e*Pn	**Pn**	**08 36 01.4**	**+0.2**
MA2	**Magadan**	**8.88**	**152**	*ce*P	**Pn**	**08 36 03.1**	**+1.9**
MA2				pmax	pmax		
	comp=Z,46nm,1.3s						
MA2	**Magadan**	**8.88**	**152**	Pn	**Pn**	**08 36 02.5**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=352,slow=8.7,SNR=21						
MA2				Sn	**Sn**	**08 37 37.8**	**-3.2**
	comp=Z,2.0nm,0.3s,baz=24,slow=20,SNR=2.3						
MA2				Lg	Lg	08 38 26.8	
	comp=Z,3.2nm,0.3s,baz=279,slow=12,SNR=3.6						
MA2				LR	LR	08 39 50.9	
	comp=Z,2μm,19.9s,baz=338,slow=40						
BILL	**Bilibino**	**8.92**	**77**	*e*Pn	**Pn**	**08 36 03.6**	**+1.9**
BILL				*e*Sn	**Sn**	**08 37 42.7**	**+0.7**
BILL	**Bilibino**	**8.92**	**77**	*i*P	**Pn**	**08 36 03.9**	**+2.2**
BILL				*e*S	**Sn**	**08 37 43.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,40nm,2.5s						
BILL				MLR	MLR		
	comp=Z,10μm,19.0s						
NKL	**Nikolayevsk**	**14.59**	**185**	*e*P	**Pn**	**08 37 20.0**	**+0.8**
NKL				pmax	pmax		
	comp=N,1μm,5.0s						
NKL				pmax	pmax		
	comp=Z,1μm,7.0s						
NKL				pmax	pmax		
	comp=E,180nm,2.0s						
NKL				MLR	MLR		
	comp=N,4μm,11.0s						
NKL				MLR	MLR		
	comp=E,4μm,11.0s						
NKL				MLR	MLR		
	comp=Z,6μm,11.0s						
ZEA	**Zeya**	**15.79**	**215**	*e*P	**Pn**	**08 37 34.2**	**-0.9**
ZEA				pmax	pmax		
	comp=N,120nm,1.0s						
ZEA				pmax	pmax		
	comp=E,59nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,280nm,1.4s						
ZEA				pmax	pmax		
	comp=N,700nm,5.0s						
ZEA				pmax	pmax		
	comp=E,400nm,5.0s						
ZEA				pmax	pmax		
	comp=Z,900nm,5.0s						
ZEA				MLR	MLR		
	comp=Z,24μm,9.0s						
ZEA				MLR	MLR		
	comp=E,4μm,7.0s						
ZEA				MLR	MLR		
	comp=N,20μm,8.0s						
BOD	**Bodaibo**	**16.23**	**247**	*i*P	**Pn**	**08 37 35.8**	**-4.9**
BOD				pmax	pmax		
	comp=Z,220nm,1.1s						
PEA1	**Petropavlovsk-**	**16.30**	**146**	*e*Pn	**P**	**08 37 43.5**	**-1.1**
PEA0B	**Petropavlovsk-**	**16.31**	**146**	*e*Pn	**Pn**	**08 37 42.5**	**+0.7**
	comp=Z,149nm,1.3s						
PEA0B	**Petropavlovsk-**	**16.31**	**146**	*e*P	**Pn**	**08 37 42.5**	**+0.7**
PETK	**Petropavlovsk-**	**16.31**	**146**	*e*Pn	**Pn**	**08 37 42.6**	**+0.8**
PETK	**Petropavlovsk-**	**16.31**	**146**	*e*P	**Pn**	**08 37 42.6**	**+0.8**
PETK	**Petropavlovsk-**	**16.31**	**146**	Pn	**P**	**08 37 43.5**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=6.4,SNR=11						
PETK				LR	LR	08 43 22.5	
	comp=Z,559nm,20.4s,baz=328,slow=35						
PET	**Petropavlovsk**	**16.59**	**144**	*e*P	**P**	**08 37 51.7**	**+3.8**
PET				pmax	pmax		
	comp=Z,2μm,4.0s						
PET				pmax	pmax		
	comp=Z,900nm,7.8s						
PET				pmax	pmax		
	comp=Z,286nm,1.1s						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
PET				MLR	MLR		
	comp=Z,2μm,13.0s						
TYV	**Tymovskoe**	**16.85**	**180**	*e*P	**P**	**08 37 51.1**	**+0.4**
TYV				pmax	pmax		
	comp=Z,37nm,1.0s						
TYV				pmax	pmax		
	comp=Z,500nm,3.5s						
GRNR	**Gornyy**	**17.22**	**193**	*e*P	**P**	**08 37 54.8**	**-0.1**
GRNR				pmax	pmax		
	comp=Z,30nm,1.1s						
UGL	**Uglegorsk**	**18.64**	**181**	*e*P	**Pn**	**08 38 12.1**	**+1.3**
UGL				*e*S	**Sn**	**08 41 33.5**	**-5.3**
UGL				pmax	pmax		
	comp=Z,2μm,5.2s						
UGL				pmax	pmax		
	comp=Z,49nm,1.1s						
UGL				smax	smax		
	comp=E,2μm,10.2s						
UGL				MLR	MLR		
	comp=Z,3μm,12.0s						
UGL				MLR	MLR		
	comp=N,4μm,9.0s						
UGL				MLR	MLR		
	comp=E,2μm,10.0s						
GAMB	**Gambell**	**18.82**	**80**	*e*P	**Pn**	**08 38 13.3**	**+0.4**
	comp=E,33nm,1.0s						
KLR	**Kul'dur**	**19.28**	**202**	*d* P	**P**	**08 38 17.9**	**+0.4**
KLR	**Kul'dur**	**19.28**	**202**	P	**P**	**08 38 17.4**	**-0.2**
	comp=E,0.7nm,0.3s,baz=354,slow=8.5,SNR=53						
KLR				Lg	Lg	08 43 52.1	
	comp=E,0.1nm,0.3s,baz=285,slow=14,SNR=6.3						
KLR				LR	LR	08 45 57.9	
	comp=E,3μm,19.7s,baz=11,slow=38						
NRIK	**Noril'sk**	**19.68**	**300**	P	**P**	**08 38 22.2**	**+0.5**
	comp=E,1.6nm,0.3s,baz=76,slow=10,SNR=69						
NRIK				S	**S**	**08 41 56.4**	**-6.9**
	comp=E,1.2nm,0.3s,baz=356,slow=14,SNR=3.5						
NRIK				Lg	Lg	08 44 06.7	
	comp=E,1.4nm,0.3s,baz=165,slow=20,SNR=3.6						
NRIK				LR	LR	08 47 36.9	
	comp=E,682nm,19.1s,baz=66,slow=42						
RDOG	**Red Dog Mine**	**19.98**	**64**	*e*P	**P**	**08 38 25.8**	**+0.7**
	comp=E,185nm,1.3s						
ANM	**Nome**	**20.76**	**74**	*e*P	Pn	08 38 35.0	-0.9
	comp=E,56nm,1.2s						
ANM	**Nome**	**20.76**	**74**	*e*P	Pn	08 38 35.0	-0.9
ANM				pmax	pmax		
	comp=Z,56nm,1.2s						
YSS	**Yuzh-Sakhalins**	**20.76**	**180**	*e*P	**P**	**08 38 33.6**	**-0.1**
	comp=Z,58nm,1.0s						
YSS	**Yuzh-Sakhalins**	**20.76**	**180**	*e*P	**P**	**08 38 32.8**	**-0.8**
YSS				*e*		08 38

YSS comp=E,10.0nm,0.8s pmax pmax
YSS comp=Z,800nm,8.2s pmax pmax
YSS comp=N,800nm,3.5s pmax pmax
YSS comp=E,200nm,8.4s smax smax
YSS comp=N,200nm,7.6s smax smax
YSS comp=E,400nm,5.5s MLR MLR
YSS comp=Z,600nm,18.0s MLR MLR
YSS comp=N,2μm,14.0s MLR MLR
YSS comp=E,1μm,15.0s
CIT Chita 21.10 237 *e*P **P** **08 38 39.2 +1.9**
CIT *e* 08 39 02.9
CIT *e* 08 39 09.7
CIT pmax pmax
comp=Z,395nm,1.8s
HIA Hailar 21.74 223 *e*P **P** **08 38 44.1 0.0**
comp=Z,180nm,1.2s
HIA Hailar 21.74 223 *e*P **P** **08 38 44.1 0.0**
HIA pmax pmax
comp=Z,180nm,1.2s
KUR Kuril'sk 22.65 170 *e*P **P** **08 38 53.2 -0.7**
KUR *e*S **S** **08 43 04.7 +3.2**
KUR pmax pmax
comp=Z,1μm,4.8s
KUR pmax pmax
comp=Z,206nm,1.0s
KUR MLR MLR
comp=Z,871nm,15.0s
KUR MLR MLR
comp=N,1μm,16.0s
TEY Ternei 22.90 191⇑ *e*P **P** **08 38 55.2 -1.3**
TEY *e* 08 43 10.3
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.8s
ASAJ Asahikawa 23.60 180 P **P** **08 39 03.4 -0.2**
comp=Z,19nm,0.7s,baz=34,slow=7.9,SNR=20
ASAJ LR LR 08 48 29.2
comp=Z,2μm,19.7s,baz=28,slow=37
YUK Yuzh-Kuril'sk 23.75 174 *e*P **P** **08 38 59.7 -5.3**
YUK *e* 08 39 33.3
YUK *e*S **S** **08 43 26.2 +6.4**
YUK SS **SnSn** **08 44 08.6 +11**
YUK pmax pmax
comp=Z,72nm,3.1s
YUK pmax pmax
comp=Z,62nm,1.0s
YUK MLR MLR
comp=E,2μm,16.0s
YUK MLR MLR
comp=Z,505nm,16.0s
YUK MLR MLR
comp=N,407nm,17.0s
IRK Irkutsk 24.07 249 *e*P **P** **08 39 07.8 -0.3**
IRK pmax pmax
comp=Z,886nm,2.2s
MDJ Mudanjiang 24.11 203 P **P** **08 39 07.7 -0.8**
MDJ S **S** **08 43 27.8 +2.2**
MDJ sS sS 08 43 34.5 +3.1
MDJ PcS **PcS** **08 46 25.6 -3.1**
MDJ pmax pmax
comp=Z,210nm,1.1s
MDJ pmax pmax
comp=Z,2μm,2.7s
MDJ LR LR
comp=Z,6μm,6.9s
MDJ LR LR
comp=Z,1μm,5.3s
MDJ LR LR
comp=Z,6μm,7.1s
MDJ Mudanjiang 24.11 203 *e*P **P** **08 39 07.9 -0.6**
comp=Z,315nm,1.3s
TOLK Toolik Lake Re 24.12 56 *e*P **P** **08 39 09.0 +0.6**
comp=Z,93nm,1.1s
TOLK Toolik Lake Re 24.12 56 P **P** **08 39 08.6 +0.1**
baz=300,SNR=62
IM3 Indian Mountai 24.13 64 *e*P **P** **08 39 09.2 +0.7**
USA0B Ussuriysk Arra 24.19 199 *e*P **P** **08 39 08.8 -0.4**
comp=Z,115nm,1.1s
USA0B Ussuriysk Arra 24.19 199 *e*P **P** **08 39 08.8 -0.4**
USRK Ussuriysk Ar. 24.19 199 P **P** **08 39 09.0 -0.2**
comp=Z,62nm,0.9s,baz=8.0,slow=9.5,SNR=76
USRK PcP **PcP** **08 42 49.1 -0.2**
comp=Z,4.9nm,0.9s,baz=336,slow=3.2,SNR=3.6
USRK Lg Lg 08 46 34.1
comp=Z,2.5nm,1.0s,baz=17,slow=20,SNR=4.2
USRK LR LR 08 49 03.6
comp=Z,3μm,19.8s,baz=3.4,slow=38
COLD Coldfoot 24.65 59 *e*P **P** **08 39 14.6 +1.4**
comp=Z,57nm,1.0s
TLY Talaya 24.75 249 *e*P **P** **08 39 14.2 -0.2**
comp=Z,94nm,1.0s
TLY Talaya 24.75 249*c i*P **P** **08 39 14.1 -0.2**
TLY *e*S **S** **08 43 37.5 +1.5**
TLY pmax pmax
comp=Z,419nm,1.9s
TLY MLR MLR
comp=Z,7μm,10.0s
VLA Vladivostok 25.26 199*d i*P **P** **08 39 19.9 +1.0**
VLA pmax pmax
comp=Z,166nm,1.0s
VLA MLR MLR
comp=Z,2μm,18.0s
CN2 Changchun 25.61 210⇑ *i*P **P** **08 39 20.9 -1.1**
CN2 *e*pP pP 08 39 24.0 -1.6
CN2 *e*S **S** **08 43 45.8 -3.8**
CN2 pmax pmax
comp=Z,120nm,0.8s
CN2 pmax pmax
comp=Z,690nm,5.0s
CN2 LR LR
comp=Z,12μm,10.0s
CN2 LR LR
comp=Z,8μm,10.0s
CN2 LR LR
comp=Z,14μm,10.0s
MLY Manley 25.71 64 *e*P **P** **08 39 23.7 +0.8**
comp=Z,48nm,1.2s
MOY Mondy 25.72 252 *e*P **P** **08 39 23.6 +0.4**
MOY pmax pmax
comp=Z,491nm,1.7s
MSHR Mys Shultsa 25.89 200 *i*P **P** **08 39 25.6 +1.0**
ZAK Zakamensk 25.96 248 *e*P **P** **08 39 25.9 +0.6**
ZAK *e* 08 45 22.4
ZAK pmax pmax
comp=Z,68nm,1.2s
CAST Castle Rocks 26.21 68 *e*P **P** **08 39 28.1 +0.7**
comp=Z,17nm,1.0s
SVW2 Sparrevohn 26.43 74 *e*P **P** **08 39 30.1 +0.6**
comp=Z,29nm,1.4s
PPLA Purkeypile 26.50 69 *e*P **P** **08 39 31.5 +1.3**
comp=Z,77nm,1.6s
MDM Murphy Dome 26.61 63 *e*P **P** **08 39 31.8 +0.9**
comp=Z,27nm,1.0s
FYU Fort Yukon 26.64 58 *e*P **P** **08 39 32.9 +1.6**
comp=Z,181nm,1.4s
BWN Browne 26.66 65 *e*P **P** **08 39 33.0 +1.6**
comp=Z,32nm,0.9s
POKR Poker Plat Res 26.78 62 P **P** **08 39 32.4 -0.1**
baz=307
TCOL CIGO, UAF Yank 26.78 63 P **P** **08 39 32.8 +0.3**
baz=308,SNR=9.4
COLA College 26.79 63 *e*P **P** **08 39 33.4 +0.9**
comp=Z,39nm,1.0s
COLA College 26.79 63*d i*P **P** **08 39 34.9 +2.4**
COLA pmax pmax
comp=Z,62nm,2.4s
COLA MLR MLR
comp=Z,2μm,15.0s
TRF Thorofare Moun 26.83 67 *e*P **P** **08 39 34.2 +1.1**
comp=Z,70nm,1.3s
CCB Clear Creek Bu 26.94 63 *e*P **P** **08 39 34.3 +0.4**
comp=Z,15nm,1.0s
WRH Wood River Hil 26.95 63 *e*P **P** **08 39 35.1 +1.1**
comp=Z,13nm,0.9s
SONA0 Songino Array 27.05 241 *e*P **P** **08 39 36.5 +1.3**
SONM Songino Array 27.05 241 P **P** **08 39 36.5 +1.3**
comp=Z,24nm,0.9s,baz=28,slow=9.1,SNR=130
SONM Lg Lg 08 48 07.6
comp=Z,15nm,1.1s,baz=4.3,slow=25,SNR=4.0
SONM LR LR 08 50 51.5
comp=Z,3μm,18.8s,baz=30,slow=38
MCK McKinley 27.12 65 *e*P **P** **08 39 36.3 +0.7**
comp=Z,42nm,1.1s
MCK McKinley 27.12 65 *e*P **P** **08 39 36.3 +0.7**
MCK pmax pmax
comp=Z,43nm,1.1s
PRP Porcupine Dome 27.18 60 *e*P **P** **08 39 37.7 +1.4**
comp=Z,19nm,1.2s
IL1 Eielson Array 27.18 62 *e*P **P** **08 39 35.8 -0.2**
ILAR Eielson Array 27.18 62 P **P** **08 39 37.2 +1.2**
comp=Z,9.0nm,0.9s,baz=298,slow=8.2,SNR=38
ILAR Lg Lg 08 48 19.2
comp=Z,0.1nm,0.5s,baz=321,slow=31,SNR=2.8
ILAR LR LR 08 50 50.2
comp=Z,950nm,19.3s,baz=326,slow=37
ILB Eielson Array 27.18 62 *e*P **P** **08 39 36.7 +0.6**
RND Reindeer 27.36 66 *e*P **P** **08 39 38.6 +0.8**
comp=Z,10nm,1.1s
RND Reindeer 27.36 66 *e*P **P** **08 39 38.6 +0.8**
RND pmax pmax
comp=Z,10.0nm,1.1s
HDA Harding Lake 27.38 63 *e*P **P** **08 39 38.8 +0.9**
comp=Z,41nm,1.6s
HDA Harding Lake 27.38 63 P **P** **08 39 38.1 +0.1**
baz=308,SNR=13
SPU Mount Spurr 27.66 71 *e*P **P** **08 39 41.6 +1.1**
KNGR Kungurtug, Tuv 27.86 255⇓ *i*P **P** **08 39 44.3 +1.8**
SNY Shenyang 27.87 211⇓ *i*P **P** **08 39 42.6 +0.2**
SNY pmax pmax
comp=Z,23nm,0.8s
SNY pmax pmax
comp=Z,430nm,3.5s
SNY LR LR
comp=Z,17μm,9.6s
SNY LR LR
comp=Z,2μm,11.2s
SNY LR LR
comp=Z,21μm,9.3s
RSO Redoubt South 27.89 73 *e*P **P** **08 39 43.9 +1.1**
DHY Denali Highway 28.08 65 *e*P **P** **08 39 45.4 +1.0**
comp=Z,27nm,1.3s
PMR Palmer 28.44 69 *e*P **P** **08 39 47.6 +0.3**
comp=Z,13nm,1.0s
PMR Palmer 28.44 69 *e*P **P** **08 39 47.6 +0.3**
PMR pmax pmax
comp=Z,13nm,1.0s
RIDG Independ'e Rid 28.52 63 *e*P **P** **08 39 49.2 +1.0**
comp=Z,15nm,1.3s
SML Sawmill 28.58 68 *e*P **P** **08 39 49.1 +0.4**
comp=Z,27nm,1.2s
SML Sawmill 28.58 68 *e*P **P** **08 39 49.1 +0.4**
SML pmax pmax
comp=Z,27nm,1.2s
SCRK Sand Creek 28.66 62 *e*P **P** **08 39 50.2 +0.7**
comp=Z,12nm,1.4s
KNK Knik Glacier 28.80 69 *e*P **P** **08 39 50.9 +0.2**
comp=Z,20nm,1.0s
PAX Paxson 28.81 64 *e*P **P** **08 39 51.7 +0.9**
comp=Z,7.2nm,1.0s
PAX Paxson 28.81 64 *e*P **P** **08 39 51.7 +0.9**
PAX pmax pmax
comp=Z,7.0nm,1.0s
DOT Dot Lake 28.85 62 *e*P **P** **08 39 50.8 -0.2**
comp=Z,13nm,1.2s
SCM Sheep Creek Mo 28.92 67 *e*P **P** **08 39 52.8 +1.1**
comp=Z,14nm,1.0s
SCM Sheep Creek Mo 28.92 67 *e*P **P** **08 39 52.8 +1.1**
SCM pmax pmax
comp=Z,15nm,1.0s
BRLK Bradley Lake 29.05 73 *e*P **P** **08 39 53.6 +0.7**
comp=Z,28nm,0.8s
EGAK Eagle 29.08 59 *e*P **P** **08 39 54.1 +1.1**
comp=Z,12nm,1.1s
INK Inuvik 29.19 49 *e*P **P** **08 39 55.2 +1.3**
comp=Z,37nm,1.6s
INK Inuvik 29.19 49 *e*P **P** **08 39 55.2 +1.3**
INK pmax pmax
comp=Z,37nm,1.6s
INK Inuvik 29.19 49 P **P** **08 39 56.5 +2.6**
comp=Z,2.6nm,0.9s,baz=299,slow=12,SNR=12
INK LR LR 08 53 28.2
comp=Z,2μm,20.4s,baz=283,slow=40
SEW Seward 29.34 71 *e*P **P** **08 39 55.1 -0.2**
comp=Z,37nm,1.1s
MENT Mentasta 29.43 63 *e*P **P** **08 39 56.1 -0.1**
comp=Z,7.7nm,0.8s
EPYK Eagle Plains 29.46 54 *e*P **P** **08 39 57.1 +0.6**
comp=Z,24nm,1.1s
EPYK Eagle Plains 29.46 54 P **P** **08 39 56.7 +0.2**
baz=310
KLU Klutina 29.64 67 *e*P **P** **08 39 58.4 +0.2**
comp=Z,18nm,1.2s
KDAK Kodiak Island 29.83 77 *e*P **P** **08 40 00.9 +1.2**
comp=Z,58nm,1.4s
KDAK Kodiak Island 29.83 77 *e*P **P** **08 40 00.9 +1.2**
KDAK pmax pmax
comp=Z,58nm,1.4s
KDAK Kodiak Island 29.83 77 P **P** **08 40 02.5 +2.8**
comp=Z,7.3nm,0.8s,baz=310,slow=11,SNR=3.9
KDAK LR LR 08 53 10.1
comp=Z,3μm,21.0s,baz=329,slow=39
NVS Novosibirsk 29.96 275⇑ *i*P **P** **08 40 01.5 +0.6**
NVS pmax pmax
comp=N,106nm,2.1s
NVS pmax pmax
comp=Z,178nm,2.1s
NVS pmax pmax
comp=E,99nm,2.4s
ZAA1 Zalesovo Array 30.03 272 *e*P **P** **08 40 01.7 +0.2**
ZAA0 Zalesovo Array 30.04 272 *e*P **P** **08 40 00.2 -1.4**
comp=E,123nm,1.4s
ZALV Zalesovo Beam 30.04 272 *e*P **P** **08 40 01.2 -0.4**
ZALV Zalesovo Beam 30.04 272 *i*P **P** **08 40 02.0 +0.4**
ZALV pmax pmax
comp=Z,31nm,1.0s
ZALV Zalesovo Beam 30.04 272 P **P** **08 40 01.7 +0.1**
comp=Z,19nm,0.9s,baz=45,slow=6.5,SNR=28
ZALV LR LR 08 52 12.2
comp=Z,552nm,20.4s,baz=58,slow=37
DAWY Dawson 30.13 59 *e*P **P** **08 40 02.2 -0.2**
comp=Z,19nm,1.5s
SPA0 Spitsbergen Ar 30.95 341 *e*P **P** **08 40 09.5 0.0**
comp=Z,93nm,1.0s
DL2 Dalian 31.08 213 P **P** **08 40 10.9 0.0**
DL2 S **S** **08 45 16.2 +0.4**
DL2 pmax pmax
comp=Z,35nm,0.8s
DL2 pmax pmax
comp=Z,180nm,3.9s
DL2 LR LR
comp=Z,6μm,10.6s
DL2 LR LR
comp=Z,4μm,8.6s
DL2 LR LR
comp=Z,8μm,10.5s
BALM Baldy 31.21 65 *e*P **P** **08 40 12.0 0.0**
comp=Z,13nm,1.1s
BALM Baldy 31.21 65 *e*P **P** **08 40 12.0 0.0**
BALM pmax pmax
comp=Z,13nm,1.1s
MAJO Matsushiro 31.27 187 *e*P **P** **08 40 11.7 -1.0**
MAJO *e*PcP **PcP** **08 43 05.9 -0.7**
MAJO Matsushiro 31.27 187 *e*P **P** **08 40 11.7 -1.0**
MAJO *e* 08 43 05.9
MAT Matsushiro 31.27 187 P **P** **08 40 11.6 -1.0**
MAT S **S** **08 45 20.0 +1.2**
MJAR Matsushiro Arr 31.27 187 P **P** **08 40 11.6 -1.0**
comp=Z,6.6nm,0.9s,baz=5.4,slow=9.1,SNR=12
MJAR PcP **PcP** **08 43 05.9 -0.7**
comp=Z,4.8nm,1.0s,baz=353,slow=7.4,SNR=4.2
MJAR LR LR 08 53 54.2
comp=Z,696nm,18.4s,baz=35,slow=38
BJT Baijiatuau 31.28 221 *e*P **P** **08 40 12.4 -0.3**
comp=Z,61nm,1.0s
KSRS Korea Array 31.37 203 P P 08 40 08.6 -4.9
comp=Z,4.8nm,0.9s,baz=7.4,slow=8.0,SNR=8.9
KSRS PcP **PcP** **08 43 06.6 -0.2**
comp=Z,3.0nm,0.9s,baz=27,slow=3.5,SNR=4.1
KSRS LR LR 08 53 14.8
comp=Z,2μm,18.7s,baz=22,slow=37
HHC Hu-ho-hao-te 31.74 228 *e*P **P** **08 40 18.5 +1.7**
HHC pP sP 08 40 24.5 +2.7
HHC S **S** **08 45 30.3 +4.0**
HHC sS sS 08 45 39.8 +7.7
HHC pmax pmax
comp=Z,44nm,1.2s
HHC pmax pmax
comp=Z,480nm,5.2s
HHC LR LR
comp=Z,8μm,10.2s
HHC LR LR
comp=Z,3μm,10.5s
HHC LR LR
comp=Z,8μm,10.4s
BTO Baotou 32.41 230 *e*P **P** **08 40 23.0 +0.3**
TJN Taejon 32.51 203*d i*P **P** **08 40 23.3 -0.2**
HYT Haines Junctio 33.02 62 *e*P **P** **08 40 29.6 +1.7**
RES Resolute Bay 33.25 24 *e*P **P** **08 40 30.6 +1.0**
comp=Z,78nm,1.4s
RES Resolute Bay 33.25 24 *e*P **P** **08 40 30.6 +1.0**
RES pmax pmax
comp=Z,78nm,1.4s
TIY Taiyuan 34.42 225 *e*P **P** **08 40 42.2 +2.0**
TIY PP **PP** **08 41 56.7 -1.3**
TIY S **S** **08 46 14.7 +6.8**
TIY pmax pmax
comp=Z,61nm,1.0s
TIY LR LR
comp=Z,9μm,9.7s
TIY LR LR
comp=Z,5μm,8.2s
TIY LR LR
comp=Z,12μm,9.7s
JHJ Hachijo jima 2 34.62 184 LR LR 08 54 58.2
comp=Z,350nm,19.5s,baz=14,slow=37
TIA Tai'an 34.66 218 P **P** **08 40 42.8 +0.6**
TIA S **S** **08 46 10.1 -1.4**
TIA pmax pmax
comp=Z,9.0nm,1.4s
TIA pmax pmax
comp=Z,91nm,2.7s
TIA LR LR
comp=Z,830nm,9.4s
TIA LR LR
comp=Z,800nm,13.1s
TIA LR LR
comp=Z,1μm,10.8s
TULEG Thule 34.72 12 *e*P **P** **08 40 42.7 +0.3**
comp=Z,39nm,1.2s
SKAG Skagway 34.77 62 *e*P **P** **08 40 43.9 +1.0**
comp=Z,34nm,1.4s
KURK Kurchatov 34.94 274 *e*P **P** **08 40 44.0 -0.5**
comp=Z,214nm,1.5s
KURK Kurchatov 34.94 274*c i*P **P** **08 40 44.4 -0.1**
KURK pmax pmax
comp=Z,259nm,2.5s
KURK MLR MLR
comp=Z,3μm,14.0s
KURBB Kurchatov Arra 35.04 274 P **P** **08 40 45.5 +0.1**
comp=Z,25nm,0.5s,baz=36,slow=8.5,SNR=157
KURBB PP **PP** **08 41 56.9 -7.8**
comp=Z,15nm,0.8s,baz=43,slow=11,SNR=5.4
ZSN Zaisan 35.21 265*de*P **P** **08 40 45.2 -1.7**
ZSN *i* 08 42 04.6
ZSN pmax pmax
comp=Z,481nm,0.9s
ZSN MLR MLR
comp=Z,789nm,13.0s
ZSN Zaisan 35.21 265⇓ *e*P **P** **08 40 45.2 -1.7**
comp=Z,481nm,0.9s
ZSN *i* PP **PP** **08 42 04.6 -2.0**
ZSN *e*LR LR 08 54 55.1
comp=Z,789nm,12.8s
JNU Nakatsue 35.25 197 *e*P **P** **08 40 46.4 -1.0**
comp=Z,25nm,1.0s
JNU Nakatsue 35.25 197 LR LR 08 55 18.1
comp=Z,1μm,19.4s,baz=16,slow=37
DAG Danmarks Havn 35.33 353⇑ *i*P **P** **08 40 47.5 -0.1**
comp=Z,28nm,0.9s
DAG Danmarks Havn 35.33 353⇑ *i*P **P** **08 40 47.5 -0.1**
DAG pmax pmax
comp=Z,23nm,0.9s
LVZ Lovozero 35.84 322 *e*P **P** **08 40 51.2 -1.0**
comp=Z,61nm,1.3s
LVZ Lovozero 35.84 322⇓ *i*P **P** **08 40 51.1 -1.0**
LVZ pmax pmax
comp=Z,41nm,1.3s
LVZ MLR MLR
comp=Z,905nm,18.0s
BVA0 Borovoye Array 36.21 283 *i*P **P** **08 40 54.2 -1.2**
BVA0 pmax pmax
comp=Z,76nm,1.1s
BVAR Borovoye Array 36.21 283 P **P** **08 40 55.6 +0.2**
comp=Z,54nm,0.8s,baz=52,slow=7.7,SNR=167
BVAR PP **PP** **08 42 09.1 -8.3**
comp=Z,12nm,0.8s,baz=45,slow=13,SNR=4.4
BVAR LR LR 08 56 55.5
comp=Z,803nm,19.7s,baz=38,slow=38
BRVK Borovoye 36.22 283 *e*P **P** **08 40 54.9 -0.6**
comp=Z,63nm,0.9s
BRVK Borovoye 36.22 283*c i*P **P** **08 40 55.3 -0.2**
BRVK pmax pmax
comp=Z,78nm,1.0s
BRVK MLR MLR
comp=Z,4μm,14.0s
APA Apatity 36.39 322⇑ *i*P **P** **08 40 54.7 -2.1**
APA pmax pmax
comp=Z,18nm,1.0s
ARA0 ARCESS Array S 36.51 328 *e*P **P** **08 40 58.0 +0.1**
ARCES ARCESS Array B 36.51 328 P **P** **08 40 58.0 +0.1**
ARCES ARCESS Array B 36.51 328 P **P** **08 40 58.0 +0.1**
comp=Z,5.6nm,0.7s,baz=40,slow=6.0,SNR=14
ARCES PcP **PcP** **08 43 21.4 +0.4**
comp=Z,8.3nm,0.9s,baz=35,slow=3.3,SNR=6.1
ARCES LR LR 08 59 45.8
comp=Z,701nm,18.8s,baz=32,slow=42
ARE0 ARCESS Array S 36.51 328 *e*P **P** **08 40 57.5 -0.4**
comp=Z,3.4nm,1.3s
GTA Gaotai 36.72 242⇑ P **P** **08 41 00.8 +0.7**
GTA pP sP 08 41 06.5 +1.4
GTA sP pP 08 41 10.4 +6.8
GTA PP **PP** **08 42 25.3 +1.8**
GTA PcP **PcP** **08 43 22.5 +0.2**
GTA S **S** **08 46 44.8 +1.5**
GTA sS sS 08 46 54.8 +5.6
GTA ScP **ScP** **08 47 06.1 -2.3**
GTA pmax pmax
comp=Z,26nm,1.3s
GTA pmax pmax
comp=Z,500nm,5.1s
GTA LR LR
comp=Z,3μm,18.7s
GTA LR LR
comp=Z,3μm,18.4s
GTA LR LR
comp=Z,3μm,19.7s
MK31 Makanchi Array 36.74 267 *e*P **P** **08 40 59.2 -0.8**
MK31 Makanchi Array 36.74 267 *e*P **P** **08 40 59.2 -0.8**
MK32 Makanchi Array 36.74 267 *e*P **P** **08 40 59.8 -0.2**
MKAR Makanchi Array 36.74 267 P **P** **08 40 59.8 -0.2**
comp=Z,77nm,0.7s,baz=45,slow=6.6,SNR=525
MKAR PP **PnPn** **08 42 15.1 -8.2**
comp=Z,16nm,0.8s,baz=51,slow=11,SNR=1.3
MKAR LR LR 08 58 42.1
comp=Z,372nm,20.4s,baz=21,slow=41
MK01 Makanchi Array 36.75 266 *e*P **P** **08 40 59.1 -1.0**
SVE Sverdlovsk 36.76 295*de*P **P** **08 41 00.8 +0.8**
SVE *e*S **S** **08 46 47.5 +4.3**
SVE pmax pmax
comp=Z,77nm,1.8s
SVE MLR MLR
comp=Z,1μm,14.0s
MAKZ Makanchi 36.84 267 *e*P **P** **08 41 00.1 -0.8**
comp=Z,68nm,0.9s
MAKZ Makanchi 36.84 267 *e*P **P** **08 41 00.1 -0.8**
MAKZ pmax pmax
comp=Z,69nm,0.9s
WMQ Urumqi 37.20 258 P **P** **08 41 05.2 +1.2**
WMQ pP sP 08 41 09.3 +0.3
WMQ sP pP 08 41 14.3 +6.7
WMQ PP **PnPn** **08 42 31.8 +2.8**
WMQ S **S** **08 46 59.3 +9.0**
WMQ ScP **ScP** **08 47 09.5 -0.6**
WMQ ScS **ScS** **08 51 20.4 +2.7**
WMQ pmax pmax
comp=Z,200nm,1.3s
WMQ pmax pmax
comp=Z,670nm,3.7s
WMQ LR LR
comp=Z,2μm,15.1s
WMQ LR LR

comp=Z,2µm,25.3s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ Urumqi 37.20 258 eP P **08 41 04.2 +0.2**
comp=Z,108nm,1.0s
WMQ Urumqi 37.20 258 eP P **08 41 04.2 +0.2**
WMQ pmax pmax
comp=Z,108nm,1.0s
DLBC Dease Lake 37.33 60 eP P **08 41 06.4 +1.4**
comp=Z,50nm,1.6s
ARU Arti 37.79 296 eP P **08 41 08.6 -0.2**
comp=Z,50nm,1.2s
ARU Arti 37.79 296c iP P **08 41 08.5 -0.2**
ARU pmax pmax
comp=Z,102nm,2.5s
ARU MLR MLR
comp=Z,776nm,15.0s
TMCR Tamitsa 37.96 316 eP P **08 41 10.1 0.0**
TMCR pmax pmax
comp=Z,61nm,0.8s
NJ2 Nanjing 38.27 214 eP P **08 41 12.6 -0.4**
NJ2 pP pP 08 41 16.7 +0.1
NJ2 PP PnPn 08 42 41.8 -0.3
NJ2 S S 08 47 06.6 0.0
NJ2 pmax pmax
comp=Z,31nm,0.9s
NJ2 pmax pmax
comp=Z,370nm,6.8s
NJ2 LR LR
comp=Z,4µm,11.9s
NJ2 LR LR
comp=Z,2µm,13.0s
NJ2 LR LR
comp=Z,4µm,10.8s
LZH Lanzhou 38.44 235 eP P **08 41 17.3 +2.6**
LZH pP sP 08 41 22.0 +2.3
LZH sP pP 08 41 25.0 +6.7
LZH PP PnPn 08 42 44.4 +0.2
LZH S S 08 47 12.2 +2.7
LZH SS SS 08 49 50.3 -8.0
LZH pmax pmax
comp=Z,230nm,1.1s
LZH pmax pmax
comp=Z,1µm,4.1s
LZH LR LR
comp=Z,5µm,14.6s
LZH LR LR
comp=Z,3µm,14.6s
LZH LR LR
comp=Z,5µm,16.3s
SSE Sheshan 38.73 210 P P **08 41 16.7 -0.2**
SSE S S 08 47 16.9 +3.4
SSE pmax pmax
comp=Z,23nm,1.3s
SSE pmax pmax
comp=Z,220nm,4.9s
SSE LR LR
comp=Z,680nm,19.0s
SSE LR LR
comp=Z,2µm,16.9s
YKW3 Yellowknife Ar 38.76 46 eP P **08 41 17.8 +1.0**
comp=Z,26nm,1.3s
YKA Yellowknife Ar 38.81 46 P P **08 41 18.7 +1.4**
comp=Z,4.5nm,0.8s,baz=323,slow=7.6,SNR=38
YKA PKiKP PKiKP 08 50 39.9 -1.1
comp=Z,0.3nm,0.7s,baz=322,slow=1.4,SNR=4.0
YKA LR LR 09 01 22.8
comp=Z,33nm,18.3s,baz=316,slow=42
YKB5 Yellowknife Ar 38.81 46 eP P **08 41 17.6 +0.3**
XAN Xi'an 38.84 227 P P **08 41 18.8 +0.9**
XAN pP sP 08 41 23.3 +0.4
XAN sP pP 08 41 25.8 +4.3
XAN PP PnPn 08 42 48.0 -0.9
XAN S S 08 47 19.0 +3.8
XAN sS sS 08 47 27.4 +6.2
XAN ScS ScS 08 51 24.8 -2.5
XAN pmax pmax
comp=Z,32nm,1.3s
XAN LR LR
comp=Z,5µm,13.0s
XAN LR LR
comp=Z,3µm,10.0s
XAN LR LR
comp=Z,4µm,10.6s
XAN Xi'an 38.84 227 eP P **08 41 17.9 +0.1**
comp=Z,73nm,1.4s
XAN Xi'an 38.84 227 eP P **08 41 17.9 +0.1**
XAN pmax pmax
comp=Z,73nm,1.4s
KIRV Kirov 39.11 304 P P **08 41 20.7 +0.9**
comp=Z,9.7nm,0.5s,baz=35,slow=4.9,SNR=7.4
OTUK Ortayu 39.33 277 P P **08 41 20.9 -1.0**
OTUK pmax pmax
comp=Z,128nm,1.4s
TDK Taldyqorghan 39.72 269d iP P **08 41 23.8 -1.3**
TDK e 08 42 53.9
TDK MLR MLR
comp=Z,4µm,12.0s
TDK Taldyqorghan 39.72 269⇓ iP P **08 41 23.8 -1.3**
comp=Z,3µm,0.9s
TDK ePP PP 08 42 54.0 -2.2
TDK eLR LR 08 58 06.5
comp=Z,4µm,12.4s
SUMG Summit 40.01 1 eP P **08 41 28.2 +0.6**
comp=Z,44nm,1.4s
SUMG Summit 40.01 1 iP P **08 41 28.5 +0.9**
SUMG Summit 40.01 1 eP P **08 41 28.2 +0.6**
SUMG pmax pmax
comp=Z,44nm,1.4s
KLMR Klimovskoe 40.24 312 eP P **08 41 27.4 -1.8**
KLMR pmax pmax
comp=Z,66nm,1.3s
KLMR Klimovskoe 40.24 312 eP P **08 41 27.5 -1.8**
KLMR AMP 08 41 31.1
comp=Z,66nm,1.2s
PDGK Podgornoye 40.72 266 P P **08 41 33.4 -0.2**
PDGK pmax pmax
comp=Z,98nm,1.2s
WHN Wuhan 40.74 219 P P **08 41 34.0 +0.4**
WHN S S 08 47 44.5 +0.9
WHN LR LR
comp=Z,3µm,8.5s
WHN LR LR
comp=Z,3µm,10.3s
WHN LR LR
comp=Z,4µm,9.0s
KPKS Kokpek 40.91 267 eP P **08 41 33.2 -1.9**
KPKS e 08 43 08.8
KPKS MLR MLR
comp=Z,2µm,12.0s
KPKS Kokpek 40.91 267 eP P **08 41 33.2 -1.9**
comp=Z,2µm,0.8s
KPKS ePP PP 08 43 08.8 -0.4
KPKS eLR LR 08 58 54.2
comp=Z,2µm,12.0s
UZB Uzynbulak 41.06 266 eP P **08 41 34.1 -2.2**
UZB pmax pmax
comp=Z,391nm,1.5s
UZB MLR MLR
comp=Z,757nm,12.0s
UZB Uzynbulak 41.06 266 eP P **08 41 34.1 -2.2**
comp=Z,391nm,1.5s
UZB eLR LR 08 58 31.3
comp=Z,757nm,12.2s
ZHN Zhinishke 41.26 267d iP P **08 41 36.4 -1.6**
ZHN i 08 43 11.4
ZHN pmax pmax
comp=Z,579nm,1.3s
ZHN MLR MLR
comp=Z,1µm,11.0s
ZHN Zhinishke 41.26 267⇓ iP P **08 41 36.5 -1.6**
comp=Z,579nm,1.3s
ZHN iPP PP 08 43 11.4 -1.6
ZHN eLR LR 08 58 58.0
comp=Z,1µm,10.8s
SATY Saty 41.37 267d iP P **08 41 37.3 -1.6**
SATY e 08 43 11.6
SATY MLR MLR
comp=Z,1µm,11.0s
SATY Saty 41.37 267⇓ iP P **08 41 37.3 -1.6**
comp=Z,1µm,1.2s
SATY ePP PP 08 43 11.6 -2.5
SATY eLR LR 08 58 54.2
comp=Z,1µm,10.7s
KUU Kurty 41.45 270d eP P **08 41 37.1 -2.3**
KUU e 08 43 12.9
KUU pmax pmax
comp=Z,595nm,1.7s
KUU MLR MLR
comp=Z,578nm,10.0s
KUU Kurty 41.45 270⇓ eP P **08 41 37.1 -2.3**
comp=Z,595nm,1.7s
KUU ePP PP 08 43 12.9 -2.0
KUU eLR LR 08 59 35.9
comp=Z,578nm,9.9s
SCO Scoresbysund 41.72 352 eP P **08 41 42.0 +0.8**
comp=Z,28nm,1.0s
SCO Scoresbysund 41.72 352 iP P **08 41 40.1 -1.1**
comp=Z,28nm,1.0s
SCO Scoresbysund 41.72 352 eP P **08 41 42.0 +0.8**
SCO pmax pmax
comp=Z,28nm,1.0s
MDOK Medeo 41.80 268 eP P **08 41 40.2 -2.2**
MDOK e 08 43 16.8
MDOK pmax pmax
comp=Z,659nm,1.2s
MDOK MLR MLR
comp=Z,1µm,12.0s
MDOK Medeo 41.80 268 eP P **08 41 40.3 -2.2**
comp=Z,659nm,1.2s
MDOK ePP PP 08 43 16.9 -2.0
MDOK eLR LR 08 59 11.6
comp=Z,1µm,12.2s
AAA Alma-Ata 41.81 269 eP P **08 41 42.0 -0.4**
AAA pmax pmax
comp=Z,433nm,1.1s
AAA MLR MLR
comp=Z,681nm,12.0s
AAA Alma-Ata 41.81 269 eP P **08 41 42.0 -0.4**
comp=Z,433nm,1.1s
AAA eLR LR 08 59 09.0
comp=Z,681nm,11.7s
PRZ Przheval'sk 41.86 267 eP P **08 41 43.6 +0.6**
comp=Z,101nm,1.1s
PRZ Przheval'sk 41.86 267 eP P **08 41 43.6 +0.6**
PRZ pmax pmax
comp=Z,101nm,1.1s
ENH Enshi 42.23 225 eP P **08 41 45.6 -0.3**
comp=Z,40nm,0.9s
TKM2 Tokmak 2 42.56 270 P P **08 41 50.2 +1.5**
SNR=22
TKM2 Tokmak 2 42.56 270 P P **08 41 49.1 +0.4**
TKM2 pmax pmax
comp=Z,99nm,1.3s
KDJ Kajisay 42.63 267 eP P **08 41 49.6 +0.4**
comp=Z,50nm,0.9s
KDJ Kajisay 42.63 267 eP P **08 41 49.7 +0.4**
KDJ pmax pmax
comp=Z,50nm,0.9s
USP Ospenovka 42.68 271 P P **08 41 50.4 +0.9**
SNR=70
TARG Taragay, Kyrgy 42.74 267 eP P **08 41 50.4 0.0**
comp=Z,69nm,0.9s
CHMS Chumysh 42.82 270 P P **08 41 51.6 +1.0**
SNR=64
AKTO Aktyubinsk 42.83 291 P P **08 41 50.4 -0.1**
comp=Z,30nm,0.7s,baz=40,slow=7.9,SNR=95
AKTO LR LR 09 01 56.3
comp=Z,2µm,19.0s,baz=32,slow=39
ULHL Ulahol 42.89 268 P P **08 41 53.0 +1.6**
SNR=77
FRU Bishkek 43.01 270 eP P **08 41 54.0 +1.9**
FRU e 08 43 38.0
FRU e 08 48 20.0
FRU pmax pmax
comp=Z,510nm,2.2s
FRU1 Bishkek 43.02 270 eP P **08 41 52.7 +0.4**
comp=Z,139nm,1.0s
FRU1 Bishkek 43.02 270 eP P **08 41 52.7 +0.4**
FRU1 pmax pmax
comp=Z,139nm,1.0s
KBK Karagaybulak 43.03 270 P P **08 41 54.5 +2.0**
SNR=53
AB31 Akbulak array 43.12 288 iP P **08 41 52.1 -0.8**
AB31 pmax pmax
comp=Z,30nm,0.7s
ABKAR Akbulak array 43.12 288 eP P **08 41 52.5 -0.4**
AAK Ala-Archa 43.22 270 P P **08 41 55.1 +1.1**
SNR=94
AAK Ala-Archa 43.22 270 P P **08 41 54.8 +0.8**
AAK pmax pmax
comp=Z,84nm,0.7s
FIA1 FINESS Array S 43.26 321 eP P **08 41 53.9 0.0**
comp=Z,54nm,1.0s
FIA0 FINESS Array S 43.26 321 eP P **08 41 54.0 +0.1**
FIA0 FINESS Array S 43.26 321 eP P **08 41 54.0 +0.1**
FINES FINESS Array B 43.26 321 P P **08 41 54.0 +0.1**
comp=Z,18nm,0.6s,baz=31,slow=8.9,SNR=69
FINES LR LR 09 02 46.9
comp=Z,738nm,19.4s,baz=24,slow=40
CD2 Chengdu 43.27 232⇓ iP P **08 41 55.6 +1.2**
CD2 sP pP 08 41 58.0 0.0
CD2 PP PP 08 43 33.6 -1.1
CD2 S S 08 48 20.9 -0.3
CD2 sS sS 08 48 26.4 -0.7
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,790nm,3.6s
CD2 LR LR
comp=Z,3µm,10.4s
CD2 LR LR
comp=Z,3µm,9.9s
KZA Kyzart 43.41 269 P P **08 41 57.6 +1.7**
SNR=6.4
EKS2 Erkin-Say 43.48 271 P P **08 41 57.8 +1.8**
SNR=45
UCH Uchtor 43.57 270 P P **08 41 59.0 +1.9**
SNR=50
NRN Naryn 43.68 268 eP P **08 41 58.4 +0.5**
comp=Z,56nm,0.8s
NRN Naryn 43.68 268 eP P **08 41 58.4 +0.5**
NRN pmax pmax
comp=Z,56nm,0.8s
AML Almayashu 43.96 271 P P **08 42 01.5 +1.2**
SNR=87
KK31 Karatay Array 44.34 274 eP P **08 42 02.8 -0.1**
KK31 Karatay Array 44.34 274 eP P **08 42 02.8 -0.1**
KKAR Karatay Array 44.34 274 eP P **08 42 03.0 +0.1**
comp=Z,117nm,1.4s
KKAR Karatay Array 44.34 274 eP P **08 42 03.0 +0.1**
KKAR pmax pmax
comp=Z,117nm,1.4s
ARSB Arslanbob 44.93 271 eP P **08 42 08.2 +0.5**
comp=Z,57nm,1.0s
YHNB Yeheng 44.95 208 eP P **08 42 07.9 -0.1**
comp=Z,94nm,1.4s
MOS Moscow 45.08 310 eP P **08 42 07.7 -0.8**
MOS e 08 43 59.1
MOS pmax pmax
comp=Z,66nm,0.9s
QZH Quanzhou 45.21 211⇓ iP P **08 42 09.6 -0.3**
QZH eS S 08 48 49.5 +0.1
QZH pmax pmax
comp=Z,55nm,0.9s
QZH LR LR
comp=Z,3µm,12.8s
QZH LR LR
comp=Z,2µm,11.4s
QZH LR LR
comp=Z,4µm,12.3s
SFJD Kangerlussuaq 45.30 7 eP P **08 42 10.7 +0.6**
comp=Z,13nm,0.9s
SFJD Kangerlussuaq 45.30 7 eP P **08 42 10.7 +0.6**
SFJD pmax pmax
comp=Z,13nm,0.9s
IUG Iuzhnay 45.35 274d iP P **08 42 09.5 -1.5**
IUG pmax pmax
comp=Z,1µm,1.4s
IUG MLR MLR
comp=Z,2µm,13.0s
IUG Iuzhnay 45.35 274⇓ iP P **08 42 09.5 -1.5**
comp=Z,1µm,1.4s
IUG eLR LR 09 01 15.7
comp=Z,2µm,13.5s
KSH Kashi 45.35 267 P P **08 42 16.3 +5.3**
KSH sP sP 08 42 22.9 +6.8
KSH PP PP 08 44 03.8 +7.0
KSH S S 08 48 58.5 +7.1
KSH sS sS 08 49 06.4 +8.9
KSH SS SS 08 52 14.7 +0.7
KSH pmax pmax
comp=Z,46nm,1.1s
KSH LR LR
comp=Z,1µm,11.1s
KSH LR LR
comp=Z,2µm,12.4s
KSH LR LR
comp=Z,2µm,14.2s
VSU Vasula 45.70 319c eP P **08 42 13.9 +0.5**
VSU pmax pmax
comp=Z,137nm,1.7s
VSU MLR MLR
comp=Z,2µm,16.0s
VSU Vasula 45.70 319 eP P **08 42 13.4 0.0**
VSU IAmb IAmb 08 42 14.3
comp=Z,72nm,0.8s
SSLB Suanglung 45.89 208 eP P **08 42 14.9 -0.4**
comp=Z,34nm,1.1s
OBN Obninsk 45.93 310 eP P **08 42 15.4 +0.2**
comp=Z,104nm,1.4s
OBN Obninsk 45.93 310⇑ eP P **08 42 15.1 -0.1**
OBN i 08 43 51.8
OBN e 08 44 05.5
OBN iS S 08 48 51.9 -7.2
OBN pmax pmax
comp=Z,97nm,1.7s
OBN Obninsk 45.93 310 P P **08 42 15.8 +0.6**
comp=Z,4.0nm,0.4s,baz=34,slow=2.0,SNR=9.8
OBN LR LR 09 03 38.9
comp=Z,119nm,18.2s,baz=356,slow=39
LLLB Lillooet 46.46 61 eP P **08 42 21.4 +1.8**
comp=Z,15nm,1.3s
GYA Guiyang 46.62 226⇓ iP P **08 42 21.8 +0.7**
GYA pP sP 08 42 28.0 +1.8
GYA PP PP 08 44 12.6 +2.0
GYA S S 08 49 10.9 +1.0
GYA SS SS 08 52 29.5 -6.2
GYA pmax pmax
comp=Z,40nm,0.9s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=Z,520nm,17.7s
GYA LR LR
comp=Z,500nm,17.5s
GYA LR LR
comp=Z,480nm,17.8s
NC303 NORSAR Array S 46.63 330 eP P **08 42 20.7 0.0**
comp=Z,28nm,0.9s
NC405 NORSAR Array S 46.67 330 eP P **08 42 20.6 -0.4**
comp=Z,44nm,0.9s
NC204 NORSAR Array S 46.70 330 eP P **08 42 21.3 0.0**
comp=Z,47nm,1.0s
NB201 NORSAR Array S 46.81 330 eP P **08 42 21.8 -0.3**
comp=Z,45nm,1.1s
NB2 NORSAR Subarra 46.83 330 P P **08 42 21.7 -0.6**
comp=Z,10nm,0.7s,baz=24,slow=7.9
NB200 NORSAR Array S 46.83 330 eP P **08 42 22.4 0.0**
NB200 ePcP PcP 08 43 55.1 0.0
NOA NORSAR Array B 46.83 330 P P **08 42 22.4 0.0**
comp=Z,28nm,0.9s,baz=24,slow=7.8,SNR=38
NOA PcP PcP 08 43 55.1 0.0
comp=Z,6.8nm,1.0s,baz=21,slow=3.9,SNR=4.4
NOA LR LR 09 05 07.7
comp=Z,362nm,19.6s,baz=15,slow=40
NBO00 NORSAR Array S 46.92 330 eP P **08 42 22.6 -0.4**
comp=Z,50nm,0.9s
NC602 NORSAR Array S 47.05 330 eP P **08 42 23.4 -0.6**
comp=Z,39nm,0.9s
NAO01 NORSAR Array S 47.07 330 eP P **08 42 23.8 -0.4**
comp=Z,45nm,0.9s
FCC Fort Churchill 47.21 36 eP P **08 42 24.8 -0.4**
comp=Z,35nm,1.2s
FCC ePcP PcP 08 43 56.8 +0.5
FCC Fort Churchill 47.21 36 eP P **08 42 24.8 -0.4**
FCC e 08 43 56.8
FCC pmax pmax
comp=Z,35nm,1.2s
LPSR Galich'ya Gora 47.39 306 eP P **08 42 26.3 -0.4**
LPSR pmax pmax
comp=Z,50nm,0.9s
LPSR MLR MLR
comp=Z,1µm,15.0s
VRH Novokhopyorsk 47.72 303 eP P **08 42 28.3 -1.0**
VRH pmax pmax
comp=Z,60nm,0.8s
VRH MLR MLR
comp=Z,1µm,15.0s
GAR Garm 47.96 272 eP P **08 42 31.4 -0.1**
comp=Z,273nm,1.1s
GAR Garm 47.96 272 eP P **08 42 31.4 -0.1**
GAR pmax pmax
comp=Z,273nm,1.1s
IZAR Zarasai 48.23 317 eP P **08 42 33.7 +0.5**
IZAR IAmb IAmb 08 42 39.7
comp=Z,27nm,1.2s
B05A Bryant 48.40 63 P P **08 42 34.3 -0.2**
baz=330
ISAL Salakas 48.42 317 eP P **08 42 35.3 +0.6**
ISAL IAmb IAmb 08 42 36.3
comp=Z,14nm,0.6s
KONO Kongsberg 48.43 330 eP P **08 42 34.9 +0.2**
comp=Z,24nm,0.8s
KONO Kongsberg 48.43 330c eP P **08 42 34.7 0.0**
KONO pmax pmax
comp=Z,63nm,2.5s
IDID Didziasalis 48.49 317 eP P **08 42 35.8 +0.6**
IDID IAmb IAmb 08 42 36.9
comp=Z,18nm,0.9s
LSA Lhasa 48.50 245 P P **08 42 38.4 +2.3**
LSA pmax pmax
comp=Z,70nm,1.3s
LSA Lhasa 48.50 245 eP P **08 42 37.5 +1.4**
comp=Z,96nm,1.3s
LSA Lhasa 48.50 245 P P **08 42 38.2 +2.1**
LSA Lhasa 48.50 245 eP P **08 42 37.5 +1.4**
LSA pmax pmax
comp=Z,96nm,1.3s
VSR Storozhevoye 48.51 305 eP P **08 42 35.1 -0.3**
VSR pmax pmax
comp=Z,70nm,0.9s
VSR MLR MLR
comp=Z,1µm,14.0s
IIGN Ignalina 48.59 317 eP P **08 42 36.6 +0.6**
IIGN IAmb IAmb 08 42 37.6
comp=Z,15nm,0.6s
D03D Eldon 48.68 64 P P **08 42 36.8 0.0**
baz=330
CHGR Chuyangaron 48.70 272 eP P **08 42 37.0 -0.1**
comp=Z,234nm,0.7s
FFC Flin Flon 48.88 44 eP P **08 42 38.0 -0.2**
comp=Z,28nm,0.8s
FFC Flin Flon 48.88 44 iP P **08 42 38.5 +0.2**
KMI Kunming 49.00 230 P P **08 42 39.7 0.0**
KMI pP sP 08 42 44.0 -0.8
KMI sP pP 08 42 45.8 +2.4
KMI PP PP 08 44 36.4 +3.3
KMI S S 08 49 40.8 -3.1
KMI pmax pmax
comp=Z,66nm,1.2s
KMI pmax pmax
comp=Z,820nm,3.5s
KMI LR LR
comp=Z,2µm,12.1s
KMI LR LR
comp=Z,2µm,12.5s
KMI LR LR
comp=Z,3µm,13.1s
KMI Kunming 49.00 230 eP P **08 42 39.4 -0.4**
comp=Z,77nm,0.8s
PBUR Paburg 49.07 320 eP P **08 42 39.0 -0.7**
PBUR IAmb IAmb 08 42 41.0
comp=Z,49nm,0.8s
B08A Colville Reser 49.24 61 eP P **08 42 41.6 +0.5**
comp=Z,19nm,1.3s
D05A Enumclaw 49.36 63 eP P **08 42 43.1 +1.2**
comp=Z,61nm,1.5s
LTY Liberty 49.75 62 eP P **08 42 45.4 +0.3**
comp=Z,7.1nm,0.8s
LON Longmire 49.80 64 eP P **08 42 47.0 +1.6**
comp=Z,15nm,1.3s
LON Longmire 49.80 64 eP P **08 42 47.1 +1.6**
LON pmax pmax
comp=Z,15nm,1.3s
NEW Newport 50.06 59 eP P **08 42 48.7 +1.3**
comp=Z,3.0nm,0.8s
NEW Newport 50.06 59 eP P **08 42 48.7 +1.3**

NEW pmax pmax
comp=Z,3.0nm,0.8s
WALA Waterton Lakes 50.40 56 *e*P **P 08 42 50.4 +0.4**
comp=Z,9.8nm,0.9s
D08A Wollman Farm, 50.51 61 *e*P **P 08 42 52.2 +1.4**
comp=Z,6.3nm,0.9s
SUW Suwalki 50.58 318 *e*P **P 08 42 50.6 -0.5**
SUW Suwalki 50.58 318 *e*P **P 08 42 51.0 -0.1**
comp=Z,107nm,1.1s
SUW Suwalki 50.58 318 *e*P **P 08 42 51.0 -0.1**
SUW pmax pmax
comp=Z,107nm,1.1s
E07A Sunnyside 50.63 62 *e*P **P 08 42 53.0 +1.3**
comp=Z,7.8nm,0.9s
KLNR Kaliningrad 50.78 321 *i*P **P 08 42 53.0 +0.4**
KLNR pmax pmax
comp=Z,120nm,1.0s
KLNR MLR MLR
comp=Z,900nm,16.0s
E08A Dider Farm, El 50.96 62 *e*P **P 08 42 55.5 +1.4**
comp=Z,16nm,1.1s
NIL Nilore 51.54 266 *e*P **P 08 42 59.7 +1.0**
comp=Z,110nm,0.9s
NIL Nilore 51.54 266 *e*P **P 08 42 59.7 +1.0**
NIL pmax pmax
comp=Z,110nm,0.9s
DHRM DHARAMSHALA 51.63 262 *e*P **P 08 42 59.3 -0.3**
AKASG Malin Array Be 51.93 312 P **P 08 43 01.2 -0.1**
comp=Z,41nm,0.9s,baz=28,slow=8.4,SNR=65
AKASG LR LR 09 07 40.7
comp=Z,371nm,18.2s,baz=20,slow=39
AKBB Malin Array Si 51.93 312 *e*P **P 08 43 00.8 -0.5**
comp=Z,52nm,1.1s
AKBB Malin Array Si 51.93 312 *e*P **P 08 43 00.8 -0.5**
AKBB pmax pmax
comp=Z,53nm,1.1s
KIEV Kiev 51.94 312 *e*P **P 08 43 00.8 -0.6**
comp=Z,51nm,1.1s
KIEV Kiev 51.94 312⇑ *i*P **P 08 43 01.0 -0.4**
KIEV Kiev 51.94 312 *i*P **P 08 43 01.2 -0.2**
SNR=13
KIEV Kiev 51.94 312⇓ *i*P **P 08 43 00.9 -0.4**
KIEV pmax pmax
comp=Z,54nm,1.1s
KIEV MLR MLR
comp=Z,644nm,14.0s
AK11 Malin Array Si 51.97 312 *e*P **P 08 43 00.7 -0.9**
GUN Gumba 51.99 250 *e*P **P 08 43 03.0 +0.5**
comp=Z,479nm,1.0s
F10A Beach Ranch, E 52.03 61 *e*P **P 08 43 03.8 +1.5**
comp=Z,16nm,1.3s
SHL Shillong 52.04 242 *e*P **P 08 43 02.2 -0.5**
comp=Z,71nm,1.1s
SHL Shillong 52.04 242 *e*P **P 08 43 02.2 -0.5**
SHL pmax pmax
comp=Z,71nm,1.1s
SHL Shillong 52.04 242 *e*P **P 08 43 03.0 +0.3**
SHL IAmb IAmb 08 43 07.2
comp=Z,72nm,1.3s
G08A Pilot Rock 52.05 62 *e*P **P 08 43 03.5 +1.0**
comp=Z,11nm,1.0s
JIRN Jiri 52.11 249 *e*P **P 08 43 04.1 +0.7**
comp=Z,787nm,0.9s
SMLA Simla 52.30 260 *e*P **P 08 43 04.2 -0.1**
KKN Kakani 52.32 250 *e*P **P 08 43 05.5 +0.8**
comp=Z,454nm,1.0s
MSO Missoula 52.35 58 *e*P **P 08 43 06.0 +1.4**
comp=Z,9.8nm,0.9s
MSO Missoula 52.35 58 P **P 08 43 04.1 -0.6**
baz=332
GKN Gorkha 52.35 251 *e*P **P 08 43 05.7 +0.7**
comp=Z,829nm,1.0s
KBL Kabul 52.36 270 *e*P **P 08 43 04.5 -0.5**
comp=Z,53nm,0.9s
KBL Kabul 52.36 270 *e*P **P 08 43 04.5 -0.5**
KBL pmax pmax
comp=Z,53nm,0.9s
DANN Dangsing 52.36 252 *e*P **P 08 43 05.9 +0.8**
comp=Z,508nm,0.9s
RGN Rugen 52.41 325 *e*P **P 08 43 06.3 +1.5**
comp=Z,185nm,1.2s,baz=20,slow=7.1
PKIN Phulchoki 52.47 250 *e*P **P 08 43 06.4 +0.5**
comp=Z,219nm,1.0s
PKI Pulchoki 52.47 250 *e*P **P 08 43 06.4 +0.4**
comp=Z,329nm,1.1s
DMN Daman 52.54 251 *e*P **P 08 43 07.4 +0.9**
comp=Z,256nm,1.0s
RAMN Ramite 52.61 249 *e*P **P 08 43 07.0 0.0**
comp=Z,241nm,0.7s
EGMT Eagleton 52.61 54 *e*P **P 08 43 07.7 +1.1**
comp=Z,14nm,1.2s
EGMT Eagleton 52.61 54 P **P 08 43 06.4 -0.2**
baz=333
GOF Gofitskoye 52.64 298⇑ *i*P **P 08 43 06.7 0.0**
GOF pmax pmax
comp=Z,80nm,0.8s
PINE Pine Mountain 52.68 65 *e*P **P 08 43 08.7 +1.4**
comp=Z,21nm,1.1s
DDI Dehra Dun 52.69 259 *e*P **P 08 43 07.4 +0.1**
GKP Gorka Klasztor 52.71 322 *e*P **P 08 43 07.9 +0.8**
GKP Gorka Klasztor 52.71 322 *e*P **P 08 43 07.9 +0.8**
PYUN Piuthan 52.87 253 *e*P **P 08 43 09.1 +0.3**
comp=Z,662nm,1.0s
QIZ Qiongzhong 52.88 220 P **P 08 43 09.8 +1.1**
QIZ S **S 08 50 38.5 +1.3**
QIZ SS **SS 08 54 19.6 +3.7**
QIZ LR LR
comp=Z,1μm,11.5s
QIZ LR LR
comp=Z,970nm,10.8s
QIZ LR LR
comp=Z,1μm,9.3s
I07A Izee 52.92 63 *e*P **P 08 43 11.0 +2.1**
comp=Z,13nm,1.3s
KOLN Koldanda 52.94 252 *e*P **P 08 43 09.9 +0.5**
comp=Z,604nm,1.0s
BMO Blue Mountains 52.99 61 *e*P **P 08 43 10.2 +0.8**
comp=Z,5.4nm,1.0s
BMO Blue Mountains 52.99 61 *e*P **P 08 43 10.2 +0.8**
BMO pmax pmax
comp=Z,5.0nm,1.0s
J05D Fort Rock, OR 53.03 65 P **P 08 43 10.4 +0.6**
baz=332
DRUM Mains of Drumt 53.08 337 *e*P **P 08 43 10.3 +0.6**
DRUM IAmb IAmb 08 43 10.9
comp=Z,61nm,0.9s
KPL Plockton 53.12 339 *e*P **P 08 43 10.2 +0.2**
HRY Holter Researc 53.13 56 *e*P **P 08 43 11.8 +1.4**
BEL Belsk 53.16 319 *e*P **P 08 43 10.7 +0.3**
BEL Belsk 53.16 319 *e*P **P 08 43 10.7 +0.3**
GROC Groznyy 53.34 295 *e*P **P 08 43 09.9 -1.9**
GROC *e* 08 44 20.0
GROC *e*S **S 08 50 42.7 -0.3**
GROC pmax pmax
comp=Z,70nm,1.2s
GEYT Alibeck 53.52 282 P **P 08 43 14.3 +1.0**
comp=Z,53nm,0.9s,baz=346,slow=4.9,SNR=71
GEYT LR LR 09 09 19.5
comp=Z,676nm,21.0s,baz=20,slow=40
GYA0B ALIBECK ARRAY 53.52 282 *e*P **P 08 43 14.0 +0.7**
comp=Z,90nm,1.0s
L04D Klamath Falls 53.59 67 P **P 08 43 13.8 -0.1**
baz=332
BSEG Bad Segeberg 53.62 327 *e*P **P 08 43 15.1 +1.4**
comp=Z,70nm,1.3s,baz=20,slow=7.1
GNBR Gunib 53.65 294⇑ *i*P **P 08 43 15.7 +1.5**
GNBR pmax pmax
comp=Z,175nm,1.2s
KIV Kislovodsk 53.74 298 *e*P **P 08 43 15.7 +0.8**
comp=Z,97nm,0.9s
KIV Kislovodsk 53.74 298⇑ *i*P **P 08 43 15.5 +0.6**
KIV Kislovodsk 53.74 298 *i*P **P 08 43 15.9 +1.1**
SNR=9.7
KIV Kislovodsk 53.74 298 *e*P **P 08 43 15.5 +0.6**
KIV *e* 08 45 16.5
KIV *e*S **S 08 50 50.2 +1.5**
KIV pmax pmax
comp=Z,120nm,1.1s
KIV pmax pmax
comp=Z,150nm,4.7s
KIV MLR MLR
comp=Z,380nm,17.0s
INVG Invergeldie, C 53.78 338 *e*P **P 08 43 14.8 -0.1**
NCK Nalchik 53.84 297⇓ *e*P **P 08 43 16.5 +1.0**
NCK pmax pmax
comp=Z,39nm,0.9s
NCK MLR MLR
comp=Z,713nm,16.0s
KBZ Khabaz 53.87 298 P **P 08 43 16.6 +0.9**
comp=Z,58nm,0.9s,baz=43,slow=6.4,SNR=54
KBZ LR LR 09 09 06.2
comp=Z,442nm,18.2s,baz=22,slow=39
DGMT Dagmar 53.87 49 *e*P **P 08 43 16.9 +1.1**
comp=Z,38nm,1.4s
DGMT Dagmar 53.87 49 P **P 08 43 15.5 -0.3**
baz=334
J08A Circle Bar Ran 53.91 63 *e*P **P 08 43 18.0 +1.8**
comp=Z,5.4nm,0.9s
ESY Stoneypath 54.06 337 *e*P **P 08 43 17.0 0.0**
DLMT Dillon 54.08 57 *e*P **P 08 43 18.4 +0.9**
comp=Z,15nm,1.1s
M02C Callahan 54.13 68 P **P 08 43 17.5 -0.3**
baz=332
LAWE Loch Awe, Argy 54.14 339 *e*P **P 08 43 17.8 +0.3**
LAWE IAmb IAmb 08 43 18.1
comp=Z,42nm,1.0s
M04C Macdoel 54.14 67 P **P 08 43 17.6 -0.4**
baz=332
LVV L'vov 54.16 315 *e*P **P 08 43 17.9 +0.1**
LVV MLR MLR
comp=E,700nm,13.0s
LVV MLR MLR
comp=N,500nm,12.0s
LVV MLR MLR
comp=Z,500nm,13.0s
BOZ Bozeman (W) 54.19 56 *e*P **P 08 43 18.8 +0.6**
comp=Z,8.5nm,1.0s
BOZ Bozeman (W) 54.19 56 *e*P **P 08 43 18.8 +0.6**
BOZ pmax pmax
comp=Z,8.0nm,1.0s
BOZ Bozeman (W) 54.19 56 P **P 08 43 17.9 -0.3**
baz=333
RUE Ruedersdorf 54.24 324 *e*P **P 08 43 19.2 +1.0**
comp=Z,66nm,1.2s,baz=20,slow=7.1
EBL Broad Law 54.27 337 *e*P **P 08 43 18.6 +0.2**
NEY Neytrino 54.35 298⇑ *i*P **P 08 43 21.2 +1.7**
ZEI Tsey 54.36 296 *e*P **P 08 43 18.1 -1.5**
ZEI pmax pmax
comp=Z,40nm,0.9s
PGBU Glenifferbraes 54.44 338 *e*P **P 08 43 20.0 +0.3**
PGBU IAmb IAmb 08 43 21.1
comp=Z,114nm,0.9s
MCMT McKenzie Canyo 54.48 58 *e*P **P 08 43 21.7 +1.2**
NDI New Delhi 54.48 259 *e*P **P 08 43 20.0 -0.4**
ULM Lac du Bonnet 54.53 42 P **P 08 43 20.1 -0.4**
comp=Z,7.9nm,0.8s,baz=332,slow=7.8,SNR=13
ULM LR LR 09 09 45.1
comp=Z,860nm,19.5s,baz=338,slow=39
N02D Trinity Center 54.55 68 P **P 08 43 20.2 -0.6**
baz=332
MOD Modoc Plateau 54.57 65 *e*P **P 08 43 22.1 +1.0**
comp=Z,28nm,1.5s
GCMT Greycliff 54.63 55 *e*P **P 08 43 22.5 +1.1**
WVOR Wild Horse Val 54.67 64 *e*P **P 08 43 23.0 +1.2**
comp=Z,14nm,1.3s
WVOR Wild Horse Val 54.67 64 *e*P **P 08 43 23.0 +1.2**
WVOR pmax pmax
comp=Z,14nm,1.3s
KWP Kalwaria Pacla 54.69 316 *e*P **P 08 43 22.4 +0.8**
KWP Kalwaria Pacla 54.69 316 *e*P **P 08 43 22.0 +0.4**
comp=Z,1μm,1.1s
KWP Kalwaria Pacla 54.69 316 *e*P **P 08 43 22.4 +0.8**
ANN Anapa 54.72 303 *e*P **P 08 43 21.2 -0.7**
ANN *e*S **S 08 50 58.9 -2.7**
ANN pmax pmax
comp=Z,166nm,2.0s
ESK Eskdalemuir 54.73 337 *e*P **P 08 43 22.5 +0.7**
comp=Z,36nm,0.9s
ESK Eskdalemuir 54.73 337 *i*P **P 08 43 22.9 +1.1**
BRDH Bariadhala 54.80 241 P **P 08 43 22.6 -0.1**
comp=Z,60nm,0.8s,baz=58,slow=6.4,SNR=20
LAO LASA Array 54.88 52 *e*P **P 08 43 24.9 +1.8**
comp=Z,34nm,1.5s
LAO LASA Array 54.88 52 P **P 08 43 24.5 +1.3**
baz=334,SNR=5.2
OJC Ojcow 54.90 319 *e*P **P 08 43 23.4 +0.3**
OJC Ojcow 54.90 319 *e*P **P 08 43 23.2 +0.1**
comp=Z,73nm,1.0s
OJC Ojcow 54.90 319 *e*P **P 08 43 23.4 +0.3**
QLMT Earthquake Lak 54.93 57 *e*P **P 08 43 25.6 +1.9**
RETH Rethem/Aller, 54.95 327 *e*P **P 08 43 24.6 +1.2**
comp=Z,74nm,1.2s,baz=20,slow=7.1
BHH Howats Hill 54.95 337 *e*P **P 08 43 24.1 +0.6**
WDC Whiskeytown Da 54.95 68 *e*P **P 08 43 25.5 +1.9**
comp=Z,30nm,1.5s
WDC Whiskeytown Da 54.95 68 *e*P **P 08 43 25.5 +1.9**
WDC pmax pmax
comp=Z,31nm,1.5s
TBLG Delisi 55.01 295 *e*P **P 08 43 24.7 +0.7**
comp=Z,73nm,1.1s
TBLG Delisi 55.01 295 *e*P **P 08 43 24.7 +0.7**
TBLG pmax pmax
comp=Z,73nm,1.1s
EDMD Edmundbyers 55.01 336 *e*P **P 08 43 24.3 +0.4**
EDMD IAmb IAmb 08 43 25.1
comp=Z,44nm,0.8s
NRDL Niedersach Rie 55.02 327 *e*P **P 08 43 24.9 +1.0**
comp=Z,54nm,1.2s,baz=20,slow=7.1
SOC Sochi 55.06 300 *e*P **P 08 43 24.6 +0.2**
SOC *e**SP **sP 08 43 29.3 -0.1**
SOC *e* 08 45 22.5
SOC *e*PPP PPP 08 46 42.6
SOC *e*S **S 08 51 07.6 +1.4**
SOC *e*SS **SS 08 54 52.5 +3.3**
SOC pmax pmax
comp=Z,106nm,1.3s
SOC MLR MLR
comp=Z,1μm,15.0s
YHB Horse Butte 55.08 57 *e*P **P 08 43 27.6 +2.8**
comp=Z,39nm,1.6s
HLID Hailey 55.09 60 *e*P **P 08 43 25.7 +0.8**
comp=Z,4.0nm,1.0s
HLID Hailey 55.09 60 P **P 08 43 24.5 -0.4**
baz=333
YHH Holmes Hill 55.16 56 *e*P **P 08 43 26.5 +1.1**
comp=Z,23nm,1.2s
KSP Ksiaz 55.18 322 *e*P **P 08 43 25.0 -0.1**
KSP Ksiaz 55.18 322 *e*P **P 08 43 25.0 -0.1**
O02D Mt. Diablo Mer 55.22 68 P **P 08 43 25.6 -0.1**
baz=332
YMR Madison River 55.23 56 *e*P **P 08 43 28.8 +3.0**
comp=Z,30nm,1.3s
ASSE Asse, Remlinge 55.24 326 *e*P **P 08 43 26.5 +1.0**
comp=Z,61nm,1.1s,baz=20,slow=7.1
YNR Norris Junctio 55.27 56 *e*P **P 08 43 28.5 +2.2**
comp=Z,30nm,1.4s
PAYA Payao 55.28 231 P **P 08 43 27.1 +0.8**
comp=Z,28nm,1.0s,comp=Z,254nm
RLMT Red Lodge 55.35 55 *e*P **P 08 43 27.8 +1.0**
comp=Z,49nm,1.1s
RLMT Red Lodge 55.35 55 P **P 08 43 27.4 +0.6**
baz=334,SNR=29
CLGH Cloghs, Cushen 55.38 339 *e*P **P 08 43 27.0 +0.5**
CLGH IAmb IAmb 08 43 27.7
comp=Z,70nm,1.2s
KIS Kishinev 55.39 310⇓ *i*P **P 08 43 25.0 -1.7**
KIS comp=Z,200nm,1.6s LRM MLR 09 10 08.0
comp=Z,800nm,16.0s
KIS Kishinev 55.39 310⇓ *i*P **P 08 43 25.0 -1.7**
KIS *i* 08 43 30.0
KIS *e* 08 45 40.0
KIS *e* 08 51 10.0
KIS pmax pmax
comp=Z,200nm,1.6s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS MLR MLR
comp=N,700nm,12.0s
GAL1 Galloway 55.39 338 *e*P **P 08 43 26.9 +0.3**
KESW Keswick, Cumbr 55.42 337 *e*P **P 08 43 27.9 +1.0**
KESW IAmb IAmb 08 43 28.1
comp=Z,55nm,1.1s
YFT Old Faithful 55.46 56 *e*P **P 08 43 31.1 +3.5**
comp=Z,19nm,0.8s
O03E Paynes Creek 55.47 68 P **P 08 43 27.9 +0.4**
baz=333
LKWY Lake 55.50 56 *e*P **P 08 43 29.6 +1.7**
comp=Z,30nm,0.9s
LKWY Lake 55.50 56 *e*P **P 08 43 29.6 +1.7**
LKWY pmax pmax
comp=Z,30nm,0.9s
CLL Collm 55.51 324 *e*P **P 08 43 27.4 -0.1**
comp=Z,66nm,0.9s
CLL Collm 55.51 324 *e*P **P 08 43 27.9 +0.4**
comp=Z,88nm,1.0s,baz=20,slow=7.1
CLL Collm 55.51 324 *i*P **P 08 43 27.5 0.0**
comp=Z,88nm,1.0s
CLL *i*pP **pP 08 43 31.3 +0.1**
CLL *i*sP **sP 08 43 32.3 -0.2**
CLL Collm 55.51 324 *i*P **P 08 43 27.5 0.0**
CLL *i* 08 43 32.3
CLL pmax pmax
comp=Z,88nm,1.0s
NIE Niedzica 55.51 318 *e*P **P 08 43 28.4 +0.8**
NIE Niedzica 55.51 318 *e*P **P 08 43 28.4 +0.8**
UPC Upice 55.56 322 *e*P **P 08 43 28.7 +0.8**
UPC AMS AMS 09 10 20.0
comp=Z,900nm,15.3s
UPC Upice 55.56 322 *e*P **P 08 43 28.7 +0.8**
UPC MLR MLR
comp=Z,900nm,15.3s
IDGL Inch Island, C 55.58 340 *i*P **P 08 43 25.0 -2.9**
CLZ Clausthal 55.58 326 *e*P **P 08 43 29.4 +1.3**
comp=Z,63nm,1.1s,baz=20,slow=7.1
H17A Grant Village 55.59 56 *e*P **P 08 43 31.8 +3.3**
comp=Z,34nm,1.4s
H17A Grant Village 55.59 56 P **P 08 43 28.1 -0.4**
baz=334,SNR=10
DPC Dobruska-Polom 55.63 321 *e*P **P 08 43 29.0 +0.5**
DPC AMS AMS 09 10 20.0
comp=Z,1μm,14.9s
DPC Dobruska-Polom 55.63 321 *e*P **P 08 43 29.0 +0.5**
DPC MLR MLR
comp=Z,1μm,14.9s
YPP Pitchstone Pla 55.63 57 *e*P **P 08 43 30.5 +1.6**
comp=Z,29nm,1.3s
SIM Simferopol' 55.64 305 *e*P **P 08 43 27.5 -1.0**
SIM S **S 08 51 14.9 +0.9**
SIM pmax pmax
comp=Z,17nm,1.0s
SIM MLR MLR
comp=Z,540nm,15.7s
OKC Ostrava-Krasne 55.66 320 *e*P **P 08 43 29.7 +1.1**
OKC AMS AMS 09 10 10.0
comp=Z,1μm,15.7s
OKC Ostrava-Krasne 55.66 320 *e*P **P 08 43 29.7 +1.1**
OKC MLR MLR
comp=Z,1μm,15.7s
IBBN Ibbenburen 55.68 328 *e*P **P 08 43 29.3 +0.6**
comp=Z,85nm,1.8s,baz=20,slow=7.1
BRG Berggiesshubel 55.70 323 *i*PKP **P 08 43 28.8 -0.1**
comp=Z,23nm,1.1s
BRG Berggiesshubel 55.70 323 *e*P **P 08 43 29.4 +0.5**
comp=Z,23nm,1.1s,baz=20,slow=7.1
BRG Berggiesshubel 55.70 323 *i*P **P 08 43 28.8 -0.1**
BRG pmax pmax
comp=Z,23nm,1.1s
UZH Uzhgorod 55.71 316 *e*P **P 08 43 25.6 -3.4**
UZH *e* 08 43 30.2
UZH *e*S **S 08 51 06.2 -8.6**
UZH MLR MLR
comp=N,200nm,14.0s
UZH MLR MLR
comp=E,200nm,14.0s
UZH MLR MLR
comp=Z,100nm,14.0s
MDND Maddock 55.74 46 P **P 08 43 28.6 -0.6**
baz=336
BOK Bokaro 55.75 248 *e*P **P 08 43 30.2 +0.6**
BOK IAmb IAmb 08 43 35.6
comp=Z,29nm,0.0s
KRLC Kraliky 55.77 321 *e*P **P 08 43 30.4 +0.9**
KRLC Kraliky 55.77 321 *e*P **P 08 43 30.4 +0.9**
FBE Freiberg 55.79 324 *e*P **P 08 43 30.3 +0.8**
comp=Z,31nm,1.2s,baz=20,slow=7.1
PRAR RASCA 55.80 313⇑ *i*P **P 08 43 29.8 +0.1**
HPK Haverah Park 55.80 335 *e*P **P 08 43 29.9 +0.3**
BUR08 Bucovina Ar. S 55.83 313 *e*P **P 08 43 29.6 -0.4**
comp=Z,35nm,1.1s
FLWY Flagg Ranch 55.84 57 *e*P **P 08 43 31.1 +0.9**
comp=Z,51nm,1.4s
BURAR Bucovina Array 55.85 313⇓ *i*P **P 08 43 30.1 0.0**
MORC Moravsky Berou 55.87 320 *e*P **P 08 43 30.5 +0.3**
comp=Z,40nm,0.9s
MORC Moravsky Berou 55.87 320⇑ *i*P **P 08 43 31.0 +0.8**
MORC Moravsky Berou 55.87 320 *e*P **P 08 43 30.5 +0.3**
MORC pmax pmax
comp=Z,40nm,0.9s
MORC Moravsky Berou 55.87 320 *e*P **P 08 43 30.8 +0.6**
MORC *e* 08 43 35.5
SCHQ Schefferville 55.87 20 *e*P **P 08 43 30.0 -0.1**
comp=Z,36nm,1.1s
SCHQ Schefferville 55.87 20 P **P 08 43 29.3 -0.7**
comp=Z,9.7nm,0.7s,baz=346,slow=7.9,SNR=11
SCHQ LR LR 09 07 30.0
comp=Z,737nm,21.9s,baz=344,slow=36
NEUB Neuenburg 55.87 325 *e*P **P 08 43 30.7 +0.6**
comp=Z,55nm,1.1s,baz=20,slow=7.1
PVCC Panska Ves 55.88 323 *e*P **P 08 43 31.2 +1.0**
PVCC AMS AMS 09 12 30.0
comp=Z,1μm,11.3s
PVCC Panska Ves 55.88 323 *e*P **P 08 43 31.2 +1.0**
PVCC MLR MLR
comp=Z,1μm,11.3s
IMW Indian Meadow 55.92 57 *e*P **P 08 43 31.9 +0.9**
comp=Z,10nm,0.9s
GTTG Guttingen 55.95 326 *e*P **P 08 43 31.6 +1.0**
comp=Z,129nm,1.7s,baz=20,slow=7.1
LANS Liptovska Anna 55.97 318 *e*P **P 08 43 32.3 +1.4**
LANS Liptovska Anna 55.97 318 *e*P **P 08 43 32.3 +1.4**
LEOM Leova 56.03 311⇑ *i*P **P 08 43 31.3 0.0**
CHTO Chiang Mai 56.08 232 *e*P **P 08 43 31.4 -0.6**
comp=Z,54nm,1.4s
CHTO Chiang Mai 56.08 232 *e*P **P 08 43 31.4 -0.6**
CHTO pmax pmax
comp=Z,54nm,1.4s
CHTO Chiang Mai 56.08 232 P **P 08 43 32.1 +0.1**
comp=Z,129nm,1.3s,comp=Z,2μm
CMMT Chiang Mai 56.08 232 P **P 08 43 32.0 0.0**
comp=Z,29nm,1.3s,comp=Z,640nm
WIM Isle of Man 56.08 337 *e*P **P 08 43 31.6 0.0**
TRPA Tarpa 56.11 316⇑ *i*P **P 08 43 31.8 0.0**
TRPA Tarpa 56.11 316⇑ *e*P **P 08 43 31.1 -0.7**
MOOW Moose Ponds 56.12 57 *e*P **P 08 43 33.0 +0.7**
comp=Z,20nm,1.2s
FXWY Fox Creek 56.13 57 *e*P **P 08 43 33.2 +0.9**
comp=Z,12nm,1.0s
BIZ Bicaz 56.22 312⇑ *i*P **P 08 43 33.1 +0.4**
ORV Oroville 56.23 68 *e*P **P 08 43 36.5 +3.6**
comp=Z,3.8nm,1.1s
BMR Baia Mare 56.27 315⇑ *i*P **P 08 43 33.7 +0.7**
TPAW Teton Pass 56.29 57 *e*P **P 08 43 34.4 +0.8**
comp=Z,21nm,1.0s
LOHW Long Hollow 56.29 57 *e*P **P 08 43 36.1 +2.6**
comp=Z,46nm,1.6s
AGMN Agassiz Nation 56.33 43 *e*P **P 08 43 33.2 -0.3**
comp=Z,20nm,0.9s
AGMN Agassiz Nation 56.33 43 P **P 08 43 33.1 -0.3**
baz=337,SNR=6.3
LBWR Ladybower, Pea 56.35 335 *e*P **P 08 43 33.9 +0.3**
LBWR IAmb IAmb 08 43 34.7
comp=Z,55nm,1.0s
BEKR Beckworth 56.35 67 *e*P **P 08 43 34.9 +0.9**
comp=Z,12nm,1.1s
SKNT Sakolnakorn 56.37 226 P **P 08 43 35.3 +1.3**
comp=Z,23nm,1.2s,comp=Z,3μm
SNOW Snow King Moun 56.37 57 *e*P **P 08 43 35.3 +1.1**
comp=Z,26nm,1.3s
PRU Pruhonice 56.39 322 *e*P **P 08 43 34.9 +1.1**
PRU AMS AMS 09 12 40.0
comp=Z,1μm,13.0s
PRU Pruhonice 56.39 322 *e*P **P 08 43 34.9 +1.1**
PRU MLR MLR
comp=Z,1μm,13.0s
GOPC GO Pecny, Ondr 56.40 322 *e*P **P 08 43 34.9 +1.0**
GOPC AMS AMS 09 11 00.0
comp=Z,1μm,15.1s
GOPC GO Pecny, Ondr 56.40 322 *e*P **P 08 43 34.9 +1.0**
GOPC MLR MLR
comp=Z,1μm,15.1s
GNI Garni 56.41 294 *e*P **P 08 43 34.1 -0.2**
comp=Z,56nm,1.0s
GNI Garni 56.41 294 *i*P **P 08 43 35.9 +1.6**
SNR=8.8
GNI Garni 56.41 294*c* *i*P **P 08 43 35.5 +1.2**
GNI pmax pmax
comp=Z,239nm,1.4s

GNI MLR MLR
comp=Z,3µm,19.0s
CM31 Chiang Mai Arr 56.41 232 *e*P **P 08 43 34.1 -0.3**
CMAR Chiang Mai Arr 56.41 232 *i* P **P 08 43 34.7 +0.3**
CMAR pmax pmax
comp=Z,11nm,0.9s
CMAR Chiang Mai Arr 56.41 232 P **P 08 43 34.3 0.0**
comp=Z,11nm,0.9s,baz=8.1,slow=8.4,SNR=22
CMAR PcP **PcP 08 44 31.5 +0.3**
comp=Z,3.9nm,0.8s,baz=348,slow=5.3,SNR=5.3
CMAR PP **PP 08 45 39.5 -0.3**
comp=Z,3.6nm,0.8s,baz=15,slow=9.3,SNR=6.3
CMAR LR LR 09 10 10.0
comp=Z,1µm,18.4s,baz=32,slow=39
REDW Red Top Meadow 56.43 57 *e*P **P 08 43 36.2 +1.7**
comp=Z,40nm,1.4s
GDXM Geysers 56.43 69 *e*P P 08 43 39.9 +5.5
comp=Z,22nm,1.4s
MOX Moxa 56.44 325 *e*P **P 08 43 35.1 +0.9**
comp=Z,65nm,1.1s,baz=20,slow=7.1
MOX *e*L L 09 12 07.1
comp=Z,310nm,18.5s
CM01 Chiang Mai Arr 56.44 232 *e*P **P 08 43 34.0 -0.6**
TESR Tescani 56.45 312⇑*i*P **P 08 43 33.8 -0.5**
TANN Tannenbergstha 56.46 324 *e*P **P 08 43 35.3 +0.9**
comp=Z,142nm,1.4s,baz=20,slow=7.1
PLN Plauen 56.47 324 *e*P **P 08 43 35.4 +1.0**
comp=Z,81nm,1.1s,baz=20,slow=7.1
VRAC Vranov 56.53 321⇑*i*P **P 08 43 35.2 +0.3**
VRAC Vranov 56.53 321 *e*P **P 08 43 35.6 +0.7**
GUNZ Gunzen 56.54 324 *e*P **P 08 43 36.0 +1.1**
comp=Z,69nm,1.0s,baz=20,slow=7.1
ARCR ARCALIA 56.57 314⇑*i*P **P 08 43 36.6 +1.4**
BUG Bochum--Univer 56.60 328 *e*P **P 08 43 36.3 +1.0**
comp=Z,91nm,1.2s,baz=20,slow=7.1
WERN Wernitzgruen 56.60 324 *e*P **P 08 43 36.5 +1.1**
comp=Z,64nm,1.0s,baz=20,slow=7.1
UTTA Uttaradit 56.61 230 P **P 08 43 36.4 +0.7**
comp=Z,23nm,0.8s,comp=Z,198nm
UBBA Unterbreizbach 56.62 326 *e*P **P 08 43 36.0 +0.7**
comp=Z,66nm,1.8s,baz=20,slow=7.1
NKC Novy Kostel 56.64 324 *e*P **P 08 43 36.2 +0.6**
NKC Novy Kostel 56.64 324 *e*P **P 08 43 36.2 +0.6**
JAVC Velka Javorina 56.69 320 *e*P **P 08 43 37.6 +1.6**
VYHS Vyhne 56.73 319 *e*P **P 08 43 37.1 +0.8**
VYHS pmax pmax
comp=Z,30nm,1.2s
VYHS Vyhne 56.73 319 *e*P **P 08 43 37.1 +0.8**
WME Myndd Eilian 56.76 337 *e*P **P 08 43 36.1 -0.3**
KOLL Kolacno 56.76 319 *e*P **P 08 43 37.8 +1.3**
KOLL Kolacno 56.76 319 *e*P **P 08 43 37.8 +1.3**
KRUC Moravsky 56.81 321 *e*P **P 08 43 37.6 +0.8**
TREC Trest 56.81 321 *e*P **P 08 43 37.6 +0.7**
TREC *ex* x 08 43 57.0
TREC *ex* x 08 44 04.0
TREC AMS AMS 09 12 30.0
comp=Z,800nm,15.9s
TREC Trest 56.81 321 *e*P **P 08 43 37.6 +0.7**
TREC MLR MLR
comp=Z,800nm,15.9s
WLF1 Llynfaes 56.88 337 *e*P **P 08 43 37.0 -0.2**
WLF1 IAmb IAmb 08 43 38.1
comp=Z,30nm,0.7s
YRC Rhoscolyn 56.94 337 *e*P **P 08 43 37.5 -0.2**
MANZ Manzenberg 56.95 324 *e*P **P 08 43 38.6 +0.7**
comp=Z,29nm,1.2s,baz=20,slow=7.1
AFDM Forest Hills D 56.96 68 *e*P **P 08 43 40.6 +2.5**
comp=Z,17nm,1.7s
PSZ Piszkesteto 56.99 318 *e*P **P 08 43 38.2 -0.1**
comp=Z,72nm,1.0s
PSZ Piszkesteto 56.99 318⇑*i*P **P 08 43 38.7 +0.4**
PSZ Piszkesteto 56.99 318 *e*P **P 08 43 38.2 -0.1**
PSZ pmax pmax
comp=Z,72nm,1.0s
PSZ Piszkesteto 56.99 318 *e*P **P 08 43 39.1 +0.8**
ODBI Odobesti 57.02 311⇑*i*P **P 08 43 39.5 +1.2**
VRI Vrincioaia 57.02 311⇑*i*P **P 08 43 38.8 +0.4**
TLCR 57.03 310⇑*i*P **P 08 43 38.8 +0.4**
PLOR Plostina 57.05 312⇓*i*P **P 08 43 39.1 +0.4**
SMOL Smolenice 57.07 320 *e*P **P 08 43 40.4 +1.7**
SMOL Smolenice 57.07 320 *e*P **P 08 43 40.4 +1.7**
OZUR 57.08 312⇑*i*P **P 08 43 39.9 +1.1**
FOEL Foel Wylfa 57.08 336 *e*P **P 08 43 39.0 +0.3**
FOEL IAmb IAmb 08 43 39.7
comp=Z,24nm,0.9s
VCNR Virginia City 57.11 66 *e*P **P 08 43 41.4 +2.0**
comp=Z,9.2nm,1.0s
CJR Cluj-Napoca 57.12 314⇑*i*P **P 08 43 40.5 +1.4**
SUKH Sukhothai 57.13 231 P **P 08 43 40.4 +1.0**
comp=Z,14nm,1.1s
ROTZ Rotzenmuhle 57.13 324 *e*P **P 08 43 40.2 +1.1**
comp=Z,44nm,1.2s,baz=20,slow=7.1
HVU Hansel Valley 57.23 59 *e*P **P 08 43 41.2 +1.1**
comp=Z,23nm,1.2s
MODS Modra-Piesok 57.23 320 *e*P **P 08 43 41.2 +1.3**
MODS pmax pmax
comp=Z,53nm,1.1s
MODS Modra-Piesok 57.23 320 *e*P **P 08 43 41.2 +1.3**
DRGR 57.29 315⇑*i*P **P 08 43 40.0 -0.4**
DOPR Dopca 57.31 313⇑*i*P **P 08 43 40.9 +0.5**
PNTR Pine Nut 57.31 66 *e*P **P 08 43 43.6 +2.8**
comp=Z,13nm,1.1s
ELK Elko 57.33 62 *e*P **P 08 43 42.4 +1.4**
comp=Z,13nm,1.2s
ELK Elko 57.33 62 *e*P **P 08 43 42.4 +1.4**
ELK pmax pmax
comp=Z,13nm,1.2s
BW06 Boulder Array 57.38 56 *e*P **P 08 43 41.3 0.0**
comp=Z,6.7nm,0.8s
BW06 Boulder Array 57.38 56 P **P 08 43 41.0 -0.3**
baz=334,SNR=14
PD31 Pinedale Array 57.38 56 *e*P **P 08 43 41.7 +0.4**
PDAR Pinedale Array 57.38 56 *e*P **P 08 43 41.4 +0.2**
PDAR Pinedale Array 57.38 56 P **P 08 43 42.4 +1.1**
comp=Z,5.5nm,0.7s,baz=16,slow=3.1,SNR=46
PDAR LR LR 09 11 27.5
comp=Z,1µm,18.1s,baz=346,slow=39
HLM1 Long Mynd 57.39 336 *e*P **P 08 43 41.4 +0.4**
HLM1 IAmb IAmb 08 43 42.1
comp=Z,55nm,0.8s
KHC Kasperske Hory 57.41 323 *e*P **P 08 43 40.8 -0.3**
comp=Z,13nm,1.2s
KHC Kasperske Hory 57.41 323 *e*P **P 08 43 41.8 +0.6**
KHC AMS AMS 09 13 20.0
comp=Z,1µm,11.9s
KHC Kasperske Hory 57.41 323 *e*P **P 08 43 41.8 +0.6**
KHC MLR MLR
comp=Z,1µm,11.9s
GRA1 Grafenberg Arr 57.42 325 *e*P **P 08 43 41.3 +0.1**
comp=Z,58nm,1.2s
GRF Grafenberg Arr 57.42 325 *e*P **P 08 43 42.3 +1.1**
comp=Z,64nm,1.3s,baz=20,slow=7.1
GRF *e*pP **sP 08 43 46.9 +0.7**
GRF *e*L L 09 08 39.7
comp=Z,294nm,21.7s
GRF Grafenberg Arr 57.42 325 *e*P **P 08 43 41.3 +0.1**
GRF pmax pmax
comp=Z,58nm,1.2s
GRFO Grafenberg 57.42 325 *e*P **P 08 43 41.5 +0.3**
comp=Z,52nm,1.2s
GRFO Grafenberg 57.42 325 *e*P **P 08 43 41.5 +0.3**
GRFO pmax pmax
comp=Z,52nm,1.2s
IGLA Glengowla, Co 57.44 341 *e*P **P 08 43 38.5 -2.7**
ZST Bratislava 57.44 320 *e*P **P 08 43 41.6 +0.3**
ZST Bratislava 57.44 320 *e*P **P 08 43 41.6 +0.3**
AHRW Bad Neuenahr-A 57.49 328 *e*P **P 08 43 42.7 +1.1**
comp=Z,63nm,1.2s,baz=20,slow=7.1
TNS Taunus Mts 57.52 327 *e*P **P 08 43 42.9 +1.0**
comp=Z,51nm,1.3s,baz=20,slow=7.1
YERR Yerington 57.53 66 *e*P **P 08 43 43.2 +0.9**
comp=Z,18nm,1.1s
WET Wettzell 57.56 323 *e*P **P 08 43 43.3 +1.1**
comp=Z,73nm,1.9s,baz=20,slow=7.1
MLR Muntele Rosu 57.59 312 *e*P **P 08 43 42.9 +0.3**
comp=Z,55nm,1.0s
MLR Muntele Rosu 57.59 312⇑*i*P **P 08 43 43.9 +1.4**
MLR Muntele Rosu 57.59 312 *e*P **P 08 43 42.9 +0.3**
MLR pmax pmax
comp=Z,55nm,1.0s
BUD Budapest 57.62 318 *e*P **P 08 43 43.1 +0.5**
MEM Membach 57.64 329⇓*i*P **P 08 43 43.3 +0.6**
comp=Z,37nm,1.0s
MEM ⇑pP **pP 08 43 46.3 0.0**
MEM ⇑sP **sP 08 43 48.5 +0.8**

GEC2 GERESS Array S 57.65 323 *e*P **P 08 43 43.2 +0.3**
comp=Z,36nm,1.0s
GEC2 GERESS Array S 57.65 323 *e*P **P 08 43 43.7 +0.8**
comp=Z,46nm,1.1s,baz=20,slow=7.1
GEC2 GERESS Array S 57.65 323 *e*P **P 08 43 43.2 +0.3**
GEC2 pmax pmax
comp=Z,36nm,1.0s
GERES GERESS Array B 57.65 323 P **P 08 43 43.5 +0.5**
comp=Z,17nm,0.9s,baz=32,slow=6.3,SNR=62
GERES LR LR 09 11 58.6
comp=Z,463nm,19.2s,baz=20,slow=40
GEA0 GERESS Array S 57.66 323 *e*P **P 08 43 42.7 -0.3**
ISR Istrita 57.75 311⇑*i*P **P 08 43 45.2 +1.6**
SPUT South Promonto 57.76 59 *e*P **P 08 43 44.9 +1.1**
comp=Z,18nm,1.3s
EYMN Ely 57.76 40 P **P 08 43 43.3 -0.4**
baz=339
TLB Topalu 57.80 310⇓*i*P **P 08 43 44.0 +0.1**
TIRR Tirgusor 57.81 309 *e*P **P 08 43 44.0 +0.1**
comp=Z,30nm,0.9s
TIRR Tirgusor 57.81 309⇑*i*P **P 08 43 44.3 +0.4**
TIRR Tirgusor 57.81 309 *e*P **P 08 43 44.0 +0.1**
TIRR pmax pmax
comp=Z,30nm,0.9s
RSSD Black Hills 57.86 51 *e*P **P 08 43 45.4 +0.8**
comp=Z,11nm,1.0s
RSSD Black Hills 57.86 51 *e*P **P 08 43 45.4 +0.8**
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 57.86 51 P **P 08 43 44.2 -0.4**
baz=336
KVN Kaiserville 57.87 65 *e*P **P 08 43 45.6 +0.9**
comp=Z,8.9nm,1.0s
KVN Kaiserville 57.87 65 *e*P **P 08 43 45.6 +0.9**
KVN pmax pmax
comp=Z,9.0nm,1.0s
VOIR 57.89 313⇑*i*P **P 08 43 45.6 +1.0**
WAKR Walker 57.89 67 *e*P **P 08 43 45.9 +1.0**
comp=Z,25nm,1.3s
BGU Big Grassy Mou 57.91 60 *e*P **P 08 43 46.4 +1.5**
comp=Z,15nm,1.0s
MCH1 Michaelchurch 57.91 336 *e*P **P 08 43 44.6 0.0**
MCH1 IAmb IAmb 08 43 45.5
comp=Z,16nm,0.8s
BCLA Clavier 57.96 329⇓*i*P **P 08 43 45.6 +0.7**
comp=Z,42nm,1.5s
CMB Columbia Colle 57.98 68 *e*P **P 08 43 46.5 +1.2**
comp=Z,7.4nm,1.3s
CMB Columbia Colle 57.98 68 *e*P **P 08 43 46.5 +1.2**
CMB pmax pmax
comp=Z,7.0nm,1.3s
CONA Conrad Observa 58.00 321 *i* pP **P 08 43 46.6 +1.3**
comp=Z,34nm,1.4s,SNR=14
MONM Monmouth 58.03 335 *e*P **P 08 43 45.1 -0.3**
SOP Sopron 58.05 320⇑*e*P **P 08 43 46.1 +0.5**
SIRR Siria 58.06 315⇑*i*P **P 08 43 47.1 +1.4**
MFTR Murfatlar 58.06 309⇑*i*P **P 08 43 46.0 +0.3**
ARR Arges 58.07 313⇓*i*P **P 08 43 46.7 +0.8**
MTUR Matau 58.08 312⇓*i*P **P 08 43 48.3 +2.4**
RYN Ryan 58.10 66 *e*P **P 08 43 47.6 +1.3**
comp=Z,13nm,1.2s
IWEX Carrickbyrne, 58.11 338 *i* P **P 08 43 44.1 -1.8**
LOT Lotru 58.23 314⇑*i*P P 08 43 55.6 +8.5
DIKM Dikmen 58.25 303⇑*i*P **P 08 43 47.7 +0.6**
TCUT Toone Canyon 58.27 59 *e*P **P 08 43 48.5 +1.0**
comp=Z,35nm,1.0s
ICOR Ion Corvin 58.30 310⇑*i*P **P 08 43 48.4 +1.0**
NV01 Mina Array Sit 58.36 66 *e*P **P 08 43 49.0 +0.8**
NVAR Mina Array Bea 58.36 66 P **P 08 43 50.0 +1.8**
comp=Z,5.3nm,0.9s,baz=321,slow=5.5,SNR=23
NVAR LR LR 09 09 03.7
comp=Z,564nm,19.4s,baz=340,slow=36
NV11 Mina Array Sit 58.41 66 *e*P **P 08 43 49.6 +1.2**
comp=Z,07nm,1.1s
DOU Dourbes 58.41 330 ⇑P **P 08 43 48.0 -0.1**
DOU ⇑pP **pP 08 43 51.4 -0.3**
DOU ⇑sP **sP 08 43 53.9 +0.8**
K22A Casper 58.44 54 *e*P **P 08 43 48.8 +0.2**
comp=Z,36nm,1.3s
K22A Casper 58.44 54 P **P 08 43 48.2 -0.5**
baz=335,SNR=16
TIH Tihany 58.45 319 *e*P **P 08 43 49.0 +0.6**
MOA Molln 58.45 322 *i* pP **P 08 43 49.4 +0.9**
comp=Z,24nm,1.0s,SNR=13
JBP Jabalpur 58.46 254⇑*e*P **P 08 43 49.5 +0.8**
JBP *ex* x 08 48 00.1
CTU Camp Tracy 58.54 59 *e*P **P 08 43 50.7 +1.3**
comp=Z,14nm,1.1s
GZR Gura Zlata 58.56 314⇑*i*P **P 08 43 49.2 -0.1**
UMPA Umpang Tak 58.56 231 P **P 08 43 52.1 +2.5**
comp=Z,12nm,1.0s,comp=Z,858nm
DUG Dugway, Tooele 58.64 60 *e*P **P 08 43 51.0 +1.0**
comp=Z,14nm,0.9s
DUG Dugway, Tooele 58.64 60 *e*P **P 08 43 51.0 +1.0**
DUG pmax pmax
comp=Z,14nm,0.9s
DUG Dugway, Tooele 58.64 60 P **P 08 43 49.9 -0.1**
baz=334,SNR=18
ARSA Arzberg 58.71 321 *i* pP **P 08 43 51.6 +1.4**
comp=Z,16nm,1.0s,SNR=6.7
JLU Jordanelle 58.72 59 *e*P **P 08 43 52.6 +1.9**
comp=Z,30nm,1.2s
STU Stuttgart 58.73 326 *e*P **P 08 43 51.2 +0.9**
comp=Z,57nm,1.0s,baz=20,slow=7.1
MDPB Devils Postpil 58.80 67 *e*P **P 08 43 53.0 +1.7**
comp=Z,23nm,1.2s
OMMB Old Mammoth Mi 58.84 67 *e*P **P 08 43 54.2 +2.5**
comp=Z,13nm,1.1s
FUR Furstenfeldbru 58.84 324 *e*P **P 08 43 52.1 +0.9**
comp=Z,71nm,1.0s,baz=20,slow=7.1
E38A The Farm, Brul 59.00 41 *e*P **P 08 43 54.0 +1.8**
comp=Z,29nm,1.0s
E38A The Farm, Brul 59.00 41 P **P 08 43 51.9 -0.3**
baz=339
VAL Valentia 59.00 341 *e*P P 08 43 42.7 -9.4
UTHA Uthaitani 59.00 230 P **P 08 43 53.4 +0.8**
comp=Z,14nm,0.8s,comp=Z,111nm
SUSD Miller 59.04 47 P **P 08 43 52.5 0.0**
baz=337
MATQ Matagami 59.06 29 P **P 08 43 52.1 -0.4**
baz=343
RWWY Rawlins 59.10 55 *e*P **P 08 43 54.6 +1.3**
comp=Z,60nm,1.5s
NLU North Lily Min 59.10 60 *e*P **P 08 43 54.6 +1.3**
comp=Z,18nm,0.9s
HERR Herculane 59.13 314⇓*i*P **P 08 43 53.3 +0.1**
BEHE Becsehely 59.13 319 *e*P P 08 43 44.0 -9.1
MPU Maple Canyon 59.19 59 *e*P **P 08 43 55.8 +1.9**
comp=Z,9.9nm,1.0s
ILGA Ilgaz 59.28 304 *e*P **P 08 43 54.7 +0.2**
comp=Z,72nm,1.0s
D41A Chassel 59.30 38 P **P 08 43 54.1 -0.2**
baz=340
BFO Black Forest 59.33 326 *e*P **P 08 43 54.6 +0.1**
comp=Z,35nm,1.0s
BFO Black Forest 59.33 326 *e*P **P 08 43 55.2 +0.6**
comp=Z,41nm,1.0s,baz=20,slow=7.1
BFO Black Forest 59.33 326 *i* P **P 08 43 55.0 +0.4**
BHPL Bhopal 59.33 256 *e*P **P 08 43 54.9 0.0**
BHPL IAmb IAmb 08 43 56.4
comp=Z,31nm,1.2s
R11A Troy Canyon, C 59.37 63 *e*P **P 08 43 56.7 +1.6**
comp=Z,19nm,1.3s
R11A Troy Canyon, C 59.37 63 P **P 08 43 56.4 +1.3**
baz=334,SNR=24
SOKA Soboth 59.37 321 *i* pP **P 08 43 55.9 +1.0**
comp=Z,17nm,0.9s,SNR=11
PERS Pernice 59.38 321 *e*P **P 08 43 55.0 0.0**
KBA Koelnbreinsper 59.39 322 *i* pP **P 08 43 56.9 +1.7**
comp=Z,72nm,1.2s,SNR=26
MDVR Moldovita 59.41 315⇑*i*P **P 08 43 55.2 0.0**
E39A Mellen 59.46 40 P **P 08 43 55.0 -0.4**
baz=339
CHGQ Chibougamau 59.50 27 P **P 08 43 55.3 -0.4**
baz=345
F38A Pierce - Schro 59.52 41 P **P 08 43 55.4 -0.4**
baz=339
F37A Hinrichs Farm, 59.55 42 P **P 08 43 54.7 -1.3**
baz=339
E40A Wakefield 59.56 40 P **P 08 43 55.7 -0.5**
baz=340
WATA Walderalm 59.56 323 *i* pP **P 08 43 57.0 +0.7**
comp=Z,14nm,0.5s,SNR=7.8
UBR Ueberruh 59.56 325 *e*P **P 08 43 57.0 +0.8**
comp=Z,31nm,1.1s,baz=20,slow=7.1
FRGS Fruska Gora 59.57 316⇑*i*P **P 08 43 55.8 -0.5**

SIRT Sirnak 59.58 295 *e*P **P 08 43 56.7 +0.2**
comp=Z,181nm,1.2s
RETA Reutte 59.60 324 *i* pP **P 08 43 57.1 +0.6**
comp=Z,8.5nm,0.7s
WTTA Wattenberg 59.61 323 *i* pP **P 08 43 57.9 +1.2**
comp=Z,72nm,1.1s,SNR=15
OBKA Obir 59.64 321 *i* pP **P 08 43 58.2 +1.4**
comp=Z,62nm,1.0s,SNR=21
MOTA Moosalm 59.66 324 *i* pP **P 08 43 57.5 +0.5**
comp=Z,17nm,0.9s,SNR=6.9
ECH Echery 59.69 327 *e*P **P 08 43 57.1 +0.1**
comp=Z,40nm,1.0s
ECH Echery 59.69 327 *e*P **P 08 43 57.1 +0.1**
ECH pmax pmax
comp=Z,40nm,1.0s
MYKA Terra Mystica 59.74 322 *i* pP **P 08 43 58.5 +1.0**
comp=Z,15nm,0.8s,SNR=6.7
SQTA Sankt Quirin 59.75 324 *i* pP **P 08 43 58.7 +1.1**
comp=Z,43nm,1.0s,SNR=14
E41A Kenton 59.76 39 P **P 08 43 56.6 -0.9**
baz=340
PSUT Pine Spring 59.79 62 *e*P **P 08 43 58.7 +0.6**
comp=Z,13nm,0.9s
F39A Loretta 59.80 41 P **P 08 43 57.2 -0.5**
baz=339
LSQQ Lebel-sur-Quev 59.85 29 P **P 08 43 57.5 -0.6**
baz=344
ABTA Abfaltersbach 59.90 323 *i* pP **P 08 43 59.5 +0.9**
comp=Z,22nm,1.2s,SNR=8.7
SPMN Marine on St. 59.97 42 *e*P **P 08 43 59.8 +0.9**
comp=Z,24nm,1.4s
SPMN Marine on St. 59.97 42 P **P 08 43 57.8 -1.2**
baz=339
P17A Butcher Ranch, 59.98 59 *e*P **P 08 44 00.2 +1.0**
comp=Z,39nm,1.6s
TMUT Trail Mountain 59.98 59 *e*P **P 08 43 59.9 +0.4**
comp=Z,11nm,1.4s
DAVA Damuels 59.99 325 *i* pP **P 08 43 59.8 +0.6**
comp=Z,11nm,0.9s
F40A Park Falls 59.99 40 P **P 08 43 58.1 -1.0**
baz=340
PHWY Pilot Hill 59.99 54 *e*P **P 08 44 00.9 +1.4**
comp=Z,6.5nm,0.9s
E42A Champion 60.05 38 P **P 08 43 58.7 -0.8**
baz=340
FETA Feichten 60.05 324 *i* pP **P 08 44 00.7 +1.0**
comp=Z,20nm,1.0s,SNR=5.9
CRES Cresnjev 60.06 320⇑*i*P **P 08 43 59.3 -0.3**
PAGB Antelope Grade 60.09 69 *e*P **P 08 44 01.3 +1.3**
comp=Z,16nm,1.0s
O20A White River Ci 60.18 57 *e*P **P 08 44 01.7 +1.0**
comp=Z,17nm,1.1s
O20A White River Ci 60.18 57 P **P 08 44 00.6 -0.2**
baz=336
N23A Red Feather La 60.22 54 *e*P **P 08 44 02.4 +1.3**
comp=Z,32nm,1.4s
N23A Red Feather La 60.22 54 P **P 08 44 00.6 -0.4**
baz=336,SNR=11
CWC Cottonwood Cre 60.22 66 P **P 08 44 01.1 +0.1**
baz=334
VISS Visnje 60.23 320 *e*P **P 08 44 00.6 -0.1**
SRDT SRDT 60.24 230 P **P 08 44 04.4 +3.3**
comp=Z,36nm,1.9s
G38A Ridgeland 60.26 42 P **P 08 44 00.1 -0.9**
baz=339
G39A Holcombe 60.33 41 P **P 08 44 00.1 -1.3**
baz=339
Q16A Castle Valley 60.34 60 *e*P **P 08 44 02.7 +0.9**
comp=Z,28nm,1.2s
ECSD EROS Data Cent 60.34 46 *e*P **P 08 44 01.2 -0.4**
comp=Z,21nm,1.0s
ECSD EROS Data Cent 60.34 46 P **P 08 44 00.8 -0.7**
baz=338,SNR=19
MSU Marysvale 60.37 61 *e*P **P 08 44 04.3 +2.2**
SRU San Rafael Swe 60.37 59 *e*P **P 08 44 02.6 +0.5**
comp=Z,15nm,0.8s
SRU San Rafael Swe 60.37 59 *e*P **P 08 44 02.6 +0.5**
SRU pmax pmax
comp=Z,15nm,0.8s
CEY Cerknica 60.39 321⇑*i*P **P 08 44 01.2 -0.7**
TPNV Topopah Spring 60.40 65 *e*P **P 08 44 02.9 +0.7**
comp=Z,7.2nm,1.1s
TPNV Topopah Spring 60.40 65 *e*P **P 08 44 02.9 +0.7**
TPNV pmax pmax
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 60.40 65 P **P 08 44 02.0 -0.2**
baz=335
VES Vestal, Richgr 60.40 68 P **P 08 44 02.3 +0.3**
baz=334
BOJS Bojanci 60.41 320 *i* P **P 08 44 01.7 -0.2**
D46A Sault St. Mari 60.49 35 P **P 08 44 01.9 -0.6**
baz=342
BR101 Keskin Array S 60.51 303 *e*P **P 08 44 03.4 +0.4**
BR131 Keskin Array S 60.51 303 *e*P **P 08 44 02.5 -0.4**
BRTR Keskin Array B 60.51 303 *i* P **P 08 44 03.9 +1.0**
BRTR pmax pmax
comp=Z,15nm,0.8s
BRTR Keskin Array B 60.51 303 P **P 08 44 03.4 +0.4**
comp=Z,15nm,0.8s,baz=47,slow=4.1,SNR=50
BRTR LR LR 09 15 04.3
comp=Z,165nm,18.7s,baz=32,slow=41
DIVS Divibare 60.51 316 *e*P **P 08 44 01.9 -0.8**
comp=Z,10nm,0.9s
DIVS Divibare 60.51 316⇑*i*P **P 08 44 02.1 -0.7**
FUORN Ofenpass-Fuorn 60.53 324 *e*P **P 08 44 03.8 +0.7**
comp=Z,29nm,0.9s
DAC Darwin (Calif) 60.53 66 *e*P **P 08 44 04.4 +1.2**
comp=Z,15nm,1.5s
DAC Darwin (Calif) 60.53 66 *e*P **P 08 44 04.4 +1.2**
DAC pmax pmax
comp=Z,15nm,1.5s
D47A Chapleau 60.54 34 P **P 08 44 02.7 -0.2**
baz=342
SMMC Simmler 60.55 69 P **P 08 44 03.5 +0.4**
baz=334
G40A Rib Lake 60.58 40 *e*P **P 08 44 04.2 +1.0**
comp=Z,21nm,1.0s
G40A Rib Lake 60.58 40 P **P 08 44 02.6 -0.5**
baz=340
H38A Maiden Rock 60.61 42 P **P 08 44 03.2 -0.2**
baz=339
FURC Furnace Creek, 60.62 65 P **P 08 44 03.9 +0.4**
baz=335
NGP Nagpur 60.64 254 *e*P **P 08 44 03.4 -0.5**
PHSR Pinarhisar 60.66 309⇑*i*P **P 08 44 04.3 +0.6**
D48A Paudash Townsh 60.70 33 P **P 08 44 04.3 +0.4**
baz=342
D49A Beulah Townshi 60.70 33 P **P 08 44 03.2 -0.7**
baz=342
RIY Rijeka 60.77 321⇑*i*P **P 08 44 04.1 -0.3**
MPMC Manual Prospec 60.77 66 P **P 08 44 05.4 +0.6**
baz=335
ISA Isabella, Lake 60.78 67 *e*P **P 08 44 06.7 +2.0**
comp=Z,10nm,1.4s
ISA Isabella, Lake 60.78 67 P **P 08 44 05.5 +0.7**
baz=334
MTPU Mount Pierson 60.79 61 *e*P **P 08 44 06.9 +1.8**
comp=Z,14nm,1.1s
HAPS Han Pijesak,Bl 60.80 317 *e*P **P 08 44 04.2 -0.6**
F44A Big Bay de Noc 60.82 37 P **P 08 44 04.3 -0.4**
baz=341
CLF Chambon-Foret 60.84 331 *e*P **P 08 44 05.0 +0.2**
comp=Z,116nm,1.2s
CCUT Cedar City 60.84 62 *e*P **P 08 44 06.2 +0.9**
comp=Z,15nm,1.6s
TUE Stuetta 60.88 325 *e*P **P 08 44 06.0 +0.7**
comp=Z,66nm,1.2s
BBLS Lazići 60.88 316⇑*i*P **P 08 44 04.8 -0.5**
G41A Antigo 60.89 39 P **P 08 44 05.1 -0.1**
baz=340
SZCU Shurtz Canyon 60.89 62 *e*P **P 08 44 07.3 +1.7**
comp=Z,22nm,1.6s
E46A Sault Ste Mari 60.93 35 P **P 08 44 05.2 -0.2**
baz=342
VTS Vitosha 60.99 313 *e*P **P 08 44 05.9 -0.3**
comp=Z,15nm,0.8s
VTS Vitosha 60.99 313⇑*i*P **P 08 44 06.0 -0.2**
VTS Vitosha 60.99 313 *e*P **P 08 44 05.9 -0.3**
VTS pmax pmax
comp=Z,15nm,0.8s
PKM Mcpherson Peak 61.00 69 P **P 08 44 06.5 +0.2**
baz=334
E47A Iron Bridge 61.07 35 P **P 08 44 06.2 -0.2**
baz=342
YLV Yalova 61.08 307⇑*i*P **P 08 44 06.5 -0.2**
D50A G1974 Best Tow 61.11 32 P **P 08 44 06.5 -0.2**
baz=343

H40A	Chili	61.14	41	P		P	08 44 06.9	-0.1	
	baz=340								
SHPR	Sheep Range	61.17	64	*e*P		P	08 44 08.8	+1.4	
	comp=Z,16nm,1.1s								
LRMC	Laurel Mtn Rad	61.22	67	P		P	08 44 07.9	+0.1	
	baz=335								
D51A	Lot 18 Range I	61.28	31	P		P	08 44 07.5	-0.3	
	baz=343								
E48A	Lockeyer	61.28	34	P		P	08 44 07.6	-0.3	
	baz=342								
PKCU	Pink Cliffs	61.29	61	*e*P		P	08 44 10.1	+1.6	
	comp=Z,29nm,1.2s								
F45A	CMU Biological	61.30	37	P		P	08 44 07.8	-0.2	
	baz=341								
ISCO	Idaho Springs	61.32	55	*e*P		P	08 44 09.2	+0.7	
	comp=Z,21nm,1.4s								
ISCO	Idaho Springs	61.32	55	*e*P		P	08 44 09.3	+0.7	
ISCO				pmax		pmax			
	comp=Z,21nm,1.4s								
ISCO	Idaho Springs	61.32	55	P		P	08 44 08.2	-0.5	
	baz=336								
H41A	Junction City	61.33	40	P		P	08 44 08.2	-0.1	
	baz=340								
SHOC	Shoshone, Teco	61.33	65	P		P	08 44 08.9	+0.4	
	baz=335								
LCMT	Little Creek M	61.37	62	*e*P		P	08 44 10.8	+2.0	
	comp=Z,18nm,1.5s								
PV21	Cone Mtn., Par	61.38	58	*e*P		P	08 44 10.6	+1.6	
	comp=Z,39nm,1.3s								
PV09	Paradox Valley	61.38	58	*e*P		P	08 44 10.2	+1.2	
F46A	Macinaw City C	61.39	36	P		P	08 44 08.4	-0.2	
	baz=341								
SENIN	Lac Senin/Sane	61.42	326	*e*P		P	08 44 09.2	+0.1	
	comp=Z,44nm,1.5s								
SMCO	Snowmass	61.46	56	*e*P		P	08 44 10.1	+0.4	
	comp=Z,21nm,1.0s								
PHET	Kaeng Krachan	61.46	229	P		P	08 44 13.4	+4.0	
	comp=Z,10nm,1.4s								
PV23	Carpenter Ridg	61.46	58	*e*P		P	08 44 10.5	+0.9	
	comp=Z,48nm,1.2s								
KNB	Kanab	61.51	62	*e*P		P	08 44 12.1	+2.3	
	comp=Z,78nm,1.7s								
KNB	Kanab	61.51	62	*e*P		P	08 44 12.1	+2.3	
KNB				pmax		pmax			
	comp=Z,78nm,1.7s								
PV10	Paradox Valley	61.52	58	*e*P		P	08 44 12.6	+2.7	
	comp=Z,34nm,1.1s								
PV14	Lion Creek, Pa	61.53	58	*e*P		P	08 44 11.3	+1.3	
	comp=Z,39nm,1.2s								
PV04	Paradox Valley	61.55	58	*e*P		P	08 44 11.9	+1.9	
	comp=Z,43nm,1.4s								
I39A	Houston	61.58	42	*e*P		P	08 44 09.2	-0.8	
	comp=Z,18nm,0.9s								
I39A	Houston	61.58	42	P		P	08 44 09.5	-0.4	
	baz=340								
D52A	ZEK Kipawa Sen	61.58	31	P		P	08 44 08.9	-1.0	
	baz=344								
PV20	West Nyswonger	61.58	58	*e*P		P	08 44 12.8	+2.6	
	comp=Z,75nm,1.7s								
PV07	Paradox Valley	61.59	58	*e*P		P	08 44 12.3	+1.9	
	comp=Z,52nm,1.6s								
PV19	Morning Glory	61.60	58	*e*P		P	08 44 12.0	+1.6	
	comp=Z,25nm,1.2s								
D53A	Lac Vacive, Po	61.62	30	P		P	08 44 09.5	-0.6	
	baz=344								
PV16	Nyswonger Mesa	61.62	58	*e*P		P	08 44 11.9	+1.3	
	comp=Z,20nm,1.1s								
E50A	Wahnapitae	61.64	33	P		P	08 44 10.2	0.0	
	baz=343								
PV17	East Wray Mesa	61.64	58	*e*P		P	08 44 12.0	+1.3	
	comp=Z,21nm,0.9s								
PV11	David Mesa, Pa	61.65	58	*e*P		P	08 44 11.7	+0.9	
	comp=Z,68nm,1.6s								
EDW2	Edwards Air Fo	61.65	67	P		P	08 44 10.5	-0.1	
	baz=335								
PV12	Saucer Basin,	61.65	58	*e*P		P	08 44 12.2	+1.4	
	comp=Z,55nm,1.5s								
IVA	Berane	61.68	315	⇓*i*P		P	08 44 10.6	-0.1	
GSC	Goldstone, Bar	61.69	66	*e*P		P	08 44 13.7	+2.8	
	comp=Z,8.4nm,1.3s								
GSC	Goldstone, Bar	61.69	66	*e*P		P	08 44 13.7	+2.8	
GSC				pmax		pmax			
	comp=Z,8.0nm,1.3s								
GSC	Goldstone, Bar	61.69	66	P		P	08 44 11.3	+0.4	
	baz=335								
PV03	Paradox Valley	61.70	58	*e*P		P	08 44 11.4	+0.3	
	comp=Z,31nm,1.4s								
PV15	Paradox Valley	61.74	58	*e*P		P	08 44 13.1	+1.7	
	comp=Z,31nm,1.2s								
I40A	Norwalk	61.77	41	P		P	08 44 10.8	-0.4	
	baz=340								
PV02	Paradox Valley	61.78	58	*e*P		P	08 44 13.4	+1.8	
	comp=Z,17nm,1.1s								
PV05	Paradox Valley	61.78	58	*e*P		P	08 44 13.9	+2.3	
	comp=Z,44nm,1.4s								
E51A	G1948 Merrick	61.79	32	P		P	08 44 10.8	-0.5	
	baz=343								
PV13	Radium Mtn., P	61.79	58	*e*P		P	08 44 13.5	+1.8	
	comp=Z,26nm,1.3s								
KOME	Kolasin	61.80	316	⇓*i*P		P	08 44 11.4	-0.1	
G46A	Petoskey	61.80	36	P		P	08 44 10.9	-0.4	
	baz=342								
I41A	Arkdale	61.80	40	*e*P		P	08 44 13.8	+2.3	
	comp=Z,22nm,1.1s								
TUQ	Turquoise Moun	61.88	65	P		P	08 44 12.4	+0.2	
	baz=335								
PV01	Paradox Valley	61.90	58	*e*P		P	08 44 13.8	+1.3	
	comp=Z,24nm,1.2s								
PVY	Plav	61.92	315	⇓*i*P		P	08 44 11.5	-0.9	
NKY	Niksic	61.97	316	⇓*i*P		P	08 44 12.1	-0.6	
BRY	Bratogost	62.01	316	⇓*i*P		P	08 44 12.3	-0.8	
BRY	Bratogost	62.01	316	*e*P		P	08 44 12.2	-0.8	
J39A	Decorah	62.01	42	P		P	08 44 11.9	-0.9	
	baz=340								
NKME	Niksic	62.02	316	⇓*i*P		P	08 44 12.6	-0.4	
E52A	Mattawa	62.19	31	P		P	08 44 13.5	-0.5	
	baz=344								
I42A	Draeger Farm,	62.19	40	P		P	08 44 13.9	-0.2	
	baz=340								
J40A	Soldiers Grove	62.20	41	P		P	08 44 13.3	-0.8	
	baz=340								
LATQ	La Tuque	62.21	26	P		P	08 44 13.9	-0.2	
	baz=346								
U15A	North Rim	62.22	62	*e*P		P	08 44 17.1	+2.4	
	comp=Z,16nm,1.5s								
TREB	Trebinje	62.23	317	*e*P		P	08 44 12.8	-1.5	
BHJ	Bhuj	62.24	264	*e*P		P	08 44 15.7	+1.0	
BHJ				IAmb		IAmb	08 44 17.0		
	comp=Z,48nm,1.5s								
STON	Ston	62.26	317	⇑*i*P		P	08 44 12.8	-1.6	
PDG	Podgorica	62.26	316	⇑*i*P		P	08 44 14.0	-0.5	
PDG	Podgorica	62.26	316	*e*P		P	08 44 13.8	-0.7	
TTG	Podgorica	62.26	316	⇓*i*P		P	08 44 13.5	-1.0	
TTG	Podgorica	62.26	316	*e*P		P	08 44 14.3	-0.2	
	comp=Z,14nm,1.0s								
TTG	Podgorica	62.26	316	*e*P		P	08 44 14.3	-0.2	
TTG				pmax		pmax			
	comp=Z,14nm,1.0s								
F51A	Arnstein	62.28	32	P		P	08 44 14.1	-0.5	
	baz=343								
E53A	Dumoine, Ponti	62.30	30	P		P	08 44 14.0	-0.7	
	baz=344								
GLMI	Grayling	62.32	36	*e*P		P	08 44 14.5	-0.4	
	comp=Z,41nm,1.0s								
GLMI	Grayling	62.32	36	P		P	08 44 14.2	-0.7	
	baz=342								
E54A	Lac Daplat, Po	62.33	30	P		P	08 44 14.3	-0.6	
	baz=344								
BFSC	Mount Baldy Ra	62.35	67	P		P	08 44 15.4	0.0	
	baz=335								
J41A	Loganville	62.41	41	P		P	08 44 14.9	-0.6	
	baz=340								
HCY	Herceg Novi	62.45	316	⇓*i*P		P	08 44 14.5	-1.3	
HCY	Herceg Novi	62.45	316	*e*P		P	08 44 13.7	-2.1	
LDFC	Landfair	62.48	65	*e*P		P	08 44 16.3	0.0	
	comp=Z,23nm,1.1s								
DRME	Dracevica, Mon	62.50	316	⇓*i*P		P	08 44 15.7	-0.5	
DRME	Dracevica, Mon	62.50	316	⇑*i*P		P	08 44 15.5	-0.7	
GMRC	Granite Mounta	62.55	65	P		P	08 44 17.2	+0.4	
	baz=335								
K39A	Oelwein	62.56	43	P		P	08 44 15.6	-0.9	
	baz=340,SNR=9.7								
ALGO	Algonquin Park	62.63	31	P		P	08 44 16.3	-0.6	
	baz=344								
H47A	Mio	62.63	36	P		P	08 44 16.4	-0.6	
	baz=342								
EZN	Ezine	62.68	309	⇑*i*P		P	08 44 17.4	+0.1	
ULC	Ulcinj	62.70	316	⇓*i*P		P	08 44 15.1	-2.4	
K40A	Colesburg	62.76	42	P		P	08 44 17.6	-0.2	
	baz=340								
MVCO	Mesa Verde	62.76	58	*e*P		P	08 44 18.6	+0.4	
	comp=Z,16nm,1.4s								
MVCO	Mesa Verde	62.76	58	P		P	08 44 18.5	+0.3	
	baz=336								
KLBO	Killbear Provi	62.77	33	P		P	08 44 17.4	-0.5	
	baz=343								
JFWS	Jewell Farm	62.78	41	P		P	08 44 17.5	-0.5	
	baz=340								
BNI	Bardonecchia	62.80	326	*e*P		P	08 44 18.1	-0.2	
	comp=Z,27nm,1.0s								
BNI	Bardonecchia	62.80	326	*e*P		P	08 44 18.1	-0.2	
BNI				pmax		pmax			
	comp=Z,27nm,1.0s								
S22A	4UR Ranch, Cre	62.81	57	*e*P		P	08 44 20.4	+1.8	
	comp=Z,5.8nm,1.0s								
S22A	4UR Ranch, Cre	62.81	57	P		P	08 44 19.3	+0.7	
	baz=336,SNR=6.4								
BUKO	Buck Lake	62.85	32	P		P	08 44 17.9	-0.5	
	baz=343								
W13A	Hualapai Mount	62.88	64	*e*P		P	08 44 20.1	+1.1	
SCIA	State Center	62.96	44	*e*P		P	08 44 21.6	+2.4	
	comp=Z,28nm,1.0s								
SCIA	State Center	62.96	44	P		P	08 44 18.9	-0.3	
	baz=339								
KSCO	Kaye Shedlock'	62.96	53	*e*P		P	08 44 19.4	0.0	
	comp=Z,22nm,0.8s								
KSCO	Kaye Shedlock'	62.96	53	P		P	08 44 19.5	+0.1	
	baz=337								
TRQ	Mont Tremblant	63.03	28	*e*P		P	08 44 20.6	+1.0	
SSB	Saint Sauveur	63.03	328	*e*P		P	08 44 19.9	+0.2	
	comp=Z,20nm,1.0s								
SSB	Saint Sauveur	63.03	328	*e*P		P	08 44 19.9	+0.2	
SSB				pmax		pmax			
	comp=Z,20nm,1.0s								
PEMO	Pembroke	63.05	30	P		P	08 44 19.0	-0.7	
	baz=344								
K41A	Shullsburg	63.05	41	P		P	08 44 19.1	-0.7	
	baz=340								
F55A	Otter Lake	63.07	30	P		P	08 44 19.1	-0.7	
	baz=344								
L39A	Vinton	63.07	43	P		P	08 44 19.2	-0.8	
	baz=340								
I48A	Sherman Twp	63.13	36	P		P	08 44 19.8	-0.5	
	baz=342								
K42A	Prairie Point,	63.13	41	P		P	08 44 19.9	-0.5	
	baz=340								
BELC	Belle Mtn. Jos	63.15	66	P		P	08 44 20.5	-0.2	
	baz=335								
FNA	Florina	63.21	313	*e*P		P	08 44 20.7	-0.2	
	comp=Z,28nm,1.0s								
FNA	Florina	63.21	313	*e*P		P	08 44 20.7	-0.2	
FNA				pmax		pmax			
	comp=Z,28nm,1.0s								
SDCO	Great Sand Dun	63.23	55	*e*P		P	08 44 22.2	+0.8	
	comp=Z,32nm,1.5s								
SDCO	Great Sand Dun	63.23	55	P		P	08 44 20.8	-0.6	
	baz=337,SNR=14								
IRM	Iron Mountain	63.30	65	P		P	08 44 22.5	+0.9	
	baz=335,SNR=11								
G53A	Haliburton	63.31	31	P		P	08 44 20.6	-0.9	
	baz=344								
L40A	Anamosa	63.33	42	*e*P		P	08 44 20.7	-1.0	
	comp=Z,20nm,1.0s								
L40A	Anamosa	63.33	42	P		P	08 44 21.4	-0.2	
	baz=340								
PFO	Pinyon Flats O	63.34	66	P		P	08 44 22.1	+0.2	
	baz=335								
WUAZ	Wupatki	63.35	61	*e*P		P	08 44 23.0	+0.9	
	comp=Z,11nm,1.0s								
WUAZ	Wupatki	63.35	61	P		P	08 44 22.2	+0.1	
	baz=336								
BATG	Bathurst New B	63.36	21	*e*P		P	08 44 23.3	+1.6	
	comp=Z,41nm,1.4s								
K43A	Burlington	63.45	40	P		P	08 44 22.1	-0.4	
	baz=341								
L41A	Preston	63.50	42	P		P	08 44 21.4	-1.4	
	baz=340								
PDMCI	Parker Dam,Lak	63.52	64	P		P	08 44 22.9	0.0	
	baz=336								
ALFO	Alfred	63.54	29	P		P	08 44 22.8	-0.1	
	baz=345								
BANO	Bancroft	63.55	31	P		P	08 44 22.6	-0.5	
	baz=344								
M39A	Webster	63.63	43	P		P	08 44 22.5	-1.1	
	baz=340								
BC3	Big Chuckawall	63.65	66	P		P	08 44 24.0	-0.1	
	baz=335								
PLVO	Plevna	63.70	30	*e*P		P	08 44 24.9	+0.9	
	comp=Z,15nm,1.0s								
PLVO	Plevna	63.70	30	P		P	08 44 23.5	-0.5	
	baz=344								
J47A	Sunmer	63.78	37	P		P	08 44 24.0	-0.6	
	baz=342								
L42A	Oliver, Polo	63.78	41	*e*P		P	08 44 23.6	-1.0	
	comp=Z,32nm,1.0s								
L42A	Oliver, Polo	63.78	41	P		P	08 44 24.1	-0.6	
	baz=340								
AQU	L'Aquila	63.83	320	*e*P		P	08 44 25.4	+0.4	
L43A	Garden Prairie	63.84	40	P		P	08 44 24.7	-0.3	
	baz=341								
M40A	Post Highland	63.87	43	P		P	08 44 24.5	-0.8	
	baz=340								
Y12C	Blythe	63.89	65	*e*P		P	08 44 27.4	+1.9	
	comp=Z,12nm,1.0s								
Y12C	Blythe	63.89	65	P		P	08 44 26.1	+0.6	
	baz=336,SNR=6.9								
J48A	Bridge Port	63.96	36	P		P	08 44 25.9	+0.2	
	baz=342								
MONP2	Monument Peak	64.00	67	P		P	08 44 26.3	-0.2	
	baz=335								
CBKS	Cedar Bluff	64.00	50	*e*P		P	08 44 27.4	+1.2	
	comp=Z,28nm,0.8s								
CBKS	Cedar Bluff	64.00	50	*e*P		P	08 44 27.4	+1.2	
CBKS				pmax		pmax			
	comp=Z,28nm,0.8s								
CBKS	Cedar Bluff	64.00	50	P		P	08 44 26.1	-0.1	
	baz=338								
KKM	Kota Kinabalu	64.08	209	*e*P		P	08 44 26.2	-0.8	
	comp=Z,42nm,1.0s								
K46A	Dorr	64.08	38	P		P	08 44 25.7	-0.8	
	baz=342								
T25A	Trinidad	64.13	55	P		P	08 44 27.3	+0.1	
	baz=337								
H55A	Tweed	64.15	31	P		P	08 44 27.1	+0.1	
	baz=344								
M41A	Milan	64.15	42	P		P	08 44 26.2	-0.9	
	baz=340								
SWSC	Sam W. Stewart	64.17	66	P		P	08 44 27.1	-0.2	
	baz=336								
HYB	Hyderabad	64.25	252	*i* P		P	08 44 27.0	-1.0	
	comp=Z,58nm,0.8s								
HYB	Hyderabad	64.25	252	*e*P		P	08 44 27.9	-0.1	
MOQ	Mont Orford	64.31	27	*e*P		P	08 44 29.0	+0.8	
IKP	In-Ko-Pah, Jac	64.33	67	P		P	08 44 28.9	+0.5	
	baz=336								
X16A	Lo Mia Camp, P	64.33	62	*e*P		P	08 44 30.6	+2.1	
	comp=Z,16nm,1.5s								
PKRO	Pickering	64.33	32	P		P	08 44 28.1	-0.1	
	baz=344								
N40A	Mertquake, Sal	64.34	43	P		P	08 44 27.5	-0.9	
	baz=340								
K48A	Perry	64.35	36	P		P	08 44 27.8	-0.6	
	baz=342								
GLA	Glamis	64.42	65	P		P	08 44 28.1	-0.9	
	baz=336								
DRWO	Darlington Wes	64.49	32	P		P	08 44 28.8	-0.4	
	baz=344								
M43A	Waltham Townsh	64.49	41	P		P	08 44 28.9	-0.4	
	baz=341								
K49A	Clarkson	64.52	36	P		P	08 44 28.7	-0.7	
	baz=342								
LONY	Lake Ozonia	64.57	29	*e*P		P	08 44 30.4	+0.6	
	comp=Z,26nm,1.1s								
LONY	Lake Ozonia	64.57	29	P		P	08 44 28.5	-1.3	
	baz=345								
MATE	Matera	64.60	317	⇑*i*P		P	08 44 30.0	0.0	
KSU1	Kansas State U	64.64	48	*e*P		P	08 44 29.0	-1.3	
	comp=Z,27nm,0.9s								
KSU1	Kansas State U	64.64	48	P		P	08 44 29.1	-1.3	
	baz=339,SNR=8.5								
X18A	Snowflake	64.73	61	*e*P		P	08 44 32.6	+1.4	
	comp=Z,11nm,1.1s								
SHME	Shamm	64.87	277	*i* P		P	08 44 32.0	0.0	
	SNR=8.6								
L47A	Sherwood	64.89	38	P		P	08 44 30.5	-1.4	
	baz=342								
BANOM	Banah	64.92	277	*i* P		P	08 44 32.7	+0.3	
	SNR=21								
LMN	Caledonia Moun	64.93	21	*e*P		P	08 44 32.8	+0.7	
	comp=Z,58nm,1.2s								
POO	Poona	64.96	257	*e*P		P	08 44 31.9	-0.8	
L48A	N Adams	65.10	37	P		P	08 44 32.0	-1.3	
	baz=342								
MEDO	Medina	65.23	32	P		P	08 44 33.6	-0.4	
	baz=344								
HDIL	Hopedale	65.24	41	*e*P		P	08 44 35.3	+1.1	
	comp=Z,31nm,1.1s								
HDIL	Hopedale	65.24	41	P		P	08 44 33.4	-0.8	
	baz=341								
O41A	Passleys Farm,	65.25	43	P		P	08 44 33.2	-1.1	
	baz=340,SNR=11								
O42A	Bath	65.38	42	P		P	08 44 34.0	-1.1	
	baz=341								
MSFE	Esma-Masafi	65.49	277	*i* P		P	08 44 35.9	-0.1	
	SNR=7.1								
MDH	Madha	65.49	277	*i* P		P	08 44 35.7	-0.3	
	SNR=8.7								
O43A	Sugar Creek Fa	65.49	41	P		P	08 44 34.9	-0.9	
	baz=341								
ANMO	Albuquerque	65.49	57	*e*P		P	08 44 36.9	+0.7	
	comp=Z,10nm,1.5s								
ANMO	Albuquerque	65.49	57	*e*P		P	08 44 36.9	+0.7	
ANMO				pmax		pmax			
	comp=Z,10.0nm,1.5s								
ANMO	Albuquerque	65.49	57	P		P	08 44 35.3	-0.9	
	baz=337								
UMQ	Umm Al-Quwin	65.53	278	*i* P		P	08 44 37.4	+1.2	
	SNR=5.9								
N46A	Monticello	65.55	39	P		P	08 44 35.5	-0.7	
	baz=342								
P41A	Barry, Barry	65.61	43	P		P	08 44 35.4	-1.2	
	baz=340,SNR=18								
M49A	Liberty Center	65.65	37	P		P	08 44 35.9	-0.9	
	baz=342								
PLIO	Pelee Island,	65.69	36	P		P	08 44 36.0	-1.0	
	baz=343								
LAZ	Ladron	65.77	58	*e*P		P	08 44 40.1	+2.1	
O44A	Mansfield	65.83	41	P		P	08 44 36.8	-1.2	
	baz=341								
P42A	Winchester	65.89	43	*e*P		P	08 44 37.4	-1.0	
	comp=Z,19nm,0.9s								
P42A	Winchester	65.89	43	P		P	08 44 37.1	-1.3	
	baz=341								
ERPA	Erie	65.91	33	P		P	08 44 37.3	-1.2	
	baz=344								
M50A	Fremont	65.93	36	P		P	08 44 37.6	-1.0	
	baz=343								
SFIN	Lafayette	65.95	40	P		P	08 44 37.4	-1.3	
	baz=342								
TIP	Timpagrande	65.96	316	*e*P		P	08 44 39.0	0.0	
	comp=Z,82nm,1.2s								
TIP	Timpagrande	65.96	316	⇑*i*P		P	08 44 39.3	+0.3	
HATD	Hatta, Dubai	65.98	277	*i* P		P	08 44 39.1	0.0	
	SNR=30								
N48A	Decatur	65.99	38	P		P	08 44 38.0	-1.0	
	baz=342								
NAZ	Nazwa, Dubai	66.01	277	*i* P		P	08 44 39.4	0.0	
	SNR=13								
L53A	Girard	66.01	34	P		P	08 44 37.7	-1.4	
	baz=344								
LENM	Lemitar	66.04	58	*e*P		P	08 44 43.8	+4.1	
P43A	Skaggs, Pawnee	66.04	42	P		P	08 44 38.3	-1.1	
	baz=341								
214A	Organ Pipe Nat	66.11	64	P		P	08 44 40.2	+0.3	
	baz=336								
N49A	Columbus Grove	66.13	37	*e*P		P	08 44 42.0	+2.1	
	comp=Z,11nm,0.9s								
N49A	Columbus Grove	66.13	37	P		P	08 44 39.2	-0.7	
	baz=342								
ASHO	Ashiyiah	66.14	277	*i* P		P	08 44 40.1	-0.1	
	SNR=25								
BNM	Barren Site	66.17	58	*e*P		P	08 44 41.3	+0.8	
M52A	Chesterland	66.17	35	P		P	08 44 40.0	-0.2	
	baz=343								
Q41A	Truxton	66.25	43	P		P	08 44 39.6	-1.0	
	baz=340								
FAQ	Al Faqa, Dubai	66.26	277	*i* P		P	08 44 40.6	-0.3	
	SNR=14								
HAL	Halifax	66.28	20	*e*P		P	08 44 41.5	+0.7	
	comp=Z,37nm,1.0s								
HAL	Halifax	66.28	20	*e*P		P	08 44 41.5	+0.7	
HAL				pmax		pmax			
	comp=Z,37nm,1.0s								
O47A	Sheridan	66.31	39	P		P	08 44 39.6	-1.5	
	baz=342								
ITM	Ithomi	66.41	311	*e*P		P	08 44 41.2	-0.6	
	comp=Z,17nm,0.8s								
M53A	Wi Miller and	66.42	34	P		P	08 44 40.7	-1.1	
	baz=344								
P44A	Sand Creek, Wi	66.44	41	P		P	08 44 40.8	-1.1	
	baz=341								
Q42A	Golden Eagle	66.47	43	P		P	08 44 40.8	-1.3	
	baz=341,SNR=14								
TUC	Tucson	66.48	62	*e*P		P	08 44 44.3	+1.9	
	comp=Z,5.7nm,1.3s								
TUC	Tucson	66.48	62	*e*P		P	08 44 44.3	+1.9	
TUC				pmax		pmax			
	comp=Z,6.0nm,1.3s								
TUC	Tucson	66.48	62	P		P	08 44 41.7	-0.7	
	baz=337								
N50A	Nevada	66.51	36	P		P	08 44 41.3	-1.0	
	baz=343								
O48A	Farmland	66.53	38	P		P	08 44 41.3	-1.2	
	baz=342								
N51A	Ashland	66.54	36	*e*P		P	08 44 42.1	-0.5	
	comp=Z,21nm,0.9s								
N51A	Ashland	66.54	36	P		P	08 44 41.3	-1.3	
	baz=343								
M54A	Oil Creek Stat	66.57	33	*e*P		P	08 44 41.7	-1.0	
	comp=Z,17nm,1.0s								
M54A	Oil Creek Stat	66.57	33	P		P	08 44 41.7	-1.0	
	baz=344								
P45A	Graceland, Par	66.60	40	P		P	08 44 42.0	-1.0	
	baz=341								
BINY	Binghamton	66.64	30	P		P	08 44 42.1	-1.2	
	baz=345								
P46A	Rosedale	66.64	40	P		P	08 44 42.1	-1.1	
	baz=342								
AJN	Ajban	66.65	278	*i* P		P	08 44 43.3	-0.1	
	SN

Q45A Warren Harvey, 67.09 41 P P 08 44 44.7 -1.4
baz=341
R43A Red Bud 67.22 43 P P 08 44 45.8 -1.1
baz=341
P48A Milroy 67.23 39 P P 08 44 45.6 -1.3
baz=342
O51A Pataskala 67.23 36 P P 08 44 45.3 -1.6
baz=343
121A Cookes Peak, D 67.28 60 P P 08 44 46.3 -1.3
baz=337
P49A Miami Univ. Ec 67.32 38 P P 08 44 45.9 -1.7
baz=342
FVM French Village 67.37 43 eP P 08 44 48.4 +0.5
comp=Z,19nm,1.0s
FVM French Village 67.37 43 eP P 08 44 48.4 +0.5
FVM pmax pmax
comp=Z,19nm,1.0s
S41A Jillco Farms, 67.39 44 P P 08 44 46.6 -1.5
baz=340,SNR=14
N55A Marion Center 67.41 33 P P 08 44 46.8 -1.3
baz=344
O52A Adamsville 67.43 36 eP P 08 44 47.1 -1.1
comp=Z,23nm,0.9s
O52A Adamsville 67.43 36 P P 08 44 46.8 -1.4
baz=343
O53A New Philadelph 67.44 35 P P 08 44 47.2 -1.1
baz=344
P50A Jamestown 67.47 37 P P 08 44 47.1 -1.4
baz=343
R44A Waltonville 67.47 42 P P 08 44 47.2 -1.3
baz=341
S42A Caledonia 67.48 44 P P 08 44 47.4 -1.2
baz=341
Q47A Bedord North L 67.48 40 P P 08 44 47.2 -1.3
baz=342
MSTX Muleshoe 67.56 55 eP P 08 44 49.1 -0.2
comp=Z,28nm,1.3s
MSTX Muleshoe 67.56 55 P P 08 44 48.3 -1.0
baz=338
R45A Skylar, Fairfi 67.63 41 P P 08 44 48.0 -1.5
baz=341
MDRS Chennai 67.65 249 eP P 08 44 49.5 -0.4
Q48A North Vernon 67.66 39 P P 08 44 48.3 -1.3
baz=342
O54A Avella 67.69 34 P P 08 44 48.6 -1.3
baz=344
GOA Goa 67.76 256 eP P 08 44 50.9 +0.4
SSPA Standing Stone 67.77 32 P P 08 44 49.3 -1.1
baz=345
P52A Corning 67.82 36 P P 08 44 49.5 -1.3
baz=343
319A Douglas 67.84 61 eP P 08 44 51.0 -0.1
comp=Z,16nm,0.9s
TUL1 Leonard 67.85 48 eP P 08 44 50.3 -0.7
comp=Z,23nm,1.1s
TUL1 Leonard 67.85 48 P P 08 44 50.2 -0.7
baz=340
S43A Fulton Ridge, 67.85 43 P P 08 44 49.2 -1.7
baz=341,SNR=9.5
T41A Mountain View 67.90 45 P P 08 44 50.0 -1.2
baz=340,SNR=20
SIUC Southern Illin 67.94 42 eP P 08 44 51.0 -0.4
comp=Z,18nm,0.9s
S44A Carbondale 67.95 42 P P 08 44 50.5 -1.0
baz=341
O56A Blue Knob Stat 67.99 33 P P 08 44 50.9 -0.9
baz=344
R47A Wooly Knot Far 68.06 40 P P 08 44 51.3 -0.9
baz=342
WMOK Wichita Mounta 68.07 51 eP P 08 44 52.4 0.0
comp=Z,10nm,0.9s
WMOK Wichita Mounta 68.07 51 P P 08 44 52.1 -0.2
baz=339
T42A Van Buren 68.09 44 eP P 08 44 51.2 -1.2
comp=Z,11nm,0.9s
T42A Van Buren 68.09 44 P P 08 44 51.2 -1.2
baz=341,SNR=9.8
R48A Northridge Ran 68.13 39 P P 08 44 51.9 -0.7
baz=342
Q51A Peebles 68.13 37 eP P 08 44 52.8 +0.1
comp=Z,19nm,1.0s
P53A Whipple 68.13 35 eP P 08 44 51.5 -1.1
comp=Z,26nm,1.1s
P53A Whipple 68.13 35 P P 08 44 51.7 -0.9
baz=344
S45A Carrier Mills 68.14 42 P P 08 44 52.1 -0.6
baz=341
Q50A Georgetown 68.15 38 P P 08 44 51.8 -1.0
baz=343
WCI Wyandotte Cave 68.19 40 eP P 08 44 52.0 -1.0
comp=Z,15nm,0.9s
WCI Wyandotte Cave 68.19 40 eP P 08 44 52.0 -1.0
WCI pmax pmax
comp=Z,15nm,0.9s
WCI Wyandotte Cave 68.19 40 P P 08 44 52.2 -0.8
baz=342
P54A Burton 68.22 35 P P 08 44 52.5 -0.8
baz=344
U40A Yellville 68.25 46 P P 08 44 52.0 -1.5
baz=340,SNR=8.9
T43A Greenville 68.26 43 P P 08 44 52.6 -0.9
baz=341
S46A Don Dixon Farm 68.35 41 P P 08 44 53.3 -0.7
baz=342
SBUM Sibu 68.37 213 eP P 08 44 53.2 -1.2
comp=Z,25nm,1.1s
R49A Shelbyville 68.40 39 P P 08 44 53.7 -0.6
baz=342
PBRG Braganca 68.42 336 eP P 08 44 55.0 +0.5
comp=Z,54nm,1.4s
Q52A Bidwell 68.44 36 P P 08 44 53.9 -0.7
baz=343
T44A Benton 68.44 43 P P 08 44 53.5 -1.1
baz=341
P55A Reedsville 68.45 34 P P 08 44 53.7 -1.0
baz=344
PGAV Gavieira, Arco 68.50 337 eP P 08 44 55.4 +0.4
U41A Viola 68.52 45 P P 08 44 54.2 -0.9
baz=341
R50A Paris 68.61 38 P P 08 44 54.8 -0.9
baz=343
MZR Muzera 68.64 278 i P P 08 44 55.7 -0.3
SNR=19
S47A Hartford 68.64 40 P P 08 44 54.9 -0.9
baz=342
U42A Revenden 68.69 44 P P 08 44 54.8 -1.4
baz=341,SNR=10.0
PCAB Cabril 68.71 337 eP P 08 44 56.8 +0.5
Q54A Coxs Mills 68.73 35 P P 08 44 55.1 -1.4
baz=344
R51A Hillsboro 68.77 38 P P 08 44 55.2 -1.4
baz=343,SNR=8.0
S48A Wiedeman Farm, 68.79 40 P P 08 44 55.4 -1.4
baz=342
MNTX Cornudas Mount 68.83 58 eP P 08 44 57.5 +0.4
comp=Z,11nm,1.0s
MNTX Cornudas Mount 68.83 58 P P 08 44 56.1 -1.0
baz=338,SNR=19
S49A Springfield 68.85 39 P P 08 44 56.3 -0.8
baz=342
Q55A Buckhannon 68.89 35 P P 08 44 57.0 -0.4
baz=344
T46A Princeton 68.91 41 P P 08 44 56.8 -0.8
baz=342
U44A Portageville 68.96 43 P P 08 44 57.5 -0.3
baz=341
POLO Lamas de Olo 69.01 337 eP P 08 44 58.6 +0.4
W39A Magazine 69.08 47 eP P 08 44 58.3 -0.3
comp=Z,22nm,1.3s
W39A Magazine 69.08 47 P P 08 44 58.2 -0.5
baz=340
PVRL Vila Real 69.09 336 eP P 08 44 59.3 +0.6
comp=Z,64nm,1.8s
MVO Moncorvo 69.09 336 eP P 08 44 59.1 +0.4
comp=Z,56nm,1.5s
R53A Hurricane 69.11 36 P P 08 44 58.0 -0.8
baz=343
T47A Sharon Grove 69.16 41 eP P 08 44 57.9 -1.3
comp=Z,21nm,1.0s
T47A Sharon Grove 69.16 41 P P 08 44 58.3 -0.8
baz=342
S50A Richmond 69.17 38 P P 08 44 58.5 -0.6
baz=343
U44B Burton Farm, H 69.20 43 P P 08 44 59.1 -0.3
baz=341
T48A Bowling Green 69.22 40 P P 08 44 59.1 -0.4
baz=342
U45A Rockin P Farm, 69.35 42 P P 08 44 59.6 -0.7
baz=342
WHAR Wooly Hollow 69.41 46 eP P 08 44 59.6 -1.1
comp=Z,30nm,1.0s
V43A Jonesboro 69.41 44 P P 08 45 00.0 -0.6
baz=341
T49A Edmonton 69.44 40 eP P 08 45 00.2 -0.6
comp=Z,13nm,1.1s
T49A Edmonton 69.44 40 P P 08 45 00.1 -0.7
baz=342
R54A Victor 69.47 35 P P 08 44 60.0 -1.0
baz=344
U46A Springville 69.49 42 P P 08 45 00.3 -0.8
baz=342
W41B Gary Mavity, V 69.53 46 eP P 08 45 00.3 -1.1
comp=Z,39nm,1.1s
W41B Gary Mavity, V 69.53 46 P P 08 45 00.3 -1.1
baz=341,SNR=15
HBAR Harrisburg 69.60 44 eP P 08 45 01.5 -0.3
comp=Z,71nm,0.8s
U47A Clarksville 69.63 41 P P 08 45 01.6 -0.4
baz=342
PVIS Viseu 69.67 336 eP P 08 45 02.6 +0.3
T50A Nancy 69.69 39 P P 08 45 01.6 -0.7
baz=343
S53A Williamson 69.69 37 P P 08 45 01.6 -0.8
baz=343
KSM Kuching 69.72 215 eP P 08 45 01.3 -1.5
comp=Z,39nm,1.1s
MIAR Mount Ida 69.75 47 P P 08 45 02.3 -0.5
baz=340
U48A Cassie Pea, Po 69.76 41 P P 08 45 02.2 -0.6
baz=342
ABTX Abilene, Hawle 69.78 53 eP P 08 45 02.4 -0.6
comp=Z,26nm,1.0s
ABTX Abilene, Hawle 69.78 53 P P 08 45 02.7 -0.3
baz=339
WVT Waverly 69.79 42 eP P 08 45 02.2 -0.8
comp=Z,31nm,0.9s
WVT Waverly 69.79 42 eP P 08 45 02.2 -0.8
WVT pmax pmax
comp=Z,31nm,0.9s
WVT Waverly 69.79 42 P P 08 45 02.7 -0.3
baz=342
V45A Humboldt 69.87 43 P P 08 45 02.3 -1.2
baz=342
MTE Manteigas 69.92 336 eP P 08 45 04.9 +1.1
comp=Z,50nm,1.2s
MTE Manteigas 69.92 336 eP P 08 45 03.9 0.0
comp=Z,34nm,1.1s
U49A Red Boiling Sp 69.94 40 P P 08 45 02.9 -1.0
baz=342
T51A Gray 69.95 38 P P 08 45 03.0 -1.0
baz=343
S55A Lewisburg 69.97 35 P P 08 45 03.8 -0.4
baz=344
X40A Basin Creek Fa 70.01 46 eP P 08 45 03.6 -0.8
comp=Z,15nm,0.8s
X40A Basin Creek Fa 70.01 46 P P 08 45 03.6 -0.8
baz=341
V46A Holladay 70.03 42 P P 08 45 03.0 -1.4
baz=342,SNR=15
ESDC Sonseca Array 70.04 333 P P 08 45 04.8 +0.2
comp=Z,21nm,0.8s,baz=6.9,slow=6.2,SNR=78
ESDC LR LR 09 20 20.5
comp=Z,141nm,19.5s,baz=30,slow=40
ESLA Sonseca Array 70.04 333 eP P 08 45 04.5 -0.1
comp=Z,24nm,0.9s
V47A Nunnelly 70.16 42 P P 08 45 04.1 -1.1
baz=342
PAB San Pablo 70.23 333 eP P 08 45 05.8 0.0
comp=Z,22nm,0.9s
PAB San Pablo 70.23 333 eP P 08 45 05.8 0.0
PAB pmax pmax
comp=Z,22nm,0.9s
COI Coimbra 70.24 337 eP P 08 45 06.5 +0.8
comp=Z,75nm,1.2s
U50A Jamestown 70.26 39 P P 08 45 04.7 -1.2
baz=343,SNR=5.0
T53A Wise 70.27 37 P P 08 45 04.7 -1.3
baz=343
R58B Mineral 70.35 33 P P 08 45 05.4 -1.0
baz=345
W45A Hickory Valley 70.36 43 P P 08 45 05.5 -1.1
baz=342
PCAS Casmilo, Conde 70.41 337 eP P 08 45 07.0 +0.3
comp=Z,79nm,1.2s
T54A Tazewell 70.41 36 P P 08 45 06.1 -0.8
baz=344
V48A Smith Brothers 70.42 41 eP P 08 45 06.0 -0.8
comp=Z,36nm,1.4s
V48A Smith Brothers 70.42 41 P P 08 45 06.3 -0.6
baz=342
TZTN Tazewell 70.45 38 P P 08 45 06.7 -0.4
baz=343
PCBR Castelo Branco 70.46 336 eP P 08 45 07.5 +0.5
comp=Z,61nm,1.7s
X43A Marvell 70.52 45 eP P 08 45 06.7 -0.7
comp=Z,32nm,0.9s
X43A Marvell 70.52 45 P P 08 45 06.9 -0.6
baz=341
BLA Blacksburg 70.52 35 P P 08 45 06.8 -0.7
baz=344
W46A Michie 70.60 42 P P 08 45 07.3 -0.6
baz=342
V49A McMinnville 70.62 40 P P 08 45 07.4 -0.7
baz=342
W47A Westpoint 70.69 42 P P 08 45 07.6 -0.9
baz=342,SNR=11
WLAR White Oak Lake 70.69 47 eP P 08 45 08.0 -0.5
comp=Z,29nm,1.4s
PLAL Pickwick Lake 70.82 42 eP P 08 45 08.3 -1.0
comp=Z,28nm,1.0s
CCAR Cane Creek 70.84 46 eP P 08 45 09.5 0.0
comp=Z,40nm,1.1s
U53A Fall Branch 70.85 37 P P 08 45 08.5 -1.0
baz=343
PMRV Marv??o 70.85 336 eP P 08 45 09.4 -0.1
V50A Pikevile 70.91 40 P P 08 45 09.5 -0.3
baz=343
OXF Oxford 70.92 44 eP P 08 45 09.0 -0.9
comp=Z,52nm,1.0s
OXF Oxford 70.92 44 eP P 08 45 09.0 -0.9
OXF pmax pmax
comp=Z,52nm,1.0s
OXF Oxford 70.92 44 P P 08 45 09.2 -0.7
baz=342
W48A Pulaski 70.96 41 P P 08 45 09.1 -1.1
baz=342
V51A Loudon 70.96 39 P P 08 45 09.3 -0.9
baz=343
U55A TA2, Sparta 71.06 36 P P 08 45 09.8 -1.1
baz=344
X46A Booneville 71.09 43 P P 08 45 10.1 -0.8
baz=342
KEST Kesra 71.09 321 eP P 08 45 11.0 -0.1
comp=Z,43nm,1.4s
KEST Kesra 71.09 321 P P 08 45 11.3 +0.3
comp=Z,10nm,0.8s,baz=296,slow=2.4,SNR=6.7
KEST LR LR 09 21 05.5
comp=Z,171nm,18.1s,baz=354,slow=40
V52A Sevierville 71.11 38 P P 08 45 10.2 -0.8
baz=343
SWET Sewanee 71.14 40 eP P 08 45 10.4 -0.9
comp=Z,20nm,1.0s
W49A Belvidere 71.15 41 P P 08 45 10.5 -0.8
baz=342
Z41A Richland Creek 71.18 47 eP P 08 45 11.0 -0.5
comp=Z,25nm,1.1s
Z41A Richland Creek 71.18 47 P P 08 45 11.0 -0.5
baz=341
TKL Tuckaleechee C 71.24 39 eP P 08 45 10.9 -1.0
comp=Z,13nm,1.0s
TKL Tuckaleechee C 71.24 39 eP P 08 45 10.9 -1.0
TKL pmax pmax
comp=Z,13nm,1.0s
CPCT Cooper Cave 71.26 39 eP P 08 45 11.4 -0.5
comp=Z,18nm,1.3s
PSI Prapat 71.28 227 eP P 08 45 11.3 -1.1
comp=Z,32nm,0.8s
PSI Prapat 71.28 227 eP P 08 45 11.3 -1.1
PSI pmax pmax
comp=Z,32nm,0.8s
W50A Signal Mountai 71.31 40 eP P 08 45 12.3 0.0
comp=Z,10nm,0.9s
W50A Signal Mountai 71.31 40 P P 08 45 11.5 -0.8
baz=343
X47A Russelville 71.31 42 P P 08 45 11.0 -1.3
baz=342,SNR=9.4
PMTG Montargil 71.33 336 eP P 08 45 12.5 +0.2
comp=Z,54nm,2.0s
PESTR Estremoz 71.43 336 eP P 08 45 13.2 +0.2
V53A Saluda 71.46 38 P P 08 45 12.1 -1.1
baz=343
W51A Cleveland 71.48 39 P P 08 45 12.3 -1.0
baz=343
V54A Nebo 71.55 37 P P 08 45 12.7 -1.1
baz=344
TX31 Lajitas Ar. Si 71.57 57 eP P 08 45 14.1 0.0
TXAR Lajitas Array 71.57 57 P P 08 45 15.3 +1.3
comp=Z,1.7nm,0.7s,baz=23,slow=7.1,SNR=14
TXAR LR LR 09 19 17.0
comp=Z,564nm,21.6s,baz=0.0,slow=38
X48A Hartselle 71.58 42 eP P 08 45 12.6 -1.3
comp=Z,11nm,0.8s
X48A Hartselle 71.58 42 P P 08 45 12.8 -1.2
baz=342
PMAFR Mafra 71.60 337 eP P 08 45 14.1 +0.1
V55A Taylorsville 71.65 36 P P 08 45 13.2 -1.2
baz=344
X49A Woodville 71.71 41 P P 08 45 13.8 -0.9
baz=342
JCT Junction City 71.72 54 eP P 08 45 14.7 -0.2
comp=Z,34nm,0.9s
JCT Junction City 71.72 54 eP P 08 45 14.7 -0.2
JCT pmax pmax
comp=Z,34nm,0.9s
JCT Junction City 71.72 54 P P 08 45 14.2 -0.7
baz=339,SNR=12
W52A Murphy 71.74 39 eP P 08 45 14.1 -0.9
comp=Z,19nm,0.9s
W52A Murphy 71.74 39 P P 08 45 14.0 -0.9
baz=343
EVO Evora 71.82 336 eP P 08 45 17.3 +2.0
comp=Z,74nm,1.2s
X50B Fort Payne 71.92 40 P P 08 45 14.6 -1.5
baz=343
X51A Calhoun 72.02 40 P P 08 45 15.2 -1.3
baz=343
NATX Nacogdoches 72.06 49 eP P 08 45 17.0 +0.2
comp=Z,22nm,0.8s
NATX Nacogdoches 72.06 49 P P 08 45 15.9 -0.9
baz=340
Y48A Jasper 72.06 42 P P 08 45 15.7 -1.2
baz=342
BG3 Lake Jocassee 72.08 38 eP P 08 45 16.6 -0.3
comp=Z,31nm,1.5s
435B Jarrell 72.11 52 eP P 08 45 16.7 -0.5
comp=Z,18nm,1.0s
435B Jarrell 72.11 52 P P 08 45 16.7 -0.5
baz=340
W54A Cherokee Point 72.16 37 P P 08 45 15.9 -1.5
baz=344
X52A Dahlonega 72.22 39 P P 08 45 16.6 -1.2
baz=343
PBEJ Beja 72.29 336 eP P 08 45 19.4 +1.2
KMSC Kings Mountain 72.30 37 P P 08 45 17.0 -1.3
baz=344
Y49A Blount Mountai 72.31 41 eP P 08 45 17.3 -1.0
comp=Z,22nm,1.2s
Y49A Blount Mountai 72.31 41 P P 08 45 17.3 -1.0
baz=342
PNCL Nicolau / Gran 72.31 336 eP P 08 45 18.4 +0.1
Y50A Piedmont 72.45 41 P P 08 45 18.2 -1.0
baz=343
X53A Estanollee 72.46 38 P P 08 45 17.9 -1.2
baz=343
Y51A Rockmart 72.61 40 P P 08 45 19.0 -1.1
baz=343,SNR=9.5
X54A Belton 72.63 38 P P 08 45 19.1 -1.1
baz=344
PALK Pallekele 72.86 246 eP P 08 45 21.0 -0.8
comp=Z,42nm,1.1s
PALK Pallekele 72.86 246 i P P 08 45 23.2 +1.4
X55A Gracelyn & Ava 72.88 37 P P 08 45 20.4 -1.2
baz=344
Y52A Lilburn 72.88 39 eP P 08 45 21.1 -0.7
comp=Z,16nm,1.0s
Y52A Lilburn 72.88 39 P P 08 45 20.5 -1.2
baz=343
Z49A Columbiana 72.91 42 P P 08 45 20.7 -1.2
baz=342
LRAL Lakeview Retre 72.94 42 eP P 08 45 20.8 -1.3
comp=Z,22nm,1.5s
LRAL Lakeview Retre 72.94 42 P P 08 45 21.3 -0.8
baz=342
HODGE Hodges 72.96 38 eP P 08 45 21.8 -0.3
comp=Z,12nm,1.1s
X56A White Oak 72.99 37 P P 08 45 21.8 -0.5
baz=344
Z50A Ashland 73.01 41 eP P 08 45 21.7 -0.8
comp=Z,29nm,1.4s
Z50A Ashland 73.01 41 P P 08 45 21.9 -0.6
baz=343
Y53A Monroe 73.01 39 P P 08 45 21.7 -0.8
baz=343
MORF Marmelete 73.12 336 eP P 08 45 23.7 +0.5
MORF AMb AMB 08 45 27.2
comp=Z,69nm,2.0s
MORF Marmelete 73.12 336 eP P 08 45 23.5 +0.3
MORF Marmelete 73.12 336 eP P 08 45 23.7 +0.5
HPIG 73.14 60 eP P 08 45 23.0 -0.6
comp=Z,23nm,1.3s
JSC Jenkinsville 73.14 37 eP P 08 45 22.7 -0.6
comp=Z,13nm,1.0s
JSC Jenkinsville 73.14 37 eP P 08 45 22.7 -0.6
JSC pmax pmax
comp=Z,13nm,1.0s
Y54A Tignall 73.21 38 P P 08 45 22.5 -1.2
baz=344,SNR=5.5
X57A Johnson Farm, 73.23 36 P P 08 45 23.3 -0.4
baz=344
X58A Rowland 73.31 35 P P 08 45 23.8 -0.4
baz=345
Y55A Saluda 73.34 37 P P 08 45 23.7 -0.7
baz=344
149A Jones 73.41 42 P P 08 45 24.2 -0.7
baz=342
HKT Hockley 73.41 51 eP P 08 45 24.9 +0.1
comp=Z,17nm,1.4s
HKT Hockley 73.41 51 eP P 08 45 24.9 +0.1
HKT pmax pmax
comp=Z,17nm,1.4s
Z52A Williamson 73.44 40 P P 08 45 24.2 -0.9
baz=343
X59A McDuffie Farm, 73.46 35 P P 08 45 24.2 -0.9
baz=345
GOGA Godfrey 73.46 39 eP P 08 45 25.1 0.0
comp=Z,53nm,1.5s
GOGA Godfrey 73.46 39 eP P 08 45 25.1 0.0
GOGA pmax pmax
comp=Z,53nm,1.5s
GOGA Godfrey 73.46 39 P P 08 45 24.3 -0.8
baz=343
Z53A Monticello 73.56 39 P P 08 45 25.0 -0.7
baz=343
150A Eclectic 73.60 41 P P 08 45 25.0 -0.9
baz=343
Y57A Sumter 73.60 36 P P 08 45 24.8 -1.1
baz=344
Y56A Pelion 73.60 37 P P 08 45 25.1 -0.9
baz=344
Z54A Sparta 73.78 38 P P 08 45 26.3 -0.7
baz=344
151A Opelika 73.85 41 P P 08 45 26.7 -0.7
baz=343
833A Chaparral WMA, 73.86 54 eP P 08 45 26.6 -0.9
comp=Z,44nm,1.5s
152A Waverly Hall 73.86 40 eP P 08 45 26.4 -1.1
comp=Z,13nm,1.1s
152A Waverly Hall 73.86 40 P P 08 45 26.8 -0.7
baz=343
Y58A Scranton 73.86 36 P P 08 45 26.8 -0.6
baz=345
153A Fort Valley 74.10 39 P P 08 45 28.2 -0.7
baz=343
Z57A Bowman 74.22 37 P P 08 45 28.9 -0.6
baz=344
251A Midway 74.24 41 P P 08 45 28.4 -1.4
baz=343,SNR=7.3
154A Montrose 74.31 39 eP P 08 45 29.6 -0.5
comp=Z,69nm,1.0s
154A Montrose 74.31 39 P P 08 45 29.5 -0.6
baz=344
155A Kite 74.45 38 P P 08 45 30.1 -0.8
baz=344
252A Lumpkin 74.50 40 P P 08 45 30.8 -0.5

	baz=343							
253A	**Americus**	**74.59**	**40**	P		**P**	**08 45 31.2**	**-0.6**
	baz=343							
156A	**Sylvania**	**74.65**	**38**	P		**P**	**08 45 31.9**	**-0.1**
	baz=344							
254A	**Abbeville**	**74.90**	**39**	P		**P**	**08 45 32.9**	**-0.7**
	baz=344							
255A	**Hazlehurst**	**75.12**	**39**	*e*P		**P**	**08 45 34.2**	**-0.6**
	comp=Z,56nm,1.0s							
255A	**Hazlehurst**	**75.12**	**39**	P		**P**	**08 45 33.9**	**-0.9**
	baz=344							
353A	**Camilla**	**75.25**	**40**	P		**P**	**08 45 35.0**	**-0.5**
	baz=343							
TIGA	**Tifton**	**75.31**	**40**	*e*P		**P**	**08 45 35.4**	**-0.5**
	comp=Z,80nm,1.3s							
TIGA	**Tifton**	**75.31**	**40**	P		**P**	**08 45 35.7**	**-0.2**
	baz=344							
BATI	**Baumata**	**78.86**	**199**	LR		LR	09 21 07.2	
	comp=Z,104nm,21.4s,baz=314,slow=36							
DAMY	**Dhamar**	**79.75**	**283**	*e*P		**P**	**08 46 00.6**	**-0.7**
	comp=Z,70nm,1.0s							
MTN	**Manton Dam**	**80.72**	**191**	*e*P		**P**	**08 46 04.5**	**-1.4**
	comp=Z,36nm,1.1s							
ATD	**Arta Tunnel**	**83.11**	**283**	*e*P		**P**	**08 46 18.9**	**0.0**
	comp=Z,40nm,1.2s							
TAM	**Tamanrasset**	**84.41**	**321**	*e*P		**P**	**08 46 25.0**	**-0.5**
	comp=Z,16nm,1.0s							
TAM	**Tamanrasset**	**84.41**	**321**	*e*P		**P**	**08 46 25.0**	**-0.5**
TAM					pmax	pmax		
	comp=Z,16nm,1.0s							
FITZ	**Fitzroy Crossi**	**86.42**	**196**	*e*P		**P**	**08 46 34.5**	**-0.7**
	comp=Z,63nm,1.6s							
FITZ	**Fitzroy Crossi**	**86.42**	**196**	P		**P**	**08 46 34.8**	**-0.4**
	comp=Z,12nm,0.9s,baz=0.8,slow=7.9,SNR=7.8							
WRAB	**Tennant Creek**	**87.55**	**188**	*c*eP		**P**	**08 46 39.0**	**-1.6**
WRAB					pmax	pmax		
	comp=Z,5.0nm,1.0s							
WB2	**Warramunga Arr**	**87.56**	**188**	*e*P		**P**	**08 46 39.4**	**-1.2**
WR1	**Warramunga Arr**	**87.56**	**188**	*e*P		**P**	**08 46 39.8**	**-0.9**
	comp=Z,8.0nm,1.0s							
WRA	**Warramunga Arr**	**87.56**	**188**	P		**P**	**08 46 39.8**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=7.0,slow=5.2,SNR=7.0							
DZM	**Mont Dzumac**	**91.19**	**158**	*e*LR		LR	09 16 16.8	
	comp=Z,305nm,24.5s							
AS31	**Alice Springs**	**91.28**	**188**	*e*P		**P**	**08 46 56.5**	**-1.6**
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**91.28**	**188**	P		**P**	**08 46 56.9**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=6.5,slow=4.2,SNR=6.8							
TOA1	**Torodi Ar. Sit**	**94.60**	**322**	*e*P		**P**	**08 47 13.2**	**-0.6**
TOA0	**Torodi Ar. Sit**	**94.60**	**322**	*e*P		**P**	**08 47 12.9**	**-0.9**
	comp=Z,7.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**94.60**	**322**	P		**P**	**08 47 13.2**	**-0.6**
	comp=Z,6.5nm,1.1s,baz=6.1,slow=2.8,SNR=15							
TORD					LR	LR	09 34 07.4	
	comp=Z,120nm,19.6s,baz=325,slow=38							
PPT	**Papeete**	**98.01**	**117**	LR		LR	09 25 59.5	
	comp=Z,90nm,20.1s,baz=325,slow=32							
PPT2	**Papeete2**	**98.03**	**117**	*e*LR		LR	09 19 26.2	
	comp=Z,264nm,26.2s							
STKA	**Stephens Creek**	**99.23**	**181**	LR		LR	09 31 04.4	
	comp=Z,174nm,22.0s,baz=17,slow=35							
LPAZ	**La Paz**	**124.96**	**37**	*e*PKPdf		**PKPdf**	**08 52 53.5**	**-0.1**
LPAZ	**La Paz**	**124.96**	**37**	*e*PKIKP		**PKPdf**	**08 52 53.5**	**-0.1**
LPAZ	**La Paz**	**124.96**	**37**	PKP		**PKiKP**	**08 52 53.8**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=20,slow=3.2,SNR=3.6							
BDFB	**Brasilia**	**127.56**	**13**	*e*PKPdf		**PKPdf**	**08 52 58.0**	**+0.1**
BDFB	**Brasilia**	**127.56**	**13**	*e*PKIKP		**PKPdf**	**08 52 58.0**	**+0.1**
BDFB	**Brasilia**	**127.56**	**13**	PKP		**PKiKP**	**08 52 58.5**	**0.0**
	comp=Z,1.0nm,0.3s,baz=174,slow=4.0,SNR=5.3							
CPUP	**Villa Florida**	**136.90**	**27**	*e*PKPdf		**PKPdf**	**08 53 14.4**	**-0.7**
CPUP	**Villa Florida**	**136.90**	**27**	*e*PKIKP		**PKPdf**	**08 53 14.4**	**-0.7**
CPUP	**Villa Florida**	**136.90**	**27**	PKP		**PKPdf**	**08 53 15.7**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=61,slow=1.5,SNR=7.1							
VNDA	**Vanda**	**145.43**	**173**	*e*PKPbc		**PKPbc**	**08 53 28.9**	**-0.1**
VNDA	**Vanda**	**145.43**	**173**	PKPbc		**PKPbc**	**08 53 28.7**	**-0.2**
	comp=Z,10nm,1.0s,baz=302,slow=4.3,SNR=13							
MAW	**Mawson**	**145.84**	**222**	PKPbc		**PKPbc**	**08 53 30.1**	**-0.4**
	comp=Z,24nm,0.8s,baz=225,slow=1.4,SNR=3.6							
GO06	**Curarrehue**	**146.21**	**51**	*e*PKPdf		**PKPdf**	**08 53 31.2**	**-0.3**
TRQA	**Tornquist**	**147.31**	**37**	*e*PKPbc		**PKPbc**	**08 53 36.5**	**+0.8**
PLCA	**Paso Flores**	**147.54**	**51**	*e*PKPdf		**PKPdf**	**08 53 34.3**	**+0.6**
PLCA				*e*PKPbc		**PKPbc**	**08 53 37.4**	**+1.1**
PLCA	**Paso Flores**	**147.54**	**51**	*e*PKP2		**PKPdf**	**08 53 34.3**	**+0.6**
PLCA	**Paso Flores**	**147.54**	**51**	PKPbc		**PKPbc**	**08 53 36.4**	**+0.1**
	comp=Z,14nm,0.8s,baz=346,slow=4.0,SNR=45							
SYO	**Syowa Base**	**153.26**	**231**	↓*e*pPKPdf		**PKPbc**	**08 53 47.6**	**-1.4**
QSPA	**South Pole Qui**	**157.45**	**180**	*e*PKPdf		**PKPdf**	**08 53 47.2**	**-0.2**
QSPA				*e*PKPab		**PKPab**	**08 54 19.0**	**-0.3**

*NNC **05** 08:35:35.6±4.0,51.°58N×81.°37E, h0km, mb3.0, mpv2.5, Error ellipse: s-maj=40.2km s-min=16.4km az=10.0, Suspected Mining explosion.*

IDC 05 08:35:33.1±1.3, 51.°32N×81.°96E, h0km, mb1 2.0/3, mb1mx2.0/46, mbtmp2.0/3, ML1.7/2, 6C-2D, Error ellipse: s-maj=16.5km s-min=11.8km az=129.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.19**	**255**	↑Pg	Pn	08 36 10.6	-0.2
	2.2nm,0.6s						
KURK				↑Lg	Lg	08 36 38.6	
	9.9nm,0.9s						
KURBB	**Kurchatov Arra**	**2.28**	**253**	↑Pg	Pn	08 36 12.2	+0.2
	1.7nm,0.6s						
KURBB				↑Lg	Lg	08 36 39.7	
	10nm,0.6s						
KURBB	**Kurchatov Arra**	**2.28**	**253**	Pn	Pn	08 36 12.3	+0.4
	0.1nm,0.3s,baz=71,slow=18,SNR=11						
KURBB				Lg	Lg	08 36 43.6	
	0.3nm,0.3s,baz=72,slow=32,SNR=9.8						
ZALV	**Zalesovo Beam**	**3.15**	**32**	Pn	Pn	08 36 24.3	+0.3
	baz=216,slow=13,SNR=2.3						
ZALV				Pg	Pb	08 36 29.3	-0.7
	0.1nm,0.3s,baz=217,slow=16,SNR=3.8						
ZALV				Sn	Sn	08 36 58.8	-3.6
	0.4nm,0.3s,baz=212,slow=25,SNR=5.0						
ZALV				Lg	Lg	08 37 13.4	
	0.5nm,0.3s,baz=223,slow=24,SNR=5.3						
I46RU	**ZALESOVO INFRA**	**3.15**	**32**	*i*		08 52 40.0	
	baz=210,slow=326,SNR=3.6						
MAKZ	**Makanchi**	**4.52**	**180**	↓Pn	Pb	08 36 50.3	-3.1
	1.4nm,0.6s						
MAKZ				↑Lg	Lg	08 38 05.1	
	2.8nm,0.9s						
MK31	**Makanchi Array**	**4.54**	**177**	↑Pn	Pb	08 36 49.9	-3.8
	0.3nm,0.5s,baz=12,slow=16,SNR=4.6						
MK31				↓Lg	Lg	08 38 06.7	
	1.7nm,0.6s,baz=14,slow=27,SNR=3.6						
MKAR	**Makanchi Array**	**4.54**	**177**	Pn	Pn	08 36 44.1	+1.1
	0.1nm,0.3s,baz=359,slow=14,SNR=3.7						
MKAR				Pg	Pb	08 36 55.7	+2.1
	0.1nm,0.3s,baz=14,slow=15,SNR=6.8						
MKAR				Lg	Lg	08 37 57.5	
	0.3nm,0.3s,baz=10,slow=28,SNR=6.9						

*IDC **05** 08:37:46.6±2.0, 7.°75S×127.°23E, h0km, mb3.6/1, mb1 4.1/3, mb1mx3.7/38, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=257.5km s-min=31.3km az=63.0*
*ISCJB **05** 08:37:58.8±0.6, 7.°62S±0.°05×128.°62E±0.°05, h151km, Error ellipse: s-maj=7.9km s-min=6.9km az=33.8*
*NEIC **05** 08:38:00.1±0.8, 7.°66S×128.°60E, h150km±11km, mb4.1/5, Error ellipse: s-maj=10.0km s-min=8.5km az=215.0*

ISC 05 08:37:59.5±0.8, 7.°74S±0.°06×128.°69E±0.°06, h151km, n16, c2581/24, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.81**	**245**	*e*Pn	**Pn**	**08 39 11.3**	**+0.8**
SOEI				*e*Sn	**Sn**	**08 40 05.7**	**-0.2**
MTN	**Manton Dam**	**5.61**	**155**	*e*Pn	**Pn**	**08 39 23.6**	**+2.6**
MTN				*e*Sn	**Sn**	**08 40 28.1**	**+3.3**
FAKI	**Fak Fak**	**5.96**	**37**	*e*Pn	**Pn**	**08 39 25.5**	**-0.2**
FAKI				*e*Sn	**Sn**	**08 40 29.4**	**-3.8**
FITZ	**Fitzroy Crossi**	**10.71**	**196**	*e*Pn	**Pn**	**08 40 30.1**	**+1.2**
FITZ				*e*Sn	**Sn**	**08 42 23.6**	**-3.8**
WRAB	**Tennant Creek**	**13.30**	**156**	*e*Pn	**Pn**	**08 41 03.4**	**+0.8**
WRA	**Warramunga Arr**	**13.30**	**156**	Pn	**Pn**	**08 41 04.7**	**+2.1**
	0.9nm,0.3s,baz=326,slow=15,SNR=56						
WRA				Sn	**Sn**	**08 43 24.2**	**-5.8**
	0.7nm,0.3s,baz=333,slow=22,SNR=6.1						
WR1	**Warramunga Arr**	**13.30**	**156**	*e*Pn	**Pn**	**08 41 04.7**	**+2.1**
WR1				*e*Sn	**Sn**	**08 43 24.2**	**-5.8**
WB2	**Warramunga Arr**	**13.31**	**156**	*e*Pn	**Pn**	**08 41 04.3**	**+1.6**
WB2				*e*Sn	**Sn**	**08 43 26.4**	**-3.7**
JAGI	**Jajag, Banyuwa**	**14.41**	**266**	*e*Pn	**Pn**	**08 41 16.1**	**-0.6**
COEN	**Coen**	**15.50**	**115**	*e*Pn	**P**	**08 41 32.9**	**+1.6**
	16nm,1.3s						
MBWA	**Marble Bar**	**15.90**	**212**	*e*Pn	**Pn**	**08 41 35.1**	**+0.1**
	6.0nm,1.0s						
ASAR	**Alice Springs**	**16.60**	**163**	P	**Pn**	**08 41 47.7**	**+4.1**
	0.8nm,0.3s,baz=345,slow=11,SNR=66						
ASAR				S	**S**	**08 44 46.2**	**-2.0**
	0.4nm,0.3s,baz=321,slow=20,SNR=6.6						
XMIS	**Christmas Isla**	**22.91**	**261**	*e*P	**P**	**08 42 50.5**	**-0.1**
	29nm,0.7s						
FORT	**Forrest**	**22.93**	**181**	*e*P	**P**	**08 42 51.1**	**+0.7**
	8.1nm,0.9s						
BBOO	**Buckleboo**	**25.86**	**166**	*e*P	**P**	**08 43 18.2**	**+1.1**
	3.3nm,1.0s						
MKAR	**Makanchi Array**	**68.14**	**328**	P	**P**	**08 48 43.8**	**+0.5**
	0.4nm,0.6s,baz=123,slow=8.3,SNR=3.9						

*NNC **05** 09:00:38.0±4.0, 53.°43N×87.°54E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=34.4km s-min=15.1km az=58.0, Suspected Mining explosion.*

KRAR 05 09:00:33.5±0.3, 53.°54N×87.°61E, M2.4, 6C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.71**	**285**	↑P	Pg	09 01 07.1	+0.9
	5.9nm,0.5s						
ZAA0				↑S	Sg	09 01 32.5	+4.2
	18nm,0.5s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	↑Pn	Pn	09 02 11.6	+3.9
	1.9nm,0.4s						
KURBB				↓Sn	Sn	09 03 22.5	+2.0
	4.4nm,0.7s						
KURBB				↑Lg	Lg	09 03 55.0	
	13nm,0.9s						
MK31	**Makanchi Array**	**7.57**	**209**	↑Pn	Pn	09 02 29.1	+4.1
	0.9nm,0.6s,baz=31,slow=13,SNR=41						
MK31				↓Sn	Sn	09 03 54.5	+3.0
	1.1nm,0.7s,baz=19,slow=28,SNR=4.4						
MK31				Lg	Lg	09 04 33.5	
	1.8nm,0.7s,baz=16,slow=50,SNR=3.0						
MAKZ	**Makanchi**	**7.65**	**210**	↑Pn	Pn	09 02 30.0	+3.9
	0.9nm,0.5s						

DJA 05 09:05:30.0±0.7, 9.°S±6.°×11.°0E±.°, h10km, M3.6/6, MLv3.6/6, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.05**	**6**	P	Pg	09 05 49.4	-0.7
UGM				S	Sb	09 06 04.0	0.0
WOJI	**Wonogiri, Jawa**	**1.22**	**24**	P	Pn	09 05 52.1	-1.1
WOJI				S	Sb	09 06 08.1	-1.0
NGJI	**Ngawi**	**1.89**	**33**	P	Pb	09 06 04.1	-0.5
NGJI				S	Sg	09 06 34.1	+3.3
CISI	**Cisompet, Garu**	**2.93**	**298**	P	Pn	09 06 17.4	+0.6
CISI				S	Sn	09 06 52.3	+0.2
JAGI	**Jajag, Banyuwa**	**3.72**	**83**	P	Pn	09 06 26.5	-1.1

IDC 05 09:06:54.2±1.7, 5.°00S×152.°11E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/38, mbtmp3.5/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/26, Error ellipse: s-maj=127.4km s-min=26.0km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**19.81**	**339**	LR	LR	09 18 10.2	
	comp=Z,153nm,18.8s,baz=130,slow=34						
DZM	**Mont Dzumac**	**21.93**	**142**	LR	LR	09 19 18.8	
	comp=Z,194nm,19.2s,baz=304,slow=34						
WRA	**Warramunga Arr**	**22.80**	**228**	P	P	09 11 59.2	+0.4
	0.7nm,0.5s,baz=52,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**25.55**	**222**	P	P	09 12 24.1	-0.8
	0.5nm,0.6s,baz=57,slow=9.0,SNR=4.3						
ILAR	**Eielson Array**	**82.60**	**22**	P	P	09 19 18.4	-0.7
	0.4nm,0.7s,baz=254,slow=4.9,SNR=5.4						
YKA	**Yellowknife Ar**	**95.92**	**28**	P	P	09 20 23.0	+0.3
	0.1nm,0.5s,baz=270,slow=5.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**149.71**	**288**	PKPbc	PKPbc	09 26 47.3	+0.2
	0.3nm,0.6s,baz=64,slow=3.4,SNR=2.5						

*NNC **05** 09:10:08.0±0.7, 43.°81N×76.°81E, h9km±5km, mb3.2, mpv2.7, Error ellipse: s-maj=5.0km s-min=3.1km az=164.0*

SOME 05 09:10:08.9, 43.°83N×76.°82E, h10km, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKK	**Chushkaly**	**0.12**	**80**	P	Pg	09 10 12.4	+0.5
	15nm,0.0s						
CHKK				S	Sg	09 10 14.9	+0.9
	57nm,0.1s						
CHKK	**Chushkaly**	**0.12**	**80**	*e*P	Pg	09 10 12.3	+0.4
	15nm,0.0s						
CHKK				*e*S	Sg	09 10 14.8	+0.8
	57nm,0.1s						
KTBS	**Karatobe**	**0.16**	**219**	P	Pg	09 10 12.5	+0.2
	4.8nm,0.1s						
KTBS				S	Sg	09 10 15.2	+0.4
	40nm,0.1s						
KTBS	**Karatobe**	**0.16**	**219**	*e*P	Pg	09 10 12.6	+0.2
	4.8nm,0.1s						
KTBS				*e*S	Sg	09 10 15.2	+0.4
	40nm,0.1s						
KUU	**Kurty**	**0.35**	**280**	P	Pg	09 10 15.7	-0.1
	1.3nm,0.1s						
KUU				S	Sg	09 10 20.7	+0.1
	11nm,0.3s						
KUU	**Kurty**	**0.35**	**280**	*e*P	Pg	09 10 15.8	-0.1
	1.0nm,0.1s						
KUU				*e*S	Sg	09 10 20.7	+0.2
	13nm,0.2s						
ARXS	**Arharly**	**0.82**	**62**	P	Pg	09 10 24.2	-0.6
	11nm,0.2s						
ARXS				S	Sg	09 10 35.2	-0.3
	5.3nm,0.2s						
ARXS	**Arharly**	**0.82**	**62**	*e*P	Pg	09 10 24.2	-0.6
	11nm,0.2s						
ARXS				*e*S	Sg	09 10 35.2	-0.3
	5.3nm,0.2s						
KURS	**Kuram**	**1.04**	**109**	P	Pg	09 10 28.1	-0.8
	1.8nm,0.3s						
KURS				S	Sg	09 10 41.9	-0.5
	2.2nm,0.1s						
KURS	**Kuram**	**1.04**	**109**	*e*P	Pg	09 10 28.1	-0.8
	1.8nm,0.3s						
KURS				*e*S	Sg	09 10 41.9	-0.5
	2.2nm,0.1s						

IDC 05 09:32:00.4±2.5, 5.°76S×154.°54E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=175.9km s-min=30.4km az=129.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**232**	P	P	09 37 19.1	+0.4
	0.6nm,0.3s,baz=56,slow=9.2,SNR=21						
ASAR	**Alice Springs**	**26.68**	**226**	P	P	09 37 41.0	-0.4
	1.1nm,0.7s,baz=60,slow=9.2,SNR=16						
ILAR	**Eielson Array**	**82.40**	**22**	P	P	09 44 24.2	+0.1
	0.3nm,0.8s,baz=248,slow=5.5,SNR=4.1						

*SOF **05** 09:44:26.0, 39.°21N×25.°81E, h10km*
*ISK **05** 09:44:32.6, 39.°69N×25.°54E, h7km, ML3.9/38*
*IDC **05** 09:44:32.7±1.1, 39.°57N×25.°76E, h0km, mb3.4/4, mb1 3.4/7, mb1mx3.2/40, mbtmp3.4/7, ML3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/31, Error ellipse: s-maj=23.9km s-min=14.0km az=98.0*
*ISCJB **05** 09:44:33.4±0.4, 39.°70N±0.°01×25.°54E±0.°02, h13km±3km, mb3.4/4, MS3.0/1, Error ellipse: s-maj=2.3km s-min=2.1km az=159.9*
*DDA **05** 09:44:33.7, 39.°69N×25.°64E, h25km±1km, ML3.8*

*ATH **05** 09:44:33.6, 39.°70N×25.°56E, h34km±1km, ML3.7/25, Error ellipse: s-maj=1.6km s-min=0.7km az=14.0*
*THE **05** 09:44:33.9, 39.°71N×25.°59E, h11km, ML3.8/9, Error ellipse: s-maj=0.9km s-min=0.4km az=77.0*

ISC 05 09:44:33.8±0.9, 39.°68N±0.°02×25.°59E±0.°02, h12km±7km, n195, s0978/221, mb3.4/4, 12C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**305**	P	**Pg**	**09 44 41.7**	**+0.3**
LIA				S	**Sg**	**09 44 46.7**	**+0.1**
LIA	**Limnos Island**	**0.38**	**305**	P	**Pg**	**09 44 41.8**	**+0.3**
LIA				AML	AML	09 44 47.2	
	comp=N,27865µm,0.3s						
LIA				AML	AML	09 44 47.7	
	comp=E,18496µm,0.2s						
BOZC	**Bozcaada**	**0.39**	**65**	PG	**Pg**	**09 44 41.4**	**-0.2**
BOZC				SG	**Sg**	**09 44 46.9**	**+0.1**
BOZC	**Bozcaada**	**0.39**	**65**	*i* P	**Pb**	**09 44 42.3**	**-0.4**
BOZC				*i* S	**Sg**	**09 44 47.3**	**+0.5**
BOZC				IAML_P			
	comp=Z,53µm,0.1s						
EFSA	**Agios Efstrati**	**0.49**	**254**	P	**Pb**	**09 44 44.5**	**+0.3**
EFSA				S	**Sb**	**09 44 51.7**	**+0.4**
EFSA				AML	AML	09 44 53.4	
	comp=E,48507µm,0.2s						
EFSA				AML	AML	09 44 55.0	
	comp=N,41770µm,0.5s						
SIGR	**SIGRI**	**0.51**	**156**	PG	**Pg**	**09 44 43.7**	**-0.1**
SIGR	**SIGRI**	**0.51**	**156**	P	**Pb**	**09 44 44.2**	**-0.5**
SIGR				S	**Sb**	**09 44 52.0**	**0.0**
SIGR	**SIGRI**	**0.51**	**156**	P	**Pb**	**09 44 44.5**	**-0.2**
SIGR				AML	AML	09 44 52.9	
SIGR				AML	AML	09 44 52.9	
	comp=E,92595µm,0.5s						
GOKC	**Gokceada-Canak**	**0.58**	**26**	PG	**Pg**	**09 44 44.5**	**-0.6**
EZN	**Ezine**	**0.58**	**75**	PG	**Pg**	**09 44 44.9**	**-0.3**
EZN	**Ezine**	**0.58**	**75**	↓*i* P	**Pg**	**09 44 45.1**	**-0.1**
EZN				S	**Sg**	**09 44 53.0**	**0.0**
EZN	**Ezine**	**0.58**	**75**	P	**Pg**	**09 44 45.1**	**-0.1**
EZN				S	**Sg**	**09 44 52.9**	**0.0**
PRK	**Paraskevi**	**0.68**	**129**	P	**Pn**	**09 44 48.5**	**-0.8**
PRK				S	**Sb**	**09 44 56.5**	**-0.5**
PRK	**Paraskevi**	**0.68**	**129**	P	**Pn**	**09 44 48.6**	**-0.6**
PRK				S	**Sn**	**09 44 58.6**	**-1.2**
PRK				AML	AML	09 45 00.9	
	comp=E,40940µm,0.4s						
PRK				AML	AML	09 45 02.2	
	comp=N,22875µm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	*i* P	**Pg**	**09 44 48.2**	**0.0**
BAYC				*i* S	**Sg**	**09 44 58.0**	**+0.2**
BAYC				IAML_P			
	comp=Z,48µm,0.1s						
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**09 44 48.8**	**-0.4**
SMTH				S	**Sg**	**09 44 59.5**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**09 44 48.7**	**-0.4**
SMTH				S	**Sg**	**09 44 59.9**	**+0.4**
SMTH				AML	AML	09 45 01.3	
	comp=N,9350µm,0.5s						
SMTH				AML	AML	09 45 01.5	
	comp=E,10955µm,0.4s						
AYVA	**Ayvalik**	**0.93**	**113**	*i* P	**Pn**	**09 44 52.6**	**-0.1**
AYVA				*i* S	**Sn**	**09 45 05.8**	**-0.1**
AYVA				IAML_P			
	comp=Z,19µm,0.1s						
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG	**Pb**	**09 44 52.4**	**-0.4**
LPK	**Lapseki**	**1.13**	**52**	PN	**Pb**	**09 44 55.2**	**-0.1**
PSRA	**Psara**	**1.14**	**181**	P	**Pg**	**09 44 55.7**	**+0.1**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**09 44 54.8**	**-0.6**
SKY				S	**Sn**	**09 45 10.7**	**-0.4**
ENEZ	**Enez**	**1.14**	**22**	PN	**Pb**	**09 44 54.6**	**-0.9**
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**09 44 54.2**	**-1.3**
THAS				S	**Sb**	**09 45 09.9**	**-0.4**
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**09 44 54.2**	**-1.3**
THAS				S	**Sb**	**09 45 09.3**	**-1.1**
THAS				AML	AML	09 45 11.3	
	comp=N,8038µm,0.5s						
THAS				AML	AML	09 45 11.8	
	comp=E,7042µm,0.3s						
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pn**	**09 44 55.9**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	PN	**Pn**	**09 44 56.9**	**-0.4**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**09 44 56.3**	**-1.1**
ALN				S	**Sb**	**09 45 13.7**	**-0.1**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**09 44 56.2**	**-1.1**
ALN				S	**Sb**	**09 45 13.7**	**-0.1**
ALN				AML	AML	09 45 14.0	
	comp=E,3446µm,0.5s						
ALN				AML	AML	09 45 14.1	
	comp=N,2490µm,0.5s						
FOCM	**Foa**	**1.31**	**137**	PN	**Pn**	**09 44 57.7**	**-0.2**
CHOS	**Chios island**	**1.34**	**164**	PN	**Pn**	**09 44 58.2**	**-0.2**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**09 44 58.1**	**-0.3**
CHOS				S	**Sg**	**09 45 16.9**	**0.0**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**09 44 58.0**	**-0.3**
CHOS				S	**Sg**	**09 45 16.2**	**-0.7**
CHOS				AML	AML	09 45 20.5	
	comp=N,8756µm,0.6s						
CHOS				AML	AML	09 45 20.6	
	comp=E,9834µm,0.4s						
ZEDA	**zmir-Bergama**	**1.35**	**121**	*i* P	**Pg**	**09 44 59.6**	**-0.2**
OUR	**Ouranopolis**	**1.40**	**298**	PN	**Pn**	**09 44 58.6**	**-0.5**
OUR	**Ouranopolis**	**1.40**	**298**	P	**Pn**	**09 44 58.3**	**-0.8**
OUR	**Ouranopolis**	**1.40**	**298**	P	**Pn**	**09 44 58.3**	**-0.8**
OUR				AML	AML	09 45 21.5	
	comp=E,3296µm,0.4s

SKIA				AML	AML	09 45 33.4	
	comp=N,8357μm,0.5s						
BALB	**Balikesir**	**1.77**	**91**	PN	**Pn**	**09 45 04.8**	**+0.6**
PLG	**Polygyros**	**1.79**	**294**	P	**Pn**	**09 45 04.1**	**-0.5**
PLG	**Polygyros**	**1.79**	**294**	P	**Pn**	**09 45 04.2**	**-0.3**
PLG				AML	AML	09 45 33.4	
	comp=E,1357μm,0.5s						
PLG				AML	AML	09 45 34.9	
	comp=N,1404μm,0.4s						
EREA	**Eretria**	**1.80**	**226**	P	**Pn**	**09 45 03.9**	**-0.8**
EREA	**Eretria**	**1.80**	**226**	P	**Pn**	**09 45 03.8**	**-1.0**
EREA				AML	AML	09 45 33.6	
	comp=E,1922μm,0.3s						
EREA				AML	AML	09 45 35.8	
	comp=N,1857μm,0.6s						
MRKA	**Markates**	**1.84**	**239**	P	**Pn**	**09 45 04.7**	**-0.5**
MRKA	**Markates**	**1.84**	**239**	P	**Pn**	**09 45 04.4**	**-0.8**
MRKA				AML	AML	09 45 38.4	
	comp=E,2598μm,0.7s						
MRKA				AML	AML	09 45 39.9	
	comp=N,3132μm,0.8s						
EDC	**Edincik**	**1.87**	**68**	PN	**Pn**	**09 45 06.2**	**+0.6**
SBT4	**Kumbag-Tekirda**	**1.88**	**52**	PN	**Pn**	**09 45 06.3**	**+0.7**
XOR	**Xorichti**	**1.88**	**261**	P	**Pn**	**09 45 05.3**	**-0.6**
XOR	**Xorichti**	**1.88**	**261**	P	**Pn**	**09 45 05.2**	**-0.6**
XOR				AML	AML	09 45 36.0	
	comp=E,1941μm,0.4s						
XOR				AML	AML	09 45 36.5	
	comp=N,3895μm,0.6s						
AKHS	**Akhisar**	**1.90**	**114**	*i* P	**Pn**	**09 45 07.0**	**+0.9**
DGB	**zmir**	**1.91**	**148**	*i* P	**Pn**	**09 45 06.6**	**+0.4**
DGB				IAML_P			
	comp=Z,2μm,0.2s						
KDZ	**Kurdzhali**	**1.97**	**356**	PN	**Pn**	**09 45 06.8**	**-0.3**
KDZ	**Kurdzhali**	**1.97**	**356**	P	**Pb**	**09 45 10.2**	**+0.5**
SMIA	**Simia**	**2.02**	**247**	P	**Pn**	**09 45 07.3**	**-0.4**
SMIA				AML	AML	09 45 46.8	
	comp=N,13489μm,0.7s						
SMIA				AML	AML	09 45 46.8	
	comp=E,6733μm,0.6s						
SOH	**Sokhos**	**2.06**	**304**	P	**Pn**	**09 45 07.8**	**-0.5**
SOH				AML	AML	09 45 45.5	
	comp=N,1354μm,0.4s						
SOH				AML	AML	09 45 45.7	
	comp=E,1425μm,0.8s						
FYTO	**Fytoko, Volos**	**2.07**	**263**	P	**Pn**	**09 45 08.5**	**+0.1**
FYTO	**Fytoko, Volos**	**2.07**	**263**	P	**Pn**	**09 45 08.1**	**-0.3**
FYTO				AML	AML	09 45 41.8	
	comp=N,954μm,0.6s						
FYTO				AML	AML	09 45 42.6	
	comp=E,379μm,0.3s						
SRS	**Serrai**	**2.10**	**314**	P	**Pn**	**09 45 07.1**	**-1.7**
SRS	**Serrai**	**2.10**	**314**	P	**Pn**	**09 45 07.4**	**-1.4**
SRS				AML	AML	09 45 42.3	
	comp=E,1468μm,0.4s						
SRS				AML	AML	09 45 42.9	
	comp=N,1478μm,0.5s						
PTL	**Penteli**	**2.11**	**220**	P	**Pn**	**09 45 08.1**	**-0.9**
PTL	**Penteli**	**2.11**	**220**	P	**Pn**	**09 45 08.2**	**-0.9**
RZN	**Rozhen**	**2.12**	**342**	*i* P	**Pn**	**09 45 08.8**	**-0.4**
HORT	**Hortiatis**	**2.12**	**296**	PN	**Pn**	**09 45 08.8**	**-0.4**
HORT	**Hortiatis**	**2.12**	**296**	P	**Pn**	**09 45 08.9**	**-0.3**
HORT	**Hortiatis**	**2.12**	**296**	P	**Pn**	**09 45 08.7**	**-0.4**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**09 45 08.4**	**-0.8**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**09 45 08.6**	**-0.6**
TNSA	**Tinos**	**2.16**	**189**	P	**Pn**	**09 45 09.6**	**-0.1**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**09 45 09.9**	**-0.2**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**09 45 09.9**	**-0.2**
KCTX	**Karacabey (Bur**	**2.20**	**74**	PN	**Pn**	**09 45 10.9**	**+0.7**
ATAL	**Atalanti**	**2.23**	**245**	P	**Pn**	**09 45 10.0**	**-0.5**
ATAL	**Atalanti**	**2.23**	**245**	P	**Pn**	**09 45 10.1**	**-0.5**
DURS	**Dursunbey**	**2.23**	**91**	*i* P	**Pn**	**09 45 11.2**	**+0.6**
DURS				IAML_P			
	comp=Z,1μm,0.4s						
THE	**Thessaloniki**	**2.23**	**296**	P	**Pn**	**09 45 10.5**	**0.0**
ATH	**Athens Observa**	**2.25**	**221**	P	**Pn**	**09 45 10.4**	**-0.4**
VLY	**Voula,Athens**	**2.30**	**218**	P	**Pn**	**09 45 10.9**	**-0.7**
VIL2	**Platees**	**2.33**	**232**	P	**Pn**	**09 45 11.2**	**-0.8**
VILL	**Villia**	**2.33**	**230**	P	**Pn**	**09 45 11.0**	**-1.1**
EDRB	**Edirne**	**2.34**	**22**	PN	**Pn**	**09 45 12.5**	**+0.5**
EDRB	**Edirne**	**2.34**	**22**	P	**Pn**	**09 45 12.0**	**0.0**
DIM	**Dimitrovgrad**	**2.37**	**359**	P	**Pn**	**09 45 12.6**	**+0.1**
MMB	**Musomiste**	**2.38**	**324**	P	**Pn**	**09 45 12.3**	**-0.4**
KIRK	**Kırklareli**	**2.39**	**28**	*i* P	**Pb**	**09 45 14.9**	**-1.9**
KIRK				IAML_P			
	comp=Z,1μm,0.3s						
LIT	**Litokhoron**	**2.42**	**281**	P	**Pn**	**09 45 13.1**	**-0.2**
PHSR	**Pinarhisar**	**2.44**	**36**	PN	**Pn**	**09 45 14.2**	**+0.7**
PHSR	**Pinarhisar**	**2.44**	**36**	⇑*i*P	**Pn**	**09 45 14.6**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**2.49**	**133**	PN	**Pn**	**09 45 14.9**	**+0.6**
DEMI	**Demirci**	**2.50**	**104**	*i* P	**Pb**	**09 45 16.9**	**-1.9**
DEMI				IAML_P			
	comp=Z,1μm,0.2s						
PLD	**Plovdiv**	**2.52**	**345**	PN	**Pn**	**09 45 14.7**	**+0.2**
PLD	**Plovdiv**	**2.52**	**345**	P	**Pn**	**09 45 14.8**	**+0.2**
SLVT	**Silivri**	**2.53**	**51**	PN	**Pn**	**09 45 15.6**	**+0.9**
PROD	**Prodromos**	**2.53**	**237**	P	**Pn**	**09 45 13.9**	**-0.8**
KNT	**Kendrikon**	**2.54**	**307**	P	**Pn**	**09 45 14.8**	**0.0**
KNT	**Kendrikon**	**2.54**	**307**	P	**Pn**	**09 45 14.5**	**-0.3**
APE	**Apeiranthos**	**2.61**	**181**	⇓*i*P	**Pn**	**09 45 14.8**	**-1.0**
APE	**Apeiranthos**	**2.61**	**181**	P	**Pn**	**09 45 15.7**	**-0.1**
AGG	**Agios Georgios**	**2.61**	**257**	P	**Pn**	**09 45 15.6**	**-0.3**
AGG	**Agios Georgios**	**2.61**	**257**	P	**Pn**	**09 45 15.8**	**0.0**
AGG				AML	AML	09 46 00.3	
	comp=E,660μm,0.7s						
AGG				AML	AML	09 46 01.5	
	comp=N,688μm,0.6s						
MDNY	**Mudanya-Bursa**	**2.62**	**74**	PN	**Pn**	**09 45 17.1**	**+1.2**
LTK	**Loutraki**	**2.63**	**232**	P	**Pn**	**09 45 15.7**	**-0.4**
LTK	**Loutraki**	**2.63**	**232**	P	**Pn**	**09 45 15.8**	**-0.3**
LOUT	**Loutraki**	**2.65**	**231**	P	**Pn**	**09 45 15.7**	**-0.7**
LOUT	**Loutraki**	**2.65**	**231**	P	**Pn**	**09 45 15.9**	**-0.5**
LOUT				AML	AML	09 46 04.3	
	comp=E,217μm,0.9s						
LOUT				AML	AML	09 46 04.7	
	comp=N,159μm,0.6s						
KULA	**Kula-Manisa**	**2.66**	**115**	PN	**Pn**	**09 45 17.7**	**+1.2**
KULA	**Kula-Manisa**	**2.66**	**115**	P	**Pn**	**09 45 17.5**	**+1.0**
ARMT	**Armutlu**	**2.66**	**69**	PN	**Pn**	**09 45 17.6**	**+1.1**
DSF	**Desfina**	**2.70**	**243**	P	**Pn**	**09 45 16.4**	**-0.8**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	PN	**Pn**	**09 45 18.4**	**+1.0**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	⇑*i*P	**Pn**	**09 45 17.5**	**+0.1**
CTYL	**Yalikoy Yolu**	**2.73**	**48**	S	**Sb**	**09 45 53.6**	**-2.3**
THL	**Klokotos Trika**	**2.77**	**269**	P	**Pn**	**09 45 17.9**	**0.0**
VAY	**Valandovo**	**2.83**	**306**	*i* Pn	**Pg**	**09 45 27.4**	**-0.6**
VAY				*i* Sn	**Sg**	**09 46 04.8**	**+0.1**
DID	**Didima**	**2.85**	**221**	P	**Pn**	**09 45 18.5**	**-0.6**
DID	**Didima**	**2.85**	**221**	P	**Pn**	**09 45 18.9**	**-0.2**
AMGA	**Amorgos Island**	**2.85**	**175**	P	**Pn**	**09 45 18.9**	**-0.2**
BGKT	**Bogazkoy**	**2.85**	**57**	PN	**Pn**	**09 45 20.2**	**+1.1**
GEMT	**Gemlik**	**2.86**	**74**	PN	**Pn**	**09 45 20.6**	**+1.3**
JMB	**Yambol**	**2.88**	**15**	P	**Pn**	**09 45 20.3**	**+0.7**
KKB	**Krupnik**	**2.90**	**320**	P	**Pn**	**09 45 20.0**	**+0.2**
BODT	**Bodrum**	**2.94**	**152**	P	**Pn**	**09 45 20.5**	**+0.1**
KALE	**Kalithea**	**2.98**	**246**	P	**Pn**	**09 45 20.8**	**-0.2**
ISK	**Istanbul-Kandi**	**2.99**	**61**	PN	**Pn**	**09 45 22.2**	**+1.2**
ISK	**Istanbul-Kandi**	**2.99**	**61**	P	**Pn**	**09 45 20.6**	**-0.4**
KAVV	**Kandilli-Istan**	**2.99**	**61**	PN	**Pn**	**09 45 22.2**	**+1.2**
TVSB	**Tavsanli**	**3.00**	**93**	PN	**Pn**	**09 45 22.5**	**+1.2**
SERG	**Sergoula**	**3.03**	**246**	P	**Pn**	**09 45 21.5**	**-0.1**
SERG	**Sergoula**	**3.03**	**246**	P	**Pn**	**09 45 21.4**	**-0.2**
YLV	**Yalova**	**3.03**	**72**	PN	**Pn**	**09 45 22.9**	**+1.2**
YLV	**Yalova**	**3.03**	**72**	⇑*i*P	**Pn**	**09 45 21.6**	**-0.1**
EVR	**Evrytania**	**3.03**	**257**	P	**Pn**	**09 45 21.4**	**-0.4**
TRIZ	**Trizonia**	**3.04**	**246**	P	**Pn**	**09 45 21.7**	**0.0**
PGB	**Panagyurishte**	**3.06**	**340**	P	**Pn**	**09 45 21.5**	**-0.6**
KLYT	**Kilyos**	**3.07**	**58**	PN	**Pn**	**09 45 23.3**	**+1.3**
KLYT	**Kilyos**	**3.07**	**58**	⇑*i*P	**Pn**	**09 45 22.6**	**+0.6**
GUR	**Goura**	**3.08**	**237**	P	**Pn**	**09 45 21.8**	**-0.5**
GUR	**Goura**	**3.08**	**237**	P	**Pn**	**09 45 21.8**	**-0.5**
EFP	**Efpalio**	**3.13**	**248**	P	**Pn**	**09 45 23.3**	**+0.4**
KLV	**Kalavryta, Ach**	**3.14**	**240**	P	**Pn**	**09 45 22.7**	**-0.5**
LAKA	**Lakka**	**3.16**	**244**	P	**Pn**	**09 45 23.6**	**+0.2**
STIP	**Stip**	**3.28**	**309**	*i* Pn	**Pn**	**09 45 23.9**	**-1.1**
STIP				*i* Sn	**Sb**	**09 46 14.4**	**+2.5**
FNA	**Florina**	**3.41**	**290**	P	**Pn**	**09 45 26.9**	**0.0**
SILT	**Sile**	**3.42**	**63**	⇓*i*P	**Pn**	**09 45 27.6**	**+0.6**
VTS	**Vitosha**	**3.43**	**330**	⇓*i*P	**Pn**	**09 45 27.5**	**+0.2**
VTS	**Vitosha**	**3.43**	**330**	P	**Pn**	**09 45 28.0**	**+0.7**
BIA	**Bitola**	**3.53**	**294**	*i* Pn	**Pn**	**09 45 29.7**	**+1.2**
SZH	**Strazhica**	**3.59**	**4**	P	**Pn**	**09 45 29.3**	**0.0**
KRUS	**Krusevo**	**3.72**	**298**	*i* Pn	**Pn**	**09 45 32.6**	**+1.5**
IDI	**Anoyia**	**4.42**	**187**	Pn	**Pn**	**09 45 40.2**	**-0.5**
	comp=N,0.5nm,0.3s,baz=18,slow=19,SNR=2.8						
IDI				Sn	**Sn**	**09 46 30.9**	**-1.3**
	comp=N,1.3nm,0.3s,baz=308,slow=19,SNR=2.5						
ICOR	**Ion Corvin**	**4.73**	**20**	⇓*i*P	**Pn**	**09 45 44.2**	**-0.7**
TIRR	**Tirgusor**	**5.22**	**23**	⇑*i*P	**Pn**	**09 45 50.5**	**-1.1**
ISR	**Istrita**	**5.48**	**7**	⇑*i*P	**Pn**	**09 45 56.1**	**+0.8**
ARR	**Arges**	**5.73**	**353**	⇑*i*P	**Pn**	**09 45 58.9**	**+0.2**
CFR	**Carcaliu**	**5.81**	**18**	⇓*i*P	**Pn**	**09 45 59.8**	**+0.1**
MLR	**Muntele Rosu**	**5.81**	**2**	⇑*i*P	**Pn**	**09 46 01.4**	**+1.4**
MLR	**Muntele Rosu**	**5.81**	**2**	Pn	**Pn**	**09 46 02.2**	**+2.3**
	comp=N,2.8nm,0.3s,baz=237,slow=4.6,SNR=20						
MLR				Lg	Lg	09 47 40.6	
	comp=N,0.8nm,0.3s,baz=258,slow=22,SNR=3.5						
LOT	**Lotru**	**5.92**	**347**	⇓*i*P	Pn	09 45 55.8	-5.6
GZR	**Gura Zlata**	**6.08**	**341**	⇑*i*P	**Pn**	**09 46 02.8**	**-0.7**
BRTR	**Keskin Array B**	**6.21**	**87**	Pn	**Pn**	**09 46 07.0**	**+1.7**
	comp=N,0.9nm,0.3s,baz=255,slow=10,SNR=23						
BRTR				Sn	**Sn**	**09 47 14.4**	**-1.9**
	comp=N,0.3nm,0.3s,baz=142,slow=31,SNR=3.1						
BRTR				Lg	Lg	09 47 52.0	
	baz=275,slow=21,SNR=10.0						
PLOR	**Plostina**	**6.22**	**7**	⇓*i*P	**Pn**	**09 46 05.9**	**+0.5**
VRI	**Vrincioaia**	**6.24**	**7**	⇑*i*P	**Pn**	**09 46 06.1**	**+0.4**
DOPR	**Dopca**	**6.29**	**359**	⇓*i*P	**Pn**	**09 46 05.5**	**-0.9**
BZS	**Buzias**	**6.62**	**335**	⇓*i*P	**Pn**	**09 46 11.4**	**+0.5**
TESR	**Tescani**	**6.87**	**6**	⇑*i*P	**Pn**	**09 46 14.9**	**+0.5**
DRGR		**7.41**	**344**	⇑*i*P	**Pn**	**09 46 23.1**	**+1.2**
BURAR	**Bucovina Array**	**7.94**	**358**	⇓*i*P	**Pn**	**09 46 30.4**	**+1.3**
AKASG	**Malin Array Be**	**11.31**	**12**	Pn	**Pn**	**09 47 16.2**	**+1.1**
	comp=N,1.0nm,0.3s,baz=199,slow=13,SNR=6.8						
FINES	**FINESS Array B**	**21.79**	**1**	P	**P**	**09 49 26.2**	**+0.8**
	comp=N,4.9nm,1.2s,baz=165,slow=17,SNR=2.8						
HFS	**Hagfors**	**21.80**	**344**	P	**P**	**09 49 28.0**	**+2.6**
	comp=N,1.1nm,0.6s,baz=196,slow=15,SNR=2.8						
MDT	**Midelt**	**25.22**	**264**	LR	LR	10 02 17.8	
	comp=N,50nm,19.2s,baz=160,slow=42						
TORD	**Torodi Ar. Bea**	**33.79**	**225**	P	**P**	**09 51 16.5**	**+0.8**
	comp=N,0.3nm,0.6s,baz=34,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	**41.13**	**61**	P	**P**	**09 52 17.4**	**-0.3**
	comp=N,0.1nm,0.5s,baz=285,slow=6.9,SNR=2.9						

*UPP **05** 09:51:00.9±0.8, 56.00N×10.80E, h0km, ML2.5, Suspected explosion*
*ISCJB **05** 09:51:02.9±0.8, 56.08N±0.06×11.05E±0.07, h0km, Error ellipse: s-maj=8.4km s-min=5.7km az=15.6*
ISC 05 09:51:02.5±1.1, 56.07N±0.07×11.05E±0.05, h0km, n12, σ0s49/16, Denmark

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
COP	**Copenhagen**	**0.87**	**116**	*i* P		**Pb**	**09 51 20.9**	**+0.4**
BJUU	**Bjuv**	**1.10**	**89**	P		**Pb**	**09 51 24.7**	**+0.2**
BJUU				S		**Sn**	**09 51 41.1**	**0.0**
MUD	**Monsted U'grnd**	**1.12**	**291**	*i* P		**Pg**	**09 51 23.7**	**-0.2**
MUD				*i* S		**Sn**	**09 51 41.6**	**+0.2**
FABU	**Falkenberg**	**1.31**	**44**	P		**Pn**	**09 51 27.9**	**-0.1**
FABU				S		**Sb**	**09 51 45.2**	**-0.1**
ONAU	**Onsala**	**1.41**	**19**	P		**Pn**	**09 51 29.3**	**-0.2**
ONAU				S		**Sn**	**09 51 48.8**	**+0.1**
LUNU	**Lund**	**1.42**	**107**	P		**Pn**	**09 51 29.0**	**-0.6**
DEL	**Delary**	**1.62**	**75**	P		**Pn**	**09 51 32.4**	**+0.1**
BORU	**Boraas**	**1.83**	**30**	P		**Pn**	**09 51 35.3**	**+0.2**
GNOU	**Gnosjoe**	**1.93**	**50**	P		**Pb**	**09 51 37.7**	**-0.8**
TJOU	**Tjoern**	**1.99**	**9**	P		**Pn**	**09 51 37.4**	**+0.1**
FKPU	**Falk**	**2.55**	**34**	P		**Pn**	**09 51 46.0**	**+0.9**
ASKU	**Askersund**	**3.49**	**34**	P		**Pn**	**09 51 59.0**	**+1.0**

*SOME **05** 10:01:54.5, 43.75N×69.60E*
*NNC **05** 10:01:55.9±1.4, 43.73N×69.72E, h0km, mb3.9, mpv3.2, Error ellipse: s-maj=13.1km s-min=4.7km az=73.0, Suspected Mining explosion.*
ISC 05 10:01:58.4±1.7, 43.75N±0.06×70.1E±0.1, h0km, n17, σ1s18/18, 4C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.72**	**153**	⇓P		**Pg**	**10 02 12.3**	**0.0**
	1.7nm,0.3s,baz=325,slow=17,SNR=123							
KK31				⇑S		**Sb**	**10 02 24.1**	**-0.2**
	32nm,0.5s,baz=293,slow=16,SNR=80							
MRKS	**Merke**	**2.52**	**112**	Pg		**Pg**	**10 02 46.7**	**0.0**
	8.5nm,0.5s							
MRKS				Lg		Lg	10 03 24.0	
	17nm,0.4s							
EKS2	**Erkin-Say**	**2.92**	**110**	P		**Pg**	**10 02 54.2**	**-0.3**
	SNR=14							
AML	**Almayashu**	**3.12**	**120**	P		**Pg**	**10 02 57.2**	**-1.0**
	SNR=6.4							
USP	**Ospenovka**	**3.26**	**97**	P		**Pg**	**10 03 02.4**	**+1.5**
	SNR=9.5							
AAK	**Ala-Archa**	**3.42**	**107**	P		**Pg**	**10 03 03.3**	**-0.7**
	SNR=12							
AAK	**Ala-Archa**	**3.42**	**107**	⇑Pg		**Pg**	**10 03 02.9**	**-1.1**
	3.7nm,0.5s							
AAK				⇓Lg		Lg	10 03 53.5	
	7.5nm,0.5s							
UCH	**Uchtor**	**3.60**	**113**	P		**Pg**	**10 03 07.3**	**-0.2**
	SNR=6.2							
TKM2	**Tokmak 2**	**4.12**	**100**	⇓Lg		Lg	10 04 16.0	
	10nm,0.9s							
KZA	**Kyzart**	**4.16**	**112**	P		**Pg**	**10 03 16.5**	**-1.6**
	SNR=5.2							
DGS	**Degeres**	**4.18**	**95**	Pg		**Pg**	**10 03 17.1**	**-1.5**
	4.4nm,0.2s							
DGS				Lg		Lg	10 04 14.4	
	8.2nm,0.5s							
KST	**Kastek**	**4.36**	**97**	Pg		**Pg**	**10 03 21.8**	**-0.2**
	4.9nm,0.9s							
KST				Lg		Lg	10 04 24.4	
	9.0nm,0.5s							
KUU	**Kurty**	**4.54**	**86**	Pg		**Pg**	**10 03 24.7**	**-0.8**
	2.6nm,0.4s							
KUU				Lg		Lg	10 04 29.6	
	9.3nm,0.4s							
OTUK	**Ortayu**	**4.77**	**19**	Pg		**Pb**	**10 03 21.4**	**-1.5**
	0.7nm,0.3s							
OTUK				Lg		Lg	10 04 23.6	
	1.5nm,0.6s							
OTUK	**Ortayu**	**4.77**	**19**	⇑Pn		**Pn**	**10 03 12.7**	**+1.1**
	4.7nm,0.5s							
OTUK				⇓Sn		**Sn**	**10 04 07.8**	**+0.3**
	2.2nm,0.6s							
OTUK				⇓Lg		Lg	10 04 31.5	
	1.3nm,0.4s							
MAKZ	**Makanchi**	**8.94**	**66**	⇑Pn		**Pn**	**10 04 10.7**	**+1.9**
	0.8nm,0.4s							
MK31	**Makanchi Array**	**9.14**	**66**	Pn		**Pn**	**10 04 13.3**	**+1.7**
	1.2nm,0.3s,baz=246,slow=14,SNR=34							

*ISK **05** 10:01:59.9, 36.62N×37.03E, h18km, ML2.6/4*
*DDA **05** 10:02:07.4, 37.18N×37.47E, h7km±5km, ML2.6*
ISC 05 10:02:07.6±1.2, 37.07N±0.07×37.47E±0.04, h14km±9km, n9, σ1s94/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.23**	**298**	PG		**Pg**	**10 02 11.9**	**-0.8**
GAZ				SG		**Sg**	**10 02 20.3**	**+4.2**
GZT	**Gaziantep**	**0.30**	**15**	*i* P		**Pg**	**10 02 11.6**	**-2.4**
GZT				IAML_P				
	comp=Z,13μm,0.2s							
KUZU	**Kuzuini**	**0.43**	**227**	*i* P		**Pn**	**10 02 18.7**	**-0.7**
KUZU				IAML_P				
	comp=Z,2μm,0.2s							
HCB	**Kahramanmara**	**0.53**	**302**	*i* P		**Pg**	**10 02 16.8**	**-1.2**
HCB				*i* S		**Sg**	**10 02 23.3**	**-1.7**
KMRS	**Kahramanmaras**	**0.63**	**314**	PG		**Pg**	**10 02 17.7**	**-2.2**
SURC	**SANLIURFA_SURC**	**0.94**	**101**	*i* P		**Pn**	**10 02 26.5**	**+0.1**
SURC				*i* S		**Sn**	**10 02 40.5**	**+0.8**
SURC				IAML_P				
	comp=Z,406nm,0.3s							
ANDN	**Andirin**	**1.03**	**300**	*i* P		**Pb**	**10 02 27.4**	**+0.1**
ANDN				*i* S		**Sb**	**10 02 41.3**	**+0.6**
ANDN				IAML_P				
	comp=Z,664nm,0.2s							
URFA	**Urfa**	**1.15**	**70**	PN		**Pg**	**10 02 28.9**	**-0.8**
ELBS	**KAHRAMANMARAS**	**1.28**	**348**	*i* P		**Pg**	**10 02 32.0**	**-0.4**
ELBS				*i* S		**Sn**	**10 02 50.0**	**+1.6**

SJA 05 10:10:01.1±0.3, 28.39S×70.04W, h121km±3km, ML3.3, MW3.5, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.85**	**223**	*i* P		Pn	10 10 22.8	+0.7
LCO				*i* S		Sn	10 10 38.9	+0.9
AROD	**Rodeo**	**1.84**	**164**	*i* P		Pn	10 10 34.4	+1.4
ACDV	**Cuesta del Vie**	**1.95**	**156**	*i* P		Pn	10 10 35.6	+1.4
ACDV				*i* S		Sn	10 11 00.7	+1.2
ACCO	**Cerro Coronel**	**2.35**	**159**	*i* P		Pn	10 10 41.0	+1.6
AMOG	**MOGNA**	**2.88**	**152**	*i* P		Pn	10 10 46.9	+1.0
RTLS	**Leoncito**	**3.46**	**169**	*i* P		Pn	10 10 55.3	+1.6
RTLS				IAML			10 10 55.8	
	comp=Z,55nm,0.2s							
RTCV	**Cerro Valdivia**	**3.70**	**160**	*i* P		Pn	10 10 57.9	+1.2
CYA	**Choya**	**3.74**	**92**	*i* P		Pn	10 10 58.3	+1.1
CYA				IAML			10 11 39.9	
	comp=Z,46nm,0.3s							
AUSP	**Uspallata**	**3.86**	**172**	*i* P		Pn	10 11 00.8	+1.7

*IDC **05** 10:12:44.4±3.1, 15.04S×167.50E, h126km±25km, mb3.9/10, mb1 4.1/11, mb1mx3.8/36, mbtmp4.3/11, Error ellipse: s-maj=23.7km s-min=19.9km az=56.0*
*ISCJB **05** 10:12:45.6±1.9, 15.20S±0.09×167.35E±0.09, h150km±16km, mb4.4/26, Error ellipse: s-maj=17.6km s-min=11.0km az=42.2*
*NEIC **05** 10:12:45.3±1.3, 15.10S×167.43E, h136km±10km, mb4.7/21, Error ellipse: s-maj=11.3km s-min=7.0km az=214.0*
ISC 05 10:12:44.5±2.3, 15.1S±0.1×167.5E±0.1, h130km±18km, n45, σ0s77/54, mb4.5/26, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**6.39**	**176**	*e*Pn		**Pn**	**10 14 15.0**	**-1.3**
MARNC				*e*Sn		**Sn**	**10 15 26.9**	**-1.1**
DZM	**Mont Dzumac**	**7.03**	**188**	P		**Pn**	**10 14 25.6**	**+0.6**
	8.9nm,0.3s,baz=18,slow=14,SNR=58							
OUENC	**Ouen Island, N**	**7.33**	**185**	*e*Pn		**Pn**	**10 14 30.5**	**+1.5**
OUENC				*e*Sn		**Sn**	**10 15 50.8**	**+0.1**
PINNC	**Pines Island,**	**7.50**	**180**	*e*Pn		**Pn**	**10 14 32.6**	**+1.5**
PINNC				*e*Sn		**Sn**	**10 15 54.3**	**-0.4**
EIDS	**Eidsvold**	**18.49**	**234**	*e*P		**P**	**10 16 51.0**	**+0.3**
	69nm,1.5s							
OUZ	**Omahuta**	**20.79**	**166**	*e*P		**P**	**10 17 15.7**	**+0.4**
	36nm,1.1s							
HIZ	**Hauiti**	**24.23**	**166**	*e*P		**P**	**10 17 49.4**	**+0.2**
	64nm,0.9s							
URZ	**Urewera**	**24.60**	**162**	*e*P		**P**	**10 17 53.1**	**+0.5**
	18nm,0.9s							
URZ	**Urewera**	**24.60**	**162**	P		**P**	**10 17 53.6**	**+1.0**
	14nm,0.9s,baz=285,slow=2.4,SNR=6.4							
BKZ	**Black Stump Fm**	**25.26**	**163**	*e*P		**P**	**10 17 58.8**	**+0.1**
	29nm,1.4s							
BFZ	**Birch Farm**	**26.62**	**165**	*e*P		**P**	**10 18 11.5**	**+0.6**
	49nm,1.2s							
THZ	**Tophouse**	**27.00**	**171**	*e*P		**P**	**10 18 14.2**	**0.0**
	28nm,1.3s							
LTZ	**Lake Taylor**	**27.91**	**173**	*e*P		**P**	**10 18 22.0**	**-0.4**
RPZ	**Rata Peaks**	**28.70**	**175**	*e*P		**P**	**10 18 29.6**	**+0.3**
	75nm,1.5s							
STKA	**Stephens Creek**	**28.95**	**230**	*e*P		**P**	**10 18 32.0**	**+0.3**
	2.1nm,0.8s							
STKA				*e*PcP		**PcP**	**10 21 37.7**	**+0.2**
STKA	**Stephens Creek**	**28.95**	**230**	P		**P**	**10 18 33.0**	**+1.3**
	9.0nm,0.7s,baz=40,slow=7.5,SNR=25							
STKA				PcP		**

2013 MAR

TTSI	**Tana Toraja**	**7.29**	**30**	P		**Pn**	10 24 03.8	+1.7
	39nm,0.8s,926nm0.2nm							
BATI	**Baumata**	**7.38**	**97**	P		**Pn**	10 24 07.1	+3.7
	40nm,0.7s							
BATI	**Baumata**	**7.38**	**97**	Pn		**Pn**	10 24 02.3	-1.1
	9.5nm,0.3s,baz=78,slow=13,SNR=5.9							
BATI				Sn		**Sn**	10 25 23.2	-2.4
	13nm,0.3s,baz=226,slow=21,SNR=5.8							
SOEI	**Soe**	**7.95**	**93**	*e*Pn		**Pn**	10 24 10.3	-0.9
SOEI				*e*Sn		**Sn**	10 25 37.8	-1.9
SOEI	**Soe**	**7.95**	**93**	P		**Pn**	10 24 14.8	+3.6
	73nm,0.9s							
CISI	**Cisompet, Garu**	**8.51**	**282**	*e*Pn		**Pn**	10 24 15.8	-3.0
CISI				*e*Sn		**Sn**	10 25 49.5	-3.8
LEM	**Lembang**	**8.89**	**286**	LR		LR	10 28 22.8	
	comp=Z,97nm,19.9s,baz=98,slow=44							
XMIS	**Christmas Isla**	**10.45**	**263**	*e*Pn		**Pn**	10 24 42.8	-2.4
LUWI	**Luwuk**	**10.59**	**38**	*e*Pn		**Pn**	10 24 44.6	-2.5
LUWI	**Luwuk**	**10.59**	**38**	P		**Pn**	10 24 50.6	+3.5
	62nm,1.1s							
MBWA	**Marble Bar**	**12.14**	**164**	*e*Pn		**Pn**	10 25 05.8	-1.9
SANI	**Sanana**	**12.18**	**54**	P		**Pn**	10 25 11.5	+3.1
	43nm,1.4s							
FITZ	**Fitzroy Crossi**	**12.56**	**134**	*e*Pn		**Pn**	10 25 12.9	-0.6
FITZ				*e*Sn		**Sn**	10 27 26.4	-5.2
FITZ	**Fitzroy Crossi**	**12.56**	**134**	Pn		**Pn**	10 25 11.7	-1.7
	0.7nm,0.3s,baz=324,slow=11,SNR=56							
FITZ				Sn		**Sn**	10 27 23.4	-8.2
	1.9nm,0.3s,baz=218,slow=10,SNR=3.4							
FITZ				LR		LR	10 30 11.1	
	comp=Z,77nm,19.0s,baz=322,slow=38							
GIRL	**Giralia**	**13.27**	**188**	*e*Pn		**Pn**	10 25 20.6	-2.1
LHSI	**Lahat**	**13.78**	**293**	P		**Pn**	10 25 29.9	+0.5
	64nm,0.8s							
MNAI	**Manna**	**14.09**	**290**	*e*Pn		**Pn**	10 25 30.7	-2.7
MTN	**Manton Dam**	**15.03**	**104**	*e*Pn		**Pn**	10 25 43.1	-2.3
	24nm,1.0s							
MTN				*e*Sn		**Sn**	10 28 22.5	-8.8
KKM	**Kota Kinabalu**	**15.38**	**0**	*e*Pn		**Pn**	10 25 46.3	-3.6
	16nm,0.8s							
FAKI	**Fak Fak**	**17.20**	**69**	*e*Pn		**Pn**	10 26 10.1	-2.4
	53nm,1.2s							
FAKI				*e*Sn		**Sn**	10 29 17.8	-6.1
FAKI	**Fak Fak**	**17.20**	**69**	P		**Pn**	10 26 09.6	-2.8
WRA	**Warramunga Arr**	**20.39**	**123**	P		Pn	10 26 49.6	-0.6
	4.7nm,0.8s,baz=356,slow=13,SNR=93							
WRA				S		**S**	10 30 29.6	-0.7
	2.1nm,0.6s,baz=291,slow=22,SNR=6.5							
WR1	**Warramunga Arr**	**20.39**	**123**	*e*P		Pn	10 26 49.6	-0.6
	22nm,1.4s							
WRAB	**Tennant Creek**	**20.39**	**123**	*e*P		**P**	10 26 46.8	-0.5
	8.1nm,0.8s							
WRAB				*e*S		**S**	10 30 28.6	-1.8
WB2	**Warramunga Arr**	**20.40**	**123**	*e*P		**P**	10 26 46.4	-1.0
	7.5nm,0.9s							
WB2				*e*S		**S**	10 30 27.7	-2.7
WC3	**Warramunga Arr**	**20.42**	**123**	*e*P		**P**	10 26 47.5	-0.1
	8.4nm,0.9s							
ASAR	**Alice Springs**	**22.05**	**132**	P		**P**	10 27 07.5	+2.5
	6.5nm,0.8s,baz=306,slow=8.9,SNR=66							
ASAR				PcP		**PcP**	10 31 03.0	+3.6
	1.0nm,0.4s,baz=313,slow=1.9,SNR=6.8							
ASAR				S		Sn	10 31 12.2	-7.7
	2.3nm,0.8s,baz=306,slow=22,SNR=8.9							
AS31	**Alice Springs**	**22.05**	**132**	*e*P		**P**	10 27 04.8	-0.2
	3.5nm,1.0s							
AS01	**Alice Springs**	**22.08**	**132**	*e*P		**P**	10 27 05.2	-0.1
NWAO	**Narrogin (SRO)**	**23.39**	**178**	*e*P		**P**	10 27 18.2	0.0
	35nm,1.5s							
NWAO	**Narrogin (SRO)**	**23.39**	**178**	P		**P**	10 27 18.0	-0.2
	6.1nm,0.7s,baz=104,slow=4.2,SNR=3.4							
NWAO				S		**S**	10 31 32.4	+8.7
	15nm,0.6s,baz=145,slow=20,SNR=7.8							
FORT	**Forrest**	**23.93**	**154**	*e*P		**P**	10 27 22.8	-0.4
	12nm,0.8s							
COEN	**Coen**	**26.77**	**102**	*e*P		**P**	10 27 49.3	+0.2
	9.7nm,1.0s							
BBOO	**Buckleboo**	**29.61**	**145**	*e*P		**P**	10 28 15.2	+1.1
	8.9nm,1.2s							
STKA	**Stephens Creek**	**32.44**	**137**	P		**P**	10 28 42.3	+3.4
	1.9nm,0.4s,baz=309,slow=9.1,SNR=8.7							
STKA				PcP		**PcP**	10 31 27.5	+3.4
	2.5nm,0.3s,baz=319,slow=8.6,SNR=6.7							
CMAR	**Chiang Mai Arr**	**32.54**	**328**	P		**P**	10 28 40.9	+1.0
	1.5nm,0.6s,baz=153,slow=7.3,SNR=12							
CMAR				PcP		**PcP**	10 31 27.5	+3.0
	0.7nm,0.3s,baz=180,slow=2.7,SNR=4.6							
KMI	**Kunming**	**36.78**	**339**	P		**P**	10 29 18.9	+2.3
KMI				pmax		pmax		
	comp=Z,18nm,0.5s							
CD2	**Chengdu**	**41.86**	**344**	P		**P**	10 29 58.5	-0.1
CD2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
SHL	**Shillong**	**42.09**	**326**	*e*P		**P**	10 30 00.3	-0.4
	comp=Z,9.9nm,0.8s							
H08S2	**Diego Garcia H**	**43.25**	**269**	T		T	11 16 14.5	
	baz=95,slow=76,SNR=3.8							
H08S3	**Diego Garcia H**	**43.26**	**269**	T		T	11 16 13.6	
	baz=95,slow=76,SNR=3.7							
H08S1	**Diego Garcia H**	**43.27**	**269**	T		T	11 16 15.9	
	baz=95,slow=76,SNR=3.6							
RAMN	**Ramite**	**46.19**	**322**	*e*P		**P**	10 30 33.8	+0.2
JIRN	**Jiri**	**46.96**	**323**	*e*P		**P**	10 30 40.0	+0.3
	comp=Z,43nm,0.5s							
GUN	**Gumba**	**47.33**	**323**	*e*P		**P**	10 30 42.8	+0.2
	comp=Z,32nm,0.7s							
PKI	**Pulchoki**	**47.37**	**322**	*e*P		**P**	10 30 42.5	-0.3
	comp=Z,10.0nm,0.7s							
PKIN	**Phulchoki**	**47.38**	**322**	*e*P		**P**	10 30 42.5	-0.4
DMN	**Daman**	**47.58**	**322**	*e*P		**P**	10 30 43.8	-0.6
KSRS	**Korea Array**	**47.92**	**13**	P		**P**	10 30 47.1	+0.7
	comp=Z,2.1nm,0.9s,baz=187,slow=7.3,SNR=3.6							
GKN	**Gorkha**	**48.15**	**322**	*e*P		**P**	10 30 47.7	-1.0
KOLN	**Koldanda**	**48.63**	**320**	*e*P		**P**	10 30 51.9	-0.5
DANN	**Dangsing**	**48.94**	**321**	*e*P		**P**	10 30 54.4	-0.5
PYUN	**Piuthan**	**49.24**	**320**	*e*P		**P**	10 30 56.7	-0.4
	comp=Z,30nm,0.9s							
MJAR	**Matsushiro Arr**	**50.20**	**23**	P		**P**	10 31 07.2	+3.3
	comp=Z,3.2nm,0.7s,baz=203,slow=9.5,SNR=7.8							
HHC	**Hu-ho-hao-te**	**50.22**	**355**	*e*P		P	10 31 10.0	+5.9
HHC				pmax		pmax		
	comp=Z,12nm,0.8s							
HHC				pmax		pmax		
	comp=Z,110nm,7.9s							
CN2	**Changchun**	**53.65**	**8**	*e*P		**P**	10 31 32.5	+3.1
SONA0	**Songino Array**	**57.68**	**352**	*e*P		**P**	10 31 58.1	-0.3
SONM	**Songino Array**	**57.68**	**352**	P		**P**	10 31 58.1	-0.3
	comp=Z,2.2nm,0.9s,baz=164,slow=7.7,SNR=11							
WMQ	**Urumqi**	**58.99**	**336**	*e*P		**P**	10 32 10.2	+2.7
KBL	**Kabul**	**62.50**	**317**	*e*P		**P**	10 32 30.3	-1.4
	comp=Z,5.7nm,0.8s							
MK01	**Makanchi Array**	**63.61**	**335**	*e*P		**P**	10 32 37.4	-1.1
MK31	**Makanchi Array**	**63.63**	**335**	*e*P		**P**	10 32 38.1	-0.5
	comp=Z,0.7nm,0.8s							
MK32	**Makanchi Array**	**63.63**	**335**	*e*P		**P**	10 32 38.2	-0.4
MKAR	**Makanchi Array**	**63.63**	**335**	P		**P**	10 32 38.2	-0.4
	comp=Z,0.8nm,0.4s,baz=152,slow=6.8,SNR=16							
GAR	**Garm**	**64.34**	**322**	*e*P		**P**	10 32 42.4	-1.3
	comp=Z,9.4nm,0.7s							
ZALV	**Zalesovo Beam**	**68.50**	**341**	*e*P		**P**	10 33 08.5	-1.1
ZALV	**Zalesovo Beam**	**68.50**	**341**	P		**P**	10 33 08.7	-1.0
	comp=Z,2.3nm,0.7s,baz=141,slow=4.6,SNR=9.2							
ZAA1	**Zalesovo Array**	**68.51**	**341**	*e*P		**P**	10 33 08.7	-1.0
GEYT	**Alibeck**	**71.78**	**315**	P		**P**	10 33 30.1	0.0
	comp=Z,3.8nm,0.8s,baz=114,slow=3.6,SNR=4.6							
VNDA	**Vanda**	**72.00**	**171**	*e*P		**P**	10 33 31.5	+0.9
VNDA	**Vanda**	**72.00**	**171**	P		P	10 33 35.0	+4.3
	comp=Z,2.1nm,0.7s,baz=319,slow=8.5,SNR=11							
ABKAR	**Akbulak array**	**76.36**	**326**	*e*P		**P**	10 33 56.1	-0.2
	comp=Z,6.1nm,0.7s							
RAYN	**Ar Rayn**	**76.44**	**297**	*e*P		**P**	10 33 57.0	-0.5
	comp=Z,4.2nm,0.8s							
QSPA	**South Pole Qui**	**80.56**	**180**	*e*P		**P**	10 34 21.1	+1.6
	comp=Z,6.0nm,1.0s							
BR101	**Keskin Array S**	**90.31**	**310**	*e*P		**P**	10 35 09.2	+0.9
BRTR	**Keskin Array B**	**90.31**	**310**	P		**P**	10 35 09.2	+0.9
	comp=Z,1.9nm,0.9s,baz=101,slow=5.2,SNR=6.7							
YKA	**Yellowknife Ar**	**115.70**	**24**	PKP		**PKPdf**	10 40 49.7	+1.2
	comp=Z,0.5nm,0.6s,baz=309,slow=1.9,SNR=9.3							
YKB5	**Yellowknife Ar**	**115.70**	**24**	*e*PKPdf		**PKPdf**	10 40 49.0	+0.5
TORD	**Torodi Ar. Bea**	**115.83**	**280**	PKP		**PKiKP**	10 40 51.3	+1.2
	comp=Z,0.4nm,0.6s,baz=108,slow=2.5,SNR=3.7							
TOA1	**Torodi Ar. Sit**	**115.83**	**280**	*e*PKPdf		**PKiKP**	10 40 51.3	+1.2
BDFB	**Brasilia**	**150.59**	**212**	PKPbc		**PKPbc**	10 42 03.4	+3.8
	comp=Z,6.4nm,0.6s,baz=148,slow=3.5,SNR=9.4							

WEL 05 10:51:53.2,40°S±9°,17°3E±°,h12km,ML4.1/39,Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.74**	**61**	P	Pg	10 52 07.8	+0.2
NBEZ	**Newall Road No**	**0.82**	**52**	P	Pb	10 52 09.8	+0.5
NBEZ				S	Sb	10 52 21.4	+1.1
KHEZ	**Kahui Hut**	**0.90**	**58**	P	Pg	10 52 10.5	+0.1
PKE	**Pukeiti**	**0.94**	**52**	P	Pb	10 52 11.7	+0.4
PREZ	**Palmer Road**	**0.97**	**64**	P	Pg	10 52 11.2	-0.7
PREZ				S	Sg	10 52 23.5	-1.0
DREZ	**Durham Road**	**1.07**	**57**	P	Pb	10 52 13.6	0.0
LREZ	**Lake Rotokare**	**1.10**	**74**	P	Pb	10 52 13.1	-1.0
QRZ	**Quartz Range**	**1.12**	**200**	P	Pg	10 52 15.1	+0.4
QRZ				S	Sn	10 52 31.6	+1.7
MHEZ	**Mangahewa**	**1.22**	**55**	P	Pg	10 52 16.5	-0.1
DUWZ	**D'Urville Isla**	**1.23**	**147**	P	Pn	10 52 14.0	-2.2
DUWZ				S	Sb	10 52 29.2	-2.9
NNZ	**Nelson**	**1.46**	**170**	P	Pn	10 52 18.7	-0.6
NNZ				S	Sn	10 52 36.6	-1.8
VRZ	**Vera Road**	**1.48**	**64**	P	Pn	10 52 19.4	-0.3
WAZ	**Wanganui**	**1.50**	**90**	P	Pn	10 52 18.5	-1.4
TCW	**Tory Channel**	**1.71**	**147**	P	Pn	10 52 22.4	-0.4
TCW				S	Sn	10 52 42.0	-2.7
TUWZ	**Tuamarina**	**1.79**	**158**	P	Pn	10 52 23.6	-0.2
KIW	**Kapiti Island**	**1.79**	**128**	P	Pn	10 52 22.8	-1.1
OHWZ	**Ohakea**	**1.80**	**104**	P	Pn	10 52 23.7	-0.3
OHWZ				S	Sn	10 52 46.6	-0.2
PKVZ	**Pokaka**	**1.85**	**75**	P	Pn	10 52 24.8	+0.1
HIZ	**Hauiti**	**1.90**	**49**	P	Pn	10 52 24.9	-0.4
MTVZ	**Mangateitei**	**1.92**	**79**	P	Pn	10 52 26.0	+0.2
OGWZ	**Otaki Gorge**	**1.93**	**123**	P	Pn	10 52 25.1	-0.7
OGWZ				S	Sn	10 52 48.5	-1.6
THZ	**Tophouse**	**1.99**	**183**	P	Pn	10 52 27.3	+0.7
TWVZ	**Taurewa**	**1.99**	**70**	P	Pn	10 52 26.8	+0.1
TRVZ	**Turoa**	**2.00**	**77**	P	Pn	10 52 26.6	-0.3
FWVZ	**Far West T-bar**	**2.01**	**76**	P	Pn	10 52 26.8	-0.4
DRZ	**Dome Shelter**	**2.02**	**76**	P	Pn	10 52 28.4	+1.1
COVZ	**Chateau Observ**	**2.02**	**74**	P	Pn	10 52 27.8	+0.6
WHVZ	**Whangaehu Hut**	**2.03**	**77**	P	Pn	10 52 28.2	+0.8
BSWZ	**Blackbirch Sta**	**2.04**	**162**	P	Pn	10 52 28.3	+1.0
CAW	**Cannon Point**	**2.04**	**131**	P	Pn	10 52 27.2	-0.2
NGZ	**Ngauruhoe**	**2.07**	**74**	P	Pn	10 52 27.9	0.0
WTVZ	**West Tongariro**	**2.08**	**72**	P	Pn	10 52 28.1	+0.1
TUVZ	**Tukino**	**2.09**	**77**	P	Pn	10 52 28.5	+0.4
KRVZ	**Karewarewa**	**2.13**	**72**	P	Pn	10 52 28.7	+0.1
MOVZ	**Moawhango**	**2.13**	**81**	P	Pn	10 52 28.9	+0.3
MRZ	**Mangatainoka R**	**2.14**	**115**	P	Pn	10 52 28.6	0.0
BHW	**Baring Head**	**2.15**	**140**	P	Pn	10 52 29.4	+0.6
CMWZ	**Cape Campbell**	**2.16**	**156**	P	Pb	10 52 32.2	-0.1
DSZ	**Denniston Nort**	**2.18**	**205**	P	Pn	10 52 30.5	+1.2
POWZ	**Post Office Ro**	**2.18**	**107**	P	Pn	10 52 30.3	+1.0
HOWZ	**Holdsworth Sta**	**2.20**	**121**	P	Pn	10 52 29.6	+0.1
KATZ	**Kakaramea**	**2.21**	**70**	P	Pn	10 52 29.9	+0.2
TSZ	**Tataraia Road**	**2.27**	**98**	P	Pn	10 52 31.1	+0.7
RATZ	**Rangitukua**	**2.31**	**68**	P	Pn	10 52 32.7	+1.6
RITZ	**Rihia Road**	**2.33**	**71**	P	Pb	10 52 35.6	+0.5
MTW	**Mount Morrison**	**2.33**	**127**	P	Pn	10 52 31.7	+0.3
MSWZ	**Moikau Station**	**2.35**	**135**	P	Pn	10 52 31.8	+0.3
WATZ	**Wairara**	**2.35**	**64**	P	Pn	10 52 32.1	+0.5
BHHZ	**Black Hill Sta**	**2.35**	**84**	P	Pn	10 52 31.9	+0.2
PRWZ	**Pori Road**	**2.38**	**110**	P	Pb	10 52 34.1	-1.8
TIWZ	**Tintock**	**2.40**	**116**	P	Pn	10 52 33.1	+0.8
PAWZ	**Paruwai Farm**	**2.42**	**132**	P	Pn	10 52 34.6	+2.0
TLZ	**Tolley Road**	**2.42**	**54**	P	Pn	10 52 32.9	+0.3
PNHZ	**Pukenui**	**2.44**	**94**	P	Pn	10 52 34.8	+2.0
DVHZ	**Dannevirke**	**2.46**	**103**	P	Pn	10 52 35.1	+2.0
PLWZ	**Palliser**	**2.46**	**137**	P	Pn	10 52 33.9	+0.8
KUTZ	**Kaahu Road**	**2.52**	**60**	P	Pb	10 52 37.7	-0.6
HATZ	**Hinemaiaia**	**2.53**	**70**	P	Pb	10 52 37.9	-0.6
TMWZ	**Te Maipa**	**2.55**	**122**	P	Pb	10 52 38.1	-0.8
KRNZ	**Kereru**	**2.57**	**88**	P	Pn	10 52 35.5	+1.8
TRWZ	**Traveller**	**2.59**	**130**	P	Pb	10 52 39.3	-0.2
BFZ	**Birch Farm**	**2.62**	**111**	P	Pn	10 52 36.2	+0.9
WPHZ	**Waipukurau**	**2.63**	**97**	P	Pb	10 52 38.3	-2.0
KWHZ	**Kaweka Forest**	**2.64**	**83**	P	Pb	10 52 38.2	-2.2
KHZ	**Kahutara**	**2.66**	**172**	P	Pn	10 52 37.2	+1.3
ANWZ	**Angora Road**	**2.72**	**106**	P	Pb	10 52 40.9	-0.8
WPRZ	**Whakapapatarin**	**2.73**	**64**	P	Pb	10 52 40.2	-1.8
BKZ	**Black Stump Fm**	**2.74**	**78**	P	Pn	10 52 38.7	+1.7
GRRZ	**Galatos Road**	**2.78**	**60**	P	Pb	10 52 43.3	+0.5
MRHZ	**Matea Rd**	**2.79**	**71**	P	Pb	10 52 41.8	-1.1
PRHZ	**Porangahau**	**2.81**	**101**	P	Pb	10 52 43.5	+0.3
TOZ	**Tahuroa Road**	**2.81**	**44**	P	Pn	10 52 38.2	+0.3
MCHZ	**McNeill Hill**	**2.85**	**84**	P	Pb	10 52 42.6	-1.3
HSRZ	**Hossack Road**	**2.90**	**61**	P	Pb	10 52 44.7	-0.1
UTU	**Utuhina**	**2.93**	**58**	P	Pb	10 52 42.6	-2.8
KAHZ	**Kahuranaki**	**2.96**	**92**	P	Pb	10 52 44.3	-1.5
NGRZ	**Ngongotaha**	**2.97**	**57**	P	Pb	10 52 43.2	-2.8
AWAZ	**Awhitu Peninsu**	**2.99**	**25**	P	Pn	10 52 42.1	+1.8
NMHZ	**Naumai**	**3.00**	**78**	P	Pb	10 52 44.0	-2.5
KBAZ	**Karaka Road Bo**	**3.05**	**29**	P	Pb	10 52 45.9	-1.4
KARZ	**Kaharoa**	**3.06**	**56**	P	Pb	10 52 46.0	-1.5
LTZ	**Lake Taylor**	**3.06**	**191**	P	Pn	10 52 44.0	+2.7
WTAZ	**Waiatarua**	**3.09**	**24**	P	Pn	10 52 43.8	+2.1
MTHZ	**Maungataniwha**	**3.09**	**74**	P	Pb	10 52 46.2	-1.9
MKAZ	**Moumakai**	**3.15**	**33**	P	Pn	10 52 44.2	+1.7
INZ	**Inchbonnie**	**3.18**	**202**	P	Pn	10 52 44.4	+1.5
MUGZ	**Murupara**	**3.18**	**67**	P	Pb	10 52 48.3	-1.3
ETAZ	**East Tamaki Re**	**3.19**	**28**	P	Pn	10 52 45.0	+2.0
RVAZ	**Riverhead Bore**	**3.24**	**22**	P	Pb	10 52 47.4	-3.1
TGRZ	**Tauranga**	**3.25**	**52**	P	Pn	10 52 46.6	+2.7
RAHZ	**Arahi**	**3.25**	**76**	P	Pb	10 52 48.9	-2.0
MBAZ	**Motutapu North**	**3.34**	**27**	P	Pb	10 52 49.3	-3.0
WIAZ	**Waiheke Island**	**3.41**	**30**	P	Pn	10 52 48.0	+1.9
URZ	**Urewera**	**3.52**	**66**	P	Pn	10 52 51.2	+3.6
RAGZ	**Rawiri**	**3.64**	**71**	P	Pb	10 52 55.0	-2.5
KUZ	**Kuautonu**	**3.69**	**96**	P	Pn	10 52 50.8	+0.8
WVZ	**Waitaha Valley**	**3.72**	**207**	P	Pn	10 52 53.4	+3.0
MWZ	**Matawai**	**3.78**	**69**	P	Pn	10 52 54.5	+3.2
MQZ	**McQueen's Vall**	**3.94**	**184**	P	Pn	10 52 52.9	-0.5
WCZ	**Waipu Caves**	**3.97**	**16**	P	Pn	10 52 56.0	+2.1
RUGZ	**Raukumara Rang**	**4.05**	**65**	P	Pn	10 52 58.6	+3.6
TWGZ	**Tauwhareparae**	**4.17**	**69**	P	Pn	10 53 01.1	+4.5
RPZ	**Rata Peaks**	**4.21**	**200**	P	Pn	10 52 59.2	+2.2
HAZ	**Te Kaha**	**4.22**	**63**	P	Pb	10 53 03.4	-3.9
PKGZ	**Pakihiroa**	**4.36**	**66**	P	Pb	10 53 05.9	-3.9
FOZ	**Fox Glacier**	**4.46**	**212**	P	Pn	10 53 02.0	+1.4
OUZ	**Omahuta**	**4.57**	**6**	P	Pn	10 53 05.1	+3.0
LBZ	**Lake Benmore**	**5.07**	**204**	P	Pn	10 53 13.3	+4.3

*MAN **05** 10:52:29.4,4.2°N×127.9°E,h6km,MS4.7*
*ISCJB **05** 10:52:40.6±0.2,4.9°N±0.0°×127.7°E±0.0°,h52km, mb4.3/56,MS3.5/9,Error ellipse: s-maj=5.4km s-min=3.4km az=156.7*
*IDC **05** 10:52:42.7±0.6,4.9°N×127.6°E,h52km±5km,mb3.9/18, mb1 4.1/20,mb1mx3.9/43,mbtmp4.2/20,MS3.4/8, Ms1 3.4/8,ms1mx3.2/25,Error ellipse: s-maj=25.3km s-min=10.1km az=73.0*
*NEIC **05** 10:52:43.4±0.7,4.9°N×127.6°E,h63km±6km,mb4.3/38, Error ellipse: s-maj=6.4km s-min=3.7km az=69.0*
*DJA **05** 10:52:51.0±0.5,4.9°N±5°×127.7°E±°,h10km,M4.7/10,mb5.0/7, mB5.1/6,MLv4.7/10,Mw(mB)4.4/6*
ISC 05 10:52:42.8±0.4,5.01N±0.04°×127.64E±0.06°,h52km,n120, σ1§34/128,**mb4.4**/56,**MS3.4**/9,**3C-3D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.21**	**300**	*e*P	**Pn**	**10 53 17.5**	**+0.4**
DDMP				*e*S	**Sn**	**10 53 47.5**	**+4.2**
MATI	**Mati**	**2.37**	**324**	*e*P	**Pn**	**10 53 17.2**	**-2.1**
MATI				*e*S	Sn	10 54 00.5	+13
SGSI	**Sangihe**	**2.48**	**238**	P	**Pn**	**10 53 22.1**	**+1.3**
SGSI				S	**Sn**	**10 53 50.5**	**+0.6**
GSPH	**General Santos**	**2.89**	**292**	‖*i*P	**Pn**	**10 53 23.4**	**-3.1**
DAV	**Davao City (W)**	**2.90**	**315**	*e*Pn	**Pn**	**10 53 27.3**	**+0.8**
DAV				*e*Sn	**Sn**	**10 54 02.5**	**+2.2**
DAV	**Davao City (W)**	**2.90**	**315**	P	**Pn**	**10 53 27.8**	**+1.2**
	44nm,0.3s,baz=93,slow=8.0,SNR=4.6						
DAV				S	**Sn**	**10 54 04.2**	**+3.9**
	55nm,0.3s,baz=293,slow=21,SNR=9.4						
DAV				LR	LR	10 55 11.4	
	comp=Z,2μm,18.8s,baz=130,slow=51						
DMPH	**Davao City--Mi**	**2.96**	**314**	‖*e*P	**Pn**	**10 53 29.6**	**+2.2**
DMPH				*e*S	Sn	10 54 13.8	+12

KCP	**Kidapawan**	**3.23**	**308**	‖*i*P		**Pn**	**10 53 31.7**	**+0.6**
KCP				*i*S		Sn	10 54 24.8	+16
SKMP	**Bagumbayan, Su**	**3.43**	**296**	*e*P		**Pn**	**10 53 32.8**	**-1.1**
SKMP				*e*S		Sn	10 54 22.2	+8.9
BUKP	**Musuan**	**3.84**	**318**	*e*P		**Pn**	**10 53 40.2**	**+0.8**
BUKP				*e*S		Sn	10 54 35.5	+12
CTBH	**Cotabato--PC H**	**4.03**	**303**	‖*e*P		**Pn**	**10 53 42.5**	**+0.5**
TNTI	**Ternate**	**4.21**	**184**	*e*Pn		**Pn**	**10 53 46.7**	**+2.2**
TNTI	**Ternate**	**4.21**	**184**	P		**Pn**	**10 53 47.7**	**+3.1**
CGP	**Cagayan de Oro**	**4.51**	**320**	‖*e*P		**Pn**	**10 53 50.6**	**+2.1**
KMSI	**Cibinong**	**5.72**	**220**	P		Pn	10 54 10.3	+5.0
SANI	**Sanana**	**7.20**	**193**	P		**Pn**	**10 54 25.6**	**+0.1**
MRSI	**Marisa**	**7.26**	**232**	P		**Pn**	**10 54 28.2**	**+1.9**
LUWI	**Luwuk**	**7.73**	**219**	*e*Pn		**Pn**	**10 54 33.4**	**+0.6**
LUWI	**Luwuk**	**7.73**	**219**	P		**Pn**	**10 54 32.9**	**+0.1**
	138nm,0.9s,3μm0.5nm							
APSI	**Ampana**	**8.39**	**226**	P		Pn	10 54 46.8	+5.0
	62nm,0.6s,609nm							
FAKI	**Fak Fak**	**9.12**	**150**	*e*Pn		**Pn**	**10 54 50.3**	**-1.5**
FAKI				*e*Sn		**Sn**	**10 56 31.3**	**-1.8**
GENI	**Genyem**	**14.61**	**121**	P		**P**	**10 56 15.7**	**+3.9**
	68nm,1.0s,4μm							
JAY	**Jayapura**	**15.04**	**120**	P		P	10 56 34.0	+17
SOEI	**Soe**	**15.04**	**193**	*e*Pn		**Pn**	**10 56 11.6**	**-0.7**
SBUM	**Sibu**	**15.60**	**261**	*e*Pn		**Pn**	**10 56 19.3**	**-0.1**
	14nm,1.0s							
BATI	**Baumata**	**15.62**	**195**	P		**P**	**10 56 21.0**	**-2.1**
	1.4nm,0.3s,baz=131,slow=19,SNR=3.1							
KSM	**Kuching**	**17.66**	**259**	*e*Pn		**Pn**	**10 56 44.8**	**-0.4**
	20nm,0.7s							
MTN	**Manton Dam**	**18.07**	**169**	*e*P		**P**	**10 56 49.5**	**-0.6**
	10nm,0.6s							
JAGI	**Jajag, Banyuwa**	**18.98**	**225**	*e*P		**P**	**10 56 57.9**	**-2.3**
	24nm,0.9s							
GUMO	**Guam**	**19.00**	**62**	*e*P		**P**	**10 56 59.4**	**-1.0**

MK32	**Makanchi Array**	**57.05**	**324**	*e*P		**P**		**11 02 23.9**	**+0.4**
MKAR	**Makanchi Array**	**57.05**	**324**	P		**P**		**11 02 23.9**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=121,slow=8.2,SNR=56								
MKAR				pP		**pP**		**11 02 37.1**	**+1.4**
	comp=Z,13nm,0.8s,baz=128,slow=7.9,SNR=17								
MAKZ	**Makanchi**	**57.23**	**324**	*e*P		**P**		**11 02 24.5**	**-0.4**
	comp=Z,4.3nm,0.8s								
PRZ	**Przheval'sk**	**57.35**	**318**	*e*P		**P**		**11 02 26.1**	**+0.1**
	comp=Z,11nm,0.5s								
KSH	**Kashi**	**57.80**	**314**	*e*P		**P**		**11 02 31.8**	**+2.6**
KSH				pP		pwP		11 02 50.8	+1.3
KSH				PcP		**PcP**		**11 03 22.9**	**+1.5**
KSH				S		**S**		**11 10 22.1**	**-2.8**
KSH				pmax		pmax			
	comp=Z,110nm,5.6s								
KSH				LR		LR			
	comp=N,220nm,11.0s								
KSH				LR		LR			
	comp=E,190nm,10.2s								
KDJ	**Kajisay**	**58.02**	**317**	*e*P		**P**		**11 02 29.7**	**-1.0**
	comp=E,5.7nm,1.0s								
NRN	**Naryn**	**58.53**	**316**	*e*P		**P**		**11 02 33.6**	**-0.9**
	comp=E,2.5nm,0.8s								
KZA	**Kyzart**	**59.31**	**317**	P		**P**		**11 02 41.4**	**+1.5**
	SNR=6.2								
UCH	**Uchtor**	**59.87**	**317**	P		**P**		**11 02 45.3**	**+1.5**
	SNR=10								
ZAA0	**Zalesovo Array**	**59.88**	**332**	*e*P		**P**		**11 02 42.2**	**-1.0**
	comp=E,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**59.88**	**332**	*e*P		**P**		**11 02 42.4**	**-0.8**
ZALV	**Zalesovo Beam**	**59.88**	**332**	P		**P**		**11 02 42.2**	**-0.9**
	comp=E,1.0nm,0.4s,baz=127,slow=6.5,SNR=5.5								
ZAA1	**Zalesovo Array**	**59.88**	**332**	*e*P		**P**		**11 02 42.2**	**-0.9**
USP	**Ospenovka**	**60.29**	**318**	P		**P**		**11 02 46.7**	**+0.5**
	SNR=8.7								
AML	**Almayashu**	**60.39**	**316**	P		**P**		**11 02 48.4**	**+1.0**
	SNR=9.0								
EKS2	**Erkin-Say**	**60.54**	**317**	P		**P**		**11 02 49.3**	**+1.2**
	SNR=8.2								
ARSB	**Arslanbob**	**60.59**	**315**	*e*P		**P**		**11 02 48.3**	**-0.2**
	comp=E,4.9nm,0.6s								
KURK	**Kurchatov**	**61.17**	**327**	*e*P		**P**		**11 02 51.9**	**-0.1**
	comp=E,6.1nm,0.6s								
KKAR	**Karatay Array**	**62.94**	**316**	*e*P		**P**		**11 03 03.5**	**-0.5**
	comp=E,6.9nm,0.9s								
BRVK	**Borovoye**	**66.83**	**326**	*e*P		**P**		**11 03 29.0**	**-0.2**
	comp=E,5.8nm,0.6s								
GEYT	**Alibeck**	**70.82**	**308**	P		**P**		**11 03 55.0**	**+0.7**
	comp=E,1.6nm,0.4s,baz=175,slow=6.6,SNR=4.9								
GEYT				pP		**pP**		**11 04 09.5**	**+2.5**
	comp=E,6.6nm,1.0s,baz=114,slow=3.6,SNR=3.2								
ABKAR	**Akbulak array**	**71.75**	**320**	*e*P		**P**		**11 03 58.8**	**-0.9**
	comp=E,1.9nm,0.8s								
KEKH	**Kekaha**	**72.06**	**69**	*e*P		**P**		**11 04 01.4**	**-0.6**
	comp=E,84nm,1.0s								
AKTO	**Aktyubinsk**	**73.24**	**321**	P		**P**		**11 04 08.6**	**+0.1**
	comp=E,3.5nm,0.7s,baz=105,slow=9.6,SNR=14								
AKTO				pP		**pP**		**11 04 24.4**	**+3.0**
	comp=E,6.3nm,0.7s,baz=93,slow=8.3,SNR=12								
ARU	**Arti**	**74.36**	**327**	*e*P		**P**		**11 04 14.3**	**-0.6**
	comp=E,3.2nm,0.7s								
IM3	**Indian Mountai**	**80.82**	**24**	*e*P		**P**		**11 04 51.2**	**+0.4**
RAYN	**Ar Rayn**	**80.83**	**293**	*e*P		**P**		**11 04 51.0**	**-0.8**
	comp=E,4.4nm,0.8s								
PPLA	**Purkeypile**	**81.08**	**27**	*e*P		**P**		**11 04 52.5**	**+0.1**
	comp=E,1.0nm,0.9s								
MLY	**Manley**	**81.94**	**25**	*e*P		**P**		**11 04 57.3**	**+0.5**
	comp=E,0.9nm,0.8s								
RC01	**Rabbit Creek A**	**82.07**	**29**	*e*P		**P**		**11 04 57.5**	**0.0**
	comp=E,4.0nm,1.0s								
TOLK	**Toolik Lake Re**	**82.73**	**21**	*e*P		**P**		**11 05 01.2**	**+0.3**
	comp=E,0.9nm,0.8s								
ILAR	**Eielson Array**	**83.57**	**25**	P		**P**		**11 05 05.0**	**-0.1**
	comp=E,0.6nm,1.1s,baz=246,slow=5.1,SNR=5.1								
ILAR				pP		**pP**		**11 05 19.1**	**+1.0**
	comp=E,1.0nm,0.8s,baz=250,slow=5.4,SNR=7.1								
ILB	**Eielson Array**	**83.57**	**25**	*e*P		**P**		**11 05 04.9**	**-0.3**
VNDA	**Vanda**	**84.57**	**173**	*e*P		**P**		**11 05 09.2**	**-0.8**
VNDA	**Vanda**	**84.57**	**173**	P		**P**		**11 05 08.5**	**-1.4**
	comp=E,1.3nm,0.9s,baz=309,slow=6.5,SNR=2.0								
ARCES	**ARCESS Array B**	**89.57**	**340**	*e*P		**P**		**11 05 33.1**	**-1.3**
ARCES	**ARCESS Array B**	**89.57**	**340**	P		**P**		**11 05 32.9**	**-1.5**
	comp=E,5.0nm,0.9s,baz=69,slow=12,SNR=5.2								
FIA0	**FINESS Array S**	**91.14**	**332**	*e*P		**P**		**11 05 41.2**	**-0.6**
FINES	**FINESS Array B**	**91.14**	**332**	P		**P**		**11 05 41.2**	**-0.6**
	comp=E,1.2nm,0.7s,baz=251,slow=3.8,SNR=2.1								
AKASG	**Malin Array Be**	**91.48**	**321**	P		**P**		**11 05 42.5**	**-1.2**
	comp=E,0.4nm,0.4s,baz=61,slow=4.5,SNR=3.3								
NOA	**NORSAR Array B**	**98.05**	**334**	LR		LR		11 54 14.0	
	comp=E,22nm,21.5s,baz=275,slow=38								

*IDC **05** 10:57:59.7±0.8,52.20N×30.04W,h0km,mb3.9/18, mb1 4.1/19,mb1mx4.0/42,mbtmp3.9/19,ML4.7/1,MS3.4/17, Ms1 3.4/17,ms1mx3.2/46,Error ellipse: s-maj=25.9km s-min=12.5km az=7.0*

*ISCJB **05** 10:58:00.2±0.4,52.19N±0.07×29.96W±0.06,h14km, mb4.2/42,MS3.4/15,Error ellipse: s-maj=10.1km s-min=5.2km az=0.1*

*NEIC **05** 10:58:01.3±0.2,52.18N×29.97W,h10km,mb4.4/30,Error ellipse: s-maj=5.9km s-min=3.5km az=179.0*

ISC 05 10:58:01.9±0.6,52.2N±0.1×29.96W±0.06,h14km,n81, σ0s93/72,mb4.3/42,MS3.3/15,1C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**13.39**	**16**	Sn		**Sn**	**11 03 38.3**	**-1.3**
	0.4nm,0.3s,baz=214,slow=11,SNR=2.2							
BORG				LR		LR	11 05 06.9	
	comp=Z,44nm,19.1s,baz=308,slow=32							
DSB	**Dublin**	**14.33**	**76**	*e*Pn		**Pn**	**11 01 23.5**	**-0.7**
ESK	**Eskdalemuir**	**16.10**	**68**	*e*Pn		**Pn**	**11 01 48.5**	**+0.9**
	28nm,0.9s							
EKA	**Eskdalemuir Ar**	**16.13**	**68**	Pn		**Pn**	**11 01 48.6**	**+0.7**
	baz=269,slow=11,SNR=29							
SFJD	**Kangerlussuaq**	**18.03**	**333**	LR		LR	11 07 42.0	
	comp=Z,164nm,18.6s,baz=146,slow=32							
SUMG	**Summit**	**20.82**	**353**	*e*P		Pn	11 02 43.4	-2.1
	11nm,1.1s							
SUMG	**Summit**	**20.82**	**353**	*i*P		Pn	11 02 46.0	+0.5
	16nm,0.9s							
JMIC	**Jan Mayen**	**21.23**	**19**	LR		LR	11 09 15.4	
	comp=Z,57nm,19.8s,baz=46,slow=32							
ESDC	**Sonseca Array**	**21.84**	**115**	P		**P**	**11 02 56.0**	**+2.2**
	0.8nm,0.4s,baz=314,slow=9.9,SNR=10							
SCHQ	**Schefferville**	**21.93**	**292**	*e*P		**P**	**11 02 53.4**	**-1.3**
	6.0nm,0.8s							
SCHQ	**Schefferville**	**21.93**	**292**	P		**P**	**11 02 53.5**	**-1.3**
	2.5nm,0.5s,baz=77,slow=6.0,SNR=14							
FRB	**Frobisher Bay**	**23.12**	**315**	P		**P**	**11 03 06.2**	**-0.8**
	1.6nm,0.8s,baz=96,slow=12,SNR=3.1							
FRB				LR		LR	11 10 05.9	
	comp=Z,74nm,19.8s,baz=10.0,slow=32							
ECH	**Echery**	**23.92**	**85**	*e*P		**P**	**11 03 14.7**	**-0.5**
	8.8nm,1.3s							
NB200	**NORSAR Array S**	**23.96**	**52**	*e*P		**P**	**11 03 15.9**	**+0.4**
NOA	**NORSAR Array B**	**23.96**	**52**	P		**P**	**11 03 15.9**	**+0.4**
	1.1nm,0.6s,baz=270,slow=9.3,SNR=4.4							
NOA				LR		LR	11 11 07.0	
	comp=Z,80nm,19.6s,baz=270,slow=33							
NC602	**NORSAR Array S**	**24.11**	**53**	*e*P		**P**	**11 03 17.2**	**+0.4**
	25nm,1.5s							
NC405	**NORSAR Array S**	**24.21**	**52**	*e*P		**P**	**11 03 18.4**	**+0.6**
	24nm,1.5s							
DAG	**Danmarks Havn**	**25.09**	**6**	*i*P		**P**	**11 03 29.3**	**+3.8**
HFS	**Hagfors**	**25.17**	**54**	P		**P**	**11 03 27.5**	**+1.1**
	1.9nm,0.6s,baz=257,slow=14,SNR=4.4							
HFS				LR		LR	11 11 31.9	
	comp=Z,137nm,19.3s,baz=254,slow=32							
DAVOX	**Davos/Dischmat**	**26.20**	**86**	LR		LR	11 13 38.5	
	comp=Z,54nm,18.6s,baz=176,slow=36							
BRG	**Berggiesshubel**	**27.05**	**75**	*e*P		**P**	**11 03 43.9**	**+0.4**
	7.8nm,1.2s							
GEC2	**GERESS Array S**	**27.65**	**79**	*e*P		**P**	**11 03 48.7**	**-0.3**
	6.1nm,1.1s							
GERES	**GERESS Array B**	**27.65**	**79**	P		**P**	**11 03 49.2**	**+0.1**
	0.9nm,0.7s,baz=310,slow=10,SNR=7.0							
GERES				LR		LR	11 14 23.4	
	comp=Z,74nm,18.5s,baz=293,slow=36							
GEA0	**GERESS Array S**	**27.66**	**79**	*e*P		**P**	**11 03 48.9**	**-0.2**
ARA0	**ARCESS Array S**	**30.66**	**35**	*e*P		**P**	**11 04 15.2**	**-0.2**
ARCES	**ARCESS Array B**	**30.66**	**35**	P		**P**	**11 04 15.2**	**-0.2**
	6.3nm,1.0s,baz=265,slow=8.7,SNR=4.1							
FIA0	**FINESS Array S**	**31.11**	**50**	*e*P		**P**	**11 04 19.6**	**+0.1**
FINES	**FINESS Array B**	**31.11**	**50**	P		**P**	**11 04 19.6**	**+0.1**
	3.5nm,0.8s,baz=280,slow=8.3,SNR=11							
FINES				LR		LR	11 15 59.6	
	comp=Z,28nm,21.2s,baz=250,slow=35							
FIA1	**FINESS Array S**	**31.11**	**50**	*e*P		**P**	**11 04 19.6**	**+0.1**
	20nm,1.4s							
BUR08	**Bucovina Ar. S**	**35.09**	**75**	*e*P		**P**	**11 04 54.8**	**+0.4**
	5.2nm,0.8s							
FCC	**Fort Churchill**	**35.67**	**306**	*e*P		**P**	**11 04 59.7**	**+0.6**
	5.7nm,1.0s							
KIEV	**Kiev**	**36.03**	**68**	*e*P		**P**	**11 05 01.9**	**-0.4**
	5.4nm,0.7s							
AKASG	**Malin Array Be**	**36.04**	**68**	P		**P**	**11 05 01.8**	**-0.7**
	1.8nm,0.6s,baz=297,slow=8.6,SNR=6.9							
AKASG				LR		LR	11 18 54.1	
	comp=Z,48nm,20.7s,baz=315,slow=35							
AKBB	**Malin Array Si**	**36.04**	**68**	*e*P		**P**	**11 05 02.3**	**-0.1**
	5.5nm,0.6s							
KLMR	**Klimovskoe**	**37.57**	**49**	*e*P		**P**	**11 05 14.8**	**-0.5**
KLMR				AMP			11 05 30.0	
	comp=Z,7.0nm,0.8s							
ULM	**Lac du Bonnet**	**40.06**	**294**	*e*P		**P**	**11 05 35.4**	**-0.9**
	comp=Z,3.4nm,1.0s							
ULM	**Lac du Bonnet**	**40.06**	**294**	P		**P**	**11 05 35.5**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=73,slow=7.2,SNR=4.0							
P42A	**Winchester**	**42.67**	**278**	*e*P		**P**	**11 05 57.5**	**-0.5**
	comp=Z,5.5nm,0.8s							
YKA	**Yellowknife Ar**	**43.58**	**318**	P		**P**	**11 06 04.5**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=59,slow=8.3,SNR=8.4							
YKA				PcP		**PcP**	**11 07 54.3**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=62,slow=3.7,SNR=5.5							
ECSD	**EROS Data Cent**	**43.98**	**287**	*e*P		**P**	**11 06 08.4**	**0.0**
	comp=Z,2.2nm,0.9s							
CCM	**Cathedral Cave**	**44.17**	**277**	*e*P		**P**	**11 06 10.5**	**+0.4**
	comp=Z,6.5nm,1.0s							
BR101	**Keskin Array S**	**44.55**	**80**	*e*P		**P**	**11 06 11.6**	**-1.6**
BRTR	**Keskin Array B**	**44.55**	**80**	P		**P**	**11 06 11.6**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=291,slow=8.2,SNR=4.0							
BRTR				LR		LR	11 25 34.2	
	comp=Z,16nm,18.8s,baz=282,slow=37							
TOA1	**Torodi Ar. Sit**	**46.46**	**135**	*e*P		**P**	**11 06 27.9**	**-0.4**
TOA0	**Torodi Ar. Sit**	**46.46**	**135**	*e*P		**P**	**11 06 28.0**	**-0.4**
	comp=Z,7.4nm,1.3s							
TORD	**Torodi Ar. Bea**	**46.46**	**135**	P		**P**	**11 06 27.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=332,slow=8.1,SNR=5.5							
TORD				LR		LR	11 23 19.8	
	comp=Z,48nm,20.8s,baz=310,slow=33							
WHAR	**Wooly Hollow**	**46.60**	**274**	*e*P		**P**	**11 06 29.5**	**+0.2**
	comp=Z,5.1nm,0.8s							
ARU	**Arti**	**48.41**	**48**	*e*P		**P**	**11 06 43.2**	**+0.2**
	comp=Z,13nm,0.7s							
PHWY	**Pilot Hill**	**50.64**	**289**	*e*P		**P**	**11 07 01.1**	**+0.4**
	comp=Z,6.7nm,0.8s							
HRY	**Holter Researc**	**50.84**	**299**	*e*P		**P**	**11 07 01.6**	**-0.3**
TOLK	**Toolik Lake Re**	**51.58**	**336**	*e*P		**P**	**11 07 08.0**	**+1.0**
	comp=Z,13nm,1.6s							
PD31	**Pinedale Array**	**52.06**	**293**	*e*P		**P**	**11 07 10.1**	**-1.1**
	comp=Z,4.4nm,1.6s							
PDAR	**Pinedale Array**	**52.06**	**293**	*e*P		**P**	**11 07 10.2**	**-1.1**
PDAR	**Pinedale Array**	**52.06**	**293**	P		**P**	**11 07 09.2**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=30,slow=6.8,SNR=7.4							
AMTX	**Amarillo**	**52.60**	**281**	*e*P		**P**	**11 07 15.9**	**+0.7**
	comp=Z,5.8nm,0.9s							
SCRK	**Sand Creek**	**53.39**	**330**	*e*P		**P**	**11 07 21.4**	**+0.7**
	comp=Z,4.8nm,1.6s							
ABKAR	**Akbulak array**	**53.43**	**55**	*e*P		**P**	**11 07 21.0**	**0.0**
	comp=Z,3.3nm,0.9s							
ILAR	**Eielson Array**	**53.69**	**332**	P		**P**	**11 07 22.3**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=35,slow=5.8,SNR=6.1							
ILB	**Eielson Array**	**53.69**	**332**	*e*P		**P**	**11 07 22.9**	**+0.2**
	comp=Z,3.6nm,1.4s							
IM3	**Indian Mountai**	**54.65**	**335**	*e*P		**P**	**11 07 30.4**	**+0.8**
MSU	**Marysvale**	**56.36**	**291**	*e*P		**P**	**11 07 43.4**	**+0.7**
TX31	**Lajitas Ar. Si**	**57.67**	**277**	*e*P		**P**	**11 07 52.9**	**+1.1**
TXAR	**Lajitas Array**	**57.67**	**277**	P		**P**	**11 07 52.2**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=62,slow=8.8,SNR=4.5							
ROSC	**El Rosal**	**59.67**	**234**	LR		LR	11 31 34.7	
	comp=Z,21nm,20.2s,baz=96,slow=34							
MDPB	**Devils Postpil**	**60.89**	**295**	*e*P		**P**	**11 08 15.0**	**+0.8**
	comp=Z,14nm,0.9s							
ZAA1	**Zalesovo Array**	**61.13**	**38**	*e*P		**P**	**11 08 14.1**	**-1.2**
ZAA0	**Zalesovo Array**	**61.13**	**38**	*e*P		**P**	**11 08 15.3**	**0.0**
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**61.13**	**38**	*e*P		**P**	**11 08 15.3**	**+0.1**
ZALV	**Zalesovo Beam**	**61.13**	**38**	P		**P**	**11 08 14.1**	**-1.2**
	comp=Z,0.9nm,0.4s,baz=311,slow=11,SNR=3.6							
KKAR	**Karatay Array**	**62.98**	**54**	*e*P		**P**	**11 08 27.8**	**-0.1**
	comp=Z,1.2nm,0.8s							
MK31	**Makanchi Array**	**65.67**	**44**	*e*P		**P**	**11 08 45.4**	**-0.1**
	comp=Z,1.8nm,0.7s							
MK32	**Makanchi Array**	**65.67**	**44**	*e*P		**P**	**11 08 46.0**	**+0.5**
MKAR	**Makanchi Array**	**65.67**	**44**	P		**P**	**11 08 46.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=333,slow=5.8,SNR=19							
MK01	**Makanchi Array**	**65.69**	**44**	*e*P		**P**	**11 08 45.4**	**-0.2**
ATAH	**Atahualpa**	**72.04**	**231**	LR		LR	11 36 40.8	
	comp=Z,61nm,20.6s,baz=349,slow=32							
SIV	**San Ignacio**	**73.05**	**211**	LR		LR	11 36 08.9	
	comp=Z,49nm,20.9s,baz=3.0,slow=31							
CPUP	**Villa Florida**	**81.75**	**205**	LR		LR	11 43 45.8	
	comp=Z,38nm,18.0s,baz=206,slow=34							
LVC	**Limon Verde**	**81.86**	**216**	LR		LR	11 43 51.5	
	comp=Z,37nm,18.1s,baz=279,slow=34							
WR1	**Warramunga Arr**	**145.59**	**27**	*e*PKPdf		**PKPdf**	**11 17 39.1**	**-0.5**
WRA	**Warramunga Arr**	**145.59**	**27**	PKPbc		**PKPdf**	**11 17 39.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=345,slow=3.6,SNR=12							
ASAR	**Alice Springs**	**148.98**	**30**	PKPbc		**PKPbc**	**11 17 48.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=343,slow=2.2,SNR=5.2							

*DDA **05** 11:01:19.2,39.70N×25.33E,h24km±1km,ML3.0*
*ATH **05** 11:01:23.0,39.69N×25.54E,h27km±1km,ML2.4/4,Error ellipse: s-maj=2.2km s-min=0.9km az=238.0*
*ISK **05** 11:01:22.7,39.71N×25.60E,h5km,ML2.6/18*
*ISCJB **05** 11:01:23.5±0.4,39.72N±0.02×25.61E±0.03,h9km±4km, Error ellipse: s-maj=4.1km s-min=3.2km az=33.8*
*THE **05** 11:01:23.8,39.72N×25.60E,h2km±6km,ML2.0/6,Error ellipse: s-maj=6.1km s-min=0.7km az=199.0*

ISC 05 11:01:22.8±1.0,39.69N±0.02×25.62E±0.02,h16km±9km, n47,σ0s60/66,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOZC	**Bozcaada**	**0.36**	**65**	PG		**Pb**	**11 01 31.2**	**+0.3**
BOZC				SG		**Sb**	**11 01 36.4**	**0.0**
BOZC	**Bozcaada**	**0.36**	**65**	*i*P		**Pb**	**11 01 31.8**	**+0.9**
LIA	**Limnos Island**	**0.40**	**302**	P		**Pg**	**11 01 31.1**	**+0.2**
LIA				S		**Sg**	**11 01 36.1**	**-0.3**
LIA	**Limnos Island**	**0.40**	**302**	P		**Pg**	**11 01 30.9**	**+0.1**
LIA				S		**Sg**	**11 01 36.5**	**+0.2**
LIA				AML		AML	11 01 37.0	
	comp=E,309μm,0.2s							
LIA				AML		AML	11 01 37.2	
	comp=N,308μm,0.1s							
SIGR	**SIGRI**	**0.51**	**159**	PG		**Pb**	**11 01 33.6**	**+0.2**
SIGR				SG		**Sb**	**11 01 41.6**	**+1.1**
SIGR	**SIGRI**	**0.51**	**159**	P		**Pb**	**11 01 33.7**	**+0.3**
SIGR				S		**Sb**	**11 01 41.7**	**+1.1**
SIGR	**SIGRI**	**0.51**	**159**	P		**Pb**	**11 01 33.7**	**+0.3**
SIGR				S		**Sb**	**11 01 41.7**	**+1.1**
SIGR				AML		AML	11 01 42.2	
	comp=N,3680μm,0.4s							
SIGR				AML		AML	11 01 42.2	
	comp=E,3099μm,0.5s							
EFSA	**Agios Efstrati**	**0.51**	**253**	P		**Pn**	**11 01 34.3**	**-1.2**
EFSA				S		**Sb**	**11 01 41.1**	**+0.5**
EFSA				AML		AML	11 01 41.6	
	comp=N,1110μm,0.2s							
EFSA				AML		AML	11 01 42.9	
	comp=E,1150μm,0.2s							
EZN	**Ezine**	**0.56**	**76**	PG		**Pb**	**11 01 34.3**	**+0.1**
EZN				SG		**Sb**	**11 01 42.3**	**+0.3**
EZN	**Ezine**	**0.56**	**76**	P		**Pb**	**11 01 34.5**	**+0.3**
EZN				S		**Sb**	**11 01 42.2**	**+0.3**
PRK	**Paraskevi**	**0.67**	**131**	P		**Pn**	**11 01 37.8**	**+0.1**
PRK				S		**Sn**	**11 01 47.9**	**+0.1**
PRK	**Paraskevi**	**0.67**	**131**	P		**Pn**	**11 01 37.7**	**+0.1**
PRK				S		**Sn**	**11 01 47.5**	**-0.3**
PRK				AML		AML	11 01 50.2	
	comp=E,930μm,0.3s							
PRK				AML		AML	11 01 51.5	
	comp=N,831μm,0.4s							
BAYC	**CANAKKALE_Bayr**	**0.71**	**86**	*i*P		**Pn**	**11 01 37.5**	**-0.8**
BAYC				*i*S		**Sn**	**11 01 47.9**	**-1.1**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pb**	**11 01 38.2**	**+0.1**
SMTH				S		**Sb**	**11 01 49.4**	**+0.9**
SMTH	**Samothraki Isl**	**0.78**	**355**	P		**Pb**	**11 01 38.4**	**+0.3**
SMTH				S		**Sb**	**11 01 49.2**	**+0.7**
AYVA	**Ayvalik**	**0.91**	**114**	*i*P		**Pn**	**11 01 41.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.96**	**42**	PG		**Pg**	**11 01 41.4**	**0.0**
LPK	**Lapseki**	**1.11**	**52**	PN		**Pg**	**11 01 44.3**	**+0.1**
ENEZ	**Enez**	**1.12**	**21**	PN		**Pg**	**11 01 44.3**	**-0.1**
THAS	**Thassos island**	**1.15**	**323**	P		**Pb**	**11 01 44.4**	**+0.1**
THAS				S		**Sg**	**11 02 00.0**	**+0.1**
THAS	**Thassos island**	**1.15**	**323**	P		**Pn**	**11 01 44.2**	**0.0**
ERIK	**Erikli-Kesan**	**1.19**	**35**	PN		**Pg**	**11 01 45.5**	**-0.3**
ALN	**Alexandroupoli**	**1.25**	**15**	PN		**Pg**	**11 01 46.4**	**-0.4**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pg**	**11 01 46.5**	**-0.4**
ALN				S		**Sg**	**11 02 03.3**	**+0.2**
ALN	**Alexandroupoli**	**1.25**	**15**	P		**Pg**	**11 01 46.4**	**-0.4**
ZEDA	**zmir-Bergama**	**1.34**	**122**	*i*P		**Pg**	**11 01 48.1**	**-0.5**
ZEDA				*i*S		**Sg**	**11 02 06.6**	**+0.6**
ZEDA				IAML_P				
	comp=Z,714nm,0.1s							
CHOS	**Chios island**	**1.34**	**165**	PN		**Pg**	**11 01 48.9**	**+0.2**
CHOS	**Chios island**	**1.34**	**165**	P		**Pg**	**11 01 48.0**	**-0.7**
KESN	**Edirne-Kesan**	**1.39**	**35**	*i*P		**Pn**	**11 01 47.1**	**-0.9**
KESN				*i*S		**Sg**	**11 02 07.3**	**-0.5**
KESN				IAML_P				
	comp=Z,215nm,0.1s							
AOS	**Alonnisos**	**1.45**	**250**	PN		**Pg**	**11 01 50.1**	**-0.5**
AOS	**Alonnisos**	**1.45**	**250**	P		**Pg**	**11 01 50.2**	**-0.5**
RDO	**Rodhopi**	**1.46**	**357**	PN		**Pb**	**11 01 49.8**	**+0.3**
RDO	**Rodhopi**	**1.46**	**357**	P		**Pb**	**11 01 50.0**	**+0.5**
RDO	**Rodhopi**	**1.46**	**357**	P		**Pb**	**11 01 49.6**	**+0.1**
KRBG	**Karabiga-Canak**	**1.46**	**61**	PN		**Pb**	**11 01 50.1**	**+0.4**
URLA	**Izmir**	**1.53**	**150**	PN		**Pg**	**11 01 51.4**	**-0.8**
BALY	**Balya**	**1.54**	**88**	*i*P		**Pg**	**11 01 52.0**	**-0.4**
BALY				*i*S		**Sg**	**11 02 12.1**	**-0.4**
BALY				IAML_P				
	comp=Z,275nm,0.2s							
RKY	**Sarkoy-Tekirda**	**1.55**	**50**	PN		**Pb**	**11 01 51.4**	**+0.2**
KAVA	**Kavala**	**1.56**	**327**	P		**Pb**	**11 01 50.7**	**-0.6**
STEP	**BALIKESIR_Sava**	**1.65**	**100**	*i*P		**Pg**	**11 01 54.0**	**-0.5**
STEP				IAML_P				
	comp=Z,536nm,0.2s							
BALB	**Balikesir**	**1.74**	**91**	PN		**Pb**	**11 01 54.2**	**-0.2**
EDC	**Edincik**	**1.84**	**68**	PN		**Pb**	**11 01 55.7**	**-0.4**
SBT4	**Kumbag-Tekirda**	**1.85**	**52**	PN		**Pb**	**11 01 55.6**	**-0.6**
AKHS	**Akhisar**	**1.88**	**115**	*i*P		**Pb**	**11 01 56.7**	**-0.1**
KCTX	**Karacabey (Bur**	**2.18**	**74**	PN		**Pb**	**11 02 00.3**	**-1.5**
EDRB	**Edirne**	**2.32**	**21**	PN		**Pg**	**11 02 02.1**	**+1.8**
DEMI	**Demirci**	**2.48**	**104**	*i*P		**Pg**	**11 02 10.9**	**+0.5**

MEX 05 11:11:07.2±0.4,14.93N×92.42W,h100km±6km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.15**	**98**	*i*P

FNA	**Florina**	**0.01**	**27**	*i* Pg	**Pg**	**11 30 01.6**	**-0.2**
FNA				*i* Sg	**Sg**	**11 30 02.6**	**-0.4**
FNA	**Florina**	**0.01**	**27**	P	**Pg**	**11 30 01.6**	**-0.2**
FNA				S	**Sg**	**11 30 02.5**	**-0.4**
BIA	**Bitola**	**0.25**	**352**	*i* Pg	**Pb**	**11 30 05.8**	**+0.6**
BIA				*i* Sg	**Sg**	**11 30 10.6**	**+2.0**
BIA				*e*Lg	Lg	11 30 11.1	
	comp=N,384nm,0.4s						
BIA				*e*Lg	Lg	11 30 11.3	
	comp=E,380nm,0.2s						
NEST	**Nestorio**	**0.43**	**214**	P	**Pg**	**11 30 08.3**	**-0.4**
NEST				S	**Sg**	**11 30 14.7**	**+0.3**
NEST	**Nestorio**	**0.43**	**214**	P	**Pg**	**11 30 08.3**	**-0.4**
NEST				S	**Sg**	**11 30 14.8**	**+0.3**
NEST				AML	AML	11 30 15.9	
	comp=N,1178µm,0.2s						
NEST				AML	AML	11 30 15.9	
	comp=E,2684µm,0.2s						
OHR	**Ohrid**	**0.55**	**308**	*i* Pg	**Pb**	**11 30 11.0**	**-1.1**
OHR				*i* Sg	**Sb**	**11 30 19.6**	**-0.4**
OHR				*e*Lg	Lg	11 30 20.5	
	comp=E,354nm,0.6s						
OHR				*e*Lg	Lg	11 30 21.3	
	comp=N,158nm,0.4s						
KZN	**Kozani**	**0.56**	**147**	P	**Pg**	**11 30 10.8**	**-0.2**
KZN				S	**Sb**	**11 30 20.5**	**+0.1**
KZN	**Kozani**	**0.56**	**147**	P	**Pg**	**11 30 10.8**	**-0.2**
KZN				S	**Sg**	**11 30 19.1**	**+0.8**
KZN				AML	AML	11 30 20.9	
	comp=N,1459µm,0.4s						
KZN				AML	AML	11 30 22.5	
	comp=E,1330µm,0.5s						
KRUS	**Krusevo**	**0.60**	**351**	*i* Pg	**Pb**	**11 30 11.7**	**-1.3**
KRUS				*i* Sg	**Sb**	**11 30 20.9**	**-0.8**
KRUS				*e*Lg	Lg	11 30 21.3	
	comp=N,71nm,0.2s						
KRUS				*e*Lg	Lg	11 30 21.4	
	comp=E,154nm,0.3s						
PENT	**Pentalofos**	**0.60**	**197**	P	**Pg**	**11 30 11.6**	**-0.3**
PENT				S	**Sb**	**11 30 21.0**	**-0.7**
PENT	**Pentalofos**	**0.60**	**197**	P	**Pg**	**11 30 11.7**	**-0.3**
PENT				S	**Sg**	**11 30 20.1**	**+0.3**
KTI	**Kastanea**	**0.68**	**124**	P	**Pg**	**11 30 13.5**	**+0.1**
KPRO	**Kipourio**	**0.82**	**180**	P	**Pg**	**11 30 16.1**	**+0.2**
KPRO				S	**Sb**	**11 30 28.8**	**+1.0**
KPRO	**Kipourio**	**0.82**	**180**	P	**Pg**	**11 30 15.9**	**0.0**
KPRO				S	**Sb**	**11 30 27.4**	**-0.5**
KPRO				AML	AML	11 30 32.7	
	comp=E,614µm,0.4s						
KPRO				AML	AML	11 30 36.5	
	comp=N,523µm,0.6s						
MEV	**Metsovon**	**0.99**	**186**	P	**Pg**	**11 30 18.6**	**-0.6**
VAY	**Valandovo**	**1.06**	**59**	*i* Pg	**Pb**	**11 30 20.2**	**-0.5**
VAY				*i* Sg	**Sn**	**11 30 35.0**	**-1.2**
VAY				*e*Lg	Lg	11 30 35.1	
	comp=N,46nm,0.4s						
VAY				*e*Lg	Lg	11 30 35.5	
	comp=E,40nm,0.6s						
LIT	**Litokhoron**	**1.09**	**128**	P	**Pg**	**11 30 20.9**	**-0.2**
LIT				S	**Sn**	**11 30 37.1**	**+0.2**
LIT	**Litokhoron**	**1.09**	**128**	*i* Pg	**Pg**	**11 30 20.9**	**-0.2**
LIT				*i* Sg	**Sn**	**11 30 37.6**	**+0.7**
LIT	**Litokhoron**	**1.09**	**128**	P	**Pb**	**11 30 20.8**	**-0.4**
LIT				S	**Sb**	**11 30 35.4**	**-0.2**
LIT				AML	AML	11 30 41.3	
	comp=N,696µm,0.6s						
LIT				AML	AML	11 30 42.2	
	comp=E,656µm,0.5s						
STIP	**Stip**	**1.11**	**34**	*i* Pg	**Pn**	**11 30 23.8**	**+1.9**
STIP				*i* Sg	**Sn**	**11 30 41.5**	**+4.1**
STIP				*e*Lg	Lg	11 30 41.8	
	comp=N,7.5nm,0.3s						
STIP				*e*Lg	Lg	11 30 42.1	
	comp=E,12nm,0.3s						
PHP	**Peshkopia**	**1.15**	**323**	P	**Pb**	**11 30 20.5**	**-1.8**
KNT	**Kendrikon**	**1.22**	**71**	P	**Pb**	**11 30 23.0**	**-0.5**
KNT				S	**Sn**	**11 30 40.4**	**+0.2**
KNT	**Kendrikon**	**1.22**	**71**	*i* Pg	**Pb**	**11 30 23.0**	**-0.5**
KNT				*i* Sg	**Sn**	**11 30 40.6**	**+0.4**
KNT	**Kendrikon**	**1.22**	**71**	P	**Pb**	**11 30 23.0**	**-0.5**
THE	**Thessaloniki**	**1.22**	**96**	P	**Pn**	**11 30 22.5**	**-1.0**
THL	**Klokotos Trika**	**1.30**	**158**	P	**Pn**	**11 30 23.6**	**-1.0**
THL				S	**Sg**	**11 30 43.2**	**+1.1**
THL	**Klokotos Trika**	**1.30**	**158**	P	**Pn**	**11 30 24.0**	**-0.7**
THL				S	**Sn**	**11 30 42.1**	**-0.1**
THL				AML	AML	11 30 49.0	
	comp=N,312µm,0.5s						
THL				AML	AML	11 30 49.0	
	comp=E,283µm,0.6s						
HORT	**Hortiatis**	**1.33**	**97**	P	**Pb**	**11 30 25.0**	**-0.4**
SOH	**Sokhos**	**1.51**	**88**	P	**Pb**	**11 30 28.1**	**-0.3**
KEK	**Kerkira**	**1.60**	**229**	P	**Pb**	**11 30 30.0**	**0.0**
KKB	**Krupnik**	**1.69**	**49**	*e*Pn	**Pb**	**11 30 30.8**	**-0.7**
SRS	**Serrai**	**1.72**	**78**	*i* Pn	**Pg**	**11 30 32.2**	**-1.0**
EVR	**Evrytania**	**1.89**	**170**	P	**Pb**	**11 30 34.7**	**-0.2**
AGG	**Agios Georgios**	**1.90**	**157**	P	**Pn**	**11 30 33.2**	**+0.3**
AGG				S	**Sb**	**11 30 58.4**	**-0.5**
AGG	**Agios Georgios**	**1.90**	**157**	P	**Pb**	**11 30 33.9**	**-1.2**
MMB	**Musomiste**	**1.96**	**65**	*i* Pn	**Pn**	**11 30 33.2**	**-0.5**
XOR	**Xorichti**	**1.98**	**135**	P	**Pn**	**11 30 34.7**	**+0.7**
ULC	**Ulcinj**	**1.99**	**307**	*i* Pn	**Pb**	**11 30 36.5**	**-0.1**
BARS	**Barje**	**2.07**	**9**	*i* Pn	**Pb**	**11 30 36.4**	**-1.6**
KLV	**Kalavryta, Ach**	**2.79**	**167**	P	**Pn**	**11 30 47.1**	**+1.9**

BJI ***05*** *11:40:16.2, 19˚.03S×168˚.08E, h7km, mb4.9/32, mB5.2/21, Ms4.9/8, Ms7 4.6/5*

ISCJB ***05*** *11:40:18.1±2.0, 19˚.40S±0˚.03×167˚.74E±0˚.03, h22km±14km, mb4.9/128, MS4.1/21, Error ellipse: s-maj=5.4km s-min=5.0km az=142.3*

MOS ***05*** *11:40:19.5±0.9, 19˚.39S×167˚.75E, h33km, mb5.2/40, Error ellipse: s-maj=9.9km s-min=8.5km az=148.5*

NEIC ***05*** *11:40:21.8±0.4, 19˚.45S×167˚.75E, h42km±3km, mb5.0/104, Error ellipse: s-maj=4.2km s-min=3.6km az=156.0*

GCMT ***05*** *11:40:21.8±0.2, 19˚.32S±0˚.02×167˚.72E±0˚.01, h16km, MW5.1/98, Moment Tensor Solution. s51,c63; s98,c140; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.05±. 16; Mθθ 0.12±. 10; Mϕϕ 3.94±.12; Mrθ -1.25±.32; Mϕθ -0.89±. 07; Mϕr 2.49±.30; Best double couple: Mo 4.95300×10^16 NP1: ϕs 160.00000°, δ62.00000°, λ -98.00000°. NP2: ϕs 355.00000°, δ29.00000°, λ -76.00000°. Principal axes: T 4.9580, Plg17.0000°, Azm255.0000°; N -0.0020, Plg7.0000°, Azm163.0000°; P -4.9480, Plg72.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***05*** *11:40:22.1±0.7, 19˚.46S×167˚.89E, h43km±4km, mb4.5/19, mb1 4.7/21, mb1mx4.5/33, mbtmp4.8/21, ML4.8/2, MS4.0/19, Ms1 4.0/19, ms1mx3.9/32 Error ellipse: s-maj=17.9km s-min=12.7km az=137.0*

ISC 05 11:40:23.1±0.5, 19.48S±0.05×167.81E±0.06, h52km±3km, h52km: pP-P, n374, σ1§03/383, mb5.0/128, MS4.1/21, 9C-8D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.00**	**174**	*e*Pn		Pn	11 40 51.5	-2.9
MARNC				*e*Sn		**Sn**	**11 41 18.2**	**-0.2**
DZM	**Mont Dzumac**	**2.88**	**206**	*e*Pn		**Pn**	**11 41 04.8**	**-1.8**
	886nm,0.3s							
DZM				*e*Sn		**Sn**	**11 41 39.9**	**-0.2**
	6µm,0.8s							
DZM	**Mont Dzumac**	**2.88**	**206**	P		**Pn**	**11 41 04.8**	**-1.8**
	151nm,0.3s,baz=30,slow=6.2,SNR=680							
DZM				S		**Sn**	**11 41 37.2**	**-2.9**
	230nm,0.3s,baz=106,slow=22,SNR=5.6							
DZM				LR		LR	11 42 17.2	
	comp=Z,2µm,18.1s,baz=17,slow=39							
ONTNC	**Ouen Toro**	**3.09**	**204**	*e*Pn		**Pn**	**11 41 08.1**	**-1.2**
ONTNC				*e*Sn		**Sn**	**11 41 43.6**	**-1.4**
PINNC	**Pines Island,**	**3.14**	**186**	*e*Pn		**Pn**	**11 41 09.0**	**-1.0**
PINNC				*e*Sn		**Sn**	**11 41 44.6**	**-1.6**
MSVF	**Nonsavu**	**9.86**	**82**	*e*Pn		**Pn**	**11 42 42.6**	**+0.3**
MSVF	**Nonsavu**	**9.86**	**82**	*e*P		**Pn**	**11 42 42.6**	**+0.3**
HNR	**Honiara**	**12.55**	**322**	*e*Pn		**Pn**	**11 43 16.4**	**-2.7**
HNR	**Honiara**	**12.55**	**322**	P		**Pn**	**11 43 17.9**	**-1.2**
	5.1nm,0.3s,baz=315,slow=7.1,SNR=3.2							
OUZ	**Omahuta**	**16.50**	**163**	*e*Pn		**Pn**	**11 44 10.1**	**-0.8**
	35nm,0.7s							
EIDS	**Eidsvold**	**16.54**	**246**	*e*Pn		**Pn**	**11 44 09.4**	**-2.2**
	28nm,0.9s							
ARMA	**Armidale**	**18.25**	**230**	P		**Pn**	**11 44 35.6**	**+2.9**
	baz=18,SNR=6.4							
ARMA	**Armidale**	**18.25**	**230**	*e*Pn		**P**	**11 44 30.6**	**-1.9**
	88nm,1.4s							
RMQ	**Roma**	**18.87**	**245**	P		**Pn**	**11 44 44.0**	**+3.9**
	baz=19,SNR=9.9							
CTA	**Charters Tower**	**20.30**	**265**	P		Pn	11 44 56.7	-0.4
	8.5nm,0.6s,baz=91,slow=12,SNR=8.2							
CTA				LR		LR	11 51 35.5	
	comp=Z,733nm,21.3s,baz=94,slow=33							
CTAO	**Charters Tower**	**20.30**	**265**	*e*P		**P**	**11 44 53.1**	**-1.6**
	49nm,0.9s							
CTAO	**Charters Tower**	**20.30**	**265**	*e*P		**P**	**11 44 53.1**	**-1.6**
CTAO				pmax		pmax		
	comp=Z,49nm,0.9s							
URZ	**Urewera**	**20.39**	**159**	*e*P		**P**	**11 44 55.8**	**+0.2**
	comp=Z,28nm,0.9s							
URZ	**Urewera**	**20.39**	**159**	P		**P**	**11 44 58.6**	**+3.0**
	comp=Z,18nm,0.9s,baz=350,slow=5.5,SNR=8.7							
URZ				LR		LR	11 51 49.1	
	comp=Z,568nm,18.4s,baz=330,slow=34							
BKZ	**Black Stump Fm**	**21.01**	**161**	*e*P		**P**	**11 45 02.7**	**+0.4**
	comp=Z,21nm,0.8s							
MTSU	**Mount Surprise**	**22.28**	**270**	P		**P**	**11 45 18.2**	**+2.1**
	baz=22,SNR=10							
BFZ	**Birch Farm**	**22.34**	**163**	*e*P		**P**	**11 45 16.6**	**+0.1**
	comp=Z,39nm,1.1s							
THZ	**Tophouse**	**22.63**	**170**	*e*P		**P**	**11 45 19.9**	**+0.2**
	comp=Z,21nm,0.8s							
CNB	**Canberra Magne**	**22.68**	**222**	P		**P**	**11 45 23.5**	**+3.2**
	baz=23,SNR=13							
YNG	**Young**	**22.70**	**226**	P		**P**	**11 45 23.4**	**+3.0**
	baz=23,SNR=5.6							
CMSA	**Cobar Meteorol**	**23.25**	**235**	P		**P**	**11 45 27.4**	**+1.4**
	baz=23,SNR=13							
LTZ	**Lake Taylor**	**23.54**	**172**	*e*P		**P**	**11 45 29.2**	**+0.6**
	comp=Z,30nm,0.9s							
FOZ	**Fox Glacier**	**24.04**	**176**	*e*P		**P**	**11 45 34.0**	**+0.8**
	comp=Z,55nm,1.1s							
COEN	**Coen**	**24.21**	**279**	P		**P**	**11 45 36.7**	**+1.6**
	baz=24,SNR=10.0							
COEN	**Coen**	**24.21**	**279**	*e*P		**P**	**11 45 33.4**	**-1.7**
	comp=Z,40nm,0.9s							
RPZ	**Rata Peaks**	**24.32**	**174**	*e*P		**P**	**11 45 36.3**	**+0.5**
	comp=Z,35nm,0.8s							
RPZ	**Rata Peaks**	**24.32**	**174**	P		**P**	**11 45 38.5**	**+2.7**
	comp=Z,11nm,0.8s,baz=214,slow=6.5,SNR=5.1							
RPZ				LR		LR	11 53 37.6	
	comp=Z,344nm,21.3s,baz=332,slow=33							
QIS	**Mount Isa**	**26.51**	**263**	P		**P**	**11 45 56.7**	**+0.7**
	baz=27,SNR=4.2							
TOO	**Toolangi**	**26.53**	**223**	P		**P**	**11 45 58.0**	**+2.1**
	baz=27,SNR=4.6							
TOO	**Toolangi**	**26.53**	**223**	*e*P		**P**	**11 45 55.2**	**-0.7**
	comp=Z,7.0nm,0.8s							
TOO	**Toolangi**	**26.53**	**223**	*e*P		**P**	**11 45 55.2**	**-0.7**
TOO				pmax		pmax		
	comp=Z,7.0nm,0.8s							
STKA	**Stephens Creek**	**26.58**	**237**	P		**P**	**11 45 58.3**	**+1.8**
	baz=27,SNR=17							
STKA	**Stephens Creek**	**26.58**	**237**	*e*P		**P**	**11 45 56.7**	**+0.2**
	comp=Z,6.3nm,1.0s							
STKA	**Stephens Creek**	**26.58**	**237**	P		**P**	**11 45 58.1**	**+1.6**
	comp=Z,5.6nm,0.5s,baz=79,slow=12,SNR=23							
STKA				pP		**pP**	**11 46 09.3**	**+1.2**
	comp=Z,18nm,0.5s,baz=73,slow=9.8,SNR=16							
STKA				LR		LR	11 55 22.9	
	comp=Z,513nm,21.2s,baz=71,slow=34							
ARPS	**Mount Arapiles**	**28.52**	**227**	P		**P**	**11 46 15.3**	**+1.5**
	baz=29,SNR=6.2							
HTT	**Hallett**	**29.25**	**236**	P		**P**	**11 46 21.7**	**+1.4**
	baz=29,SNR=3.7							
BBOO	**Buckleboo**	**31.31**	**239**	P		**P**	**11 46 39.5**	**+1.0**
	baz=32,SNR=14							
BBOO	**Buckleboo**	**31.31**	**239**	*e*P		**P**	**11 46 38.3**	**-0.2**
	comp=Z,27nm,0.9s							
WR9	**Warramunga Arr**	**31.32**	**263**	P		**P**	**11 46 38.1**	**-0.6**
	baz=31							
WB2	**Warramunga Arr**	**31.48**	**263**	*e*P		**P**	**11 46 38.2**	**-1.9**
	comp=Z,13nm,0.6s							
WB2				*e*PcP		**PcP**	**11 49 31.7**	**-0.6**
WRAB	**Tennant Creek**	**31.48**	**263**	*e*P		**P**	**11 46 38.8**	**-1.4**
WRAB				pmax		pmax		
	comp=Z,21nm,1.7s							
WR1	**Warramunga Arr**	**31.49**	**263**	*e*P		**P**	**11 46 39.3**	**-0.9**
	comp=Z,15nm,0.8s							
WR1				*e*PcP		**PcP**	**11 49 32.3**	**-0.1**
WRA	**Warramunga Arr**	**31.49**	**263**	P		**P**	**11 46 39.3**	**-0.9**
	comp=Z,4.5nm,0.4s,baz=85,slow=8.3,SNR=150							
WRA				pP		**pP**	**11 46 50.9**	**-1.2**
	comp=Z,9.7nm,0.8s,baz=92,slow=8.7,SNR=14							
WRA				PcP		**PcP**	**11 49 32.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=103,slow=2.6,SNR=5.0							
WRA				LR		LR	11 58 25.8	
	comp=Z,402nm,21.2s,baz=90,slow=34							
AS01	**Alice Springs**	**31.72**	**256**	*e*P		**P**	**11 46 41.8**	**-0.5**
AS31	**Alice Springs**	**31.76**	**256**	*e*P		**P**	**11 46 42.5**	**-0.1**
	comp=Z,13nm,0.5s							
ASAR	**Alice Springs**	**31.76**	**256**	P		**P**	**11 46 42.5**	**-0.1**
ASAR				*PP		**pP**	**11 46 54.1**	**-0.3**
ASAR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ASAR				pmax		pmax		
	comp=Z,24nm,0.6s							
ASAR				MLR		MLR		
	comp=Z,566nm,20.1s							
ASAR	**Alice Springs**	**31.76**	**256**	P		**P**	**11 46 42.5**	**-0.1**
	comp=Z,7.7nm,0.4s,baz=84,slow=8.3,SNR=157							
ASAR				pP		**pP**	**11 46 54.0**	**-0.3**
	comp=Z,24nm,0.6s,baz=83,slow=8.8,SNR=24							
ASAR				LR		LR	11 58 44.2	
	comp=Z,566nm,20.1s,baz=97,slow=35							
KDU	**Kakadu**	**34.57**	**276**	P		**P**	**11 47 07.0**	**-0.1**
	baz=35,SNR=4.2							
MTN	**Manton Dam**	**35.79**	**275**	P		**P**	**11 47 18.0**	**+0.4**
	baz=36							
MTN	**Manton Dam**	**35.79**	**275**	*e*P		**P**	**11 47 16.7**	**-0.9**
	comp=Z,62nm,1.1s							
WRKA	**Wakurna**	**36.90**	**254**	P		**P**	**11 47 27.1**	**+0.1**
	baz=37,SNR=36							
KNRA	**Kununurra**	**37.36**	**269**	P		**P**	**11 47 30.7**	**-0.3**
	baz=38,SNR=9.4							
FORT	**Forrest**	**37.53**	**245**	P		**P**	**11 47 33.1**	**+0.8**
	baz=38,SNR=14							
FORT	**Forrest**	**37.53**	**245**	*e*P		**P**	**11 47 32.0**	**-0.3**
	comp=Z,47nm,0.8s							
FITZ	**Fitzroy Crossi**	**39.88**	**265**	P		**P**	**11 47 52.5**	**+0.4**
	baz=40,SNR=24							
FITZ	**Fitzroy Crossi**	**39.88**	**265**	*e*P		**P**	**11 47 52.0**	**0.0**
	comp=Z,44nm,0.8s							
FITZ				pP		**pP**	**11 48 04.3**	**+0.1**
FITZ	**Fitzroy Crossi**	**39.88**	**265**	P		**P**	**11 47 52.6**	**+0.6**
	comp=Z,25nm,0.6s,baz=93,slow=9.8							
FITZ				pP		**pP**	**11 48 04.3**	**+0.1**
	comp=Z,46nm,0.7s,baz=116,slow=10.0,SNR=6.2							
FITZ				LR		LR	12 03 23.1	
	comp=Z,318nm,19.9s,baz=97,slow=35							
PPT2	**Papeete2**	**40.37**	**94**	*e*S		S	11 54 10.8	+10
	comp=Z,229nm,27.0s							
PPT2				*e*LQ		LQ	11 57 32.8	
	comp=Z,1µm,31.0s							
PPT2				*e*LR		LR	11 59 15.9	
	comp=Z,761nm,32.8s							
PPT	**Papeete**	**40.38**	**94**	LR		LR	12 03 50.9	
	comp=Z,154nm,19.3s,baz=246,slow=35							
SOEI	**Soe**	**43.12**	**277**	*e*P		**P**	**11 48 18.5**	**-0.4**
	comp=Z,91nm,1.3s							
BATI	**Baumata**	**43.55**	**276**	P		**P**	**11 48 24.0**	**+1.8**
	comp=Z,43nm,0.5s,baz=160,slow=4.0,SNR=6.9							
BATI				pP		**pP**	**11 48 35.3**	**+0.9**
	comp=Z,83nm,0.8s,baz=150,slow=5.6,SNR=6.8							
MBWA	**Marble Bar**	**44.99**	**259**	*e*P		**P**	**11 48 33.1**	**-0.5**
	comp=Z,45nm,0.8s							
MEEK	**Meekatharra**	**45.60**	**251**	P		**P**	**11 48 39.2**	**+0.8**
	baz=46,SNR=29							
KLBR	**Kellerberrin**	**46.39**	**245**	P		**P**	**11 48 45.0**	**+0.4**
	baz=46,SNR=7.3							
NWAO	**Narrogin (SRO)**	**46.91**	**243**	P		**P**	**11 48 49.4**	**+0.8**
	baz=47,SNR=7.6							
NWAO	**Narrogin (SRO)**	**46.91**	**243**	*e*P		**P**	**11 48 48.3**	**-0.3**
	comp=Z,35nm,0.8s							
NWAO				pP		**pP**	**11 49 01.4**	**+0.5**
NWAO	**Narrogin (SRO)**	**46.91**	**243**	P		**P**	**11 48 49.2**	**+0.6**
	comp=Z,24nm,0.8s,baz=308,slow=6.6,SNR=12							
NWAO				pP		**pP**	**11 49 01.4**	**+0.5**
	comp=Z,36nm,0.8s,baz=324,slow=9.2,SNR=11							
NWAO				LR		LR	12 08 21.8	
	comp=Z,242nm,18.1s,baz=331,slow=36							
RKGY	**Rocky Gully**	**47.24**	**241**	P		**P**	**11 48 52.4**	**+1.2**
	baz=47,SNR=5.7							
BLDU	**Balliduc**	**47.26**	**246**	P		**P**	**11 48 51.6**	**+0.2**
	baz=47,SNR=6.5							
MUN	**Mundaring**	**47.73**	**244**	P		**P**	**11 48 55.6**	**+0.6**
	baz=48,SNR=4.5							
MORW	**Morawa**	**47.83**	**248**	P		**P**	**11 48 56.5**	**+0.6**
	baz=48							
MORW	**Morawa**	**47.83**	**248**	*e*P		**P**	**11 48 55.8**	**-0.1**
	comp=Z,39nm,1.1s							
KKM	**Kota Kinabalu**	**56.76**	**291**	*e*P		**P**	**11 50 02.0**	**-0.4**
	comp=Z,70nm,1.3s							
VNDA	**Vanda**	**58.15**	**182**	P		**P**	**11 50 11.8**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=1.6,slow=4.5,SNR=8.7							
VNDA				pP		**pP**	**11 50 23.5**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=360,slow=5.0,SNR=4.7							
VNDA				LR		LR	12 13 15.0	
	comp=Z,47nm,18.1s,baz=333,slow=34							
LEM	**Lembang**	**59.68**	**273**	P		**P**	**11 50 22.6**	**-0.3**
	comp=Z,21nm,0.7s,baz=278,slow=21,SNR=4.3							
LEM				pP		**pP**	**11 50 35.8**	**+0.2**
	comp=Z,83nm,0.8s,baz=32,slow=5.1,SNR=8.9							
KSM	**Kuching**	**60.12**	**283**	*e*P		**P**	**11 50 25.2**	**-0.4**
	comp=Z,26nm,1.0s							
MJAR	**Matsushiro Arr**	**62.35**	**333**	pP		**pP**	**11 50 54.2**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=168,slow=8.8,SNR=4.6							
MJAR				LR		LR	12 17 35.2	
	comp=Z,28nm,19.2s,baz=145,slow=36							
MAT	**Matsushiro**	**62.35**	**333**	P		**P**	**11 50 38.9**	**-1.4**
SSLB	**Suanglung**	**62.74**	**311**	*e*P		**P**	**11 50 42.3**	**-0.9**
	comp=Z,32nm,1.4s							
ERM	**Erimo**	**65.30**	**340**	*ce*P		**P**	**11 50 57.8**	**-1.7**
ERM				pmax		pmax		
	comp=Z,29nm,1.7s							
KSRS	**Korea Array**	**67.95**	**327**	LR		LR	12 21 33.2	
	comp=Z,34nm,18.0s,baz=130,slow=36							
NJ2	**Nanjing**	**69.45**	**317**	*e*P		**P**	**11 51 26.3**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
IPM	**Ipoh**	**69.82**	**283**	*e*P		**P**	**11 51 27.8**	**-1.0**
	comp=Z,18nm,0.7s							
YSS	**Yuzh-Sakhalins**	**69.88**	**342**	ǁ*e*P		**P**	**11 51 28.7**	**+0.4**
YSS				*e*			11 51 35.6	
YSS				*e*S		**S**	**12 00 37.5**	**+3.4**
YSS				pmax		pmax		
	comp=N,20nm,1.1s							
YSS				pmax		pmax		
	comp=Z,30nm,1.1s							
YSS				smax		smax		
	comp=N,200nm,6.4s							
YSS				smax		smax		
	comp=E,300nm,5.0s							
YSS				MLR		MLR		
	comp=Z,200nm,14.0s							
YSS				MLR		MLR		
	comp=N,300nm,17.0s							
YSS				MLR		MLR		
	comp=E,200nm,17.0s							
QSPA	**South Pole Qui**	**70.58**	**180**	*e*P		**P**	**11 51 33.0**	**+0.3**
	comp=E,14nm,0.8s							
PSI	**Prapat**	**71.14**	**280**	*e*P		**P**	**11 51 35.3**	**-1.6**
	comp=E,23nm,0.9s							
PSI	**Prapat**	**71.14**	**280**	P		**P**	**11 51 36.2**	**-0.7**
	comp=E,18nm,0.9s,baz=178,slow=0.7,SNR=9.9							
USRK	**Ussuriysk Ar.**	**71.34**	**334**	P		**P**	**11 51 38.1**	**+0.8**
	comp=E,2.6nm,0.8s,baz=180,slow=6.9,SNR=5.3							
GSI	**Gunungsitoli**	**71.85**	**278**	*e*P		**P**	**11 51 41.1**	**0.0**
	comp=E,42nm,0.8s							
MDJ	**Mudanjiang**	**72.70**	**332**	P		**P**	**11 51 45.9**	**+0.5**
MDJ				pP		pP	11 51 51.1	-7.1
MDJ				pmax		pmax		
	comp=E,13nm,1.0s							
MDJ				pmax		pmax		
	comp=E,170nm,4.9s							
MDJ				LR		LR		
	comp=E,190nm,5.7s							
MDJ				LR		LR		
	comp=E,240nm,4.9s							
MDJ				LR		LR		
	comp=E,96nm,6.1s							
MDJ	**Mudanjiang**	**72.70**	**332**	*e*P		**P**	**11 51 45.3**	**-0.1**
	comp=E,13nm,1.0s							
PETK	**Petropavlovsk-**	**72.81**	**354**	*e*P		**P**	**11 51 45.8**	**-0.1**
PETK	**Petropavlovsk-**	**72.81**	**354**	P		**P**	**11 51 46.3**	**+0.4**
PETK				*PP		**pP**	**11 51 59.1**	**+0.5**
PETK				pmax		pmax		
	comp=Z,9.0nm,0.7s							
PETK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
PETK	**Petropavlovsk-**	**72.81**	**354**	P		**P**	**11 51 46.3**	**+0.4**
	comp=Z,7.7nm,0.7s,baz=156,slow=7.7,SNR=13							
PETK				pP		**pP**	**11 51 59.1**	**+0.5**
	comp=Z,6.0nm,0.6s,baz=153,slow=8.6,SNR=4.7							
PETK				LR		LR	12 20 03.5	
	comp=Z,79nm,18.6s,baz=147,slow=33							
PEA1	**Petropavl

comp=Z,11nm,0.8s
ANM **Nome** **86.29** **11** *e*P **P** **11 53 00.0 +1.2**
ANM pmax pmax
comp=Z,11nm,0.8s
GTA **Gaotai** **86.32** **314** *e*P **P** **11 53 00.1 +0.4**
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,120nm,4.8s
GTA LR LR
comp=Z,110nm,17.8s
GTA LR LR
comp=Z,160nm,18.4s
SONA0 **Songino Array** **86.61** **324** *e*P **P** **11 53 01.2 +0.3**
SONM **Songino Array** **86.61** **324** P **P** **11 53 01.2 +0.3**
comp=Z,4.4nm,0.9s,baz=129,slow=3.5,SNR=29
KCPM **Cahto Peak** **86.86** **46** *e*P **P** **11 53 02.5 +0.1**
comp=Z,22nm,0.7s
HOPS **Hopland Field** **86.88** **47** *e*P **P** **11 53 02.3 0.0**
comp=Z,17nm,1.1s
BILL **Bilibino** **87.27** **359** *e*P **P** **11 53 03.1 -0.4**
comp=Z,8.3nm,0.9s
BILL **Bilibino** **87.27** **359** ⇓*i*P **P** **11 53 02.8 -0.7**
BILL *e* 11 56 29.8
BILL *e*S **S** **12 03 38.1 -1.0**
BILL *e*SS **SS** **12 09 22.7 -2.2**
BILL pmax pmax
comp=Z,14nm,1.3s
O02D **Mt. Diablo Mer** **87.63** **46** P **P** **11 53 06.6 +0.6**
baz=242
WDC **Whiskeytown Da** **87.98** **46** *e*P **P** **11 53 07.2 -0.4**
comp=Z,16nm,1.3s
WDC **Whiskeytown Da** **87.98** **46** *e*P **P** **11 53 07.2 -0.4**
WDC pmax pmax
comp=Z,16nm,1.3s
N02D **Trinity Center** **88.06** **45** P **P** **11 53 09.0 +1.0**
baz=242
M02C **Callahan** **88.16** **45** P **P** **11 53 09.4 +0.9**
baz=242
ORV **Oroville** **88.22** **47** *e*P **P** **11 53 08.2 -0.6**
comp=Z,6.9nm,0.8s
ORV **Oroville** **88.22** **47** *e*P **P** **11 53 08.2 -0.6**
ORV pmax pmax
comp=Z,7.0nm,0.8s
AFDM **Forest Hills D** **88.32** **48** *e*P **P** **11 53 08.9 -0.4**
comp=Z,10nm,0.9s
CMB **Columbia Colle** **88.32** **49** *e*P **P** **11 53 09.0 -0.3**
comp=Z,8.3nm,0.9s
CMB **Columbia Colle** **88.32** **49** *e*P **P** **11 53 09.0 -0.3**
CMB pmax pmax
comp=Z,8.0nm,0.9s
O03E **Paynes Creek** **88.35** **46** P **P** **11 53 10.2 +0.7**
baz=243
CAST **Castle Rocks** **88.36** **17** *e*P **P** **11 53 07.3 -1.6**
comp=Z,10nm,1.0s
MWC **Mount Wilson** **88.38** **53** *e*P **P** **11 53 09.2 -0.7**
comp=Z,14nm,1.2s
MWC **Mount Wilson** **88.38** **53** *e*P **P** **11 53 09.2 -0.7**
MWC pmax pmax
comp=Z,14nm,1.2s
YBH **Yreka Blue Hor** **88.41** **45** *e*P **P** **11 53 09.7 0.0**
comp=Z,11nm,1.2s
YBH **Yreka Blue Hor** **88.41** **45** *e*P **P** **11 53 09.7 0.0**
YBH pmax pmax
comp=Z,11nm,1.2s
ISA **Isabella, Lake** **88.68** **51** *e*P **P** **11 53 10.7 -0.4**
comp=Z,7.7nm,1.0s
ISA **Isabella, Lake** **88.68** **51** *e*P **P** **11 53 10.7 -0.4**
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA **Isabella, Lake** **88.68** **51** P **P** **11 53 11.3 +0.2**
baz=245
BFSC **Mount Baldy Ra** **88.69** **53** P **P** **11 53 10.8 -0.4**
baz=245
EDW2 **Edwards Air Fo** **88.71** **52** P **P** **11 53 10.9 -0.3**
baz=245
SNAA **Sanae** **88.86** **183** P **P** **11 53 11.8 +0.5**
SNAA **Sanae** **88.86** **183** *e*P **P** **11 53 11.4 0.0**
comp=Z,9.4nm,0.8s
SNAA **Sanae** **88.86** **183** *e*P **P** **11 53 11.4 0.0**
SNAA pmax pmax
comp=Z,9.0nm,0.8s
TRF **Thorofare Moun** **88.89** **17** *e*P **P** **11 53 10.9 -0.6**
comp=Z,11nm,1.2s
L04D **Klamath Falls** **88.90** **44** P **P** **11 53 12.5 +0.5**
baz=242
BOD **Bodaibo** **88.96** **334** *e*P **P** **11 53 10.2 -1.6**
BOD pmax pmax
comp=Z,13nm,1.7s
MONP2 **Monument Peak** **89.08** **55** P **P** **11 53 13.4 +0.2**
baz=246
LRMC **Laurel Mtn Rad** **89.19** **52** P **P** **11 53 13.7 +0.1**
baz=245
WAKR **Walker** **89.20** **49** *e*P **P** **11 53 13.6 0.0**
comp=Z,16nm,1.4s
BBRC **Big Bear Solar** **89.26** **53** P **P** **11 53 13.8 -0.3**
baz=246
RND **Reindeer** **89.26** **18** *e*P **P** **11 53 13.1 -0.1**
comp=Z,11nm,1.2s
RND **Reindeer** **89.26** **18** *e*P **P** **11 53 13.1 -0.1**
RND pmax pmax
comp=Z,11nm,1.2s
CWC **Cottonwood Cre** **89.30** **51** P **P** **11 53 14.4 +0.3**
baz=245
VNA3 **Neumayer Olymp** **89.50** **181** P **P** **11 53 14.7 +0.4**
YERR **Yerington** **89.54** **48** *e*P **P** **11 53 15.2 -0.1**
comp=Z,8.9nm,1.1s
I04A **Tendick Farm,** **89.56** **43** P **P** **11 53 15.3 +0.3**
baz=242
MPMC **Manual Prospec** **89.57** **51** P **P** **11 53 15.8 +0.4**
baz=246
SWSC **Sam W. Stewart** **89.58** **55** P **P** **11 53 16.5 +1.2**
baz=246
DAC **Darwin (Calif)** **89.58** **51** *e*P **P** **11 53 15.1 -0.4**
comp=Z,6.9nm,1.1s
DAC **Darwin (Calif)** **89.58** **51** *e*P **P** **11 53 15.1 -0.4**
DAC pmax pmax
comp=Z,7.0nm,1.1s
BWN **Browne** **89.68** **17** *e*P **P** **11 53 14.9 -0.1**
comp=Z,34nm,0.6s
ZAK **Zakamensk** **89.71** **325** *e*P **P** **11 53 15.5 -0.1**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
PAHR **Pah Rah Range** **89.75** **47** *e*P **P** **11 53 15.7 -0.4**
comp=Z,14nm,1.1s
GSC **Goldstone, Bar** **89.77** **52** *e*P **P** **11 53 16.1 -0.1**
comp=Z,9.0nm,1.3s
GSC **Goldstone, Bar** **89.77** **52** *e*P **P** **11 53 16.1 -0.1**
GSC pmax pmax
comp=Z,9.0nm,1.3s
VNA2 **Neumayer--Watz** **89.78** **182** P **P** **11 53 16.3 +0.7**
baz=179,slow=4.4
BELC **Belle Mtn. Jos** **89.85** **54** P **P** **11 53 16.6 -0.2**
baz=246
RYN **Ryan** **89.90** **49** *e*P **P** **11 53 17.0 +0.1**
comp=Z,5.7nm,0.9s
HEC **Hector,Ludlow** **89.93** **53** P **P** **11 53 16.6 -0.4**
baz=246
NV01 **Mina Array Sit** **89.97** **49** *e*P **P** **11 53 17.0 -0.3**
NVAR **Mina Array Bea** **89.97** **49** P **P** **11 53 17.3 0.0**
comp=Z,4.5nm,0.8s,baz=228,slow=8.2,SNR=25
NVAR LR LR 12 27 21.2
comp=Z,78nm,19.8s,baz=207,slow=31
IM3 **Indian Mountai** **90.00** **15** *e*P **P** **11 53 16.1 -0.3**
VNA1 **Neumayer--Stat** **90.07** **181** P **P** **11 53 17.4 +0.4**
NV11 **Mina Array Sit** **90.08** **49** *e*P **P** **11 53 17.5 -0.2**
comp=Z,0.4nm,0.8s
MOD **Modoc Plateau** **90.09** **45** *e*P **P** **11 53 17.6 -0.1**
comp=Z,7.6nm,0.8s
J05D **Fort Rock, OR** **90.09** **44** P **P** **11 53 18.0 +0.3**
baz=243
BC3 **Big Chuckawall** **90.13** **54** P **P** **11 53 18.6 +0.6**
baz=247
TLY **Talaya** **90.20** **326** *e*P **P** **11 53 17.5 -0.2**
comp=Z,4.4nm,1.0s
TLY **Talaya** **90.20** **326** *e*P **P** **11 53 16.8 -0.9**
TLY pmax pmax
comp=Z,19nm,1.8s
FURC **Furnace Creek,** **90.20** **51** P **P** **11 53 18.2 +0.2**
baz=246
WRH **Wood River Hil** **90.29** **18** *e*P **P** **11 53 17.4 -0.5**
comp=Z,3.7nm,1.0s
GLA **Glamis** **90.38** **55** *e*P **P** **11 53 18.5 -0.6**
comp=Z,14nm,1.0s
GLA **Glamis** **90.38** **55** *e*P **P** **11 53 18.5 -0.6**
GLA pmax pmax
comp=Z,14nm,1.0s
GLA **Glamis** **90.38** **55** P **P** **11 53 18.8 -0.2**
baz=247
KVN **Kaiserville** **90.38** **48** *e*P **P** **11 53 18.0 -1.1**
comp=Z,10nm,1.1s
KVN **Kaiserville** **90.38** **48** *e*P **P** **11 53 18.0 -1.1**
KVN pmax pmax
comp=Z,10.0nm,1.1s
SHOC **Shoshone, Teco** **90.40** **52** P **P** **11 53 19.8 +0.7**
baz=246
GMRC **Granite Mounta** **90.42** **53** P **P** **11 53 19.2 -0.1**
baz=246
TUQ **Turquoise Moun** **90.48** **52** P **P** **11 53 19.7 +0.1**
baz=246
I05D **Terrebonne, OR** **90.50** **43** P **P** **11 53 19.7 +0.3**
baz=243
CCB **Clear Creek Bu** **90.51** **18** *e*P **P** **11 53 17.7 -1.1**
comp=Z,4.2nm,1.0s
PINE **Pine Mountain** **90.51** **43** *e*P **P** **11 53 19.5 -0.1**
comp=Z,10nm,0.8s
IRM **Iron Mountain** **90.56** **54** P **P** **11 53 20.2 +0.3**
baz=247
HDA **Harding Lake** **90.58** **18** *e*P **P** **11 53 18.9 -0.3**
comp=Z,9.2nm,0.9s
HDA **Harding Lake** **90.58** **18** P **P** **11 53 18.9 -0.3**
baz=222
MDM **Murphy Dome** **90.62** **17** *e*P **P** **11 53 18.2 -1.3**
comp=Z,5.2nm,0.8s
COLA **College** **90.67** **17** *e*P **P** **11 53 18.6 -1.0**
comp=Z,6.6nm,0.8s
COLA **College** **90.67** **17** *e*P **P** **11 53 18.6 -1.0**
COLA pmax pmax
comp=Z,7.0nm,0.8s
RIDG **Independ'e Rid** **90.72** **19** *e*P **P** **11 53 19.8 -0.1**
comp=Z,4.3nm,1.1s
TPNV **Topopah Spring** **90.84** **51** *e*P **P** **11 53 21.1 -0.2**
comp=Z,7.8nm,0.9s
TPNV **Topopah Spring** **90.84** **51** *e*P **P** **11 53 21.1 -0.2**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV **Topopah Spring** **90.84** **51** P **P** **11 53 21.3 -0.1**
baz=246
IL1 **Eielson Array** **90.86** **18** *e*P **P** **11 53 19.3 -1.3**
ILAR **Eielson Array** **90.86** **18** P **P** **11 53 19.1 -1.4**
comp=Z,3.9nm,0.7s,baz=238,slow=4.6,SNR=37
ILAR LR LR 12 31 21.3
comp=Z,70nm,19.1s,baz=224,slow=34
ILB **Eielson Array** **90.86** **18** *e*P **P** **11 53 19.3 -1.2**
comp=Z,7.8nm,1.1s
Y12C **Blythe** **90.88** **54** *e*P **P** **11 53 21.4 0.0**
comp=Z,11nm,1.1s
Y12C **Blythe** **90.88** **54** P **P** **11 53 21.8 +0.5**
baz=247
D03D **Eldon** **90.90** **39** P **P** **11 53 21.8 +0.8**
baz=242
G05D **Wamic, OR** **90.92** **42** P **P** **11 53 21.4 +0.1**
baz=243
LDFC **Landfair** **90.95** **53** *e*P **P** **11 53 21.9 +0.1**
comp=Z,16nm,0.9s
SCRK **Sand Creek** **91.15** **19** *e*P **P** **11 53 22.1 +0.1**
comp=Z,6.6nm,1.2s
NEE2 **Needles Airpor** **91.20** **54** P **P** **11 53 23.5 +0.7**
baz=247
PDMCI **Parker Dam,Lak** **91.39** **54** P **P** **11 53 24.2 +0.6**
baz=247
D05A **Enumclaw** **91.40** **40** *e*P **P** **11 53 23.6 +0.2**
comp=Z,27nm,1.2s
WVOR **Wild Horse Val** **91.44** **45** *e*P **P** **11 53 23.9 0.0**
comp=Z,14nm,1.2s
WVOR **Wild Horse Val** **91.44** **45** *e*P **P** **11 53 23.9 0.0**
WVOR pmax pmax
comp=Z,14nm,1.2s
SHPR **Sheep Range** **91.47** **52** *e*P **P** **11 53 24.7 +0.5**
comp=Z,14nm,1.4s
BMN **Battle Mountai** **91.56** **48** *e*P **P** **11 53 24.8 +0.2**
BMN **Battle Mountai** **91.56** **48** *e*P **P** **11 53 24.8 +0.2**
I07A **Izee** **91.57** **43** *e*P **P** **11 53 24.9 +0.5**
comp=Z,7.6nm,0.8s
B05A **Bryant** **91.83** **39** P **P** **11 53 27.0 +1.6**
baz=243
COLD **Coldfoot** **91.85** **15** *e*P **P** **11 53 25.6 +0.6**
comp=Z,3.3nm,1.0s
W13A **Hualapai Mount** **91.88** **53** *e*P **P** **11 53 26.3 +0.1**
comp=Z,4.3nm,0.9s
R11A **Troy Canyon, C** **91.89** **50** *e*P **P** **11 53 26.3 +0.2**
comp=Z,1.7nm,0.9s
R11A **Troy Canyon, C** **91.89** **50** P **P** **11 53 26.5 +0.4**
baz=247
J08A **Circle Bar Ran** **91.94** **44** *e*P **P** **11 53 26.4 +0.2**
comp=Z,6.9nm,0.9s
F07A **Phinny Hill Vi** **92.09** **42** *e*P **P** **11 53 27.9 +1.3**
comp=Z,7.1nm,0.8s
Y14A **Wickenburg** **92.12** **55** *e*P **P** **11 53 27.6 +0.4**
comp=Z,3.0nm,0.9s
LTY **Liberty** **92.23** **40** *e*P **P** **11 53 27.6 +0.2**
comp=Z,7.0nm,1.0s
E07A **Sunnyside** **92.42** **41** *e*P **P** **11 53 29.8 +1.5**
comp=Z,9.3nm,0.9s
G08A **Pilot Rock** **92.44** **43** *e*P **P** **11 53 29.7 +1.2**
comp=Z,8.4nm,1.1s
HAWA **Hanford** **92.55** **41** *e*P **P** **11 53 29.4 +0.6**
comp=Z,7.7nm,0.9s
EGAK **Eagle** **92.59** **19** *e*P **P** **11 53 28.8 +0.3**
comp=Z,4.1nm,0.9s
ELK **Elko** **93.07** **48** *e*P **P** **11 53 32.5 +0.9**
comp=Z,2.1nm,1.1s
ELK **Elko** **93.07** **48** *e*P **P** **11 53 32.5 +0.9**
ELK pmax pmax
comp=Z,2.0nm,1.1s
LCMT **Little Creek M** **93.09** **52** *e*P **P** **11 53 31.5 -0.2**
comp=Z,5.1nm,1.0s
TOLK **Toolik Lake Re** **93.10** **14** P **P** **11 53 31.0 +0.2**
baz=220
CCUT **Cedar City** **93.20** **51** *e*P **P** **11 53 33.7 +1.4**
comp=Z,3.0nm,1.0s
TUC **Tucson** **93.26** **57** *e*P **P** **11 53 32.9 +0.4**
comp=Z,7.1nm,1.1s
TUC **Tucson** **93.26** **57** *e*P **P** **11 53 32.9 +0.4**
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC **Tucson** **93.26** **57** P **P** **11 53 33.8 +1.3**
baz=249
KNB **Kanab** **93.40** **52** *e*P **P** **11 53 33.1 -0.1**
comp=Z,8.5nm,1.3s
KNB **Kanab** **93.40** **52** *e*P **P** **11 53 33.1 -0.1**
KNB pmax pmax
comp=Z,9.0nm,1.3s
SZCU **Shurtz Canyon** **93.42** **51** *e*P **P** **11 53 34.6 +1.3**
comp=Z,2.8nm,0.9s
X16A **Lo Mia Camp, P** **93.50** **55** *e*P **P** **11 53 33.8 +0.1**
comp=Z,5.4nm,1.0s
B08A **Colville Reser** **93.52** **40** *e*P **P** **11 53 33.5 +0.3**
U15A **North Rim** **93.58** **53** *e*P **P** **11 53 33.8 -0.4**
comp=Z,5.0nm,0.8s
PKCU **Pink Cliffs** **93.94** **52** *e*P **P** **11 53 37.8 +2.0**
comp=Z,6.6nm,1.1s
WUAZ **Wupatki** **93.95** **54** *e*P **P** **11 53 37.0 +1.3**
comp=Z,3.6nm,0.9s
WUAZ **Wupatki** **93.95** **54** P **P** **11 53 36.1 +0.4**
baz=249
319A **Douglas** **94.13** **58** *e*P **P** **11 53 36.9 +0.3**
comp=Z,12nm,0.8s
MTPU **Mount Pierson** **94.25** **51** *e*P **P** **11 53 37.7 +0.4**
comp=Z,5.2nm,1.1s
TCRU **Three Creeks R** **94.26** **51** *e*P **P** **11 53 37.4 +0.2**
comp=Z,5.5nm,0.4s
HLID **Hailey** **94.72** **45** P **P** **11 53 39.9 +0.8**
baz=248
EPYK **Eagle Plains** **95.03** **19** P **P** **11 53 40.0 +0.2**
baz=231
WMQ **Urumqi** **96.40** **314** *e*P **P** **11 53 48.2 +1.6**
WMQ sP pP 11 53 54.7 -5.2
WMQ LR LR
comp=Z,96nm,17.9s
WMQ LR LR
comp=Z,73nm,21.9s
INK **Inuvik** **97.20** **19** P **P** **11 53 48.8 -0.7**
comp=Z,1.0nm,0.9s,baz=235,slow=4.4,SNR=5.7
ANMO **Albuquerque** **97.55** **56** *i*P **P** **11 53 51.7 -0.4**
PDAR **Pinedale Array** **97.77** **47** P **P** **11 53 50.8 -2.3**
comp=Z,0.2nm,0.5s,baz=208,slow=3.1,SNR=2.8
PDAR LR LR 12 32 41.4
comp=Z,47nm,19.1s,baz=271,slow=32
TXAR **Lajitas Array** **98.06** **62** P Pdif 11 53 55.2 +0.7
comp=Z,0.7nm,0.7s,baz=199,slow=8.2,SNR=3.3
TXAR LR LR 12 32 36.5
comp=Z,94nm,18.0s,baz=0.0,slow=32
MK32 **Makanchi Array** **100.97** **316** *e*Pdif **Pdif** **11 54 06.8 -0.1**
MKAR **Makanchi Array** **100.97** **316** P **Pdif** **11 54 06.8 -0.1**
comp=Z,0.4nm,0.6s,baz=139,slow=5.0,SNR=4.5
YKA **Yellowknife Ar** **101.50** **28** P **Pdif** **11 54 08.6 -0.2**
comp=Z,0.7nm,0.5s,baz=258,slow=4.7,SNR=16
YKB5 **Yellowknife Ar** **101.50** **28** *e*Pdif **Pdif** **11 54 09.1 +0.2**
ARU **Arti** **116.64** **324** PKIKP **PKPdf** **11 58 57.0 -4.1**
AKTO **Aktyubinsk** **117.33** **317** PKP **PKPdf** **11 59 02.0 -0.6**
comp=Z,1.4nm,0.6s,baz=78,slow=2.3,SNR=4.4
SPITS **Spitsbergen Ar** **119.68** **353** PKP **PKPdf** **11 59 05.4 -1.0**
comp=Z,15nm,1.0s,baz=116,slow=3.4,SNR=8.1
ARA0 **ARCESS Array S** **124.95** **345** *e*PKPdf **PKiKP** **11 59 16.9 -0.2**
ARCES **ARCESS Array B** **124.95** **345** PKP **PKiKP** **11 59 16.9 -0.2**
comp=Z,1.6nm,0.6s,baz=57,slow=1.3,SNR=14
KLMR **Klimovskoe** **125.12** **332** *e*PKIKP **PKPdf** **11 59 16.3 -0.9**
KLMR pmax pmax
comp=Z,13nm,1.5s
KLMR **Klimovskoe** **125.12** **332** *e*PKPdf **PKPdf** **11 59 16.4 -0.8**
KLMR AMP 11 59 21.3
comp=Z,13nm,1.5s
OBN **Obninsk** **128.95** **326** ⇓*i*PKIKP **PKiKP** **11 59 25.9 +0.5**
OBN *e* 12 01 32.8
OBN pmax pmax
comp=Z,40nm,1.9s
HUMP **Col San Antoni** **129.36** **82** *e*PKPdf **PKPdf** **11 59 25.6 -1.0**
AKASG **Malin Array Be** **134.89** **324** PKIKP **PKPdf** **11 59 35.8 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG **Malin Array Be** **134.89** **324** PKP **PKPdf** **11 59 35.8 -0.3**
comp=Z,1.6nm,0.7s,baz=45,slow=2.7,SNR=3.7
AK11 **Malin Array Si** **134.93** **324** *e*PKPdf **PKPdf** **11 59 35.6 -0.6**
BR101 **Keskin Array S** **135.89** **307** *e*PKPdf **PKPdf** **11 59 38.4 -0.2**
BRTR **Keskin Array B** **135.89** **307** PKP **PKPdf** **11 59 38.4 -0.2**
comp=Z,0.6nm,0.6s,baz=175,slow=2.9,SNR=3.1
VYHS **Vyhne** **141.75** **326** *e*PKIKP **PKPdf** **11 59 47.4 -1.4**
VYHS **Vyhne** **141.75** **326** *e*PKP **PKPdf** **11 59 47.4 -1.4**
BRG **Berggiesshubel** **142.48** **333** *e*PKP **PKPdf** **11 59 46.3 -3.7**
comp=Z,3.1nm,0.6s
BRG *e* 11 59 49.0
comp=Z,6.4nm,1.1s
BRG **Berggiesshubel** **142.48** **333** *e*PKIKP **PKPdf** **11 59 46.3 -3.7**
BRG pmax pmax
comp=Z,3.0nm,0.6s
MODS **Modra-Piesok** **142.63** **327** *e*PKIKP **PKPdf** **11 59 50.1 -0.3**
MODS **Modra-Piesok** **142.63** **327** *e*PKP **PKPdf** **11 59 50.1 -0.3**
GUNZ **Gunzen** **143.54** **333** *e*PKPbc PKPbc 11 59 50.0 +0.7
baz=40,slow=3.3
WERN **Wernitzgruen** **143.58** **333** *e*PKPbc PKPbc 11 59 50.2 +0.7
baz=40,slow=3.3
DIVS **Divibare** **143.63** **320** *e*PKPdf PKPbc 11 59 50.4 +0.5
MOX **Moxa** **143.63** **334** *e*PKPbc PKPbc 11 59 49.6 +0.1
baz=40,slow=3.3
CONA **Conrad Observa** **143.64** **328** *e*PKPdf **PKPdf** **11 59 50.9 -1.4**
comp=Z,13nm,1.1s,SNR=5.9
IBBN **Ibbenburen** **143.72** **339** *e*PKPbc PKPbc 11 59 49.9 +0.2
baz=40,slow=3.3
KHC **Kasperske Hory** **143.90** **331** *e*PKPdf PKPbc 11 59 50.7 +0.2
KHC **Kasperske Hory** **143.90** **331** *e*PKP **PKPdf** **11 59 51.7 -0.9**
KHC **Kasperske Hory** **143.90** **331** *e*PKIKP PKPbc 11 59 50.7 +0.2
MANZ **Manzenberg** **143.92** **333** *e*PKPbc PKPbc 11 59 51.0 +0.5
baz=40,slow=3.3
ROTZ **Rotzenmuhle** **144.04** **333** *e*PKPbc **PKPdf** **11 59 51.5 -1.3**
baz=40,slow=3.3
GEC2 **GERESS Array S** **144.05** **331** *e*PKPdf **PKPdf** **11 59 51.8 -1.1**
GERES **GERESS Array B** **144.05** **331** PKIKP PKPbc 11 59 51.0 0.0
GERES pmax pmax
comp=Z,8.0nm,0.9s
GERES **GERESS Array B** **144.05** **331** PKP PKPbc 11 59 51.0 0.0
comp=Z,7.9nm,0.9s,baz=56,slow=3.4,SNR=26
GEA0 **GERESS Array S** **144.06** **331** *e*PKPdf PKPbc 11 59 51.2 +0.2
UBBA **Unterbreizbach** **144.13** **336** *e*PKPbc PKPbc 11 59 51.4 +0.4
baz=40,slow=3.3
FNA **Florina** **144.35** **314** *e*PKPdf PKPbc 11 59 51.9 -0.3
MOA **Molln** **144.48** **329** *i*PKPdf **PKPdf** **11 59 52.9 -0.8**
comp=Z,38nm,1.2s,SNR=14
GRA1 **Grafenberg Arr** **144.52** **334** *e*PKPdf **PKPab** **11 59 51.2 -0.9**
GRF **Grafenberg Arr** **144.52** **334** *e*PKPbc **PKPdf** **11 59 53.0 -0.7**
baz=40,slow=3.3
GRF **Grafenberg Arr** **144.52** **334** *e*PKIKP **PKPab** **11 59 51.2 -0.9**
GRFO **Grafenberg** **144.52** **334** *e*PKPdf **PKPab** **11 59 51.5 -0.6**
GRFO **Grafenberg** **144.52** **334** *e*PKIKP **PKPab** **11 59 51.5 -0.6**
BUG **Bochum--Univer** **144.62** **339** *e*PKPbc **PKPdf** **11 59 52.8 -0.9**
baz=40,slow=3.3
PERS **Pernice** **144.87** **327** *i*PKPdf **PKPdf** **11 59 53.8 -0.6**
SOKA **Soboth** **144.89** **327** *i*PKPdf **PKPdf** **11 59 54.1 -0.4**
comp=Z,16nm,0.7s,SNR=13
BLY **Banja Luka** **144.93** **323** *e*PKPdf **PKPdf** **11 59 53.7 -0.8**
TTG **Podgorica** **144.96** **318** *e*PKPdf PKPbc 11 59 53.4 -0.5
TTG **Podgorica** **144.96** **318** *e*PKIKP PKPbc 11 59 53.4 -0.5
TNS **Taunus Mts** **145.20** **337** *e*PKPbc **PKPdf** **11 59 55.5 +0.6**
baz=40,slow=3.3
OBKA **Obir** **145.25** **327** *e*PKPdf **PKPdf** **11 59 54.8 -0.4**
comp=Z,24nm,0.9s,SNR=8.0
AHRW **Bad Neuenahr-A** **145.44** **338** *e*PKPbc **PKPab** **11 59 55.9 +0.5**
baz=40,slow=3.3
KBA **Koelnbreinsper** **145.47** **329** *i*PKPab **PKPab** **11 59 55.4 -0.5**
comp=Z,31nm,1.0s,SNR=19
BOJS **Bojanci** **145.54** **325** *i*PKPdf **PKPab** **11 59 56.5 +0.5**
VISS **Visnje** **145.56** **326** *i*PKPdf **PKPab** **11 59 56.2 +0.1**
MYKA **Terra Mystica** **145.63** **328** *i*PKPab **PKPab** **11 59 55.8 -0.6**
comp=Z,16nm,0.7s,SNR=9.2
HGN **Heimansgroeve** **145.64** **340** *e*PKP **PKPab** **11 59 56.8 +0.6**
comp=Z,376nm,2.4s
FUR **Furstenfeldbru** **145.65** **332** *e*PKPbc **PKPab** **11 59 56.9 +0.6**
baz=40,slow=3.3
BEBN **Eben Emael** **145.69** **340** ⇑PKP **PKPab** **11 59 57.0 +0.6**
MEM **Membach** **145.75** **339** ⇓PKP **PKPab** **11 59 56.5 0.0**
JAVS **Javornik** **145.91** **327** *i*PKPdf **PKPab** **11 59 56.9 -0.6**
STU **Stuttgart** **146.07** **334** *e*PKPdf **PKPbc** **11 59 56.8 -0.4**
STU **Stuttgart** **146.07** **334** *e*PKPbc **PKPab** **11 59 58.2 +0.3**
baz=40,slow=3.3
STU **Stuttgart** **146.07** **334** *e*PKP2 **PKPbc** **11 59 56.8 -0.4**
ABTA **Abfaltersbach** **146.11** **329** *i*PKPab **PKPbc** **11 59 57.2 -0.3**
comp=Z,26nm,0.7s,SNR=14
WATA **Walderalm** **146.13** **331** *i*PKiKP **PKPab** **11 59 58.8 +0.4**
comp=Z,16nm,0.7s
BCLA **Clavier** **146.14** **340** ⇓PKP **PKPab** **11 59 57.5 -0.6**
MOTA **Moosalm** **146.34** **331** *e*PKPab **PKPab** **11 59 58.4 -0.7**
comp=Z,39nm,1.1s,SNR=12
SQTA **Sankt Quirin** **146.38** **331** *e*PKPab **PKPab** **11 59 58.8 -0.5**
comp=Z,31nm,0.9s,SNR=7.7
RETA **Reutte** **146.39** **331** *e*PKPab **PKPab** **11 59 58.6 -0.6**
comp=Z,20nm,1.1s,SNR=5.7
WLF **Walferdange** **146.50** **338** *e*PKPdf **PKPbc** **11 59 57.4 -1.1**
WLF *e*PKPbc **PKiKP** **11 59 60.0 -1.4**
WLF **Walferdange** **146.50** **338** *e*PKP2 **PKPbc** **11 59 57.4 -1.1**
WLF **Walferdange** **146.50** **338** ⇑PKP **PKPab** **11 59 59.4 -0.1**
WLF ⇑x x 12 00 12.6
UBR **Ueberruh** **146.53** **332** *e*PKPbc **PKPab** **11 59 59.2 -0.5**
baz=40,slow=3.3
DOU **Dourbes** **146.65** **340** ⇓PKP **PKPab** **11 59 59.2 -0.8**
DOU ⇓x x 12 00 12.3
FETA **Feichten** **146.75** **331** *e*PKPab **PKPab** **12 00 00.1 -0.7**
comp=Z,38nm,1.0s,SNR=11
BFO **Black Forest** **146.77** **335** *e*PKPbc **PKPab** **11 59 59.8 -0.9**
baz=40,slow=3.3
DAVA **Damuels** **146.93** **332** *e*PKPab **PKPab** **12 00 00.5 -1.0**
comp=Z,15nm,0.7s,SNR=6.3
FUORN **Ofenpass-Fuorn** **147.26** **331** *e*PKPdf **PKPdf** **11 59 59.0 +0.2**
FUORN *e*PKPbc **PKPab** **12 00 02.0 -1.0**
ECH **Echery** **147.33** **336** *e*PKPbc **PKPbc** **12 00 00.9 0.0**
ECH **Echery** **147.33** **336** *e*PKP2 **PKPbc** **12 00 00.9 0.0**
TUE **Stuetta** **147.79** **332** *e*PKPbc **PKPbc** **12 00 02.4 -0.1**
TIP **Timpagrande** **148.24** **314** *e*PKPbc **PKPbc** **12 00 03.1 -0.6**
AQU **L'Aquila** **148.56** **322** *e*PKPbc **PKPbc** **12 00 03.9 -0.5**
AQU **L'Aquila** **148.56** **322** *e*PKP2 **PKPbc** **12 00 03.9 -0.5**
SENIN **Lac Senin/Sane** **148.76** **334** *e*PKPbc **PKPbc** **12 00 05.1 +0.1**
BNI **Bardonecchia** **150.07** **333** *e*PKPbc **PKiKP** **12 00 08.4 -0.7**
BNI **Bardonecchia** **150.07** **333** *e*PKP2 **PKiKP** **12 00 08.4 -0.7**
SSB **Saint Sauveur** **150.77** **335** *e*PKPbc **PKiKP** **12 00 10.4 0.0**
SSB **Saint Sauveur** **150.77** **335** *e*PKIKP **PKiKP** **12 00 10.4 0.0**
ES06 **SONSECA Array** **158.66** **342** *e*PKPdf **PKPdf** **12 00 15.8 +0.5**
ES06 *e*PKPab **PKPab** **12 00 50.5 -0.1**
ESDC **Sonseca Array** **158.66** **342** PKPab **PKPab** **12 00 50.5 -0.1**
comp=Z,0.6nm,0.5s,baz=8.9,slow=4.4,SNR=6.2
TOA0 **Torodi Ar. Sit** **165.27** **247** *e*PKPdf **PKPdf** **12 00 22.1 -0.5**
TOA0 *e*PKPab **PKPab** **12 01 20.0 -0.3**
TORD **Torodi Ar. Bea** **165.27** **247** PKP **PKPdf** **12 00 22.7 +0.1**
comp=Z,0.5nm,1.0s,baz=122,slow=1.9,SNR=4.0
TORD PKPab **PKPab** **12 01 19.7 -0.6**
comp=Z,2.6nm,1.0s,baz=67,slow=3.9,SNR=7.8
TOA1 **Torodi Ar. Sit** **165.27** **247** *e*PKPdf **PKPdf** **12 00 22.7 +0.1**
TOA1 *e*PKPab **PKPab** **12 01 19.7 -0.6**

KRSC 05 11:55:09.1±10.0, 50.74N×157.70E, h40km±10km, ML3.6,

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.92**	**323**	*e*P	Pn	11 55 27.1	+1.6
PAU				*e*S	Sn	11 55 39.5	+1.9
SKR	**Severo-Kuril's**	**1.01**	**268**	*e*P	Pn	11 55 27.5	+0.8
SKR				*e*S	Sn	11 55 40.3	+0.7
KDTR	**Khodutka, Kamc**	**1.10**	**12**	*e*P	Pn	11 55 29.0	+1.0
KDTR				*e*S	Sn	11 55 43.0	+1.0
ALID	**Alaid**	**1.37**	**276**	*e*P	Pn	11 55 33.6	+1.8
ALID				*e*S	Sn	11 55 50.6	+1.8
RUS	**Russkaya**	**1.77**	**16**	*e*P	Pn	11 55 38.1	+0.9
MTVR	**Mutnovka**	**1.78**	**10**	*e*P	Pn	11 55 39.4	+2.0
MTVR				*e*S	Sn	11 56 00.6	+1.8
UGLR	**Uglovaya**	**2.57**	**15**	*e*P	Pn	11 55 51.7	+3.4
AVH	**Avacha**	**2.61**	**14**	*e*P	Pn	11 55 52.1	+3.2
KOK	**Koryaka**	**2.63**	**12**	*e*P	Pn	11 55 52.4	+3.4
SDLR	**Sedlovina**	**2.65**	**16**	*e*P	Pn	11 55 51.9	+2.5
KRX	**Arik**	**2.69**	**12**	*e*P	Pn	11 55 53.6	+3.6
SPN	**Mys Shipunski**	**2.77**	**30**	*e*P	Pn	11 55 54.3	+3.4
GNL	**Ganaly**	**2.97**	**3**	*e*P	Pn	11 55 57.6	+3.8

MOS ***05*** *11:57:43.6±1.2,36.°06N×70.°59E,h90km,mb4.4/22,Error ellipse: s-maj=8.0km s-min=4.3km az=80.5*
IDC ***05*** *11:57:43.6±2.9,35.°88N×70.°58E,h85km±27km,mb3.9/20, mb1 4.0/25,mb1mx3.8/56,mbtmp4.2/25,MS3.6/6, Ms1 3.5/6,ms1mx2.9/42,Error ellipse: s-maj=14.3km s-min=12.1km az=172.0*
ISCJB ***05*** *11:57:45.0±0.2,36.°04N±0.°02×70.°69E±0.°03,h110km, mb4.3/55, Error ellipse: s-maj=3.3km s-min=2.5km az=178.6*
BJI ***05*** *11:57:44.8,36.°04N×70.°57E,h100km,mb4.6/25,mB4.8/18*
NEIC ***05*** *11:57:46.0±0.4,36.°05N×70.°61E,h105km±3km,mb4.4/34, Error ellipse: s-maj=4.5km s-min=4.2km az=164.0*
NNC ***05*** *11:57:48.2±2.0,36.°35N×70.°30E,h112km±24km,mb4.3, mpv4.9,Error ellipse: s-maj=18.7km s-min=9.3km az=158.0*

ISC 05 11:57:46.0±0.3,36.°03N±0.°03×70.°58E±0.°03,h110km,n207, σ2s10/237,mb4.3/56,22C-11D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.95**	**221**	*e*Pn	**Pn**	**11 58 19.6**	**+1.1**
KBL				*e*Sn	**Sn**	**11 58 44.0**	**+0.6**
KBL	**Kabul**	**1.95**	**221**	*e*PN	**Pn**	**11 58 19.6**	**+1.1**
KBL				*e*		11 58 44.0	
CEP	**Cherat**	**2.45**	**153**	P	**Pn**	**11 58 26.7**	**+1.7**
CHGR	**Chuyangaron**	**2.86**	**337**	*e*Pn	**Pn**	**11 58 29.9**	**-0.4**
CHGR				*e*Sn	**Sn**	**11 59 01.3**	**-3.0**
GAR	**Garm**	**2.97**	**356**	*e*Pn	**Pn**	**11 58 32.0**	**+0.2**
GAR				*e*Sn	**Sn**	**11 59 05.2**	**-1.9**
GAR	**Garm**	**2.97**	**356**	*e*PN	**Pn**	**11 58 32.0**	**+0.2**
GAR				*e*		11 59 05.2	
CHCP	**Chirah Chowk**	**3.23**	**136**	P	**Pn**	**11 58 36.4**	**+1.3**
NIL	**Nilore**	**3.23**	**136**	*e*Pn	**Pn**	**11 58 36.5**	**+1.4**
NIL	**Nilore**	**3.23**	**136**	*e*PN	**Pn**	**11 58 36.5**	**+1.4**
THW	**Thamme Wali**	**3.37**	**163**	P	**Pn**	**11 58 37.9**	**+1.0**
THW				S	**Sn**	**11 59 15.0**	**-1.2**
KSH	**Kashi**	**5.51**	**49**	P	**Pn**	**11 59 02.6**	**-3.2**
KSH				sP		11 59 27.4	
KSH				S	**Sn**	**11 59 59.5**	**-8.4**
KSH				pmax	pmax		
	comp=Z,60nm,0.6s						
KSH				smax	smax		
	comp=N,1μm,0.4s						
KSH				smax	smax		
	comp=E,1μm,0.6s						
DHRM	**DHARAMSHALA**	**6.05**	**127**	*e*P	**Pn**	**11 59 13.4**	**+0.1**
DHRM				*e*S	**Sn**	**12 00 18.3**	**-3.1**
AML	**Almayashu** SNR=183	**6.56**	**21**	P	**Pn**	**11 59 20.0**	**-0.2**
BHK	**Bhakra**	**6.69**	**132**	*e*P	**Pn**	**11 59 21.8**	**+0.1**
BHK				*e*S	**Sn**	**12 00 31.0**	**-5.5**
NRN	**Naryn**	**6.86**	**36**	*e*Pn	**Pn**	**11 59 23.1**	**-1.1**
NRN				*e*Sn	**Sn**	**12 00 36.1**	**-4.9**
NRN	**Naryn**	**6.86**	**36**	*e*PN	**Pn**	**11 59 23.1**	**-1.1**
UCH	**Uchtor** SNR=91	**6.90**	**25**	P	**Pn**	**11 59 24.9**	**-0.1**
KZA	**Kyzart** SNR=14	**7.05**	**30**	P	**Pn**	**11 59 26.9**	**0.0**
KK31	**Karatay Array**	**7.07**	**360**	*e*Pn	**Pn**	**11 59 26.1**	**-0.7**
KK31				*e*Sn	**Sn**	**12 00 41.9**	**-3.7**
KK31	**Karatay Array** 21nm,0.5s	**7.07**	**360**	⇑P	**Pn**	**11 59 25.9**	**-0.9**
KK31				⇓S	**Sn**	**12 00 41.1**	**-4.4**
	322nm,0.9s						
KK31	**Karatay Array**	**7.07**	**360**	PN	**Pn**	**11 59 25.9**	**-0.9**
KK31				pmax	pmax		
	comp=Z,21nm,0.5s						
KKAR	**Karatay Array**	**7.07**	**360**	*e*Pn	**Pn**	**11 59 26.1**	**-0.7**
KKAR				*e*Sn	**Sn**	**12 00 42.6**	**-2.9**
KKAR	**Karatay Array**	**7.07**	**360**	*e*PN	**Pn**	**11 59 26.1**	**-0.7**
EKS2	**Erkin-Say** SNR=72	**7.07**	**20**	P	**Pn**	**11 59 27.0**	**+0.1**
AAK	**Ala-Archa** SNR=48	**7.26**	**23**	P	**Pn**	**11 59 29.7**	**+0.2**
AAK	**Ala-Archa**	**7.26**	**23**	⇑P	**Pn**	**11 59 29.5**	**0.0**
AAK	comp=Z,32nm,0.6s			⇑S	**Sn**	**12 00 47.9**	**-2.6**
	comp=Z,201nm,0.9s						
AAK	**Ala-Archa**	**7.26**	**23**	PN	**Pn**	**11 59 29.5**	**0.0**
AAK				pmax	pmax		
	comp=Z,32nm,0.6s						
SMLA	**Simla**	**7.35**	**130**	*e*P	**Pn**	**11 59 29.9**	**-0.8**
SMLA				*e*S	**Sn**	**12 00 48.5**	**-4.0**
SMLA				IAML		12 00 50.9	
	comp=N,538nm,0.2s						
SMLA				IAML		12 00 51.6	
	comp=E,808nm,0.3s						
FRU	**Bishkek**	**7.48**	**23**	*e*PN	**Pn**	**11 59 31.0**	**-1.4**
FRU				pmax	pmax		
	comp=Z,90nm,1.9s						
ULHL	**Ulahol** SNR=11	**7.61**	**34**	P	**Pn**	**11 59 34.5**	**+0.3**
CHMS	**Chumysh** SNR=11	**7.67**	**24**	P	**Pn**	**11 59 35.4**	**+0.4**
USP	**Ospenovka** SNR=10	**7.83**	**21**	P	**Pn**	**11 59 37.2**	**0.0**
TKM2	**Tokmak 2** SNR=48	**7.90**	**28**	P	**Pn**	**11 59 37.9**	**-0.3**
TKM2	**Tokmak 2**	**7.90**	**28**	⇑P	**Pn**	**11 59 37.8**	**-0.5**
TKM2	comp=Z,55nm,0.6s			⇓S	**Sn**	**12 01 05.4**	**-0.7**
	comp=Z,107nm,0.8s						
TKM2	**Tokmak 2**	**7.90**	**28**	PN	**Pn**	**11 59 37.7**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,55nm,0.6s						
KDJ	**Kajisay**	**7.96**	**38**	*e*Pn	**Pn**	**11 59 39.2**	**+0.1**
KDJ	**Kajisay**	**7.96**	**38**	*e*PN	**Pn**	**11 59 39.2**	**+0.1**
TARG	**Taragay, Kyrgy**	**8.01**	**43**	*e*Pn	**Pn**	**11 59 39.8**	**-0.1**
DDI	**Dehra Dun**	**8.46**	**130**	*e*P	**Pn**	**11 59 46.0**	**+0.2**
DDI				*e*S	**Sn**	**12 01 11.9**	**-7.6**
DDI				IAML		12 01 17.3	
	comp=N,351nm,0.2s						
DDI				IAML		12 01 17.9	
	comp=E,382nm,0.4s						
MDOK	**Medeo**	**8.70**	**33**	⇓P	**Pn**	**11 59 50.6**	**+1.6**
	comp=E,36nm,0.8s						
MDOK				⇓S	**Sn**	**12 01 24.2**	**-1.1**
	comp=E,46nm,1.0s						
KNDC	**Almaty**	**8.70**	**32**	⇑P	**Pn**	**11 59 51.5**	**+2.5**
	comp=E,67nm,0.7s						
KNDC				⇓S	**Sn**	**12 01 26.3**	**+0.9**
PRZ	**Przheval'sk**	**8.85**	**41**	*e*Pn	**Pn**	**11 59 51.5**	**+0.5**
PRZ	**Przheval'sk**	**8.85**	**41**	*e*PN	**Pn**	**11 59 51.6**	**+0.5**
NDI	**New Delhi**	**9.22**	**141**	*e*P	**Pn**	**11 59 55.5**	**-0.6**
NDI				*e*S	**Sn**	**12 01 30.5**	**-7.5**
PDGK	**Podgornoye**	**10.01**	**41**	⇑P	**Pn**	**12 00 05.6**	**-1.1**
	comp=E,11nm,0.8s						
PDGK				⇑S	**Sn**	**12 01 55.5**	**-1.7**
	comp=E,38nm,0.9s						
PDGK	**Podgornoye**	**10.01**	**41**	P	**Pn**	**12 00 05.6**	**-1.1**
PDGK				S	**Sn**	**12 01 55.4**	**-1.7**
PDGK				pmax	pmax		
	comp=Z,11nm,0.8s						
PDGK				smax	smax		
	comp=N,38nm,0.9s						
GEYT	**Alibeck**	**10.15**	**284**	P	**Pn**	**12 00 06.3**	**-2.4**
	comp=N,4.7nm,0.3s,baz=104,slow=12,SNR=24						
GEYT				S	**Sn**	**12 01 55.6**	**-5.0**
	comp=N,2.8nm,0.3s,baz=320,slow=36,SNR=4.8						
GYA0B	**ALIBECK ARRAY**	**10.15**	**284**	*e*Pn	**Pn**	**12 00 07.0**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**10.15**	**284**	P	**Pn**	**12 00 06.1**	**-2.6**
	comp=N,29nm,0.6s						
GYA0B				⇓S	**Sn**	**12 01 54.8**	**-5.8**
	comp=N,78nm,0.9s						
OTUK	**Ortayu**	**12.28**	**6**	⇑P	**Pn**	**12 00 34.6**	**-2.4**
	comp=N,15nm,1.0s						
OTUK				⇓S	**Sn**	**12 02 46.9**	**-5.0**
	comp=N,18nm,0.8s						
OTUK	**Ortayu**	**12.28**	**6**	P	**Pn**	**12 00 34.5**	**-2.4**
OTUK				S	**Sn**	**12 02 50.4**	**-1.5**
OTUK				pmax	pmax		
	comp=Z,15nm,1.0s						
OTUK				smax	smax		
	comp=N,18nm,0.8s						
BHJ	**Bhuj**	**12.76**	**184**	*e*P	**Pn**	**12 00 42.7**	**-0.7**
BHJ				IAmb	IAmb	12 00 43.3	
	comp=Z,40nm,0.6s						
PYUN	**Piuthan**	**13.15**	**123**	*e*P	**Pn**	**12 00 45.0**	**-3.8**
	comp=Z,155nm,0.3s						
DANN	**Dangsing**	**13.52**	**121**	*e*P	**Pn**	**12 00 50.5**	**-3.2**
	comp=Z,116nm,0.3s						
MAKZ	**Makanchi**	**13.73**	**35**	*e*Pn	**Pn**	**12 00 55.8**	**-0.2**
MAKZ	**Makanchi**	**13.73**	**35**	*e*P	**Pn**	**12 00 55.8**	**-0.2**
KOLN	**Koldanda**	**13.78**	**123**	*e*P	**Pn**	**12 00 53.2**	**-3.7**
	comp=Z,69nm,0.4s						
MK01	**Makanchi Array**	**13.86**	**36**	*e*Pn	**Pn**	**12 00 56.4**	**-1.2**
MK31	**Makanchi Array**	**13.87**	**36**	*e*Pn	**Pn**	**12 00 57.2**	**-0.6**
MK31	**Makanchi Array**	**13.87**	**36**	⇑P	**Pn**	**12 00 56.5**	**-1.2**
	comp=Z,13nm,0.8s,baz=227,slow=15,SNR=62						
MK31	**Makanchi Array**	**13.87**	**36**	*e*P	**Pn**	**12 00 57.2**	**-0.6**
MK32	**Makanchi Array**	**13.87**	**36**	*e*Pn	**Pn**	**12 00 56.7**	**-1.1**
MKAR	**Makanchi Array**	**13.87**	**36**	*ce*P	**Pn**	**12 00 56.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MKAR	**Makanchi Array**	**13.87**	**36**	P	**Pn**	**12 00 56.7**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=217,slow=12,SNR=14						
BHPL	**Bhopal**	**14.06**	**153**	*e*P	**Pn**	**12 00 58.3**	**-2.0**
BHPL				IAmb	IAmb	12 00 59.0	
	comp=Z,15nm,0.4s						
BHPL				*ex*	x	12 03 25.0	
BHPL				IAML		12 03 28.9	
	comp=E,54nm,0.7s						
BHPL				IAML		12 03 29.0	
	comp=N,38nm,0.5s						
GKN	**Gorkha**	**14.35**	**120**	*e*P	**Pn**	**12 01 00.5**	**-3.7**
	comp=N,157nm,0.3s						
DMN	**Daman**	**14.92**	**120**	*e*P	**Pn**	**12 01 08.0**	**-3.5**
	comp=N,121nm,0.5s						
KKN	**Kakani**	**14.93**	**119**	*e*P	**Pn**	**12 01 08.2**	**-3.4**
	comp=N,112nm,0.4s						
PKIN	**Phulchoki**	**15.14**	**120**	*e*P	**Pn**	**12 01 11.0**	**-3.3**
	comp=N,64nm,0.3s						
PKI	**Pulchoki**	**15.15**	**120**	*e*P	**Pn**	**12 01 11.1**	**-3.4**
	comp=N,75nm,0.3s						
WMQ	**Urumqi**	**15.24**	**54**	*e*P	**P**	**12 01 18.7**	**+1.0**
WMQ				sP	pP	12 01 42.8	+4.1
WMQ				S	**Sn**	**12 04 01.7**	**-2.1**
WMQ				LR	LR		
	comp=N,80nm,20.9s						
WMQ				LR	LR		
	comp=N,20nm,20.9s						
WMQ				LR	LR		
	comp=N,36nm,23.7s						
WMQ	**Urumqi**	**15.24**	**54**	*e*Pn	**Pn**	**12 01 15.0**	**-0.3**
	comp=N,10nm,0.8s						
WMQ	**Urumqi**	**15.24**	**54**	*e*P	**Pn**	**12 01 15.0**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GUN	**Gumba**	**15.28**	**118**	*e*P	**Pn**	**12 01 12.4**	**-3.8**
	comp=Z,89nm,0.4s						
AB31	**Akulak array**	**15.34**	**333**	⇑P	**Pn**	**12 01 14.9**	**-1.6**
	comp=Z,5.5nm,0.3s,baz=155,slow=13,SNR=205						
AB31				⇑S	**Sn**	**12 03 56.6**	**-9.3**
	comp=Z,9.4nm,0.6s,baz=157,slow=25,SNR=4.7						
AB31	**Akbulak array**	**15.34**	**333**	*e*P	**Pn**	**12 01 14.8**	**-1.6**
AB31				S	Sn	12 03 53.1	-13
AB31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AB31				smax	smax		
	comp=N,9.0nm,0.6s						
ABKAR	**Akbulak array**	**15.34**	**333**	*e*Pn	**Pn**	**12 01 15.1**	**-1.3**
	comp=N,21nm,0.5s						
JIRN	**Jiri**	**15.65**	**118**	*e*P	**Pn**	**12 01 17.4**	**-3.4**
	comp=N,487nm,0.4s						
KURBB	**Kurchatov Arra**	**15.68**	**19**	P	**Pn**	**12 01 18.0**	**-2.6**
	comp=N,47nm,0.7s						
KURBB	**Kurchatov Arra**	**15.68**	**19**	P	**Pn**	**12 01 17.4**	**-3.2**
	comp=N,0.1nm,0.3s,baz=212,slow=12,SNR=21						
KURK	**Kurchatov**	**15.79**	**19**	*e*Pn	**Pn**	**12 01 20.4**	**-1.5**
	comp=N,31nm,0.8s						
KURK	**Kurchatov**	**15.79**	**19**	*ce*P	**Pn**	**12 01 19.9**	**-2.0**
KURK				pmax	pmax		
	comp=Z,26nm,1.0s						
KURK	**Kurchatov** SNR=9.8	**15.79**	**19**	P	**P**	**12 01 24.3**	**+0.8**
BANOM	**Banah** SNR=12	**15.84**	**234**	P	**P**	**12 01 26.1**	**+1.6**
RAMN	**Ramite**	**16.37**	**119**	*e*P	**Pn**	**12 01 25.9**	**-3.7**
	comp=Z,92nm,0.3s						
WSAR	**Wadi Sarin** baz=66,slow=12,SNR=2.0	**16.43**	**222**	P	**Pn**	**12 01 25.9**	**-4.2**
WSAR				LR	LR	12 08 06.5	
	comp=Z,34nm,20.9s,baz=42,slow=38						
ASHO	**Ashiyiah** SNR=6.8	**16.86**	**232**	P	**P**	**12 01 38.2**	**+2.6**
NAZ	**Nazwa, Dubai** SNR=6.3	**16.90**	**233**	P	**P**	**12 01 39.0**	**+2.9**
BVA0	**Borovoye Array**	**17.00**	**360**	⇑P	**Pn**	**12 01 35.9**	**-0.9**
	comp=Z,200nm,1.1s,baz=166,slow=11,SNR=9.6						
BVA0	**Borovoye Array**	**17.00**	**360**	*i* P	**Pn**	**12 01 35.9**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,20nm,1.1s						
BVAR	**Borovoye Array**	**17.00**	**360**	P	**Pn**	**12 01 36.3**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=172,slow=13,SNR=22						
AKTO	**Aktyubinsk**	**17.03**	**332**	⇓P	**P**	**12 01 37.7**	**+0.5**
	comp=Z,14nm,0.9s						
AKTO	**Aktyubinsk**	**17.03**	**332**	P	**P**	**12 01 37.6**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=139,slow=14,SNR=19						
AKTO				S	Sn	12 04 29.0	-18
	comp=Z,0.2nm,0.3s,baz=136,slow=18,SNR=2.1						
BRVK	**Borovoye**	**17.03**	**359**	*e*Pn	**Pn**	**12 01 36.5**	**-0.7**
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**17.03**	**359**	⇓*e*P	**Pn**	**12 01 36.2**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,21nm,1.3s						
BRVK	**Borovoye** SNR=11	**17.03**	**359**	P	**Pn**	**12 01 37.2**	**0.0**
BOK	**Bokaro**	**17.99**	**128**	*e*P	**P**	**12 01 46.5**	**-1.6**
BOK				IAmb	IAmb	12 01 50.1	
	comp=Z,60nm,0.2s						
LSA	**Lhasa**	**18.38**	**104**	*e*P	**P**	**12 01 53.3**	**+0.5**
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**18.38**	**104**	*e*P	**P**	**12 01 53.3**	**+0.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
MHTO	**MHTO** SNR=5.4	**18.61**	**220**	P	**Pn**	**12 01 58.3**	**+1.9**
HYB	**Hyderabad**	**19.84**	**157**	*i* P	**Pn**	**12 02 14.5**	**+3.6**
HYB				*e*S	**S**	**12 05 44.0**	**-1.8**
ZAA0	**Zalesovo Array**	**20.48**	**25**	*e*P	**P**	**12 02 15.3**	**+0.4**
	comp=Z,64nm,0.6s						
ZAA0	**Zalesovo Array**	**20.48**	**25**	⇑P	**P**	**12 02 14.9**	**+0.1**
	comp=Z,58nm,0.7s						
ZALV	**Zalesovo Beam**	**20.48**	**25**	*e*P	**P**	**12 02 15.1**	**+0.3**
ZALV	**Zalesovo Beam**	**20.48**	**25**	P	**P**	**12 02 15.6**	**+0.7**
	comp=Z,69nm,0.6s,baz=223,slow=11,SNR=114						
ZALV				S	**S**	**12 05 57.7**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=226,slow=19,SNR=3.2						
ZAA1	**Zalesovo Array**	**20.49**	**25**	*e*P	**P**	**12 02 15.6**	**+0.6**
ZAA1				*e*S	**S**	**12 05 57.7**	**-0.2**
GNI	**Garni**	**20.73**	**289**	*e*P	**P**	**12 02 18.9**	**+1.1**
	comp=Z,26nm,0.8s						
GNI	**Garni**	**20.73**	**289**	*ce*P	Pn	12 02 21.0	-0.2
GNI				pmax	pmax		
	comp=Z,246nm,1.3s						
NVS	**Novosibirsk**	**20.74**	**21**	⇑*i* P	**P**	**12 02 18.9**	**+1.3**
NVS				*e*		12 06 02.1	
NVS				pmax	pmax		
	comp=N,43nm,1.0s						
NVS				pmax	pmax		
	comp=Z,56nm,1.0s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.7s						
SHL	**Shillong**	**21.02**	**114**	*e*P	**P**	**12 02 22.1**	**+1.0**
	comp=E,46nm,1.0s						
SHL	**Shillong**	**21.02**	**114**	*e*P	**P**	**12 02 22.1**	**+1.0**
SHL				pmax	pmax		
	comp=Z,47nm,1.0s						
SHL	**Shillong**	**21.02**	**114**	*e*P	**P**	**12 02 22.5**	**+1.4**
SHL				IAmb	IAmb	12 02 25.2	
	comp=Z,17nm,0.5s						
ARU	**Arti**	**21.97**	**342**	*e*P	**P**	**12 02 31.6**	**+0.9**
	comp=Z,10nm,0.7s						
ARU	**Arti**	**21.97**	**342**	*d i*P	**P**	**12 02 32.3**	**+1.6**
ARU						12 02 56.4	
ARU				S	**S**	**12 06 29.3**	**+3.1**
ARU				SS	**SnSn**	**12 07 06.3**	**+3.3**
ARU				pmax	pmax		
	comp=Z,18nm,1.1s						
KIV	**Kislovodsk**	**22.72**	**299**	*e*P	**P**	**12 02 38.5**	**-0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA	**Gaotai**	**23.32**	**73**	⇑P	**P**	**12 02 46.2**	**+1.7**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,68nm,5.2s						
GTA				LR	LR		
	comp=Z,91nm,15.5s						
GTA				LR	LR		
	comp=Z,91nm,17.8s						
GTA				LR	LR		
	comp=Z,57nm,15.2s						
KNGR	**Kungurtug, Tuv**	**24.24**	**45**	*i* P	**P**	**12 02 54.4**	**+1.8**
RAYN	**Ar Rayn**	**25.00**	**247**	*e*P	**P**	**12 02 59.4**	**-0.3**
	comp=Z,15nm,0.8s						
RAYN	**Ar Rayn**	**25.00**	**247**	*e*P	**P**	**12 02 59.4**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,15nm,0.8s						
ZAK	**Zakamensk**	**27.55**	**48**	*e*P	**P**	**12 03 23.1**	**+0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CD2	**Chengdu**	**28.06**	**91**	P	**P**	**12 03 27.2**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SONA0	**Songino Array**	**28.88**	**55**	*e*P	**P**	**12 03 35.7**	**+1.3**
SONM	**Songino Array**	**28.88**	**55**	P	**P**	**12 03 35.7**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=269,slow=9.3,SNR=9.5						
BR101	**Keskin Array S**	**29.26**	**288**	*e*P	**P**	**12 03 39.1**	**+1.3**
BR131	**Keskin Array S**	**29.26**	**288**	*e*P	**P**	**12 03 38.8**	**+1.0**
	comp=Z,3.6nm,0.9s						
BRTR	**Keskin Array B**	**29.26**	**288**	P	**P**	**12 03 39.1**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=86,slow=8.2,SNR=9.8						
BRTR				LR	LR	12 17 37.4	
	comp=Z,22nm,20.4s,baz=272,slow=41						
KMI	**Kunming**	**29.62**	**103**	P	**P**	**12 03 44.1**	**+2.9**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
OBN	**Obninsk**	**30.08**	**320**	⇑*e*P	**P**	**12 03 46.7**	**+2.1**
OBN				*e**PP	**pP**	**12 04 07.0**	**-2.5**
OBN				*e*		12 04 44.7	
OBN				*e*S	**S**	**12 08 29.6**	**-5.3**
OBN				*e*SS	**SnSn**	**12 10 23.6**	**+3.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.53**	**117**	*ce*P	**P**	**12 03 51.2**	**+2.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.53**	**117**	P	**P**	**12 03 49.9**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=294,slow=7.9,SNR=5.6						
HHC	**Hu-ho-hao-te**	**32.24**	**69**	*e*P	**P**	**12 04 05.7**	**+1.7**
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.0s						
AKASG	**Malin Array Be**	**32.98**	**309**	P	**P**	**12 04 10.8**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=80,slow=7.9,SNR=2.6						
TMCR	**Tamitsa**	**34.33**	**335**	*e*P	**P**	**12 04 23.2**	**+1.5**
NRIK	**Norii'sk**	**34.65**	**10**	P	**P**	**12 04 25.4**	**+1.1**
	comp=Z,16nm,0.6s,baz=198,slow=4.9,SNR=13						
BOD	**Bodaibo**	**35.93**	**39**	*e*P	**P**	**12 04 35.6**	**+0.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
FIA1	**FINESS Array S**	**37.69**	**327**	*e*P	**P**	**12 04 51.1**	**+0.7**
	comp=Z,14nm,1.4s						
FIA0	**FINESS Array S**	**37.69**	**327**	*e*P	**P**	**12 04 52.0**	**+1.7**
FIA0	**FINESS Array S**	**37.69**	**327**	*e*P	**P**	**12 04 52.1**	**+1.7**
FINES	**FINESS Array B**	**37.69**	**327**	P	**P**	**12 04 52.0**	**+1.7**
	comp=Z,3.0nm,0.6s,baz=101,slow=9.9,SNR=11						
LANS	**Liptovska Anna**	**39.12**	**306**	*e*P	**P**	**12 05 01.6**	**-1.0**
LANS	**Liptovska Anna**	**39.12**	**306**	*e*P	**P**	**12 05 01.6**	**-1.0**
VYHS	**Vyhne**	**39.55**	**305**	*e*P	**P**	**12 05 08.9**	**+2.8**
VYHS	**Vyhne**	**39.55**	**305**	*e*P	**P**	**12 05 08.9**	**+2.8**
MODS	**Modra-Piesok**	**40.59**	**305**	*e*P	**P**	**12 05 14.9**	**+0.2**
MODS	**Modra-Piesok**	**40.59**	**305**	*e*P	**P**	**12 05 14.9**	**+0.2**
KEV	**Kevo**	**41.12**	**339**	*e*P	**P**	**12 05 19.2**	**+0.5**
	comp=Z,32nm,1.4s						
KEV	**Kevo**	**41.12**	**339**	*e*P	**P**	**12 05 19.2**	**+0.5**
KEV				pmax	pmax		
	comp=Z,32nm,1.4s						
ARA0	**ARCESS Array S**	**41.45**	**338**	*e*P	**P**	**12 05 23.0**	**+1.6**
ARCES	**ARCESS Array B**	**41.45**	**338**	P	**P**	**12 05 23.0**	**+1.6**
	comp=Z,8.2nm,0.7s,baz=112,slow=8.0,SNR=18						
ARE0	**ARCESS Array S**	**41.45**	**338**	*e*P	**P**	**12 05 22.1**	**+0.7**
	comp=Z,1.0nm,0.9s						
CN2	**Changchun**	**42.12**	**62**	*e*P	**P**	**12 05 29.6**	**+2.3**
PSI	**Prapat**	**42.18**	**135**	*e*P	**P**	**12 05 29.1**	**+1.0**
	comp=Z,9.1nm,1.2s						
PSI	**Pr

IM3	**Indian Mountai**	**72.72**	**17**	*e*P	**P**		**12 09 01.7**	**+0.1**
MLY	**Manley**	**74.23**	**17**	*e*P	**P**		**12 09 11.5**	**+1.0**
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**74.42**	**9**	*e*P	**P**		**12 09 11.8**	**+0.3**
	comp=Z,7.3nm,1.3s							
INK	**Inuvik**	**74.42**	**9**	P	**P**		**12 09 12.5**	**+1.0**
	comp=Z,2.2nm,0.5s,baz=342,slow=7.0,SNR=28							
MDM	**Murphy Dome**	**74.86**	**16**	*e*P	**P**		**12 09 14.8**	**+0.6**
	comp=Z,3.7nm,1.2s							
CAST	**Castle Rocks**	**75.23**	**18**	*e*P	**P**		**12 09 17.4**	**+1.0**
	comp=Z,3.9nm,0.7s							
ILAR	**Eielson Array**	**75.32**	**16**	P	**P**		**12 09 16.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=304,slow=5.0,SNR=14							
ILB	**Eielson Array**	**75.32**	**16**	*e*P	**P**		**12 09 16.8**	**0.0**
	comp=Z,2.7nm,1.3s							
PPLA	**Purkeypile**	**75.64**	**19**	*e*P	**P**		**12 09 19.5**	**+0.7**
	comp=Z,8.4nm,1.3s							
SCRK	**Sand Creek**	**76.64**	**15**	*e*P	**P**		**12 09 24.7**	**+0.3**
	comp=Z,2.1nm,0.7s							
DHY	**Denali Highway**	**76.68**	**17**	*e*P	**P**		**12 09 25.1**	**+0.5**
	comp=Z,5.0nm,0.7s							
BOSA	**Boshof**	**77.17**	**220**	LR	LR		12 44 54.5	
	comp=Z,47nm,18.6s,baz=202,slow=37							
PAX	**Paxson**	**77.20**	**16**	*e*P	**P**		**12 09 27.6**	**0.0**
	comp=Z,4.7nm,1.3s							
PAX	**Paxson**	**77.20**	**16**	*e*P	**P**		**12 09 27.6**	**0.0**
PAX				pmax	pmax			
	comp=Z,5.0nm,1.3s							
SML	**Sawmill**	**77.53**	**18**	*e*P	**P**		**12 09 29.8**	**+0.4**
	comp=Z,12nm,1.1s							
SML	**Sawmill**	**77.53**	**18**	*e*P	**P**		**12 09 29.8**	**+0.4**
SML				pmax	pmax			
	comp=Z,12nm,1.1s							
YKA	**Yellowknife Ar**	**81.73**	**2**	P	**P**		**12 09 52.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=351,slow=5.4,SNR=30							
WR1	**Warramunga Arr**	**82.03**	**122**	*e*P	**P**		**12 09 53.6**	**-0.5**
	comp=Z,4.3nm,1.1s							
WRA	**Warramunga Arr**	**82.03**	**122**	*i* P	**P**		**12 09 53.9**	**-0.3**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**		**12 09 53.6**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=324,slow=5.0,SNR=26							
WRAB	**Tennant Creek**	**82.03**	**122**	*e*P	**P**		**12 09 53.5**	**-0.7**
	comp=Z,2.7nm,0.8s							
WRAB	**Tennant Creek**	**82.03**	**122**	*e*P	**P**		**12 09 53.5**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WB2	**Warramunga Arr**	**82.04**	**122**	*e*P	**P**		**12 09 53.4**	**-0.8**
	comp=Z,23nm,1.5s							
ASAR	**Alice Springs**	**84.26**	**125**	P	**P**		**12 10 05.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=310,slow=4.8,SNR=15							
AS01	**Alice Springs**	**84.29**	**125**	*e*P	**P**		**12 10 05.2**	**-0.5**
FORT	**Forrest**	**85.59**	**133**	*e*P	**P**		**12 10 12.0**	**0.0**
	comp=Z,21nm,1.4s							

SJA 05 12:13:55.6±0.8, 33.36S×72.91W, h25km, ML2.6, MW3.6, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AUSP	**Uspallata**	**3.17**	**70**	*i* P	Pb	12 14 48.3	-3.1
AUSP				*i* S	Sb	12 15 26.3	-3.4
ARCO	**CERRO ARCO**	**3.37**	**82**	*i* P	Pn	12 14 49.6	+2.7
ARCO				IAML		12 14 52.5	
	comp=Z,21nm,0.3s						
ARCO				*i* S	Sn	12 15 30.0	+3.8
RTLS	**Leoncito**	**3.42**	**64**	*i* P	Pn	12 14 50.6	+3.0
RTLS				*i* S	Sn	12 15 31.9	+4.4
RTLS				IAML		12 15 41.0	
	comp=Z,9.5nm,0.4s						
AAGR	**Agrelo**	**3.43**	**87**	*i* P	Pn	12 14 50.9	+3.3
ASAL	**Salagasta**	**3.51**	**79**	*i* P	Pn	12 14 51.7	+3.1

YARS 05 12:15:40.0±0.4, 67.71N±0.01×142.26E±0.07, h10km, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.30**	**163**	*e*P	Pn	12 16 04.2	0.0
MOMR				Pmax		12 16 04.2	
	comp=Z,7.0nm,0.2s						
MOMR				*e*S	Sb	12 16 19.8	-1.5
MOMR				Smax		12 16 19.8	
	comp=N,25nm,0.3s						
YBGR	**Belaya Gora**	**1.69**	**59**	*e*P	Pb	12 16 10.7	-0.4
YBGR				Pmax		12 16 10.7	
	comp=Z,12nm,0.3s						

*NEIC **05** 12:37:24.5±0.5, 11.24S×110.93E, h10km, mb4.0/4, Error ellipse: s-maj=11.4km s-min=6.8km az=47.0*
*ISCJB **05** 12:37:25.3±0.6, 11.16S±0.04×110.92E±0.05, h33km, mb3.6/7, Error ellipse: s-maj=7.8km s-min=4.8km az=143.5*
*IDC **05** 12:37:25.2±2.3, 11.04S×111.17E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.6/33, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=87.6km s-min=21.3km az=43.0*
*DJA **05** 12:37:32.4±1.4, 11°S±14″×11°1E±°, h23km±24km, M4.4/8, mb4.5/1, MLv4.4/8*
ISC 05 12:37:27.4±0.8, 11°19S±0°07×110°97E±0°05, h35km, n26, σ2s00/33, mb3.6/7, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**3.28**	**352**	*e*Pn	**Pn**	**12 38 15.6**	**-0.8**
UGM				*e*Sn	**Sn**	**12 38 53.7**	**-0.6**
UGM	**Wanagama**	**3.28**	**352**	P	**Pn**	**12 38 15.7**	**-0.8**
UGM				S	**Sn**	**12 38 52.3**	**-2.0**
WOJI	**Wonogiri, Jawa**	**3.33**	**359**	P	**Pn**	**12 38 15.6**	**-1.5**
GMJI	**Gumukmas**	**3.79**	**40**	P	**Pn**	**12 38 23.0**	**-0.4**
GMJI				S	**Sn**	**12 39 02.5**	**-4.2**
NGJI	**Ngawi**	**3.83**	**7**	P	**Pn**	**12 38 24.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**4.14**	**50**	*e*Pn	**Pn**	**12 38 29.2**	**+1.0**
JAGI				*e*Sn	**Sn**	**12 39 15.3**	**-0.2**
JAGI	**Jajag, Banyuwa**	**4.14**	**50**	P	**Pn**	**12 38 28.9**	**+0.7**
JAGI				S	**Sn**	**12 39 10.4**	**-5.1**
CISI	**Cisompet, Garu**	**4.76**	**319**	*e*Pn	**Pn**	**12 38 36.8**	**0.0**
CISI				*e*Sn	**Sn**	**12 39 29.0**	**-1.9**
CISI	**Cisompet, Garu**	**4.76**	**319**	P	**Pn**	**12 38 40.4**	**+3.6**
CISI				S	**Sn**	**12 39 26.9**	**-4.0**
XMIS	**Christmas Isla**	**5.27**	**277**	*e*Pn	**Pn**	**12 38 41.7**	**-2.1**
PLAI	**Plampang**	**7.11**	**71**	P	**Pn**	**12 39 08.8**	**-0.2**
PLAI				S		12 39 22.3	
GIRL	**Giralia**	**11.81**	**165**	*e*Pn	**Pn**	**12 40 12.4**	**-1.0**
BATI	**Baumata**	**12.52**	**87**	Pn	**Pn**	**12 40 22.4**	**-0.8**
	3.2nm,0.3s,baz=260,slow=6.1,SNR=3.3						
MBWA	**Marble Bar**	**13.00**	**141**	*e*Pn	**Pn**	**12 40 28.1**	**-1.6**
SOEI	**Soe**	**13.16**	**85**	*e*Pn	**Pn**	**12 40 32.0**	**-0.1**
SBUM	**Sibu**	**13.61**	**5**	*e*Pn	**Pn**	**12 40 37.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.77**	**118**	*e*Pn	**Pn**	**12 41 06.4**	**-0.6**
	7.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**15.77**	**118**	Pn	**Pn**	**12 41 06.2**	**-0.7**
	0.1nm,0.3s,baz=322,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**24.11**	**114**	P	**P**	**12 42 41.7**	**+1.5**
	0.4nm,0.6s,baz=280,slow=9.7,SNR=6.7						
WR1	**Warramunga Arr**	**24.11**	**114**	*e*P	**P**	**12 42 41.7**	**+1.5**
	5.8nm,1.1s						
WRAB	**Tennant Creek**	**24.12**	**114**	*e*P	**P**	**12 42 41.1**	**+0.9**
	6.0nm,1.1s						
WB2	**Warramunga Arr**	**24.12**	**114**	*e*P	**P**	**12 42 39.4**	**-0.9**
AS31	**Alice Springs**	**25.11**	**123**	*e*P	**P**	**12 42 50.3**	**+1.1**
	0.8nm,0.6s						
ASAR	**Alice Springs**	**25.11**	**123**	P	**P**	**12 42 51.3**	**+2.1**
	1.1nm,0.7s,baz=299,slow=9.3,SNR=21						
CMAR	**Chiang Mai Arr**	**31.76**	**338**	P	**P**	**12 43 51.4**	**+2.9**
	0.4nm,0.5s,baz=178,slow=7.8,SNR=4.8						
MKAR	**Makanchi Array**	**63.17**	**338**	P	**P**	**12 47 53.9**	**+2.1**
	0.5nm,0.9s,baz=144,slow=6.9,SNR=3.6						

IDC 05 12:37:41.4±2.1, 10.54S×111.83E, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/36, mbtmp4.0/5, ML4.0/2, Error ellipse: s-maj=76.9km s-min=24.5km az=42.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**11.65**	**89**	Pn	Pn	12 40 31.1	+2.1
	2.9nm,0.3s,baz=281,slow=5.2,SNR=2.9						
FITZ	**Fitzroy Crossi**	**15.34**	**121**	Pn	Pn	12 41 17.1	-2.1
	0.3nm,0.3s,baz=302,slow=8.1,SNR=17						
FITZ				Sn	Sn	12 43 58.4	-12
	0.1nm,0.3s,baz=249,slow=17,SNR=2.0						
FITZ	**Fitzroy Crossi**	**15.34**	**121**	Sn	Sn	12 43 58.4	-12
WRA	**Warramunga Arr**	**23.61**	**116**	P	P	12 42 54.1	-0.1
	2.1nm,0.8s,baz=290,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.76**	**125**	P	P	12 43 04.9	-0.1
	1.7nm,0.6s,baz=299,slow=9.1,SNR=17						
MKAR	**Makanchi Array**	**62.89**	**338**	P	P	12 48 09.3	0.0
	0.4nm,0.6s,baz=144,slow=7.7,SNR=6.3						

*TAP **05** 12:45:03.4, 24.63N×122.52E, h100km±1km, ML2.6, C*
*ISCJB **05** 12:45:04.2±0.7, 24.63N±0.06×122.48E±0.02, h96km±6km, Error ellipse: s-maj=9.2km s-min=3.5km az=1.0*
*JMA **05** 12:45:04.5±0.1, 24.49N×122.45E, h96km±1km, M2.1*
ISC 05 12:45:04.8±1.6, 24.62N±0.06×122.48E±0.03, h92km±10km, n51, σ0s66/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.32**	**257**	*e*P	**Pn**	**12 45 18.8**	**+0.2**
	baz=256						
EOS1				*e*S	**Sn**	**12 45 30.1**	**+1.2**
	baz=256						
JYNG	**Yonagunijimaku**	**0.46**	**112**	P	**Pn**	**12 45 19.7**	**+0.2**
JYNG				*e*S	**Sn**	**12 45 31.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.51**	**108**	*e*P	**Pn**	**12 45 18.3**	**-1.6**
	baz=110						
YOJ				*e*S	**Sn**	**12 45 31.0**	**-0.2**
	baz=110						
YOJ	**Yonaguni jima**	**0.51**	**108**	P	**Pn**	**12 45 20.1**	**+0.2**
YOJ				S	**Sn**	**12 45 31.5**	**+0.3**
TWC	**Suao**	**0.57**	**269**	*e*P	**Pn**	**12 45 20.2**	**-0.2**
	baz=267						
TIPB	**Shuangxi**	**0.69**	**301**	P	**Pn**	**12 45 21.3**	**-0.2**
	baz=298						
TIPB				*e*S	**Sn**	**12 45 33.4**	**-0.5**
	baz=298						
NANB	**Nanao**	**0.69**	**254**	*e*P	**Pn**	**12 45 21.4**	**-0.1**
	baz=253						
NANB				*e*S	**Sn**	**12 45 34.3**	**+0.5**
	baz=253						
ENA	**Nanau**	**0.70**	**254**	P	**Pn**	**12 45 21.5**	**0.0**
	baz=253						
ENA				*e*S	**Sn**	**12 45 34.2**	**+0.2**
	baz=253						
TWE	**Neicheng**	**0.74**	**278**	P	**Pn**	**12 45 21.8**	**-0.1**
	baz=276						
ENTT	**Nioudou**	**0.83**	**271**	P	**Pn**	**12 45 23.1**	**+0.3**
	baz=270						
ENTT				*e*S	**Sn**	**12 45 37.1**	**+0.8**
	baz=270						
NDT	**Datong Townshi**	**0.88**	**269**	*e*P	**Pn**	**12 45 23.6**	**+0.2**
	baz=268						
NDT				*e*S	**Sn**	**12 45 37.8**	**+0.6**
	baz=268						
NWLT	**Wulai**	**0.90**	**280**	*e*P	**Pn**	**12 45 23.5**	**-0.1**
	baz=278						
NWLT				*e*S	**Sn**	**12 45 38.0**	**+0.3**
	baz=278						
NACB	**Ninganchiao**	**0.92**	**241**	*e*P	**Pn**	**12 45 23.1**	**-0.8**
	baz=241						
TWD	**Chiawan**	**0.97**	**236**	*e*P	**Pn**	**12 45 24.4**	**+0.1**
	baz=236						
YM01	**YM01**	**0.97**	**303**	*e*S	**Sn**	**12 45 38.6**	**-0.5**
	baz=300						
YM10	**YM10**	**0.98**	**303**	*e*P	**Pn**	**12 45 23.9**	**-0.7**
	baz=300						
YM10				*e*S	**Sn**	**12 45 39.4**	**-0.1**
	baz=300						
ETLH	**Xiulin Townshi**	**1.00**	**246**	*e*P	**Pn**	**12 45 24.2**	**-0.6**
	baz=245						
YHNB	**Yeheng**	**1.00**	**273**	*e*P	**Pn**	**12 45 24.8**	**0.0**
	baz=271						
YHNB				*e*S	**Sn**	**12 45 40.1**	**+0.3**
	baz=271						
NNSB	**Datong**	**1.01**	**259**	*e*P	**Pn**	**12 45 24.8**	**-0.2**
	baz=258						
NSK	**Sanguang**	**1.02**	**273**	P	**Pn**	**12 45 25.0**	**0.0**
	baz=272						
NNS	**Nan Shan**	**1.02**	**260**	*e*P	**Pn**	**12 45 24.9**	**-0.2**
	baz=259						
IRIF	**Iriomote-Funau**	**1.18**	**104**	P	**Pn**	**12 45 26.8**	**0.0**
IRIF				S	**Sn**	**12 45 42.3**	**-1.0**
WHF	**Hehuan Shan**	**1.20**	**247**	P	**Pn**	**12 45 27.1**	**-0.3**
	baz=246						
ESL	**Shilin**	**1.25**	**230**	*e*P	**Pn**	**12 45 26.5**	**-1.1**
	baz=230						
TDCB	**Techi**	**1.25**	**253**	*e*P	**Pn**	**12 45 28.1**	**+0.3**
	baz=252						
CHGB	**Renai**	**1.31**	**245**	*e*P	**Pn**	**12 45 28.6**	**0.0**
	baz=244						
LIOB	**Emei**	**1.33**	**271**	*e*P	**Pn**	**12 45 27.3**	**-1.3**
	baz=270						
LIOB				*e*S	**Sn**	**12 45 45.1**	**-1.4**
	baz=270						
NSTT	**Nanjuang**	**1.34**	**271**	*e*P	**Pn**	**12 45 28.6**	**-0.2**
	baz=269						
NSTT				*e*S	**Sn**	**12 45 46.4**	**-0.4**
	baz=269						
EGFH	**Guangfu**	**1.35**	**225**	*e*P	**Pn**	**12 45 27.7**	**-1.1**
	baz=225						
OWD	**Renai**	**1.36**	**241**	*e*P	**Pn**	**12 45 28.6**	**-0.5**
	baz=241						
WHP	**Taichung City**	**1.44**	**256**	*e*P	**Pn**	**12 45 30.5**	**+0.5**
	baz=256						
WHP				*e*S	**Sn**	**12 45 48.9**	**-0.1**
	baz=256						
JKRS	**Kuro-shima**	**1.45**	**105**	P	**Pn**	**12 45 30.5**	**+0.4**
HGSD	**Ruisui**	**1.48**	**221**	*e*P	**Pn**	**12 45 29.8**	**-0.7**
	baz=221						
VWDT	**VWDT**	**1.49**	**235**	*e*P	**Pn**	**12 45 30.4**	**-0.2**
	baz=235						
VWDT				*e*S	**Sn**	**12 45 49.9**	**-0.2**
	baz=235						
EHY	**Hungye**	**1.53**	**224**	*e*P	**Pn**	**12 45 29.9**	**-1.2**
	baz=223						
JIJ	**Ishigaki jima**	**1.54**	**99**	P	**Pn**	**12 45 31.2**	**0.0**
JIJ				S	**Sn**	**12 45 50.5**	**-0.7**
SMLT	**Sun Moon Lake**	**1.61**	**243**	*e*P	**Pn**	**12 45 33.1**	**+0.8**
	baz=242						
SSLB	**Suanglung**	**1.62**	**239**	*e*P	**Pn**	**12 45 32.4**	**+0.1**
	baz=239						
SSLB				*e*S	**Sn**	**12 45 54.8**	**+1.7**
	baz=239						
YULB	**Yu-li**	**1.63**	**222**	*e*P	**Pn**	**12 45 31.1**	**-1.3**
	baz=222						
TYC	**Yuchr**	**1.64**	**244**	*e*P	**Pn**	**12 45 33.2**	**+0.7**
	baz=244						
TWF1	**Yuli**	**1.66**	**221**	*e*P	**Pn**	**12 45 31.7**	**-1.1**
	baz=220						
JISG	**Ishigakijimahi**	**1.67**	**91**	P	**Pn**	**12 45 33.7**	**+0.8**
JISG				S	**Sn**	**12 45 54.5**	**+0.3**
WHYT	**Xinyi Township**	**1.75**	**238**	*e*P	**Pn**	**12 45 34.7**	**+0.8**
	baz=238						
WJS	**Zhushan**	**1.78**	**244**	*e*P	**Pn**	**12 45 34.4**	**0.0**
	baz=243						
YUS	**Yu-Shan**	**1.79**	**231**	*e*P	**Pn**	**12 45 34.9**	**-0.1**
	baz=231						
ALS	**Alishan**	**1.89**	**234**	*e*P	**Pn**	**12 45 36.8**	**+0.8**
	baz=234						
CHN5	**Tsauling**	**1.93**	**238**	*e*P	**Pn**	**12 45 36.7**	**+0.4**
	baz=238						
JTJ	**Tarama**	**2.03**	**89**	*e*S	**Sn**	**12 46 02.6**	**+0.2**
CHN4	**Tsaushan**	**2.14**	**234**	*e*P	**Pn**	**12 45 39.6**	**+0.6**
	baz=234						
TPUB	**Ta-pu**	**2.14**	**232**	*e*P	**Pn**	**12 45 39.6**	**+0.6**
	baz=232						
WTP	**Ta-pu**	**2.19**	**232**	*e*P	**Pn**	**12 45 39.3**	**-0.3**
	baz=231						

*STR **05** 13:00:48.6±0.4, 46°N-3°×±°, h5km, M3.3/6, MLv3.3/6*
*LDG **05** 13:00:48.1±0.1, 46.01N×1.44W, h2km, Md3.5/3, Ml3.5/35, Error ellipse: s-maj=1.2km s-min=0.9km az=102.0*
*INMG **05** 13:00:51.3±1.2, 45.98N×1.40W, h26km±12km, ML2.3, Error ellipse: s-maj=4.9km s-min=3.4km az=113.0*
ISC 05 13:00:47.4±1.1, 46.05N±0.02×1.38W±0.02, h14km±9km, n79, σ1s50/147, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**1.02**	**56**	*e*Pn	**Pn**	**13 01 08.8**	**+1.4**
MFF				*e*Sn	**Sn**	**13 01 23.0**	**+1.5**
	150nm,0.2s,SNR=1.0						
LRVF	**chteau la Riv**	**1.33**	**145**	Pn	**Pn**	**13 01 12.0**	**+0.4**
LRVF				Sg	**Sn**	**13 01 31.4**	**+2.3**
LFF	**La Frestale**	**1.86**	**126**	*e*Pn	**Pn**	**13 01 19.6**	**+0.8**
	SNR=1.0						
LFF	**La Frestale**	**1.86**	**126**	*e*Pg	**Pb**	**13 01 22.1**	**+1.0**
LFF				*e*Sn	**Sn**	**13 01 41.5**	**-0.6**
LFF				*e*Sg	**Sg**	**13 01 47.2**	**+0.1**
	112nm,0.4s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.16**	**109**	*e*Pn	**Pn**	**13 01 23.8**	**+0.7**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.16**	**109**	*e*Pg	**Pg**	**13 01 28.7**	**-0.2**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**13 01 49.8**	**+0.1**
RJF				*e*Sg	**Sg**	**13 01 57.2**	**+0.3**
	105nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.24**	**328**	*e*Pn	**Pn**	**13 01 24.7**	**+0.7**
	SNR=1.0						
QUIF	**Quistinic**	**2.24**	**328**	*e*Pg	**Pg**	**13 01 29.7**	**-0.6**
QUIF				*e*Sn	**Sn**	**13 01 51.3**	**-0.2**
	SNR=1.0						
QUIF				*e*Sg	**Sg**	**13 01 58.9**	**-0.3**
	42nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.35**	**340**	*e*Pn	**Pn**	**13 01 26.4**	**+0.8**
SGMF	**Saint Gilles**	**2.35**	**340**	*e*Pg	**Pg**	**13 01 32.1**	**-0.4**
	SNR=1.0						
SGMF				*e*Sg	**Sg**	**13 02 02.0**	**-0.9**
	59nm,0.3s,SNR=1.0						
GRR	**Gorron**	**2.37**	**8**	*e*Pn	**Pn**	**13 01 26.6**	**+0.7**
	SNR=1.0						
GRR	**Gorron**	**2.37**	**8**	*e*Pg	**Pg**	**13 01 32.6**	**-0.3**
GRR				*e*Sn	**Sn**	**13 01 55.2**	**+0.4**
	77nm,0.3s,SNR=1.0						
GRR				*e*Sg	**Sg**	**13 02 03.2**	**-0.4**
	92nm,0.4s						
TERF	**Tercis-les-Bai**	**2.37**	**175**	Pn	**Pn**	**13 01 26.8**	**+0.9**
TERF				Sn	**Sn**	**13 01 57.4**	**+2.5**
TCF	**Toulx Ste Croi**	**2.51**	**83**	*e*Pn	**Pn**	**13 01 28.7**	**+0.9**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**2.51**	**83**	*e*Pg	**Pg**	**13 01 35.4**	**-0.1**
TCF				*e*Sn	**Sn**	**13 01 57.9**	**-0.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**13 02 08.1**	**+0.2**
	65nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.63**	**331**	*e*Pn	**Pn**	**13 01 31.1**	**+1.6**
	SNR=1.0						
ROSF	**Rostrenen**	**2.63**	**331**	*e*Pg	**Pg**	**13 01 37.5**	**-0.3**
ROSF				*e*Sn	**Sn**	**13 02 00.8**	**-0.4**
	SNR=1.0						
ROSF				*e*Sg	**Sg**	**13 02 11.5**	**-0.4**
	37nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**2.63**	**331**	Pn	**Pn**	**13 01 31.3**	**+1.9**
CAF	**Calviac**	**2.67**	**114**	*e*Pn	**Pn**	**13 01 30.6**	**+0.5**
CAF	**Calviac**	**2.67**	**114**	*e*Pg	**Pg**	**13 01 38.2**	**-0.4**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**13 02 02.0**	**-0.2**
CAF				*e*Sg	**Sg**	**13 02 12.7**	**-0.5**
	27nm,0.1s						
LDF	**La Druitiere**	**2.69**	**18**	*e*Pn	**Pn**	**13 01 31.3**	**+1.0**
	SNR=1.0						
LDF	**La Druitiere**	**2.69**	**18**	*e*Pg	**Pg**	**13 01 38.7**	**-0.2**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**13 02 02.6**	**-0.1**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**13 02 13.6**	**-0.2**
	64nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.79**	**12**	*e*Pn	**Pn**	**13 01 32.1**	**+0.5**
	baz=193,SNR=1.0						
FLN	**La Foliniere**	**2.79**	**12**	*e*Pg	**Pg**	**13 01 40.3**	**-0.5**
	baz=193						
FLN				*e*Sn	**Sn**	**13 02 05.0**	**0.0**
FLN				*e*Sg	**Sg**	**13 02 16.5**	**-0.4**
	73nm,0.3s,baz=193,SNR=1.0						
OSSF	**Osses**	**2.79**	**178**	Pn	**Pn**	**13 01 31.4**	**-0.3**
SJPF	**Ste Jean**	**2.93**	**178**	*e*Pn	**Pn**	**13 01 34.5**	**+0.8**
	SNR=1.0						
SJPF	**Ste Jean**	**2.93**	**178**	*e*Pg	**Pg**	**13 01 42.5**	**-1.1**
SJPF				*e*Sn	**Sn**	**13 02 07.4**	**-1.3**
SJPF				*e*Sg	**Sb**	**13 02 18.2**	**+2.9**
	20nm,0.2s						
BGF	**Bois d'Agland**	**2.98**	**79**	*e*Pn	**Pn**	**13 01 34.6**	**+0.4**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.98**	**79**	*e*Pg	**Pg**	**13 01 44.8**	**+0.4**
BGF				*e*Sn	**Sn**	**13 02 09.4**	**-0.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**13 02 23.0**	**+0.1**
	168nm,0.4s,SNR=1.0						
ATE	**Arette**	**3.00**	**170**	Pn	**Pn**	**13 01 34.1**	**-0.5**
HYF	**Humbligny**	**3.03**	**65**	*e*Pn	**Pn**	**13 01 35.8**	**+0.8**
HYF	**Humbligny**	**3.03**	**65**	*e*Pg	**Pg**	**13 01 45.2**	**-0.2**
HYF				*e*Sn	**Sn**	**13 02 10.8**	**-0.2**
HYF				*e*Sg	**Sg**	**13 02 24.4**	**-0.2**
REYF	**Montagne du Re**	**3.06**	**166**	Pn	**Pn**	**13 01 34.7**	**-0.7**
REYF				Sg	**Sg**	**13 02 26.4**	**+0.8**
PYM	**Petit Puy Mans**	**3.08**	**94**	Pn	**Pn**	**13 01 36.2**	**+0.5**
PYM				Pg	**Pg**	**13 01 46.2**	**-0.2**
PYM				Sg	**Sg**	**13 02 27.1**	**+0.8**
PYLO	**Lourdes**	**3.10**	**162**	Pn	**Pn**	**13 01 35.6**	**-0.3**
AGO	**Saint Agoulin**	**3.14**	**88**	Pn	**Pn**	**13 01 37.5**	**+1.0**
AGO				Pg	**Pg**	**13 01 47.3**	**-0.3**
AGO				Sg	**Sg**	**13 02 30.4**	**+2.1**
LABF	**Labassere**	**3.17**	**160**	Pn	**Pn**	**13 01 36.4**	**-0.6**
ETSF	**Etsaut**	**3.20**	**169**	*e*Pn	**Pn**	**13 01 36.5**	**-0.9**
	SNR=1.0						
ETSF	**Etsaut**	**3.20**	**169**	*e*Pg	**Pb**	**13 01 46.5**	**+2.4**
ETSF				*e*Sn	**Sn**	**13 02 13.2**	**-2.2**
ETSF				*e*Sg	**Sg**	**13 02 28.2**	**-2.0**
	17nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.26**	**157**	*e*Pn	**Pn**	**13 01 37.8**	**-0.3**
	SNR=1.0						
EPF	**Esparros**	**3.26**	**157**	*e*Pg	**Pb**	**13 01 47.5**	**+2.5**
EPF				*e*Sn	**Sn**	**13 02 15.4**	**-1.3**
EPF				*e*Sg	**Sg**	**13 02 30.2**	**-1.7**
	48nm,0.3s,SNR=1.0						
VIEF	**Viey**	**3.32**	**162**	Pn	**Pn**	**13 01 38.6**	**-0.4**
LBL	**Lubilhac**	**3.35**	**102**	Pn	**Pn**	**13

	SNR=1.0								
VIVF					*e*Sg		**Sg**	**13 03 07.8**	**-1.6**
	6.9nm,0.3s,SNR=1.0								
SFTF	**Sexfontaines**	**4.88**	**61**	*e*Pn			**Pn**	**13 02 01.2**	**+0.7**
SFTF	**Sexfontaines**	**4.88**	**61**	*e*Pg			**Pg**	**13 02 19.8**	**-1.1**
SFTF				*e*Sn			**Sn**	**13 02 55.5**	**-1.3**
	baz=240								
SFTF				*e*Sg			**Sg**	**13 03 22.3**	**-1.8**
	12nm,0.4s,baz=239								
CABF	**La Chapelle**	**5.20**	**81**	*e*Pg			**Pg**	**13 02 25.1**	**-1.9**
CABF				*e*Sg			**Sg**	**13 03 32.2**	**-2.2**
	14nm,0.6s								
ORIF	**Oris-en-Rattie**	**5.23**	**100**	*e*Pn			**Pn**	**13 02 05.6**	**+0.3**
SMRF	**Simiane la Rot**	**5.35**	**110**	*e*Pn			**Pn**	**13 02 08.1**	**+1.2**
	SNR=1.0								
BAIF	**Baives**	**5.49**	**41**	*e*Pn			**Pn**	**13 02 09.7**	**+0.9**
BAIF	**Baives**	**5.49**	**41**	*e*Pg			**Pg**	**13 02 30.1**	**-2.4**
BAIF				*e*Sn			**Sn**	**13 03 09.9**	**-1.8**
BAIF				*e*Sg			**Sg**	**13 03 41.7**	**-1.9**
	3.9nm,0.2s								
HAU	**Haudompre**	**5.64**	**67**	*e*Pn			**Pn**	**13 02 11.1**	**+0.3**
HAU	**Haudompre**	**5.64**	**67**	*e*Pg			**Pg**	**13 02 33.2**	**-2.1**
HAU				*e*Sn			**Sn**	**13 03 13.1**	**-2.3**
HAU				*e*Sg			**Sg**	**13 03 45.8**	**-2.4**
	13nm,0.4s								
PBRG	**Braganca**	**5.74**	**224**	*e*Pn			**Pn**	**13 02 11.9**	**-0.4**
PBRG				*e*Sn			**Sn**	**13 03 14.1**	**-3.9**
GIVF	**Givet**	**5.81**	**43**	*e*Pn			**Pn**	**13 02 14.4**	**+1.3**
	SNR=1.0								
GIVF				*e*Sn			**Sn**	**13 03 17.1**	**-2.4**
GIVF				*e*Sg			**Sg**	**13 03 51.2**	**-2.6**
	4.5nm,0.3s								
HINF	**Hinteralfeld**	**5.91**	**70**	*e*Pn			**Pn**	**13 02 15.1**	**+0.5**
HINF	**Hinteralfeld**	**5.91**	**70**	*e*Pg			**Pg**	**13 02 38.5**	**-2.0**
HINF				*e*Sn			**Sn**	**13 03 19.7**	**-2.4**
HINF				*e*Sg			**Sg**	**13 03 54.5**	**-2.5**
	11nm,0.5s								
LMR	**La Mourre**	**6.24**	**113**	*e*Pn			**Pn**	**13 02 20.4**	**+1.3**
MVO	**Moncorvo**	**6.37**	**222**	*e*Pn			**Pn**	**13 02 20.8**	**-0.2**
MVO				*e*Sn			**Sn**	**13 03 26.8**	**-6.8**
MVO				A			A	13 03 37.6	
	2.5nm,0.7s								
PGAV	**Gavieira, Arco**	**6.43**	**233**	*e*Pn			**Pn**	**13 02 21.2**	**-0.5**
PGAV				*e*Sn			**Sn**	**13 03 29.2**	**-5.7**
PGAV				A			A	13 03 34.6	
	3.2nm,0.7s								
PCAB	**Cabril**	**6.47**	**230**	*e*Pn			**Pn**	**13 02 21.9**	**-0.3**

*IDC **05** 13:02:53.2±0.7,7.°21N×126.°32E,h0km,mb4.0/12, mb1 4.1/12,mb1mx3.9/34,mbtmp3.9/12,MS3.0/3, Ms1 3.1/3,ms1mx2.7/30,Error ellipse: s-maj=14.6km s-min=9.6km az=166.0*

*ISCJB **05** 13:02:57.6±0.8,7.°12N±0.°03×126.°06E±0.°07,h45km±8km, mb4.0/16,Error ellipse: s-maj=11.7km s-min=5.2km az=168.4*

*NEIC **05** 13:02:57.3±2.2,7.°17N×126.°10E,h26km±16km,mb4.6/9, Error ellipse: s-maj=20.8km s-min=6.2km az=66.0*

*MAN **05** 13:02:59.2,7.°07N×125.°83E,h51km,MS3.8*

ISC 05 13:02:59.8±1.1,7.°06N±0.°04×125.°96E±0.°08,h47km±10km, n45,σ1§49/50,mb4.0/16,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.38**	**271**		Pg		**Pn**	**13 03 08.0**	**-1.5**
	1µm,0.3s,baz=210,slow=1.7,SNR=34								
DAV					Lg		Lg	13 03 17.7	
	2µm,0.3s,baz=73,slow=19,SNR=39								
DMPH	**Davao City--Mi**	**0.45**	**273**	⇑*e*P			**Pn**	**13 03 09.8**	**-0.6**
DMPH				*i* S			**Sn**	**13 03 18.5**	**+0.7**
KCP	**Kidapawan**	**0.87**	**267**	⇓*i*P			**Pn**	**13 03 15.2**	**-0.5**
KCP				*i* S			Sn	13 03 37.5	+10
DDMP	**Don Marcelino,**	**0.98**	**195**	*e*P			**Pn**	**13 03 16.8**	**-0.5**
DDMP				*e*S			**Sn**	**13 03 31.1**	**+1.0**
BUKP	**Musuan**	**1.21**	**312**	*e*P			**Pn**	**13 03 18.7**	**-1.6**
BUKP				*e*S			**Sn**	**13 03 34.4**	**-1.2**
GSPH	**General Santos**	**1.40**	**226**	⇑*i*P			**Pn**	**13 03 23.0**	**0.0**
GSPH				*i* S			**Sn**	**13 03 40.3**	**-0.1**
SKMP	**Bagumbayan, Su**	**1.51**	**249**	*e*P			**Pn**	**13 03 23.3**	**-1.1**
SKMP				*e*S			**Sn**	**13 03 45.2**	**+2.3**
CTBH	**Cotabato--PC H**	**1.71**	**275**	⇓*e*P			**Pn**	**13 03 26.4**	**-0.7**
CGP	**Cagayan de Oro**	**1.87**	**318**	⇓*i*P			**Pn**	**13 03 28.4**	**-1.0**
CGP				*e*S			**Sn**	**13 03 56.9**	**+5.1**
BUTP	**Butuan**	**1.92**	**350**	*e*P			**Pn**	**13 03 30.6**	**+0.5**
BUTP				*e*S			**Sn**	**13 03 56.0**	**+2.9**
PAGZ	**Pagadian**	**2.67**	**287**	*e*P			**Pn**	**13 03 38.7**	**-1.7**
PAGZ				*e*S			Sn	13 03 54.0	-18
DCPH	**Dipolog City**	**3.00**	**300**	⇑*e*P			**Pn**	**13 03 48.4**	**+3.6**
MSLP	**Maasin**	**3.24**	**340**	*e*P			**Pn**	**13 03 45.2**	**-3.0**
MSLP				*e*S			**Sn**	**13 04 25.3**	**-0.3**
TNTI	**Ternate**	**6.40**	**167**	*e*Pn			**Pn**	**13 04 30.3**	**-1.3**
SAUI	**Saumlaki**	**15.87**	**160**	*e*Pn			**Pn**	**13 06 41.1**	**+1.1**
	245nm,0.8s								
QIZ	**Qiongzhong**	**19.68**	**309**	*e*P			**P**	**13 07 24.8**	**-0.3**
	98nm,1.6s								
FITZ	**Fitzroy Crossi**	**25.00**	**181**	*e*P			**P**	**13 08 19.8**	**+0.5**
	35nm,1.9s								
FITZ	**Fitzroy Crossi**	**25.00**	**181**	P			**P**	**13 08 19.7**	**+0.3**
	1.5nm,0.6s,baz=1.0,slow=14,SNR=6.6								
WR1	**Warramunga Arr**	**28.07**	**163**	*e*P			**P**	**13 08 47.4**	**+0.3**
	30nm,1.9s								
WRA	**Warramunga Arr**	**28.07**	**163**	P			**P**	**13 08 47.4**	**+0.3**
	0.4nm,0.3s,baz=341,slow=10,SNR=14								
CMAR	**Chiang Mai Arr**	**28.63**	**296**	LR			LR	13 20 41.2	
	comp=Z,28nm,18.3s,baz=140,slow=37								
KSRS	**Korea Array**	**30.30**	**3**	LR			LR	13 21 59.7	
	comp=Z,7.4nm,19.0s,baz=110,slow=38								
AS31	**Alice Springs**	**31.51**	**166**	*e*P			**P**	**13 09 17.8**	**+0.3**
	0.8nm,0.6s								
ASAR	**Alice Springs**	**31.51**	**166**	P			**P**	**13 09 17.8**	**+0.3**
	0.7nm,0.3s,baz=340,slow=7.2,SNR=14								
BBOO	**Buckleboo**	**40.80**	**167**	*e*P			**P**	**13 10 37.4**	**+0.7**
	40nm,2.0s								
STKA	**Stephens Creek**	**41.50**	**160**	*e*P			**P**	**13 10 43.2**	**+0.7**
	4.8nm,1.9s								
STKA	**Stephens Creek**	**41.50**	**160**	P			**P**	**13 10 42.6**	**+0.2**
	1.2nm,0.7s,baz=328,slow=8.7,SNR=4.2								
SONA0	**Songino Array**	**43.92**	**341**	*e*P			**P**	**13 11 03.2**	**+1.2**
SONM	**Songino Array**	**43.92**	**341**	P			**P**	**13 11 03.2**	**+1.2**
	0.7nm,0.7s,baz=170,slow=9.0,SNR=5.3								
PETK	**Petropavlovsk-**	**52.67**	**24**	P			**P**	**13 12 08.1**	**-1.2**
	3.9nm,1.1s,baz=240,slow=12,SNR=4.2								
PEA1	**Petropavlovsk-**	**52.68**	**23**	*e*P			**P**	**13 12 08.1**	**-1.2**
MK01	**Makanchi Array**	**54.39**	**324**	*e*P			**P**	**13 12 22.8**	**+0.8**
MK31	**Makanchi Array**	**54.41**	**324**	*e*P			**P**	**13 12 23.3**	**+1.1**
	1.6nm,1.1s								
MK32	**Makanchi Array**	**54.41**	**324**	*e*P			**P**	**13 12 23.5**	**+1.3**
MKAR	**Makanchi Array**	**54.41**	**324**	P			**P**	**13 12 23.5**	**+1.3**
	1.1nm,0.6s,baz=125,slow=8.2,SNR=19								
ZALV	**Zalesovo Beam**	**57.29**	**332**	P			**P**	**13 12 41.1**	**-1.5**
	0.7nm,0.6s,baz=111,slow=7.9,SNR=3.1								
ZAA1	**Zalesovo Array**	**57.30**	**332**	*e*P			**P**	**13 12 41.1**	**-1.5**
RAR	**Rarotonga**	**78.04**	**113**	LR			LR	13 48 58.3	
	comp=Z,28nm,18.1s,baz=234,slow=36								
ILAR	**Eielson Array**	**82.44**	**26**	P			**P**	**13 15 15.3**	**-1.5**
	0.3nm,0.5s,baz=255,slow=4.4,SNR=11								
ILB	**Eielson Array**	**82.44**	**26**	*e*P			**P**	**13 15 16.2**	**-0.7**
	24nm,2.0s								
ARA0	**ARCESS Array S**	**87.08**	**340**	*e*P			**P**	**13 15 39.0**	**-1.1**
ARCES	**ARCESS Array B**	**87.08**	**340**	P			**P**	**13 15 39.0**	**-1.1**
	4.5nm,0.9s,baz=87,slow=5.5,SNR=3.6								
FIA0	**FINESS Array S**	**88.55**	**332**	*e*P			**P**	**13 15 46.8**	**-0.5**
FINES	**FINESS Array B**	**88.55**	**332**	P			**P**	**13 15 46.8**	**-0.5**
	1.3nm,0.8s,baz=79,slow=7.2,SNR=3.5								
YKA	**Yellowknife Ar**	**96.79**	**24**	P			**P**	**13 16 24.8**	**-0.5**
	0.3nm,0.7s,baz=302,slow=4.6,SNR=5.4								

TAP 05 13:08:52.7,24.°74N×121.°91E,h82km,ML4.0,36C-8D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.11**	**10**	⇑P			Pn	13 09 04.8	+0.4
	baz=26								
EGS					*e*S		Sn	13 09 13.2	+0.1
	baz=26								
NTC	**Toucheng**	**0.14**	**327**	*e*P			Pn	13 09 04.8	+0.3
	baz=336								
TWC	**Suao**	**0.14**	**204**	⇓*i*P			Pn	13 09 05.1	+0.6
	baz=199								
TWC					S		Sn	13 09 13.9	+0.7
	baz=199								
ILA	**Ilan**	**0.15**	**281**	*e*P			Pn	13 09 04.7	+0.2
	baz=288								
ILA					S		Sn	13 09 14.5	+1.2
	baz=288								
TWE	**Neicheng**	**0.22**	**266**	*e*P			Pn	13 09 05.8	+1.0
	baz=264								
TWE					*e*S		Sn	13 09 14.7	+0.9
	baz=264								
TIPB	**Shuangxi**	**0.24**	**342**	⇓*i*P			Pn	13 09 05.2	+0.2
	baz=342								
TIPB					S		Sn	13 09 13.6	-0.4
	baz=342								
SLBB	**Yuanshan**	**0.25**	**274**	*e*P			Pn	13 09 05.9	+0.9
	baz=279								
EOS1	**EOS1**	**0.27**	**133**	⇓P			Pn	13 09 05.7	+0.7
	baz=132								
EOS1					*e*S		Sn	13 09 15.3	+1.3
	baz=132								
TWB1	**Santiao Chiao**	**0.28**	**15**	⇓*i*P			Pn	13 09 05.2	+0.1
	baz=21								
TWB1					S		Sn	13 09 13.8	-0.4
	baz=21								
ENTT	**Nioudou**	**0.33**	**253**	⇑*i*P			Pn	13 09 06.3	+0.9
	baz=259								
ENTT					S		Sn	13 09 16.0	+1.2
	baz=259								
NANB	**Nanao**	**0.34**	**205**	⇑P			Pn	13 09 06.3	+0.8
	baz=201								
NANB					S		Sn	13 09 15.9	+1.0
	baz=201								
ENA	**Nanau**	**0.34**	**207**	⇑P			Pn	13 09 06.3	+0.8
	baz=201								
ENA					*e*S		Sn	13 09 16.4	+1.5
	baz=201								
NWF	**Wu-fen Shan**	**0.35**	**340**	P			Pn	13 09 05.7	0.0
	baz=348								
NWF					*e*S		Sn	13 09 14.8	-0.4
	baz=348								
WFSB	**Wu-fen Shan**	**0.35**	**340**	⇓P			Pn	13 09 05.8	+0.2
	baz=348								
WFSB					*e*S		Sn	13 09 15.0	0.0
	baz=348								
NWLT	**Wulai**	**0.37**	**276**	*e*P			Pn	13 09 06.1	+0.4
	baz=285								
NWLT					*e*S		Sn	13 09 15.6	+0.2
	baz=285								
TWA	**Mucha**	**0.38**	**309**	⇑P			Pn	13 09 06.0	+0.3
	baz=313								
TWA					S		Sn	13 09 15.5	+0.1
	baz=313								
NDT	**Datong Townshi**	**0.39**	**250**	⇑*i*P			Pn	13 09 06.7	+0.9
	baz=260								
NDT					S		Sn	13 09 16.6	+1.1
	baz=260								
NHDH	**Xindian Distri**	**0.42**	**303**	⇑*i*P			Pn	13 09 06.5	+0.6
	baz=306								
NHDH					*e*S		Sn	13 09 16.1	+0.4
	baz=306								
TATO	**Taipei**	**0.45**	**302**	⇑P			Pn	13 09 06.6	+0.4
	baz=305								
TATO					S		Sn	13 09 16.0	-0.3
	baz=305								
TAP	**Taipei**	**0.47**	**309**	*e*P			Pn	13 09 06.7	+0.3
	baz=316								
TAP					*e*S		Sn	13 09 16.5	0.0
	baz=316								
YHNB	**Yeheng**	**0.49**	**262**	⇑P			Pn	13 09 07.1	+0.4
	baz=262								
YHNB					*e*S		Sn	13 09 17.0	0.0
	baz=262								
NSK	**Sanguang**	**0.51**	**263**	⇑*i*P			Pn	13 09 07.1	+0.3
	baz=263								
NSK					S		Sn	13 09 17.1	-0.1
	baz=263								
YM01	**YM01**	**0.51**	**323**	*e*P			Pn	13 09 07.0	+0.2
	baz=328								
YM01					*e*S		Sn	13 09 17.0	-0.2
	baz=328								
YM11	**YM11**	**0.52**	**324**	*e*P			Pn	13 09 07.0	+0.1
	baz=330								
YM11					*e*S		Sn	13 09 17.6	+0.1
	baz=330								
YM08	**YM08**	**0.54**	**327**	*e*P			Pn	13 09 06.9	-0.1
	baz=332								
YM08					*e*S		Sn	13 09 16.4	-1.1
	baz=332								
YM04	**YM04**	**0.54**	**321**	*e*P			Pn	13 09 07.0	+0.1
	baz=321								
ANP	**Anpu**	**0.57**	**322**	*e*P			Pn	13 09 07.4	0.0
	baz=322								
NNSB	**Datong**	**0.57**	**237**	⇑P			Pn	13 09 08.2	+0.8
	baz=242								
NNSB					S		Sn	13 09 19.3	+1.0
	baz=242								
NNS	**Nan Shan**	**0.57**	**239**	P			Pn	13 09 08.1	+0.7
	baz=243								
NNS					S		Sn	13 09 19.1	+0.8
	baz=243								
TWS1	**Kuangyinshan**	**0.57**	**309**	⇑*i*P			Pn	13 09 07.9	+0.6
	baz=316								
TWS1					*e*S		Sn	13 09 18.9	+0.8
	baz=316								
NTST	**Danshui**	**0.60**	**315**	*e*P			Pn	13 09 08.1	+0.6
	baz=320								
TWY	**Chenhua**	**0.60**	**332**	*e*P			Pn	13 09 08.1	+0.5
	baz=339								
NACB	**Ninganchiao**	**0.63**	**207**	⇑P			Pn	13 09 07.9	0.0
	baz=207								
NACB					*e*S		Sn	13 09 18.1	-0.9
	baz=207								
ETLH	**Xiulin Townshi**	**0.66**	**217**	⇑*e*P			Pn	13 09 08.7	+0.4
	baz=216								
NCU	**National Centr**	**0.70**	**290**	⇑P			Pn	13 09 09.0	+0.5
	baz=281								
NCU					*e*S		Sn	13 09 21.2	+0.9
	baz=281								
NCUH	**Zhongli**	**0.70**	**289**	⇑*e*P			Pn	13 09 09.0	+0.5
	baz=281								
NCUH					*e*S		Sn	13 09 21.3	+1.0
	baz=281								
TWD	**Chiawan**	**0.71**	**204**	⇑*i*P			Pn	13 09 08.6	-0.1
	baz=212								
TWD					*e*S		Sn	13 09 19.9	-0.6
	baz=212								
HWA	**Hwalien**	**0.81**	**200**	*e*P			Pn	13 09 10.1	+0.4
	baz=210								
LIOB	**Emei**	**0.82**	**264**	⇑*i*P			Pn	13 09 09.1	-0.7
	baz=264								
LIOB					*e*S		Sn	13 09 21.8	-0.8
	baz=264								
TWT	**Tachien**	**0.83**	**234**	⇑*i*P			Pn	13 09 11.3	+1.2
	baz=227								
TWT					S		Sn	13 09 24.4	+1.4
	baz=227								
WHF	**Hehuan Shan**	**0.83**	**225**	⇑*i*P			Pn	13 09 11.0	+0.6
	baz=219								
WHF					S		Sn	13 09 24.3	+0.7
	baz=219								
NSTT	**Nanjuang**	**0.83**	**263**	⇑*i*P			Pn	13 09 10.3	+0.4
	baz=262								
NSTT					S		Sn	13 09 22.8	0.0
	baz=262								
TDCB	**Techi**	**0.84**	**235**	⇑P			Pn	13 09 11.3	+1.2
	baz=228								
TDCB					S		Sn	13 09 24.4	+1.2
	baz=228								
SBCB	**Hsinchu**	**0.84**	**274**	⇑P			Pn	13 09 10.6	+0.5
	baz=274								
SBCB					*e*S		Sn	13 09 23.3	+0.3
	baz=274								
HSN	**Hsinchu**	**0.86**	**274**	*e*P			Pn	13 09 10.4	+0.2
	baz=276								
HSN					*e*S		Sn	13 09 23.2	-0.1
	baz=276								
ENLB	**Shoufeng**	**0.88**	**199**	⇓*e*P			Pn	13 09 11.2	+0.7
	baz=187								
ENLB					S		Sn	13 09 24.8	+1.2
	baz=187								
PCYT	**Pengchaiyu**	**0.90**	**9**	*e*P			Pn	13 09 12.0	+1.3
	baz=6.0								
CHGB	**Renai**	**0.95**	**225**	⇑P			Pn	13 09 12.4	+0.9
	baz=217								
CHGB					S		Sn	13 09 26.1	+0.5
	baz=217								
WHP	**Taichung City**	**0.99**	**243**	⇑*i*P			Pn	13 09 13.0	+1.1
	baz=251								
WHP					S		Sn	13 09 27.0	+0.8
	baz=251								
ESL	**Shilin**	**1.02**	**205**	P			Pn	13 09 11.4	-0.7
	baz=204								
OWD	**Renai**	**1.03**	**221**	*e*P			Pn	13 09 12.9	+0.5
	baz=214								
YOJ	**Yonaguni jima**	**1.04**	**105**	⇓P			Pn	13 09 12.4	0.0
	baz=101								
YOJ					*e*S		Sn	13 09 27.2	+0.2
	baz=101								
NMLH	**Miaoli**	**1.04**	**259**	⇑P			Pn	13 09 13.0	+0.7
	baz=259								
NMLH					*e*S		Sn	13 09 27.6	+0.6
	baz=259								
NSY	**Sanyi**	**1.09**	**253**	⇑*i*P			Pn	13 09 13.8	+0.8
	baz=252								
NSY					S		Sn	13 09 29.2	+1.0
	baz=252								
TWQ1	**Liyutan**	**1.11**	**250**	⇑P			Pn	13 09 13.8	+0.6
	baz=249								
TWQ1					*e*S		Sn	13 09 29.0	+0.5
	baz=249								
EGFH	**Guangfu**	**1.15**	**203**	*e*P			Pn	13 09 13.2	-0.6
	baz=207								
VWDT	**VWDT**	**1.21**	**216**	⇑P			Pn	13 09 15.2	+0.8
	baz=209								
VWDT					S		Sn	13 09 31.9	+1.3
	baz=209								
WDJ	**Dajia District**	**1.22**	**252**	⇑P			Pn	13 09 15.3	+0.8
	baz=243								
WDJ					*e*S		Sn	13 09 31.7	+0.8
	baz=243								
SMLT	**Sun Moon Lake**	**1.25**	**228**	⇑*i*P			Pn	13 09 16.2	+1.1
	baz=235								
SMLT					*e*S		Sn	13 09 33.7	+1.7
	baz=235								
TCU	**Taichung**	**1.27**	**243**	*e*P			Pn	13 09 15.7	+0.5
	baz=241								
TYC	**Yuchr**	**1.27**	**229**	⇑*i*P			Pn	13 09 16.0	+0.9
	baz=236								
TYC					*e*S		Sn	13 09 33.5	+1.4
	baz=236								
SSLB	**Suanglung**	**1.29**	**223**	⇑P			Pn	13 09 16.5	+1.1
	baz=232								
SSLB					*e*S		Sn	13 09 34.3	+1.8
	baz=232								
HGSD	**Ruisui**	**1.32**	**200**	*e*P			Pn	13 09 16.2	+0.4
	baz=206								
HGSD					*e*S		Sn	13 09 34.4	+1.2
	baz=206								
EHY	**Hungye**	**1.34**	**204**	*e*P			Pn	13 09 14.9	-1.2
	baz=202								
WCHH	**Zhanghua**	**1.40**	**242**	*e*P			Pn	13 09 17.3	+0.6
	baz=250								
WNT	**Mingjian**	**1.41**	**233**	*e*P			Pn	13 09 17.8	+0.8
	baz=242								
WNT					*e*S		Sn	13 09 36.9	+1.7
	baz=242								
WJS	**Zhushan**	**1.41**	**230**	*e*P			Pn	13 09 17.9	+0.9
	baz=240								
WJS					*e*S		Sn	13 09 36.9	+1.6
	baz=240								
WHYT	**Xinyi Township**	**1.42**	**223**	⇑*e*P			Pn	13 09 18.3	+1.2
	baz=232								
YULB	**Yu-li**	**1.45**	**203**	*e*P			Pn	13 09 16.2	-1.3
	baz=202								
TWF1	**Yuli**	**1.49**	**202**	*e*P			Pn	13 09 17.3	-0.7
	baz=206								
YUS	**Yu-Shan**	**1.52**	**215**	*e*P			Pn	13 09 19.9	+1.0
	baz=206								
YUS					*e*S		Sn	13 09 41.2	+2.6
	baz=206								
ALS	**Alishan**	**1.59**	**220**	*e*P			Pn	13 09 20.5	+1.0
	baz=227								
ALS					*e*S		Sn	13 09 42.0	+2.3
	baz=227								
CHN5	**Tsauling**	**1.60**	**225**	⇑P			Pn	13 09 20.4	+0.8
	baz=232								
WGK	**Gukeng**	**1.62**	**230**	*e*P			Pn	13 09 20.5	+0.8
	baz=236								
WDLH	**Douliu**	**1.63**	**230**	*e*P			Pn	13 09 20.7	+0.8
	baz=238								
FULB	**Fuli**	**1.63**	**200**	*e*P			Pn	13 09 20.2	+0.3
	baz=189								
RLNB	**Erlin**	**1.65**	**240**	*e*P			Pn	13 09 20.3	+0.3
	baz=238								
RLNB					*e*S		Sn	13 09 40.9	+0.2
	baz=238								
CHKT	**Chengkung**	**1.71**	**197**	*e*P			Pn	13 09 20.3	-0.5
	baz=188								
WTCT	**Ta-ch'eng**	**1.72**	**240**	P			Pn	13 09 21.2	+0.2
	baz=239								
WTCT					*e*S		Sn	13 09 42.4	-0.1
	baz=239								
ELDTW	**Lidau**	**1.75**	**208**	*e*P			Pn	13 09 21.7	+0.2
	baz=202								
CHN2	**Minshiung**	**1.78**	**228**	*e*P			Pn	13 09 22.8	+1.0
	baz=235								
CHN4	**Tsaushan**	**1.83**	**221**	*e*P			Pn	13 09 23.4	+0.9
	baz=220								
CHY	**Chiayi**	**1.84**	**228**	*e*P			Pn	13 09 23.0	+0.5
	baz=227								
TPUB	**Ta-pu**	**1.85**	**220**	*e*P			Pn	13 09 23.6	+0.8
	baz=228								
STYT	**Tauyuan**	**1.89**	**214**	⇑P			Pn	13 09 24.5	+1.2
	baz=213								
WSF	**Szhu**	**1.89**	**235**	*e*P			Pn	13 09 23.8	+0.6
	baz=233								
WTP	**Ta-pu**	**1.90**	**219**	*e*P			Pn	13 09 24.2	+0.8
	baz=227								
WLGB	**Puzi**	**1.93**	**230**	*e*P			Pn	13 09 22.2	-1.6
	baz=229								
TWK	**Hsinying**	**1.96**	**222**	*e*P			Pn	13 09 25.0	+0.8
	baz=220								
SNST	**Tainan City**	**1.99**	**221**	*e*P			Pn	13 09 25.3	+0.7
	baz=220								
CHN1	**Nanshi**	**2.00**	**220**	*e*P			Pn	13 09 25.1	+0.4
	baz=229								
**T

ISP				SG	**Sb**	**13 10 56.8**	**-1.2**
SHUT	**Suhut-Afyon**	**0.54**	**322**	PG	**Pg**	**13 10 50.8**	**-0.3**
SHUT				SG	**Sg**	**13 10 58.2**	**0.0**
DOGA	**KONYA_Doganhis**	**0.55**	**92**	*i* P	**Pb**	**13 10 52.1**	**-0.2**
BOLV	**Bolvadin**	**0.59**	**358**	*i* P	**Pb**	**13 10 53.0**	**-0.1**
KZIL	**AFYON_Kizioren**	**0.67**	**281**	*i* P	**Pg**	**13 10 53.5**	**-0.1**
KZIL				*i* S	**Sb**	**13 11 04.9**	**+1.1**
KZIL				IAML_P			
	comp=Z,962nm,0.1s						
BRDR	**BURDUR-Merkez**	**0.84**	**239**	*i* P	**Pn**	**13 10 58.3**	**-0.2**
BRDR				IAML_P			
	comp=Z,813nm,0.2s						
AFYO	**Afyonkarahisar**	**0.84**	**321**	*i* P	**Pb**	**13 10 57.5**	**+0.1**
KDHN	**Kadinhani**	**0.98**	**66**	*i* P	**Pb**	**13 11 00.0**	**+0.3**
LADK	**Ladik-KONYA**	**1.10**	**86**	PN	**Pg**	**13 11 01.6**	**-0.1**
KONT	**Konya--Tatoy**	**1.11**	**99**	PN	**Pb**	**13 11 02.2**	**+0.3**
KORT	**Korkueli**	**1.23**	**204**	PN	**Pn**	**13 11 04.5**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.38**	**18**	PN	**Pb**	**13 11 06.7**	**+0.1**

*NEIC **05** 13:30:35.9±0.0, 18°.50N×68°.56W, h177km, MD3.7(RSPR), After RSPR.*

RSPR 05 13:30:35.9, 18°.50N×68°.56W, h177km±2km, MD3.7/10, 10C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IDE	**Isla Desecheo**	**1.04**	**96**	*e*S			Sn	13 31 25.4	+0.4
IDE	**Isla Desecheo**	**1.04**	**96**	⇓*e*P			Pn	13 31 04.1	+0.5
IDE	**Isla Desecheo**	**1.04**	**96**	⇓*e*P			Pn	13 31 04.1	+0.5
IDE				*e*S			Sn	13 31 25.4	+0.4
AGPR	**Aguadilla, PR**	**1.38**	**91**	*e*S			Sn	13 31 30.3	+0.2
AGPR	**Aguadilla, PR**	**1.38**	**91**	⇑*e*P			Pn	13 31 06.9	+0.4
AGPR	**Aguadilla, PR**	**1.38**	**91**	⇑*e*P			Pn	13 31 06.9	+0.4
AGPR				*e*S			Sn	13 31 30.3	+0.2
CRPR	**Cabo Rojo, PR**	**1.46**	**109**	*e*S			Sn	13 31 31.7	+0.2
CRPR	**Cabo Rojo, PR**	**1.46**	**109**	⇑*e*P			Pn	13 31 07.0	-0.3
CRPR	**Cabo Rojo, PR**	**1.46**	**109**	⇑*e*P			Pn	13 31 07.0	-0.3
CRPR				*e*S			Sn	13 31 31.7	+0.2
CELP	**Cerrillos**	**1.93**	**102**	⇑*e*P			Pn	13 31 12.4	+0.4
CELP				*e*S			Sn	13 31 39.8	-0.2
CELP	**Cerrillos**	**1.93**	**102**	⇑*e*P			Pn	13 31 12.4	+0.4
CELP				*e*S			Sn	13 31 39.8	-0.2
EMPR	**Esperanza - Ma**	**1.93**	**90**	⇓*e*P			Pn	13 31 11.4	-0.6
EMPR	**Esperanza - Ma**	**1.93**	**90**	*e*S			Sn	13 31 40.8	+0.8
EMPR	**Esperanza - Ma**	**1.93**	**90**	⇓*e*P			Pn	13 31 11.4	-0.6
EMPR				*e*S			Sn	13 31 40.8	+0.8
CBYP	**Canovanas**	**2.58**	**95**	⇓*e*P			Pn	13 31 19.2	-0.2
CBYP	**Canovanas**	**2.58**	**95**	*e*S			Sn	13 31 52.5	-0.7
CBYP	**Canovanas**	**2.58**	**95**	*e*S			Sn	13 31 54.5	+1.3
CBYP	**Canovanas**	**2.58**	**95**	⇓*e*P			Pn	13 31 19.2	-0.2
CBYP				*e*S			Sn	13 31 52.5	-0.7
CBYP				*e*S				13 31 54.5	
HUMP	**Col San Antoni**	**2.60**	**97**	⇑*e*P			Pn	13 31 19.8	+0.2
HUMP	**Col San Antoni**	**2.60**	**97**	*e*S			Sn	13 31 54.3	+0.7
HUMP	**Col San Antoni**	**2.60**	**97**	⇑*e*P			Pn	13 31 19.8	+0.2
HUMP				*e*S			Sn	13 31 54.3	+0.7
MTP	**Monte Pirata**	**2.89**	**97**	⇓*e*P			Pn	13 31 24.2	+1.1
MTP	**Monte Pirata**	**2.89**	**97**	*e*S			Sn	13 32 01.4	+1.7
MTP	**Monte Pirata**	**2.89**	**97**	⇓*e*P			Pn	13 31 24.2	+1.1
MTP				*e*S			Sn	13 32 01.4	+1.7
STVI	**Saint Thomas**	**3.43**	**92**	⇓*e*P			Pn	13 31 30.4	+0.7
STVI	**Saint Thomas**	**3.43**	**92**	*e*S			Sn	13 32 13.0	+1.3
STVI	**Saint Thomas**	**3.43**	**92**	⇓*e*P			Pn	13 31 30.4	+0.7
STVI				*e*S			Sn	13 32 13.0	+1.3
ABVI	**Anegada Island**	**4.02**	**86**	⇑*e*P			Pn	13 31 37.9	+0.7
ABVI				*e*S			Sn	13 32 26.4	+1.4
ABV	**Anegada**	**4.02**	**86**	⇑*e*P			Pn	13 31 37.9	+0.7
ABV	**Anegada**	**4.02**	**86**	*e*S			Sn	13 32 26.4	+1.4

*KRNET **05** 13:33:28.9±0.1, 43°.38N×78°.17E, h16km, mb2.2*
*NNC **05** 13:33:28.8±0.6, 43°.34N×78°.16E, h0km, mpv2.4, Error ellipse: s-maj=6.1km s-min=3.1km az=166.0*

SOME 05 13:33:29.2, 43°.37N×78°.17E, h5km, 8C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.12**	**1**	P			Pg	13 33 31.6	-0.1
	8.5nm,0.1s								
KURS				S			Sg	13 33 33.4	-0.1
	28nm,0.4s								
KURS	**Kuram**	**0.12**	**1**	*e*P			Pg	13 33 31.7	0.0
	baz=1.0								
KURS				⇓*e*S			Sg	13 33 33.4	0.0
	baz=1.0								
KURS	**Kuram**	**0.12**	**1**	*e*P			Pg	13 33 31.6	-0.1
	8.5nm,0.1s								
KURS				⇓*e*S			Sg	13 33 33.4	-0.1
	28nm,0.4s								
UZB	**Uzynbulak**	**0.66**	**109**	*e*P			Pg	13 33 41.9	0.0
	baz=10.0								
UZB				*e*S			Sg	13 33 50.9	+0.4
	baz=10.0								
UZB	**Uzynbulak**	**0.66**	**109**	*e*P			Pg	13 33 41.9	-0.1
	0.9nm,0.1s								
UZB				*e*S			Sg	13 33 50.9	+0.3
	3.0nm,0.1s								
KOTS	**Kotyrbulak**	**0.78**	**261**	P			Pg	13 33 43.9	-0.3
	3.8nm,0.2s								
KOTS				S			Sg	13 33 54.6	+0.2
	10nm,0.2s								
KOTS	**Kotyrbulak**	**0.78**	**261**	*e*P			Pg	13 33 43.9	-0.3
	baz=59								
KOTS				*e*S			Sg	13 33 54.6	+0.2
	baz=59								
KOTS	**Kotyrbulak**	**0.78**	**261**	*e*P			Pg	13 33 43.9	-0.3
	3.8nm,0.2s								
KOTS				*e*S			Sg	13 33 54.6	+0.2
	10nm,0.2s								
PDGK	**Podgornoye**	**0.97**	**92**	P			Pg	13 33 47.4	-0.4
	0.6nm,0.1s								
PDGK				S			Sg	13 34 00.3	+0.1
	1.5nm,0.2s								
PDGK	**Podgornoye**	**0.97**	**92**	⇑*i*P			Pg	13 33 47.4	-0.3
	baz=93								
PDGK				⇑*i*S			Sg	13 34 00.2	-0.1
	baz=93								
KDJ	**Kajisay**	**1.43**	**211**	⇑*i*P			Pb	13 33 56.3	-0.2
	baz=10.0								
KDJ				⇑*i*S			Sb	13 34 15.1	0.0
	baz=10.0								
DJR	**Jarkent**	**1.52**	**50**	P			Pg	13 33 58.8	+0.4
	0.3nm,0.2s								
DJR				S			Sg	13 34 19.9	+1.9
	1.9nm,0.4s								
KTMS	**Ketmen**	**1.59**	**86**	P			Pn	13 33 58.3	+0.1
KTMS				S			Sn	13 34 19.4	+0.1
TARG	**Taragay, Kyrgy**	**1.66**	**189**	⇑*i*P			Pb	13 34 00.2	-0.3
	baz=89								
TARG				⇑*i*S			Sb	13 34 21.7	-0.1
	baz=89								
ULHL	**Ulahol**	**1.81**	**232**	⇑*i*P			Pb	13 34 02.5	-0.4
	baz=32								
ULHL				⇑*i*S			Sb	13 34 25.7	-0.2
	baz=32								
KAPS	**Kapalarasan**	**2.10**	**24**	Pg			Pb	13 34 07.2	-0.6
	0.3nm,0.1s								
KAPS				Lg			Lg	13 34 34.5	
	1.2nm,0.2s								

*ISCJB **05** 13:43:29.7±0.3, 24°.82N±0°.02×122°.04E±0°.02, h72km±2km, Error ellipse: s-maj=3.3km s-min=2.5km az=170.6*
*TAP **05** 13:43:29.8, 24°.79N×122°.05E, h69km, ML3.4, B*
*JMA **05** 13:43:30.0±0.2, 24°.78N×122°.04E, h66km±4km, M2.6*

ISC 05 13:43:30.5±1.2, 24°.80N±0°.03×122°.04E±0°.02, h67km±5km, n115, σ0°63/185, 10C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS		**0.11**	**295**	P			**Pn**	**13 43 40.6**	**+0.2**
	baz=300								
EGS				*e*S			**Sn**	**13 43 47.9**	**+0.2**
	baz=300								
NTC	**Toucheng**	**0.20**	**286**	P			**Pn**	**13 43 40.4**	**-0.3**
	baz=288								
NTC				*e*S			**Sn**	**13 43 48.5**	**+0.3**
	baz=288								
TWB1	**Santiao Chiao**	**0.21**	**347**	⇑*i*P			**Pn**	**13 43 40.8**	**0.0**
	baz=348								
TWB1				*e*S			**Sn**	**13 43 48.5**	**+0.2**
	baz=348								
TWC	**Suao**	**0.26**	**223**	⇑*i*P			**Pn**	**13 43 40.5**	**-0.5**
	baz=223								
EOS1	**EOS1**	**0.26**	**162**	*e*P			**Pn**	**13 43 41.0**	**0.0**
	baz=162								
EOS1				*e*S			**Sn**	**13 43 49.2**	**+0.5**
	baz=162								
TIPB	**Shuangxi**	**0.26**	**312**	⇑*i*P			**Pn**	**13 43 41.1**	**0.0**
	baz=312								
TIPB				*e*S			**Sn**	**13 43 48.9**	**-0.1**
	baz=312								
ILA	**Ilan**	**0.27**	**263**	⇑*i*P			**Pn**	**13 43 41.2**	**+0.1**
	baz=264								
ILA				S			**Sn**	**13 43 49.2**	**+0.3**
	baz=264								
TWE	**Neicheng**	**0.35**	**257**	⇑*i*P			**Pn**	**13 43 41.5**	**-0.1**
	baz=258								
TWE				*e*S			**Sn**	**13 43 49.6**	**-0.3**
	baz=258								
NWF	**Wu-fen Shan**	**0.36**	**319**	⇑*i*P			**Pn**	**13 43 41.9**	**0.0**
	baz=319								
NWF				*e*S			**Sn**	**13 43 50.6**	**+0.4**
	baz=319								
WFSB	**Wu-fen Shan**	**0.36**	**319**	*e*P			**Pn**	**13 43 42.0**	**+0.2**
	baz=319								
WFSB				*e*S			**Sn**	**13 43 50.6**	**+0.5**
	baz=319								
SLBB	**Yuanshan**	**0.37**	**263**	P			**Pn**	**13 43 41.8**	**-0.1**
	baz=264								
SLBB				*e*S			**Sn**	**13 43 50.3**	**0.0**
	baz=264								
TWA	**Mucha**	**0.45**	**294**	⇑*i*P			**Pn**	**13 43 42.5**	**-0.2**
	baz=294								
TWA				*e*S			**Sn**	**13 43 51.2**	**-0.3**
	baz=294								
NANB	**Nanao**	**0.45**	**216**	P			**Pn**	**13 43 42.3**	**-0.3**
	baz=216								
NANB				*e*S			**Sn**	**13 43 51.9**	**+0.5**
	baz=216								
ENA	**Nanau**	**0.46**	**217**	⇑*i*P			**Pn**	**13 43 42.3**	**-0.3**
	baz=216								
ENA				*e*S			**Sn**	**13 43 51.9**	**+0.3**
	baz=216								
ENTT	**Nioudou**	**0.46**	**250**	P			**Pn**	**13 43 42.7**	**0.0**
	baz=250								
ENTT				*e*S			**Sn**	**13 43 53.0**	**+1.4**
	baz=250								
NWLT	**Wulai**	**0.49**	**268**	P			**Pn**	**13 43 42.6**	**-0.3**
	baz=268								
NWLT				*e*S			**Sn**	**13 43 52.7**	**+0.6**
	baz=268								
NHDH	**Xindian Distri**	**0.50**	**289**	P			**Pn**	**13 43 42.8**	**-0.2**
	baz=290								
NHDH				*e*S			**Sn**	**13 43 51.7**	**-0.4**
	baz=290								
NDT	**Datong Townshi**	**0.52**	**248**	P			**Pn**	**13 43 43.3**	**+0.1**
	baz=249								
NDT				*e*S			**Sn**	**13 43 53.0**	**+0.5**
	baz=249								
YM07	**YM07**	**0.54**	**315**	*e*P			**Pn**	**13 43 43.3**	**-0.1**
	baz=314								
YM07				*e*S			**Sn**	**13 43 52.7**	**-0.2**
	baz=314								
TAP	**Taipei**	**0.54**	**296**	P			**Pn**	**13 43 43.3**	**-0.1**
	baz=297								
TAP				*e*S			**Sn**	**13 43 52.7**	**-0.2**
	baz=297								
YM01	**YM01**	**0.55**	**309**	*e*P			**Pn**	**13 43 43.5**	**-0.1**
	baz=309								
YM01				*e*S			**Sn**	**13 43 52.9**	**-0.3**
	baz=309								
YM11	**YM11**	**0.56**	**311**	*e*P			**Pn**	**13 43 43.6**	**-0.2**
	baz=311								
YM10	**YM10**	**0.56**	**309**	*e*P			**Pn**	**13 43 43.6**	**-0.1**
	baz=309								
YM10				*e*S			**Sn**	**13 43 53.1**	**-0.4**
	baz=309								
YM08	**YM08**	**0.56**	**314**	*e*P			**Pn**	**13 43 43.4**	**-0.3**
	baz=313								
YM08				*e*S			**Sn**	**13 43 52.7**	**-0.8**
	baz=313								
YM04	**YM04**	**0.58**	**308**	*e*P			**Pn**	**13 43 43.7**	**-0.2**
	baz=308								
YM04				*e*S			**Sn**	**13 43 53.2**	**-0.5**
	baz=308								
YM03	**YM03**	**0.59**	**310**	*e*P			**Pn**	**13 43 43.9**	**-0.2**
	baz=310								
YM03				*e*S			**Sn**	**13 43 53.8**	**-0.2**
	baz=310								
ANP	**Anpu**	**0.61**	**309**	*e*P			**Pn**	**13 43 44.0**	**-0.2**
	baz=309								
YHNB	**Yehang**	**0.62**	**258**	*e*P			**Pn**	**13 43 44.2**	**-0.2**
	baz=259								
YHNB				*e*S			**Sn**	**13 43 54.7**	**+0.2**
	baz=259								
TWY	**Chenhua**	**0.62**	**320**	*e*P			**Pn**	**13 43 44.5**	**+0.2**
	baz=320								
TWY				*e*S			**Sn**	**13 43 55.4**	**+0.9**
	baz=320								
NSK	**Sanguang**	**0.63**	**259**	P			**Pn**	**13 43 44.4**	**-0.1**
	baz=259								
NSK				*e*S			**Sn**	**13 43 54.7**	**-0.1**
	baz=259								
TWS1	**Kuangyinshan**	**0.64**	**298**	⇑P			**Pn**	**13 43 44.6**	**+0.1**
	baz=298								
TWS1				*e*S			**Sn**	**13 43 55.1**	**+0.3**
	baz=298								
NTST	**Danshui**	**0.65**	**304**	⇑P			**Pn**	**13 43 44.7**	**+0.1**
	baz=304								
NTST				*e*S			**Sn**	**13 43 55.0**	**0.0**
	baz=304								
NNSB	**Datong**	**0.70**	**239**	*e*P			**Pn**	**13 43 45.4**	**0.0**
	baz=239								
NNSB				*e*S			**Sn**	**13 43 56.3**	**0.0**
	baz=239								
NNS	**Nan Shan**	**0.70**	**240**	P			**Pn**	**13 43 45.4**	**+0.1**
	baz=240								
NNS				*e*S			**Sn**	**13 43 56.4**	**+0.1**
	baz=240								
WLTB	**Daxi**	**0.72**	**275**	*e*S			**Sn**	**13 43 57.6**	**+1.3**
	baz=275								
NACB	**Ninganchiao**	**0.74**	**213**	*e*P			**Pn**	**13 43 44.9**	**-0.8**
	baz=213								
ETLH	**Xiulin Townshi**	**0.78**	**221**	*e*P			**Pn**	**13 43 45.5**	**-0.8**
	baz=221								
ETLH				*e*S			**Sn**	**13 43 57.6**	**-0.2**
	baz=221								
NCU	**National Centr**	**0.79**	**283**	*e*P			**Pn**	**13 43 46.5**	**+0.3**
	baz=283								
NCU				*e*S			**Sn**	**13 43 59.0**	**+1.1**
	baz=283								
NCUH	**Zhongli**	**0.80**	**282**	*e*P			**Pn**	**13 43 46.7**	**+0.4**
	baz=282								
NCUH				*e*S			**Sn**	**13 43 58.8**	**+0.8**
	baz=282								
TWD	**Chiawan**	**0.82**	**210**	*e*P			**Pn**	**13 43 45.9**	**-0.7**
	baz=209								
TWD				*e*S			**Sn**	**13 43 57.5**	**-1.0**
	baz=209								
PCYT	**Pengchaiyu**	**0.83**	**2**	*e*P			**Pn**	**13 43 47.3**	**+0.6**
	baz=2.0								
JYNG	**Yonagunijimaku**	**0.89**	**113**	P			**Pn**	**13 43 47.0**	**-0.5**
JYNG				*e*S			**Sn**	**13 43 59.6**	**-0.5**
LIOB	**Emei**	**0.94**	**261**	*e*P			**Pn**	**13 43 47.0**	**-1.1**
	baz=261								
LIOB				*e*S			**Sn**	**13 44 00.5**	**-0.8**
	baz=261								
YOJ	**Yonaguni jima**	**0.94**	**111**	⇓*i*P			**Pn**	**13 43 47.6**	**-0.5**
	baz=110								
YOJ				*e*S			**Sn**	**13 44 00.8**	**-0.4**
	baz=110								
YOJ	**Yonaguni jima**	**0.94**	**111**	P			**Pn**	**13 43 47.6**	**-0.5**
YOJ				*e*S			**Sn**	**13 44 00.5**	**-0.7**
TWT	**Tachien**	**0.96**	**236**	*e*P			**Pn**	**13 43 49.0**	**+0.6**
	baz=236								
TWT				*e*S			**Sn**	**13 44 02.1**	**+0.4**
	baz=236								
SBCB	**Hsinchu**	**0.96**	**270**	*e*P			**Pn**	**13 43 48.5**	**+0.2**
	baz=270								
SBCB				*e*S			**Sn**	**13 44 02.2**	**+0.7**
	baz=270								
NSTT	**Nanjuang**	**0.96**	**260**	P			**Pn**	**13 43 48.3**	**0.0**
	baz=260								
NSTT				S			**Sn**	**13 44 01.9**	**+0.3**
	baz=260								
WHF	**Hehuan Shan**	**0.96**	**228**	*e*P			**Pn**	**13 43 48.5**	**-0.3**
	baz=227								
WHF				*e*S			**Sn**	**13 44 02.0**	**-0.2**
	baz=227								
TDCB	**Techi**	**0.97**	**236**	*e*P			**Pn**	**13 43 49.0**	**+0.4**
	baz=236								
TDCB				*e*S			**Sn**	**13 44 02.1**	**+0.1**
	baz=236								
HSN	**Hsinchu**	**0.97**	**270**	*e*P			**Pn**	**13 43 48.4**	**-0.1**
	baz=272								
HSN				*e*S			**Sn**	**13 44 01.7**	**-0.1**
	baz=272								
ENLB	**Shoufeng**	**0.98**	**204**	*e*P			**Pn**	**13 43 47.7**	**-0.8**
	baz=204								
CHGB	**Renai**	**1.08**	**227**	*e*P			**Pn**	**13 43 49.9**	**-0.2**
	baz=227								
WHP	**Taichung City**	**1.12**	**243**	*e*P			**Pn**	**13 43 51.1**	**+0.6**
	baz=243								
WHP				*e*S			**Sn**	**13 44 06.1**	**+0.7**
	baz=243								
ESL	**Shilin**	**1.12**	**210**	*e*P			**Pn**	**13 43 48.6**	**-1.9**
	baz=209								
OWD	**Renai**	**1.15**	**223**	*e*P			**Pn**	**13 43 50.5**	**-0.4**
	baz=223								
NMLH	**Miaoli**	**1.17**	**257**	*e*P			**Pn**	**13 43 51.0**	**0.0**
	baz=257								
NMLH				*e*S			**Sn**	**13 44 06.8**	**+0.5**
	baz=257								
NSY	**Sanyi**	**1.23**	**252**	*e*P			**Pn**	**13 43 52.0**	**+0.3**
	baz=252								
NSY				*e*S			**Sn**	**13 44 08.3**	**+0.6**
	baz=252								
TWQ1	**Liyutan**	**1.24**	**249**	P			**Pn**	**13 43 52.0**	**+0.1**
	baz=249								
TWQ1				*e*S			**Sn**	**13 44 08.2**	**+0.3**
	baz=249								
EGFH	**Guangfu**	**1.26**	**207**	*e*P			**Pn**	**13 43 50.5**	**-1.6**
	baz=206								
VWDT	**VWDT**	**1.32**	**218**	*e*P			**Pn**	**13 43 52.7**	**-0.4**
	baz=218								
VWDT				*e*S			**Sn**	**13 44 09.7**	**-0.2**
	baz=218								
WDJ	**Dajia District**	**1.35**	**251**	*e*P			**Pn**	**13 43 53.4**	**0.0**
	baz=251								
WDJ				*e*S			**Sn**	**13 44 10.6**	**0.0**
	baz=251								
SMLT	**Sun Moon Lake**	**1.38**	**229**	*e*P			**Pn**	**13 43 54.6**	**+0.7**
	baz=229								
TYC	**Yuchr**	**1.40**	**231**	*e*P			**Pn**	**13 43 54.2**	**+0.2**
	baz=230								
TCU	**Taichung**	**1.40**	**243**	*e*P			**Pn**	**13 43 54.0**	**0.0**
	baz=242								
TCU				*e*S			**Sn**	**13 44 12.5**	**+0.8**
	baz=242								
SSLB	**Suanglung**	**1.41**	**225**	*e*P			**Pn**	**13 43 54.6**	**+0.4**
	baz=225								
SSLB				*e*S			**Sn**	**13 44 13.0**	**+0.9**
	baz=225								
HGSD	**Ruisui**	**1.42**	**204**	*e*P			**Pn**	**13 43 53.4**	**-0.9**
	baz=203								
EHY	**Hungye**	**1.44**	**207**	*e*P			**Pn**	**13 43 53.7**	**-0.9**
	baz=207								
WCHH	**Zhanghua**	**1.53**	**242**	*e*P			**Pn**	**13 43 55.5**	**-0.2**
	baz=242								
WCHH				*e*S			**Sn**	**13 44 14.6**	**-0.2**
	baz=242								
WNT	**Mingjian**	**1.54**	**234**	*e*P			**Pn**	**13 43 56.2**	**+0.3**
	baz=233								
WHYT	**Xinyi Township**	**1.54**	**225**	*e*P			**Pn**	**13 43 56.5**	**+0.6**
	baz=225								
WHYT				*e*S			**Sn**	**13 44 16.2**	**+1.0**
	baz=225								
WJS	**Zhushan**	**1.54**	**231**	*e*P			**Pn**	**13 43 55.9**	**0.0**
	baz=231								
WJS				*e*S			**Sn**	**13 44 15.8**	**+0.7**
	baz=231								
YULB	**Yu-li**	**1.56**	**206**	*e*P			**Pn**	**13 43 55.1**	**-1.0**
	baz=206								
TWF1	**Yuli**	**1.59**	**205**	*e*P			**Pn**	**13 43 56.4**	**-0.2**
	baz=205								
IRIF	**Iriomote-Funau**	**1.61**	**106**	P			**Pn**	**13 43 56.2**	**-0.6**
IRIF				S			**Sn**	**13 44 16.1**	**-0.5**
YUS	**Yu-Shan**	**1.64**	**218**	*e*P			**Pn**	**13 43 57.8**	**+0.1**
	baz=217								
CHN5	**Tsauling**	**1.73**	**226**	*e*P			**Pn**	**13 43 58.6**	**+0.2**
	baz=226								
CHN5				*e*S			**Sn**	**13 44 19.9**	**+0.2**
	baz=226								
FULB	**Fuli**	**1.73**	**203**	*e*P			**Pn**	**13 43 57.7**	**-0.9**
	baz=203								
FULB				*e*S			**Sn**	**13 44 19.8**	**0.0**
	baz=203								
WGK	**Gukeng**	**1.75**	**231**	*e*P			**Pn**	**13 43 58.5**	**-0.2**
	baz=230								
WGK				*e*S			**Sn**	**13 44 19.9**	**0.0**
	baz=230								
WDLH	**Douliu**	**1.76**	**231**	*e*P			**Pn**	**13 43 58.8**	**-0.1**
	baz=231								
WDLH				*e*S			**Sn**	**13 44 20.5**	**+0.1**
	baz=231								
HATJ	**Hateruma jima**	**1.77**	**114**	P			**Pn**	**13 43 59.2**	**+0.2**
RLNB	**Erlin**	**1.78**	**240**	*e*P			**Pn**	**13 43 58.6**	**-0.4**
	baz=239								
RLNB				*e*S			**Sn**	**13 44 20.5**	**-0.3**
	baz=239								
ELDTW	**Lidau**	**1.85**	**210**	*e*P			**Pn**	**13 44 00.2**	**0.0**
	baz=210								
WTCT	**Ta-ch'eng**	**1.85**	**240**	*e*S			**Sn**	**13 44 22.4**	**-0.2**
	baz=240								
JKRS	**Kuro-shima**	**1.88**	**107**	P			**Pn**	**13 44 00.3**	**-0.1**
JKRS				S			**Sn**	**13 44 23.1**	**-0.1**
CHN4	**Tsaushan**	**1.96**	**223**	*e*P			**Pn**	**13 44 02.1**	**+0.6**
	baz=222								
CHN4				*e*S			**Sn**	**13 44 27.4**	**+2.3**
	baz=222								
CHY	**Chiayi**	**1.96**	**229**	*e*P			**Pn**	**13 44 01.5**	**0.0**
	baz=228								
CHY				*e*S			**Sn**	**13 44 25.6**	**+0.4**
	baz=228								
JIJ	**Ishigaki jima**	**1.96**	**102**	P			**Pn**	**13 44 01.2**	**-0.4**
JIJ				*e*S			**Sn**	**13 44 24.3**	**-0.9**
TPUB	**Ta-pu**	**1.97**	**221**	*e*P			**Pn**	**13 44 01.9**	**+0.2**
	baz=221								
TPUB				*e*S			**Sn**

	baz=263							
KNMB	**Chin-men Tao**	**3.34**	**265**	*e*P	**Pn**	**13 44 19.1**	**-1.2**
	baz=264							
AXDP	**Jialang**	**3.70**	**272**	*e*P	**Pn**	**13 44 24.7**	**-0.5**
	baz=271							
ZPLA	**Ao Xicun**	**4.01**	**258**	*e*P	**Pn**	**13 44 28.5**	**-0.9**
	baz=257							

NNC 05 13:50:46.6±1.0, 46.93N×74.90E, h20km±14km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=15.9km s-min=6.5km az=55.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTUK	**Ortayu**	**2.18**	**308**	Pg	Pb	13 51 26.8	+1.5
	2.1nm,0.2s						
OTUK				Lg	Lg	13 51 55.5	
	2.0nm,0.3s						
OTUK	**Ortayu**	**2.18**	**308**	⇑Pg	Pb	13 51 26.6	+1.3
	0.9nm,0.2s						
OTUK				⇓Lg	Lg	13 51 55.5	
	1.5nm,0.3s						
KUU	**Kurty**	**3.20**	**161**	Pg	Pb	13 51 48.5	+5.7
	3.6nm,0.4s						
KUU				Lg	Lg	13 52 30.0	
	7.5nm,0.7s						
KAPS	**Kapalarasan**	**3.51**	**116**	Pg	Pb	13 51 50.7	+2.8
	1.8nm,0.6s						
KAPS				Lg	Lg	13 52 36.2	
	2.2nm,1.0s						
DGS	**Degeres**	**3.74**	**170**	Pg	Pb	13 51 51.4	-0.6
	3.7nm,0.4s						
DGS				Lg	Lg	13 52 38.6	
	4.8nm,0.7s						
KST	**Kastek**	**3.96**	**169**	Pg	Pb	13 52 00.1	+4.4
	7.3nm,0.8s						
KST				Lg	Lg	13 52 50.3	
	3.5nm,0.8s						
TKM2	**Tokmak 2**	**4.04**	**173**	⇑Pg	Pb	13 51 60.0	+2.8
	1.2nm,0.7s						
TKM2				⇑Sn	Sn	13 52 35.0	+0.8
	4.9nm,1.1s						
TKM2				⇑Lg	Lg	13 52 53.3	
	2.9nm,0.8s						
MDOK	**Medeo**	**4.06**	**157**	Pg	Pb	13 52 00.8	+3.3
	3.1nm,0.8s						
MDOK				Lg	Lg	13 52 54.5	
	3.3nm,0.7s						
IZV	**Izvestkoviy**	**4.08**	**162**	Pg	Pb	13 52 04.3	+6.5
	80nm,0.2s						
IZV				Lg	Lg	13 52 59.0	
	8.1nm,0.3s						
AAK	**Ala-Archa**	**4.30**	**184**	⇓Lg	Lg	13 53 02.9	
	6.9nm,1.1s						
KURK	**Kurchatov**	**4.51**	**32**	⇓Pg	Pb	13 52 08.0	+3.0
	1.6nm,0.9s						
KURK				⇓Lg	Lg	13 53 09.0	
	4.9nm,1.1s						

*IDC **05** 14:06:12.3±1.1, 10.54N×127.02E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/33, mbtmp3.7/5, Error ellipse: s-maj=74.5km s-min=26.1km az=68.0*
*ISCJB **05** 14:06:14.6±1.0, 10.6N±0.1×126.87E±0.09, h20km, mb3.8/5, Error ellipse: s-maj=20.0km s-min=12.2km az=17.4*
ISC 05 14:06:15.8±1.0, 10.6N±0.1×126.8E±0.1, h20km, n7, σ1°04/9, mb3.8/5, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.54**	**240**	⇓*e*P	**Pn**	**14 06 43.0**	**+0.8**
PLP	**Palo**	**1.93**	**288**	⇑*e*P	**Pn**	**14 06 47.7**	**+0.2**
PLP				*e*S	**Sn**	**14 07 10.1**	**-1.1**
ASAR	**Alice Springs**	**34.71**	**169**	P	**P**	**14 13 04.5**	**-0.2**
	0.4nm,0.9s,baz=349,slow=6.7,SNR=7.6						
ASAR				PcP	**PcP**	**14 15 36.7**	**-1.7**
	0.2nm,0.6s,baz=1.7,slow=4.2,SNR=5.1						
MKAR	**Makanchi Array**	**52.14**	**322**	P	**P**	**14 15 26.1**	**+1.2**
	0.9nm,0.7s,baz=126,slow=7.8,SNR=13						
BRTR	**Keskin Array B**	**85.78**	**309**	P	**P**	**14 18 54.1**	**-0.2**
	1.0nm,0.8s,baz=57,slow=5.3,SNR=3.3						
FINES	**FINESS Array B**	**85.91**	**332**	P	**P**	**14 18 54.4**	**+0.3**
	0.9nm,0.5s,baz=96,slow=3.8,SNR=5.6						
YKA	**Yellowknife Ar**	**93.26**	**24**	P	**P**	**14 19 28.8**	**-0.1**
	0.2nm,0.7s,baz=297,slow=5.4,SNR=3.6						

*ISCJB **05** 14:20:21.0±1.1, 11.0S±0.1×165.8E±0.1, h10km, mb3.6/6, MS3.1/1, Error ellipse: s-maj=19.9km s-min=11.5km az=33.8*
*IDC **05** 14:20:26.5±5.2, 11.01S×165.85E, h38km±42km, mb3.6/6, mb1 3.8/8, mb1mx3.6/51, mbtmp3.9/8, ML4.3/2, MS3.3/3, Ms1 3.3/3, ms1mx2.8/23, Error ellipse: s-maj=33.4km s-min=29.7km az=117.0*
ISC 05 14:20:22.6±1.3, 11.0S±0.1×165.9E±0.1, h10km, n11, σ0°73/8, mb3.7/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.06**	**284**	Pn	**Pn**	**14 21 53.4**	**+1.1**
	15nm,0.3s,baz=209,slow=2.7,SNR=9.7						
HNR				Sn	**Sn**	**14 23 01.1**	**-0.7**
	baz=343,slow=19,SNR=3.5						
HNR				LR	LR	14 24 27.6	
	comp=Z,231nm,18.3s,baz=26,slow=40						
DZM	**Mont Dzumac**	**11.07**	**177**	Pn	**Pn**	**14 23 01.2**	**0.0**
	1.2nm,0.3s,baz=320,slow=13,SNR=19						
DZM				LR	LR	14 27 16.7	
	comp=Z,125nm,18.3s,baz=353,slow=37						
H11S2	**WAKE ISLAND Hy 29.27**	**2**		T	T	14 56 46.8	
	baz=181,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy 29.27**	**2**		T	T	14 56 48.3	
	baz=181,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy 29.28**	**2**		T	T	14 56 49.7	
	baz=181,slow=76,SNR=24						
STKA	**Stephens Creek**	**30.62**	**223**	P	**P**	**14 26 37.2**	**+0.2**
	0.7nm,0.6s,baz=57,slow=12,SNR=4.6						
WRA	**Warramunga Arr**	**31.67**	**250**	P	**P**	**14 26 46.1**	**-0.4**
	1.9nm,0.9s,baz=81,slow=9.2,SNR=7.8						
WRA				LR	LR	14 40 02.5	
	comp=Z,42nm,18.1s,baz=185,slow=37						
ASAR	**Alice Springs**	**32.98**	**243**	P	P	14 26 56.3	-1.7
	0.4nm,0.6s,baz=65,slow=10,SNR=11						
FITZ	**Fitzroy Crossi**	**39.56**	**255**	P	**P**	**14 27 54.0**	**-0.2**
	1.6nm,0.8s,baz=41,slow=11,SNR=2.6						
ILAR	**Eielson Array**	**83.37**	**18**	P	**P**	**14 32 50.0**	**+0.3**
	0.3nm,0.7s,baz=229,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**93.56**	**317**	P	**P**	**14 33 38.2**	**-0.8**
	0.2nm,0.7s,baz=100,slow=6.6,SNR=2.7						

*JMA **05** 14:21:45.8±0.1, 24.19N×122.43E, h45km±3km, M2.7*
*ISCJB **05** 14:21:46.1±0.3, 24.26N±0.02×122.46E±0.01, h50km±6km, Error ellipse: s-maj=3.2km s-min=2.2km az=171.1*
*TAP **05** 14:21:46.0, 24.25N×122.45E, h46km, ML3.4, C*
ISC 05 14:21:46.6±1.2, 24.26N±0.03×122.45E±0.02, h44km±12km, n116, σ0°96/175, 10D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.41**	**314**	*e*P	**Pn**	**14 21 56.6**	**+0.2**
	baz=315						
EOS1				*e*S	**Sn**	**14 22 04.9**	**+1.6**
	baz=315						
JYNG	**Yonaguniijimaku**	**0.49**	**67**	P	**Pn**	**14 21 57.2**	**-0.1**
JYNG				S	**Sn**	**14 22 05.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.55**	**68**	⇓*e*P	**Pn**	**14 21 57.9**	**-0.2**
	baz=58						
YOJ				*e*S	**Sn**	**14 22 06.6**	**+0.3**
	baz=58						
YOJ	**Yonaguni jima**	**0.55**	**68**	P	**Pn**	**14 21 57.9**	**-0.2**
YOJ				S	**Sn**	**14 22 06.6**	**+0.3**
TWC	**Suao**	**0.65**	**302**	⇓P	**Pn**	**14 21 58.9**	**-0.6**
	baz=303						
TWC				*e*S	**Sn**	**14 22 08.0**	**-0.7**
	baz=303						
NANB	**Nanao**	**0.66**	**285**	⇓*e*P	**Pn**	**14 21 59.1**	**-0.5**
	baz=290						
ENA	**Nanau**	**0.67**	**285**	⇓*i*P	**Pn**	**14 21 59.1**	**-0.6**
	baz=289						
ENA				*e*S	**Sn**	**14 22 09.7**	**+0.5**
	baz=289						
EGS		**0.75**	**321**	P	**Pn**	**14 22 00.8**	**-0.1**
	baz=329						
NACB	**Ninganchiao**	**0.79**	**264**	⇓*e*P	**Pn**	**14 22 00.5**	**-0.8**
	baz=264						
NACB				*e*S	**Sn**	**14 22 10.9**	**-1.1**
	baz=264						
TWD	**Chiawan**	**0.80**	**257**	P	**Pn**	**14 22 00.6**	**-0.9**
	baz=257						
NTC	**Toucheng**	**0.82**	**316**	*e*P	**Pn**	**14 22 01.5**	**-0.3**
	baz=316						
NTC				*e*S	**Sn**	**14 22 12.7**	**-0.1**
	baz=316						
HWA	**Hwalien**	**0.82**	**250**	P	**Pn**	**14 22 01.4**	**-0.4**
	baz=250						
TWE	**Neicheng**	**0.85**	**303**	P	**Pn**	**14 22 02.3**	**+0.1**
	baz=308						
TWE				*e*S	**Sn**	**14 22 14.4**	**+0.9**
	baz=308						
ENLB	**Shoufeng**	**0.85**	**246**	*e*P	**Pn**	**14 22 01.6**	**-0.6**
	baz=236						
ENLB				*e*S	**Sn**	**14 22 13.8**	**+0.1**
	baz=236						
TWB1	**Santiao Chiao**	**0.86**	**331**	*e*P	**Pn**	**14 22 01.8**	**-0.5**
	baz=341						
TWB1				*e*S	**Sn**	**14 22 12.9**	**-0.8**
	baz=341						
ETLH	**Xiulin Townshi**	**0.89**	**267**	⇓*e*P	**Pn**	**14 22 02.0**	**-0.8**
	baz=267						
ETLH				*e*S	**Sn**	**14 22 13.8**	**-0.8**
	baz=267						
SLBB	**Yuanshan**	**0.89**	**304**	P	**Pn**	**14 22 03.2**	**+0.4**
	baz=310						
ENTT	**Nioudou**	**0.89**	**295**	⇓P	**Pn**	**14 22 02.9**	**+0.1**
	baz=295						
ENTT				*e*S	**Sn**	**14 22 15.0**	**+0.4**
	baz=295						
TIPB	**Shuangxi**	**0.91**	**321**	P	**Pn**	**14 22 02.7**	**-0.3**
	baz=330						
TIPB				*e*S	**Sn**	**14 22 15.1**	**0.0**
	baz=330						
NDT	**Datong Townshi**	**0.92**	**292**	P	**Pn**	**14 22 03.2**	**+0.1**
	baz=292						
NDT				*e*S	**Sn**	**14 22 15.5**	**+0.2**
	baz=292						
NNSB	**Datong**	**0.99**	**280**	*e*P	**Pn**	**14 22 03.8**	**-0.4**
	baz=280						
NNS	**Nan Shan**	**1.00**	**281**	⇓P	**Pn**	**14 22 03.9**	**-0.4**
	baz=281						
NWLT	**Wulai**	**1.01**	**301**	⇓P	**Pn**	**14 22 04.7**	**+0.3**
	baz=310						
NWLT				*e*S	**Sn**	**14 22 18.1**	**+0.7**
	baz=310						
NWF	**Wu-fen Shan**	**1.01**	**323**	*e*P	**Pn**	**14 22 04.2**	**-0.3**
	baz=323						
NWF				*e*S	**Sn**	**14 22 16.8**	**-0.8**
	baz=323						
WFSB	**Wu-fen Shan**	**1.01**	**323**	*e*P	**Pn**	**14 22 04.2**	**-0.2**
	baz=322						
WFSB				*e*S	**Sn**	**14 22 16.9**	**-0.6**
	baz=322						
ESL	**Shilin**	**1.03**	**245**	P	**Pn**	**14 22 03.6**	**-1.1**
	baz=244						
YHNB	**Yeheng**	**1.06**	**293**	⇓*e*P	**Pn**	**14 22 05.3**	**+0.2**
	baz=280						
YHNB				*e*S	**Sn**	**14 22 19.2**	**+0.3**
	baz=280						
TWA	**Mucha**	**1.07**	**312**	*e*P	**Pn**	**14 22 05.6**	**+0.4**
	baz=312						
NSK	**Sanguang**	**1.08**	**293**	P	**Pn**	**14 22 05.4**	**0.0**
	baz=280						
NSK				*e*S	**Sn**	**14 22 19.6**	**+0.4**
	baz=280						
WHF	**Hehuan Shan**	**1.09**	**264**	P	**Pn**	**14 22 05.1**	**-0.8**
	baz=253						
WHF				*e*S	**Sn**	**14 22 19.9**	**-0.1**
	baz=253						
NHDH	**Xindian Distri**	**1.10**	**310**	*e*P	**Pn**	**14 22 05.9**	**+0.4**
	baz=320						
EGFH	**Guangfu**	**1.11**	**238**	P	**Pn**	**14 22 04.6**	**-1.1**
	baz=238						
EGFH				*e*S	**Sn**	**14 22 19.1**	**-0.7**
	baz=238						
TATO	**Taipei**	**1.13**	**309**	*e*P	**Pn**	**14 22 07.2**	**+1.2**
	baz=321						
TATO				*e*S	**Sn**	**14 22 21.2**	**+0.8**
	baz=321						
TWT	**Tachien**	**1.17**	**270**	*e*P	**Pn**	**14 22 07.5**	**+0.8**
	baz=262						
IRIF	**Iriomote-Funau**	**1.17**	**86**	P	**Pn**	**14 22 06.2**	**-0.3**
IRIF				S	**Sn**	**14 22 21.4**	**+0.2**
TDCB	**Techi**	**1.18**	**270**	*e*P	**Pn**	**14 22 06.8**	**0.0**
	baz=262						
CHGB	**Renai**	**1.19**	**261**	*e*P	**Pn**	**14 22 06.5**	**-0.5**
	baz=250						
CHGB				*e*S	**Sn**	**14 22 22.4**	**+0.4**
	baz=250						
YM07	**YM07**	**1.19**	**320**	*e*P	**Pn**	**14 22 06.4**	**-0.4**
	baz=320						
YM07				*e*S	**Sn**	**14 22 20.8**	**-1.0**
	baz=320						
YM01	**YM01**	**1.20**	**318**	*e*P	**Pn**	**14 22 06.8**	**-0.1**
	baz=317						
OWD	**Renai**	**1.21**	**256**	P	**Pn**	**14 22 06.5**	**-0.7**
	baz=255						
OWD				*e*S	**Sn**	**14 22 21.1**	**-1.3**
	baz=255						
YM11	**YM11**	**1.21**	**319**	*e*P	**Pn**	**14 22 06.7**	**-0.4**
	baz=318						
YM10	**YM10**	**1.21**	**318**	*e*P	**Pn**	**14 22 06.6**	**-0.5**
	baz=317						
HGSD	**Ruisui**	**1.21**	**231**	*e*P	**Pn**	**14 22 06.2**	**-0.9**
	baz=231						
YM08	**YM08**	**1.21**	**320**	*e*P	**Pn**	**14 22 06.6**	**-0.6**
	baz=319						
YM04	**YM04**	**1.22**	**317**	*e*P	**Pn**	**14 22 07.1**	**-0.2**
	baz=316						
YM03	**YM03**	**1.24**	**318**	*e*P	**Pn**	**14 22 08.2**	**+0.6**
	baz=317						
WLTB	**Daxi**	**1.24**	**299**	*e*P	**Pn**	**14 22 07.7**	**+0.2**
	baz=298						
HATJ	**Hateruma jima**	**1.25**	**99**	P	**Pn**	**14 22 08.2**	**+0.6**
HATJ				*e*S	**Sn**	**14 22 24.7**	**+1.4**
TWS1	**Kuangyinshan**	**1.26**	**312**	*e*P	**Pn**	**14 22 07.7**	**-0.1**
	baz=324						
TWY	**Chenhua**	**1.28**	**323**	*e*P	**Pn**	**14 22 09.2**	**+1.2**
	baz=322						
TWY				*e*S	**Sn**	**14 22 24.5**	**+0.5**
	baz=322						
EHY	**Hungye**	**1.28**	**234**	P	**Pn**	**14 22 07.0**	**-1.0**
	baz=246						
VWDT	**VWDT**	**1.30**	**248**	*e*P	**Pn**	**14 22 08.1**	**-0.2**
	baz=247						
VWDT				*e*S	**Sn**	**14 22 23.9**	**-0.6**
	baz=247						
YULB	**Yu-li**	**1.36**	**231**	*e*P	**Pn**	**14 22 08.2**	**-1.0**
	baz=243						
LIOB	**Emei**	**1.37**	**287**	P	**Pn**	**14 22 08.8**	**-0.5**
	baz=286						
LIOB				*e*S	**Sn**	**14 22 26.4**	**+0.2**
	baz=286						
NSTT	**Nanjuang**	**1.38**	**286**	P	**Pn**	**14 22 09.9**	**+0.6**
	baz=285						
NSTT				*e*S	**Sn**	**14 22 27.9**	**+1.5**
	baz=285						
WHP	**Taichung City**	**1.38**	**271**	P	**Pn**	**14 22 10.2**	**+0.8**
	baz=271						
TWF1	**Yuli**	**1.39**	**230**	P	**Pn**	**14 22 08.7**	**-0.9**
	baz=242						
TWF1				*e*S	**Sn**	**14 22 25.5**	**-1.2**
	baz=242						
PCYT	**Pengchaiyu**	**1.41**	**346**	*e*P	**Pn**	**14 22 09.6**	**-0.3**
	baz=345						
JKRS	**Kuro-shima**	**1.42**	**91**	P	**Pn**	**14 22 10.4**	**+0.5**
JKRS				S	**Sn**	**14 22 28.2**	**+0.8**
SSLB	**Suanglung**	**1.45**	**251**	*e*P	**Pn**	**14 22 10.1**	**-0.3**
	baz=242						
SMLT	**Sun Moon Lake**	**1.47**	**256**	P	**Pn**	**14 22 10.9**	**+0.2**
	baz=255						
SMLT				*e*S	**Sn**	**14 22 28.7**	**-0.1**
	baz=255						
FULB	**Fuli**	**1.50**	**225**	*e*P	**Pn**	**14 22 09.9**	**-1.1**
	baz=216						
TYC	**Yuchr**	**1.50**	**257**	P	**Pn**	**14 22 11.2**	**+0.2**
	baz=247						
CHKT	**Chengkung**	**1.52**	**221**	*e*P	**Pn**	**14 22 10.0**	**-1.4**
	baz=213						
CHKT				*e*S	**Sn**	**14 22 26.9**	**-3.2**
	baz=213						
TWQ1	**Liyutan**	**1.54**	**274**	*e*P	**Pn**	**14 22 12.6**	**+1.0**
	baz=273						
NMLH	**Miaoli**	**1.54**	**281**	*e*P	**Pn**	**14 22 12.3**	**+0.7**
	baz=280						
NMLH				*e*S	**Sn**	**14 22 31.5**	**+1.1**
	baz=280						
JIJ	**Ishigaki jima**	**1.54**	**86**	P	**Pn**	**14 22 11.2**	**-0.5**
JIJ				S	**Sn**	**14 22 30.0**	**-0.5**
WHYT	**Xinyi Township**	**1.57**	**249**	*e*P	**Pn**	**14 22 12.5**	**+0.4**
	baz=240						
WHYT				*e*S	**Sn**	**14 22 31.7**	**+0.6**
	baz=240						
YUS	**Yu-Shan**	**1.57**	**241**	P	**Pn**	**14 22 12.4**	**-0.1**
	baz=240						
YUS				*e*S	**Sn**	**14 22 31.1**	**-0.8**
	baz=240						
TCU	**Taichung**	**1.63**	**266**	*e*P	**Pn**	**14 22 14.1**	**+1.3**
	baz=266						
WJS	**Zhushan**	**1.64**	**255**	P	**Pn**	**14 22 14.1**	**+1.2**
	baz=248						
WDJ	**Dajia District**	**1.66**	**273**	*e*P	**Pn**	**14 22 13.9**	**+0.7**
	baz=273						
WNT	**Mingjian**	**1.66**	**257**	*e*P	**Pn**	**14 22 14.9**	**+1.6**
	baz=257						
ALS	**Alishan**	**1.68**	**244**	P	**Pn**	**14 22 14.3**	**+0.4**
	baz=244						
ELDTW	**Lidau**	**1.69**	**231**	P	**Pn**	**14 22 13.0**	**-0.8**
	baz=222						
JISG	**Ishigakijimahi**	**1.72**	**79**	P	**Pn**	**14 22 13.6**	**-0.5**
JISG				S	**Sn**	**14 22 34.3**	**-0.6**
WCHH	**Zhanghua**	**1.74**	**265**	*e*P	**Pn**	**14 22 15.1**	**+0.8**
	baz=276						
CHN5	**Tsauling**	**1.75**	**248**	P	**Pn**	**14 22 15.6**	**+1.0**
	baz=248						
CHN5				*e*S	**Sn**	**14 22 37.1**	**+1.4**
	baz=248						
WGK	**Gukeng**	**1.82**	**252**	*e*P	**Pn**	**14 22 16.8**	**+1.3**
	baz=252						
WDLH	**Douliu**	**1.84**	**252**	*e*P	**Pn**	**14 22 17.1**	**+1.3**
	baz=252						
STYT	**Tauyuan**	**1.90**	**235**	*e*P	**Pn**	**14 22 17.2**	**+0.6**
	baz=235						
STYT				*e*S	**Sn**	**14 22 39.5**	**+0.1**
	baz=235						
TWGBT	**Beinan**	**1.91**	**222**	*e*P	**Pn**	**14 22 16.1**	**-0.6**
	baz=230						
TWG	**Pinlang**	**1.91**	**222**	*e*P	**Pn**	**14 22 16.0**	**-0.8**
	baz=230						
TWG				*e*S	**Sn**	**14 22 37.6**	**-1.9**
	baz=230						
TPUB	**Ta-pu**	**1.92**	**241**	*e*P	**Pn**	**14 22 17.9**	**+1.0**
	baz=240						
TPUB				*e*S	**Sn**	**14 22 41.5**	**+1.6**
	baz=240						
CHN4	**Tsaushan**	**1.93**	**242**	*e*P	**Pn**	**14 22 18.5**	**+1.5**
	baz=235						
CHN4				*e*S	**Sn**	**14 22 42.3**	**+2.3**
	baz=235						
RLNB	**Erlin**	**1.95**	**260**	*e*P	**Pn**	**14 22 18.0**	**+0.8**
	baz=259						
RLNB				*e*S	**Sn**	**14 22 42.5**	**+2.1**
	baz=259						
WTP	**Ta-pu**	**1.96**	**239**	*e*P	**Pn**	**14 22 18.7**	**+1.2**
	baz=239						
WTP				*e*S	**Sn**	**14 22 42.6**	**+1.7**
	baz=239						
CHY	**Chiayi**	**2.01**	**248**	*e*P	**Pn**	**14 22 19.7**	**+1.7**
	baz=248						
TWK	**Hsinying**	**2.05**	**242**	*e*P	**Pn**	**14 22 20.0**	**+1.3**
	baz=241						
TWK				*e*S	**Sn**	**14 22 44.9**	**+1.7**
	baz=241						
CHN1	**Nanshi**	**2.06**	**239**	*e*P	**Pn**	**14 22 20.6**	**+1.8**
	baz=238						
CHN1				*e*S	**Sn**	**14 22 44.9**	**+1.5**
	baz=238						
SNST	**Tainan City**	**2.07**	**240**	*e*P	**Pn**	**14 22 20.1**	**+1.3**
	baz=240						
SNST				*e*S	**Sn**	**14 22 45.6**	**+2.2**
	baz=240						
SLGT	**Liugui**	**2.08**	**233**	*e*P	**Pn**	**14 22 20.1**	**+1.1**
	baz=224						
SLGT				*e*S	**Sn**	**14 22 45.3**	**+1.5**
	baz=224						
JTJ	**Tarama**	**2.08**	**79**	P	**Pn**	**14 22 19.3**	**+0.2**
JTJ				S	**Sn**	**14 22 43.5**	**-0.3**
WSF	**Szhu**	**2.13**	**254**	*e*P	**Pn**	**14 22 20.6**	**+0.9**
	baz=265						
WSF				*e*S	**Sn**	**14 22 47.5**	**+2.5**
	baz=265						
ECL	**Taimali**	**2.15**	**220**	*e*P	**Pn**	**14 22 19.7**	**-0.3**
	baz=228						
SSD	**Sandimen**	**2.25**	**228**	*e*P	**Pn**	**14 22 22.4**	**+1.0**
	baz=223						
SSD				*e*S	**Sn**	**14 22 50.0**	**+2.1**
	baz=223						
MASBT	**Mashibuluo**	**2.34**	**226**	*e*P	**Pn**	**14 22 23.1**	**+0.4**
	baz=219						
LAY	**Lan-yu**	**2.36**	**201**	*e*P	**Pn**	**14 22 21.4**	**-1.5**
	baz=201						
EAST	**Anshuo**	**2.38**	**219**	*e*P	**Pn**	**14 22 23.1**	**-0.1**
	baz=219						
SSPT	**Xinbi**	**2.47**	**225**	*e*P	**Pn**	**14 22 24.1**	**-0.3**
	baz=220						
SCZT	**Fangliau**	**2.52**	**222**	*e*P	**Pn**	**14 22 27.7**	**+2.6**
	baz=219						
JIRB	**Irabujima**	**2.54**	**77**	P	**Pn**	**14 22 25.4**	**+0.1**
PTTC	**Pingtan**	**2.73**	**297**	*e*P	**Pn**	**14 22 27.4**	**-0.6**
	baz=295						
PTTC				*e*S	**Sn**	**14 22 57.3**	**-2.4**
	baz=295						
PHUB	**P'eng-hu**	**2.74**	**255**	*e*P	**Pn**	**14 22 27.6**	**-0.5**
	baz=254						
PHUB				*e*S	**Sn**	**14 22 59.6**	**-0.3**
	baz=254						
PNG	**Penghu**	**2.74**	**256**	*e*P	**Pn**	**14 22 27.8**	**-0.3**
	baz=255						
PNG				*e*S	**Sn**	**14 22 59.9**	**-0.1**
	baz=255						
WDGT	**Dungji**	**2.75**	**249**	*e*P	**Pn**	**14 22 28.5**	**+0.3**
	baz=249						
TWKBT	**Hengchun**	**2.76**	**214**	*e*P	**Pn**	**14 22 28.2**	**-0.1**
	baz=214						
TWK1	**Hengchun**	**2.76**	**214**	*e*P	**Pn**	**14 22 28.9**	**+0.6**
	baz=214						
VWUC	**VWUC**	**2.83**	**286**	*e*P	**Pn**	**14 22 28.5**	**-0.8**
	baz=283						
MATB	**Ma-tsu**	**2.95**	**310**	*e*P	**Pn**	**14 22 30.6**	**-0.4**
	baz=316						
MATB				*e*S	**Sn**	**14 23 02.9**	**-2.3**
	baz=316						
VCHM	**Qimei**	**2.96**	**250**	*e*P	**Pn**	**14 22 31.4**	**+0.3**
	baz=250						
PTMZ	**Houxiangcun**	**3.13**	**285**	*e*P	**Pn**	**14 22 32.5**	**-1.0**
	baz=283						
XPSS	**Dashiqiu**	**3.35**	**323**	*e*P	**Pn**	**14 22 37.4**	**+0.9**
	baz=320						
KNMB	**Chin-men Tao**	**3.71**	**274**	*e*P	**Pn**	**14 22 40.7**	**-0.7**
	baz=263						
AXDP	**Jialang**	**4.13**	**280**	*e*P	**Pn**	**14 22 46.6**	**-0.6**
	baz=278						
ZPLA	**Ao Xicun**	**4.31**	**267**	*e*P	**Pn**	**14 22 48.9**	**-0.8**
	baz=266						

*ISCJB **05** 14:26:49.9±0.7, 26.02S±0.09×179.4E±0.1, h503km, mb4.1/8, Error ellipse: s-maj=14.7km s-min=9.9km az=145.4*
*IDC **05** 14:26:51.0±1.1, 26.07S×179.38E, h508km±13km, mb3.7/8, mb1 3.8/11, mb1mx3.5/41, mbtmp4.5/11, Error ellipse: s-maj=19.5km s-min=13.2km az=5.0*
ISC 05 14:26:50.8±0.8, 26.1S±0.1×179.29E±0.10, h503km, n17, σ1°87/18, mb4.2/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.00**	**142**	P	**P**	**14 28 10.8**	**+1.5**
	405

1.5nm,0.3s,baz=351,slow=1.1,SNR=5.9
CTA Charters Tower 30.92 274 P **P** **14 32 27.3 +1.2**
6.2nm,0.5s,baz=104,slow=12,SNR=18
STKA Stephens Creek 33.36 251 P **P** **14 32 48.1 +1.4**
3.6nm,0.6s,baz=100,slow=10,SNR=14
ASAR Alice Springs 41.09 263 P **P** **14 33 51.0 +0.5**
6.2nm,0.5s,baz=90,slow=7.2,SNR=204
ASAR S **S** **14 39 21.9 -4.8**
0.3nm,0.9s,baz=97,slow=16,SNR=2.7
WRA Warramunga Arr 41.67 269 P **P** **14 33 55.3 +0.2**
10.0nm,0.7s,baz=105,slow=7.4,SNR=62
WRA S **S** **14 39 32.2 -2.9**
2.1nm,1.1s,baz=107,slow=13,SNR=3.5
FITZ Fitzroy Crossi 50.06 268 P **P** **14 34 59.8 +0.7**
9.4nm,0.5s,baz=100,slow=6.4,SNR=29
QSPA South Pole Qui 63.99 180 P **P** **14 36 35.2 +1.0**
2.8nm,0.7s,baz=24,slow=1.0,SNR=16
NVAR Mina Array Bea 86.77 44 P **P** **14 38 41.1 -0.4**
1.3nm,0.7s,baz=220,slow=8.6,SNR=8.5
ILAR Eielson Array 94.31 14 P **P** **14 39 13.4 -2.0**
0.7nm,1.0s,baz=220,slow=5.6,SNR=5.2
FINES FINESS Array B 140.30 340 PKhKP **PKPpre** 14 45 13.3
2.1nm,1.0s,baz=64,slow=3.2,SNR=3.2
NB2 NORSAR Subarra144.13 350 PKP **PKPbc** 14 45 26.1 -1.7
comp=Z,1.4nm,0.5s,baz=18,slow=3.1
NOA NORSAR Array B 144.13 350 PKP **PKPbc** 14 45 26.5 -1.3
comp=Z,2.8nm,0.6s,baz=20,slow=2.5,SNR=14
AKASG Malin Array Be 146.43 325 PKPbc **PKPdf** **14 45 32.7 +0.2**
comp=Z,1.1nm,0.4s,baz=48,slow=3.9,SNR=5.4
BRTR Keskin Array B 148.33 304 PKPbc **PKPbc** **14 45 39.7 -0.7**
comp=Z,0.6nm,0.5s,baz=140,slow=3.1,SNR=3.0

IDC 05 14:28:05.0±1.8, 8.43S×121.87E, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/36, mbtmp3.5/5, ML3.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/22, Error ellipse: s-maj=107.1km s-min=17.7km az=50.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.50**	**135**	Pn	Pn	14 28 48.2	+1.2
	4.5nm,0.3s,baz=299,slow=3.1,SNR=7.1						
BATI				Lg	Lg	14 29 23.1	
	6.3nm,0.3s,baz=328,slow=23,SNR=5.9						
FITZ	**Fitzroy Crossi**	**10.29**	**159**	Pn	Pn	14 30 33.5	-0.5
	0.1nm,0.3s,baz=43,slow=19,SNR=2.6						
FITZ				Sn	Sn	14 32 21.3	-8.8
	0.1nm,0.3s,baz=66,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**16.63**	**135**	Pn	P	14 32 01.3	-1.0
	0.1nm,0.3s,baz=309,slow=12,SNR=10						
ASAR	**Alice Springs**	**19.04**	**144**	P	P	14 32 29.1	+0.2
	0.1nm,0.3s,baz=326,slow=12,SNR=16						
HNR	**Honiara**	**37.62**	**95**	LR	LR	14 50 46.9	
	comp=Z,56nm,18.2s,baz=255,slow=36						
MKAR	**Makanchi Array**	**65.29**	**331**	P	P	14 38 48.4	-0.4
	0.4nm,0.8s,baz=130,slow=7.8,SNR=3.7						

IDC 05 14:44:47.1±1.9, 5.09S×152.48E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/27, mbtmp3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.6/20, Error ellipse: s-maj=82.8km s-min=26.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.04**	**338**	LR	LR	14 57 59.7	
	comp=Z,25nm,18.5s,baz=164,slow=40						
DZM	**Mont Dzumac**	**21.62**	**143**	LR	LR	14 57 00.9	
	comp=Z,55nm,18.2s,baz=188,slow=34						
WRA	**Warramunga Arr**	**23.02**	**229**	P	P	14 49 52.5	-1.5
	1.0nm,0.8s,baz=50,slow=9.8,SNR=7.9						
ASAR	**Alice Springs**	**25.72**	**222**	P	P	14 50 19.5	+0.1
	0.4nm,0.6s,baz=56,slow=9.3,SNR=12						
STKA	**Stephens Creek**	**28.53**	**200**	LR	LR	15 02 07.1	
	comp=Z,40nm,18.9s,baz=24,slow=36						
MKAR	**Makanchi Array**	**80.34**	**319**	P	P	14 57 01.1	+0.8
	0.1nm,0.3s,baz=91,slow=5.8,SNR=2.9						
ILAR	**Eielson Array**	**82.55**	**22**	P	P	14 57 10.1	-1.5
	0.8nm,0.9s,baz=258,slow=5.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**150.10**	**288**	PKPbc	PKiKP	15 04 42.1	+0.3
	0.7nm,0.8s,baz=65,slow=3.8,SNR=2.6						

IDC 05 14:47:33.0±9.2, 20.81S×177.77W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/24, mbtmp3.4/3, Error ellipse: s-maj=408.1km s-min=38.4km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.66**	**257**	P	P	14 55 48.1	+0.3
	0.4nm,0.6s,baz=94,slow=7.6,SNR=7.9						
WRA	**Warramunga Arr**	**44.77**	**262**	P	P	14 55 48.1	-0.7
	0.1nm,0.4s,baz=98,slow=6.1,SNR=4.7						
ILAR	**Eielson Array**	**88.57**	**13**	P	P	15 00 27.3	+0.1
	0.4nm,0.9s,baz=204,slow=4.0,SNR=3.8						

IDC 05 14:53:17.4±2.3, 6.41S×152.53E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/25, mbtmp3.3/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/18, Error ellipse: s-maj=126.5km s-min=29.5km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.21**	**231**	P	P	14 58 15.2	-0.4
	0.2nm,0.6s,baz=58,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**24.80**	**224**	P	P	14 58 41.9	+0.5
	0.2nm,0.7s,baz=55,slow=9.4,SNR=6.4						
FITZ	**Fitzroy Crossi**	**28.68**	**244**	P	P	14 59 16.1	-0.2
	2.1nm,1.0s,baz=90,slow=10,SNR=3.1						
KSRS	**Korea Array**	**49.31**	**334**	LR	LR	15 20 50.8	
	comp=Z,13nm,21.3s,baz=66,slow=34						
ILAR	**Eielson Array**	**83.74**	**22**	P	P	15 05 48.0	0.0
	0.3nm,0.7s,baz=243,slow=5.8,SNR=4.6						

MEX 05 14:56:09.1±0.6, 15.13N×93.88W, h29km±17km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.85**	**48**	*eP*	Pn	14 56 22.2	-3.0
PCIG				*eS*	Sb	14 56 33.7	-2.8
THIG		**1.57**	**98**	*i* P	Pn	14 56 33.8	-1.3
THIG				*i* S	Sn	14 56 51.0	-3.5
CCIG	**Comitan**	**2.03**	**55**	*eP*	Pn	14 56 39.6	-2.0
CCIG				*i* S	Sn	14 57 03.2	-2.9

*IDC **05** 15:04:02.9±1.5, 10.69S×165.06E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/35, mbtmp3.8/7, ML4.5/2, Error ellipse: s-maj=39.2km s-min=26.7km az=122.0*
*ISCJB **05** 15:04:06.9±1.1, 10.8S±0.1×164.9E±0.1, h35km, mb3.5/5, Error ellipse: s-maj=20.6km s-min=11.3km az=33.5*
ISC 05 15:04:08.5±1.2, 10.7S±0.1×164.9E±0.1, h35km, n13, σ0 92/8, mb3.3/5, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.07**	**284**	Pn	Pn	15 05 21.8	-0.2
	16nm,0.3s,baz=152,slow=6.8,SNR=5.4						
HNR				Sn	Sn	15 06 18.7	-0.7
	8.1nm,0.3s,baz=189,slow=15,SNR=1.7						
DZM	**Mont Dzumac**	**11.37**	**173**	Pn	Pn	15 06 48.2	-0.3
	2.8nm,0.3s,baz=350,slow=8.2,SNR=38						
H11S2	**WAKE ISLAND Hy 29.09**	**3**		T	T	15 40 20.2	
	baz=184,slow=76,SNR=77						
H11S3	**WAKE ISLAND Hy 29.09**	**3**		T	T	15 40 18.2	
	baz=184,slow=76,SNR=41						
H11S1	**WAKE ISLAND Hy 29.11**	**3**		T	T	15 40 19.2	
	baz=184,slow=76,SNR=54						
STKA	**Stephens Creek**	**30.12**	**222**	P	P	15 10 14.9	-0.1
	1.4nm,0.8s,baz=51,slow=8.1,SNR=3.9						
H11N1	**WAKE ISLAND Hy 30.31**	**4**		T	T	15 41 52.6	
	baz=183,slow=76,SNR=32						
H11N3	**WAKE ISLAND Hy 30.32**	**4**		T	T	15 41 51.7	
	baz=183,slow=76,SNR=24						
H11N2	**WAKE ISLAND Hy 30.33**	**4**		T	T	15 41 51.9	
	baz=183,slow=76,SNR=53						
WRA	**Warramunga Arr**	**30.84**	**249**	P	P	15 10 22.4	+0.9
	0.3nm,0.7s,baz=80,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**32.22**	**242**	P	P	15 10 33.9	+0.3
	0.3nm,0.8s,baz=65,slow=9.7,SNR=3.4						
ILAR	**Eielson Array**	**83.47**	**19**	P	P	15 16 31.2	-1.0
	0.2nm,0.7s,baz=219,slow=8.1,SNR=2.8						
MKAR	**Makanchi Array**	**92.74**	**317**	P	P	15 17 18.5	+1.3
	0.4nm,0.8s,baz=120,slow=5.2,SNR=2.6						

IDC 05 15:21:46.0±2.7, 10.21S×161.25E, h99km±17km, mb3.2/3, mb1 3.5/4, mb1mx3.1/32, mbtmp3.7/4, MS3.1/2, Ms1 3.1/2, ms1mx2.7/12, Error ellipse: s-maj=45.4km s-min=21.0km az=55.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.50**	**301**	*eP*	Pn	15 22 10.0	-2.1
HNR				*eS*	Sn	15 22 32.0	0.0
HNR	**Honiara**	**1.50**	**301**	P	Pn	15 22 11.7	-0.5
	53nm,0.3s,baz=127,slow=3.3,SNR=15						
HNR				S	Sn	15 22 32.0	0.0
	baz=194,slow=19						
DZM	**Mont Dzumac**	**12.80**	**158**	P	Pn	15 24 45.3	+0.9
	1.4nm,0.3s,baz=327,slow=17,SNR=1.9						
DZM				S	Sn	15 27 05.2	-0.1
	0.2nm,0.3s,baz=305,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**27.68**	**246**	P	P	15 27 25.7	+0.7
	0.3nm,0.5s,baz=77,slow=9.0,SNR=1.8						
GUMO	**Guam**	**28.69**	**325**	LR	LR	15 40 41.1	
	comp=Z,21nm,18.2s,baz=148,slow=40						
H11S2	**WAKE ISLAND Hy 29.02**	**11**		T	T	15 56 32.9	
	baz=194,slow=76,SNR=2.8						
H11S3	**WAKE ISLAND Hy 29.02**	**11**		T	T	15 56 32.4	
	baz=194,slow=76,SNR=4.0						
H11S1	**WAKE ISLAND Hy 29.04**	**11**		T	T	15 56 28.8	
	baz=194,slow=76,SNR=2.6						
ASAR	**Alice Springs**	**29.31**	**239**	P	P	15 27 38.7	-0.7
	0.5nm,1.0s,baz=65,slow=10,SNR=2.4						
H11N1	**WAKE ISLAND Hy 30.25**	**11**		T	T	15 58 20.7	
	baz=193,slow=76,SNR=4.5						
H11N3	**WAKE ISLAND Hy 30.26**	**11**		T	T	15 58 01.6	
	baz=193,slow=76,SNR=3.7						
H11N2	**WAKE ISLAND Hy 30.27**	**11**		T	T	15 58 12.7	
	baz=193,slow=76,SNR=5.0						
DAV	**Davao City (W)**	**39.45**	**294**	LR	LR	15 42 53.2	
	comp=Z,52nm,21.8s,baz=315,slow=32						
SONM	**Songino Array**	**75.42**	**325**	P	P	15 33 19.2	0.0
	0.3nm,0.5s,baz=130,slow=5.7,SNR=2.9						

IDC 05 15:27:44.0±65.0, 20.66S×179.22W, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/27, mbtmp3.3/3, Error ellipse: s-maj=1173.0km s-min=166.6km az=83.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.69**	**244**	P	P	15 34 52.8	0.0
	0.6nm,0.5s,baz=107,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**43.37**	**257**	P	P	15 35 47.2	-1.3
	0.1nm,0.5s,baz=98,slow=8.7,SNR=4.4						
WRA	**Warramunga Arr**	**43.45**	**262**	P	P	15 35 49.8	+0.7
	0.2nm,0.4s,baz=96,slow=8.3,SNR=9.8						

MEX 05 15:46:45.1±0.8, 18.88N×105.22W, h14km±32km, MD3.5, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.64**	**15**	*eP*	Pg	15 46 56.3	-1.4
CJM				*eS*	Sg	15 47 03.8	-2.4
R15V		**1.21**	**76**	*eP*	Pn	15 47 03.5	-4.2
R15V				*i* S	Sb	15 47 18.2	-5.2
MMIG	**Aquila**	**1.87**	**108**	*i* P	Pn	15 47 13.0	-3.8
MMIG				*i* S	Sn	15 47 36.4	-3.8
ANIG	**Ahuacatlan**	**2.27**	**17**	*i* P	Pn	15 47 19.0	-3.3
ANIG				*i* S	Sn	15 47 46.2	-3.9

*ISCJB **05** 15:48:39.9±1.1, 37.58N±0.05×55.31E±0.09, h10km, Error ellipse: s-maj=10.7km s-min=6.9km az=2.2*
*THR **05** 15:48:40.3, 37.67N×55.34E, h14km, ML2.9*
*NNC **05** 15:48:49.2±10.0, 37.91N×55.75E, h18km±47km, mb3.1, mpv3.4, Error ellipse: s-maj=65.4km s-min=26.4km az=59.0*
ISC 05 15:48:42.4±1.4, 37.64N±0.06×55.38E±0.10, h10km, n9, σ1 84/10, 2C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**0.57**	**88**	*e*AML	AML	15 49 00.3	
	comp=N,564nm,0.2s						
MRVT	**Maraveh tapeh**	**0.57**	**88**	*e*Pg	**Pg**	**15 48 51.9**	**-1.5**
MRVT				*e*Sg	**Sg**	**15 49 00.5**	**-0.4**
BJRD	**Bojnurd**	**1.61**	**87**	*e*AML	AML	15 49 38.8	
	comp=N,132nm,0.4s						
SHRO	**Shahrood**	**1.72**	**163**	*e*Pg	**Pn**	**15 49 12.3**	**-0.2**
SHRO				*e*Sg	**Sn**	**15 49 35.6**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**2.19**	**82**	⇓Pn	**Pn**	**15 49 20.3**	**+1.4**
	comp=N,17nm,0.5s						
GYA0B				⇑Lg	Lg	15 49 49.0	
	comp=N,114nm,0.7s						
TABS	**Tabas**	**4.22**	**160**	*e*Pn	**Pn**	**15 49 47.0**	**0.0**
AB31	**Akbulak array**	**12.07**	**14**	Pn	**Pn**	**15 51 35.8**	**+1.3**
	comp=N,0.3nm,0.5s,baz=196,slow=14,SNR=6.0						
AB31				Sn	**Sn**	**15 53 47.0**	**-2.1**
	comp=N,0.2nm,0.4s,baz=124,slow=73,SNR=5.7						
AKTO	**Aktyubinsk**	**12.93**	**8**	⇑Pn	**Pn**	**15 51 45.9**	**-0.3**
	comp=N,0.1nm,0.3s						
BVA0	**Borovoye Array**	**18.60**	**29**	P	**Pn**	**15 53 03.3**	**+3.4**
	comp=N,0.8nm,0.9s,baz=214,slow=11,SNR=3.6						

*ISCJB **05** 16:03:16.7±1.0, 16.12S±0.06×71.60W±0.08, h133km, mb3.4/2, Error ellipse: s-maj=10.6km s-min=8.4km az=170.4*
*GUC **05** 16:03:18.4±0.7, 16.10S×71.25W, h176km±16km, ML4.2*
*IDC **05** 16:03:18.3±3.6, 15.97S×71.35W, h166km±32km, mb3.3/2, mb1 3.5/5, mb1mx3.2/32, mbtmp3.9/5, Error ellipse: s-maj=44.4km s-min=28.0km az=124.0*
ISC 05 16:03:15.3±1.2, 16.02S±0.07×71.6W±0.1, h133km, n31, σ1 34/39, 5C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCH	**Arica**	**2.77**	**153**	IAML		16 04 38.5	
	comp=E,491nm,0.4s						
PB12	**IPOC Station P**	**2.87**	**154**	*e*P	**Pn**	**16 04 02.4**	**+1.9**
PB12				*e*S	**Sn**	**16 04 35.0**	**-0.3**
PB12	**IPOC Station P**	**2.87**	**154**	⇑*i*P	**Pn**	**16 04 02.4**	**+1.9**
PB12				*i* S	**Sn**	**16 04 35.7**	**+0.4**
PB12				IAML		16 04 38.9	
	comp=N,472nm,0.3s						
LPAZ	**La Paz**	**3.38**	**95**	⇑*i*P	**Pn**	**16 04 08.3**	**+0.8**
LPAZ	**La Paz**	**3.38**	**95**	P	**Pn**	**16 04 08.6**	**+1.1**
	comp=N,1.8nm,0.3s,baz=267,slow=14,SNR=35						
LPAZ				S	**Sn**	**16 04 47.9**	**0.0**
	comp=N,0.4nm,0.3s,baz=118,slow=12,SNR=4.0						
MNMC	**Minye Minye**	**3.66**	**148**	*e*P	**Pn**	**16 04 12.6**	**+1.7**
MNMC				*e*S	**Sn**	**16 04 53.7**	**-0.3**
MNMC				IAML		16 04 57.2	
	comp=N,296nm,0.2s						
MNMCX	**Minye Minye**	**3.66**	**148**	*e*P	**Pn**	**16 04 12.6**	**+1.7**
MNMCX				*e*S	**Sn**	**16 04 53.9**	**0.0**
PSGC	**Pisagua**	**3.84**	**158**	⇑*i*P	**Pn**	**16 04 14.3**	**+1.2**
PSGC				*e*S	**Sn**	**16 04 56.8**	**-1.3**
PSGCX	**Pisagua**	**3.84**	**158**	*e*P	**Pn**	**16 04 14.4**	**+1.2**
PB11	**IPOC Station P**	**4.17**	**153**	*e*P	**Pn**	**16 04 18.6**	**+1.0**
PB11	**IPOC Station P**	**4.17**	**153**	⇑*i*P	**Pn**	**16 04 18.5**	**+0.9**
PB11				*e*S	**Sn**	**16 05 04.6**	**-1.4**
PB08	**IPOC Station P**	**4.73**	**150**	*e*P	**Pn**	**16 04 26.9**	**+1.6**
PB08	**IPOC Station P**	**4.73**	**150**	⇑*i*P	**Pn**	**16 04 26.9**	**+1.6**
PB08				*i* S	**Sn**	**16 05 19.2**	**-0.5**
PB01	**IPOC Station P**	**5.40**	**158**	*e*P	**Pn**	**16 04 34.5**	**+0.7**
PB01				*e*S	**Sn**	**16 05 32.9**	**-2.3**
PB02	**IPOC Station P**	**5.53**	**163**	*e*P	**Pn**	**16 04 36.7**	**+1.1**
PB02	**IPOC Station P**	**5.53**	**163**	*e*P	**Pn**	**16 04 36.7**	**+1.1**
PB07	**IPOC Station P**	**5.92**	**164**	*e*P	**Pn**	**16 04 42.0**	**+1.1**
PB09	**IPOC Station P**	**6.18**	**159**	*e*P	**Pn**	**16 04 46.0**	**+1.6**
PB03	**IPOC Station P**	**6.26**	**164**	*e*P	**Pn**	**16 04 46.2**	**+0.7**
PB04	**IPOC Station P**	**6.44**	**168**	*e*P	**Pn**	**16 04 48.6**	**+0.7**
PB05	**IPOC Station P**	**6.93**	**169**	*e*P	**Pn**	**16 04 55.5**	**+1.0**
PB06	**IPOC Station P**	**6.93**	**164**	*e*P	**Pn**	**16 04 54.7**	**+0.1**
LVC	**Limon Verde**	**7.05**	**159**	*e*P	**Pn**	**16 04 57.0**	**+0.8**
LVC				IAML		16 06 17.4	
	comp=Z,8.0nm,0.3s						
LVC	**Limon Verde**	**7.05**	**159**	P	**Pn**	**16 04 57.8**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=348,slow=9.3,SNR=47						
LVC				S	**Sn**	**16 06 12.7**	**-2.5**
	comp=Z,4.8nm,0.3s,baz=135,slow=21,SNR=22						
PB15	**IPOC Station P**	**7.44**	**164**	*e*P	**Pn**	**16 05 01.8**	**+0.4**
PB10	**IPOC Station P**	**7.53**	**172**	*e*P	**Pn**	**16 05 03.3**	**+0.9**
PB14	**IPOC Station P**	**8.64**	**173**	*e*P	**Pn**	**16 05 18.7**	**+1.0**
PTGA	**Pitinga**	**19.06**	**38**	P	**P**	**16 07 24.6**	**-2.9**
	comp=Z,1.2nm,0.3s,baz=218,slow=13,SNR=9.6						
TORD	**Torodi Ar. Bea**	**78.07**	**73**	P	P	16 14 57.8	-2.1
	comp=Z,0.5nm,0.4s,baz=255,slow=5.0,SNR=6.0						
YKA	**Yellowknife Ar**	**85.19**	**341**	P	**P**	**16 15 36.5**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=134,slow=5.5,SNR=6.4						
SONM	**Songino Array**	**148.23**	**3**	PKPbc	**PKPdf**	**16 22 44.0**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=327,slow=3.0,SNR=3.0						

MEX 05 16:03:47.0±0.3, 18.54N×95.76W, h28km±9km, MD3.8, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVIG	**Laguna Verde**	**1.33**	**332**	*i* P	Pn	16 04 07.3	-2.5
LVIG				*i* S	Sn	16 04 23.6	-3.1
CMIG	**Matias Romero**	**1.66**	**150**	*e*P	Pn	16 04 11.8	-2.6
VHO	**Vista Hermosa**	**1.73**	**213**	*i* P	Pn	16 04 13.5	-2.0
VHO				*i* S	Sn	16 04 34.4	-2.4

*NORS **05** 16:07:53.8±0.0, 42.52N×45.40E, h8km, MPVA3.5*
*DRS **05** 16:07:55.6±0.0, 42.61N×45.82E, h4km*
ISC 05 16:07:54.5±1.3, 42.60N±0.04×45.46E±0.03, h9km±10km, n20, σ1 78/37, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVE	**Vedeno**	**0.61**	**53**	*e*Pg	**Pb**	**16 08 07.4**	**0.0**
DVE				*e*Sg	**Sn**	**16 08 16.6**	**-2.7**
GROC	**Groznyy**	**0.65**	**22**	*e*Pg	**Pn**	**16 08 09.1**	**-0.8**
GROC				*e*Sg	**Sn**	**16 08 19.7**	**-0.7**
GUDG	**Gudauri**	**0.74**	**260**	P	**Pg**	**16 08 09.2**	**+0.4**
GUDG				S	**Sg**	**16 08 18.0**	**-0.4**
LACR	**Lac**	**0.89**	**285**	*e*Pg	**Pg**	**16 08 10.3**	**-1.2**
LACR				*e*Sg	**Sg**	**16 08 21.0**	**-2.1**
XNZR	**Khunzakh**	**0.92**	**93**	*e*Pg	**Pn**	**16 08 12.8**	**-1.0**
XNZR				*e*Sg	**Sn**	**16 08 26.1**	**-1.1**
LGD	**Lagodekhi**	**0.96**	**142**	P	**Pn**	**16 08 13.6**	**-0.5**
LGD				S	**Sn**	**16 08 25.1**	**-2.8**
LGD	**Lagodekhi**	**0.96**	**142**	*e*Pg	**Pn**	**16 08 13.6**	**-0.5**
LGD				*e*Sg	**Sn**	**16 08 25.1**	**-2.8**
UNCR	**Uncukul**	**0.99**	**83**	*e*Pg	**Pn**	**16 08 14.5**	**-0.1**
UNCR				*e*Sg	**Sn**	**16 08 27.5**	**-1.3**
BTNK	**Botanikuri**	**1.04**	**209**	P	**Pg**	**16 08 14.8**	**+0.4**
BTNK				S	**Sb**	**16 08 29.5**	**+1.1**
KRNR	**Karanay**	**1.09**	**77**	*e*Pg	**Pn**	**16 08 16.5**	**+0.5**
KRNR				*e*Sg	**Sn**	**16 08 31.0**	**-0.3**
DBC	**Dubki**	**1.09**	**67**	*e*Pg	**Pn**	**16 08 16.6**	**+0.6**
DBC				*e*Sg	**Sn**	**16 08 33.1**	**+1.8**
GNBR	**Gunib**	**1.13**	**100**	*e*Pg	**Pn**	**16 08 17.3**	**+0.8**
GNBR				*e*Sg	**Sn**	**16 08 33.0**	**+0.7**
KORR	**Kora**	**1.14**	**296**	*e*Pg	**Pn**	**16 08 16.6**	**0.0**
KORR				*e*Sg	**Sb**	**16 08 32.4**	**+1.2**
ZEI	**Tsey**	**1.17**	**280**	*e*Pg	**Pn**	**16 08 15.1**	**-2.1**
ZEI				*e*Sg	**Sb**	**16 08 29.3**	**-3.0**
DDFL	**Dedoflistskaro**	**1.25**	**157**	P	**Pg**	**16 08 21.7**	**+3.2**
KMKR	**Kumukh**	**1.30**	**110**	*e*Pg	Pn	16 08 23.0	+4.0
KMKR				*e*Sg	Sn	16 08 43.0	+6.4
LSNR	**Lesken**	**1.38**	**300**	*e*Pg	**Pn**	**16 08 21.2**	**+1.2**
LSNR				*e*Sg	**Sn**	**16 08 39.7**	**+1.3**
DIGR	**Digorskoe uzhe**	**1.42**	**283**	*e*Pg	**Pn**	**16 08 19.9**	**-0.8**
DIGR				*e*Sg	**Sn**	**16 08 36.9**	**-2.6**
NEY	**Neytrino**	**2.12**	**289**	*e*Pg	**Pn**	**16 08 31.9**	**+1.7**
NEY				*e*Sg	**Sn**	**16 08 59.0**	**+2.3**
SHA1	**Shidzhatmaz**	**2.35**	**300**	*e*Pn	**Pn**	**16 08 36.0**	**+2.6**
SHA1				*e*Sn	**Sn**	**16 09 06.2**	**+3.7**

*MOS **05** 16:08:45.5±0.0, 42.56N×45.41E, h16km, MPVA3.4*
*NORS **05** 16:08:46.7±0.0, 42.52N×45.38E, h11km, MPVA3.5*
*DRS **05** 16:08:48.1±0.0, 42.54N×45.60E, h10km*
ISC 05 16:08:45.7±1.3, 42.57N±0.04×45.44E±0.03, h1km±12km, n18, σ0 85/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.58**	**80**	*e*Pg	**Pb**	**16 08 59.6**	**+0.8**
BTLR				*e*Sg	**Sb**	**16 09 08.0**	**+0.3**
DVE	**Vedeno**	**0.64**	**52**	*e*Pg	**Pb**	**16 08 59.4**	**-0.4**
DVE				*e*Sg	**Sb**	**16 09 08.8**	**-0.4**
GROC	**Groznyy**	**0.69**	**22**	*e*Pg	**Pn**	**16 09 02.0**	**-0.7**
GROC				*e*Sg	**Sn**	**16 09 11.9**	**-2.0**
GUDG	**Gudauri**	**0.72**	**262**	P	**Pn**	**16 09 01.5**	**+0.3**
GUDG				S	**Sg**	**16 09 09.6**	**+0.7**
LACR	**Lac**	**0.88**	**287**	*e*Pg	**Pg**	**16 09 03.0**	**+0.4**
LACR				*e*Sg	**Sg**	**16 09 13.3**	**-0.7**
XNZR	**Khunzakh**	**0.94**	**91**	*e*Pg	**Pn**	**16 09 05.6**	**-0.6**
XNZR				*e*Sg	**Sb**	**16 09 18.5**	**+0.6**
LGD	**Lagodekhi**	**0.94**	**141**	P	**Pn**	**16 09 06.1**	**-0.1**
LGD	**Lagodekhi**	**0.94**	**141**	*e*Pg	**Pn**	**16 09 06.1**	**-0.1**
BTNK	**Botanikuri**	**1.01**	**209**	P	**Pn**	**16 09 07.0**	**0.0**
BTNK				S	**Sn**	**16 09 21.7**	**-0.2**
UNCR	**Unc

29nm,1.9s
FITZ Fitzroy Crossi 29.89 242 P P 16 15 46.5 -0.8
1.8nm,0.6s,baz=67,slow=10,SNR=11
JNU Nakatsue 43.33 332 LR LR 16 32 03.9
comp=Z,21nm,18.9s,baz=8.5,slow=31
SONA0 Songino Array 66.61 328 eP P 16 20 27.8 -1.8
SONM Songino Array 66.61 328 P P 16 20 27.8 -1.8
0.1nm,0.3s,baz=145,slow=5.3,SNR=2.0
VNDA Vanda 72.69 178 eP P 16 21 08.2 +1.8
VNDA Vanda 72.69 178 P P 16 21 07.7 +1.3
2.1nm,0.8s,baz=339,slow=4.8,SNR=4.6
MK32 Makanchi Array 80.64 319 eP P 16 21 51.2 -0.7
MKAR Makanchi Array 80.64 319 P P 16 21 51.2 -0.7
0.3nm,0.4s,baz=107,slow=6.5,SNR=11
KURBB Kurchatov Arra 84.10 322 P P 16 22 09.0 -0.8
0.1nm,0.3s,baz=104,slow=4.0,SNR=2.4
BVAR Borovoye Array 89.54 323 P P 16 22 35.6 -0.7
0.3nm,0.4s,baz=104,slow=6.1,SNR=2.9
TORD Torodi Ar. Bea 150.66 288 PKPbc PKPbc 16 29 31.3 -0.8
0.2nm,0.4s,baz=98,slow=4.0,SNR=2.8
TOA1 Torodi Ar. Sit 150.66 288 ePKPbc PKPbc 16 29 31.3 -0.8

KRSC 05 16:09:56.4±10.0, 50°55'N×157°67'E, h47km±10km, ML4.4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SKR	Severo-Kuril's	1.00	279	eP		Pn	16 10 14.7	+0.7
SKR				eS		Sn	16 10 26.7	-0.3
PAU	Pauzhetka	1.07	330	eP		Pn	16 10 16.6	+1.6
PAU				eS		Sn	16 10 30.6	+1.9
KDTR	Khodutka, Kamc	1.29	11	eP		Pn	16 10 19.8	+1.8
KDTR				eS		Sn	16 10 35.9	+1.8
ALID	Alaid	1.39	284	eP		Pn	16 10 20.8	+1.4
ASAK	Asacha	1.85	4	eP		Pn	16 10 28.2	+2.5
RUS	Russkaya	1.96	15	eP		Pn	16 10 29.1	+2.0
RUS				eS		Sn	16 10 52.4	+1.9
MTVR	Mutnovka	1.97	9	eP		Pn	16 10 29.8	+2.4
MTVR				eS		Sn	16 10 53.2	+2.3
KRMR	Karymshinskiy	2.31	7	eP		Pn	16 10 35.1	+3.2
KRMR				eS		Sn	16 11 03.0	+4.0
APC	Apacha	2.40	353	eP		Pn	16 10 36.3	+3.1
PET	Petropavlovsk	2.56	13	eP		Pn	16 10 38.1	+2.8
PET				eS		Sn	16 11 08.0	+2.9
DALK	Dalny	2.58	15	eP		Pn	16 10 38.5	+2.9
DALK				eS		Sn	16 11 08.4	+2.7
UGLR	Uglovaya	2.76	15	eP		Pn	16 10 42.5	+4.3
AVH	Avacha	2.80	13	eP		Pn	16 10 42.8	+4.0
SMAR	Somma	2.81	14	eP		Pn	16 10 42.7	+3.7
KOK	Koryaka	2.81	12	eP		Pn	16 10 43.1	+4.2
SDLR	Sedlovina	2.84	15	eP		Pn	16 10 42.2	+2.9
KRER	Koryakskii	2.84	13	eP		Pn	16 10 42.7	+3.3
KRER				eS		Sn	16 11 15.5	+3.0
KRX	Arik	2.88	12	eP		Pn	16 10 44.4	+4.5
SPN	Mys Shipunski	2.94	29	eP		Pn	16 10 43.9	+3.3
GNL	Ganaly	3.16	3	eP		Pn	16 10 47.6	+3.9
MKZ	Mys Kozlova	4.72	30	eP		Pn	16 11 07.7	+2.8
KBTR	Krutoberegovo	6.45	26	eP		Pn	16 11 32.7	+4.0

*IDC **05** 16:23:57.1±3.3,36°.31N×71°.02E,h157km±30km,mb3.4/11, mb1 3.4/15,mb1mx3.2/49,mbtmp3.8/15, Error ellipse: s-maj=19.3km s-min=16.7km az=172.0*
*ISCJB **05** 16:24:00.1±0.4,36°.57N±0°.03×70°.96E±0°.05,h188km, mb3.6/10, Error ellipse: s-maj=6.3km s-min=4.4km az=153.0*
*NNC **05** 16:24:05.0±4.0,36°.84N×71°.11E,h143km±64km,mb3.1, mpv3.9, Error ellipse: s-maj=34.2km s-min=26.0km az=20.0*

ISC 05 16:24:01.1±0.6, 36°.53N±0°.06×70°.97E±0°.06, h188km, n45, σ1§71/50, mb3.6/10, 7C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
AML	Almayashu	5.98	20	P		Pn	16 25 28.2	0.0
SNR=41								
DHRM	DHARAMSHALA	6.13	133	eP		Pn	16 25 31.4	+1.2
DHRM				eS		Sn	16 26 39.2	-1.2
DHRM				IAML			16 26 40.5	
	comp=N,102nm,0.2s							
DHRM				IAML			16 26 40.7	
	comp=E,118nm,0.0s							
UCH	Uchtor	6.32	25	P		Pn	16 25 32.6	-0.1
SNR=30								
KZA	Kyzart	6.46	30	P		Pn	16 25 33.4	-1.0
SNR=6.0								
EKS2	Erkin-Say	6.49	19	P		Pn	16 25 35.0	+0.4
SNR=6.5								
KK31	Karatay Array	6.57	357	↑P		Pn	16 25 35.7	+0.1
	comp=E,0.8nm,0.3s,baz=180,slow=13,SNR=8.0							
KK31				↑S		Sn	16 26 44.7	-5.6
	comp=E,9.9nm,0.5s,baz=172,slow=15,SNR=30							
AAK	Ala-Archa	6.68	23	P		Pn	16 25 37.4	+0.3
SNR=10								
AAK	Ala-Archa	6.68	23	↑P		Pn	16 25 37.2	+0.1
	comp=E,6.6nm,0.4s							
AAK				↓S		Sn	16 26 50.1	-3.0
	comp=E,22nm,1.1s							
KBK	Karagaybulak	6.84	25	P		Pn	16 25 40.0	+0.7
SNR=9.4								
CHMS	Chumysh	7.08	23	P		Pn	16 25 41.7	-0.6
SNR=6.8								
USP	Ospenovka	7.25	21	P		Pn	16 25 44.4	-0.1
SNR=7.9								
TKM2	Tokmak 2	7.31	28	P		Pn	16 25 45.5	+0.1
SNR=12								
TKM2	Tokmak 2	7.31	28	↓P		Pn	16 25 45.1	-0.3
TKM2								
	comp=E,16nm,0.6s							
TKM2				↑S		Sn	16 27 04.1	-4.0
	comp=E,3.6nm,0.7s							
SMLA	Simla	7.46	134	eP		Pn	16 25 47.3	+0.1
SMLA				eS		Sn	16 26 58.3	-13
SMLA				IAML			16 27 11.2	
	comp=N,27nm,0.5s							
SMLA				IAML			16 27 12.1	
	comp=E,30nm,0.1s							
MDOK	Medeo	8.10	33	↓P		Pn	16 25 55.5	-0.3
	comp=E,5.1nm,0.6s							
KHET	Khetri	9.37	153	eS		Sn	16 27 41.1	-16
KHET				IAML			16 27 52.5	
	comp=N,4.7nm,0.1s							
KHET				IAML			16 27 54.8	
	comp=E,4.8nm,0.0s							
PDGK	Podgornoye	9.43	41	↑P		Pn	16 26 12.2	-0.9
	comp=E,3.9nm,0.7s							
GEYT	Alibeck	10.35	282	P		Pn	16 26 23.9	-1.1
	comp=E,1.0nm,0.3s,baz=105,slow=9,3,SNR=8.2							
GEYT				S		Sn	16 28 17.6	-2.6
	comp=E,0.6nm,0.3s,baz=82,slow=39,SNR=3.4							
PYUN	Piuthan	13.18	126	eP		Pn	16 27 01.2	-0.3
	comp=E,4.6nm,0.3s							
MK31	Makanchi Array	13.28	36	↑P		Pn	16 27 00.8	-1.6
	comp=E,0.7nm,0.6s,baz=223,slow=9.4,SNR=7.6							
MKAR	Makanchi Array	13.28	36	P		Pn	16 27 01.1	-1.2
	comp=E,0.1nm,0.3s,baz=219,slow=9.4,SNR=9.2							
MKAR				S		S	16 29 34.3	+1.7
	comp=E,0.0nm,0.3s,baz=214,slow=10.0,SNR=2.2							
KOLN	Koldanda	13.80	126	eP		Pn	16 27 09.8	+0.6
DMN	Daman	14.91	123	eP		P	16 27 24.0	0.0
	comp=E,13nm,0.6s							
KKN	Kakani	14.91	122	eP		Pn	16 27 23.4	+0.4
	comp=E,7.1nm,0.5s							
AB31	Akbulak array	15.05	331	P		P	16 27 30.6	+5.6
	comp=E,0.3nm,0.2s,baz=355,slow=25,SNR=8.9							
KURBB	Kurchatov Arra	15.10	19	P		Pn	16 27 23.2	-1.6
	comp=E,0.0nm,0.3s,baz=201,slow=11,SNR=3.0							
PKIN	Phulchoki	15.13	122	eP		P	16 27 26.1	-0.4
	comp=E,8.4nm,0.4s							
PKI	Pulchoki	15.14	122	eP		P	16 27 26.2	-0.5
	comp=E,7.4nm,0.5s							
JIRN	Jiri	15.62	120	eP		Pn	16 27 31.8	0.0
	comp=E,14nm,0.4s							
BVA0	Borovoye Array	16.50	359	↑P		Pn	16 27 45.9	+4.1
	comp=E,1.0nm,0.8s,baz=171,slow=11,SNR=4.9							
BVAR	Borovoye Array	16.50	359	P		P	16 27 41.0	-0.1
	comp=E,0.2nm,0.3s,baz=161,slow=9.5,SNR=5.0							
AKTO	Aktyubinsk	16.74	330	P		Pn	16 27 44.8	+0.1
	comp=E,0.2nm,0.3s,baz=138,slow=14,SNR=3.1							
BOK	Bokaro	18.07	131	eS		P	16 27 59.2	+0.7
ZALV	Zalesovo Beam	19.90	25	P		P	16 28 17.6	-0.3
	comp=E,0.6nm,0.3s,baz=221,slow=11,SNR=4.7							
NRIK	Noril'sk	34.10	10	P		P	16 30 28.4	+1.1
	comp=E,1.2nm,0.6s,baz=211,slow=12,SNR=3.6							
FINES	FINESS Array B	37.45	326	P		P	16 30 56.6	+0.8
	comp=E,2.6nm,1.0s,baz=128,slow=8.1,SNR=6.7							
ARCES	ARCESS Array B	41.11	338	P		P	16 31 27.1	+0.9
	comp=E,2.9nm,0.8s,baz=110,slow=7.9,SNR=7.0							
NB2	NORSAR Subarra	44.34	323	P		P	16 31 52.8	+0.6
	comp=Z,0.5nm,0.4s,baz=96,slow=7.9							
NOA	NORSAR Array B	44.34	323	P		P	16 31 52.6	+0.4
	comp=Z,0.6nm,0.4s,baz=96,slow=7.8,SNR=4.2							
SEY	Seymchan	54.41	34	P		P	16 33 08.9	+0.7
	comp=Z,0.2nm,0.2s,baz=283,slow=17,SNR=2.5							
TORD	Torodi Ar. Bea	65.69	269	P		P	16 34 24.8	-1.0
	comp=Z,0.3nm,0.5s,baz=49,slow=5.3,SNR=3.6							
INK	Inuvik	73.88	9	P		P	16 35 15.4	+0.6
	comp=Z,0.9nm,0.5s,baz=343,slow=6.2,SNR=9.3							
YKA	Yellowknife Ar	81.22	3	P		P	16 35 55.8	+0.3
	comp=Z,0.3nm,0.5s,baz=347,slow=5.5,SNR=8.5							
WRA	Warramunga Arr	82.03	122	P		P	16 35 59.0	-1.4
	comp=Z,0.5nm,0.5s,baz=324,slow=4.9,SNR=24							
ASAR	Alice Springs	84.29	125	P		P	16 36 10.8	-1.1
	comp=Z,0.7nm,0.6s,baz=309,slow=4.6,SNR=21							

*IDC **05** 16:42:34.2±1.8,3°.55S×100°.64E,h0km,mb4.0/9, mb1 4.1/11,mb1mx3.9/50,mbtmp4.0/11,ML3.8/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/40, Error ellipse: s-maj=67.6km s-min=14.2km az=58.0*
*ISCJB **05** 16:42:35.7±0.5,3°.62S±0°.05×100°.54E±0°.05,h29km, mb4.1/16,MS3.0/4, Error ellipse: s-maj=10.0km s-min=4.2km az=136.4*
*NEIC **05** 16:42:37.0±3.4,3°.52S×100°.67E,h20km±20km,mb4.3/10, Error ellipse: s-maj=17.9km s-min=5.0km az=53.0*
*DJA **05** 16:42:39.4±1.2,4°.S±8°×10°.1E±1°.2,h44km±84km,M4.1/7, MLv4.1/7*

ISC 05 16:42:38.5±0.7, 3°.56S±0°.06×100°.67E±0°.07, h29km, n60, σ1§65/57, mb4.2/23, MS3.0/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PPSI	Pulau Pagai	1.03	320	P		Pb	16 42 58.5	+0.7
KRJI	Kerinci	1.66	29	P		Pn	16 43 06.8	+0.9
KRJI				S		Sb	16 43 29.5	+0.3
MNAI	Manna	2.42	109	ePn		Pn	16 43 17.2	+1.1
MNAI	Manna	2.42	109	P		Pn	16 43 17.2	+1.1
MNAI				S		Sn	16 43 46.4	+1.6
SDSI	Sungai Dareh	2.72	16	P		Pn	16 43 21.0	+0.7
SISI	Saibi	2.72	325	P		Pn	16 43 18.7	-1.7
LHSI	Lahat	2.86	95	P		Pn	16 43 24.6	+2.3
PPI	Padang Panjang	3.10	355	P		Pn	16 43 25.5	0.0
PPI				S		Sn	16 44 01.7	+0.1
MDSI	Maura Dua	3.62	105	P		Pn	16 43 34.3	+1.6
MDSI				S		Sn	16 44 15.1	+0.6
LWLI	Liwa	3.68	113	P		Pn	16 43 34.7	+1.1
KASI	Kota Agung	4.29	117	P		Pn	16 43 42.7	+0.8
KASI				S		Sn	16 44 28.9	-2.0
GSI	Gunungsitoli	5.74	327	ePn		Pn	16 44 01.5	-0.3
MYKOM	Kota Tinggi	6.20	31	ePn		Pn	16 44 08.3	+0.1
PSI	Prapat	6.56	345	Pn		Pn	16 44 09.8	-3.4
	1.2nm,0.3s,baz=180,slow=17,SNR=2.6							
PSI				Sn		Sn	16 45 16.1	-11
	0.7nm,0.3s,baz=180,slow=19,SNR=1.9							
PSI				LR		LR	16 47 16.7	
	comp=Z,267nm,19.6s,baz=94,slow=44							
LEM	Lembang	7.64	115	Pn		Pn	16 44 27.6	-0.5
	2.5nm,0.3s,baz=315,slow=19,SNR=2.8							
IPM	Ipoh	8.00	3	ePn		Pn	16 44 32.5	-0.4
CISI	Cisompet, Garu	8.14	119	ePn		Pn	16 44 33.8	-1.2
JAGI	Jajag, Banyuwa	14.27	111	ePn		Pn	16 45 57.5	-1.3
KKM	Kota Kinabalu	18.23	58	eP		Pn	16 46 47.8	-1.8
	117nm,2.0s							
PBKT	Sadao Pong	20.01	1	eP		P	16 47 07.3	-1.8
	12nm,1.8s							
CM01	Chiang Mai Arr	21.91	356	eP		P	16 47 28.0	-1.6
CM31	Chiang Mai Arr	21.95	356	eP		P	16 47 28.4	-1.6
	3.8nm,0.9s							
CMAR	Chiang Mai Arr	21.95	356	P		P	16 47 28.0	-2.0
	1.9nm,0.9s,baz=184,slow=9.3,SNR=14							
CMAR				LR		LR	16 56 10.3	
	comp=Z,48nm,19.8s,baz=175,slow=37							
BRDH	Bariadhala	27.53	342	LR		LR	17 01 17.1	
	comp=Z,5nm,18.4s,baz=150,slow=41							
H08S2	Diego Garcia H	28.32	261	T		T	17 17 59.3	
	baz=83,slow=75,SNR=465							
H08S3	Diego Garcia H	28.33	261	T		T	17 17 57.5	
	baz=83,slow=75,SNR=478							
H08S1	Diego Carcia H	28.34	261	T		T	17 18 05.2	
	baz=83,slow=75,SNR=342							
FITZ	Fitzroy Crossi	28.40	122	P		P	16 48 31.0	+0.3
	1.5nm,0.9s,baz=292,slow=11,SNR=2.2							
FITZ				LR		LR	17 01 17.5	
	comp=Z,28nm,20.0s,baz=324,slow=40							
H01W3	Cape Leeuwin H	33.58	160	T		T	17 24 40.2	
	baz=336,slow=74							
H01W2	Cape Leeuwin H	33.59	160	T		T	17 24 49.2	
	baz=336,slow=74							
H01W1	Cape Leeuwin H	33.59	160	T		T	17 25 06.6	
	baz=336							
JIRN	Jiri	34.04	337	eP		P	16 49 24.7	+4.0
	5.9nm,0.3s							
PKIN	Phulchoki	34.28	335	eP		P	16 49 26.0	+3.3
	2.1nm,0.4s							
GUN	Gumba	34.38	336	eP		P	16 49 27.5	+3.8
	14nm,0.4s							
KKN	Kakani	34.52	335	eP		P	16 49 28.2	+3.5
	4.5nm,0.4s							
GKN	Gorkha	34.98	335	eP		P	16 49 32.3	+3.7
	7.3nm,0.4s							
KOLN	Koldanda	35.23	333	eP		P	16 49 34.8	+4.0
DANN	Dangsing	35.66	334	eP		P	16 49 39.0	+4.4
	18nm,0.4s							
PYUN	Piuthan	35.79	333	eP		P	16 49 40.2	+4.6
	5.1nm,0.4s							
WR1	Warramunga Arr	36.64	119	eP		P	16 49 42.9	0.0
	38nm,1.8s							
WRA	Warramunga Arr	36.64	119	P		P	16 49 42.8	0.0
	1.0nm,0.5s,baz=305,slow=8.8,SNR=31							
ASAR	Alice Springs	37.81	125	P		P	16 49 53.0	+0.3
	1.7nm,0.4s,baz=299,slow=7.7,SNR=55							
ASAR				PcP		PcP	16 52 09.1	-0.1
	0.2nm,0.5s,baz=316,slow=2.6,SNR=2.7							
ASAR				LR		LR	17 07 00.2	
	comp=Z,40nm,21.0s,baz=274,slow=39							
STKA	Stephens Creek	47.62	131	eP		P	16 51 12.1	-0.1
	2.2nm,1.7s							
STKA	Stephens Creek	47.62	131	P		P	16 51 11.9	-0.4
	0.4nm,0.3s,baz=301,slow=12,SNR=3.6							
KDJ	Kajisay	50.23	337	eP		P	16 51 33.4	+1.2
	4.9nm,1.0s							
SONA0	Songino Array	51.43	5	eP		P	16 51 41.6	+0.5
SONM	Songino Array	51.43	5	P		P	16 51 41.6	+0.5
	2.6nm,0.8s,baz=188,slow=8.9,SNR=18							
MK01	Makanchi Array	52.68	344	eP		P	16 51 49.8	-0.5
MK31	Makanchi Array	52.70	344	eP		P	16 51 49.5	-1.0
	4.7nm,1.6s							
MK32	Makanchi Array	52.70	344	eP		P	16 51 50.7	+0.2
MKAR	Makanchi Array	52.70	344	P		P	16 51 50.7	+0.2
	0.6nm,0.4s,baz=146,slow=8.9,SNR=13							
USRK	Usuriysk Ar.	55.22	27	P		P	16 52 09.0	+0.1
	1.3nm,0.5s,baz=216,slow=4.0,SNR=6.4							
KURK	Kurchatov	57.28	344	eP		P	16 52 23.0	-0.4
	4.4nm,1.0s							
ZAA0	Zalesovo Array	58.82	349	eP		P	16 52 33.7	-0.5
	4.2nm,1.1s							
ZALV	Zalesovo Beam	58.82	349	eP		P	16 52 33.5	-0.6
ZALV	Zalesovo Beam	58.82	349	P		P	16 52 34.0	-0.2
	1.7nm,0.7s,baz=162,slow=5.6,SNR=9.1							
ZAA1	Zalesovo Array	58.82	349	eP		P	16 52 34.0	-0.2
ABKAR	Akbulak array	63.32	331	eP		P	16 53 04.0	-0.8
	2.0nm,0.8s							
TX31	Lajitas Ar. Si	145.50	39	ePKPdf		PKPdf	17 02 12.8	-2.0
TXAR	Lajitas Array	145.50	39	PKPbc		PKPab	17 02 15.3	+0.2
	1.6nm,0.5s,baz=302,slow=0.9,SNR=8.8							

*ISCJB **05** 16:50:40.4±1.2,14°.98S±0°.08×167°.0E±0°.2,h100km, mb3.6/6, Error ellipse: s-maj=30.7km s-min=10.9km az=178.3*
*IDC **05** 16:50:42.2±6.7,14°.99S×167°.18E,h110km±68km,mb3.5/6, mb1 3.7/7,mb1mx3.4/37,mbtmp3.9/7, Error ellipse: s-maj=56.1km s-min=28.8km az=149.0*

ISC 05 16:50:41.2±1.2, 14°.94S±0°.10×167°.2E±0°.2, h100km, n8, σ0§99/9, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
DZM	Mont Dzumac	7.13	185	P		Pn	16 52 23.1	+0.2
	5.0nm,0.3s,baz=13,slow=19,SNR=21							
DZM				S		Sn	16 53 42.1	-0.4
	2.6nm,0.3s,baz=321,slow=22,SNR=6.7							
STKA	Stephens Creek	28.78	230	P		P	16 56 30.5	+0.9
	3.2nm,0.6s,baz=53,slow=10,SNR=13							
WRA	Warramunga Arr	31.67	256	P		P	16 56 55.0	-0.4
	0.4nm,0.7s,baz=83,slow=7.7,SNR=3.3							
ASAR	Alice Springs	32.50	249	P		P	16 57 02.2	-0.4
	1.6nm,0.6s,baz=77,slow=9.3,SNR=5.7							
SONM	Songino Array	82.60	324	P		P	17 02 53.3	0.0
	0.3nm,0.5s,baz=106,slow=6.6,SNR=3.5							
ILAR	Eielson Array	86.75	18	P		P	17 03 14.5	+0.8
	0.2nm,0.8s,baz=211,slow=6.9,SNR=2.7							
MKAR	Makanchi Array	97.28	316	P		P	17 04 03.0	+0.1
	0.2nm,0.6s,baz=102,slow=3.5,SNR=2.7							
ARCES	ARCESS Array B	120.42	345	PKP		PKPdf	17 09 18.3	-2.0
	3.1nm,0.9s,baz=42,slow=3.8,SNR=3.8							

IDC 05 16:52:53.7±8.2, 7°.22S×129°.42E, h160km±87km, mb3.2/1, mb1 3.2/5, mb1mx2.9/38, mbtmp3.7/5, Error ellipse: s-maj=77.0km s-min=25.3km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
BATI	Baumata	6.42	242	P		Pn	16 54 26.7	+0.6
	0.5nm,0.3s,baz=169,slow=16,SNR=2.5							
BATI				S		Sn	16 55 39.1	+0.5
	2.9nm,0.3s,baz=14,slow=20,SNR=7.4							
FITZ	Fitzroy Crossi	11.42	198	P		Pn	16 55 31.4	-0.8
	0.2nm,0.3s,baz=30,slow=13,SNR=13							
FITZ				S		Sn	16 57 33.3	-5.5
	0.4nm,0.3s,baz=300,slow=22,SNR=2.1							
WRA	Warramunga Arr	13.52	160	P		Pn	16 55 57.7	-1.5
	0.3nm,0.3s,baz=341,slow=13,SNR=13							
WRA				S		Sn	16 58 20.6	-8.7
	0.4nm,0.3s,baz=333,slow=22,SNR=9.6							
ASAR	Alice Springs	16.91	166	P		Pn	16 56 42.4	+1.3
	0.3nm,0.3s,baz=343,slow=9.9,SNR=28							
ASAR				S		S	16 59 43.9	-4.7
	0.1nm,0.3s,baz=320,slow=16,SNR=4.9							
MKAR	Makanchi Array	68.09	327	P		P	17 03 36.1	-0.1
	0.3nm,0.3s,baz=123,slow=7.6,SNR=7.8							

*ISCJB **05** 16:55:30.4±0.6,39°.13N±0°.03×26°.17E±0°.05,h9km±6km, Error ellipse: s-maj=6.7km s-min=5.4km az=150.5*
*DDA **05** 16:55:30.5,39°.15N×26°.21E,h7km±2km,ML2.5*
*ISK **05** 16:55:30.3,39°.14N×26°.16E,h11km,ML2.2/9*

ISC 05 16:55:30.5±1.0, 39°.14N±0°.04×26°.18E±0°.04, h12km±11km, n14, σ0§45/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
SIGR	SIGRI	0.26	285	PG		Pg	16 55 35.9	-0.1
SIGR				SG		Sg	16 55 39.9	+0.3
AYVA	Ayvalik	0.43	67	i P		Pg	16 55 38.6	-0.5
AYVA				i S		Sb	16 55 45.9	-0.5
AYVA				IAML_P				
	comp=Z,446nm,0.1s							
BAYC	CANAKKALE_Bayr	0.66	25	i P		Pb	16 55 43.8	-0.2
BAYC				i S		Sb	16 55 53.8	+0.7
BAYC				IAML_P				
	comp=Z,432nm,0.1s							
EZN	Ezine	0.69	9	PG		Pb	16 55 44.5	0.0
BOZC	Bozcaada	0.70	352	PG		Pg	16 55 44.2	0.0
BOZC				SG		Sb	16 55 54.5	+0.2
ZEDA	zmir-Bergama	0.72	104	i P		Pb	16 55 45.2	+0.3
ZEDA				i S		Sg	16 55 54.5	+0.6
CHOS	Chios island	0.76	187	PG		Pb	16 55 45.5	-0.2
URLA	Izmir	0.85	157	PG		Pb	16 55 46.7	-0.5
URLA	Izmir	0.85	157	i P		Pb	16 55 47.0	-0.1
GELI	Tayfur-Gelibol	1.27	10	PN		Pn	16 55 53.9	-0.2
BALB	Balikesir	1.41	69	PN		Pb	16 55 56.6	-0.1
ERIK	Erikli-Kesan	1.55	9	PN		Pn	16 55 57.9	+0.1
ENEZ	Enez	1.59	359	PN		Pb	16 55 58.9	-0.9
ALN	Alexandroupoli	1.75	357	PN		Pn	16 56 01.3	+0.6

*IDC **05** 16:58:04.5±1.1, 0°.27S×122°.74E, h0km, mb3.4/4, mb1 3.7/5,mb1mx3.4/31,mbtmp3.5/5,ML3.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/21, Error ellipse: s-maj=117.6km s-min=19.9km az=67.0*
*ISCJB **05** 16:58:06.9±0.7, 0°.53S±0°.03×121°.93E±0°.04, h25km±6km, mb3.5/4,MS3.0/1, Error ellipse: s-maj=6.5km s-min=5.5km az=31.5*
*DJA **05** 16:58:07.1±0.2, 1°.S±2°×12°.2E±°, h10km, M4.0/13, mb4.4/2, MLv3.9/13*

ISC 05 16:58:06.6±1.1, 0°.50S±0°.03×121°.91E±0°.04, h12km±8km, n19, σ0§90/26, mb3.5/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
APSI	Ampana	0.48	213	P		Pg	16 58 15.7	-0.3
APSI				S		Sg	16 58 22.4	0.0
MRSI	Marisa	0.97	2	P		Pg	16 58 24.9	-0.5
MRSI				S		Sg	16 58 38.2	+0.1
LUWI	Luwuk	1.02	122	P		Pg	16 58 26.2	0.0
LUWI				S		Sg	16 58 39.5	+0.1
PCI	Palu	2.11	259	P		Pn	16 58 42.4	+0.7
PCI				S		Sn	16 59 08.5	+0.6
MPSI	Mapaga	2.18	293	P		Pn	16 58 42.3	-0.3
KMSI	Cibinong	2.33	63	P		Pb	16 58 49.3	+0.7
KMSI				S		Sb	16 59

IDC ***05*** *17:18:48.1±1.3,0˚.20N×126˚.40E,h0km,mb3.2/4, mb1 3.4/4,mb1mx3.2/42,mbtmp3.3/4,Error ellipse: s-maj=138.7km s-min=21.0km az=69.0*

ISCJB ***05*** *17:19:04.1±1.5,0˚.25N±0˚.08×126˚.93E±0˚.07,h100km, mb3.3/4,Error ellipse: s-maj=13.5km s-min=7.1km az=43.4*

DJA ***05*** *17:19:05.3±0.8,0˚N±3˚×12˚7E±˚,h14km±8km,M4.3/8, mb4.5/2,mB5.1/1,MLv4.2/8,Mw(mB)4.5/1*

ISC 05 17:19:01.4±1.0,**0˚.33N**±0˚.06×**127˚.04E**±0˚.06,**h100**km,**n12,** σ2§**55/18,mb3.2/4,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.55**	**37**	P	**Pn**	**17 19 22.2**	**+4.7**
SANI	**Sanana**	**2.59**	**204**	P	**Pn**	**17 19 44.1**	**+2.4**
SANI				S	**Sn**	**17 20 13.7**	**+1.1**
KMSI	**Cibinong**	**3.06**	**275**	P	**Pn**	**17 19 51.4**	**+3.4**
KMSI				S	**Sn**	**17 20 27.1**	**+3.1**
NLAI	**Namlea**	**3.55**	**179**	P	**Pn**	**17 19 57.5**	**+3.0**
NLAI				S	**Sn**	**17 20 36.6**	**+1.0**
LUWI	**Luwuk**	**4.48**	**252**	P	**Pn**	**17 20 08.9**	**+1.8**
LUWI				S	**Sn**	**17 20 59.3**	**+1.2**
MRSI	**Marisa**	**5.10**	**272**	P	**Pn**	**17 20 16.6**	**+1.1**
MRSI				S	**Sn**	**17 21 13.5**	**+0.4**
APSI	**Ampana** 52nm,0.4s,2μm0.4nm	**5.53**	**257**	P	**Pn**	**17 20 23.5**	**+2.2**
APSI	52nm,0.4s,2μm0.4nm			S	**Sn**	**17 21 24.2**	**+0.6**
TTSI	**Tana Toraja**	**7.96**	**245**	P	**Pn**	**17 20 57.0**	**+2.7**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=338,slow=11,SNR=15	**21.38**	**161**	P	**P**	**17 23 39.5**	**-1.6**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=345,slow=8.8,SNR=14	**24.77**	**165**	P	**P**	**17 24 11.5**	**-2.5**
SONM	**Songino Array** 0.2nm,0.5s,baz=157,slow=7.7,SNR=2.7	**50.60**	**342**	P	**P**	**17 27 48.1**	**-2.1**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=114,slow=7.8,SNR=7.6	**60.52**	**326**	P	**P**	**17 28 58.7**	**-2.4**

IDC ***05*** *17:23:58.5±0.8,50˚.90N×172˚.58W,h0km,mb3.9/24, mb1 4.1/26,mb1mx3.9/59,mbtmp3.9/26,ML3.6/2,Error ellipse: s-maj=24.3km s-min=11.6km az=2.0*

ISCJB ***05*** *17:24:00.7±1.2,51˚.09N±0˚.05×172˚.52W±0˚.03,h20km±8km, mb4.2/60,MS3.5/1,Error ellipse: s-maj=8.2km s-min=2.7km az=174.1*

NEIC ***05*** *17:24:02.1±0.0,50˚.73N×172˚.55W,h47km,mb4.2/71, ML3.8(AEIC),After AEIC.*

ISC 05 17:24:00.7±2.2,**51˚.03N**±0˚.09×**172˚.55W**±0˚.03, **h13**km±11km,**n177,**σ1§**26**/187,**mb4.3**/68,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**1.57**	**323**	*e*Pn	**Pg**	**17 24 30.2**	**-0.7**
KOSE	**Korovin Southe**	**1.61**	**325**	*e*Pn	**Pg**	**17 24 30.9**	**-0.7**
KOSE				*e*Sn	**Sg**	**17 24 54.4**	**+1.9**
KONE	**Korovin Northe**	**1.68**	**325**	*e*Pn	**Pb**	**17 24 31.8**	**+0.4**
GSIG	**Igitkin Island**	**2.31**	**296**	P	**Pn**	**17 24 38.8**	**+0.2**
GSMY	**Great Sitkin M**	**2.41**	**296**	*e*Pn	**Pn**	**17 24 40.3**	**+0.4**
GSMY				*e*Sn	**Sn**	**17 25 09.0**	**-0.3**
GSTR	**Great Sitkin T**	**2.43**	**297**	*e*Pn	**Pn**	**17 24 41.0**	**+0.8**
GSTR				*e*Sn	**Sn**	**17 25 10.6**	**+0.7**
GSTD	**Great Sitkin T**	**2.47**	**296**	*e*Pn	**Pn**	**17 24 41.0**	**+0.3**
GSTD				*e*Sn	**Sn**	**17 25 10.2**	**-0.5**
GSSP	**Great Sitkin S**	**2.50**	**297**	P	**Pn**	**17 24 41.9**	**+0.8**
ETKA	**Kagalaska Isla**	**2.55**	**290**	*e*Pn	**Pn**	**17 24 41.6**	**-0.2**
ETKA				*e*Sn	**Sn**	**17 25 11.5**	**-1.2**
ADAG	**Mount Adagdak**	**2.70**	**292**	*e*Pn	**Pn**	**17 24 44.8**	**+0.9**
ADK	**Adak**	**2.72**	**290**	*e*Pn	**Pn**	**17 24 44.0**	**-0.1**
ADK				*e*Sn	**Sn**	**17 25 15.5**	**-1.4**
KIWB	**Kanaga Island**	**2.99**	**288**	*e*Pn	**Pn**	**17 24 48.1**	**+0.3**
KIWB				*e*Sn	**Sn**	**17 25 22.8**	**-0.8**
NIKH	**Nikolski High**	**3.00**	**48**	*e*Pn	**Pn**	**17 24 47.6**	**-0.3**
NIKH				*e*Sn	**Sn**	**17 25 23.0**	**-0.8**
KIKV	**Kanaga Island**	**3.01**	**288**	*e*Pn	**Pn**	**17 24 48.6**	**+0.5**
KIMD	**Kanaga Island**	**3.02**	**286**	P	**Pn**	**17 24 48.3**	**0.0**
OKSP	**Okmok Steeple**	**3.44**	**48**	P	**Pn**	**17 24 55.1**	**+1.0**
TAFP	**Tanaga Falls P**	**3.51**	**286**	*e*Pn	**Pn**	**17 24 55.3**	**+0.4**
OKER	**Okmok East Rim**	**3.68**	**47**	*e*Pn	**Pn**	**17 24 59.1**	**+1.8**
MREP	**Makushin Rep't**	**4.51**	**50**	P	**Pn**	**17 25 10.2**	**+1.4**
MCIR	**Makushin Cirqu**	**4.53**	**48**	*e*Pn	**Pn**	**17 25 10.7**	**+1.7**
MSW	**Makushin Switc**	**4.56**	**48**	*e*Pn	**Pn**	**17 25 10.2**	**+0.8**
MSW				*e*Sn	**Sn**	**17 26 04.1**	**+2.0**
MTBL	**Makushin Table**	**4.64**	**48**	*e*Pn	**Pn**	**17 25 11.8**	**+1.2**
UNV	**Unalaska Valle**	**4.65**	**50**	*e*Pn	**Pn**	**17 25 11.8**	**+1.2**
UNV				*e*Sn	**Sn**	**17 26 04.3**	**-0.2**
AKUT	**Akutan**	**5.17**	**50**	*e*Pn	**Pn**	**17 25 18.8**	**+1.1**
AKUT				*e*Sn	**Sn**	**17 26 16.7**	**-0.6**
SSBA	**Shishaldin**	**6.33**	**50**	P	**Pn**	**17 25 35.6**	**+2.0**
FALS	**False Pass**	**6.72**	**52**	*e*Pn	**Pn**	**17 25 37.4**	**-1.6**
FALS				*e*Sn	**Sn**	**17 26 55.3**	**0.0**
DT1	**Dutton Round H**	**7.41**	**53**	*e*Pn	**Pn**	**17 25 49.2**	**+0.8**
SMY	**Shemya**	**8.43**	**287**	*e*Pn	**Pn**	**17 25 59.8**	**-2.7**
SDPT	**Sand Point**	**8.44**	**55**	*e*Pn	**Pn**	**17 26 01.1**	**-1.4**
CHGN	**Chignik**	**9.90**	**52**	*e*Pn	**Pn**	**17 26 22.9**	**+0.3**
SII	**Sitkinak Islan**	**12.17**	**56**	*e*Pn	**Pn**	**17 26 51.5**	**-2.2**
GAMB	**Gambell**	**12.79**	**2**	*e*Pn	**Pn**	**17 26 58.7**	**-3.3**
OHAK	**Old Harbor**	**12.86**	**54**	*e*Pn	**Pn**	**17 27 00.6**	**-2.5**
KDAK	**Kodiak Island** 1.0nm,0.3s,baz=223,slow=6.0,SNR=20	**13.42**	**52**	Pn	**Pn**	**17 27 08.4**	**-2.2**
KDAK	0.2nm,0.3s,baz=320,slow=13,SNR=2.1			Sn	**S**	**17 29 59.1**	**-4.3**
SVW2	**Sparrevohn**	**13.79**	**37**	*e*Pn	**Pn**	**17 27 16.0**	**+0.2**
ANM	**Nome**	**14.08**	**13**	*e*Pn	**Pn**	**17 27 18.0**	**-1.8**
RSO	**Redoubt South**	**14.55**	**42**	*e*Pn	**Pn**	**17 27 24.5**	**-1.8**
BRLK	**Bradley Lake** 33nm,1.4s	**15.03**	**46**	*e*Pn	**Pn**	**17 27 30.2**	**-2.5**
SEW	**Seward** 19nm,1.2s	**15.83**	**46**	*e*Pn	**Pn**	**17 27 41.2**	**-1.9**
RC01	**Rabbit Creek A** 56nm,2.0s	**16.15**	**43**	*e*Pn	**Pn**	**17 27 46.1**	**-1.1**
PPLA	**Purkeypile** 7.7nm,0.6s	**16.17**	**35**	*e*Pn	**P**	**17 27 49.1**	**-1.6**
CAST	**Castle Rocks** 6.0nm,0.7s	**16.53**	**34**	*e*Pn	**P**	**17 27 53.8**	**-0.9**
KNK	**Knik Glacier** 8.0nm,0.6s	**16.85**	**43**	*e*Pn	**Pn**	**17 27 54.4**	**-1.7**
SML	**Sawmill** 28nm,1.4s	**17.08**	**42**	*e*Pn	**Pn**	**17 27 57.5**	**-1.6**
TRF	**Thorofare Moun** 32nm,2.0s	**17.19**	**35**	*e*Pn	**P**	**17 28 01.3**	**-0.8**
SCM	**Sheep Creek Mo** 14nm,0.7s	**17.52**	**42**	*e*Pn	**Pn**	**17 28 02.3**	**-2.2**
RND	**Reindeer** 3.6nm,0.6s	**17.70**	**37**	*e*Pn	**P**	**17 28 07.0**	**-0.6**
EYAK	**Cordova Ski Ar** 89nm,1.9s	**17.70**	**47**	*e*Pn	**P**	**17 28 07.4**	**-0.2**
IM3	**Indian Mountai**	**17.80**	**26**	*e*P	**P**	**17 28 09.8**	**+1.2**
MCK	**McKinley** 8.4nm,1.1s	**17.85**	**36**	*e*P	**P**	**17 28 09.0**	**-0.2**
DIV	**Divide** 17nm,1.4s	**17.91**	**45**	*e*P	**Pn**	**17 28 08.0**	**-1.3**
BWN	**Browne** 58nm,2.0s	**17.91**	**34**	*e*P	**P**	**17 28 12.9**	**+3.0**
KLU	**Klutina** 38nm,1.8s	**17.98**	**44**	*e*P	**Pn**	**17 28 08.3**	**-2.0**
MLY	**Manley** 8.0nm,1.1s	**18.02**	**31**	*e*P	**P**	**17 28 13.9**	**+2.8**
DHY	**Denali Highway** 25nm,1.9s	**18.09**	**39**	*e*P	**P**	**17 28 11.7**	**-0.3**
HMT	**Hamilton** 131nm,2.0s	**18.33**	**49**	*e*P	**Pn**	**17 28 13.4**	**-1.1**
PEA0B	**Petropavlovsk-** 64nm,1.4s	**18.35**	**288**	*e*P	**Pn**	**17 28 14.1**	**-0.6**
PEA1	**Petropavlovsk-**	**18.35**	**288**	*e*P	**Pn**	**17 28 14.7**	**0.0**
PETK	**Petropavlovsk-**	**18.35**	**288**	*e*P	**Pn**	**17 28 14.9**	**+0.2**
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=91,slow=13,SNR=7.1	**18.35**	**288**	P	**Pn**	**17 28 14.7**	**0.0**
WRH	**Wood River Hil** 18nm,1.7s	**18.58**	**34**	*e*P	**P**	**17 28 16.2**	**-0.9**
HARP	**HAARP** 22nm,1.2s	**18.69**	**42**	*e*P	**P**	**17 28 16.2**	**-2.3**
CCB	**Clear Creek Bu** 13nm,1.6s	**18.78**	**34**	*e*P	**P**	**17 28 17.7**	**-1.7**
PAX	**Paxson** 29nm,2.0s	**18.80**	**40**	*e*P	**P**	**17 28 18.5**	**-1.3**
MDM	**Murphy Dome** 13nm,1.7s	**18.81**	**33**	*e*P	**P**	**17 28 18.9**	**-0.9**
HDA	**Harding Lake** 3.7nm,0.7s	**18.95**	**35**	*e*P	**Pn**	**17 28 21.2**	**-0.7**
IL1	**Eielson Array**	**19.17**	**34**	*e*P	**P**	**17 28 22.6**	**-1.2**
ILAR	**Eielson Array** 0.5nm,0.3s,baz=360,slow=11,SNR=22	**19.17**	**34**	P	**Pn**	**17 28 23.7**	**-0.9**
ILB	**Eielson Array**	**19.17**	**34**	*e*P	**P**	**17 28 22.6**	**-1.2**
RIDG	**Independ'e Rid** 16nm,1.6s	**19.41**	**38**	*e*P	**Pn**	**17 28 27.2**	**-0.4**
BALM	**Baldy** 19nm,1.4s	**19.44**	**47**	*e*P	**Pn**	**17 28 27.4**	**-0.6**
MENT	**Mentasta** 9.9nm,1.2s	**19.51**	**41**	*e*P	**Pn**	**17 28 28.0**	**-0.8**
COLD	**Coldfoot** 13nm,1.9s	**19.68**	**26**	*e*P	**Pn**	**17 28 30.1**	**-0.5**
DOT	**Dot Lake** 27nm,1.8s	**19.68**	**39**	*e*P	**P**	**17 28 29.4**	**+0.1**
SCRK	**Sand Creek**	**19.86**	**38**	*e*P	**P**	**17 28 31.2**	**-0.1**
BILL	**Bilibino** 8.0nm,1.0s	**19.96**	**337**	*e*P	**Pn**	**17 28 34.6**	**+0.7**
PRP	**Porcupine Dome** 4.4nm,1.1s	**20.07**	**33**	*e*P	**P**	**17 28 33.0**	**-0.6**
PCA	**Pinnacle** 15nm,0.7s	**20.20**	**51**	*e*P	Pn	17 28 37.0	+0.1
BCPM	**Bancas Point** 73nm,1.0s	**20.47**	**51**	*e*P	Pn	17 28 41.0	+0.9
TOLK	**Toolik Lake Re** 21nm,0.7s	**20.86**	**24**	*e*P	Pn	17 28 44.5	0.0
EGAK	**Eagle** 41nm,0.6s	**21.32**	**38**	*e*P	**P**	**17 28 48.2**	**+1.3**
HYT	**Haines Junctio** 7.5nm,0.9s	**21.68**	**50**	*e*P	**P**	**17 28 53.0**	**+2.0**
DAWY	**Dawson** 2.7nm,0.6s	**21.74**	**40**	*e*P	**P**	**17 28 53.8**	**+2.2**
SEY	**Seymchan** 2.4nm,0.6s,baz=109,slow=9.4,SNR=14	**22.19**	**316**	P	**P**	**17 28 56.5**	**+0.2**
MA2	**Magadan** 5.0nm,0.8s	**22.30**	**307**	*e*P	**P**	**17 28 58.6**	**+1.1**
MA2	**Magadan** 4.3nm,0.5s,baz=94,slow=10,SNR=16	**22.30**	**307**	P	**P**	**17 28 57.7**	**+0.1**
SKAG	**Skagway** 9.9nm,0.4s	**22.56**	**54**	*e*P	**P**	**17 29 03.5**	**+3.1**
WHY	**Whitehorse** 4.8nm,0.7s	**22.92**	**51**	*e*P	**P**	**17 29 07.1**	**+2.8**
EPYK	**Eagle Plains** 4.7nm,0.8s	**23.65**	**36**	*e*P	**P**	**17 29 12.4**	**+0.9**
CRAG	**Craig** 161nm,2.0s	**23.77**	**64**	*e*P	**P**	**17 29 13.5**	**+0.8**
DLBC	**Dease Lake** 18nm,1.7s	**25.27**	**56**	*e*P	**P**	**17 29 28.2**	**+1.7**
DLBC	**Dease Lake** 3.3nm,0.7s,baz=256,slow=12,SNR=3.8	**25.27**	**56**	P	**P**	**17 29 27.9**	**+1.4**
INK	**Inuvik** 6.5nm,1.0s	**25.55**	**33**	*e*P	**P**	**17 29 24.3**	**-4.5**
INK	**Inuvik** 3.5nm,0.5s,baz=298,slow=9.8,SNR=10	**25.55**	**33**	P	**P**	**17 29 29.2**	**+0.5**
YKA	**Yellowknife Ar** 0.5nm,0.4s,baz=270,slow=7.7,SNR=19	**32.61**	**47**	P	**P**	**17 30 33.2**	**+1.6**
YKA	0.6nm,0.8s,baz=285,slow=3.1,SNR=6.4			PcP	**PcP**	**17 33 17.5**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=17	**35.20**	**215**	T	T	18 08 14.6	
H11N3	**WAKE ISLAND Hy** baz=17	**35.20**	**215**	T	T	18 07 52.7	
H11N1	**WAKE ISLAND Hy** baz=17	**35.21**	**215**	T	T	18 08 13.4	
NEW	**Newport** 1.3nm,0.5s,baz=223,slow=13,SNR=2.8	**35.28**	**72**	P	**P**	**17 30 54.2**	**-0.9**
I07A	**Izembek** 4.3nm,0.8s	**35.79**	**80**	*e*P	**P**	**17 31 00.7**	**+1.1**
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=4.5	**36.39**	**215**	T	T	18 09 21.8	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=4.9	**36.41**	**214**	T	T	18 09 23.9	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=4.5	**36.41**	**215**	T	T	18 09 23.1	
J08A	**Circle Bar Ran** 4.8nm,0.6s	**36.80**	**80**	*e*P	**P**	**17 31 09.5**	**+1.2**
WVOR	**Wild Horse Val** 5.0nm,0.9s	**37.19**	**82**	*e*P	**P**	**17 31 12.1**	**+0.6**
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=283,slow=9.0,SNR=2.3	**39.67**	**87**	P	**P**	**17 31 33.0**	**+0.4**
ELK	**Elko** 1.9nm,0.8s	**40.25**	**82**	*e*P	**P**	**17 31 37.4**	**0.0**
ELK	**Elko** 1.6nm,0.7s,baz=289,slow=11,SNR=8.3	**40.25**	**82**	P	**P**	**17 31 37.2**	**-0.1**
H17A	**Grant Village** 3.3nm,0.4s	**41.12**	**74**	*e*P	**P**	**17 31 45.6**	**+1.1**
HVU	**Hansel Valley** 12nm,1.9s	**41.20**	**79**	*e*P	**P**	**17 31 45.9**	**+0.8**
BGU	**Big Grassy Mou** 2.7nm,1.0s	**41.52**	**80**	*e*P	**P**	**17 31 47.4**	**-0.4**
RLMT	**Red Lodge** 3.0nm,0.9s	**41.53**	**73**	*e*P	**P**	**17 31 48.6**	**+0.8**
HWUT	**Hardware Ranch** 4.1nm,0.8s	**42.04**	**78**	*e*P	**P**	**17 31 52.9**	**+0.9**
DUG	**Dugway, Tooele** 3.7nm,0.9s	**42.08**	**81**	*e*P	**P**	**17 31 53.1**	**+0.8**
BW06	**Boulder Array** 4.6nm,1.3s	**42.63**	**76**	*e*P	**P**	**17 31 57.0**	**+0.1**
PD31	**Pinedale Array** 4.8nm,1.3s	**42.63**	**76**	*e*P	**P**	**17 31 56.4**	**-0.5**
PDAR	**Pinedale Array**	**42.63**	**76**	*e*P	**P**	**17 31 56.8**	**0.0**
PDAR	**Pinedale Array** 2.1nm,0.8s,baz=304,slow=3.6,SNR=14	**42.63**	**76**	P	**P**	**17 31 57.1**	**+0.3**
KSRS	**Kozo Array** 1.7nm,0.9s,baz=60,slow=7.2,SNR=3.8	**43.58**	**276**	P	**P**	**17 32 04.7**	**+0.4**
KSAR	**Wonju Array Be**	**43.61**	**276**	P	**P**	**17 32 04.7**	**+0.2**
Q16A	**Castle Valley** 5.5nm,0.8s	**43.85**	**81**	*e*P	**P**	**17 32 07.5**	**+0.7**
SRU	**San Rafael Swe** 5.2nm,0.9s	**44.14**	**81**	*e*P	**P**	**17 32 08.2**	**-0.9**
U15A	**North Rim** 4.3nm,1.0s	**44.68**	**85**	*e*P	**P**	**17 32 13.7**	**+0.2**
O20A	**White River Ci** 5.8nm,0.9s	**44.95**	**78**	*e*P	**P**	**17 32 15.0**	**-0.5**
PV09	**Paradox Valley**	**45.38**	**80**	*e*P	**P**	**17 32 18.8**	**-0.3**
PV04	**Paradox Valley** 6.5nm,0.9s	**45.59**	**80**	*e*P	**P**	**17 32 20.5**	**-0.1**
PV17	**East Wray Mesa** 7.7nm,0.8s	**45.62**	**80**	*e*P	**P**	**17 32 20.4**	**-0.4**
PV16	**Nyswonger Mesa** 3.7nm,0.8s	**45.63**	**80**	*e*P	**P**	**17 32 20.9**	**0.0**
PV05	**Paradox Valley** 4.2nm,0.6s	**45.66**	**81**	*e*P	**P**	**17 32 20.8**	**-0.4**
PV12	**Saucer Basin,** 8.4nm,1.0s	**45.70**	**80**	*e*P	**P**	**17 32 20.8**	**-0.7**
PV13	**Radium Mtn., P** 11nm,0.9s	**45.78**	**81**	*e*P	**P**	**17 32 22.0**	**-0.2**
PV02	**Paradox Valley** 12nm,1.0s	**45.80**	**80**	*e*P	**P**	**17 32 21.6**	**-0.7**
PV01	**Paradox Valley**	**45.95**	**80**	*e*P	**P**	**17 32 23.5**	**-0.1**
ULN	**Ulaanbaatar** 3.1nm,1.0s	**49.89**	**300**	*e*P	**P**	**17 32 53.6**	**-0.2**
SONA0	**Songino Array**	**50.27**	**300**	*e*P	**P**	**17 32 57.3**	**+0.6**
SONA0				*e*PcP	**PcP**	**17 34 14.9**	**-0.5**
SONM	**Songino Array** 1.3nm,0.6s,baz=46,slow=7.9,SNR=15	**50.27**	**300**	P	**P**	**17 32 57.3**	**+0.6**
SONM	0.3nm,0.6s,baz=45,slow=4.0,SNR=2.2			PcP	**PcP**	**17 34 14.9**	**-0.5**
SPITS	**Spitsbergen Ar** 4.1nm,0.8s,baz=32,slow=6.8,SNR=6.4	**50.94**	**358**	P	**P**	**17 33 01.9**	**+0.7**
HHC	**Hu-ho-hao-te**	**51.53**	**290**	*e*P	**P**	**17 33 06.7**	**+0.5**
HHC	comp=Z,14nm,0.9s			pmax	pmax		
HHC	comp=Z,120nm,5.8s			pmax	pmax		
TXAR	**Lajitas Array** comp=Z,1.0nm,0.6s,baz=264,slow=5.0,SNR=4.1	**54.79**	**86**	P	**P**	**17 33 29.7**	**-0.6**
ZAA1	**Zalesovo Array**	**57.05**	**317**	*e*P	**P**	**17 33 46.8**	**+0.8**
ZAA1				*e*PcP	**PcP**	**17 34 41.0**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.4s,baz=64,slow=6.6,SNR=1.9	**57.05**	**317**	P	**P**	**17 33 46.8**	**+0.8**
ZALV	comp=Z,0.4nm,0.6s,baz=25,slow=4.8,SNR=2.5			PcP	**PcP**	**17 34 41.0**	**+0.1**
SCHQ	**Schefferville** comp=Z,2.4nm,0.8s,baz=252,slow=20,SNR=2.8	**57.76**	**41**	P	**P**	**17 33 51.8**	**+0.7**
ARA0	**ARCESS Array S**	**59.02**	**353**	*e*P	**P**	**17 33 59.9**	**+0.3**
ARCES	**ARCESS Array B** comp=Z,1.7nm,0.8s,baz=14,slow=8.4,SNR=7.0	**59.02**	**353**	P	**P**	**17 33 59.9**	**+0.3**
GTA	**Gaotai**	**59.30**	**296**	*e*P	**P**	**17 34 02.9**	**+0.7**
GTA				pP	pwP	17 34 07.6	-4.8
GTA				sP	pP	17 34 09.9	+5.6
GTA	comp=Z,2.0nm,0.9s			pmax	pmax		
WMQ	**Urumqi**	**62.77**	**307**	*e*P	**P**	**17 34 28.2**	**+2.6**
WMQ	comp=N,45nm,19.7s			LR	LR		
WMQ	comp=E,89nm,30.3s			LR	LR		
WMQ	comp=Z,32nm,19.7s			LR	LR		
CD2	**Chengdu**	**62.87**	**286**	P	**P**	**17 34 24.4**	**-2.0**
CD2	comp=Z,3.0nm,0.5s			pmax	pmax		
MK31	**Makanchi Array** comp=Z,2.2nm,1.0s	**63.26**	**312**	*e*P	**P**	**17 34 28.8**	**+0.1**
MK32	**Makanchi Array**	**63.26**	**312**	*e*P	**P**	**17 34 29.0**	**+0.3**
MKAR	**Makanchi Array** comp=Z,1.nm,0.7s,baz=51,slow=5.9,SNR=26	**63.26**	**312**	P	**P**	**17 34 29.0**	**+0.3**
MK01	**Makanchi Array**	**63.27**	**312**	*e*P	**P**	**17 34 28.6**	**-0.2**
FIA0	**FINESS Array S**	**66.89**	**350**	*e*P	**P**	**17 34 52.3**	**+0.3**
FINES	**FINESS Array B** comp=Z,1.0nm,0.6s,baz=355,slow=6.7,SNR=4.8	**66.89**	**350**	P	**P**	**17 34 52.3**	**+0.3**
KMI	**Kunming**	**67.65**	**283**	P	**P**	**17 34 58.0**	**+0.3**
KMI	comp=Z,24nm,0.5s			pmax	pmax		
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.5s,baz=5.6,slow=6.9	**68.24**	**358**	P	**P**	**17 35 01.9**	**+1.3**
NB200	**NORSAR Array S**	**68.24**	**358**	*e*P	**P**	**17 35 01.6**	**+1.0**
NOA	**NORSAR Array B** comp=Z,1.4nm,0.8s,baz=1.9,slow=6.5,SNR=4.2	**68.24**	**358**	P	**P**	**17 35 01.6**	**+1.0**
KDJ	**Kajisay** comp=Z,2.8nm,0.8s	**69.17**	**312**	*e*P	**P**	**17 35 08.1**	**+1.2**
ABKAR	**Akbulak array**	**70.49**	**327**	*e*P	**P**	**17 35 15.6**	**+0.9**
KSH	**Kashi**	**71.78**	**311**	P	**P**	**17 35 27.4**	**+4.5**
KSH				PcP	**PcP**	**17 35 42.7**	**+0.9**
KSH	comp=Z,4.0nm,0.6s			pmax	pmax		
KSH	comp=Z,110nm,5.9s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.8s,baz=26,slow=6.5,SNR=5.5	**74.95**	**281**	P	**P**	**17 35 41.9**	**+0.2**
GUN	**Gumba** comp=Z,18nm,0.6s	**75.58**	**296**	*e*P	**P**	**17 35 46.4**	**+0.8**
JIRN	**Jiri** comp=Z,22nm,0.7s	**75.60**	**296**	*e*P	**P**	**17 35 46.5**	**+0.8**
RAMN	**Ramite** comp=Z,19nm,0.7s	**75.91**	**295**	*e*P	**P**	**17 35 47.8**	**+0.4**
KKN	**Kakani**	**76.01**	**297**	*e*P	**P**	**17 35 48.4**	**+0.5**
PKI	**Pulchoki** comp=Z,21nm,1.1s	**76.11**	**297**	*e*P	**P**	**17 35 48.8**	**+0.2**
PKIN	**Phulchoki** comp=Z,15nm,1.2s	**76.11**	**297**	*e*P	**P**	**17 35 48.8**	**+0.3**
GKN	**Gorkha** comp=Z,11nm,0.6s	**76.21**	**297**	*e*P	**P**	**17 35 49.3**	**+0.3**
DMN	**Daman**	**76.25**	**297**	*e*P	**P**	**17 35 50.0**	**+0.7**
DANN	**Dangsing** comp=Z,21nm,0.7s	**76.43**	**298**	*e*P	**P**	**17 35 51.1**	**+0.7**
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=20,slow=6.1,SNR=3.4	**76.96**	**346**	P	**P**	**17 35 53.0**	**+0.4**
KOLN	**Koldanda**	**76.97**	**298**	*e*P	**P**	**17 35 53.7**	**+0.4**
PYUN	**Piuthan** comp=Z,17nm,1.0s	**77.05**	**299**	*e*P	**P**	**17 35 54.2**	**+0.4**
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=16,slow=4.2,SNR=4.7	**80.36**	**356**	P	**P**	**17 36 11.2**	**-0.3**
BR101	**Keskin Array S**	**86.75**	**340**	*e*P	**P**	**17 36 43.8**	**-0.7**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.7s,baz=20,slow=5.1,SNR=2.5	**86.75**	**340**	P	**P**	**17 36 43.8**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=36,slow=4.6,SNR=4.3	**88.02**	**228**	P	**P**	**17 36 48.8**	**-1.8**

IGIL ***05*** *17:32:20.3,36˚.72N×7˚.58W,h11km,ML1.6*

INMG ***05*** *17:32:21.8±1.6,36˚.74N×7˚.57W,h22km±4km,ML1.7,Error ellipse: s-maj=5.4km s-min=3.2km az=77.0*

MDD ***05*** *17:32:22.1±0.8,36˚.73N×7˚.66W,h35km±25km,mb4.4/3, Error ellipse: s-maj=8.4km s-min=5.9km az=17.0,PRXIMO*

ISC 05 17:32:19.3±1.4,**36˚.77N**±0˚.06×**7˚.60W**±0˚.03,**h17**km±9km, **n34,**σ0§**89/54,1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.54**	**331**	*e*Pg	**Pn**	**17 32 32.9**	**+0.6**
PBDV				*e*Sg	**Sn**	**17 32 40.7**	**-0.3**
PBDV	20nm,0.1s			A	A	17 32 41.6	
PBDV	**Barranco-do-Ve**	**0.54**	**331**	P	**Pn**	**17 32 32.9**	**+0.6**
PBDV	20nm,0.1s			S	**Sn**	**17 32 40.7**	**-0.3**
PVAQ	**Vaqueiros**	**0.64**	**352**	*e*Pg	**Pn**	**17 32 34.6**	**+1.0**
PVAQ				*e*Sg	**Sn**	**17 32 43.3**	**-0.1**
PVAQ	**Vaqueiros**	**0.64**	**352**	P	**Pn**	**17 32 34.6**	**+1.0**
PVAQ				S	**Sn**	**17 32 43.3**	**-0.1**
EGRO	**El Granado** 2.4nm,0.1s,SNR=7.9	**0.77**	**7**	P	**Pn**	**17 32 36.7**	**+1.4**
EGRO	5.3nm,0.3s,SNR=21			S	**Sn**	**17 32 47.2**	**+0.6**
MORF	**Marmelete**	**1.00**	**303**	*e*P	**Pb**	**17 32 38.5**	**+0.4**
MORF	**Marmelete**	**1.00**	**303**	P	**Pb**	**17 32 38.5**	**+0.4**
PFVI	**Vila Bisbo**	**1.05**	**291**	*e*P	**Pb**	**17 32 38.9**	**-0.1**
PFVI				*e*S	**Sg**	**17 32 54.0**	**+0.6**
PFVI	20nm,0.9s			A	A	17 32 54.5	
PFVI	**Vila Bisbo** 2.5nm,0.0s,SNR=7.9	**1.05**	**291**	P	**Pb**	**17 32 38.9**	**-0.1**
PFVI	87nm,0.8s,SNR=7.9			S	**Sb**	**17 32 51.5**	**-0.9**
MESJ	**Messejana**	**1.18**	**335**	*e*P	**Pg**	**17 32 41.9**	**-0.2**
MESJ				*e*S	**Sn**	**17 32 57.0**	**+0.4**
MESJ	comp=E,8.3nm,0.0s			AML

mb1 4.1/9,mb1mx3.8/34,mbtmp4.2/9,Error ellipse: s-maj=33.1km s-min=24.7km az=155.0
*ISCJB **05** 17:34:48.5±1.3, 15°.10S±0°.05×174°.46W±0°.08, h205km±13km,mb4.7/44,Error ellipse: s-maj=12.2km s-min=8.4km az=0.2*
*NEIC **05** 17:34:50.0±1.1, 15°.14S×174°.39W, h205km±11km, mb5.0/32,Error ellipse: s-maj=9.7km s-min=8.3km az=117.0*

ISC 05 17:34:49.8±1.1,15°.14S±0°.08×174°.31W±0°.07, h204km±11km,n86,σ1§40/94,mb5.0/44,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.73**	**134**	*e*Pn		**Pn**	**17 36 14.4**	**+0.7**
NIUE				*e*Sn		**Sn**	**17 37 17.3**	**-2.8**
MSVF	**Nonsavu**	**7.77**	**250**	*e*Pn		**Pn**	**17 36 42.6**	**+2.5**
KNTN	**Kanton**	**12.55**	**12**	*e*Pn		**Pn**	**17 37 39.8**	**-1.8**
MARNC	**Mare, Loyalty** 461nm,1.6s	**17.90**	**247**	*e*P		**Pn**	**17 38 45.5**	**-1.0**
ONTNC	**Ouen Toro** 252nm,1.9s	**19.55**	**246**	*e*P		**P**	**17 39 02.7**	**+0.6**
OUZ	**Omahuta** 121nm,1.9s	**22.75**	**206**	*e*P		**P**	**17 39 37.2**	**+2.7**
WCZ	**Waipu Caves**	**23.06**	**204**	P		**P**	**17 39 39.3**	**+2.0**
MXZ	**Matakaoa Point** 57nm,1.1s	**23.27**	**195**	*e*P		**P**	**17 39 38.8**	**-0.4**
MXZ	**Matakaoa Point**	**23.27**	**195**	P		**P**	**17 39 39.9**	**+0.8**
KUZ	**Kuaotunu**	**23.28**	**201**	P		**P**	**17 39 39.9**	**+0.7**
WMGZ	**Waiomatatini S**	**23.49**	**195**	P		**P**	**17 39 41.4**	**+0.3**
WIAZ	**Waiheke Island**	**23.52**	**202**	P		**P**	**17 39 42.9**	**+1.4**
HAZ	**Te Kaha**	**23.59**	**196**	P		**P**	**17 39 41.7**	**-0.3**
PKGZ	**Pakihiroa**	**23.64**	**195**	P		**P**	**17 39 44.2**	**+1.6**
PUZ	**Puketiti**	**23.77**	**195**	P		**P**	**17 39 44.1**	**+0.4**
MKAZ	**Moumakai**	**23.79**	**201**	P		**P**	**17 39 44.8**	**+0.9**
RUGZ	**Raukumara Rang**	**23.81**	**196**	P		**P**	**17 39 47.7**	**+3.5**
TWGZ	**Tauwhareparae**	**23.93**	**195**	P		**P**	**17 39 47.3**	**+2.0**
CNGZ	**Carnagh Station**	**24.17**	**194**	P		**P**	**17 39 45.4**	**-2.0**
MWZ	**Matawai**	**24.20**	**196**	P		**P**	**17 39 47.4**	**-0.2**
TKGZ	**Te Karaka**	**24.22**	**195**	P		**P**	**17 39 47.4**	**-0.4**
TOZ	**Tahuroa Road**	**24.24**	**200**	P		**P**	**17 39 49.8**	**+1.8**
URZ	**Urewera** 8.8nm,0.5s,baz=48,slow=4.8,SNR=10	**24.24**	**197**	P		**P**	**17 39 45.8**	**-2.2**
URZ	**Urewera**	**24.24**	**197**	P		**P**	**17 39 46.8**	**-1.2**
RAGZ	**Rawiri**	**24.38**	**196**	P		**P**	**17 39 50.7**	**+1.3**
RIGZ	**Rimuhau**	**24.49**	**195**	P		**P**	**17 39 51.9**	**+1.6**
SNGZ	**Shannon Station**	**24.67**	**196**	P		**P**	**17 39 52.3**	**+0.4**
RAHZ	**Arahi**	**24.86**	**196**	P		**P**	**17 39 54.0**	**+0.4**
MTHZ	**Maungataniwha**	**24.87**	**197**	P		**P**	**17 39 56.2**	**+2.5**
HIZ	**Hauiti** 148nm,1.5s	**25.16**	**200**	*e*P		**P**	**17 39 58.2**	**+1.8**
HIZ	**Hauiti**	**25.16**	**200**	P		**P**	**17 40 00.6**	**+4.2**
BKZ	**Black Stump Fm** 39nm,1.6s	**25.26**	**197**	*e*P		**P**	**17 39 57.2**	**-0.1**
BKZ	**Black Stump Fm**	**25.26**	**197**	P		**P**	**17 39 56.7**	**-0.6**
BKZ				S		**S**	**17 44 04.3**	**-3.4**
OTVZ	**Oturere**	**25.50**	**198**	P		**P**	**17 39 56.5**	**-3.1**
BHHZ	**Black Hill Sta**	**25.68**	**197**	P		**P**	**17 39 59.9**	**-1.2**
TSZ	**Takapari Road**	**26.24**	**197**	P		**P**	**17 40 05.8**	**-0.2**
BFZ	**Birch Farm** 50nm,1.2s	**26.74**	**196**	*e*P		**P**	**17 40 10.3**	**-0.2**
THZ	**Tophouse** 76nm,1.6s	**28.74**	**200**	*e*P		**P**	**17 40 28.0**	**-0.3**
KHZ	**Kahutara** 93nm,1.8s	**29.12**	**199**	*e*P		**P**	**17 40 31.8**	**+0.3**
LTZ	**Lake Taylor** 97nm,1.8s	**29.86**	**200**	*e*P		**P**	**17 40 38.7**	**+0.6**
MQZ	**McQueen's Vall** 87nm,1.5s	**30.57**	**199**	*e*P		**P**	**17 40 43.5**	**-0.8**
RPZ	**Rata Peaks** 6.8nm,0.8s,baz=51,slow=6.5,SNR=3.3	**31.10**	**201**	P		**P**	**17 40 47.4**	**-1.5**
FOZ	**Fox Glacier** 55nm,1.3s	**31.38**	**202**	*e*P		**P**	**17 40 49.3**	**-2.1**
ODZ	**Otahua Downs** 143nm,1.7s	**32.41**	**200**	*e*P		**P**	**17 40 58.7**	**-1.6**
WKZ	**Wanaka** 209nm,1.7s	**32.78**	**202**	*e*P		**P**	**17 41 02.0**	**-1.7**
MLZ	**Mavora Lakes** 147nm,1.8s	**33.58**	**203**	*e*P		**P**	**17 41 10.8**	**+0.2**
DCZ	**Deep Cove** 176nm,2.0s	**34.02**	**204**	*e*P		**P**	**17 41 14.0**	**-0.3**
WHZ	**Wether Hill Ro** 236nm,1.8s	**34.09**	**202**	*e*P		**P**	**17 41 16.2**	**+1.3**
ARMA	**Armidale** 62nm,1.7s	**34.73**	**238**	*e*P		**P**	**17 41 19.7**	**-1.0**
CTAO	**Charters Tower** 105nm,1.9s	**37.84**	**257**	*e*P		**P**	**17 41 46.5**	**-0.7**
COEN	**Coen** 65nm,1.8s	**41.12**	**266**	*e*P		**P**	**17 42 14.4**	**+0.1**
TOO	**Toolangi** 14nm,1.3s	**41.95**	**230**	*e*P		**P**	**17 42 20.6**	**-0.1**
PTCN	**Pitcairn Islan** 875nm,1.6s	**42.52**	**111**	*e*P		**P**	**17 42 25.9**	**+0.5**
TAU	**Tasmania Unive** 39nm,1.5s	**42.91**	**222**	*e*P		**P**	**17 42 27.6**	**-0.7**
STKA	**Stephens Creek** 1.4nm,1.0s	**43.41**	**239**	*e*P		**P**	**17 42 31.5**	**-1.0**
STKA	**Stephens Creek** 5.3nm,0.9s,baz=91,slow=12,SNR=13	**43.41**	**239**	P		**P**	**17 42 31.2**	**-1.3**
BBOO	**Buckleboo** 9.7nm,0.5s	**48.18**	**239**	*e*P		**P**	**17 43 08.4**	**-1.4**
WB2	**Warramunga Arr**	**49.03**	**257**	*e*P		**P**	**17 43 14.6**	**-2.0**
WB2				*e*PcP		**PcP**	**17 44 37.3**	**+0.1**
WRAB	**Tennant Creek** 29nm,1.8s	**49.04**	**257**	*e*P		**P**	**17 43 15.3**	**-1.2**
WR1	**Warramunga Arr** 50nm,2.0s	**49.05**	**257**	*e*P		**P**	**17 43 15.2**	**-1.4**
WR1				*e*PcP		**PcP**	**17 44 37.6**	**+0.3**
WRA	**Warramunga Arr** 1.9nm,0.5s,baz=88,slow=6.9,SNR=43	**49.05**	**257**	P		**P**	**17 43 15.2**	**-1.4**
WRA				PcP		**PcP**	**17 44 37.6**	**+0.3**
AS01	0.8nm,0.7s,baz=90,slow=3.6,SNR=3.7 **Alice Springs**	**49.31**	**252**	*e*P		**P**	**17 43 17.2**	**-1.4**
AS01				*e*PcP		**PcP**	**17 44 38.4**	**+0.2**
AS31	**Alice Springs** 5.5nm,0.6s	**49.35**	**252**	*e*P		**P**	**17 43 18.0**	**-0.9**
AS31				*e*PcP		**PcP**	**17 44 38.5**	**+0.1**
ASAR	**Alice Springs** 24nm,0.7s,baz=86,slow=8.0,SNR=467	**49.35**	**252**	P		**P**	**17 43 18.0**	**-0.9**
ASAR	0.9nm,0.5s,baz=94,slow=4.6,SNR=3.5			PcP		**PcP**	**17 44 38.4**	**+0.1**
MTN	**Manton Dam** 61nm,1.8s	**52.88**	**265**	*e*P		**P**	**17 43 44.5**	**-0.7**
FORT	**Forrest** 16nm,0.6s	**54.75**	**243**	*e*P		**P**	**17 43 57.6**	**-1.0**
FITZ	**Fitzroy Crossi** 32nm,1.8s	**57.40**	**258**	*e*P		**P**	**17 44 16.9**	**-0.6**
SOEI	**Soe** 56nm,1.4s	**60.06**	**267**	*e*P		**P**	**17 44 36.5**	**+0.4**
MBWA	**Marble Bar** 68nm,1.9s	**62.59**	**254**	*e*P		**P**	**17 44 51.5**	**-1.2**
SBA	**Scott Base** 40nm,1.5s	**63.44**	**184**	*e*P		**P**	**17 44 59.6**	**+2.2**
GIRL	**Giralia** 271nm,1.2s	**67.47**	**251**	*e*P		**P**	**17 45 24.7**	**+0.6**
JNU	**Nakatsue** 49nm,1.6s	**70.98**	**313**	*e*P		**P**	**17 45 45.2**	**-0.3**
KKM	**Kota Kinabalu** 55nm,1.5s	**71.96**	**282**	*e*P		**P**	**17 45 50.4**	**-1.4**
QSPA	**South Pole Qui** 28nm,1.9s	**74.90**	**180**	*e*P		**P**	**17 46 09.8**	**+1.8**
ILAR	**Eielson Array** 0.4nm,0.5s,baz=219,slow=5.4,SNR=11	**82.37**	**11**	P		**P**	**17 46 48.7**	**+0.3**
PDAR	**Pinedale Array** 0.7nm,0.8s,baz=201,slow=2.9,SNR=5.4	**82.66**	**42**	P		**P**	**17 46 51.3**	**+0.5**
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=244,slow=5.1,SNR=3.4	**90.21**	**24**	P		**P**	**17 47 27.9**	**+1.2**
CMAR	**Chiang Mai Arr** 0.3nm,0.6s,baz=110,slow=2.1,SNR=5.0	**91.70**	**289**	P		**P**	**17 47 35.0**	**+0.4**
KMBO	**Kilima Mbogo** 1.5nm,0.5s,baz=54,slow=11,SNR=5.9	**144.85**	**245**	PKP		**PKPdf**	**17 54 04.7**	**+0.9**
TIRR	**Tirgusor**	**144.99**	**331**	*e*PKPbc		**PKPdf**	**17 54 02.7**	**-0.1**
BR101	**Keskin Array S**	**145.40**	**320**	*e*PKPdf		**PKPab**	**17 54 04.8**	**+0.1**
BRTR	**Keskin Array B** 1.8nm,0.8s,baz=47,slow=2.1,SNR=8.2	**145.40**	**320**	PKPbc		**PKPab**	**17 54 04.8**	**+0.1**
GEC2	**GERESS Array S**	**145.75**	**351**	*e*PKPdf		**PKPab**	**17 54 05.0**	**-0.6**
GERES	**GERESS Array B** 0.7nm,0.7s,baz=54,slow=2.3,SNR=7.4	**145.75**	**351**	PKPbc		**PKPab**	**17 54 05.3**	**-0.3**
GEA0	**GERESS Array S**	**145.76**	**351**	*e*PKPdf		**PKPab**	**17 54 05.3**	**-0.3**
DBIC	**Dimbokro** 1.3nm,0.5s,baz=192,slow=7.0,SNR=3.7	**166.66**	**128**	PKPab		**PKPab**	**17 55 36.5**	**+1.0**

KRSC 05 17:42:54.0±10.0,50°.82N×158°.09E,h47km±10km,ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.99**	**360**	*e*P		Pn	17 43 12.9	+1.4
KDTR				*e*S		Sn	17 43 25.5	+1.1
PAU	**Pauzhetka**	**1.03**	**309**	*e*P		Pn	17 43 13.7	+1.6
PAU				*e*S		Sn	17 43 27.1	+1.7
SKR	**Severo-Kuril's**	**1.26**	**265**	*e*P		Pn	17 43 16.0	+0.9
SKR				*e*S		Sn	17 43 31.7	+0.8
ASAK	**Asacha**	**1.57**	**356**	*e*P		Pn	17 43 21.5	+2.0
ALID	**Alaid**	**1.61**	**273**	*e*P		Pn	17 43 21.9	+1.8
RUS	**Russkaya**	**1.64**	**9**	*e*P		Pn	17 43 21.8	+1.5
RUS				*e*S		Sn	17 43 41.3	+1.1
MTVR	**Mutnovka**	**1.67**	**2**	*e*P		Pn	17 43 22.9	+2.0
MTVR				*e*S		Sn	17 43 43.2	+2.0
KRMR	**Karymshinskiy**	**2.01**	**1**	*e*P		Pn	17 43 28.6	+3.1
APC	**Apacha**	**2.19**	**345**	*e*P		Pn	17 43 30.6	+2.8
PET	**Petropavlovsk**	**2.24**	**9**	*e*P		Pn	17 43 30.8	+2.3
PET				*e*S		Sn	17 43 57.3	+2.4
DALK	**Dalny**	**2.25**	**10**	*e*P		Pn	17 43 31.0	+2.2
DALK				*e*S		Sn	17 43 58.5	+3.2
UGLR	**Uglovaya**	**2.44**	**11**	*e*P		Pn	17 43 34.3	+2.9
AVH	**Avacha**	**2.48**	**9**	*e*P		Pn	17 43 35.4	+3.4
SMAR	**Somma**	**2.49**	**10**	*e*P		Pn	17 43 35.7	+3.5
KOK	**Koryaka**	**2.50**	**8**	*e*P		Pn	17 43 35.9	+3.7
SDLR	**Sedlovina**	**2.51**	**11**	*e*P		Pn	17 43 34.8	+2.4
KRER	**Koryakskii**	**2.52**	**9**	*e*P		Pn	17 43 36.5	+3.9
KRX	**Arik**	**2.57**	**8**	*e*P		Pn	17 43 36.8	+3.6
SPN	**Mys Shipunski**	**2.58**	**27**	*e*P		Pn	17 43 36.3	+3.1
SPN				*e*S		Sn	17 44 06.5	+3.2
GNL	**Ganaly**	**2.88**	**358**	*e*P		Pn	17 43 40.8	+3.3
MKZ	**Mys Kozlova**	**4.35**	**29**	*e*P		Pn	17 44 00.2	+2.7

*IDC **05** 17:45:35.5±1.7, 4°.90S×152°.43E, h0km, mb3.6/5, mb1 3.9/5,mb1mx3.5/30,mbtmp3.6/5,MS2.9/1,Ms1 2.9/1, ms1mx2.4/21,Error ellipse: s-maj=64.7km s-min=24.9km az=126.0*
*ISCJB **05** 17:45:41.4±1.8, 4°.9S±0°.3×152°.4E±0°.4, h55km, mb3.5/5, Error ellipse: s-maj=62.1km s-min=23.9km az=32.9*

ISC 05 17:45:42.6±1.9, 5°.1S±0°.3×152°.5E±0°.4, h55km,n7,σ0§28/6, mb3.6/5,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.58**	**121**	LR		LR	17 51 00.5	
	comp=Z,73nm,18.1s,baz=323,slow=37							
WRA	**Warramunga Arr**	**23.05**	**228**	P		**P**	**17 50 43.2**	**-0.2**
	0.6nm,0.7s,baz=52,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**25.76**	**222**	P		**P**	**17 51 08.7**	**+0.3**
	0.3nm,0.4s,baz=58,slow=9.1,SNR=14							
FITZ	**Fitzroy Crossi**	**29.27**	**241**	P		**P**	**17 51 39.6**	**-0.2**
	0.9nm,0.6s,baz=59,slow=12,SNR=3.6							
CMAR	**Chiang Mai Arr**	**57.70**	**295**	P		**P**	**17 55 28.2**	**+0.1**
	0.4nm,0.7s,baz=95,slow=6.6,SNR=4.2							
ILAR	**Eielson Array**	**82.50**	**22**	P		**P**	**17 57 59.0**	**-0.1**
	0.8nm,0.7s,baz=246,slow=5.5,SNR=12							
TORD	**Torodi Ar. Bea**	**150.09**	**288**	PKPbc		**PKPbc**	**18 05 28.3**	**+0.1**
	0.3nm,0.5s,baz=62,slow=3.4,SNR=2.1							

*IDC **05** 17:59:34.0±3.2, 35°.94N×69°.26E, h106km±30km, mb3.5/17, mb1 3.6/20,mb1mx3.5/49,mbtmp3.8/20, Error ellipse: s-maj=20.7km s-min=12.7km az=13.0*
*BJI **05** 17:59:36.4, 36°.32N×69°.16E, h126km, mb4.3/13, mB4.7/2*
*ISCJB **05** 17:59:37.0±0.3, 36°.27N±0°.02×69°.29E±0°.04, h150km, mb3.9/25, Error ellipse: s-maj=4.1km s-min=3.1km az=157.9*
*NEIC **05** 17:59:37.5±0.5, 36°.29N×69°.25E, h123km±6km, mb4.2/11, Error ellipse: s-maj=6.7km s-min=6.1km az=222.0*
*NNC **05** 17:59:39.3±2.2, 36°.51N×69°.13E, h125km±20km, mb3.6, mpv4.4, Error ellipse: s-maj=17.7km s-min=13.6km az=21.0*

ISC 05 17:59:38.2±0.4, 36°.30N±0°.04×69°.23E±0°.04, h150km,n97, σ2§50/113,mb3.9/25,9C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.76**	**185**	*e*Pn		**Pn**	**18 00 08.4**	**-2.4**
KBL				*e*Sn		**Sn**	**18 00 32.1**	**-3.7**
GAR	**Garm**	**2.83**	**17**	*e*Pn		**Pn**	**18 00 23.2**	**-0.3**
GAR				*e*Sn		**Sn**	**18 00 55.6**	**-3.1**
CEP	**Cherat**	**3.30**	**138**	P		**Pn**	**18 00 27.8**	**-1.8**
CEP				S		**Sn**	**18 01 07.0**	**-2.4**
THW	**Thamme Wali**	**4.06**	**149**	P		**Pn**	**18 00 36.6**	**-2.8**
NIL	**Nilore**	**4.23**	**127**	*e*Pn		**Pn**	**18 00 40.5**	**-1.0**
NIL				*e*Sn		**Sn**	**18 01 24.4**	**-6.2**
CHCP	**Chirah Chowk**	**4.23**	**127**	P		**Pn**	**18 00 40.5**	**-1.0**
KSH	**Kashi**	**6.22**	**57**	P		**Pn**	**18 01 03.9**	**-4.1**
KSH				S		Sn	18 02 07.3	-11
KSH	comp=N,120nm,0.6s			smax		smax		
KSH	comp=E,98nm,0.8s			smax		smax		
AML	**Almayashu** SNR=56	**6.78**	**29**	P		**Pn**	**18 01 14.9**	**-0.7**
KK31	**Karatay Array**	**6.87**	**8**	*e*Pn		**Pn**	**18 01 15.9**	**-0.5**
KK31				*e*Sn		**Sn**	**18 02 25.6**	**-7.9**
KK31	**Karatay Array** 2.4nm,0.2s,baz=198,slow=15,SNR=137	**6.87**	**8**	P		**Pn**	**18 01 15.8**	**-0.7**
KK31	7.0nm,0.3s,baz=190,slow=23,SNR=8.5			S		**Sn**	**18 02 30.0**	**-3.5**
KKAR	**Karatay Array**	**6.87**	**8**	*e*Pn		**Pn**	**18 01 15.8**	**-0.7**
KKAR				*e*Sn		**Sn**	**18 02 24.7**	**-8.7**
UCH	**Uchtor** SNR=116	**7.20**	**33**	P		**Pn**	**18 01 20.9**	**-0.4**
EKS2	**Erkin-Say** SNR=17	**7.26**	**28**	P		**Pn**	**18 01 21.4**	**-0.4**
NRN	**Naryn**	**7.36**	**44**	*e*Pn		**Pn**	**18 01 21.5**	**-1.8**
NRN				*e*Sn		**Sn**	**18 02 46.8**	**+1.0**
KZA	**Kyzart** SNR=41	**7.43**	**37**	P		**Pn**	**18 01 24.1**	**-0.2**
AAK	**Ala-Archa** SNR=25	**7.53**	**31**	P		**Pn**	**18 01 25.0**	**-0.4**
AAK	**Ala-Archa** 12nm,0.4s	**7.53**	**31**	⇑P		**Pn**	**18 01 25.0**	**-0.4**
AAK	29nm,0.6s			⇑S		**Sn**	**18 02 47.9**	**-1.6**
KBK	**Karagaybulak** SNR=28	**7.74**	**33**	P		**Pn**	**18 01 28.2**	**+0.1**
CHMS	**Chumysh** SNR=34	**7.93**	**31**	P		**Pn**	**18 01 30.1**	**-0.5**
ULHL	**Ulahol** SNR=27	**8.05**	**40**	P		**Pn**	**18 01 32.1**	**-0.3**
USP	**Ospenovka** SNR=28	**8.05**	**29**	P		**Pn**	**18 01 31.2**	**-1.1**
TKM2	**Tokmak 2** SNR=33	**8.24**	**35**	P		**Pn**	**18 01 34.5**	**-0.4**
TKM2	**Tokmak 2** 22nm,0.5s	**8.24**	**35**	⇑P		**Pn**	**18 01 34.3**	**-0.6**
TKM2	10nm,0.6s			⇑S		**Sn**	**18 03 04.3**	**-2.3**
KDJ	**Kajisay**	**8.48**	**44**	*e*Pn		**Pn**	**18 01 38.5**	**+0.3**
TARG	**Taragay, Kyrgy**	**8.60**	**48**	*e*Pn		**Pn**	**18 01 39.5**	**-0.4**
GEYT	**Alibeck** 0.8nm,0.3s,baz=109,slow=11,SNR=9.6	**9.03**	**284**	P		**Pn**	**18 01 43.5**	**-1.8**
GEYT	0.8nm,0.3s,baz=77,slow=15,SNR=4.2			S		**Sn**	**18 03 23.1**	**-2.3**
GYA0B	**ALIBECK ARRAY**	**9.03**	**284**	*e*Pn		**Pn**	**18 01 43.8**	**-1.5**
GYA0B				*e*Sn		**Sn**	**18 03 20.3**	**-5.2**
KNDC	**Almaty** 12nm,0.5s	**9.12**	**38**	⇑P		**Pn**	**18 01 46.8**	**+0.3**
MDOK	**Medeo** 6.0nm,0.5s	**9.12**	**39**	P		**Pn**	**18 01 46.1**	**-0.5**
PRZ	**Przheval'sk**	**9.41**	**46**	*e*Pn		**Pn**	**18 01 50.5**	**+0.1**
PDGK	**Podgornoye** 3.2nm,1.0s	**10.56**	**45**	⇑P		**Pn**	**18 02 04.7**	**-0.9**
OTUK	**Ortayu** 12nm,1.1s	**12.16**	**10**	⇓P		**Pn**	**18 02 25.5**	**-0.9**
MAKZ	**Makanchi**	**14.17**	**38**	*e*Pn		**Pn**	**18 02 52.4**	**+0.3**
MAKZ	**Makanchi** 5.9nm,0.8s	**14.17**	**38**	⇑P		**Pn**	**18 02 50.5**	**-1.6**
PYUN	**Piuthan**	**14.22**	**121**	*e*P		**Pn**	**18 02 50.3**	**-2.8**
MK01	**Makanchi Array**	**14.31**	**39**	*e*Pn		**Pn**	**18 02 53.9**	**0.0**
MK31	**Makanchi Array**	**14.32**	**39**	*e*Pn		**Pn**	**18 02 53.2**	**-0.8**
MK31	**Makanchi Array** 3.2nm,0.7s,baz=220,slow=6.5,SNR=28	**14.32**	**39**	⇑P		**Pn**	**18 02 54.4**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=231,slow=15,SNR=17	**14.32**	**39**	P		**Pn**	**18 02 53.6**	**-0.5**
MKAR	0.0nm,0.3s,baz=259,slow=22,SNR=3.0			S		**Sn**	**18 05 26.9**	**-5.8**
AB31	**Akbulak array** 0.3nm,0.3s,baz=152,slow=12,SNR=17	**14.62**	**335**	P		**Pn**	**18 02 57.4**	**-0.3**
AB31	1.1nm,0.3s,baz=155,slow=24,SNR=8.1			S		**Sn**	**18 05 35.7**	**-4.1**
ABKAR	**Akbulak array**	**14.62**	**335**	*e*Pn		**Pn**	**18 02 57.4**	**-0.3**
ABKAR				*e*Sn		Sn	18 05 29.6	-10
KOLN	**Koldanda** 5.6nm,0.3s	**14.85**	**121**	*e*P		**Pn**	**18 02 58.6**	**-2.3**
GKN	**Gorkha** 21nm,0.5s	**15.44**	**118**	*e*P		**Pn**	**18 03 06.6**	**-1.6**
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=211,slow=10,SNR=19	**15.81**	**22**	P		**Pn**	**18 03 10.8**	**-1.6**
KURBB	0.1nm,0.3s,baz=211,slow=10,SNR=1.8			pP		**pP**	**18 03 35.9**	**-3.4**
KURBB	0.0nm,0.3s,baz=215,slow=30,SNR=3.8			S		S	18 06 20.9	+12
KURK	**Kurchatov** 6.1nm,1.0s	**15.92**	**22**	*e*Pn		**Pn**	**18 03 12.7**	**-1.0**
WMQ	**Urumqi**	**15.99**	**56**	*e*P		**P**	**18 03 16.7**	**+1.4**
WMQ				LR		LR		
WMQ	comp=N,61nm,17.1s			LR		LR		
WMQ	comp=E,40nm,17.1s			LR		LR		
WMQ	comp=Z,41nm,15.1s			LR		LR		
WMQ	**Urumqi** 8.4nm,1.0s	**15.99**	**56**	*e*Pn		**P**	**18 03 16.2**	**+0.9**
WMQ				*e*Sn		**Sn**	**18 06 10.4**	**-2.5**
DMN	**Daman**	**16.00**	**118**	*e*P		**Pn**	**18 03 14.0**	**-1.3**
KKN	**Kakani**	**16.02**	**117**	*e*P		**Pn**	**18 03 13.1**	**-2.3**
PKIN	**Phulchoki**	**16.23**	**118**	*e*P		**Pn**	**18 03 16.7**	**-1.3**
PKI	**Pulchoki**	**16.24**	**118**	*e*P		**Pn**	**18 03 16.7**	**-1.5**
AKTO	**Aktyubinsk** 1.5nm,0.6s	**16.29**	**334**	⇓P		**Pn**	**18 03 15.6**	**-2.7**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=144,slow=14,SNR=8.3	**16.29**	**334**	P		**P**	**18 03 20.1**	**+1.7**
AKTO	0.2nm,0.3s,baz=18,slow=22,SNR=2.9			S		**S**	**18 06 13.0**	**-6.0**
GUN	**Gumba** 12nm,0.4s	**16.38**	**116**	*e*P		**Pn**	**18 03 18.5**	**-1.5**
BVA0	**Borovoye Array** 1.1nm,0.5s,baz=169,slow=11,SNR=28	**16.75**	**2**	P		**Pn**	**18 03 23.9**	**+0.1**
BVAR	**Borovoye Array** 0.9nm,0.3s,baz=169,slow=9.5,SNR=19	**16.75**	**2**	P		**Pn**	**18 03 23.8**	**0.0**
BVAR	0.4nm,0.3s,baz=172,slow=12,SNR=2.6			pP		**pP**	**18 03 48.7**	**-0.7**
BVAR	0.3nm,0.3s,baz=196,slow=24,SNR=3.4			S		**S**	**18 06 22.1**	**-7.7**
JIRN	**Jiri** 32nm,0.5s	**16.75**	**116**	*e*P		**Pn**	**18 03 23.6**	**-0.9**
BRVK	**Borovoye** 12nm,1.7s	**16.78**	**2**	*e*Pn		**Pn**	**18 03 23.8**	**-0.3**
RAMN	**Ramite** 10nm,0.4s	**17.46**	**117**	*e*P		**P**	**18 03 30.8**	**-1.1**
LSA	**Lhasa** 1.8nm,0.6s	**19.51**	**103**	*e*P		**Pn**	**18 03 56.3**	**-0.8**
ZAA0	**Zalesovo Array** 7.3nm,0.9s	**20.71**	**27**	*e*P		Pn	18 04 08.5	-2.3
ZAA0	**Zalesovo Array** 8.5nm,1.0s	**20.71**	**27**	⇓P		Pn	18 04 08.4	-2.3
ZALV	**Zalesovo Beam**	**20.71**	**27**	*e*P		Pn	18 04 08.3	-2.4
ZALV	**Zalesovo Beam** 4.2nm,0.3s,baz=221,slow=11,SNR=27	**20.71**	**27**	P		Pn	18 04 08.7	-2.0
SHL	**Shillong** 7.2nm,0.6s	**22.13**	**113**	*e*P		**P**	**18 04 21.5**	**-0.4**
GTA	**Gaotai**	**24.29**	**73**	*e*P		**P**	**18 04 45.8**	**+4.0**
GTA	comp=Z,2.0nm,0.8s			pmax		pmax		
BR131	**Keskin Array S** 31nm,1.9s	**28.14**	**288**	*e*P		**P**	**18 05 19.2**	**+2.9**
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=92,slow=8.1,SNR=3.8	**28.14**	**288**	P		**P**	**18 05 18.7**	**+2.4**
CD2	**Chengdu**	**29.16**	**91**	P		**P**	**18 05 26.5**	**+1.2**
CD2	comp=Z,1.0nm,0.5s			pmax		pmax		
SONM	**Songino Array** 0.1nm,0.4s,baz=266,slow=9.7,SNR=3.8	**29.62**	**55**	P		**P**	**18 05 31.3**	**+1.9**
KMI	**Kunming**	**30.75**	**102**	P		P	18 05 44.7	+5.1
KMI	comp=Z,14nm,0.6s			pmax		pmax		
CHTO	**Chiang Mai** 14nm,2.0s	**31.40**	**116**	*e*P		**P**	**18 05 46.3**	**+1.2**
CMAR	**Chiang Mai Arr** 0.5nm,0.5s,baz=298,slow=8.4,SNR=7.9	**31.63**	**116**	P		**P**	**18 05 46.4**	**-0.8**
CMAR	0.3nm,0.6s,baz=300,slow=4.1,SNR=3.1			PcP		**PcP**	**18 08 36.0**	**+0.3**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=96,slow=5.0,SNR=3.6	**31.97**	**309**	P		**P**	**18 05 52.1**	**+2.3**
MLR	**Muntele Rosu** 1.0nm,0.4s,baz=289,slow=2.6,SNR=2.9	**33.63**	**299**	P		**P**	**18 06 06.9**	**+2.4**
PBKT	**Sadao Pong** 19nm,1.9s	**34.32**	**117**	*e*P		**P**	**18 06 12.4**	**+1.9**
NRIK	**Noril'sk** 2.1nm,0.4s,baz=162,slow=20,SNR=2.2	**34.59**	**11**	P		**P**	**18 06 15.2**	**+2.9**
BJT	**Baijiatuan** 7.7nm,0.4s	**36.76**	**70**	*e*P		**P**	**18 06 32.1**	**+0.9**
BJI	**Beijing**	**36.77**	**70**	⇑*e*P		**P**	**18 06 33.0**	**+1.8**
BJI	comp=Z,3.0nm,0.4s			pmax		pmax		
FINES	**FINESS Array B** 2.6nm,1.1s,baz=122,slow=9.3,SNR=4.4	**36.86**	**327**	P		**P**	**18 06 34.4**	**+2.7**
ARCES	**ARCESS Array B**	**40.79**	**338**	*e*P		**P**	**18 07 07.8**	**+3.4**
ARCES	**ARCESS Array B** 2.3nm,0.7s,baz=111,slow=9.7,SNR=2.5	**40.79**	**338**	P		**P**	**18 07 07.6**	**+3.3**
HFS	**Hagfors** 1.4nm,0.5s,baz=95,slow=11,SNR=8.6	**42.35**	**322**	P		**P**	**18 07 19.7**	**+2.6**
NC405	**NORSAR Array S**	**43.45**	**323**	*e*P		**P**	**18 07 28.4**	**+2.4**

H11S2	**WAKE ISLAND Hy 29.59**	**3**	T	T	19 07 37.6		
	baz=181,slow=76,SNR=300						
H11S3	**WAKE ISLAND Hy 29.60**	**2**	T	T	19 07 38.2		
	baz=181,slow=76,SNR=128						
H11S1	**WAKE ISLAND Hy 29.61**	**3**	T	T	19 07 39.2		
	baz=181,slow=76,SNR=190						
STKA	**Stephens Creek 30.05 223**		*eP*	**P**	**18 37 28.9**	**-0.4**	
	4.6nm,1.9s						
STKA	**Stephens Creek 30.05 223**		P	**P**	**18 37 31.2**	**+1.9**	
	0.5nm,0.5s,baz=24,slow=10.0,SNR=3.5						
H11N1	**WAKE ISLAND Hy 30.82**	**3**	T	T	19 09 09.4		
	baz=182,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy 30.82**	**3**	T	T	19 09 09.8		
	baz=182,slow=76,SNR=145						
H11N2	**WAKE ISLAND Hy 30.84**	**3**	T	T	19 09 10.7		
	baz=182,slow=76,SNR=91						
THZ	**Tophouse 31.09 169**		*eP*	**P**	**18 37 36.2**	**-2.2**	
	67nm,1.7s						
WR1	**Warramunga Arr 31.09 250**		*eP*	**P**	**18 37 38.6**	**-0.1**	
	23nm,1.6s						
WRA	**Warramunga Arr 31.09 250**		P	**P**	**18 37 38.6**	**-0.1**	
	1.1nm,0.6s,baz=82,slow=9.0,SNR=8.1						
GUMO	**Guam 32.01 320**		*eP*	**P**	**18 37 45.5**	**-1.3**	
	346nm,1.5s						
AS01	**Alice Springs 32.35 243**		*eP*	**P**	**18 37 46.4**	**-3.4**	
ASAR	**Alice Springs 32.39 243**		P	**P**	**18 37 49.5**	**-0.6**	
	0.9nm,0.5s,baz=64,slow=10,SNR=18						
BBOO	**Buckleboo 34.43 227**		*eP*	**P**	**18 38 08.4**	**+0.6**	
	16nm,1.5s						
FITZ	**Fitzroy Crossi 38.99 255**		*eP*	**P**	**18 38 46.8**	**-0.1**	
	18nm,1.5s						
FITZ	**Fitzroy Crossi 38.99 255**		P	**P**	**18 38 47.1**	**+0.3**	
	2.8nm,0.6s,baz=78,slow=6.4,SNR=9.3						
NWAO	**Narrogin (SRO) 49.06 236**		*eP*	**P**	**18 40 05.9**	**-1.6**	
	126nm,1.8s						
ILAR	**Eielson Array 83.83 19**		P	**P**	**18 43 51.2**	**+2.0**	
	0.4nm,0.6s,baz=229,slow=4.2,SNR=6.9						

IDC 05 18:32:09.3±1.7, 1°39.N×126°42.E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/40, mbtmp3.5/4, MS2.8/1, Ms1 2.8/1, ms1mx2.2/23, Error ellipse: s-maj=170.6km s-min=21.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.58**	**160**	P	P	18 37 11.9	+0.4
	0.7nm,0.4s,baz=339,slow=11,SNR=28						
ASAR	**Alice Springs**	**25.94**	**164**	P	P	18 37 43.6	0.0
	0.4nm,0.4s,baz=345,slow=11,SNR=7.8						
ASAR				LR	LR	18 49 49.5	
	comp=Z,20nm,20.9s,baz=88,slow=41						
MKAR	**Makanchi Array**	**59.30**	**326**	P	P	18 42 13.7	+0.6
	0.1nm,0.4s,baz=122,slow=6.9,SNR=3.8						
KURBB	**Kurchatov Arra**	**63.54**	**328**	P	P	18 42 41.4	-0.2
	0.2nm,0.4s,baz=129,slow=6.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**123.31**	**287**	PKP	PKPdf	18 51 08.3	-1.1
	0.1nm,0.4s,baz=75,slow=1.6,SNR=3.0						

*NIED **05** 18:36:00.43˚40N×147˚.60E, h29km, Mw3.5 Best double couple: M₀1.76000×10¹⁴ NP1:φ₀56.00000°, δ49.00000°, λ170.00000°. NP2:φ₀152.00000°, δ83.00000°, λ41.00000°.*
*IDC **05** 18:36:45.6±6.1, 42˚.95N×148˚.04E, h0km, mb3.3/3, mb1 3.5/5, mb1mx3.2/42, mbtmp3.4/5, ML3.2/2, Error ellipse: s-maj=146.0km s-min=26.9km az=164.0*
*ISCJB **05** 18:36:52.8±1.0, 43˚.47N±0˚.06×147˚.74E±0˚.08, h46km±11km, mb3.1/3, Error ellipse: s-maj=12.1km s-min=7.4km az=140.1*
*JMA **05** 18:36:52.2±0.3, 43˚.37N×147˚.63E, h18km, M3.6*
*SKHL **05** 18:36:53.6±0.5, 43˚.46N×147˚.75E, h52km±6km, mb4.0/6*

ISC 05 18:36:53.2±2.1, 43°.46N±0°.08×147°.75E±0°.07, h32km±13km, n28, σ0°93/34, mb3.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.78**	**302**	*i* P	**Pb**	**18 37 08.0**	**-0.4**
SHO				AMB	AMB	18 37 08.0	
	220nm,0.4s						
SHO				*i* S	**Sb**	**18 37 19.0**	**+0.3**
SHO				A	A	18 37 19.0	
	1μm,0.4s						
SHO				A	A	18 37 19.0	
	1μm,0.4s						
NEM2	**Nemuro 2**	**1.46**	**267**	P	**Pn**	**18 37 16.7**	**-0.6**
NEM2				*e*S	**Sn**	**18 37 34.9**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.48**	**294**	*i* P	**Pn**	**18 37 17.0**	**-0.6**
YUK				AMB	AMB	18 37 19.0	
	30nm,0.4s						
YUK				*i* S	**Sn**	**18 37 35.0**	**-0.9**
YUK				A	A	18 37 39.0	
	82nm,0.4s						
YUK				A	A	18 37 39.0	
	551nm,0.4s						
GRPR	**Tuman**	**1.53**	**291**	*i* P	**Pn**	**18 37 18.0**	**-0.2**
GRPR				AMB	AMB	18 37 20.0	
	24nm,0.3s						
GRPR				*i* S	**Sn**	**18 37 36.0**	**-1.0**
GRPR				A	A	18 37 39.0	
	88nm,0.3s						
GRPR				A	A	18 37 39.0	
	343nm,0.3s						
LAGR	**Lagunnoye**	**1.54**	**294**	*i* P	**Pn**	**18 37 18.0**	**-0.4**
LAGR				AMB	AMB	18 37 20.0	
	209nm,0.4s						
LAGR				*i* S	**Sn**	**18 37 36.0**	**-1.3**
LAGR				A	A	18 37 42.0	
	302nm,0.4s						
LAGR				A	A	18 37 42.0	
	932nm,0.4s						
GLVR	**Golovnino**	**1.64**	**281**	*i* P	**Pn**	**18 37 19.0**	**-0.8**
GLVR				AMB	AMB	18 37 20.0	
	30nm,0.3s						
GLVR				*i* S	**Sn**	**18 37 40.0**	**+0.2**
GLVR				A	A	18 37 45.0	
	489nm,0.3s						
GLVR				A	A	18 37 45.0	
	200nm,0.3s						
KUR	**Kuril'sk**	**1.78**	**3**	*i* P	**Pn**	**18 37 22.0**	**+0.3**
KUR				AMB	AMB	18 37 23.0	
	17nm,0.3s						
KUR				AMB	AMB	18 37 23.0	
	64nm,0.3s						
KUR				*i* S	**Sn**	**18 37 43.0**	**-0.2**
KUR				A	A	18 37 45.0	
	309nm,0.2s						
KUR				A	A	18 37 45.0	
	287nm,0.2s						
JKHN	**Kushirohamanak**	**1.93**	**260**	P	**Pn**	**18 37 23.8**	**+0.1**
JRA	**Rausu**	**1.96**	**285**	P	**Pn**	**18 37 24.7**	**+0.5**
JRA				*e*S	**Sn**	**18 37 48.0**	**+0.3**
JNK	**Nakash**	**2.21**	**274**	P	**Pn**	**18 37 27.3**	**-0.3**
JAK	**Akkeshi**	**2.28**	**259**	P	**Pn**	**18 37 28.2**	**-0.3**
JTKR	**Abashiri--Toko**	**2.83**	**282**	P	**Pn**	**18 37 37.3**	**+1.2**
JAR	**Ashorobuto**	**2.90**	**268**	P	**Pn**	**18 37 37.7**	**+0.5**
JAR				*e*S	**Sn**	**18 38 11.1**	**+0.2**
JOB	**Onbets**	**2.91**	**260**	P	**Pn**	**18 37 37.5**	**+0.2**
JMP	**Maruseppu**	**3.23**	**281**	P	**Pn**	**18 37 43.2**	**+1.6**
JCH	**Churui**	**3.32**	**257**	P	**Pn**	**18 37 42.8**	**-0.1**
JKK2	**Kamakawa 2**	**3.65**	**278**	P	**Pn**	**18 37 49.4**	**+2.0**
JEM	**Erimo**	**3.67**	**249**	P	**Pn**	**18 37 49.4**	**+1.7**
ASAJ	**Asahikawa**	**3.79**	**282**	Pn	**Pn**	**18 37 51.8**	**+2.5**
	2.3nm,0.3s,baz=95,slow=14,SNR=25						
JNBK	**Urakawa-nobuka**	**3.85**	**254**	P	**Pn**	**18 37 50.3**	**+0.1**
JSE	**Soyaes**	**4.00**	**294**	P	**Pn**	**18 37 53.7**	**+1.5**
PETK	**Petropavlovsk-**	**11.70**	**31**	Pn	**Pn**	**18 39 37.7**	**-0.1**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.3						
SONM	**Songino Array**	**28.98**	**293**	P	**P**	**18 42 49.6**	**-0.2**
	0.2nm,0.5s,baz=84,slow=8.4,SNR=4.0						
H11S1	**WAKE ISLAND Hy 29.57**	**141**		T	T	19 14 45.3	
	baz=331,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy 29.57**	**141**		T	T	19 14 44.0	
	baz=331,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy 29.58**	**141**		T	T	19 14 46.3	
	baz=331,slow=76,SNR=11						
ILAR	**Eielson Array**	**41.47**	**36**	P	**P**	**18 44 36.4**	**-0.2**
	0.2nm,0.5s,baz=276,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**45.10**	**298**	P	**P**	**18 45 06.5**	**+0.3**
	0.2nm,0.6s,baz=83,slow=8.8,SNR=3.3						

IDC 05 18:55:44.0±8.5, 7°.18S×128°.84E, h82km±84km, mb3.6/5, mb1 3.7/7, mb1mx3.4/41, mbtmp3.9/7, ML3.6/2, Error ellipse: s-maj=98.3km s-min=22.0km az=52.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.93**	**239**	P	Pn	18 57 09.6	+0.2
	95nm,0.3s,baz=135,slow=4.0,SNR=122						
BATI				S	Sn	18 58 09.7	-6.4
	13nm,0.3s,baz=255,slow=19,SNR=3.6						
FITZ	**Fitzroy Crossi**	**11.29**	**196**	P	Pn	18 58 18.9	-3.5
	2.1nm,0.3s,baz=11,slow=10,SNR=49						
FITZ				S	Sn	19 00 11.9	-15
	1.6nm,0.3s,baz=106,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**13.76**	**158**	P	Pn	18 58 54.3	-1.3
	0.2nm,0.3s,baz=342,slow=11,SNR=13						
WRA				S	Sn	19 01 17.6	-9.3
	1.5nm,0.3s,baz=330,slow=22,SNR=7.6						
ASAR	**Alice Springs**	**17.09**	**164**	P	P	18 59 38.3	-0.1
	0.5nm,0.3s,baz=341,slow=11,SNR=64						
ASAR				S	Sn	19 02 37.7	-10
	0.3nm,0.3s,baz=323,slow=18,SNR=4.7						
STKA	**Stephens Creek**	**27.30**	**156**	P	P	19 01 21.3	+0.2
	1.2nm,0.5s,baz=325,slow=11,SNR=7.4						
SONM	**Songino Array**	**58.26**	**342**	P	P	19 05 30.9	+0.7
	0.3nm,0.5s,baz=161,slow=6.8,SNR=3.9						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	19 06 33.1	+0.1
	0.8nm,0.5s,baz=122,slow=8.3,SNR=23						
ZALV	**Zalesovo Beam**	**71.24**	**334**	P	P	19 06 54.0	-0.3
	1.3nm,0.4s,baz=142,slow=5.4,SNR=5.5						
BVAR	**Borovoye Array**	**77.61**	**328**	P	P	19 07 30.8	-0.5
	0.8nm,0.6s,baz=94,slow=7.6,SNR=5.5						

*SJA **05** 18:58:43.2±0.7, 23˚.86S×66˚.85W, h213km±6km, ML2.5, MW2.9*
*ISCJB **05** 18:58:44.6±0.9, 23˚.88S±0˚.05×66˚.94W±0˚.05, h199km±9km, Error ellipse: s-maj=9.3km s-min=6.2km az=27.9*
*GUC **05** 18:58:45.5±0.5, 23˚.86S×67˚.45W, h239km±12km, ML3.5*

ISC 05 18:58:44.0±2.4, 23°.88S±0°.07×66°.91W±0°.06, h207km±21km, n29, σ0°88/38, 7C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.53**	**123**	*e*P	**Pn**	**18 59 19.2**	**+0.4**
SLA				IAML		18 59 19.8	
	comp=Z,12nm,0.6s						
SLA				*e*S	**S**	**18 59 45.1**	**-0.4**
HJA	**Humahuaca**	**1.53**	**64**	*e*P	**Pn**	**18 59 18.9**	**-0.1**
HJA				IAML		18 59 20.4	
	comp=Z,30nm,0.6s						
HJA				*e*S	**S**	**18 59 45.6**	**-0.3**
LVC	**Limon Verde**	**2.23**	**304**	*e*P	**Pn**	**18 59 26.7**	**+0.8**
LVC				*e*S	**S**	**18 59 58.0**	**0.0**
LVC				IAML		19 00 00.8	
	comp=Z,21nm,0.2s						
PB15	**IPOC Station P**	**2.44**	**285**	*e*P	**Pn**	**18 59 28.7**	**+0.7**
PB15	**IPOC Station P**	**2.44**	**285**	⇑*i*P	**Pn**	**18 59 28.7**	**+0.7**
PB15				*i* S	**S**	**19 00 01.4**	**-0.3**
PB06	**IPOC Station P**	**2.71**	**295**	*e*P	**Pn**	**18 59 31.7**	**+0.8**
PB06	**IPOC Station P**	**2.71**	**295**	⇑*i*P	**Pn**	**18 59 31.7**	**+0.8**
PB06				*i* S	**S**	**19 00 06.4**	**-0.6**
PB06				IAML		19 00 08.2	
	comp=E,148nm,0.1s						
GO02	**Mona Guanaco**	**2.75**	**242**	⇑*i*P	**Pn**	**18 59 32.3**	**+0.8**
GO02				*i* S	**S**	**19 00 08.4**	**+0.3**
GO02				IAML		19 00 13.0	
	comp=N,112nm,0.2s						
PB09	**IPOC Station P**	**2.99**	**314**	*e*P	**Pn**	**18 59 35.5**	**+1.3**
PB09	**IPOC Station P**	**2.99**	**314**	⇑*i*P	**Pn**	**18 59 35.4**	**+1.3**
PB09				*i* S	**S**	**19 00 13.6**	**+0.9**
PB09				IAML		19 00 16.4	
	comp=E,41nm,0.2s						
PB03	**IPOC Station P**	**3.19**	**304**	*e*P	**Pn**	**18 59 36.9**	**+0.4**
PB03	**IPOC Station P**	**3.19**	**304**	⇑*i*P	**Pn**	**18 59 36.9**	**+0.4**
PB03				IAML		19 00 18.2	
	comp=E,92nm,0.1s						
PB05	**IPOC Station P**	**3.19**	**288**	*e*P	**Pn**	**18 59 36.8**	**+0.4**
PB05	**IPOC Station P**	**3.19**	**288**	⇓*i*P	**Pn**	**18 59 36.8**	**+0.4**
PB05				*e*S	**S**	**19 00 14.9**	**-2.0**
PB14	**IPOC Station P**	**3.27**	**256**	*e*P	**Pn**	**18 59 37.9**	**+0.3**
PB14	**IPOC Station P**	**3.27**	**256**	⇑*i*P	**Pn**	**18 59 37.9**	**+0.3**
PB04	**IPOC Station P**	**3.36**	**297**	*e*P	**Pn**	**18 59 38.7**	**+0.3**
PB04	**IPOC Station P**	**3.36**	**297**	*i* P	**Pn**	**18 59 38.8**	**+0.3**
PB04				*i* S	**S**	**19 00 18.9**	**-1.6**
PB10	**IPOC Station P**	**3.36**	**276**	*e*P	**Pn**	**18 59 38.8**	**+0.5**
PB10	**IPOC Station P**	**3.36**	**276**	IAML		19 00 21.8	
	comp=E,34nm,0.3s						
PB07	**IPOC Station P**	**3.48**	**307**	*e*P	**Pn**	**18 59 40.3**	**+0.3**
PB07	**IPOC Station P**	**3.48**	**307**	⇑*i*P	**Pn**	**18 59 40.3**	**+0.3**
PB01	**IPOC Station P**	**3.70**	**319**	*e*P	**Pn**	**18 59 42.5**	**+0.1**
PB01				*i* S	**S**	**19 00 26.5**	**-1.3**
PB02	**IPOC Station P**	**3.76**	**312**	*e*P	**Pn**	**18 59 43.6**	**+0.4**
PB08	**IPOC Station P**	**4.26**	**330**	*e*P	**Pn**	**18 59 51.5**	**+1.7**
PB11	**IPOC Station P**	**4.83**	**328**	*e*P	**Pn**	**18 59 56.5**	**-0.2**
PSGCX	**Pisagua**	**5.21**	**324**	*e*P	**Pn**	**18 59 59.8**	**-1.6**
MNMCX	**Minye Minye**	**5.35**	**332**	*e*P	**Pn**	**19 00 04.8**	**+1.5**
APLL	**PUNTA DE LOS L**	**6.50**	**177**	*e*P	**Pn**	**19 00 17.7**	**-0.1**

IDC 05 19:05:37.4±3.5, 5°.71S×102°.12E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.3/37, mbtmp3.3/5, Error ellipse: s-maj=152.3km s-min=22.6km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.49**	**265**	T	T	19 43 04.7	
	baz=88,slow=76,SNR=6.4						
H08S3	**Diego Garcia H**	**29.50**	**265**	T	T	19 43 05.4	
	baz=88,slow=76,SNR=5.4						
H08S1	**Diego Garcia H**	**29.51**	**265**	T	T	19 42 58.5	
	baz=88,slow=76,SNR=5.4						
WRA	**Warramunga Arr**	**34.36**	**117**	P	P	19 12 26.6	+0.3
	0.5nm,0.8s,baz=295,slow=9.1,SNR=2.6						
ASAR	**Alice Springs**	**35.41**	**124**	P	P	19 12 35.1	-0.3
	0.2nm,0.9s,baz=294,slow=7.6,SNR=3.0						
STKA	**Stephens Creek**	**45.13**	**130**	P	P	19 13 55.5	-0.4
	0.5nm,0.6s,baz=294,slow=10.0,SNR=2.9						
SONM	**Songino Array**	**53.45**	**4**	P	P	19 14 59.4	+0.1
	0.4nm,0.8s,baz=181,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**55.16**	**343**	P	P	19 15 11.5	-0.2
	0.1nm,0.5s,baz=156,slow=8.0,SNR=3.2						

*ISCJB **05** 19:08:49.7±0.3, 37˚.81N±0˚.02×22˚.00E±0˚.02, h11km±2km, mb3.4/2, Error ellipse: s-maj=3.2km s-min=2.6km az=168.7*
*THE **05** 19:08:49.9, 37˚.82N×22˚.02E, h12km±1km, ML2.8/12, Error ellipse: s-maj=1.1km s-min=0.2km az=309.0*
*ATH **05** 19:08:49.3, 37˚.82N×22˚.02E, h21km±1km, ML2.9/20, Error ellipse: s-maj=1.2km s-min=0.6km az=265.0*
*IDC **05** 19:08:57.2±8.7, 37˚.76N×22˚.17E, h67km±56km, mb3.2/2, mb1 3.2/4, mb1mx2.9/40, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=100.5km s-min=36.9km az=80.0*

ISC 05 19:08:49.8±0.8, 37°.82N±0°.02×22°.01E±0°.02, h13km±6km, n64, σ0°77/91, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.24**	**26**	P	**Pg**	**19 08 54.9**	**-0.2**
KLV				S	**Sg**	**19 08 59.0**	**+0.3**
KLV	**Kalavryta, Ach**	**0.24**	**26**	P	**Pg**	**19 08 54.8**	**-0.2**
KLV				S	**Sb**	**19 08 59.8**	**-0.5**
KLV				AML	AML	19 09 01.0	
	comp=E,8911μm,0.5s						
KLV				AML	AML	19 09 04.8	
	comp=N,3877μm,0.6s						
DRO	**Drossia**	**0.27**	**298**	P	**Pg**	**19 08 55.5**	**0.0**
DRO				S	**Sg**	**19 08 59.8**	**+0.4**
DRO	**Drossia**	**0.27**	**298**	P	**Pg**	**19 08 55.6**	**0.0**
DRO				S	**Sb**	**19 09 00.5**	**-0.6**
DRO				AML	AML	19 09 04.2	
	comp=E,24457μm,0.4s						
DRO				AML	AML	19 09 04.3	
	comp=N,19234μm,0.4s						
GUR	**Goura**	**0.28**	**66**	P	**Pg**	**19 08 55.5**	**-0.2**
GUR				S	**Sg**	**19 09 00.0**	**+0.2**
GUR	**Goura**	**0.28**	**66**	P	**Pg**	**19 08 55.5**	**-0.2**
GUR				S	**Sb**	**19 09 00.6**	**-0.9**
GUR				AML	AML	19 09 01.2	
	comp=N,12711μm,0.3s						
GUR				AML	AML	19 09 01.4	
	comp=E,9414μm,0.2s						
TRIP	**Tripoli**	**0.36**	**145**	P	**Pg**	**19 08 57.1**	**+0.1**
TRIP				S	**Sg**	**19 09 01.7**	**-0.2**
TRIP				AML	AML	19 09 05.5	
	comp=N,6074μm,0.5s						
TRIP				AML	AML	19 09 05.6	
	comp=E,6247μm,0.4s						
AMT	**Artemida-Makis**	**0.38**	**220**	P	**Pg**	**19 08 57.5**	**+0.1**
AMT				S	**Sg**	**19 09 02.9**	**+0.4**
AMT	**Artemida-Makis**	**0.38**	**220**	P	**Pg**	**19 08 57.6**	**+0.2**
AMT				AML	AML	19 09 03.9	
	comp=N,4776μm,0.2s						
AMT				AML	AML	19 09 04.5	
	comp=E,3642μm,0.3s						
LAKA	**Lakka**	**0.42**	**356**	P	**Pg**	**19 08 57.9**	**-0.2**
LAKA				S	**Sg**	**19 09 04.2**	**+0.4**
LAKA	**Lakka**	**0.42**	**356**	P	**Pg**	**19 08 57.9**	**-0.2**
LAKA				S	**Sb**	**19 09 04.3**	**-0.9**
LAKA				AML	AML	19 09 06.3	
	comp=E,1391μm,0.3s						
LAKA				AML	AML	19 09 12.1	
	comp=N,1297μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.44**	**10**	P	**Pg**	**19 08 58.7**	**+0.1**
ALIK				S	**Sb**	**19 09 05.2**	**-0.7**
RLS	**Riolos of Patr**	**0.49**	**299**	P	**Pg**	**19 08 59.0**	**-0.5**
RLS				S	**Sg**	**19 09 06.6**	**+0.5**
RLS	**Riolos of Patr**	**0.49**	**299**	P	**Pg**	**19 08 59.0**	**-0.5**
RLS				S	**Sb**	**19 09 07.0**	**-0.4**
RLS				AML	AML	19 09 07.4	
	comp=N,8542μm,0.4s						
RLS				AML	AML	19 09 07.5	
	comp=E,7768μm,0.4s						
UPR	**University Cam**	**0.49**	**339**	P	**Pg**	**19 08 59.4**	**-0.1**
VLX	**Vlachokerasia**	**0.54**	**147**	P	**Pg**	**19 09 00.4**	**+0.1**
VLX				S	**Sb**	**19 09 08.1**	**-0.6**
VLX	**Vlachokerasia**	**0.54**	**147**	P	**Pg**	**19 09 00.2**	**-0.2**
VLX				S	**Sb**	**19 09 08.2**	**-0.6**
VLX				AML	AML	19 09 12.0	
	comp=N,3577μm,0.4s						
VLX				AML	AML	19 09 12.7	
	comp=E,4889μm,0.4s						
TRIZ	**Trizonia**	**0.54**	**5**	P	**Pg**	**19 09 00.3**	**-0.1**
TRIZ				S	**Sb**	**19 09 08.2**	**-0.6**
TRIZ	**Trizonia**	**0.54**	**5**	P	**Pg**	**19 09 00.4**	**-0.1**
TRIZ				S	**Sb**	**19 09 08.2**	**-0.6**
KALE	**Kalithea**	**0.58**	**10**	P	**Pg**	**19 09 01.0**	**-0.1**
KALE				S	**Sb**	**19 09 09.4**	**-0.4**
KALE	**Kalithea**	**0.58**	**10**	P	**Pg**	**19 09 01.1**	**-0.1**
KALE				S	**Sb**	**19 09 09.9**	**0.0**
KALE				AML	AML	19 09 13.1	
	comp=N,1899μm,0.5s						
KALE				AML	AML	19 09 14.2	
	comp=E,1514μm,0.4s						
SERG	**Sergoula**	**0.59**	**3**	P	**Pg**	**19 09 01.2**	**-0.1**
SERG				S	**Sb**	**19 09 09.8**	**-0.4**
SERG	**Sergoula**	**0.59**	**3**	P	**Pg**	**19 09 01.2**	**-0.1**
SERG				AML	AML	19 09 13.1	
	comp=N,2231μm,0.3s						
SERG				AML	AML	19 09 13.7	
	comp=E,1877μm,0.4s						
EFP	**Efpalio**	**0.61**	**352**	P	**Pg**	**19 09 01.6**	**-0.1**
EFP				S	**Sb**	**19 09 10.7**	**0.0**
EFP	**Efpalio**	**0.61**	**352**	P	**Pg**	**19 09 01.6**	**-0.1**
MES3	**Kyparissia**	**0.63**	**205**	P	**Pg**	**19 09 02.3**	**+0.2**
ITM	**Ithomi**	**0.65**	**186**	P	**Pg**	**19 09 02.2**	**-0.1**
ITM	**Ithomi**	**0.65**	**186**	P	**Pg**	**19 09 02.2**	**-0.1**
ITM				AML	AML	19 09 16.1	
	comp=N,1006μm,0.3s						
ITM				AML	AML	19 09 19.6	
	comp=E,1084μm,0.4s						
VTN	**Vitineika**	**0.66**	**278**	P	**Pg**	**19 09 02.5**	**-0.2**
DSF	**Desfina**	**0.71**	**34**	P	**Pg**	**19 09 03.0**	**-0.7**
DSF				S	**Sb**	**19 09 13.8**	**0.0**
DSF	**Desfina**	**0.71**	**34**	P	**Pg**	**19 09 02.9**	**-0.7**
DSF				AML	AML	19 09 19.8	
	comp=N,1217μm,0.2s						
DSF				AML	AML	19 09 20.6	
	comp=E,1158μm,0.3s						
LOUT	**Loutraki**	**0.78**	**77**	P	**Pg**	**19 09 04.4**	**-0.4**
LOUT				S	**Sb**	**19 09 16.1**	**+0.5**
LOUT	**Loutraki**	**0.78**	**77**	P	**Pg**	**19 09 04.3**	**-0.6**
LOUT				AML	AML	19 09 20.9	
	comp=E,486μm,0.6s						
LOUT				AML	AML	19 09 21.6	
	comp=N,223μm,0.3s						
PROD	**Prodromos**	**0.82**	**58**	P	**Pg**	**19 09 05.3**	**-0.4**
PROD				S	**Sn**	**19 09 17.9**	**-1.1**
PROD				AML	AML	19 09 19.3	
	comp=N,2941μm,0.2s						
PROD				AML	AML	19 09 21.9	
	comp=E,2174μm,0.4s						
PVO	**Paravola**	**0.88**	**334**	P	**Pg**	**19 09 06.6**	**-0.2**
PVO				S	**Sn**	**19 09 19.6**	**-0.9**
PVO	**Paravola**	**0.88**	**334**	P	**Pg**	**19 09 06.3**	**-0.5**
EPID	**Epidavros**	**0.90**	**103**	P	**Pg**	**19 09 06.5**	**-0.6**
PYL	**PYLOS**	**0.95**	**193**	P	**Pb**	**19 09 07.6**	**-0.5**
KRND	**KRANIDI**	**1.00**	**116**	P	**Pb**	**19 09 08.4**	**-0.6**
KRND				AML	AML	19 09 27.6	
	comp=E,2223μm,0.9s						
KRND				AML	AML	19 09 30.7	
	comp=N,1903μm,0.6s						
DID	**Didima**	**1.02**	**108**	P	**Pb**	**19 09 08.9**	**-0.4**
DID	**Didima**	**1.02**	**108**	P	**Pb**	**19 09 08.8**	**-0.5**
MES2	**Methoni**	**1.03**	**194**	P	**Pb**	**19 09 08.9**	**-0.4**
MES2				AML	AML	19 09 29.8	
	comp=E,1215μm,1.0s						
MES2				AML	AML	19 09 31.9	
	comp=N,1100μm,0.4s						
VIL2	**Platees**	**1.06**	**68**	P	**Pg**	**19 09 09.8**	**-0.4**
VIL2				AML	AML	19 09 28.6	
	comp=N,934μm,0.5s						
VIL2				AML	AML	19 09 34.2	
	comp=E,1636μm,1.0s						
VILL	**Villia**	**1.08**	**71**	P	**Pg**	**19 09 10.1**	**-0.5**
EVR	**

YKA				Sn	Sn	19 26 17.6	-10		
	0.1nm,0.3s,baz=181,slow=22,SNR=6.5								
YKA				Lg	Lg	19 27 39.3			
	0.0nm,0.3s,baz=172,slow=28,SNR=3.1								

IDC 05 20:01:23.6±1.9, 4°88S×125°08E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/27, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=265.8km s-min=28.6km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.48**	**150**	P	Pn	20 05 29.1	+0.2
	0.1nm,0.3s,baz=323,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**20.53**	**156**	P	P	20 06 03.6	-0.1
	2.1nm,1.1s,baz=337,slow=11,SNR=9.2						
MKAR	**Makanchi Array**	**63.83**	**329**	P	P	20 11 57.8	0.0
	0.3nm,0.6s,baz=122,slow=7.2,SNR=4.1						

*NIED **05** 20:32:00, 27°.30N×128°.50E, h47km, Mw5.1 Best double couple: M0 5.60000×10^16 NP1: φ=209.00000°, δ=24.00000°, λ=76.00000°. NP2: φ=44.00000°, δ=66.00000°, λ=96.00000°.*

*BJI **05** 20:32:38.6, 27°.04N×128°.76E, h37km, mb4.9/63, mB5.0/51, Ms4.4/83, Ms7 4.4/76*

*MOS **05** 20:32:40.8±1.1, 27°.37N×128°.35E, h27km, mb5.6/100, MS4.8/23, Error ellipse: s-maj=5.8km s-min=3.7km az=104.5*

*ISCJB **05** 20:32:44.0±0.2, 27°.39N±0°.02×128°.34E±0°.02, h48km±1km, mb5.3/355, MS4.5/64, Error ellipse: s-maj=3.0km s-min=2.1km az=140.3*

*IDC **05** 20:32:43.3±1.1, 27°.41N×128°.36E, h34km±9km, mb4.7/32, mb1 4.8/34, mb1mx4.8/40, mbtmp4.9/34, ML4.2/2, MS4.2/39, Ms1 4.2/39, ms1mx4.1/56, Error ellipse: s-maj=12.7km s-min=9.6km az=97.0*

*BGR **05** 20:32:44.7±0.0, 27°.50N×128°.68E, h33km, mb5.7, Ms5.0*

*GCMT **05** 20:32:45.5±0.2, 27°.28N±0°.01×128°.48E±0°.02, h47km, MW5.2/91, Moment Tensor Solution. s71,c103; s91,c137; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 5.69±.19; Mθθ -1.73±.14; Mφφ -3.96±.15; Mrθ 1.88±.12; Mθφ -3.49±.11; Mrφ 1.61±.12; Best double couple: M0 6.58800×10^16 NP1: φ=42.00000°, δ=56.00000°, λ=97.00000°. NP2: φ=210.00000°, δ=35.00000°, λ=80.00000°. Principal axes: T 6.2060, Plg78.0000°, Azm335.0000°; N 0.7620, Plg6.0000°, Azm218.0000°; P -6.9690, Plg11.0000°, Azm127.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 20:32:45.5±0.3, 27°.39N×128°.30E, h51km±2km, mb5.3/264 Error ellipse: s-maj=2.8km s-min=2.2km az=137.0*

NEIC Felt [III] in Kitanakagusuku-son and Chantan-cho, Okinawa. Felt throughout Okinawa.

*JMA **05** 20:32:45.0±0.1, 27°.30N×128°.45E, h48km±1km, M5.0*

JMA Felt IV J1.

ISC 05 20:32:45.4±0.3, 27°.36N±0°.02×128°.46E±0°.03, h54km±2km, h54km:pP-P, n1020, σ1§33/1096, mb5.3/379, MS4.4/65, 91C-39D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKE	**Okinoerabujima**	**0.10**	**87**	P	**Pn**	**20 32 52.7**	**-1.0**
JOKE				S	**Sn**	**20 32 58.0**	**-1.6**
JYRO	**Yoronjima**	**0.33**	**182**	P	**Pn**	**20 32 53.7**	**-1.4**
JYRO				S	**Sn**	**20 32 59.6**	**-2.5**
JIH	**Iheya**	**0.55**	**234**	⇑P	**Pn**	**20 32 56.1**	**-1.3**
JIH				S	**Sn**	**20 33 03.9**	**-2.2**
JOW	**Kunigami**	**0.55**	**198**	*e*Pn	**Pn**	**20 32 56.1**	**-1.4**
JOW				*e*Sn	**Sn**	**20 33 03.8**	**-2.3**
JOW	**Kunigami**	**0.55**	**198**	⇑P	**Pn**	**20 32 56.0**	**-1.4**
JOW				S	**Sn**	**20 33 03.7**	**-2.5**
JOW	**Kunigami**	**0.55**	**198**	Pg	**Pn**	**20 32 55.9**	**-1.5**
	1μm,0.3s,baz=111,slow=15						
JOW				Lg	Lg	20 33 04.0	
	6μm,0.3s,baz=82,slow=18,SNR=210						
JTK	**Tokunoshima**	**0.61**	**45**	⇑P	**Pn**	**20 32 58.0**	**-0.2**
JTK				S	**Sn**	**20 33 07.2**	**-0.2**
JNTH	**Nagotoyohara**	**0.92**	**205**	P	**Pn**	**20 33 00.9**	**-1.3**
JNTH				*e*S	**Sn**	**20 33 12.5**	**-2.0**
JAMN	**Amaminishikomi**	**1.08**	**35**	⇓P	**Pn**	**20 33 04.2**	**-0.1**
JAGN	**Aguni-jima**	**1.33**	**235**	⇓P	**Pn**	**20 33 06.5**	**-1.1**
JAGN				*e*S	**Sn**	**20 33 22.5**	**-1.8**
JJT3	**Tamagusuku3**	**1.35**	**207**	P	**Pn**	**20 33 08.0**	**+0.1**
JJT3				*e*S	**Sn**	**20 33 25.3**	**+0.5**
JAM	**Amami Oshima**	**1.46**	**44**	⇓P	**Pn**	**20 33 09.9**	**+0.6**
JZK	**Kikaishima**	**1.64**	**54**	⇓P	**Pn**	**20 33 13.3**	**+1.4**
JKE	**Kume jima 2**	**1.82**	**236**	⇓P	**Pn**	**20 33 13.3**	**-0.9**
JKE				*e*S	**Sn**	**20 33 34.5**	**-1.6**
JTAJ	**Takarajima**	**1.91**	**20**	⇓P	**Pn**	**20 33 15.7**	**+0.3**
JTAJ				*e*S	**Sn**	**20 33 38.5**	**+0.2**
JNN	**Nakanoshima**	**2.77**	**26**	⇓P	**Pn**	**20 33 27.6**	**+0.3**
JNN				*e*S	**Sn**	**20 33 59.4**	**-0.1**
JMZ	**Minamidaito 2**	**2.91**	**121**	⇓P	**Pn**	**20 33 26.8**	**-2.3**
JMZ				*e*S	**Sn**	**20 33 58.1**	**-4.7**
JYAK	**Yakushimahirau**	**3.39**	**32**	P	**Pn**	**20 33 37.6**	**+1.9**
JYAK				*e*S	**Sn**	**20 34 17.1**	**+2.5**
JKC	**Kuchinoerabu**	**3.45**	**26**	P	**Pn**	**20 33 37.4**	**+0.9**
JMTN	**Minamitane**	**3.71**	**35**	P	**Pn**	**20 33 41.6**	**+1.5**
JTN	**Tanegashima 3**	**3.96**	**33**	P	**Pn**	**20 33 44.8**	**+1.2**
YOJ	**Yonaguni jima**	**5.69**	**241**	*e*Pn	**Pn**	**20 34 05.3**	**-2.1**
YOJ	**Yonaguni jima**	**5.69**	**241**	*e*P	**Pn**	**20 34 05.3**	**-2.1**
JNU	**Nakatsue**	**6.11**	**19**	Pn	**Pn**	**20 34 15.7**	**+2.6**
	26nm,0.3s,baz=193,slow=6.5,SNR=117						
JNU				Sn	**Sn**	**20 35 23.9**	**+2.2**
	baz=234,slow=8.7,SNR=1.3						
JNU				LR	LR	20 36 57.1	
	comp=Z,1μm,21.0s,baz=178,slow=42						
TATO	**Taipei**	**6.70**	**251**	*e*Pn	**Pn**	**20 34 21.7**	**+0.5**
YHNB	**Yeheng**	**6.92**	**249**	*e*Pn	**Pn**	**20 34 24.7**	**+0.5**
NACB	**Ninganchiao**	**6.96**	**244**	*e*Pn	**Pn**	**20 34 21.8**	**-2.9**
SSE	**Sheshan**	**7.37**	**302**	*e*Pn	**Pn**	**20 34 30.2**	**-0.1**
YULB	**Yu-li**	**7.59**	**240**	*e*Pn	**Pn**	**20 34 29.5**	**-3.8**
SSLB	**Suanglung**	**7.65**	**244**	*e*Pn	**Pn**	**20 34 31.4**	**-2.9**
TWG	**Pinlang**	**8.08**	**238**	*e*Pn	Pn	20 34 35.1	-4.9
TPUB	**Ta-pu**	**8.16**	**242**	*e*Pn	**Pn**	**20 34 38.6**	**-2.6**
QZH	**Quanzhou**	**9.19**	**257**	P	**Pn**	**20 34 55.1**	**-0.2**
QZH				S	**Sn**	**20 36 36.0**	**-1.2**
QZH				LR	LR		
	comp=N,2μm,19.7s						
QZH				LR	LR		
	comp=E,1μm,20.8s						
QZH				LR	LR		
	comp=Z,2μm,21.3s						
NJ2	**Nanjing**	**9.57**	**302**	*e*P	**Pn**	**20 35 01.5**	**+1.0**
NJ2				pP		20 35 09.4	
NJ2				S	**Sn**	**20 36 52.4**	**+5.8**
NJ2				pmax	pmax		
	comp=Z,40nm,0.8s						
NJ2				pmax	pmax		
	comp=Z,260nm,3.5s						
NJ2				LR	LR		
	comp=N,1μm,16.8s						
NJ2				LR	LR		
	comp=E,2μm,18.0s						
NJ2				LR	LR		
	comp=Z,2μm,17.3s						
KS15	**Wonju Array Si**	**10.07**	**357**	*e*Pn	**Pn**	**20 35 09.0**	**+1.7**
KSAR	**Wonju Array Be**	**10.07**	**357**	Pn	**Pn**	**20 35 08.6**	**+1.4**
KSAR	**Wonju Array Be**	**10.07**	**357**	P	**Pn**	**20 35 08.6**	**+1.4**
KSRS	**Korea Array**	**10.08**	**358**	Pn	**Pn**	**20 35 08.6**	**+1.2**
	1.2nm,0.3s,baz=177,slow=14,SNR=67						
KSRS				LR	LR	20 39 08.3	
	comp=Z,2μm,20.8s,baz=172,slow=38						
KS01	**Wonju Array Si**	**10.10**	**357**	*e*Pn	**Pn**	**20 35 08.1**	**+0.4**
INU	**Inuyama**	**10.81**	**40**	*e*Pn	**Pn**	**20 35 18.2**	**+0.8**
INU				*e*Sn	**Sn**	**20 37 15.1**	**-1.7**
JHJ	**Hachijo jima 2**	**11.35**	**57**	Pn	**Pn**	**20 35 27.4**	**+2.7**
	20nm,0.3s,baz=37,slow=22,SNR=4.9						
JHJ				LR	LR	20 39 31.4	
	comp=Z,1μm,20.6s,baz=248,slow=36						
JHJ2	**Mitsune**	**11.37**	**57**	*e*Pn	**Pn**	**20 35 26.2**	**+1.2**
CBIJ	**Chichi jima**	**12.21**	**88**	*e*Sn	**Sn**	**20 37 44.8**	**-6.5**
JCJ	**Chichijima**	**12.21**	**88**	Pn	**Pn**	**20 35 36.4**	**-0.2**
	13nm,0.3s,baz=288,slow=19,SNR=4.4						
JCJ				Sn	**Sn**	**20 37 44.8**	**-6.5**
	10nm,0.3s,baz=285,slow=20,SNR=2.6						
JCJ				LR	LR	20 39 48.0	
	comp=Z,968nm,19.9s,baz=294,slow=34						
MAJO	**Matsushiro**	**12.33**	**40**	*e*Pn	**Pn**	**20 35 39.3**	**+1.1**
MAJO	**Matsushiro**	**12.33**	**40**	*e*P	**Pn**	**20 35 39.3**	**+1.1**
MAT	**Matsushiro**	**12.33**	**40**	P	**Pn**	**20 35 38.5**	**+0.3**
MAT				*e*S	**Sn**	**20 37 55.0**	**+0.9**
MJAR	**Matsushiro Arr**	**12.34**	**40**	Pn	**Pn**	**20 35 38.7**	**+0.5**
	0.2nm,0.3s,baz=239,slow=14,SNR=7.7						
MJAR				LR	LR	20 40 48.9	
	comp=Z,676nm,18.2s,baz=195,slow=39						
MJB9	**Matsu-Tunnel**	**12.34**	**40**	*e*Pn	**Pn**	**20 35 38.0**	**-0.3**
WHN	**Wuhan**	**12.76**	**288**	⇑P	**Pn**	**20 35 46.2**	**+2.2**
WHN				S	**Sn**	**20 38 06.7**	**+2.2**
WHN				LR	LR		
	comp=N,1μm,6.4s						
WHN				LR	LR		
	comp=E,2μm,10.4s						
WHN				LR	LR		
	comp=Z,3μm,22.0s						
DL2	**Dalian**	**12.86**	**335**	P	P	20 36 04.6	+10
DL2				S	S	20 38 42.5	+12
DL2				pmax	pmax		
	comp=Z,46nm,1.2s						
DL2				pmax	pmax		
	comp=Z,390nm,3.5s						
DL2				LR	LR		
	comp=N,1μm,19.8s						
DL2				LR	LR		
	comp=E,620nm,18.4s						
DL2				LR	LR		
	comp=Z,1μm,19.6s						
TIA	**Tai'an**	**13.06**	**315**	P	**Pn**	**20 35 51.4**	**+3.2**
TIA				pmax	pmax		
	comp=Z,150nm,3.1s						
TIA				LR	LR		
	comp=Z,570nm,14.3s						
TIA				LR	LR		
	comp=Z,460nm,14.5s						
TIA				LR	LR		
	comp=Z,880nm,13.7s						
GZH	**Guangzhou**	**14.33**	**256**	P	**Pn**	**20 36 02.9**	**-2.4**
GZH				S	**Sn**	**20 38 50.3**	**+7.5**
GZH				LR	LR		
	comp=Z,1μm,17.1s						
GZH				LR	LR		
	comp=Z,900nm,17.5s						
TGY	**Tagaytay City**	**14.94**	**210**	LR	LR	20 42 08.4	
	comp=Z,311nm,19.5s,baz=340,slow=38						
SNY	**Shenyang**	**14.98**	**346**	⇑P	**P**	**20 36 18.9**	**+0.8**
SNY				S	**S**	**20 39 08.0**	**-5.6**
SNY				pmax	pmax		
	comp=Z,280nm,3.5s						
SNY				LR	LR		
	comp=Z,1μm,25.0s						
SNY				LR	LR		
	comp=Z,1μm,20.6s						
SNY				LR	LR		
	comp=Z,2μm,19.6s						
BJT	**Baijiatuao**	**16.23**	**324**	*e*Pn	**Pn**	**20 36 29.0**	**-0.7**
	comp=Z,146nm,0.8s						
BJT	**Baijiatuao**	**16.23**	**324**	*e*P	**Pn**	**20 36 29.0**	**-0.7**
BJT				pmax	pmax		
	comp=Z,146nm,0.8s						
CN2	**Changchun**	**16.59**	**352**	⇑P	**P**	**20 36 35.3**	**-0.7**
CN2				*e*sP	pP	20 36 47.4	-0.3
CN2				*e*S	**Sn**	**20 39 35.9**	**-1.5**
CN2				pmax	pmax		
	comp=Z,40nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
CN2				LR	LR		
	comp=Z,1μm,17.0s						
CN2				LR	LR		
	comp=Z,970nm,16.0s						
ENH	**Enshi**	**16.88**	**284**	*e*Pn	**P**	**20 36 38.7**	**-0.7**
	comp=Z,56nm,0.9s						
TIY	**Taiyuan**	**16.99**	**311**	*e*P	**P**	**20 36 42.7**	**+2.2**
TIY				sP	**sP**	**20 36 58.9**	**0.0**
TIY				LR	LR		
	comp=Z,350nm,8.1s						
TIY				LR	LR		
	comp=Z,750nm,16.3s						
TIY				LR	LR		
	comp=Z,510nm,11.8s						
USA0B	**Ussuriysk Arra**	**17.05**	**9**	*e*Pn	**Pn**	**20 36 40.0**	**+0.1**
	comp=Z,16nm,0.9s						
USA0B	**Ussuriysk Arra**	**17.05**	**9**	*e*P	**Pn**	**20 36 40.0**	**+0.1**
USRK	**Ussuriysk Ar.**	**17.05**	**9**	Pn	**P**	**20 36 40.9**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=182,slow=9.2,SNR=18						
USRK				LR	LR	20 42 55.8	
	comp=Z,712nm,19.7s,baz=183,slow=36						
MDJ	**Mudanjiang**	**17.25**	**3**	P	**P**	**20 36 42.8**	**-0.4**
MDJ				pP	pP	20 36 50.6	-4.4
MDJ				sP	sP	20 36 56.7	-5.1
MDJ				S	**Sn**	**20 39 52.3**	**-1.1**
MDJ				PcS	**PcS**	**20 45 01.6**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,230nm,4.5s						
MDJ				LR	LR		
	comp=Z,670nm,22.3s						
MDJ				LR	LR		
	comp=Z,530nm,20.7s						
MDJ				LR	LR		
	comp=Z,1μm,22.5s						
MDJ	**Mudanjiang**	**17.25**	**3**	*e*Pn	**P**	**20 36 42.8**	**-0.4**
	comp=Z,17nm,0.9s						
XAN	**Xi'an**	**18.07**	**296**	P	**Pn**	**20 36 52.8**	**+0.2**
XAN				pP	pP	20 37 00.4	-3.8
XAN				sP	sP	20 37 05.4	-5.5
XAN				PP	**PnPn**	**20 37 08.7**	**+3.9**
XAN				S	**S**	**20 40 14.8**	**-1.9**
XAN				sS	sS	20 40 27.4	-8.2
XAN				SS	**SnSn**	**20 40 39.0**	**+11**
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN				pmax	pmax		
	comp=Z,380nm,3.7s						
XAN				LR	LR		
	comp=Z,680nm,15.7s						
XAN				LR	LR		
	comp=Z,840nm,19.0s						
XAN				LR	LR		
	comp=Z,1μm,21.7s						
XAN	**Xi'an**	**18.07**	**296**	*e*Pn	**Pn**	**20 36 52.5**	**-0.1**
	comp=Z,126nm,1.0s						
XAN	**Xi'an**	**18.07**	**296**	*e*P	**Pn**	**20 36 52.5**	**-0.1**
XAN				pmax	pmax		
	comp=Z,126nm,1.0s						
ERM	**Erimo**	**18.93**	**36**	*e*P	**P**	**20 37 01.3**	**-0.4**
	comp=Z,44nm,0.8s						
ERM	**Erimo**	**18.93**	**36**	*ce*P	**P**	**20 37 00.2**	**-1.5**
ERM				pmax	pmax		
	comp=Z,41nm,1.0s						
QIZ	**Qiongzhong**	**19.00**	**248**	P	**P**	**20 37 02.4**	**-0.3**
QIZ				S	**S**	**20 40 33.8**	**-1.9**
QIZ				LR	LR		
	comp=Z,440nm,19.3s						
QIZ				LR	LR		
	comp=Z,770nm,18.3s						
QIZ				LR	LR		
	comp=Z,720nm,18.8s						
SARN	**Sarigan**	**19.22**	**120**	*e*P	**Pn**	**20 37 07.8**	**+1.3**
	comp=Z,488nm,1.7s						
HHC	**Hu-ho-hao-te**	**19.37**	**318**	*e*P	**Pn**	**20 37 07.7**	**-0.6**
HHC				PP	**sP**	**20 37 27.5**	**+2.3**
HHC				S	**S**	**20 40 37.4**	**-5.6**
HHC				pmax	pmax		
	comp=Z,34nm,1.2s						
HHC				pmax	pmax		
	comp=Z,440nm,6.8s						
HHC				LR	LR		
	comp=Z,1μm,14.5s						
HHC				LR	LR		
	comp=Z,1μm,14.5s						
HHC				LR	LR		
	comp=Z,2μm,16.5s						
ANA2	**Anatahan**	**19.38**	**121**	*e*P	**Pn**	**20 37 09.3**	**+0.9**
	comp=Z,287nm,1.2s						
GYA	**Guiyang**	**19.46**	**272**	⇑P	**Pn**	**20 37 08.9**	**-0.6**
GYA				pP	pP	20 37 18.2	-1.5
GYA				PP	**sP**	**20 37 27.8**	**+1.4**
GYA				S	**S**	**20 40 39.0**	**-6.1**
GYA				sS	Sn	20 40 52.3	+5.0
GYA				SS	**SnSn**	**20 41 05.2**	**+3.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,150nm,4.9s						
GYA				LR	LR		
	comp=Z,3μm,14.7s						
GYA				LR	LR		
	comp=Z,2μm,15.5s						
GYA				LR	LR		
	comp=Z,1μm,14.8s						
ASAJ	**Asahikawa**	**20.23**	**31**	P	**P**	**20 37 14.7**	**-1.2**
	comp=Z,14nm,0.8s,baz=218,slow=18,SNR=9.2						
DAV	**Davao City (W)**	**20.36**	**188**	*e*P	**P**	**20 37 17.3**	**-0.3**
	comp=Z,189nm,0.4s						
DAV	**Davao City (W)**	**20.36**	**188**	LR	LR	20 45 27.8	
	comp=Z,492nm,20.1s,baz=16,slow=38						
KCP	**Kidapawan**	**20.49**	**190**	⇓*i*P	**P**	**20 37 19.3**	**+0.3**
KCP				*i* S	**pP**	**20 37 31.8**	**+0.8**
GUMO	**Guam**	**20.55**	**129**	*e*P	**P**	**20 37 19.8**	**+0.2**
	comp=Z,381nm,1.4s						
GUMO	**Guam**	**20.55**	**129**	*e*P	**P**	**20 37 19.8**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,381nm,1.4s						
YUK	**Yuzh-Kuril'sk**	**21.76**	**36**	*e*P	**P**	**20 37 33.2**	**+0.9**
YUK				*e*S	**S**	**20 41 26.6**	**-3.4**
YUK				pmax	pmax		
	comp=Z,321nm,1.1s						
YUK				pmax	pmax		
	comp=N,164nm,0.8s						
YUK				pmax	pmax		
	comp=E,171nm,0.7s						
YUK				pmax	pmax		
	comp=Z,346nm,2.1s						
YUK				MLR	MLR		
	comp=Z,307nm,16.0s						
YUK				MLR	MLR		
	comp=E,845nm,21.0s						
YUK				MLR	MLR		
	comp=N,885nm,17.0s						
CD2	**Chengdu**	**21.86**	**285**	P	**P**	**20 37 34.5**	**+0.9**
CD2				sP	pP	20 37 42.7	-2.9
CD2				S	**S**	**20 41 25.4**	**-6.9**
CD2				sS	Sn	20 41 42.8	-1.8
CD2				pmax	pmax		
	comp=N,120nm,1.2s						
CD2				pmax	pmax		
	comp=N,270nm,5.8s						
CD2				LR	LR		
	comp=N,1μm,16.4s						
CD2				LR	LR		
	comp=N,2μm,16.4s						
KLR	**Kul'dur**	**21.99**	**6**	P	**P**	**20 37 33.8**	**-0.9**
	comp=N,5.1nm,0.5s,baz=210,slow=7.7,SNR=4.9						
KLR				PcP	**PcP**	**20 41 32.3**	**+0.9**
	comp=N,3.1nm,0.8s,baz=297,slow=2.3,SNR=3.9						
KLR				LR	LR	20 45 52.8	
	comp=N,476nm,20.7s,baz=180,slow=36						
YSS	**Yuzh-Sakhalins**	**22.57**	**26**	*e*P	**P**	**20 37 41.7**	**+0.7**
	comp=N,88nm,1.2s						
YSS	**Yuzh-Sakhalins**	**22.57**	**26**	⇓*e*P	**P**	**20 37 41.1**	**+0.1**
YSS				*e*		20 37 44.2	
YSS				*e*PP	**pP**	**20 37 51.7**	**-1.4**
YSS				*e*		20 38 04.0	
YSS				*e*PPP	PPP	20 38 15.7	
YSS				*e*S	**S**	**20 41 42.0**	**-2.6**
YSS				pmax	pmax		
	comp=N,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				pmax	pmax		
	comp=E,30nm,1.2s						
YSS				pmax	pmax		
	comp=Z,400nm,4.6s						
YSS				smax	smax		
	comp=N,300nm,5.4s						
YSS				smax	smax		
	comp=E,400nm,3.9s						
YSS				MLR	MLR		
	comp=Z,500nm,19.0s						
YSS				MLR	MLR		
	comp=N,400nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
LZH	**Lanzhou**	**22.63**	**299**	*e*P	**P**	**20 37 44.6**	**+2.6**
LZH				pP	pP	20 37 55.7	+1.6
LZH				S	**S**	**20 41 41.4**	**-4.9**
LZH				sS	Sn	20 42 00.6	-2.6
LZH				pmax	pmax		
	comp=E,150nm,1.0s						
LZH				pmax	pmax		
	comp=E,470nm,4.9s						
LZH				LR	LR		
	comp=E,1μm,13.6s						
LZH				LR	LR		
	comp=E,1μm,14.6s						
LZH				LR	LR		
	comp=E,2μm,15.3s						
HIA	**Hailar**	**22.89**	**345**	*e*P	**P**	**20 37 43.9**	**-0.5**
	comp=E,15nm,0.8s						
HIA	**Hailar**	**22.89**	**345**	*e*P	**P**	**20 37 43.9**	**-0.5**
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
KMI	**Kunming**	**23.17**	**270**	P	**P**	**20 37 48.6**	**+1.0**
KMI				pP	pP	20 37 58.1	-1.8
KMI				sP	sP	20 38 03.0	-3.5
KMI				PP	**PnPn**	**20 38 17.7**	**+2.8**
KMI				S	**S**	**20 41 50.7**	**-4.8**
KMI				pmax	pmax		
	comp=Z,47nm,1.1s						
KMI				pmax	pmax		
	comp=Z,200nm,5.3s						
KMI				LR	LR		
	comp=Z,490nm,10.9s						
KMI				LR	LR		
	comp=Z,660nm,18.3s						
KMI				LR	LR		
	comp=Z,780nm,18.3s						
KMI	**Kunming**	**23.17**	**270**	*e*P	**P**	**20 37 47.6**	**0.0**
	comp=Z,40nm,0.9s						
KMI	**Kunming**	**23.17**	**270**	*e*P	**P**	**20 37 47.7**	**0.0**
KMI				pmax	pmax		
	comp=Z,40nm,0.9s						
KUR	**Kuril'sk**	**23.62**	**36**	*e*P	**P**	**20 37 52.2**	**+0.8**
KUR				PPP	PPP	20 38 27.9	
KUR				*e*S	**S**	**20 42 06.1**	**+4.1**
KUR				SSS	SSS	20 42 59.9	
KUR				pmax	pmax		
	comp=Z,249nm,1.2s						
KUR				MLR	MLR		
	comp=Z,331nm,15.0s						
SDKM	**Sandakan**	**24.11**	**208**	P	**P**	**20 37 57.2**	**+0.9**
KKM	**Kota Kinabalu**	**24.19**	**211**	P	**P**	**20 37 58.7**	**+1.8**
KKM	**Kota Kinabalu**	**24.19**	**211**	P	**P**	**20 37 58.8**	**+1.8**
SKNT	**Sakolnakorn**	**24.87**	**251**	P	**P**	**20 38 04.3**	**+1.2**
	comp=Z,32nm,1.3s						
TSM	**Tawau**	**25.06**	**206**	P	**P**	**20 38 07.5**	**+2.6**
TYV	**Tymovskoe**	**25.84**	**21**	*e*P	**P**	**20 38 15.4**	**+3.8**
TYV				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZEA	**Zeya**	**26.37**	**358**	*e*P	**P**	**20 38 16.2**	**-0.1**
ZEA				MLR	MLR		
	comp=N,400nm,18.0s						
ZEA				MLR	MLR		
	comp=Z,600nm,18.0s						
ULN	**Ulaanbaatar**	**26.43**	**326**	*e*P	**P**	**20 38 15.8**	**-1.4**
	comp=Z,69nm,1.1s						
ULN	**Ulaanbaatar**	**26.43**	**326**	*ce*P	**P**	**20 38 16.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,85nm,1.7s						
ULN	**Ulaanbaatar**	**26.43**	**326**	P	**P**	**20 38 17.0**	**-0.2**
	SNR=30						
ULN				P	**P**	**20 38 17.0**	**-0.2**
	SNR=30						
TNTI	**Ternate**	**26.45**	**182**	*e*P	**P**	**20 38 21.6**	**+4.2**
	comp=Z,63nm,1.1s						
TNTI	**Ternate**	**26.45**	**182**	P	pP	20 38 32.2	+1.3
GTA	**Gaotai**	**26.66**	**304**	⇑P	**P**	**20 38 17.6**	**-1.7**
GTA				pP	pP	20 38 27.5	-5.1
GTA				sP	sP	20 38 31.0	-8.0
GTA				PcP	**PcP**	**20 41 43.2**	**+1.2**
GTA				S	**S**	**20 42 43.6**	**-7.2**
GTA				PcS	**PcS**	**20 45 22.6**	**-0.8**
GTA				pmax	pmax		
	comp=Z,130nm,0.7s						
GTA				pmax	pmax		
	comp=Z,190nm,5.6s						
GTA				LR	LR		
	comp=Z,540nm,16.5s						
GTA				LR	LR		

comp=Z,690nm,17.1s
GTA LR LR
comp=Z,1µm,18.1s
SONA0 Songino Array 26.73 326 *e*P **P** **20 38 19.2 -0.6**
SONA0 *e*PcP **PcP** **20 41 41.6 -0.4**
SONM Songino Array 26.73 326 P **P** **20 38 19.2 -0.6**
comp=Z,26nm,0.8s,baz=135,slow=9.3,SNR=39
SONM PcP **PcP** **20 41 41.6 -0.4**
comp=Z,1.7nm,0.9s,baz=140,slow=2.1,SNR=2.9
SONM LR LR 20 50 08.7
comp=Z,718nm,20.2s,baz=144,slow=39
NKL Nikolayevsk 27.32 16 *e*P **P** **20 38 24.8 -0.1**
NKL pmax pmax
comp=Z,21nm,1.0s
PAYA Payao 27.38 259 P **P** **20 38 27.0 +1.1**
comp=Z,7.5nm,0.8s
UTTA Uttaradit 27.44 255 P **P** **20 38 26.6 +0.3**
comp=Z,9.7nm,1.0s,comp=Z,76nm
MRSI Marisa 27.45 194 P **P** **20 38 26.4 0.0**
PBKT Sadao Pong 27.60 253 *e*P **P** **20 38 27.8 0.0**
comp=Z,32nm0.9s
PBKT Sadao Pong 27.60 253 P **P** **20 38 28.4 +0.6**
comp=Z,42nm,1.3s,comp=Z,1µm
LAMP Lampang 27.91 258 P **P** **20 38 31.3 +0.7**
comp=Z,24nm,0.9s,comp=Z,178nm
SUKH Sukhothai 28.35 256 P **P** **20 38 35.9 +1.5**
comp=Z,4.3nm,1.1s
CMMT Chiang Mai 28.40 259 P **P** **20 38 35.1 +0.2**
comp=Z,43nm,1.1s,comp=Z,445nm
CHTO Chiang Mai 28.40 259 *e*P **P** **20 38 34.9 0.0**
comp=Z,38nm,0.9s
CHTO *e*PcP **PcP** **20 41 46.5 +0.2**
CHTO Chiang Mai 28.40 259 *e*P **P** **20 38 34.9 0.0**
CHTO *e* 20 41 46.6
CHTO pmax pmax
comp=Z,38nm,0.9s
CHTO Chiang Mai 28.40 259 P **P** **20 38 35.2 +0.3**
SNR=14
CHTO Chiang Mai 28.40 259 P **P** **20 38 35.2 +0.3**
comp=Z,193nm,1.2s
CM31 Chiang Mai Arr 28.54 258 *e*P **P** **20 38 36.4 +0.2**
CM31 Chiang Mai Arr 28.54 258 P **P** **20 38 36.4 +0.2**
SNR=10
CMAR Chiang Mai Arr 28.54 258 *i* P **P** **20 38 36.5 +0.3**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 28.54 258 P **P** **20 38 36.0 -0.1**
comp=Z,8.7nm,0.9s,baz=56,slow=7.3,SNR=76
CMAR PcP **PcP** **20 41 47.2 +0.5**
comp=Z,6.4nm,0.8s,baz=39,slow=1.3,SNR=19
CMAR LR LR 20 51 38.3
comp=Z,428nm,18.4s,baz=70,slow=40
CM01 Chiang Mai Arr 28.54 258 *e*P **P** **20 38 35.2 -1.0**
CM01 *e*PcP **PcP** **20 41 47.7 +1.0**
SBUM Sibu 29.24 215 *e*P **P** **20 38 42.1 -0.3**
comp=Z,29nm,1.5s
SBUM Sibu 29.24 215 P **P** **20 38 44.8 +2.4**
SANI Sanana 29.33 185 P **P** **20 38 40.8 -2.3**
UTHA Uthaitani 29.37 252 P **P** **20 38 45.3 +1.8**
comp=Z,4.9nm,1.3s,comp=Z,56nm
UMPA Umpang Tak 29.57 254 P **P** **20 38 47.8 +2.5**
comp=Z,12nm,1.1s,comp=Z,101nm
ZAK Zakamensk 29.95 327 *e*P **P** **20 38 49.0 +0.5**
SRDT SRDT 30.23 251 P **P** **20 38 53.8 +2.7**
comp=Z,24nm,1.2s,comp=Z,1µm
FAKI Fak Fak 30.32 172 *e*P **P** **20 38 54.3 +2.4**
comp=Z,66nm,0.8s
FAKI Fak Fak 30.32 172 P **P** **20 38 50.0 -1.9**
PHET Kaeng Krachan 30.55 248 P **P** **20 38 56.6 +2.6**
comp=Z,6.6nm,1.2s
TLY Talaya 30.65 329 *e*P **P** **20 38 53.6 -1.0**
comp=Z,6.5nm,1.0s
TLY Talaya 30.65 329 *e*P **P** **20 38 51.2 -3.3**
TLY pmax pmax
comp=Z,11nm,1.3s
TLY MLR MLR
comp=Z,1µm,17.0s
KSM Kuching 31.07 217 *e*P **P** **20 38 59.0 +0.5**
comp=Z,14nm,0.9s
SKR Severo-Kuril's 31.37 35 *e*P P 20 38 55.5 -5.3
SKR pmax pmax
comp=Z,500nm,3.7s
SKR MLR MLR
comp=Z,400nm,19.0s
MOY Mondy 31.89 327 *e*P **P** **20 39 05.8 +0.3**
SHL Shillong 32.72 275 *e*P **P** **20 39 12.3 -1.0**
comp=Z,93nm,1.5s
SHL Shillong 32.72 275 *e*P **P** **20 39 12.3 -1.0**
SHL pmax pmax
comp=Z,93nm,1.5s
SHL Shillong 32.72 275 *e*P **P** **20 39 13.5 +0.3**
LSA Lhasa 32.78 283 *e*P **P** **20 39 14.1 +0.1**
comp=Z,12nm,0.8s
LSA Lhasa 32.78 283 P **P** **20 39 14.2 +0.2**
LSA Lhasa 32.78 283 *e*P **P** **20 39 14.1 +0.1**
LSA pmax pmax
comp=Z,12nm,0.8s
BRDH Bariadhala 33.61 270 P **P** **20 39 19.1 -1.6**
comp=Z,86nm,0.4s,baz=163,slow=1.9,SNR=3.6
PEA0B Petropavlovsk- 33.63 32 *e*P **P** **20 39 20.5 -0.1**
comp=Z,66nm,0.9s
PEA0B Petropavlovsk- 33.63 32 *e*P **P** **20 39 20.5 -0.1**
PETK Petropavlovsk- 33.63 32 *e*P **P** **20 39 20.1 -0.5**
PETK Petropavlovsk- 33.63 32 P **P** **20 39 20.5 -0.1**
PETK pmax pmax
comp=Z,45nm,0.8s
PETK MLR MLR
comp=Z,229nm,21.2s
PETK Petropavlovsk- 33.63 32 P **P** **20 39 20.5 -0.1**
comp=Z,44nm,0.8s,baz=207,slow=6.1,SNR=48
PETK LR LR 20 52 22.1
comp=Z,229nm,21.2s,baz=228,slow=35
PEA1 Petropavlovsk- 33.64 32 *e*P **P** **20 39 20.5 -0.1**
PET Petropavlovsk 34.04 33⇑ *i*P **P** **20 39 24.4 +0.3**
PET *e*S **S** **20 44 43.6 -2.0**
PET pmax pmax
comp=Z,99nm,0.8s
PET MLR MLR
comp=Z,600nm,22.0s
KULM Kulim 34.39 235 *e*P **P** **20 39 28.5 +0.9**
comp=Z,53nm,1.3s
KULM Kulim 34.39 235 P **P** **20 39 29.1 +1.5**
IPM Ipoh 34.67 234 *e*P **P** **20 39 30.0 0.0**
comp=Z,61nm,1.2s
IPM Ipoh 34.67 234 P **P** **20 39 30.8 +0.8**
YAK Yakutsk 34.68 1 *e*P **P** **20 39 28.5 -1.0**
YAK *e**PP **pP** **20 39 43.5 +0.4**
YAK *e* 20 42 01.9
YAK *e*S **S** **20 44 57.3 +2.0**
YAK *e*SS **SnSn** **20 47 15.0 +2.9**
YAK pmax pmax
comp=Z,134nm,0.8s
YAK pmax pmax
comp=N,50nm,0.9s
YAK pmax pmax
comp=Z,345nm,3.2s
YAK pmax pmax
comp=N,370nm,3.3s
YAK pmax pmax
comp=E,300nm,3.0s
YAK smax smax
comp=N,449nm,3.3s
YAK smax smax
comp=E,247nm,3.7s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=N,2µm,20.0s
KGM Kluang 34.85 228 P **P** **20 39 32.8 +1.3**
MA2 Magadan 35.68 19 *e*P **P** **20 39 36.9 -1.3**
comp=N,6.9nm,0.7s
MA2 Magadan 35.68 19*ce*P **P** **20 39 37.0 -1.3**
MA2 pmax pmax
comp=Z,7.0nm,0.7s
H11N2 WAKE ISLAND Hy 35.93 94 T T 21 17 51.8
baz=292,slow=74
H11N1 WAKE ISLAND Hy 35.93 94 T T 21 17 51.1
baz=292,slow=74
H11N3 WAKE ISLAND Hy 35.95 94 T T 21 17 53.0
baz=292,slow=74
H11S3 WAKE ISLAND Hy 36.18 96 T T 21 17 56.2
baz=293,slow=75
H11S1 WAKE ISLAND Hy 36.18 96 T T 21 17 52.5
baz=293,slow=75
H11S2 WAKE ISLAND Hy 36.19 96 T T 21 17 57.6
baz=293,slow=75

WMQ Urumqi 36.59 308⇓ *i*P **P** **20 39 47.0 +0.7**
WMQ pP pP 20 39 59.9 +0.1
WMQ sP sP 20 40 03.6 -2.5
WMQ pmax pmax
comp=Z,54nm,1.1s
WMQ pmax pmax
comp=Z,280nm,4.5s
WMQ LR LR
comp=Z,350nm,23.3s
WMQ LR LR
comp=Z,2µm,27.3s
WMQ LR LR
comp=Z,1µm,26.3s
WMQ Urumqi 36.59 308 *e*P **P** **20 39 46.1 -0.2**
comp=Z,20nm,0.8s
WMQ Urumqi 36.59 308 *e*P **P** **20 39 46.1 -0.2**
WMQ pmax pmax
comp=Z,20nm,0.8s
SOEI Soe 37.12 187 *e*P **P** **20 39 55.1 +4.2**
comp=Z,45nm,1.0s
LHMI Lhok Sumawe 37.20 239 *e*P **P** **20 39 53.0 +1.3**
comp=Z,97nm,1.1s
PSI Prapat 37.34 234 *e*P **P** **20 39 53.0 +0.1**
comp=Z,26nm,1.2s
PSI *e*PcP **PcP** **20 42 10.9 -0.4**
PSI Prapat 37.34 234 P **P** **20 39 52.9 -0.1**
comp=Z,3.8nm,0.4s,baz=0.1,slow=5.3,SNR=7.1
PSI PcP **PcP** **20 42 11.3 -0.1**
comp=Z,3.3nm,0.5s,baz=180,slow=2.4,SNR=5.3
PSI LR LR 20 54 49.1
comp=Z,145nm,21.5s,baz=291,slow=36
JIRN Jiri 37.36 281 *e*P **P** **20 39 53.2 -0.2**
GUN Gumba 37.59 281 *e*P **P** **20 39 55.1 -0.2**
comp=Z,100nm,0.8s
BKNI Bangkinang 37.62 229 *e*P **P** **20 39 56.0 +0.8**
comp=Z,163nm,1.1s
BATI Baumata 37.63 188 LR LR 20 54 42.0
comp=Z,109nm,20.0s,baz=37,slow=35
PKI Pulchoki 38.06 281 *e*P **P** **20 39 58.8 -0.4**
comp=Z,104nm,0.9s
PKIN Phulchoki 38.07 281 *e*P **P** **20 39 58.8 -0.4**
comp=Z,74nm,0.8s
KKN Kakani 38.13 281 *e*P **P** **20 39 59.4 -0.3**
comp=Z,100nm,0.9s
JAGI Jajag, Banyuwa 38.22 203 *e*P **P** **20 40 01.7 +1.5**
comp=Z,76nm,0.9s
DMN Daman 38.32 281 *e*P **P** **20 40 01.1 -0.2**
comp=Z,125nm,1.1s
GKN Gorkha 38.66 281 *e*P **P** **20 40 03.8 -0.3**
RABL Rabaul 38.83 140 *e*P **P** **20 40 05.0 -0.3**
comp=Z,345nm,1.4s
SEY Seymchan 38.89 17 *i*P **P** **20 40 03.4 -1.9**
GSI Gunungsitoli 39.34 234 *e*P **P** **20 40 10.8 +1.2**
comp=Z,33nm,0.9s
DANN Dangsing 39.37 282 *e*P **P** **20 40 10.4 +0.3**
comp=Z,184nm,0.8s
LEM Lembang 39.52 214 P **P** **20 40 11.7 +0.4**
comp=Z,18nm,0.7s,baz=340,slow=21,SNR=5.6
LEM LR LR 20 56 01.4
comp=Z,92nm,21.6s,baz=20,slow=35
KOLN Koldanda 39.60 281 *e*P **P** **20 40 11.9 -0.1**
comp=Z,142nm,1.0s
MTN Manton Dam 40.04 176 *e*P **P** **20 40 15.7 +0.3**
comp=Z,65nm,0.9s
PYUN Piuthan 40.08 282 *e*P **P** **20 40 16.0 0.0**
comp=Z,203nm,1.0s
MK01 Makanchi Array 40.94 311 *e*P **P** **20 40 20.7 -1.9**
MK31 Makanchi Array 40.95 311 *e*P **P** **20 40 21.2 -1.5**
comp=Z,9.4nm,0.8s
MK31 Makanchi Array 40.95 311 *e*P **P** **20 40 21.2 -1.5**
MK31 pmax pmax
comp=Z,9.0nm,0.8s
MK32 Makanchi Array 40.95 311 *e*P **P** **20 40 21.9 -0.7**
MK32 *e*PcP **PcP** **20 42 22.1 -0.1**
MKAR Makanchi Array 40.95 311 P **P** **20 40 21.9 -0.7**
comp=Z,10nm,0.6s,baz=97,slow=8.4,SNR=111
MKAR PcP **PcP** **20 42 22.1 -0.1**
comp=Z,7.6nm,0.8s,baz=74,slow=5.2,SNR=7.3
MKAR LR LR 20 59 47.2
comp=Z,358nm,18.2s,baz=95,slow=40
MAKZ Makanchi 41.16 311 *e*P **P** **20 40 23.0 -1.5**
comp=Z,19nm,1.1s
MAKZ Makanchi 41.16 311 *e*P **P** **20 40 23.0 -1.5**
MAKZ pmax pmax
comp=Z,19nm,1.1s
ZAA0 Zalesovo Array 41.48 322 *e*P **P** **20 40 24.6 -2.3**
comp=Z,12nm,0.7s
ZAA0 *e*PcP **PcP** **20 42 22.9 -0.7**
ZALV Zalesovo Beam 41.48 322 *e*P **P** **20 40 25.1 -1.8**
ZALV *e*PcP **PcP** **20 42 22.6 -1.1**
ZALV Zalesovo Beam 41.48 322 *e*P **P** **20 40 25.1 -1.8**
ZALV *e* 20 42 22.6
ZALV Zalesovo Beam 41.48 322 P **P** **20 40 24.7 -2.2**
comp=Z,10nm,0.6s,baz=109,slow=8.0,SNR=50
ZALV PcP **PcP** **20 42 22.8 -0.9**
comp=Z,8.2nm,0.9s,baz=111,slow=3.3,SNR=6.4
ZALV LR LR 20 59 38.5
comp=Z,771nm,18.5s,baz=76,slow=39
ZAA1 Zalesovo Array 41.49 322 *e*P **P** **20 40 24.7 -2.2**
ZAA1 *e*PcP **PcP** **20 42 22.8 -0.9**
NVS Novosibirsk 42.68 323 *e*P **P** **20 40 35.5 -1.1**
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS pmax pmax
comp=Z,12nm,1.3s
PRZ Przheval'sk 43.12 304 *e*P **P** **20 40 40.2 -0.4**
comp=Z,48nm,0.8s
PRZ Przheval'sk 43.12 304 *e*P **P** **20 40 40.3 -0.4**
PRZ pmax pmax
comp=Z,48nm,0.8s
COEN Coen 43.48 159 *e*P **P** **20 40 44.3 +0.8**
comp=Z,56nm,1.2s
COEN *e*pP **pP** **20 40 55.8 -1.6**
TARG Taragay, Kyrgy 43.52 303 *e*P **P** **20 40 44.4 +0.3**
comp=Z,64nm,0.9s
KDJ Kajisay 44.00 303 *e*P **P** **20 40 48.2 +0.5**
comp=Z,65nm,0.9s
KURK Kurchatov 44.15 316 *e*P **P** **20 40 46.6 -2.0**
comp=Z,26nm,0.7s
KURK *e*PP **PP** **20 42 31.4 -0.7**
KURK Kurchatov 44.15 316 *e*P **P** **20 40 46.6 -2.0**
KURK *e* 20 42 31.5
KURK pmax pmax
comp=Z,26nm,0.7s
ULHL Ulahol 44.70 303 P **P** **20 40 54.3 +0.9**
SNR=7.3
NRN Naryn 44.86 302 *e*P **P** **20 40 55.0 +0.2**
comp=Z,35nm,0.8s
NRN *e*PcP **PcP** **20 42 35.9 +0.1**
NRN Naryn 44.86 302 *e*P **P** **20 40 55.0 +0.2**
NRN *e* 20 42 35.9
NRN pmax pmax
comp=Z,35nm,0.8s
KSH Kashi 44.88 300 P **P** **20 40 58.4 +3.7**
KSH sP sP 20 41 12.4 -2.3
KSH PcP **PP** **20 42 39.4 -0.8**
KSH S **S** **20 47 32.2 +3.4**
KSH pmax pmax
comp=Z,12nm,0.8s
KSH pmax pmax
comp=Z,100nm,7.5s
KSH LR LR
comp=Z,130nm,9.7s
KSH LR LR
comp=Z,130nm,8.3s
KSH LR LR
comp=Z,490nm,14.5s
NDI New Delhi 44.97 284 *e*P P 20 40 49.0 -6.4
TKM2 Tokmak 2 45.21 304 P **P** **20 40 58.5 +1.1**
SNR=40
FITZ Fitzroy Crossi 45.27 184 *e*P **P** **20 40 58.1 +0.4**
comp=Z,32nm,1.4s
FITZ *e*PcP **PcP** **20 42 37.2 +0.3**
FITZ Fitzroy Crossi 45.27 184 P **P** **20 40 57.1 -0.5**
comp=Z,8.9nm,0.8s,baz=1.3,slow=6.0,SNR=16
FITZ LR LR 20 59 31.9
comp=Z,106nm,22.0s,baz=14,slow=36
KZA Kyzart 45.44 303 P **P** **20 41 00.9 +1.4**
SNR=27
KBK Karagaybulak 45.67 304 P **P** **20 41 02.3 +1.2**
SNR=43
CHMS Chumysh 45.83 304 P **P** **20 41 02.8 +0.7**
SNR=44
FRU Bishkek 45.92 304 *e*P **P** **20 41 02.0 -0.8**
FRU pmax pmax
comp=Z,47nm,1.7s

UCH Uchtor 45.99 303 P **P** **20 41 05.4 +1.6**
SNR=124
AAK Ala-Archa 46.01 304 P **P** **20 41 04.3 +0.6**
SNR=16
AAK Ala-Archa 46.01 304 *e*P **P** **20 41 04.2 +0.6**
comp=Z,14nm,0.8s
AAK Ala-Archa 46.01 304 *e*P **P** **20 41 04.2 +0.5**
AAK pmax pmax
comp=Z,14nm,0.8s
USP Ospenovka 46.02 305 P **P** **20 41 04.1 +0.5**
SNR=15
EKS2 Erkin-Say 46.54 304 P **P** **20 41 08.3 +0.6**
SNR=18
BILL Bilibino 46.54 19 *e*P **P** **20 41 06.8 -0.5**
comp=Z,26nm,1.2s
BILL *e*PcP **PcP** **20 42 41.4 +0.7**
BILL Bilibino 46.54 19*c i*P **P** **20 41 06.5 -0.7**
BILL *i* 20 42 41.7
BILL *e* 20 42 57.6
BILL *i*S S 20 48 14.5 +23
BILL *e*SS **SS** **20 51 12.8 -4.9**
BILL pmax pmax
comp=Z,23nm,1.0s
BILL MLR MLR
comp=Z,400nm,18.0s
AML Almayashu 46.59 303 P **P** **20 41 09.5 +0.9**
SNR=22
HYB Hyderabad 46.94 269 *i*P **P** **20 41 11.0 -0.1**
KIWB Kanaga Island 47.17 43 *e*P **P** **20 41 11.9 -0.4**
WRAB Tennant Creek 47.35 172 *e*P **P** **20 41 14.3 +0.2**
comp=Z,76nm,1.6s
WRAB Tennant Creek 47.35 172*ce*P **P** **20 41 13.3 -0.8**
WRAB pmax pmax
comp=Z,41nm,1.3s
WR1 Warramunga Arr 47.36 172 *e*P **P** **20 41 14.1 -0.1**
comp=Z,40nm,1.1s
WRA Warramunga Arr 47.36 172 P **P** **20 41 14.1 -0.1**
comp=Z,3.3nm,0.5s,baz=352,slow=8.0,SNR=30
WRA LR LR 21 00 45.5
comp=Z,225nm,21.4s,baz=350,slow=36
WB2 Warramunga Arr 47.36 172 *e*P **P** **20 41 13.4 -0.7**
ADK Adak 47.46 43 *e*P **P** **20 41 14.9 +0.3**
comp=Z,60nm,1.0s
ADK Adak 47.46 43 *e*P **P** **20 41 14.9 +0.3**
ADK pmax pmax
comp=Z,60nm,1.0s
NIL Nilore 47.52 292 *e*P **P** **20 41 15.1 -0.3**
comp=Z,44nm,0.8s
HNR Honiara 47.63 136 *e*P **P** **20 41 18.6 +2.3**
comp=Z,73nm,0.8s
HNR Honiara 47.63 136 *e*P **P** **20 41 18.6 +2.3**
HNR pmax pmax
comp=Z,73nm,0.8s
NRIK Noril'sk 48.25 342 P **P** **20 41 19.2 -1.3**
comp=Z,16nm,0.9s,baz=121,slow=8.5,SNR=14
NRIK PcP **PcP** **20 42 46.4 -0.4**
comp=Z,11nm,0.8s,baz=138,slow=3.2,SNR=5.3
NRIK LR LR 21 03 41.8
comp=Z,836nm,18.9s,baz=132,slow=39
KK31 Karatay Array 48.94 305 *e*P **P** **20 41 26.5 +0.3**
KK31 *e*PcP **PcP** **20 42 49.2 -0.5**
KK31 Karatay Array 48.94 305 *e*P **P** **20 41 26.5 +0.3**
KK31 *e* 20 42 49.2
KKAR Karatay Array 48.94 305 *e*P **P** **20 41 26.3 +0.1**
comp=Z,37nm,0.9s
KKAR *e*PcP **PcP** **20 42 49.2 -0.5**
KKAR Karatay Array 48.94 305 *e*P **P** **20 41 26.3 +0.1**
KKAR *e* 20 42 49.2
KKAR pmax pmax
comp=Z,37nm,0.9s
GAR Garm 49.29 299 *e*P **P** **20 41 27.6 -1.5**
comp=Z,74nm,1.1s
GAR *e*PcP **PcP** **20 42 50.4 -0.8**
GAR Garm 49.29 299 *e*P **P** **20 41 27.6 -1.5**
GAR *e* 20 42 50.4
GAR pmax pmax
comp=Z,74nm,1.1s
PALK Pallekele 49.41 255 *e*P **P** **20 41 30.5 +0.3**
comp=Z,36nm,1.2s
PALK Pallekele 49.41 255 P **P** **20 41 30.8 +0.6**
PALK Pallekele 49.41 255 P **P** **20 41 29.2 -1.0**
comp=Z,15nm,1.0s,baz=116,slow=7.9,SNR=3.8
BRVK Borovoye 49.65 318 *e*P **P** **20 41 29.8 -1.6**
comp=Z,57nm,0.8s
BRVK *e*PcP **PcP** **20 42 51.7 -0.4**
BRVK Borovoye 49.65 318⇑ *i*P **P** **20 41 30.1 -1.3**
BRVK pmax pmax
comp=Z,52nm,0.8s
BRVK Borovoye 49.65 318 P **P** **20 41 31.1 -0.4**
SNR=22
BRVK P **P** **20 41 31.1 -0.4**
SNR=22
CTAO Charters Tower 50.21 158 *e*P **P** **20 41 37.2 +1.2**
comp=Z,41nm,1.0s
CTAO Charters Tower 50.21 158 *e*P **P** **20 41 37.3 +1.2**
CTAO pmax pmax
comp=Z,41nm,1.0s
KBL Kabul 50.84 294 *e*P **P** **20 41 40.9 -0.1**
comp=Z,62nm,0.8s
KBL *e*PcP **PcP** **20 42 57.3 +0.1**
KBL Kabul 50.84 294 *e*P **P** **20 41 40.9 -0.1**
KBL *e* 20 42 57.3
KBL pmax pmax
comp=Z,62nm,0.8s
AS31 Alice Springs 51.00 174 *e*P **P** **20 41 42.6 +0.6**
comp=Z,4.7nm,0.8s
ASAR Alice Springs 51.00 174 P **P** **20 41 42.2 +0.3**
comp=Z,6.1nm,0.9s,baz=358,slow=6.6,SNR=37
ASAR LR LR 21 02 12.4
comp=Z,156nm,21.9s,baz=357,slow=35
AS01 Alice Springs 51.00 174 *e*P **P** **20 41 42.3 +0.4**
NIKH Nikolski High 52.35 43 *e*P **P** **20 41 52.6 +1.0**
comp=Z,102nm,1.2s
GAMB Gambell 52.55 29 *e*P **P** **20 41 52.3 -0.6**
comp=Z,30nm,1.0s
AKUT Akutan 54.24 41 *e*P **P** **20 42 07.2 +1.7**
comp=Z,198nm,1.5s
ANM Nome 55.42 29 *e*P **P** **20 42 15.2 +1.2**
comp=Z,50nm,0.9s
ANM Nome 55.42 29 *e*P **P** **20 42 15.2 +1.2**
ANM pmax pmax
comp=Z,50nm,0.9s
SVE Sverdlovsk 55.50 322⇓ *e*P **P** **20 42 14.1 -0.5**
SVE pmax pmax
comp=Z,34nm,0.9s
SVE MLR MLR
comp=Z,821nm,12.0s
MNCI Minicoy 55.58 261 *e*P **P** **20 42 16.6 +0.8**
comp=Z,176nm,1.5s
ABKAR Akbulak array 56.03 313 *e*P **P** **20 42 17.2 -1.3**
comp=Z,36nm,0.8s
ARU Arti 56.64 321 *e*P **P** **20 42 21.4 -1.3**
comp=Z,27nm,0.7s
ARU Arti 56.64 321*c i*P **P** **20 42 21.5 -1.3**
ARU 20 44 24.4
ARU S **S** **20 50 12.7 +1.8**
ARU SS **SS** **20 53 56.8 -1.9**
ARU pmax pmax
comp=Z,32nm,0.8s
ARU MLR MLR
comp=Z,546nm,15.0s
RDOG Red Dog Mine 56.95 25 *e*P **P** **20 42 25.4 +0.6**
comp=Z,121nm,1.6s
MORW Morawa 57.35 193 *e*P **P** **20 42 28.3 +0.3**
comp=Z,49nm,1.6s
FORT Forrest 57.81 180 *e*P **P** **20 42 31.2 0.0**
comp=Z,44nm,1.0s
CHGN Chignik 58.44 39 *e*P **P** **20 42 37.9 +2.5**
comp=Z,262nm,1.9s
GEYT Alibeck 58.91 300 P **P** **20 42 38.8 -0.3**
comp=Z,11nm,0.7s,baz=56,slow=3.7,SNR=27
GEYT LR LR 21 11 35.7
comp=Z,357nm,20.8s,baz=60,slow=40
GYA0B ALIBECK ARRAY 58.91 300 *e*P **P** **20 42 39.4 +0.3**
comp=Z,14nm,0.8s
SVW2 Sparrevohn 59.71 33 *e*P **P** **20 42 45.0 +0.8**
comp=Z,36nm,1.0s
STKA Stephens Creek 60.22 167 *e*P **P** **20 42 47.9 -0.1**
comp=Z,2.3nm,0.8s
STKA Stephens Creek 60.22 167 *e*P **P** **20 42 47.9 -0.1**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 60.22 167 P **P** **20 42 47.8 -0.1**
comp=Z,3.6nm,0.6s,baz=346,slow=8.1,SNR=13
STKA LR LR 21 08 45.0
comp=Z,126nm,20.6s,baz=16,slow=36

BBOO **Buckleboo** 60.27 173 *e*P P 20 42 48.2 0.0
comp=Z,23nm,0.9s
IM3 **Indian Mountai** 60.39 27 *e*P P 20 42 49.6 +0.9
SII **Sitkinak Islan** 60.76 38 *e*P P 20 42 51.4 0.0
comp=Z,295nm,1.7s
NWAO **Narrogin (SRO)** 60.90 191 P P 20 42 52.0 -0.5
comp=Z,16nm,0.9s,baz=199,slow=6.6,SNR=4.0
RSO **Redoubt South** 61.13 34 *e*P P 20 42 54.9 +0.8
OHAK **Old Harbor** 61.18 37 *e*P P 20 42 54.1 -0.1
comp=Z,138nm,1.7s
PPLA **Purkeypile** 61.21 31 *e*P P 20 42 55.6 +1.1
comp=Z,31nm,0.9s
CAST **Castle Rocks** 61.22 30 *e*P P 20 42 55.6 +1.2
comp=Z,34nm,0.9s
DZM **Mont Dzumac** 61.35 139 *e*S S 20 51 15.8 +3.1
comp=Z,182nm,31.5s
DZM **Mont Dzumac** 61.35 139 *e*LR LR 21 01 18.5
comp=Z,548nm,23.1s
KIRV **Kirov** 61.45 324 LR LR 21 12 50.9
comp=Z,639nm,18.3s,baz=68,slow=39
KDAK **Kodiak Island** 61.49 37 *e*P P 20 42 56.6 +0.3
comp=Z,87nm,0.8s
KDAK **Kodiak Island** 61.49 37 *i*P P 20 42 56.9 +0.6
MLY **Manley** 61.69 28 *e*P P 20 42 59.0 +1.4
comp=Z,20nm,0.7s
COLD **Coldfoot** 61.76 26 *e*P P 20 42 59.3 +1.3
comp=Z,8.4nm,0.8s
TOLK **Toolik Lake Re** 61.91 24 *e*P P 20 43 00.1 +1.1
comp=Z,73nm,1.0s
TOLK **Toolik Lake Re** 61.91 24 P P 20 43 00.5 +1.5
baz=274
TRF **Thorofare Moun** 62.02 30 *e*P P 20 43 00.5 +0.5
comp=Z,15nm,1.0s
BRLK **Bradley Lake** 62.14 34 *e*P P 20 43 00.8 +0.1
comp=Z,84nm,1.0s
JLN **Jalan Bani Buh** 62.22 282 P P 20 43 01.7 -0.1
SNR=10
BWN **Browne** 62.31 29 *e*P P 20 43 03.6 +1.8
comp=Z,61nm,0.9s
PINNC **Pines Island,** 62.35 139 *e*P P 20 43 04.4 +1.9
comp=Z,142nm,1.4s
WSAR **Wadi Sarin** 62.52 283 P P 20 43 03.7 -0.2
SNR=6.3
WSAR **Wadi Sarin** 62.52 283 P P 20 43 02.9 -0.9
comp=Z,37nm,0.8s,baz=102,slow=7.4,SNR=35
RC01 **Rabbit Creek A** 62.54 33 *e*P P 20 43 03.2 -0.1
comp=Z,41nm,1.0s
MCK **McKinley** 62.59 30 *e*P P 20 43 04.6 +0.9
comp=Z,60nm,1.2s
RND **Reindeer** 62.67 30 *e*P P 20 43 04.5 +0.3
comp=Z,83nm,0.9s
RND **Reindeer** 62.67 30 *e*P P 20 43 04.5 +0.3
RND pmax pmax
comp=Z,83nm,0.9s
MDM **Murphy Dome** 62.76 28 *e*P P 20 43 05.5 +0.8
comp=Z,58nm,0.8s
PMR **Palmer** 62.76 32 *e*P P 20 43 05.0 +0.2
comp=Z,54nm,1.2s
PMR **Palmer** 62.76 32 *e*P P 20 43 05.0 +0.2
PMR pmax pmax
comp=Z,54nm,1.2s
SEW **Seward** 62.81 34 *e*P P 20 43 05.3 +0.2
comp=Z,73nm,1.0s
BIDO **Bidbid** 62.86 284 P P 20 43 06.8 +0.7
SNR=6.9
WRH **Wood River Hil** 62.88 29 *e*P P 20 43 05.9 +0.4
comp=Z,16nm,0.8s
TCOL **CIGO, UAF Yank** 62.92 28 P P 20 43 07.4 +1.6
baz=277
COLA **College** 62.93 28 *e*P P 20 43 07.0 +1.2
comp=Z,25nm,0.6s
COLA **College** 62.93 28⇓ *e*P P 20 43 06.5 +0.7
COLA pmax pmax
comp=Z,10.0nm,0.8s
CCB **Clear Creek Bu** 62.98 29 *e*P P 20 43 06.4 +0.3
comp=Z,111nm,0.7s
POKR **Poker Plat Res** 63.08 28 P P 20 43 08.2 +1.4
baz=277
SMDO **Samad** 63.09 283 P P 20 43 08.1 +0.4
SNR=6.6
KNK **Knik Glacier** 63.11 32 *e*P P 20 43 07.4 +0.3
comp=Z,63nm,0.9s
SML **Sawmill** 63.11 32 *e*P P 20 43 07.8 +0.7
comp=Z,37nm,1.0s
SML **Sawmill** 63.11 32 *e*P P 20 43 07.8 +0.7
SML pmax pmax
comp=Z,37nm,1.0s
IL1 **Eielson Array** 63.35 29 *e*P P 20 43 08.2 -0.4
ILAR **Eielson Array** 63.35 29 P P 20 43 08.4 -0.2
comp=Z,6.9nm,0.7s,baz=274,slow=5.6,SNR=60
ILB **Eielson Array** 63.35 29 *e*P P 20 43 08.4 -0.2
DHY **Denali Highway** 63.37 30 *e*P P 20 43 09.1 +0.1
comp=Z,47nm,1.7s
HDA **Harding Lake** 63.37 29 *e*P P 20 43 08.8 0.0
comp=Z,40nm,0.9s
HDA **Harding Lake** 63.37 29 P P 20 43 09.0 +0.2
baz=278
SCM **Sheep Creek Mo** 63.58 32 *e*P P 20 43 11.1 +0.8
comp=Z,91nm,1.2s
SCM **Sheep Creek Mo** 63.58 32 *e*P P 20 43 11.1 +0.8
SCM pmax pmax
comp=Z,91nm,1.2s
BANOM **Banah** 63.64 287 *i*P P 20 43 11.9 +0.7
SNR=21
BANOM **Banah** 63.64 287 P P 20 43 11.8 +0.6
SNR=6.8
SHME **Shamm** 63.73 287 *i*P P 20 43 12.5 +0.7
SNR=12
FYU **Fort Yukon** 63.78 26 *e*P P 20 43 12.9 +1.5
comp=Z,89nm,1.4s
PRP **Porcupine Dome** 63.81 28 *e*P P 20 43 12.2 +0.3
comp=Z,20nm,0.8s
MHTO **MHTO** 63.88 281 P P 20 43 12.1 -0.7
SNR=15
MHTO P P 20 43 12.1 -0.7
SNR=15
MSFE **Esma-Masafi** 63.94 286 *i*P P 20 43 13.8 +0.5
SNR=6.8
SOHO **SOHO** 64.03 285 P P 20 43 13.7 0.0
SNR=9.7
HATD **Hatta, Dubai** 64.14 286 *i*P P 20 43 14.9 +0.4
SNR=9.1
HATD **Hatta, Dubai** 64.14 286 P P 20 43 14.5 0.0
SNR=7.8
HATD P P 20 43 14.5 0.0
SNR=7.8
PAX **Paxson** 64.25 30 *e*P P 20 43 15.8 +1.1
comp=Z,21nm,0.9s
PAX **Paxson** 64.25 30 *e*P P 20 43 15.8 +1.1
PAX pmax pmax
comp=Z,21nm,0.9s
ASHO **Ashiyiah** 64.25 286 *i*P P 20 43 15.4 +0.1
SNR=27
ASHO **Ashiyiah** 64.25 286 P P 20 43 15.3 0.0
SNR=13
KLU **Klutina** 64.30 32 *e*P P 20 43 15.7 +0.6
comp=Z,19nm,0.8s
RIDG **Independ'e Rid** 64.39 30 *e*P P 20 43 15.8 +0.2
comp=Z,34nm,1.1s
DIV **Divide** 64.44 32 *e*P P 20 43 16.7 +0.8
comp=Z,52nm,0.8s
NAZ **Nazwa, Dubai** 64.49 286 *i*P P 20 43 16.6 -0.1
SNR=7.2
NAZ **Nazwa, Dubai** 64.49 286 P P 20 43 16.7 0.0
SNR=11
NAZ P P 20 43 16.7 0.0
SNR=11
HARP **HAARP** 64.49 31 *e*P P 20 43 17.6 +1.4
comp=Z,79nm,1.0s
EYAK **Cordova Ski Ar** 64.55 33 *e*P P 20 43 17.6 +1.1
comp=Z,213nm,1.9s
FAQ **Al Faqa, Dubai** 64.63 286 *i*P P 20 43 17.7 0.0
SNR=47
FAQ **Al Faqa, Dubai** 64.63 286 P P 20 43 17.4 -0.3
SNR=14
DQM **DQM** 64.64 280 P P 20 43 17.0 -0.8
SNR=8.3
SCRK **Sand Creek** 64.72 29 *e*P P 20 43 18.1 +0.3
comp=Z,24nm,0.9s
ALNE **Al Ain** 64.73 285 *i*P P 20 43 18.3 -0.1
SNR=10
DOT **Dot Lake** 64.75 30 *e*P P 20 43 18.1 +0.2
comp=Z,35nm,0.9s
MENT **Mentasta** 65.04 30 *e*P P 20 43 21.0 +1.2
comp=Z,32nm,0.8s
AJN **Ajban** 65.21 286 P P 20 43 21.3 -0.2
SNR=7.1
AJN P P 20 43 21.3 -0.2
SNR=7.1
HMT **Hamilton** 65.32 33 *e*P P 20 43 22.5 +0.9
comp=Z,92nm,1.3s
EGAK **Eagle** 65.76 28 *e*P P 20 43 24.9 +0.6
comp=Z,18nm,0.9s
TMCR **Tamitsa** 65.92 331 *e*P P 20 43 24.7 -0.6
TMCR pmax pmax
comp=Z,58nm,0.8s
KLMR **Klimovskoe** 66.01 328 *e*P P 20 43 23.5 -2.4
KLMR pmax pmax
comp=Z,35nm,1.4s
KLMR **Klimovskoe** 66.01 328 *e*P P 20 43 23.6 -2.4
KLMR AMP 20 43 28.2
comp=Z,35nm,1.4s
BALM **Baldy** 66.08 32 *e*P P 20 43 27.4 +0.7
comp=Z,22nm,1.1s
LVZ **Lovozero** 66.38 336 *e*P P 20 43 27.2 -1.1
comp=Z,181nm,1.8s
LVZ **Lovozero** 66.38 336 *e*P P 20 43 27.2 -1.1
LVZ pmax pmax
comp=Z,181nm,1.8s
TOO **Toolangi** 66.53 165 *e*P P 20 43 30.8 +1.2
comp=Z,20nm,1.1s
TOO **Toolangi** 66.53 165 *e*P P 20 43 30.8 +1.2
TOO pmax pmax
comp=Z,20nm,1.1s
DAWY **Dawson** 66.68 29 *e*P P 20 43 30.6 +0.3
comp=Z,17nm,1.0s
GROC **Groznyy** 66.75 308 *e*P P 20 43 26.5 -4.5
GROC *e* 20 43 58.5
GROC *e*S S 20 52 20.9 +1.8
GROC pmax pmax
comp=Z,25nm,0.6s
APA **Apatity** 66.92 335⇓ *i*P P 20 43 29.7 -2.0
APA pmax pmax
comp=Z,9.0nm,1.2s
APA MLR MLR
comp=Z,2μm,17.0s
EPYK **Eagle Plains** 67.16 26 *e*P P 20 43 34.2 +0.9
comp=Z,44nm,0.9s
EPYK **Eagle Plains** 67.16 26 P P 20 43 34.4 +1.1
baz=286
VRH **Novokhopyorsk** 67.22 317 *e*P P 20 43 32.4 -1.5
VRH pmax pmax
comp=Z,50nm,0.8s
BCPM **Bancas Point** 67.66 33 *e*P P 20 43 36.2 -0.3
comp=Z,60nm,1.0s
SPA0 **Spitsbergen Ar** 67.77 348 *e*P P 20 43 37.1 +0.2
INK **Inuvik** 67.78 23 *e*P P 20 43 37.8 +0.7
comp=Z,80nm,1.5s
INK **Inuvik** 67.78 23 *e*P P 20 43 37.8 +0.7
INK pmax pmax
comp=Z,80nm,1.5s
TBLG **Delisi** 67.92 307 *e*P P 20 43 38.6 +0.1
comp=Z,19nm,1.0s
GOF **Gofitskoye** 68.11 310⇑ *i*P P 20 43 39.9 +0.3
GOF pmax pmax
comp=Z,70nm,0.9s
KBS **Kingsbay** 68.18 349 *e*P P 20 43 40.4 +0.9
comp=Z,86nm,1.3s
KBS **Kingsbay** 68.18 349 *e*P P 20 43 40.4 +0.9
KBS pmax pmax
comp=Z,80nm,1.3s
ZEI **Tsey** 68.20 308 *e*P P 20 43 39.6 -0.9
ZEI pmax pmax
comp=Z,39nm,0.8s
NCK **Nalchik** 68.20 309⇓ *i*P P 20 43 39.8 -0.4
NCK pmax pmax
comp=Z,12nm,0.6s
MOS **Moscow** 68.31 323 *e*P P 20 43 38.5 -2.1
MOS MLR MLR
comp=Z,1μm,20.0s
MOS MLR MLR
comp=N,400nm,17.0s
MOS MLR MLR
comp=E,700nm,18.0s
GNI **Garni** 68.40 305 *e*P P 20 43 42.0 +0.2
comp=E,32nm,1.0s
GNI **Garni** 68.40 305 P P 20 43 42.9 +1.1
KEV **Kevo** 68.47 338 *e*P P 20 43 41.1 -0.3
comp=E,158nm,1.6s
KEV **Kevo** 68.47 338 *e*P P 20 43 41.1 -0.3
KEV pmax pmax
comp=Z,158nm,1.6s
LPSR **Galich'ya Gora** 68.49 319 *e*P P 20 43 40.4 -1.4
LPSR pmax pmax
comp=Z,40nm,0.8s
KBZ **Khabaz** 68.61 309 P P 20 43 43.0 +0.3
comp=Z,41nm,0.9s,baz=91,slow=4.2,SNR=52
KBZ LR LR 21 16 39.6
comp=Z,203nm,20.2s,baz=66,slow=38
KIV **Kislovodsk** 68.69 309 *e*P P 20 43 43.7 +0.3
comp=Z,131nm,1.3s
KIV **Kislovodsk** 68.69 309⇓ *i*P P 20 43 44.1 +0.7
KIV **Kislovodsk** 68.69 309 *i*P P 20 43 43.6 +0.3
SNR=15
KIV **Kislovodsk** 68.69 309 *e*P P 20 43 43.2 -0.2
KIV pmax pmax
comp=Z,88nm,1.1s
KIV MLR MLR
comp=Z,173nm,17.0s
KIV **Kislovodsk** 68.69 309 P P 20 43 43.8 +0.3
SNR=11
VSR **Storozhevoye** 68.76 318⇑ *i*P P 20 43 41.6 -2.0
VSR pmax pmax
comp=Z,62nm,0.9s
ARA0 **ARCESS Array S** 69.04 338 *e*P P 20 43 44.6 -0.4
ARCES **ARCESS Array B** 69.04 338 P P 20 43 44.6 -0.4
comp=Z,15nm,0.9s,baz=63,slow=7.9,SNR=25
ARCES LR LR 21 18 22.2
comp=Z,126nm,20.7s,baz=120,slow=40
OBN **Obninsk** 69.07 322 *e*P P 20 43 44.4 -0.9
comp=Z,18nm,0.8s
OBN **Obninsk** 69.07 322⇑ *i*P P 20 43 43.9 -1.5
OBN *e* 20 44 08.2
OBN *e*S S 20 52 46.4 0.0
OBN pmax pmax
comp=Z,39nm,1.7s
OBN MLR MLR
comp=Z,736nm,19.0s
OBN **Obninsk** 69.07 322 LR LR 21 16 49.0
comp=Z,187nm,18.8s,baz=31,slow=38
WHY **Whitehorse** 69.69 31 *e*P P 20 43 50.3 +1.0
comp=Z,20nm,0.8s
SKAG **Skagway** 69.89 33 *e*P P 20 43 51.6 +1.3
comp=Z,27nm,1.0s
BESE **Bessie Mountai** 70.42 34 *e*P P 20 43 54.9 +1.2
comp=Z,28nm,1.3s
SIT **Sitka** 70.72 35 *e*P P 20 43 56.4 +0.9
comp=Z,41nm,1.1s
SIT **Sitka** 70.72 35 *e*P P 20 43 56.4 +0.9
SIT pmax pmax
comp=Z,41nm,1.1s
JIS **Juneau Island** 70.76 34 *e*P P 20 43 57.1 +1.4
comp=Z,31nm,1.0s
SOC **Sochi** 70.84 310 *e*P P 20 43 56.0 -0.5
SOC *e*PPP PPP 20 48 13.4
SOC *e*S S 20 53 07.5 -0.1
SOC *e*SS SS 20 57 38.5 -1.9
SOC pmax pmax
comp=Z,68nm,0.8s
SOC MLR MLR
comp=Z,251nm,15.0s
SIRT **Sirnak** 70.97 303 *e*P P 20 43 57.1 -0.4
comp=Z,91nm,1.0s
ANN **Anapa** 71.96 312 *e*P P 20 44 02.9 -0.3
ANN *e*S S 20 53 14.2 -6.3
ANN pmax pmax
comp=Z,135nm,1.5s
ANN MLR MLR
comp=Z,495nm,22.0s
FIA1 **FINESS Array S** 71.99 330 *e*P P 20 44 01.9 -1.1
comp=Z,18nm,0.8s
FIA0 **FINESS Array S** 71.99 330 *e*P P 20 44 02.5 -0.6
FIA0 **FINESS Array S** 71.99 330 *e*P P 20 44 02.5 -0.6
FINES **FINESS Array B** 71.99 330 P P 20 44 02.5 -0.6
comp=Z,15nm,0.7s,baz=69,slow=5.6,SNR=49
FINES LR LR 21 19 50.6
comp=Z,542nm,18.3s,baz=68,slow=39
CRAG **Craig** 72.44 36 *e*P P 20 44 07.0 +1.2
comp=Z,31nm,1.0s
WRAK **Wrangell Islan** 72.48 35 *e*P P 20 44 07.9 +1.9
comp=Z,20nm,0.8s
DLBC **Dease Lake** 72.82 33 *e*P P 20 44 09.3 +1.1
comp=Z,16nm,1.0s
VSU **Vasula** 72.91 327 *ce*P P 20 44 07.6 -1.0
VSU pmax pmax
comp=Z,261nm,2.5s
VSU **Vasula** 72.91 327 *e*P P 20 44 08.1 -0.5
VSU IAmb IAmb 20 44 09.7
comp=Z,72nm,0.7s
RAYN **Ar Rayn** 73.65 288 *e*P P 20 44 13.4 -0.3
comp=Z,77nm,1.1s
RAYN **Ar Rayn** 73.65 288 *i*P P 20 44 13.9 +0.2
SNR=77
RAYN **Ar Rayn** 73.65 288 *e*P P 20 44 13.4 -0.3
RAYN pmax pmax
comp=Z,77nm,1.1s
DIB **Dawson Inlet,** 73.69 38 *e*P P 20 44 14.2 +0.9
comp=Z,56nm,1.3s
SIM **Simferopol'** 74.10 313 *d*P P 20 44 16.0 +0.1
SIM pmax pmax
comp=Z,56nm,0.8s
SIM MLR MLR
comp=Z,240nm,19.9s
DAG **Danmarks Havn** 74.17 353⇑ *i*P P 20 44 15.0 -0.7
comp=Z,17nm,0.9s
DAG **Danmarks Havn** 74.17 353⇑ *i*P P 20 44 15.0 -0.7
DAG pmax pmax
comp=Z,15nm,0.9s
IDID **Didziasalis** 74.23 324 *e*P P 20 44 16.3 -0.2
IDID IAmb IAmb 20 44 18.0
comp=Z,17nm,0.9s
IZAR **Zarasai** 74.30 325 *e*P P 20 44 16.7 -0.1
IZAR IAmb IAmb 20 44 18.4
comp=Z,14nm,0.8s
NACGM **Naroch** 74.39 324 *e* P 20 44 17.0 -0.3
RES **Resolute Bay** 74.41 11 *e*P P 20 44 17.3 +0.2
comp=Z,44nm,0.9s
RES **Resolute Bay** 74.41 11 *e*P P 20 44 17.3 +0.2
RES pmax pmax
comp=Z,44nm,0.9s
ISAL **Salakas** 74.44 325 *e*P P 20 44 17.9 +0.3
ISAL IAmb IAmb 20 44 19.2
comp=Z,10nm,0.8s
IIGN **Ignalina** 74.48 325 *e*P P 20 44 17.9 0.0
IIGN IAmb IAmb 20 44 21.3
comp=Z,9.8nm,0.9s
AKASG **Malin Array Be** 74.81 319 P P 20 44 19.2 -0.7
AKASG pmax pmax
comp=Z,34nm,0.8s
AKASG MLR MLR
comp=Z,811nm,19.4s
AKASG **Malin Array Be** 74.81 319 P P 20 44 19.2 -0.7
comp=Z,29nm,0.7s,baz=58,slow=6.2,SNR=102
AKASG LR LR 21 19 47.5
comp=Z,811nm,19.4s,baz=65,slow=38
AKBB **Malin Array Si** 74.81 319 *e*P P 20 44 18.6 -1.3
comp=Z,33nm,0.7s
KIEV **Kiev** 74.83 319 *e*P P 20 44 18.3 -1.6
comp=Z,32nm,0.7s
KIEV **Kiev** 74.83 319⇓ *i*P P 20 44 19.5 -0.4
KIEV **Kiev** 74.83 319 *i*P P 20 44 19.2 -0.8
SNR=22
KIEV **Kiev** 74.83 319 *e*P P 20 44 18.3 -1.6
KIEV pmax pmax
comp=Z,32nm,0.7s
AK11 **Malin Array Si** 74.86 319 *e*P P 20 44 19.7 -0.4
SIRC **Yozgat** 75.60 307 *i*P P 20 44 25.1 +0.3
SIRC IAML_P
comp=Z,323nm,0.7s
TULEG **Thule** 75.79 4 *e*P P 20 44 24.4 -0.7
comp=Z,60nm,0.9s
ILGA **Ilgaz** 75.91 309 *e*P P 20 44 25.4 -1.3
comp=Z,33nm,1.0s
YAHY **KAYSERI_Yahyal** 75.94 306 *i*P P 20 44 27.0 +0.2
YAHY IAML_P
comp=Z,566nm,0.7s
AVNS **Nevsehir-Avano** 76.03 307 *i*P P 20 44 27.3 +0.1
AVNS IAML_P
comp=Z,96nm,0.4s
CDAG **Cicekdag** 76.03 307 *i*P P 20 44 27.3 0.0
CDAG IAML_P
comp=Z,1μm,0.8s
DELI **KIRIKKALE** 76.20 308 *i*P P 20 44 28.2 0.0
DELI IAML_P
comp=Z,984nm,0.7s
PBUR **Paburg** 76.34 326 *e*P P 20 44 27.7 -0.8
PBUR IAmb IAmb 20 44 30.0
comp=Z,89nm,0.8s
BR101 **Keskin Array S** 76.51 308 *e*P P 20 44 29.9 -0.1
BR131 **Keskin Array S** 76.51 308 *e*P P 20 44 29.6 -0.4
BR131 **Keskin Array S** 76.51 308 P P 20 44 29.8 -0.2
SNR=20
BRTR **Keskin Array B** 76.51 308 P P 20 44 29.9 -0.1
comp=Z,46nm,0.9s,baz=97,slow=5.5,SNR=162
BRTR LR LR 21 22 47.6
comp=Z,94nm,20.3s,baz=72,slow=39
KIRS **Kırehir-Merke** 76.56 307 *i*P P 20 44 30.3 +0.1
KIRS IAML_P
comp=Z,799nm,0.8s
SUW **Suwalki** 76.67 324 *e*P P 20 44 30.1 -0.3
SUW **Suwalki** 76.67 324 *e*P P 20 44 30.2 -0.2
comp=Z,110nm,0.9s
SUW **Suwalki** 76.67 324 *e*P P 20 44 30.2 -0.2
SUW pmax pmax
comp=Z,110nm,0.9s
GULE **Gulek** 76.70 305 *i*P P 20 44 31.4 +0.2
GULE IAML_P
comp=Z,1μm,0.8s
AKSY **AKSARAY - Alti** 76.87 307 *i*P P 20 44 32.8 +0.8
AKSY IAML_P
comp=Z,510nm,0.9s
BBAL **Bala** 76.95 308 *i*P P 20 44 33.7 +1.2
BBAL IAML_P
comp=Z,724nm,0.8s
CMDR **Camlidere-ANKA** 77.00 309 *i*P P 20 44 33.3 +0.5
CMDR IAML_P
comp=Z,83nm,0.2s
ANTO **Ankara** 77.04 308 *e*P P 20 44 32.7 -0.2
comp=Z,60nm,1.0s
ANTO **Ankara** 77.04 308⇑ *i*P P 20 44 32.2 -0.7
ANTO **Ankara** 77.04 308 *e*P P 20 44 32.7 -0.2
ANTO pmax pmax
comp=Z,60nm,1.0s
ANTO **Ankara** 77.04 308 P P 20 44 33.0 0.0
SNR=5.7
ANTO P P 20 44 33.0 0.0
SNR=5.7
BR231 **Keskin MP Arra** 77.07 308 *e*P P 20 44 33.1 0.0
KERG **Konya-Eregli** 77.12 305 *i*P P 20 44 32.7 -0.8
KERG IAML_P
comp=Z,221nm,0.9s
BCAM **Yenicaga** 77.15 309 *i*P P 20 44 33.1 -0.5
BCAM IAML_P
comp=Z,436nm,0.8s
LEOM **Leova** 77.21 316⇑ *i*P P 20 44 33.3 -0.3
KKUL **Konya-Kulu** 77.25 308 *i*P P 20 44 34.4 +0.3
KKUL IAML_P
comp=Z,504nm,0.8s
YKW3 **Yellowknife Ar** 77.38 25 *e*P P 20 44 34.8 +0.6
YKA **Yellowknife Ar** 77.42 25 P P 20 44 35.4 +0.9
comp=Z,14nm,0.7s,baz=300,slow=5.5,SNR=117
YKB5 **Yellowknife Ar** 77.42 25 *e*P P 20 44 34.6 +0.2
TLCR 77.42 314⇑ *i*P P 20 44 34.7 -0.1
KIBS **BOLU** 77.46 309 *i*P P 20 44 35.9 +0.6
KIBS IAML_P
comp=Z,300nm,0.7s
BIR **Birlad** 77.69 316⇑ *i*P P 20 44 37.1 +0.8
CFR **Carcaliu** 77.86 315⇓ *i*P P 20 44 36.6 -0.6
AUMIH **MIHALICIK** 77.96 309 *i*P P 20 44 37.8 -0.3
MMAI **Mount Meron Ar** 78.00 301 LR LR 21 21 49.0
comp=Z,50nm,21.3s,baz=265,slow=38
TIRR **Tirgusor** 78.00 314 *e*P P 20 44 37.1 -0.9
comp=Z,18nm,1.0s
TIRR **Tirgusor** 78.00 314⇑ *i*P P 20 44 37.8 -0.2
TIRR **Tirgusor** 78.00 314 *e*P P 20 44 37.1 -0.9
TIRR pmax pmax
comp=Z,18nm,1.0s
PRAR **RASCA** 78.05 317⇑ *i*P P 20 44 37.9 -0.4
KDHN **Kadinhani** 78.09 307 *i*P P 20 44 38.4 -0.4
KDHN IAML_P
comp=Z,837nm,0.8s
AUSIV **SIVRIHISAR** 78.10 308 *i*P P 20 44 39.4 +0.5
NC405 **NORSAR Array S** 78.16 334 *e*P P 20 44 37.7 -0.9
comp=Z,98nm,0.8s
KONT **Konya--Tatoy** 78.16 307 *i*P P 20 44 39.5 +0.3
KONT IAML_P
comp=Z,373nm,0.4s
PETR **Petresti** 78.18 315⇑ *i*P P 20 44 40.2 +1.2
TESR **Tescani** 78.18 316⇑ *i*P P 20 44 38.9 -0.2

TLB Topalu 78.18 314⇑ *i*P P 20 44 39.3 +0.3
LVV L'vov 78.19 320 *e*P P 20 44 39.1 +0.1
LVV MLR MLR
comp=N,200nm,20.0s
LVV MLR MLR
comp=E,600nm,20.0s
LVV MLR MLR
comp=Z,700nm,20.0s
NC303 NORSAR Array S 78.23 334 *e*P P 20 44 38.4 -0.6
DAMY Dhamar 78.27 280 *e*P P 20 44 40.7 +0.2
comp=Z,36nm,1.1s
BIZ Bicaz 78.32 317⇓ *i*P P 20 44 39.7 -0.1
ERMK Ermenek 78.32 305 *i* P P 20 44 40.6 +0.3
ERMK IAML_P
comp=Z,3μm,0.6s
NB201 NORSAR Array S 78.36 334 *e*P P 20 44 39.2 -0.5
NB2 NORSAR Subarra 78.40 334 P P 20 44 39.1 -0.9
comp=Z,20nm,0.7s,baz=51,slow=5.6
NB2 NORSAR Subarra 78.40 334 P P 20 44 39.1 -0.9
baz=51,slow=5.6
NB200 NORSAR Array S 78.40 334 *e*P P 20 44 39.4 -0.7
NOA NORSAR Array B 78.40 334 P P 20 44 39.4 -0.7
comp=Z,40nm,0.8s,baz=51,slow=5.5,SNR=149
NOA LR LR 21 23 07.2
comp=Z,185nm,19.3s,baz=65,slow=39
VRI Vrincioaia 78.43 316⇑ *i*P P 20 44 40.9 +0.5
NC204 NORSAR Array S 78.43 334 *e*P P 20 44 39.7 -0.6
NC602 NORSAR Array S 78.45 333 *e*P P 20 44 38.9 -1.3
comp=Z,37nm,1.0s
NC602 NORSAR Array S 78.45 333 *e*P P 20 44 39.4 -0.8
PLOR Plostina 78.48 316⇑ *i*P P 20 44 41.2 +0.4
BUR08 Bucovina Ar. S 78.53 318 *e*P P 20 44 40.6 -0.5
BURAR Bucovina Array 78.54 318⇓ *i*P P 20 44 41.1 0.0
ICOR Ion Corvin 78.55 314⇑ *i*P P 20 44 41.8 +0.7
NBO00 NORSAR Array S 78.57 334 *e*P P 20 44 40.2 -0.8
DOGA KONYA_Doganhis 78.59 307 *i* P P 20 44 41.8 +0.2
DOGA IAML_P
comp=Z,1μm,0.8s
DOMB Dombas 78.61 335 *e*P P 20 44 40.9 -0.3
AMRR Amara 78.62 314⇑ *i*P P 20 44 42.4 +0.9
NAO01 NORSAR Array S 78.64 334 *e*P P 20 44 40.4 -0.9
comp=Z,24nm,0.8s
BORA Eskisehir 78.66 309 *i* P P 20 44 41.7 -0.2
BORA IAML_P
comp=Z,2μm,0.8s
PGOR Pogoanele 78.71 315⇑ *i*P P 20 44 43.7 +1.8
CSS Mathiatis 78.73 303 *e*P P 20 44 41.7 -0.7
comp=Z,51nm,0.7s
BOLV Bolvadin 78.83 308 *i* P P 20 44 43.8 +0.9
BOLV IAML_P
comp=Z,1μm,0.7s
MOL Molde 78.84 336 *e*P P 20 44 42.6 +0.3
ISR Istrita 78.89 315⇑ *i*P P 20 44 43.6 +0.6
OZUR 78.90 316⇑ *i*P P 20 44 43.8 +0.7
BEL Belsk 78.99 323 *e*P P 20 44 43.9 +0.5
BEL Belsk 78.99 323 *e*P P 20 44 43.9 +0.5
LEHL Lehliu 79.01 314⇓ *i*P P 20 44 44.2 +0.6
KWP Kalwaria Pacla 79.03 320 *e*P P 20 44 44.3 +0.6
KWP Kalwaria Pacla 79.03 320 *e*P P 20 44 44.2 +0.5
comp=Z,693nm,0.8s
KWP Kalwaria Pacla 79.03 320 *e*P P 20 44 44.3 +0.6
MLR Muntele Rosu 79.09 316 *e*P P 20 44 43.9 -0.3
comp=Z,56nm,1.1s
MLR Muntele Rosu 79.09 316⇑ *i*P P 20 44 44.5 +0.3
MLR Muntele Rosu 79.09 316 *e*P P 20 44 43.9 -0.3
MLR pmax pmax
comp=Z,56nm,1.1s
YLV Yalova 79.10 310⇓ *i*P P 20 44 44.0 -0.3
DOPR Dopca 79.21 316⇑ *i*P P 20 44 45.6 +0.9
SECR 79.22 315⇓ *i*P P 20 44 45.9 +1.1
OSL Oslo 79.25 333 *e*P P 20 44 44.6 0.0
BAGO Egridir - ISPA 79.26 307 *i* P P 20 44 45.0 -0.2
BAGO IAML_P
comp=Z,2μm,0.9s
SULR 79.27 315⇓ *i*P P 20 44 45.5 +0.5
AKN Aaknes 79.29 336 *e*P P 20 44 45.3 +0.5
ARCR ARCALIA 79.31 318⇑ *i*P P 20 44 46.4 +1.2
CTYL Yalikoy Yolu 79.42 311⇓ *i*P P 20 44 45.1 -0.8
ISP Isparta 79.52 307 *e*P P 20 44 46.0 -0.7
comp=Z,52nm,1.1s
ISP Isparta 79.52 307 *e*P P 20 44 46.0 -0.7
ISP pmax pmax
comp=Z,52nm,1.1s
BMR Baia Mare 79.53 318⇑ *i*P P 20 44 47.5 +1.1
VOIR 79.67 316⇓ *i*P P 20 44 47.4 +0.1
GDZ Gediz 79.69 309 *i* P P 20 44 47.2 -0.5
GDZ IAML_P
comp=Z,858nm,0.6s
MXZ Matakaoa Point 79.73 142 *e*P P 20 44 48.7 +1.3
comp=Z,96nm,1.6s
UZH Uzhgorod 79.76 320*de*P P 20 44 48.0 +0.4
UZH *e* 20 44 57.2
UZH *e* 20 47 53.4
UZH *e*S S 20 54 45.0 -1.3
UZH *e*SS SS 20 59 54.0 -1.1
PHSR Pinarhisar 79.86 312⇑ *i*P P 20 44 48.6 +0.3
TRPA Tarpa 79.87 319⇑ *i*P P 20 44 48.7 +0.5
TRPA Tarpa 79.87 319⇑ *e*P P 20 44 48.1 -0.1
KONO Kongsberg 79.88 333 *e*P P 20 44 47.6 -0.5
comp=Z,32nm,0.9s
KONO Kongsberg 79.88 333*ce*P P 20 44 48.2 +0.2
KONO pmax pmax
comp=Z,79nm,2.5s
KONO Kongsberg 79.88 333 *e*P P 20 44 48.0 -0.1
SUMG Summit 79.93 356 *e*P P 20 44 49.1 +0.5
comp=Z,58nm,0.8s
SUMG Summit 79.93 356 *i* P P 20 44 49.4 +0.8
comp=Z,160nm,0.9s
SUMG Summit 79.93 356 *i* P P 20 44 49.4 +0.8
SUMG pmax pmax
comp=Z,160nm,0.9s
CJR Cluj-Napoca 79.94 318⇑ *i*P P 20 44 49.6 +0.9
ARR Arges 79.96 316⇑ *i*P P 20 44 49.5 +0.6
KORT Korkueli 80.01 306 *i* P P 20 44 49.5 0.0
KORT IAML_P
comp=Z,92nm,0.4s
GKP Gorka Klasztor 80.09 325 *e*P P 20 44 49.8 +0.5
GKP Gorka Klasztor 80.09 325 *e*P P 20 44 49.8 +0.5
HUMR Humele 80.15 315⇓ *i*P P 20 44 49.4 -0.4
SCO Scoresbysund 80.18 350 *e*P P 20 44 49.8 +0.3
comp=Z,41nm,1.1s
SCO Scoresbysund 80.18 350 *i* P P 20 44 50.0 +0.5
comp=Z,41nm,1.1s
SCO Scoresbysund 80.18 350 *i* P P 20 44 50.0 +0.5
SCO pmax pmax
comp=Z,41nm,1.1s
USAK Uak-Merkez 80.18 308 *i* P P 20 44 50.0 -0.2
USAK IAML_P
comp=Z,442nm,0.8s
BSD Bornholm Skovb 80.21 328⇑ *i*P P 20 44 49.9 0.0
comp=Z,67nm,0.8s
BSD Bornholm Skovb 80.21 328⇑ *i*P P 20 44 49.9 0.0
BSD pmax pmax
comp=Z,67nm,0.8s
HYA Hoyanger 80.24 335 *e*P P 20 44 50.0 +0.1
ZIMR 80.32 314⇑ *i*P P 20 44 50.8 +0.1
OJC Ojcow 80.36 322 *e*P P 20 44 51.4 +0.5
OJC Ojcow 80.36 322 *e*P P 20 44 51.2 +0.3
comp=Z,72nm,0.8s
OJC Ojcow 80.36 322 *e*P P 20 44 51.4 +0.5
FOO Floro 80.37 336 *e*P P 20 44 50.6 0.0
DRGR 80.43 318⇓ *i*P P 20 44 51.4 0.0
LOT Lotru 80.45 316⇓ *i*P P 20 44 52.3 +0.7
GOLH Golhisar 80.47 307 *i* P P 20 44 52.3 +0.4
GOLH IAML_P
comp=Z,587nm,1.0s
NIE Niedzica 80.50 321 *e*P P 20 44 52.5 +0.8
NIE Niedzica 80.50 321 *e*P P 20 44 52.5 +0.8
MANT Manisa 80.60 308 *e*P P 20 44 52.5 -0.2
comp=Z,127nm,1.0s
LLLB Lillooet 80.69 37 *e*P P 20 44 53.8 +1.1
comp=Z,12nm,0.9s
VLAD Vladila 80.77 315⇓ *i*P P 20 44 53.5 +0.4
ODD1 Odda 80.88 334 *e*P P 20 44 53.4 -0.2
CRAR CRAIOVA 80.98 315⇑ *i*P P 20 45 05.5 +11
COP Copenhagen 81.04 329 *i* P P 20 44 54.8 +0.5
comp=Z,58nm,0.9s
COP Copenhagen 81.04 329 *i* P P 20 44 54.8 +0.5
COP pmax pmax
comp=Z,58nm,0.9s
ASK Askoy 81.05 335 *e*P P 20 44 53.6 -0.7
BER Bergen 81.07 335 *e*P P 20 44 53.9 -0.5
GZR Gura Zlata 81.09 317⇓ *i*P P 20 44 55.3 +0.4
LANS Liptovska Anna 81.10 321 *e*P P 20 44 56.0 +1.1
LANS Liptovska Anna 81.10 321 *e*P P 20 44 56.0 +1.1
SRE Strehaia 81.19 316⇑ *i*P P 20 44 56.5 +1.1
ALN Alexandroupoli 81.19 311 *e*P P 20 44 55.2 -0.2
comp=Z,25nm,0.9s
ALN Alexandroupoli 81.19 311 *e*P P 20 44 55.3 -0.2
ALN pmax pmax
comp=Z,25nm,0.9s
BLS5 Blasjo 81.27 334 *e*P P 20 44 55.7 +0.2
RGN Rugen 81.30 328 *e*P P 20 44 56.2 +0.5
comp=Z,90nm,1.0s
RGN Rugen 81.30 328 *e*P P 20 44 56.7 +1.0
comp=Z,90nm,1.0s,baz=52,slow=5.0
RDO Rodhopi 81.41 312 P P 20 44 56.5 -0.1
OKC Ostrava-Krasne 81.47 322 *e*P P 20 44 57.1 +0.4
OKC AMS AMS 21 24 10.0
comp=Z,700nm,19.6s
OKC Ostrava-Krasne 81.47 322 *e*P P 20 44 57.1 +0.4
OKC MLR MLR
comp=Z,700nm,19.6s
PSZ Piszkesteto 81.51 320 *e*P P 20 44 57.0 -0.1
comp=Z,20nm,1.0s
PSZ Piszkesteto 81.51 320⇑ *i*P P 20 44 57.2 +0.1
PSZ Piszkesteto 81.51 320 *e*P P 20 44 57.0 -0.1
PSZ pmax pmax
comp=Z,21nm,1.0s
PSZ Piszkesteto 81.51 320 *e*P P 20 44 57.0 -0.1
EZN Ezine 81.51 310⇓ *i*P P 20 44 57.5 +0.3
PUNG Punghina 81.55 316⇓ *i*P P 20 44 58.2 +0.9
HERR Herculane 81.57 316⇓ *i*P P 20 44 57.5 +0.1
D03D Eldon 81.64 41 P P 20 44 59.4 +1.7
baz=302
SNART Snartemo 81.67 333 *e*P P 20 44 58.0 +0.4
BZS Buzias 81.68 317⇓ *i*P P 20 44 57.3 -0.7
VYHS Vyhne 81.80 321 *e*P P 20 44 59.3 +0.7
VYHS pmax pmax
comp=Z,30nm,1.0s
VYHS Vyhne 81.80 321 *e*P P 20 44 59.3 +0.7
B05A Bryant 81.82 40 P P 20 45 00.2 +1.6
baz=302
MORC Moravsky Berou 81.83 322 *e*P P 20 44 59.0 +0.3
comp=Z,29nm,1.0s
MORC Moravsky Berou 81.83 322⇑ *i*P P 20 44 59.3 +0.6
MORC Moravsky Berou 81.83 322 *e*P P 20 44 59.0 +0.3
MORC pmax pmax
comp=Z,29nm,1.0s
MORC Moravsky Berou 81.83 322 *e*P P 20 44 59.1 +0.4
KMY Karmoy 81.87 334 *e*P P 20 44 59.2 +0.6
KSP Ksiaz 81.91 324 *e*P P 20 44 59.8 +0.7
KSP Ksiaz 81.91 324 *e*P P 20 44 59.8 +0.7
KOLL Kolacno 82.00 321 *e*P P 20 45 00.9 +1.3
KOLL Kolacno 82.00 321 *e*P P 20 45 00.9 +1.3
MUD Monsted U'grnd 82.03 331⇑ *i*P P 20 44 59.6 +0.1
comp=Z,79nm,0.9s
MUD Monsted U'grnd 82.03 331⇑ *i*P P 20 44 59.6 +0.1
MUD pmax pmax
comp=Z,79nm,0.9s
MDVR Moldovita 82.05 316⇑ *i*P P 20 44 59.9 -0.1
KRLC Kraliky 82.08 323 *e*P P 20 45 00.8 +0.8
KRLC Kraliky 82.08 323 *e*P P 20 45 00.8 +0.8
DPC Dobruska-Polom 82.17 323 *e*P P 20 45 01.2 +0.7
DPC AMS AMS 21 24 40.0
comp=Z,900nm,15.2s
DPC Dobruska-Polom 82.17 323 *e*P P 20 45 01.2 +0.7
DPC MLR MLR
comp=Z,900nm,15.2s
VTS Vitosha 82.19 314 *e*P P 20 45 01.4 +0.5
comp=Z,38nm,1.0s
VTS Vitosha 82.19 314⇑ *i*P P 20 45 01.5 +0.6
VTS Vitosha 82.19 314 P P 20 45 01.4 +0.5
VTS Vitosha 82.19 314 *e*P P 20 45 01.4 +0.5
VTS pmax pmax
comp=Z,38nm,1.0s
UPC Upice 82.25 323 *e*P P 20 45 01.5 +0.6
UPC AMS AMS 21 25 00.0
comp=Z,900nm,18.7s
UPC Upice 82.25 323 *e*P P 20 45 01.5 +0.6
UPC MLR MLR
comp=Z,900nm,18.7s
JAVC Velka Javorina 82.26 321 *e*P P 20 45 02.7 +1.7
RUE Ruedersdorf 82.27 326 *e*P P 20 45 01.8 +1.0
comp=Z,61nm,1.0s,baz=52,slow=5.0
RUE Ruedersdorf 82.27 326 *e*P P 20 45 00.8 -0.1
RUE IAmb IAmb 20 45 02.0
comp=Z,43nm,0.8s
NVR Nevrokopi 82.41 313 *e*P P 20 45 01.3 -0.6
NVR Nevrokopi 82.41 313 P P 20 45 01.3 -0.6
E04D Cinebar 82.45 41 P P 20 45 03.6 +1.6
baz=302
SMOL Smolenice 82.58 321 *e*P P 20 45 04.3 +1.7
SMOL Smolenice 82.58 321 *e*P P 20 45 04.3 +1.7
VRAC Vranov 82.60 322⇓ *i*P P 20 45 03.6 +0.8
VRAC Vranov 82.60 322 *e*P P 20 45 03.5 +0.8
C06D Leavenworth 82.68 39 P P 20 45 04.5 +1.3
baz=303
SRS Serrai 82.70 313 P P 20 45 01.7 -1.7
MODS Modra-Piesok 82.74 321 *e*P P 20 45 04.5 +1.0
MODS pmax pmax
comp=Z,42nm,1.1s
MODS Modra-Piesok 82.74 321 *e*P P 20 45 04.5 +1.0
KRUC Moravsky 82.85 322 *e*P P 20 45 04.5 +0.5
ZST Bratislava 82.94 321 *e*P P 20 45 04.7 +0.2
ZST Bratislava 82.94 321 *e*P P 20 45 04.7 +0.2
KARP Karpathos 82.97 306 *e*P P 20 45 04.7 -0.2
comp=Z,104nm,1.1s
PVCC Panska Ves 83.00 324 *e*P P 20 45 05.4 +0.7
PVCC *e*pP sP 20 45 23.4 -2.2
PVCC AMS AMS 21 25 20.0
comp=Z,700nm,16.9s
PVCC Panska Ves 83.00 324 *e*P P 20 45 05.4 +0.7
PVCC MLR MLR
comp=Z,700nm,16.9s
FRGS Fruska Gora 83.01 318⇑ *i*P P 20 45 04.4 -0.5
BSEG Bad Segeberg 83.08 328 *e*P P 20 45 05.9 +0.8
comp=Z,90nm,1.0s,baz=52,slow=5.0
BRG Berggiesshubel 83.12 325 *e*P P 20 45 05.7 +0.3
comp=Z,24nm,1.1s
BRG *e* 20 45 21.4
comp=Z,10nm,1.0s
BRG Berggiesshubel 83.12 325 *e*P P 20 45 05.9 +0.6
comp=Z,25nm,1.1s,baz=52,slow=5.0
BRG Berggiesshubel 83.12 325 *e*P P 20 45 05.7 +0.3
BRG *e* 20 45 21.4
BRG pmax pmax
comp=Z,24nm,1.1s
MORH Mrgy, Hungar 83.14 319⇑ *i*P P 20 45 05.0 -0.5
KNT Kendrikon 83.14 313 P P 20 45 05.2 -0.5
LTY Liberty 83.17 40 *e*P P 20 45 06.9 +1.1
comp=Z,28nm,1.4s
PLG Polygyros 83.17 312 *e*P P 20 45 05.3 -0.6
PLG Polygyros 83.17 312 P P 20 45 05.3 -0.6
PLG Polygyros 83.17 312 *e*P P 20 45 05.3 -0.6
TREC Trest 83.21 323 *e*P P 20 45 06.4 +0.5
TREC AMS AMS 21 25 00.0
comp=Z,600nm,18.0s
TREC Trest 83.21 323 *e*P P 20 45 06.4 +0.5
TREC MLR MLR
comp=Z,600nm,18.0s
GOPC GO Pecny, Ondr 83.23 323 *e*P P 20 45 06.5 +0.5
GOPC AMS AMS 21 25 20.0
comp=Z,600nm,20.9s
GOPC GO Pecny, Ondr 83.23 323 *e*P P 20 45 06.5 +0.5
GOPC MLR MLR
comp=Z,600nm,20.9s
PAIG Paliouri 83.24 312 P P 20 45 05.9 -0.3
VAY Valandovo 83.27 313 *i* P P 20 45 06.1 -0.3
B08A Colville Reser 83.31 38 *e*P P 20 45 07.5 +1.0
comp=Z,22nm,1.0s
PRU Pruhonice 83.32 324 *e*P P 20 45 06.9 +0.5
PRU *ex* x 20 45 16.1
PRU AMS AMS 21 25 40.0
comp=Z,700nm,15.3s
PRU Pruhonice 83.32 324 *e*P P 20 45 06.9 +0.5
PRU *e* 20 45 16.1
PRU MLR MLR
comp=Z,700nm,15.3s
STIP Stip 83.33 314 *i* P P 20 45 05.5 -1.1
CLL Collm 83.35 325⇑ *i*P P 20 45 07.5 +1.0
comp=Z,60nm,0.9s
CLL *e* 20 55 42.0
CLL *e* 20 56 55.0
CLL *e* 21 01 42.0
CLL LmH 21 19 00.0
comp=N,500nm,20.9s
CLL LmH 21 19 00.0
comp=E,400nm,21.2s
CLL Lm MLR 21 26 00.0
comp=Z,600nm,18.2s
CLL Collm 83.35 325⇑ *i*P P 20 45 07.5 +1.0
CLL pmax pmax
comp=Z,60nm,0.9s
CLL MLR MLR
comp=Z,600nm,18.2s
FBE Freiberg 83.40 325 *e*P P 20 45 07.6 +0.8
comp=Z,72nm,1.1s,baz=52,slow=5.0
J01E Myrtle Point 83.41 45 P P 20 45 08.8 +1.8
baz=302
H04D Lebanon 83.43 43 P P 20 45 09.1 +2.0
baz=302
DIVS Divibare 83.46 317 *e*P P 20 45 07.1 -0.2
comp=Z,39nm,0.9s
DIVS Divibare 83.46 317⇑ *i*P P 20 45 07.0 -0.4
I03D Drain, OR 83.49 44 P P 20 45 09.4 +2.0
baz=302
SOP Sopron 83.53 321 *e*P P 20 45 07.1 -0.4
ILULI Ilulissat 83.72 360 *e*P P 20 45 08.6 +0.6
comp=Z,39nm,1.0s
ILULI Ilulissat 83.72 360 *e*P P 20 45 08.6 +0.6
ILULI pmax pmax
comp=Z,39nm,1.0s
CONA Conrad Observa 83.78 321 *i* PcP P 20 45 09.8 +0.9
comp=Z,11nm,0.7s,SNR=12
K02D Willamette Mer 83.82 45 P P 20 45 10.7 +1.5
baz=302
G05D Wamic, OR 83.90 42 P P 20 45 11.2 +1.7
baz=303
BBLS Lazići 83.94 317⇑ *i*P P 20 45 10.0 +0.2
LIT Litokhoron 83.94 312 *e*P P 20 45 08.8 -1.0
LIT Litokhoron 83.94 312 P P 20 45 08.8 -1.0
LIT Litokhoron 83.94 312 *e*P P 20 45 08.8 -1.0
ASSE Asse, Remlinge 84.01 327 *e*P P 20 45 10.5 +0.6
comp=Z,124nm,1.8s,baz=52,slow=5.0
I04A Tendick Farm, 84.02 43 P P 20 45 11.6 +1.4
baz=303
E07A Sunnyside 84.03 40 *e*P P 20 45 11.7 +1.5
comp=Z,28nm,1.1s
NEUB Neuenburg 84.03 326 *e*P P 20 45 10.7 +0.7
comp=Z,98nm,1.0s,baz=52,slow=5.0
HLG Helgoland 84.04 329 *e*P P 20 45 10.5 +0.5
comp=Z,92nm,1.2s,baz=52,slow=5.0
NRDL Niedersach Rie 84.06 327 *e*P P 20 45 10.8 +0.8
comp=Z,62nm,1.2s,baz=52,slow=5.0
HAPS Han Pijesak,Bl 84.10 317 *e*P P 20 45 09.2 -1.5
KRUS Krusevo 84.10 314 *i* P P 20 45 10.0 -0.7
L02E Cave Junction 84.14 45 P P 20 45 12.3 +1.5
baz=302
TANN Tannenbergstha 84.15 325 *e*P P 20 45 11.1 +0.3
comp=Z,68nm,1.2s,baz=52,slow=5.0
IVA Berane 84.17 316⇑ *i*P P 20 45 10.0 -1.0
C09A Chrisman Ranch 84.22 39 *e*P P 20 45 12.1 +1.0
comp=Z,29nm,1.4s
PLE Pljevlja 84.23 316⇑ *i*P P 20 45 11.5 +0.1
GUNZ Gunzen 84.25 325 *e*P P 20 45 11.8 +0.6
comp=Z,58nm,1.0s,baz=52,slow=5.0
PLN Plauen 84.27 325 *e*P P 20 45 11.5 +0.3
comp=Z,36nm,1.1s,baz=52,slow=5.0
RETH Rethem/Aller, 84.27 328 *e*P P 20 45 11.7 +0.5
comp=Z,77nm,1.1s,baz=52,slow=5.0
NKC Novy Kostel 84.27 325 *e*P P 20 45 12.1 +0.8
NKC Novy Kostel 84.27 325 *e*P P 20 45 12.1 +0.8
PVY Plav 84.27 315⇑ *i*P P 20 45 10.8 -0.8
WERN Wernitzgruen 84.27 325 *e*P P 20 45 11.9 +0.5
comp=Z,69nm,1.1s,baz=52,slow=5.0
D08A Wollman Farm, 84.28 39 *e*P P 20 45 12.7 +1.3
comp=Z,56nm,0.8s
ATAL Atalanti 84.30 311 *e*P P 20 45 09.8 -1.9
ATAL Atalanti 84.30 311 P P 20 45 09.8 -1.9
HAWA Hanford 84.30 40 *e*P P 20 45 13.2 +1.7
comp=Z,18nm,1.0s
G06A Carlson Farm, 84.30 42 *e*P P 20 45 13.2 +1.6
comp=Z,81nm,1.9s
KZN Kozani 84.31 313 P P 20 45 10.7 -1.1
FNA Florina 84.32 313 *e*P P 20 45 10.8 -1.0
comp=Z,102nm,0.6s
FNA Florina 84.32 313 *e*P P 20 45 10.8 -1.0
FNA pmax pmax
comp=Z,102nm,0.6s
KHC Kasperske Hory 84.33 323 *e*P P 20 45 11.6 0.0
comp=Z,14nm,1.2s
KHC Kasperske Hory 84.33 323 *e*P P 20 45 12.1 +0.5
KHC *es*P sP 20 45 31.0 -1.6
KHC AMS AMS 21 26 20.0
comp=Z,600nm,18.4s
KHC Kasperske Hory 84.33 323 *e*P P 20 45 12.1 +0.5
KHC MLR MLR
comp=Z,600nm,18.4s
CLZ Clausthal 84.34 327 *e*P P 20 45 12.3 +0.7
comp=Z,128nm,1.0s,baz=52,slow=5.0
ARSA Arzberg 84.35 321 *i* PcP P 20 45 12.5 +0.7
comp=Z,18nm,1.7s
I05D Terrebonne, OR 84.38 43 P P 20 45 13.5 +1.5
baz=303
KOME Kolasin 84.41 316⇑ *i*P P 20 45 12.1 -0.2
GEC2 GERESS Array S 84.43 323 *e*P P 20 45 12.3 +0.1
comp=Z,28nm,1.0s
GEC2 GERESS Array S 84.43 323 *e*P P 20 45 12.5 +0.3
comp=Z,36nm,1.2s,baz=52,slow=5.0
GERES GERESS Array B 84.43 323 P P 20 45 12.4 +0.2
comp=Z,10nm,0.8s,baz=45,slow=4.5,SNR=73
GERES LR LR 21 26 04.8
comp=Z,248nm,19.8s,baz=64,slow=38
GEA0 GERESS Array S 84.43 323 *e*P P 20 45 12.2 -0.1
MOX Moxa 84.45 325 *e*P P 20 45 11.9 -0.3
comp=Z,26nm,1.1s,baz=52,slow=5.0
MOX *e*L L 21 27 02.6
comp=Z,479nm,18.1s
PHP Peshkopia 84.45 314 P P 20 45 11.9 -0.5
J04D Umpqua Nationa 84.50 44 P P 20 45 14.5 +1.6
baz=303
E08A Dider Farm, El 84.52 40 *e*P P 20 45 13.9 +1.3
comp=Z,12nm,0.8s
OHR Ohrid 84.52 314 *i* P P 20 45 11.9 -0.9
NEW Newport 84.58 38 *e*P P 20 45 13.9 +0.9
comp=Z,19nm,0.9s
NEW Newport 84.58 38 *e*P P 20 45 13.9 +0.9
NEW pmax pmax
comp=Z,19nm,0.9s
NEW Newport 84.58 38 P P 20 45 14.2 +1.2
baz=306
MANZ Manzenberg 84.59 324 *e*P P 20 45 13.1 +0.2
comp=Z,40nm,1.1s,baz=52,slow=5.0
AGG Agios Georgios 84.60 311 *e*P P 20 45 11.6 -1.6
comp=Z,54nm,1.0s
AGG Agios Georgios 84.60 311 *e*P P 20 45 11.6 -1.6
AGG pmax pmax
comp=Z,54nm,1.0s
ROTZ Rotzenmuhle 84.67 324 *e*P P 20 45 14.0 +0.7
comp=Z,63nm,1.1s,baz=52,slow=5.0
WET Wettzell 84.69 323 *e*P P 20 45 13.9 +0.5
comp=Z,22nm,1.2s,baz=52,slow=5.0
MOA Molln 84.70 322 *i* PcP P 20 45 14.1 +0.6
comp=Z,22nm,0.9s,SNR=7.7
IDI Anoyia 84.72 307⇓ *i*P P 20 45 13.2 -0.7
GTTG Gyttingen 84.72 327 *e*P P 20 45 13.7 +0.2
comp=Z,107nm,0.9s,baz=52,slow=5.0
NKY Niksic 84.76 316⇑ *i*P P 20 45 13.7 -0.3
BLY Banja Luka 84.80 318 *e*P P 20 45 14.1 +0.1
comp=Z,18nm,0.9s
BLY Banja Luka 84.80 318⇑ *i*P P 20 45 14.6 +0.6
BLY Banja Luka 84.80 318 *e*P P 20 45 14.0 0.0
PDG Podgorica 84.80 315⇑ *i*P P 20 45 14.7 +0.6
PDG Podgorica 84.80 315⇑ *i*P P 20 45 13.8 -0.3
TTG Podgorica 84.80 315⇑ *i*P P 20 45 14.1 0.0
TTG Podgorica 84.80 315 *e*P P 20 45 14.0 -0.1
comp=Z,88nm,1.0s
TTG Podgorica 84.80 315 *e*P P 20 45 14.0 -0.1
TTG pmax pmax
comp=Z,88nm,1.0s
NKME Niksic 84.81 316⇑ *i*P P 20 45 14.1 -0.1
L04D Klamath Falls 84.93 45 P P 20 45 16.5 +1.5
baz=303
PERS Pernice 84.93 321 *i* P P 20 45 14.7 0.0
YBH Yreka Blue Hor 84.93 45 *e*P P 20 45 16.2 +1.3
comp=Z,45nm,1.7s
YBH Yreka Blue Hor 84.93 45 *e*P P 20 45 16.2 +1.3
YBH pmax pmax
comp=Z,45nm,1.7s
CEME Cevo 84.95 316⇑ *i*P P 20 45 14.5 -0.4
SOKA Soboth 84.95 321 *i* PcP P 20 45 15.2 +0.3
comp=Z,40nm,1.6s,SNR=14
DRME Dracevica, Mon 84.97 315⇑ *i*P P 20 45 14.5 -0.4

DRME Dracevica, Mon 84.97 315⇑ *i*P P 20 45 14.6 -0.4
BRY Bratogost 84.99 316⇑ *i*P P 20 45 15.3 0.0
BRY Bratogost 84.99 316 *e*P P 20 45 15.2 0.0
TIR Tirane 84.99 314 *e*P P 20 45 15.0 -0.1
comp=Z,73nm,0.9s
TIR Tirane 84.99 314 *i*P P 20 45 16.0 +0.9
TIR Tirane 84.99 314 *e*P P 20 45 15.0 -0.1
TIR pmax pmax
comp=Z,73nm,0.9s
J05D Fort Rock, OR 85.01 43 P P 20 45 17.1 +1.7
baz=303
E09A Wood Farm, Sta 85.03 40 *e*P P 20 45 16.7 +1.6
comp=Z,40nm,1.4s
M02C Callahan 85.03 46 P P 20 45 17.0 +1.7
baz=302
K04D Chiloquin, OR 85.05 44 P P 20 45 17.0 +1.4
baz=303
ULC Ulcinj 85.06 315⇑ *i*P P 20 45 15.4 0.0
BUM Brajici-Budva 85.09 315⇑ *i*P P 20 45 15.4 -0.3
UBBA Unterbreizbach 85.15 326 *e*P P 20 45 15.9 +0.3
comp=Z,19nm,1.0s,baz=52,slow=5.0
CRES Cresnjev 85.20 320⇑ *i*P P 20 45 15.3 -0.8
TREB Trebinje 85.21 316 *e*P P 20 45 14.8 -1.3
GRA1 Grafenberg Arr 85.23 325 *e*P P 20 45 16.7 +0.6
comp=Z,85nm,1.1s
GRF Grafenberg Arr 85.23 325 *e*P P 20 45 17.1 +1.0
comp=Z,106nm,1.2s,baz=52,slow=5.0
GRF *e*L L 21 27 25.4
comp=Z,650nm,18.8s
GRFO Grafenberg 85.23 325 *e*P P 20 45 16.7 +0.6
comp=Z,64nm,1.0s
GRFO Grafenberg 85.23 325 *e*P P 20 45 16.7 +0.6
GRFO pmax pmax
comp=Z,64nm,1.0s
G08A Pilot Rock 85.25 41 *e*P P 20 45 17.5 +1.0
comp=Z,22nm,1.5s
HCY Herceg Novi 85.27 316⇑ *i*P P 20 45 16.3 -0.1
HCY Herceg Novi 85.27 316 *e*P P 20 45 15.6 -0.8
IBBN Ibbenburen 85.30 328 *e*P P 20 45 16.6 +0.3
comp=Z,81nm,1.0s,baz=52,slow=5.0
OBKA Obir 85.32 321 *i* PcP P 20 45 17.0 +0.3
comp=Z,14nm,0.9s
N02D Trinity Center 85.34 46 P P 20 45 18.6 +1.6
baz=303
M04C Macdoel 85.46 45 P P 20 45 19.2 +1.6
baz=303
BOJS Bojanci 85.50 320 *i* P P 20 45 17.8 +0.3
VISS Visnje 85.56 320 *i* P P 20 45 17.9 0.0
LJU Ljubljana 85.60 320⇑ *i*P P 20 45 18.0 -0.1
I07A Izee 85.62 42 *e*P P 20 45 19.6 +1.2
comp=Z,21nm,1.4s
IGT Igoumenitsa 85.66 313 P P 20 45 17.2 -1.2
KBA Koelnbreinsper 85.66 322 *i* PcP P 20 45 18.9 +0.4
comp=Z,15nm,0.9s,SNR=6.7
O02D Mt. Diablo Mer 85.72 47 P P 20 45 20.5 +1.6
baz=303
MYKA Terra Mystica 85.76 321 *i* PcP P 20 45 19.0 0.0
comp=Z,15nm,0.9s
AMT Artemida-Makis 85.79 310 P P 20 45 18.5 -0.7
WALA Waterton Lakes 85.81 36 *e*P P 20 45 20.1 +0.9
comp=Z,20nm,1.1s
ITM Ithomi 85.82 310 P P 20 45 18.4 -0.9
ITM Ithomi 85.82 310 P P 20 45 18.4 -0.9
CEY Cerknica 85.84 320 *e*P P 20 45 18.8 -0.5
F10A Beach Ranch, E 85.86 40 *e*P P 20 45 20.3 +0.9
comp=Z,6.0nm,0.8s
SFJD Kangerlussuaq 85.94 360 *e*P P 20 45 18.8 -0.5
comp=Z,85nm,1.6s
SFJD Kangerlussuaq 85.94 360⇑ *i*P P 20 45 18.8 -0.5
SFJD Kangerlussuaq 85.94 360⇑ *i*P P 20 45 18.8 -0.5
JAVS Javornik 85.95 320 *i* P P 20 45 19.6 -0.3
BUG Bochum--Univer 86.09 328 *e*P P 20 45 19.9 -0.4
comp=Z,51nm,1.6s,baz=52,slow=5.0
FUR Furstenfeldbru 86.13 323 *e*P P 20 45 21.7 +1.1
comp=Z,103nm,1.1s,baz=52,slow=5.0
TRI Trieste 86.23 320 *e*P P 20 45 20.8 -0.4
comp=Z,24nm,1.1s
TRI Trieste 86.23 320 *e*P P 20 45 20.8 -0.4
TRI pmax pmax
comp=Z,24nm,1.1s
O03E Paynes Creek 86.29 46 P P 20 45 22.4 +0.8
baz=303
TNS Taunus Mts 86.30 326 *e*P P 20 45 22.3 +0.9
comp=Z,23nm,1.2s,baz=52,slow=5.0
ABTA Abfaltersbach 86.32 322 *i* P P 20 45 21.4 -0.3
comp=Z,31nm,1.1s,SNR=7.0
MOD Modoc Plateau 86.35 44 *e*P P 20 45 23.5 +1.4
comp=Z,26nm,1.0s
DRUM Mains of Drumt 86.42 335 *e*P P 20 45 21.5 -0.3
DRUM IAmb IAmb 20 45 21.9
comp=Z,46nm,0.8s
BMO Blue Mountains 86.47 41 *e*P P 20 45 23.3 +0.8
comp=Z,13nm,1.0s
BMO Blue Mountains 86.47 41 *e*P P 20 45 23.3 +0.8
BMO pmax pmax
comp=Z,13nm,1.0s
WATA Walderalm 86.47 323 *i* PcP P 20 45 22.7 +0.2
comp=Z,14nm,0.9s,SNR=6.1
WTTA Wattenberg 86.48 322 *i* PcP P 20 45 22.8 +0.1
comp=Z,38nm,1.0s,SNR=6.7
J08A Circle Bar Ran 86.64 42 *e*P P 20 45 24.9 +1.5
comp=Z,20nm,1.1s
MOTA Moosalm 86.72 323 *i* PcP P 20 45 23.7 0.0
comp=Z,23nm,0.8s,SNR=15
SQTA Sankt Quirin 86.74 323 *i* PcP P 20 45 24.1 +0.3
comp=Z,27nm,1.1s,SNR=5.7
AHRW Bad Neuenahr-A 86.77 327 *e*P P 20 45 25.7 +2.0
comp=Z,34nm,1.3s,baz=52,slow=5.0
RETA Reutte 86.82 323 *i* PcP P 20 45 24.6 +0.5
comp=Z,7.7nm,0.9s
STU Stuttgart 86.84 325 *e*P P 20 45 24.7 +0.6
comp=Z,37nm,1.3s,baz=52,slow=5.0
EDU Dundee 86.88 335 *e*P P 20 45 23.4 -0.7
ORV Oroville 86.89 47 *e*P P 20 45 24.9 +0.4
comp=Z,15nm,0.9s
ORV Oroville 86.89 47 *e*P P 20 45 24.9 +0.4
ORV pmax pmax
comp=Z,15nm,0.9s
KAC Achnashellach 86.98 337 *e*P P 20 45 23.8 -0.8
UBR Ueberruh 87.05 323 *e*P P 20 45 25.7 +0.5
comp=Z,54nm,1.1s,baz=52,slow=5.0
WVOR Wild Horse Val 87.07 43 *e*P P 20 45 27.2 +1.7
comp=Z,12nm,1.0s
FETA Feichten 87.12 323 *i* PcP P 20 45 25.6 -0.1
comp=Z,21nm,1.0s
MSO Missoula 87.17 38 *e*P P 20 45 26.4 +0.5
comp=Z,15nm,1.1s
MSO Missoula 87.17 38 P P 20 45 26.7 +0.8
baz=308
ESY Stoneypath 87.20 335 *e*P P 20 45 24.9 -0.8
FCC Fort Churchill 87.21 21 *e*P P 20 45 25.6 0.0
comp=Z,39nm,1.0s
FCC Fort Churchill 87.21 21 *e*P P 20 45 25.6 0.0
FCC pmax pmax
comp=Z,39nm,1.0s
KPL Plockton 87.23 337 *e*P P 20 45 25.0 -0.7
MEM Membach 87.24 327 ⇑P P 20 45 27.3 +1.4
DAVA Damuels 87.41 323 *i* PcP P 20 45 27.0 -0.1
comp=Z,30nm,0.9s
EBL Broad Law 87.47 335 *e*P P 20 45 26.3 -0.7
FFC Flin Flon 87.49 27 *e*P P 20 45 27.3 +0.2
comp=Z,62nm,0.9s
FFC Flin Flon 87.49 27 *i* P P 20 45 27.8 +0.7
BFO Black Forest 87.57 325 *e*P P 20 45 27.9 +0.2
comp=Z,35nm,1.6s,baz=52,slow=5.0
BFO Black Forest 87.57 325 *i* P P 20 45 28.9 +1.3
EAU Auchinoon 87.57 335 *e*P P 20 45 27.0 -0.5
FUORN Ofenpass-Fuorn 87.62 323 *e*P P 20 45 28.2 0.0
comp=Z,52nm,1.0s
EAB Aberfoyle 87.64 336 *e*P P 20 45 28.0 +0.3
EDMD Edmundbyers 87.76 334 *e*P P 20 45 28.3 -0.1
EDMD IAmb IAmb 20 45 28.4
comp=Z,44nm,0.9s
WLF Walferdange 87.79 327 *e*P P 20 45 28.0 -0.6
comp=Z,55nm,0.9s
WLF Walferdange 87.79 327 *e*P P 20 45 28.9 +0.3
baz=52,slow=5.0
WLF Walferdange 87.79 327 *e*P P 20 45 28.0 -0.6
WLF pmax pmax
comp=Z,55nm,0.9s
WLF Walferdange 87.79 327 ⇑P P 20 45 28.4 -0.2
comp=Z,13nm,1.0s
ESK Eskdalemuir 87.88 335 *i* P P 20 45 29.3 +0.4
PAHR Pah Rah Range 88.16 46 *e*P P 20 45 31.0 +0.2
comp=Z,17nm,1.0s
TUE Stuetta 88.21 323 *e*P P 20 45 30.8 -0.2
comp=Z,26nm,1.0s
ECH Echery 88.24 325 *e*P P 20 45 30.0 -0.9
comp=Z,12nm,1.2s
ECH Echery 88.24 325 *e*P P 20 45 30.0 -0.9
ECH pmax pmax
comp=Z,12nm,1.2s
DOU Dourbes 88.25 328 ⇑P P 20 45 30.3 -0.5
HRY Holter Researc 88.37 37 *e*P P 20 45 31.9 +0.2
AQU L'Aquila 88.42 318 *e*P P 20 45 31.7 -0.1
comp=Z,41nm,1.1s
AQU L'Aquila 88.42 318 *e*P P 20 45 31.7 -0.1
AQU pmax pmax
comp=Z,41nm,1.1s
AQU L'Aquila 88.42 318⇑ *i*P P 20 45 32.0 +0.1
CMB Columbia Colle 88.45 47 *e*P P 20 45 32.9 +0.8
comp=Z,14nm,1.1s
CMB Columbia Colle 88.45 47 *e*P P 20 45 32.9 +0.8
CMB pmax pmax
comp=Z,15nm,1.1s
LRM Limekiln Ridge 88.60 38 *e*P P 20 45 33.2 +0.3
EGMT Eagleton 88.61 35 *e*P P 20 45 33.5 +0.8
comp=Z,48nm,1.4s
EGMT Eagleton 88.61 35 P P 20 45 33.7 +1.0
baz=311
LBWR Ladybower, Pea 88.72 333 *e*P P 20 45 33.2 +0.3
LBWR IAmb IAmb 20 45 34.2
comp=Z,57nm,1.3s
GAL1 Galloway 88.78 335 *e*P P 20 45 32.3 -0.9
GAL1 IAmb IAmb 20 45 32.3
comp=Z,23nm,0.9s
DLMT Dillon 88.81 38 *e*P P 20 45 35.0 +1.3
comp=Z,21nm,0.9s
HLID Hailey 88.90 40 *e*P P 20 45 36.0 +1.8
comp=Z,14nm,1.0s
HLID Hailey 88.90 40 P P 20 45 36.3 +2.0
baz=308
BMN Battle Mountai 89.10 44 *e*P P 20 45 36.9 +1.7
comp=Z,14nm,1.3s
CLGH Cloghs, Cushen 89.14 336 *e*P P 20 45 34.3 -0.6
CLGH IAmb IAmb 20 45 34.6
comp=Z,55nm,0.9s
BOZ Bozeman (W) 89.19 37 *e*P P 20 45 36.4 +0.9
comp=Z,10nm,0.9s
BOZ Bozeman (W) 89.19 37 *e*P P 20 45 36.4 +0.9
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 89.19 37 P P 20 45 36.7 +1.2
baz=310
KVN Kaiserville 89.35 46 *e*P P 20 45 37.7 +1.2
comp=Z,46nm,1.9s
KVN Kaiserville 89.35 46 *e*P P 20 45 37.7 +1.2
KVN pmax pmax
comp=Z,46nm,1.9s
NV01 Mina Array Sit 89.58 46 *e*P P 20 45 38.8 +1.2
NVAR Mina Array Bea 89.58 46 P P 20 45 38.7 +1.1
comp=Z,2.4nm,0.8s,baz=292,slow=5.1,SNR=10
NVAR LR LR 21 19 27.8
comp=Z,64nm,21.8s,baz=284,slow=31
NV11 Mina Array Sit 89.67 46 *e*P P 20 45 39.5 +1.5
comp=Z,1.0nm,1.5s
QLMT Earthquake Lak 89.79 38 *e*P P 20 45 40.1 +1.7
PAGB Antelope Grade 89.83 49 *e*P P 20 45 39.0 +0.5
comp=Z,12nm,1.2s
YHB Horse Butte 89.97 38 *e*P P 20 45 41.3 +2.1
comp=Z,16nm,1.1s
GCMT Greycliff 90.11 36 *e*P P 20 45 41.3 +1.5
ELK Elko 90.13 43 *e*P P 20 45 41.6 +1.5
comp=Z,4.5nm,0.9s
ELK Elko 90.13 43 *e*P P 20 45 41.6 +1.5
ELK pmax pmax
comp=Z,5.0nm,0.9s
YHH Holmes Hill 90.13 38 *e*P P 20 45 42.0 +1.8
comp=Z,11nm,1.3s
YMR Madison River 90.14 38 *e*P P 20 45 39.6 -0.6
comp=Z,26nm,1.3s
YNR Norris Junctio 90.27 38 *e*P P 20 45 42.3 +1.6
comp=Z,16nm,1.3s
MCH1 Michaelchurch 90.28 332 *e*P P 20 45 40.7 +0.5
MCH1 IAmb IAmb 20 45 41.1
comp=Z,33nm,1.0s
YFT Old Faithful 90.36 38 *e*P P 20 45 44.0 +2.8
comp=Z,18nm,1.1s
YPP Pitchstone Pla 90.49 38 *e*P P 20 45 43.9 +2.1
comp=Z,53nm,2.0s
H17A Grant Village 90.53 38 *e*P P 20 45 44.5 +2.5
comp=Z,33nm,1.3s
H17A Grant Village 90.53 38 P P 20 45 44.8 +2.9
baz=310
IMW Indian Meadow 90.66 38 *e*P P 20 45 44.7 +2.1
comp=Z,19nm,1.3s
FLWY Flagg Ranch 90.67 38 *e*P P 20 45 44.7 +2.2
comp=Z,39nm,1.4s
RLMT Red Lodge 90.77 37 *e*P P 20 45 44.4 +1.4
comp=Z,40nm,1.5s
RLMT Red Lodge 90.77 37 P P 20 45 44.5 +1.5
baz=311
FXWY Fox Creek 90.77 39 *e*P P 20 45 45.1 +2.0
comp=Z,15nm,1.4s
MOOW Moose Ponds 90.86 39 *e*P P 20 45 45.3 +1.9
comp=Z,14nm,1.6s
TPAW Teton Pass 90.91 39 *e*P P 20 45 44.5 +0.7
comp=Z,29nm,1.7s
HVU Hansel Valley 90.95 41 *e*P P 20 45 45.8 +1.9
comp=Z,11nm,1.0s
HVU Hansel Valley 90.95 41 *e*P P 20 45 45.8 +1.9
HVU pmax pmax
comp=Z,11nm,1.0s
DGMT Dagmar 91.02 32 *e*P P 20 45 45.0 +1.1
comp=Z,44nm,1.1s
DGMT Dagmar 91.02 32 P P 20 45 45.0 +1.1
baz=315
LOHW Long Hollow 91.03 39 *e*P P 20 45 46.0 +1.7
comp=Z,6.6nm,1.2s
REDW Red Top Meadow 91.05 39 *e*P P 20 45 45.7 +1.3
comp=Z,10nm,1.2s
ISA Isabella, Lake 91.06 49 P P 20 45 44.6 +0.3
baz=305
PPT Papeete 91.06 109 LR LR 21 19 06.1
comp=Z,109nm,21.9s,baz=350,slow=30
PPT2 Papeete2 91.07 109 *e*S S 20 56 40.5 +2.0
comp=Z,66nm,25.8s
PPT2 Papeete2 91.07 109 *e*LR LR 21 14 52.9
comp=Z,258nm,23.5s
LAO LASA Array 91.28 34 *e*P P 20 45 46.5 +1.3
comp=Z,25nm,1.0s
LAO LASA Array 91.28 34 P P 20 45 46.8 +1.6
baz=314
DAC Darwin (Calif) 91.28 48 *e*P P 20 45 46.5 +0.9
comp=Z,6.9nm,1.1s
DAC Darwin (Calif) 91.28 48 *e*P P 20 45 46.5 +0.9
DAC pmax pmax
comp=Z,7.0nm,1.1s
PMOR Pomariorio Ree 91.28 106 *e*T T 22 26 25.3
comp=Z,6.9nm,0.2s
BGU Big Grassy Mou 91.34 42 *e*P P 20 45 47.6 +2.0
comp=Z,6.3nm,1.0s
R11A Troy Canyon, C 91.35 45 *e*P P 20 45 47.1 +1.4
comp=Z,5.6nm,0.9s
R11A Troy Canyon, C 91.35 45 P P 20 45 47.2 +1.4
baz=307
MPMC Manual Prospec 91.48 48 P P 20 45 47.5 +1.1
baz=306,SNR=7.6
KMBO Kilima Mbogo 91.59 270 *e*P P 20 45 47.2 -0.2
comp=Z,6.1nm,1.2s
KMBO Kilima Mbogo 91.59 270 P P 20 45 47.7 +0.4
comp=Z,2.1nm,0.9s,baz=45,slow=8.3,SNR=8.6
KMBO LR LR 21 27 52.3
comp=Z,77nm,20.4s,baz=93,slow=36
FURC Furnace Creek, 91.65 47 P P 20 45 48.5 +1.5
baz=306
TPNV Topopah Spring 91.76 46 P P 20 45 49.1 +1.3
baz=307
HWUT Hardware Ranch 91.77 41 *e*P P 20 45 49.0 +1.4
comp=Z,13nm,1.1s
EDW2 Edwards Air Fo 91.83 49 P P 20 45 49.0 +1.1
baz=306
DUG Dugway, Tooele 91.92 42 *e*P P 20 45 50.2 +1.8
comp=Z,12nm,1.0s
DUG Dugway, Tooele 91.92 42 *e*P P 20 45 50.2 +1.8
DUG pmax pmax
comp=Z,12nm,1.0s
DUG Dugway, Tooele 91.92 42 P P 20 45 49.9 +1.6
baz=309
BW06 Boulder Array 92.16 39 *e*P P 20 45 50.3 +0.7
comp=Z,7.1nm,1.0s
BW06 Boulder Array 92.16 39 P P 20 45 50.2 +0.7
baz=311
PD31 Pinedale Array 92.16 39 *e*P P 20 45 50.3 +0.8
PDAR Pinedale Array 92.16 39 *e*P P 20 45 50.3 +0.8
PDAR Pinedale Array 92.16 39 P P 20 45 50.5 +1.0
comp=Z,3.9nm,0.9s,baz=312,slow=1.2,SNR=25
TCUT Toone Canyon 92.17 41 *e*P P 20 45 50.9 +1.3
comp=Z,44nm,1.6s
PSUT Pine Spring 92.32 44 *e*P P 20 45 51.6 +1.3
comp=Z,7.7nm,0.9s
GSC Goldstone, Bar 92.37 48 *e*P P 20 45 51.9 +1.4
comp=Z,14nm,0.9s
GSC Goldstone, Bar 92.37 48 *e*P P 20 45 51.9 +1.4
GSC pmax pmax
comp=Z,14nm,0.9s
GSC Goldstone, Bar 92.37 48 P P 20 45 51.7 +1.3
baz=306,SNR=9.4
BFSC Mount Baldy Ra 92.42 49 P P 20 45 52.3 +1.5
baz=306
JLU Jordanelle 92.47 41 *e*P P 20 45 52.3 +1.3
comp=Z,7.6nm,1.1s
NLU North Lily Min 92.52 42 *e*P P 20 45 52.9 +1.7
comp=Z,8.2nm,1.0s
SHPR Sheep Range 92.73 46 *e*P P 20 45 54.1 +1.9
comp=Z,12nm,1.1s
TUQ Turquoise Moun 92.87 48 P P 20 45 53.9 +1.1
baz=307
HEC Hector,Ludlow 92.96 48 P P 20 45 54.4 +1.2
baz=307
ULM Lac du Bonnet 93.32 27 *e*P P 20 45 54.7 +0.3
comp=Z,20nm,0.9s
ULM Lac du Bonnet 93.32 27 *e*P P 20 45 54.7 +0.3
ULM pmax pmax
comp=Z,20nm,0.9s
ULM Lac du Bonnet 93.32 27 P P 20 45 54.6 +0.3
comp=Z,19nm,0.9s,baz=320,slow=4.9,SNR=24
ULM LR LR 21 32 25.2
comp=Z,60nm,18.2s,baz=316,slow=38
MSU Marysvale 93.36 43 *e*P P 20 45 57.5 +2.4
MSU Marysvale 93.36 43 *e*P P 20 45 57.5 +2.4
GMRC Granite Mounta 93.44 48 P P 20 45 56.7 +1.3
baz=307,SNR=8.3
MDND Maddock 93.58 30 *e*P P 20 45 56.4 +0.7
comp=Z,32nm,1.1s
MDND Maddock 93.58 30 P P 20 45 56.3 +0.7
baz=319
PFO Pinyon Flats O 93.60 49 *e*P P 20 45 57.6 +1.4
comp=Z,20nm,0.9s
PFO Pinyon Flats O 93.60 49 *e*P P 20 45 57.6 +1.4
PFO pmax pmax
comp=Z,20nm,0.9s
PFO Pinyon Flats O 93.60 49 P P 20 45 57.3 +1.2
baz=306,SNR=13
XPFO Pion Flat 93.60 49 *e*P P 20 45 57.2 +1.0
comp=Z,24nm,1.0s
P17A Butcher Ranch, 93.61 42 *e*P P 20 45 57.7 +1.5
comp=Z,20nm,1.5s
LCMT Little Creek M 93.64 45 *e*P P 20 45 57.7 +1.4
comp=Z,8.0nm,1.0s
MTPU Mount Pierson 93.65 44 *e*P P 20 45 58.9 +2.2
comp=Z,8.4nm,1.1s
BELC Belle Mtn. Jos 93.68 49 P P 20 45 57.6 +1.1
baz=307
Q16A Castle Valley 93.71 42 *e*P P 20 45 58.2 +1.4
comp=Z,18nm,1.6s
KNB Kanab 93.90 45 *e*P P 20 45 59.3 +1.7
comp=Z,11nm,0.9s
SRU San Rafael Swe 93.98 42 *e*P P 20 45 59.2 +1.3
comp=Z,3.6nm,0.9s
MONP2 Monument Peak 94.05 50 P P 20 45 59.6 +1.2
baz=306,SNR=8.2
IRM Iron Mountain 94.15 48 P P 20 46 00.1 +1.5
baz=307,SNR=11
RSSD Black Hills 94.18 35 *e*P P 20 45 59.1 +0.3
comp=Z,12nm,1.1s
RSSD Black Hills 94.18 35 *e*P P 20 45 59.1 +0.3
RSSD pmax pmax
comp=Z,12nm,1.1s
RSSD Black Hills 94.18 35 P P 20 45 59.6 +0.9
baz=315
BC3 Big Chuckawall 94.25 49 P P 20 46 00.5 +1.3
baz=307,SNR=9.2
IKP In-Ko-Pah, Jac 94.40 50 P P 20 46 01.4 +1.6
baz=307
W13A Hualapai Mount 94.41 47 *e*P P 20 46 01.2 +1.3
comp=Z,6.5nm,1.0s
SWSC Sam W. Stewart 94.44 49 P P 20 46 01.1 +1.2
baz=307
U15A North Rim 94.60 45 *e*P P 20 46 02.8 +1.9
comp=Z,5.1nm,0.9s
Y12C Blythe 94.81 48 *e*P P 20 46 03.1 +1.5
comp=Z,11nm,0.9s
Y12C Blythe 94.81 48 P P 20 46 03.1 +1.5
baz=308
AGMN Agassiz Nation 94.85 28 P P 20 46 02.1 +0.6
baz=322
GLA Glamis 95.03 49 P P 20 46 04.2 +1.6
baz=307
N23A Red Feather La 95.41 38 P P 20 46 04.7 +0.1
baz=314
PV17 East Wray Mesa 95.44 42 *e*P P 20 46 06.0 +1.3
comp=Z,9.1nm,1.1s
WUAZ Wupatki 95.75 45 *e*P P 20 46 07.0 +0.9
comp=Z,8.1nm,1.2s
WUAZ Wupatki 95.75 45 P P 20 46 07.4 +1.3
baz=310
ISCO Idaho Springs 96.35 39 P P 20 46 10.3 +1.4
baz=314
SCHQ Schefferville 97.10 9 LR LR 21 34 06.3
comp=Z,117nm,19.9s,baz=325,slow=38
ES06 SONSECA Array 99.92 325 *e*Pdif **Pdif** **20 46 23.7 -0.9**
ESDC Sonseca Array 99.93 325 P **Pdif** **20 46 23.7 -0.9**
comp=Z,0.9nm,0.7s,baz=48,slow=4.4,SNR=4.7
ESDC LR LR 21 36 40.6
comp=Z,183nm,18.3s,baz=5.0,slow=38
TOA1 Torodi Ar. Sit 114.54 301 *e*PKiKP PKPdf 20 51 18.3 -1.9
TORD Torodi Ar. Bea 114.54 301 PKiKP PKPdf 20 51 18.3 -1.9
comp=Z,1.5nm,0.8s,baz=16,slow=2.7,SNR=9.4
DBIC Dimbokro 123.60 300 *e*PKPdf **PKPdf** **20 51 36.9 -0.8**
DBIC Dimbokro 123.60 300 *e*PKiKP **PKPdf** **20 51 36.9 -0.8**
DBIC Dimbokro 123.60 300 PKP **PKPdf** **20 51 36.5 -1.1**
comp=Z,4.2nm,0.8s,baz=327,slow=2.0,SNR=5.5
NVL N'lazarevskaya 124.29 201 *e*PKiKP PKPpre 20 51 30.1
NVL pmax pmax
comp=Z,5.0nm,0.6s
SNAA Sanae 128.27 198 PKP **PKiKP** **20 51 45.4 -0.2**
VNA2 Neumayer--Watz 129.91 197 PKP **PKiKP** **20 51 49.1 +0.3**
VNA3 Neumayer Olymp 130.30 196 PKP **PKiKP** **20 51 49.5 -0.1**
SDV Santo Domingo 139.50 30 *e*PKPpre PKPpre 20 51 56.1
SDV *e*PKPdf **PKPdf** **20 52 07.6 -0.3**
NNA Nana 151.77 62 PKPbc **PKPbc** **20 52 34.5 -0.4**
comp=Z,24nm,0.6s,baz=298,slow=6.0,SNR=6.8
PTGA Pitinga 152.32 18 *e*PKPdf **PKPdf** **20 52 29.3 0.0**
PTGA *e*PKPbc **PKPbc** **20 52 36.1 0.0**
PTGA *e*PKPab **PKPab** **20 52 45.6 -0.3**
PTGA Pitinga 152.32 18 PKP **PKPdf** **20 52 30.0 +0.7**
comp=Z,2.9nm,0.7s,baz=4.6,slow=13,SNR=6.7
PTGA PKPbc **PKPbc** **20 52 35.9 -0.2**
comp=Z,16nm,0.9s,baz=7.3,slow=1.8,SNR=20
LPAZ La Paz 161.09 58 *e*PKPdf **PKPdf** **20 52 41.7 +0.6**
LPAZ La Paz 161.09 58 *e*PKiKP **PKPdf** **20 52 41.7 +0.6**
LPAZ La Paz 161.09 58 PKP **PKPdf** **20 52 42.0 +0.9**
comp=Z,3.6nm,1.0s,baz=314,slow=1.4,SNR=9.4
PB11 IPOC Station P 161.76 69 *e*PKPdf **PKPdf** **20 52 41.6 +0.4**
BDFB Brasilia 167.89 344 PKP **PKPdf** **20 52 46.7 +0.1**
comp=Z,3.0nm,0.8s,baz=135,slow=3.6,SNR=3.8
BDFB PKPab **PKPab** **20 53 52.8 -0.7**
comp=Z,3.2nm,0.6s,baz=234,slow=4.9,SNR=4.9
CPUP Villa Florida 174.72 80 PKP **PKPdf** **20 52 49.3 -0.2**
comp=Z,2.9nm,0.9s,baz=334,slow=1.1,SNR=4.0

*ISCJB **05** 20:33:45.2±0.8,22°.52S±0°.04×68°.75W±0°.07,h113km±8km, Error ellipse: s-maj=11.0km s-min=6.3km az=1.0*
*GUC **05** 20:33:45.1±0.3,22°.51S×68°.78W,h112km±2km,ML3.5*
*SJA **05** 20:33:45.0±1.0,22°.55S×68°.72W,h103km±4km,ML3.0, MW3.2*

ISC 05 20:33:46.4±1.6,22°.50S±0°.04×68°.76W±0°.06, h104km±10km,n28,σ0°.73/41,6C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	0.17	233	*e*P	Pn	20 34 00.5	-1.0
LVC				*e*S	Sn	20 34 11.5	-1.2
LVC				IAML		20 34 12.4	
	comp=Z,598nm,0.1s						
PB06	IPOC Station P	0.78	255	*e*P	Pn	20 34 04.9	-0.1
PB06				*e*S	Sn	20 34 19.8	+0.7

PB06	**IPOC Station P**	**0.78**	**255**⇑	*eP*	**Pn**	**20 34 04.6**	**-0.5**	
PB06				*eS*	**Sn**	**20 34 19.6**	**+0.6**	
PB06				IAML		20 34 21.2		
	comp=N,2μm,0.2s							
PB09	**IPOC Station P**	**0.83**	**327**	*eP*	**Pn**	**20 34 05.7**	**0.0**	
PB09				*eS*	**Sn**	**20 34 21.2**	**+1.2**	
PB09	**IPOC Station P**	**0.83**	**327**⇓	*eP*	**Pn**	**20 34 05.6**	**0.0**	
PB09				*i* S	**Sn**	**20 34 21.0**	**+1.0**	
PB09				IAML		20 34 23.7		
	comp=N,1μm,0.3s							
PB15	**IPOC Station P**	**0.96**	**223**	*eP*	**Pn**	**20 34 06.6**	**-0.3**	
PB15	**IPOC Station P**	**0.96**	**223**⇑	*eP*	**Pn**	**20 34 06.7**	**-0.3**	
PB15				*i* S	**Sn**	**20 34 23.1**	**+0.7**	
PB03	**IPOC Station P**	**1.03**	**296**	*eP*	**Pn**	**20 34 07.3**	**-0.2**	
PB03	**IPOC Station P**	**1.03**	**296**⇑	*iP*	**Pn**	**20 34 07.3**	**-0.2**	
PB03				*i* S	**Sn**	**20 34 23.8**	**+0.3**	
PB04	**IPOC Station P**	**1.30**	**277**	*eP*	**Pn**	**20 34 10.4**	**-0.2**	
PB04	**IPOC Station P**	**1.30**	**277**⇑	*eP*	**Pn**	**20 34 10.3**	**-0.3**	
PB04				*eS*	**Sn**	**20 34 29.5**	**+0.6**	
PB04				IAML		20 34 32.9		
	comp=N,1μm,0.2s							
PB07	**IPOC Station P**	**1.30**	**306**	*eP*	**Pn**	**20 34 10.7**	**+0.1**	
PB07	**IPOC Station P**	**1.30**	**306**	*eP*	**Pn**	**20 34 10.4**	**-0.3**	
PB07				*i* S	**Sn**	**20 34 29.4**	**+0.4**	
PB07				IAML		20 34 31.1		
	comp=N,2μm,0.3s							
PB05	**IPOC Station P**	**1.38**	**255**	*eP*	**Pn**	**20 34 11.0**	**-0.5**	
PB05	**IPOC Station P**	**1.38**	**255**⇑	*iP*	**Pn**	**20 34 11.0**	**-0.5**	
PB05				*i* S	**Sn**	**20 34 31.0**	**+0.5**	
PB02	**IPOC Station P**	**1.58**	**318**	*eP*	**Pn**	**20 34 13.8**	**-0.2**	
PB02	**IPOC Station P**	**1.58**	**318**⇑	*eP*	**Pn**	**20 34 13.8**	**-0.2**	
PB02				*eS*	**Sn**	**20 34 35.4**	**+0.5**	
PB01	**IPOC Station P**	**1.60**	**335**⇓	*eP*	**Pn**	**20 34 13.9**	**-0.4**	
PB01				*i* S	**Sn**	**20 34 35.9**	**+0.5**	
PB01				IAML		20 34 36.9		
	comp=N,1μm,0.2s							
PB10	**IPOC Station P**	**1.94**	**238**	*eP*	**Pn**	**20 34 18.1**	**-0.2**	
PB10	**IPOC Station P**	**1.94**	**238**	*eP*	**Pn**	**20 34 17.9**	**-0.4**	
PB10				IAML		20 34 51.2		
	comp=N,218nm,0.3s							
PB08	**IPOC Station P**	**2.38**	**351**	*eP*	**Pn**	**20 34 24.6**	**+0.1**	
PB08				*eS*	**Sn**	**20 34 55.0**	**+1.5**	
PB08				IAML		20 34 59.0		
	comp=E,138nm,0.2s							
PB14	**IPOC Station P**	**2.60**	**215**	*eP*	**Pn**	**20 34 26.9**	**-0.3**	
PB14	**IPOC Station P**	**2.60**	**215**	IAML		20 35 03.4		
	comp=E,206nm,0.5s							
PB11	**IPOC Station P**	**2.85**	**343**	*eP*	**Pn**	**20 34 29.4**	**-1.1**	
PB11	**IPOC Station P**	**2.85**	**343**	*eP*	**Pn**	**20 34 29.2**	**-1.3**	
PB11				*i* S	**Sn**	**20 35 03.9**	**-0.5**	
PB11				IAML		20 35 12.6		
	comp=N,196nm,0.2s							
PSGCX	**Pisagua**	**3.16**	**336**	*eP*	**Pn**	**20 34 35.3**	**+0.8**	
HJA	**Humahuaca**	**3.17**	**103**	*eP*	**Pn**	**20 34 35.1**	**+0.3**	
HJA				IAML		20 34 35.5		
	comp=Z,24nm,0.4s							
PB12	**IPOC Station P**	**4.14**	**339**	*eP*	**Pn**	**20 34 45.4**	**-2.2**	

IDC 05 20:36:27.8±5.4, 50°43N×114°00W, h0km, mb1 3.8/1, mb1mx3.1/37, mbtmp3.4/1, ML3.3/1, Error ellipse: s-maj=84.7km s-min=40.3km az=75.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I56US	**NEWPORT INFRAS**	**2.98**	**225**	*i*			20 56 00.0	
	baz=40,slow=369,SNR=0.5							
I10CA	**LAC DU BONNET**	**11.50**	**84**	*i*			21 48 20.0	
	baz=274,slow=377,SNR=2.5							
YKA	**Yellowknife Ar**	**12.10**	**359**		Pn	Pn	20 39 17.6	-3.6
	0.3nm,0.3s,baz=181,slow=13,SNR=12							
YKA					Sn	Sn	20 41 26.1	-11
	0.1nm,0.3s,baz=173,slow=23,SNR=3.5							
YKA					Lg	Lg	20 42 45.5	
	baz=186,slow=28,SNR=3.3							

*NEIC **05** 20:49:12.7±2.4, 1°34N×126°30E, h6km±15km, mb4.9/91, Error ellipse: s-maj=5.6km s-min=3.7km az=64.0*
*BJI **05** 20:49:12.0, 1°20N×126°27E, h14km, mb4.6/44, mB5.0/27, Ms4.5/9, Ms7 4.4/3*
*DJA **05** 20:49:16.0±0.2, 1°N±2°×126°6E±°, h10km, M4.6/15, mb4.7/8, mB4.9/5, MLv4.7/15, Mw(mB)4.2/5*
*ISCJB **05** 20:49:17.2±0.4, 1°29N±0°02×126°33E±0°02, h56km±4km, mb4.8/121, Error ellipse: s-maj=4.1km s-min=3.4km az=161.2*
*IDC **05** 20:49:22.7±2.7, 1°19N×126°22E, h90km±23km, mb4.1/24, mb1 4.2/25, mb1mx4.2/35, mbtmp4.4/25, MS3.7/2, Ms1 3.7/2, ms1mx2.9/45, Error ellipse: s-maj=19.3km s-min=8.1km az=76.0*
*MAN **05** 20:50:13.2, 5°19N×124°80E, h47km, MS3.4*

ISC 05 20:49:17.6±0.8, 1°26N±0°04×126°38E±0°04, h43km±8km, n204, σ1%61/224, mb4.8/121, 4C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**116**	*ePn*		**Pn**	**20 49 37.6**	**+1.0**
TNTI	**Ternate**	**1.10**	**116**	P		**Pn**	**20 49 37.5**	**+1.0**
TNTI				S		**Sn**	**20 49 52.2**	**+1.7**
KMSI	**Cibinong**	**2.49**	**254**	P		**Pn**	**20 49 56.3**	**+0.6**
KMSI				S		**Sn**	**20 50 25.2**	**+0.2**
SGSI	**Sangihe**	**2.56**	**341**	P		**Pn**	**20 49 57.0**	**+0.3**
SGSI				S		**Sn**	**20 50 26.6**	**0.0**
SANI	**Sanana**	**3.31**	**187**	P		**Pn**	**20 50 07.2**	**+0.3**
SANI				S		**Sn**	**20 50 40.9**	**-4.1**
LUWI	**Luwuk**	**4.27**	**238**	*ePn*		**Pn**	**20 50 22.8**	**+2.6**
LUWI				*eSn*		**Sn**	**20 51 13.3**	**+4.5**
LUWI	**Luwuk**	**4.27**	**238**	P		**Pn**	**20 50 23.0**	**+2.8**
LUWI				S		**Sn**	**20 51 10.7**	**+1.9**
MRSI	**Marisa**	**4.51**	**260**	P		**Pn**	**20 50 24.5**	**+1.1**
MRSI				S		**Sn**	**20 51 15.1**	**+0.5**
NLAI	**Namlea**	**4.52**	**171**	P		**Pn**	**20 50 25.8**	**+2.2**
NLAI				S		**Sn**	**20 51 13.7**	**-1.3**
GSPH	**General Santos**	**5.01**	**343**⇑	*iP*		**Pn**	**20 50 31.3**	**+0.9**
APSI	**Ampana**	**5.20**	**246**	P		**Pn**	**20 50 35.1**	**+2.2**
APSI				S		**Sn**	**20 51 34.0**	**+2.3**
SKMP	**Bagumbayan, Su**	**5.54**	**341**	*eP*		**Pn**	**20 50 38.3**	**+0.7**
SKMP				*eS*		**Sn**	**20 51 37.3**	**-2.8**
DAV	**Davao City (W)**	**5.83**	**352**	*ePn*		**Pn**	**20 50 37.8**	**-3.8**
KCP	**Kidapawan**	**5.86**	**347**⇑	*iP*		**Pn**	**20 50 48.8**	**+1.8**
KCP				*i* S		Sn	20 51 05.3	-43
CTBH	**Cotabato--PC H**	**6.30**	**340**⇑	*iP*		**Pn**	**20 50 49.6**	**+1.6**
KDI	**Kendari**	**6.40**	**216**	P		**Pn**	**20 50 52.2**	**+2.8**
MPSI	**Mapaga**	**6.55**	**262**	P		**Pn**	**20 50 54.0**	**+2.6**
	34nm,0.9s,535nm							
PCI	**Palu**	**6.89**	**252**	P		**Pn**	**20 51 00.0**	**+3.9**
FAKI	**Fak Fak**	**7.18**	**125**	*ePn*		**Pn**	**20 51 02.4**	**+2.2**
FAKI	**Fak Fak**	**7.18**	**125**	P		**Pn**	**20 51 04.0**	**+3.8**
PAGZ	**Pagadian**	**7.20**	**336**	*eP*		**Pn**	**20 50 59.3**	**-1.1**
IPIL	**Ipil**	**7.52**	**330**	*eP*		**Pn**	**20 51 05.4**	**+0.6**
IPIL				*eS*			20 51 08.3	
TTSI	**Tana Toraja**	**7.83**	**237**	P		**Pn**	**20 51 11.3**	**+2.3**
TTSI				S		**Sn**	**20 52 35.6**	**-0.8**
SPSI	**Sidrap Palu**	**8.40**	**232**	P		**Pn**	**20 51 18.8**	**+1.9**
SPSI				S		**Sn**	**20 52 53.3**	**+2.8**
BNSI	**Bone**	**8.42**	**228**	P		**Pn**	**20 51 16.1**	**-1.0**
SOEI	**Soe**	**11.14**	**191**	*ePn*		**Pn**	**20 51 53.6**	**-1.0**
SOEI	**Soe**	**11.14**	**191**	P		Pn	20 52 03.0	+8.5
KKM	**Kota Kinabalu**	**11.20**	**295**	*ePn*		**Pn**	**20 51 57.2**	**+1.8**
SBUM	**Sibu**	**14.20**	**275**	*ePn*		**Pn**	**20 52 32.9**	**-3.4**
MTN	**Manton Dam**	**14.78**	**162**	*ePn*		**Pn**	**20 52 42.5**	**-1.5**
JAGI	**Jajag, Banyuwa**	**15.55**	**231**	*ePn*		**Pn**	**20 52 53.3**	**-0.8**
	52nm,1.0s							
KSM	**Kuching**	**16.07**	**271**	*ePn*		**P**	**20 53 02.5**	**-1.0**
	50nm,1.2s							
FITZ	**Fitzroy Crossi**	**19.25**	**182**	*eP*		**P**	**20 53 38.6**	**+0.1**
	7.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.25**	**182**	P		**P**	**20 53 38.5**	**0.0**
	1.4nm,0.3s,baz=354,slow=7.2,SNR=27							
CISI	**Cisompet, Garu**	**20.48**	**244**	*eP*		**P**	**20 53 50.7**	**-1.4**
	34nm,0.8s							
WRAB	**Tennant Creek**	**22.46**	**160**	*eP*		**P**	**20 54 13.2**	**-0.1**
	40nm,1.0s							
WR1	**Warramunga Arr**	**22.47**	**160**	*eP*		**P**	**20 54 13.3**	**-0.1**
	38nm,1.0s							
WR1				*eS*		**S**	**20 58 15.4**	**-2.0**
WRA	**Warramunga Arr**	**22.47**	**160**	P		**P**	**20 54 13.3**	**-0.1**
	8.9nm,0.3s,baz=332,slow=11,SNR=198							
WRA				S		**S**	**20 58 15.4**	**-2.0**
	1.3nm,0.8s,baz=338,slow=22,SNR=4.4							
WB2	**Warramunga Arr**	**22.47**	**160**	*eP*		**P**	**20 54 12.2**	**-1.2**

COEN	**Coen**	**22.48**	**133**	*eP*		**P**	**20 54 15.3**	**+1.7**
	96nm,2.0s							
MYKOM	**Kota Tinggi**	**22.53**	**272**	*eP*		**P**	**20 54 14.8**	**+0.8**
	89nm,1.5s							
YULB	**Yu-li**	**22.55**	**348**	*eP*		**P**	**20 54 11.8**	**-2.4**
	71nm,1.9s							
TPUB	**Ta-pu**	**22.61**	**346**	*eP*		**P**	**20 54 11.6**	**-3.3**
	35nm,1.1s							
SSLB	**Suanglung**	**23.01**	**347**	*eP*		**P**	**20 54 18.1**	**-0.8**
	12nm,0.8s							
MBWA	**Marble Bar**	**23.21**	**196**	*eP*		**P**	**20 54 20.6**	**-0.3**
	22nm,1.0s							
YOJ	**Yonaguni jima**	**23.30**	**352**	*eP*		**P**	**20 54 19.7**	**-2.1**
	127nm,1.4s							
YHNB	**Yeheng**	**23.77**	**349**	*eP*		**P**	**20 54 23.3**	**-3.1**
	40nm,1.2s							
QIZ	**Qiongzhong**	**23.97**	**318**	*eP*		**P**	**20 54 26.1**	**-2.1**
	243nm,2.0s							
BKNI	**Bangkinang**	**25.36**	**268**	*eP*		**P**	**20 54 39.8**	**-1.1**
	33nm,0.8s							
JOW	**Kunigami**	**25.50**	**4**	*eP*		**P**	**20 54 42.8**	**+0.8**
	12nm,0.8s							
JOW	**Kunigami**	**25.50**	**4**	P		**P**	**20 54 44.4**	**+2.3**
	0.4nm,0.3s,baz=181,slow=12,SNR=5.2							
IPM	**Ipoh**	**25.52**	**278**	*eP*		**P**	**20 54 42.1**	**-0.3**
	34nm,1.5s							
AS31	**Alice Springs**	**25.83**	**164**	*eP*		**P**	**20 54 45.9**	**+0.7**
	5.9nm,0.8s							
AS31				*ePcP*		**PcP**	**20 58 14.8**	**+0.8**
ASAR	**Alice Springs**	**25.83**	**164**	P		**P**	**20 54 45.7**	**+0.5**
	5.9nm,0.5s,baz=345,slow=8.1,SNR=144							
ASAR				PcP		**PcP**	**20 58 14.3**	**+0.4**
	1.2nm,0.5s,baz=341,slow=1.4,SNR=6.7							
ASAR				S		**S**	**20 59 09.4**	**-2.6**
	0.2nm,0.6s,baz=347,slow=20,SNR=3.1							
AS01	**Alice Springs**	**25.84**	**164**	*eP*		**P**	**20 54 45.6**	**+0.3**
AS01				*ePcP*		**PcP**	**20 58 14.5**	**+0.5**
KULM	**Kulim**	**25.99**	**279**	*eP*		**P**	**20 54 48.3**	**+1.5**
	46nm,1.6s							
RABL	**Rabaul**	**26.33**	**102**	*eP*		**P**	**20 54 49.0**	**-0.8**
	115nm,0.5s							
GIRL	**Giralia**	**26.54**	**206**	*eP*		**P**	**20 54 52.1**	**+0.6**
	702nm,1.8s							
PSI	**Prapat**	**27.48**	**274**	*eP*		**P**	**20 54 59.1**	**-1.2**
	16nm,1.1s							
PSI	**Prapat**	**27.48**	**274**	P		**P**	**20 54 59.3**	**-1.0**
	5.4nm,0.4s,baz=1.3,slow=1.0,SNR=7.4							
GSI	**Gunungsitoli**	**28.80**	**270**	*eP*		**P**	**20 55 11.8**	**-0.1**
	69nm,1.4s							
CTAO	**Charters Tower**	**28.80**	**138**	*eP*		**P**	**20 55 13.4**	**+1.5**
	51nm,1.8s							
PBKT	**Sadao Pong**	**29.29**	**303**	*eP*		**P**	**20 55 14.9**	**-1.2**
	14nm,1.7s							
UTTA	**Uttaradit**	**30.21**	**304**	P		**P**	**20 55 29.0**	**+4.7**
	2.1nm,0.8s							
NANT	**Nan**	**30.63**	**306**	P		**P**	**20 55 28.8**	**+0.8**
	4.9nm,0.7s,61nm							
GYA	**Guiyang**	**31.42**	**325**	*eP*		**P**	**20 55 34.9**	**-0.2**
GYA				*pmax*		*pmax*		
	comp=Z,10.0nm,0.8s							
NJ2	**Nanjing**	**31.44**	**348**	*eP*		**P**	**20 55 33.9**	**-1.1**
NJ2				*pmax*		*pmax*		
	comp=Z,10.0nm,0.5s							
MORW	**Morawa**	**31.74**	**197**	*eP*		**P**	**20 55 38.7**	**+1.1**
	56nm,1.8s							
CM01	**Chiang Mai Arr**	**31.86**	**304**	*eP*		**P**	**20 55 37.0**	**-1.9**
CM31	**Chiang Mai Arr**	**31.89**	**304**	*eP*		**P**	**20 55 38.0**	**-1.2**
	3.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**31.89**	**304**	P		**P**	**20 55 39.0**	**-0.2**
	1.8nm,1.0s,baz=132,slow=7.8,SNR=9.3							
FORT	**Forrest**	**31.90**	**177**	*eP*		**P**	**20 55 39.7**	**+0.7**
	19nm,0.6s							
JNU	**Nakatsue**	**31.98**	**7**	*eP*		**P**	**20 55 37.5**	**-2.3**
	35nm,1.4s							
CMMT	**Chiang Mai**	**32.06**	**305**	P		**P**	**20 55 41.8**	**+1.1**
	4.7nm,0.7s							
CHTO	**Chiang Mai**	**32.06**	**305**	*eP*		**P**	**20 55 38.8**	**-1.9**
	2.9nm,0.8s							
CHTO	**Chiang Mai**	**32.06**	**305**	P		**P**	**20 55 41.9**	**+1.2**
	20nm,0.7s							
KMI	**Kunming**	**32.92**	**318**	P		**P**	**20 55 50.1**	**+1.7**
KMI				*pP*		*pP*	20 55 56.4	-3.1
KMI				*sP*		*pwP*	20 55 58.8	-3.0
KMI				*pmax*		*pmax*		
	comp=Z,8.0nm,0.5s							
ENH	**Enshi**	**33.02**	**333**	*eP*		**P**	**20 55 47.1**	**-1.8**
	5.7nm,0.6s							
JHJ	**Hachijo jima 2**	**34.11**	**20**	LR		LR	21 10 21.8	
	comp=Z,45nm,18.4s,baz=80,slow=37							
NWAO	**Narrogin (SRO)**	**35.08**	**193**	P		**P**	**20 56 07.1**	**+0.4**
	3.9nm,0.3s,baz=256,slow=7.9,SNR=11							
BBOO	**Buckleboo**	**35.09**	**166**	*eP*		**P**	**20 56 06.9**	**0.0**
	11nm,0.6s							
INU	**Inuyama**	**35.34**	**15**	*eP*		**P**	**20 56 07.6**	**-1.3**
	30nm,1.5s							
STKA	**Stephens Creek**	**35.97**	**158**	*eP*		**P**	**20 56 15.4**	**+1.0**
	2.5nm,0.9s							
STKA	**Stephens Creek**	**35.97**	**158**	P		**P**	**20 56 15.3**	**+0.9**
	5.6nm,0.5s,baz=327,slow=9.3,SNR=28							
KS15	**Wonju Array Si**	**36.04**	**2**	*eP*		**P**	**20 56 16.6**	**+1.8**
	84nm,2.0s							
KSRS	**Korea Array**	**36.05**	**2**	P		**P**	**20 56 16.7**	**+1.8**
	1.6nm,0.6s,baz=180,slow=9.7,SNR=5.7							
KS01	**Wonju Array Si**	**36.07**	**2**	*eP*		**P**	**20 56 12.9**	**-2.3**
CD2	**Chengdu**	**36.46**	**326**	P		**P**	**20 56 17.2**	**-1.5**
CD2				*pmax*		*pmax*		
	comp=Z,30nm,0.5s							
XAN	**Xi'an**	**36.48**	**335**	P		**P**	**20 56 17.9**	**-0.9**
XAN				*pmax*		*pmax*		
	comp=Z,4.0nm,0.6s							
XAN				*pmax*		*pmax*		
	comp=Z,150nm,3.8s							
XAN	**Xi'an**	**36.48**	**335**	*eP*		**P**	**20 56 17.8**	**-1.0**
	8.9nm,1.1s							
MAJO	**Matsushiro**	**36.78**	**16**	*eP*		**P**	**20 56 20.6**	**-0.6**
	25nm,1.5s							
MAT	**Matsushiro**	**36.78**	**16**	P		**P**	**20 56 22.2**	**+0.9**
MJAR	**Matsushiro Arr**	**36.78**	**16**	P		**P**	**20 56 22.0**	**+0.7**
	2.2nm,0.5s,baz=186,slow=10.0,SNR=10							
MJB9	**Matsu-Tunnel**	**36.78**	**16**	*eP*		**P**	**20 56 21.1**	**-0.1**
	25nm,1.5s							
ARMA	**Armidale**	**39.63**	**145**	*eP*		**P**	**20 56 46.8**	**+1.3**
	91nm,1.9s							
BJT	**Baijiatuan**	**39.69**	**348**	*eP*		**P**	**20 56 45.5**	**-0.1**
	4.9nm,0.7s							
LZH	**Lanzhou**	**40.47**	**331**	*eP*		P	20 56 57.8	+5.4
LZH				*pP*		*pP*	20 57 03.0	-0.9
LZH				*sP*		*sP*	20 57 05.6	-3.3
LZH				*pmax*		*pmax*		
	comp=Z,32nm,1.1s							
SHL	**Shillong**	**41.10**	**309**	*eP*		**P**	**20 56 57.0**	**-0.8**
	comp=Z,10nm,0.5s							
HHC	**Hu-ho-hao-te**	**41.64**	**343**	*eP*		**P**	**20 57 03.3**	**+1.4**
HHC				*sP*		*pP*	20 57 13.6	+0.2
HHC				S		**S**	**21 03 22.3**	**+6.8**
HHC				*sS*		*sS*	21 03 32.9	-2.0
HHC				*pmax*		*pmax*		
	comp=Z,8.0nm,1.0s							
HHC				*pmax*		*pmax*		
	comp=Z,320nm,6.1s							
CN2	**Changchun**	**42.37**	**359**	*eP*		**P**	**20 57 08.3**	**+0.6**
TOO	**Toolangi**	**42.49**	**157**	*eP*		**P**	**20 57 09.7**	**+0.9**
	comp=Z,15nm,1.5s							
USA0B	**Ussuriysk Arra**	**43.05**	**6**	*eP*		**P**	**20 57 11.7**	**-1.5**
	comp=Z,51nm,1.9s							
USRK	**Ussuriysk Ar.**	**43.05**	**6**	P		**P**	**20 57 14.9**	**+1.8**
	comp=Z,3.2nm,0.6s,baz=178,slow=5.3,SNR=14							
MDJ	**Mudanjiang**	**43.27**	**3**	P		**P**	**20 57 16.7**	**+1.8**
MDJ				*pP*		*pP*	20 57 27.9	+1.3
MDJ				*PcS*		**PcS**	**21 03 01.1**	**+5.2**
MDJ				S		**S**	**21 03 38.8**	**-0.4**
MDJ				*sS*		*sS*	21 03 55.1	-3.6
MDJ				*pmax*		*pmax*		
	comp=Z,12nm,1.0s							
MDJ				LR		LR		
	comp=Z,250nm,4.5s							
MDJ				LR		LR		
	comp=Z,170nm,4.4s							
MDJ				LR		LR		
	comp=Z,150nm,6.4s							
MDJ	**Mudanjiang**	**43.27**	**3**	*eP*		**P**	**20 57 12.3**	**-2.6**
	comp=Z,9.5nm,1.0s							
ERM	**Erimo**	**43.30**	**18**	*eP*		**P**	**20 57 13.0**	**-2.2**
	comp=Z,27nm,1.1s							
LSA	**Lhasa**	**43.84**	**314**	*eP*		**P**	**20 57 19.6**	**-0.8**
	comp=Z,3.6nm,0.6s							
GTA	**Gaotai**	**45.05**	**331**	⇑*P*		**P**	**20 57 31.2**	**+1.7**

GTA				*pP*		*pP*	20 57 36.0	-5.1
GTA				*sP*		*sP*	20 57 38.6	-7.4
GTA				*pmax*		*pmax*		
	comp=Z,3.0nm,1.1s							
GTA				*pmax*		*pmax*		
	comp=Z,72nm,5.4s							
GTA				LR		LR		
	comp=Z,82nm,16.2s							
GTA				LR		LR		
	comp=Z,140nm,17.5s							
RAMN	**Ramite**	**45.92**	**307**	*eP*		**P**	**20 57 36.1**	**-0.6**
	comp=Z,13nm,0.6s							
JIRN	**Jiri**	**46.57**	**308**	*eP*		**P**	**20 57 41.0**	**-1.0**
	comp=Z,12nm,0.3s							
GUN	**Gumba**	**46.93**	**308**	*eP*		**P**	**20 57 43.7**	**-1.0**
	comp=Z,13nm,0.3s							
PKI	**Pulchoki**	**47.15**	**307**	*eP*		**P**	**20 57 44.5**	**-1.9**
	comp=Z,5.5nm,0.3s							
PKIN	**Phulchoki**	**47.16**	**307**	*eP*		**P**	**20 57 45.1**	**-1.4**
	comp=Z,3.3nm,0.2s							
KKN	**Kakani**	**47.35**	**308**	*eP*		**P**	**20 57 46.9**	**-1.0**
	comp=Z,4.9nm,0.4s							
DMN	**Daman**	**47.41**	**307**	*eP*		**P**	**20 57 48.1**	**-0.3**
	comp=Z,6.7nm,0.5s							
GKN	**Gorkha**	**47.95**	**308**	*eP*		**P**	**20 57 50.6**	**-1.9**
	comp=Z,5.9nm,0.4s							
HIA	**Hailar**	**48.17**	**354**	*eP*		**P**	**20 57 53.4**	**-0.2**
	comp=Z,6.9nm,0.8s							
KOLN	**Koldanda**	**48.68**	**307**	*eP*		**P**	**20 57 57.2**	**-0.9**
	comp=Z,26nm,0.6s							
DANN	**Dangsing**	**48.80**	**308**	*eP*		**P**	**20 57 57.5**	**-1.7**
	comp=Z,28nm,0.5s							
PYUN	**Piuthan**	**49.31**	**307**	*eP*		**P**	**20 58 01.8**	**-1.1**
	comp=Z,26nm,0.5s							
ULN	**Ulaanbaatar**	**49.36**	**343**	*eP*		**P**	**20 58 02.6**	**-0.3**
	comp=Z,7.6nm,1.5s							
SONA0	**Songino Array**	**49.53**	**342**	*eP*		**P**	**20 58 04.2**	**+0.1**
SONA0				*ePcP*		**PcP**	**20 59 26.6**	**+1.0**
SONM	**Songino Array**	**49.53**	**342**	P		**P**	**20 58 04.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=162,slow=7.1,SNR=10							
SONM				PcP		**PcP**	**20 59 26.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=182,slow=3.6,SNR=5.3							
HYB	**Hyderabad**	**49.66**	**292**	*i P*		**P**	**20 58 05.0**	**-0.6**
WMQ	**Urumqi**	**54.56**	**326**	*eP*		**P**	**20 58 42.0**	**+0.4**
WMQ				*pP*		*pP*	20 58 49.5	-4.0
WMQ				*pmax*		*pmax*		
	comp=Z,24nm,1.1s							
WMQ				*pmax*		*pmax*		
	comp=Z,330nm,5.1s							
WMQ				LR		LR		
	comp=Z,160nm,20.9s							
WMQ				LR		LR		
	comp=Z,170nm,27.9s							
WMQ				LR		LR		
	comp=Z,120nm,19.1s							
OUZ	**Omahuta**	**57.08**	**134**	*eP*		**P**	**20 59 01.6**	**+1.9**
	comp=Z,138nm,1.8s							
PEA0B	**Petropavlovsk-**	**57.84**	**22**	*eP*		**P**	**20 59 06.4**	**+1.6**
	comp=Z,29nm,1.1s							
PETK	**Petropavlovsk-**	**57.84**	**22**	*eP*		**P**	**20 59 05.4**	**+0.7**
PETK	**Petropavlovsk-**	**57.84**	**22**	P		**P**	**20 59 06.0**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=164,slow=5.9,SNR=3.9							
PEA1	**Petropavlovsk-**	**57.84**	**22**	*eP*		**P**	**20 59 06.0**	**+1.2**
FOZ	**Fox Glacier**	**59.13**	**144**	*eP*		**P**	**20 59 13.3**	**-0.6**
	comp=Z,42nm,1.2s							
NIL	**Nilore**	**59.18**	**309**	*eP*		**P**	**20 59 14.4**	**-0.1**
	comp=Z,18nm,1.4s							
PRZ	**Przheval'sk**	**59.36**	**320**	*eP*		**P**	**20 59 15.6**	**-0.2**
	comp=Z,19nm,1.4s							
TARG	**Taragay, Kyrgy**	**59.37**	**319**	*eP*		**P**	**20 59 16.7**	**+0.6**
	comp=Z,5.0nm,0.8s							
MK01	**Makanchi Array**	**59.37**	**326**	*eP*		**P**	**20 59 15.1**	**-0.5**
MK31	**Makanchi Array**	**59.39**	**326**	*eP*		**P**	**20 59 15.0**	**-0.8**
	comp=Z,4.7nm,1.0s							
MK32	**Makanchi Array**	**59.39**	**326**	*eP*		**P**	**20 59 15.2**	**-0.5**
MKAR	**Makanchi Array**	**59.39**	**326**	P

KLMR	**Klimovskoe**	**87.38**	**331**	*e*P		**P**	**21 02 00.4**	**+0.4**
KLMR				AMP			21 02 07.4	
	comp=Z,5.0nm,0.6s							
IL1	**Eielson Array**	**87.47**	**25**	*e*P		**P**	**21 01 59.8**	**-0.7**
ILAR	**Eielson Array**	**87.47**	**25**	P		**P**	**21 02 00.1**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=247,slow=4.9,SNR=6.1							
ILB	**Eielson Array**	**87.47**	**25**	*e*P		**P**	**21 01 59.3**	**-1.2**
	comp=Z,14nm,1.9s							
DOT	**Dot Lake**	**88.69**	**27**	*e*P		**P**	**21 02 07.4**	**+1.2**
	comp=Z,9.4nm,1.6s							
SCRK	**Sand Creek**	**88.72**	**26**	*e*P		**P**	**21 02 07.5**	**+0.9**
	comp=Z,8.9nm,1.7s							
KMBO	**Kilima Mbogo**	**89.15**	**269**	*e*P		**P**	**21 02 10.6**	**+0.8**
	comp=Z,8.0nm,1.6s							
KMBO	**Kilima Mbogo**	**89.15**	**269**	P		**P**	**21 02 09.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=56,slow=11,SNR=4.0							
QSPA	**South Pole Qui**	**91.18**	**180**	LR		LR	21 41 07.6	
	comp=Z,89nm,19.0s,baz=76,slow=34							
BR101	**Keskin Array S**	**91.32**	**310**	*e*P		**P**	**21 02 17.5**	**-1.8**
BRTR	**Keskin Array B**	**91.32**	**310**	P		**P**	**21 02 17.5**	**-1.8**
	comp=Z,0.9nm,0.8s,baz=92,slow=2.8,SNR=4.3							
ARA0	**ARCESS Array S**	**92.63**	**340**	*e*P		**P**	**21 02 23.2**	**-1.3**
ARCES	**ARCESS Array B**	**92.63**	**340**	P		**P**	**21 02 23.2**	**-1.3**
	comp=Z,3.9nm,0.9s,baz=76,slow=6.7,SNR=5.7							
AKASG	**Malin Array Be**	**93.58**	**321**	P		**P**	**21 02 27.3**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=64,slow=4.5,SNR=3.0							
FIA0	**FINESS Array S**	**93.83**	**332**	*e*P		**P**	**21 02 29.2**	**-0.9**
FINES	**FINESS Array B**	**93.83**	**332**	P		**P**	**21 02 29.2**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=53,slow=5.5,SNR=7.1							
H02S1	**DAWSON INLET T**	**95.67**	**36**	T		T	22 47 18.0	
	SNR=3.8							
MLR	**Muntele Rosu**	**96.42**	**316**	P		**P**	**21 02 42.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=270,slow=3.0,SNR=3.1							
BUR08	**Bucovina Ar. S**	**96.61**	**318**	*e*P		**P**	**21 02 43.1**	**-0.2**
	comp=Z,21nm,2.0s							
TORD	**Torodi Ar. Bea**	**123.32**	**287**	PKP		**PKPdf**	**21 08 10.4**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=73,slow=2.1,SNR=7.7							
TOA1	**Torodi Ar. Sit**	**123.32**	**287**	*e*PKPdf		**PKPdf**	**21 08 10.3**	**-0.7**

SJA ***05*** *20:54:13.5±0.5, 23.96S×66.81W, h237km±6km, ML3.3, MW3.4*
ISCJB ***05*** *20:54:14.9±0.4, 23.98S±0.04×66.92W±0.05, h216km±6km, mb3.3/4, Error ellipse: s-maj=8.7km s-min=5.0km az=151.5*
IDC ***05*** *20:54:15.4±1.1, 23.98S×66.81W, h204km±11km, mb3.2/4, mb1 3.5/8, mb1mx3.3/35, mbtmp3.8/8, Error ellipse: s-maj=19.5km s-min=15.4km az=29.0*
GUC ***05*** *20:54:17.9±0.6, 23.79S×67.36W, h235km±8km, ML3.9*

ISC 05 20:54:15.3±0.8, 23.96S±0.05×66.85W±0.07, h208km±8km, n49, σ1s02/60, mb3.4/4, 11C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SLA	**San Lorenzo**	**1.45**	**122**	*e*P		**Pn**	**20 54 50.6**	**+1.1**
SLA				IAML			20 54 51.1	
	comp=Z,190nm,0.6s							
HJA	**Humahuaca**	**1.52**	**61**	*e*P		**Pn**	**20 54 51.6**	**+1.2**
HJA				IAML			20 54 54.1	
	comp=Z,107nm,0.4s							
FSA	**Cafayete**	**2.29**	**160**	*e*P		**Pn**	**20 54 58.0**	**+0.4**
FSA				IAML			20 54 58.3	
	comp=Z,27nm,0.6s							
LVC	**Limon Verde**	**2.32**	**305**	*e*P		**Pn**	**20 54 59.4**	**+1.2**
LVC				IAML			20 55 00.5	
	comp=Z,110nm,0.2s							
LVC	**Limon Verde**	**2.32**	**305**	*i*P		**Pn**	**20 54 59.3**	**+1.2**
LVC				*e*S		**S**	**20 55 31.4**	**+0.4**
LVC	**Limon Verde**	**2.32**	**305**	P		**Pn**	**20 54 58.9**	**+0.7**
	comp=Z,47nm,0.3s,baz=112,slow=7.6,SNR=488							
LVC				S		**S**	**20 55 32.5**	**+1.5**
	comp=Z,15nm,0.3s,baz=47,slow=23,SNR=7.3							
PB15	**IPOC Station P**	**2.52**	**287**	*e*P		**Pn**	**20 55 01.2**	**+1.1**
PB15	**IPOC Station P**	**2.52**	**287**	*i*P		**Pn**	**20 55 01.2**	**+1.1**
PB15				*i*S		**S**	**20 55 34.3**	**-0.2**
GO02	**Mina Guanaco**	**2.77**	**244**	*i*P		**Pn**	**20 55 03.5**	**+0.6**
GO02				*i*S		**S**	**20 55 39.4**	**-0.3**
PB06	**IPOC Station P**	**2.79**	**296**	*e*P		**Pn**	**20 55 04.2**	**+1.0**
PB06	**IPOC Station P**	**2.79**	**296**	*i*P		**Pn**	**20 55 04.2**	**+1.0**
PB06				*i*S		**S**	**20 55 39.5**	**-0.5**
PB06				IAML			20 55 44.4	
	comp=N,254nm,0.4s							
PB09	**IPOC Station P**	**3.08**	**314**	*e*P		**Pn**	**20 55 08.1**	**+1.5**
PB09	**IPOC Station P**	**3.08**	**314**	*i*P		**Pn**	**20 55 07.9**	**+1.4**
AHML	**Horco Molle**	**3.13**	**154**	*e*P		**Pn**	**20 55 07.2**	**+0.3**
PB05	**IPOC Station P**	**3.27**	**289**	*e*P		**Pn**	**20 55 09.1**	**+0.4**
PB05	**IPOC Station P**	**3.27**	**289**	*i*P		**Pn**	**20 55 09.2**	**+0.6**
PB05				*i*S		**S**	**20 55 48.0**	**-1.9**
PB05				IAML			20 55 52.0	
	comp=N,160nm,0.3s							
PB03	**IPOC Station P**	**3.28**	**305**	*e*P		**Pn**	**20 55 09.5**	**+0.6**
PB03	**IPOC Station P**	**3.28**	**305**	*i*P		**Pn**	**20 55 09.5**	**+0.6**
PB03				IAML			20 55 54.9	
	comp=E,201nm,0.1s							
PB14	**IPOC Station P**	**3.31**	**258**	*e*P		**Pn**	**20 55 09.9**	**+0.6**
PB10	**IPOC Station P**	**3.42**	**277**	*e*P		**Pn**	**20 55 10.9**	**+0.6**
PB10	**IPOC Station P**	**3.42**	**277**	*i*P		**Pn**	**20 55 10.9**	**+0.6**
PB10				*i*S		**S**	**20 55 51.5**	**-1.5**
PB04	**IPOC Station P**	**3.44**	**297**	*e*P		**Pn**	**20 55 11.2**	**+0.5**
PB04	**IPOC Station P**	**3.44**	**297**	*i*P		**Pn**	**20 55 11.2**	**+0.5**
PB07	**IPOC Station P**	**3.57**	**308**	*e*P		**Pn**	**20 55 12.9**	**+0.5**
PB07	**IPOC Station P**	**3.57**	**308**	*i*P		**Pn**	**20 55 12.9**	**+0.5**
PB07				*e*S		**S**	**20 55 54.6**	**-2.0**
PB01	**IPOC Station P**	**3.79**	**319**	*i*S		**S**	**20 56 00.0**	**-1.2**
PB02	**IPOC Station P**	**3.85**	**312**	*e*P		**Pn**	**20 55 15.8**	**+0.1**
PB02	**IPOC Station P**	**3.85**	**312**	*i*P		**Pn**	**20 55 15.8**	**+0.1**
PB02				*e*S		**S**	**20 55 59.9**	**-2.6**
PB08	**IPOC Station P**	**4.36**	**330**	*e*P		**Pn**	**20 55 24.6**	**+2.3**
CYA	**Choya**	**4.56**	**168**	*e*P		**Pn**	**20 55 24.3**	**-0.1**
PB11	**IPOC Station P**	**4.92**	**328**	*e*P		**Pn**	**20 55 28.6**	**-0.6**
MNMC	**Minye Minye**	**5.44**	**332**	*e*P		**Pn**	**20 55 35.9**	**0.0**
MNMC				*i*S		**S**	**20 56 37.4**	**-1.7**
MNMCX	**Minye Minye**	**5.44**	**332**	*e*P		**Pn**	**20 55 35.9**	**0.0**
ACLC	**CERRO LA CRUZ**	**5.45**	**181**	*e*P		**Pn**	**20 55 35.1**	**-0.6**
AGUA	**GUANDACOL**	**5.70**	**195**	*e*P		**Pn**	**20 55 38.5**	**-0.4**
PB12	**IPOC Station P**	**6.23**	**328**	*e*P		**Pn**	**20 55 45.0**	**-0.8**
APLL	**PUNTA DE LOS L**	**6.42**	**177**	*e*P		**Pn**	**20 55 47.4**	**-0.7**
APLL				IAML			20 56 59.4	
	comp=Z,17nm,0.3s							
LPAZ	**La Paz**	**7.72**	**351**	P		**Pn**	**20 56 05.6**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=127,slow=5.7,SNR=16							
LPAZ				S		**S**	**20 57 32.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=301,slow=19,SNR=4.4							
CPUP	**Villa Florida**	**8.95**	**107**	P		**Pn**	**20 56 19.4**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=287,slow=5.3,SNR=3.4							
BDFB	**Brasilia**	**19.55**	**68**	P		**P**	**20 58 27.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=248,slow=12,SNR=6.9							
SNAA	**Sanae**	**59.34**	**161**	P		**P**	**21 03 55.1**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=291,slow=8.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.43**	**69**	P		**P**	**21 05 42.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=271,slow=7.3,SNR=7.5							
PDAR	**Pinedale Array**	**77.18**	**329**	P		**P**	**21 05 46.4**	**0.0**
	comp=Z,0.2nm,0.7s,baz=132,slow=5.0,SNR=2.9							
YKA	**Yellowknife Ar**	**94.13**	**340**	P		**P**	**21 07 11.4**	**+1.6**
	comp=Z,0.3nm,0.5s,baz=136,slow=4.2,SNR=6.7							
ASAR	**Alice Springs**	**128.55**	**205**	PKP		**PKPdf**	**21 12 57.4**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=198,slow=0.6,SNR=2.9							
WRA	**Warramunga Arr**	**131.72**	**207**	PKP		**PKiKP**	**21 13 05.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=153,slow=1.7,SNR=3.2							
NRIK	**Noril'sk**	**132.09**	**12**	PKP		**PKPdf**	**21 13 03.4**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=180,slow=2.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**143.29**	**28**	PKP		**PKPdf**	**21 13 23.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=307,slow=5.2,SNR=2.6							
MKAR	**Makanchi Array**	**146.41**	**40**	PKPbc		**PKPab**	**21 13 32.8**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=321,slow=2.8,SNR=7.4							

DDA ***05*** *20:55:11.1, 42.46N×41.32E, h6km±2km, ML3.0*
MOS ***05*** *20:55:11.3±0.0, 42.68N×41.53E, h11km, MPVA3.4*
NORS ***05*** *20:55:12.4±0.0, 42.70N×41.60E, h12km, MPVA3.4*
ISK ***05*** *20:55:12.2, 42.63N×41.33E, h26km, ML2.6/3*

ISC 05 20:55:10.1±1.2, 42.60N±0.02×41.47E±0.03, h7km±10km, n25, σ0s67/50, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ARXR	**Arkhyz**	**0.97**	**351**	*e*Pg		**Pg**	**20 55 28.8**	**0.0**
ARXR				*i*Pg		**Pg**	**20 55 28.9**	**0.0**
ARXR				*i*Sg		**Sg**	**20 55 41.5**	**-0.1**
ARXR				*e*Sg		**Sb**	**20 55 41.6**	**-0.9**
BATM	**Batumi**	**1.01**	**171**	P		**Pn**	**20 55 30.7**	**+0.1**
BATM				S		**Sn**	**20 55 44.4**	**-0.6**
NEY	**Neytrino**	**1.12**	**54**	*i*Pg		**Pg**	**20 55 31.4**	**-0.3**
NEY				*e*Sg		**Sg**	**20 55 45.1**	**-1.1**
RPOR	**Krasnaya Polya**	**1.41**	**322**	*e*Pg		**Pn**	**20 55 36.9**	**+0.6**
RPOR				*e*Sg		**Sn**	**20 55 55.5**	**+0.4**
SHA1	**Shidzhatmaz**	**1.43**	**37**	*e*Pg		**Pn**	**20 55 37.0**	**+0.3**
SHA1				*i*Pg		**Pb**	**20 55 37.1**	**-0.2**
SHA1				*e*Sg		**Sb**	**20 55 54.8**	**-0.9**
SHA1				*i*Sg		**Sb**	**20 55 54.9**	**-0.9**
EPOS	**Posof**	**1.44**	**139**	*i*P		**Pg**	**20 55 38.3**	**+0.6**
EPOS				*i*S		**Sg**	**20 55 57.0**	**+0.7**
ARTV	**Artvin**	**1.45**	**166**	*i*P		**Pn**	**20 55 37.1**	**+0.1**
ARTV				*i*S		**Sg**	**20 55 56.5**	**-0.3**
ARTV				IAML_P				
	comp=Z,2μm,0.1s							
DAGI	**Agillar**	**1.55**	**168**	*i*P		**Pn**	**20 55 38.6**	**+0.3**
DAGI				*i*S		**Sg**	**20 55 59.7**	**-0.3**
DAGI				IAML_P				
	comp=Z,352nm,0.1s							
DIGR	**Digorskoe uzhe**	**1.58**	**78**	*e*Pg		**Pb**	**20 55 39.7**	**-0.1**
DIGR				*e*Sg		**Sb**	**20 55 59.6**	**-0.4**
DBAD	**Bademkaya**	**1.59**	**174**	*i*P		**Pb**	**20 55 39.4**	**-0.4**
DBAD				*i*S		**Sn**	**20 55 59.6**	**+0.1**
CHOM	**Cayeli-Rize**	**1.59**	**200**	PN		**Pn**	**20 55 39.3**	**+0.6**
KIV	**Kislovodsk**	**1.62**	**33**	PN		**Pb**	**20 55 40.2**	**-0.2**
KIV				SN		**Sn**	**20 56 00.5**	**+0.2**
KIV	**Kislovodsk**	**1.62**	**33**	*e*Pg		**Pn**	**20 55 39.7**	**+0.6**
KIV				*e*Sg		**Sn**	**20 55 59.9**	**-0.4**
SOC	**Sochi**	**1.62**	**308**	*e*Pg		**Pb**	**20 55 40.4**	**+0.1**
SOC				*e*Sg		**Sb**	**20 56 01.2**	**+0.3**
KIV0	**Kislovodsk Arr**	**1.62**	**33**	*e*Pg		**Pn**	**20 55 40.1**	**+0.9**
KIV0				*e*Sg		**Sn**	**20 56 00.8**	**+0.4**
GUZR	**Guzeripl'**	**1.71**	**325**	*i*Pg		**Pn**	**20 55 41.0**	**+0.6**
GUZR				*e*Sg		**Sn**	**20 56 03.4**	**+0.8**
DDEM	**Demirkent**	**1.72**	**173**	*i*P		**Pb**	**20 55 42.5**	**+0.5**
BEYR	**Belyy Ugol+**	**1.72**	**34**	*e*Pg		**Pb**	**20 55 41.9**	**-0.2**
BEYR				*e*Sg		**Sn**	**20 56 03.4**	**+0.7**
ZEI	**Tsey**	**1.80**	**83**	*e*Pg		**Pb**	**20 55 43.0**	**-0.5**
ZEI				*e*Sg		**Sb**	**20 56 06.4**	**0.0**
LZRR	**Lazarevskoye**	**2.03**	**312**	*e*Pg		**Pb**	**20 55 46.5**	**-0.8**
LZRR				*i*Sg		**Sb**	**20 56 12.3**	**-0.4**
KTUT	**Trabzon**	**2.06**	**219**	PN		**Pn**	**20 55 45.4**	**+0.4**
KTUT				SN		**Sn**	**20 56 09.4**	**-1.5**
LACR	**Lac**	**2.09**	**83**	*e*Pg		**Pg**	**20 55 51.1**	**+0.8**
LACR				*e*Sg		**Sg**	**20 56 17.4**	**0.0**
SENK	**Senkaya-Erzuru**	**2.14**	**162**	PN		**Pb**	**20 55 48.1**	**-1.2**
BAYT	**Aydintepe-Bayb**	**2.42**	**205**	PN		**Pn**	**20 55 51.0**	**+0.8**
BAYT				SN		**Sn**	**20 56 19.4**	**-0.8**
BAYB	**BAYBURT**	**2.51**	**202**	*i*P		**Pn**	**20 55 53.6**	**+2.1**
BAYB				IAML_P				
	comp=Z,277nm,0.2s							

UCR 05 21:01:07.6±1.3, 14.15N×90.27W, h19km±6km, MD3.6, ML3.6, 2C-2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**0.16**	**279**	*i*P		Pg	21 01 12.1	-0.2
PCG	**Pacaya**	**0.41**	**307**	*e*P		Pb	21 01 16.3	-0.1
NBG	**Las Nubes**	**0.45**	**351**	*e*P		Pg	21 01 16.4	-0.5
FUG	**Fuego 3**	**0.63**	**299**	*e*P		Pg	21 01 20.1	-0.1
RTR	**El Retiro**	**0.66**	**112**	*e*P		Pb	21 01 20.2	-0.3
SBLS	**San Blas**	**0.70**	**116**	*e*P		Pb	21 01 20.9	-0.4
SNJE	**San Jose**	**0.70**	**113**	*e*P		Pb	21 01 21.0	-0.4
SNJE				*e*S		Sg	21 01 31.9	+0.9
CEVE	**Cerro Verde**	**0.71**	**117**	*e*P		Pb	21 01 21.2	-0.3
CEVE				*e*S		Sn	21 01 32.9	-0.5
UNIC	**Santa Ana**	**0.71**	**102**	*e*P		Pb	21 01 20.2	-1.2
BOQS	**Boqueron**	**1.05**	**113**	*e*P		Pb	21 01 27.1	-0.2
MRL	**Marmol**	**1.09**	**31**	*e*P		Pb	21 01 27.6	-0.4
MRL				*e*S		Sb	21 01 42.4	+0.4
CUSC	**San Salvador**	**1.13**	**111**	*e*P		Pb	21 01 28.8	+0.2
LFU	**La Fuente**	**1.19**	**109**	*e*P		Pn	21 01 29.3	-0.1
LFU				*e*S		Sg	21 01 45.9	-0.5
LBRS	**Las Brisas**	**1.26**	**109**	*e*P		Pb	21 01 30.6	-0.3
LLGN	**La Laguna**	**1.28**	**89**	*e*P		Pn	21 01 30.2	-0.5
LLGN				*e*S		Sb	21 01 47.9	+0.5
LFRS	**El Faro**	**1.29**	**114**	*e*P		Pn	21 01 30.8	0.0
LFRS				*e*S		Sb	21 01 48.0	+0.4
PAVA	**Las Pavas**	**1.37**	**108**	*e*P		Pn	21 01 32.2	+0.4
PAVA				*e*S		Sb	21 01 49.8	-0.1
VICT	**Victoria**	**1.60**	**96**	*e*P		Pn	21 01 35.2	+0.2

IDC 05 21:13:06.8±2.1, 4.60N×126.62E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/49, mbtmp3.6/4, Error ellipse: s-maj=189.6km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.54**	**163**	P		P	21 18 36.8	-0.7
	1.1nm,0.6s,baz=343,slow=10.0,SNR=5.1							
ASAR	**Alice Springs**	**28.98**	**166**	P		P	21 19 08.1	-0.3
	0.3nm,0.5s,baz=354,slow=8.5,SNR=2.0							
STKA	**Stephens Creek**	**38.98**	**160**	P		P	21 20 35.9	+0.9
	0.9nm,0.5s,baz=333,slow=9.0,SNR=3.3							
MKAR	**Makanchi Array**	**56.78**	**325**	P		P	21 22 52.8	-0.1
	0.7nm,0.6s,baz=120,slow=7.4,SNR=13							

ISCJB ***05*** *21:16:10.4±0.3, 37.82N±0.01×22.02E±0.02, h6km±2km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=2.8km s-min=2.2km az=171.4*
ATH ***05*** *21:16:10.2, 37.83N×22.02E, h18km±1km, ML3.2/16, Error ellipse: s-maj=1.4km s-min=0.6km az=255.0*
THE ***05*** *21:16:10.5, 37.82N×22.02E, h10km±1km, ML3.1/11, Error ellipse: s-maj=1.7km s-min=0.2km az=15.0*
IDC ***05*** *21:16:11.3±1.2, 38.02N×22.21E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/57, mbtmp3.4/7, ML3.1/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/23, Error ellipse: s-maj=28.4km s-min=21.8km az=155.0*

ISC 05 21:16:10.6±0.9, 37.83N±0.01×22.02E±0.02, h9km±7km, n79, σ1s00/115, mb3.5/4, 4C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.23**	**26**	P		**Pg**	**21 16 15.4**	**-0.1**
KLV				S		**Sg**	**21 16 19.1**	**+0.4**
KLV	**Kalavryta, Ach**	**0.23**	**26**	P		**Pg**	**21 16 15.4**	**-0.1**
KLV				S		**Sg**	**21 16 20.0**	**+1.3**
DRO	**Drossia**	**0.27**	**296**	P		**Pg**	**21 16 16.1**	**0.0**
DRO				S		**Sg**	**21 16 20.4**	**+0.6**
DRO	**Drossia**	**0.27**	**296**	P		**Pg**	**21 16 16.1**	**0.0**
DRO				S		**Sg**	**21 16 21.1**	**+1.3**
DRO				AML	AML		21 16 24.7	
	comp=N,34262μm,0.7s							
DRO				AML	AML		21 16 26.6	
	comp=E,36288μm,0.6s							
GUR	**Goura**	**0.28**	**68**	P		**Pg**	**21 16 16.1**	**-0.1**
GUR				S		**Sg**	**21 16 20.5**	**+0.5**
GUR	**Goura**	**0.28**	**68**	P		**Pg**	**21 16 16.0**	**-0.1**
GUR				S		**Sg**	**21 16 20.5**	**+0.5**
TRIP	**Tripoli**	**0.36**	**147**	P		**Pg**	**21 16 17.7**	**-0.1**
TRIP				S		**Sg**	**21 16 22.6**	**0.1**
TRIP	**Tripoli**	**0.36**	**147**	P		**Pg**	**21 16 17.7**	**-0.1**
TRIP				S		**Sg**	**21 16 22.3**	**-0.3**
TRIP				AML	AML		21 16 26.2	
	comp=N,16349μm,0.4s							
TRIP				AML	AML		21 16 26.3	
	comp=E,17410μm,0.5s							
TRAZ	**Trapeza**	**0.37**	**24**	P		**Pg**	**21 16 17.8**	**-0.1**
TRAZ				S		**Sg**	**21 16 23.3**	**+0.5**
AMT	**Artemida-Makis**	**0.39**	**220**	P		**Pg**	**21 16 18.1**	**-0.2**
AMT				S		**Sg**	**21 16 23.8**	**+0.4**
AMT	**Artemida-Makis**	**0.39**	**220**	P		**Pg**	**21 16 18.3**	**0.0**
AMT				S		**Sg**	**21 16 23.6**	**+0.2**
AMT				AML	AML		21 16 32.1	
	comp=E,10872μm,0.6s							
AMT				AML	AML		21 16 41.6	
	comp=N,16195μm,0.6s							
LAKA	**Lakka**	**0.41**	**355**	P		**Pg**	**21 16 18.5**	**-0.2**
LAKA				S		**Sg**	**21 16 24.8**	**+0.7**
LAKA	**Lakka**	**0.41**	**355**	P		**Pg**	**21 16 18.5**	**-0.2**
LAKA				S		**Sg**	**21 16 25.1**	**+1.0**
LAKA				AML	AML		21 16 32.0	
	comp=N,2558μm,0.6s							
LAKA				AML	AML		21 16 40.4	
	comp=E,1906μm,0.6s							
ALIK	**Aliki, Aigiali**	**0.43**	**10**	P		**Pg**	**21 16 19.2**	**+0.1**
UPR	**University Cam**	**0.49**	**338**	P		**Pg**	**21 16 20.1**	**0.0**
UPR				S		**Sb**	**21 16 28.1**	**-0.5**
RLS	**Riolos of Patr**	**0.49**	**297**	P		**Pg**	**21 16 19.6**	**-0.6**
RLS				S		**Sg**	**21 16 27.3**	**+0.7**
RLS				AML	AML		21 16 27.6	
	comp=N,6309μm,0.5s							
RLS				AML	AML		21 16 28.4	
	comp=E,10313μm,0.3s							
TRIZ	**Trizonia**	**0.53**	**4**	P		**Pg**	**21 16 20.9**	**-0.1**
TRIZ	**Trizonia**	**0.53**	**4**	P		**Pg**	**21 16 20.9**	**-0.1**
TRIZ				S		**Sb**	**21 16 29.1**	**-0.8**
VLX	**Vlachokerasia**	**0.54**	**148**	P		**Pg**	**21 16 20.9**	**-0.3**
VLX				S		**Sg**	**21 16 28.6**	**+0.3**
VLX	**Vlachokerasia**	**0.54**	**148**	P		**Pg**	**21 16 20.8**	**-0.4**
VLX				S		**Sb**	**21 16 29.4**	**-0.9**
VLX				AML	AML		21 16 33.1	
	comp=E,15128μm,0.4s							
VLX				AML	AML		21 16 33.9	
	comp=N,13735μm,0.7s							
KALE	**Kalithea**	**0.57**	**10**	P		**Pg**	**21 16 21.5**	**-0.1**
KALE				S		**Sg**	**21 16 29.9**	**+0.8**
KALE	**Kalithea**	**0.57**	**10**	P		**Pg**	**21 16 21.6**	**-0.1**
KALE				S		**Sg**	**21 16 30.0**	**+0.8**
KALE				AML	AML		21 16 35.4	
	comp=N,2228μm,0.5s							
KALE				AML	AML		21 16 36.9	
	comp=E,2444μm,0.4s							
SERG	**Sergoula**	**0.58**	**3**	P		**Pg**	**21 16 21.6**	**-0.3**
SERG				S		**Sg**	**21 16 30.3**	**+0.7**
SERG	**Sergoula**	**0.58**	**3**	P		**Pg**	**21 16 21.7**	**-0.3**
EFP	**Efpalio**	**0.60**	**351**	P		**Pg**	**21 16 22.1**	**-0.2**
EFP				S		**Sb**	**21 16 31.2**	**-0.7**
EFP	**Efpalio**	**0.60**	**351**	P		**Pg**	**21 16 22.1**	**-0.2**
MES3	**Kyparissia**	**0.64**	**205**	P		**Pg**	**21 16 23.0**	**-0.1**
ITM	**Ithomi**	**0.66**	**187**	P		**Pg**	**21 16 22.8**	**-0.5**
ITM				S		**Sb**	**21 16 32.1**	**-1.3**
ITM	**Ithomi**	**0.66**	**187**	P		**Pg**	**21 16 22.9**	**-0.5**
ITM				S		**Sb**	**21 16 33.0**	**-0.5**
ITM				AML	AML		21 16 36.5	
	comp=N,3196μm,0.3s							
ITM				AML	AML		21 16 40.1	
	comp=E,2926μm,0.5s							
VTN	**Vitineika**	**0.67**	**278**	P		**Pb**	**21 16 24.0**	**-0.4**
DSF	**Desfina**	**0.70**	**35**	P		**Pg**	**21 16 23.5**	**-0.7**
LOUT	**Loutraki**	**0.77**	**78**	P		**Pg**	**21 16 25.0**	**-0.5**
LOUT				S		**Sb**	**21 16 36.2**	**-0.6**
LOUT	**Loutraki**	**0.77**	**78**	P		**Pg**	**21 16 25.1**	**-0.5**
LOUT				S		**Sb**	**21 16 36.1**	**-0.6**
LOUT				AML	AML		21 16 41.6	
	comp=E,919μm,0.7s							
LOUT				AML	AML		21 16 44.2	
	comp=N,400μm,0.5s							
LTK	**Loutraki**	**0.77**	**75**	P		**Pg**	**21 16 25.0**	**-0.6**
LTK	**Loutraki**	**0.77**	**75**	P		**Pg**	**21 16 24.9**	**-0.6**
PROD	**Prodromos**	**0.82**	**58**	P		**Pb**	**21 16 26.7**	**-0.3**
PROD				S		**Sb**	**21 16 37.6**	**-0.5**
PVO	**Paravola**	**0.88**	**334**	P		**Pg**	**21 16 27.0**	**-0.4**
PVO	**Paravola**	**0.88**	**334**	P		**Pg**	**21 16 27.1**	**-0.4**
PVO				S		**Sb**	**21 16 40.3**	**+0.5**
EPID	**Epidavros**	**0.90**	**104**	P		**Pg**	**21 16 27.2**	**-0.7**
EPID				S		**Sb**	**21 16 40.3**	**-0.2**
PYL	**PYLOS**	**0.96**	**193**	P		**Pg**	**21 16 28

CHOJ	**Chosi**	**0.44**	**331**	P	**Pb**	**21 27 20.8**	**0.0**
CHOJ				S	**Sb**	**21 27 26.8**	**-0.3**
JSMT	**Sammumatsuo**	**0.64**	**301**	*e*S	**Sb**	**21 27 32.6**	**0.0**
BSO1	**Boso 1**	**0.67**	**190**	P	**Pb**	**21 27 24.5**	**+0.2**
BSO1				*e*X		21 27 33.3	
KTR	**Katsuura**	**0.68**	**256**	P	**Pn**	**21 27 24.8**	**-0.8**
BSO3	**Boso 3**	**0.72**	**225**	P	**Pn**	**21 27 25.9**	**+0.1**
BSO3				*e*X		21 27 36.4	
BSO4	**Boso 4**	**0.72**	**243**	P	**Pn**	**21 27 26.0**	**0.0**
BSO4				*e*X		21 27 36.0	
JCN	**Nagara**	**0.76**	**278**	*e*S	**Sb**	**21 27 36.3**	**+0.3**
JYT	**Yasato**	**1.18**	**321**	P	**Pn**	**21 27 32.1**	**-0.4**
JHO	**Hitachi**	**1.37**	**341**	P	**Pb**	**21 27 34.7**	**-1.7**
JHJ	**Hachijo jima 2**	**2.46**	**207**	Pn	**Pn**	**21 27 51.8**	**+1.8**
	5.2nm,0.3s,baz=243,slow=9.0,SNR=1.7						
JHJ				Sn	**Sn**	**21 28 15.3**	**-3.9**
	6.5nm,0.3s,baz=73,slow=19,SNR=1.3						
MJAR	**Matsushiro Arr**	**2.66**	**298**	P	**Pn**	**21 27 55.0**	**+2.1**
	0.2nm,0.3s,baz=103,slow=8.1,SNR=14						
MAT	**Matsushiro**	**2.66**	**298**	P	**Pn**	**21 27 54.2**	**+1.3**
MAT				*e*S	**Sn**	**21 28 24.7**	**+0.3**
KSRS	**Korea Array**	**10.85**	**285**	LR	LR	21 33 56.1	
	comp=Z,23nm,18.2s,baz=240,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.52**	**118**	T	T	22 01 46.1	
	baz=310,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hy**	**27.52**	**118**	T	T	22 01 39.4	
	baz=310,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	22 01 49.3	
	baz=310,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	22 02 39.8	
	baz=312,slow=76,SNR=78						
H11S3	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	22 02 31.1	
	baz=312,slow=76,SNR=65						
H11S2	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	22 02 32.3	
	baz=312,slow=76,SNR=56						
MKAR	**Makanchi Array**	**44.85**	**304**	P	**P**	**21 35 24.9**	**+1.3**
	0.2nm,0.7s,baz=79,slow=7.5,SNR=1.6						
LEM	**Lembang**	**52.47**	**224**	LR	LR	21 59 10.0	
	comp=Z,28nm,19.6s,baz=150,slow=36						
WRA	**Warramunga Arr**	**55.33**	**188**	P	**P**	**21 36 43.0**	**-0.2**
	0.3nm,0.4s,baz=23,slow=7.2,SNR=11						

*ISCJB **05** 21:33:06.5±0.6,28°.30S±0'.04×67°.53W±0'.04,h131km±9km, Error ellipse: s-maj=6.6km s-min=5.6km az=35.1*
*GUC **05** 21:33:06.6±0.6,28°.30S×67°.58W,h121km±18km,ML3.1*
*SJA **05** 21:33:06.5±0.7,28°.33S×67°.48W,h135km±4km,ML3.1, MW3.5*

ISC 05 21:33:06.4±1.5,28°.30S±0'.04×67°.50W±0'.04, h138km±15km,n29,σ0§88/38,4C,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACLC	**CERRO LA CRUZ**	**1.23**	**157**	*e*P	**Pn**	**21 33 33.1**	**+0.7**
ACLC				*e*S	**Sn**	**21 33 51.8**	**-0.4**
AGUA	**GUANDACOL**	**1.47**	**216**	*e*P	**Pn**	**21 33 35.5**	**+0.7**
AGUA				*e*S	**Sn**	**21 33 56.4**	**-0.1**
CYA	**Choya**	**1.51**	**96**	*e*P	**Pn**	**21 33 35.9**	**+0.7**
CYA				*e*S	**Sn**	**21 33 56.7**	**-0.4**
CYA				IAML		21 33 57.1	
	comp=Z,277nm,0.4s						
CYA	**Choya**	**1.51**	**96**	⇑*e*P	**Pn**	**21 33 35.9**	**+0.7**
CYA				*e*S	**Sn**	**21 33 56.1**	**-1.0**
CYA				IAML		21 33 57.5	
	comp=E,338nm,0.4s						
APLL	**PUNTA DE LOS L**	**2.26**	**158**	*e*P	**Pn**	**21 33 44.6**	**+0.6**
APLL				IAML		21 34 13.0	
	comp=Z,74nm,0.3s						
AHML	**Horco Molle**	**2.44**	**53**	*e*P	**Pn**	**21 33 46.8**	**+0.4**
AHML	**Horco Molle**	**2.44**	**53**	⇑*i*P	**Pn**	**21 33 46.8**	**+0.4**
AHML				*i*S	**Sn**	**21 34 14.6**	**-2.4**
AHML				IAML		21 34 20.9	
	comp=E,22nm,0.6s						
AROD	**Rodeo**	**2.54**	**222**	*e*P	**Pn**	**21 33 48.9**	**+1.2**
FSA	**Cafayete**	**2.56**	**32**	*e*P	**Pn**	**21 33 49.6**	**+1.6**
FSA				IAML		21 33 50.5	
	comp=Z,19nm,0.3s						
ACCO	**Cerro Coronel**	**2.66**	**210**	*e*P	**Pn**	**21 33 50.1**	**+0.8**
AMOG	**MOGNA**	**2.77**	**198**	*e*P	**Pn**	**21 33 51.1**	**+0.7**
LCO	**Las Campanas**	**2.90**	**255**	*e*P	**Pn**	**21 33 52.4**	**+0.1**
LCO	**Las Campanas**	**2.90**	**255**	⇑*i*P	**Pn**	**21 33 52.4**	**+0.1**
LCO				*i*S	**Sn**	**21 34 26.7**	**-0.9**
LCO				IAML		21 34 30.0	
	comp=N,116nm,0.3s						
RTLL	**Cerro Villicun**	**3.14**	**195**	*e*P	**Pn**	**21 33 56.0**	**+0.8**
CFA	**Coronel Fontan**	**3.36**	**191**	*e*P	**Pn**	**21 33 58.5**	**+0.5**
ZON	**Zonda**	**3.40**	**197**	*e*P	**Pn**	**21 33 59.1**	**+0.7**
GO04	**Tololo Observa**	**3.43**	**236**	⇑*i*P	**Pn**	**21 33 59.0**	**-0.1**
GO04				*e*S	**Sn**	**21 34 39.1**	**-0.8**
GO02	**Mina Guanaco**	**3.63**	**329**	*e*P	**Pn**	**21 34 02.6**	**+0.7**
GO02				*i*S	**Sn**	**21 34 44.9**	**+0.1**
RTCV	**Cerro Valdivia**	**3.67**	**194**	*e*P	**Pn**	**21 34 02.7**	**+0.7**
RTLS	**Leoncito**	**3.82**	**204**	*e*P	**Pn**	**21 34 05.1**	**+0.9**
RTLS				IAML		21 34 54.0	
	comp=Z,28nm,0.3s						
TCA	**Tanti**	**3.95**	**141**	*e*P	**Pn**	**21 34 06.0**	**+0.3**
ACAN	**Cantantal**	**3.98**	**176**	*e*P	**Pn**	**21 34 07.1**	**+1.1**
CMCH	**Combarbala**	**4.18**	**226**	*i*P	**Pn**	**21 34 08.8**	**0.0**
CMCH				*i*S	**Sn**	**21 34 56.0**	**-1.3**
AUSP	**Uspallata**	**4.24**	**202**	*e*P	**Pn**	**21 34 11.0**	**+1.3**
MRA	**San Martin**	**4.39**	**160**	*e*P	**Pn**	**21 34 12.0**	**+0.4**
MRA				IAML		21 35 03.6	
	comp=Z,29nm,0.6s						
ASAL	**Salagasta**	**4.43**	**195**	*e*P	**Pn**	**21 34 12.7**	**+0.6**
PB14	**IPOC Station P**	**4.48**	**324**	*e*P	**Pn**	**21 34 13.7**	**+0.6**
ARCO	**CERRO ARCO**	**4.70**	**195**	*e*P	**Pn**	**21 34 16.7**	**+1.0**
AAGR	**Agrelo**	**4.91**	**193**	*e*P	**Pn**	**21 34 19.3**	**+0.8**

*NIED **05** 21:41:00,36°.30N×140°.90E,h38km,Mw3.5 Best double couple: M◎2.16000×10¹⁴ NP1:φs100.00000°,δ23.00000°, λ-24.00000°. NP2:φs212.00000°,δ81.00000°, λ-111.00000°.*

JMA 05 21:41:02.7±0.1,36°.23N×140°.85E,h43km±1km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.24**	**297**	P	Pn	21 41 10.7	+0.1
JHYU				S	Sn	21 41 15.8	-0.4
JIHU	**Itakohorinouch**	**0.37**	**225**	P	Pn	21 41 12.6	+0.6
JIHU				S	Sn	21 41 19.6	+1.1
JHO	**Hitachi**	**0.44**	**329**	P	Pn	21 41 12.6	-0.3
JHO				S	Sn	21 41 19.2	-0.8
CHOJ	**Chosi**	**0.53**	**179**	P	Pn	21 41 13.6	-0.3
CHOJ				S	Sn	21 41 20.9	-0.9
JYT	**Yasato**	**0.53**	**270**	P	Pn	21 41 14.0	+0.1
JYT				S	Sn	21 41 21.6	-0.3
JSMT	**Sammumatsuo**	**0.67**	**209**	P	Pn	21 41 16.2	+0.4
JSMT				S	Sn	21 41 26.1	+0.9
ONAJ	**Iwakimizuishiy**	**0.87**	**357**	P	Pn	21 41 18.2	-0.4
ONAJ				S	Sn	21 41 29.0	-1.2
JFK	**Kawauchi**	**1.13**	**1**	P	Pn	21 41 21.6	-0.6
JAG	**Ashikaga**	**1.15**	**280**	P	Pn	21 41 22.6	+0.3
JFT	**Otama**	**1.35**	**342**	P	Pn	21 41 26.1	+1.0
JFT				S	Sn	21 41 42.8	+1.0
JKT	**Katashina**	**1.40**	**293**	P	Pn	21 41 26.9	+1.1
JKT				S	Sn	21 41 43.9	+0.8
MAT	**Matsushiro**	**2.15**	**279**	P	Pn	21 41 37.8	+1.7
MAT				S	Sn	21 42 03.3	+1.6

*IDC **05** 21:42:02.3±0.6,34°.51N×24°.13E,h0km,mb4.2/20, mb1 4.2/29,mb1mx4.1/50,mbtmp4.1/29,ML3.8/8,MS3.6/17, Ms1 3.7/17,ms1mx3.3/53,Error ellipse: s-maj=13.8km s-min=11.4km az=142.0*
*ISCJB **05** 21:42:03.8±0.8,34°.41N±0'.02×24°.22E±0'.02,h15km±5km, mb4.3/47,MS3.6/15,Error ellipse: s-maj=3.8km s-min=2.5km az=37.3*
*THE **05** 21:42:03.7,34°.51N×24°.03E,h15km,ML4.0/3,Error ellipse: s-maj=1.3km s-min=0.7km az=248.0*
*GII **05** 21:42:03.9±0.0,34°.35N×24°.29E,h1km,mb4.0/1,MD3.8/1*
*ISK **05** 21:42:03.9,34°.61N×24°.21E,h4km,ML4.1/20*
*HLW **05** 21:42:04.8,34°.76N×24°.27E,h33km±34km,MD3.8,MI4.3*
*MOS **05** 21:42:04.3±1.3,34°.49N×24°.14E,h19km,mb4.5/18,Error ellipse: s-maj=7.2km s-min=3.5km az=82.8*
*MED_RC **05** 21:42:05.0±0.7,34°.42N×24°.19E,h16km±2km,MW4.6/13, Moment Tensor Solution.Mantle waves: s13,c16; Duration: 1§0 Moment tensor: Scale 10¹⁶Nm;*
Mrr-0.63±.15; Mθθ-0.06±.08; Mφφ0.69±.10; Mrθ-0.19±.16; Mrφ0.37±.08; Mθφ-0.76±.20; Best double couple: M◎1.07000×10¹⁶ NP1:φs15.00000°,δ69.00000°, λ-97.00000°. NP2:φs213.00000°,δ22.00000°, λ-73.00000°. Principal axes: T 1.1700, Plg23.0000°, Azm110.0000°; N -0.2000, Plg6.0000°, Azm18.0000°; P -0.9700, Plg66.0000°, Azm273.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
*NEIC **05** 21:42:06.8±0.0,34°.75N×24°.23E,h11km,mb4.1/21, ML3.7(ATH),After ATH.*
*ATH **05** 21:42:06.9,34°.75N×24°.23E,h11km±1km,ML3.7/7,Error ellipse: s-maj=2.4km s-min=1.0km az=17.0*
*DDA **05** 21:42:45.7,36°.40N×26°.76E,h56km±6km,ML2.8*

ISC 05 21:42:04.9±0.9,34°.58N±0'.04×24°.19E±0'.03,h12km±5km, n389,σ1§89/382,mb4.3/45,MS3.7/16,47C-9D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.27**	**343**	PG	**Pg**	**21 42 10.2**	**-0.5**
GVD				SG	**Sg**	**21 42 14.5**	**0.0**
GVD	**Gavdhos**	**0.27**	**343**	P	**Pg**	**21 42 10.5**	**-0.2**
GVD				S	**Sb**	**21 42 16.0**	**-0.4**
GVD	**Gavdhos**	**0.27**	**343**	P	**Pg**	**21 42 10.5**	**-0.2**
GVD				S	**Sg**	**21 42 13.2**	**-1.2**
GVD				AML	AML	21 42 20.1	
	comp=N,87318μm,0.6s						
GVD				AML	AML	21 42 28.8	
	comp=E,75419μm,0.6s						
TMBK	**Timbaki Herakl**	**0.69**	**44**	P	**Pb**	**21 42 19.1**	**+0.3**
TMBK				S	**Sn**	**21 42 31.0**	**0.0**
PRNS	**Prines Rethymn**	**0.83**	**18**	P	**Pg**	**21 42 20.1**	**-0.9**
PRNS				S	**Sb**	**21 42 33.0**	**+0.6**
VAM	**Vamos**	**0.83**	**1**	P	**Pg**	**21 42 20.3**	**-0.7**
VAM				S	**Sb**	**21 42 33.5**	**+1.1**
VAM	**Vamos**	**0.83**	**1**	P	**Pg**	**21 42 20.0**	**-1.0**
VAM				S	**Sg**	**21 42 28.4**	**-3.5**
VAM				AML	AML	21 42 46.2	
	comp=E,20727μm,1.2s						
VAM				AML	AML	21 42 55.0	
	comp=N,12618μm,0.6s						
IMMV	**Iera Moni Meta**	**0.90**	**349**	PG	**Pg**	**21 42 21.4**	**-0.9**
IMMV				SG	**Sb**	**21 42 34.5**	**+0.1**
IMMV	**Iera Moni Meta**	**0.90**	**349**	P	**Pg**	**21 42 21.2**	**-1.1**
IMMV				S	**Sb**	**21 42 34.5**	**+0.1**
IMMV	**Iera Moni Meta**	**0.90**	**349**	P	**Pg**	**21 42 20.9**	**-1.4**
IMMV				S	**Sg**	**21 42 31.0**	**-3.1**
IMMV				AML	AML	21 42 43.6	
	comp=E,21862μm,0.5s						
IMMV				AML	AML	21 42 49.9	
	comp=N,16326μm,1.0s						
IDI	**Anoyia**	**0.92**	**39**	PG	**Pg**	**21 42 21.8**	**-0.9**
IDI	**Anoyia**	**0.92**	**39**	*e*Pn	**Pg**	**21 42 22.0**	**-0.7**
IDI				Pg	**Pb**	**21 42 22.9**	**+0.1**
IDI				*e*Sn	**Sb**	**21 42 35.0**	**0.0**
IDI				Lg	Lg	21 42 45.0	
IDI	**Anoyia**	**0.92**	**39**	P	**Pg**	**21 42 22.4**	**-0.3**
IDI	**Anoyia**	**0.92**	**39**	Pg	**Pb**	**21 42 22.9**	**+0.1**
	comp=N,30nm,0.3s,baz=224,slow=17,SNR=90						
IDI				Lg	Lg	21 42 45.1	
	comp=N,95nm,0.3s,baz=332,slow=24,SNR=9.1						
IDI				LR	LR	21 42 48.2	
	comp=N,576nm,18.5s,baz=282,slow=46						
IDI	**Anoyia**	**0.92**	**39**	P	**Pg**	**21 42 21.5**	**-1.1**
KERA	**Keramoti**	**0.94**	**327**	P	**Pg**	**21 42 21.7**	**-1.5**
KERA				AML	AML	21 42 46.2	
	comp=N,10560μm,0.6s						
KERA				AML	AML	21 42 47.7	
	comp=E,15250μm,1.3s						
LAST	**Lasithi**	**1.21**	**61**	P	**Pb**	**21 42 27.2**	**-0.7**
LAST	**Lasithi**	**1.21**	**61**	P	**Pb**	**21 42 27.4**	**-0.5**
LAST				AML	AML	21 42 58.7	
	comp=N,3534μm,1.4s						
LAST				AML	AML	21 42 59.1	
	comp=E,4602μm,1.6s						
NPS	**Neapolis**	**1.36**	**59**	P	**Pn**	**21 42 28.9**	**-0.8**
NPS	**Neapolis**	**1.36**	**59**	P	**Pb**	**21 42 30.1**	**-0.2**
NPS				AML	AML	21 43 07.2	
	comp=E,4709μm,0.9s						
NPS				AML	AML	21 43 16.4	
	comp=N,4767μm,1.3s						
ANKY	**Antikythira Is**	**1.48**	**331**	P	**Pb**	**21 42 32.8**	**+0.5**
ZKR	**Zakros**	**1.75**	**72**	PN	**Pn**	**21 42 36.0**	**+0.8**
ZKR	**Zakros**	**1.75**	**72**	P	**Pg**	**21 42 38.9**	**+0.3**
KYTH	**Kithira**	**1.93**	**331**	P	**Pb**	**21 42 39.9**	**-0.1**
THR6	**Thira Island,**	**2.03**	**29**	P	**Pb**	**21 42 41.6**	**-0.2**
THR5	**Thira Island,**	**2.07**	**27**	P	**Pb**	**21 42 42.5**	**+0.1**
SANT	**Santorini**	**2.07**	**30**	PN	**Pn**	**21 42 40.9**	**+1.4**
SANT	**Santorini**	**2.07**	**30**	*e*Pn	**Pb**	**21 42 41.6**	**-0.9**
THT1	**Athinios (Pele**	**2.07**	**29**	P	**Pb**	**21 42 42.2**	**-0.3**
THR3	**Thira Island,**	**2.08**	**28**	P	**Pb**	**21 42 41.9**	**-0.6**
THT2	**Imerovigli**	**2.11**	**28**	P	**Pb**	**21 42 42.1**	**-1.0**
MHLO	**Agia Marina, M**	**2.12**	**5**	P	**Pb**	**21 42 42.0**	**-1.2**
THR2	**Thira island,**	**2.13**	**28**	P	**Pb**	**21 42 42.5**	**-0.9**
MHLA	**Plaka, Milos I**	**2.17**	**5**	P	**Pn**	**21 42 42.7**	**+1.8**
VLI	**Veliai**	**2.37**	**335**	P	**Pb**	**21 42 46.2**	**-1.3**
KARP	**Karpathos**	**2.63**	**68**	PN	**Pn**	**21 42 48.9**	**+1.7**
KARP	**Karpathos**	**2.63**	**68**	*e*Pn	**Pb**	**21 42 50.7**	**-1.2**
KARP	**Karpathos**	**2.63**	**68**	P	**Pb**	**21 42 51.1**	**-0.9**
AMGA	**Amorgos Island**	**2.65**	**31**	P	**Pn**	**21 42 49.7**	**+2.3**
APE	**Apeiranthos**	**2.72**	**23**	PN	**Pn**	**21 42 49.9**	**+1.5**
APE	**Apeiranthos**	**2.72**	**23**	*e*P	**Pn**	**21 42 50.2**	**+1.8**
APE	**Apeiranthos**	**2.72**	**23**	P	**Pn**	**21 42 49.9**	**+1.5**
KRND	**KRANIDI**	**2.92**	**344**	P	**Pn**	**21 42 53.3**	**+2.0**
DID	**Didima**	**3.02**	**346**	P	**Pn**	**21 42 54.3**	**+1.6**
PYL	**PYLOS**	**3.05**	**320**	P	**Pn**	**21 42 54.5**	**+1.5**
PYL				AML	AML	21 44 13.7	
	comp=E,733μm,1.7s						
PYL				AML	AML	21 44 14.7	
	comp=N,662μm,1.6s						
EPID	**Epidavros**	**3.15**	**344**	P	**Pn**	**21 42 56.6**	**+2.3**
ITM	**Ithomi**	**3.18**	**325**	PN	**Pn**	**21 42 56.7**	**+1.9**
ITM	**Ithomi**	**3.18**	**325**	*e*Pn	**Pb**	**21 42 59.1**	**-2.3**
ITM	**Ithomi**	**3.18**	**325**	P	**Pn**	**21 42 56.7**	**+1.9**
ITM	**Ithomi**	**3.18**	**325**	P	**Pn**	**21 42 57.3**	**+2.5**
SLUM	**Salum**	**3.19**	**164**	P	**Pn**	**21 42 54.8**	**-0.1**
	baz=166						
SLUM				AMP		21 43 00.0	
	baz=166						
SLUM				S	**Sn**	**21 43 31.0**	**-1.9**
	baz=166						
VLY	**Voula,Athens**	**3.29**	**355**	P	**Pn**	**21 42 57.7**	**+1.5**
ATHU	**Athens Univers**	**3.40**	**355**	P	**Pn**	**21 42 59.6**	**+1.9**
PTL	**Penteli**	**3.48**	**356**	P	**Pn**	**21 43 00.5**	**+1.6**
DAT	**Datca**	**3.50**	**51**	PN	**Pn**	**21 43 01.1**	**+1.9**
DAT	**Datca**	**3.50**	**51**	*i*P	**Pn**	**21 43 02.0**	**+2.8**
BODT	**Bodrum**	**3.55**	**45**	PN	**Pn**	**21 43 01.7**	**+1.9**
LTK	**Loutraki**	**3.58**	**344**	P	**Pn**	**21 42 58.8**	**-1.4**
LTK	**Loutraki**	**3.58**	**344**	P	**Pn**	**21 43 03.0**	**+2.7**
ARG	**Arkhangelos**	**3.61**	**62**	PN	**Pn**	**21 43 01.9**	**+1.2**
ARG	**Arkhangelos**	**3.61**	**62**	P	**Pn**	**21 43 04.1**	**+3.4**
BDRM	**Kayabasi**	**3.63**	**46**	*i*P	**Pn**	**21 43 02.1**	**+1.2**
BDRM				IAML_P			
	comp=Z,521nm,0.7s						
GUR	**Goura**	**3.67**	**337**	P	**Pn**	**21 43 03.9**	**+2.3**
GUR	**Goura**	**3.67**	**337**	P	**Pn**	**21 43 03.6**	**+2.0**
KLV	**Kalavryta, Ach**	**3.83**	**335**	P	**Pn**	**21 43 05.4**	**+1.6**
KLV	**Kalavryta, Ach**	**3.83**	**335**	P	**Pn**	**21 43 06.3**	**+2.6**
LAKA	**Lakka**	**4.07**	**335**	P	**Pn**	**21 43 09.0**	**+2.0**
CHOS	**Chios island**	**4.09**	**21**	PN	**Pn**	**21 43 09.1**	**+1.8**
YER	**Yerkesik**	**4.19**	**51**	PN	**Pn**	**21 43 11.0**	**+2.3**
URLA	**Izmir**	**4.25**	**27**	PN	**Pn**	**21 43 11.4**	**+2.0**
TURN	**Turunc**	**4.26**	**56**	PN	**Pn**	**21 43 07.6**	**-2.0**
TURN	**Turunc**	**4.26**	**56**	*i*P	**Pn**	**21 43 07.4**	**-2.2**
TURN				IAML_P			
	comp=Z,2μm,0.8s						
DALY	**Dalyan (Mula)**	**4.27**	**57**	PN	**Pn**	**21 43 11.9**	**+2.2**
DALY	**Dalyan (Mula)**	**4.27**	**57**	*i*P	**Pn**	**21 43 14.5**	**+4.8**
DALY				IAML_P			
	comp=Z,2μm,0.5s						
AYDN	**Tasoluk**	**4.29**	**43**	*i*P	**Pn**	**21 43 13.0**	**+2.9**
AYDB	**Zeytinkoy-Aydi**	**4.50**	**41**	PN	**Pn**	**21 43 15.2**	**+2.2**
AOS	**Alonnisos**	**4.59**	**357**	PN	**Pn**	**21 43 16.2**	**+2.1**
AGG	**Agios Georgios**	**4.68**	**342**	PN	**Pn**	**21 43 17.1**	**+1.7**
AGG	**Agios Georgios**	**4.68**	**342**	*e*Pn	**Pn**	**21 43 17.4**	**+2.0**
AGG	**Agios Georgios**	**4.68**	**342**	P	**Pn**	**21 43 16.1**	**+0.7**
AGG	**Agios Georgios**	**4.68**	**342**	*e*P	**Pn**	**21 43 17.4**	**+2.0**
AKAS	**Kas**	**4.72**	**68**	PN	**Pn**	**21 43 17.9**	**+1.8**
AKAS	**Kas**	**4.72**	**68**	*i*P	**Pn**	**21 43 18.7**	**+2.6**
AKAS				IAML_P			
	comp=Z,2μm,0.4s						
TAVA	**DENIZLI_Tavas**	**4.79**	**52**	*i*P	**Pn**	**21 43 20.7**	**+3.6**
TAVA				IAML_P			
	comp=Z,704nm,0.6s						
GOLH	**Golhisar**	**5.11**	**57**	*i*P	**Pn**	**21 43 25.2**	**+3.9**
ELL	**Elmali**	**5.14**	**63**	PN	**Pn**	**21 43 23.8**	**+2.0**
AKHS	**Akhisar**	**5.19**	**33**	*i*P	**Pn**	**21 43 26.5**	**+4.1**
AKHS				IAML_P			
	comp=Z,55nm,0.1s						
MANT	**Manisa**	**5.26**	**41**	*e*Pn	**Pn**	**21 43 27.3**	**+3.8**
AKUM	**Antalya-Kumluc**	**5.32**	**69**	*i*P	**Pn**	**21 43 25.3**	**+1.2**
KULA	**Kula-Manisa**	**5.33**	**41**	PN	**Pn**	**21 43 26.7**	**+2.3**
SWA2		**5.43**	**168**	P	**Pn**	**21 43 25.8**	**+0.2**
	baz=169						
SWA2				AMP		21 44 00.0	
	baz=169						
SWA2				S	**Sn**	**21 44 25.3**	**-2.7**
	baz=169						
EZN	**Ezine**	**5.51**	**17**	⇑*i*P	Pn	21 43 32.8	+6.0
EZN	**Ezine**	**5.51**	**17**	P	Pn	21 43 32.8	+6.0
KORT	**Korkueli**	**5.56**	**62**	PN	**Pn**	**21 43 29.6**	**+2.0**
KORT	**Korkueli**	**5.56**	**62**	*i*P	**Pn**	**21 43 29.4**	**+1.7**
USAK	**Uak-Merkez**	**5.67**	**42**	*i*P	**Pn**	**21 43 32.2**	**+3.2**
LIT	**Litokhoron**	**5.68**	**347**	*e*Pn	Pn	21 43 34.5	+5.4
LIT	**Litokhoron**	**5.68**	**347**	*e*P	Pn	21 43 34.5	+5.4
BRDR	**BURDUR-Merkez**	**5.68**	**55**	*i*P	**Pn**	**21 43 30.1**	**+0.8**
BRDR				IAML_P			
	comp=Z,290nm,0.3s						
KHAL	**Karahalli**	**5.71**	**47**	*i*P	**Pn**	**21 43 33.2**	**+3.6**
DEMI	**Demirci**	**5.75**	**38**	*i*P	**Pn**	**21 43 33.8**	**+3.6**
DEMI				IAML_P			
	comp=Z,225nm,0.4s						
DURS	**Dursunbey**	**6.07**	**33**	*i*P	**Pn**	**21 43 38.8**	**+4.2**
DURS				IAML_P			
	comp=Z,240nm,0.5s						
GDZ	**Gediz**	**6.19**	**42**	*i*P	**Pn**	**21 43 39.7**	**+3.4**
GDZ				IAML_P			
	comp=Z,71nm,0.1s						
KEPZ	**Antalya-Kepez**	**6.46**	**67**	*i*P	**Pn**	**21 43 43.8**	**+3.9**
FNA	**Florina**	**6.58**	**341**	*e*Pn	**Pn**	**21 43 43.8**	**+2.2**
FNA	**Florina**	**6.58**	**341**	*e*P	**Pn**	**21 43 43.8**	**+2.2**
VAY	**Valandovo**	**6.85**	**350**	*i*Pn	**Pn**	**21 43 48.1**	**+3.0**
DOGA	**KONYA_Doganhis**	**6.99**	**58**	*i*P	**Pn**	**21 43 50.1**	**+2.9**
MMB	**Musomiste**	**7.01**	**357**	P	Sn	21 44 48.7	-18
RZN	**Rozhen**	**7.11**	**3**	P	Sn	21 44 52.0	-18
KDZ	**Kurdzhali**	**7.13**	**7**	P	Sn	21 44 55.5	-14
YLV	**Yalova**	**7.26**	**33**	⇑*i*P	**Pn**	**21 43 53.5**	**+2.6**
YLV	**Yalova**	**7.26**	**33**	S	Pg	21 44 30.1	+6.2
YLV	**Yalova**	**7.26**	**33**	⇑P	**Pn**	**21 43 53.5**	**+2.6**
KKB	**Krupnik**	**7.33**	**354**	P	Pn	21 44 00.1	+8.3
HNAT	**Natroun**	**7.35**	**130**	P	**Pn**	**21 43 52.2**	**+0.1**
HNAT	baz=131			AMP		21 45 00.0	
	baz=131						
ERMK	**Ermenek**	**7.40**	**71**	*i*P	**Pn**	**21 43 55.6**	**+2.7**
ERMK				IAML_P			
	comp=Z,62nm,0.2s						
KDHN	**Kadinhani**	**7.50**	**56**	*i*P	**Pn**	**21 43 56.5**	**+2.3**
KDHN				IAML_P			
	comp=Z,297nm,0.8s						
TIP	**Timpagrande**	**7.52**	**310**	*e*Pn	**Pn**	**21 43 52.9**	**-1.5**
TIP	**Timpagrande**	**7.52**	**310**	⇑*i*P	**Pn**	**21 43 55.1**	**+0.7**
PLD	**Plovdiv**	**7.53**	**3**	P	Pg	21 44 58.1	+29
CSS	**Mathiatis**	**7.54**	**84**	*e*Pn	**Pn**	**21 43 53.5**	**-1.1**
CSS	**Mathiatis**	**7.54**	**84**	Pn	**Pn**	**21 43 53.8**	**-0.8**
DIM	**Dimitrovgrad**	**7.54**	**8**	P	Pg	21 44 57.2	+28
VTS	**Vitosha**	**8.06**	**355**	*e*Pn	**Pn**	**21 44 05.7**	**+3.8**
VTS	**Vitosha**	**8.06**	**355**	⇓*i*P	**Pn**	**21 44 05.8**	**+3.8**
VTS	**Vitosha**	**8.06**	**355**	⇓P	**Pn**	**21 44 05.8**	**+3.8**
VTS	**Vitosha**	**8.06**	**355**	P	**Pn**	**21 44 06.3**	**+4.3**
GLL	**Jalalah**	**8.10**	**126**	P	**Pn**	**21 44 01.1**	**-1.2**
NBNS	baz=127 **Bani Suef**	**8.48**	**132**	P	**Pn**	**21 44 07.2**	**-0.4**
	baz=133						
BR231	**Keskin MP Arra**	**8.63**	**50**	*e*Pn	**Pn**	**21 44 13.2**	**+3.4**
ANTO	**Ankara**	**8.66**	**50**	*e*Pn	**Pn**	**21 44 11.6**	**+

BURAR **Bucovina Array** 13.05 3 P P 21 45 21.5 +1.0
BUR08 **Bucovina Ar. S** 13.08 3 *e*Pn P 21 45 17.0 -3.8
PSZ **Piszkesteto** 13.71 348⇑*i*P P 21 45 33.0 +5.1
PSZ **Piszkesteto** 13.71 348 P P 21 45 33.0 +5.1
SOKA **Soboth** 13.93 333 *e*Pn **Pn** 21 45 24.3 +2.2
comp=Z,4.1nm,1.4s
OBKA **Obir** 13.98 331 Pn **Pn** 21 45 25.2 +2.4
comp=Z,8.3nm,1.1s
ARSA **Arzberg** 14.24 335 *e*Pn **Pn** 21 45 28.0 +1.6
comp=Z,4.3nm,1.1s
ANN **Anapa** 14.41 41 *e*P **Pn** 21 45 30.4 +1.7
ANN *e*S **S** 21 48 19.7 -8.6
ANN pmax pmax
comp=Z,72nm,2.0s
MYKA **Terra Mystica** 14.44 330 *e*P **P** 21 45 38.4 +2.4
comp=Z,2.7nm,0.7s
VYHS **Vyhne** 14.46 346 *e*P **P** 21 45 35.2 -1.0
VYHS **Vyhne** 14.46 346 *e*P **P** 21 45 35.2 -1.0
MODS **Modra-Piesok** 14.71 342 *e*P **P** 21 45 40.5 +1.5
MODS **Modra-Piesok** 14.71 342 *e*P **P** 21 45 40.5 +1.5
CONA **Conrad Observa** 14.72 337 Pn **Pn** 21 45 36.0 +3.0
comp=Z,8.2nm,1.9s
KBA **Koelnbreinsper** 14.92 330 *e*P **P** 21 45 42.5 +1.1
comp=Z,8.3nm,0.9s
ABTA **Abfaltersbach** 15.02 328 *e*P **P** 21 45 44.0 +1.6
comp=Z,30nm,1.7s
SIRT **Sirnak** 15.05 74 *e*Pn **Pn** 21 45 39.7 +2.2
comp=Z,24nm,1.1s
MOA **Molln** 15.20 334 *e*Pn **Pn** 21 45 41.9 +2.6
comp=Z,9.2nm,1.2s
VRAC **Vranov** 15.75 341⇓*i*P **P** 21 45 49.3 -1.2
VRAC **Vranov** 15.75 341 ⇓P **P** 21 45 49.3 -1.2
VRAC **Vranov** 15.75 341 *e*PN **P** 21 45 49.9 -0.6
WTTA **Wattenberg** 15.80 327 *e*Pn **P** 21 45 51.2 0.0
comp=Z,27nm,1.6s
WATA **Walderalm** 15.88 327 *e*Pn **Pn** 21 45 50.0 +1.7
comp=Z,15nm,1.3s
MORC **Moravsky Berou** 15.96 344 *e*Pn **Pn** 21 45 51.5 +2.3
comp=Z,5.8nm,0.9s
MORC **Moravsky Berou** 15.96 344⇑*i*P **Pn** 21 45 49.9 +0.7
MORC **Moravsky Berou** 15.96 344 ⇑P **Pn** 21 45 49.9 +0.7
OJC **Ojcow** 15.96 350 *e*Pn **Pn** 21 45 50.6 +1.4
comp=Z,1.4nm,0.5s
OJC **Ojcow** 15.96 350 *e*P **Pn** 21 45 50.6 +1.4
OJC pmax pmax
comp=Z,1.0nm,0.5s
SQTA **Sankt Quirin** 15.96 326 *e*Pn **P** 21 45 52.3 -0.6
comp=Z,10nm,0.8s
FUORN **Ofenpass-Fuorn** 15.99 323 *e*Pn **P** 21 45 53.0 -0.3
comp=Z,5.2nm,0.7s
FETA **Feichten** 16.04 325 *e*Pn **P** 21 45 54.7 +0.9
comp=Z,15nm,1.0s
TREC **Trest** 16.05 339 *e*P **P** 21 45 55.4 +1.6
TREC **Trest** 16.05 339 *e*P **P** 21 45 55.4 +1.6
MOTA **Moosalm** 16.11 326 *e*Pn **Pn** 21 45 53.2 +1.9
comp=Z,6.1nm,0.8s
GEA0 **GERESS Array S** 16.23 335 *e*Pn **P** 21 45 56.7 +0.9
GEC2 **GERESS Array S** 16.24 335 *e*Pn **P** 21 45 57.4 +1.5
comp=Z,6.1nm,0.9s
GEC2 **GERESS Array S** 16.24 335 *e*P **P** 21 45 57.6 +1.7
comp=Z,24nm,1.4s,baz=143,slow=11
GERES **GERESS Array B** 16.24 335 Pn **Pn** 21 45 54.1 +1.2
comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=24
GERES LR LR 21 52 39.5
comp=Z,176nm,19.3s,baz=152,slow=39
DAVOX **Davos/Dischmat** 16.29 323 Pn **P** 21 45 56.8 +0.2
baz=121,slow=9.1
DAVOX LR LR 21 53 02.6
comp=Z,217nm,19.4s,baz=80,slow=40
RETA **Reutte** 16.37 326 Pn **Pn** 21 45 56.3 +1.8
comp=Z,0.3nm,0.3s
AK11 **Malin Array Si** 16.50 11 *e*Pn **P** 21 45 58.2 -0.5
KIEV **Kiev** 16.52 11 *e*Pn **Pn** 21 45 57.0 +0.7
comp=Z,14nm,0.8s
KIEV **Kiev** 16.52 11⇑*i*P **Pn** 21 45 57.5 +1.2
KIEV **Kiev** 16.52 11 ⇑P **Pn** 21 45 57.5 +1.2
KHC **Kasperske Hory** 16.52 335 *e*Pn **P** 21 45 60.0 +0.9
comp=Z,4.1nm,0.9s
KHC **Kasperske Hory** 16.52 335 *e*P **P** 21 46 00.0 +0.9
KHC *e*x x 21 46 06.9
KHC **Kasperske Hory** 16.52 335 *e*P **P** 21 46 00.0 +0.9
AKASG **Malin Array Be** 16.53 11 *ce*P **Pn** 21 45 57.2 +0.8
AKASG pmax pmax
comp=Z,8.0nm,0.6s
AKASG **Malin Array Be** 16.53 11 Pn **Pn** 21 45 55.7 -0.8
comp=Z,1.9nm,0.3s,baz=203,slow=10,SNR=18
AKBB **Malin Array Si** 16.53 11 *e*Pn **Pn** 21 45 57.5 +1.1
comp=Z,15nm,0.8s
AKBB **Malin Array Si** 16.53 11 *e*P **Pn** 21 45 57.5 +1.1
AKBB pmax pmax
comp=Z,15nm,0.8s
DAVA **Damuels** 16.64 324 *e*Pn **P** 21 46 00.3 -0.2
comp=Z,9.4nm,1.2s
FUR **Furstenfeldbru** 16.65 329 *e*P **P** 21 46 00.5 +0.1
comp=Z,318nm,2.5s,baz=143,slow=11
DPC **Dobruska-Polom** 16.78 342 *e*P **P** 21 46 02.7 +0.8
DPC *ep*P **pwP** 21 46 09.2 +0.7
DPC **Dobruska-Polom** 16.78 342 *e*P **P** 21 46 02.7 +0.8
WET **Wettzell** 16.79 334 *e*P **P** 21 46 03.5 +1.6
comp=Z,32nm,1.4s,baz=143,slow=11
SHA1 **Shidzhatmaz** 16.97 52 *i*P **P** 21 46 06.0 +1.8
KIV **Kislovodsk** 17.09 51 *e*Pn **P** 21 46 05.6 +0.3
comp=Z,17nm,0.8s
KIV **Kislovodsk** 17.09 51⇑*i*P **P** 21 46 07.6 +2.3
KIV **Kislovodsk** 17.09 51 *e*P **P** 21 46 06.8 +1.5
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,57nm,14.0s
KVAR **Kislovodsk Arr** 17.09 51 P **Pn** 21 46 03.7 0.0
baz=255,slow=19,SNR=1.6
KBZ **Khabaz** 17.12 52 P **Pn** 21 46 03.4 -0.6
comp=Z,0.0nm,0.3s,baz=291,slow=14,SNR=2.6
GNI **Garni** 17.25 65 *e*Pn **P** 21 46 07.9 +0.6
GNI **Garni** 17.25 65 *e*P **P** 21 46 07.9 +0.6
ZEI **Tsey** 17.41 56 *e*P **Pn** 21 46 08.2 +0.3
ZEI pmax pmax
comp=Z,8.0nm,0.8s
GOF **Gofitskoye** 17.83 48⇑*i*P **P** 21 46 15.5 +2.0
GOF pmax pmax
comp=Z,20nm,0.9s
GRA1 **Grafenberg Arr** 17.86 332 *e*Pn **P** 21 46 15.3 +1.5
comp=Z,16nm,1.0s
GRF **Grafenberg Arr** 17.86 332 *e*P **P** 21 46 15.1 +1.3
comp=Z,70nm,1.6s,baz=143,slow=11
GRF *e*L L 21 53 33.3
comp=Z,274nm,20.3s
GRF **Grafenberg Arr** 17.86 332 *e*P **P** 21 46 15.3 +1.5
GRF pmax pmax
comp=Z,16nm,1.0s
GRFO **Grafenberg** 17.86 332 *e*Pn **Pn** 21 46 13.7 +0.5
comp=Z,14nm,1.0s
GRFO **Grafenberg** 17.86 332 *e*P **Pn** 21 46 13.7 +0.5
GRFO pmax pmax
comp=Z,14nm,1.0s
BRG **Berggiesshubel** 17.91 339 *e*P **P** 21 46 15.4 +1.1
comp=Z,42nm,1.9s
BRG **Berggiesshubel** 17.91 339 *e*P **P** 21 46 15.4 +1.1
BRG pmax pmax
comp=Z,42nm,2.0s
TANN **Tannenbergstha** 18.00 335 *e*P **P** 21 46 17.2 +1.8
comp=Z,28nm,1.3s,baz=143,slow=11
BFO **Black Forest** 18.12 324 *e*Pn **Pn** 21 46 16.3 0.0
BFO **Black Forest** 18.12 324 *e*P **Pn** 21 46 16.3 0.0
MOX **Moxa** 18.49 334 *e*L L 21 54 20.4
comp=Z,194nm,21.5s
CLL **Collm** 18.58 338 *e*P **Pn** 21 46 23.0 +1.1
comp=Z,9.0nm,1.1s
CLL *e*(PP) 21 46 31.0
CLL *e*SSS SSS 21 50 18.0
CLL **Collm** 18.58 338 *e*P **Pn** 21 46 23.0 +1.1
CLL pmax pmax
comp=Z,9.0nm,1.1s
ECH **Echery** 18.62 322 *e*P **P** 21 46 18.0 -4.2
comp=Z,9.2nm,1.1s
ECH **Echery** 18.62 322 *e*P **P** 21 46 18.0 -4.2
ECH pmax pmax
comp=Z,9.0nm,1.1s
SUW **Suwalki** 19.45 358 *e*P **P** 21 46 31.9 +0.8
SUW **Suwalki** 19.45 358 *e*P **P** 21 46 31.9 +0.8
VSR **Storozhevoye** 19.86 29 *e*P **Pn** 21 46 37.3 0.0
VSR pmax pmax
comp=Z,9.0nm,0.8s
WLF **Walferdange** 20.08 324 *e*P Pn 21 46 42.0 +2.1
baz=143,slow=11
WLF **Walferdange** 20.08 324 ⇓P Pn 21 46 40.0 +0.1
comp=Z,24nm,1.5s
TAM **Tamanrasset** 20.11 239 *e*P Pn 21 46 40.9 +0.3
comp=Z,4.7nm,1.1s
TAM **Tamanrasset** 20.11 239 *e*P **P** 21 46 40.9 +2.1
TAM pmax pmax
comp=Z,5.0nm,1.1s
NACGM **Naroch** 20.41 4 *e* **P** 21 46 39.0 -2.6
MEM **Membach** 20.79 326 ⇑P Pn 21 46 48.8 +0.6
IDID **Didziasalis** 20.81 4 *e*P **P** 21 46 44.8 -1.2
IDID IAmb IAmb 21 46 47.2
comp=Z,9.7nm,0.9s
IIGN **Ignalina** 20.82 3 *e*P **P** 21 46 45.1 -1.0
IIGN IAmb IAmb 21 46 47.4
comp=Z,10nm,0.8s
LPSR **Galich'ya Gora** 20.87 26 *e*P **P** 21 46 47.5 +0.9
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH **Novokhopyorsk** 20.91 32 *e*P Pn 21 46 48.9 -0.8
VRH pmax pmax
comp=Z,20nm,1.6s
RETH **Rethem/Aller,** 21.01 334 *e*P **P** 21 46 49.6 +1.5
comp=Z,30nm,1.1s,baz=143,slow=11
DOU **Dourbes** 21.12 323 ⇓P **P** 21 46 49.6 +0.2
RAYN **Ar Rayn** 21.60 115 *e*P **P** 21 46 56.7 +1.9
comp=Z,9.5nm,1.1s
RAYN **Ar Rayn** 21.60 115 *e*P **P** 21 46 56.7 +1.9
RAYN pmax pmax
comp=Z,9.0nm,1.1s
BSEG **Bad Segeberg** 21.68 337 *e*P **P** 21 46 54.6 -0.7
comp=Z,43nm,1.3s,baz=143,slow=11
UCC **Uccle** 21.69 324 ⇓P **P** 21 46 56.4 +0.9
OBN **Obninsk** 22.27 19⇑*e*P **P** 21 47 01.6 0.0
OBN *e* 21 47 23.6
OBN *e*S **S** 21 51 09.8 +3.6
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,67nm,15.0s
ES06 **SONSECA Array** 22.96 291 *e*P **P** 21 47 10.6 +1.4
ESDC **Sonseca Array** 22.97 291 P **P** 21 47 08.0 -1.2
comp=Z,2.1nm,0.7s,baz=85,slow=9.9,SNR=15
VSU **Vasula** 23.95 3*ce*P **P** 21 47 17.1 -1.6
VSU pmax pmax
comp=Z,233nm,2.5s
VSU **Vasula** 23.95 3 *e*P **P** 21 47 17.9 -0.8
VSU IAmb IAmb 21 47 25.5
comp=Z,63nm,1.0s
MDT **Midelt** 23.99 274 LR LR 21 58 36.6
comp=Z,98nm,18.2s,baz=160,slow=42
HFS **Hagfors** 26.47 348 P **P** 21 47 40.9 -0.8
comp=Z,8.7nm,0.9s,baz=155,slow=12,SNR=9.7
FINES **FINESS Array B** 26.91 2 P **P** 21 47 44.9 -0.7
comp=Z,4.7nm,0.8s,baz=140,slow=7.2,SNR=10
FINES LR LR 21 59 39.7
comp=Z,131nm,20.4s,baz=201,slow=39
GEYT **Alibeck** 27.48 73 P **P** 21 47 51.4 +0.4
comp=Z,0.8nm,0.4s,baz=273,slow=8.5,SNR=3.3
NAO01 **NORSAR Array S** 27.65 346 *e*P **P** 21 47 52.7 +0.4
NB2 **NORSAR Subarra** 27.77 346 P **P** 21 47 52.5 -0.8
comp=Z,2.8nm,0.7s,baz=156,slow=9.3
NOA **NORSAR Array B** 27.77 346 P **P** 21 47 52.3 -1.1
comp=Z,3.7nm,0.9s,baz=153,slow=8.7,SNR=11
NOA LR LR 22 00 27.1
comp=Z,126nm,19.6s,baz=155,slow=40
EKA **Eskdalemuir Ar** 28.07 326 P **P** 21 47 55.9 -0.1
comp=Z,0.9nm,0.7s,baz=123,slow=7.4,SNR=5.4
KLMR **Klimovskoe** 28.10 16 *e*P **P** 21 47 54.3 -1.9
KLMR pmax pmax
comp=Z,16nm,0.9s
KLMR **Klimovskoe** 28.10 16 *e*P **P** 21 47 54.4 -1.8
KLMR AMP 21 48 02.4
comp=Z,16nm,0.9s
AKTO **Aktyubinsk** 29.23 47 P **P** 21 48 06.0 -0.5
AKTO **Aktyubinsk** 29.23 47 P **P** 21 48 06.0 -0.5
comp=Z,3.0nm,0.6s,baz=260,slow=8.0,SNR=15
TOA0 **Torodi Ar. Sit** 29.50 229 *e*P **P** 21 48 09.0 -0.2
TORD **Torodi Ar. Bea** 29.50 229 P **P** 21 48 07.2 -1.9
comp=Z,2.1nm,0.7s,baz=63,slow=8.3,SNR=39
TORD LR LR 22 00 59.7
comp=Z,235nm,21.5s,baz=355,slow=39
ARU **Arti** 32.00 36 *e*P **P** 21 48 29.9 -0.9
ARU **Arti** 32.00 36*c* *i*P **P** 21 48 30.0 -0.8
ARU 21 49 33.9
ARU S **S** 21 53 41.7 -0.2
ARU SS **SnSn** 21 55 31.5 +0.6
ARU pmax pmax
comp=Z,9.0nm,0.8s
SVE **Sverdlovsk** 33.20 37 *e*P **P** 21 48 43.7 +2.4
SVE pmax pmax
comp=Z,16nm,1.0s
ARCES **ARCESS Array B** 35.02 1 P **P** 21 48 55.8 -1.2
comp=Z,1.8nm,0.7s,baz=194,slow=7.2,SNR=6.6
KK31 **Karatay Array** 36.68 62 *e*P **P** 21 49 12.5 +0.9
KK31 **Karatay Array** 36.68 62 *e*P **P** 21 49 12.5 +0.9
KKAR **Karatay Array** 36.68 62 *e*P **P** 21 49 12.5 +0.9
KKAR **Karatay Array** 36.68 62 *e*P **P** 21 49 12.5 +0.9
BRVK **Borovoye** 37.27 46*ce*P **P** 21 49 18.5 +2.1
BRVK pmax pmax
comp=Z,6.0nm,1.3s
DBIC **Dimbokro** 38.58 231 P **P** 21 49 26.8 -1.1
comp=Z,6.0nm,1.0s,baz=44,slow=9.4,SNR=5.1
DBIC LR LR 22 06 11.2
comp=Z,95nm,19.2s,baz=26,slow=38
ARSB **Arslanbob** 38.65 65 *e*P **P** 21 49 29.5 +1.1
comp=Z,8.8nm,1.1s
TIC **Toumodi** 38.70 231 *e*P **P** 21 49 28.1 -0.8
KIC **Kosan Boka** 38.74 230 *e*P **P** 21 49 28.6 -0.6
comp=Z,20nm,1.0s
LIC **Lamto** 39.03 230 *e*P **P** 21 49 30.9 -0.7
comp=Z,34nm,1.2s
NRN **Naryn** 40.89 65 *e*P **P** 21 49 48.1 +0.9
comp=Z,7.2nm,1.0s
NRN **Naryn** 40.89 65 *e*P **P** 21 49 48.2 +0.9
NRN pmax pmax
comp=Z,7.0nm,1.0s
KDJ **Kajisay** 41.67 63 *e*P **P** 21 49 55.9 +2.4
comp=Z,4.4nm,1.0s
KDJ **Kajisay** 41.67 63 *e*P **P** 21 49 55.9 +2.4
KDJ pmax pmax
comp=Z,4.0nm,1.0s
PRZ **Przheval'sk** 42.52 63 *e*P **P** 21 50 04.2 +3.9
comp=Z,6.1nm,1.1s
PRZ **Przheval'sk** 42.52 63 *e*P **P** 21 50 04.3 +3.9
PRZ pmax pmax
comp=Z,6.0nm,1.1s
MAKZ **Manchi** 44.55 56 *e*P **P** 21 50 16.8 +0.3
comp=Z,2.7nm,0.8s
MAKZ **Makanchi** 44.55 56 *e*P **P** 21 50 16.8 +0.3
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MK31 **Makanchi Array** 44.76 56 *e*P **P** 21 50 18.4 +0.1
MK31 **Makanchi Array** 44.76 56 *e*P **P** 21 50 18.4 +0.1
MKAR **Makanchi Array** 44.76 56 P **P** 21 50 18.2 -0.1
comp=Z,4.3nm,0.6s,baz=280,slow=6.8,SNR=22
MK01 **Makanchi Array** 44.77 56 *e*P **P** 21 50 18.4 +0.1
NVS **Novosibirsk** 45.07 44 *e*P **P** 21 50 20.8 +0.4
ZAA0 **Zalesovo Array** 45.98 46 *e*P **P** 21 50 27.9 +0.2
comp=Z,3.9nm,0.6s
ZALV **Zalesovo Beam** 45.98 46 *e*P **P** 21 50 27.2 -0.5
ZALV **Zalesovo Beam** 45.98 46 P **P** 21 50 26.9 -0.8
comp=Z,1.9nm,0.4s,baz=271,slow=9.7,SNR=8.4
ZALV LR LR 22 14 15.0
comp=Z,18nm,20.4s,baz=254,slow=42
NRIK **Noril'sk** 48.74 25 P **P** 21 50 49.8 +0.7
comp=Z,2.4nm,0.4s,baz=188,slow=7.1,SNR=2.6
WMQ **Urumqi** 48.99 59 *e*P **P** 21 50 54.7 +3.3
WMQ pP pwP 21 51 06.4 +8.2
WMQ sP sP 21 51 11.2 +16
WMQ pmax pmax
comp=Z,22nm,1.3s
WMQ pmax pmax
comp=Z,150nm,5.7s
WMQ LR LR
comp=N,170nm,31.7s
WMQ LR LR
comp=E,90nm,26.5s
WMQ LR LR
comp=Z,140nm,23.9s
LSZ **Lusaka** 49.72 175 P **P** 21 50 56.9 -0.2
comp=Z,2.1nm,0.8s,baz=350,slow=11,SNR=4.7
PYUN **Piuthan** 50.04 80 *e*P **P** 21 50 59.7 -0.1
comp=Z,12nm,0.6s
DANN **Dangsing** 50.57 80 *e*P **P** 21 51 04.0 +0.1
comp=Z,31nm,0.6s
KOLN **Koldanda** 50.66 80 *e*P **P** 21 51 04.0 -0.5
GKN **Gorkha** 51.41 80 *e*P **P** 21 51 09.3 -0.8
comp=Z,9.9nm,0.7s
DMN **Daman** 51.95 80 *e*P **P** 21 51 13.8 -0.4
comp=Z,18nm,0.9s
KKN **Kakani** 52.02 80 *e*P **P** 21 51 14.6 -0.1
comp=Z,8.4nm,0.6s
PKIN **Phulchoki** 52.20 80 *e*P **P** 21 51 15.2 -0.9
comp=Z,10nm,0.8s
PKI **Pulchoki** 52.21 80 *e*P **P** 21 51 15.6 -0.7
comp=Z,7.6nm,0.6s
GUN **Gumba** 52.46 79 *e*P **P** 21 51 17.4 -0.7
comp=Z,29nm,1.0s
JIRN **Jiri** 52.81 79 *e*P **P** 21 51 20.1 -0.6
comp=Z,16nm,0.8s
LSA **Lhasa** 55.99 75 *e*P **P** 21 51 44.1 +0.2
comp=Z,1.8nm,0.7s
LSA **Lhasa** 55.99 75 *e*P **P** 21 51 44.1 +0.2
LSA pmax pmax
comp=Z,2.0nm,0.7s
GTA **Gaotai** 58.94 61 *e*P **P** 21 52 06.8 +2.5
GTA pP pwP 21 52 19.7 +8.6
GTA sP sP 21 52 25.2 +17
GTA PcP PcP 21 53 08.7 +15
GTA pmax pmax
comp=Z,2.0nm,1.1s
SONM **Songino Array** 60.47 50 P **P** 21 52 14.4 -0.3
comp=Z,2.4nm,1.1s,baz=282,slow=7.2,SNR=12
SONM LR LR 22 22 57.2
comp=Z,48nm,20.6s,baz=334,slow=40
FRB **Frobisher Bay** 60.76 329 LR LR 22 19 00.9
comp=Z,65nm,20.3s,baz=29,slow=36
ULN **Ulaanbaatar** 60.88 50 *e*P **P** 21 52 16.9 -0.6
comp=Z,2.2nm,1.0s
ULN **Ulaanbaatar** 60.88 50*ce*P **P** 21 52 17.4 -0.1
ULN pmax pmax
comp=Z,3.0nm,1.0s
BOSA **Boshof** 62.86 179 LR LR 22 21 21.2
comp=Z,78nm,18.7s,baz=18,slow=38
CD2 **Chengdu** 65.35 68 P **P** 21 52 46.6 -0.7
CD2 pmax pmax
comp=Z,2.0nm,0.6s
HHC **Hu-ho-hao-te** 66.63 56 *e*P **P** 21 52 57.2 +1.8
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,78nm,6.2s
KMI **Kunming** 67.23 74 P **P** 21 53 01.9 +2.2
KMI pmax pmax
comp=Z,10.0nm,0.8s
CMAR **Chiang Mai Arr** 67.44 83 P **P** 21 53 00.7 -0.1
comp=Z,0.4nm,0.3s,baz=285,slow=4.6,SNR=5.9
CMAR LR LR 22 27 34.9
comp=Z,22nm,19.6s,baz=205,slow=40
CM01 **Chiang Mai Arr** 67.47 83 *e*P **P** 21 52 59.9 -1.1
KLR **Kul'dur** 74.73 40 *i*P **P** 21 53 44.4 -0.1
MA2 **Magadan** 76.35 25*ce*P **P** 21 53 52.6 -1.0
MA2 pmax pmax
comp=Z,7.0nm,1.7s
YKA **Yellowknife Ar** 77.75 342 P **P** 21 54 01.7 +0.3
comp=Z,0.5nm,0.5s,baz=33,slow=5.3,SNR=9.1
KS01 **Wonju Array Si** 79.24 52 *e*P **P** 21 54 10.0 -0.1
KSAR **Wonju Array Be** 79.25 52 P **P** 21 54 10.5 +0.3
KSAR **Wonju Array Be** 79.25 52 P **P** 21 54 10.5 +0.3
KSRS **Korea Array** 79.27 52 P **P** 21 54 10.5 +0.2
comp=Z,1.9nm,0.9s,baz=305,slow=5.3,SNR=4.5
KSRS LR LR 22 32 36.9
comp=Z,36nm,20.4s,baz=347,slow=38
FFC **Flin Flon** 79.76 332 *i*P **P** 21 54 13.9 +1.3
ILAR **Eielson Array** 80.73 356 P **P** 21 54 18.4 +0.7
comp=Z,0.6nm,0.9s,baz=353,slow=3.7,SNR=6.2
PETK **Petropavlovsk-** 83.79 26 LR LR 22 35 28.4
comp=Z,46nm,18.3s,baz=212,slow=38
BDFB **Brasilia** 84.74 247 LR LR 22 32 49.3
comp=Z,120nm,18.1s,baz=219,slow=36
MJAR **Matsushiro Arr** 86.31 47 P **P** 21 54 47.1 +0.2
comp=Z,0.7nm,0.4s,baz=325,slow=2.3,SNR=3.3
LRAL **Lakeview Retre** 86.79 308 *e*P **P** 21 54 48.6 -0.6
NVAR **Mina Array Bea** 99.46 331 LR LR 22 43 28.8
comp=Z,54nm,18.6s,baz=310,slow=37
WRA **Warramunga Arr** 117.32 96 PKP **PKPdf** 22 00 49.7 -1.0
comp=Z,0.4nm,0.5s,baz=314,slow=1.9,SNR=7.4
ASAR **Alice Springs** 118.73 100 PKP **PKPdf** 22 00 52.4 -1.0
comp=Z,0.5nm,0.7s,baz=323,slow=1.4,SNR=5.0

IDC 05 21:48:26.9±19.0, **23.12S**×**176.97W**, **h0**km, **mb4.2**/5, **mb1 4.3**/5, **mb1mx3.8**/37, **mbtmp4.2**/5, **MS4.1**/1, **Ms1 4.1**/1, **ms1mx2.7**/32, **Error ellipse: s-maj=359.5km s-min=139.8km az=84.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**6.17**	**188**	LR	LR	21 51 57.6	
	comp=Z,2μm,21.4s,baz=249,slow=34						
CTA	**Charters Tower**	**34.27**	**268**	P		P 21 55 15.8	+0.8
	5.4nm,0.5s,baz=90,slow=3.0,SNR=4.0						
STKA	**Stephens Creek**	**37.59**	**247**	P		P 21 55 42.0	-1.4
	0.5nm,0.3s,baz=89,slow=14,SNR=4.8						
ASAR	**Alice Springs**	**44.91**	**259**	P		P 21 56 42.9	-0.9
	0.6nm,0.3s,baz=84,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**45.25**	**264**	P		P 21 56 46.8	+0.4
	2.9nm,0.5s,baz=99,slow=7.5,SNR=64						
FITZ	**Fitzroy Crossi**	**53.67**	**264**	P		P 21 57 51.4	+0.6
	1.2nm,0.4s,baz=100,slow=8.0,SNR=7.7						

*GUC **05** 21:53:50.0±0.5, 33.61S×72.63W, h36km±13km, ML2.8*
*SJA **05** 21:53:57.0±0.4, 33.58S×72.57W, h40km±999km, ML2.8, MW3.6*

ISC 05 21:53:49.6±2.7, **33.66S**±0.07×**72.5W**±0.2, **h12**km, **n12**, **o082**/17, **1C, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.85**	**148**	*e*P	**Pb**	**21 54 06.6**	**+0.2**
CHPI				*e*S	**Sb**	**21 54 18.4**	**+0.6**
GO05	**Huala**	**1.44**	**159**⇑*i*P	**Pn**	**21 54 15.0**	**-0.5**	
GO05				*e*S	**Sb**	**21 54 34.7**	**0.0**
GO05				IAML		21 54 43.4	
	comp=E,148nm,0.4s						
ROCH	**El Roble**	**1.46**	**62**	*e*P	**Pn**	**21 54 14.9**	**-1.1**
ROCH				IAML		21 54 40.3	
	comp=N,206nm,0.2s						
PEL	**Peldehue**	**1.64**	**72**	*i*P	**Pn**	**21 54 18.0**	**-0.3**
PEL				*i*S	**Sn**	**21 54 39.2**	**-0.1**
PEL				IAML		21 54 49.7	
	comp=N,198nm,0.6s						
CLCH	**Cerro Calan**	**1.70**	**82**	*e*P	**Pn**	**21 54 18.8**	**-0.3**
CLCH				IAML		21 54 57.1	
	comp=E,171nm,0.3s						
FCH	**Farellones**	**1.91**	**81**	IAML		21 54 52.0	
	comp=E,130nm,0.4s						
LMEL	**Las Melosas**	**1.96**	**96**	*e*P	**Pn**	**21 54 22.3**	**-0.5**
LMEL				*i*S	**Sn**	**21 54 47.2**	**-0.2**
LMEL				IAML		21 54 56.4	
	comp=N,134nm,0.4s						
AUSP	**Uspallata**	**3.02**	**62**	*e*P	**Pb**	**21 54 44.8**	**+1.3**
AUSP				*e*S	**Sb**	**21 55 20.5**	**+0.1**
ARCO	**CERRO ARCO**	**3.13**	**76**	*e*P	**Pb**	**21 54 46.5**	**+1.2**
ARCO				IAML		21 54 48.6	
	comp=Z,36nm,0.3s						
AAGR	**Agrelo**	**3.16**	**81**	*e*P	**Pb**	**21 54 46.7**	**+0.9**
ASAL	**Salagasta**	**3.29**	**72**	*e*P	**Pb**	**21 54 48.7**	**+0.7**
ASAL				*e*S	**Sb**	**21 55 26.6**	**-1.4**
RTLS	**Leoncito**	**3.31**	**57**	*e*P	**Pb**	**21 54 49.1**	**+0.7**
RTLS				IAML		21 54 50.6	
	comp=Z,18nm,0.5s						

MEX 05 21:57:40.9±0.4, **16.91N**×**100.40W**, **h3**km±6km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.19**	**43**	*i*P	Pg	21 57 44.5	-0.2
CAIG				*e*S	Sg	21 57 47.2	0.0
MEIG	**Mezcala**	**1.26**	**36**	*e*P	Pg	21 58 01.6	-3.5
MEIG				*i*S	Sg	21 58 17.6	-3.8
ARIG	**Puente Sto Nin**	**1.37**	**2**	*i*P	Pn	21 58 03.3	-3.7
ARIG				*i*S	Sg	21 58 20.2	-4.7
PLIG	**Platanillo**	**1.71**	**30**	*e*P	Pn	21 58 08.8	-3.0
PLIG				*e*S	Sn	21 58 30.1	-4.1

*IDC **05** 22:04:03.9±1.1, 3.09S×148.13E, h0km, mb3.9/10, mb1 4.2/10, mb1mx4.0/29, mbtmp3.9/10, MS3.3/8,*

Ms1 3.3/8,ms1mx3.0/31,Error ellipse: s-maj=42.7km s-min=18.6km az=119.0
*ISCJB **05** 22:04:05.9±0.9,3°.1S±0°.1×148°.0E±0°.2,h22km,mb3.9/10, MS3.2/6,Error ellipse: s-maj=35.6km s-min=14.2km az=28.4*

ISC 05 22:04:07.5±1.2,3°.1S±0°.2×148°.1E±0°.3,h22km,n22, σ0$84/11,mb3.9/10,MS3.2/6,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.36**	**119**	LR	LR	22 11 51.9	
	comp=Z,103nm,19.4s,baz=278,slow=35						
GUMO	**Guam**	**16.89**	**349**	LR	LR	22 14 37.8	
	comp=Z,42nm,18.4s,baz=104,slow=38						
WRA	**Warramunga Arr**	**21.45**	**218**	P	**P**	**22 08 53.5**	**-1.0**
	1.8nm,0.6s,baz=42,slow=10,SNR=30						
WRA				LR	LR	22 18 00.9	
	comp=Z,75nm,18.0s,baz=90,slow=39						
ASAR	**Alice Springs**	**24.61**	**213**	P	**P**	**22 09 26.6**	**+0.1**
	2.0nm,0.6s,baz=38,slow=8.2,SNR=21						
ASAR				LR	LR	22 18 23.6	
	comp=Z,77nm,20.8s,baz=42,slow=35						
FITZ	**Fitzroy Crossi**	**26.57**	**234**	P	**P**	**22 09 45.2**	**+1.1**
	6.4nm,0.9s,baz=81,slow=11,SNR=7.8						
FITZ				LR	LR	22 21 08.5	
	comp=Z,76nm,18.7s,baz=56,slow=38						
H11S3	**WAKE ISLAND Hy**	**28.22**	**40**	T	T	22 39 33.3	
	baz=222,slow=76,SNR=466						
H11S2	**WAKE ISLAND Hy**	**28.23**	**40**	T	T	22 39 31.6	
	baz=222,slow=76,SNR=223						
H11S1	**WAKE ISLAND Hy**	**28.24**	**40**	T	T	22 39 34.7	
	baz=222,slow=76,SNR=363						
H11N1	**WAKE ISLAND Hy**	**29.25**	**38**	T	T	22 40 47.2	
	baz=221,slow=76,SNR=65						
STKA	**Stephens Creek**	**29.26**	**191**	LR	LR	22 23 14.4	
	comp=Z,63nm,19.7s,baz=12,slow=39						
H11N3	**WAKE ISLAND Hy**	**29.27**	**38**	T	T	22 40 53.1	
	baz=221,slow=76,SNR=112						
H11N2	**WAKE ISLAND Hy**	**29.27**	**38**	T	T	22 40 51.3	
	baz=221,slow=76,SNR=182						
JCJ	**Chichijima**	**30.56**	**350**	LR	LR	22 22 16.3	
	comp=Z,57nm,18.3s,baz=83,slow=36						
CMAR	**Chiang Mai Arr**	**52.91**	**296**	P	**P**	**22 13 22.6**	**+0.3**
	0.5nm,0.7s,baz=117,slow=7.2,SNR=3.6						
PETK	**Petropavlovsk-**	**56.59**	**7**	P	**P**	**22 13 48.8**	**+0.3**
	1.6nm,0.6s,baz=176,slow=6.8,SNR=4.9						
SONM	**Songino Array**	**62.44**	**330**	P	**P**	**22 14 28.7**	**-0.4**
	0.5nm,0.7s,baz=157,slow=6.1,SNR=4.1						
MKAR	**Makanchi Array**	**75.98**	**320**	P	**P**	**22 15 52.9**	**-0.1**
	0.2nm,0.7s,baz=116,slow=6.6,SNR=2.9						
ZALV	**Zalesovo Beam**	**77.17**	**327**	LR	LR	22 51 58.4	
	comp=Z,16nm,18.6s,baz=246,slow=37						
ILAR	**Eielson Array**	**82.41**	**23**	P	**P**	**22 16 26.6**	**-1.1**
	0.9nm,0.8s,baz=241,slow=5.8,SNR=7.8						
INK	**Inuvik**	**88.58**	**21**	P	**P**	**22 16 58.8**	**+0.6**
	1.4nm,0.9s,baz=244,slow=4.5,SNR=3.3						
YKA	**Yellowknife Ar**	**92.12**	**28**	P	**P**	**22 17 33.8**	**+0.6**
	0.9nm,0.6s,baz=274,slow=4.7,SNR=20						
TORD	**Torodi Ar. Bea**	**145.31**	**289**	PKPbc	**PKPbc**	**22 23 43.3**	**-1.1**
	1.3nm,1.0s,baz=53,slow=4.0,SNR=6.8						

IDC 05 22:08:22.5±5.0,2°.79S×147°.24E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.3/31,mbtmp3.5/2,Error ellipse: s-maj=289.6km s-min=65.8km az=114.0,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.20**	**216**	P	P	22 13 10.1	+0.2
	1.5nm,0.7s,baz=41,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**24.43**	**211**	P	P	22 13 43.0	-0.1
	0.5nm,0.5s,baz=39,slow=7.7,SNR=6.8						
H11S3	**WAKE ISLAND Hy**	**28.53**	**41**	T	T	22 43 48.8	
	baz=222,slow=76,SNR=68						
H11S2	**WAKE ISLAND Hy**	**28.54**	**41**	T	T	22 43 48.4	
	baz=222,slow=76,SNR=86						
H11S1	**WAKE ISLAND Hy**	**28.55**	**41**	T	T	22 43 49.2	
	baz=222,slow=76,SNR=91						
H11N1	**WAKE ISLAND Hy**	**29.55**	**40**	T	T	22 45 06.5	
	baz=221,slow=76,SNR=33						
H11N3	**WAKE ISLAND Hy**	**29.56**	**40**	T	T	22 45 05.3	
	baz=221,slow=76,SNR=36						
H11N2	**WAKE ISLAND Hy**	**29.56**	**40**	T	T	22 45 05.5	
	baz=221,slow=76,SNR=64						
TORD	**Torodi Ar. Bea**	**144.41**	**289**	PKP	PKPdf	22 28 01.2	-0.7
	0.5nm,0.9s,baz=56,slow=3.6,SNR=2.5						

IDC 05 22:56:45.4±2.3,4°.18S×145°.72E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.3/38,mbtmp3.3/3,ML3.1/1,Error ellipse: s-maj=388.3km s-min=31.2km az=119.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.20**	**214**	P	Pn	23 01 12.5	+0.6
	0.1nm,0.3s,baz=40,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**22.48**	**209**	P	P	23 01 45.3	-1.3
	0.2nm,0.8s,baz=24,slow=9.3,SNR=4.7						
ILAR	**Eielson Array**	**84.32**	**23**	P	P	23 09 19.3	+0.2
	0.7nm,1.1s,baz=236,slow=7.0,SNR=4.1						

*SJA **05** 23:00:19.1±0.5,22°.98S×66°.12W,h275km±3km,ML2.8, MW3.0*
*ISCJB **05** 23:00:21.0±0.8,23°.01S±0°.05×66°.32W±0°.06,h260km±8km, Error ellipse: s-maj=9.7km s-min=5.8km az=138.4*
*GUC **05** 23:00:22.6±0.4,22°.90S×66°.86W,h292km±10km,ML3.6*

ISC 05 23:00:18.8±2.3,22°.99S±0°.07×66°.23W±0°.08, h273km±18km,n36,σ1$86/50,10C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**0.78**	**106**	*e*P	**Pn**	**23 00 56.7**	**+0.9**
HJA				IAML		23 00 57.1	
	comp=Z,22nm,0.5s						
HJA				*e*S	**S**	**23 01 23.8**	**-1.2**
SLA	**San Lorenzo**	**1.84**	**159**	*e*P	**Pn**	**23 01 02.6**	**+0.5**
SLA				IAML		23 01 11.2	
	comp=Z,5.2nm,0.4s						
LVC	**Limon Verde**	**2.51**	**278**	*e*P	**Pn**	**23 01 10.0**	**+1.7**
LVC				IAML		23 01 10.2	
	comp=Z,17nm,0.3s						
LVC				*e*S	**S**	**23 01 47.4**	**-0.1**
PB15	**IPOC Station P**	**3.00**	**265**	*e*P	**Pn**	**23 01 15.0**	**+2.0**
PB15	**IPOC Station P**	**3.00**	**265**	*e*P	**Pn**	**23 01 14.9**	**+1.9**
PB15				*e*S	**S**	**23 01 54.7**	**-1.3**
PB09	**IPOC Station P**	**3.04**	**293**	*e*P	**Pn**	**23 01 15.7**	**+2.3**
PB09	**IPOC Station P**	**3.04**	**293**	↑*i*P	**Pn**	**23 01 15.7**	**+2.3**
PB09				*i* S	**S**	**23 01 56.5**	**-0.2**
PB09				IAML		23 01 59.6	
	comp=E,36nm,0.3s						
PB06	**IPOC Station P**	**3.10**	**275**	*e*P	**Pn**	**23 01 15.8**	**+1.8**
PB06	**IPOC Station P**	**3.10**	**275**	*e*P	**Pn**	**23 01 15.9**	**+1.9**
PB06				*e*S	**S**	**23 01 56.4**	**-1.5**
PB06				IAML		23 01 57.7	
	comp=E,132nm,0.3s						
FSA	**Cafayete**	**3.11**	**176**	*e*P	**Pn**	**23 01 15.0**	**+0.9**
PB03	**IPOC Station P**	**3.40**	**285**	*e*P	**Pn**	**23 01 18.8**	**+1.6**
PB03	**IPOC Station P**	**3.40**	**285**	↑*i*P	**Pn**	**23 01 18.8**	**+1.6**
PB03				*i* S	**S**	**23 02 01.5**	**-2.1**
PB01	**IPOC Station P**	**3.60**	**302**	↑*i*P	**Pn**	**23 01 21.0**	**+1.7**
PB01				*e*S	**S**	**23 02 06.2**	**-1.3**
PB07	**IPOC Station P**	**3.62**	**290**	*e*P	**Pn**	**23 01 21.4**	**+1.8**
PB07	**IPOC Station P**	**3.62**	**290**	↑*i*P	**Pn**	**23 01 21.4**	**+1.8**
PB07				*i* S	**S**	**23 02 05.8**	**-2.2**
PB05	**IPOC Station P**	**3.67**	**271**	*e*P	**Pn**	**23 01 21.9**	**+1.7**
PB05	**IPOC Station P**	**3.67**	**271**	↑*i*P	**Pn**	**23 01 21.8**	**+1.7**
PB05				*i* S	**S**	**23 02 06.5**	**-2.5**
PB04	**IPOC Station P**	**3.68**	**280**	*e*P	**Pn**	**23 01 22.1**	**+1.7**
PB04	**IPOC Station P**	**3.68**	**280**	↑*i*P	**Pn**	**23 01 22.0**	**+1.7**
PB04				*i* S	**S**	**23 02 07.2**	**-2.2**
PB04				*e*S	S	23 02 07.3	-2.0
PB02	**IPOC Station P**	**3.79**	**295**	*e*P	**Pn**	**23 01 22.9**	**+1.5**
PB02	**IPOC Station P**	**3.79**	**295**	↑*i*P	**Pn**	**23 01 22.9**	**+1.5**
PB02				*i* S	**S**	**23 02 08.9**	**-2.5**
PB08	**IPOC Station P**	**3.94**	**316**	*e*P	**Pn**	**23 01 26.0**	**+2.6**
PB08	**IPOC Station P**	**3.94**	**316**	↑*i*P	**Pn**	**23 01 26.1**	**+2.6**
PB08				*e*S	**S**	**23 02 15.3**	**+0.4**
PB10	**IPOC Station P**	**4.01**	**262**	*e*P	**Pn**	**23 01 25.5**	**+1.6**
PB10	**IPOC Station P**	**4.01**	**262**	↑*e*P	**Pn**	**23 01 25.5**	**+1.6**
PB10				*e*S	**S**	**23 02 13.2**	**-2.6**
PB14	**IPOC Station P**	**4.16**	**246**	*e*P	**Pn**	**23 01 27.8**	**+2.0**
PB11	**IPOC Station P**	**4.54**	**315**	*e*P	**Pn**	**23 01 31.2**	**+1.1**
PB11	**IPOC Station P**	**4.54**	**315**	↑*e*P	**Pn**	**23 01 31.2**	**+1.1**
PB11				*e*S	**S**	**23 02 24.6**	**-2.4**
PSGC	**Pisagua**	**4.96**	**312**	*e*P	**Pn**	**23 01 35.8**	**+0.7**
PSGC				*e*S	**S**	**23 02 32.7**	**-3.4**
PSGCX	**Pisagua**	**4.96**	**312**	*e*P	**Pn**	**23 01 36.5**	**+1.4**
MNMC	**Minye Minye**	**4.97**	**320**	*e*P	**Pn**	**23 01 37.1**	**+1.8**
MNMC				*e*S	**S**	**23 02 35.1**	**-1.4**
MNMCX	**Minye Minye**	**4.97**	**320**	*e*P	**Pn**	**23 01 37.1**	**+1.8**
PB12	**IPOC Station P**	**5.81**	**318**	*e*P	**Pn**	**23 01 45.3**	**+0.1**
ACLC	**CERRO LA CRUZ**	**6.44**	**186**	*e*P	Pn	23 01 54.6	+1.7
AGUA	**GUANDACOL**	**6.78**	**197**	*e*P	**Pn**	**23 01 58.9**	**+1.8**
APLL	**PUNTA DE LOS L**	**7.38**	**182**	*e*P	Pn	23 02 05.2	+0.7
APLL				IAML		23 02 06.9	
	comp=Z,11nm,0.2s						

*IDC **05** 23:05:51.1±0.9,3°.15S×148°.18E,h0km,mb4.1/12, mb1 4.3/12,mb1mx4.0/36,mbtmp4.1/12,MS3.4/6, Ms1 3.4/6,ms1mx3.1/36,Error ellipse: s-maj=36.9km s-min=17.6km az=111.0*
*ISCJB **05** 23:05:53.0±0.6,3°.12S±0°.08×148°.1E±0°.2,h22km, mb4.1/17,MS3.4/5,Error ellipse: s-maj=24.9km s-min=8.4km az=19.1*
*NEIC **05** 23:05:56.5±0.4,3°.16S×148°.09E,h35km,mb4.3/5,Error ellipse: s-maj=15.4km s-min=5.3km az=111.0*

ISC 05 23:05:54.8±0.9,3°.1S±0°.1×148°.1E±0°.2,h22km,n39, σ0$66/28,mb4.3/17,MS3.4/5,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**16.93**	**349**	LR	LR	23 15 32.5	
	comp=Z,144nm,18.4s,baz=186,slow=34						
WRAB	**Tennant Creek**	**21.44**	**218**	*e*P	**P**	**23 10 41.1**	**-0.6**
	20nm,1.3s						
WB2	**Warramunga Arr**	**21.45**	**218**	*e*P	**P**	**23 10 41.7**	**-0.1**
WR1	**Warramunga Arr**	**21.46**	**218**	*e*P	**P**	**23 10 40.3**	**-1.5**
	35nm,1.4s						
WRA	**Warramunga Arr**	**21.46**	**218**	P	**P**	**23 10 40.3**	**-1.5**
	3.9nm,0.7s,baz=43,slow=10,SNR=24						
AS01	**Alice Springs**	**24.59**	**213**	*e*P	**P**	**23 11 13.6**	**+0.1**
AS31	**Alice Springs**	**24.62**	**213**	*e*P	**P**	**23 11 14.0**	**+0.2**
	1.8nm,0.9s						
ASAR	**Alice Springs**	**24.62**	**213**	P	**P**	**23 11 13.6**	**-0.2**
	4.5nm,0.9s,baz=40,slow=7.8,SNR=24						
DZM	**Mont Dzumac**	**25.89**	**138**	*e*LR	LR	23 18 07.9	
	comp=Z,468nm,26.3s						
FITZ	**Fitzroy Crossi**	**26.59**	**234**	*e*P	**P**	**23 11 32.4**	**+0.8**
	46nm,1.8s						
FITZ	**Fitzroy Crossi**	**26.59**	**234**	P	**P**	**23 11 32.9**	**+1.2**
	7.6nm,1.0s,baz=60,slow=8.7,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**28.21**	**40**	T	T	23 41 16.7	
	baz=222,slow=76,SNR=416						
H11S2	**WAKE ISLAND Hy**	**28.22**	**40**	T	T	23 41 17.2	
	baz=222,slow=76,SNR=249						
H11S1	**WAKE ISLAND Hy**	**28.23**	**40**	T	T	23 41 18.4	
	baz=222,slow=76,SNR=400						
H11N1	**WAKE ISLAND Hy**	**29.24**	**38**	T	T	23 42 38.7	
	baz=221,slow=76,SNR=136						
H11N3	**WAKE ISLAND Hy**	**29.26**	**38**	T	T	23 42 38.0	
	baz=221,slow=76,SNR=154						
H11N2	**WAKE ISLAND Hy**	**29.26**	**38**	T	T	23 42 39.9	
	baz=221,slow=76,SNR=215						
MJAR	**Matsushiro AR**	**40.55**	**348**	LR	LR	23 29 29.2	
	comp=Z,33nm,19.8s,baz=190,slow=35						
MAJO	**Matsushiro**	**40.55**	**348**	*e*P	**P**	**23 13 31.9**	**-0.6**
	2.3nm,0.3s						
CMAR	**Chiang Mai Arr**	**52.97**	**296**	P	**P**	**23 15 10.1**	**0.0**
	0.7nm,0.3s,baz=128,slow=5.5,SNR=5.3						
CMAR				LR	LR	23 37 59.8	
	comp=Z,20nm,20.8s,baz=215,slow=36						
PETK	**Petropavlovsk-**	**56.61**	**7**	P	**P**	**23 15 36.5**	**+0.5**
	4.3nm,0.8s,baz=158,slow=4.3,SNR=4.2						
PETK				LR	LR	23 37 12.9	
	comp=Z,36nm,21.2s,baz=181,slow=33						
PEA1	**Petropavlovsk-**	**56.62**	**7**	*e*P	**P**	**23 15 36.5**	**+0.5**
ULN	**Ulaanbaatar**	**62.19**	**330**	*e*P	**P**	**23 16 14.5**	**-0.2**
	0.7nm,0.4s						
SONA0	**Songino Array**	**62.50**	**330**	*e*P	**P**	**23 16 16.9**	**+0.1**
SONM	**Songino Array**	**62.50**	**330**	P	**P**	**23 16 16.9**	**+0.1**
	0.3nm,0.7s,baz=132,slow=6.3,SNR=4.8						
PPT2	**Papeete2**	**62.66**	**108**	*e*LR	LR	23 35 12.8	
	comp=Z,53nm,22.0s						
SEY	**Seymchan**	**65.97**	**2**	P	**P**	**23 16 39.5**	**+0.4**
	0.7nm,0.2s,baz=250,slow=9.4,SNR=3.6						
VNDA	**Vanda**	**74.69**	**177**	P	**P**	**23 17 32.2**	**0.0**
	1.1nm,0.7s,baz=328,slow=3.5,SNR=3.7						
MK32	**Makanchi Array**	**76.04**	**320**	*e*P	**P**	**23 17 39.9**	**-0.7**
MKAR	**Makanchi Array**	**76.04**	**320**	P	**P**	**23 17 39.9**	**-0.7**
	0.2nm,0.6s,baz=123,slow=5.3,SNR=3.1						
KURK	**Kurchatov**	**79.62**	**323**	*e*P	**P**	**23 17 60.0**	**-0.4**
ILAR	**Eielson Array**	**82.42**	**23**	P	**P**	**23 18 14.6**	**-0.4**
	0.8nm,0.9s,baz=272,slow=5.2,SNR=6.6						
ILB	**Eielson Array**	**82.42**	**23**	*e*P	**P**	**23 18 14.6**	**-0.4**
	14nm,1.9s						
NRIK	**Noril'sk**	**82.92**	**342**	P	**P**	**23 18 18.0**	**+0.5**
	1.7nm,0.6s,baz=132,slow=4.4,SNR=4.0						
NRIK				LR	LR	23 54 15.6	
	comp=Z,24nm,21.9s,baz=70,slow=35						
BVAR	**Borovoye Array**	**85.14**	**324**	LR	LR	23 54 51.9	
	comp=Z,26nm,18.6s,baz=47,slow=34						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**23 19 20.1**	**-0.4**
	1.0nm,0.7s,baz=275,slow=4.8,SNR=17						
YKB5	**Yellowknife Ar**	**96.12**	**28**	*e*P	**P**	**23 19 21.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**145.37**	**289**	PKPbc	**PKPbc**	**23 25 31.5**	**-0.4**
	1.1nm,0.9s,baz=75,slow=3.2,SNR=6.7						
TOA1	**Torodi Ar. Sit**	**145.37**	**289**	*e*PKPbc	**PKPbc**	**23 25 31.5**	**-0.5**

*ISCJB **05** 23:07:31.3±0.9,61°.4S±0°.1×34°.6W±0°.4,h10km,mb4.0/4, MS3.3/5,Error ellipse: s-maj=29.9km s-min=11.8km az=149.2*
*IDC **05** 23:07:32.4±1.4,61°.24S×34°.32W,h0km,mb4.1/3, mb1 4.1/3,mb1mx3.8/23,mbtmp4.1/3,MS3.3/5,Ms1 3.3/5, ms1mx3.1/19,Error ellipse: s-maj=61.4km s-min=35.4km az=176.0*
*NEIC **05** 23:07:33.5±1.1,61°.34S×34°.43W,h10km,mb4.3/1,Error ellipse: s-maj=56.1km s-min=26.7km az=4.0*

ISC 05 23:07:32.9±0.8,61°.5S±0°.1×34°.5W±0°.2,h10km,n26, σ1$40/18,mb4.1/4,MS3.3/5,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**13.84**	**145**	P	**Pn**	**23 13 50.9**	**+2.1**
VNA3	**Neumayer Olymp**	**13.84**	**145**	S	**Sn**	**23 13 22.1**	**-0.3**
VNA1	**Neumayer--Stat**	**13.94**	**142**	P	**Pn**	**23 10 52.0**	**+1.8**
VNA2	**Neumayer--Watz**	**14.33**	**143**	P	**Pn**	**23 10 56.9**	**+1.5**
	baz=305,slow=16						
VNA2	**Neumayer--Watz**	**14.33**	**143**	S	**Sn**	**23 13 30.9**	**-3.2**
	baz=304,slow=16						
SNAA	**Sanae**	**15.97**	**143**	P	**P**	**23 11 20.4**	**-0.5**
PLCA	**Paso Flores**	**30.09**	**297**	P	**P**	**23 13 41.9**	**-0.3**
	2.1nm,0.8s,baz=132,slow=12,SNR=2.9						
PLCA				LR	LR	23 24 11.7	
	comp=Z,61nm,19.6s,baz=190,slow=33						
MAW	**Mawson**	**38.14**	**142**	LR	LR	23 28 56.0	
	comp=Z,53nm,19.4s,baz=222,slow=34						
CPUP	**Villa Florida**	**38.35**	**326**	LR	LR	23 31 56.1	
	comp=Z,38nm,18.1s,baz=198,slow=38						
BDFB	**Brasilia**	**46.77**	**342**	LR	LR	23 35 20.0	
	comp=Z,37nm,20.7s,baz=176,slow=36						
LPAZ	**La Paz**	**51.06**	**317**	LR	LR	23 39 21.5	
	comp=Z,32nm,19.4s,baz=185,slow=38						
H10S2	**ASCENSION HYDR**	**54.41**	**24**	T	T	00 15 15.5	
	baz=192,slow=75,SNR=31						
H10S3	**ASCENSION HYDR**	**54.42**	**24**	T	T	00 15 00.2	
	baz=192,slow=75,SNR=32						
H10S1	**ASCENSION HYDR**	**54.43**	**24**	T	T	00 15 01.3	
	baz=192,slow=75,SNR=25						
H10N1	**ASCENSION HYDR**	**55.53**	**24**	T	T	00 16 23.6	
	baz=191,slow=75,SNR=26						
H10N3	**ASCENSION HYDR**	**55.53**	**24**	T	T	00 16 55.1	
	baz=191,slow=75,SNR=32						
H10N2	**ASCENSION HYDR**	**55.55**	**24**	T	T	00 16 24.7	
	baz=191,slow=75,SNR=28						
LSZ	**Lusaka**	**63.75**	**73**	*e*P	**P**	**23 18 05.5**	**+0.6**
	1.6nm,0.6s						
DBIC	**Dimbokro**	**71.74**	**31**	P	**P**	**23 18 54.7**	**-0.3**
	1.4nm,0.7s,baz=157,slow=6.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**79.68**	**36**	P	**P**	**23 19 40.1**	**-0.3**
	1.6nm,0.8s,baz=200,slow=5.3,SNR=8.6						
YKA	**Yellowknife Ar**	**137.60**	**317**	PKP	**PKiKP**	**23 26 58.2**	**+0.9**
	0.1nm,0.5s,baz=129,slow=1.9,SNR=2.7						
MKAR	**Makanchi Array**	**141.82**	**83**	PKP	**PKPdf**	**23 27 02.0**	**-1.6**
MKAR	**Makanchi Array**	**141.82**	**83**	PKP	**PKPdf**	**23 27 02.0**	**-1.6**
	0.3nm,0.8s,baz=225,slow=3.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**147.84**	**75**	PKPbc	**PKPbc**	**23 27 17.1**	**+0.5**
	1.0nm,0.4s,baz=224,slow=4.0,SNR=4.3						
ILAR	**Eielson Array**	**150.56**	**306**	PKPbc	**PKiKP**	**23 27 24.4**	**+0.6**
	0.6nm,0.8s,baz=150,slow=2.2,SNR=7.8						
ILAR				PKPab	**pPKPab**	**23 27 31.3**	**-1.1**
	1.8nm,1.0s,baz=104,slow=1.1,SNR=6.4						
SONM	**Songino Array**	**154.07**	**104**	PKP	**PKPdf**	**23 27 23.9**	**+0.2**
	0.2nm,0.4s,baz=219,slow=5.3,SNR=4.1						
SONM				PKPbc	**PKPbc**	**23 27 31.6**	**-0.1**
	0.2nm,0.4s,baz=211,slow=4.7,SNR=1.9						

IDC 05 23:10:17.3±4.6,3°.63S×146°.99E,h0km,mb3.1/2, mb1 3.5/2,mb1mx3.1/36,mbtmp3.3/2,Error ellipse: s-maj=220.5km s-min=62.8km az=114.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.38**	**216**	P	P	23 14 55.6	-0.2
	0.7nm,0.9s,baz=42,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**23.59**	**211**	P	P	23 15 30.5	+0.5
	1.0nm,0.9s,baz=39,slow=9.4,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**29.32**	**41**	T	T	23 45 31.5	
	baz=218						
H11S2	**WAKE ISLAND Hy**	**29.33**	**41**	T	T	23 45 32.1	
	baz=218						
H11S1	**WAKE ISLAND Hy**	**29.34**	**41**	T	T	23 45 33.3	
	baz=218						
H11N1	**WAKE ISLAND Hy**	**30.34**	**39**	T	T	23 46 49.1	
	baz=222						
H11N3	**WAKE ISLAND Hy**	**30.36**	**39**	T	T	23 46 50.2	
	baz=222						
H11N2	**WAKE ISLAND Hy**	**30.36**	**39**	T	T	23 46 50.4	
	baz=222						
TORD	**Torodi Ar. Bea**	**144.44**	**288**	PKP	PKPbc	23 29 55.5	+0.3
	0.2nm,0.5s,baz=46,slow=4.2,SNR=3.7						

IDC 05 23:10:25.1±1.8,3°.23S×148°.21E,h0km,mb4.2/5, mb1 4.5/5,mb1mx3.7/36,mbtmp4.2/5,Error ellipse: s-maj=56.4km s-min=27.3km az=115.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.43**	**218**	P	P	23 15 14.6	-0.4
	7.1nm,1.0s,baz=41,slow=11,SNR=13						
ASAR	**Alice Springs**	**24.58**	**213**	P	P	23 15 47.5	+0.5
	5.0nm,0.9s,baz=46,slow=8.4,SNR=14						
FITZ	**Fitzroy Crossi**	**26.60**	**235**	P	P	23 16 05.5	+0.1
	9.8nm,0.9s,baz=45,slow=8.6,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**28.23**	**39**	T	T	23 45 52.8	
	baz=222,slow=75,SNR=732						
H11S2	**WAKE ISLAND Hy**	**28.24**	**40**	T	T	23 45 52.1	
	baz=222,slow=75,SNR=432						
H11S1	**WAKE ISLAND Hy**	**28.25**	**39**	T	T	23 45 50.7	
	baz=222,slow=75,SNR=522						
H11N1	**WAKE ISLAND Hy**	**29.27**	**38**	T	T	23 47 11.4	
	baz=221,slow=76,SNR=96						
H11N3	**WAKE ISLAND Hy**	**29.28**	**38**	T	T	23 47 12.6	
	baz=221,slow=76,SNR=118						
H11N2	**WAKE ISLAND Hy**	**29.29**	**38**	T	T	23 47 10.3	
	baz=221,slow=76,SNR=239						
CMAR	**Chiang Mai Arr**	**53.08**	**296**	P	P	23 19 44.9	+0.2
	0.8nm,0.3s,baz=115,slow=4.3,SNR=8.1						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	P	23 23 55.0	+0.2
	0.3nm,0.7s,baz=272,slow=4.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**145.47**	**289**	PKPbc	PKPbc	23 30 04.4	-1.9
	1.6nm,1.0s,baz=66,slow=2.2,SNR=7.6						

IDC 05 23:16:04.3±1.9,2°.98S×147°.84E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.6/30,mbtmp4.0/4,MS3.6/4,Ms1 3.6/4, ms1mx3.2/31,Error ellipse: s-maj=118.6km s-min=29.9km az=122.0,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.63**	**119**	LR	LR	23 24 18.1	
	comp=Z,150nm,18.0s,baz=286,slow=36						
WRA	**Warramunga Arr**	**21.40**	**217**	P	P	23 20 53.1	-0.7
	4.3nm,0.9s,baz=42,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**24.59**	**212**	P	P	23 21 26.5	+0.1
	2.3nm,0.9s,baz=40,slow=7.9,SNR=14						
DZM	**Mont Dzumac**	**26.20**	**138**	LR	LR	23 30 16.1	
	comp=Z,221nm,20.7s,baz=284,slow=32						
FITZ	**Fitzroy Crossi**

CLRN	**Clyde River**	**5.08**	**224**	PN	**Pn**	**23 32 34.6**	**+2.5**
CLRN				SN	**Sn**	**23 33 28.4**	**-2.3**
CLRN				Trac		23 33 31.3	
	comp=Z,9.1nm,0.1s						
ILULI	**Ilulissat**	**5.69**	**154**	PN	**Pn**	**23 32 42.5**	**+2.1**
ILULI				SN	**Sn**	**23 33 45.3**	**-0.4**
ILULI				Trac		23 34 24.6	
	comp=Z,8.3nm,0.3s						
ILULI	**Ilulissat**	**5.69**	**154**	*i* P	**Pn**	**23 32 45.0**	**+4.5**
SUMG	**Summit**	**5.89**	**99**	*i* P	**Pn**	**23 32 44.2**	**+0.6**
SUMG				*i*		23 32 47.8	
SFJD	**Kangerlussuaq**	**7.87**	**158**	PN	**Pn**	**23 33 12.0**	**+1.6**
SFJD				SN	**Sn**	**23 34 36.3**	**-3.1**
SFJD				Trac		23 35 23.9	
	comp=Z,1μm,4.6s						
SFJD	**Kangerlussuaq**	**7.87**	**158**	*i* P	**Pn**	**23 33 12.6**	**+2.2**
ILON	**Igloolik, Nuna**	**8.89**	**247**	PN	**Pn**	**23 33 24.9**	**+0.5**
ILON				SN	**Sn**	**23 34 59.6**	**-4.8**
ILON				Trac		23 35 29.6	
	comp=Z,4.3nm,0.2s						
RES	**Resolute Bay**	**9.70**	**289**	PN	**Pn**	**23 33 39.0**	**+3.7**
RES				SN	**Sn**	**23 35 19.0**	**-5.1**
RES				Trac		23 35 31.1	
	comp=Z,5.0nm,0.4s						
DAG	**Danmarks Havn**	**9.94**	**58**	*i* P	**Pn**	**23 33 38.6**	**0.0**
DAG				*i* S	**Sn**	**23 35 23.6**	**-6.4**
FRB	**Frobisher Bay**	**11.34**	**204**	PN	**Pn**	**23 33 58.9**	**+1.1**
FRB				SN	Sn	23 35 57.1	-7.2
FRB				Trac		23 36 45.7	
	comp=Z,122nm,2.0s						
KNGQ	**Kangiqsujuaq**	**13.84**	**209**	PN	**Pn**	**23 34 32.4**	**+0.4**
KNGQ				SN	Sn	23 36 56.9	-8.6
KNGQ				Trac		23 37 20.6	
	comp=Z,14nm,0.7s						

IDC 05 23:31:24.0±2.4, 1°56S×147°79E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/37, mbtmp3.5/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/21, Error ellipse: s-maj=396.9km s-min=31.7km az=119.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.52**	**215**	P	P	23 36 25.8	+0.2
	1.4nm,0.8s,baz=41,slow=11,SNR=4.4						
WRA				LR	LR	23 45 31.3	
	comp=Z,73nm,19.6s,baz=340,slow=38						
ASAR	**Alice Springs**	**25.77**	**210**	P	P	23 36 56.6	-0.1
	0.6nm,0.7s,baz=37,slow=7.4,SNR=4.0						
ASAR				LR	LR	23 46 14.8	
	comp=Z,36nm,18.6s,baz=39,slow=35						
H11S3	**WAKE ISLAND Hy 27.25**		**42**	T	T	00 05 22.7	
	baz=222,slow=76,SNR=20						
H11S2	**WAKE ISLAND Hy 27.26**		**42**	T	T	00 05 22.3	
	baz=222,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy 27.27**		**42**	T	T	00 05 23.0	
	baz=222,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy 28.25**		**41**	T	T	00 06 38.0	
	baz=221,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy 28.27**		**41**	T	T	00 06 42.1	
	baz=221,slow=76,SNR=27						
H11N2	**WAKE ISLAND Hy 28.27**		**41**	T	T	00 06 40.8	
	baz=221,slow=76,SNR=26						
ILAR	**Eielson Array**	**81.11**	**23**	P	P	23 43 41.0	0.0
	0.3nm,0.9s,baz=246,slow=3.8,SNR=2.4						

IDC 05 23:44:44.1±4.0, 4°70S×152°83E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.2/39, mbtmp3.6/2, Error ellipse: s-maj=173.7km s-min=52.4km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.54**	**228**	P	P	23 49 55.8	-0.4
	1.4nm,0.5s,baz=54,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**26.25**	**222**	P	P	23 50 21.7	+0.6
	0.3nm,0.7s,baz=54,slow=9.3,SNR=1.8						
TORD	**Torodi Ar. Bea**	**150.30**	**288**	PKPbc	PKPbc	00 04 38.1	-0.4
	0.1nm,0.6s,baz=74,slow=3.4,SNR=1.3						

GUC 05 23:45:54.9±0.5, 35°89S×73°56W, h14km±9km, ML3.5, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**1.39**	**121**	*eP*	Pn	23 46 19.8	-0.1
CCHI				*i* S	Sb	23 46 38.4	0.0
CCHI				IAML		23 46 49.2	
	comp=N,1μm,0.6s						
GO05	**Huala**	**1.60**	**57**	*eP*	Pn	23 46 22.7	-0.1
GO05				*i* S	Sb	23 46 44.3	0.0
GO05				IAML		23 46 46.9	
	comp=N,371nm,0.3s						
LMEL	**Las Melosas**	**3.43**	**55**	*eP*	Pn	23 46 49.9	+1.7
LMEL				IAML		23 47 47.9	
	comp=N,67nm,0.5s						
CLCH	**Cerro Calan**	**3.52**	**46**	*eP*	Pn	23 46 50.9	+1.6
CLCH				IAML		23 47 56.4	
	comp=E,156nm,0.5s						
PEL	**Peldehue**	**3.63**	**42**	*eP*	Pn	23 46 52.8	+2.0
FCH	**Farellones**	**3.72**	**47**	*eP*	Pn	23 46 52.7	+0.4
GO06	**Curarrehue**	**4.04**	**156**	⇑*iP*	Pn	23 46 58.0	+1.5

KRSC 06 00:04:33.6±10.0, 50°97N×157°98E, h41km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.84**	**4**	*eP*	Pn	00 04 49.9	+0.9
KDTR				*eS*	Sn	00 05 01.3	+1.1
PAU	**Pauzhetka**	**0.89**	**305**	*eP*	Pn	00 04 51.2	+1.6
PAU				*eS*	Sn	00 05 03.4	+2.1
SKR	**Severo-Kuril's**	**1.22**	**257**	*eP*	Pn	00 04 55.1	+1.0
SKR				*eS*	Sn	00 05 10.2	+0.9
RUS	**Russkaya**	**1.50**	**13**	*eP*	Pn	00 04 58.8	+0.8
RUS				*eS*	Sn	00 05 16.6	+0.2
MTVR	**Mutnovka**	**1.52**	**5**	*eP*	Pn	00 04 59.9	+1.5
MTVR				*eS*	Sn	00 05 18.7	+1.6
ALID	**Alaid**	**1.54**	**267**	*eP*	Pn	00 05 00.2	+1.5
ALID				*eS*	Sn	00 05 19.3	+1.8
KRMR	**Karymshinskiy**	**1.87**	**3**	*eP*	Pn	00 05 05.5	+2.5
KRMR				*eS*	Sn	00 05 28.7	+3.4
APC	**Apacha**	**2.02**	**346**	*eP*	Pn	00 05 07.7	+2.5
DALK	**Dalny**	**2.12**	**13**	*eP*	Pn	00 05 08.4	+1.9
DALK				*eS*	Sn	00 05 33.3	+1.8
UGLR	**Uglovaya**	**2.30**	**13**	*eP*	Pn	00 05 12.0	+2.9
AVH	**Avacha**	**2.35**	**11**	*eP*	Pn	00 05 12.7	+3.0
SMAR	**Somma**	**2.35**	**12**	*eP*	Pn	00 05 13.7	+3.8
KOK	**Koryaka**	**2.36**	**10**	*eP*	Pn	00 05 12.8	+2.9
SDLR	**Sedlovina**	**2.38**	**13**	*eP*	Pn	00 05 12.0	+1.8
KRX	**Arik**	**2.43**	**10**	*eP*	Pn	00 05 14.8	+3.9
SPN	**Mys Shipunski**	**2.48**	**30**	*eS*	Sn	00 05 44.3	+3.9
GNL	**Ganaly**	**2.73**	**360**	*eP*	Pn	00 05 18.5	+3.5

*HEL **06** 00:17:11.3, 67°86N×19°92E, h0km, ML1.7, Explosion*
*ISCJB **06** 00:17:12.1±0.4, 67°81N±0°03×20°27E±0°07, h0km, Error ellipse: s-maj=3.8km s-min=3.7km az=9.8*
*UPP **06** 00:17:12.7±0.8, 67°85N×20°19E, h0km, ML2.5, Explosion*
ISC 06 00:17:12.7±0.8, 67°83N±0°02×20°24E±0°02, h0km, n29, σ0°86/42, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**17**	P	**Pg**	**00 17 15.2**	**0.0**
KUA				S	**Sg**	**00 17 17.0**	**+0.1**
KUA	**Kurravaara**	**0.13**	**17**	*i* P	**Pg**	**00 17 15.2**	**0.0**
KUA				*i* S	**Sg**	**00 17 17.0**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**269**	P	**Pg**	**00 17 17.3**	**-0.1**
RATU				S	**Sg**	**00 17 21.1**	**+0.5**
RATU	**Laukkuluspa**	**0.25**	**269**	P	**Sg**	**00 17 21.6**	**+1.0**
RATU	**Laukkuluspa**	**0.25**	**269**	*i* P	**Pg**	**00 17 17.3**	**-0.1**
RATU				*i* S	**Sg**	**00 17 21.1**	**+0.5**
NIKU	**Nikkaluokta**	**0.46**	**275**	P	**Pg**	**00 17 21.2**	**-0.3**
NIKU	**Nikkaluokta**	**0.46**	**275**	*i* P	**Pg**	**00 17 21.2**	**-0.3**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**00 17 26.1**	**+0.1**
LANU	**Lannavaara**	**0.70**	**71**	*eP*	**Pg**	**00 17 26.0**	**-0.1**
	baz=262						
LANU				*eS*	**Sg**	**00 17 35.7**	**+0.7**
DUNU	**Dundret**	**0.72**	**170**	P	**Pg**	**00 17 26.7**	**+0.1**
DUNU	**Dundret**	**0.72**	**170**	*i* P	**Pg**	**00 17 26.7**	**+0.1**
MASU	**Masugnsbyn**	**0.77**	**118**	P	**Pg**	**00 17 27.7**	**+0.3**
MASU	**Masugnsbyn**	**0.77**	**118**	*i* P	**Pg**	**00 17 27.7**	**+0.3**
SALU	**Saltoluokta**	**0.80**	**237**	P	**Pg**	**00 17 27.8**	**-0.3**
SALU	**Saltoluokta**	**0.80**	**237**	*i* P	**Pg**	**00 17 27.8**	**-0.3**
KIF	**Kilpisjarvi**	**1.20**	**10**	*eP*	**Pb**	**00 17 35.6**	**-0.6**
KIF	**Kilpisjarvi**	**1.20**	**10**	*ePB*	**Pg**	**00 17 35.5**	**-0.2**
KIF				MSG		00 17 48.6	
	comp=Z,9.7nm,0.2s						
KIF				*eS*	**Sg**	**00 17 51.2**	**0.0**
PAJU	**Pajala**	**1.37**	**125**	P	**Pg**	**00 17 38.2**	**-0.8**
PAJU	**Pajala**	**1.37**	**125**	*eP*	**Pg**	**00 17 38.2**	**-0.8**
HEF	**Hetta**	**1.41**	**64**	*eP*	**Pn**	**00 17 38.6**	**-1.0**
HEF	**Hetta**	**1.41**	**64**	*ePG*	**Pn**	**00 17 38.6**	**-1.0**
	baz=253						
HEF				MSG		00 17 56.4	
	comp=Z,4.8nm,0.2s						
HEF				*eSN*	**Sn**	**00 18 01.6**	**+2.8**
ERTU	**Ertsjaerv**	**1.49**	**148**	P	**Pn**	**00 17 40.4**	**-0.4**
ERTU	**Ertsjaerv**	**1.49**	**148**	*eP*	**Pn**	**00 17 40.3**	**-0.4**
ERTU				*eSN*	**Sn**	**00 18 01.3**	**+0.5**
KALU	**Kalix**	**2.33**	**147**	*ePB*	**Pn**	**00 17 53.7**	**+1.5**
	baz=326						
KALU				*eSG*	**Sb**	**00 18 25.7**	**+0.9**
TOF	**Tornio**	**2.38**	**136**	*ePB*	**Pb**	**00 17 54.7**	**-1.7**
TOF				MSG		00 18 24.9	
	comp=Z,2.9nm,0.2s						
TOF				*eSG*	**Sb**	**00 18 26.8**	**+0.5**
SGF	**Sodankyl**	**2.44**	**96**	*ePB*	**Pb**	**00 17 56.0**	**-1.3**
	baz=281						
SGF				*eSG*	**Sb**	**00 18 29.1**	**+1.2**
RNF	**Rovaniemi**	**2.56**	**116**	*ePB*	**Pb**	**00 17 57.7**	**-1.7**
RNF				*eSB*	**Sb**	**00 18 31.3**	**-0.1**
ARE0	**ARCESS Array S**	**2.58**	**46**	*eP*	**Pn**	**00 17 56.3**	**+0.7**
ARE0				*eSB*	**Sb**	**00 18 31.0**	**-0.9**
KEV	**Kevo**	**3.13**	**49**	*eS*	**Sn**	**00 18 42.1**	**+1.0**
KEV				MSG		00 18 45.4	
	comp=Z,1.3nm,0.2s						

UPP 06 00:17:16.8±0.1, 67°85N×20°22E, h0km, ML2.4, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**22**	P	Pg	00 17 19.3	+0.3
KUA				S	Sg	00 17 21.0	+0.5
NIKU	**Nikkaluokta**	**0.45**	**273**	P	Pg	00 17 25.4	0.0
SALU	**Saltoluokta**	**0.81**	**235**	P	Pg	00 17 32.0	-0.2
PAJU	**Pajala**	**1.39**	**125**	P	Pg	00 17 42.3	-1.1

WEL 06 00:40:39.3, 45°S±2°×16°7E±°, h63km±3km, ML3.7/14, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.39**	**214**	P	Pn	00 40 51.0	+0.6
DCZ				S	Sn	00 40 59.3	+0.8
MLZ	**Mavora Lakes**	**0.51**	**116**	P	Pn	00 40 52.5	+0.8
MLZ				S	Sn	00 41 01.8	+1.0
MSZ	**Milford Sound**	**0.58**	**35**	P	Pn	00 40 52.3	0.0
MSZ				S	Sn	00 41 02.8	+1.0
WHZ	**Wether Hill Ro**	**0.82**	**156**	P	Pn	00 40 56.4	+1.2
WHZ				S	Sn	00 41 08.8	+1.8
WKZ	**Wanaka**	**1.15**	**74**	P	Pn	00 41 00.3	+0.9
WKZ				S	Sn	00 41 15.6	+1.1
PYZ	**Puysegur Point**	**1.16**	**208**	P	Pn	00 41 01.0	+1.4
EAZ	**Earnscleugh**	**1.31**	**94**	P	Pn	00 41 02.9	+1.3
EAZ				S	Sn	00 41 18.8	+0.6
JCZ	**Jackson Bay**	**1.43**	**42**	P	Pn	00 41 03.4	+0.1
TUZ	**Tuapeka**	**1.73**	**119**	P	Pn	00 41 08.5	+1.4
SYZ	**Scrubby Hill**	**1.82**	**140**	P	Pn	00 41 09.6	+1.3
LBZ	**Lake Benmore**	**2.08**	**70**	P	Pn	00 41 11.8	-0.2
ODZ	**Otahua Downs**	**2.26**	**89**	P	Pn	00 41 14.6	+0.3
HHSZ	**Highcliff Hill**	**2.33**	**110**	P	Pn	00 41 16.5	+1.3
FOZ	**Fox Glacier**	**2.34**	**47**	P	Pn	00 41 14.8	-0.6
GCSZ	**Gaunt Creek Bo**	**2.75**	**49**	P	Pn	00 41 20.5	-0.6
RPZ	**Rata Peaks**	**2.94**	**62**	P	Pn	00 41 23.0	-0.7
WVZ	**Waitaha Valley**	**3.14**	**50**	P	Pn	00 41 25.7	-0.6
LTZ	**Lake Taylor**	**4.20**	**57**	P	Pn	00 41 39.6	-1.2
DSZ	**Denniston Nort**	**4.64**	**44**	P	Pn	00 41 46.8	-0.2
QRZ	**Quartz Range**	**5.70**	**42**	P	Pn	00 42 00.9	-0.5
DUWZ	**D'Urville Isla**	**6.42**	**50**	P	Pn	00 42 13.1	+1.8

*IDC **06** 00:43:42.6±1.4, 3°05S×148°04E, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/36, mbtmp3.8/7, Error ellipse: s-maj=57.2km s-min=20.9km az=115.0*
*ISCJB **06** 00:43:44.5±1.2, 3°1S±0°2×147°9E±0°3, h22km, mb3.7/7, Error ellipse: s-maj=49.4km s-min=16.7km az=26.3*
ISC 06 00:43:46.0±1.4, 3°1S±0°2×148°0E±0°4, h22km, n14, σ1°02/8, mb3.7/7, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.43**	**218**	P	**P**	**00 48 31.3**	**-1.5**
	2.0nm,0.7s,baz=41,slow=10,SNR=16						
ASAR	**Alice Springs**	**24.60**	**213**	P	**P**	**00 49 05.2**	**+0.3**
	1.9nm,0.8s,baz=40,slow=7.5,SNR=16						
FITZ	**Fitzroy Crossi**	**26.54**	**234**	P	**P**	**00 49 23.5**	**+1.1**
	7.1nm,0.9s,baz=92,slow=11,SNR=6.7						
H11S3	**WAKE ISLAND Hy 28.24**		**40**	T	T	01 19 09.5	
	baz=222,slow=76,SNR=218						
H11S2	**WAKE ISLAND Hy 28.25**		**40**	T	T	01 19 10.0	
	baz=222,slow=76,SNR=195						
H11S1	**WAKE ISLAND Hy 28.25**		**40**	T	T	01 19 10.7	
	baz=222,slow=76,SNR=205						
H11N1	**WAKE ISLAND Hy 29.27**		**39**	T	T	01 20 25.5	
	baz=221,slow=76,SNR=145						
H11N3	**WAKE ISLAND Hy 29.28**		**39**	T	T	01 20 26.7	
	baz=221,slow=76,SNR=125						
H11N2	**WAKE ISLAND Hy 29.28**		**38**	T	T	01 20 26.8	
	baz=221,slow=76,SNR=360						
SONM	**Songino Array**	**62.41**	**330**	P	**P**	**00 54 06.7**	**-0.8**
	0.1nm,0.4s,baz=152,slow=6.4,SNR=3.3						
MKAR	**Makanchi Array**	**75.94**	**320**	P	**P**	**00 55 31.8**	**+0.5**
	0.4nm,0.9s,baz=98,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**82.41**	**23**	P	**P**	**00 56 05.7**	**-0.5**
	0.9nm,1.0s,baz=254,slow=4.3,SNR=5.6						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**00 57 12.5**	**+0.7**
	0.5nm,0.7s,baz=272,slow=4.7,SNR=8.2						
TORD	**Torodi Ar. Bea**	**145.26**	**289**	PKPbc	**PKPbc**	**01 03 22.5**	**-0.4**
	0.9nm,0.9s,baz=57,slow=3.6,SNR=4.8						

*IDC **06** 00:51:42.6±1.3, 3°05S×147°94E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.0/34, mbtmp4.0/12, MS3.3/3, Ms1 3.3/3, ms1mx2.9/35, Error ellipse: s-maj=47.9km s-min=18.3km az=113.0*
*ISCJB **06** 00:51:46.7±0.7, 2°99S±0°07×147°7E±0°2, h35km, mb4.0/16, MS3.3/3, Error ellipse: s-maj=24.8km s-min=8.4km az=16.3*
*NEIC **06** 00:51:47.7±0.4, 3°09S×147°94E, h35km, mb4.2/6, Error ellipse: s-maj=17.4km s-min=5.5km az=113.0*
ISC 06 00:51:48.5±1.0, 2°9S±0°1×147°7E±0°2, h35km, n35, σ1°03/28, mb4.0/16, MS3.3/3, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**0.95**	**338**	*ePn*	**Pn**	**00 52 02.9**	**-2.5**
WRAB	**Tennant Creek**	**21.35**	**217**	*eP*	**P**	**00 56 32.0**	**-1.0**
	1.8nm,0.5s						
WR1	**Warramunga Arr**	**21.37**	**217**	*eP*	**P**	**00 56 32.2**	**-0.9**
	18nm,1.4s						
WRA	**Warramunga Arr**	**21.37**	**217**	P	**P**	**00 56 32.2**	**-0.9**
	2.2nm,0.6s,baz=42,slow=10.0,SNR=24						
WRA				LR	LR	01 06 32.9	
	comp=Z,74nm,18.3s,baz=40,slow=42						
AS01	**Alice Springs**	**24.54**	**212**	*eP*	**P**	**00 57 03.9**	**-1.2**
AS31	**Alice Springs**	**24.57**	**212**	*eP*	**P**	**00 57 04.8**	**-0.5**
	1.0nm,0.8s						
ASAR	**Alice Springs**	**24.57**	**212**	P	**P**	**00 57 04.8**	**-0.5**
	2.4nm,0.7s,baz=39,slow=7.5,SNR=19						
FITZ	**Fitzroy Crossi**	**26.37**	**234**	*eP*	**P**	**00 57 21.7**	**-0.1**
	5.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**26.37**	**234**	P	**P**	**00 57 21.7**	**-0.1**
	4.2nm,0.9s,baz=49,slow=12,SNR=5.1						
H11S3	**WAKE ISLAND Hy 28.32**		**41**	T	T	01 27 10.9	
	baz=223,slow=76,SNR=61						
H11S2	**WAKE ISLAND Hy 28.33**		**41**	T	T	01 27 10.2	
	baz=223,slow=76,SNR=50						
H11S1	**WAKE ISLAND Hy 28.34**		**41**	T	T	01 27 12.2	
	baz=223,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy 29.34**		**39**	T	T	01 28 26.2	
	baz=221,slow=76,SNR=64						
H11N3	**WAKE ISLAND Hy 29.36**		**39**	T	T	01 28 28.7	
	baz=221,slow=76,SNR=50						
H11N2	**WAKE ISLAND Hy 29.36**		**39**	T	T	01 28 27.5	
	baz=221,slow=76,SNR=132						
KSRS	**Korea Array**	**44.19**	**337**	P	**P**	**00 59 54.3**	**+0.2**
	0.5nm,0.3s,baz=155,slow=12,SNR=4.1						
KSAR	**Wonju Array Be**	**44.19**	**337**	P	**P**	**00 59 54.3**	**+0.1**
ASAJ	**Asahikawa**	**47.06**	**355**	LR	LR	01 16 53.4	
	comp=Z,40nm,20.7s,baz=164,slow=32						
PETK	**Petropavlovsk-**	**56.46**	**7**	P	**P**	**01 01 27.2**	**+0.5**
	2.8nm,0.6s,baz=167,slow=7.4,SNR=4.2						
PETK				LR	LR	01 23 28.1	
	comp=Z,28nm,20.8s,baz=179,slow=34						
PEA1	**Petropavlovsk-**	**56.47**	**7**	*eP*	**P**	**01 01 27.2**	**+0.4**
SONA0	**Songino Array**	**62.11**	**330**	*eP*	**P**	**01 02 07.7**	**+1.6**
SONM	**Songino Array**	**62.11**	**330**	P	**P**	**01 02 07.7**	**+1.6**
	0.5nm,0.7s,baz=147,slow=5.9,SNR=3.9						
MK32	**Makanchi Array**	**75.61**	**320**	*eP*	**P**	**01 03 31.1**	**+1.1**
MKAR	**Makanchi Array**	**75.61**	**320**	P	**P**	**01 03 31.2**	**+1.1**
	0.5nm,0.9s,baz=87,slow=8.8,SNR=3.3						
ZALV	**Zalesovo Beam**	**76.82**	**327**	P	**P**	**01 03 36.8**	**+0.1**
	0.3nm,0.4s,baz=116,slow=6.6,SNR=3.4						
ZAA1	**Zalesovo Array**	**76.82**	**327**	*eP*	**P**	**01 03 36.8**	**+0.1**
ILAR	**Eielson Array**	**82.39**	**23**	P	**P**	**01 04 05.5**	**-1.2**
	1.0nm,0.8s,baz=248,slow=5.3,SNR=8.1						
ILB	**Eielson Array**	**82.39**	**23**	*eP*	**P**	**01 04 05.5**	**-1.2**
	9.4nm,1.6s						
NRIK	**Noril'sk**	**82.59**	**342**	P	**P**	**01 04 08.9**	**+1.2**
	2.0nm,0.6s,baz=116,slow=5.3,SNR=4.4						
BVAR	**Borovoye Array**	**84.73**	**324**	P	**P**	**01 04 19.7**	**+0.8**
	0.7nm,0.5s,baz=90,slow=8.9,SNR=5.8						
INK	**Inuvik**	**88.55**	**21**	*eP*	**P**	**01 04 37.0**	**-0.3**
	1.7nm,0.7s						
YKA	**Yellowknife Ar**	**96.14**	**28**	P	**P**	**01 05 12.5**	**0.0**
	0.9nm,0.6s,baz=274,slow=4.7,SNR=19						
YKB5	**Yellowknife Ar**	**96.14**	**28**	*eP*	**P**	**01 05 12.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**144.91**	**289**	PKPbc	**PKPdf**	**01 11 21.9**	**-1.2**
	1.4nm,1.0s,baz=50,slow=3.8,SNR=7.4						
TOA1	**Torodi Ar. Sit**	**144.91**	**289**	*e*PKPbc	**PKPdf**	**01 11 21.9**	**-1.2**

*SIGU **06** 01:10:10.3±0.1, 45°5N±0°9×26°3E±0°9, h131km±1km, mb3.5/7*
*ISCJB **06** 01:10:10.0±0.1, 45°49N±0°01×26°25E±0°02, h129km±1km, mb3.7/9, Error ellipse: s-maj=2.0km s-min=1.9km az=139.0*
*MOS **06** 01:10:10.6±0.8, 45°57N×26°34E, h119km, mb4.2/3, Error ellipse: s-maj=8.8km s-min=6.5km az=84.7*
*SOF **06** 01:10:11.5, 45°36N×26°17E, h15km, MD3.3*
*BUC **06** 01:10:11.2±0.3, 45°49N×26°25E, h126km±4km, MD4.5/15, Error ellipse: s-maj=2.9km s-min=2.6km az=13.0*
*IDC **06** 01:10:11.4±0.5, 45°54N×26°19E, h119km±6km, mb3.5/9, mb1 3.4/15, mb1mx3.2/62, mbtmp3.8/15, Error ellipse: s-maj=17.2km s-min=16.8km az=3.0*
*BEO **06** 01:10:12.0±0.6, 45°41N×25°79E, h0km, ML3.5/11*
ISC 06 01:10:11.5±0.6, 45°50N±0°02×26°25E±0°02, h129km±4km, n270, σ1°57/351, mb3.7/9, 58C-71D, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLR	**Muntele Rosu**	**0.21**	**267**	⇑*iP*	**Pn**	**01 10 28.8**	**-0.6**
MLR				*i* S	**Sn**	**01 10 41.8**	**-1.2**
MLR	**Muntele Rosu**	**0.21**	**267**	⇑*iP*	**Pn**	**01 10 28.8**	**-0.6**
MLR	**Muntele Rosu**	**0.21**	**267**	S	**Sn**	**01 10 41.8**	**-1.2**
MLR	**Muntele Rosu**	**0.21**	**267**	LR	LR	01 10 19.5	
	comp=Z,31nm,18.6s,baz=236,slow=45						
MLR				P	**Pn**	**01 10 28.7**	**-0.6**
	121nm,0.3s,baz=68,slow=3.0,SNR=3818						
MLR				S	**Sn**	**01 10 41.7**	**-1.2**
	190nm,0.3s,baz=45,slow=20,SNR=48						
ISR	**Istrita**	**0.44**	**151**	⇓*iP*	**Pn**	**01 10 29.9**	**-0.3**
ISR				*i* S	**Sn**	**01 10 43.2**	**-1.1**
ISR	**Istrita**	**0.44**	**151**	⇓*iP*	**Pn**	**01 10 29.9**	**-0.3**
ISR	**Istrita**	**0.44**	**151**	P	**Pn**	**01 10 29.9**	**-0.3**
PLOR	**Plostina**	**0.45**	**39**	⇑*iP*	**Pn**	**01 10 29.5**	**-0.7**
PLOR				*i* S	**Sn**	**01 10 42.7**	**-1.8**
PLOR	**Plostina**	**0.45**	**39**	⇑*iP*	**Pn**	**01 10 29.5**	**-0.7**
PLOR	**Plostina**	**0.45**	**39**	P	**Pn**	**01 10 29.5**	**-0.7**
PLOR				S	**Sn**	**01 10 42.6**	**-1.9**
SECR		**0.48**	**195**	⇑*iP*	**Pn**	**01 10 30.1**	**-0.3**
SECR				*i* S	**Sn**	**01 10 44.1**	**-0.6**
SECR		**0.48**	**195**	⇑*iP*	**Pn**	**01 10 30.1**	**-0.3**
VRI	**Vrincioaia**	**0.50**	**43**	⇑*iP*	**Pn**	**01 10 29.3**	**-1.2**
VRI				*i* S	**Sn**	**01 10 43.7**	**-1.2**
VRI	**Vrincioaia**	**0.50**	**43**	⇑*iP*	**Pn**	**01 10 29.3**	**-1.2**
VRI	**Vrincioaia**	**0.50**	**43**	P	**Pn**	**01 10 29.3**	**-1.2**
VRI				S	**Sn**	**01 10 43.6**	**-1.3**
**

BIZ	**Bicaz**	**1.44**	**356**	⇓	*i*	P	**Pn**	**01 10 39.4**	**+0.6**
BIZ					*i*	S	**Sn**	**01 10 59.8**	**0.0**
BIZ	**Bicaz**	**1.44**	**356**	⇓	*i*	P	**Pn**	**01 10 39.4**	**+0.6**
HARR	**Harsova**	**1.44**	**124**	⇓	*i*	P	**Pn**	**01 10 38.1**	**-0.7**
HARR	**Harsova**	**1.44**	**124**	⇓	*i*	P	**Pn**	**01 10 38.1**	**-0.7**
MDB	**Medias**	**1.45**	**297**	⇓	*i*	P	**Pn**	**01 10 39.2**	**+0.2**
MDB					*i*	S	**Sn**	**01 11 00.4**	**+0.5**
MDB	**Medias**	**1.45**	**297**	⇓	*i*	P	**Pn**	**01 10 39.2**	**+0.2**
TLB	**Topalu**	**1.57**	**125**	⇓	*i*	P	**Pn**	**01 10 39.5**	**-0.7**
TLB					*i*	S	**Sn**	**01 10 59.7**	**-2.5**
TLB	**Topalu**	**1.57**	**125**	⇓	*i*	P	**Pn**	**01 10 39.5**	**-0.7**
LEOM	**Leova**	**1.70**	**54**	⇑	*i*	P	**Pn**	**01 10 41.5**	**-0.2**
LEOM					*i*	S	**Sn**	**01 11 03.1**	**-1.9**
LEOM	**Leova**	**1.70**	**54**	⇑	*i*	P	**Pn**	**01 10 41.5**	**-0.2**
LEOM	**Leova**	**1.70**	**54**		P		**Pn**	**01 10 41.5**	**-0.2**
LEOM					S		**Sn**	**01 11 03.0**	**-1.9**
LEOM	**Leova**	**1.70**	**54**		P		**Pn**	**01 10 41.5**	**-0.2**
LEOM					S		**Sn**	**01 11 03.0**	**-1.9**
CVDA	**Cernavoda**	**1.73**	**132**	⇓	*i*	P	**Pn**	**01 10 41.5**	**-0.6**
CVDA					*i*	S	**Sn**	**01 11 03.8**	**-1.6**
CVDA	**Cernavoda**	**1.73**	**132**	⇓	*i*	P	**Pn**	**01 10 41.5**	**-0.6**
LOT	**Lotru**	**1.74**	**269**	⇓	*i*	P	**Pn**	**01 10 41.6**	**-0.8**
LOT					*i*	S	**Sn**	**01 11 05.3**	**-0.7**
LOT	**Lotru**	**1.74**	**269**	⇓	*i*	P	**Pn**	**01 10 41.6**	**-0.8**
ICOR	**Ion Corvin**	**1.77**	**141**	⇓	*i*	P	**Pn**	**01 10 42.2**	**-0.4**
ICOR					*i*	S	**Sn**	**01 11 04.1**	**-2.3**
ICOR	**Ion Corvin**	**1.77**	**141**	⇓	*i*	P	**Pn**	**01 10 42.2**	**-0.4**
TLCR		**1.84**	**99**	⇑	*i*	P	**Pn**	**01 10 42.7**	**-0.7**
TLCR					*i*	S	**Sn**	**01 11 06.5**	**-1.3**
TLCR		**1.84**	**99**	⇑	*i*	P	**Pn**	**01 10 42.7**	**-0.7**
TIRR	**Tirgusor**	**1.86**	**123**	⇓	*i*	P	**Pn**	**01 10 42.9**	**-0.7**
TIRR					*i*	S	**Sn**	**01 11 05.8**	**-2.5**
TIRR	**Tirgusor**	**1.86**	**123**	⇓	*i*	P	**Pn**	**01 10 42.9**	**-0.7**
TIRR	**Tirgusor**	**1.86**	**123**		P		**Pn**	**01 10 42.7**	**-0.9**
TIRR					S		**Sn**	**01 11 05.7**	**-2.5**
PRAR	**RASCA**	**1.86**	**360**	⇓	*i*	P	**Pn**	**01 10 44.2**	**+0.5**
PRAR	**RASCA**	**1.86**	**360**	⇓	*i*	P	**Pn**	**01 10 44.2**	**+0.5**
IAS	**Iasi**	**1.92**	**28**	⇑	*i*	P	**Pn**	**01 10 44.0**	**-0.4**
IAS					*i*	S	**Sn**	**01 11 07.6**	**-2.0**
IAS	**Iasi**	**1.92**	**28**	⇑	*i*	P	**Pn**	**01 10 44.0**	**-0.4**
ZIMR		**1.95**	**199**	⇑	*i*	P	**Pn**	**01 10 44.0**	**-0.7**
ZIMR					*i*	S	**Sn**	**01 11 08.1**	**-2.1**
ZIMR		**1.95**	**199**	⇑	*i*	P	**Pn**	**01 10 44.0**	**-0.7**
VLAD	**Vladila**	**2.00**	**222**	⇑	*i*	P	**Pn**	**01 10 44.4**	**-0.9**
VLAD					*i*	S	**Sn**	**01 11 09.5**	**-1.7**
VLAD	**Vladila**	**2.00**	**222**	⇑	*i*	P	**Pn**	**01 10 44.4**	**-0.9**
MFTR	**Murfatlar**	**2.04**	**130**	⇓	*i*	P	**Pn**	**01 10 45.0**	**-0.8**
MFTR					*i*	S	**Sn**	**01 11 10.5**	**-1.6**
MFTR	**Murfatlar**	**2.04**	**130**	⇓	*i*	P	**Pn**	**01 10 45.0**	**-0.8**
ARCR	**ARCALIA**	**2.06**	**321**	⇓	*i*	P	**Pn**	**01 10 45.5**	**-0.6**
ARCR	**ARCALIA**	**2.06**	**321**	⇓	*i*	P	**Pn**	**01 10 45.5**	**-0.6**
CRAR	**CRAIOVA**	**2.10**	**237**	⇓	*i*	P	**Pn**	**01 10 45.5**	**-1.1**
CRAR					*i*	S	**Sn**	**01 11 11.5**	**-1.9**
CRAR	**CRAIOVA**	**2.10**	**237**	⇓	*i*	P	**Pn**	**01 10 45.5**	**-1.1**
CJR	**Cluj-Napoca**	**2.21**	**304**	⇑	*i*	P	**Pn**	**01 10 47.4**	**-0.5**
CJR	**Cluj-Napoca**	**2.21**	**304**	⇑	*i*	P	**Pn**	**01 10 47.4**	**-0.5**
EFOR	**EFORIE**	**2.21**	**129**	⇓	*i*	P	**Pn**	**01 10 47.4**	**-0.6**
EFOR					*i*	S	**Sn**	**01 11 14.3**	**-1.7**
EFOR	**EFORIE**	**2.21**	**129**	⇓	*i*	P	**Pn**	**01 10 47.4**	**-0.6**
BURAR	**Bucovina Array**	**2.23**	**342**	⇓	*i*	P	**Pn**	**01 10 49.5**	**+1.2**
SZH	**Strazhica**	**2.25**	**186**		*i*	P	**Pn**	**01 10 47.8**	**-0.6**
MILM	**Milestii Mici**	**2.28**	**51**	⇑	*i*	P	**Pn**	**01 10 48.2**	**-0.5**
MILM					*i*	S	**Sn**	**01 11 14.6**	**-2.8**
MILM	**Milestii Mici**	**2.28**	**51**	⇑	*i*	P	**Pn**	**01 11 10.5**	**-6.9**
MILM	**Milestii Mici**	**2.28**	**51**		P		**Pn**	**01 10 48.2**	**-0.5**
PSN	**Preselentsi**	**2.29**	**142**		*i*	P	**Pn**	**01 10 48.7**	**-0.2**
SRE	**Strehaia**	**2.31**	**250**	⇑	*i*	P	**Pn**	**01 10 48.3**	**-0.7**
SRE					*i*	S	**Sn**	**01 11 16.6**	**-1.6**
KIS	**Kishinev**	**2.33**	**49**	⇑	*i*	P	**Pn**	**01 10 47.0**	**-2.4**
	400nm,0.6s								
KIS					*i*	S	**Sn**	**01 11 15.0**	**-3.6**
	400nm,0.5s								
KIS	**Kishinev**	**2.33**	**49**	⇑	*i*	P	**Pn**	**01 10 47.0**	**-2.4**
KIS					*i*	S	**Sn**	**01 11 15.0**	**-3.6**
KIS	**Kishinev**	**2.33**	**49**		P		**Pn**	**01 10 47.0**	**-2.4**
KIS						Pm		01 10 47.5	
KIS						S	**Sn**	**01 11 15.0**	**-3.6**
KIS						Sm		01 11 15.5	
MANR	**Mangalia**	**2.37**	**134**	⇓	*i*	P	**Pn**	**01 10 49.3**	**-0.7**
MANR					*i*	S	**Sn**	**01 11 16.7**	**-2.8**
DEV	**Deva**	**2.37**	**280**	⇑	*i*	P	**Pn**	**01 10 50.0**	**0.0**
PVL	**Pavlikeni**	**2.38**	**196**		*i*	P	**Pn**	**01 10 50.9**	**+0.9**
GZR	**Gura Zlata**	**2.44**	**269**	⇓	*i*	P	**Pn**	**01 10 50.4**	**-0.6**
GZR					*i*	S	**Sn**	**01 11 20.6**	**-0.7**
PRD	**Provadia**	**2.44**	**160**		*i*	P	**Pn**	**01 10 50.9**	**0.0**
PUNG	**Punghina**	**2.65**	**244**	⇑	*i*	P	**Pn**	**01 10 52.0**	**-1.5**
PUNG					*i*	S	**Sn**	**01 11 22.3**	**-3.6**
DJES	**Djerdap**	**2.77**	**254**		*e*	Pn	**Pn**	**01 10 53.4**	**-1.6**
DRGR		**2.78**	**299**		*e*	Pn	**Pn**	**01 10 54.7**	**-0.5**
DRGR		**2.78**	**299**	⇓	*i*	P	**Pn**	**01 10 54.7**	**-0.5**
HERR	**Herculane**	**2.78**	**258**	⇑	*i*	P	**Pn**	**01 10 53.9**	**-1.2**
HERR					*i*	S	**Sn**	**01 11 24.9**	**-3.9**
CHRU	**Chernivtsi**	**2.81**	**356**		*e*	P	**Pn**	**01 10 55.2**	**-0.3**
BMR	**Baia Mare**	**2.88**	**320**	⇑	*i*	P	**Pn**	**01 10 56.5**	**0.0**
RAKU	**Rahkiv**	**2.90**	**331**	⇓	*i*	P	**Pn**	**01 10 56.8**	**+0.1**
KSV	**Kosov**	**2.93**	**344**	⇓	*i*	P	**Pn**	**01 10 57.5**	**+0.4**
KSV						Pm		01 10 58.1	
KSV					*e*	S	**Sn**	**01 11 33.5**	**+1.2**
KSV						Sm		01 11 36.1	
NSLU	**Nyzhne Selyshc**	**2.96**	**336**	⇑	*i*	P	**Pn**	**01 11 01.8**	**+4.3**
JMB	**Yambol**	**3.04**	**175**		*i*	P	**Pn**	**01 10 57.7**	**-0.9**
KMPD	**K-Podol'skiy**	**3.07**	**3**		*e*	P	**Pn**	**01 10 57.4**	**-1.4**
KMPD					*i*	S	**Sn**	**01 11 33.4**	**-2.0**
NDNU	**Novodnistrovsk**	**3.19**	**13**	⇑	*i*	P	**Pn**	**01 11 00.0**	**-0.4**
NDNU						Pm		01 11 00.4	
NDNU					*i*	S	**Sn**	**01 11 35.4**	**-2.9**
NDNU						Sm		01 11 36.5	
BZS	**Buzias**	**3.25**	**274**		*e*	Pn	**Pn**	**01 11 00.2**	**-1.1**
BZS	**Buzias**	**3.25**	**274**	⇑	*i*	P	**Pn**	**01 11 00.1**	**-1.2**
MDVR	**Moldovita**	**3.29**	**259**	⇑	*i*	P	**Pn**	**01 11 00.9**	**-0.9**
MDVR	**Moldovita**	**3.29**	**259**		S		**Sn**	**01 11 37.4**	**-3.3**
PGB	**Panagyurishte**	**3.31**	**208**		*i*	P	**Pn**	**01 11 01.8**	**-0.3**
ZAGS	**Zajecar**	**3.32**	**241**		*e*	Pn	**Pn**	**01 11 00.7**	**-1.5**
ZAGS					*e*	Sn	**Sn**	**01 11 37.4**	**-4.1**
KORU	**Korolevo**	**3.41**	**322**		P		**Pn**	**01 11 03.9**	**+0.6**
ZAPS	**Zavoj**	**3.42**	**231**		*e*	Pn	**Pn**	**01 11 02.9**	**-0.6**
ZAPS					*e*	Sn	**Sn**	**01 11 39.7**	**-4.0**
KUBS	**Kucevo**	**3.42**	**253**		*e*	Pn	**Pn**	**01 11 01.3**	**-2.3**
KUBS					*e*	Sn	**Sn**	**01 11 39.2**	**-4.6**
TRSU	**Trosnyk**	**3.44**	**320**		*e*	P	**Pn**	**01 11 03.9**	**+0.2**
MEZ	**Mezhgor'ye**	**3.55**	**329**	⇓	*i*	P	**Pn**	**01 11 05.7**	**+0.6**
PLD	**Plovdiv**	**3.57**	**199**		*i*	P	**Pn**	**01 11 04.6**	**-1.0**
BRIU	**Brid**	**3.60**	**323**		*i*	P	**Pn**	**01 11 05.1**	**-0.7**
BANR	**Banloc**	**3.60**	**270**	⇓	*i*	P	**Pn**	**01 11 05.7**	**-0.1**
BANR	**Banloc**	**3.60**	**270**		S		**Sn**	**01 11 45.8**	**-2.1**
VTS	**Vitosha**	**3.61**	**218**		*e*	Pn	**Pn**	**01 11 05.7**	**-0.5**
VTS	**Vitosha**	**3.61**	**218**	⇑	*i*	P	**Pn**	**01 11 05.6**	**-0.6**
VTS	**Vitosha**	**3.61**	**218**		S		**Sn**	**01 11 47.1**	**-1.3**
VTS	**Vitosha**	**3.61**	**218**		P		**Pn**	**01 11 05.7**	**-0.5**
VTS	**Vitosha**	**3.61**	**218**		P		**Pn**	**01 11 05.6**	**-0.6**
TRPA	**Tarpa**	**3.66**	**317**	⇓	*i*	P	**Pn**	**01 11 06.1**	**-0.5**
EDRB	**Edirne**	**3.67**	**174**		P		**Pn**	**01 11 06.4**	**-0.4**
BERU	**Beregovo**	**3.68**	**319**	⇓	*i*	P	**Pn**	**01 11 06.8**	**-0.1**
HORU	**Horodok**	**3.72**	**2**		P		**Pn**	**01 11 07.0**	**-0.4**
HORU					*i*	S	**Sn**	**01 11 47.1**	**-1.6**
BOVS	**Bovan**	**3.74**	**242**		*e*	Pn	**Pn**	**01 11 06.8**	**-1.0**
BOVS					*e*	Sn	**Sn**	**01 11 47.5**	**-3.8**
KIRK	**Kırklareli**	**3.77**	**170**		*i*	P	**Pn**	**01 11 07.4**	**-0.7**
SVIS	**Svilajnac**	**3.78**	**253**		*e*	Pn	**Pn**	**01 11 06.4**	**-1.9**
MUKU	**Mukachevo**	**3.83**	**322**		P		**Pn**	**01 11 08.8**	**0.0**
MORS	**Morshin**	**3.97**	**337**		*e*	P	**Pn**	**01 11 11.1**	**+0.4**
RZN	**Rozhen**	**3.97**	**197**		*i*	P	**Pn**	**01 11 10.8**	**-0.2**
PHSR	**Pinarhisar**	**3.98**	**166**	⇓	*i*	P	**Pn**	**01 11 10.5**	**-0.4**
PHSR	**Pinarhisar**	**3.98**	**166**	⇓	*i*	P	**Pn**	**01 11 10.5**	**-0.4**
PHSR	**Pinarhisar**	**3.98**	**166**		S		**Sn**	**01 11 55.4**	**-1.6**
UZH	**Uzhgorod**	**4.13**	**321**		*c*	iP	**Pn**	**01 11 12.6**	**-0.3**
UZH					*e*	S	**Sn**	**01 12 00.5**	**-0.1**
UZH						smax	smax		
	comp=N,6.0nm,0.8s								
UZH						smax	smax		
	comp=E,3.0nm,0.8s								
BARS	**Barje**	**4.17**	**231**		*e*	Pn	**Pn**	**01 11 12.6**	**-0.8**
GRUS	**Gruza**	**4.26**	**250**		*e*	Pn	**Pn**	**01 11 13.6**	**-1.0**
GRUS					*e*	Sn	**Sn**	**01 11 58.9**	**-4.7**
CTYL	**Yalikoy Yolu**	**4.29**	**159**	⇓	*i*	P	**Pn**	**01 11 14.2**	**-0.8**
CTYL	**Yalikoy Yolu**	**4.29**	**159**	⇓	*i*	P	**Pn**	**01 11 14.2**	**-0.8**
KKB	**Krupnik**	**4.30**	**213**		*i*	P	**Pn**	**01 11 14.9**	**-0.2**
MMB	**Musomiste**	**4.32**	**206**		*i*	P	**Pn**	**01 11 15.2**	**-0.3**
SELS	**Selova**	**4.33**	**240**		*e*	Pn	**Pn**	**01 11 14.4**	**-1.1**
SELS					*e*	Sn	**Sn**	**01 12 01.5**	**-3.8**
TRUS	**Trudelj**	**4.34**	**255**		*e*	Pn	**Pn**	**01 11 14.6**	**-1.1**
RDO	**Rodhopi**	**4.38**	**187**		P		**Pn**	**01 11 15.4**	**-0.9**
NVR	**Nevrokopi**	**4.50**	**204**		P		**Pn**	**01 11 17.3**	**-0.6**
FRGS	**Fruska Gora**	**4.55**	**268**		*e*	Pn	**Pn**	**01 11 17.4**	**-1.1**
FRGS					*e*	Sn	**Sn**	**01 12 06.3**	**-4.3**
FRGS	**Fruska Gora**	**4.55**	**268**		*e*	Pn	**Pn**	**01 11 17.2**	**-1.3**
LVV	**L'vov**	**4.57**	**342**		*e*	P	**Pn**	**01 11 19.3**	**+0.6**
LVV					*i*	S	**Sn**	**01 12 12.0**	**+1.0**
LVV						pmax	pmax		
	comp=Z,40nm,1.0s								
LVV						smax	smax		
	comp=N,30nm,1.1s								
LVV						smax	smax		
	comp=E,10.0nm,1.1s								
ALN	**Alexandroupoli**	**4.60**	**182**		P		**Pn**	**01 11 18.3**	**-0.9**
ELBA	**Catalca**	**4.63**	**159**		*i*	P	**Pn**	**01 11 19.4**	**-0.2**
DIVS	**Divibare**	**4.67**	**255**		*e*	Pn	**Pn**	**01 11 18.6**	**-1.5**
DIVS					*e*	Sn	**Sn**	**01 12 08.9**	**-4.6**
DIVS	**Divibare**	**4.67**	**255**	⇑	*i*	Pn	**Pn**	**01 11 18.6**	**-1.5**
KAVA	**Kavala**	**4.68**	**196**		P		**Pn**	**01 11 19.2**	**-1.0**
KESN	**Edirne-Kesan**	**4.68**	**176**		*i*	P	**Pn**	**01 11 19.1**	**-1.5**
IVAS	**Ivanjica**	**4.76**	**248**		*e*	Pn	**Pn**	**01 11 19.6**	**-1.8**
IVAS					*e*	Sn	**Sn**	**01 12 10.7**	**-5.0**
SRS	**Serrai**	**4.79**	**205**		P		**Pn**	**01 11 21.1**	**-0.6**
STIP	**Stip**	**4.81**	**219**		*i*	Pn	**Pn**	**01 11 19.4**	**-2.6**
TEKS	**Tekeris**	**4.86**	**261**		*e*	Pn	**Pn**	**01 11 21.8**	**-0.8**
TEKS	**Tekeris**	**4.86**	**261**		*e*	Pn	**Pn**	**01 11 21.5**	**-1.1**
VAY	**Valandovo**	**4.96**	**214**		*i*	Pn	**Pn**	**01 11 23.6**	**-0.4**
KNT	**Kendrikon**	**4.98**	**211**		P		**Pn**	**01 11 23.7**	**-0.5**
SJES	**Sjenica**	**5.02**	**246**		*e*	Pn	**Pn**	**01 11 24.2**	**-0.7**
SJES					*e*	Sn	**Sn**	**01 12 18.1**	**-4.0**
BUY	**Buyukada**	**5.10**	**155**		*i*	P	**Pn**	**01 11 25.1**	**-0.8**
BUY						IAML_P			
	comp=Z,1μm,0.2s								
BBLS	**Lazići**	**5.14**	**254**		*e*	Pn	**Pn**	**01 11 25.6**	**-0.9**
BBLS					*e*	Sn	**Sn**	**01 12 20.9**	**-4.0**
BBLS	**Lazići**	**5.14**	**254**	⇑	*i*	Pn	**Pn**	**01 11 25.2**	**-1.3**
KAND	**Kocaeli-Kandir**	**5.26**	**145**		*i*	P	**Pn**	**01 11 26.7**	**-1.3**
KNL	**Balıkesir**	**5.31**	**169**		*i*	P	**Pn**	**01 11 27.4**	**-1.3**
SEV	**Sevastopol'**	**5.35**	**98**		*e*	P	**Pn**	**01 11 27.1**	**-2.0**
SEV					*e*	S	**Sn**	**01 12 26.4**	**-3.2**
SEV	**Sevastopol'**	**5.35**	**98**		P		**Pn**	**01 11 27.1**	**-2.0**
SEV						Pm		01 11 28.1	
SEV						S	**Sn**	**01 12 26.4**	**-3.2**
SEV						Sm		01 12 29.4	
MORH	**Mrgy, Hungar**	**5.36**	**280**		*e*	Pn	**Pn**	**01 11 29.1**	**-0.2**
MORH	**Mrgy, Hungar**	**5.36**	**280**		*e*	Pn	**Pn**	**01 11 29.0**	**-0.2**
HAPS	**Han Pijesak,Bl**	**5.38**	**257**		*e*	Pn	**Pn**	**01 11 27.7**	**-2.0**
HAPS	**Han Pijesak,Bl**	**5.38**	**257**	⇑	*i*	Pn	**Pn**	**01 11 27.2**	**-2.5**
YLV	**Yalova**	**5.44**	**154**	⇑	*i*	P	**Pn**	**01 11 30.3**	**-0.2**
YLV	**Yalova**	**5.44**	**154**		S		**Sn**	**01 12 31.6**	**-0.4**
KRUS	**Krusevo**	**5.50**	**223**		*i*	Pn	**Pn**	**01 11 31.3**	**-0.1**
KIEV	**Kiev**	**5.56**	**20**		*i*	P	**Pn**	**01 11 31.0**	**-0.9**
AKASG	**Malin Array Be**	**5.57**	**20**		P		**Pn**	**01 11 31.1**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=202,slow=12,SNR=9.4								
AKASG						S	**Sn**	**01 12 30.2**	**-4.7**
	comp=Z,4.0nm,0.3s,baz=200,slow=21,SNR=9.3								
SIM	**Simferopol'**	**5.59**	**93**		S		**Sn**	**01 12 31.9**	**-3.5**
EZN	**Ezine**	**5.67**	**179**	⇑	*i*	P	**Pn**	**01 11 33.4**	**-0.1**
EZN	**Ezine**	**5.67**	**179**		S		**Sn**	**01 12 38.0**	**+0.5**
YAL	**Yalta**	**5.70**	**97**		S		**Sn**	**01 12 36.6**	**-1.5**
BIA	**Bitola**	**5.74**	**220**		*i*	Pn	**Pn**	**01 11 35.5**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**5.76**	**178**		*i*	P	**Pn**	**01 11 34.9**	**+0.2**
BTIN	**Bartın**	**5.83**	**129**		*i*	P	**Pn**	**01 11 33.5**	**-2.1**
GEYV	**SAKARYA_Geyve**	**5.83**	**148**		*i*	P	**Pn**	**01 11 35.7**	**+0.1**
GEYV						IAML_P			
	comp=Z,2μm,0.3s								
ALU	**Alushta**	**5.83**	**95**		*e*	P	**Pn**	**01 11 34.5**	**-1.1**
ALU					*e*	S	**Sn**	**01 12 37.9**	**-3.4**
ALU	**Alushta**	**5.83**	**95**		P		**Pn**	**01 11 34.5**	**-1.1**
ALU						Pm		01 11 35.8	
ALU						S	**Sn**	**01 11 37.9**	**-3.4**
ALU						Sm		01 12 41.3	
BALY	**Balya**	**5.85**	**170**		*i*	P	**Pn**	**01 11 36.9**	**+1.0**
BALY						IAML_P			
	comp=Z,624nm,0.4s								
LANS	**Liptovska Anna**	**5.88**	**311**		*e*	P	**Pn**	**01 11 36.9**	**+0.6**
LANS	**Liptovska Anna**	**5.88**	**311**		*e*	PN	**Pn**	**01 11 36.9**	**+0.6**
VYHS	**Vyhne**	**5.89**	**303**		*e*	P	**Pn**	**01 11 36.5**	**+0.1**
VYHS	**Vyhne**	**5.89**	**303**		*e*	PN	**Pn**	**01 11 36.5**	**+0.1**
PDG	**Podgorica**	**5.91**	**241**	⇓	*i*	P	**Pn**	**01 11 36.5**	**-0.1**
PDG	**Podgorica**	**5.91**	**241**		S		**Sn**	**01 12 42.7**	**-0.4**
PDG	**Podgorica**	**5.91**	**241**		*e*	Pn	**Pn**	**01 11 35.6**	**-1.0**
BTAS	**Taskesti**	**6.03**	**143**		*i*	P	**Pn**	**01 11 38.2**	**-0.3**
BTAS						IAML_P			
	comp=Z,889nm,0.4s								
DRME	**Dracevica, Mon**	**6.09**	**240**		*e*	Pn	**Pn**	**01 11 39.6**	**+0.5**
DURS	**Dursunbey**	**6.12**	**164**		*i*	P	**Pn**	**01 11 38.1**	**-1.5**
SUDU	**Sudak**	**6.22**	**93**		*e*	P	**Pn**	**01 11 38.9**	**-1.9**
SUDU					*e*	S	**Sn**	**01 12 46.9**	**-3.6**
SUDU	**Sudak**	**6.22**	**93**		P		**Pn**	**01 11 38.9**	**-1.9**
SUDU						Pm		01 11 39.8	
SUDU						S	**Sn**	**01 12 46.9**	**-3.6**
SUDU						Sm		01 12 47.8	
KBUK	**KARABUK-Merkez**	**6.31**	**130**		*i*	P	**Pn**	**01 11 40.1**	**-2.0**
BCAM	**Yenicaga**	**6.33**	**136**		*i*	P	**Pn**	**01 11 42.3**	**-0.1**
BCAM						IAML_P			
	comp=Z,441nm,0.3s								
TREB	**Trebinje**	**6.33**	**247**		*e*	Pn	**Pn**	**01 11 43.0**	**+0.7**
HCV	**Herceg Novi**	**6.37**	**244**		*e*	Pn	**Pn**	**01 11 44.3**	**+1.4**
BLY	**Banja Luka**	**6.46**	**267**		*e*	Pn	**Pn**	**01 11 42.9**	**-1.1**
FEO	**Feodosiya**	**6.47**	**91**		S		**Sn**	**01 12 57.4**	**+0.7**
FEO						Sm		01 13 00.7	
PELI	**Kastamonı-Ara**	**6.64**	**127**		*i*	P	**Pn**	**01 11 46.0**	**-0.6**
AUMIH	**MIHALICIK**	**6.82**	**144**		*i*	P	**Pn**	**01 11 50.5**	**+1.3**
GDZ	**Gediz**	**6.84**	**158**		*i*	P	**Pn**	**01 11 49.0**	**-0.4**
USAK	**Uak-Merkez**	**7.09**	**162**		*i*	P	**Pn**	**01 11 51.5**	**-1.1**
BOLV	**Bolvadin**	**7.62**	**151**		*i*	P	**Pn**	**01 11 60.0**	**0.0**
BRTR	**Keskin Array B**	**7.94**	**134**		P		**Pn**	**01 12 03.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=10								
ANN	**Anapa**	**7.94**	**91**		*e*	P	Pn	01 11 52.1	-12
ANN						pmax	pmax		
	comp=Z,35nm,1.3s								
KDHN	**Kadinhani**	**8.23**	**146**		*i*	P	**Pn**	**01 12 07.6**	**-0.4**
APE	**Apeiranthos**	**8.44**	**184**		*i*	P	**Pn**	**01 12 12.5**	**+1.6**
GERES	**GERESS Array B**	**9.18**	**296**		P		**Pn**	**01 12 21.7**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=108,slow=13,SNR=11								
VSR	**Storozhevoye**	**10.32**	**52**		*i*	P	**Pn**	**01 12 34.5**	**-1.4**
VSR						pmax	pmax		
	comp=Z,6.0nm,0.8s								
LPSR	**Galich'ya Gora**	**10.93**	**45**		*e*	P	**Pn**	**01 12 44.3**	**+0.2**
LPSR						pmax	pmax		
	comp=Z,6.0nm,0.6s								
OBN	**Obninsk**	**11.65**	**31**		*e*	P	**Pn**	**01 12 53.9**	**+0.3**
OBN						pmax	pmax		
	comp=Z,4.0nm,1.0s								
VRH	**Novokhopyorsk**	**11.76**	**55**		*e*	P	**Pn**	**01 12 52.4**	**-2.6**
VRH						pmax	pmax		
	comp=Z,20nm,0.6s								
KIV	**Kislovodsk**	**11.80**	**92**		*e*	P	**Pn**	**01 12 55.4**	**-0.3**
KIV						pmax	pmax		
	comp=Z,7.0nm,1.0s								
FINES	**FINESS Array B**	**15.97**	**360**		*e*	P	**Pn**	**01 13 47.3**	**-1.3**
FINES	**FINESS Array B**	**15.97**	**360**		P		**Pn**	**01 13 47.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=185,slow=11,SNR=4.5								
HFS	**Hagfors**	**16.46**	**337**		P		**P**	**01 13 54.9**	**0.0**
	comp=Z,0.7nm,0.3s,baz=138,slow=11,SNR=20								
NB2	**NORSAR Subarra**	**17.90**	**336**		P		**P**	**01 14 09.5**	**-1.3**
	comp=Z,6.6nm,1.0s,baz=144,slow=11								
NOA	**NORSAR Array B**	**17.90**	**336**		P		**P**	**01 14 09.9**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=173,slow=9.0,SNR=6.5								
AKTO	**Aktyubinsk**	**21.73**	**65**		P		**P**	**01 14 52.8**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=268,slow=15,SNR=6.2								
ARU	**Arti**	**22.88**	**50**		P		**P**	**01 15 03.7**	**+0.1**
ARCES	**ARCESS Array B**	**24.10**	**359**		P		**P**	**01 15 15.1**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=177,slow=9.3,SNR=3.4								
GEYT	**Ailbeck**	**24.84**	**96**		P		**P**	**01 15 24.4**	**+2.6**
	comp=Z,2.1nm,0.6s,baz=291,slow=9.4,SNR=4.8								
BVAR	**Borovoye Array**	**29.38**	**59**		P		**P**	**01 16 03.0**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=264,slow=5.4,SNR=4.3								
ZALV	**Zalesovo Beam**	**37.80**	**55**		P		**P**	**01 17 16.1**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=282,slow=8.4,SNR=7.3								
MKAR	**Makanchi Array**	**38.15**	**67**		P		**P**	**01 17 19.4**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=271,slow=8.3,SNR=14								
TORD	**Torodi Ar. Bea**	**38.39**	**221**		P		**P**	**01 17 20.7**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=25,slow=8.4,SNR=6.4								
SONM	**Songino Array**	**52.67**	**57**		*e*	P	**P**	**01 19 14.0**	**+1.7**
SONM						pmax	pmax		
	comp=Z,1.0nm,0.4s								
SONM	**Songino Array**	**52.67**	**57**		P		**P**	**01 19 13.8**	**+1.5**
	comp=Z,0.6nm,0.5s,baz=295,slow=8

WRA Warramunga Arr 135.90 214 PKP **PKPdf** **01 50 02.6 +0.5**
comp=E,0.3nm,0.7s,baz=152,slow=2.0,SNR=4.3

*ISCJB **06** 01:52:05.4±0.5,31°.72S±0'.03×68°.10W±0'.04, h27km±3km, mb4.6/40, MS3.7/5, Error ellipse: s-maj=5.4km s-min=4.1km az=23.5*
*NEIC **06** 01:52:05.0±0.0,31°.67S×68°.18W, h27km, mb4.7/29, MD4.9(SJA), After SJA.*
NEIC Felt [IV] at San Juan. Also felt at Lavalle, Mendoza, Rawson and San Jose. Felt at Santiago, Chile.
*SJA **06** 01:52:05.3±0.8,31°.67S×68°.18W, h26km±2km, ML4.3, MW4.9*
*IDC **06** 01:52:06.0±0.6,31°.69S×68°.12W, h26km±3km, mb4.1/11, mb1 4.2/16, mb1mx4.1/32, mbtmp4.2/16, ML4.0/5, MS3.7/9, Ms1 3.7/9, ms1mx3.5/25, Error ellipse: s-maj=19.7km s-min=14.1km az=91.0*
*VAO **06** 01:52:07.6±0.3,31°.57S×68°.24W, h10km, mb4.5*
*BJI **06** 01:52:10.8,31°.90S×68°.10W, h54km, mB5.2/1*

ISC 06 01:52:06.0±0.5, 31°.72S±0'.03×68°.16W±0'.04, h23km±3km, h23km:pP-P, n157, σ1§54/161, mb4.7/40, MS3.7/5, 2C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**0.13**	**329**	*i* P			**Pb**	**01 52 10.7**	**0.0**
CFA				*i* S			**Sb**	**01 52 14.0**	**0.0**
RTCV	**Cerro Valdivia**	**0.36**	**246**	*i* P			**Pb**	**01 52 13.8**	**-0.1**
SJA	**San Juan**	**0.39**	**299**	IAML				01 52 21.7	
	comp=Z,50μm,0.8s								
RTLL	**Cerro Villicun**	**0.47**	**325**	*i* P			**Pb**	**01 52 15.1**	**-0.6**
RTLL				*i* S			**Sb**	**01 52 21.7**	**-0.6**
RTLL				IAML				01 52 24.7	
	comp=Z,18μm,0.5s								
ZON	**Zonda**	**0.47**	**291**	IAML				01 52 23.4	
	comp=Z,13μm,0.9s								
AMOG	**MOGNA**	**0.82**	**340**	*i* P			**Pb**	**01 52 21.0**	**-0.7**
RTLS	**Leoncito**	**0.97**	**265**	*i* P			**Pb**	**01 52 24.4**	**0.0**
RTLS				*i* S			**Sn**	**01 52 38.6**	**+0.9**
RTLS				IAML				01 52 40.5	
	comp=Z,8μm,0.7s								
ACAN	**Cantantal**	**1.00**	**124**	*i* P			**Pn**	**01 52 25.0**	**+0.4**
ASAL	**Salagasta**	**1.04**	**213**	*i* P			**Pb**	**01 52 26.3**	**+0.8**
AUSP	**Uspallata**	**1.16**	**244**	*i* P			**Pb**	**01 52 28.1**	**+0.5**
ARCO	**CERRO ARCO**	**1.30**	**210**	*i* P			**Pb**	**01 52 31.0**	**+1.1**
ARCO				IAML				01 52 53.8	
	comp=Z,6μm,0.6s								
ACCO	**Cerro Coronel**	**1.37**	**325**	*i* P			**Pb**	**01 52 30.4**	**-0.8**
ACDV	**Cuesta del Vie**	**1.75**	**332**	IAML				01 52 38.3	
	comp=Z,3μm,0.4s								
AROD	**Rodeo**	**1.91**	**323**	*i* P			**Pb**	**01 52 38.5**	**-1.9**
APLL	**PUNTA DE LOS L**	**1.92**	**47**	IAML				01 53 04.0	
	comp=Z,3μm,0.6s								
MRA	**San Martin**	**2.19**	**109**	IAML				01 53 23.7	
	comp=Z,9μm,0.4s								
PEL	**Peldehue**	**2.57**	**236**	*e*Pn			**Pb**	**01 52 50.0**	**-1.4**
PEL				*e*Sn			**Sb**	**01 53 20.4**	**-2.2**
ROC1	**El Roble**	**2.73**	**242**	*e*Pn			**Pn**	**01 52 48.1**	**-0.5**
GO04	**Tololo Observa**	**2.74**	**303**	*e*Pn			**Pb**	**01 52 54.4**	**-0.1**
GO04				*e*Sn			**Sb**	**01 53 29.8**	**+2.0**
TCA	**Tanti**	**3.07**	**84**	IAML				01 53 46.0	
	comp=Z,4μm,0.5s								
LCO	**Las Campanas**	**3.48**	**320**	*e*Pn			**Pn**	**01 52 59.4**	**+0.4**
LCO				*e*Sn			**Sb**	**01 53 44.7**	**-4.3**
LCO	**Las Campanas**	**3.48**	**320**	*e*P			**Pn**	**01 52 59.4**	**+0.4**
CYA	**Choya**	**3.85**	**33**	IAML				01 54 12.0	
	comp=Z,991nm,0.6s								
GO05	**Huala**	**4.55**	**223**	*e*Pn			**Pn**	**01 53 15.7**	**+2.2**
GO05				*e*Sn			**Sn**	**01 54 10.8**	**+5.1**
FSA	**Cafayete**	**5.90**	**19**	IAML				01 55 20.8	
	comp=Z,205nm,0.7s								
GO02	**Mina Guanaco**	**6.65**	**349**	*e*Pn			**Pn**	**01 53 44.0**	**+1.4**
GO02				*e*Sn			Sn	01 55 05.6	+7.8
TRQA	**Tornquist**	**8.11**	**143**	*e*Pn			**Pn**	**01 54 02.9**	**+0.6**
TRQA				*e*Sn			**Sn**	**01 55 31.3**	**-2.0**
TRQA	**Tornquist**	**8.11**	**143**	*e*P			**Pn**	**01 54 06.7**	**+4.3**
GO06	**Curarrehue**	**8.30**	**198**	*e*Pn			**Pn**	**01 54 06.5**	**+1.4**
GO06				*e*Sn			**Sn**	**01 55 39.8**	**+1.7**
PB10	**IPOC Station P**	**8.44**	**345**	*e*Pn			Pn	01 54 12.9	+5.9
LVC	**Limon Verde**	**9.09**	**356**	*e*Pn			**Pn**	**01 54 16.4**	**+0.2**
LVC				*e*Sn			**Sn**	**01 56 03.4**	**+5.3**
LVC	**Limon Verde**	**9.09**	**356**	Pn			**Pn**	**01 54 15.8**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=181,slow=8.8,SNR=24								
LVC				Lg			Lg	01 56 50.1	
	comp=Z,2.4nm,0.3s,baz=322,slow=19,SNR=3.2								
LVC				LR			LR	01 58 05.5	
	comp=Z,1μm,18.6s,baz=186,slow=40								
LVC	**Limon Verde**	**9.09**	**356**	*e*P			**Pn**	**01 54 15.8**	**-0.4**
PLCA	**Paso Flores**	**9.20**	**191**	*e*Pn			**Pn**	**01 54 15.8**	**-1.6**
PLCA				*e*Sn			**Sn**	**01 55 58.6**	**-1.7**
PLCA	**Paso Flores**	**9.20**	**191**	Pn			**Pn**	**01 54 19.3**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=26,slow=11,SNR=18								
PLCA				Lg			Lg	01 56 52.0	
	comp=Z,1.1nm,0.3s,baz=358,slow=9.0,SNR=3.8								
PLCA				LR			LR	01 58 16.1	
	comp=Z,516nm,21.8s,baz=38,slow=40								
PLCA	**Paso Flores**	**9.20**	**191**	*e*P			**Pn**	**01 54 21.6**	**+4.2**
PB04	**IPOC Station P**	**9.51**	**349**	*e*Pn			**Pn**	**01 54 23.1**	**+1.3**
PB01	**IPOC Station P**	**10.70**	**353**	*e*Pn			**Pn**	**01 54 36.6**	**-1.3**
CPUP	**Villa Florida**	**10.89**	**63**	*e*Pn			**Pn**	**01 54 42.7**	**+2.2**
CPUP				*e*Sn			**Sn**	**01 56 41.8**	**+0.3**
CPUP				*e*Lg			Lg	01 57 44.2	
CPUP				*e*				01 58 57.9	
CPUP	**Villa Florida**	**10.89**	**63**	Pn			**Pn**	**01 54 41.4**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=235,slow=12,SNR=8.9								
CPUP				Lg			Lg	01 57 44.2	
	comp=Z,3.5nm,0.3s,baz=221,slow=18,SNR=1.8								
CPUP				LR			LR	01 58 57.9	
	comp=Z,242nm,20.3s,baz=244,slow=38								
MNMC	**Monte Minye**	**12.60**	**354**	*e*Pn			**Pn**	**01 55 02.9**	**-1.3**
ITAB	**Concordia**	**14.65**	**76**	*e*P			**Pn**	**01 55 33.8**	**+1.9**
CNLB	**Canela**	**15.11**	**85**	*e*P			**P**	**01 55 41.9**	**-1.3**
LPAZ	**La Paz**	**15.36**	**0**	*e*Pn			**Pn**	**01 55 42.6**	**+0.7**
	comp=Z,12nm,0.7s								
LPAZ	**La Paz**	**15.36**	**0**	Pn			**Pn**	**01 55 42.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=162,slow=6.4,SNR=5.7								
TRCB	**Terra Rica**	**16.40**	**61**	*e*P			**P**	**01 55 57.5**	**0.0**
SIV	**San Ignacio**	**16.93**	**24**	Pn			**Pn**	**01 56 00.4**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=227,slow=13,SNR=4.4								
SIV				LR			LR	02 03 46.9	
	comp=Z,183nm,19.3s,baz=188,slow=42								
C2SB	**Chapadao do Su**	**18.90**	**51**	*e*P			**Pn**	**01 56 28.3**	**+2.6**
SALV	**Santo Antonio**	**19.41**	**39**	*e*P			**Pn**	**01 56 34.2**	**+2.4**
GO09	**Cerro Castillo**	**19.78**	**188**	*e*P			**P**	**01 56 33.7**	**-0.7**
	comp=Z,20nm,1.4s								
ITRB	**Iturama**	**19.97**	**57**	*e*P			**Pn**	**01 56 40.4**	**+1.8**
SPB	**Sao Paulo**	**20.04**	**71**	*e*P			Pn	01 56 41.5	+2.1
BB19B	**Bebedouro**	**20.50**	**64**	*e*P			Pn	01 56 46.6	+1.8
EFI	**East Falkland**	**21.28**	**162**	*e*P			**P**	**01 56 49.4**	**-1.2**
	comp=Z,49nm,1.0s								
USHA	**Ushuaia**	**23.11**	**180**	P			**P**	**01 57 09.5**	**-0.5**
	comp=Z,10nm,0.7s,baz=3.7,slow=8.0,SNR=5.7								
USHA				LR			LR	02 07 44.9	
	comp=Z,245nm,18.2s,baz=290,slow=41								
PMNB	**Patos De Minas**	**23.58**	**61**	*e*P			**P**	**01 57 19.1**	**+3.9**
BDFB	**Brasilia**	**24.35**	**54**	P			**P**	**01 57 20.8**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=270,slow=9.4,SNR=4.1								
BDFB				LR			LR	02 08 06.1	
	comp=Z,320nm,18.4s,baz=233,slow=40								
MCI6	**Montes Claros**	**26.55**	**62**	*e*P			**P**	**01 57 45.8**	**+3.4**
MCI9	**Montes Claros**	**26.62**	**62**	*e*P			**P**	**01 57 47.1**	**+4.2**
MCI8	**Montes Claros**	**26.63**	**61**	*e*P			**P**	**01 57 44.9**	**+1.9**
JANB	**Januaria**	**27.36**	**58**	*e*P			**P**	**01 57 53.2**	**+3.6**
RIB01	**Linhares ES**	**27.85**	**70**	*e*P			**P**	**01 57 57.7**	**+3.8**
PTGA	**Pitinga**	**31.78**	**16**	*e*P			**P**	**01 58 27.6**	**-1.1**
PTGA				*e*pP			**pP**	**01 58 33.9**	**-2.1**
PTGA	**Pitinga**	**31.78**	**16**	P			**P**	**01 58 27.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=329,slow=19,SNR=3.4								
PTGA	**Pitinga**	**31.78**	**16**	*e*P			**P**	**01 58 29.2**	**+0.5**
PMSA	**Palmer Station**	**33.18**	**177**	*e*P			P	01 58 46.3	+5.8
OTAV	**Otavalo**	**33.24**	**341**	*e*P			**P**	**01 58 44.4**	**+2.4**
RPN	**Rapa Nui**	**36.00**	**267**	*e*P			P	01 59 09.9	+4.6
	comp=Z,144nm,1.1s								
ROSC	**El Rosal**	**36.82**	**350**	LR			LR	02 16 44.3	
	comp=Z,42nm,18.0s,baz=210,slow=40								
RCBR	**Riachuelo**	**39.66**	**56**	*e*P			P	01 59 41.2	+4.8
	comp=Z,18nm,0.9s								
SDV	**Santo Domingo**	**40.44**	**356**	*e*P			**P**	**01 59 45.0**	**+2.0**
FDF	**Fort de France**	**46.67**	**9**	*e*P			**P**	**02 00 32.6**	**-0.3**
	comp=Z,61nm,0.8s								
VNA3	**Neumayer Olymp**	**50.27**	**159**	P			**P**	**02 01 00.2**	**0.0**
VNA1	**Neumayer--Stat**	**50.53**	**158**	P			**P**	**02 01 02.5**	**+0.6**
VNA2	**Neumayer--Watz**	**50.88**	**158**	P			**P**	**02 01 04.7**	**0.0**
	baz=285,slow=8.5								
SNAA	**Sanae**	**52.49**	**159**	P			**P**	**02 01 16.5**	**-0.3**
SNAA	**Sanae**	**52.49**	**159**	*e*P			**P**	**02 01 16.6**	**-0.2**
	comp=Z,15nm,1.0s								
SNAA	**Sanae**	**52.49**	**159**	P			**P**	**02 01 16.3**	**-0.5**
	comp=Z,11nm,0.9s,baz=286,slow=8.7,SNR=34								
QSPA	**South Pole Qui**	**58.52**	**180**	*e*P			**P**	**02 02 00.6**	**+0.3**
	comp=Z,11nm,0.9s								
DWPF	**Disney Wildern**	**60.82**	**347**	*e*P			**P**	**02 02 18.4**	**+2.1**
SYO	**Syowa Base**	**66.77**	**158⁋**	*e*P			**P**	**02 02 51.0**	**-4.1**
SYO	**Syowa Base**	**66.77**	**158⁋**	*e*pP			pP	02 03 03.6	+0.9
VNDA	**Vanda**	**66.95**	**190**	P			**P**	**02 02 56.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=133,slow=5.7,SNR=6.7								
TXAR	**Lajitas Array**	**69.46**	**327**	P			**P**	**02 03 12.6**	**0.0**
	comp=Z,0.8nm,0.7s,baz=168,slow=8.8,SNR=5.7								
TXAR				pP			**pP**	**02 03 20.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=116,slow=9.9,SNR=11								
TX31	**Lajitas Ar. Si**	**69.47**	**327**	*e*P			**P**	**02 03 12.6**	**0.0**
ABTX	**Abilene, Hawle**	**70.57**	**332**	*e*P			P	02 03 25.2	+6.0
	comp=Z,20nm,1.4s								
W39A	**Magazine**	**70.78**	**338**	*e*P			**P**	**02 03 20.2**	**-0.1**
	comp=Z,16nm,0.9s								
LIC	**Lamto**	**70.94**	**70**	*e*P			**P**	**02 03 20.6**	**-1.2**
	comp=Z,25nm,0.7s								
TIC	**Toumodi**	**71.19**	**69**	*e*P			**P**	**02 03 22.9**	**-0.5**
KIC	**Kosan Boka**	**71.25**	**70**	*e*P			**P**	**02 03 22.8**	**-0.9**
	comp=Z,46nm,0.9s								
DBIC	**Dimbokro**	**71.34**	**70**	*e*P			**P**	**02 03 23.8**	**-0.5**
DBIC				*e*PcP			**pP**	**02 03 31.6**	**-0.4**
DBIC	**Dimbokro**	**71.34**	**70**	P			**P**	**02 03 23.4**	**-0.9**
	comp=Z,5.4nm,0.7s,baz=201,slow=8.0,SNR=8.8								
DBIC				pP			**pP**	**02 03 31.6**	**-0.4**
	comp=Z,12nm,0.7s,baz=199,slow=7.7,SNR=10								
DBIC				LR			LR	02 31 22.2	
	comp=Z,43nm,19.4s,baz=188,slow=33								
WMOK	**Wichita Mounta**	**72.11**	**334**	*e*P			P	02 03 32.9	+4.4
	comp=Z,5.7nm,1.2s								
MNTX	**Cornudas Mount**	**72.25**	**327**	*e*P			**P**	**02 03 28.8**	**-0.6**
	comp=Z,3.8nm,0.8s								
CCM	**Cathedral Cave**	**72.68**	**341**	*e*P			P	02 03 36.9	+5.2
	comp=Z,14nm,1.2s								
ACSO	**Alum Creek Sta**	**72.89**	**348**	*e*P			P	02 03 37.9	+5.0
	comp=Z,14nm,0.8s								
MSTX	**Muleshoe**	**73.03**	**330**	*e*P			**P**	**02 03 33.5**	**-0.5**
	comp=Z,14nm,0.9s								
ANMO	**Albuquerque**	**75.45**	**328**	*e*P			**P**	**02 03 48.7**	**+0.4**
	comp=Z,8.1nm,1.4s								
T25A	**Trinidad**	**76.42**	**331**	*e*P			**P**	**02 03 54.3**	**+0.5**
	comp=Z,7.8nm,0.8s								
X16A	**Lo Mia Camp, P**	**77.38**	**324**	*e*P			**P**	**02 03 59.8**	**+0.6**
	comp=Z,4.1nm,0.8s								
SDCO	**Great Sand Dun**	**77.40**	**330**	*e*P			**P**	**02 03 59.5**	**+0.2**
	comp=Z,3.0nm,0.8s								
BOSA	**Boshof**	**78.19**	**116**	P			**P**	**02 04 03.2**	**-0.8**
	comp=Z,5.6nm,1.0s,baz=135,slow=3.3,SNR=5.0								
BOSA				LR			LR	02 33 09.4	
	comp=Z,62nm,19.7s,baz=185,slow=32								
BOSA	**Boshof**	**78.19**	**116**	*e*P			P	02 04 08.9	+4.8
MVCO	**Mesa Verde**	**78.25**	**328**	*e*P			**P**	**02 04 04.4**	**+0.3**
	comp=Z,12nm,1.4s								
PV13	**Radium Mtn., P**	**79.18**	**328**	*e*P			**P**	**02 04 09.8**	**+0.7**
	comp=Z,4.6nm,1.0s								
ECSD	**EROS Data Cent**	**79.47**	**339**	*e*P			**P**	**02 04 09.3**	**-1.0**
	comp=Z,6.8nm,0.8s								
KNB	**Kanab**	**80.12**	**325**	*e*P			**P**	**02 04 15.0**	**+0.8**
	comp=Z,9.8nm,1.1s								
TOA0	**Tordi Ar. Sit**	**80.35**	**68**	*e*P			**P**	**02 04 15.1**	**-0.6**
TOA1	**Torodi Ar. Sit**	**80.35**	**68**	*e*P			**P**	**02 04 14.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**80.35**	**68**	P			**P**	**02 04 14.9**	**-0.8**
	comp=Z,5.4nm,0.9s,baz=247,slow=5.3,SNR=26								
SRU	**San Rafael Swe**	**80.72**	**328**	*e*pP			pP	02 04 29.1	+3.8
CCUT	**Cedar City**	**80.81**	**325**	*e*P			**P**	**02 04 19.1**	**+1.1**
	comp=Z,4.6nm,1.0s								
PD31	**Pinedale Array**	**83.29**	**331**	*e*P			**P**	**02 04 30.5**	**-0.4**
PD31				*e*pP			**pP**	**02 04 38.5**	**-0.2**
PDAR	**Pinedale Array**	**83.29**	**331**	P			**P**	**02 04 29.6**	**-1.3**
	comp=Z,1.3nm,1.0s,baz=133,slow=6.3,SNR=7.4								
PDAR				pP			**pP**	**02 04 38.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=132,slow=6.2,SNR=10.0								
BW06	**Boulder Array**	**83.29**	**331**	*e*P			**P**	**02 04 30.6**	**-0.3**
	comp=Z,2.6nm,1.0s								
NV01	**Mina Array Sit**	**83.97**	**323**	*e*P			**P**	**02 04 34.4**	**-0.1**
NVAR	**Mina Array Bea**	**83.97**	**323**	P			**P**	**02 04 34.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=224,slow=6.2,SNR=3.6								
ELK	**Elko**	**84.21**	**326**	*e*P			**P**	**02 04 35.8**	**+0.1**
	comp=Z,2.5nm,0.9s								
YHH	**Holmes Hill**	**85.48**	**331**	*e*P			**P**	**02 04 42.2**	**+0.2**
	comp=Z,3.6nm,0.7s								
HLID	**Hailey**	**86.04**	**328**	*e*P			**P**	**02 04 44.7**	**+0.1**
	comp=Z,4.4nm,1.1s								
MCMT	**McKenzie Canyo**	**86.35**	**330**	*e*P			**P**	**02 04 46.8**	**+0.6**
J08A	**Circle Bar Ran**	**87.76**	**326**	*e*P			**P**	**02 04 53.2**	**+0.3**
	comp=Z,7.8nm,0.9s								
PINE	**Pine Mountain**	**89.28**	**325**	*e*P			**P**	**02 05 01.1**	**+0.9**
	comp=Z,13nm,1.4s								
YKA	**Yellowknife Ar**	**100.99**	**340**	P			**Pdif**	**02 05 51.9**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=123,slow=4.5,SNR=4.5								
YKA				pP			**pPdif**	**02 05 59.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=144,slow=4.3,SNR=5.2								
YKB5	**Yellowknife Ar**	**100.99**	**340**	*e*Pdif			**Pdif**	**02 05 51.9**	**-1.1**
ASAR	**Alice Springs**	**121.02**	**204**	PKP			**PKPdf**	**02 10 54.3**	**-2.9**
	comp=Z,0.6nm,0.6s,baz=129,slow=2.9,SNR=7.0								
AS31	**Alice Springs**	**121.02**	**204**	*e*PKPdf			**PKPdf**	**02 10 54.3**	**-2.9**
WR1	**Warramunga Arr**	**124.29**	**206**	*e*PKPdf			**PKPdf**	**02 11 01.8**	**-1.8**
WRA	**Warramunga Arr**	**124.29**	**206**	PKP			**PKPdf**	**02 11 01.8**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=160,slow=1.8,SNR=27								
ABKAR	**Akbulak array**	**137.71**	**50**	*e*PKPdf			**PKPdf**	**02 11 27.9**	**0.0**
KK31	**Karatay Array**	**145.58**	**59**	*e*PKPdf			**PKPdf**	**02 11 41.0**	**-1.1**
KKAR	**Karatay Array**	**145.58**	**59**	*e*PKPdf			**PKPdf**	**02 11 41.0**	**-1.1**
GAR	**Garm**	**145.59**	**66**	*e*PKPdf			**PKPbc**	**02 11 42.2**	**-0.5**
ARSB	**Arslanbob**	**147.56**	**62**	*e*PKPdf			**PKPdf**	**02 11 46.5**	**+0.8**
AAK	**Ala-Archa**	**148.54**	**59**	*e*PKPbc			**PKPbc**	**02 11 51.2**	**+0.2**
AAK	**Ala-Archa**	**148.54**	**59**	PKPbc			**PKPbc**	**02 11 51.1**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=206,slow=1.7,SNR=13								
PSI	**Prapat**	**148.77**	**154**	*e*PKPbc			**PKPbc**	**02 11 51.2**	**-1.2**
KURBB	**Kurchatov Arra**	**148.98**	**43**	PKPbc			**PKPbc**	**02 11 51.2**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=298,slow=3.2,SNR=24								
KURBB				pPKPbc			**sPKPdf**	**02 11 59.7**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=297,slow=3.2,SNR=11								
KURK	**Kurchatov**	**148.99**	**43**	*e*PKPdf			**PKPdf**	**02 11 47.9**	**+0.4**
KURK				*e*PKPbc			**PKPbc**	**02 11 51.2**	**-0.4**
NRN	**Naryn**	**149.81**	**61**	*e*PKPbc			**PKPbc**	**02 11 54.0**	**-0.4**
KSH	**Kashi**	**149.97**	**65**	PKPbc			**PKPbc**	**02 11 54.1**	**-0.5**
KSH				sPKP				02 12 08.4	
ZAA1	**Zalesovo Array**	**150.54**	**33**	*e*PKPbc			**PKPbc**	**02 11 54.7**	**-0.6**
ZAA1				*e*PKPab			**pPKPbc**	**02 12 03.1**	**-0.3**
ZAA0	**Zalesovo Array**	**150.54**	**33**	*e*PKPbc			**PKPbc**	**02 11 54.7**	**-0.6**
ZALV	**Zalesovo Beam**	**150.54**	**33**	*e*PKPbc			**PKPbc**	**02 11 54.3**	**-1.0**
ZALV				PKPab			**pPKPbc**	**02 12 03.1**	**-0.3**
ZALV	**Zalesovo Beam**	**150.54**	**33**	PKPbc			**PKPbc**	**02 11 54.7**	**-0.6**
	comp=Z,4.6nm,0.5s,baz=296,slow=3.3,SNR=22								
ZALV				PKPab			**pPKPbc**	**02 12 03.1**	**-0.3**
	comp=Z,5.2nm,0.4s,baz=314,slow=4.1,SNR=11								
KDJ	**Kajisay**	**150.59**	**59**	*e*PKPdf			**PKPdf**	**02 11 51.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**151.11**	**60**	*e*PKPbc			**PKiKP**	**02 11 57.6**	**-0.6**
MAKZ	**Makanchi**	**152.61**	**48**	*e*PKPbc			**PKPbc**	**02 11 59.6**	**-0.8**
MK31	**Makanchi Array**	**152.81**	**48**	*e*PKPbc			**PKPbc**	**02 12 00.0**	**-0.8**
MK32	**Makanchi Array**	**152.81**	**48**	*e*PKPbc			**PKPbc**	**02 12 00.0**	**-0.8**
MK32				*e*PKPab			**pPKPbc**	**02 12 08.7**	**-0.2**
MKAR	**Makanchi Array**	**152.81**	**48**	PKPbc			**PKPbc**	**02 12 00.0**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=299,slow=2.3,SNR=30								
MKAR				PKPab			**pPKPbc**	**02 12 08.7**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=286,slow=1.6,SNR=15								
MK01	**Makanchi Array**	**152.83**	**48**	*e*PKPbc			**PKPbc**	**02 11 59.7**	**-1.2**
WMQ	**Urumqi**	**157.50**	**51**	*e*PKP			**PKPdf**	**02 11 58.9**	**-1.3**
SONA0	**Songino Array**	**163.37**	**13**	*e*PKPab			**PKPab**	**02 12 56.5**	**-1.0**
SONM	**Songino Array**	**163.37**	**13**	PKPab			**PKPab**	**02 12 56.5**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=108,slow=0.5,SNR=3.6								
HHC	**Hui-ho-hao-te**	**170.88**	**1**	*e*PKP			**PKPdf**	**02 12 11.7**	**-0.6**
NJ2	**Nanjing**	**174.03**	**275**	*e*PKP			**PKPdf**	**02 12 11.6**	**-2.2**

*ISCJB **06** 01:57:47.0±1.0, 42°.34N±0°.03×40°.96E±0°.05, h18km±10km, Error ellipse: s-maj=6.4km s-min=4.1km az=142.9*
*DDA **06** 01:57:46.6, 42°.27N×41°.15E, h5km±2km, ML2.8*
*TIF **06** 01:57:46.4, 42°.36N×41°.07E, h25km±3km*
*NORS **06** 01:57:47.9±0.0, 42°.53N×41°.30E, h9km, MPVA3.1*
*MOS **06** 01:57:47.2±0.0, 42°.50N×41°.06E, h8km, MPVA3.3*

ISC 06 01:57:45.0±1.4, 42°.35N±0°.03×41°.12E±0°.05, h8km±12km, n19, σ0§92/38, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.86**	**150**	P			**Pn**	**01 58 03.9**	**+0.4**
BATM				S			**Sn**	**01 58 16.7**	**+0.4**
ARXR	**Arkhyz**	**1.21**	**5**	*i* Pg			**Pb**	**01 58 07.7**	**-0.6**
ARXR				*i* Sg			**Sb**	**01 58 22.6**	**-1.6**
ARTV	**Artvin**	**1.31**	**152**	*i* P			**Pn**	**01 58 10.2**	**+0.3**
ARTV				IAML_P					
	comp=Z,1μm,0.1s								
DBAD	**Bademkaya**	**1.40**	**162**	*i* P			**Pg**	**01 58 12.3**	**+0.5**
DBAD				*i* S			**Sb**	**01 58 26.4**	**-3.2**
DBAD				IAML_P					
	comp=Z,515nm,0.1s								
DAGI	**Agillar**	**1.41**	**155**	*i* P			**Pg**	**01 58 12.2**	**+0.2**
DAGI				*i* S			**Sg**	**01 58 30.3**	**+0.1**
DAGI				IAML_P					
	comp=Z,227nm,0.1s								
EPOS	**Posof**	**1.47**	**125**	*i* P			**Pn**	**01 58 12.3**	**+0.4**
EPOS				*i* S			**Sg**	**01 58 33.9**	**+1.7**
NEY	**Neytrino**	**1.48**	**52**	*i* Pg			**Pb**	**01 58 13.1**	**+0.3**
NEY				*e*Sg			**Sg**	**01 58 32.6**	**0.0**
RPOR	**Krasnaya Polya**	**1.48**	**335**	*e*Pg			**Pn**	**01 58 11.9**	**-0.2**
RPOR				*e*Sg			**Sn**	**01 58 31.1**	**-0.6**
DDEM	**Demirkent**	**1.53**	**162**	*i* P			**Pg**	**01 58 14.7**	**+0.3**
SOC	**Sochi**	**1.60**	**320**	*e*Pg			**Pn**	**01 58 13.5**	**-0.2**
SOC				*e*Sg			**Sn**	**01 58 34.0**	**-0.6**
SHA1	**Shidzhatmaz**	**1.78**	**39**	*i* Pg			**Pb**	**01 58 18.4**	**+0.3**
SHA1				*e*Pg			**Pb**	**

MTRZ AML AML
comp=N,17700µm,0.4s
MTRZ AML AML
comp=E,13000µm,1.5s
MTRZ AML AML
comp=E,13300µm,1.4s
MTRZ AML AML
comp=N,17700µm,0.4s
MTRZ AML AML
comp=N,17500µm,0.6s
FAEN Faenza 0.35 44 P Pb 02 12 51.0 -0.4
IMOL Imola, Italy 0.35 24 P Pg 02 12 50.4 -0.4
IMOL AML AML
comp=E,8990µm,0.7s
IMOL AML AML
comp=N,12650µm,1.3s
IMOL AML AML
comp=E,1088µm,0.9s
IMOL AML AML
comp=N,1338µm,1.0s
IMOL AML AML
comp=E,9000µm,0.7s
IMOL AML AML
comp=N,12700µm,1.3s
IMOL AML AML
comp=E,9000µm,0.7s
IMOL AML AML
comp=N,12700µm,1.3s
PTF Prato 0.35 257 P Pg 02 12 50.4 -0.5
MTCR Monte La Croce 0.39 268 P Pg 02 12 51.0 -0.6
MTCR S **Sg 02 12 57.6 +0.4**
MTCR AML AML
comp=E,2405µm,0.2s
MTCR AML AML
comp=N,2720µm,1.3s
MTCR AML AML
comp=E,2405µm,0.2s
MTCR AML AML
comp=N,2720µm,1.3s
MTCR AML AML
comp=E,2400µm,0.2s
MTCR AML AML
comp=N,2720µm,1.3s
MTCR AML AML
comp=E,2400µm,0.2s
MTCR AML AML
comp=N,2720µm,1.3s
CRMI Carmignano 0.48 239 P Pg 02 12 52.8 -0.5
CRMI S **Sg 02 13 00.7 +0.9**
CRMI AML AML
comp=E,1915µm,0.3s
CRMI AML AML
comp=N,2345µm,0.5s
CRMI AML AML
comp=E,805µm,0.3s
CRMI AML AML
comp=N,953µm,0.5s
CRMI AML AML
comp=E,1920µm,0.3s
CRMI AML AML
comp=N,2340µm,0.5s
CRMI AML AML
comp=E,805µm,0.3s
CRMI AML AML
comp=N,953µm,0.5s
CRMI AML AML
comp=E,1920µm,0.3s
CRMI AML AML
comp=E,805µm,0.3s
CRMI AML AML
comp=N,953µm,0.5s
CRMI AML AML
comp=N,2340µm,0.5s
ZCCA Zocca 0.51 307 P Pg 02 12 54.4 +0.6
ZCCA AML AML
comp=E,938µm,0.6s
ZCCA AML AML
comp=N,1084µm,0.9s
ZCCA AML AML
comp=E,933µm,1.5s
ZCCA AML AML
comp=N,1080µm,0.6s
ZCCA AML AML
comp=E,938µm,0.6s
ZCCA AML AML
comp=N,1082µm,0.9s
ZCCA AML AML
comp=E,933µm,1.5s
ZCCA AML AML
comp=N,1080µm,0.6s
ZCCA AML AML
comp=E,933µm,1.5s
ZCCA AML AML
comp=N,1080µm,0.6s
ZCCA AML AML
comp=N,1082µm,0.9s
ZCCA AML AML
comp=E,938µm,0.6s
POPM Popiglio 0.57 271 P Pg 02 12 54.5 -0.3
POPM S **Sg 02 13 03.4 +1.0**
POPM Popiglio 0.57 271 P Pg 02 12 54.5 -0.3
POPM S **Sg 02 13 04.0 +1.6**
POPM AML AML
comp=E,1955µm,0.3s
POPM AML AML
comp=N,2005µm,0.7s
POPM AML AML
comp=E,1955µm,0.3s
POPM AML AML
comp=N,2005µm,0.7s
POPM AML AML
comp=E,1955µm,0.3s
POPM AML AML
comp=N,2005µm,0.7s
CSNT Castellina Chi 0.60 198 P Pg 02 12 55.2 -0.2
CSNT S **Sg 02 13 03.8 +0.5**
CSNT AML AML
comp=E,2365µm,0.7s
CSNT AML AML
comp=N,2340µm,0.9s
CSNT AML AML
comp=E,2365µm,0.7s
CSNT AML AML
comp=N,2340µm,0.9s
CSNT AML AML
comp=E,2365µm,0.7s
CSNT AML AML
comp=N,2340µm,0.9s
CSNT AML AML
comp=N,2340µm,0.9s
CSNT AML AML
comp=E,2365µm,0.7s
FIU Minerbio Fiu 0.60 356 P Pb 02 12 56.8 +1.0
FIU AML AML
comp=E,5480µm,0.5s
FIU AML AML
comp=N,5125µm,0.4s
FIU AML AML
comp=E,5480µm,0.5s
FIU AML AML
comp=N,5125µm,0.4s
CPGN Carpegna, Ital 0.61 113 P Pb 02 12 55.6 -0.4
CPGN AML AML
comp=E,1630µm,0.6s
CPGN AML AML
comp=N,2070µm,0.6s
CPGN AML AML
comp=E,1600µm,0.6s
CPGN AML AML
comp=N,1935µm,1.5s
CPGN AML AML
comp=E,1635µm,0.5s
CPGN AML AML
comp=N,2070µm,0.6s
CPGN AML AML
comp=E,1605µm,0.6s
CPGN AML AML
comp=N,1945µm,1.5s
CPGN AML AML
comp=E,1630µm,0.6s
CPGN AML AML
comp=N,2070µm,0.6s
CPGN AML AML
comp=E,1606µm,0.6s
CPGN AML AML
comp=N,1947µm,1.5s
CPGN AML AML
comp=E,1630µm,0.6s
CPGN AML AML
comp=E,1606µm,0.6s
CPGN AML AML
comp=N,1947µm,1.5s
CPGN AML AML
comp=N,2070µm,0.6s
SSP9 Sansepolcro 0.63 137 P Pg 02 12 55.3 -0.7
SSP9 S **Sb 02 13 04.8 -0.2**
SSP9 AML AML
comp=E,1688µm,0.7s
SSP9 AML AML
comp=N,2066µm,0.7s
SSP9 AML AML
comp=E,1691µm,0.7s
SSP9 AML AML
comp=N,2061µm,0.7s
SSP9 AML AML
comp=N,2061µm,0.7s
SSP9 AML AML
comp=E,1691µm,0.7s
PARC Parchiule 0.64 128 P Pg 02 12 55.2 -1.0
PARC S **Sb 02 13 05.3 +0.1**
PARC AML AML
comp=E,1275µm,0.7s
PARC AML AML
comp=N,1460µm,0.7s
PARC AML AML
comp=E,1275µm,0.7s
PARC AML AML
comp=N,1460µm,0.7s
PARC AML AML
comp=N,1460µm,0.7s
PARC AML AML
comp=E,1275µm,0.7s
RSM Repubblica di 0.66 99 P Pb 02 12 56.7 -0.2
BLLA Bellaria 0.68 81 P Pb 02 12 56.4 -0.6
BLLA AML AML
comp=E,2215µm,1.3s
BLLA AML AML
comp=N,4125µm,0.5s
BLLA AML AML
comp=E,2205µm,0.4s
BLLA AML AML
comp=N,4130µm,0.5s
BLLA AML AML
comp=E,2205µm,0.4s
BLLA AML AML
comp=N,4130µm,0.5s
BDI Bagni Di Lucca 0.68 272 P Pg 02 12 56.4 -0.7
BDI S **Sg 02 13 07.3 +1.2**
BDI AML AML
comp=E,1775µm,0.9s
BDI AML AML
comp=N,1530µm,0.4s
BDI AML AML
comp=E,1710µm,0.6s
BDI AML AML
comp=N,1635µm,0.4s
BDI AML AML
comp=E,1770µm,0.9s
BDI AML AML
comp=N,1530µm,0.4s
BDI AML AML
comp=E,1710µm,0.6s
BDI AML AML
comp=N,1635µm,0.4s
BDI AML AML
comp=E,1710µm,0.6s
BDI AML AML
comp=E,1770µm,0.9s
BDI AML AML
comp=N,1635µm,0.4s
BDI AML AML
comp=N,1530µm,0.4s
BADI Badiali 0.73 136 P Pg 02 12 57.1 -0.9
BADI AML AML
comp=E,1380µm,0.6s
BADI AML AML
comp=N,1505µm,0.4s
BADI AML AML
comp=E,1380µm,0.6s
BADI AML AML
comp=N,1505µm,0.4s
BADI AML AML
comp=E,1380µm,0.6s
BADI AML AML
comp=N,1505µm,0.4s
CARD Cardoso 0.77 269 P Pg 02 12 58.6 +0.1
CARD S **Sg 02 13 09.3 +0.7**
PE3 Peglio 0.77 116 P Pg 02 12 57.5 -1.1
PE3 AML AML
comp=E,3270µm,0.6s
PE3 AML AML
comp=N,3265µm,1.4s
PE3 AML AML
comp=E,3270µm,0.6s
PE3 AML AML
comp=N,3270µm,1.4s
PE3 AML AML
comp=N,3270µm,1.4s
PE3 AML AML
comp=E,3270µm,0.6s
MAIM Mastiano 0.77 261 P Pg 02 12 57.9 -0.7
MAIM S **Sg 02 13 09.2 +0.5**
MAIM Mastiano 0.77 261 P Pg 02 12 58.1 -0.6
MAIM AML AML
comp=E,698µm,0.5s
MAIM AML AML
comp=N,824µm,0.5s
MAIM AML AML
comp=E,698µm,0.5s
MAIM AML AML
comp=N,824µm,0.5s
MAIM AML AML
comp=N,824µm,0.5s
MAIM AML AML
comp=E,698µm,0.5s
CAFI Castiglion Fio 0.77 157 P Pg 02 12 58.2 -0.5
CAFI AML AML
comp=E,1575µm,0.5s
CAFI AML AML
comp=N,1033µm,1.5s
CAFI AML AML
comp=E,1575µm,0.5s
CAFI AML AML
comp=N,1033µm,1.5s
CAFI AML AML
comp=N,1033µm,1.5s
CAFI AML AML
comp=E,1575µm,0.5s
RAVA Ravarino 0.78 337 AML AML
comp=E,3215µm,0.4s
RAVA AML AML
comp=N,3290µm,1.1s
RAVA AML AML
comp=E,3215µm,0.4s
RAVA AML AML
comp=N,3290µm,1.1s
SARO Sassorosso 0.84 280 P Pg 02 13 00.2 +0.3
SARO S **Sg 02 13 12.5 +1.6**
SARO Sassorosso 0.84 280 P Pg 02 12 59.3 -0.6
SARO AML AML
comp=E,932µm,0.6s
SARO AML AML
comp=N,1670µm,0.6s
SARO AML AML
comp=E,932µm,0.6s
SARO AML AML
comp=N,1670µm,0.6s
SARO AML AML
comp=E,932µm,0.6s
SARO AML AML
comp=N,1670µm,0.6s
VLC Villacollemand 0.84 279 P Pg 02 12 59.8 -0.2
VLC AML AML
comp=E,531µm,1.6s
VLC AML AML
comp=N,644µm,0.9s
VLC AML AML
comp=E,510µm,1.6s
VLC AML AML
comp=N,630µm,0.8s
VLC AML AML
comp=E,531µm,1.6s
VLC AML AML
comp=E,510µm,1.6s
VLC AML AML
comp=N,644µm,0.9s
VLC AML AML
comp=N,630µm,0.8s
ATPI Pietralunga - 0.86 133 P Pg 02 12 59.2 -1.1
ATPI AML AML
comp=E,664µm,0.5s
ATPI AML AML
comp=N,682µm,1.3s
ATPI AML AML
comp=E,664µm,0.5s
ATPI AML AML
comp=N,682µm,1.3s
ATPI AML AML
comp=E,664µm,0.5s
ATPI AML AML
comp=N,682µm,1.3s
ATPC Poggio Castell 0.87 130 P Pg 02 12 59.5 -1.0
ATPC AML AML
comp=E,506µm,1.4s
ATPC AML AML
comp=N,1069µm,0.6s
ATPC AML AML
comp=E,1450µm,0.8s
ATPC AML AML
comp=N,1134µm,0.9s
ATPC AML AML
comp=E,506µm,1.4s
ATPC AML AML
comp=N,1073µm,0.5s
ATPC AML AML
comp=E,1450µm,0.8s
ATPC AML AML
comp=N,1134µm,0.9s
ATPC AML AML
comp=E,506µm,1.4s
ATPC AML AML
comp=N,1073µm,0.5s
ATPC AML AML
comp=N,1134µm,0.9s
ATPC AML AML
comp=E,1450µm,0.8s
PIEI Pieia 0.88 125 P Pg 02 12 59.5 -1.1
PIEI AML AML
comp=E,554µm,0.5s
PIEI AML AML
comp=N,388µm,0.7s
PIEI AML AML
comp=E,554µm,0.5s
PIEI AML AML
comp=N,388µm,0.7s
PIEI AML AML
comp=E,554µm,0.5s
PIEI AML AML
comp=N,388µm,0.7s
ATBU Serra di Buran 0.92 127 P Pg 02 13 00.6 -0.9
ATBU AML AML
comp=E,1570µm,1.5s
ATBU AML AML
comp=N,1930µm,1.0s
ATBU AML AML
comp=N,1930µm,1.0s
ATBU AML AML
comp=E,1570µm,1.5s
PESA Pesaro 0.94 96 P Pb 02 13 01.2 -0.4
PESA AML AML
comp=E,1019µm,0.4s
PESA AML AML
comp=N,1145µm,0.5s
PESA AML AML
comp=E,1019µm,0.4s
PESA AML AML
comp=N,1145µm,0.5s
PESA AML AML
comp=N,1145µm,0.5s
PESA AML AML
comp=E,1019µm,0.4s
FSSB Fossombrone 0.96 111 P Pg 02 13 00.9 -1.3
FSSB AML AML
comp=E,1505µm,0.7s
FSSB AML AML
comp=N,1385µm,0.7s
FSSB AML AML
comp=E,1510µm,0.7s
FSSB AML AML
comp=N,1385µm,0.7s
FSSB AML AML
comp=N,1385µm,0.7s
FSSB AML AML
comp=E,1510µm,0.7s
MPAG Monte Paganucc 0.97 115 P Pg 02 13 01.1 -1.3
MPAG AML AML
comp=E,904µm,0.6s
MPAG AML AML
comp=N,744µm,1.1s
MPAG AML AML
comp=E,902µm,0.6s
MPAG AML AML
comp=N,744µm,1.1s
MPAG AML AML
comp=E,902µm,0.6s
MPAG AML AML
comp=N,744µm,1.1s
SERM Sermide 0.99 350 P Pn 02 13 03.6 +0.7
SERM AML AML
comp=E,1820µm,0.6s
SERM AML AML
comp=N,836µm,0.8s
SERM AML AML
comp=E,1820µm,0.6s
SERM AML AML
comp=N,836µm,0.8s
EQUI Equi 1.01 278 P Pg 02 13 02.4 -0.7
EQUI S **Sg 02 13 15.1 -1.3**
EQUI Equi 1.01 278 P Pg 02 13 02.5 -0.7
EQUI AML AML
comp=E,358µm,1.5s
EQUI AML AML
comp=N,428µm,0.8s
EQUI AML AML
comp=E,358µm,1.5s
EQUI AML AML
comp=N,428µm,0.8s
EQUI AML AML
comp=E,358µm,1.5s
EQUI AML AML
comp=N,428µm,0.8s
ATTE AVT- Monte Tez 1.03 145 P Pg 02 13 02.4 -1.1
ATTE AML AML
comp=E,851µm,0.7s
ATTE AML AML
comp=N,805µm,0.7s
ATTE AML AML
comp=E,851µm,0.7s
ATTE AML AML
comp=N,805µm,0.7s
ADRI Adria, Italy 1.05 19 ||e Pg Pn 02 13 04.4 +0.6
GRAM Graiana 1.15 294 P Pb 02 13 06.5 +1.2
GRAM S **Sn 02 13 23.8 +3.0**
ATCC AVT- Casa Cast 1.17 137 P Pb 02 13 05.3 -0.2
ATCC AML AML
comp=E,1505µm,0.7s
ATCC AML AML
comp=N,728µm,0.7s
ATCC AML AML
comp=E,1505µm,0.7s
ATCC AML AML
comp=N,728µm,0.7s
MGAB Montegabbione 1.20 160 P Pb 02 13 05.9 -0.2
MGAB AML AML
comp=E,1285µm,0.7s
MGAB AML AML
comp=N,987µm,0.6s
MGAB AML AML
comp=E,1360µm,0.7s
MGAB AML AML
comp=N,886µm,0.6s
MGAB AML AML
comp=N,987µm,0.6s
MGAB AML AML
comp=N,886µm,0.6s
MGAB AML AML
comp=E,1285µm,0.7s
MGAB AML AML
comp=E,1360µm,0.7s
TEOL Teolo 1.32 4 ||e Pg Pn 02 13 07.2 -0.4
TEOL e Sg **Sn 02 13 25.9 +1.0**
TEOL Teolo 1.32 4 P Pn 02 13 07.0 -0.5

TEOL AML AML
comp=E,1405µm,0.6s
TEOL AML AML
comp=N,1585µm,0.5s
TEOL AML AML
comp=E,1405µm,0.6s
TEOL AML AML
comp=N,1585µm,0.5s
EL6 Elcito 1.33 122 P **Pn 02 13 08.0 +0.2**
MARN Marana (Italy) 1.61 352 ePg **Pn 02 13 11.7 +0.1**
MARN eSg **Sb 02 13 34.2 +0.8**
BALD Monte Baldo 1.72 343 ePn **Pn 02 13 14.0 +0.7**
MTLO Montello 1.82 12 ePn **Pn 02 13 14.1 -0.2**
MTLO eSn **Sb 02 13 38.5 -0.6**
CGRP Cima Grappa 1.85 6 ePn **Pn 02 13 14.4 -0.6**
CGRP eSn **Sb 02 13 39.5 -0.7**
CGRP Cima Grappa 1.85 6 P **Pn 02 13 14.3 -0.6**
CGRP AML AML
comp=E,342µm,0.6s
CGRP AML AML
comp=N,436µm,0.6s
CGRP AML AML
comp=E,342µm,0.6s
CGRP AML AML
comp=N,436µm,0.6s
MAGA Magasa 1.85 340 P **Pn 02 13 15.4 +0.5**
MAGA AML AML
comp=E,2190µm,0.5s
MAGA AML AML
comp=N,1135µm,0.5s
MAGA AML AML
comp=N,1135µm,0.5s
MAGA AML AML
comp=E,2190µm,0.5s
DOSS Dosso del Somm 1.86 352 ePn **Pn 02 13 14.9 -0.2**
DOSS eSn **Sn 02 13 39.5 +1.2**
VARN Col Varnada, M 1.99 11 ePn **Pn 02 13 16.3 -0.6**
VARN eSn **Sn 02 13 42.5 +1.0**
CTI Castel Tesino 2.01 2 P **Pn 02 13 16.8 -0.2**
CTI AML AML
comp=E,428µm,0.4s
CTI AML AML
comp=N,500µm,0.3s
CTI AML AML
comp=N,500µm,0.3s
CTI AML AML
comp=E,428µm,0.4s
PANI Panarotta 2.02 356 ePn **Pn 02 13 17.6 +0.3**
RNI Roncone 2.05 342 ePn **Pn 02 13 18.2 +0.5**
POLC Polcenigo 2.10 19 ePn **Pn 02 13 17.9 -0.3**
POLC Polcenigo 2.10 19 AML AML
comp=N,444µm,0.5s
POLC AML AML
comp=E,434µm,0.6s
POLC AML AML
comp=N,444µm,0.5s
POLC AML AML
comp=E,434µm,0.6s
MABI Malga Bissina 2.14 340 AML AML
comp=N,95µm,0.5s
MABI AML AML
comp=E,125µm,0.7s
MABI AML AML
comp=E,125µm,0.7s
MABI AML AML
comp=N,95µm,0.5s
TRI Trieste 2.30 43 AML AML
comp=N,100µm,0.8s
TRI AML AML
comp=E,121µm,0.8s
TRI AML AML
comp=N,100µm,0.8s
TRI AML AML
comp=E,121µm,0.8s
SKDS Skadanscina 2.31 49 *i* Pn **Pn 02 13 20.1 -1.1**
SKDS *i* Sn **Sn 02 13 48.8 -0.7**
PGF Pioggiola 2.38 232 ePn **Pn 02 13 20.9 -1.3**
PGF eSn **Sn 02 13 49.4 -1.8**
comp=E,11nm,0.3s
KOSI Kohlern 2.43 357 AML AML
comp=N,252µm,0.7s
KOSI AML AML
comp=E,212µm,0.6s
KOSI AML AML
comp=N,252µm,0.7s
KOSI AML AML
comp=E,212µm,0.6s
SABO M.te Sabotino 2.43 36 AML AML
comp=N,307µm,0.6s
SABO AML AML
comp=E,252µm,1.6s
SABO AML AML
comp=E,252µm,1.6s
SABO AML AML
comp=N,307µm,0.6s
NVLJ Novalja 2.44 76 *i* Pn **Pn 02 13 23.1 +0.2**
NVLJ Sn **Sn 02 13 53.7 +1.2**
APPI Appiano 2.45 355 AML AML
comp=E,254µm,0.3s
APPI AML AML
comp=N,204µm,0.4s
APPI AML AML
comp=N,204µm,0.4s
APPI AML AML
comp=E,254µm,0.3s
JAVS Javornik 2.58 43 *i* Pn **Pn 02 13 23.9 -1.0**
JAVS *i* Sn **Sn 02 13 56.8 +0.8**
VOJS Vojsko 2.59 39 *i* Pn **Pn 02 13 24.3 -0.8**
VOJS *i* Sn **Sn 02 13 57.5 +1.2**
CEY Cerknica 2.66 49 *i* Pn **Pn 02 13 25.0 -0.9**
BRES Bressanone 2.66 3 AML AML
comp=N,113µm,0.7s
BRES AML AML
comp=E,113µm,0.7s
BRES AML AML
comp=N,113µm,0.7s
BRES AML AML
comp=E,113µm,0.7s
MOSI Grossmontoni 2.67 345 AML AML
comp=E,242µm,0.6s
MOSI AML AML
comp=E,242µm,0.6s
MOSI AML AML
comp=N,442µm,0.9s
MOSI AML AML
comp=N,442µm,0.9s
PTCC Patocco-Chiusa 2.69 28 AML AML
comp=E,94µm,0.6s
PTCC AML AML
comp=E,94µm,0.6s
PTCC AML AML
comp=N,78µm,0.7s
PTCC AML AML
comp=N,78µm,0.7s
ABTA Abfaltersbach 2.79 14 ePn **Pn 02 13 28.2 +0.3**
ABTA eSn **Sn 02 14 03.8 +2.5**
comp=N,21nm,0.4s
comp=N,28nm,0.5s
ACOM Acomizza, Ital 2.87 28 AML AML
comp=N,138µm,0.7s
ACOM AML AML
comp=E,194µm,0.4s
ACOM AML AML
comp=E,194µm,0.4s
ACOM AML AML
comp=N,138µm,0.7s
LJU Ljubljana 2.91 46 AML AML
comp=N,272µm,0.8s
LJU AML AML
comp=E,214µm,1.2s
LJU AML AML
comp=N,272µm,0.8s
LJU AML AML
comp=E,214µm,1.2s
RISI Rein 2.93 7 AML AML
comp=N,289µm,0.4s
RISI AML AML
comp=E,248µm,0.4s
RISI AML AML
comp=N,289µm,0.4s
RISI AML AML
comp=E,248µm,0.4s
SBF Sospel 2.97 268 ePn **Pn 02 13 28.6 -1.7**
SBF eSn **Sn 02 14 02.6 -3.1**
comp=E,42nm,0.5s
DAVOX Davos/Dischmat 2.98 337 Pn **Pn 02 13 32.4 +1.9**
comp=E,5.9nm,0.3s,baz=186,slow=4.3,SNR=52
DAVOX Sn **Sn 02 14 10.1 +4.0**
comp=E,3.2nm,0.3s,baz=172,slow=22,SNR=3.9
MYKA Terra Mystica 2.98 29 ePn **Pn 02 13 31.0 +0.6**
comp=E,2.9nm,0.3s
MYKA eSn **Sn 02 14 07.9 +1.9**
comp=E,28nm,0.7s
FETA Feichten 3.04 349 ePn **Pn 02 13 33.3 +2.0**
comp=E,20nm,0.6s,SNR=30
FETA eSn **Sn 02 14 09.4 +2.0**
comp=E,5.8nm,0.5s
SQTA Sankt Quirin 3.19 356 ePn **Pn 02 13 35.9 +2.6**
comp=E,12nm,0.2s,SNR=28
SQTA eSn **Sn 02 14 12.8 +1.7**
comp=E,13nm,0.3s
OZLJ Ozalj 3.21 59 ePn **Pn 02 13 33.5 +0.2**
OZLJ Sn **Sn 02 14 09.3 -1.9**
WTTA Wattenberg 3.23 1 ePn **Pn 02 13 36.5 +2.6**
comp=E,4.6nm,0.2s,SNR=7.0
WTTA eSn **Sn 02 14 12.5 +0.4**
comp=E,26nm,0.7s
OBKA Obir 3.25 40 ePn **Pn 02 13 34.6 +0.4**
comp=E,10nm,0.3s
OBKA eSn **Sn 02 14 14.2 +1.5**
comp=E,14nm,0.4s
KBA Koelnbreinsper 3.29 22 *i* Pn **Pn 02 13 35.3 +0.6**
comp=E,2.8nm,0.3s
KBA eSn **Sn 02 14 15.2 +1.5**
comp=E,9.3nm,0.4s
WATA Walderalm 3.30 0 ePn **Pn 02 13 37.3 +2.5**
comp=E,5.5nm,0.3s,SNR=15
WATA eSn **Sn 02 14 16.0 +2.2**
comp=E,7.6nm,0.3s
MOTA Moosalm 3.32 355 ePn **Pn 02 13 37.2 +2.1**
comp=E,4.8nm,0.3s,SNR=24
MOTA eSn **Sn 02 14 18.3 +4.0**
comp=E,6.2nm,0.3s
DAVA Damuels 3.45 341 ePn **Pn 02 13 38.9 +2.0**
comp=E,9.1nm,0.3s,SNR=16
DAVA eSn **Sn 02 14 19.3 +1.7**
comp=E,23nm,0.4s
MBDF Montbardon 3.49 283 eP **Pn 02 13 38.7 +1.2**
MBDF eSn **Sn 02 14 15.0 -3.6**
comp=E,64nm,1.0s
RETA Reutte 3.49 351 ePn **Pn 02 13 39.5 +2.0**
comp=E,2.9nm,0.2s,SNR=19
RETA eSn **Sn 02 14 22.3 +3.9**
comp=E,12nm,0.5s
FRF La Foret Royal 3.58 264 eP **Pn 02 13 38.8 +0.3**
FRF eSn **Sn 02 14 17.1 -3.4**
comp=E,18nm,0.4s
SOKA Soboth 3.61 42 *i* Pn **Pn 02 13 41.5 +2.5**
comp=E,1.3nm,0.3s
SOKA eSn **Sn 02 14 24.4 +3.0**
comp=E,4.9nm,0.4s
LPG La Plagne 3.71 295 eP **Pn 02 13 41.9 +1.3**
LPG eSn **Sn 02 14 20.1 -4.1**
comp=E,12nm,0.5s
LMR La Mourre 3.72 261 eSn **Sn 02 14 20.2 -3.8**
comp=E,6.0nm,0.4s
LPL La Plagne 3.73 295 eP **Pn 02 13 42.0 +1.2**
LPL eSn **Sn 02 14 20.5 -4.1**
comp=E,11nm,0.4s
ORIF Oris-en-Rattie 4.15 284 eP **Pn 02 13 47.8 +1.3**
ORIF eSn **Sn 02 14 30.5 -4.2**
comp=E,17nm,0.7s
ARSA Arzberg 4.25 40 ePn **Pn 02 13 48.1 +0.3**
comp=E,2.6nm,0.3s
ARSA eSn **Sn 02 14 39.3 +2.1**
comp=E,2.3nm,0.5s
MOA Molln 4.26 26 ePn **Pn 02 13 48.5 +0.6**
comp=E,4.0nm,0.3s
MOA eSn **Sn 02 14 39.0 +1.7**
comp=E,6.8nm,0.5s
SMRF Simiane la Rot 4.31 271 eP **Pn 02 13 49.5 +0.9**
SMRF eSn **Sn 02 14 33.5 -5.0**
comp=E,2.9nm,0.3s
CABF La Chapelle 4.63 306 eP **Pn 02 13 54.8 +1.8**
CABF eSn **Sn 02 14 41.6 -4.9**
comp=E,23nm,0.9s
CONA Conrad Observa 4.92 36 *i* Pn **Pn 02 13 57.2 +0.2**
comp=E,1.1nm,0.2s
CONA eSn **Sn 02 14 54.2 +0.5**
comp=E,2.5nm,0.4s
VIVF Saint-Julien-l 4.99 282 eP **Pn 02 14 00.1 +2.2**
VIVF eSn **Sn 02 14 50.4 -4.9**
comp=E,0.7nm,0.2s
HINF Hinteralfeld 5.00 321 eP **Pn 02 13 59.5 +1.4**
HINF eSn **Sn 02 14 50.0 -5.5**
comp=E,10.0nm,0.3s
HINF eS Sb 02 14 57.5 -13
GERES GERESS Array B 5.03 16 Pn **Pn 02 13 58.1 -0.5**
comp=E,1.6nm,0.3s,baz=194,slow=13,SNR=51
GERES Sn **Sn 02 14 55.7 -0.7**
comp=E,2.1nm,0.3s,baz=195,slow=25,SNR=13
CDF Champ du Feu 5.28 327 eP **Pn 02 14 02.6 +0.6**
CDF eSn **Sn 02 14 57.3 -5.3**
comp=E,9.9nm,0.3s
KHC Kasperske Hory 5.28 15 ePN **Pn 02 14 01.7 -0.3**
KHC eSN **Sn 02 15 00.6 -1.9**
HAU Haudompre 5.37 319 eP **Pn 02 14 04.1 +1.0**
HAU eSn **Sn 02 14 58.7 -6.0**
HAU eS Sb 02 15 05.8 -15
comp=E,21nm,0.5s
LASF Ste Croix 5.54 273 eP **Pn 02 14 08.7 +3.2**
LASF eSn **Sn 02 15 04.5 -4.4**
comp=E,1.5nm,0.3s
MODS Modra-Piesok 5.88 41 ePN **Pn 02 14 10.1 -0.1**
MODS eSN **Sn 02 15 08.9 -8.4**
TREC Trest 5.91 26 ePN **Pn 02 14 09.8 -0.8**
TREC eSN **Sn 02 15 16.2 -1.9**
SMF Signal de Mont 6.02 298 eP **Pn 02 14 14.0 +1.9**
SMF eSn **Sn 02 15 14.8 -5.9**
comp=E,8.1nm,0.5s
PAGF Fort de Pagny 6.05 320 eP **Pn 02 14 14.7 +2.2**
baz=140
PAGF eSn **Sn 02 15 16.2 -5.3**
comp=E,156nm,1.3s
SFTF Sexfontaines 6.15 315 eP **Pn 02 14 15.4 +1.6**
baz=129
SFTF eSn **Sn 02 15 17.2 -6.6**
comp=E,5.6nm,0.4s
NKC Novy Kostel 6.23 5 ePN **Pn 02 14 15.6 +0.7**
LOR Lormes 6.28 304 eP **Pn 02 14 17.2 +1.5**
baz=122
LOR eSn **Sn 02 15 20.9 -6.2**
comp=E,12nm,0.5s
GOPC GO Pecny, Ondr 6.28 20 ePN **Pn 02 14 15.9 +0.2**
GOPC eSN **Sn 02 15 24.2 -2.9**
PRU Pruhonice 6.29 18 ePN **Pn 02 14 15.3 -0.5**
PRU eSN **Sn 02 15 25.5 -1.9**
MEZF Maizieres J'vi 6.34 317 eP **Pn 02 14 18.6 +2.2**
baz=137
MEZF eSn **Sn 02 15 21.9 -6.5**
comp=E,7.6nm,0.6s
AVF Avril sur Loir 6.39 298 eP **Pn 02 14 19.4 +2.3**
AVF eSn **Sn 02 15 24.2 -5.5**
comp=E,0.8nm,0.3s
SSF Saint Saulge 6.40 301 eP **Pn 02 14 19.0 +1.7**
SSF eSn **Sn 02 15 24.1 -6.0**
comp=E,3.2nm,0.3s
BGF Bois d'Agland 6.63 295 eP **Pn 02 14 22.6 +2.1**
BGF eSn **Sn 02 15 30.9 -4.8**
comp=E,9.3nm,0.6s
VYHS Vyhne 6.74 46 ePN **Pn 02 14 22.7 +0.8**
MTLF Montolieu 6.80 267 eP **Pn 02 14 22.9 +0.1**
HYF Humbligny 7.03 300 ePn **Pn 02 14 22.9 -3.0**
BRG Berggiesshubel 7.03 13 PN **Pn 02 14 25.9 +0.1**
BRG SN **Sn 02 15 43.9 -1.5**
BRG SG **Sg 02 16 23.8 -5.2**
comp=E,12nm,1.4s
DPC Dobruska-Polom 7.10 26 eSN **Sn 02 15 43.7 -3.6**
UPC Upice 7.15 24 ePN **Pn 02 14 27.5 0.0**
UPC eSN **Sn 02 15 44.5 -3.9**
CLL Collm 7.34 7 ePn **Pn 02 14 32.0 +1.9**
CLL eSg **Sg 02 16 31.0 -7.9**
NOA NORSAR Array B 17.03 359 Pn **Pn 02 16 40.1 -0.9**
comp=E,0.0nm,0.3s,baz=178,slow=11,SNR=2.2
FINES FINESS Array B 19.44 21 P **P 02 17 09.6 +0.3**
comp=E,0.1nm,0.3s,baz=209,slow=11,SNR=2.8
KVAR Kislovodsk Arr 22.35 79 LR LR 02 28 57.8
comp=E,111nm,21.1s,baz=92,slow=44
TORD Torodi Ar. Bea 31.93 198 P **P 02 19 12.1 +3.5**
comp=E,0.5nm,0.9s,baz=18,slow=7.2,SNR=2.8
MKAR Makanchi Array 48.18 60 P **P 02 21 24.0 +0.8**
comp=E,0.4nm,0.7s,baz=290,slow=5.0,SNR=5.1
ILAR Eielson Array 70.22 350 P **P 02 23 57.2 +1.9**
comp=E,0.4nm,0.7s,baz=13,slow=5.9,SNR=5.6

SJA 06 02:43:12.6±0.6, 31°68'S×68°19'W, h25km±1km, ML2.9, MW4.0, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFA	**Coronel Fontan**	**0.09**	**329**	*i* P	Pb	02 43 17.7	+0.5
CFA				*i* S	Sb	02 43 21.1	+0.8
RTCV	**Cerro Valdivia**	**0.35**	**239**	*i* P	Pb	02 43 21.2	+0.7
SJA	**San Juan**	**0.35**	**295**	IAML		02 43 28.1	
	comp=Z,696nm,0.2s						
SJA				AMSG		02 43 28.2	
	comp=Z,10µm,0.3s						
RTLL	**Cerro Villicun**	**0.43**	**325**	*i* P	Pb	02 43 22.0	+0.3
RTLL				*i* S	Sb	02 43 29.0	+1.2
RTLL				IAML		02 43 29.9	
	comp=Z,897nm,0.2s						
ZON	**Zonda**	**0.44**	**287**	IAML		02 43 30.5	
	comp=Z,344nm,0.1s						
AMOG	**MOGNA**	**0.78**	**340**	*i* P	Pn	02 43 28.2	+0.1
RTLS	**Leoncito**	**0.95**	**262**	*i* P	Pn	02 43 31.5	+0.8
RTLS				IAML		02 43 45.5	
	comp=Z,236nm,0.2s						
RTLS				*i* S	Sn	02 43 45.8	+2.1
ACAN	**Cantantal**	**1.04**	**125**	*i* P	Pb	02 43 32.3	+0.4
ASAL	**Salagasta**	**1.06**	**211**	*i* P	Pb	02 43 33.2	+0.8
AUSP	**Uspallata**	**1.16**	**242**	*i* P	Pb	02 43 35.2	+1.1
ARCO	**CERRO ARCO**	**1.32**	**208**	*i* P	Pb	02 43 38.1	+1.2
ARCO				IAML		02 44 00.1	
	comp=Z,168nm,0.3s						
ACDV	**Cuesta del Vie**	**1.70**	**332**	*i* P	Pb	02 43 43.5	+0.1
ACDV				IAML		02 43 45.0	
	comp=Z,146nm,0.2s						
AROD	**Rodeo**	**1.87**	**323**	*i* P	Pb	02 43 46.1	-0.2
APLL	**PUNTA DE LOS L**	**1.91**	**48**	*i* P	Pb	02 43 45.8	-1.0
APLL				IAML		02 44 10.7	
	comp=Z,111nm,0.8s						
MRA	**San Martin**	**2.22**	**110**	IAML		02 44 22.2	
	comp=Z,158nm,0.5s						
TCA	**Tanti**	**3.09**	**85**	IAML		02 44 52.5	
	comp=Z,70nm,0.4s						
CYA	**Choya**	**3.83**	**33**	IAML		02 45 21.7	
	comp=Z,22nm,0.3s						
FSA	**Cafayete**	**5.88**	**20**	IAML		02 46 08.7	
	comp=Z,4.6nm,0.5s						

*ISCJB **06** 02:47:18.6±0.3, 59°.90N±0°.02×152°.77W±0°.05, h111km±2km, mb4.0/5, Error ellipse: s-maj=4.8km s-min=3.6km az=31.4*
*IDC **06** 02:47:19.1±1.8, 59°.87N×152°.82W, h94km±28km, mb3.7/5, mb1 3.7/10, mb1mx3.3/50, mbtmp4.0/10, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=29.4km s-min=13.3km az=127.0*
*NEIC **06** 02:47:20.9±0.0, 59°.91N×152°.85W, h98km, ML3.6(AEIC), After AEIC.*

ISC 06 02:47:19.8±0.8, 59°.90N±0°.04×152°.79W±0°.04, h104km±5km, n97, s0°68/109, mb4.2/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.15**	**292**	P	**Pn**	**02 47 34.1**	**-0.3**
IVE	**Iliamna Volcan**	**0.16**	**316**	P	**Pn**	**02 47 34.1**	**-0.4**
ILW	**Iliamna West**	**0.23**	**313**	P	**Pn**	**02 47 34.5**	**-0.4**
RED	**Redoubt Volcan**	**0.52**	**1**	P	**Pn**	**02 47 36.0**	**-0.3**
RED				S	**Sn**	**02 47 47.8**	**-0.8**
RDWB	**Redoubt West**	**0.59**	**358**	P	**Pn**	**02 47 36.7**	**-0.1**
RDWB				S	**Sn**	**02 47 48.6**	**-1.0**
RDN	**Redoubt North**	**0.61**	**1**	P	**Pn**	**02 47 37.0**	**-0.1**
AUL	**Augustine Lava**	**0.61**	**212**	P	**Pn**	**02 47 37.0**	**+0.1**
AUL				S	**Sn**	**02 47 49.4**	**-0.3**
HOM	**Homer**	**0.63**	**112**	P	**Pn**	**02 47 37.4**	**+0.4**
HOM				S	**Sn**	**02 47 50.9**	**+1.0**
AUW	**Augustine West**	**0.64**	**213**	P	**Pn**	**02 47 37.0**	**0.0**
AUJK	**Augustine Jueg**	**0.64**	**210**	P	**Pn**	**02 47 37.0**	**-0.1**
AUI	**Augustine Isla**	**0.65**	**210**	P	**Pn**	**02 47 37.0**	**-0.2**
AUI				S	**Sn**	**02 47 49.7**	**-0.5**
RDJH	**Redoubt Jeurge**	**0.69**	**360**	P	**Pn**	**02 47 37.4**	**-0.2**
RDJH				S	**Sn**	**02 47 50.3**	**-0.8**
BRLK	**Bradley Lake**	**0.97**	**97**	P	**Pn**	**02 47 40.3**	**0.0**
BRLK				S	**Sn**	**02 47 55.6**	**-0.1**
NKA	**Nikishka**	**1.15**	**42**	P	**Pn**	**02 47 43.9**	**+1.9**
SPCR	**Spurr Chakacha**	**1.33**	**12**	P	**Pn**	**02 47 44.4**	**0.0**
SPCR				S	**Sn**	**02 48 02.6**	**-0.4**
SPCN	**Chakachatna No**	**1.36**	**13**	P	**Pn**	**02 47 44.8**	**+0.2**
SPCN				S	**Sn**	**02 48 03.6**	**+0.2**
SPWE	**Spurr West**	**1.38**	**5**	P	**Pn**	**02 47 45.4**	**+0.4**
SPCP	**Crater Peak Br**	**1.41**	**13**	P	**Pn**	**02 47 45.5**	**+0.2**
SLKM	**Skilak Lake**	**1.42**	**64**	P	**Pn**	**02 47 45.5**	**+0.2**
CGLM	**Capps Glacier**	**1.46**	**15**	P	**Pn**	**02 47 46.2**	**+0.3**
KAHG	**Katmai Hook Gl**	**1.68**	**213**	P	**Pn**	**02 47 48.6**	**+0.2**
SEW	**Seward**	**1.69**	**82**	P	**Pn**	**02 47 48.6**	**+0.1**
FIB	**Fire Island**	**1.81**	**44**	P	**Pn**	**02 47 51.3**	**+1.3**
SVW2	**Sparrevohn**	**1.83**	**312**	P	**Pn**	**02 47 49.7**	**-0.6**
RC01	**Rabbit Creek A**	**1.93**	**50**	P	**Pn**	**02 47 51.6**	**0.0**
KCG	**Knife Ck. Glac**	**2.00**	**218**	P	**Pn**	**02 47 52.8**	**+0.2**
KELA	**Mount Kelaz**	**2.11**	**227**	P	**Pn**	**02 47 54.0**	**0.0**
KDAK	**Kodiak Island**	**2.13**	**177**	P	**Pn**	**02 47 53.0**	**-1.1**
	46nm,0.3s,baz=38,slow=9.5,SNR=260						
KDAK				S	**Sn**	**02 48 18.8**	**-1.5**
	43nm,0.3s,baz=284,slow=23,SNR=16						
ACHA	**Angle Creek He**	**2.14**	**219**	P	**Pn**	**02 47 54.6**	**+0.2**
ANCK	**Angle Creek**	**2.21**	**220**	P	**Pn**	**02 47 55.5**	**+0.3**
PWL	**Port Wells**	**2.41**	**65**	P	**Pn**	**02 47 57.0**	**-0.8**
PMR	**Palmer**	**2.47**	**45**	P	**Pn**	**02 47 58.3**	**-0.3**
KNK	**Knik Glacier**	**2.62**	**53**	P	**Pn**	**02 47 59.9**	**-0.7**
GHO	**Glory Hole Cre**	**2.67**	**44**	P	**Pn**	**02 48 00.7**	**-0.5**
OHAK	**Old Harbor**	**2.70**	**186**	P	**Pn**	**02 48 00.5**	**-1.1**
SML	**Sawmill**	**2.90**	**47**	P	**Pn**	**02 48 03.8**	**-0.5**
PPLA	**Purkeypile**	**3.02**	**5**	P	**Pn**	**02 48 06.4**	**+0.5**
SCM	**Sheep Creek Mo**	**3.30**	**52**	P	**Pn**	**02 48 09.3**	**-0.4**
MID	**Middleton Isla**	**3.31**	**95**	P	**Pn**	**02 48 09.8**	**+0.1**
TT01	**Tatalina**	**3.39**	**334**	P	**Pn**	**02 48 10.3**	**-0.5**
SII	**Sitkinak Islan**	**3.43**	**193**	P	**Pn**	**02 48 10.3**	**-1.0**
HUR	**Hurricane**	**3.44**	**25**	P	**Pn**	**02 48 12.5**	**+1.1**
CAST	**Castle Rocks**	**3.55**	**5**	P	**Pn**	**02 48 13.0**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.58**	**76**	P	**Pn**	**02 48 12.3**	**-0.9**
DIV	**Divide**	**3.68**	**67**	P	**Pn**	**02 48 14.4**	**-0.4**
KLU	**Klutina**	**3.74**	**62**	P	**Pn**	**02 48 14.6**	**-0.9**
TRF	**Thorofare Moun**	**3.76**	**17**	P	**Pn**	**02 48 16.5**	**+0.7**
RND	**Reindeer**	**3.99**	**26**	P	**Pn**	**02 48 19.0**	**+0.2**
CHUM	**Lake Minchumin**	**4.00**	**3**	P	**Pn**	**02 48 19.1**	**+0.2**
PS12	**TAPS Pump St12**	**4.08**	**64**	P	**Pn**	**02 48 19.6**	**-0.4**
DHY	**Denali Highway**	**4.11**	**37**	P	**Pn**	**02 48 20.5**	**-0.1**
PS11	**TAPS Pump St11**	**4.18**	**55**	P	**Pn**	**02 48 21.3**	**-0.1**
MCK	**McKinley**	**4.26**	**24**	P	**Pn**	**02 48 22.9**	**+0.5**
HMT	**Hamilton**	**4.29**	**80**	P	**Pn**	**02 48 22.4**	**-0.5**
HARP	**HAARP**	**4.47**	**53**	P	**Pn**	**02 48 25.3**	**0.0**
BWN	**Browne**	**4.56**	**19**	P	**Pn**	**02 48 27.3**	**+0.8**
PAX	**Paxson**	**4.67**	**46**	P	**Pn**	**02 48 28.6**	**+0.6**
PS10	**TAPS Pump St10**	**4.87**	**40**	P	**Pn**	**02 48 31.0**	**+0.4**
NEA	**Nenana**	**5.00**	**19**	P	**Pn**	**02 48 32.4**	**0.0**
WRH	**Wood River Hil**	**5.09**	**24**	P	**Pn**	**02 48 33.2**	**-0.3**
MLY	**Manley**	**5.24**	**10**	P	**Pn**	**02 48 35.5**	**-0.1**
HDA	**Harding Lake**	**5.29**	**29**	P	**Pn**	**02 48 36.0**	**-0.3**
BALM	**Baldy**	**5.29**	**73**	P	**Pn**	**02 48 35.7**	**-0.8**
CCB	**Clear Creek Bu**	**5.30**	**24**	P	**Pn**	**02 48 36.0**	**-0.4**
MENT	**Mentasta**	**5.32**	**51**	P	**Pn**	**02 48 36.3**	**-0.5**
RIDG	**Independ'e Rid**	**5.39**	**41**	P	**Pn**	**02 48 37.9**	**+0.2**
PS08	**TAPS Pump Stn8**	**5.43**	**28**	P	**Pn**	**02 48 37.9**	**-0.4**
COLA	**College**	**5.49**	**23**	P	**Pn**	**02 48 38.8**	**-0.2**
MDM	**Murphy Dome**	**5.50**	**21**	P	**Pn**	**02 48 38.9**	**-0.3**
IL1	**Eielson Array**	**5.61**	**27**	P	**Pn**	**02 48 40.3**	**-0.3**
ILAR	**Eielson Array**	**5.61**	**27**	P	**Pn**	**02 48 40.0**	**-0.7**
	3.7nm,0.3s,baz=216,slow=14,SNR=170						
ILAR				S	**Sn**	**02 49 40.3**	**-3.3**
	5.2nm,0.3s,baz=213,slow=22,SNR=6.0						
SCRK	**Sand Creek**	**5.83**	**42**	P	**Pn**	**02 48 43.6**	**-0.2**
IM3	**Indian Mountai**	**6.12**	**356**	P	**Pn**	**02 48 47.2**	**-0.3**
PS06	**TAPS Pump Stn6**	**6.14**	**12**	P	**Pn**	**02 48 48.1**	**+0.3**
YUK2	**White River**	**6.14**	**67**	P	**Pn**	**02 48 48.2**	**+0.3**
BCA3	**Beaver Creek A**	**6.15**	**54**	P	**Pn**	**02 48 47.8**	**-0.3**
YUK3	**Moose Creek**	**6.32**	**67**	P	**Pn**	**02 48 50.8**	**+0.4**
PRP	**Porcupine Dome**	**6.55**	**28**	P	**Pn**	**02 48 53.5**	**0.0**
PNL	**Peninsula**	**6.77**	**86**	P	**Pn**	**02 48 56.3**	**-0.1**
YUK4	**Talbot Arm**	**7.11**	**72**	P	**Pn**	**02 49 01.5**	**+0.3**
YUK6	**Outpost Mounta**	**7.22**	**75**	P	**Pn**	**02 49 03.0**	**+0.3**
EGAK	**Eagle**	**7.29**	**43**	P	**Pn**	**02 49 02.4**	**-1.0**
YUK7	**Dusty Glacier**	**7.33**	**79**	P	**Pn**	**02 49 04.1**	**-0.1**

COLD	Coldfoot	7.44	8	P	Pn	02 49 05.4	-0.2
YUK5	Granite Creek	7.47	74	P	Pn	02 49 06.0	-0.1
DAWY	Dawson	7.56	51	*e*Pn	Pn	02 49 07.7	+0.5
	2.7nm,0.5s						
HYT	Haines Junctio	7.64	76	P	Pn	02 49 08.2	-0.2
BM3	Burnt Mountain	8.37	22	P	Pn	02 49 16.7	-1.4
DLBC	Dease Lake	11.76	87	P	Pn	02 50 05.3	+1.3
	1.5nm,0.3s,baz=291,slow=7.7,SNR=23						
DLBC				S	Sn	02 52 12.7	-0.4
	0.4nm,0.3s,baz=180,slow=20,SNR=5.8						
INK	Inuvik	11.86	37	P	Pn	02 50 04.9	-0.2
	0.2nm,0.3s,baz=245,slow=12,SNR=6.9						
YKA	Yellowknife Ar	18.40	65	P	Pn	02 51 26.8	-0.8
	0.2nm,0.3s,baz=277,slow=10.0,SNR=16						
PETK	Petropavlovsk-	27.58	278	P	P	02 52 57.0	+0.3
	2.1nm,0.5s,baz=71,slow=14,SNR=7.5						
PETK				LR	LR	03 04 37.5	
	comp=Z,45nm,18.4s,baz=136,slow=38						
KSRS	Korea Array	55.30	283	P	P	02 56 28.7	+1.0
	1.8nm,0.5s,baz=38,slow=7.6,SNR=3.8						
KSAR	Wonju Array Be	53.33	283	P	P	02 56 28.6	+0.8
SONM	Songino Array	54.93	306	P	P	02 56 40.8	+1.2
	1.3nm,0.5s,baz=35,slow=6.0,SNR=10						
ZALV	Zalesovo Beam	57.52	324	P	P	02 56 57.8	+0.2
	1.2nm,0.4s,baz=35,slow=6.2,SNR=4.1						
MKAR	Makanchi Array	64.57	321	P	P	02 57 44.4	-1.1
	0.2nm,0.4s,baz=44,slow=5.7,SNR=3.6						

IDC 06 02:55:09.3±62.0, 16°.49S×177°.25W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/32, mbtmp3.8/3, Error ellipse: s-maj=1148.0km s-min=163.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
STKA	Stephens Creek	40.29	240	P		P	03 02 49.0	+0.6
	0.4nm,0.2s,baz=82,slow=7.1,SNR=2.5							
WRA	Warramunga Arr	45.99	253	P		P	03 03 33.8	-1.1
	0.4nm,0.8s,baz=96,slow=8.2,SNR=5.6							
ASAR	Alice Springs	46.25	253	P		P	03 03 36.9	0.0
	1.2nm,0.5s,baz=86,slow=7.7,SNR=15							

JMA 06 03:05:45.3±0.1, 37°.65N×141°.75E, h29km±2km, M3.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
JIKH	Ishinomakikobu	0.70	341	P		Pb	03 05 58.6	-0.3
JIKH				S		Sb	03 06 07.7	-0.5
JFK	Kawauchi	0.75	248	P		Pb	03 05 59.3	-0.6
JFK				S		Sb	03 06 08.8	-1.0
JMM	Marumori	0.79	286	P		Pn	03 06 00.1	-0.4
JMM				S		Sb	03 06 10.0	-0.8
JIO	Ouri	0.86	339	P		Pn	03 06 01.2	-0.3
JIO				S		Sb	03 06 11.9	-1.0
ONAJ	Iwakimizuishiy	0.94	234	P		Pn	03 06 01.8	-0.7
ONAJ				S		Sn	03 06 13.3	-1.7
JOU	Okura	1.12	310	P		Pb	03 06 05.6	-0.4
JOU				S		Sb	03 06 20.0	-0.2
JFT	Otama	1.13	264	S		Sn	03 06 19.8	+0.1
JKMT	Kesennumamotoy	1.18	349	P		Pn	03 06 05.8	0.0
JMK	Ichinoseki	1.36	342	P		Pn	03 06 08.9	+0.5
JMK				S		Sn	03 06 26.0	+0.5
MAT	Matsushiro	3.04	250	P		Pb	03 06 35.5	-3.2
MAT				S		Sb	03 07 12.6	-2.8

*ISCJB **06** 03:11:15.0±0.4, 24°.32N±0°.03×122°.45E±0°.02, h63km±6km, Error ellipse: s-maj=4.5km s-min=2.3km az=167.9*
*JMA **06** 03:11:14.7±0.1, 24°.30N×122°.43E, h68km±2km, M2.5*
*TAP **06** 03:11:14.5, 24°.33N×122°.45E, h74km, ML3.4, C*
ISC 06 03:11:15.5±1.3, 24°.33N±0°.04×122°.45E±0°.02, h62km±9km, n68, σ0°.83/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
EOS1	EOS1	0.36	308	P		Pn	03 11 26.6	+0.3
	baz=313							
EOS1				S		Sn	03 11 35.7	+1.6
	baz=313							
JYNG	Yonagunijimaku	0.47	75	P		Pn	03 11 27.4	0.0
JYNG				S		Sn	03 11 36.5	+0.5
YOJ	Yonaguni jima	0.53	75	P		Pn	03 11 28.0	0.0
	baz=70							
YOJ				S		Sn	03 11 37.4	+0.3
	baz=70							
YOJ	Yonaguni jima	0.53	75	P		Pn	03 11 28.0	0.0
YOJ				S		Sn	03 11 37.4	+0.3
TWC	Suao	0.61	298	P		Pn	03 11 28.5	-0.4
	baz=302							
TWC				S		Sn	03 11 38.4	-0.3
	baz=302							
NANB	Nanao	0.64	279	P		Pn	03 11 28.9	-0.3
	baz=278							
NANB				S		Sn	03 11 39.6	+0.4
	baz=278							
ENA	Nanau	0.65	279	P		Pn	03 11 29.0	-0.3
	baz=278							
ENA				S		Sn	03 11 39.9	+0.5
	baz=278							
EGS		0.70	318	*e*P		Pn	03 11 29.5	-0.3
	baz=317							
EGS				*e*S		Sn	03 11 39.9	-0.4
	baz=317							
NACB	Ninganchiao	0.79	259	P		Pn	03 11 30.3	-0.7
	baz=258							
NACB				S		Sn	03 11 41.9	-0.5
	baz=258							
TWE	Neicheng	0.81	299	P		Pn	03 11 31.2	0.0
	baz=303							
TWE				S		Sn	03 11 42.9	+0.1
	baz=303							
TWD	Chiawan	0.81	253	P		Pn	03 11 30.7	-0.5
	baz=252							
TWD				*e*S		Sn	03 11 42.3	-0.6
	baz=252							
HWA	Hwalien	0.84	246	*e*P		Pn	03 11 31.2	-0.4
	baz=245							
HWA				*e*S		Sn	03 11 44.3	+0.8
	baz=245							
TIPB	Shuangxi	0.85	319	*e*P		Pn	03 11 30.9	-0.9
	baz=318							
TIPB				S		Sn	03 11 42.8	-1.0
	baz=318							
ENTT	Nioudou	0.86	291	P		Pn	03 11 31.9	0.0
	baz=285							
ENTT				S		Sn	03 11 44.2	+0.2
	baz=285							
ENLB	Shoufeng	0.88	242	*e*P		Pn	03 11 31.6	-0.5
	baz=236							
ENLB				S		Sn	03 11 44.9	+0.6
	baz=236							
ETLH	Xiulin Townshi	0.89	262	P		Pn	03 11 31.7	-0.6
	baz=257							
ETLH				*e*S		Sn	03 11 44.3	-0.3
	baz=257							
NDT	Datong Townshi	0.89	288	P		Pn	03 11 32.3	0.0
	baz=282							
NDT				S		Sn	03 11 45.0	+0.4
	baz=282							
NWLT	Wulai	0.97	298	P		Pn	03 11 33.6	+0.3
	baz=301							
NWLT				S		Sn	03 11 47.0	+0.6
	baz=301							
NNSB	Datong	0.97	276	P		Pn	03 11 33.0	-0.4
	baz=275							
NNSB				S		Sn	03 11 46.6	-0.1
	baz=275							
NNS	Nan Shan	0.98	277	*e*P		Pn	03 11 33.0	-0.6
	baz=276							
NNS				*e*S		Sn	03 11 46.5	-0.4
	baz=276							
YHNB	Yeheng	1.03	290	P		Pn	03 11 34.0	-0.1
	baz=282							
YHNB				*e*S		Sn	03 11 47.8	-0.2
	baz=282							
NSK	Sanguang	1.05	290	P		Pn	03 11 34.4	+0.1
	baz=288							
NSK				S		Sn	03 11 48.1	-0.2
	baz=288							
ESL	Shilin	1.06	241	P		Pn	03 11 33.7	-0.6
	baz=247							
ESL				*e*S		Sn	03 11 47.8	-0.6
	baz=247							
WHF	Hehuan Shan	1.09	261	P		Pn	03 11 34.7	-0.5
	baz=252							
WHF				*e*S		Sn	03 11 49.0	-0.9
	baz=252							
EGFH	Guangfu	1.14	235	P		Pn	03 11 35.1	-0.3
	baz=230							
EGFH				S		Sn	03 11 49.5	-0.7
	baz=230							
YM01	YM01	1.14	316	*e*S		Sn	03 11 49.1	-1.3
	baz=315							
TWT	Tachien	1.16	267	*e*P		Pn	03 11 35.8	-0.1
	baz=260							
TWT				S		Sn	03 11 51.1	+0.1
	baz=260							
YM04	YM04	1.17	315	*e*S		Sn	03 11 49.7	-1.3
	baz=314							
IRIF	Iriomote-Funau	1.17	89	P		Pn	03 11 35.5	-0.4
IRIF				S		Sn	03 11 51.1	0.0
TDCB	Techi	1.18	267	P		Pn	03 11 36.1	0.0
	baz=260							
TDCB				*e*S		Sn	03 11 51.2	-0.2
	baz=260							
CHGB	Renai	1.19	257	P		Pn	03 11 36.2	-0.1
	baz=250							
CHGB				*e*S		Sn	03 11 51.4	-0.5
	baz=250							
OWD	Renai	1.22	253	P		Pn	03 11 36.1	-0.5
	baz=252							
OWD				*e*S		Sn	03 11 51.7	-0.7
	baz=252							
HGSD	Ruisui	1.25	229	P		Pn	03 11 36.3	-0.6
	baz=224							
HGSD				S		Sn	03 11 52.2	-0.7
	baz=224							
HATJ	Hateruma jima	1.27	102	P		Pn	03 11 37.8	+0.6
HATJ				S		Sn	03 11 54.8	+1.4
EHY	Hungye	1.31	232	P		Pn	03 11 37.7	-0.1
	baz=231							
EHY				S		Sn	03 11 53.1	-1.3
	baz=231							
VWDT	VWDT	1.32	245	P		Pn	03 11 37.8	-0.1
	baz=237							
VWDT				*e*S		Sn	03 11 54.2	-0.4
	baz=237							
NSTT	Nanjuang	1.35	283	*e*P		Pn	03 11 38.3	+0.1
	baz=294							
NSTT				S		Sn	03 11 55.7	+0.4
	baz=294							
WHP	Taichung City	1.37	268	P		Pn	03 11 39.5	+0.9
	baz=263							
WHP				*e*S		Sn	03 11 55.8	0.0
	baz=263							
YULB	Yu-li	1.40	229	P		Pn	03 11 38.5	-0.5
	baz=237							
YULB				*e*S		Sn	03 11 55.5	-1.1
	baz=237							
JKRS	Kuro-shima	1.43	93	P		Pn	03 11 39.6	+0.3
JKRS				S		Sn	03 11 57.8	+0.6
TWF1	Yuli	1.43	228	P		Pn	03 11 38.8	-0.5
	baz=236							
TWF1				*e*S		Sn	03 11 56.5	-0.7
	baz=236							
SSLB	Suanglung	1.47	249	*e*P		Pn	03 11 39.6	-0.2
	baz=248							
SSLB				*e*S		Sn	03 11 57.8	-0.3
	baz=248							
SMLT	Sun Moon Lake	1.48	253	*e*P		Pn	03 11 39.8	-0.3
	baz=248							
SMLT				*e*S		Sn	03 11 58.0	-0.5
	baz=248							
TYC	Yuchr	1.51	254	*e*P		Pn	03 11 40.1	-0.2
	baz=249							
TYC				*e*S		Sn	03 11 58.7	-0.4
	baz=249							
FULB	Fuli	1.54	223	*e*P		Pn	03 11 40.4	-0.4
	baz=216							
FULB				*e*S		Sn	03 11 59.2	-0.7
	baz=216							
JIJ	Ishigaki jima	1.55	88	P		Pn	03 11 40.4	-0.5
JIJ				S		Sn	03 11 59.3	-0.8
CHKT	Chengkung	1.57	219	S		Sn	03 11 58.3	-2.3
	baz=213							
WHYT	Xinyi Township	1.58	247	*e*P		Pn	03 11 41.2	-0.2
	baz=249							
WHYT				*e*S		Sn	03 12 00.6	-0.4
	baz=249							
YUS	Yu-Shan	1.60	239	P		Pn	03 11 42.3	+0.2
	baz=231							
YUS				*e*S		Sn	03 12 01.0	-1.1
	baz=231							
WJS	Zhushan	1.65	253	*e*S		Sn	03 12 04.3	+1.8
	baz=250							
WNT	Mingjian	1.67	255	S		Sn	03 12 05.3	+2.4
	baz=254							
ALS	Alishan	1.71	242	*e*P		Pn	03 11 43.2	-0.1
	baz=235							
ALS				*e*S		Sn	03 12 04.4	+0.1
	baz=235							
JISG	Ishigakijimahi	1.72	81	P		Pn	03 11 42.1	-1.1
JISG				*e*S		Sn	03 12 02.8	-1.4
ELDTW	Lidau	1.73	229	*e*S		Sn	03 12 03.5	-1.1
	baz=228							
CHN5	Tsauling	1.77	246	P		Pn	03 11 44.9	+0.9
	baz=238							
CHN5				S		Sn	03 12 06.6	+1.0
	baz=238							
WDLH	Douliu	1.86	250	*e*S		Sn	03 12 10.3	+2.8
	baz=249							
TPUB	Ta-pu	1.95	239	*e*S		Sn	03 12 10.2	+0.3
	baz=238							
CHN4	Tsaushan	1.95	241	*e*P		Pn	03 11 46.3	-0.1
	baz=239							
CHN4				*e*S		Sn	03 12 11.7	+1.8
	baz=239							
RLNB	Erlin	1.95	258	*e*S		Sn	03 12 10.3	+0.5
	baz=256							
TWGBT	Beinan	1.96	220	P		Pn	03 11 44.9	-1.5
	baz=225							
TWGBT				S		Sn	03 12 08.4	-1.6
	baz=225							
TWG	Pinlang	1.96	220	*e*P		Pn	03 11 46.1	-0.3
	baz=225							
TWG				*e*S		Sn	03 12 08.7	-1.3
	baz=225							
JTJ	Tarama	2.08	81	P		Pn	03 11 47.9	-0.2
JTJ				*e*S		Sn	03 12 13.3	+0.4
TWK	Hsinying	2.08	240	S		Sn	03 12 14.8	+1.8
	baz=238							
CHN1	Nanshi	2.09	237	*e*P		Pn	03 11 49.1	+0.8
	baz=236							
CHN1				*e*S		Sn	03 12 14.2	+1.0
	baz=236							
SNST	Tainan City	2.10	239	*e*S		Sn	03 12 14.5	+1.2
	baz=237							
SLGT	Liugui	2.12	232	P		Pn	03 11 50.0	+1.4
	baz=238							
SLGT				S		Sn	03 12 15.1	+1.3
	baz=238							
SSD	Sandimen	2.29	227	*e*P		Pn	03 11 51.5	+0.5
	baz=226							
SSD				*e*S		Sn	03 12 19.1	+1.0
	baz=226							
MASBT	Mashibuluo	2.38	225	*e*P		Pn	03 11 53.5	+1.2
	baz=223							
MASBT				*e*S		Sn	03 12 21.6	+1.3
	baz=223							

MEX 06 03:30:08.3±0.7, 16°.60N×93°.89W, h159km±9km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
CMIG	Matias Romero	1.07	297	*i* P		Pn	03 30 33.4	-1.1
CMIG				*i* S		Sn	03 30 52.6	-2.1
PCIG		1.10	144	*i* P		Pn	03 30 33.7	-1.1
PCIG				*e*S		Sn	03 30 53.0	-2.1
TUIG	Tuzandepetl	1.51	340	*i* P		Pn	03 30 34.9	-3.7
TUIG				*i* S		Sn	03 30 57.4	-4.7
CCIG	Comitan	1.71	100	*i* P		Pn	03 30 39.2	-1.8
CCIG				*i* S		Sn	03 31 03.8	-2.3
HUIG	Huatulco	2.29	249	*i* P		Pn	03 30 45.3	-2.0
HUIG				*i* S		Sn	03 31 16.4	-1.1

*IDC **06** 03:31:07.0±0.6, 51°.94N×170°.67E, h0km, mb4.3/26, mb1 4.5/29, mb1mx4.3/41, mbtmp4.3/29, ML5.0/2, MS3.3/12, Ms1 3.3/12, ms1mx3.0/55, Error ellipse: s-maj=17.2km s-min=10.4km az=173.0*
*ISCJB **06** 03:31:07.1±0.2, 51°.87N±0°.04×170°.63E±0°.02, h14km, mb4.6/179, MS3.3/12, Error ellipse: s-maj=6.4km s-min=2.1km az=179.1*
*BJI **06** 03:31:07.0, 51°.80N×170°.60E, h15km, mb4.8/22, mB4.9/11, Ms4.3/5, Ms7 4.1/2*
*NEIC **06** 03:31:09.6±2.1, 51°.98N×170°.62E, h13km±12km, mb4.7/134, Error ellipse: s-maj=6.7km s-min=2.6km az=175.0*
*MOS **06** 03:31:11.4±1.4, 51°.96N×170°.43E, h40km, mb4.8/40, Error ellipse: s-maj=6.3km s-min=4.5km az=127.7*
*KRSC **06** 03:31:13.4±10.0, 52°.01N×169°.78E, h40km±10km, ML4.8*
ISC 06 03:31:11.6±1.3, 51°.92N±0°.08×170°.50E±0°.04, h30km±8km, n624, σ1°.45/652, mb4.7/190, MS3.3/13, 24C-8D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
SMY	Shemya	2.35	69	*e*Pn		Pn	03 31 44.6	-3.5
SMY				*e*Sn		Sn	03 32 09.6	-6.4
SMY	Shemya	2.35	69	*e*P		Pn	03 31 44.6	-3.5
SMY				*e*			03 32 09.6	
KBTR	Krutoberegovo	6.23	317	*e*P		Pn	03 32 41.6	+0.2
KBTR				*e*S		Sn	03 33 48.4	-3.1
KBTR	Krutoberegovo	6.23	317	P		Pn	03 32 41.6	+0.2
KBTR				S		Sn	03 33 48.4	-3.1
SPN	Mys Shipunski	6.50	285	*e*P		Pn	03 32 44.7	-0.4
SPN				*e*S		Sn	03 33 52.9	-5.3
SPN	Mys Shipunski	6.50	285	P		Pn	03 32 44.7	-0.4
SPN				S		Sn	03 33 52.9	-5.3
TUMD	Tumrok D	6.85	303	*e*P		Pn	03 32 49.5	-0.4
TUMD				*e*S		Sn	03 34 01.3	-5.6
KZV	Kizimen	6.87	302	*e*P		Pn	03 32 49.6	-0.7
KZV	Kizimen	6.87	302	P		Pn	03 32 49.6	-0.7
NLC	Nalytchevo	6.92	285	*e*P		Pn	03 32 50.7	-0.1
NLC	Nalytchevo	6.92	285	P		Pn	03 32 50.7	-0.1
KII	Karymskiy	7.00	292	*e*P		Pn	03 32 51.6	-0.4
KII				*e*S		Sn	03 34 05.7	-4.8
KII	Karymskiy	7.00	292	P		Pn	03 32 51.6	-0.4
KII				S		Sn	03 34 05.7	-4.8
TUMR	Tumrok	7.02	303	P		Pn	03 32 49.5	-2.8
ZLN	Zelenaya	7.03	309	*e*P		Pn	03 32 53.1	+0.6
ZLN	Zelenaya	7.03	309	P		Pn	03 32 53.1	+0.6
SMKR	Semkarok	7.05	315	*e*P		Pn	03 32 53.9	+1.2
SMKR	Semkarok	7.05	315	P		Pn	03 32 53.9	+1.2
SDLR	Sedlovina	7.20	285	*e*P		Pn	03 32 55.1	+0.2
SDLR	Sedlovina	7.20	285	P		Pn	03 32 55.1	+0.2
SRKR	Sorokina	7.23	315	*e*P		Pn	03 32 56.9	+1.8
SRKR	Sorokina	7.23	315	P		Pn	03 32 56.9	+1.8
UGLR	Uglovaya	7.23	285	*e*P		Pn	03 32 55.7	+0.5
UGLR	Uglovaya	7.23	285	P		Pn	03 32 55.7	+0.5
SMAR	Somma	7.25	285	*e*P		Pn	03 32 56.1	+0.5
SMAR	Somma	7.25	285	P		Pn	03 32 56.1	+0.5
KRER	Koryakskii	7.29	286	*e*P		Pn	03 32 56.5	+0.4
KRER				*e*S		Sn	03 34 13.9	-3.9
KRER	Koryakskii	7.29	286	P		Pn	03 32 56.5	+0.4
KRER				S		Sn	03 34 13.9	-3.9
AVH	Avacha	7.29	285	*e*P		Pn	03 32 56.5	+0.5
AVH	Avacha	7.29	285	P		Pn	03 32 56.5	+0.5
PET	Petropavlovsk	7.32	283	*e*P		Pn	03 32 57.7	+1.4
PET	Petropavlovsk	7.32	283	*e*P		Pn	03 32 56.4	+0.1
PET				*e*S		Sn	03 34 13.0	-5.3
PET				pmax		pmax		
	comp=Z,100nm,0.4s							
PET				MLR		MLR		
	comp=Z,100nm,13.0s							
KRX	Arik	7.35	286	*e*P		Pn	03 32 56.9	0.0
KRX	Arik	7.35	286	P		Pn	03 32 56.9	0.0
KOK	Koryaka	7.35	285	*e*P		Pn	03 32 57.2	+0.3
KOK	Koryaka	7.35	285	P		Pn	03 32 57.2	+0.3
RUS	Russkaya	7.39	279	*e*P		Pn	03 32 56.7	-0.6
RUS				*e*S		Sn	03 34 13.9	-6.1
RUS	Russkaya	7.39	279	P		Pn	03 32 56.7	-0.6
RUS				S		Sn	03 34 13.9	-6.1
MTVR	Mutnovka	7.59	279	*e*P		Pn	03 33 00.3	+0.1
MTVR	Mutnovka	7.59	279	P		Pn	03 33 00.3	+0.1
KRMR	Karymshinskiy	7.63	282	*e*P		Pn	03 33 01.3	+0.8
KRMR				*e*S		Sn	03 34 21.1	-4.7
KRMR	Karymshinskiy	7.63	282	P		Pn	03 33 01.3	+0.8
KRMR				S		Sn	03 34 21.1	-4.7
KDTR	Khodutka, Kamc	7.69	274	*e*P		Pn	03 33 00.7	-0.7
KDTR				*e*S		Sn	03 34 21.0	-6.5
KDTR	Khodutka, Kamc	7.69	274	P		Pn	03 33 00.7	-0.7
KDTR				S		Sn	03 34 21.0	-6.5
GNL	Ganaly	7.81	288	*e*P		Pn	03 33 04.0	+0.8
GNL	Ganaly	7.81	288	P		Pn	03 33 04.0	+0.8
PEA0B	Petropavlovsk-	7.90	284	*e*Pn		Pn	03 33 05.9	+1.6
PEA0B				*e*Sn		Sn	03 34 27.8	-4.8
PEA0B	Petropavlovsk-	7.90	284	*e*P		Pn	03 33 05.9	+1.6
PEA0B				*e*S		Sn	03 34 27.8	-4.8
PETK	Petropavlovsk-	7.90	284	*e*Pn		Pn	03 33 05.2	+0.9
PETK				*e*Sn		Sn	03 34 25.8	-6.8
PETK	Petropavlovsk-	7.90	284	Pn		Pn	03 33 05.1	+0.8
	comp=Z,11nm,0.3s,baz=100,slow=18,SNR=118							
PETK				Sn		Sn	03 34 27.9	-4.7
	comp=Z,1.9nm,0.3s,baz=79,slow=38,SNR=3.2							
PETK				LR		LR	03 36 14.5	
	comp=Z,32nm,19.0s,baz=93,slow=38							
PEA1	Petropavlovsk-	7.90	284	*e*Pn		Pn	03 33 05.1	+0.8
PEA1				*e*Sn		Sn	03 34 27.9	-4.7
APC	Apacha	8.22	282	*e*P		Pn	03 33 09.6	+1.0
APC				*e*S		Sn	03 34 36.8	-3.6
APC	Apacha	8.22	282	P		Pn	03 33 09.6	+1.0
APC				S		Sn	03 34 36.8	-3.6
ALID	Alaid	9.41	269	*e*P		Pn	03 33 25.4	+0.3
ALID	Alaid	9.41	269	P		Pn	03 33 25.4	+0.3
MA2	Magadan	13.46	312	*ce*P		Pn	03 34 21.5	+1.3
MA2				pmax		pmax		
	comp=Z,6.0nm,1.3s							
MA2	Magadan	13.46	312	Pn		Pn	03 34 21.3	+1.1
	comp=Z,1.9nm,0.3s,baz=54,slow=8.7,SNR=3.1							
SEY	Seymchan	14.66	326	*ce*P		Pn	03 34 38.4	+1.8
SEY	Seymchan	14.66	326	Pn		Pn	03 34 36.7	+0.1
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=4.9							
GAMB	Gambell	15.12	31	*e*Pn		P	03 34 48.9	+1.4
	comp=Z,20nm,1.1s							
BILL	Bilibino	16.30	354	*e*Pn		Pn	03 34 58.8	+0.8
	comp=Z,18nm,1.1s							
BILL	Bilibino	16.30	354	*ce*P		Pn	03 34 58.6	+0.7
BILL				pmax		pmax		
	comp=Z,22nm,1.3s							
NKL	Nikolayevsk	18.12	286	*e*P		P	03 35 23.5	+2.6
CHGN	Chignik	18.65	64	*e*P		P	03 35 24.5	-2.1
	comp=Z,88nm,1.4s							
YSS	Yuzh-Sakhalins	18.65	266	*e*P		Pn	03 35 27.8	+0.5
YSS				pmax		pmax		
	comp=Z,10.0nm,1.1s							
YSS				MLR		MLR		
	comp=Z,100nm,12.0s							
ASAJ	Asahikawa	20.14	258	P		P	03 35 43.7	+0.7
	comp=Z,13nm,1.0s,baz=180,slow=2.0,SNR=3.8							
ASAJ				LR		LR	03 45 22.3	
	comp=Z,56nm,18.5s,baz=160,slow=42							
SVW2	Sparrevohn	20.62	50	*e*P		P	03 35 48.0	-0.2
	comp=Z,13nm,1.1s							
OHAK	Old Harbor	21.47	61	*e*P		P	03 35 54.8	-2.4
	comp=Z,43nm,0.9s							
KDAK	Kodiak Island	21.84	60	*e*P		P	03 35 59.2	-2.0
	comp=Z,48nm,1.2s							
KDAK	Kodiak Island	21.84	60	*e*P		P	03 35 59.2	-2.0
KDAK				pmax		pmax		
	comp=Z,48nm,1.2s							
KDAK	Kodiak Island	21.84	60	P		P	03 35 59.2	-2.0
	comp

comp=Z,18nm,0.7s
MLY Manley 23.67 41 *e*P **P 03 36 19.5 -0.7**
comp=Z,11nm,1.0s
PMR Palmer 23.77 50 *e*P **P 03 36 20.0 -1.1**
comp=Z,4.7nm,0.6s
PMR Palmer 23.77 50 *e*P **P 03 36 20.0 -1.1**
PMR pmax pmax
comp=Z,5.0nm,0.6s
GHO Glory Hole Cre 23.88 50 *e*P **P 03 36 21.4 -0.9**
comp=Z,7.4nm,0.6s
BWN Browne 24.00 44 *e*P **P 03 36 23.6 +0.3**
comp=Z,103nm,1.0s
KNK Knik Glacier 24.07 51 *e*P **P 03 36 22.2 -1.7**
comp=Z,43nm,1.4s
RND Reindeer 24.13 46 *e*P **P 03 36 23.5 -1.1**
comp=Z,8.3nm,0.6s
MCK McKinley 24.15 45 *e*P **P 03 36 23.3 -1.4**
comp=Z,24nm,1.0s
MCK McKinley 24.15 45 *e*P **P 03 36 23.3 -1.4**
MCK pmax pmax
comp=Z,24nm,1.0s
SML Sawmill 24.17 50 *e*P **P 03 36 23.6 -1.3**
comp=Z,19nm,0.8s
SML Sawmill 24.17 50 *e*P **P 03 36 23.6 -1.3**
SML pmax pmax
comp=Z,19nm,0.8s
COLD Coldfoot 24.52 36 *e*P **P 03 36 28.1 +0.1**
comp=Z,4.7nm,1.1s
KLR Kul'dur 24.56 279 *i*P **P 03 36 29.5 +1.0**
KLR Kul'dur 24.56 279 P **P 03 36 29.9 +1.4**
comp=Z,2.1nm,0.7s,baz=66,slow=6.7,SNR=6.9
KLR LR LR 03 46 50.7
comp=Z,54nm,18.3s,baz=22,slow=38
SCM Sheep Creek Mo 24.64 50 *e*P **P 03 36 28.4 -0.8**
comp=Z,44nm,1.0s
SCM Sheep Creek Mo 24.64 50 *e*P **P 03 36 28.4 -0.8**
SCM pmax pmax
comp=Z,44nm,1.0s
WRH Wood River Hil 24.65 43 *e*P **P 03 36 28.1 -1.1**
comp=Z,19nm,0.8s
MDM Murphy Dome 24.69 42 *e*P **P 03 36 28.8 -0.7**
comp=Z,30nm,1.0s
DHY Denali Highway 24.75 47 *e*P **P 03 36 28.8 -1.5**
comp=Z,8.3nm,0.9s
CCB Clear Creek Bu 24.80 43 *e*P **P 03 36 29.5 -1.1**
comp=Z,15nm,0.8s
TCOL CIGO, UAF Yank 24.82 43 P **P 03 36 30.0 -0.7**
baz=258,SNR=9.4
COLA College 24.83 43 *e*P **P 03 36 30.7 0.0**
comp=Z,56nm,0.8s
COLA College 24.83 43 *e*P **P 03 36 30.7 0.0**
COLA pmax pmax
comp=Z,56nm,0.8s
POKR Poker Plat Res 25.05 42 P **P 03 36 32.0 -0.8**
baz=258,SNR=19
HDA Harding Lake 25.13 44 *e*P **P 03 36 32.3 -1.2**
comp=Z,12nm,0.8s
HDA Harding Lake 25.13 44 P **P 03 36 32.3 -1.2**
baz=260,SNR=13
ILAR Eielson Array 25.21 43 P **P 03 36 32.6 -1.6**
comp=Z,10nm,0.6s,baz=247,slow=7.5,SNR=228
ILAR PcP **PcP 03 40 05.9 -1.0**
comp=Z,0.5nm,0.8s,baz=272,slow=3.6,SNR=4.8
ILAR LR LR 03 47 50.9
comp=Z,84nm,18.3s,baz=289,slow=40
ILB Eielson Array 25.21 43 *e*P **P 03 36 32.6 -1.6**
comp=Z,14nm,0.8s
ILB *e*PcP **PcP 03 40 05.9 -1.0**
IL1 Eielson Array 25.21 43 *e*P **P 03 36 32.0 -2.3**
TOLK Toolik Lake Re 25.24 33 *e*P **P 03 36 34.4 -0.2**
comp=Z,31nm,0.8s
TOLK Toolik Lake Re 25.24 33 P **P 03 36 34.0 -0.5**
baz=249,SNR=22
KLU Klutina 25.29 51 *e*P **P 03 36 34.3 -0.9**
comp=Z,14nm,0.7s
DIV Divide 25.35 52 *e*P **P 03 36 35.9 +0.3**
comp=Z,14nm,1.0s
EYAK Cordova Ski Ar 25.36 53 *e*P **P 03 36 34.5 -1.1**
comp=Z,26nm,1.0s
PAX Paxson 25.60 47 *e*P **P 03 36 36.9 -1.0**
comp=Z,13nm,0.8s
PAX Paxson 25.60 47 *e*P **P 03 36 36.9 -1.0**
PAX pmax pmax
comp=Z,13nm,0.8s
HARP HAARP 25.70 49 *e*P **P 03 36 39.5 +0.7**
comp=Z,13nm,0.8s
PRP Porcupine Dome 25.91 41 *e*P **P 03 36 39.1 -1.7**
comp=Z,9.8nm,0.7s
RIDG Independ'e Rid 25.95 46 *e*P **P 03 36 39.9 -1.2**
comp=Z,22nm,0.7s
HMT Hamilton 26.10 53 *e*P **P 03 36 43.5 +1.1**
comp=Z,44nm,0.9s
FYU Fort Yukon 26.23 39 *e*P **P 03 36 43.4 0.0**
comp=Z,26nm,0.7s
DOT Dot Lake 26.29 46 *e*P **P 03 36 42.5 -1.6**
comp=Z,14nm,0.7s
SCRK Sand Creek 26.36 45 *e*P **P 03 36 42.9 -1.8**
comp=Z,27nm,0.6s
MENT Mentasta 26.39 48 *e*P **P 03 36 44.8 -0.2**
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 26.61 269 LR LR 03 46 33.6
comp=Z,48nm,20.5s,baz=51,slow=35
TIXI Tiksi 26.95 332 *e*P **P 03 36 50.6 +0.7**
TIXI Tiksi 26.95 332 *ce*P **P 03 36 50.2 +0.3**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 26.95 332 P **P 03 36 50.3 +0.4**
comp=Z,9.2nm,1.0s,baz=110,slow=11,SNR=19
EGAK Eagle 27.65 44 *e*P **P 03 36 54.9 -1.3**
comp=Z,19nm,0.8s
DAWY Dawson 28.38 45 *e*P **P 03 37 02.6 -0.3**
comp=Z,9.5nm,0.8s
HYT Haines Junctio 29.39 52 *e*P **P 03 37 12.1 +0.1**
comp=Z,7.2nm,0.7s
EPYK Eagle Plains 29.59 41 *e*P **P 03 37 13.3 -0.3**
comp=Z,12nm,0.6s
EPYK Eagle Plains 29.59 41 P **P 03 37 13.0 -0.6**
baz=267,SNR=9.2
INK Inuvik 30.94 37 *e*P **P 03 37 25.2 -0.2**
comp=Z,6.0nm,0.7s
INK Inuvik 30.94 37 *e*P **P 03 37 25.2 -0.2**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 30.94 37 P **P 03 37 25.1 -0.2**
comp=Z,5.3nm,0.6s,baz=270,slow=7.8,SNR=42
JIS Juneau Island 31.38 56 *e*P **P 03 37 29.6 +0.3**
comp=Z,10nm,0.7s
H11N2 WAKE ISLAND Hy 32.25 186 T T 04 11 24.4
baz=4.5,slow=76,SNR=30
H11N3 WAKE ISLAND Hy 32.26 186 T T 04 11 24.7
baz=4.5,slow=76,SNR=26
H11N1 WAKE ISLAND Hy 32.27 186 T T 04 11 22.8
baz=4.5,slow=76,SNR=26
KSRS Korea Array 33.03 261 P **P 03 37 47.0 +3.0**
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS MLR MLR
comp=Z,32nm,18.7s
KSRS Korea Array 33.03 261 P **P 03 37 47.0 +3.0**
comp=Z,2.6nm,1.0s,baz=52,slow=8.3,SNR=4.9
KSRS LR LR 03 51 41.1
comp=Z,32nm,18.7s,baz=58,slow=37
KS15 Wonju Array Si 33.06 261 *e*P **P 03 37 47.0 +2.7**
comp=Z,11nm,1.1s
KSAR Wonju Array Be 33.06 261 P **P 03 37 47.0 +2.7**
KSAR Wonju Array Be 33.06 261 P **P 03 37 47.0 +2.7**
H11S1 WAKE ISLAND Hy 33.48 187 T T 04 12 59.2
baz=4.4,slow=76,SNR=30
H11S3 WAKE ISLAND Hy 33.49 187 T T 04 12 55.6
baz=4.4,slow=76,SNR=23
H11S2 WAKE ISLAND Hy 33.49 187 T T 04 13 00.2
baz=4.4,slow=76,SNR=27
DLBC Dease Lake 33.57 55 *e*P **P 03 37 50.0 +1.4**
comp=Z,5.5nm,0.8s
JNU Nakatsue 34.17 252 LR LR 03 51 19.4
comp=Z,54nm,19.5s,baz=20,slow=35
YKW3 Yellowknife Ar 39.59 45 *e*P **P 03 38 39.5 -0.2**
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 39.62 45 P **P 03 38 39.7 -0.2**
comp=Z,2.1nm,0.6s,baz=292,slow=7.9,SNR=42
YKA PcP **PcP 03 40 46.2 -0.1**
comp=Z,0.7nm,0.7s,baz=296,slow=3.4,SNR=6.2
YKB5 Yellowknife Ar 39.62 45 *e*P **P 03 38 39.0 -0.9**
YKB5 *e*PcP **PcP 03 40 46.2 -0.1**
ULN Ulaanbaatar 39.92 290 *ce*P **P 03 38 42.9 0.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s

TLY Talaya 40.01 297 *e*P **P 03 38 44.7 +1.4**
TLY pmax pmax
comp=Z,7.0nm,1.1s
SONA0 Songino Array 40.32 290 *e*P **P 03 38 47.4 +1.3**
SONA0 *e*PcP **PcP 03 40 49.0 -0.1**
SONM Songino Array 40.32 290 P **P 03 38 47.4 +1.3**
comp=Z,2.4nm,0.5s,baz=63,slow=7.7,SNR=24
SONM PcP **PcP 03 40 49.0 -0.1**
comp=Z,0.6nm,0.7s,baz=57,slow=5.5,SNR=4.4
SONM LR LR 03 57 03.1
comp=Z,44nm,18.3s,baz=128,slow=38
HHC Hu-ho-hao-te 41.06 278 *e*P **P 03 38 48.4 -3.9**
HHC S **S 03 44 57.2 -5.7**
HHC sS pS 03 45 08.3 -2.9
HHC pmax pmax
comp=Z,24nm,0.9s
D03D Eldon 41.81 69 P **P 03 38 57.7 -0.5**
baz=302
RES Resolute Bay 41.95 23 *e*P **P 03 38 59.2 +0.2**
comp=Z,4.9nm,1.0s
RES Resolute Bay 41.95 23 *e*P **P 03 38 59.2 +0.2**
RES pmax pmax
comp=Z,5.0nm,1.0s
NJ2 Nanjing 42.18 263 *e*P **P 03 39 01.8 +0.4**
NJ2 pmax pmax
comp=Z,14nm,0.5s
E04D Cinebar 42.63 70 P **P 03 39 04.7 -0.3**
baz=303
B08A Colville Reser 43.52 66 *e*P **P 03 39 11.6 -0.6**
comp=Z,4.8nm,0.9s
I04A Tendick Farm, 44.27 73 P **P 03 39 17.0 -1.3**
baz=305
HAWA Hanford 44.48 68 *e*P **P 03 39 19.7 -0.1**
comp=Z,6.6nm,1.0s
NEW Newport 44.81 65 P **P 03 39 21.8 -0.7**
baz=303
L04D Klamath Falls 45.26 75 P **P 03 39 25.4 -0.8**
baz=307
J05D Fort Rock, OR 45.26 73 P **P 03 39 26.1 -0.2**
baz=306
M02C Callahan 45.42 76 P **P 03 39 25.5 -2.0**
baz=307
N02D Trinity Center 45.76 76 P **P 03 39 29.3 -0.9**
baz=308
M04C Macdoel 45.80 75 P **P 03 39 30.0 -0.5**
baz=307
WALA Waterton Lakes 46.15 62 *e*P **P 03 39 32.6 -0.6**
comp=Z,9.9nm,0.8s
O02D Mt. Diablo Mer 46.20 77 P **P 03 39 31.7 -1.9**
baz=308
BMO Blue Mountains 46.64 69 *e*P **P 03 39 36.7 -0.4**
comp=Z,1.7nm,0.8s
BMO Blue Mountains 46.64 69 *e*P **P 03 39 36.7 -0.4**
BMO pmax pmax
comp=Z,2.0nm,0.8s
O03E Paynes Creek 46.72 76 P **P 03 39 34.9 -2.8**
baz=308
MSO Missoula 47.40 65 *e*P **P 03 39 42.3 -0.7**
comp=Z,4.3nm,0.9s
MSO Missoula 47.40 65 P **P 03 39 41.2 -1.8**
baz=306
ZAA1 Zalesovo Array 48.63 308 *e*P **P 03 39 52.7 +0.5**
ZAA1 *e*PcP **PcP 03 41 17.8 +0.6**
ZALV Zalesovo Beam 48.63 308 P **P 03 39 52.7 +0.5**
comp=Z,0.4nm,0.3s,baz=67,slow=5.5,SNR=2.2
ZALV PcP **PcP 03 41 17.8 +0.6**
comp=Z,0.9nm,0.5s,baz=7.1,slow=3.6,SNR=5.0
HRY Holter Researc 48.65 64 *e*P **P 03 39 52.3 -0.3**
LZH Lanzhou 48.76 278 *e*P **P 03 39 56.1 +2.5**
LZH pP pP 03 40 00.4 -0.8
LZH sP sP 03 40 03.2 -1.0
LZH pmax pmax
comp=Z,22nm,1.0s
EGMT Eagleton 49.01 61 *e*P **P 03 39 54.7 -0.6**
comp=Z,4.4nm,0.7s
EGMT Eagleton 49.01 61 P **P 03 39 54.2 -1.2**
baz=306
GTA Gaotai 49.07 285 *e*P **P 03 39 57.3 +1.4**
GTA pP sP 03 40 07.3 +0.8
GTA sP pwP 03 40 11.1 +1.7
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,74nm,6.4s
GTA LR LR
comp=Z,130nm,18.7s
GTA LR LR
comp=Z,140nm,18.4s
GTA LR LR
comp=Z,110nm,19.0s
FFC Flin Flon 49.08 50 *i*P **P 03 39 56.0 +0.4**
HLID Hailey 49.08 68 *e*P **P 03 39 55.4 -0.7**
comp=Z,3.9nm,1.2s
HLID Hailey 49.08 68 P **P 03 39 54.5 -1.5**
baz=308
BMN Battle Mountai 49.38 73 *e*P **P 03 39 58.4 +0.1**
comp=Z,4.2nm,0.8s
BOZ Bozeman (W) 49.42 65 *e*P **P 03 39 57.8 -0.8**
comp=Z,4.9nm,0.8s
BOZ Bozeman (W) 49.42 65 *e*P **P 03 39 57.8 -0.8**
BOZ pmax pmax
comp=Z,5.0nm,0.8s
BOZ Bozeman (W) 49.42 65 P **P 03 39 57.7 -1.0**
baz=307,SNR=6.3
NV01 Mina Array Sit 50.00 76 *e*P **P 03 40 03.1 -0.1**
NVAR Mina Array Bea 50.00 76 P **P 03 40 02.7 -0.5**
comp=Z,2.1nm,0.8s,baz=292,slow=7.9,SNR=9.6
NVAR LR LR 03 58 15.8
comp=Z,75nm,18.0s,baz=272,slow=33
YHB Horse Butte 50.18 65 *e*P **P 03 40 03.8 -0.7**
comp=Z,7.8nm,0.8s
FCC Fort Churchill 50.23 42 *e*P **P 03 40 04.4 +0.1**
comp=Z,13nm,1.4s
FCC Fort Churchill 50.23 42 *e*P **P 03 40 04.4 +0.1**
FCC pmax pmax
comp=Z,13nm,1.4s
ELK Elko 50.35 72 *e*P **P 03 40 05.7 -0.1**
comp=Z,4.1nm,1.0s
ELK Elko 50.35 72 *e*P **P 03 40 05.7 -0.1**
ELK pmax pmax
comp=Z,4.0nm,1.0s
YHH Holmes Hill 50.35 65 *e*P **P 03 40 05.6 -0.3**
comp=Z,5.9nm,1.2s
YMR Madison River 50.36 65 *e*P **P 03 40 05.8 -0.1**
comp=Z,6.6nm,1.1s
YFT Old Faithful 50.57 65 *e*P **P 03 40 08.7 +1.3**
comp=Z,5.4nm,0.7s
LKWY Lake 50.74 65 *e*P **P 03 40 09.9 +1.1**
comp=Z,2.0nm,0.7s
LKWY Lake 50.74 65 *e*P **P 03 40 09.9 +1.1**
LKWY pmax pmax
comp=Z,2.0nm,0.7s
H17A Grant Village 50.75 65 *e*P **P 03 40 10.1 +1.2**
comp=Z,4.4nm,0.9s
H17A Grant Village 50.75 65 P **P 03 40 08.8 0.0**
baz=308
IMW Indian Meadow 50.86 66 *e*P **P 03 40 09.8 +0.2**
comp=Z,8.4nm,1.3s
FLWY Flagg Ranch 50.88 66 *e*P **P 03 40 10.2 +0.5**
comp=Z,6.0nm,0.8s
RLMT Red Lodge 51.03 64 *e*P **P 03 40 10.8 0.0**
comp=Z,7.6nm,1.1s
RLMT Red Lodge 51.03 64 P **P 03 40 10.6 -0.3**
baz=308
HVU Hansel Valley 51.13 69 *e*P **P 03 40 11.7 +0.1**
comp=Z,2.9nm,0.7s
HVU Hansel Valley 51.13 69 *e*P **P 03 40 11.7 +0.1**
HVU pmax pmax
comp=Z,3.0nm,0.7s
VES Vestal, Richgr 51.22 79 P **P 03 40 11.2 -0.9**
baz=312
R11A Troy Canyon, C 51.68 74 *e*P **P 03 40 15.5 -0.3**
comp=Z,4.3nm,0.9s
R11A Troy Canyon, C 51.68 74 P **P 03 40 15.2 -0.6**
baz=311,SNR=5.1
ISA Isabella, Lake 51.71 79 P **P 03 40 14.2 -1.7**
baz=312
LAO LASA Array 51.73 61 P **P 03 40 15.6 -0.2**
baz=308
MPMC Manual Prospec 52.04 78 P **P 03 40 18.3 -0.3**
baz=312
DUG Dugway, Tooele 52.12 71 *e*P **P 03 40 19.3 +0.3**
comp=Z,5.5nm,0.9s
DUG Dugway, Tooele 52.12 71 *e*P **P 03 40 19.3 +0.3**
DUG pmax pmax
comp=Z,6.0nm,0.9s
DUG Dugway, Tooele 52.12 71 P **P 03 40 19.1 +0.1**
baz=310,SNR=5.7
TPNV Topopah Spring 52.20 76 *e*P **P 03 40 20.1 +0.5**
comp=Z,7.1nm,0.9s
TPNV Topopah Spring 52.20 76 *e*P **P 03 40 20.1 +0.5**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
BW06 Boulder Array 52.35 66 *e*P **P 03 40 20.6 -0.2**
comp=Z,5.3nm,0.9s
BW06 Boulder Array 52.35 66 P **P 03 40 20.2 -0.5**
baz=310,SNR=7.2
PD31 Pinedale Array 52.35 66 *e*P **P 03 40 20.6 -0.3**
comp=Z,5.4nm,1.0s
PDAR Pinedale Array 52.35 66 *e*P **P 03 40 20.0 -0.8**
PDAR Pinedale Array 52.35 66 P **P 03 40 20.4 -0.3**
comp=Z,3.4nm,0.8s,baz=295,slow=3.5,SNR=29
JLU Jordanelle 52.66 70 *e*P **P 03 40 23.6 +0.6**
comp=Z,3.4nm,1.0s
GSC Goldstone, Bar 52.96 78 P **P 03 40 24.5 -0.7**
baz=312
WMQ Urumqi 53.28 296 P **P 03 40 28.7 +1.3**
WMQ pP pP 03 40 33.1 -2.0
WMQ sP sP 03 40 36.2 -1.9
WMQ PP **PP 03 42 32.9 +5.5**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ LR LR
comp=Z,110nm,25.9s
WMQ LR LR
comp=Z,72nm,19.7s
KURK Kurchatov 53.62 308 *e*P **P 03 40 29.5 -0.1**
comp=Z,7.4nm,0.9s
KURK Kurchatov 53.62 308 *e*P **P 03 40 29.5 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.9s
TMUT Trail Mountain 53.65 71 *e*P **P 03 40 30.9 +0.4**
comp=Z,6.4nm,0.8s
Q16A Castle Valley 53.92 71 *e*P **P 03 40 33.2 +0.9**
comp=Z,4.2nm,0.9s
LCMT Little Creek M 53.96 74 *e*P **P 03 40 32.0 -0.6**
comp=Z,5.0nm,1.1s
SRU San Rafael Swe 54.17 70 *e*P **P 03 40 34.7 +0.6**
comp=Z,7.9nm,0.8s
MK31 Makanchi Array 54.28 302 *e*P **P 03 40 34.1 -0.5**
MK31 Makanchi Array 54.28 302 *e*P **P 03 40 34.1 -0.5**
MK32 Makanchi Array 54.28 302 *e*P **P 03 40 34.2 -0.4**
MKAR Makanchi Array 54.28 302 P **P 03 40 34.2 -0.4**
comp=Z,0.9nm,0.5s,baz=54,slow=6.0,SNR=13
MK01 Makanchi Array 54.29 302 *e*P **P 03 40 34.0 -0.7**
MAKZ Makanchi 54.44 302 *e*P **P 03 40 35.4 -0.4**
comp=Z,4.3nm,1.1s
MAKZ Makanchi 54.44 302 *e*P **P 03 40 35.4 -0.4**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
RSSD Black Hills 54.55 62 P **P 03 40 36.0 -0.9**
baz=311
ULM Lac du Bonnet 54.77 52 P **P 03 40 36.5 -1.6**
comp=Z,4.4nm,0.9s,baz=323,slow=8.5,SNR=7.1
O20A White River Ci 54.81 68 *e*P **P 03 40 38.6 -0.2**
comp=Z,3.9nm,0.8s
O20A White River Ci 54.81 68 P **P 03 40 38.4 -0.4**
baz=312,SNR=5.1
U15A North Rim 54.92 74 *e*P **P 03 40 40.2 +0.5**
comp=Z,3.3nm,0.8s
PV09 Paradox Valley 55.39 70 *e*P **P 03 40 43.7 +0.6**
PV04 Paradox Valley 55.59 70 *e*P **P 03 40 44.7 +0.3**
comp=Z,18nm,1.4s
N23A Red Feather La 55.62 66 P **P 03 40 43.8 -0.9**
baz=312
PV17 East Wray Mesa 55.63 70 *e*P **P 03 40 45.0 +0.2**
comp=Z,9.7nm,0.7s
PV16 Nyswonger Mesa 55.64 70 *e*P **P 03 40 44.9 +0.1**
comp=Z,7.0nm,0.9s
PV11 David Mesa, Pa 55.67 70 *e*P **P 03 40 45.2 +0.2**
comp=Z,7.7nm,0.7s
PV12 Saucer Basin, 55.70 70 *e*P **P 03 40 45.6 +0.4**
comp=Z,7.2nm,0.8s
PV03 Paradox Valley 55.72 70 *e*P **P 03 40 45.5 +0.1**
comp=Z,6.1nm,0.8s
PV13 Radium Mtn., P 55.80 70 *e*P **P 03 40 45.9 -0.1**
comp=Z,17nm,0.8s
PV02 Paradox Valley 55.81 70 *e*P **P 03 40 46.2 +0.2**
comp=Z,7.8nm,0.8s
PV15 Paradox Valley 55.87 70 *e*P **P 03 40 46.8 +0.3**
comp=Z,8.1nm,0.9s
PV01 Paradox Valley 55.96 70 *e*P **P 03 40 44.1 -3.0**
comp=Z,4.7nm,0.8s
BRVK Borovoye 55.96 314 *e*P **P 03 40 46.9 +0.3**
comp=Z,5.4nm,0.9s
BRVK Borovoye 55.96 314 *ce*P **P 03 40 47.1 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.7s
AGMN Agassiz Nation 56.07 53 *e*P **P 03 40 47.3 -0.2**
comp=Z,6.6nm,0.8s
AGMN Agassiz Nation 56.07 53 P **P 03 40 46.9 -0.6**
baz=312
WUAZ Wupatki 56.08 74 P **P 03 40 48.1 +0.2**
baz=313
ARA0 ARCESS Array S 56.18 346 *e*P **P 03 40 48.0 +0.1**
ARCES ARCESS Array B 56.18 346 P **P 03 40 48.0 +0.1**
comp=Z,6.0nm,0.9s,baz=27,slow=11,SNR=6.6
SMCO Snowmass 56.18 68 *e*P **P 03 40 49.2 +0.3**
comp=Z,2.6nm,0.7s
ISCO Idaho Springs 56.54 67 *e*P **P 03 40 52.0 +0.7**
comp=Z,6.2nm,0.8s
ISCO Idaho Springs 56.54 67 *e*P **P 03 40 52.0 +0.7**
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 56.54 67 P **P 03 40 51.9 +0.7**
baz=313,SNR=9.8
MVCO Mesa Verde 56.63 71 *e*P **P 03 40 52.6 +0.8**
comp=Z,5.5nm,0.8s
MVCO Mesa Verde 56.63 71 P **P 03 40 51.6 -0.3**
baz=313
X16A Lo Mia Camp, P 56.79 75 *e*P **P 03 40 53.8 +0.7**
comp=Z,3.0nm,0.9s
S22A 4UR Ranch, Cre 57.23 69 *e*P **P 03 40 57.0 +0.8**
comp=Z,7.4nm,0.8s
S22A 4UR Ranch, Cre 57.23 69 P **P 03 40 57.1 +0.8**
baz=313,SNR=12
W18A Petrified Fore 57.33 73 P **P 03 40 57.0 +0.1**
baz=314
Q24A Divide 57.37 67 P **P 03 40 57.2 0.0**
baz=313
X18A Snowflake 57.61 74 *e*P **P 03 40 59.6 +0.9**
comp=Z,4.6nm,1.0s
214A Organ Pipe Nat 57.67 78 P **P 03 40 59.2 0.0**
baz=315
OGNE Ogallala 57.77 63 P **P 03 40 59.8 0.0**
baz=313
SDCO Great Sand Dun 58.00 68 *e*P **P 03 41 02.4 +0.7**
comp=Z,16nm,1.4s
SDCO Great Sand Dun 58.00 68 P **P 03 41 02.2 +0.6**
baz=314,SNR=8.8
EYMN Ely 58.45 51 *e*P **P 03 41 04.5 +0.2**
comp=Z,14nm,0.8s
EYMN Ely 58.45 51 P **P 03 41 03.8 -0.4**
baz=314
TMCR Tamitsa 58.49 338 *e*P **P 03 41 03.3 -1.0**
TMCR pmax pmax
comp=Z,23nm,0.9s
TUC Tucson 58.65 77 P **P 03 41 05.9 -0.1**
baz=315
ECSD EROS Data Cent 58.78 58 *e*P **P 03 41 05.7 -1.0**
comp=Z,8.9nm,1.0s
ECSD EROS Data Cent 58.78 58 P **P 03 41 05.8 -0.9**
baz=314,SNR=5.8
T25A Trinidad 59.05 68 *e*P **P 03 41 09.7 +0.8**
comp=Z,11nm,1.2s
T25A Trinidad 59.05 68 P **P 03 41 07.4 -1.5**
baz=314
E38A The Farm, Brul 59.36 53 P **P 03 41 09.4 -1.2**
baz=315
LAZ Ladon 59.36 72 *e*P **P 03 41 12.1 +1.1**
ANMO Albuquerque 59.38 71 *e*P **P 03 41 11.7 +0.6**
comp=Z,4.1nm,1.0s
ANMO Albuquerque 59.38 71 *ce*P **P 03 41 10.9 -0.3**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO Albuquerque 59.38 71 P **P 03 41 11.6 +0.4**
baz=315
F37A Hinrichs Farm, 59.44 54 P **P 03 41 10.8 -0.4**
baz=314
BGNE Belgrade 59.58 61 *e*P **P 03 41 12.2 0.0**
comp=Z,27nm,0.9s
BGNE Belgrade 59.58 61 P **P 03 41 11.9 -0.4**
baz=314
LENM Lemitar 59.62 72 *e*P **P 03 41 14.5 +1.7**

F38A **Pierce - Schro** 59.65 53 P P 03 41 12.8 +0.2
baz=315
SPMN **Marine on St.** 59.70 54 eP P 03 41 13.2 +0.2
comp=Z,17nm,0.9s
SPMN **Marine on St.** 59.70 54 P P 03 41 12.8 -0.2
baz=315,SNR=5.9
E39A **Mellen** 60.01 52 P P 03 41 14.7 -0.4
baz=315
KDJ **Kajisay** 60.12 301 eP P 03 41 17.9 +1.7
comp=Z,5.8nm,0.9s
KDJ **Kajisay** 60.12 301 eP P 03 41 17.9 +1.7
KDJ pmax pmax
comp=Z,6.0nm,0.9s
F39A **Loretta** 60.16 53 P P 03 41 15.6 -0.5
baz=315
G38A **Ridgeland** 60.22 54 P P 03 41 16.0 -0.5
baz=315,SNR=5.9
E40A **Wakefield** 60.28 52 P P 03 41 16.3 -0.7
baz=315
H38A **Maiden Rock** 60.35 55 P P 03 41 17.3 -0.2
baz=315,SNR=5.1
G39A **Holcombe** 60.48 53 P P 03 41 17.7 -0.6
baz=315
CBKS **Cedar Bluff** 60.52 64 eP P 03 41 18.8 0.0
comp=Z,12nm,1.0s
CBKS **Cedar Bluff** 60.52 64 eP P 03 41 18.8 0.0
CBKS pmax pmax
comp=Z,12nm,1.0s
CBKS **Cedar Bluff** 60.52 64 P P 03 41 18.1 -0.7
baz=315
F40A **Park Falls** 60.55 52 P P 03 41 18.5 -0.3
baz=316
E41A **Kenton** 60.72 51 P P 03 41 19.0 -1.0
baz=316
H39A **Augusta** 60.85 54 P P 03 41 20.6 -0.3
baz=316
KLMR **Klimovskoe** 60.93 335 eP P 03 41 20.4 -0.7
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR **Klimovskoe** 60.93 335 eP P 03 41 20.5 -0.7
KLMR AMP 03 41 22.9
comp=Z,9.0nm,0.9s
G40A **Rib Lake** 60.97 53 P P 03 41 21.4 -0.3
baz=316
F41A **Three Lakes** 61.17 52 P P 03 41 22.6 -0.4
baz=316
AAK **Ala-Archa** 61.18 303 eP P 03 41 24.0 +0.7
comp=Z,3.9nm,0.9s
AAK **Ala-Archa** 61.18 303 eP P 03 41 24.0 +0.7
AAK pmax pmax
comp=Z,4.0nm,0.9s
I39A **Houston** 61.32 55 P P 03 41 23.0 -1.1
baz=316
H40A **Chili** 61.34 53 P P 03 41 23.5 -0.6
baz=316
G41A **Antigo** 61.51 52 P P 03 41 24.8 -0.5
baz=316
J39A **Decorah** 61.60 55 P P 03 41 25.3 -0.7
baz=316,SNR=7.0
H41A **Junction City** 61.71 53 P P 03 41 25.2 -1.4
baz=316
I40A **Norwalk** 61.75 54 P P 03 41 26.4 -0.5
baz=316
K39A **Oelwein** 61.96 56 P P 03 41 27.6 -0.7
baz=316
I41A **Arkdale** 62.01 54 P P 03 41 27.8 -0.8
baz=316
KSU1 **Kansas State U** 62.04 62 P P 03 41 28.0 -1.0
baz=316
J40A **Soldiers Grove** 62.05 55 P P 03 41 28.4 -0.5
baz=316
AMTX **Amarillo** 62.20 68 P P 03 41 30.1 -0.1
baz=316
MSTX **Muleshoe** 62.22 70 eP P 03 41 31.1 +0.6
comp=Z,7.2nm,1.0s
MSTX **Muleshoe** 62.22 70 P P 03 41 31.2 +0.8
baz=316
F44A **Big Bay de Noc** 62.29 50 P P 03 41 28.9 -1.6
baz=317
MNTX **Cornudas Mount** 62.31 73 eP P 03 41 31.2 +0.2
comp=Z,3.9nm,0.8s
MNTX **Cornudas Mount** 62.31 73 P P 03 41 31.4 +0.5
baz=316,SNR=5.7
L39A **Vinton** 62.32 56 P P 03 41 29.9 -0.8
baz=316
K40A **Colesburg** 62.35 55 P P 03 41 30.1 -0.8
baz=316
J41A **Loganville** 62.44 54 P P 03 41 30.5 -1.1
baz=317
I42A **Draeger Farm,** 62.60 53 P P 03 41 32.3 -0.4
baz=317
KSH **Kashi** 62.62 300 eP P 03 41 37.2 +4.2
KSH pP pP 03 41 41.6 +0.8
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,150nm,4.5s
JFWS **Jewell Farm** 62.64 55 P P 03 41 32.0 -1.0
baz=317
M39A **Webster** 62.70 57 P P 03 41 32.6 -0.7
baz=316
D46A **Sault St. Mari** 62.73 48 P P 03 41 31.8 -1.6
baz=318
L40A **Anamosa** 62.76 56 P P 03 41 32.4 -1.4
baz=316
K41A **Shullsburg** 62.84 55 P P 03 41 33.3 -1.0
baz=317
KK31 **Karatay Array** 62.87 306 eP P 03 41 34.8 +0.3
KK31 **Karatay Array** 62.87 306 eP P 03 41 34.8 +0.3
KKAR **Karatay Array** 62.87 306 eP P 03 41 34.8 +0.3
KKAR **Karatay Array** 62.87 306 eP P 03 41 34.8 +0.3
J42A **Columbus** 62.91 54 P P 03 41 33.7 -1.1
baz=317
F45A **CMU Biological** 62.94 50 P P 03 41 34.0 -0.8
baz=318
I43A **Langenfeld Bro** 62.99 53 P P 03 41 34.4 -0.8
baz=317
E46A **Sault Ste Mari** 63.00 49 P P 03 41 34.6 -0.6
baz=318
D47A **Chapleau** 63.04 47 P P 03 41 34.6 -1.0
baz=318
M40A **Post Highland** 63.09 57 P P 03 41 34.9 -1.0
baz=317
L41A **Preston** 63.13 56 P P 03 41 35.3 -0.8
baz=317
K42A **Prairie Point,** 63.20 54 P P 03 41 35.7 -0.9
baz=317
ABKAR **Akbulak array** 63.21 317 eP P 03 41 37.0 +0.4
F46A **Macinaw City C** 63.23 49 P P 03 41 36.5 -0.2
baz=318
MATQ **Matagami** 63.38 42 P P 03 41 36.2 -1.5
baz=320
E47A **Iron Bridge** 63.41 48 P P 03 41 36.6 -1.4
baz=318
N40A **Mertquake, Sal** 63.43 57 P P 03 41 37.3 -0.9
baz=317
SCHQ **Schefferville** 63.45 33 eP P 03 41 38.0 -0.1
comp=Z,12nm,0.8s
SCHQ **Schefferville** 63.45 33 P P 03 41 37.4 -0.7
comp=Z,9.3nm,0.7s,baz=327,slow=6.1,SNR=15
FIA0 **FINESS Array S** 63.48 342 eP P 03 41 38.3 +0.2
FIA0 **FINESS Array S** 63.48 342 eP P 03 41 38.3 +0.2
FINES **FINESS Array B** 63.48 342 iP P 03 41 38.7 +0.6
FINES pmax pmax
comp=Z,7.0nm,0.8s
FINES **FINESS Array B** 63.48 342 P P 03 41 38.3 +0.2
comp=Z,6.6nm,0.8s,baz=46,slow=8.2,SNR=15
G46A **Petoskey** 63.52 50 P P 03 41 38.3 -0.4
baz=318
L42A **Oliver, Polo** 63.60 55 P P 03 41 38.3 -1.0
baz=317
M41A **Milan** 63.61 56 P P 03 41 38.0 -1.4
baz=317
E48A **Lockeyer** 63.90 47 P P 03 41 40.2 -0.9
baz=319
H46A **Fife Lake** 63.93 50 P P 03 41 41.3 -0.1
baz=318
N41A **Harden Midland** 63.94 57 P P 03 41 40.8 -0.7
baz=317
WMOK **Wichita Mounta** 63.96 66 eP P 03 41 41.6 -0.2
comp=Z,6.1nm,0.9s
WMOK **Wichita Mounta** 63.96 66 eP P 03 41 41.6 -0.2
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 63.96 66 P P 03 41 41.6 -0.2
baz=317,SNR=5.8
GLMI **Grayling** 64.00 50 P P 03 41 41.4 -0.5
baz=318

LSQQ **Lebel-sur-Quev** 64.19 42 P P 03 41 42.2 -0.9
baz=321
CM31 **Chiang Mai Arr** 64.34 267 eP P 03 41 46.0 +1.6
comp=Z,6.0nm,0.4s
CMAR **Chiang Mai Arr** 64.34 267 P P 03 41 46.0 +1.6
comp=Z,1.2nm,0.3s,baz=24,slow=7.6,SNR=8.1
CMAR LR LR 04 12 16.3
comp=Z,28nm,18.0s,baz=182,slow=38
L44A **Lake County Fo** 64.36 54 P P 03 41 43.7 -0.6
baz=318
O41A **Passleys Farm,** 64.36 57 P P 03 41 43.4 -0.9
baz=317
M43A **Waltham Townsh** 64.38 55 P P 03 41 43.6 -0.8
baz=318
P41A **Barry, Barry** 64.59 58 P P 03 41 45.2 -0.6
baz=317
CHGQ **Chibougamau** 64.60 40 P P 03 41 44.4 -1.4
baz=322
HDIL **Hopedale** 64.86 56 eP P 03 41 47.3 -0.2
comp=Z,22nm,0.8s
I48A **Sherman Twp** 64.91 50 P P 03 41 47.8 0.0
baz=319
ABTX **Abilene, Hawle** 65.00 69 eP P 03 41 49.0 +0.3
comp=Z,15nm,1.1s
ABTX **Abilene, Hawle** 65.00 69 P P 03 41 48.7 0.0
baz=317
P42A **Winchester** 65.03 57 P P 03 41 47.7 -1.0
baz=318
Q41A **Truxton** 65.03 58 P P 03 41 47.7 -1.0
baz=318
K46A **Dorr** 65.03 52 P P 03 41 48.2 -0.5
baz=318
TX31 **Lajitas Ar. Si** 65.04 74 eP P 03 41 49.0 -0.1
TXAR **Lajitas Array** 65.04 74 P P 03 41 48.8 -0.2
comp=Z,2.3nm,0.7s,baz=310,slow=4.2,SNR=23
E51A **G1948 Merrick** 65.06 46 P P 03 41 47.4 -1.4
baz=320
TOBO **Tobermory, Bru** 65.14 48 P P 03 41 46.9 -2.4
baz=320
N44A **Piper City** 65.27 55 P P 03 41 48.9 -1.4
baz=318
JIRN **Jiri** 65.35 284 eP P 03 41 52.4 +1.0
comp=Z,28nm,0.8s
GUN **Gumba** 65.35 284 eP P 03 41 52.4 +1.0
comp=Z,34nm,0.9s
D53A **Lac Vacive, Po** 65.42 44 P P 03 41 49.8 -1.3
baz=321
R41A **Rosebud** 65.43 59 P P 03 41 50.4 -0.9
baz=318
N45A **Kentland** 65.55 55 P P 03 41 51.2 -0.8
baz=318
E52A **Mattawa** 65.62 45 P P 03 41 50.9 -1.5
baz=321
RAMN **Ramite** 65.62 283 eP P 03 41 53.5 +0.5
comp=Z,30nm,0.8s
CCM **Cathedral Cave** 65.68 59 P P 03 41 51.8 -1.1
baz=318
K48A **Perry** 65.75 51 P P 03 41 52.4 -0.9
baz=319
R42A **Luebbering** 65.76 59 P P 03 41 52.6 -0.8
baz=318
S41A **Jillco Farms,** 65.76 60 P P 03 41 52.3 -1.2
baz=318,SNR=6.9
KKN **Kani** 65.80 285 eP P 03 41 55.0 +0.9
comp=Z,26nm,0.9s
O45A **Potomac** 65.89 55 P P 03 41 53.8 -0.4
baz=318
PKI **Pulchoki** 65.89 284 eP P 03 41 55.3 +0.5
comp=Z,27nm,0.8s
PKIN **Phulchoki** 65.89 284 eP P 03 41 55.2 +0.5
comp=Z,22nm,0.9s
E53A **Dumoine, Ponti** 65.98 45 P P 03 41 53.2 -1.5
baz=321
GAR **Garm** 65.99 303 eP P 03 41 55.7 +0.6
comp=Z,19nm,1.3s
GAR **Garm** 65.99 303 eP P 03 41 55.7 +0.6
GAR pmax pmax
comp=Z,19nm,1.3s
P44A **Sand Creek, Wi** 66.01 56 P P 03 41 54.7 -0.3
baz=318
GKN **Gorkha** 66.03 285 eP P 03 41 55.9 +0.4
comp=Z,21nm,0.9s
DMN **Daman** 66.04 285 eP P 03 41 56.5 +0.8
comp=Z,16nm,0.8s
U40A **Yellville** 66.08 61 P P 03 41 54.4 -1.1
baz=318
K49A **Clarkson** 66.09 51 P P 03 41 55.2 -0.2
baz=320
SFIN **Lafayette** 66.11 55 P P 03 41 55.2 -0.4
baz=319
S42A **Caledonia** 66.14 59 P P 03 41 54.7 -1.1
baz=318,SNR=6.2
E54A **Lac Daplat, Po** 66.14 44 P P 03 41 54.3 -1.5
baz=321
T41A **Mountain View** 66.16 60 P P 03 41 54.5 -1.5
baz=318
NB2 **NORSAR Subarra** 66.17 349 P P 03 41 56.0 +0.2
comp=Z,1.0nm,0.5s,baz=13,slow=6.5
NB200 **NORSAR Array S** 66.17 349 eP P 03 41 55.7 -0.1
NOA **NORSAR Array B** 66.17 349 P P 03 41 55.7 -0.1
comp=Z,3.3nm,0.9s,baz=14,slow=6.5,SNR=8.2
NOA LR LR 04 12 39.5
comp=Z,14nm,18.1s,baz=340,slow=38
R43A **Red Bud** 66.22 58 P P 03 41 55.2 -1.1
baz=318
Q44A **Meyer Farm, Va** 66.22 57 P P 03 41 56.0 -0.4
baz=318
DANN **Dangsing** 66.30 286 eP P 03 41 58.0 +0.6
comp=Z,19nm,0.8s
P45A **Graceland, Par** 66.42 56 P P 03 41 56.8 -0.8
baz=319
W39A **Magazine** 66.42 63 P P 03 41 57.0 -0.7
baz=318
JCT **Junction City** 66.48 70 P P 03 41 57.5 -0.8
baz=318
T42A **Van Buren** 66.53 60 P P 03 41 56.9 -1.4
baz=318
G53A **Haliburton** 66.53 46 P P 03 41 56.9 -1.4
baz=321
U41A **Viola** 66.59 61 P P 03 41 57.8 -1.0
baz=318
Q45A **Warren Harvey,** 66.68 56 P P 03 41 58.8 -0.5
baz=319
R44A **Waltonville** 66.68 57 P P 03 41 58.8 -0.5
baz=319
OBN **Obninsk** 66.68 333 iP P 03 41 58.4 -0.6
OBN pmax pmax
comp=Z,10.0nm,0.6s
N48A **Decatur** 66.78 53 P P 03 41 59.3 -0.7
baz=319
KOLN **Koldanda** 66.82 286 eP P 03 42 01.0 +0.4
comp=Z,15nm,0.9s
T43A **Greenville** 66.92 59 P P 03 41 60.0 -0.9
baz=318
PYUN **Piuthan** 66.94 286 eP P 03 42 01.9 +0.5
comp=Z,29nm,1.0s
S44A **Carbondale** 67.00 58 P P 03 42 00.6 -0.8
baz=319
MIAR **Mount Ida** 67.02 63 eP P 03 42 01.6 0.0
comp=Z,7.1nm,0.9s
MIAR **Mount Ida** 67.02 63 eP P 03 42 01.6 0.0
MIAR pmax pmax
comp=Z,7.0nm,0.9s
MIAR **Mount Ida** 67.02 63 P P 03 42 01.0 -0.5
baz=318
P47A **Martinsville** 67.20 55 P P 03 42 01.4 -1.2
baz=319
LATQ **La Tuque** 67.24 41 P P 03 42 01.4 -1.3
baz=323
G55A **Calabogie** 67.27 45 P P 03 42 01.5 -1.4
baz=322
W41B **Gary Mavity, V** 67.28 62 P P 03 42 02.6 -0.6
baz=318
X40A **Basin Creek Fa** 67.47 63 P P 03 42 03.5 -1.0
baz=318
Q47A **Bedord North L** 67.53 55 P P 03 42 03.6 -1.1
baz=319
P48A **Milroy** 67.64 54 P P 03 42 03.7 -1.7
baz=320
ALFO **Alfred** 67.77 44 P P 03 42 04.3 -1.7
baz=323
Q48A **North Vernon** 67.89 55 P P 03 42 05.8 -1.2
baz=320
R47A **Wooly Knot Far** 67.97 56 P P 03 42 06.6 -0.9
baz=320
H56A **Elgin** 67.99 45 P P 03 42 06.5 -1.0
baz=322
N51A **Ashland** 68.03 51 P P 03 42 07.3 -0.6
baz=320
MEDO **Medina** 68.13 47 P P 03 42 07.6 -0.9
baz=322
WCI **Wyandotte Cave** 68.14 56 P P 03 42 08.0 -0.5
baz=320
LPSR **Galich'ya Gora** 68.19 331 eP P 03 42 08.1 -0.5
LPSR pmax pmax
comp=Z,10.0nm,1.1s
T46A **Princeton** 68.21 58 P P 03 42 08.8 -0.2
baz=319,SNR=5.2
ERPA **Erie** 68.24 49 P P 03 42 09.1 -0.1
baz=321
L53A **Girard** 68.24 49 P P 03 42 08.7 -0.4
baz=321
S47A **Hartford** 68.32 57 P P 03 42 08.8 -0.9
baz=320
NIL **Nilore** 68.41 297 eP P 03 42 11.5 +1.1
comp=Z,8.8nm,0.7s
NIL **Nilore** 68.41 297 eP P 03 42 11.5 +1.1
NIL pmax pmax
comp=Z,9.0nm,0.7s
M53A **WI Miller and** 68.44 50 P P 03 42 10.0 -0.4
baz=321
VRH **Novokhopyorsk** 68.51 328 eP P 03 42 10.6 0.0
VRH pmax pmax
comp=Z,9.0nm,0.4s
T47A **Sharon Grove** 68.66 57 P P 03 42 11.3 -0.5
baz=320
R49A **Shelbyville** 68.66 55 P P 03 42 11.4 -0.4
baz=320
S48A **Wiedeman Farm,** 68.69 56 P P 03 42 11.3 -0.7
baz=320
LONY **Lake Ozonia** 68.70 44 P P 03 42 10.5 -1.5
baz=323
MMNY **Mt. Morris Dam** 68.72 47 eP P 03 42 11.8 -0.3
comp=Z,38nm,0.5s
Q50A **Georgetown** 68.84 54 P P 03 42 12.3 -0.6
baz=320
N53A **Lisbon** 68.86 50 P P 03 42 11.9 -1.1
baz=321
M54A **Oil Creek Stat** 68.87 49 P P 03 42 12.4 -0.7
baz=321
O52A **Adamsville** 68.91 52 P P 03 42 12.7 -0.7
baz=321
WVT **Waverly** 68.93 58 P P 03 42 13.0 -0.5
baz=320
T48A **Bowling Green** 68.94 57 P P 03 42 13.3 -0.3
baz=320
U47A **Clarksville** 68.98 58 P P 03 42 13.6 -0.3
baz=320
S49A **Springfield** 68.99 55 P P 03 42 13.5 -0.4
baz=320
V46A **Holladay** 69.03 59 P P 03 42 13.8 -0.4
baz=320
N54A **Moraine State** 69.14 50 P P 03 42 13.8 -1.0
baz=321
VSR **Storozhevoye** 69.31 330 eP P 03 42 15.1 -0.6
VSR pmax pmax
comp=Z,10.0nm,1.3s
U48A **Cassie Pea, Po** 69.32 57 P P 03 42 15.3 -0.6
baz=320
OXF **Oxford** 69.32 60 eP P 03 42 18.4 +2.5
comp=Z,36nm,1.2s
OXF **Oxford** 69.32 60 eP P 03 42 18.4 +2.5
OXF pmax pmax
comp=Z,36nm,1.2s
OXF **Oxford** 69.32 60 P P 03 42 15.5 -0.5
baz=320
M55A **Ridgway** 69.32 49 P P 03 42 15.0 -0.9
baz=322
T49A **Edmonton** 69.38 56 P P 03 42 15.7 -0.6
baz=320
R51A **Hillsboro** 69.45 54 P P 03 42 15.8 -1.0
baz=321
S50A **Richmond** 69.52 55 P P 03 42 16.0 -1.2
baz=320
O54A **Avella** 69.56 51 P P 03 42 16.9 -0.5
baz=322
N55A **Marion Center** 69.75 49 P P 03 42 17.8 -0.8
baz=322
V48A **Smith Brothers** 69.76 58 P P 03 42 17.9 -0.7
baz=320
P54A **Burton** 69.97 51 P P 03 42 18.9 -1.0
baz=322
BINY **Binghamton** 70.01 46 P P 03 42 19.2 -0.9
baz=323
KBL **Kabul** 70.02 301 eP P 03 42 20.4 -0.2
comp=Z,6.3nm,0.6s
KBL **Kabul** 70.02 301 eP P 03 42 20.4 -0.2
KBL pmax pmax
comp=Z,6.0nm,0.6s
O55A **Ligonier** 70.05 50 P P 03 42 19.4 -1.0
baz=322
W48A **Pulaski** 70.16 58 P P 03 42 20.8 -0.4
baz=320
U50A **Jamestown** 70.27 56 P P 03 42 20.6 -1.2
baz=321
O56A **Blue Knob Stat** 70.36 49 P P 03 42 21.6 -0.7
baz=322
SSPA **Standing Stone** 70.38 49 P P 03 42 21.9 -0.5
baz=322
V50A **Pikeville** 70.71 57 P P 03 42 23.8 -0.7
baz=321
X49A **Woodville** 70.96 58 P P 03 42 25.9 -0.1
baz=320
W50A **Signal Mountai** 70.96 57 P P 03 42 25.5 -0.5
baz=321
V51A **Loudon** 70.99 56 P P 03 42 25.1 -1.1
baz=321
N59A **State Game Lan** 71.13 47 P P 03 42 26.2 -0.8
baz=323
W51A **Cleveland** 71.28 57 P P 03 42 26.7 -1.3
baz=321
V52A **Sevierville** 71.35 56 P P 03 42 27.7 -0.7
baz=321
X50B **Fort Payne** 71.35 58 P P 03 42 27.3 -1.2
baz=321
LRAL **Lakeview Retre** 71.74 60 P P 03 42 29.7 -1.0
baz=321
Y50A **Piedmont** 71.75 58 P P 03 42 30.1 -0.7
baz=321
U55A **TA2, Sparta** 72.12 53 P P 03 42 32.7 -0.4
baz=322
RGN **Rugen** 72.20 346 eP P 03 42 34.7 +1.6
comp=Z,19nm,0.7s,baz=13,slow=5.9
V54A **Nebo** 72.23 54 P P 03 42 32.5 -1.2
baz=322
AKASG **Malin Array Be** 72.62 335 P P 03 42 35.8 +0.1
comp=Z,2.6nm,0.5s,baz=28,slow=6.2,SNR=9.3
AKBB **Malin Array Si** 72.62 335 eP P 03 42 35.8 +0.1
comp=Z,5.1nm,0.8s
AKBB **Malin Array Si** 72.62 335 eP P 03 42 35.8 +0.1
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV **Kiev** 72.63 335 ⇑iP P 03 42 36.3 +0.6
KIEV **Kiev** 72.63 335 ⇑P P 03 42 36.3 +0.6
GEYT **Alibeck** 72.89 310 P P 03 42 37.6 0.0
comp=Z,2.7nm,0.7s,baz=26,slow=3.8,SNR=3.6
X54A **Belton** 72.98 56 P P 03 42 37.6 -0.6
baz=322
KMSC **Kings Mountain** 73.04 54 P P 03 42 37.7 -0.8
baz=322
HODGE **Hodges** 73.29 56 eP P 03 42 40.7 +0.7
comp=Z,38nm,1.0s
Y54A **Tignall** 73.36 56 P P 03 42 39.7 -0.7
baz=322
NRDL **Niedersach Rie** 74.65 348 eP P 03 42 48.7 +1.2
comp=Z,9.6nm,1.2s,baz=13,slow=5.9
ASSE **Asse, Remlinge** 74.93 347 eP P 03 42 50.5 +1.3
comp=Z,30nm,1.8s,baz=13,slow=5.9
IBBN **Ibbenburen** 75.13 349 eP P 03 42 51.7 +1.4
comp=Z,10nm,0.7s,baz=13,slow=5.9
OJC **Ojcow** 75.24 341 eP P 03 42 52.6 +1.5
OJC **Ojcow** 75.24 341 eP P 03 42 52.6 +1.5
CLZ **Clausthal** 75.26 347 eP P 03 42 52.7 +1.5
comp=Z,16nm,1.1s,baz=13,slow=5.9
KSP **Ksiaz** 75.30 343 eP P 03 42 52.7 +1.3
KSP **Ksiaz** 75.30 343 eP P 03 42 52.7 +1.3
CLL **Collm** 75.40 346 ⇓iP P 03 42 53.0 +1.1
CLL **Collm** 75.40 346 ⇓iP P 03 42 53.0 +1.1
CLL pmax pmax
comp=Z,22nm,1.8s
BRG **Berggiesshubel** 75.67 345 eP P 03 42 54.1 +0.7
comp=Z,18nm,1.5s
BRG **Berggiesshubel** 75.67 345 eP P 03 42 54.6 +1.1
comp=Z,18nm,1.5s,baz=13,slow=5.9
BRG **Berggiesshubel** 75.67 345 eP P 03 42 54.2 +0.7
BRG pmax pmax

	comp=Z,18nm,1.5s							
UPC	**Upice**	**75.67**	**344**	*e*P	**P**	**03 42 54.9**	**+1.3**
UPC	**Upice**	**75.67**	**344**	*e*P	**P**	**03 42 54.9**	**+1.3**
DPC	**Dobruska-Polom**	**75.77**	**343**	*e*P	**P**	**03 42 55.8**	**+1.6**
DPC	**Dobruska-Polom**	**75.77**	**343**	*e*P	**P**	**03 42 55.8**	**+1.6**
MORC	**Moravsky Berou**	**76.10**	**342**	*e*P	**P**	**03 42 57.3**	**+1.3**
	comp=Z,19nm,1.4s							
MORC	**Moravsky Berou**	**76.10**	**342**	⇑*i*P	**P**	**03 42 57.5**	**+1.5**
MORC	**Moravsky Berou**	**76.10**	**342**	⇑P	**P**	**03 42 57.5**	**+1.5**
MOX	**Moxa**	**76.25**	**346**	*e*P	**P**	**03 42 58.0**	**+1.2**
	comp=Z,10.0nm,1.1s,baz=13,slow=5.9							
LANS	**Liptovska Anna**	**76.32**	**341**	*e*P	**P**	**03 42 59.9**	**+2.6**
LANS	**Liptovska Anna**	**76.32**	**341**	*e*P	**P**	**03 42 59.9**	**+2.6**
GUNZ	**Gunzen**	**76.42**	**346**	*e*P	**P**	**03 42 59.3**	**+1.4**
	comp=Z,7.7nm,1.1s,baz=13,slow=5.9							
PRU	**Pruhonice**	**76.43**	**344**	*e*P	**P**	**03 42 58.9**	**+1.1**
PRU	**Pruhonice**	**76.43**	**344**	*e*P	**P**	**03 42 58.9**	**+1.1**
BUR08	**Bucovina Ar. S**	**76.46**	**337**	*e*P	**P**	**03 42 59.5**	**+1.4**
GOPC	**GO Pecny, Ondr**	**76.46**	**344**	*e*P	**P**	**03 42 59.6**	**+1.5**
GOPC	**GO Pecny, Ondr**	**76.46**	**344**	*e*P	**P**	**03 42 59.6**	**+1.5**
BURAR	**Bucovina Array**	**76.48**	**337**	⇑*i*P	**P**	**03 42 59.0**	**+0.7**
BURAR	**Bucovina Array**	**76.48**	**337**	⇑P	**P**	**03 42 59.0**	**+0.7**
WERN	**Wernitzgruen**	**76.48**	**346**	*e*P	**P**	**03 42 59.7**	**+1.5**
	comp=Z,16nm,1.0s,baz=13,slow=5.9							
NKC	**Novy Kostel**	**76.53**	**346**	*e*P	**P**	**03 42 59.7**	**+1.3**
NKC	**Novy Kostel**	**76.53**	**346**	*e*P	**P**	**03 42 59.7**	**+1.3**
TRPA	**Tarpa**	**76.63**	**339**	⇑*i*P	**P**	**03 43 00.3**	**+1.3**
VRAC	**Vranov**	**76.72**	**343**	⇑*i*P	**P**	**03 43 00.9**	**+1.3**
VRAC	**Vranov**	**76.72**	**343**	⇑P	**P**	**03 43 00.9**	**+1.3**
MANZ	**Manzenberg**	**76.82**	**346**	*e*P	**P**	**03 43 01.4**	**+1.3**
	comp=Z,7.0nm,1.1s,baz=13,slow=5.9							
BIZ	**Bicaz**	**76.89**	**336**	⇑*i*P	**P**	**03 43 00.6**	**+0.1**
TREC	**Trest**	**76.94**	**344**	*e*P	**P**	**03 43 02.2**	**+1.4**
TREC	**Trest**	**76.94**	**344**	*e*P	**P**	**03 43 02.2**	**+1.4**
VYHS	**Vyhne**	**77.07**	**341**	*e*P	**P**	**03 43 03.3**	**+1.8**
VYHS	**Vyhne**	**77.07**	**341**	*e*P	**P**	**03 43 03.3**	**+1.8**
GRF	**Grafenberg Arr**	**77.24**	**346**	*e*P	**P**	**03 43 04.0**	**+1.6**
	comp=Z,22nm,1.2s,baz=13,slow=5.9							
KHC	**Kasperske Hory**	**77.42**	**345**	*e*P	**P**	**03 43 05.0**	**+1.5**
	comp=Z,5.6nm,1.1s							
KHC	**Kasperske Hory**	**77.42**	**345**	*e*P	**P**	**03 43 04.9**	**+1.5**
KHC				*ep*P	**pP**	**03 43 09.6**	**-1.8**
KHC	**Kasperske Hory**	**77.42**	**345**	*e*P	**P**	**03 43 05.0**	**+1.5**
KHC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MODS	**Modra-Piesok**	**77.49**	**342**	*e*P	**P**	**03 43 06.1**	**+2.2**
MODS				pmax	pmax			
	comp=Z,13nm,1.3s							
MODS	**Modra-Piesok**	**77.49**	**342**	*e*P	**P**	**03 43 06.1**	**+2.2**
WET	**Wettzell**	**77.52**	**345**	*e*P	**P**	**03 43 05.8**	**+1.7**
	comp=Z,15nm,1.5s,baz=13,slow=5.9							
HYB	**Hyderabad**	**77.67**	**282**	*i* P	**P**	**03 43 06.0**	**+0.6**
GEC2	**GERESS Array S**	**77.67**	**345**	*e*P	**P**	**03 43 06.3**	**+1.4**
	comp=Z,8.3nm,1.1s							
GEC2	**GERESS Array S**	**77.67**	**345**	*e*P	**P**	**03 43 06.5**	**+1.5**
	comp=Z,7.0nm,1.1s,baz=13,slow=5.9							
GEC2	**GERESS Array S**	**77.67**	**345**	*e*P	**P**	**03 43 06.4**	**+1.4**
GEC2				pmax	pmax			
	comp=Z,8.0nm,1.1s							
GERES	**GERESS Array B**	**77.67**	**345**	P	**P**	**03 43 05.5**	**+0.5**
	comp=Z,4.9nm,1.0s,baz=21,slow=4.6,SNR=24							
GEA0	**GERESS Array S**	**77.68**	**345**	*e*P	**P**	**03 43 05.8**	**+0.7**
DRGR		**77.85**	**338**	⇓*i*P	**P**	**03 43 06.9**	**+0.9**
DRGR		**77.85**	**338**	⇓P	**P**	**03 43 06.9**	**+0.9**
CONA	**Conrad Observa**	**78.19**	**343**	*i* pP	**P**	**03 43 09.8**	**+1.9**
	comp=Z,10nm,1.4s							
WR1	**Warramunga Arr**	**78.22**	**215**	*e*P	**P**	**03 43 07.4**	**-0.7**
	comp=Z,10nm,1.4s							
WRA	**Warramunga Arr**	**78.22**	**215**	P	**P**	**03 43 07.4**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=29,slow=6.3,SNR=5.3							
MLR	**Muntele Rosu**	**78.27**	**335**	⇓*i*P	**P**	**03 43 10.5**	**+2.1**
MLR	**Muntele Rosu**	**78.27**	**335**	⇓P	**P**	**03 43 10.5**	**+2.1**
MOA	**Molln**	**78.54**	**344**	*i* pP	**P**	**03 43 11.1**	**+1.3**
	comp=Z,3.9nm,0.9s							
VOIR		**78.55**	**336**	⇑*i*P	**P**	**03 43 11.7**	**+1.8**
VOIR		**78.55**	**336**	⇑P	**P**	**03 43 11.7**	**+1.8**
ARR	**Arges**	**78.72**	**336**	⇑*i*P	**P**	**03 43 12.7**	**+1.9**
ARSA	**Arzberg**	**78.90**	**343**	*i* pP	**P**	**03 43 13.4**	**+1.6**
	comp=Z,4.3nm,1.0s							
GZR	**Gura Zlata**	**79.15**	**337**	⇑*i*P	**P**	**03 43 14.4**	**+1.2**
GZR	**Gura Zlata**	**79.15**	**337**	⇑P	**P**	**03 43 14.4**	**+1.2**
BZS	**Buzias**	**79.21**	**338**	⇑*i*P	**P**	**03 43 14.1**	**+0.7**
BZS	**Buzias**	**79.21**	**338**	⇑P	**P**	**03 43 14.1**	**+0.7**
KBA	**Koelnbreinsper**	**79.45**	**344**	*i* pP	**P**	**03 43 16.7**	**+1.8**
	comp=Z,15nm,0.8s							
SOKA	**Soboth**	**79.54**	**343**	*i* pP	**P**	**03 43 16.5**	**+1.2**
	comp=Z,12nm,1.1s							
WTTA	**Wattenberg**	**79.54**	**346**	*i* pP	**P**	**03 43 16.4**	**+1.0**
	comp=Z,12nm,0.7s							
MOTA	**Moosalm**	**79.54**	**346**	*i* pP	**P**	**03 43 16.8**	**+1.4**
	comp=Z,10nm,1.1s							
SQTA	**Sankt Quirin**	**79.65**	**346**	*i* pP	**P**	**03 43 17.6**	**+1.7**
	comp=Z,12nm,1.0s							
DAVA	**Damuels**	**79.78**	**347**	*e*P	**P**	**03 43 14.7**	**-2.0**
	comp=Z,0.4nm,0.2s							
OBKA	**Obir**	**79.79**	**343**	*i* pP	**P**	**03 43 18.3**	**+1.6**
	comp=Z,11nm,0.9s							
ABTA	**Abfaltersbach**	**79.91**	**345**	*i* pP	**P**	**03 43 18.8**	**+1.5**
	comp=Z,15nm,1.3s							
FETA	**Feichten**	**79.92**	**346**	*i* pP	**P**	**03 43 19.1**	**+1.6**
	comp=Z,8.4nm,1.2s							
BR101	**Keskin Array S**	**81.30**	**328**	*e*P	**P**	**03 43 26.1**	**+1.1**
BR131	**Keskin Array S**	**81.30**	**328**	*e*P	**P**	**03 43 26.1**	**+1.1**
BRTR	**Keskin Array B**	**81.30**	**328**	P	**P**	**03 43 26.1**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=70,slow=2.8,SNR=11							
VTS	**Vitosha**	**81.65**	**336**	⇓*i*P	**P**	**03 43 27.3**	**+0.5**
VTS	**Vitosha**	**81.65**	**336**	⇓P	**P**	**03 43 27.3**	**+0.5**
AS31	**Alice Springs**	**81.81**	**214**	*e*P	**P**	**03 43 27.3**	**-0.2**
	comp=Z,0.8nm,1.0s							
ASAR	**Alice Springs**	**81.81**	**214**	P	**P**	**03 43 27.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=22,slow=5.5,SNR=3.8							
BOSA	**Boshof**	**145.22**	**298**	PKPbc	**PKPbc**	**03 50 45.7**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=48,slow=1.7,SNR=9.0							

*SKHL **06** 03:38:02.5±0.6,52.°09N×142.°04E,h10km,mb4.3/9*
*ISCJB **06** 03:38:03.0±0.6,52.°05N±0.°02×141.°91E±0.°05,h2km±5km, mb3.4/6,Error ellipse: s-maj=5.5km s-min=4.0km az=175.0*
*MOS **06** 03:38:04.5±3.3,52.°13N×142.°35E,h10km,mb4.2/1,Error ellipse: s-maj=23.2km s-min=12.7km az=88.3*
*IDC **06** 03:38:04.2±2.3,52.°05N×142.°11E,h0km,mb3.5/6, mb1 3.7/7,mb1mx3.4/32,mbtmp3.4/7,ML2.4/1,Error ellipse: s-maj=65.4km s-min=19.3km az=160.0*
ISC 06 03:38:05.7±1.2,52.09N±0.°03×142.°15E±0.°04,h11km±9km, n23,σ1$66/31,mb3.4/6,1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**1.27**	**165**	*e*Pg	**Pn**	**03 38 27.7**	**-1.6**
TYV				AMB	AMB	03 38 28.7	
	100nm,0.3s						
TYV				AMB	AMB	03 38 28.8	
	155nm,0.4s						
TYV				*e*Sg	**Sb**	**03 38 45.4**	**-0.4**
TYV				A	A	03 38 45.8	
	540nm,0.5s						
TYV				A	A	03 38 45.8	
	600nm,0.5s						
TYV	**Tymovskoe**	**1.27**	**165**	*e*PN	**Pn**	**03 38 27.8**	**-1.6**
TYV				*e*S	**Sb**	**03 38 44.7**	**-1.1**
TYV				pmax	pmax		
	comp=Z,100nm,0.3s						
TYV				pmax	pmax		
	comp=Z,155nm,0.4s						
TYV				smax	smax		
	comp=N,700nm,1.1s						
TYV				smax	smax		
	comp=N,340nm,0.7s						
NKL	**Nikolayevsk**	**1.39**	**320**	*e*Pg	**Pb**	**03 38 31.0**	**-0.7**
NKL				AMB	AMB	03 38 33.0	
	comp=N,120nm,0.4s						
NKL				*e*Sg	**Sg**	**03 38 50.5**	**0.0**
NKL				A	A	03 38 52.8	
	comp=N,260nm,0.4s						
NKL	**Nikolayevsk**	**1.39**	**320**	*e*PN	**Pb**	**03 38 31.0**	**-0.7**
NKL				*e*S	**Sg**	**03 38 51.0**	**+0.5**
NKL				pmax	pmax		
	comp=Z,120nm,0.4s						
NKL				smax	smax		
	comp=E,260nm,0.4s						
OKH	**Okha**	**1.54**	**18**	*e*Pg	**Pb**	**03 38 34.3**	**+0.1**
OKH				AMB	AMB	03 38 34.7	
	comp=E,280nm,0.3s						
OKH				*i* Sg	**Sg**	**03 38 56.9**	**+1.7**
OKH				A	A	03 39 00.1	
	comp=E,1μm,0.7s						
OKH				A	A	03 39 00.1	
	comp=E,1μm,0.7s						
OKH	**Okha**	**1.54**	**18**	⇓*i*PN	**Pb**	**03 38 33.7**	**-0.5**
OKH				*i* S	**Sg**	**03 38 56.4**	**+1.2**
OKH				pmax	pmax		
	comp=Z,281nm,0.3s						
OKH				smax	smax		
	comp=E,1μm,0.7s						
UGL	**Uglegorsk**	**3.02**	**181**	*e*Pg	**Pg**	**03 39 01.8**	**-1.7**
UGL				*e*Sg	**Sg**	**03 39 44.9**	**+2.4**
UGL				A	A	03 39 48.0	
	comp=E,100nm,0.6s						
UGL				A	A	03 39 48.0	
	comp=E,120nm,0.6s						
GRNR	**Gornyy**	**3.82**	**252**	*e*Pg	**Pb**	**03 39 15.0**	**+1.9**
GRNR				AMB	AMB	03 39 16.8	
	comp=E,20nm,0.3s						
GRNR				*e*Sg	**Sg**	**03 40 05.4**	**-3.0**
GRNR				A	A	03 40 06.5	
	comp=E,80nm,0.3s						
GRNR	**Gornyy**	**3.82**	**252**	*e*PN	**Pb**	**03 39 14.1**	**+1.0**
GRNR				*e*		03 40 01.3	
GRNR				pmax	pmax		
	comp=Z,14nm,0.3s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.3s						
GRNR				smax	smax		
	comp=N,42nm,0.3s						
GRNR				pmax	pmax		
	comp=N,80nm,0.3s						
EKMR	**Ekimchan**	**5.70**	**284**	*e*Pg	**Pg**	**03 39 54.0**	**-0.7**
EKMR				AMB	AMB	03 39 54.5	
	comp=N,9.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**03 41 13.0**	**+4.5**
EKMR				A	A	03 41 14.7	
	comp=N,48nm,0.7s						
KLR	**Kul'dur**	**7.21**	**251**	Pn	**Pn**	**03 39 50.8**	**-0.1**
	comp=N,0.1nm,0.3s,baz=270,slow=13,SNR=1.9						
KLR				Lg	Lg	03 41 51.4	
	comp=N,1.7nm,0.3s,baz=306,slow=8.7,SNR=5.0						
TEY	**Ternei**	**7.96**	**210**	*e*Sg	**Sg**	**03 42 24.6**	**+3.7**
TEY				A	A	03 42 25.0	
	comp=N,15nm,1.0s						
BMKR	**Bomnak**	**8.38**	**294**	*e*Sg	**Sg**	**03 42 33.2**	**-1.1**
BMKR				A	A	03 42 44.6	
	comp=N,18nm,0.5s						
ZEA	**Zeya**	**9.16**	**286**	*e*Sg		03 43 02.5	
ZEA				A	A	03 43 04.0	
	comp=N,29nm,1.0s						
KROS	**Kirovskiy**	**9.40**	**290**	*e*P	**Pn**	**03 40 19.6**	**-1.3**
KROS				AMB	AMB	03 40 23.0	
	comp=N,4.0nm,0.5s						
KROS				*e*Sg		03 43 08.0	
KROS				A	A	03 43 11.0	
	comp=N,8.0nm,0.5s						
ILAR	**Eielson Array**	**37.13**	**42**	P	**P**	**03 45 17.0**	**+1.1**
ILAR	**Eielson Array**	**37.13**	**42**	P	**P**	**03 45 16.9**	**+1.1**
	comp=N,0.4nm,0.7s,baz=298,slow=8.1,SNR=7.3						
MKAR	**Makanchi Array**	**38.31**	**287**	P	**P**	**03 45 26.3**	**+0.2**
	comp=N,0.1nm,0.3s,baz=69,slow=7.1,SNR=3.2						
YKA	**Yellowknife Ar**	**50.85**	**36**	P	**P**	**03 47 05.9**	**+0.1**
	comp=N,0.1nm,0.5s,baz=308,slow=7.2,SNR=6.0						
FINES	**FINESS Array B**	**55.96**	**329**	P	**P**	**03 47 43.3**	**-0.1**
	comp=N,0.9nm,0.5s,baz=38,slow=9.6,SNR=6.4						
NB2	**NORSAR Subarra**	**60.61**	**335**	P	**P**	**03 48 16.1**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**60.61**	**335**	P	**P**	**03 48 16.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=290,slow=12,SNR=3.8						
TXAR	**Lajitas Array**	**80.63**	**54**	P	**P**	**03 50 18.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=311,slow=7.8,SNR=3.8						

*IDC **06** 03:56:59.8±1.3,23.°83S×179.°01E,h524km±12km, mb4.0/17,mb1 4.2/18,mb1mx4.1/23,mbtmp4.8/18,Error ellipse: s-maj=13.2km s-min=11.7km az=95.0*
*BJI **06** 03:57:00.3,23.°73S×178.°84E,h528km,mb4.5/18, mB5.0/12*
*ISCJB **06** 03:57:01.1±0.1,23.°99S±0.°02×178.°84E±0.°03,h548km, mb4.6/127,Error ellipse: s-maj=4.0km s-min=2.4km az=17.3*
*NEIC **06** 03:57:01.6±0.5,23.°98S×178.°89E,h546km±5km, mb4.8/116,Error ellipse: s-maj=5.9km s-min=4.5km az=131.0*
*MOS **06** 03:57:03.4±3.5,23.°63S×178.°78E,h537km,mb4.8/25, Error ellipse: s-maj=11.5km s-min=9.3km az=59.1*
ISC 06 03:57:01.6±0.3,23.°97S±0.°05×178.°96E±0.°05,h548km, n482,σ1$30/517,mb4.7/127,43C-21D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.96**	**153**	P	**P**	**03 58 41.0**	**+1.3**
GLKZ				S	**S**	**04 00 02.9**	**+3.0**
MSVF	**Nonsavu**	**6.27**	**352**	*e*P	**P**	**03 58 40.7**	**-2.1**
MSVF				*e*S	**S**	**04 00 04.5**	**-0.9**
MSVF	**Nonsavu**	**6.27**	**352**	*e*P	**P**	**03 58 40.7**	**-2.1**
MSVF				*e*S	**S**	**04 00 04.5**	**-0.9**
MARNC	**Mare, Loyalty**	**10.39**	**282**	*e*P	**P**	**03 59 22.6**	**-0.9**
PINNC	**Pines Island,**	**10.67**	**275**	*e*P	**P**	**03 59 27.4**	**+1.0**
PINNC				*e*S	**S**	**04 01 20.8**	**-4.6**
NIUE	**Niue**	**11.43**	**67**	*e*P	**P**	**03 59 32.6**	**-1.8**
NIUE				*e*S	**S**	**04 01 39.5**	**-0.5**
ONTNC	**Ouen Toro**	**11.62**	**276**	*e*P	**P**	**03 59 37.0**	**+0.8**
DZM	**Mont Dzumac**	**11.68**	**277**	P	**P**	**03 59 35.6**	**-1.4**
	3.4nm,0.3s,baz=111,slow=19,SNR=27						
OUZ	**Omahuta**	**12.14**	**201**	*e*P	**P**	**03 59 43.6**	**+2.3**
OUZ	**Omahuta**	**12.14**	**201**	P	**P**	**03 59 43.4**	**+2.0**
WCZ	**Waipu Caves**	**12.58**	**197**	P	**P**	**03 59 48.2**	**+2.3**
GRZ	**Great Barrier**	**12.61**	**193**	P	**P**	**03 59 47.7**	**+1.6**
KUZ	**Kuaotunu**	**13.03**	**192**	P	**P**	**03 59 51.6**	**+1.0**
WIAZ	**Waiheke Island**	**13.20**	**194**	P	**P**	**03 59 54.2**	**+1.9**
MBAZ	**Motutapu North**	**13.22**	**194**	P	**P**	**03 59 55.0**	**+2.4**
ETAZ	**East Tamaki Re**	**13.39**	**194**	P	**P**	**03 59 56.7**	**+2.4**
WTAZ	**Waiatarua**	**13.46**	**195**	P	**P**	**03 59 56.8**	**+1.8**
MKAZ	**Moumakai**	**13.49**	**193**	P	**P**	**03 59 57.0**	**+1.7**
MXZ	**Matakaoa Point**	**13.56**	**182**	*e*P	**P**	**03 59 54.5**	**-1.5**
MXZ				*e*S	**S**	**04 02 17.4**	**-2.2**
MXZ	**Matakaoa Point**	**13.56**	**182**	P	**P**	**03 59 53.8**	**-2.2**
MXZ				S	**S**	**04 02 14.4**	**-5.3**
HAZ	**Te Kaha**	**13.78**	**184**	P	**P**	**03 59 56.7**	**-1.6**
HAZ				S	**S**	**04 02 18.0**	**-5.8**
WMGZ	**Waiomatatini S**	**13.81**	**182**	P	**P**	**03 59 56.8**	**-1.8**
PKGZ	**Pakihiroa**	**13.89**	**183**	P	**P**	**03 59 57.1**	**-2.5**
PKGZ				S	**S**	**04 02 22.7**	**-3.4**
RUGZ	**Raukumara Rang**	**13.99**	**184**	P	**P**	**03 59 58.9**	**-1.7**
TOZ	**Tahuroa Road**	**14.03**	**191**	P	**P**	**04 00 02.4**	**+1.5**
PUZ	**Puketiti**	**14.07**	**182**	P	**P**	**03 59 58.8**	**-2.5**
TWGZ	**Tauwhareparae**	**14.19**	**183**	P	**P**	**04 00 00.0**	**-2.5**
URZ	**Urewera**	**14.33**	**186**	*e*P	**P**	**04 00 01.7**	**-2.2**
URZ				*e*S	**S**	**04 02 29.0**	**-5.3**
URZ	**Urewera**	**14.33**	**186**	P	**P**	**04 00 00.7**	**-3.3**
	7.7nm,0.3s,baz=266,slow=4.1,SNR=34						
URZ				S	**S**	**04 02 29.0**	**-5.3**
	3.8nm,0.3s,baz=237,slow=23,SNR=15						
URZ	**Urewera**	**14.33**	**186**	P	**P**	**04 00 01.5**	**-2.5**
MWZ	**Matawai**	**14.37**	**185**	P	**P**	**04 00 01.6**	**-2.8**
CNGZ	**Carnagh Statio**	**14.48**	**182**	P	**P**	**04 00 04.5**	**-1.0**
RAGZ	**Rawiri**	**14.54**	**185**	P	**P**	**04 00 05.9**	**-0.4**
MUGZ	**Murupara**	**14.58**	**187**	P	**P**	**04 00 05.3**	**-1.3**
TLZ	**Tolley Road**	**14.61**	**191**	P	**P**	**04 00 07.8**	**+0.9**
RIGZ	**Rimuhau**	**14.72**	**184**	P	**P**	**04 00 06.7**	**-1.4**
SNGZ	**Shannon Statio**	**14.83**	**185**	P	**P**	**04 00 07.2**	**-2.0**
HIZ	**Hauiti**	**14.91**	**193**	*e*P	**P**	**04 00 10.9**	**+0.9**
HIZ	**Hauiti**	**14.91**	**193**	P	**P**	**04 00 10.9**	**+0.9**
PRGZ	**Paritu Road**	**14.93**	**183**	P	**P**	**04 00 09.6**	**-0.6**
MTHZ	**Maungataniwha**	**14.94**	**186**	P	**P**	**04 00 09.0**	**-1.4**
RAHZ	**Arahi**	**14.98**	**186**	P	**P**	**04 00 09.5**	**-1.3**
KNZ	**Kokohu**	**15.04**	**184**	P	**P**	**04 00 09.1**	**-2.2**
MHGZ	**Mahia Peninsul**	**15.16**	**183**	P	**P**	**04 00 10.7**	**-1.9**
BKZ	**Black Stump Fm**	**15.29**	**187**	*e*P	**P**	**04 00 11.8**	**-2.1**
	13nm,0.6s						
BKZ				*e*S	**S**	**04 02 48.4**	**-3.6**
BKZ	**Black Stump Fm**	**15.29**	**187**	P	**P**	**04 00 11.2**	**-2.8**
TWVZ	**Taurewa**	**15.35**	**190**	P	**P**	**04 00 14.5**	**0.0**
WTVZ	**West Tongariro**	**15.37**	**190**	P	**P**	**04 00 14.9**	**+0.1**
OTVZ	**Oturere**	**15.40**	**190**	P	**P**	**04 00 13.7**	**-1.5**
NGZ	**Ngauruhoe**	**15.42**	**190**	P	**P**	**04 00 15.4**	**0.0**
TUVZ	**Tukino**	**15.50**	**190**	P	**P**	**04 00 15.2**	**-1.0**
FWVZ	**Far West T-bar**	**15.51**	**190**	P	**P**	**04 00 15.4**	**-1.0**
VRZ	**Vera Road**	**15.52**	**192**	P	**P**	**04 00 18.3**	**+2.1**
MCHZ	**McNeill Hill**	**15.54**	**187**	P	**P**	**04 00 14.0**	**-2.5**
TRVZ	**Turoa**	**15.55**	**190**	P	**P**	**04 00 15.9**	**-0.9**
KWHZ	**Kaweka Forest**	**15.55**	**187**	P	**P**	**04 00 14.0**	**-2.6**
MOVZ	**Moawhango**	**15.63**	**189**	P	**P**	**04 00 16.0**	**-1.4**
BHHZ	**Black Hill Sta**	**15.66**	**188**	P	**P**	**04 00 15.1**	**-2.7**
KRHZ	**Kereru**	**15.78**	**187**	P	**P**	**04 00 16.6**	**-2.2**
KAHZ	**Kahuranaki**	**15.87**	**186**	P	**P**	**04 00 17.4**	**-2.4**
PXZ	**Pawanui**	**16.11**	**186**	P	**P**	**04 00 19.4**	**-2.6**
TSZ	**Takapari Road**	**16.24**	**188**	P	**P**	**04 00 21.2**	**-2.1**
BFZ	**Birch Farm**	**16.82**	**187**	*e*P	**P**	**04 00 28.7**	**+0.2**
	35nm,0.5s						
BFZ				*e*S	**S**	**04 03 17.1**	**-0.3**
OGWZ	**Otaki Gorge**	**17.09**	**190**	P	**P**	**04 00 28.5**	**-2.6**
SNZO	**South Karori**	**17.65**	**191**	*e*P	**P**	**04 00 35.0**	**-1.1**
	54nm,0.8s						
SNZO				*e*S	**S**	**04 03 30.1**	**-0.8**
THZ	**Tophouse**	**18.45**	**194**	*e*P	**P**	**04 00 43.6**	**+0.2**
	60nm,1.1s						
KHZ	**Kahutara**	**18.94**	**192**	*e*P	**P**	**04 00 46.8**	**-1.0**
	69nm,1.2s						
LHI	**Lord Howe Isla**	**19.13**	**242**	*e*P	**P**	**04 00 52.4**	**+2.6**
	141nm,0.7s						
LTZ	**Lake Taylor**	**19.56**	**195**	*e*P	**P**	**04 00 53.2**	**-0.4**
	39nm,0.7s						
LTZ				*e*S	**S**	**04 04 00.3**	**-1.6**
OXZ	**Oxford**	**20.13**	**195**	*e*P	**P**	**04 00 57.8**	**-0.9**
	163nm,1.4s						
MQZ	**McQueen's Vall**	**20.36**	**193**	*e*P	**P**	**04 01 00.1**	**-0.6**
	18nm,0.9s						
RPZ	**Rata Peaks**	**20.74**	**196**	P	**P**	**04 01 01.4**	**-2.9**
	8.5nm,0.4s,baz=294,slow=10.0,SNR=3.5						
RPZ				S	**S**	**04 04 18.9**	**-1.7**
	5.7nm,0.6s,baz=352,slow=18,SNR=2.4						
FOZ	**Fox Glacier**	**20.91**	**199**	*e*P	**P**	**04 01 07.1**	**+1.4**
	44nm,1.1s						
LBZ	**Lake Benmore**	**21.59**	**197**	*e*P	**P**	**04 01 11.3**	**-0.6**
	55nm,1.3s						
ODZ	**Otahua Downs**	**22.09**	**196**	*e*P	**P**	**04 01 16.3**	**0.0**
	61nm,1.5s						
WKZ	**Wanaka**	**22.33**	**199**	*e*P	**P**	**04 01 17.5**	**-1.0**
	60nm,1.3s						
MLZ	**Mavora Lakes**	**23.09**	**200**	*e*P	**P**	**04 01 24.4**	**-0.9**
	26nm,0.7s						
DCZ	**Deep Cove**	**23.48**	**201**	*e*P	**P**	**04 01 29.3**	**+0.5**
	42nm,1.1s						
WHZ	**Wether Hill Ro**	**23.61**	**199**	*e*P	**P**	**04 01 31.2**	**+1.3**
	38nm,0.6s						
ARMA	**Armidale**	**25.11**	**249**	*e*P	**P**	**04 01 44.4**	**+0.9**
	37nm,1.0s						
EIDS	**Eidsvold**	**25.36**	**261**	*e*P	**P**	**04 01 46.8**	**+1.1**
	30nm,1.1s						
CAN	**Canberra**	**28.28**	**240**	*e*P	**P**	**04 02 11.9**	**+0.6**
	79nm,1.2s						
CAN	**Canberra**	**28.28**	**240**	*e*P	**P**	**04 02 11.9**	**+0.6**
CAN				pmax	pmax		
	comp=Z,79nm,1.2s						
CTA	**Charters Tower**	**30.52**	**271**	P	**P**	**04 02 31.3**	**+0.4**
	comp=Z,43nm,0.4s,baz=93,slow=11,SNR=99						
CTAO	**Charters Tower**	**30.52**	**271**	*e*P	**P**	**04 02 31.2**	**+0.4**
	comp=Z,52nm,0.5s						
CTAO	**Charters Tower**	**30.52**	**271**	*e*P	**P**	**04 02 31.2**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,52nm,0.5s						
TOO	**Toolangi**	**31.61**	**237**	*e*P	**P**	**04 02 40.4**	**+0.5**
	comp=Z,25nm,0.7s						
TOO	**Toolangi**	**31.61**	**237**	*e*P	**P**	**04 02 40.4**	**+0.5**
TOO				pmax	pmax		
	comp=Z,25nm,0.7s						
TAU	**Tasmania Unive**	**32.19**	**226**	*e*P	**P**	**04 02 45.3**	**+0.6**
	comp=Z,26nm,0.6s						
TAU	**Tasmania Unive**	**32.19**	**226**	*e*P	**P**	**04 02 45.3**	**+0.6**

SYO **Syowa Base** 82.72 194 ⇓*i*P P 04 08 25.2 -2.4
CN2 **Changchun** 83.38 324 *e*P P 04 08 31.8 +0.5
CN2 pmax pmax
comp=Z,20nm,0.8s
SRIG **Santa Rosalia** 83.69 57 *e*P P 04 08 34.8 +1.5
comp=Z,17nm,0.9s
ISA **Isabella, Lake** 83.76 47 *e*P P 04 08 34.8 +1.3
comp=Z,16nm,1.0s
ISA **Isabella, Lake** 83.76 47 *e*P P 04 08 34.8 +1.3
ISA pmax pmax
comp=Z,16nm,1.0s
CMB **Columbia Colle** 83.91 44 *e*P P 04 08 35.2 +1.0
comp=Z,11nm,1.0s
CMB **Columbia Colle** 83.91 44 *e*P P 04 08 35.2 +1.0
CMB pmax pmax
comp=Z,11nm,1.0s
PFO **Pinyon Flats O** 83.97 49 *i*P P 04 08 36.5 +1.8
AFDM **Forest Hills D** 84.09 43 *e*P P 04 08 36.0 +1.0
comp=Z,13nm,1.1s
KLR **Kul'dur** 84.13 331 *i*P P 04 08 34.9 0.0
ORV **Oroville** 84.13 42 *e*P P 04 08 36.2 +1.0
comp=Z,12nm,1.1s
SNAA **Sanae** 84.61 179 P P 04 08 37.0 -0.1
SNAA **Sanae** 84.61 179 *e*P P 04 08 36.2 -0.9
comp=Z,3.7nm,0.5s
GSC **Goldstone, Bar** 84.68 48 *e*P P 04 08 38.6 +0.6
GLA **Glamis** 84.81 51 *e*P P 04 08 35.9 -2.8
comp=Z,22nm,0.9s
GLA **Glamis** 84.81 51 *e*P P 04 08 35.9 -2.8
GLA pmax pmax
comp=Z,22nm,0.9s
VNA3 **Neumayer Olymp** 84.85 177 P P 04 08 38.2 0.0
NVL **N'lazarevskaya** 85.08 184 ⇑*i*P P 04 08 37.4 -1.9
NVL pmax pmax
comp=Z,17nm,0.9s
HUMO **Hull Mountain** 85.15 39 *e*P P 04 08 42.0 +1.9
comp=Z,20nm,1.2s
VNA2 **Neumayer--Watz** 85.26 178 P P 04 08 40.2 0.0
baz=190,slow=4.0
113A **Mohawk Valley,** 85.41 51 *e*P P 04 08 43.1 +1.6
NV01 **Mina Array Sit** 85.47 44 *e*P P 04 08 42.4 +0.5
NVAR **Mina Array Bea** 85.47 44 P P 04 08 42.5 +0.5
comp=Z,4.6nm,0.8s,baz=223,slow=8.1,SNR=18
VNA1 **Neumayer--Stat** 85.50 178 P P 04 08 41.5 +0.1
NV11 **Mina Array Sit** 85.56 45 *e*P P 04 08 43.2 +0.9
comp=Z,0.7nm,1.1s
LDFC **Landfair** 85.71 49 *e*P P 04 08 44.7 +1.7
comp=Z,14nm,0.9s
KVN **Kaiserville** 85.96 44 *e*P P 04 08 45.1 +0.8
comp=Z,5.8nm,0.8s
KVN **Kaiserville** 85.96 44 *e*P P 04 08 45.1 +0.8
KVN pmax pmax
comp=Z,6.0nm,0.8s
GYA **Guiyang** 85.97 301 *e*P P 04 08 46.2 +1.7
GYA pP pP 04 10 45.0 +2.9
GYA PP **PP** 04 12 18.6 +3.7
GYA SKS **SKSac** 04 18 19.2 +0.7
GYA S **S** 04 18 34.9 +1.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
TPNV **Topopah Spring** 85.97 47 *e*P P 04 08 45.4 +1.0
comp=Z,5.7nm,0.8s
MOD **Modoc Plateau** 86.28 41 *e*P P 04 08 46.4 +0.8
comp=Z,8.9nm,1.0s
MA2 **Magadan** 86.41 346 *e*P P 04 08 45.1 -0.5
comp=Z,11nm,0.8s
MA2 **Magadan** 86.41 346 *ce*P P 04 08 44.9 -0.7
MA2 pmax pmax
comp=Z,12nm,0.8s
MA2 **Magadan** 86.41 346 P P 04 08 45.6 0.0
baz=143,slow=6.1
SHPR **Sheep Range** 86.45 47 *e*P P 04 08 48.0 +1.4
comp=Z,6.6nm,1.1s
Y14A **Wickenburg** 86.56 51 *e*P P 04 08 48.4 +1.3
comp=Z,3.0nm,0.9s
PINE **Pine Mountain** 87.04 39 *e*P P 04 08 50.9 +1.6
comp=Z,32nm,1.2s
BMN **Battle Mountai** 87.30 43 *e*P P 04 08 51.6 +1.1
comp=Z,19nm,1.4s
BMN **Battle Mountai** 87.30 43 *e*P P 04 08 51.6 +1.1
BMN pmax pmax
comp=Z,19nm,1.4s
TUC **Tucson** 87.32 53 *e*P P 04 08 52.7 +2.0
comp=Z,13nm,1.1s
TUC **Tucson** 87.32 53 *e*P P 04 08 52.7 +2.0
TUC pmax pmax
comp=Z,13nm,1.1s
WVOR **Wild Horse Val** 87.59 41 *e*P P 04 08 52.8 +1.0
comp=Z,18nm,1.1s
WVOR **Wild Horse Val** 87.59 41 *e*P P 04 08 52.8 +1.0
WVOR pmax pmax
comp=Z,18nm,1.1s
X16A **Lo Mia Camp, P** 87.92 51 *e*P P 04 08 55.3 +1.7
comp=Z,7.1nm,0.9s
319A **Douglas** 87.96 54 *e*P P 04 08 56.1 +2.4
comp=Z,19nm,0.9s
LCMT **Little Creek M** 88.02 48 *e*P P 04 08 55.3 +1.3
comp=Z,6.0nm,1.0s
XAN **Xi'an** 88.04 309 P P 04 08 54.9 +0.9
XAN pP pP 04 10 46.6 -5.8
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN pmax pmax
comp=Z,140nm,4.9s
I07A **Izee** 88.05 39 *e*P P 04 08 54.9 +1.0
comp=Z,16nm,1.0s
G06A **Carlson Farm,** 88.09 38 *e*P P 04 08 54.6 +0.6
comp=Z,12nm,1.0s
J08A **Circle Bar Ran** 88.22 40 *e*P P 04 08 55.6 +0.9
comp=Z,28nm,1.3s
CCUT **Cedar City** 88.23 47 *e*P P 04 08 56.6 +1.6
comp=Z,15nm,1.5s
KNB **Kanab** 88.31 48 *e*P P 04 08 55.3 0.0
comp=Z,18nm,1.3s
KNB **Kanab** 88.31 48 *e*P P 04 08 55.3 0.0
KNB pmax pmax
comp=Z,18nm,1.3s
U15A **North Rim** 88.37 49 *e*P P 04 08 57.0 +1.3
comp=Z,14nm,1.0s
LON **Longmire** 88.37 36 *e*P P 04 08 55.9 +0.7
comp=Z,4.7nm,0.8s
LON **Longmire** 88.37 36 *e*P P 04 08 55.9 +0.7
LON pmax pmax
comp=Z,5.0nm,0.8s
SZCU **Shurtz Canyon** 88.44 47 *e*P P 04 08 55.8 -0.2
comp=Z,15nm,1.4s
RC01 **Rabbit Creek A** 88.47 15 *e*P P 04 08 55.2 -0.1
comp=Z,16nm,1.0s
WUAZ **Wupatki** 88.53 50 *e*P P 04 08 57.2 +0.8
comp=Z,13nm,1.3s
D05A **Enumclaw** 88.55 36 *e*P P 04 08 57.5 +1.6
comp=Z,39nm,1.0s
SUA **Susitna One** 88.58 14 *e*P P 04 08 55.5 -0.4
comp=Z,12nm,0.9s
HPIG 88.62 60 *e*P P 04 08 58.3 +1.3
comp=Z,14nm,1.1s
ELK **Elko** 88.73 44 *e*P P 04 08 57.0 -0.3
comp=Z,10nm,1.1s
ELK **Elko** 88.73 44 *e*P P 04 08 57.0 -0.3
ELK pmax pmax
comp=Z,10.0nm,1.1s
PKCU **Pink Cliffs** 88.88 48 *e*P P 04 09 00.4 +2.2
comp=Z,25nm,1.2s
PLCA **Paso Flores** 88.89 135 *e*P P 04 08 59.6 +1.6
comp=Z,5.5nm,0.9s
PLCA **Paso Flores** 88.89 135 P P 04 08 59.6 +1.6
comp=Z,2.4nm,0.7s,baz=271,slow=4.4,SNR=7.1
X18A **Snowflake** 89.04 51 *e*P P 04 09 00.3 +1.5
comp=Z,4.3nm,0.8s
KNK **Knik Glacier** 89.05 15 *e*P P 04 08 58.0 0.0
comp=Z,18nm,1.0s
PMR **Palmer** 89.05 15 *e*P P 04 08 57.7 -0.2
comp=Z,9.9nm,1.0s
PMR **Palmer** 89.05 15 *e*P P 04 08 57.7 -0.2
PMR pmax pmax
comp=Z,10.0nm,1.0s
G08A **Pilot Rock** 89.07 39 *e*P P 04 08 59.4 +0.8
comp=Z,19nm,1.4s
SEY **Seymchan** 89.14 348 *ce*P P 04 08 57.7 -0.6
SEY **Seymchan** 89.14 348 P P 04 08 58.5 +0.2
comp=Z,6.9nm,0.8s,baz=153,slow=7.7
GHO **Glory Hole Cre** 89.26 15 *e*P P 04 08 59.0 0.0
comp=Z,14nm,0.8s
MTPU **Mount Pierson** 89.28 47 *e*P P 04 09 02.2 +2.1
comp=Z,11nm,1.1s
E07A **Sunnyside** 89.32 37 *e*P P 04 09 00.8 +1.2
comp=Z,11nm,0.9s

HAWA **Hanford** 89.40 37 *e*P P 04 09 01.2 +1.2
comp=Z,13nm,1.0s
DIV **Divide** 89.47 16 *e*P P 04 08 60.0 0.0
comp=Z,17nm,1.2s
E08A **Dider Farm, El** 89.73 38 *e*P P 04 09 02.5 +1.1
comp=Z,16nm,1.4s
HHC **Hu-ho-hao-te** 89.80 316 *e*P P 04 09 02.4 +0.3
HHC S S 04 19 01.0 -6.8
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.3s
DUG **Dugway, Tooele** 89.99 45 *e*P P 04 09 03.9 +0.9
comp=Z,7.0nm,1.2s
CAST **Castle Rocks** 90.04 13 *e*P P 04 09 01.1 -1.4
comp=Z,9.7nm,1.0s
D08A **Wollman Farm,** 90.14 37 *e*P P 04 09 04.4 +1.1
comp=Z,12nm,1.3s
BGU **Big Grassy Mou** 90.24 45 *e*P P 04 09 05.3 +1.2
comp=Z,5.8nm,1.3s
BALM **Baldy** 90.31 18 *e*P P 04 09 02.8 -1.1
comp=Z,18nm,1.4s
BALM **Baldy** 90.31 18 *e*P P 04 09 02.8 -1.1
BALM pmax pmax
comp=Z,18nm,1.4s
NLU **North Lily Min** 90.35 46 *e*P P 04 09 06.0 +1.2
comp=Z,5.9nm,1.0s
Q16A **Castle Valley** 90.41 47 *e*P P 04 09 06.8 +1.7
comp=Z,11nm,0.9s
F10A **Beach Ranch, E** 90.46 39 *e*P P 04 09 05.3 +0.3
comp=Z,8.1nm,1.0s
TMUT **Trail Mountain** 90.58 47 *e*P P 04 09 07.5 +1.5
comp=Z,20nm,0.9s
MPU **Maple Canyon** 90.67 46 *e*P P 04 09 04.8 -1.5
comp=Z,7.2nm,0.9s
B08A **Colville Reser** 90.68 36 *e*P P 04 09 05.8 0.0
comp=Z,6.3nm,1.1s
RND **Reindeer** 90.71 14 *e*P P 04 09 05.3 -0.4
comp=Z,12nm,1.2s
RND **Reindeer** 90.71 14 *e*P P 04 09 05.3 -0.4
RND pmax pmax
comp=Z,12nm,1.2s
SPUT **South Promonto** 90.81 45 *e*P P 04 09 07.4 +0.6
comp=Z,12nm,1.1s
HVU **Hansel Valley** 90.85 44 *e*P P 04 09 08.0 +1.1
comp=Z,13nm,1.2s
CTU **Camp Tracy** 90.94 45 *e*P P 04 09 08.5 +1.1
comp=Z,11nm,1.0s
SRU **San Rafael Swe** 90.94 47 *e*P P 04 09 08.3 +0.8
comp=Z,15nm,0.9s
SRU **San Rafael Swe** 90.94 47 *e*P P 04 09 08.3 +0.8
SRU pmax pmax
comp=Z,15nm,0.9s
MCK **McKinley** 90.98 14 *e*P P 04 09 06.8 0.0
comp=Z,9.9nm,1.2s
MCK **McKinley** 90.98 14 *e*P P 04 09 06.8 0.0
MCK pmax pmax
comp=Z,10.0nm,1.2s
P17A **Butcher Ranch,** 90.98 47 *e*P P 04 09 06.2 -1.5
comp=Z,9.4nm,1.1s
LENM **Lemitar** 91.01 53 *e*P P 04 09 09.2 +1.2
MNTX **Cornudas Mount** 91.04 56 *e*P P 04 09 08.9 +1.0
comp=Z,5.8nm,0.9s
JLU **Jordanelle** 91.09 46 *e*P P 04 09 09.3 +1.1
comp=Z,12nm,1.3s
TX31 **Lajitas Ar. Si** 91.28 58 *e*P P 04 09 10.1 +0.9
TXAR **Lajitas Array** 91.28 58 P P 04 09 10.6 +1.4
comp=Z,3.6nm,0.9s,baz=216,slow=6.6,SNR=24
TCUT **Toone Canyon** 91.38 45 *e*P P 04 09 08.9 -0.7
comp=Z,21nm,1.0s
ANMO **Albuquerque** 91.75 52 *e*P P 04 09 12.2 +0.9
comp=Z,3.3nm,0.9s
ANMO **Albuquerque** 91.75 52 *ce*P P 04 09 11.4 0.0
ANMO pmax pmax
comp=Z,2.0nm,1.0s
WRH **Wood River Hil** 91.81 14 *e*P P 04 09 09.5 -1.1
comp=Z,12nm,1.4s
IM3 **Indian Mountai** 92.06 11 *e*P P 04 09 11.3 -0.4
COLA **College** 92.21 14 *i*P P 04 09 10.3 -2.1
COLA pmax pmax
comp=Z,3.0nm,1.0s
BILL **Bilibino** 92.22 355 *i*P P 04 09 11.7 -0.7
BILL pmax pmax
comp=Z,6.0nm,1.0s
SCRK **Sand Creek** 92.33 15 *e*P P 04 09 13.5 +0.3
comp=Z,3.3nm,1.1s
IL1 **Eielson Array** 92.33 14 *e*P P 04 09 10.9 -2.1
ILAR **Eielson Array** 92.33 14 P P 04 09 11.7 -1.4
comp=Z,0.8nm,0.6s,baz=227,slow=5.4,SNR=25
ILB **Eielson Array** 92.33 14 *e*P P 04 09 11.9 -1.1
S22A **4UR Ranch, Cre** 92.81 50 *e*P P 04 09 17.3 +1.1
comp=Z,6.8nm,1.1s
PD31 **Pinedale Array** 93.41 44 *e*P P 04 09 18.8 0.0
comp=Z,1.9nm,1.4s
PDAR **Pinedale Array** 93.41 44 *e*P P 04 09 18.3 -0.5
PDAR **Pinedale Array** 93.41 44 P P 04 09 18.8 0.0
comp=Z,0.7nm,0.7s,baz=200,slow=2.8,SNR=7.9
DAWY **Dawson** 93.57 17 *e*P P 04 09 18.7 -0.1
comp=Z,4.2nm,0.9s
SDCO **Great Sand Dun** 93.74 50 *e*P P 04 09 21.0 +0.5
comp=Z,2.5nm,0.9s
SONA0 **Songino Array** 96.54 320 *e*P P 04 09 31.8 -0.9
SONM **Songino Array** 96.54 320 P P 04 09 31.8 -0.9
comp=Z,0.5nm,0.5s,baz=93,slow=6.1,SNR=3.0
YKA **Yellowknife Ar** 100.84 26 P Pdif 04 09 51.2 0.0
comp=Z,0.1nm,0.4s,baz=246,slow=4.4,SNR=3.6
YKA PKiKP **PKiKP** 04 14 13.6 +0.3
comp=Z,0.2nm,0.8s,baz=239,slow=1.5,SNR=3.7
YKB5 **Yellowknife Ar** 100.84 26 *e*PP **PKiKP** 04 14 13.6 +0.3
ZALV **Zalesovo Beam** 111.40 321 PKiKP **PKiKP** 04 14 31.9 -1.3
comp=Z,0.6nm,0.5s,baz=46,slow=4.3,SNR=3.7
ZAA1 **Zalesovo Array** 111.40 321 *e*PKiKP **PKiKP** 04 14 31.9 -1.3
MK32 **Makanchi Array** 111.50 313 *e*PKiKP **PKiKP** 04 14 32.9 -0.9
MKAR **Makanchi Array** 111.50 313 PKiKP **PKiKP** 04 14 32.9 -0.9
comp=Z,1.0nm,0.6s,baz=134,slow=0.4,SNR=9.9
KSH **Kashi** 114.52 304 *e*PKP **PKiKP** 04 14 42.4 +2.5
KURK **Kurchatov** 114.60 317 *e*PKPdf PKPdf 04 14 38.4 -1.0
KURK *e*PKPdf **PKiKP** 04 14 38.7 -0.7
KURK **Kurchatov** 114.60 317 *e*PKiKP PKPdf 04 14 38.4 -1.0
KURBB **Kurchatov Arra** 114.64 316 PKiKP PKPdf 04 14 38.4 -1.1
comp=Z,2.8nm,0.8s,baz=90,slow=2.0,SNR=25
AAK **Ala-Archa** 116.19 307 PKP **PKPdf** 04 14 41.2 -1.8
comp=Z,1.3nm,0.5s,baz=332,slow=2.4,SNR=4.3
KK31 **Karatay Array** 119.15 307 *e*PKPdf **PKPdf** 04 14 48.2 -0.3
KK31 **Karatay Array** 119.15 307 *e*PKiKP **PKPdf** 04 14 48.2 -0.3
KKAR **Karatay Array** 119.15 307 *e*PKPdf **PKPdf** 04 14 48.2 -0.3
KKAR **Karatay Array** 119.15 307 *e*PKiKP **PKPdf** 04 14 48.2 -0.3
BDFB **Brasilia** 119.55 126 PKP **PKPdf** 04 14 49.7 -0.5
comp=Z,2.1nm,0.6s,baz=162,slow=8.1,SNR=3.6
BVAR **Borovoye Array** 119.86 319 PKP **PKPdf** 04 14 48.9 -0.6
comp=Z,3.0nm,0.4s,baz=91,slow=1.0,SNR=26
BRVK **Borovoye** 119.93 319 *e*PKPdf **PKPdf** 04 14 49.1 -0.6
BRVK **Borovoye** 119.93 319 *ci*PKiKP **PKPdf** 04 14 49.5 -0.1
BRVK pmax pmax
comp=Z,9.0nm,2.5s
BOSA **Boshof** 121.91 207 PKP **PKPdf** 04 14 54.4 -0.1
comp=Z,3.5nm,0.8s,baz=151,slow=2.4,SNR=6.1
SPA0 **Spitsbergen Ar** 125.12 356 *e*PKPdf **PKPdf** 04 14 58.2 -0.7
SPA0 **Spitsbergen Ar** 125.12 356 *e*PKPdf **PKiKP** 04 14 59.9 +0.5
SPITS **Spitsbergen Ar** 125.12 356 PKP **PKPdf** 04 14 58.2 -0.7
comp=Z,6.7nm,0.8s,baz=95,slow=4.5,SNR=10.0
ARU **Arti** 126.38 323 *e*PKPdf **PKPdf** 04 15 01.6 -0.3
ARU **Arti** 126.38 323 *i*PKiKP **PKPdf** 04 15 02.1 +0.2
ARU 04 17 04.4
ARU 04 21 20.7
ARU SS SS 04 33 21.7 -6.3
ABKAR **Akbulak array** 126.58 314 *e*PKPdf **PKPdf** 04 15 02.4 -0.1
SUMG **Summit** 127.17 13 *e*PKPdf **PKPdf** 04 15 03.5 0.0
SUMG **Summit** 127.17 13 *e*PKiKP **PKPdf** 04 15 03.5 0.0
AKTO **Aktyubinsk** 127.69 316 PKP **PKPdf** 04 15 04.3 -0.3
comp=Z,3.7nm,0.6s,baz=105,slow=5.2,SNR=15
GEYT **Alibeck** 128.18 300 PKP **PKPdf** 04 15 06.1 +0.1
comp=Z,3.2nm,0.7s,baz=266,slow=3.9,SNR=4.9
KIRV **Kirov** 130.48 328 PKP **PKPdf** 04 15 08.9 -0.7
comp=Z,12nm,0.5s,baz=327,slow=1.6,SNR=4.0
ARA0 **ARCESS Array S** 131.76 348 *e*PKPdf **PKPdf** 04 15 11.2 -0.6
ARA0 *e*SKPbc **SKPab** 04 17 48.4 +0.3
ARCES **ARCESS Array B** 131.76 348 PKP **PKPdf** 04 15 11.2 -0.6
comp=Z,3.2nm,0.6s,baz=38,slow=1.8,SNR=19
ARCES SKPbc **SKPab** 04 17 48.4 +0.3
comp=Z,4.9nm,1.0s,baz=26,slow=4.4,SNR=4.9
ARE0 **ARCESS Array S** 131.76 348 *e*PKPdf **PKPdf** 04 15 11.7 -0.1
KTK1 **Kautokeino** 132.63 348 *e*PKPdf **PKPdf** 04 15 13.4 0.0
TRO **Tromso** 132.80 351 *e*PKPdf **PKPdf** 04 15 14.1 +0.4
STEI **Steigen** 134.90 351 *e*Pdif **Pdif** 04 12 22.7 0.0
STEI *e*PKPdf **PKPdf** 04 15 18.1 +0.5

LOF **Lofoten** 134.93 352 *e*PKPdf **PKPdf** 04 15 17.9 +0.2
KMBO **Kilima Mbogo** 135.23 242 PKP **PKiKP** 04 15 23.0 +1.1
comp=Z,1.4nm,0.7s,baz=240,slow=2.3,SNR=4.4
FIA0 **FINESS Array S** 138.21 341 *e*PKPpre PKPpre 04 15 14.9
FIA0 *e*PKPdf **PKiKP** 04 15 25.6 -0.6
FIA0 *e*SKPbc **SKPbc** 04 18 08.4 +1.5
FIA0 **FINESS Array S** 138.21 341 *e*PKHKP PKPpre 04 15 14.9
FIA0 *e* 04 15 25.6
FINES **FINESS Array B** 138.21 341 PKhKP PKPpre 04 15 14.9
comp=Z,1.9nm,0.7s,baz=42,slow=3.1,SNR=6.8
FINES PKP **PKiKP** 04 15 25.6 -0.6
comp=Z,2.6nm,0.7s,baz=72,slow=3.3,SNR=8.0
FINES SKPbc **SKPbc** 04 18 08.4 +1.5
comp=Z,3.5nm,0.7s,baz=103,slow=4.1,SNR=7.8
OBN **Obninsk** 138.33 328 *i*PKiKP **PKPdf** 04 15 24.8 +0.4
OBN pmax pmax
comp=Z,7.0nm,0.9s
NSS **Namsos** 138.56 352 *e*PKPdf **PKPdf** 04 15 24.2 -0.3
DOMB **Dombas** 141.33 352 *e*Pdif **Pdif** 04 12 51.1 -0.4
NC303 **NORSAR Array S** 141.80 350 *e*PKPpre PKPpre 04 15 26.2
NB2 **NORSAR Subarra** 142.00 350 PKP PKPpre 04 15 26.4
comp=Z,8.8nm,0.6s,baz=16,slow=3.0
NB200 **NORSAR Array S** 142.00 350 *e*PKPpre PKPpre 04 15 26.6
NOA **NORSAR Array B** 142.00 350 PKhKP PKPpre 04 15 26.6
comp=Z,5.5nm,0.8s,baz=16,slow=4.8,SNR=23
NAO01 **NORSAR Array S** 142.24 350 *e*PKPpre PKPpre 04 15 27.6
NC602 **NORSAR Array S** 142.24 350 *e* PKPpre 04 15 26.9
OSL **Oslo** 143.13 350 *e* PKPab 04 15 30.2 -0.4
ASK **Askoy** 143.25 355 *e*Pdif **Pdif** 04 12 59.8 -0.2
ASK *e*PKPbc PKPab 04 15 31.0 -0.1
BER **Bergen** 143.34 355 *e*PKPbc PKPab 04 15 31.2 -0.2
KONO **Kongsberg** 143.57 351 *e*PKPbc PKPab 04 15 32.1 -0.2
KONO **Kongsberg** 143.57 351 *e*PKPbc PKPab 04 15 32.0 -0.4
ODD1 **Odda** 143.68 353 *e*PKPbc PKPab 04 15 32.3 -0.5
BLS5 **Blasjo** 144.18 353 *e*PKPbc PKPbc 04 15 33.9 -0.5
KMY **Karmoy** 144.51 354 *e*PKPdf PKPbc 04 15 35.3 0.0
AKASG **Malin Array Be** 144.51 326 PKP **PKPdf** 04 15 34.9 -0.6
comp=Z,9.8nm,0.6s,baz=47,slow=4.2,SNR=80
AKASG SKPbc **SKiKP** 04 18 24.4 +0.7
comp=Z,1.4nm,0.7s,baz=51,slow=3.0,SNR=4.2
AKBB **Malin Array Si** 144.51 326 *e*PKPdf **PKPdf** 04 15 34.9 -0.7
AKBB *e*SKPbc **SKiKP** 04 18 24.4 +0.7
KIEV **Kiev** 144.52 326 *e*PKPdf **PKPdf** 04 15 34.5 -1.0
KIEV **Kiev** 144.52 326 ⇑*i*P **PKPdf** 04 15 34.9 -0.6
AK11 **Malin Array Si** 144.55 326 *e*PKPdf **PKPdf** 04 15 35.0 -0.5
SUW **Suwalki** 144.94 335 *e*PKP **PKPab** 04 15 37.7 0.0
SUW **Suwalki** 144.94 335 *e*PKIKP **PKPab** 04 15 37.7 0.0
SNART **Snartemo** 145.16 352 *e*PKPdf **PKPdf** 04 15 36.4 0.0
ASF **Jabal al Asfar** 145.68 292 PKPbc **PKPbc** 04 15 40.6 +0.7
comp=Z,5.9nm,0.9s,baz=184,slow=3.5,SNR=6.2
ILGA **Ilgaz** 146.38 309 *e*PKPbc **PKPbc** 04 15 42.3 +0.6
BR101 **Keskin Array S** 146.86 307 *e*PKPbc **PKPbc** 04 15 42.5 -0.4
BR131 **Keskin Array S** 146.86 307 *e*PKPdf **PKPbc** 04 15 42.6 -0.3
BRTR **Keskin Array B** 146.86 307 PKPbc **PKPbc** 04 15 42.5 -0.4
comp=Z,5.5nm,0.7s,baz=144,slow=6.5,SNR=28
MMAI **Mount Meron Ar** 146.86 294 PKPbc **PKiKP** 04 15 44.1 -0.9
comp=Z,7.9nm,0.5s,baz=74,slow=6.2,SNR=21
ANTO **Ankara** 147.43 307 *e*PKPbc **PKPbc** 04 15 44.7 +0.3
ANTO **Ankara** 147.43 307 ⇑*i*P **PKPbc** 04 15 44.9 +0.6
ANTO **Ankara** 147.43 307 ⇑PKiKP **PKPbc** 04 15 44.9 +0.6
EIL **Elat** 147.47 288 PKPbc **PKPbc** 04 15 45.2 +0.5
comp=Z,11nm,0.8s,baz=329,slow=6.7,SNR=7.3
BEL **Belsk** 147.54 335 *e*PKP **PKPbc** 04 15 44.5 +0.4
BEL **Belsk** 147.54 335 *e*PKIKP **PKPbc** 04 15 44.5 +0.4
LVV **L'vov** 147.62 329 *e*PKIKP **PKPbc** 04 15 44.1 -0.3
GKP **Gorka Klasztor** 147.64 339 *e*PKP **PKPbc** 04 15 44.1 -0.2
GKP **Gorka Klasztor** 147.64 339 *e*PKIKP **PKPbc** 04 15 44.1 -0.2
TLCR 147.85 319 ⇑*i*P **PKPbc** 04 15 44.6 -0.5
TLCR 147.85 319 ⇑PKIKP **PKPbc** 04 15 44.6 -0.5
CFR **Carcaliu** 148.27 319 ⇑*i*P **PKPbc** 04 15 46.0 -0.1
KONT **Konya--Tatoy** 148.34 304 *i*P **PKPbc** 04 15 46.7 +0.1
KDHN **Kadınhani** 148.35 305 *i*P **PKPbc** 04 15 46.4 -0.4
KWP **Kalwaria Pacla** 148.36 330 *e*PKP **PKPbc** 04 15 46.7 +0.4
KWP **Kalwaria Pacla** 148.36 330 *e*PKPbc **PKPbc** 04 15 46.2 0.0
AUMIH **MIHALICIK** 148.38 308 *i*P **PKPbc** 04 15 46.8 -0.1
TESR **Tescani** 148.38 322 ⇑*i*P **PKPbc** 04 15 46.9 +0.5
BIZ **Bicaz** 148.43 323 ⇓*i*P **PKiKP** 04 15 47.5 -0.2
TIRR **Tirgusor** 148.47 318 ⇑*i*P **PKPbc** 04 15 46.9 +0.2
BUR08 **Bucovina Ar. S** 148.48 325 *e*PKPbc **PKPbc** 04 15 47.3 +0.5
BURAR **Bucovina Array** 148.49 325 ⇑*i*P **PKiKP** 04 15 48.3 +0.4
MFTR **Murfatlar** 148.61 317 ⇑*i*P **PKPbc** 04 15 47.4 +0.4
TLB **Topalu** 148.63 318 ⇑*i*P **PKPbc** 04 15 47.0 -0.1
VRI **Vrincioaia** 148.71 321 ⇑*i*P **PKPbc** 04 15 47.5 +0.2
PLOR **Plostina** 148.77 321 ⇑*i*P **PKPbc** 04 15 46.5 -1.0
BSEG **Bad Segeberg** 148.88 347 *e*PKPbc **PKPbc** 04 15 47.7 +0.3
baz=20,slow=2.2
HLG **Helgoland** 149.09 350 *e*PKPbc **PKPbc** 04 15 48.3 +0.4
baz=20,slow=2.2
PGOR **Pogoanele** 149.10 319 ⇓*i*P **PKPbc** 04 15 48.4 +0.2
BORA **Eskisehir** 149.12 308 *i*P **PKPbc** 04 15 48.8 +0.2
OJC **Ojcow** 149.18 334 *e*PKP **PKiKP** 04 15 48.8 -0.4
OJC **Ojcow** 149.18 334 *e*PKPbc **PKPbc** 04 15 48.4 +0.2
UZH **Uzhgorod** 149.26 329 *c*PKHKP **PKPbc** 04 15 49.0 +0.5
UZH *e* 04 15 51.2
UZH *e* 04 15 56.0
UZH *e* 04 17 58.9
RUE **Ruedersdorf** 149.37 342 *e*PKPbc **PKPbc** 04 15 48.9 +0.3
baz=20,slow=2.2
MLR **Muntele Rosu** 149.38 321 ⇓*i*P **PKPbc** 04 15 48.2 -0.9
MLR **Muntele Rosu** 149.38 321 PKPbc **PKPbc** 04 15 48.4 -0.6
comp=Z,10nm,0.9s,baz=331,slow=6.9,SNR=16
DOPR **Dopca** 149.41 322 ⇑*i*P **PKiKP** 04 15 49.7 -0.1
TRPA **Tarpa** 149.50 328 ⇓*i*P **PKPbc** 04 15 49.0 0.0
SECR 149.57 320 ⇑*i*P **PKPbc** 04 15 49.7 +0.3
NIE **Niedzica** 149.59 332 *e*PKP **PKiKP** 04 15 50.1 +0.1
YLV **Yalova** 149.62 310 ⇓*i*P **PKPbc** 04 15 49.2 -0.5
YLV **Yalova** 149.62 310 ⇓*i*PKHKP **PKPbc** 04 15 49.2 -0.5
SULR 149.66 320 ⇑*i*P **PKPdf** 04 15 46.2 +2.0
KZIL **AFYON_Kizioren** 149.91 306 *i*P **PKiKP** 04 15 51.0 -0.2
CJR **Cluj-Napoca** 149.91 325 ⇓*i*P **PKiKP** 04 15 50.8 0.0
VOIR 149.92 322 ⇑*i*P **PKPbc** 04 15 50.4 +0.1
KSP **Ksiaz** 150.00 338 *e*PKP **PKiKP** 04 15 50.9 +0.1
SGRR **Singureni** 150.08 319 ⇓*i*P **PKPdf** 04 15 46.8 +1.9
GDZ **Gediz** 150.11 308 *i*P **PKiKP** 04 15 51.4 -0.1
KORT **Korkueli** 150.14 303 *i*P **PKiKP** 04 15 51.6 -0.1
LANS **Liptovska Anna** 150.14 332 *e*PKP **PKiKP** 04 15 52.0 +0.8
OKC **Ostrava-Krasne** 150.14 335 ⇑*e*PKP **PKiKP** 04 15 50.9 -0.2
BRDR **BURDUR-Merkez** 150.15 305 *i*P **PKPbc** 04 15 50.2 -0.9
ARR **Arges** 150.20 322 ⇑*i*P **PKiKP** 04 15 51.6 +0.1
RETH **Rethem/Aller,** 150.21 347 *e*PKPbc **PKPbc** 04 15 50.7 +0.2
baz=20,slow=2.2
NRDL **Niedersach Rie** 150.28 346 *e*PKPbc **PKiKP** 04 15 51.0 -0.2
baz=20,slow=2.2
DRGR 150.32 326 ⇑*i*P **PKPbc** 04 15 51.4 +0.2
KHAL **Karahalli** 150.35 306 *i*P **PKPbc** 04 15 51.0 -0.5
UPC **Upice** 150.38 338 ⇑*e*PKP **PKiKP** 04 15 51.7 +0.1
UPC **Upice** 150.38 338 *e*PKIKP **PKiKP** 04 15 51.7 +0.1
DPC **Dobruska-Polom** 150.41 337 ⇑*e*PKP **PKiKP** 04 15 52.0 +0.3
PHSR **Pinarhisar** 150.42 313 ⇓*i*P **PKPbc** 04 15 51.6 +0.1
MORC **Moravsky Berou** 150.43 335 *e*PKPbc **PKPbc** 04 15 51.4 +0.1
MORC **Moravsky Berou** 150.43 335 ⇓*i*P **PKPbc** 04 15 51.4 +0.1
MORC **Moravsky Berou** 150.43 335 *e*PKIKP **PKPbc** 04 15 51.4 +0.1
MORC **Moravsky Berou** 150.43 335 *e*PKP **PKiKP** 04 15 51.7 -0.1
KRLC **Kraliky** 150.47 336 ⇑*e*PKP **PKiKP** 04 15 52.0 +0.2
KRLC **Kraliky** 150.47 336 *e*PKIKP **PKiKP** 04 15 52.0 +0.2
ASSE **Asse, Remlinge** 150.49 345 *e*PKPbc **PKiKP** 04 15 51.5 -0.2
baz=20,slow=2.2
HUMR **Humele** 150.50 320 ⇓*i*P **PKPbc** 04 15 51.3 -0.2
USAK **Uak-Merkez** 150.58 307 *i*P **PKiKP** 04 15 52.4 -0.1
LOT **Lotru** 150.63 323 ⇑*i*P **PKPbc** 04 15 51.6 -0.4
DURS **Dursunbey** 150.64 309 *i*P **PKPbc** 04 15 52.2 +0.1
CLL **Collm** 150.64 342 ⇓*i*PKPbc **PKiKP** 04 15 52.4 +0.3
comp=Z,44nm,0.8s
CLL *e*PKPab **PKPab** 04 16 02.0 +1.0
CLL *ep*PKPab **pPKPab** 04 18 03.0 +0.9
CLL **Collm** 150.64 342 ⇓*i*PKIKP **PKiKP** 04 15 52.4 +0.3
CLL pmax pmax
comp=Z,44nm,0.8s
GOLH **Golhisar** 150.67 304 *i*P **PKiKP** 04 15 52.9 +0.1
DEMI **Demirci** 150.68 308 *i*P **PKPbc** 04 15 52.1 -0.1
BRG **Berggiesshubel** 150.74 340 *e*PKP **PKPdf** 04 15 46.1 +0.5
comp=Z,19nm,1.6s
BRG **Berggiesshubel** 150.74 340 *i*PKP **PKiKP** 04 15 52.2 -0.1
comp=Z,27nm,0.6s
BRG *ep*PKP **pPKPab** 04 18 02.0 -0.6
comp=Z,3.2nm,0.8s
BRG **Berggiesshubel** 150.74 340 *e*PKPbc **PKiKP** 04 15 52.2 -0.1
baz=20,slow=2.2
BRG **Berggiesshubel** 150.74 340 *e*PKIKP **PKPdf** 04 15 46.2 +0.5
BRG *i* 04 15 52.2
BRG pmax pmax
comp=Z,19nm,1.6s

BRG				pmax	pmax		
	comp=Z,27nm,0.6s						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CLZ	**Clausthal**	**150.83**	**345**	*e*PKPbc	**PKiKP**	**04 15 52.5**	**0.0**
	baz=20,slow=2.2						
PVCC	**Panska Ves**	**150.85**	**339**⇑	*e*PKP	**PKiKP**	**04 15 52.8**	**+0.3**
PVCC	**Panska Ves**	**150.85**	**339**	*e*PKIKP	**PKiKP**	**04 15 52.8**	**+0.3**
FBE	**Freiberg**	**150.88**	**341**	*e*PKPbc	**PKiKP**	**04 15 52.8**	**+0.2**
	baz=20,slow=2.2						
PSZ	**Piszkesteto**	**150.89**	**330**	*e*PKPbc	**PKPbc**	**04 15 52.6**	**+0.2**
PSZ	**Piszkesteto**	**150.89**	**330**⇓	*i*P	**PKPbc**	**04 15 52.6**	**+0.2**
PSZ	**Piszkesteto**	**150.89**	**330**	*e*PKIKP	**PKPbc**	**04 15 52.6**	**+0.2**
VYHS	**Vyhne**	**150.91**	**332**	*e*PKIKP	**PKPbc**	**04 15 52.5**	**+0.1**
VYHS	**Vyhne**	**150.91**	**332**	*e*PKP	**PKPbc**	**04 15 52.5**	**+0.1**
IBBN	**Ibbenburen**	**150.92**	**349**	*e*PKPbc	**PKPbc**	**04 15 52.4**	**+0.1**
	baz=20,slow=2.2						
NEUB	**Neuenburg**	**151.06**	**343**	*e*PKPbc	**PKiKP**	**04 15 52.9**	**0.0**
	baz=20,slow=2.2						
TAVA	**DENIZLI_Tavas**	**151.09**	**305**	*i* P	**PKiKP**	**04 15 53.8**	**+0.2**
VRAC	**Vranov**	**151.17**	**336**	*e*PKP	**PKiKP**	**04 15 53.4**	**+0.1**
GTTG	**Gwttingen**	**151.20**	**346**	*e*PKPbc	**PKiKP**	**04 15 53.2**	**0.0**
	baz=20,slow=2.2						
GZR	**Gura Zlata**	**151.20**	**324**⇓	*i*P	**PKPbc**	**04 15 53.1**	**-0.1**
GZR	**Gura Zlata**	**151.20**	**324**⇓	PKIKP	**PKPbc**	**04 15 53.1**	**-0.1**
GOPC	**GO Pecny, Ondr**	**151.30**	**338**⇑	*e*PKP	**PKiKP**	**04 15 53.6**	**+0.1**
GOPC	**GO Pecny, Ondr**	**151.30**	**338**	*e*PKIKP	**PKiKP**	**04 15 53.6**	**+0.1**
PRU	**Pruhonice**	**151.32**	**339**⇑	*e*PKP	**PKiKP**	**04 15 53.5**	**0.0**
PRU	**Pruhonice**	**151.32**	**339**	*e*PKIKP	**PKiKP**	**04 15 53.5**	**0.0**
SRE	**Strehaia**	**151.43**	**322**⇓	*i*P	**PKiKP**	**04 15 54.3**	**+0.4**
SRE	**Strehaia**	**151.43**	**322**⇓	PKIKP	**PKiKP**	**04 15 54.3**	**+0.4**
KRUC	**Moravsky**	**151.44**	**336**	*e*PKP	**PKiKP**	**04 15 53.8**	**0.0**
TREC	**Trest**	**151.59**	**337**⇑	*e*PKP	**PKiKP**	**04 15 54.1**	**0.0**
TREC	**Trest**	**151.59**	**337**	*e*PKIKP	**PKiKP**	**04 15 54.1**	**0.0**
TANN	**Tannenbergstha**	**151.59**	**342**	*e*PKPbc	**PKiKP**	**04 15 54.1**	**-0.1**
	baz=20,slow=2.2						
PLN	**Plauen**	**151.61**	**342**	*e*PKPbc	**PKiKP**	**04 15 54.1**	**-0.1**
	baz=20,slow=2.2						
MOX	**Moxa**	**151.62**	**343**	*e*PKPbc	**PKPbc**	**04 15 53.8**	**-0.1**
	baz=20,slow=2.2						
MODS	**Modra-Piesok**	**151.66**	**334**	*e*PKIKP	**PKiKP**	**04 15 54.9**	**+0.6**
MODS	**Modra-Piesok**	**151.66**	**334**	*e*PKP	**PKiKP**	**04 15 54.9**	**+0.6**
GUNZ	**Gunzen**	**151.67**	**342**	*e*PKPbc	**PKiKP**	**04 15 54.5**	**+0.1**
	baz=20,slow=2.2						
HERR	**Herculane**	**151.73**	**323**⇑	*i*P	**PKPbc**	**04 15 54.2**	**-0.1**
AYDN	**Tasoluk**	**151.79**	**306**	*i* P	**PKiKP**	**04 15 55.5**	**+0.5**
BUG	**Bochum--Univer**	**151.84**	**349**	*e*PKPbc	**PKPbc**	**04 15 53.6**	**-0.6**
	baz=20,slow=2.2						
EZN	**Ezine**	**152.05**	**311**⇑	*i*P	**PKPbc**	**04 15 53.4**	**-1.8**
EZN	**Ezine**	**152.05**	**311**	⇑PKIKP	**PKPbc**	**04 15 53.4**	**-1.8**
MANZ	**Manzenberg**	**152.07**	**342**	*e*PKPbc	**PKiKP**	**04 15 55.2**	**0.0**
	baz=20,slow=2.2						
KHC	**Kasperske Hory**	**152.38**	**339**⇑	*e*PKP	**PKiKP**	**04 15 55.9**	**+0.1**
KHC				*ex*	x	04 16 08.9	
KHC	**Kasperske Hory**	**152.38**	**339**	*e*PKIKP	**PKiKP**	**04 15 55.9**	**+0.1**
KHC				*e*		04 16 08.9	
CONA	**Conrad Observa**	**152.58**	**335**	*i* PKiKP	**PKiKP**	**04 15 56.3**	**0.0**
	comp=Z,3.3nm,0.6s						
GEC2	**GERESS Array S**	**152.59**	**339**	*e*PKPbc	**PKPbc**	**04 15 56.0**	**-0.2**
GEC2	**GERESS Array S**	**152.59**	**339**	*e*PKPbc	**PKPbc**	**04 15 56.1**	**-0.1**
	baz=20,slow=2.2						
GEC2	**GERESS Array S**	**152.59**	**339**	*e*PKIKP	**PKPbc**	**04 15 56.0**	**-0.2**
GERES	**GERESS Array B**	**152.59**	**339**	PKIKP	**PKPbc**	**04 15 56.0**	**-0.2**
GERES	**GERESS Array B**	**152.59**	**339**	PKPbc	**PKPbc**	**04 15 56.0**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=45,slow=2.1,SNR=16						
GRF	**Grafenberg Arr**	**152.59**	**343**	*e*PKPbc	**PKiKP**	**04 15 56.2**	**0.0**
	baz=20,slow=2.2						
GRF				*e*PKPab	**PKPab**	**04 16 09.9**	**+0.6**
GEA0	**GERESS Array S**	**152.59**	**339**	*e*PKPbc	**PKPbc**	**04 15 56.0**	**-0.3**
VTS	**Vitosha**	**152.63**	**319**	*e*PKPbc	**PKPbc**	**04 15 56.5**	**0.0**
VTS				*e*PKPab	**PKPab**	**04 16 11.2**	**+1.2**
VTS	**Vitosha**	**152.63**	**319**⇑	*i*P	**PKPbc**	**04 15 55.9**	**-0.7**
VTS	**Vitosha**	**152.63**	**319**	⇑PKIKP	**PKPbc**	**04 15 55.9**	**-0.7**
TNS	**Taunus Mts**	**152.77**	**347**	*e*PKPbc	**PKPbc**	**04 15 56.5**	**-0.1**
	baz=20,slow=2.2						
MEM	**Membach**	**152.85**	**350**	⇑PKP	**PKPbc**	**04 15 56.5**	**-0.1**
MOA	**Molln**	**153.24**	**337**	*i* PKPbc	**PKPbc**	**04 15 57.3**	**-0.2**
	comp=Z,0.8nm,0.4s						
ARSA	**Arzberg**	**153.26**	**334**	*i* PKPbc	**PKPbc**	**04 15 56.7**	**-0.9**
	comp=Z,1.8nm,0.5s						
WLF	**Walferdange**	**153.74**	**349**	⇑PKPbc	**PKiKP**	**04 15 58.9**	**+0.3**
WLF				⇓PKPab	**PKPab**	**04 16 14.2**	**0.0**
KBA	**Koelnbreinsper**	**154.23**	**337**	*i* PKiKP	**PKPbc**	**04 15 59.8**	**-0.1**
	comp=Z,1.3nm,0.5s						
OBKA	**Obir**	**154.25**	**335**	*i* PKiKP	**PKPbc**	**04 15 60.0**	**+0.2**
	comp=Z,0.6nm,0.3s						
MYKA	**Terra Mystica**	**154.50**	**336**	*i* PKPbc	**PKiKP**	**04 15 59.6**	**-0.7**
	comp=Z,1.6nm,0.4s						
WTTA	**Wattenberg**	**154.64**	**340**	*e*PKPab	**PKPab**	**04 16 18.6**	**+0.2**
	comp=Z,4.0nm,0.5s						
RETA	**Reutte**	**154.71**	**341**	*e*PKPab	**PKPab**	**04 16 18.6**	**+0.1**
	comp=Z,2.3nm,0.5s						
MOTA	**Moosalm**	**154.74**	**340**	*i* PKPab	**PKPab**	**04 16 19.0**	**+0.2**
	comp=Z,1.7nm,0.5s						
ABTA	**Abfaltersbach**	**154.80**	**338**	*e*PKPdf	**PKPdf**	**04 15 51.1**	**-0.8**
	comp=Z,0.6nm,0.3s						
SQTA	**Sankt Quirin**	**154.82**	**340**	*e*PKPab	**PKPab**	**04 16 18.8**	**-0.3**
	comp=Z,3.4nm,0.6s						
FNA	**Florina**	**154.82**	**317**	*e*PKPdif	**PKiKP**	**04 16 00.8**	**-0.4**
FETA	**Feichten**	**155.14**	**341**	*e*PKPdf	**PKPdf**	**04 15 52.1**	**-0.2**
	comp=Z,2.5nm,0.8s						
DAVA	**Damuels**	**155.15**	**342**	*e*PKPab	**PKPab**	**04 16 20.8**	**+0.2**
	comp=Z,3.4nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**155.64**	**341**	*e*PKPab	**PKPab**	**04 16 23.5**	**+0.7**
DBIC	**Dimbokro**	**162.41**	**167**	PKP	**PKPdf**	**04 16 00.0**	**-1.6**
	comp=Z,3.9nm,0.9s,baz=54,slow=1.7,SNR=3.8						
DBIC				PKPab	**PKPab**	**04 16 53.5**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=180,slow=6.8,SNR=3.7						
ESDC	**Sonseca Array**	**164.15**	**8**	PKPab	**PKPab**	**04 16 58.8**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=334,slow=3.9,SNR=6.9						
TOA0	**Torodi Ar. Sit**	**168.93**	**194**	*e*PKPdf	**PKPdf**	**04 16 05.3**	**-1.4**
TOA0				*e*PKPdf	**PKPdf**	**04 16 06.3**	**-0.4**
TOA0				*e*PKPab	**PKPab**	**04 17 20.0**	**-1.4**
TOA0				*e*PKPab	**PKPab**	**04 17 21.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**168.93**	**194**	PKP	**PKPdf**	**04 16 04.6**	**-2.2**
	comp=Z,2.8nm,1.1s,baz=6.2,slow=0.7,SNR=10						
TORD				PKPab	**PKPab**	**04 17 20.3**	**-1.1**
	comp=Z,7.3nm,0.9s,baz=157,slow=3.2,SNR=25						
TOA1	**Torodi Ar. Sit**	**168.93**	**194**	*e*PKPdf	**PKPdf**	**04 16 04.6**	**-2.2**
TOA1				*e*PKPab	**PKPab**	**04 17 20.3**	**-1.1**

*ISCJB **06** 04:13:16.3±0.4, 50°.23N±0°.03×18°.79E±0°.03, h0km, Error ellipse: s-maj=4.4km s-min=2.4km az=5.8*
*PRU **06** 04:13:17.9±0.0, 50°.24N×18°.85E, h0km*
ISC 06 04:13:17.6±0.8, 50°.23N±0°.04×18°.86E±0°.02, h0km, n19, σ0s71/32, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.10**	**54**	*e*Pg	**Pg**	**04 13 19.8**	**+0.3**
CHZP				*e*Sg	**Sg**	**04 13 21.4**	**+0.5**
OJC	**Ojcow**	**0.60**	**91**	*e*Pg	**Pg**	**04 13 28.9**	**-0.2**
OJC				*e*Sg	**Sg**	**04 13 36.9**	**+0.1**
OKC	**Ostrava-Krasne**	**0.60**	**230**	*e*PG	**Pg**	**04 13 30.2**	**+1.1**
OKC				*e*SG	**Sg**	**04 13 36.9**	**0.0**
	comp=Z,11nm,0.4s						
MORC	**Moravsky Berou**	**0.96**	**242**	*e*PG	**Pg**	**04 13 36.6**	**+0.6**
MORC				*e*SG	**Sg**	**04 13 49.5**	**+1.0**
LANS	**Liptovska Anna**	**1.15**	**160**	*e*PG	**Pg**	**04 13 39.8**	**+0.2**
LANS				*e*SG	**Sg**	**04 13 55.3**	**+0.9**
NIE	**Niedzica**	**1.24**	**131**	*e*Pg	**Pg**	**04 13 41.5**	**+0.2**
NIE				*e*Sg	**Sb**	**04 13 58.6**	**+0.4**
KRLC	**Kraliky**	**1.35**	**264**	*e*PG	**Pg**	**04 13 42.6**	**-0.7**
DPC	**Dobruska-Polom**	**1.63**	**275**	*e*PG	**Pn**	**04 13 47.3**	**-0.3**
DPC				*e*SG	**Sg**	**04 14 10.2**	**+0.2**
	comp=Z,9.2nm,0.6s						
VRAC	**Vranov**	**1.73**	**239**	*e*SG	**Sn**	**04 14 11.3**	**-0.5**
VYHS	**Vyhne**	**1.74**	**181**	*e*PN	**Pn**	**04 13 48.7**	**-0.3**
VYHS				*e*SN	**Sn**	**04 14 10.5**	**-1.3**
VYHS				*e*LG	Lg	04 14 14.3	
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pb**	**04 13 50.9**	**+0.4**
KSP				*e*Sg	**Sg**	**04 14 14.7**	**+0.9**
UPC	**Upice**	**1.84**	**280**	*e*PG	**Pn**	**04 13 51.0**	**+0.5**
UPC				*e*SG	**Sg**	**04 14 17.4**	**+0.6**
KRUC	**Moravsky**	**1.98**	**235**	*e*SG	**Sn**	**04 14 18.7**	**+0.8**
TREC	**Trest**	**2.38**	**248**	*e*PG	**Pb**	**04 14 01.4**	**+0.1**
TREC				*e*SG	**Sg**	**04 14 34.5**	**+0.6**
GOPC	**GO Pecny, Ondr**	**2.64**	**265**	*e*SG	**Sg**	**04 14 41.5**	**-0.9**
PVCC	**Panska Ves**	**2.76**	**278**	*e*PG	**Pb**	**04 14 07.8**	**0.0**
PVCC				*e*SG	**Sg**	**04 14 46.9**	**+0.6**
	comp=Z,6.8nm,0.3s						
PRU	**Pruhonice**	**2.79**	**267**	*e*SG	**Sg**	**04 14 46.8**	**-0.4**
BRG	**Berggiesshubel**	**3.20**	**284**	SG	**Sg**	**04 15 00.8**	**+0.4**
	2.3nm,1.0s						
KHC	**Kasperske Hory**	**3.60**	**254**	*e*PN	**Pn**	**04 14 13.0**	**-1.7**
KHC				*e*SG	**Sg**	**04 15 12.2**	**-1.0**
	comp=Z,4.4nm,0.5s						

*ISCJB **06** 04:44:14.7±0.5, 43°.47S±0°.10×39°.9E±0°.1, h10km, mb4.5/18, Error ellipse: s-maj=17.1km s-min=9.3km az=41.4*
*IDC **06** 04:44:14.7±0.6, 43°.50S×39°.89E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.1/45, mbtmp4.3/14, ML3.8/2, Error ellipse: s-maj=27.9km s-min=14.9km az=51.0*
*NEIC **06** 04:44:16.4±0.3, 43°.49S×39°.92E, h10km, mb4.8/11, Error ellipse: s-maj=14.4km s-min=8.4km az=221.0*
ISC 06 04:44:16.4±0.5, 43°.5S±0°.1×39°.9E±0°.1, h10km, n38, σ0s84/38, mb4.6/18, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.65**	**300**	*e*P	**P**	**04 48 34.3**	**-0.2**
	21nm,1.1s						
SUR	**Sutherland**	**18.65**	**300**	P	**P**	**04 48 34.3**	**-0.2**
	0.3nm,0.3s,baz=118,slow=14,SNR=5.3						
BOSA	**Boshof**	**18.94**	**317**	P	**P**	**04 48 37.7**	**+0.1**
	0.2nm,0.3s,baz=147,slow=10,SNR=6.6						
LBTB	**Lobatse**	**21.83**	**323**	*e*P	**P**	**04 49 09.8**	**+0.9**
	30nm,1.3s						
LBTB	**Lobatse**	**21.83**	**323**	P	**P**	**04 49 08.8**	**-0.2**
	10nm,1.1s,baz=160,slow=11,SNR=5.9						
MATP	**Matopo**	**24.90**	**334**	P	**P**	**04 49 39.4**	**-0.2**
	18nm,1.2s,baz=164,slow=9.2,SNR=6.6						
ABPO	**Ambohimpanom**	**25.17**	**17**	*e*P	**P**	**04 49 41.1**	**-0.9**
	29nm,1.5s						
LSZ	**Lusaka**	**29.84**	**337**	*e*P	**P**	**04 50 24.4**	**+0.4**
	35nm,1.6s						
LSZ	**Lusaka**	**29.84**	**337**	P	**P**	**04 50 23.8**	**-0.1**
	5.2nm,0.9s,baz=172,slow=8.2,SNR=8.4						
QSPA	**South Pole Qui**	**46.72**	**180**	*e*P	**P**	**04 52 45.7**	**+0.5**
	18nm,1.4s						
QSPA	**South Pole Qui**	**46.72**	**180**	P	**P**	**04 52 45.7**	**+0.5**
	1.2nm,0.4s,baz=277,slow=18,SNR=16						
GIRL	**Giralia**	**63.64**	**97**	*e*P	**P**	**04 54 49.7**	**+1.9**
	389nm,1.7s						
DBIC	**Dimbokro**	**64.26**	**309**	*e*P	**P**	**04 54 52.8**	**+1.0**
	21nm,1.4s						
DBIC	**Dimbokro**	**64.26**	**309**	P	**P**	**04 54 52.2**	**+0.4**
	4.8nm,1.0s,baz=129,slow=8.9,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**66.28**	**319**	*e*P	**P**	**04 55 05.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**66.28**	**319**	P	**P**	**04 55 04.8**	**0.0**
	3.0nm,0.9s,baz=128,slow=2.2,SNR=10						
TOA1	**Torodi Ar. Sit**	**66.29**	**319**	*e*P	**P**	**04 55 04.8**	**-0.1**
BKNI	**Bangkinang**	**69.68**	**69**	*e*P	**P**	**04 55 25.0**	**-1.4**
	96nm,0.4s						
FITZ	**Fitzroy Crossi**	**74.75**	**101**	*e*P	**P**	**04 55 56.0**	**-0.7**
	5.8nm,0.9s						
PLCA	**Paso Flores**	**75.37**	**227**	*e*P	**P**	**04 55 58.8**	**-1.3**
	27nm,1.6s						
PLCA	**Paso Flores**	**75.37**	**227**	P	**P**	**04 55 58.8**	**-1.3**
	3.8nm,1.1s,baz=130,slow=14,SNR=3.1						
STKA	**Stephens Creek**	**76.42**	**121**	*e*P	**P**	**04 56 06.3**	**+0.2**
	5.9nm,2.0s						
STKA	**Stephens Creek**	**76.42**	**121**	P	**P**	**04 56 06.3**	**+0.2**
	2.7nm,0.8s,baz=250,slow=3.5,SNR=7.5						
ASAR	**Alice Springs**	**76.88**	**110**	P	**P**	**04 56 08.7**	**-0.2**
	1.3nm,0.8s,baz=225,slow=5.3,SNR=10						
AS31	**Alice Springs**	**76.88**	**110**	*e*P	**P**	**04 56 08.7**	**-0.3**
	0.9nm,1.1s						
CPUP	**Villa Florida**	**77.26**	**246**	*e*P	**P**	**04 56 11.2**	**+0.2**
	26nm,1.9s						
CPUP	**Villa Florida**	**77.26**	**246**	P	**P**	**04 56 11.2**	**+0.2**
	1.3nm,0.7s,baz=48,slow=2.7,SNR=4.4						
WRA	**Warramunga Arr**	**79.67**	**108**	P	**P**	**04 56 24.4**	**+0.1**
	1.3nm,0.9s,baz=217,slow=4.2,SNR=7.6						
WR1	**Warramunga Arr**	**79.67**	**108**	*e*P	**P**	**04 56 24.4**	**+0.1**
	35nm,1.9s						
BRTR	**Keskin Array B**	**83.03**	**355**	P	**P**	**04 56 42.2**	**+0.6**
	1.1nm,0.9s,baz=180,slow=9.5,SNR=4.8						
BR101	**Keskin Array S**	**83.03**	**355**	*e*P	**P**	**04 56 42.2**	**+0.6**
TXAR	**Lajitas Array**	**147.72**	**256**	PKPbc	**PKPbc**	**05 04 01.0**	**-0.3**
	2.1nm,1.1s,baz=141,slow=8.1,SNR=6.2						
TX31	**Lajitas Ar. Si**	**147.72**	**256**	*e*PKPbc	**PKPbc**	**05 04 02.8**	**+1.4**
ECSD	**EROS Data Cent**	**148.77**	**286**	*e*PKPbc	**PKPbc**	**05 04 04.2**	**+0.7**
ULM	**Lac du Bonnet**	**149.38**	**298**	PKPbc	**PKPbc**	**05 04 04.1**	**-0.7**
	1.7nm,0.6s,baz=167,slow=3.8,SNR=4.6						
INK	**Inuvik**	**154.88**	**354**	PKP	**PKPdf**	**05 04 05.2**	**-2.8**
	2.1nm,0.7s,baz=74,slow=4.4,SNR=6.2						
YKA	**Yellowknife Ar**	**155.84**	**331**	PKPbc	PKPbc	05 04 20.6	
	0.2nm,0.7s,baz=32,slow=2.2,SNR=4.2						
YKA				PKPab	**PKPab**	**05 04 36.6**	**+0.3**
	0.4nm,0.7s,baz=46,slow=5.0,SNR=7.0						
YKB5	**Yellowknife Ar**	**155.84**	**331**	*e*PKPdif	PKPbc	05 04 20.6	
YKB5				*e*PKPab	**PKPab**	**05 04 36.6**	**+0.3**

*ISCJB **06** 04:45:41.7±0.4, 43°.43S±0°.08×40°.0E±0°.1, h10km, mb4.4/22, Error ellipse: s-maj=14.8km s-min=9.4km az=137.9*
*IDC **06** 04:45:41.6±0.6, 43°.44S×39°.96E, h0km, mb4.2/16, mb1 4.4/18, mb1mx4.2/45, mbtmp4.3/18, ML3.5/2, Error ellipse: s-maj=22.3km s-min=14.7km az=60.0*
*NEIC **06** 04:45:43.5±0.3, 43°.46S×40°.08E, h10km, mb4.7/14, Error ellipse: s-maj=14.4km s-min=9.6km az=50.0*
ISC 06 04:45:43.1±0.5, 43°.5S±0°.1×40°.2E±0°.1, h10km, n52, σ1s27/51, mb4.5/22, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.80**	**300**	*e*P	**Pn**	**04 50 04.9**	**+1.6**
	32nm,1.1s						
SUR	**Sutherland**	**18.80**	**300**	P	**P**	**04 50 01.4**	**-1.5**
	0.2nm,0.3s,baz=136,slow=11,SNR=6.2						
BOSA	**Boshof**	**19.06**	**316**	*e*P	**P**	**04 50 05.7**	**+0.1**
	39nm,1.3s						
BOSA	**Boshof**	**19.06**	**316**	P	**P**	**04 50 04.5**	**-1.1**
	0.1nm,0.3s,baz=145,slow=14,SNR=6.4						
LBTB	**Lobatse**	**21.94**	**322**	*e*P	**P**	**04 50 36.1**	**-0.7**
LBTB	**Lobatse**	**21.94**	**322**	P	**P**	**04 50 35.8**	**-1.0**
	11nm,0.8s,baz=144,slow=9.9,SNR=5.4						
MATP	**Matopo**	**24.97**	**333**	P	**P**	**04 51 06.2**	**-0.6**
	22nm,1.0s,baz=164,slow=9.6,SNR=10						
LSZ	**Lusaka**	**29.91**	**336**	*e*P	**P**	**04 51 51.3**	**+0.1**
	19nm,1.0s						
LSZ	**Lusaka**	**29.91**	**336**	P	**P**	**04 51 50.7**	**-0.5**
	15nm,1.1s,baz=165,slow=9.3,SNR=9.0						
SNAA	**Sanae**	**35.03**	**202**	*e*P	**P**	**04 52 34.6**	**-0.8**
	8.9nm,1.2s						
SNAA	**Sanae**	**35.03**	**202**	P	**P**	**04 52 34.6**	**-0.8**
	1.9nm,0.9s,baz=76,slow=4.2,SNR=2.5						
QSPA	**South Pole Qui**	**46.73**	**180**	P	**P**	**04 54 12.7**	**+0.7**
	1.3nm,0.7s,baz=271,slow=2.5,SNR=5.2						
MORW	**Morawa**	**60.88**	**104**	*e*P	**P**	**04 55 52.5**	**-3.4**
	132nm,2.0s						
DBIC	**Dimbokro**	**64.39**	**309**	*e*P	**P**	**04 56 19.6**	**+0.2**
	38nm,1.8s						
DBIC	**Dimbokro**	**64.39**	**309**	P	**P**	**04 56 19.6**	**+0.2**
	4.3nm,1.0s,baz=110,slow=6.0,SNR=3.5						
TOA0	**Torodi Ar. Sit**	**66.40**	**319**	*e*P	**P**	**04 56 33.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**66.40**	**319**	P	**P**	**04 56 32.7**	**+0.4**
	3.4nm,0.9s,baz=149,slow=7.0,SNR=8.6						
TOA1	**Torodi Ar. Sit**	**66.40**	**319**	*e*P	**P**	**04 56 32.7**	**+0.4**
TRQA	**Tornquist**	**72.53**	**234**	*e*P	**P**	**04 57 11.2**	**+1.1**
	9.6nm,1.2s						
TAM	**Tamanrasset**	**73.22**	**327**	*e*P	**P**	**04 57 16.5**	**+2.1**
	14nm,1.6s						
PLCA	**Paso Flores**	**75.52**	**227**	*e*P	**P**	**04 57 27.8**	**+0.2**
	10nm,1.1s						
PLCA	**Paso Flores**	**75.52**	**227**	P	**P**	**04 57 27.8**	**+0.2**
	2.9nm,0.8s,baz=147,slow=7.1,SNR=4.8						
STKA	**Stephens Creek**	**76.27**	**121**	*e*P	**P**	**04 57 34.1**	**+2.2**
	5.7nm,1.9s						
STKA	**Stephens Creek**	**76.27**	**121**	P	**P**	**04 57 34.1**	**+2.2**
	2.4nm,0.7s,baz=192,slow=4.1,SNR=3.6						
ASAR	**Alice Springs**	**76.71**	**110**	P	**P**	**04 57 36.5**	**+1.8**
	1.0nm,0.9s,baz=223,slow=6.1,SNR=5.2						
AS31	**Alice Springs**	**76.71**	**110**	*e*P	**P**	**04 57 36.5**	**+1.8**
	3.7nm,1.8s						
AS01	**Alice Springs**	**76.74**	**110**	*e*P	**P**	**04 57 35.9**	**+1.1**
CPUP	**Villa Florida**	**77.44**	**246**	*e*P	**P**	**04 57 36.6**	**-2.0**
	7.2nm,1.4s						
CPUP	**Villa Florida**	**77.44**	**246**	P	**P**	**04 57 36.6**	**-2.0**
	1.6nm,0.7s,baz=106,slow=6.4,SNR=4.9						
WR1	**Warramunga Arr**	**79.49**	**107**	*e*P	**P**	**04 57 50.3**	**+0.2**
	19nm,1.6s						
WRA	**Warramunga Arr**	**79.49**	**107**	P	**P**	**04 57 50.3**	**+0.2**
	1.0nm,0.9s,baz=223,slow=4.1,SNR=4.6						
CM31	**Chiang Mai Arr**	**81.82**	**55**	*e*P	**P**	**04 58 02.6**	**+0.2**
	6.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**81.82**	**55**	P	**P**	**04 58 02.6**	**+0.2**
	0.9nm,0.3s,baz=230,slow=6.1,SNR=7.3						
BR101	**Keskin Array S**	**83.03**	**355**	*e*P	**P**	**04 58 06.8**	**-1.6**
BRTR	**Keskin Array B**	**83.03**	**355**	P	**P**	**04 58 06.8**	**-1.6**
	1.3nm,1.1s,baz=208,slow=6.6,SNR=4.0						
SHL	**Shillong**	**83.52**	**46**	*e*P	**P**	**04 58 11.0**	**-0.3**
MLR	**Muntele Rosu**	**89.48**	**350**	*e*P	**P**	**04 58 41.4**	**+1.5**
	24nm,1.5s						
MLR	**Muntele Rosu**	**89.48**	**350**	P	**P**	**04 58 39.5**	**-0.4**
	1.2nm,0.4s,baz=165,slow=16,SNR=3.2						
ESDC	**Sonseca Array**	**91.87**	**327**	P	**P**	**04 58 49.0**	**-2.1**
	0.1nm,0.3s,baz=131,slow=9.7,SNR=2.8						
MK01	**Makanchi Array**	**97.30**	**28**	*e*P	Pdif	04 59 21.3	+5.4
JSC	**Jenkinsville**	**134.31**	**279**	*e*PKPdf	**PKPdf**	**05 04 59.4**	**-1.5**
435B	**Jarrell**	**144.37**	**264**	*e*PKPdf	**PKPdf**	**05 05 19.0**	**-0.3**
WHTX	**Lake Whitney,**	**144.91**	**265**	*e*PKPdf	**PKPdf**	**05 05 20.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**147.91**	**256**	*e*PKPbc	**PKPbc**	**05 05 29.4**	**+0.8**
TXAR	**Lajitas Array**	**147.91**	**256**	PKPbc	**PKPbc**	**05 05 28.9**	**+0.4**
	0.8nm,0.8s,baz=139,slow=5.6,SNR=4.5						
ECSD	**EROS Data Cent**	**148.95**	**286**	*e*PKPbc	**PKPbc**	**05 05 31.5**	**+0.8**
ULM	**Lac du Bonnet**	**149.54**	**298**	PKPbc	**PKPbc**	**05 05 31.0**	**-0.9**
	1.6nm,0.7s,baz=25,slow=0.9,SNR=3.8						
MSTX	**Muleshoe**	**149.77**	**264**	*e*PKPbc	**PKPbc**	**05 05 34.1**	**+1.0**
YKA	**Yellowknife Ar**	**155.91**	**331**	PKPbc	PKPbc	05 05 46.7	
	0.3nm,0.8s,baz=24,slow=1.6,SNR=4.0						
YKA				PKPab	**PKPab**	**05 06 02.8**	**-0.6**
	0.4nm,0.8s,baz=50,slow=4.5,SNR=4.8						
YKB5	**Yellowknife Ar**	**155.91**	**331**	*e*PKPdif	PKPbc	05 05 46.7	
YKB5				*e*PKPab	**PKPab**	**05 06 02.8**	**-0.6**
SRU	**San Rafael Swe**	**157.59**	**269**	*e*PKPab	**PKPab**	**05 06 13.2**	**+1.5**
EGAK	**Eagle**

comp=Z,50nm,18.7s,baz=215,slow=37

JSC	**Jenkinsville**	**134.08 279**	*e*PKPpre	PKPpre	05 06 48.5	
WHTX	**Lake Whitney,**	**144.70 266**	*e*PKPdf	PKPbc	05 07 20.1	+0.4
JCT	**Junction City**	**145.59 262**	*e*PKPdf	**PKPab**	**05 07 24.3**	**+1.3**
TXAR	**Lajitas Array**	**147.71 256**	PKPbc	**PKPbc**	**05 07 28.9**	**0.0**
	1.6nm,1.0s,baz=134,slow=5.4,SNR=6.1					
TX31	**Lajitas Ar. Si**	**147.71 256**	*e*PKPbc	**PKPbc**	**05 07 29.0**	**+0.1**
FCC	**Fort Churchill**	**147.99 315**	*e*PKPbc	**PKPbc**	**05 07 29.3**	**+0.7**
ECSD	**EROS Data Cent**	**148.72 286**	*e*PKPbc	**PKPbc**	**05 07 31.0**	**-0.1**
ULM	**Lac du Bonnet**	**149.32 299**	PKPbc	**PKPbc**	**05 07 31.6**	**-0.7**
	1.8nm,0.8s,baz=83,slow=5.2,SNR=3.3					
MSTX	**Muleshoe**	**149.55 265**	*e*PKPbc	**PKiKP**	**05 07 34.3**	**-0.3**
SDCO	**Great Sand Dun**	**153.21 270**	*e*PKPab	**PKPab**	**05 07 55.8**	**+1.8**
SRU	**San Rafael Swe**	**157.38 269**	*e*PKPab	**PKPab**	**05 08 12.7**	**+1.0**
EGAK	**Eagle**	**158.59 1**	*e*PKPab	**PKPab**	**05 08 17.4**	**+1.6**
BMO	**Blue Mountains**	**163.54 283**	*e*PKPab	**PKPab**	**05 08 40.6**	**+2.3**
BEKR	**Beckworth**	**164.78 263**	*e*PKPdf	**PKPdf**	**05 07 46.1**	**-1.9**

*ISCJB **06** 04:51:25.8±0.7,43.42S±0.09×39.5E±0.2,h10km, mb4.4/11, Error ellipse: s-maj=25.7km s-min=11.5km az=163.8*

*IDC **06** 04:51:25.7±1.2,43.43S×39.67E,h0km,mb4.3/10, mb1 4.3/11,mb1mx4.0/39,mbtmp4.3/11,ML3.7/1, Error ellipse: s-maj=45.3km s-min=17.6km az=84.0*

*NEIC **06** 04:51:27.5±0.6,43.44S×39.50E,h10km,mb4.4/8, Error ellipse: s-maj=23.3km s-min=10.2km az=74.0*

ISC 06 04:51:27.5±0.9,**43.4S**±0.1×**39.6E**±0.2,**h10**km**,n25, σ0s90/25,mb4.5/11,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.44**	**301**	*e*P	**P**	**04 55 42.1**	**-1.2**
	26nm,1.3s						
SUR	**Sutherland**	**18.44**	**301**	P	**P**	**04 55 42.1**	**-1.2**
	0.3nm,0.3s,baz=148,slow=18,SNR=3.0						
BOSA	**Boshof**	**18.76**	**317**	*e*P	**P**	**04 55 44.7**	**-2.1**
	28nm,1.7s						
LBTB	**Lobatse**	**21.67**	**324**	*e*P	**P**	**04 56 18.0**	**-0.4**
	14nm,1.1s						
LBTB	**Lobatse**	**21.67**	**324**	P	**P**	**04 56 18.0**	**-0.4**
	3.0nm,0.6s,baz=159,slow=11,SNR=3.9						
MATP	**Matopo**	**24.76**	**334**	P	**P**	**04 56 48.5**	**-1.0**
	12nm,1.1s,baz=163,slow=11,SNR=6.7						
LSZ	**Lusaka**	**29.72**	**337**	*e*P	**P**	**04 57 34.8**	**+0.8**
	8.4nm,0.9s						
LSZ	**Lusaka**	**29.72**	**337**	P	**P**	**04 57 33.5**	**-0.5**
	7.8nm,1.0s,baz=171,slow=11,SNR=7.0						
SNAA	**Sanae**	**34.91**	**202**	*e*P	**P**	**04 58 18.6**	**-0.4**
	8.9nm,1.3s						
SNAA	**Sanae**	**34.91**	**202**	P	**P**	**04 58 18.6**	**-0.4**
	3.0nm,1.0s,baz=32,slow=15,SNR=2.8						
QSPA	**South Pole Qui**	**46.77**	**180**	*e*P	**P**	**04 59 57.3**	**+0.5**
QSPA	**South Pole Qui**	**46.77**	**180**	P	**P**	**04 59 56.4**	**-0.4**
	1.4nm,0.7s,baz=264,slow=3.1,SNR=6.4						
ATD	**Arta Tunnel**	**54.78**	**4**	P	**P**	**05 00 57.1**	**-0.5**
	7.6nm,0.7s,baz=152,slow=6.5,SNR=4.4						
SBA	**Scott Base**	**54.80**	**168**	*e*P	**P**	**05 00 56.0**	**-1.0**
	17nm,1.5s						
DBIC	**Dimbokro**	**64.06**	**309**	*e*P	**P**	**05 02 02.9**	**+1.2**
	30nm,2.0s						
DBIC	**Dimbokro**	**64.06**	**309**	P	**P**	**05 02 02.9**	**+1.2**
	1.7nm,0.7s,baz=147,slow=4.5,SNR=3.0						
TOA0	**Torodi Ar. Sit**	**66.11**	**319**	*e*P	**P**	**05 02 15.0**	**0.0**
TORD	**Torodi Ar. Bea**	**66.11**	**319**	P	**P**	**05 02 14.8**	**-0.1**
	3.1nm,0.9s,baz=141,slow=5.5,SNR=7.9						
TOA1	**Torodi Ar. Sit**	**66.11**	**319**	*e*P	**P**	**05 02 14.8**	**-0.2**
PLCA	**Paso Flores**	**75.24**	**228**	*e*P	**P**	**05 03 11.7**	**+1.2**
	4.6nm,1.1s						
PLCA	**Paso Flores**	**75.24**	**228**	P	**P**	**05 03 11.7**	**+1.2**
	1.9nm,0.9s,baz=78,slow=3.4,SNR=3.2						
BR101	**Keskin Array S**	**82.96**	**355**	*e*P	**P**	**05 03 52.8**	**+0.3**
BRTR	**Keskin Array B**	**82.96**	**355**	P	**P**	**05 03 52.8**	**+0.3**
	1.1nm,0.8s,baz=164,slow=8.6,SNR=6.0						
TXAR	**Lajitas Array**	**147.53**	**257**	PKPbc	**PKPdf**	**05 11 09.8**	**+0.5**
	0.1nm,0.5s,baz=126,slow=4.6,SNR=2.0						
ULM	**Lac du Bonnet**	**149.17**	**299**	PKPbc	**PKPbc**	**05 11 15.2**	**-0.3**
	1.2nm,0.9s,baz=146,slow=3.6,SNR=3.1						

*ISCJB **06** 04:55:29.6±0.6,21.69N±0.07×143.1E±0.1,h311km, mb3.8/17, Error ellipse: s-maj=18.3km s-min=9.9km az=176.3*

*IDC **06** 04:55:30.4±1.6,21.71N×143.14E,h301km±14km, mb3.5/18,mb1 3.7/21,mb1mx3.5/52,mbtmp4.2/21, Error ellipse: s-maj=15.0km s-min=11.2km az=88.0*

ISC 06 04:55:31.2±0.7,**21.74N**±0.09×**143.1E**±0.1,**h311**km**,n24, σ0s75/28,mb3.8/17,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.40**	**351**	P	**Pn**	**04 56 53.1**	**-0.6**
	40nm,0.3s,baz=175,slow=3.2,SNR=16						
JCJ				S	**S**	**04 57 59.0**	**-1.2**
	26nm,0.3s,baz=254,slow=23,SNR=6.0						
MJAR	**Matsushiro Arr**	**15.35**	**345**	P	**P**	**04 58 51.7**	**+0.2**
	0.2nm,0.3s,baz=169,slow=10,SNR=8.9						
JNU	**Nakatsue**	**15.67**	**319**	P	**Pn**	**04 58 56.3**	**-0.8**
	0.1nm,0.3s,baz=101,slow=10,SNR=5.7						
KSRS	**Korea Array**	**20.43**	**323**	P	**P**	**04 59 46.8**	**+1.1**
	5.2nm,0.6s,baz=147,slow=8.8,SNR=23						
KLR	**Kul'dur**	**28.88**	**345**	P	**P**	**05 01 01.9**	**+0.2**
	5.0nm,0.6s,baz=145,slow=5.8,SNR=18						
SONM	**Songino Array**	**39.25**	**320**	P	**P**	**05 02 31.2**	**+0.7**
	0.8nm,0.4s,baz=127,slow=7.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**41.48**	**274**	P	**P**	**05 02 49.3**	**+0.5**
	1.3nm,0.4s,baz=76,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**05 02 54.7**	**-0.6**
	0.7nm,0.4s,baz=17,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**46.01**	**192**	P	**P**	**05 03 23.3**	**-1.2**
	0.4nm,0.6s,baz=16,slow=12,SNR=6.5						
ZALV	**Zalesovo Beam**	**54.12**	**322**	P	**P**	**05 04 25.0**	**+0.4**
	2.2nm,0.6s,baz=106,slow=6.6,SNR=9.5						
ZALV				PcP	**PcP**	**05 05 24.8**	**-0.2**
	2.0nm,0.5s,baz=102,slow=2.7,SNR=6.7						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**05 04 28.9**	**+0.7**
	2.1nm,0.6s,baz=90,slow=9.3,SNR=24						
MKAR				PcP	**PcP**	**05 05 27.3**	**+0.3**
	0.9nm,0.4s,baz=75,slow=4.3,SNR=8.2						
MKAR				ScP	**ScP**	**05 08 54.6**	**-0.4**
	0.4nm,0.6s,baz=94,slow=5.1,SNR=4.6						
ILAR	**Eielson Array**	**62.05**	**27**	P	**P**	**05 05 17.5**	**-1.5**
	0.7nm,0.4s,baz=248,slow=4.6,SNR=24						
INK	**Inuvik**	**67.57**	**24**	P	**P**	**05 05 54.4**	**+0.1**
	2.3nm,1.0s,baz=316,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**05 06 47.3**	**+0.5**
	1.9nm,0.6s,baz=291,slow=5.8,SNR=22						
RES	**Resolute Bay**	**77.06**	**13**	P	**P**	**05 06 50.2**	**+0.3**
	1.5nm,0.8s,baz=9.4,slow=5.5,SNR=8.7						
ARCES	**ARCESS Array B**	**78.85**	**341**	P	**P**	**05 07 00.6**	**+0.7**
	5.8nm,0.5s,baz=75,slow=8.5,SNR=45						
KBZ	**Khabaz**	**82.27**	**314**	P	**P**	**05 07 18.9**	**+0.5**
	5.6nm,0.9s,baz=101,slow=4.6,SNR=7.2						
FINES	**FINESS Array B**	**83.10**	**334**	P	**P**	**05 07 21.8**	**-0.5**
	3.7nm,0.4s,baz=64,slow=5.0,SNR=64						
NVAR	**Mina Array Bea**	**83.19**	**51**	P	**P**	**05 07 24.7**	**+1.2**
	1.0nm,0.7s,baz=271,slow=6.1,SNR=5.2						
AKASG	**Malin Array Be**	**87.42**	**324**	P	**P**	**05 07 42.8**	**-0.9**
	0.5nm,0.3s,baz=52,slow=5.4,SNR=7.0						
BRTR	**Keskin Array B**	**90.24**	**313**	P	**P**	**05 07 56.5**	**-0.9**
	0.5nm,0.6s,baz=66,slow=2.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**128.64**	**309**	PKP	**PKiKP**	**05 14 02.8**	**-0.3**
	0.5nm,0.8s,baz=12,slow=1.8,SNR=5.7						
PLCA	**Paso Flores**	**145.85**	**131**	PKPbc	**PKPbc**	**05 14 34.7**	**+0.2**
	3.6nm,0.6s,baz=269,slow=3.7,SNR=16						
LPAZ	**La Paz**	**150.03**	**85**	PKPbc	**PKiKP**	**05 14 47.7**	**+0.2**
	2.2nm,0.6s,baz=310,slow=3.0,SNR=14						

MEX 06 05:02:33.3±0.5,**15.38N**×**94.80W**,**h16**km±7km,**MD3.8, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.32**	**287**	*e*P	Pn	05 02 53.6	-3.4
HUIG				*i* S	Sn	05 03 08.7	-5.5
PCIG		**1.56**	**78**	*e*P	Pn	05 02 56.7	-3.6
PCIG				*e*S	Sn	05 03 14.8	-5.4
CMIG	**Matias Romero**	**1.70**	**357**	*e*P	Pn	05 02 59.2	-3.1
CMIG				*i* S	Sn	05 03 18.7	-5.0
VHO	**Vista Hermosa**	**2.50**	**312**	*i* P	Pn	05 03 11.3	-2.2
VHO				*i* S	Sn	05 03 39.0	-4.8

MEX 06 05:04:49.9±0.6,**18.34N**×**97.46W**,**h16**km±4km,**MD3.5, Central Mexico**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.12**	**51**	*i* P	Pg	05 04 52.8	-0.9
TPIG				*i* S	Sg	05 04 55.6	-0.6
PPM	**Popocatepetl**	**1.32**	**303**	*i* P	Pn	05 05 10.0	-4.2
PPM				*i* S	Sb	05 05 26.8	-4.7
YAIG	**Yautepec**	**1.61**	**289**	*i* P	Pn	05 05 13.9	-3.9
YAIG				*i* S	Sn	05 05 33.3	-5.1

*ISCJB **06** 05:13:03.3±0.3,36.55N±0.03×70.98E±0.04,h194km±4km, mb3.9/26, Error ellipse: s-maj=5.7km s-min=3.9km az=163.6*

*MOS **06** 05:13:03.2±0.9,36.54N×70.96E,h193km,mb4.1/21, Error ellipse: s-maj=11.6km s-min=5.3km az=80.7*

*BJI **06** 05:13:04.7,36.82N×70.87E,h190km,mb4.4/12,mB4.7/7*

*IDC **06** 05:13:05.0±0.7,36.47N×70.99E,h198km±6km,mb3.7/20, mb1 3.9/25,mb1mx3.6/53,mbtmp4.3/25, Error ellipse: s-maj=10.8km s-min=9.9km az=12.0*

*NNC **06** 05:13:09.2±2.9,37.00N×70.93E,h213km±34km,mb3.5, mpv4.7, Error ellipse: s-maj=27.1km s-min=15.4km az=13.0*

ISC 06 05:13:04.2±0.5,**36.56N**±0.05×**70.92E**±0.05,**h189**km±4km, **h188**km**:pP-P,n94,σ1s37/112,mb3.9/26,13C-7D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.53**	**218**	PN	**Pn**	**05 13 48.3**	**+0.3**
CEP	**Cherat**	**2.85**	**163**	P	**Pn**	**05 13 52.4**	**+0.7**
CEP				S	**Sn**	**05 14 28.0**	**-0.6**
CHCP	**Chirah Chowk**	**3.47**	**146**	P	**Pn**	**05 13 59.9**	**+0.8**
THW	**Thamme Wali**	**3.82**	**170**	P	**Pn**	**05 14 03.6**	**+0.2**
SARP	**Sargodha**	**4.85**	**162**	P	**Pn**	**05 14 15.9**	**-0.6**
TAS	**Tashkent**	**4.93**	**346**	PN	**Pn**	**05 14 18.0**	**+0.6**
KSH	**Kashi**	**4.96**	**52**	P	**Pn**	**05 14 14.4**	**-3.6**
KSH				sP		05 14 52.8	
KSH				S	Sn	05 15 04.5	-11
KSH				smax	smax		
	comp=N,240nm,0.8s						
KSH				smax	smax		
	comp=E,160nm,0.5s						
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**05 14 31.2**	**+0.1**
	SNR=168						
UCH	**Uchtor**	**6.31**	**25**	P	**Pn**	**05 14 35.8**	**+0.1**
	SNR=30						
KZA	**Kyzart**	**6.45**	**30**	P	**Pn**	**05 14 37.0**	**-0.6**
	SNR=35						
EKS2	**Erkin-Say**	**6.48**	**19**	P	**Pn**	**05 14 37.9**	**+0.3**
	SNR=119						
KK31	**Karatay Array**	**6.54**	**357**	⇑P	**Pn**	**05 14 38.2**	**-0.1**
	19nm,0.4s,baz=176,slow=13,SNR=449						
KK31				⇑S	**Sn**	**05 15 48.0**	**-4.8**
	44nm,0.5s,baz=183,slow=18,SNR=14						
KK31	**Karatay Array**	**6.54**	**357**	*e*PN	**Pn**	**05 14 38.2**	**-0.1**
KK31				pmax	pmax		
	comp=Z,33nm,0.5s						
AAK	**Ala-Archa**	**6.67**	**23**	P	**Pn**	**05 14 40.6**	**+0.5**
	SNR=14						
AAK	**Ala-Archa**	**6.67**	**23**	⇑P	**Pn**	**05 14 40.2**	**+0.1**
	comp=Z,17nm,0.4s						
AAK				⇓S	**Sn**	**05 15 54.6**	**-1.4**
	comp=Z,82nm,0.7s						
AAK	**Ala-Archa**	**6.67**	**23**	P	**Pn**	**05 14 40.5**	**+0.4**
	comp=Z,11nm,0.3s,baz=193,slow=8.9,SNR=90						
AAK				S	**Sn**	**05 15 55.2**	**-0.8**
	comp=Z,4.1nm,0.3s,baz=108,slow=21,SNR=17						
KBK	**Karagaybulak**	**6.84**	**26**	P	**Pn**	**05 14 42.6**	**+0.2**
	SNR=39						
BHK	**Bhakra**	**6.87**	**137**	*e*P	**Pn**	**05 14 42.6**	**-0.1**
BHK				*e*S	Sn	05 15 43.0	-18
FRU	**Bishkek**	**6.88**	**23**	⇓*i*PN	**Pn**	**05 14 43.0**	**+0.2**
ULHL	**Ulahol**	**7.01**	**34**	P	**Pn**	**05 14 44.5**	**-0.2**
	SNR=9.2						
CHMS	**Chumysh**	**7.08**	**23**	P	**Pn**	**05 14 45.3**	**0.0**
	SNR=16						
USP	**Ospenovka**	**7.24**	**21**	P	**Pn**	**05 14 46.9**	**-0.6**
	SNR=24						
TKM2	**Tokmak 2**	**7.30**	**28**	⇑P	**Pn**	**05 14 48.9**	**+0.4**
	SNR=55						
TKM2	**Tokmak 2**	**7.30**	**28**	⇑P	**Pn**	**05 14 48.3**	**-0.2**
	comp=Z,71nm,0.6s						
TKM2				⇑S	**Sn**	**05 16 06.9**	**-4.2**
	comp=Z,20nm,0.7s						
TKM2	**Tokmak 2**	**7.30**	**28**	*i* PN	**Pn**	**05 14 48.2**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,71nm,0.5s						
MDOK	**Medeo**	**8.10**	**34**	⇑P	**Pn**	**05 14 59.2**	**+0.3**
	comp=Z,16nm,0.6s						
PDGK	**Podgornoye**	**9.43**	**42**	⇑P	**Pn**	**05 15 15.7**	**-0.5**
	comp=Z,1.7nm,0.5s						
PDGK	**Podgornoye**	**9.43**	**42**	P	**Pn**	**05 15 15.7**	**-0.5**
PDGK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NDI	**New Delhi**	**9.48**	**144**	*e*P	**Pn**	**05 15 14.0**	**-2.9**
NDI				*e*S	Sn	05 16 52.5	-10
GEYT	**Alibeck**	**10.30**	**281**	P	**Pn**	**05 15 25.3**	**-2.2**
	comp=Z,1.9nm,0.3s,baz=101,slow=7.1,SNR=12						
GEYT				S	**Sn**	**05 17 21.5**	**-0.7**
	comp=Z,5.1nm,0.3s,baz=142,slow=12,SNR=7.7						
OTUK	**Ortayu**	**11.72**	**5**	⇓P	**Pn**	**05 15 44.1**	**-1.7**
	comp=Z,5.8nm,0.8s						
OTUK	**Ortayu**	**11.72**	**5**	P	**Pn**	**05 15 44.0**	**-1.7**
OTUK				pmax	pmax		
	comp=Z,12nm,1.2s						
MAKZ	**Makanchi**	**13.14**	**35**	⇓P	**Pn**	**05 16 03.9**	**+0.1**
	comp=Z,9.0nm,0.7s						
MAKZ	**Makanchi**	**13.14**	**35**	P	**Pn**	**05 16 03.9**	**+0.1**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PYUN	**Piuthan**	**13.23**	**126**	*e*P	**Pn**	**05 16 02.3**	**-2.9**
	comp=Z,34nm,0.2s						
MK31	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**05 16 05.1**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=216,slow=10,SNR=29						
MK31	**Makanchi Array**	**13.28**	**36**	*i* P	**Pn**	**05 16 05.1**	**-0.4**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR	**Makanchi Array**	**13.28**	**36**	P	**Pn**	**05 16 04.7**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=17						
DANN	**Dangsing**	**13.57**	**123**	*e*P	**Pn**	**05 16 08.1**	**-1.5**
	comp=Z,44nm,0.4s						
KOLN	**Koldanda**	**13.85**	**126**	*e*P	**Pn**	**05 16 10.9**	**-2.1**
	comp=Z,18nm,0.3s						
GKN	**Gorkha**	**14.39**	**122**	*e*P	**Pn**	**05 16 18.0**	**-1.6**
	comp=Z,64nm,0.4s						
DMN	**Daman**	**14.96**	**123**	*e*P	**Pn**	**05 16 25.7**	**-1.0**
	comp=Z,53nm,0.5s						
KKN	**Kakani**	**14.96**	**122**	*e*P	**Pn**	**05 16 25.1**	**-1.6**
	comp=Z,60nm,0.7s						
AB31	**Akbulak array**	**15.00**	**331**	⇓P	**Pn**	**05 16 25.7**	**-1.0**
	comp=Z,19nm,0.7s,baz=144,slow=12,SNR=229						
AB31	**Akbulak array**	**15.00**	**331**	*i* P	**Pn**	**05 16 25.4**	**-1.3**
AB31				pmax	pmax		
	comp=Z,19nm,0.7s						
KURBB	**Kurchatov Arra**	**15.09**	**19**	⇑P	**Pn**	**05 16 25.7**	**-2.1**
	comp=Z,3.5nm,0.7s						
KURBB	**Kurchatov Arra**	**15.09**	**19**	P	**Pn**	**05 16 25.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=211,slow=11,SNR=9.9						
PKIN	**Phulchoki**	**15.18**	**122**	*e*P	**Pn**	**05 16 28.7**	**-0.7**
	comp=Z,52nm,0.4s						
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**Pn**	**05 16 28.8**	**-0.8**
	comp=Z,75nm,0.6s						
KURK	**Kurchatov**	**15.20**	**19**	*ce*P	**Pn**	**05 16 26.8**	**-2.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GUN	**Gumba**	**15.30**	**120**	*e*P	**Pn**	**05 16 30.0**	**-1.0**
	comp=Z,39nm,0.4s						
JIRN	**Jiri**	**15.67**	**120**	*e*P	**Pn**	**05 16 34.8**	**-0.7**
	comp=Z,140nm,0.4s						
RAMN	**Ramite**	**16.40**	**121**	*e*P	**P**	**05 16 43.1**	**-0.5**
	comp=Z,32nm,0.3s						
BVA0	**Borovoye Array**	**16.47**	**359**	*i* P	**Pn**	**05 16 44.5**	**0.0**
BVA0				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BVAR	**Borovoye Array**	**16.47**	**359**	P	**P**	**05 16 43.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=177,slow=10,SNR=30						
BRVK	**Borovoye**	**16.50**	**359**	*i* P	**P**	**05 16 44.2**	**0.0**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
AKTO	**Aktyubinsk**	**16.70**	**330**	⇓P	**Pn**	**05 16 47.5**	**+0.3**
	comp=Z,20nm,0.6s						
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**Pn**	**05 16 47.8**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=141,slow=10,SNR=71						
AKTO				S	**S**	**05 19 47.9**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=137,slow=19,SNR=2.5						
ZALV	**Zalesovo Beam**	**19.89**	**25**	P	**P**	**05 17 21.2**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=224,slow=11,SNR=32						
ZALV				S	**S**	**05 20 54.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=4.3						
NVS	**Novosibirsk**	**20.15**	**21**	⇑*e*P	**P**	**05 17 25.0**	**+1.3**
NVS				*e*S	**S**	**05 20 58.6**	**-0.7**
NVS				pmax	pmax		
	comp=N,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
NVS				smax	smax		
	comp=N,14nm,1.8s						
NVS				smax	smax		
	comp=E,6.0nm,1.6s						
ARU	**Arti**	**21.55**	**341**	*d i*P	**P**	**05 17 39.7**	**+1.1**
ARU						05 18 15.3	
ARU				S	**S**	**05 21 25.7**	**+0.9**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GTA	**Gaotai**	**22.91**	**74**	*e*P	**P**	**05 17 53.2**	**+1.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KNGR	**Kungurtug, Tuv**	**23.68**	**45**	*i* P	**P**	**05 18 00.3**	**+1.7**
ANN	**Anapa**	**26.55**	**298**	*e*P	**P**	**05 18 22.8**	**-1.6**
ANN				*e*PP	**pP**	**05 19 03.1**	**+0.3**
ANN				*e*S	**S**	**05 22 42.0**	**-2.6**
ANN				*e*SS	**sS**	**05 23 52.8**	**-1.8**
ANN				pmax	pmax		
	comp=Z,43nm,1.1s						
SONM	**Songino Array**	**28.36**	**55**	P	**P**	**05 18 40.7**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=263,slow=10,SNR=5.5						
ULN	**Ulaanbaatar**	**28.80**	**56**	*ce*P	**P**	**05 18 45.5**	**+0.9**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**29.35**	**288**	P	**P**	**05 18 51.5**	**+1.9**
	comp=Z,0.4nm,0.5s,baz=106,slow=9.1,SNR=3.6						
BRTR				pP	**pP**	**05 19 30.9**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=98,slow=8.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**30.54**	**119**	P	**P**	**05 19 00.1**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=303,slow=9.1,SNR=10						
XAN	**Xi'an**	**30.99**	**83**	P	**P**	**05 19 04.7**	**+0.8**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,170nm,4.5s						
AKASG	**Malin Array Be**	**32.86**	**309**	P	**P**	**05 19 20.7**	**+0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**32.86**	**309**	P	**P**	**05 19 20.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=84,slow=7.7,SNR=6.3						
MLR	**Muntele Rosu**	**34.70**	**299**	P	**P**	**05 19 37.9**	**+1.9**
	comp=Z,3.2nm,0.7s,baz=115,slow=6.5,SNR=6.3						
FINES	**FINESS Array B**	**37.40**	**326**	P	**P**	**05 19 59.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=117,slow=10,SNR=11						
FINES				pP	**pP**	**05 20 40.9**	**+2.3**
	comp=Z,1.2nm,0.7s,baz=123,slow=9.4,SNR=1.9						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**05 20 30.1**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=114,slow=7.5,SNR=15						
ARCES				pP	**pP**	**05 21 11.4**	**+1.7**
	comp=Z,3.0nm,0.8s,baz=101,slow=6.5,SNR=2.2						
PSI	**Prapat**	**42.37**	**136**	P	**P**	**05 20 40.0**	**-0.2**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PSI	**Prapat**	**42.37**	**136**	P	**P**	**05 20 40.0**	**-0.2**
	comp=Z,5.4nm,0.6s,baz=180,slow=12,SNR=4.1						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**05 20 55.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**05 20 54.9**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=96,slow=7.7,SNR=7.4						
NOA				pP	**pP**	**05 21 37.1**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=97,slow=8.1,SNR=4.4						
KLR	**Kul'dur**	**45.16**	**54**	P	**P**	**05 21 02.3**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=276,slow=8.3,SNR=7.9						
TIXI	**Tiksi**	**45.74**	**22**	*ce*P	**P**	**05 21 06.5**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**45.74**	**22**	P	**P**	**05 21 06.7**	**+0.5

MSVF	**Nonsavu**	**8.14**	**56**	*e*Pn		**Pn**	**05 49 40.9**	**-1.3**
MSVF				*e*			05 49 42.1	
URZ	**Urewera**	**16.62**	**163**	*e*Pn		**Pn**	**05 51 36.0**	**-0.2**
	38nm,1.0s							
URZ	**Urewera**	**16.62**	**163**	LR		LR	05 56 16.5	
	comp=Z,640nm,18.6s,baz=348,slow=33							
HNR	**Honiara**	**16.72**	**319**	LR		LR	05 57 18.5	
	comp=Z,663nm,21.2s,baz=102,slow=33							
BKZ	**Black Stump Fm**	**17.32**	**165**	*e*Pn		**Pn**	**05 51 44.1**	**-1.0**
	20nm,0.9s							
EIDS	**Eidsvold**	**18.41**	**257**	*e*P		**P**	**05 51 55.9**	**-2.3**
	8.6nm,1.1s							
BFZ	**Birch Farm**	**18.72**	**167**	*e*P		**Pn**	**05 52 01.6**	**-0.5**
	40nm,1.1s							
KHZ	**Kahutara**	**20.02**	**174**	*e*P		**P**	**05 52 15.5**	**-0.1**
	34nm,1.2s							
RPZ	**Rata Peaks**	**21.21**	**180**	LR		LR	05 59 58.2	
	comp=Z,169nm,18.4s,baz=358,slow=36							
CTA	**Charters Tower**	**23.15**	**271**	LR		LR	06 01 09.3	
	comp=Z,385nm,20.1s,baz=90,slow=35							
RAR	**Rarotonga**	**27.17**	**93**	LR		LR	06 01 30.2	
	comp=Z,312nm,21.8s,baz=278,slow=31							
STKA	**Stephens Creek**	**27.70**	**244**	*e*P		**P**	**05 53 29.9**	**-0.9**
	0.4nm,0.8s							
STKA	**Stephens Creek**	**27.70**	**244**	P		**P**	**05 53 29.9**	**-0.9**
	2.1nm,0.7s,baz=82,slow=12,SNR=6.0							
STKA				LR		LR	06 03 43.8	
	comp=Z,274nm,18.6s,baz=71,slow=35							
MANU	**Manus Island**	**30.61**	**308**	*e*P		**P**	**05 53 52.5**	**-4.2**
	103nm,0.2s							
BBOO	**Buckleboo**	**32.48**	**244**	*e*P		**P**	**05 54 12.2**	**-0.7**
	8.4nm,1.0s							
AS01	**Alice Springs**	**34.02**	**261**	*e*P		**P**	**05 54 24.0**	**-2.6**
ASAR	**Alice Springs**	**34.07**	**261**	P		**P**	**05 54 26.6**	**-0.4**
	2.8nm,0.9s,baz=86,slow=9.2,SNR=16							
ASAR				LR		LR	06 08 23.5	
	comp=Z,377nm,18.4s,baz=104,slow=36							
WB2	**Warramunga Arr**	**34.18**	**267**	*e*P		**P**	**05 54 25.9**	**-2.1**
WB2				*e*P		**P**	**05 54 26.5**	**-1.5**
WRAB	**Tennant Creek**	**34.18**	**267**	*e*P		**P**	**05 54 25.6**	**-2.4**
	5.4nm,0.6s							
WR1	**Warramunga Arr**	**34.19**	**267**	*e*P		**P**	**05 54 26.4**	**-1.6**
WRA	**Warramunga Arr**	**34.19**	**267**	P		**P**	**05 54 26.4**	**-1.6**
	1.4nm,1.0s,baz=96,slow=8.4,SNR=12							
WRA				LR		LR	06 08 13.9	
	comp=Z,389nm,18.9s,baz=100,slow=36							
PPT2	**Papeete2**	**37.31**	**90**	*e*S		**S**	**06 00 38.0**	**-1.9**
	122nm,30.8s							
PPT2				*e*LR		LR	06 05 03.0	
	comp=Z,691nm,26.2s							
PPT	**Papeete**	**37.31**	**90**	LR		LR	06 05 49.0	
	comp=Z,374nm,21.8s,baz=252,slow=29							
FITZ	**Fitzroy Crossi**	**42.62**	**267**	*e*P		**P**	**05 55 39.1**	**+0.2**
	13nm,1.0s							
SARN	**Sarigan**	**46.07**	**325**	*e*P		**P**	**05 56 05.3**	**-1.0**
	3µm,0.5s							
VNDA	**Vanda**	**55.30**	**182**	LR		LR	06 16 58.2	
	comp=Z,166nm,19.9s,baz=299,slow=32							
MJAR	**Matsushiro Arr**	**66.33**	**332**	LR		LR	06 28 11.3	
	comp=Z,36nm,18.6s,baz=205,slow=36							
QSPA	**South Pole Qui**	**67.62**	**180**	*e*P		P	05 58 32.2	-6.5
QSPA				*e*P		**P**	**05 58 37.7**	**-1.0**
QSPA	**South Pole Qui**	**67.62**	**180**	P		P	05 58 32.2	-6.5
	1.8nm,1.0s,baz=32,slow=3.0,SNR=2.6							
KSRS	**Korea Array**	**72.06**	**325**	LR		LR	06 29 25.4	
	comp=Z,63nm,20.0s,baz=175,slow=34							
USRK	**Ussuriysk Ar.**	**75.32**	**332**	LR		LR	06 29 55.0	
	comp=Z,77nm,20.6s,baz=156,slow=33							
PETK	**Petropavlovsk-**	**76.12**	**352**	LR		LR	06 30 19.0	
	comp=Z,150nm,19.1s,baz=161,slow=33							
CMAR	**Chiang Mai Arr**	**81.29**	**294**	P		**P**	**06 00 02.0**	**+3.3**
	0.6nm,0.3s,baz=128,slow=3.9,SNR=5.0							
CMAR				LR		LR	06 40 35.0	
	comp=Z,30nm,18.1s,baz=215,slow=39							
SYO	**Syowa Base**	**82.31**	**196**	⇑*i*PcP		**P**	**06 00 07.4**	**+4.2**
CD2	**Chengdu**	**83.46**	**307**	*e*P		**P**	**06 00 11.3**	**+1.4**
HHC	**Hu-ho-hao-te**	**83.70**	**319**	*e*P		**P**	**06 00 08.1**	**-2.8**
HHC				pP		PcP	06 00 15.1	+0.1
HHC				S		**S**	**06 10 31.0**	**+0.4**
HHC				sS		sS	06 10 47.8	-2.7
HHC				pmax		pmax		
	comp=Z,5.0nm,1.0s							
HHC				LR		LR		
	comp=E,180nm,16.7s							
HHC				LR		LR		
	comp=Z,270nm,19.9s							
LZH	**Lanzhou**	**86.07**	**312**	*e*P		**P**	**06 00 24.5**	**+1.5**
LZH				pP		pP	06 00 32.2	-2.4
LZH				sP		sP	06 00 35.6	-3.3
LZH				pmax		pmax		
	comp=Z,26nm,1.0s							
NVAR	**Mina Array Bea**	**89.72**	**48**	P		**P**	**06 00 41.7**	**+1.1**
	0.6nm,0.6s,baz=186,slow=4.1,SNR=3.1							
NVAR				LR		LR	06 33 05.3	
	comp=Z,110nm,20.4s,baz=286,slow=30							
SONA0	**Songino Array**	**90.74**	**323**	*e*P		**P**	**06 00 46.9**	**+2.0**
SONM	**Songino Array**	**90.74**	**323**	P		**P**	**06 00 46.9**	**+2.0**
	0.7nm,0.5s,baz=123,slow=5.3,SNR=3.4							
ILAR	**Eielson Array**	**92.81**	**17**	LR		LR	06 36 46.3	
	comp=Z,97nm,19.3s,baz=229,slow=32							
TXAR	**Lajitas Array**	**96.88**	**61**	LR		LR	06 35 32.6	
	comp=Z,60nm,21.6s,baz=0.0,slow=30							
PDAR	**Pinedale Array**	**97.61**	**47**	LR		LR	06 40 44.4	
	comp=Z,52nm,18.3s,baz=284,slow=32							
WMQ	**Urumqi**	**100.58**	**313**	*e*P		**Pdif**	**06 01 30.7**	**+1.0**
WMQ				LR		LR		
	comp=N,130nm,20.3s							
WMQ				LR		LR		
	comp=E,240nm,23.7s							
WMQ				LR		LR		
	comp=Z,160nm,25.3s							
VYHS	**Vyhne**	**145.85**	**326**	*e*PKP		**PKiKP**	**06 07 25.2**	**+0.6**
BRG	**Berggiesshubel**	**146.45**	**333**	*e*PKP		**PKiKP**	**06 07 26.8**	**+1.1**
	22nm,1.8s							
CLL	**Collm**	**146.50**	**335**	*e*PKPbc		**PKiKP**	**06 07 25.0**	**-0.8**
CLL				*i* PKiKP		**PKPab**	**06 07 28.2**	**+4.3**
	comp=Z,7.0nm,1.0s							
GERES	**GERESS Array B**	**148.07**	**331**	PKPbc		**PKPbc**	**06 07 27.5**	**0.0**
	comp=Z,2.9nm,1.0s,baz=48,slow=2.0,SNR=8.5							

NNC ***06*** *05:53:57.1±2.6, 53.64N×90.92E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=21.8km s-min=18.7km az=159.0, Suspected Mining explosion.*

KRAR 06 05:53:56.5±0.1, 53.76N×91.06E, M2.8, 7C-2D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**8.22**	**253**	⇑Pn	Pn	05 55 55.7	-1.2
	0.3nm,0.5s						
KURK				⇓Sn	Sn	05 57 29.6	-0.8
	3.5nm,0.8s						
KURK				⇑Lg	Lg	05 58 13.3	
	10nm,1.2s						
KURBB	**Kurchatov Arra**	**8.31**	**253**	⇑Pn	Pn	05 55 56.6	-1.6
	2.3nm,0.6s						
KURBB				⇑Sn	Sn	05 57 32.5	-0.2
	14nm,0.7s						
KURBB				⇑Lg	Lg	05 58 17.6	
	23nm,0.9s						
MK31	**Makanchi Array**	**8.95**	**222**	⇑Pn	Pn	05 56 06.9	0.0
	0.4nm,0.5s,baz=41,slow=13,SNR=6.7						
MK31				⇓Sn	Sn	05 57 47.0	-1.4
	0.9nm,0.7s						
MK31				⇑Lg	Lg	05 58 31.9	
	2.7nm,0.8s,baz=39,slow=30,SNR=4.7						

IDC ***06*** *06:12:48.9±0.8, 43.60N×85.93E, h0km, mb3.7/10, mb1 3.7/13, mb1mx3.6/44, mbtmp3.6/13, ML3.2/2, MS3.9/4, Ms1 3.9/4, ms1mx2.9/59, Error ellipse: s-maj=30.7km s-min=12.5km az=51.0*

ISCJB ***06*** *06:12:49.4±0.6, 43.75N±0.07×86.11E±0.05, h10km, mb3.6/9, MS4.0/4, Error ellipse: s-maj=10.0km s-min=4.6km az=18.6*

SOME ***06*** *06:12:49.0, 43.73N×86.10E, h5km*

NNC ***06*** *06:12:52.5±1.7, 43.92N×86.06E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=12.7km s-min=8.1km az=106.0*

BJI ***06*** *06:12:52.0, 43.92N×86.21E, h8km, mb3.9/5, ML3.6/10*

ISC 06 06:12:50.5±0.7, 43.84N±0.06×86.39E±0.04, h10km, n33, σ2s25/40, mb3.6/9, MS4.0/4, 11C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.95**	**91**	Pg	**Pn**	**06 13 12.8**	**+2.9**
WMQ				Sg	**Sn**	**06 13 28.1**	**+4.6**
WMQ				*s*max	*s*max		
	comp=N,5µm,0.3s						
WMQ				*s*max	*s*max		
	comp=E,4µm,0.3s						
ZSN	**Zaisan**	**3.76**	**344**	*e*P	**Pg**	**06 14 01.7**	**-0.8**
	21nm,0.6s						
ZSN				*e*S	**Sg**	**06 14 54.5**	**+3.3**
	14nm,0.6s						
MK31	**Makanchi Array**	**4.13**	**317**	⇑Pn	**Pn**	**06 13 54.0**	**+0.4**
	0.7nm,0.3s,baz=132,slow=15,SNR=388						
MK31				⇑Pg	**Pb**	**06 14 04.6**	**+1.4**
	21nm,0.6s,baz=134,slow=19,SNR=30						
MK31				Sn	**Sn**	**06 14 41.5**	**-0.4**
	4.2nm,0.2s,baz=130,slow=25,SNR=4.7						
MK31				⇑Lg	Lg	06 14 59.0	
	134nm,0.6s,baz=133,slow=30,SNR=14						
MKAR	**Makanchi Array**	**4.13**	**317**	Pn	**Pn**	**06 13 54.2**	**+0.6**
	1.6nm,0.3s,baz=134,slow=14,SNR=47						
MKAR				Pg	**Pb**	**06 14 04.6**	**+1.4**
	5.5nm,0.3s,baz=129,slow=16,SNR=33						
MKAR				Sn	**Sn**	**06 14 42.0**	**0.0**
	12nm,0.3s,baz=130,slow=26,SNR=11						
MKAR				Lg	Lg	06 14 55.5	
	22nm,0.3s,baz=128,slow=31,SNR=10						
MAKZ	**Makanchi**	**4.30**	**315**	⇑Pn	**Pn**	**06 13 56.1**	**+0.2**
	2.3nm,0.3s						
MAKZ				⇑Pg	**Pb**	**06 14 08.9**	**+2.9**
	10nm,0.8s						
MAKZ				⇓Sn	**Sn**	**06 14 44.9**	**-1.1**
	26nm,0.8s						
MAKZ				⇑Lg	Lg	06 15 01.7	
	82nm,0.7s						
DJR	**Jarkent**	**4.78**	**278**	*e*P	**Pb**	**06 14 15.3**	**+1.0**
	3.3nm,0.6s						
DJR				*e*S	**Sb**	**06 15 16.6**	**+4.7**
	48nm,0.6s						
PDGK	**Podgornoye**	**5.04**	**267**	⇑Pn	**Pn**	**06 14 06.1**	**0.0**
	7.1nm,0.6s						
PDGK				⇓Pg	**Pb**	**06 14 20.4**	**+1.7**
	16nm,0.7s						
PDGK				⇑Sn	**Sn**	**06 15 03.9**	**-0.6**
	28nm,0.5s						
PDGK				⇓Lg	Lg	06 15 23.9	
	125nm,0.8s						
KAPS	**Kapalarasan**	**5.23**	**288**	*e*P	**Pb**	**06 14 22.1**	**+0.1**
	2.3nm,0.5s						
KAPS				*e*S	**Sb**	**06 15 29.3**	**+4.5**
	53nm,0.6s						
UZB	**Uzynbulak**	**5.40**	**265**	*e*P	**Pb**	**06 14 25.2**	**+0.2**
	8.6nm,0.5s						
UZB				*e*S	**Sb**	**06 15 34.1**	**+4.2**
	35nm,0.5s						
TKM2	**Tokmak 2**	**7.92**	**267**	⇓Lg	Lg	06 16 56.0	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**8.63**	**325**	Pn	**Pn**	**06 14 53.7**	**-1.6**
KURBB				⇑Lg	Lg	06 17 16.8	
	81nm,0.8s						
KURBB	**Kurchatov Arra**	**8.63**	**325**	Pn	**Pn**	**06 14 54.8**	**-0.5**
	0.2nm,0.3s,baz=134,slow=13,SNR=4.3						
KURBB				Sn	**Sn**	**06 16 29.9**	**-2.7**
	0.3nm,0.3s,baz=261,slow=22,SNR=3.9						
KURBB				Lg	Lg	06 17 20.3	
	0.5nm,0.3s,baz=83,slow=32,SNR=9.3						
KURK	**Kurchatov**	**8.66**	**325**	Pn	**Pn**	**06 14 56.3**	**+0.6**
KURK				Lg	Lg	06 17 17.2	
AAK	**Ala-Archa**	**8.77**	**266**	⇑Lg	Lg	06 17 19.7	
	9.6nm,0.8s						
AAK	**Ala-Archa**	**8.77**	**266**	Lg	Lg	06 17 19.1	
	0.1nm,0.3s,baz=292,slow=19,SNR=2.5						
ZALV	**Zalesovo Beam**	**10.16**	**355**	Pn	**Pn**	**06 15 15.2**	**-1.1**
	1.2nm,0.3s,baz=181,slow=13,SNR=8.2						
ZALV				Sn	**Sn**	**06 17 05.5**	**-4.8**
	1.1nm,0.3s,baz=171,slow=22,SNR=5.9						
ZALV				Lg	Lg	06 18 15.1	
	0.1nm,0.3s,baz=163,slow=30,SNR=2.8						
OTUK	**Ortayu**	**10.71**	**299**	⇑Lg	Lg	06 18 29.8	
	11nm,0.8s						
GTA	**Gaotai**	**10.98**	**109**	*e*P	Pn	06 15 36.0	+8.3
GTA				sP		06 15 43.0	
GTA				*p*max	*p*max		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**14.50**	**67**	Pn	**P**	**06 16 21.0**	**-1.5**
	baz=268,slow=11,SNR=1.7						
AKTO	**Aktyubinsk**	**20.31**	**299**	P	**P**	**06 17 24.9**	**-1.5**
	0.9nm,0.6s,baz=70,slow=13,SNR=3.3						
NRIK	**Noril'sk**	**25.57**	**1**	P	**P**	**06 18 22.7**	**+3.6**
	4.3nm,0.5s,baz=117,slow=4.2,SNR=3.6						
AKASG	**Malin Array Be**	**38.54**	**301**	P	**P**	**06 20 10.8**	**-2.1**
	0.1nm,0.3s,baz=61,slow=9.6,SNR=3.9						
FINES	**FINESS Array B**	**38.96**	**318**	P	**P**	**06 20 17.0**	**+0.7**
	0.5nm,0.3s,baz=52,slow=7.4,SNR=6.0						
BRTR	**Keskin Array B**	**39.00**	**283**	P	**P**	**06 20 16.3**	**-0.8**
	0.7nm,0.6s,baz=79,slow=4.3,SNR=3.9						
MLR	**Muntele Rosu**	**42.12**	**294**	LR	LR	06 40 29.5	
	comp=Z,134nm,18.7s,baz=172,slow=40						
NB2	**NORSAR Subarra**	**46.12**	**319**	P	**P**	**06 21 13.2**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=74,slow=7.9						
NOA	**NORSAR Array B**	**46.12**	**319**	P	**P**	**06 21 13.0**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=77,slow=7.8,SNR=4.1						
DAV	**Davao City (W)**	**50.13**	**125**	LR	LR	06 42 53.7	
	comp=Z,160nm,21.4s,baz=302,slow=36						
WRA	**Warramunga Arr**	**77.18**	**134**	P	**P**	**06 24 44.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=334,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**77.22**	**276**	P	**P**	**06 24 43.2**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=26,slow=8.0,SNR=2.8						
ASAR	**Alice Springs**	**80.06**	**137**	P	**P**	**06 25 00.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=330,slow=4.9,SNR=2.6						
ULM	**Lac du Bonnet**	**86.27**	**1**	LR	LR	07 08 24.9	
	comp=Z,52nm,18.1s,baz=7.5,slow=39						
DBIC	**Dimbokro**	**86.33**	**276**	P	**P**	**06 25 31.2**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=26,slow=8.7,SNR=2.8						
DBIC				LR	LR	07 09 47.0	
	comp=Z,65nm,18.1s,baz=152,slow=40						

KRSC 06 06:19:51.3±10.0, 50.80N×157.77E, h47km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.03**	**11**	*e*P	Pn	06 20 10.8	+1.4
KDTR				*e*S	Sn	06 20 24.0	+1.3
SKR	**Severo-Kuril's**	**1.05**	**264**	*e*S	Sn	06 20 23.6	+0.4
ALID	**Alaid**	**1.41**	**274**	*e*P	Pn	06 20 16.3	+1.7
ALID				*e*S	Sn	06 20 33.2	+1.1
ASAK	**Asacha**	**1.59**	**3**	*e*P	Pn	06 20 18.9	+1.8
RUS	**Russkaya**	**1.70**	**16**	*e*P	Pn	06 20 19.9	+1.4
RUS				*e*S	Sn	06 20 40.1	+1.0
MTVR	**Mutnovka**	**1.71**	**9**	*e*P	Pn	06 20 21.0	+2.3
MTVR				*e*S	Sn	06 20 41.3	+1.9
KRMR	**Karymshinskiy**	**2.05**	**6**	*e*P	Pn	06 20 26.6	+3.4
KRMR				*e*S	Sn	06 20 51.7	+4.1
PET	**Petropavlovsk**	**2.30**	**13**	*e*S	Sn	06 20 56.0	+2.4
DALK	**Dalny**	**2.32**	**15**	*e*P	Pn	06 20 29.2	+2.3
DALK				*e*S	Sn	06 20 56.1	+1.9
UGLR	**Uglovaya**	**2.50**	**15**	*e*P	Pn	06 20 32.4	+2.8
AVH	**Avacha**	**2.54**	**13**	*e*P	Pn	06 20 33.7	+3.6
SMAR	**Somma**	**2.55**	**14**	*e*P	Pn	06 20 33.8	+3.5
KOK	**Koryaka**	**2.56**	**12**	*e*P	Pn	06 20 34.0	+3.7
SDLR	**Sedlovina**	**2.58**	**15**	*e*P	Pn	06 20 32.8	+2.2
KRER	**Koryakskii**	**2.58**	**13**	*e*P	Pn	06 20 34.2	+3.4
KRER				*e*S	Sn	06 21 04.9	+3.9
KRX	**Arik**	**2.62**	**12**	*e*P	Pn	06 20 34.3	+3.0
KRX				*e*S	Sn	06 21 06.1	+4.2
SPN	**Mys Shipunski**	**2.69**	**30**	*e*P	Pn	06 20 36.2	+4.1
GNL	**Ganaly**	**2.91**	**2**	*e*P	Pn	06 20 38.8	+3.7
MKZ	**Mys Kozlova**	**4.47**	**31**	*e*P	Pn	06 20 59.0	+2.6

IDC 06 06:30:44.3±0.9, 16.69N×146.11E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/55, mbtmp3.7/8, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/50, Error ellipse: s-maj=33.1km s-min=19.1km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.30**	**201**	Pn	Pn	06 31 38.8	+1.6
	7.2nm,0.3s,baz=43,slow=19,SNR=3.5						
GUMO				Sn	Sn	06 32 21.0	-3.5
	9.6nm,0.3s,baz=162,slow=20,SNR=2.7						
GUMO				LR	LR	06 32 44.9	
	comp=Z,415nm,18.5s,baz=321,slow=36						

H11S3	**WAKE ISLAND Hy**	**19.70**	**82**	T		T	06 55 41.8	
	baz=268,slow=75,SNR=1239							
H11S1	**WAKE ISLAND Hy**	**19.72**	**82**	T		T	06 55 43.6	
	baz=268,slow=75,SNR=911							
H11S2	**WAKE ISLAND Hy**	**19.72**	**82**	T		T	06 55 43.8	
	baz=268,slow=75,SNR=1615							
H11N1	**WAKE ISLAND Hy**	**19.97**	**78**	T		T	06 56 02.2	
	baz=265,slow=75,SNR=1869							
H11N2	**WAKE ISLAND Hy**	**19.98**	**78**	T		T	06 56 02.5	
	baz=265,slow=75,SNR=2301							
H11N3	**WAKE ISLAND Hy**	**19.99**	**78**	T		T	06 56 03.3	
	baz=265,slow=75,SNR=1708							
KSRS	**Korea Array**	**26.18**	**326**	P		P	06 36 19.6	-0.9
	1.9nm,0.9s,baz=151,slow=9.7,SNR=5.5							
WRA	**Warramunga Arr**	**38.19**	**198**	P		P	06 38 05.0	-0.8
	1.0nm,0.9s,baz=21,slow=9.6,SNR=5.2							
ASAR	**Alice Springs**	**41.84**	**197**	P		P	06 38 35.2	-1.0
	0.2nm,0.4s,baz=28,slow=8.4,SNR=3.2							
CMAR	**Chiang Mai Arr**	**44.90**	**280**	P		P	06 39 02.1	+1.0
	3.4nm,0.8s,baz=77,slow=6.0,SNR=9.8							
ILAR	**Eielson Array**	**65.28**	**26**	P		P	06 41 26.6	-1.1
	0.3nm,0.8s,baz=257,slow=4.7,SNR=5.2							
YKA	**Yellowknife Ar**	**79.58**	**28**	P		P	06 42 53.1	+0.1
	0.5nm,0.9s,baz=288,slow=5.3,SNR=5.0							
NVAR	**Mina Array Bea**	**84.07**	**52**	P		P	06 43 19.1	+1.6
	0.7nm,0.6s,baz=263,slow=7.0,SNR=3.4							

IDC 06 07:00:07.4±2.8, 54.17N×86.39E, h0km, mb1 2.9/2, mb1mx2.8/38, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=21.7km s-min=12.9km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.95**	**257**	*i*		07 05 36.0	
	baz=77,slow=337,SNR=0.6						
ZALV	**Zalesovo Beam**	**0.95**	**257**	Pg	Pg	07 00 24.3	-1.3
	1.9nm,0.3s,baz=72,slow=17,SNR=16						
ZALV				Lg	Lg	07 00 39.5	
	1.9nm,0.3s,baz=78,slow=30,SNR=12						
ZALV				Rg	Rg	07 00 44.6	
	3.9nm,0.7s,baz=72,slow=31,SNR=13						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	07 01 38.2	+1.1
	0.1nm,0.3s,baz=70,slow=19,SNR=3.6						
MKAR	**Makanchi Array**	**7.83**	**201**	Pn	Pn	07 02 03.7	+1.1
	0.1nm,0.3s,baz=24,slow=13,SNR=4.7						
MKAR				Lg	Lg	07 04 16.3	
	0.0nm,0.3s,baz=25,slow=24,SNR=6.0						

IDC ***06*** *07:00:31.0±0.5, 30.76S×177.40W, h0km, mb4.7/17, mb1 4.9/18, mb1mx4.8/27, mbtmp4.7/18, ML3.2/1, MS4.4/15, Ms1 4.4/15, ms1mx4.1/31, Error ellipse: s-maj=17.0km s-min=16.1km az=93.0*

NEIC ***06*** *07:00:31.9±0.9, 31.06S×177.44W, h8km±5km, mb5.1/58, Error ellipse: s-maj=8.2km s-min=4.7km az=129.0*

ISCJB ***06*** *07:00:33.7±0.2, 31.18S±0.03×177.58W±0.05, h27km, mb5.0/79, MS4.5/14, Error ellipse: s-maj=6.5km s-min=2.5km az=28.0*

GCMT ***06*** *07:00:34.9±0.3, 30.74S±0.04×177.13W±0.02, h19km±1km, MW5.0/72, Moment Tensor Solution. s29,c36; s72,c88; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.22±.21; Mθθ-0.41±.15; Mϕϕ-2.81±.13; Mrθ-0.14±.34; Mϕθ0.05±.09; Mrϕ1.87±.25; Best double couple: M☉3.55100×10^16 NP1:ϕs357.00000°, δ61.00000°, λ89.00000°. NP2: ϕs180.00000°, δ29.00000°, λ92.00000°. Principal axes: T 3.7560, Plg74.0000°, Azm264.0000°; N -0.4160, Plg1.0000°, Azm358.0000°; P -3.3450, Plg16.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***06*** *07:00:34.2, 31.10S×177.50W, h31km, mb5.1/22, mB5.3/2, Ms4.9/3, Ms7 4.6/4*

MOS ***06*** *07:00:35.3±1.1, 30.90S×177.55W, h33km, mb5.3/21, Error ellipse: s-maj=12.9km s-min=9.8km az=105.5*

ISC 06 07:00:34.8±0.3, 30.99S±0.04×177.48W±0.07, h27km, n340, σ1s83/350, mb5.2/79, MS4.5/15, 12C-15D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.77**	**348**	P	**Pn**	**07 01 00.0**	**-3.5**
GLKZ				S	**Sn**	**07 01 21.8**	**-3.4**
RAO	**Raoul Island**	**1.78**	**348**	*e*Pn	**Pn**	**07 01 00.8**	**-2.9**
RAO				*e*Sn	**Sn**	**07 01 24.7**	**-0.7**
RAO				*e*Sn	**Sb**	**07 01 27.0**	**-1.5**
RAO	**Raoul Island**	**1.78**	**348**	Pn	**Pn**	**07 01 00.8**	**-2.9**
	583nm,0.3s,baz=87,slow=15,SNR=24						
RAO				Sn	**Sn**	**07 01 24.7**	**-0.7**
	666nm,0.3s,baz=304,slow=23,SNR=13						
RIZ	**Raoul Island**	**1.79**	**347**	P	**Pn**	**07 01 01.1**	**-2.7**
MXZ	**Matakaoa Point**	**7.42**	**207**	*e*Pn	**Pn**	**07 02 19.6**	**-1.6**
MXZ				*e*Sn	**Sn**	**07 03 44.8**	**+0.3**
MXZ	**Matakaoa Point**	**7.42**	**207**	P	**Pn**	**07 02 19.6**	**-1.6**
MXZ	**Matakaoa Point**	**7.42**	**207**	P	**Pn**	**07 02 19.2**	**-2.0**
WMGZ	**Wai

MSWZ **Moikau Station** 11.94 207 P Pn 07 03 22.5 -0.6
DUWZ **D'Urville Isla** 12.01 213 P Pn 07 03 23.2 -0.9
PLWZ **Palliser** 12.06 207 P Pn 07 03 23.2 -1.7
BHW **Baring Head** 12.08 209 P Pn 07 03 19.1 -5.9
TCW **Tory Channel** 12.17 211 P Pn 07 03 22.8 -3.5
THZ **Tophouse** 13.23 213 *e*Pn Pn 07 03 39.1 -1.8
THZ *e*Sn Sn 07 06 00.2 -7.0
THZ **Tophouse** 13.23 213 P Pn 07 03 39.7 -1.2
THZ P P 07 03 45.3 -5.2
KHZ **Kahutara** 13.47 210 *e*Pn Pn 07 03 41.9 -2.1
KHZ *e*Sn Sn 07 06 07.8 -5.0
KHZ **Kahutara** 13.47 210 P Pn 07 03 39.8 -4.2
MSVF **Nonsavu** 13.81 342‖ *e*P Pn 07 03 51.4 +2.5
LTZ **Lake Taylor** 14.32 212 *e*Pn Pn 07 03 51.5 -4.2
LTZ *e*Sn Sn 07 06 24.0 -10
LTZ **Lake Taylor** 14.32 212 P Pn 07 03 55.1 -0.7
INZ **Inchbonnie** 14.67 214 P Pn 07 03 58.5 -1.8
INZ P P 07 03 59.3 -7.0
CRLZ **Canterbury Las** 14.81 209 *e*Pn Pn 07 04 03.1 +0.9
OXZ **Oxford** 14.86 211 *e*Pn Pn 07 04 01.9 -1.0
OXZ *e*Sn Sn 07 06 29.8 -17
OXZ **Oxford** 14.86 211 P Pn 07 04 02.7 -0.2
MQZ **McQueen's Vall** 14.90 209 *e*Pn Pn 07 04 02.8 -0.7
MQZ **McQueen's Vall** 14.90 209 P Pn 07 04 02.6 -0.9
RPZ **Rata Peaks** 15.61 212 *e*Pn Pn 07 04 07.0 -5.8
117nm,1.5s
RPZ *e*Pn P 07 04 07.9 -8.9
RPZ *e*Sn Sn 07 06 53.0 -12
RPZ **Rata Peaks** 15.61 212 Pn Pn 07 04 07.9 -4.9
0.8nm,0.3s,baz=20,slow=2.0,SNR=4.3
RPZ Sn Sn 07 06 53.0 -12
0.8nm,0.3s,baz=355,slow=6.5,SNR=3.4
RPZ LR LR 07 11 01.6
comp=Z,3µm,18.0s,baz=36,slow=40
RPZ **Rata Peaks** 15.61 212 P Pn 07 04 11.5 -1.3
PINNC **Pines Island,** 15.82 298 *e*Pn P 07 04 18.2 -1.0
361nm,1.4s
FOZ **Fox Glacier** 16.06 215 *e*Pn Pn 07 04 16.1 -2.6
52nm,1.0s
LBZ **Lake Benmore** 16.52 213 *e*Pn Pn 07 04 24.8 +0.2
62nm,1.3s
ODZ **Otahua Downs** 16.83 210 *e*Pn Pn 07 04 27.6 -0.9
336nm,2.0s
ODZ **Otahua Downs** 16.83 210 P Pn 07 04 26.1 -2.3
DZM **Mont Dzumac** 16.89 298 *e*P P 07 04 35.2 +3.9
471nm,1.6s
DZM **Mont Dzumac** 16.89 298 Pn P 07 04 31.5 +0.2
0.4nm,0.3s,baz=105,slow=13,SNR=13
DZM LR LR 07 09 49.7
comp=Z,3µm,18.3s,baz=133,slow=33
WKZ **Wanaka** 17.41 214 *e*Pn Pn 07 04 34.1 -1.5
70nm,1.1s
WKZ **Wanaka** 17.41 214 P Pn 07 04 34.6 -1.0
TUZ **Tuapeka** 17.99 210 P P 07 04 44.5 +1.4
MLZ **Mavora Lakes** 18.23 214 *e*Pn Pn 07 04 44.5 -1.4
38nm,1.0s
RAR **Rarotonga** 18.63 63 P P 07 04 48.6 -1.8
0.7nm,0.3s,baz=240,slow=12,SNR=3.7
RAR LR LR 07 11 08.2
comp=Z,668nm,19.5s,baz=268,slow=34
WHZ **Wether Hill Ro** 18.70 213 *e*P P 07 04 51.2 +0.3
69nm,1.3s
DCZ **Deep Cove** 18.78 215 *e*P Pn 07 04 52.7 +0.4
97nm,1.6s
ARMA **Armidale** 26.52 263 *e*P P 07 06 13.2 +2.9
117nm,1.8s
PAE **Paea** 28.59 69 *e*T T 07 35 52.2
4.0nm,0.3s
PPT2 **Papeete2** 28.63 69 *e*LR LR 07 13 13.0
comp=Z,1µm,30.8s
PPT2 **Papeete2** 28.63 69 *e*T T 07 35 56.4
1.5nm,0.3s
PPT **Papeete** 28.64 69 LR LR 07 17 10.4
comp=Z,552nm,18.6s,baz=260,slow=35
HNR **Honiara** 30.02 311 LR LR 07 16 46.8
comp=Z,353nm,20.1s,baz=142,slow=33
TOO **Toolangi** 31.14 248 *e*P P 07 06 51.7 +0.4
58nm,1.3s
TOO **Toolangi** 31.14 248 *e*P P 07 06 51.7 +0.4
TOO pmax pmax
comp=Z,58nm,1.3s
VAH **Vaihoa** 31.49 67 *e*T T 07 39 31.2
comp=Z,8.7nm,0.3s
CTA **Charters Tower** 34.33 280 P P 07 07 20.3 +0.9
comp=Z,29nm,0.9s,baz=106,slow=11,SNR=13
CTAO **Charters Tower** 34.33 280 *e*P P 07 07 19.9 +0.6
comp=Z,64nm,1.1s
CTAO **Charters Tower** 34.33 280 *e*P P 07 07 19.9 +0.6
CTAO pmax pmax
comp=Z,64nm,1.1s
STKA **Stephens Creek** 34.78 258 *e*P P 07 07 25.1 +2.0
comp=Z,14nm,1.0s
STKA **Stephens Creek** 34.78 258 *e*P P 07 07 25.1 +2.0
STKA pmax pmax
comp=Z,14nm,1.0s
STKA **Stephens Creek** 34.78 258 P P 07 07 24.9 +1.8
comp=Z,42nm,0.9s,baz=94,slow=9.5,SNR=53
STKA LR LR 07 20 56.0
comp=Z,929nm,18.2s,baz=66,slow=35
BBOO **Buckleboo** 39.24 255 *e*P P 07 08 01.5 +0.6
comp=Z,81nm,1.4s
AS01 **Alice Springs** 43.48 267 *e*P P 07 08 35.7 -0.3
AS31 **Alice Springs** 43.52 267 *e*P P 07 08 36.7 +0.4
comp=Z,3.9nm,0.9s
ASAR **Alice Springs** 43.52 267 P P 07 08 37.0 +0.7
comp=Z,9.2nm,0.7s,baz=106,slow=7.3,SNR=47
ASAR PcP PcP 07 10 23.9 -0.1
comp=Z,5.4nm,0.8s,baz=122,slow=3.7,SNR=7.0
ASAR ScP ScP 07 14 18.4 +4.8
comp=Z,3.3nm,1.1s,baz=126,slow=4.2,SNR=7.0
ASAR LR LR 07 26 42.3
comp=Z,1µm,18.0s,baz=103,slow=36
WB2 **Warramunga Arr** 44.55 272 *e*P P 07 08 44.5 -0.1
WB2 *e*P pP 07 08 45.0 -6.4
WRAB **Tennant Creek** 44.56 272 *e*P P 07 08 45.2 +0.6
comp=Z,39nm,0.9s
WRAB **Tennant Creek** 44.56 272 *c i*P P 07 08 44.8 +0.2
WR1 **Warramunga Arr** 44.56 272 *e*P P 07 08 44.5 -0.2
comp=Z,39nm,0.8s
WR1 *e*PcP PP 07 10 28.4 -0.4
WRA **Warramunga Arr** 44.56 272 P P 07 08 44.5 -0.2
comp=Z,29nm,0.8s,baz=113,slow=7.6,SNR=76
WRA PcP PP 07 10 28.4 -0.4
comp=Z,5.2nm,1.0s,baz=114,slow=3.4,SNR=5.2
WRA ScP ScP 07 14 22.8 +4.9
comp=Z,1.4nm,1.0s,baz=114,slow=4.0,SNR=4.7
WRA LR LR 07 26 54.3
comp=Z,1µm,18.0s,baz=105,slow=36
FORT **Forrest** 46.33 256 *e*P P 07 08 58.2 -0.3
comp=Z,159nm,1.4s
VNDA **Vanda** 47.55 186 P P 07 09 10.3 +3.0
comp=Z,2.3nm,0.7s,baz=349,slow=4.8,SNR=11
MTN **Manton Dam** 50.51 279 *e*P P 07 09 32.0 +1.1
comp=Z,53nm,1.4s
FITZ **Fitzroy Crossi** 52.80 270 *e*P P 07 09 47.9 0.0
comp=Z,41nm,1.4s
FITZ **Fitzroy Crossi** 52.80 270 LR LR 07 32 12.5
comp=Z,629nm,18.4s,baz=101,slow=36
MBWA **Marble Bar** 56.60 264 *e*P P 07 10 14.3 -1.3
comp=Z,44nm,1.4s
QSPA **South Pole Qui** 59.12 180 *e*P P 07 10 35.1 +2.5
comp=Z,59nm,1.0s
QSPA **South Pole Qui** 59.12 180 P P 07 10 35.2 +2.5
comp=Z,26nm,1.1s,baz=38,slow=2.3,SNR=32
DAV **Davao City (W)** 66.28 295 LR LR 07 39 07.5
comp=Z,52nm,19.0s,baz=105,slow=35
SYO **Syowa Base** 76.64 193‖ *e*P P 07 12 20.6 -2.0
SYO **Syowa Base** 76.64 193‖ *i*X P 07 12 29.0 +6.4
SNAA **Sanae** 77.55 178 P P 07 12 28.9 +1.1
SNAA **Sanae** 77.55 178 *e*P P 07 12 27.4 -0.4
comp=Z,29nm,1.3s
SNAA **Sanae** 77.55 178‖ *e*P P 07 12 26.9 -0.9
VNA3 **Neumayer Olymp** 77.68 176 P P 07 12 29.5 +1.0
MDSI **Maura Dua** 77.71 272 P P 07 12 25.5 -4.1
VNA2 **Neumayer--Watz** 78.12 177 P P 07 12 32.4 +1.4
NVL **N'lazarevskaya** 78.31 183 *e*P P 07 12 32.7 +0.8
NVL pmax pmax
comp=Z,12nm,1.2s
VNA1 **Neumayer--Stat** 78.35 176 P P 07 12 30.0 -2.2
MJAR **Matsushiro Arr** 78.98 325 P P 07 12 34.7 -1.4
comp=Z,6.8nm,0.9s,baz=168,slow=5.2,SNR=6.8
MAJO **Matsushiro** 78.98 325 *e*P P 07 12 34.7 -1.4
MAJO **Matsushiro** 78.98 325⇑ *e*P P 07 12 36.4 +0.4
MAJO pmax pmax
comp=Z,15nm,1.3s
PLCA **Paso Flores** 81.78 133 *e*P P 07 12 51.8 +0.5
comp=Z,38nm,1.6s
PLCA **Paso Flores** 81.78 133 *e*P P 07 12 51.8 +0.5
PLCA pmax pmax
comp=Z,38nm,1.6s
PLCA **Paso Flores** 81.78 133 P P 07 12 51.8 +0.5
comp=Z,4.9nm,1.0s,baz=259,slow=3.8,SNR=4.7
KSRS **Korea Array** 85.09 319 P P 07 13 08.6 +0.5
comp=Z,4.7nm,1.0s,baz=140,slow=5.1,SNR=10.0
KSRS LR LR 07 46 22.2
comp=Z,46nm,21.9s,baz=140,slow=32
KSAR **Wonju Array Be** 85.10 319 P P 07 13 08.6 +0.5
KSAR **Wonju Array Be** 85.10 319 P P 07 13 08.6 +0.5
KS01 **Wonju Array Si** 85.12 319 *e*P P 07 13 08.3 +0.2
YSS **Yuzh-Sakhalins** 85.47 334 *e*P P 07 13 10.1 +0.4
YSS *e* 07 13 19.5
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=N,100nm,19.0s
MURC **Murrieta** 85.81 47 P P 07 13 14.3 +2.5
baz=228
ROC1 **El Roble** 85.82 126 *e*P P 07 13 15.5 +3.1
comp=N,18nm,1.0s
PEL **Peldehue** 85.95 126 *e*P P 07 13 12.8 0.0
comp=N,31nm,1.1s
PEL **Peldehue** 85.95 126 *e*P P 07 13 12.8 0.0
PEL pmax pmax
comp=Z,31nm,1.1s
BFSC **Mount Baldy Ra** 85.95 46 P P 07 13 14.1 +1.5
baz=228
VES **Vestal, Richgr** 86.16 44 P P 07 13 14.9 +1.4
baz=227
EDW2 **Edwards Air Fo** 86.17 45 P P 07 13 15.1 +1.5
baz=228
TPFO **Pinon Flats** 86.28 47 P P 07 13 16.5 +2.2
baz=229
ISA **Isabella, Lake** 86.41 44 P P 07 13 16.4 +1.6
baz=227
PETK **Petropavlovsk-** 86.50 345 P P 07 13 14.7 0.0
comp=Z,3.9nm,0.7s,baz=147,slow=8.3,SNR=4.9
PEA1 **Petropavlovsk-** 86.50 345 *e*P P 07 13 14.7 0.0
CMB **Columbia Colle** 86.91 42 *e*P P 07 13 18.3 +1.2
comp=Z,29nm,1.5s
CMB **Columbia Colle** 86.91 42 *e*P P 07 13 18.3 +1.2
CMB pmax pmax
comp=Z,29nm,1.5s
BC3 **Big Chuckawall** 86.95 48 P P 07 13 19.5 +2.0
baz=229
GLA **Glamis** 86.95 48 P P 07 13 20.4 +3.0
baz=230
NJ2 **Nanjing** 86.97 310 *e*P P 07 13 17.9 +0.4
NJ2 pmax pmax
comp=Z,21nm,0.6s
O02D **Mt. Diablo Mer** 87.08 39 P P 07 13 20.3 +2.3
baz=224
HEC **Hector Ludlow** 87.16 46 P P 07 13 19.5 +1.0
baz=229
GSC **Goldstone, Bar** 87.18 46 P P 07 13 20.0 +1.4
baz=228
MPMC **Manual Prospec** 87.27 45 P P 07 13 20.0 +0.9
baz=228
IRM **Iron Mountain** 87.47 47 P P 07 13 21.7 +1.8
baz=229
GMRC **Granite Mounta** 87.55 47 P P 07 13 21.9 +1.5
baz=229
USA0B **Ussuriysk Arra** 87.90 326 *e*P P 07 13 22.4 +0.8
comp=Z,87nm,1.9s
USRK **Ussuriysk Ar.** 87.90 326 P P 07 13 22.3 +0.7
comp=Z,9.9nm,0.9s,baz=132,slow=2.8,SNR=13
PDMCI **Parker Dam,Lak** 88.20 48 P P 07 13 25.4 +2.1
baz=230
NV01 **Mina Array Sit** 88.37 42 *e*P P 07 13 25.6 +1.2
NVAR **Mina Array Bea** 88.37 42 P P 07 13 25.1 +0.8
comp=Z,4.5nm,0.9s,baz=227,slow=6.9,SNR=14
NVAR LR LR 07 51 58.7
comp=Z,201nm,18.1s,baz=206,slow=35
TPNV **Topopah Spring** 88.60 45 *e*P P 07 13 27.3 +1.9
comp=Z,14nm,1.3s
TPNV **Topopah Spring** 88.60 45 P P 07 13 26.3 +0.9
baz=229
Y14A **Wickenburg** 88.69 49 *e*P P 07 13 27.2 +1.5
comp=Z,16nm,1.4s
TYV **Tymovskoe** 88.78 336 *e*P P 07 13 26.2 +0.6
TYV pmax pmax
comp=Z,18nm,1.5s
L04D **Klamath Falls** 88.78 38 P P 07 13 26.9 +0.8
baz=225
W13A **Hualapai Mount** 88.87 47 *e*P P 07 13 24.7 -2.1
comp=Z,22nm,1.6s
KVN **Kaiserville** 88.91 42 *e*P P 07 13 27.5 +0.7
comp=Z,8.6nm,1.2s
SHPR **Sheep Range** 88.98 46 *e*P P 07 13 25.9 -1.3
comp=Z,19nm,1.5s
TUC **Tucson** 89.14 51 *e*P P 07 13 26.6 -1.3
comp=Z,24nm,1.5s
TUC **Tucson** 89.14 51 *e*P P 07 13 26.6 -1.3
TUC pmax pmax
comp=Z,24nm,1.5s
TUC **Tucson** 89.14 51 P P 07 13 30.7 +2.8
baz=232
SKNT **Sakolnakorn** 89.16 290 P P 07 13 31.9 +3.6
MDJ **Mudanjiang** 89.37 325 P P 07 13 29.1 +0.5
MDJ pmax pmax
comp=Z,18nm,1.5s
X16A **Lo Mia Camp, P** 90.00 49 *e*P P 07 13 33.4 +1.4
comp=Z,8.6nm,1.0s
BMN **Battle Mountai** 90.34 42 *e*P P 07 13 34.2 +0.8
BMN **Battle Mountai** 90.34 42 *e*P P 07 13 34.3 +0.8
LCMT **Little Creek M** 90.48 46 *e*P P 07 13 36.1 +1.9
comp=Z,14nm,1.4s
PINE **Pine Mountain** 90.60 37 *e*P P 07 13 36.0 +1.4
comp=Z,24nm,1.3s
TIA **Tai'an** 90.70 313 P P 07 13 35.4 +0.4
TIA pmax pmax
comp=Z,6.0nm,1.0s
U15A **North Rim** 90.71 47 *e*P P 07 13 37.2 +1.8
comp=Z,14nm,1.0s
WUAZ **Wupatki** 90.72 48 *e*P P 07 13 37.5 +2.1
comp=Z,22nm,1.4s
WUAZ **Wupatki** 90.72 48 P P 07 13 37.3 +1.9
baz=232
KNB **Kanab** 90.75 46 *e*P P 07 13 36.9 +1.4
comp=Z,19nm,1.3s
I05D **Terrebonne, OR** 90.78 37 P P 07 13 36.5 +1.3
baz=225
CN2 **Changchun** 90.88 323 *e*P P 07 13 35.5 -0.2
CN2 pmax pmax
comp=Z,20nm,1.0s
WVOR **Wild Horse Val** 90.89 39 *e*P P 07 13 36.7 +0.8
comp=Z,16nm,1.4s
WVOR **Wild Horse Val** 90.89 39 *e*P P 07 13 36.7 +0.8
WVOR pmax pmax
comp=Z,16nm,1.4s
GRNR **Gornyy** 91.01 333 *e*P P 07 13 35.3 -0.8
GRNR pmax pmax
comp=Z,21nm,1.0s
X18A **Snowflake** 91.04 50 *e*P P 07 13 39.6 +2.7
comp=Z,9.3nm,1.3s
PBKT **Sadao Pong** 91.39 288 *e*P P 07 13 40.0 +1.3
PBKT **Sadao Pong** 91.39 288 P P 07 13 41.7 +3.1
I07A **Izee** 91.55 38 *e*P P 07 13 39.2 +0.2
comp=Z,14nm,1.4s
J08A **Circle Bar Ran** 91.61 39 *e*P P 07 13 40.5 +1.3
comp=Z,13nm,1.3s
ELK **Elko** 91.68 42 *e*P P 07 13 41.0 +1.2
comp=Z,3.4nm,1.1s
G06A **Carlson Farm,** 91.77 36 *e*P P 07 13 41.4 +1.6
comp=Z,28nm,1.6s
KLR **Kul'dur** 91.77 329‖ *i*P P 07 13 39.5 -0.2
KLR **Kul'dur** 91.77 329 P P 07 13 40.0 +0.3
comp=Z,3.5nm,0.8s,baz=126,slow=1.7,SNR=17
MTPU **Mount Pierson** 91.78 46 *e*P P 07 13 41.1 +0.6
comp=Z,7.4nm,0.5s
GYA **Guiyang** 92.23 300 P P 07 13 45.0 +2.5
GYA pP pwP 07 13 54.2 -2.0
GYA SKS SKSac 07 24 14.4 +0.2
GYA S S 07 24 43.0 -1.0
GYA pmax pmax
comp=Z,20nm,1.0s
TX31 **Lajitas Ar. Si** 92.34 57 *e*P P 07 13 42.5 -0.4
TXAR **Lajitas Array** 92.34 57 P P 07 13 43.6 +0.7
comp=Z,1.6nm,1.1s,baz=228,slow=4.9,SNR=6.7
TXAR LR LR 07 50 22.3
comp=Z,190nm,18.1s,baz=0.0,slow=32
G08A **Pilot Rock** 92.66 37 *e*P P 07 13 44.8 +0.7
E07A **Sunnyside** 93.07 36 *e*P P 07 13 46.5 +0.7
comp=Z,17nm,1.5s
HAWA **Hanford** 93.12 36 *e*P P 07 13 46.3 +0.3
comp=Z,16nm,1.4s
SRU **San Rafael Swe** 93.47 46 *e*P P 07 13 48.5 +0.5
comp=Z,8.5nm,1.3s
SRU **San Rafael Swe** 93.47 46 *e*P P 07 13 48.5 +0.5
SRU pmax pmax
comp=Z,9.0nm,1.3s
ANMO **Albuquerque** 93.60 51 *e*P P 07 13 48.6 -0.1
comp=Z,7.7nm,1.4s
ANMO **Albuquerque** 93.60 51⇑ *i*P P 07 13 49.2 +0.4
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO **Albuquerque** 93.60 51 P P 07 13 49.7 +1.0
baz=234
BJI **Beijing** 93.66 315 P P 07 13 49.8 +1.2
BJI pmax pmax
comp=Z,5.0nm,1.2s
SPUT **South Promonto** 93.67 43 *e*P P 07 13 49.1 +0.3
comp=Z,6.0nm,1.1s
HVU **Hansel Valley** 93.77 43 *e*P P 07 13 50.5 +1.2
comp=Z,9.3nm,1.2s
HVU **Hansel Valley** 93.77 43 *e*P P 07 13 50.5 +1.2
HVU pmax pmax
comp=Z,9.0nm,1.2s
HLID **Hailey** 93.97 41 *e*P P 07 13 51.0 +0.8
comp=Z,4.1nm,1.0s
HLID **Hailey** 93.97 41 P P 07 13 51.4 +1.2
baz=230
MA2 **Magadan** 93.98 344‖ *e*P P 07 13 48.8 -0.8
MA2 pmax pmax
comp=Z,1.0nm,0.7s
MA2 **Magadan** 93.98 344 LR LR 07 53 54.2
comp=Z,69nm,18.4s,baz=165,slow=34
CMAR **Chiang Mai Arr** 94.02 289 P P 07 13 52.2 +1.5
comp=Z,0.9nm,0.4s,baz=142,slow=3.6,SNR=4.9
F10A **Beach Ranch, E** 94.02 37 *e*P P 07 13 49.3 -1.0
comp=Z,7.2nm,1.1s
KMI **Kunming** 94.48 297 P P 07 13 55.1 +2.0
KMI pmax pmax
comp=Z,9.0nm,0.5s
S22A **4UR Ranch, Cre** 94.98 49 P P 07 13 58.6 +3.4
baz=234
MCMT **McKenzie Canyo** 95.64 40 *e*P P 07 13 58.8 +0.9
REDW **Red Top Meadow** 95.86 42 *e*P P 07 13 59.9 +0.9
comp=Z,15nm,1.5s
LOHW **Long Hollow** 96.16 42 *e*P P 07 14 01.7 +1.4
comp=Z,7.6nm,1.5s
PDAR **Pinedale Array** 96.26 43 P P 07 14 00.3 -0.5
comp=Z,1.8nm,1.2s,baz=263,slow=3.5,SNR=2.9
PDAR LR LR 07 52 29.6
comp=Z,159nm,18.6s,baz=250,slow=32
SEY **Seymchan** 96.66 347‖ *e*P P 07 14 01.1 -0.6
CD2 **Chengdu** 96.78 302 *e*P P 07 14 05.8 +2.6
BOZ **Bozeman (W)** 96.79 40 *e*P P 07 14 03.4 +0.4
comp=Z,3.5nm,1.1s
BOZ **Bozeman (W)** 96.79 40 *e*P P 07 14 03.4 +0.4
BOZ pmax pmax
comp=Z,4.0nm,1.1s
HHC **Hu-ho-hao-te** 96.97 314 *e*P P 07 14 02.4 -1.5
HHC pP sP 07 14 12.9 -0.7
HHC sP pwP 07 14 16.9 -0.5
HHC pmax pmax
comp=Z,22nm,1.0s
JTS **JuntasAbangare** 97.37 82‖ *e*P Pdif 07 14 07.0 +0.7
COLA **College** 98.32 12‖ *i*P Pdif 07 14 11.0 +1.8
COLA pmax pmax
comp=Z,4.0nm,1.1s
ILAR **Eielson Array** 98.41 13 P P 07 14 08.2 -1.4
comp=Z,0.4nm,0.9s,baz=234,slow=5.4,SNR=3.3
LZH **Lanzhou** 99.43 306 *e*P **Pdif** 07 14 18.1 +3.0
LZH pP pwP 07 14 29.3 +0.6
LZH sP sP 07 14 33.5 +8.6
LZH pmax pmax
comp=Z,27nm,1.0s
BILL **Bilibino** 99.48 354⇑ *e*P **Pdif** 07 14 16.3 +2.0
BILL pmax pmax
comp=Z,4.0nm,1.3s
YKA **Yellowknife Ar** 105.79 25 PKKPbc PKKPbc 07 30 19.2 -1.1
comp=Z,0.6nm,0.9s,baz=42,slow=3.2,SNR=7.5
KNGR **Kungurtug, Tuv** 110.32 317‖ *i*PKIKP **PKiKP** 07 19 04.9 +0.9
WMQ **Urumqi** 113.94 308 *e*PKP **PKiKP** 07 19 12.1 +1.0
WMQ LR LR
comp=Z,130nm,16.9s
WMQ LR LR
comp=Z,150nm,22.5s
MK01 **Makanchi Array** 118.48 310 *e*PKPdf **PKPdf** 07 19 18.5 -1.2
MK32 **Makanchi Array** 118.49 310 *e*PKPdf **PKPdf** 07 19 18.8 -0.9
MKAR **Makanchi Array** 118.49 310 *c i*PKIKP **PKPdf** 07 19 18.7 -1.0
MKAR **Makanchi Array** 118.49 310 PKP **PKPdf** 07 19 18.8 -0.9
comp=Z,0.7nm,0.7s,baz=85,slow=2.6,SNR=6.1
KSH **Kashi** 120.92 300 *e*PKP **PKiKP** 07 19 25.3 +0.5
KSH PP PP 07 20 57.9 +3.5
NRN **Naryn** 121.42 302 *e*PKPdf **PKiKP** 07 19 26.0 0.0
KURK **Kurchatov** 121.78 313 *e*PKPdf **PKPdf** 07 19 25.2 -0.6
KURK **Kurchatov** 121.78 313‖ *e*PKIKP **PKPdf** 07 19 25.3 -0.5
KURBB **Kurchatov Arra** 121.82 313 PKP **PKPdf** 07 19 25.2 -0.7
comp=Z,1.8nm,0.8s,baz=105,slow=2.0,SNR=4.6
AAK **Ala-Archa** 122.81 303 PKP **PKPdf** 07 19 27.6 -0.7
comp=Z,1.8nm,1.0s,baz=238,slow=2.2,SNR=3.0
KK31 **Karatay Array** 125.77 303 *e*PKPdf **PKPdf** 07 19 33.1 -0.7
KK31 **Karatay Array** 125.77 303 *e*PKIKP **PKPdf** 07 19 33.1 -0.7
KKAR **Karatay Array** 125.77 303 *e*PKPdf **PKPdf** 07 19 33.7 -0.1
KKAR **Karatay Array** 125.77 303 *e*PKIKP **PKPdf** 07 19 33.7 -0.1
BVAR **Borovoye Array** 127.14 315 PKP **PKPdf** 07 19 35.9 -0.1
comp=Z,1.9nm,0.7s,baz=119,slow=5.2,SNR=8.2
BRVK **Borovoye** 127.20 315 *e*PKPdf **PKiKP** 07 19 36.5 -0.1
BRVK **Borovoye** 127.20 315‖ *i*PKIKP **PKPdf** 07 19 35.9 -0.3
ARU **Arti** 133.83 320 *i* PKIKP **PKPdf** 07 19 49.2 +0.6
ARU 07 22 15.8
ARU SS SS 07 40 07.3 +3.2
KMBO **Kilima Mbogo** 134.07 232 PKP **PKiKP** 07 19 52.5 +0.5
comp=Z,1.5nm,0.9s,baz=27,slow=2.3,SNR=3.4
GEYT **Alibeck** 134.21 294 PKP **PKiKP** 07 19 51.5 +0.1
comp=Z,1.5nm,0.4s,baz=356,slow=4.6,SNR=3.9
GEYT SKPbc **SKPab** 07 23 21.8 +1.2
comp=Z,1.4nm,0.4s,baz=288,slow=1.4,SNR=3.1
LVZ **Lovozero** 138.55 342‖ *e*PKIKP **PKPdf** 07 19 57.8 +0.7
ARA0 **ARCESS Array S** 139.26 348 *e*PKPpre PKPpre 07 19 54.1
ARCES **ARCESS Array B** 139.26 348 PKhKP PKPpre 07 19 54.1
comp=Z,2.3nm,0.8s,baz=352,slow=6.5,SNR=3.6
KLMR **Klimovskoe** 141.49 332 *e*PKIKP **PKiKP** 07 20 04.4 -1.0
KLMR pmax pmax
comp=Z,14nm,1.3s
KLMR **Klimovskoe** 141.49 332 *e*PKPdf **PKiKP** 07 20 04.4 -1.0
KLMR AMP 07 20 07.6
comp=Z,14nm,1.2s
MOS **Moscow** 145.07 325 *e*PKIKP **PKPbc** 07 20 06.3 -2.2
MOS *e* 07 20 17.2
MOS pmax pmax
comp=Z,82nm,1.1s
NCK **Nalchik** 145.34 303‖ *e*PKIKP **PKPab** 07 20 10.6 +0.6
GOF **Gofitskoye** 145.50 306 *e*PKIKP **PKPab** 07 20 11.1 +0.6
GOF pmax pmax
comp=Z,100nm,1.1s
PYA1 **Pyatigorsk** 145.62 304‖ *e*PKP2 **PKPab** 07 20 11.1 +0.1
PUL **Pulkovo** 145.73 335‖ *e*PKP2 **PKPab** 07 20 11.0 +0.2
KBZ **Khabaz** 145.81 303 PKPbc **PKPab** 07 20 11.8 +0.1
comp=Z,24nm,1.0s,baz=42,slow=3.4,SNR=11
LPSR **Galich'ya Gora** 145.85 320 *e*PKP2 **PKPdf** 07 20 10.3 -0.2
LPSR pmax pmax
comp=Z,90nm,1.0s
FIA1 **FINESS Array S** 145.85 340 *e*PKPdf **PKPdf** 07 20 09.8 -0.3
FIA1 *e*PKPdf **PKPbc** 07 20 10.4 -0.4
FIA0 **FINESS Array S** 145.85 340 *e*PKPdf **PKPdf** 07 20 10.2 +0.1
FIA0 **FINESS Array S** 145.85 340 *e*PKP2 **PKPdf** 07 20 10.3 +0.1
FINES **FINESS Array B** 145.85 340 PKPbc **PKPdf** 07 20 10.2 +0.1
comp=Z,25nm,0.7s,baz=47,slow=4.1,SNR=61
OBN **Obninsk** 145.91 325 *c i*PKP2 **PKPbc** 07 20 10.8 -0.3
OBN pmax pmax
comp=Z,74nm,1.1s
OBN **Obninsk** 145.91 325 PKPbc **PKPbc** 07 20 10.9 -0.3
comp=Z,8.3nm,0.3s,baz=66,slow=3.2,SNR=14
KIV **Kislovodsk** 145.93 304 *i* PKP2 **PKPbc** 07 20 11.5 -0.3
KIV pmax pmax
comp=Z,25nm,1.1s
NEY **Neytrino** 146.00 302 *ce*PKP2 **PKPbc** 07 20 12.3 +0.2
VSR **Storozhevoye** 146.27 317 *c i*PKP2 **PKPbc** 07 20 11.9 -0.5
VSU **Vasula** 147.95 336⇑ *e*PKP2 **PKPbc** 07 20 16.4 -0.5
SOC **Sochi** 148.11 304 *i* PKP2 **PKPab** 07 20 20.4 -0.3
SOC *e* 07 23 54.0
SOC *e*PPP PPP 07 27 04.5
SOC pmax pmax
comp=Z,57nm,1.1s

SOC				MLR	MLR			
	comp=Z,316nm,18.0s							
NC303	**NORSAR Array S**	**149.20**	**352**	*e*PKPdf	**PKPbc**	**07 20 18.3**	**-1.8**
NB2	**NORSAR Subarra1**	**149.40**	**352**	PKP	**PKPbc**	**07 20 19.9**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=11,slow=2.6							
NB200	**NORSAR Array S**	**149.40**	**352**	*e*pPKPdf	**PKPbc**	**07 20 19.4**	**-1.2**
NOA	**NORSAR Array B**	**149.40**	**352**	PKPbc	**PKPbc**	**07 20 19.4**	**-1.2**
	comp=Z,7.2nm,0.9s,baz=13,slow=4.3,SNR=11							
HFS	**Hagfors**	**149.31**	**349**	PKPbc	**PKPbc**	**07 20 21.0**	**-0.8**
	comp=Z,11nm,0.9s,baz=122,slow=1.9,SNR=10							
MNK	**Minsk**	**150.32**	**330**	*e*PKIKP	**PKiKP**	**07 20 24.0**	**+0.3**
ASF	**Jabal al Asfar**	**150.76**	**281**	PKPbc	**PKiKP**	**07 20 25.7**	**+0.2**
	comp=Z,10nm,0.9s,baz=346,slow=2.6,SNR=9.3							
KONO	**Kongsberg**	**150.95**	**353**	*e*PKPbc	**PKPbc**	**07 20 22.8**	**-1.5**
KONO	**Kongsberg**	**150.95**	**353**	*e*PKIKP	**PKPbc**	**07 20 22.8**	**-1.5**
EIL	**Elat**	**152.02**	**276**	PKPbc	**PKiKP**	**07 20 27.9**	**-0.2**
	comp=Z,25nm,1.1s,baz=85,slow=6.0,SNR=7.7							
AKASG	**Malin Array Be**	**152.04**	**322**	PKPbc	**PKPbc**	**07 20 26.1**	**-1.0**
	comp=Z,6.7nm,0.8s,baz=50,slow=2.6,SNR=4.0							
AKBB	**Malin Array Si**	**152.04**	**322**	*e*PKPbc	**PKPbc**	**07 20 26.6**	**-0.4**
KIEV	**Kiev**	**152.05**	**322**	*e*PKPbc	**PKPbc**	**07 20 26.6**	**-0.5**
KIEV	**Kiev**	**152.05**	**322**	*c i*PKIKP	**PKPbc**	**07 20 26.3**	**-0.8**
AK11	**Malin Array Si**	**152.08**	**322**	*e*PKPdf	**PKPdf**	**07 20 21.4**	**+0.9**
MMAI	**Mount Meron Ar**	**152.10**	**283**	PKPbc	**PKiKP**	**07 20 28.6**	**+0.3**
	comp=Z,3.0nm,0.4s,baz=338,slow=1.8,SNR=8.4							
MMAI				PKPab	**sPKPbc**	**07 20 38.6**	**+0.7**
	comp=Z,5.5nm,0.6s,baz=74,slow=6.2,SNR=4.4							
ILGA	**Ilgaz**	**152.97**	**300**	*e*PKPbc	**PKiKP**	**07 20 30.8**	**+0.8**
KLNR	**Kaliningrad**	**153.22**	**337**	↓*i*PKIKP	**PKiKP**	**07 20 31.4**	**+1.7**
BR101	**Keskin Array S**	**153.27**	**298**	*e*PKPbc	**PKPbc**	**07 20 30.1**	**-0.3**
BR101				*e*PKPab	**PKPab**	**07 20 42.8**	**+0.4**
BR131	**Keskin Array S**	**153.27**	**298**	*e*PKPdf	**PKPdf**	**07 20 20.7**	**-2.2**
BRTR	**Keskin Array B**	**153.27**	**298**	PKPbc	**PKPbc**	**07 20 30.1**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=134,slow=3.6,SNR=9.4							
BRTR				PKPab	**PKPab**	**07 20 42.8**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=137,slow=5.0,SNR=6.5							
DBIC	**Dimbokro**	**154.83**	**163**	*e*PKPdf	**PKPdf**	**07 20 25.8**	**+0.2**
DBIC				PKPbc	**PKiKP**	**07 20 34.9**	**+0.6**
DBIC	**Dimbokro**	**154.83**	**163**	PKPbc	**PKiKP**	**07 20 34.9**	**+0.6**
	comp=Z,2.5nm,0.7s,baz=167,slow=2.3,SNR=3.9							
BUR08	**Bucovina Ar. S**	**155.96**	**320**	*e*PKPdf	**PKPdf**	**07 20 24.4**	**-2.0**
KWP	**Kalwaria Pacla**	**155.97**	**327**	*e*PKPdf	**PKPdf**	**07 20 25.1**	**-1.1**
KWP	**Kalwaria Pacla**	**155.97**	**327**	*e*PKIKP	**PKPdf**	**07 20 25.1**	**-1.1**
LANS	**Liptovska Anna**	**157.79**	**330**	*e*PKP2	**PKPab**	**07 21 01.4**	**+0.2**
LANS	**Liptovska Anna**	**157.79**	**330**	*e*PKP	**PKPdf**	**07 21 01.4**	**+0.2**
CLL	**Collm**	**158.27**	**342**	*e*PKPab	**PKPab**	**07 21 02.0**	**-1.1**
CLL	**Collm**	**158.27**	**342**	*e*PKP2	**PKPab**	**07 21 02.0**	**-1.1**
BRG	**Berggiesshubel**	**158.40**	**340**	*e*PKP	**PKPab**	**07 21 04.4**	**+0.7**
	comp=Z,14nm,1.6s							
BRG				*e*		07 21 20.0		
	comp=Z,20nm,1.4s							
BRG	**Berggiesshubel**	**158.40**	**340**	*e*PKP2	**PKPab**	**07 21 04.4**	**+0.7**
BRG				pmax	pmax			
	comp=Z,14nm,1.6s							
VYHS	**Vyhne**	**158.56**	**329**	*e*PKP2	**PKPab**	**07 21 04.9**	**+0.4**
VYHS	**Vyhne**	**158.56**	**329**	*e*PKP	**PKPab**	**07 21 04.9**	**+0.4**
MODS	**Modra-Piesok**	**159.32**	**331**	*e*PKP2	**PKPab**	**07 21 08.4**	**+0.6**
MODS	**Modra-Piesok**	**159.32**	**331**	*e*PKP	**PKPab**	**07 21 08.4**	**+0.6**
GERES	**GERESS Array B**	**160.25**	**338**	PKPab	**PKPab**	**07 21 10.1**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=81,slow=3.4,SNR=4.9							
TOA0	**Torodi Ar. Sit**	**162.22**	**177**	*e*PKPdf	**PKPdf**	**07 20 28.3**	**-6.2**
TOA0				*e*PKPdf	**PKPdf**	**07 20 33.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**162.22**	**177**	PKP	**PKPdf**	**07 20 35.0**	**+0.5**
	comp=Z,2.0nm,1.2s,baz=146,slow=2.3,SNR=5.5							
TORD				PKPab	**PKPab**	**07 21 21.5**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=166,slow=4.2,SNR=12							
TOA1	**Torodi Ar. Sit**	**162.23**	**177**	*e*PKPdf	**PKPdf**	**07 20 35.0**	**+0.5**
TOA1				*e*PKPab	**PKPab**	**07 21 21.5**	**+0.3**

*IDC **06** 07:12:42.3±1.2,34.°88N×25.°75E, h0km, mb3.6/4, mb1 3.6/7,mb1mx3.4/62,mbtmp3.6/7,ML3.4/3,MS4.3/2, Ms1 4.2/2,ms1mx2.8/49, Error ellipse: s-maj=26.0km s-min=14.5km az=10.0*

*ISK **06** 07:12:45.4,34.°90N×25.°74E, h6km, ML3.5/9*

*ATH **06** 07:12:47.0,35.°00N×25.°81E, h26km, ML3.3/9, Error ellipse: s-maj=2.6km s-min=1.0km az=359.0*

*THE **06** 07:12:46.6,34.°92N×25.°79E, h0km, ML3.4/6, Error ellipse: s-maj=1.6km s-min=0.5km az=176.0*

*ISCJB **06** 07:12:47.3±0.7,34.°91N±0.°05×25.°79E±0.°03, h21km±4km, mb3.5/4,MS4.3/2, Error ellipse: s-maj=8.3km s-min=3.5km az=173.5*

*DDA **06** 07:13:21.1,36.°76N×27.°86E, h7km±5km, ML2.9*

ISC 06 07:12:45.7±1.1,**34.°92N**±0.°05×**25.°75E**±0.°02,**h16**km±7km, **n73**,σ1s**74**/91,**mb3.5**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAST	**Lasithi**	**0.33**	**318**	P		**Pb**	**07 12 53.7**	**+0.4**
LAST				S		**Sb**	**07 13 00.1**	**+1.7**
LAST	**Lasithi**	**0.33**	**318**	P		**Pb**	**07 12 53.9**	**+0.6**
LAST				S		**Sb**	**07 12 60.0**	**+1.6**
LAST				AML		AML	07 13 00.5	
	comp=N,9498μm,0.3s							
LAST				AML		AML	07 13 00.5	
	comp=E,9497μm,0.3s							
NPS	**Neapolis**	**0.36**	**342**	P		**Pb**	**07 12 54.2**	**+0.4**
NPS				S		**Sb**	**07 13 00.7**	**+1.4**
NPS	**Neapolis**	**0.36**	**342**	P		**Pb**	**07 12 54.2**	**+0.4**
NPS				S		**Sb**	**07 13 00.2**	**+1.0**
NPS				AML		AML	07 13 01.4	
	comp=N,10324μm,0.3s							
NPS				AML		AML	07 13 01.9	
	comp=E,10896μm,0.2s							
STIA	**Sitia Lasithi**	**0.40**	**45**	P		**Pb**	**07 12 54.7**	**+0.3**
STIA				S		**Sb**	**07 13 01.0**	**+0.7**
ZKR	**Zakros**	**0.43**	**63**	PG		**Pg**	**07 12 54.6**	**+0.2**
ZKR				SG		**Sb**	**07 13 01.4**	**+0.2**
ZKR	**Zakros**	**0.43**	**63**	P		**Pg**	**07 12 54.6**	**+0.2**
ZKR				S		**Sb**	**07 13 01.4**	**+0.2**
ZKR	**Zakros**	**0.43**	**63**	P		**Pg**	**07 12 54.8**	**+0.4**
ZKR				S		**Sg**	**07 13 00.9**	**+0.6**
ZKR				AML		AML	07 13 02.8	
	comp=N,7933μm,0.2s							
ZKR				AML		AML	07 13 03.0	
	comp=E,17547μm,0.4s							
KSTL	**Kastelli Herak**	**0.68**	**305**	P		**Pg**	**07 12 55.8**	**-3.2**
KSTL				S		**Sg**	**07 13 04.2**	**-3.7**
IACM	**Heraklion**	**0.68**	**305**	P		**Pn**	**07 13 00.7**	**+0.1**
IACM				S		**Sn**	**07 13 11.4**	**+0.5**
IACM	**Heraklion**	**0.68**	**305**	P		**Pb**	**07 13 00.4**	**+1.3**
IDI	**Anoyia**	**0.80**	**298**	Pn		**Pb**	**07 13 01.7**	**+0.5**
	comp=E,24nm,0.3s,baz=162,slow=7.3,SNR=69							
IDI				Sn		**Sn**	**07 13 14.6**	**+0.7**
	comp=E,146nm,0.3s,baz=24,slow=20,SNR=41							
IDI				LR		LR	07 13 34.1	
	comp=E,337nm,18.3s,baz=130,slow=64							
TMBK	**Timbaki Herakl**	**0.82**	**281**	P		**Pn**	**07 13 03.5**	**+0.9**
TMBK				S		**Sn**	**07 13 16.2**	**+1.8**
PRNS	**Prines Rethymn**	**1.11**	**294**	P		**Pg**	**07 13 09.0**	**+1.7**
KARP	**Karpathos**	**1.32**	**61**	PN		**Pg**	**07 13 11.2**	**+0.1**
KARP	**Karpathos**	**1.32**	**61**	P		**Pb**	**07 13 10.6**	**+0.6**
KARP				S		**Sg**	**07 13 29.2**	**+1.0**
KARP	**Karpathos**	**1.32**	**61**	P		**Pb**	**07 13 10.7**	**+0.6**
KARP				AML		AML	07 13 34.8	
	comp=N,3175μm,0.5s							
KARP				AML		AML	07 13 44.6	
	comp=E,1915μm,0.4s							
VAM	**Vamos**	**1.36**	**291**	P		**Pg**	**07 13 12.1**	**+0.2**
VAM				AML		AML	07 13 43.1	
	comp=N,1961μm,0.3s							
VAM				AML		AML	07 13 43.1	
	comp=E,1918μm,0.7s							
GVD	**Gavdhos**	**1.37**	**267**	P		**Pg**	**07 13 12.8**	**+0.7**
GVD	**Gavdhos**	**1.37**	**267**	P		**Pg**	**07 13 13.0**	**+0.9**
GVD				AML		AML	07 13 45.0	
	comp=N,1340μm,0.7s							
GVD				AML		AML	07 13 46.7	
	comp=E,1719μm,0.5s							
ANAF	**Anafi Island**	**1.44**	**1**	P		**Pn**	**07 13 12.1**	**+1.0**
ANAF				S		**Sg**	**07 13 32.5**	**+0.4**
ANAF	**Anafi Island**	**1.44**	**1**	P		**Pn**	**07 13 11.9**	**+0.8**
ANAF				AML		AML	07 13 35.8	
	comp=E,4237μm,0.3s							
ANAF				AML		AML	07 13 37.9	
	comp=N,4974μm,0.5s							
THR6	**Thira Island,**	**1.46**	**349**	P		**Pb**	**07 13 12.7**	**+0.1**
SANT	**Santorini**	**1.47**	**351**	PN		**Pb**	**07 13 13.3**	**+0.6**
SANT				SN		**Sg**	**07 13 33.6**	**+0.5**
SANT	**Santorini**	**1.47**	**351**	P		**Pb**	**07 13 12.8**	**+0.1**
SANT				AML		AML	07 13 40.5	
	comp=N,1160μm,0.4s							
SANT				AML		AML	07 13 42.9	
	comp=E,2073μm,0.3s							
THR9	**Santorini-Faro**	**1.47**	**348**	P		**Pn**	**07 13 12.6**	**+1.0**
THT1	**Athinios (Pele**	**1.49**	**350**	P		**Pn**	**07 13 12.8**	**+1.0**
THR3	**Thira Island,**	**1.52**	**349**	P		**Pb**	**07 13 13.8**	**+0.4**
THR5	**Thira Island,**	**1.53**	**348**	P		**Pn**	**07 13 13.4**	**+1.0**
IMMV	**Iera Moni Meta**	**1.55**	**291**	P		**Pb**	**07 13 15.1**	**+1.1**
IMMV	**Iera Moni Meta**	**1.55**	**291**	P		**Pg**	**07 13 15.8**	**+0.4**
IMMV				AML		AML	07 13 50.2	
	comp=N,1949μm,1.0s							
IMMV				AML		AML	07 13 55.5	
	comp=E,1977μm,0.8s							
KERA	**Keramoti**	**1.85**	**285**	P		**Pb**	**07 13 20.0**	**+0.9**
AMGA	**Amorgos Island**	**1.91**	**3**	P		**Pn**	**07 13 18.3**	**+0.7**
MHLO	**Agia Marina, M**	**2.08**	**329**	P		**Pb**	**07 13 22.1**	**-0.9**
APE	**Apeiranthos**	**2.15**	**355**	PN		**Pn**	**07 13 22.9**	**+1.9**
APE	**Apeiranthos**	**2.15**	**355**	P		**Pn**	**07 13 22.4**	**+1.4**
ANKY	**Antikythira Is**	**2.21**	**296**	P		**Pb**	**07 13 25.1**	**-0.3**
ARG	**Arkhangelos**	**2.33**	**56**	PN		**Pb**	**07 13 25.9**	**-1.4**
ARG	**Arkhangelos**	**2.33**	**56**	P		**Pn**	**07 13 25.6**	**+2.2**
DAT	**Datca**	**2.34**	**39**	PN		**Pn**	**07 13 26.0**	**+2.4**
DAT	**Datca**	**2.34**	**39**	*i* P		**Pb**	**07 13 26.8**	**-0.8**
DAT				*i* S		**Sb**	**07 13 56.8**	**+0.5**
DATC	**Datca-Mugla**	**2.41**	**40**	PN		**Pn**	**07 13 26.6**	**+2.2**
SERI	**Serifos**	**2.46**	**336**	P		**Pn**	**07 13 27.0**	**+1.8**
BODT	**Bodrum**	**2.49**	**30**	PN		**Pn**	**07 13 27.8**	**+2.3**
VLI	**Valiai**	**2.91**	**309**	P		**Pn**	**07 13 33.0**	**+1.7**
SMG	**Samos**	**2.92**	**17**	P		**Pn**	**07 13 32.2**	**+0.7**
YER	**Yerkesik**	**3.02**	**42**	PN		**Pn**	**07 13 35.3**	**+2.4**
DALY	**Dalyan (Mula)**	**3.03**	**50**	PN		**Pn**	**07 13 35.4**	**+2.5**
DALY	**Dalyan (Mula)**	**3.03**	**50**	*i* P		**Pn**	**07 13 34.8**	**+1.9**
DALY				*i* S		**Sb**	**07 14 15.3**	**-0.6**
TURN	**Turunc**	**3.03**	**49**	PN		**Pn**	**07 13 31.6**	**-1.4**
TURN	**Turunc**	**3.03**	**49**	*i* P		**Pn**	**07 13 28.8**	**-4.2**
TURN				*i* S		**Sn**	**07 14 05.1**	**-3.8**
FETY	**Fethiye**	**3.21**	**57**	PN		**Pn**	**07 13 37.9**	**+2.4**
AYDN	**Tasoluk**	**3.23**	**32**	*i* P		**Pn**	**07 13 39.6**	**+3.7**
AYDN				*i* S		**Sn**	**07 14 15.3**	**+1.2**
DID	**Didima**	**3.29**	**323**	P		**Pn**	**07 13 38.7**	**+2.2**
CHOS	**Chios island**	**3.47**	**4**	PN		**Pn**	**07 13 41.9**	**+2.8**
AYDB	**Zeytinkoy-Aydi**	**3.48**	**29**	PN		**Pn**	**07 13 42.1**	**+2.8**
TAVA	**DENIZLI_Tavas**	**3.61**	**44**	*i* P		**Pn**	**07 13 45.0**	**+4.0**
TAVA				*i* S		**Sn**	**07 14 24.3**	**+0.9**
PYL	**PYLOS**	**3.80**	**302**	P		**Pn**	**07 13 46.6**	**+3.0**
TRIP	**Tripoli**	**3.83**	**314**	P		**Pn**	**07 13 46.7**	**+2.6**
VIL2	**Platees**	**3.85**	**329**	P		**Pn**	**07 13 46.1**	**+1.8**
GOLH	**Golhisar**	**3.86**	**52**	*i* P		**Pn**	**07 13 47.9**	**+3.4**
GOLH				IAML_P				
	comp=E,693nm,0.2s							
GUR	**Goura**	**4.08**	**319**	P		**Pn**	**07 13 49.6**	**+2.1**
KLV	**Kalavryta, Ach**	**4.26**	**318**	P		**Pn**	**07 13 52.1**	**+2.1**
KORT	**Korkueli**	**4.27**	**60**	PN		**Pn**	**07 13 53.5**	**+3.3**
BRTR	**Keskin Array B**	**7.91**	**50**	Pn		**Pn**	**07 14 41.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=232,slow=16,SNR=2.5							
MMAI	**Mount Meron Ar**	**8.24**	**101**	Pn		**Pn**	**07 14 43.3**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=277,slow=11,SNR=3.6							
EIL	**Elat**	**9.38**	**121**	Pn		**Pn**	**07 14 58.6**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=323,slow=8.2,SNR=4.2							
FINES	**FINESS Array B**	**26.55**	**0**	P		**P**	**07 18 20.4**	**-2.1**
	comp=Z,1.5nm,0.7s,baz=183,slow=12,SNR=3.4							
TORD	**Torodi Ar. Bea**	**30.71**	**231**	P		**P**	**07 18 58.3**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=32,slow=9.2,SNR=6.7							
KMBO	**Kilima Mbogo**	**37.44**	**161**	LR		LR	07 36 00.4	
	comp=Z,294nm,20.9s,baz=108,slow=37							
KURBB	**Kurchatov Arra**	**40.90**	**51**	P		**P**	**07 20 26.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=281,slow=9.4,SNR=2.7							
MKAR	**Makanchi Array**	**43.51**	**56**	P		**P**	**07 20 47.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=272,slow=8.4,SNR=5.8							
BDFB	**Brasilia**	**86.06**	**248**	LR		LR	08 03 06.1	
	comp=Z,185nm,18.1s,baz=224,slow=35							

*ISCJB **06** 07:13:08.7±0.5,43.°34S±0.°09×40.°0E±0.°1, h10km, mb4.0/17,MS3.8/6, Error ellipse: s-maj=16.7km s-min=9.9km az=143.4*

*IDC **06** 07:13:08.6±0.6,43.°35S×40.°08E, h0km, mb4.1/16, mb1 4.2/18,mb1mx4.0/55,mbtmp4.1/18,ML3.7/2,MS3.9/8, Ms1 3.8/8,ms1mx3.5/41, Error ellipse: s-maj=22.3km s-min=14.1km az=61.0*

*NEIC **06** 07:13:10.5±0.3,43.°36S×40.°06E, h10km, mb4.3/7, Error ellipse: s-maj=12.4km s-min=7.5km az=55.0*

ISC 06 07:13:10.2±0.6,**43.4S**±0.1×**40.1E**±0.1,**h10**km,**n37**, σ0s**61**/36,**mb4.0**/17,**MS3.8**/6,**Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUR	**Sutherland**	**18.69**	**299**	*e*P		**P**	**07 17 28.6**	**-0.2**
	7.1nm,0.8s							
SUR	**Sutherland**	**18.69**	**299**	P		**P**	**07 17 28.6**	**-0.2**
	0.3nm,0.3s,baz=126,slow=14,SNR=6.9							
SUR				LR		LR	07 23 04.5	
	comp=Z,242nm,21.1s,baz=154,slow=32							
BOSA	**Boshof**	**18.93**	**316**	*e*P		**P**	**07 17 31.5**	**+0.2**
BOSA				*e*P		**Pn**	**07 17 31.7**	**-0.3**
BOSA	**Boshof**	**18.93**	**316**	P		**P**	**07 17 31.5**	**+0.2**
	0.1nm,0.3s,baz=127,slow=12,SNR=3.9							
BOSA				LR		LR	07 23 19.9	
	comp=Z,355nm,21.2s,baz=162,slow=32							
LBTB	**Lobatse**	**21.80**	**322**	*e*P		**P**	**07 18 02.1**	**-0.4**
	11nm,1.1s							
LBTB	**Lobatse**	**21.80**	**322**	P		**P**	**07 18 02.1**	**-0.4**
	2.3nm,0.6s,baz=140,slow=9.9,SNR=4.3							
LBTB				LR		LR	07 25 07.3	
	comp=Z,397nm,20.6s,baz=150,slow=33							
MATP	**Matopo**	**24.83**	**333**	P		**P**	**07 18 31.7**	**-1.1**
	2.9nm,0.9s,baz=144,slow=9.2,SNR=5.1							
MATP				LR		LR	07 27 25.2	
	comp=Z,280nm,18.5s,baz=164,slow=34							
OPO	**Ambohidratompo**	**25.43**	**16**	LR		LR	07 27 23.8	
	comp=Z,272nm,19.0s,baz=178,slow=34							
MAW	**Mawson**	**27.19**	**161**	LR		LR	07 27 25.1	
	comp=Z,180nm,19.3s,baz=318,slow=32							
LSZ	**Lusaka**	**29.77**	**336**	*e*P		**P**	**07 19 16.9**	**-0.3**
	5.1nm,1.0s							
LSZ	**Lusaka**	**29.77**	**336**	P		**P**	**07 19 17.1**	**0.0**
	1.9nm,0.5s,baz=175,slow=13,SNR=4.7							
LSZ				LR		LR	07 30 08.5	
	comp=Z,135nm,18.9s,baz=148,slow=34							
TSUM	**Tsumeb**	**30.61**	**315**	P		**P**	**07 19 24.4**	**-0.2**
	1.8nm,0.8s,baz=149,slow=18,SNR=3.0							
SNAA	**Sanae**	**35.11**	**202**	P		**P**	**07 20 03.8**	**+0.4**
	3.9nm,1.1s,baz=135,slow=2.9,SNR=2.6							
KMBO	**Kilima Mbogo**	**42.12**	**356**	P		**P**	**07 21 01.8**	**-1.1**
	1.0nm,0.7s,baz=225,slow=11,SNR=1.8							
QSPA	**South Pole Qui**	**46.85**	**180**	*e*P		**P**	**07 21 39.1**	**-1.0**
QSPA				*e*P		**P**	**07 21 39.9**	**-0.3**
QSPA	**South Pole Qui**	**46.85**	**180**	P		**P**	**07 21 39.1**	**-1.0**
	1.3nm,0.7s,baz=268,slow=0.9,SNR=12							
DBIC	**Dimbokro**	**64.27**	**309**	*e*P		**P**	**07 23 46.0**	**+0.3**
	4.5nm,1.1s							
DBIC	**Dimbokro**	**64.27**	**309**	P		**P**	**07 23 46.0**	**+0.3**
	1.0nm,0.5s,baz=123,slow=2.9,SNR=3.0							
TOA0	**Torodi Ar. Sit**	**66.27**	**319**	*e*P		**P**	**07 23 59.9**	**+1.3**
TORD	**Torodi Ar. Bea**	**66.27**	**319**	P		**P**	**07 23 59.3**	**+0.7**
	2.9nm,0.8s,baz=138,slow=4.6,SNR=7.9							
TOA1	**Torodi Ar. Sit**	**66.27**	**319**	*e*P		**P**	**07 23 59.3**	**+0.6**
PLCA	**Paso Flores**	**75.55**	**227**	*e*P		**P**	**07 24 55.6**	**+0.6**
	4.2nm,1.1s							
PLCA	**Paso Flores**	**75.55**	**227**	P		**P**	**07 24 55.6**	**+0.6**
	2.5nm,0.9s,baz=127,slow=1.6,SNR=3.6							
STKA	**Stephens Creek**	**76.38**	**121**	*e*P		**P**	**07 24 59.9**	**+0.1**
	0.1nm,0.6s							
STKA	**Stephens Creek**	**76.38**	**121**	P		**P**	**07 24 59.9**	**+0.1**
	1.2nm,0.5s,baz=169,slow=3.1,SNR=7.7							
ASAR	**Alice Springs**	**76.81**	**110**	P		**P**	**07 25 02.3**	**0.0**
	1.0nm,1.1s,baz=211,slow=8.8,SNR=4.8							
CPUP	**Villa Florida**	**77.43**	**246**	*e*P		**P**	**07 25 05.8**	**+0.1**
	1.1nm,1.0s							
CPUP	**Villa Florida**	**77.43**	**246**	P		**P**	**07 25 05.8**	**+0.1**
	1.7nm,0.9s,baz=129,slow=8.1,SNR=3.3							
WR1	**Warramunga Arr**	**79.59**	**107**	*e*P		**P**	**07 25 17.6**	**-0.2**
	4.0nm,1.1s							
WRA	**Warramunga Arr**	**79.59**	**107**	P		**P**	**07 25 17.6**	**-0.2**
	1.8nm,1.1s,baz=216,slow=4.1,SNR=4.7							
CMAR	**Chiang Mai Arr**	**81.81**	**55**	P		**P**	**07 25 30.4**	**+0.9**
	1.2nm,0.3s,baz=212,slow=6.1,SNR=4.2							
BRTR	**Keskin Array B**	**82.90**	**355**	P		**P**	**07 25 35.3**	**+0.4**
	0.6nm,0.7s,baz=140,slow=4.7,SNR=3.1							
BR101	**Keskin Array S**	**82.91**	**355**	*e*P		**P**	**07 25 35.3**	**+0.4**
MLR	**Muntele Rosu**	**89.35**	**350**	LR		LR	08 08 53.1	
	comp=Z,75nm,21.5s,baz=182,slow=37							
TXAR	**Lajitas Array**	**147.88**	**256**	PKPbc		**PKPbc**	**07 32 54.8**	**-0.8**
	1.9nm,1.1s,baz=141,slow=4.8,SNR=7.1							
ULM	**Lac du Bonnet**	**149.43**	**299**	PKPbc		**PKPbc**	**07 32 57.5**	**-1.2**
	2.2nm,0.7s,baz=47,slow=4.5,SNR=5.0							
PDAR	**Pinedale Array**	**157.85**	**279**	PKP		**PKPdf**	**07 33 06.8**	**-0.1**
	0.2nm,0.6s,baz=273,slow=5.3,SNR=2.4							

*DRS **06** 07:17:42.4±0.0,40.°30N×47.°12E, h15km*
*NSSP **06** 07:17:45.9,40.°62N×47.°42E, h10km, Ms3.5*
*MOS **06** 07:17:47.5±0.0,40.°66N×47.°37E, h9km, MPVA4.3*
*AZER **06** 07:17:47.1±0.3,40.°65N×47.°39E, h25km, ml3.6/29, Error ellipse: s-maj=0.8km s-min=0.5km az=348.0*
*TIF **06** 07:17:48.3,40.°69N×47.°47E, h24km±2km*
*NORS **06** 07:17:48.4±0.0,40.°71N×47.°35E, h9km, MPVA4.4*
*MOS **06** 07:17:48.5±1.8,40.°58N×47.°44E, h13km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=4.4km az=102.6*

ISC 06 07:17:47.3±1.1,**40.57N**±0.°01×**47.43E**±0.°01,**h5**km±9km, **n86**,σ1s**30**/143,**41C-32D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNGR	**Mingechevir, A**	**0.33**	**309**	PG		**Pb**	**07 17 55.5**	**-0.2**
MNGR	**Mingechevir, A**	**0.33**	**309**	↓P		**Pb**	**07 17 55.6**	**-0.2**
	SNR=22							
MNGR				↑S		**Sb**	**07 18 02.8**	**+1.4**
ZRD	**Zardab**	**0.35**	**145**	↑P		**Pn**	**07 17 57.7**	**-1.3**
	SNR=19							
ZRD				↑S		**Sb**	**07 18 05.7**	**+4.0**
BRDA	**Brd**	**0.35**	**212**	↓P		**Pn**	**07 17 58.5**	**-0.6**
	SNR=16							
BRDA				↓S		**Sb**	**07 18 05.9**	**+4.0**
QBL	**Gabala**	**0.49**	**39**	↑P		**Pg**	**07 17 57.6**	**+0.8**
	SNR=92							
QBL				↑S		**Sb**	**07 18 05.0**	**-1.0**
KDMR	**Kurdemir**	**0.61**	**108**	↑P		**Pb**	**07 18 00.9**	**+0.5**
	SNR=5.8							
KDMR				↑S		**Sn**	**07 18 11.8**	**-1.0**
IML	**Ismayilli**	**0.62**	**68**	↓P		**Pg**	**07 17 59.9**	**+0.7**
	SNR=10							
IML				↑S		**Sb**	**07 18 09.3**	**-0.4**
SEKA	**Sheki**	**0.67**	**345**	PG		**Pg**	**07 18 00.1**	**0.0**
SEKA	**Sheki**	**0.67**	**345**	↓P		**Pg**	**07 18 00.1**	**0.0**
	SNR=623							
SEKA				↓S		**Sg**	**07 18 09.5**	**+0.7**
XNQ	**Khinaliq**	**0.81**	**42**	↑P		**Pg**	**07 18 02.4**	**-0.6**
	SNR=1885							
XNQ				↑S		**Sg**	**07 18 13.9**	**+0.4**
**GANJ

BUJR pmax pmax
comp=Z,81nm,0.2s
BTNK Botanikuri 2.28 300 P **Pn** **07 18 26.5 +1.0**
BTNK S **Sb** **07 18 55.1 -2.2**
BTNK Botanikuri 2.28 300 *i* P **Pb** **07 18 27.0 -1.9**
BTLR Botlikh 2.28 337⇓ *e*PN **Pb** **07 18 28.4 -0.6**
BTLR *e* 07 18 57.5
BTLR pmax pmax
comp=Z,37nm,0.6s
BTLR smax smax
comp=N,72nm,0.8s
BTLR Botlikh 2.28 337 *i* Pg **Pb** **07 18 28.5 -0.6**
BTLR *e*Sg **Sb** **07 18 56.0 -1.6**
KRNR Karanay 2.29 350 *e*PN **Pb** **07 18 29.0 -0.2**
KRNR *e*S **Sg** **07 18 59.5 -1.5**
KRNR pmax pmax
comp=Z,26nm,0.2s
STEZ Stepenevan 2.34 282⇑ *i*P **Pn** **07 18 26.6 +0.1**
STEZ ⇑S **Sg** **07 19 01.0 -1.4**
TBLG Delisi 2.34 301 P **Pn** **07 18 27.3 +0.9**
TBLG S **Sn** **07 18 56.4 +0.8**
TBLG Delisi 2.34 301 *e*PN **Pn** **07 18 27.3 +0.9**
TBLG Delisi 2.34 301 *i* P **Pn** **07 18 27.6 +1.2**
MAK Makhachkala 2.40 1 *e*PN **Pn** **07 18 23.2 -3.9**
MAK pmax pmax
comp=Z,86nm,0.3s
KZRT Kazreti 2.43 291 P **Pb** **07 18 29.2 -2.4**
KZRT S **Sn** **07 18 59.1 +1.2**
DBC Dubki 2.49 350⇑ *e*PN **Pb** **07 18 32.6 0.0**
DBC *e* 07 19 05.7
DBC Dubki 2.49 350 *e*Pn **Pb** **07 18 31.3 -1.3**
DBC *e*Sn **Sb** **07 19 02.2 -1.4**
DVE Vedeno 2.58 338 *e*PN **Pn** **07 18 31.2 +1.4**
DVE pmax pmax
comp=Z,18nm,0.2s
IGDI IGDIR 2.66 256 *i* P **Pg** **07 18 37.1 -1.0**
GROC Groznyy 2.90 336 *e*PN **Pb** **07 18 37.2 -2.3**
GROC *e*S **Sb** **07 19 17.7 +2.4**
GROC pmax pmax
comp=Z,20nm,0.2s
GROC smax smax
comp=N,120nm,0.6s
GROC smax smax
comp=N,261nm,1.0s
GROC Groznyy 2.90 336 *e*Pn **Pn** **07 18 36.4 +2.2**
GROC *e*Sn **Sb** **07 19 12.5 -2.9**
EAK Akyaka 2.91 274 *i* P **Pb** **07 18 39.3 -0.4**
GUDG Gudauri 2.92 312 P **Pn** **07 18 36.1 +1.6**
GUDG S **Sn** **07 19 10.5 +0.4**
BGD Bogdanovka 2.98 285 P **Pn** **07 18 37.7 +2.2**
BGD S **Sn** **07 19 13.2 +1.5**
LACR Lac 3.25 315 *ce*PN **Pn** **07 18 40.1 +1.0**
LACR pmax pmax
comp=Z,13nm,0.3s
LACR Lac 3.25 315 *e*Pn **Pn** **07 18 39.7 +0.6**
LACR *e*Sn **Sn** **07 19 19.7 +1.4**
ZEI Tsey 3.45 311⇓ *e*PN **Pn** **07 18 43.0 +1.1**
ZEI pmax pmax
comp=Z,12nm,0.2s
ZEI Tsey 3.45 311 *e*Pn **Pn** **07 18 43.0 +1.1**
ZEI *e*Sn **Sn** **07 19 25.4 +2.2**
BTKR Batakoyurt 3.53 323 *e*PN **Pn** **07 18 45.2 +2.3**
DIGR Digorskoe uzhe 3.70 310 *e*PN **Pn** **07 18 46.6 +1.2**
DIGR *e*S **Sn** **07 19 31.7 +2.2**
DIGR Digorskoe uzhe 3.70 310 *e*Pn **Pn** **07 18 46.5 +1.2**
DIGR *e*Sn **Sn** **07 19 31.6 +2.2**
NCK Nalchik 4.09 317⇑ *e*PN **Pn** **07 18 52.5 +2.0**
OBN Obninsk 16.25 337⇓ *e*P **P** **07 21 38.5 -0.7**
OBN pmax pmax
comp=Z,10.0nm,0.4s
BRVK Borovoye 19.92 43⇓ *e*P **Pn** **07 22 20.1 -1.1**
BRVK pmax pmax
comp=Z,9.0nm,2.2s
KURK Kurchatov 23.89 54⇑ *e*P **P** **07 23 03.0 +1.3**
KURK pmax pmax
comp=Z,1.0nm,1.2s

MEX 06 07:29:12.1±0.6, 16°27N×98°42W, h8km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.31**	**66**	*i* P	Pg	07 29 17.8	-0.5
PNIG				*i* S	Sg	07 29 22.6	+0.1
VHO	**Vista Hermosa**	**1.81**	**63**	*e*P	Pn	07 29 40.3	-3.5
VHO				*i* S	Sn	07 30 01.6	-5.4

*ISCJB **06** 07:30:45.2±0.3, 43°47S±0°07×40°0E±0°1, h10km, mb4.2/21, MS4.2/18, Error ellipse: s-maj=13.2km s-min=8.5km az=142.6*
*IDC **06** 07:30:45.4±0.5, 43°46S×40°15E, h0km, mb4.3/17, mb1 4.4/19, mb1mx4.3/35, mbtmp4.3/19, ML3.7/2, MS4.1/19, Ms1 4.1/19, ms1mx3.9/40, Error ellipse: s-maj=20.4km s-min=14.0km az=60.0*
*NEIC **06** 07:30:46.9±0.2, 43°43S×40°04E, h10km, mb4.3/10, Error ellipse: s-maj=10.6km s-min=6.6km az=51.0*
ISC 06 07:30:47.0±0.4, 43°41S±0°08×40°1E±0°1, h10km, n67, σ0s98/66, mb4.3/21, MS4.2/18, 1C-1D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland** 10nm,1.0s	**18.74**	**300**	*e*P	**P**	**07 35 04.0**	**-2.2**
SUR	**Sutherland** 0.6nm,0.3s,baz=124,slow=10,SNR=6.6	**18.74**	**300**	P	**P**	**07 35 05.9**	**-0.3**
SUR				LR	LR	07 41 02.9	
	comp=Z,588nm,18.3s,baz=134,slow=33						
BOSA	**Boshof** 3.6nm,0.8s	**18.98**	**316**	*e*P	**P**	**07 35 06.9**	**-1.9**
BOSA				*e*P	**Pn**	**07 35 09.8**	**+0.4**
BOSA	**Boshof** 0.1nm,0.3s,baz=143,slow=12,SNR=8.5	**18.98**	**316**	P	**Pn**	**07 35 09.8**	**+0.4**
BOSA				LR	LR	07 41 07.6	
	comp=Z,791nm,20.6s,baz=142,slow=33						
LBTB	**Lobatse** 5.6nm,0.7s,baz=156,slow=9.9,SNR=7.0	**21.86**	**322**	*e*P	**P**	**07 35 39.7**	**-0.3**
LBTB				*e*pP	**P**	**07 35 40.0**	**0.0**
LBTB	**Lobatse** 5.6nm,0.7s,baz=156,slow=9.9,SNR=7.0	**21.86**	**322**	P	**P**	**07 35 40.1**	**+0.2**
LBTB				LR	LR	07 42 34.0	
	comp=Z,1μm,21.8s,baz=149,slow=32						
MATP	**Matopo** 6.1nm,0.9s,baz=176,slow=9.8,SNR=8.0	**24.89**	**333**	P	**P**	**07 36 09.6**	**-0.6**
MATP				LR	LR	07 44 53.0	
	comp=Z,812nm,18.9s,baz=161,slow=34						
SYO	**Syowa Base**	**25.66**	**180**⇓	*e*X	**P**	**07 36 15.0**	**-1.5**
SYO	**Syowa Base**	**25.66**	**180**	*e*P	**P**	**07 36 20.4**	**+3.9**
MAW	**Mawson** 2.6nm,1.0s,baz=18,slow=31	**27.13**	**161**	LR	LR	07 44 53.1	
	comp=Z,601nm,19.2s,baz=18,slow=31						
LSZ	**Lusaka**	**29.83**	**336**	*e*P	**P**	**07 36 53.5**	**-1.1**
LSZ	**Lusaka** 5.3nm,0.9s,baz=170,slow=7.2,SNR=6.9	**29.83**	**336**	P	**P**	**07 36 54.4**	**-0.1**
LSZ				LR	LR	07 47 45.3	
	comp=Z,340nm,18.6s,baz=164,slow=34						
SNAA	**Sanae** 3.1nm,1.2s,baz=30,slow=8.1,SNR=2.7	**35.07**	**202**	P	**P**	**07 37 39.8**	**0.0**
KMBO	**Kilima Mbogo** 1.7nm,0.8s	**42.18**	**356**	*e*P	**P**	**07 38 40.1**	**-0.1**
KMBO	**Kilima Mbogo** 0.6nm,0.3s,baz=60,slow=20,SNR=3.2	**42.18**	**356**	P	**P**	**07 38 41.0**	**+0.8**
KMBO				LR	LR	07 53 58.4	
	comp=Z,736nm,20.6s,baz=125,slow=33						
QSPA	**South Pole Qui**	**46.80**	**180**	*e*P	**P**	**07 39 16.2**	**-0.4**
QSPA				*e*P	**P**	**07 39 16.5**	**0.0**
QSPA	**South Pole Qui** 6.6nm,1.0s,baz=228,slow=6.1,SNR=9.1	**46.80**	**180**	P	**P**	**07 39 16.2**	**-0.4**
VNDA	**Vanda**	**54.20**	**167**	*e*P	**P**	**07 40 12.3**	**+0.2**
VNDA	**Vanda** 2.6nm,1.0s,baz=159,slow=34	**54.20**	**167**	LR	LR	08 01 31.0	
	comp=Z,159nm,19.6s,baz=236,slow=34						
DBIC	**Dimbokro** 3.8nm,0.9s	**64.32**	**309**	*e*P	**P**	**07 41 23.1**	**+0.1**
DBIC	**Dimbokro** 6.5nm,1.1s,baz=146,slow=18,SNR=3.6	**64.32**	**309**	P	**P**	**07 41 23.1**	**+0.1**
TOA0	**Torodi Ar. Sit**	**66.33**	**319**	*e*P	**P**	**07 41 36.3**	**+0.5**
TOA0				*e*P	**P**	**07 41 36.6**	**+0.7**
TORD	**Torodi Ar. Bea** 8.6nm,1.0s,baz=161,slow=1.9,SNR=3.1	**66.33**	**319**	P	**P**	**07 41 36.4**	**+0.5**
TOA1	**Torodi Ar. Sit**	**66.33**	**319**	*e*P	**P**	**07 41 36.4**	**+0.5**
BBOO	**Buckleboo** 8.1nm,1.1s	**72.21**	**118**	*e*P	**P**	**07 42 12.2**	**0.0**
EIL	**Elat**	**72.88**	**355**	LR	LR	08 12 56.5	
	comp=Z,158nm,19.2s,baz=254,slow=35						
PLCA	**Paso Flores** 4.5nm,1.0s,baz=197,slow=7.7,SNR=3.2	**75.53**	**227**	P	**P**	**07 42 30.2**	**-1.5**
PLCA				LR	LR	08 10 10.3	
	comp=Z,73nm,20.4s,baz=161,slow=31						
MMAI	**Mount Meron Ar**	**76.18**	**356**	LR	LR	08 15 19.3	
	comp=Z,150nm,18.4s,baz=200,slow=35						
STKA	**Stephens Creek**	**76.33**	**121**	*e*P	**P**	**07 42 36.0**	**-0.3**
STKA	**Stephens Creek** 2.3nm,0.6s,baz=286,slow=8.6,SNR=6.9	**76.33**	**121**	P	**P**	**07 42 35.9**	**-0.4**
STKA				LR	LR	08 09 59.2	
	comp=Z,116nm,18.1s,baz=201,slow=31						
ASAR	**Alice Springs** 1.5nm,1.0s,baz=224,slow=5.5,SNR=6.3	**76.77**	**110**	P	**P**	**07 42 38.4**	**-0.5**
AS31	**Alice Springs** 0.9nm,1.0s	**76.77**	**110**	*e*P	**P**	**07 42 38.4**	**-0.6**
AS01	**Alice Springs**	**76.80**	**110**	*e*P	**P**	**07 42 37.9**	**-1.2**
CPUP	**Villa Florida** 4.7nm,1.1s	**77.43**	**246**	*e*P	**P**	**07 42 41.0**	**-1.5**
CPUP	**Villa Florida** 4.5nm,1.1s,baz=99,slow=5.2,SNR=5.0	**77.43**	**246**	P	**P**	**07 42 43.0**	**+0.4**
BDFB	**Brasilia** 6.5nm,1.0s,baz=77,slow=9.3,SNR=4.7	**78.07**	**260**	P	**P**	**07 42 46.9**	**+0.5**
WR1	**Warramunga Arr** 2.9nm,0.9s	**79.55**	**107**	*e*P	**P**	**07 42 53.8**	**-0.6**
WRA	**Warramunga Arr** 2.2nm,1.0s,baz=219,slow=4.5,SNR=8.1	**79.55**	**107**	P	**P**	**07 42 53.8**	**-0.6**
CM31	**Chiang Mai Arr** 8.5nm,1.1s	**81.82**	**55**	*e*P	**P**	**07 43 06.4**	**0.0**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=233,slow=6.5,SNR=9.9	**81.82**	**55**	P	**P**	**07 43 06.4**	**0.0**
CMAR				LR	LR	08 15 41.1	
	comp=Z,89nm,18.0s,baz=197,slow=33						
GEYT	**Alibeck** 2.2nm,1.0s,baz=182,slow=8.7,SNR=5.5	**82.60**	**14**	LR	LR	08 20 12.9	
BR101	**Keskin Array S**	**82.96**	**355**	*e*P	**P**	**07 43 12.6**	**+0.6**
BRTR	**Keskin Array B** 1.2nm,1.0s,baz=182,slow=8.7,SNR=5.5	**82.96**	**355**	P	**P**	**07 43 12.6**	**+0.6**
SHL	**Shillong**	**83.50**	**46**	*e*P	**P**	**07 43 15.0**	**-0.2**
KBZ	**Khabaz** 2.0nm,1.0s,baz=154,slow=35	**86.79**	**2**	LR	LR	08 21 02.2	
KSH	**Kashi**	**88.70**	**27**	*e*P	**P**	**07 43 40.1**	**-0.3**
KSH	**Kashi**	**88.70**	**27**	S	**S**	**07 54 24.4**	**-2.7**
KSH				pmax	pmax		
	comp=Z,150nm,4.7s						
ESDC	**Sonseca Array** 2.0nm,0.4s,baz=160,slow=9.0,SNR=6.2	**91.79**	**328**	P	**P**	**07 43 55.6**	**+0.8**
AKASG	**Malin Array Be**	**94.21**	**353**	LR	LR	08 29 18.9	
	comp=Z,39nm,18.3s,baz=210,slow=37						
AKTO	**Aktyubinsk**	**94.77**	**11**	LR	LR	08 27 24.4	
	comp=Z,69nm,19.3s,baz=175,slow=36						
WMQ	**Urumqi**	**96.71**	**33**	*e*P	**P**	**07 44 19.4**	**+2.2**
WMQ				LR	LR		
	comp=N,210nm,18.7s						
WMQ				LR	LR		
	comp=E,150nm,23.7s						
WMQ				LR	LR		
	comp=Z,190nm,26.1s						
OBN	**Obninsk**	**98.20**	**358**	LR	LR	08 28 11.3	
	comp=Z,19nm,20.9s,baz=138,slow=35						
BVAR	**Borovoye Array**	**99.54**	**18**	LR	LR	08 26 56.5	
	comp=Z,98nm,19.3s,baz=208,slow=34						
SEY	**Seymchan**	**137.34**	**39**	PKP	**PKiKP**	**07 50 10.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=160,slow=3.3,SNR=4.0						
JCT	**Junction City**	**145.77**	**261**	*e*PKPdf	**PKPbc**	**07 50 26.2**	**-0.1**
HPIG		**147.82**	**251**	*e*PKPdf	**PKPdf**	**07 50 30.9**	**+1.3**
TXAR	**Lajitas Array** 2.6nm,1.1s,baz=143,slow=4.4,SNR=17	**147.88**	**256**	PKPbc	**PKPbc**	**07 50 32.0**	**-0.5**
TX31	**Lajitas Ar. Si**	**147.88**	**256**	*e*PKPdf	**PKPdf**	**07 50 29.1**	**-0.4**
TX31				*e*PKPdf	**PKPdf**	**07 50 30.8**	**+1.4**
FCC	**Fort Churchill**	**148.12**	**315**	*e*PKPdf	**PKPbc**	**07 50 32.2**	**+0.3**
ECSD	**EROS Data Cent**	**148.90**	**286**	*e*PKPdf	**PKPbc**	**07 50 33.6**	**-0.9**
AGMN	**Agassiz Nation**	**149.26**	**295**	*e*PKPdf	**PKPbc**	**07 50 34.1**	**-1.2**
ULM	**Lac du Bonnet** 2.4nm,1.1s,baz=80,slow=6.1,SNR=4.7	**149.47**	**299**	PKPbc	**PKPbc**	**07 50 35.8**	**0.0**
MSTX	**Muleshoe**	**149.73**	**264**	*e*PKPdf	**PKPdf**	**07 50 32.9**	**+0.5**
MSTX				*e*PKPbc	**PKiKP**	**07 50 37.6**	**-0.4**
MNTX	**Cornudas Mount**	**150.44**	**258**	*e*PKPdf	**PKPdf**	**07 50 33.6**	**+0.2**
MNTX				*e*PKPbc	**PKiKP**	**07 50 39.9**	**+0.4**
SDCO	**Great Sand Dun**	**153.39**	**270**	*e*PKPdf	**PKPdf**	**07 50 37.7**	**-0.3**
SDCO				*e*PKPbc	**PKiKP**	**07 50 46.4**	**+0.7**
SDCO				*e*PKPab	**PKPab**	**07 50 58.8**	**+1.0**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=50,slow=2.4,SNR=4.3	**155.84**	**331**	PKPbc	PKPbc	07 50 50.1	
YKA				PKPab	**PKPab**	**07 51 07.3**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=25,slow=2.9,SNR=3.2						
PV02	**Paradox Valley**	**155.92**	**268**	*e*PKPdf	**PKPdf**	**07 50 41.5**	**+0.1**

IDC 06 07:55:23.1±11.0, 20°58S×177°22W, h460km±107km, mb3.3/6, mb1 3.5/6, mb1mx3.2/22, mbtmp4.1/6, Error ellipse: s-maj=103.8km s-min=45.0km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 2.6nm,0.4s,baz=88,slow=11,SNR=5.3	**34.21**	**264**	P	P	08 01 29.0	-0.1
STKA	**Stephens Creek** 1.8nm,0.7s,baz=77,slow=9.7,SNR=5.9	**38.41**	**244**	P	P	08 02 04.5	+0.6
ASAR	**Alice Springs** 4.3nm,0.7s,baz=95,slow=7.6,SNR=5.2	**45.21**	**257**	P	P	08 02 57.7	-0.4
ASAR				PcP	PcP	08 04 29.1	+0.1
	0.5nm,0.6s,baz=103,slow=4.1,SNR=5.3						
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=97,slow=8.6,SNR=26	**45.31**	**262**	P	P	08 02 58.1	-0.7
ILAR	**Eielson Array** 0.1nm,0.5s,baz=213,slow=6.3,SNR=3.6	**88.23**	**13**	P	P	08 07 24.0	+0.3
CMAR	**Chiang Mai Arr** 1.4nm,0.7s,baz=116,slow=2.2,SNR=7.6	**90.83**	**289**	P	P	08 07 38.0	+1.1
AKASG	**Malin Array Be** 2.2nm,0.6s,baz=43,slow=4.2,SNR=5.7	**143.43**	**332**	PKP	PKPab	08 14 01.2	-0.9

*VLA **06** 08:00:01.0, 52°30N×35°41E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 06 08:00:04.1±3.9, 52°21N×35°74E, h0km, mb1 3.7/2, mb1mx3.1/44, mbtmp3.7/2, ML3.1/3, Error ellipse: s-maj=45.9km s-min=19.8km az=129.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk** 1.6nm,0.3s,baz=0.0,slow=20,SNR=3.6	**2.95**	**9**	Lg	Lg	08 01 31.2	
AKASG	**Malin Array Be** 0.6nm,0.3s,baz=56,slow=13,SNR=2.8	**4.34**	**252**	Pn	Pn	08 01 08.5	-2.8
AKASG				Pg	Pb	08 01 21.2	0.0
	1.5nm,0.3s,baz=61,slow=15,SNR=5.8						
AKASG				Sn	Sn	08 02 00.6	-2.0
	1.4nm,0.3s,baz=62,slow=25,SNR=3.6						
AKASG				Lg	Lg	08 02 18.9	
	3.3nm,0.3s,baz=63,slow=29,SNR=4.6						
I43RU	**DUBNA INFRASON** baz=188,slow=309,SNR=1.0	**4.60**	**10**	*i*		08 30 30.0	
FINES	**FINESS Array B** 0.2nm,0.3s,baz=149,slow=14,SNR=6.6	**10.65**	**334**	Pn	Pn	08 02 35.9	-1.8
I31KZ	**AKTYUBINSK INF** baz=285,slow=312,SNR=2.3	**14.05**	**89**	*i*		09 24 20.0	
HFS	**Hagfors** 0.1nm,0.3s,baz=129,slow=14,SNR=2.8	**14.56**	**312**	Pn	Pn	08 03 24.0	-7.2
ARCES	**ARCESS Array B** 0.2nm,0.3s,baz=160,slow=13,SNR=7.4	**18.04**	**348**	P	Pn	08 04 14.6	-1.2

NNC 06 08:05:26.7±7.5, 40°00N×71°10E, h0km, mb3.5, mpv3.2, 1C-1D, Error ellipse: s-maj=53.3km s-min=32.9km az=10.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay** 16nm,0.2s	**2.29**	**340**	Pg	Pb	08 06 08.8	-0.3
IUG				Lg	Lg	08 06 39.9	
	31nm,0.5s						
KK31	**Karatay Array** 0.9nm,0.5s,baz=165,slow=11,SNR=5.0	**3.14**	**352**	⇑Pg	Pn	08 06 18.9	+1.5
KK31				⇓Lg	Lg	08 07 06.6	
	1.3nm,0.4s,baz=160,slow=29,SNR=4.7						
MRKS	**Merke** 3.4nm,0.4s	**3.18**	**30**	Pg	Pb	08 06 25.4	+1.3
MRKS				Lg	Lg	08 07 08.4	
	7.5nm,0.5s						

*ISCJB **06** 08:19:15.6±0.4, 43°40S±0°07×40°0E±0°1, h10km, mb4.2/20, MS4.1/12, Error ellipse: s-maj=13.0km s-min=8.6km az=145.2*
*IDC **06** 08:19:15.5±0.6, 43°45S×40°10E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.1/43, mbtmp4.2/17, ML3.7/2, MS4.1/13, Ms1 4.1/13, ms1mx3.8/36, Error ellipse: s-maj=22.4km s-min=13.8km az=55.0*
*NEIC **06** 08:19:17.0±0.3, 43°39S×39°99E, h10km, mb4.2/10, Error ellipse: s-maj=10.3km s-min=6.7km az=51.0*
*BJI **06** 08:19:17.6, 43°40S×40°00E, h15km, mb4.9/6, Ms7 4.2/1*
ISC 06 08:19:17.5±0.5, 43°43S±0°09×40°0E±0°1, h10km, n46, σ1s17/44, mb4.2/20, MS4.1/12, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland** 10.0nm,0.8s	**18.67**	**300**	*e*P	**P**	**08 23 34.0**	**-1.8**
SUR	**Sutherland** 0.3nm,0.3s,baz=120,slow=12,SNR=6.6	**18.67**	**300**	P	**Pn**	**08 23 37.0**	**+0.9**
SUR				LR	LR	08 29 33.0	
	comp=Z,451nm,19.4s,baz=148,slow=33						
BOSA	**Boshof** 23nm,1.1s	**18.94**	**317**	*e*P	**Pn**	**08 23 38.7**	**-0.6**
BOSA				*e*P	**Pn**	**08 23 39.6**	**+0.3**
BOSA	**Boshof** 0.1nm,0.3s,baz=145,slow=12,SNR=5.8	**18.94**	**317**	P	**Pn**	**08 23 39.6**	**+0.3**
BOSA				LR	LR	08 29 37.2	
	comp=Z,709nm,20.0s,baz=146,slow=33						
LBTB	**Lobatse** 8.6nm,0.8s	**21.82**	**323**	*e*P	**P**	**08 24 09.1**	**-0.9**
LBTB	**Lobatse** 8.7nm,0.8s,baz=130,slow=5.9,SNR=5.0	**21.82**	**323**	P	**P**	**08 24 10.7**	**+0.8**
LBTB				LR	LR	08 31 03.9	
	comp=Z,816nm,21.4s,baz=149,slow=32						
MATP	**Matopo** 4.8nm,0.8s,baz=149,slow=8.8,SNR=8.6	**24.87**	**334**	P	**P**	**08 24 40.7**	**+0.3**
MATP				LR	LR	08 33 23.3	
	comp=Z,568nm,19.1s,baz=159,slow=34						
OPO	**Ambohidratompo** 3.3nm,0.9s,baz=158,slow=11,SNR=2.7	**25.52**	**16**	P	**P**	**08 24 45.5**	**-0.9**
OPO				LR	LR	08 33 30.4	
	comp=Z,494nm,18.4s,baz=176,slow=34						
SYO	**Syowa Base**	**25.64**	**180**⇑	*e*P	**P**	**08 24 49.2**	**+2.4**
MAW	**Mawson**	**27.14**	**161**	LR	LR	08 33 00.2	
	comp=Z,383nm,21.7s,baz=332,slow=30						
LSZ	**Lusaka**	**29.81**	**337**	*e*P	**P**	**08 25 23.3**	**-1.5**
LSZ				*e*pP	**P**	**08 25 23.8**	**-0.9**
LSZ	**Lusaka** 4.2nm,0.8s,baz=174,slow=7.6,SNR=7.8	**29.81**	**337**	P	**P**	**08 25 24.4**	**-0.4**
LSZ				LR	LR	08 36 05.4	
	comp=Z,276nm,19.4s,baz=140,slow=34						
SNAA	**Sanae** 2.2nm,0.8s	**35.02**	**202**	*e*P	**P**	**08 26 10.5**	**+0.7**
KMBO	**Kilima Mbogo** comp=Z,539nm,20.9s,baz=101,slow=33	**42.19**	**356**	LR	LR	08 42 18.0	
QSPA	**South Pole Qui**	**46.78**	**180**	*e*P	**P**	**08 27 45.5**	**-1.3**
QSPA				*e*P	**P**	**08 27 45.8**	**-1.0**
QSPA	**South Pole Qui** 6.8nm,1.0s,baz=266,slow=1.7,SNR=20	**46.78**	**180**	P	**P**	**08 27 45.5**	**-1.3**
HOPE	**Hope Point** 47nm,0.7s	**49.09**	**229**	*e*P	**P**	**08 28 03.5**	**-1.1**
VNDA	**Vanda** 1.0nm,1.0s	**54.20**	**167**	*e*P	**P**	**08 28 43.2**	**+0.7**
VNDA	**Vanda** 0.7nm,0.9s,baz=255,slow=5.1,SNR=3.4	**54.20**	**167**	P	**P**	**08 28 41.5**	**-1.1**
VNDA				LR	LR	08 49 59.2	
	comp=Z,166nm,18.9s,baz=258,slow=34						
DBIC	**Dimbokro** 5.5nm,1.0s	**64.27**	**309**	*e*P	**P**	**08 29 53.4**	**+0.5**
DBIC	**Dimbokro** 2.9nm,0.9s,baz=110,slow=8.0,SNR=3.7	**64.27**	**309**	P	**P**	**08 29 53.4**	**+0.5**
USHA	**Ushuaia** comp=Z,73nm,21.6s,baz=110,slow=31	**64.81**	**217**	LR	LR	08 52 56.9	
TOA0	**Torodi Ar. Sit**	**66.28**	**319**	*e*P	**P**	**08 30 05.0**	**-1.0**
TOA0				*e*P	**P**	**08 30 06.5**	**+0.5**
TORD	**Torodi Ar. Bea** 4.7nm,0.9s,baz=142,slow=3.6,SNR=26	**66.28**	**319**	P	**P**	**08 30 05.6**	**-0.4**
TOA1	**Torodi Ar. Sit**	**66.29**	**319**	*e*P	**P**	**08 30 05.6**	**-0.4**
BBOO	**Buckleboo** 9.7nm,1.1s	**72.28**	**118**	*e*P	**P**	**08 30 42.9**	**-0.2**
FITZ	**Fitzroy Crossi** 6.9nm,0.9s	**74.70**	**100**	*e*P	**P**	**08 30 58.2**	**+0.7**
STKA	**Stephens Creek** 1.2nm,1.1s	**76.40**	**121**	*e*P	**P**	**08 31 06.5**	**-0.6**
STKA	**Stephens Creek** 2.6nm,0.8s,baz=275,slow=3.4,SNR=7.1	**76.40**	**121**	P	**P**	**08 31 06.5**	**-0.6**
ASAR	**Alice Springs** 1.1nm,0.8s,baz=231,slow=4.4,SNR=7.3	**76.84**	**110**	P	**P**	**08 31 09.3**	**-0.4**
AS01	**Alice Springs**	**76.88**	**110**	*e*P	**P**	**08 31 08.2**	**-1.8**
CPUP	**Villa Florida** 1.8nm,0.7s,baz=116,slow=7.9,SNR=5.5	**77.34**	**246**	P	**P**	**08 31 12.8**	**+0.4**
BDFB	**Brasilia** 3.4nm,1.0s,baz=184,slow=1.7,SNR=3.4	**77.98**	**260**	P	**P**	**08 31 16.9**	**+0.6**
WR1	**Warramunga Arr** 3.0nm,1.0s	**79.63**	**108**	*e*P	**P**	**08 31 25.0**	**-0.2**
WRA	**Warramunga Arr** 1.5nm,0.9s,baz=221,slow=4.1,SNR=9.5	**79.63**	**108**	P	**P**	**08 31 25.0**	**-0.2**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=234,slow=6.5,SNR=4.6	**81.90**	**55**	P	**P**	**08 31 36.5**	**-0.7**
BR101	**Keskin Array S**	**82.97**	**355**	*e*P	**P**	**08 31 41.8**	**-0.7**
BRTR	**Keskin Array B** 0.9nm,0.9s,baz=176,slow=3.6,SNR=3.6	**82.97**	**355**	P	**P**	**08 31 41.8**	**-0.7**
KSH	**Kashi**	**88.75**	**27**	*e*P	**P**	**08 32 10.3**	**-0.8**
AAK	**Ala-Archa** 2.6nm,0.8s,baz=191,slow=33	**91.11**	**25**	LR	LR	09 09 09.1	
VYHS	**Vyhne**	**93.41**	**346**	*e*P	**P**	**08 32 36.2**	**+3.8**
AKTO	**Aktyubinsk** comp=Z,52nm,21.1s,baz=172,slow=33	**94.80**	**11**	LR	LR	09 11 20.2	
WMQ	**Urumqi**	**96.77**	**33**	*e*P	**P**	**08 32 50.5**	**+2.6**
WMQ				LR	LR		
	comp=Z,130nm,32.7s						
BVAR	**Borovoye Array** comp=Z,47nm,18.5s,baz=223,slow=34	**99.58**	**18**	LR	LR	09 15 56.5	
TXAR	**Lajitas Array** 1.9nm,0.8s,baz=141,slow=5.9,SNR=13	**147.79**	**256**	PKPbc	**PKPbc**	**08 39 02.1**	**-0.5**
ULM	**Lac du Bonnet** 2.1nm,0.7s,baz=83,slow=5.8,SNR=5.3	**149.41**	**299**	PKPbc	**PKPbc**	**08 39 04.5**	**-1.5**

*ISCJB **06** 08:43:52.8±0.7, 43°5S±0°2×40°1E±0°2, h10km, mb3.9/7, Error ellipse: s-maj=28.7km s-min=14.2km az=41.7*
*IDC **06** 08:43:53.0±0.8, 43°50S×40°21E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/38, mbtmp3.9/9, ML3.4/2, Error ellipse: s-maj=33.0km s-min=19.1km az=40.0*
ISC 06 08:43:54.5±0.9, 43°5S±0°2×40°1E±0°2, h10km, n10, σ0s81/10, mb4.1/7, Prince Edward Islands region

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

ASAR	**Alice Springs**	**76.62**	**110**	P	P	08 57 00.1	0.0
	0.7nm,1.0s,baz=222,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**79.40**	**107**	P	P	08 57 15.6	+0.1
	1.1nm,1.0s,baz=215,slow=4.0,SNR=4.0						
TXAR	**Lajitas Array**	**148.05**	**256**	PKPbc	PKPbc	09 04 54.9	0.0
	1.0nm,1.1s,baz=146,slow=6.6,SNR=2.8						

*ISCJB **06** 08:46:24.3±0.6, 43.5°S±0.2×40.2°E±0.3, h10km, mb4.0/10, Error ellipse: s-maj=35.8km s-min=11.8km az=137.9*
*IDC **06** 08:46:24.3±0.8, 43.37°S×40.32E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/36, mbtmp4.0/8, ML3.5/1, Error ellipse: s-maj=44.8km s-min=19.0km az=45.0*
*NEIC **06** 08:46:26.0±0.5, 43.46°S×40.26E, h10km, mb4.3/4, Error ellipse: s-maj=26.4km s-min=9.3km az=48.0*

ISC 06 08:46:26.3±0.8, 43.4°S±0.2×40.4°E±0.2, h10km, n17, σ1°17/19, mb4.1/10, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.14**	**316**	*eP*	**P**	**08 50 48.4**	**-1.4**
BOSA				*eP*	**P**	**08 50 52.3**	**+2.6**
BOSA	**Boshof**	**19.14**	**316**	P	**P**	**08 50 48.4**	**-1.4**
	0.1nm,0.3s,baz=158,slow=14,SNR=2.2						
LBTB	**Lobatse**	**22.00**	**322**	*eP*	**P**	**08 51 21.4**	**+0.6**
	7.6nm,1.1s						
MATP	**Matopo**	**25.00**	**333**	P	**P**	**08 51 48.3**	**-2.1**
	1.6nm,0.8s,baz=180,slow=7.8,SNR=3.8						
LSZ	**Lusaka**	**29.93**	**336**	*eP*	**P**	**08 52 35.5**	**+0.8**
	3.6nm,0.9s						
QSPA	**South Pole Qui**	**46.78**	**180**	*eP*	**P**	**08 54 55.2**	**-0.5**
QSPA				*eP*	**P**	**08 54 57.5**	**+1.9**
QSPA	**South Pole Qui**	**46.78**	**180**	P	**P**	**08 54 55.2**	**-0.5**
	4.2nm,1.0s,baz=301,slow=4.0,SNR=6.4						
DBIC	**Dimbokro**	**64.50**	**309**	*eP*	**P**	**08 57 02.7**	**-0.6**
	4.8nm,1.1s						
DBIC	**Dimbokro**	**64.50**	**309**	P	**P**	**08 57 02.7**	**-0.6**
	4.1nm,0.9s,baz=164,slow=9.3,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**66.47**	**318**	*eP*	**P**	**08 57 15.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**66.47**	**318**	P	**P**	**08 57 15.4**	**-0.6**
	2.4nm,0.9s,baz=141,slow=3.4,SNR=6.8						
TOA1	**Torodi Ar. Sit**	**66.48**	**318**	*eP*	**P**	**08 57 15.4**	**-0.6**
STKA	**Stephens Creek**	**76.15**	**121**	P	**P**	**08 58 14.5**	**0.0**
	0.3nm,0.3s,baz=126,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**76.56**	**110**	P	**P**	**08 58 17.1**	**+0.1**
	0.7nm,1.0s,baz=235,slow=4.4,SNR=3.1						
WR1	**Warramunga Arr**	**79.34**	**107**	*eP*	**P**	**08 58 32.6**	**+0.2**
	3.7nm,1.1s						
WRA	**Warramunga Arr**	**79.34**	**107**	P	**P**	**08 58 32.7**	**+0.2**
	0.8nm,0.9s,baz=214,slow=4.2,SNR=3.8						
TXAR	**Lajitas Array**	**148.08**	**256**	PKPbc	**PKPbc**	**09 06 11.6**	**-0.6**
	2.8nm,1.2s,baz=134,slow=3.6,SNR=5.5						

*ISCJB **06** 08:47:10.3±0.5, 43.5°S±0.1×40.2°E±0.2, h10km, mb4.0/13, Error ellipse: s-maj=21.3km s-min=11.1km az=139.4*
*IDC **06** 08:47:10.3±0.6, 43.44°S×40.26E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.1/35, mbtmp4.1/15, ML3.6/2, MS4.5/1, Ms1 4.4/1, ms1mx3.6/16, Error ellipse: s-maj=24.5km s-min=15.2km az=50.0*

ISC 06 08:47:11.9±0.6, 43.4°S±0.1×40.3°E±0.1, h10km, n21, σ0°47/18, mb4.2/13, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.85**	**299**	P	**Pn**	**08 51 33.8**	**+1.1**
	0.5nm,0.3s,baz=124,slow=13,SNR=6.6						
BOSA	**Boshof**	**19.09**	**316**	P	**Pn**	**08 51 35.4**	**-0.1**
	0.1nm,0.3s,baz=133,slow=14,SNR=2.6						
BOSA				LR	LR	08 57 53.2	
	comp=Z,1μm,18.3s,baz=139,slow=34						
LBTB	**Lobatse**	**21.95**	**322**	P	**P**	**08 52 05.8**	**0.0**
	5.2nm,0.9s,baz=167,slow=14,SNR=3.9						
MATP	**Matopo**	**24.97**	**333**	P	**P**	**08 52 35.1**	**-0.6**
	2.7nm,0.7s,baz=174,slow=7.1,SNR=5.4						
QSPA	**South Pole Qui**	**46.77**	**180**	P	**P**	**08 55 40.8**	**-0.4**
	7.2nm,1.1s,baz=234,slow=2.9,SNR=6.8						
VNDA	**Vanda**	**54.15**	**167**	P	**P**	**08 56 36.5**	**-0.1**
	1.2nm,0.9s,baz=254,slow=11,SNR=2.5						
H01W2	**Cape Leeuwin H**	**56.19**	**108**	T	T	09 58 02.4	
	baz=238,slow=75,SNR=4.4						
H01W3	**Cape Leeuwin H**	**56.20**	**108**	T	T	09 58 03.4	
	baz=238,slow=75,SNR=4.7						
H01W1	**Cape Leeuwin H**	**56.21**	**108**	T	T	09 58 03.9	
	baz=238,slow=75,SNR=4.9						
DBIC	**Dimbokro**	**64.43**	**309**	P	**P**	**08 57 48.2**	**-0.3**
	1.9nm,0.6s,baz=126,slow=8.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.42**	**319**	P	**P**	**08 58 01.6**	**+0.4**
	2.1nm,0.8s,baz=141,slow=4.6,SNR=7.0						
PLCA	**Paso Flores**	**75.60**	**227**	P	**P**	**08 58 57.1**	**+0.2**
	2.7nm,0.8s,baz=133,slow=6.3,SNR=4.9						
STKA	**Stephens Creek**	**76.22**	**121**	P	**P**	**08 59 00.8**	**+0.3**
	1.8nm,0.7s,baz=318,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**76.65**	**110**	P	**P**	**08 59 03.5**	**+0.4**
	1.4nm,1.0s,baz=221,slow=6.0,SNR=5.2						
CPUP	**Villa Florida**	**77.53**	**246**	P	**P**	**08 59 07.7**	**-0.3**
	1.5nm,0.7s,baz=98,slow=4.0,SNR=6.2						
WRA	**Warramunga Arr**	**79.43**	**107**	P	**P**	**08 59 19.1**	**+0.6**
	1.3nm,0.9s,baz=216,slow=3.9,SNR=6.7						
CMAR	**Chiang Mai Arr**	**81.74**	**55**	P	**P**	**08 59 30.6**	**-0.2**
	0.9nm,0.3s,baz=241,slow=5.0,SNR=3.5						
BRTR	**Keskin Array B**	**83.00**	**355**	P	**P**	**08 59 37.0**	**0.0**
	0.4nm,0.7s,baz=251,slow=4.4,SNR=2.2						
SEY	**Seymchan**	**137.29**	**39**	PKP	**PKPdf**	**09 06 34.1**	**-0.2**
	1.2nm,0.9s,baz=272,slow=4.6,SNR=4.1						
TXAR	**Lajitas Array**	**147.99**	**256**	PKPbc	**PKPbc**	**09 06 57.7**	**+0.1**
	1.2nm,0.8s,baz=134,slow=5.4,SNR=7.1						
ULM	**Lac du Bonnet**	**149.59**	**298**	PKPbc	**PKPbc**	**09 06 60.0**	**-0.9**
	1.9nm,0.8s,baz=33,slow=3.4,SNR=5.2						

KRSC 06 08:57:31.4±10.0, 50.10N×156.74E, h94km±10km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.70**	**326**	*eP*	Pn	08 57 48.8	+0.6
SKR				*eS*	Sn	08 58 01.3	+0.5
ALID	**Alaid**	**1.08**	**316**	*eP*	Pn	08 57 52.4	0.0
ALID				*eS*	Sn	08 58 07.3	-0.9
PAU	**Pauzhetka**	**1.37**	**2**	*eP*	Pn	08 57 57.4	+1.8
PAU				*eS*	Sn	08 58 16.4	+2.5
KDTR	**Khodutka, Kamc**	**1.91**	**26**	*eP*	Pn	08 58 04.1	+1.6
KDTR				*eS*	Sn	08 58 28.1	+2.0
ASAK	**Asacha**	**2.40**	**17**	*eP*	Pn	08 58 11.7	+2.7
MTVR	**Mutnovka**	**2.55**	**20**	*eP*	Pn	08 58 13.6	+2.5
MTVR				*eS*	Sn	08 58 44.5	+3.0
RUS	**Russkaya**	**2.58**	**25**	*eP*	Pn	08 58 12.9	+1.5
RUS				*eS*	Sn	08 58 43.2	+1.1
KRMR	**Karymshinskiy**	**2.87**	**17**	*eP*	Pn	08 58 18.6	+3.5
PET	**Petropavlovsk**	**3.16**	**21**	*eS*	Sn	08 58 59.7	+3.9
DALK	**Dalny**	**3.19**	**22**	*eP*	Pn	08 58 21.6	+2.1
DALK				*eS*	Sn	08 58 58.9	+2.3
UGLR	**Uglovaya**	**3.37**	**22**	*eP*	Pn	08 58 24.9	+2.9
AVH	**Avacha**	**3.40**	**21**	*eP*	Pn	08 58 25.9	+3.5
AVH				*eS*	Sn	08 59 06.0	+4.2
KOK	**Koryaka**	**3.41**	**20**	*eP*	Pn	08 58 26.0	+3.5
SMAR	**Somma**	**3.42**	**21**	*eP*	Pn	08 58 25.8	+3.1
KRER	**Koryakskii**	**3.44**	**21**	*eP*	Pn	08 58 26.3	+3.2
KRER				*eS*	Sn	08 59 07.0	+4.1
SDLR	**Sedlovina**	**3.45**	**22**	*eP*	Pn	08 58 25.3	+2.2
SDLR				*eS*	Sn	08 59 05.9	+2.9
KRX	**Arik**	**3.47**	**19**	*eP*	Pn	08 58 27.0	+3.6
NLC	**Nalytchevo**	**3.48**	**27**	*eS*	Sn	08 59 03.7	+0.3
SPN	**Mys Shipunski**	**3.63**	**33**	*eP*	Pn	08 58 27.8	+2.4
SPN				*eS*	Sn	08 59 08.0	+0.8
GNL	**Ganaly**	**3.67**	**11**	*eP*	Pn	08 58 29.5	+3.4
MKZ	**Mys Kozlova**	**5.41**	**33**	*eP*	Pn	08 58 50.4	+0.9
MKZ				*eS*	Sn	08 59 48.4	-1.9
KBTR	**Krutoberegovo**	**7.12**	**29**	*eP*	Pn	08 59 14.7	+1.9

*ISCJB **06** 08:57:41.8±0.4, 43.49°S±0.07×40.1E±0.1, h10km, mb4.2/23, MS4.6/7, Error ellipse: s-maj=12.4km s-min=8.6km az=145.2*
*IDC **06** 08:57:41.9±0.5, 43.50°S×40.21E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/34, mbtmp4.2/20, ML3.6/2, MS4.6/7, Ms1 4.5/7, ms1mx4.1/35, Error ellipse: s-maj=19.0km s-min=13.6km az=64.0*
*NEIC **06** 08:57:43.6±0.3, 43.46°S×40.11E, h10km, mb4.5/10, Error ellipse: s-maj=11.1km s-min=7.8km az=56.0*
*BJI **06** 08:57:44.2, 43.40°S×40.20E, h10km, mb4.8/5, Ms7 4.9/2*

ISC 06 08:57:43.8±0.5, 43.42S±0.08×40.1E±0.1, h10km, n51, σ1°48/49, mb4.3/23, MS4.5/7, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.75**	**300**	*eP*	**P**	**09 02 01.3**	**-1.7**
	15nm,0.9s						
SUR	**Sutherland**	**18.75**	**300**	P	**Pn**	**09 02 04.7**	**+1.3**
	0.4nm,0.3s,baz=157,slow=9.6,SNR=6.5						
SUR				LR	LR	09 07 40.0	
	comp=Z,987nm,21.4s,baz=130,slow=32						
BOSA	**Boshof**	**19.00**	**316**	*eP*	**P**	**09 02 05.4**	**-0.3**
	30nm,1.1s						
BOSA				*eP*	**Pn**	**09 02 06.0**	**-0.3**
BOSA	**Boshof**	**19.00**	**316**	P	**Pn**	**09 02 06.0**	**-0.3**
	0.1nm,0.3s,baz=149,slow=12,SNR=7.9						
BOSA				LR	LR	09 08 05.2	
	comp=Z,2μm,20.4s,baz=142,slow=33						
LBTB	**Lobatse**	**21.87**	**322**	*eP*	**P**	**09 02 34.8**	**-2.0**
LBTB				*ep*P	**P**	**09 02 35.6**	**-1.2**
LBTB	**Lobatse**	**21.87**	**322**	P	**P**	**09 02 36.4**	**-0.4**
	6.2nm,0.9s,baz=155,slow=12,SNR=6.0						
LBTB				LR	LR	09 09 42.3	
	comp=Z,2μm,20.6s,baz=148,slow=33						
MATP	**Matopo**	**24.90**	**333**	P	**P**	**09 03 06.2**	**-0.9**
	6.9nm,0.9s,baz=164,slow=9.4,SNR=7.0						
MATP				LR	LR	09 11 50.7	
	comp=Z,1μm,19.1s,baz=158,slow=34						
ABPO	**Ambohimpanom**	**25.06**	**16**	*eP*	**P**	**09 03 09.4**	**+0.9**
	3.7nm,0.8s						
OPO	**Ambohidratompo**	**25.49**	**16**	P	**P**	**09 03 12.8**	**+0.5**
	5.0nm,0.9s,baz=163,slow=11,SNR=4.0						
OPO				LR	LR	09 11 56.5	
	comp=Z,2μm,18.4s,baz=177,slow=34						
SYO	**Syowa Base**	**25.65**	**180**	*ep*P	**P**	**09 03 18.4**	**+5.2**
MAW	**Mawson**	**27.11**	**161**	LR	LR	09 11 37.9	
	comp=Z,869nm,21.3s,baz=338,slow=31						
LSZ	**Lusaka**	**29.84**	**336**	*eP*	**P**	**09 03 50.9**	**-0.4**
	6.6nm,0.9s						
TSUM	**Tsumeb**	**30.68**	**315**	*eP*	**P**	**09 03 58.4**	**-0.5**
	10nm,1.1s						
SNAA	**Sanae**	**35.06**	**202**	P	**P**	**09 04 36.4**	**-0.1**
	2.4nm,1.0s,baz=80,slow=12,SNR=2.6						
KMBO	**Kilima Mbogo**	**42.19**	**356**	P	**P**	**09 05 39.2**	**+2.1**
	1.2nm,0.8s,baz=180,slow=6.2,SNR=3.8						
KMBO				LR	LR	09 20 55.5	
	comp=Z,1μm,20.6s,baz=114,slow=33						
QSPA	**South Pole Qui**	**46.79**	**180**	P	**P**	**09 06 12.4**	**-0.8**
	11nm,1.1s,baz=291,slow=3.5,SNR=10						
VNDA	**Vanda**	**54.19**	**167**	*eP*	**P**	**09 07 08.5**	**-0.2**
	2.5nm,1.0s						
VNDA	**Vanda**	**54.19**	**167**	P	**P**	**09 07 07.9**	**-0.9**
	2.1nm,1.0s,baz=259,slow=7.8,SNR=5.1						
H01W2	**Cape Leeuwin H**	**56.30**	**108**	T	T	10 08 29.1	
	baz=238,slow=75,SNR=6.8						
H01W3	**Cape Leeuwin H**	**56.31**	**108**	T	T	10 08 29.6	
	baz=238,slow=75,SNR=7.1						
H01W1	**Cape Leeuwin H**	**56.32**	**108**	T	T	10 08 30.2	
	baz=238,slow=75,SNR=7.3						
DBIC	**Dimbokro**	**64.34**	**309**	*eP*	**P**	**09 08 20.3**	**+0.6**
	7.4nm,0.9s						
DBIC	**Dimbokro**	**64.34**	**309**	P	**P**	**09 08 21.2**	**+1.5**
	4.1nm,0.8s,baz=205,slow=7.7,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**66.34**	**319**	*eP*	**P**	**09 08 32.4**	**-0.3**
TOA0				*eP*	**P**	**09 08 32.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.34**	**319**	P	**P**	**09 08 33.4**	**+0.8**
	8.6nm,1.0s,baz=160,slow=5.6,SNR=12						
TOA1	**Torodi Ar. Sit**	**66.34**	**319**	*eP*	**P**	**09 08 33.4**	**+0.7**
MDSI	**Maura Dua**	**68.24**	**75**	P	P	09 08 52.8	+8.0
BBOO	**Buckleboo**	**72.20**	**118**	*eP*	**P**	**09 09 08.6**	**-0.4**
	8.4nm,1.1s						
PLCA	**Paso Flores**	**75.53**	**227**	*eP*	**P**	**09 09 28.0**	**-0.4**
	4.4nm,0.9s						
PLCA	**Paso Flores**	**75.53**	**227**	P	**P**	**09 09 28.0**	**-0.4**
	3.1nm,0.9s,baz=164,slow=7.3,SNR=3.6						
STKA	**Stephens Creek**	**76.32**	**121**	P	**P**	**09 09 32.4**	**-0.6**
	2.7nm,0.8s,baz=239,slow=4.3,SNR=7.5						
ASAR	**Alice Springs**	**76.76**	**110**	P	**P**	**09 09 34.9**	**-0.8**
	1.9nm,1.0s,baz=216,slow=6.1,SNR=7.9						
AS01	**Alice Springs**	**76.79**	**110**	*eP*	**P**	**09 09 35.0**	**-0.9**
CPUP	**Villa Florida**	**77.43**	**246**	*eP*	**P**	**09 09 39.6**	**+0.3**
	5.4nm,0.9s						
CPUP	**Villa Florida**	**77.43**	**246**	P	**P**	**09 09 38.7**	**-0.6**
	1.4nm,0.7s,baz=132,slow=8.6,SNR=4.2						
BDFB	**Brasilia**	**78.08**	**260**	P	**P**	**09 09 42.4**	**-0.8**
	3.3nm,0.6s,baz=213,slow=5.6,SNR=3.2						
WRA	**Warramunga Arr**	**79.54**	**107**	P	**P**	**09 09 49.2**	**-1.8**
	2.2nm,1.0s,baz=224,slow=4.6,SNR=9.6						
WR1	**Warramunga Arr**	**79.54**	**107**	*eP*	**P**	**09 09 49.2**	**-1.8**
CM01	**Chiang Mai Arr**	**81.80**	**55**	*eP*	**P**	**09 10 02.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**81.82**	**55**	P	**P**	**09 10 03.2**	**+0.1**
	0.9nm,0.3s,baz=236,slow=6.4,SNR=6.4						
BRTR	**Keskin Array B**	**82.97**	**355**	P	**P**	**09 10 09.1**	**+0.3**
	1.0nm,0.9s,baz=163,slow=1.5,SNR=3.2						
BR101	**Keskin Array S**	**82.97**	**355**	*eP*	**P**	**09 10 09.1**	**+0.3**
WMQ	**Urumqi**	**96.72**	**33**	*eP*	**P**	**09 11 15.4**	**+1.4**
WMQ				LR	LR		
	comp=Z,420nm,22.5s						
MK32	**Makanchi Array**	**97.28**	**28**	*eP*	**P**	**09 11 14.8**	**-1.6**
MKAR	**Makanchi Array**	**97.28**	**28**	P	**P**	**09 11 14.8**	**-1.6**
	0.6nm,0.9s,baz=346,slow=3.0,SNR=2.9						
GTA	**Gaotai**	**98.53**	**43**	*eP*	Pdif	09 11 25.0	+2.6
GTA				pP	pwP	09 11 29.5	+1.4
GTA				sP	sP	09 11 32.0	+6.1
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
HHC	**Hu-ho-hao-te**	**105.70**	**48**	Pdif	**Pdif**	**09 11 59.8**	**+5.6**
HHC				LR	LR		
	comp=Z,440nm,20.1s						
SEY	**Seymchan**	**137.34**	**39**	PKP	**PKiKP**	**09 17 07.6**	**-0.7**
	1.5nm,0.8s,baz=80,slow=10.0,SNR=5.5						
TXAR	**Lajitas Array**	**147.89**	**256**	PKPbc	**PKPbc**	**09 17 29.1**	**-0.1**
	7.7nm,1.1s,baz=140,slow=4.7,SNR=17						
ULM	**Lac du Bonnet**	**149.49**	**299**	PKPbc	**PKPbc**	**09 17 31.6**	**-0.8**
	6.2nm,1.1s,baz=292,slow=3.5,SNR=3.0						
YKA	**Yellowknife Ar**	**155.85**	**331**	PKP	**PKPdf**	**09 17 37.7**	**+0.8**
	0.1nm,0.6s,baz=43,slow=2.0,SNR=3.9						
YKA				PKPab	**PKPab**	**09 18 03.5**	**-0.3**
	0.3nm,0.7s,baz=59,slow=2.8,SNR=3.3						

*IDC **06** 08:59:41.2±0.8, 65.34N×133.81W, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.3/45, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=10.6km s-min=8.6km az=53.0*
*PGC **06** 08:59:42.0±0.1, 65.31N×133.63W, h1km, ML3.5/11, 240km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 06 08:59:40.7±0.7, 65.29N±0.03×133.54W±0.04, h10km, n27, σ2°99/61, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**2.80**	**247**	Pn	**Pn**	**09 00 26.9**	**+1.3**
DAWY				Sn	**Sn**	**09 01 00.6**	**+1.1**
INK	**Inuvik**	**3.03**	**0**	Pn	**Pn**	**09 00 30.4**	**+1.8**
INK				Sn	**Sn**	**09 01 06.7**	**+1.9**
INK	**Inuvik**	**3.03**	**0**	Pn	**Pn**	**09 00 30.6**	**+2.0**
	1.7nm,0.3s,baz=178,slow=10.0,SNR=40						
INK				Pg	**Pb**	**09 00 36.5**	**+1.8**
	5.4nm,0.3s,baz=176,slow=14,SNR=27						
INK				Sn	**Sn**	**09 01 05.5**	**+0.7**
	3.8nm,0.3s,baz=158,slow=14,SNR=3.6						
INK				Lg	Lg	09 01 14.9	
	14nm,0.3s,baz=274,slow=25,SNR=7.0						
BVCY	**Beaver Creek**	**4.34**	**232**	Pn	**Pn**	**09 00 47.9**	**+1.1**
BVCY				Sn	**Sn**	**09 01 37.6**	**+0.3**
BVCY				Sg	**Sg**	**09 01 56.0**	**-4.0**
YUK4	**Talbot Arm**	**4.58**	**213**	Pn	**Pn**	**09 00 50.0**	**-0.2**
YUK4				Sn	**Sn**	**09 01 39.9**	**-3.6**
YUK5	**Granite Creek**	**4.61**	**207**	Pn	**Pn**	**09 00 51.3**	**+0.8**
YUK5				Sn	**Sn**	**09 01 43.6**	**-0.6**
YUK5				Sg	**Sb**	**09 01 59.9**	**+2.5**
WHY	**Whitehorse**	**4.69**	**188**	Pn	**Pn**	**09 00 52.9**	**+1.2**
WHY				Pg	**Pb**	**09 01 07.2**	**+4.2**
WHY				Sn	**Sn**	**09 01 45.5**	**-0.6**
WHY				Sg	**Sg**	**09 02 08.2**	**-3.0**
YUK3	**Moose Creek**	**4.70**	**224**	Pn	**Pn**	**09 00 53.2**	**+1.5**
YUK3				Sn	**Sn**	**09 01 45.4**	**-1.0**
YUK3				Sg	**Sg**	**09 02 06.4**	**-5.0**
YUK2	**White River**	**4.80**	**226**	Pn	**Pn**	**09 00 53.7**	**+0.6**
YUK2				Sn	**Sn**	**09 01 48.5**	**-0.2**
YUK2				Sg	**Sg**	**09 02 11.0**	**-3.7**
HYT	**Haines Junctio**	**4.83**	**204**	Pn	**Pn**	**09 00 54.6**	**+1.0**
HYT				Sn	**Sn**	**09 01 49.4**	**-0.2**
HYT				Sg	**Sb**	**09 02 09.9**	**+6.2**
DOT	**Dot Lake**	**4.84**	**255**	Pn	**Pn**	**09 00 54.1**	**+0.5**
DOT				Sg	**Sb**	**09 02 09.6**	**+5.7**
YUK6	**Outpost Mounta**	**4.88**	**209**	Pn	**Pn**	**09 00 55.4**	**+1.0**
YUK6				Sg	**Sb**	**09 02 09.9**	**+4.7**
YUK7	**Dusty Glacier**	**5.22**	**206**	Pn	**Pn**	**09 01 00.2**	**+1.3**
YUK7				Sn	**Sn**	**09 01 58.7**	**-0.5**
YUK7				Sg	**Sg**	**09 02 24.0**	**-4.2**
CTGM	**Chitina Glacie**	**5.60**	**223**	Pn	**Pn**	**09 01 06.1**	**+2.0**
CTGM				Sn	**Sn**	**09 02 07.1**	**-1.3**
CTGM				Sg	**Sg**	**09 02 34.6**	**-5.7**
ILAR	**Eielson Array**	**5.68**	**271**	Pn	**Pn**	**09 01 04.8**	**-0.3**
	0.2nm,0.3s,baz=84,slow=12,SNR=12						
ILAR				Sn	**Sn**	**09 02 07.7**	**-2.5**
	0.4nm,0.3s,baz=80,slow=18,SNR=4.1						
ILAR				Lg	Lg	09 02 34.3	
	0.8nm,0.3s,baz=71,slow=29,SNR=6.1						
PAX	**Paxson**	**5.72**	**251**	Pn	**Pn**	**09 01 06.6**	**+0.9**
PAX				Sg	**Sg**	**09 02 37.5**	**-6.6**
BALM	**Baldy**	**5.84**	**227**	Pn	**Pn**	**09 01 08.3**	**+0.9**
BALM				Sg	**Sg**	**09 02 40.9**	**-7.1**
DHRN	**Dharma Camp**	**5.95**	**67**	Pn	**Pn**	**09 01 10.3**	**+1.6**
DHRN				Sn	**Sn**	**09 02 14.9**	**-1.9**
BESE	**Bessie Mountai**	**6.77**	**186**	Pn	**Pn**	**09 01 21.6**	**+1.6**
BESE				Sn	**Sn**	**09 02 35.4**	**-1.6**
BESE				Sg	**Sg**	**09 03 12.5**	**-5.1**
COLD	**Coldfoot**	**7.00**	**294**	Sn	**Sn**	**09 02 39.7**	**-2.9**
DLBC	**Dease Lake**	**7.08**	**165**	Pn	**Pn**	**09 01 26.0**	**+1.7**
DLBC				Sn	**Sn**	**09 02 44.1**	**-0.6**
DLBC				Sg	**Sg**	**09 03 21.9**	**-5.6**
DLBC	**Dease Lake**	**7.08**	**165**	Pn	**Pn**	**09 01 25.8**	**+1.5**
	1.9nm,0.3s,baz=356,slow=9.2,SNR=26						
DLBC				Sn	**Sn**	**09 02 44.3**	**-0.4**
	0.5nm,0.3s,baz=202,slow=17,SNR=2.0						
DLBC				Lg	Lg	09 03 22.1	
	1.0nm,0.3s,baz=269,slow=24,SNR=6.8						
YKW3	**Yellowknife Ar**	**8.76**	**100**	Pn	**Pn**	**09 01 48.4**	**+1.2**
YKA	**Yellowknife Ar**	**8.79**	**100**	Pn	**Pn**	**09 01 48.4**	**+0.7**
	0.5nm,0.3s,baz=298,slow=12,SNR=26						
YKA				Sn	**Sn**	**09 03 20.6**	**-6.1**
	0.5nm,0.3s,baz=298,slow=22,SNR=7.5						
YKW1	**Yellowknife Ar**	**8.84**	**100**	Sn	**Sn**	**09 03 24.6**	**-3.2**
RES	**Resolute Bay**	**15.85**	**37**	Pn	**Pn**	**09 03 22.5**	**-0.9**
	0.4nm,0.3s,baz=231,slow=5.8,SNR=13						
RES				Sn	Sn	09 06 00.3	-18
	0.1nm,0.3s,baz=56,slow=7.3,SNR=2.0						
PDAR	**Pinedale Array**	**26.27**	**137**	P	**P**	**09 05 17.8**	**+1.7**
	0.5nm,1.0s,baz=344,slow=2.9,SNR=2.6						

IDC 06 09:10:25.5±5.4, 43.24S×40.44E, h0km, mb3.9/1, mb1 3.7/2, mb1mx3.4/41, mbtmp3.7/2, ML3.3/1, Error ellipse: s-maj=307.7km s-min=62.5km az=62.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.04**	**315**	P	P	09 14 49.3	0.0
	0.1nm,0.3s,baz=158,slow=11,SNR=2.1						
TORD	**Torodi Ar. Bea**	**66.37**	**318**	P	P	09 21 16.2	0.0
	1.0nm,0.9s,baz=143,slow=3.9,SNR=6.6						
TXAR	**Lajitas Array**	**148.17**	**256**	PKPbc	PKPbc	09 30 12.7	-0.7
	0.4nm,0.7s,baz=124,slow=4.5,SNR=3.5						

*IDC **06** 09:15:55.4±0.7, 22.81S×171.35E, h0km, mb4.3/15, mb1 4.5/17, mb1mx4.5/24, mbtmp4.3/17, ML3.9/2, MS4.9/27, Ms1 4.9/27, ms1mx4.9/34, Error ellipse: s-maj=19.9km s-min=17.3km az=107.0*
*ISCJB **06** 09:15:58.2±0.2, 22.45S±0.03×170.98E±0.04, h10km, mb4.9/58, MS5.2/154, Error

KWHZ **Kaweka Forest** 17.48 166 P **P** 09 20 05.4 +1.3
KAHZ **Kahuranaki** 17.94 165 P **Pn** 09 20 09.3 +0.8
TSZ **Takapari Road** 18.00 168 P **P** 09 20 11.8 +2.0
EIDS **Eidsvold** 18.51 257 P **Pn** 09 20 17.1 +1.4
baz=18,SNR=5.4
EIDS **Eidsvold** 18.51 257 *e*P **Pn** 09 20 18.7 +3.0
80nm,1.1s
BFZ **Birch Farm** 18.65 168 *e*P **P** 09 20 15.9 -1.0
316nm,2.0s
BFZ **Birch Farm** 18.65 168 P **P** 09 20 16.5 -0.5
SNZO **South Karori** 19.01 172 *e*P **P** 09 20 22.1 +1.3
323nm,1.7s
ARMA **Armidale** 19.11 242 P **Pn** 09 20 23.7 +0.7
baz=19,SNR=4.5
ARMA **Armidale** 19.11 242 *e*P **P** 09 20 22.4 +0.3
283nm,1.8s
THZ **Tophouse** 19.28 176 *e*P **P** 09 20 25.1 +1.2
322nm,2.0s
KHZ **Kahutara** 19.98 175 *e*P Pn 09 20 36.6 +3.6
329nm,1.6s
LTZ **Lake Taylor** 20.26 177 *e*P **P** 09 20 34.3 -0.3
313nm,2.0s
MGCD **Mangrove Creek** 20.61 234 P **P** 09 20 39.3 +0.9
baz=21,SNR=4.2
RMQ **Roma** 20.70 254 P Pn 09 20 41.0 -0.8
baz=21,SNR=22
OXZ **Oxford** 20.79 178 *e*P **P** 09 20 40.4 +0.1
461nm,2.0s
FOZ **Fox Glacier** 21.01 183 *e*P **P** 09 20 43.1 +0.5
126nm,1.2s
RPZ **Rata Peaks** 21.17 180 *e*P **P** 09 20 44.5 +0.1
RPZ **Rata Peaks** 21.17 180 P P 09 20 37.0 -7.3
7.2nm,1.0s,baz=174,slow=19,SNR=2.2
CNB **Canberra Magne** 22.85 231 P **P** 09 21 03.7 +1.1
baz=23,SNR=6.5
MLZ **Mavora Lakes** 22.95 185 *e*P **P** 09 21 04.7 +1.3
83nm,1.2s
YNG **Young** 23.11 234 P **P** 09 21 06.3 +1.1
baz=23,SNR=7.2
CAN **Canberra** 23.12 232 *e*P **P** 09 21 04.5 -0.8
113nm,1.6s
CAN **Canberra** 23.12 232 *e*P **P** 09 21 04.5 -0.8
CAN pmax pmax
comp=Z,113nm,1.6s
DCZ **Deep Cove** 23.14 187 *e*P **P** 09 21 07.0 +1.7
comp=Z,182nm,1.8s
CTA **Charters Tower** 23.26 271 P **P** 09 21 07.7 +1.0
comp=Z,7.3nm,0.7s,baz=97,slow=10,SNR=11
CTA LR LR 09 29 54.9
comp=Z,6µm,18.2s,baz=92,slow=36
CTAO **Charters Tower** 23.26 271 *e*P **P** 09 21 05.9 -0.9
CTAO *ep*P **P** 09 21 06.0 -0.8
CTAO LR LR
comp=Z,8µm,19.0s
CTAO **Charters Tower** 23.26 271 *e*P **P** 09 21 05.9 -0.9
CTAO MLR MLR
comp=Z,8µm,19.0s
TARA **Tarawa** 23.77 5 *e*P **P** 09 21 15.4 +3.6
MILA **Mila** 23.86 228 P **P** 09 21 12.7 +0.1
baz=24,SNR=4.5
CMSA **Cobar Meteorol** 24.31 243 P **P** 09 21 17.1 +0.3
baz=24,SNR=38
MTSU **Mount Surprise** 25.46 275 P **P** 09 21 28.1 +0.8
baz=25,SNR=52
TOO **Toolangi** 26.66 230 P **P** 09 21 38.8 +0.7
baz=27,SNR=7.1
TOO **Toolangi** 26.66 230 *e*P **P** 09 21 37.8 -0.3
comp=Z,33nm,1.4s
TOO **Toolangi** 26.66 230 *e*P **P** 09 21 37.8 -0.3
TOO pmax pmax
comp=Z,33nm,1.4s
RAR **Rarotonga** 27.06 93 PFAKE 09 21 50.0 +8.2
RAR LR LR
comp=Z,4µm,19.0s
RAR **Rarotonga** 27.06 93 LR LR 09 32 21.4
comp=Z,2µm,18.1s,baz=253,slow=37
STKA **Stephens Creek** 27.78 244 P **P** 09 21 48.8 +0.6
baz=28,SNR=23
STKA **Stephens Creek** 27.78 244 *e*P **P** 09 21 47.3 -0.8
comp=Z,23nm,1.9s
STKA **Stephens Creek** 27.78 244 *e*P **P** 09 21 47.3 -0.8
STKA pmax pmax
comp=Z,23nm,1.9s
STKA **Stephens Creek** 27.78 244 P **P** 09 21 47.5 -0.6
comp=Z,7.9nm,0.7s,baz=90,slow=10,SNR=27
STKA LR LR 09 32 01.1
comp=Z,3µm,18.9s,baz=73,slow=35
COEN **Coen** 27.80 283 P **P** 09 21 49.1 +0.7
baz=28,SNR=7.5
COEN **Coen** 27.80 283 *e*P **P** 09 21 46.9 -1.6
comp=Z,221nm,1.9s
TAU **Tasmania Unive** 28.37 219 *e*P **P** 09 21 53.6 +0.3
comp=Z,75nm,1.8s
TAU LR LR
comp=Z,6µm,20.0s
TAU **Tasmania Unive** 28.37 219 *e*P **P** 09 21 53.6 +0.3
TAU pmax pmax
comp=Z,75nm,1.8s
TAU MLR MLR
comp=Z,6µm,20.0s
QIS **Mount Isa** 29.32 268 P **P** 09 22 02.9 +0.9
baz=29,SNR=3.8
HTT **Hallett** 30.32 242 P **P** 09 22 10.9 +0.2
baz=30,SNR=9.6
BBOO **Buckleboo** 32.56 244 P **P** 09 22 30.3 -0.2
baz=32,SNR=15
BBOO **Buckleboo** 32.56 244 *e*P **P** 09 22 29.9 -0.6
comp=Z,43nm,1.3s
AS01 **Alice Springs** 34.12 261 *e*P **P** 09 22 43.0 -1.2
AS01 *ep*P **P** 09 22 43.5 -0.8
AS31 **Alice Springs** 34.17 261 *e*P **P** 09 22 44.1 -0.5
AS31 *ep*P **P** 09 22 44.4 -0.3
ASAR **Alice Springs** 34.17 261 P **P** 09 22 44.2 -0.5
comp=Z,12nm,0.8s,baz=86,slow=9.0,SNR=77
ASAR PcP **PcP** 09 25 21.9 +0.2
comp=Z,4.0nm,1.1s,baz=91,slow=3.7,SNR=4.3
WRAB **Tennant Creek** 34.29 267 *e*P **P** 09 22 44.0 -1.7
comp=Z,61nm,1.5s
WRAB LR LR
comp=Z,4µm,19.0s
WRAB **Tennant Creek** 34.29 267‖ *e*P **P** 09 22 44.7 -1.0
WRA **Warramunga Arr** 34.30 267 P **P** 09 22 44.6 -1.2
comp=Z,9.2nm,1.0s,baz=96,slow=8.6,SNR=22
WRA PcP **PcP** 09 25 21.6 -0.5
comp=Z,2.6nm,1.0s,baz=113,slow=1.9,SNR=2.4
WRA LR LR 09 36 31.8
comp=Z,4µm,18.6s,baz=95,slow=36
PPT2 **Papeete2** 37.20 90 *e*S **S** 09 28 55.2 -2.7
comp=Z,700nm,26.8s
PPT2 *e*LQ LQ 09 31 21.4
comp=Z,3µm,32.9s
PPT2 *e*LR LR 09 33 22.8
comp=Z,7µm,26.2s,baz=250
PPT **Papeete** 37.21 90 LR LR 09 34 17.0
comp=Z,2µm,21.7s,baz=252,slow=30
KDU **Kakadu** 37.98 278 P **P** 09 23 17.2 -0.1
baz=38,SNR=8.8
WRKA **Warakurna** 39.13 258 P **P** 09 23 26.5 -0.5
baz=39,SNR=10
FORT **Forrest** 39.15 248 P **P** 09 23 26.7 -0.2
baz=39,SNR=9.6
FORT **Forrest** 39.15 248 *e*P **P** 09 23 26.5 -0.4
comp=Z,57nm,1.0s
MTN **Manton Dam** 39.16 277 P **P** 09 23 26.3 -0.9
baz=39,SNR=6.8
MTN **Manton Dam** 39.16 277 *e*P **P** 09 23 25.2 -2.0
comp=Z,190nm,1.9s
KNRA **Kununurra** 40.47 272 P **P** 09 23 37.6 -0.5
baz=40,SNR=7.4
FAKI **Fak Fak** 42.38 292 *e*P **P** 09 23 53.9 0.0
comp=Z,41nm,0.9s
FAKI **Fak Fak** 42.38 292 P **P** 09 23 55.6 +1.8
comp=Z,55nm,1.7s,comp=Z,1µm
FITZ **Fitzroy Crossi** 42.73 267 P **P** 09 23 56.7 +0.1
baz=43,SNR=21
FITZ **Fitzroy Crossi** 42.73 267 *e*P **P** 09 23 56.7 +0.1
comp=Z,91nm,1.1s
FITZ **Fitzroy Crossi** 42.73 267 LR LR 09 40 45.9
comp=Z,2µm,19.0s,baz=108,slow=35
GUMO **Guam** 44.11 322 LR LR 09 42 32.1
comp=Z,1µm,19.0s,baz=125,slow=36
SOEI **Soe** 46.54 278 P P 09 24 41.3 +14
NLAI **Namlea** 46.71 288 P P 09 24 35.1 +6.7
MBWA **Marble Bar** 47.50 261 PFAKE 09 24 50.0 +15
MBWA LR LR
comp=Z,2µm,20.0s
MEEK **Meekatharra** 47.64 254 P **P** 09 24 34.7 -0.9
baz=48,SNR=9.3
KLBR **Kellerberrin** 47.97 247 P **P** 09 24 38.0 -0.1
baz=48,SNR=6.5
SANI **Sanana** 48.25 288 P **P** 09 24 43.2 +2.8
comp=Z,104nm,0.9s,comp=Z,2µm
NWAO **Narrogin (SRO)** 48.35 245 P **P** 09 24 40.5 -0.6
baz=48,SNR=7.2
NWAO **Narrogin (SRO)** 48.35 245 *e*P **P** 09 24 40.8 -0.2
comp=Z,101nm,1.2s
NWAO LR LR
comp=Z,4µm,20.0s
NWAO **Narrogin (SRO)** 48.35 245 *e*P **P** 09 24 40.8 -0.2
NWAO pmax pmax
comp=Z,101nm,1.2s
NWAO MLR MLR
comp=Z,4µm,20.0s
TAOE **Nuku Hiva Isla** 48.65 82 *e*S **S** 09 31 43.7 -2.5
comp=Z,539nm,29.0s
TAOE *e*LR LR 09 38 26.5
comp=Z,4µm,27.9s
BLDU **Ballidu** 48.92 248 P **P** 09 24 44.4 -1.0
baz=49,SNR=5.8
MORW **Morawa** 49.63 250 *e*P **P** 09 24 50.5 -0.5
comp=Z,57nm,1.2s
BNSI **Bone** 52.44 282 P P 09 25 16.7 +4.5
comp=Z,62nm,1.6s
APSI **Ampana** 52.60 287 P **P** 09 25 17.1 +3.7
TTSI **Tana Toraja** 53.28 284 P P 09 25 25.0 +6.6
DAV **Davao City (W)** 53.36 298 PFAKE 09 25 30.0 +11
DAV LR LR
comp=Z,781nm,20.0s
PCI **Palu** 54.21 286 P P 09 25 30.8 +5.5
MPSI **Mapaga** 54.73 287 P **P** 09 25 31.4 +2.4
comp=Z,21nm,1.2s,comp=Z,473nm
VNDA **Vanda** 55.26 182 P P 09 25 26.9 -5.0
comp=Z,0.6nm,0.6s,baz=342,slow=3.2,SNR=2.3
VNDA LR LR 09 45 27.1
comp=Z,1µm,21.0s,baz=12,slow=32
SBA **Scott Base** 55.45 181 *e*P P 09 25 26.6 -6.7
comp=Z,38nm,1.3s
SBA LR LR
comp=Z,2µm,19.0s
SBA **Scott Base** 55.45 181 *e*P P 09 25 26.6 -6.7
SBA pmax pmax
comp=Z,38nm,1.3s
SBA MLR MLR
comp=Z,2µm,19.0s
CASY **Casey** 57.88 205 PFAKE 09 26 00.0 +9.4
CASY LR LR
comp=Z,524nm,19.0s
TSM **Tawau** 58.40 290 P P 09 26 01.1 +6.0
SDKM **Sandakan** 59.65 291 P P 09 26 10.9 +7.0
KKM **Kota Kinabalu** 60.70 291 P P 09 26 16.7 +5.6
CISI **Cisompet, Garu** 62.48 273 P P 09 26 28.6 +5.5
SBUM **Sibu** 62.51 285 P **P** 09 26 26.5 +3.2
JHJ **Hachijo jima 2** 62.85 331 LR LR 09 53 21.0
comp=Z,542nm,19.1s,baz=120,slow=36
LEM **Lembang** 62.93 274 LR LR 09 53 23.9
comp=Z,3µm,22.0s,baz=118,slow=36
KSM **Kuching** 63.79 283 P **P** 09 26 34.6 +2.8
PPBI **Pangkal Pinang** 66.08 278 P P 09 26 53.5 +6.8
KASI **Kota Agung** 66.29 274 P P 09 26 54.0 +6.0
MJAR **Matsushiro Arr** 66.42 332 P **P** 09 26 49.5 +1.2
comp=Z,3.8nm,0.9s,baz=165,slow=8.0,SNR=5.9
MJAR LR LR 09 56 11.0
comp=Z,324nm,18.9s,baz=145,slow=36
MAJO **Matsushiro** 66.42 332 PFAKE 09 27 00.0 +12
MAJO LR LR
comp=Z,680nm,21.0s
MDSI **Maura Dua** 66.97 275 P **P** 09 26 54.0 +1.6
comp=Z,28nm,1.1s
JNU **Nakatsue** 67.30 324 LR LR 09 52 58.6
comp=Z,394nm,21.3s,baz=128,slow=33
TATO **Taipei** 67.40 312 PFAKE 09 27 10.0 +15
TATO LR LR
comp=Z,987nm,19.0s
QSPA **South Pole Qui** 67.58 180 *e*P **P** 09 26 53.6 -2.0
comp=Z,191nm,1.2s
QSPA LR LR
comp=Z,1µm,20.0s
ERM **Erimo** 69.19 338 PFAKE 09 27 20.0 +14
ERM LR LR
comp=Z,611nm,19.0s
QZH **Quanzhou** 69.41 310⇑ *i*P **P** 09 27 09.8 +2.4
QZH pmax pmax
comp=Z,340nm,4.6s
QZH LR LR
comp=Z,440nm,20.8s
QZH LR LR
comp=Z,250nm,13.3s
QZH LR LR
comp=Z,840nm,33.2s
YUK **Yuzh-Kuril'sk** 70.12 341 P P 09 27 01.4 -10
YUK *e* 09 27 33.8
YUK *e* 09 29 44.6
YUK *e*S **S** 09 36 16.8 -5.6
KGM **Kluang** 70.34 281 P P 09 27 19.5 +6.1
KUR **Kuril'sk** 70.64 343 *e*P **P** 09 27 14.1 -0.4
KUR S **S** 09 36 35.0 +6.6
COCO **West Island** 71.02 264 PFAKE 09 27 30.0 +12
COCO LR LR
comp=Z,2µm,20.0s
ASAJ **Asahikawa** 71.24 339 LR LR 09 52 54.1
comp=Z,787nm,21.8s,baz=164,slow=31
SSE **Sheshan** 71.61 316 P **P** 09 27 22.8 +2.1
SSE S **S** 09 36 37.8 -2.4
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,85nm,5.2s
SSE LR LR
comp=Z,240nm,18.4s
SSE LR LR
comp=Z,370nm,19.4s
SSE **Sheshan** 71.61 316 PFAKE 09 27 30.0 +9.3
SSE LR LR
comp=Z,828nm,20.0s
KSRS **Korea Array** 72.15 325 P **P** 09 27 23.5 -0.3
comp=Z,0.7nm,0.7s,baz=132,slow=5.1,SNR=2.4
KSRS LR LR 09 58 14.7
comp=Z,578nm,19.6s,baz=128,slow=35
KSAR **Wonju Array Be** 72.16 325 P **P** 09 27 23.4 -0.4
KSAR **Wonju Array Be** 72.16 325 P **P** 09 27 23.5 -0.4
QIZ **Qiongzhong** 72.69 300 P **P** 09 27 27.4 0.0
QIZ PP **PP** 09 30 08.9 -0.5
QIZ S **S** 09 36 52.2 -0.9
QIZ SS **SS** 09 41 32.5 -0.5
QIZ LR LR
comp=Z,450nm,9.9s
QIZ LR LR
comp=Z,760nm,31.2s
QIZ **Qiongzhong** 72.69 300 PFAKE 09 27 40.0 +13
QIZ LR LR
comp=Z,71nm,19.0s
IPM **Ipoh** 73.45 282 P P 09 27 37.3 +5.2
YSS **Yuzh-Sakhalins** 73.70 340 PFAKE 09 27 40.0 +7.2
YSS LR LR
comp=Z,556nm,20.0s
NJ2 **Nanjing** 73.73 316 *e*P **P** 09 27 33.1 -0.2
NJ2 S **SKiKP** 09 37 03.1 -0.3
NJ2 pmax pmax
comp=Z,23nm,0.6s
NJ2 pmax pmax
comp=Z,280nm,3.9s
NJ2 LR LR
comp=Z,780nm,14.7s
NJ2 LR LR
comp=Z,660nm,22.1s
NJ2 LR LR
comp=Z,1µm,23.0s
SKR **Severo-Kuril's** 74.04 350 *e*P **P** 09 27 38.7 +4.0
SKR *e*S **S** 09 37 10.6 +3.5
SKR MLR MLR
comp=Z,500nm,19.0s
SKR MLR MLR
comp=Z,600nm,16.0s
KULM **Kulim** 74.12 283 P **P** 09 27 39.3 +3.3
ADK **Adak** 74.83 8 PFAKE 09 27 50.0 +11
ADK LR LR
comp=Z,2µm,21.0s
GSI **Gunungsitoli** 75.30 278 P P 09 27 49.6 +6.7
USRK **Ussuriysk Ar.** 75.41 332 P **P** 09 27 42.7 0.0
comp=Z,2.6nm,0.9s,baz=108,slow=6.2,SNR=6.5
USRK LR LR 09 58 13.1
comp=Z,584nm,20.7s,baz=136,slow=34
PET **Petropavlovsk** 75.97 352 *e*P **P** 09 27 48.3 +2.6
PET *e* 09 30 40.3
PET *e*S **S** 09 37 25.1 -3.4
PET *e*PPS PPS 09 38 14.7
PET pmax pmax
comp=Z,100nm,10.8s
MAW **Mawson** 76.08 202 LR LR 09 59 13.1
comp=Z,888nm,18.1s,baz=83,slow=34
PETK **Petropavlovsk-** 76.17 352 P **P** 09 27 47.9 +0.9
comp=Z,3.7nm,0.9s,baz=176,slow=8.8,SNR=4.5
PETK LR LR 09 58 27.2
comp=Z,2µm,19.3s,baz=152,slow=33
DL2 **Dalian** 76.64 322 P **P** 09 27 48.3 -1.6
DL2 *e*S **S** 09 37 33.4 -3.0
DL2 SS **SS** 09 42 27.3 -5.2
DL2 pmax pmax
comp=Z,190nm,5.4s
DL2 LR LR
comp=Z,580nm,28.0s
DL2 LR LR
comp=Z,490nm,28.9s
DL2 LR LR
comp=Z,680nm,28.9s
MDJ **Mudanjiang** 76.79 331 P **P** 09 27 51.0 +0.3
MDJ pP pwP 09 27 58.4 +0.7
MDJ sP PcP 09 28 01.0 -0.9
MDJ PP **PP** 09 30 44.0 +0.2
MDJ S **S** 09 37 40.8 +2.9
MDJ sS SKSac 09 37 54.0 -8.7
MDJ pmax pmax
comp=Z,11nm,1.5s
MDJ pmax pmax
comp=Z,480nm,5.5s
MDJ LR LR
comp=Z,950nm,22.3s
MDJ LR LR
comp=Z,310nm,24.7s
MDJ LR LR
comp=Z,2µm,23.1s
MDJ **Mudanjiang** 76.79 331 PFAKE 09 28 00.0 +9.3
MDJ LR LR
comp=Z,659nm,20.0s
ENH **Enshi** 79.06 309 *e*P **P** 09 28 01.9 -1.8
ENH LR LR
comp=Z,545nm,22.0s
GYA **Guiyang** 79.08 305 P **P** 09 28 05.0 +1.0
GYA pP PcP 09 28 12.0 -0.5
GYA PP **PP** 09 31 06.2 +2.7
GYA S **S** 09 38 02.9 -0.8
GYA SKS **SKSac** 09 38 14.4 -5.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
KLR **Kul'dur** 79.53 335⇑ *e*P **P** 09 28 07.3 +1.5
NKL **Nikolayevsk** 79.82 342 *e*P **P** 09 28 08.5 +1.3
NKL *e* 09 38 28.0
NKL pmax pmax
comp=Z,110nm,1.8s
NKL pmax pmax
comp=Z,600nm,5.0s
BJT **Baijiatuau** 80.53 320 PFAKE 09 28 20.0 +8.6
BJT LR LR
comp=Z,1µm,20.0s
BJI **Beijing** 80.54 320 P **P** 09 28 13.6 +2.2
BJI S **S** 09 38 16.0 -2.2
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI LR LR
comp=Z,430nm,22.6s
BJI LR LR
comp=Z,170nm,24.6s
BJI LR LR
comp=Z,680nm,39.2s
CMAR **Chiang Mai Arr** 81.40 294 *i*P **P** 09 28 17.7 +1.2
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR **Chiang Mai Arr** 81.40 294 P **P** 09 28 17.4 +0.8
comp=Z,2.6nm,0.6s,baz=138,slow=3.9,SNR=15
CMAR LR LR 10 07 21.3
comp=Z,461nm,19.5s,baz=146,slow=38
KMI **Kunming** 81.45 302 P **P** 09 28 17.3 +0.4
KMI pP pwP 09 28 24.9 +0.9
KMI PP **PP** 09 31 27.1 +3.8
KMI S **S** 09 38 23.0 -5.8
KMI sS SKSac 09 38 36.2 -0.8
KMI pmax pmax
comp=Z,19nm,0.5s
KMI pmax pmax
comp=Z,250nm,4.3s
KMI LR LR
comp=Z,560nm,16.9s
KMI LR LR
comp=Z,410nm,18.5s
KMI LR LR
comp=Z,690nm,19.0s
CHTO **Chiang Mai** 81.56 294 *e*P **P** 09 28 16.1 -1.3
comp=Z,16nm,1.1s
CHTO LR LR
comp=Z,633nm,21.0s
CHTO **Chiang Mai** 81.56 294 *e*P **P** 09 28 16.1 -1.3
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO MLR MLR
comp=Z,633nm,21.0s
CHTO **Chiang Mai** 81.56 294 P **P** 09 28 20.8 +3.4
comp=Z,52nm,1.7s,comp=Z,2µm
XAN **Xi'an** 81.57 312 P **P** 09 28 18.5 +1.4
XAN PP **PP** 09 31 21.4 -2.5
XAN S **S** 09 38 32.2 +2.8
XAN pmax pmax
comp=Z,18nm,1.4s
XAN pmax pmax
comp=Z,230nm,6.9s
XAN LR LR
comp=Z,290nm,15.3s
XAN LR LR
comp=Z,590nm,18.2s
XAN LR LR
comp=Z,620nm,20.2s
XAN **Xi'an** 81.57 312 *e*P **P** 09 28 16.1 -1.1
comp=Z,250nm,1.4s
MA2 **Magadan** 83.45 350 PFAKE 09 28 40.0 +14
MA2 LR LR
comp=Z,2µm,21.0s
MA2 **Magadan** 83.45 350⇑ *e*P **P** 09 28 28.0 +1.7
MA2 pmax pmax
comp=Z,8.0nm,1.5s
CD2 **Chengdu** 83.57 307 *e*P **P** 09 28 28.9 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,2µm,19.6s
CD2 LR LR
comp=Z,970nm,19.6s
CD2 LR LR
comp=Z,1µm,21.8s
HHC **Hu-ho-hao-te** 83.80 319 *e*P **P** 09 28 24.2 -4.5
HHC pP PcP 09 28 32.7 0.0
HHC S **S** 09 38 45.9 -6.1
HHC sS SKKSac 09 38 58.7 +2.1
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,240nm,5.1s
ZEA **Zeya** 84.82 336 *e*P **P** 09 28 34.3 +0.9
ZEA *e* 09 40 00.5
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=Z,46nm,1.4s
ZEA MLR MLR
comp=Z,600nm,18.0s
ZEA MLR MLR
comp=N,400nm,19.0s
KDAK **Kodiak Island** 85.53 19 PFAKE 09 28 50.0 +13
KDAK LR LR
comp=Z,558nm,20.0s
NVL **N'lazarevskaya** 85.86 187 *e*P **P** 09 28 36.4 -2.1
NVL pmax pmax
comp=Z,7.0nm,0.8s
SNAA **Sanae** 86.00 182 P **P** 09 28 36.1 -3.2
SNAA **Sanae** 86.00 182 *ce*P **P** 09 28 40.1 +0.8
LZH **Lanzhou** 86.17 312 *e*P **P** 09 28 44.2 +3.4
LZH pP pwP 09 28 51.1 +3.2

LZH sP sP 09 28 54.3 +11
LZH PP **PP** **09 31 58.1 -3.6**
LZH S **S** **09 39 18.1 +2.2**
LZH sS ScS 09 39 28.1 +3.4
LZH SS **SS** **09 44 57.1 +1.8**
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,250nm,4.3s
LZH LR LR
comp=Z,630nm,13.6s
LZH LR LR
comp=Z,1μm,14.8s
LZH LR LR
comp=Z,1μm,15.2s
SEY Seymchan 86.42 352 ⇓*i*P **P** **09 28 41.0 -0.1**
VNA3 Neumayer Olymp 86.52 180 P **P** **09 28 38.7 -3.1**
VNA2 Neumayer--Watz 86.83 180 P **P** **09 28 41.1 -2.2**
baz=174,slow=4.6
VNA1 Neumayer--Stat 87.11 180 P **P** **09 28 47.1 +2.4**
PFO Pinyon Flats O 88.67 53 PFAKE 09 29 00.0 +7.1
PFO LR LR
comp=Z,1μm,21.0s
NVAR Mina Array Bea 89.67 48 P **P** **09 28 55.7 -1.9**
comp=Z,1.1nm,0.7s,baz=220,slow=9.4,SNR=6.3
NVAR LR LR 10 01 31.8
comp=Z,991nm,19.9s,baz=244,slow=30
BILL Bilibino 90.33 358 *e*P **P** **09 28 59.0 -0.6**
comp=Z,17nm,1.4s
BILL LR LR
comp=Z,1μm,22.0s
BILL Bilibino 90.33 358 *i*P **P** **09 28 58.9 -0.7**
BILL *i* 09 29 15.4
BILL *i* 09 32 34.5
BILL *i*S **SKSac** **09 39 24.5 -5.9**
BILL pmax pmax
comp=Z,6.0nm,1.5s
ULN Ulaanbaatar 90.49 323 *e*P **P** **09 28 59.1 -1.9**
comp=Z,27nm,1.4s
ULN LR LR
comp=Z,603nm,20.0s
ULN Ulaanbaatar 90.49 323 ⇑*i*P **P** **09 29 02.8 +1.7**
ULN pmax pmax
comp=Z,22nm,1.4s
GTA Gaotai 90.60 313 ⇑P **P** **09 29 04.5 +2.7**
GTA pP pwP 09 29 10.9 +2.1
GTA sP sP 09 29 14.6 +10
GTA S **S** **09 39 58.4 +0.7**
GTA sS sS 09 40 07.6 +6.5
GTA SS **SS** **09 46 01.0 +1.4**
GTA pmax pmax
comp=Z,6.0nm,1.6s
GTA pmax pmax
comp=Z,170nm,6.0s
GTA LR LR
comp=Z,430nm,20.6s
GTA LR LR
comp=Z,560nm,20.0s
GTA LR LR
comp=Z,590nm,19.7s
NLWA Neilton Lookou 90.80 38 PFAKE 09 29 10.0 +7.7
NLWA LR LR
comp=Z,2μm,21.0s
SONM Songino Array 90.84 322 P **P** **09 29 01.2 -1.5**
comp=Z,3.0nm,1.0s,baz=150,slow=2.5,SNR=21
SONM LR LR 10 10 52.9
comp=Z,323nm,18.9s,baz=124,slow=36
WVOR Wild Horse Val 91.41 44 PFAKE 09 29 20.0 +15
WVOR LR LR
comp=Z,740nm,19.0s
WRAK Wrangell Islan 91.89 28 PFAKE 09 29 20.0 +13
WRAK LR LR
comp=Z,2μm,19.0s
TUC Tucson 92.36 56 PFAKE 09 29 20.0 +10
TUC LR LR
comp=Z,2μm,21.0s
COLA College 92.65 16 PFAKE 09 29 20.0 +10
COLA LR LR
comp=Z,1μm,19.0s
COLA College 92.65 16⇑*e*P **P** **09 29 10.3 -0.1**
COLA pmax pmax
comp=Z,4.0nm,1.0s
LSA Lhasa 92.69 301 PFAKE 09 29 20.0 +7.9
LSA LR LR
comp=Z,309nm,20.0s
HAWA Hanford 92.81 40 PFAKE 09 29 20.0 +8.3
HAWA LR LR
comp=Z,2μm,20.0s
ILAR Eielson Array 92.82 17 P **P** **09 29 09.2 -2.1**
comp=Z,0.5nm,0.8s,baz=224,slow=4.9,SNR=5.6
ILAR LR LR 10 06 31.0
comp=Z,914nm,19.1s,baz=242,slow=33
WUAZ Wupatki 93.28 53 PFAKE 09 29 20.0 +5.7
WUAZ LR LR
comp=Z,1μm,22.0s
BMO Blue Mountains 93.43 43 PFAKE 09 29 30.0 +15
BMO LR LR
comp=Z,1μm,20.0s
ZAK Zakamensk 93.93 324 *e*P **P** **09 29 15.3 -1.5**
ZAK pmax pmax
comp=Z,10.0nm,1.5s
DUG Dugway, Tooele 94.26 48 PFAKE 09 29 30.0 +11
DUG LR LR
comp=Z,1μm,21.0s
TLY Talaya 94.40 325 PFAKE 09 29 30.0 +11
TLY LR LR
comp=Z,388nm,21.0s
TLY Talaya 94.40 325 *e*P **P** **09 29 20.6 +1.7**
TLY *e*S **SKSac** **09 39 56.8 +2.8**
TLY pmax pmax
comp=Z,11nm,1.0s
TLY MLR MLR
comp=Z,770nm,14.0s
EGAK Eagle 94.43 19 PFAKE 09 29 30.0 +11
EGAK LR LR
comp=Z,1μm,21.0s
HLID Hailey 94.67 45 PFAKE 09 29 30.0 +9.5
HLID LR LR
comp=Z,1μm,20.0s
PLCA Paso Flores 94.97 138 LR LR 10 02 27.1
comp=Z,201nm,21.3s,baz=258,slow=30
DGAR Diego Garcia 95.11 260 PFAKE 09 29 30.0 +7.0
DGAR LR LR
comp=Z,883nm,19.0s
NEW Newport 95.16 40 PFAKE 09 29 30.0 +7.5
NEW LR LR
comp=Z,1μm,19.0s
MVCO Mesa Verde 96.09 52 PFAKE 09 29 40.0 +13
MVCO LR LR
comp=Z,903nm,21.0s
MNTX Cornudas Mount 96.32 58 PFAKE 09 29 40.0 +12
MNTX LR LR
comp=Z,928nm,19.0s
AHID Auburn Hatcher 96.52 46 PFAKE 09 29 40.0 +11
AHID LR LR
comp=Z,1μm,22.0s
ANMO Albuquerque 96.72 55 PFAKE 09 29 40.0 +10
ANMO LR LR
comp=Z,991nm,20.0s
TXAR Lajitas Array 96.80 61 LR LR 10 04 35.2
comp=Z,474nm,21.3s,baz=0.0,slow=30
BOZ Bozeman (W) 97.35 44 PFAKE 09 29 40.0 +7.3
BOZ LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 97.56 47 PFAKE 09 29 40.0 +6.2
BW06 LR LR
comp=Z,982nm,19.0s
PDAR Pinedale Array 97.56 47 P **P** **09 29 32.1 -1.6**
comp=Z,0.2nm,0.6s,baz=251,slow=2.8,SNR=2.3
PDAR LR LR 10 09 38.4
comp=Z,496nm,18.1s,baz=253,slow=33
LKWY Lake 97.72 45 PFAKE 09 29 40.0 +5.5
LKWY LR LR
comp=Z,2μm,22.0s
TIXI Tiksi 98.27 348 PFAKE 09 29 50.0 +14
TIXI LR LR
comp=Z,997nm,21.0s
TIXI Tiksi 98.27 348⇓*e*P Pdif 09 29 38.1 +2.2
TIXI pmax pmax
comp=Z,1.0nm,0.4s
SDCO Great Sand Dun 98.50 53 PFAKE 09 29 50.0 +12
SDCO LR LR
comp=Z,769nm,20.0s
RLMT Red Lodge 98.68 45 PFAKE 09 29 50.0 +11
RLMT LR LR
comp=Z,828nm,19.0s

ISCO Idaho Springs 99.17 51 PFAKE 09 29 50.0 +8.8
ISCO LR LR
comp=Z,679nm,22.0s
EGMT Eagleton 99.50 42 PFAKE 09 29 50.0 +7.8
EGMT LR LR
comp=Z,1μm,20.0s
JCT Junction City 100.34 61 PFAKE 09 30 00.0 +14
JCT LR LR
comp=Z,723nm,21.0s
WMQ Urumqi 100.68 313 *e*P **Pdif** **09 29 48.0 +0.5**
WMQ LR LR
comp=Z,550nm,28.1s
WMQ LR LR
comp=Z,930nm,26.7s
WMQ LR LR
comp=Z,1μm,29.5s
LAO LASA Array 101.24 44 PFAKE 09 30 00.0 +10
LAO LR LR
comp=Z,1μm,20.0s
LCO Las Campanas 101.50 128 PFAKE 09 30 00.0 +8.1
LCO LR LR
comp=Z,738nm,22.0s
TRQA Tornquist 101.84 140 PFAKE 09 30 00.0 +7.1
TRQA LR LR
comp=Z,2.0nm,21.0s
OGNE Ogallala 102.13 51 PFAKE 09 30 00.0 +6.0
OGNE LR LR
comp=Z,654nm,19.0s
WMOK Wichita Mounta 102.56 58 PFAKE 09 30 10.0 +14
WMOK LR LR
comp=Z,919nm,21.0s
CBKS Cedar Bluff 103.12 53 PFAKE 09 30 10.0 +12
CBKS LR LR
comp=Z,495nm,20.0s
DGMT Dagmar 103.13 43 PFAKE 09 30 10.0 +12
DGMT LR LR
comp=Z,980nm,19.0s
NATX Nacogdoches 104.93 62 PFAKE 09 30 20.0 +13
NATX LR LR
comp=Z,1μm,19.0s
NNA Nana 105.16 110 PFAKE 09 34 30.0 +7.4
NNA LR LR
comp=Z,610nm,21.0s
KSU1 Kansas State U 105.53 54 PFAKE 09 34 30.0 +7.5
KSU1 LR LR
comp=Z,729nm,22.0s
FFC Flin Flon 106.33 37 PFAKE 09 34 30.0 +6.5
FFC LR LR
comp=Z,1μm,20.0s
LVC Limon Verde 106.38 123 PFAKE 09 34 40.0 +15
LVC LR LR
comp=Z,1μm,21.0s
MIAR Mount Ida 106.60 59 PFAKE 09 34 40.0 +15
MIAR LR LR
comp=Z,754nm,20.0s
JTS JuntasAbangare 106.68 86 PFAKE 09 34 40.0 +15
JTS LR LR
comp=Z,620nm,19.0s
ECSD EROS Data Cent 106.79 49 PFAKE 09 34 40.0 +15
ECSD LR LR
comp=Z,1μm,21.0s
KSH Kashi 107.75 306 *e*Pdif **Pdif** **09 30 21.5 +2.4**
KSH PP **PP** **09 34 53.3 +5.3**
KSH AMB AMB
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,140nm,10.5s
KSH LR LR
comp=Z,250nm,10.9s
AGMN Agassiz Nation 108.42 45 PFAKE 09 34 40.0 +12
AGMN LR LR
comp=Z,1μm,22.0s
KURK Kurchatov 108.60 318 PFAKE 09 34 40.0 +12
KURK LR LR
comp=Z,906nm,19.0s
SCIA State Center 108.76 52 PFAKE 09 34 40.0 +12
SCIA LR LR
comp=Z,1μm,19.0s
OTAV Otavalo 108.96 98 PFAKE 09 34 40.0 +10
OTAV LR LR
comp=Z,397nm,19.0s
AAK Ala-Archa 109.58 309 PFAKE 09 34 40.0 +10
AAK LR LR
comp=Z,548nm,21.0s
BCIP Isla Barro Col 111.02 89 PFAKE 09 34 40.0 +6.5
BCIP LR LR
comp=Z,202nm,19.0s
JFWS Jewell Farm 111.12 51 PFAKE 09 34 40.0 +7.1
JFWS LR LR
comp=Z,901nm,20.0s
EYMN Ely 111.21 46 PFAKE 09 34 40.0 +7.1
EYMN LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 111.35 54 PFAKE 09 34 40.0 +6.6
HDIL LR LR
comp=Z,706nm,19.0s
ABPO Ambohimpanom 111.37 238 PFAKE 09 34 50.0 +16
ABPO LR LR
comp=Z,433nm,20.0s
COWI Conover 112.48 48 PFAKE 09 34 50.0 +15
COWI LR LR
comp=Z,941nm,20.0s
BRVK Borovoye 114.07 320 PFAKE 09 34 50.0 +12
BRVK LR LR
comp=Z,386nm,20.0s
BRVK Borovoye 114.07 320⇑*i*PKIKP **PKiKP** **09 34 39.1 +1.0**
GOGA Godfrey 114.49 62 PFAKE 09 34 50.0 +10
GOGA LR LR
comp=Z,636nm,20.0s
GLMI Grayling 115.45 50 PFAKE 09 34 50.0 +8.9
GLMI LR LR
comp=Z,1μm,21.0s
AAM Ann Arbor 115.82 53 PFAKE 09 34 50.0 +8.2
AAM LR LR
comp=Z,723nm,20.0s
ACSO Alum Creek Sta 116.04 55 PFAKE 09 34 50.0 +7.6
ACSO LR LR
comp=Z,931nm,20.0s
BLA Blacksburg 117.59 59 PFAKE 09 35 00.0 +14
BLA LR LR
comp=Z,678nm,20.0s
SUR Sutherland 118.48 209 PFAKE 09 35 00.0 +12
SUR LR LR
comp=Z,6μm,20.0s
CNNC Cliffs of the 119.34 61 PFAKE 09 35 00.0 +11
CNNC LR LR
comp=Z,2μm,19.0s
SDV Santo Domingo 119.43 92 PFAKE 09 35 00.0 +10
SDV LR LR
comp=Z,339nm,21.0s
CBN Corbin Frederi 120.12 58 PFAKE 09 35 00.0 +10
CBN LR LR
comp=Z,887nm,20.0s
ARU Arti 120.87 323 PFAKE 09 35 00.0 +8.8
ARU LR LR
comp=Z,301nm,21.0s
ARU Arti 120.87 323 *i* PKIKP **PKiKP** **09 34 53.2 +2.0**
ARU 09 36 24.0
ARU 09 42 05.0
ARU SS SS 09 53 01.5 +10
BINY Binghamton 121.48 53 PFAKE 09 35 00.0 +7.1
BINY LR LR
comp=Z,1μm,20.0s
SDDR Presa de Saban 121.92 81 PFAKE 09 35 10.0 +16
SDDR LR LR
comp=Z,532nm,22.0s
LONY Lake Ozonia 122.57 51 PFAKE 09 35 10.0 +15
LONY LR LR
comp=Z,1μm,22.0s
GRTK Grand Turk 122.69 78 PFAKE 09 35 10.0 +14
GRTK LR LR
comp=Z,559nm,19.0s
PTGA Pitinga 125.20 108 PFAKE 09 35 10.0 +8.9
PTGA LR LR
comp=Z,13μm,19.0s
PKME Peaks-Kenny Pk 126.31 50 PFAKE 09 35 10.0 +7.7
PKME LR LR
comp=Z,1μm,21.0s
SJG San Juan 126.41 84 PFAKE 09 35 10.0 +6.7
SJG LR LR
comp=Z,340nm,19.0s
LVZ Lovozero 127.28 341 PFAKE 09 35 10.0 +6.3
LVZ LR LR
comp=Z,683nm,20.0s
LSZ Lusaka 127.76 227 PFAKE 09 35 20.0 +14
LSZ LR LR
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 128.40 19 PFAKE 09 35 20.0 +14
SFJD LR LR
comp=Z,2μm,20.0s
ARCES ARCESS Array B 128.63 345 PKP **PKPdf** **09 35 04.5 -1.2**
comp=Z,2.7nm,1.0s,baz=20,slow=3.9,SNR=6.4
GRGR Grenville 128.83 92 PFAKE 09 35 20.0 +12
GRGR LR LR
comp=Z,411nm,22.0s
KMBO Kilima Mbogo 129.27 249 PFAKE 09 35 20.0 +10
KMBO LR LR
comp=Z,4μm,20.0s
MAK Makhachkala 129.33 308 *e*P **Pdif** **09 31 51.7 -3.1**
MAK *e* 09 42 08.4
MAK *e*PS PS 09 47 21.1 -5.7
MAK *e*SS SS 09 54 31.4 -7.2
MAK pmax pmax
comp=Z,324nm,1.5s
RAYN Ar Rayn 130.16 282 PFAKE 09 35 20.0 +9.2
RAYN LR LR
comp=Z,800nm,22.0s
GROC Groznyy 130.55 308 *i* PKIKP **PKiKP** **09 35 12.7 +1.8**
GROC *e* 09 37 25.0
GROC pmax pmax
comp=Z,51nm,1.5s
BBGH Gun Hill 131.09 92 PFAKE 09 35 20.0 +7.2
BBGH LR LR
comp=Z,1μm,20.0s
TSUM Tsumeb 131.14 214 PFAKE 09 35 20.0 +6.9
TSUM LR LR
comp=Z,3μm,20.0s
GNI Garni 131.64 304 PFAKE 09 35 20.0 +6.6
GNI LR LR
comp=Z,520nm,19.0s
KIV Kislovodsk 132.69 310 PFAKE 09 35 30.0 +15
KIV LR LR
comp=Z,414nm,22.0s
NEY Neytrino 132.77 309⇓*i*PKIKP **PKiKP** **09 35 15.9 +0.2**
OBN Obninsk 133.15 326 *i* PKIKP **PKiKP** **09 35 15.4 -0.3**
OBN pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 133.18 320⇓*e*PKIKP **PKiKP** **09 35 15.4 -0.6**
MBAR Mbarara 135.08 245 PFAKE 09 35 30.0 +8.8
MBAR LR LR
comp=Z,651nm,20.0s
AKASG Malin Array Be 139.12 323*c i*PKIKP **PKiKP** **09 35 28.3 +0.2**
KIEV Kiev 139.13 323 PFAKE 09 35 40.0 +12
KIEV LR LR
comp=Z,841nm,19.0s
KIEV Kiev 139.13 323⇓*e*PKIKP **PKiKP** **09 35 27.3 -0.8**
KIEV pmax pmax
comp=Z,30nm,2.5s
BRTR Keskin Array B 140.13 306*c i*PKIKP **PKPdf** **09 35 28.7 +0.5**
BRTR Keskin Array B 140.13 306 PKP **PKPdf** **09 35 25.6 -2.6**
comp=Z,0.7nm,0.9s,baz=80,slow=4.0,SNR=4.5
ANTO Ankara 140.74 306 PFAKE 09 35 40.0 +8.2
ANTO LR LR
comp=Z,309nm,20.0s
KLNR Kaliningrad 141.21 333 *e*PKIKP **PKPdf** **09 35 28.9 -0.5**
RCBR Riachuelo 141.40 134 PFAKE 09 35 40.0 +6.0
RCBR LR LR
comp=Z,9μm,22.0s
LVV L'vov 142.42 325 *e*PKIKP **PKPdf** **09 35 30.7 -1.1**
MLR Muntele Rosu 143.53 317⇑*i*P **PKPdf** **09 35 33.2 -0.9**
MLR Muntele Rosu 143.53 317⇑⇑PKIKP **PKPdf** **09 35 33.2 -0.9**
DOPR Dopca 143.65 318⇑*i*P **PKPdf** **09 35 32.9 -1.3**
UZH Uzhgorod 144.03 324 *e*PKHKP **PKPdf** **09 35 31.8 -2.9**
UZH *e* 09 35 34.3
UZH *e* 09 35 42.7
VOIR 144.11 318⇑*i*P **PKPdf** **09 35 33.9 -1.2**
VOIR 144.11 318 ⇑⇑PKIKP **PKPdf** **09 35 33.9 -1.2**
TRPA Tarpa 144.19 323⇑*i*P **PKPdf** **09 35 33.8 -1.2**
TRPA Tarpa 144.19 323 *e*PKPdf PKPbc 09 35 33.0 0.0
CJR Cluj-Napoca 144.35 321⇑*i*P **PKPdf** **09 35 36.6 +1.2**
CJR Cluj-Napoca 144.35 321 ⇑⇑PKIKP **PKPdf** **09 35 36.6 +1.2**
ARR Arges 144.40 318⇓*i*P PKPbc 09 35 33.8 -0.2
DRGR 144.83 321⇓*i*P **PKPab** **09 35 34.6 -0.6**
DRGR 144.83 321 ⇓PKIKP **PKPab** **09 35 34.6 -0.6**
LTVH Ltavrtes, Hu 144.96 323 *e*PKPdf **PKPab** **09 35 35.1 -0.5**
LANS Liptovska Anna 145.20 327 *e*PKIKP **PKPdf** **09 35 37.6 +0.8**
LANS Liptovska Anna 145.20 327 *e*PKP **PKPdf** **09 35 37.6 +0.8**
BSEG Bad Segeberg 145.39 340 *e*PKPbc **PKPdf** **09 35 37.3 +0.5**
baz=34,slow=2.8
EZN Ezine 145.52 308 ⇑PKIKP **PKPab** **09 35 37.9 0.0**
GZR Gura Zlata 145.53 319⇑*i*P **PKPbc** **09 35 36.3 -1.3**
GZR Gura Zlata 145.53 319 ⇑PKHKP **PKPdf** **09 35 36.4 -1.1**
KSP Ksiaz 145.55 331 *e*PKP **PKPbc** **09 35 35.1 -2.3**
MORC Moravsky Berou 145.73 329⇑*i*P **PKiKP** **09 35 40.0 -1.7**
MORC Moravsky Berou 145.73 329 ⇑PKIKP **PKiKP** **09 35 40.0 -1.7**
MORC Moravsky Berou 145.73 329 *e*PKP **PKPdf** **09 35 36.5 -1.2**
PSZ Piszkesteto 145.75 325⇑*i*P **PKiKP** **09 35 40.2 -1.7**
PSZ Piszkesteto 145.75 325 ⇑PKIKP **PKiKP** **09 35 40.2 -1.7**
PSZ Piszkesteto 145.75 325 *e*PKPdf **PKPdf** **09 35 37.1 -0.7**
DPC Dobruska-Polom 145.89 331 *e*PKP **PKiKP** **09 35 40.6 -1.5**
DPC *ex* x 09 35 48.8
DPC *ex* x 09 36 02.6
DPC AMS AMS 10 44 50.0
comp=Z,1μm,19.9s
DPC Dobruska-Polom 145.89 331 *e*PKP2 **PKiKP** **09 35 40.6 -1.5**
DPC MLR MLR
comp=Z,1μm,19.9s
UPC Upice 145.92 331 AMS AMS 10 38 40.0
comp=Z,1μm,19.4s
VYHS Vyhne 145.94 326 *e*PKP **PKPdf** **09 35 36.0 -2.0**
VYHS *e* 09 35 40.0
HERR Herculane 146.01 319⇓*i*P **PKPbc** **09 35 38.3 -0.7**
BZS Buzias 146.10 320⇓*i*P **PKPab** **09 35 40.8 +0.9**
BZS Buzias 146.10 320 ⇓PKP2 **PKPab** **09 35 40.8 +0.9**
KOLL Kolacno 146.10 327 *e*PKP2 **PKiKP** **09 35 41.6 -0.9**
KOLL Kolacno 146.10 327 *e*PKP **PKiKP** **09 35 41.6 -0.9**
JAVC Velka Javorina 146.28 328 *e*PKP **PKPbc** **09 35 39.7 -0.1**
VRAC Vranov 146.50 329⇑*i*P **PKiKP** **09 35 42.6 -0.7**
VRAC Vranov 146.50 329 ⇑PKP2 **PKiKP** **09 35 42.6 -0.7**
VRAC Vranov 146.50 329 *e*PKP **PKPdf** **09 35 39.1 +0.1**
BRG Berggiesshubel 146.53 333 *e*PKP **PKPab** **09 35 41.1 -0.3**
comp=Z,28nm,1.5s
BRG *i* 09 35 45.0
comp=Z,50nm,1.6s
BRG Berggiesshubel 146.53 333 *e*PKPbc **PKPab** **09 35 41.0 -0.3**
baz=34,slow=2.8
BRG Berggiesshubel 146.53 333 *e*PKP2 **PKPab** **09 35 41.1 -0.3**
BRG pmax pmax
comp=Z,28nm,1.5s
CLL Collm 146.58 335⇑*i*PKPbc **PKPab** **09 35 41.6 +0.1**
CLL *i* PKiKP sPKPab 09 35 46.0 +1.6
comp=Z,68nm,1.9s
CLL *i* 09 35 55.7
CLL *i* 09 36 04.0
CLL Lm MLR 10 41 00.0
comp=N,500nm,21.6s
CLL Lm MLR 10 41 00.0
comp=E,300nm,21.1s
CLL Lm MLR 10 41 00.0
comp=Z,600nm,21.1s
CLL Collm 146.58 335 *e*SSSS 09 36 18.0
CLL Collm 146.58 335⇑*i*PKP2 **PKPab** **09 35 41.6 +0.1**
CLL MLR MLR
comp=Z,600nm,21.1s
KRUC Moravsky 146.76 329 *e*PKP **PKPbc** **09 35 39.9 -1.2**
MODS Modra-Piesok 146.80 327 *e*PKP2 **PKiKP** **09 35 43.8 -0.2**
MODS Modra-Piesok 146.80 327 *e*PKP **PKiKP** **09 35 43.8 -0.2**
GOPC GO Pecny, Ondr 146.89 332 *e*PKP **PKiKP** **09 35 43.4 -0.7**
GOPC *e*pPKP sPKPab 09 35 45.9 +0.2
GOPC AMS AMS 10 37 50.0
comp=Z,900nm,20.2s
GOPC GO Pecny, Ondr 146.89 332 *e*PKP2 **PKiKP** **09 35 43.4 -0.7**
GOPC MLR MLR
comp=Z,900nm,20.2s
PRU Pruhonice 146.94 332 *e*PKP **PKiKP** **09 35 43.7 -0.5**
PRU AMS AMS 10 37 00.0
comp=Z,1μm,25.9s
PRU Pruhonice 146.94 332 *e*PKP2 **PKiKP** **09 35 43.7 -0.5**
PRU MLR MLR
comp=Z,1μm,25.9s
ZST Bratislava 147.01 327 *e*PKP2 **PKiKP** **09 35 43.5 -0.9**
ZST Bratislava 147.01 327 *e*PKP **PKiKP** **09 35 43.5 -0.9**
NEUB Neuenburg 147.13 336 *e*PKPbc **PKPbc** **09 35 42.3 +0.2**
baz=34,slow=2.8
MORH Mrgy, Hungar 147.46 323 *e*PKPdf **PKPdf** **09 35 40.0 -0.6**
TANN Tannenbergstha 147.49 334 *e*PKPbc **PKPab** **09 35 43.9 -1.3**
baz=34,slow=2.8
VAY Valandovo 147.59 313 *i* P **PKPbc** **09 35 43.6 -0.1**

WERN	**Wernitzgruen**	**147.62**	**334**	*e*PKPbc	**PKPbc**	**09 35 44.0**	**+0.5**
	baz=34,slow=2.8							
MOX	**Moxa**	**147.64**	**335**	*e*PKPbc	**PKPbc**	**09 35 43.9**	**+0.3**
	baz=34,slow=2.8							
STIP	**Stip**	**147.69**	**314**	*i* P	**PKiKP**	**09 35 45.6**	**-0.4**
CONA	**Conrad Observa**	**147.80**	**328**	P	**PKPab**	**09 35 45.9**	**-0.6**
	comp=Z,16nm,1.0s							
KHC	**Kasperske Hory**	**148.00**	**332**	*e*PKP	**PKPbc**	**09 35 44.8**	**+0.2**
KHC				*e*pPKP	**pPKPbc**	**09 35 46.4**	**-0.4**
KHC				*ex*	x	09 35 50.1		
KHC				AMS	AMS	10 38 00.0		
	comp=Z,800nm,20.6s							
KHC	**Kasperske Hory**	**148.00**	**332**	*e*PKP2	**PKPbc**	**09 35 44.8**	**+0.2**
KHC				MLR	MLR			
	comp=Z,800nm,20.6s							
ROTZ	**Rotzenmuhle**	**148.10**	**334**	*e*PKPbc	**PKPbc**	**09 35 45.1**	**+0.3**
	baz=34,slow=2.8							
UBBA	**Unterbreizbach**	**148.10**	**337**	*e*PKPbc	**PKiKP**	**09 35 45.1**	**-1.3**
	baz=34,slow=2.8							
GEC2	**GERESS Array S**	**148.16**	**331**	*e*PKPbc	**PKiKP**	**09 35 45.6**	**-1.3**
	baz=34,slow=2.8							
GERES	**GERESS Array B**	**148.16**	**331**	PKPbc	**PKPbc**	**09 35 43.3**	**-1.8**
	comp=Z,6.2nm,0.8s,baz=46,slow=3.9,SNR=15							
ARSA	**Arzberg**	**148.44**	**327**	*i* PKPab	**PKiKP**	**09 35 47.2**	**-0.2**
	comp=Z,13nm,1.1s							
KRUS	**Krusevo**	**148.46**	**314**	*i* P	**PKPbc**	**09 35 45.6**	**-0.6**
GRF	**Grafenberg Arr**	**148.55**	**335**	*e*PKPbc	**PKiKP**	**09 35 46.5**	**-1.0**
	baz=34,slow=2.8							
MOA	**Molln**	**148.62**	**329**	*e*PKiKP	**PKiKP**	**09 35 47.3**	**-0.4**
	comp=Z,15nm,1.5s							
OHR	**Ohrid**	**148.88**	**314**	*i* P	**PKiKP**	**09 35 47.5**	**-1.0**
PERS	**Pernice**	**149.06**	**327**	*i* PKPdf	**PKiKP**	**09 35 48.4**	**-0.3**
SOKA	**Soboth**	**149.07**	**327**	*e*PKiKP	**PKiKP**	**09 35 48.3**	**-0.5**
	comp=Z,14nm,1.1s							
ASCN	**Ascension**	**149.30**	**169**	PFAKE		09 36 00.0	+6.7	
ASCN				LR	LR			
	comp=Z,61μm,21.0s							
OBKA	**Obir**	**149.43**	**327**	PKPdf	**PKPdf**	**09 35 41.8**	**-2.1**
	comp=Z,10nm,1.4s							
MEM	**Membach**	**149.60**	**341**	⇑PKP	**PKPbc**	**09 35 48.2**	**-0.4**
KBA	**Koelnbreinsper**	**149.61**	**329**	*e*PKiKP	**PKiKP**	**09 35 49.7**	**-0.3**
	comp=Z,19nm,1.3s							
BOJS	**Bojanci**	**149.75**	**325**	*i* PKPdf	**PKiKP**	**09 35 50.9**	**+0.8**
VISS	**Visnje**	**149.76**	**326**	*i* PKPdf	**PKiKP**	**09 35 50.7**	**+0.5**
MYKA	**Terra Mystica**	**149.79**	**328**	*e*PKPbc	**PKPbc**	**09 35 48.1**	**-1.1**
	comp=Z,9.9nm,0.8s							
JAVS	**Javornik**	**150.10**	**327**	*i* PKPdf	**PKiKP**	**09 35 50.9**	**0.0**
WATA	**Walderalm**	**150.23**	**331**	*e*pPKPbc	pPKPbc	09 35 51.7	-0.9	
	comp=Z,5.9nm,0.5s							
ABTA	**Abfaltersbach**	**150.25**	**330**	*e*PKiKP	**PKPbc**	**09 35 49.9**	**-0.5**
	comp=Z,16nm,0.9s							
WTTA	**Wattenberg**	**150.26**	**331**	PKPbc	**PKPbc**	**09 35 49.1**	**-1.4**
	comp=Z,47nm,1.3s							
MOTA	**Moosalm**	**150.44**	**332**	*e*PKiKP	**PKiKP**	**09 35 51.5**	**-0.1**
	comp=Z,14nm,1.0s							
RETA	**Reutte**	**150.47**	**332**	*e*PKiKP	**PKiKP**	**09 35 51.5**	**-0.2**
	comp=Z,6.9nm,0.9s							
SQTA	**Sankt Quirin**	**150.48**	**332**	*e*PKiKP	**PKiKP**	**09 35 52.2**	**+0.4**
	comp=Z,18nm,0.9s							
BFO	**Black Forest**	**150.77**	**336**	PFAKE		09 36 00.0	+1.5	
BFO				LR	LR			
	comp=Z,34nm,20.0s							
BFO	**Black Forest**	**150.77**	**336**	*i* PKIKP	**PKiKP**	**09 35 53.4**	**+1.2**
FETA	**Feichten**	**150.85**	**332**	PKiKP	**PKiKP**	**09 35 52.7**	**+0.2**
	comp=Z,19nm,1.1s							
DAVA	**Damuels**	**151.00**	**333**	P	**PKPbc**	**09 35 49.9**	**-2.4**
	comp=Z,30nm,1.4s							
PAB	**San Pablo**	**162.56**	**348**	PFAKE		09 36 10.0	+8.6	
PAB				LR	LR			
	comp=Z,665nm,19.0s							
DBIC	**Dimbokro**	**163.79**	**195**	PKPab	**PKPab**	**09 36 53.2**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=151,slow=0.8,SNR=2.6							
SACV	**Santiago Islan**	**164.21**	**116**	PFAKE		09 36 10.0	+6.4	
SACV				LR	LR			
	comp=Z,368nm,21.0s							
TORD	**Torodi Ar. Bea**	**166.28**	**229**	PKP	**PKPdf**	**09 36 03.6**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=134,slow=4.2,SNR=5.0							
TORD				PKPab	**PKPab**	**09 37 05.1**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=117,slow=5.2,SNR=2.6							

*ISCJB **06** 09:22:48.3±0.9, 38°.06N±0°.04×42°.90E±0°.04, h1km±12km, Error ellipse: s-maj=6.9km s-min=5.6km az=26.1*
*ISK **06** 09:22:48.5, 38°.09N×42°.89E, h5km, ML2.5/8*
*DDA **06** 09:22:52.4, 38°.28N×43°.16E, h6km±4km, ML2.8*

ISC 06 09:22:49.2±1.1, 38°.11N±0°.04×42°.93E±0°.04, h12km±9km, n12, σ0°77/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AKDM	**Akdamar-Van**	**0.23**	**10**	PG		**Pg**		**09 22 53.9**	**-0.2**
AKDM				SG		**Sg**		**09 22 57.8**	**+0.3**
GEVA	**Gevas**	**0.23**	**26**	*i* P		**Pg**		**09 22 54.0**	**-0.2**
GEVA				*i* S		**Sg**		**09 22 58.1**	**+0.5**
GEVA				IAML_P					
	comp=Z,32μm,0.2s								
TVAN	**Van**	**0.57**	**42**	*i* P		**Pg**		**09 22 60.0**	**-0.4**
TVAN				*i* S		**Sb**		**09 23 09.3**	**0.0**
TVAN				IAML_P					
	comp=Z,2μm,0.1s								
VANB	**Van**	**0.61**	**36**	PG		**Pg**		**09 22 59.6**	**-1.5**
VANB				SG		**Sb**		**09 23 08.7**	**-1.8**
ADCV	**BITLIS_Adilcev**	**0.72**	**347**	*i* P		**Pb**		**09 23 03.9**	**+0.1**
ADCV				*i* S		**Sb**		**09 23 14.7**	**+0.9**
ADCV				IAML_P					
	comp=Z,1μm,0.1s								
GURO	**Guroymak-BITLI**	**0.83**	**303**	PG		**Pg**		**09 23 04.5**	**-0.8**
GURO				SG		**Sg**		**09 23 16.0**	**-0.3**
BASK	**Baskale_VAN**	**0.85**	**93**	*i* P		**Pb**		**09 23 06.2**	**+0.1**
BASK				*i* S		**Sb**		**09 23 17.6**	**+0.1**
BASK				IAML_P					
	comp=Z,2μm,0.2s								
CUKT	**Cukurca**	**1.01**	**148**	PG		**Pg**		**09 23 08.3**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.36**	**272**	PN		**Pn**		**09 23 14.3**	**+0.2**
AGRB	**Hanur-Agry**	**1.47**	**2**	PN		**Pn**		**09 23 16.6**	**+0.9**
BNGB	**Bingl**	**1.97**	**297**	PN		**Pn**		**09 23 23.0**	**+0.4**
MAZI	**Mazidag**	**2.07**	**253**	PN		**Pn**		**09 23 24.4**	**+0.5**

KRSC 06 09:31:48.3±10.0, 49°.64N×156°.00E, h116km±10km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SKR	**Severo-Kuril's**	**1.05**	**4**	*e*P			Pn	09 32 11.9	+1.4
SKR				*e*S			Sn	09 32 28.8	+1.5
ALID	**Alaid**	**1.27**	**347**	*e*P			Pn	09 32 13.1	+0.1
PAU	**Pauzhetka**	**1.91**	**15**	*e*P			Pn	09 32 21.9	+1.5
PAU				*e*S			Sn	09 32 47.1	+2.2
KDTR	**Khodutka, Kamc**	**2.54**	**30**	*e*P			Pn	09 32 29.8	+1.3
KDTR				*e*S			Sn	09 33 00.2	+0.8
ASAK	**Asacha**	**3.00**	**23**	*e*P			Pn	09 32 36.7	+2.2
RUS	**Russkaya**	**3.22**	**29**	*e*P			Pn	09 32 38.5	+1.2
DALK	**Dalny**	**3.81**	**26**	*e*P			Pn	09 32 47.4	+2.2
UGLR	**Uglovaya**	**3.99**	**25**	*e*P			Pn	09 32 50.4	+2.7
KOK	**Koryaka**	**4.02**	**23**	*e*P			Pn	09 32 51.1	+3.1
AVH	**Avacha**	**4.02**	**24**	*e*P			Pn	09 32 50.0	+2.0
SDLR	**Sedlovina**	**4.07**	**25**	*e*P			Pn	09 32 50.8	+2.1
GNL	**Ganaly**	**4.24**	**16**	*e*P			Pn	09 32 53.0	+2.0

VIE 06 09:33:19.2±0.5, 49°.55N×16°.43E, h0km, ml1.8/2, Error ellipse: s-maj=4.8km s-min=2.8km az=147.0, Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VRAC	**Vranov**	**0.26**	**156**	*e*PG			Pg	09 33 24.2	0.0
KRUC	**Moravsky**	**0.49**	**183**	*e*PG			Pg	09 33 29.3	+0.8
MORC	**Moravsky Berou**	**0.76**	**72**	*e*PG			Pb	09 33 34.7	-0.6
CONA	**Conrad Observa**	**1.66**	**193**	*e*Pg			Pb	09 33 50.4	-0.3
	0.6nm,0.1s								
CONA							Sn	09 34 12.0	-0.2
	3.5nm,0.3s								

*IDC **06** 09:35:59.4±1.0, 10°.52N×127°.03E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/41, mbtmp3.8/7, Error ellipse: s-maj=81.3km s-min=20.2km az=71.0*
*ISCJB **06** 09:36:00.8±0.7, 10°.42N±0°.06×126°.82E±0°.06, h20km, Error ellipse: s-maj=8.9km s-min=7.7km az=43.7*
*MAN **06** 09:36:01.2, 10°.39N×126°.74E, h14km, MS3.4*

ISC 06 09:36:02.5±0.9, 10°.40N±0°.07×126°.76E±0°.09, h20km, n12, σ0°94/17, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
BUTP	**Butuan**	**1.81**	**218**	*e*P			**Pn**	**09 36 32.3**	**-0.2**
BUTP				*e*S			**Sn**	**09 36 54.5**	**-0.4**
MSLP	**Maasin**	**1.89**	**262**	*e*P			**Pn**	**09 36 33.4**	**-0.1**
MSLP				*e*S			**Sn**	**09 36 57.7**	**+0.9**
PLP	**Palo**	**1.91**	**294**	⇑*e*P			**Pn**	**09 36 32.6**	**-1.3**
PLP				*e*S			**Sn**	**09 36 57.7**	**+0.4**
CGP	**Cagayan de Oro**	**2.81**	**227**	⇓*e*P			**Pb**	**09 36 50.3**	**-1.6**
CGP				*e*S			**Sn**	**09 37 21.5**	**+2.0**
RCP	**Roxas**	**4.11**	**287**	⇑*e*P			**Pn**	**09 37 04.8**	**+0.6**
WRA	**Warramunga Arr**	**31.06**	**166**	P			**P**	**09 42 19.6**	**+0.2**
	0.3nm,0.7s,baz=347,slow=10,SNR=2.7								
ASAR	**Alice Springs**	**34.57**	**168**	P			**P**	**09 42 50.8**	**+0.8**
	0.1nm,0.4s,baz=351,slow=7.6,SNR=3.2								
MKAR	**Makanchi Array**	**52.22**	**322**	P			**P**	**09 45 12.4**	**+0.3**
	0.7nm,0.6s,baz=116,slow=8.4,SNR=9.4								
MKAR				PcP			**PcP**	**09 46 24.1**	**+0.6**
	0.6nm,0.8s,baz=108,slow=4.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**54.75**	**331**	P			**P**	**09 45 30.6**	**+0.1**
	0.8nm,0.4s,baz=127,slow=5.8,SNR=5.0								
ARCES	**ARCESS Array B**	**84.24**	**340**	P			**P**	**09 48 32.8**	**+0.4**
	5.5nm,1.0s,baz=58,slow=6.7,SNR=5.2								
FINES	**FINESS Array B**	**86.01**	**332**	P			**P**	**09 48 42.0**	**+0.7**
	1.3nm,0.8s,baz=95,slow=4.4,SNR=3.8								
YKA	**Yellowknife Ar**	**93.45**	**24**	P			**P**	**09 49 15.4**	**-0.9**
	0.1nm,0.4s,baz=301,slow=3.9,SNR=2.9								

*IDC **06** 09:38:20.7±0.8, 22°.45S×171°.35E, h0km, mb4.3/12, mb1 4.5/14, mb1mx4.2/34, mbtmp4.3/14, ML4.2/2, MS4.7/24, Ms1 4.7/24, ms1mx4.6/36, Error ellipse: s-maj=21.8km s-min=19.5km az=140.0*
*ISCJB **06** 09:38:22.0±0.4, 22°.39S±0°.05×171°.14E±0°.04, h10km, mb4.7/28, MS4.7/23, Error ellipse: s-maj=7.6km s-min=5.4km az=26.8*
*NEIC **06** 09:38:23.5±0.4, 22°.28S×171°.11E, h10km, mb4.9/22, Error ellipse: s-maj=8.1km s-min=6.1km az=47.0*
*BJI **06** 09:38:25.3, 22°.25S×170°.66E, h7km, mb4.8/18, mB5.2/11, Ms5.2/9, Ms7 4.9/9*
*GCMT **06** 09:38:26.5±0.2, 22°.53S±0°.01×171°.26E±0°.01, h12km±1km, MW5.2/114, Moment Tensor Solution. s41,c56; s114,c201; Duration: 1ŝ0 Moment tensor: Scale 10^17 Nm; Mrr=0.13±.02; Mθθ=0.57±.02; Mφφ=0.69±.02; Mrθ=0.03±.05; Mθφ=0.63±.02; Mφr=0.34±.06; Best double couple: M=0.94600×10^17 NP1:strike=337.00000°, dip=85.00000°, rake=163.00000°. NP2:strike=69.00000°, dip=73.00000°, rake=5.00000°. Principal axes: T 1.0480, Plg16.0000°, Azm292.0000°; N -0.2030, Plg72.0000°, Azm142.0000°; P -0.8450, Plg9.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 09:38:23.2±0.5, 22°.36S±0°.07×171°.17E±0°.06, h10km, n98, σ1ŝ39/85, mb4.8/28, MS4.7/24, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
MARNC	**Mare, Loyalty**	**3.04**	**286**	*e*Pn			**Pn**	**09 39 11.0**	**-0.4**
MARNC				*e*Sn			**Sn**	**09 39 41.8**	**-6.1**
PINNC	**Pines Island,**	**3.45**	**265**	*e*Pn			**Pn**	**09 39 17.0**	**0.0**
ONTNC	**Ouen Toro**	**4.36**	**270**	*e*Pn			**Pn**	**09 39 30.5**	**+0.9**
ONTNC				*e*Sn			**Sn**	**09 40 20.7**	**+0.2**
DZM	**Mont Dzumac**	**4.38**	**273**	*e*Pn			**Pn**	**09 39 29.9**	**-0.1**
	86nm,0.2s								
DZM				*e*Sn			**Sn**	**09 40 22.1**	**+0.9**
	127nm,0.3s								
DZM				*e*LR		LR		09 40 33.9	
	comp=Z,22μm,25.3s								
DZM	**Mont Dzumac**	**4.38**	**273**	Pn			**Pn**	**09 39 29.4**	**-0.6**
	20nm,0.3s,baz=129,slow=11,SNR=96								
DZM				Sn			**Sn**	**09 40 20.6**	**-0.6**
	30nm,0.3s,baz=316,slow=23,SNR=11								
DZM				LR		LR		09 41 02.7	
	comp=Z,10μm,20.9s,baz=82,slow=36								
MSVF	**Nonsavu**	**7.94**	**56**	*e*Pn			**Pn**	**09 40 21.4**	**+2.4**
RAO	**Raoul Island**	**11.98**	**127**	LR		LR		09 44 35.7	
	comp=Z,6μm,21.7s,baz=334,slow=32								
LHI	**Lord Howe Isla**	**14.12**	**227**	*e*Pn			**Pn**	**09 41 43.8**	**+0.4**
URZ	**Urewera**	**16.65**	**163**	Pn			**Pn**	**09 42 13.7**	**-2.9**
	0.5nm,0.3s,baz=119,slow=19,SNR=2.1								
URZ				LR		LR		09 46 58.9	
	comp=Z,3μm,18.7s,baz=358,slow=31								
HNR	**Honiara**	**16.77**	**318**	*e*Pn			**Pn**	**09 42 18.9**	**+0.6**
	163nm,0.9s								
HNR	**Honiara**	**16.77**	**318**	LR		LR		09 48 01.6	
	comp=Z,3μm,20.4s,baz=134,slow=34								
BKZ	**Black Stump Fm**	**17.36**	**166**	*e*Pn			**P**	**09 42 28.2**	**+1.2**
	41nm,1.1s								
EIDS	**Eidsvold**	**18.61**	**257**	*e*P			**Pn**	**09 42 41.1**	**0.0**
	150nm,1.9s								
BFZ	**Birch Farm**	**18.76**	**168**	*e*P			**Pn**	**09 42 42.9**	**0.0**
	58nm,1.2s								
SNZO	**South Karori**	**19.12**	**172**	*e*P			**Pn**	**09 42 47.9**	**+0.7**
	174nm,1.4s								
ARMA	**Armidale**	**19.23**	**241**	*e*P			**P**	**09 42 47.9**	**+0.1**
	83nm,1.7s								
THZ	**Tophouse**	**19.40**	**176**	*e*P			**Pn**	**09 42 51.7**	**+1.1**
	140nm,1.7s								
KHZ	**Kahutara**	**20.09**	**175**	*e*P			Pn	09 42 58.7	-0.1
	131nm,1.3s								
LTZ	**Lake Taylor**	**20.38**	**178**	*e*P			**P**	**09 43 01.2**	**+1.0**
	197nm,1.8s								
OXZ	**Oxford**	**20.92**	**178**	*e*P			**P**	**09 43 07.1**	**+1.1**
	43nm,0.9s								
FOZ	**Fox Glacier**	**21.14**	**183**	*e*P			**P**	**09 43 10.3**	**+2.0**
	120nm,1.3s								
RPZ	**Rata Peaks**	**21.29**	**180**	*e*P			**P**	**09 43 12.0**	**+2.0**
	181nm,1.6s								
RPZ	**Rata Peaks**	**21.29**	**180**	P			**P**	**09 43 07.6**	**-2.4**
	17nm,0.9s,baz=233,slow=20,SNR=4.2								
RPZ				LR		LR		09 50 12.7	
	comp=Z,769nm,19.4s,baz=10,slow=34								
MLZ	**Mavora Lakes**	**23.08**	**185**	*e*P			**P**	**09 43 30.9**	**+1.8**
	80nm,1.3s								
CAN	**Canberra**	**23.25**	**231**	*e*P			**P**	**09 43 31.7**	**+0.7**
	24nm,1.1s								
CTA	**Charters Tower**	**23.32**	**271**	P			**P**	**09 43 34.4**	**+2.6**
	7.5nm,0.7s,baz=101,slow=12,SNR=6.0								
CTA				LR		LR		09 52 11.7	
	comp=Z,2μm,19.1s,baz=90,slow=35								
CTAO	**Charters Tower**	**23.32**	**271**	*e*P			**P**	**09 43 33.5**	**+1.8**
	40nm,1.4s								
TOO	**Toolangi**	**26.80**	**230**	*e*P			**P**	**09 44 03.5**	**-0.2**
	24nm,1.4s								
RAR	**Rarotonga**	**26.99**	**93**	LR		LR		09 54 46.5	
	comp=Z,818nm,18.1s,baz=249,slow=37								
COEN	**Coen**	**27.84**	**283**	*e*P			**P**	**09 44 11.1**	**-2.0**
	45nm,1.2s								
STKA	**Stephens Creek**	**27.90**	**244**	*e*P			**P**	**09 44 13.3**	**-0.2**
	4.1nm,1.4s								
STKA	**Stephens Creek**	**27.90**	**244**	P			**P**	**09 44 12.2**	**-1.3**
	3.6nm,0.6s,baz=84,slow=12,SNR=8.3								
STKA				LR		LR		09 54 26.3	
	comp=Z,1μm,18.5s,baz=72,slow=34								
BBOO	**Buckleboo**	**32.67**	**244**	*e*P			**P**	**09 44 56.7**	**+0.9**
	20nm,1.3s								
AS01	**Alice Springs**	**34.22**	**260**	*e*P			**P**	**09 45 08.9**	**-0.5**
AS31	**Alice Springs**	**34.26**	**260**	*e*P			**P**	**09 45 09.8**	**0.0**
AS31				*e*pP			**P**	**09 45 10.2**	**+0.5**
ASAR	**Alice Springs**	**34.26**	**260**	P			**P**	**09 45 09.4**	**-0.4**
	7.6nm,0.8s,baz=82,slow=9.0,SNR=50								
ASAR				LR		LR		09 59 07.8	
	comp=Z,2μm,18.9s,baz=100,slow=36								
WB2	**Warramunga Ar**	**34.37**	**267**	*e*P			**P**	**09 45 10.4**	**-0.3**
WRAB	**Tennant Creek**	**34.37**	**267**	*e*P			**P**	**09 45 10.3**	**-0.4**
	55nm,1.8s								
WRA	**Warramunga Arr**	**34.38**	**267**	P			**P**	**09 45 10.2**	**-0.5**
	4.7nm,1.0s,baz=96,slow=8.5,SNR=12								
WRA				PcP			**PcP**	**09 47 47.8**	**+1.2**
	1.6nm,1.2s,baz=95,slow=2.5,SNR=3.2								
WRA				LR		LR		09 58 57.8	
	comp=Z,1μm,18.7s,baz=105,slow=36								
PPT2	**Papeete2**	**37.13**	**90**	*e*LQ		LQ		09 53 47.0	
	1μm,30.0s								
PPT2				*e*LR		LR		09 55 20.0	
	comp=Z,3μm,26.5s								
PPT	**Papeete**	**37.13**	**90**	LR		LR		09 59 38.1	
	comp=Z,367nm,18.9s,baz=248,slow=35								
H11N1	**WAKE ISLAND Hy**	**42.03**	**354**	T		T		10 31 11.4	
	baz=172,slow=76,SNR=5.8								
H11N3	**WAKE ISLAND Hy**	**42.03**	**354**	T		T		10 31 11.1	
	baz=172,slow=76,SNR=8.0								
H11N2	**WAKE ISLAND Hy**	**42.05**	**354**	T		T		10 31 06.5	
	baz=172,slow=76,SNR=9.1								
FITZ	**Fitzroy Crossi**	**42.81**	**267**	*e*P			**P**	**09 46 21.3**	**-0.3**
	23nm,0.9s								
FITZ	**Fitzroy Crossi**	**42.81**	**267**	P			**P**	**09 46 21.7**	**+0.2**
	10nm,0.8s,baz=138,slow=7.9,SNR=15								
FITZ				LR		LR		10 03 11.0	
	comp=Z,882nm,19.1s,baz=106,slow=35								
GUMO	**Guam**	**44.06**	**322**	LR		LR		10 05 06.8	
	comp=Z,722nm,18.4s,baz=136,slow=36								
NWAO	**Narrogin (SRO)**	**48.47**	**245**	*e*P			**P**	**09 47 06.3**	**0.0**
	234nm,1.3s								
NWAO	**Narrogin (SRO)**	**48.47**	**245**	LR		LR		10 07 20.8	
	comp=Z,2μm,18.6s,baz=326,slow=36								
TAOE	**Nuku Hiva Isla**	**48.56**	**82**	*e*LR		LR		10 00 35.6	
	comp=Z,2μm,27.6s								
DAV	**Davao City (W)**	**53.37**	**298**	LR		LR		10 10 38.4	
	comp=Z,587nm,19.8s,baz=117,slow=36								
VNDA	**Vanda**	**55.39**	**182**	P			**P**	**09 47 55.6**	**-1.5**
	0.7nm,0.6s,baz=357,slow=6.8,SNR=5.6								
VNDA				LR		LR		10 07 51.9	
	comp=Z,710nm,20.8s,baz=12,slow=32								
QSPA	**South Pole Qui**	**67.71**	**180**	*e*P			**P**	**09 49 19.3**	**-1.4**
	74nm,1.0s								
USRK	**Usurisk Ar.**	**75.33**	**332**	LR		LR		10 20 27.7	
	comp=Z,347nm,20.8s,baz=147,slow=34								
PETK	**Petropavlovsk-**	**76.06**	**352**	P			**P**	**09 50 10.4**	**-0.3**
	2.5nm,0.9s,baz=148,slow=11,SNR=2.9								
GYA	**Guiyang**	**79.07**	**305**	*e*P			**P**	**09 50 30.2**	**+1.9**
GYA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KLR	**Kul'dur**	**79.45**	**335**	LR		LR		10 22 48.8	
	comp=Z,258nm,20.4s,baz=156,slow=34								
CMAR	**Chiang Mai Arr**	**81.42**	**294**	P			**P**	**09 50 42.3**	**+1.4**
	0.6nm,0.9s,baz=137,slow=4.2,SNR=18								
KMI	**Kunming**	**81.44**	**302**	P			**P**	**09 50 43.0**	**+1.8**
KMI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,120nm,4.8s								
KMI				LR		LR			
	comp=N,290nm,15.1s								
KMI				LR		LR			
	comp=E,380nm,16.6s								
KMI				LR		LR			
	comp=Z,370nm,19.0s								
CMMT	**Chiang Mai**	**81.57**	**294**	P			P	09 50 48.0	+6.2
	12nm,1.0s								
CHTO	**Chiang Mai**	**81.58**	**294**	*e*P			**P**	**09 50 41.8**	**0.0**
	9.3nm,0.9s								
CHTO	**Chiang Mai**	**81.58**	**294**	P			P	09 50 48.1	+6.3
	56nm,1.0s								
CHTO	**Chiang Mai**	**81.58**	**294**	P			P	09 50 48.1	+6.3
MA2	**Magadan**	**83.34**	**350**	LR		LR		10 22 06.6	
	comp=Z,702nm,21.7s,baz=172,slow=32								
HHC	**Hu-ho-hao-te**	**83.75**	**319**	*e*P			**P**	**09 50 54.8**	**+2.1**
HHC				sP		pwP		09 51 01.0	+1.4
HHC				S		**S**		**10 01 17.3**	**+1.5**
HHC				sS		ScS		10 01 31.1	+2.4
HHC				pmax		pmax			
	comp=Z,20nm,0.9s								
HHC				LR		LR			
	comp=N,340nm,16.3s								
HHC				LR		LR			
	comp=E,360nm,18.6s								
HHC				LR		LR			
	comp=Z,360nm,19.0s								
SNAA	**Sanae**	**86.12**	**182**	P			**P**	**09 51 03.0**	**-1.2**
LZH	**Lanzhou**	**86.14**	**311**	*e*P			**P**	**09 51 07.4**	**+2.4**
LZH				pP		pwP		09 51 12.2	+0.4
LZH				sP		sP		09 51 15.8	+7.9
LZH				pmax		pmax			
	comp=Z,28nm,1.0s								
VNA3	**Neumayer Olymp**	**86.64**	**180**	P			**P**	**09 51 05.2**	**-1.5**
VNA2	**Neumayer--Watz**	**86.96**	**180**	P			**P**	**09 51 07.1**	**-1.1**
	baz=184,slow=4.5								
NVAR	**Mina Aray Bea**	**89.53**	**48**	P			**P**	**09 51 18.9**	**-2.3**
	0.9nm,0.7s,baz=229,slow=8.2,SNR=3.7								
NVAR				LR		LR		10 25 04.7	

0.8nm,0.8s,baz=20,slow=9.2,SNR=3.1
CMAR Chiang Mai Arr 45.00 279 P P 09 47 33.1 +0.4
0.7nm,0.3s,baz=74,slow=6.3,SNR=7.0
ZALV Zalesovo Beam 59.77 323 LR LR 10 16 59.1
comp=Z,135nm,19.0s,baz=74,slow=38
MKAR Makanchi Array 60.10 315 P P 09 49 23.3 -1.1
0.3nm,0.7s,baz=81,slow=8.9,SNR=3.2
ILAR Eielson Array 65.04 26 P P 09 49 56.9 -0.1
0.1nm,0.4s,baz=244,slow=6.0,SNR=4.9
YKA Yellowknife Ar 79.34 28 P P 09 51 23.2 +0.6
0.2nm,0.6s,baz=279,slow=5.1,SNR=2.5

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*ISCJB **06** 09:39:34.2±1.2,71°.4N±0°.1×9°.1W±0°.7,h18km, Error ellipse: s-maj=33.1km s-min=7.4km az=154.1*
*BER **06** 09:39:36.3±0.5,71°.25N×9°.05W,h0km±68km,ML2.8, Confirmed Earthquake*

ISC 06 09:39:32.8±1.4,71°.3N±0°.1×9°.0W±0°.2,h18km,n5,σ1°.69/10, 1C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.33**	**145**	*e*P	**Pn**	**09 39 43.6**	**+0.9**
JNW				*e*S	**Sn**	**09 39 48.3**	**-0.7**
JNW				IAML		09 39 49.8	
	comp=Z,906nm,0.3s						
JMIC	**Jan Mayen**	**0.36**	**152**	⇑*i*P	**Pn**	**09 39 43.5**	**+0.5**
JMIC				*e*S	**Sn**	**09 39 48.9**	**-0.7**
JMIC				IAML		09 39 49.6	
	comp=Z,493nm,0.2s						
JMI	**Jan Mayen**	**0.39**	**166**	*e*P	**Pn**	**09 39 44.0**	**+0.5**
JMI				*e*S	**Sn**	**09 39 49.5**	**-0.8**
JMI				IAML		09 39 49.9	
	comp=Z,718nm,0.4s						
JNE	**Jan Mayen East**	**0.39**	**143**	*e*P	**Pn**	**09 39 44.0**	**+0.5**
JNE				*e*S	**Sn**	**09 39 49.5**	**-0.9**
JNE				IAML		09 39 50.0	
	comp=Z,1μm,0.1s						
DAG	**Danmarks Havn**	**6.10**	**339**	*i* P	**Pn**	**09 41 04.0**	**+2.2**
DAG				*i* S	**Sn**	**09 42 07.6**	**-3.4**

IDC 06 09:40:36.4±1.2,17°.18N×146°.17E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.5/41,mbtmp3.6/5,MS4.5/2,Ms1 4.4/2, ms1mx3.6/45,Error ellipse: s-maj=38.6km s-min=26.6km az=121.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.04**	**180**	LR	LR	10 02 28.1	
	comp=Z,634nm,21.9s,baz=54,slow=35						
WRA	**Warramunga Arr**	**38.68**	**198**	P	P	09 48 02.0	-0.1
	0.4nm,0.6s,baz=14,slow=8.9,SNR=2.6						
CMAR	**Chiang Mai Arr**	**44.88**	**279**	P	P	09 48 52.4	-0.6
	1.3nm,0.3s,baz=71,slow=6.5,SNR=9.9						
MKAR	**Makanchi Array**	**59.84**	**314**	P	P	09 50 44.6	+0.8
	0.3nm,0.8s,baz=105,slow=8.2,SNR=3.4						
ILAR	**Eielson Array**	**64.80**	**26**	P	P	09 51 16.1	-0.6
	0.7nm,1.1s,baz=235,slow=7.6,SNR=3.9						
YKA	**Yellowknife Ar**	**79.11**	**28**	P	P	09 52 42.8	+0.3
	0.3nm,0.7s,baz=286,slow=5.6,SNR=4.0						
KBZ	**Khabaz**	**87.53**	**315**	LR	LR	10 34 51.9	
	comp=Z,261nm,20.9s,baz=52,slow=37						

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*NEIC **06** 09:52:54.3±0.1,4°.77S×152°.87E,h10km,mb5.1/41, Error ellipse: s-maj=5.3km s-min=3.7km az=90.0*
*MOS **06** 09:52:56.3±1.0,4°.73S×152°.89E,h33km,mb5.3/19, Error ellipse: s-maj=11.0km s-min=6.4km az=98.5*
*BJI **06** 09:52:57.6,4°.62S×153°.32E,h56km, mb5.0/55,mB5.2/27, Ms4.9/18,Ms7 4.6/19*
*IDC **06** 09:52:59.1±1.2,4°.84S×152°.81E,h45km±10km,mb4.6/30, mb1 4.7/32,mb1mx4.6/44,mbtmp4.9/32,ML4.4/2,MS4.3/9, Ms1 4.3/9,ms1mx3.9/35,Error ellipse: s-maj=12.4km s-min=8.0km az=91.0*
*ISCJB **06** 09:52:59.2±0.7,4°.82S±0°.02×152°.87E±0°.03,h59km±6km, mb5.0/86,MS4.5/17,Error ellipse: s-maj=5.6km s-min=3.5km az=154.9*
*DJA **06** 09:53:13.9±2.9,5°.S±13°×15°.2E±1°.9,h147km±20km, M4.9/8,mb4.9/8*

ISC 06 09:52:59.8±0.5,4°.82S±0°.04×152°.85E±0°.05,h51km±4km, n332,σ1°.24/364,mb4.9/86,MS4.5/18,10C-6D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**0.93**	**312**	*e*Pn	**Pn**	**09 53 18.4**	**+1.8**
RABL				*e*Sn	**Sn**	**09 53 30.5**	**+1.5**
MANU	**Manus Island**	**6.13**	**297**	*e*Pn	Pn	09 54 33.2	+5.4
HNR	**Honiara**	**8.40**	**123**	*e*P	**Pn**	**09 55 03.0**	**+4.1**
HNR				*e*S	Sn	09 56 44.0	+12
HNR	**Honiara**	**8.40**	**123**	*e*Pn	**Pn**	**09 54 59.1**	**+0.2**
HNR				S	**Sn**	**09 56 35.0**	**+2.5**
HNR	**Honiara**	**8.40**	**123**	*e*P	**Pn**	**09 54 59.1**	**+0.2**
HNR				S	**Sn**	**09 56 35.0**	**+2.5**
HNR	**Honiara**	**8.40**	**123**	P	**Pn**	**09 54 59.5**	**+0.6**
	11nm,0.3s,baz=275,slow=16,SNR=2.5						
HNR				S	**Sn**	**09 56 34.9**	**+2.5**
	14nm,0.3s,baz=338,slow=19,SNR=1.6						
PATS	**Pohnpei**	**12.80**	**25**	P	**Pn**	**09 55 58.6**	**-0.5**
	baz=13,SNR=4.0						
PATS	**Pohnpei**	**12.80**	**25**	*e*Pn	**Pn**	**09 55 58.4**	**-0.7**
GENI	**Genyem**	**12.85**	**279**	P	**P**	**09 56 07.0**	**-2.3**
COEN	**Coen**	**13.17**	**226**	P	**Pn**	**09 56 06.1**	**+1.9**
	baz=13,SNR=11						
COEN	**Coen**	**13.17**	**226**	*e*Pn	**Pn**	**09 56 06.5**	**+2.2**
MTSU	**Mount Surprise**	**15.64**	**212**	P	**Pn**	**09 56 38.2**	**+1.2**
	baz=16,SNR=42						
CTA	**Charters Tower**	**16.48**	**202**	P	**P**	**09 56 48.5**	**-1.0**
	0.4nm,0.3s,baz=22,slow=14,SNR=5.9						
CTAO	**Charters Tower**	**16.48**	**202**	*e*Pn	**P**	**09 56 48.6**	**-1.0**
	32nm,1.1s						
CTAO	**Charters Tower**	**16.48**	**202**	*e*P	**P**	**09 56 48.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,32nm,1.1s						
QIS	**Mount Isa**	**20.26**	**218**	P	**P**	**09 57 31.9**	**+0.8**
	baz=20,SNR=26						
EIDS	**Eidsvold**	**20.50**	**185**	P	Pn	09 57 34.9	-1.4
	baz=21,SNR=5.0						
EIDS	**Eidsvold**	**20.50**	**185**	*e*P	**P**	**09 57 32.8**	**-0.9**
	comp=Z,72nm,0.9s						
FAKI	**Fak Fak**	**20.64**	**274**	*e*P	**P**	**09 57 34.4**	**-1.0**
FAKI				*e*pP	**sP**	**09 57 50.1**	**-2.3**
FAKI	**Fak Fak**	**20.64**	**274**	P	Pn	09 57 38.1	0.0
KDU	**Kakadu**	**21.59**	**247**	P	**P**	**09 57 45.2**	**-0.3**
	baz=22,SNR=36						
DZM	**Mont Dzumac**	**21.62**	**144**	P	**P**	**09 57 45.3**	**-0.5**
	comp=Z,111nm,0.9s,baz=240,slow=7.1,SNR=18						
DZM				LR	LR	10 05 39.4	
	comp=Z,818nm,18.3s,baz=294,slow=35						
ONTNC	**Ouen Toro**	**21.81**	**144**	*e*P	**P**	**09 57 47.9**	**+0.1**
	comp=Z,199nm,1.6s						
RMQ	**Roma**	**21.90**	**190**	P	**P**	**09 57 49.0**	**+0.4**
	baz=22,SNR=18						
OUENC	**Ouen Island, N**	**22.12**	**144**	*e*P	**P**	**09 57 51.0**	**-0.1**
	comp=Z,60nm,0.8s						
MARNC	**Mare, Loyalty**	**22.16**	**140**	*e*P	**P**	**09 57 50.7**	**-0.8**
	comp=Z,252nm,1.2s						
PINNC	**Pines Island,**	**22.63**	**143**	*e*P	**P**	**09 57 55.4**	**-1.1**
	comp=Z,81nm,0.9s						
MTN	**Manton Dam**	**22.88**	**248**	P	**P**	**09 57 58.6**	**-0.7**
	baz=23,SNR=19						
MTN	**Manton Dam**	**22.88**	**248**	*e*P	**P**	**09 57 58.5**	**-0.7**
	comp=Z,144nm,1.3s						
MTN				*e*S	**S**	**10 02 05.5**	**+0.1**
WRAB	**Tennant Creek**	**23.46**	**229**	*e*P	**P**	**09 58 05.2**	**+0.3**
	comp=Z,153nm,0.8s						
WRAB	**Tennant Creek**	**23.46**	**229**	*de*P	**P**	**09 58 04.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,256nm,1.3s						
WB2	**Warramunga Arr**	**23.46**	**229**	*e*P	**P**	**09 58 05.3**	**+0.4**
WRA	**Warramunga Arr**	**23.47**	**229**	P	**P**	**09 58 05.0**	**-0.1**
	comp=Z,137nm,0.8s,baz=53,slow=9.7,SNR=100						
WRA				PcP	**PcP**	**10 01 48.6**	**-1.4**
	comp=Z,5.3nm,1.0s,baz=44,slow=2.3,SNR=4.0						
WRA				S	**S**	**10 02 14.6**	**-0.5**
	comp=Z,8.6nm,1.0s,baz=49,slow=16,SNR=4.6						
WRA				ScP	**ScP**	**10 05 24.9**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=42,slow=2.4,SNR=3.6						
WRA				LR	LR	10 07 39.4	
	comp=Z,396nm,19.0s,baz=90,slow=38						
ARMA	**Armidale**	**25.49**	**182**	P	**P**	**09 58 24.3**	**+0.8**
	baz=26,SNR=12						
ARMA	**Armidale**	**25.49**	**182**	*e*P	**P**	**09 58 24.7**	**+1.2**
	comp=Z,38nm,0.9s						
KNRA	**Kununurra**	**26.01**	**244**	P	**P**	**09 58 28.2**	**0.0**
	baz=26,SNR=35						
AS01	**Alice Springs**	**26.14**	**222**	*e*P	**P**	**09 58 30.1**	**+0.7**
AS31	**Alice Springs**	**26.17**	**222**	*e*P	**P**	**09 58 29.7**	**+0.1**
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**26.17**	**222**	P	**P**	**09 58 29.4**	**-0.3**
	comp=Z,7.2nm,0.4s,baz=56,slow=9.2,SNR=82						
ASAR				PcP	**PcP**	**10 01 54.3**	**-1.6**
	comp=Z,3.0nm,0.8s,baz=33,slow=2.2,SNR=5.0						
ASAR				S	**S**	**10 02 57.1**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=56,slow=12,SNR=3.1						
ASAR				ScP	**ScP**	**10 05 32.7**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=2.5,SNR=3.2						
ASAR				LR	LR	10 08 05.8	
	comp=Z,771nm,21.7s,baz=59,slow=35						
SANI	**Sanana**	**26.95**	**275**	P	**P**	**09 58 41.4**	**+4.6**
CMSA	**Cobar Meteorol**	**27.42**	**193**	P	**P**	**09 58 40.6**	**-0.1**
	baz=28,SNR=10						
STKA	**Stephens Creek**	**28.91**	**200**	P	**P**	**09 58 53.5**	**-0.5**
	baz=29,SNR=21						
STKA	**Stephens Creek**	**28.91**	**200**	*e*P	**P**	**09 58 53.7**	**-0.4**
	comp=Z,3.2nm,0.8s						
STKA				ScP	**ScP**	**10 05 40.7**	**+0.9**
STKA	**Stephens Creek**	**28.91**	**200**	*e*P	**P**	**09 58 53.7**	**-0.4**
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
STKA	**Stephens Creek**	**28.91**	**200**	P	**P**	**09 58 52.9**	**-1.2**
	comp=Z,15nm,0.8s,baz=4.3,slow=8.6,SNR=34						
STKA				ScP	**ScP**	**10 05 40.7**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=8.1,slow=7.1,SNR=2.2						
STKA				LR	LR	10 09 47.2	
	comp=Z,596nm,19.9s,baz=8.7,slow=35						
FITZ	**Fitzroy Crossi**	**29.69**	**241**	P	**P**	**09 59 00.9**	**-0.3**
	baz=30,SNR=54						
FITZ	**Fitzroy Crossi**	**29.69**	**241**	*e*P	**P**	**09 59 01.1**	**-0.1**
	comp=Z,64nm,0.7s						
FITZ	**Fitzroy Crossi**	**29.69**	**241**	P	**P**	**09 59 00.8**	**-0.3**
	comp=Z,68nm,0.7s,baz=66,slow=7.0,SNR=96						
CAN	**Canberra**	**30.56**	**186**	*e*P	**P**	**09 59 08.9**	**+0.2**
	comp=Z,29nm,1.1s						
CAN	**Canberra**	**30.56**	**186**	*e*P	**P**	**09 59 08.9**	**+0.2**
CAN				pmax	pmax		
	comp=Z,29nm,1.1s						
WRKA	**Warakurna**	**30.98**	**227**	P	**P**	**09 59 11.8**	**-0.7**
	baz=31,SNR=41						
HTT	**Hallett**	**31.29**	**203**	P	**P**	**09 59 14.7**	**-0.4**
	baz=31,SNR=24						
BBOO	**Buckleboo**	**31.96**	**207**	P	**P**	**09 59 20.6**	**-0.4**
	baz=32,SNR=6.5						
BBOO	**Buckleboo**	**31.96**	**207**	*e*P	**P**	**09 59 19.3**	**-1.7**
	comp=Z,28nm,1.1s						
TOO	**Toolangi**	**33.29**	**191**	P	**P**	**09 59 33.0**	**+0.4**
	baz=33,SNR=4.6						
TOO	**Toolangi**	**33.29**	**191**	*e*P	**P**	**09 59 31.8**	**-0.8**
	comp=Z,23nm,1.4s						
TOO	**Toolangi**	**33.29**	**191**	*e*P	**P**	**09 59 31.8**	**-0.8**
TOO				pmax	pmax		
	comp=Z,23nm,1.4s						
ARPS	**Mount Arapiles**	**33.37**	**196**	P	**P**	**09 59 33.3**	**+0.1**
	baz=34,SNR=10						
FORT	**Forrest**	**34.81**	**219**	P	**P**	**09 59 45.4**	**-0.4**
	baz=35,SNR=16						
FORT	**Forrest**	**34.81**	**219**	*e*P	**P**	**09 59 45.3**	**-0.4**
	comp=Z,56nm,0.7s						
OUZ	**Omahuta**	**35.81**	**150**	P	**P**	**09 59 55.3**	**+1.0**
MBWA	**Marble Bar**	**36.01**	**240**	*e*P	**P**	**09 59 55.4**	**-0.9**
	comp=Z,221nm,0.8s						
WCZ	**Waipu Caves**	**36.75**	**150**	P	**P**	**10 00 03.0**	**+0.6**
WIAZ	**Waiheke Island**	**37.82**	**150**	P	**P**	**10 00 12.5**	**+1.1**
TAU	**Tasmania Unive**	**38.25**	**187**	*e*P	**P**	**10 00 15.3**	**+0.4**
	comp=Z,53nm,1.3s						
TAU	**Tasmania Unive**	**38.25**	**187**	*e*P	**P**	**10 00 15.3**	**+0.4**
TAU				pmax	pmax		
	comp=Z,53nm,1.3s						
MEEK	**Meekatharra**	**39.23**	**233**	P	**P**	**10 00 23.1**	**-0.4**
	baz=39,SNR=22						
JOW	**Kunigami**	**39.44**	**324**	*e*P	**P**	**10 00 25.6**	**+0.5**
	comp=Z,19nm,0.8s						
JOW	**Kunigami**	**39.44**	**324**	P	**P**	**10 00 26.2**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=138,slow=12,SNR=13						
URZ	**Urewera**	**39.94**	**150**	*e*P	**P**	**10 00 29.6**	**+0.4**
	comp=Z,77nm,1.2s						
URZ	**Urewera**	**39.94**	**150**	P	**P**	**10 00 29.1**	**0.0**
	comp=Z,41nm,1.1s,baz=175,slow=12,SNR=4.6						
URZ	**Urewera**	**39.94**	**150**	P	**P**	**10 00 30.1**	**+0.9**
RUGZ	**Raukumara Rang**	**40.01**	**149**	P	**P**	**10 00 31.6**	**+1.8**
PKGZ	**Pakihiroa**	**40.16**	**148**	P	**P**	**10 00 32.2**	**+1.2**
MWZ	**Matawai**	**40.21**	**149**	P	**P**	**10 00 32.8**	**+1.3**
MTHZ	**Maungataniwha**	**40.27**	**151**	P	**P**	**10 00 32.8**	**+0.8**
RAGZ	**Rawiri**	**40.28**	**150**	P	**P**	**10 00 33.7**	**+1.6**
WMGZ	**Waiomatatini S**	**40.28**	**148**	P	**P**	**10 00 32.5**	**+0.6**
TWGZ	**Tauwhareparae**	**40.32**	**149**	P	**P**	**10 00 33.5**	**+1.1**
BKZ	**Black Stump Fm**	**40.34**	**151**	*e*P	**P**	**10 00 32.6**	**+0.1**
	comp=Z,42nm,1.4s						
BKZ	**Black Stump Fm**	**40.34**	**151**	P	**P**	**10 00 32.7**	**+0.2**
PUZ	**Puketiti**	**40.39**	**148**	P	**P**	**10 00 33.0**	**+0.1**
RAHZ	**Arahi**	**40.44**	**150**	P	**P**	**10 00 34.7**	**+1.4**
NMHZ	**Naumai**	**40.44**	**151**	P	**P**	**10 00 34.8**	**+1.4**
TKGZ	**Te Karaka**	**40.45**	**149**	P	**P**	**10 00 33.9**	**+0.5**
RIGZ	**Rimuhau**	**40.61**	**150**	P	**P**	**10 00 35.1**	**+0.4**
MCHZ	**McNeill Hill**	**40.66**	**151**	P	**P**	**10 00 36.0**	**+0.9**
KRHZ	**Kereru**	**40.66**	**152**	P	**P**	**10 00 35.5**	**+0.4**
ARHZ	**Aropaoanui**	**40.66**	**151**	P	**P**	**10 00 35.8**	**+0.7**
CNGZ	**Carnagh Statio**	**40.67**	**149**	P	**P**	**10 00 36.0**	**+0.8**
PNHZ	**Pukenui**	**40.80**	**152**	P	**P**	**10 00 36.6**	**+0.3**
TSZ	**Takapari Road**	**40.80**	**153**	P	**P**	**10 00 36.7**	**+0.4**
MHGZ	**Mahia Peninsul**	**41.03**	**150**	P	**P**	**10 00 38.3**	**+0.1**
OGWZ	**Otaki Gorge**	**41.06**	**154**	P	**P**	**10 00 39.2**	**+0.8**
MRZ	**Mangatainoka R**	**41.11**	**153**	P	**P**	**10 00 38.8**	**-0.1**
PXZ	**Pawanui**	**41.20**	**152**	P	**P**	**10 00 39.4**	**-0.1**
PRWZ	**Pori Road**	**41.20**	**153**	P	**P**	**10 00 40.6**	**+1.0**
SNZO	**South Karori**	**41.27**	**155**	*e*P	**P**	**10 00 40.4**	**+0.4**
HOWZ	**Holdsworth Sta**	**41.28**	**154**	P	**P**	**10 00 40.4**	**+0.2**
YULB	**Yu-li**	**41.65**	**314**	*e*P	**P**	**10 00 44.1**	**+0.7**
	comp=Z,13nm,0.8s						
RPZ	**Rata Peaks**	**41.94**	**160**	*e*P	**P**	**10 00 44.4**	**-1.1**
	comp=Z,34nm,0.7s						
RPZ	**Rata Peaks**	**41.94**	**160**	P	**P**	**10 00 45.3**	**-0.2**
	comp=Z,29nm,0.7s,baz=266,slow=1.9,SNR=14						
RPZ				LR	LR	10 15 53.8	
	comp=Z,594nm,20.4s,baz=336,slow=33						
SSLB	**Suanglung**	**42.14**	**314**	*e*P	**P**	**10 00 47.7**	**+0.2**
	comp=Z,11nm,0.5s						
KLBR	**Kellerberrin**	**42.33**	**227**	P	**P**	**10 00 47.9**	**-1.1**
	baz=42,SNR=7.4						
MORW	**Morawa**	**42.37**	**231**	P	**P**	**10 00 48.6**	**-0.8**
	baz=42,SNR=5.0						
MORW	**Morawa**	**42.37**	**231**	*e*P	**P**	**10 00 48.4**	**-1.0**
	comp=Z,24nm,0.9s						
YHNB	**Yeheng**	**42.39**	**315**	*e*P	**P**	**10 00 50.3**	**+0.7**
	comp=Z,47nm,1.2s						
MLZ	**Mavora Lakes**	**42.53**	**164**	*e*P	**P**	**10 00 50.5**	**+0.1**
	comp=Z,57nm,1.0s						
BLDU	**Balidu**	**42.60**	**229**	P	**P**	**10 00 50.4**	**-0.8**
	baz=43,SNR=4.5						
JNU	**Nakatsue**	**43.10**	**333**	*e*P	**P**	**10 00 54.8**	**-0.3**
	comp=Z,59nm,0.9s						
JNU	**Nakatsue**	**43.10**	**333**	P	**P**	**10 00 55.4**	**+0.2**
	comp=Z,51nm,0.8s,baz=121,slow=2.7,SNR=34						
MJAR	**Matsushiro Arr**	**43.37**	**343**	P	**P**	**10 00 55.4**	**-1.8**
	comp=Z,1.6nm,0.5s,baz=169,slow=10.0,SNR=5.5						
MJAR				LR	LR	10 19 01.8	
	comp=Z,196nm,18.2s,baz=160,slow=36						
CISI	**Cisompet, Garu**	**44.84**	**264**	*e*P	**P**	**10 01 07.8**	**-1.7**
	comp=Z,103nm,0.6s						
TJN	**Taejon**	**47.42**	**332**	⇑*e*P	**P**	**10 01 29.3**	**+0.1**
KSRS	**Korea Array**	**48.04**	**333**	P	**P**	**10 01 34.5**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=149,slow=8.1,SNR=26						
KSRS				ScP	**ScP**	**10 06 53.0**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=133,slow=4.6,SNR=4.4						
KSAR	**Wonju Array Be**	**48.05**	**333**	P	**P**	**10 01 34.5**	**+0.4**
KSAR				ScP	**ScP**	**10 06 53.0**	**+1.2**
KSAR	**Wonju Array Be**	**48.05**	**333**	P	**P**	**10 01 34.5**	**+0.4**
KS01	**Wonju Array Si**	**48.07**	**333**	*e*P	**P**	**10 01 33.8**	**-0.6**
NJ2	**Nanjing**	**48.89**	**321**	*e*P	**P**	**10 01 40.6**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ASAJ	**Asahikawa**	**49.58**	**350**	P	**P**	**10 01 46.3**	**+0.5**
	comp=Z,10.0nm,0.8s,baz=218,slow=10.0,SNR=7.5						
ASAJ				LR	LR	10 19 46.0	
	comp=Z,519nm,21.1s,baz=171,slow=32						
VLA	**Vladivostok**	**51.35**	**340**	‖*e*P	**P**	**10 01 59.8**	**+0.7**
VLA				pmax	pmax		
	comp=Z,13nm,0.7s						
USA0B	**Ussuriysk Arra**	**52.28**	**341**	*e*P	**P**	**10 02 06.8**	**+0.8**
USA0B	**Ussuriysk Arra**	**52.28**	**341**	*e*P	**P**	**10 02 06.8**	**+0.8**
USRK	**Ussuriysk Ar.**	**52.28**	**341**	P	**P**	**10 02 06.4**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=127,slow=4.2,SNR=18						
YSS	**Yuzh-Sakhalins**	**52.32**	**351**	*e*P	**P**	**10 02 06.7**	**+0.4**
YSS				*e*		10 02 19.5	
TIA	**Tai'an**	**52.76**	**324**	*e*P	**P**	**10 02 10.2**	**+0.4**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SKNT	**Sakolnakorn**	**52.91**	**295**	P	**P**	**10 02 12.7**	**+1.5**
	comp=Z,11nm,0.8s						
MDJ	**Mudanjiang**	**53.46**	**339**	P	**P**	**10 02 15.1**	**+0.4**
MDJ				pmax	pmax		
	comp=Z,16nm,1.1s						
MDJ	**Mudanjiang**	**53.46**	**339**	*e*P	**P**	**10 02 12.9**	**-1.8**
	comp=Z,4.6nm,0.8s						
CN2	**Changchun**	**54.34**	**336**	*e*P	**P**	**10 02 21.5**	**+0.3**
GYA	**Guiyang**	**54.45**	**307**	*e*P	**P**	**10 02 25.4**	**+2.9**
GYA				pP	sP	10 02 39.4	-2.5
GYA				PP	**PP**	**10 04 29.2**	**+4.1**
GYA				S	**S**	**10 09 58.0**	**+0.1**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.1s						
SKR	**Severo-Kuril's**	**55.35**	**3**	*e*P	**P**	**10 02 25.2**	**-3.1**
SKR				MLR	MLR		
	comp=Z,500nm,18.0s						
BJI	**Beijing**	**55.94**	**326**	P	**P**	**10 02 33.1**	**+0.3**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BJI				LR	LR		
	comp=Z,160nm,16.2s						
BJI				LR	LR		
	comp=Z,250nm,14.7s						
BJI				LR	LR		
	comp=Z,280nm,23.5s						
UTTA	**Uttaradit**	**56.26**	**295**	P	**P**	**10 02 36.8**	**+1.4**
	comp=Z,12nm,1.1s,comp=Z,96nm						
NANT	**Nan**	**56.46**	**296**	P	**P**	**10 02 37.9**	**+1.0**
	comp=Z,12nm,1.2s,comp=Z,112nm						
XAN	**Xi'an**	**56.67**	**316**	P	**P**	**10 02 38.4**	**+0.2**
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
XAN	**Xi'an**	**56.67**	**316**	*e*P	**P**	**10 02 38.3**	**+0.1**
	comp=Z,41nm,0.4s						
XAN	**Xi'an**	**56.67**	**316**	*e*P	**P**	**10 02 38.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,41nm,0.4s						
KLR	**Kul'dur**	**56.88**	**344**	P	**P**	**10 02 39.4**	**+0.1**
	comp=Z,8.2nm,0.8s,baz=172,slow=3.8,SNR=33						
KLR				ScP	**ScP**	**10 07 30.7**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=96,slow=12,SNR=5.1						
KMI	**Kunming**	**57.04**	**304**	P	**P**	**10 02 43.7**	**+2.5**
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				LR	LR		
	comp=Z,250nm,14.1s						
KMI				LR	LR		
	comp=Z,330nm,14.4s						
KMI				LR	LR		
	comp=Z,520nm,19.5s						
UMPA	**Umpang Tak**	**57.34**	**293**	P	**P**	**10 02 44.9**	**+1.7**
	comp=Z,6.0nm,1.0s,comp=Z,792nm						
PAYA	**Payao**	**57.39**	**296**	P	**P**	**10 02 45.1**	**+1.6**
	comp=Z,9.5nm,1.0s						
PETK	**Petropavlovsk-**	**57.86**	**3**	*e*P	**P**	**10 02 45.5**	**-0.6**
PETK	**Petropavlovsk-**	**57.86**	**3**	*e*P	**P**	**10 02 45.5**	**-0.6**
PETK	**Petropavlovsk-**	**57.86**	**3**	P	**P**	**10 02 46.5**	**+0.3**
	comp=Z,6.0nm,0.7s,baz=173,slow=8.0,SNR=14						
CM01	**Chiang Mai Arr**	**57.91**	**295**	*e*P	**P**	**10 02 48.4**	**+1.3**
CM31	**Chiang Mai Arr**	**57.93**	**295**	*e*P	**P**	**10 02 48.2**	**+0.9**
CMAR	**Chiang Mai Arr**	**57.93**	**295**	P	**P**	**10 02 48.9**	**+1.5**
	comp=Z,20nm,0.9s,baz=112,slow=5.3,SNR=62						
CMAR				PKP2bc		10 32 42.3	
	comp=Z,0.6nm,0.3s,baz=278,slow=6.2,SNR=4.2						
CHTO	**Chiang Mai**	**58.04**	**296**	*e*P	**P**	**10 02 48.1**	**0.0**
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**58.04**	**296**	*e*P	**P**	**10 02 48.1**	**0.0**
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s						
CHTO	**Chiang Mai**	**58.04**	**296**	P	**P**	**10 02 49.9**	**+1.8**
	comp=Z,90nm,1.3s						
NKL	**Nikolayevsk**	**58.66**	**351**	*e*P	**P**	**10 02 51.0**	**-0.7**
NKL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2	**Chengdu**	**58.79**	**311**	⇑P	**P**	**10 02 54.2**	**+1.0**
CD2				pmax	pmax		
	comp=Z,100nm,0.6s						
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GUN	**Gumba**	**72.18**	**301**	*e*P		**P**	**10 04 20.6**	**+0.5**
	comp=Z,19nm,0.6s								
PKI	**Pulchoki**	**72.49**	**301**	*e*P		**P**	**10 04 22.0**	**0.0**
	comp=Z,12nm,0.7s								
PKIN	**Phulchoki**	**72.50**	**301**	*e*P		**P**	**10 04 22.0**	**0.0**
KKN	**Kakani**	**72.66**	**301**	*e*P		**P**	**10 04 23.0**	**+0.2**
	comp=Z,17nm,0.6s								
DMN	**Daman**	**72.76**	**301**	*e*P		**P**	**10 04 24.0**	**+0.5**
VNDA	**Vanda**	**72.81**	**178**	*e*P		**P**	**10 04 22.5**	**0.0**
	comp=Z,17nm,0.9s								
VNDA	**Vanda**	**72.81**	**178**	*e*P		**P**	**10 04 22.5**	**0.0**
VNDA				pmax		pmax			
	comp=Z,17nm,0.9s								
VNDA	**Vanda**	**72.81**	**178**	P		**P**	**10 04 22.6**	**+0.1**
	comp=Z,12nm,0.8s,baz=329,slow=6.3,SNR=53								
GKN	**Gorkha**	**73.26**	**301**	*e*P		**P**	**10 04 26.4**	**+0.1**
BILL	**Bilibino**	**73.31**	**5**	*e*P		**P**	**10 04 25.7**	**+0.2**
	comp=Z,12nm,0.9s								
BILL	**Bilibino**	**73.31**	**5**	*d* iP		**P**	**10 04 25.2**	**-0.3**
BILL				*i*			10 04 38.0		
BILL				*i*			10 07 09.5		
BILL				pmax		pmax			
	comp=Z,14nm,1.3s								
KOLN	**Koldanda**	**74.09**	**300**	*e*P		**P**	**10 04 31.4**	**+0.1**
	comp=Z,34nm,0.9s								
DANN	**Dangsing**	**74.10**	**301**	*e*P		**P**	**10 04 31.2**	**-0.2**
	comp=Z,23nm,0.9s								
PYUN	**Piuthan**	**74.69**	**301**	*e*P		**P**	**10 04 34.6**	**-0.2**
	comp=Z,58nm,0.9s								
WMQ	**Urumqi**	**75.79**	**317**	*e*P		**P**	**10 04 41.6**	**+1.0**
WMQ				PcP		**PcP**	**10 04 48.3**	**-4.7**
WMQ				pP		pP	10 04 54.3	-0.3
WMQ				pmax		pmax			
	comp=Z,38nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,91nm,3.6s								
WMQ				LR		LR			
	comp=Z,320nm,19.9s								
WMQ				LR		LR			
	comp=Z,520nm,26.5s								
WMQ				LR		LR			
	comp=Z,470nm,26.5s								
WMQ	**Urumqi**	**75.79**	**317**	*e*P		**P**	**10 04 41.2**	**+0.7**
	comp=Z,18nm,1.0s								
WMQ	**Urumqi**	**75.79**	**317**	*e*P		**P**	**10 04 41.2**	**+0.7**
WMQ				pmax		pmax			
	comp=Z,18nm,1.0s								
HYB	**Hyderabad**	**76.55**	**289**	*i* P		**P**	**10 04 45.0**	**-0.3**
TIXI	**Tiksi**	**77.92**	**352**	*e*P		**P**	**10 04 51.9**	**+0.1**
	comp=Z,3.1nm,0.8s								
TIXI	**Tiksi**	**77.92**	**352**	⇑*i*P		**P**	**10 04 53.1**	**+1.2**
TIXI				pmax		pmax			
	comp=Z,7.0nm,1.3s								
TIXI	**Tiksi**	**77.92**	**352**	P		**P**	**10 04 50.8**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=131,slow=5.8,SNR=6.7								
RDOG	**Red Dog Mine**	**78.99**	**15**	*e*P		**P**	**10 04 58.8**	**+0.9**
CAST	**Castle Rocks**	**79.50**	**22**	*e*P		**P**	**10 05 00.4**	**-0.4**
SML	**Sawmill**	**80.12**	**24**	*e*P		**P**	**10 05 04.0**	**-0.2**
SML	**Sawmill**	**80.12**	**24**	*e*P		**P**	**10 05 04.0**	**-0.2**
TRF	**Thorofare Moun**	**80.20**	**22**	*e*P		**P**	**10 05 03.7**	**-1.0**
MK01	**Makanchi Array**	**80.36**	**319**	*e*P		**P**	**10 05 06.0**	**+0.2**
MK31	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**10 05 06.3**	**+0.4**
MK31	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**10 05 06.3**	**+0.4**
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**	**10 05 06.1**	**+0.3**
	comp=Z,17nm,1.1s,baz=101,slow=6.3,SNR=48								
MKAR				PKKPbc		**PKKPbc**	**10 23 48.4**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=315,slow=2.7,SNR=4.0								
IM3	**Indian Mountai**	**80.39**	**19**	*e*P		**P**	**10 05 05.0**	**-0.4**
MAKZ	**Makanchi**	**80.58**	**319**	*e*P		**P**	**10 05 07.5**	**+0.5**
RND	**Reindeer**	**80.72**	**23**	*e*P		**P**	**10 05 06.8**	**-0.6**
RND	**Reindeer**	**80.72**	**23**	*e*P		**P**	**10 05 06.8**	**-0.6**
MCK	**McKinley**	**80.86**	**23**	*e*P		**P**	**10 05 07.5**	**-0.6**
MCK				*e*pP		**pP**	**10 05 20.6**	**-2.2**
MCK	**McKinley**	**80.86**	**23**	*e*P		**P**	**10 05 07.5**	**-0.6**
MCK				*e**PP		**pP**	**10 05 20.6**	**-2.2**
MLY	**Manley**	**80.88**	**21**	*e*P		**P**	**10 05 08.0**	**-0.2**
KLU	**Klutina**	**80.97**	**25**	*e*P		**P**	**10 05 09.7**	**+0.9**
DHY	**Denali Highway**	**81.14**	**23**	*e*P		**P**	**10 05 10.1**	**+0.4**
ZALV	**Zalesovo Beam**	**81.20**	**326**	P		**P**	**10 05 09.8**	**-0.2**
	comp=Z,10nm,0.6s,baz=114,slow=6.0,SNR=42								
WRH	**Wood River Hil**	**81.56**	**22**	*e*P		**P**	**10 05 10.9**	**-0.8**
CCB	**Clear Creek Bu**	**81.75**	**22**	*e*P		**P**	**10 05 11.4**	**-1.3**
COLA	**College**	**81.85**	**22**	*e*P		**P**	**10 05 12.0**	**-1.2**
	comp=Z,20nm,1.3s								
COLA	**College**	**81.85**	**22**	⇑*e*P		**P**	**10 05 11.9**	**-1.3**
COLA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
HDA	**Harding Lake**	**81.96**	**22**	*e*P		**P**	**10 05 12.9**	**-1.0**
HDA	**Harding Lake**	**81.96**	**22**	P		**P**	**10 05 12.7**	**-1.1**
	baz=241								
IL1	**Eielson Array**	**82.16**	**22**	*e*P		**P**	**10 05 13.2**	**-1.7**
ILAR	**Eielson Array**	**82.16**	**22**	P		**P**	**10 05 13.2**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=241,slow=5.6,SNR=32								
ILB	**Eielson Array**	**82.16**	**22**	*e*P		**P**	**10 05 13.5**	**-1.4**
NVS	**Novosibirsk**	**82.38**	**327**	*e*P		**P**	**10 05 16.2**	**0.0**
NVS				*i*			10 05 30.0		
NVS				pmax		pmax			
	comp=Z,19nm,1.4s								
NVS				pmax		pmax			
	comp=N,8.0nm,1.5s								
NVS				pmax		pmax			
	comp=E,11nm,1.2s								
RIDG	**Independ'e Rid**	**82.46**	**23**	*e*P		**P**	**10 05 19.4**	**+2.9**
KDJ	**Kajisay**	**82.67**	**313**	*e*P		**P**	**10 05 20.2**	**+1.9**
KDJ	**Kajisay**	**82.67**	**313**	*e*P		**P**	**10 05 20.2**	**+1.9**
DOT	**Dot Lake**	**82.73**	**24**	*e*P		**P**	**10 05 17.9**	**0.0**
SCRK	**Sand Creek**	**82.90**	**23**	*e*P		**P**	**10 05 18.9**	**0.0**
KSH	**Kashi**	**82.99**	**311**	P		**P**	**10 05 20.9**	**+1.0**
KSH				pP		sP	10 05 38.1	-1.6
KSH				PP		**PP**	**10 08 36.3**	**+5.0**
KSH				S		**S**	**10 15 33.7**	**-1.8**
KSH				sS		sS	10 16 03.6	+4.5
KSH				SS		**SS**	**10 21 04.2**	**+4.1**
KSH				pmax		pmax			
	comp=E,9.0nm,0.8s								
KSH				pmax		pmax			
	comp=E,270nm,5.5s								
KSH				LR		LR			
	comp=E,170nm,8.7s								
KSH				LR		LR			
	comp=E,170nm,8.9s								
KSH				LR		LR			
	comp=E,150nm,11.4s								
TOLK	**Toolik Lake Re**	**83.22**	**18**	*e*P		**P**	**10 05 20.8**	**+0.4**
TOLK	**Toolik Lake Re**	**83.22**	**18**	P		**P**	**10 05 21.0**	**+0.7**
	baz=236								
ULHL	**Ulahol**	**83.37**	**313**	P		**P**	**10 05 23.0**	**+1.1**
	SNR=5.9								
KURK	**Kurchatov**	**83.82**	**322**	*e*P		**P**	**10 05 23.7**	**0.0**
KURK	**Kurchatov**	**83.82**	**322**	*d* iP		**P**	**10 05 23.5**	**-0.2**
KURK				pmax		pmax			
	comp=Z,34nm,1.3s								
KURBB	**Kurchatov Arra**	**83.85**	**322**	P		**P**	**10 05 23.7**	**-0.2**
	comp=Z,9.4nm,0.9s,baz=107,slow=4.2,SNR=47								
TKM2	**Tokmak 2**	**83.98**	**314**	P		**P**	**10 05 25.9**	**+0.8**
	SNR=16								
KZA	**Kyzart**	**84.06**	**313**	P		**P**	**10 05 26.9**	**+1.2**
	SNR=15								
EGAK	**Eagle**	**84.36**	**23**	*e*P		**P**	**10 05 26.6**	**+0.4**
KBK	**Karagaybulak**	**84.39**	**314**	P		**P**	**10 05 28.4**	**+1.3**
	SNR=8.3								
HYT	**Haines Junctio**	**84.43**	**27**	*e*P		**P**	**10 05 27.8**	**+1.0**
HYT				*e*pP		**pP**	**10 05 40.7**	**-0.8**
CHMS	**Chumysh**	**84.61**	**314**	P		**P**	**10 05 28.7**	**+0.7**
	SNR=13								
UCH	**Uchtor**	**84.62**	**313**	P		**P**	**10 05 30.5**	**+1.9**
	SNR=21								
FRU	**Bishkek**	**84.67**	**314**	*e*P		**P**	**10 05 28.0**	**-0.3**
FRU				*i*			10 05 43.0		
AAK	**Ala-Archa**	**84.72**	**313**	P		**P**	**10 05 30.1**	**+1.3**
	SNR=16								
AAK	**Ala-Archa**	**84.72**	**313**	*e*P		**P**	**10 05 29.3**	**+0.5**
	comp=Z,7.0nm,0.6s								
AAK	**Ala-Archa**	**84.72**	**313**	*e*P		**P**	**10 05 29.3**	**+0.5**
AAK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
AAK	**Ala-Archa**	**84.72**	**313**	P		**P**	**10 05 29.6**	**+0.9**
	comp=Z,11nm,0.7s,baz=114,slow=4.3,SNR=20								
DAWY	**Dawson**	**84.78**	**24**	*e*P		**P**	**10 05 29.4**	**+1.0**
	comp=Z,11nm,1.3s								
USP	**Ospenovka**	**84.84**	**314**	P		**P**	**10 05 29.3**	**+0.1**
	SNR=21								
QSPA	**South Pole Qui**	**85.14**	**180**	*e*P		**P**	**10 05 30.3**	**-0.1**
	comp=Z,168nm,1.0s								
AML	**Almayashu**	**85.20**	**313**	P		**P**	**10 05 32.8**	**+1.4**
	SNR=40								
EKS2	**Erkin-Say**	**85.24**	**313**	P		**P**	**10 05 32.6**	**+1.2**
	SNR=16								
MAW	**Mawson**	**85.57**	**203**	P		**P**	**10 05 32.5**	**+0.2**
	comp=Z,30nm,1.0s,baz=68,slow=5.4,SNR=3.9								
ARSB	**Arslanbob**	**85.58**	**312**	*e*P		**P**	**10 05 34.1**	**+1.0**
NRIK	**Noril'sk**	**86.00**	**341**	P		**P**	**10 05 33.5**	**-0.8**
	comp=Z,7.8nm,0.5s,baz=110,slow=3.5,SNR=12								
EPYK	**Eagle Plains**	**86.67**	**22**	*e*P		**P**	**10 05 37.8**	**+0.1**
EPYK	**Eagle Plains**	**86.67**	**22**	P		**P**	**10 05 38.0**	**+0.3**
	baz=250								
KK31	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**10 05 43.4**	**+0.3**
KK31	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**10 05 43.4**	**+0.3**
KKAR	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**10 05 43.4**	**+0.3**
KKAR	**Karatay Array**	**87.68**	**313**	*e*P		**P**	**10 05 43.4**	**+0.3**
INK	**Inuvik**	**88.45**	**21**	*e*P		**P**	**10 05 45.2**	**-1.0**
INK	**Inuvik**	**88.45**	**21**	*e*P		**P**	**10 05 45.2**	**-1.0**
INK	**Inuvik**	**88.45**	**21**	P		**P**	**10 05 44.9**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=276,slow=2.9,SNR=7.4								
BVAR	**Borovoye Array**	**89.29**	**323**	P		**P**	**10 05 49.8**	**-0.6**
	comp=Z,29nm,0.6s,baz=106,slow=5.8,SNR=169								
BRVK	**Borovoye**	**89.36**	**323**	*e*P		**P**	**10 05 50.0**	**-0.7**
BRVK	**Borovoye**	**89.36**	**323**	*d* iP		**P**	**10 05 50.0**	**-0.7**
BRVK				pmax		pmax			
	comp=Z,24nm,0.8s								
NVAR	**Mina Array Bea**	**92.06**	**52**	LR		LR	10 40 04.5		
	comp=Z,210nm,21.1s,baz=310,slow=31								
SYO	**Syowa Base**	**93.67**	**199**	⇑*i*P		**P**	**10 06 09.0**	**-1.4**
YKA	**Yellowknife Ar**	**95.42**	**28**	P		**P**	**10 06 18.1**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=268,slow=4.7,SNR=6.6								
ABKAR	**Akbulak array**	**95.52**	**319**	*e*P		**P**	**10 06 17.8**	**-1.5**
SZCU	**Shurtz Canyon**	**96.13**	**53**	*e*P		**P**	**10 06 26.1**	**+3.4**
ARU	**Arti**	**96.36**	**326**	*e*P		**P**	**10 06 21.3**	**-1.7**
ARU	**Arti**	**96.36**	**326**	P		**P**	**10 06 21.2**	**-1.7**
ARU							10 10 14.6		
ARU				S		**SKSac**	**10 16 53.0**	**-2.3**
ARU				PS		**PS**	**10 18 58.4**	**-7.0**
SRIG	**Santa Rosalia**	**96.54**	**63**	*e*P		**P**	**10 06 24.2**	**-0.3**
AKTO	**Aktyubinsk**	**96.77**	**320**	P		**P**	**10 06 22.9**	**-2.1**
	comp=Z,2.6nm,0.8s,baz=113,slow=5.7,SNR=7.8								
PDAR	**Pinedale Array**	**98.82**	**48**	LR		LR	10 45 15.6		
	comp=Z,122nm,21.2s,baz=316,slow=32								
NVL	**N'lazarevskaya**	**100.25**	**192**	*e*P		**Pdif**	**10 06 35.3**	**-4.9**
NVL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
ANMO	**Albuquerque**	**101.50**	**55**	⇑*e*P		**Pdif**	**10 06 45.3**	**-1.5**
ARCES	**ARCESS Array B**	**106.90**	**343**	PKiKP		**PKiKP**	**10 11 19.4**	**0.0**
	comp=Z,6.0nm,0.9s,baz=95,slow=1.1,SNR=4.2								
FINES	**FINESS Array B**	**111.09**	**336**	Pdiff		**Pdif**	**10 07 27.0**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=86,slow=4.3,SNR=11								
FINES				PKiKP		**PKiKP**	**10 11 25.8**	**-1.6**
	comp=Z,1.9nm,0.9s,baz=28,slow=6.3,SNR=2.9								
AKASG	**Malin Array Be**	**114.54**	**324**	PKP		**PKiKP**	**10 11 33.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=51,slow=2.7,SNR=4.3								
BRTR	**Keskin Array B**	**115.36**	**312**	PKP		**PKiKP**	**10 11 36.0**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=130,slow=5.3,SNR=3.9								
BRTR				PKKPbc		**PKKPbc**	**10 22 11.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=248,slow=5.1,SNR=4.5								
NB2	**NORSAR Subarra**	**116.95**	**340**	PKPdf		**PKPdf**	**10 11 36.8**	**-1.9**
	comp=Z,0.4nm,0.6s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	**116.95**	**340**	PKP		**PKPdf**	**10 11 37.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=46,slow=1.8,SNR=3.9								
N49A	**Columbus Grove**	**117.73**	**46**	P		**PKPdf**	**10 11 40.6**	**-0.1**
	baz=289								
O49A	**Covington**	**117.86**	**47**	P		**PKPdf**	**10 11 40.3**	**-0.7**
	baz=289								
S49A	**Springfield**	**117.88**	**50**	P		**PKPdf**	**10 11 40.6**	**-0.5**
	baz=287								
T49A	**Edmonton**	**117.89**	**50**	P		**PKPdf**	**10 11 40.9**	**-0.3**
	baz=286								
F51A	**Arnstein**	**118.72**	**39**	P		**PKPdf**	**10 11 41.9**	**-0.6**
	baz=295								
BOSA	**Boshof**	**119.66**	**233**	PKP		**PKPdf**	**10 11 44.9**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=227,slow=1.6,SNR=2.7								
PLCA	**Paso Flores**	**119.73**	**143**	PKiKP		**PKiKP**	**10 11 45.0**	**+0.2**
PLCA	**Paso Flores**	**119.73**	**143**	PKP		**PKiKP**	**10 11 45.0**	**+0.2**
	comp=Z,4.0nm,1.1s,baz=274,slow=3.2,SNR=11								
X52A	**Dahlonega**	**119.86**	**53**	P		**PKPdf**	**10 11 45.1**	**0.0**
	baz=286								
ALGO	**Algonquin Park**	**119.88**	**39**	P		**PKPdf**	**10 11 44.2**	**-0.5**
	baz=297								
E53A	**Dumoine, Ponti**	**119.93**	**38**	P		**PKPdf**	**10 11 44.1**	**-0.7**
	baz=298								
N53A	**Lisbon**	**120.15**	**45**	P		**PKPdf**	**10 11 45.3**	**-0.1**
	baz=292								
U53A	**Fall Branch**	**120.38**	**50**	P		**PKPdf**	**10 11 45.4**	**-0.7**
	baz=288								
PEMO	**Pembroke**	**120.51**	**39**	P		**PKPdf**	**10 11 45.2**	**-0.7**
	baz=298								
N54A	**Moraine State**	**120.69**	**45**	P		**PKPdf**	**10 11 46.1**	**-0.3**
	baz=293								
O54A	**Avella**	**120.71**	**46**	P		**PKPdf**	**10 11 46.2**	**-0.3**
	baz=292								
SCHQ	**Schefferville**	**120.78**	**25**	PKP		**PKPdf**	**10 11 46.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=8.1,slow=10,SNR=3.7								
Q54A	**Coxs Mills**	**120.81**	**47**	P		**PKPdf**	**10 11 46.5**	**-0.2**
	baz=291								
G55A	**Calabogie**	**121.03**	**39**	P		**PKPdf**	**10 11 46.6**	**-0.4**
	baz=298								
VYHS	**Vyhne**	**121.53**	**326**	*e*PKiKP		**PKPdf**	**10 11 47.7**	**-0.1**
VYHS	**Vyhne**	**121.53**	**326**	*e*PKP		**PKPdf**	**10 11 47.7**	**-0.1**
LSZ	**Lusaka**	**121.68**	**249**	*e*PKPdf		**PKPdf**	**10 11 49.3**	**+0.1**
LSZ	**Lusaka**	**121.68**	**249**	*e*PKiKP		**PKPdf**	**10 11 49.3**	**+0.1**
BRG	**Berggiesshubel**	**122.71**	**330**	*e*PKP		**PKiKP**	**10 11 50.3**	**+0.1**
	comp=Z,34nm,1.9s								
BRG				*e*			10 12 03.1		
	comp=Z,4.8nm,0.8s								
	comp=N,590nm,18.5s								
	comp=E,582nm,14.1s								
	comp=Z,913nm,21.2s								
BRG	**Berggiesshubel**	**122.71**	**330**	*e*PKiKP		**PKiKP**	**10 11 50.3**	**+0.1**
BRG				*e*			10 12 03.1		
BRG				pmax		pmax			
	comp=Z,34nm,1.9s								
BRG				MLR		MLR			
	comp=N,590nm,18.5s								
BRG				MLR		MLR			
	comp=E,582nm,14.1s								
BRG				MLR		MLR			
	comp=Z,913nm,21.2s								
CLL	**Collm**	**122.89**	**331**	*e*PKPdf		**PKiKP**	**10 11 51.0**	**+0.5**
CLL				*e*			10 12 05.0		
CLL				LmH			11 33 00.0		
	comp=N,500nm,19.9s								
CLL				LmH			11 33 00.0		
	comp=E,200nm,19.8s								
CLL	**Collm**	**122.89**	**331**	*e*PKiKP		**PKiKP**	**10 11 51.0**	**+0.5**
CLL				*e*			10 12 05.0		
CONA	**Conrad Observa**	**123.49**	**327**	*e*PKiKP		**PKPdf**	**10 11 52.0**	**+0.3**
	comp=E,1.6nm,0.6s								
KHC	**Kasperske Hory**	**123.98**	**329**	*e*PKP		**PKiKP**	**10 11 53.0**	**+0.2**
KHC				*ex*		x	10 12 07.7		
KHC	**Kasperske Hory**	**123.98**	**329**	*e*PKiKP		**PKiKP**	**10 11 53.0**	**+0.2**
KHC				*e*			10 12 07.7		
ARSA	**Arzberg**	**124.07**	**326**	PKPdf		**PKPdf**	**10 11 50.6**	**-2.1**
	comp=E,2.8nm,0.7s								
GERES	**GERESS Array B**	**124.10**	**329**	PKP		**PKPdf**	**10 11 53.1**	**+0.3**
	comp=E,1.9nm,0.6s,baz=86,slow=1.7,SNR=11								
GERES				PKKPbc		**PKKPab**	**10 21 38.9**	**+0.9**
	comp=E,0.7nm,0.7s,baz=180,slow=4.0,SNR=4.8								
SOKA	**Soboth**	**124.68**	**326**	*e*PKPdf		**PKPdf**	**10 11 51.4**	**-2.7**
	comp=E,9.9nm,1.7s								
OBKA	**Obir**	**125.05**	**326**	PKPdf		**PKPdf**	**10 11 53.7**	**-1.1**
	comp=E,17nm,1.7s								
KBA	**Koelnbreinsper**	**125.37**	**327**	PKPdf		**PKPdf**	**10 11 52.4**	**-3.1**
	comp=E,5.4nm,1.3s								
ABTA	**Abfaltersbach**	**126.03**	**327**	*i* PKPdf		**PKPdf**	**10 11 56.4**	**-0.2**
	comp=E,9.0nm,1.2s								
WTTA	**Wattenberg**	**126.17**	**328**	*i* PKiKP		**PKPdf**	**10 11 56.9**	**-0.1**
	comp=E,6.5nm,0.7s								
MOTA	**Moosalm**	**126.40**	**328**	*i* PKiKP		**PKPdf**	**10 11 57.6**	**+0.2**
	comp=E,3.6nm,0.5s								
SQTA	**Sankt Quirin**	**126.42**	**328**	*i* PKPdf		**PKPdf**	**10 11 56.4**	**-1.0**
	comp=E,9.7nm,1.3s								
FETA	**Feichten**	**126.80**	**328**	*i* PKPdf		**PKPdf**	**10 11 56.2**	**-2.0**
	comp=E,8.9nm,1.0s								
DAVA	**Damuels**	**127.07**	**329**	*e*PKPdf		**PKPdf**	**10 11 58.1**	**-0.6**
	comp=E,11nm,1.4s								
LPAZ	**La Paz**	**134.36**	**118**	PKP		**PKiKP**	**10 12 14.8**	**-0.4**
	comp=E,4.2nm,0.8s,baz=249,slow=3.8,SNR=17								
LPAZ				SKPab		**SKPab**	**10 15 42.2**	**-0.5**
	comp=E,5.7nm,0.8s,baz=244,slow=5.8,SNR=13								
SDV	**Santo Domingo**	**136.66**	**82**	*e*PKPdf		**PKPdf**	**10 12 17.6**	**-0.1**
CPUP	**Villa Florida**	**137.41**	**138**	PKP		**PKPdf**	**10 12 18.1**	**-0.4**
	comp=E,1.9nm,0.6s,baz=142,slow=3.1,SNR=4.9								
CPUP				SKP			10 15 50.6		
	comp=E,2.9nm,1.0s,baz=36,slow=9.0,SNR=3.9								
TORD	**Torodi Ar. Bea**	**150.36**	**288**	PKPbc		**PKPbc**	**10 12 45.1**	**-1.5**
	comp=E,50nm,0.8s,baz=7.4,slow=1.9,SNR=57								
BDFB	**Brasilia**	**151.01**	**135**	PKP		**PKPdf**	**10 12 43.1**	**+0.6**
	comp=E,4.3nm,0.9s,baz=20,slow=2.6,SNR=4.5								
BDFB				PKPbc		**PKPbc**	**10 12 48.6**	**+0.4**
	comp=E,42nm,0.8s,baz=230,slow=1.7,SNR=47								
KIC	**Kosan Boka**	**157.65**	**275**	*e*PKP2		**PKPab**	**10 13 23.7**	**-0.4**
	comp=E,34nm,0.9s								
DBIC	**Dimbokro**	**157.75**	**276**	PKPab		**PKPab**	**10 13 24.6**	**+0.1**
	comp=E,10nm,1.0s,baz=70,slow=5.8,SNR=8.2								
TIC	**Toumodi**	**157.91**	**276**	*e*PKP2		**PKPab**	**10 13 24.9**	**-0.3**
LIC	**Lamto**	**157.94**	**275**	*e*PKP2		**PKPab**	**10 13 25.0**	**-0.3**
	comp=E,52nm,1.3s								

DDA ***06*** *09:57:12.5, 39.80N×30.23E, h7km±4km, ML2.7*
ISK 06 09:57:12.6, 39.81N×30.04E, h16km, ML1.9/5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BORA	**Eskisehir**	**0.33**	**78**	*i* P		Pg	09 57 15.9	-3.6
BORA				*i* S		Sg	09 57 19.9	-4.4
BORA				IAML_P				
	comp=Z,14μm,0.1s							
CAVI	**Cavuskoy**	**0.42**	**339**	PG		Pg	09 57 21.3	+0.2
CAVI				SG		Sb	09 57 28.1	+0.4
TVSB	**Tavsanli**	**0.57**	**231**	PG		Pb	09 57 24.2	-0.1
TVSB				SG		Sb	09 57 33.1	+0.8
AUKIR	**Kırka- Seyitga**	**0.66**	**144**	*i* P		Pg	09 57 24.0	-1.5
GULT	**Gulveren**	**0.72**	**30**	PG		Pb	09 57 27.0	+0.2
GULT				SG		Sb	09 57 37.6	+1.2
YLV	**Yalova**	**0.91**	**326**	PG		Pg	09 57 30.5	+0.2
AUMIH	**MIHALICIK**	**1.11**	**87**	*i* P		Pb	09 57 31.4	-2.2
AUMIH				*i* S		Sb	09 57 46.4	-1.4
ARMT	**Armutlu**	**1.17**	**310**	PN		Pb	09 57 34.8	+0.3

IDC 06 10:13:17.3±1.2, 16.83N×146.23E, h0km, mb3.5/5, mb1 3.8/5, mb1mx3.5/37, mbtmp3.5/5, Error ellipse: s-maj=38.7km s-min=26.7km az=121.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.37**	**198**	P		P	10 20 40.3	-0.1
	0.5nm,0.8s,baz=27,slow=8.6,SNR=3.3							
CMAR	**Chiang Mai Arr**	**44.99**	**279**	P		P	10 21 34.8	-0.1
	1.3nm,0.3s,baz=72,slow=6.4,SNR=12							
MKAR	**Makanchi Array**	**60.12**	**315**	P		P	10 23 26.4	-0.2
	0.1nm,0.3s,baz=97,slow=6.0,SNR=2.4							
ILAR	**Eielson Array**	**65.09**	**26**	P		P	10 23 60.0	+0.5
	0.2nm,0.6s,baz=242,slow=4.9,SNR=3.8							
YKA	**Yellowknife Ar**	**79.39**	**28**	P		P	10 25 24.5	-0.5
	0.2nm,0.6s,baz=291,slow=5.5,SNR=3.6							

SOME ***06*** *10:30:14.8, 42.92N×77.02E, h10km*
**NNC 06 10:30:14.0±0.4, 42.89N×77.09E, h0km, mb2.1, mpv2.0, 5C-1D, Error ellipse: s-maj=2.5km s-min=

ABPO Ambohimpanom 25.13 17 *e*P **P** **10 36 17.9 -2.1**
ABPO pmax pmax
comp=Z,202nm,2.0s
OPO Ambohidratompo 25.55 16 P **P** **10 36 22.8 -1.0**
comp=Z,44nm,1.2s,baz=198,slow=8.0,SNR=12
OPO LR LR 10 45 06.4
comp=Z,5µm,18.9s,baz=186,slow=34
SYO Syowa Base 25.62 180⇑ *e*P **P** **10 36 24.6 +0.8**
RER Riviere de l'E 25.86 36 *e*P **P** **10 36 26.8 +0.3**
comp=Z,99nm,1.1s
MAW Mawson 27.14 161 *e*P **P** **10 36 35.5 -2.0**
comp=Z,73nm,1.9s
MAW Mawson 27.14 161 *e*P **P** **10 36 35.5 -2.0**
MAW pmax pmax
comp=Z,73nm,1.9s
MAW Mawson 27.14 161 LR LR 10 44 48.2
comp=Z,3µm,21.3s,baz=334,slow=31
LSZ Lusaka 29.81 337 *e*P **P** **10 37 01.4 -0.5**
comp=Z,41nm,1.1s
LSZ Lusaka 29.81 337 *e*P **P** **10 37 01.4 -0.5**
LSZ pmax pmax
comp=Z,41nm,1.1s
LSZ Lusaka 29.81 337 P **P** **10 37 02.6 +0.7**
SNR=17
LSZ P **P** **10 37 02.6 +0.7**
SNR=17
LSZ Lusaka 29.81 337 P **P** **10 37 01.6 -0.3**
comp=Z,11nm,0.9s,baz=168,slow=9.5,SNR=12
LSZ LR LR 10 47 43.6
comp=Z,2µm,20.0s,baz=164,slow=34
TSUM Tsumeb 30.60 315 *e*P **P** **10 37 08.4 -0.5**
comp=Z,20nm,1.2s
NVL N'lazarevskaya 30.74 198 *e*P **P** **10 37 09.9 +0.4**
NVL *e*S **S** **10 42 15.9 +3.8**
NVL pmax pmax
comp=Z,8.0nm,0.9s
SNAA Sanae 34.98 202 P **P** **10 37 48.1 +1.4**
SNAA Sanae 34.98 202 *e*P **P** **10 37 47.4 +0.7**
comp=Z,48nm,1.7s
SNAA Sanae 34.98 202⇑ *i*P **P** **10 37 47.6 +0.9**
SNAA Sanae 34.98 202 P **P** **10 37 46.6 -0.1**
comp=Z,4.0nm,0.8s,baz=89,slow=8.3,SNR=6.4
SNAA LR LR 10 50 24.1
comp=Z,2µm,18.2s,baz=70,slow=33
VNA2 Neumayer--Watz 35.95 204 P **P** **10 37 56.1 +1.2**
baz=48,slow=6.9
VNA3 Neumayer Olymp 36.75 204 P **P** **10 38 02.9 +1.1**
KMBO Kilima Mbogo 42.20 356 *e*P **P** **10 38 47.4 -0.6**
comp=Z,48nm,1.8s
KMBO Kilima Mbogo 42.20 356 *e*P **P** **10 38 47.4 -0.6**
KMBO pmax pmax
comp=Z,48nm,1.8s
KMBO Kilima Mbogo 42.20 356 P **P** **10 38 49.5 +1.5**
SNR=9.0
KMBO P **P** **10 38 49.5 +1.5**
SNR=9.0
KMBO Kilima Mbogo 42.20 356 P **P** **10 38 47.4 -0.6**
comp=Z,2.3nm,0.9s,baz=196,slow=9.0,SNR=7.7
KMBO LR LR 10 54 05.9
comp=Z,4µm,20.5s,baz=124,slow=33
QSPA South Pole Qui 46.76 180 *e*P **P** **10 39 23.4 -0.5**
comp=Z,103nm,1.6s
QSPA South Pole Qui 46.76 180 P **P** **10 39 23.4 -0.5**
comp=Z,12nm,0.7s,baz=251,slow=3.8,SNR=34
QSPA LR LR 10 56 59.8
comp=Z,2µm,21.9s,baz=257,slow=34
VNDA Vanda 54.20 167 *e*P **P** **10 40 19.4 -0.2**
comp=Z,26nm,1.4s
VNDA Vanda 54.20 167 *e*P **P** **10 40 19.5 -0.2**
VNDA pmax pmax
comp=Z,26nm,1.4s
VNDA Vanda 54.20 167 P **P** **10 40 18.8 -0.8**
comp=Z,4.8nm,1.1s,baz=237,slow=7.2,SNR=6.5
VNDA LR LR 11 01 15.9
comp=Z,897nm,21.4s,baz=232,slow=34
SBA Scott Base 54.75 168 *e*P **P** **10 40 21.9 -1.8**
comp=Z,141nm,1.6s
SBA Scott Base 54.75 168 *e*P **P** **10 40 21.9 -1.8**
SBA pmax pmax
comp=Z,141nm,1.6s
H01W2 Cape Leeuwin H 56.43 108 T T 11 41 39.7
baz=238,slow=75,SNR=16
H01W3 Cape Leeuwin H 56.44 108 T T 11 41 40.4
baz=238,slow=75,SNR=17
H01W1 Cape Leeuwin H 56.45 108 T T 11 41 40.9
baz=238,slow=75,SNR=14
H10S2 ASCENSION HYDR 58.44 289 T T 11 44 23.9
baz=137,slow=75,SNR=6.6
H10S1 ASCENSION HYDR 58.45 289 T T 11 44 20.1
baz=137,slow=75,SNR=6.9
H10S3 ASCENSION HYDR 58.46 289 T T 11 44 26.0
baz=137,slow=75,SNR=6.0
NWAO Narrogin (SRO) 59.67 108 LR LR 11 02 14.5
comp=Z,404nm,18.9s,baz=96,slow=32
EFI East Falkland 61.75 224⇓ *e*P **P** **10 41 15.2 +2.3**
EFI pmax pmax
comp=Z,92nm,1.6s
KIC Kosan Boka 63.92 309 *e*PKP2 **P** **10 41 29.1 +1.2**
comp=Z,135nm,1.8s
LIC Lamto 63.97 309 *e*PKP2 **P** **10 41 29.5 +1.3**
comp=Z,100nm,1.8s
DBIC Dimbokro 64.24 309 *e*P **P** **10 41 30.0 +0.1**
comp=Z,42nm,1.4s
DBIC Dimbokro 64.24 309 *e*P **P** **10 41 30.0 +0.1**
DBIC pmax pmax
comp=Z,42nm,1.4s
DBIC Dimbokro 64.24 309 P **P** **10 41 29.8 -0.1**
comp=Z,6.7nm,0.8s,baz=128,slow=8.8,SNR=9.5
TIC Toumodi 64.31 309 *e*PKP2 **P** **10 41 30.7 +0.3**
MHTO MHTO 66.23 18 P **P** **10 41 42.4 -0.3**
SNR=30
MHTO P **P** **10 41 42.4 -0.3**
SNR=30
TOA0 Torodi Ar. Sit 66.26 319 *e*P **P** **10 41 43.6 +0.6**
TOA0 Torodi Ar. Sit 66.26 319 P **P** **10 41 43.8 +0.8**
SNR=7.4
TORD Torodi Ar. Bea 66.26 319 P **P** **10 41 42.1 -0.9**
comp=Z,8.1nm,0.9s,baz=150,slow=3.8,SNR=30
TORD LR LR 11 09 35.2
comp=Z,1µm,19.4s,baz=355,slow=35
RAYN Ar Rayn 66.84 6 *e*P **P** **10 41 46.8 +0.2**
comp=Z,62nm,1.6s
RAYN Ar Rayn 66.84 6 *e*P **P** **10 41 46.8 +0.2**
RAYN pmax pmax
comp=Z,62nm,1.6s
JLN Jalan Bani Buh 67.70 20 P **P** **10 41 53.0 +1.1**
SNR=6.6
MDSI Maura Dua 68.39 75 P **P** **10 41 58.0 +1.4**
comp=Z,14nm,1.0s
LHSI Lahat 68.39 74 P P 10 42 04.3 +7.7
LEM Lembang 69.20 79 LR LR 11 06 37.3
comp=Z,412nm,19.0s,baz=228,slow=31
PSI Prapat 70.06 66 *e*P **P** **10 42 06.2 -0.9**
comp=Z,24nm,1.1s
PSI Prapat 70.06 66 *e*P **P** **10 42 06.2 -0.9**
PSI pmax pmax
comp=Z,25nm,1.1s
PSI Prapat 70.06 66 LR LR 11 04 59.2
comp=Z,237nm,20.8s,baz=262,slow=29
HYB Hyderabad 70.18 39 *i* P **P** **10 42 07.5 -0.1**
BBOO Buckleboo 72.32 119 *e*P **P** **10 42 18.0 -2.5**
comp=Z,22nm,1.2s
KULM Kulim 73.05 65 *e*P **P** **10 42 26.5 +1.5**
comp=Z,55nm,1.3s
FITZ Fitzroy Crossi 74.75 101 *e*P **P** **10 42 32.7 -2.3**
comp=Z,18nm,1.0s
FITZ Fitzroy Crossi 74.75 101 LR LR 11 11 32.5
comp=Z,261nm,18.7s,baz=243,slow=33
TOO Toolangi 74.90 128 *e*P **P** **10 42 35.0 -0.6**
comp=Z,32nm,1.6s
TOO Toolangi 74.90 128 *e*P **P** **10 42 35.0 -0.6**
TOO pmax pmax
comp=Z,33nm,1.6s
PLCA Paso Flores 75.40 227 *e*P **P** **10 42 38.2 -0.3**
comp=Z,34nm,1.4s
PLCA Paso Flores 75.40 227 *e*P **P** **10 42 38.2 -0.3**
PLCA pmax pmax
comp=Z,34nm,1.4s
PLCA Paso Flores 75.40 227 P **P** **10 42 37.5 -1.0**
comp=Z,5.6nm,1.0s,baz=154,slow=5.0,SNR=5.1
STKA Stephens Creek 76.44 121 *e*P **P** **10 42 42.7 -1.8**
comp=Z,5.2nm,1.4s
STKA Stephens Creek 76.44 121 *e*P **P** **10 42 42.7 -1.8**
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA Stephens Creek 76.44 121 P **P** **10 42 42.5 -2.0**
comp=Z,5.5nm,1.0s,baz=194,slow=4.6,SNR=11

ASAR Alice Springs 76.89 110 P **P** **10 42 45.8 -1.4**
comp=Z,2.9nm,0.9s,baz=221,slow=4.7,SNR=15
ASAR LR LR 11 11 02.5
comp=Z,397nm,19.6s,baz=227,slow=31
AS01 Alice Springs 76.92 110 *e*P **P** **10 42 45.4 -2.0**
CPUP Villa Florida 77.29 246 *e*P **P** **10 42 48.9 -0.5**
comp=Z,15nm,1.3s
CPUP Villa Florida 77.29 246 *e*P **P** **10 42 48.9 -0.5**
CPUP pmax pmax
comp=Z,15nm,1.3s
CPUP Villa Florida 77.29 246 P **P** **10 42 48.6 -0.7**
comp=Z,1.7nm,0.6s,baz=138,slow=6.6,SNR=5.1
BDFB Brasilia 77.93 260 P **P** **10 42 52.6 -0.6**
comp=Z,1.3nm,0.4s,baz=116,slow=5.4,SNR=2.2
SBUM Sibu 78.94 76 *e*P **P** **10 43 00.5 +1.9**
WRA Warramunga Arr 79.67 108 P **P** **10 43 01.1 -1.6**
comp=Z,5.2nm,1.0s,baz=221,slow=4.6,SNR=18
WB2 Warramunga Arr 79.68 108 *e*P **P** **10 43 01.6 -1.1**
WRAB Tennant Creek 79.68 108 *e*P **P** **10 43 01.8 -0.9**
comp=Z,40nm,1.4s
WRAB Tennant Creek 79.68 108⇓ *e*P **P** **10 43 02.9 +0.2**
WRAB pmax pmax
comp=Z,32nm,1.5s
BRDH Bariadhala 81.15 47 LR LR 11 12 45.2
comp=Z,878nm,21.5s,baz=246,slow=31
CMAR Chiang Mai Arr 81.96 55 P **P** **10 43 12.9 -1.8**
comp=Z,1.8nm,0.3s,baz=225,slow=5.9,SNR=13
CMAR LR LR 11 16 03.4
comp=Z,436nm,18.0s,baz=219,slow=33
CHTO Chiang Mai 82.23 55 *e*P **P** **10 43 15.8 -0.3**
comp=Z,13nm,1.2s
CHTO Chiang Mai 82.23 55 *e*P **P** **10 43 15.8 -0.3**
CHTO pmax pmax
comp=Z,13nm,1.2s
GEYT Alibeck 82.67 14 P **P** **10 43 16.4 -1.6**
comp=Z,3.9nm,1.0s,baz=243,slow=6.3,SNR=3.3
GEYT LR LR 11 16 27.6
comp=Z,545nm,21.6s,baz=200,slow=33
RPZ Rata Peaks 82.86 147 LR LR 11 14 02.1
comp=Z,722nm,18.7s,baz=134,slow=31
BRTR Keskin Array B 82.99 355 P **P** **10 43 18.7 -1.0**
comp=Z,2.2nm,0.9s,baz=176,slow=7.4,SNR=10
BR131 Keskin Array S 82.99 355 *e*P **P** **10 43 18.8 -1.0**
SHL Shillong 83.63 46 *e*P **P** **10 43 22.3 -1.1**
SHL Shillong 83.63 46 *e*P **P** **10 43 22.3 -1.1**
ILGA Ilgaz 84.30 355 *e*P **P** **10 43 26.1 -0.5**
NCK Nalchik 86.62 3⇑ *e*P **P** **10 43 37.8 0.0**
NCK pmax pmax
comp=Z,30nm,0.5s
LSA Lhasa 86.63 43 *e*P **P** **10 43 37.2 -1.5**
comp=Z,42nm,1.1s
LSA Lhasa 86.63 43 *e*P **P** **10 43 37.2 -1.5**
LSA pmax pmax
comp=Z,43nm,1.1s
KIV Kislovodsk 87.06 2 *e*P **P** **10 43 39.8 -0.2**
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,494nm,20.0s
KSH Kashi 88.79 27 *e*P **P** **10 43 50.1 +1.7**
KSH PP **PP** **10 47 20.4 +2.3**
KSH S **S** **10 54 36.3 +0.7**
KSH pmax pmax
comp=Z,160nm,5.4s
KSH LR LR
comp=Z,170nm,8.4s
KSH LR LR
comp=Z,140nm,8.0s
KSH LR LR
comp=Z,390nm,13.3s
QIZ Qiongzhong 89.19 63 P **P** **10 43 52.0 +1.4**
QIZ S **S** **10 54 43.8 +3.9**
QIZ LR LR
comp=Z,340nm,9.4s
QIZ LR LR
comp=Z,250nm,15.9s
QIZ LR LR
comp=Z,450nm,21.7s
KMI Kunming 89.31 54 P **P** **10 43 52.9 +1.5**
KMI pmax pmax
comp=Z,15nm,0.8s
KMI pmax pmax
comp=Z,110nm,4.0s
MLR Muntele Rosu 89.42 350 *e*P **P** **10 43 50.4 -0.8**
MLR Muntele Rosu 89.42 350 *e*P **P** **10 43 50.4 -0.8**
MLR Muntele Rosu 89.42 350 P **P** **10 43 49.6 -1.6**
comp=Z,2.3nm,0.8s,baz=135,slow=2.9
KK31 Karatay Array 90.43 22 *e*P **P** **10 43 54.9 -1.0**
KK31 Karatay Array 90.43 22 *e*P **P** **10 43 54.9 -1.0**
KKAR Karatay Array 90.43 22 *e*P **P** **10 43 55.2 -0.7**
KKAR Karatay Array 90.43 22 *e*P **P** **10 43 55.2 -0.7**
AAK Ala-Archa 91.15 25⇑ *e*P **P** **10 44 01.1 +1.7**
AAK pmax pmax
comp=Z,12nm,2.6s
FRU Bishkek 91.37 25 *e*P **P** **10 43 57.0 -3.3**
FRU *e* 10 44 00.0
ESDC Sonseca Array 91.75 328 P **P** **10 44 01.6 -0.5**
comp=Z,0.1nm,0.2s,baz=137,slow=3.5,SNR=3.4
GYA Guiyang 92.64 56 P **P** **10 44 08.2 +1.5**
GYA PP **PP** **10 47 52.5 +3.7**
GYA SKS **SKSac** **10 54 40.4 0.0**
GYA S **S** **10 55 11.0 -0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.9s
VYHS Vyhne 93.42 346 *e*P P 10 44 15.1 +5.5
VYHS Vyhne 93.42 346 *es*P P 10 44 15.1 +5.5
AKASG Malin Array Be 94.23 353 LR LR 11 30 28.9
comp=Z,250nm,18.0s,baz=185,slow=38
CD2 Chengdu 94.27 51 *e*P **P** **10 44 14.7 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,1µm,19.4s
CD2 LR LR
comp=Z,780nm,22.2s
CD2 LR LR
comp=Z,1µm,21.8s
VSR Storozhevoye 94.29 360⇓ *e*P **P** **10 44 12.8 -0.6**
VSR pmax pmax
comp=Z,4.0nm,1.0s
TREC Trest 94.81 344 AMS AMS 11 26 40.0
comp=Z,900nm,20.4s
GOPC GO Pecny, Ondr 95.54 344 AMS AMS 11 27 30.0
comp=Z,1µm,22.8s
PRU Pruhonice 95.66 344 AMS AMS 11 27 20.0
comp=Z,900nm,18.9s
WMQ Urumqi 96.82 33 *e*P **P** **10 44 26.4 +1.1**
WMQ LR LR
comp=Z,940nm,29.7s
WMQ LR LR
comp=Z,690nm,23.5s
WMQ LR LR
comp=Z,1µm,31.1s
MK01 Makanchi Array 97.36 28 *e*P **P** **10 44 26.6 -1.1**
MKAR Makanchi Array 97.37 28 P **P** **10 44 25.8 -1.9**
comp=Z,0.8nm,0.9s,baz=223,slow=7.8,SNR=4.9
OBN Obninsk 98.23 358 *i* P Pdif 10 44 32.1 +0.8
OBN pmax pmax
comp=Z,8.0nm,0.5s
GTA Gaotai 98.66 43 *e*P Pdif 10 44 35.0 +1.2
GTA pP pwP 10 44 42.6 +3.5
GTA sP sP 10 44 45.6 +8.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,54nm,5.9s
GTA LR LR
comp=Z,330nm,20.0s
GTA LR LR
comp=Z,310nm,22.2s
GTA LR LR
comp=Z,550nm,20.6s
BRVK Borovoye 99.62 18⇓ *e*P **Pdif** **10 44 40.9 +3.3**
BRVK pmax pmax
comp=Z,7.0nm,1.9s
ARU Arti 100.75 10⇓ *e*P **Pdif** **10 44 42.9 +0.4**
ARU pmax pmax
comp=Z,13nm,2.0s
VSU Vasula 102.14 353⇑ *e*P **Pdif** **10 44 48.2 -0.4**
VSU pmax pmax
comp=Z,47nm,1.1s
HHC Hu-ho-hao-te 105.83 48 Pdif **Pdif** **10 45 08.4 +2.8**

HHC PP **PP** **10 49 29.9 +0.7**
HHC S **Sdif** **10 57 05.6 +2.8**
HHC SS **SS** **11 04 31.8 +3.1**
HHC AMB AMB
comp=Z,69nm,6.3s
HHC LR LR
comp=Z,320nm,19.2s
HHC LR LR
comp=Z,310nm,18.8s
HHC LR LR
comp=Z,310nm,18.2s
SONM Songino Array 108.10 41 PP **PP** **10 49 47.1 +1.4**
comp=Z,0.3nm,0.8s,baz=235,slow=5.1,SNR=3.7
PPT2 Papeete2 118.64 170 *e*SP SP 11 00 40.4 -5.2
comp=Z,382nm,26.0s
PPT2 *e*SS **SS** **11 07 20.5 +3.9**
comp=Z,698nm,28.8s
PPT2 Papeete2 118.64 170 *e*LR LR 11 25 56.0
comp=Z,2µm,29.2s,baz=192
KLR Kul'dur 122.20 51⇑ *i*PKIKP **PKiKP** **10 49 49.3 +0.2**
YSS Yuzh-Sakhalins 127.61 57 *e*PKIKP **PKiKP** **10 50 00.4 +0.5**
TAOE Nuku Hiva Isla 127.95 180 *e*LR LR 11 30 15.3
comp=Z,1µm,23.5s
TIXI Tiksi 130.23 25⇓ *i*PKIKP **PKiKP** **10 50 05.0 +0.6**
MA2 Magadan 136.21 43⇓ *e*PKIKP **PKPdf** **10 50 14.4 -0.8**
SEY Seymchan 137.46 39⇓ *e*PKIKP **PKPdf** **10 50 17.5 +0.1**
S42A Caledonia 142.59 279 P **PKPdf** **10 50 25.3 -2.3**
baz=115
U41A Viola 142.79 276 P **PKPdf** **10 50 28.1 +0.1**
baz=116
RES Resolute Bay 142.84 342 PKP **PKPdf** **10 50 24.3 -2.6**
comp=Z,1.1nm,0.9s,baz=72,slow=2.7,SNR=3.1
BILL Bilibino 142.88 30⇓ *e*PKIKP **PKPdf** **10 50 25.5 -1.6**
I42A Draeger Farm, 143.46 289 P **PKPdf** **10 50 30.5 +1.6**
baz=108
U40A Yellville 143.47 275 P **PKPdf** **10 50 30.9 +1.7**
baz=116
JFWS Jewell Farm 144.09 287 P **PKPdf** **10 50 29.6 -0.4**
baz=108
I41A Arkdle 144.17 289 P PKPbc 10 50 28.9 +0.6
baz=107
435B Jarrell 144.19 264 P PKPbc 10 50 29.0 +0.3
baz=123
WHTX Lake Whitney, 144.74 266 P PKPbc 10 50 30.7 +0.2
baz=122
L39A Vinton 145.06 285 P **PKPdf** **10 50 32.7 +0.9**
baz=109
J39A Decorah 145.23 287 P **PKPbc** **10 50 31.6 -0.1**
baz=107
JCT Junction City 145.63 261 P **PKPdf** **10 50 32.9 -0.2**
baz=124
WMOK Wichita Mounta 147.05 269 P **PKPdf** **10 50 36.1 +0.6**
baz=118
TXAR Lajitas Array 147.74 256 PKPbc **PKPdf** **10 50 36.9 +0.1**
comp=Z,3.9nm,0.9s,baz=134,slow=5.4,SNR=22
ECSD EROS Data Cent 148.77 286 P **PKPbc** **10 50 41.8 0.0**
baz=105
AGMN Agassiz Nation 149.15 295 P **PKPbc** **10 50 43.0 +0.4**
baz=98
ULM Lac du Bonnet 149.37 299 PKPbc **PKPdf** **10 50 40.3 +1.7**
comp=Z,4.8nm,0.8s,baz=96,slow=2.5,SNR=9.9
MSTX Muleshoe 149.59 265 P **PKPbc** **10 50 43.9 -0.3**
baz=119
MNTX Cornudas Mount 150.29 258 P **PKPdf** **10 50 41.6 +0.9**
baz=123
SUSD Miller 150.58 286 P **PKiKP** **10 50 47.1 +0.2**
baz=103
ANMO Albuquerque 152.73 263⇑ *e*PKIKP **PKPbc** **10 50 48.3 -3.4**
ANMO *i* 10 50 52.8
TOLK Toolik Lake Re 154.26 8 P **PKiKP** **10 50 54.7 +0.9**
baz=344
TUC Tucson 154.45 254 P **PKPdf** **10 50 47.9 +0.9**
baz=124
INK Inuvik 154.84 354 PKP **PKPdf** **10 50 46.5 +0.2**
comp=Z,1.0nm,0.9s,baz=50,slow=4.1,SNR=3.1
YKA Yellowknife Ar 155.80 331 PKP **PKPdf** **10 50 45.2 -2.5**
comp=Z,0.2nm,0.7s,baz=62,slow=2.2,SNR=3.7
PDAR Pinedale Array 157.75 279 PKP **PKPdf** **10 50 50.1 -1.1**
comp=Z,0.2nm,0.7s,baz=104,slow=3.8,SNR=2.4
NVAR Mina Array Bea 162.80 260 PKPab **PKPab** **10 51 46.8 +0.8**
comp=Z,0.7nm,0.6s,baz=167,slow=4.5,SNR=2.3

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*ISCJB **06** 10:45:05.1±0.6,43°.3S±0°.1×40°.2E±0°.2,h10km,mb4.0/10, Error ellipse: s-maj=23.1km s-min=9.6km az=38.9*
*IDC **06** 10:45:05.5±0.8,43°.34S×40°.19E,h0km,mb4.0/7, mb1 4.0/9,mb1mx3.8/51,mbtmp4.0/9,ML3.8/2,Error ellipse: s-maj=40.2km s-min=17.5km az=49.0*
*NEIC **06** 10:45:07.0±0.4,43°.33S×40°.23E,h10km,mb4.0/3,Error ellipse: s-maj=15.8km s-min=6.9km az=218.0*
ISC 06 10:45:06.8±0.7,43°.4S±0°.2×40°.2E±0°.1,h10km,n22, σ0s57/23,mb4.0/10,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**8.84**	**114**	*e*Pn		**Pn 10 47 14.1**	**-0.5**
SUR	**Sutherland** 15nm,1.0s	**18.77**	**299**	*e*P		**Pn 10 49 27.4**	**+0.8**
SUR	**Sutherland** 0.3nm,0.3s,baz=92,slow=21,SNR=4.7	**18.77**	**299**	P		**P 10 49 26.2**	**-0.1**
BOSA	**Boshof**	**18.99**	**316**	*e*P		**P 10 49 28.0**	**-0.6**
BOSA	**Boshof** 0.3nm,0.3s,baz=154,slow=12,SNR=5.0	**18.99**	**316**	P		**P 10 49 27.8**	**-0.9**
MATP	**Matopo** 2.5nm,0.7s,baz=189,slow=12,SNR=5.1	**24.88**	**333**	P		**P 10 50 29.5**	**-0.3**
MRIV	**Mauritius Mete** 49nm,1.6s	**27.19**	**38**	*e*P		**P 10 50 51.0**	**+0.3**
LSZ	**Lusaka**	**29.81**	**336**	*e*P		**P 10 51 14.0**	**-0.1**
LSZ				*ep*P		**P 10 51 14.1**	**0.0**
LSZ	**Lusaka** 0.8nm,0.3s,baz=169,slow=7.9,SNR=4.1	**29.81**	**336**	P		**P 10 51 13.7**	**-0.4**
QSPA	**South Pole Qui**	**46.85**	**180**	*e*P		**P 10 53 36.8**	**+0.1**
QSPA	**South Pole Qui** 5.7nm,1.2s,baz=262,slow=1.8,SNR=12	**46.85**	**180**	P		**P 10 53 36.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**66.33**	**319**	*e*P		**P 10 55 55.0**	**-0.7**
TORD	**Torodi Ar. Bea** 1.5nm,0.7s,baz=150,slow=9.4,SNR=7.0	**66.33**	**319**	P		**P 10 55 56.4**	**+0.8**
TOA1	**Torodi Ar. Sit**	**66.33**	**319**	*e*P		**P 10 55 56.4**	**+0.7**
STKA	**Stephens Creek** 0.9nm,1.3s	**76.31**	**121**	*e*P		**P 10 56 56.6**	**+0.6**
STKA	**Stephens Creek** 1.5nm,0.7s,baz=220,slow=7.9,SNR=3.7	**76.31**	**121**	P		**P 10 56 57.0**	**+1.0**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=223,slow=5.4,SNR=3.1	**76.72**	**110**	P		**P 10 56 58.7**	**+0.2**
AS31	**Alice Springs** 2.2nm,1.5s	**76.73**	**110**	*e*P		**P 10 56 57.9**	**-0.6**
WR1	**Warramunga Arr** 25nm,1.6s	**79.50**	**107**	*e*P		**P 10 57 14.1**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=224,slow=3.9,SNR=5.3	**79.50**	**107**	P		**P 10 57 14.1**	**+0.2**
TXAR	**Lajitas Array** 0.7nm,0.8s,baz=124,slow=4.2,SNR=4.2	**147.96**	**256**	PKPbc	**PKiKP**	**11 04 53.6**	**-0.6**
ULM	**Lac du Bonnet** 0.8nm,0.6s,baz=129,slow=6.5,SNR=2.6	**149.50**	**299**	PKPbc	**PKPbc**	**11 04 55.0**	**-0.5**

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*ISCJB **06** 10:49:30.2±0.5,43°.2S±0°.1×40°.5E±0°.1,h10km,mb4.1/15, MS4.3/2, Error ellipse: s-maj=17.1km s-min=11.5km az=38.0*
*IDC **06** 10:49:30.2±0.6,43°.23S×40°.54E,h0km,mb4.1/11, mb1 4.2/12,mb1mx3.9/50,mbtmp4.1/12,MS4.3/2, Ms1 4.3/2,ms1mx3.5/39,Error ellipse: s-maj=25.8km s-min=17.1km az=42.0*
*NEIC **06** 10:49:31.7±0.3,43°.22S×40°.54E,h10km,mb4.4/7,Error ellipse: s-maj=13.2km s-min=9.1km az=217.0*
ISC 06 10:49:31.6±0.6,43°.2S±0°.1×40°.6E±0°.1,h10km,n29, σ0s77/28,mb4.3/15,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland** 36nm,1.5s	**18.95**	**298**	*e*P		**P 10 53 52.1**	**-1.0**
SUR	**Sutherland** baz=135,slow=17,SNR=2.7	**18.95**	**298**	P		**P 10 53 52.7**	**-0.4**
MATP	**Matopo** 1.9nm,0.7s,baz=121,slow=12,SNR=3.5	**24.89**	**332**	P		**P 10 54 54.9**	**+0.1**
RER	**Riviere de l'E** 101nm,1.2s	**25.41**	**35**	*e*P		**P 10 54 59.1**	**-0.2**
LSZ	**Lusaka**	**29.81**	**335**	*e*P		**P 10 55 39.4**	**+0.5**
LSZ				*ep*P		**P 10 55 39.5**	**+0.6**
LSZ	**Lusaka** 2.4nm,0.8s,baz=27,slow=6.8,SNR=2.1	**29.81**	**335**	P		**P 10 55 38.5**	**-0.4**
QSPA	**South Pole Qui**	**46.97**	**180**	*e*P		**P 10 58 02.1**	**-0.5**
QSPA	**South Pole Qui** 3.9nm,0.9s,baz=235,slow=5.3,SNR=8.0	**46.97**	**180**	P		**P 10 58 01.4**	**-1.1**

QSPA				LR	LR	11 16 43.6	
	comp=Z,221nm,20.0s,baz=254,slow=35						
DBIC	**Dimbokro**	**64.48 308**	*eP*	**P**		**11 00 08.9**	**+0.3**
	15nm,1.5s						
DBIC	**Dimbokro**	**64.48 308**	P	**P**		**11 00 09.5**	**+0.9**
	3.5nm,1.0s,baz=133,slow=11,SNR=3.2						
TOA0	**Torodi Ar. Sit**	**66.42 318**	*eP*	**P**		**11 00 21.3**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.42 318**	P	**P**		**11 00 21.6**	**+0.5**
	1.9nm,0.9s,baz=127,slow=3.3,SNR=6.0						
TOA1	**Torodi Ar. Sit**	**66.42 318**	*eP*	**P**		**11 00 21.6**	**+0.5**
PLCA	**Paso Flores**	**75.90 227**	*eP*	**P**		**11 01 18.6**	**+0.2**
	7.7nm,1.3s						
PLCA	**Paso Flores**	**75.90 227**	P	**P**		**11 01 19.1**	**+0.7**
	2.8nm,0.9s,baz=248,slow=3.9,SNR=3.5						
STKA	**Stephens Creek**	**76.13 121**	*eP*	**P**		**11 01 19.8**	**0.0**
	2.2nm,1.5s						
STKA	**Stephens Creek**	**76.13 121**	P	**P**		**11 01 20.4**	**+0.6**
	0.6nm,0.5s,baz=217,slow=10,SNR=2.1						
ASAR	**Alice Springs**	**76.50 110**	P	**P**		**11 01 23.6**	**+1.5**
	1.3nm,1.1s,baz=210,slow=5.4,SNR=4.4						
AS31	**Alice Springs**	**76.51 110**	*eP*	**P**		**11 01 22.8**	**+0.7**
	1.6nm,1.4s						
CPUP	**Villa Florida**	**77.81 245**	*eP*	**P**		**11 01 29.2**	**-0.1**
	5.8nm,1.5s						
CPUP	**Villa Florida**	**77.81 245**	P	**P**		**11 01 29.3**	**-0.1**
	0.8nm,0.5s,baz=104,slow=4.2,SNR=2.1						
WR1	**Warramunga Arr**	**79.27 107**	*eP*	**P**		**11 01 38.4**	**+1.0**
	8.7nm,1.4s						
WRA	**Warramunga Arr**	**79.27 107**	P	**P**		**11 01 38.4**	**+0.9**
	1.6nm,1.1s,baz=214,slow=3.9,SNR=4.0						
CM31	**Chiang Mai Arr**	**81.44 55**	*eP*	**P**		**11 01 47.6**	**-1.4**
	3.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**81.44 55**	P	**P**		**11 01 47.6**	**-1.4**
	0.5nm,0.4s,baz=232,slow=5.6,SNR=3.5						
LVC	**Limon Verde**	**87.95 241**	LR	LR		11 38 57.1	
	comp=Z,182nm,18.1s,baz=13,slow=34						
CBN	**Corbin Frederi**	**133.64 286**	*e*PKPpre	**PKPbc**		**11 09 17.4**	**-0.7**
TXAR	**Lajitas Array**	**148.26 256**	PKPbc	**PKPbc**		**11 08 39.0**	
	1.6nm,1.0s,baz=134,slow=5.4,SNR=7.6						
ULM	**Lac du Bonnet**	**149.69 299**	PKPbc	**PKPbc**		**11 09 20.6**	**-0.3**
	1.3nm,0.6s,baz=132,slow=2.0,SNR=2.6						

IDC 06 10:55:26.1±1.0, 43.61S×40.18E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/47, mbtmp3.9/4, Error ellipse: s-maj=52.8km s-min=24.9km az=61.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MATP	**Matopo**	**25.09 333**		P	P		11 00 52.8	+0.2
	1.6nm,0.7s,baz=169,slow=10.0,SNR=2.6							
QSPA	**South Pole Qui**	**46.60 180**		P	P		11 03 55.5	-0.1
	1.7nm,0.8s,baz=265,slow=3.6,SNR=4.9							
TORD	**Torodi Ar. Bea**	**66.51 319**		P	P		11 06 17.4	-0.3
	2.0nm,1.0s,baz=156,slow=5.3,SNR=6.2							
WRA	**Warramunga Arr**	**79.43 107**		P	P		11 07 34.4	0.0
	0.6nm,1.1s,baz=219,slow=3.7,SNR=2.5							
TXAR	**Lajitas Array**	**147.90 256**		PKPbc	PKPbc		11 15 12.7	-0.5
	0.5nm,1.0s,baz=133,slow=6.6,SNR=2.9							

IDC 06 10:56:38.6±1.5, 4.37N×128.36E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/54, mbtmp3.4/5, Error ellipse: s-maj=124.2km s-min=22.8km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**24.87 167**		P	P		11 02 03.5	+0.3
	0.3nm,0.5s,baz=346,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**28.39 169**		P	P		11 02 34.7	-0.2
	0.1nm,0.7s,baz=350,slow=11,SNR=0.9							
ASAR				PcP	PcP		11 05 46.9	-0.9
	0.5nm,1.0s,baz=357,slow=2.5,SNR=2.6							
SONM	**Songino Array**	**47.23 340**		P	P		11 05 13.4	-0.2
	0.3nm,0.6s,baz=148,slow=6.5,SNR=4.8							
MKAR	**Makanchi Array**	**57.97 324**		P	P		11 06 32.9	-0.1
	0.6nm,0.7s,baz=122,slow=7.7,SNR=4.2							
BRTR	**Keskin Array B**	**90.86 310**		P	P		11 09 45.0	+0.3
	0.2nm,0.5s,baz=72,slow=4.7,SNR=2.3							

*ISCJB **06** 10:57:06.8±0.5, 43.3S±0.1×40.2E±0.1, h10km, mb4.4/16, MS3.7/1, Error ellipse: s-maj=18.2km s-min=10.0km az=135.2*
*IDC **06** 10:57:07.0±0.7, 43.25S×40.28E, h0km, mb4.1/10, mb1 4.2/11, mb1mx3.9/44, mbtmp4.1/11, ML3.8/1, MS3.8/1, Ms1 3.8/1, ms1mx3.2/40, Error ellipse: s-maj=27.2km s-min=16.8km az=54.0*
*NEIC **06** 10:57:08.5±0.4, 43.25S×40.23E, h10km, mb4.3/4, Error ellipse: s-maj=13.9km s-min=8.2km az=224.0*
ISC 06 10:57:08.4±0.6, 43.3S±0.1×40.2E±0.1, h10km, n27, σ0.8s79/28, mb4.3/16, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BOSA	**Boshof**	**18.96 316**	*eP*		**Pn**		**11 01 30.2**	**-0.3**
	21nm,1.4s							
BOSA	**Boshof**	**18.96 316**	P		**Pn**		**11 01 30.9**	**+0.4**
	0.2nm,0.3s,baz=162,slow=6.9,SNR=3.5							
PAF	**Port-aux-Franc**	**21.51 117**	*eP*		**P**		**11 01 57.5**	**+0.3**
	425nm,1.8s							
LBTB	**Lobatse**	**21.82 322**	*eP*		**P**		**11 02 00.6**	**-0.3**
	30nm,1.6s							
LBTB	**Lobatse**	**21.82 322**	P		**P**		**11 02 01.4**	**+0.5**
	baz=10,slow=11							
MATP	**Matopo**	**24.83 333**	P		**P**		**11 02 29.3**	**-1.7**
	2.8nm,0.9s,baz=180,slow=7.1,SNR=3.5							
OPO	**Ambohidratompo**	**25.36 16**	P		**P**		**11 02 33.9**	**-1.9**
	2.7nm,0.8s,baz=93,slow=17,SNR=2.4							
OPO				LR	LR		11 10 00.0	
	comp=Z,224nm,19.6s,baz=144,slow=31							
RER	**Riviere de l'E**	**25.62 35**	*eP*		**P**		**11 02 36.9**	**-1.2**
	309nm,1.7s							
LSZ	**Lusaka**	**29.76 336**	*eP*		**P**		**11 03 15.2**	**-0.1**
LSZ				*ep*P		**P**	**11 03 15.3**	**+0.1**
LSZ	**Lusaka**	**29.76 336**	P		**P**		**11 03 15.7**	**+0.5**
	0.8nm,0.4s,baz=151,slow=9.9,SNR=4.1							
QSPA	**South Pole Qui**	**46.91 180**	*eP*		**P**		**11 05 38.2**	**-0.5**
	25nm,1.4s							
QSPA	**South Pole Qui**	**46.91 180**	P		**P**		**11 05 38.2**	**-0.5**
	7.5nm,0.9s,baz=248,slow=5.1,SNR=5.7							
TOA0	**Torodi Ar. Sit**	**66.29 319**	*eP*		**P**		**11 07 57.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**66.29 319**	P		**P**		**11 07 57.9**	**+0.9**
	2.1nm,0.9s,baz=165,slow=5.8,SNR=7.2							
TOA1	**Torodi Ar. Sit**	**66.30 319**	*eP*		**P**		**11 07 57.9**	**+0.9**
STKA	**Stephens Creek**	**76.33 121**	*eP*		**P**		**11 08 58.1**	**+0.4**
	5.4nm,1.9s							
STKA	**Stephens Creek**	**76.33 121**	P		**P**		**11 08 58.5**	**+0.8**
	2.0nm,0.8s,baz=214,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**76.74 110**	P		**P**		**11 09 00.3**	**+0.2**
	0.5nm,0.9s,baz=251,slow=4.6,SNR=3.3							
AS31	**Alice Springs**	**76.74 110**	*eP*		**P**		**11 08 59.9**	**-0.3**
	2.9nm,1.4s							
CPUP	**Villa Florida**	**77.54 246**	*eP*		**P**		**11 09 03.3**	**-1.2**
	33nm,1.9s							
CPUP	**Villa Florida**	**77.54 246**	P		**P**		**11 09 04.5**	**-0.1**
	2.0nm,1.0s,baz=108,slow=5.1,SNR=3.9							
WR1	**Warramunga Arr**	**79.51 107**	*eP*		**P**		**11 09 15.8**	**+0.2**
	39nm,1.8s							
WRA	**Warramunga Arr**	**79.51 107**	P		**P**		**11 09 15.8**	**+0.2**
	1.7nm,1.1s,baz=32,slow=25,SNR=4.8							
CM31	**Chiang Mai Arr**	**81.70 55**	*eP*		**P**		**11 09 27.6**	**+0.6**
	6.1nm,0.9s							
CMAR	**Chiang Mai Arr**	**81.70 55**	P		**P**		**11 09 27.6**	**+0.6**
	0.5nm,0.3s,baz=224,slow=6.5,SNR=4.9							
TXAR	**Lajitas Array**	**147.98 256**	PKPbc		**PKiKP**		**11 16 55.1**	**-0.8**
	3.1nm,1.1s,baz=140,slow=4.3,SNR=10							
TX31	**Lajitas Ar. Si**	**147.98 256**	*e*PKPbc		**PKPbc**		**11 16 54.9**	**+0.8**

*ISCJB **06** 11:06:04.0±1.0, 43.3S±0.2×39.9E±0.4, h10km, mb3.8/5, Error ellipse: s-maj=50.2km s-min=16.9km az=147.4*
*IDC **06** 11:06:04.2±1.0, 43.22S×40.17E, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.7/46, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=51.5km s-min=21.0km az=58.0*
ISC 06 11:06:05.7±1.0, 43.3S±0.2×40.1E±0.3, h10km, n8, σ1.9s33/8, mb3.8/5, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
BOSA	**Boshof**	**18.87 316**		P	**P**		**11 10 24.9**	**-1.4**
	0.2nm,0.3s,baz=146,slow=10,SNR=2.8							
LBTB	**Lobatse**	**21.74 322**		P	**P**		**11 10 56.4**	**-1.0**
	2.0nm,0.7s,baz=49,slow=18,SNR=3.5							
MATP	**Matopo**	**24.76 333**		P	**P**		**11 11 26.8**	**-0.9**
	1.3nm,0.6s,baz=155,slow=6.7,SNR=3.9							
QSPA	**South Pole Qui**	**46.93 180**		P	**P**		**11 14 35.8**	**-0.5**
	1.6nm,0.8s,baz=300,slow=3.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**66.21 319**		P	**P**		**11 16 55.7**	**+1.9**
	0.9nm,0.9s,baz=145,slow=5.7,SNR=5.0							
WRA	**Warramunga Arr**	**79.61 107**		P	**P**		**11 18 13.3**	**-0.1**
	0.8nm,0.9s,baz=226,slow=4.6,SNR=4.3							
TXAR	**Lajitas Array**	**147.90 256**		PKPbc	**PKPbc**		**11 25 52.1**	**+0.9**
	0.3nm,0.7s,baz=140,slow=4.7,SNR=3.4							
YKA	**Yellowknife Ar**	**155.71 331**		PKPab	**PKPab**		**11 26 24.5**	**-0.6**
	0.1nm,0.4s,baz=47,slow=4.6,SNR=2.9							

*ISCJB **06** 11:10:36.9±0.9, 43.3S±0.2×40.0E±0.2, h10km, mb4.1/7, Error ellipse: s-maj=42.6km s-min=17.2km az=146.4*
*IDC **06** 11:10:37.4±0.8, 43.19S×40.22E, h0km, mb4.2/7, mb1 4.3/7, mb1mx3.9/43, mbtmp4.2/7, Error ellipse: s-maj=42.8km s-min=19.7km az=52.0*
ISC 06 11:10:38.5±0.9, 43.3S±0.2×40.0E±0.2, h10km, n8, σ1.9s26/8, mb4.3/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MATP	**Matopo**	**24.76 334**		P	**P**		**11 15 59.8**	**-0.7**
	4.0nm,1.1s,baz=218,slow=12,SNR=2.7							
LSZ	**Lusaka**	**29.70 337**		P	**P**		**11 16 43.3**	**-1.6**
	0.8nm,0.3s,baz=151,slow=13,SNR=2.5							
QSPA	**South Pole Qui**	**46.91 180**		P	**P**		**11 19 08.3**	**-0.6**
	7.7nm,1.1s,baz=252,slow=2.6,SNR=5.4							
TORD	**Torodi Ar. Bea**	**66.19 319**		P	**P**		**11 21 28.4**	**+2.0**
	2.1nm,1.0s,baz=159,slow=6.1,SNR=7.0							
FITZ	**Fitzroy Crossi**	**74.72 101**		P	**P**		**11 22 18.3**	**-0.4**
	5.1nm,1.1s,baz=188,slow=7.1,SNR=3.1							
STKA	**Stephens Creek**	**76.46 121**		P	**P**		**11 22 29.2**	**+0.6**
	0.8nm,0.3s,baz=233,slow=10,SNR=3.5							
ASAR	**Alice Springs**	**76.88 110**		P	**P**		**11 22 31.3**	**+0.2**
	1.1nm,0.9s,baz=223,slow=6.4,SNR=5.4							
TXAR	**Lajitas Array**	**147.83 256**		PKPbc	**PKPab**		**11 30 25.9**	**-0.4**
	2.0nm,1.1s,baz=120,slow=5.3,SNR=8.1							

*ISCJB **06** 11:12:05.5±1.2, 71.4N±0.1×9.1W±0.6, h18km, Error ellipse: s-maj=33.0km s-min=7.5km az=153.3*
*BER **06** 11:12:07.8±0.4, 71.25N×9.02W, h0km±53km, ML2.6, Confirmed Earthquake*
ISC 06 11:12:05.6±1.2, 71.4N±0.1×9.1W±0.2, h18km, n5, σ1.9s37/10, 3C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JNW	**Jan Mayen West**	**0.41 145**	⇑	*i*P	**Pb**		**11 12 14.8**	**+0.5**
JNW				*e*S	**Sb**		**11 12 19.8**	**-0.4**
JNW				IAML			11 12 21.2	
	comp=Z,507nm,0.3s							
JMIC	**Jan Mayen**	**0.43 151**	⇑	*i*P	**Pb**		**11 12 14.9**	**+0.2**
JMIC				*e*S	**Sb**		**11 12 20.1**	**-0.8**
JMIC				IAML			11 12 21.0	
	comp=Z,277nm,0.2s							
JMI	**Jan Mayen**	**0.46 163**	⇑	*i*P	**Pb**		**11 12 15.3**	**+0.2**
JMI				*e*S	**Sb**		**11 12 21.0**	**-0.6**
JMI				IAML			11 12 21.3	
	comp=Z,327nm,0.4s							
JNE	**Jan Mayen East**	**0.47 144**		*e*P	**Pb**		**11 12 15.5**	**+0.2**
JNE				*e*S	**Sb**		**11 12 21.1**	**-0.7**
JNE				IAML			11 12 21.5	
	comp=Z,723nm,0.1s							
DAG	**Danmarks Havn**	**6.02 339**		*i* P	**Pn**		**11 13 35.4**	**+1.8**
DAG				*i* S	**Sn**		**11 14 39.1**	**-2.8**

*NIED **06** 11:12:00, 38.00N×143.70E, h20km, Mw3.8 Best double couple: M0 5.18000×10^14 NP1:φs 19.00000°, δ26.00000°, λ-101.00000°. NP2:φs 211.00000°, δ65.00000°, λ-85.00000°.*
*IDC **06** 11:12:51.3±0.8, 37.63N×143.98E, h0km, mb3.7/8, mb1 4.0/12, mb1mx3.8/51, mbtmp3.9/12, ML4.1/3, Error ellipse: s-maj=23.6km s-min=15.9km az=110.0*
*NEIC **06** 11:12:52.1±0.5, 37.70N×143.95E, h10km, mb4.1/6, Error ellipse: s-maj=9.6km s-min=6.9km az=115.0*
*ISCJB **06** 11:12:53.1±0.4, 37.78N±0.03×143.76E±0.04, h33km, mb3.9/13, Error ellipse: s-maj=4.7km s-min=3.9km az=30.7*
*JMA **06** 11:12:54.8±0.1, 37.97N×143.72E, h42km, M4.2*
ISC 06 11:12:55.6±0.7, 37.85N±0.04×143.81E±0.07, h35km, n55, σ2.2s12/66, mb3.9/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JIKH	**Ishinomakikobu**	**1.91 285**		P	**Pn**		**11 13 24.3**	**-1.3**
JIO	**Ouri**	**2.03 288**		P	**Pn**		**11 13 26.1**	**-1.2**
JIO				*e*S	**Sn**		**11 13 49.3**	**-2.2**
JKMT	**Kesennumamotoy**	**2.07 298**		P	**Pn**		**11 13 26.6**	**-1.3**
JKMT				S	**Sn**		**11 13 50.1**	**-2.4**
OFUJ	**Ofunato**	**2.08 307**		P	**Pn**		**11 13 26.6**	**-1.5**
OFUJ				S	**Sn**		**11 13 50.4**	**-2.4**
JMK	**Ichinoseki**	**2.31 299**		P	**Pn**		**11 13 30.2**	**-1.0**
JOM	**Ohasama**	**2.55 310**		P	**Pn**		**11 13 33.5**	**-1.0**
JOM				S	**Sn**		**11 14 02.3**	**-2.1**
JFT	**Otama**	**2.77 264**		P	**Pn**		**11 13 37.5**	**-0.1**
JFT				*e*S	**Sn**		**11 14 09.4**	**-0.4**
JYK	**Kaneyama**	**2.91 293**		P	**Pn**		**11 13 39.1**	**-0.4**
JYK				S	**Sn**		**11 14 11.8**	**-1.5**
JANG	**Nango**	**3.09 325**		P	**Pn**		**11 13 40.1**	**-1.8**
JNS	**Sasagawa**	**3.56 271**		P	**Pn**		**11 13 48.4**	**+0.1**
JNS				*e*S	**Sn**		**11 14 28.1**	**-1.0**
JAG	**Ashikaga**	**3.76 249**		P	**Pn**		**11 13 50.4**	**-0.7**
JAG				*e*S	**Sn**		**11 14 33.7**	**-0.4**
BSO1	**Boso 1**	**3.92 217**		P	**Pn**		**11 13 51.5**	**-1.4**
BSO1				*e*S	**Sn**		**11 14 34.6**	**-2.8**
JOT	**Ohata**	**4.12 330**		P	**Pn**		**11 13 55.6**	**-0.5**
ERM	**Erimo**	**4.19 353**		*e*Pn	**Pn**		**11 13 56.4**	**-0.7**
JRY	**Ryogami san**	**4.33 247**		P	**Pn**		**11 13 58.5**	**-0.6**
JKB	**Kayabe**	**4.56 333**		P	**Pn**		**11 14 01.7**	**-0.5**
JKB				*e*S	**Sn**		**11 14 49.7**	**-4.3**
JOD2	**Odawara 2**	**4.59 237**		P	**Pn**		**11 14 01.3**	**-1.3**
JOD2				*e*S	**Sn**		**11 14 50.6**	**-4.1**
MJAR	**Matsushiro Arr**	**4.66 255**		Pn	**Pn**		**11 14 04.4**	**+0.9**
	1.5nm,0.3s,baz=89,slow=15,SNR=61							
MJAR				Sn	**Sn**		**11 14 53.7**	**-2.6**
	baz=90,slow=30,SNR=2.6							
MAJO	**Matsushiro**	**4.66 255**		*e*Pn	**Pn**		**11 14 03.3**	**-0.2**
MAJO				*e*Sn	**Sn**		**11 14 53.7**	**-2.6**
MAT	**Matsushiro**	**4.66 255**		P	**Pn**		**11 14 04.7**	**+1.2**
MAT				S	**Sn**		**11 14 55.8**	**-0.5**
MJB9	**Matsu-Tunnel**	**4.66 256**		*e*Pn	**Pn**		**11 14 03.0**	**-0.5**
JCH	**Churui**	**4.77 356**		P	**Pn**		**11 14 03.3**	**-1.7**
JCH				S	**Sn**		**11 14 54.1**	**-5.0**
JOSM	**Okushiri--Mats**	**5.38 323**		P	**Pn**		**11 14 12.6**	**-0.8**
JHJ2	**Mitsune**	**5.74 216**		*e*Pn	**Pn**		**11 14 16.4**	**-1.9**
JHJ2				*e*Sn	**Sn**		**11 15 19.0**	**-3.9**
JHJ	**Hachijo jima 2**	**5.75 216**		Pn	**Pn**		**11 14 15.7**	**-2.7**
	24nm,0.3s,baz=132,slow=20,SNR=17							
JHJ				Sn	**Sn**		11 15 12.3	-11
	4.2nm,0.3s,baz=79,slow=18,SNR=1.9							
INU	**Inuyama**	**6.00 248**		*e*Pn	**Pn**		**11 14 21.8**	**-0.2**
ASAJ	**Asahikawa**	**6.33 352**		Pn	**Pn**		**11 14 26.3**	**-0.1**
	3.2nm,0.3s,baz=205,slow=11,SNR=15							
ASAJ				Sn	**Sn**		**11 15 31.9**	**-5.5**
	1.6nm,0.3s,baz=350,slow=25,SNR=4.3							
CBIJ	**Chichi jima**	**10.81 188**		*e*Pn	**Pn**		**11 15 23.6**	**-4.2**
CBIJ				*e*Sn	Sn		11 17 15.9	-12
JCJ	**Chichijima**	**10.81 188**		Pn	**Pn**		**11 15 23.6**	**-4.3**
	4.6nm,0.3s,baz=266,slow=19,SNR=4.2							
JCJ				Sn	Sn		11 17 15.9	-12
	8.7nm,0.3s,baz=282,slow=20,SNR=5.3							
USRK	**Ussuriysk Ar.**	**10.95 309**		Pn	**Pn**		**11 15 30.6**	**+0.9**
	0.2nm,0.3s,baz=117,slow=26,SNR=4.2							
KLR	**Kul'dur**	**14.33 326**		Pn	**Pn**		**11 16 14.4**	**-1.4**
	0.1nm,0.3s,baz=117,slow=12,SNR=4.2							
SEY	**Seymchan**	**25.66 9**		P	**P**		**11 18 25.0**	**+3.2**
	0.4nm,0.3s,baz=160,slow=6.4,SNR=3.9							
H11N2	**WAKE ISLAND Hy**	**27.00 126**		T	T		11 46 51.3	
	baz=318,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**27.00 126**		T	T		11 46 50.2	
	baz=318,slow=75,SNR=9.4							
H11N3	**WAKE ISLAND Hy**	**27.01 126**		T	T		11 46 49.8	
	baz=318,slow=75,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**27.77 128**		T	T		11 47 55.5	
	baz=322							
H11S3	**WAKE ISLAND Hy**	**27.77 128**		T	T		11 47 57.1	
	baz=322							
H11S2	**WAKE ISLAND Hy**	**27.79 128**		T	T		11 47 54.6	
	baz=322							
SONA0	**Songino Array**	**28.94 302**	*eP*		**P**		**11 18 54.0**	**+2.5**
SONM	**Songino Array**	**28.94 302**	P		**P**		**11 18 54.1**	**+2.5**
	0.3nm,0.4s,baz=106,slow=9.0,SNR=4.4							
BILL	**Bilibino**	**32.72 15**	*eP*		**P**		**11 19 24.4**	**-0.2**
	4.7nm,1.5s							
ZAA1	**Zalesovo Array**	**42.78 312**	*eP*		**P**		**11 20 52.7**	**+3.1**
ZALV	**Zalesovo Beam**	**42.78 312**	P		**P**		**11 20 52.7**	**+3.1**
	1.4nm,0.5s,baz=112,slow=6.5,SNR=5.0							
MK31	**Makanchi Array**	**45.30 302**	*eP*		**P**		**11 21 09.3**	**-0.7**
	1.5nm,1.0s							
KURK	**Kurchatov**	**46.94 308**	*eP*		**P**		**11 21 23.2**	**+0.6**
	2.3nm,0.8s							
ILAR	**Eielson Array**	**47.78 33**	P		**P**		**11 21 30.4**	**+1.4**
	0.5nm,0.8s,baz=261,slow=6.4,SNR=7.2							
ILB	**Eielson Array**	**47.78 33**	*eP*		**P**		**11 21 27.2**	**-1.9**
	1.0nm,0.6s							
WR1	**Warramunga Arr**	**58.17 190**	*eP*		**P**		**11 22 45.9**	**-0.2**
	4.4nm,1.1s							
WRA	**Warramunga Arr**	**58.17 190**	P		**P**		**11 22 45.9**	**-0.2**
	4.3nm,0.7s,baz=9.4,slow=7.1,SNR=31							
AS31	**Alice Springs**	**61.89 190**	*eP*		**P**		**11 23 09.8**	**-1.8**
	1.4nm,1.3s							
ASAR	**Alice Springs**	**61.89 190**	P		**P**		**11 23 11.4**	**-0.2**
	1.0nm,0.7s,baz=2.3,slow=6.2,SNR=10							
YKA	**Yellowknife Ar**	**62.14 31**	P		**P**		**11 23 14.3**	**+1.5**
	2.2nm,0.6s,baz=299,slow=6.6,SNR=3.4							
YKB5	**Yellowknife Ar**	**62.14 31**	*eP*		**P**		**11 23 14.3**	**+1.5**
PD31	**Pinedale Array**	**75.73 47**	*eP*		**P**		**11 24 37.9**	**0.0**
	3.7nm,1.5s							
PDAR	**Pinedale Array**	**75.73 47**	P		**P**		**11 24 39.1**	**+1.2**
	0.3nm,0.7s,baz=304,slow=2.0,SNR=3.0							

*NNC **06** 11:13:59.3±4.0, 53.37N×87.41E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=33.7km s-min=23.0km az=4.0, Suspected Mining explosion.*
KRAR 06 11:13:53.3±0.1, 53.59N×87.79E, M2.2, 4C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KURK	**Kurchatov**	**6.33 247**	⇑	Pn	Pn		11 15 29.8	+2.0
	1.0nm,0.6s							
KURK			⇑	Sn	Sn		11 16 39.5	-1.3
	1.2nm,0.6s							
KURK			⇓	Lg	Lg		11 17 15.3	
	4.7nm,0.8s							
KURBB	**Kurchatov Arra**	**6.43 246**	⇓	Pn	Pn		11 15 30.6	+1.4
	2.2nm,0.6s							
KURBB			⇑	Sn	Sn		11 16 43.2	0.0
	3.4nm,0.6s							
KURBB			⇓	Lg	Lg		11 17 16.4	
	6.6nm,0.7s							
MK31	**Makanchi Array**	**7.66 210**	⇓	Pn	Pn		11 15 48.9	+2.8
	baz=29,slow=13,SNR=6.0							
MK31				Sn	Sn		11 17 13.2	-0.4
	0.2nm,0.3s,baz=36,slow=22,SNR=4.8							
MK31			⇑	Lg	Lg		11 17 51.7	
	1.5nm,0.7s,baz=189,slow=24,SNR=3.8							

MEX 06 11:14:36.7±0.6, 16.32N×98.27W, h12km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.15 63**		*i* P	Pg		11 14 39.6	-0.7
PNIG				*i* S	Sg		11 14 42.3	-0.5
VHO	**Vista Hermosa**	**1.65 63**		*i* P	Pn		11 15 02.9	-2.8
VHO				*i* S	Sn		11 15 22.7	-4.2

*ISCJB **06** 11:14:54.5±0.4, 43.56S±0.08×39.97E±0.10, h10km, mb4.3/25, Error ellipse: s-maj=12.9km s-min=7.7km az=41.2*
*IDC **06** 11:14:55.1±0.6, 43.55S×40.04E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.1/42, mbtmp4.2/17, ML3.5/2, Error ellipse: s-maj=22.1km s-min=14.3km az=53.0*
*NEIC **06** 11:14:56.4±0.2, 43.53S×40.00E, h10km, mb4.5/11, Error ellipse: s-maj=9.0km s-min=5.6km az=220.0*
**ISC 06 11:14:56.2±0.4, 43.55S±0.09×39.95E±0.09, h10km, n47, σ0.75/50, mb4.4/25, Prince

3.5nm,1.1s,baz=129,slow=4.0,SNR=12

TX31	**Lajitas Ar. Si**	**147.75**	**256**	*e*PKPdf	**PKPdf**	**11 34 38.9**	**+0.5**
TX31				*e*PKPdf	**PKPbc**	**11 34 39.0**	**-2.2**
TX31				*e*PKPbc	**PKiKP**	**11 34 43.0**	**-0.3**
TX31				*e*PKPbc	**PKPab**	**11 34 43.2**	**-0.4**
ECSD	**EROS Data Cent**	**148.84**	**286**	*e*PKPdf	**PKPdf**	**11 34 40.4**	**+0.8**
ULM	**Lac du Bonnet**	**149.45**	**298**	PKPbc	**PKPbc**	**11 34 45.3**	**+0.4**

2.3nm,1.0s,baz=143,slow=5.1,SNR=2.7

MSTX	**Muleshoe**	**149.62**	**264**	*e*PKPbc	**PKiKP**	**11 34 47.3**	**+0.4**
RSO	**Redoubt South**	**161.41**	**20**	*e*PKPab	**PKPab**	**11 35 41.1**	**+0.5**

ISCJB ***06*** *11:16:54.5±1.0, 43.4S±0.2×39.6E±0.3, h10km, mb4.0/6, Error ellipse: s-maj=37.3km s-min=15.6km az=144.1*

IDC ***06*** *11:16:54.7±1.0, 43.36S×39.65E, h0km, mb4.0/6, mb1 4.1/8, mb1mx3.8/43, mbtmp4.1/8, ML3.5/2, Error ellipse: s-maj=46.4km s-min=19.5km az=58.0*

ISC 06 11:16:56.0±1.0, 43.4S±0.2×39.5E±0.3, h10km, n9, σ0s82/9, mb4.0/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.40**	**301**	P	**Pn**	**11 21 12.0**	**+0.7**

0.1nm,0.3s,baz=120,slow=16,SNR=2.1

BOSA	**Boshof**	**18.73**	**317**	P	**Pn**	**11 21 15.8**	**+0.6**

0.2nm,0.3s,baz=128,slow=11,SNR=4.3

LBTB	**Lobatse**	**21.64**	**324**	P	**P**	**11 21 45.8**	**-0.7**

5.3nm,0.9s,baz=149,slow=9.3,SNR=5.2

MATP	**Matopo**	**24.73**	**335**	P	**P**	**11 22 17.0**	**-0.7**

1.7nm,0.6s,baz=171,slow=8.7,SNR=4.3

LSZ	**Lusaka**	**29.69**	**337**	P	**P**	**11 23 01.6**	**-0.6**

1.5nm,0.5s,baz=172,slow=11,SNR=2.6

QSPA	**South Pole Qui**	**46.78**	**180**	P	**P**	**11 25 25.1**	**-0.2**

4.0nm,1.1s,baz=251,slow=1.4,SNR=5.0

TORD	**Torodi Ar. Bea**	**66.08**	**319**	P	**P**	**11 27 43.8**	**+0.7**

1.0nm,0.8s,baz=161,slow=7.8,SNR=4.2

WRA	**Warramunga Arr**	**79.92**	**108**	P	**P**	**11 29 05.9**	**+0.6**

1.1nm,0.9s,baz=226,slow=3.9,SNR=3.5

TXAR	**Lajitas Array**	**147.49**	**257**	PKPbc	**PKiKP**	**11 36 41.4**	**-1.0**

0.4nm,0.8s,baz=150,slow=3.8,SNR=2.8

IDC ***06*** *11:18:09.4±2.0, 5.41S×152.90E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/41, mbtmp3.7/5, Error ellipse: s-maj=90.6km s-min=24.9km az=126.0*

ISCJB ***06*** *11:18:13.7±2.1, 5.4S±0.4×152.8E±0.5, h37km, mb3.5/5, Error ellipse: s-maj=89.5km s-min=23.2km az=34.3*

ISC 06 11:18:14.8±2.2, 5.5S±0.4×152.9E±0.5, h37km, n6, σ0s73/6, mb3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.06**	**230**	P	**P**	**11 23 18.2**	**+1.0**

0.5nm,0.6s,baz=54,slow=9.8,SNR=3.0

ASAR	**Alice Springs**	**25.71**	**223**	P	**P**	**11 23 42.0**	**+0.2**

0.4nm,0.5s,baz=57,slow=9.5,SNR=5.9

FITZ	**Fitzroy Crossi**	**29.41**	**242**	P	**P**	**11 24 14.3**	**-0.6**

4.1nm,1.1s,baz=62,slow=6.8,SNR=2.8

MKAR	**Makanchi Array**	**80.89**	**319**	P	**P**	**11 30 25.7**	**+0.4**

0.5nm,0.8s,baz=107,slow=6.5,SNR=3.9

ILAR	**Eielson Array**	**82.75**	**22**	P	**P**	**11 30 34.5**	**-0.1**

0.8nm,0.9s,baz=246,slow=5.6,SNR=7.9

TORD	**Torodi Ar. Bea**	**150.59**	**287**	PKPbc	**PKiKP**	**11 38 04.4**	**-0.2**

0.3nm,0.3s,baz=66,slow=3.6,SNR=3.3

ISCJB ***06*** *11:19:02.9±0.5, 43.4S±0.09×40.1E±0.1, h10km, mb4.3/20, Error ellipse: s-maj=15.8km s-min=8.0km az=39.2*

IDC ***06*** *11:19:03.4±0.7, 43.42S×40.14E, h0km, mb4.1/13, mb1 4.2/15, mb1mx4.0/42, mbtmp4.1/15, ML3.4/2, Error ellipse: s-maj=25.8km s-min=15.7km az=50.0*

NEIC ***06*** *11:19:04.8±0.3, 43.42S×40.12E, h10km, mb4.4/8, Error ellipse: s-maj=9.1km s-min=4.9km az=219.0*

ISC 06 11:19:04.7±0.6, 43.5S±0.1×40.1E±0.1, h10km, n35, σ0s47/36, mb4.2/20, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**8.86**	**114**	*e*Pn	**Pn**	**11 21 12.3**	**-0.3**
SUR	**Sutherland**	**18.76**	**300**	*e*P	**P**	**11 23 22.8**	**-1.3**

31nm,1.4s

SUR	**Sutherland**	**18.76**	**300**	P	**P**	**11 23 24.0**	**0.0**

0.1nm,0.3s,baz=84,slow=19,SNR=2.1

BOSA	**Boshof**	**19.02**	**316**	P	**P**	**11 23 26.7**	**-0.1**

0.1nm,0.3s,baz=254,slow=7.4,SNR=3.1

PAF	**Port-aux-Franc**	**21.50**	**116**	*e*P	**P**	**11 23 53.6**	**+0.2**

184nm,1.3s

LBTB	**Lobatse**	**21.89**	**322**	*e*P	**P**	**11 23 57.8**	**-0.2**

21nm,1.5s

LBTB	**Lobatse**	**21.89**	**322**	P	**P**	**11 23 57.8**	**-0.2**

1.5nm,0.6s,baz=174,slow=9.2,SNR=2.3

MATP	**Matopo**	**24.93**	**333**	P	**P**	**11 24 27.6**	**-0.6**

4.8nm,1.1s,baz=180,slow=10,SNR=3.7

ABPO	**Ambohimpanom**	**25.08**	**16**	*e*P	**P**	**11 24 28.8**	**-0.8**

28nm,1.5s

OPO	**Ambohidratompo**	**25.51**	**16**	P	**P**	**11 24 33.5**	**0.0**

4.1nm,1.0s,baz=225,slow=13,SNR=2.3

MRIV	**Mauritius Mete**	**27.29**	**38**	*e*P	**P**	**11 24 49.4**	**0.0**

33nm,1.2s

LSZ	**Lusaka**	**29.87**	**336**	*e*P	**P**	**11 25 12.5**	**0.0**
LSZ				*ep*P	**P**	**11 25 12.6**	**+0.1**
LSZ	**Lusaka**	**29.87**	**336**	P	**P**	**11 25 12.7**	**+0.2**

2.0nm,0.5s,baz=185,slow=10,SNR=3.0

TSUM	**Tsumeb**	**30.70**	**315**	*e*P	**P**	**11 25 19.8**	**-0.1**

10nm,1.4s

QSPA	**South Pole Qui**	**46.77**	**180**	*e*P	**P**	**11 27 33.9**	**-0.1**
QSPA	**South Pole Qui**	**46.77**	**180**	P	**P**	**11 27 33.7**	**-0.2**

9.1nm,1.1s,baz=261,slow=5.3,SNR=6.9

TOA0	**Torodi Ar. Sit**	**66.36**	**319**	*e*P	**P**	**11 29 53.6**	**0.0**
TORD	**Torodi Ar. Bea**	**66.36**	**319**	P	**P**	**11 29 54.1**	**+0.5**

2.1nm,1.0s,baz=123,slow=5.3,SNR=6.8

TOA1	**Torodi Ar. Sit**	**66.36**	**319**	*e*P	**P**	**11 29 54.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**74.60**	**100**	*e*P	**P**	**11 30 44.4**	**+0.2**

12nm,1.3s

FITZ	**Fitzroy Crossi**	**74.60**	**100**	P	**P**	**11 30 44.7**	**+0.5**

4.0nm,0.9s,baz=204,slow=9.5,SNR=3.6

STKA	**Stephens Creek**	**76.31**	**121**	*e*P	**P**	**11 30 53.8**	**0.0**

1.2nm,1.1s

STKA	**Stephens Creek**	**76.31**	**121**	P	**P**	**11 30 54.7**	**+0.8**

1.6nm,0.7s,baz=197,slow=3.0,SNR=3.3

ASAR	**Alice Springs**	**76.75**	**110**	P	**P**	**11 30 56.8**	**+0.3**

1.2nm,1.0s,baz=226,slow=5.0,SNR=4.1

AS31	**Alice Springs**	**76.75**	**110**	*e*P	**P**	**11 30 56.1**	**-0.4**

2.7nm,1.6s

CPUP	**Villa Florida**	**77.42**	**246**	*e*P	**P**	**11 31 00.0**	**-0.2**

4.4nm,1.3s

CPUP	**Villa Florida**	**77.42**	**246**	P	**P**	**11 31 00.2**	**0.0**

0.8nm,0.5s,baz=86,slow=5.8,SNR=3.0

WR1	**Warramunga Arr**	**79.53**	**107**	*e*P	**P**	**11 31 12.2**	**+0.3**

17nm,1.5s

WRA	**Warramunga Arr**	**79.53**	**107**	P	**P**	**11 31 12.2**	**+0.3**

1.9nm,1.0s,baz=226,slow=4.1,SNR=4.9

CM31	**Chiang Mai Arr**	**81.83**	**55**	*e*P	**P**	**11 31 23.4**	**-0.7**

3.6nm,0.4s

CMAR	**Chiang Mai Arr**	**81.83**	**55**	P	**P**	**11 31 23.4**	**-0.7**

0.8nm,0.4s,baz=242,slow=3.9,SNR=4.2

BRTR	**Keskin Array B**	**83.00**	**355**	P	**P**	**11 31 30.4**	**+0.6**

0.4nm,0.4s,baz=214,slow=7.4,SNR=3.4

BR101	**Keskin Array S**	**83.00**	**355**	*e*P	**P**	**11 31 30.4**	**+0.6**
TXAR	**Lajitas Array**	**147.89**	**256**	PKPbc	**PKiKP**	**11 38 51.5**	**-0.6**

2.9nm,1.1s,baz=123,slow=3.3,SNR=10

TX31	**Lajitas Ar. Si**	**147.89**	**256**	*e*PKPbc	**PKPbc**	**11 38 51.0**	**+0.8**

ISCJB ***06*** *11:22:26.4±0.4, 7.10S±0.04×125.99E±0.06, h488km, mb4.3/6, Event ellipse: s-maj=7.7km s-min=5.3km az=160.4*

NEIC ***06*** *11:22:27.1±0.5, 7.08S×125.90E, h504km±9km, mb4.7/8, Error ellipse: s-maj=11.3km s-min=8.8km az=203.0*

DJA ***06*** *11:22:27.3±0.4, 7.5S×12.6E±°, h506km±8km, M4.2/8, mb4.3/8, mB4.6/7, MLv4.6/7, Mw(mB)3.8/7*

IDC ***06*** *11:22:28.3±2.2, 7.16S×125.94E, h520km±23km, mb3.1/2, mb1 3.5/5, mb1mx2.8/47, mbtmp4.3/5, Error ellipse: s-maj=66.1km s-min=14.7km az=64.0*

ISC 06 11:22:26.1±0.7, 7.09S±0.07×126.05E±0.08, h488km, n32, σ1s72/37, mb4.5/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**3.18**	**213**	*e*P	**P**	**11 23 39.7**	**+2.2**
SOEI				*e*S	**S**	**11 24 35.2**	**-0.4**
NLAI	**Namlea**	**3.96**	**15**	P	**P**	**11 23 46.0**	**+2.5**

SANI	**Sanana**	**5.00**	**359**	P	**P**	**11 23 54.4**	**+1.9**

32nm,1.0s,0.1nm

BKSI	**Bulukumba**	**6.15**	**286**	P	**P**	**11 24 04.8**	**+1.4**

54nm,0.7s,526nm0.2nm

LUWI	**Luwuk**	**6.84**	**331**	*e*P	**P**	**11 24 12.6**	**+2.3**
SPSI	**Sidrap Palu**	**6.98**	**296**	P	**P**	11 24 22.5	+11
TTSI	**Tana Toraja**	**7.39**	**303**	P	**P**	**11 24 17.6**	**+1.7**
FAKI	**Fak Fak**	**7.43**	**56**	*e*P	**P**	**11 24 18.3**	**+1.9**
FAKI				*e*S	**S**	**11 25 44.9**	**-1.9**
FAKI	**Fak Fak**	**7.43**	**56**	P	**P**	**11 24 18.3**	**+1.9**
APSI	**Ampana**	**7.54**	**324**	P	**P**	**11 24 18.9**	**+1.4**
MTN	**Manton Dam**	**7.60**	**139**	*e*P	**P**	**11 24 20.8**	**+2.7**
MRSI	**Marisa**	**8.56**	**331**	P	**P**	**11 24 29.4**	**+1.3**

48nm,0.8s,497nm0.1nm

FITZ	**Fitzroy Crossi**	**10.95**	**182**	P	**P**	**11 24 54.9**	**+1.4**

0.8nm,0.3s,baz=11,slow=11,SNR=24

FITZ				S	**S**	**11 26 53.8**	**-1.2**

0.5nm,0.3s,baz=189,slow=18,SNR=16

JAGI	**Jajag, Banyuwa**	**11.87**	**263**	*e*P	**P**	**11 25 01.5**	**-1.8**
WRAB	**Tennant Creek**	**15.10**	**149**	*e*P	**P**	**11 25 38.4**	**+0.8**

13nm,0.6s

WRA	**Warramunga Arr**	**15.10**	**149**	P	**P**	**11 25 38.0**	**+0.4**

4.3nm,0.3s,baz=332,slow=9.9,SNR=80

WRA				S	**S**	**11 28 13.2**	**-2.4**

baz=329,slow=17,SNR=2.6

WB2	**Warramunga Arr**	**15.11**	**149**	*e*P	**P**	**11 25 38.5**	**+0.9**
MBWA	**Marble Bar**	**15.27**	**203**	*e*P	**P**	**11 25 39.1**	**-0.2**

11nm,1.1s

CISI	**Cisompet, Garu**	**18.09**	**267**	*e*P	**P**	**11 26 06.2**	**-2.0**

77nm,0.8s

CISI	**Cisompet, Garu**	**18.09**	**267**	P	**P**	**11 26 06.6**	**-1.5**

113nm,0.7s

AS31	**Alice Springs**	**18.13**	**156**	*e*P	**P**	**11 26 09.6**	**+1.2**

4.9nm,0.3s

ASAR	**Alice Springs**	**18.13**	**156**	P	**P**	**11 26 09.3**	**+1.0**

2.4nm,0.3s,baz=332,slow=8.5,SNR=83

ASAR				S	**S**	**11 29 09.1**	**-0.7**

baz=339,slow=19,SNR=7.2

ASAR				ScP	**ScP**	**11 33 01.8**	**-2.9**

0.1nm,0.3s,baz=347,slow=2.2,SNR=8.6

AS01	**Alice Springs**	**18.15**	**156**	*e*P	**P**	**11 26 09.4**	**+0.9**
COEN	**Coen**	**18.16**	**113**	*e*P	**P**	**11 26 09.9**	**+1.2**

30nm,1.0s

GIRL	**Giralia**	**19.20**	**215**	*e*P	**P**	**11 26 18.6**	**+0.5**

300nm,1.4s

FORT	**Forrest**	**23.65**	**176**	*e*P	**P**	**11 26 58.6**	**+0.5**

22nm,0.8s

RABL	**Rabaul**	**26.14**	**85**	*e*P	**P**	**11 27 16.6**	**-4.1**

100nm,0.5s

NWAO	**Narrogin (SRO)**	**26.98**	**196**	*e*P	**P**	**11 27 27.6**	**-0.1**

48nm,1.6s

BBOO	**Buckleboo**	**27.23**	**161**	*e*P	**P**	**11 27 30.7**	**+0.8**

4.9nm,0.6s

STKA	**Stephens Creek**	**28.61**	**152**	*e*P	**P**	**11 27 43.5**	**+1.4**

1.7nm,0.9s

STKA	**Stephens Creek**	**28.61**	**152**	P	**P**	**11 27 42.9**	**+0.8**

8.0nm,0.7s,baz=328,slow=9.6,SNR=21

MKAR	**Makanchi Array**	**66.20**	**329**	P	**P**	**11 32 24.2**	**-0.6**

0.2nm,0.5s,baz=145,slow=5.3,SNR=2.2

NIED ***06*** *11:23:00, 35.40N×141.10E, h38km, Mw4.4 Best double couple: M0 4.02000×10^15 NP1:φ=234.00000°, δ=16.00000°, λ=161.00000°. NP2:φ=342.00000°, δ=85.00000°, λ=75.00000°.*

ISCJB ***06*** *11:23:09.7±0.6, 35.38N±0.03×141.20E±0.06, h35km±6km, mb4.1/29, MS4.0/3, Error ellipse: s-maj=7.7km s-min=4.8km az=0.0*

JMA ***06*** *11:23:10.2±0.1, 35.45N×141.14E, h31km±2km, M3.6*

NEIC ***06*** *11:23:11.8±0.6, 35.35N×141.15E, h39km±5km, mb4.4/11, Error ellipse: s-maj=6.5km s-min=4.9km az=103.0*

IDC ***06*** *11:23:12.7±1.5, 35.36N×141.07E, h44km±15km, mb3.7/21, mb1 3.9/27, mb1mx3.8/49, mbtmp4.0/27, ML2.8/5, MS4.0/3, Ms1 4.0/3, ms1mx3.2/55, Error ellipse: s-maj=17.3km s-min=9.5km az=95.0*

ISC 06 11:23:08.8±1.5, 35.34N±0.04×141.25E±0.06, h17km±8km, n83, σ1s31/84, mb4.0/29, MS3.9/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.48**	**319**	ǁP	**Pg**	**11 23 18.2**	**-0.3**
CHOJ				*e*S	**Sg**	**11 23 23.7**	**-1.3**
BSO1	**Boso 1**	**0.72**	**198**	P	**Pn**	**11 23 24.8**	**+1.2**
BSO1				X		11 23 35.3	
JSMT	**Sammumatsuo**	**0.72**	**295**	P	**Pb**	**11 23 22.3**	**-0.5**
KTR	**Katsuura**	**0.79**	**256**	ǁP	**Pb**	**11 23 24.2**	**+0.3**
KTR				S	**Sb**	**11 23 34.0**	**-0.3**
BSO3	**Boso 3**	**0.81**	**229**	ǁP	**Pn**	**11 23 25.4**	**+0.3**
BSO3				X		11 23 36.4	
BSO4	**Boso 4**	**0.82**	**245**	P	**Pg**	**11 23 25.2**	**+0.4**
BSO4				X		11 23 36.7	
JCN	**Nagara**	**0.86**	**276**	ǁP	**Pb**	**11 25 25.4**	**+0.2**
JCN				*e*S	**Sb**	**11 23 35.7**	**-0.7**
JIHU	**Itakohorinouch**	**0.86**	**317**	P	**Pb**	**11 23 24.2**	**-1.0**
JYT	**Yasato**	**1.23**	**316**	P	**Pn**	**11 23 29.5**	**-1.7**
JHJ2	**Mitsune**	**2.52**	**208**	*e*Pn	**Pn**	**11 23 50.2**	**+1.4**
JHJ2				*e*Sn	**Sn**	**11 24 19.2**	**+0.1**
JHJ	**Hachijo jima 2**	**2.52**	**209**	P	**Pn**	**11 23 50.6**	**+1.6**

30nm,0.3s,baz=330,slow=15,SNR=16

JHJ				S	**Sn**	**11 24 20.0**	**+0.7**

165nm,0.3s,baz=73,slow=23,SNR=8.3

MJAR	**Matsushiro Arr**	**2.74**	**297**	P	**Pn**	**11 23 52.1**	**+0.1**

1.2nm,0.3s,baz=139,slow=16,SNR=48

MAJO	**Matsushiro**	**2.74**	**297**	*e*Pn	**Pn**	**11 23 52.4**	**+0.4**
MAT	**Matsushiro**	**2.74**	**297**	P	**Pn**	**11 23 52.4**	**+0.4**
MAT				*e*S	**Sn**	**11 24 26.1**	**+1.4**
MJB9	**Matsu-Tunnel**	**2.75**	**297**	*e*Pn	**Pn**	**11 23 52.5**	**+0.5**
INU	**Inuyama**	**3.46**	**271**	*e*Pn	**Pn**	**11 24 02.1**	**+0.3**
ERM	**Erimo**	**6.83**	**12**	*e*Pn	**Pn**	**11 24 48.3**	**+0.2**
CBIJ	**Chichi jima**	**8.26**	**174**	*e*Pn	**Pn**	**11 25 08.8**	**+1.1**
CBIJ				*e*Sn	**Sn**	**11 26 34.9**	**-5.7**
JCJ	**Chichijima**	**8.26**	**174**	P	**Pn**	**11 25 08.8**	**+1.1**

16nm,0.3s,baz=102,slow=24,SNR=9.9

JCJ				S	**Sn**	**11 26 34.9**	**-5.7**

22nm,0.3s,baz=77,slow=19,SNR=6.8

ASAJ	**Asahikawa**	**8.83**	**6**	P	**Pn**	**11 25 14.3**	**-1.2**

1.7nm,0.3s,baz=209,slow=12,SNR=12

ASAJ				S	Sn	11 26 44.1	-10

baz=324,slow=19,SNR=1.8

KSRS	**Korea Array**	**10.95**	**285**	P	**Pn**	**11 25 46.5**	**+2.0**

0.1nm,0.3s,baz=91,slow=15,SNR=4.8

KS15	**Wonju Array Si**	**10.97**	**285**	*e*Pn	**Pn**	**11 25 46.5**	**+1.6**
KSAR	**Wonju Array Be**	**10.97**	**285**	P	**Pn**	**11 25 46.5**	**+1.6**
USRK	**Ussuriysk Ar.**	**11.35**	**324**	P	**Pn**	**11 25 50.4**	**+0.3**

0.1nm,0.3s,baz=106,slow=15,SNR=2.6

KLR	**Kul'dur**	**15.54**	**336**	P	**Pn**	**11 26 47.7**	**+0.8**

0.1nm,0.3s,baz=142,slow=9.9,SNR=2.3

PETK	**Petropavlovsk-**	**21.23**	**28**	P	**P**	**11 27 55.3**	**+1.7**

1.3nm,0.7s,baz=212,slow=8.0,SNR=2.5

PEA1	**Petropavlovsk-**	**21.23**	**28**	*e*P	**P**	**11 27 55.3**	**+1.7**
MA2	**Magadan**	**25.04**	**11**	*e*P	**P**	**11 28 32.8**	**+1.1**

8.0nm,0.7s

MA2	**Magadan**	**25.04**	**11**	P	**P**	**11 28 32.2**	**+0.5**

7.8nm,0.7s,baz=194,slow=8.8,SNR=27

H11N2	**WAKE ISLAND Hy**	**27.44**	**118**	T	T	11 57 57.8	

baz=309,slow=75,SNR=46

H11N1	**WAKE ISLAND Hy**	**27.45**	**118**	T	T	11 57 59.5	

baz=309,slow=75,SNR=64

H11N3	**WAKE ISLAND Hy**	**27.46**	**118**	T	T	11 57 59.5	

baz=309,slow=75,SNR=52

H11S1	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	11 58 44.8	

baz=312,slow=75,SNR=220

H11S3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	11 58 46.4	

baz=312,slow=75,SNR=211

H11S2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	11 58 43.7	

baz=312,slow=75,SNR=172

SEY	**Seymchan**	**28.48**	**11**	P	**P**	**11 29 03.2**	**+0.6**

1.2nm,0.6s,baz=205,slow=7.6,SNR=7.0

SONA0	**Songino Array**	**28.65**	**307**	*e*P	**P**	**11 29 05.1**	**+0.5**
SONM	**Songino Array**	**28.65**	**307**	P	**P**	**11 29 05.1**	**+0.5**

0.7nm,0.8s,baz=103,slow=8.4,SNR=5.0

TIXI	**Tiksi**	**36.95**	**354**	P	**P**	**11 30 15.8**	**-0.7**

1.1nm,0.5s,baz=141,slow=4.2,SNR=6.9

CMAR	**Chiang Mai Arr**	**40.96**	**257**	LR	LR	11 50 48.5	

comp=Z,81nm,18.5s,baz=274,slow=41

ZAA1	**Zalesovo Array**	**42.97**	**314**	*e*P	**P**	**11 31 05.8**	**-0.9**
ZALV	**Zalesovo Beam**	**42.97**	**314**	P	**P**	**11 31 05.8**	**-0.9**

0.8nm,0.4s,baz=100,slow=8.1,SNR=3.4

BRDH	**Bariadhala**	**44.76**	**267**	LR	LR	11 53 00.2	

comp=Z,168nm,21.0s,baz=317,slow=40

MK31	**Makanchi Array**	**44.92**	**304**	*e*P	**P**	**11 31 21.4**	**-1.1**

2.2nm,1.1s

MK32	**Makanchi Array**	**44.92**	**304**	*e*P	**P**	**11 31 21.6**	**-0.9**
MKAR	**Makanchi Array**	**44.92**	**304**	P	**P**	**11 31 21.6**	**-0.9**

0.7nm,0.7s,baz=88,slow=9.8,SNR=7.5

MDM	**Murphy Dome**	**50.42**	**31**	*e*P	**P**	**11 32 05.2**	**+0.2**

5.4nm,0.7s

IL1	**Eielson Array**	**51.00**	**32**	*e*P	**P**	**11 32 10.2**	**+0.9**
ILAR	**Eielson Array**	**51.00**	**32**	P	**P**	**11 32 10.2**	**+0.9**

2.2nm,0.7s,baz=265,slow=5.9,SNR=28

ILB	**Eielson Array**	**51.00**	**32**	*e*P	**P**	**11 32 10.0**	**+0.8**

1.7nm,0.8s

EPYK	**Eagle Plains**	**55.06**	**29**	*e*P	**P**	**11 32 41.0**	**+1.7**

10nm,1.0s

FITZ	**Fitzroy Crossi**	**55.17**	**198**	*e*P	**P**	**11 32 39.9**	**-0.5**

17nm,1.5s

FITZ	**Fitzroy Crossi**	**55.17**	**198**	P	**P**	**11 32 40.8**	**+0.3**

2.2nm,0.5s,baz=356,slow=6.1,SNR=8.4

WB2	**Warramunga Arr**	**55.37**	**188**	*e*P	**P**	**11 32 41.5**	**-0.4**
WR1	**Warramunga Arr**	**55.37**	**188**	*e*P	**P**	**11 32 41.9**	**0.0**

25nm,1.5s

WRA	**Warramunga Arr**	**55.37**	**188**	P	**P**	**11 32 41.9**	**0.0**

2.9nm,0.6s,baz=3.0,slow=7.7,SNR=25

INK	**Inuvik**	**55.96**	**27**	*e*P	**P**	**11 32 45.7**	**+0.2**

12nm,1.6s

| | |

*ISCJB **06** 11:38:49.0±0.4,43.43S×40.09×40.1E±0.1,h10km, mb4.2/20,MS4.0/1,Error ellipse: s-maj=16.7km s-min=8.8km az=43.2*

*IDC **06** 11:38:49.2±0.6,43.36S×40.20E,h0km,mb4.1/15, mb1 4.2/17,mb1mx4.1/49,mbtmp4.2/17,ML3.5/2,MS3.9/1, Ms1 3.9/1,ms1mx3.2/32,Error ellipse: s-maj=27.1km s-min=14.8km az=43.0*

*NEIC **06** 11:38:50.6±0.3,43.44S×40.17E,h10km,mb4.5/12,Error ellipse: s-maj=11.6km s-min=5.8km az=221.0*

ISC 06 11:38:50.7±0.5,43.4S±0.1×40.2E±0.1,h10km,n39, σ0.9s79/39,mb4.3/20,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**8.79**	**114**	*eP*	n		**Pn**	**11 40 56.5**	**-1.2**
SUR	**Sutherland** 58nm,1.4s	**18.83**	**299**	*eP*			**P**	**11 43 10.3**	**-0.4**
SUR	**Sutherland** 0.2nm,0.3s,baz=134,slow=15,SNR=3.9	**18.83**	**299**	P			**Pn**	**11 43 11.5**	**+0.3**
BOSA	**Boshof** 18nm,1.2s	**19.07**	**316**	*eP*			**P**	**11 43 12.7**	**-0.5**
BOSA	**Boshof** 0.1nm,0.3s,baz=141,slow=13,SNR=3.2	**19.07**	**316**	P			**P**	**11 43 12.8**	**-0.5**
LBTB	**Lobatse** 10nm,0.9s	**21.94**	**322**	*eP*			**P**	**11 43 43.4**	**-1.0**
LBTB	**Lobatse** 5.2nm,1.2s,baz=146,slow=11,SNR=2.0	**21.94**	**322**	P			**P**	**11 43 43.1**	**-1.3**
MATP	**Matopo** 2.3nm,0.8s,baz=193,slow=12,SNR=3.6	**24.96**	**333**	P			**P**	**11 44 12.5**	**-1.9**
MAW	**Mawson** 37nm,1.6s	**27.07**	**161**	*eP*			**P**	**11 44 33.1**	**+0.2**
MRIV	**Mauritius Mete**	**27.24**	**38**	*eP*			**P**	**11 44 36.1**	**+1.2**
LSZ	**Lusaka** 14nm,1.4s	**29.90**	**336**	*eP*			**P**	**11 44 58.0**	**-0.7**
LSZ	**Lusaka** 1.0nm,0.4s,baz=165,slow=11,SNR=3.3	**29.90**	**336**	P			**P**	**11 44 57.6**	**-1.1**
TSUM	**Tsumeb**	**30.75**	**315**	*eP*			**P**	**11 45 06.3**	**0.0**
TSUM	**Tsumeb** 2.9nm,0.8s,baz=132,slow=8.5,SNR=3.3	**30.75**	**315**	P			**P**	**11 45 05.6**	**-0.7**
QSPA	**South Pole Qui** 27nm,1.4s	**46.77**	**180**	*eP*			**P**	**11 47 19.9**	**0.0**
QSPA	**South Pole Qui** 9.2nm,1.1s,baz=237,slow=5.0,SNR=7.0	**46.77**	**180**	P			**P**	**11 47 20.0**	**+0.1**
PMSA	**Palmer Station** comp=Z,115nm,20.9s,baz=58,slow=29	**57.16**	**210**	LR			LR	12 06 06.2	
DBIC	**Dimbokro** 8.8nm,1.2s	**64.41**	**309**	*eP*			**P**	**11 49 27.1**	**0.0**
DBIC	**Dimbokro** 3.9nm,1.0s,baz=132,slow=8.5,SNR=3.2	**64.41**	**309**	P			**P**	**11 49 26.8**	**-0.3**
TOA0	**Torodi Ar. Sit** 7.5nm,1.1s	**66.40**	**319**	*eP*			**P**	**11 49 40.0**	**+0.1**
TORD	**Torodi Ar. Bea** 3.4nm,1.0s,baz=152,slow=5.3,SNR=9.5	**66.40**	**319**	P			**P**	**11 49 40.0**	**0.0**
TOA1	**Torodi Ar. Sit**	**66.41**	**319**	*eP*			**P**	**11 49 40.0**	**0.0**
FITZ	**Fitzroy Crossi** 9.8nm,1.1s	**74.53**	**100**	*eP*			**P**	**11 50 31.2**	**+1.5**
FITZ	**Fitzroy Crossi** 4.0nm,0.9s,baz=214,slow=3.3,SNR=4.2	**74.53**	**100**	P			**P**	**11 50 30.9**	**+1.2**
STKA	**Stephens Creek** 1.6nm,1.3s	**76.25**	**121**	*eP*			**P**	**11 50 38.7**	**-0.7**
STKA	**Stephens Creek** 2.3nm,0.9s,baz=222,slow=12,SNR=3.8	**76.25**	**121**	P			**P**	**11 50 39.9**	**+0.5**
ASAR	**Alice Springs** 1.0nm,0.9s,baz=228,slow=6.2,SNR=4.9	**76.68**	**110**	P			**P**	**11 50 42.3**	**+0.3**
AS31	**Alice Springs** 1.2nm,1.1s	**76.68**	**110**	*eP*			**P**	**11 50 41.6**	**-0.4**
CPUP	**Villa Florida** 5.5nm,1.2s	**77.49**	**246**	*eP*			**P**	**11 50 46.8**	**+0.3**
CPUP	**Villa Florida** 1.4nm,0.7s,baz=108,slow=11,SNR=3.7	**77.49**	**246**	P			**P**	**11 50 46.9**	**+0.3**
WR1	**Warramunga Arr** 33nm,1.6s	**79.46**	**107**	*eP*			**P**	**11 50 57.5**	**0.0**
WRA	**Warramunga Arr** 1.4nm,1.0s,baz=205,slow=4.4,SNR=6.3	**79.46**	**107**	P			**P**	**11 50 57.5**	**0.0**
CM31	**Chiang Mai Arr** 5.2nm,1.0s	**81.77**	**55**	*eP*			**P**	**11 51 10.3**	**+0.6**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=239,slow=6.4,SNR=5.6	**81.77**	**55**	P			**P**	**11 51 10.3**	**+0.6**
GEYT	**Alibeck** 1.0nm,0.4s,baz=194,slow=5.0,SNR=3.3	**82.61**	**14**	P			**P**	**11 51 12.9**	**-0.8**
BR101	**Keskin Array S**	**83.00**	**355**	*eP*			**P**	**11 51 16.3**	**+0.5**
BRTR	**Keskin Array B** 0.5nm,0.8s,baz=160,slow=4.6,SNR=2.9	**83.00**	**355**	P			**P**	**11 51 16.3**	**+0.5**
ES06	**SONSECA Array**	**91.86**	**327**	*eP*			**P**	**11 51 58.5**	**-0.1**
ES06				*eS*			**S**	**12 03 01.5**	**+1.8**
TXAR	**Lajitas Array** 2.3nm,1.1s,baz=143,slow=4.6,SNR=10	**147.96**	**256**	PKPbc			**PKPbc**	**11 58 36.5**	**+0.2**

IDC 06 11:42:20.4±4.0,43.33S×39.81E,h0km,mb3.9/3, mb1 4.0/3,mb1mx3.6/47,mbtmp3.9/3,Error ellipse: s-maj=211.0km s-min=49.2km az=74.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LBTB	**Lobatse** 2.8nm,0.8s,baz=138,slow=9.7,SNR=2.7	**21.67**	**323**	P			P	11 47 12.3	-0.4
LSZ	**Lusaka** 0.7nm,0.3s,baz=105,slow=12,SNR=1.6	**29.68**	**337**	P			P	11 48 27.9	-0.2
TORD	**Torodi Ar. Bea** 1.0nm,0.8s,baz=142,slow=7.3,SNR=5.0	**66.13**	**319**	P			P	11 53 10.1	+0.5
TXAR	**Lajitas Array** 0.6nm,0.9s,baz=138,slow=5.6,SNR=3.4	**147.71**	**257**	PKPbc			PKPbc	12 02 06.2	-0.9
ULM	**Lac du Bonnet** 1.7nm,0.8s,baz=124,slow=4.3,SNR=4.1	**149.26**	**299**	PKPbc			PKPbc	12 02 09.6	-0.7

MEX 06 11:45:33.4±0.3,16.16N×98.58W,h1km±3km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.49**	**62**	*i*	P		Pg	11 45 42.5	-0.4
PNIG				*e*	S		Sg	11 45 49.9	+0.6
CAIG	**El Cayaco**	**1.84**	**299**	*i*	P		Pn	11 46 02.6	-3.5
CAIG				*i*	S		Sn	11 46 25.9	-4.1
VHO	**Vista Hermosa**	**1.99**	**63**	*i*	P		Pn	11 46 05.7	-2.7
VHO				*i*	S		Sn	11 46 29.3	-4.8
MEIG	**Mezcala**	**2.01**	**331**	*i*	P		Pn	11 46 05.3	-3.3
MEIG				*i*	S		Sn	11 46 30.1	-4.4
ARIG	**Puente Sto Nin**	**2.70**	**322**	*i*	P		Pn	11 46 13.9	-4.0
ARIG				*i*	S		Sn	11 46 46.7	-4.6

*IDC **06** 11:46:15.3±1.4,9.50S×156.93E,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.7/51,mbtmp4.0/7,ML3.9/1,MS2.9/1, Ms1 2.9/1,ms1mx2.6/41,Error ellipse: s-maj=38.2km s-min=25.6km az=142.0*

*ISCJB **06** 11:46:18.1±0.8,9.6S±0.2×157.04E±0.07,h33km,mb3.9/6, Error ellipse: s-maj=26.7km s-min=8.9km az=170.4*

ISC 06 11:46:20.0±0.9,9.6S±0.2×157.05E±0.09,h35km,n7, σ0.6s66/8,mb3.9/6,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara** 15nm,0.3s,baz=237,slow=10,SNR=4.9	**2.86**	**87**	P	n		**Pn**	**11 47 03.6**	**+0.4**
HNR	10nm,0.3s,baz=152,slow=18,SNR=2.9				S		**Sn**	**11 47 35.9**	**-0.6**
HNR	comp=Z,225nm,20.6s,baz=258,slow=42				LR		LR	11 48 19.4	
WRA	**Warramunga Arr** 4.4nm,0.8s,baz=69,slow=10.0,SNR=16	**24.23**	**242**	P			**P**	**11 51 33.1**	**-0.7**
ASAR	**Alice Springs** 2.6nm,0.7s,baz=68,slow=10,SNR=15	**26.18**	**235**	P			**P**	**11 51 50.8**	**-0.7**
STKA	**Stephens Creek** 2.9nm,0.6s,baz=17,slow=17,SNR=5.6	**26.42**	**211**	P			**P**	**11 51 54.3**	**+0.7**
FITZ	**Fitzroy Crossi** 1.5nm,0.8s,baz=63,slow=6.8,SNR=1.8	**31.61**	**251**	P			**P**	**11 52 39.7**	**-0.2**
SONM	**Songino Array** 0.9nm,0.8s,baz=127,slow=5.0,SNR=3.5	**72.59**	**327**	P			**P**	**11 57 44.2**	**+0.3**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=90,slow=5.8,SNR=3.3	**86.67**	**318**	P			**P**	**11 59 00.0**	**-0.2**

*NIED **06** 11:49:00,24.40N×122.00E,h8km,Mw4.2 Best double couple: M0 2.28000×10^15 NP1:φs=28.00000°,δ46.00000°, λ-152.00000°. NP2:φs=278.00000°,δ71.00000°, λ-47.00000°.*

*ISCJB **06** 11:49:41.7±0.3,24.44N±0.01×122.07E±0.01,h4km±2km, mb3.7/16,MS3.6/2,Error ellipse: s-maj=2.0km s-min=1.6km az=154.2*

*TAP **06** 11:49:42.7,24.44N×121.98E,h13km,ML4.4,B*

*JMA **06** 11:49:42.5±0.1,24.40N×121.98E,h19km,M4.2*

*ASIES **06** 11:49:43.2,24.46N×121.91E,h25km,MW3.7*

*BJI **06** 11:49:43.2,24.51N×122.09E,h16km,mb3.9/7,mB4.4/4, ML4.3/6,Ms3.9/10,Ms7 3.7/9*

*IDC **06** 11:49:47.6±3.0,24.45N×122.03E,h53km±29km,mb3.5/14, mb1 3.6/16,mb1mx3.4/54,mbtmp3.7/16,ML2.9/2,MS3.4/4, Ms1 3.4/4,ms1mx3.1/34,Error ellipse: s-maj=17.8km s-min=13.3km az=62.0*

ISC 06 11:49:42.4±0.8,24.44N±0.01×122.02E±0.02,h10km±5km, n162,σ0.90/241,mb3.8/16,34C-34D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=45	**0.15**	**40**	⇓*P*			**Pb**	**11 49 47.2**	**0.0**
EOS1	baz=45			*e*	S		**Sb**	**11 49 50.9**	**+2.9**
TWC	**Suao** baz=327	**0.23**	**318**	⇑*iP*			**Pg**	**11 49 47.3**	**+0.1**
TWC	baz=327			*S*			**Sg**	**11 49 50.5**	**+0.1**
NANB	**Nanao** baz=273	**0.25**	**268**	⇓*P*			**Pg**	**11 49 47.5**	**+0.1**
NANB	baz=273			*S*			**Sg**	**11 49 50.4**	**-0.5**
ENA	**Nanau** baz=272	**0.26**	**268**	⇓*iP*			**Pg**	**11 49 47.6**	**0.0**
ENA	baz=272			*S*			**Sg**	**11 49 50.6**	**-0.5**
ILA	**Ilan** baz=327	**0.41**	**323**	⇑*iP*			**Pg**	**11 49 51.1**	**+0.6**
ILA	baz=327			*eS*			**Sb**	**11 49 57.6**	**-0.5**
EGS	baz=348	**0.42**	**349**	⇑*iP*			**Pg**	**11 49 51.2**	**+0.6**
EGS	baz=348			*S*			**Sg**	**11 49 55.8**	**-0.3**
TWE	**Neicheng** baz=318	**0.43**	**311**	⇑*iP*			**Pg**	**11 49 51.0**	**+0.1**
TWE	baz=318			*S*			**Sg**	**11 49 56.3**	**-0.3**
NTC	**Toucheng** baz=351	**0.45**	**337**	⇑*eP*			**Pg**	**11 49 51.6**	**+0.3**
ENTT	**Nioudou** baz=297	**0.46**	**296**	⇑*iP*			**Pg**	**11 49 51.5**	**0.0**
ENTT	baz=297			*S*			**Sg**	**11 49 56.9**	**-0.7**
NACB	**Ninganchiao** baz=233	**0.47**	**236**	⇓*P*			**Pg**	**11 49 51.5**	**-0.1**
NACB	baz=233			*S*			**Sg**	**11 49 57.8**	**0.0**
NDT	**Datong Townshi** baz=290	**0.49**	**290**	⇑*iP*			**Pg**	**11 49 52.1**	**+0.1**
NDT	baz=290			*S*			**Sg**	**11 49 58.1**	**-0.5**
TWD	**Chiawan** baz=229	**0.53**	**228**	⇓*iP*			**Pg**	**11 49 52.6**	**0.0**
ETLH	**Xiulin Townshi** baz=243	**0.54**	**245**	⇓*P*			**Pg**	**11 49 52.8**	**-0.2**
ETLH	baz=243			*S*			**Sg**	**11 50 00.5**	**+0.3**
TIPB	**Shuangxi** baz=344	**0.56**	**342**	⇑*iP*			**Pg**	**11 49 53.8**	**+0.4**
TIPB	baz=344			*S*			**Sg**	**11 50 01.3**	**+0.5**
TWB1	**Santiao Chiao** baz=353	**0.57**	**357**	⇑*iP*			**Pg**	**11 49 53.9**	**+0.4**
TWB1	baz=353			*S*			**Sg**	**11 50 01.0**	**0.0**
NNSB	**Datong** baz=269	**0.58**	**269**	⇓*P*			**Pg**	**11 49 53.6**	**-0.1**
NNSB	baz=269			*S*			**Sg**	**11 50 00.5**	**-1.0**
NWLT	**Wulai** baz=299	**0.58**	**306**	⇑*iP*			**Pg**	**11 49 54.0**	**+0.2**
NWLT	baz=299			*eS*			**Sg**	**11 50 00.9**	**-0.5**
NNS	**Nan Shan** baz=269	**0.59**	**271**	⇓*iP*			**Pg**	**11 49 53.8**	**-0.2**
NNS	baz=269			*S*			**Sg**	**11 50 00.8**	**-1.0**
HWA	**Hwalien** baz=223	**0.59**	**220**	*eP*			**Pg**	**11 49 54.6**	**+0.7**
YHNB	**Yeheng** baz=297	**0.63**	**292**	⇑*P*			**Pg**	**11 49 54.9**	**+0.2**
YHNB	baz=297			*S*			**Sg**	**11 50 01.9**	**-1.2**
NSK	**Sanguang** baz=297	**0.65**	**292**	⇑*iP*			**Pg**	**11 49 55.1**	**+0.1**
NSK	baz=297			*eS*			**Sg**	**11 50 02.4**	**-1.2**
ENLB	**Shoufeng** baz=220	**0.65**	**216**	P			**Pb**	**11 49 56.4**	**+0.5**
ENLB	baz=220			*eS*			**Sn**	**11 50 08.4**	**+0.3**
NWF	**Wu-fen Shan** baz=332	**0.67**	**341**	⇑*iP*			**Pg**	**11 49 56.0**	**+0.7**
NWF	baz=332			*S*			**Sg**	**11 50 05.0**	**+0.8**
WFSB	**Wu-fen Shan** baz=332	**0.67**	**341**	⇑*P*			**Pg**	**11 49 56.1**	**+0.7**
WFSB	baz=332			*S*			**Sg**	**11 50 04.7**	**+0.5**
TWA	**Mucha** baz=326	**0.67**	**324**	⇑*iP*			**Pg**	**11 49 56.0**	**+0.6**
TWA	baz=326			*S*			**Sb**	**11 50 05.4**	**-0.3**
NHDH	**Xindian Distri** baz=310	**0.69**	**319**	⇑*P*			**Pg**	**11 49 56.5**	**+0.7**
NHDH	baz=310			*eS*			**Sg**	**11 50 04.9**	**0.0**
TATO	**Taipei** baz=309	**0.72**	**318**	⇑*P*			**Pg**	**11 49 57.0**	**+0.6**
TATO	baz=309			*S*			**Sg**	**11 50 05.6**	**-0.3**
WHF	**Hehuan Shan** baz=256	**0.75**	**247**	⇓*iP*			**Pg**	**11 49 56.7**	**-0.2**
WHF	baz=256			*S*			**Sg**	**11 50 06.4**	**-0.4**
TAP	**Taipei** baz=315	**0.76**	**322**	⇑*iP*			**Pb**	**11 49 58.0**	**+0.3**
TAP	baz=315			*S*			**Sb**	**11 50 08.4**	**+0.2**
TWT	**Tachien** baz=256	**0.79**	**257**	⇓*iP*			**Pg**	**11 49 57.9**	**+0.2**
TWT	baz=256			*S*			**Sg**	**11 50 08.1**	**-0.1**
TDCB	**Techi** baz=256	**0.81**	**257**	⇓*P*			**Pg**	**11 49 58.0**	**0.0**
TDCB	baz=256			*S*			**Sg**	**11 50 07.8**	**-0.8**
WLTB	**Daxi** baz=301	**0.81**	**301**	⇑*iP*			**Pb**	**11 49 59.2**	**+0.6**
WLTB	baz=301			*S*			**Sg**	**11 50 09.4**	**+0.6**
YM01	**YM01** baz=331	**0.82**	**330**	⇑*P*			**Pb**	**11 49 59.1**	**+0.3**
YM01	baz=331			*eS*			**Sg**	**11 50 08.8**	**-0.1**
ESL	**Shilin** baz=225	**0.82**	**221**	⇓*iP*			**Pg**	**11 49 57.8**	**-0.4**
YM11	**YM11** baz=332	**0.83**	**331**	⇑*P*			**Pb**	**11 49 59.4**	**+0.4**
YM11	baz=332			*eS*			**Sn**	**11 50 11.7**	**-1.0**
YM05	**YM05** baz=331	**0.84**	**330**	⇑*P*			**Pb**	**11 49 59.4**	**+0.3**
YM05	baz=331			*eS*			**Sb**	**11 50 11.2**	**+0.8**
JYNG	**Yonagunijimaku**	**0.84**	**89**	P			**Pg**	**11 49 59.3**	**+0.7**
JYNG				*eS*			**Sb**	**11 50 10.8**	**+0.3**
YM04	**YM04** baz=315	**0.84**	**328**	⇑*iP*			**Pb**	**11 49 59.4**	**+0.3**
YM04	baz=315			*S*			**Sb**	**11 50 10.9**	**+0.4**
YM08	**YM08** baz=333	**0.85**	**332**	⇑*P*			**Pg**	**11 49 59.3**	**+0.6**
YM08	baz=333			*S*			**Sb**	**11 50 10.8**	**+0.2**
CHGB	**Renai** baz=252	**0.86**	**244**	⇓*P*			**Pg**	**11 49 58.9**	**-0.1**
CHGB	baz=252			*S*			**Sg**	**11 50 09.6**	**-0.7**
TWS1	**Kuangyinshan** baz=314	**0.86**	**320**	⇑*iP*			**Pn**	**11 50 00.2**	**-0.4**
TWS1	baz=314			*eS*			**Sn**	**11 50 12.6**	**-0.7**
ANP	**Anpu** baz=316	**0.88**	**329**	⇑*iP*			**Pg**	**11 49 59.8**	**+0.5**
ANP	baz=316			*eS*			**Sn**	**11 50 13.4**	**-0.3**
NTST	**Danshui** baz=325	**0.89**	**324**	⇑*eP*			**Pn**	**11 50 00.9**	**-0.2**
NTST	baz=325			*eS*			**Sn**	**11 50 14.3**	**+0.3**
YOJ	**Yonaguni jima** baz=88	**0.90**	**88**	⇓*P*			**Pb**	**11 50 00.4**	**+0.2**
YOJ	baz=88			*eS*			**Sg**	**11 50 11.7**	**+0.2**
YOJ	**Yonaguni jima**	**0.90**	**88**	P			**Pb**	**11 50 00.3**	**+0.2**
YOJ					S		**Sb**	**11 50 12.5**	**+0.3**
OWD	**Renai** baz=237	**0.91**	**238**	⇓*iP*			**Pg**	**11 49 59.6**	**-0.3**
OWD	baz=237			*eS*			**Sg**	**11 50 12.0**	**+0.2**
TWY	**Chenhua** baz=336	**0.92**	**335**	⇑*iP*			**Pg**	**11 50 00.9**	**+0.8**
TWY	baz=336			*eS*			**Sn**	**11 50 14.2**	**-0.5**
NCU	**National Centr** baz=306	**0.93**	**305**	⇑*iP*			**Pn**	**11 50 01.6**	**+0.1**
NCU	baz=306			*eS*			**Sn**	**11 50 15.0**	**+0.1**
NCUH	**Zhongli** baz=305	**0.93**	**305**	⇑*P*			**Pn**	**11 50 01.6**	**+0.1**
NCUH	baz=305			*eS*			**Sn**	**11 50 14.9**	**0.0**
EGFH	**Guangfu** baz=224	**0.94**	**216**	*eP*			**Pb**	**11 50 00.0**	**-0.7**
LIOB	**Emei** baz=283	**0.94**	**283**	⇑*iP*			**Pb**	**11 49 59.9**	**-0.9**
LIOB	baz=283			*eS*			**Sb**	**11 50 10.9**	**-2.5**
NSTT	**Nanjuang** baz=282	**0.95**	**282**	⇑*iP*			**Pg**	**11 50 01.2**	**+0.5**
NSTT	baz=282			*S*			**Sb**	**11 50 12.3**	**-1.3**
WHP	**Taichung City** baz=260	**0.99**	**261**	⇓*iP*			**Pb**	**11 50 01.9**	**+0.1**
WHP	baz=260			*eS*			**Sb**	**11 50 13.4**	**-1.6**
SBCB	**Hsinchu** baz=284	**1.01**	**291**	⇑*P*			**Pn**	**11 50 03.3**	**+0.7**
SBCB	baz=284			*S*			**Sg**	**11 50 15.8**	**+0.9**
VWDT	**VWDT** baz=234	**1.05**	**230**	⇓*P*			**Pb**	**11 50 02.2**	**-0.5**
HGSD	**Ruisui** baz=209	**1.09**	**210**	⇓*P*			**Pn**	**11 50 03.8**	**+0.2**
HGSD	baz=209			*eS*			**Sn**	**11 50 21.5**	**+2.7**
EHY	**Hungye** baz=212	**1.12**	**215**	*eP*			**Pb**	**11 50 03.1**	**-0.9**
NMLH	**Miaoli** baz=275	**1.13**	**275**	⇑*eP*			**Pg**	**11 50 05.3**	**+1.2**
NMLH	baz=275			*eS*			**Sn**	**11 50 19.8**	**0.0**
TWQ1	**Liyutan** baz=265	**1.14**	**266**	*eP*			**Pg**	**11 50 05.1**	**+0.7**
NSY	**Sanyi** baz=269	**1.15**	**269**	*eP*			**Pg**	**11 50 05.5**	**+1.0**
NSY	baz=269			*eS*			**Sg**	**11 50 19.9**	**+0.4**
SMLT	**Sun Moon Lake** baz=249	**1.16**	**242**	⇓*iP*			**Pb**	**11 50 04.6**	**-0.1**
SSLB	**Suanglung** baz=235	**1.17**	**237**	⇓*P*			**Pn**	**11 50 04.4**	**-0.4**
TYC	**Yuchr** baz=243	**1.19**	**244**	⇓*iP*			**Pn**	**11 50 04.7**	**-0.4**
PCYT	**Pengchaiyu** baz=5.0	**1.19**	**2**	*eP*			**Pn**	**11 50 05.0**	**-0.1**
PTSB	**Yuanli** baz=270	**1.20**	**271**	⇓*eP*			**Pg**	**11 50 05.9**	**+0.4**
PTSB	baz=270			*eS*			**Sn**	**11 50 21.2**	**-0.4**
YULB	**Yu-li** baz=210	**1.23**	**213**	⇓*P*			**Pn**	**11 50 04.1**	**-1.6**
TCU	**Taichung** baz=256	**1.26**	**257**	⇓*eP*			**Pg**	**11 50 07.6**	**+1.0**
WDJ	**Dajia District** baz=266	**1.26**	**266**	*eP*			**Pg**	**11 50 07.8**	**+1.2**
WDJ	baz=266			*eS*			**Sg**	**11 50 24.5**	**+1.4**
TWF1	**Yuli** baz=226	**1.27**	**212**	*eP*			**Pn**	**11 50 05.4**	**-0.8**
WHYT	**Xinyi Township** baz=235	**1.30**	**236**	⇓*P*			**Pn**	**11 50 06.7**	**+0.1**
WJS	**Zhushan** baz=242	**1.33**	**243**	*eP*			**Pg**	**11 50 08.5**	**+0.5**
WJS	baz=242			*eS*			**Sg**	**11 50 27.2**	**+1.9**
WNT	**Mingjian** baz=259	**1.34**	**246**	*eP*			**Pg**	**11 50 08.9**	**+0.7**
WNT	baz=259			*eS*			**Sg**	**11 50 27.2**	**+1.6**
YUS	**Yu-Shan** baz=227	**1.36**	**226**	⇓*iP*			**Pn**	**11 50 08.1**	**+0.2**
YUS	baz=227			*eS*			**Sg**	**11 50 28.6**	**+2.4**
WCHH	**Zhanghua** baz=255	**1.38**	**255**	*eP*			**Pg**	**11 50 09.7**	**+0.8**
FULB	**Fuli** baz=224	**1.40**	**209**	⇓*eP*			**Pn**	**11 50 08.1**	**+0.1**
ALS	**Alishan** baz=231	**1.45**	**231**	⇓*P*			**Pb**	**11 50 09.6**	**0.0**
ALS	baz=231			*eS*			**Sg**	**11 50 31.2**	**+2.3**
CHKT	**Chengkung** baz=184	**1.46**	**204**	*eP*			**Pn**	**11 50 07.6**	**-1.2**
CHN5	**Tsauling** baz=237	**1.49**	**236**	⇓*eP*			**Pb**	**11 50 10.4**	**+0.3**
CHN5	baz=237			*eS*			**Sg**	**11 50 31.5**	**+1.3**
WGK	**Gukeng** baz=243	**1.53**	**241**	*eP*			**Pb**	**11 50 11.5**	**+0.6**
WGK	baz=243			*eS*			**Sg**	**11 50 34.2**	**+2.6**
ELDTW	**Lidau** baz=215	**1.54**	**217**	*eP*			**Pn**	**11 50 09.8**	**-0.3**
WDLH	**Douliu** baz=242	**1.55**	**242**	⇓*eP*			**Pb**	**11 50 11.9**	**+0.7**
IRIF	**Iriomote-Funau**	**1.56**	**93**	P			**Pn**	**11 50 09.7**	**-0.5**
IRIF					S		**Sn**	**11 50 29.4**	**-1.1**
RLNB	**Erlin** baz=263	**1.61**	**251**	*eP*			**Pb**	**11 50 11.8**	**-0.5**
HATJ	**Hateruma jima**	**1.67**	**103**	P			**Pn**	**11 50 12.1**	**+0.4**
HATJ				*eS*			**Sn**	**11 50 33.0**	**-0.2**
CHN2	**Minshiung** baz=223	**1.68**	**238**	*eP*			**Pg**	**11 50 14.5**	**-0.1**
WTCT	**Ta-ch'eng** baz=263	**1.69**	**251**	*eP*			**Pb**	**11 50 13.7**	**+0.1**
WTCT	baz=263			*eS*			**Sb**	**11 50 35.8**	**+1.0**
CHN4	**Tsaushan** baz=233	**1.70**	**231**	*eP*			**Pb**	**11 50 14.3**	**+0.6**
CHN4	baz=233			*eS*			**Sg**	**11 50 38.7**	**+1.7**
TPUB	**Ta-pu** baz=231	**1.70**	**229**	⇓*P*			**Pb**	**11 50 13.8**	**0.0**
TPUB	baz=231			*eS*			**Sg**	**11 50 38.1**	**+0.9**
STYT	**Tauyuan** baz=224	**1.72**	**223**	⇓*P*			**Pb**	**11 50 13.6**	**-0.5**
STYT	baz=224			*eS*			**Sg**	**11 50 37.5**	**-0.1**
CHY	**Chiayi** baz=224	**1.73**	**238**	*eP*			**Pb**	**11 50 14.9**	**+0.6**
WTP	**Ta-pu** baz=230	**1.75**	**228**	⇓*iP*			**Pb**	**11 50 14.6**	**-0.1**
WTP	baz=230			*eS*			**Sg**	**11 50 39.4**	**+0.7**
JKRS	**Kuro-shima**	**1.82**	**96**	P			**Pn**	**11 50 13.9**	**+0.1**
JKRS					S		**Sn**	**11 50 36.2**	**-0.8**
TWK	**Hsinying** baz=234	**1.82**	**231**	⇓*iP*			**Pb**	**11 50 15.8**	**-0.1**
TWK	baz=234			*eS*			**Sg**	**11 50 40.7**	**-0.4**
WSF	**Szhu** baz=255	**1.83**	**245**	*eP*			**Pb**	**11 50 15.2**	**-0.7**
WSF	baz=255			*eS*			**Sg**	**11 50 41.4**	**+0.3**
TWG	**Pinlang** baz=192	**1.83**	**209**	*eP*			**Pn**	**11 50 12.9**	**-1.0**
TWGBT	**Beinan** baz=192	**1.83**	**208**	*eP*			**Pn**	**11 50 12.9**	**-1.0**

WLGB	**Puzi**	**1.84**	**239**	*eP*		**Pb**	**11 50 15.9**	**-0.2**
	baz=243								
WLGB				*eS*		**Sg**	**11 50 41.9**	**+0.3**
	baz=243								
SNST	**Tainan City**	**1.85**	**229**	*eP*		**Pb**	**11 50 16.2**	**-0.1**
	baz=231								
CHN1	**Nanshi**	**1.85**	**228**	*eP*		**Pb**	**11 50 16.3**	**0.0**
	baz=231								
CHN1				*eS*		**Sg**	**11 50 42.2**	**+0.4**
	baz=231								
SLGT	**Liugui**	**1.91**	**222**	*eP*		**Pn**	**11 50 15.8**	**+0.8**
	baz=222								
JlJ	**Ishigaki jima**	**1.94**	**92**	P		**Pn**	**11 50 14.7**	**-0.6**
JlJ				S		**Sn**	**11 50 38.1**	**-1.6**
CHN8	**Yiju**	**1.98**	**237**	*eP*		**Pb**	**11 50 17.4**	**-1.1**
	baz=238								
CHN3	**Shinhua**	**2.03**	**229**	*eP*		**Pb**	**11 50 19.5**	**+0.1**
	baz=230								
ECL	**Taimali**	**2.08**	**208**	*eP*		**Pn**	**11 50 17.1**	**-0.2**
	baz=193								
JlSG	**Ishigakijimahi**	**2.09**	**85**	P		**Pn**	**11 50 16.9**	**-0.6**
JlSG				S		**Sn**	**11 50 42.1**	**-1.5**
TWM1	**Shoushan**	**2.17**	**223**	*eP*		**Pb**	**11 50 22.0**	**+0.2**
	baz=223								
SGLT	**Jiouru**	**2.21**	**220**	*eP*		**Pb**	**11 50 22.4**	**-0.1**
	baz=221								
MASBT	**Mashibuluo**	**2.22**	**215**	*eP*		**Pn**	**11 50 20.2**	**+0.9**
	baz=220								
MASBT				*eS*		**Sb**	**11 50 51.1**	**+0.9**
	baz=220								
PTTC	**Pingtan**	**2.30**	**298**	*eP*		**Pn**	**11 50 18.8**	**-1.6**
	baz=297								
EAST	**Anshuo**	**2.31**	**208**	*eP*		**Pn**	**11 50 20.0**	**-0.5**
	baz=193								
SSPT	**Xinbi**	**2.36**	**215**	*eP*		**Pb**	**11 50 24.6**	**-0.4**
	baz=215								
VWUC	**VWUC**	**2.41**	**284**	*eP*		**Pn**	**11 50 21.8**	**0.0**
	baz=283								
PNG	**Penghu**	**2.42**	**250**	*eP*		**Pn**	**11 50 22.8**	**+0.8**
	baz=252								
PHUB	**P'eng-hu**	**2.42**	**248**	*eP*		**Pn**	**11 50 22.6**	**+0.5**
	baz=251								
SCZT	**Fangliau**	**2.42**	**212**	*eP*		**Pn**	**11 50 25.0**	**-1.1**
	baz=196								
LAY	**Lan-yu**	**2.42**	**190**	*eP*		**Pn**	**11 50 21.2**	**-1.0**
	baz=187								
JTJ	**Tarama**	**2.45**	**85**	P		**Pn**	**11 50 22.8**	**+0.4**
JTJ				*eS*		**Sn**	**11 50 51.9**	**-0.5**
WDGT	**Dungji**	**2.46**	**242**	*eP*		**Pn**	**11 50 23.8**	**+1.2**
	baz=245								
MATB	**Ma-tsu**	**2.54**	**313**	*eP*		**Pn**	**11 50 22.6**	**-1.1**
	baz=311								
WLCH	**Liuqiu**	**2.57**	**216**	*eP*		**Pb**	**11 50 29.5**	**+0.9**
	baz=218								
VCHM	**Qimei**	**2.67**	**243**	*eP*		**Pn**	**11 50 26.0**	**+0.5**
	baz=247								
HEN	**Hengchun**	**2.69**	**206**	*eP*		**Pn**	**11 50 27.7**	**+1.9**
	baz=189								
PTMZ	**Houxiangcun**	**2.71**	**283**	*eP*		**Pn**	**11 50 26.3**	**+0.3**
	baz=283								
TWK1	**Hengchun**	**2.72**	**205**	*eP*		**Pn**	**11 50 26.6**	**+0.5**
	baz=190								
TWKBT	**Hengchun**	**2.72**	**204**	*eP*		**Pn**	**11 50 26.5**	**+0.4**
	baz=190								
TSEB	**Hengchuen, Pin**	**2.73**	**202**	*eP*		**Pn**	**11 50 26.6**	**+0.4**
	baz=189								
JlRB	**Irabujima**	**2.89**	**82**	P		**Pn**	**11 50 29.1**	**+0.6**
JlRB				*eS*		**Sn**	**11 51 02.7**	**-0.7**
LYJJ	**Jianjiangzhen**	**2.94**	**316**	*eP*		**Pn**	**11 50 28.2**	**-0.9**
	baz=315								
JlKM	**Ikemajima**	**2.97**	**80**	P		**Pn**	**11 50 29.8**	**+0.2**
JlKM				*eS*		**Sn**	**11 51 05.3**	**-0.1**
XPSS	**Dashiqiu**	**2.98**	**327**	*eP*		**Pn**	**11 50 28.9**	**-0.9**
	baz=325								
JMJ	**Miyako jima 2**	**3.00**	**82**	P		**Pn**	**11 50 30.8**	**+0.8**
JMJ				*eS*		**Sn**	**11 51 06.3**	**+0.2**
JOGS	**Gusukube**	**3.10**	**83**	P		**Pn**	**11 50 32.3**	**+1.0**
JOGS				S		**Sn**	**11 51 08.4**	**0.0**
QZH	**Quanzhou**	**3.16**	**280**	Pn		**Pn**	**11 50 32.7**	**+0.5**
QZH				Sn		**Sn**	**11 51 09.1**	**-0.9**
QZH				smax		smax			
	comp=N,520nm,0.7s								
QZH				smax		smax			
	comp=E,280nm,0.6s								
QZH				LR		LR			
	comp=N,1μm,10.4s								
QZH				LR		LR			
	comp=E,1μm,10.4s								
QZH				LR		LR			
	comp=Z,810nm,10.9s								
MHZQ	**Yeshan**	**3.18**	**302**	*eP*		**Pn**	**11 50 32.0**	**-0.4**
	baz=301								
KNM	**Kinmen**	**3.27**	**270**	*eP*		**Pn**	**11 50 36.0**	**+2.3**
	baz=270								
KNMB	**Chin-men Tao**	**3.31**	**271**	*eP*		**Pn**	**11 50 34.8**	**+0.5**
	baz=271								
AXDP	**Jialang**	**3.71**	**278**	*eP*		**Pn**	**11 50 40.4**	**+0.6**
	baz=277								
ZPLA	**Ao Xicun**	**3.93**	**264**	*eP*		**Pn**	**11 50 44.1**	**+1.2**
	baz=264								
JOW	**Kunigami**	**6.13**	**66**	*eP*		**Pn**	**11 51 14.2**	**+1.2**
	baz=72								
JOW	**Kunigami**	**6.13**	**66**	P		**Pn**	**11 51 14.7**	**+1.6**
	0.5nm,0.3s,baz=175,slow=13,SNR=19								
JOW				S		**Sn**	**11 52 25.3**	**+2.1**
	0.1nm,0.3s,baz=143,slow=11,SNR=2.4								
NJ2	**Nanjing**	**8.09**	**341**	*eP*		**Pn**	**11 51 42.3**	**+2.4**
NJ2				S		**Sn**	**11 53 15.5**	**+4.1**
NJ2				smax		smax			
	comp=N,100nm,0.7s								
NJ2				smax		smax			
	comp=E,81nm,0.8s								
NJ2				LR		LR			
	comp=N,340nm,9.3s								
NJ2				LR		LR			
	comp=E,440nm,5.4s								
NJ2				LR		LR			
	comp=Z,530nm,10.8s								
WHN	**Wuhan**	**9.13**	**313**	P		Pn	11 52 01.7	+7.5	
JNU	**Nakatsue**	**11.62**	**40**	LR		LR	11 57 01.1		
	comp=Z,101nm,20.7s,baz=319,slow=37								
KSRS	**Korea Array**	**13.92**	**20**	P		**Pn**	**11 53 00.8**	**+1.1**
	0.1nm,0.3s,baz=203,slow=12,SNR=2.6								
KSRS				LR		LR	11 59 07.7		
	comp=Z,99nm,18.0s,baz=305,slow=40								
CMAR	**Chiang Mai Arr**	**22.28**	**259**	P		**P**	**11 54 40.6**	**+0.7**
	0.4nm,0.4s,baz=58,slow=8.6,SNR=3.6								
GTA	**Gaotai**	**23.96**	**314**	*eP*		P	11 55 07.6	+11	
GTA				pP		pwP	11 55 12.5	+13	
GTA				sP		sP	11 55 14.7	+14	
GTA				pmax		pmax			
	comp=Z,1.0nm,1.4s								
KLR	**Kul'dur**	**25.90**	**15**	P		**P**	**11 55 16.2**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=234,slow=7.6,SNR=4.5								
SONM	**Songino Array**	**26.44**	**336**	P		**P**	**11 55 19.6**	**0.0**
	comp=Z,0.9nm,0.7s,baz=155,slow=11,SNR=6.2								
WMQ	**Urumqi**	**34.04**	**313**	*eP*		**P**	**11 56 28.4**	**+1.7**
MKAR	**Makanchi Array**	**38.69**	**315**	P		**P**	**11 57 06.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=104,slow=10,SNR=6.5								
ZALV	**Zalesovo Beam**	**40.45**	**327**	P		**P**	**11 57 20.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=99,slow=7.0,SNR=3.4								
ZALV				LR		LR	12 14 06.0		
	comp=Z,67nm,19.4s,baz=252,slow=36								
KURBB	**Kurchatov Arra**	**42.41**	**319**	P		**P**	**11 57 35.3**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=101,slow=8.3,SNR=4.8								
WRA	**Warramunga Arr**	**45.71**	**164**	P		**P**	**11 58 03.6**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=346,slow=8.5,SNR=17								
TIXI	**Tiksi**	**47.40**	**3**	P		**P**	**11 58 15.3**	**-1.2**
	comp=Z,1.4nm,0.9s,baz=182,slow=1.5,SNR=3.8								
BVAR	**Borovoye Array**	**47.97**	**320**	P		**P**	**11 58 20.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=102,slow=8.6,SNR=7.6								
ASAR	**Alice Springs**	**49.19**	**166**	P		**P**	**11 58 31.4**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=345,slow=6.7,SNR=28								
GEYT	**Alibeck**	**55.33**	**300**	LR		LR	12 28 37.1		
	comp=Z,58nm,19.1s,baz=140,slow=42								
STKA	**Stephens Creek**	**59.04**	**161**	P		**P**	**11 59 41.0**	**-1.5**
	comp=Z,0.5nm,0.4s,baz=350,slow=12,SNR=2.7								
BRTR	**Keskin Array B**	**73.64**	**307**	P		**P**	**12 01 17.0**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=76,slow=7.6,SNR=5.0								
YKA	**Yellowknife Ar**	**82.44**	**23**	P		**P**	**12 02 01.9**	**-2.8**
	comp=Z,0.2nm,0.8s,baz=310,slow=5.1,SNR=3.3								
NVAR	**Mina Array Bea**	**95.73**	**43**	P		**P**	**12 03 09.2**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=308,slow=5.7,SNR=4.5								
PDAR	**Pinedale Array**	**97.98**	**36**	P		**P**	**12 03 18.7**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=202,slow=1.9,SNR=4.2								

*ISCJB **06** 11:49:57.7±0.6,39.19N±0.04×29.03E±0.04,h15km±8km, Error ellipse: s-maj=7.0km s-min=5.4km az=165.8*
*ISK **06** 11:49:57.9,39.17N×29.07E,h10km±1km,ML1.9/4*
*DDA **06** 11:49:58.4,39.11N×29.07E,h7km±1km,ML2.5*
ISC 06 11:49:58.3±1.0,**39.15N**±0.04×**29.07E**±0.03,**h12**km±7km, **n10**,σ**0**/**41**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.09**	**236**	PG		**Pg**	**11 50 00.8**	**-0.3**
SMAA				SG		**Sg**	**11 50 02.9**	**-0.2**
SHAP	**Saphane-Kutahy**	**0.17**	**137**	PG		**Pg**	**11 50 02.3**	**+0.1**
GEDZ	**Gediz**	**0.28**	**112**	PG		**Pg**	**11 50 04.3**	**+0.2**
GEDZ				SG		**Sg**	**11 50 08.8**	**+0.7**
DEMI	**Demirci**	**0.30**	**249**	*i* P		**Pg**	**11 50 04.8**	**+0.4**
DEMI				*i* S		**Sg**	**11 50 09.0**	**+0.4**
DEMI				IAML_P				
	comp=Z,3μm,0.1s							
GDZ	**Gediz**	**0.32**	**101**	*i* P		**Pb**	**11 50 05.6**	**-0.5**
GDZ				*i* S		**Sb**	**11 50 10.9**	**-0.4**
GDZ				IAML_P				
	comp=Z,3μm,0.1s							
TVSB	**Tavsanli**	**0.42**	**45**	PG		**Pg**	**11 50 06.6**	**-0.2**
TVSB				SG		**Sg**	**11 50 12.8**	**+0.3**
USAK	**Uak-Merkez**	**0.44**	**186**	*i* P		**Pg**	**11 50 07.0**	**+0.1**
USAK				*i* S		**Sg**	**11 50 13.1**	**+0.3**
USAK				IAML_P				
	comp=Z,1μm,0.1s							
KULA	**Kula-Manisa**	**0.71**	**207**	PG		**Pg**	**11 50 11.5**	**-0.6**
KHAL	**Karahalli**	**0.84**	**157**	*i* P		**Pb**	**11 50 14.8**	**-0.2**
KHAL				*i* S		**Sb**	**11 50 26.4**	**+0.2**
HERR	**Herculane**	**7.57**	**321**	S		**Sn**	**11 53 14.5**	**+0.3**

*BGR **06** 11:50:04.1±0.0,52.98N×175.43W,h33km,mb4.9*
*ISCJB **06** 11:50:18.3±0.2,52.83N±0.03×174.45W±0.03, h201km±1km,mb4.4/221,Error ellipse: s-maj=4.7km s-min=2.5km az=170.5*
*MOS **06** 11:50:18.2±1.0,52.85N×174.42W,h198km,mb4.6/29, Error ellipse: s-maj=9.1km s-min=6.0km az=78.5*
*IDC **06** 11:50:19.0±0.5,52.82N×174.46W,h194km±4km,mb3.8/36, mb1 3.9/37,mb1mx3.9/54,mbtmp4.3/37,MS3.8/2, Ms1 3.8/2,ms1mx3.0/49,Error ellipse: s-maj=10.0km s-min=6.7km az=173.0*
*BJI **06** 11:50:19.9,53.25N×174.77W,h199km,mb4.5/20, mB4.8/10*
*NEIC **06** 11:50:20.2±0.0,52.36N×174.21W,h197km,mb4.7/196, ML4.2(AEIC),After AEIC.*
*AEIC **06** 11:50:20.2,52.36N×174.21W,h197km,ML4.2, MB4.7(NEIC)*
ISC 06 11:50:18.8±0.4,**52.73N**±0.06×**174.33W**±0.03, **h194**km±3km,**h194**km:**pP-P**,**n651**,σ**15**/**25**/723,**mb4.5**/221, **7C-9D**,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
KONE	**Korovin Northe**	**0.36**	**159**	P		**Pn**	**11 50 45.3**	**+0.5**
KOWE	**Korovin West**	**0.37**	**172**	P		**Pn**	**11 50 45.3**	**+0.4**
KOSE	**Korovin Southe**	**0.42**	**156**	P		**Pn**	**11 50 45.2**	**+0.2**
KOFP	**Korovin Flat P**	**0.48**	**162**	P		**Pn**	**11 50 45.3**	**+0.1**
GSIG	**Igitkin Island**	**1.23**	**233**	P		**Pn**	**11 50 49.5**	**-0.1**
GSTR	**Great Sitkin T**	**1.23**	**240**	*e*Pn		**Pn**	**11 50 49.8**	**+0.1**
GSMY	**Great Sitkin M**	**1.26**	**238**	P		**Pn**	**11 50 50.0**	**0.0**
GSSP	**Great Sitkin S**	**1.30**	**241**	P		**Pn**	**11 50 50.3**	**+0.1**
GSTD	**Great Sitkin T**	**1.30**	**239**	P		**Pn**	**11 50 50.4**	**+0.1**
GSTD				S		**Sn**	**11 51 13.5**	**-1.2**
ETKA	**Kagalaska Isla**	**1.54**	**236**	P		**Pn**	**11 50 52.4**	**0.0**
ADAG	**Mount Adagdak**	**1.58**	**243**	P		**Pn**	**11 50 53.0**	**+0.3**
ADK	**Adak**	**1.67**	**240**	P		**Pn**	**11 50 53.4**	**-0.2**
ADK				S		**Sn**	**11 51 19.8**	**-0.7**
ADK	**Adak**	**1.67**	**240**	P		**Pn**	**11 50 53.4**	**-0.2**
ADK				S		**Sn**	**11 51 19.8**	**-0.7**
KIRH	**Kanaga Island**	**1.89**	**245**	P		**Pn**	**11 50 56.1**	**+0.4**
KIKV	**Kanaga Island**	**1.94**	**245**	P		**Pn**	**11 50 56.7**	**+0.5**
KIKV				S		**Sn**	**11 51 25.2**	**-0.1**
KIWB	**Kanaga Island**	**1.94**	**244**	*e*Pn		**Pn**	**11 50 56.5**	**+0.3**
KIWB				*e*Sn		**Sn**	**11 51 24.8**	**-0.5**
KIMD	**Kanaga Island**	**2.03**	**243**	P		**Pn**	**11 50 57.4**	**+0.2**
TAFP	**Tanaga Falls P**	**2.39**	**251**	P		**Pn**	**11 51 01.7**	**+0.6**
TAFP				S		**Sn**	**11 51 33.3**	**-0.7**
TASE	**Tanaga Southea**	**2.44**	**250**	P		**Pn**	**11 51 02.5**	**+0.8**
GAEA	**Gareloi East**	**2.87**	**252**	P		**Pn**	**11 51 07.5**	**+0.9**
NIKH	**Nikolski High**	**3.33**	**84**	P		**Pn**	**11 51 12.0**	**-0.1**
NIKH				S		**Sn**	**11 51 51.5**	**-2.2**
OKAK	**Okmok**	**3.70**	**74**	P		**Pn**	**11 51 16.4**	**-0.1**
MGOD	**Makushin Gods**	**4.61**	**74**	P		**Pn**	**11 51 28.8**	**+0.9**
MSW	**Makushin Switc**	**4.68**	**72**	P		**Pn**	**11 51 29.5**	**+0.6**
MSW				S		**Sn**	**11 52 24.1**	**+0.1**
MREP	**Makushin Rep't**	**4.68**	**74**	P		**Pn**	**11 51 30.1**	**+1.2**
MTBL	**Makushin Table**	**4.75**	**72**	P		**Pn**	**11 51 31.4**	**+1.5**
UNV	**Unalaska Vale**	**4.83**	**74**	P		**Pn**	**11 51 31.6**	**+0.9**
UNV				S		**Sn**	**11 52 27.7**	**+0.3**
SPIA	**Saint Paul Isl**	**5.04**	**26**	P		**Pn**	**11 51 35.5**	**+2.1**
AKRB	**Akutan Reef Bi**	**5.14**	**71**	P		**Pn**	**11 51 36.2**	**+1.5**
AKMO	**Akutan Morgan**	**5.16**	**71**	P		**Pn**	**11 51 36.6**	**+1.6**
ZRO	**Akutan Zero**	**5.18**	**71**	P		**Pn**	**11 51 36.9**	**+1.6**
AKGG	**Akutan Green G**	**5.20**	**70**	P		**Pn**	**11 51 37.0**	**+1.5**
AHB	**Akutan Harbor**	**5.28**	**71**	P		**Pn**	**11 51 38.3**	**+1.8**
AKUT	**Akutan**	**5.31**	**71**	*e*Pn		**Pn**	**11 51 38.5**	**+1.6**
AKUT				*e*Sn		**Sn**	**11 52 39.1**	**+0.7**
WESP	**Westdahl Peak**	**5.99**	**69**	P		**Pn**	**11 51 47.3**	**+1.5**
FALS	**False Pass**	**6.81**	**67**	P		**Pn**	**11 51 57.4**	**+1.1**
DT1	**Dutton Round H**	**7.51**	**67**	P		**Pn**	**11 52 05.2**	**-0.2**
SDPT	**Sand Point**	**8.57**	**67**	P		**Pn**	**11 52 19.9**	**+0.7**
CHGN	**Chignik**	**9.92**	**63**	*e*Pn		**Pn**	**11 52 36.5**	**-0.3**
CHGN				*e*Sn		**Sn**	**11 54 23.5**	**-3.9**
GAMB	**Gambell**	**11.16**	**6**	*e*Pn		**Pn**	**11 52 53.7**	**+0.9**
SII	**Sitkinak Islan**	**12.27**	**64**	*e*Pn		**Pn**	**11 53 07.2**	**+0.2**
ANM	**Nome**	**12.73**	**18**	*e*Pn		**Pn**	**11 53 13.5**	**+0.8**
ANM	**Nome**	**12.73**	**18**	*e*P		**Pn**	**11 53 13.5**	**+0.8**
OHAK	**Old Harbor**	**12.88**	**61**	*e*Pn		**Pn**	**11 53 14.7**	**0.0**
OHAK				*e*S		**S**	**11 55 40.2**	**+1.1**
SVW2	**Sparrevohn**	**13.19**	**43**	*e*Pn		**P**	**11 53 20.5**	**-1.2**
KDAK	**Kodiak Island**	**13.37**	**59**	*e*Pn		**Pn**	**11 53 20.4**	**-0.4**
KDAK				S		Sn	11 55 37.3	-12
KDAK				*e*S		**S**	**11 55 43.6**	**-6.9**
KDAK	**Kodiak Island**	**13.37**	**59**	*e*P		**Pn**	**11 53 20.4**	**-0.4**
KDAK				S		Sn	11 55 37.3	-12
KDAK				*e*S		**S**	**11 55 43.6**	**-6.9**
KDAK	**Kodiak Island**	**13.37**	**59**	P		**Pn**	**11 53 18.4**	**-2.3**
	6.8nm,0.3s,baz=263,slow=2.4,SNR=112							
KDAK				S		Sn	11 55 37.3	-12
	0.3nm,0.3s,baz=344,slow=7.4,SNR=2.6							
RSO	**Redoubt South**	**14.13**	**48**	*e*Pn		**P**	**11 53 33.4**	**+1.0**
RSO				*e*S		**S**	**11 56 12.8**	**+4.5**
HOM	**Homer**	**14.36**	**52**	*e*Pn		**P**	**11 53 34.7**	**+0.1**
BRLK	**Bradley Lake**	**14.76**	**52**	*e*Pn		**P**	**11 53 38.0**	**-0.3**
BRLK				*e*S		**S**	**11 56 18.0**	**-4.3**
SUA	**Susitna One**	**15.43**	**46**	*e*Pn		**P**	**11 53 48.5**	**+1.9**
	33nm,1.0s							
SUA				*e*S		**S**	**11 56 37.7**	**-0.1**
PPLA	**Purkeypile**	**15.49**	**40**	*e*Pn		**P**	**11 53 50.4**	**+3.1**
	74nm,0.6s							
SEW	**Seward**	**15.55**	**52**	*e*Pn		**Pn**	**11 53 47.3**	**-0.2**
	93nm,0.5s							
RC01	**Rabbit Creek A**	**15.74**	**48**	*e*P		**Pn**	**11 53 50.2**	**+0.3**
	12nm,0.8s							
CAST	**Castle Rocks**	**15.81**	**39**	*e*P		**Pn**	**11 53 52.6**	**+1.8**
	40nm,1.0s							
PMR	**Palmer**	**16.20**	**47**	*e*P		**Pn**	**11 53 56.3**	**+0.9**
	19nm,1.4s							
PMR	**Palmer**	**16.20**	**47**	*e*P		**Pn**	**11 53 56.3**	**+0.9**
PMR				pmax		pmax		
	comp=Z,19nm,1.4s							
RDOG	**Red Dog Mine**	**16.33**	**15**	*e*P		**Pn**	**11 53 57.8**	**+0.9**
	comp=Z,34nm,1.2s							
KNK	**Knik Glacier**	**16.43**	**48**	*e*P		**Pn**	**11 53 58.4**	**+0.1**
	comp=Z,20nm,0.6s							
TRF	**Thorofare Moun**	**16.52**	**40**	*e*P		**Pn**	**11 53 60.0**	**+0.6**
	comp=Z,42nm,0.4s							
BPAW	**Bear Paw Mtn.**	**16.59**	**38**	*e*P		**Pn**	**11 54 01.1**	**+1.0**
	comp=Z,66nm,0.7s							
SML	**Sawmill**	**16.63**	**47**	*e*P		**Pn**	**11 54 00.2**	**-0.4**
	comp=Z,38nm,1.2s							
SML	**Sawmill**	**16.63**	**47**	*e*P		**Pn**	**11 54 00.3**	**-0.4**
SML				pmax		pmax		
	comp=Z,38nm,1.2s							
IM3	**Indian Mountai**	**16.80**	**30**	*e*P		**Pn**	**11 54 03.2**	**+0.6**
PETK	**Petropavlovsk-**	**16.83**	**282**	P		**Pn**	**11 54 04.0**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=12							
PETK				LR		LR	12 00 29.8		
	comp=Z,163nm,21.3s,baz=322,slow=36							
RND	**Reindeer**	**17.07**	**41**	*e*P		**P**	**11 54 05.0**	**+0.5**
	comp=Z,141nm,0.7s							
RND	**Reindeer**	**17.07**	**41**	*e*P		**P**	**11 54 05.0**	**+0.5**
RND				pmax		pmax		
	comp=Z,141nm,0.7s							
SCM	**Sheep Creek Mo**	**17.09**	**47**	*e*P		**P**	**11 54 04.0**	**-0.7**
	comp=Z,39nm,0.9s							
SCM	**Sheep Creek Mo**	**17.09**	**47**	*e*P		**P**	**11 54 04.0**	**-0.7**
SCM				pmax		pmax		
	comp=Z,39nm,0.9s							
MCK	**McKinley**	**17.18**	**40**	*e*P		**P**	**11 54 06.0**	**+0.3**
	comp=Z,82nm,0.6s							
MCK	**McKinley**	**17.18**	**40**	*e*P		**P**	**11 54 06.1**	**+0.3**
MCK				pmax		pmax		
	comp=Z,82nm,0.6s							
MLY	**Manley**	**17.19**	**35**	*e*P		**Pn**	**11 54 08.2**	**+0.9**
	comp=Z,100nm,1.2s							
BWN	**Browne**	**17.20**	**39**	*e*P		**Pn**	**11 54 07.4**	**+0.1**
	comp=Z,90nm,0.8s							
EYAK	**Cordova Ski Ar**	**17.44**	**52**	*e*P		**P**	**11 54 09.0**	**+0.5**
	comp=Z,16nm,0.8s							
DHY	**Denali Highway**	**17.53**	**43**	*e*P		**Pn**	**11 54 10.8**	**-0.6**
	comp=Z,72nm,0.6s							
DIV	**Divide**	**17.58**	**50**	*e*P		**P**	**11 54 10.9**	**+0.8**
	comp=Z,18nm,0.7s							
KLU	**Klutina**	**17.61**	**49**	*e*P		**Pn**	**11 54 11.8**	**-0.5**
	comp=Z,109nm,1.5s							
WRH	**Wood River Hil**	**17.86**	**39**	*e*P		**P**	**11 54 12.9**	**-0.2**
	comp=Z,38nm,0.6s							
BILL	**Bilibino**	**17.95**	**336**	*e*P		**Pn**	**11 54 16.0**	**-0.1**
	comp=Z,36nm,1.0s							
BILL	**Bilibino**	**17.95**	**336**	*c i*P		**Pn**	**11 54 15.9**	**-0.2**
BILL				pmax		pmax		
	comp=Z,47nm,1.3s							
MDM	**Murphy Dome**	**18.05**	**37**	*e*P		**P**	**11 54 15.6**	**+0.4**
	comp=Z,142nm,1.6s							
CCB	**Clear Creek Bu**	**18.06**	**38**	*e*P		**P**	**11 54 14.8**	**-0.4**
	comp=Z,49nm,0.6s							
HMT	**Hamilton**	**18.11**	**53**	*e*P		**P**	**11 54 16.3**	**+0.4**
	comp=Z,27nm,0.5s							
TCOL	**CIGO, UAF Yank**	**18.15**	**38**	P		**P**	**11 54 16.1**	**-0.1**
	baz=240,SNR=16							
COLA	**College**	**18.15**	**38**	*e*P		**P**	**11 54 16.4**	**+0.2**
	comp=Z,47nm,0.7s							
COLA	**College**	**18.15**	**38**	*e*P		**P**	**11 54 15.7**	**-0.5**
COLA				pmax		pmax		
	comp=Z,31nm,1.0s							
HARP	**HAARP**	**18.24**	**46**	*e*P		**P**	**11 54 18.3**	**+1.1**
	comp=Z,112nm,1.0s							
HARP				*e*S		**Sn**	**11 57 41.1**	**-4.2**
HDA	**Harding Lake**	**18.27**	**40**	*e*P		**Pn**	**11 54 18.9**	**-1.0**
	comp=Z,102nm,0.6s							
HDA	**Harding Lake**	**18.27**	**40**	P		**P**	**11 54 17.7**	**+0.1**
	baz=242,SNR=115							
PAX	**Paxson**	**18.29**	**45**	*e*P		**P**	**11 54 18.3**	**+0.4**
	comp=Z,133nm,1.4s							
PAX	**Paxson**	**18.29**	**45**	*e*P		**P**	**11 54 18.3**	**+0.4**
PAX				pmax		pmax		
	comp=Z,133nm,1.4s							
POKR	**Poker Plat Res**	**18.43**	**37**	P		**P**	**11 54 19.1**	**-0.1**
	baz=240,SNR=28							
IL1	**Eielson Array**	**18.46**	**39**	*e*P		**P**	**11 54 18.4**	**-1.2**
ILAR	**Eielson Array**	**18.46**	**39**	P		**P**	**11 54 18.7**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=242,slow=10,SNR=60							
ILAR				S		**S**	**11 57 39.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=244,slow=21,SNR=11							
ILAR				ScP		**ScP**	**12 01 55.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=288,slow=3.1,SNR=5.1							
ILB	**Eielson Array**	**18.46**	**39**	*e*P		**P**	**11 54 18.5**	**-1.2**
COLD	**Coldfoot**	**18.69**	**30**	*e*P		**Pn**	**11 54 24.4**	**-0.4**
	comp=Z,17nm,0

baz=298
B06A Marblemount 33.16 76 *e*P P 11 56 37.6 +1.1
comp=Z,66nm,1.7s
KLR Kul'dur 33.46 286‖ *i*P P 11 56 37.6 -1.5
KLR Kul'dur 33.46 286 P P 11 56 38.0 -1.1
comp=Z,1.0nm,0.5s,baz=57,slow=8.6,SNR=5.4
E04D Cinebar 33.46 79 P P 11 56 41.8 +2.6
baz=299
D05A Enumclaw 33.50 78 *e*P P 11 56 41.1 +1.6
comp=Z,107nm,1.5s
C06D Leavenworth 33.79 76 P P 11 56 44.1 +2.1
baz=298
LON Longmire 33.82 79 *e*P P 11 56 43.6 +1.3
comp=Z,6.1nm,0.6s
LON Longmire 33.82 79 *e*P P 11 56 43.6 +1.3
LON pmax pmax
comp=Z,6.0nm,0.6s
H04D Lebanon 34.42 83 P P 11 56 49.5 +2.1
baz=302
F05D White Salmon 34.47 80 P P 11 56 49.9 +2.0
baz=300
I03D Drain, OR 34.50 84 P P 11 56 50.5 +2.4
baz=303
B08A Colville Reser 34.50 75 *e*P P 11 56 49.6 +1.4
comp=Z,24nm,0.6s
K02D Willamette Mer 34.87 86 P P 11 56 53.7 +2.3
baz=304
G05D Wamic, OR 34.89 81 P P 11 56 53.2 +1.8
baz=301
I04A Tendick Farm, 35.01 84 P P 11 56 54.5 +1.9
baz=303,SNR=5.6
E07A Sunnyside 35.08 78 *e*P P 11 56 54.8 +1.7
comp=Z,33nm,1.4s
HAWA Hanford 35.35 78 *e*P P 11 56 56.9 +1.5
comp=Z,106nm,1.9s
I05D Terrebonne, OR 35.36 82 P P 11 56 57.6 +2.1
baz=302
F07A Phinny Hill Vi 35.38 79 *e*P P 11 56 57.2 +1.6
comp=Z,13nm,0.8s
D08A Wollman Farm, 35.38 76 *e*P P 11 56 56.6 +0.9
comp=Z,47nm,1.5s
C09A Chrisman Ranch 35.39 75 *e*P P 11 56 56.9 +1.2
comp=Z,14nm,0.6s
J04D Umpqua Nationa 35.50 84 P P 11 56 59.2 +2.3
baz=304
E08A Dider Farm, El 35.59 77 *e*P P 11 56 58.7 +1.4
comp=Z,40nm,1.4s
NEW Newport 35.84 74 *e*P P 11 57 00.7 +1.1
comp=Z,24nm,0.6s
NEW Newport 35.84 74 *e*P P 11 57 00.7 +1.1
NEW pmax pmax
comp=Z,24nm,0.6s
NEW Newport 35.84 74 P P 11 57 00.5 +0.9
baz=299,SNR=23
USRK Uesuriysk Ar. 35.84 278 PcP PcP 11 59 22.7 +0.4
comp=Z,2.0nm,0.5s,baz=1.4,slow=3.3,SNR=9.9
L04D Klamath Falls 35.96 86 P P 11 57 02.0 +1.1
baz=305
YBH Yreka Blue Hor 36.00 87 *e*P P 11 57 02.7 +1.6
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 36.00 87 *e*P P 11 57 02.7 +1.6
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 36.00 87 P P 11 57 03.5 +2.5
comp=Z,4.5nm,0.5s,baz=332,slow=6.9,SNR=7.2
J05D Fort Rock, OR 36.00 83 P P 11 57 03.6 +2.4
baz=304,SNR=6.2
M02C Callahan 36.11 87 P P 11 57 03.8 +1.8
baz=306
E09A Wood Farm, Sta 36.12 77 *e*P P 11 57 03.1 +1.2
comp=Z,37nm,1.3s
G08A Pilot Rock 36.27 79 *e*P P 11 57 04.6 +1.2
comp=Z,12nm,1.4s
N02D Trinity Center 36.45 88 P P 11 57 06.9 +2.1
baz=306
M04C Macdoel 36.50 86 P P 11 57 07.7 +2.4
baz=305
I07A Izee 36.60 81 *e*P P 11 57 07.9 +1.7
comp=Z,7.7nm,0.7s
MJAR Matsushiro Arr 36.70 263 PcP PcP 11 59 24.2 -0.9
comp=Z,1.3nm,0.6s,baz=52,slow=1.4,SNR=4.0
F10A Beach Ranch, E 36.94 77 *e*P P 11 57 10.2 +1.2
comp=Z,35nm,1.8s
F10A *e*PcP PcP 11 59 26.9 +1.2
WALA Waterton Lakes 37.31 71 *e*P P 11 57 12.6 +0.5
comp=Z,27nm,1.4s
WALA *e*PcP PcP 11 59 28.1 +1.2
RES Resolute Bay 37.35 26 *e*P P 11 57 12.0 +0.1
comp=Z,10nm,1.6s
RES PcP PcP 11 59 25.9 -0.5
RES Resolute Bay 37.35 26 *e*P P 11 57 12.0 +0.1
RES 11 59 25.9
RES pmax pmax
comp=Z,10.0nm,1.6s
RES Resolute Bay 37.35 26 P P 11 57 11.8 -0.1
comp=Z,1.4nm,0.7s,baz=259,slow=7.9,SNR=7.4
RES PcP PcP 11 59 25.9 -0.5
comp=Z,0.9nm,0.6s,baz=247,slow=4.7,SNR=3.3
MOD Modoc Plateau 37.36 85 *e*P P 11 57 14.2 +1.6
comp=Z,8.8nm,0.6s
O03E Paynes Creek 37.41 88 P P 11 57 14.9 +1.9
baz=307
BMO Blue Mountains 37.50 79 *e*P P 11 57 14.3 +0.7
comp=Z,16nm,1.4s
J08A Circle Bar Ran 37.63 81 *e*P P 11 57 16.1 +1.3
comp=Z,5.0nm,0.6s
WVOR Wild Horse Val 38.06 83 *e*P P 11 57 19.3 +0.9
comp=Z,8.3nm,0.8s
WVOR Wild Horse Val 38.06 83 *e*P P 11 57 19.3 +0.9
WVOR pmax pmax
comp=Z,8.0nm,0.8s
MSO Missoula 38.42 74 *e*P P 11 57 22.2 +0.8
comp=Z,15nm,0.6s
MSO *e*PcP PcP 11 59 31.2 +0.8
MSO Missoula 38.42 74 P P 11 57 22.2 +0.8
baz=301,SNR=10.0
PAHR Pah Rah Range 39.24 87 *e*P P 11 57 28.7 +0.4
comp=Z,61nm,1.6s
VCNR Virginia City 39.33 88 *e*P P 11 57 30.2 +1.1
comp=Z,74nm,1.6s
PNTR Pine Nut 39.49 88 *e*P P 11 57 32.7 +2.3
comp=Z,37nm,0.6s
HRY Holter Researc 39.72 73 *e*P P 11 57 32.9 +0.8
YERR Yerington 39.77 88 *e*P P 11 57 35.3 +2.6
comp=Z,12nm,0.7s
LRM Limekiln Ridge 39.84 74 *e*P P 11 57 34.0 +0.8
HLID Hailey 39.94 78 *e*PcP PcP 11 59 37.2 +1.8
HLID Hailey 39.94 78 P P 11 57 35.3 +1.2
baz=304,SNR=20
WAKR Walker 39.95 88 *e*P P 11 57 37.1 +2.9
comp=Z,15nm,0.6s
WAKR *e*pP pP 11 58 17.4 +2.1
DLMT Dillon 40.00 75 *e*P P 11 57 35.4 +0.9
comp=Z,4.3nm,0.8s
DLMT *e*PcP PcP 11 59 36.9 +1.4
MCMT McKenzie Canyo 40.15 76 *e*P P 11 57 36.6 +0.7
MCMT *e*PcP PcP 11 59 37.9 +1.8
EGMT Eagleton 40.22 70 *e*P P 11 57 36.6 +0.4
comp=Z,7.1nm,0.6s
EGMT *e*PcP PcP 11 59 36.7 +0.7
EGMT Eagleton 40.22 70 P P 11 57 36.4 +0.2
baz=301,SNR=7.0
KVN Kaiserville 40.42 87 *e*P P 11 57 40.0 +1.9
comp=Z,25nm,1.6s
BOZ Bozeman (W) 40.44 74 *e*P P 11 57 38.8 +0.7
comp=Z,14nm,0.6s
BOZ Bozeman (W) 40.44 74 *e*P P 11 57 38.8 +0.7
BOZ pmax pmax
comp=Z,14nm,0.6s
BOZ Bozeman (W) 40.44 74 P P 11 57 38.6 +0.4
baz=303,SNR=33
NV01 Mina Array Sit 40.69 88 *e*P P 11 57 42.2 +1.9
NVAR Mina Array Bea 40.69 88 P P 11 57 42.4 +2.0
comp=Z,6.9nm,0.6s,baz=301,slow=7.4,SNR=29
NVAR PcP PcP 11 59 38.4 +0.5
comp=Z,0.5nm,0.4s,baz=325,slow=1.4,SNR=3.6
NV11 Mina Array Sit 40.78 87 *e*P P 11 57 43.0 +2.1
comp=Z,2.7nm,1.8s
MLAC Mammoth, Mammo 40.88 89 P P 11 57 43.9 +2.0
baz=310
QLMT Earthquake Lak 40.99 75 *e*P P 11 57 43.8 +1.1
FFC Flin Flon 41.10 57 *i*P P 11 57 44.2 +1.0
ELK Elko 41.11 83 *e*P P 11 57 45.4 +1.7
comp=Z,5.4nm,0.9s
ELK Elko 41.11 83 *e*P P 11 57 45.4 +1.7
ELK pmax pmax
comp=Z,5.0nm,0.9s

YHB Horse Butte 41.17 75 *e*P P 11 57 45.1 +1.0
comp=Z,33nm,1.2s
PAGB Antelope Grade 41.26 92 *e*P P 11 57 47.4 +2.7
comp=Z,70nm,1.7s
YHH Holmes Hill 41.35 75 *e*P P 11 57 46.6 +0.8
comp=Z,61nm,1.5s
YMR Madison River 41.35 75 *e*P P 11 57 47.0 +1.3
VOG Valley Oaks Go 41.39 91 P P 11 57 47.1 +1.3
baz=311
GCMT Greycliff 41.48 73 *e*P P 11 57 47.7 +1.2
YNR Norris Junctio 41.49 75 *e*P P 11 57 48.7 +1.9
comp=Z,17nm,1.0s
YFT Old Faithful 41.55 75 *e*P P 11 57 49.6 +2.4
comp=Z,9.4nm,0.7s
YFT *e*PcP PcP 11 59 43.9 +3.2
TIN Tinemaha, Big 41.62 89 P P 11 57 50.2 +2.4
baz=310
YPP Pitchstone Pla 41.67 75 *e*P P 11 57 50.3 +1.9
comp=Z,20nm,1.6s
SMMC Simmler 41.69 92 P P 11 57 49.3 +1.0
baz=312
LKWY Lake 41.74 75 *e*P P 11 57 50.5 +1.7
comp=Z,20nm,1.1s
LKWY Lake 41.74 75 *e*P P 11 57 50.5 +1.7
LKWY pmax pmax
comp=Z,20nm,1.1s
IMW Indian Meadow 41.81 76 *e*P P 11 57 51.1 +1.6
comp=Z,15nm,1.2s
FLWY Flagg Ranch 41.84 75 *e*P P 11 57 51.5 +1.8
comp=Z,45nm,1.4s
VES Vestal, Richgr 41.89 91 P P 11 57 51.3 +1.5
baz=311
FXWY Fox Creek 41.91 76 *e*P P 11 57 51.3 +1.1
comp=Z,10nm,1.6s
FXWY *e*PcP PcP 11 59 43.3 +1.4
HVU Hansel Valley 41.97 80 *e*P P 11 57 52.0 +1.4
comp=Z,6.2nm,0.6s
HVU *e*PcP PcP 11 59 43.5 +1.5
HVU Hansel Valley 41.97 80 *e*P P 11 57 52.0 +1.4
HVU *e* 11 59 43.5
HVU pmax pmax
comp=Z,6.0nm,0.6s
MOOW Moose Ponds 42.01 76 *e*P P 11 57 52.0 +1.0
comp=Z,13nm,1.5s
TPAW Teton Pass 42.04 76 *e*P P 11 57 51.6 +0.4
comp=Z,23nm,1.5s
PKM Mcpherson Peak 42.08 93 P P 11 57 53.5 +1.9
baz=312
RLMT Red Lodge 42.09 73 *e*P P 11 57 52.7 +1.1
comp=Z,21nm,0.8s
RLMT Red Lodge 42.09 73 P P 11 57 52.6 +1.0
baz=304,SNR=17
CWC Cottonwood Cre 42.11 90 P P 11 57 53.5 +1.7
baz=311
SNOW Snow King Moun 42.17 76 *e*P P 11 57 54.0 +1.7
comp=Z,25nm,1.6s
REDW Red Top Meadow 42.17 76 *e*P P 11 57 53.6 +1.3
comp=Z,21nm,1.6s
LOHW Long Hollow 42.17 76 *e*P P 11 57 53.3 +1.0
comp=Z,4.5nm,0.8s
BGU Big Grassy Mou 42.33 81 *e*P P 11 57 55.2 +1.7
comp=Z,6.5nm,1.0s
KSRS Korea Array 42.35 273 P P 11 57 53.8 +0.3
KSRS 11 59 41.7
KSRS pmax pmax
comp=Z,1.0nm,0.8s
KSRS pmax pmax
comp=Z,1.0nm,0.5s
KSRS Korea Array 42.35 273 P P 11 57 53.8 +0.3
comp=Z,0.9nm,0.8s,baz=91,slow=7.9,SNR=2.9
KSRS PcP PcP 11 59 41.7 -1.4
comp=Z,0.9nm,0.5s,baz=60,slow=3.8,SNR=4.7
ISA Isabella, Lake 42.38 91 *e*P P 11 57 55.2 +1.3
comp=Z,9.9nm,1.1s
ISA Isabella, Lake 42.38 91 P P 11 57 55.0 +1.1
baz=311,SNR=5.3
KSAR Wonju Array Be 42.38 273 P P 11 57 53.9 +0.1
KSAR PcP PcP 11 59 41.7 -1.5
KSAR Wonju Array Be 42.38 273 P P 11 57 53.9 +0.1
KSAR 11 59 41.7
R11A Troy Canyon, C 42.39 86 *e*P P 11 57 55.6 +1.5
comp=Z,9.9nm,0.8s
R11A Troy Canyon, C 42.39 86 P P 11 57 55.4 +1.3
baz=309,SNR=8.8
SPUT South Promonto 42.45 80 *e*P P 11 57 56.2 +1.7
comp=Z,27nm,1.6s
DAC Darwin (Calif) 42.51 89 *e*P P 11 57 57.0 +1.9
comp=Z,6.6nm,0.8s
ARVC Arvin 42.52 92 P P 11 57 56.3 +1.4
baz=312
MPMC Manual Prospec 42.72 90 P P 11 57 58.2 +1.4
baz=311,SNR=7.7
FURC Furnace Creek, 42.83 89 P P 11 57 59.1 +1.8
baz=311
TPNV Topopah Spring 42.89 88 *e*P P 11 58 00.1 +2.0
comp=Z,17nm,0.7s
TPNV Topopah Spring 42.89 88 P P 11 57 59.9 +1.8
baz=310,SNR=6.6
DUG Dugway, Tooele 42.91 81 *e*P P 11 57 59.8 +1.6
comp=Z,36nm,1.5s
DUG Dugway, Tooele 42.91 81 P P 11 57 59.5 +1.4
baz=308,SNR=14
LAO LASA Array 42.96 70 *e*P P 11 57 58.6 +0.2
comp=Z,13nm,0.8s
LAO LASA Array 42.96 70 P P 11 57 59.2 +0.9
baz=304
FCC Fort Churchill 43.01 49 *e*P P 11 57 58.1 -0.4
comp=Z,8.4nm,0.6s
FCC Fort Churchill 43.01 49 *e*P P 11 57 58.1 -0.4
FCC pmax pmax
comp=Z,8.0nm,0.6s
BLG Laguna Peak, P 43.06 93 P P 11 58 01.0 +1.6
baz=313
DGMT Dagmar 43.11 66 P P 11 58 00.2 +0.6
baz=303
EDW2 Edwards Air Fo 43.19 91 P P 11 58 01.8 +1.4
baz=312
CTU Camp Tracy 43.24 80 *e*P P 11 58 02.3 +1.4
comp=Z,4.8nm,0.7s
BW06 Boulder Array 43.29 76 *e*P P 11 58 02.0 +0.8
comp=Z,18nm,0.6s
BW06 Boulder Array 43.29 76 P P 11 58 02.1 +0.8
baz=306,SNR=40
PD31 Pinedale Array 43.29 76 *e*P P 11 58 02.2 +0.9
PDAR Pinedale Array 43.29 76 *e*P P 11 58 01.0 -0.3
PDAR PcP PcP 11 59 46.5 +0.1
PDAR Pinedale Array 43.29 76 P P 11 58 02.0 +0.8
comp=Z,17nm,0.6s,baz=300,slow=3.7,SNR=211
PDAR PcP PcP 11 59 46.5 +0.1
comp=Z,0.4nm,0.6s,baz=220,slow=3.2,SNR=3.7
PSUT Pine Spring 43.32 84 *e*P P 11 58 03.1 +1.5
comp=Z,7.1nm,0.7s
SNCC San Nicolas Is 43.38 94 P P 11 58 03.4 +1.6
baz=313
TJN Taejon 43.39 272‖ *e*P P 11 57 58.7 -3.2
JLU Jordanelle 43.48 80 *e*P P 11 58 04.2 +1.3
comp=Z,41nm,1.9s
NLU North Lily Min 43.50 81 *e*P P 11 58 04.3 +1.3
comp=Z,16nm,1.5s
SHOC Shoshone, Teco 43.56 89 P P 11 58 05.0 +1.7
baz=311,SNR=7.5
MWC Mount Wilson 43.60 92 *e*P P 11 58 05.8 +2.0
comp=Z,63nm,1.6s
MWC Mount Wilson 43.60 92 *e*P P 11 58 05.8 +2.0
MWC pmax pmax
comp=Z,63nm,1.6s
GSC Goldstone, Bar 43.63 90 *e*P P 11 58 05.9 +1.9
comp=Z,58nm,1.6s
GSC Goldstone, Bar 43.63 90 *e*P P 11 58 05.9 +1.9
GSC pmax pmax
comp=Z,58nm,1.6s
GSC Goldstone, Bar 43.63 90 P P 11 58 05.8 +1.9
baz=312,SNR=13
MPU Maple Canyon 43.73 81 *e*P P 11 58 06.2 +1.4
comp=Z,24nm,1.7s
BFSC Mount Baldy Ra 43.83 92 P P 11 58 07.4 +1.8
baz=312,SNR=8.2
SHPR Sheep Range 43.84 87 *e*P P 11 58 07.3 +1.7
comp=Z,19nm,1.8s
TUQ Turquoise Moun 44.08 89 P P 11 58 09.3 +1.7
baz=312
HEC Hector,Ludlow 44.24 90 P P 11 58 10.4 +1.7
baz=312
CCUT Cedar City 44.25 85 *e*P P 11 58 11.0 +2.0
comp=Z,4.9nm,0.7s
BBRC Big Bear Solar 44.26 91 P P 11 58 10.9 +1.8
baz=312

TMUT Trail Mountain 44.44 81 *e*P P 11 58 12.2 +1.7
comp=Z,10nm,0.8s
MURC Murrieta 44.55 92 P P 11 58 12.6 +1.4
baz=313
P17A Butcher Ranch, 44.60 81 *e*P P 11 58 13.5 +1.8
comp=Z,42nm,1.8s
NRIK Noril'sk 44.63 330 P P 11 58 11.4 +0.2
comp=Z,1.8nm,0.4s,baz=105,slow=6.2,SNR=4.0
LCMT Little Creek M 44.67 85 *e*P P 11 58 14.3 +2.0
comp=Z,7.4nm,0.9s
LCMT *e*PcP PcP 11 59 53.0 +1.8
GMRC Granite Mounta 44.68 90 P P 11 58 13.9 +1.6
baz=312,SNR=12
Q16A Castle Valley 44.70 82 *e*P P 11 58 14.2 +1.7
comp=Z,32nm,1.5s
LDFC Landfair 44.82 89 *e*P P 11 58 14.8 +1.4
comp=Z,94nm,1.8s
KNB Kanab 44.92 85 *e*P P 11 58 16.6 +2.3
comp=Z,58nm,2.0s
KNB *e*PcP PcP 11 59 54.3 +2.2
PKCU Pink Cliffs 44.95 84 *e*P P 11 58 17.0 +2.4
comp=Z,11nm,0.8s
SRU San Rafael Swe 44.96 81 *e*P P 11 58 16.2 +1.6
comp=Z,44nm,1.5s
SRU San Rafael Swe 44.96 81 *e*P P 11 58 16.2 +1.6
SRU pmax pmax
comp=Z,44nm,1.5s
PFO Pinyon Flats O 44.99 91 *e*P P 11 58 16.4 +1.7
comp=Z,5.0nm,0.9s
PFO PcP PcP 11 59 52.0 -0.3
PFO Pinyon Flats O 44.99 91 P P 11 58 15.5 +0.8
baz=313
PFO Pinyon Flats O 44.99 91 P P 11 58 16.1 +1.3
comp=Z,1.6nm,0.4s,baz=303,slow=9.1,SNR=3.8
PFO PcP PcP 11 59 52.0 -0.3
comp=Z,7.4nm,0.4s,baz=114,slow=4.1,SNR=12
XPFO Pion Flat 44.99 91 *e*P P 11 58 16.4 +1.7
comp=Z,19nm,1.6s
BELC Belle Mtn. Jos 45.00 91 P P 11 58 15.7 +0.8
baz=313
K22A Casper 45.14 75 *e*P P 11 58 15.9 +0.1
comp=Z,11nm,0.6s
K22A Casper 45.14 75 P P 11 58 16.0 +0.1
baz=307,SNR=8.5
RWWY Rawlins 45.33 76 *e*P P 11 58 18.1 +0.6
comp=Z,47nm,1.5s
IRM Iron Mountain 45.41 90 P P 11 58 19.4 +1.4
baz=312,SNR=8.3
MONP2 Monument Peak 45.50 92 P P 11 58 19.9 +1.0
baz=313
W13A Hualapai Mount 45.55 88 *e*P P 11 58 18.7 -0.5
comp=Z,7.2nm,0.7s
BC3 Big Chuckawall 45.57 91 P P 11 58 20.0 +0.7
baz=313
U15A North Rim 45.63 85 *e*P P 11 58 21.8 +1.9
comp=Z,5nm,0.6s
O20A White River Ci 45.68 78 *e*P P 11 58 21.0 +0.8
comp=Z,83nm,1.6s
O20A White River Ci 45.68 78 P P 11 58 21.0 +0.8
baz=309,SNR=15
RSSD Black Hills 45.70 71 *e*P P 11 58 20.2 -0.1
comp=Z,44nm,1.7s
RSSD Black Hills 45.70 71 *e*P P 11 58 20.2 -0.1
RSSD pmax pmax
comp=Z,44nm,1.7s
RSSD Black Hills 45.70 71 P P 11 58 20.2 -0.1
baz=306
PDMCI Parker Dam,Lak 45.93 89 P P 11 58 23.2 +1.3
baz=312
MDND Maddock 46.00 65 P P 11 58 22.4 0.0
baz=305
PV09 Paradox Valley 46.19 81 *e*P P 11 58 25.5 +1.2
PV21 Cone Mtn., Par 46.24 81 *e*P P 11 58 25.7 +1.1
comp=Z,8.9nm,0.6s
PV23 Carpenter Ridg 46.29 81 *e*P P 11 58 26.5 +1.4
comp=Z,29nm,1.5s
PV10 Paradox Valley 46.33 81 *e*P P 11 58 27.3 +2.0
comp=Z,10nm,0.7s
PV14 Lion Creek, Pa 46.34 81 *e*P P 11 58 26.4 +1.0
comp=Z,15nm,1.1s
GLA Glamis 46.36 91 P P 11 58 26.8 +1.4
baz=313
PV20 West Nyswonger 46.39 81 *e*P P 11 58 26.9 +1.2
comp=Z,42nm,1.6s
PV04 Paradox Valley 46.40 81 *e*P P 11 58 26.7 +0.9
comp=Z,51nm,1.8s
PV19 Morning Glory 46.40 81 *e*P P 11 58 26.8 +1.0
comp=Z,7.4nm,0.8s
PV17 East Wray Mesa 46.44 81 *e*P P 11 58 27.0 +0.9
comp=Z,19nm,0.6s
PV16 Nyswonger Mesa 46.44 81 *e*P P 11 58 26.9 +0.8
comp=Z,34nm,1.6s
PV11 David Mesa, Pa 46.48 81 *e*P P 11 58 27.4 +0.9
comp=Z,27nm,0.6s
PV05 Paradox Valley 46.48 81 *e*P P 11 58 27.8 +1.3
comp=Z,12nm,0.8s
PV12 Saucer Basin, 46.51 81 *e*P P 11 58 27.7 +1.0
comp=Z,50nm,1.5s
PV03 Paradox Valley 46.52 81 *e*P P 11 58 27.5 +0.7
comp=Z,53nm,1.6s
N23A Red Feather La 46.57 76 *e*P P 11 58 28.0 +0.8
comp=Z,31nm,1.5s
N23A Red Feather La 46.57 76 P P 11 58 27.9 +0.7
baz=308,SNR=5.5
PV13 Radium Mtn., P 46.60 81 *e*P P 11 58 28.3 +0.9
comp=Z,20nm,0.6s
PV02 Paradox Valley 46.62 81 *e*P P 11 58 28.5 +1.0
comp=Z,59nm,1.5s
ULM Lac du Bonnet 46.63 60 P P 11 58 26.0 -1.1
comp=Z,1.1nm,0.3s,baz=312,slow=6.9,SNR=5.2
ULM PcP PcP 11 59 57.0 -0.6
comp=Z,1.7nm,0.5s,baz=256,slow=2.9,SNR=5.6
PV15 Paradox Valley 46.68 80 *e*P P 11 58 29.6 +1.6
comp=Z,6.6nm,0.9s
PV01 Paradox Valley 46.76 81 *e*P P 11 58 29.5 +0.8
comp=Z,49nm,1.7s
WUAZ Wupatki 46.79 85 *e*P P 11 58 30.7 +1.8
comp=Z,11nm,0.6s
WUAZ Wupatki 46.79 85 P P 11 58 30.5 +1.7
baz=312,SNR=9.5
SMCO Snowmass 47.05 79 *e*P P 11 58 31.5 +0.4
comp=Z,17nm,1.8s
MVCO Mesa Verde 47.41 82 *e*P P 11 58 34.8 +1.1
comp=Z,28nm,1.5s
MVCO Mesa Verde 47.41 82 P P 11 58 34.4 +0.7
baz=311,SNR=6.1
ISCO Idaho Springs 47.46 77 *e*P P 11 58 35.4 +1.3
comp=Z,6.2nm,0.8s
ISCO Idaho Springs 47.46 77 *e*P P 11 58 35.4 +1.3
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 47.46 77 P P 11 58 35.1 +1.0
baz=309,SNR=8.5
X16A Lo Mia Camp, P 47.49 87 *e*P P 11 58 36.3 +2.0
comp=Z,6.6nm,0.7s
TLY Talaya 47.64 303‖ *e*P P 11 58 36.1 +1.1
W18A Petrified Fore 48.05 85 P P 11 58 40.3 +1.7
baz=312
S22A 4UR Ranch, Cre 48.06 80 *e*P P 11 58 40.3 +1.5
comp=Z,20nm,1.3s
S22A 4UR Ranch, Cre 48.06 80 P P 11 58 40.1 +1.3
baz=311,SNR=11
ULN Ulaanbaatar 48.11 298↑ *e*P P 11 58 36.3 -2.5
ULN pmax pmax
comp=Z,2.0nm,1.0s
Q24A Divide 48.27 78 P P 11 58 42.0 +1.6
baz=310
X18A Snowflake 48.32 85 *e*P P 11 58 42.5 +1.9
comp=Z,9.0nm,0.6s
SUSD Miller 48.40 68 P P 11 58 41.0 0.0
baz=308
SONM Songino Array 48.48 298 P P 11 58 40.8 -0.8
comp=Z,0.3nm,0.4s,baz=45,slow=4.9,SNR=3.5
SONM PcP PcP 12 00 03.8 -0.7
comp=Z,0.1nm,0.4s,baz=98,slow=3.3,SNR=3.9
SONM ScP ScP 12 03 38.0 -2.3
comp=Z,2.2nm,0.9s,baz=48,slow=3.3,SNR=11
OGNE Ogallala 48.83 73 P P 11 58 44.9 +0.5
baz=309
SDCO Great Sand Dun 48.85 79 *e*P P 11 58 46.0 +1.2
comp=Z,33nm,1.5s
SDCO Great Sand Dun 48.85 79 P P 11 58 46.0 +1.2
baz=311,SNR=15
SPITS Spitsbergen Ar 49.19 357 P P 11 58 46.2 -0.2
comp=Z,8.6nm,0.9s,baz=42,slow=6.6,SNR=9.1
TUC Tucson 49.33 88 *e*P P 11 58 49.9 +1.6
comp=Z,44nm,1.8s
TUC Tucson 49.33 88 P P 11 58 49.9 +1.6

baz=314
KSCO **Kaye Shedlock'** 49.73 76 *e*P P 11 58 52.4 +1.1
comp=Z,76nm,1.5s
KSCO **Kaye Shedlock'** 49.73 76 P P 11 58 52.2 +1.0
baz=310,SNR=7.1
T25A **Trinidad** 49.91 79 *e*P P 11 58 53.9 +1.2
comp=Z,38nm,1.2s
T25A **Trinidad** 49.91 79 P P 11 58 53.9 +1.2
baz=311,SNR=16
HHC **Hu-ho-hao-te** 49.94 288 *e*P P 11 58 53.0 +0.3
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.2s
LAZ **Ladron** 50.11 83 *e*P P 11 58 56.0 +1.8
ANMO **Albuquerque** 50.15 82 *e*P P 11 58 55.4 +0.9
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO **Albuquerque** 50.15 82 P P 11 58 55.6 +1.1
baz=312
LENM **Lemitar** 50.37 84 *e*P P 11 58 57.8 +1.7
BNM **Barren Site** 50.59 83 *e*P P 11 58 59.5 +1.7
BGNE **Belgrade** 50.78 71 *e*P P 11 58 58.9 0.0
comp=Z,56nm,1.2s
BGNE **Belgrade** 50.78 71 P P 11 58 58.7 -0.2
baz=310,SNR=5.6
F38A **Pierce - Schro** 51.36 62 P P 11 59 02.9 -0.2
baz=309
NJ2 **Nanjing** 51.49 274 *e*P P 11 59 04.9 +0.6
NJ2 pmax pmax
comp=Z,16nm,0.5s
CBKS **Cedar Bluff** 51.56 74 *e*P P 11 59 05.5 +0.7
comp=Z,39nm,0.6s
CBKS **Cedar Bluff** 51.56 74 *e*P P 11 59 05.5 +0.7
CBKS pmax pmax
comp=Z,39nm,0.6s
CBKS **Cedar Bluff** 51.56 74 P P 11 59 05.1 +0.3
baz=311,SNR=11
G38A **Ridgeland** 51.87 63 P P 11 59 06.0 -1.0
baz=310
F39A **Loretta** 51.90 62 P P 11 59 06.8 -0.4
baz=310
H38A **Maiden Rock** 51.96 64 P P 11 59 07.3 -0.3
baz=310
G39A **Holcombe** 52.17 63 P P 11 59 08.6 -0.6
baz=310
MSTX **Muleshoe** 53.03 81 *e*P P 11 59 16.4 +0.6
comp=Z,26nm,1.1s
MSTX **Muleshoe** 53.03 81 P P 11 59 16.3 +0.6
baz=313,SNR=6.5
MNTX **Cornudas Mount** 53.04 85 *e*P P 11 59 17.1 +1.4
comp=Z,10nm,0.8s
MNTX **Cornudas Mount** 53.04 85 P P 11 59 17.1 +1.4
baz=314,SNR=15
AMTX **Amarillo** 53.06 79 P P 11 59 16.5 +0.6
baz=313
E42A **Champion** 53.16 60 P P 11 59 17.0 +0.6
baz=310
KSU1 **Kansas State U** 53.19 72 P P 11 59 16.3 -0.3
baz=312
U32A **Winter Ranch,** 53.62 76 *e*P P 11 59 20.1 +0.2
comp=Z,23nm,0.6s
E43A **Lone Tree Farm** 53.68 59 P P 11 59 19.5 -0.6
baz=311
L39A **Vinton** 53.78 66 P P 11 59 20.5 -0.5
baz=311
M39A **Webster** 54.12 67 P P 11 59 22.8 -0.6
baz=312
K41A **Shullsburg** 54.40 65 P P 11 59 24.4 -1.0
baz=312
WMOK **Wichita Mounta** 54.88 77 *e*P P 11 59 29.8 +0.8
comp=Z,36nm,1.6s
WMOK **Wichita Mounta** 54.88 77 *e*P P 11 59 29.8 +0.8
WMOK pmax pmax
comp=Z,36nm,1.6s
WMOK **Wichita Mounta** 54.88 77 P P 11 59 29.4 +0.4
baz=314,SNR=8.1
TX31 **Lajitas Ar. Si** 55.76 85 *e*P P 11 59 36.3 +0.9
TXAR **Lajitas Array** 55.76 85 P P 11 59 36.2 +0.8
comp=Z,4.3nm,0.6s,baz=299,slow=4.6,SNR=31
TXAR pP **pP** 12 00 19.5 +0.6
comp=Z,0.7nm,0.8s,baz=299,slow=5.0,SNR=1.5
TXAR PcP **PcP** 12 00 33.2 +1.1
comp=Z,1.8nm,0.6s,baz=255,slow=1.4,SNR=9.3
TXAR ScP **ScP** 12 04 12.2 0.0
comp=Z,1.2nm,0.7s,baz=289,slow=3.9,SNR=9.1
O41A **Passleys Farm,** 55.76 67 P P 11 59 33.9 -1.2
baz=313
TUL1 **Leonard** 55.83 74 *e*P P 11 59 35.9 +0.1
comp=Z,47nm,1.5s
TUL1 **Leonard** 55.83 74 P P 11 59 35.8 +0.1
baz=314
ABTX **Abilene, Hawle** 55.84 80 *e*P P 11 59 36.6 +0.7
comp=Z,50nm,1.4s
ABTX **Abilene, Hawle** 55.84 80 P P 11 59 36.6 +0.7
baz=314,SNR=9.5
I46A **Reed City** 56.12 60 P P 11 59 35.8 -1.9
baz=313
HPIG 56.28 89 *e*P P 11 59 39.9 +0.7
comp=Z,12nm,1.4s
Q41A **Truxton** 56.36 68 P P 11 59 38.6 -0.8
baz=313
P42A **Winchester** 56.42 67 P P 11 59 39.9 0.0
baz=313
HHAR **Hobbs** 56.65 72 *e*P P 11 59 40.4 -1.1
comp=Z,9.2nm,0.6s
R41A **Rosebud** 56.73 69 P P 11 59 41.1 -0.9
baz=314
D50A **G1974 Best Tow** 56.78 54 P P 11 59 42.3 +0.1
baz=313
E50A **Wahnapitae** 56.85 56 P P 11 59 42.0 -0.7
baz=313
CCM **Cathedral Cave** 56.97 69 P P 11 59 42.6 -1.2
baz=314
S41A **Jillco Farms,** 57.01 70 P P 11 59 42.5 -1.6
baz=314,SNR=23
R42A **Luebbering** 57.07 69 P P 11 59 43.5 -1.0
baz=314
ARCES **ARCESS Array B** 57.19 352 P P 11 59 43.6 -1.2
comp=Z,4.0nm,0.9s,baz=12,slow=6.2,SNR=4.8
ARCES PcP **PcP** 12 00 36.7 -0.2
comp=Z,3.1nm,0.6s,baz=15,slow=5.0,SNR=8.4
SCHQ **Schefferville** 57.20 41 P P 11 59 44.3 -0.8
comp=Z,2.4nm,0.6s,baz=294,slow=7.5,SNR=10
SCHQ LR LR 12 26 49.5
comp=Z,184nm,19.6s,baz=300,slow=38
U40A **Yellville** 57.23 72 P P 11 59 44.2 -1.4
baz=314,SNR=12
Q43A **New Douglas** 57.23 67 P P 11 59 45.5 -0.1
baz=314
JCT **Junction City** 57.27 82 *e*P P 11 59 46.2 +0.3
comp=Z,29nm,1.4s
JCT **Junction City** 57.27 82 P P 11 59 45.8 -0.2
baz=316,SNR=6.7
T41A **Mountain View** 57.38 70 P P 11 59 44.9 -1.7
baz=314,SNR=5.2
E51A **G1948 Merrick** 57.39 55 P P 11 59 45.6 -1.0
baz=314
S42A **Caledonia** 57.43 69 P P 11 59 45.6 -1.4
baz=314,SNR=7.0
CHGQ **Chibougamau** 57.48 49 P P 11 59 45.7 -1.4
baz=314
FVM **French Village** 57.48 69 *e*P P 11 59 46.6 -0.7
comp=Z,10nm,0.8s
W39A **Magazine** 57.50 73 *e*P P 11 59 47.1 -0.4
comp=Z,43nm,1.4s
W39A **Magazine** 57.50 73 P P 11 59 47.2 -0.2
baz=314
R43A **Red Bud** 57.56 68 P P 11 59 47.1 -0.7
baz=314
GTA **Gaotai** 57.59 294 *e*P P 11 59 47.7 -0.5
GTA pP pwP 12 00 37.3 +1.2
GTA sP sP 12 00 53.8 +1.9
GTA pmax pmax
comp=Z,3.0nm,1.1s
WHTX **Lake Whitney,** 57.60 79 *e*P P 11 59 49.3 +1.1
comp=Z,74nm,1.6s
WHTX **Lake Whitney,** 57.60 79 P P 11 59 48.9 +0.7
baz=315
LZH **Lanzhou** 57.62 288 *e*P P 11 59 51.8 +3.3
LZH pP pwP 12 00 34.6 -1.7
LZH sP sP 12 00 56.4 +4.2
LZH pmax pmax
comp=Z,27nm,1.0s
D52A **ZEK Kipawa Sen** 57.62 54 P P 11 59 48.1 -0.1
baz=314
T42A **Van Buren** 57.77 70 *e*P P 11 59 47.8 -1.6
comp=Z,8.1nm,0.6s
T42A **Van Buren** 57.77 70 P P 11 59 47.5 -1.8
baz=314,SNR=5.0
U41A **Viola** 57.78 71 P P 11 59 47.9 -1.5
baz=314,SNR=6.1
KLBO **Killbear Provi** 57.85 56 P P 11 59 49.2 -0.6
baz=314
D53A **Lac Vacive, Po** 57.89 53 P P 11 59 49.0 -1.0
baz=314
S43A **Fulton Ridge,** 57.97 69 P P 11 59 49.8 -1.0
baz=314
E52A **Mattawa** 57.98 54 P P 11 59 50.6 0.0
baz=314
F52A **Sundridge** 57.99 55 P P 11 59 50.4 -0.4
baz=314
MIAR **Mount Ida** 58.08 74 *e*P P 11 59 51.6 +0.1
comp=Z,68nm,1.4s
MIAR **Mount Ida** 58.08 74 *e*P P 11 59 51.6 +0.1
MIAR pmax pmax
comp=Z,67nm,1.4s
MIAR **Mount Ida** 58.08 74 P P 11 59 51.5 0.0
baz=315,SNR=11
Q45A **Warren Harvey,** 58.13 66 P P 11 59 51.6 -0.2
baz=314
P46A **Rosedale** 58.15 65 P P 11 59 52.0 +0.1
baz=314
U42A **Revenden** 58.16 71 P P 11 59 50.5 -1.6
baz=314
T43A **Greenville** 58.19 69 P P 11 59 51.2 -1.0
baz=314,SNR=15
WHAR **Wooly Hollow** 58.30 72 *e*P P 11 59 52.4 -0.6
comp=Z,12nm,0.7s
W41B **Gary Mavity, V** 58.41 72 *e*P P 11 59 53.0 -0.8
comp=Z,13nm,0.6s
W41B **Gary Mavity, V** 58.41 72 P P 11 59 53.0 -0.8
baz=315,SNR=6.2
R45A **Skylar, Fairfi** 58.48 67 P P 11 59 53.6 -0.6
baz=314
T44A **Benton** 58.59 69 P P 11 59 54.1 -0.9
baz=314
E54A **Lac Daplat, Po** 58.60 54 P P 11 59 54.2 -0.7
baz=315
U43A **Rector** 58.63 70 P P 11 59 54.5 -0.8
baz=315
S45A **Carrier Mills** 58.74 68 P P 11 59 55.5 -0.5
baz=314
P47A **Martinsville** 58.76 65 P P 11 59 55.3 -0.8
baz=314
W42A **Bald Knob** 58.76 72 P P 11 59 55.8 -0.4
baz=315
G53A **Haliburton** 58.82 55 P P 11 59 55.7 -0.7
baz=315
O48A **Farmland** 58.83 63 P P 11 59 56.0 -0.6
baz=314
L50A **Kingsville** 58.83 60 P P 11 59 56.0 -0.6
baz=314
WLAR **White Oak Lake** 58.96 74 *e*P P 11 59 58.2 +0.7
comp=Z,30nm,0.6s
USIN **University of** 59.05 67 *e*P P 11 59 58.0 -0.2
comp=Z,30nm,0.8s
Q47A **Bedord North L** 59.06 65 P P 11 59 57.7 -0.5
baz=315
BANO **Bancroft** 59.24 55 P P 11 59 59.9 +0.5
baz=315
P48A **Milroy** 59.24 64 P P 11 59 58.5 -1.0
baz=315
R47A **Wooly Knot Far** 59.45 66 P P 11 59 59.9 -1.0
baz=315
N50A **Nevada** 59.55 62 P P 12 00 01.1 -0.4
baz=315
T46A **Princeton** 59.58 68 P P 12 00 01.1 -0.7
baz=315
U45A **Rockin P Farm,** 59.58 69 P P 12 00 02.1 +0.3
baz=315
O50A **Cable** 59.73 63 P P 12 00 02.6 -0.2
baz=315
DELO **Deloro Mine** 59.75 55 P P 12 00 03.0 +0.2
baz=315
S47A **Hartford** 59.76 67 P P 12 00 02.7 -0.3
baz=315
P50A **Jamestown** 60.02 63 P P 12 00 04.0 -0.8
baz=315
HKT **Hockley** 60.03 79 *e*P P 12 00 06.0 +1.2
comp=Z,29nm,1.5s
KURK **Kurchatov** 60.04 315 P P 12 00 05.1 +0.5
KURK pP PcP 12 00 49.0 +0.5
KURK **Kurchatov** 60.04 315 *ce*P P 12 00 04.5 -0.2
KURK pmax pmax
comp=Z,6.0nm,0.8s
T47A **Sharon Grove** 60.06 67 *e*P P 12 00 05.1 0.0
comp=Z,45nm,1.4s
T47A **Sharon Grove** 60.06 67 P P 12 00 04.8 -0.3
baz=315
KURBB **Kutov Arra** 60.14 315 P P 12 00 05.1 -0.3
comp=Z,3.3nm,0.8s,baz=43,slow=6.9,SNR=18
KURBB pP PcP 12 00 49.0 +0.1
comp=Z,0.2nm,0.5s,baz=57,slow=41,SNR=1.9
S48A **Wiedeman Farm,** 60.17 66 P P 12 00 05.5 -0.3
baz=315
W45A **Hickory Valley** 60.19 70 P P 12 00 05.9 -0.1
baz=315
WVT **Waverly** 60.26 69 P P 12 00 06.4 0.0
baz=315
V46A **Holladay** 60.33 69 P P 12 00 06.4 -0.6
baz=315
U47A **Clarksville** 60.35 68 P P 12 00 06.5 -0.5
baz=315
H56A **Elgin** 60.37 54 P P 12 00 07.4 +0.3
baz=316
T48A **Bowling Green** 60.37 67 P P 12 00 07.0 -0.2
baz=315
M53A **WI Miller and** 60.38 60 P P 12 00 07.2 0.0
baz=315
Q50A **Georgetown** 60.47 64 P P 12 00 07.5 -0.3
baz=315
PECO **Prince Edward** 60.48 55 P P 12 00 07.6 -0.2
baz=316
S49A **Springfield** 60.50 66 P P 12 00 07.4 -0.7
baz=315
OXF **Oxford** 60.52 71 *e*P P 12 00 08.0 -0.2
comp=Z,103nm,1.2s
OXF **Oxford** 60.52 71 *e*P P 12 00 08.0 -0.2
OXF pmax pmax
comp=Z,103nm,1.2s
OXF **Oxford** 60.52 71 P P 12 00 07.9 -0.2
baz=316,SNR=7.6
V47A **Nunnelly** 60.65 69 P P 12 00 08.2 -0.9
baz=316
W46A **Michie** 60.66 70 P P 12 00 08.6 -0.5
baz=316
R50A **Paris** 60.68 65 P P 12 00 08.9 -0.4
baz=316
Q51A **Peebles** 60.68 63 P P 12 00 09.8 +0.5
baz=316
O52A **Adamsville** 60.72 61 *e*P P 12 00 09.1 -0.4
comp=Z,23nm,1.1s
O52A **Adamsville** 60.72 61 P P 12 00 09.0 -0.4
baz=316
U48A **Cassie Pea, Po** 60.72 67 P P 12 00 09.4 -0.2
baz=316,SNR=5.2
K55A **Perry** 60.81 57 P P 12 00 09.7 -0.4
baz=316
T49A **Edmonton** 60.85 66 P P 12 00 10.1 -0.3
baz=316
M54A **Oil Creek Stat** 60.86 59 P P 12 00 09.9 -0.5
baz=316
WMQ **Urumqi** 60.88 305 *e*P P 12 00 13.5 +2.9
PLAL **Pickwick Lake** 60.95 70 *e*P P 12 00 10.4 -0.6
comp=Z,36nm,1.4s
W47A **Westpoint** 61.02 69 P P 12 00 10.8 -0.8
baz=316
S50A **Richmond** 61.07 65 P P 12 00 11.7 -0.2
baz=316
R51A **Hillsboro** 61.07 64 P P 12 00 11.8 -0.1
baz=316,SNR=6.0
N54A **Moraine State** 61.09 60 P P 12 00 11.4 -0.5
baz=316
V48A **Smith Brothers** 61.11 68 P P 12 00 11.4 -0.8
baz=316
U49A **Red Boiling Sp** 61.14 67 P P 12 00 11.7 -0.6
baz=316
ZAIG **Zacatecas** 61.24 90 *e*P P 12 00 14.3 +0.7
comp=Z,19nm,1.6s
T50A **Nancy** 61.30 66 P P 12 00 13.1 -0.3
baz=316
MK31 **Makanchi Array** 61.31 310 *e*P P 12 00 12.7 -0.7
MK31 **Makanchi Array** 61.31 310 *e*P P 12 00 12.7 -0.7
MKAR **Makanchi Array** 61.31 310 P P 12 00 12.8 -0.6
comp=Z,1.4nm,0.8s,baz=53,slow=6.2,SNR=10.0
MKAR pP **pP** 12 00 57.1 +0.3
comp=Z,0.2nm,0.5s,baz=67,slow=9.5,SNR=1.5
Q52A **Bidwell** 61.31 63 P P 12 00 13.1 -0.4
baz=316
MK01 **Makanchi Array** 61.32 310 *e*P P 12 00 12.6 -0.9
M55A **Ridgway** 61.36 58 P P 12 00 13.7 -0.1
baz=316
CD2 **Chengdu** 61.36 284 *e*P P 12 00 15.4 +1.4
P53A **Whipple** 61.41 62 P P 12 00 13.9 -0.2
baz=316
O54A **Avella** 61.44 60 P P 12 00 14.0 -0.4
baz=316
W48A **Pulaski** 61.48 69 P P 12 00 14.3 -0.4
baz=316
VBMS **Vicksburg** 61.53 73 P P 12 00 15.1 +0.1
baz=316
R52A **Catlettsburg** 61.56 63 P P 12 00 14.7 -0.5
baz=316
BVAR **Borovoye Array** 61.59 322 P P 12 00 15.7 +0.6
comp=Z,5.1nm,0.5s,baz=58,slow=6.4,SNR=39
BVAR pP **pP** 12 00 58.9 +0.3
comp=Z,1.0nm,0.7s,baz=54,slow=5.5,SNR=1.5
BRVK **Borovoye** 61.60 322 *e*P P 12 00 15.9 +0.7
comp=Z,4.0nm,0.7s
BRVK **Borovoye** 61.60 322 *ce*P P 12 00 15.4 +0.2
BRVK pmax pmax
comp=Z,4.0nm,0.7s
V49A **McMinnville** 61.61 68 P P 12 00 15.1 -0.4
baz=316
U50A **Jamestown** 61.73 66 P P 12 00 15.8 -0.6
baz=316
N55A **Marion Center** 61.74 59 P P 12 00 15.7 -0.6
baz=316
P54A **Burton** 61.81 61 P P 12 00 16.3 -0.5
baz=316
T51A **Gray** 61.84 65 P P 12 00 16.5 -0.6
baz=316
W49A **Belvidere** 61.87 68 P P 12 00 16.7 -0.6
baz=316
R53A **Hurricane** 61.94 63 P P 12 00 17.6 -0.1
baz=316
O55A **Ligonier** 61.99 60 P P 12 00 17.1 -1.0
baz=316
V50A **Pikevile** 62.13 67 P P 12 00 18.5 -0.5
baz=316
U51A **La Follette** 62.22 66 P P 12 00 19.5 -0.1
baz=316
P55A **Reedsville** 62.22 61 P P 12 00 19.7 +0.1
baz=316
W50A **Signal Mountai** 62.35 68 P P 12 00 20.4 -0.1
baz=316
TZTN **Tazewell** 62.36 65 P P 12 00 20.5 0.0
baz=316
SSPA **Standing Stone** 62.42 59 P P 12 00 20.9 +0.1
baz=317
V51A **Loudon** 62.45 66 P P 12 00 21.0 -0.2
baz=316
Q55A **Buckhannon** 62.46 61 P P 12 00 21.3 +0.1
baz=317
R54A **Victor** 62.57 62 P P 12 00 21.5 -0.4
baz=317
W51A **Cleveland** 62.69 67 P P 12 00 22.1 -0.6
baz=316
V52A **Sevierville** 62.84 66 P P 12 00 23.5 -0.2
baz=317
ARU **Arti** 62.85 330 *e*P P 12 00 23.6 +0.2
comp=Z,32nm,1.8s
ARU **Arti** 62.85 330 *i*P P 12 00 23.7 +0.2
ARU pmax pmax
comp=Z,17nm,1.7s
LRAL **Lakeview Retre** 62.97 70 P P 12 00 24.1 -0.5
baz=317
U53A **Fall Branch** 63.03 65 P P 12 00 24.8 -0.2
baz=317
T54A **Tazewell** 63.07 64 P P 12 00 25.3 0.0
baz=317
S55A **Lewisburg** 63.13 62 P P 12 00 25.9 +0.2
baz=317
W52A **Murphy** 63.20 67 P P 12 00 25.8 -0.3
baz=317
KLMR **Klimovskoe** 63.58 342 *e*P P 12 00 25.0 -3.1
KLMR pmax pmax
comp=Z,12nm,1.1s
KLMR **Klimovskoe** 63.58 342 *e*P P 12 00 25.1 -3.0
KLMR AMP 12 00 28.5
comp=Z,12nm,1.1s
V54A **Nebo** 63.80 65 P P 12 00 29.8 -0.2
baz=317
PAL **Palisades** 64.18 56 P P 12 00 32.6 +0.3
baz=318
W54A **Cherokee Point** 64.18 66 P P 12 00 32.2 -0.3
baz=317
BRAL **Brewton** 64.31 72 P P 12 00 33.6 +0.3
baz=317
R58B **Mineral** 64.39 61 P P 12 00 33.9 +0.2
baz=318
KMSC **Kings Mountain** 64.61 65 P P 12 00 34.9 -0.3
baz=318
GOGA **Godfrey** 64.70 68 P P 12 00 35.5 -0.3
baz=318
FINES **FINESS Array B** 65.02 349 P P 12 00 36.8 -0.6
comp=Z,1.9nm,0.6s,baz=20,slow=9.2,SNR=6.4
KMI **Kunming** 66.23 281 P P 12 00 47.5 +1.4
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI pmax pmax
comp=Z,150nm,4.0s
NB2 **NORSAR Subarra** 66.49 357 P P 12 00 47.3 +0.4
comp=Z,0.3nm,0.3s,baz=7.4,slow=6.9
NOA **NORSAR Array B** 66.49 357 P P 12 00 47.1 +0.2
comp=Z,0.8nm,0.5s,baz=4.9,slow=6.6,SNR=3.9
NHSC **New Hope** 66.76 66 *e*P P 12 00 50.2 +1.2
comp=Z,463nm,1.4s
NHSC **New Hope** 66.76 66 P P 12 00 49.8 +0.8
baz=318
VSU **Vasula** 67.85 348 *e*P P 12 00 55.2 -0.2
VSU pmax pmax
comp=Z,36nm,0.8s
AAK **Ala-Archa** 68.06 312 P P 12 00 57.8 +0.5
comp=Z,4.5nm,0.7s,baz=62,slow=4.3,SNR=9.7
AAK pP **pP** 12 01 41.9 +0.3
comp=Z,0.5nm,0.4s,baz=224,slow=15,SNR=1.0
ABKAR **Akbulak array** 68.47 325 *e*P P 12 00 59.5 +0.1
KK31 **Karatay Array** 69.44 315 *e*P P 12 01 05.4 -0.2
KK31 **Karatay Array** 69.44 315 *e*P P 12 01 05.4 -0.2
KKAR **Karatay Array** 69.44 315 *e*P P 12 01 05.4 -0.2
KKAR **Karatay Array** 69.44 315 *e*P P 12 01 05.4 -0.2
OBN **Obninsk** 69.52 342 *i*P P 12 01 04.3 -1.4
OBN pmax pmax
comp=Z,13nm,0.5s
ARSB **Arslanbob** 69.78 312 *e*P P 12 01 08.5 +0.6
comp=Z,4.3nm,0.6s
KSH **Kashi** 69.84 309 P P 12 01 12.0 +3.8
KSH PcP **PcP** 12 01 32.5 +3.0
KSH S **S** 12 10 01.9 +0.2
KSH sS sS 12 11 20.5 +1.1
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,75nm,6.4s
KSH LR LR
comp=Z,180nm,9.4s
KSH LR LR
comp=Z,110nm,7.1s
KSH LR LR
comp=Z,64nm,10.7s
LPSR **Galich'ya Gora** 71.40 339 *e*P P 12 01 16.3 -0.9
LPSR pmax pmax
comp=Z,20nm,1.7s
VRH **Novokhopyorsk** 72.08 337 *e*P P 12 01 20.5 -0.7
VRH pmax pmax
comp=Z,20nm,0.8s
VSR **Storozhevoye** 72.65 339 *i*P P 12 01 25.0 +0.4
VSR pmax pmax
comp=Z,20nm,0.5s
UTTA **Uttaradit** 73.15 277 P P 12 01 28.4 +0.3
CMAR **Chiang Mai Arr** 73.57 279 P P 12 01 30.4 -0.1
comp=Z,1.7nm,0.6s,baz=25,slow=7.0,SNR=10
CM01 **Chiang Mai Arr** 73.59 279 *e*P P 12 01 30.6 0.0
BSEG **Bad Segeberg** 73.63 357 *e*P P 12 01 31.0 +0.7
comp=Z,6.4nm,0.9s,baz=4.1,slow=5.6
AKASG **Malin Array Be** 75.04 345 P P 12 01 37.4 -1.1
comp=Z,1.4nm,0.3s,baz=19,slow=6.4,SNR=5.4
AKASG pP **pP** 12 02 24.0 +0.3
comp=Z,0.2nm,0.3s,baz=19,slow=38,SNR=1.0
KIEV **Kiev** 75.05 345 *i*P P 12 01 37.6 -1.0
KIEV pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
	comp=Z,20nm,1.7s						
AK11	**Malin Array Si**	**75.07**	**345**	*e*P	**P**	**12 01 37.8**	**-0.9**
CLZ	**Clausthal**	**75.73**	**357**	*e*P	**P**	**12 01 43.3**	**+0.8**
	comp=Z,11nm,0.9s,baz=4.1,slow=5.6						
CLL	**Collm**	**76.15**	**355**	*e*P	**P**	**12 01 45.0**	**+0.2**
CLL				LmV		13 27 00.0	
	comp=Z,200nm,18.4s						
CLL	**Collm**	**76.15**	**355**	*e*P	**P**	**12 01 45.0**	**+0.2**
NEUB	**Neuenburg**	**76.31**	**356**	*e*P	**P**	**12 01 46.2**	**+0.5**
	comp=Z,15nm,0.9s,baz=4.1,slow=5.6						
BRG	**Berggiesshubel**	**76.53**	**355**	*e*P	**P**	**12 01 46.9**	**-0.1**
	comp=Z,7.4nm,0.8s						
BRG	**Berggiesshubel**	**76.53**	**355**	*e*P	**P**	**12 01 47.1**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=4.1,slow=5.6						
BRG	**Berggiesshubel**	**76.53**	**355**	*e*P	**P**	**12 01 46.9**	**-0.1**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MOX	**Moxa**	**76.88**	**356**	*e*P	**P**	**12 01 49.3**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=4.1,slow=5.6						
DPC	**Dobruska-Polom**	**76.90**	**353**	*e*P	**P**	**12 01 49.7**	**+0.6**
DPC	**Dobruska-Polom**	**76.90**	**353**	*e*P	**P**	**12 01 49.7**	**+0.6**
AHRW	**Bad Neuenahr-A**	**77.10**	**359**	*e*P	**P**	**12 01 50.9**	**+0.8**
	comp=Z,14nm,0.9s,baz=4.1,slow=5.6						
WERN	**Wernitzgruen**	**77.20**	**356**	*e*P	**P**	**12 01 51.3**	**+0.6**
	comp=Z,12nm,1.3s,baz=4.1,slow=5.6						
NKC	**Novy Kostel**	**77.25**	**356**	*e*P	**P**	**12 01 51.8**	**+0.8**
NKC	**Novy Kostel**	**77.25**	**356**	*e*P	**P**	**12 01 51.8**	**+0.8**
MANZ	**Manzenberg**	**77.51**	**356**	*e*P	**P**	**12 01 52.7**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=4.1,slow=5.6						
LANS	**Liptovska Anna**	**77.82**	**351**	*e*P	**P**	**12 01 55.6**	**+1.4**
LANS	**Liptovska Anna**	**77.82**	**351**	*e*P	**P**	**12 01 55.6**	**+1.4**
GRF	**Grafenberg Arr**	**77.84**	**356**	*e*P	**P**	**12 01 55.1**	**+0.7**
	comp=Z,18nm,0.6s,baz=4.1,slow=5.6						
KHC	**Kasperske Hory**	**78.29**	**355**	*e*P	**P**	**12 01 57.7**	**+0.9**
	comp=Z,2.5nm,0.9s						
KHC	**Kasperske Hory**	**78.29**	**355**	*e*P	**P**	**12 01 57.5**	**+0.7**
KHC	**Kasperske Hory**	**78.29**	**355**	*e*P	**P**	**12 01 57.7**	**+0.9**
KHC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
WET	**Wettzell**	**78.32**	**355**	*e*P	**P**	**12 01 57.4**	**+0.4**
	comp=Z,12nm,1.4s,baz=4.1,slow=5.6						
VYHS	**Vyhne**	**78.53**	**351**	*e*P	**P**	**12 01 58.3**	**+0.2**
VYHS	**Vyhne**	**78.53**	**351**	*e*P	**P**	**12 01 58.3**	**+0.2**
KIV	**Kislovodsk**	**78.56**	**334**	*e*P	**P**	**12 01 57.0**	**-1.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GERES	**GERESS Array B**	**78.57**	**355**	P	**P**	**12 01 58.5**	**0.0**
	comp=Z,1.8nm,0.7s,baz=20,slow=4.3,SNR=14						
GEA0	**GERESS Array S**	**78.58**	**355**	*e*P	**P**	**12 01 58.4**	**0.0**
BUR08	**Bucovina Ar. S**	**78.62**	**347**	*e*P	**P**	**12 01 59.0**	**+0.2**
KBZ	**Khabaz**	**78.71**	**333**	P	**P**	**12 01 59.0**	**-0.1**
KBZ	**Khabaz**	**78.71**	**333**	P	**P**	**12 01 59.0**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=144,slow=6.9,SNR=4.2						
BFO	**Black Forest**	**79.29**	**358**	*e*P	**P**	**12 02 02.5**	**+0.2**
	comp=Z,7.9nm,0.9s,baz=4.1,slow=5.6						
BFO	**Black Forest**	**79.29**	**358**	*i* P	**P**	**12 02 03.2**	**+0.9**
CONA	**Conrad Observa**	**79.34**	**353**	*e*P	**P**	**12 02 03.4**	**+0.8**
	comp=Z,4.3nm,0.9s						
ECH	**Echery**	**79.42**	**359**	*e*P	**P**	**12 02 03.2**	**+0.2**
	comp=Z,44nm,2.0s						
ECH	**Echery**	**79.42**	**359**	*e*P	**P**	**12 02 03.2**	**+0.2**
ECH				pmax	pmax		
	comp=Z,44nm,2.0s						
ARSA	**Arzberg**	**80.04**	**353**	*e*P	**P**	**12 02 07.2**	**+0.9**
	comp=Z,4.0nm,0.8s						
SQTA	**Sankt Quirin**	**80.31**	**356**	*i* P	**P**	**12 02 04.5**	**-3.4**
	comp=Z,9.9nm,1.3s						
KBA	**Koelnbreinsper**	**80.35**	**355**	*i* P	**P**	**12 02 09.1**	**+0.9**
	comp=Z,11nm,0.7s						
FETA	**Feichten**	**80.53**	**356**	*i* P	**P**	**12 02 08.1**	**-1.1**
	comp=Z,6.5nm,1.0s						
SOKA	**Soboth**	**80.64**	**353**	*i* P	**P**	**12 02 09.6**	**-0.1**
	comp=Z,13nm,1.5s						
MYKA	**Terra Mystica**	**80.78**	**354**	PcP	**PcP**	**12 02 16.8**	**+0.4**
	comp=Z,4.9nm,1.1s						
OBKA	**Obir**	**80.85**	**354**	*i* P	**P**	**12 02 11.4**	**+0.7**
	comp=Z,18nm,1.6s						
BRTR	**Keskin Array B**	**84.77**	**339**	P	**P**	**12 02 31.1**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=43,slow=5.8,SNR=6.6						
BRTR				pP	**pP**	**12 03 16.9**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=114,slow=24,SNR=1.5						
WRA	**Warramunga Arr**	**84.93**	**228**	P	**P**	**12 02 31.4**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=33,slow=5.7,SNR=8.5						
WRA				pP	**pP**	**12 03 17.8**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=36,slow=5.9,SNR=3.0						
FITZ	**Fitzroy Crossi**	**87.48**	**236**	P	**P**	**12 02 44.3**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=18,slow=3.3,SNR=4.4						
ES06	**SONSECA Array**	**87.59**	**7**	*e*P	**P**	**12 02 44.0**	**-0.7**
ESDC	**Sonseca Array**	**87.59**	**7**	P	**P**	**12 02 43.9**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=344,slow=4.7,SNR=8.3						
AS01	**Alice Springs**	**88.36**	**226**	*e*P	**P**	**12 02 48.8**	**+0.5**
AS31	**Alice Springs**	**88.38**	**226**	*e*P	**P**	**12 02 49.2**	**+0.8**
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**88.38**	**226**	P	**P**	**12 02 49.0**	**+0.5**
	comp=Z,3.3nm,0.7s,baz=28,slow=5.1,SNR=36						
ASAR				pP	**pP**	**12 03 35.5**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=26,slow=4.6,SNR=4.0						
STKA	**Stephens Creek**	**92.61**	**216**	P	**P**	**12 03 06.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=349,slow=4.8,SNR=3.2						
CPUP	**Villa Florida**	**126.73**	**86**	PKP	**PKPdf**	**12 08 58.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=354,slow=2.5,SNR=4.7						
PLCA	**Paso Flores**	**128.76**	**109**	PKP	**PKiKP**	**12 09 03.1**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=232,slow=6.0,SNR=4.2						
LBTB	**Lobatse**	**148.49**	**324**	PKPbc	**PKPbc**	**12 09 42.4**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=100,slow=1.9,SNR=4.5						
BOSA	**Boshof**	**151.88**	**321**	PKPbc	**PKPbc**	**12 09 49.6**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=42,slow=2.9,SNR=8.8						

IDC 06 11:52:11.9±11.0, 23°.97S×178°.51E, h636km±147km, mb3.0/6, mb1 3.2/6, mb1mx2.9/35, mbtmp4.0/6, Error ellipse: s-maj=88.9km s-min=58.6km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.11**	**271**	P	P	11 57 33.6	+0.7
	2.7nm,0.3s,baz=98,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**33.44**	**248**	P	P	11 58 00.7	-0.1
	0.5nm,0.3s,baz=159,slow=8.4,SNR=3.1						
ASAR	**Alice Springs**	**40.68**	**261**	P	P	11 58 59.8	0.0
	1.1nm,0.7s,baz=94,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**41.04**	**267**	P	P	11 59 02.2	-0.5
	1.7nm,0.3s,baz=102,slow=8.2,SNR=66						
FITZ	**Fitzroy Crossi**	**49.47**	**266**	P	P	12 00 06.9	+0.4
	2.1nm,0.9s,baz=84,slow=9.2,SNR=5.3						
PDAR	**Pinedale Array**	**93.69**	**45**	P	P	12 04 22.5	-0.1
	0.1nm,0.3s,baz=248,slow=4.8,SNR=3.2						

IDC 06 11:52:41.3±1.4, 43°.36S×40°.06E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/25, mbtmp3.7/2, MS3.4/3, Ms1 3.3/3, ms1mx3.0/37, Error ellipse: s-maj=121.6km s-min=44.4km az=31.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**18.93**	**316**	LR	LR	12 03 05.7	
	comp=Z,184nm,19.3s,baz=194,slow=33						
MAW	**Mawson**	**27.19**	**161**	LR	LR	12 07 39.8	
	comp=Z,36nm,19.4s,baz=305,slow=33						
TORD	**Torodi Ar. Bea**	**66.27**	**319**	P	P	12 03 31.9	+0.6
	0.6nm,0.8s,baz=142,slow=4.9,SNR=2.9						
WRA	**Warramunga Arr**	**79.59**	**107**	P	P	12 04 50.8	+0.3
	0.6nm,1.1s,baz=232,slow=5.3,SNR=2.1						
AKASG	**Malin Array Be**	**94.15**	**353**	LR	LR	12 50 13.4	
	comp=Z,23nm,19.9s,baz=305,slow=37						
TXAR	**Lajitas Array**	**147.88**	**256**	PKPbc	PKPbc	12 12 28.2	-0.2
	0.8nm,0.9s,baz=142,slow=6.3,SNR=5.1						
ULM	**Lac du Bonnet**	**149.43**	**299**	PKPbc	PKPbc	12 12 29.5	-2.1
	1.0nm,0.6s,baz=124,slow=3.6,SNR=2.4						

*ISCJB **06** 12:08:53.6±0.4, 43°.37S±0°.07×40°.46E±0°.10, h10km, mb4.3/22, MS3.7/7, Error ellipse: s-maj=12.4km s-min=8.2km az=44.1*

*IDC **06** 12:08:54.4±0.6, 43°.37S×40°.55E, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.1/40, mbtmp4.2/15, ML3.7/1, MS3.8/9, Ms1 3.7/9, ms1mx3.4/43, Error ellipse: s-maj=21.1km s-min=15.5km az=59.0*

*NEIC **06** 12:08:55.3±0.3, 43°.40S×40°.42E, h10km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=6.9km az=223.0*

ISC 06 12:08:55.1±0.5, 43°.37S±0°.09×40°.61E±0°.08, h10km, n48, σ1§27/50, mb4.3/22, MS3.7/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**8.55**	**115**	*e*Pn	**Pn**	**12 11 00.3**	**+1.4**
CRZF				*e*Sn	**Sn**	**12 12 30.4**	**-5.0**
SUR	**Sutherland**	**19.05**	**299**	*e*P	**P**	**12 13 17.4**	**-0.1**
	25nm,1.1s						
SUR	**Sutherland**	**19.05**	**299**	P	**Pn**	**12 13 18.0**	**-0.2**
	0.3nm,0.3s,baz=132,slow=7.7,SNR=3.5						
SUR				LR	LR	12 19 21.7	
	comp=Z,138nm,18.4s,baz=166,slow=33						
BOSA	**Boshof**	**19.22**	**315**	*e*P	**P**	**12 13 17.5**	**-1.8**
	18nm,1.2s						
BOSA	**Boshof**	**19.22**	**315**	P	**P**	**12 13 17.5**	**-1.8**
	baz=118,slow=11,SNR=5.5						
BOSA				LR	LR	12 19 07.0	
	comp=Z,269nm,20.0s,baz=181,slow=32						
LBTB	**Lobatse**	**22.06**	**321**	*e*P	**P**	**12 13 49.7**	**-0.4**
	38nm,1.5s						
LBTB	**Lobatse**	**22.06**	**321**	P	**P**	**12 13 48.9**	**-1.2**
	2.4nm,0.8s,baz=141,slow=7.3,SNR=2.4						
LBTB				LR	LR	12 21 04.1	
	comp=Z,272nm,19.7s,baz=141,slow=33						
MATP	**Matopo**	**25.02**	**332**	P	**P**	**12 14 19.6**	**+0.2**
	5.5nm,1.1s,baz=155,slow=6.7,SNR=4.8						
MATP				LR	LR	12 23 02.7	
	comp=Z,176nm,18.6s,baz=147,slow=34						
OPO	**Ambohidratompo**	**25.34**	**15**	P	**P**	**12 14 24.2**	**+2.0**
	3.5nm,0.8s,baz=186,slow=9.2,SNR=2.2						
OPO				LR	LR	12 22 59.0	
	comp=Z,294nm,20.1s,baz=156,slow=33						
RER	**Riviere de l'E**	**25.50**	**34**	*e*P	**P**	**12 14 24.5**	**+0.9**
	156nm,1.4s						
MRIV	**Mauritius Mete**	**27.00**	**37**	*e*P	**P**	**12 14 38.5**	**+1.3**
	27nm,1.2s						
MAW	**Mawson**	**27.05**	**161**	*e*P	**P**	**12 14 37.6**	**+0.5**
	14nm,1.1s						
MAW	**Mawson**	**27.05**	**161**	LR	LR	12 23 00.0	
	comp=Z,165nm,19.3s,baz=330,slow=31						
LSZ	**Lusaka**	**29.95**	**335**	*e*P	**P**	**12 15 03.4**	**-0.2**
LSZ				*e*pP	**P**	**12 15 04.1**	**+0.5**
LSZ	**Lusaka**	**29.95**	**335**	P	**P**	**12 15 04.5**	**+1.0**
	1.1nm,0.3s,baz=181,slow=14,SNR=3.9						
LSZ				LR	LR	12 25 36.5	
	comp=Z,99nm,19.9s,baz=153,slow=34						
TSUM	**Tsumeb**	**30.91**	**314**	*e*P	**P**	**12 15 09.9**	**-2.1**
	8.9nm,1.3s						
SNAA	**Sanae**	**35.25**	**202**	*e*P	**P**	**12 15 49.2**	**-0.2**
	11nm,1.5s						
SNAA	**Sanae**	**35.25**	**202**	P	**P**	**12 15 49.7**	**+0.3**
	2.2nm,0.6s,baz=68,slow=13,SNR=6.5						
QSPA	**South Pole Qui**	**46.84**	**180**	*e*P	**P**	**12 17 25.1**	**+0.2**
	20nm,1.3s						
QSPA	**South Pole Qui**	**46.84**	**180**	P	**P**	**12 17 25.9**	**+1.0**
	8.3nm,1.1s,baz=255,slow=1.5,SNR=12						
DBIC	**Dimbokro**	**64.59**	**308**	*e*P	**P**	**12 19 32.4**	**-0.2**
	16nm,1.4s						
DBIC	**Dimbokro**	**64.59**	**308**	P	**P**	**12 19 33.5**	**+0.8**
	5.5nm,1.1s,baz=117,slow=5.4,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**66.54**	**318**	*e*P	**P**	**12 19 44.9**	**-0.3**
	8.6nm,1.3s						
TORD	**Torodi Ar. Bea**	**66.54**	**318**	P	**P**	**12 19 45.7**	**+0.5**
	2.9nm,0.9s,baz=156,slow=4.3,SNR=12						
TOA1	**Torodi Ar. Sit**	**66.55**	**318**	*e*P	**P**	**12 19 45.7**	**+0.4**
LEM	**Lembang**	**68.67**	**79**	LR	LR	12 46 17.1	
	comp=Z,57nm,18.2s,baz=246,slow=33						
STKA	**Stephens Creek**	**76.03**	**121**	*e*P	**P**	**12 20 43.7**	**+1.0**
	2.3nm,1.2s						
STKA	**Stephens Creek**	**76.03**	**121**	P	**P**	**12 20 43.5**	**+0.8**
	2.0nm,0.6s,baz=207,slow=18,SNR=4.4						
ASAR	**Alice Springs**	**76.43**	**110**	P	**P**	**12 20 47.3**	**+2.2**
	1.4nm,1.0s,baz=214,slow=6.5,SNR=4.4						
AS31	**Alice Springs**	**76.43**	**110**	*e*P	**P**	**12 20 45.3**	**+0.2**
	1.4nm,1.2s						
CPUP	**Villa Florida**	**77.79**	**245**	*e*P	**P**	**12 20 51.1**	**-1.5**
	3.2nm,1.0s						
CPUP	**Villa Florida**	**77.79**	**245**	P	**P**	**12 20 52.6**	**0.0**
	1.6nm,0.7s,baz=151,slow=4.0,SNR=3.9						
BDFB	**Brasilia**	**78.45**	**259**	P	**P**	**12 20 57.5**	**+0.9**
	1.4nm,0.5s,baz=318,slow=5.9,SNR=3.1						
WR1	**Warramunga Arr**	**79.20**	**107**	*e*P	**P**	**12 21 00.8**	**+0.3**
	17nm,1.4s						
WRA	**Warramunga Arr**	**79.20**	**107**	P	**P**	**12 21 00.8**	**+0.3**
	2.9nm,1.0s,baz=233,slow=4.5,SNR=6.1						
BRDH	**Bariadhala**	**80.72**	**47**	LR	LR	12 51 40.0	
	comp=Z,75nm,19.1s,baz=226,slow=32						
CM31	**Chiang Mai Arr**	**81.48**	**55**	*e*P	**P**	**12 21 11.4**	**-1.2**
	4.5nm,1.0s						
CM31				*e*S	**S**	**12 31 23.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**81.48**	**55**	P	**P**	**12 21 13.3**	**+0.7**
	0.4nm,0.3s,baz=224,slow=2.5,SNR=5.8						
JSC	**Jenkinsville**	**134.62**	**279**	*e*PKPdf	**PKPdf**	**12 28 12.4**	**-1.1**
TX31	**Lajitas Ar. Si**	**148.26**	**256**	*e*PKPdf	**PKPdf**	**12 28 37.7**	**-0.4**
TX31				*e*PKPbc	**PKPbc**	**12 28 41.7**	**+0.2**
TX31				*e*PKPbc	**PKPbc**	**12 28 42.2**	**+0.7**
TXAR	**Lajitas Array**	**148.26**	**256**	PKPbc	**PKiKP**	**12 28 43.1**	**0.0**
	3.8nm,1.1s,baz=134,slow=5.4,SNR=15						
MSTX	**Mission**	**150.11**	**264**	*e*PKPbc	**PKiKP**	**12 28 47.1**	**+0.2**
YKA	**Yellowknife Ar**	**155.98**	**331**	PKPab	**PKPab**	**12 29 16.2**	**+0.5**
	0.1nm,0.3s,baz=48,slow=5.0,SNR=2.9						
YKB5	**Yellowknife Ar**	**155.98**	**331**	*e*PKPab	**PKPab**	**12 29 16.2**	**+0.5**
SRU	**San Rafael Swe**	**157.93**	**269**	*e*PKPab	**PKPab**	**12 29 23.4**	**-1.7**
PD31	**Pinedale Array**	**158.25**	**279**	*e*PKPab	**PKPab**	**12 29 24.6**	**-1.8**
PDAR	**Pinedale Array**	**158.25**	**279**	PKPab	**PKPab**	**12 29 27.8**	**+1.3**
	0.4nm,0.9s,baz=57,slow=3.3,SNR=2.5						
TCUT	**Toone Canyon**	**159.20**	**273**	*e*PKPab	**PKPab**	**12 29 29.2**	**-1.5**

*ISCJB **06** 12:12:21.8±0.7, 17°.8S±0°.2×178°.6W±0°.2, h600km, mb3.8/12, Error ellipse: s-maj=32.1km s-min=10.1km az=136.9*

*IDC **06** 12:12:21.6±4.1, 17°.74S×178°.59W, h582km±46km, mb3.2/11, mb1 3.5/12, mb1mx3.2/39, mbtmp4.1/12, Error ellipse: s-maj=40.8km s-min=20.3km az=141.0*

ISC 06 12:12:22.5±0.9, 17°.9S±0°.2×178°.6W±0°.2, h600km, n29, σ1§05/30, mb3.7/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.68**	**251**	P	**P**	**12 15 29.1**	**+1.2**
	1.1nm,0.3s,baz=138,slow=20,SNR=10						
EIDS	**Eidsvold**	**29.12**	**250**	P	**P**	**12 17 33.1**	**-3.7**
	baz=33						
ARMA	**Armidale**	**29.81**	**240**	P	**P**	**12 17 43.4**	**+0.6**
	baz=34,SNR=6.1						
CNB	**Canberra Magne**	**33.32**	**232**	P	**P**	**12 18 13.1**	**+0.7**
	baz=37,SNR=11						
CMSA	**Cobar Meteorol**	**35.02**	**240**	P	**P**	**12 18 26.8**	**+0.2**
	baz=39,SNR=20						
TOO	**Toolangi**	**37.06**	**231**	P	**P**	**12 18 44.0**	**+0.7**
	baz=41,SNR=8.8						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**12 18 55.8**	**+0.7**
	baz=42,SNR=14						
STKA	**Stephens Creek**	**38.50**	**241**	P	**P**	**12 18 55.7**	**+0.7**
	10nm,0.5s,baz=90,slow=10,SNR=38						
ARPS	**Mount Arapiles**	**39.54**	**233**	P	**P**	**12 19 03.1**	**-0.2**
	baz=44						
HTT	**Hallett**	**41.02**	**239**	P	**P**	**12 19 15.6**	**+0.5**
	baz=45,SNR=18						
BBOO	**Buckleboo**	**43.27**	**241**	P	**P**	**12 19 33.0**	**+0.2**
	baz=47,SNR=75						
WRA	**Warramunga Arr**	**44.47**	**260**	P	**P**	**12 19 41.8**	**-0.3**
	4.5nm,0.5s,baz=94,slow=6.9,SNR=112						
ASAR	**Alice Springs**	**44.63**	**254**	P	**P**	**12 19 43.5**	**+0.1**
	60nm,0.6s,baz=89,slow=8.1,SNR=1443						
ASAR				PcP	**PcP**	**12 21 13.9**	**+1.0**
	1.5nm,0.5s,baz=101,slow=3.7,SNR=5.5						
FORT	**Forrest**	**49.87**	**245**	P	**P**	**12 20 20.2**	**-2.1**
	baz=54						
MJAR	**Matsushiro Arr**	**67.76**	**323**	P	**P**	**12 22 21.9**	**+0.1**
	1.2nm,0.5s,baz=166,slow=7.5,SNR=2.7						
PETK	**Petropavlovsk-**	**73.59**	**345**	P	**P**	**12 22 55.8**	**+0.2**
	2.3nm,0.8s,baz=168,slow=8.8,SNR=3.6						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**12 23 28.6**	**+0.1**
	0.3nm,0.5s,baz=224,slow=7.6,SNR=2.4						
SEY	**Seymchan**	**83.69**	**347**	P	**P**	**12 23 48.7**	**-0.1**
	1.4nm,0.4s,baz=131,slow=11,SNR=9.6						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**12 23 58.4**	**-1.0**
	0.5nm,0.4s,baz=221,slow=5.2,SNR=13						
TXAR	**Lajitas Array**	**86.12**	**58**	P	**P**	**12 24 02.4**	**+0.9**
	0.5nm,0.7s,baz=235,slow=4.4,SNR=4.5						
PDAR	**Pinedale Array**	**87.44**	**43**	P	**P**	**12 24 07.7**	**+0.1**
	0.4nm,0.6s,baz=201,slow=2.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**88.70**	**290**	P	**P**	**12 24 15.4**	**+1.7**
	0.7nm,0.5s,baz=136,slow=3.0,SNR=5.6						
YKA	**Yellowknife Ar**	**94.36**	**25**	P	**P**	**12 24 38.4**	**-0.3**
	0.1nm,0.5s,baz=244,slow=4.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**108.09**	**322**	PKiKP	**PKiKP**	**12 29 42.6**	**-0.3**
	0.3nm,0.3s,baz=96,slow=1.4,SNR=1.5						
MKAR	**Makanchi Array**	**108.98**	**314**	PKiKP	**PKiKP**	**12 29 44.3**	**-0.6**
	0.4nm,0.5s,baz=155,slow=0.9,SNR=6.7						
KURBB	**Kurchatov Arra**	**111.73**	**318**	PKiKP	**PKiKP**	**12 29 49.1**	**-0.8**
	0.5nm,0.6s,baz=104,slow=1.6,SNR=3.7						
BVAR	**Borovoye Array**	**116.70**	**321**	PKP	**PKiKP**	**12 29 59.3**	**-0.1**
	0.9nm,0.4s,baz=122,slow=2.8,SNR=9.2						
BRTR	**Keskin Array B**	**144.62**	**315**	PKP	**PKPab**	**12 30 53.0**	**-0.3**
	2.0nm,0.7s,baz=112,slow=3.2,SNR=10						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	**PKiKP**	**12 31 01.1**	**-0.8**
	2.0nm,0.5s,baz=17,slow=2.7,SNR=15						

*BJI **06** 12:15:20.5, 5°.20N×126°.20E, h25km, mb4.5/7, mB4.9/7, Ms4.6/1*

*ISCJB **06** 12:15:35.3±0.4, 5°.35N±0°.03×125°.90E±0°.06, h140km±3km, mb3.9/28, Error ellipse: s-maj=9.6km s-min=4.3km az=178.4*

*MAN **06** 12:15:35.1, 5°.32N×125°.99E, h114km, MS4.3*

*IDC **06** 12:15:37.6±0.9, 5°.37N×125°.73E, h142km±6km, mb3.7/26, mb1 3.8/26, mb1mx3.7/47, mbtmp4.1/26, MS3.1/2, Ms1 3.2/2, ms1mx2.8/44, Error ellipse: s-maj=18.0km s-min=8.9km az=86.0*

*DJA **06** 12:15:41.0±0.7, 5°.N±5°.×12°.6E±°., h139km±6km, M4.5/11, mb4.5/6, mB4.9/6, MLv4.6/11, Mw(mB)4.2/6*

ISC 06 12:15:34.9±0.7, 5°.31N±0°.04×126°.06E±0°.06, h123km±6km, n53, σ1§85/71, mb4.1/28, 4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.86**	**336**	*e*P	**Pn**	**12 15 55.2**	**-0.6**
DDMP				*e*S	**Sn**	**12 16 10.8**	**-0.9**
GSPH	**General Santos**	**1.35**	**305**	*i* P	**Pn**	**12 16 01.1**	**+0.2**
GSPH				*i* S	**Sn**	**12 16 20.0**	**-0.6**
MATI	**Mati**	**1.64**	**7**	*e*P	**Sn**	**12 16 27.7**	**+1.3**
SGSI	**Sangihe**	**1.70**	**198**	P	**Pn**	**12 16 07.1**	**+2.2**
SGSI				S	**Sn**	**12 16 29.3**	**+1.6**
DAV	**Davao City (W)**	**1.81**	**345**	P	**Pn**	**12 16 07.6**	**+1.3**
	99nm,0.3s,baz=268,slow=6.8,SNR=7.5						
DAV				S	**Sn**	**12 16 33.2**	**+3.0**
	310nm,0.3s,baz=180,slow=20,SNR=11						
DMPH	**Davao City--Mi**	**1.84**	**343**	*e*P	**Pn**	**12 16 07.7**	**+1.1**
DMPH				*i* S	**Sn**	**12 16 33.2**	**+2.3**
SKMP	**Bagumbayan, Su**	**1.93**	**309**	*e*P	**Pn**	**12 16 07.2**	**-0.4**
SKMP				*e*S	**Sn**	**12 16 31.7**	**-0.9**
CTBH	**Cotabato--PC H**	**2.62**	**317**	*i* P	**Pn**	**12 16 16.4**	**+0.1**
CTBH				*i* S	**Sn**	**12 16 47.1**	**-1.1**
BUKP	**Musuan**	**2.74**	**339**	*e*P	**Pn**	**12 16 18.6**	**+0.6**
BUKP				*e*S	**Sn**	**12 16 51.6**	**+0.5**
CGP	**Cagayan de Oro**	**3.41**	**337**	*e*P	**Pn**	**12 16 27.4**	**+0.7**
CGP				*e*S	**Sn**	**12 17 06.9**	**+0.3**
BUTP	**Butuan**	**3.66**	**353**	*e*P	**Pn**	**12 16 31.1**	**+1.1**
BUTP				*e*S	**Sn**	**12 17 13.3**	**+0.6**
PAGZ	**Pagadian**	**3.66**	**314**	*e*P	**Pn**	**12 16 31.0**	**+0.9**
PAGZ				*e*S	**Sn**	**12 17 15.1**	**+2.4**
IPIL	**Ipil**	**4.25**	**306**	*e*P	**Pn**	**12 16 38.8**	**+0.9**

MUN	**Mundaring**	**1.70**	**218**	P	Pn	12 21 32.5	+0.5
	baz=1.7						
MUN				S	Sb	12 21 55.1	0.0
	baz=1.7						
MORW	**Morawa**	**1.97**	**322**	P	Pn	12 21 36.6	+1.0
	baz=2.0						
MORW				S	Sn	12 22 00.2	-0.3
	baz=2.0						

MOS ***06*** *12:24:31.8±1.0,43˚.33S×39˚.59E, h10km, mb5.1/16, Error ellipse: s-maj=18.4km s-min=9.4km az=101.3*

IDC ***06*** *12:24:31.6±0.4, 43˚.38S×39˚.64E, h0km, mb4.6/31, mb1 4.7/33, mb1mx4.6/46, mbtmp4.6/33, ML4.2/2, MS4.1/3, Ms1 4.1/3, ms1mx3.5/48, Error ellipse: s-maj=15.2km s-min=10.4km az=62.0*

ISCJB ***06*** *12:24:31.6±0.2, 43˚.37S±0˚.05×39˚.56E±0˚.07, h10km, mb4.7/53, MS4.2/4, Error ellipse: s-maj=8.2km s-min=6.0km az=147.1*

BJI ***06*** *12:24:32.0, 43˚.40S×39˚.60E, h10km, mb5.1/13, mB5.4/7, Ms5.1/3, Ms7 4.9/2*

GCMT ***06*** *12:24:32.9±0.3, 43˚.27S±0˚.02×39˚.55E±0˚.05, h12km±1km, MW4.9/72, Moment Tensor Solution. s22,c26; s72,c90; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=3.25±.25; Mθθ 2.71±.17; Mφφ 0.54±.14; Mrθ 0.50±.42; Mrφ 0.38±.09; Mθφ 0.28±.58; Best double couple: Mo 3.06500×10^16 NP1: φs 257.00000°, δ 50.00000°, λ -94.00000°. NP2: φs 83.00000°, δ 40.00000°, λ -86.00000°. Principal axes: T 2.8230, Plg 5.0000°, Azm 350.0000°; N 0.4850, Plg 3.0000°, Azm 260.0000°; P -3.3070, Plg 84.0000°, Azm 140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***06*** *12:24:32.9±0.2, 43˚.38S×39˚.57E, h10km, mb4.9/22 Error ellipse: s-maj=7.9km s-min=5.4km az=48.0*

ISC 06 12:24:33.1±0.3, **43˚.36S**±0˚.07×**39˚.57E**±0˚.07, **h10**km, **n142, s**0**87**/134, **mb4.8**/53, **MS4.2**/**4, 7C-7D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.25**	**114**	*e*Pn		**Pn**	**12 26 46.7**	**+0.2**
SUR	**Sutherland**	**18.38**	**300**	*e*P		**P**	**12 28 48.4**	**+0.2**
	50nm,1.4s							
SUR				*e*Sn		S	12 32 33.4	+15
SUR	**Sutherland**	**18.38**	**300**	P		**Pn**	**12 28 47.8**	**-0.3**
	0.7nm,0.3s,baz=149,slow=7.5,SNR=7.7							
BOSA	**Boshof**	**18.68**	**317**	*e*P		**P**	**12 28 50.9**	**-0.6**
	92nm,1.4s							
BOSA	**Boshof**	**18.68**	**317**	*e*P		**P**	**12 28 50.9**	**-0.6**
BOSA				pmax		pmax		
	comp=Z,92nm,1.4s							
BOSA	**Boshof**	**18.68**	**317**	P		**P**	**12 28 51.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=146,slow=12,SNR=16							
LBTB	**Lobatse**	**21.59**	**323**	P		**P**	**12 29 22.8**	**-0.2**
	comp=Z,41nm,1.1s,baz=155,slow=11,SNR=25							
PAF	**Port-aux-Franc**	**21.89**	**117**	*e*P		**P**	**12 29 27.4**	**+1.4**
	comp=Z,171nm,1.2s							
PAF	**Port-aux-Franc**	**21.89**	**117**	*e*P		**P**	**12 29 27.4**	**+1.4**
PAF				pmax		pmax		
	comp=Z,171nm,1.2s							
MATP	**Matopo**	**24.67**	**334**	P		**P**	**12 29 53.8**	**-0.4**
	comp=Z,22nm,1.1s,baz=168,slow=10,SNR=20							
ABPO	**Ambohimpanom**	**25.11**	**17**	*e*P		**P**	**12 29 57.8**	**-0.4**
	comp=Z,18nm,1.3s							
ABPO	**Ambohimpanom**	**25.11**	**17**	*e*P		**P**	**12 29 57.8**	**-0.4**
ABPO				pmax		pmax		
	comp=Z,18nm,1.3s							
OPO	**Ambohidratompo**	**25.53**	**17**	P		**P**	**12 30 02.6**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=148,slow=9.9,SNR=4.4							
SYO	**Syowa Base**	**25.72**	**180**	*e*P		**P**	**12 30 02.9**	**-0.2**
SYO	**Syowa Base**	**25.72**	**180**	*i*P		**P**	**12 30 05.0**	**+1.9**
MAW	**Mawson**	**27.31**	**161**	P		**P**	**12 30 17.1**	**-0.4**
	comp=Z,31nm,1.0s,baz=326,slow=7.4,SNR=2.0							
LSZ	**Lusaka**	**29.63**	**337**	*e*P		**P**	**12 30 38.8**	**0.0**
	comp=Z,46nm,1.4s							
LSZ	**Lusaka**	**29.63**	**337**	*e*P		**P**	**12 30 38.8**	**0.0**
LSZ				pmax		pmax		
	comp=Z,46nm,1.4s							
LSZ	**Lusaka**	**29.63**	**337**	P		**P**	**12 30 38.7**	**0.0**
	comp=Z,19nm,1.2s,baz=171,slow=9.0,SNR=15							
TSUM	**Tsumeb**	**30.36**	**316**	*e*P		**P**	**12 30 45.5**	**+0.2**
	comp=Z,26nm,1.1s							
TSUM	**Tsumeb**	**30.36**	**316**	P		**P**	**12 30 45.4**	**+0.2**
	comp=Z,20nm,1.1s,baz=142,slow=10,SNR=12							
SNAA	**Sanae**	**34.98**	**202**	P		**P**	**12 31 25.4**	**+0.3**
SNAA	**Sanae**	**34.98**	**202**	*e*P		**P**	**12 31 25.2**	**+0.1**
	comp=Z,12nm,1.1s							
SNAA	**Sanae**	**34.98**	**202**	*i*P		**P**	**12 31 25.6**	**+0.5**
SNAA	**Sanae**	**34.98**	**202**	P		**P**	**12 31 24.6**	**-0.5**
	comp=Z,6.0nm,1.0s,baz=68,slow=6.2,SNR=7.3							
SNAA				LR		LR	12 43 04.0	
	comp=Z,179nm,18.1s,baz=50,slow=32							
VNA2	**Neumayer--Watz**	**35.93**	**204**	P		**P**	**12 31 33.8**	**+0.6**
	baz=46,slow=8.1							
VNA1	**Neumayer--Stat**	**36.08**	**205**	P		**P**	**12 31 35.2**	**+0.7**
VNA3	**Neumayer Olymp**	**36.74**	**204**	P		**P**	**12 31 40.4**	**+0.3**
KMBO	**Kilima Mbogo**	**42.09**	**357**	P		**P**	**12 32 25.0**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=37,slow=8.9,SNR=2.8							
H08N3	**Diego Garcia H**	**46.07**	**46**	T		T	13 22 13.4	
	baz=217,slow=75,SNR=6.0							
H08N1	**Diego Carcia H**	**46.09**	**46**	T		T	13 22 18.8	
	baz=217,slow=75,SNR=6.0							
H08N2	**Diego Garcia H**	**46.09**	**46**	T		T	13 22 15.8	
	baz=217,slow=75,SNR=4.9							
QSPA	**South Pole Qui**	**46.86**	**180**	*e*P		**P**	**12 33 01.7**	**-1.3**
	comp=Z,43nm,1.5s							
QSPA	**South Pole Qui**	**46.86**	**180**	P		**P**	**12 33 01.7**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=286,slow=1.4,SNR=15							
VNDA	**Vanda**	**54.34**	**167**	*e*P		**P**	**12 33 58.4**	**-0.8**
	comp=Z,12nm,1.6s							
VNDA	**Vanda**	**54.34**	**167**	*e*P		**P**	**12 33 58.4**	**-0.8**
VNDA				pmax		pmax		
	comp=Z,12nm,1.6s							
VNDA	**Vanda**	**54.34**	**167**	P		**P**	**12 33 59.9**	**+0.7**
	comp=Z,2.7nm,1.0s,baz=238,slow=7.1,SNR=3.9							
H01W2	**Cape Leeuwin H**	**56.69**	**109**	T		T	13 35 31.1	
	baz=238,slow=75,SNR=8.7							
H01W3	**Cape Leeuwin H**	**56.70**	**109**	T		T	13 35 31.8	
	baz=238,slow=75,SNR=8.4							
H01W1	**Cape Leeuwin H**	**56.71**	**109**	T		T	13 35 32.2	
	baz=238,slow=75,SNR=10							
H10S2	**ASCENSION HYDR**	**58.18**	**289**	T		T	13 37 35.4	
	baz=137,slow=75,SNR=11							
H10S1	**ASCENSION HYDR**	**58.20**	**289**	T		T	13 37 36.5	
	baz=137,slow=75,SNR=10							
H10S3	**ASCENSION HYDR**	**58.20**	**289**	T		T	13 37 36.7	
	baz=137,slow=75,SNR=8.4							
NWAO	**Narrogin (SRO)**	**59.93**	**108**	LR		LR	12 55 51.5	
	comp=Z,174nm,20.6s,baz=110,slow=31							
PALK	**Pallekele**	**62.68**	**47**	LR		LR	12 55 19.3	
	comp=Z,191nm,20.7s,baz=299,slow=30							
KIC	**Kosan Boka**	**63.67**	**309**	*e*P		**P**	**12 35 04.3**	**-0.4**
	comp=Z,65nm,1.4s							
LIC	**Lamto**	**63.72**	**309**	*e*P		**P**	**12 35 04.6**	**-0.4**
	comp=Z,77nm,1.8s							
DBIC	**Dimbokro**	**63.99**	**309**	*e*P		**P**	**12 35 07.2**	**+0.4**
	comp=Z,32nm,1.4s							
DBIC	**Dimbokro**	**63.99**	**309**	*e*P		**P**	**12 35 07.2**	**+0.4**
DBIC				pmax		pmax		
	comp=Z,32nm,1.4s							
DBIC	**Dimbokro**	**63.99**	**309**	P		**P**	**12 35 07.2**	**+0.4**
	comp=Z,6.7nm,0.8s,baz=132,slow=8.7,SNR=7.2							
TIC	**Toumodi**	**64.06**	**309**	*e*P		**P**	**12 35 06.9**	**-0.4**
TOA0	**Torodi Ar. Sit**	**66.03**	**319**	*e*P		**P**	**12 35 19.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**66.03**	**319**	P		**P**	**12 35 20.1**	**+0.1**
	comp=Z,8.9nm,1.0s,baz=152,slow=7.4,SNR=28							
RAYN	**Ar Rayn**	**66.77**	**6**	*e*P		**P**	**12 35 24.4**	**-0.1**
	comp=Z,13nm,1.3s							
RAYN	**Ar Rayn**	**66.77**	**6**	*e*P		**P**	**12 35 24.5**	**-0.1**
RAYN				pmax		pmax		
	comp=Z,13nm,1.3s							
PSI	**Prapat**	**70.24**	**66**	*e*P		**P**	**12 35 46.3**	**-0.4**
PSI	**Prapat**	**70.24**	**66**	*e*P		**P**	**12 35 46.3**	**-0.4**
BBOO	**Buckleboo**	**72.58**	**119**	*e*P		**P**	**12 36 00.3**	**-0.2**
	comp=Z,22nm,1.1s							
TAM	**Tamanrasset**	**72.89**	**327**	*e*P		**P**	**12 36 02.1**	**-0.3**
	comp=Z,12nm,1.4s							
TAM	**Tamanrasset**	**72.89**	**327**	*e*P		**P**	**12 36 02.1**	**-0.3**
TAM				pmax		pmax		
	comp=Z,13nm,1.4s							
KULM	**Kulim**	**73.23**	**66**	*e*P		**P**	**12 36 04.5**	**0.0**
	comp=Z,23nm,1.1s							
FITZ	**Fitzroy Crossi**	**75.00**	**101**	*e*P		**P**	**12 36 15.1**	**+0.2**
	comp=Z,16nm,1.1s							
FITZ	**Fitzroy Crossi**	**75.00**	**101**	P		**P**	**12 36 15.1**	**+0.2**
	comp=Z,13nm,1.1s,baz=235,slow=8.4,SNR=4.6							
TOO	**Toolangi**	**75.15**	**128**	*e*P		**P**	**12 36 16.1**	**+0.6**
	comp=Z,12nm,1.1s							
TOO	**Toolangi**	**75.15**	**128**	*e*P		**P**	**12 36 16.1**	**+0.6**
TOO				pmax		pmax		
	comp=Z,12nm,1.1s							
PLCA	**Paso Flores**	**75.28**	**228**	P		**P**	**12 36 16.6**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=132,slow=6.4,SNR=3.7							
STKA	**Stephens Creek**	**76.69**	**121**	*e*P		**P**	**12 36 24.5**	**+0.1**
	comp=Z,2.6nm,1.0s							
STKA	**Stephens Creek**	**76.69**	**121**	*e*P		**P**	**12 36 24.5**	**+0.1**
STKA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
STKA	**Stephens Creek**	**76.69**	**121**	P		**P**	**12 36 24.3**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=258,slow=3.3,SNR=16							
CPUP	**Villa Florida**	**77.10**	**246**	P		**P**	**12 36 27.4**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=128,slow=4.8,SNR=5.0							
ASAR	**Alice Springs**	**77.15**	**110**	P		**P**	**12 36 26.5**	**-0.6**
	comp=Z,4.2nm,1.0s,baz=217,slow=5.9,SNR=20							
AS31	**Alice Springs**	**77.15**	**110**	*e*P		**P**	**12 36 26.1**	**-1.1**
	comp=Z,1.2nm,0.9s							
AS01	**Alice Springs**	**77.18**	**110**	*e*P		**P**	**12 36 26.3**	**-1.1**
BDFB	**Brasilia**	**77.70**	**260**	P		**P**	**12 36 31.1**	**+0.7**
	comp=Z,1.9nm,0.5s,baz=104,slow=3.1,SNR=4.4							
WRA	**Warramunga Arr**	**79.93**	**108**	P		**P**	**12 36 41.8**	**-0.7**
	comp=Z,5.3nm,1.0s,baz=221,slow=4.3,SNR=17							
WB2	**Warramunga Arr**	**79.94**	**108**	*e*P		**P**	**12 36 41.9**	**-0.6**
WRAB	**Tennant Creek**	**79.94**	**108**	*e*P		**P**	**12 36 42.2**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,14nm,1.3s							
PBKT	**Sadao Pong**	**81.90**	**58**	*e*P		**P**	**12 36 52.2**	**-0.6**
	comp=Z,11nm,1.4s							
CM01	**Chiang Mai Arr**	**82.08**	**56**	*e*P		**P**	**12 36 53.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**82.10**	**56**	P		**P**	**12 36 53.6**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=231,slow=6.0,SNR=20							
CHTO	**Chiang Mai**	**82.38**	**55**	*e*P		**P**	**12 36 54.7**	**-0.6**
	comp=Z,4.7nm,0.8s							
CHTO	**Chiang Mai**	**82.38**	**55**	*e*P		**P**	**12 36 54.7**	**-0.6**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.8s							
UTTA	**Uttaradit**	**82.53**	**57**	P		**P**	**12 36 57.5**	**+1.4**
GEYT	**Alibeck**	**82.64**	**15**	P		**P**	**12 36 56.9**	**+0.6**
	comp=Z,6.2nm,1.1s,baz=241,slow=11,SNR=6.7							
BRTR	**Keskin Array B**	**82.87**	**355**	*i* P		**P**	**12 36 57.7**	**+0.1**
BRTR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**82.87**	**355**	P		**P**	**12 36 58.2**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=176,slow=6.1,SNR=8.5							
RPZ	**Rata Peaks**	**83.07**	**147**	P		**P**	**12 36 58.3**	**-0.4**
	comp=Z,21nm,1.1s,baz=148,slow=15,SNR=2.6							
GNI	**Garni**	**83.25**	**4**	*e*P		**P**	**12 37 00.7**	**+1.1**
GNI				pmax		pmax		
	comp=Z,70nm,1.6s							
KEST	**Kesra**	**83.39**	**336**	P		**P**	**12 37 02.5**	**+2.2**
	comp=Z,11nm,1.0s,baz=191,slow=23,SNR=2.2							
FNA	**Florina**	**85.35**	**346**	*e*P		**P**	**12 37 11.1**	**+1.0**
	comp=Z,19nm,1.2s							
FNA	**Florina**	**85.35**	**346**	*e*P		**P**	**12 37 11.1**	**+1.0**
FNA				pmax		pmax		
	comp=Z,19nm,1.2s							
NEY	**Neytrino**	**86.27**	**2**	*i* P		**P**	**12 37 12.1**	**-2.6**
NEY				pmax		pmax		
	comp=Z,6.0nm,1.8s							
SIV	**San Ignacio**	**86.69**	**251**	P		**P**	**12 37 18.0**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=133,slow=2.5,SNR=5.4							
KBZ	**Khabaz**	**86.75**	**2**	P		**P**	**12 37 18.1**	**+1.3**
	comp=Z,5.6nm,1.0s,baz=217,slow=3.3,SNR=5.1							
KSH	**Kashi**	**88.82**	**27**	*e*P		**P**	**12 37 28.5**	**+1.5**
MLR	**Muntele Rosu**	**89.29**	**350**	*e*P		**P**	**12 37 29.4**	**+0.3**
	comp=Z,24nm,1.5s							
MLR	**Muntele Rosu**	**89.29**	**350**	*e*P		**P**	**12 37 29.4**	**+0.3**
MLR				pmax		pmax		
	comp=Z,24nm,1.5s							
KMI	**Kunming**	**89.45**	**54**	P		**P**	**12 37 32.3**	**+1.8**
KMI				pmax		pmax		
	comp=Z,7.0nm,0.5s							
KMI				pmax		pmax		
	comp=Z,110nm,4.4s							
URZ	**Urewera**	**90.10**	**148**	P		**P**	**12 37 33.2**	**0.0**
	comp=Z,18nm,1.1s,baz=346,slow=15,SNR=3.6							
AAK	**Ala-Archa**	**91.17**	**25**	*e*P		**P**	**12 37 38.7**	**+0.7**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**91.17**	**25**	P		**P**	**12 37 39.1**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=19,slow=19,SNR=2.5							
LPAZ	**La Paz**	**91.28**	**246**	P		**P**	**12 37 41.5**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=140,slow=7.9,SNR=2.3							
ES06	**SONSECA Array**	**91.53**	**328**	*e*P		**P**	**12 37 39.5**	**-0.1**
ESDC	**Sonseca Array**	**91.54**	**328**	P		**P**	**12 37 41.2**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=158,slow=4.4,SNR=3.5							
GYA	**Guiyang**	**92.79**	**56**	*e*P		**P**	**12 37 48.0**	**+2.2**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
VSR	**Storozhevoye**	**94.19**	**360**	*e*P		**P**	**12 37 51.3**	**-0.2**
VSR				pmax		pmax		
	comp=Z,23nm,1.4s							
WMQ	**Urumqi**	**96.87**	**33**	*e*P		**P**	**12 38 05.8**	**+1.8**
WMQ				LR		LR		
	comp=Z,310nm,25.9s							
WMQ				LR		LR		
	comp=Z,190nm,20.7s							
WMQ				LR		LR		
	comp=Z,360nm,29.3s							
CLL	**Collm**	**97.07**	**344**	*e*P		**P**	**12 38 04.0**	**-0.6**
MKAR	**Makanchi Array**	**97.41**	**28**	P		**P**	**12 38 05.8**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=198,slow=3.6,SNR=4.1							
OBN	**Obninsk**	**98.13**	**358**	*i* P		Pdif	12 38 09.4	+0.1
OBN				pmax		pmax		
	comp=Z,7.0nm,1.1s							
LZH	**Lanzhou**	**98.32**	**48**	*e*P		Pdif	12 38 11.1	+0.2
LZH				pP		pwP	12 38 16.9	+0.4
LZH				sP		sP	12 38 20.1	+5.7
LZH				pmax		pmax		
	comp=Z,26nm,1.1s							
GTA	**Gaotai**	**98.75**	**43**	*e*P		**P**	**12 38 12.0**	**-0.7**
GTA				pP		pP	12 38 15.7	+0.4
GTA				sP		pwP	12 38 18.6	+0.4
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
VLA	**Vladivostok**	**119.18**	**57**	*i* PKIKP		**PKPdf**	**12 43 21.6**	**-0.1**
KLR	**Kul'dur**	**122.33**	**51**	PKP		**PKPdf**	**12 43 26.4**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=214,slow=2.9,SNR=3.5							
ERM	**Erimo**	**125.72**	**63**	*e*PKIKP		**PKPdf**	**12 43 32.7**	**-1.7**
TIXI	**Tiksi**	**130.24**	**25**	*e*PKIKP		**PKPdf**	**12 43 41.5**	**-0.6**
MA2	**Magadan**	**136.31**	**43**	PKP		**PKPdf**	**12 43 54.3**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=177,slow=9.3,SNR=3.8							
SEY	**Seymchan**	**137.53**	**39**	*e*PKIKP		**PKPdf**	**12 43 56.4**	**+0.4**
SEY	**Seymchan**	**137.53**	**39**	PKP		**PKPdf**	**12 43 55.5**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=250,slow=2.1,SNR=7.3							
BILL	**Bilibino**	**142.92**	**30**	*e*PKIKP		**PKPdf**	**12 44 06.4**	**+0.8**
JFWS	**Jewell Farm**	**143.83**	**287**	*e*PKPdf		PKPbc	12 44 05.6	-0.1
JFWS	**Jewell Farm**	**143.83**	**287**	*e*PKIKP		PKPbc	12 44 05.6	-0.1
COWI	**Conover**	**143.97**	**293**	*e*PKPdf		PKPab	12 44 03.1	-2.4
JCT	**Junction City**	**145.40**	**262**	*e*PKPdf		**PKPbc**	**12 44 10.5**	**-0.7**
JCT	**Junction City**	**145.40**	**262**	*e*PKIKP		**PKPbc**	**12 44 10.5**	**-0.7**
EYMN	**Ely**	**145.95**	**295**	*e*PKPdf		**PKPdf**	**12 44 10.2**	**-1.3**
WMOK	**Wichita Mounta**	**146.81**	**269**	*e*PKPdf		**PKPdf**	**12 44 13.0**	**-0.5**
WMOK	**Wichita Mounta**	**146.81**	**269**	*e*PKIKP		**PKPdf**	**12 44 13.0**	**-0.5**
KSU1	**Kansas State U**	**147.05**	**278**	*e*PKPdf		**PKPdf**	**12 44 13.2**	**-0.5**
TXAR	**Lajitas Array**	**147.53**	**257**	PKPbc		**PKPbc**	**12 44 16.9**	**-0.7**
	comp=Z,12nm,1.1s,baz=135,slow=3.5,SNR=35							
FCC	**Fort Churchill**	**147.81**	**315**	*e*PKPdf		**PKPdf**	**12 44 13.1**	**-1.2**
FCC				*e*PKPbc		**PKPbc**	**12 44 17.1**	**0.0**
FCC	**Fort Churchill**	**147.81**	**315**	*e*PKIKP		**PKPdf**	**12 44 13.1**	**-1.2**
FCC				*e*			12 44 17.1	
ECSD	**EROS Data Cent**	**148.51**	**286**	*e*PKPdf		**PKPdf**	**12 44 14.3**	**-1.6**
ECSD				*e*PKPbc		**PKPbc**	**12 44 19.4**	**-0.2**
AGMN	**Agassiz Nation**	**148.89**	**295**	*e*PKPdf		**PKPdf**	**12 44 16.0**	**-0.4**
AGMN				*e*PKPbc		**sPKPdf**	**12 44 20.0**	**+0.4**
AGMN				*e*PKPab		**PKPab**	**12 44 24.8**	**+0.4**
ULM	**Lac du Bonnet**	**149.11**	**299**	PKPbc		**PKPbc**	**12 44 20.0**	**-0.8**
	comp=Z,11nm,0.9s,baz=100,slow=2.7,SNR=13							
ANMO	**Albuquerque**	**152.50**	**264**	*e*PKIKP		**PKPdf**	**12 44 23.0**	**+0.3**
FFC	**Flin Flon**	**152.69**	**308**	*i* PKIKP		**PKPbc**	**12 44 29.2**	**+0.1**
INK	**Inuvik**	**154.72**	**354**	PKPab		**PKPab**	**12 44 47.7**	**-0.4**
	comp=Z,5.7nm,1.2s,baz=354,slow=6.3,SNR=4.2							
YKA	**Yellowknife Ar**	**155.60**	**331**	PKP		**PKPdf**	**12 44 23.3**	**-2.6**
	comp=Z,0.8nm,0.9s,baz=38,slow=1.6,SNR=9.4							
YKA				PKPab		**PKPab**	**12 44 51.6**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=52,slow=3.9,SNR=4.0							
PDAR	**Pinedale Array**	**157.49**	**279**	PKP		**PKPdf**	**12 44 27.2**	**-2.1**
	comp=Z,1.5nm,1.1s,baz=122,slow=1.9,SNR=5.3							
PDAR				PKPab		**PKPab**	**12 45 01.2**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=107,slow=5.0,SNR=5.3							
ILAR	**Eielson Array**	**158.23**	**7**	PKP		**PKPdf**	**12 44 28.3**	**-1.0**
	comp=Z,0.5nm,1.0s,baz=234,slow=4.2,SNR=4.1							
ILAR				PKPab		**pPKPab**	**12 45 05.1**	**-0.6**
	comp=Z,0.5nm,1.0s,baz=339,slow=4.8,SNR=4.3							
NVAR	**Mina Array Bea**	**162.57**	**261**	PKP		**PKPdf**	**12 44 36.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=131,slow=3.7,SNR=3.8							
NVAR				PKPab		**PKPab**	**12 45 24.4**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=129,slow=5.9,SNR=5.8							

IDC ***06*** *12:28:13.1±0.3, 43˚.43S×39˚.55E, h0km, mb4.5/36, mb1 4.6/38, mb1mx4.6/51, mbtmp4.5/38, ML4.1/2, MS4.3/27, Ms1 4.3/27, ms1mx4.2/39, Error ellipse: s-maj=12.2km s-min=10.6km az=59.0*

ISCJB ***06*** *12:28:13.0±0.2, 43˚.43S±0˚.04×39˚.55E±0˚.07, h10km, mb4.8/64, MS4.4/29, Error ellipse: s-maj=7.2km s-min=6.0km az=154.4*

MOS ***06*** *12:28:13.7±1.1, 43˚.39S×39˚.67E, h10km, mb5.2/19, Error ellipse: s-maj=17.3km s-min=9.8km az=91.7*

NEIC ***06*** *12:28:14.6±0.1, 43˚.42S×39˚.67E, h10km, mb5.1/26, Error ellipse: s-maj=6.0km s-min=5.1km az=202.0*

BJI ***06*** *12:28:14.2, 42˚.98S×39˚.05E, h14km, mb5.1/14, mB5.5/13, Ms5.0/7, Ms7 4.7/7*

GCMT ***06*** *12:28:15.6±0.3, 43˚.27S±0˚.01×39˚.77E±0˚.04, h12km, MW5.0/85, Moment Tensor Solution. s24,c33; s85,c116; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.21±.12; Mθθ 3.91±.10; Mφφ 0.29±.11; Mrθ 0.48±.36; Mrφ 0.12±.10; Mθφ -1.75±.53; Best double couple: Mo 4.38700×10^16 NP1: φs 287.00000°, δ 51.00000°, λ -65.00000°. NP2: φs 71.00000°, δ 45.00000°, λ -117.00000°. Principal axes: T 3.9380, Plg 3.0000°, Azm 360.0000°; N 0.8970, Plg 19.0000°, Azm 91.0000°; P -4.8370, Plg 71.0000°, Azm 260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 12:28:14.6±0.2, **43˚.43S**±0˚.06×**39˚.57E**±0˚.06, **h10**km, **n376, s**0**98**/413, **mb4.9**/62, **MS4.4**/29, **13C-3D, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CRZF	**Crozet Islands**	**9.22**	**113**	*e*Pn		**Pn**	**12 30 28.3**	**+0.8**
SUR	**Sutherland**	**18.42**	**301**	*e*P		**Pn**	**12 32 30.6**	**+0.4**
	21nm,0.9s							
SUR	**Sutherland**	**18.42**	**301**	P		**P**	**12 32 29.2**	**-1.0**
	0.9nm,0.3s,baz=123,slow=13,SNR=6.9							
SUR				LR		LR	12 38 12.5	
	comp=Z,902nm,20.6s,baz=135,slow=33							
BOSA	**Boshof**	**18.74**	**317**	*e*P		**P**	**12 32 33.4**	**-0.3**
	28nm,1.3s							
BOSA	**Boshof**	**18.74**	**317**	*e*P		**P**	**12 32 33.4**	**-0.3**
BOSA				pmax		pmax		
	comp=Z,28nm,1.3s							
BOSA	**Boshof**	**18.74**	**317**	P		**P**	**12 32 33.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=167,slow=11,SNR=4.3							
BOSA				LR		LR	12 38 18.4	
	comp=Z,2μm,20.7s,baz=160,slow=32							
LBTB	**Lobatse**	**21.65**	**324**	*e*P		**P**	**12 33 05.3**	**+0.1**
	comp=Z,30nm,1.0s							
LBTB	**Lobatse**	**21.65**	**324**	P		**P**	**12 33 05.0**	**-0.3**
	comp=Z,21nm,0.9s,baz=152,slow=10,SNR=16							
LBTB	

RAYN **Ar Rayn** 66.84 6 *e*P P 12 39 05.8 -0.8
comp=Z,38nm,1.6s
RAYN **Ar Rayn** 66.84 6 *e*P P 12 39 05.8 -0.8
RAYN pmax pmax
comp=Z,38nm,1.6s
GSI **Gunungsitoli** 68.26 66 *e*P P 12 39 16.7 +0.9
comp=Z,92nm,1.5s
LEM **Lembang** 69.43 80 P P 12 39 25.5 +2.2
comp=Z,10nm,0.4s,baz=165,slow=12,SNR=3.1
PSI **Prapat** 70.26 66 P P 12 39 28.8 +0.4
comp=Z,10.0nm,1.0s
HYB **Hyderabad** 70.31 40 *i* P P 12 39 27.0 -1.4
BBOO **Buckleboo** 72.53 119 *e*P P 12 39 42.2 +0.4
comp=Z,45nm,1.3s
KULM **Kulim** 73.25 66 *e*P P 12 39 45.9 -0.3
comp=Z,102nm,1.6s
FITZ **Fitzroy Crossi** 74.99 101 *e*P P 12 39 56.0 -0.3
comp=Z,25nm,1.1s
FITZ **Fitzroy Crossi** 74.99 101 P P 12 39 57.1 +0.8
comp=Z,14nm,1.0s,baz=225,slow=5.8,SNR=12
TOO **Toolangi** 75.10 128 *e*P P 12 39 57.3 +0.5
comp=Z,48nm,1.5s
TOO **Toolangi** 75.10 128 *e*P P 12 39 57.3 +0.5
TOO pmax pmax
comp=Z,48nm,1.5s
PLCA **Paso Flores** 75.24 228 *e*P P 12 39 58.3 +0.7
comp=Z,8.1nm,1.1s
PLCA **Paso Flores** 75.24 228 *e*P P 12 39 58.3 +0.7
PLCA pmax pmax
comp=Z,8.0nm,1.1s
PLCA **Paso Flores** 75.24 228 P P 12 39 58.3 +0.7
comp=Z,6.3nm,0.8s,baz=145,slow=5.9,SNR=9.1
PLCA LR LR 13 07 41.3
comp=Z,88nm,20.5s,baz=148,slow=32
STKA **Stephens Creek** 76.65 121 *e*P P 12 40 05.7 0.0
comp=Z,12nm,1.6s
STKA **Stephens Creek** 76.65 121 *e*P P 12 40 05.7 0.0
STKA pmax pmax
comp=Z,12nm,1.6s
STKA **Stephens Creek** 76.65 121 P P 12 40 06.2 +0.5
comp=Z,9.5nm,0.8s,baz=228,slow=4.3,SNR=22
STKA LR LR 13 07 51.8
comp=Z,249nm,18.6s,baz=210,slow=31
CPUP **Villa Florida** 77.08 246 *e*P P 12 40 08.5 +0.3
comp=Z,32nm,1.6s
CPUP **Villa Florida** 77.08 246 *e*P P 12 40 08.5 +0.3
CPUP pmax pmax
comp=Z,33nm,1.6s
CPUP **Villa Florida** 77.08 246 P P 12 40 08.3 +0.2
comp=Z,5.2nm,0.8s,baz=118,slow=6.1,SNR=11
CPUP LR LR 13 07 34.2
comp=Z,90nm,20.1s,baz=180,slow=31
ASAR **Alice Springs** 77.11 110 P P 12 40 08.0 -0.5
ASAR **Alice Springs** 77.11 110 P P 12 40 08.0 -0.5
comp=Z,5.0nm,1.0s,baz=219,slow=5.7,SNR=20
ASAR LR LR 13 08 50.3
comp=Z,165nm,19.5s,baz=230,slow=32
AS01 **Alice Springs** 77.15 110 *e*P P 12 40 07.3 -1.3
BDFB **Brasilia** 77.70 260 *e*P P 12 40 12.6 +0.7
comp=Z,31nm,1.3s
BDFB **Brasilia** 77.70 260 *e*P P 12 40 12.6 +0.7
BDFB pmax pmax
comp=Z,31nm,1.3s
BDFB **Brasilia** 77.70 260 P P 12 40 13.4 +1.5
comp=Z,8.9nm,0.9s,baz=109,slow=3.8,SNR=8.4
WRA **Warramunga Arr** 79.90 108 P P 12 40 23.8 -0.1
comp=Z,6.9nm,1.0s,baz=222,slow=4.5,SNR=21
WRA LR LR 13 10 08.4
comp=Z,276nm,21.3s,baz=195,slow=32
WB2 **Warramunga Arr** 79.91 108 *e*P P 12 40 23.4 -0.5
WRAB **Tennant Creek** 79.92 108 *e*P P 12 40 23.1 -0.9
comp=Z,30nm,1.4s
WRAB **Tennant Creek** 79.92 108 *c i*P P 12 40 24.0 0.0
WRAB pmax pmax
comp=Z,27nm,1.5s
PBKT **Sadao Pong** 81.94 58 *e*P P 12 40 33.0 -1.5
comp=Z,27nm,1.7s
PBKT **Sadao Pong** 81.94 58 P P 12 40 35.4 +0.9
CM01 **Chiang Mai Arr** 82.12 56 *e*P P 12 40 34.7 -0.8
CMAR **Chiang Mai Arr** 82.14 56 P P 12 40 35.4 -0.3
comp=Z,4.6nm,1.1s,baz=230,slow=5.6,SNR=19
CMAR LR LR 13 13 20.5
comp=Z,98nm,18.1s,baz=222,slow=33
CHTO **Chiang Mai** 82.42 55 *e*P P 12 40 36.5 -0.6
comp=Z,14nm,1.3s
CHTO **Chiang Mai** 82.42 55 *e*P P 12 40 36.5 -0.6
CHTO pmax pmax
comp=Z,14nm,1.3s
CHTO **Chiang Mai** 82.42 55 P P 12 40 37.3 +0.2
comp=Z,42nm,1.2s
CMMT **Chiang Mai** 82.42 55 P P 12 40 37.2 +0.1
comp=Z,9.4nm,1.2s
UTTA **Uttaradit** 82.57 57 P P 12 40 38.1 +0.2
comp=Z,3.9nm,1.0s
GEYT **Alibeck** 82.71 15 P P 12 40 38.5 +0.3
comp=Z,2.0nm,0.7s,baz=253,slow=1.5,SNR=7.0
GEYT LR LR 13 13 48.5
comp=Z,129nm,20.7s,baz=195,slow=33
GYA0B **ALIBECK ARRAY** 82.71 15 *e*P P 12 40 36.6 -1.5
comp=Z,30nm,1.5s
BRTR **Keskin Array B** 82.95 355 P P 12 40 39.5 0.0
comp=Z,1.2nm,0.9s,baz=142,slow=4.2,SNR=6.3
RPZ **Rata Peaks** 83.00 147 LR LR 13 10 55.3
comp=Z,146nm,18.6s,baz=200,slow=31
GNI **Garni** 83.33 4 *c e*P P 12 40 43.0 +1.5
GNI pmax pmax
comp=Z,108nm,1.6s
KEST **Kesra** 83.46 336 LR LR 13 20 08.1
comp=Z,656nm,18.4s,baz=148,slow=37
LTZ **Lake Taylor** 84.27 147 *e*P P 12 40 46.6 +0.1
comp=Z,52nm,1.3s
MDT **Midelt** 85.96 324 LR LR 13 19 25.3
comp=Z,399nm,19.4s,baz=307,slow=36
SIV **San Ignacio** 86.67 251 P P 12 40 59.1 +0.3
comp=Z,2.7nm,0.9s,baz=148,slow=2.5,SNR=8.4
LSA **Lhasa** 86.78 43 *e*P P 12 40 59.9 +0.5
comp=Z,7.0nm,0.6s
KBZ **Khabaz** 86.83 2 P P 12 40 59.8 +1.1
comp=Z,2.9nm,0.7s,baz=299,slow=3.7,SNR=5.1
KIV **Kislovodsk** 87.05 2 *e*P P 12 41 00.0 +0.1
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,117nm,19.0s
ANN **Anapa** 87.87 358 *e*P P 12 41 03.4 -0.3
ANN *e*PP PcP 12 41 05.2 -0.3
ANN *e* 12 44 30.1
ANN *e*S SKSac 12 51 30.7 -0.7
ANN pmax pmax
comp=Z,22nm,1.1s
KSH **Kashi** 88.89 27 P P 12 41 08.0 -0.9
KSH S S 12 51 51.9 -4.5
KSH sS sS 12 52 00.4 0.0
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,100nm,5.1s
MLR **Muntele Rosu** 89.36 350 *e*P P 12 41 11.5 +0.5
comp=Z,31nm,1.5s
MLR **Muntele Rosu** 89.36 350 *e*P P 12 41 11.5 +0.5
MLR pmax pmax
comp=Z,31nm,1.5s
KMI **Kunming** 89.49 54 P P 12 41 14.4 +2.2
KMI pmax pmax
comp=Z,7.0nm,0.5s
KMI pmax pmax
comp=Z,75nm,4.0s
ARSB **Arslanbob** 89.58 25 *e*P P 12 41 11.6 -0.5
comp=Z,5.8nm,1.0s
URZ **Urewera** 90.04 148 LR LR 13 17 56.0
comp=Z,110nm,19.0s,baz=202,slow=33
MNMC **Minye Minye** 90.17 243 *e*P P 12 41 14.2 -1.5
comp=Z,14nm,0.4s
AAK **Ala-Archa** 91.23 25 ⇑ *e*P P 12 41 19.8 0.0
AAK pmax pmax
comp=Z,9.0nm,1.9s
AAK **Ala-Archa** 91.23 25 P P 12 41 20.9 +1.1
comp=Z,0.7nm,0.5s,baz=228,slow=5.8,SNR=4.8
LPAZ **La Paz** 91.25 246 P P 12 41 22.1 +0.8
comp=Z,0.8nm,0.8s,baz=135,slow=4.3,SNR=3.5
LPAZ LR LR 13 17 13.7
comp=Z,59nm,18.7s,baz=129,slow=32
ESDC **Sonseca Array** 91.61 328 P P 12 41 22.1 +0.6
comp=Z,0.5nm,0.6s,baz=138,slow=4.3,SNR=5.1
ESDC LR LR 13 23 10.3
comp=Z,308nm,18.7s,baz=175,slow=36
GYA **Guiyang** 92.83 56 P P 12 41 29.5 +2.0

GYA PP PP 12 45 14.0 +3.8
GYA SKS SKSac 12 52 02.8 +1.3
GYA S S 12 52 32.1 -1.0
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
ABKAR **Akbulak array** 94.02 13 *e*P P 12 41 30.7 -1.6
AKASG **Malin Array Be** 94.18 353 *c e*P P 12 41 34.2 +1.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG **Malin Array Be** 94.18 353 LR LR 13 25 36.8
comp=Z,54nm,20.1s,baz=270,slow=37
VSR **Storozhevoye** 94.27 360 ⇑ *i*P P 12 41 33.1 -0.2
VSR pmax pmax
comp=Z,28nm,1.6s
CD2 **Chengdu** 94.44 51 *e*P P 12 41 37.3 +2.5
GERES **GERESS Array B** 94.66 343 LR LR 13 27 13.9
comp=Z,110nm,19.4s,baz=154,slow=37
AKTO **Aktyubinsk** 94.86 12 P P 12 41 35.4 -0.7
comp=Z,0.8nm,0.6s,baz=166,slow=5.3,SNR=4.6
WMQ **Urumqi** 96.93 33 *e*P P 12 41 47.3 +1.5
WMQ LR LR
comp=Z,310nm,26.3s
WMQ LR LR
comp=Z,190nm,24.7s
WMQ LR LR
comp=Z,360nm,24.7s
MK01 **Makanchi Array** 97.45 28 *e*P P 12 41 47.0 -1.0
MKAR **Makanchi Array** 97.47 28 P P 12 41 47.0 -1.1
comp=Z,0.6nm,0.8s,baz=227,slow=4.8,SNR=4.6
MKAR LR LR 13 22 36.1
comp=Z,48nm,19.6s,baz=222,slow=34
GTA **Gaotai** 98.80 43 ⇑ P P 12 41 54.0 -0.5
GTA pP sP 12 41 58.7 +0.3
GTA sP pP 12 42 01.2 +3.8
GTA pmax pmax
comp=Z,4.0nm,1.5s
GTA pmax pmax
comp=Z,52nm,5.2s
GTA LR LR
comp=Z,96nm,18.7s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,100nm,17.8s
KURBB **Kurchatov Arra** 99.63 24 P Pdif 12 41 56.8 -0.8
comp=Z,0.4nm,0.7s,baz=220,slow=4.5,SNR=3.2
BVAR **Borovoye Array** 99.67 18 P Pdif 12 41 57.2 -0.6
comp=Z,0.6nm,0.6s,baz=193,slow=6.1,SNR=5.0
BRVK **Borovoye** 99.68 18 *e*P Pdif 12 41 58.6 +0.8
BRVK pmax pmax
comp=Z,5.0nm,1.9s
KURK **Kurchatov** 99.74 24 P Pdif 12 41 56.8 -1.3
KURK **Kurchatov** 99.74 24 P Pdif 12 41 56.8 -1.3
NNA **Nana** 100.12 243 *i*P Pdif 12 42 02.9 +2.0
HHC **Hu-ho-hao-te** 105.99 49 Pdif Pdif 12 42 30.3 +3.9
HHC PP PP 12 46 52.3 +1.9
HHC LR LR
comp=Z,110nm,17.6s
HHC LR LR
comp=Z,160nm,16.1s
HHC LR LR
comp=Z,210nm,18.1s
KLR **Kul'dur** 122.38 51 ⇑ *i*PKIKP PKPdf 12 47 09.1 -0.2
YSS **Yuzh-Sakhalins** 127.80 58 *e*PKIKP PKiKP 12 47 20.3 0.0
TIXI **Tiksi** 130.31 25 ‖ *e*PKIKP PKPdf 12 47 23.6 -0.1
TIXI **Tiksi** 130.31 25 PKP PKPdf 12 47 23.2 -0.5
comp=Z,0.7nm,0.4s,baz=352,slow=1.8,SNR=4.5
JSC **Jenkinsville** 133.89 279 *e*PKPdf PKiKP 12 47 32.5 -0.5
JSC **Jenkinsville** 133.89 279 *e*PKIKP PKiKP 12 47 32.5 -0.5
MA2 **Magadan** 136.36 43 ‖ *i*PKIKP PKPdf 12 47 35.8 +0.3
SEY **Seymchan** 137.59 39 ‖ *e*PKIKP PKPdf 12 47 37.8 +0.2
SEY **Seymchan** 137.59 39 PKP PKiKP 12 47 39.7 +0.1
comp=Z,2.3nm,0.8s,baz=187,slow=1.5,SNR=11
T41A **Mountain View** 142.74 277 P PKPdf 12 47 43.5 -4.4
baz=115
RES **Resolute Bay** 142.75 342 *e*PKPdf PKiKP 12 47 49.3 -0.6
CCM **Cathedral Cave** 142.79 279 *e*PKPdf PKPdf 12 47 46.9 -1.0
CCM **Cathedral Cave** 142.79 279 *e*PKIKP PKPdf 12 47 46.9 -1.0
CCM **Cathedral Cave** 142.79 279 P PKPdf 12 47 43.7 -4.2
baz=114
BILL **Bilibino** 142.99 30 ⇑ *e*PKIKP PKPdf 12 47 47.6 +0.3
I42A **Draeger Farm,** 143.23 289 P PKPbc 12 47 45.7 +0.2
baz=108
U40A **Yellville** 143.23 275 P PKPab 12 47 44.9 +0.4
baz=116
G42A **Mountain** 143.29 291 P PKPbc 12 47 45.5 -0.2
baz=106
O41A **Passleys Farm,** 143.34 282 P PKPbc 12 47 46.0 0.0
baz=112
M41A **Milan** 143.55 284 P PKPbc 12 47 46.2 -0.3
baz=110
K41A **Shullsburg** 143.79 286 P PKPbc 12 47 46.8 -0.3
baz=109
G41A **Antigo** 143.80 291 P PKPbc 12 47 46.9 -0.2
baz=106
J41A **Loganville** 143.83 288 P PKPbc 12 47 47.3 0.0
baz=108
JFWS **Jewell Farm** 143.85 287 *e*PKPdf PKPbc 12 47 48.1 +0.7
JFWS **Jewell Farm** 143.85 287 *e*PKIKP PKPbc 12 47 48.1 +0.7
JFWS **Jewell Farm** 143.85 287 P PKPbc 12 47 47.5 +0.2
baz=108
F41A **Three Lakes** 143.88 292 *e*PKPpre PKPab 12 47 47.0 +0.2
F41A **Three Lakes** 143.88 292 P PKPab 12 47 46.7 0.0
baz=105
I41A **Arkdale** 143.94 289 *e*PKPdf PKPbc 12 47 48.0 +0.5
I41A **Arkdale** 143.94 289 P PKPbc 12 47 47.8 +0.2
baz=107
H41A **Junction City** 143.95 290 *e*PKPdf PKPbc 12 47 47.6 0.0
H41A **Junction City** 143.95 290 P PKPbc 12 47 47.7 +0.1
baz=106
435B **Jarrell** 143.96 264 P PKPbc 12 47 48.5 +0.5
baz=123
E41A **Kenton** 143.97 293 P PKPbc 12 47 47.6 0.0
baz=104
HHAR **Hobbs** 143.99 275 *e*PKPdf PKPab 12 47 47.5 +0.1
COWI **Conover** 144.00 293 *e*PKPdf PKPbc 12 47 47.6 -0.1
N40A **Mertquake, Sal** 144.11 283 P PKPbc 12 47 48.2 0.0
baz=111
M40A **Post Highland** 144.24 284 P PKPbc 12 47 48.7 +0.1
baz=110
L40A **Anamosa** 144.26 285 *e*PKPdf PKPbc 12 47 49.4 +0.8
L40A **Anamosa** 144.26 285 P PKPbc 12 47 49.3 +0.7
baz=109
J40A **Soldiers Grove** 144.34 288 P PKPbc 12 47 49.0 +0.2
baz=108
K40A **Colesburg** 144.41 286 P PKPab 12 47 48.8 +0.1
baz=108,SNR=11
I40A **Norwalk** 144.41 288 P PKPbc 12 47 49.2 +0.1
baz=107,SNR=6.7
C40A **Isle Royale Na** 144.43 296 P PKPbc 12 47 49.1 +0.1
baz=102
H40A **Chili** 144.46 290 P PKPbc 12 47 49.6 +0.4
baz=106,SNR=14
WHTX **Lake Whitney,** 144.50 266 *e*PKPdf PKPbc 12 47 50.2 +0.5
WHTX **Lake Whitney,** 144.50 266 P PKPbc 12 47 49.6 -0.1
baz=121
G40A **Rib Lake** 144.50 291 *e*PKPdf PKPbc 12 47 49.5 +0.2
G40A **Rib Lake** 144.50 291 P PKPab 12 47 49.0 -0.1
baz=105,SNR=6.7
F40A **Park Falls** 144.62 292 P PKPbc 12 47 49.9 +0.2
baz=104,SNR=10
M39A **Webster** 144.74 284 P PKPbc 12 47 50.1 0.0
baz=110,SNR=14
L39A **Vinton** 144.83 285 P PKPab 12 47 50.2 -0.1
baz=109,SNR=12
K39A **Oelwein** 144.93 286 P PKPab 12 47 50.2 -0.6
baz=108,SNR=7.2
J39A **Decorah** 145.00 287 P PKPbc 12 47 50.8 -0.2
baz=107,SNR=17
E39A **Mellen** 145.02 293 P PKPbc 12 47 50.8 -0.2
baz=104,SNR=7.0
I39A **Houston** 145.02 288 *e*PKPbc PKPab 12 47 51.3 +0.2
I39A **Houston** 145.02 288 P PKPbc 12 47 50.8 -0.2
baz=107,SNR=11
F39A **Loretta** 145.16 292 P PKPbc 12 47 50.7 -0.7
baz=104,SNR=7.5
G39A **Holcombe** 145.17 291 P PKPbc 12 47 51.1 -0.3
baz=105
TUL1 **Leonard** 145.17 273 *e*PKPbc PKPbc 12 47 51.3 -0.5
TUL1 **Leonard** 145.17 273 P PKPbc 12 47 51.5 -0.3
baz=116
JCT **Junction City** 145.40 262 *e*PKPdf PKPab 12 47 53.0 +0.1
JCT **Junction City** 145.40 262 *e*PKIKP PKPab 12 47 53.0 +0.1
JCT **Junction City** 145.40 262 P PKPbc 12 47 52.6 -0.1
baz=124
G38A **Ridgeland** 145.61 290 P PKPdf 12 47 52.2 -0.4
baz=105,SNR=8.2
E38A **The Farm, Brul** 145.75 293 *e*PKPdf PKPab 12 47 53.8 +0.2
E38A **The Farm, Brul** 145.75 293 P PKPbc 12 47 53.2 0.0
baz=103
H38A **Maiden Rock** 145.77 289 P PKPbc 12 47 53.5 +0.1
baz=105
F38A **Pierce - Schro** 145.82 291 P PKPbc 12 47 53.4 -0.1
baz=104,SNR=10
EYMN **Ely** 145.98 295 *e*PKPdf PKPdf 12 47 52.7 -0.4
EYMN **Ely** 145.98 295 P PKPdf 12 47 53.0 -0.1
baz=101
F37A **Hinrichs Farm,** 146.27 291 P PKPbc 12 47 54.4 -0.4
baz=104
SPMN **Marine on St.** 146.27 290 *e*PKPdf PKPdf 12 47 53.6 -0.1
SPMN **Marine on St.** 146.27 290 P PKPbc 12 47 54.5 -0.4
baz=104,SNR=5.1
ABTX **Abilene, Hawle** 146.41 265 *e*PKPdf PKPdf 12 47 54.3 -0.1
ABTX **Abilene, Hawle** 146.41 265 P PKPdf 12 47 54.7 +0.3
baz=121
WMOK **Wichita Mounta** 146.82 269 *e*PKPdf PKPdf 12 47 55.8 +0.8
WMOK **Wichita Mounta** 146.82 269 *e*PKP2 PKPdf 12 47 55.8 +0.8
WMOK **Wichita Mounta** 146.82 269 P PKPbc 12 47 56.2 -0.6
baz=118
KSU1 **Kansas State U** 147.07 278 *e*PKPdf PKPdf 12 47 56.0 +0.7
KSU1 **Kansas State U** 147.07 278 P PKPbc 12 47 56.4 -1.0
baz=112
HPIG 147.45 251 *e*PKPdf PKPdf 12 47 57.2 +0.6
TXAR **Lajitas Array** 147.51 257 PKPbc PKPbc 12 47 59.4 +0.4
comp=Z,12nm,1.0s,baz=104,slow=2.9,SNR=49
TX31 **Lajitas Ar. Si** 147.51 257 *e*PKPdf PKPdf 12 47 56.7 +0.2
TX31 *e*PKPdf PKPbc 12 47 57.5 -1.5
FCC **Fort Churchill** 147.86 315 *e*PKPdf PKPdf 12 47 57.3 +1.5
FCC **Fort Churchill** 147.86 315 *e*PKIKP PKPdf 12 47 57.3 +1.5
ECSD **EROS Data Cent** 148.54 286 *e*PKPdf PKPdf 12 47 58.2 +0.7
ECSD **EROS Data Cent** 148.54 286 P PKPbc 12 48 00.7 -0.5
baz=105
AGMN **Agassiz Nation** 148.93 295 *e*PKPdf PKPbc 12 48 00.6 -1.4
AGMN **Agassiz Nation** 148.93 295 P PKPbc 12 48 01.6 -0.4
baz=98
BGNE **Belgrade** 148.97 281 *e*PKPdf PKPdf 12 47 57.8 -0.5
BGNE **Belgrade** 148.97 281 P PKPbc 12 48 01.8 -0.6
baz=108
AMTX **Amarillo** 149.00 267 *e*PKPdf PKPdf 12 47 58.9 +0.2
AMTX **Amarillo** 149.00 267 P PKPbc 12 48 02.4 -0.4
baz=118
ULM **Lac du Bonnet** 149.15 299 *e*PKPdf PKPdf 12 47 57.8 -0.5
ULM **Lac du Bonnet** 149.15 299 *e*PKIKP PKPdf 12 47 57.8 -0.5
ULM **Lac du Bonnet** 149.15 299 PKPbc PKPbc 12 48 02.2 -0.3
comp=Z,14nm,0.7s,baz=85,slow=2.8,SNR=27
CBKS **Cedar Bluff** 149.22 275 *e*PKPdf PKPdf 12 47 59.2 +0.3
CBKS **Cedar Bluff** 149.22 275 *e*PKIKP PKPdf 12 47 59.2 +0.3
CBKS **Cedar Bluff** 149.22 275 P PKPbc 12 48 02.5 -0.6
baz=112
MSTX **Muleshoe** 149.35 265 *e*PKPbc PKiKP 12 48 04.3 -0.5
MSTX **Muleshoe** 149.35 265 P PKPbc 12 48 03.1 -0.6
baz=119
MNTX **Cornudas Mount** 150.07 259 *e*PKPdf PKPdf 12 47 59.0 -1.4
MNTX **Cornudas Mount** 150.07 259 P PKPbc 12 48 04.4 -1.0
baz=123
SUSD **Miller** 150.34 287 P PKPbc 12 48 05.3 -0.4
baz=103
MDND **Maddock** 151.36 293 *e*PKPbc PKPbc 12 48 07.8 -0.1
MDND *e*PKPab pPKPab 12 48 17.2 +1.0
MDND **Maddock** 151.36 293 P PKPbc 12 48 07.2 -0.8
baz=96
KSCO **Kaye Shedlock'** 151.39 274 *e*PKPbc PKiKP 12 48 09.0 +0.1
KSCO **Kaye Shedlock'** 151.39 274 P PKPbc 12 48 08.4 -0.1
baz=111
OGNE **Ogallala** 151.61 278 *e*PKPdf PKPdf 12 48 02.1 -0.5
OGNE *e*PKPbc PKiKP 12 48 09.9 +0.6
OGNE **Ogallala** 151.61 278 P PKPbc 12 48 08.8 0.0
baz=108
T25A **Trinidad** 151.97 269 *e*PKPdf PKPdf 12 48 03.4 -0.1
T25A *e*PKPbc PKiKP 12 48 10.6 +0.3
T25A **Trinidad** 151.97 269 P PKPbc 12 48 10.0 +0.1
baz=114
BNM **Barren Site** 152.23 262 *e*PKPdf PKPdf 12 48 03.8 -0.2
BNM *e*PKPab pPKPab 12 48 22.1 -1.2
LENM **Lemitar** 152.49 262 *e*PKPdf PKPdf 12 48 05.1 +0.9
LENM *e*PKPbc PKiKP 12 48 12.3 +0.9
LENM *e*PKPab pPKPab 12 48 23.6 -0.7
ANMO **Albuquerque** 152.49 264 *e*PKPdf PKPdf 12 48 05.0 +0.7
ANMO *e*PKPbc PKiKP 12 48 11.9 +0.4
ANMO **Albuquerque** 152.49 264 ⇑ *e*PKIKP PKPdf 12 48 05.0 +0.7
ANMO **Albuquerque** 152.49 264 P PKiKP 12 48 11.8 +0.4
baz=118
LAZ **Ladron** 152.72 262 *e*PKPdf PKPdf 12 48 05.0 +0.5
LAZ *e*PKPbc PKiKP 12 48 12.9 +1.0
LAZ *e*PKPab pPKPab 12 48 24.2 -1.1
FFC **Flin Flon** 152.74 308 *e*PKPbc PKPbc 12 48 10.8 0.0
FFC *e*PKPab PKPab 12 48 22.2 +0.5
FFC **Flin Flon** 152.74 308 *i*PKIKP PKiKP 12 48 11.0 0.0
SDCO **Great Sand Dun** 153.01 270 *e*PKPbc PKiKP 12 48 12.9 +0.4
SDCO *e*PKPab PKPab 12 48 25.0 +1.2
SDCO **Great Sand Dun** 153.01 270 P PKiKP 12 48 12.7 +0.2
baz=113
Q24A **Divide** 153.21 273 P PKiKP 12 48 13.0 0.0
baz=111
ISCO **Idaho Springs** 153.84 274 *e*PKPdf PKPdf 12 48 07.0 +0.8
ISCO *e*PKPbc PKiKP 12 48 14.5 +0.3
ISCO *e*PKPab PKPab 12 48 28.1 +0.8
ISCO **Idaho Springs** 153.84 274 P PKiKP 12 48 14.3 +0.1
baz=109
RSSD **Black Hills** 153.85 284 *e*PKPdf PKPdf 12 48 04.8 -1.1
RSSD *e*PKPbc PKPbc 12 48 13.0 -0.9
RSSD *e*PKPab PKPab 12 48 27.6 +0.6
RSSD **Black Hills** 153.85 284 *e*PKIKP PKPdf 12 48 04.8 -1.1
RSSD *e* 12 48 13.0
RSSD **Black Hills** 153.85 284 P PKiKP 12 48 14.3 +0.4
baz=101
S22A **4UR Ranch, Cre** 153.98 269 *e*PKPdf PKPdf 12 48 07.2 +0.8
S22A *e*PKPbc PKiKP 12 48 15.1 +0.6
S22A **4UR Ranch, Cre** 153.98 269 P PKiKP 12 48 14.6 +0.1
baz=113
PHWY **Pilot Hill** 154.19 277 *e*PKPdf PKPdf 12 48 07.3 +0.7
PHWY *e*PKPbc PKiKP 12 48 15.8 +0.9
PHWY *e*PKPab PKPab 12 48 29.2 +0.6
TUC **Tucson** 154.23 254 *e*PKPdf PKPdf 12 48 07.9 +1.2
TUC *e*PKPbc PKiKP 12 48 15.8 +0.8
TUC *e*PKPab PKPab 12 48 29.9 +1.1
TUC **Tucson** 154.23 254 P PKiKP 12 48 15.4 +0.5
baz=124
TOLK **Toolik Lake Re** 154.28 8 *e*PKPdf PKPdf 12 48 06.2 +0.7
TOLK *e*PKPbc pPKPbc 12 48 15.5 -1.1
TOLK *e*PKPab pPKPab 12 48 29.2 -0.7
TOLK **Toolik Lake Re** 154.28 8 P PKiKP 12 48 15.1 +1.2
baz=344
N23A **Red Feather La** 154.42 276 *e*PKPdf PKPdf 12 48 05.5 -1.4
N23A *e*PKPbc PKiKP 12 48 15.7 +0.4
N23A *e*PKPab PKPab 12 48 30.8 +1.1
N23A **Red Feather La** 154.42 276 P PKiKP 12 48 15.8 +0.5
baz=107
DGMT **Dagmar** 154.47 294 *e*PKPbc PKiKP 12 48 15.3 +0.5
DGMT *e*PKPab PKPab 12 48 30.7 +1.4
DGMT **Dagmar** 154.47 294 P PKiKP 12 48 15.3 +0.5
baz=92
ANM **Nome** 154.57 25 *e*PKPbc PKiKP 12 48 16.1 +1.6
SMCO **Snowmass** 154.62 272 *e*PKPbc PKPbc 12 48 15.6 -0.3
SMCO *e*PKPab PKPab 12 48 31.4 +0.7
INK **Inuvik** 154.80 354 *e*PKPbc PKiKP 12 48 15.8 +1.0
INK *e*PKPab PKPab 12 48 29.5 -0.5
INK **Inuvik** 154.80 354 PKPbc PKiKP 12 48 15.0 +0.2
comp=Z,2.8nm,1.1s,baz=39,slow=2.4,SNR=4.8
INK PKPab PKPab 12 48 29.0 -1.0
comp=Z,2.2nm,0.8s,baz=25,slow=5.7,SNR=4.6
X18A **Snowflake** 154.81 260 *e*PKPdf PKPdf 12 48 08.7 +1.1
X18A *e*PKPbc PKiKP 12 48 16.6 +0.4
X18A *e*PKPab PKPab 12 48 31.4 0.0
MVCO **Mesa Verde** 154.98 267 *e*PKPdf PKPdf 12 48 08.0 +0.2
MVCO *e*PKPbc pPKPbc 12 48 18.4 -0.9
MVCO *e*PKPab PKPab 12 48 33.4 +1.3
MVCO **Mesa Verde** 154.98 267 P PKPab 12 48 33.6 +1.6
baz=114
K22A **Casper** 155.30 280 P PKPab 12 48 34.3 +1.1
baz=103
PV01 **Paradox Valley** 155.40 269 *e*PKPdf PKPdf 12 48 08.3 0.0
PV01 *e*PKPab pPKPab 12 48 35.4 -1.2
PV15 **Paradox Valley** 155.41 269 *e*PKPdf PKPdf 12 48 07.9 -0.4
PV15 *e*PKPab pPKPab 12 48 35.8 -0.9
PV02 **Paradox Valley** 155.54 269 *e*PKPbc PKPab 12 48 35.9 +1.4
RWWY **Rawlins** 155.56 277 *e*PKPab PKPab 12 48 35.4 +1.0

PV07	**Paradox Valley**	**155.57**	**269**	*e*PKPab	**PKPab**	**12 48 35.5**	**+0.9**
COLD	**Coldfoot**	**155.57**	**9**	*e*PKPdf	**PKPdf**	**12 48 07.8**	**+0.5**
COLD				*e*PKPdif	pPKPbc	12 48 15.7	-3.6
PV13	**Radium Mtn., P**	**155.59**	**268**	*e*PKPdf	**PKPdf**	**12 48 09.3**	**+0.7**
PV13				*e*PKPab	**PKPab**	**12 48 35.6**	**+1.0**
PV12	**Saucer Basin,**	**155.63**	**269**	*e*PKPdf	**PKPdf**	**12 48 08.5**	**-0.1**
PV12				*e*PKPab	**pPKPab**	**12 48 36.4**	**-1.2**
PV03	**Paradox Valley**	**155.64**	**269**	*e*PKPdf	**PKPdf**	**12 48 08.1**	**-0.5**
PV03				*e*PKPab	**PKPab**	**12 48 36.0**	**+1.1**
YKA	**Yellowknife Ar**	**155.67**	**331**	PKP	**PKPdf**	**12 48 05.1**	**-2.5**
	comp=Z,1.5nm,1.0s,baz=52,slow=1.8,SNR=11						
YKA				PKPab	**PKPab**	**12 48 33.5**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=49,slow=4.5,SNR=7.6						
PV11	**David Mesa, Pa**	**155.68**	**269**	*e*PKPdf	**PKPdf**	**12 48 08.4**	**-0.2**
PV11				*e*PKPab	**PKPab**	**12 48 36.0**	**+1.0**
PV16	**Nyswonger Mesa**	**155.72**	**269**	*e*PKPdf	**PKPdf**	**12 48 09.4**	**+0.7**
PV16				*e*PKPab	**pPKPab**	**12 48 36.7**	**-1.3**
LAO	**LASA Array**	**155.73**	**290**	P	**PKPab**	**12 48 36.0**	**+1.2**
	baz=95						
PV17	**East Wray Mesa**	**155.74**	**269**	*e*PKPdf	**PKPdf**	**12 48 08.5**	**-0.2**
PV17				*e*PKPab	**PKPab**	**12 48 36.5**	**+1.3**
PV04	**Paradox Valley**	**155.74**	**269**	*e*PKPdf	**PKPdf**	**12 48 09.5**	**+0.8**
PV04				*e*PKPab	**PKPab**	**12 48 36.5**	**+1.3**
PV05	**Paradox Valley**	**155.76**	**268**	*e*PKPdf	**PKPdf**	**12 48 07.0**	**-1.8**
PV05				*e*PKPab	**PKPab**	**12 48 36.6**	**+1.2**
PV19	**Morning Glory**	**155.76**	**269**	*e*PKPab	**PKPab**	**12 48 36.4**	**+1.0**
PV20	**West Nyswonger**	**155.76**	**269**	*e*PKPdf	**PKPdf**	**12 48 08.4**	**-0.3**
PV20				*e*PKPab	**PKPab**	**12 48 36.5**	**+1.2**
PV14	**Lion Creek, Pa**	**155.82**	**269**	*e*PKPdf	**PKPdf**	**12 48 09.3**	**+0.4**
PV14				*e*PKPab	**pPKPab**	**12 48 37.0**	**-1.4**
X16A	**Lo Mia Camp, P**	**155.82**	**258**	*e*PKPdf	**PKPdf**	**12 48 08.5**	**-0.4**
X16A				*e*PKPab	**PKPab**	**12 48 36.8**	**+1.1**
PV10	**Paradox Valley**	**155.83**	**269**	*e*PKPab	**PKPab**	**12 48 37.1**	**+1.4**
PV23	**Carpenter Ridg**	**155.84**	**269**	*e*PKPab	**PKPab**	**12 48 36.8**	**+1.0**
PV21	**Cone Mtn., Par**	**155.85**	**269**	*e*PKPdf	**PKPdf**	**12 48 09.3**	**+0.4**
PV21				*e*PKPab	**PKPab**	**12 48 37.1**	**+1.3**
O20A	**White River Ci**	**155.86**	**273**	P	**PKPab**	**12 48 36.5**	**+0.8**
	baz=108						
PV09	**Paradox Valley**	**155.94**	**269**	*e*PKPdf	**PKPdf**	**12 48 09.5**	**+0.4**
PV09				*e*PKPab	**PKPab**	**12 48 36.7**	**+0.4**
IM3	**Indian Mountai**	**156.23**	**14**	*e*PKPdf	**PKPdf**	**12 48 07.9**	**-0.3**
IM3				*e*PKPab	**PKPab**	**12 48 36.2**	**0.0**
WUAZ	**Wupatki**	**156.31**	**260**	*e*PKPdf	**PKPdf**	**12 48 09.8**	**+0.3**
WUAZ				*e*PKPab	**PKPab**	**12 48 38.5**	**+0.8**
WUAZ	**Wupatki**	**156.31**	**260**	P	**PKPab**	**12 48 38.7**	**+1.0**
	baz=118						
FYU	**Fort Yukon**	**156.66**	**5**	*e*PKPdf	**PKPdf**	**12 48 09.1**	**+0.4**
FYU				*e*PKPab	**PKPab**	**12 48 38.3**	**+0.3**
Y14A	**Wickenburg**	**156.68**	**255**	*e*PKPdf	**PKPdf**	**12 48 10.6**	**+0.7**
Y14A				*e*PKPab	**PKPab**	**12 48 40.0**	**+0.7**
EPYK	**Eagle Plains**	**156.92**	**356**	P	**PKPab**	**12 48 39.9**	**+0.7**
	baz=6.7						
SRU	**San Rafael Swe**	**157.18**	**269**	*e*PKPdf	**PKPdf**	**12 48 10.7**	**+0.1**
SRU				*e*PKPab	**PKPab**	**12 48 42.3**	**+0.9**
U15A	**North Rim**	**157.39**	**262**	*e*PKPdf	**PKPdf**	**12 48 11.3**	**+0.3**
P17A	**Butcher Ranch,**	**157.46**	**270**	*e*PKPdf	**PKPdf**	**12 48 11.1**	**+0.3**
P17A				*e*PKPab	**PKPab**	**12 48 43.2**	**+0.6**
GLA	**Glamis**	**157.46**	**251**	P	**PKPab**	**12 48 43.5**	**+0.9**
	baz=125						
BW06	**Boulder Array**	**157.51**	**279**	*e*PKPdf	**PKPdf**	**12 48 09.6**	**-1.4**
BW06				*e*PKPab	**PKPab**	**12 48 43.3**	**+0.4**
BW06	**Boulder Array**	**157.51**	**279**	P	**PKPab**	**12 48 43.9**	**+1.1**
	baz=102						
PDAR	**Pinedale Array**	**157.51**	**279**	PKP	**PKPdf**	**12 48 09.6**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=132,slow=2.2,SNR=7.1						
PDAR				PKPab	**PKPab**	**12 48 43.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=123,slow=5.5,SNR=5.9						
Q16A	**Castle Valley**	**157.58**	**268**	*e*PKPdf	**PKPdf**	**12 48 11.3**	**+0.2**
Q16A				*e*PKPab	**PKPab**	**12 48 44.2**	**+1.0**
MLY	**Manley**	**157.59**	**11**	*e*PKPdf	**PKPdf**	**12 48 10.0**	**-0.1**
PDMCI	**Parker Dam,Lak**	**157.67**	**255**	P	**PKPab**	**12 48 44.5**	**+1.1**
	baz=122						
PRP	**Porcupine Dome**	**157.69**	**6**	*e*PKPdf	**PKPdf**	**12 48 09.8**	**-0.4**
PRP				*e*PKPab	**PKPab**	**12 48 43.3**	**+0.6**
RLMT	**Red Lodge**	**157.69**	**285**	*e*PKPdf	**PKPdf**	**12 48 09.9**	**-1.1**
RLMT				*e*PKPab	**PKPab**	**12 48 44.3**	**+0.8**
RLMT	**Red Lodge**	**157.69**	**285**	P	**PKPab**	**12 48 44.7**	**+1.2**
	baz=97						
TMUT	**Trail Mountain**	**157.74**	**269**	*e*PKPdf	**PKPdf**	**12 48 12.0**	**+0.6**
TMUT				*e*PKPab	**PKPab**	**12 48 44.9**	**+0.9**
MDM	**Murphy Dome**	**157.99**	**9**	*e*PKPab	**PKPab**	**12 48 43.6**	**+0.3**
KNB	**Kanab**	**158.03**	**262**	*e*PKPdf	**PKPdf**	**12 48 12.1**	**+0.4**
KNB				*e*PKPab	**pPKPab**	**12 48 46.8**	**-1.1**
IL1	**Eielson Array**	**158.31**	**7**	*e*PKPdf	**PKPdf**	**12 48 09.7**	**-1.2**
ILAR	**Eielson Array**	**158.31**	**7**	PKP	**PKPdf**	**12 48 08.6**	**-2.2**
	comp=Z,0.9nm,1.2s,baz=322,slow=3.3,SNR=4.9						
ILAR				PKPab	**PKPab**	**12 48 44.0**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=336,slow=4.2,SNR=5.8						
LCMT	**Little Creek M**	**158.33**	**262**	*e*PKPdf	**PKPdf**	**12 48 12.7**	**+0.8**
LCMT				*e*PKPab	**PKPab**	**12 48 45.8**	**-0.6**
JLU	**Jordanelle**	**158.33**	**272**	*e*PKPab	**PKPab**	**12 48 47.8**	**+1.3**
LOHW	**Long Hollow**	**158.42**	**281**	*e*PKPdf	**PKPdf**	**12 48 12.4**	**+0.4**
LOHW				*e*PKPab	**PKPab**	**12 48 47.5**	**+0.7**
REDW	**Red Top Meadow**	**158.56**	**280**	*e*PKPdf	**PKPdf**	**12 48 13.0**	**+0.1**
REDW				*e*PKPab	**PKPab**	**12 48 48.0**	**+0.7**
NLU	**North Lily Min**	**158.59**	**270**	*e*PKPdf	**PKPdf**	**12 48 12.3**	**+0.1**
NLU				*e*PKPab	**PKPab**	**12 48 48.2**	**+0.7**
EGAK	**Eagle**	**158.61**	**1**	*e*PKPab	**PKPab**	**12 48 46.5**	**0.0**
AHID	**Auburn Hatcher**	**158.62**	**278**	*e*PKPab	**PKPab**	**12 48 48.1**	**+0.5**
CCUT	**Cedar City**	**158.65**	**263**	*e*PKPab	**PKPab**	**12 48 49.5**	**+1.7**
TPAW	**Teton Pass**	**158.65**	**280**	*e*PKPdf	**PKPdf**	**12 48 11.4**	**-0.9**
TPAW				*e*PKPab	**PKPab**	**12 48 47.3**	**-0.5**
FXWY	**Fox Creek**	**158.73**	**281**	*e*PKPdf	**PKPdf**	**12 48 12.5**	**+0.1**
FXWY				*e*PKPab	**PKPab**	**12 48 48.9**	**+0.8**
YHH	**Holmes Hill**	**158.77**	**284**	*e*PKPdf	**PKPdf**	**12 48 12.3**	**-0.2**
YHH				*e*PKPab	**PKPab**	**12 48 49.4**	**+1.1**
YMR	**Madison River**	**158.84**	**284**	*e*PKPab	**PKPab**	**12 48 50.3**	**+1.8**
CAST	**Castle Rocks**	**158.87**	**15**	*e*PKPdf	**PKPdf**	**12 48 11.0**	**-0.6**
MCK	**McKinley**	**159.08**	**11**	*e*PKPab	**PKPab**	**12 48 47.7**	**-0.9**
DUG	**Dugway, Tooele**	**159.20**	**271**	*e*PKPdf	**PKPdf**	**12 48 13.5**	**+0.6**
DUG				*e*PKPab	**PKPab**	**12 48 50.9**	**+0.8**
SCRK	**Sand Creek**	**159.31**	**4**	*e*PKPab	**PKPab**	**12 48 50.6**	**+0.9**
DAWY	**Dawson**	**159.32**	**359**	*e*PKPab	**PKPab**	**12 48 50.1**	**+0.4**
PSUT	**Pine Spring**	**159.39**	**265**	*e*PKPab	**PKPab**	**12 48 51.1**	**0.0**
SHPR	**Sheep Range**	**159.48**	**259**	*e*PKPdf	**PKPdf**	**12 48 12.9**	**-0.5**
SHPR				*e*PKPab	**PKPab**	**12 48 52.6**	**+1.1**
HVU	**Hansel Valley**	**159.61**	**275**	*e*PKPdf	**PKPdf**	**12 48 13.3**	**-0.1**
HVU				*e*PKPab	**PKPab**	**12 48 52.0**	**+0.1**
HVU	**Hansel Valley**	**159.61**	**275**	*e*PKIKP	**PKPdf**	**12 48 13.3**	**-0.1**
HVU				*e*		12 48 52.0	
DOT	**Dot Lake**	**159.64**	**5**	*e*PKPdf	**PKPdf**	**12 48 12.6**	**+0.1**
DOT				*e*PKPab	**PKPab**	**12 48 51.5**	**+0.5**
LRM	**Limekiln Ridge**	**159.99**	**287**	*e*PKPab	**PKPab**	**12 48 55.2**	**+1.7**
DLMT	**Dillon**	**160.06**	**285**	*e*PKPab	**PKPab**	**12 48 55.1**	**+1.4**
MCMT	**McKenzie Canyo**	**160.19**	**284**	*e*PKPab	**PKPab**	**12 48 55.9**	**+1.5**
MENT	**Mentasta**	**160.36**	**4**	*e*PKPab	**PKPab**	**12 48 54.8**	**+0.6**
R11A	**Troy Canyon, C**	**160.57**	**263**	*e*PKPab	**PKPab**	**12 48 58.0**	**+1.8**
MSO	**Missoula**	**161.04**	**290**	*e*PKPab	**PKPab**	**12 48 59.3**	**+1.4**
ELK	**Elko**	**161.13**	**270**	*e*PKPdf	**PKPdf**	**12 48 15.3**	**+0.2**
ELK				*e*PKPab	**PKPab**	**12 48 59.5**	**+0.9**
ELK	**Elko**	**161.13**	**270**	*e*PKIKP	**PKPdf**	**12 48 15.4**	**+0.2**
ELK				*e*		12 48 59.5	
HLID	**Hailey**	**161.15**	**279**	*e*PKPab	**PKPab**	**12 48 59.5**	**+1.0**
KLU	**Klutina**	**161.61**	**8**	*e*PKPab	**PKPab**	**12 48 59.0**	**-0.8**
BALM	**Baldy**	**162.33**	**3**	*e*PKPab	**PKPab**	**12 49 02.7**	**-0.3**
BALM	**Baldy**	**162.33**	**3**	*e*PKP2	**PKPab**	**12 49 02.7**	**-0.3**
NV01	**Mina Array Sit**	**162.57**	**261**	*e*PKPab	**PKPab**	**12 49 04.4**	**-0.6**
NVAR	**Mina Array Bea**	**162.57**	**261**	PKP	**PKPdf**	**12 48 15.4**	**-1.2**
	comp=Z,1.0nm,0.9s,baz=96,slow=6.0,SNR=5.0						
NVAR				PKPab	**PKPab**	**12 49 02.9**	**-2.1**
	comp=Z,1.6nm,0.8s,baz=125,slow=4.7,SNR=6.1						
KVN	**Kaiserville**	**162.66**	**263**	*e*PKPab	**PKPab**	**12 49 06.0**	**+0.7**
KVN	**Kaiserville**	**162.66**	**263**	*e*PKP2	**PKPab**	**12 49 06.0**	**+0.7**
BMO	**Blue Mountains**	**163.35**	**283**	*e*PKPab	**PKPab**	**12 49 09.1**	**+1.0**
BMO	**Blue Mountains**	**163.35**	**283**	*e*PKP2	**PKPab**	**12 49 09.1**	**+1.0**
PAHR	**Pah Rah Range**	**163.82**	**264**	*e*PKPab	**PKPab**	**12 49 11.2**	**+0.8**
WVOR	**Wild Horse Val**	**164.01**	**274**	*e*PKPab	**PKPab**	**12 49 12.1**	**+1.0**
WVOR	**Wild Horse Val**	**164.01**	**274**	*e*PKP2	**PKPab**	**12 49 12.1**	**+1.0**
J08A	**Circle Bar Ran**	**164.04**	**277**	*e*PKPab	**PKPab**	**12 49 12.3**	**+1.1**
B08A	**Colville Reser**	**164.53**	**296**	*e*PKPab	**PKPab**	**12 49 13.9**	**+0.9**
G08A	**Pilot Rock**	**164.54**	**284**	*e*PKPdf	**PKPdf**	**12 48 17.5**	**-0.6**
HAWA	**Hanford**	**164.91**	**289**	*e*PKPab	**PKPab**	**12 49 16.0**	**+1.3**

*ISCJB **06** 12:31:42.7±0.7, 6.86N±0.03×73.13W±0.04, h153km±5km, mb3.2/2, Error ellipse: s-maj=6.7km s-min=4.9km az=30.4*
*IDC **06** 12:31:42.7±0.8, 6.99N×73.18W, h153km±14km, mb2.9/2, mb1 3.2/4, mb1mx3.0/31, mbtmp3.4/4, Error ellipse: s-maj=40.7km s-min=8.2km az=131.0*
*RSNC **06** 12:31:44.3±1.4, 6.80N×73.15W, h145km±6km, ML3.1*

ISC 06 12:31:42.4±0.9, 6.85N±0.04×73.13W±0.04, h156km±6km, n23, σ1s13/38, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
BARC	**Barichara**	**0.26**	**192**	*i* P		**Pn**	**12 32 04.2**	**+0.3**
BARC				*i*			12 32 04.7	
	comp=Z,250nm,0.2s							
BARC				*e*S		**Sn**	**12 32 18.8**	**-1.4**
BRRC	**Barranca, Sant**	**0.64**	**294**	*i* P		**Pn**	**12 32 06.1**	**+1.0**
BRRC				*e*S		**Sn**	**12 32 22.7**	**+0.2**
BRRC				*i*			12 32 27.0	
	comp=N,261nm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**41**	*e*P		**Pn**	**12 32 07.1**	**+1.3**
PAMC				*e*S		**Sn**	**12 32 24.0**	**+0.4**
PAMC				*i*			12 32 25.1	
	comp=N,376nm,0.5s							
RUSC	**La Rusia**	**0.95**	**177**	*i* P		**Pn**	**12 32 08.1**	**+0.1**
RUSC				*e*S		**Sn**	**12 32 25.9**	**-1.5**
RUSC				*i*			12 32 27.8	
	comp=E,138nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*P		**Pn**	**12 32 10.8**	**-0.2**
PTBC				*e*S		**Sn**	**12 32 31.6**	**-1.2**
PTBC				*i*			12 32 37.6	
	comp=E,203nm,0.3s							
TAMC	**Tame, Arauca**	**1.39**	**107**	*e*P		**Pn**	**12 32 12.5**	**+1.2**
TAMC				*e*S		**Sn**	**12 32 32.9**	**-0.6**
TAMC				*i*			12 32 35.3	
	comp=E,204nm,0.6s							
OCAC	**Ocana**	**1.40**	**352**	*e*P		**Pn**	**12 32 12.8**	**+1.3**
OCAC				*e*S		**Sn**	**12 32 33.9**	**-0.1**
OCAC				*i*			12 32 35.2	
	comp=E,218nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P		**Pn**	**12 32 16.9**	**+0.9**
ZARC				*e*S		**Sn**	**12 32 42.3**	**+0.5**
SMLC	**San Martn de**	**2.16**	**334**	*e*P		**Pn**	**12 32 20.4**	**+0.7**
SMLC				*e*S		**Sn**	**12 32 49.0**	**+0.5**
CHIC	**Chingaza**	**2.28**	**195**	*e*P		**Pn**	**12 32 22.4**	**+0.7**
CHIC				*e*S		**Sn**	**12 32 51.0**	**-0.9**
CHIC				*i*			12 33 01.4	
	comp=N,37nm,0.5s							
ROSC	**El Rosal**	**2.32**	**211**	P		**Pn**	**12 32 24.5**	**+2.4**
	comp=N,3.4nm,0.3s,baz=314,slow=23,SNR=11							
ROSC				S		**Sn**	**12 32 54.8**	**+2.2**
	comp=N,8.1nm,0.3s,baz=3.9,slow=23,SNR=9.1							
HELC	**Santa Helena**	**2.47**	**255**	*e*P		**Pn**	**12 32 24.9**	**+1.1**
HELC				*e*S		**Sn**	**12 32 54.6**	**-1.1**
HELC				*i*			12 33 04.8	
	comp=E,37nm,0.3s							
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P		**Pn**	**12 32 24.4**	**0.0**
RREF	**El Recreo**	**2.94**	**229**	*e*P		**Pn**	**12 32 31.0**	**+1.2**
RREF				*e*S		**Sn**	**12 32 57.6**	**+1.2**
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**12 32 33.9**	**+1.2**
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**12 32 33.6**	**+0.9**
	comp=E,4.6nm,0.3s,baz=195,slow=3.6,SNR=50							
SDV				S		**Sn**	**12 33 10.5**	**-1.1**
	comp=E,3.6nm,0.3s,baz=246,slow=19,SNR=10.0							
ANIL	**Santa Ana**	**3.26**	**224**	*e*S		**Sn**	**12 33 14.1**	**+0.9**
ANIL				*i*			12 33 26.4	
	comp=E,65nm,0.3s							
PRAC	**Prado**	**3.57**	**209**	*e*P		**Pn**	**12 32 37.8**	**+0.5**
PRAC				*e*S		**Sn**	**12 33 18.5**	**-1.6**
PRAC				*i*			12 33 26.8	
	comp=E,24nm,0.3s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*P		**Pn**	**12 32 38.9**	**+0.6**
TXAR	**Lajitas Array**	**36.44**	**312**	P		**P**	**12 38 30.5**	**-2.0**
	comp=E,0.6nm,1.0s,baz=134,slow=7.2,SNR=3.7							
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**12 41 54.8**	**+0.9**
	comp=E,0.2nm,0.6s,baz=132,slow=6.6,SNR=4.9							
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc		**PKPbc**	**12 51 13.3**	**0.0**
	comp=E,0.2nm,0.9s,baz=120,slow=3.6,SNR=5.3							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**12 51 16.1**	**-0.2**
	comp=E,0.4nm,0.9s,baz=109,slow=2.8,SNR=4.9							

*ISCJB **06** 12:45:53.9±0.5, 14.97N±0.02×61.34W±0.06, h161km±4km, mb3.0/3, Error ellipse: s-maj=10.1km s-min=2.8km az=167.5*
*IDC **06** 12:45:53.6±0.8, 15.02N×61.30W, h160km±12km, mb2.8/3, mb1 3.4/4, mb1mx3.1/36, mbtmp3.5/4, Error ellipse: s-maj=48.6km s-min=6.4km az=85.0*
*TRN **06** 12:45:53.9, 14.98N×61.31W, h158km, MD3.9*

ISC 06 12:45:53.8±0.8, 14.99N±0.03×61.31W±0.07, h164km±6km, n53, σ1s00/82, mb2.9/3, 2C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
PCM	**Pelee Case Pet**	**0.20**	**152**	*e*P		**Pn**	**12 46 16.3**	**+0.5**
CXM	**Morne La Croix**	**0.22**	**143**	*e*P		**Pn**	**12 46 17.3**	**+1.2**
BAMF	**Morne Balai**	**0.23**	**138**	*e*P		**Pn**	**12 46 16.8**	**+0.9**
GBMF	**Grand Be**	**0.23**	**144**	*e*P		**Pn**	**12 46 16.6**	**+0.6**
PML	**Morne Lenard**	**0.24**	**150**	*e*P		**Pn**	**12 46 16.6**	**+0.7**
FDF	**Fort de France**	**0.29**	**149**	*e*P		**Pn**	**12 46 16.4**	**+0.4**
FDF				*e*S		**Sn**	**12 46 33.2**	**+0.1**
DLPL	**La Plaine**	**0.35**	**9**	*e*P		**Pn**	**12 46 17.0**	**+0.8**
DLPL				*e*S		**Sn**	**12 46 32.8**	**-0.7**
ILAM	**Ilet Lapin Mar**	**0.47**	**117**	*i* *e*P		**Pn**	**12 46 17.1**	**+0.5**
ZAM	**Aeronautique**	**0.49**	**147**	*i* *e*P		**Pn**	**12 46 17.3**	**+0.6**
TRMF	**Trois Ilets**	**0.51**	**151**	*e*P		**Pn**	**12 46 17.5**	**+0.7**
LPMF	**Morne Lapointe**	**0.53**	**141**	*e*P		**Pn**	**12 46 17.5**	**+0.6**
BBL	**Barber's Block**	**0.56**	**343**	*e*P		**Pn**	**12 46 17.8**	**+0.7**
BBL				*e*S		**Sn**	**12 46 34.4**	**-0.6**
DWS	**Wesley**	**0.58**	**359**	*e*P		**Pn**	**12 46 16.8**	**-0.3**
DWS				*e*S		**Sn**	**12 46 34.5**	**-0.6**
MDPO	**Dominica; Chan**	**0.60**	**347**	*e*P		**Pn**	**12 46 17.2**	**0.0**
MDPO				*e*S		**Sn**	**12 46 35.2**	**0.0**
MDPV	**Dominica, Penn**	**0.65**	**350**	*e*P		**Pn**	**12 46 17.2**	**-0.4**
MDPV				*e*S		**Sn**	**12 46 35.8**	**0.0**
H05S1	**Guadeloupe/Mar**	**0.72**	**141**	P		**Pn**	**12 46 18.8**	**+0.9**
H05S1				S		**Sn**	**12 46 36.3**	**-0.1**
	SNR=2046							
TDBA	**Terre de Bas,**	**0.91**	**340**	*e*P		**Pn**	**12 46 19.9**	**+0.7**
TBG	**Guadaloupe-3**	**0.92**	**339**	*e*P		**Pn**	**12 46 19.8**	**+0.5**
TBG	**Guadaloupe-3**	**0.92**	**339**	*e*		**Sn**	**12 46 35.1**	**-3.8**
TBG				*e*S		**Sn**	**12 46 38.4**	**-0.5**
MGG	**Marie-Galante**	**0.92**	**359**	*e*P		**Pn**	**12 46 20.1**	**+0.8**
MGG	**Marie-Galante**	**0.92**	**359**	*e*S		**Sn**	**12 46 38.9**	**-0.2**
MAGL	**Barre de l'ile**	**0.96**	**1**	*e*P		**Pn**	**12 46 20.1**	**+0.5**
CBE	**Ff, Capester**	**1.11**	**345**	*e*P		**Pn**	**12 46 21.6**	**+0.7**
SLB	**Belfond**	**1.18**	**167**	*e*P		**Pn**	**12 46 22.7**	**+1.1**
SLB				*e*S		**Sn**	**12 46 43.1**	**+0.2**
MCLT	**Moule a Chique**	**1.32**	**164**	*e*P		**Pn**	**12 46 23.2**	**+0.5**
MCLT				*e*S		**Sn**	**12 46 44.9**	**-0.1**
DEG	**La Desirade**	**1.34**	**10**	*e*P		**Pn**	**12 46 23.2**	**+0.3**
DEG				*e*S		**Sn**	**12 46 45.4**	**-0.1**
H05N1	**Guadeloupe/Mar**	**1.34**	**10**	P		**Pn**	**12 46 23.7**	**+0.8**
H05N1				S		**Sn**	**12 46 44.0**	**-1.4**
	SNR=2556							
ABD	**La Joyeuse, An**	**1.49**	**353**	*e*P		**Pn**	**12 46 24.8**	**+0.5**
SFAN	**Fancy Village**	**1.60**	**175**	*e*P		**Pn**	**12 46 26.8**	**+1.3**
SFAN				*e*S		**Sn**	**12 46 49.8**	**-0.2**
SSV	**Crater Summit**	**1.66**	**176**	*i* *e*P		**Pn**	**12 46 27.6**	**+1.5**
SSV				*e*S		**Sn**	**12 46 50.5**	**-0.7**
SVV	**Soufriere Volc**	**1.66**	**177**	*e*P		**Pn**	**12 46 27.7**	**+1.6**
SVV				*e*S		**Sn**	**12 46 50.8**	**-0.3**
SVB	**Belmont**	**1.71**	**178**	*i* *e*P		**Pn**	**12 46 27.1**	**+0.4**
SVB				*e*S		**Sn**	**12 46 51.3**	**-0.7**
SVCV	**St. Vincent, C**	**1.71**	**175**	*e*P		**Pn**	**12 46 26.7**	**+0.1**
SVCV				*e*S		**Sn**	**12 46 51.4**	**-0.7**
FCV	**Fort Charlotte**	**1.82**	**178**	*e*P		**Pn**	**12 46 28.9**	**+1.1**
FCV				*e*S		**Sn**	**12 46 53.1**	**-1.0**
MLYT	**Lee's Yard**	**1.92**	**334**	*e*P		**Pn**	**12 46 29.6**	**+0.6**
MLYT				*e*S		**Sn**	**12 46 56.5**	**+0.4**
BPA	**Boggy Peak**	**2.11**	**346**	*e*P		**Pn**	**12 46 33.0**	**+1.9**
BPA				*e*S		**Sn**	**12 47 00.1**	**+0.1**
NEV	**Hard Times**	**2.46**	**331**	*e*P		**Pn**	**12 46 37.0**	**+1.9**
NEV				*e*S		**Sn**	**12 47 07.3**	**+0.1**
BBGH	**Gun Hill**	**2.50**	**137**	*e*P		**Pn**	**12 46 37.0**	**+1.4**
BBGH				*e*S		**Sn**	**12 47 06.5**	**-1.4**
BBSP	**Saint Philip**	**2.59**	**136**	*e*S		**Sn**	**12 47 09.5**	**-0.5**
GRSS	**Sisters**	**2.69**	**186**	*e*P		**Pn**	**12 46 38.0**	**+0.1**
GRSS				*e*S		**Sn**	**12 47 11.1**	**-1.1**
ANWB	**Willy Bob**	**2.71**	**350**	*e*P		**Pn**	**12 46 38.3**	**+0.2**
ANWB				*e*S		**Sn**	**12 47 11.0**	**-1.5**
GRHS	**Sauteurs**	**2.77**	**187**	*e*P		**Pn**	**12 46 39.5**	**+0.6**
GRHS				*e*S		**Sn**	**12 47 13.2**	**-0.7**
GRGR	**Grenville**	**2.86**	**187**	*e*P		**Pn**	**12 46 40.5**	**+0.4**
GRGR				*e*S		**Sn**	**12 47 14.4**	**-1.5**
SEUS	**St. Eustatius**	**2.96**	**327**	*e*P		**Pn**	**12 46 43.1**	**+1.9**
SEUS				*e*S		**Sn**	**12 47 18.6**	**+0.4**
SMRT	**St. Maarten**	**3.49**	**331**	*e*		**Sn**	**12 46 47.5**	**-0.3**
SMRT	**St. Maarten**	**3.49**	**331**	*e*P		**Pn**	**12 46 48.5**	**+0.6**
SMRT				*e*S		**Sn**	**12 47 29.0**	**-1.0**
TOSP	**Speyside**	**3.74**	**168**	*e*P		**Pn**	**12 46 51.8**	**+0.7**
TOSP				*e*S		**Sn**	**12 47 35.4**	**-0.5**
TRN	**Trinidad (W)**	**4.32**	**181**	*e*P		**Pn**	**12 47 00.3**	**+1.8**
TRN	**Trinidad (W)**	**4.32**	**181**	*e*S		**Sn**	**12 47 46.5**	**-2.5**
MDP	**Montagnes des**	**13.01**	**138**	P		**Pn**	**12 48 53.2**	**+0.5**
	1.0nm,0.3s,baz=318,slow=15,SNR=4.8							
TXAR	**Lajitas Array**	**41.51**	**297**	P		**P**	**12 53 25.4**	**+0.2**
	0.1nm,0.4s,baz=104,slow=7.6,SNR=4.8							
PDAR	**Pinedale Array**	**49.63**	**314**	P		**P**	**12 54 29.4**	**+0.4**
	0.4nm,0.6s,baz=111,slow=9.3,SNR=4.7							
YKA	**Yellowknife Ar**	**60.28**	**335**	P		**P**	**12 55 43.2**	**-1.5**
	0.1nm,0.5s,baz=110,slow=7.4,SNR=2.3							

MEX 06 12:47:31.2±0.5, 17.28N×94.97W, h140km±5km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CMIG	**Matias Romero**	**0.21**	**156**	*i* P		Pn	12 47

PB04			*i* S	Sn	13 14 50.3	-1.5
PB07	**IPOC Station P**	**3.46 317**	*i* P	Pn	13 14 14.7	+0.8

*LDG **06** 13:16:09.0±0.1,48°.47N×4°.58W,h25km,Md3.1/3,Ml3.1/26, Error ellipse: s-maj=2.4km s-min=2.0km az=104.0*
*BGS **06** 13:16:13.5±0.9,48°.41N×4°.10W,h5km,ML2.2*

ISC 06 13:16:07.4±1.4,48°35N±0°.04×4°47W±0°.06,h10km,n39, σ2s72/78,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**0.80**	**91**	*e*Pn	**Pn**	**13 16 23.8**	**+0.5**
ROSF	**Rostrenen**	**0.80**	**91**	*e*Pg	**Pn**	**13 16 25.8**	**+1.1**
	SNR=1.0						
ROSF				*e*Sg	**Sn**	**13 16 38.6**	**+2.0**
	90nm,0.2s						
QUIF	**Quistinic**	**0.98**	**116**	*e*Pn	**Pn**	**13 16 26.9**	**-0.2**
	SNR=1.0						
QUIF	**Quistinic**	**0.98**	**116**	*e*Pg	**Pn**	**13 16 29.8**	**+2.7**
QUIF				*e*Sn	**Sn**	**13 16 40.5**	**-0.5**
QUIF				*e*Sg	**Sb**	**13 16 44.9**	**+5.6**
	108nm,0.3s,SNR=1.0						
SGMF	**Saint Gilles**	**1.28**	**94**	*e*Pn	**Pn**	**13 16 30.5**	**-0.8**
SGMF	**Saint Gilles**	**1.28**	**94**	*e*Pg	**Pg**	**13 16 34.5**	**+2.5**
SGMF				*e*Sn	**Sb**	**13 16 47.3**	**-0.8**
SGMF				*e*Sg	**Sn**	**13 16 52.9**	**+4.4**
	71nm,0.4s						
JSA	**Saint Aubin**	**1.73**	**60**	*e*P	**Pb**	**13 16 39.6**	**+0.3**
JSA				*e*S	**Sn**	**13 16 59.5**	**-0.2**
JSA				IAML		13 17 08.5	
	comp=N,43nm,0.4s						
JSA				IAML		13 17 10.6	
	comp=E,33nm,0.4s						
JSA	**Saint Aubin**	**1.73**	**60**	*e*P	**Pb**	**13 16 39.6**	**+0.3**
JSA				*e*S	**Sn**	**13 16 59.5**	**-0.2**
JSA				IAML		13 17 08.5	
	comp=N,43nm,0.4s						
JSA				IAML		13 17 10.6	
	comp=E,33nm,0.4s						
JRS	**Jersey**	**1.78**	**61**	*e*P	**Pb**	**13 16 40.6**	**+0.4**
JRS				*e*S	**Sn**	**13 17 00.3**	**-0.6**
JRS	**Jersey**	**1.78**	**61**	*e*P	**Pb**	**13 16 40.6**	**+0.4**
JRS				*e*S	**Sn**	**13 17 00.3**	**-0.6**
JDC	**Jersey Dam (Cr**	**1.81**	**62**	*e*P	**Pb**	**13 16 41.1**	**+0.6**
JDC				*e*S	**Sn**	**13 16 59.9**	**-1.5**
JDC	**Jersey Dam (Cr**	**1.81**	**62**	*e*P	**Pb**	**13 16 41.1**	**+0.6**
JDC				*e*S	**Sn**	**13 16 59.9**	**-1.5**
DYA	**Yadsworthy**	**2.11**	**9**	*e*P	**Pb**	**13 16 47.3**	**+1.5**
DYA				IAML		13 17 14.4	
	comp=E,14nm,0.4s						
DYA				IAML		13 17 15.3	
	comp=N,21nm,0.2s						
DYA	**Yadsworthy**	**2.11**	**9**	*e*P	**Pb**	**13 16 47.3**	**+1.5**
DYA				IAML		13 17 14.4	
	comp=E,14nm,0.4s						
DYA				IAML		13 17 15.3	
	comp=N,21nm,0.2s						
GRR	**Gorron**	**2.41**	**88**	*e*Pn	**Pn**	**13 16 45.9**	**-0.9**
	SNR=1.0						
GRR	**Gorron**	**2.41**	**88**	*e*Pg	**Pg**	**13 16 55.5**	**+2.0**
GRR				*e*Sn	**Sn**	**13 17 14.9**	**-1.4**
GRR				*e*S	**Sb**	**13 17 18.7**	**-1.8**
GRR				*e*Sg	**Sg**	**13 17 26.9**	**+2.2**
	comp=N,27nm,0.2s						
FLN	**La Foliniere**	**2.68**	**80**	*e*Pn	**Pn**	**13 16 49.6**	**-1.0**
FLN	**La Foliniere**	**2.68**	**80**	*e*Pg	**Pg**	**13 16 59.6**	**+0.9**
FLN				*e*Sn	**Sn**	**13 17 19.7**	**-3.4**
	SNR=1.0						
FLN				*e*Sg	**Sg**	**13 17 35.4**	**+2.0**
	comp=N,31nm,0.4s,baz=263						
LDF	**La Druitiere**	**2.90**	**84**	*e*Pn	**Pn**	**13 16 52.5**	**-1.1**
LDF				*e*Sn	**Sn**	**13 17 26.5**	**-2.0**
	comp=N,62nm,0.6s,SNR=1.0						
LDF				*e*Sg	**Sg**	**13 17 42.2**	**+1.6**
	comp=N,107nm,0.9s						
MFF	**Saint Martin d**	**3.42**	**119**	*e*Pn	**Pn**	**13 17 01.1**	**+0.4**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**13 17 38.9**	**-2.3**
MFF				*e*Sg	**Sg**	**13 18 00.5**	**+3.5**
	comp=N,5.2nm,0.2s						
HYF	**Humbligny**	**4.91**	**100**	*e*Pn	**Pn**	**13 17 20.3**	**-0.9**
HYF				*e*Sn	**Sn**	**13 18 14.1**	**-4.0**
LFF	**La Frestale**	**4.95**	**132**	*e*Pn	**Pn**	**13 17 21.7**	**-0.1**
	SNR=1.0						
LFF	**La Frestale**	**4.95**	**132**	*e*Pg	**Pg**	**13 17 43.1**	**+0.9**
LFF				*e*Sn	**Sn**	**13 18 15.5**	**-3.6**
	SNR=1.0						
LFF				*e*Sg	**Sg**	**13 18 48.7**	**+2.4**
	comp=N,5.9nm,0.3s						
TCF	**Toulx Ste Croi**	**4.99**	**112**	*e*Pn	**Pn**	**13 17 22.1**	**-0.3**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**13 18 15.8**	**-4.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**13 18 49.4**	**+1.9**
	comp=N,0.5nm,0.1s						
RJF	**Les Rejaudoux**	**5.12**	**124**	*e*Pn	**Pn**	**13 17 23.5**	**-0.6**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**13 18 19.7**	**-3.5**
	comp=N,1.0nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**5.28**	**107**	*e*Pn	**Pn**	**13 17 25.3**	**-1.0**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**13 18 22.4**	**-4.7**
	comp=N,6.7nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**5.52**	**104**	*e*Pn	**Pn**	**13 17 28.3**	**-1.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**13 18 27.8**	**-5.3**
	comp=N,0.9nm,0.2s,SNR=1.0						
SSF	**Saint Saulge**	**5.54**	**101**	*e*Pn	**Pn**	**13 17 28.7**	**-1.1**
SSF				*e*Sn	**Sn**	**13 18 28.1**	**-5.4**
	comp=N,1.8nm,0.2s						
CAF	**Calviac**	**5.66**	**125**	*e*Pn	**Pn**	**13 17 31.0**	**-0.5**
CAF				*e*Sn	**Sn**	**13 18 32.6**	**-3.9**
	comp=N,2.6nm,0.1s,SNR=1.0						
SJPF	**Ste Jean**	**5.71**	**155**	*e*Pn	**Pn**	**13 17 31.7**	**-0.6**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**13 18 34.2**	**-3.6**
	comp=N,2.7nm,0.2s						
LOR	**Lormes**	**5.71**	**98**	*e*Pn	**Pn**	**13 17 30.8**	**-1.5**
LOR				*e*Sn	**Sn**	**13 18 32.6**	**-5.3**
	comp=N,3.6nm,0.3s						
SMF	**Signal de Mont**	**5.88**	**104**	*e*Pn	**Pn**	**13 17 33.9**	**-0.7**
SMF				*e*Sn	**Sn**	**13 18 37.4**	**-4.7**
	comp=N,1.3nm,0.2s						
BAIF	**Baives**	**5.94**	**70**	*e*Pn	**Pn**	**13 17 33.2**	**-2.1**
BAIF				*e*Sn	**Sn**	**13 18 35.9**	**-7.4**
BAIF				*e*Sg	**Sg**	**13 19 15.6**	**-2.3**
	comp=N,2.7nm,0.2s						
ETSF	**Etsaut**	**6.11**	**152**	*e*Pn	**Pn**	**13 17 36.5**	**-1.2**
ETSF				*e*Sn	**Sn**	**13 18 42.6**	**-5.0**
	comp=N,0.7nm,0.2s						
EPF	**Esparros**	**6.30**	**146**	*e*Pn	**Pn**	**13 17 39.6**	**-0.8**
	SNR=1.0						
EPF				*e*Sn	**Sn**	**13 18 47.9**	**-4.5**
	comp=N,2.7nm,0.2s						
SFTF	**Sexfontaines**	**6.35**	**88**	*e*Pn	**Pn**	**13 17 39.6**	**-1.4**
SFTF				*e*Sn	**Sn**	**13 18 46.8**	**-6.7**
	comp=N,2.8nm,0.2s						
MTLF	**Montolieu**	**6.85**	**135**	*e*Pn	**Pn**	**13 17 47.7**	**-0.2**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**13 19 01.3**	**-4.5**
	comp=N,1.4nm,0.3s						
LASF	**Ste Croix**	**7.18**	**123**	*e*Pn	**Pn**	**13 17 52.6**	**+0.1**
CABF	**La Chapelle**	**7.36**	**100**	*e*Pn	**Pn**	**13 17 53.6**	**-1.4**
	SNR=1.0						

*ISCJB **06** 13:16:23.9±0.4,28°.58N±0°.02×56°.44E±0°.07,h10km, Error ellipse: s-maj=9.0km s-min=3.1km az=9.4*
*THR **06** 13:16:23.2,28°.52N×56°.36E,h14km,ML3.2*
*TEH **06** 13:16:24.7,28°.62N×56°.45E,h10km,ML3.4*
*OMAN **06** 13:16:26.2±5.3,28°.55N×56°.78E,h21km±241km,ml3.6/7, Error ellipse: s-maj=309.1km s-min=12.8km az=11.0*
*DSN **06** 13:16:27.8±0.9,28°.38N×56°.67E,h15km,ML3.4/8,Error ellipse: s-maj=46.5km s-min=6.9km az=97.0*

ISC 06 13:16:24.8±0.9,28°58N±0°.03×56°42E±0°.07,h10km,n27, σ0s97/34,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIAN	**Nian**	**1.08**	**160**	*e*Pg	**Pb**	**13 16 45.3**	**-0.2**
NIAN				IAMB	IAmb	13 17 04.1	
	comp=Z,0.0nm,0.2s						
NGRK	**Negar Kerman**	**1.10**	**14**	*e*Pg	**Pg**	**13 16 44.7**	**-1.3**
NGRK				IAMB	IAmb	13 16 48.2	
	comp=Z,0.0nm,0.1s						
GENO	**Geno**	**1.19**	**191**	*e*Pg	**Pn**	**13 16 48.1**	**+0.4**
GENO				IAMB	IAmb	13 16 48.9	
	comp=Z,0.0nm,0.2s						
KRBR	**Kerman**	**1.43**	**12**	*e*AML	AML	13 17 21.6	
	comp=N,290nm,0.6s						
KRBR				*e*Pg	**Pb**	**13 16 50.7**	**-1.1**
KRBR				*e*Sg	**Sg**	**13 17 11.6**	**+0.6**
TVBK	**TV Kerman**	**1.44**	**12**	*e*Pg	**Pn**	**13 16 50.6**	**-0.6**
TVBK				IAMB	IAmb	13 17 17.4	
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	**1.79**	**2**	*e*Pn	**Pn**	**13 16 56.1**	**0.0**
KHGB				IAMB	IAmb	13 17 33.8	
	comp=Z,0.0nm,0.5s						
SHME	**Shamm**	**2.53**	**186**	P	**Pn**	**13 17 05.6**	**-0.4**
SHME				S	**Sn**	**13 17 35.5**	**-1.4**
BANOM	**Banah**	**2.64**	**182**	*e*P	**Pn**	**13 17 07.7**	**+0.2**
	SNR=29						
BANOM	**Banah**	**2.64**	**182**	P	**Pn**	**13 17 07.8**	**+0.2**
	SNR=29						
BANOM				S	**Sn**	**13 17 40.8**	**+1.1**
MSFE	**Esma-Masafi**	**3.21**	**184**	*i* P	**Pn**	**13 17 15.8**	**+0.5**
	SNR=7.3						
MSFE				S	**Sn**	**13 17 53.2**	**-0.5**
NAZ	**Nazwa, Dubai**	**3.64**	**191**	P	**Pn**	**13 17 22.3**	**+1.2**
HATD	**Hatta, Dubai**	**3.74**	**184**	P	**Pn**	**13 17 23.6**	**+0.9**
	SNR=5.5						
HATD				S	**Sn**	**13 18 07.6**	**+0.8**
FAQ	**Al Faqa, Dubai**	**3.89**	**191**	*i* P	**Pn**	**13 17 25.1**	**+0.5**
	SNR=7.0						
FAQ	**Al Faqa, Dubai**	**3.89**	**191**	P	**Pn**	**13 17 25.3**	**+0.7**
	SNR=7.0						
ASHO	**Ashiyiah**	**3.89**	**185**	*i* P	**Pn**	**13 17 25.0**	**+0.3**
	SNR=12						
ASHO	**Ashiyiah**	**3.89**	**185**	P	**Pn**	**13 17 25.0**	**+0.3**
	SNR=42						
ASHO				S	**Sn**	**13 18 10.7**	**+0.3**
ZHSF	**Zahedan**	**3.95**	**74**	*e*Pn	**Pn**	**13 17 26.7**	**+1.1**
ZHSF	**Zahedan**	**3.95**	**74**	*e*Pn	**Pn**	**13 17 26.7**	**+1.1**
ZHSF				*e*S	**Sn**	**13 18 12.7**	**+0.6**
ASUD	**Al Ashush, Dub**	**4.05**	**194**	*i* P	**Pn**	**13 17 28.0**	**+1.1**
	SNR=5.6						
ASUD	**Al Ashush, Dub**	**4.05**	**194**	P	**Pn**	**13 17 28.3**	**+1.4**
	SNR=5.6						
YZKH	**Yazd**	**4.12**	**338**	*e*Pn	**Pn**	**13 17 28.6**	**+0.7**
YZKH	**Yazd**	**4.12**	**338**	*e*Pn	**Pn**	**13 17 28.6**	**+0.7**
IKOO	**Kooshah**	**4.44**	**30**	*e*Pn	**Pn**	**13 17 34.4**	**+2.0**
ALNE	**Al Ain**	**4.54**	**188**	*i* P	**Pn**	**13 17 33.8**	**+0.2**
	SNR=8.1						
IRAM	**Rameshieh**	**4.75**	**314**	*e*Pn	**Pn**	**13 17 38.8**	**+2.1**
IRAM				IAMB	IAmb	13 18 39.9	
	comp=Z,93nm,0.6s						
TABS	**Tabas**	**5.09**	**7**	*e*Pn	**Pn**	**13 17 42.4**	**+1.1**
TABS	**Tabas**	**5.09**	**7**	*e*Pn	**Pn**	**13 17 42.4**	**+1.1**

*IDC **06** 13:17:08.0±8.6,6°.42S×130°.08E,h100km±86km,mb3.7/4, mb1 3.8/7,mb1mx3.4/41,mbtmp4.0/7,ML3.9/3,Error ellipse: s-maj=67.3km s-min=27.1km az=44.0*
*ISCJB **06** 13:17:11.7±0.6,6°.62S±0°.05×130°.03E±0°.06,h146km, mb3.8/3,Error ellipse: s-maj=9.1km s-min=6.4km az=16.8*
*DJA **06** 13:17:15.8±0.4,6°S±4°×13°0E±°,h78km±35km,M4.5/7, mb4.4/3,mB5.0/2,MLv4.6/7,Mw(mB)4.3/2*

ISC 06 13:17:12.4±0.8,6°69S±0°.05×129°96E±0°.07,h146km,n11, σ3s15/17,mb4.0/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.85**	**134**	P	**Pn**	**13 17 48.6**	**+3.0**
SAUI				S	**Sn**	**13 18 15.1**	**+4.1**
FAKI	**Fak Fak**	**4.38**	**32**	P	**Pn**	**13 18 18.4**	**+0.8**
FAKI				S	**Sn**	**13 19 06.4**	**-2.0**
SANI	**Sanana**	**6.07**	**319**	P	**Pn**	**13 18 40.4**	**+0.3**
SOEI	**Soe**	**6.40**	**241**	P	**Pn**	**13 18 47.6**	**+3.0**
	42nm,1.3s						
SOEI				S	**Sn**	**13 19 59.4**	**+2.7**
	42nm,1.3s						
FITZ	**Fitzroy Crossi**	**12.10**	**200**	P	**Pn**	**13 20 00.4**	**+0.3**
	0.5nm,0.3s,baz=41,slow=11,SNR=24						
FITZ				S	**Sn**	**13 22 07.3**	**-6.5**
	1.8nm,0.3s,baz=230,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**13.85**	**163**	P	**Pn**	**13 20 22.1**	**-0.5**
	0.5nm,0.3s,baz=347,slow=13,SNR=28						
WRA				S	**Sn**	**13 22 50.5**	**-5.5**
	0.9nm,0.3s,baz=337,slow=22,SNR=7.3						
ASAR	**Alice Springs**	**17.30**	**168**	P	**Pn**	**13 21 07.2**	**+2.0**
	0.6nm,0.3s,baz=341,slow=9.5,SNR=65						
ASAR				S	**S**	**13 24 13.8**	**-3.5**
	0.3nm,0.3s,baz=360,slow=28,SNR=5.1						
CTA	**Charters Tower**	**20.68**	**132**	P	**P**	**13 21 41.1**	**+0.1**
	5.2nm,0.7s,baz=310,slow=16,SNR=1.9						
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**13 22 44.9**	**+1.4**
	1.5nm,0.4s,baz=348,slow=9.3,SNR=5.5						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**13 27 55.4**	**-0.1**
	1.3nm,0.4s,baz=123,slow=7.6,SNR=28						
KURBB	**Kurchatov Arra**	**72.22**	**328**	P	**P**	**13 28 21.1**	**-0.3**
	0.3nm,0.4s,baz=130,slow=5.2,SNR=4.9						

KRSC 06 13:18:29.9±10.0,50°25N×157°11E,h35km±10km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.77**	**305**	*e*P	**Pb**	**13 18 44.8**	**-0.2**
SKR				*e*S	**Sb**	**13 18 55.0**	**-0.2**
ALID	**Alaid**	**1.18**	**303**	*e*P	**Pb**	**13 18 51.0**	**-0.8**
ALID				*e*S	**Sb**	**13 19 06.0**	**-0.8**
PAU	**Pauzhetka**	**1.24**	**351**	*e*P	**Pb**	**13 18 52.7**	**-0.1**
PAU				*e*S	**Sb**	**13 19 08.8**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.68**	**21**	*e*P	**Pb**	**13 18 58.6**	**-1.6**
KDTR				*e*S	**Sb**	**13 19 19.8**	**-1.2**
MTVR	**Mutnovka**	**2.34**	**16**	*e*P	**Pn**	**13 19 08.2**	**+2.2**
RUS	**Russkaya**	**2.36**	**21**	*e*P	**Pn**	**13 19 08.3**	**+2.2**
RUS				*e*S	**Sn**	**13 19 36.1**	**+2.3**
KRMR	**Karymshinskiy**	**2.67**	**13**	*e*P	**Pb**	**13 19 14.2**	**-2.7**
KRMR				*e*S	**Sb**	**13 19 46.9**	**-2.3**
PET	**Petropavlovsk**	**2.94**	**18**	*e*P	**Pn**	**13 19 17.8**	**+3.7**
DALK	**Dalny**	**2.97**	**19**	*e*P	**Pn**	**13 19 17.5**	**+3.0**
DALK				*e*S	**Sn**	**13 19 52.4**	**+3.5**
UGLR	**Uglovaya**	**3.15**	**19**	*e*P	**Pn**	**13 19 20.8**	**+3.7**
AVH	**Avacha**	**3.19**	**18**	*e*P	**Pb**	**13 19 22.0**	**-3.8**
KOK	**Koryaka**	**3.19**	**17**	*e*P	**Pb**	**13 19 22.0**	**-4.0**
SMAR	**Somma**	**3.20**	**18**	*e*P	**Pb**	**13 19 22.4**	**-3.7**
KRER	**Koryakskii**	**3.23**	**18**	*e*P	**Pb**	**13 19 22.7**	**-3.9**
SDLR	**Sedlovina**	**3.23**	**19**	*e*P	**Pn**	**13 19 21.3**	**+3.1**
KRX	**Arik**	**3.26**	**16**	*e*P	**Pb**	**13 19 23.5**	**-3.6**
SPN	**Mys Shipunski**	**3.38**	**31**	*e*P	**Pn**	**13 19 23.0**	**+2.8**
GNL	**Ganaly**	**3.49**	**8**	*e*P	**Pn**	**13 19 25.8**	**+4.0**

*ISCJB **06** 13:24:50.4±0.6,43°.3S±0°.1×39°.5E±0°.2,h10km,mb4.1/9, MS3.7/6,Error ellipse: s-maj=26.9km s-min=11.0km az=40.9*
*IDC **06** 13:24:50.7±0.8,43°.34S×39°.63E,h0km,mb4.0/8, mb1 4.1/10,mb1mx3.8/38,mbtmp4.0/10,ML3.6/2,MS3.7/7, Ms1 3.7/7,ms1mx3.4/32,Error ellipse: s-maj=37.3km s-min=17.8km az=42.0*
*NEIC **06** 13:24:52.1±0.3,43°.24S×39°.67E,h10km,mb4.5/7,Error ellipse: s-maj=16.6km s-min=8.0km az=218.0*

ISC 06 13:24:52.2±0.7,43°3S±0°.2×39°6E±0°.2,h10km,n31, σ0s75/29,mb4.0/9,MS3.6/6,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.36**	**300**	*e*P	**Pn**	**13 29 06.5**	**-0.5**
	31nm,1.4s						
SUR	**Sutherland**	**18.36**	**300**	P	**Pn**	**13 29 06.3**	**-0.7**
	0.2nm,0.3s,baz=126,slow=16,SNR=3.3						
SUR				LR	LR	13 34 27.1	
	comp=Z,183nm,18.3s,baz=156,slow=31						
BOSA	**Boshof**	**18.65**	**317**	*e*P	**P**	**13 29 10.2**	**0.0**
	53nm,2.0s						
BOSA	**Boshof**	**18.65**	**317**	P	**P**	**13 29 10.2**	**0.0**
	0.2nm,0.3s,baz=152,slow=9.7,SNR=3.2						
LBTB	**Lobatse**	**21.55**	**323**	*e*P	**P**	**13 29 40.3**	**-1.5**
	5.9nm,0.8s						
LBTB	**Lobatse**	**21.55**	**323**	P	**P**	**13 29 40.9**	**-0.9**
	3.8nm,0.7s,baz=150,slow=7.7,SNR=7.3						
LBTB				LR	LR	13 36 22.5	
	comp=Z,200nm,21.5s,baz=146,slow=32						
MATP	**Matopo**	**24.63**	**334**	P	**P**	**13 30 15.0**	**+2.0**
	3.5nm,1.0s,baz=168,slow=9.3,SNR=4.7						
MATP				LR	LR	13 38 33.5	
	comp=Z,181nm,19.5s,baz=156,slow=33						
MAW	**Mawson**	**27.35**	**161**	LR	LR	13 39 18.4	
	comp=Z,145nm,18.3s,baz=346,slow=32						
SNAA	**Sanae**	**35.03**	**202**	*e*P	**P**	**13 31 44.8**	**+0.1**
	16nm,1.6s						
SNAA	**Sanae**	**35.03**	**202**	P	**P**	**13 31 44.7**	**+0.1**
	2.5nm,1.1s,baz=55,slow=12,SNR=2.4						
VNDA	**Vanda**	**54.39**	**167**	LR	LR	13 54 42.7	
	comp=Z,79nm,21.5s,baz=264,slow=33						
TOA0	**Torodi Ar. Sit**	**66.00**	**319**	*e*P	**P**	**13 35 38.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.00**	**319**	P	**P**	**13 35 39.7**	**+0.8**
	1.0nm,0.9s,baz=145,slow=7.9,SNR=4.6						
TORD				LR	LR	14 03 35.9	
	comp=Z,48nm,19.2s,baz=180,slow=35						
TOA1	**Torodi Ar. Sit**	**66.00**	**319**	*e*P	**P**	**13 35 39.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**75.01**	**101**	*e*P	**P**	**13 36 33.6**	**-0.5**
	34nm,2.0s						
FITZ	**Fitzroy Crossi**	**75.01**	**101**	P	**P**	**13 36 34.1**	**+0.1**
	3.7nm,1.0s,baz=243,slow=9.0,SNR=3.7						
STKA	**Stephens Creek**	**76.71**	**121**	*e*P	**P**	**13 36 42.8**	**-0.9**
	4.7nm,1.8s						
STKA	**Stephens Creek**	**76.71**	**121**	P	**P**	**13 36 43.6**	**0.0**
	1.7nm,0.6s,baz=220,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**77.16**	**110**	P	**P**	**13 36 45.8**	**-0.5**
	0.9nm,0.9s,baz=211,slow=7.5,SNR=5.0						
WR1	**Warramunga Arr**	**79.94**	**108**	*e*P	**P**	**13 37 01.6**	**-0.1**
	27nm,1.5s						
WRA	**Warramunga Arr**	**79.94**	**108**	P	**P**	**13 37 01.5**	**-0.1**
	1.3nm,1.0s,baz=229,slow=8.6,SNR=4.7						
KEST	**Kesra**	**83.35**	**336**	LR	LR	14 16 54.4	
	comp=Z,84nm,18.1s,baz=316,slow=38						
TXAR	**Lajitas Array**	**147.54**	**257**	PKPbc	**PKPbc**	**13 44 36.9**	**+0.2**
	2.2nm,0.9s,baz=111,slow=4.9,SNR=9.7						
TX31	**Lajitas Ar. Si**	**147.54**	**257**	*e*PKPdf	**PKPdf**	**13 44 34.4**	**+0.4**
TX31				*e*PKPbc	**PKPbc**	**13 44 36.8**	**+0.1**
ECSD	**EROS Data Cent**	**148.50**	**286**	*e*PKPbc	**PKPbc**	**13 44 38.5**	**-0.2**
ULM	**Lac du Bonnet**	**149.09**	**299**	PKPbc	**PKPbc**	**13 44 38.6**	**-1.3**
	2.2nm,0.6s,baz=102,slow=3.9,SNR=5.5						
PV01	**Paradox Valley**	**155.40**	**269**	*e*PKPab	**PKPab**	**13 45 12.4**	**+0.9**
YKA	**Yellowknife Ar**	**155.56**	**331**	PKPab	**PKPab**	**13 45 11.5**	**+0.4**
	0.1nm,0.3s,baz=62,slow=4.4,SNR=3.6						
PV12	**Saucer Basin,**	**155.64**	**269**	*e*PKPab	**PKPab**	**13 45 13.4**	**+0.9**
PV16	**Nyswonger Mesa**	**155.72**	**269**	*e*PKPab	**PKPab**	**13 45 13.5**	**+0.7**
TMUT	**Trail Mountain**	**157.74**	**270**	*e*PKPab	**PKPab**	**13 45 21.9**	**+0.3**

*MAN **06** 13:33:44.9,5°.68N×126°.62E,h99km,MS4.8*
*ISCJB **06** 13:33:47.7±0.5,5°.80N±0°.03×126°.43E±0°.06,h117km±4km, mb4.1/25,Error ellipse: s-maj=10.5km s-min=4.2km az=171.9*
*DJA **06** 13:33:47.1±0.7,6°N±4°×12°6E±°,h152km±7km,M4.7/8, mb4.8/7,mB5.1/4,MLv4.7/8,Mw(mB)4.5/4*
*NEIC **06** 13:33:48.7±0.5,5°.81N×126°.37E,h111km±4km,mb4.5/16, Error ellipse: s-maj=10.2km s-min=4.2km az=76.0*
*IDC **06** 13:33:50.8±0.9,5°.81N×126°.24E,h127km±8km,mb3.8/20, mb1 3.9/20,mb1mx3.6/51,mbtmp4.1/20,Error ellipse: s-maj=24.7km s-min=9.9km az=76.0*

ISC 06 13:33:47.7±0.8,5°77N±0°.04×126°39E±0°.08,h101km±7km, n83,σ2s16/81,mb4.2/24,3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.75**	**296**	*e*P	**Pn**	**13 34 05.4**	**-0.2**
DDMP				*e*S	**Sn**	**13 34 15.5**	**-3.6**
GSPH	**General Santos**	**1.46**	**282**	*i* P	**Pn**	**13 34 13.6**	**-0.1**
GSPH				*i* S	**Sn**	**13 34 33.1**	**-0.3**
DAV	**Davao City (W)**	**1.52**	**328**	*e*Pn	**Pn**	**13 34 15.3**	**+1.1**
DAV				S	**Sn**	**13 34 38.7**	**+4.3**
DAV	**Davao City (W)**	**1.52**	**328**	P	**Pn**	**13 34 15.9**	**+1.6**
	166nm,0.3s,baz=222,slow=6.7,SNR=7.8						
DAV				S	**Sn**	**13 34 38.7**	**+4.3**
	264nm,0.3s,baz=295,slow=12,SNR=7.0						
DMPH	**Davao City--Mi**	**1.57**	**326**	*e*P	**Pn**	**13 34 10.8**	**-4.1**
DMPH				*e*S	**Sn**	**13 34 38.8**	**+3.3**
SKMP	**Bagumbayan, Su**	**1.98**	**292**	*e*P	**Pn**	**13 34 19.6**	**-0.4**
SKMP				*e*S	**Sn**	**13 34 39.4**	**-5.3**
SGSI	**Sangihe**	**2.24**	**202**	P	**Pn**	13 34 26.5	+3.1
SGSI				S	**Sn**	**13 34 56.7**	**+5.9**
BUKP	**Musuan**	**2.47**	**328**	*e*P	**Pn**	**13 34 27.2**	**+0.7**
BUKP				*e*S	**Sn**	**13 34 58.9**	**+2.6**
CTBH	**Cotabato--PC H**	**2.57**	**304**	*i* P	**Pn**	**13 34 28.8**	**+1.1**
CTBH				*i* S	**Sn**	**13 35 02.5**	**+4.0**
CGP	**Cagayan de Oro**	**3.15**	**328**	*e*P	**Pn**	**13 34 37.9**	**+2.4**
CGP				*e*S	**Sn**	**13 35 16.6**	**+4.

baz=264
H11N3 WAKE ISLAND Hy 41.75 67 T T 14 26 14.5
baz=264
KLR Kul'dur 43.55 5 P **P 13 41 40.7 -0.6**
0.5nm,0.3s,baz=176,slow=20,SNR=4.8
SONA0 Songino Array 45.27 341 *eP* **P 13 41 54.8 -0.5**
SONM Songino Array 45.27 341 P **P 13 41 54.8 -0.5**
0.5nm,0.8s,baz=146,slow=8.0,SNR=3.7
PETK Petropavlovsk- 53.69 23 P **P 13 42 59.8 +0.8**
2.2nm,0.9s,baz=189,slow=8.0,SNR=2.5
PEA1 Petropavlovsk- 53.69 23 *eP* **P 13 42 59.8 +0.8**
MK01 Makanchi Array 55.68 325 *eP* **P 13 43 12.2 -1.4**
MK31 Makanchi Array 55.70 325 *eP* **P 13 43 12.7 -1.0**
MK32 Makanchi Array 55.70 325 *eP* **P 13 43 12.9 -0.8**
MKAR Makanchi Array 55.70 325 P **P 13 43 12.9 -0.8**
1.3nm,0.5s,baz=119,slow=7.5,SNR=32
ZALV Zalesovo Beam 58.63 333 *eP* **P 13 43 34.2 +0.1**
ZALV Zalesovo Beam 58.63 333 P **P 13 43 35.4 +1.3**
1.5nm,0.3s,baz=128,slow=6.9,SNR=9.2
ZAA1 Zalesovo Array 58.63 333 *eP* **P 13 43 35.4 +1.3**
NRIK Noril'sk 68.38 346 P **P 13 44 38.1 0.0**
2.2nm,0.4s,baz=134,slow=7.8,SNR=2.6
ABKAR Akbulak array 70.37 320 *eP* **P 13 44 49.1 -1.6**
11nm,1.9s
AKTO Aktyubinsk 71.86 321 P **P 13 44 58.8 -0.9**
0.8nm,0.5s,baz=93,slow=13,SNR=3.7
KDAK Kodiak Island 80.36 32 *eP* **P 13 45 47.4 -0.3**
80nm,1.6s
KDAK Kodiak Island 80.36 32 P **P 13 45 47.6 -0.1**
7.3nm,0.9s,baz=245,slow=8.0,SNR=3.4
ILAR Eielson Array 83.42 26 P **P 13 46 02.9 -0.8**
0.3nm,0.9s,baz=264,slow=4.5,SNR=4.4
ILB Eielson Array 83.42 26 *eP* **P 13 46 02.7 -0.9**
19nm,2.0s
ARA0 ARCESS Array S 88.43 340 *eP* **P 13 46 27.6 -0.7**
ARCES ARCESS Array B 88.43 340 P **P 13 46 27.6 -0.7**
4.6nm,0.8s,baz=86,slow=6.1,SNR=12
BR101 Keskin Array S 88.46 310 *eP* **P 13 46 29.2 -0.1**
BRTR Keskin Array B 88.47 310 P **P 13 46 29.2 -0.1**
0.4nm,0.7s,baz=38,slow=5.4,SNR=2.3
FIA0 FINESS Array S 89.88 332 *eP* **P 13 46 34.8 -0.3**
FINES FINESS Array B 89.88 332 P **P 13 46 34.8 -0.3**
3.0nm,1.0s,baz=69,slow=6.3,SNR=5.1
MANT Manisa 92.55 309 *ep*P pP 13 47 17.0 +3.0
YKA Yellowknife Ar 97.79 24 P Pdif 13 47 11.2 -0.3
0.2nm,0.6s,baz=303,slow=5.0,SNR=2.9
TORD Torodi Ar. Bea 121.94 289 PKP **PKiKP 13 52 30.8 -0.7**
0.2nm,0.3s,baz=74,slow=2.3,SNR=3.4
TOA1 Torodi Ar. Sit 121.94 289 *e*PKPdf **PKiKP 13 52 30.8 -0.7**

*SOME **06** 13:59:05.7, 43°.15N×78°.45E, h5km*
*NNC **06** 13:59:05.1±0.2, 43°.27N×78°.46E, h0km, mpv2.2, Error ellipse: s-maj=5.2km s-min=0.9km az=3.0*
KRNET 06 13:59:05.5±0.1, 43°.17N×78°.46E, h17km, mb2.1, 7C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURS	**Kuram**	**0.38**	**327**	*eP*	Pg	13 59 13.2	-0.2
	baz=26						
KURS				*eS*	Sg	13 59 18.5	-0.2
	baz=26						
KURS	**Kuram**	**0.38**	**327**	*eP*	Pg	13 59 13.2	-0.2
	1.4nm,0.1s						
KURS				*eS*	Sg	13 59 18.4	-0.3
	2.0nm,0.2s						
UZB	**Uzynbulak**	**0.41**	**93**	P	Pg	13 59 13.8	-0.2
	4.0nm,0.1s						
UZB				S	Sg	13 59 19.6	-0.1
	16nm,0.1s						
UZB	**Uzynbulak**	**0.41**	**93**	*eP*	Pg	13 59 13.8	-0.2
	baz=93						
UZB				*eS*	Sg	13 59 19.6	-0.1
	baz=93						
UZB	**Uzynbulak**	**0.41**	**93**	*eP*	Pg	13 59 13.8	-0.2
	4.0nm,0.1s						
UZB				*eS*	Sg	13 59 19.6	-0.1
	16nm,0.1s						
PDGK	**Podgornoye**	**0.77**	**78**	P	Pb	13 59 20.0	-0.5
	0.8nm,0.2s						
PDGK				S	Sb	13 59 30.3	-0.4
	0.8nm,0.2s						
PDGK	**Podgornoye**	**0.77**	**78**	⇑P	Pb	13 59 19.8	-0.6
	0.6nm,0.4s						
PDGK				⇓S	Sb	13 59 30.2	-0.6
	1.2nm,0.5s						
PDGK	**Podgornoye**	**0.77**	**78**	⇑*iP*	Pb	13 59 20.0	-0.5
	baz=78						
PDGK				⇑*iS*	Sb	13 59 30.6	-0.1
	baz=78						
KDJ	**Kajisay**	**1.40**	**223**	⇑*iP*	Pb	13 59 31.7	+0.4
	baz=22						
KDJ				⇑*iS*	Sg	13 59 49.9	-0.9
	baz=22						
TARG	**Taragay, Kyrgy**	**1.52**	**199**	⇑*iP*	Pb	13 59 33.5	+0.1
	baz=99						
TARG				⇑*iS*	Sb	13 59 53.1	+0.6
	baz=99						

*KRNET **06** 13:59:19.6±0.1, 39°.05N×72°.46E, mb3.6*
*SOME **06** 13:59:21.2, 39°.32N×72°.52E, h15km*
*NNC **06** 13:59:29.2±2.9, 39°.77N×72°.55E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=25.6km s-min=11.4km az=178.0*
ISC 06 13:59:19.8±1.9, 39°.0N±0°.1×72°.38E±0°.04, h10km, n41, σ1§64/65, 29C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**2.34**	**11**	⇑*iP*	**Pn**	**13 59 58.8**	**+0.3**
	baz=10.0						
ARSB				⇑*iS*	**Sn**	**14 00 26.3**	**-1.0**
	baz=10.0						
ARK	**Arkit**	**2.78**	**354**	⇑*iP*	**Pn**	**14 00 04.5**	**-0.1**
	baz=53						
ARK				⇑*iS*	**Sn**	**14 00 37.5**	**-0.8**
	baz=53						
ARLS	**Aral**	**3.19**	**27**	⇓*iP*	**Pn**	**14 00 10.6**	**+0.4**
	baz=26						
ARLS				⇓*iS*	**Sn**	**14 00 47.3**	**-1.2**
	baz=26						
AML	**Almayashu**	**3.26**	**17**	P	**Pn**	**14 00 12.7**	**+1.4**
	SNR=100						
AML	**Almayashu**	**3.26**	**17**	⇑*iP*	**Pn**	**14 00 12.1**	**+0.8**
	baz=17						
AML				⇑*iS*	**Sn**	**14 00 50.9**	**+0.6**
	baz=17						
TAS	**Tashkent**	**3.30**	**315**	⇑*eP*	**Pn**	**14 00 13.7**	**+2.1**
	baz=14						
TAS				⇑*iS*	**Sn**	**14 00 52.6**	**+1.7**
	baz=14						
UCH	**Uchtor**	**3.58**	**26**	P	**Pn**	**14 00 17.5**	**+1.6**
	SNR=14						
UCH	**Uchtor**	**3.58**	**26**	⇑*iP*	**Pn**	**14 00 16.4**	**+0.5**
	baz=26						
UCH				⇑*iS*	**Sn**	**14 00 57.9**	**-0.6**
	baz=26						
IUG	**Iuzhnay**	**3.59**	**331**	Pg	**Pb**	**14 00 22.2**	**-1.2**
	163nm,0.3s						
IUG				Lg	Lg	14 01 06.8	
	143nm,0.9s						
IUG	**Iuzhnay**	**3.59**	**331**	*eP*	**Pb**	**14 00 22.6**	**-0.9**
	71nm,0.3s						
IUG				*eS*	**Sb**	**14 01 06.8**	**-0.4**
	143nm,0.9s						
NRN	**Naryn**	**3.67**	**48**	⇓*iP*	**Pn**	**14 00 16.6**	**-0.3**
	baz=47						
NRN				⇓*iS*	**Sn**	**14 00 58.4**	**-1.9**
	baz=47						
KZA	**Kyzart**	**3.75**	**35**	P	**Pn**	**14 00 19.5**	**+1.4**
	SNR=8.0						
KZA	**Kyzart**	**3.75**	**35**	⇓*iP*	**Pn**	**14 00 18.6**	**+0.5**
	baz=34						
KZA				⇓*iS*	**Sn**	**14 01 01.8**	**-0.7**
	baz=34						
MRKS	**Merke**	**3.77**	**10**	*eP*	Pn	14 00 22.9	+4.8
	14nm,0.4s						
MRKS				*eS*	**Sn**	**14 01 07.2**	**+4.7**
	53nm,0.5s						
EKS2	**Erkin-Say**	**3.78**	**16**	P	**Pn**	**14 00 20.7**	**+2.4**
	SNR=7.9						
EKS2	**Erkin-Say**	**3.78**	**16**	⇑*iP*	**Pn**	**14 00 19.4**	**+1.1**
	baz=15						
EKS2				⇑*iS*	**Sn**	**14 01 03.1**	**+0.2**
	baz=15						
AAK	**Ala-Archa**	**3.94**	**23**	P	**Pn**	**14 00 22.4**	**+1.8**
	SNR=11						
AAK	**Ala-Archa**	**3.94**	**23**	⇑Pn	**Pn**	**14 00 22.2**	**+1.7**
	7.3nm,0.5s						
AAK				⇑Lg	Lg	14 01 08.3	
	31nm,0.6s						
AAK	**Ala-Archa**	**3.94**	**23**	⇑*iP*	**Pn**	**14 00 21.3**	**+0.7**
	baz=23						
AAK				⇑*iS*	**Sn**	**14 01 06.7**	**-0.3**
	baz=23						
KBK	**Karagaybulak**	**4.11**	**27**	P	**Pn**	**14 00 25.1**	**+2.2**
	SNR=6.3						
KBK	**Karagaybulak**	**4.11**	**27**	⇓*iP*	**Pn**	**14 00 23.7**	**+0.8**
	baz=27						
KBK				⇓*iS*	**Sn**	**14 01 10.6**	**-0.6**
	baz=27						
FRU1	**Bishkek**	**4.14**	**24**	⇑*iP*	**Pn**	**14 00 24.1**	**+0.9**
	baz=23						
FRU1				⇑*iS*	**Sn**	**14 01 11.2**	**-0.5**
	baz=23						
KK31	**Karatay Array**	**4.31**	**341**	⇓Pn	**Pn**	**14 00 26.2**	**+0.8**
	1.7nm,0.3s,baz=147,slow=12,SNR=31						
KK31				⇑Sn	**Sn**	**14 01 14.4**	**-1.4**
	8.2nm,0.3s,baz=155,slow=21,SNR=8.2						
CHMS	**Chumysh**	**4.35**	**24**	⇑*iP*	**Pn**	**14 00 26.8**	**+0.8**
	baz=23						
CHMS				⇑*iS*	**Sn**	**14 01 16.3**	**-0.5**
	baz=23						
ULHL	**Ulahol**	**4.35**	**41**	P	**Pn**	**14 00 28.3**	**+2.0**
	SNR=10.0						
ULHL	**Ulahol**	**4.35**	**41**	⇑*iP*	**Pn**	**14 00 26.6**	**+0.4**
	baz=41						
ULHL				⇑*iS*	**Sn**	**14 01 15.7**	**-1.4**
	baz=41						
USP	**Ospenovka**	**4.53**	**20**	⇓*iP*	**Pn**	**14 00 29.4**	**+1.0**
	baz=19						
USP				⇓*iS*	**Sn**	**14 01 20.8**	**-0.3**
	baz=19						
TKM2	**Tokmak 2**	**4.59**	**31**	⇓Pg	**Pb**	**14 00 41.8**	**+1.3**
	3.6nm,0.5s						
TKM2				⇑Lg	Lg	14 01 34.1	
	9.8nm,0.5s						
TKM2	**Tokmak 2**	**4.59**	**31**	⇑*iP*	**Pn**	**14 00 30.0**	**+0.6**
	baz=31						
TKM2				⇑*iS*	**Sn**	**14 01 21.7**	**-1.2**
	baz=31						
KDJ	**Kajisay**	**4.79**	**48**	⇑*iP*	**Pn**	**14 00 32.6**	**+0.4**
	baz=48						
KDJ				⇑*iS*	**Sn**	**14 01 25.6**	**-2.3**
	baz=48						
KST	**Kastek**	**4.84**	**33**	*eP*	**Pb**	**14 00 46.0**	**+1.2**
	7.5nm,0.8s						
KST				*eS*	**Sb**	**14 01 46.8**	**+3.8**
	16nm,0.6s						
DGS	**Degeres**	**4.93**	**30**	*eP*	Pn	14 00 42.2	+8.2
	13nm,0.7s						
DGS				*eS*	**Sb**	**14 01 40.4**	**-5.2**
	18nm,0.7s						
TNSS	**Tian-Shan**	**5.29**	**39**	*eP*	**Pb**	**14 00 52.7**	**+0.2**
	6.7nm,0.7s						
TNSS				*eS*	**Sb**	**14 01 58.9**	**+2.7**
	11nm,0.6s						
MDOK	**Medeo**	**5.43**	**39**	*eP*	**Pb**	**14 00 54.0**	**-0.8**
	3.5nm,0.8s						
MDOK				*eS*	**Sb**	**14 02 00.4**	**+0.3**
	8.3nm,0.7s						
KOTS	**Kotyrbulak**	**5.51**	**39**	Pg	**Pb**	**14 00 56.9**	**+0.6**
	8.7nm,0.5s						
KOTS				Lg	Lg	14 02 06.1	
	50nm,0.7s						
KOTS	**Kotyrbulak**	**5.51**	**39**	*eP*	**Pb**	**14 00 56.9**	**+0.6**
	8.7nm,0.5s						
KOTS				*eS*	**Sb**	**14 02 06.1**	**+3.6**
	50nm,0.7s						
UZB	**Uzynbulak**	**6.49**	**49**	Pg	**Pb**	**14 01 14.7**	**+1.8**
	2.9nm,0.7s						
UZB				Lg	Lg	14 02 37.5	
	4.1nm,0.6s						
ARXS	**Arharly**	**6.59**	**36**	Pg	**Pb**	**14 01 14.4**	**-0.2**
	3.5nm,1.1s						
ARXS				Lg	Lg	14 02 37.0	
	8.7nm,0.5s						
PDGK	**Podgornoye**	**6.87**	**49**	⇑Pn	**Pn**	**14 01 02.6**	**+1.9**
	2.8nm,0.7s						
PDGK				⇓Pg	**Pg**	**14 01 29.3**	**-2.0**
	2.7nm,0.7s						
PDGK				⇓Lg	Lg	14 02 46.3	
	10nm,0.9s						
AB31	**Akbulak array**	**13.55**	**323**	P	**P**	**14 02 39.8**	**-1.4**
	1.0nm,0.6s,baz=133,slow=13,SNR=42						
AKTO	**Aktyubinsk**	**15.27**	**323**	⇓P	**P**	**14 03 01.5**	**+1.2**
	8.2nm,1.4s						

*ISCJB **06** 14:01:28.7±0.6, 43°.4S±0°.1×40°.7E±0°.2, h10km, mb4.1/10, MS3.9/10, Error ellipse: s-maj=23.5km s-min=12.3km az=42.3*
*IDC **06** 14:01:28.9±0.8, 43°.37S×40°.78E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/34, mbtmp3.9/8, MS3.9/10, Ms1 3.9/10, ms1mx3.5/44, Error ellipse: s-maj=37.2km s-min=21.6km az=54.0*
*NEIC **06** 14:01:30.3±0.4, 43°.41S×40°.64E, h10km, mb4.7/2, Error ellipse: s-maj=19.0km s-min=10.5km az=221.0*
ISC 06 14:01:30.3±0.7, 43°.4S±0°.1×40°.7E±0°.1, h10km, n27, σ0§87/18, mb4.2/10, MS3.9/10, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**8.52**	**115**	*eP*n	**Pn**	**14 03 33.6**	**0.0**
LSZ	**Lusaka**	**29.99**	**335**	*eP*	**P**	**14 07 37.6**	**-1.5**
	4.8nm,0.9s						
LSZ	**Lusaka**	**29.99**	**335**	P	**P**	**14 07 39.1**	**0.0**
	2.3nm,0.5s,baz=156,slow=9.4,SNR=4.6						
TSUM	**Tsneb**	**30.95**	**314**	LR	LR	14 17 59.2	
	comp=Z,69nm,19.2s,baz=168,slow=32						
SNAA	**Sanae**	**35.23**	**202**	LR	LR	14 20 16.5	
	comp=Z,186nm,18.3s,baz=72,slow=32						
QSPA	**South Pole Qui**	**46.81**	**180**	*eP*	**P**	**14 09 59.8**	**-0.1**
	34nm,1.8s						
QSPA	**South Pole Qui**	**46.81**	**180**	P	**P**	**14 10 00.1**	**+0.2**
	4.3nm,1.0s,baz=242,slow=8.4,SNR=9.0						
PMSA	**Palmer Station**	**57.36**	**209**	LR	LR	14 29 27.4	
	comp=Z,178nm,20.0s,baz=123,slow=29						
USHA	**Ushuaia**	**65.13**	**217**	LR	LR	14 33 25.0	
	comp=Z,162nm,20.6s,baz=126,slow=29						
TOA0	**Torodi Ar. Sit**	**66.58**	**318**	*eP*	**P**	**14 12 21.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**66.58**	**318**	P	**P**	**14 12 20.9**	**+0.1**
	1.3nm,0.9s,baz=134,slow=8.3,SNR=6.9						
TOA1	**Torodi Ar. Sit**	**66.59**	**318**	*eP*	**P**	**14 12 20.9**	**+0.1**
WSAR	**Wadi Sarin**	**68.34**	**18**	LR	LR	14 36 40.5	
	comp=Z,131nm,20.9s,baz=206,slow=31						
PLCA	**Paso Flores**	**75.83**	**227**	*eP*	**P**	**14 13 16.4**	**-0.2**
	55nm,1.9s						
PLCA	**Paso Flores**	**75.83**	**227**	LR	LR	14 40 16.0	
	comp=Z,60nm,21.0s,baz=173,slow=31						
STKA	**Stephens Creek**	**75.99**	**121**	P	**P**	**14 13 18.1**	**+0.5**
	2.0nm,0.7s,baz=216,slow=2.2,SNR=5.7						
ASAR	**Alice Springs**	**76.39**	**110**	P	**P**	**14 13 17.9**	**-2.1**
	0.4nm,1.0s,baz=231,slow=4.4,SNR=3.8						
WR1	**Warramunga Arr**	**79.17**	**107**	*eP*	**P**	**14 13 36.2**	**+0.7**
	32nm,1.6s						
WRA	**Warramunga Arr**	**79.17**	**107**	P	**P**	**14 13 36.2**	**+0.7**
	0.4nm,0.7s,baz=217,slow=3.9,SNR=3.1						
CMAR	**Chiang Mai Arr**	**81.48**	**55**	P	**P**	**14 13 47.4**	**-0.5**
	0.2nm,0.3s,baz=224,slow=3.8,SNR=3.6						
CMAR				LR	LR	14 43 18.8	
	comp=Z,56nm,20.9s,baz=208,slow=31						
GEYT	**Alibeck**	**82.49**	**14**	LR	LR	14 49 05.3	
	comp=Z,32nm,18.9s,baz=265,slow=35						
BR101	**Keskin Array S**	**82.99**	**355**	*eP*	**P**	**14 13 56.5**	**+1.1**
BRTR	**Keskin Array B**	**82.99**	**355**	P	**P**	**14 13 56.5**	**+1.1**
	0.4nm,0.5s,baz=164,slow=14,SNR=3.9						
LPAZ	**La Paz**	**91.98**	**245**	LR	LR	14 51 54.8	
	comp=Z,44nm,18.8s,baz=125,slow=33						
AKTO	**Aktyubinsk**	**94.68**	**11**	LR	LR	14 56 55.0	
	comp=Z,46nm,20.3s,baz=192,slow=35						
TX31	**Lajitas Ar. Si**	**148.28**	**256**	*e*PKPbc	**PKPbc**	**14 21 16.5**	**-0.3**
TXAR	**Lajitas Array**	**148.28**	**256**	PKPbc	**PKPbc**	**14 21 16.9**	**+0.1**
	1.6nm,0.9s,baz=142,slow=6.3,SNR=12						

*ISCJB **06** 14:09:16.4±0.4, 43°.34S±0°.10×39°.5E±0°.1, h10km, mb4.3/24, MS3.9/7, Error ellipse: s-maj=16.2km s-min=7.9km az=36.2*
*IDC **06** 14:09:16.6±0.5, 43°.32S×39°.58E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/40, mbtmp4.2/20, ML3.8/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/39, Error ellipse: s-maj=23.5km s-min=14.0km az=43.0*
*NEIC **06** 14:09:18.0±0.2, 43°.38S×39°.52E, h10km, mb4.7/13, Error ellipse: s-maj=9.4km s-min=5.9km az=215.0*
ISC 06 14:09:18.0±0.5, 43°.4S±0°.1×39°.54E±0°.1, h10km, n74, σ0§66/64, mb4.4/24, MS3.9/7, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRZF	**Crozet Islands**	**9.28**	**114**	*eP*n	**Pn**	**14 11 31.2**	**-0.5**
SUR	**Sutherland**	**18.36**	**300**	*eP*	**Pn**	**14 13 31.5**	**-1.4**
	38nm,1.4s						
SUR	**Sutherland**	**18.36**	**300**	P	**Pn**	**14 13 32.4**	**-0.5**
	0.2nm,0.3s,baz=118,slow=15,SNR=3.8						
SUR				LR	LR	14 18 53.9	
	comp=Z,292nm,19.6s,baz=166,slow=31						
BOSA	**Boshof**	**18.66**	**317**	*eP*	**P**	**14 13 35.0**	**-1.2**
	18nm,1.4s						
BOSA	**Boshof**	**18.66**	**317**	P	**P**	**14 13 35.0**	**-1.2**
	0.2nm,0.3s,baz=162,slow=9.9,SNR=3.0						
BOSA				LR	LR	14 19 31.9	
	comp=Z,395nm,20.2s,baz=200,slow=33						
LBTB	**Lobatse**	**21.57**	**324**	*eP*	**P**	**14 14 08.6**	**+0.8**
	10nm,0.9s						
LBTB	**Lobatse**	**21.57**	**324**	P	**P**	**14 14 07.5**	**-0.3**
	6.4nm,0.7s,baz=152,slow=9.8,SNR=9.7						
LBTB				LR	LR	14 21 10.1	
	comp=Z,447nm,20.1s,baz=151,slow=33						
MATP	**Matopo**	**24.66**	**335**	P	**P**	**14 14 38.5**	**-0.6**
	2.5nm,0.7s,baz=174,slow=11,SNR=5.4						
MATP				LR	LR	14 23 09.9	
	comp=Z,287nm,19.5s,baz=168,slow=34						
MAW	**Mawson**	**27.32**	**161**	LR	LR	14 23 16.0	
	comp=Z,184nm,20.9s,baz=336,slow=31						
LSZ	**Lusaka**	**29.61**	**337**	*eP*	**P**	**14 15 23.0**	**-0.6**
	16nm,1.4s						
LSZ	**Lusaka**	**29.61**	**337**	P	**P**	**14 15 23.3**	**-0.3**
	1.4nm,0.4s,baz=165,slow=7.5,SNR=4.9						
LSZ				LR	LR	14 26 02.7	
	comp=Z,157nm,19.8s,baz=148,slow=34						
TSUM	**Tsumeb**	**30.34**	**316**	P	**P**	**14 15 30.0**	**-0.1**
	4.1nm,0.9s,baz=134,slow=3.4,SNR=4.5						
QSPA	**South Pole Qui**	**46.86**	**180**	P	**P**	**14 17 47.8**	**-0.2**
	2.2nm,1.0s,baz=221,slow=2.5,SNR=3.8						
H10S2	**ASCENSION HYDR**	**58.16**	**289**	T	T	15 22 20.6	
	baz=137,slow=75,SNR=5.0						
H10S1	**ASCENSION HYDR**	**58.17**	**289**	T	T	15 22 24.3	
	baz=137,slow=75,SNR=5.6						
H10S3	**ASCENSION HYDR**	**58.17**	**289**	T	T	15 22 21.9	
	baz=137,slow=75,SNR=4.7						
KIC	**Kosan Boka**	**63.65**	**309**	*eP*	**P**	**14 19 49.9**	**+0.4**
	43nm,1.8s						
LIC	**Lamto**	**63.70**	**309**	*eP*	**P**	**14 19 50.1**	**+0.3**
	22nm,1.0s						
DBIC	**Dimbokro**	**63.97**	**309**	*eP*	**P**	**14 19 52.1**	**+0.5**
	35nm,1.8s						
DBIC	**Dimbokro**	**63.97**	**309**	P	**P**	**14 19 51.5**	**-0.1**
	2.4nm,0.7s,baz=146,slow=9.3,SNR=5.2						
TIC	**Toumodi**	**64.04**	**309**	*eP*	**P**	**14 19 52.8**	**+0.7**
TOA0	**Torodi Ar. Sit**	**66.01**	**319**	*eP*	**P**	**14 20 05.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**66.01**	**319**	P	**P**	**14 20 05.0**	**+0.2**
	3.8nm,0.9s,baz=288,slow=0.6,SNR=23						
TOA1	**Torodi Ar. Sit**	**66.02**	**319**	*eP*	**P**	**14 20 05.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**75.03**	**101**	*eP*	**P**	**14 21 00.3**	**+0.4**
	6.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**75.03**	**101**	P	**P**	**14 21 00.5**	**+0.5**
	3.4nm,0.8s,baz=208,slow=5.5,SNR=6.0						
PLCA	**Paso Flores**	**75.27**	**228**	*eP*	**P**	**14 21 02.0**	**+0.8**
	28nm,1.6s						
PLCA	**Paso Flores**	**75.27**	**228**	P	**P**	**14 21 02.2**	**+1.0**
	2.1nm,0.8s,baz=185,slow=6.9,SNR=3.8						
MMAI	**Mount Meron Ar**	**76.09**	**356**	LR	LR	14 53 33.2	
	comp=Z,85nm,20.1s,baz=120,slow=35						
STKA	**Stephens Creek**	**76.71**	**121**	*eP*	**P**	**14 21 09.6**	**+0.1**
	9.9nm,1.9s						
STKA	**Stephens Creek**	**76.71**	**121**	P	**P**	**14 21 09.6**	**+0.1**
	2.9nm,0.6s,baz=235,slow=2.7,SNR=9.8						
CPUP	**Villa Florida**	**77.09**	**246**	*eP*	**P**	**14 21 11.7**	**+0.1**
	22nm,1.9s						
CPUP	**Villa Florida**	**77.09**	**246**	P	**P**	**14 21 12.1**	**+0.5**
	0.6nm,0.4s,baz=106,slow=7.4,SNR=3.2						
ASAR	**Alice Springs**	**77.17**	**110**	P	**P**	**14 21 11.9**	**-0.3**
	1.6nm,0.8s,baz=219,slow=5.1,SNR=11						
AS31	**Alice Springs**	**77.17**	**110**	*eP*	**P**	**14 21 11.6**	**-0.7**
	3.1nm,1.6s						
AS01	**Alice Springs**	**77.20**	**110**	*eP*	**P**	**14 21 11.9**	**-0.5**
WR1	**Warramunga Arr**	**79.95**	**108**	*eP*	**P**	**14 21 27.4**	**-0.2**
	24nm,1.5s						
WRA	**Warramunga Arr**	**79.95**	**108**	P	**P**	**14 21 27.4**	**-0.2**
	1.6nm,0.9s,baz=222,slow=4.5,SNR=9.6						
CM01	**Chiang Mai Arr**	**82.10**	**56**	*eP*	**P**	**14 21 37.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**82.12**	**56**	P	**P**	**14 21 39.0**	**+0.1**
	0.9nm,0.4s,baz=226,slow=5.6,SNR=8.1						
CHTO	**Chiang Mai**	**82.39**	**55**	*eP*	**P**	**14 21 40.2**	**-0.2**
	6.9nm,1.3s						
GEYT	**Ailbeck**	**82.64**	**15**	P	**P**	**14 21 42.3**	**+1.0**
	0.9nm,0.6s,baz=246,slow=7.2,SNR=3.6						
BR101	**Keskin Array S**	**82.86**	**355**	*eP*	**P**	**14 21 43.1**	**+0.7**
BRTR	**Keskin Array B**	**82.86**	**355**	P	**P**	**14 21 43.1**	**+0.7**
	0.6nm,0.8s,baz=158,slow=13,SNR=4.1						
MDT	**Midelt**	**85.88**	**324**	LR	LR	15 00 28.9	
	comp=Z,149nm,19.2s,baz=163,slow=36						
GAR	**Garm**	**86.58**	**24**	*eP*	**P**	**14 22 01.7**	**+0.5**
	30nm,1.6s						
KBZ	**Khabaz**	**86.75**	**2**	P	**P**	**14 22 02.4**	**+0.7**
	1.9nm,0.8s,baz=146,slow=3.5,SNR=4.1						
KBZ				LR	LR	14 59 15.1	
	comp=Z,61nm,20.6s,baz=174,slow=35						
MK32	**Makanchi Array**	**97.41**	**28**	*eP*	**P**	**14 22 50.8**	**-0.5**
MKAR	**Makanchi Array**	**97.41**	**28**	P	**P**	**14 22 50.8**	**-0.5**
	0.4nm,0.7s,baz=232,slow=7.1,SNR=4.1						
RES	**Resolute Bay**	**142.67**	**342**	PKP	**PKiKP**	**14 28 51.7**	**-1.4**
	0.9nm,0.8s,baz=192,slow=5.6,SNR=4.2						
435B	**Jarrell**	**143.94**	**264**	*e*PKPdf	PKPbc	14 28 52.2	+0.8
HHAR	**Hobbs**	**143.96**	**275**	*e*PKPpre	PKPpre	14 28 50.5

STKA	**Stephens Creek**	**38.05**	**243**	P		**P**	**14 16 59.6**	**-0.1**
	4.9nm,0.9s,baz=96,slow=8.9,SNR=8.4							
ASAR	**Alice Springs**	**44.60**	**256**	P		**P**	**14 17 51.8**	**+0.3**
	6.1nm,0.8s,baz=86,slow=8.7,SNR=46							
ASAR				PcP		**PcP**	**14 19 21.9**	**+0.8**
	0.8nm,0.4s,baz=105,slow=4.2,SNR=8.9							
WRA	**Warramunga Arr**	**44.61**	**261**	P		**P**	**14 17 51.5**	**-0.1**
	0.6nm,0.3s,baz=96,slow=7.7,SNR=58							
WRA				S		**S**	**14 23 46.5**	**+1.2**
	0.6nm,0.9s,baz=98,slow=14,SNR=3.0							
VNDA	**Vanda**	**58.70**	**185**	P		**P**	**14 19 32.6**	**+0.9**
	4.2nm,1.2s,baz=0.4,slow=6.2,SNR=4.2							
QSPA	**South Pole Qui**	**70.38**	**180**	P		**P**	**14 20 45.4**	**0.0**
	11nm,0.8s,baz=48,slow=0.9,SNR=23							
TXAR	**Lajitas Array**	**86.72**	**57**	P		**P**	**14 22 13.8**	**+1.2**
	0.4nm,0.7s,baz=248,slow=4.8,SNR=2.6							
ILAR	**Eielson Array**	**87.55**	**13**	P		**P**	**14 22 15.4**	**-0.2**
	0.2nm,0.3s,baz=223,slow=5.5,SNR=4.1							
PDAR	**Pinedale Array**	**88.45**	**43**	P		**P**	**14 22 20.8**	**+0.1**
	0.2nm,0.5s,baz=185,slow=3.3,SNR=4.4							
SNAA	**Sanae**	**88.82**	**179**	P		**P**	**14 22 21.6**	**-0.1**
VNA3	**Neumayer Olymp**	**88.95**	**176**	P		**P**	**14 22 21.7**	**-0.6**
VNA2	**Neumayer--Watz**	**89.40**	**177**	P		**P**	**14 22 23.7**	**-0.6**
VNA1	**Neumayer--Stat**	**89.62**	**177**	P		**P**	**14 22 25.1**	**-0.1**
YKA	**Yellowknife Ar**	**95.83**	**25**	P		**P**	**14 22 53.7**	**+0.1**
	0.1nm,0.4s,baz=239,slow=4.8,SNR=2.2							
ARCES	**ARCESS Array B**	**128.11**	**350**	PKP		**PKiKP**	**14 28 29.8**	**0.0**
	4.7nm,0.9s,baz=354,slow=0.9,SNR=4.7							
FINES	**FINESS Array B**	**134.97**	**344**	PKP		**PKiKP**	**14 28 44.2**	**+0.4**
	0.5nm,0.4s,baz=96,slow=2.8,SNR=4.3							
BRTR	**Keskin Array B**	**146.21**	**313**	PKPbc		**PKPab**	**14 29 06.0**	**-1.9**
	0.7nm,0.8s,baz=64,slow=12,SNR=4.1							
GERES	**GERESS Array B**	**149.39**	**345**	PKPbc		**PKiKP**	**14 29 13.1**	**-0.8**
	1.3nm,0.8s,baz=29,slow=3.0,SNR=8.3							
TORD	**Torodi Ar. Bea**	**173.49**	**178**	PKP		**PKPdf**	**14 29 32.6**	**-0.6**
	1.1nm,1.1s,baz=176,slow=4.3,SNR=3.1							
TORD				PKPab		**PKPab**	**14 31 05.8**	**-0.5**
	1.0nm,1.2s,baz=176,slow=4.3,SNR=2.6							

IDC 06 14:22:49.5±1.8, 12°.04N×144°.59E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/53, mbtmp3.4/4, Error ellipse: s-maj=78.9km s-min=18.6km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.57**	**10**	Pn	Pb	14 23 19.4	0.0
	9.2nm,0.3s,baz=170,slow=19,SNR=3.6						
GUMO				Sn	Sn	14 23 39.0	-0.7
	41nm,0.3s,baz=162,slow=20,SNR=14						
H11S3	**WAKE ISLAND Hy**	**22.25**	**71**	T	T	14 51 48.7	
	baz=264,slow=74						
H11S1	**WAKE ISLAND Hy**	**22.27**	**70**	T	T	14 51 41.9	
	baz=264						
H11S2	**WAKE ISLAND Hy**	**22.27**	**71**	T	T	14 51 42.3	
	baz=264,slow=74						
H11N1	**WAKE ISLAND Hy**	**22.75**	**68**	T	T	14 52 16.2	
	baz=256,slow=75						
H11N2	**WAKE ISLAND Hy**	**22.76**	**68**	T	T	14 52 18.4	
	baz=256,slow=75						
H11N3	**WAKE ISLAND Hy**	**22.77**	**68**	T	T	14 52 18.9	
	baz=256,slow=75						
WRA	**Warramunga Arr**	**33.34**	**198**	P	P	14 29 29.5	0.0
	0.5nm,0.6s,baz=21,slow=9.9,SNR=7.9						
ASAR	**Alice Springs**	**36.99**	**196**	P	P	14 30 00.4	-0.5
	0.3nm,0.6s,baz=23,slow=12,SNR=3.0						
SONM	**Songino Array**	**47.85**	**326**	P	P	14 31 27.8	-1.5
	0.2nm,0.4s,baz=108,slow=6.7,SNR=1.6						
BVAR	**Borovoye Array**	**70.97**	**322**	P	P	14 34 10.3	+1.3
	0.2nm,0.4s,baz=108,slow=9.3,SNR=1.9						

*IDC **06** 14:23:07.7±3.2, 18°.64S×71°.02W, h87km±25km, mb3.5/2, mb1 3.6/5, mb1mx3.3/38, mbtmp3.8/5, MS4.2/3, Ms1 4.1/3, ms1mx3.1/33, Error ellipse: s-maj=34.8km s-min=13.8km az=104.0*

ISC 06 14:23:00.6±1.2, 18°.9S±0°.2×71°.3W±0°.1, h35km, n18, σ1§37/10, mb3.8/3, MS4.2/3, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.00**	**50**	P	**Pn**	**14 24 01.7**	**+1.8**
	0.9nm,0.3s,baz=229,slow=3.9,SNR=20						
LPAZ				S	**Sn**	**14 24 45.1**	**-0.8**
	1.2nm,0.3s,baz=31,slow=5.9,SNR=3.3						
LPAZ				LR	LR	14 25 46.9	
	comp=Z,133nm,20.3s,baz=225,slow=44						
LVC	**Limon Verde**	**4.34**	**149**	P	Pn	14 24 12.7	+8.3
	11nm,0.3s,baz=348,slow=8.8,SNR=40						
LVC				S	Sn	14 25 03.4	+9.4
	2.0nm,0.3s,baz=326,slow=18,SNR=1.2						
SIV	**San Ignacio**	**10.20**	**75**	P	**Pn**	**14 25 26.1**	**+1.5**
	0.5nm,0.3s,baz=274,slow=11,SNR=7.6						
SIV				S	**Sn**	**14 27 17.7**	**-0.1**
	0.1nm,0.3s,baz=331,slow=23,SNR=1.1						
RCBR	**Riachuelo**	**36.86**	**74**	P	**P**	**14 30 04.6**	**-1.4**
	42nm,0.8s,baz=242,slow=0.6,SNR=3.4						
DBIC	**Dimbokro**	**70.22**	**75**	LR	LR	15 03 22.6	
	comp=Z,104nm,21.0s,baz=128,slow=35						
TORD	**Torodi Ar. Bea**	**78.66**	**72**	P	**P**	**14 34 58.3**	**-1.3**
	0.5nm,0.4s,baz=254,slow=5.3,SNR=8.7						
YKA	**Yellowknife Ar**	**87.99**	**341**	P	**P**	**14 35 46.0**	**-0.5**
	0.3nm,0.6s,baz=133,slow=4.6,SNR=7.4						
KEST	**Kesra**	**93.57**	**54**	LR	LR	15 20 20.4	
	comp=Z,161nm,18.8s,baz=164,slow=37						
RPZ	**Rata Peaks**	**95.52**	**220**	LR	LR	15 10 40.2	
	comp=Z,89nm,21.9s,baz=198,slow=30						
H11S2	**WAKE ISLAND Hy**	**25.25**	**280**	T	T	16 59 50.7	
	baz=100,slow=75,SNR=31						
H11S1	**WAKE ISLAND Hy**	**25.26**	**280**	T	T	16 59 46.0	
	baz=100,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**25.27**	**280**	T	T	16 59 44.2	
	baz=100,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**25.27**	**281**	T	T	16 59 40.1	
	baz=99,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**25.29**	**281**	T	T	16 59 41.3	
	baz=99,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**25.29**	**281**	T	T	16 59 42.5	
	baz=99,slow=75,SNR=6.1						
WRA	**Warramunga Arr**	**133.93**	**214**	PKP	**PKiKP**	**14 42 18.0**	**+1.7**
	0.6nm,0.9s,baz=136,slow=1.7,SNR=5.2						
MKAR	**Makanchi Array**	**144.74**	**32**	PKP	**PKPdf**	**14 42 33.7**	**-0.1**
	0.2nm,0.6s,baz=348,slow=6.3,SNR=2.2						
SONM	**Songino Array**	**151.06**	**3**	PKPbc	**PKiKP**	**14 42 51.2**	**+0.5**
	0.4nm,0.6s,baz=0.0,slow=2.9,SNR=3.2						

DJA 06 14:41:21.5±1.8, 8°S±13°×107°E±°, h10km, M3.5/3, MLv3.5/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.72**	**66**	P	Pg	14 41 35.1	-0.4
CISI				S	Sb	14 41 46.3	+0.1
SKJI	**Sukabumi**	**1.02**	**325**	P	Pg	14 41 40.4	-0.8
SKJI				S	Sg	14 41 54.5	-0.1
TNG	**Tangerang**	**1.74**	**343**	P	Pn	14 41 52.5	+0.7

*EAF **06** 14:43:45.7±0.9, 27°.94S×23°.89E, h0km±221km, MD3.7*
*BUL **06** 14:43:47.5±1.6, 27°.99S×23°.99E, h0km±218km, MD4.0*

ISC 06 14:43:46.5±5.4, 28°.0S±0°.1×24°.0E±0°.5, h10km, n6, σ0§08/8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**1.27**	**122**	*i* P	**Pn**	**14 44 10.5**	**0.0**
BOSA	**Boshof**	**1.27**	**122**	*i* P	**Pn**	**14 44 10.5**	**0.0**
LBTB	**Lobatse**	**3.24**	**26**	*i* P	**Pn**	**14 44 37.7**	**+0.1**
LBTB				*i* S	**Sn**	**14 45 16.4**	**0.0**
LBTB	**Lobatse**	**3.24**	**26**	*i* P	**Pn**	**14 44 37.7**	**+0.1**
LBTB				*i* S	**Sn**	**14 45 16.4**	**0.0**
MATP	**Matopo**	**8.53**	**30**	*i* P	**Pn**	**14 45 50.1**	**-0.1**
MATP	**Matopo**	**8.53**	**30**	*i* P	**Pn**	**14 45 50.1**	**-0.1**

*IDC **06** 14:46:34.6±0.9, 35°.01N×25°.96E, h0km, mb3.9/15, mb1 4.0/20, mb1mx3.9/50, mbtmp3.9/20, ML3.9/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/47, Error ellipse: s-maj=21.6km s-min=8.7km az=6.0*
*ISCJB **06** 14:46:35.1±0.5, 34°.84N±0°.02×25°.94E±0°.02, h9km±3km, mb4.0/25, MS3.5/1, Error ellipse: s-maj=3.9km s-min=2.6km az=1.2*
*NEIC **06** 14:46:35.7±1.4, 34°.80N×25°.90E, h7km±8km, mb4.1/6, ML3.8(THE), Error ellipse: s-maj=9.8km s-min=5.9km az=188.0*
NEIC Felt at Makry Gialos.
*ISK **06** 14:46:36.1, 34°.98N×25°.91E, h6km, ML3.9/20*
*ATH **06** 14:46:36.1, 34°.96N×25°.96E, h20km±1km, ML3.7/26, Error ellipse: s-maj=1.8km s-min=0.9km az=353.0*
*THE **06** 14:46:36.3, 34°.94N×25°.92E, h0km, ML3.8/14, Error ellipse: s-maj=1.6km s-min=0.6km az=166.0*
*MOS **06** 14:46:37.8±1.5, 34°.88N×25°.86E, h34km, mb4.3/9, Error ellipse: s-maj=10.1km s-min=5.0km az=86.2*
*DDA **06** 14:46:57.7, 35°.95N×27°.10E, h63km±5km, ML3.4*

ISC 06 14:46:36.5±1.0, 34°.94N±0°.03×25°.94E±0°.02, h11km±6km, n208, σ1§64/252, mb4.1/25, 3C-10D, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.29**	**52**	PG	**Pg**	**14 46 42.3**	**-0.1**
ZKR				SG	**Sg**	**14 46 46.9**	**+0.5**
ZKR	**Zakros**	**0.29**	**52**	P	**Pb**	**14 46 42.8**	**-1.0**
ZKR				S	**Sb**	**14 46 47.5**	**-1.1**
ZKR	**Zakros**	**0.29**	**52**	P	**Pg**	**14 46 42.3**	**-0.1**
ZKR				S	**Sb**	**14 46 47.5**	**-1.1**
ZKR	**Zakros**	**0.29**	**52**	P	**Pg**	**14 46 42.4**	**-0.1**
ZKR				S	**Sg**	**14 46 46.4**	**+0.1**
ZKR				AML	AML	14 46 47.8	
	comp=N,35344μm,0.4s						
ZKR				AML	AML	14 46 49.2	
	comp=E,58446μm,0.4s						
STIA	**Sitia Lasithi**	**0.29**	**25**	P	**Pg**	**14 46 42.4**	**-0.1**
STIA				S	**Sb**	**14 46 47.8**	**-0.9**
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**14 46 44.3**	**-0.5**
NPS				S	**Sb**	**14 46 51.7**	**-0.7**
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**14 46 44.3**	**-0.5**
NPS				S	**Sb**	**14 46 51.7**	**-0.7**
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**14 46 44.3**	**-0.5**
NPS				S	**Sb**	**14 46 51.7**	**-0.7**
NPS	**Neapolis**	**0.42**	**321**	P	**Pg**	**14 46 44.4**	**-0.4**
NPS				S	**Sb**	**14 46 51.2**	**-1.2**
NPS				AML	AML	14 46 53.0	
	comp=N,19698μm,0.4s						
NPS				AML	AML	14 46 57.8	
	comp=E,22474μm,0.7s						
LAST	**Lasithi**	**0.44**	**301**	P	**Pg**	**14 46 44.4**	**-0.7**
LAST				S	**Sb**	**14 46 51.8**	**-1.2**
LAST	**Lasithi**	**0.44**	**301**	P	**Pg**	**14 46 44.5**	**-0.7**
LAST				S	**Sb**	**14 46 51.9**	**-1.2**
LAST				AML	AML	14 46 52.1	
	comp=E,15307μm,0.4s						
LAST				AML	AML	14 46 53.0	
	comp=N,19466μm,0.6s						
KSTL	**Kastelli Herak**	**0.80**	**298**	P	Pg	14 46 46.7	-5.3
KSTL				S	**Sg**	**14 46 56.2**	**-6.2**
IACM	**Heraklion**	**0.80**	**298**	P	**Pb**	**14 46 51.8**	**-0.7**
IACM				S	**Sn**	**14 47 05.0**	**-0.7**
IACM	**Heraklion**	**0.80**	**298**	P	**Pb**	**14 46 51.8**	**-0.7**
IACM				S	**Sb**	**14 47 03.6**	**+0.3**
IDI	**Anoyia**	**0.93**	**293**	PG	**Pg**	**14 46 53.6**	**-0.8**
IDI				SG	**Sb**	**14 47 06.7**	**-0.4**
IDI	**Anoyia**	**0.93**	**293**	Pg	**Pg**	**14 46 52.9**	**-1.5**
	comp=N,45nm,0.3s,baz=152,slow=12,SNR=146						
IDI				Lg	Lg	14 47 06.3	
	comp=N,222nm,0.3s,baz=37,slow=20,SNR=43						
TMBK	**Timbaki Herakl**	**0.97**	**278**	P	**Pg**	**14 46 54.4**	**-0.8**
TMBK				S	**Sb**	**14 47 08.6**	**+0.4**
KARP	**Karpathos**	**1.17**	**58**	PN	**Pg**	**14 46 58.4**	**-0.7**
KARP	**Karpathos**	**1.17**	**58**	*e*Pn	**Pg**	**14 46 57.8**	**-1.3**
KARP	**Karpathos**	**1.17**	**58**	P	**Pg**	**14 46 57.8**	**-1.3**
KARP				S	**Sn**	**14 47 14.8**	**-0.1**
KARP	**Karpathos**	**1.17**	**58**	P	**Pg**	**14 46 57.9**	**-1.2**
KARP				AML	AML	14 47 20.9	
	comp=N,8446μm,0.7s						
KARP				AML	AML	14 47 29.0	
	comp=E,7689μm,0.8s						
PRNS	**Prines Rethymn**	**1.25**	**290**	P	**Pg**	**14 47 00.0**	**-0.6**
PRNS				S	**Sn**	**14 47 18.6**	**+1.8**
ANAF	**Anafi Island**	**1.42**	**355**	P	**Pn**	**14 47 02.2**	**-0.2**
ANAF				S	**Sg**	**14 47 22.0**	**-0.4**
ANAF	**Anafi Island**	**1.42**	**355**	P	**Pn**	**14 47 02.2**	**-0.2**
ANAF				S	**Sg**	**14 47 22.3**	**-0.1**
ANAF				AML	AML	14 47 24.4	
	comp=E,29018μm,0.4s						
ANAF				AML	AML	14 47 25.0	
	comp=N,23675μm,0.4s						
SANT	**Santorini**	**1.48**	**345**	PN	**Pn**	**14 47 03.0**	**-0.2**
SANT	**Santorini**	**1.48**	**345**	*e*Pn	**Pn**	**14 47 02.7**	**-0.5**
SANT	**Santorini**	**1.48**	**345**	P	**Pn**	**14 47 02.8**	**-0.4**
SANT				S	**Sg**	**14 47 23.8**	**-0.5**
SANT	**Santorini**	**1.48**	**345**	P	**Pn**	**14 47 03.7**	**-0.5**
SANT				S	**Sg**	**14 47 23.1**	**-1.2**
SANT				AML	AML	14 47 25.6	
	comp=E,11991μm,0.5s						
SANT				AML	AML	14 47 32.8	
	comp=N,4300μm,0.5s						
THR6	**Thira Island,**	**1.48**	**343**	P	**Pn**	**14 47 03.0**	**-0.2**
THR6	**Thira Island,**	**1.48**	**343**	P	**Pb**	**14 47 03.4**	**-0.7**
THR9	**Santorini-Faro**	**1.50**	**342**	P	**Pn**	**14 47 02.9**	**-0.4**
THR9	**Santorini-Faro**	**1.50**	**342**	P	**Pb**	**14 47 04.0**	**-0.3**
VAM	**Vamos**	**1.50**	**289**	P	**Pn**	**14 47 02.6**	**-0.8**
VAM				S	**Sb**	**14 47 23.2**	**-0.2**
VAM	**Vamos**	**1.50**	**289**	P	**Pb**	**14 47 03.6**	**-0.7**
VAM				S	**Sg**	**14 47 25.2**	**+0.5**
VAM				AML	AML	14 47 39.9	
	comp=E,3484μm,0.6s						
VAM				AML	AML	14 47 40.9	
	comp=N,4694μm,0.7s						
THT1	**Athinios (Pele**	**1.50**	**344**	P	**Pb**	**14 47 03.7**	**-0.8**
THT1				S	**Sg**	**14 47 24.4**	**-0.6**
THT1	**Athinios (Pele**	**1.50**	**344**	P	**Pb**	**14 47 04.1**	**-0.3**
THT1				AML	AML	14 47 25.6	
	comp=E,3806μm,0.5s						
THT1				AML	AML	14 47 32.5	
	comp=N,4823μm,0.7s						
GVD	**Gavdhos**	**1.52**	**267**	P	**Pb**	**14 47 04.2**	**-0.6**
GVD				S	**Sg**	**14 47 25.1**	**-0.5**
GVD	**Gavdhos**	**1.52**	**267**	P	**Pb**	**14 47 04.7**	**-0.1**
GVD				S	**Sg**	**14 47 25.8**	**+0.3**
GVD				AML	AML	14 47 37.4	
	comp=N,3929μm,0.6s						
GVD				AML	AML	14 47 41.9	
	comp=E,4947μm,0.6s						
THR3	**Thira Island,**	**1.53**	**344**	P	**Pn**	**14 47 03.9**	**+0.1**
THR3	**Thira Island,**	**1.53**	**344**	P	**Pb**	**14 47 04.1**	**-0.9**
THR5	**Thira Island,**	**1.55**	**342**	P	**Pn**	**14 47 03.7**	**-0.4**
THT2	**Imerovigli**	**1.55**	**344**	P	**Pb**	**14 47 04.6**	**-0.7**
THT2				S	**Sg**	**14 47 25.0**	**-1.5**
THT2	**Imerovigli**	**1.55**	**344**	P	**Pb**	**14 47 05.1**	**-0.2**
THT2				AML	AML	14 47 32.3	
	comp=E,18886μm,0.5s						
THT2				AML	AML	14 47 32.8	
	comp=N,19572μm,0.6s						
THR2	**Thira island,**	**1.56**	**345**	P	**Pn**	**14 47 04.0**	**-0.2**
THR2	**Thira island,**	**1.56**	**345**	P	**Pb**	**14 47 04.5**	**-1.0**
CMBO	**Columbo, Santo**	**1.59**	**344**	P	**Pn**	**14 47 04.8**	**+0.2**
CMBO				S	**Sb**	**14 47 25.6**	**-0.5**
CMBO	**Columbo, Santo**	**1.59**	**344**	P	**Pb**	**14 47 05.5**	**-0.5**
CMBO				S	**Sg**	**14 47 26.7**	**-1.0**
CMBO				AML	AML	14 47 37.8	
	comp=E,6026μm,0.4s						
CMBO				AML	AML	14 47 38.2	
	comp=N,9131μm,0.7s						
AMGA	**Amorgos Island**	**1.89**	**359**	P	**Pn**	**14 47 08.5**	**-0.3**
AMGA				S	**Sb**	**14 47 33.8**	**-1.0**
AMGA	**Amorgos Island**	**1.89**	**359**	P	**Pn**	**14 47 08.6**	**-0.3**
AMGA				AML	AML	14 47 39.3	
	comp=N,3382μm,0.6s						
AMGA				AML	AML	14 47 41.9	
	comp=E,3140μm,0.9s						
NISR	**Nisiros**	**1.93**	**30**	P	**Pn**	**14 47 10.3**	**+1.0**
NISR				S	**Sb**	**14 47 36.0**	**+0.1**
NISR	**Nisiros**	**1.93**	**30**	P	**Pn**	**14 47 09.5**	**+0.2**
NISR				AML	AML	14 47 50.3	
	comp=E,5134μm,1.1s						
NISR				AML	AML	14 47 54.2	
	comp=N,3487μm,0.7s						
KERA	**Keramoti**	**2.00**	**283**	P	**Pn**	**14 47 10.7**	**+0.5**
KERA				AML	AML	14 47 55.5	
	comp=N,1888μm,0.7s						
KERA				AML	AML	14 47 59.0	
	comp=E,2209μm,0.6s						
MHLO	**Agia Marina, M**	**2.15**	**325**	P	**Pn**	**14 47 12.2**	**-0.1**
MHLO				S	**Sn**	**14 47 40.0**	**+1.0**
MHLO	**Agia Marina, M**	**2.15**	**325**	P	**Pn**	**14 47 12.3**	**-0.1**
MHLO				AML	AML	14 47 54.6	
	comp=N,4897μm,0.6s						
MHLO				AML	AML	14 48 00.1	
	comp=E,5569μm,0.7s						
APE	**Apeiranthos**	**2.15**	**351**	PN	**Pn**	**14 47 12.6**	**+0.2**
APE	**Apeiranthos**	**2.15**	**351**	P	**Pn**	**14 47 12.2**	**-0.2**
APE				S	**Sn**	**14 47 39.5**	**+0.3**
APE	**Apeiranthos**	**2.15**	**351**	*e*P	**Pn**	**14 47 12.4**	**-0.1**
APE	**Apeiranthos**	**2.15**	**351**	P	**Pn**	**14 47 12.3**	**-0.1**
APE				AML	AML	14 47 51.0	
	comp=N,1277μm,0.5s						
APE				AML	AML	14 47 51.8	
	comp=E,1144μm,0.5s						
MHLA	**Plaka, Milos I**	**2.19**	**326**	P	**Pb**	**14 47 14.5**	**-1.6**
MHLA				AML	AML	14 48 05.9	
	comp=N,2793μm,1.2s						
MHLA				AML	AML	14 48 07.3	
	comp=E,2236μm,0.9s						
ARG	**Arkhangelos**	**2.19**	**54**	PN	**Pn**	**14 47 13.8**	**+0.9**
ARG	**Arkhangelos**	**2.19**	**54**	P	**Pb**	**14 47 15.0**	**-1.2**
ARG	**Arkhangelos**	**2.19**	**54**	P	**Pn**	**14 47 14.3**	**+1.4**
ARG				AML	AML	14 47 53.2	
	comp=E,1575μm,0.5s						
ARG				AML	AML	14 47 56.6	
	comp=N,1619μm,0.6s						
DAT	**Datca**	**2.23**	**36**	PN	**Pn**	**14 47 13.9**	**+0.4**
DAT	**Datca**	**2.23**	**36**	*i* P	**Pb**	**14 47 15.3**	**-1.6**
ANKY	**Antikythira Is**	**2.35**	**294**	P	**Pn**	**14 47 16.1**	**+1.1**
ANKY	**Antikythira Is**	**2.35**	**294**	P	**Pn**	**14 47 16.2**	**+1.1**
ANKY				AML	AML	14 47 58.7	
	comp=N,1109μm,1.3s						
ANKY				AML	AML	14 48 06.0	
	comp=E,1503μm,0.8s						
BODT	**Bodrum**	**2.40**	**27**	PN	**Pn**	**14 47 16.3**	**+0.6**
BODT	**Bodrum**	**2.40**	**27**	P	**Pn**	**14 47 17.0**	**+1.3**
BDRM	**Kayabasi**	**2.45**	**29**	*i* P	**Pb**	**14 47 19.3**	**-1.3**
SERI	**Serifos**	**2.51**	**332**	P	**Pn**	**14 47 17.6**	**+0.2**
SERI				AML	AML	14 48 06.1	
	comp=E,342μm,0.7s						
SERI				AML	AML	14 48 06.2	
	comp=N,419μm,0.5s						
KYTH	**Kithira**	**2.70**	**300**	P	**Pn**	**14 47 22.0**	**+2.0**
KYTH				AML	AML	14 48 10.7	
	comp=N,810μm,1.1s						
KYTH				AML	AML	14 48 24.6	
	comp=E,894μm,0.9s						
KTHR	**Kythira**	**2.73**	**300**	P	**Pn**	**14 47 21.1**	**+0.8**
SMG	**Samos**	**2.86**	**14**	P	**Pn**	**14 47 22.2**	**+0.1**
SMG	**Samos**	**2.86**	**14**	P	**Pn**	**14 47 22.3**	**+0.1**
DALY	**Dalyan (Mula)**	**2.90**	**49**	PN	**Pn**	**14 47 23.8**	**+1.2**
DALY	**Dalyan (Mula)**	**2.90**	**49**	*i* P	**Pb**	**14 47 26.0**	**-2.2**
DALY				*i* S	**Sb**	**14 48 01.5**	**-2.1**
DALY				IAML_P			
	comp=Z,1μm,0.3s						
TURN	**Turunc**	**2.90**	**47**	PN	**Pn**	**14 47 19.7**	**-2.9**
TURN	**Turunc**	**2.90**	**47**	*i* P	**Pn**	**14 47 20.4**	**-2.2**
TURN				*i* S	**Sn**	**14 47 54.6**	**-3.1**
YER	**Yerkesik**	**2.90**	**40**	PN	**Pn**	**14 47 23.6**	**+0.9**
YER	**Yerkesik**	**2.90**	**40**	P	**Pn**	**14 47 24.4**	**+1.7**
VLI	**Veliai**	**3.02**	**307**	P	**Pn**	**14 47 24.9**	**+0.6**
VLI	**Veliai**	**3.02**	**307**	P	**Pn**	**14 47 25.0**	**+0.7**
VLI				AML	AML	14 48 08.4	
	comp=N,577μm,0.6s						
VLI				AML	AML	14 48 22.4	
	comp=E,602μm,1.1s						
FETY	**Fethiye**	**3.07**	**56**	PN	**Pn**	**14 47 26.2**	**+1.2**
FETY	**Fethiye**	**3.07**	**56**	P	**Pn**	**14 47 24.7**	**-0.3**
FETY	**Fethiye**	**3.07**	**56**	*i* P	**Pn**	**14 47 26.8**	**+1.8**
FETY				*i* S	**Sb**	**14 48 08.3**	**-0.3**
AYDN	**Tasoluk**	**3.14**	**29**	*i* P	**Pb**	**14 47 29.1**	**-3.2**
AYDN				*i* S	**Sn**	**14 48 05.6**	**+3.0**
DGB	**zmir**	**3.20**	**13**	*i* P	**Pn**	**14 47 27.9**	**+1.1**
DGB				*i* S	**Sn**	**14 48 05.5**	**+0.6**
DGB				IAML_P			
	comp=Z,552nm,0.2s						
KSL	**Kastellorizon**	**3.21**	**67**	P	**Pn**	**14 47 28.1**	**+1.2**
AKAS	**Kas**	**3.26**	**66**	PN	**Pn**	**14 47 28.9**	**+1.2**
KRND	**KRANIDI**	**3.33**	**318**	P	**Pn**	**14 47 29.6**	**+1.1**
ZEY	**zmir**	**3.33**	**8**	*i* P	**Pn**	**14 47 28.3**	**-0.2**
ZEY				*i* S	**Sb**	**14 48 11.8**	**-4.2**
ZEY				IAML_P			
	comp=Z,896nm,0.4s						
DID	**Didima**	**3.37**	**320**	P	**Pn**	**14 47 29.7**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**3.39**	**27**	PN	**Pn**	**14 47 30.4**	**+0.9**
CHOS	**Chios island**	**3.45**	**2**	PN	**Pn**	**14 47 30.8**	**+0.6**
URLA	**Izmir**	**3.46**	**9**	PN	**Pn**	**14 47 30.8**	**+0.4**
URLA	**Izmir**	**3.46**	**9**	*i* P	**Pn**	**14 47 30.7**	**+0.4**
URLA				*i* S	**Sn**	**14 48 14.8**	**+3.5**
URLA				IAML_P			
	comp=Z,2μm,0.4s						
TAVA	**DENIZLI_Tavas**	**3.49**	**43**	*i* P	**Pn**	**14 47 33.6**	**+2.8**
TAVA				*i* S	**Sn**	**14 48 15.6**	**+3.5**
BLCB	**Balcova**	**3.56**

MLR	**Muntele Rosu**	**10.54**	**0**	Pn		**Pn**	**14 49 07.3**	**-0.4**
	baz=162,slow=16,SNR=1.8							
AQU	**L'Aquila**	**12.28**	**311**	*e*Pn		**Pn**	**14 49 33.3**	**+2.0**
AQU	**L'Aquila**	**12.28**	**311**	*e*P		**Pn**	**14 49 33.3**	**+2.0**
BUR08	**Bucovina Ar. S**	**12.71**	**358**	*e*Pn		**Pn**	**14 49 38.2**	**+1.0**
ANN	**Anapa**	**13.21**	**38**	*e*P		**Pn**	**14 49 45.2**	**+1.2**
ANN				*e*S		**Sn**	**14 52 14.8**	**+3.9**
ANN				pmax	pmax			
	comp=Z,13nm,1.0s							
SIRT	**Sirnak**	**13.57**	**74**	*e*Pn		**Pn**	**14 49 51.5**	**+2.4**
PSZ	**Piszkesteto**	**13.73**	**343**	*e*Pn		**Pn**	**14 49 55.3**	**+4.1**
PSZ	**Piszkesteto**	**13.73**	**343**	*e*P		**Pn**	**14 49 55.3**	**+4.1**
KIV	**Kislovodsk**	**15.74**	**50**	*e*P		**Pn**	**14 50 19.9**	**+1.7**
KIV				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KIV				MLR	MLR			
	comp=Z,29nm,13.0s							
KVAR	**Kislovodsk Arr**	**15.75**	**50**	Pn		**P**	**14 50 26.3**	**+4.0**
	baz=193,slow=14,SNR=3.0							
KBZ	**Khabaz**	**15.77**	**51**	Pn		**P**	**14 50 23.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=219,slow=6.5,SNR=3.9							
AK11	**Malin Array Si**	**15.91**	**8**	*e*Pn		**P**	**14 50 22.5**	**-1.4**
KIEV	**Kiev**	**15.93**	**8**	*e*Pn		**P**	**14 50 23.5**	**-0.6**
	comp=Z,7.2nm,0.8s							
KIEV	**Kiev**	**15.93**	**8**	*e*P		**P**	**14 50 24.3**	**+0.2**
AKASG	**Malin Array Be**	**15.94**	**8**	Pn		**Pn**	**14 50 21.9**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=203,slow=11,SNR=10							
AKBB	**Malin Array Si**	**15.94**	**8**	*e*Pn		**P**	**14 50 23.4**	**-0.7**
	comp=Z,7.2nm,0.8s							
AKBB	**Malin Array Si**	**15.94**	**8**	*e*P		**P**	**14 50 23.5**	**-0.7**
AKBB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ZEI	**Tsey**	**16.02**	**55**	*e*P		**P**	**14 50 28.7**	**+3.3**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.3s							
NCK	**Nalchik**	**16.11**	**53**⇓	*e*P		**Pn**	**14 50 24.5**	**+1.6**
NCK				pmax	pmax			
	comp=Z,7.0nm,0.3s							
GEA0	**GERESS Array S**	**16.58**	**331**	*e*Pn		**P**	**14 50 32.6**	**+1.1**
GERES	**GERESS Array B**	**16.59**	**331**	Pn		**Pn**	**14 50 29.6**	**+0.5**
	baz=148,slow=15,SNR=3.3							
BNI	**Bardonecchia**	**17.84**	**310**	*e*Pn		**P**	**14 50 48.9**	**+3.3**
	comp=Z,9.7nm,1.2s							
BNI	**Bardonecchia**	**17.84**	**310**	*e*P		**P**	**14 50 48.9**	**+3.3**
BNI				pmax	pmax			
	comp=Z,10.0nm,1.2s							
KLNR	**Kaliningrad**	**20.07**	**350**⇑	*e*P		Pn	14 51 11.4	-0.1
WLF	**Walferdange**	**20.66**	**321**	⇓P		**P**	**14 51 16.7**	**+0.5**
MEM	**Membach**	**21.33**	**323**	⇓P		**P**	**14 51 23.9**	**+0.5**
VSU	**Vasula**	**23.54**	**1**⇓	*e*P		**P**	**14 51 47.1**	**+0.6**
VSU				pmax	pmax			
	comp=Z,55nm,1.3s							
ESDC	**Sonseca Array**	**24.19**	**290**	P		**P**	**14 51 52.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=82,slow=9.7,SNR=5.9							
GEYT	**Ailbeck**	**25.99**	**74**	P		**P**	**14 52 09.0**	**-0.4**
	comp=Z,2.9nm,0.6s,baz=292,slow=9.4,SNR=6.7							
FINES	**FINESS Array B**	**26.53**	**0**	P		**P**	**14 52 12.0**	**-1.9**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.8s							
FINES	**FINESS Array B**	**26.53**	**0**	P		**P**	**14 52 12.0**	**-1.9**
	comp=Z,1.5nm,0.8s,baz=195,slow=26,SNR=3.0							
NOA	**NORSAR Array B**	**27.78**	**345**	P		**P**	**14 52 22.9**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=151,slow=17,SNR=2.0							
AKTO	**Aktyubinsk**	**27.94**	**46**	P		**P**	**14 52 26.3**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=240,slow=9.1,SNR=3.7							
EKA	**Eskdalemuir Ar**	**28.59**	**325**	P		**P**	**14 52 31.9**	**-0.6**
	comp=Z,31nm,0.3s,baz=118,slow=9.1,SNR=4.8							
ABKAR	**Akbulak array**	**28.73**	**50**	*e*P		**P**	**14 52 34.5**	**+0.8**
TOA0	**Torodi Ar. Sit**	**30.84**	**231**	*e*P		**P**	**14 52 53.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**30.84**	**231**	P		**P**	**14 52 52.7**	**0.0**
	comp=Z,1.0nm,0.5s,baz=36,slow=8.2,SNR=8.4							
TORD				LR		LR	15 06 47.2	
	comp=Z,110nm,18.4s,baz=75,slow=39							
ARU	**Arti**	**30.86**	**36**⇓	*e*P		**P**	**14 52 56.0**	**+3.5**
ARU				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ARCES	**ARCESS Array B**	**34.65**	**360**	P		**P**	**14 53 23.2**	**-2.3**
	comp=Z,4.5nm,1.1s,baz=176,slow=7.9,SNR=5.2							
BRVK	**Borovoye**	**35.99**	**46**	*e*P		**P**	**14 53 37.8**	**+0.6**
BRVK	**Borovoye**	**35.99**	**46**⇓	*e*P		**P**	**14 53 39.1**	**+1.9**
BRVK				pmax	pmax			
	comp=Z,6.0nm,2.7s							
AAK	**Ala-Archa**	**38.19**	**63**⇑	*e*P		**P**	**14 53 58.4**	**+2.1**
KSH	**Kashi**	**39.69**	**68**	*e*P		**P**	**14 54 06.6**	**-2.3**
KSH				PcP		**PcP**	**14 56 14.8**	**-0.7**
KSH				S		**S**	**15 00 08.1**	**-4.3**
KSH				pmax	pmax			
	comp=Z,190nm,5.7s							
KURK	**Kurchatov**	**40.83**	**51**	*e*P		**P**	**14 54 18.3**	**+0.3**
	comp=Z,3.5nm,0.6s							
KURK	**Kurchatov**	**40.83**	**51**⇑	*e*P		**P**	**14 54 18.4**	**+0.4**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MAKZ	**Makanchi**	**43.15**	**56**	*e*P		**P**	**14 54 37.4**	**+0.3**
	comp=Z,12nm,1.9s							
MAKZ	**Makanchi**	**43.15**	**56**	*e*P		**P**	**14 54 37.4**	**+0.3**
MAKZ				pmax	pmax			
	comp=Z,12nm,1.9s							
MK31	**Makanchi Array**	**43.37**	**56**	*e*P		**P**	**14 54 39.2**	**+0.4**
MK31	**Makanchi Array**	**43.37**	**56**	*e*P		**P**	**14 54 39.2**	**+0.4**
MKAR	**Makanchi Array**	**43.37**	**56**	*e*P		**P**	**14 54 39.3**	**+0.5**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
MKAR	**Makanchi Array**	**43.37**	**56**	P		**P**	**14 54 38.8**	**0.0**
	comp=Z,3.5nm,0.5s,baz=284,slow=6.5,SNR=21							
MK01	**Makanchi Array**	**43.37**	**56**	*e*P		**P**	**14 54 39.2**	**+0.3**
ZAA0	**Zalesovo Array**	**44.70**	**46**	*e*P		**P**	**14 54 50.2**	**+0.9**
	comp=Z,2.2nm,0.5s							
ZALV	**Zalesovo Beam**	**44.70**	**46**	*e*P		**P**	**14 54 48.6**	**-0.8**
ZALV	**Zalesovo Beam**	**44.70**	**46**	P		**P**	**14 54 48.7**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=258,slow=10,SNR=8.2							
WMQ	**Urumqi**	**47.56**	**60**	*e*P		**P**	**14 55 14.7**	**+2.5**
GTA	**Gaotai**	**57.50**	**62**	*e*P		**P**	**14 56 29.1**	**+3.1**
GTA				pP		sP	14 56 33.8	+3.2
GTA				sP		pP	14 56 36.9	+7.6
GTA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**59.13**	**51**	P		**P**	**14 56 37.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=291,slow=7.1,SNR=4.7							
ULN	**Ulaanbaatar**	**59.54**	**51**⇓	*e*P		**P**	**14 56 40.9**	**+0.8**
ULN				pmax	pmax			
	comp=Z,7.0nm,2.7s							
SCHQ	**Schefferville**	**63.77**	**320**	P		**P**	**14 57 08.0**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=61,slow=12,SNR=3.6							
HHC	**Hu-ho-hao-te**	**65.23**	**56**	*e*P		**P**	**14 57 17.8**	**-0.4**
HHC				pmax	pmax			
	comp=Z,6.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,170nm,5.1s							
KLR	**Kul'dur**	**73.52**	**41**⇓	*e*P		**P**	**14 58 10.3**	**+1.1**
USRK	**Ussuriysk Ar.**	**76.55**	**45**	P		**P**	**14 58 26.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=329,slow=4.6,SNR=3.9							
YKA	**Yellowknife Ar**	**77.86**	**342**	P		**P**	**14 58 32.3**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=29,slow=5.4,SNR=4.4							
ILAR	**Eielson Array**	**80.46**	**357**	P		**P**	**14 58 47.1**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=346,slow=3.5,SNR=4.0							
PDAR	**Pinedale Array**	**92.63**	**329**	P		**P**	**14 59 46.8**	**-1.9**
	comp=Z,0.3nm,0.8s,baz=72,slow=5.8,SNR=3.2							

*IDC **06** 14:53:56.6±1.1, 14°.28N×93°.58W, h0km, mb3.9/9, mb1 4.1/12, mb1mx3.9/40, mbtmp3.9/12, ML3.4/3, MS3.7/4, Ms1 3.7/4, ms1mx2.9/38, Error ellipse: s-maj=29.7km s-min=14.7km az=27.0*

*ISCJB **06** 14:53:59.7±0.6, 14°.43N±0°.05×93°.73W±0°.04, h36km, mb4.1/13, Error ellipse: s-maj=7.1km s-min=4.7km az=23.0*

*MEX **06** 14:54:00.1±0.5, 14°.33N×93°.75W, h28km±13km, MD4.0*

*NEIC **06** 14:54:00.0±0.0, 14°.33N×93°.75W, h29km, mb4.3/8, MD4.0(MEX), After MEX.*

ISC 06 14:54:01.2±0.7, 14°.35N±0°.06×93°.70W±0°.04, h36km, n44, σ2^{9}05/56, mb4.1/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**1.42**	**19**	*e*P		**Pn**	**14 54 22.6**	**-1.9**
PCIG				*e*S		**Sn**	**14 54 39.2**	**-2.8**
PCIG		**1.42**	**19**	*e*P		**Pn**	**14 54 22.6**	**-1.9**
PCIG				*e*S		**Sn**	**14 54 39.2**	**-2.8**
THIG		**1.50**	**68**	*i* P		**Pn**	**14 54 23.5**	**-2.0**
THIG				*e*S		**Sn**	**14 54 42.3**	**-1.5**
THIG		**1.50**	**68**	*i* P		**Pn**	**14 54 23.5**	**-2.0**
THIG				*e*S		**Sn**	**14 54 42.3**	**-1.5**
CCIG	**Comitan**	**2.44**	**38**	*e*Pn		**Pn**	**14 54 39.2**	**+0.4**
CCIG				*i* S		**Sn**	**14 55 06.3**	**-1.1**
CCIG	**Comitan**	**2.44**	**38**	*e*P		**Pn**	**14 54 37.1**	**-1.6**
CCIG				*i* S		**Sn**	**14 55 06.3**	**-1.1**
HUIG	**Huatulco**	**2.72**	**302**	*i* P		**Pn**	**14 54 40.1**	**-2.2**
HUIG				*i* S		**Sn**	**14 55 11.2**	**-2.7**
HUIG	**Huatulco**	**2.72**	**302**	*i* P		**Pn**	**14 54 40.1**	**-2.2**
HUIG				*i* S		**Sn**	**14 55 11.2**	**-2.7**
CMIG	**Matias Romero**	**2.95**	**337**	*i* P		**Pn**	**14 54 43.8**	**-1.8**
CMIG				*i* S		**Sn**	**14 55 16.4**	**-3.3**
CMIG	**Matias Romero**	**2.95**	**337**	Pn		**Pn**	**14 54 45.1**	**-0.5**
	4.8nm,0.3s,baz=155,slow=11,SNR=33							
CMIG				LR		LR	14 55 16.6	
	comp=Z,61nm,21.0s,baz=296,slow=26							
CMIG				Sn		**Sn**	**14 55 18.3**	**-1.4**
	6.9nm,0.3s,baz=132,slow=14,SNR=6.4							
CMIG				Lg		Lg	14 55 27.2	
	14nm,0.3s,baz=138,slow=23,SNR=8.1							
APG	**El Apazote**	**3.20**	**78**	Pn		**Pn**	**14 54 48.5**	**-0.7**
	2.5nm,0.3s,baz=306,slow=10,SNR=20							
APG				Sn		**Sn**	**14 55 19.8**	**-6.4**
	4.8nm,0.3s,baz=319,slow=11,SNR=8.4							
APG				Lg		Lg	14 55 34.5	
	8.5nm,0.3s,baz=345,slow=17,SNR=6.1							
TUIG	**Tuzandepetl**	**3.73**	**349**	*i* P		**Pn**	**14 54 54.5**	**-1.7**
TUIG				*i* S		**Sn**	**14 55 35.8**	**-3.1**
TUIG	**Tuzandepetl**	**3.73**	**349**	*i* P		**Pn**	**14 54 54.5**	**-1.7**
TUIG				*i* S		**Sn**	**14 55 35.8**	**-3.1**
VHO	**Vista Hermosa**	**3.98**	**313**	*i* P		**Pn**	**14 54 57.8**	**-2.1**
VHO				*i* S		**Sn**	**14 55 42.3**	**-3.1**
VHO	**Vista Hermosa**	**3.98**	**313**	*i* P		**Pn**	**14 54 57.8**	**-2.1**
VHO				*i* S		**Sn**	**14 55 42.3**	**-3.1**
LVIG	**Laguna Verde**	**5.94**	**334**	*e*Pn		**Pn**	**14 55 24.7**	**-1.9**
TEIG	**Tepich**	**7.81**	**41**	*e*Pn		**Pn**	**14 55 50.3**	**-2.0**
HKT	**Hockley**	**15.65**	**353**	*e*Pn		**Pn**	**14 57 40.5**	**+1.5**
	21nm,1.6s							
TXAR	**Lajitas Array**	**17.53**	**330**	P		**P**	**14 58 04.2**	**+0.5**
	0.1nm,0.3s,baz=156,slow=11,SNR=5.8							
TX31	**Lajitas Ar. Si**	**17.53**	**330**	*e*Pn		**P**	**14 58 05.7**	**+2.0**
352A	**Blakely**	**18.85**	**24**	*e*P		**Pn**	**14 58 18.8**	**-0.1**
	209nm,1.6s							
MNTX	**Cornudas Mount**	**20.31**	**330**	*e*P		Pn	14 58 36.9	+0.6
	3.0nm,0.9s							
ROSC	**El Rosal**	**21.30**	**114**	*e*P		**P**	**14 58 44.3**	**-1.0**
	18nm,1.1s							
ROSC	**El Rosal**	**21.30**	**114**	P		**P**	**14 58 44.9**	**-0.5**
	8.7nm,0.3s,baz=241,slow=19,SNR=4.6							
TKL	**Tuckaleechee C**	**23.02**	**21**	*e*P		**P**	**14 59 03.5**	**+0.4**
	65nm,1.8s							
TKL	**Tuckaleechee C**	**23.02**	**21**	LR		LR	15 07 58.7	
	comp=Z,46nm,21.7s,baz=320,slow=37							
SDV	**Santo Domingo**	**23.23**	**101**	P		**P**	**14 59 05.4**	**-0.2**
	2.7nm,0.6s,baz=250,slow=15,SNR=4.4							
TUC	**Tucson**	**23.72**	**322**	*e*P		**P**	**14 59 12.6**	**+2.5**
	4.1nm,1.0s							
PDAR	**Pinedale Array**	**31.44**	**337**	P		**P**	**15 00 21.8**	**+2.4**
	0.7nm,0.9s,baz=131,slow=11,SNR=4.2							
NVAR	**Mina Array Bea**	**32.37**	**322**	P		**P**	**15 00 30.6**	**+2.9**
	0.7nm,0.6s,baz=122,slow=7.7,SNR=3.9							
F10A	**Beach Ranch, E**	**37.23**	**333**	*e*P		**P**	**15 01 10.7**	**+1.4**
	3.4nm,0.9s							
LPAZ	**La Paz**	**39.56**	**139**	P		**P**	**15 01 28.1**	**-1.7**
	0.6nm,0.7s,baz=274,slow=19,SNR=3.0							
LPAZ				LR		LR	15 16 57.0	
	comp=Z,64nm,19.8s,baz=124,slow=35							
YKA	**Yellowknife Ar**	**50.32**	**348**	P		**P**	**15 02 55.1**	**+1.0**
	1.9nm,0.6s,baz=154,slow=7.3,SNR=28							
YKA				PcP		**PcP**	**15 04 13.3**	**+0.9**
	0.2nm,0.7s,baz=152,slow=4.1,SNR=2.9							
YKB5	**Yellowknife Ar**	**50.32**	**348**	*e*P		**P**	**15 02 54.2**	**+0.1**
SPB	**Sao Paulo**	**58.90**	**129**	*e*P		**P**	**15 03 57.6**	**+0.7**
	45nm,0.7s							
ILAR	**Eielson Array**	**61.87**	**337**	P		**P**	**15 04 18.1**	**+1.5**
	0.8nm,0.8s,baz=141,slow=4.9,SNR=10							
ILB	**Eielson Array**	**61.87**	**337**	*e*P		**P**	**15 04 17.2**	**+0.6**
	11nm,1.7s							
ESDC	**Sonseca Array**	**80.79**	**51**	P		**P**	**15 06 11.5**	**+0.1**
	0.4nm,0.3s,baz=298,slow=5.7,SNR=3.9							
NB200	**NORSAR Array S**	**84.62**	**28**	*e*P		**P**	**15 06 31.0**	**+0.1**
NOA	**NORSAR Array B**	**84.62**	**28**	P		**P**	**15 06 31.0**	**+0.1**
	1.2nm,0.8s,baz=291,slow=4.8,SNR=3.8							
HFS	**Hagfors**	**86.09**	**29**	LR		LR	15 43 04.1	
	comp=Z,52nm,18.1s,baz=186,slow=34							
KEST	**Kesra**	**92.00**	**52**	LR		LR	15 44 51.5	
	comp=Z,112nm,18.8s,baz=227,slow=33							
CM31	**Chiang Mai Arr**	**145.10**	**339**	*e*PKPbc		**PKPdf**	**15 13 35.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**145.10**	**339**	PKPbc		**PKPdf**	**15 13 36.5**	**+0.7**
	1.6nm,0.9s,baz=358,slow=2.8,SNR=9.6							

*IDC **06** 14:59:37.5±1.2, 20°.52S×168°.91E, h0km, mb4.0/8, mb1 4.2/9, mb1mx3.9/29, mbtmp4.0/9, ML3.9/1, MS3.6/3, Ms1 3.5/3, ms1mx3.1/24, Error ellipse: s-maj=40.0km s-min=24.2km az=149.0*

*ISCJB **06** 14:59:40.7±0.7, 20°.49S±0°.09×168°.8E±0°.1, h31km, mb4.1/12, MS3.5/3, Error ellipse: s-maj=19.1km s-min=7.4km az=37.2*

*NEIC **06** 14:59:40.8±6.9, 20°.54S×168°.90E, h24km±48km, mb4.5/3, Error ellipse: s-maj=26.6km s-min=16.8km az=185.0*

ISC 06 14:59:41.7±0.8, 20°.65S±0°.1×168°.9E±0°.1, h31km, n23, σ1^{9}32/25, mb4.0/12, MS3.4/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.21**	**224**	*e*Pn		**Pn**	**15 00 02.0**	**-0.4**
MARNC				*e*Sn		**Sn**	**15 00 16.8**	**-1.0**
PINNC	**Pines Island,**	**2.43**	**214**	*e*Pn		**Pn**	**15 00 20.1**	**+0.9**
OUENC	**Ouen Island, N**	**2.65**	**227**	*e*Pn		**Pn**	**15 00 23.0**	**+0.6**
DZM	**Mont Dzumac**	**2.74**	**237**	Pn		**Pn**	**15 00 23.0**	**-0.6**
	19nm,0.3s,baz=113,slow=12,SNR=92							
DZM				Sn		**Sn**	**15 00 53.5**	**-2.2**
	52nm,0.3s,baz=101,slow=23,SNR=11							
CTA	**Charters Tower**	**21.26**	**267**	P		**P**	**15 04 29.0**	**+3.4**
	4.1nm,0.8s,baz=65,slow=19,SNR=3.4							
STKA	**Stephens Creek**	**26.89**	**240**	*e*P		**P**	**15 05 19.6**	**-0.4**
	0.8nm,0.8s							
STKA	**Stephens Creek**	**26.89**	**240**	P		**P**	**15 05 21.8**	**+1.9**
	2.5nm,0.9s,baz=77,slow=12,SNR=4.9							
STKA				LR		LR	15 15 20.7	
	comp=Z,86nm,18.1s,baz=120,slow=35							
WR1	**Warramunga Arr**	**32.42**	**265**	*e*P		**P**	**15 06 08.2**	**-1.0**
	38nm,1.9s							
WRA	**Warramunga Arr**	**32.42**	**265**	P		**P**	**15 06 08.2**	**-1.0**
	1.0nm,0.9s,baz=95,slow=8.4,SNR=6.7							
WRA				LR		LR	15 18 33.1	
	comp=Z,89nm,21.3s,baz=210,slow=35							
AS31	**Alice Springs**	**32.53**	**258**	*e*P		**P**	**15 06 09.6**	**-0.6**
	1.9nm,0.8s							
ASAR	**Alice Springs**	**32.53**	**258**	P		**P**	**15 06 09.9**	**-0.2**
	2.3nm,0.7s,baz=80,slow=8.8,SNR=39							
ASAR				LR		LR	15 19 46.8	
	comp=Z,108nm,18.2s,baz=98,slow=37							
FITZ	**Fitzroy Crossi**	**40.83**	**266**	*e*P		**P**	**15 07 21.1**	**+0.3**
	9.3nm,1.1s							
FITZ	**Fitzroy Crossi**	**40.83**	**266**	P		**P**	**15 07 20.9**	**0.0**
	4.8nm,0.9s,baz=94,slow=9.5,SNR=7.5							
QSPA	**South Pole Qui**	**69.46**	**180**	P		**P**	**15 10 47.8**	**+0.9**
	1.8nm,1.0s,baz=0.0,slow=10,SNR=2.5							
CMAR	**Chiang Mai Arr**	**78.80**	**295**	P		**P**	**15 11 43.5**	**+1.5**
	0.5nm,0.3s,baz=139,slow=5.6,SNR=2.6							
SONA0	**Songino Array**	**88.13**	**323**	*e*P		**P**	**15 12 29.0**	**-0.4**
SONM	**Songino Array**	**88.13**	**323**	P		**P**	**15 12 29.0**	**-0.4**
	0.4nm,0.7s,baz=135,slow=7.0,SNR=4.2							
NV01	**Mina Array Sit**	**89.92**	**49**	*e*P		**P**	**15 12 37.7**	**-0.6**
NVAR	**Mina Array Bea**	**89.92**	**49**	P		**P**	**15 12 38.1**	**-0.1**
	0.4nm,0.5s,baz=237,slow=7.4,SNR=3.0							
FYU	**Fort Yukon**	**93.42**	**17**	*e*P		**P**	**15 12 53.4**	**-0.1**
	31nm,0.9s							
BG3	**Lake Jocassee**	**116.05**	**60**	*e*PKPdf		**PKPdf**	**15 18 20.1**	**-1.8**
GEC2	**GERESS Array S**	**145.54**	**331**	*e*PKPdf		**PKPab**	**15 19 17.7**	**+0.5**
GERES	**GERESS Array B**	**145.54**	**331**	PKPbc		**PKiKP**	**15 19 18.5**	**-2.4**
	0.5nm,0.5s,baz=20,slow=3.2,SNR=3.4							

*ISCJB **06** 15:06:16.9±0.6, 43°.4S±0°.2×40°.6E±0°.2, h10km, mb4.0/13, Error ellipse: s-maj=29.8km s-min=10.9km az=135.3*

*IDC **06** 15:06:17.5±0.7, 43°.34S×40°.72E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/28, mbtmp4.0/11, ML3.5/1, Error ellipse: s-maj=33.9km s-min=17.3km az=51.0*

*NEIC **06** 15:06:18.9±0.5, 43°.35S×40°.70E, h10km, mb4.4/6, Error ellipse: s-maj=25.4km s-min=9.4km az=218.0*

ISC 06 15:06:18.9±0.7, 43°.4S±0°.2×40°.6E±0°.2, h10km, n28, σ0^{9}76/29, mb4.1/13, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOSA	**Boshof**	**19.22**	**315**	P		**P**	**15 10 43.6**	**+0.4**
	0.1nm,0.3s,baz=173,slow=5.7,SNR=3.1							
LBTB	**Lobatse**	**22.07**	**321**	*e*P		**P**	**15 11 13.2**	**-0.8**
	20nm,1.4s							
LBTB	**Lobatse**	**22.07**	**321**	P		**P**	**15 11 13.5**	**-0.5**
	3.9nm,1.0s,baz=180,slow=10,SNR=3.2							
MATP	**Matopo**	**25.03**	**332**	P		**P**	**15 11 42.7**	**-0.6**
	4.0nm,1.0s,baz=166,slow=11,SNR=5.1							
LSZ	**Lusaka**	**29.95**	**335**	*e*P		**P**	**15 12 26.7**	**-0.7**
	6.7nm,1.1s							
LSZ	**Lusaka**	**29.95**	**335**	P		**P**	**15 12 27.1**	**-0.3**
	3.2nm,0.6s,baz=152,slow=7.0,SNR=5.7							
QSPA	**South Pole Qui**	**46.84**	**180**	P		**P**	**15 14 49.0**	**+0.3**
	2.0nm,1.0s,baz=240,slow=1.9,SNR=6.9							
DBIC	**Dimbokro**	**64.60**	**308**	*e*P		**P**	**15 16 56.4**	**-0.1**
	8.6nm,1.2s							
DBIC	**Dimbokro**	**64.60**	**308**	P		**P**	**15 16 56.6**	**+0.1**
	2.9nm,0.8s,baz=178,slow=7.1,SNR=3.6							
TOA0	**Torodi Ar. Sit**	**66.55**	**318**	*e*P		**P**	**15 17 09.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**66.55**	**318**	P		**P**	**15 17 09.5**	**+0.4**
	1.6nm,0.9s,baz=147,slow=3.9,SNR=7.7							
TOA1	**Torodi Ar. Sit**	**66.55**	**318**	*e*P		**P**	**15 17 09.5**	**+0.4**
STKA	**Stephens Creek**	**76.03**	**121**	*e*P		**P**	**15 18 06.5**	**+0.1**
	2.7nm,1.5s							
STKA	**Stephens Creek**	**76.03**	**121**	P		**P**	**15 18 06.0**	**-0.3**
	1.7nm,0.8s,baz=223,slow=6.6,SNR=4.8							
ASAR	**Alice Springs**	**76.42**	**110**	P		**P**	**15 18 09.1**	**+0.3**
	0.5nm,1.0s,baz=87,slow=27,SNR=3.0							
AS31	**Alice Springs**	**76.42**	**110**	*e*P		**P**	**15 18 07.7**	**-1.1**
	1.4nm,1.1s							
WRA	**Warramunga Arr**	**79.19**	**107**	P		**P**	**15 18 22.6**	**-1.7**
	0.5nm,1.0s,baz=220,slow=4.2,SNR=3.6							
WR1	**Warramunga Arr**	**79.20**	**107**	*e*P		**P**	**15 18 22.6**	**-1.7**
	41nm,1.8s							
CMAR	**Chiang Mai Arr**	**81.48**	**55**	P		**P**	**15 18 38.0**	**+1.6**
	0.6nm,0.3s,baz=206,slow=6.0,SNR=3.6							
BRTR	**Keskin Array B**	**82.96**	**355**	P		**P**	**15 18 43.4**	**-0.4**
	1.0nm,1.0s,baz=188,slow=3.7,SNR=4.2							
BR101	**Keskin Array S**	**82.96**	**355**	*e*P		**P**	**15 18 43.4**	**-0.4**
TXAR	**Lajitas Array**	**148.26**	**256**	PKPbc		**PKiKP**	**15 26 06.1**	**-0.8**
	2.4nm,0.8s,baz=129,slow=5.3,SNR=18							
TX31	**Lajitas Ar. Si**	**148.26**	**256**	*e*PKPbc		**PKPbc**	**15 26 05.4**	**+0.1**
FCC	**Fort Churchill**	**148.36**	**315**	*e*PKPbc		**PKPbc**	**15 26 04.9**	**+0.5**
ULM	**Lac du Bonnet**	**149.79**	**299**	PKPbc		**PKPbc**	**15 26 08.4**	**+0.1**
	1.7nm,0.5s,baz=112,slow=5.4,SNR=4.5							
YKA	**Yellowknife Ar**	**155.99**	**331**	PKP		**PKPdf**	**15 26 13.1**	**+1.0**
	0.4nm,0.9s,baz=11,slow=1.3,SNR=4.5							

*IDC **06** 15:43:07.3±0.5, 43˚.39S×40˚.45E, h0km, mb4.2/17, mb1 4.3/19, mb1mx4.2/40, mbtmp4.2/19, ML3.6/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/35, Error ellipse: s-maj=23.1km s-min=12.9km az=54.0*

*NEIC **06** 15:43:09.7±0.7, 43˚.43S×40˚.37E, h15km±4km, mb4.9/14, Error ellipse: s-maj=9.9km s-min=6.5km az=55.0*

ISC 06 15:43:09.0±0.4, **43˚.42S**±0˚.10×**40˚.3E**±0˚.1, **h10**km, **n73,** σ1s**01/64, mb4.6/24, MS3.9/17, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.90**	**299**	*eP*	**P**	**15 47 31.7**	**+1.9**
SUR	**Sutherland**	**18.90**	**299**	P	**P**	**15 47 30.9**	**+1.1**
	0.2nm,0.3s,baz=139,slow=19,SNR=4.3						
BOSA	**Boshof**	**19.11**	**316**	*eP*	**P**	**15 47 33.4**	**+1.3**
	13nm,1.1s						
BOSA	**Boshof**	**19.11**	**316**	P	**P**	**15 47 31.9**	**-0.2**
	0.1nm,0.3s,baz=143,slow=11,SNR=7.7						
LBTB	**Lobatse**	**21.98**	**322**	*eP*	**P**	**15 48 04.1**	**+0.9**
	60nm,1.8s						
LBTB	**Lobatse**	**21.98**	**322**	P	**P**	**15 48 03.1**	**-0.1**
	4.8nm,0.9s,baz=144,slow=10.0,SNR=4.6						
LBTB				LR	LR	15 55 07.1	
	comp=Z,162nm,19.4s,baz=144,slow=33						
MATP	**Matopo**	**24.98**	**333**	P	**P**	**15 48 31.9**	**-1.0**
	7.0nm,0.8s,baz=164,slow=9.7,SNR=12						
MATP				LR	LR	15 57 17.1	
	comp=Z,169nm,19.0s,baz=164,slow=34						
OPO	**Ambohidratompo**	**25.43**	**15**	LR	LR	15 57 11.2	
	comp=Z,628nm,19.6s,baz=180,slow=33						
MAW	**Mawson**	**27.06**	**161**	*eP*	P	15 48 45.3	-5.9
	86nm,1.9s						
MAW	**Mawson**	**27.06**	**161**	LR	LR	15 57 31.0	
	comp=Z,135nm,18.3s,baz=326,slow=32						
LSZ	**Lusaka**	**29.91**	**336**	*eP*	**P**	**15 49 15.4**	**-1.8**
	9.9nm,0.8s						
LSZ	**Lusaka**	**29.91**	**336**	P	**P**	**15 49 17.2**	**0.0**
	8.8nm,0.8s,baz=160,slow=7.4,SNR=15						
LSZ				LR	LR	15 59 26.1	
	comp=Z,126nm,19.7s,baz=154,slow=33						
TSUM	**Tsumeb**	**30.80**	**314**	*eP*	**P**	**15 49 23.3**	**-1.8**
	18nm,1.5s						
SNAA	**Sanae**	**35.14**	**202**	*eP*	**P**	**15 50 02.5**	**+0.1**
	21nm,1.7s						
SNAA	**Sanae**	**35.14**	**202**	P	**P**	**15 50 02.4**	**+0.1**
	2.4nm,0.9s,baz=36,slow=17,SNR=3.8						
KMBO	**Kilima Mbogo**	**42.20**	**355**	LR	LR	16 05 49.7	
	comp=Z,192nm,21.3s,baz=98,slow=32						
QSPA	**South Pole Qui**	**46.79**	**180**	*eP*	**P**	**15 51 38.0**	**-0.4**
	29nm,1.6s						
QSPA	**South Pole Qui**	**46.79**	**180**	P	**P**	**15 51 38.1**	**-0.4**
	5.8nm,1.0s,baz=236,slow=0.7,SNR=12						
QSPA				LR	LR	16 09 03.4	
	comp=Z,141nm,19.9s,baz=282,slow=33						
VNDA	**Vanda**	**54.15**	**167**	*eP*	**P**	**15 52 34.1**	**+0.4**
VNDA	**Vanda**	**54.15**	**167**	P	**P**	**15 52 34.6**	**+0.9**
	0.3nm,0.3s,baz=243,slow=4.5,SNR=2.4						
VNDA				LR	LR	16 14 07.3	
	comp=Z,96nm,18.4s,baz=282,slow=34						
KIC	**Kosan Boka**	**64.15**	**309**	*eP*	**P**	**15 53 43.7**	**0.0**
	71nm,2.1s						
LIC	**Lamto**	**64.20**	**308**	*eP*	**P**	**15 53 44.0**	**-0.1**
	42nm,1.2s						
DBIC	**Dimbokro**	**64.47**	**309**	*eP*	**P**	**15 53 45.2**	**-0.6**
	15nm,1.2s						
DBIC	**Dimbokro**	**64.47**	**309**	P	**P**	**15 53 45.1**	**-0.6**
	5.0nm,0.7s,baz=139,slow=9.3,SNR=7.1						
TIC	**Toumodi**	**64.54**	**308**	*eP*	**P**	**15 53 46.5**	**+0.2**
TOA0	**Torodi Ar. Sit**	**66.45**	**318**	*eP*	**P**	**15 53 58.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.45**	**318**	P	**P**	**15 53 58.1**	**-0.5**
	4.0nm,0.9s,baz=148,slow=3.7,SNR=19						
TOA1	**Torodi Ar. Sit**	**66.45**	**318**	*eP*	**P**	**15 53 58.1**	**-0.5**
WSAR	**Wadi Sarin**	**68.43**	**18**	LR	LR	16 20 20.8	
	comp=Z,98nm,18.5s,baz=203,slow=33						
FITZ	**Fitzroy Crossi**	**74.44**	**100**	*eP*	**P**	**15 54 46.1**	**-1.4**
	22nm,1.6s						
FITZ	**Fitzroy Crossi**	**74.44**	**100**	P	**P**	**15 54 46.0**	**-1.5**
	3.2nm,1.0s,baz=214,slow=12,SNR=2.5						
PLCA	**Paso Flores**	**75.66**	**227**	*eP*	**P**	**15 54 53.6**	**-0.7**
	74nm,2.0s						
PLCA	**Paso Flores**	**75.66**	**227**	LR	LR	16 22 17.1	
	comp=Z,84nm,19.2s,baz=162,slow=31						
STKA	**Stephens Creek**	**76.17**	**121**	*eP*	**P**	**15 54 56.8**	**-0.6**
	1.2nm,0.9s						
STKA	**Stephens Creek**	**76.17**	**121**	P	**P**	**15 54 56.8**	**-0.6**
	2.3nm,0.6s,baz=213,slow=6.5,SNR=7.1						
ASAR	**Alice Springs**	**76.59**	**110**	P	**P**	**15 54 59.1**	**-0.8**
	0.5nm,0.8s,baz=224,slow=5.2,SNR=4.4						
CPUP	**Vila Florida**	**77.30**	**246**	LR	LR	16 24 11.5	
	comp=Z,31nm,18.0s,baz=202,slow=32						
WR1	**Warramunga Arr**	**79.37**	**107**	*eP*	**P**	**15 55 15.2**	**-0.2**
	50nm,1.9s						
WRA	**Warramunga Arr**	**79.37**	**107**	P	**P**	**15 55 15.2**	**-0.2**
	0.9nm,0.8s,baz=221,slow=4.3,SNR=6.1						
CMAR	**Chiang Mai Arr**	**81.67**	**55**	P	**P**	**15 55 28.0**	**+0.5**
	0.4nm,0.3s,baz=218,slow=5.6,SNR=4.7						
CMAR				LR	LR	16 27 49.7	
	comp=Z,53nm,18.1s,baz=199,slow=33						
GEYT	**Alibeck**	**82.56**	**14**	LR	LR	16 32 24.7	
	comp=Z,24nm,18.0s,baz=330,slow=36						
BRTR	**Keskin Array B**	**82.98**	**355**	P	**P**	**15 55 34.5**	**+0.4**
	2.7nm,0.9s,baz=178,slow=8.1,SNR=11						
BRTR				LR	LR	16 30 44.8	
	comp=Z,34nm,21.8s,baz=68,slow=34						
BR101	**Keskin Array S**	**82.98**	**355**	*eP*	**P**	**15 55 34.5**	**+0.4**
BR131	**Keskin Array S**	**82.98**	**355**	*eP*	**P**	**15 55 34.5**	**+0.4**
	3.8nm,0.9s						
GAR	**Garm**	**86.41**	**23**	*eP*	**P**	**15 55 52.2**	**+0.8**
	25nm,1.3s						
KBZ	**Khabaz**	**86.79**	**2**	P	**P**	**15 55 53.0**	**+0.2**
	3.4nm,0.9s,baz=207,slow=6.8,SNR=4.1						
KBZ				LR	LR	16 32 52.1	
	comp=Z,51nm,21.9s,baz=140,slow=34						
LPAZ	**La Paz**	**91.77**	**246**	*eP*	**P**	**15 56 16.1**	**-1.9**
LPAZ	**La Paz**	**91.77**	**246**	LR	LR	16 33 15.6	
	comp=Z,59nm,18.5s,baz=115,slow=33						
ESDC	**Sonseca Array**	**91.89**	**327**	P	**P**	**15 56 18.0**	**+0.9**
	0.9nm,0.7s,baz=151,slow=4.1,SNR=3.8						
TGY	**Tagaytay City**	**92.88**	**73**	LR	LR	16 30 26.3	
	comp=Z,1µm,21.8s,baz=77,slow=31						
MK32	**Makanchi Array**	**97.19**	**28**	*eP*	**P**	**15 56 40.6**	**-0.7**
MKAR	**Makanchi Array**	**97.19**	**28**	P	**P**	**15 56 40.6**	**-0.7**
	0.6nm,0.8s,baz=224,slow=5.1,SNR=5.6						
WMOK	**Wichita Mounta**	**147.38**	**269**	*e*PKPbc	**PKPdf**	**16 02 52.7**	**+2.4**
TXAR	**Lajitas Array**	**148.06**	**256**	PKPbc	**PKPdf**	**16 02 55.1**	**+3.4**
	5.1nm,0.8s,baz=138,slow=5.5,SNR=38						
TX31	**Lajitas Ar. Si**	**148.06**	**256**	*e*PKPbc	**PKPdf**	**16 02 55.0**	**+3.3**
FCC	**Fort Churchill**	**148.25**	**315**	*e*PKPbc	**PKPbc**	**16 02 54.6**	**+0.4**
ECSD	**EROS Data Cent**	**149.07**	**286**	*e*PKPbc	**PKPbc**	**16 02 57.0**	**+0.1**
AGMN	**Agassiz Nation**	**149.43**	**295**	*e*PKPbc	**PKPbc**	**16 02 57.6**	**0.0**
ULM	**Lac du Bonnet**	**149.64**	**299**	*e*PKPbc	**PKPbc**	**16 02 57.7**	**-0.3**
ULM	**Lac du Bonnet**	**149.64**	**299**	PKPbc	**PKPbc**	**16 02 58.0**	**-0.1**
	4.6nm,0.7s,baz=68,slow=1.9,SNR=13						
MNTX	**Cornudas Mount**	**150.62**	**258**	*e*PKPdf	**PKPdf**	**16 02 55.6**	**0.0**
MNTX				*e*PKPbc	**sPKPdf**	**16 03 00.4**	**+1.6**
T25A	**Trinidad**	**152.53**	**269**	*e*PKPbc	**PKPbc**	**16 03 06.0**	**+0.5**
ANMO	**Albuquerque**	**153.05**	**263**	*e*PKPbc	**PKPbc**	**16 03 07.2**	**+0.4**
LPH	**Laupahoehoe**	**153.17**	**146**	*ep*PKPdf	pPKPdf	16 03 04.8	+2.7
INK	**Inuvik**	**154.84**	**355**	*e*PKPbc	**PKPbc**	**16 03 09.0**	**-0.2**
INK	**Inuvik**	**154.84**	**355**	PKPbc	**PKPbc**	**16 03 09.6**	**+0.4**
	1.8nm,1.0s,baz=74,slow=5.3,SNR=3.4						
YKA	**Yellowknife Ar**	**155.93**	**331**	PKP	**PKPdf**	**16 03 01.9**	**-0.3**
	0.6nm,0.9s,baz=48,slow=1.9,SNR=5.2						
YKA				PKPbc	pPKPbc	16 03 11.8	-2.3
	0.8nm,0.6s,baz=42,slow=2.1,SNR=9.9						
YKA				PKPab	**PKPab**	**16 03 29.4**	**+0.1**
	1.0nm,0.6s,baz=48,slow=4.5,SNR=13						
YKB5	**Yellowknife Ar**	**155.93**	**331**	*e*PKPab	**PKPab**	**16 03 29.8**	**+0.4**
IM3	**Indian Mountai**	**156.08**	**14**	*e*PKPdf	**PKPdf**	**16 03 02.6**	**+0.3**
ILAR	**Eielson Array**	**158.22**	**8**	PKPab	**PKPab**	**16 03 39.8**	**+0.7**
	0.6nm,1.1s,baz=336,slow=6.3,SNR=3.4						
ILB	**Eielson Array**	**158.22**	**8**	PKPab	**PKPab**	**16 03 39.1**	**0.0**
EGAK	**Eagle**	**158.58**	**2**	*e*PKPab	**PKPab**	**16 03 41.2**	**+0.5**
LKWY	**Lake**	**158.97**	**283**	*e*PKPdf	**PKPdf**	**16 03 06.8**	**-0.2**

*ISCJB **06** 15:49:40.7±1.5, 43˚.2S±0˚.5×39˚.7E±0˚.5, h10km, mb3.9/3, Error ellipse: s-maj=88.7km s-min=19.6km az=33.7*

*IDC **06** 15:49:41.0±1.2, 43˚.18S×39˚.93E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=96.7km s-min=31.6km az=39.0*

*NEIC **06** 15:49:42.4±0.5, 43˚.22S×39˚.72E, h10km, mb4.3/3, Error ellipse: s-maj=29.4km s-min=11.8km az=46.0*

ISC 06 15:49:42.3±1.1, **43˚.3S**±0˚.3×**39˚.7E**±0˚.3, **h10**km, **n14,** σ0s**49/14, mb3.9/3, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.42**	**300**	*eP*	**P**	**15 53 57.6**	**-0.3**
	112nm,2.0s						
BOSA	**Boshof**	**18.69**	**317**	*eP*	**P**	**15 53 59.9**	**-0.9**
	40nm,1.9s						
LBTB	**Lobatse**	**21.58**	**323**	*eP*	**P**	**15 54 31.9**	**-0.3**
	12nm,1.3s						
LBTB	**Lobatse**	**21.58**	**323**	P	**P**	**15 54 33.0**	**+0.8**
	2.3nm,0.8s,baz=150,slow=8.1,SNR=2.5						
TOA0	**Torodi Ar. Sit**	**66.03**	**319**	*eP*	**P**	**16 00 29.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**66.03**	**319**	P	**P**	**16 00 29.7**	**+0.4**
	1.6nm,0.9s,baz=155,slow=5.2,SNR=5.4						
TOA1	**Torodi Ar. Sit**	**66.04**	**319**	*eP*	**P**	**16 00 29.7**	**+0.4**
ASAR	**Alice Springs**	**77.08**	**110**	P	**P**	**16 01 35.8**	**-0.2**
	0.8nm,0.8s,baz=220,slow=5.7,SNR=5.3						
TXAR	**Lajitas Array**	**147.64**	**257**	PKPbc	**PKPbc**	**16 09 27.4**	**+0.4**
	2.0nm,1.0s,baz=139,slow=7.0,SNR=7.9						
TX31	**Lajitas Ar. Si**	**147.64**	**257**	*e*PKPbc	**PKPbc**	**16 09 27.3**	**+0.2**
ECSD	**EROS Data Cent**	**148.58**	**286**	*e*PKPbc	**PKPbc**	**16 09 28.7**	**-0.3**
ULM	**Lac du Bonnet**	**149.16**	**299**	PKPbc	**PKPbc**	**16 09 30.1**	**-0.1**
	2.5nm,0.7s,baz=83,slow=4.5,SNR=4.1						
PV12	**Saucer Basin,**	**155.73**	**269**	*e*PKPab	**PKPab**	**16 10 03.4**	**+0.5**
SRU	**San Rafael Swe**	**157.27**	**270**	*e*PKPab	**PKPab**	**16 10 09.2**	**-0.3**

*NIED **06** 16:10:00, 36˚.90N×140˚.70E, h5km, Mw3.6 Best double couple: M0 3.33000×10^14 NP1:φ=285.00000°, δ=34.00000°, λ=-115.00000°. NP2:φ=134.00000°, δ=60.00000°, λ=-74.00000°.*

*IDC **06** 16:10:08.0±0.8, 36˚.96N×140˚.68E, h0km, mb3.6/12, mb1 3.7/15, mb1mx3.6/55, mbtmp3.6/15, ML3.3/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/55, Error ellipse: s-maj=19.2km s-min=14.4km az=130.0*

*ISCJB **06** 16:10:08.4±0.6, 36˚.93N±0˚.02×140˚.77E±0˚.04, h14km±3km, mb3.6/12, MS3.5/2, Error ellipse: s-maj=6.1km s-min=3.5km az=19.4*

*JMA **06** 16:10:09.3, 36˚.95N×140˚.67E, h8km±1km, M3.7 Broadband fault plane solution: P waves. NP1: φ=135.00000°, δ=49.00000°, λ=-70.00000°. NP2: φ=286.00000°, δ=45.00000°, λ=-111.00000°. Principal axes: T Plg2.0000°, Azm211.0000°; N Plg15.0000°, Azm302.0000°; P Plg75.0000°, Azm114.0000°;*

JMA Felt I J1.

ISC 06 16:10:09.3±1.0, **36˚.94N**±0˚.03×**140˚.70E**±0˚.04, **h9**km±6km, **n36,** σ0s**64/40, mb3.6/12, 8C, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.18**	**27**	↑↑P	**Pg**	**16 10 13.2**	**0.0**
ONAJ				S	**Sg**	**16 10 16.2**	**+0.4**
JFFD	**Fukushimafurud**	**0.18**	**325**	↑↑P	**Pg**	**16 10 12.9**	**-0.3**
JFFD				S	**Sg**	**16 10 15.6**	**-0.3**
JHO	**Hitachi**	**0.34**	**197**	↑↑P	**Pg**	**16 10 16.0**	**-0.1**
JHO				*e*S	**Sg**	**16 10 20.9**	**+0.3**
JFK	**Kawauchi**	**0.45**	**19**	↑↑P	**Pg**	**16 10 17.9**	**-0.2**
JFK				*e*S	**Sg**	**16 10 24.3**	**+0.3**
JSB	**Shiboa**	**0.62**	**273**	↑↑P	**Pg**	**16 10 21.7**	**+0.4**
JSB				S	**Sg**	**16 10 30.3**	**+0.8**
JFT	**Otama**	**0.64**	**334**	↑↑P	**Pg**	**16 10 21.6**	**-0.2**
JFT				S	**Sg**	**16 10 30.4**	**+0.2**
JYT	**Yasato**	**0.82**	**210**	↑↑P	**Pg**	**16 10 24.3**	**-0.7**
JYT				*e*S	**Sg**	**16 10 35.5**	**-0.2**
JFY	**Yanaizu**	**0.92**	**301**	P	**Pg**	**16 10 26.5**	**-0.5**
JFY				S	**Sg**	**16 10 38.3**	**-0.6**
JMM	**Marumori**	**0.93**	**5**	↑↑P	**Pg**	**16 10 26.3**	**-0.8**
JMM				S	**Sg**	**16 10 38.8**	**-0.4**
MJAR	**Matsushiro Arr**	**2.04**	**259**	Pn	**Pn**	**16 10 43.8**	**+0.1**
	3.2nm,0.3s,baz=82,slow=18,SNR=138						
MJAR				LR	LR	16 11 09.3	
	comp=Z,27nm,19.7s,baz=45,slow=31						
MJAR				Sn	**Sb**	**16 11 11.2**	**-0.7**
	9.5nm,0.3s,baz=79,slow=30,SNR=30						
MAT	**Matsushiro**	**2.04**	**260**	P	**Pn**	**16 10 44.7**	**+1.0**
MAT				S	**Sb**	**16 11 11.4**	**-0.5**
JHJ	**Hachijo jima 2**	**3.88**	**191**	Pn	**Pn**	**16 11 09.3**	**+0.2**
	7.7nm,0.3s,baz=229,slow=19,SNR=5.2						
JHJ				Sn	**Sn**	**16 11 55.1**	**+0.3**
	9.1nm,0.3s,baz=60,slow=20,SNR=2.9						
JHJ				LR	LR	16 12 13.9	
	comp=Z,99nm,20.2s,baz=80,slow=32						
ASAJ	**Asahikawa**	**7.31**	**11**	Pn	**Pn**	**16 11 56.4**	**+0.3**
	0.7nm,0.3s,baz=217,slow=12,SNR=10						
ASAJ				Sn	**Sn**	**16 13 20.4**	**+1.2**
	0.4nm,0.3s,baz=132,slow=16,SNR=2.6						
JNU	**Nakatsue**	**8.90**	**248**	Pn	**Pn**	**16 12 19.3**	**+1.2**
	0.2nm,0.3s,baz=343,slow=19,SNR=2.2						
JNU				LR	LR	16 16 04.4	
	comp=Z,28nm,18.4s,baz=30,slow=40						
USRK	**Ussuriysk Ar.**	**9.82**	**320**	Pn	Pn	16 12 35.1	+4.7
	0.2nm,0.3s,baz=139,slow=11,SNR=4.9						
USRK				LR	LR	16 15 12.7	
	comp=Z,32nm,20.3s,baz=101,slow=31						
KSRS	**Korea Array**	**10.20**	**277**	Pn	Pn	16 12 41.1	+5.3
	baz=94,slow=14,SNR=5.0						
MA2	**Magadan**	**23.57**	**13**	P	**P**	**16 15 20.0**	**+0.2**
	1.1nm,0.4s,baz=172,slow=9.1,SNR=4.8						
SEY	**Seymchan**	**27.00**	**12**	P	**P**	**16 15 52.1**	**+1.0**
	1.0nm,0.8s,baz=189,slow=6.8,SNR=6.4						
SONM	**Songino Array**	**27.36**	**304**	P	**P**	**16 15 54.0**	**-0.7**
	0.5nm,0.7s,baz=101,slow=7.5,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**28.60**	**120**	T	T	16 45 53.7	
	baz=312,slow=75,SNR=41						
H11N1	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	16 45 54.3	
	baz=312,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**28.61**	**120**	T	T	16 45 54.3	
	baz=312,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**29.30**	**122**	T	T	16 46 46.2	
	baz=314,slow=75,SNR=116						
H11S3	**WAKE ISLAND Hy**	**29.30**	**122**	T	T	16 46 43.3	
	baz=314,slow=75,SNR=39						
H11S2	**WAKE ISLAND Hy**	**29.31**	**122**	T	T	16 46 48.1	
	baz=314,slow=75,SNR=39						
ZALV	**Zalesovo Beam**	**41.55**	**312**	P	**P**	**16 17 56.6**	**-0.2**
	0.9nm,0.8s,baz=82,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**43.68**	**302**	P	**P**	**16 18 14.1**	**-0.2**
	0.4nm,0.7s,baz=85,slow=8.5,SNR=3.2						
MKAR				LR	LR	16 35 26.9	
	comp=Z,37nm,18.8s,baz=215,slow=35						
KURBB	**Kurchatov Arra**	**45.61**	**308**	P	**P**	**16 18 28.6**	**-1.0**
	0.4nm,0.4s,baz=83,slow=8.2,SNR=5.0						
ILAR	**Eielson Array**	**49.88**	**32**	P	**P**	**16 19 02.9**	**+0.3**
	0.3nm,0.5s,baz=265,slow=5.5,SNR=8.9						
BVAR	**Borovoye Array**	**50.21**	**312**	P	**P**	**16 19 05.2**	**-0.1**
	0.3nm,0.5s,baz=81,slow=8.9,SNR=2.3						
WRA	**Warramunga Arr**	**56.89**	**187**	P	**P**	**16 19 54.3**	**-0.2**
	1.2nm,0.8s,baz=1.8,slow=7.3,SNR=3.5						
AKTO	**Aktyubinsk**	**58.31**	**312**	P	**P**	**16 20 04.4**	**+0.1**
	0.7nm,0.6s,baz=0.0,slow=1.0,SNR=2.6						
YKA	**Yellowknife Ar**	**64.18**	**30**	P	**P**	**16 20 42.5**	**-1.3**
	0.2nm,0.6s,baz=305,slow=6.7,SNR=3.7						
GNI	**Garni**	**71.30**	**306**	LR	LR	16 54 55.8	
	comp=Z,40nm,19.3s,baz=243,slow=38						
TXAR	**Lajitas Array**	**90.63**	**52**	P	**P**	**16 23 13.5**	**+1.0**
	0.4nm,0.9s,baz=29,slow=2.1,SNR=3.4						
LPAZ	**La Paz**	**147.24**	**59**	PKPbc	**PKPab**	**16 29 54.9**	**-1.0**
	0.9nm,0.8s,baz=335,slow=4.6,SNR=4.1						

*DJA **06** 16:11:01.0±2.6, 6˚S±11˚×14˚7E±1˚4, h62km±19km, M4.7/13, mb4.7/13*

*BJI **06** 16:11:03.6, 5˚.84S×147˚.47E, h106km, mb4.7/27, mB5.0/19*

*ISCJB **06** 16:11:06.0±0.9, 5˚.90S±0˚.04×147˚.07E±0˚.05, h114km±8km, mb4.4/46, Error ellipse: s-maj=8.3km s-min=6.1km az=8.3*

*NEIC **06** 16:11:06.9±0.2, 5˚.90S×147˚.07E, mb4.6/20, Error ellipse: s-maj=6.1km s-min=4.1km az=95.0*

*IDC **06** 16:11:07.0±0.4, 5˚.92S×147˚.01E, h106km±3km, mb4.0/26, mb1 4.2/30, mb1mx4.1/44, mbtmp4.5/30, MS3.4/5, Ms1 3.4/5, ms1mx3.1/35, Error ellipse: s-maj=13.0km s-min=7.1km az=97.0*

ISC 06 16:11:06.9±0.5, **5˚.91S**±0˚.05×**147˚.05E**±0˚.07, **h107**km±4km, **h108**km:**pP-P, n94,** σ0s**97/110, mb4.4/46, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.85**	**5**	*e*Pn	**Pn**	**16 12 05.3**	**+1.0**
RABL	**Rabaul**	**5.37**	**72**	*e*Pn	**Pn**	**16 12 24.6**	**-0.3**
COEN	**Coen**	**8.86**	**205**	*e*Pn	**Pn**	**16 13 10.6**	**-1.6**

HNR	**Honiara**	**13.25**	**106**	P	**Pn**	**16 14 10.7**	**-0.4**
	3.6nm,0.3s,baz=250,slow=11,SNR=2.5						
HNR				LR	LR	16 18 04.3	
	comp=Z,103nm,19.8s,baz=218,slow=31						
CTA	**Charters Tower**	**14.12**	**183**	P	**Pn**	**16 14 23.1**	**+0.9**
	0.5nm,0.3s,baz=352,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**14.12**	**183**	*e*Pn	**Pn**	**16 14 23.4**	**+1.2**
FAKI	**Fak Fak**	**15.05**	**281**	*e*Pn	**Pn**	**16 14 35.5**	**+1.4**
	48nm,1.1s						
MTN	**Manton Dam**	**17.14**	**245**	*eP*	**Pn**	**16 15 00.3**	**+0.3**
	22nm,0.8s						
WRAB	**Tennant Creek**	**18.62**	**220**	*eP*	**P**	**16 15 16.1**	**-0.2**
	57nm,1.1s						
WB2	**Warramunga Arr**	**18.63**	**220**	*eP*	**P**	**16 15 15.9**	**-0.4**
WRA	**Warramunga Arr**	**18.64**	**220**	P	**P**	**16 15 16.3**	**-0.1**
	1.3nm,0.3s,baz=43,slow=12,SNR=71						
WRA				S	**S**	**16 18 41.6**	**-1.8**
	baz=43,slow=21,SNR=4.9						
WRA				ScP	**ScP**	**16 23 08.0**	**+1.0**
	0.0nm,0.3s,baz=38,slow=2.3,SNR=3.8						
GUMO	**Guam**	**19.49**	**354**	*eP*	**P**	**16 15 26.4**	**+0.7**
	691nm,1.4s						
GUMO	**Guam**	**19.49**	**354**	P	**P**	**16 15 26.0**	**+0.4**
	5.5nm,0.3s,baz=200,slow=16,SNR=3.4						
GUMO				LR	LR	16 21 24.9	
	comp=Z,78nm,21.4s,baz=135,slow=32						
EIDS	**Eidsvold**	**19.74**	**169**	*eP*	**P**	**16 15 28.5**	**+0.2**
	24nm,0.9s						
SANI	**Sanana**	**21.35**	**279**	P	**P**	**16 15 46.5**	**+0.7**
	19nm,0.6s						
AS01	**Alice Springs**	**21.70**	**214**	*eP*	**P**	**16 15 49.0**	**-0.4**
AS31	**Alice Springs**	**21.72**	**214**	*eP*	**P**	**16 15 49.1**	**-0.6**
	9.9nm,0.8s						
ASAR	**Alice Springs**	**21.72**	**214**	P	**P**	**16 15 49.8**	**+0.1**
	6.7nm,0.6s,baz=56,slow=8.7,SNR=76						
ASAR				S	**S**	**16 19 44.4**	**+0.4**
	7.9nm,0.9s,baz=32,slow=19,SNR=8.1						
ASAR				ScP	**ScP**	**16 23 14.2**	**0.0**
	1.3nm,0.8s,baz=30,slow=4.3,SNR=4.4						
FITZ	**Fitzroy Crossi**	**24.16**	**238**	*eP*	**P**	**16 16 13.8**	**+0.5**
	32nm,0.7s						
FITZ	**Fitzroy Crossi**	**24.16**	**238**	P	**P**	**16 16 14.2**	**+0.9**
	33nm,0.7s,baz=62,slow=8.3,SNR=111						
DZM	**Mont Dzumac**	**24.69**	**132**	*eP*	**P**	**16 16 17.9**	**-0.4**
	32nm,0.7s						
DZM	**Mont Dzumac**	**24.69**	**132**	P	**P**	**16 16 18.1**	**-0.2**
	32nm,0.7s,baz=185,slow=22,SNR=15						
DZM				LR	LR	16 25 19.7	
	comp=Z,138nm,18.2s,baz=222,slow=34						
LUWI	**Luwuk**	**24.70**	**280**	*eP*	**P**	**16 16 19.1**	**+0.7**
	82nm,1.0s						
ARMA	**Armidale**	**24.76**	**171**	*eP*	**P**	**16 16 19.4**	**+0.6**
	18nm,0.7s						
APSI	**Ampana**	**25.83**	**280**	P	**P**	**16 16 28.0**	**-0.6**
	34nm,0.9s						
MRSI	**Marisa**	**25.86**	**283**	P	**P**	**16 16 28.7**	**-0.1**
	9.8nm,0.7s						
STKA	**Stephens Creek**	**26.34**	**190**	*eP*	**P**	**16 16 32.7**	**-0.2**
	1.9nm,0.9s						
STKA				pP	**pP**	**16 16 56.1**	**-0.5**
STKA	**Stephens Creek**	**26.34**	**190**	P	**P**	**16 16 33.2**	**+0.3**
	3.7nm,0.5s,baz=4.6,slow=7.8,SNR=15						
STKA				pP	**pP**	**16 16 56.1**	**-0.5**
	9.9nm,0.9s,baz=353,slow=12,SNR=6.1						
WSI	**Waingapu**	**26.76**	**260**	P	P	16 16 54

KSH	**Kashi**	**79.35**	**312**	*eP*	**P**	**16 23 02.0**	**+0.6**
KSH				S	**S**	**16 32 52.9**	**-0.7**
KSH				pmax	pmax		
	comp=Z,100nm,6.7s						
KURK	**Kurchatov**	**81.16**	**323**	P	**P**	**16 23 11.4**	**+0.7**
KURK				pP	**pP**	**16 23 36.6**	**-1.2**
KURBB	**Kurchatov Arra**	**81.18**	**323**	P	**P**	**16 23 11.4**	**+0.6**
	0.5nm,0.5s,baz=115,slow=4.3,SNR=5.2						
KURBB				pP	**pP**	**16 23 36.6**	**-1.3**
	0.9nm,1.0s,baz=105,slow=4.6,SNR=2.8						
MLY	**Manley**	**84.01**	**22**	*eP*	**P**	**16 23 25.0**	**-0.2**
	3.6nm,1.0s						
QSPA	**South Pole Qui**	**84.06**	**180**	*eP*	**P**	**16 23 25.6**	**0.0**
	12nm,0.6s						
CCB	**Clear Creek Bu**	**84.97**	**23**	*eP*	**P**	**16 23 28.6**	**-1.3**
	5.7nm,1.2s						
NRIK	**Noril'sk**	**85.20**	**342**	P	**P**	**16 23 30.9**	**-0.1**
	2.4nm,0.5s,baz=105,slow=3.2,SNR=6.5						
NRIK				pP	**pP**	**16 23 58.1**	**-0.2**
	5.6nm,1.0s,baz=134,slow=3.9,SNR=3.3						
IL1	**Eielson Array**	**85.38**	**23**	*eP*	**P**	**16 23 30.0**	**-2.0**
ILAR	**Eielson Array**	**85.38**	**23**	P	**P**	**16 23 30.8**	**-1.2**
	2.6nm,0.7s,baz=252,slow=4.8,SNR=44						
ILAR				pP	**pP**	**16 23 59.6**	**+0.2**
	1.3nm,0.7s,baz=251,slow=4.8,SNR=3.6						
ILB	**Eielson Array**	**85.38**	**23**	*eP*	**P**	**16 23 29.5**	**-2.5**
BVAR	**Borovoye Array**	**86.72**	**324**	P	**P**	**16 23 38.0**	**-0.9**
	0.7nm,0.5s,baz=113,slow=6.2,SNR=3.6						
BVAR				pP	**pP**	**16 24 06.3**	**0.0**
	1.3nm,0.7s,baz=93,slow=6.2,SNR=3.7						
GEYT	**Alibeck**	**92.75**	**308**	LR	LR	17 09 46.1	
	comp=Z,42nm,19.0s,baz=155,slow=38						
YKA	**Yellowknife Ar**	**99.07**	**28**	P	**Pdif**	**16 24 35.6**	**0.0**
	0.3nm,0.8s,baz=272,slow=4.4,SNR=3.5						
GERES	**GERESS Array B**	**121.86**	**326**	PKP	**PKiKP**	**16 29 49.0**	**0.0**
	0.2nm,0.5s,baz=345,slow=3.4,SNR=2.4						
PLCA	**Paso Flores**	**122.17**	**147**	PKP	**PKiKP**	**16 29 50.6**	**+0.7**
	3.2nm,1.0s,baz=247,slow=1.8,SNR=4.3						
LPAZ	**La Paz**	**138.80**	**123**	SKPbc	**SKPbc**	**16 33 48.7**	**+1.0**
	0.9nm,0.6s,baz=292,slow=5.4,SNR=3.9						
CPUP	**Villa Florida**	**140.18**	**145**	PKP	**PKPdf**	**16 30 23.2**	**-0.7**
	2.7nm,0.9s,baz=94,slow=0.7,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**145.11**	**284**	*e*PKPbc	**PKPbc**	**16 30 31.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**145.11**	**284**	PKPbc	**PKPbc**	**16 30 31.5**	**-1.1**
	2.6nm,0.8s,baz=57,slow=4.3,SNR=14						
TORD				pPKPbc	pPKPab	16 31 00.6	-0.9
	5.9nm,0.8s,baz=94,slow=4.0,SNR=5.0						
TORD				SKPbc	**SKPbc**	**16 34 00.7**	**-2.1**
	0.5nm,0.8s,baz=90,slow=1.4,SNR=2.9						
DBIC	**Dimbokro**	**152.06**	**273**	PKPbc	**PKiKP**	**16 30 51.4**	**+0.2**
	2.0nm,0.6s,baz=171,slow=13,SNR=2.6						
DBIC				pPKPbc	**pPKPbc**	**16 31 21.0**	**+0.9**
	3.4nm,0.6s,baz=144,slow=7.4,SNR=3.5						
BDFB	**Brasilia**	**153.91**	**145**	PKPbc	**PKiKP**	**16 30 55.4**	**+0.3**
	2.9nm,0.6s,baz=154,slow=8.3,SNR=3.4						
BDFB				pPKPbc	**pPKPbc**	**16 31 24.7**	**+0.1**
	1.9nm,0.4s,baz=110,slow=6.0,SNR=2.4						

*ISCJB **06** 16:12:40.6±1.0,35°.05N±0°.08×74°.4E±0°.2,h34km,mb3.3/4, Error ellipse: s-maj=21.8km s-min=5.8km az=152.8*

*IDC **06** 16:12:41.2±1.8,35°.37N×74°.09E,h0km,mb3.5/5, mb1 3.5/10,mb1mx3.4/50,mbtmp3.4/10,ML3.1/5,Error ellipse: s-maj=37.6km s-min=22.8km az=61.0*

ISC 06 16:12:43.9±1.2,35°.1N±0°.1×74°.3E±0°.2,h34km,n19, σ2s56/20,mb3.3/4,Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.55**	**1**	Pn	**Pn**	**16 14 34.1**	**+2.4**
	0.2nm,0.3s,baz=355,slow=18,SNR=2.9						
AAK				Sn	**Sn**	**16 15 57.3**	**+1.0**
	0.1nm,0.3s,baz=234,slow=18,SNR=1.1						
PYUN	**Piuthan**	**10.17**	**131**	*eP*	**Pn**	**16 15 07.2**	**-0.6**
	5.2nm,0.3s						
DANN	**Dangsing**	**10.49**	**127**	*eP*	**Pn**	**16 15 11.8**	**-0.4**
	4.5nm,0.3s						
GKN	**Gorkha**	**11.30**	**126**	*eP*	**Pn**	**16 15 22.1**	**-1.1**
	5.9nm,0.3s						
KKN	**Kakani**	**11.87**	**125**	*eP*	**Pn**	**16 15 28.8**	**-2.2**
	5.6nm,0.4s						
DMN	**Daman**	**11.87**	**126**	*eP*	**Pn**	**16 15 29.3**	**-1.8**
	5.8nm,0.5s						
PKIN	**Phulchoki**	**12.09**	**125**	*eP*	**Pn**	**16 15 31.7**	**-2.3**
	6.0nm,0.4s						
PKI	**Pulchoki**	**12.10**	**125**	*eP*	**Pn**	**16 15 32.1**	**-2.1**
	7.6nm,0.5s						
GUN	**Gumba**	**12.20**	**123**	*eP*	**Pn**	**16 15 32.8**	**-2.9**
	4.2nm,0.4s						
JIRN	**Jiri**	**12.57**	**123**	*eP*	**Pn**	**16 15 37.4**	**-3.4**
	17nm,0.6s						
MKAR	**Makanchi Array**	**13.17**	**25**	Pn	**Pn**	**16 15 49.6**	**+1.1**
	0.0nm,0.3s,baz=213,slow=10.0,SNR=1.4						
KURBB	**Kurchatov Arra**	**15.84**	**10**	Pn	**Pn**	**16 16 20.7**	**-3.6**
	0.0nm,0.3s,baz=200,slow=11,SNR=2.8						
BVAR	**Borovoye Array**	**18.16**	**352**	P	**Pn**	**16 16 49.8**	**-3.4**
	0.2nm,0.3s,baz=156,slow=11,SNR=6.1						
AKTO	**Aktyubinsk**	**19.38**	**327**	P	**P**	**16 17 05.9**	**-0.8**
	0.3nm,0.3s,baz=127,slow=12,SNR=9.6						
ZALV	**Zelesovo Beam**	**20.27**	**18**	P	**P**	**16 17 13.8**	**-2.6**
	1.4nm,0.6s,baz=209,slow=12,SNR=6.5						
SONM	**Songino Array**	**27.03**	**52**	P	**P**	**16 18 24.9**	**+1.9**
	0.3nm,0.6s,baz=246,slow=7.2,SNR=2.7						
CMAR	**Chiang Mai Arr**	**27.44**	**121**	P	**P**	**16 18 32.0**	**+5.3**
	0.3nm,0.6s,baz=309,slow=10,SNR=4.6						
NOA	**NORSAR Array B**	**47.11**	**324**	P	**P**	**16 21 12.6**	**+0.2**
	1.0nm,0.8s,baz=97,slow=7.2,SNR=2.2						
YKA	**Yellowknife Ar**	**82.51**	**4**	P	**P**	**16 25 02.3**	**-0.4**
	0.3nm,0.8s,baz=338,slow=5.4,SNR=4.3						

IDC 06 16:35:00.6±1.8,6.73S×155.38E,h0km,mb3.5/5, mb1 3.8/5,mb1mx3.5/28,mbtmp3.5/5,Error ellipse: s-maj=59.1km s-min=28.8km az=122.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.28**	**235**	P	P	16 40 19.9	+0.1
	0.2nm,0.4s,baz=59,slow=9.3,SNR=6.7						
WRA				PcP	PcP	16 43 60.0	-0.2
	0.2nm,0.8s,baz=60,slow=2.2,SNR=4.5						
ASAR	**Alice Springs**	**26.63**	**228**	P	P	16 40 40.7	-0.5
	0.5nm,0.6s,baz=59,slow=9.2,SNR=10						
CMAR	**Chiang Mai Arr**	**61.02**	**295**	P	P	16 45 17.3	+0.8
	1.3nm,0.8s,baz=126,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**82.99**	**21**	P	P	16 47 27.3	-0.1
	0.4nm,0.8s,baz=238,slow=6.0,SNR=4.2						
MKAR	**Makanchi Array**	**83.46**	**319**	P	P	16 47 29.6	-0.6
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.7						

*ATH **06** 16:43:22.9,37°.83N×22°.03E,h19km,ML3.4/34,Error ellipse: s-maj=0.8km s-min=0.4km az=223.0*

*IDC **06** 16:43:22.9±0.9,37.87N×22.13E,h0km,mb3.7/13, mb1 3.8/17,mb1mx3.6/66,mbtmp3.6/17,ML3.3/3,Error ellipse: s-maj=18.0km s-min=16.0km az=29.0*

*ISCJB **06** 16:43:23.2±0.3,37°.82N±0°.01×22°.02E±0°.02,h8km±2km, mb3.6/12,Error ellipse: s-maj=2.3km s-min=1.9km az=141.9*

*THE **06** 16:43:23.4,37°.82N×22°.03E,h3km,ML3.5/23,Error ellipse: s-maj=0.8km s-min=0.3km az=303.0*

ISC 06 16:43:23.6±1.0,37°.83N±0°.01×22°.03E±0°.01,h6km±7km, n158,σ0s87/214,mb3.7/12,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.23**	**24**	P	**Pg**	**16 43 28.0**	**-0.3**
KLV				S	**Sg**	**16 43 32.0**	**+0.7**
KLV	**Kalavryta, Ach**	**0.23**	**24**	P	**Pg**	**16 43 27.9**	**-0.3**
KLV				S	**Sg**	**16 43 31.9**	**+0.6**
KLV				AML	AML	16 43 34.2	
	comp=E,38492μm,0.6s						
KLV				AML	AML	16 43 37.9	
	comp=N,18346μm,0.6s						
GUR	**Goura**	**0.27**	**67**	P	**Pg**	**16 43 28.6**	**-0.3**
GUR				S	**Sg**	**16 43 33.2**	**+0.7**
GUR	**Goura**	**0.27**	**67**	P	**Pg**	**16 43 28.6**	**-0.3**
GUR				S	**Sg**	**16 43 33.3**	**+0.8**
GUR				AML	AML	16 43 33.9	
	comp=E,31848μm,0.5s						
GUR				AML	AML	16 43 36.4	
	comp=N,54907μm,0.3s						
DRO	**Drossia**	**0.28**	**296**	P	**Pg**	**16 43 28.6**	**-0.4**
DRO				S	**Sg**	**16 43 33.6**	**+0.8**
DRO				AML	AML	16 43 35.5	
DRO				AML	AML	16 43 36.2	
TRIP	**Tripoli**	**0.36**	**148**	P	**Pg**	**16 43 30.2**	**-0.4**
TRIP				S	**Sg**	**16 43 35.2**	**-0.1**
TRIP	**Tripoli**	**0.36**	**148**	P	**Pg**	**16 43 30.6**	**0.0**
TRIP				S	**Sg**	**16 43 35.2**	**-0.1**
TRIP				AML	AML	16 43 38.9	
	comp=E,16596μm,0.4s						
TRIP				AML	AML	16 43 39.5	
	comp=N,15029μm,0.5s						
TRAZ	**Trapeza**	**0.37**	**23**	P	**Pg**	**16 43 30.4**	**-0.3**
TRAZ				S	**Sb**	**16 43 36.9**	**-1.7**
TRAZ				AML	AML	16 43 37.9	
	comp=E,17194μm,0.2s						
TRAZ				AML	AML	16 43 39.0	
	comp=N,25467μm,0.3s						
AMT	**Artemida-Makis**	**0.39**	**221**	P	**Pg**	**16 43 30.6**	**-0.6**
AMT				S	**Sg**	**16 43 36.9**	**+0.6**
AMT	**Artemida-Makis**	**0.39**	**221**	P	**Pg**	**16 43 30.8**	**-0.4**
AMT				S	**Sb**	**16 43 37.3**	**-1.9**
AMT				AML	AML	16 43 41.8	
	comp=N,20934μm,0.4s						
AMT				AML	AML	16 43 43.0	
	comp=E,13576μm,0.8s						
LAKA	**Lakka**	**0.41**	**354**	P	**Pg**	**16 43 31.0**	**-0.6**
LAKA				S	**Sg**	**16 43 37.7**	**+0.7**
LAKA	**Lakka**	**0.41**	**354**	P	**Pg**	**16 43 31.4**	**-0.2**
LAKA				S	**Sg**	**16 43 37.0**	**+0.1**
LAKA				AML	AML	16 43 40.3	
	comp=N,9690μm,0.4s						
LAKA				AML	AML	16 43 41.8	
	comp=E,6471μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.43**	**9**	P	**Pg**	**16 43 31.8**	**-0.2**
ALIK				S	**Sb**	**16 43 39.1**	**-1.4**
UPR	**University Cam**	**0.49**	**337**	P	**Pg**	**16 43 33.0**	**-0.1**
UPR				S	**Sb**	**16 43 40.8**	**-1.3**
UPR	**University Cam**	**0.49**	**337**	P	**Pg**	**16 43 33.1**	**0.0**
UPR				S	**Sb**	**16 43 40.5**	**-1.7**
RLS	**Riolos of Patr**	**0.50**	**297**	P	**Pg**	**16 43 32.2**	**-1.0**
RLS				S	**Sg**	**16 43 40.0**	**+0.3**
RLS	**Riolos of Patr**	**0.50**	**297**	P	**Pg**	**16 43 32.2**	**-1.0**
RLS				S	**Sg**	**16 43 40.3**	**+0.6**
RLS				AML	AML	16 43 40.4	
	comp=N,53835μm,0.3s						
RLS				AML	AML	16 43 40.7	
	comp=E,58130μm,0.5s						
TRIZ	**Trizonia**	**0.54**	**4**	P	**Pg**	**16 43 33.4**	**-0.5**
TRIZ				S	**Sb**	**16 43 42.2**	**-1.2**
TRIZ	**Trizonia**	**0.54**	**4**	P	**Pg**	**16 43 33.7**	**-0.2**
VLX	**Vlachokerasia**	**0.54**	**149**	P	**Pg**	**16 43 33.3**	**-0.7**
VLX				S	**Sb**	**16 43 41.6**	**-1.9**
VLX	**Vlachokerasia**	**0.54**	**149**	P	**Pg**	**16 43 33.3**	**-0.7**
VLX				S	**Sg**	**16 43 40.8**	**-0.2**
VLX				AML	AML	16 43 44.2	
	comp=N,11969μm,0.5s						
VLX				AML	AML	16 43 46.7	
	comp=E,11826μm,0.5s						
KALE	**Kalithea**	**0.57**	**9**	P	**Pg**	**16 43 34.1**	**-0.4**
KALE				S	**Sb**	**16 43 43.1**	**-1.3**
KALE	**Kalithea**	**0.57**	**9**	P	**Pg**	**16 43 34.1**	**-0.4**
KALE				AML	AML	16 43 46.3	
	comp=N,10406μm,0.2s						
KALE				AML	AML	16 43 47.3	
	comp=E,7670μm,0.2s						
SERG	**Sergoula**	**0.58**	**2**	P	**Pg**	**16 43 34.4**	**-0.4**
SERG	**Sergoula**	**0.58**	**2**	P	**Pg**	**16 43 34.4**	**-0.4**
SERG				AML	AML	16 43 46.2	
	comp=N,11157μm,0.2s						
SERG				AML	AML	16 43 47.5	
	comp=E,8975μm,0.2s						
EFP	**Efpalio**	**0.60**	**351**	P	**Pg**	**16 43 34.7**	**-0.5**
EFP				S	**Sb**	**16 43 44.2**	**-1.2**
EFP	**Efpalio**	**0.60**	**351**	P	**Pg**	**16 43 34.9**	**-0.3**
EFP				S	**Sg**	**16 43 43.6**	**+0.5**
EFP				AML	AML	16 43 46.8	
	comp=N,7684μm,0.2s						
EFP				AML	AML	16 43 47.1	
	comp=E,7965μm,0.4s						
ITM	**Ithomi**	**0.66**	**187**	P	**Pg**	**16 43 35.3**	**-0.8**
ITM				S	**Sb**	**16 43 45.3**	**-1.6**
ITM	**Ithomi**	**0.66**	**187**	P	**Pg**	**16 43 35.4**	**-0.8**
ITM				S	**Sg**	**16 43 45.1**	**+0.4**
ITM				AML	AML	16 43 50.7	
	comp=E,2969μm,0.3s						
ITM				AML	AML	16 43 51.9	
	comp=N,3538μm,0.3s						
VTN	**Vitineika**	**0.67**	**278**	P	**Pg**	**16 43 36.6**	**+0.1**
VTN	**Vitineika**	**0.67**	**278**	P	**Pg**	**16 43 36.3**	**-0.2**
VTN				S	**Sb**	**16 43 46.4**	**-0.9**
DSF	**Desfina**	**0.70**	**34**	P	**Pg**	**16 43 36.1**	**-1.0**
DSF				S	**Sb**	**16 43 46.9**	**-1.3**
DSF	**Desfina**	**0.70**	**34**	P	**Pg**	**16 43 36.2**	**-0.8**
DSF				AML	AML	16 43 53.0	
	comp=N,5421μm,0.4s						
DSF				AML	AML	16 43 53.9	
	comp=E,6838μm,0.5s						
DLFA	**Delphi**	**0.74**	**30**	P	**Pb**	**16 43 38.0**	**-1.0**
DLFA				S	**Sb**	**16 43 48.1**	**-1.4**
DLFA				AML	AML	16 43 54.5	
	comp=N,3690μm,0.5s						
DLFA				AML	AML	16 43 54.6	
	comp=E,4274μm,0.6s						
LOUT	**Loutraki**	**0.76**	**78**	P	**Pg**	**16 43 37.5**	**-0.8**
LOUT				S	**Sg**	**16 43 48.3**	**+0.1**
LOUT	**Loutraki**	**0.76**	**78**	P	**Pg**	**16 43 37.7**	**-0.6**
LOUT				S	**Sg**	**16 43 48.5**	**+0.3**
LOUT				AML	AML	16 43 53.4	
	comp=N,880μm,0.4s						
LOUT				AML	AML	16 43 54.2	
	comp=E,2369μm,0.8s						
LTK	**Loutraki**	**0.77**	**75**	P	**Pg**	**16 43 37.5**	**-0.8**
LTK				S	**Sb**	**16 43 49.3**	**-0.8**
LTK	**Loutraki**	**0.77**	**75**	P	**Pg**	**16 43 37.6**	**-0.8**
PROD	**Prodromos**	**0.81**	**58**	P	**Pg**	**16 43 38.3**	**-0.9**
PROD				S	**Sb**	**16 43 51.1**	**-0.2**
PROD	**Prodromos**	**0.81**	**58**	P	**Pg**	**16 43 38.7**	**-0.4**
PROD				S	**Sg**	**16 43 49.5**	**-0.2**
PROD				AML	AML	16 43 52.4	
	comp=N,9307μm,0.2s						
PROD				AML	AML	16 43 54.7	
	comp=E,7745μm,0.2s						
PVO	**Paravola**	**0.88**	**333**	P	**Pg**	**16 43 40.0**	**-0.5**
PVO	**Paravola**	**0.88**	**333**	P	**Pg**	**16 43 40.2**	**-0.2**
PVO				AML	AML	16 43 59.1	
	comp=E,4747μm,0.3s						
PVO				AML	AML	16 44 00.3	
	comp=N,4086μm,0.5s						
EPID	**Epidavros**	**0.89**	**104**	P	**Pg**	**16 43 39.4**	**-1.3**
EPID				S	**Sb**	**16 43 52.9**	**-0.8**
PYL	**PYLOS**	**0.96**	**194**	P	**Pg**	**16 43 41.0**	**-1.0**
PYL				S	**Sb**	**16 43 55.2**	**-0.4**
PYL	**PYLOS**	**0.96**	**194**	P	**Pg**	**16 43 41.2**	**-0.8**
PYL				AML	AML	16 44 00.7	
	comp=N,2228μm,0.4s						
PYL				AML	AML	16 44 01.3	
	comp=E,1532μm,0.3s						
KRND	**KRANIDI**	**1.00**	**116**	P	**Pg**	**16 43 41.5**	**-1.2**
KRND				S	**Sb**	**16 43 56.1**	**-0.6**
KRND	**KRANIDI**	**1.00**	**116**	P	**Pg**	**16 43 42.0**	**-0.7**
KRND				S	**Sb**	**16 43 56.0**	**-0.7**
KRND				AML	AML	16 44 00.9	
	comp=E,8762μm,0.8s						
KRND				AML	AML	16 44 02.3	
	comp=N,6133μm,1.0s						
DID	**Didima**	**1.01**	**108**	P	**Pg**	**16 43 41.6**	**-1.4**
DID				S	**Sb**	**16 43 56.6**	**-0.5**
DID	**Didima**	**1.01**	**108**	P	**Pg**	**16 43 42.2**	**-0.9**
VIL2	**Platees**	**1.05**	**68**	P	**Pb**	**16 43 43.7**	**-0.5**
VIL2				S	**Sb**	**16 43 57.5**	**-0.7**
VIL2				AML	AML	16 44 06.6	
	comp=N,4389μm,0.9s						
VIL2				AML	AML	16 44 07.4	
	comp=E,9104μm,0.8s						
VILL	**Villia**	**1.07**	**71**	P	**Pg**	**16 43 42.9**	**-1.2**
VILL				S	**Sb**	**16 43 59.2**	**+0.4**
EVR	**Evrytania**	**1.10**	**351**	P	**Pg**	**16 43 43.6**	**-1.1**
EVR				S	**Sn**	**16 44 00.7**	**-0.5**
EVR	**Evrytania**	**1.10**	**351**	P	**Pg**	**16 43 43.8**	**-0.9**
EVR				AML	AML	16 44 03.2	
	comp=N,2047μm,0.4s						
EVR				AML	AML	16 44 05.5	
	comp=E,3640μm,0.5s						
ATAL	**Atalanti**	**1.16**	**42**	P	**Pg**	**16 43 45.0**	**-0.9**
ATAL				S	**Sn**	**16 44 02.3**	**-0.4**
ATAL	**Atalanti**	**1.16**	**42**	P	**Pg**	**16 43 44.5**	**-1.4**
ATAL				S	**Sg**	**16 44 00.4**	**-0.6**
ATAL				AML	AML	16 44 03.7	
	comp=E,2721μm,0.9s						
ATAL				AML	AML	16 44 07.5	
	comp=N,6634μm,0.7s						
VLS	**Valsamata**	**1.19**	**287**	P	**Pg**	**16 43 44.6**	**-1.8**
VLS				AML	AML	16 44 10.4	
	comp=E,3992μm,0.4s						
VLS				AML	AML	16 44 10.9	
	comp=N,3911μm,0.5s						
AGG	**Agios Georgios**	**1.21**	**11**	P	**Pg**	**16 43 45.8**	**-1.1**
AGG	**Agios Georgios**	**1.21**	**11**	P	**Pb**	**16 43 46.4**	**-0.6**
YDRA	**Hydra**	**1.24**	**112**	P	**Pg**	**16 43 46.4**	**-0.9**
YDRA				S	**Sb**	**16 44 03.5**	**-0.1**
YDRA				AML	AML	16 44 08.4	
	comp=E,9164μm,0.7s						
YDRA				AML	AML	16 44 09.7	
	comp=N,6629μm,0.7s						
MGNA	**Meganis**	**1.28**	**311**	P	**Pg**	**16 43 47.3**	**-0.8**
MGNA				S	**Sn**	**16 44 05.4**	**0.0**
VLI	**Veliai**	**1.33**	**147**	P	**Pg**	**16 43 47.2**	**-1.8**
VLI				S	**Sn**	**16 44 07.2**	**+0.5**
VLI	**Veliai**	**1.33**	**147**	P	**Pg**	**16 43 48.1**	**-0.9**
VLI				AML	AML	16 44 14.8	
	comp=E,2376μm,1.1s						
VLI				AML	AML	16 44 15.9	
	comp=N,2649μm,0.8s						
EVGI	**Lefkada island**	**1.34**	**307**	P	**Pn**	**16 43 48.0**	**-0.9**
EVGI	**Lefkada island**	**1.34**	**307**	P	**Pn**	**16 43 48.2**	**-0.7**
EVGI				S	**Sn**	**16 44 07.0**	**0.0**
ATH	**Athens Observa**	**1.34**	**83**	P	**Pn**	**16 43 48.4**	**-0.5**
ATH				S	**Sn**	**16 44 07.2**	**+0.1**
ATH	**Athens Observa**	**1.34**	**83**	P	**Pg**	**16 43 48.6**	**-0.8**
ATH				S	**Sn**	**16 44 06.9**	**-0.2**
ATH				AML	AML	16 44 10.0	
	comp=N,4730μm,0.6s						
ATH				AML	AML	16 44 11.7	
	comp=E,3652μm,0.9s						
ATHU	**Athens Univers**	**1.40**	**84**	P	**Pn**	**16 43 48.9**	**-0.7**
ATHU	**Athens Univers**	**1.40**	**84**	P	**Pn**	**16 43 49.2**	**-0.5**
ATHU				S	**Sn**	**16 44 08.0**	**-0.4**
ATHU				AML	AML	16 44 11.1	
	comp=E,702μm,0.5s						
ATHU				AML	AML	16 44 13.0	
	comp=N,1398μm,0.5s						
MNVA	**Monemvasia**	**1.40**	**145**	P	**Pg**	**16 43 50.0**	**-0.4**
SMIA	**Simia**	**1.40**	**41**	P	**Pn**	**16 43 49.4**	**-0.3**
SMIA	**Simia**	**1.40**	**41**	P	**Pg**	**16 43 49.7**	**-0.7**
VLY	**Voula,Athens**	**1.40**	**89**	P	**Pn**	**16 43 48.9**	**-0.7**
VLY				S	**Sn**	**16 44 08.8**	**+0.3**
VLY	**Voula,Athens**	**1.40**	**89**	P	**Pn**	**16 43 49.0**	**-0.7**
VLY				S	**Sn**	**16 44 09.4**	**+1.0**
VLY				AML	AML	16 44 11.4	
	comp=N,1889μm,0.5s						
VLY				AML	AML	16 44 11.7	
	comp=E,2539μm,0.6s						
LKD2	**Lefkada island**	**1.44**	**312**	P	**Pn**	**16 43 49.7**	**-0.6**
LKD2	**Lefkada island**	**1.44**	**312**	P	**Pn**	**16 43 49.8**	**-0.5**
LKD2				S	**Sn**	**16 44 10.1**	**+0.5**
LKD2				AML	AML	16 44 18.2	
	comp=N,3740μm,0.6s						
LKD2				AML	AML	16 44 20.4	
	comp=E,2677μm,0.8s						
TSLK	**Tsoukalades, L**	**1.47**	**313**	P	**Pn**	**16 43 50.1**	**-0.5**
TSLK				AML	AML	16 44 21.1	
	comp=E,3943μm,0.6s						
TSLK				AML	AML	16 44 22.7	
	comp=N,2838μm,0.7s						
PTL	**Penteli**	**1.47**	**81**	P	**Pn**	**16 43 50.1**	**-0.6**
PTL				S	**Sn**	**16 44 10.1**	**-0.1**
PTL	**Penteli**	**1.47**	**81**	P	**Pn**	**16 43 50.3**	**-0.4**
PTL				S	**Sn**	**16 44 10.3**	**0.0**
PTL				AML	AML	16 44 13.0	
	comp=N,3238μm,0.9s						
PTL				AML	AML	16 44 14.3	
	comp=E,4318μm,0.7s						
DSL	**Palaion Diasel**	**1.49**	**331**	P	**Pn**	**16 43 50.6**	**-0.4**
MRKA	**Markates**	**1.51**	**54**	P	**Pb**	**16 43 51.4**	**-0.6**
MRKA				AML	AML	16 44 16.6	
	comp=N,2852μm,0.7s						
MRKA				AML	AML	16 44 17.4	
	comp=E,2249μm,0.7s						
EREA	**Eretria**	**1.61**	**68**	P	**Pn**	**16 43 52.6**	**0.0**
EREA	**Eretria**	**1.61**	**68**	P	**Pn**	**16 43 52.4**	**-0.2**
FYTO	**Fytoko, Volos**	**1.73**	**24**	P	**Pn**	**16 43 53.8**	**-0.4**
FYTO	**Fytoko, Volos**	**1.73**	**24**	P	**Pn**	**16 43 53.9**	**-0.3**
THL	**Klokotos Trika**	**1.73**	**360**	P	**Pn**	**16 43 53.9**	**-0.4**
THL	**Klokotos Trika**	**1.73**	**360**	P	**Pn**	**16 43 54.4**	**+0.1**
NEO	**Neokhori**	**1.75**	**32**	P	**Pn**	**16 43 54.0**	**-0.5**
NEO	**Neokhori**	**1.75**	**32**	P	**Pn**	**16 43 54.0**	**-0.5**
SKIA	**Skiathos**	**1.75**	**40**	P	**Pn**	**16 43 54.1**	**-0.4**
SKIA	**Skiathos**	**1.75**	**40**	P	**Pn**	**16 43 54.4**	**-0.1**
SKIA				AML	AML	16 44 25.9	
	comp=E,1129μm,0.8s						
SKIA				AML	AML	16 44 26.7	
	comp=N,1156μm,1.0s						
KTHR	**Kythira**	**1.75**	**153**	P	**Pn**	**16 43 52.6**	**-1.9**
KYTH	**Kithira**	**1.76**	**152**	P	**Pn**	**16 43 53.3**	**-1.4**
KYTH	**Kithira**	**1.76**	**152**	P	**Pn**	**16 43 54.4**	**-0.3**
XOR	**Xorichti**	**1.78**	**30**	P	**Pn**	**16 43 54.9**	**-0.1**
XOR	**Xorichti**	**1.78**	**30**	P	**Pn**	**16 43 54.8**	**-

DURS IAML_P
comp=Z,74nm,0.2s
USAK Uak-Merkez 5.57 79 *i* P **Pn 16 44 49.8 +2.7**
USAK IAML_P
comp=Z,61nm,0.2s
FETY Fethiye 5.75 100 *i* P Pn 16 44 54.1 +4.5
FETY IAML_P
comp=Z,637nm,0.6s
KHAL Karahalli 5.91 82 *i* P **Pn 16 44 54.4 +2.6**
KHAL IAML_P
comp=Z,175nm,0.2s
MLR Muntele Rosu 8.19 20 Pn **Pn 16 45 23.5 +0.4**
baz=227,slow=19,SNR=2.0
BRTR Keskin Array B 9.26 75 Pn **Pn 16 45 39.7 +1.8**
comp=Z,0.2nm,0.3s,baz=254,slow=12,SNR=8.1
GERES GERESS Array B 12.56 334 Pn **Pn 16 46 26.0 +3.1**
comp=Z,0.1nm,0.3s,baz=155,slow=12,SNR=2.5
ESDC Sonseca Array 20.34 283 P **P 16 48 00.4 -0.2**
comp=Z,1.7nm,0.7s,baz=84,slow=12,SNR=5.6
HFS Hagfors 22.95 349 P **P 16 48 27.2 -1.1**
comp=Z,1.3nm,0.5s,baz=173,slow=13,SNR=8.4
FINES FINESS Array B 23.77 5 P **P 16 48 35.7 -0.9**
comp=Z,2.1nm,0.9s,baz=185,slow=15,SNR=3.3
NOA NORSAR Array B 24.21 347 P **P 16 48 40.2 -0.6**
comp=Z,0.6nm,0.8s,baz=154,slow=9.3,SNR=3.3
EKA Eskdalemuir Ar 24.40 324 P **P 16 48 42.8 +0.2**
comp=Z,1.5nm,0.5s,baz=127,slow=9.7,SNR=5.5
TORD Tordi Ar. Bea 30.54 222 P **P 16 49 39.6 +1.6**
comp=Z,0.3nm,0.6s,baz=9.4,slow=11,SNR=3.0
BVAR Borovoye Array 36.43 49 P **P 16 50 28.8 -0.1**
comp=Z,0.8nm,0.7s,baz=264,slow=6.4,SNR=5.4
KURBB Kurchatov Arra 41.48 53 P **P 16 51 10.6 -0.6**
comp=Z,1.7nm,0.7s,baz=281,slow=8.5,SNR=13
MKAR Makanchi Array 44.47 58 P **P 16 51 34.5 -1.1**
comp=Z,0.8nm,0.5s,baz=271,slow=6.8,SNR=13
ZALV Zalesovo Beam 45.04 48 P **P 16 51 39.1 -0.8**
comp=Z,1.5nm,0.5s,baz=271,slow=9.0,SNR=9.3
YKA Yellowknife Ar 74.12 341 P **P 16 55 00.5 +0.2**
comp=Z,0.3nm,0.7s,baz=32,slow=5.2,SNR=4.8
MA2 Magadan 74.12 24 P **P 16 55 01.5 +1.0**
comp=Z,0.9nm,0.4s,baz=63,slow=2.3,SNR=2.7
ILAR Eielson Array 77.36 355 P **P 16 55 18.5 -0.4**
comp=Z,0.1nm,0.5s,baz=348,slow=3.3,SNR=2.7

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*ISCJB **06** 16:49:43.9±0.7,28.71°N±0.02°×82.21°E±0.02°,h4km±4km, mb4.7/138,MS4.0/37,Error ellipse: s-maj=3.6km s-min=2.2km az=33.3*
*BJI **06** 16:49:45.1,28.88°N×82.33°E,h6km,mb4.8/60,mB4.9/46, ML4.5/2,Ms4.5/54,Ms7 4.3/50*
*NEIC **06** 16:49:46.5±0.2,28.76°N×82.29°E,h10km,mb5.0/63,Error ellipse: s-maj=4.4km s-min=3.2km az=41.0*
NEIC Felt at Kathmandu.
*NDI **06** 16:49:47.4±2.0,28.67°N×82.25°E,h10km,ML4.9, mb5.0(NEIC)*
*MOS **06** 16:49:48.5±1.3,28.92°N×82.23°E,h28km,mb4.9/56,Error ellipse: s-maj=6.1km s-min=3.3km az=104.8*
*IDC **06** 16:49:49.6±1.8,28.75°N×82.29°E,h27km±12km,mb4.3/48, mb1 4.4/51,mb1mx4.3/73,mbtmp4.5/51,ML4.3/3,MS3.8/24, Ms1 3.8/24,ms1mx3.7/48,Error ellipse: s-maj=8.9km s-min=8.6km az=67.0*
*DMN **06** 16:49:49.2±0.7,28.57°N×82.22°E,h2km,Ml5.4/5,Error ellipse: s-maj=21.9km s-min=12.0km az=35.0*

ISC 06 16:49:48.0±0.9,28.67°N±0.03°×82.23°E±0.03°,h16km±5km, n379,σ1°79/314,mb4.8/141,MS4.1/37,46C-23D,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**0.88**	**130**	*e*Pg	**Pg**	**16 50 03.5**	**-1.5**
PYUN				*e*Sg	**Sg**	**16 50 15.7**	**-0.9**
	15μm,0.6s						
DANN	**Dangsing**	**1.38**	**103**	*e*Pn	**Pg**	**16 50 12.5**	**-2.1**
DANN				*e*Sn	**Sg**	**16 50 31.3**	**-1.4**
	13μm,0.3s						
KOLN	**Koldanda**	**1.50**	**126**	*e*Pn	**Pn**	**16 50 15.7**	**+1.3**
KOLN				*e*Sn	**Sg**	**16 50 34.6**	**-1.9**
	11μm,0.3s						
GKN	**Gorkha**	**2.22**	**107**	*e*Pn	**Pn**	**16 50 25.7**	**+1.4**
DMN	**Daman**	**2.75**	**112**	*e*Pn	**Pn**	**16 50 32.8**	**+1.2**
DMN				*e*Sn	**Sn**	**16 51 04.6**	**0.0**
KKN	**Kakani**	**2.83**	**107**	*e*Pn	**Pn**	**16 50 33.6**	**+0.9**
KKN				*e*Sn	**Sn**	**16 51 06.0**	**-0.5**
	3μm,0.3s						
PKIN	**Phulchoki**	**3.00**	**110**	*e*Pn	**Pn**	**16 50 36.0**	**+0.9**
PKI	**Pulchoki**	**3.01**	**110**	*e*Pn	**Pn**	**16 50 36.1**	**+0.8**
GUN	**Gumba**	**3.30**	**102**	*e*Pn	**Pn**	**16 50 40.0**	**+0.7**
GUN				*e*Sn	**Sn**	**16 51 17.5**	**-1.0**
	5μm,0.6s						
JIRN	**Jiri**	**3.64**	**105**	*e*Pn	**Pn**	**16 50 45.0**	**+1.1**
DDI	**Dehra Dun**	**4.00**	**295**	*e*P	**Pn**	**16 50 48.2**	**-0.3**
DDI				*e*S	**Sn**	**16 51 34.0**	**-1.2**
RAMN	**Ramite**	**4.23**	**113**	*e*Pn	**Pn**	**16 50 52.8**	**+0.8**
RAMN				*e*Sn	**Sn**	**16 51 39.6**	**-1.6**
NDI	**New Delhi**	**4.41**	**271**	*e*P	**Pn**	**16 50 54.5**	**+0.3**
NDI				*e*S	**Sn**	**16 51 44.0**	**-1.1**
ODAN	**Odare**	**4.91**	**110**	*e*Sn	**Sn**	**16 51 56.3**	**-1.7**
	604nm,0.3s						
SMLA	**Simla**	**5.04**	**300**	*e*P	**Pn**	**16 51 03.8**	**+1.0**
SMLA				*e*S	**Sn**	**16 52 00.8**	**+0.2**
SMLA				IAML		16 52 26.2	
	comp=E,669nm,0.1s						
SMLA				IAML		16 52 27.1	
	comp=N,553nm,0.5s						
BHK	**Bhakra**	**5.74**	**300**	*e*P	**Pn**	**16 51 12.0**	**-0.5**
BHK				*ex*	x	16 52 49.4	
GTK	**Tadong**	**5.79**	**102**	*e*P	**Pn**	**16 51 13.2**	**-0.1**
GTK				*e*S	**Sn**	**16 52 16.4**	**-3.2**
JBP	**Jabalpur**	**5.84**	**201**	*i* P	**Pn**	**16 51 15.4**	**+1.6**
JBP				*e*S	**Sn**	**16 52 20.3**	**-0.1**
JBP				AML	AML	16 52 58.1	
	comp=Z,7μm,0.7s						
BOK	**Bokaro**	**5.86**	**145**	*e*P	**Pn**	**16 51 14.3**	**+0.2**
BOK				*e*P	**Pn**	**16 51 15.3**	**+1.2**
BOK				*e*S	**Sn**	**16 52 18.1**	**-2.9**
BOK				IAML		16 52 53.4	
	comp=E,663nm,0.1s						
BOK				IAML		16 52 54.0	
	comp=N,4μm,1.1s						
DHRM	**DHARAMSHALA**	**6.24**	**306**	*e*P	**Pn**	**16 51 19.6**	**0.0**
DHRM				*e*S	**Sn**	**16 52 27.7**	**-3.0**
DHRM				IAML		16 52 52.6	
	comp=N,110μm,1.7s						
BHPL	**Bhopal**	**6.92**	**220**	*e*P	**Pn**	**16 51 28.1**	**-0.7**
DHUB	**DHUBRI**	**7.39**	**109**	*e*P	**Pn**	**16 51 33.9**	**-1.2**
DHUB				*e*S	Sn	16 52 52.6	-6.1
TURI	**Tura**	**7.86**	**111**	*e*P	Pn	16 51 39.5	-2.2
TURI				*e*S	Sn	16 53 03.0	-7.2
LSA	**Lhasa**	**7.87**	**80**	Pn	**Pn**	**16 51 43.1**	**+1.0**
LSA					Sn	**16 53 09.3**	**-1.8**
LSA	**Lhasa**	**7.87**	**80**	*e*Pn	**Pn**	**16 51 42.9**	**+0.8**
LSA	**Lhasa**	**7.87**	**80**	*e*P	**Pn**	**16 51 42.9**	**+0.8**
NGP	**Nagpur**	**8.02**	**202**	⇓*e*P	**Pn**	**16 51 42.5**	**-1.3**
	comp=Z,218nm,1.2s						
NGP				*e*S	**Sn**	**16 53 10.3**	**-4.0**
TAWA	**Tawang**	**8.57**	**95**	*e*P	Pn	16 51 50.0	-1.8
TAWA				*e*S	Sn	16 53 20.6	-7.7
TAWA				IAML		16 53 30.2	
	comp=E,216nm,0.3s						
SHL	**Shillong**	**9.14**	**107**	*e*Pn	Pn	16 51 56.6	-2.7
SHL	**Shillong**	**9.14**	**107**	*e*P	Pn	16 51 56.6	-2.7
SHL	**Shillong**	**9.14**	**107**	*e*P	**Pn**	**16 51 58.0**	**-1.3**
CHCP	**Chirah Chowk**	**9.15**	**305**	P	**Pn**	**16 51 59.4**	**0.0**
BELO	**BELONIA**	**9.89**	**121**	*e*P	**Pn**	**16 52 08.1**	**-1.3**
BELO				*ex*	x	16 53 55.9	
BELO				IAML		16 53 59.8	
	comp=N,154nm,0.3s						
BELO				IAML		16 54 01.5	
	comp=E,212nm,0.2s						
THW	**Thamme Wali**	**9.92**	**297**	P	Pn	16 52 07.9	-2.0
CEP	**Cherat**	**10.22**	**303**	P	Pn	16 52 12.8	-1.3
CEP				S	Sn	16 54 04.0	-4.4
BRDH	**Bariadhala**	**10.37**	**123**	Pn	**Pn**	**16 52 16.6**	**+0.5**
	comp=E,56nm,0.3s,baz=274,slow=15,SNR=3.0						
BRDH				Sn	**Sn**	**16 54 07.2**	**-4.8**
	comp=E,39nm,0.3s,baz=299,slow=23,SNR=6.1						
BRDH				LR	LR	16 57 53.2	
	comp=E,383nm,18.2s,baz=325,slow=47						
VIS	**Vishakhapatnam**	**10.94**	**174**	*i* P	**Pn**	**16 52 23.1**	**-0.7**
VIS				*i* S	Sn	16 54 16.5	-9.5
VIS				*ex*	x	16 54 23.6	
	comp=E,815nm,0.9s						
VIS				*ex*	x	16 54 24.8	
	comp=N,323nm,0.7s						
MOKO	**MOKOCHONG**	**11.15**	**99**	*e*P	Pn	16 52 25.0	-1.9
SAIH	**SAIHA**	**11.49**	**120**	*e*P	**Pn**	**16 52 30.5**	**-1.0**
SAIH				*e*S	Sn	16 54 30.6	-9.0
HYB	**Hyderabad**	**11.70**	**198**	*i* P	**Pn**	**16 52 32.0**	**-2.3**
	comp=N,150nm,1.0s						
HYB				*e*S	**Sn**	**16 54 45.0**	**+0.4**
HYB				*e*		16 56 20.0	
HYB	**Hyderabad**	**11.70**	**198**	*e*P	**Pn**	**16 52 31.9**	**-2.3**
KSH	**Kashi**	**12.00**	**336**	P	Pn	16 52 33.8	-4.6
KSH				pP		16 52 37.4	
KSH				sP		16 52 40.2	
KSH				S	Sn	16 54 42.7	-9.2
KSH				SS	**SnSn**	**16 54 58.3**	**-5.9**
KSH				pmax	pmax		
	comp=N,30nm,1.1s						
KSH				LR	LR		
	comp=N,830nm,9.3s						
KSH				LR	LR		
	comp=N,540nm,8.8s						
KSH				LR	LR		
	comp=N,880nm,12.5s						
KBL	**Kabul**	**12.67**	**301**	*e*Pn	Pn	16 52 45.1	-2.6
KBL	**Kabul**	**12.67**	**301**	*e*P	Pn	16 52 45.1	-2.6
POO	**Poona**	**12.68**	**219**	*e*P	**Pn**	**16 52 45.8**	**-1.9**
NRN	**Naryn**	**13.72**	**340**	*e*Pn	Pn	16 52 58.8	-3.3
NRN	**Naryn**	**13.72**	**340**	*e*P	Pn	16 52 58.8	-3.2
KDJ	**Kajisay**	**14.05**	**344**	*e*Pn	Pn	16 53 04.0	-2.4
KDJ	**Kajisay**	**14.05**	**344**	*e*P	Pn	16 53 04.0	-2.4
PRZ	**Przheval'sk**	**14.13**	**348**	*e*Pn	Pn	16 53 05.0	-2.6
PRZ	**Przheval'sk**	**14.13**	**348**	*e*P	Pn	16 53 05.0	-2.6
GAR	**Garm**	**14.28**	**319**	*e*Pn	Pn	16 53 05.0	-4.6
GAR	**Garm**	**14.28**	**319**	*e*P	Pn	16 53 05.0	-4.6
ULHL	**Ulahol**	**14.39**	**342**	P	Pn	16 53 09.0	-2.2
	SNR=31						
KZA	**Kyzart**	**14.54**	**339**	P	Pn	16 53 10.4	-3.0
	SNR=8.2						
UZB	**Uzunbulak**	**14.68**	**351**	*ce*P	Pn	16 53 10.4	-4.7
UZB				*e*S	Sn	16 55 50.8	-6.7
UZB				pmax	pmax		
	comp=Z,529nm,0.9s						
UZB				MLR	MLR		
	comp=Z,286nm,10.0s						
UZB	**Uzynbulak**	**14.68**	**351**	⇑*e*P	Pn	16 53 10.5	-4.6
	comp=Z,529nm,0.9s						
UZB				*e*S	Sn	16 55 50.9	-6.6
UZB				*e*LR	LR	16 59 00.5	
	comp=Z,286nm,10.2s						
ZHN	**Zhinishke**	**14.79**	**349**	*d* iP	Pn	16 53 12.3	-4.3
ZHN				pmax	pmax		
	comp=Z,238nm,1.3s						
ZHN				MLR	MLR		
	comp=Z,290nm,8.0s						
ZHN	**Zhinishke**	**14.79**	**349**	⇓*i*P	Pn	16 53 12.4	-4.2
	comp=Z,238nm,1.2s						
ZHN				*e*LR	LR	16 58 57.1	
	comp=Z,290nm,8.2s						
PDGK	**Podgornoye**	**14.80**	**352**	P	Pn	16 53 13.2	-3.5
PDGK				pmax	pmax		
	comp=Z,32nm,0.8s						
UCH	**Uchtor**	**14.91**	**337**	P	Pn	16 53 17.4	-1.1
	SNR=7.0						
TNSS	**Tian-Shan**	**14.96**	**345**	*e*P	Pn	16 53 15.4	-3.7
TNSS				pmax	pmax		
	comp=Z,77nm,0.7s						
TNSS	**Tian-Shan**	**14.96**	**345**	*e*P	Pn	16 53 15.4	-3.7
	comp=Z,77nm,0.7s						
MDOK	**Medeo**	**15.06**	**345**	*ce*P	Pn	16 53 16.3	-3.9
MDOK				pmax	pmax		
	comp=Z,59nm,0.7s						
MDOK				MLR	MLR		
	comp=Z,572nm,14.0s						
MDOK	**Medeo**	**15.06**	**345**	⇑*e*P	Pn	16 53 16.3	-3.8
	comp=Z,59nm,0.7s						
MDOK				*e*LR	LR	16 58 58.4	
	comp=Z,572nm,13.6s						
AML	**Almayashu**	**15.12**	**335**	P	**Pn**	**16 53 19.0**	**-2.2**
	SNR=29						
AAA	**Alma-Ata**	**15.13**	**345**	*e*P	Pn	16 53 18.0	-3.1
AAA				MLR	MLR		
	comp=Z,272nm,14.0s						
AAA	**Alma-Ata**	**15.13**	**345**	*e*P	Pn	16 53 18.0	-3.0
AAA				*e*LR	LR	16 59 03.2	
	comp=Z,272nm,14.3s						
KBK	**Karagaybulak**	**15.15**	**339**	P	**Pn**	**16 53 20.5**	**-0.9**
	SNR=6.5						
TKM2	**Tokmak 2**	**15.20**	**341**	*i* P	**Pn**	**16 53 22.1**	**0.0**
TKM2				pmax	pmax		
	comp=Z,19nm,0.8s						
GOA	**Goa**	**15.24**	**212**	*e*P	**Pn**	**16 53 20.5**	**-2.0**
AAK	**Ala-Archa**	**15.28**	**338**	P	**Pn**	**16 53 21.4**	**-1.7**
	SNR=16						
AAK	**Ala-Archa**	**15.28**	**338**	*e*Pn	**Pn**	**16 53 21.4**	**-1.7**
	comp=Z,23nm,0.9s						
AAK				Sn	Sn	16 56 06.8	-5.4
AAK	**Ala-Archa**	**15.28**	**338**	*de*P	**Pn**	**16 53 21.6**	**-1.5**
AAK				pmax	pmax		
	comp=Z,28nm,1.7s						
AAK	**Ala-Archa**	**15.28**	**338**	P	**Pn**	**16 53 22.3**	**-0.9**
	SNR=17						
AAK	**Ala-Archa**	**15.28**	**338**	Pn	**Pn**	**16 53 21.9**	**-1.3**
	comp=Z,2.2nm,0.3s,baz=155,slow=6.7,SNR=34						
AAK				Sn	Sn	16 56 06.7	-5.4
	comp=Z,0.2nm,0.3s,baz=17,slow=17,SNR=3.0						
FRU1	**Bishkek**	**15.39**	**338**	*e*Pn	**Pn**	**16 53 23.3**	**-1.2**
	comp=Z,38nm,0.6s						
FRU1	**Bishkek**	**15.39**	**338**	*e*P	**Pn**	**16 53 23.3**	**-1.2**
FRU1				pmax	pmax		
	comp=Z,38nm,0.6s						
FRU	**Bishkek**	**15.42**	**338**	*e*P	**Pn**	**16 53 23.0**	**-1.8**
FRU				*e*S	**Sn**	**16 56 17.0**	**+1.8**
FRU				pmax	pmax		
	comp=Z,110nm,2.0s						
FRU				MLR	MLR		
	comp=E,2μm,14.0s						
CHMS	**Chumysh**	**15.52**	**339**	P	**Pn**	**16 53 31.0**	**+4.9**
	SNR=6.6						
EKS2	**Erkin-Say**	**15.55**	**336**	P	**Pn**	**16 53 26.2**	**-0.4**
	SNR=9.1						
MDRS	**Chennai**	**15.63**	**187**	*ex*	Pn	16 53 21.5	-6.2
WMQ	**Urumqi**	**15.75**	**15**	*e*P	**Pn**	**16 53 29.3**	**+0.2**
WMQ				pP	P	16 53 32.7	-0.3
WMQ				PP	**PnPn**	**16 53 42.2**	**+4.5**
WMQ				pmax	pmax		
	comp=E,27nm,1.3s						
WMQ				pmax	pmax		
	comp=E,530nm,4.5s						
WMQ				LR	LR		
	comp=E,3μm,13.1s						
WMQ				LR	LR		
	comp=E,1μm,13.1s						
WMQ				LR	LR		
	comp=E,1μm,16.3s						
WMQ	**Urumqi**	**15.75**	**15**	*e*Pn	**Pn**	**16 53 26.5**	**-2.6**
	comp=E,31nm,1.1s						
WMQ	**Urumqi**	**15.75**	**15**	*e*P	**Pn**	**16 53 26.5**	**-2.6**
WMQ				pmax	pmax		
	comp=Z,31nm,1.1s						
USP	**Ospenovka**	**15.85**	**339**	P	**Pn**	**16 53 34.2**	**+3.8**
	SNR=13						
KUU	**Kurty**	**15.91**	**344**	*de*P	Pn	16 53 26.4	-4.8
KUU				pmax	pmax		
	comp=Z,50nm,1.0s						
KUU				MLR	MLR		
	comp=Z,316nm,13.0s						
KUU	**Kurty**	**15.91**	**344**	⇓*e*P	Pn	16 53 26.4	-4.7
	comp=Z,50nm,1.0s						
KUU				*e*LR	LR	16 59 34.6	
	comp=Z,316nm,12.9s						
TAS	**Tashkent**	**16.47**	**323**	P	**Pn**	**16 53 36.5**	**-1.8**
TDK	**Taldyqorghan**	**16.59**	**350**	*e*P	Pn	16 53 36.4	-3.4
TDK				MLR	MLR		
	comp=Z,681nm,12.0s						
TDK	**Taldyqorghan**	**16.59**	**350**	*e*P	Pn	16 53 36.5	-3.3
TDK				*e*LR	LR	16 59 59.1	
	comp=Z,681nm,11.6s						
IUG	**luzhnay**	**16.70**	**327**	*c* iP	Pn	16 53 37.1	-4.3
IUG				pmax	pmax		
	comp=Z,994nm,1.0s						
IUG				MLR	MLR		
	comp=Z,684nm,12.0s						
IUG	**luzhnay**	**16.70**	**327**	⇑*i*P	Pn	16 53 37.1	-4.2
	comp=Z,994nm,1.0s						
IUG				*e*LR	LR	16 59 46.8	
	comp=Z,684nm,11.6s						
CHM	**Chimkent**	**17.04**	**326**	*c* iP	Pn	16 53 41.6	-3.9
CHM				pmax	pmax		
	comp=Z,872nm,0.6s						
CHM				MLR	MLR		
	comp=Z,360nm,13.0s						
CHM	**Chimkent**	**17.04**	**326**	⇑*i*P	Pn	16 53 41.6	-3.9
	comp=Z,872nm,0.6s						
CHM				*e*LR	LR	17 00 02.5	
	comp=Z,360nm,13.0s						
KK31	**Karatay Array**	**17.23**	**330**	*e*Pn	Pn	16 53 43.4	-4.5
KK31	**Karatay Array**	**17.23**	**330**	*i* P	Pn	16 53 43.4	-4.5
KK31				pmax	pmax		
	comp=Z,38nm,1.1s						
KKAR	**Karatay Array**	**17.23**	**330**	*e*Pn	Pn	16 53 43.3	-4.6
KKAR	**Karatay Array**	**17.23**	**330**	*e*P	Pn	16 53 43.3	-4.6
BTLS	**Baital**	**17.59**	**340**	*e*P	Pn	16 53 48.8	-3.5
BTLS				pmax	pmax		
	comp=Z,39nm,0.9s						
BTLS				MLR	MLR		
	comp=Z,315nm,12.0s						
BTLS	**Baital**	**17.59**	**340**	*e*P	Pn	16 53 48.9	-3.5
	comp=Z,39nm,0.9s						
BTLS				*e*LR	LR	17 00 38.6	
	comp=Z,316nm,11.6s						
GTA	**Gaotai**	**18.06**	**49**	⇑P	Pn	16 53 54.0	-4.3
GTA				pP	P	16 53 58.1	-0.6
GTA				sP	pP	16 54 01.4	-2.2
GTA				S	Sn	16 57 13.5	-6.0
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,86nm,4.6s						
GTA				LR	LR		
	comp=Z,440nm,14.3s						
GTA				LR	LR		
	comp=Z,770nm,12.7s						
GTA				LR	LR		
	comp=Z,830nm,12.1s						
MK01	**Makanchi Array**	**18.07**	**0**	*e*Pn	Pn	16 53 54.5	-3.9
MK31	**Makanchi Array**	**18.10**	**0**	*e*Pn	Pn	16 53 55.3	-3.3
MK31	**Makanchi Array**	**18.10**	**0**	*e*P	Pn	16 53 55.3	-3.3
MKAR	**Makanchi Array**	**18.10**	**0**	*i* P	**Pn**	**16 53 55.9**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,17nm,0.6s						
MKAR	**Makanchi Array**	**18.10**	**0**	P	**Pn**	**16 53 56.0**	**-2.6**
	comp=Z,1.5nm,0.3s,baz=183,slow=13,SNR=54						
MKAR				LR	LR	17 01 52.2	
	comp=Z,399nm,18.1s,baz=170,slow=40						
MKAR				ScP	**ScP**	**17 02 04.6**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=126,slow=3.7,SNR=5.1						
MAKZ	**Makanchi**	**18.11**	**359**	*e*Pn	Pn	16 53 55.6	-3.1
	comp=Z,39nm,1.0s						
MAKZ	**Makanchi**	**18.11**	**359**	*e*P	Pn	16 53 55.6	-3.2
MAKZ				pmax	pmax		
	comp=Z,39nm,1.0s						
CHTO	**Chiang Mai**	**18.15**	**119**	*e*P	**Pn**	**16 53 58.9**	**-0.6**
	comp=Z,9.3nm,0.8s						
CHTO	**Chiang Mai**	**18.15**	**119**	*e*P	**Pn**	**16 53 58.9**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**18.15**	**119**	P	**Pn**	**16 54 01.8**	**+2.3**
	comp=Z,57nm,0.9s						
CMMT	**Chiang Mai**	**18.16**	**119**	P	**Pn**	**16 54 01.5**	**+2.0**
CM31	**Chiang Mai Arr**	**18.36**	**120**	*e*P	**Pn**	**16 54 00.3**	**-1.7**
CMAR	**Chiang Mai Arr**	**18.36**	**120**	P	**Pn**	**16 54 00.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=307,slow=13,SNR=19						
CMAR				ScP	**ScP**	**17 02 06.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=298,slow=3.9,SNR=10						
CMAR				LR	LR	17 03 13.1	
	comp=Z,106nm,19.9s,baz=302,slow=44						
CM01	**Chiang Mai Arr**	**18.40**	**120**	*e*P	**Pn**	**16 53 59.4**	**-3.0**
KMI	**Kunming**	**18.63**	**96**	P	**P**	**16 54 05.5**	**+0.4**
KMI				pP	Pn	16 54 07.8	+2.4
KMI				S	**Sn**	**16 57 29.6**	**-4.0**
KMI				sS	S	16 57 34.4	-2.7
KMI				SS		16 57 50.9	
KMI				pmax	pmax		
	comp=Z,20nm,0.7s						
KMI				pmax	pmax		
	comp=Z,190nm,4.2s						
KMI				LR	LR		
	comp=Z,370nm,12.1s						
KMI				LR	LR		
	comp=Z,500nm,11.0s						
KMI				LR	LR		
	comp=Z,540nm,11.8s						
KMI	**Kunming**	**18.63**	**96**	*e*P	**P**	**16 54 02.8**	**-2.3**
	comp=Z,20nm,0.8s						
KMI	**Kunming**	**18.63**	**96**	*e*P	**P**	**16 54 02.8**	**-2.3**
KMI				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2	**Chengdu**	**18.82**	**78**	⇑P	**P**	**16 54 05.5**	**-1.5**
CD2				sP	Pn	16 54 10.0	+2.5
CD2				S	**Sn**	**16 57 38.7**	**+0.9**
CD2				sS	S	16 57 45.0	+4.4
CD2				pmax	pmax		
	comp=Z,40nm,1.6s						
CD2				pmax	pmax		
	comp=Z,120nm,5.0s						
CD2				LR	LR		
	comp=Z,810nm,8.3s						
CD2				LR	LR		
	comp=Z,3μm,9.5s						
CD2				LR	LR		
	comp=Z,3μm,10.6s						
LAMP	**Lampang**	**18.85**	**119**	P	**P**	**16 54 09.3**	**+1.9**
	comp=Z,6.3nm,0.8s,comp=Z,61nm						
ZSN	**Zaisan**	**18.87**	**6**	*e*P	P	16 54 03.6	-3.8
ZSN				pmax	pmax		
	comp=Z,32nm,1.6s						
ZSN				MLR	MLR		
	comp=Z,139nm,14.0s						
ZSN	**Zaisan**	**18.87**	**6**	*e*P	P	16 54 03.6	-3.7
	comp=Z,32nm,1.6s						
ZSN				*e*LR	LR	17 01 59.8	
	comp=Z,139nm,13.6s						
SUKH	**Sukhothai**	**19.47**	**121**	P	**Pn**	**16 54 19.8**	**+4.4**
	comp=Z,6.3nm,0.9s						
NANT	**Nan**	**19.53**	**116**	P	**P**	**16 54 16.7**	**+1.9**
	comp=Z,5.0nm,0.9s						
PBA	**Port Blair**	**19.57**	**148**	*e*P	P	16 54 15.0	-0.2
	comp=Z,636nm,2.0s						
LZH	**Lanzhou**	**19.67**	**62**	*e*P	**P**	**16 54 17.0**	**+0.5**
LZH				pP	sP	16 54 24.5	+0.7
LZH				sP	Pn	16 54 27.7	+10
LZH				S	S	16 57 41.9	-16
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,89nm,4.6s						
LZH				LR	LR		
	comp=Z,610nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.0s						
LZH				LR	LR		
	comp=Z,1μm,16.0s						
UMPA	**Umpang Tak**	**19.72**	**125**	P	**Pn**	**16 54 25.5**	**+7.1**
UTTA	**Uttaradit**	**20.02**	**119**	P	**P**	**16 54 21.8**	**+1.7**
	comp=Z,7.9nm,0.9s,comp=Z,66nm						
UTHA	**Uthaitani**	**20.57**

comp=Z,300nm,11.5s
WSAR Wadi Sarin 21.88 261 P **P** **16 54 42.7 +2.4**
comp=Z,17nm,0.6s,baz=110,slow=12,SNR=13
WSAR LR LR 17 04 00.8
comp=Z,125nm,19.6s,baz=99,slow=39
KURBB Kurchatov Arra 22.11 354 P **P** **16 54 41.2 -1.2**
comp=Z,30nm,0.8s,baz=178,slow=9.8,SNR=158
KURBB S **S** **16 58 42.9 -2.5**
comp=Z,4.7nm,1.2s,baz=168,slow=16,SNR=4.2
KURBB ScP **ScP** **17 02 14.0 -2.3**
comp=Z,2.6nm,1.0s,baz=188,slow=1.8,SNR=11
GEYT Alibeck 22.12 301 P **P** **16 54 42.9 +0.1**
comp=Z,5.6nm,1.0s,baz=109,slow=8.0,SNR=10.0
KURK Kurchatov 22.19 354 *eP* **P** **16 54 41.9 -1.4**
comp=Z,125nm,1.4s
KURK S **S** **16 58 42.9 -4.1**
KURK ScP **ScP** **17 02 13.9 -2.5**
KURK Kurchatov 22.19 354 *c iP* **P** **16 54 41.9 -1.4**
KURK pmax pmax
comp=Z,134nm,1.7s
KURK Kurchatov 22.19 354 P **P** **16 54 42.1 -1.3**
SNR=40
KURK P **P** **16 54 42.1 -1.3**
SNR=40
BRZS Berezniki 22.50 344 *eP* **P** **16 54 44.4 -2.2**
BRZS pmax pmax
comp=Z,654nm,1.0s
BRZS MLR MLR
comp=Z,210nm,11.0s
BRZS Berezniki 22.50 344 *eP* **P** **16 54 44.4 -2.2**
comp=Z,654nm,1.0s
BRZS *e*LR LR 17 03 41.5
comp=Z,210nm,10.6s
PHET Kaeng Krachan 22.54 130 P **P** **16 54 53.4 +6.0**
comp=Z,9.2nm,1.0s
SKNT Sakolnakorn 23.14 116 P **P** **16 54 53.9 +0.3**
comp=Z,14nm,0.9s
MHTO MHTO 23.28 256 P **P** **16 54 57.6 +2.6**
SNR=7.2
MHTO P **P** **16 54 57.6 +2.6**
SNR=7.2
XAN Xi'an 23.38 70 P **P** **16 54 54.3 -1.7**
XAN PP sP 16 55 25.3 +22
XAN PcP PcP 16 58 38.3 -4.2
XAN S S 16 58 57.6 -11
XAN SS **SnSn** **16 59 43.9 +0.2**
XAN pmax pmax
comp=Z,22nm,1.5s
XAN pmax pmax
comp=Z,140nm,6.3s
XAN LR LR
comp=Z,290nm,9.8s
XAN LR LR
comp=Z,1μm,11.3s
XAN LR LR
comp=Z,1μm,12.0s
XAN Xi'an 23.38 70 *eP* **P** **16 54 53.3 -2.7**
comp=Z,42nm,1.4s
XAN Xi'an 23.38 70 *eP* **P** **16 54 53.3 -2.7**
XAN pmax pmax
comp=Z,42nm,1.4s
ENH Enshi 23.77 79 *eP* **P** **16 54 57.8 -2.0**
comp=Z,141nm,1.6s
ZAA0 Zalesovo Array 25.33 4 *eP* **P** **16 55 12.9 -0.9**
comp=Z,109nm,1.1s
ZALV Zalesovo Beam 25.33 4 *eP* **P** **16 55 12.6 -1.2**
ZALV Zalesovo Beam 25.33 4 P **P** **16 55 13.5 -0.3**
ZALV pmax pmax
comp=Z,83nm,0.9s
ZALV MLR MLR
comp=Z,76nm,19.0s
ZALV Zalesovo Beam 25.33 4 P **P** **16 55 13.5 -0.3**
comp=Z,81nm,0.9s,baz=193,slow=9.6,SNR=268
ZALV LR LR 17 05 48.0
comp=Z,76nm,19.0s,baz=244,slow=38
BTO Baotou 25.67 55 *eP* **P** **16 55 17.0 -0.2**
BVAR Borovoye Array 25.86 343 P **P** **16 55 18.2 -0.4**
comp=Z,8.1nm,0.9s,baz=134,slow=8.5,SNR=43
BVAR PcP **PcP** **16 58 49.7 +2.2**
comp=Z,0.5nm,0.4s,baz=191,slow=3.2,SNR=4.7
BVAR ScP **ScP** **17 02 24.7 -1.7**
comp=Z,0.7nm,0.9s,baz=126,slow=2.5,SNR=3.0
BVAR LR LR 17 06 34.6
comp=Z,266nm,18.3s,baz=153,slow=39
BRVK Borovoye 25.92 343 *eP* **P** **16 55 18.6 -0.6**
comp=Z,13nm,1.0s
BRVK Borovoye 25.92 343 *d iP* **P** **16 55 19.0 -0.2**
BRVK pmax pmax
comp=Z,40nm,2.8s
BRVK Borovoye 25.92 343 P **P** **16 55 18.9 -0.3**
SNR=6.6
NVS Novosibirsk 26.16 1 ⇓ *iP* **P** **16 55 21.0 -0.4**
NVS pmax pmax
comp=N,15nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.2s
NVS pmax pmax
comp=Z,26nm,1.2s
TRTT Trang 26.46 138 P **P** **16 55 29.7 +5.3**
comp=Z,15nm,1.1s,comp=Z,1μm
AB31 Akbulak array 26.71 326 P **P** **16 55 26.5 +0.1**
AB31 pmax pmax
comp=Z,11nm,0.8s
ABKAR Akbulak array 26.71 326 *eP* **P** **16 55 26.3 -0.1**
SONM Songino Array 26.77 38 P **P** **16 55 27.6 +0.5**
comp=Z,22nm,0.9s,baz=228,slow=9.9,SNR=80
SONM PcP **PcP** **16 58 50.0 +0.1**
comp=Z,3.1nm,1.1s,baz=222,slow=1.9,SNR=3.9
SONM ScP **ScP** **17 02 27.9 -1.5**
comp=Z,1.8nm,1.1s,baz=197,slow=1.5,SNR=5.0
SONM LR LR 17 06 52.1
comp=Z,425nm,18.0s,baz=208,slow=38
HHC Hu-ho-hao-te 26.86 55 *eP* **P** **16 55 28.5 +0.5**
HHC sP sP 16 55 36.4 +0.8
HHC S **S** **17 00 03.4 -0.5**
HHC sS pS 17 00 09.6 -0.5
HHC SS **SnSn** **17 01 14.8 +6.1**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,140nm,4.8s
HHC LR LR
comp=Z,270nm,11.2s
HHC LR LR
comp=Z,380nm,10.4s
HHC LR LR
comp=Z,440nm,14.1s
ZAK Zakamensk 26.92 31 *eP* **P** **16 55 28.5 +0.1**
ZAK pmax pmax
comp=Z,20nm,1.3s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
MOY Mondy 26.93 26 *eP* **P** **16 55 29.5 +1.1**
MOY pmax pmax
comp=Z,5.0nm,1.4s
ULN Ulaanbaatar 27.14 38 *eP* **P** **16 55 30.5 0.0**
comp=Z,28nm,1.0s
ULN Ulaanbaatar 27.14 38 *c iP* **P** **16 55 30.8 +0.3**
ULN pmax pmax
comp=Z,55nm,1.7s
ULN Ulaanbaatar 27.14 38 P **P** **16 55 31.4 +0.9**
SNR=15
TLY Talaya 28.02 29 *eP* **P** **16 55 39.2 +1.1**
TLY pmax pmax
comp=Z,28nm,1.5s
TLY MLR MLR
comp=Z,710nm,19.0s
TLY Talaya 28.02 29 P **P** **16 55 39.9 +1.8**
SNR=6.3
TLY P **P** **16 55 39.9 +1.8**
SNR=6.3
AKTO Aktyubinsk 28.43 327 P **P** **16 55 41.8 0.0**
comp=Z,1.2nm,0.4s,baz=128,slow=7.7,SNR=6.6
AKTO LR LR 17 07 59.2
comp=Z,336nm,18.8s,baz=139,slow=38
BJI Beijing 30.06 59 ⇑ *iP* **P** **16 55 56.9 +0.6**
BJI pmax pmax
comp=Z,14nm,1.4s
BJI LR LR
comp=Z,300nm,10.0s
BJI LR LR
comp=Z,510nm,13.7s
BJI LR LR
comp=Z,230nm,19.1s
PSI Prapat 30.24 145 P **P** **16 55 59.9 +1.6**
comp=Z,3.4nm,0.7s,baz=0.7,slow=1.6,SNR=4.6
PSI LR LR 17 10 13.5
comp=Z,98nm,18.5s,baz=278,slow=40
GSI Gunungsitoli 30.90 149 *eP* **P** **16 56 05.0 +1.0**
comp=Z,21nm,0.7s
NJ2 Nanjing 31.69 75 *eP* **P** **16 56 09.9 -0.9**
NJ2 pmax pmax
comp=Z,16nm,0.5s
SVE Sverdlovsk 32.02 338 *eP* **P** **16 56 13.2 -0.2**
SVE pmax pmax
comp=Z,21nm,1.3s
SVE MLR MLR
comp=Z,480nm,13.0s
ARU Arti 32.44 335 *eP* P 16 56 16.1 -1.0
comp=Z,9.3nm,0.8s
ARU Arti 32.44 335 *ceP* **P** **16 56 16.9 -0.2**
ARU pmax pmax
comp=Z,15nm,1.3s
RAYN Ar Rayn 33.29 270 *eP* **P** **16 56 24.1 -0.9**
RAYN Ar Rayn 33.29 270 *eP* **P** **16 56 24.1 -0.9**
ZEI Tsey 33.85 305 *eP* **P** **16 56 30.0 +0.1**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
NCK Nalchik 34.22 306 ⇓ *eP* **P** **16 56 34.1 +1.2**
NCK pmax pmax
comp=Z,14nm,0.7s
KBZ Khabaz 34.77 306 P P 16 56 36.0 -1.5
KBZ pmax pmax
comp=Z,3.0nm,0.9s
KBZ Khabaz 34.77 306 P P 16 56 36.0 -1.6
comp=Z,2.9nm,0.9s,baz=0.0,slow=13,SNR=3.3
NEY Neytrino 34.79 305 ⇓ *eP* P 16 56 35.2 -2.8
KIV Kislovodsk 34.97 307 *eP* P 16 56 37.2 -2.2
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,81nm,16.0s
YULB Yu-li 35.38 89 *eP* **P** **16 56 41.9 -1.2**
comp=Z,22nm,1.1s
SNY Shenyang 35.89 57 ⇑ P **P** **16 56 47.1 -0.1**
SNY pmax pmax
comp=Z,41nm,0.9s
SNY pmax pmax
comp=Z,96nm,3.5s
SNY LR LR
comp=Z,220nm,11.4s
SNY LR LR
comp=Z,300nm,14.5s
SNY LR LR
comp=Z,420nm,19.6s
BOD Bodaibo 36.59 28 *eP* P 16 56 52.1 -0.9
BOD pmax pmax
comp=Z,13nm,1.7s
KIRV Kirov 37.50 332 P **P** **16 57 00.4 -0.3**
comp=Z,12nm,0.9s,baz=303,slow=21,SNR=7.3
CN2 Changchun 37.55 54 *eP* **P** **16 57 01.2 -0.1**
CN2 *e*S **S** **17 02 50.7 +0.9**
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 LR LR
comp=Z,170nm,12.0s
CN2 LR LR
comp=Z,540nm,12.0s
CN2 LR LR
comp=Z,540nm,11.0s
VRH Novokhopyorsk 37.69 318 *eP* P 16 57 01.5 -0.9
VRH pmax pmax
comp=Z,10.0nm,0.8s
TJN Taejon 38.55 67 *deP* P 16 57 08.7 -1.1
ANN Anapa 38.82 307 *eP* P 16 57 01.5 -11
ANN *e*PP pP 16 57 07.2 -10
ANN *e*SS SS 17 05 49.3 -11
ANN pmax pmax
comp=Z,25nm,1.0s
KS15 Wonju Array Si 38.94 65 *eP* P 16 57 11.4 -1.7
KSAR Wonju Array Be 38.94 65 P **P** **16 57 12.4 -0.6**
KSAR Wonju Array Be 38.94 65 P **P** **16 57 12.5 -0.6**
KS01 Wonju Array Si 38.95 65 *eP* P 16 57 10.9 -2.3
KSRS Korea Array 38.97 65 P P 16 57 12.4 -0.9
comp=Z,8.3nm,0.7s,baz=271,slow=8.8,SNR=25
KSRS LR LR 17 14 50.1
comp=Z,305nm,19.5s,baz=271,slow=39
VSR Storozhevoye 39.21 317 ⇓ *iP* **P** **16 57 14.9 -0.3**
VSR pmax pmax
comp=Z,8.0nm,0.8s
LPSR Galich'ya Gora 39.80 319 *eP* P 16 57 18.7 -1.4
LPSR pmax pmax
comp=Z,10.0nm,0.9s
MDJ Mudanjiang 40.61 54 P **P** **16 57 26.8 -0.1**
MDJ pP pP 16 57 30.0 -2.4
MDJ sP sP 16 57 31.0 -3.7
MDJ PP **PP** **16 58 58.4 -2.1**
MDJ PcP **PcP** **16 59 28.4 -0.4**
MDJ ScP **ScP** **17 03 18.5 +0.8**
MDJ PcS **PcS** **17 03 19.6 +0.2**
MDJ S **S** **17 03 39.2 +3.3**
MDJ sS pS 17 03 40.6 -1.8
MDJ ScS **ScS** **17 07 33.2 +1.2**
MDJ pmax pmax
comp=Z,16nm,1.2s
MDJ pmax pmax
comp=Z,220nm,4.8s
MDJ LR LR
comp=Z,170nm,12.7s
MDJ LR LR
comp=Z,340nm,15.1s
MDJ LR LR
comp=Z,420nm,17.5s
MDJ Mudanjiang 40.61 54 *eP* P 16 57 26.0 -0.9
comp=Z,22nm,1.3s
NRIK Noril'sk 40.83 3 P **P** **16 57 28.4 +0.1**
comp=Z,40nm,0.9s,baz=166,slow=6.0,SNR=36
NRIK LR LR 17 18 36.6
comp=Z,44nm,20.0s,baz=221,slow=42
ZEA Zeya 41.16 40 *eP* **P** **16 57 31.7 +0.4**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,32nm,1.0s
ZEA MLR MLR
comp=Z,600nm,10.0s
ZEA MLR MLR
comp=E,500nm,11.0s
BR131 Keskin Array S 41.23 299 *eP* P 16 57 30.0 -2.3
BRTR Keskin Array B 41.23 299 *ceP* **P** **16 57 32.7 +0.4**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 41.23 299 P **P** **16 57 33.1 +0.8**
comp=Z,3.2nm,1.0s,baz=108,slow=6.6,SNR=13
BRTR LR LR 17 16 12.8
comp=Z,39nm,18.1s,baz=89,slow=38
MSHR Mys Shultsa 41.57 57 ⇑ *eP* **P** **16 57 34.6 -0.2**
JNU Nakatsue 41.69 71 P **P** **16 57 35.9 -0.2**
comp=Z,6.7nm,0.9s,baz=223,slow=8.6,SNR=3.0
OBN Obninsk 41.97 322 *i* P P 16 57 36.9 -1.0
OBN *i* 16 59 32.7
OBN pmax pmax
comp=Z,42nm,2.5s
OBN MLR MLR
comp=Z,207nm,16.0s
VLA Vladivostok 42.13 56 *c iP* **P** **16 57 39.7 +0.3**
VLA pmax pmax
comp=Z,44nm,1.3s
USA0B Ussuriysk Arra 42.28 55 *eP* **P** **16 57 40.3 -0.3**
comp=Z,45nm,1.6s
USRK Ussuriysk Ar. 42.28 55 P **P** **16 57 40.4 -0.2**
comp=Z,5.3nm,0.8s,baz=256,slow=7.7,SNR=12
USRK LR LR 17 16 50.2
comp=Z,263nm,19.5s,baz=245,slow=38
KLR Kul'dur 42.75 47 *c iP* **P** **16 57 44.3 -0.1**
KLR Kul'dur 42.75 47 P **P** **16 57 44.0 -0.3**
comp=Z,19nm,1.1s,baz=276,slow=11,SNR=37
KLR LR LR 17 17 19.1
comp=Z,333nm,19.4s,baz=188,slow=39
KLMR Klimovskoe 42.93 331 *eP* P 16 57 44.0 -1.6
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR Klimovskoe 42.93 331 *eP* P 16 57 44.1 -1.5
KLMR AMP 16 57 46.9
comp=Z,24nm,1.6s
ISP Isparta 43.73 296 ⇑ *iP* **P** **16 57 53.5 +0.9**
ISP Isparta 43.73 296 ⇑ P **P** **16 57 53.5 +0.9**
AKASG Malin Array Be 45.21 314 P **P** **16 58 03.6 -0.4**
comp=Z,1.6nm,0.6s,baz=78,slow=7.2,SNR=9.5
AKASG PP **PP** **16 59 52.4 +2.7**
comp=Z,0.5nm,0.6s,baz=83,slow=6.4,SNR=3.3
AKASG LR LR 17 20 10.3
comp=Z,74nm,18.3s,baz=330,slow=40
AKBB Malin Array Si 45.21 314 *eP* P 16 58 03.2 -0.9
comp=Z,8.7nm,1.0s
KIEV Kiev 45.22 314 *eP* P 16 58 02.9 -1.3
comp=Z,7.2nm,0.9s
KIEV Kiev 45.22 314 ⇓ *iP* **P** **16 58 03.8 -0.3**
KIEV Kiev 45.22 314 ⇓ P **P** **16 58 03.8 -0.3**
CFR Carcaliu 45.42 306 ⇓ *iP* P 16 58 03.8 -2.1
CFR Carcaliu 45.42 306 ⇓ P P 16 58 03.8 -2.1
YAK Yakutsk 45.49 29 *eP* P 16 58 05.0 -1.2
YAK pmax pmax
comp=Z,45nm,0.9s
YAK pmax pmax
comp=N,11nm,0.8s
GRNR Gornyy 45.96 46 *eP* **P** **16 58 10.0 -0.1**
GRNR pmax pmax
comp=Z,42nm,1.0s
VRI Vrincioaia 46.44 307 ⇑ *iP* **P** **16 58 15.6 +1.7**
VRI Vrincioaia 46.44 307 ⇑ P **P** **16 58 15.6 +1.7**
PLOR Plostina 46.49 307 ⇑ *iP* **P** **16 58 15.5 +1.1**
PLOR Plostina 46.49 307 ⇑ P **P** **16 58 15.5 +1.1**
MLR Muntele Rosu 46.98 307 *eP* **P** **16 58 18.9 +0.7**
comp=Z,29nm,1.0s
MLR Muntele Rosu 46.98 307 ⇓ *iP* **P** **16 58 20.1 +1.8**
MLR Muntele Rosu 46.98 307 ⇓ P **P** **16 58 20.1 +1.8**
MAJO Matsushiro 47.24 65 ⇓ *iP* **P** **16 58 19.5 -0.9**
MAJO pmax pmax
comp=Z,20nm,1.5s
MJAR Matsushiro Arr 47.24 65 P **P** **16 58 20.1 -0.3**
comp=Z,2.6nm,0.8s,baz=283,slow=11,SNR=6.1
MJAR LR LR 17 19 35.0
comp=Z,135nm,19.8s,baz=285,slow=38
DOPR Dopca 47.37 307 ⇓ *iP* **P** **16 58 22.6 +1.3**
BURAR Bucovina Array 47.54 310 ⇑ *iP* **P** **16 58 23.6 +1.0**
BURAR Bucovina Array 47.54 310 ⇑ P **P** **16 58 23.6 +1.0**
VOIR 47.61 307 ⇑ *iP* **P** **16 58 27.4 +4.3**
VOIR 47.61 307 ⇑ P **P** **16 58 27.4 +4.3**
IIGN Ignalina 47.75 320 *eP* **P** **16 58 23.3 -0.7**
IIGN IAmb IAmb 16 58 24.6
comp=Z,4.6nm,0.6s
IZAR Zarasai 47.81 321 *eP* **P** **16 58 23.8 -0.7**
IZAR IAmb IAmb 16 58 26.1
comp=Z,7.3nm,0.9s
ISAL Salakas 47.85 321 *eP* **P** **16 58 24.0 -0.7**
ISAL IAmb IAmb 16 58 26.5
comp=Z,14nm,1.1s
ARR Arges 47.90 307 ⇑ *iP* **P** **16 58 26.0 +0.6**
VSU Vasula 48.12 324 ⇑ *iP* **P** **16 58 27.1 +0.4**
VSU pmax pmax
comp=Z,120nm,2.5s
VSU Vasula 48.12 324 *eP* P 16 58 25.9 -0.8
VSU IAmb IAmb 16 58 28.0
comp=Z,75nm,1.1s
APA Apatity 48.49 337 ⇑ *iP* P 16 58 21.7 -7.8
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,2μm,19.0s
IDI Anoyia 48.52 293 ⇓ *iP* **P** **16 58 34.0 +3.7**
NKL Nikolayevsk 48.86 43 *eP* **P** **16 58 32.0 -0.5**
NKL pmax pmax
comp=Z,43nm,1.0s
VTS Vitosha 49.00 303 *eP* **P** **16 58 33.2 -0.8**
comp=Z,7.4nm,1.1s
VTS Vitosha 49.00 303 ⇑ *iP* **P** **16 58 34.6 +0.6**
VTS Vitosha 49.00 303 ⇑ P **P** **16 58 34.6 +0.6**
FINES FINESS Array B 49.18 328 P **P** **16 58 34.5 -0.4**
comp=Z,2.0nm,0.4s,baz=115,slow=8.4,SNR=32
FINES LR LR 17 20 41.8
comp=Z,184nm,18.6s,baz=166,slow=38
GZR Gura Zlata 49.21 307 ⇑ *iP* **P** **16 58 38.6 +3.1**
GZR Gura Zlata 49.21 307 ⇑ P **P** **16 58 38.6 +3.1**
DRGR 49.23 309 ⇓ *iP* **P** **16 58 36.8 +1.2**
DRGR 49.23 309 ⇓ P **P** **16 58 36.8 +1.2**
UZH Uzhgorod 49.52 311 *eP* **P** **16 58 38.0 +0.3**
UZH *i* 16 58 43.6
UZH *e* 16 58 48.6
ASAJ Asahikawa 49.91 55 P **P** **16 58 40.1 -0.7**
comp=Z,9.5nm,1.0s,baz=300,slow=12,SNR=3.3
YSS Yuzh-Sakhalins 49.92 51 *eP* **P** **16 58 40.4 -0.3**
YSS Yuzh-Sakhalins 49.92 51 ⇑ *eP* **P** **16 58 40.2 -0.6**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,120nm,3.7s
YSS pmax pmax
comp=N,130nm,3.5s
YSS pmax pmax
comp=E,120nm,3.6s
YSS MLR MLR
comp=N,100nm,14.0s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=E,100nm,12.0s
TIXI Tiksi 49.93 18 *eP* P 16 58 39.2 -1.3
comp=E,33nm,1.4s
TIXI PcP **PcP** **16 59 59.7 -0.8**
TIXI Tiksi 49.93 18 *c iP* P 16 58 39.2 -1.2
TIXI pmax pmax
comp=Z,33nm,1.7s
TIXI Tiksi 49.93 18 P P 16 58 39.6 -0.8
comp=Z,2.1nm,0.3s,baz=239,slow=6.0,SNR=22
TIXI PcP **PcP** **16 59 59.7 -0.8**
comp=Z,4.2nm,1.0s,baz=310,slow=0.9,SNR=3.5
KLNR Kaliningrad 51.10 319 ⇓ *eP* **P** **16 58 49.5 0.0**
LANS Liptovska Anna 51.39 312 *eP* **P** **16 58 52.7 +0.8**
LANS Liptovska Anna 51.39 312 *eP* **P** **16 58 52.7 +0.8**
VYHS Vyhne 51.82 311 *eP* **P** **16 58 55.5 +0.4**
VYHS Vyhne 51.82 311 *eP* **P** **16 58 55.5 +0.4**
ARCES ARCESS Array B 51.95 338 P **P** **16 58 55.4 -0.4**
comp=Z,3.6nm,0.7s,baz=94,slow=7.3,SNR=7.7
KMBO Kilima Mbogo 52.25 243 P **P** **16 58 59.5 +0.5**
comp=Z,1.2nm,0.7s,baz=43,slow=12,SNR=5.0
JCJ Chichijima 52.52 77 LR LR 17 22 54.3
comp=Z,3μm,21.8s,baz=240,slow=38
BRG Berggiesshubel 54.89 314 *eP* **P** **16 59 18.2 +0.6**
comp=Z,8.6nm,1.3s
BRG Berggiesshubel 54.89 314 *eP* **P** **16 59 18.2 +0.6**
BRG pmax pmax
comp=Z,9.0nm,1.3s
MA2 Magadan 54.94 35 *eP* P 16 59 16.1 -1.7
comp=Z,47nm,2.0s
MA2 PcP **PcP** **17 00 19.2 -0.4**
MA2 Magadan 54.94 35 ⇑ *eP* **P** **16 59 17.3 -0.5**
MA2 pmax pmax
comp=Z,18nm,1.7s
MA2 Magadan 54.94 35 P P 16 59 17.1 -0.7
comp=Z,3.3nm,0.8s,baz=268,slow=7.8,SNR=16
MA2 PcP **PcP** **17 00 19.2 -0.4**
comp=Z,4.0nm,0.7s,baz=138,slow=6.0,SNR=6.0
HFS Hagfors 54.96 325 P P 16 59 17.2 -0.8
comp=Z,5.4nm,0.6s,baz=114,slow=6.4,SNR=20
GERES GERESS Array B 55.20 312 P **P** **16 59 20.0 0.0**
GERES GERESS Array B 55.20 312 P **P** **16 59 19.9 0.0**
comp=Z,0.3nm,0.4s,baz=82,slow=7.1,SNR=3.6
SEY Seymchan 55.88 31 ⇑ *eP* **P** **16 59 24.1 -0.5**
SEY Seymchan 55.88 31 P P 16 59 23.9 -0.7
comp=Z,2.0nm,0.7s,baz=280,slow=7.4,SNR=8.5
NB2 NORSAR Subarra 56.22 326 P P 16 59 25.7 -1.4
comp=Z,1.6nm,0.6s,baz=92,slow=6.9
NOA NORSAR Array B 56.22 326 P P 16 59 25.4 -1.6
comp=Z,2.5nm,0.9s,baz=91,slow=6.9,SNR=4.9
NOA LR LR 17 24 49.1
comp=Z,130nm,18.3s,baz=45,slow=37
OPO Ambohidratompo 57.90 220 P **P** **16 59 41.1 +1.6**
comp=Z,2.5nm,0.8s,baz=156,slow=20,SNR=3.1
PETK Petropavlovsk- 59.09 43 LR LR 17 27 08.9
comp=Z,102nm,21.1s,baz=267,slow=38
BILL Bilibino 61.54 25 *eP* **P** **17 00 03.3 -0.6**
comp=Z,19nm,1.5s
BILL Bilibino 61.54 25 ⇑ *eP* **P** **17 00 03.7 -0.2**
BILL pmax pmax
comp=Z,15nm,1.7s
FITZ Fitzroy Crossi 62.62 133 P **P** **17 00 11.7 0.0**
comp=Z,5.6nm,1.1s,baz=342,slow=16,SNR=3.5
EKA Eskdalemuir Ar 64.41 321 P **P** **17 00 22.3 -0.8**
comp=Z,2.2nm,0.7s,baz=82,slow=7.2,SNR=5.1
LSZ Lusaka 68.10 237 *eP* **P** **17 00 46.2 -1.2**
comp=Z,29nm,2.0s
LSZ Lusaka 68.10 237 P **P** **17 00 48.5 +1.0**
comp=Z,3.3nm,0.6s,baz=60,slow=8.5,SNR=6.9
ES06 SONSECA Array 69.60 305 *eP* P 17 00 55.0 -1.5
ESDC Sonseca Array 69.61 305 P **P** **17 00 56.0 -0.5**

comp=Z,0.6nm,0.6s,baz=63,slow=6.9,SNR=5.6
NWAO Narrogin (SRO) 69.68 149 P **P 17 00 55.7 -1.1**
NWAO Narrogin (SRO) 69.68 149 P **P 17 00 55.7 -1.1**
WRA Warramunga Arr 69.76 128 P **P 17 00 56.8 -0.8**
comp=Z,6.4nm,0.8s,baz=323,slow=6.2,SNR=73
WRAB Tennant Creek 69.76 128 *eP* **P 17 00 56.7 -0.9**
comp=Z,13nm,0.8s
WRAB Tennant Creek 69.76 128 *d iP* **P 17 00 57.3 -0.3**
WB2 Warramunga Arr 69.77 128 *eP* **P 17 00 56.7 -0.9**
comp=Z,16nm,0.8s
MATP Matopo 71.22 233 P **P 17 01 06.4 -0.2**
comp=Z,6.8nm,0.8s,baz=33,slow=5.9,SNR=9.3
SUMG Summit 71.34 344 *eP* **P 17 01 06.3 -0.7**
comp=Z,28nm,1.0s
SUMG Summit 71.34 344 *eP* **P 17 01 06.3 -0.7**
SUMG pmax pmax
comp=Z,28nm,1.0s
AS31 Alice Springs 71.99 131 *eP* **P 17 01 10.1 -1.0**
comp=Z,2.6nm,0.4s
ASAR Alice Springs 71.99 131 P **P 17 01 10.2 -0.9**
comp=Z,5.6nm,0.6s,baz=315,slow=6.2,SNR=135
AS01 Alice Springs 72.02 131 *eP* **P 17 01 10.0 -1.3**
ANM Nome 73.39 25 *eP* **P 17 01 18.4 -0.4**
comp=Z,24nm,1.7s
ANM Nome 73.39 25 *eP* **P 17 01 18.4 -0.4**
ANM pmax pmax
comp=Z,24nm,1.7s
TULEG Thule 73.52 353 *eP* P 17 01 17.8 -1.5
comp=Z,18nm,1.0s
TOA0 Torodi Ar. Sit 75.60 277 *eP* **P 17 01 31.5 -1.0**
TORD Torodi Ar. Bea 75.60 277 P **P 17 01 31.8 -0.7**
comp=Z,4.4nm,1.0s,baz=32,slow=5.0,SNR=12
TORD LR LR 17 38 18.3
comp=Z,141nm,20.0s,baz=5.0,slow=38
TOLK Toolik Lake Re 75.82 17 *eP* **P 17 01 32.3 -0.7**
comp=Z,21nm,0.9s
LBTB Lobatse 76.24 231 *eP* **P 17 01 35.3 -0.7**
comp=Z,20nm,1.1s
LBTB Lobatse 76.24 231 P **P 17 01 36.1 +0.1**
comp=Z,8.2nm,0.9s,baz=37,slow=4.3,SNR=6.3
IM3 Indian Mountai 76.46 20 *eP* P 17 01 35.6 -0.9
COLD Coldfoot 76.64 18 *eP* **P 17 01 37.0 -0.6**
comp=Z,8.2nm,1.1s
RES Resolute Bay 76.89 359 *eP* P 17 01 38.0 -0.8
comp=Z,7.0nm,1.1s
RES Resolute Bay 76.89 359 P **P 17 01 38.2 -0.7**
comp=Z,3.6nm,0.9s,baz=26,slow=10,SNR=14
MLY Manley 78.03 20 *eP* **P 17 01 45.1 -0.4**
comp=Z,16nm,1.2s
FYU Fort Yukon 78.48 18 *eP* **P 17 01 47.9 +0.1**
comp=Z,52nm,1.5s
TSUM Tsumeb 78.49 241 P **P 17 01 50.7 +2.0**
comp=Z,3.3nm,0.9s,baz=165,slow=4.0,SNR=3.8
CAST Castle Rocks 78.72 22 *eP* **P 17 01 48.8 -0.5**
comp=Z,25nm,1.0s
BOSA Boshof 78.83 229 P **P 17 01 50.6 +0.2**
BOSA pmax pmax
comp=Z,4.0nm,0.9s
BOSA MLR MLR
comp=Z,144nm,18.4s
BOSA Boshof 78.83 229 P **P 17 01 50.6 +0.2**
comp=Z,2.6nm,0.6s,baz=18,slow=4.4,SNR=5.1
BOSA LR LR 17 34 56.3
comp=Z,144nm,18.4s,baz=82,slow=34
MDM Murphy Dome 78.83 20 *eP* P 17 01 49.1 -0.7
comp=Z,26nm,1.3s
COLA College 79.00 19 *eP* **P 17 01 50.1 -0.5**
comp=Z,12nm,0.9s
COLA College 79.00 19 *c iP* P 17 01 49.9 -0.8
COLA pmax pmax
comp=Z,15nm,1.2s
BWN Browne 79.02 20 *eP* **P 17 01 50.7 -0.1**
comp=Z,19nm,1.0s
PPLA Purkeypile 79.05 22 *eP* P 17 01 50.5 -0.7
comp=Z,37nm,1.7s
CCB Clear Creek Bu 79.18 20 *eP* P 17 01 50.5 -1.2
comp=Z,20nm,1.9s
PRP Porcupine Dome 79.19 18 *eP* P 17 01 51.2 -0.7
comp=Z,22nm,1.2s
IL1 Eielson Array 79.36 19 *eP* P 17 01 51.2 -1.5
ILAR Eielson Array 79.36 19 P P 17 01 51.9 -0.8
comp=Z,5.7nm,1.0s,baz=303,slow=4.4,SNR=38
ILAR PP **PP 17 04 48.6 -3.4**
comp=Z,2.7nm,1.1s,baz=328,slow=7.0,SNR=4.4
ILB Eielson Array 79.36 19 *eP* P 17 01 51.5 -1.2
INK Inuvik 79.75 13 *eP* P 17 01 53.9 -0.8
comp=Z,17nm,1.1s
INK Inuvik 79.75 13 P **P 17 01 54.6 -0.2**
comp=Z,10.0nm,1.1s,baz=343,slow=7.0,SNR=11
RND Reindeer 79.76 21 *eP* P 17 01 53.4 -1.6
comp=Z,17nm,1.4s
RND Reindeer 79.76 21 *eP* P 17 01 53.4 -1.6
RND pmax pmax
comp=Z,17nm,1.4s
EPYK Eagle Plains 80.72 15 *eP* P 17 01 58.6 -1.5
comp=Z,22nm,1.3s
RIDG Independ'e Rid 80.72 19 *eP* P 17 01 58.9 -1.3
comp=Z,16nm,1.0s
SCRK Sand Creek 80.79 19 *eP* P 17 01 59.6 -1.0
comp=Z,19nm,1.1s
EGAK Eagle 80.94 17 *eP* P 17 02 00.3 -0.9
comp=Z,11nm,1.2s
PMR Palmer 80.98 22 *eP* P 17 02 00.1 -1.4
comp=Z,16nm,1.3s
PMR Palmer 80.98 22 *eP* P 17 02 00.1 -1.4
PMR pmax pmax
comp=Z,16nm,1.3s
DOT Dot Lake 81.02 19 *eP* P 17 02 00.7 -1.0
comp=Z,9.1nm,0.9s
SML Sawmill 81.09 22 *eP* **P 17 02 01.4 -0.7**
comp=Z,32nm,1.0s
SML Sawmill 81.09 22 *eP* **P 17 02 01.5 -0.7**
SML pmax pmax
comp=Z,32nm,1.0s
PAX Paxson 81.12 20 *eP* P 17 02 01.7 -0.7
comp=Z,5.4nm,1.0s
PAX Paxson 81.12 20 *eP* **P 17 02 01.7 -0.7**
PAX pmax pmax
comp=Z,5.0nm,1.0s
KNK Knik Glacier 81.34 22 *eP* **P 17 02 02.9 -0.5**
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 81.40 21 *eP* P 17 02 02.9 -0.9
comp=Z,13nm,1.0s
SCM Sheep Creek Mo 81.40 21 *eP* P 17 02 02.9 -0.9
SCM pmax pmax
comp=Z,13nm,1.0s
HARP HAARP 81.65 20 *eP* **P 17 02 05.0 0.0**
comp=Z,59nm,1.1s
MENT Mentasta 81.67 19 *eP* **P 17 02 04.7 -0.5**
comp=Z,10nm,1.2s
DAWY Dawson 81.97 17 *eP* P 17 02 05.9 -0.8
comp=Z,19nm,1.3s
KLU Klutina 82.10 21 *eP* **P 17 02 07.0 -0.5**
comp=Z,16nm,1.3s
KDAK Kodiak Island 82.43 26 P **P 17 02 08.8 -0.4**
comp=Z,11nm,1.0s,baz=0.0,slow=15,SNR=3.8
STKA Stephens Creek 82.52 132 P **P 17 02 08.7 -1.3**
comp=Z,1.3nm,0.5s,baz=62,slow=12,SNR=3.7
BALM Baldy 83.56 20 *eP* **P 17 02 14.8 -0.4**
comp=Z,18nm,1.2s
BALM Baldy 83.56 20 *eP* **P 17 02 14.8 -0.4**
BALM pmax pmax
comp=Z,18nm,1.2s
DBIC Dimbokro 84.29 274 P **P 17 02 21.3 +1.7**
comp=Z,1.0nm,0.4s,baz=17,slow=16,SNR=4.1
HYT Haines Junctio 85.13 18 *eP* **P 17 02 22.6 -0.6**
comp=Z,9.9nm,0.9s
SKAG Skagway 86.87 18 *eP* **P 17 02 31.3 -0.3**
comp=Z,14nm,1.0s
YKA Yellowknife Ar 88.16 8 P P 17 02 36.5 -1.2
comp=Z,5.4nm,0.7s,baz=340,slow=4.9,SNR=82
YKA LR LR 17 47 16.5
comp=Z,5.3nm,19.4s,baz=202,slow=39
DLBC Dease Lake 89.14 16 *eP* **P 17 02 41.9 -0.7**
comp=Z,18nm,1.4s
DLBC Dease Lake 89.14 16 P **P 17 02 42.7 +0.1**
comp=Z,8.7nm,1.0s,baz=310,slow=7.2,SNR=12
SCHQ Schefferville 92.69 343 LR LR 17 49 19.5
comp=Z,62nm,18.3s,baz=325,slow=38
FFC Flin Flon 96.87 2 *eP* P 17 03 17.4 -0.7
comp=Z,8.1nm,1.2s
FFC Flin Flon 96.87 2 *i* P **P 17 03 18.4 +0.2**
SYO Syowa Base 102.25 194[I] epPdiff pPdif 17 03 47.0 -0.3
TXAR Lajitas Array 122.05 6 PKP **PKPdf 17 08 42.1 -0.2**
comp=Z,0.8nm,0.8s,baz=298,slow=0.1,SNR=5.1
CPUP Villa Florida 144.17 264 PKP **PKPab 17 09 24.1 +3.0**
comp=Z,1.8nm,0.7s,baz=48,slow=6.5,SNR=3.8
LPAZ La Paz 150.06 288 PKPbc **PKPdf 17 09 39.1 +4.8**
comp=Z,2.7nm,0.9s,baz=359,slow=6.5,SNR=8.2
PLCA Paso Flores 154.70 234 PKP **PKPdf 17 09 40.8 +1.0**
comp=Z,2.4nm,1.0s,baz=270,slow=6.3,SNR=1.8

*IDC **06** 16:51:55.8±0.8, 60.°51S×26.°53W, h0km, mb4.1/7, mb1 4.1/8, mb1mx3.9/33, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=32.3km s-min=21.3km az=19.0*
*ISCJB **06** 16:51:56.2±0.5, 60.°65S±0.°09×26.°5W±0.°2, h20km, Error ellipse: s-maj=17.2km s-min=8.2km az=140.9*
*NEIC **06** 16:51:57.2±0.3, 60.°56S×26.°56W, h10km, mb4.6/4, Error ellipse: s-maj=12.0km s-min=7.4km az=211.0*
ISC 06 16:51:58.5±0.6, 60.°6S±0.°1×26.°6W±0.°1, h20km, n32, σ0s56/32, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.51**	**151**	P		**P**	**Pn**	**16 54 54.5**	**-0.5**
VNA1				S		Sn		16 57 03.7	-10
VNA3	**Neumayer Olymp**	**12.63**	**155**	P		**P**	**Pn**	**16 54 55.8**	**-0.9**
VNA3				S		Sn		16 57 02.9	-14
VNA2	**Neumayer--Watz**	**12.91**	**151**	P		**P**	**Pn**	**16 55 00.5**	**0.0**
	baz=313,slow=14								
VNA2				S		Sn		16 57 12.2	-11
	baz=314,slow=20								
SNAA	**Sanae**	**14.52**	**149**	P		**P**	**Pn**	**16 55 21.9**	**-0.6**
SNAA				S		Sn		16 57 50.5	-12
SNAA	**Sanae**	**14.52**	**149**	Pn		**Pn**	**Pn**	**16 55 22.1**	**-0.4**
	0.2nm,0.3s,baz=26,slow=11,SNR=14								
SNAA				Sn		Sn		16 57 48.5	-14
	0.1nm,0.3s,baz=301,slow=18,SNR=2.6								
USHA	**Ushuaia**	**22.77**	**266**	P		**P**		**16 56 58.9**	**-0.4**
	4.3nm,0.7s,baz=125,slow=12,SNR=2.7								
PEL	**Peldehue**	**39.60**	**294**	*eP*		**P**		**16 59 27.8**	**-0.6**
	16nm,0.7s								
CPUP	**Villa Florida**	**40.17**	**315**	*eP*		**P**		**16 59 32.7**	**-0.3**
	22nm,0s								
CPUP	**Villa Florida**	**40.17**	**315**	P		**P**		**16 59 33.3**	**+0.2**
	1.2nm,0.5s,baz=160,slow=8.0,SNR=3.8								
GO02	**Mina Guanaco**	**46.00**	**301**	*eP*		**P**		**17 00 20.7**	**+0.1**
	45nm,1.0s								
BOSA	**Boshof**	**46.97**	**71**	P		**P**		**17 00 27.8**	**-0.1**
	1.7nm,0.8s,baz=183,slow=9.6,SNR=3.6								
PB01	**IPOC Station P**	**49.62**	**303**	*eP*		**P**		**17 00 48.5**	**+0.1**
	40nm,0.3s								
SIV	**San Ignacio**	**51.02**	**316**	P		**P**		**17 00 58.6**	**-0.4**
	1.0nm,0.5s,baz=176,slow=7.5,SNR=6.5								
MNMC	**Minye Minye**	**51.37**	**304**	*eP*		**P**		**17 01 02.0**	**+0.1**
	19nm,0.6s								
LPAZ	**La Paz**	**53.35**	**307**	*eP*		**P**		**17 01 16.9**	**-0.1**
	3.2nm,0.6s								
LPAZ	**La Paz**	**53.35**	**307**	P		**P**		**17 01 17.5**	**+0.5**
	2.4nm,0.4s,baz=120,slow=5.7,SNR=18								
TOA0	**Torodi Ar. Sit**	**76.91**	**28**	*eP*		**P**		**17 03 48.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.91**	**28**	P		**P**		**17 03 48.3**	**-0.7**
	2.0nm,0.6s,baz=203,slow=5.8,SNR=30								
TOA1	**Torodi Ar. Sit**	**76.92**	**28**	*eP*		**P**		**17 03 48.3**	**-0.7**
ASAR	**Alice Springs**	**94.53**	**162**	P		**P**		**17 05 18.2**	**+0.8**
	0.2nm,0.6s,baz=177,slow=3.3,SNR=3.9								
PDAR	**Pinedale Array**	**122.97**	**299**	PKP		**PKiKP**		**17 10 53.0**	**+0.2**
	0.2nm,0.5s,baz=103,slow=4.0,SNR=3.3								
ULM	**Lac du Bonnet**	**123.72**	**314**	PKP		**PKiKP**		**17 10 54.4**	**+0.7**
	1.1nm,0.6s,baz=163,slow=14,SNR=2.9								
FIA0	**FINESS Array S**	**128.26**	**29**	*e*PKPdf		**PKiKP**		**17 11 02.4**	**+0.1**
FINES	**FINESS Array B**	**128.26**	**29**	PKP		**PKiKP**		**17 11 02.4**	**+0.1**
	3.3nm,0.9s,baz=96,slow=5.6,SNR=3.4								
YKA	**Yellowknife Ar**	**139.70**	**314**	PKP		**PKPdf**		**17 11 23.9**	**+0.8**
	0.5nm,0.6s,baz=126,slow=2.3,SNR=6.2								
YKB5	**Yellowknife Ar**	**139.70**	**314**	*e*PKPdf		**PKPdf**		**17 11 23.7**	**+0.6**
INK	**Inuvik**	**149.43**	**316**	*e*PKPbc		**PKPbc**		**17 11 44.3**	**+0.1**
INK	**Inuvik**	**149.43**	**316**	PKPbc		**PKPbc**		**17 11 43.6**	**-0.7**
	1.9nm,0.7s,baz=48,slow=4.8,SNR=5.3								
SONA0	**Songino Array**	**150.38**	**94**	*e*PKPbc		**PKiKP**		**17 11 48.6**	**+0.5**
SONM	**Songino Array**	**150.38**	**94**	PKPbc		**PKiKP**		**17 11 48.6**	**+0.5**
	1.0nm,0.7s,baz=213,slow=2.3,SNR=5.8								
ILAR	**Eielson Array**	**153.21**	**305**	PKPbc		**PKiKP**		**17 11 54.1**	**+0.9**
	0.5nm,0.6s,baz=149,slow=2.9,SNR=11								
ILB	**Eielson Array**	**153.21**	**305**	*e*PKPbc		**PKiKP**		**17 11 54.0**	**+0.7**

*ISCJB **06** 16:52:43.6±1.0, 21.°45N±0.°08×143.°1E±0.°3, h311km, Error ellipse: s-maj=42.3km s-min=11.0km az=177.4*
*IDC **06** 16:52:45.5±1.9, 21.°55N×143.°22E, h315km±18km, mb3.2/8, mb1 3.3/10, mb1mx3.0/58, mbtmp3.9/10, Error ellipse: s-maj=37.5km s-min=13.6km az=84.0*
ISC 06 16:52:45.1±1.2, 21.°5N±0.°1×143.°2E±0.°4, h311km, n10, σ0s60/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.64**	**351**	P		**P**	**Pn**	**16 54 10.9**	**+0.5**
	6.3nm,0.3s,baz=121,slow=23,SNR=5.2								
JCJ				S		S		16 55 19.3	+0.2
	7.8nm,0.3s,baz=78,slow=24,SNR=5.7								
MJAR	**Matsushiro Arr**	**15.59**	**345**	P		**P**		**16 56 07.5**	**-0.4**
	0.1nm,0.3s,baz=169,slow=10,SNR=4.5								
WRA	**Warramunga Arr**	**42.09**	**192**	P		**P**		**17 00 08.1**	**+0.6**
	0.3nm,0.2s,baz=16,slow=9.5,SNR=28								
ASAR	**Alice Springs**	**45.79**	**192**	P		**P**		**17 00 36.5**	**-0.2**
	0.1nm,0.3s,baz=11,slow=6.5,SNR=4.6								
MKAR	**Makanchi Array**	**54.81**	**315**	P		**P**		**17 01 44.0**	**+0.4**
	1.0nm,0.3s,baz=100,slow=9.2,SNR=3.7								
KURBB	**Kurchatov Arra**	**57.65**	**317**	P		**P**		**17 02 03.3**	**0.0**
	0.7nm,0.4s,baz=93,slow=7.7,SNR=11								
BVAR	**Borovoye Array**	**62.80**	**320**	P		**P**		**17 02 38.2**	**+0.2**
	1.0nm,0.4s,baz=101,slow=7.9,SNR=14								
YKA	**Yellowknife Ar**	**76.64**	**28**	P		**P**		**17 04 01.6**	**0.0**
	0.4nm,0.5s,baz=292,slow=5.8,SNR=4.6								
ARCES	**ARCESS Array B**	**79.10**	**342**	P		**P**		**17 04 15.1**	**0.0**
	5.0nm,1.1s,baz=75,slow=6.8,SNR=2.5								
FINES	**FINESS Array B**	**83.35**	**334**	P		**P**		**17 04 36.0**	**-1.4**
	1.1nm,0.6s,baz=86,slow=6.1,SNR=3.6								

*ISCJB **06** 16:57:26.3±1.1, 43.°6S±0.°4×39.°5E±0.°4, h10km, mb4.1/6, Error ellipse: s-maj=67.0km s-min=13.6km az=36.0*
*IDC **06** 16:57:27.5±1.1, 43.°53S×39.°72E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.7/41, mbtmp4.0/5, Error ellipse: s-maj=71.4km s-min=25.1km az=41.0*
*NEIC **06** 16:57:28.6±0.5, 43.°33S×39.°66E, h10km, mb4.4/5, Error ellipse: s-maj=35.7km s-min=11.9km az=219.0*
ISC 06 16:57:28.4±0.9, 43.°6S±0.°3×39.°5E±0.°3, h10km, n18, σ1s21/18, mb4.1/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.43**	**301**	*eP*		**P**		**17 01 43.7**	**-0.4**
	53nm,1.6s								
BOSA	**Boshof**	**18.80**	**318**	*eP*		**P**		**17 01 47.3**	**-0.8**
	12nm,1.1s								
LBTB	**Lobatse**	**21.73**	**324**	*eP*		**P**		**17 02 17.1**	**-2.8**
	14nm,1.1s								
LBTB	**Lobatse**	**21.73**	**324**	P		**P**		**17 02 20.8**	**+0.9**
	8.9nm,1.1s,baz=131,slow=5.6,SNR=3.6								
LSZ	**Lusaka**	**29.82**	**338**	*eP*		**P**		**17 03 35.1**	**-0.7**
	8.8nm,1.5s								
LSZ	**Lusaka**	**29.82**	**338**	P		**P**		**17 03 37.9**	**+2.1**
	1.9nm,0.8s,baz=145,slow=12,SNR=2.3								
TOA0	**Torodi Ar. Sit**	**66.16**	**319**	*eP*		**P**		**17 08 15.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**66.16**	**319**	P		**P**		**17 08 16.2**	**0.0**
	1.3nm,1.0s,baz=148,slow=4.7,SNR=5.3								
TOA1	**Torodi Ar. Sit**	**66.16**	**319**	*eP*		**P**		**17 08 16.2**	**0.0**
ASAR	**Alice Springs**	**77.14**	**110**	P		**P**		**17 09 22.6**	**+0.2**
	1.1nm,1.0s,baz=212,slow=5.0,SNR=5.0								
WRA	**Warramunga Arr**	**79.94**	**108**	P		**P**		**17 09 36.8**	**-1.1**
	1.0nm,1.0s,baz=229,slow=6.1,SNR=3.5								
WR1	**Warramunga Arr**	**79.94**	**108**	*eP*		**P**		**17 09 36.8**	**-1.1**
	27nm,1.6s								
TX31	**Lajitas Ar. Si**	**147.39**	**257**	*e*PKPbc		**PKPbc**		**17 17 13.1**	**+0.6**
TXAR	**Lajitas Array**	**147.39**	**257**	PKPbc		**PKiKP**		**17 17 14.2**	**-0.6**
	2.1nm,0.9s,baz=128,slow=5.9,SNR=9.9								
ECSD	**EROS Data Cent**	**148.50**	**286**	*e*PKPbc		**PKPbc**		**17 17 15.0**	**+0.1**
ULM	**Lac du Bonnet**	**149.15**	**298**	PKPbc		**PKPbc**		**17 17 16.0**	**-0.3**
	2.1nm,0.7s,baz=53,slow=3.2,SNR=5.1								
INK	**Inuvik**	**154.95**	**354**	PKPbc		**PKiKP**		**17 17 31.0**	**+2.1**
	2.2nm,0.6s,baz=70,slow=29,SNR=7.0								
EGMT	**Eagleton**	**158.16**	**292**	*e*PKPdf		**PKPdf**		**17 17 25.2**	**+0.1**

*ISCJB **06** 16:59:36.1±1.0, 42.°7S±0.°2×41.°0E±0.°3, h10km, mb3.9/4, Error ellipse: s-maj=39.3km s-min=17.1km az=139.0*
*IDC **06** 16:59:36.0±1.2, 42.°78S×40.°94E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/39, mbtmp3.9/4, Error ellipse: s-maj=62.4km s-min=28.8km az=62.0*
*NEIC **06** 16:59:37.5±0.9, 42.°74S×40.°99E, h10km, mb4.4/2, Error ellipse: s-maj=40.0km s-min=17.4km az=51.0*
ISC 06 16:59:37.6±1.1, 42.°8S±0.°2×40.°9E±0.°3, h10km, n8, σ1s24/8, mb4.0/4, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.96**	**313**	*eP*		**P**		**17 03 57.5**	**-1.6**
	30nm,1.8s								
SUR	**Sutherland**	**18.98**	**296**	*eP*		**Pn**		**17 04 00.9**	**+0.9**
	60nm,1.6s								
LSZ	**Lusaka**	**29.49**	**334**	P		**P**		**17 05 43.2**	**+1.1**
	1.0nm,0.4s,baz=180,slow=6.1,SNR=3.6								
QSPA	**South Pole Qui**	**47.46**	**180**	P		**P**		**17 08 12.9**	**+0.6**
	2.4nm,1.0s,baz=279,slow=7.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**66.24**	**318**	P		**P**		**17 10 26.0**	**+0.1**
	0.9nm,0.8s,baz=157,slow=5.5,SNR=4.2								
TOA1	**Torodi Ar. Sit**	**66.25**	**318**	*eP*		**P**		**17 10 26.0**	**0.0**
WRA	**Warramunga Arr**	**79.15**	**107**	P		**P**		**17 11 42.7**	**-0.1**
	0.5nm,0.8s,baz=214,slow=5.5,SNR=2.7								
TXAR	**Lajitas Array**	**148.65**	**256**	PKPbc		**PKPbc**		**17 19 23.4**	**-1.7**
	0.7nm,0.8s,baz=139,slow=6.0,SNR=5.8								

IDC 06 17:18:57.7±2.0, 38.°95N×95.°80E, h0km, mb2.9/2, mb1 3.2/5, mb1mx3.1/56, mbtmp3.1/5, ML2.6/3, Error ellipse: s-maj=45.6km s-min=25.8km az=61.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**11.75**	**37**	Pn		**Pn**	**Pn**	**17 21 47.0**	**+0.4**
	0.1nm,0.3s,baz=223,slow=15,SNR=4.7								
SONM				Lg		Lg	Lg	17 25 03.4	
	0.0nm,0.3s,baz=238,slow=27,SNR=3.1								
MKAR	**Makanchi Array**	**12.62**	**313**	Pn		**Pn**	**Pn**	**17 21 54.7**	**-3.8**
	0.1nm,0.3s,baz=124,slow=13,SNR=4.7								
MKAR				Sn		Sn	Sn	17 24 09.8	-10
	0.1nm,0.3s,baz=117,slow=28,SNR=4.5								
MKAR				Lg		Lg	Lg	17 25 32.6	
	baz=122,slow=27,SNR=2.2								
KURBB	**Kurchatov Arra**	**16.88**	**319**	Pn		**Pn**	**Pn**	**17 22 50.3**	**-4.9**
	0.0nm,0.3s,baz=129,slow=11,SNR=2.8								
CMAR	**Chiang Mai Arr**	**20.60**	**171**	P		**P**	**P**	**17 23 38.3**	**-0.1**
	0.4nm,0.7s,baz=340,slow=10,SNR=4.5								
BVAR	**Borovoye Array**	**22.42**	**317**	P		**P**	**P**	**17 23 58.1**	**+0.2**
	0.4nm,0.6s,baz=116,slow=9.9,SNR=3.2								

*IDC **06** 17:19:32.1±0.9, 10.°77S×165.°65E, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/45, mbtmp4.1/11, ML4.5/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=24.3km s-min=19.9km az=103.0*
*NEIC **06** 17:19:33.8±0.5, 10.°78S×165.°65E, h10km, mb4.9/3, Error ellipse: s-maj=12.0km s-min=9.5km az=100.0*
*ISCJB **06** 17:19:34.7±0.6, 10.°90S±0.°08×165.°68E±0.°08, h30km, mb4.1/10, Error ellipse: s-maj=12.8km s-min=10.1km az=31.0*
ISC 06 17:19:36.6±0.8, 10.°8S±0.°1×165.°7E±0.°1, h30km, n20, σ0s89/21, mb3.9/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.85**	**283**	Pn		**Pn**		**17 21 01.3**	**0.0**
	52nm,0.3s,baz=134,slow=8.8,SNR=11								
HNR				Sn		**Sn**		**17 22 09.4**	**+2.0**
	10nm,0.3s,baz=9.5,slow=12,SNR=2.3								
HNR				LR		LR		17 23 25.6	
	comp=Z,296nm,20.0s,baz=92,slow=40								
DZM	**Mont Dzumac**	**11.22**	**177**	*e*Pn		**Pn**		**17 22 15.7**	**+0.5**
DZM	**Mont Dzumac**	**11.22**	**177**	Pn		**Pn**		**17 22 15.9**	**+0.7**
	0.7nm,0.3s,baz=326,slow=21,SNR=14								
DZM				LR		LR		17 25 57.3	
	comp=Z,106nm,18.9s,baz=338,slow=34								
CTA	**Charters Tower**	**20.89**	**241**	P		**P**		**17 24 15.4**	**-1.2**
	6.9nm,1.0s,baz=32,slow=13,SNR=2.3								
H11S2	**WAKE ISLAND Hy**	**29.13**	**2**	T		T		17 55 58.0	
	baz=181,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**29.13**	**2**	T		T		17 55 58.9	
	baz=181,slow=76,SNR=10								
H11S1	**WAKE ISLAND Hy**	**29.14**	**2**	T		T		17 56 00.3	
	baz=181,slow=76,SNR=11								
URZ	**Urewera**	**29.18**	**161**	P		**P**		**17 25 36.1**	**+0.7**
	6.7nm,0.9s,baz=131,slow=13,SNR=2.4								
STKA	**Stephens Creek**	**30.60**	**223**	P		**P**		**17 25 48.7**	**+0.6**
	1.9nm,0.9s,baz=351,slow=9.7,SNR=3.0								
WR1	**Warramunga Arr**	**31.54**	**249**	*eP*		**P**		**17 25 55.4**	**-1.1**
	24nm,1.5s								
WR1				*e*PcP		**PcP**		**17 28 48.6**	**-0.4**
WRA	**Warramunga Arr**	**31.55**	**249**	P		**P**		**17 25 55.4**	**-1.1**
	0.7nm,0.7s,baz=81,slow=9.3,SNR=7.5								
WRA				PcP		**PcP**		**17 28 48.6**	**-0.4**
	0.6nm,1.1s,baz=158,slow=9.4,SNR=3.2								
ASAR	**Alice Springs**	**32.88**	**243**	P		**P**		**17 26 06.6**	**-1.7**
	0.9nm,0.6s,baz=65,slow=10,SNR=20								
ASAR				PcP		**PcP**		**17 28 52.3**	**-0.3**
	0.2nm,0.6s,baz=61,slow=2.7,SNR=4.5								
KLR	**Kul'dur**	**66.83**	**337**	P		**P**		**17 30 25.7**	**+0.2**
	0.3nm,0.4s,baz=207,slow=4.5,SNR=3.6								
SONA0	**Songino Array**	**78.46**	**324**	*eP*		**P**		**17 31 35.1**	**+0.2**
SONM	**Songino Array**	**78.46**	**324**	P		**P**		**17 31 35.1**	**+0.2**
	0.3nm,0.7s,baz=132,slow=6.6,SNR=3.6								
HDA	**Harding Lake**	**83.03**	**19**	*eP*		**P**		**17 31 59.0**	**+0.2**
	15nm,1.7s								
ILAR	**Eielson Array**	**83.29**	**19**	P		**P**		**17 32 00.2**	**+0.1**
	1.3nm,0.6s,baz=236,slow=5.2,SNR=30								
ILB	**Eielson Array**	**83.29**	**19**	*eP*		**P**		**17 32 00.6**	**+0.5**
	12nm,1.8s								
MK32	**Makanchi Array**	**93.33**	**317**	*eP*		**P**		**17 32 48.2**	**-0.6**
MKAR	**Makanchi Array**	**93.33**	**317**	P		**P**		**17 32 48.2**	**-0.6**
	0.4nm,0

*ISCJB **06** 18:07:22.6±0.8,5°.89N±0°.09×125°.9E±0°.1,h127km,Error ellipse: s-maj=17.5km s-min=9.2km az=146.1*
*MAN **06** 18:07:26.3,5°.91N×125°.93E,h89km,MS3.6*
*IDC **06** 18:07:47.0±2.4,2°.26N×127°.60E,h0km,mb3.2/4, mb1 3.6/4,mb1mx3.2/42,mbtmp3.3/4,Error ellipse: s-maj=120.6km s-min=29.9km az=93.0*

ISC 06 18:07:23.7±1.2,5.9N±0°.1×125.9E±0°.1,h127km,n7, σ1ᵍ35/11,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.27**	**320**	*e*P	**Pn**	**18 07 40.7**	**-0.6**
DDMP				*e*S	**Sn**	**18 07 51.8**	**-2.9**
GSPH	**General Santos**	**0.95**	**282** ⇓	*i*P	**Pn**	**18 07 45.3**	**-0.7**
GSPH				*i*S	**Sn**	**18 08 01.6**	**-1.3**
DMPH	**Davao City--Mi**	**1.24**	**342** ⇑	*e*P	**Pn**	**18 07 49.5**	**+0.7**
DMPH				*e*S	**Sn**	**18 08 06.9**	**-0.8**
SKMP	**Bagumbayan, Su**	**1.47**	**295**	*e*P	**Pn**	**18 07 51.5**	**+0.3**
SKMP				*e*S	**Sn**	**18 08 12.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**23.84**	**181**	P	**P**	**18 12 26.2**	**+0.8**
	1.3nm,0.8s,baz=4.8,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**26.99**	**162**	P	**P**	**18 12 54.0**	**+0.2**
	0.1nm,0.6s,baz=344,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**30.41**	**165**	P	**P**	**18 13 25.1**	**+0.9**
	0.2nm,0.6s,baz=338,slow=7.1,SNR=6.6						

TAP 06 18:17:05.3,24°.52N×121°.85E,h15km±1km,ML1.9,1C,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.09**	**1** ⇑	*i*P	Pg	18 17 09.0	+0.5
	baz=7.0						
TWC				S	Sg	18 17 11.6	+0.9
	baz=7.0						
NANB	**Nanao**	**0.12**	**225**	*i*P	Pb	18 17 09.1	-0.3
	baz=225						
ENA	**Nanau**	**0.13**	**228**	P	Pb	18 17 09.2	-0.3
	baz=225						
EOS1	**EOS1**	**0.26**	**82**	*e*P	Pb	18 17 11.4	-0.3
	baz=82						
TWE	**Neicheng**	**0.26**	**321**	*e*P	Pb	18 17 11.7	0.0
	baz=323						
TWE				*e*S	Sb	18 17 16.1	0.0
	baz=323						
ENTT	**Nioudou**	**0.28**	**296**	*e*P	Pb	18 17 12.1	-0.1
	baz=296						
NDT	**Datong Townshi**	**0.32**	**286**	*e*P	Pb	18 17 13.2	+0.5
	baz=286						
NWLT	**Wulai**	**0.41**	**310**	*e*P	Pb	18 17 14.3	0.0
	baz=309						
NWLT				*e*S	Sb	18 17 20.6	+0.3
	baz=309						
NACB	**Ninganchiao**	**0.41**	**214**	*e*P	Pg	18 17 13.9	+0.3
	baz=214						
NACB				*e*S	Sb	18 17 20.8	+0.4
	baz=214						
NNSB	**Datong**	**0.43**	**259**	*e*P	Pb	18 17 15.4	+0.7
	baz=258						
NNSB				*e*S	Sb	18 17 21.1	0.0
	baz=258						
NNS	**Nan Shan**	**0.44**	**260**	*e*P	Pb	18 17 14.6	-0.2
	baz=259						
NNS				*e*S	Sb	18 17 21.4	+0.1
	baz=259						
ETLH	**Xiulin Townshi**	**0.45**	**227**	*e*P	Pb	18 17 15.5	+0.4
	baz=227						
ETLH				*e*S	Sb	18 17 21.7	+0.1
	baz=227						
TIPB	**Shuangxi**	**0.46**	**358**	*e*P	Pb	18 17 15.9	+0.8
	baz=357						
TIPB				*e*S	Sb	18 17 22.9	+1.2
	baz=357						
YHNB	**Yeheng**	**0.46**	**290**	*e*P	Pb	18 17 15.2	+0.1
	baz=289						
YHNB				*e*S	Sb	18 17 21.9	+0.2
	baz=289						

*ISCJB **06** 18:24:54.5±0.3,35°.65N±0°.04×96°.76W±0°.03,h10km,Error ellipse: s-maj=5.5km s-min=3.1km az=173.9*
*NEIC **06** 18:24:54.9±0.3,35°.55N×96°.72W,h5km,MN3.4,Error ellipse: s-maj=6.1km s-min=3.8km az=175.0*
NEIC Felt [III] at Meeker and Prague. Also felt at Ada, Broken Arrow, Jenks, Oklahoma City, Spencer and Tulsa.
*ANF **06** 18:24:55.9±0.6,35°.58N×96°.77W,h3km±4km,ML4.1/8, Error ellipse: s-maj=5.6km s-min=2.4km az=170.0*

ISC 06 18:24:55.9±0.9,35°.57N±0°.06×96°.75W±0°.03,h10km,n49, σ1ᵍ27/53,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK002	**Wilshire Harra**	**0.36**	**267**	*e*Pg	**Pg**	**18 25 03.4**	**+0.3**
OK005	**Luther M Schoo**	**0.37**	**283**	*e*Pg	**Pg**	**18 25 03.6**	**+0.4**
TUL1	**Leonard**	**0.85**	**66**	*e*Pg	**Pg**	**18 25 12.3**	**0.0**
TUL1	**Leonard**	**0.85**	**66**	P	**Pg**	**18 25 12.3**	**0.0**
	baz=248						
TUL1				S	**Sg**	**18 25 23.8**	**+0.4**
	baz=248						
WMOK	**Wichita Mounta**	**1.86**	**244**	*e*Pn	**Pn**	**18 25 28.1**	**+0.2**
WMOK	**Wichita Mounta**	**1.86**	**244**	P	**Pn**	**18 25 28.2**	**+0.3**
	baz=62						
WMOK				S	**Sb**	**18 25 53.4**	**0.0**
	baz=62						
U32A	**Winter Ranch,**	**2.00**	**294**	*e*Pn	**Pn**	**18 25 30.8**	**+1.1**
HHAR	**Hobbs**	**2.39**	**72**	*e*Pn	**Pn**	**18 25 36.2**	**+1.1**
W39A	**Magazine**	**2.45**	**98**	*e*Pn	**Pn**	**18 25 37.0**	**+0.9**
W39A	**Magazine**	**2.45**	**98**	P	**Pn**	**18 25 37.2**	**+1.2**
	baz=280						
W39A				S	**Sn**	**18 26 07.7**	**+1.7**
	baz=280						
MIAR	**Mount Ida**	**2.80**	**111**	*e*Pn	**Pn**	**18 25 38.8**	**-2.0**
MIAR	**Mount Ida**	**2.80**	**111**	P	**Pn**	**18 25 42.6**	**+1.8**
	baz=293						
MIAR				S	**Sn**	**18 26 17.0**	**+2.5**
	baz=293						
U40A	**Yellville**	**3.26**	**75**	P	**Pn**	**18 25 48.1**	**+1.1**
	baz=257						
X40A	**Basin Creek Fa**	**3.39**	**107**	*e*Pn	**Pn**	**18 25 48.8**	**-0.1**
KSU1	**Kansas State U**	**3.52**	**2**	*e*Pn	**Pn**	**18 25 48.3**	**-2.4**
KSU1	**Kansas State U**	**3.52**	**2**	P	**Pn**	**18 25 51.6**	**+0.9**
	baz=182						
WLAR	**White Oak Lake**	**3.54**	**121**	*e*Pn	**Pn**	**18 25 49.5**	**-1.5**
WHTX	**Lake Whitney,**	**3.62**	**190**	*e*Pn	**Pn**	**18 25 48.6**	**-3.5**
WHAR	**Wooly Hollow**	**3.66**	**93**	*e*Pn	**Pn**	**18 25 53.5**	**+1.0**
UALR	**University of**	**3.70**	**101**	*e*Pn	**Pn**	**18 25 52.7**	**-0.4**
W41B	**Gary Mavity, V**	**3.70**	**95**	*e*Pn	**Pn**	**18 25 52.6**	**-0.5**
W41B	**Gary Mavity, V**	**3.70**	**95**	S	**Sn**	**18 26 38.8**	**+1.9**
	baz=278						
ABTX	**Abilene, Hawle**	**3.79**	**220**	*e*Pn	**Pn**	**18 25 54.2**	**-0.3**
ABTX	**Abilene, Hawle**	**3.79**	**220**	P	**Pn**	**18 25 54.8**	**+0.3**
	baz=38						
CBKS	**Cedar Bluff**	**4.02**	**325**	*e*Pn	**Pn**	**18 25 56.8**	**-0.8**
AMTX	**Amarillo**	**4.09**	**262**	*e*Pn	**Pn**	**18 25 59.9**	**+1.2**
T42A	**Van Buren**	**4.80**	**71**	*e*Pn	**Pn**	**18 26 07.6**	**-0.6**
435B	**Jarrell**	**4.83**	**189**	*e*Pn	**Pn**	**18 26 08.6**	**-0.1**
CCM	**Cathedral Cave**	**5.07**	**59**	*e*Pn	**Pn**	**18 26 13.7**	**+1.7**
MSTX	**Muleshoe**	**5.21**	**254**	*e*Pn	**Pn**	**18 26 12.4**	**-1.5**
PBMO	**Poplar Bluff**	**5.25**	**75**	*e*Pn	**Pn**	**18 26 13.8**	**-0.7**
FVM	**French Village**	**5.62**	**63**	*e*Pn	**Pn**	**18 26 19.3**	**-0.2**
JCT	**Junction City**	**5.69**	**208**	*e*Pn	**Pn**	**18 26 20.1**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.81**	**308**	*e*Pn	**Pn**	**18 26 23.2**	**+1.0**
BGNE	**Belgrade**	**5.93**	**350**	*e*Pn	**Pn**	**18 26 22.7**	**-1.1**
OXF	**Oxford**	**6.12**	**98**	*e*Pn	**Pn**	**18 26 25.4**	**-0.9**
T25A	**Trinidad**	**6.38**	**286**	*e*Pn	**Pn**	**18 26 30.0**	**-0.2**
SIUC	**Southern Illin**	**6.42**	**68**	*e*Pn	**Pn**	**18 26 28.3**	**-2.2**
P42A	**Winchester**	**6.47**	**50**	*e*Pn	**Pn**	**18 26 30.7**	**-0.6**
P42A				*e*Sn	**Sn**	**18 27 44.8**	**-0.4**
N41A	**Harden Midland**	**6.92**	**40**	*e*Pn	**Pn**	**18 26 37.9**	**+0.5**
Q44A	**Meyer Farm, Va**	**7.01**	**59**	*e*Pn	**Pn**	**18 26 36.6**	**-1.9**
PLAL	**Pickwick Lake**	**7.12**	**92**	*e*Pn	**Pn**	**18 26 38.1**	**-2.0**
WVT	**Waverly**	**7.27**	**83**	*e*Pn	**Pn**	**18 26 40.5**	**-1.7**
SDCO	**Great Sand Dun**	**7.36**	**290**	*e*Pn	**Pn**	**18 26 44.6**	**+0.9**
ECSD	**EROS Data Cent**	**8.15**	**1**	*e*Pn	**Pn**	**18 26 53.8**	**-0.5**
MNTX	**Cornudas Mount**	**8.17**	**244**	*e*Pn	**Pn**	**18 26 53.4**	**-1.1**
ISCO	**Idaho Springs**	**8.19**	**304**	*e*Pn	**Pn**	**18 26 55.3**	**+0.1**
I39A	**Houston**	**9.20**	**24**	*e*Pn	**Pn**	**18 27 07.4**	**-1.3**
P18A	**Preston Nutter**	**11.44**	**295**	*e*Pn	Pn	18 27 34.9	-4.8

*IDC **06** 18:32:38.1±1.0,3°.17S×100°.98E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/37,mbtmp3.6/6,Error ellipse: s-maj=41.9km s-min=18.4km az=69.0*
*DJA **06** 18:32:42.3±1.5,3°.S±4°×10°.1E±°,h27km±19km,M3.7/8, MLv3.7/8*

ISC 06 18:32:42.2±0.8,3°.26S±0°.09×100°.78E±0°.07,h29km,n20, σ1ᵍ51/16,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.92**	**303**	P	**Pn**	**18 32 59.6**	**+0.5**
PPSI				S	**Sb**	**18 33 12.9**	**+1.6**
KRJI	**Kerinci**	**1.35**	**30**	P	**Pn**	**18 33 06.7**	**+1.6**
MNAI	**Manna**	**2.43**	**117**	P	**Pn**	**18 33 19.9**	**0.0**
SISI	**Saibi**	**2.56**	**319**	P	**Pn**	**18 33 21.7**	**0.0**
LHSI	**Lahat**	**2.79**	**102**	P	**Pn**	**18 33 26.2**	**+1.3**
RGRI	**Rengat**	**3.28**	**28**	P	Pn	18 33 28.6	-3.1
MDSI	**Maura Dua**	**3.60**	**110**	P	**Pn**	**18 33 37.7**	**+1.6**
LWLI	**Liwa**	**3.71**	**118**	P	Pb	18 33 57.9	+11
KASI	**Kota Agung**	**4.33**	**121**	P	**Pn**	**18 33 46.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.66**	**355**	P	**P**	**18 37 27.6**	**-2.9**
	0.4nm,0.6s,baz=186,slow=10.0,SNR=5.2						
H08S2	**Diego Garcia H**	**28.49**	**260**	T	T	19 08 00.8	
	baz=82,slow=75,SNR=26						
H08S3	**Diego Garcia H**	**28.49**	**260**	T	T	19 08 01.5	
	baz=82,slow=75,SNR=29						
H08S1	**Diego Garcia H**	**28.50**	**260**	T	T	19 08 02.2	
	baz=82,slow=75,SNR=21						
WRA	**Warramunga Arr**	**36.69**	**119**	P	**P**	**18 39 45.0**	**-1.9**
	0.2nm,0.4s,baz=307,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**37.89**	**125**	P	**P**	**18 39 56.0**	**-1.1**
	0.3nm,0.5s,baz=300,slow=8.0,SNR=10.0						
SONM	**Songino Array**	**51.12**	**5**	P	**P**	**18 41 42.9**	**+0.5**
	2.5nm,0.7s,baz=187,slow=9.5,SNR=24						
MKAR	**Makanchi Array**	**52.45**	**344**	P	**P**	**18 41 52.0**	**-0.3**
	0.9nm,0.7s,baz=144,slow=8.0,SNR=9.3						
ZALV	**Zalesovo Beam**	**58.55**	**349**	P	**P**	**18 42 34.9**	**-1.0**
	1.2nm,0.7s,baz=186,slow=5.3,SNR=6.2						
MAW	**Mawson**	**69.26**	**195**	P	**P**	**18 43 48.6**	**+2.5**
	32nm,0.9s,baz=56,slow=3.6,SNR=2.7						
TXAR	**Lajitas Array**	**145.20**	**39**	PKPbc	**PKPbc**	**18 52 17.4**	**-0.1**
	0.4nm,0.5s,baz=245,slow=0.9,SNR=5.8						

*ISCJB **06** 18:42:31.3±0.6,43°.3S±0°.1×39°.5E±0°.2,h10km,mb3.8/11, MS3.6/5,Error ellipse: s-maj=26.8km s-min=11.8km az=43.0*
*IDC **06** 18:42:31.5±0.8,43°.26S×39°.60E,h0km,mb3.9/10, mb1 4.0/11,mb1mx3.8/33,mbtmp3.9/11,ML3.3/1,MS3.6/6, Ms1 3.6/6,ms1mx3.3/34,Error ellipse: s-maj=36.3km s-min=16.7km az=46.0*
*NEIC **06** 18:42:33.4±0.5,43°.26S×39°.56E,h10km,mb4.6/2,Error ellipse: s-maj=22.7km s-min=10.6km az=221.0*

ISC 06 18:42:33.0±0.7,43°.3S±0°.2×39°.5E±0°.2,h10km,n21, σ0ᵍ79/18,mb4.0/11,MS3.5/5,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.30**	**300**	P	**Pn**	**18 46 46.4**	**-0.8**
	0.1nm,0.3s,baz=153,slow=11,SNR=3.7						
SUR				LR	LR	18 52 19.1	
	comp=Z,93nm,20.2s,baz=146,slow=32						
LBTB	**Lobatse**	**21.50**	**323**	P	**P**	**18 47 21.3**	**-0.7**
	1.1nm,0.5s,baz=159,slow=8.6,SNR=2.1						
LBTB				LR	LR	18 54 12.1	
	comp=Z,177nm,19.8s,baz=153,slow=33						
MATP	**Matopo**	**24.58**	**334**	P	**P**	**18 47 53.2**	**-0.1**
	1.7nm,1.0s,baz=148,slow=13,SNR=2.2						
MATP				LR	LR	18 56 25.3	
	comp=Z,117nm,18.9s,baz=162,slow=34						
MAW	**Mawson**	**27.40**	**161**	LR	LR	18 56 29.4	
	comp=Z,163nm,20.0s,baz=284,slow=31						
LSZ	**Lusaka**	**29.54**	**337**	LR	LR	18 58 20.5	
	comp=Z,104nm,21.4s,baz=174,slow=32						
KMBO	**Kilima Mbogo**	**42.01**	**357**	P	**P**	**18 50 25.9**	**+1.1**
	0.7nm,0.5s,baz=234,slow=19,SNR=3.1						
QSPA	**South Pole Qui**	**46.94**	**180**	P	**P**	**18 51 04.8**	**+1.1**
	1.4nm,0.9s,baz=235,slow=1.0,SNR=3.4						
DBIC	**Dimbokro**	**63.91**	**309**	P	**P**	**18 53 06.9**	**+0.8**
	1.0nm,0.6s,baz=141,slow=6.5,SNR=2.7						
TOA0	**Torodi Ar. Sit**	**65.94**	**319**	*e*P	**P**	**18 53 19.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**65.94**	**319**	P	**P**	**18 53 19.2**	**-0.1**
	1.6nm,0.9s,baz=126,slow=3.5,SNR=7.6						
TOA1	**Torodi Ar. Sit**	**65.95**	**319**	*e*P	**P**	**18 53 19.2**	**-0.2**
PSI	**Prapat**	**70.23**	**66**	LR	LR	19 18 10.6	
	comp=Z,138nm,19.8s,baz=84,slow=30						
STKA	**Stephens Creek**	**76.77**	**121**	*e*P	**P**	**18 54 24.3**	**-0.4**
	4.3nm,1.8s						
STKA	**Stephens Creek**	**76.77**	**121**	P	**P**	**18 54 24.6**	**-0.2**
	3.7nm,0.9s,baz=265,slow=3.7,SNR=6.3						
ASAR	**Alice Springs**	**77.21**	**110**	P	**P**	**18 54 27.4**	**0.0**
	1.2nm,1.0s,baz=226,slow=6.7,SNR=5.8						
WR1	**Warramunga Arr**	**79.99**	**108**	*e*P	**P**	**18 54 41.5**	**-1.2**
	22nm,1.4s						
WRA	**Warramunga Arr**	**79.99**	**108**	P	**P**	**18 54 41.5**	**-1.2**
	1.5nm,1.1s,baz=211,slow=6.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**82.08**	**56**	P	**P**	**18 54 54.0**	**+0.3**
	0.1nm,0.4s,baz=242,slow=3.1,SNR=4.1						
TX31	**Lajitas Ar. Si**	**147.51**	**257**	*e*PKPdf	**PKPdf**	**19 02 14.4**	**-0.4**
ECSD	**EROS Data Cent**	**148.45**	**286**	*e*PKPbc	**PKiKP**	**19 02 19.8**	**-1.1**
ULM	**Lac du Bonnet**	**149.04**	**299**	PKPbc	**PKPbc**	**19 02 20.5**	**-0.1**
	2.4nm,0.6s,baz=127,slow=1.8,SNR=5.6						

*ISCJB **06** 18:50:25.0±0.4,32°.24N±0°.05×137°.92E±0°.06,h376km, mb3.2/10,Error ellipse: s-maj=6.4km s-min=6.3km az=40.7*
*JMA **06** 18:50:25.0±0.3,32°.29N×137°.94E,h392km,M3.5*
*IDC **06** 18:50:25.8±0.6,32°.32N×137°.83E,h366km±7km,mb3.0/10, mb1 3.1/15,mb1mx3.0/40,mbtmp3.7/15,Error ellipse: s-maj=15.5km s-min=10.6km az=72.0*

ISC 06 18:50:25.8±0.7,32°.26N±0°.07×137°.95E±0°.07,h376km,n43, σ1ᵍ27/49,mb3.6/18,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO2	**TONANKAI O.B.S**	**1.66**	**333**	P	**Pn**	**18 51 18.9**	**+1.9**
TTO3	**TONANKAI O.B.S**	**1.66**	**344**	P	**Pn**	**18 51 19.2**	**+2.1**
TTO1	**TONANKAI O.B.S**	**1.67**	**325**	P	**Pn**	**18 51 18.6**	**+1.6**
JHJ	**Hachijo jima 2**	**1.77**	**61**	P	**Pn**	**18 51 19.5**	**+1.5**
	31nm,0.3s,baz=324,slow=18,SNR=3.2						
JHJ				S	**S**	**18 51 59.3**	**-0.8**
	12nm,0.3s,baz=319,slow=20,SNR=2.6						
TTO4	**TONANKAI O.B.S**	**1.78**	**349**	P	**Pn**	**18 51 19.4**	**+1.7**
JHJ2	**Mitsune**	**1.79**	**61**	P	**Pn**	**18 51 19.5**	**+1.4**
JIE	**Ise**	**2.37**	**334**	P	**Pn**	**18 51 22.9**	**+1.0**
JKN2	**Miekihoku**	**2.42**	**325**	P	**Pn**	**18 51 22.9**	**+0.6**
JKN2				*e*S	**S**	**18 52 07.6**	**-0.4**
JTNC	**Tanabenakahech**	**2.50**	**309**	P	**Pn**	**18 51 23.4**	**+0.4**
JWY	**Kouya**	**2.78**	**315**	P	**Pn**	**18 51 26.1**	**+0.8**
JOD2	**Odawara 2**	**3.14**	**17**	P	**Pn**	**18 51 28.7**	**+0.4**
JYN	**Shimob**	**3.27**	**9**	P	**Pn**	**18 51 30.8**	**+1.4**
JAI	**Aioi**	**3.31**	**298**	P	**Pn**	**18 51 30.0**	**+0.2**
BSO1	**Boso 1**	**3.48**	**46**	P	**Pn**	**18 51 30.0**	**-0.7**
BSO1				*e*S	**S**	**18 52 21.7**	**-1.6**
JRY	**Ryogami san**	**3.83**	**12**	P	**Pn**	**18 51 35.3**	**+0.7**
MJAR	**Matsushiro Arr**	**4.28**	**3**	P	**Pn**	**18 51 37.8**	**-1.2**
	0.4nm,0.3s,baz=186,slow=10,SNR=26						
MJAR				S	**S**	**18 52 35.6**	**-2.7**
	0.1nm,0.3s,baz=192,slow=21,SNR=3.1						
MAT	**Matsushiro**	**4.28**	**3**	P	**Pn**	**18 51 39.1**	**+0.1**
MAT				S	**S**	**18 52 35.6**	**-2.8**
JTO	**Tosashimizu**	**4.38**	**279**	P	**Pn**	**18 51 39.9**	**-0.3**
JHS	**Saijyo**	**4.87**	**305**	P	**Pn**	**18 51 45.8**	**+0.6**
JNU	**Nakatsue**	**6.02**	**280**	P	**Pn**	**18 51 57.0**	**-0.8**
	0.5nm,0.3s,baz=165,slow=2.2,SNR=5.4						
JCJ	**Chichijima**	**6.33**	**143**	P	**Pn**	**18 52 01.4**	**+0.1**
	8.9nm,0.3s,baz=350,slow=20,SNR=8.0						
JCJ				S	**S**	**18 53 14.7**	**-4.3**
	22nm,0.3s,baz=280,slow=22,SNR=16						
KSRS	**Korea Array**	**9.73**	**305**	P	**Pn**	**18 52 38.7**	**-1.7**
	0.4nm,0.3s,baz=120,slow=10,SNR=7.8						
KLR	**Kul'dur**	**17.58**	**346**	P	**P**	**18 54 06.1**	**-0.5**
	0.2nm,0.3s,baz=177,slow=11,SNR=6.9						
SONM	**Songino Array**	**28.48**	**312**	P	**P**	**18 55 48.2**	**+0.3**
	0.5nm,0.5s,baz=119,slow=7.4,SNR=9.5						
CMAR	**Chiang Mai Arr**	**37.62**	**259**	P	**P**	**18 57 06.3**	**0.0**
	0.4nm,0.3s,baz=55,slow=7.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**43.20**	**316**	P	**P**	**18 57 50.6**	**-0.4**
	1.1nm,0.3s,baz=86,slow=7.5,SNR=6.2						
MKAR	**Makanchi Array**	**44.41**	**306**	P	**P**	**18 58 00.5**	**-0.2**
	0.8nm,0.4s,baz=84,slow=10,SNR=20						
RAMN	**Ramite**	**44.62**	**277**	*e*P	**P**	**18 58 02.4**	**-0.5**
	14nm,0.7s						
JIRN	**Jiri**	**44.73**	**278**	*e*P	**P**	**18 58 04.0**	**+0.1**
	29nm,0.6s						
GUN	**Gumba**	**44.91**	**279**	*e*P	**P**	**18 58 05.1**	**-0.1**
	6.7nm,0.4s						
PKI	**Pulchoki**	**45.41**	**278**	*e*P	**P**	**18 58 08.4**	**-0.7**
	5.5nm,0.7s						
PKIN	**Phulchoki**	**45.42**	**278**	*e*P	**P**	**18 58 08.4**	**-0.7**
	4.2nm,0.6s						
DMN	**Daman**	**45.65**	**279**	*e*P	**P**	**18 58 10.5**	**-0.4**
GKN	**Gorkha**	**45.92**	**279**	*e*P	**P**	**18 58 12.5**	**-0.3**
	8.8nm,0.7s						
DANN	**Dangsing**	**46.54**	**280**	*e*P	**P**	**18 58 17.9**	**+0.1**
	6.8nm,0.4s						
KOLN	**Koldanda**	**46.86**	**279**	*e*P	**P**	**18 58 20.0**	**-0.1**
PYUN	**Piuthan**	**47.26**	**280**	*e*P	**P**	**18 58 23.3**	**+0.1**
	11nm,0.4s						
WRA	**Warramunga Arr**	**52.02**	**184**	P	**P**	**18 58 59.0**	**+0.7**
	0.3nm,0.3s,baz=360,slow=7.7,SNR=21						
ILAR	**Eielson Array**	**55.05**	**30**	P	**P**	**18 59 20.8**	**+1.3**
	0.2nm,0.5s,baz=265,slow=6.3,SNR=5.4						
ASAR	**Alice Springs**	**55.75**	**184**	P	**P**	**18 59 26.8**	**+1.8**
	0.4nm,0.9s,baz=22,slow=11,SNR=4.5						
YKA	**Yellowknife Ar**	**69.36**	**28**	P	**P**	**19 00 54.4**	**+0.9**
	0.2nm,0.4s,baz=298,slow=6.0,SNR=3.9						
FINES	**FINESS Array B**	**71.69**	**332**	P	**P**	**19 01 07.5**	**+0.1**
	2.4nm,0.9s,baz=58,slow=7.6,SNR=8.1						
AKASG	**Malin Array Be**	**76.29**	**322**	P	**P**	**19 01 34.0**	**0.0**
	0.4nm,0.3s,baz=52,slow=5.8,SNR=3.4						

*IDC **06** 18:58:33.1±1.2,2°.75N×128°.62E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.5/48,mbtmp3.7/8,Error ellipse: s-maj=83.5km s-min=16.2km az=66.0*
*ISCJB **06** 18:58:36.1±1.0,2°.8N±0°.2×128°.7E±0°.3,h33km,mb3.7/8, Error ellipse: s-maj=47.5km s-min=11.6km az=150.5*

ISC 06 18:58:38.4±1.3,2°.7N±0°.2×128°.6E±0°.4,h35km,n16, σ0ᵍ46/16,mb4.2/13,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**166**	P	**P**	**19 03 43.0**	**+0.7**
	0.8nm,0.4s,baz=344,slow=10,SNR=24						
ASAR	**Alice Springs**	**26.71**	**169**	P	**P**	**19 04 14.8**	**+0.1**
	0.3nm,0.8s,baz=349,slow=7.4,SNR=5.7						
CMAR	**Chiang Mai Arr**	**33.01**	**300**	P	**P**	**19 05 10.4**	**-0.2**
	0.3nm,0.5s,baz=113,slow=6.9,SNR=4.3						
STKA	**Stephens Creek**	**36.53**	**161**	P	**P**	**19 05 40.3**	**-0.4**
	0.7nm,0.4s,baz=335,slow=11,SNR=5.9						
RAMN	**Ramite**	**46.88**	**305**	*e*P	**P**	**19 07 06.4**	**+0.6**
	8.9nm,0.6s						
JIRN	**Jiri**	**47.50**	**306**	*e*P	**P**	**19 07 11.2**	**+0.4**
	7.9nm,0.5s						
GUN	**Gumba**	**47.85**	**306**	*e*P	**P**	**19 07 13.9**	**+0.4**
	6.6nm,0.4s						
PKI	**Pulchoki**	**48.09**	**305**	*e*P	**P**	**19 07 15.0**	**-0.4**
PKIN	**Phulchoki**	**48.11**	**305**	*e*P	**P**	**19 07 15.1**	**-0.3**
SONM	**Songino Array**	**48.88**	**340**	P	**P**	**19 07 21.4**	**+0.5**
	0.4nm,0.5s,baz=150,slow=7.9,SNR=4.5						
KOLN	**Koldanda**	**49.65**	**305**	*e*P	**P**	**19 07 27.5**	**+0.3**
	4.1nm,0.4s						
DANN	**Dangsing**	**49.74**	**305**	*e*P	**P**	**19 07 27.9**	**-0.1**
	7.8nm,0.5s						
PYUN	**Piuthan**	**50.28**	**305**	*e*P	**P**	**19 07 32.3**	**+0.4**
MKAR	**Makanchi Array**	**59.47**	**325**	P	**P**	**19 08 37.8**	**-0.1**
	0.8nm,0.4s,baz=115,slow=7.8,SNR=15						
KURBB	**Kurchatov Arra**	**63.62**	**327**	P	**P**	**19 09 05.1**	**-0.7**
	0.9nm,0.4s,baz=127,slow=6.1,SNR=7.6						
BVAR	**Borovoye Array**	**69.20**	**327**	P	**P**	**19 09 41.1**	**-0.4**
	0.5nm,0.4s,baz=124,slow=7.2,SNR=3.5						

*IDC **06** 18:58:39.0±1.2,33°.40N×134°.47E,h0km,mb3.4/5, mb1 3.6/6,mb1mx3.3/55,mbtmp3.4/6,ML2.7/1,Error ellipse: s-maj=39.0km s-min=21.0km az=67.0*
*ISCJB **06** 18:58:59.7±0.7,34°.7N±0°.1×137°.3E±0°.1,h300km,mb2.9/5, Error ellipse: s-maj=16.2km s-min=11.4km az=3.6*
*JMA **06** 18:58:59.5±0.5,34°.72N×137°.40E,h313km±4km,M2.5*

**ISC 06 18:59:00.8±1.0,34°.8N±0°.2×137°.33E±0°.10,h300km,n13, σ0ᵍ70/13,m

PB06	**IPOC Station P**	**2.66**	**299**	*e*P	**Pn**	**19 14 17.8**	**+0.7**
PB06				*i* S	**Sn**	**19 14 51.9**	**-0.8**
PB06				IAML		19 14 56.9	
	comp=N,529nm,0.2s						
PB09	**IPOC Station P**	**3.00**	**318**	*e*P	**Pn**	**19 14 22.1**	**+0.9**
PB09	**IPOC Station P**	**3.00**	**318**	*e*P	**Pn**	**19 14 22.0**	**+0.9**
PB09				*i* S	**Sn**	**19 14 59.6**	**-0.3**
PB09				IAML		19 15 06.1	
	comp=E,211nm,0.3s						
PB14	**IPOC Station P**	**3.10**	**258**	*e*P	**Pn**	**19 14 22.4**	**-0.1**
PB05	**IPOC Station P**	**3.11**	**292**	*e*P	**Pn**	**19 14 22.8**	**+0.3**
PB05	**IPOC Station P**	**3.11**	**292**	*e*P	**Pn**	**19 14 22.5**	**0.0**
PB05				*i* S	**Sn**	**19 14 59.8**	**-2.4**
AHML	**Horco Molle**	**3.15**	**151**	*e*P	**Pn**	**19 14 22.1**	**-0.7**
AHML				IAML		19 14 22.7	
	comp=Z,13nm,0.4s						
PB03	**IPOC Station P**	**3.17**	**308**	*e*P	**Pn**	**19 14 23.4**	**+0.2**
PB03	**IPOC Station P**	**3.17**	**308**	*e*P	**Pn**	**19 14 23.2**	**0.0**
PB03				*i* S	**Sn**	**19 15 01.9**	**-1.6**
PB10	**IPOC Station P**	**3.24**	**279**	*e*P	**Pn**	**19 14 24.2**	**+0.3**
PB10	**IPOC Station P**	**3.24**	**279**	*e*P	**Pn**	**19 14 24.1**	**+0.3**
PB10				*e*S	**Sn**	**19 15 03.0**	**-1.7**
PB04	**IPOC Station P**	**3.31**	**300**	*e*P	**Pn**	**19 14 24.9**	**0.0**
PB04	**IPOC Station P**	**3.31**	**300**	*e*P	**Pn**	**19 14 24.8**	**0.0**
PB04				*i* S	**Sn**	**19 15 04.4**	**-2.1**
PB07	**IPOC Station P**	**3.47**	**311**	*e*P	**Pn**	**19 14 26.9**	**0.0**
PB07	**IPOC Station P**	**3.47**	**311**	*e*P	**Pn**	**19 14 26.9**	**0.0**
PB07				*i* S	**Sn**	**19 15 07.8**	**-2.3**
PB02	**IPOC Station P**	**3.76**	**315**	*e*P	**Pn**	**19 14 30.0**	**-0.3**
PB08	**IPOC Station P**	**4.33**	**333**	*e*P	**Pn**	**19 14 38.1**	**+0.4**
CYA	**Choya**	**4.53**	**166**	*e*P	**Pn**	**19 14 40.5**	**+0.7**
PB11	**IPOC Station P**	**4.89**	**330**	*e*P	**Pn**	**19 14 43.4**	**-1.2**
PSGCX	**Pisagua**	**5.25**	**327**	*e*P	**Pn**	**19 14 48.6**	**-0.6**
MNMCX	**Minye Minye**	**5.42**	**334**	*e*P	**Pn**	**19 14 50.8**	**-0.7**
PB12	**IPOC Station P**	**6.19**	**330**	*e*P	**Pn**	**19 14 59.6**	**-1.8**
LPAZ	**La Paz**	**7.77**	**352**	P	**Pn**	**19 15 23.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=150,slow=5.6,SNR=12						
LPAZ				S	**Sn**	**19 16 47.0**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=83,slow=18,SNR=6.2						
BDFB	**Brasília**	**19.75**	**69**	P	**P**	**19 17 45.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=224,slow=13,SNR=7.6						
TXAR	**Lajitas Array**	**63.67**	**324**	P	**P**	**19 23 44.0**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=152,slow=4.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.64**	**69**	P	**P**	**19 24 59.4**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=266,slow=6.8,SNR=5.3						
PDAR	**Pinedale Array**	**77.15**	**329**	P	**P**	**19 25 04.9**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=134,slow=7.7,SNR=2.9						
ULM	**Lac du Bonnet**	**78.24**	**342**	P	**P**	**19 25 09.6**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=134,slow=4.5,SNR=3.3						
MAW	**Mawson**	**81.42**	**163**	P	**P**	**19 25 26.4**	**+0.4**
	comp=Z,9.6nm,0.7s,baz=241,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**94.14**	**340**	P	**P**	**19 26 27.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=132,slow=4.5,SNR=11						
ASAR	**Alice Springs**	**128.40**	**205**	PKP	**PKPdf**	**19 32 14.5**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=142,slow=2.7,SNR=5.0						
WRA	**Warramunga Arr**	**131.57**	**207**	PKP	**PKPdf**	**19 32 21.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=155,slow=1.7,SNR=9.3						
ZALV	**Zalesovo Beam**	**143.45**	**28**	PKP	**PKPdf**	**19 32 41.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=320,slow=4.4,SNR=4.0						
MKAR	**Makanchi Array**	**146.59**	**39**	PKPbc	**PKPbc**	**19 32 49.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=299,slow=3.4,SNR=13						

*ISCJB **06** 19:27:57.9±0.4,6.87**N**±0.03×73.14**W**±0.04,h160km±4km, mb3.5/4,Error ellipse: s-maj=6.2km s-min=4.2km az=19.1*
*IDC **06** 19:27:58.8±0.7,6.91**N**×73.09**W**,h159km±9km,mb3.3/4, mb1 3.6/7,mb1mx3.2/37,mbtmp3.9/7,Error ellipse: s-maj=24.9km s-min=7.5km az=131.0*
*RSNC **06** 19:27:59.6±1.1,6.83**N**×73.14**W**,h151km±4km,ML3.9, Mw3.9*

ISC 06 19:27:58.5±0.7,**6.86N**±0.03×**73.13W**±0.04,**h156**km±5km, **n38**,σ0**9**2/54,**mb3.8**/4,**1C-4D**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**190**	*i* P	**Pn**	**19 28 19.9**	**0.0**
BARC				*e*S	**Sn**	**19 28 35.0**	**-1.4**
BARC				*i*		19 28 36.5	
	comp=Z,1μm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**293**	⇓*i*P	**Pn**	**19 28 21.7**	**+0.6**
BRRC				*e*S	**Sn**	**19 28 38.9**	**+0.5**
BRRC				*i*		19 28 42.5	
	comp=N,2μm,0.2s						
PAMC	**Pamplona, Colo**	**0.64**	**42**	⇓*i*P	**Pn**	**19 28 22.6**	**+0.8**
PAMC				*i*		19 28 23.0	
	comp=Z,542nm,0.2s						
PAMC				*e*S	**Sn**	**19 28 39.9**	**+0.2**
RUSC	**La Rusia**	**0.96**	**177**	⇑*i*P	**Pn**	**19 28 23.9**	**-0.1**
RUSC				*e*S	**Sn**	**19 28 46.6**	**-1.0**
PTBC	**PUERTO BERRIO,**	**1.35**	**256**	*e*P	**Pn**	**19 28 26.5**	**-0.5**
PTBC				*i*		19 28 53.5	
	comp=N,979nm,0.4s						
OCAC	**Ocana**	**1.38**	**352**	*e*P	**Pn**	**19 28 28.0**	**+0.5**
OCAC				*i*		19 28 55.0	
	comp=N,2μm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**107**	⇓*i*P	**Pn**	**19 28 28.1**	**+0.7**
TAMC				*e*S	**Sn**	**19 28 49.9**	**+0.1**
TAMC				*i*		19 28 50.6	
	comp=E,627nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*e*P	**Pn**	**19 28 32.3**	**+0.3**
ZARC				*e*S	**Sn**	**19 28 58.1**	**+0.4**
ZARC				*i*		19 29 02.9	
	comp=N,1μm,0.7s						
CTAB	**Cerro Tablazo,**	**2.12**	**210**	*e*S	**Sn**	**19 29 04.5**	**-0.1**
SMLC	**San Martn de**	**2.14**	**334**	*e*P	**Pn**	**19 28 36.2**	**+0.6**
SMLC				*e*S	**Sn**	**19 29 05.0**	**+0.7**
NORC	**Norcasia**	**2.15**	**233**	*e*P	**Pn**	**19 28 35.7**	**-0.1**
NORC				*e*S	**Sn**	**19 29 04.0**	**-0.5**
NORC				*i*		19 29 13.0	
	comp=N,1μm,0.2s						
CHIC	**Chingaza**	**2.29**	**195**	⇓*i*P	**Pn**	**19 28 38.2**	**+0.3**
CHIC				*e*S	**Sn**	**19 29 07.0**	**-1.2**
CHIC				*i*		19 29 15.2	
	comp=N,250nm,0.3s						
ROSC	**El Rosal**	**2.33**	**211**	*e*P	**Pn**	**19 28 40.2**	**+2.0**
ROSC	**El Rosal**	**2.33**	**211**	P	**Pn**	**19 28 39.7**	**+1.5**
	comp=N,58nm,0.3s,baz=300,slow=20,SNR=149						
ROSC				S	**Sn**	**19 29 11.3**	**+2.5**
	comp=N,82nm,0.3s,baz=347,slow=20,SNR=17						
HELC	**Santa Helena**	**2.47**	**255**	*e*P	**Pn**	**19 28 41.0**	**+1.1**
HELC				*e*S	**Sn**	**19 29 11.4**	**-0.3**
HELC				*i*		19 29 19.9	
	comp=N,324nm,0.4s						
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	**Pn**	**19 28 39.8**	**-0.6**
UREC				*e*S	**Sn**	**19 29 11.0**	**-1.7**
VILC	**Villavicencio,**	**2.79**	**192**	*e*P	**Pn**	**19 28 43.5**	**-0.1**
VILC				*e*S	**Sn**	**19 29 17.3**	**-1.2**
VILC				*i*		19 29 21.3	
	comp=E,615nm,0.6s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**19 28 46.8**	**+0.8**
RREF				*i*		19 29 29.5	
	comp=Z,246nm,0.3s						
CODC	**Agustn Codazz**	**3.07**	**354**	*e*P	**Pn**	**19 28 47.0**	**0.0**
CODC				*e*S	**Sn**	**19 29 25.8**	**+1.2**
SDV	**Santo Domingo**	**3.19**	**51**	*e*P	**Pn**	**19 28 49.2**	**+0.5**
SDV	**Santo Domingo**	**3.19**	**51**	P	**Pn**	**19 28 49.2**	**+0.5**
	comp=Z,24nm,0.3s,baz=212,slow=3.1,SNR=99						
SDV				S	**Sn**	**19 29 26.7**	**-0.9**
	comp=Z,320nm,0.3s,baz=276,slow=19,SNR=30						
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**19 28 50.9**	**+1.2**
PRAC	**Prado**	**3.58**	**209**	*e*P	**Pn**	**19 28 53.3**	**-0.2**
PRAC				*e*S	**Sn**	**19 29 36.5**	**+0.2**
PRAC				*i*		19 29 41.7	
	comp=N,153nm,0.6s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*e*P	**Pn**	**19 28 53.6**	**-0.6**
SMRC	**Santa Marta, M**	**4.41**	**346**	*e*P	**Pn**	**19 29 05.0**	**+0.8**
MARP	**Paez Belalcaza**	**4.88**	**215**	*e*P	**Pn**	**19 29 10.8**	**+0.1**
MALC	**Bahia Malaga**	**5.05**	**236**	*e*P	**Pn**	**19 29 13.8**	**+1.2**
PCON	**Cinco Dias**	**5.55**	**216**	*e*P	**Pn**	**19 29 20.9**	**+1.0**
SOTA	**Rioblanco**	**5.83**	**217**	*e*P	**Pn**	**19 29 25.2**	**+1.7**
APG	**El Apazote**	**18.83**	**297**	P	**P**	**19 32 07.8**	**+1.0**
	comp=N,0.5nm,0.3s,baz=68,slow=19,SNR=3.2						
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**19 34 47.1**	**-1.3**
	comp=N,0.1nm,0.5s,baz=123,slow=9.8,SNR=2.7						
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**	**19 36 15.5**	**-0.2**
	comp=N,1.4nm,0.7s,baz=124,slow=11,SNR=2.2						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**19 36 22.6**	**+0.4**
	comp=N,1.4nm,0.5s,baz=261,slow=14,SNR=3.6						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**19 38 10.5**	**+0.7**
	comp=N,0.4nm,0.3s,baz=131,slow=6.6,SNR=8.2						
MKAR	**Makanchi Array**	**122.29**	**20**	PKP	**PKPdf**	**19 46 34.4**	**-0.8**
	comp=N,0.1nm,0.4s,baz=320,slow=2.6,SNR=2.6						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**19 47 29.0**	**-0.3**
	comp=N,0.2nm,0.6s,baz=117,slow=3.4,SNR=4.2						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**19 47 31.4**	**-0.9**
	comp=N,0.2nm,0.5s,baz=105,slow=3.1,SNR=6.3						
CMAR	**Chiang Mai Arr**	**153.66**	**17**	PKPbc	**PKPbc**	**19 47 40.3**	**+0.5**
	comp=N,0.2nm,0.6s,baz=44,slow=2.7,SNR=3.1						

*ISCJB **06** 19:29:48.1±0.6,43.2**S**±0.2×39.5**E**±0.2,h10km,mb4.0/11, MS3.9/14,Error ellipse: s-maj=27.8km s-min=10.1km az=42.2*
*IDC **06** 19:29:48.1±0.7,43.23**S**×39.58**E**,h0km,mb4.1/10, mb1 4.2/12,mb1mx3.9/32,mbtmp4.2/12,ML3.5/2,MS3.8/15, Ms1 3.8/15,ms1mx3.7/21,Error ellipse: s-maj=36.6km s-min=15.9km az=44.0*
*NEIC **06** 19:29:49.7±0.4,43.23**S**×39.54**E**,h10km,mb4.5/2,Error ellipse: s-maj=20.9km s-min=8.6km az=223.0*

ISC 06 19:29:49.9±0.7,**43.25S**±0.2×**39.5E**±0.2,**h10**km,**n33**, σ0**8**7/23,**mb4.1**/11,**MS3.9**/14,**Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.28**	**300**	P	**Pn**	**19 34 03.8**	**-0.1**
	0.2nm,0.3s,baz=123,slow=19,SNR=6.6						
SUR				S	Sn	19 37 14.4	-14
	0.1nm,0.3s,baz=79,slow=10,SNR=4.1						
BOSA	**Boshof**	**18.56**	**317**	P	**P**	**19 34 07.1**	**+0.1**
	0.1nm,0.3s,baz=136,slow=14,SNR=3.0						
BOSA				LR	LR	19 39 51.6	
	comp=Z,330nm,21.5s,baz=145,slow=32						
LBTB	**Lobatse**	**21.46**	**323**	P	**P**	**19 34 38.6**	**+0.1**
	7.9nm,1.1s,baz=148,slow=12,SNR=5.2						
MATP	**Matopo**	**24.54**	**334**	P	**P**	**19 35 10.5**	**+0.7**
	3.4nm,0.9s,baz=171,slow=10.0,SNR=5.8						
MAW	**Mawson**	**27.44**	**161**	LR	LR	19 44 17.1	
	comp=Z,120nm,18.4s,baz=338,slow=32						
LSZ	**Lusaka**	**29.50**	**337**	P	**P**	**19 35 55.0**	**+0.6**
LSZ	**Lusaka**	**29.50**	**337**	P	**P**	**19 35 55.0**	**+0.6**
	1.2nm,0.6s,baz=155,slow=14,SNR=2.4						
QSPA	**South Pole Qui**	**46.99**	**180**	P	**P**	**19 38 21.4**	**+0.5**
	2.2nm,1.1s,baz=308,slow=7.6,SNR=3.0						
VNDA	**Vanda**	**54.48**	**167**	LR	LR	20 01 26.5	
	comp=Z,118nm,18.1s,baz=282,slow=35						
DBIC	**Dimbokro**	**63.88**	**309**	P	**P**	**19 40 23.5**	**+0.7**
	4.4nm,0.9s,baz=132,slow=5.4,SNR=4.1						
DBIC				LR	LR	20 03 59.2	
	comp=Z,87nm,21.8s,baz=142,slow=32						
TOA0	**Torodi Ar. Sit**	**65.91**	**319**	*e*P	**P**	**19 40 36.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**65.91**	**319**	P	**P**	**19 40 34.4**	**-1.6**
	3.1nm,0.9s,baz=136,slow=2.9,SNR=14						
TORD				LR	LR	20 08 11.2	
	comp=Z,66nm,19.1s,baz=325,slow=35						
TOA1	**Torodi Ar. Sit**	**65.92**	**319**	*e*P	**P**	**19 40 34.4**	**-1.6**
STKA	**Stephens Creek**	**76.79**	**121**	*e*P	**P**	**19 41 42.4**	**+0.7**
	1.0nm,0.9s						
STKA	**Stephens Creek**	**76.79**	**121**	P	**P**	**19 41 42.0**	**+0.2**
	3.4nm,0.7s,baz=223,slow=4.0,SNR=7.7						
STKA				LR	LR	20 09 48.7	
	comp=Z,78nm,18.7s,baz=205,slow=31						
ASAR	**Alice Springs**	**77.22**	**110**	P	**P**	**19 41 42.9**	**-1.4**
	1.7nm,1.0s,baz=226,slow=6.2,SNR=6.2						
ASAR				LR	LR	20 10 06.8	
	comp=Z,65nm,19.5s,baz=162,slow=31						
AS01	**Alice Springs**	**77.25**	**110**	*e*P	**P**	**19 41 44.4**	**-0.2**
WRA	**Warramunga Arr**	**80.00**	**108**	P	**P**	**19 41 59.1**	**-0.6**
	0.2nm,0.6s,baz=224,slow=3.5,SNR=5.8						
WR1	**Warramunga Arr**	**80.00**	**108**	*e*P	**P**	**19 41 59.1**	**-0.6**
	45nm,1.9s						
CMAR	**Chiang Mai Arr**	**82.05**	**56**	P	**P**	**19 42 11.2**	**+0.7**
	0.2nm,0.2s,baz=224,slow=6.0,SNR=5.7						
CMAR				LR	LR	20 15 16.9	
	comp=Z,17nm,18.1s,baz=187,slow=33						
GEYT	**Alibeck**	**82.52**	**15**	LR	LR	20 15 12.0	
	comp=Z,38nm,21.9s,baz=20,slow=33						
BRTR	**Keskin Array B**	**82.74**	**355**	LR	LR	20 19 52.7	
	comp=Z,38nm,18.1s,baz=104,slow=36						
KEST	**Kesra**	**83.26**	**336**	LR	LR	20 21 23.1	
	comp=Z,112nm,19.2s,baz=220,slow=37						
KBZ	**Khabaz**	**86.62**	**2**	LR	LR	20 21 18.1	
	comp=Z,24nm,18.7s,baz=172,slow=36						
ESDC	**Sonseca Array**	**91.41**	**328**	LR	LR	20 24 45.0	
	comp=Z,104nm,18.2s,baz=145,slow=36						
GERES	**GERESS Array B**	**94.45**	**343**	LR	LR	20 26 50.6	
	comp=Z,40nm,21.2s,baz=174,slow=36						
MKAR	**Makanchi Array**	**97.30**	**28**	LR	LR	20 26 59.0	
	comp=Z,21nm,18.8s,baz=218,slow=35						
I41A	**Arkdale**	**143.84**	**289**	*e*PKPdf	PKPbc	19 49 23.6	+1.0
TXAR	**Lajitas Array**	**147.53**	**257**	PKPbc	**PKPbc**	**19 49 33.9**	**-0.5**
	4.7nm,1.1s,baz=139,slow=5.9,SNR=16						
TX31	**Lajitas Ar. Si**	**147.53**	**257**	*e*PKPbc	**PKPbc**	**19 49 35.2**	**+0.9**
ULM	**Lac du Bonnet**	**149.02**	**299**	PKPbc	**PKPbc**	**19 49 37.3**	**-0.1**
	3.1nm,0.9s,baz=72,slow=20,SNR=4.5						
YKA	**Yellowknife Ar**	**155.47**	**331**	PKP	**PKPdf**	**19 49 40.8**	**-1.8**
	0.1nm,0.4s,baz=22,slow=1.8,SNR=4.3						
BMN	**Battle Mountai**	**162.46**	**269**	*e*PKPdf	**PKPdf**	**19 49 51.9**	**+0.2**

*ISCJB **06** 19:43:49.0±0.8,43.74**N**±0.09×105.17**W**±0.10,h0km,Error ellipse: s-maj=13.6km s-min=9.9km az=7.4*
*IDC **06** 19:43:48.8±2.7,43.48**N**×105.40**W**,h0km,mb1 3.8/2, mb1mx3.2/50,mbtmp3.6/2,ML3.3/2,Error ellipse: s-maj=67.1km s-min=9.8km az=153.0*
*NEIC **06** 19:43:50.2±0.8,43.71**N**×105.15**W**,h0km,ML3.2,Error ellipse: s-maj=13.4km s-min=9.7km az=185.0,Suspected Mining explosion.*
NEIC 70 km [44 miles] SSE of Gillette.

ISC 06 19:43:50.4±1.4,**43.71N**±0.09×**105.19W**±0.07,**h0**km,**n9**, σ1**9**11/8,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.93**	**64**	*e*Pn	**Pb**	**19 44 09.7**	**+0.1**
LAO	**LASA Array**	**3.06**	**347**	*e*Pn	**Pn**	**19 44 41.0**	**+0.9**
PDAR	**Pinedale Array**	**3.33**	**255**	Pn	**Pn**	**19 44 43.3**	**-0.7**
	2.0nm,0.3s,baz=78,slow=17,SNR=31						
PDAR				Lg	Lg	19 45 25.6	
	12nm,0.3s,baz=72,slow=31,SNR=6.0						
OGNE	**Ogallala**	**3.62**	**139**	*e*Pn	**Pn**	**19 44 47.7**	**-0.2**
LKWY	**Lake**	**3.85**	**285**	*e*Pn	**Pn**	**19 44 52.7**	**+1.6**
BOZ	**Bozeman (W)**	**4.97**	**295**	*e*Pn	**Pn**	**19 45 05.1**	**-1.3**
	8.7nm,0.7s						
EGMT	**Eagleton**	**5.36**	**325**	*e*Pn	**Pn**	**19 45 11.3**	**-0.5**
	13nm,0.6s						
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		20 39 55.0	
	baz=222,slow=319,SNR=10						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**19 46 02.5**	**-0.6**
	0.8nm,0.3s,baz=230,slow=12,SNR=5.8						
ULM				Lg	Lg	19 48 40.0	
	0.2nm,0.3s,baz=311,slow=22,SNR=3.5						

*KRNET **06** 20:39:48.8±0.1,42.57**N**×79.68**E**,h18km,mb2.7*
*SOME **06** 20:39:49.0,42.58**N**×79.65**E**,h10km*
*NNC **06** 20:39:49.4±1.3,42.62**N**×79.66**E**,h0km,mb3.4,mpv2.9, Error ellipse: s-maj=8.9km s-min=4.8km az=150.0*

ISC 06 20:39:47.7±1.6,**42.54N**±0.04×**79.66E**±0.04,**h5**km±12km, **n30**,σ1**9**09/55,**17C-5D**,**Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.77**	**323**	P	**Pb**	**20 40 03.3**	**-0.4**
	6.7nm,0.2s						
UZB				S	**Sb**	**20 40 13.4**	**-1.1**
	42nm,0.3s						
UZB	**Uzynbulak**	**0.77**	**323**	*e*P	**Pb**	**20 40 03.3**	**-0.4**
	baz=20						
UZB				*e*S	**Sb**	**20 40 13.4**	**-1.1**
	baz=20						
UZB	**Uzynbulak**	**0.77**	**323**	*e*P	**Pb**	**20 40 03.3**	**-0.4**
	6.5nm,0.1s						
UZB				*e*S	**Sb**	**20 40 13.4**	**-1.1**
	38nm,0.2s						
PDGK	**Podgornoye**	**0.80**	**351**	P	**Pb**	**20 40 03.7**	**-0.5**
	3.7nm,0.2s						
PDGK				S	**Sb**	**20 40 13.9**	**-1.5**
	11nm,0.2s						
PDGK	**Podgornoye**	**0.80**	**351**	⇑P	**Pb**	**20 40 03.5**	**-0.6**
	2.6nm,0.3s						
PDGK				⇑S	**Sb**	**20 40 13.8**	**-1.5**
	2.9nm,0.2s						
PDGK	**Podgornoye**	**0.80**	**351**	⇓*i*P	**Pb**	**20 40 03.6**	**-0.5**
	baz=49						
PDGK				⇓*i*S	**Sg**	**20 40 14.1**	**+0.6**
	baz=49						
KTMS	**Ketmen**	**1.04**	**29**	P	**Pn**	**20 40 08.0**	**-1.1**
	6.7nm,0.1s						
KTMS				S	**Sg**	**20 40 21.3**	**+0.2**
	5.9nm,0.2s						
KTMS	**Ketmen**	**1.04**	**29**	*e*P	**Pn**	**20 40 08.0**	**-1.1**
	baz=28						
KTMS				*e*S	**Sg**	**20 40 21.3**	**+0.2**
	baz=28						
KTMS	**Ketmen**	**1.04**	**29**	*e*P	**Pn**	**20 40 08.0**	**-1.1**
	6.7nm,0.1s						
KTMS				*e*S	**Sg**	**20 40 21.3**	**+0.2**
	5.9nm,0.2s						
SATY	**Saty**	**1.06**	**300**	P	**Pg**	**20 40 09.1**	**+1.0**
	8.5nm,0.1s						
SATY				S	**Sb**	**20 40 22.7**	**-0.2**
	24nm,0.1s						
SATY	**Saty**	**1.06**	**300**	*e*P	**Pg**	**20 40 09.1**	**+1.0**
	2.9nm,0.1s						
SATY				*e*S	**Sb**	**20 40 22.6**	**-0.2**
	16nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.60**	**240**	⇑*i*P	**Pb**	**20 40 18.3**	**+0.3**
	baz=40						
TARG				⇑*i*S	**Sb**	**20 40 40.1**	**+1.5**
	baz=40						
MNBS	**Baschi**	**1.79**	**330**	*e*P	**Pb**	**20 40 21.3**	**+0.2**
	6.3nm,0.2s						
MNBS				*e*S	**Sg**	**20 40 44.9**	**-0.4**
	36nm,0.3s						
DJR	**Jarkent**	**1.80**	**3**	P	**Pb**	**20 40 21.6**	**+0.5**
	1.2nm,0.2s						
DJR				S	**Sg**	**20 40 44.5**	**-0.8**
	8.1nm,0.3s						
DJR	**Jarkent**	**1.80**	**3**	*e*P	**Pb**	**20 40 21.3**	**+0.2**
	0.9nm,0.3s						
DJR				*e*S	**Sg**	**20 40 44.8**	**-0.6**
	11nm,0.3s						
KDJ	**Kajisay**	**1.89**	**258**	⇑*i*P	**Pb**	**20 40 23.2**	**+0.5**
	baz=57						
KDJ				⇑*i*S	**Sg**	**20 40 48.8**	**+0.6**
	baz=57						
KOTS	**Kotyrbulak**	**2.00**	**291**	Pg	**Pb**	**20 40 25.6**	**+1.0**
	6.1nm,0.2s						
KOTS				Lg	Lg	20 40 51.5	
	21nm,0.3s						
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P	**Pg**	**20 40 26.0**	**0.0**
	baz=90						
KOTS				*e*S	**Sg**	**20 40 52.3**	**+0.4**
	baz=90						
KOTS	**Kotyrbulak**	**2.00**	**291**	*e*P	**Pg**	**20 40 25.9**	**0.0**
	6.0nm,0.3s						
KOTS				*e*S	**Sg**	**20 40 52.3**	**+0.4**
	17nm,0.6s						
MDOK	**Medeo**	**2.02**	**289**	⇑Pn	**Pb**	**20 40 25.7**	**+0.7**
	2.2nm,0.3s						
MDOK				Sn	**Sg**	**20 40 54.4**	**+1.8**
	1.6nm,0.3s						
ARXS	**Arharly**	**2.14**	**322**	Pg	**Pb**	**20 40 27.3**	**+0.3**
	4.8nm,0.5s						
ARXS				Lg	Lg	20 40 55.3	
	26nm,0.3s						
ARXS	**Arharly**	**2.14**	**322**	*e*P	**Pb**	**20 40 27.3**	**+0.3**
	4.8nm,0.5s						
ARXS				*e*S	**Sg**	**20 40 55.2**	**-1.3**
	26nm,0.3s						
MTBS	**Maitube**	**2.45**	**285**	Pg	**Pb**	**20 40 33.8**	**+1.5**
	15nm,0.3s						
MTBS				Lg	Lg	20 41 05.6	
	6.5nm,0.3s						
MTBS	**Maitube**	**2.45**	**285**	*e*P	**Pb**	**20 40 33.8**	**+1.5**
	15nm,0.3s						
MTBS				*e*S	**Sg**	**20 41 05.6**	**-0.8**
	6.5nm,0.3s						
ULHL	**Ulahol**	**2.55**	**265**	⇑*i*P	**Pb**	**20 40 32.8**	**-1.3**
	baz=64						
ULHL				⇑*i*S	**Sb**	**20 41 05.2**	**-0.6**
	baz=64						
BOOM	**Boomskoye usch**	**2.75**	**270**	⇑*i*P	**Pb**	**20 40 35.6**	**-1.9**
	baz=70						
BOOM				⇑*i*S	**Sb**	**20 41 10.5**	**-1.1**
	baz=70						
NRN	**Naryn**	**2.94**	**249**	⇑*i*P	**Pb**	**20 40 38.8**	**-2.0**
	baz=49						
NRN				⇑*i*S	**Sb**	**20 41 15.

PB03					*i* S		**Sn**	**20 43 52.2**	**-1.2**
PB03					IAML			20 44 00.0	
	comp=E,554nm,0.4s								
PB04	**IPOC Station P**	**2.79**	**316**		*e*Pn		**Pn**	**20 43 19.6**	**-0.1**
PB04	**IPOC Station P**	**2.79**	**316**		*e*P		**Pn**	**20 43 19.7**	**-0.1**
PB04	**IPOC Station P**	**2.79**	**316**	⇑	*i*P		**Pn**	**20 43 19.6**	**-0.1**
PB04					*i* S		**Sn**	**20 43 52.1**	**-1.5**
PB04					IAML			20 44 02.2	
	comp=N,631nm,0.2s								
PB07	**IPOC Station P**	**3.12**	**327**		*e*P		**Pn**	**20 43 24.8**	**+0.8**
PB07	**IPOC Station P**	**3.12**	**327**	⇑	*i*P		**Pn**	**20 43 24.2**	**+0.3**
PB07					*i* S		**Sn**	**20 43 59.8**	**-1.4**
PB07					IAML			20 44 08.3	
	comp=E,323nm,0.5s								
YJA	**Yavi**	**3.17**	**47**		*e*P		**Pn**	**20 43 26.6**	**+1.6**
YJA					IAML			20 43 27.1	
	comp=Z,36nm,0.4s								
AHML	**Horco Molle**	**3.44**	**135**		*e*P		**Pn**	**20 43 30.1**	**+2.1**
PB02	**IPOC Station P**	**3.47**	**330**		*e*P		**Pn**	**20 43 28.8**	**+0.3**
PB02	**IPOC Station P**	**3.47**	**330**		*e*P		**Pn**	**20 43 28.2**	**-0.3**
PB02					*i* S		**Sn**	**20 44 07.7**	**-1.7**
PB01	**IPOC Station P**	**3.55**	**338**		*e*Pn		**Pn**	**20 43 29.6**	**0.0**
PB01	**IPOC Station P**	**3.55**	**338**		*e*P		**Pn**	**20 43 29.5**	**-0.2**
PB01					IAML			20 44 43.7	
	comp=E,241nm,0.6s								
PB08	**IPOC Station P**	**4.32**	**346**		*e*P		**Pn**	**20 43 40.5**	**+0.5**
PB08	**IPOC Station P**	**4.32**	**346**		*e*P		**Pn**	**20 43 40.5**	**+0.5**
PB11	**IPOC Station P**	**4.81**	**342**		*e*Pn		**Pn**	**20 43 45.1**	**-1.3**
PB11	**IPOC Station P**	**4.81**	**342**		*e*P		**Pn**	**20 43 45.7**	**-0.7**
LCO	**Las Campanas**	**5.22**	**207**		*e*Pn		**Pn**	**20 43 50.1**	**-1.8**
MNMC	**Minye Minye**	**5.39**	**344**		*e*Pn		**Pn**	**20 43 52.8**	**-1.6**
MNMCX	**Minye Minye**	**5.39**	**344**		*e*P		**Pn**	**20 43 54.0**	**-0.3**
PB12	**IPOC Station P**	**6.09**	**339**		*e*P		**Pn**	**20 44 03.4**	**-0.2**
GO04	**Tololo Observa**	**6.30**	**202**		*e*Pn		**Pn**	**20 44 04.4**	**-1.9**
LPAZ	**La Paz**	**8.02**	**359**		*e*Pn		**Pn**	**20 44 30.4**	**+0.4**
LPAZ	**La Paz**	**8.02**	**359**		P		**Pn**	**20 44 29.9**	**-0.2**
	comp=E,0.7nm,0.3s,baz=178,slow=3.7,SNR=11								
ROC1	**El Roble**	**8.98**	**196**		*e*Pn		**Pn**	**20 44 40.5**	**-2.0**
CPUP	**Villa Florida**	**9.89**	**104**		P		**Pn**	**20 44 51.4**	**-3.1**
	comp=E,0.2nm,0.3s,baz=294,slow=20,SNR=2.6								
BDFB	**Brasilia**	**20.70**	**69**		P		**P**	**20 47 03.7**	**-2.3**
	comp=E,14nm,0.4s,baz=241,slow=8.9,SNR=19								
GO09	**Cerro Castillo**	**27.08**	**186**		*e*P		**P**	**20 48 04.0**	**-2.1**
	comp=E,31nm,1.5s								
TXAR	**Lajitas Array**	**63.42**	**325**		P		**P**	**20 52 53.3**	**+1.4**
	comp=E,0.2nm,0.5s,baz=156,slow=6.9,SNR=3.0								
PV02	**Paradox Valley**	**73.01**	**328**		*e*P		**P**	**20 53 51.8**	**+0.1**
PV21	**Cone Mtn., Par**	**73.40**	**328**		*e*P		**P**	**20 53 54.4**	**+0.4**
	comp=E,16nm,0.9s								
PD31	**Pinedale Array**	**76.97**	**330**		*e*P		**P**	**20 54 14.3**	**0.0**
	comp=E,13nm,2.0s								
PDAR	**Pinedale Array**	**76.97**	**330**		P		**P**	**20 54 16.4**	**+2.1**
	comp=E,0.3nm,0.8s,baz=141,slow=5.8,SNR=2.7								
TOA0	**Torodi Ar. Sit**	**77.58**	**69**		*e*P		**P**	**20 54 17.1**	**-0.9**
TOA1	**Torodi Ar. Sit**	**77.58**	**69**		*e*P		**P**	**20 54 17.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**77.58**	**69**		P		**P**	**20 54 17.5**	**-0.6**
	comp=E,2.0nm,0.7s,baz=266,slow=5.9,SNR=20								
ULM	**Lac du Bonnet**	**78.27**	**342**		P		**P**	**20 54 22.4**	**+1.3**
	comp=E,0.8nm,0.4s,baz=114,slow=20,SNR=2.5								
YBH	**Yreka Blue Hor**	**82.94**	**322**		LR		LR	21 30 06.6	
	comp=E,64nm,20.9s,baz=264,slow=34								
YKA	**Yellowknife Ar**	**94.13**	**340**		P		**P**	**20 55 40.4**	**+1.2**
	comp=E,0.2nm,0.5s,baz=129,slow=4.7,SNR=5.1								
ASAR	**Alice Springs**	**127.73**	**206**		PKP		**PKiKP**	**21 01 27.6**	**+0.3**
	comp=E,0.6nm,0.8s,baz=104,slow=2.6,SNR=4.4								
WR1	**Warramunga Arr**	**130.87**	**208**		*e*PKPdf		**PKiKP**	**21 01 34.2**	**+0.7**
WRA	**Warramunga Arr**	**130.87**	**208**		PKP		**PKiKP**	**21 01 34.2**	**+0.7**
	comp=E,0.2nm,0.4s,baz=146,slow=1.6,SNR=6.4								
ZAA1	**Zalesovo Array**	**144.14**	**27**		*e*PKPdf		PKPbc	21 01 54.5	+0.2
ZALV	**Zalesovo Beam**	**144.14**	**27**		PKP		PKPbc	21 01 54.5	+0.2
	comp=E,0.7nm,0.5s,baz=320,slow=7.4,SNR=4.9								
MK32	**Makanchi Array**	**147.40**	**39**		*e*PKPbc		**PKPbc**	**21 02 03.7**	**-0.7**
MKAR	**Makanchi Array**	**147.40**	**39**		PKPbc		**PKPbc**	**21 02 03.7**	**-0.7**
	comp=E,0.6nm,0.6s,baz=23,slow=1.7,SNR=8.2								

*MDD **06** 21:00:09.8±1.5, 36.25N×10.29W, h0km, mbLg2.4/17, Error ellipse: s-maj=12.9km s-min=9.4km az=41.0, PRXIMO*
*INMG **06** 21:00:09.5±1.5, 35.89N×10.37W, h31km±15km, ML2.4, Error ellipse: s-maj=9.7km s-min=5.5km az=75.0*
*IGIL **06** 21:00:09.2, 35.87N×10.35W, h31km, ML2.6*
*CNRM **06** 21:00:14.6, 34.41N×9.70W, h313km, ml3.2*

ISC 06 21:00:05.4±1.6, 35.85N±0.04×10.46W±0.08, h35km, n58, σ2s16/99, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.83**	**45**	*e*Pn		**Pn**	**21 00 36.3**	**+1.9**
PFVI				*e*Sn		**Sn**	**21 00 55.9**	**-0.5**
PFVI				A		A	21 00 57.4	
	27nm,0.1s							
PFVI	**Vila Bisbo**	**1.83**	**45**	P		**Pn**	**21 00 36.2**	**+1.9**
	3.3nm,0.1s,SNR=7.2							
PFVI				S		**Sn**	**21 00 55.4**	**-1.0**
	12nm,0.1s,SNR=13							
MORF	**Marmelete**	**2.05**	**44**	*e*P		**Pn**	**21 00 39.3**	**+1.9**
MORF				*e*S		**Sn**	**21 01 01.3**	**-0.6**
MORF				AML		AML	21 01 02.4	
	comp=N,61nm,0.2s							
MORF	**Marmelete**	**2.05**	**44**	*e*Pn		**Pn**	**21 00 39.4**	**+1.9**
MORF				*e*Sn		**Sn**	**21 01 01.5**	**-0.4**
MORF				A		A	21 01 03.3	
	comp=N,23nm,0.2s							
MORF	**Marmelete**	**2.05**	**44**	P		**Pn**	**21 00 39.4**	**+1.9**
MORF				S		**Sn**	**21 01 01.5**	**-0.4**
	comp=N,23nm,0.2s							
PTEO	**Sao Teotonio**	**2.19**	**39**	*e*Pn		**Pn**	**21 00 40.4**	**+1.1**
PTEO				*e*Sn		**Sn**	**21 01 04.1**	**-1.1**
PTEO				A		A	21 01 05.7	
	comp=N,17nm,0.5s							
PTEO	**Sao Teotonio**	**2.19**	**39**	P		**Pn**	**21 00 40.4**	**+1.1**
PTEO				S		**Sn**	**21 01 04.1**	**-1.1**
	comp=N,8.5nm,0.5s							
PBDV	**Barranco-do-Ve**	**2.46**	**55**	*e*Pn		**Pn**	**21 00 45.2**	**+2.1**
PBDV				*e*Sn		**Sn**	**21 01 11.2**	**-0.8**
PBDV				A		A	21 01 17.4	
	comp=N,8.6nm,1.1s							
PBDV	**Barranco-do-Ve**	**2.46**	**55**	P		**Pn**	**21 00 45.2**	**+2.1**
PBDV				S		**Sn**	**21 01 11.2**	**-0.8**
	comp=N,8.6nm,1.1s							
MESJ	**Messejana**	**2.67**	**41**	*e*P		**Pn**	**21 00 47.9**	**+1.9**
MESJ				*e*S		**Sn**	**21 01 16.3**	**-0.8**
MESJ				AML		AML	21 01 18.5	
	comp=N,16nm,0.2s							
MESJ	**Messejana**	**2.67**	**41**	*e*Pn		**Pn**	**21 00 48.0**	**+2.0**
MESJ				*e*Sn		**Sn**	**21 01 16.8**	**-0.3**
MESJ				A		A	21 01 18.8	
	comp=N,9.7nm,0.4s							
MESJ	**Messejana**	**2.67**	**41**	P		**Pn**	**21 00 48.0**	**+2.0**
MESJ				S		**Sn**	**21 01 16.8**	**-0.3**
	comp=N,9.7nm,0.4s							
PVAQ	**Vaqueiros**	**2.69**	**54**	*e*Pn		**Pn**	**21 00 49.0**	**+2.8**
PVAQ				*e*Sn		**Sn**	**21 01 16.7**	**-0.9**
PVAQ				A		A	21 01 18.4	
	comp=N,19nm,0.5s							
PVAQ	**Vaqueiros**	**2.69**	**54**	P		**Pn**	**21 00 49.0**	**+2.8**
PVAQ				S		**Sn**	**21 01 16.7**	**-0.9**
	comp=N,19nm,0.5s							
PNCL	**Nicolau / Gran**	**2.73**	**34**	*e*Pn		**Pn**	**21 00 48.6**	**+1.8**
PNCL				*e*Sn		**Sn**	**21 01 18.0**	**-0.6**
PNCL				A		A	21 01 19.8	
	comp=N,10nm,0.2s							
PNCL	**Nicolau / Gran**	**2.73**	**34**	P		**Pn**	**21 00 48.6**	**+1.8**
PNCL				S		**Sn**	**21 01 18.0**	**-0.6**
	comp=N,10nm,0.2s							
EGRO	**El Granado**	**2.92**	**54**	P		**Pn**	**21 00 51.5**	**+2.1**
	comp=N,1.0nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**21 01 22.5**	**-0.7**
	comp=N,6.3nm,0.1s,SNR=14							
PBEJ	**Beja**	**3.00**	**43**	*e*Pn		**Pn**	**21 00 53.3**	**+2.8**
PBEJ				*e*Sn		**Sn**	**21 01 25.3**	**+0.1**
PBEJ				A		A	21 01 26.8	
	comp=N,7.0nm,0.1s							
PBEJ	**Beja**	**3.00**	**43**	P		**Pn**	**21 00 53.3**	**+2.8**
PBEJ				S		**Sn**	**21 01 25.3**	**+0.1**
	comp=N,3.5nm,0.1s							
PMAFR	**Mafra**	**3.24**	**16**	*e*Pn		**Pn**	**21 00 55.1**	**+1.4**
PMAFR				*e*Sn		**Sn**	**21 01 30.3**	**-0.7**
PMAFR				A		A	21 01 35.9	
	comp=N,22nm,0.7s							
PMAFR	**Mafra**	**3.24**	**16**	P		**Pn**	**21 00 54.6**	**+0.8**
	comp=N,0.6nm,0.0s,SNR=7.9							
PMAFR				S		**Sn**	**21 01 29.5**	**-1.5**
	comp=N,1.2nm,0.0s,SNR=7.9							
EVO	**Evora**	**3.31**	**35**	*e*Pn		**Pn**	**21 00 58.4**	**+3.7**
EVO				*e*Sn		**Sn**	**21 01 33.5**	**+0.7**
EVO				A		A	21 01 35.1	
	comp=N,15nm,0.1s							
PBAR	**Barrancos**	**3.58**	**49**	*e*Sn		**Sn**	**21 01 38.8**	**-0.8**
PBAR	**Barrancos**	**3.58**	**49**	S		**Sn**	**21 01 38.8**	**-0.8**
EMIN	**Mina Concepcio**	**3.59**	**57**	P		**Pn**	**21 01 00.7**	**+2.2**
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**21 01 38.5**	**-1.2**
	comp=N,2.7nm,0.1s,SNR=37							
PMTG	**Montargil**	**3.67**	**28**	*e*Pn		**Pn**	**21 01 01.1**	**+1.5**
PMTG				*e*Sn		**Sn**	**21 01 40.2**	**-1.5**
PMTG				A		A	21 01 44.6	
	comp=N,5.4nm,0.4s							
PMTG	**Montargil**	**3.67**	**28**	P		**Pn**	**21 01 01.1**	**+1.5**
PMTG				S		**Sn**	**21 01 40.2**	**-1.5**
	comp=N,5.4nm,0.4s							
PESTR	**Estremoz**	**3.78**	**36**	*e*Pn		**Pn**	**21 01 02.5**	**+1.3**
PESTR				*e*Sn		**Sn**	**21 01 42.7**	**-1.7**
PESTR				A		A	21 01 45.0	
	comp=N,3.2nm,0.3s							
ESPR	**Espera**	**3.85**	**73**	P		**Pn**	**21 01 04.3**	**+2.2**
	comp=N,1.1nm,0.0s,SNR=5.8							
ESPR				S		**Sn**	**21 01 45.5**	**-0.6**
	comp=N,11nm,0.2s							
SRHM	**Skhour des Reh**	**3.98**	**147**	P		**Pn**	**21 01 07.4**	**+3.4**
SRHM				S		**Sn**	**21 01 49.4**	**-0.1**
EBAD	**Badajoz**	**3.99**	**42**	P		**Pn**	**21 01 05.5**	**+1.4**
	comp=N,1.3nm,0.1s,SNR=11							
EBAD				S		**Sn**	**21 01 47.8**	**-1.9**
	comp=N,0.9nm,0.0s,SNR=8.6							
EJIF	**Jimena Fronter**	**4.08**	**80**	S		**Sn**	**21 01 56.8**	**+5.0**
	SNR=7.9							
PTOM	**Tomar**	**4.09**	**23**	*e*Pn		**Pn**	**21 01 07.2**	**+1.7**
PTOM				*e*Sn		**Sn**	**21 01 50.8**	**-1.4**
PTOM				A		A	21 01 54.9	
	comp=N,7.2nm,0.5s							
PTOM	**Tomar**	**4.09**	**23**	P		**Pn**	**21 01 07.2**	**+1.7**
PMRV	**Marv??o**	**4.32**	**33**	*e*Pn		**Pn**	**21 01 10.4**	**+1.8**
PMRV				*e*Sn		**Sn**	**21 01 55.5**	**-2.3**
PMRV				A		A	21 01 58.2	
	comp=N,5.1nm,0.3s							
PMRV	**Marv??o**	**4.32**	**33**	P		**Pn**	**21 01 10.4**	**+1.8**
PMRV				S		**Sn**	**21 01 55.5**	**-2.3**
	comp=N,5.1nm,0.3s							
PCAS	**Casmilo, Conde**	**4.47**	**20**	*e*Pn		**Pn**	**21 01 12.8**	**+2.1**
PCAS				*e*Sn		**Sn**	**21 01 59.6**	**-1.8**
PCAS				A		A	21 02 04.4	
	comp=N,2.3nm,0.2s							
PCAS	**Casmilo, Conde**	**4.47**	**20**	P		**Pn**	**21 01 12.8**	**+2.1**
ECAB	**El Cabril**	**4.60**	**60**	P		**Pn**	**21 01 14.1**	**+1.6**
	comp=N,2.9nm,0.3s,SNR=7.9							
ECAB				S		**Sn**	**21 02 01.7**	**-3.1**
	comp=N,0.4nm,0.1s,SNR=9.4							
PCBR	**Castelo Branco**	**4.63**	**30**	*e*Pn		**Pn**	**21 01 14.4**	**+1.6**
PCBR				*e*Sn		**Sn**	**21 02 04.4**	**-0.9**
PCBR				A		A	21 02 09.9	
	comp=N,1.7nm,0.2s							
PCBR	**Castelo Branco**	**4.63**	**30**	P		**Pn**	**21 01 14.4**	**+1.6**
MTE	**Manteigas**	**5.09**	**26**	*e*Pn		**Pn**	**21 01 20.9**	**+1.7**
MTE	**Manteigas**	**5.09**	**26**	P		**Pn**	**21 01 20.9**	**+1.7**
LCRM	**LCR**	**5.09**	**114**	P		**Pn**	**21 01 20.7**	**+1.4**
LCRM				S		**Sn**	**21 02 17.2**	**+0.3**
OUK	**Oukaimeden**	**5.11**	**154**	P		**Pn**	**21 01 20.2**	**+0.3**
OUK				S		Sn	21 02 08.2	-10
EADA	**Adamuz**	**5.24**	**62**	P		**Pn**	**21 01 22.9**	**+1.6**
	comp=N,1.6nm,0.2s,SNR=7.9							
EADA				S		**Sn**	**21 02 17.8**	**-2.7**
	comp=N,1.5nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**5.26**	**22**	*e*Sn		**Sn**	**21 02 19.0**	**-1.9**
TTIG	**Tnine Tigouga,**	**5.55**	**162**	P		Pn	21 01 19.8	-5.9
TTIG				S		Sn	21 02 15.9	-12
MD31	**MD31**	**5.57**	**121**	P		**Pn**	**21 01 27.0**	**+1.1**
MD31				S		**Sn**	**21 02 23.9**	**-4.9**
ELGU	**Los Guajares,**	**5.60**	**78**	S		**Sn**	**21 02 29.9**	**+0.4**
	comp=N,1.5nm,0.1s,SNR=7.9							
MDT	**Midelt**	**5.71**	**120**	P		**Pn**	**21 01 28.1**	**+0.3**
MDT				S		**Sn**	**21 02 25.0**	**-7.2**
MVO	**Moncorvo**	**5.95**	**26**	*e*Sn		**Sn**	**21 02 34.8**	**-3.1**
MVO				A		A	21 02 35.3	
	comp=N,3.0nm,0.8s							
MVO	**Moncorvo**	**5.95**	**26**	S		**Sn**	**21 02 31.0**	**-6.9**
	comp=N,0.4nm,0.2s,SNR=7.9							
PAB	**San Pablo**	**6.09**	**51**	P		**Pn**	**21 01 34.4**	**+1.5**
	comp=N,3.9nm,0.5s,SNR=7.9							
PAB				S		**Sn**	**21 02 37.2**	**-4.2**
	comp=N,2.0nm,0.2s,SNR=7.9							
EQES	**Quesada**	**6.24**	**70**	P		**Pn**	**21 01 36.2**	**+1.2**
	comp=N,0.2nm,0.2s,SNR=4.0							
EQES				S		**Sn**	**21 02 43.5**	**-1.6**
	comp=N,0.5nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**6.40**	**51**	S		**Sn**	**21 02 46.7**	**-2.5**
	comp=N,1.0nm,0.3s,baz=239,slow=23,SNR=24							
GUD	**Guadarrama**	**6.89**	**44**	P		**Pn**	**21 01 45.9**	**+1.8**
	comp=N,0.4nm,0.1s,SNR=7.9							
GUD				S		**Sn**	**21 02 59.0**	**-2.2**
	comp=N,1.6nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**7.63**	**66**	S		**Sn**	**21 03 15.0**	**-4.4**
	comp=N,0.2nm,0.1s,SNR=6.5							

*BJI **06** 21:02:49.0, 6.50S×106.10E, h120km, mb4.7/27, mB5.0/18*
*KLM **06** 21:02:52.0, 6.82S×106.01E, h161km, mb4.7*
*NEIC **06** 21:02:53.3±0.6, 6.27S×106.32E, h139km±5km, mb4.5/23, Error ellipse: s-maj=9.0km s-min=4.4km az=224.0*
*ISCJB **06** 21:02:53.3±0.3, 6.40S±0.04×106.31E±0.03, h155km±2km, mb4.3/56, Error ellipse: s-maj=7.5km s-min=3.5km az=40.1*
*IDC **06** 21:02:53.8±0.8, 6.27S×106.37E, h143km±6km, mb4.1/26, mb1 4.1/27, mb1mx4.0/48, mbtmp4.5/27, Error ellipse: s-maj=13.2km s-min=8.4km az=56.0*
*DJA **06** 21:02:54.5±0.4, 7.3S±5×10.6E±, h131km±3km, M4.6/16, mb4.6/5, mB5.1/3, MLv4.6/16, Mw(mB)4.4/3*

ISC 06 21:02:53.5±0.5, 6.56S±0.05×106.18E±0.04, h146km±4km, n351, σ1s28/351, mb4.4/56, 10C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SBJI	**Serang**	**0.44**	**353**	P		**Pn**	**21 03 14.5**	**+0.3**
SBJI				S		**Sn**	**21 03 30.0**	**+0.1**
SKJI	**Sukabumi**	**0.58**	**140**	P		**Pn**	**21 03 14.7**	**-0.2**
SKJI				S		**Sn**	**21 03 30.7**	**-0.5**
CBJI	**Citeko**	**0.68**	**79**	P		**Pn**	**21 03 16.3**	**+0.8**
CBJI				S		**Sn**	**21 03 33.2**	**+1.0**
BLSI	**Bandar Lampung**	**1.50**	**322**	P		**Pn**	**21 03 24.6**	**+1.7**
BLSI				S		**Sn**	**21 03 46.4**	**+1.3**
CISI	**Cisompet, Garu**	**1.90**	**122**	*e*Pn		**Pn**	**21 03 26.4**	**-1.0**
CISI				*e*Sn		**Sn**	**21 03 51.5**	**-1.9**
CISI	**Cisompet, Garu**	**1.90**	**122**	P		**Pn**	**21 03 26.6**	**-0.8**
CISI				S		**Sn**	**21 03 51.4**	**-1.9**
KASI	**Kota Agung**	**1.96**	**301**	P		**Pn**	**21 03 29.9**	**+1.9**
KASI				S		**Sn**	**21 03 55.5**	**+1.0**
LWLI	**Liwa**	**2.61**	**306**	P		**Pn**	**21 03 37.7**	**+1.8**
LWLI				S		**Sn**	**21 04 10.8**	**+2.2**
MDSI	**Maura Dua**	**2.86**	**316**	P		**Pn**	**21 03 41.1**	**+2.1**
MDSI				S		**Sn**	**21 04 16.7**	**+2.5**
LHSI	**Lahat**	**3.79**	**316**	P		**Pn**	**21 03 53.3**	**+2.3**
PMBI	**Palembang**	**3.87**	**339**	P		Pn	21 04 04.3	+12
MNAI	**Manna**	**3.88**	**304**	*e*Pn		**Pn**	**21 03 53.3**	**+1.1**
MNAI				*e*Sn		**Sn**	**21 04 36.0**	**-1.7**
MNAI	**Manna**	**3.88**	**304**	P		**Pn**	**21 03 54.3**	**+2.1**
MNAI				S		**Sn**	**21 04 37.1**	**-0.6**
XMIS	**Christmas Isla**	**3.93**	**188**	*e*Pn		**Pn**	**21 03 49.8**	**-3.1**
XMIS				*e*Sn		Sn	21 04 29.6	-9.4
TPI	**Tanjungpandan**	**4.05**	**21**	P		**Pn**	**21 03 54.7**	**+0.3**
PPBI	**Pangkal Pinang**	**4.37**	**359**	P		**Pn**	**21 04 00.6**	**+2.0**
UGM	**Wanagama**	**4.51**	**108**	*e*Pn		**Pn**	**21 03 59.7**	**-0.8**
UGM	**Wanagama**	**4.51**	**108**	P		**Pn**	**21 03 59.8**	**-0.8**
KRJI	**Kerinci**	**6.46**	**313**	P		**Pn**	**21 04 27.8**	**+1.2**
	95nm,0.6s,2μm							
GMJI	**Gumukmas**	**7.40**	**104**	P		**Pn**	**21 04 39.7**	**+0.7**
JAGI	**Jajag, Banyuwa**	**8.13**	**104**	*e*Pn		**Pn**	**21 04 48.1**	**-0.7**
JAGI				*e*Sn		**Sn**	**21 06 15.3**	**-4.0**
MYKOM	**Kota Tinggi**	**8.61**	**344**	P		**Pn**	**21 04 55.8**	**+0.6**
FRIM	**Kepong**	**10.74**	**335**	P		**Pn**	**21 05 27.4**	**+3.9**
COCO	**West Island**	**10.79**	**238**	*e*Pn		Pn	21 05 29.0	+4.9
COCO				*e*S		**Sn**	**21 07 15.5**	**-7.8**
SBUM	**Sibu**	**10.79**	**34**	*e*Pn		**Pn**	**21 05 26.5**	**+2.3**
SBUM	**Sibu**	**10.79**	**34**	P		**Pn**	**21 05 26.7**	**+2.5**
GSI	**Gunungsitoli**	**11.61**	**312**	*e*Pn		**Pn**	**21 05 31.5**	**-3.4**
PSI	**Prapat**	**11.79**	**322**	P		**Pn**	**21 05 33.5**	**-3.8**
	1.3nm,0.3s,baz=181,slow=7.9,SNR=5.8							
KTGM	**Kuala Trenggan**	**12.19**	**345**	P		**P**	**21 05 47.3**	**-1.5**
TSM	**Tawau**	**15.89**	**48**	P		**P**	**21 06 32.0**	**+2.0**
KKM	**Kota Kinabalu**	**16.03**	**39**	*e*Pn		**P**	**21 06 31.7**	**0.0**
	37nm,0.9s							
KKM	**Kota Kinabalu**	**16.03**	**39**	P		**P**	**21 06 32.4**	**+0.8**
SDKM	**Sandakan**	**16.36**	**42**	P		**P**	**21 06 35.8**	**+0.6**
KDM	**Kudat**	**17.09**	**39**	P		**Pn**	**21 06 45.0**	**+1.1**
LUWI	**Luwuk**	**17.43**	**72**	*e*P		**P**	**21 06 46.2**	**-0.8**
	61nm,0.8s							
GIRL	**Giralia**	**17.78**	**155**	P		**Pn**	**21 06 56.6**	**+4.6**
	baz=18							
GIRL	**Giralia**	**17.78**	**155**	*e*P		**Pn**	**21 06 53.9**	**+1.9**
	91nm,1.1s							
SOEI	**Soe**	**18.18**	**101**	*e*P		**P**	**21 06 55.0**	**-0.3**
	72nm,0.8s							
FITZ	**Fitzroy Crossi**	**22.18**	**123**	P		**P**	**21 07 38.3**	**+0.4**
	baz=22,SNR=7.3							
FITZ	**Fitzroy Crossi**	**22.18**	**123**	*e*P		**P**	**21 07 38.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.18**	**123**	P		**P**	**21 07 38.1**	**+0.2**
	2.3nm,0.6s,baz=325,slow=6.9,SNR=9.9							
MEEK	**Meekatharra**	**23.22**	**151**	P		**P**	**21 07 50.3**	**+2.5**
	baz=24,SNR=4.7							
PBKT	**Sadao Pong**	**23.55**	**347**	P		**P**	**21 07 49.4**	**-1.3**
	14nm,0.6s							
KNRA	**Kununurra**	**23.92**	**114**	P		**P**	**21 07 55.3**	**+1.1**
	baz=24,SNR=4.9							
MORW	**Morawa**	**24.25**	**159**	P		**P**	**21 07 58.9**	**+1.8**
	baz=24							
MORW	**Morawa**	**24.25**	**159**	*e*P		**P**	**21 07 57.8**	**+0.7**
SUKH	**Sukhothai**	**24.75**	**345**	P		**P**	**21 08 00.9**	**-0.7**
	6.7nm,0.6s							
UTTA	**Uttaradit**	**24.78**	**347**	P		**P**	**21 08 01.1**	**-0.8**
	4.7nm,0.8s,51nm							
MTN	**Manton Dam**	**25.36**	**106**	P		**P**	**21 08 08.9**	**+1.6**
	baz=25,SNR=24							
MTN	**Manton Dam**	**25.36**	**106**	*e*P		**P**	**21 08 08.8**	**+1.5**
	24nm,0.6s							
LAMP	**Lampang**	**25.74**	**346**	P		**P**	**21 08 10.0**	**-0.7**
	7.8nm,0.7s,81nm							
CM01	**Chiang Mai Arr**	**25.82**	**344**	*e*P		**P**	**21 08 09.8**	**-1.6**
CM31	**Chiang Mai Arr**	**25.86**	**344**	*e*P		**P**	**21 08 10.6**	**-1.2**
	9.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**25.86**	**344**	P		**P**	**21 08 10.4**	**-1.3**
	7.8nm,0.5s,baz=180,slow=8.6,SNR=86							
CMAR						pP	**pP**	**21 08 42.1**	**-0.3**
	0.3nm,0.3s,baz=172,slow=7.3,SNR=1.0							
CHTO	**Chiang Mai**	**26.20**	**344**	*e*P		**P**	**21 08 13.2**	**-1.6**
	7.4nm,0.8s							
CHTO	**Chiang Mai**	**26.20**	**344**	P		**P**	**21 08 13.5**	**-1.3**
	50nm,1.0s							
KDU	**Kakadu**	**26.61**	**105**	P		**P**	**21 08 18.2**	**-0.3**
	baz=27,SNR=14							
KLBR	**Kellerberrin**	**27.16**	**158**	P		**P**	**21 08 24.4**	**+1.1**
	baz=28,SNR

WMQ	Urumqi	52.86	343	*e*P	P	21 11 55.8	+1.6	
CN2	Changchun	53.07	17	*e*P	P	21 11 53.8	-1.9	
CN2	comp=Z,10.0nm,0.7s			pmax	pmax			
SONM	Songino Array	54.16	0	P	P	21 12 02.9	-0.7	
	4.2nm,0.4s,baz=183,slow=9.8,SNR=110							
SONM				PcP	PcP	21 13 05.3	-1.1	
	1.8nm,0.5s,baz=177,slow=4.2,SNR=20							
SONM				ScP	ScP	21 16 49.5	-1.4	
	0.8nm,0.8s,baz=175,slow=3.9,SNR=5.8							
WSAR	Wadi Sarin	55.09	304	P	P	21 12 11.8	+1.0	
	7.9nm,1.0s,baz=196,slow=6.1,SNR=6.8							
NRN	Naryn	55.18	333	*e*P	P	21 12 09.6	-1.9	
	1.7nm,0.6s							
NRN				*e*PcP	PcP	21 13 11.8	+1.1	
KDJ	Kajisay	55.21	334	*e*P	P	21 12 11.2	-0.2	
	3.7nm,0.6s							
USRK	Ussuriysk Ar.	55.63	22	P	P	21 12 12.7	-1.5	
	2.2nm,0.6s,baz=204,slow=6.2,SNR=13							
AAK	Ala-Archa	56.82	332	P	P	21 12 21.1	-1.7	
	0.9nm,1.0s							
MK01	Makanchi Array	57.17	341	*e*P	P	21 12 23.0	-2.1	
MK31	Makanchi Array	57.20	341	*e*P	P	21 12 23.2	-2.1	
	1.5nm,0.6s							
MKAR	Makanchi Array	57.20	341	P	P	21 12 23.2	-2.0	
	2.1nm,0.5s,baz=146,slow=7.9,SNR=44							
MKAR				ScP	ScP	21 17 03.0	-1.2	
	0.3nm,0.7s,baz=128,slow=2.4,SNR=3.1							
OPO	Ambohidratompo	58.57	252	P	P	21 12 38.2	+2.6	
	4.3nm,0.9s,baz=62,slow=15,SNR=3.3							
ZALV	Zalesovo Beam	62.91	346	P	P	21 13 01.6	-2.4	
	1.3nm,0.4s,baz=170,slow=5.5,SNR=11							
MAW	Mawson	67.56	197	P	P	21 13 36.1	+2.4	
	88nm,1.2s,baz=56,slow=11,SNR=2.9							
ABKAR	Akbulak array	68.62	329	*e*P	P	21 13 39.3	-1.4	
	6.2nm,1.0s							
PETK	Petropavlovsk-	73.61	29	P	P	21 14 09.2	-1.4	
	2.7nm,0.5s,baz=190,slow=5.4,SNR=12							
TBLG	Delisi	73.72	317	*e*P	P	21 14 12.6	+1.0	
	9.4nm,0.9s							
SYO	Syowa Base	75.64	200⇑	*e*P	P	21 14 23.2	+1.1	
SYO	Syowa Base	75.64	200⇑	*e*PcP	PcP	21 14 35.0	+0.8	
KBZ	Khabaz	75.78	318	P	P	21 14 23.6	+0.3	
	8.2nm,0.9s,baz=186,slow=4.6,SNR=9.4							
KVAR	Kislovodsk Arr	76.00	318	P	P	21 14 25.4	+0.6	
	2.2nm,0.7s,baz=151,slow=19,SNR=6.1							
KIV	Kislovodsk	76.01	318	*e*P	P	21 14 25.2	+0.4	
	6.3nm,0.8s							
MATP	Matopo	76.22	251	P	P	21 14 28.9	+2.3	
	1.7nm,0.4s,baz=89,slow=6.9,SNR=6.4							
ASF	Jabal al Asfar	76.23	305	P	P	21 14 27.8	+1.4	
	1.5nm,0.7s,baz=72,slow=4.6,SNR=6.3							
VNDA	Vanda	76.55	169	P	P	21 14 29.1	+1.9	
	1.5nm,0.7s,baz=0.3,slow=5.8,SNR=6.6							
EIL	Elat	77.15	302	P	P	21 14 33.0	+1.5	
	4.5nm,0.7s,baz=113,slow=7.7,SNR=3.8							
MMAI	Mount Meron Ar	77.68	306	P	P	21 14 36.3	+1.9	
	3.2nm,0.6s,baz=87,slow=8.4,SNR=7.6							
TIXI	Tiksi	79.47	7	*e*P	P	21 14 40.7	-2.5	
	5.1nm,0.6s							
BR131	Keskin Array S	80.93	312	*e*P	P	21 14 52.0	0.0	
	2.3nm,0.7s							
BRTR	Keskin Array B	80.93	312	P	P	21 14 51.9	0.0	
	2.2nm,0.7s,baz=135,slow=7.5,SNR=15							
BRTR				pP	pP	21 15 27.1	-1.4	
	1.0nm,0.8s,baz=150,slow=6.3,SNR=3.4							
SUR	Sutherland	82.63	238	P	P	21 15 04.6	+3.5	
	9.4nm,1.0s,baz=150,slow=6.3,SNR=11							
KDZE	Karadeniz Ereo	82.97	313	i*e*P	P	21 14 56.0	-6.4	
AKASG	Malin Array Be	86.84	322	P	P	21 15 20.9	-0.7	
	3.5nm,0.6s,baz=83,slow=5.1,SNR=15							
AKBB	Malin Array Si	86.84	322	*e*P	P	21 15 20.2	-1.3	
	6.9nm,0.8s							
KIEV	Kiev	86.85	322	*e*P	P	21 15 20.2	-1.3	
	6.9nm,0.8s							
KIEV	Kiev	86.85	322	i*e*P	P	21 15 20.0	-1.5	
VRI	Vrincioaia	87.37	317	i*e*P	P	21 15 26.0	+1.8	
PLOR	Plostina	87.42	317	i*e*P	P	21 15 25.9	+1.4	
TESR	Tescani	87.56	317	i*e*P	P	21 15 26.0	+0.9	
MLR	Muntele Rosu	87.83	316	*e*P	P	21 15 27.3	+0.8	
	6.0nm,0.6s							
MLR	Muntele Rosu	87.83	316⇑	i*e*P	P	21 15 27.5	+1.0	
PRAR	RASCA	88.01	318⇑	i*e*P	P	21 15 28.2	+1.0	
VOIR		88.44	316⇑	i*e*P	P	21 15 29.9	+0.5	
ARR	Arges	88.71	316	i*e*P	P	21 15 31.4	+0.8	
BURAR	Bucovina Array	88.74	318⇑	i*e*P	P	21 15 32.0	+1.3	
VTS	Vitosha	89.22	313⇑	i*e*P	P	21 15 33.7	+0.5	
FINES	FINESS Array B	91.00	332	P	P	21 15 40.1	-0.7	
	2.5nm,0.8s,baz=126,slow=3.3,SNR=9.9							
ARCES	ARCESS Array B	92.84	340	P	P	21 15 47.4	-1.8	
	2.3nm,0.8s,baz=109,slow=4.9,SNR=3.6							
VYHS	Vyhne	93.10	318	*e*P	P	21 15 55.6	+4.7	
YKA	Yellowknife Ar	116.73	20	PKP	PKPdf	21 21 19.2	-0.9	
	0.3nm,0.5s,baz=338,slow=1.4,SNR=7.3							
D03D	Eldon	121.51	37	P	PKPdf	21 21 28.5	-1.3	
	baz=298							
B05A	Bryant	121.75	36	P	PKPdf	21 21 30.0	-0.2	
	baz=299							
O03E	Paynes Creek	125.57	44	P	PKPdf	21 21 36.8	-1.1	
	baz=295							
EGMT	Eagleton	128.62	30	P	PKPdf	21 21 41.2	-2.4	
	baz=312							
ELK	Elko	129.78	41	PKP	PKiKP	21 21 47.4	+0.4	
	1.0nm,0.4s,baz=237,slow=1.5,SNR=5.9							
LAO	LASA Array	131.28	29	P	PKiKP	21 21 49.6	0.0	
	baz=315							
SCHQ	Schefferville	131.53	355	SKPbc	SKPbc	21 24 59.5	-1.2	
	2.5nm,0.5s,baz=337,slow=1.8,SNR=6.4							
BW06	Boulder Array	132.11	35	P	PKPdf	21 21 51.0	+0.4	
	baz=309							
PDAR	Pinedale Array	132.11	35	PKP	PKPdf	21 21 51.0	+0.4	
	0.5nm,0.4s,baz=85,slow=1.5,SNR=9.5							
PDAR				SKPbc	SKPbc	21 25 02.4	-1.1	
	0.4nm,0.5s,baz=333,slow=0.4,SNR=5.9							
ULM	Lac du Bonnet	132.70	19	PKP	PKPdf	21 21 51.2	+0.1	
	2.1nm,0.7s,baz=24,slow=10.0,SNR=4.0							
ULM				SKPbc	SKPbc	21 25 03.1	-1.8	
	2.5nm,0.7s,baz=323,slow=6.4,SNR=5.1							
RSSD	Black Hills	134.19	30	P	PKPdf	21 21 54.8	+0.4	
	baz=316							
D41A	Chassel	137.70	15	P	PKiKP	21 22 01.7	-0.8	
	baz=338							
E39A	Mellen	137.78	17	P	PKiKP	21 22 01.7	-1.0	
	baz=335							
E40A	Wakefield	137.91	17	P	PKiKP	21 22 02.3	-0.7	
	baz=336							
ECSD	EROS Data Cent	137.91	25	P	PKiKP	21 22 02.9	-0.1	
	baz=325							
F40A	Park Falls	138.32	17	P	PKiKP	21 22 03.4	-0.4	
	baz=335							
T25A	Trinidad	138.73	38	P	PKiKP	21 22 04.7	-0.5	
	baz=310							
BGNE	Belgrade	139.09	28	P	PKiKP	21 22 05.5	-0.1	
	baz=321							
F48A	Evansville	140.14	10	P	PKiKP	21 22 07.7	+0.2	
	baz=346							
I43A	Langenfeld Bro	140.75	16	P	PKiKP	21 22 08.7	-0.1	
	baz=337							
K43A	Burlington	141.78	17	P	PKiKP	21 22 11.1	+0.1	
	baz=336							
H55A	Tweed	142.04	4	P	PKiKP	21 22 11.2	-0.2	
	baz=354							
H56A	Elgin	142.05	3	P	PKiKP	21 22 11.2	-0.2	
	baz=356							
P41A	Barry, Barry	143.56	23	P	PKPab	21 22 07.8	-0.2	
	baz=330							
WMOK	Wichita Mounta	143.72	36	P	PKPab	21 22 09.1	+0.2	
	baz=315							
N45A	Kentland	143.73	18	P	PKPab	21 22 08.9	+0.3	
	baz=337							
K55A	Perry	143.78	5	P	PKPbc	21 22 09.3	-0.3	
	baz=353							
TXAR	Lajitas Array	143.88	47	PKP	PKPbc	21 22 11.0	+0.6	
	1.1nm,0.4s,baz=315,slow=0.8,SNR=14							
TXAR				SKPbc	SKPbc	21 25 36.8	-0.8	
	0.2nm,0.4s,baz=252,slow=0.6,SNR=4.3							
M48A	Edgerton	143.89	14	P	PKPbc	21 22 09.6	-0.3	
	baz=341							
P42A	Winchester	143.91	22	P	PKPab	21 22 09.3	-0.1	
	baz=331							
N46A	Monticello	143.91	17	P	PKPbc	21 22 09.7	-0.3	
	baz=338							
PLIO	Pelee Island,	144.09	11	P	PKPab	21 22 09.7	-0.3	
	baz=345							
Q41A	Truxton	144.12	23	P	PKPab	21 22 09.8	-0.4	
	baz=330							
P43A	Skaggs, Pawnee	144.16	21	P	PKPab	21 22 10.1	-0.2	
	baz=333							
ERPA	Erie	144.16	8	P	PKPab	21 22 09.8	-0.5	
	baz=349							
O45A	Potomac	144.21	18	P	PKPbc	21 22 11.1	+0.2	
	baz=336							
N47A	Urbana	144.21	15	P	PKPbc	21 22 10.8	-0.1	
	baz=340							
SFIN	Lafayette	144.28	17	P	PKPbc	21 22 11.0	-0.1	
	baz=337							
L55A	Hinsdale	144.28	6	P	PKPab	21 22 10.8	0.0	
	baz=352							
L53A	Girard	144.29	8	P	PKPbc	21 22 11.1	0.0	
	baz=349							
M50A	Fremont	144.34	12	P	PKPbc	21 22 11.3	0.0	
	baz=344							
N48A	Decatur	144.40	15	P	PKPbc	21 22 11.4	-0.1	
	baz=341							
Q42A	Golden Eagle	144.42	23	P	PKPab	21 22 10.7	-0.6	
	baz=331							
BINY	Binghamton	144.45	3	P	PKPbc	21 22 11.7	0.0	
	baz=356							
TUL1	Leonard	144.51	32	P	PKPab	21 22 11.2	-0.6	
	baz=320							
M52A	Chesterland	144.52	10	P	PKPab	21 22 11.4	-0.3	
	baz=347							
R41A	Rosebud	144.62	24	P	PKPab	21 22 11.3	-0.8	
	baz=329,SNR=10							
P44A	Sand Creek, Wi	144.62	20	P	PKPab	21 22 11.3	-0.8	
	baz=334							
M53A	WI Miller and	144.73	9	P	PKPab	21 22 11.8	-0.7	
	baz=348							
M54A	Oil Creek Stat	144.81	8	P	PKPab	21 22 12.1	-0.6	
	baz=350							
P45A	Graceland, Par	144.86	19	P	PKPab	21 22 12.3	-0.7	
	baz=336							
R42A	Luudbering	144.87	24	P	PKPab	21 22 12.1	-0.9	
	baz=330,SNR=13							
CCM	Cathedral Cave	144.88	24	*e*PKPdf	PKPab	21 22 12.2	-0.8	
CCM	Cathedral Cave	144.88	24	P	PKPab	21 22 12.3	-0.8	
	baz=329							
O48A	Farmland	144.94	15	P	PKPbc	21 22 12.3	-0.9	
	baz=340							
N51A	Ashland	144.94	11	P	PKPbc	21 22 12.2	-1.0	
	baz=345							
P46A	Rosedale	144.95	18	P	PKPbc	21 22 12.6	-0.6	
	baz=336							
M55A	Ridgway	144.96	6	P	PKPbc	21 22 12.8	-0.4	
	baz=351							
Q44A	Meyer Farm, Va	144.99	21	P	PKPbc	21 22 12.7	-0.7	
	baz=333							
S41A	Jillco Farms,	145.07	25	P	PKPbc	21 22 13.0	-0.7	
	baz=328,SNR=20							
N52A	McGinn's Farm,	145.17	10	P	PKPbc	21 22 13.0	-0.9	
	baz=346							
R43A	Red Bud	145.21	23	P	PKPbc	21 22 13.2	-0.8	
	baz=331							
O49A	Covington	145.21	14	P	PKPbc	21 22 13.3	-0.8	
	baz=341							
Q45A	Warren Harvey,	145.30	20	P	PKPdf	21 22 13.9	-0.5	
	baz=334,SNR=5.1							
N54A	Moraine State	145.30	8	P	PKPdf	21 22 13.5	-0.8	
	baz=349							
S42A	Caledonia	145.31	24	P	PKPdf	21 22 13.7	-0.7	
	baz=329,SNR=13							
N53A	Lisbon	145.32	9	P	PKPdf	21 22 13.7	-0.7	
	baz=348							
P47A	Martinsville	145.35	17	P	PKPdf	21 22 13.7	-0.7	
	baz=338							
O50A	Cable	145.42	13	P	PKPdf	21 22 14.0	-0.5	
	baz=343,SNR=5.3							
Q46A	CEJHS Indians,	145.44	19	P	PKPdf	21 22 14.0	-0.6	
	baz=336							
ACSO	Alum Creek Sta	145.48	12	P	PKPdf	21 22 14.1	-0.5	
	baz=344,SNR=6.6							
T41A	Mountain View	145.52	26	P	PKPdf	21 22 14.3	-0.5	
	baz=327,SNR=6.7							
R44A	Waltonville	145.55	21	P	PKPdf	21 22 14.5	-0.3	
	baz=332,SNR=7.8							
U40A	Yellville	145.60	28	P	PKPdf	21 22 14.7	-0.3	
	baz=325,SNR=14							
N55A	Marion Center	145.61	7	P	PKPdf	21 22 14.6	-0.2	
	baz=351							
P48A	Milroy	145.61	16	P	PKPdf	21 22 14.4	-0.4	
	baz=339							
O51A	Pataskala	145.64	12	P	PKPdf	21 22 14.6	-0.3	
	baz=344,SNR=7.7							
P49A	Miami Univ. Ec	145.73	15	P	PKPdf	21 22 14.9	-0.2	
	baz=340,SNR=7.6							
N59A	State Game Lan	145.74	3	P	PKPdf	21 22 15.3	+0.3	
	baz=356							
R45A	Skyline Fairfi	145.79	20	P	PKPdf	21 22 15.6	+0.4	
	baz=334,SNR=7.3							
O53A	New Philadelph	145.80	10	P	PKPdf	21 22 15.3	+0.1	
	baz=347							
Q47A	Bedord North L	145.81	18	P	PKPdf	21 22 15.4	+0.2	
	baz=337,SNR=8.5							
T42A	Van Buren	145.82	25	P	PKPdf	21 22 15.5	+0.2	
	baz=328,SNR=14							
O52A	Adamsville	145.82	11	P	PKPdf	21 22 15.1	-0.1	
	baz=349,SNR=5.7							
SSPA	Standing Stone	145.87	6	P	PKPdf	21 22 15.4	+0.2	
	baz=353							
P50A	Jamestown	145.89	14	P	PKPdf	21 22 15.3	0.0	
	baz=342,SNR=7.4							
JCT	Junction City	145.92	42	*e*PKPbc	PKPbc	21 22 16.6	0.0	
JCT	Junction City	145.92	42	P	PKPbc	21 22 16.9	+0.3	
	baz=309							
S44A	Carbondale	145.97	22	P	PKPdf	21 22 15.9	+0.4	
	baz=332							
O54A	Avella	146.01	9	P	PKPbc	21 22 16.2	-0.3	
	baz=348							
Q48A	North Vernon	146.02	17	P	PKPbc	21 22 16.1	-0.4	
	baz=338,SNR=8.8							
U41A	Viola	146.04	27	P	PKPdf	21 22 15.9	+0.2	
	baz=327,SNR=13							
W39A	Magazine	146.09	30	P	PKPbc	21 22 16.8	-0.1	
	baz=323							
T43A	Greenville	146.10	24	P	PKPdf	21 22 16.0	+0.2	
	baz=329,SNR=7.4							
R46A	Gibon Southern	146.13	20	P	PKPdf	21 22 16.4	+0.6	
	baz=335							
O55A	Ligonier	146.13	8	P	PKPdf	21 22 16.0	+0.3	
	baz=350							
O56A	Blue Knob Stat	146.16	7	P	PKPbc	21 22 16.6	-0.4	
	baz=351							
P51A	Williamsport	146.18	13	P	PKPdf	21 22 16.0	+0.2	
	baz=343,SNR=6.0							
P52A	Forning	146.23	12	P	PKPdf	21 22 16.2	+0.3	
	baz=345,SNR=5.0							
S45A	Carrier Mills	146.24	21	P	PKPbc	21 22 16.8	-0.4	
	baz=333							
U42A	Revenden	146.33	26	P	PKPbc	21 22 16.9	-0.6	
	baz=328,SNR=17							
R47A	Wooly Knot Far	146.37	18	P	PKPbc	21 22 17.0	-0.6	
	baz=337,SNR=6.3							
T44A	Benton	146.38	23	P	PKPbc	21 22 17.2	-0.5	
	baz=341							
WHTX	Lake Whitney,	146.43	38	P	PKPbc	21 22 18.4	+0.4	
	baz=314,SNR=5.8							
R48A	Northridge Ran	146.47	17	P	PKPbc	21 22 17.7	-0.3	
	baz=338,SNR=6.4							
WCI	Wyandotte Cave	146.50	18	*e*PKPbc	PKPbc	21 22 17.4	-0.7	
WCI	Wyandotte Cave	146.50	18	P	PKPbc	21 22 17.5	-0.5	
	baz=337							
P53A	Whipple	146.51	11	P	PKPbc	21 22 17.6	-0.4	
	baz=346							
S46A	Don Dixon Farm	146.53	20	P	PKPbc	21 22 17.7	-0.4	
	baz=334							
Q51A	Peebles	146.55	14	P	PKPbc	21 22 17.4	-0.7	
	baz=343,SNR=7.8							
P54A	Burton	146.56	9	P	PKPbc	21 22 18.0	-0.2	
	baz=348							
Q50A	Georgetown	146.57	14	P	PKPdf	21 22 17.3	+0.7	
	baz=341,SNR=5.4							
MCWV	Mont Chateau	146.60	8	P	PKPbc	21 22 17.9	-0.3	
	baz=349							
U43A	Rector	146.67	25	P	PKPdf	21 22 17.6	+0.8	
	baz=329							
MIAR	Mount Ida	146.71	31	P	PKPbc	21 22 18.5	-0.2	
	baz=322							
P55A	Reedsville	146.75	8	P	PKPbc	21 22 18.1	-0.6	
	baz=349							
R49A	Shelbyville	146.77	16	P	PKPbc	21 22 18.2	-0.6	
	baz=339,SNR=5.2							
Q52A	Bidwell	146.85	12	P	PKPbc	21 22 18.3	-0.7	
	baz=344,SNR=6.1							
W41B	Gary Mavity, V	146.85	28	P	PKPbc	21 22 18.6	-0.5	
	baz=325							
S47A	Hartford	146.90	19	P	PKPbc	21 22 18.3	-0.9	
	baz=336							
R50A	Paris	147.01	15	P	PKPbc	21 22 18.4	-1.0	
	baz=340,SNR=5.4							
T46A	Princeton	147.05	21	P	PKPbc	21 22 19.3	-0.3	
	baz=334,SNR=6.1							
S48A	Wiedeman Farm,	147.10	18	P	PKPbc	21 22 19.2	-0.6	
	baz=337,SNR=9.5							
Q54A	Coxs Mills	147.10	10	P	PKPbc	21 22 19.0	-0.6	
	baz=347							
R51A	Hillsboro	147.18	14	P	PKPbc	21 22 19.4	-0.5	
	baz=342							
S49A	Springfield	147.21	17	P	PKPbc	21 22 18.9	-1.2	
	baz=339							
Q55A	Buckhannon	147.21	9	P	PKPbc	21 22 19.6	-0.5	
	baz=348							
R52A	Catlettsburg	147.37	13	P	PKPbc	21 22 19.5	-0.9	
	baz=344							
T47A	Sharon Grove	147.37	20	P	PKPbc	21 22 20.1	-0.4	
	baz=335,SNR=7.2							
T48A	Bowling Green	147.50	19	P	PKPbc	21 22 20.4	-0.5	
	baz=336,SNR=5.3							
R53A	Hurricane	147.52	12	P	PKPbc	21 22 20.3	-0.5	
	baz=345,SNR=8.5							
833A	Chaparral WMA,	147.53	45	P	PKPbc	21 22 21.8	+0.6	
	baz=307							
U46A	Springville	147.56	22	P	PKPbc	21 22 20.6	-0.4	
	baz=333							
S50A	Richmond	147.56	16	P	PKPbc	21 22 19.9	-1.1	
	baz=340							
T49A	Edmonton	147.77	18	P	PKPbc	21 22 20.9	-0.7	
	baz=338							
U47A	Clarksville	147.80	21	P	PKPbc	21 22 21.4	-0.2	
	baz=334,SNR=5.7							
WVT	Waverly	147.89	22	P	PKPbc	21 22 21.7	-0.2	
	baz=333							
R55A	Marlinton	147.90	9	P	PKPbc	21 22 21.5	-0.5	
	baz=348							
U48A	Cassie Pea, Po	147.99	20	P	PKPbc	21 22 21.8	-0.4	
	baz=336,SNR=13							
T50A	Nancy	148.05	17	P	PKPbc	21 22 21.5	-0.9	
	baz=339							
V46A	Holladay	148.07	22	P	PKPbc	21 22 21.8	-0.6	
	baz=332							
W45A	Hickory Valley	148.21	24	P	PKPbc	21 22 22.2	-0.6	
	baz=330							
U49A	Red Boiling Sp	148.24	18	P	PKPbc	21 22 22.3	-0.5	
	baz=337,SNR=6.4							
NATX	Nacogdoches	148.25	35	P	PKPbc	21 22 23.1	+0.1	
	baz=318							
V47A	Nunnelly	148.27	21	P	PKPbc	21 22 22.3	-0.6	
	baz=334							
T51A	Gray	148.35	16	P	PKPbc	21 22 22.6	-0.6	
	baz=340,SNR=6.5							
W46A	Michie	148.56	23	P	PKPbc	21 22 23.2	-0.5	
	baz=332							
V48A	Smith Brothers	148.60	21	P	PKPbc	21 22 23.0	-0.8	
	baz=335,SNR=5.9							
U50A	Jamestown	148.61	17	P	PKPbc	21 22 23.6	-0.3	
	baz=339,SNR=20							
OXF	Oxford	148.68	25	P	PKPbc	21 22 23.5	-0.5	
	baz=329							
T53A	Wise	148.69	14	P	PKPbc	21 22 23.7	-0.4	
	baz=343							
W47A	Westpoint	148.75	22	P	PKPbc	21 22 23.6	-0.6	
	baz=333,SNR=9.5							
T54A	Tazewell	148.82	12	P	PKPbc	21 22 23.8	-0.6	
	baz=345							
TZTN	Tazewell	148.85	15	P	PKPbc	21 22 24.1	-0.3	
	baz=341							
V49A	McMinnville	148.88	19	P	PKPbc	21 22 23.7	-0.8	
	baz=336,SNR=7.9							
U51A	La Follette	148.88	16	P	PKPbc	21 22 24.3	-0.2	
	baz=340							
X46A	Booneville	148.98	24	P	PKPbc	21 22 24.0	-0.7	
	baz=331							
U52A	Thorn Hill	149.04	15	P	PKPbc	21 22 24.7	-0.3	
	baz=341							
W48A	Pulaski	149.10	21	P	PKPbc	21 22 24.3	-0.8	
	baz=334,SNR=5.0							
V50A	Pikeville	149.23	18	P	PKPbc	21 22 24.7	-0.6	
	baz=338							
X47A	Russelville	149.30	23	P	PKPbc	21 22 24.5	-1.1	
	baz=332							
V51A	Loudon	149.33	17	P	PKPbc	21 22 25.2	-0.4	
	baz=339							
W49A	Belvidere	149.35	20	P	PKPbc	21 22 25.2	-0.5	
	baz=335,SNR=6.0							
U55A	TA2, Sparta	149.47	12	P	PKPbc	21 22 25.7	-0.4	
	baz=346							
V52A	Sevierville	149.50	16	P	PKPbc	21 22 26.0	0.0	
	baz=341,SNR=9.0							
W50A	Signal Mountai	149.59	19	P	PKPbc	21 22 25.9	-0.4	
	baz=337							
TKL	Tuckaleechee C	149.63	16	PKPbc	PKPbc	21 22 26.2	-0.1	
	11nm,0.3s,baz=6.0,slow=1.4,SNR=14							
X48A	Hartselle	149.67	22	P	PKPbc	21 22 25.6	-0.9	
	baz=333							
W51A	Cleveland	149.80	18	P	PKPbc	21 22 26.4	-0.4	
	baz=338							
V53A	Saluda	149.87	15	P	PKPbc	21 22 26.8	-0.2	
	baz=342,SNR=5.7							
X49A	Woodville	149.88	21	P	PKPbc	21 22 26.6	-0.4	
	baz=335,SNR=6.3							
Y48A	Jasper	150.10	23	P	PKPbc	21 22 26.8	-0.8	
	baz=333							
W52A	Murphy	150.11	17	P	PKPbc	21 22 27.4	-0.2	
	baz=340							
X50B	Fort Payne	150.16	20	P	PKPbc	21 22 27.1	-0.6	
	baz=336							
W53A	Cullowhee	150.25	16	P	PKPbc	21 22 28.1	+0.1	
	baz=341,SNR=6.9							
X51A	Calhoun	150.32	19	P	PKPbc	21 22 28.0	-0.1	
	baz=337							
Y49A	Blount Mountai	150.43	22	P	PKPbc	21 22 28.0	-0.4	
	baz=334				

s-min=8.0km az=155.0
*ISCJB **06** 21:06:27.3±0.4, 43°.72N±0°.04×105°.37W±0°.04, h0km, mb4.1/2, MS3.5/1, Error ellipse: s-maj=5.9km s-min=4.4km az=8.5*
*NEIC **06** 21:06:28.7±0.4, 43°.75N×105°.33W, h0km, MN3.1, Error ellipse: s-maj=7.6km s-min=5.9km az=177.0, Suspected Mining explosion.*
NEIC 64 km [40 miles] SSE of Gillette.
ISC 06 21:06:28.9±0.6**, 43°.92N**±0°.03×**105°.40W**±0°.03**, h0**km**, n27,** σ**2.60**/39**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.01**	**78**	*e*Pg	**Pg**	**21 06 47.5**	**-0.7**
RSSD				*e*S	**Sb**	**21 07 03.2**	**0.0**
LAO	**LASA Array**	**2.83**	**348**	*e*Pn	**Pb**	**21 07 19.1**	**-1.3**
LAO				*e*S	**Sn**	**21 07 49.7**	**-0.7**
RLMT	**Red Lodge**	**3.02**	**295**	*e*Pn	**Pn**	**21 07 20.1**	**+1.9**
RLMT				*e*S	**Sn**	**21 07 56.7**	**+1.6**
BW06	**Boulder Array**	**3.24**	**251**	*e*Pn	**Pn**	**21 07 21.9**	**+0.6**
BW06				*e*S	**Sb**	**21 08 06.5**	**-1.0**
PDAR	**Pinedale Array**	**3.24**	**251**	Pn	**Pn**	**21 07 20.7**	**-0.6**
	3.5nm,0.3s,baz=83,slow=15,SNR=50						
PDAR				Pg	**Pb**	**21 07 26.3**	**-1.1**
	17nm,0.3s,baz=87,slow=18,SNR=90						
PDAR				Lg	Lg	21 08 06.1	
	73nm,0.3s,baz=82,slow=34,SNR=40						
LKWY	**Lake**	**3.65**	**282**	*e*Pn	**Pn**	**21 07 25.0**	**-1.9**
OGNE	**Ogallala**	**3.88**	**139**	*e*Pn	**Pn**	**21 07 27.3**	**-2.6**
OGNE				*e*S	**Sb**	**21 08 23.3**	**-2.4**
ISCO	**Idaho Springs**	**4.12**	**182**	*e*Pn	**Pn**	**21 07 30.9**	**-2.5**
ISCO				*e*S	**Sb**	**21 08 28.8**	**-4.0**
AHID	**Auburn Hatcher**	**4.31**	**257**	*e*Pn	**Pn**	**21 07 35.3**	**-0.6**
AHID				*e*Pg	**Pg**	**21 07 49.2**	**-2.3**
AHID				*e*S	**Sb**	**21 08 42.0**	**+3.6**
DGMT	**Dagmar**	**4.63**	**10**	*e*Pn	**Pn**	**21 07 43.8**	**+3.7**
DGMT				*e*S	**Sb**	**21 08 44.5**	**-2.8**
BOZ	**Bozeman (W)**	**4.74**	**293**	*e*Pn	**Pn**	**21 07 43.3**	**+1.5**
BOZ				*e*S	**Sb**	**21 08 51.6**	**+0.9**
EGMT	**Eagleton**	**5.11**	**325**	*e*Pn	**Pn**	**21 07 49.5**	**+2.7**
EGMT				*e*S	**Sn**	**21 08 41.3**	**-5.1**
SDCO	**Great Sand Dun**	**6.16**	**181**	*e*Pn	**Pn**	**21 07 59.5**	**-2.0**
	3.7nm,0.6s						
SDCO				*e*Pg	**Pb**	**21 08 19.7**	**+2.4**
ECSD	**EROS Data Cent**	**6.36**	**89**	*e*Pn	**Pn**	**21 08 03.2**	**-0.7**
	5.9nm,0.4s						
ECSD				*e*Pg	Pg	21 08 24.7	-6.0
ECSD				*e*S	**Sn**	**21 09 24.2**	**+7.0**
HLID	**Hailey**	**6.54**	**270**	*e*Pn	**Pn**	**21 08 07.2**	**+0.7**
	2.9nm,0.9s						
CBKS	**Cedar Bluff**	**6.64**	**138**	Pn	**Pn**	**21 08 06.3**	**-1.5**
	25nm,0.6s						
CBKS				*e*Pg	**Pb**	**21 08 27.8**	**+2.5**
CBKS				*e*S	**Sn**	**21 09 21.7**	**-2.5**
DUG	**Dugway, Tooele**	**6.65**	**239**	*e*Pn	**Pn**	**21 08 06.9**	**-1.1**
	3.6nm,0.5s						
DUG				*e*S	**Sn**	**21 09 30.6**	**+6.0**
ELK	**Elko**	**7.95**	**250**	Pn	**Pn**	**21 08 26.1**	**+0.2**
	0.1nm,0.3s,baz=70,slow=12,SNR=2.3						
ELK				Lg	Lg	21 10 34.2	
	0.2nm,0.3s,baz=30,slow=16,SNR=2.1						
ELK				LR	LR	21 11 38.0	
	comp=Z,98nm,21.8s,baz=80,slow=40						
I10CA	**LAC DU BONNET**	**8.97**	**42**	*i*		22 00 00.0	
	baz=222,slow=322,SNR=3.5						
ULM	**Lac du Bonnet**	**9.07**	**42**	Pn	**Pn**	**21 08 40.2**	**-0.9**
	1.3nm,0.3s,baz=230,slow=14,SNR=9.0						
ULM				Lg	Lg	21 11 13.4	
	0.2nm,0.3s,baz=155,slow=19,SNR=2.9						
YBH	**Yreka Blue Hor**	**12.89**	**266**	LR	LR	21 15 06.3	
	comp=Z,96nm,19.7s,baz=24,slow=40						
BBB	**Bella Bella**	**17.24**	**307**	LR	LR	21 17 58.6	
	comp=Z,110nm,19.8s,baz=138,slow=39						
TKL	**Tuckaleechee C**	**18.52**	**109**	LR	LR	21 17 56.7	
	comp=Z,108nm,21.1s,baz=341,slow=38						
YKA	**Yellowknife Ar**	**19.37**	**347**	P	**Pn**	**21 10 59.1**	**+2.2**
	0.1nm,0.3s,baz=159,slow=12,SNR=5.8						
YKA				Lg	Lg	21 16 38.3	
	baz=149,slow=28,SNR=4.0						
FRB	**Frobisher Bay**	**28.81**	**34**	LR	LR	21 24 18.2	
	comp=Z,118nm,18.3s,baz=359,slow=37						
ARCES	**ARCESS Array B**	**61.28**	**18**	P	**P**	**21 16 45.5**	**+0.1**
	3.4nm,0.9s,baz=334,slow=8.0,SNR=2.8						
AKASG	**Malin Array Be**	**77.84**	**28**	P	**P**	**21 18 27.6**	**-0.4**
	0.2nm,0.3s,baz=322,slow=3.7,SNR=2.6						

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*ISCJB **06** 21:07:31.3±0.6, 37°.82S±0°.03×177°.03E±0°.05, h157km±5km, mb3.3/2, Error ellipse: s-maj=7.2km s-min=4.7km az=154.7*
*IDC **06** 21:07:31.4±0.9, 37°.89S×177°.07E, h139km±7km, mb3.1/2, mb1 3.4/3, mb1mx3.2/25, mbtmp3.6/3, MS3.9/1, Ms1 3.9/1, ms1mx3.1/9, Error ellipse: s-maj=39.6km s-min=30.1km az=7.0*
*WEL **06** 21:07:33.5, 38°S±2°×17°7E±°, h133km±3km*
ISC 06 21:07:31.7±0.8**, 37°.81S**±0°.05×**177°.03E**±0°.05**, h148**km±5km**, n128,** σ**1.05**/134**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHRZ	**Whale Island**	**0.06**	**219**	P	**Pn**	**21 07 51.9**	**+0.3**
WIZ	**White Island**	**0.31**	**25**	P	**Pn**	**21 07 51.7**	**-0.3**
MARZ	**Manawahe**	**0.33**	**237**	P	**Pn**	**21 07 52.4**	**+0.2**
OPRZ	**Ohinepanea**	**0.37**	**264**	P	**Pn**	**21 07 52.1**	**-0.1**
OPRZ				S	**Sn**	**21 08 06.5**	**-1.4**
EDRZ	**Edgecumbe**	**0.38**	**217**	P	**Pn**	**21 07 52.7**	**+0.3**
URZ	**Urewera**	**0.46**	**171**	P	**Pn**	**21 07 52.7**	**+0.1**
	290nm,0.3s,baz=275,slow=2.2,SNR=682						
URZ				LR	LR	21 07 59.7	
	comp=Z,106nm,21.7s,baz=162,slow=75						
URZ				S	**Sn**	**21 08 07.1**	**-1.5**
	193nm,0.3s,baz=246,slow=20,SNR=50						
URZ	**Urewera**	**0.46**	**171**	P	**Pn**	**21 07 52.8**	**+0.1**
URZ				S	**Sn**	**21 08 07.8**	**-0.9**
RUGZ	**Raukumara Rang**	**0.54**	**107**	P	**Pn**	**21 07 52.8**	**-0.4**
RUGZ				S	**Sn**	**21 08 08.2**	**-1.4**
MKRZ	**Makatiti**	**0.55**	**233**	P	**Pn**	**21 07 54.5**	**+1.2**
TARZ	**Mount Tarawera**	**0.59**	**224**	P	**Pn**	**21 07 54.3**	**+0.8**
OMRZ	**Omania**	**0.60**	**240**	P	**Pn**	**21 07 53.9**	**+0.5**
HAZ	**Te Kaha**	**0.60**	**85**	P	**Pn**	**21 07 53.3**	**-0.1**
HAZ				S	**Sn**	**21 08 08.7**	**-1.1**
TGRZ	**Tauranga**	**0.61**	**277**	P	**Pn**	**21 07 53.5**	**+0.1**
TGRZ				S	**Sn**	**21 08 08.9**	**-1.0**
KARZ	**Kaharoa**	**0.65**	**251**	P	**Pn**	**21 07 54.2**	**+0.4**
MWZ	**Matawai**	**0.66**	**143**	P	**Pn**	**21 07 54.3**	**+0.5**
RRRZ	**Republican Roa**	**0.67**	**217**	P	**Pn**	**21 07 54.6**	**+0.7**
HLRZ	**Highlands Stat**	**0.69**	**230**	P	**Pn**	**21 07 54.8**	**+0.8**
MUGZ	**Murupara**	**0.70**	**197**	P	**Pn**	**21 07 54.6**	**+0.6**
NGRZ	**Ngongotaha**	**0.72**	**246**	P	**Pn**	**21 07 55.1**	**+0.8**
RAGZ	**Rawiri**	**0.75**	**156**	P	**Pn**	**21 07 55.4**	**+0.9**
HSRZ	**Hossack Road**	**0.80**	**230**	P	**Pn**	**21 07 56.0**	**+1.3**
RTZ	**Ruatahuna**	**0.81**	**182**	P	**Pn**	**21 07 55.6**	**+0.7**
MYRZ	**Mayor Island**	**0.81**	**310**	P	**Pn**	**21 07 54.8**	**0.0**
HRRZ	**Handcock Road**	**0.82**	**225**	P	**Pn**	**21 07 55.9**	**+1.0**
PKGZ	**Pakihiroa**	**0.84**	**96**	P	**Pn**	**21 07 55.7**	**+0.7**
TWGZ	**Tauwhareparae**	**0.84**	**116**	P	**Pn**	**21 07 56.1**	**+1.1**
PRRZ	**Plateau Road**	**0.85**	**216**	P	**Pn**	**21 07 55.9**	**+0.8**
KMRZ	**Kaimai**	**0.86**	**267**	P	**Pn**	**21 07 55.5**	**+0.3**
GRRZ	**Galatos Road**	**0.90**	**233**	P	**Pn**	**21 07 56.7**	**+1.1**
TKGZ	**Te Karaka**	**0.91**	**134**	P	**Pn**	**21 07 56.5**	**+1.0**
ALRZ	**Allen Road**	**0.93**	**215**	P	**Pn**	**21 07 56.7**	**+1.0**
WPRZ	**Whakapapatarin**	**0.98**	**223**	P	**Pn**	**21 07 57.3**	**+1.1**
SNGZ	**Shannon Statio**	**1.00**	**166**	P	**Pn**	**21 07 57.6**	**+1.2**
PUZ	**Puketiti**	**1.01**	**106**	P	**Pn**	**21 07 57.0**	**+0.6**
MXZ	**Matakaoa Point**	**1.05**	**77**	P	**Pn**	**21 07 57.4**	**+0.7**
MTHZ	**Maungataniwha**	**1.05**	**188**	P	**Pn**	**21 07 57.7**	**+0.8**
MTHZ				P	**Pn**	**21 07 57.7**	**+0.8**
RIGZ	**Rimuhau**	**1.07**	**147**	P	**Pn**	**21 07 58.6**	**+1.6**
WMGZ	**Waiomatatini S**	**1.10**	**91**	P	**Pn**	**21 07 58.1**	**+0.9**
RAHZ	**Arahi**	**1.11**	**178**	P	**Pn**	**21 07 58.7**	**+1.4**
MRHZ	**Matea Rd**	**1.13**	**205**	P	**Pn**	**21 07 58.4**	**+0.8**
CNGZ	**Carnagh Statio**	**1.15**	**126**	P	**Pn**	**21 07 59.2**	**+1.6**
KUTZ	**Kaahu Road**	**1.17**	**234**	P	**Pn**	**21 07 59.1**	**+1.3**
WHTZ	**Whakaora**	**1.20**	**224**	P	**Pn**	**21 07 60.0**	**+1.8**
TOZ	**Tahuroa Road**	**1.21**	**273**	P	**Pn**	**21 07 58.8**	**+0.6**
WHHZ	**Waihua**	**1.28**	**173**	P	**Pn**	**21 08 00.3**	**+1.4**
TLZ	**Tolley Road**	**1.28**	**246**	P	**Pn**	**21 08 00.1**	**+1.2**
NMHZ	**Naumai**	**1.30**	**188**	P	**Pn**	**21 08 00.8**	**+1.7**
PRGZ	**Paritu Road**	**1.30**	**149**	P	**Pn**	**21 08 00.5**	**+1.3**
HATZ	**Hinemaiaia**	**1.31**	**214**	P	**Pn**	**21 08 00.2**	**+1.1**
KNZ	**Kokohu**	**1.32**	**157**	P	**Pn**	**21 08 00.5**	**+1.3**
WATZ	**Wairara**	**1.36**	**228**	P	**Pn**	**21 08 01.1**	**+1.4**
BKZ	**Black Stump Fm**	**1.42**	**197**	P	**Pn**	**21 08 01.1**	**+0.8**
RATZ	**Rangitukua**	**1.45**	**223**	P	**Pn**	**21 08 01.9**	**+1.3**
ARHZ	**Aropaoanui**	**1.46**	**181**	P	**Pn**	**21 08 02.1**	**+1.5**
KUZ	**Kuaotunu**	**1.48**	**315**	P	**Pn**	**21 08 00.7**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.51**	**153**	P	**Pn**	**21 08 03.1**	**+1.8**
KATZ	**Kakaramea**	**1.57**	**221**	P	**Pn**	**21 08 03.3**	**+1.4**
MKAZ	**Moumakai**	**1.64**	**295**	P	**Pn**	**21 08 03.1**	**+0.5**
MCHZ	**McNeill Hill**	**1.66**	**189**	P	**Pn**	**21 08 04.2**	**+1.4**
KWHZ	**Kaweka Forest**	**1.68**	**196**	P	**Pn**	**21 08 04.2**	**+1.1**
KRVZ	**Karewarewa**	**1.68**	**220**	P	**Pn**	**21 08 04.8**	**+1.6**
WTVZ	**West Tongariro**	**1.73**	**220**	P	**Pn**	**21 08 04.9**	**+1.2**
NGZ	**Ngauruhoe**	**1.77**	**219**	P	**Pn**	**21 08 06.3**	**+2.1**
TWVZ	**Taurewa**	**1.77**	**224**	P	**Pn**	**21 08 05.5**	**+1.3**
TUVZ	**Tukino**	**1.81**	**216**	P	**Pn**	**21 08 05.9**	**+1.2**
WIAZ	**Waiheke Island**	**1.82**	**303**	P	**Pn**	**21 08 05.1**	**+0.5**
BHHZ	**Black Hill Sta**	**1.84**	**204**	P	**Pn**	**21 08 05.6**	**+0.7**
KBAZ	**Karaka Road Bo**	**1.84**	**292**	P	**Pn**	**21 08 06.0**	**+1.1**
CKHZ	**Cape Kidnapper**	**1.85**	**179**	P	**Pn**	**21 08 06.2**	**+1.3**
HIZ	**Hauiti**	**1.85**	**247**	P	**Pn**	**21 08 06.7**	**+1.7**
FWVZ	**Far West T-bar**	**1.85**	**218**	P	**Pn**	**21 08 06.4**	**+1.1**
WHVZ	**Whangaehu Hut**	**1.85**	**217**	P	**Pn**	**21 08 06.4**	**+1.1**
DRZ	**Dome Shelter**	**1.86**	**218**	P	**Pn**	**21 08 06.8**	**+1.4**
ETAZ	**East Tamaki Re**	**1.88**	**296**	P	**Pn**	**21 08 06.1**	**+0.8**
MOVZ	**Moawhango**	**1.88**	**212**	P	**Pn**	**21 08 05.9**	**+0.5**
KRHZ	**Kereru**	**1.90**	**195**	P	**Pn**	**21 08 06.3**	**+0.6**
PKVZ	**Pokaka**	**1.98**	**221**	P	**Pn**	**21 08 07.9**	**+1.3**
MBAZ	**Motutapu North**	**1.99**	**301**	P	**Pn**	**21 08 07.3**	**+0.7**
KAHZ	**Kahuranaki**	**1.99**	**183**	P	**Pn**	**21 08 07.8**	**+1.2**
GRZ	**Great Barrier**	**2.00**	**321**	P	**Pn**	**21 08 06.7**	**0.0**
AWAZ	**Awhitu Peninsu**	**2.04**	**291**	P	**Pn**	**21 08 07.8**	**+0.7**
EPAZ	**Eden Park BICE**	**2.04**	**296**	P	**Pn**	**21 08 07.7**	**+0.5**
HBAZ	**Herne Bay Bore**	**2.06**	**297**	P	**Pn**	**21 08 08.3**	**+0.9**
WTAZ	**Waiatarua**	**2.14**	**293**	P	**Pn**	**21 08 09.2**	**+0.8**
PNHZ	**Pukenui**	**2.20**	**197**	P	**Pn**	**21 08 09.6**	**+0.5**
PXZ	**Pawanui**	**2.23**	**183**	P	**Pn**	**21 08 10.0**	**+0.6**
WPHZ	**Waipukurau**	**2.30**	**191**	P	**Pn**	**21 08 11.0**	**+0.7**
TSZ	**Takapari Road**	**2.40**	**200**	P	**Pn**	**21 08 11.6**	**+0.2**
PRHZ	**Porangahau**	**2.48**	**187**	P	**Pn**	**21 08 13.1**	**+0.7**
WAZ	**Wanganui**	**2.52**	**219**	P	**Pn**	**21 08 14.2**	**+1.3**
DVHZ	**Dannevirke**	**2.58**	**195**	P	**Pn**	**21 08 13.6**	**-0.1**
ANWZ	**Angora Road**	**2.68**	**189**	P	**Pn**	**21 08 15.6**	**+0.6**
PKE	**Pukeiti**	**2.76**	**239**	P	**Pn**	**21 08 19.0**	**+3.1**
POWZ	**Post Office Ro**	**2.76**	**200**	P	**Pn**	**21 08 16.4**	**+0.4**
KHEZ	**Kahui Hut**	**2.79**	**237**	P	**Pn**	**21 08 17.5**	**+1.1**
WCZ	**Waipu Caves**	**2.84**	**310**	P	**Pn**	**21 08 17.6**	**+0.5**
PRWZ	**Pori Road**	**2.86**	**196**	P	**Pn**	**21 08 17.6**	**+0.3**
BFZ	**Birch Farm**	**2.93**	**192**	P	**Pn**	**21 08 18.1**	**0.0**
MRZ	**Mangatainoka R**	**3.06**	**201**	P	**Pn**	**21 08 19.4**	**-0.4**
TIWZ	**Tintock**	**3.09**	**196**	P	**Pn**	**21 08 20.1**	**-0.1**
CPWZ	**Castlepoint**	**3.16**	**191**	P	**Pn**	**21 08 21.5**	**+0.4**
HOWZ	**Holdsworth Sta**	**3.30**	**200**	P	**Pn**	**21 08 22.1**	**-0.7**
OGWZ	**Otaki Gorge**	**3.33**	**205**	P	**Pn**	**21 08 22.8**	**-0.4**
TMWZ	**Te Maipa**	**3.41**	**195**	P	**Pn**	**21 08 23.7**	**-0.5**
KIW	**Kapiti Island**	**3.46**	**208**	P	**Pn**	**21 08 24.1**	**-0.8**
MTW	**Mount Morrison**	**3.55**	**199**	P	**Pn**	**21 08 24.9**	**-1.1**
CAW	**Cannon Point**	**3.63**	**204**	P	**Pn**	**21 08 26.0**	**-1.0**
TRWZ	**Traveller**	**3.73**	**196**	P	**Pn**	**21 08 27.5**	**-0.9**
PAWZ	**Paruwai Farm**	**3.78**	**199**	P	**Pn**	**21 08 27.7**	**-1.3**
OUZ	**Omahuta**	**3.78**	**312**	P	**Pn**	**21 08 30.0**	**+0.9**
DUWZ	**D'Urville Isla**	**3.84**	**218**	P	**Pn**	**21 08 29.2**	**-0.6**
MSWZ	**Moikau Station**	**3.86**	**200**	P	**Pn**	**21 08 28.6**	**-1.4**
BHW	**Baring Head**	**3.96**	**204**	P	**Pn**	**21 08 30.0**	**-1.4**
PLWZ	**Palliser**	**4.00**	**199**	P	**Pn**	**21 08 30.3**	**-1.6**
TCW	**Tory Channel**	**4.01**	**211**	P	**Pn**	**21 08 30.5**	**-1.5**
TUWZ	**Tuamarina**	**4.33**	**212**	P	**Pn**	**21 08 34.9**	**-1.3**
NNZ	**Nelson**	**4.42**	**218**	P	**Pn**	**21 08 36.6**	**-0.8**
QRZ	**Quartz Range**	**4.61**	**228**	P	**Pn**	**21 08 38.7**	**-1.2**
RPZ	**Rata Peaks**	**7.44**	**216**	P	**Pn**	**21 09 15.2**	**-2.3**
	1.1nm,0.3s,baz=63,slow=4.5,SNR=7.0						
RPZ				S	Sn	21 10 32.7	-8.0
	2.9nm,0.3s,baz=313,slow=22,SNR=13						
ASAR	**Alice Springs**	**39.31**	**278**	P	**P**	**21 14 47.9**	**+1.5**
	0.2nm,0.3s,baz=116,slow=7.3,SNR=2.9						
VNDA	**Vanda**	**40.35**	**185**	LR	LR	21 31 01.0	
	comp=Z,144nm,18.3s,baz=281,slow=35						
WRA	**Warramunga Arr**	**41.00**	**284**	P	**P**	**21 15 01.2**	**+0.8**
	0.3nm,0.3s,baz=120,slow=8.5,SNR=10.0						
MKAR	**Makanchi Array**	**119.24**	**308**	PKP	**PKiKP**	**21 26 02.5**	**-0.4**
	0.3nm,0.5s,baz=108,slow=0.5,SNR=4.7						
ARCES	**ARCESS Array B**	**144.72**	**343**	PKP	**PKPdf**	**21 26 49.3**	**-0.4**
	4.3nm,0.9s,baz=27,slow=3.0,SNR=3.8						
FINES	**FINESS Array B**	**150.23**	**332**	PKPbc	**PKiKP**	**21 27 04.4**	**-0.6**
	3.0nm,0.9s,baz=11,slow=1.9,SNR=3.8						
BRTR	**Keskin Array B**	**151.51**	**285**	PKPbc	**PKiKP**	**21 27 08.9**	**+0.3**
	0.2nm,0.4s,baz=129,slow=2.6,SNR=3.3						
AKASG	**Malin Array Be**	**153.81**	**310**	PKPbc	**PKiKP**	**21 27 12.4**	**-0.3**
	0.5nm,0.5s,baz=56,slow=2.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**155.09**	**191**	PKPab	**PKPab**	**21 27 34.0**	**+1.4**
	0.5nm,1.0s,baz=157,slow=4.4,SNR=3.3						

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*TIF **06** 21:10:15.5, 42°.38N×40°.89E, h13km±2km*
*ISK **06** 21:10:16.6, 42°.38N×41°.15E, h3km, ML2.8/7*
*NORS **06** 21:10:17.6±0.0, 42°.54N×41°.01E, h6km, MPVA3.5*
*DDA **06** 21:10:18.1, 42°.26N×41°.12E, h11km±2km, ML3.0*
*MOS **06** 21:10:18.1±0.0, 42°.50N×41°.02E, h11km, MPVA3.7*
ISC 06 21:10:15.2±1.2**, 42°.36N**±0°.02×**41°.06E**±0°.03**, h1**km±10km**, n36,** σ**1.50**/63**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.90**	**148**	P	**Pn**	**21 10 35.1**	**+0.2**
BATM				S	**Sn**	**21 10 49.3**	**+0.8**
BCA	**Borcka**	**1.01**	**155**	PG	**Pn**	**21 10 36.3**	**-0.2**
BCA				SG	**Sn**	**21 10 50.9**	**-0.5**
DOMR	**Dombai**	**1.02**	**24**	*e*Pg	**Pb**	**21 10 35.6**	**-0.1**
DOMR				*e*Sg	**Sg**	**21 10 48.0**	**0.0**
DBOC	**Borcka**	**1.11**	**156**	*i* P	**Pn**	**21 10 38.0**	**0.0**
DBOC				*i* S	**Sg**	**21 10 51.1**	**+0.1**
ARXR	**Arkhyz**	**1.21**	**8**	*e*Pg	**Pg**	**21 10 38.1**	**-0.3**
ARXR				*e*Sg	**Sg**	**21 10 53.4**	**-0.7**
CHOM	**Cayeli-Rize**	**1.28**	**190**	PN	**Pn**	**21 10 42.4**	**+2.1**
DBAD	**Bademkaya**	**1.43**	**160**	*i* P	**Pb**	**21 10 43.4**	**+0.8**
DBAD				*i* S	**Sg**	**21 10 57.3**	**-3.7**
DAGI	**Agillar**	**1.44**	**153**	*i* P	**Pb**	**21 10 43.7**	**+0.9**
DAGI				*i* S	**Sg**	**21 10 56.9**	**-4.5**
DAGI				IAML_P			
	comp=Z,647nm,0.2s						
RPOR	**Krasnaya Polya**	**1.46**	**337**	*i* Pg	**Pn**	**21 10 41.9**	**-0.8**
RPOR				*i* Sg	**Sg**	**21 11 01.4**	**-0.6**
NEY	**Neytrino**	**1.51**	**54**	*i* Pg	**Pg**	**21 10 44.4**	**+0.2**
NEY				*e*Sg	**Sn**	**21 11 04.1**	**0.0**
EPOS	**Posof**	**1.52**	**124**	*i* P	**Pg**	**21 10 45.4**	**+1.2**
DDEM	**Demirkent**	**1.56**	**160**	*i* P	**Pg**	**21 10 46.1**	**+1.0**
DDEM				*i* S	**Sn**	**21 10 58.7**	**-6.4**
DDEM				IAML_P			
	comp=Z,1μm,0.2s						
SOC	**Sochi**	**1.57**	**322**	*i* Pg	**Pn**	**21 10 44.1**	**-0.1**
SOC				*i* Sg	**Sn**	**21 11 04.3**	**-0.8**
KTUT	**Trabzon**	**1.68**	**216**	PN	**Pg**	**21 10 48.3**	**+0.9**
GUZR	**Guzeripl'**	**1.77**	**338**	*i* Pg	**Pn**	**21 10 47.5**	**+0.5**
GUZR				*i* Sg	**Sn**	**21 11 10.3**	**0.0**
SHA1	**Shidzhatmaz**	**1.81**	**40**	*e*Pg	**Pb**	**21 10 49.4**	**+0.2**
SHA1				*i* Pg	**Pg**	**21 10 49.7**	**-0.2**
SHA1				*i* Sg	**Sb**	**21 11 12.0**	**-0.5**
SHA1				*e*Sg	**Sb**	**21 11 12.0**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.94**	**73**	*e*Pg	**Pg**	**21 10 52.0**	**-0.4**
DIGR				*e*Sg	**Sg**	**21 11 16.8**	**-0.7**
KIV	**Kislovodsk**	**1.99**	**36**	PN	**Pb**	**21 10 51.5**	**-0.8**
KIV	**Kislovodsk**	**1.99**	**36**	*e*Pg	**Pb**	**21 10 52.1**	**-0.2**
KIV				*e*Sg	**Sb**	**21 11 17.5**	**0.0**
KIV0	**Kislovodsk Arr**	**1.99**	**36**	*e*Pg	**Pb**	**21 10 52.4**	**0.0**
KIV0				*e*Sg	**Sb**	**21 11 17.5**	**-0.3**
LZRR	**Lazarevskoye**	**1.99**	**323**	*e*Pg	**Pn**	**21 10 51.0**	**+1.0**
LZRR				*e*Sg	**Sn**	**21 11 15.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.05**	**151**	PN	**Pb**	**21 10 52.8**	**-0.5**
BAYT	**Aydıntepe-Bayb**	**2.08**	**200**	PN	**Pb**	**21 10 54.0**	**+0.1**
BEYR	**Belyy Ugol+**	**2.09**	**37**	*e*Pg	**Pb**	**21 10 53.4**	**-0.6**
BEYR				*e*Sg	**Sb**	**21 11 19.9**	**-0.5**
ZEI	**Tsey**	**2.15**	**78**	*e*Pg	**Pb**	**21 10 55.2**	**+0.2**
ZEI				*e*Sg	**Sg**	**21 11 23.1**	**-1.0**
BAYB	**BAYBURT**	**2.19**	**196**	*i* P	**Pb**	**21 10 55.5**	**-0.2**
BAYB				*i* S	**Sn**	**21 11 20.6**	**-0.1**
BGD	**Bogdanovka**	**2.19**	**119**	P	**Pb**	**21 10 56.1**	**+0.3**
BGD				S	**Sg**	**21 11 24.8**	**-0.9**
KORR	**Kora**	**2.33**	**71**	*e*Pn	**Pg**	**21 11 03.3**	**+3.4**
KORR				*e*Sn	**Sg**	**21 11 32.7**	**+2.5**
TRLG	**Trialeti**	**2.42**	**109**	P	**Pb**	**21 10 59.8**	**+0.2**
TRLG				S	**Sg**	**21 11 32.0**	**-0.8**
LACR	**Lac**	**2.44**	**78**	*e*Pn	**Pg**	**21 11 01.5**	**-0.4**
LACR				*e*Sn	**Sg**	**21 11 32.5**	**-1.0**
KOPR	**Koprukoy-ERZUR**	**2.44**	**165**	PN	**Pb**	**21 10 58.5**	**-1.6**
EAK	**Akyaka**	**2.54**	**130**	*i* P	**Pb**	**21 11 02.9**	**+1.1**
EAK				IAML_P			
	comp=Z,244nm,0.3s						
KELT	**Kelkit**	**2.59**	**212**	*i* P	**Pn**	**21 11 00.5**	**+2.0**
KELT				IAML_P			
	comp=Z,153nm,0.1s						
TBLG	**Delisi**	**2.81**	**102**	PN	**Pn**	**21 11 02.9**	**+1.5**
SUSE	**Susehri**	**3.04**	**226**	*i* P	**Pn**	**21 11 06.1**	**+1.5**
SUSE				*i* S	**Sn**	**21 11 42.8**	**+1.1**
SUSE				IAML_P			
	comp=Z,242nm,0.2s						
MLAZ	**Malazgirt-MUS**	**3.41**	**160**	PN	**Pn**	**21 11 12.3**	**+2.6**

IDC 06 21:21:39.8±4.6**, 43°.17S**×**39°.52E, h0**km**, mb3.9**/1**, mb1 3.7**/2**, mb1mx3.4**/28**, mbtmp3.7**/2**, ML3.4**/1**, MS3.7**/1**, Ms1 3.6**/1**, ms1mx3.0**/29**, Error ellipse: s-maj=293.7km s-min=59.6km az=63.0, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOSA	**Boshof**	**18.52**	**317**	P	P	21 25 56.8	-1.0
	0.1nm,0.3s,baz=146,slow=11,SNR=2.1						
BOSA				LR	LR	21 31 41.6	
	comp=Z,210nm,18.8s,baz=190,slow=32						
TORD	**Torodi Ar. Bea**	**65.86**	**319**	P	P	21 32 27.9	+0.7
	1.0nm,0.8s,baz=165,slow=7.8,SNR=5.3						
TXAR	**Lajitas Array**	**147.54**	**257**	PKPbc	PKPbc	21 41 25.6	-0.3
	0.8nm,0.9s,baz=141,slow=4.6,SNR=4.2						
ULM	**Lac du Bonnet**	**148.99**	**299**	PKPbc	PKPbc	21 41 27.3	-1.6
	1.3nm,0.6s,baz=143,slow=10,SNR=3.6						

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*ISCJB **06** 21:24:30.6±1.1, 11°.6N±0°.1×92°.5E±0°.1, h26km, mb3.8/7, Error ellipse: s-maj=22.8km s-min=13.9km az=137.5*
*IDC **06** 21:24:39.6±7.7, 11°.56N×92°.31E, h93km±63km, mb3.5/7, mb1 3.6/8, mb1mx3.3/45, mbtmp3.7/8, ML3.2/1, Error ellipse: s-maj=62.8km s-min=22.7km az=55.0*
ISC 06 21:24:32.2±1.2**, 11°.6N**±0°.2×**92°.4E**±0°.2**, h26**km**, n11,** σ**0.70**/8**, mb3.6**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.31**	**42**	P	Pn	21 26 52.1	+7.2
	0.1nm,0.3s,baz=236,slow=16,SNR=4.9						
CMAR				S	**Sn**	**21 28 28.4**	**-0.5**
	0.1nm,0.3s,baz=221,slow=29,SNR=2.6						
H08S3	**Diego Garcia H**	**27.50**	**227**	T	T	21 58 47.3	
	baz=46,slow=76,SNR=7.0						
H08S2	**Diego Garcia H**	**27.51**	**227**	T	T	21 58 48.6	
	baz=46,slow=76,SNR=12						
H08S1	**Diego Carcia H**	**27.52**	**227**	T	T	21 58 48.8	
	baz=46,slow=76,SNR=8.3						
MKAR	**Makanchi Array**	**36.11**	**348**	P	**P**	**21 31 32.8**	**+0.7**
	1.3nm,0.7s,baz=166,slow=8.1,SNR=18						
SONM	**Songino Array**	**37.99**	**15**	P	**P**	**21 31 49.0**	**+0.9**
	0.6nm,0.6s,baz=204,slow=6.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**42.67**	**353**	P	**P**	**21 32 26.7**	**+0.1**
	0.4nm,0.3s,baz=161,slow=14,SNR=5.4						
WRA	**Warramunga Arr**	**51.84**	**127**	P	**P**	**21 33 38.8**	**+0.2**
	0.5nm,0.6s,baz=308,slow=8.4,SNR=3.7						
FINES	**FINESS Array B**	**68.64**	**332**	P	**P**	**21 35 32.8**	**-0.1**
	4.9nm,1.1s,baz=101,slow=8.0,SNR=6.7						
GERES	**GERESS Array B**	**73.92**	**318**	P	**P**	**21 36 04.6**	**-0.7**
	0.2nm,0.4s,baz=106,slow=3.2,SNR=4.3						
ILAR	**Eielson Array**	**91.96**	**22**	P	**P**	**21 37 37.8**	**-0.6**
	0.3nm,0.7s,baz=280,slow=4.1,SNR=4.9						

IDC 06 21:25:25.5±1.8**, 8°.51S**×**122°.34E, h0**km**, mb3.6**/2**, mb1 3.9**/4**, mb1mx3.5**/40**, mbtmp3.7**/4**, ML3.9**/2**, Error ellipse: s-maj=263.1km s-min=25.0km az=56.0, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.25**	**136**	Pn	Pn	21 29 15.9	+0.6
	0.4nm,0.3s,baz=311,slow=12,SNR=16						
WRA				Sn	Sn	21 32 03.2	-13
	0.3nm,0.3s,baz=311,slow=24,SNR=6.2						
ASAR	**Alice Springs**	**18.70**	**145**	P	Pn	21 29 46.9	+1.0
	0.3nm,0.3s,baz=328,slow=13,SNR=21						
ASAR				S	Sn	21 33 03.6	-12
	0.1nm,0.3s,baz=312,slow=20,SNR=5.2						
STKA	**Stephens Creek**	**29.34**	**145**	P	P	21 31 29.1	-1.1
	0.9nm,0.4s,baz=338,slow=11,SNR=3.2						
MKAR	**Makanchi Array**	**65.58**	**331**	P	P	21 36 11.3	+0.1
	0.1nm,0.5s,baz=134,slow=6.2,SNR=2.3						

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*ISCJB **06** 21:37:44.6±0.4, 42°.98S±0°.09×39°.8E±0°.1, h10km, mb4.0/18, MS4.4/8, Error ellipse: s-maj=16.6km s-min=9.3km az=138.9*
*IDC **06** 21:37:44.3±0.6, 42°.94S×39°.97E, h0km, mb4.1/12, mb1 4.2/14, mb1mx4.1/35, mbtmp4.2/14, ML4.1/2, MS4.4/8, Ms1 4.4/8, ms1mx4.0/43, Error ellipse: s-maj=24.8km s-min=15.1km az=52.0*
*NEIC **06** 21:37:45.9±0.3, 42°.98S×39°.88E, h10km, mb4.4/5, Error ellipse: s-maj=14.7km s-min=8.7km az=51.0*
ISC 06 21:37:46.1±0.5**, 43°.0S**±0°.1×**39°.9E**±0°.1**, h10**km**, n42,** σ**1.43**/30**, mb4.2**/18**, MS4.4**/8**, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.42**	**299**	P	**P**	**21 42 00.0**	**-1.6**
	0.6nm,0.3s,baz=131,slow=15,SNR=12						
SUR				S	Sn	21 45 09.3	-18
	0.3nm,0.3s,baz=90,slow=20,SNR=4.0						
BOSA	**Boshof**	**18.61**	**316**	P	**P**	**21 42 03.5**	**-0.2**
	0.5nm,0.3s,baz=140,slow=13,SNR=8.5						
BOSA				S	Sn	21 45 16.6	-15
	0.1nm,0.3s,baz=232,slow=19,SNR=2.0						
LBTB	**Lobatse**	**21.47**	**322**	P	**P**	**21 42 35.1**	**+0.3**
	12nm,1.1s,baz=150,slow=12,SNR=8.7						
MATP	**Matopo**	**24.48**	**333**	P	**P**	**21 43 04.7**	**-0.9**
	3.3nm,0.8s,baz=150,slow=9.9,SNR=6.1						
MAW	**Mawson**	**27.54**	**161**	*e*P	**P**	**21 43 33.2**	**+0.6**
LSZ	**Lusaka**	**29.42**	**337**	P	**P**	**21 43 51.0**	**+1.0**
LSZ	**Lusaka**	**29.42**	**337**	P	**P**	**21 43 51.0**	**+1.0**
	6.1nm,1.1s,baz=141,slow=9.4,SNR=5.2						
TSUM	**Tsumeb**	**30.30**	**315**	*e*P	**P**	**21 43 57.5**	**-0.2**
	8.4nm,1.1s						
TSUM	**Tsumeb**	**30.30**	**315**	LR	LR	21 55 01.9	
	comp=Z,713nm,19.9s,baz=152,slow=34						
SNAA	**Sanae**	**35.37**	**202**	P	**P**	**21 44 43.6**	**+2.1**
	1.9nm,0.9s,baz=45,slow=11,SNR=3.4						
SNAA				LR	LR	21 56 17.1	
	comp=Z,477nm,18.8s,baz=103,slow=31						
KMBO	**Kilima Mbogo**	**41.79**	**356**	P	**P**	**21 45 39.2**	**+3.2**
	0.5nm,0.4s,baz=197,slow=20,SNR=3.2						
QSPA	**South Pole Qui**	**47.18**	**180**	P	**P**	**21 46 20.7**	**+2.1**
	1.7nm,0.9s,baz=212,slow=8.2,SNR=2.4						
QSPA				LR	LR	22 04 04.9	
	comp=Z,577nm,20.2s,baz=252,slow=33						
H01W2	**Cape Leeuwin H**	**56.58**	**109**	T	T	22 48 54.2	
	baz=238,slow=74						
H01W3	**Cape Leeuwin H**	**56.59**	**109**	T	T	22 48 54.7	
	baz=238,slow=74						
H01W1	**Cape Leeuwin H**	**56.59**	**109**	T	T	22 48 49.9	
	baz=238						
PMSA	**Palmer Station**	**57.40**	**210**	LR	LR	22 05 30.5	
	comp=Z,525nm,21.6s,baz=88,slow=29						
H10S2	**ASCENSION HYDR**	**58.29**	**289**	T	T	22 50 53.3	
	baz=136						
H10S1	**ASCENSION HYDR**	**58.31**	**289**	T	T	22 50 51.2	
	baz=136						
H10S3	**ASCENSION HYDR**	**58.31**	**289**	T	T	22 50 48.7	
	baz=136						
DBIC	**Dimbokro**	**63.97**	**309**	P	**P**	**21 48 19.4**	**-0.3**
	3.2nm,0.8s,baz=99,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**65.94**	**319**	P	**P**	**21 48 32.2**	**-0.2**
	3.3nm,0.9s,baz=156,slow=2.9,SNR=14						
TOA1	**Torodi Ar. Sit**	**65.94**	**319**	*e*P	**P**	**21 48 32.2**	**-0.3**
STKA	**Stephens Creek**	**76.66**	**121**	P	**P**	**21 49 37.0**	**-0.2**
	2.8nm,0.6s,baz=186,slow=0.6,SNR=6.6						
ASAR	**Alice Springs**	**77.04**	**110**	P	**P**	**21 49 38.5**	**-1.1**
	0.9nm,0.8s,baz=219,slow=6.0,SNR=7.2						
AS31	**Alice Springs**	**77.04**	**110**	*e*P	**P**	**21 49 35.7**	**-3.9**
	0.6nm,1.1s						
CPUP	**Villa Florida**	**77.44**	**246**	P	**P**	**21 49 40.7**	**-1.0**
	1.3nm,0.7s,baz=37,slow=2.7,SNR=4.0						
WR1	**Warramunga Arr**	**79.81**	**108**	*e*P	**P**	**21 49 54.5**	**-0.4**

5.1nm,1.0s
WRA Warramunga Arr 79.81 108 P **P 21 49 54.5 -0.4**
1.2nm,1.0s,baz=221,slow=4.5,SNR=5.1
CM01 Chiang Mai Arr 81.71 55 *e*P **P 21 50 05.1 +0.3**
CMAR Chiang Mai Arr 81.73 55 P **P 21 50 05.2 +0.2**
0.9nm,1.0s,baz=222,slow=5.1,SNR=6.0
GNI Garni 82.92 4 LR LR 22 26 56.6
comp=Z,278nm,19.7s,baz=168,slow=36
GAR Garm 86.19 23 *e*P **P 21 50 26.9 -0.6**
1.0nm,0.6s
LSA Lhasa 86.33 43 *e*P **P 21 50 29.0 +0.2**
2.2nm,0.8s
KVAR Kislovodsk Arr 86.64 2 LR LR 22 28 42.8
comp=Z,62nm,19.4s,baz=102,slow=35
LVC Limon Verde 87.61 241 LR LR 22 23 08.3
comp=Z,128nm,21.0s,baz=148,slow=31
ESDC Sonseca Array 91.39 328 LR LR 22 32 51.1
comp=Z,316nm,18.9s,baz=155,slow=36
TXAR Lajitas Array 147.82 257 PKPbc **PKPbc 21 57 30.0 -1.4**
3.6nm,1.0s,baz=138,slow=6.4,SNR=18
ULM Lac du Bonnet 149.16 299 PKPbc **PKPbc 21 57 33.0 -1.0**
4.4nm,0.8s,baz=84,slow=1.7,SNR=8.2
ANMO Albuquerque 152.76 264 PKPbc **PKPbc 21 57 42.3 -1.0**
baz=90,slow=3.0
YKA Yellowknife Ar 155.43 331 PKP **PKPdf 21 57 37.5 -1.2**
0.4nm,0.8s,baz=52,slow=1.4,SNR=4.5
PD31 Pinedale Array 157.67 280 *e*PKPdf **PKPdf 21 57 40.8 -1.8**
PDAR Pinedale Array 157.67 280 PKP **PKPdf 21 57 40.8 -1.8**
0.7nm,1.0s,baz=58,slow=5.4,SNR=3.7

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*IDC **06** 21:45:42.6±0.4,43.38S×39.53E,h0km,mb4.5/24, mb1 4.6/26,mb1mx4.5/41,mbtmp4.5/26,ML4.2/2,MS4.4/14, Ms1 4.4/14,ms1mx4.1/39,Error ellipse: s-maj=16.9km s-min=12.7km az=50.0*

*BJI **06** 21:45:42.5,43.30S×39.60E,h6km,mb5.0/15,mB5.3/9, Ms5.0/3,Ms7 4.7/2*

*ISCJB **06** 21:45:43.3±0.3,43.33S±0.06×39.40E±0.07,h10km, mb4.7/52,MS4.4/13,Error ellipse: s-maj=8.9km s-min=6.8km az=42.2*

*NEIC **06** 21:45:45.0±0.2,43.29S×39.61E,h10km,mb4.9/26,Error ellipse: s-maj=7.3km s-min=6.4km az=11.0*

*GCMT **06** 21:45:45.0±0.2,43.23S±0.01×39.73E±0.03,h12km, MW5.1/97,Moment Tensor Solution. s32,c41; s97,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.37±.13; $M_{\theta\theta}$4.88±.11; $M_{\phi\phi}$0.48±.12; $M_{r\theta}$1.06±.40; $M_{\theta\phi}$-0.27±.11; $M_{\phi r}$-1.43±.59; Best double couple: M○5.40900×10^{16} NP1:$\phi_1$286.00000°,δ53.00000°,λ-75.00000°. NP2: $\phi_2$82.00000°,δ40.00000°,λ-109.00000°. Principal axes: T 5.0280, Plg7.0000°, Azm5.0000°; N 0.7600, Plg12.0000°, Azm97.0000°; P -5.7890, Plg76.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 21:45:44.9±0.3, 43°23S±0.07°×39°45E±0.07, h10km, n283, σ1.8 37/259, mb4.8/50, MS4.4/13, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.24**	**300**	*e*Pn		**Pn**	**21 49 58.3**	**0.0**
	13nm,0.8s							
SUR				*e*S		Sn	21 53 06.2	-16
SUR	**Sutherland**	**18.24**	**300**	P		**Pn**	**21 49 57.7**	**-0.6**
	0.4nm,0.3s,baz=124,slow=13,SNR=8.1							
SUR				S		Sn	21 53 07.9	-14
	0.4nm,0.3s,baz=60,slow=18,SNR=5.0							
SUR				LR		LR	21 55 30.3	
	comp=Z,1μm,21.7s,baz=132,slow=32							
BOSA	**Boshof**	**18.53**	**317**	P		**P**	**21 50 01.7**	**0.0**
	12nm,0.8s							
BOSA				S		Sn	21 53 13.7	-15
BOSA	**Boshof**	**18.53**	**317**	P		**P**	**21 50 01.7**	**0.0**
	1.0nm,0.3s,baz=142,slow=12,SNR=20							
BOSA				S		Sn	21 53 13.7	-15
	0.2nm,0.3s,baz=223,slow=19,SNR=2.4							
BOSA				LR		LR	21 55 57.1	
	comp=Z,2μm,20.1s,baz=142,slow=33							
LBTB	**Lobatse**		**21.43 324**	P		**P**	**21 50 34.5**	**+1.2**
	20nm,0.9s,baz=150,slow=12,SNR=15							
LBTB				S		**S**	**21 54 24.6**	**-6.6**
	2.2nm,0.6s,baz=193,slow=18,SNR=2.3							
LBTB				LR		LR	21 57 24.9	
	comp=Z,2μm,21.7s,baz=151,slow=32							
MATP	**Matopo**	**24.52**	**335**	P		**P**	**21 51 04.7**	**-0.1**
	18nm,0.9s,baz=166,slow=9.3,SNR=23							
MATP				LR		LR	21 59 45.3	
	comp=Z,1μm,19.2s,baz=160,slow=34							
ABPO	**Ambohimpanom**	**25.01**	**18**	*e*P		**P**	**21 51 06.9**	**-2.3**
OPO	**Ambohidratompo**	**25.44**	**17**	LR		LR	22 00 02.6	
	comp=Z,915nm,18.6s,baz=180,slow=34							
MAW	**Mawson**	**27.45**	**161**	LR		LR	21 59 31.2	
	comp=Z,862nm,21.3s,baz=337,slow=30							
LSZ	**Lusaka**	**29.48**	**337**	*e*P		**P**	**21 51 50.1**	**+0.8**
	13nm,0.9s							
LSZ	**Lusaka**	**29.48**	**337**	P		**P**	**21 51 50.2**	**+0.9**
	11nm,1.0s,baz=165,slow=8.6,SNR=18							
LSZ				LR		LR	22 02 28.7	
	comp=Z,595nm,20.4s,baz=166,slow=34							
TSUM	**Tsumeb**	**30.21**	**316**	*e*P		**P**	**21 51 56.1**	**+0.3**
	25nm,1.0s							
TSUM	**Tsumeb**	**30.21**	**316**	P		**P**	**21 51 55.7**	**0.0**
	9.9nm,1.0s,baz=144,slow=11,SNR=8.7							
SNAA	**Sanae**	**35.07**	**202**	P		**P**	**21 52 37.6**	**-0.1**
SNAA	**Sanae**	**35.07**	**202**	*e*P		**P**	**21 52 36.4**	**-1.3**
	5.5nm,0.9s							
SNAA	**Sanae**	**35.07**	**202**	P		**P**	**21 52 36.3**	**-1.3**
	3.9nm,0.8s,baz=61,slow=5.2,SNR=7.1							
VNA2	**Neumayer--Watz**	**36.01**	**204**	P		**P**	**21 52 45.7**	**0.0**
	baz=63,slow=9.8							
VNA3	**Neumayer Olymp**	**36.82**	**204**	P		**P**	**21 52 52.1**	**-0.6**
KMBO	**Kilima Mbogo**	**41.96**	**357**	P		**P**	**21 53 37.6**	**+1.3**
	1.0nm,0.7s,baz=172,slow=14,SNR=3.1							
DGAR	**Diego Garcia**	**45.94**	**49**	*e*P		**P**	**21 54 08.2**	**+0.2**
H08N3	**Diego Garcia H**	**46.04**	**46**	T		T	22 43 43.7	
	baz=212							
H08N1	**Diego Garcia H**	**46.06**	**46**	T		T	22 43 41.7	
	baz=212							
H08N2	**Diego Garcia H**	**46.06**	**46**	T		T	22 43 39.5	
	baz=212							
QSPA	**South Pole Qui**	**46.98**	**180**	*e*P		**P**	**21 54 13.5**	**-2.4**
	4.6nm,1.1s							
QSPA				*e*PcP		**PcP**	**21 55 46.1**	**-1.9**
QSPA	**South Pole Qui**	**46.98**	**180**	P		**P**	**21 54 13.2**	**-2.7**
	2.9nm,1.0s,baz=273,slow=5.2,SNR=4.8							
VNDA	**Vanda**	**54.48**	**167**	LR		LR	22 15 48.0	
	comp=Z,428nm,21.9s,baz=249,slow=33							
H01W2	**Cape Leeuwin H**	**56.81**	**109**	T		T	22 56 50.6	
	baz=238,slow=75,SNR=11							
H01W3	**Cape Leeuwin H**	**56.82**	**109**	T		T	22 56 46.6	
	baz=238,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**56.83**	**109**	T		T	22 56 49.1	
	baz=238,slow=75,SNR=11							
H10S2	**ASCENSION HYDR**	**58.06**	**289**	T		T	22 58 45.3	
	baz=137,slow=75,SNR=7.9							
H10S1	**ASCENSION HYDR**	**58.08**	**289**	T		T	22 58 43.2	
	baz=137,slow=75,SNR=5.5							
H10S3	**ASCENSION HYDR**	**58.08**	**289**	T		T	22 58 46.8	
	baz=137,slow=75,SNR=6.4							
KIC	**Kosan Boka**	**63.53**	**309**	*e*P		**P**	**21 56 19.7**	**+4.1**
LIC	**Lamto**	**63.58**	**309**	*e*P		**P**	**21 56 16.1**	**+0.2**
	67nm,1.5s							
DBIC	**Dimbokro**	**63.85**	**309**	P		**P**	**21 56 18.2**	**+0.6**
	6.4nm,0.7s,baz=123,slow=9.0,SNR=8.5							
DBIC				LR		LR	22 20 28.6	
	comp=Z,275nm,21.7s,baz=114,slow=33							
TIC	**Toumodi**	**63.92**	**309**	*e*P		**P**	**21 56 18.8**	**+0.6**
TOA0	**Torodi Ar. Sit**	**65.88**	**319**	*e*P		**P**	**21 56 32.5**	**+1.7**
TORD	**Torodi Ar. Bea**	**65.88**	**319**	P		**P**	**21 56 30.6**	**-0.3**
	9.5nm,0.9s,baz=177,slow=1.0,SNR=44							
TORD				LR		LR	22 24 15.7	
	comp=Z,269nm,19.2s,baz=0.0,slow=35							
RAYN	**Ar Rayn**	**66.65**	**6**	*e*P		**P**	**21 56 35.6**	**0.0**
	4.3nm,1.0s							
KASI	**Kota Agung**	**68.14**	**76**	P		**P**	**21 56 48.0**	**+2.6**
	29nm,1.1s							
GSI	**Gunungsitoli**	**68.25**	**66**	*e*P		**P**	**21 56 48.1**	**+2.0**
	21nm,1.1s							
GSI	**Gunungsitoli**	**68.25**	**66**	P		**P**	**21 56 50.1**	**+4.0**
MDSI	**Maura Dua**	**68.64**	**75**	P		**P**	**21 56 49.8**	**+1.3**
	9.5nm,1.2s							
LHSI	**Lahat**	**68.64**	**74**	P		**P**	**21 56 52.6**	**+4.1**
HYB	**Hyderabad**	**70.21**	**40**	*i* P		**P**	**21 56 59.0**	**+0.9**
PSI	**Prapat**	**70.26**	**66**	P		**P**	**21 56 57.3**	**-1.4**
	5.3nm,0.5s,baz=180,slow=5.3,SNR=7.5							
BBOO	**Buckleboo**	**72.71**	**119**	*e*P		**P**	**21 57 12.7**	**-0.5**
	24nm,0.9s							
TAM	**Tamanrasset**	**72.73**	**327**	*e*P		**P**	**21 57 15.7**	**+2.3**
	3.9nm,1.0s							
FITZ	**Fitzroy Crossi**	**75.11**	**101**	*e*P		**P**	**21 57 27.4**	**0.0**
	17nm,1.1s							
TOO	**Toolangi**	**75.29**	**128**	*e*P		**P**	**21 57 28.4**	**+0.2**
	20nm,1.0s							
STKA	**Stephens Creek**	**76.83**	**121**	P		**P**	**21 57 36.0**	**-1.0**
	18nm,0.8s,baz=214,slow=4.1,SNR=38							
CPUP	**Villa Florida**	**77.08**	**246**	*e*P		**P**	**21 57 38.4**	**-0.1**
CPUP	**Villa Florida**	**77.08**	**246**	P		**P**	**21 57 37.9**	**-0.6**
	19nm,1.3s,baz=137,slow=5.2,SNR=6.4							
ASAR	**Alice Springs**	**77.27**	**110**	P		**P**	**21 57 38.1**	**-1.5**
	6.4nm,1.0s,baz=218,slow=5.9,SNR=24							
AS31	**Alice Springs**	**77.27**	**110**	*e*P		**P**	**21 57 39.2**	**-0.5**
	1.9nm,1.0s							
AS01	**Alice Springs**	**77.30**	**110**	*e*P		**P**	**21 57 38.2**	**-1.6**
BDFB	**Brasilia**	**77.64**	**260**	P		**P**	**21 57 41.6**	**-0.3**
	2.5nm,0.4s,baz=41,slow=6.2,SNR=6.0							
CAN	**Canberra**	**78.88**	**128**	*e*P		**P**	**21 57 49.3**	**+0.8**
	16nm,1.0s							
SRDT	**SRDT**	**79.06**	**58**	P		**P**	**21 57 50.9**	**+1.4**
	14nm,1.3s,4μm							
WRA	**Warramunga Arr**	**80.05**	**108**	P		**P**	**21 57 53.9**	**-1.1**
	7.8nm,1.1s,baz=220,slow=4.3,SNR=20							
WB2	**Warrmunga Arr**	**80.06**	**108**	*e*P		**P**	**21 57 53.8**	**-1.2**
WRAB	**Tennant Creek**	**80.06**	**108**	*e*P		**P**	**21 57 55.0**	**0.0**
	10.0nm,1.1s							
UTHA	**Uthaitani**	**80.19**	**58**	P		**P**	**21 57 56.9**	**+1.3**
KOLN	**Koldanda**	**81.46**	**39**	*e*P		**P**	**21 58 02.4**	**0.0**
	69nm,1.3s							
PYUN	**Piuthan**	**81.47**	**38**	*e*P		**P**	**21 58 02.5**	**+0.1**
	88nm,1.2s							
KBL	**Kabul**	**81.98**	**24**	*e*P		**P**	**21 58 06.1**	**+1.1**
	6.9nm,1.1s							
DMN	**Dan**	**82.02**	**40**	*e*P		**P**	**21 58 05.5**	**+0.1**
	45nm,1.4s							
DANN	**Dangsing**	**82.03**	**38**	*e*P		**P**	**21 58 05.4**	**-0.1**
	36nm,0.9s							
CM01	**Chiang Mai Arr**	**82.08**	**56**	*e*P		**P**	**21 58 04.9**	**-0.7**
CM31	**Chiang Mai Arr**	**82.10**	**56**	*e*P		**P**	**21 58 06.3**	**+0.6**
	3.4nm,1.0s							
CMAR	**Chiang Mai Arr**	**82.10**	**56**	P		**P**	**21 58 05.1**	**-0.6**
	5.0nm,1.1s,baz=228,slow=6.1,SNR=26							
PKIN	**Phulchoki**	**82.13**	**40**	*e*P		**P**	**21 58 05.7**	**-0.3**
	36nm,1.5s							
PKI	**Pulchoki**	**82.13**	**40**	*e*P		**P**	**21 58 05.7**	**-0.4**
	43nm,1.4s							
GKN	**Gorkha**	**82.14**	**39**	*e*P		**P**	**21 58 05.8**	**-0.1**
	32nm,1.0s							
RAMN	**Ramite**	**82.18**	**41**	*e*P		**P**	**21 58 06.5**	**+0.2**
	102nm,1.5s							
KKN	**Kakani**	**82.26**	**40**	*e*P		**P**	**21 58 06.6**	**0.0**
	70nm,1.6s							
CHTO	**Chiang Mai**	**82.37**	**55**	*e*P		**P**	**21 58 06.6**	**-0.5**
	8.3nm,1.1s							
CHTO	**Chiang Mai**	**82.37**	**55**	P		**P**	**21 58 07.2**	**+0.1**
	41nm,1.4s							
CMMT	**Chiang Mai**	**82.37**	**55**	P		**P**	**21 58 07.1**	**-0.1**
	9.1nm,1.3s							
GEYT	**Alibeck**	**82.54**	**15**	P		**P**	**21 58 07.7**	**+0.1**
	1.1nm,0.3s,baz=277,slow=12,SNR=5.3							
JIRN	**Jiri**	**82.58**	**41**	*e*P		**P**	**21 58 08.5**	**0.0**
	111nm,1.2s							
GUN	**Gumba**	**82.64**	**40**	*e*P		**P**	**21 58 09.0**	**+0.2**
	149nm,1.3s							
BRTR	**Keskin Array B**	**82.74**	**355**	P		**P**	**21 58 08.6**	**-0.2**
	1.3nm,1.0s,baz=196,slow=0.9,SNR=5.5							
GNI	**Garni**	**83.13**	**4**	*e*P		**P**	**21 58 11.5**	**+0.8**
	7.4nm,0.6s							
KEST	**Kesra**	**83.24**	**336**	LR		LR	22 37 27.0	
	comp=Z,566nm,18.4s,baz=98,slow=37							
SHL	**Shillong**	**83.71**	**46**	*e*P		**P**	**21 58 15.0**	**+0.9**
	17nm,1.0s							
SHL	**Shillong**	**83.71**	**46**	P		**P**	**21 58 15.0**	**+0.9**
LTZ	**Lake Taylor**	**84.48**	**147**	*e*P		**P**	**21 58 17.1**	**-0.8**
	39nm,1.2s							
TBLG	**Delisi**	**84.71**	**4**	*e*P		**P**	**21 58 20.2**	**+1.6**
	8.2nm,0.9s							
GAR	**Garm**	**86.49**	**24**	*e*P		**P**	**21 58 28.6**	**+0.9**
	18nm,1.2s							
KBZ	**Khabaz**	**86.63**	**2**	P		**P**	**21 58 29.1**	**+1.0**
	5.5nm,1.1s,baz=135,slow=4.3,SNR=5.9							
LSA	**Lhasa**	**86.69**	**43**	*e*P		**P**	**21 58 29.2**	**-0.1**
	12nm,0.9s							
KIV	**Kislovodsk**	**86.85**	**2**	*e*P		**P**	**21 58 29.8**	**+0.5**
	13nm,1.1s							
KSH	**Kashi**	**88.75**	**27**	P		**P**	**21 58 36.4**	**-2.1**
KSH				pP		PcP	21 58 40.1	0.0
KSH				S		**S**	**22 09 16.7**	**-8.7**
KSH				SS		**SS**	**22 15 09.9**	**-8.2**
KSH				pmax		pmax		
	comp=Z,79nm,4.3s							
KSH				LR		LR		
	comp=N,120nm,8.5s							
KSH				LR		LR		
	comp=E,130nm,9.6s							
MLR	**Muntele Rosu**	**89.15**	**351**	*e*P		**P**	**21 58 41.4**	**+1.1**
	6.0nm,0.9s							
KMI	**Kunming**	**89.44**	**54**	P		**P**	**21 58 45.1**	**+2.8**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KMI				pmax		pmax		
	comp=Z,100nm,4.4s							
AAK	**Ala-Archa**	**91.09**	**25**	P		**P**	**21 58 49.7**	**+0.2**
	0.9nm,0.8s,baz=241,slow=2.9,SNR=3.1							
LPAZ	**La Paz**	**91.25**	**246**	LR		LR	22 34 24.9	
	comp=Z,69nm,21.4s,baz=134,slow=32							
ES06	**SONSECA Array**	**91.38**	**328**	*e*P		**P**	**21 58 51.8**	**+1.0**
ESDC	**Sonseca Array**	**91.39**	**328**	P		**P**	**21 58 50.9**	**+0.1**
	3.1nm,1.1s,baz=161,slow=4.9,SNR=6.9							
AKASG	**Malin Array Be**	**93.97**	**354**	LR		LR	22 42 57.1	
	comp=Z,86nm,20.0s,baz=225,slow=36							
CD2	**Chengdu**	**94.38**	**51**	*e*P		**P**	**21 59 08.2**	**+3.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,100nm,6.7s							
GERES	**GERESS Array B**	**94.44**	**343**	LR		LR	22 43 19.7	
	comp=Z,156nm,21.0s,baz=161,slow=36							
WMQ	**Urumqi**	**96.81**	**33**	*e*P		**P**	**21 59 18.2**	**+2.6**
WMQ				LR		LR		
	comp=N,320nm,23.7s							
WMQ				LR		LR		
	comp=E,200nm,25.1s							
WMQ				LR		LR		
	comp=Z,380nm,20.9s							
MK31	**Makanchi Array**	**97.33**	**28**	*e*P		**P**	**21 59 17.6**	**-0.2**
MKAR	**Makanchi Array**	**97.33**	**28**	P		**P**	**21 59 17.1**	**-0.7**
	0.7nm,0.9s,baz=209,slow=3.4,SNR=6.2							
GTA	**Gaotai**	**98.71**	**43**	*e*P		**P**	**21 59 24.3**	**-0.1**
GTA				pP		sP	21 59 29.2	+2.0
GTA				sP		pwP	21 59 31.5	0.0
GTA				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KURBB	**Kurchatov Arra**	**99.48**	**24**	P		**Pdif**	**21 59 26.5**	**-0.7**
	0.6nm,0.9s,baz=213,slow=5.4,SNR=4.0							
BVAR	**Borovoye Array**	**99.51**	**18**	P		**Pdif**	**21 59 27.4**	**0.0**
	0.8nm,0.8s,baz=204,slow=3.3,SNR=5.4							
KURK	**Kurchatov**	**99.59**	**24**	P		**Pdif**	**21 59 26.6**	**-1.2**
KLR	**Kul'dur**	**122.31**	**51**	PKP		**PKPdf**	**22 04 38.6**	**-0.9**
	1.8nm,0.9s,baz=258,slow=3.5,SNR=5.1							
TIXI	**Tiksi**	**130.16**	**24**	PKP		**PKPdf**	**22 04 53.2**	**-0.6**
	0.6nm,0.5s,baz=322,slow=3.1,SNR=4.4							
MA2	**Magadan**	**136.28**	**43**	PKP		**PKPdf**	**22 05 05.0**	**-0.6**
	2.8nm,0.3s,baz=188,slow=7.1,SNR=3.8							
SEY	**Seymchan**	**137.49**	**39**	PKP		**PKPdf**	**22 05 07.3**	**-0.5**
	2.3nm,0.6s,baz=199,slow=2.5,SNR=11							
W41B	**Gary Mavity, V**	**142.16**	**274**	P		PKPpre	22 05 12.0	
	baz=117							
CCM	**Cathedral Cave**	**142.67**	**279**	*e*PKPpre		PKPpre	22 05 13.3	
CCM	**Cathedral Cave**	**142.67**	**279**	P		PKPpre	22 05 13.0	
	baz=114							
S41A	**Jillco Farms,**	**142.84**	**278**	P		PKPpre	22 05 13.8	
	baz=115							
L42A	**Oliver, Polo**	**143.01**	**286**	P		PKPab	22 05 14.1	+0.4
	baz=110							
J42A	**Columbus**	**143.05**	**288**	P		PKPab	22 05 14.3	+0.5
	baz=108							
I42A	**Draeger Farm,**	**143.08**	**289**	P		PKPab	22 05 14.6	+0.6
	baz=108							
E42A	**Champion**	**143.10**	**294**	P		PKPab	22 05 14.5	+0.6
	baz=105							
U40A	**Yellville**	**143.13**	**276**	P		PKPab	22 05 14.2	-0.2
	baz=116							
G42A	**Mountain**	**143.14**	**292**	P		PKPab	22 05 14.8	+0.7
	baz=106							
O41A	**Passleys Farm,**	**143.21**	**283**	P		PKPab	22 05 14.8	+0.3
	baz=112							
L41A	**Preston**	**143.62**	**286**	P		PKPab	22 05 15.9	-0.2
	baz=109							
K41A	**Shullsburg**	**143.65**	**287**	P		PKPab	22 05 16.3	0.0
	baz=109							
J41A	**Loganville**	**143.69**	**288**	P		PKPab	22 05 16.5	+0.1
	baz=108,SNR=7.2							
D41A	**Chassel**	**143.69**	**295**	P		PKPbc	22 05 16.8	-0.3
	baz=104							
JFWS	**Jewell Farm**	**143.71**	**287**	*e*PKPpre		PKPpre	22 05 17.1	
JFWS	**Jewell Farm**	**143.71**	**287**	P		PKPab	22 05 16.6	+0.1
	baz=108,SNR=6.7							
F41A	**Three Lakes**	**143.73**	**292**	P		PKPab	22 05 16.7	+0.2
	baz=105							
I41A	**Arkdale**	**143.79**	**289**	P		PKPab	22 05 16.9	+0.2
	baz=107							
H41A	**Junction City**	**143.80**	**290**	*e*PKPpre		PKPpre	22 05 17.2	
H41A	**Junction City**	**143.80**	**290**	P		PKPab	22 05 16.9	+0.1
	baz=106,SNR=8.1							
E41A	**Kenton**	**143.81**	**293**	P		PKPab	22 05 16.8	0.0
	baz=104,SNR=5.3							
435B	**Jarrell**	**143.89**	**264**	*e*PKPdf		PKPbc	22 05 18.6	+0.4
435B	**Jarrell**	**143.89**	**264**	P		PKPab	22 05 17.2	-0.4
	baz=123							
N40A	**Mertquake, Sal**	**143.98**	**283**	P		PKPab	22 05 17.3	-0.2
	baz=110,SNR=5.9							
M40A	**Post Highland**	**144.11**	**284**	P		**PKPab**	**22 05 17.9**	**-0.1**
	baz=110,SNR=6.3							
L40A	**Anamosa**	**144.12**	**286**	*e*PKPdf		PKPbc	22 05 18.4	-0.2
L40A	**Anamosa**	**144.12**	**286**	P		**PKPab**	**22 05 18.1**	**0.0**
	baz=109,SNR=7.4							
J40A	**Soldiers Grove**	**144.20**	**288**	P		**PKPab**	**22 05 18.4**	**+0.1**
	baz=108,SNR=6.0							
I40A	**Norwalk**	**144.26**	**289**	P		**PKPab**	**22 05 18.7**	**+0.2**
	baz=107,SNR=6.8							
K40A	**Colesburg**	**144.26**	**287**	P		**PKPab**	**22 05 18.5**	**-0.1**
	baz=108,SNR=11							
H40A	**Chili**	**144.31**	**290**	P		PKPbc	22 05 18.9	-0.1
	baz=106,SNR=18							
G40A	**Rib Lake**	**144.35**	**291**	*e*PKPdf		**PKPab**	**22 05 18.9**	**+0.1**
G40A	**Rib Lake**	**144.35**	**291**	P		**PKPab**	**22 05 18.5**	**-0.3**
	baz=105,SNR=6.6							
WHTX	**Lake Whitney,**	**144.43**	**266**	*e*PKPdf		PKPbc	22 05 20.1	+0.3
WHTX	**Lake Whitney,**	**144.43**	**266**	P		PKPbc	22 05 19.8	0.0
	baz=121							
E40A	**Wakefield**	**144.44**	**293**	P		PKPbc	22 05 19.9	+0.6
	baz=104							
F40A	**Park Falls**	**144.46**	**292**	P		**PKPab**	**22 05 19.1**	**-0.1**
	baz=104,SNR=8.8							
M39A	**Webster**	**144.60**	**284**	P		**PKPab**	**22 05 19.9**	**0.0**
	baz=110,SNR=9.7							
L39A	**Vinton**	**144.69**	**285**	P		**PKPab**	**22 05 20.1**	**-0.1**
	baz=109,SNR=10							
K39A	**Oelwein**	**144.79**	**286**	P		**PKPab**	**22 05 20.0**	**-0.5**
	baz=108,SNR=5.5							
J39A	**Decorah**	**144.85**	**287**	P		**PKPab**	**22 05 20.5**	**-0.3**
	baz=107,SNR=13							
E39A	**Mellen**	**144.86**	**293**	P		**PKPab**	**22 05 20.4**	**-0.3**
	baz=104,SNR=6.9							
I39A	**Houston**	**144.88**	**288**	*e*PKPdf		**PKPab**	**22 05 20.8**	**0.0**
I39A	**Houston**	**144.88**	**288**	P		**PKPab**	**22 05 20.1**	**-0.7**
	baz=106,SNR=11							
H39A	**Augusta**	**144.94**	**290**	P		**PKPab**	**22 05 20.9**	**-0.1**
	baz=106							
F39A	**Loretta**	**145.00**	**292**	P		**PKPbc**	**22 05 20.7**	**-0.5**
	baz=104,SNR=9.2							
G39A	**Holcombe**	**145.02**	**291**	P		**PKPbc**	**22 05 20.6**	**-0.7**
	baz=105							
TUL1	**Leonard**	**145.07**	**273**	P		**PKPbc**	**22 05 20.9**	**-0.9**
	baz=116							
JCT	**Junction City**	**145.34**	**262**	*e*PKPpre		PKPpre	22 05 18.3	
JCT				*e*PKPdf		**PKPbc**	**22 05 22.8**	**0.0**
JCT	**Junction City**	**145.34**	**262**	P		**PKPbc**	**22 05 21.9**	**-0.9**
	baz=123							
G38A	**Ridgeland**	**145.46**	**290**	P		**PKPdf**	**22 05 22.0**	**-0.7**
	baz=105,SNR=6.6							
SCIA	**State Center**	**145.48**	**284**	*e*PKPdf		**PKPab**	**22 05 23.6**	**+0.6**
SCIA	**State Center**	**145.48**	**284**	P		**PKPdf**	**22 05 21.9**	**-0.9**
	baz=109							
E38A	**The Farm, Brul**	**145.59**	**293**	*e*PKPdf		**PKPbc**	**22 05 23.1**	**+0.1**
E38A	**The Farm, Brul**	**145.59**	**293**	P		**PKPdf**	**22 05 22.7**	**-0.1**
	baz=103							
H38A	**Maiden Rock**	**145.62**	**289**	P		**PKPdf**	**22 05 22.6**	**-0.3**
	baz=105							
F38A	**Pierce - Schro**	**145.66**	**292**	P		**PKPbc**	**22 05 23.4**	**+0.1**
	baz=103,SNR=11							
EYMN	**Ely**	**145.

RSSD	Black Hills	153.71	285	P		PKPbc	22 05 43.3	-0.6	
	baz=101								
ISCO	Idaho Springs	153.74	275	P		PKPbc	22 05 43.5	-0.7	
	baz=109								
S22A	4UR Ranch, Cre	153.89	269	P		PKPbc	22 05 43.9	-0.7	
	baz=113								
TOLK	Toolik Lake Re	154.09	8	*e*PKPbc		PKPbc	22 05 43.3	-0.4	
TOLK	Toolik Lake Re	154.09	8	P		PKiKP	22 05 44.2	+0.5	
	baz=344								
DGMT	Dagmar	154.31	294	P		PKPab	22 06 00.7	+1.7	
	baz=92								
N23A	Red Feather La	154.31	277	*e*PKPbc		PKiKP	22 05 40.6	+0.6	
N23A				*e*PKPab		pPKPab	22 06 00.9	-0.9	
N23A	Red Feather La	154.31	277	P		PKPab	22 06 00.3	+0.8	
	baz=107								
SMCO	Snowmass	154.52	272	*e*PKPab		PKPab	22 06 01.6	+1.0	
MVCO	Mesa Verde	154.90	267	*e*PKPab		PKPab	22 06 03.0	+0.9	
MVCO	Mesa Verde	154.90	267	P		PKPab	22 06 02.7	+0.6	
	baz=114								
K22A	Casper	155.18	280	P		PKPab	22 06 03.3	+0.3	
	baz=103								
PV01	Paradox Valley	155.31	269	*e*PKPab		PKPab	22 06 01.8	-2.0	
PV15	Paradox Valley	155.32	270	*e*PKPab		PKPab	22 06 06.2	+2.3	
RWWY	Rawlins	155.44	278	*e*PKPdf		PKPdf	22 05 41.2	+2.6	
YKA	Yellowknife Ar	155.45	331	PKP		PKPdf	22 05 34.8	-2.7	
	0.7nm,0.8s,baz=43,slow=2.0,SNR=11								
PV07	Paradox Valley	155.48	270	*e*PKPab		PKPab	22 06 06.1	+1.6	
PV13	Radium Mtn., P	155.50	269	*e*PKPab		PKPab	22 06 06.7	+2.1	
PV12	Saucer Basin,	155.55	269	*e*PKPab		PKPab	22 06 06.6	+1.8	
PV03	Paradox Valley	155.56	269	*e*PKPab		PKPab	22 06 06.2	+1.4	
PV11	David Mesa, Pa	155.60	269	*e*PKPab		PKPab	22 06 06.5	+1.6	
PV16	Nyswonger Mesa	155.63	269	*e*PKPab		PKPab	22 06 06.8	+1.6	
PV19	Morning Glory	155.68	269	*e*PKPab		PKPab	22 06 06.8	+1.4	
PV23	Carpenter Ridg	155.75	269	*e*PKPab		PKPab	22 06 07.0	+1.2	
PV09	Paradox Valley	155.86	269	*e*PKPab		PKPab	22 06 07.3	+1.1	
IM3	Indian Mountai	156.05	13	*e*PKPdf		PKPdf	22 05 38.3	+0.1	
SRU	San Rafael Swe	157.09	270	*e*PKPdf		PKPdf	22 05 41.3	+0.5	
SRU				PKP		PKPab	22 06 12.1	+0.7	
P17A	Butcher Ranch,	157.37	271	*e*PKPab		PKPab	22 06 13.6	+1.1	
PDAR	Pinedale Array	157.39	280	PKP		PKPdf	22 05 39.5	-1.6	
	0.7nm,0.8s,baz=92,slow=2.7,SNR=5.3								
MLY	Manley	157.41	11	*e*PKPdf		PKPdf	22 05 40.2	0.0	
TMUT	Trail Mountain	157.66	270	*e*PKPdf		PKPdf	22 05 42.4	+0.8	
TMUT				*e*PKPab		PKPab	22 06 15.0	+1.1	
MDM	Murphy Dome	157.80	9	*e*PKPab		PKPab	22 06 14.0	+0.7	
MSU	Marysvale	158.09	267	*e*PKPab		PKPab	22 06 14.6	-1.1	
ILAR	Eielson Array	158.12	7	PKPab		PKPab	22 06 13.1	-1.6	
	0.2nm,0.8s,baz=288,slow=2.7,SNR=4.6								
LCMT	Little Creek M	158.27	263	*e*PKPab		PKPab	22 06 17.7	+1.3	
EGAK	Eagle	158.40	1	*e*PKPab		PKPab	22 06 16.8	+0.9	
REDW	Red Top Meadow	158.43	281	*e*PKPab		PKPab	22 06 18.0	+0.8	
NLU	North Lily Min	158.50	271	*e*PKPdf		PKPdf	22 05 43.6	+1.1	
NLU				*e*PKPab		pPKPab	22 06 18.8	-1.0	
TPAW	Teton Pass	158.53	281	*e*PKPdf		PKPdf	22 05 42.6	+0.1	
TPAW				*e*PKPab		PKPab	22 06 17.6	0.0	
CCUT	Cedar City	158.58	264	*e*PKPab		PKPab	22 06 19.8	+1.9	
FXWY	Fox Creek	158.60	281	*e*PKPab		PKPab	22 06 18.4	+0.5	
YHH	Holmes Hill	158.63	284	*e*PKPab		PKPab	22 06 19.8	+1.8	
BELC	Belle Mtn. Jos	158.78	252	P		PKPab	22 06 18.7	0.0	
	baz=123								
MCK	McKinley	158.90	10	*e*PKPab		PKPab	22 06 18.5	+0.4	
GMRC	Granite Mounta	158.96	255	P		PKPab	22 06 19.5	0.0	
	baz=121								
DUG	Dugway, Tooele	159.11	271	*e*PKPdf		PKPdf	22 05 43.3	+0.1	
DUG				*e*PKPab		PKPab	22 06 21.2	+1.1	
DUG	Dugway, Tooele	159.11	271	P		PKPab	22 06 20.5	+0.4	
	baz=108								
SCRK	Sand Creek	159.12	4	*e*PKPab		PKPab	22 06 20.3	+1.1	
BOZ	Bozeman (W)	159.25	287	P		PKPab	22 06 21.3	+0.8	
	baz=94								
DOT	Dot Lake	159.44	4	*e*PKPab		PKPab	22 06 21.5	+1.0	
BGU	Big Grassy Mou	159.48	273	*e*PKPab		PKPab	22 06 22.4	+0.7	
LRM	Limekiln Ridge	159.84	287	*e*PKPab		PKPab	22 06 25.2	+2.0	
BFSC	Mount Baldy Ra	160.06	251	P		PKPab	22 06 23.4	-0.9	
	baz=124								
R11A	Troy Canyon, C	160.51	264	*e*PKPab		PKPab	22 06 27.6	+1.4	
R11A	Troy Canyon, C	160.51	264	P		PKPab	22 06 26.7	+0.5	
	baz=113								
MPMC	Manual Prospec	160.89	256	P		PKPab	22 06 28.0	0.0	
	baz=119								
MSO	Missoula	160.89	290	*e*PKPab		PKPab	22 06 29.3	+1.8	
MSO	Missoula	160.89	290	P		PKPab	22 06 28.6	+1.0	
	baz=89								
HLID	Hailey	161.03	280	P		PKPab	22 06 29.1	+0.8	
	baz=98								
ELK	Elko	161.04	271	*e*PKPdf		PKPdf	22 05 46.0	+0.7	
ELK				PKPab		PKPab	22 06 29.0	+0.4	
ELK				*e*PKPab		pPKPab	22 06 29.9	-0.9	
ELK	Elko	161.04	271	PKP		PKPdf	22 05 44.5	-0.9	
	0.7nm,0.4s,baz=165,slow=2.2,SNR=3.1								
ELK				PKPab		PKPab	22 06 29.0	+0.4	
	1.2nm,0.8s,baz=51,slow=3.7,SNR=4.4								
KLU	Klutina	161.43	8	*e*PKPab		PKPab	22 06 30.9	+1.7	
KVN	Kaiserville	162.60	264	*e*PKPab		PKPab	22 06 36.2	+0.8	
BMO	Blue Mountains	163.22	284	*e*PKPab		PKPab	22 06 39.5	+1.7	
B08A	Colville Reser	164.36	296	*e*PKPab		PKPab	22 06 43.8	+1.2	
M04C	Macdoel	166.12	270	P		PKPab	22 06 51.2	+0.5	
	baz=102								
D03D	Eldon	167.00	295	P		PKPab	22 06 55.7	+1.5	
	baz=77								

IDC 06 21:47:06.7±3.5,3°18S×136°22E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.0/43, mbtmp3.1/3, ML2.8/1, Error ellipse: s-maj=154.5km s-min=30.2km az=81.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.76	186	Pn	Pn	21 51 01.4	-1.6
	0.0nm,0.3s,baz=8.2,slow=12,SNR=3.8						
WRA				Sn	Sn	21 54 02.1	-7.9
	0.1nm,0.3s,baz=4.2,slow=24,SNR=5.1						
ASAR	Alice Springs	20.49	186	P	P	21 51 47.1	+0.7
	0.3nm,0.5s,baz=12,slow=11,SNR=6.6						
MKAR	Makanchi Array	68.66	323	P	P	21 58 12.0	0.0
	0.1nm,0.3s,baz=115,slow=7.0,SNR=4.6						

KRSC 06 21:48:03.5±10.0, 50°46N×157°33E, h81km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	0.80	287	*e*P	Pn	21 48 20.8	+0.5
SKR				S	Sn	21 48 32.8	0.0
PAU	Pauzhetka	1.06	342	*e*P	Pn	21 48 24.9	+1.6
PAU				S	Sn	21 48 40.1	+2.0
ALID	Alaid	1.20	291	*e*P	Pn	21 48 25.6	+0.4
KDTR	Khodutka, Kamc	1.43	19	*e*P	Pn	21 48 29.6	+1.7
KDTR				S	Sn	21 48 48.0	+1.7
ASAK	Asacha	1.96	10	*e*P	Pn	21 48 37.0	+2.1
MTVR	Mutnovka	2.10	14	*e*P	Pn	21 48 38.9	+2.2
MTVR				S	Sn	21 49 04.3	+2.2
RUS	Russkaya	2.11	20	*e*P	Pn	21 48 38.2	+1.4
RUS				S	Sn	21 49 03.5	+1.3
KRMR	Karymshinskiy	2.43	12	*e*P	Pn	21 48 43.5	+2.5
KRMR				S	Sn	21 49 14.0	+4.2
APC	Apacha	2.47	358	*e*P	Pn	21 48 43.5	+1.9
PET	Petropavlovsk	2.70	17	*e*P	Pn	21 48 46.8	+2.2
PET				S	Sn	21 49 18.4	+2.1
DALK	Dalny	2.72	18	*e*P	Pn	21 48 46.9	+1.9
DALK				S	Sn	21 49 18.8	+1.9
UGLR	Uglovaya	2.91	18	*e*P	Pn	21 48 50.3	+2.7
UGLR				S	Sn	21 49 24.2	+2.7
AVH	Avacha	2.94	17	*e*P	Pn	21 48 51.3	+3.3
AVH				S	Sn	21 49 25.9	+3.5
KOK	Koryaka	2.95	15	*e*P	Pn	21 48 51.5	+3.3
KOK				S	Sn	21 49 26.3	+3.7
SMAR	Somma	2.95	17	*e*P	Pn	21 48 51.0	+2.7
KRER	Koryakskii	2.98	17	*e*P	Pn	21 48 51.7	+3.0
KRER				S	Sn	21 49 26.7	+3.2
SDLR	Sedlovina	2.98	18	*e*P	Pn	21 48 50.8	+2.2
SDLR				S	Sn	21 49 25.4	+2.0
NLC	Nalytchevo	2.99	24	S	Sn	21 49 23.5	+0.1
KRX	Arik	3.02	15	*e*P	Pn	21 48 52.1	+3.0
SPN	Mys Shipunski	3.13	31	*e*P	Pn	21 48 52.5	+2.0
SPN				S	Sn	21 49 28.1	+1.4
GNL	Ganaly	3.26	6	*e*P	Pn	21 48 54.9	+2.5
GNL				S	Sn	21 49 32.5	+2.3
KII	Karymskiy	3.81	19	*e*P	Pn	21 49 02.9	+3.1
KII				S	Sn	21 49 46.4	+2.9
TUMD	Tumrok D	5.10	20	S	Sn	21 50 15.3	+0.4
KBTR	Krutoberegovo	6.63	28	P	Pn	21 49 39.4	+1.3

*NEIC **06** 21:57:02.1±0.3,30.87S×177.75W, h10km, mb4.9/19, Error ellipse: s-maj=10.7km s-min=4.8km az=116.0*
*ISCJB **06** 21:57:03.8±0.5,31.04S±0.03×177.7W±0.1, h35km, mb4.8/29, MS4.1/12, Error ellipse: s-maj=12.7km s-min=3.7km az=9.2*
*MOS **06** 21:57:05.9±1.1,30.70S×178.06W, h33km, mb5.1/10, Error ellipse: s-maj=14.6km s-min=13.3km az=100.5*
*BJI **06** 21:57:05.0,31.00S×177.80W, h30km, mb5.1/14, mB5.3/2, Ms5.2/1, Ms7 4.9/1*
*IDC **06** 21:57:09.5±1.9,30.61S×178.06W, h54km±15km, mb4.4/13, mb1 4.6/13, mb1mx4.3/45, mbtmp4.7/13, MS4.0/13, Ms1 4.0/13, ms1mx3.7/32, Error ellipse: s-maj=19.1km s-min=15.1km az=96.0*

ISC 06 21:57:06.3±0.3, 30.80S±0.04×177.84W±0.07, h35km, n312, σ1§70/310, mb4.9/28, MS4.2/12, 7C-11D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.53	357	P	Pn	21 57 31.8	+0.6
GLKZ				S	Sn	21 57 47.9	-2.0
RAO	Raoul Island	1.54	357	*e*Pn	Pn	21 57 32.2	+0.9
RAO				*e*Sn	Sn	21 57 48.1	-2.0
RAO	Raoul Island	1.54	357	*e*P	Pn	21 57 32.2	+0.9
RAO				*e*		21 57 48.1	
RAO	Raoul Island	1.54	357	P	Pn	21 57 32.3	+1.1
	907nm,0.3s,baz=266,slow=20,SNR=24						
RAO				S	Sn	21 57 49.7	-0.4
	3µm,0.3s,baz=108,slow=20,SNR=17						
RAO				LR	LR	21 58 07.8	
	comp=Z,2µm,18.1s,baz=176,slow=43						
RIZ	Raoul Island	1.55	357	P	Pn	21 57 32.9	+1.6
RIZ				S	Sn	21 57 50.1	-0.2
MXZ	Matakaoa Point	7.46	204	*e*Pn	Pn	21 58 48.2	-4.4
MXZ				*e*Sn	Sn	22 00 14.5	-1.5
MXZ	Matakaoa Point	7.46	204	P	Pn	21 58 50.4	-2.2
MXZ	Matakaoa Point	7.46	204	P	Pn	21 58 50.3	-2.3
MXZ				S	Sn	22 00 13.9	-2.0
WMGZ	Waiomatatini S	7.66	203	P	Pn	21 58 53.6	-1.7
WMGZ	Waiomatatini S	7.66	203	P	Pn	21 58 53.5	-1.8
GRZ	Great Barrier	7.80	224	P	Pn	21 59 02.1	+4.9
HAZ	Te Kaha	7.83	206	P	Pn	21 58 56.3	-1.3
HAZ	Te Kaha	7.83	206	P	Pn	21 58 56.3	-1.3
PKGZ	Pakihiroa	7.83	204	P	Pn	21 58 55.4	-2.4
PKGZ	Pakihiroa	7.83	204	P	Pn	21 58 55.4	-2.4
PKGZ				S	Sn	22 00 24.9	-0.4
PUZ	Puketiti	7.94	203	P	Pn	21 58 56.6	-2.5
PUZ	Puketiti	7.94	203	P	Pn	21 58 56.4	-2.7
RUGZ	Raukumara Rang	8.05	206	P	Pn	21 58 58.5	-2.3
RUGZ	Raukumara Rang	8.05	206	P	Pn	21 58 58.1	-2.7
TWGZ	Tauwhareparae	8.13	204	P	Pn	21 58 59.1	-2.6
TWGZ	Tauwhareparae	8.13	204	P	Pn	21 58 59.2	-2.5
WCZ	Waipu Caves	8.30	230	P	Pn	21 59 09.9	+5.8
CNGZ	Carnagh Statio	8.33	202	P	Pn	21 59 02.2	-2.3
CNGZ	Carnagh Statio	8.33	202	P	Pn	21 59 01.6	-2.8
OPRZ	Ohinepanea	8.42	212	P	Pn	21 59 07.8	+2.1
MWZ	Matawai	8.43	206	P	Pn	21 59 03.0	-2.9
MWZ	Matawai	8.43	206	P	Pn	21 59 02.4	-3.5
OUZ	Omahuta	8.43	236	*e*Pn	Pn	21 59 11.4	+5.5
OUZ	Omahuta	8.43	236	P	Pn	21 59 10.9	+5.0
URZ	Urewera	8.53	208	*e*Pn	Pn	21 59 05.4	-1.8
URZ				*e*Sn	Sn	22 00 40.7	-1.4
URZ	Urewera	8.53	208	P	Pn	21 59 04.4	-2.8
	1.8nm,0.3s,baz=354,slow=15,SNR=16						
URZ				S	Sn	22 00 38.5	-3.6
	11nm,0.3s,baz=150,slow=20,SNR=8.7						
URZ	Urewera	8.53	208	P	Pn	21 59 04.8	-2.4
URZ	Urewera	8.53	208	P	Pn	21 59 04.1	-3.1
RAGZ	Rawiri	8.61	206	P	Pn	21 59 06.0	-2.5
RAGZ	Rawiri	8.61	206	P	Pn	21 59 04.9	-3.5
RIGZ	Rimuhau	8.68	203	P	Pn	21 59 08.6	-0.7
RIGZ	Rimuhau	8.68	203	P	Pn	21 59 07.9	-1.4
PRGZ	Paritu Road	8.83	202	P	Pn	21 59 08.6	-2.8
PRGZ	Paritu Road	8.83	202	P	Pn	21 59 08.6	-2.8
RTZ	Ruatahuna	8.88	207	P	Pn	21 59 09.7	-2.5
RTZ	Ruatahuna	8.88	207	P	Pn	21 59 08.4	-3.8
SNGZ	Shannon Statio	8.89	205	P	Pn	21 59 10.4	-1.9
SNGZ	Shannon Statio	8.89	205	P	Pn	21 59 09.6	-2.7
HRRZ	Handcock Road	8.99	211	P	Pn	21 59 14.5	+1.0
KNZ	Kokohu	8.99	203	P	Pn	21 59 09.8	-3.7
MHGZ	Mahia Peninsul	9.03	202	P	Pn	21 59 11.2	-3.0
RAHZ	Arahi	9.11	206	P	Pn	21 59 12.6	-2.6
MTHZ	Maungataniwha	9.14	207	P	Pn	21 59 13.6	-2.1
ARHZ	Aropaoanui	9.44	205	P	Pn	21 59 17.4	-2.4
BKZ	Black Stump Fm	9.55	208	*e*Pn	Pn	21 59 20.4	-0.9
BKZ	Black Stump Fm	9.55	208	P	Pn	21 59 17.9	-3.4
HIZ	Hauiti	9.76	216	*e*Pn	Pn	21 59 30.2	+6.0
HIZ	Hauiti	9.76	216	P	Pn	21 59 30.6	+6.5
KAHZ	Kahuranaki	9.96	204	P	Pn	21 59 12.0	-4.8
TSZ	Takapari Road	10.53	207	P	Pn	21 59 29.3	-5.3
BFZ	Birch Farm	10.96	204	*e*Pn	Pn	21 59 38.2	-2.3
BFZ				*e*Sn	Sn	22 01 31.4	-11
BFZ	Birch Farm	10.96	204	P	Pn	21 59 34.8	-5.7
SNZO	South Karori	12.09	208	*e*Pn	Pn	21 59 53.6	-2.4
SNZO				*e*S	Sn	22 01 55.7	-14
THZ	Tophouse	13.23	212	*e*Pn	Pn	22 00 11.7	0.0
THZ				*e*Sn	Sn	22 02 27.3	-10
KHZ	Kahutara	13.49	208	*e*Pn	Pn	22 00 09.5	-5.6
KHZ				*e*Sn	Sn	22 02 33.0	-11
NIUE	Niue	13.70	33	*e*Pn	Pn	22 00 14.2	-3.8
NIUE				*e*Sn	Sn	22 02 33.5	-15
LTZ	Lake Taylor	14.33	211	*e*Pn	Pn	22 00 25.2	-1.4
LTZ	Lake Taylor	14.33	211	P	Pn	22 00 25.0	-1.6
OXZ	Oxford	14.87	210	*e*Pn	Pn	22 00 27.9	-5.9
OXZ				*e*Sn	Sn	22 03 01.0	-16
OXZ	Oxford	14.87	210	P	P	22 00 37.2	-1.9
MQZ	McQueen's Vall	14.93	208	*e*Pn	Pn	22 00 27.7	-6.9
MQZ				*e*Sn	Sn	22 03 02.5	-16
PINNC	Pines Island,	15.46	298	*e*Pn	P	22 00 48.6	+2.7
	45nm,0.9s						
RPZ	Rata Peaks	15.61	211	*e*Pn	Pn	22 00 41.5	-2.1
	11nm,0.7s						
RPZ				S	Sn	22 03 18.6	-17
RPZ	Rata Peaks	15.61	211	P	Pn	22 00 39.6	-4.0
	0.5nm,0.3s,baz=74,slow=19,SNR=2.8						
RPZ				S	Sn	22 03 18.6	-17
	1.6nm,0.3s,baz=212,slow=19,SNR=5.8						
RPZ	Rata Peaks	15.61	211	P	Pn	22 00 44.0	+0.4
MARNC	Mare, Loyalty	15.71	303	*e*Pn	P	22 00 54.4	+5.8
	101nm,0.8s						
OUENC	Ouen Island, N	16.03	298	*e*Pn	P	22 00 59.5	+7.3
LBZ	Lake Benmore	16.53	212	*e*Pn	Pn	22 00 54.4	-0.9
	8.6nm,1.0s						
LBZ				*e*Sn	Sn	22 03 38.8	-19
DZM	Mont Dzumac	16.53	298	*e*LR	LR	22 04 45.5	
	comp=Z,2µm,25.2s						
DZM	Mont Dzumac	16.53	298	*e*Pn	P	22 01 06.6	+8.8
DZM	Mont Dzumac	16.53	298	P	P	22 01 01.7	+3.9
	0.5nm,0.3s,baz=159,slow=12,SNR=3.3						
DZM				LR	LR	22 04 52.7	
	comp=Z,189nm,20.1s,baz=72,slow=28						
ODZ	Otahua Downs	16.85	209	*e*Pn	Pn	22 00 56.1	-3.2
	28nm,1.1s						
ODZ				*e*Sn	Sn	22 03 43.2	-22
ODZ	Otahua Downs	16.85	209	P	Pn	22 00 57.6	-1.7
WKZ	Wanaka	17.40	213	*e*Pn	Pn	22 01 03.5	-2.7
	16nm,0.9s						
DCZ	Deep Cove	18.76	215	*e*P	P	22 01 19.9	-2.3
	15nm,1.2s						
RAR	Rarotonga	18.82	64	LR	LR	22 08 06.3	
	comp=Z,273nm,18.2s,baz=298,slow=35						
ARMA	Armidale	26.24	263	P	P	22 02 41.0	+2.8
	baz=28,SNR=17						
ARMA	Armidale	26.24	263	*e*P	P	22 02 41.9	+3.7
	19nm,0.6s						
TBI	Tubuai	26.29	81	*e*LR	LR	22 09 13.0	
	comp=Z,929nm,27.2s,baz=246						
TBI	Tubuai	26.29	81	*e*T	T	22 29 38.2	
	34nm,0.3s						
MGCD	Mangrove Creek	26.39	257	P	P	22 02 42.5	+3.0
	baz=28,SNR=6.4						
CNB	Canberra Magne	27.78	252	P	P	22 02 54.3	+2.3
	baz=29,SNR=14						
EIDS	Eidsvold	27.89	273	P	P	22 02 54.8	+1.8
	baz=30,SNR=3.4						
EIDS	Eidsvold	27.89	273	*e*P	P	22 02 53.9	+0.9
	22nm,0.9s						
MILA	Mila	28.00	248	P	P	22 02 56.1	+2.2
	baz=30,SNR=7.2						
CAN	Canberra	28.08	252	*e*P	P	22 02 56.5	+1.9
	12nm,0.7s						
CAN	Canberra	28.08	252	*e*P	P	22 02 56.5	+1.9
CAN				pmax	pmax		
	comp=Z,12nm,0.7s						
YNG	Young	28.60	254	P	P	22 03 01.6	+2.4
	baz=30,SNR=6.1						
PAE	Paea	28.80	70	*e*T	T	22 32 49.4	
	comp=Z,17nm,0.3s						
PPT2	Papeete2	28.85	69	*e*S	S	22 07 52.3	+2.8
	comp=Z,124nm,28.2s						
PPT2				*e*LR	LR	22 10 33.7	
	comp=Z,818nm,26.2s,baz=241						
PPT2	Papeete2	28.85	69	*e*T	T	22 32 52.9	
	comp=Z,15nm,0.3s						
PPT	Papeete	28.86	69	LR	LR	22 11 49.7	
	comp=Z,148nm,20.6s,baz=242,slow=30						
TOO	Toolangi	30.93	247	P	P	22 03 21.3	+1.5
	baz=32,SNR=9.8						
TOO	Toolangi	30.93	247	*e*P	P	22 03 21.4	+1.5
	comp=Z,14nm,1.0s						
TOO	Toolangi	30.93	247	*e*P	P	22 03 21.4	+1.5
TOO				pmax	pmax		
	comp=Z,14nm,1.0s						
CMSA	Cobar Meteorol	31.12	259	P	P	22 03 23.5	+2.0
	baz=33,SNR=67						
VAH	Vaihoa	31.70	68	*e*T	T	22 36 26.4	
	comp=Z,74nm,0.2s						
ARPS	Mount Arapiles	33.85	249	P	P	22 03 46.6	+1.2
	baz=35,SNR=8.5						
CTAO	Charters Tower	34.00	280	*e*P	P	22 03 47.6	+0.7
	comp=Z,45nm,0.6s						
CTAO	Charters Tower	34.00	280	*e*P	P	22 03 47.6	+0.7
CTAO				pmax	pmax		
	comp=Z,45nm,0.6s						
STKA	Stephens Creek	34.52	257	P	P	22 03 52.7	+1.3
	baz=36,SNR=119						
STKA	Stephens Creek	34.52	257	*e*P	P	22 03 52.4	+1.1
	comp=Z,16nm,0.8s						
STKA	Stephens Creek	34.52	257	*e*P	P	22 03 52.4	+1.1
STKA				pmax	pmax		
	comp=Z,16nm,0.8s						
STKA	Stephens Creek	34.52	257	P	P	22 03 52.6	+1.3
	comp=Z,71nm,0.8s,baz=99,slow=9.8,SNR=169						
MTSU	Mount Surprise	36.51	281	P	P	22 04 09.8	+1.4
	baz=38,SNR=25						
HTT	Hallett	36.52	254	P	P	22 04 09.1	+0.5
	baz=38,SNR=28						
BBOO	Buckleboo	38.99	255	P	P	22 04 29.2	-0.2
	baz=40,SNR=58						
BBOO	Buckleboo	38.99	255	*e*P	P	22 04 29.2	-0.2
	comp=Z,26nm,0.8s						
QIS	Mount Isa	39.48	275	P	P	22 04 33.8	+0.2
	baz=41,SNR=9.3						
COEN	Coen	39.51	286	P	P	22 04 34.8	+1.0
	baz=41,SNR=27						
COEN	Coen	39.51	286	*e*P	P	22 04 35.0	+1.1
	comp=Z,39nm,1.1s						
TAOE	Nuku Hiva Isla	41.34	66	*e*LR	LR	22 16 15.6	
	comp=Z,491nm,26.8s						
AS01	Alice Springs	43.19	267	*e*P	P	22 05 03.0	-1.0
AS31	Alice Springs	43.23	267	*e*P	P	22 05 03.8	-0.6
	comp=Z,5.4nm,0.6s						
ASAR	Alice Springs	43.23	267	P	P	22 05 03.7	-0.6
	comp=Z,13nm,0.5s,baz=104,slow=7.1,SNR=148						
ASAR				PcP	PcP	22 06 52.3	-0.9
	comp=Z,1.0nm,0.5s,baz=111,slow=5.1,SNR=3.2						
ASAR				ScP	ScP	22 10 41.5	-0.4
	comp=Z,1.1nm,0.8s,baz=109,slow=4.4,SNR=5.7						
WC3	Warramunga Arr	44.22	272	*e*P	P	22 05 11.7	-0.6
	comp=Z,35nm,0.5s						
WB2	Warramunga Arr	44.24	272	*e*P	P	22 05 12.2	-0.3
WRAB	Tennant Creek	44.24	272	*e*P	P	22 05 11.7	-0.8
	comp=Z,26nm,0.6s						
WRAB	Tennant Creek	44.24	272	*c i*P	P	22 05 12.0	-0.5
WRAB				pmax	pmax		
	comp=Z,24nm,0.7s						
WRA	Warramunga Ar	44.25	272	P	P	22 05 11.8	-0.8
	comp=Z,29nm,0.5s,baz=111,slow=7.9,SNR=193						
WRA				PcP	PP	22 06 55.5	-0.5
	comp=Z,1.7nm,0.8s,baz=114,slow=3.6,SNR=

HHC	**Hu-ho-hao-te**	**96.61**	**314**	*e*P	**P**	**22 10 33.8**	**+1.2**
HHC				sP	sP	22 10 45.6	-0.5
HHC				S	**S**	**22 21 54.4**	**+3.2**
HHC				pmax	pmax		
	comp=Z,17nm,1.2s						
ILAR	**Eielson Array**	**98.28**	**13**	P	Pdif	22 10 39.9	+0.5
	comp=Z,0.6nm,0.9s,baz=232,slow=4.2,SNR=4.3						
ILAR				PKiKP	**PKiKP**	**22 15 12.0**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=253,slow=3.0,SNR=4.1						
ILAR				PKKPbc	**PKKPdf**	**22 27 15.8**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=31,slow=2.9,SNR=4.2						
BILL	**Bilibino**	**99.25**	**354**⇑	*e*P	**Pdif**	**22 10 43.2**	**-0.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s						
CPUP	**Villa Florida**	**99.63**	**128**	LR	LR	22 52 13.3	
	comp=Z,38nm,18.6s,baz=206,slow=33						
YKA	**Yellowknife Ar**	**105.74**	**26**	PKiKP	**PKiKP**	**22 15 25.3**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=253,slow=1.6,SNR=6.9						
YKA				PKKPbc	**PKKPbc**	**22 26 49.3**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=39,slow=3.1,SNR=8.8						
WMQ	**Urumqi**	**113.58**	**308**	*e*PKP	**PKiKP**	**22 15 40.7**	**0.0**
SUR	**Sutherland**	**114.73**	**197**	PKP	PKPdf	22 15 45.5	+1.9
	comp=Z,4.5nm,0.8s,baz=90,slow=2.4,SNR=3.5						
BOSA	**Boshof**	**116.95**	**203**	PKP	**PKiKP**	**22 15 49.0**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=218,slow=3.6,SNR=3.8						
MKAR	**Makanchi Array**	**118.13**	**310**	PKP	**PKPdf**	**22 15 48.3**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=168,slow=0.8,SNR=27						
ZALV	**Zalesovo Beam**	**118.42**	**318**	PKP	**PKPdf**	**22 15 48.4**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=104,slow=3.2,SNR=4.4						
PRZ	**Przheval'sk**	**119.62**	**304**	*e*PKPdf	**PKiKP**	**22 15 53.1**	**+0.5**
PRZ	**Przheval'sk**	**119.62**	**304**	*e*PKiKP	**PKiKP**	**22 15 53.1**	**+0.5**
NRIK	**Noril'sk**	**120.06**	**336**	PKP	**PKiKP**	**22 15 52.3**	**0.0**
	comp=Z,2.0nm,0.4s,baz=114,slow=4.3,SNR=3.7						
NRN	**Naryn**	**121.06**	**303**	*e*PKPdf	**PKiKP**	**22 15 55.4**	**-0.2**
KURK	**Kurchatov**	**121.42**	**314**	*e*PKPdf	**PKPdf**	**22 15 54.5**	**-0.9**
KURK	**Kurchatov**	**121.42**	**314**‖	*e*PKiKP	**PKPdf**	**22 15 54.1**	**-1.3**
AAK	**Ala-Archa**	**122.45**	**304**	*e*PKPdf	**PKiKP**	**22 15 57.7**	**-0.4**
AAK	**Ala-Archa**	**122.45**	**304**⇑	*i*PKiKP	**PKiKP**	**22 15 57.4**	**-0.7**
KBL	**Kabul**	**124.50**	**293**	*e*PKPdf	**PKiKP**	**22 16 02.4**	**-0.1**
KBL	**Kabul**	**124.50**	**293**	*e*PKiKP	**PKiKP**	**22 16 02.4**	**-0.1**
KK31	**Karatay Array**	**125.41**	**303**	*e*PKPdf	**PKiKP**	**22 16 03.2**	**-0.5**
KK31	**Karatay Array**	**125.41**	**303**	*e*PKiKP	**PKiKP**	**22 16 03.2**	**-0.5**
KKAR	**Karatay Array**	**125.41**	**303**	*e*PKPdf	**PKiKP**	**22 16 03.2**	**-0.5**
KKAR	**Karatay Array**	**125.41**	**303**	*e*PKiKP	**PKiKP**	**22 16 03.2**	**-0.5**
SCHQ	**Schefferville**	**126.44**	**42**	PKP	**PKiKP**	**22 16 05.1**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=222,slow=11,SNR=4.0						
BRVK	**Borovoye**	**126.85**	**316**	*e*PKPdf	**PKPdf**	**22 16 05.0**	**-0.7**
BRVK	**Borovoye**	**126.85**	**316**⇑	*e*PKiKP	**PKPdf**	**22 16 03.7**	**-2.1**
LSZ	**Lusaka**	**127.79**	**212**	*e*PKPdf	**PKiKP**	**22 16 10.4**	**+0.9**
LSZ	**Lusaka**	**127.79**	**212**	*e*PKiKP	**PKiKP**	**22 16 10.4**	**+0.9**
SPA0	**Spitsbergen Ar**	**132.11**	**356**	*e*PKPdf	**PKiKP**	**22 16 16.1**	**-0.1**
ARU	**Arti**	**133.49**	**320**	*e*PKPdf	**PKiKP**	**22 16 18.2**	**-1.3**
ARU	**Arti**	**133.49**	**320**	*i*PKiKP	**PKPdf**	**22 16 17.3**	**-0.9**
ARU						22 18 46.2	
GEYT	**Alibeck**	**133.85**	**295**	PKP	**PKPdf**	**22 16 19.3**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=150,slow=3.3,SNR=2.9						
KMBO	**Kilima Mbogo**	**133.94**	**293**	PKP	**PKiKP**	**22 16 22.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=62,slow=7.3,SNR=4.2						
ARCES	**ARCESS Array B**	**139.01**	**348**	PKhKP	PKPpre	22 16 19.6	
	comp=Z,3.9nm,0.8s,baz=25,slow=4.0,SNR=5.2						
ARCES				PKP	**PKPdf**	**22 16 27.8**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=43,slow=1.3,SNR=9.3						
ARE0	**ARCESS Array S**	**139.01**	**348**	*e*PKPdf	**PKiKP**	**22 16 28.5**	**-1.9**
KTK1	**Kautokeino**	**139.87**	**348**	*e*PKPdf	**PKiKP**	**22 16 30.3**	**-1.9**
KTK1				*ep*PKPdf	**PKPdf**	**22 16 33.5**	**+3.7**
TRO	**Tromso**	**139.97**	**351**	*e*Pdif	**Pdif**	**22 13 44.9**	**+0.2**
TRO				*e*PKPdf	**PKiKP**	**22 16 30.3**	**-2.0**
LOF	**Lofoten**	**142.04**	**353**	*e*PKPdf	**PKiKP**	**22 16 34.3**	**-2.2**
STEI	**Steigen**	**142.04**	**352**	*e*PKPdf	**PKPdf**	**22 16 33.7**	**+0.1**
MOR8	**Moi Rana**	**143.82**	**352**	*e*PKPdf	**PKPdf**	**22 16 36.8**	**-0.1**
MOR8				*ep*PKPdf	**PKiKP**	**22 16 40.2**	**-0.1**
GNI	**Garni**	**144.38**	**297**	*e*PKPdf	**PKPdf**	**22 16 38.4**	**-0.5**
GNI	**Garni**	**144.38**	**297**‖	*e*PKiKP	**PKiKP**	**22 16 39.8**	**-2.7**
GNI	**Garni**	**144.38**	**297**	PKP	**PKPdf**	**22 16 37.9**	**-1.0**
	comp=Z,24nm,1.3s,baz=152,slow=7.7,SNR=3.3						
MOS	**Moscow**	**144.74**	**325**	*e*PKHKP	PKPpre	22 16 35.3	
MOS				pmax	pmax		
	comp=Z,40nm,1.0s						
ZEI	**Tsey**	**144.83**	**302**	*e*PKHKP	PKPpre	22 16 35.6	
ZEI				pmax	pmax		
	comp=Z,16nm,1.5s						
NCK	**Nalchik**	**144.97**	**303**‖	*i*PKiKP	**PKPdf**	**22 16 38.8**	**-0.8**
GOF	**Gofitskoye**	**145.14**	**306**	*e*PKiKP	**PKPdf**	**22 16 39.4**	**-0.4**
PUL	**Pulkovo**	**145.42**	**335**⇑	*e*PKiKP	**PKPab**	**22 16 39.5**	**-0.5**
KBZ	**Khabaz**	**145.45**	**303**	PKPbc	**PKPab**	**22 16 39.9**	**-0.8**
	comp=Z,5.5nm,0.9s,baz=166,slow=2.8,SNR=12						
LPSR	**Galich'ya Gora**	**145.50**	**320**	*e*PKP2	**PKPbc**	**22 16 39.5**	**-0.8**
LPSR				pmax	pmax		
	comp=Z,20nm,0.7s						
KVAR	**Kislovodsk Arr**	**145.56**	**304**	PKPbc	**PKPab**	**22 16 41.6**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=75,slow=20,SNR=4.7						
KIV	**Kislovodsk**	**145.56**	**304**	*e*PKPdf	**PKPab**	**22 16 40.6**	**-0.7**
KIV	**Kislovodsk**	**145.56**	**304**	*i*PKiKP	**PKPab**	**22 16 40.7**	**-0.5**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,84nm,24.0s						
FIA1	**FINESS Array S**	**145.57**	**340**	*e*PKPdf	**PKPab**	**22 16 39.6**	**-0.9**
FINES	**FINESS Array B**	**145.57**	**340**	PKPbc	**PKPab**	**22 16 39.5**	**-1.0**
	comp=Z,34nm,0.5s,baz=63,slow=3.5,SNR=227						
OBN	**Obninsk**	**145.58**	**325**	*e*PKPbc	**PKPab**	**22 16 39.9**	**-0.8**
OBN				*e*PKPdf	**PKPab**	**22 16 40.0**	**-0.8**
OBN	**Obninsk**	**145.58**	**325**	*i*PKP2	**PKPdf**	**22 16 38.6**	**-1.6**
OBN				pmax	pmax		
	comp=Z,23nm,0.8s						
OBN	**Obninsk**	**145.58**	**325**	PKPbc	**PKPab**	**22 16 39.9**	**-0.8**
	comp=Z,7.5nm,0.6s,baz=19,slow=4.8,SNR=9.7						
NEY	**Neytrino**	**145.64**	**303**‖	*e*PKiKP	**PKPab**	**22 16 41.6**	**0.0**
NSS	**Namsos**	**145.69**	**352**	*e*PKPbc	**PKPab**	**22 16 40.5**	**-0.4**
NSS				*e*PP	**PP**	**22 20 02.2**	**+1.0**
VSR	**Storozhevoye**	**145.92**	**317**	*e*PKiKP	**PKPbc**	**22 16 40.6**	**-1.1**
VSR				pmax	pmax		
	comp=Z,20nm,0.5s						
VSU	**Vasula**	**147.65**	**336**‖	*e*PKiKP	**PKPdf**	**22 16 42.6**	**-1.0**
VSU	**Vasula**	**147.65**	**336**	*e*P	**PKPbc**	**22 16 45.4**	**-0.9**
VSU				IAmb	IAmb	22 16 51.2	
	comp=Z,76nm,0.7s						
MOL	**Molde**	**148.03**	**355**	*e*PKPdf	**PKPdf**	**22 16 44.1**	**0.0**
MOL				*ep*PKPdf	**PKiKP**	**22 16 47.6**	**-1.5**
DOMB	**Dombas**	**148.43**	**354**	*e*PKPdf	**PKPdf**	**22 16 44.7**	**-0.1**
DOMB				*e*PKPbc	**PKiKP**	**22 16 48.4**	**-1.5**
TNCL	**Tunceli-Merkez**	**148.44**	**296**	*i*P	**PKPab**	**22 16 54.9**	**+2.2**
TNCL				IAML_P			
	comp=Z,145nm,0.3s						
AKN	**Aaknes**	**148.45**	**356**	*ep*PKPdf	**PKiKP**	**22 16 48.3**	**-1.7**
KELT	**Kelkit**	**148.57**	**298**	*i*P	**PKiKP**	**22 16 50.0**	**-1.2**
KELT				IAML_P			
	comp=Z,224nm,0.4s						
NC303	**NORSAR Array S**	**148.97**	**351**	*e*PKPbc	**PKiKP**	**22 16 50.2**	**-0.9**
NC405	**NORSAR Array S**	**149.03**	**351**	*e*PKPbc	**PKiKP**	**22 16 50.7**	**-0.5**
FOO	**Floro**	**149.14**	**357**	*e*PKPdf	**PKPdf**	**22 16 45.8**	**-0.1**
NB2	**NORSAR Subarra**	**149.17**	**351**	PKP	**PKiKP**	**22 16 50.3**	**-1.2**
	comp=Z,4.9nm,0.6s,baz=14,slow=2.6						
NOA	**NORSAR Array B**	**149.17**	**351**	PKPbc	**PKiKP**	**22 16 50.2**	**-1.4**
	comp=Z,6.2nm,0.6s,baz=15,slow=4.1,SNR=34						
KEMA	**Kemaliye**	**149.24**	**296**	*i*P	**PKiKP**	**22 16 52.1**	**-0.3**
KEMA				IAML_P			
	comp=Z,229nm,0.5s						
SURC	**SANLIURFA_SURC**	**149.25**	**291**	*i*P	**PKiKP**	**22 16 51.4**	**-1.1**
SURC				IAML_P			
	comp=Z,149nm,0.4s						
NC602	**NORSAR Array S**	**149.42**	**351**	*e*PKPbc	**PKiKP**	**22 16 50.8**	**-1.2**
NC602	**NORSAR Array S**	**149.42**	**351**	*e*PKPbc	**PKiKP**	**22 16 51.0**	**-0.9**
HFS	**Hagfors**	**149.66**	**349**	PKPbc	**PKPbc**	**22 16 50.8**	**-0.7**
	comp=Z,11nm,0.7s,baz=79,slow=3.2,SNR=24						
CUZAR	**Zara_SIVAS**	**149.73**	**297**	*i*P	**PKiKP**	**22 16 52.9**	**-0.7**
IZAR	**Zarasai**	**149.81**	**333**	*e*P	**PKPbc**	**22 16 51.4**	**-0.6**
IZAR				IAmb	IAmb	22 16 57.1	
	comp=Z,8.7nm,1.0s						
IDID	**Didziasalis**	**149.92**	**332**	*e*P	**PKiKP**	**22 16 52.5**	**-0.7**
IDID				IAmb	IAmb	22 16 58.2	
	comp=Z,8.5nm,0.8s						
ISAL	**Salakas**	**149.99**	**333**	*e*P	**PKiKP**	**22 16 52.7**	**-0.6**
ISAL				IAmb	IAmb	22 16 58.5	
	comp=Z,5.3nm,0.8s						
IIGN	**Ignalina**	**150.11**	**332**	*e*P	**PKiKP**	**22 16 52.8**	**-0.8**
IIGN				IAmb	IAmb	22 16 57.9	
	comp=Z,7.3nm,0.9s						
ASK	**Askoy**	**150.24**	**357**	*ep*PKPdf	**PKPbc**	**22 16 51.5**	**-1.4**
BER	**Bergen**	**150.34**	**357**	*e*PKPdf	**PKPdf**	**22 16 47.8**	**-0.1**
BER				*ep*PKPdf	**PKPbc**	**22 16 51.2**	**-1.9**
ASF	**Jabal al Asfar**	**150.42**	**282**	PKPbc	**PKiKP**	**22 16 54.3**	**-0.8**
	comp=Z,6.0nm,1.0s,baz=86,slow=5.3,SNR=4.6						
KUZU	**Kuzuini**	**150.49**	**291**	*i*P	**PKiKP**	**22 16 55.7**	**+0.6**
KUZU				IAML_P			
	comp=Z,440nm,0.4s						
HCB	**Kahramanmara**	**150.60**	**292**	*i*P	**PKiKP**	**22 16 54.6**	**-0.6**
HCB				IAML_P			
	comp=Z,29nm,0.2s						
KONO	**Kongsberg**	**150.72**	**352***c*	*i*PKiKP	**PKiKP**	**22 16 55.0**	**+0.3**
KONO				pmax	pmax		
	comp=Z,84nm,2.5s						
KONO	**Kongsberg**	**150.72**	**352**	*e*PKPbc	**PKiKP**	**22 16 54.7**	**0.0**
ODD1	**Odda**	**150.73**	**355**	*e*PKPdf	**PKPdf**	**22 16 48.4**	**-0.2**
ODD1				*ep*PKPbc	**pPKPdf**	**22 16 57.7**	**-1.2**
CUSAR	**Sarkisla-SIVAS**	**150.96**	**297**	*i*P	**PKPbc**	**22 16 54.5**	**-1.0**
ANDN	**Andirin**	**151.04**	**293**	*i*P	**PKiKP**	**22 16 56.8**	**+0.6**
ANDN				IAML_P			
	comp=Z,236nm,0.6s						
SAIM	**ADANA**	**151.22**	**294**	*i*P	**PKiKP**	**22 16 58.3**	**+1.7**
SAIM				IAML_P			
	comp=Z,60nm,0.1s						
BLS5	**Blasjo**	**151.23**	**355**	*e*PKPdf	**PKPdf**	**22 16 49.4**	**+0.1**
BLS5				*e*PKPbc	**PKiKP**	**22 16 56.0**	**+0.2**
KMY	**Karmoy**	**151.51**	**357**	*ep*PKPdf	**PKPbc**	**22 16 53.0**	**-2.8**
YURE	**YUREGIR**	**151.64**	**291**	*i*P	**PKiKP**	**22 16 57.8**	**+0.3**
EIL	**Elat**	**151.70**	**276**	PKPbc	**PKiKP**	**22 16 57.3**	**-0.4**
	comp=Z,8.1nm,0.7s,baz=124,slow=8.6,SNR=4.8						
AKASG	**Malin Array Be**	**151.70**	**322**	PKPbc	**PKiKP**	**22 16 56.1**	**-0.8**
	comp=Z,18nm,0.7s,baz=49,slow=2.8,SNR=32						
AKBB	**Malin Array Si**	**151.70**	**322**	*e*PKPbc	**PKiKP**	**22 16 56.2**	**-0.8**
KIEV	**Kiev**	**151.71**	**322**	*e*PKPbc	**PKPbc**	**22 16 55.7**	**-1.0**
KIEV	**Kiev**	**151.71**	**322**‖	*e*PKiKP	**PKPdf**	**22 16 52.2**	**+1.9**
AK11	**Malin Array Si**	**151.74**	**322**	*e*PKPbc	**PKiKP**	**22 16 56.3**	**-0.8**
MMAI	**Mount Meron Ar**	**151.76**	**283**	PKPbc	**PKiKP**	**22 16 58.1**	**+0.3**
	comp=Z,15nm,0.7s,baz=82,slow=6.2,SNR=27						
YAHY	**KAYSERI_Yahyal**	**151.78**	**294**	*i*P	**PKiKP**	**22 16 57.4**	**-0.4**
YAHY				IAML_P			
	comp=Z,15nm,0.3s						
COAL	**Corum-Alaca**	**151.80**	**299**	*i*P	**PKiKP**	**22 16 57.2**	**-0.6**
COAL				IAML_P			
	comp=Z,70nm,0.6s						
SIRC	**Yozgat**	**151.81**	**297**	*i*P	**PKiKP**	**22 16 57.8**	**0.0**
SIRC				IAML_P			
	comp=Z,139nm,0.5s						
AVNS	**Nevsehir-Avano**	**152.11**	**296**	*i*P	**PKiKP**	**22 16 58.3**	**-0.1**
AVNS				IAML_P			
	comp=Z,64nm,0.2s						
SUW	**Suwalki**	**152.29**	**333**	*e*PKP	**PKiKP**	**22 16 58.0**	**-0.1**
SUW	**Suwalki**	**152.29**	**333**	*e*PKPbc	**PKiKP**	**22 16 58.0**	**-0.1**
SUW	**Suwalki**	**152.29**	**333**	*e*PKiKP	**PKiKP**	**22 16 58.0**	**-0.1**
GULE	**Gulek**	**152.30**	**292**	*i*P	**PKiKP**	**22 16 59.3**	**+0.3**
GULE				IAML_P			
	comp=Z,2μm,0.5s						
CDAG	**Cicekdag**	**152.37**	**297**	*i*P	**PKiKP**	**22 16 58.6**	**-0.3**
CDAG				IAML_P			
	comp=Z,4.6nm,0.4s						
DELI	**KIRIKKALE**	**152.65**	**298**	*i*P	**PKiKP**	**22 16 59.0**	**-0.5**
DELI				IAML_P			
	comp=Z,181nm,0.5s						
KIRS	**Kirehir-Merke**	**152.78**	**296**	*i*P	**PKiKP**	**22 16 59.7**	**0.0**
KIRS				IAML_P			
	comp=Z,180nm,0.7s						
KERG	**Konya-Eregli**	**152.81**	**293**	*i*P	**PKiKP**	**22 16 59.3**	**-0.6**
KERG				IAML_P			
	comp=Z,72nm,0.5s						
BRTR	**Keskin Array B**	**152.91**	**298***c*	*i*PKiKP	**PKPbc**	**22 16 59.0**	**-0.9**
BRTR	**Keskin Array B**	**152.91**	**298**	PKPbc	**PKiKP**	**22 16 59.4**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=140,slow=4.9,SNR=17						
KLNR	**Kaliningrad**	**152.92**	**337**‖	*e*PKiKP	**PKPdf**	**22 16 52.0**	**+0.1**
KKUL	**Konya-Kulu**	**153.55**	**297**	*i*P	**PKiKP**	**22 17 01.4**	**0.0**
KKUL				IAML_P			
	comp=Z,78nm,0.4s						
ERMK	**Ermenek**	**153.83**	**291**	*i*P	**PKiKP**	**22 17 03.6**	**+1.5**
ERMK				IAML_P			
	comp=Z,169nm,0.3s						
BSD	**Bornholm Skovb**	**154.05**	**343**	*i*P	**PKiKP**	**22 17 01.9**	**+0.2**
BSD	**Bornholm Skovb**	**154.05**	**343**	*i*PKiKP	**PKiKP**	**22 17 01.9**	**+0.2**
LIC	**Lamto**	**154.64**	**163**	*e*P	**PKiKP**	**22 17 03.9**	**-0.3**
	comp=Z,48nm,1.3s						
KIC	**Kosan Boka**	**154.84**	**164**	*e*P	**PKiKP**	**22 17 04.6**	**-0.1**
	comp=Z,40nm,1.3s						
TIC	**Toumodi**	**155.04**	**163**	*e*P	PKPbc	22 17 06.2	
DBIC	**Dimbokro**	**155.11**	**163**	PKP	**PKPdf**	**22 16 57.6**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=222,slow=3.0,SNR=6.8						
EKA	**Eskdalemuir Ar**	**155.19**	**7**	PKPbc	PKPbc	22 17 03.8	
	comp=Z,0.5nm,0.5s,baz=320,slow=2.2,SNR=4.0						
EKA				PKPab	**PKPab**	**22 17 19.6**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=338,slow=2.7,SNR=7.0						
DPC	**Dobruska-Polom**	**157.78**	**336**	*e*PKPAB	**PKPab**	**22 17 31.7**	**+0.3**
DPC	**Dobruska-Polom**	**157.78**	**336**	*e*PKP2	**PKPab**	**22 17 31.7**	**+0.3**
CLL	**Collm**	**157.99**	**342**	*e*PKPab	**PKPab**	**22 17 33.0**	**+0.8**
CLL				*ep*PKPab	**pPKPab**	**22 17 37.0**	**-5.2**
	comp=Z,6.0nm,0.8s						
CLL				*e*		22 17 40.0	
CLL	**Collm**	**157.99**	**342**	*e*PKP2	**PKPab**	**22 17 33.0**	**+0.8**
BRG	**Berggiesshubel**	**158.11**	**340**	*e*PKP	**PKPab**	**22 17 32.2**	**-0.5**
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**158.11**	**340**	*e*PKP2	**PKPab**	**22 17 32.2**	**-0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VYHS	**Vyhne**	**158.24**	**329**	*e*PKP2	**PKPab**	**22 17 32.7**	**-0.8**
VYHS	**Vyhne**	**158.24**	**329**	*e*PKP	**PKPab**	**22 17 32.7**	**-0.8**
KHC	**Kasperske Hory**	**159.75**	**338**	*e*PKPAB	**PKPab**	**22 17 40.2**	**+0.2**
KHC				*ep*PKP	**pPKPab**	**22 17 44.5**	**-5.5**
KHC	**Kasperske Hory**	**159.75**	**338**	*e*PKP2	**PKPab**	**22 17 40.2**	**+0.2**
GERES	**GERESS Array B**	**159.96**	**337**	PKPab	**PKPab**	**22 17 40.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=35,slow=4.9,SNR=6.0						
WTTA	**Wattenberg**	**162.01**	**339**	*e*PKPab	**PKPab**	**22 17 47.4**	**-2.7**
	comp=Z,7.6nm,0.9s						
RETA	**Reutte**	**162.07**	**341**	*e*PKPab	**PKPab**	**22 17 50.4**	**+0.2**
	comp=Z,2.2nm,0.6s						
MOTA	**Moosalm**	**162.10**	**340**	*e*PKPab	**PKPab**	**22 17 51.7**	**+1.2**
	comp=Z,2.3nm,0.6s						
SQTA	**Sankt Quirin**	**162.18**	**339**	*e*PKPab	**PKPab**	**22 17 50.9**	**+0.1**
	comp=Z,7.8nm,1.2s						
TOA0	**Torodi Ar. Sit**	**162.43**	**178**	*e*PKPdf	**PKPdf**	**22 17 05.2**	**+0.3**
TOA0				*e*PKPab	**PKPab**	**22 17 52.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**162.43**	**178**	PKP	**PKPdf**	**22 17 04.5**	**-0.4**
	comp=Z,1.9nm,1.0s,baz=117,slow=0.5,SNR=10						
TORD				PKPab	**PKPab**	**22 17 52.6**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=184,slow=3.7,SNR=12						
DAVA	**Damuels**	**162.50**	**342**	*e*PKPab	**PKPab**	**22 17 52.5**	**+0.4**
	comp=Z,6.5nm,1.2s						
DAVOX	**Davos/Dischmat**	**162.96**	**342**	PKPab	**PKPab**	**22 17 54.2**	**-0.1**
	comp=Z,3.7nm,0.5s,baz=318,slow=8.6,SNR=10						

MEX ***06*** *22:03:25.0±0.4, 15.˚98N×99.˚09W, h5km, MD4.4*
NEIC ***06*** *22:03:25.0±0.0, 15.˚97N×99.˚17W, h5km, mb4.5/109, MD4.5(MEX), After MEX.*
NEIC Felt at Marquelia and Ometepec.
ISCJB ***06*** *22:03:27.7±0.4, 16.˚36N±0.˚05×98.˚76W±0.˚02, h16km, mb4.4/114, MS3.6/7, Error ellipse: s-maj=6.8km s-min=3.1km az=13.6*
IDC ***06*** *22:03:27.1±0.8, 16.˚49N×98.˚78W, h0km, mb4.3/18, mb1 4.4/22, mb1mx4.2/54, mbtmp4.2/22, ML3.7/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/35, Error ellipse: s-maj=26.5km s-min=13.3km az=48.0*

ISC 06 22:03:29.1±0.6, 16.˚33N±0.˚06×98.˚83W±0.˚05, h16km, n396, σ0 97/398, mb4.5/114, MS3.6/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**84**	*e*P		**Pg**	**22 03 41.6**	**-0.7**
PNIG				*e*S		**Sn**	**22 03 55.3**	**+1.0**
VHO	**Vista Hermosa**	**2.14**	**69**	*i*P		**Pn**	**22 04 04.1**	**-0.3**
VHO				*i*S		**Sb**	**22 04 33.5**	**-0.5**
HUIG	**Huatulco**	**2.67**	**102**	*e*P		**Pn**	**22 04 09.4**	**-2.1**
HUIG				*i*S		**Sn**	**22 04 43.6**	**+0.1**
UNM	**Universidad Na**	**3.00**	**354**	*e*Pg		**Pb**	**22 04 23.4**	**+0.9**
UNM				*e*Sn		**Sg**	**22 05 04.7**	**-1.1**
CMIG	**Matias Romero**	**3.85**	**78**	*e*P		**Pn**	**22 04 26.4**	**-1.3**
CMIG				*i*S		**Sn**	**22 05 15.9**	**+3.1**
CMIG	**Matias Romero**	**3.85**	**78**	Pn		**Pn**	**22 04 26.2**	**-1.5**
	3.9nm,0.3s,baz=263,slow=11,SNR=35							
CMIG				Sn		**Sn**	**22 05 11.9**	**-0.8**
	14nm,0.3s,baz=267,slow=18,SNR=4.4							
CMIG				Lg		Lg	22 05 26.7	
	17nm,0.3s,baz=2.5,slow=20,SNR=4.1							
CMIG				LR		LR	22 06 06.0	
	comp=Z,522nm,20.7s,baz=274,slow=42							
MOIG	**Morelia**	**4.02**	**326**	*e*Pn		**Pb**	**22 04 37.9**	**-1.9**
MOIG				*e*Sn		**Sb**	**22 05 30.0**	**+1.8**
LVIG	**Laguna Verde**	**4.08**	**34**	*e*Pn		**Pn**	**22 04 28.9**	**-2.0**
CCIG	**Comitan**	**6.42**	**89**	*e*Pn		**Pn**	**22 05 04.0**	**+0.7**
ZAIG	**Zacatecas**	**7.32**	**332**	*e*Pn		**Pn**	**22 05 16.9**	**+1.3**

APG	**El Apazote**	**8.16**	**98**	Pn		**Pn**	**22 05 27.1**	**-0.1**
	0.5nm,0.3s,baz=285,slow=12,SNR=2.3							
APG				Sn		**Sn**	**22 07 00.7**	**+1.4**
	1.4nm,0.3s,baz=310,slow=17,SNR=2.5							
H06E1	**SOCORRO T-PHASE**	**11.80**	**284**	T		T	22 18 07.7	
	SNR=22							
LPIG	**La Paz**	**13.26**	**308**	LR		LR	22 11 47.1	
	comp=Z,188nm,19.0s,baz=41,slow=38							
TXAR	**Lajitas Array**	**13.69**	**342**	Pn		**Pn**	**22 06 44.3**	**+1.5**
	baz=158,slow=11,SNR=1.7							
TXAR				Lg		Lg	22 10 36.4	
	0.1nm,0.3s,baz=157,slow=31,SNR=3.5							
TXAR				LR		LR	22 12 03.1	
	comp=Z,172nm,21.0s,baz=0.0,slow=38							
JCT	**Junction City**	**14.12**	**357**	*e*Pn		**P**	**22 06 55.3**	**-0.8**
435B	**Jarrell**	**14.44**	**4**	*e*Pn		**P**	**22 06 58.7**	**-0.9**
JTS	**JuntasAbangare**	**14.77**	**112**	*e*Pn		**P**	**22 07 01.5**	**-2.0**
WHTX	**Lake Whitney,**	**15.64**	**4**	*e*Pn		**P**	**22 07 14.2**	**+1.1**
	34nm,0.8s							
WHTX	**Lake Whitney,**	**15.64**	**4**	P		**Pn**	**22 07 10.5**	**+1.5**
	baz=186,SNR=9.3							
ABTX	**Abilene, Hawle**	**16.24**	**358**	*e*Pn		**Pn**	**22 07 16.6**	**-0.1**
	17nm,1.0s							
ABTX	**Abilene, Hawle**	**16.24**	**358**	P		**P**	**22 07 18.3**	**-1.4**
	baz=178							
MNTX	**Cornudas Mount**	**16.43**	**340**	*e*Pn		**Pn**	**22 07 19.0**	**0.0**
	5.8nm,1.0s							
**MNTX

Y53A	**Monroe** baz=222	22.20	35	P	P	22 08 24.7	-0.2		
W50A	**Signal Mountai** 16nm,0.8s	22.35	30	eP	P	22 08 27.8	+1.4		
W50A	**Signal Mountai** baz=216	22.35	30	P	P	22 08 26.3	-0.2		
Y12C	**Blythe** 13nm,0.9s	22.38	324	eP	P	22 08 28.3	+1.5		
Y12C	**Blythe** baz=138	22.38	324	P	P	22 08 27.5	+0.7		
257A	**Skidaway Islan** baz=230	22.45	43	P	P	22 08 27.1	-0.4		
S22A	**4UR Ranch, Cre** 16nm,1.0s	22.48	343	eP	P	22 08 29.1	+1.0		
S22A	**4UR Ranch, Cre** baz=161,SNR=11	22.48	343	P	P	22 08 28.5	+0.4		
MVCO	**Mesa Verde** 29nm,1.1s	22.50	339	eP	P	22 08 28.6	+0.3		
MVCO	**Mesa Verde** baz=156,SNR=11	22.50	339	P	P	22 08 28.4	+0.2		
S42A	**Caledonia** baz=201	22.50	17	P	P	22 08 27.7	-0.4		
U47A	**Clarksville** baz=210	22.50	25	P	P	22 08 28.5	+0.5		
V49A	**McMinnville** baz=214	22.53	28	P	P	22 08 28.3	0.0		
PDMCI	**Parker Dam,Lak** baz=140	22.58	325	P	P	22 08 28.4	-0.5		
W51A	**Cleveland** baz=218	22.59	31	P	P	22 08 28.2	-0.7		
X52A	**Dahlonega** baz=220	22.60	34	P	P	22 08 28.6	-0.5		
CCM	**Cathedral Cave** 6.2nm,0.7s	22.65	16	eP	P	22 08 28.1	-1.5		
CCM	**Cathedral Cave** baz=200	22.65	16	P	P	22 08 29.5	-0.1		
Y54A	**Tignall** baz=224,SNR=6.3	22.71	37	P	P	22 08 29.8	-0.5		
KSU1	**Kansas State U** 18nm,0.7s	22.77	4	eP	P	22 08 30.5	-0.4		
KSU1	**Kansas State U** baz=186	22.77	4	P	P	22 08 30.8	0.0		
FVM	**French Village** 12nm,0.7s	22.81	17	eP	P	22 08 28.5	-2.8		
V50A	**Pikeville** baz=216	22.83	30	P	P	22 08 31.9	+0.4		
X53A	**Estanollee** baz=222	22.84	35	P	P	22 08 31.4	-0.2		
KSCO	**Kaye Shedlock'** 20nm,0.8s	22.84	352	eP	P	22 08 30.6	-1.2		
KSCO	**Kaye Shedlock'** baz=172	22.84	352	P	P	22 08 31.8	0.0		
R41A	**Rosebud** baz=199,SNR=6.0	22.85	15	P	P	22 08 31.4	-0.3		
U48A	**Cassie Pea, Po** baz=212,SNR=5.3	22.87	26	P	P	22 08 32.2	+0.3		
S44A	**Carbondale** baz=205,SNR=5.9	22.90	20	P	P	22 08 32.5	+0.3		
SIUC	**Southern Illin** 26nm,0.7s	22.93	20	eP	P	22 08 33.7	+1.2		
CPCT	**Cooper Cave** 26nm,1.1s	22.93	31	eP	P	22 08 33.4	+0.7		
W52A	**Murphy** 34nm,1.1s	22.96	33	eP	P	22 08 33.7	+0.8		
W52A	**Murphy** baz=219	22.96	33	P	P	22 08 33.0	+0.1		
R42A	**Luebbering** baz=201	22.98	16	P	P	22 08 33.0	-0.1		
IRM	**Iron Mountain** baz=138,SNR=11	23.03	323	P	P	22 08 34.0	+0.3		
W13A	**Hualapai Mount** 3.9nm,0.8s	23.05	327	eP	P	22 08 36.3	+2.3		
T47A	**Sharon Grove** 28nm,1.0s	23.05	25	eP	P	22 08 34.5	+0.7		
T47A	**Sharon Grove** baz=210,SNR=5.1	23.05	25	P	P	22 08 33.8	0.0		
U49A	**Red Boiling Sp** baz=214	23.21	27	P	P	22 08 34.8	-0.6		
Q24A	**Divide** baz=166	23.22	347	P	P	22 08 35.9	0.0		
R43A	**Red Bud** baz=203,SNR=9.4	23.22	18	P	P	22 08 36.1	+0.5		
Y55A	**Saluda** baz=225	23.25	38	P	P	22 08 35.9	0.0		
V51A	**Loudon** 28nm,0.9s	23.30	31	eP	P	22 08 36.8	+0.5		
V51A	**Loudon** baz=218	23.30	31	P	P	22 08 36.6	+0.2		
U15A	**North Rim** 9.7nm,0.8s	23.32	332	eP	P	22 08 35.2	-1.7		
PV01	**Paradox Valley** 4.2nm,0.9s	23.36	340	eP	P	22 08 37.9	+0.7		
W53A	**Cullowhee** baz=221	23.42	34	P	P	22 08 37.5	-0.1		
BELC	**Belle Mtn. Jos** baz=136	23.42	322	P	P	22 08 37.5	-0.2		
PFO	**Pinyon Flats O** 1.6nm,0.3s,baz=127,slow=6.3,SNR=3.6	23.43	321	P	P	22 08 38.1	+0.3		
T48A	**Bowling Green** baz=212	23.45	26	P	P	22 08 38.1	+0.3		
R44A	**Waltonville** baz=204	23.46	20	P	P	22 08 37.8	-0.1		
TKL	**Tuckaleechee C** 4.9nm,0.9s,baz=206,slow=8.9,SNR=3.6	23.47	32	P	P	22 08 37.8	-0.3		
Q41A	**Truxton** baz=199,SNR=12	23.50	15	P	P	22 08 37.6	-0.7		
Z57A	**Bowman** baz=228	23.52	41	P	P	22 08 38.0	-0.6		
PV15	**Paradox Valley** 18nm,1.0s	23.52	341	eP	P	22 08 39.9	+1.1		
Q42A	**Golden Eagle** baz=201,SNR=10	23.65	16	P	P	22 08 39.4	-0.3		
PV07	**Paradox Valley** 20nm,1.2s	23.66	340	eP	P	22 08 41.1	+0.9		
S47A	**Hartford** baz=210	23.67	24	P	P	22 08 39.6	-0.3		
V52A	**Sevierville** baz=219	23.71	32	P	P	22 08 40.1	-0.2		
PV14	**Lion Creek, Pa** 12nm,0.8s	23.72	340	eP	P	22 08 45.4	+4.7		
X55A	**Gracelyn & Ava** baz=225	23.76	37	P	P	22 08 40.6	-0.2		
GMRC	**Granite Mounta** baz=138	23.78	324	P	P	22 08 40.4	-0.8		
PV23	**Carpenter Ridg** 12nm,0.8s	23.79	340	eP	P	22 08 43.9	+2.4		
T49A	**Edmonton** baz=213	23.81	27	P	P	22 08 41.3	0.0		
SMCO	**Snowmass** 13nm,0.9s	23.86	344	eP	P	22 08 43.1	+0.9		
W54A	**Cherokee Point** baz=223	23.89	35	P	P	22 08 41.8	-0.3		
Q43A	**New Douglas** baz=202	23.91	18	P	P	22 08 42.1	-0.1		
U51A	**La Follette** baz=217	23.92	31	P	P	22 08 42.4	0.0		
V53A	**Saluda** baz=221	23.98	34	P	P	22 08 43.4	+0.3		
T50A	**Nancy** baz=215	24.05	28	P	P	22 08 43.7	+0.1		
S48A	**Wiedeman Farm,** baz=212	24.05	25	P	P	22 08 43.7	+0.1		
Q44A	**Meyer Farm, Va** 26nm,0.8s	24.08	19	eP	P	22 08 44.0	+0.2		
Q44A	**Meyer Farm, Va** baz=204	24.08	19	P	P	22 08 43.6	-0.3		
Z58A	**St. Stephen** baz=230	24.11	42	P	P	22 08 43.8	-0.4		
ISCO	**Idaho Springs** 6.9nm,0.7s	24.12	347	eP	P	22 08 44.9	+0.2		
ISCO	**Idaho Springs** baz=165,SNR=8.2	24.12	347	P	P	22 08 44.5	-0.1		
X56A	**White Oak** baz=226	24.13	38	P	P	22 08 44.0	-0.4		
P41A	**Barry, Barry** baz=199,SNR=6.3	24.23	15	P	P	22 08 44.3	-0.9		
LCMT	**Little Creek M** 6.5nm,0.9s	24.24	331	eP	P	22 08 46.9	+1.4		
U52A	**Thorn Hill** baz=219	24.25	32	P	P	22 08 45.0	-0.5		
TZTN	**Tazewell** baz=218	24.28	31	P	P	22 08 44.9	-0.8		
P42A	**Winchester** 29nm,0.9s	24.33	16	eP	P	22 08 46.0	-0.1		
P42A	**Winchester** baz=201,SNR=6.1	24.33	16	P	P	22 08 45.5	-0.7		
Q45A	**Warren Harvey,** baz=206	24.35	21	P	P	22 08 45.9	-0.4		
R47A	**Wooly Knot Far** baz=210,SNR=6.4	24.41	24	P	P	22 08 46.6	-0.3		
T51A	**Gray** baz=217	24.42	30	P	P	22 08 46.9	-0.1		
WCI	**Wyandotte Cave** 22nm,1.0s	24.45	24	eP	P	22 08 47.4	+0.2		
WCI	**Wyandotte Cave** baz=210	24.45	24	P	P	22 08 47.0	-0.2		
S49A	**Springfield** baz=213	24.48	27	P	P	22 08 47.2	-0.4		
V54A	**Nebo** baz=222	24.53	35	P	P	22 08 47.0	-1.1		
Y58A	**Scranton** baz=229	24.57	41	P	P	22 08 47.5	-0.8		
P43A	**Skaggs, Pawnee** baz=202	24.61	17	P	P	22 08 48.3	-0.3		
MTPU	**Mount Pierson** 16nm,1.1s	24.62	334	eP	P	22 08 51.0	+1.7		
OGNE	**Ogallala** 48nm,1.1s	24.69	354	eP	P	22 08 51.3	+1.8		
OGNE	**Ogallala** baz=174	24.69	354	P	P	22 08 49.5	0.0		
O41A	**Passleys Farm,** baz=199,SNR=6.1	24.69	15	P	P	22 08 48.7	-0.7		
CCUT	**Cedar City** 3.3nm,0.8s	24.73	332	eP	P	22 08 51.8	+1.6		
R48A	**Northridge Ran** baz=211	24.76	25	P	P	22 08 49.0	-1.1		
SHPR	**Sheep Range** 7.8nm,1.1s	24.79	327	eP	P	22 08 52.3	+1.7		
S50A	**Richmond** baz=215	24.79	28	P	P	22 08 49.9	-0.4		
GSC	**Goldstone, Bar** 10nm,1.0s	24.80	323	eP	P	22 08 53.2	+2.6		
GSC	**Goldstone, Bar** baz=136	24.80	323	P	P	22 08 51.0	+0.4		
SRU	**San Rafael Swe** 14nm,1.0s	24.90	338	eP	P	22 08 52.3	+0.7		
Q16A	**Castle Valley** 10nm,1.1s	24.97	337	eP	P	22 08 53.6	+1.4		
V55A	**Taylorsville** baz=224	24.99	36	P	P	22 08 51.5	-0.7		
Q47A	**Bedord North L** baz=210	25.01	23	P	P	22 08 51.8	-0.5		
O20A	**White River Ci** 22nm,1.0s	25.10	343	eP	P	22 08 50.9	-2.5		
T53A	**Wise** baz=220	25.13	32	P	P	22 08 53.1	-0.4		
X58A	**Rowland** baz=229	25.20	40	P	P	22 08 54.1	0.0		
EDW2	**Edwards Air Fo** baz=134	25.22	321	P	P	22 08 54.4	+0.1		
N23A	**Red Feather La** 15nm,1.1s	25.25	347	eP	P	22 08 56.1	+1.3		
N23A	**Red Feather La** baz=165	25.25	347	P	P	22 08 53.9	-0.8		
N41A	**Harden Midland** 24nm,0.8s	25.26	14	eP	P	22 08 53.9	-0.7		
N41A	**Harden Midland** baz=199	25.26	14	P	P	22 08 53.8	-0.7		
N40A	**Mertquake, Sal** baz=197	25.26	13	P	P	22 08 54.0	-0.6		
Q48A	**North Vernon** baz=211,SNR=5.3	25.27	24	P	P	22 08 54.3	-0.4		
P17A	**Butcher Ranch,** 9.2nm,1.0s	25.30	338	eP	P	22 08 57.9	+2.8		
TMUT	**Trail Mountain** 9.9nm,0.8s	25.32	337	eP	P	22 08 56.4	+0.9		
P46A	**Rosedale** baz=207	25.32	21	P	P	22 08 55.3	+0.2		
LRMC	**Laurel Mtn Rad** baz=135	25.44	322	P	P	22 08 55.7	-0.7		
HDIL	**Hopedale** 35nm,0.8s	25.52	17	eP	P	22 08 56.8	-0.2		
HDIL	**Hopedale** baz=202,SNR=6.4	25.52	17	P	P	22 08 56.6	-0.3		
PHWY	**Pilot Hill** 11nm,0.9s	25.54	348	eP	P	22 08 58.6	+1.2		
U55A	**TA2, Sparta** baz=223	25.55	35	P	P	22 08 56.6	-0.8		
Y60A	**Bolivia** baz=231	25.56	43	P	P	22 08 56.6	-0.7		
N42A	**Yates City** baz=200	25.58	16	P	P	22 08 56.6	-0.8		
R51A	**Hillsboro** baz=216	25.67	29	P	P	22 08 58.6	+0.3		
T54A	**Tazewell** baz=221	25.68	33	P	P	22 08 58.7	+0.1		
SCZ2	**Santa Cruz Isl** baz=129	25.69	317	P	P	22 08 59.1	+0.5		
TPNV	**Topopah Spring** 18nm,1.1s	25.69	326	eP	P	22 09 01.9	+3.2		
TPNV	**Topopah Spring** baz=140	25.69	326	P	P	22 08 59.0	+0.2		
M39A	**Webster** baz=195	25.71	12	P	P	22 08 57.7	-1.0		
O45A	**Potomac** baz=206	25.72	20	P	P	22 08 58.8	+0.1		
MPMC	**Manual Prospec** baz=136	25.73	323	P	P	22 08 58.8	-0.3		
M40A	**Post Highland** baz=197	25.78	13	P	P	22 08 58.1	-1.1		
P48A	**Milroy** baz=211	25.85	24	P	P	22 08 59.2	-0.7		
S53A	**Williamson** baz=219	25.88	31	P	P	22 08 59.4	-0.8		
N43A	**Stutzman Famil** baz=202,SNR=5.2	25.91	17	P	P	22 08 59.6	-0.8		
Q50A	**Georgetown** baz=214	25.93	27	P	P	22 08 59.5	-1.2		
SCIA	**State Center** baz=193	25.95	10	P	P	22 09 00.1	-0.7		
M41A	**Milan** baz=199	25.97	14	P	P	22 09 00.1	-0.8		
SFIN	**Lafayette** baz=207	26.04	21	P	P	22 09 00.9	-0.7		
N44A	**Piper City** baz=204	26.08	19	P	P	22 09 01.2	-0.8		
R52A	**Catlettsburg** baz=218	26.14	30	P	P	22 09 02.2	-0.4		
T55A	**Pulaski** baz=222	26.15	34	P	P	22 09 01.7	-1.1		
P49A	**Miami Univ. Ec** baz=212	26.20	25	P	P	22 09 02.0	-1.1		
NLU	**North Lily Min** 6.1nm,1.0s	26.22	336	eP	P	22 09 04.6	+1.1		
M42A	**Sheffield** baz=200	26.23	16	P	P	22 09 03.5	+0.1		
O47A	**Sheridan** baz=209	26.24	22	P	P	22 09 02.6	-0.9		
CWC	**Cottonwood Cre** baz=136	26.34	323	P	P	22 09 04.9	+0.3		
SDDR	**Presa de Saban** 12nm,1.0s	26.36	80	eP	P	22 09 06.0	+1.2		
Q51A	**Peebles** baz=215	26.36	28	P	P	22 09 05.2	+0.6		
R11A	**Troy Canyon, C** 3.7nm,1.0s	26.43	329	eP	P	22 09 08.9	+3.5		
R11A	**Troy Canyon, C** baz=143	26.43	329	P	P	22 09 06.1	+0.7		
M43A	**Waltham Townsh** baz=202	26.43	17	P	P	22 09 05.0	-0.1		
R53A	**Hurricane** baz=219	26.47	31	P	P	22 09 05.8	+0.3		
L41A	**Preston** baz=198	26.64	14	P	P	22 09 07.0	0.0		
O48A	**Farmland** baz=211,SNR=5.6	26.64	24	P	P	22 09 06.2	-0.9		
P50A	**Jamestown** baz=214	26.65	27	P	P	22 09 06.9	-0.2		
M44A	**Midewin, Midew** baz=204	26.65	18	P	P	22 09 07.1	-0.1		
DUG	**Dugway, Tooele** 4.1nm,1.0s	26.71	336	eP	P	22 09 08.7	+0.7		
DUG	**Dugway, Tooele** baz=150	26.71	336	P	P	22 09 08.3	+0.4		
L42A	**Oliver, Polo** 28nm,0.9s	26.77	15	eP	P	22 09 08.0	-0.3		
L42A	**Oliver, Polo** baz=200,SNR=6.1	26.77	15	P	P	22 09 07.8	-0.4		
Q52A	**Bidwell** baz=218	26.81	30	P	P	22 09 08.4	-0.2		
R54A	**Victor** baz=221	26.84	32	P	P	22 09 08.8	-0.1		
M45A	**Boilermakers S** baz=206	26.90	19	P	P	22 09 09.6	+0.2		
O49A	**Covington** baz=212	26.91	25	P	P	22 09 09.5	0.0		
K39A	**Oelwein** baz=195	26.95	11	P	P	22 09 09.4	-0.5		
N47A	**Urbana** baz=209	26.98	22	P	P	22 09 09.7	-0.4		
K40A	**Colesburg** baz=197	27.10	13	P	P	22 09 10.7	-0.4		
O50A	**Cable** baz=214	27.17	26	P	P	22 09 11.0	-0.8		
K41A	**Shullsburg** baz=199	27.19	14	P	P	22 09 11.6	-0.4		
N48A	**Decatur** baz=210	27.21	23	P	P	22 09 11.6	-0.6		
ECSD	**EROS Data Cent** 5.7nm,0.8s	27.38	3	eP	P	22 09 12.9	-0.8		
ECSD	**EROS Data Cent** baz=185	27.38	3	P	P	22 09 13.0	-0.7		
JFWS	**Jewell Farm** baz=198	27.50	14	P	P	22 09 14.8	+0.1		
ACSO	**Alum Creek Sta** baz=215	27.51	27	P	P	22 09 14.8	-0.2		
K42A	**Prairie Point,** baz=200	27.58	15	P	P	22 09 15.4	-0.2		
N49A	**Columbus Grove** baz=212	27.59	24	P	P	22 09 15.4	-0.2		
J39A	**Decorah** baz=195	27.60	11	P	P	22 09 15.3	-0.3		
P53A	**Whipple** baz=218	27.64	30	P	P	22 09 15.6	-0.5		
NV11	**Mina Array Sit** 0.4nm,1.0s	27.81	326	eP	P	22 09 19.1	+1.3		
M48A	**Edgerton** baz=210	27.87	23	P	P	22 09 17.9	-0.2		
NV01	**Mina Array Sit**	27.88	326	eP	P	22 09 19.5	+1.0		
NVAR	**Mina Array Bea** 3.1nm,0.9s,baz=145,slow=9.8,SNR=5.4	27.88	326	P	P	22 09 18.4	-0.2		
NVAR	comp=Z,192nm,18.3s,baz=152,slow=39			LR	LR	22 21 29.1			
BW06	**Boulder Array** 6.1nm,1.0s	27.91	343	eP	P	22 09 18.7	0.0		
BW06	**Boulder Array** baz=158	27.91	343	P	P	22 09 18.3	-0.4		
PD31	**Pinedale Array** 6.5nm,1.0s	27.91	343	eP	P	22 09 19.1	+0.4		
PDAR	**Pinedale Array** 4.8nm,0.9s,baz=142,slow=9.7,SNR=21	27.91	343	P	P	22 09 18.2	-0.5		
PDAR	comp=Z,168nm,20.9s,baz=169,slow=38			LR	LR	22 20 52.3			
RSSD	**Black Hills** baz=170	28.06	352	P	P	22 09 20.1	+0.1		
HVU	**Hansel Valley** 7.0nm,1.0s	28.07	337	eP	P	22 09 21.5	+1.4		
L47A	**Sherwood** baz=209	28.12	22	P	P	22 09 20.1	-0.2		
I39A	**Houston** baz=196	28.13	11	P	P	22 09 20.1	-0.3		
J42A	**Columbus** baz=200	28.14	15	P	P	22 09 20.3	-0.3		
ELK	**Elko** comp=Z,209nm,19.2s,baz=160,slow=36	28.18	333	LR	LR	22 20 22.2			
KVN	**Kaiserville** 6.1nm,1.2s	28.23	327	eP	P	22 09 22.8	+1.2		
L48A	**N Adams** baz=210	28.37	23	P	P	22 09 21.8	-0.7		
SDV	**Santo Domingo** 7.7nm,1.0s,baz=311,slow=6.6,SNR=6.8	28.46	102	P	P	22 09 24.0	+0.1		
SDV	comp=Z,69nm,19.3s,baz=258,slow=39			LR	LR	22 22 06.6			
REDW	**Red Top Meadow** 3.3nm,0.7s	28.83	342	eP	P	22 09 27.6	+0.7		
I43A	**Langenfeld Bro** baz=202	28.93	16	P	P	22 09 27.4	-0.1		
H39A	**Augusta** baz=196	28.97	11	P	P	22 09 27.1	-0.8		
TPAW	**Teton Pass** 4.8nm,1.0s	28.98	342	eP	P	22 09 30.4	+2.1		
LOHW	**Long Hollow** 4.9nm,0.8s	28.98	342	eP	P	22 09 29.0	+0.7		
FXWY	**Fox Creek** 5.0nm,1.0s	29.13	342	eP	P	22 09 30.2	+0.6		
MOOW	**Moose Ponds** 3.3nm,0.9s	29.15	342	eP	P	22 09 30.2	+0.5		
H41A	**Junction City** baz=199	29.25	13	P	P	22 09 29.8	-0.5		
SPMN	**Marine on St.** baz=192	29.25	9	P	P	22 09 30.1	-0.3		
IMW	**Indian Meadow** 5.9nm,1.0s	29.34	342	eP	P	22 09 32.2	+0.6		
G39A	**Holcombe** baz=196	29.58	11	P	P	22 09 34.1	+0.8		
G40A	**Rib Lake** baz=197	29.75	12	P	P	22 09 34.7	-0.1		
RLMT	**Red Lodge** 3.4nm,0.8s	30.02	345	eP	P	22 09 38.6	+1.1		
RLMT	**Red Lodge** baz=160	30.02	345	P	P	22 09 38.0	+0.6		
M54A	**Oil Creek Stat** baz=219	30.04	29	P	P	22 09 37.6	+0.1		
J49A	**Marlette** baz=211	30.08	23	P	P	22 09 37.1	-0.5		
YHH	**Holmes Hill** 2.3nm,1.0s	30.13	343	eP	P	22 09 40.0	+1.4		
H45A	**Beulah** baz=205	30.20	18	P	P	22 09 38.6	-0.1		
HLID	**Hailey** 3.8nm,1.0s	30.21	337	eP	P	22 09 39.6	+0.4		
HLID	**Hailey** baz=150	30.21	337	P	P	22 09 39.1	-0.1		
G43A	**Wallace** baz=202	30.32	16	P	P	22 09 40.0	+0.2		
F40A	**Park Falls** baz=197	30.39	12	P	P	22 09 40.3	-0.2		
M55A	**Ridgway** baz=221	30.44	31	P	P	22 09 40.9	-0.1		
ATAH	**Atahualpa** comp=Z,73nm,20.4s,baz=313,slow=31	30.86	138	LR	LR	22 19 30.6			
E40A	**Wakefield** baz=197	30.94	12	P	P	22 09 44.6	-0.6		
F43A	**Flat Rock, Esc** baz=202	30.99	16	P	P	22 09 45.4	-0.3		
J52A	**Paris** baz=216	31.05	26	P	P	22 09 46.1	-0.2		
BOZ	**Bozeman (W)** baz=157,SNR=5.2	31.09	342	P	P	22 09 47.5	+0.7		
E41A	**Kenton** baz=199	31.15	13	P	P	22 09 46.9	-0.2		
DLMT	**Dillon** 6.9nm,0.9s	31.17	341	eP	P	22 09 49.1	+1.6		
I51A	**Listowel** baz=215	31.28	25	P	P	22 09 48.4	+0.1		
F45A	**CMU Biological** baz=206	31.32	18	P	P	22 09 47.9	-0.7		
F44A	**Big Bay de Noc** baz=204	31.32	17	P	P	22 09 48.6	-0.1		
MDND	**Maddock** 65nm,1.0s	31.44	359	eP	P	22 09 50.2	+0.5		
MDND	**Maddock** baz=179	31.44	359	P	P	22 09 50.2	+0.5		
E43A	**Lone Tree Farm** baz=202	31.54	16	P	P	22 09 50.5	-0.1		
J08A	**Circle Bar Ran** 8.4nm,0.8s	31.71	332	eP	P	22 09 53.4	+1.1		
AGMN	**Agassiz Nation** 5.1nm,0.4s	31.98	4	eP	P	22 09 54.3	-0.1		
AGMN	**Agassiz Nation** baz=186,SNR=12	31.98	4	P	P	22 09 53.7	-0.7		
E46A	**Sault Ste Mari** baz=207	32.30	19	P	P	22 09 56.7	-0.6		
BINY	**Binghamton** baz=224	32.38	33	P	P	22 09 57.2	-0.8		
BMO	**Blue Mountains** 4.6nm,1.1s	32.42	335	eP	P	22 09 58.4	-0.1		
F49A	**Sandfield** baz=211	32.54	22	P	P	22 09 59.1	-0.2		
D46A	**Sault St. Mari** baz=207	32.86	19	P	P	22 10 01.0	-1.1		
MSO	**Missoula** baz=153	32.90	341	P	P	22 10 02.0	-0.7		
BUKO	**Buck Lake** baz=216	33.29	25	P	P	22 10 05.1	-0.8		
D47A	**Chapleau** baz=209	33.30	20	P	P	22 10 05.6	-0.4		
F10A	**Beach Ranch, E** 14nm,0.8s	33.32	336	eP	P	22 10 06.6	+0.3		
DELO	**Deloro Mine** baz=219	33.32	28	P	P	22 10 05.9	-0.3		
G53A	**Haliburton** baz=217	33.36	26	P	P	22 10 06.3	-0.2		
G08A	**Pilot Rock**	33.46	334	eP	P	22 10 07.6	0.0		

5.4nm,0.9s
F51A Arnstein 33.48 24 P P 22 10 07.5 -0.1
baz=214
D48A Paudash Townsh 33.84 21 P P 22 10 10.5 -0.2
baz=211
ULM Lac du Bonnet 33.92 3 eP P 22 10 10.6 -0.8
ULM Lac du Bonnet 33.92 3 P P 22 10 09.8 -1.6
6.8nm,0.9s,baz=193,slow=8.4,SNR=9.1
ULM LR LR 22 26 32.4
comp=Z,70nm,21.8s,baz=315,slow=41
G05D Wamic, OR 34.46 331 P P 22 10 16.3 +0.1
baz=140
H04D Lebanon 34.60 329 P P 22 10 17.7 +0.3
baz=138
E53A Dumoine, Ponti 34.76 26 P P 22 10 18.9 +0.1
baz=218
E54A Lac Daplat, Po 35.01 26 P P 22 10 20.6 -0.2
baz=218
F05D White Salmon 35.02 332 P P 22 10 21.3 +0.3
baz=141
NEW Newport 35.22 339 P P 22 10 22.9 +0.2
baz=149
NEW Newport 35.22 339 P P 22 10 21.2 -1.5
1.8nm,0.7s,baz=144,slow=8.7,SNR=2.8
C09A Chrisman Ranch 35.24 337 eP P 22 10 23.2 +0.4
9.4nm,0.8s
G03D McMinnville, O 35.36 330 P P 22 10 23.9 +0.1
baz=138
LTY Liberty 35.75 334 eP P 22 10 27.9 +0.6
8.6nm,1.1s
LSQQ Lebel-sur-Quev 37.19 24 P P 22 10 39.0 -0.4
baz=216
MATQ Matagami 37.51 23 P P 22 10 42.4 +0.2
baz=215
FFC Flin Flon 38.40 357 eP P 22 10 49.0 -0.6
9.1nm,0.9s
SCHQ Schefferville 45.65 25 P P 22 11 48.3 -0.5
4.5nm,0.6s,baz=224,slow=7.8,SNR=8.9
YKA Yellowknife Ar 47.43 350 P P 22 12 02.0 -0.6
2.6nm,0.9s,baz=159,slow=7.5,SNR=8.4
EGAK Eagle 56.18 340 eP P 22 13 07.3 -0.7
5.3nm,1.0s
INK Inuvik 56.44 345 eP P 22 13 08.6 -1.1
INK Inuvik 56.44 345 P P 22 13 08.3 -1.4
3.3nm,0.8s,baz=121,slow=9.3,SNR=8.9
DOT Dot Lake 56.51 338 eP P 22 13 11.2 +0.8
7.2nm,1.1s
PAX Paxson 56.66 337 eP P 22 13 11.8 +0.3
2.9nm,0.9s
RIDG Independ'e Rid 56.85 338 eP P 22 13 13.6 +0.8
5.8nm,0.8s
HDA Harding Lake 57.99 338 eP P 22 13 20.2 -0.5
2.9nm,0.9s
HDA Harding Lake 57.99 338 P P 22 13 20.3 -0.5
baz=123
SUA Susitna One 58.03 334 eP P 22 13 21.6 +0.4
12nm,1.2s
PRP Porcupine Dome 58.10 339 eP P 22 13 22.0 +0.3
6.8nm,1.2s
IL1 Eielson Array 58.17 338 eP P 22 13 21.3 -0.7
ILAR Eielson Array 58.17 338 P P 22 13 21.2 -0.8
2.4nm,0.9s,baz=138,slow=4.6,SNR=19
ILB Eielson Array 58.17 338 eP P 22 13 22.3 +0.3
6.4nm,1.1s
RND Reindeer 58.19 336 eP P 22 13 23.2 +1.0
8.2nm,1.0s
MCK McKinley 58.39 336 eP P 22 13 23.7 +0.1
5.8nm,0.9s
WRH Wood River Hil 58.45 337 eP P 22 13 23.9 0.0
6.1nm,1.1s
CPUP Villa Florida 58.52 136 P P 22 13 25.3 +0.3
2.0nm,0.9s,baz=356,slow=0.9,SNR=3.4
POKR Poker Plat Res 58.55 338 P P 22 13 24.2 -0.5
baz=123
TCOL CIGO, UAF Yank 58.58 338 P P 22 13 25.1 +0.3
baz=122
TRF Thorofare Moun 58.77 336 eP P 22 13 26.6 +0.1
5.7nm,0.8s
BWN Browne 58.81 337 eP P 22 13 26.6 +0.1
18nm,0.8s
BDFB Brasilia 59.36 120 P P 22 13 32.4 +1.2
2.1nm,0.5s,baz=267,slow=13,SNR=3.7
CAST Castle Rocks 59.48 335 eP P 22 13 30.6 -0.6
6.8nm,1.2s
MLY Manley 59.71 337 eP P 22 13 32.9 +0.1
6.3nm,1.0s
TOLK Toolik Lake Re 61.15 341 P P 22 13 42.3 -0.2
baz=122
PLCA Paso Flores 62.55 156 P P 22 13 53.8 +1.5
3.1nm,1.0s,baz=337,slow=7.7,SNR=3.4
ESDC Sonseca Array 83.41 51 P P 22 15 56.6 +0.6
0.4nm,0.6s,baz=280,slow=6.3,SNR=2.7
SEY Seymchan 83.86 334 P P 22 15 57.3 -0.5
1.0nm,0.3s,baz=15,slow=3.7,SNR=3.7
ARCES ARCESS Array B 85.92 17 LR LR 22 54 10.7
comp=Z,154nm,21.8s,baz=174,slow=36
MA2 Magadan 85.98 331 P P 22 16 07.8 -0.8
2.5nm,0.3s,baz=96,slow=18,SNR=2.7
TIXI Tiksi 86.55 346 eP P 22 16 10.6 -0.5
TIXI Tiksi 86.55 346 P P 22 16 09.7 -1.4
1.7nm,0.3s,baz=68,slow=6.6,SNR=8.1
WRA Warramunga Arr 129.51 257 PKP PKiKP 22 22 40.9 +2.0
0.6nm,0.8s,baz=78,slow=2.2,SNR=3.2
CMAR Chiang Mai Arr 141.26 332 PKP PKPdf 22 22 58.2 -1.9
0.2nm,0.4s,baz=298,slow=1.9,SNR=3.0

NIED **06** *22:04:00,36˚.70N×141˚.10E,h5km,Mw3.9 Best double couple: M₀6.86000×10¹⁴ NP1:φs57.00000°,δ60.00000°, λ-24.00000°. NP2:φs159.00000°,δ70.00000°, λ-148.00000°.*

IDC **06** *22:04:22.6±0.7,36˚.70N×141˚.02E,h0km,mb3.8/12, mb1 4.0/15,mb1mx3.8/61,mbtmp3.8/15,ML3.5/3,MS2.7/3, Ms1 2.7/3,ms1mx2.5/39,Error ellipse: s-maj=22.0km s-min=15.6km az=101.0*

ISCJB **06** *22:04:24.9±0.4,36˚.71N±0˚.02×141˚.14E±0˚.04,h32km, mb3.8/16,Error ellipse: s-maj=4.9km s-min=3.4km az=5.6*

JMA **06** *22:04:24.8±0.1,36˚.70N×141˚.10E,h27km±1km,M4.2*

JMA Felt III J1.

NEIC **06** *22:04:27.2±2.2,36˚.71N×141˚.10E,h33km±16km,mb4.0/4, Error ellipse: s-maj=9.8km s-min=7.5km az=104.0*

ISC 06 22:04:26.4±0.5,36˚.70N±0˚.03×141˚.06E±0˚.05,h32km,n54, σ2s11/65,mb3.8/16,6C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.40**	**258**	⇑P	**Pb**	**22 04 33.6**	**-1.9**
JHO				S	**Sb**	**22 04 40.3**	**-1.4**
ONAJ	**Iwakimizuishiy**	**0.46**	**333**	⇑P	**Pb**	**22 04 34.2**	**-2.2**
ONAJ				S	**Sb**	**22 04 41.3**	**-1.9**
JHYU	**Hitachinakayam**	**0.52**	**227**	P	**Pb**	**22 04 35.9**	**-1.3**
JHYU				S	**Sb**	**22 04 43.9**	**-0.8**
JFFD	**Fukushimafurud**	**0.56**	**315**	⇑P	**Pb**	**22 04 36.1**	**-1.9**
JFFD				S	**Sb**	**22 04 44.3**	**-1.6**
JFK	**Kawauchi**	**0.69**	**348**	⇓P	**Pn**	**22 04 37.6**	**-2.4**
JFK				S	**Sb**	**22 04 47.1**	**-2.2**
JYT	**Yasato**	**0.84**	**237**	⇑P	**Pn**	**22 04 40.7**	**-1.3**
JYT				S	**Sn**	**22 04 52.5**	**-0.7**
JSB	**Shiboa**	**0.95**	**287**	⇑P	**Pn**	**22 04 43.8**	**+0.2**
JSB				eS	**Sb**	**22 04 57.3**	**+0.5**
JFT	**Otama**	**1.00**	**325**	P	**Pn**	**22 04 43.7**	**-0.6**
JFT				eS	**Sn**	**22 04 57.2**	**-0.2**
JMM	**Marumori**	**1.19**	**350**	⇓P	**Pn**	**22 04 45.5**	**-1.3**
JMM				S	**Sn**	**22 05 00.9**	**-1.0**
JFY	**Yanaizu**	**1.30**	**304**	⇑P	**Pn**	**22 04 48.5**	**+0.2**
JFY				eS	**Sb**	**22 05 05.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.30**	**267**	Pn	**Pn**	**22 05 02.7**	**+0.6**
MJAR	2.4nm,0.3s,baz=86,slow=15,SNR=61			Lg	Lg	22 05 34.1	
MJAR	12nm,0.3s,baz=89,slow=30,SNR=11			LR	LR	22 06 13.3	
MAJO	comp=Z,144nm,21.9s,baz=90,slow=49 **Matsushiro**	**2.30**	**267**	**ePn**	**Pn**	**22 05 03.1**	**+1.0**
MAJO				eSn	**Sn**	**22 05 25.3**	**-4.1**
MAT	**Matsushiro**	**2.30**	**267**	P	**Pn**	**22 05 03.0**	**+0.9**
MAT				S	**Sb**	**22 05 34.0**	**-1.3**
MJB9	**Matsu-Tunnel**	**2.30**	**267**	**ePn**	**Pn**	**22 05 03.8**	**+1.6**
MJB9				eSn	**Sn**	**22 05 25.0**	**-4.4**
INU	**Inuyama**	**3.54**	**249**	**ePn**	**Pn**	**22 05 19.7**	**+0.5**
INU				eSn	Sn	22 05 49.9	-10
JHJ	**Hachijo jima 2**	**3.72**	**197**	Pn	**Pn**	**22 05 23.8**	**+2.2**
JHJ	7.8nm,0.3s,baz=307,slow=20,SNR=2.2			Sn	**Sn**	**22 06 06.5**	**+2.1**
JHJ	17nm,0.3s,baz=75,slow=20,SNR=3.7			LR	LR	22 06 59.0	
JHJ2	comp=Z,104nm,18.1s,baz=75,slow=42 **Mitsune**	**3.72**	**196**	**ePn**	**Pn**	**22 05 24.2**	**+2.6**
ERM	**Erimo**	**5.56**	**16**	**ePn**	**Pn**	**22 05 46.2**	**-0.6**
ERM				eSn	**Sn**	**22 06 47.3**	**-2.2**
ASAJ	**Asahikawa**	**7.51**	**9**	Pn	**Pn**	**22 06 12.2**	**-1.4**
CBIJ	0.8nm,0.3s,baz=201,slow=13,SNR=6.5 **Chichi jima**	**9.62**	**174**	Pn	**Pn**	**22 06 42.4**	**-0.2**
CBIJ				eSn	**Sn**	**22 08 22.2**	**-7.4**
JCJ	**Chichijima**	**9.62**	**174**	Pn	**Pn**	**22 06 42.4**	**-0.2**
JCJ	3.4nm,0.3s,baz=274,slow=17,SNR=4.1			Sn	**Sn**	**22 08 22.2**	**-7.4**
USRK	3.9nm,0.3s,baz=292,slow=19,SNR=3.3 **Ussuriysk Ar.**	**10.19**	**320**	Pn	**Pn**	**22 06 54.2**	**+3.8**
KSRS	0.1nm,0.3s,baz=108,slow=14,SNR=3.3 **Korea Array**	**10.53**	**278**	Pn	**Pn**	**22 06 58.9**	**+3.9**
KSRS	0.2nm,0.3s,baz=89,slow=15,SNR=3.0			LR	LR	22 10 41.7	
KSAR	comp=Z,45nm,20.7s,baz=128,slow=36 **Wonju Array Be**	**10.56**	**278**	Pn	**Pn**	**22 06 58.9**	**+3.5**
MA2	**Magadan**	**23.74**	**12**	P	**P**	**22 09 35.3**	**-0.2**
ENH	2.0nm,0.2s,baz=162,slow=14,SNR=4.5 **Enshi**	**27.02**	**266**	**eP**	**P**	**22 10 06.0**	**+0.3**
SEY	5.5nm,1.0s **Seymchan**	**27.18**	**11**	P	**P**	**22 10 08.2**	**+1.6**
SONA0	0.8nm,0.3s,baz=218,slow=7.2,SNR=4.7 **Songino Array**	**27.74**	**305**	**eP**	**P**	**22 10 11.3**	**-0.8**
SONM	**Songino Array**	**27.74**	**305**	P	**P**	**22 10 11.3**	**-0.8**
H11N2	0.4nm,0.6s,baz=116,slow=6.8,SNR=4.8 **WAKE ISLAND Hy**	**28.22**	**120**	T	T	22 39 46.8	
H11N1	baz=312,slow=75,SNR=409 **WAKE ISLAND Hy**	**28.23**	**120**	T	T	22 39 53.3	
H11N3	baz=312,slow=75,SNR=281 **WAKE ISLAND Hy**	**28.24**	**120**	T	T	22 39 54.3	
H11S1	baz=312,slow=75,SNR=314 **WAKE ISLAND Hy**	**28.92**	**122**	T	T	22 40 37.3	
H11S3	baz=314,slow=75,SNR=705 **WAKE ISLAND Hy**	**28.92**	**122**	T	T	22 40 38.6	
H11S2	baz=314,slow=75,SNR=435 **WAKE ISLAND Hy**	**28.93**	**122**	T	T	22 40 36.2	
ZALV	baz=314,slow=75,SNR=496 **Zalesovo Beam**	**41.93**	**313**	**eP**	**P**	**22 12 13.8**	**0.0**
ZALV	**Zalesovo Beam**	**41.93**	**313**	**eP**	**P**	**22 12 13.9**	**0.0**
MK31	**Makanchi Array**	**44.06**	**302**	**eP**	**P**	**22 12 31.0**	**-0.3**
MK32	1.3nm,0.7s **Makanchi Array**	**44.06**	**302**	**eP**	**P**	**22 12 31.9**	**+0.6**
MKAR	**Makanchi Array**	**44.06**	**302**	P	**P**	**22 12 31.9**	**+0.6**
KURK	0.4nm,0.6s,baz=87,slow=10,SNR=5.7 **Kurchatov**	**45.92**	**308**	**eP**	**P**	**22 12 46.3**	**+0.4**
ILAR	4.5nm,0.6s **Eielson Array**	**49.93**	**32**	P	**P**	**22 13 17.9**	**+1.2**
WR1	1.1nm,1.0s,baz=257,slow=5.8,SNR=4.7 **Warramunga Arr**	**56.69**	**188**	**eP**	**P**	**22 14 07.3**	**+0.5**
WRA	**Warramunga Arr**	**56.69**	**188**	P	**P**	**22 14 07.3**	**+0.5**
ABKAR	2.6nm,0.7s,baz=4.6,slow=7.3,SNR=17 **Akbulak array**	**57.94**	**310**	**eP**	**P**	**22 14 15.8**	**+0.4**
ASAR	0.8nm,0.6s **Alice Springs**	**60.41**	**188**	P	**P**	**22 14 33.6**	**+0.9**
YKA	1.2nm,0.7s,baz=14,slow=7.8,SNR=2.7 **Yellowknife Ar**	**64.24**	**30**	P	**P**	**22 14 59.5**	**+1.6**
FIA0	0.1nm,0.4s,baz=304,slow=7.0,SNR=2.9 **FINESS Array S**	**68.98**	**332**	**eP**	**P**	**22 15 29.6**	**+1.4**
FINES	**FINESS Array B**	**68.98**	**332**	P	**P**	**22 15 29.6**	**+1.4**
NB200	2.8nm,1.0s,baz=72,slow=4.5,SNR=2.7 **NORSAR Array S**	**74.39**	**337**	**eP**	**P**	**22 16 01.5**	**+0.7**
NOA	**NORSAR Array B**	**74.39**	**337**	P	**P**	**22 16 01.5**	**+0.7**
AKASG	0.5nm,0.8s,baz=41,slow=6.0,SNR=2.4 **Malin Array Be**	**74.39**	**322**	P	**P**	**22 16 02.4**	**+1.4**
PDAR	0.3nm,0.3s,baz=48,slow=6.0,SNR=2.6 **Pinedale Array**	**78.11**	**45**	P	**P**	**22 16 23.9**	**+1.3**
LPAZ	0.3nm,0.6s,baz=263,slow=5.4,SNR=4.1 **La Paz**	**147.11**	**60**	PKPbc	**PKPab**	**22 24 09.1**	**+0.1**
	0.8nm,0.6s,baz=6.1,slow=1.8,SNR=3.9						

IDC **06** *22:24:43.1±1.3,42˚.69N×108˚.21W,h0km,mb3.1/2, mb1 3.5/4,mb1mx3.3/36,mbtmp3.3/4,ML2.7/2,Error ellipse: s-maj=15.4km s-min=8.5km az=165.0*

NEIC **06** *22:24:45.0±0.6,42˚.54N×108˚.27W,h5km,ML2.9,Error ellipse: s-maj=8.7km s-min=7.1km az=220.0*

ISC 06 22:24:42.7±1.4,42˚.64N±0˚.03×108˚.17W±0˚.03,h3km±12km, n20,σ2s20/36,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BW06	**Boulder Array**	**1.03**	**277**	**ePg**	**Pg**	**22 25 02.8**	**+0.3**
BW06				eS	**Sg**	**22 25 15.5**	**-0.3**
PDAR	**Pinedale Array**	**1.03**	**277**	Pg	**Pg**	**22 25 02.3**	**-0.2**
PDAR	16nm,0.3s,baz=95,slow=19,SNR=183			Lg	Lg	22 25 15.4	
AHID	173nm,0.3s,baz=98,slow=34,SNR=124 **Auburn Hatcher**	**2.16**	**274**	**ePn**	**Pb**	**22 25 22.4**	**-0.2**
AHID				ePg	**Pg**	**22 25 25.8**	**+1.6**
AHID				eS	**Sb**	**22 25 49.8**	**-0.2**
O20A	**White River Ci**	**2.51**	**181**	Pn	**Pn**	**22 25 25.6**	**+1.0**
LKWY	**Lake**	**2.51**	**321**	**ePn**	**Pb**	**22 25 29.1**	**+0.4**
LKWY				ePg	**Pg**	**22 25 34.0**	**+3.1**
LKWY				eS	**Sb**	**22 26 01.4**	**+1.3**
RLMT	**Red Lodge**	**2.60**	**343**	**ePn**	**Pb**	**22 25 30.2**	**0.0**
RLMT				ePg	**Pg**	**22 25 34.9**	**+2.3**
RLMT				eS	**Sb**	**22 26 03.0**	**+0.3**
HWUT	**Hardware Ranch**	**2.73**	**249**	**ePn**	**Pn**	**22 25 28.4**	**+0.7**
HWUT				eS	**Sn**	**22 26 02.0**	**+0.7**
RSSD	**Black Hills**	**3.36**	**62**	**ePn**	**Pn**	**22 25 38.0**	**+1.7**
RSSD				eS	**Sb**	**22 26 25.4**	**+1.1**
ISCO	**Idaho Springs**	**3.43**	**145**	**ePn**	**Pn**	**22 25 39.8**	**+2.3**
ISCO				ePg	**Pb**	**22 25 45.9**	**+1.5**
ISCO				eS	**Sb**	**22 26 26.8**	**+0.1**
BOZ	**Bozeman (W)**	**3.86**	**321**	**ePn**	**Pb**	**22 25 49.1**	**-2.5**
BOZ				eS	**Sg**	**22 26 43.8**	**-3.0**
DUG	**Dugway, Tooele**	**4.26**	**237**	**ePn**	**Pn**	**22 25 48.6**	**-0.1**
DUG				eS	**Sb**	**22 26 52.1**	**+1.8**
HLID	**Hailey**	**4.66**	**283**	**ePn**	**Pn**	**22 25 57.7**	**+3.4**
OGNE	**Ogallala**	**4.89**	**108**	**ePn**	**Pn**	**22 25 59.9**	**+2.6**
MVCO	**Mesa Verde**	**5.43**	**183**	**ePn**	**Pn**	**22 26 05.4**	**+0.6**
EGMT	16nm,0.5s **Eagleton**	**5.50**	**349**	**ePn**	**Pn**	**22 26 08.0**	**+2.5**
EGMT	10nm,0.5s			**ePg**	**Pg**	**22 26 25.4**	**-2.6**
EGMT				eS	**Sb**	**22 27 29.3**	**+3.6**
WUAZ	**Wupatki**	**7.54**	**200**	**ePn**	**Pn**	**22 26 33.5**	**-0.2**
WUAZ	9.8nm,0.7s			ePg	Pb	22 27 00.4	+6.1
WUAZ				eS	**Sb**	**22 28 18.1**	**-6.5**
NVAR	**Mina Array Bea**	**8.79**	**245**	Pn	**Pn**	**22 26 54.5**	**+3.6**
ULM	0.4nm,0.3s,baz=62,slow=13,SNR=2.5 **Lac du Bonnet**	**11.38**	**44**	Pn	**Pn**	**22 27 24.8**	**-1.4**
ULM	0.4nm,0.3s,baz=241,slow=11,SNR=5.0			Lg	Lg	22 30 31.2	
YKA	0.2nm,0.3s,baz=324,slow=19,SNR=2.1 **Yellowknife Ar**	**20.24**	**351**	P	**P**	**22 29 19.9**	**+1.0**
MKAR	0.2nm,0.6s,baz=165,slow=11,SNR=3.1 **Makanchi Array**	**90.46**	**353**	P	**P**	**22 37 44.7**	**-1.0**
	0.3nm,0.8s,baz=20,slow=4.7,SNR=3.3						

NIED **06** *22:37:00,24˚.60N×122˚.10E,h74km,Mw4.0 Best double couple: M₀1.30000×10¹⁵ NP1:φs67.00000°,δ56.00000°, λ158.00000°. NP2:φs170.00000°,δ72.00000°,λ37.00000°.*

ISCJB **06** *22:37:23.5±0.2,24˚.66N±0˚.01×122˚.12E±0˚.01,h79km±1km, mb3.8/22,Error ellipse: s-maj=2.4km s-min=2.0km az=153.9*

BJI **06** *22:37:23.0,24˚.57N×122˚.09E,h76km,mb3.9/8,mB4.3/4, Ms3.9/2,Ms7 3.6/1*

JMA **06** *22:37:23.5±0.2,24˚.56N×122˚.09E,h79km±3km,M4.1*

ASIES **06** *22:37:24.4,24˚.61N×122˚.12E,h69km,MW3.6*

NEIC **06** *22:37:24.5±0.0,24˚.61N×122˚.12E,h71km,mb3.9/7, ML4.5(TAP),After TAP.*

NEIC Felt at Taipei. Recorded [2 TAP] in Hualien, Taoyuan and Yilan and [1 TAP] in Nantou.

TAP **06** *22:37:24.5,24˚.61N×122˚.10E,h70km,ML4.7,B*

IDC **06** *22:37:25.9±0.9,24˚.69N×122˚.26E,h91km±8km,mb3.6/16, mb1 3.8/16,mb1mx3.6/38,mbtmp3.9/16,Error ellipse: s-maj=13.5km s-min=12.7km az=56.0*

ISC 06 22:37:24.2±0.5,24˚.63N±0˚.03×122˚.12E±0˚.02,h75km±4km, n179,σ1s34/284,mb3.7/22,45C-29D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.08**	**178**	⇑P	**Pn**	**22 37 35.2**	**+0.2**
	baz=146						
EOS1				eS	**Sn**	**22 37 42.7**	**-0.1**
	baz=146						
TWC	**Suao**	**0.25**	**265**	⇑*i*P	**Pn**	**22 37 35.4**	**-0.2**
	baz=269						
EGS		**0.27**	**320**	⇑*i*P	**Pn**	**22 37 35.7**	**0.0**
	baz=328						
NTC	**Toucheng**	**0.35**	**310**	⇑P	**Pn**	**22 37 36.1**	**-0.1**
	baz=324						
NTC				eS	**Sn**	**22 37 44.3**	**-0.8**
	baz=324						
ILA	**Ilan**	**0.37**	**291**	⇑P	**Pn**	**22 37 36.6**	**+0.3**
	baz=296						
ILA				eS	**Sn**	**22 37 45.4**	**+0.1**
	baz=296						
TWB1	**Santiao Chiao**	**0.39**	**342**	⇓*i*P	**Pn**	**22 37 36.4**	**-0.2**
	baz=342						
TWB1				S	**Sn**	**22 37 44.6**	**-1.0**
	baz=342						
ENA	**Nanau**	**0.40**	**240**	⇑*i*P	**Pn**	**22 37 36.8**	**+0.1**
	baz=240						
ENA				S	**Sn**	**22 37 45.5**	**-0.3**
	baz=240						
TWE	**Neicheng**	**0.42**	**282**	⇑*i*P	**Pn**	**22 37 37.1**	**+0.3**
	baz=286						
TWE				eS	**Sn**	**22 37 45.6**	**-0.5**
	baz=286						
TIPB	**Shuangxi**	**0.43**	**321**	⇓*i*P	**Pn**	**22 37 36.8**	**-0.1**
	baz=330						
TIPB				S	**Sn**	**22 37 45.0**	**-1.3**
	baz=330						
ENTT	**Nioudou**	**0.51**	**271**	⇑*i*P	**Pn**	**22 37 38.2**	**+0.6**
	baz=276						
ENTT				S	**Sn**	**22 37 48.0**	**+0.6**
	baz=276						
NWF	**Wu-fen Shan**	**0.54**	**325**	⇓*i*P	**Pn**	**22 37 38.0**	**+0.1**
	baz=320						
NWF				S	**Sn**	**22 37 47.4**	**-0.6**
	baz=320						
WFSB	**Wu-fen Shan**	**0.54**	**325**	⇓P	**Pn**	**22 37 38.0**	**+0.2**
	baz=320						
WFSB				S	**Sn**	**22 37 47.4**	**-0.5**
	baz=320						
NDT	**Datong Townshi**	**0.56**	**267**	⇑P	**Pn**	**22 37 38.6**	**+0.6**
	baz=272						
NDT				S	**Sn**	**22 37 48.8**	**+0.6**
	baz=272						
NWLT	**Wulai**	**0.58**	**284**	**eP**	**Pn**	**22 37 38.7**	**+0.4**
	baz=296						
NWLT				eS	**Sn**	**22 37 48.3**	**-0.4**
	baz=296						
TWA	**Mucha**	**0.60**	**305**	⇓P	**Pn**	**22 37 38.5**	**0.0**
	baz=315						
TWA				S	**Sn**	**22 37 47.9**	**-1.1**
	baz=315						
NHDH	**Xindian Distri**	**0.64**	**301**	**eP**	**Pn**	**22 37 39.0**	**+0.2**
	baz=303						
NACB	**Ninganchiao**	**0.67**	**227**	**ePn**	**Pn**	**22 37 38.5**	**-0.6**
NACB				eSn	**Sn**	**22 37 44.1**	**-6.0**
NACB	**Ninganchiao**	**0.67**	**227**	⇑P	**Pn**	**22 37 38.5**	**-0.6**
	baz=219						
NACB				S	**Sn**	**22 37 49.6**	**-0.5**
	baz=219						
TATO	**Taipei**	**0.67**	**301**	**ePn**	**Pn**	**22 37 39.1**	**0.0**
TATO				eSn	**Sn**	**22 37 43.9**	**-6.3**
TATO	**Taipei**	**0.67**	**301**	⇓P	**Pn**	**22 37 39.2**	**+0.1**
	baz=310						
TATO				S	**Sn**	**22 37 48.9**	**-1.3**
	baz=310						
YHNB	**Yeheng**	**0.68**	**273**	**ePn**	**Pn**	**22 37 39.9**	**+0.5**
YHNB	**Yeheng**	**0.68**	**273**	⇑P	**Pn**	**22 37 39.9**	**+0.5**
	baz=275						
YHNB				eS	**Sn**	**22 37 50.4**	**-0.1**
	baz=275						
TAP	**Taipei**	**0.69**	**306**	P	**Pn**	**22 37 39.4**	**+0.1**
	baz=308						
TAP				S	**Sn**	**22 37 49.9**	**-0.7**
	baz=308						
NSK	**Sanguang**	**0.70**	**274**	⇑*i*P	**Pn**	**22 37 40.1**	**+0.6**
	baz=275						
NSK				S	**Sn**	**22 37 50.7**	**-0.1**
	baz=275						
NNSB	**Datong**	**0.70**	**253**	⇑P	**Pn**	**22 37 39.8**	**+0.2**
	baz=249						
NNSB				eS	**Sn**	**22 37 50.5**	**-0.6**
	baz=249						
NNS	**Nan Shan**	**0.71**	**254**	⇑*i*P	**Pn**	**22 37 40.0**	**+0.3**
	baz=250						
NNS				S	**Sn**	**22 37 50.7**	**-0.5**
	baz=250						
YM01	**YM01**	**0.72**	**316**	⇓P	**Pn**	**22 37 39.7**	**0.0**
	baz=317						
YM01				eS	**Sn**	**22 37 50.4**	**-0.7**
	baz=317						
ETLH	**Xiulin Townshi**	**0.72**	**234**	⇑P	**Pn**	**22 37 39.5**	**-0.3**
	baz=235						
ETLH				eS	**Sn**	**22 37 50.3**	**-1.1**
	baz=235						
YM11	**YM11**	**0.73**	**317**	⇓P	**Pn**	**22 37 39.8**	**0.0**
	baz=318						
YM11				S	**Sn**	**22 37 50.6**	**-0.9**
	baz=318						
TWD	**Chiawan**	**0.73**	**221**	⇑*i*P	**Pn**	**22 37 39.2**	**-0.6**
	baz=216						
TWD				eS	**Sn**	**22 37 50.7**	**-0.6**
	baz=216						
YM05	**YM05**	**0.73**	**316**	⇓P	**Pn**	**22 37 39.8**	**-0.1**
	baz=318						
YM05				S	**Sn**	**22 37 50.3**	**-1.2**
	baz=318						
YM08	**YM08**	**0.74**	**319**	⇓P	**Pn**	**22 37 39.6**	**-0.3**
	baz=320						
YM08				eS	**Sn**	**22 37 50.1**	**-1.3**
	baz=320						
YM04	**YM04**	**0.74**	**314**	⇓*i*P	**Pn**	**22 37 39.9**	**-0.1**
	baz=316						
YM04				S	**Sn**	**22 37 50.7**	**-0.9**
	baz=316						
JYNG	**Yonagunijimaku**	**0.77**	**103**	P	**Pn**	**22 37 40.2**	**0.0**
JYNG				eS	**Sn**	**22 37 52.0**	**-0.1**
ANP	**Anpu**	**0.78**	**315**	**eP**	**Pn**	**22 37 40.2**	**-0.3**
	baz=317						
TWS1	**Kuangyinshan**	**0.79**	**306**	⇓P	**Pn**	**22 37 40.8**	**+0.3**
	baz=313						
TWS1				eS	**Sn**	**22 37 52.5**	**0.0**
	baz=313						
TWY	**Chenhua**	**0.80**	**323**	⇓P	**Pn**	**22 37 40.9**	**+0.3**
	baz=325						
TWY				eS	**Sn**	**22 37 52.0**	**-0.6**
	baz=325						
HWA	**Hwalien**	**0.81**	**216**	⇑*i*P	**Pn**	**22 37 40.7**	**0.0**
	baz=206						
NTST	**Danshui**	**0.81**	**311**	⇓**eP**	**Pn**	**22 37 41.1**	**+0.4**
	baz=317						
NTST				eS	**Sn**	**22 37 52.5**	**-0.4**
	baz=317						
WLTB	**Daxi**	**0.82**	**286**	P	**Pn**	**22 37 41.7**	**+0.9**
	baz=279						
WLTB				S	**Sn**	**22 37 53.9**	**+0.7**
	baz=279						
YOJ	**Yonaguni jima**	**0.82**	**102**	**ePn**	**Pn**	**22 37 40.9**	**0.0**
YOJ				eSn	**Sn**	**22 37 46.2**	**-7.0**
YOJ	**Yonaguni jima**	**0.82**	**102**	⇓P	**Pn**	**22 37 40.9**	**0.0**
	baz=94						
YOJ				S	**Sn**	**22 37 53.0**	**-0.3**
	baz=94						
YOJ	**Yonaguni jima**	**0.82**	**102**	P	**Pn**	**22 37 40.8**	**0.0**
YOJ				S	**Sn**	**22 37 52.8**	**-0.4**
ENLB	**Shoufeng**	**0.87**	**213**	⇑P	**Pn**	**22 37 41.2**	**-0.2**
	baz=214						
ENLB				S	**Sn**	**22 37 53.9**	**-0.3**
	baz=214						
NCU	**National Centr**	**0.92**	**292**	⇓P	**Pn**	**22

	baz=241							
TDCB				*e*S	**Sn**	**22 37 55.9**	**-0.4**	
	baz=241							
PCYT	**Pengchaiyu**	**0.99**	**357**⇓	*i*P	**Pn**	**22 37 43.5**	**+0.6**	
	baz=351							
PCYT				*e*S	**Sn**	**22 37 56.7**	**-0.1**	
	baz=351							
LIOB	**Emei**	**1.01**	**271**	⇑P	**Pn**	**22 37 42.5**	**-0.6**	
	baz=272							
LIOB				*e*S	**Sn**	**22 37 56.3**	**-0.8**	
	baz=272							
NSTT	**Nanjuang**	**1.02**	**270**	⇑P	**Pn**	**22 37 43.7**	**+0.5**	
	baz=271							
NSTT				*e*S	**Sn**	**22 37 57.4**	**0.0**	
	baz=271							
ESL	**Shilin**	**1.03**	**218**⇑	*i*P	**Pn**	**22 37 42.5**	**-0.8**	
	baz=224							
CHGB	**Renai**	**1.04**	**237**	⇑P	**Pn**	**22 37 44.1**	**+0.4**	
	baz=231							
CHGB				*e*S	**Sn**	**22 37 58.0**	**-0.1**	
	baz=231							
SBCB	**Hsinchu**	**1.05**	**279**	⇓P	**Pn**	**22 37 44.3**	**+0.8**	
	baz=280							
SBCB				*e*S	**Sn**	**22 37 57.7**	**-0.3**	
	baz=280							
OWD	**Renai**	**1.10**	**232**	*e*P	**Pn**	**22 37 44.3**	**0.0**	
	baz=227							
OWD				*e*S	**Sn**	**22 37 58.8**	**-0.5**	
	baz=227							
WHP	**Taichung City**	**1.13**	**252**⇑	*i*P	**Pn**	**22 37 46.0**	**+1.4**	
	baz=254							
WHP				*e*S	**Sn**	**22 38 01.1**	**+1.1**	
	baz=254							
EGFH	**Guangfu**	**1.15**	**214**⇑	*e*P	**Pn**	**22 37 43.9**	**-1.0**	
	baz=212							
NMLH	**Miaoli**	**1.22**	**266**	*e*P	**Pn**	**22 37 46.5**	**+0.8**	
	baz=267							
NMLH				*e*S	**Sn**	**22 38 01.6**	**-0.2**	
	baz=267							
VWDT	**VWDT**	**1.25**	**226**	⇑P	**Pn**	**22 37 46.5**	**+0.3**	
	baz=220							
VWDT				*e*S	**Sn**	**22 38 01.5**	**-1.1**	
	baz=220							
NSY	**Sanyi**	**1.26**	**260**⇓	*e*P	**Pn**	**22 37 47.3**	**+1.0**	
	baz=262							
NSY				*e*S	**Sn**	**22 38 03.5**	**+0.7**	
	baz=262							
TWQ1	**Liyutan**	**1.26**	**257**⇑	*i*P	**Pn**	**22 37 47.0**	**+0.8**	
	baz=259							
TWQ1				*e*S	**Sn**	**22 38 02.6**	**-0.2**	
	baz=259							
HGSD	**Ruisui**	**1.30**	**210**	⇑P	**Pn**	**22 37 46.3**	**-0.5**	
	baz=222							
HGSD				*e*S	**Sn**	**22 38 03.3**	**-0.4**	
	baz=222							
PTSB	**Yuanli**	**1.31**	**262**	*e*P	**Pn**	**22 37 47.1**	**+0.3**	
	baz=264							
PTSB				*e*S	**Sn**	**22 38 03.7**	**-0.1**	
	baz=264							
EHY	**Hungye**	**1.34**	**213**	⇑P	**Pn**	**22 37 46.0**	**-1.3**	
	baz=212							
SMLT	**Sun Moon Lake**	**1.34**	**237**⇑	*i*P	**Pn**	**22 37 48.2**	**+0.8**	
	baz=231							
SMLT				*e*S	**Sn**	**22 38 06.7**	**+1.9**	
	baz=231							
SSLB	**Suanglung**	**1.36**	**232**	*e*Pn	**Pn**	**22 37 47.8**	**+0.3**	
SSLB				*e*Sn	**Sn**	**22 37 56.4**	**-8.7**	
SSLB	**Suanglung**	**1.36**	**232**	⇑P	**Pn**	**22 37 47.9**	**+0.4**	
	baz=228							
SSLB				*e*S	**Sn**	**22 38 06.9**	**+1.8**	
	baz=228							
WDJ	**Dajia District**	**1.38**	**258**	*e*P	**Pn**	**22 37 48.7**	**+0.9**	
	baz=260							
WDJ				*e*S	**Sn**	**22 38 06.1**	**+0.5**	
	baz=260							
TCU	**Taichung**	**1.41**	**250**	*e*P	**Pn**	**22 37 48.6**	**+0.5**	
	baz=250							
YULB	**Yu-li**	**1.45**	**212**	*e*Pn	**Pn**	**22 37 46.7**	**-2.0**	
YULB	**Yu-li**	**1.45**	**212**	⇑P	**Pn**	**22 37 47.2**	**-1.5**	
	baz=217							
TWF1	**Yuli**	**1.48**	**211**⇑	*i*P	**Pn**	**22 37 47.9**	**-1.3**	
	baz=218							
WHYT	**Xinyi Township**	**1.49**	**231**	⇑P	**Pn**	**22 37 50.4**	**+1.1**	
	baz=226							
IRIF	**Iriomote-Funau**	**1.49**	**101**	P	**Pn**	**22 37 49.3**	**+0.1**	
IRIF				*e*S	**Sn**	**22 38 07.6**	**-0.5**	
WJS	**Zhushan**	**1.51**	**238**	*e*P	**Pn**	**22 37 51.1**	**+1.6**	
	baz=252							
WJS				*e*S	**Sn**	**22 38 10.4**	**+1.9**	
	baz=252							
WNT	**Mingjian**	**1.51**	**241**	*e*P	**Pn**	**22 37 50.7**	**+1.2**	
	baz=254							
WNT				*e*S	**Sn**	**22 38 09.8**	**+1.2**	
	baz=254							
WCHH	**Zhanghua**	**1.53**	**249**	*e*P	**Pn**	**22 37 50.1**	**+0.4**	
	baz=262							
WCHH				*e*S	**Sn**	**22 38 09.6**	**+0.6**	
	baz=262							
YUS	**Yu-Shan**	**1.56**	**224**	⇑P	**Pn**	**22 37 50.9**	**+0.2**	
	baz=216							
YUS				*e*S	**Sn**	**22 38 09.2**	**-1.3**	
	baz=216							
FULB	**Fuli**	**1.62**	**208**⇑	*i*P	**Pn**	**22 37 50.4**	**-0.5**	
	baz=218							
FULB				*e*S	**Sn**	**22 38 10.8**	**-0.3**	
	baz=218							
HATJ	**Hateruma jima**	**1.64**	**110**	P	**Pn**	**22 37 51.5**	**+0.4**	
HATJ				*e*S	**Sn**	**22 38 11.9**	**+0.4**	
CHN5	**Tsauling**	**1.68**	**232**	⇑P	**Pn**	**22 37 52.9**	**+1.2**	
	baz=245							
CHN5				*e*S	**Sn**	**22 38 14.2**	**+1.6**	
	baz=245							
CHKT	**Chengkung**	**1.68**	**205**	P	**Pn**	**22 37 50.6**	**-1.1**	
	baz=198							
CHKT				*e*S	**Sn**	**22 38 09.6**	**-2.9**	
	baz=198							
WGK	**Gukeng**	**1.71**	**237**	*e*P	**Pn**	**22 37 52.9**	**+0.8**	
	baz=248							
WGK				*e*S	**Sn**	**22 38 14.5**	**+1.2**	
	baz=248							
WDLH	**Douliu**	**1.73**	**237**	*e*P	**Pn**	**22 37 53.5**	**+1.2**	
	baz=247							
ELDTW	**Lidau**	**1.76**	**215**	*e*P	**Pn**	**22 37 52.1**	**-0.8**	
	baz=208							
JKRS	**Kuro-shima**	**1.76**	**103**	P	**Pn**	**22 37 53.2**	**+0.4**	
JKRS				S	**Sn**	**22 38 14.6**	**+0.1**	
RLNB	**Erlin**	**1.77**	**246**	*e*P	**Pn**	**22 37 53.4**	**+0.5**	
	baz=258							
RLNB				*e*S	**Sn**	**22 38 14.4**	**-0.3**	
	baz=258							
WTCT	**Ta-ch'eng**	**1.85**	**246**	*e*P	**Pn**	**22 37 54.2**	**+0.3**	
	baz=257							
WTCT				*e*S	**Sn**	**22 38 16.4**	**-0.2**	
	baz=257							
JIJ	**Ishigaki jima**	**1.86**	**98**	P	**Pn**	**22 37 53.9**	**-0.1**	
JIJ				S	**Sn**	**22 38 16.2**	**-0.6**	
CHN2	**Minshiung**	**1.86**	**234**	*e*P	**Pn**	**22 37 55.8**	**+1.6**	
	baz=247							
CHN2				*e*S	**Sn**	**22 38 19.5**	**+2.6**	
	baz=247							
CHN4	**Tsaushan**	**1.90**	**228**⇑	*i*P	**Pn**	**22 37 55.8**	**+1.3**	
	baz=242							
CHN4				*e*S	**Sn**	**22 38 19.5**	**+1.8**	
	baz=242							
TPUB	**Ta-pu**	**1.91**	**226**	*e*Pn	**Pn**	**22 37 55.8**	**+1.1**	
TPUB				*e*Sn	Sn	22 38 06.1	-12	
TPUB	**Ta-pu**	**1.91**	**226**	⇑P	**Pn**	**22 37 55.9**	**+1.1**	
	baz=241							
TPUB				*e*S	**Sn**	**22 38 19.5**	**+1.6**	
	baz=241							
CHY	**Chiayi**	**1.92**	**234**⇑	*e*P	**Pn**	**22 37 55.8**	**+0.9**	
	baz=248							
CHY				*e*S	**Sn**	**22 38 19.9**	**+1.6**	
	baz=248							
WTP	**Ta-pu**	**1.95**	**225**	⇑P	**Pn**	**22 37 56.5**	**+1.1**	
	baz=227							
WTP				*e*S	**Sn**	**22 38 21.0**	**+1.9**	
	baz=227							
JISG	**Ishigakijimahi**	**1.99**	**91**	P	**Pn**	**22 37 56.0**	**+0.2**	
JISG				*e*S	**Sn**	**22 38 21.0**	**+1.1**	
TWK	**Hsinying**	**2.02**	**228**	P	**Pn**	**22 37 57.2**	**+0.9**	
	baz=242							
TWK				*e*S	**Sn**	**22 38 22.3**	**+1.5**	
	baz=242							
WLGB	**Puzi**	**2.03**	**236**	*e*P	**Pn**	**22 37 56.7**	**+0.4**	
	baz=238							
WLGB				*e*S	**Sn**	**22 38 22.2**	**+1.4**	
	baz=238							
TWG	**Pinlang**	**2.04**	**208**	*e*Pn	**Pn**	**22 37 55.1**	**-1.5**	
TWG				*e*Sn	Sn	22 38 10.2	-11	
TWG	**Pinlang**	**2.04**	**208**	*e*P	**Pn**	**22 37 55.1**	**-1.5**	
	baz=203							
TWG				*e*S	**Sn**	**22 38 18.5**	**-2.7**	
	baz=203							
TWGBT	**Beinan**	**2.04**	**208**	*e*P	**Pn**	**22 37 55.1**	**-1.5**	
	baz=203							
TWGBT				*e*S	**Sn**	**22 38 18.1**	**-3.1**	
	baz=203							
SNST	**Tainan City**	**2.05**	**227**	*e*P	**Pn**	**22 37 57.5**	**+0.9**	
	baz=229							
SNST				*e*S	**Sn**	**22 38 23.0**	**+1.7**	
	baz=229							
CHN1	**Nanshi**	**2.05**	**226**	*e*P	**Pn**	**22 37 57.6**	**+0.9**	
	baz=227							
CHN1				*e*S	**Sn**	**22 38 22.8**	**+1.3**	
	baz=227							
TTN	**Taitung**	**2.07**	**206**	*e*P	**Pn**	**22 37 56.8**	**-0.1**	
	baz=203							
SLGT	**Liugui**	**2.12**	**220**	⇑P	**Pn**	**22 37 58.7**	**+1.1**	
	baz=221							
SLGT				*e*S	**Sn**	**22 38 24.7**	**+1.6**	
	baz=221							
CHN8	**Yiju**	**2.17**	**234**	*e*P	**Pn**	**22 37 59.1**	**+0.9**	
	baz=244							
CHN3	**Shinhua**	**2.23**	**226**	*e*P	**Pn**	**22 38 01.8**	**+2.7**	
	baz=235							
SCLT	**Jiali**	**2.29**	**231**	*e*P	**Pn**	**22 38 00.2**	**+0.4**	
	baz=240							
ECL	**Taimali**	**2.29**	**208**	*e*P	**Pn**	**22 37 58.2**	**-1.7**	
	baz=200							
PTTC	**Pingtan**	**2.30**	**293**⇓	*e*P	**Pn**	**22 37 59.9**	**-0.1**	
	baz=290							
PTTC				*e*S	**Sn**	**22 38 26.5**	**-0.9**	
	baz=290							
JTJ	**Tarama**	**2.35**	**89**	P	**Pn**	**22 38 01.3**	**+0.7**	
JTJ				*e*S	**Sn**	**22 38 29.6**	**+1.1**	
TWM1	**Shoushan**	**2.38**	**221**	*e*P	**Pn**	**22 38 03.4**	**+2.2**	
	baz=218							
MASBT	**Mashibuluo**	**2.43**	**215**	*e*P	**Pn**	**22 38 02.2**	**+0.4**	
	baz=215							
MASBT				*e*S	**Sn**	**22 38 31.4**	**+0.8**	
	baz=215							
VWUC	**VWUC**	**2.46**	**279**	⇓P	**Pn**	**22 38 02.0**	**-0.1**	
	baz=278							
MATB	**Ma-tsu**	**2.48**	**308**⇓	*e*P	**Pn**	**22 38 02.4**	**-0.1**	
	baz=296							
MATB				*e*S	**Sn**	**22 38 31.5**	**-0.3**	
	baz=296							
SNJT	**Kaohsiung City**	**2.49**	**222**	*e*P	**Pn**	**22 38 04.4**	**+1.9**	
	baz=219							
EAST	**Anshuo**	**2.53**	**208**	*e*P	**Pn**	**22 38 02.4**	**-0.7**	
	baz=201							
TAW	**Tawu**	**2.53**	**207**	*e*P	**Pn**	**22 38 02.3**	**-0.8**	
	baz=197							
SSPT	**Xinbi**	**2.57**	**214**	*e*P	**Pn**	**22 38 05.6**	**+1.9**	
	baz=211							
PNG	**Penghu**	**2.58**	**246**	⇓P	**Pn**	**22 38 03.0**	**-0.7**	
	baz=248							
PNG				*e*S	**Sn**	**22 38 31.3**	**-2.8**	
	baz=248							
PHUB	**P'eng-hu**	**2.58**	**245**	⇑P	**Pn**	**22 38 03.1**	**-0.8**	
	baz=247							
PHUB				*e*S	**Sn**	**22 38 32.1**	**-2.1**	
	baz=247							
LAY	**Lan-yu**	**2.63**	**192**	*e*P	**Pn**	**22 38 03.1**	**-1.5**	
	baz=190							
WDGT	**Dungji**	**2.64**	**239**	*e*P	**Pn**	**22 38 03.7**	**-0.8**	
	baz=238							
SCZT	**Fangliau**	**2.64**	**212**	*e*P	**Pn**	**22 38 05.4**	**+0.8**	
	baz=222							
JIRB	**Irabujima**	**2.78**	**85**	P	**Pn**	**22 38 07.6**	**+1.2**	
JIRB				*e*S	**Sn**	**22 38 39.8**	**+0.8**	
VCHM	**Qimei**	**2.84**	**241**	*e*P	**Pn**	**22 38 06.9**	**-0.4**	
	baz=243							
VCHM				*e*S	**Sn**	**22 38 38.6**	**-1.9**	
	baz=243							
JIKM	**Ikemajima**	**2.85**	**84**	P	**Pn**	**22 38 09.3**	**+1.8**	
JIKM				*e*S	**Sn**	**22 38 42.5**	**+1.7**	
LYJJ	**Jianjiangzhen**	**2.86**	**312**⇓	*e*P	**Pn**	**22 38 07.5**	**-0.1**	
	baz=311							
XPSS	**Dashiqiu**	**2.88**	**323**⇓	*e*P	**Pn**	**22 38 07.4**	**-0.3**	
	baz=322							
JMJ	**Miyako jima 2**	**2.89**	**86**	*e*P	**Pn**	**22 38 09.8**	**+1.8**	
	baz=88							
JMJ	**Miyako jima 2**	**2.89**	**86**	P	**Pn**	**22 38 09.3**	**+1.4**	
JMJ				*e*S	**Sn**	**22 38 43.0**	**+1.4**	
HEN	**Hengchun**	**2.91**	**206**	*e*P	**Pn**	**22 38 09.2**	**+1.0**	
	baz=214							
TWK1	**Hengchun**	**2.94**	**205**	*e*P	**Pn**	**22 38 08.4**	**-0.3**	
	baz=195							
TWKBT	**Hengchun**	**2.94**	**204**	*e*P	**Pn**	**22 38 08.3**	**-0.3**	
	baz=195							
TSEB	**Hengchuen, Pin**	**2.94**	**203**	*e*P	**Pn**	**22 38 09.1**	**+0.4**	
	baz=195							
JOGS	**Gusukube**	**2.99**	**87**	P	**Pn**	**22 38 10.7**	**+1.4**	
MHZQ	**Yeshan**	**3.16**	**298**⇓	*e*P	**Pn**	**22 38 11.3**	**-0.3**	
	baz=297							
QZH	**Quanzhou**	**3.23**	**276**	*i*P	**Pn**	**22 38 12.3**	**-0.2**	
QZH				S	**Sn**	**22 38 46.7**	**-3.1**	
QZH				smax	smax			
	comp=N,330nm,0.6s							
QZH				smax	smax			
	comp=E,230nm,0.3s							
KNM	**Kinmen**	**3.37**	**267**⇓	*e*P	**Pn**	**22 38 15.8**	**+1.3**	
	baz=267							
KNMB	**Chin-men Tao**	**3.41**	**268**⇓	*e*P	**Pn**	**22 38 14.4**	**-0.5**	
	baz=267							
AXDP	**Jialang**	**3.79**	**275**⇓	*e*P	**Pn**	**22 38 20.3**	**+0.1**	
	baz=274							
ZPLA	**Ao Xicun**	**4.05**	**261**	*e*P	**Pn**	**22 38 23.6**	**-0.2**	
	baz=260							
ZZJH	**Jiuhuzhen**	**4.10**	**269**	*e*P	**Pn**	**22 38 23.7**	**-0.7**	
	baz=268							
JOW	**Kunigami**	**5.96**	**67**	*e*P	**Pn**	**22 38 50.3**	**+0.4**	
	baz=71							
JOW	**Kunigami**	**5.96**	**67**	P	**Pn**	**22 38 50.1**	**+0.3**	
	0.6nm,0.3s,baz=208,slow=16,SNR=34							
JOW				S	**Sn**	**22 39 55.0**	**-1.8**	
	1.1nm,0.3s,baz=101,slow=17,SNR=7.2							
WHN	**Wuhan**	**9.07**	**312**	P	**Pn**	**22 39 32.4**	**+0.2**	
WHN				S	**Sn**	**22 41 13.4**	**+0.7**	
KSRS	**Korea Array**	**13.71**	**20**	P	**P**	**22 40 41.1**	**-0.2**	
	0.9nm,0.3s,baz=200,slow=11,SNR=23							
KS01	**Wenju Array Si**	**13.72**	**20**	*e*Pn	**Pn**	**22 40 34.6**	**-0.8**	
XAN	**Xi'an**	**14.83**	**312**	P	**P**	**22 40 53.9**	**0.0**	
XAN				pP	Pn	22 41 00.1	+10	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,110nm,5.3s							
XAN	**Xi'an**	**14.83**	**312**	*e*Pn	**Pn**	**22 40 47.5**	**-2.4**	
CMAR	**Chiang Mai Arr**	**22.41**	**259**	P	**P**	**22 42 19.6**	**+2.8**	
	0.3nm,0.4s,baz=53,slow=8.0,SNR=3.6							
CMAR				pP	**pP**	**22 42 36.0**	**+3.2**	
	0.3nm,0.2s,baz=58,slow=8.6,SNR=1.7							
KLR	**Kul'dur**	**25.69**	**15**	P	**P**	**22 42 48.2**	**+1.1**	
	0.6nm,0.3s,baz=224,slow=10.0,SNR=4.4							
SONM	**Songino Array**	**26.30**	**336**	P	**P**	**22 42 53.1**	**+0.3**	
	1.9nm,0.7s,baz=152,slow=9.7,SNR=18							
SHL	**Shillong**	**27.38**	**278**	*e*P	**P**	**22 43 01.3**	**-1.5**	
	4.4nm,0.4s							
WMQ	**Urumqi**	**33.97**	**313**	*e*P	**P**	**22 44 02.4**	**+1.8**	
WMQ				LR	LR			
	comp=N,120nm,17.7s							
WMQ				LR	LR			
	comp=E,130nm,15.1s							
WMQ				LR	LR			
	comp=Z,92nm,15.9s							
MK01	**Makanchi Array**	**38.60**	**315**	*e*P	**P**	**22 44 40.9**	**+0.8**	
MK31	**Makanchi Array**	**38.62**	**315**	*e*P	**P**	**22 44 41.2**	**+1.1**	
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**38.62**	**315**	P	**P**	**22 44 40.9**	**+0.7**	
	0.4nm,0.4s,baz=100,slow=9.9,SNR=16							
MKAR				pP	**pP**	**22 45 02.3**	**+4.0**	
	0.4nm,0.6s,baz=103,slow=9.6,SNR=2.8							
MKAR				ScP	**S**	**22 50 31.4**	**+0.3**	
	0.2nm,0.8s,baz=83,slow=4.5,SNR=4.0							
MAKZ	**Makanchi**	**38.83**	**315**	*e*P	**P**	**22 44 42.9**	**+1.1**	
	0.9nm,1.0s							
ZALV	**Zalesovo Beam**	**40.34**	**326**	*e*P	**P**	**22 44 53.2**	**-1.1**	
ZALV	**Zalesovo Beam**	**40.34**	**326**	P	**P**	**22 44 54.1**	**-0.2**	
	0.6nm,0.4s,baz=119,slow=8.4,SNR=4.3							
KURK	**Kurchatov**	**42.30**	**319**	*e*P	**P**	**22 45 10.9**	**+0.5**	
KURBB	**Kurchatov Arra**	**42.32**	**319**	P	**P**	**22 45 10.4**	**-0.1**	
	0.3nm,0.4s,baz=107,slow=9.9,SNR=7.0							
WRA	**Warramunga Arr**	**45.88**	**164**	P	**P**	**22 45 39.1**	**-0.2**	
	3.1nm,0.7s,baz=347,slow=8.9,SNR=33							
WRA				PcP	**PcP**	**22 47 14.7**	**-0.7**	
	0.5nm,0.9s,baz=345,slow=3.1,SNR=3.0							
WB2	**Warramunga Ar**	**45.88**	**164**	*e*P	**P**	**22 45 39.0**	**-0.3**	
TIXI	**Tiksi**	**47.20**	**3**	*e*P	**P**	**22 45 47.6**	**-1.5**	
	3.2nm,0.8s							
TIXI	**Tiksi**	**47.20**	**3**	P	**P**	**22 45 48.2**	**-0.8**	
	1.7nm,0.4s,baz=171,slow=3.8,SNR=8.1							
BVAR	**Borovoye Array**	**47.87**	**320**	P	**P**	**22 45 54.8**	**+0.2**	
	0.4nm,0.5s,baz=104,slow=6.1							
BRVK	**Borovoye**	**47.95**	**320**	*e*P	**P**	**22 45 54.9**	**-0.1**	
	0.6nm,0.6s							
ASAR	**Alice Springs**	**49.35**	**166**	P	**P**	**22 46 06.6**	**+0.4**	
	0.3nm,0.3s,baz=349,slow=13,SNR=7.7							
ASAR				pP	**pwP**	**22 46 28.1**	**+0.9**	
	0.4nm,0.6s,baz=342,slow=7.8,SNR=1.9							
ABKAR	**Akbulak array**	**53.74**	**314**	*e*P	**P**	**22 46 39.4**	**+0.7**	
	0.7nm,0.7s							
BBOO	**Buckleboo**	**58.65**	**166**	*e*P	**P**	**22 47 13.4**	**-0.3**	
	2.9nm,0.9s							
ILAR	**Eielson Array**	**68.42**	**27**	P	**P**	**22 48 18.4**	**+0.7**	
	0.4nm,0.7s,baz=294,slow=8.5,SNR=6.9							
SPITS	**Spitsbergen Ar**	**69.23**	**348**	P	**P**	**22 48 21.5**	**-1.1**	
	1.9nm,0.6s,baz=63,slow=3.8,SNR=4.9							
ARCES	**ARCESS Array B**	**69.44**	**338**	P	**P**	**22 48 23.4**	**-0.6**	
	9.2nm,1.1s,baz=50,slow=7.4,SNR=3.9							
FINES	**FINESS Array B**	**71.49**	**330**	P	**P**	**22 48 36.5**	**-0.1**	
	12nm,1.3s,baz=61,slow=9.0,SNR=4.2							
NOA	**NORSAR Array B**	**78.23**	**332**	P	**P**	**22 49 14.5**	**-1.1**	
	0.4nm,0.7s,baz=53,slow=6.1,SNR=2.6							
YKA	**Yellowknife Ar**	**82.22**	**23**	P	**P**	**22 49 35.4**	**-1.5**	
	0.6nm,0.5s,baz=311,slow=5.2,SNR=6.0							

ISCJB ***06*** *22:40:53.0±0.2, 46.09N±0.01×1.60W±0.02, h10km, Error ellipse: s-maj=1.8km s-min=1.5km az=170.8*
STR ***06*** *22:40:55.9±0.4, 46°N±2″×±°, h3km, M3.9/15, mb4.4/2, MLv3.8/15, MLv3.8/7*
LDG ***06*** *22:40:56.7±0.1, 46.10N×1.72W, h3km, Md3.8/2, Ml3.9/56, Error ellipse: s-maj=1.0km s-min=0.9km az=112.0*
NEIC ***06*** *22:40:58.9±0.0, 46.21N×1.52W, h2km, ML3.9(LDG), After LDG.*
NEIC Felt at La Rochelle and La Tranche.
BGS ***06*** *22:40:59.7±1.8, 46.20N×1.89W, h10km, ML3.2, ML3.2*
INMG ***06*** *22:40:59.5±1.1, 46.11N×1.76W, h21km±5km, ML2.7, Error ellipse: s-maj=3.1km s-min=2.6km az=117.0*

ISC 06 22:40:54.8±0.7, 46.09N±0.02×1.71W±0.02, h10km, n149, σ2=32/263, 5C-3D, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MFF	**Saint Martin d**	**1.20**	**64**	*e*Pn	**Pn**	**22 41 19.0**	**+1.4**
	SNR=1.0						
MFF	**Saint Martin d**	**1.20**	**64**	*e*P	**Pg**	**22 41 19.9**	**+2.1**
MFF				*e*Sn	**Sb**	**22 41 34.7**	**+1.6**
	671nm,0.2s,SNR=1.0						
LFF	**La Frestale**	**2.07**	**123**	*e*Pn	**Pn**	**22 41 30.8**	**+1.2**
	SNR=1.0						
LFF	**La Frestale**	**2.07**	**123**	*e*Pg	**Pb**	**22 41 33.7**	**+1.2**
LFF				*e*Sn	**Sn**	**22 41 54.3**	**-1.2**
LFF				*e*Sg	**Sg**	**22 42 01.9**	**+0.6**
	428nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.08**	**332**	*e*Pn	**Pn**	**22 41 30.6**	**+0.9**
	SNR=1.0						
QUIF	**Quistinic**	**2.08**	**332**	*e*Pg	**Pg**	**22 41 35.1**	**+0.4**
QUIF				*e*Sn	**Sn**	**22 41 53.9**	**-1.8**
	189nm,0.2s,SNR=1.0						
QUIF				*e*Sg	**Sg**	**22 42 01.8**	**+0.1**
	178nm,0.2s						
SGMF	**Saint Gilles**	**2.24**	**345**	*e*Pn	**Pn**	**22 41 32.8**	**+0.9**
	SNR=1.0						
SGMF	**Saint Gilles**	**2.24**	**345**	*e*Pg	**Pg**	**22 41 38.1**	**+0.4**
SGMF				*e*Sn	**Sn**	**22 41 57.7**	**-1.9**
SGMF				*e*Sg	**Sg**	**22 42 06.3**	**-0.5**
	159nm,0.2s,SNR=1.0						
GRR	**Gorron**	**2.37**	**14**	*e*Pn	**Pn**	**22 41 34.6**	**+0.9**
	SNR=1.0						
GRR	**Gorron**	**2.37**	**14**	*e*Pg	**Pb**	**22 41 40.0**	**+2.4**
GRR				*e*Sn	**Sn**	**22 42 02.0**	**-0.8**
GRR				*e*Sg	**Sg**	**22 42 11.6**	**+0.7**
	160nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.39**	**108**	*e*Pn	**Pn**	**22 41 35.2**	**+1.1**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.39**	**108**	*e*Pg	**Pb**	**22 41 40.8**	**+2.8**
RJF				*e*Sn	**Sn**	**22 42 02.3**	**-1.1**
RJF				*e*Sg	**Sg**	**22 42 12.1**	**+0.5**
	218nm,0.2s						
RJF	**Les Rejaudoux**	**2.39**	**108**	Pn	**Pn**	**22 41 35.9**	**+1.8**
TERF	**Tercis-les-Bai**	**2.45**	**170**	P	**Pn**	**22 41 35.4**	**+0.7**
ROSF	**Rostrenen**	**2.49**	**335**	*e*Pn	**Pn**	**22 41 36.3**	**+1.0**
	SNR=1.0						
ROSF	**Rostrenen**	**2.49**	**335**	*e*Pg	**Pg**	**22 41 42.7**	**+0.2**
ROSF				*e*Sn	**Sn**	**22 42 03.7**	**-2.0**
	69nm,0.2s,SNR=1.0						
ROSF				*e*Sg	**Sg**	**22 42 14.1**	**-0.6**
	76nm,0.2s						
ROSF	**Rostrenen**	**2.49**	**335**	P	**Pn**	**22 41 36.6**	**+1.3**
MONQ	**Montcuq**	**2.68**	**129**	P	**Pn**	**22 41 39.0**	**+1.1**
LDF	**La Druitiere**	**2.73**	**23**	*e*Pn	**Pn**	**22 41 39.4**	**+0.8**
	SNR=1.0						
LDF	**La Druitiere**	**2.73**	**23**	*e*Pg	**Pb**	**22 41 46.8**	**+3.2**
LDF				*e*

BGF					*e*Sg		**Sg**	**22 42 37.9**	**+0.7**
	comp=E,572nm,0.5s,SNR=1.0								
BGF	**Bois d'Agland**	**3.19**	**80**	Pn			**Pn**	**22 41 46.5**	**+1.5**
BGF				Sg			**Sb**	**22 42 34.6**	**+4.1**
HYF	**Humbligny**	**3.22**	**67**	*e*Pn			**Pn**	**22 41 46.5**	**+1.1**
HYF	**Humbligny**	**3.22**	**67**	*e*Pg			**Pg**	**22 41 57.2**	**+0.8**
HYF				*e*Sg			**Sg**	**22 42 39.2**	**+1.1**
PYLO	**Lourdes**	**3.22**	**158**	P			**Pn**	**22 41 45.7**	**+0.2**
ETSF	**Etsaut**	**3.30**	**165**	*e*Pn			**Pn**	**22 41 46.2**	**-0.3**
ETSF	**Etsaut**	**3.30**	**165**	*e*Pg			**Pb**	**22 41 56.4**	**+3.0**
ETSF				*e*Sn			**Sn**	**22 42 22.1**	**-3.7**
ETSF				*e*Sg			**Sb**	**22 42 38.6**	**+5.0**
	comp=E,26nm,0.3s								
LABF	**Labassere**	**3.30**	**157**	Pg			**Pb**	**22 41 56.4**	**+3.0**
LABF				Sg			**Sg**	**22 42 41.9**	**+1.2**
PYM	**Petit Puy Mans**	**3.31**	**94**	Pn			**Pn**	**22 41 47.8**	**+1.1**
PYM				P			Pb	22 41 48.0	-5.6
CLF	**Chambon-Foret**	**3.33**	**53**	*e*Pn			**Pn**	**22 41 45.2**	**-1.7**
AGO	**Saint Agoulin**	**3.37**	**89**	Pn			**Pn**	**22 41 48.4**	**+0.9**
AGO				P			Pb	22 41 48.6	-6.0
AGO				Pg			**Pg**	**22 42 00.1**	**+0.8**
EPF	**Esparros**	**3.39**	**154**	*e*Pn			**Pn**	**22 41 47.9**	**+0.1**
EPF	**Esparros**	**3.39**	**154**	*e*Pg			**Pb**	**22 41 57.9**	**+2.9**
EPF				*e*Sn			**Sn**	**22 42 24.6**	**-3.6**
EPF				*e*Sg			**Sb**	**22 42 41.7**	**+5.4**
	comp=E,68nm,0.3s								
VIEF	**Viey**	**3.44**	**158**	Pn			**Pn**	**22 41 49.4**	**+0.9**
VIEF				Sg			**Sg**	**22 42 46.1**	**+0.9**
AVF	**Avril sur Loir**	**3.57**	**77**	*e*Pn			**Pn**	**22 41 50.9**	**+0.7**
	SNR=1.0								
AVF	**Avril sur Loir**	**3.57**	**77**	*e*Pg			**Pg**	**22 42 02.5**	**-0.6**
AVF				*e*Sn			**Sn**	**22 42 30.0**	**-2.4**
AVF				*e*Sg			**Sb**	**22 42 47.4**	**+6.1**
	comp=E,127nm,0.4s								
AVF	**Avril sur Loir**	**3.57**	**77**	Pn			**Pn**	**22 41 51.5**	**+1.3**
LBL	**Lubilhac**	**3.58**	**102**	Pn			**Pn**	**22 41 51.6**	**+1.2**
LBL				P			Pb	22 41 51.7	-6.5
LBL				Sg			**Sg**	**22 42 50.7**	**+1.0**
ECHI	**Chisagues Biel**	**3.69**	**158**	P			**Pn**	**22 41 52.6**	**+0.6**
MLS	**Moulis**	**3.72**	**146**	P			**Pn**	**22 41 53.2**	**+0.9**
SSF	**Saint Saulge**	**3.72**	**73**	*e*Pn			**Pn**	**22 41 53.0**	**+0.6**
	SNR=1.0								
SSF	**Saint Saulge**	**3.72**	**73**	*e*Pg			**Pb**	**22 42 05.1**	**+4.4**
SSF				*e*Sn			**Sn**	**22 42 34.6**	**-1.7**
SSF				*e*Sg			**Sg**	**22 42 54.6**	**+0.2**
	comp=E,46nm,0.3s								
SMF	**Signal de Mont**	**3.88**	**80**	*e*Pn			**Pn**	**22 41 55.1**	**+0.6**
	SNR=1.0								
SMF	**Signal de Mont**	**3.88**	**80**	*e*Pg			**Pg**	**22 42 08.2**	**-0.9**
SMF				*e*Sn			**Sn**	**22 42 38.2**	**-1.9**
SMF				*e*Sg			**Sg**	**22 42 59.6**	**+0.2**
	comp=E,43nm,0.3s,SNR=1.0								
MTLF	**Montolieu**	**3.92**	**133**	*e*Pn			**Pn**	**22 41 55.9**	**+0.8**
	SNR=1.0								
MTLF	**Montolieu**	**3.92**	**133**	*e*Pg			**Pb**	**22 42 08.7**	**+4.7**
MTLF				*e*Sn			**Sn**	**22 42 38.6**	**-2.6**
MTLF				*e*Sg			**Sg**	**22 42 59.8**	**-0.9**
	comp=E,32nm,0.2s,SNR=1.0								
MTLF	**Montolieu**	**3.92**	**133**	P			**Pn**	**22 41 55.9**	**+0.8**
LOR	**Lormes**	**4.01**	**71**	*e*Pn			**Pn**	**22 41 56.7**	**+0.5**
	baz=249,SNR=1.0								
LOR	**Lormes**	**4.01**	**71**	*e*Pg			**Pg**	**22 42 10.7**	**-0.9**
	baz=250								
LOR				*e*Sn			**Sn**	**22 42 41.4**	**-1.9**
LOR				*e*Sg			**Sg**	**22 43 03.2**	**-0.3**
	comp=E,56nm,0.3s,baz=249,SNR=1.0								
LOR	**Lormes**	**4.01**	**71**	P			**Pn**	**22 41 56.8**	**+0.5**
FNEB	**Nbias**	**4.20**	**138**	P			**Pn**	**22 41 60.0**	**+1.1**
LASF	**Ste Croix**	**4.43**	**115**	*e*Pn			**Pn**	**22 42 03.5**	**+1.5**
	SNR=1.0								
LASF	**Ste Croix**	**4.43**	**115**	*e*Pg			**Pg**	**22 42 19.7**	**+0.1**
LASF				*e*Sn			**Sn**	**22 42 52.5**	**-1.1**
LASF				*e*Sg			**Sg**	**22 43 15.4**	**-1.5**
	comp=E,34nm,0.2s,SNR=1.0								
SSB	**Saint Sauveur**	**4.45**	**98**	*e*Pn			**Pn**	**22 42 03.9**	**+1.5**
TRBF	**Trabuc cave**	**4.48**	**114**	P			**Pn**	**22 42 04.1**	**+1.5**
DYA	**Yadsworthy**	**4.59**	**342**	*e*P			**Pn**	**22 42 05.5**	**+1.2**
DYA				IAML				22 43 25.0	
	comp=N,21nm,0.4s								
DYA				IAML				22 43 28.8	
	comp=E,16nm,0.6s								
VIVF	**Saint-Julien-l**	**4.66**	**103**	*e*Pn			**Pn**	**22 42 06.5**	**+1.3**
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.66**	**103**	*e*Pg			**Pg**	**22 42 22.9**	**-1.0**
VIVF				*e*Sn			**Sn**	**22 42 57.9**	**-1.4**
VIVF				*e*Sg			**Sg**	**22 43 22.4**	**-1.8**
	comp=E,29nm,0.3s,SNR=1.0								
CCA1	**Carnmenellis**	**4.73**	**331**	*e*P			**Pn**	**22 42 07.2**	**+1.1**
CCA1				IAML				22 43 35.2	
	comp=E,16nm,0.4s								
CCA1				IAML				22 43 37.5	
	comp=N,19nm,0.5s								
SJAF	**Saint Jean de**	**4.88**	**136**	P			**Pn**	**22 42 09.0**	**+0.7**
SFTF	**Sexfontaines**	**5.07**	**63**	*e*Pn			**Pn**	**22 42 11.2**	**+0.4**
	baz=241								
SFTF	**Sexfontaines**	**5.07**	**63**	*e*Pg			**Pg**	**22 42 33.4**	**+1.6**
SFTF				*e*Sn			**Sn**	**22 43 06.0**	**-3.3**
	baz=240								
SFTF				*e*Sg			**Sg**	**22 43 33.8**	**-3.5**
	comp=N,38nm,0.4s,baz=240								
MEZF	**Maizieres J'vi**	**5.19**	**60**	*e*Pn			**Pn**	**22 42 12.9**	**+0.4**
	baz=240,SNR=1.0								
MEZF	**Maizieres J'vi**	**5.19**	**60**	*e*Pg			**Pg**	**22 42 33.5**	**-0.7**
	baz=242								
MEZF				*e*Sn			**Sn**	**22 43 09.8**	**-2.6**
MEZF				*e*Sg			**Sg**	**22 43 40.4**	**-1.0**
	comp=N,38nm,0.4s,baz=240								
CABF	**La Chapelle**	**5.42**	**82**	*e*Pn			**Pn**	**22 42 16.3**	**+0.5**
	SNR=1.0								
CABF	**La Chapelle**	**5.42**	**82**	*e*Pg			**Pg**	**22 42 36.8**	**-1.8**
CABF				*e*Sn			**Sn**	**22 43 15.3**	**-2.9**
CABF				*e*Sg			**Sg**	**22 43 47.4**	**-1.4**
	comp=N,24nm,0.4s								
ORIF	**Oris-en-Rattie**	**5.46**	**100**	*e*Pn			**Pn**	**22 42 17.2**	**+0.9**
ORIF				*e*Sn			**Sn**	**22 43 16.7**	**-2.5**
ORIF				*e*Sg			**Sg**	**22 43 47.9**	**-2.2**
	comp=N,25nm,0.5s								
RUSF	**Rustrel**	**5.53**	**110**	P			**Pn**	**22 42 18.6**	**+1.4**
SMRF	**Simiane la Rot**	**5.58**	**110**	*e*Pn			**Pn**	**22 42 19.1**	**+1.2**
	SNR=1.0								
SMRF	**Simiane la Rot**	**5.58**	**110**	*e*Pg			**Pg**	**22 42 40.0**	**-1.6**
SMRF				*e*Sn			**Sn**	**22 43 19.6**	**-2.4**
SMRF				*e*Sg			**Sg**	**22 43 51.6**	**-2.2**
	comp=N,26nm,0.5s								
BAIF	**Baives**	**5.61**	**43**	*e*Pn			**Pn**	**22 42 19.2**	**+1.0**
	SNR=1.0								
BAIF				*e*Sn			**Sn**	**22 43 19.0**	**-3.7**
BAIF				*e*Sg			**Sg**	**22 43 52.8**	**-2.0**
	comp=N,25nm,0.5s								
PBRG	**Braganca**	**5.62**	**222**	*e*Pn			**Pn**	**22 42 19.5**	**+1.1**
PBRG				*e*Sn			**Sn**	**22 43 20.0**	**-3.0**
PBRG				A			A	22 43 22.4	
	comp=N,5.3nm,0.3s								
PAGF	**Fort de Pagny**	**5.62**	**61**	*e*Pn			**Pn**	**22 42 18.5**	**+0.1**
	baz=242								
PAGF	**Fort de Pagny**	**5.62**	**61**	*e*Pg			**Pg**	**22 42 42.2**	**-0.2**
	baz=240								
PAGF				*e*Sn			**Sn**	**22 43 19.6**	**-3.4**
PAGF				*e*Sg			**Sg**	**22 43 54.4**	**-0.8**
	comp=N,179nm,0.7s,baz=240								
THEF	**They Montfort**	**5.67**	**65**	P			**Pn**	**22 42 18.9**	**-0.2**
DOU	**Dourbes**	**5.82**	**44**	⇑Pn			**Pn**	**22 42 21.9**	**+0.8**
DOU				⇑Sn			Sn	22 43 19.0	-8.8
	comp=N,12nm,0.0s								
HAU	**Haudompre**	**5.83**	**68**	*e*Pn			**Pn**	**22 42 20.8**	**-0.5**
	SNR=1.0								
HAU	**Haudompre**	**5.83**	**68**	*e*Pg			**Pg**	**22 42 46.8**	**+0.4**
HAU				*e*Sn			**Sn**	**22 43 23.6**	**-4.6**
	comp=N,23nm,0.4s,SNR=1.0								
HAU				*e*Sg			**Sg**	**22 44 00.4**	**-1.4**
	comp=N,41nm,0.4s								
LPL	**La Plagne**	**5.93**	**93**	*e*Pn			**Pn**	**22 42 23.6**	**+0.8**
LPL	**La Plagne**	**5.93**	**93**	*e*Pg			**Pg**	**22 42 47.2**	**-1.1**
LPL				*e*Sn			**Sn**	**22 43 27.9**	**-3.0**
LPL				*e*Sg			**Sg**	**22 44 02.6**	**-2.5**
	comp=N,14nm,0.5s								
GIVF	**Givet**	**5.94**	**45**	*e*Pn			**Pn**	**22 42 23.6**	**+0.9**
	SNR=1.0								
GIVF	**Givet**	**5.94**	**45**	*e*Pg			**Pg**	**22 42 45.9**	**-2.5**
GIVF				*e*Sn			**Sn**	**22 43 26.6**	**-4.1**
GIVF				*e*Sg			**Sg**	**22 44 02.9**	**-2.3**
	comp=N,31nm,0.5s								
LPG	**La Plagne**	**5.95**	**93**	*e*Pn			**Pn**	**22 42 24.1**	**+1.0**
LPG	**La Plagne**	**5.95**	**93**	*e*Pg			**Pg**	**22 42 46.4**	**-2.2**
LPG				*e*Sn			**Sn**	**22 43 28.2**	**-3.2**
LPG				*e*Sg			**Sg**	**22 44 02.2**	**-3.4**
	comp=N,24nm,0.4s								
BNI	**Bardonecchia**	**5.98**	**97**	*e*Pn			**Pn**	**22 42 25.7**	**+2.3**
BNI				*e*Sn			**Sn**	**22 43 28.3**	**-3.7**
HINF	**Hinteralfeld**	**6.11**	**71**	*e*Pn			**Pn**	**22 42 25.3**	**+0.1**
	SNR=1.0								
HINF	**Hinteralfeld**	**6.11**	**71**	*e*Pg			**Pg**	**22 42 49.2**	**-2.5**
HINF				*e*Sn			**Sn**	**22 43 30.9**	**-4.2**
	comp=N,4.9nm,0.3s,SNR=1.0								
HINF				*e*Sg			**Sg**	**22 44 09.0**	**-1.8**
	comp=N,24nm,0.4s								
MBDF	**Montbardon**	**6.12**	**100**	*e*Pn			**Pn**	**22 42 26.0**	**+0.5**
MBDF	**Montbardon**	**6.12**	**100**	*e*Pg			**Pg**	**22 42 50.2**	**-1.8**
MBDF				*e*Sn			**Sn**	**22 43 32.8**	**-2.8**
MBDF				*e*Sg			**Sg**	**22 44 08.7**	**-2.6**
	comp=N,14nm,0.6s								
SENIN	**Lac Senin/Sane**	**6.25**	**84**	*e*Pn			**Pn**	**22 42 29.0**	**+1.6**
MVO	**Moncorvo**	**6.26**	**220**	*e*Pn			**Pn**	**22 42 28.3**	**+1.1**
MVO				*e*Sn			**Sn**	**22 43 34.5**	**-4.3**
MVO				A			A	22 43 37.9	
	comp=N,7.1nm,0.7s								
PGAV	**Gavieira, Arco**	**6.28**	**231**	*e*Pn			**Pn**	**22 42 27.9**	**+0.4**
PGAV				*e*Sn			**Sn**	**22 43 34.9**	**-4.4**
PGAV				A			A	22 43 39.7	
	comp=N,5.0nm,0.3s								
PCAB	**Cabril**	**6.33**	**228**	*e*Pn			**Pn**	**22 42 28.8**	**+0.7**
PCAB				*e*Sn			**Sn**	**22 43 36.2**	**-4.2**
PCAB				A			A	22 43 37.3	
	comp=N,6.0nm,0.8s								
BCLA	**Clavier**	**6.38**	**45**	⇓Pn			**Pn**	**22 42 29.6**	**+0.8**
BCLA				⇓Sn			**Sn**	**22 43 37.0**	**-4.5**
	comp=N,9.4nm,0.0s								
WLF	**Walferdange**	**6.38**	**53**	*e*Pn			**Pn**	**22 42 28.5**	**-0.3**
WLF	**Walferdange**	**6.38**	**53**	⇑Pn			**Pn**	**22 42 29.1**	**+0.3**
WLF				⇓Sn			**Sn**	**22 43 42.4**	**+0.7**
	comp=N,16nm,0.0s								
ECH	**Echery**	**6.41**	**67**	*e*Pn			Pn	22 42 26.0	-3.3
ECH				*e*Pg			**Pg**	**22 42 57.7**	**+0.2**
ECH				*e*Sn			**Sn**	**22 43 39.3**	**-3.2**
ECH	**Echery**	**6.41**	**67**	P			**Pn**	**22 42 28.2**	**-1.1**
POLO	**Lamas de Olo**	**6.45**	**225**	*e*Pn			**Pn**	**22 42 30.8**	**+0.8**
POLO				*e*Sn			**Sn**	**22 43 40.4**	**-3.3**
FRF	**La Foret Royal**	**6.46**	**110**	*e*Pn			**Pn**	**22 42 30.8**	**+0.9**
	SNR=1.0								
FRF	**La Foret Royal**	**6.46**	**110**	*e*Pg			**Pg**	**22 42 56.5**	**-1.9**
FRF				*e*Sn			**Sn**	**22 43 40.3**	**-3.3**
	comp=N,11nm,0.6s,SNR=1.0								
FRF				*e*Sg			**Sg**	**22 44 18.6**	**-3.4**
	comp=N,11nm,0.5s								
FRF	**La Foret Royal**	**6.46**	**110**	Pn			**Pn**	**22 42 31.1**	**+1.2**
LMR	**La Mourre**	**6.47**	**112**	*e*Pn			**Pn**	**22 42 31.5**	**+1.4**
	SNR=1.0								
LMR				*e*Sn			**Sn**	**22 43 40.4**	**-3.5**
	comp=N,11nm,0.8s,SNR=1.0								
LMR				*e*Sg			**Sg**	**22 44 19.2**	**-3.2**
	comp=N,2.0nm,0.3s								
PVRL	**Vila Real**	**6.49**	**224**	*e*Pn			**Pn**	**22 42 31.3**	**+0.9**
CDF	**Champ du Feu**	**6.54**	**66**	*e*Pn			**Pn**	**22 42 30.0**	**-1.1**
	SNR=1.0								
CDF	**Champ du Feu**	**6.54**	**66**	*e*Pg			**Pg**	**22 42 58.7**	**-1.3**
CDF				*e*Sn			**Sn**	**22 43 41.9**	**-3.9**
	comp=N,6.1nm,0.4s,SNR=1.0								
CDF				*e*Sg			**Sg**	**22 44 20.3**	**-4.4**
	comp=N,15nm,0.4s								
CDF	**Champ du Feu**	**6.54**	**66**	Pn			**Pn**	**22 42 30.1**	**-1.1**
CDF				Sn			**Sn**	**22 43 41.9**	**-3.9**
WLS	**Welschbruch**	**6.59**	**66**	P			**Pn**	**22 42 30.3**	**-1.5**
ES06	**SONSECA Array**	**6.62**	**195**	*e*Pn			**Pn**	**22 42 33.1**	**+0.9**
ES06				*e*Sn			**Sn**	**22 43 41.0**	**-6.7**
ESLA	**Sonseca Array**	**6.62**	**195**	*e*Pn			**Pn**	**22 42 33.7**	**+1.4**
ESLA				*e*Sn			**Sn**	**22 43 41.8**	**-6.0**
BEBN	**Eben Emael**	**6.80**	**44**	⇑Pn			**Pn**	**22 42 35.4**	**+0.8**
PAB	**San Pablo**	**6.82**	**197**	*e*Pn			**Pn**	**22 42 32.8**	**-2.2**
PAB				*e*Sn			**Sn**	**22 43 46.1**	**-6.7**
MEM	**Membach**	**6.84**	**46**	⇑Pn			**Pn**	**22 42 35.5**	**+0.3**
SBF	**Sospel**	**6.86**	**106**	*e*Pn			**Pn**	**22 42 36.3**	**+0.9**
SBF	**Sospel**	**6.86**	**106**	*e*Pg			**Pg**	**22 43 04.2**	**-1.8**
SBF				*e*Sg			**Sg**	**22 44 30.8**	**-4.0**
	comp=N,3.8nm,0.3s								
BERGE	**Lenzkirch (DE)**	**6.99**	**72**	*e*Sn			**Sn**	**22 43 54.0**	**-2.9**
BERGE				*e*Sg			**Sg**	**22 44 37.5**	**-1.7**
PVIS	**Viseu**	**7.01**	**222**	*e*Pn			**Pn**	**22 42 37.6**	**+0.1**
PVIS				*e*Sn			**Sn**	**22 43 52.6**	**-4.7**
MTE	**Manteigas**	**7.11**	**219**	*e*Pn			**Pn**	**22 42 40.2**	**+1.3**
IWEX	**Carrickbyrne,**	**7.11**	**334**	*e*P			**Pn**	**22 42 39.2**	**+0.4**
IWEX				*e*S			**Sn**	**22 43 53.7**	**-5.8**
BFO	**Black Forest**	**7.19**	**68**	*e*Pn			**Pn**	**22 42 38.9**	**-1.2**
BFO				*e*Pg			**Pg**	**22 43 14.0**	**+1.5**
BFO				*e*Sn			**Sn**	**22 44 01.0**	**-0.7**
BFO	**Black Forest**	**7.19**	**68**	*e*Pg			**Pg**	**22 43 14.4**	**+1.9**
BFO				*e*Sg			**Sg**	**22 44 43.5**	**-2.1**
PCBR	**Castelo Branco**	**7.54**	**216**	*e*Sn			**Sn**	**22 44 04.5**	**-5.8**
PCBR				A			A	22 44 10.0	
	comp=N,2.1nm,0.6s								
DSB	**Dublin**	**7.77**	**339**	*e*P			**Pn**	**22 42 48.7**	**+0.8**
DSB				*e*S			**Sn**	**22 44 10.5**	**-5.4**
PMRV	**Marv??o**	**7.86**	**214**	*e*Sn			**Sn**	**22 44 12.8**	**-5.4**
PGF	**Pioggiola**	**8.45**	**111**	*e*Pn			**Pn**	**22 42 58.1**	**+0.7**
	SNR=1.0								
PGF				*e*Sn			**Sn**	**22 44 28.7**	**-4.2**
	comp=N,2.9nm,0.3s								
PMTG	**Montargil**	**8.50**	**217**	*e*Pn			**Pn**	**22 42 58.4**	**+0.4**
PMTG				*e*Sn			**Sn**	**22 44 27.7**	**-6.3**
PNCL	**Nicolau / Gran**	**9.44**	**215**	*e*Pn			**Pn**	**22 43 10.8**	**-0.1**
KHC	**Kasperske Hory**	**10.76**	**68**	*e*SG				22 46 36.9	

*ISCJB **06** 23:13:42.7±1.0,43°.3S±0°.2×40°.5E±0°.4, h10km, mb4.0/4, MS3.6/7, Error ellipse: s-maj=51.0km s-min=16.8km az=148.2*

*IDC **06** 23:13:42.9±1.0,43°.34S×40°.47E, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.7/45, mbtmp4.1/5, ML3.4/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/29, Error ellipse: s-maj=62.0km s-min=22.8km az=63.0*

ISC 06 23:13:44.3±0.9,**43°.4S**±0°.2×**40°.4E**±0°.3,**h10**km,**n20,** σ0**55**/9,**mb4.2**/4,**MS3.6/7,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOSA	**Boshof**	**19.11**	**315**	P		**Pn**	**23 18 09.2**	**+0.9**
	0.1nm,0.3s,baz=141,slow=13,SNR=4.3							
LBTB	**Lobatse**	**21.97**	**322**	LR		LR	23 25 51.8	
	comp=Z,69nm,18.4s,baz=148,slow=33							
MATP	**Matopo**	**24.95**	**333**	LR		LR	23 27 32.0	
	comp=Z,92nm,18.1s,baz=164,slow=33							
LSZ	**Lusaka**	**29.88**	**336**	P		**P**	**23 19 52.1**	**-0.1**
	3.7nm,0.9s,baz=130,slow=7.3,SNR=7.1							
LSZ				LR		LR	23 29 49.4	
	comp=Z,100nm,19.3s,baz=182,slow=32							
H08S1	**Diego Carcia H**	**45.33**	**48**	T		T	00 09 20.3	
	baz=214,slow=76							
H08S2	**Diego Garcia H**	**45.34**	**48**	T		T	00 09 31.5	
	baz=214							
H08S3	**Diego Garcia H**	**45.35**	**48**	T		T	00 09 21.9	
	baz=214,slow=76							
H08N3	**Diego Garcia H**	**45.64**	**45**	T		T	00 09 59.7	
	baz=205							
H08N1	**Diego Carcia H**	**45.65**	**45**	T		T	00 09 55.0	
	baz=205							
H08N2	**Diego Garcia H**	**45.66**	**45**	T		T	00 09 55.4	
	baz=205							
QSPA	**South Pole Qui**	**46.85**	**180**	P		**P**	**23 22 14.2**	**0.0**
	2.8nm,1.1s,baz=258,slow=4.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**66.44**	**318**	P		**P**	**23 24 33.3**	**-0.6**
	1.3nm,0.9s,baz=155,slow=5.4,SNR=6.7							
STKA	**Stephens Creek**	**76.16**	**121**	P		**P**	**23 25 33.1**	**+0.4**
	1.1nm,0.7s,baz=202,slow=5.4,SNR=3.1							
CPUP	**Villa Florida**	**77.66**	**246**	LR		LR	23 53 19.7	
	comp=Z,52nm,18.9s,baz=199,slow=31							
CMAR	**Chiang Mai Arr**	**81.60**	**55**	LR		LR	23 58 24.8	
	comp=Z,23nm,18.5s,baz=198,slow=33							
KBZ	**Khabaz**	**86.74**	**2**	LR		LR	00 06 10.3	
	comp=Z,37nm,18.4s,baz=52,slow=36							
LPAZ	**La Paz**	**91.83**	**246**	LR		LR	00 03 34.3	
	comp=Z,29nm,18.3s,baz=188,slow=33							
TXAR	**Lajitas Array**	**148.12**	**256**	PKPbc		**PKPbc**	**23 33 30.6**	**+0.2**
	1.7nm,0.8s,baz=145,slow=5.7,SNR=16							
ULM	**Lac du Bonnet**	**149.65**	**299**	PKPbc		**PKPbc**	**23 33 33.1**	**-0.4**
	1.9nm,0.7s,baz=94,slow=2.9,SNR=4.3							
YKA	**Yellowknife Ar**	**155.91**	**331**	PKP		**PKPdf**	**23 33 37.0**	**-0.5**
	0.1nm,0.5s,baz=65,slow=2.9,SNR=2.8							
YKA				PKPab		**PKPab**	**23 34 04.8**	**+0.2**
	0.3nm,0.6s,baz=53,slow=4.5,SNR=6.9							

*IDC **06** 23:14:21.0±1.0,5°.18S×152°.67E, h0km, mb4.1/13, mb1 4.2/13, mb1mx3.9/44, mbtmp4.1/13, MS3.7/5, Ms1 3.7/5, ms1mx3.1/39, Error ellipse: s-maj=37.2km s-min=18.3km az=120.0*

*ISCJB **06** 23:14:27.6±0.9,5°.2S±0°.1×152°.5E±0°.2, h55km, mb4.0/13, Error ellipse: s-maj=32.0km s-min=15.1km az=27.7*

ISC 06 23:14:28.8±1.0,**5°.2S**±0°.2×**152°.6E**±0°.2,**h55**km,**n18,** σ0**72**/16,**mb4.0**/13,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**8.41**	**120**	LR		LR	23 20 02.8	
	comp=Z,168nm,19.4s,baz=306,slow=41							
WRA	**Warramunga Arr**	**23.02**	**229**	P		**P**	**23 19 28.2**	**-1.2**
	1.9nm,0.8s,baz=53,slow=9.7,SNR=19							
WRA				LR		LR	23 29 27.0	
	comp=Z,93nm,18.6s,baz=280,slow=39							
ASAR	**Alice Springs**	**25.71**	**223**	P		**P**	**23 19 55.0**	**+0.8**
	0.7nm,0.4s,baz=60,slow=8.8,SNR=13							
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P		**P**	**23 20 25.2**	**-1.0**
	1.9nm,0.5s,baz=87,slow=8.6,SNR=11							
FITZ				LR		LR	23 32 36.2	
	comp=Z,42nm,18.1s,baz=132,slow=37							
CMAR	**Chiang Mai Arr**	**57.87**	**295**	P		**P**	**23 24 16.4**	**+1.0**
	0.4nm,0.3s,baz=106,slow=4.7,SNR=6.5							
PETK	**Petropavlovsk-**	**58.26**	**4**	P		**P**	**23 24 17.7**	**+0.1**
	5.0nm,1.1s,baz=173,slow=8.4,SNR=3.4							
MKAR	**Makanchi Array**	**80.50**	**319**	P		**P**	**23 26 35.3**	**+0.2**
	0.7nm,0.8s,baz=108,slow=5.0,SNR=4.6							
ZALV	**Zalesovo Beam**	**81.38**	**326**	P		**P**	**23 26 38.9**	**-0.7**
	0.9nm,0.6s,baz=123,slow=6.0,SNR=4.9							
ILAR	**Eielson Array**	**82.61**	**22**	P		**P**	**23 26 44.6**	**-1.2**
	3.2nm,0.8s,baz=247,slow=5.5,SNR=29							
KURBB	**Kurchatov Arra**	**84.00**	**322**	P		**P**	**23 26 53.2**	**0.0**
	0.7nm,0.8s,baz=110,slow=4.3,SNR=4.0							
QSPA	**South Pole Qui**	**84.75**	**180**	P		**P**	**23 26 57.4**	**+0.4**
	2.4nm,1.0s,baz=0.5,slow=14,SNR=4.7							
AAK	**Ala-Archa**	**84.80**	**314**	P		**P**	**23 26 58.0**	**+0.3**
	2.1nm,0.8s,baz=147,slow=5.7,SNR=9.9							
DLBC	**Dease Lake**	**87.84**	**31**	LR		LR	00 00 44.5	
	comp=Z,79nm,20.1s,baz=330,slow=32							
INK	**Inuvik**	**88.91**	**21**	LR		LR	00 01 38.4	
	comp=Z,354nm,21.9s,baz=92,slow=32							
BVAR	**Borovoye Array**	**89.45**	**323**	P		**P**	**23 27 19.3**	**-0.4**
	0.6nm,0.7s,baz=79,slow=2.3,SNR=4.3							
YKA	**Yellowknife Ar**	**95.88**	**28**	P		**P**	**23 27 49.7**	**+0.5**
	0.3nm,0.6s,baz=268,slow=4.

ENTT				S		Sg	23 36 03.9 -0.6
	baz=301						
EGS		0.42	357	P		Pg	23 35 58.8 0.0
NDT	Datong Townshi	0.45	294	*e*P		Pg	23 35 59.2 0.0
	baz=293						
NDT				*e*S		Sg	23 36 04.8 -0.5
	baz=293						
NTC	Toucheng	0.45	345	⇑P		Pg	23 35 59.2 0.0
	baz=355						
TWD	Chiawan	0.47	224	⇓*i*P		Pg	23 35 59.5 -0.2
	baz=227						
TWD				*e*S		Sg	23 36 05.9 -0.2
	baz=227						
ETLH	Xiulin Townshi	0.48	244	⇓P		Pg	23 35 59.7 -0.3
	baz=242						
ETLH				*e*S		Sb	23 36 06.8 -0.6
	baz=242						
NNSB	Datong	0.53	271	⇓P		Pg	23 36 00.6 -0.2
	baz=269						
NNSB				S		Sg	23 36 07.5 -0.3
	baz=269						
NNS	Nan Shan	0.54	272	⇓*i*P		Pg	23 36 00.7 -0.2
	baz=270						
NNS				S		Sg	23 36 07.7 -0.5
	baz=270						
NWLT	Wulai	0.55	311	⇑P		Pb	23 36 01.3 -0.3
	baz=305						
NWLT				*e*S		Sg	23 36 08.3 -0.2
	baz=305						
TIPB	Shuangxi	0.56	347	⇑*i*P		Pg	23 36 01.4 0.0
	baz=348						
TIPB				S		Sg	23 36 09.0 0.0
	baz=348						
TWB1	Santiao Chiao	0.59	3	⇑P		Pg	23 36 01.6 -0.3
	baz=357						
YHNB	Yeheng	0.59	295	⇓P		Pb	23 36 02.0 -0.2
	baz=300						
YHNB				S		Sg	23 36 09.0 -0.7
	baz=300						
NSK	Sanguang	0.60	295	⇓*i*P		Pg	23 36 02.1 -0.1
	baz=294						
NSK				S		Sg	23 36 09.5 -0.8
	baz=294						
ENLB	Shoufeng	0.61	213	*e*P		Pn	23 36 04.2 -0.1
	baz=218						
TWA	Mucha	0.65	329	*e*P		Pb	23 36 03.2 -0.2
	baz=316						
TWA				S		Sg	23 36 11.4 -0.4
	baz=316						
NWF	Wu-fen Shan	0.67	346	*e*P		Pg	23 36 03.3 -0.1
	baz=335						
NWF				*e*S		Sg	23 36 12.5 +0.2
	baz=335						
WFSB	Wu-fen Shan	0.67	346	*e*P		Pb	23 36 03.6 0.0
	baz=347						
NHDH	Xindian Distri	0.67	324	*e*P		Pb	23 36 04.1 +0.5
	baz=317						
WHF	Hehuan Shan	0.69	247	⇓*i*P		Pg	23 36 03.6 -0.3
	baz=255						
WHF				*e*S		Sg	23 36 12.5 -0.6
	baz=255						
TATO	Taipei	0.70	322	⇑P		Pb	23 36 04.4 +0.2
	baz=311						
TATO				S		Sg	23 36 12.5 -0.8
	baz=311						
TDCB	Techi	0.75	257	*e*P		Pb	23 36 04.8 -0.2
	baz=249						
ESL	Shilin	0.77	219	*e*P		Pg	23 36 04.5 -0.8
	baz=225						
CHGB	Renai	0.80	244	P		Pg	23 36 05.3 -0.6
	baz=252						
CHGB				S		Sb	23 36 16.6 -0.2
	baz=252						
YM01	YM01	0.81	334	⇑P		Pb	23 36 06.6 +0.7
	baz=333						
YM01				*e*S		Sn	23 36 18.6 -0.1
	baz=333						
YM11	YM11	0.82	335	⇑P		Pb	23 36 06.9 +0.7
	baz=335						
YM05	YM05	0.82	334	⇑P		Pb	23 36 07.0 +0.7
	baz=334						
YM04	YM04	0.82	332	*e*P		Pb	23 36 06.9 +0.6
	baz=332						
YM08	YM08	0.83	336	⇑P		Pb	23 36 06.8 +0.3
	baz=336						
TWS1	Kuangyinshan	0.84	324	*e*P		Pn	23 36 07.7 +0.3
	baz=312						
OWD	Renai	0.85	237	⇓*e*P		Pg	23 36 06.6 -0.3
	baz=232						
LIOB	Emei	0.89	285	*e*P		Pg	23 36 06.9 -0.6
	baz=284						
LIOB				*e*S		Sg	23 36 18.3 -0.9
	baz=284						
NCU	National Centr	0.89	308	*e*P		Pn	23 36 09.6 +1.4
	baz=299						
NCUH	Zhongli	0.89	308	*e*P		Pn	23 36 09.2 +1.0
	baz=298						
EGFH	Guangfu	0.89	213	*e*P		Pb	23 36 07.8 +0.4
	baz=224						
NSTT	Nanjuang	0.90	284	⇓P		Pb	23 36 08.0 +0.5
	baz=273						
NSTT				*e*S		Sg	23 36 19.1 -0.5
	baz=273						
JYNG	Yonagunijimaku	0.90	88	P		Pg	23 36 07.6 -0.1
JYNG				S		Sg	23 36 19.8 +0.3
TWY	Chenhua	0.91	339	*e*P		Pb	23 36 08.4 +0.7
	baz=328						
WHP	Taichung City	0.94	261	⇓*e*P		Pb	23 36 08.8 +0.6
	baz=261						
WHP				*e*S		Sb	23 36 20.7 +0.3
	baz=261						
YOJ	Yonaguni jima	0.96	87	*e*P		Pg	23 36 08.1 -0.7
	baz=88						
YOJ	Yonaguni jima	0.96	87	P		Pg	23 36 08.5 -0.4
YOJ				*e*S		Sg	23 36 21.3 -0.1
SBCB	Hsinchu	0.96	293	*e*P		Pn	23 36 10.0 +0.9
	baz=292						
VWDT	VWDT	1.00	229	*e*P		Pn	23 36 09.9 +0.2
	baz=234						
HGSD	Ruisui	1.05	208	*e*P		Pn	23 36 11.9 +1.6
	baz=208						
EHY	Hungye	1.08	213	*e*P		Pb	23 36 11.0 +0.4
	baz=223						
TWQ1	Liyutan	1.08	266	*e*P		Pn	23 36 11.7 +0.9
	baz=265						
SMLT	Sun Moon Lake	1.11	241	*e*P		Pb	23 36 11.5 +0.4
	baz=241						
SSLB	Suanglung	1.11	236	⇓P		Pg	23 36 11.3 -0.5
	baz=236						
TYC	Yuchr	1.13	243	*e*P		Pg	23 36 11.4 -0.7
	baz=242						
YULB	Yu-li	1.19	211	*e*P		Pb	23 36 12.6 +0.1
	baz=212						
TWF1	Yuli	1.22	210	*e*P		Pb	23 36 13.3 +0.2
	baz=225						
YUS	Yu-Shan	1.31	225	*e*P		Pg	23 36 15.2 -0.3
	baz=226						
ALS	Alishan	1.39	230	*e*P		Pg	23 36 17.2 +0.1
	baz=216						
CHN5	Tsauling	1.43	235	*e*P		Pg	23 36 18.5 +0.6
	baz=239						
CHN5				*e*S		Sg	23 36 38.8 +2.3
	baz=239						
IRIF	Iriomote-Funau	1.62	93	P		Pn	23 36 17.8 -0.3
IRIF				*e*S		Sn	23 36 38.8 +0.1
CHN4	Tsaushan	1.64	230	*e*P		Pg	23 36 21.3 -0.5
	baz=234						
CHN4				*e*S		Sg	23 36 44.8 +1.6
	baz=234						
WTP	Ta-pu	1.70	227	*e*P		Pg	23 36 22.1 -0.8
	baz=229						
TWK	Hsinying	1.77	230	*e*P		Pg	23 36 23.7 -0.7
	baz=232						
CHN1	Nanshi	1.80	227	*e*P		Pg	23 36 24.2 -0.7
	baz=230						
JKRS	Kuro-shima	1.88	95	P		Pn	23 36 21.9 +0.2
JKRS				S		Sn	23 36 45.4 +0.3
JIJ	Ishigaki jima	1.99	91	P		Pn	23 36 22.9 -0.4
JIJ				*e*S		Sn	23 36 46.9 -1.0
JISG	Ishigakijimahi	2.15	85	P		Pn	23 36 25.0 -0.5
JISG				*e*S		Sn	23 36 50.9 -0.9

*ISCJB **06** 23:41:04.6±0.5, 10°.94S±0°.06×165°.97E±0°.06, h10km, mb4.2/17, MS3.7/9, Error ellipse: s-maj=9.2km s-min=7.8km az=143.2*
*IDC **06** 23:41:04.8±0.7, 10°.81S×165°.96E, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/39, mbtmp4.3/13, ML4.5/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/31, Error ellipse: s-maj=23.9km s-min=17.3km az=98.0*
*NEIC **06** 23:41:06.5±0.4, 10°.86S×165°.94E, h10km, mb4.4/7, Error ellipse: s-maj=10.7km s-min=8.5km az=105.0*

ISC 06 23:41:06.3±0.6, **10°.91S**±0°.07×**165°.99E**±0°.08, **h10**km, **n45, σ1°56/33, mb4.2/17, MS3.6/9, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.13**	**283**	Pn	**Pn**		**23 42 38.7**	**+1.7**
	56nm,0.3s,baz=129,slow=3.4,SNR=5.9							
HNR				Sn	**Sn**		**23 43 48.7**	**+1.5**
	14nm,0.3s,baz=196,slow=18,SNR=1.8							
HNR				LR	LR		23 45 07.0	
	comp=Z,486nm,20.8s,baz=122,slow=40							
DZM	**Mont Dzumac**	**11.11**	**178**	Pn	**Pn**		**23 43 47.0**	**+1.5**
	3.3nm,0.3s,baz=346,slow=14,SNR=25							
DZM				Sn	**Sn**		**23 45 47.8**	**-2.2**
	0.5nm,0.3s,baz=66,slow=20,SNR=2.9							
ONTNC	**Coen Toro**	**11.35**	**178**	*e*Pn	**Pn**		**23 43 50.8**	**+2.1**
TARA	**Tarawa**	**14.00**	**30**	*e*Pn	**Pn**		**23 44 25.8**	**+0.9**
EIDS	**Eidsvold**	**20.16**	**222**	*e*P	Pn		23 45 42.6	-0.3
	12nm,0.8s							
CTA	**Charters Tower**	**21.08**	**242**	P	**P**		**23 45 52.2**	**+1.2**
	7.6nm,0.7s,baz=75,slow=13,SNR=5.0							
CTAO	**Charters Tower**	**21.08**	**242**	*e*P	**P**		**23 45 49.0**	**-2.0**
	12nm,0.9s							
COEN	**Coen**	**22.48**	**260**	*e*P	**P**		**23 46 01.0**	**-5.1**
	3.9nm,1.1s							
URZ	**Urewera**	**29.00**	**162**	P	**P**		**23 47 07.3**	**+0.9**
	3.1nm,0.8s,baz=340,slow=15,SNR=2.2							
H11S2	**WAKE ISLAND Hy**	**29.22**	**1**	T	T		00 17 34.1	
	baz=181,slow=76,SNR=200							
H11S3	**WAKE ISLAND Hy**	**29.22**	**1**	T	T		00 17 34.3	
	baz=181,slow=76,SNR=107							
H11S1	**WAKE ISLAND Hy**	**29.24**	**1**	T	T		00 17 34.3	
	baz=181,slow=76,SNR=143							
BKZ	**Black Stump Fm**	**29.66**	**163**	*e*P	**P**		**23 47 11.8**	**-0.5**
	6.3nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**30.44**	**2**	T	T		00 19 04.6	
	baz=182,slow=76,SNR=134							
H11N3	**WAKE ISLAND Hy**	**30.44**	**2**	T	T		00 19 04.9	
	baz=182,slow=76,SNR=68							
H11N2	**WAKE ISLAND Hy**	**30.46**	**2**	T	T		00 19 05.9	
	baz=182,slow=76,SNR=86							
STKA	**Stephens Creek**	**30.71**	**223**	P	**P**		**23 47 21.9**	**+0.3**
	2.6nm,0.6s,baz=38,slow=12,SNR=8.4							
STKA				LR	LR		23 59 06.9	
	comp=Z,213nm,18.4s,baz=30,slow=35							
WRAB	**Tennant Creek**	**31.74**	**250**	*e*P	**P**		**23 47 29.5**	**-1.4**
	10nm,0.6s							
WB2	**Warramunga Arr**	**31.75**	**250**	*e*P	**P**		**23 47 30.6**	**-0.3**
WRA	**Warramunga Arr**	**31.76**	**250**	P	**P**		**23 47 30.4**	**-0.6**
	17nm,0.8s,baz=81,slow=9.1,SNR=102							
RPZ	**Rata Peaks**	**32.98**	**173**	P	**P**		**23 47 41.5**	**+0.1**
	10nm,0.8s,baz=342,slow=3.2,SNR=3.8							
AS01	**Alice Springs**	**33.03**	**243**	*e*P	**P**		**23 47 40.7**	**-1.4**
AS31	**Alice Springs**	**33.07**	**243**	*e*P	**P**		**23 47 41.5**	**-1.0**
	1.2nm,0.6s							
ASAR	**Alice Springs**	**33.07**	**243**	P	**P**		**23 47 41.5**	**-1.0**
	2.8nm,0.7s,baz=64,slow=10,SNR=29							
ASAR				LR	LR		23 59 37.7	
	comp=Z,145nm,21.6s,baz=106,slow=34							
FITZ	**Fitzroy Crossi**	**39.65**	**255**	*e*P	**P**		**23 48 38.9**	**+0.1**
	14nm,0.7s							
PPT	**Papeete**	**43.50**	**104**	LR	LR		00 04 30.9	
	comp=Z,97nm,19.7s,baz=353,slow=32							
KSRS	**Korea Array**	**59.90**	**325**	LR	LR		00 13 21.0	
	comp=Z,13nm,21.3s,baz=310,slow=32							
PETK	**Petropavlovsk-**	**64.15**	**354**	LR	LR		00 13 58.4	
	comp=Z,29nm,20.9s,baz=146,slow=31							
VNDA	**Vanda**	**66.64**	**181**	P	**P**		**23 51 57.9**	**+1.2**
	4.5nm,1.3s,baz=349,slow=5.1,SNR=2.5							
MA2	**Magadan**	**71.31**	**352**	LR	LR		00 18 11.3	
	comp=Z,41nm,21.7s,baz=149,slow=31							
CMAR	**Chiang Mai Arr**	**72.28**	**293**	P	**P**		**23 52 32.8**	**+0.2**
	0.5nm,0.3s,baz=101,slow=4.8,SNR=2.9							
SONA0	**Songino Array**	**78.70**	**324**	*e*P	**P**		**23 53 09.1**	**0.0**
SONM	**Songino Array**	**78.70**	**324**	P	**P**		**23 53 09.1**	**0.0**
	0.2nm,0.4s,baz=132,slow=6.4,SNR=2.9							
ILAR	**Eielson Array**	**83.31**	**18**	P	**P**		**23 53 32.9**	**-0.2**
	0.8nm,0.5s,baz=235,slow=5.0,SNR=15							
MAW	**Mawson**	**84.94**	**202**	LR	LR		00 24 18.5	
	comp=Z,97nm,19.6s,baz=133,slow=30							
NVAR	**Mina Array Bea**	**85.75**	**50**	LR	LR		00 27 51.4	
	comp=Z,36nm,18.5s,baz=270,slow=33							
MK32	**Makanchi Array**	**93.58**	**317**	*e*P	**P**		**23 54 22.6**	**-0.3**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**		**23 54 22.6**	**-0.3**
	0.8nm,0.9s,baz=103,slow=5.5,SNR=5.8							
YKA	**Yellowknife Ar**	**94.74**	**27**	P	**P**		**23 54 26.1**	**-1.7**
	0.1nm,0.5s,baz=252,slow=4.5,SNR=2.9							
TXAR	**Lajitas Array**	**95.55**	**61**	LR	LR		00 32 18.0	
	comp=Z,36nm,19.1s,baz=0.0,slow=32							
ARA0	**ARCESS Array S**	**116.26**	**346**	*e*PKPdf	**PKPdf**		**23 59 48.3**	**-1.3**
ARCES	**ARCESS Array B**	**116.26**	**346**	PKP	**PKPdf**		**23 59 48.3**	**-1.3**
	9.0nm,1.0s,baz=48,slow=2.7,SNR=4.8							
ESDC	**Sonseca Array**	**149.99**	**344**	PKPbc	**PKiKP**		**00 00 57.4**	**-1.1**
	0.1nm,0.3s,baz=8.5,slow=6.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**164.48**	**280**	PKP	**PKPdf**		**00 01 13.2**	**+1.8**
	0.4nm,0.9s,baz=38,slow=2.3,SNR=2.7							
TOA1	**Torodi Ar. Sit**	**164.48**	**280**	*e*PKPdf	**PKPdf**		**00 01 13.2**	**+1.8**

*IDC **07** 00:33:14.4±1.9, 5°.31S×152°.73E, h0km, mb3.8/8, mb1 1.4/0, mb1mx3.7/37, mbtmp3.8/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=61.5km s-min=23.3km az=116.0*

ISC 07 00:33:20.3±1.7, **5°.4S**±0°.2×**152°.7E**±0°.3, **h40**km, **n9, σ0°81/10, mb3.6/8, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.98**	**229**	P	**P**		**00 38 22.2**	**+0.5**
	0.7nm,0.7s,baz=53,slow=9.9,SNR=9.2							
WRA				LR	LR		00 48 28.2	
	comp=Z,64nm,18.9s,baz=175,slow=40							
ASAR	**Alice Springs**	**25.65**	**223**	P	**P**		**00 38 47.8**	**+1.3**
	0.6nm,0.6s,baz=40,slow=9.0,SNR=9.0							
FITZ	**Fitzroy Crossi**	**29.29**	**242**	P	**P**		**00 39 18.4**	**-0.8**
	1.5nm,0.8s,baz=56,slow=9.0,SNR=7.5							
CMAR	**Chiang Mai Arr**	**58.04**	**296**	P	**P**		**00 43 10.2**	**+0.3**
	1.3nm,0.3s,baz=120,slow=5.5,SNR=4.9							
SONM	**Songino Array**	**66.78**	**328**	P	**P**		**00 44 08.4**	**+0.6**
	0.3nm,0.8s,baz=144,slow=5.4,SNR=2.7							
MKAR	**Makanchi Array**	**80.71**	**319**	P	**P**		**00 45 28.7**	**-0.7**
	0.4nm,0.6s,baz=102,slow=6.6,SNR=5.0							
ZALV	**Zalesovo Beam**	**81.59**	**326**	P	**P**		**00 45 34.1**	**+0.2**
	0.9nm,0.4s,baz=29,slow=3.4,SNR=3.6							
YKA	**Yellowknife Ar**	**96.00**	**28**	P	**P**		**00 46 43.1**	**+0.1**
	0.2nm,0.5s,baz=268,slow=4.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**150.39**	**287**	PKPbc	**PKPbc**		**00 53 07.9**	**-0.6**
	0.2nm,0.4s,baz=96,slow=2.8,SNR=7.1							
TORD				PKPab	**pPKPdf**		**00 53 14.0**	**-0.8**
	1.0nm,0.7s,baz=46,slow=3.3,SNR=7.7							

*ISCJB **07** 00:36:44.4±0.9, 61°.59N±0°.07×42°.6W±0°.2, h10km, mb3.5/8, Error ellipse: s-maj=12.2km s-min=10.4km az=179.7*
*IDC **07** 00:36:44.9±1.0, 61°.56N×42°.32W, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/46, mbtmp3.6/11, ML2.6/3, Error ellipse: s-maj=23.3km s-min=17.4km az=22.0*

ISC 07 00:36:46.4±1.0, **61°.45N**±0°.08×**42°.79W**±0°.09, **h10**km, **n14, σ2°11/18, mb3.5/8, Western Kalaallit Nunaat**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**1.30**	**258**	*i* P	**Pn**		**00 37 10.5**	**-0.1**
SFJD	**Kangerlussuaq**	**6.53**	**332**	*i* P	**Pn**		**00 38 21.5**	**-0.8**
SFJD				*i* S	**Sn**		**00 39 36.5**	**-0.1**
SFJD	**Kangerlussuaq**	**6.53**	**332**	Pn	**Pn**		**00 38 23.2**	**+0.9**
	0.8nm,0.3s,baz=130,slow=14,SNR=8.4							
SFJD				Sn	**Sn**		**00 39 35.2**	**-1.4**
	2.5nm,0.3s,baz=228,slow=16,SNR=7.3							
SFJD				Lg	Lg		00 40 08.7	
	18nm,0.3s,baz=251,slow=19,SNR=17							
SUMG	**Summit**	**11.30**	**7**	*i* P	**Pn**		**00 39 25.8**	**-2.2**
FRB	**Frobisher Bay**	**12.05**	**292**	Pn	**Pn**		**00 39 37.0**	**-0.9**
	0.0nm,0.3s,baz=104,slow=12,SNR=4.0							
FRB				Sn	**Sn**		**00 41 51.1**	**-1.0**
	0.1nm,0.3s,baz=39,slow=13,SNR=1.7							
SCHQ	**Schefferville**	**14.26**	**253**	Pn	**Pn**		**00 40 07.9**	**-0.3**
	0.1nm,0.3s,baz=37,slow=6.6,SNR=4.1							
SCHQ				Sn	**Sn**		**00 42 40.5**	**-5.8**
	0.1nm,0.3s,baz=270,slow=18,SNR=2.4							
RES	**Resolute Bay**	**22.49**	**327**	P	**P**		**00 41 46.8**	**+1.3**
	1.1nm,0.8s,baz=87,slow=9.3,SNR=7.1							
ULM	**Lac du Bonnet**	**30.94**	**273**	P	**P**		**00 43 04.6**	**+1.5**
	2.8nm,1.1s,baz=48,slow=14,SNR=3.0							
ILAR	**Eielson Array**	**42.07**	**322**	P	**P**		**00 44 38.9**	**+1.1**
	0.8nm,0.8s,baz=44,slow=6.7,SNR=11							
PDAR	**Pinedale Array**	**42.87**	**276**	P	**P**		**00 44 45.1**	**+0.4**
	0.9nm,0.7s,baz=46,slow=7.8,SNR=8.0							
NVAR	**Mina Array Bea**	**50.41**	**279**	P	**P**		**00 45 46.6**	**+2.7**
	0.4nm,0.5s,baz=51,slow=7.1,SNR=3.2							
TXAR	**Lajitas Array**	**50.83**	**260**	P	**P**		**00 45 49.4**	**+2.4**
	0.4nm,0.8s,baz=52,slow=5.8,SNR=4.7							
TORD	**Torodi Ar. Bea**	**57.85**	**126**	P	**P**		**00 46 37.0**	**-1.0**
	0.5nm,1.0s,baz=336,slow=6.3,SNR=4.0							
MKAR	**Makanchi Array**	**63.41**	**39**	P	**P**		**00 47 13.7**	**-1.9**
	0.2nm,0.7s,baz=327,slow=6.0,SNR=3.2							

*ISK **07** 01:01:42.1, 38°.66N×43°.21E, h24km, ML2.0/7*
*DDA **07** 01:01:43.5, 38°.67N×43°.19E, h7km±1km, ML2.5*

ISC 07 01:01:42.2±1.1, **38°.64N**±0°.04×**43°.24E**±0°.05, **h31**km±8km, **n12, σ0°41/17, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**113**	PG	**Pn**		**01 01 48.4**	**+0.2**
VANB				SG	**Sb**		**01 01 52.6**	**+0.5**
TVAN	**Van**	**0.17**	**132**	*i* P	**Pn**		**01 01 49.0**	**0.0**
TVAN				*i* S	**Sb**		**01 01 53.0**	**+0.1**
TVAN				IAML_P				
	comp=Z,2μm,0.1s							
GEVA	**Gevas**	**0.36**	**204**	*i* P	**Pn**		**01 01 51.3**	**-0.2**
GEVA				IAML_P				
	comp=Z,1μm,0.1s							
AKDM	**Akdamar-Van**	**0.38**	**213**	PG	**Pb**		**01 01 50.8**	**-0.2**
ERCV	**ERCIS-VAN**	**0.38**	**11**	PG	**Pb**		**01 01 50.7**	**-0.4**
ERCV				SG	**Sb**		**01 01 57.1**	**-0.1**
VMUR	**Van-Muradiye**	**0.43**	**37**	*i* P	**Pn**		**01 01 52.2**	**-0.3**
VMUR				*i* S	**Sn**		**01 01 59.2**	**-0.2**
VMUR				IAML_P				
	comp=Z,663nm,0.1s							
ADCV	**BITLIS_Adilcev**	**0.44**	**292**	*i* P	**Pn**		**01 01 52.0**	**-0.5**
ADCV				IAML_P				
	comp=Z,228nm,0.1s							
CLDR	**Caldiran**	**0.72**	**46**	PG	**Pn**		**01 01 56.9**	**+0.3**
MLAZ	**Malazgirt-MUS**	**0.73**	**313**	PG	**Pn**		**01 01 56.5**	**-0.1**
MLAZ				SG	**Sn**		**01 02 07.1**	**+0.3**
TUTA	**Tutak**	**0.83**	**336**	*i* P	**Pn**		**01 01 58.8**	**+0.8**
AGRB	**Hanur-Agry**	**0.95**	**348**	PG	**Pn**		**01 01 59.8**	**+0.2**
GURO	**Guroymak-BITLI**	**0.95**	**265**	PG	**Pn**		**01 02 00.1**	**+0.5**

*IDC **07** 01:01:59.2±0.9, 34°.35N×23°.60E, h0km, mb4.1/16, mb1 4.1/27, mb1mx4.0/46, mbtmp3.9/27, ML3.5/8, MS3.5/2, Ms1 3.5/2, ms1mx2.8/39, Error ellipse: s-maj=19.6km s-min=13.0km az=1.0*
*ISK **07** 01:01:59.9, 34°.14N×23°.51E, h20km, ML4.0/16*
*ISCJB **07** 01:02:02.4±0.5, 34°.14N±0°.03×23°.67E±0°.03, h39km±4km, mb4.1/33, MS3.5/2, Error ellipse: s-maj=6.1km s-min=3.0km az=29.2*
*MOS **07** 01:02:02.3±1.4, 34°.36N×23°.76E, h23km, mb4.4/20, Error ellipse: s-maj=9.1km s-min=4.4km az=84.9*
*HLW **07** 01:02:04.0, 34°.43N×23°.87E, h25km±30km, Md4.2, Ml4.0*
*THE **07** 01:02:04.8, 34°.36N×23°.58E, h7km±1km, ML3.6/12, Error ellipse: s-maj=1.6km s-min=1.2km az=23.0*
*NEIC **07** 01:02:04.5±0.0, 34°.29N×23°.55E, h15km, mb4.1/21, ML3.7(THE), After THE.*
*ATH **07** 01:02:08.7, 34°.63N×23°.79E, h45km±1km, ML3.5/9, Error ellipse: s-maj=7.4km s-min=1.5km az=205.0*
*GII **07** 01:02:09.5±0.0, 34°.32N×24°.17E, h30km*
*DDA **07** 01:02:42.7, 35°.87N×26°.66E, h29km±4km, ML4.0*

ISC 07 01:02:01.5±1.4, **34°.11N**±0°.05×**23°.61E**±0°.04, **h23**km±9km, **n316, σ1°89/350, mb4.2/36, 11C-11D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.83**	**29**	PG	**Pb**		**01 02 17.4**	**+0.1**
GVD				SG	**Sb**		**01 02 28.9**	**+0.9**
GVD	**Gavdhos**	**0.83**	**29**	P	**Pb**		**01 02 17.8**	**+0.5**
GVD				S	**Sb**		**01 02 28.8**	**+0.8**
GVD	**Gavdhos**	**0.83**	**29**	P	**Pb**		**01 02 17.8**	**+0.5**
GVD				S	**Sb**		**01 02 25.3**	**-2.7**
GVD	**Gavdhos**	**0.83**	**29**	P	**Pb**		**01 02 17.8**	**+0.5**
GVD				AML	AML		01 02 32.1	
	comp=N,52558μm,0.3s							
GVD				AML	AML		01 02 32.9	
	comp=E,44924μm,0.4s							
KERA	**Keramoti**	**1.26**	**358**	P	**Pb**		**01 02 24.8**	**+0.3**
KERA				AML	AML		01 02 46.0	
	comp=N,9391μm,0.5s							
KERA				AML	AML		01 02 49.5	
	comp=E,8700μm,0.7s							
TMBK	**Timbaki Herakl**	**1.36**	**45**	P	**Pb**		**01 02 26.8**	**+0.6**
TMBK				S	**Sb**		**01 02 43.8**	**+0.7**
IMMV	**Iera Moni Meta**	**1.38**	**13**	PN	**Pn**		**01 02 24.9**	**-0.5**
IMMV				SN	**Sn**		**01 02 43.6**	**+0.6**
IMMV	**Iera Moni Meta**	**1.38**	**13**	P	**Pn**		**01 02 25.9**	**+0.5**
IMMV				S	**Sn**		**01 02 43.0**	**0.0**
IMMV	**Iera Moni Meta**	**1.38**	**13**	P	**Pn**		**01 02 26.0**	**+0.5**
IMMV				AML	AML		01 02 49.1	
	comp=E,16340μm,0.6s							
IMMV				AML	AML		01 02 51.3	
	comp=N,13177μm,0.5s							
VAM	**Vamos**	**1.38**	**21**	P	**Pn**		**01 02 25.7**	**+0.3**
VAM				S	**Sn**		**01 02 43.2**	**+0.2**
VAM	**Vamos**	**1.38**	**21**	P	**Pn**		**01 02 25.7**	**+0.3**
VAM				S	**Sn**		**01 02 43.2**	**+0.2**
VAM	**Vamos**	**1.38**	**21**	P	**Pn**		**01 02 25.7**	**+0.3**
VAM				S	**Sn**		**01 02 43.2**	**+0.2**
VAM	**Vamos**	**1.38**	**21**	P	**Pn**		**01 02 25.9**	**+

comp=N,413µm,0.9s
ZKR AML AML 01 03 45.2
comp=E,1216µm,0.8s
MHLO Agia Marina, M 2.66 14 P **Pn 01 02 43.3 +0.4**
MHLO Agia Marina, M 2.66 14 P **Pn 01 02 43.0 +0.1**
VLI Veliai 2.66 348 P **Pn 01 02 43.4 +0.4**
VLI S **Sn 01 03 14.2 -0.3**
VLI Veliai 2.66 348 P **Pn 01 02 44.8 +1.9**
MHLA Plaka, Milos I 2.71 14 P **Pn 01 02 43.5 -0.2**
SANT Santorini 2.72 33 PN **Pn 01 02 44.2 +0.4**
SANT Santorini 2.72 33 *e*Pn **Pn 01 02 43.6 -0.2**
SANT *e*Sn **Sn 01 03 13.8 -2.2**
SANT Santorini 2.72 33 P **Pn 01 02 43.8 0.0**
SAP2K Karterados 2.75 33 P **Pn 01 02 44.8 +0.6**
THT2 Imerovigli 2.76 32 P **Pn 01 02 45.4 +1.1**
CMBO Columbo, Santo 2.78 31 P **Pn 01 02 44.8 +0.2**
ANAF Anafi Island 2.86 38 P **Pn 01 02 45.4 -0.3**
SLUM Salum 2.94 152 AMP 01 03 00.0
baz=158
SERI Serifos 3.13 13 P **Pn 01 02 48.6 -0.8**
PYL PYLOS 3.17 332 P **Pn 01 02 51.4 +1.4**
PYL PYLOS 3.17 332 P **Pn 01 02 51.6 +1.7**
YDRA Hydra 3.23 358 P **Pn 01 02 51.0 +0.1**
KARP Karpathos 3.26 63 PN **Pn 01 02 52.9 +1.7**
KARP Karpathos 3.26 63 *e*Pn **Pn 01 02 54.1 +2.9**
KARP *e*Sn **Sn 01 03 29.6 +0.3**
KARP Karpathos 3.26 63 P **Pn 01 02 53.8 +2.6**
KARP S **Sn 01 03 32.0 +2.7**
KARP Karpathos 3.26 63 P **Pn 01 02 53.8 +2.6**
KRND KRANIDI 3.29 354 P **Pn 01 02 52.5 +0.9**
KRND KRANIDI 3.29 354 P **Pn 01 02 52.5 +0.9**
AMGA Amorgos Island 3.30 34 P **Pn 01 02 51.5 -0.2**
APE Apeiranthos 3.34 27 PN **Pn 01 02 52.5 +0.1**
APE Apeiranthos 3.34 27 *c i*P **Pn 01 02 51.5 -0.9**
APE Apeiranthos 3.34 27 P **Pn 01 02 51.6 -0.8**
ITM Ithomi 3.35 336 *e*Pg Pb 01 03 10.4 +10
ITM Ithomi 3.35 336 P **Pn 01 02 54.5 +1.9**
DID Didima 3.40 355 P **Pn 01 02 53.2 0.0**
VLX Vlachokerasia 3.40 343 P **Pn 01 02 55.4 +2.1**
EPID Epidavros 3.52 354 P **Pn 01 02 55.5 +0.7**
TRIP Tripoli 3.58 343 P **Pn 01 02 57.7 +2.0**
VLY Voula,Athens 3.74 2 P **Pn 01 02 57.6 -0.3**
AMT Artemida-Makis 3.75 336 P **Pn 01 03 00.2 +2.2**
NISR Nisiros 3.81 48 P **Pn 01 02 59.3 +0.5**
ATHU Athens Univers 3.85 2 P **Pn 01 02 58.8 -0.6**
PTL Penteli 3.94 3 P **Pn 01 03 00.2 -0.4**
PTL Penteli 3.94 3 P **Pn 01 03 00.2 -0.4**
LTK Loutraki 3.94 353 P **Pn 01 03 00.7 +0.1**
GUR Goura 3.95 345 P **Pn 01 03 02.1 +1.2**
KLV Kalavryta, Ach 4.10 344 P **Pn 01 03 04.2 +1.4**
VIL2 Platees 4.10 356 P **Pn 01 03 01.9 -0.9**
DRO Drossia 4.13 339 P **Pn 01 03 05.2 +1.9**
DAT Datca 4.17 50 PN **Pn 01 03 05.3 +1.5**
DAT Datca 4.17 50 *i*P **Pn 01 03 05.9 +2.1**
BODT Bodrum 4.22 45 PN **Pn 01 03 06.0 +1.6**
ARG Arkhangelos 4.26 59 PN **Pn 01 03 06.9 +2.0**
ARG Arkhangelos 4.26 59 P **Pn 01 03 06.5 +1.6**
ARG Arkhangelos 4.26 59 P **Pn 01 03 06.6 +1.6**
BDRM Kayabasi 4.30 46 *i*P **Pn 01 03 07.5 +2.0**
EREA Eretria 4.31 3 P **Pn 01 03 05.6 -0.1**
DSF Desfina 4.38 349 P **Pn 01 03 07.3 +0.6**
SERG Sergoula 4.47 344 P **Pn 01 03 08.2 +1.6**
EFP Efpalio 4.52 343 P **Pn 01 03 11.4 +2.8**
ATAL Atalanti 4.60 354 P **Pn 01 03 09.6 0.0**
CHOS Chios island 4.71 24 PN **Pn 01 03 11.9 +0.7**
CHOS Chios island 4.71 24 P **Pn 01 03 10.4 -0.8**
AXAR Agios Charalam 4.71 351 P **Pn 01 03 13.6 +2.4**
SMIA Simia 4.77 356 P **Pn 01 03 12.5 +0.4**
PVO Paravola 4.80 340 P **Pn 01 03 15.2 +2.8**
YER Yerkesik 4.86 50 PN **Pn 01 03 15.4 +2.1**
URLA Izmir 4.88 29 PN **Pn 01 03 14.8 +1.2**
TURN Turunc 4.92 55 PN **Pn 01 03 11.2 -2.8**
TURN Turunc 4.92 55 *i*P **Pn 01 03 11.4 -2.7**
TURN *i*S Sn 01 03 58.7 -12
DALY Dalyan (Mula) 4.93 55 PN **Pn 01 03 16.4 +2.3**
DALY Dalyan (Mula) 4.93 55 *i*P **Pn 01 03 16.8 +2.6**
DALY *i*S **Sn 01 04 06.6 -3.7**
AYDN Tasoluk 4.96 43 *i*P **Pn 01 03 16.2 +1.6**
AGG Agios Georgios 5.01 349 *e*Pn **Pn 01 03 16.2 +0.9**
AGG *e*Sn **Sn 01 04 07.8 -4.8**
AGG Agios Georgios 5.01 349 *e*P **Pn 01 03 16.2 +0.9**
AGG 01 04 07.8 *e*
AGG Agios Georgios 5.01 349 P **Pn 01 03 16.2 +0.9**
AOS Alonnisos 5.06 2 PN **Pn 01 03 15.8 -0.1**
BLCB Balcova 5.09 32 PN **Pn 01 03 17.9 +1.5**
FETY Fethiye 5.14 59 PN **Pn 01 03 19.1 +2.1**
FETY Fethiye 5.14 59 *i*P **Pn 01 03 18.2 +1.2**
FETY *i*S **Sn 01 04 09.5 -6.1**
AYDB Zeytinkoy-Aydi 5.17 41 PN **Pn 01 03 19.0 +1.4**
AKAS Kas 5.35 65 PN **Pn 01 03 22.3 +2.2**
AKAS Kas 5.35 65 *i*P **Pn 01 03 21.6 +1.5**
AKAS *i*S **Sn 01 04 19.5 -1.6**
SIGR SIGRI 5.40 19 PN **Pn 01 03 21.6 +0.9**
TAVA DENIZLI_Tavas 5.46 51 *i*P **Pn 01 03 23.2 +1.7**
TAVA *i*S **Sn 01 04 21.7 -2.1**
GOLH Golhisar 5.76 56 *i*P **Pn 01 03 28.8 +3.0**
GOLH IAML_P
comp=Z,2µm,0.3s
ELL Elmali 5.78 61 PN **Pn 01 03 28.5 +2.5**
AKUM Antalya-Kumluc 5.94 66 *i*P **Pn 01 03 29.2 +1.1**
AKUM *i*S **Sn 01 04 30.3 -5.1**
AKUM IAML_P
comp=Z,2µm,0.2s
KULA Kula-Manisa 6.00 41 PN **Pn 01 03 31.2 +2.3**
LIT Litokhoron 6.05 352 *e*Pn **Pn 01 03 27.6 -1.9**
LIT *e*Sn **Sn 01 04 33.0 -5.1**
LIT Litokhoron 6.05 352 *e*P **Pn 01 03 27.6 -1.9**
LIT 01 04 33.0 *e*
KORT Korkueli 6.21 60 PN **Pn 01 03 34.8 +2.9**
KORT Korkueli 6.21 60 *i*P **Pn 01 03 34.2 +2.3**
KORT *i*S **Sn 01 04 37.1 -5.0**
USAK Uak-Merkez 6.34 42 *i*P **Pn 01 03 35.2 +1.7**
BRDR BURDUR-Merkez 6.34 54 *i*P **Pn 01 03 35.0 +1.3**
KHAL Karahalli 6.38 47 *i*P **Pn 01 03 35.6 +1.4**
KZIL AFYON_Kizioren 6.71 50 *i*P **Pn 01 03 39.0 +0.3**
GDZ Gediz 6.86 42 *i*P **Pn 01 03 42.2 +1.4**
FNA Florina 6.89 346 *e*Pn **Pn 01 03 41.7 +0.5**
FNA *e*Sn **Sn 01 04 56.2 -2.7**
FNA Florina 6.89 346 *e*P **Pn 01 03 41.7 +0.5**
FNA 01 04 56.2 *e*
KEPZ Antalya-Kepez 7.09 65 *i*P **Pn 01 03 45.4 +1.4**
BIA Bitola 7.13 346 *i*Pn **Pn 01 03 43.7 -0.8**
SHUT Suhut-Afyon 7.15 50 PN **Pn 01 03 47.0 +2.3**
PPCY Paphos 7.26 81 P **Pn 01 03 45.7 -0.4**
STIP Stip 7.66 352 *i*Pn **Pn 01 03 54.8 +3.2**
LEF Lefka 7.72 80 *i*P **Pn 01 03 52.4 -0.2**
LEF *i*S **Sn 01 05 11.2 -8.1**
MAMC Mammari 7.99 80 P **Pn 01 03 55.9 -0.3**
ERMK Ermenek 8.01 69 *i*P **Pn 01 03 58.0 +1.4**
ERMK *i*S **Sn 01 05 21.3 -5.3**
ERMK IAML_P
comp=Z,480nm,0.2s
CSS Mathiatis 8.07 81 *e*Pn **Pn 01 03 57.4 +0.1**
CSS *e*Sn **Sn 01 05 21.9 -5.9**
CSS Mathiatis 8.07 81 P **Pn 01 03 57.4 +0.1**
CSS Mathiatis 8.07 81 Pn **Pn 01 03 57.4 +0.1**
CSS Sn **Sn 01 05 23.4 -4.5**
KDHN Kadinhani 8.16 55 *i*P **Pn 01 03 58.7 +0.1**
VAE Valguarnera 8.19 297 Pn **Pn 01 03 58.8 -0.2**
comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=2.2
VAE Sn **Sn 01 05 24.6 -6.3**
comp=Z,1.6nm,0.3s,baz=180,slow=3.0,SNR=2.6
GULN MERSIN_Gulnar 8.40 73 *i*P **Pn 01 04 02.5 +0.7**
PHNC Paralimni 8.65 81 P **Pn 01 04 06.7 +1.5**
DRME Dracevica, Mon 8.78 338 *e*Pn **Pn 01 04 05.4 -1.7**
EREN Erenkoy 8.80 78 *i*P **Pn 01 04 09.4 +2.0**
PDG Podgorica 8.98 339 *e*Pn **Pn 01 04 05.5 -4.3**
TREB Trebinje 9.53 336 *e*Pn **Pn 01 04 14.1 -3.2**
SLTI Sal'it 9.76 98 Pn **Pn 01 04 22.1 +1.6**
BR101 Keskin Array S 9.79 52 *e*Pn **Pn 01 04 21.6 +0.5**
BR131 Keskin Array S 9.79 52 *e*Pn **Pn 01 04 20.7 -0.3**
BRTR Keskin Array B 9.79 52 Pn **Pn 01 04 21.6 +0.5**
comp=Z,0.2nm,0.3s,baz=225,slow=13,SNR=8.8
AMAZ Amatzia 9.86 102 Pn **Pn 01 04 24.3 +2.4**
STON Ston 9.89 334 *e*Pn **Pn 01 04 20.6 -1.7**
MMA0B Mount Meron ar 9.90 93 Pn **Pn 01 04 24.1 +1.6**
MMAI Mount Meron Ar 9.90 93 Pn **Pn 01 04 21.8 -0.7**
comp=Z,1.9nm,0.3s,baz=296,slow=10,SNR=23
MMAI Sn **Sn 01 06 08.2 -4.8**
comp=Z,2.9nm,0.3s,baz=292,slow=24,SNR=5.8
MMLI Mount Malkishu 10.03 96 Pn **Pn 01 04 26.3 +2.0**
YTIR Yattir 10.07 103 Pn **Pn 01 04 26.9 +2.0**
NATI Neve Ativ 10.14 91 Pn **Pn 01 04 27.0 +1.3**
HMDT Nahal Hemdat 10.16 97 Pn **Pn 01 04 27.9 +1.9**
HMDT Sn **Sn 01 06 15.7 -3.5**
DSI Dead Sea 10.22 101 Pn **Pn 01 04 28.6 +1.8**
BBLS Lazići 10.28 343 *e*Pn **Pn 01 04 23.3 -4.3**
PRNI Paran 10.35 108 Pn **Pn 01 04 30.9 +2.2**
ZFRI Zfri 10.41 107 Pn **Pn 01 04 31.1 +1.7**
GHAJ Ghor Haditha 10.46 102 Pn **Pn 01 04 32.1 +2.1**
GHAJ Sn **Sn 01 06 24.1 -2.4**
HAPS Han Pijesak,BI 10.60 341 *e*Pn **Pn 01 04 27.6 -4.4**
EIL Elat 10.61 112 Pn **Pn 01 04 32.5 +0.3**
comp=Z,0.1nm,0.3s,baz=338,slow=18,SNR=5.3
EIL Sn **Sn 01 06 26.3 -3.9**
comp=Z,0.9nm,0.3s,baz=56,slow=18,SNR=4.5
ASF Jabal al Asfar 11.31 96 Pn **Pn 01 04 42.0 +0.2**
comp=Z,0.2nm,0.3s,baz=227,slow=15,SNR=2.7
ASF Sn **Sn 01 06 44.4 -3.1**
comp=Z,0.2nm,0.3s,baz=306,slow=19,SNR=2.6
FRGS Fruska Gora 11.41 346 *e*Pn **Pn 01 04 39.7 -3.4**
MLR Muntele Rosu 11.51 8 *i*P Pn 01 04 57.4 +13
MLR Muntele Rosu 11.51 8 Pn **Pn 01 04 43.1 -1.4**
baz=120,slow=20
BLY Banja Luka 11.72 337 *e*Pn **Pn 01 04 43.4 -3.9**
KEST Kesra 11.82 282 Pn **Pn 01 04 47.9 -0.8**
comp=Z,0.1nm,0.3s,baz=137,slow=15,SNR=2.0
KEST Sn **Sn 01 06 57.1 -2.8**
comp=Z,0.1nm,0.3s,baz=36,slow=19,SNR=2.6
PLOR Plostina 11.96 10 *i*P Pn 01 05 05.4 +15
PLOR Plostina 11.96 10 P Pn 01 05 05.5 +15
MORH Mrgy, Hungar 12.67 344 *e*Pn Pn 01 04 53.9 -6.3
BIZ Bicaz 12.96 8 *i*P **P 01 05 15.4 +0.9**
BOJS Bojanci 13.06 333 *i*Pn **Pn 01 05 04.7 -0.8**
BOJS *i*Sn Sn 01 07 19.6 -10
GBRS Gornja Briga 13.25 332 *i*Pn **Pn 01 05 07.3 -0.9**
GBRS *i*Sn Sn 01 07 24.4 -10
CRES Cresnjev 13.26 334 *i*Pn **Pn 01 05 06.4 -1.9**
CRES *i*Sn Sn 01 07 22.6 -12
CRES Cresnjev 13.26 334 *e*Pn **Pn 01 05 05.8 -2.5**
PRAR RASCA 13.39 8 *i*P **P 01 05 21.2 +1.9**
BURAR Bucovina Array 13.55 5 *i*P **P 01 05 22.2 +1.0**
BURAR Bucovina Array 13.55 5 P **P 01 05 22.2 +1.0**
CEY Cerknica 13.57 332 *e*Pn **Pn 01 05 09.9 -2.7**
TRPA Tarpa 14.03 357 *i*P **Pn 01 05 21.5 +2.7**
OBKA Obir 14.17 334 Pn **Pn 01 05 21.9 +1.1**
comp=Z,0.2nm,0.1s
VYHS Vyhne 14.81 348 *e*P **P 01 05 35.8 +0.7**
VYHS Vyhne 14.81 348 *e*PN **P 01 05 35.8 +0.7**
MODS Modra-Piesok 15.02 344 *e*P **P 01 05 38.1 +0.7**
MODS Modra-Piesok 15.02 344 *e*PN **P 01 05 38.1 +0.7**
KBA Koelnbreinspar 15.10 332 P **P 01 05 39.1 +0.6**
comp=Z,0.6nm,0.3s
ABTA Abfaltersbach 15.17 330 *e*P **P 01 05 41.7 +2.4**
comp=Z,3.5nm,0.6s
MOA Molln 15.41 336 *e*Pn **Pn 01 05 39.3 +1.8**
comp=Z,3.8nm,0.4s
SIRT Sirnak 15.65 72 *e*Pn **Pn 01 05 39.3 -1.4**
comp=Z,140nm,0.6s
WTTA Wattenberg 15.95 329 *e*P **P 01 05 50.9 +3.0**
comp=Z,1.2nm,0.3s
WATA Walderalm 16.03 329 *e*Pn **P 01 05 49.7 +0.9**
comp=Z,0.3nm,0.2s
VRAC Vranov 16.05 343 *e*PN **P 01 05 49.3 +0.4**
FETA Feichten 16.16 327 P **P 01 05 52.8 +2.5**
comp=Z,2.6nm,0.8s
OKC Ostrava-Krasne 16.22 347 *e*P **Pn 01 05 48.8 +1.0**
OKC Ostrava-Krasne 16.22 347 *e*P **Pn 01 05 48.8 +1.0**
MOTA Moosalm 16.24 328 *e*Pn **Pn 01 05 49.9 +1.7**
comp=Z,1.7nm,0.8s
MORC Moravsky Berou 16.28 346 *e*Pn **P 01 05 52.4 +1.0**
comp=Z,4.7nm,0.8s
MORC Moravsky Berou 16.28 346 *i*P **P 01 05 52.5 +1.0**
MORC Moravsky Berou 16.28 346 P **P 01 05 52.5 +1.0**
MORC Moravsky Berou 16.28 346 *e*PN **P 01 05 52.3 +0.8**
TREC Trest 16.32 341 *e*P **P 01 05 52.7 +0.8**
TREC Trest 16.32 341 *e*P **P 01 05 52.7 +0.8**
DAVOX Davos/Dischmat 16.38 325 Pn **Pn 01 05 46.7 -3.3**
comp=Z,0.1nm,0.3s,baz=142,slow=19,SNR=2.2
GEA0 GERESS Array S 16.46 336 *e*Pn **Pn 01 05 46.3 -4.6**
GEC2 GERESS Array S 16.46 336 *e*Pn **Pn 01 05 49.9 -1.2**
comp=Z,8.2nm,0.9s
GEC2 GERESS Array S 16.46 336 *e*P **Pn 01 05 49.9 -1.2**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 16.46 336 Pn **Pn 01 05 49.9 -1.2**
comp=Z,0.4nm,0.3s,baz=153,slow=12,SNR=12
GERES LR LR 01 14 13.5
comp=Z,141nm,20.3s,baz=153,slow=45
RETA Reutte 16.50 328 *e*Pn **Pn 01 05 53.0 +1.6**
comp=Z,1.8nm,0.5s
DAVA Damuels 16.75 326 *e*P **P 01 05 59.7 +2.9**
comp=Z,2.7nm,0.5s
KHC Kasperske Hory 16.75 337 *e*Pn **Pn 01 05 54.1 -0.5**
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 16.75 337 *e*P **P 01 05 59.0 +2.3**
KHC Kasperske Hory 16.75 337 *e*P **Pn 01 05 54.1 -0.5**
KHC pmax pmax
comp=Z,5.0nm,0.9s
AK11 Malin Array Si 17.05 12 *e*Pn **Pn 01 05 52.7 -5.6**
KIEV Kiev 17.07 12 *e*Pn **Pn 01 05 55.5 -3.1**
comp=Z,12nm,1.2s
KIEV Kiev 17.07 12 *i*P **P 01 05 59.4 +0.8**
KIEV Kiev 17.07 12 *i*P **Pn 01 05 57.4 -1.2**
GOPC GO Pecny, Ondr 17.08 340 *e*P **P 01 06 00.9 +0.6**
GOPC GO Pecny, Ondr 17.08 340 *e*P **P 01 06 00.9 +0.6**
AKASG Malin Array Be 17.08 12 Pn **Pn 01 05 57.4 -1.3**
comp=Z,1.8nm,0.3s,baz=203,slow=10,SNR=11
AKBB Malin Array Si 17.08 12 *e*Pn **Pn 01 05 57.4 -1.3**
comp=Z,12nm,1.2s
AKBB Malin Array Si 17.08 12 *e*P **Pn 01 05 57.4 -1.3**
AKBB pmax pmax
comp=Z,13nm,1.2s
DPC Dobruska-Polom 17.09 344 *e*P **P 01 06 00.8 +0.4**
DPC Dobruska-Polom 17.09 344 *e*P **P 01 06 00.8 +0.4**
PRU Pruhonice 17.21 340 *e*P **Pn 01 06 00.8 +0.5**
PRU Pruhonice 17.21 340 *e*P **Pn 01 06 00.8 +0.5**
UPC Upice 17.31 344 *e*P **P 01 06 03.9 +1.1**
UPC Upice 17.31 344 *e*P **P 01 06 03.9 +1.1**
SENIN Lac Senin/Sane 17.42 319 *e*P **P 01 06 04.5 +0.2**
comp=Z,9.4nm,1.3s
NEY Neytrino 17.46 53 *i*P **Pn 01 06 03.4 -0.3**
KIV Kislovodsk 17.75 51 *e*Pn **Pn 01 06 06.1 -1.1**
comp=Z,6.3nm,0.8s
KIV Kislovodsk 17.75 51 *e*P **Pn 01 06 07.7 +0.5**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,46nm,14.0s
KBZ Khabaz 17.79 52 P **Pn 01 06 07.8 +0.4**
comp=Z,0.1nm,0.3s,baz=312,slow=6.0,SNR=6.5
BRG Berggiesshubel 18.18 340 *e*P **Pn 01 06 12.7 +0.4**
comp=Z,2.6nm,0.7s
BRG Berggiesshubel 18.18 340 *e*P **Pn 01 06 12.7 +0.4**
BRG pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 18.84 339 *i*P **Pn 01 06 20.9 +0.7**
comp=Z,6.0nm,0.8s
CLL *es*PP 01 06 40.0
CLL LmV 01 15 00.0
comp=Z,100nm,20.3s
CLL Collm 18.84 339 *i*P **Pn 01 06 20.9 +0.7**
CLL pmax pmax
comp=Z,6.0nm,0.8s
SUW Suwalki 19.90 359 *e*P **P 01 06 29.6 -1.6**
comp=Z,35nm,1.0s
SUW Suwalki 19.90 359 *e*P **P 01 06 29.6 -1.6**
SUW pmax pmax
comp=Z,35nm,1.0s
WLF Walferdange 20.18 326 *e*P Pn 01 06 38.0 +1.7
comp=Z,93nm,1.2s
WLF Walferdange 20.18 326 *e*P Pn 01 06 38.0 +1.7
WLF pmax pmax
comp=Z,93nm,1.2s
IDID Didziasalis 21.32 5 *e*P **P 01 06 44.6 -1.9**
IDID IAmb IAmb 01 06 46.6
comp=Z,9.7nm,1.0s
IIGN Ignalina 21.32 4 *e*P **P 01 06 44.3 -2.2**
IIGN IAmb IAmb 01 06 46.9
comp=Z,5.6nm,0.8s
IZAR Zarasai 21.72 4 *e*P **P 01 06 49.1 -1.7**
IZAR IAmb IAmb 01 06 51.1
comp=Z,2.9nm,0.7s
ESDC Sonseca Array 22.69 292 P **P 01 07 00.8 -0.7**
comp=Z,0.2nm,0.3s,baz=317,slow=28,SNR=4.3
OBN Obninsk 22.87 19 *e*P **P 01 07 01.7 -1.4**
OBN pmax pmax
comp=Z,18nm,1.7s
OBN MLR MLR
comp=Z,90nm,17.0s
HFS Hagfors 26.83 349 P **P 01 07 39.6 -0.3**
comp=Z,4.5nm,0.7s,baz=150,slow=12,SNR=14
FIA0 FINESS Array S 27.40 3 *e*P **P 01 07 42.5 -2.5**
FIA0 FINESS Array S 27.40 3 *e*P **P 01 07 42.5 -2.5**
FINES FINESS Array B 27.40 3 P **P 01 07 42.5 -2.5**
comp=Z,5.0nm,1.0s,baz=168,slow=9.8,SNR=4.4
NB2 NORSAR Subarra 28.11 347 P **P 01 07 51.3 -0.1**
comp=Z,1.3nm,0.6s,baz=156,slow=9.3
NB200 NORSAR Array S 28.11 347 *e*P **P 01 07 50.7 -0.7**
NOA NORSAR Array B 28.11 347 P **P 01 07 50.7 -0.7**
comp=Z,0.8nm,0.5s,baz=163,slow=7.4,SNR=8.5
EKA Eskdalemuir Ar 28.19 327 P **P 01 07 50.3 -1.8**
comp=Z,4.7nm,0.9s,baz=121,slow=7.7,SNR=4.7
NC303 NORSAR Array S 28.26 347 *e*P **P 01 07 48.5 -4.1**
comp=Z,23nm,1.3s
TOA1 Torodi Ar. Sit 28.83 229 *e*P **P 01 08 00.5 +2.3**
TORD Torodi Ar. Bea 28.83 229 P **P 01 08 00.5 +2.3**
comp=Z,0.6nm,0.6s,baz=32,slow=9.2,SNR=9.5
AKTO Aktyubinsk 29.90 46 P **P 01 08 06.2 -1.2**
comp=Z,2.2nm,0.5s,baz=251,slow=8.7,SNR=10
ABKAR Akbulak array 30.73 49 *e*P **P 01 08 15.0 +0.3**
comp=Z,5.5nm,1.4s
KOWA Kowa 31.69 239 *e*P **P 01 08 20.6 -2.9**
comp=Z,4.5nm,1.4s
ARU Arti 32.66 36 *e*P **P 01 08 30.9 -0.7**
comp=Z,3.6nm,0.7s
ARU Arti 32.66 36 *d i*P **P 01 08 31.3 -0.3**
ARU 01 09 34.3
ARU S **S 01 13 43.9 -2.3**
ARU SS **SnSn 01 15 42.3 +0.7**
ARU pmax pmax
comp=Z,15nm,2.1s
SVE Sverdlovsk 33.86 36 *e*P **P 01 08 42.1 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.7s
ARA0 ARCESS Array S 35.49 1 *e*P **P 01 08 53.8 -2.3**
ARCES ARCESS Array B 35.49 1 *e*P **P 01 08 54.8 -1.2**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 35.49 1 P **P 01 08 53.8 -2.3**
comp=Z,2.2nm,0.6s,baz=172,slow=7.3,SNR=9.3
KK31 Karatay Array 37.32 62 *e*P **P 01 09 14.1 +2.1**
comp=Z,3.4nm,0.6s
KK31 Karatay Array 37.32 62 *e*P **P 01 09 14.1 +2.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 37.32 62 *e*P **P 01 09 14.1 +2.1**
comp=Z,3.4nm,0.6s
KKAR Karatay Array 37.32 62 *e*P **P 01 09 14.1 +2.1**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 37.94 46 *e*P **P 01 09 17.5 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 40.27 62 *e*P **P 01 09 39.0 +2.1**
comp=Z,2.0nm,0.8s
AAK Ala-Archa 40.27 62 *e*P **P 01 09 38.6 +1.7**
AAK pmax pmax
comp=Z,4.0nm,1.7s
NRN Naryn 41.52 64 *e*P **P 01 09 49.6 +2.2**
comp=Z,5.4nm,1.0s
NRN Naryn 41.52 64 *e*P **P 01 09 49.7 +2.2**
NRN pmax pmax
comp=Z,5.0nm,1.0s
KURK Kurchatov 42.84 50 *e*P **P 01 09 58.1 +0.5**
comp=Z,2.6nm,0.8s
KURK Kurchatov 42.84 50 *e*P **P 01 09 56.4 -1.2**
KURK pmax pmax
comp=Z,5.0nm,1.7s
MAKZ Makanchi 45.21 56 *e*P **P 01 10 17.6 +0.9**
comp=Z,1.8nm,0.9s
MAKZ Makanchi 45.21 56 *e*P **P 01 10 17.6 +0.9**
MAKZ pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 45.42 55 *e*P **P 01 10 19.4 +1.0**
comp=Z,2.7nm,0.3s
MK31 Makanchi Array 45.42 55 *e*P **P 01 10 19.4 +1.0**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK32 Makanchi Array 45.42 55 *e*P **P 01 10 18.9 +0.4**
MKAR Makanchi Array 45.42 55 P **P 01 10 18.9 +0.4**
comp=Z,1.8nm,0.5s,baz=269,slow=8.3,SNR=32
MK01 Makanchi Array 45.43 56 *e*P **P 01 10 19.2 +0.7**
ZAA1 Zalesovo Array 46.65 45 *e*P **P 01 10 27.3 -0.7**
ZALV Zalesovo Beam 46.65 45 *e*P **P 01 10 27.4 -0.6**
ZALV Zalesovo Beam 46.65 45 P **P 01 10 27.3 -0.7**
comp=Z,0.8nm,0.4s,baz=264,slow=8.9,SNR=6.8
PYUN Piuthan 50.59 80 *e*P **P 01 11 00.6 +1.7**
comp=Z,18nm,0.7s
DANN Dangsing 51.12 79 *e*P **P 01 11 04.7 +1.7**
DMN Daman 52.51 79 *e*P **P 01 11 14.7 +1.4**
KKN Kakani 52.58 79 *e*P **P 01 11 14.8 +1.0**
PKIN Phulchoki 52.76 79 *e*P **P 01 11 15.5 +0.3**
comp=Z,7.6nm,0.7s
PKI Pulchoki 52.77 79 *e*P **P 01 11 15.8 +0.5**
comp=Z,14nm,0.9s
GUN Gumba 53.02 79 *e*P **P 01 11 18.3 +1.1**
comp=Z,14nm,0.6s
ZAK Zakamensk 58.40 48 *e*P **P 01 11 55.4 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
SONA0 Songino Array 61.14 50 *e*P **P 01 12 14.5 +0.4**
SONM Songino Array 61.14 50 P **P 01 12 14.5 +0.4**
comp=Z,0.7nm,0.6s,baz=288,slow=7.2,SNR=7.2
SCHQ Schefferville 63.15 320 P **P 01 12 28.9 +1.5**
comp=Z,1.2nm,0.4s,baz=70,slow=4.8,SNR=9.3
BILL Bilibino 74.39 14 *e*P **P 01 13 37.4 +0.3**
SEY Seymchan 75.01 22 *e*P **P 01 13 42.4 +1.7**
MA2 Magadan 76.97 25 *c e*P **P 01 13 53.5 +1.5**
MA2 pmax pmax
comp=Z,10.0nm,2.5s
YKA Yellowknife Ar 78.05 342 P **P 01 13 58.8 +0.9**
comp=Z,0.5nm,0.8s,baz=37,slow=5.1,SNR=5.4
YKB5 Yellowknife Ar 78.05 342 *e*P **P 01 13 58.8 +0.9**
USRK Ussuriysk Ar. 78.49 44 P **P 01 14 01.1 +0.4**
comp=Z,3.0nm,0.7s,baz=314,slow=3.8,SNR=8.1
KS15 Wonju Array Si 79.92 52 *e*P **P 01 14 10.0 +1.4**
comp=Z,35nm,1.4s
KSAR Wonju Array Be 79.92 52 P **P 01 14 10.0 +1.4**
KSAR Wonju Array Be 79.92 52 P **P 01 14 10.0 +1.4**
KSRS Korea Array 79.94 52 P **P 01 14 10.0 +1.3**
comp=Z,1.3nm,0.6s,baz=306,slow=4.7,SNR=4.2
FFC Flin Flon 79.94 331 *i*P **P 01 14 11.1 +2.6**
ILAR Eielson Array 81.16 356 P **P 01 14 15.6 +0.7**
comp=Z,0.4nm,0.7s,baz=344,slow=2.3,SNR=7.0
ILB Eielson Array 81.16 356 *e*P **P 01 14 15.6 +0.7**
comp=Z,4.7nm,1.4s
ASAJ Asahikawa 84.40 39 LR LR 01 55 43.1
comp=Z,29nm,18.7s,baz=342,slow=38

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*NEIC **07** 01:30:53.9±1.1, 20°.24S×175°.65W, h165km±11km, mb4.5/36, Error ellipse: s-maj=11.0km s-min=5.1km az=145.0*
*IDC **07** 01:31:01.6±4.0, 20°.36S×175°.77W, h236km±36km, mb3.8/15, mb1 4.0/17, mb1mx3.9/34, mbtmp4.4/17, Error ellipse: s-maj=18.4km s-min=11.6km az=115.0*
ISC 07 01:30:54.9±1.7, 20°.4S±0°.1×175°.57W±0°.09, h179km±16km, n90, σ1°.09/95, mb4.3/41, 6C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.47**	**77**	*e*Sn	**S**		**01 33 15.5**	**-2.3**
MSVF	**Nonsavu**	**6.59**	**292**	*e*Pn	Pn		01 32 35.8	+6.0
PINNC	**Pines Island,** 76nm,1.3s	**15.97**	**259**	*e*P	**Pn**		**01 34 32.0**	**+2.1**
DZM	**Mont Dzumac** 21nm,0.8s	**16.86**	**261**	*e*P	**Pn**		**01 34 42.0**	**+1.3**
DZM	**Mont Dzumac** 1.2nm,0.3s,baz=36,slow=18,SNR=10.0	**16.86**	**261**	P	**Pn**		**01 34 42.0**	**+1.3**
URZ	**Urewera** 13nm,0.6s	**18.92**	**198**	*e*P	**P**		**01 35 03.2**	**+1.2**
URZ				*e*S	**S**		**01 38 25.3**	**-2.0**
URZ	**Urewera** 4.3nm,0.3s,baz=314,slow=2.5,SNR=17	**18.92**	**198**	P	**P**		**01 35 04.2**	**+2.2**
URZ				S	**S**		**01 38 25.3**	**-2.0**
HIZ	**Hauiti** 47nm,1.3s	**19.88**	**203**	*e*P	**P**		**01 35 14.0**	**+1.5**

BKZ	**Black Stump Fm** 30nm,1.5s	**19.94 198**	*e*P		**P**		**01 35 14.6**	**+1.5**
BFZ	**Birch Farm** 51nm,1.2s	**21.41 197**	*e*P		**P**		**01 35 29.6**	**+0.9**
THZ	**Tophouse** 17nm,1.3s	**23.45 202**	*e*P		**P**		**01 35 48.7**	**+0.6**
KHZ	**Kahutara** 46nm,1.3s	**23.82 200**	*e*P		**P**		**01 35 51.2**	**-0.2**
RPZ	**Rata Peaks** 11nm,0.6s	**25.82 203**	*e*P		**P**		**01 36 11.8**	**+2.3**
RPZ	**Rata Peaks** 8.4nm,0.5s,baz=30,slow=6.5,SNR=9.7	**25.82 203**	P		**P**		**01 36 11.3**	**+1.8**
FOZ	**Fox Glacier** 37nm,1.3s	**26.13 205**	*e*P		**P**		**01 36 14.5**	**+2.2**
WHZ	**Wether Hill Ro** 36nm,1.4s	**28.83 204**	*e*P		**P**		**01 36 37.1**	**+0.8**
EIDS	**Eidsvold** 34nm,1.4s	**31.08 254**	*e*P		**P**		**01 36 55.2**	**-1.3**
ARMA	**Armidale** 14nm,1.2s	**31.18 245**	*e*P		**P**		**01 36 58.9**	**+1.5**
CTA	**Charters Tower** 7.6nm,0.4s,baz=90,slow=10,SNR=19	**35.77 264**	P		**P**		**01 37 37.2**	**+0.1**
CTAO	**Charters Tower** 10.0nm,1.0s	**35.77 264**	*e*P		**P**		**01 37 37.7**	**+0.6**
COEN	**Coen** 34nm,1.4s	**39.85 272**	*e*P		**P**		**01 38 10.4**	**-1.0**
STKA	**Stephens Creek** 0.3nm,0.6s	**39.90 244**	*e*P		**P**		**01 38 11.1**	**-0.5**
STKA	**Stephens Creek** 2.2nm,0.6s,baz=93,slow=12,SNR=5.2	**39.90 244**	P		**P**		**01 38 11.1**	**-0.5**
HMH	**Humu'ula Sheep** 147nm,1.4s	**44.34 28**	*e*P		**P**		**01 38 48.6**	**+0.8**
BBOO	**Buckleboo** 11nm,1.3s	**44.65 244**	*e*P		**P**		**01 38 49.1**	**-0.8**
AS01	**Alice Springs**	**46.72 256**	*e*P		**P**		**01 39 05.4**	**-0.9**
AS01			*e*PcP		**PcP**		**01 40 36.6**	**-0.3**
AS31	**Alice Springs** 1.2nm,0.6s	**46.77 256**	*e*P		**P**		**01 39 07.1**	**+0.4**
AS31			*e*PcP		**PcP**		**01 40 37.1**	**+0.1**
ASAR	**Alice Springs** 17nm,1.2s,baz=87,slow=8.3,SNR=30	**46.77 256**	P		**P**		**01 39 06.0**	**-0.7**
ASAR	3.5nm,0.8s,baz=107,slow=3.8,SNR=14			PcP	**PcP**		**01 40 37.1**	**+0.1**
WB2	**Warramunga Arr**	**46.87 261**	*e*P		**P**		**01 39 06.4**	**-1.1**
WR1	**Warramunga Arr** 11nm,1.1s	**46.88 261**	*e*P		**P**		**01 39 06.5**	**-1.0**
WR1			*e*PcP		**PcP**		**01 40 37.5**	**0.0**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=96,slow=7.5,SNR=203	**46.88 261**	P		**P**		**01 39 06.5**	**-1.0**
WRA	1.5nm,0.6s,baz=96,slow=3.3,SNR=7.1			PcP	**PcP**		**01 40 37.5**	**0.0**
FITZ	**Fitzroy Crossi** 6.7nm,1.2s	**55.30 262**	*e*P		**P**		**01 40 09.9**	**-0.4**
FITZ	**Fitzroy Crossi** 1.5nm,0.4s,baz=51,slow=5.5,SNR=15	**55.30 262**	P		**P**		**01 40 09.9**	**-0.4**
MJAR	**Matsushiro Arr** 2.2nm,0.5s,baz=168,slow=6.3,SNR=5.9	**71.49 322**	P		**P**		**01 41 54.4**	**-1.7**
MAJO	**Matsushiro**	**71.49 322**	*e*P		**P**		**01 41 54.4**	**-1.7**
PETK	**Petropavlovsk-** 5.4nm,0.8s,baz=126,slow=9.3,SNR=7.0	**76.76 344**	P		**P**		**01 42 25.7**	**-0.6**
PEA1	**Petropavlovsk-**	**76.77 344**	*e*P		**P**		**01 42 25.7**	**-0.6**
NV01	**Mina Array Sit**	**79.38 42**	*e*P		**P**		**01 42 42.6**	**+1.3**
NVAR	**Mina Array Bea** 2.1nm,0.6s,baz=221,slow=8.1,SNR=12	**79.38 42**	P		**P**		**01 42 42.6**	**+1.2**
X16A	**Lo Mia Camp, P** 2.4nm,0.7s	**81.74 49**	*e*P		**P**		**01 42 56.5**	**+2.6**
U15A	**North Rim** 4.6nm,0.8s	**82.20 47**	*e*P		**P**		**01 42 58.6**	**+2.1**
G08A	**Pilot Rock** 6.6nm,1.0s	**83.15 36**	*e*P		**P**		**01 43 02.1**	**+1.2**
D08A	**Wollman Farm,** 4.8nm,0.9s	**84.26 35**	*e*P		**P**		**01 43 07.7**	**+1.4**
TMUT	**Trail Mountain** 9.2nm,1.1s	**84.45 45**	*e*P		**P**		**01 43 10.1**	**+2.2**
F10A	**Beach Ranch, E** 4.3nm,0.9s	**84.53 37**	*e*P		**P**		**01 43 08.7**	**+0.9**
HLID	**Hailey** 1.9nm,0.8s	**84.76 40**	*e*P		**P**		**01 43 09.9**	**+0.8**
TX31	**Lajitas Ar. Si**	**85.08 56**	*e*P		**P**		**01 43 12.7**	**+1.7**
TXAR	**Lajitas Array** 1.1nm,1.0s,baz=206,slow=8.3,SNR=7.6	**85.08 56**	P		**P**		**01 43 12.7**	**+1.7**
TRF	**Thorofare Moun** 9.0nm,0.8s	**85.87 11**	*e*P		**P**		**01 43 13.6**	**-0.6**
RND	**Reindeer** 6.2nm,0.6s	**86.10 12**	*e*P		**P**		**01 43 15.9**	**+0.7**
MCK	**McKinley** 6.1nm,0.9s	**86.38 12**	*e*P		**P**		**01 43 16.5**	**0.0**
DOT	**Dot Lake** 3.3nm,1.3s	**87.29 14**	*e*P		**P**		**01 43 21.3**	**+0.4**
PD31	**Pinedale Array** 2.4nm,1.4s	**87.32 42**	*e*P		**P**		**01 43 21.7**	**-0.1**
PDAR	**Pinedale Array** 0.4nm,0.7s,baz=218,slow=5.1,SNR=4.2	**87.32 42**	P		**P**		**01 43 21.7**	**-0.1**
CCB	**Clear Creek Bu** 2.7nm,0.5s	**87.42 12**	*e*P		**P**		**01 43 21.2**	**-0.2**
MDM	**Murphy Dome** 4.6nm,1.1s	**87.62 11**	*e*P		**P**		**01 43 22.0**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.6s,baz=210,slow=5.4,SNR=12	**87.71 12**	P		**P**		**01 43 21.8**	**-1.1**
ILB	**Eielson Array** 7.7nm,1.4s	**87.71 12**	*e*P		**P**		**01 43 21.8**	**-1.1**
CM31	**Chiang Mai Arr** 4.7nm,0.3s	**92.23 289**	*e*P		**P**		**01 43 45.0**	**0.0**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=128,slow=3.7,SNR=5.9	**92.23 289**	P		**P**		**01 43 45.0**	**0.0**
YKA	**Yellowknife Ar** 0.5nm,0.7s,baz=241,slow=4.7,SNR=8.8	**95.46 24**	*e*P		**P**		**01 43 58.7**	**0.0**
YKB5	**Yellowknife Ar**	**95.46 24**	*e*P		**P**		**01 43 58.7**	**0.0**
SONA0	**Songino Array**	**97.17 318**	*e*P		**P**		**01 44 06.4**	**-0.7**
SONM	**Songino Array** 0.4nm,0.7s,baz=126,slow=3.9,SNR=3.7	**97.17 318**	P		**P**		**01 44 06.4**	**-0.7**
FIA0	**FINESS Array S**	**136.27 345**	*e*PKPdf		**PKPdf**		**01 49 54.6**	**0.0**
FINES	**FINESS Array B** 1.4nm,0.8s,baz=31,slow=3.2,SNR=4.4	**136.27 345**	PKP		**PKPdf**		**01 49 54.6**	**0.0**
AKASG	**Malin Array Be** 1.6nm,0.4s,baz=38,slow=4.3,SNR=10.0	**143.98 333**	PKhKP		PKPpre		01 50 05.5	
AKBB	**Malin Array Si**	**143.98 333**	*e*PKPdf		PKPab		01 50 05.5	**-1.1**
CLL	**Collm** comp=Z,7.0nm,0.6s	**148.41 350**	*i* PKPbc		**PKPbc**		**01 50 20.7**	**+0.7**
CLL			*i* PKPab		**PKPab**		**01 50 23.9**	**+0.1**
BR101	**Keskin Array S**	**148.42 314**	*e*PKPbc		**PKPbc**		**01 50 20.4**	**-0.3**
BRTR	**Keskin Array B** comp=Z,2.1nm,0.6s,baz=129,slow=3.0,SNR=16	**148.42 314**	PKPbc		**PKPbc**		**01 50 20.4**	**-0.3**
DPC	**Dobruska-Polom**	**148.64 345**↑	*e*PKP		**PKPbc**		**01 50 21.1**	**+0.3**
BRG	**Berggiesshubel** comp=Z,4.4nm,0.7s	**148.66 348**	*e*PKP		**PKPbc**		**01 50 20.5**	**-0.2**
KRLC	**Kraliky**	**148.78 345**↑	*e*PKP		**PKiKP**		**01 50 21.9**	**-0.5**
PRU	**Pruhonice**	**149.38 347**↑	*e*PKP		**PKPbc**		**01 50 22.9**	**+0.4**
PRU			*ex*		x		01 50 35.9	
GOPC	**GO Pecny, Ondr**	**149.40 347**↑	*e*PKP		**PKPbc**		**01 50 23.1**	**+0.5**
TREC	**Trest**	**149.82 346**↑	*e*PKP		**PKPbc**		**01 50 24.1**	**+0.4**
KHC	**Kasperske Hory**	**150.39 348**↑	*e*PKP		**PKPbc**		**01 50 25.4**	**+0.3**
GEC2	**GERESS Array S**	**150.64 347**	*e*PKPbc		**PKPbc**		**01 50 25.6**	**-0.1**
GERES	**GERESS Array B** comp=Z,3.0nm,0.8s,baz=29,slow=3.0,SNR=22	**150.64 347**	PKPbc		**PKPbc**		**01 50 25.6**	**-0.1**
CONA	**Conrad Observa** comp=Z,1.5nm,0.5s	**151.00 344**	*e*PKiKP		**PKPbc**		**01 50 26.8**	**+0.2**
SOKA	**Soboth** comp=Z,3.7nm,0.8s	**152.37 344**	*e*PKPbc		**PKPbc**		**01 50 28.2**	**-1.5**
KBA	**Koelnbreinsper** comp=Z,1.8nm,0.7s	**152.39 347**	PKPbc		**PKPbc**		**01 50 29.0**	**-0.9**
RETA	**Reutte** comp=Z,5.5nm,1.3s	**152.47 351**	*e*PKiKP		**PKiKP**		**01 50 31.2**	**+1.1**
WATA	**Walderalm** comp=Z,1.9nm,0.4s	**152.49 349**	*e*PKiKP		**PKiKP**		**01 50 30.2**	**-0.1**
WTTA	**Wattenberg** comp=Z,5.0nm,0.6s	**152.55 349**	*e*PKPbc		**PKPbc**		**01 50 30.2**	**-0.1**
SQTA	**Sankt Quirin** comp=Z,4.5nm,0.9s	**152.66 350**	*e*PKPbc		**PKPbc**		**01 50 30.0**	**-0.4**
DAVA	**Damuels** comp=Z,6.1nm,1.0s	**152.79 352**	*e*PKiKP		**PKiKP**		**01 50 31.4**	**+0.4**
ABTA	**Abfaltersbach** comp=Z,2.9nm,0.6s	**152.88 348**	*e*PKPbc		**PKPbc**		**01 50 30.1**	**-0.8**
FETA	**Feichten** comp=Z,4.6nm,0.9s	**152.93 351**	*e*PKPbc		**PKPbc**		**01 50 31.0**	**0.0**

IDC 07 01:45:35.0±28.0, 22°.12S×173°.55W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/31, mbtmp4.1/4, Error ellipse: s-maj=512.0km s-min=160.0km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 7.3nm,0.7s,baz=108,slow=6.4,SNR=8.0	**37.48**	**265**	P		P	P	01 52 51.3	+0.6
STKA	**Stephens Creek**	**40.88**	**246**	P		P	P	01 53 17.8	-1.2
	0.5nm,0.2s,baz=132,slow=20,SNR=3.1								
ASAR	**Alice Springs** 0.7nm,0.6s,baz=94,slow=7.4,SNR=7.5	**48.20**	**258**	P		P	P	01 54 17.0	-0.7
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=97,slow=8.3,SNR=47	**48.49**	**262**	P		P	P	01 54 20.4	+0.4

*ISCJB **07** 02:29:04.7±1.8, 30°.99S±0°.03×71°.7W±0°.1, h21km±11km, Error ellipse: s-maj=16.7km s-min=5.4km az=2.1*
*SJA **07** 02:29:04.7±0.7, 30°.99S×71°.66W, h38km±14km, ML2.9, MW4.3*
*GUC **07** 02:29:06.2±0.7, 31°.00S×71°.08W, h60km±2km, ML3.1*

ISC 07 02:29:03.8±2.5, 30°.98S±0°.04×71°.7W±0°.1, h16km±12km, n18, σ1§03/25, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.63**	**108**↑	*i*P		P	**Pg**	**02 29 16.5**	**+0.3**
CMCH				*e*S		S	**Sg**	**02 29 23.8**	**-0.7**
CMCH	comp=N,4μm,0.7s			IAML				02 29 25.2	
GO04	**Tololo Observa**	**1.11**	**44**↓	*i*P		P	**Pb**	**02 29 24.4**	**-0.5**
GO04				*i*S		S	**Sb**	**02 29 37.8**	**-1.5**
GO04	comp=E,1μm,0.5s			IAML				02 29 42.3	
ROCH	**El Roble**	**2.07**	**164**	*e*P		P	**Pn**	**02 29 38.3**	**+0.2**
ROCH				*i*S		S	**Sn**	**02 30 03.0**	**-0.8**
ROCH	comp=N,226nm,0.3s			IAML				02 30 08.9	
ROC1	**El Roble**	**2.08**	**164**	*i*P		P	**Pn**	**02 29 38.9**	**+0.7**
ROC1				*i*S		S	**Sn**	**02 30 04.5**	**+0.6**
AROD	**Rodeo**	**2.08**	**68**	*i*P		P	**Pn**	**02 29 39.5**	**+1.1**
LCO	**Las Campanas**	**2.14**	**24**	*e*P		P	**Pn**	**02 29 39.9**	**+0.7**
LCO				*i*S		S	**Sn**	**02 30 05.4**	**-0.1**
LCO	comp=E,135nm,0.4s			IAML				02 30 08.8	
RTLS	**Leoncito**	**2.21**	**112**	*i*P		P	**Pn**	**02 29 41.0**	**+0.9**
RTLS	comp=Z,76nm,0.3s			IAML				02 29 57.3	
ACCO	**Cerro Coronel**	**2.30**	**81**	*i*P		P	**Pn**	**02 29 42.3**	**+1.0**
PEL	**Peldehue**	**2.33**	**159**	*e*P		P	**Pn**	**02 29 41.8**	**+0.4**
PEL				*i*S		S	**Sn**	**02 30 08.3**	**-1.5**
PEL	comp=E,110nm,0.4s			IAML				02 30 12.3	
AUSP	**Uspallata**	**2.33**	**123**	*i*P		P	**Pn**	**02 29 43.1**	**+1.3**
CLCH	**Cerro Calan** comp=N,151nm,0.4s	**2.60**	**158**	IAML				02 30 22.3	
FCH	**Farellones**	**2.63**	**153**↓	*i*P		P	**Pn**	**02 29 47.0**	**+1.0**
FCH				*i*S		S	**Sn**	**02 30 17.1**	**-0.6**
FCH	comp=E,96nm,0.3s			IAML				02 30 25.9	
AMOG	**MOGNA**	**2.75**	**90**	*i*P		P	**Pn**	**02 29 48.3**	**+0.9**
RTLL	**Cerro Villicun**	**2.79**	**98**	*i*P		P	**Pn**	**02 29 48.3**	**+0.5**
RTCV	**Cerro Valdivia**	**2.84**	**109**	*i*P		P	**Pn**	**02 29 49.6**	**+1.0**
ASAL	**Salagasta**	**2.92**	**124**	*i*P		P	**Pn**	**02 29 51.2**	**+1.5**
LMEL	**Las Melosas**	**3.13**	**157**	*e*P		P	**Pn**	**02 29 53.9**	**+1.3**
LMEL				*e*S		S	**Sn**	**02 30 30.0**	**+0.3**
LMEL	comp=N,104nm,0.3s			IAML				02 30 46.2	
AGUA	**GUANDACOL**	**3.15**	**63**	*i*P		P	**Pn**	**02 29 54.4**	**+1.6**

IDC 07 02:30:45.7±2.1, 6°.42S×129°.25E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/32, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=87.6km s-min=27.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=37,slow=14,SNR=2.8	**12.13**	**197**	Pn		P	Pn	02 33 42.0	+2.1
FITZ	0.1nm,0.3s,baz=137,slow=18,SNR=1.9			Sn		Sn	Sn	02 35 46.9	-9.1
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=337,slow=14,SNR=7.3	**14.32**	**160**	Pn		P	Pn	02 34 08.4	-1.6
WRA	0.2nm,0.3s,baz=331,slow=23,SNR=5.6			Sn		Sn	Sn	02 36 36.2	-13
ASAR	**Alice Springs** 0.2nm,0.3s,baz=344,slow=10,SNR=8.9	**17.72**	**166**	P		P	Pn	02 34 53.5	-0.6
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=122,slow=5.2,SNR=2.8	**67.33**	**327**	P		P	P	02 41 42.6	0.0

SJA 07 02:38:33.0±0.6, 21°.28S×67°.25W, h224km±18km, ML2.6, MW4.3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.84**	**119**	*i*P		P	Pn	02 39 12.9	+0.6
YJA	comp=Z,25nm,0.2s			IAML				02 39 13.6	
PB09	**IPOC Station P**	**1.93**	**254**	*i*P		P	Pn	02 39 13.5	+0.7
PB01	**IPOC Station P**	**2.11**	**276**	*i*P		P	Pn	02 39 14.7	+0.2
PB08	**IPOC Station P**	**2.12**	**302**	*i*P		P	Pn	02 39 15.5	+0.5
PB03	**IPOC Station P**	**2.46**	**251**	*i*P		P	Pn	02 39 18.7	+0.6
PB02	**IPOC Station P**	**2.47**	**269**	*i*P		P	Pn	02 39 18.6	+0.4
PB07	**IPOC Station P**	**2.50**	**259**	*i*P		P	Pn	02 39 19.0	+0.4
HJA	**Humahuaca**	**2.56**	**139**	*i*P		P	Pn	02 39 20.9	+1.4
HJA				*i*S		S	S	02 39 55.8	0.0
HJA	comp=Z,13nm,0.5s			IAML				02 39 56.2	
PB06	**IPOC Station P**	**2.58**	**236**	*i*P		P	Pn	02 39 19.8	+0.3
PB15	**IPOC Station P**	**2.82**	**227**	*i*P		P	Pn	02 39 22.5	+0.4

*IDC **07** 02:40:05.9±1.0, 55°.96S×26°.94W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/22, mbtmp3.8/4, Error ellipse: s-maj=41.7km s-min=28.9km az=65.0*
*ISCJB **07** 02:40:13.4±0.9, 55°.9S±0°.1×27°.2W±0°.4, h63km, mb3.8/4, Error ellipse: s-maj=39.4km s-min=12.7km az=153.4*

ISC 07 02:40:14.9±0.8, 55°.9S±0°.2×27°.2W±0°.3, h63km, n11, σ1§72/11, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.94**	**158**	P		P	**P**	**02 44 12.6**	**+4.3**
VNA3	**Neumayer Olymp**	**17.14**	**161**	P		P	**P**	**02 44 10.0**	**-0.5**
VNA2	**Neumayer--Watz** baz=316,slow=13	**17.34**	**158**	P		P	**Pn**	**02 44 12.0**	**-0.1**
SNAA	**Sanae**	**18.89**	**156**	P		P	**P**	**02 44 29.3**	**-0.5**
CPUP	**Villa Florida** 1.4nm,0.8s,baz=190,slow=14,SNR=2.9	**36.70**	**311**	P		P	**P**	**02 47 16.0**	**+0.4**
VNDA	**Vanda** 0.9nm,0.7s,baz=154,slow=7.4,SNR=5.1	**46.73**	**183**	P		P	**P**	**02 48 36.0**	**-0.8**
LPAZ	**La Paz** 1.1nm,0.5s,baz=117,slow=6.4,SNR=11	**50.28**	**305**	P		P	**P**	**02 49 06.2**	**+0.7**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=203,slow=6.2,SNR=4.8	**72.92**	**30**	P		P	**P**	**02 51 37.7**	**+0.5**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=139,slow=1.7,SNR=4.0	**136.05**	**318**	PKP			**PKPdf**	**02 59 26.1**	**-1.1**
ILAR	**Eielson Array** 1.6nm,0.8s,baz=129,slow=1.8,SNR=17	**150.01**	**312**	PKPbc			**PKPbc**	**02 59 55.7**	**-0.9**
SONM	**Songino Array** 0.4nm,0.4s,baz=215,slow=3.9,SNR=4.3	**150.72**	**86**	PKPbc			**PKPbc**	**02 59 57.8**	**-1.2**

*NIED **07** 02:41:00, 36°.80N×141°.90E, h35km, Mw3.7 Best double couple: M0 4.53000×10^14 NP1:φs=210.00000°, δ23.00000°, λ131.00000°. NP2:φs=347.00000°, δ73.00000°, λ74.00000°.*
*JMA **07** 02:41:48.5±0.4, 36°.75N×141°.91E, h19km±3km, M3.6*
*IDC **07** 02:41:56.5±3.5, 36°.45N×141°.59E, h76km±32km, mb3.1/4, mb1 3.4/6, mb1mx3.1/34, mbtmp3.5/6, MS2.7/3, Ms1 2.8/3, ms1mx2.4/14, Error ellipse: s-maj=30.9km s-min=14.4km az=67.0*

ISC 07 02:41:46.0±2.4, 36°.74N±0°.05×142°.00E±0°.09, h6km±12km, n24, σ1§30/23, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.03**	**291**	P		P	**Pg**	**02 42 05.6**	**-0.1**
JFK	**Kawauchi**	**1.09**	**305**	P		P	**Pn**	**02 42 07.9**	**0.0**
JHO	**Hitachi**	**1.16**	**264**	P		P	**Pb**	**02 42 08.1**	**-0.3**
JHO				S		S	**Sg**	**02 42 22.5**	**-0.7**
JFFD	**Fukushimafurud**	**1.20**	**287**	P		P	**Pn**	**02 42 09.9**	**+0.6**
JHYU	**Hitachinakayam**	**1.20**	**251**	P		P	**Pn**	**02 42 09.7**	**+0.4**
JHYU				S		S	**Sn**	**02 42 25.0**	**-0.9**
JMM	**Marumori**	**1.48**	**320**	P		P	**Pn**	**02 42 13.3**	**+0.2**
JMM				*e*S		S	**Sn**	**02 42 30.1**	**-2.6**
JFT	**Otama**	**1.54**	**301**	P		P	**Pb**	**02 42 14.8**	**-0.1**
JFT				*e*S		S	**Sn**	**02 42 33.6**	**-0.6**
JOU	**Okura**	**1.94**	**327**	*e*S		S	**Sn**	**02 42 43.7**	**-0.4**
JAG	**Ashikaga**	**2.07**	**262**	P		P	**Pn**	**02 42 21.6**	**+0.3**
JAG				*e*S		S	**Sn**	**02 42 46.7**	**-0.7**
MJAR	**Matsushiro Arr** 1.7nm,0.3s,baz=105,slow=11,SNR=49	**3.05**	**267**	P		P	**Pn**	**02 42 36.1**	**+1.4**
MJAR	0.7nm,0.3s,baz=80,slow=14,SNR=3.3			S		S	**Sn**	**02 43 11.2**	**-0.4**
MJAR	comp=Z,88nm,20.6s,baz=100,slow=43			LR		LR		02 43 52.3	
MAT	**Matsushiro**	**3.06**	**267**	P		P	**Pn**	**02 42 36.9**	**+2.1**
MAT				S		S	**Sn**	**02 43 12.3**	**+0.6**
JHJ	**Hachijo jima 2** 15nm,0.3s,baz=15,slow=20,SNR=7.2	**4.04**	**207**	P		P	**Pn**	**02 42 49.7**	**+1.3**
JHJ	26nm,0.3s,baz=127,slow=23,SNR=5.5			S		S	**Sn**	**02 43 32.4**	**-3.6**
KSRS	**Korea Array** comp=Z,40nm,18.2s,baz=90,slow=40	**11.27**	**278**	LR		LR		02 49 14.9	
H11N2	**WAKE ISLAND Hy** baz=313,slow=76,SNR=11	**27.59**	**121**	T		T		03 16 56.1	
H11N1	**WAKE ISLAND Hy** baz=313	**27.60**	**121**	T		T		03 16 57.0	
H11N3	**WAKE ISLAND Hy** baz=313,slow=76,SNR=10	**27.61**	**121**	T		T		03 16 55.5	
H11S1	**WAKE ISLAND Hy** baz=315	**28.31**	**123**	T		T		03 17 40.4	
H11S3	**WAKE ISLAND Hy** baz=315,slow=74	**28.31**	**123**	T		T		03 17 56.8	
H11S2	**WAKE ISLAND Hy** baz=315,slow=74	**28.32**	**123**	T		T		03 17 57.3	
SONM	**Songino Array** 0.9nm,0.8s,baz=104,slow=7.6,SNR=5.7	**28.34**	**304**	P		P	**P**	**02 47 41.3**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,16nm,19.3s,baz=220,slow=40	**41.88**	**256**	LR		LR		03 09 37.4	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=88,slow=8.9,SNR=3.8	**44.67**	**302**	P		P	**P**	**02 49 59.7**	**+0.2**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=5.0,slow=7.3,SNR=5.5	**49.49**	**32**	P		P		02 50 42.8	+6.0
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=278,slow=6.3,SNR=4.4	**56.84**	**189**	P		P	**P**	**02 51 31.4**	**+0.1**

*IDC **07** 02:43:06.8±1.0, 42°.89S×40°.53E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.7/28, mbtmp3.9/7, ML3.2/2, MS3.7/8, Ms1 3.6/8, ms1mx3.3/41, Error ellipse: s-maj=87.0km s-min=21.4km az=35.0*

ISC 07 02:43:08.3±1.0, 42°.8S±0°.5×40°.6E±0°.3, h10km, n13, σ1§05/9, mb3.9/5, MS3.6/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland** 0.1nm,0.3s,baz=126,slow=19,SNR=2.3	**18.78**	**297**	P		P	**P**	**02 47 28.7**	**+0.9**
SUR	comp=Z,142nm,19.4s,baz=146,slow=32			LR		LR		02 53 17.3	
BOSA	**Boshof** 0.0nm,0.3s,baz=163,slow=14,SNR=2.5	**18.82**	**314**	P		P	**P**	**02 47 27.8**	**-0.5**
BOSA	comp=Z,173nm,21.7s,baz=197,slow=31			LR		LR		02 52 48.5	
LBTB	**Lobatse** 1.8nm,0.6s,baz=126,slow=17,SNR=2.9	**21.62**	**320**	P		P	**P**	**02 47 58.1**	**-0.5**
LBTB	comp=Z,138nm,20.4s,baz=162,slow=33			LR		LR		02 54 59.6	
MATP	**Matopo** comp=Z,129nm,18.1s,baz=166,slow=34	**24.53**	**332**	LR		LR		02 57 11.5	
MAW	**Mawson** comp=Z,151nm,18.2s,baz=294,slow=35	**27.58**	**162**	LR		LR		02 59 17.5	
TORD	**Torodi Ar. Bea** 1.2nm,0.9s,baz=133,slow=3.5,SNR=5.7	**66.12**	**318**	P		P	**P**	**02 53 56.5**	**+0.7**
TORD	comp=Z,36nm,18.1s,baz=315,slow=37			LR		LR		03 23 59.0	
PLCA	**Paso Flores** comp=Z,61nm,18.7s,baz=216,slow=32	**76.21**	**227**	LR		LR		03 23 30.7	
STKA	**Stephens Creek** 1.9nm,0.7s,baz=215,slow=12,SNR=2.0	**76.33**	**121**	P		P	**P**	**02 54 57.1**	**-0.4**
ASAR	**Alice Springs** 1.3nm,1.1s,baz=243,slow=3.0,SNR=2.4	**76.62**	**110**	P		P	**P**	**02 54 59.0**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=234,slow=5.2,SNR=2.5	**79.38**	**107**	P		P	**P**	**02 55 16.4**	**+1.7**
VAE	**Valguarnera** comp=Z,84nm,18.3s,baz=181,slow=38	**83.39**	**339**	LR		LR		03 35 45.2	
TXAR	**Lajitas Array** 1.8nm,1.0s,baz=134,slow=5.2,SNR=11	**148.38**	**257**	PKPbc			**PKPbc**	**03 02 54.4**	**-0.6**
ULM	**Lac du Bonnet** 1.1nm,0.6s,baz=94,slow=2.5,SNR=3.4	**149.50**	**299**	PKPbc			**PKPbc**	**03 02 56.0**	**-1.1**

*NIED **07** 02:43:00, 36°.80N×142°.00E, h26km, Mw3.6 Best double couple: M0 2.50000×10^14 NP1:φs=210.00000°, δ26.00000°, λ128.00000°. NP2:φs=350.00000°, δ70.00000°, λ74.00000°.*

JMA 07 02:43:10.2±0.3, 36°.76N×141°.97E, h31km±5km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.00**	**290**	P		P	Pn	02 43 28.1	0.0
JFK	**Kawauchi**	**1.06**	**305**	P		P	Pn	02 43 29.1	+0.1
JHO	**Hitachi**	**1.14**	**263**	P		P	Pn	02 43 29.9	-0.1
JFFD	**Fukushimafurud**	**1.18**	**287**	P		P	Pb	02 43 31.4	-0.6
JHYU	**Hitachinakayam**	**1.19**	**250**	P		P	Pn	02 43 30.7	0.0
JHYU				*e*S		S	Sn	02 43 46.3	+0.5
JMM	**Marumori**	**1.45**	**320**	P		P	Pn	02 43 34.9	+0.6
JMM				*e*S		S	Sn	02 43 52.0	-0.2
JFT	**Otama**	**1.51**	**301**	P		P	Pb	02 43 36.5	-1.1
JFT				S		S	Sb	02 43 55.5	-0.8
JOU	**Okura**	**1.91**	**327**	S		S	Sn	02 44 05.3	+1.7
JAG	**Ashikaga**	**2.05**	**261**	P		P	Pn	02 43 43.1	+0.5
JAG				*e*S		S	Sn	02 44 08.1	+1.0
MAT	**Matsushiro**	**3.03**	**267**	P		P	Pn	02 43 58.5	+2.4
MAT				S		S

ERCV ERCIS-VAN 0.30 328 PG Pg 03 21 18.3 -2.1
ERCV SG Sg 03 21 23.7 -0.8
ERCV ERCIS-VAN 0.30 328 *e*Pg Pg 03 21 18.2 -2.1
GEVA Gevas 0.59 220 ⇑*i*P Pg 03 21 23.2 -2.4
GEVA *i* S Sb 03 21 34.3 -0.5
GEVA IAML_P
comp=Z,60µm,0.2s
GEVA Gevas 0.59 220 *e*Pg Pg 03 21 23.0 -2.6
AKDM Akdamar-Van 0.62 226 PG Pg 03 21 23.9 -2.3
ADCV BITLIS_Adilcev 0.64 274 ⇑*i*P Pg 03 21 25.3 -1.3
ADCV *i* S Sb 03 21 35.6 -0.6
ADCV IAML_P
comp=Z,17µm,0.1s
ADCV BITLIS_Adilcev 0.64 274 *e*Pg Pg 03 21 24.6 -2.0
DYDN Diyadin 0.79 8 ⇓*i*P Pg 03 21 27.0 -2.3
DYDN *i* S Sn 03 21 45.2 +2.3
DYDN Diyadin 0.79 8 *e*Pg Pg 03 21 27.0 -2.3
BASK Baskale_VAN 0.80 153 ⇓*i*P Pg 03 21 27.4 -2.1
BASK *i* S Sn 03 21 42.9 -0.3
BASK IAML_P
comp=Z,37µm,0.1s
BASK Baskale_VAN 0.80 153 *e*Pg Pg 03 21 27.2 -2.3
TUTA Tutak 0.85 319 ⇓*i*P Pg 03 21 28.5 -2.1
TUTA *i* S Sg 03 21 40.8 -1.0
TUTA Tutak 0.85 319 *e*Pg Pg 03 21 27.7 -2.9
MLAZ Malazgirt-MUS 0.86 296 PG Pg 03 21 28.5 -2.2
AGRB Hanur-Agry 0.92 332 PG Pg 03 21 29.1 -2.7
AGRB Hanur-Agry 0.92 332 Pg Pg 03 21 29.1 -2.7
AGRB Hanur-Agry 0.92 332 *e*Pg Pg 03 21 29.1 -2.7
IGDI IGDIR 1.18 21 ⇓*i*P Pb 03 21 35.5 -0.9
IGDI *i* S Sn 03 21 55.6 +3.2
IGDI IGDIR 1.18 21 *e*Pg Pb 03 21 34.7 -1.7
GURO Guroymak-BITLI 1.20 260 PN Pb 03 21 34.0 -2.8
GURO Guroymak-BITLI 1.20 260 *e*Pg Pb 03 21 33.8 -3.0
YOVA Hakkari_Yksek 1.31 153 ⇓*i*P Pn 03 21 36.8 -1.6
YOVA *i* S Sg 03 21 58.8 +2.4
YOVA IAML_P
comp=Z,22µm,0.5s
YOVA Hakkari_Yksek 1.31 153 *e*Pg Pn 03 21 36.3 -2.1
TASB TASBURUN-IGDIR 1.33 24 PN Pn 03 21 38.3 -0.2
TASB TASBURUN-IGDIR 1.33 24 *e*Pn Pn 03 21 38.1 -0.4
EATA Eleskirt 1.37 324 ⇓*i*P Pn 03 21 37.2 -2.0
EATA *i* S Sg 03 21 59.1 +1.0
EATA IAML_P
comp=Z,19µm,0.4s
EATA Eleskirt 1.37 324 *e*Pg Pn 03 21 37.2 -2.0
HYR Heyderabad 1.39 46 *e*Pn Pn 03 21 38.5 -0.9
HYR Heyderabad 1.39 46 ⇑*i*P Pn 03 21 38.5 -0.9
HYR ⇓S Sg 03 21 58.6 -0.4
SRTM Siirt_Merkez 1.49 239 ⇑*i*P Pn 03 21 39.4 -1.2
SRTM *i* S Sg 03 22 01.9 -0.1
SRTM IAML_P
comp=Z,35µm,0.3s
SRTM Siirt_Merkez 1.49 239 *e*Pn Pn 03 21 39.5 -1.2
CUKT Cukurca 1.52 178 PN Pn 03 21 39.8 -1.3
CUKT Cukurca 1.52 178 Pn Pn 03 21 39.8 -1.7
CUKT Cukurca 1.52 178 ⇓*i*P Pn 03 21 40.4 -0.7
CUKT *i* S Sg 03 22 05.6 +2.8
CUKT IAML_P
comp=Z,31µm,0.5s
CUKT Cukurca 1.52 178 *e*Pn Pn 03 21 39.7 -1.3
SIRT Sirnak 1.53 215 PN Pn 03 21 40.6 -0.7
SIRT Sirnak 1.53 215 *e*Pn Pn 03 21 40.5 -0.7
SIRT *e*Sn Sn 03 21 59.3 -1.8
SIRT Sirnak 1.53 215 *e*Pn Sn 03 21 59.3 -1.8
SIRN Sırnak 1.55 215 ⇓*i*P Pn 03 21 40.9 -0.6
SIRN *i* S Sg 03 22 04.7 +0.8
SIRN IAML_P
comp=Z,19µm,0.4s
SIRN Sırnak 1.55 215 *e*Pn Pn 03 21 40.7 -0.8
NAX Nakhchivan 1.58 74 P Pn 03 21 42.0 +0.1
NAX Nakhchivan 1.58 74 *e*Pn Pn 03 21 42.0 +0.1
NAX Nakhchivan 1.58 74 P Pn 03 21 42.0 +0.1
SNR=240
NAX ⇓S Sg 03 22 04.1 -0.7
DIGO Kars 1.65 356 ⇓*i*P Pn 03 21 43.6 +0.5
DIGO *i* S Sn 03 22 03.9 -0.5
DIGO *i* S Sg 03 22 27.7 +20
DIGO Kars 1.65 356 *e*Pn Pn 03 21 43.2 +0.1
GNI Garni 1.67 34 Pn Pn 03 21 43.7 +0.5
GNI Garni 1.67 34 *c i*P Pn 03 21 43.7 +0.5
GNI pmax pmax
comp=Z,8µm,1.0s
GNI Garni 1.67 34 ⇑*i*P Pn 03 21 43.7 +0.5
GNI ⇑*i*S Sg 03 22 07.0 -0.7
GNI Garni 1.67 34 *e*Pn Pn 03 21 43.3 +0.1
GNI Garni 1.67 34 Pg Pn 03 21 43.7 +0.5
comp=Z,42nm,0.3s,baz=248,slow=3.2,SNR=126
GNI Lg Lg 03 22 08.5
comp=Z,99nm,0.3s,baz=90,slow=20,SNR=21
VRTB Varto-Mus 1.67 284 PN Pn 03 21 42.8 -0.5
VRTB Varto-Mus 1.67 284 Pn Pn 03 21 43.1 -0.2
VRTB Varto-Mus 1.67 284 ⇓*i*P Pn 03 21 43.8 +0.5
VRTB *i* S Sg 03 22 08.1 +0.2
VRTB Varto-Mus 1.67 284 *e*Pn Pn 03 21 43.1 -0.2
SBZ Shahbuz 1.69 67 *e*Pn Pn 03 21 44.0 +0.5
SBZ Shahbuz 1.69 67 ⇓P Pn 03 21 44.0 +0.5
SBZ ⇑S Sb 03 22 06.8 +0.5
IMRD Marand 1.69 91 *e*Pn Pn 03 21 43.4 -0.2
IMRD IAMB IAmb 03 21 48.5
comp=Z,88µm,0.6s
KOPR Koprukoy-ERZUR 1.79 314 PN Pn 03 21 44.5 -0.5
HOMI Horasan 1.80 316 ⇓*i*P Pn 03 21 45.2 +0.1
HOMI *i* S Sg 03 22 14.8 +2.8
HOMI IAML_P
comp=Z,15µm,0.4s
HOMI Horasan 1.80 316 *e*Pn Pn 03 21 45.0 -0.1
EAK Akyaka 1.92 1 ⇑*i*P Pb 03 21 48.2 -0.9
EAK *i* S Sg 03 22 19.1 +3.2
EAK Akyaka 1.92 1 *e*Pn Pb 03 21 48.0 -1.1
ORD Ordubad 1.92 84 *e*Pn Pn 03 21 47.2 +0.6
ORD Ordubad 1.92 84 ⇓P Pn 03 21 47.2 +0.6
ORD ⇑S Sb 03 22 12.7 -0.3
SVAN Silvan-Diyarba 1.94 252 PN Pn 03 21 46.3 -0.5
SVAN Silvan-Diyarba 1.94 252 Pn Pn 03 21 46.9 +0.1
SVAN Silvan-Diyarba 1.94 252 ⇓*i*P Pn 03 21 47.8 +1.0
SVAN *i* S Sb 03 22 14.6 +1.1
SVAN IAML_P
comp=Z,12µm,0.4s
SVAN Silvan-Diyarba 1.94 252 *e*Pn Pn 03 21 47.1 +0.3
BTMN Batman 1.99 245 ⇑*i*P Pn 03 21 47.5 0.0
BTMN *i* S Sb 03 22 15.3 +0.4
BTMN IAML_P
comp=Z,9µm,0.4s
BTMN Batman 1.99 245 *e*Pn Pn 03 21 47.5 0.0
SENK Senkaya-Erzuru 2.02 333 PN Pn 03 21 47.9 -0.2
SENK Senkaya-Erzuru 2.02 333 *e*Pn Pn 03 21 48.3 +0.2
ITBZ Tabriz 2.11 104 *e*Pn Pn 03 21 49.8 +0.5
ITBZ IAMB IAmb 03 22 05.3
comp=Z,6µm,0.5s
ECAT Cat-ERZURUM 2.17 294 ⇓*i*P Pb 03 21 51.5 -1.8
ECAT *i* S Sg 03 22 22.2 -1.5
ECAT Cat-ERZURUM 2.17 294 *e*Pn Pb 03 21 52.1 -1.2
IAZR Azarshahr 2.21 119 *e*Pn Pn 03 21 52.2 +1.5
IAZR IAMB IAmb 03 22 01.0
comp=Z,28µm,0.4s
BNGB Bingl 2.25 277 PN Pn 03 21 50.9 -0.2
BNGB Bingl 2.25 277 Pn Pn 03 21 50.9 -0.2
BGOL Bingol 2.25 277 *i* P Pn 03 21 51.9 +0.7
BGOL *i* S Sb 03 22 22.8 +0.3
STEZ Stepenevan 2.33 16 ⇓*e*P Pn 03 21 53.0 +0.7
STEZ ⇓*e*S Sb 03 22 23.0 -1.8
BINT Bingol 2.39 274 *e*Pn Pn 03 21 50.9 -2.2
HANI Diyarbakir_Han 2.49 263 *i* P Pn 03 21 55.4 +1.0
HANI *i* S Sb 03 22 29.0 -0.2
BGD Bogdanovka 2.50 1 P Pb 03 21 59.2 +0.3
BGD S Sg 03 22 36.0 +1.6
GDB GEDABAY 2.59 40 *e*Pn Pn 03 21 55.8 -0.1
GDB GEDABAY 2.59 40 ⇓P Pn 03 21 55.9 -0.1
SNR=116
GDB ⇑S Sn 03 22 28.4 +0.9
MARD Mardin 2.62 237 *i* P Pn 03 21 56.4 +0.1
MARD *i* S Sb 03 22 33.4 +0.3
DAGI Agillar 2.63 332 *i* P Pn 03 21 56.5 +0.1
DAGI *i* S Sg 03 22 38.1 -0.4
DBAD Bademkaya 2.66 328 *i* P Pb 03 21 50.0 -1.7
DBAD *i* S Sg 03 22 39.3 -0.3
KOPT Kop Dagi 2.67 299 ⇓*i*P Pb 03 22 01.1 -0.8
KOPT *i* S Sg 03 22 42.1 +2.2
QZX Qazax, Azerbai 2.69 31 *e*Pn Pn 03 21 56.6 -0.5
QZX Qazax, Azerbai 2.69 31 ⇑P Pn 03 21 56.7 -0.5
SNR=60
QZX ⇓S Sn 03 22 29.6 0.0
KZRT Kazreti 2.70 14 P Pb 03 22 01.9 -0.4
MAZI Mazidag 2.77 243 PN Pn 03 21 57.9 -0.4
MAZI Mazidag 2.77 243 Pn Pn 03 21 57.5 -0.8
MAZI Mazidag 2.77 243 *e*Pn Pn 03 21 57.5 -0.8
IHRS Heris 2.78 98 *e*Pn Pn 03 21 59.9 +1.3
IHRS IAMB IAmb 03 22 10.8
comp=Z,7µm,0.6s
TRLG Trialeti 2.81 9 P Pb 03 22 05.4 +1.2
EPOS Posof 2.81 347 *i* P Pn 03 22 00.0 +1.2
IBST Bostanabad 2.84 111 *e*Pn Pn 03 21 59.8 +0.3
IBST IAMB IAmb 03 22 11.8
comp=Z,3µm,0.6s
GANJ Ganja 2.85 48 P Pn 03 21 59.4 +0.1
GANJ Ganja 2.85 48 *e*Pn Pn 03 21 59.4 +0.1
GANJ Ganja 2.85 48 ⇓P Pn 03 21 59.5 +0.1
SNR=55
GANJ ⇓S Sn 03 22 34.7 +1.1
BAYB BAYBURT 2.95 301 *i* P Pb 03 22 06.0 -0.6
BAYB *i* S Sb 03 22 45.2 +2.6
DBOC Borcka 2.95 331 *i* P Pb 03 22 06.6 0.0
BCA Borcka 3.06 332 PN Pn 03 22 02.6 +0.4
BCA Borcka 3.06 332 Pn Pn 03 22 03.0 +0.8
BCA Borcka 3.06 332 *e*Pn Pn 03 22 03.0 +0.8
ERZN Erzincan 3.08 287 PN Pn 03 22 02.7 +0.1
ERZN Erzincan 3.08 287 Pn Pn 03 22 03.4 +0.8
BAYT Aydıntepe-Bayb 3.09 303 PN Pn 03 22 02.9 +0.1
BAYT Aydıntepe-Bayb 3.09 303 Pn Pn 03 22 03.4 +0.5
BAYT Aydıntepe-Bayb 3.09 303 *e*Pn Pn 03 22 03.3 +0.5
TBLG Delisi 3.10 17 P Pb 03 22 08.7 -0.5
TBLG S Sg 03 22 54.5 +0.9
TBLG Delisi 3.10 17 *e*Pn Pn 03 22 04.7 +1.9
TBLG Delisi 3.10 17 *e*P Pn 03 22 04.7 +1.9
TBLG Delisi 3.10 17 *e*Pn Pn 03 22 04.7 +1.9
EUZM Uzumlu 3.13 289 *i* P Pb 03 22 08.8 -0.9
TNCL Tunceli-Merkez 3.14 278 *i* P Pb 03 22 09.8 0.0
CHOM Cayeli-Rize 3.16 318 PN Pn 03 22 04.0 +0.4
CHOM Cayeli-Rize 3.16 318 *e*Pn Pn 03 22 04.5 +0.9
BRDA Brd 3.19 61 *e*Pn Pn 03 22 04.2 +0.3
BRDA Brd 3.19 61 ⇓P Pn 03 22 04.2 +0.3
SNR=13
BRDA ⇓S Sn 03 22 43.2 +1.4
DDFL Dedoflistskaro 3.33 36 P Pb 03 22 14.4 +1.4
DDFL S Sg 03 23 27.8 +27
ISRB Sarab 3.38 105 IAMB IAmb 03 22 26.5
comp=Z,3µm,0.8s
ISRB *e*Pn Pn 03 22 08.3 +1.5
MNGR Mingechevir, A 3.39 53 P Pn 03 22 06.8 +0.1
MNGR Mingechevir, A 3.39 53 *e*Pn Pn 03 22 06.8 +0.1
MNGR Mingechevir, A 3.39 53 ⇓P Pn 03 22 06.8 +0.1
MNGR ⇑S Sn 03 22 47.9 +1.1
ZRD Zardab 3.54 63 *e*Pn Pn 03 22 09.1 +0.3
ZRD Zardab 3.54 63 ⇓P Pn 03 22 09.1 +0.3
ZRD ⇑S Sn 03 22 52.0 +1.4
ELZG Elazig 3.58 267 *i* P Pn 03 22 10.2 +0.7
KELT Kelkit 3.59 294 *i* P Pb 03 22 17.9 +0.3
MACK Trabzon 3.63 308 *i* P Pb 03 22 19.4 +1.3
LGD Lagodekhi 3.70 33 P Pb 03 22 21.7 +2.4
LGD S Sg 03 23 16.1 +3.4
LGD Lagodekhi 3.70 33 *e*P Pb 03 22 21.7 +2.4
ZKTA Zakatala 3.71 38 P Pn 03 22 11.1 -0.1
ZKTA Zakatala 3.71 38 *e*Pn Pn 03 22 11.1 -0.1
ZKTA Zakatala 3.71 38 ⇑P Pn 03 22 11.1 -0.1
ZKTA ⇓S Sn 03 22 55.6 +0.7
SEKA Sheki 3.72 48 P Pn 03 22 12.1 +0.8
SEKA Sheki 3.72 48 *e*Pn Pn 03 22 12.1 +0.8
SEKA Sheki 3.72 48 ⇑P Pn 03 22 12.2 +0.8
SEKA ⇓S Sn 03 22 57.3 +2.2
LRK Lerik 3.76 90 *e*Pn Pn 03 22 12.3 +0.4
LRK Lerik 3.76 90 ⇑P Pn 03 22 12.4 +0.4
LRK ⇓S Sn 03 22 57.8 +1.7
REFA Refahiye_ERZN 3.77 281 *i* P Pb 03 22 20.4 -0.2
GLBA Clilabad 3.81 81 *e*Pn Pn 03 22 12.9 +0.5
GLBA Clilabad 3.81 81 ⇑P Pn 03 22 13.0 +0.5
GLBA ⇓S Sn 03 22 59.0 +1.8
QBL Gabala 3.96 55 *e*Pn Pn 03 22 14.7 +0.1
QBL Gabala 3.96 55 ⇓P Pn 03 22 14.7 +0.1
QBL ⇓S Sn 03 23 02.0 +1.0
KEMA Kemaliye 3.96 279 *i* P Pn 03 22 17.8 +3.1
ZEI Tsey 4.03 4 *e*P Pn 03 22 18.5 +2.8
ZEI pmax pmax
comp=Z,57nm,1.1s
LKRN Lenkeran, Azer 4.10 89 P Pn 03 22 16.9 +0.5
LKRN Lenkeran, Azer 4.10 89 *e*Pn Pn 03 22 16.9 +0.5
LKRN Lenkeran, Azer 4.10 89 ⇓P Pn 03 22 17.0 +0.5
LKRN ⇑S Sn 03 23 06.2 +1.9
IML Ismayilli 4.11 59 *e*Pn Pn 03 22 16.7 +0.1
IML Ismayilli 4.11 59 ⇑P Pn 03 22 16.8 +0.1
IML ⇑S Sn 03 23 05.9 +1.2
ASTR Astara 4.11 91 *e*Pn Pn 03 22 17.1 +0.5
ASTR Astara 4.11 91 ⇓P Pn 03 22 17.2 +0.5
ASTR ⇑S Sn 03 23 06.7 +2.0
XNQ Khinaliq 4.27 54 *e*Pn Pn 03 22 19.0 -0.1
XNQ Khinaliq 4.27 54 ⇑P Pn 03 22 19.0 -0.1
XNQ ⇓S Sn 03 23 09.9 +1.0
PQL Pirkuli 4.39 61 *e*Pn Pn 03 22 20.6 +0.1
PQL Pirkuli 4.39 61 ⇓P Pn 03 22 20.6 +0.1
PQL ⇑S Sn 03 23 12.7 +1.0
QUB Quba 4.53 53 *e*Pn Pn 03 22 23.4 +1.0
GBS Qobustan 4.53 65 *e*Pn Pn 03 22 22.7 +0.3
GBS Qobustan 4.53 65 ⇑P Pn 03 22 22.7 +0.3
GBS ⇓S Sn 03 23 16.4 +1.4
QSAR Qusar 4.54 51 *e*Pn Pn 03 22 22.6 0.0
QSAR Qusar 4.54 51 ⇑P Pn 03 22 22.7 0.0
QSAR ⇑S Sn 03 23 16.3 +0.9
QUBA Quba, Azerbaij 4.60 54 ⇑P Pn 03 22 23.5 +0.1
QUBA ⇓S Sn 03 23 17.7 +1.0
ATGJ Altiaghaj 4.65 62 *e*Pn Pn 03 22 24.3 +0.1
ATGJ Altiaghaj 4.65 62 ⇑P Pn 03 22 24.4 +0.1
ATGJ ⇓S Sn 03 23 19.4 +1.3
GROC Groznyy 4.75 20 *e*P Pn 03 22 27.3 +1.9
GROC *e*S Sn 03 23 23.0 +2.6
GROC pmax pmax
comp=Z,15nm,0.4s
GROC smax smax
comp=E,298nm,2.7s
GROC smax smax
comp=E,119nm,1.5s
KBZ Khabaz 4.98 355 Pn Pn 03 22 29.2 +0.7
comp=E,0.0nm,0.3s,baz=177,slow=13,SNR=2.6
IVIS Veis 5.00 147 *e*Pn Pn 03 22 33.5 +4.6
IVIS IAMB IAmb 03 24 24.1
comp=Z,1µm,0.8s
IGHG Ghaleghazi 5.05 150 *e*Pn Pn 03 22 31.4 +1.6
IGHG IAMB IAmb 03 24 16.8
comp=Z,11µm,1.6s
GOBA Gobu 5.05 69 *e*Pn Pn 03 22 29.9 +0.3
GOBA Gobu 5.05 69 ⇓P Pn 03 22 29.9 +0.3
GOBA ⇓S Sn 03 23 29.5 +1.6
KIV Kislovodsk 5.23 353 *e*Pn Pn 03 22 34.5 +2.4
KIV Kislovodsk 5.23 353 *e*P Pn 03 22 37.3 +5.2
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,55nm,8.0s
KVAR Kislovodsk Arr 5.23 353 Pn Pn 03 22 30.8 -1.2
baz=163,slow=17,SNR=2.7
GAZ Gaziantep 5.25 254 *e*Pn Pn 03 22 34.4 +2.0
KCHF Cheshme Sefid, 5.29 147 *e*Pn Pn 03 22 38.4 +5.3
NDR Nardaran 5.29 68 ⇑P Pn 03 22 33.2 +0.3
IKOM Komasi 5.59 144 *e*Pn Pn 03 22 40.4 +3.3
SOC Sochi 5.61 330 *e*P Pn 03 22 40.9 +3.6
SOC *e* 03 23 47.5
SOC MLR MLR
comp=Z,211nm,9.0s
IDOB Doab 6.22 142 *e*Pn Pn 03 22 51.0 +5.2
BR131 Keskin Array S 7.75 280 *e*Pn Pn 03 23 15.1 +8.4
BR131 Keskin Array S 7.75 280 *e*P Pn 03 23 15.1 +8.4
BRTR Keskin Array B 7.75 280 Pn Pn 03 23 04.4 -2.3
comp=Z,0.1nm,0.3s,baz=102,slow=11,SNR=3.5
NATI Neve Ativ 8.37 231 Pn Pn 03 23 18.2 +3.0
GEM Giv'at Ha'Em 8.45 231 Pn Pn 03 23 19.4 +3.1
GEM Sn Sn 03 24 54.9 +3.3
KSDI Kefar Szold 8.47 231 Pn Pn 03 23 19.9 +3.4
KSDI Sn Sn 03 24 56.0 +4.1
ASF Jabal al Asfar 8.52 221 Pn Pn 03 23 15.7 -1.6
comp=Z,0.3nm,0.3s,baz=90,slow=7.1,SNR=3.3
MMAI Mount Meron Ar 8.74 231 Pn Pn 03 23 19.9 -0.5
comp=Z,1.4nm,0.3s,baz=59,slow=17,SNR=7.9
MMAI LR LR 03 27 09.4
comp=Z,360nm,19.1s,baz=55,slow=41
MMLI Mount Malkishu 9.14 229 Pn Pn 03 23 29.2 +3.5
HMDT Nahal Hemdat 9.21 228 Pn Pn 03 23 30.9 +4.2
HMDT Sn Sn 03 25 14.1 +3.9
SLTI Sal'it 9.50 229 Pn Pn 03 23 34.1 +3.4
GEYT Alibeck 11.48 90 Pn Pn 03 23 57.8 0.0
comp=Z,0.4nm,0.3s,baz=259,slow=15,SNR=3.4
GEYT LR LR 03 28 60.0
comp=Z,93nm,20.2s,baz=235,slow=40
EIL Elat 11.52 221 LR LR 03 28 55.5
comp=Z,273nm,19.1s,baz=76,slow=40
MLR Muntele Rosu 14.67 303 *e*Pn Pn 03 24 40.1 -1.4
comp=Z,17nm,1.3s
MLR Muntele Rosu 14.67 303 ⇓*i*P P 03 24 52.5 +4.8
MLR Muntele Rosu 14.67 303 Pn Pn 03 24 39.2 -2.2
comp=Z,0.3nm,0.3s,baz=172,slow=19,SNR=3.3
DOPR Dopca 15.21 304 ⇑*i*P P 03 24 55.8 +2.3
VOIR 15.24 302 ⇑*i*P P 03 24 57.4 +3.4
RAYN Ar Rayn 15.29 173 *e*Pn Pn 03 24 45.1 -4.6
comp=Z,18nm,0.8s
RAYN Ar Rayn 15.29 173 *e*P Pn 03 24 45.1 -4.6
RAYN pmax pmax
comp=Z,18nm,0.8s
ARR Arges 15.50 301 ⇑*i*P P 03 25 00.7 +3.9
AKTO Aktyubinsk 15.54 37 Pn Pn 03 24 50.5 -2.2
comp=Z,0.2nm,0.3s,baz=229,slow=13,SNR=7.7
AKASG Malin Array Be 15.65 324 Pn Pn 03 24 52.0 -2.2
comp=Z,0.6nm,0.3s,baz=132,slow=12,SNR=6.8
AKBB Malin Array Si 15.65 324 *e*Pn Pn 03 24 55.5 +1.3
comp=Z,15nm,1.3s
AKBB Malin Array Si 15.65 324 *e*P Pn 03 24 55.5 +1.3
AKBB pmax pmax
comp=Z,15nm,1.3s
KIEV Kiev 15.65 324 *e*Pn P 03 24 58.8 +0.5
comp=Z,49nm,2.0s
KIEV Kiev 15.65 324 ⇓*i*P P 03 25 02.2 +3.8
KIEV Kiev 15.65 324 ⇓*e*P P 03 24 58.8 +0.5
KIEV pmax pmax
comp=Z,10.0nm,1.3s
ABKAR Akbulak array 15.75 43 *e*Pn Pn 03 24 55.0 -0.5
comp=Z,5.7nm,0.9s
VTS Vitosha 15.87 290 ⇓*i*P P 03 25 04.0 +2.9
BURAR Bucovina Array 16.00 309 ⇑*i*P P 03 25 04.2 +1.8
BUR08 Bucovina Ar. S 16.02 310 *e*Pn P 03 25 03.5 +0.9
comp=Z,6.8nm,0.9s
GZR Gura Zlata 16.76 300 ⇑*i*P P 03 25 13.9 +3.1
OBN Obninsk 17.02 346 ⇓*e*P P 03 25 13.8 +0.3
OBN pmax pmax
comp=Z,25nm,1.2s
TRPA Tarpa 17.85 308 ⇓*i*P P 03 25 25.2 +2.5
MORH Mrgy, Hungar 19.76 300 *e*P P 03 25 42.1 -1.6
WSAR Wadi Sarin 20.12 136 P P 03 25 46.6 -1.3
comp=Z,4.2nm,0.9s,baz=326,slow=11,SNR=2.2
WSAR LR LR 03 34 29.3
comp=Z,133nm,18.1s,baz=328,slow=39
KIRV Kirov 20.20 9 LR LR 03 34 52.8
comp=Z,67nm,18.2s,baz=7.9,slow=41
VYHS Vyhne 20.28 307 *e*P Pn 03 25 50.8 -0.6
VYHS Vyhne 20.28 307 *e*P Pn 03 25 50.8 -0.6
ARU Arti 20.29 25 *e*P P 03 25 49.4 0.0
comp=Z,13nm,0.9s
ARU Arti 20.29 25 *d i*P P 03 25 50.1 +0.7
ARU S Sn 03 29 39.9 +0.3
ARU SS **SnSn** 03 29 58.2 +4.1
ARU pmax pmax
comp=Z,15nm,0.9s
SUW Suwalki 20.62 324 *e*P Pn 03 25 57.4 +2.1
comp=Z,36nm,1.0s
KK31 Karatay Array 20.79 69 *e*P P 03 25 50.5 -4.5
comp=Z,21nm,1.3s
KK31 Karatay Array 20.79 69 *e*P P 03 25 50.5 -4.5
KK31 pmax pmax
comp=Z,21nm,1.3s
KKAR Karatay Array 20.79 69 *e*P P 03 25 50.1 -4.9
KKAR *e*Pn Pn 03 25 56.5 -1.0
KKAR Karatay Array 20.79 69 *e*P P 03 25 50.1 -4.9
KKAR *e* 03 25 56.5
TIP Timpagrande 20.81 280 *e*P P 03 25 55.4 +0.2
comp=Z,52nm,1.2s
JAVC Velka Javorina 21.13 307 *e*P P 03 26 05.6 +7.0
SMOL Smolenice 21.17 306 *e*P P 03 25 57.8 -1.2
SMOL Smolenice 21.17 306 *e*P P 03 25 57.8 -1.2
MODS Modra-Piesok 21.23 305 *e*P P 03 26 04.7 +5.1
MODS Modra-Piesok 21.23 305 *es*P P 03 26 04.7 +5.1
SVE Sverdlovsk 21.30 26 *e*P P 03 26 06.9 +6.5
VRAC Vranov 21.94 307 *e*P P 03 26 09.8 +2.5
CONA Conrad Observa 22.02 304 pP P 03 26 11.9 +3.7
comp=Z,8.7nm,1.2s
DPC Dobruska-Polom 22.46 310 *e*P P 03 26 15.4 +2.5
DPC Dobruska-Polom 22.46 310 *e*P P 03 26 15.4 +2.5
ARSB Arslanbob 22.64 74 *e*P P 03 26 12.5 -2.5
comp=Z,28nm,1.3s
MOA Molln 23.04 303 pP P 03 26 22.2 +3.2
comp=Z,5.5nm,1.3s
AQU L'Aquila 23.12 289 *e*P P 03 26 21.0 +1.1
comp=Z,60nm,1.4s
AQU L'Aquila 23.12 289 *e*P P 03 26 21.0 +1.1
AQU pmax pmax
comp=Z,60nm,1.4s
BRVK Borovoye 23.28 43 *e*P P 03 26 23.3 +1.9
comp=Z,5.3nm,0.9s
BRVK Borovoye 23.28 43 ⇓*e*P P 03 26 21.8 +0.4
BRVK pmax pmax
comp=Z,9.0nm,2.7s
BVAR Borovoye Array 23.32 44 P P 03 26 22.2 +0.4
comp=Z,0.9nm,0.8s,baz=231,slow=8.8,SNR=6.2
BVAR LR LR 03 37 07.4
comp=Z,64nm,19.4s,baz=248,slow=41
GERES GERESS Array S 23.64 305 *e*P P 03 26 27.0 +2.0
GEA0 *e*pP P 03 26 27.6 +2.5
GEC2 GERESS Array S 23.64 305 *e*P P 03 26 28.9 +3.8
comp=Z,12nm,1.5s
GERES GERESS Array B 23.64 305 P P 03 26 24.6 -0.5
comp=Z,1.0nm,0.8s,baz=96,slow=5.9,SNR=8.6
GERES LR LR 03 37 21.1
comp=Z,42nm,18.4s,baz=69,slow=41
AAK Ala-Archa 23.71 71 *e*P P 03 26 23.9 -2.1
comp=Z,9.6nm,1.3s
AAK Ala-Archa 23.71 71 ⇑*e*P P 03 26 26.4 +0.5
AAK pmax pmax
comp=Z,6.0nm,1.4s
AAK Ala-Archa 23.71 71 P P 03 26 26.2 +0.3
comp=Z,1.1nm,0.5s,baz=242,slow=12,SNR=5.7
KHC Kasperske Hory 23.79 306 *e*P P 03 26 29.3 +2.8
comp=Z,10nm,1.6s
KHC Kasperske Hory 23.79 306 *e*P P 03 26 26.8 +0.4
KHC Kasperske Hory 23.79 306 *e*P P 03 26 26.8 +0.4
FRU Bishkek 23.80 70 *e*P P 03 26 27.5 +0.9
WATA Walderalm 24.74 301 pP P 03 26 38.1 +2.7
comp=Z,8.0nm,0.9s
CLL Collm 24.76 310 *e*(P) P 03 26 36.0 +0.7
comp=Z,8.0nm,1.1s
CLL *i* 03 26 39.7
CLL Collm 24.76 310 *e*P P 03 26 36.0 +0.7
CLL *i* 03 26 39.7
CLL pmax pmax
comp=Z,8.0nm,1.1s
NRN Naryn 24.89 73 *e*P P 03 26 38.7 +1.6
comp=Z,6.9nm,0.8s
SQTA Sankt Quirin 24.97 300 pP P 03 26 41.7 +4.3
comp=Z,8.5nm,1.2s
MOTA Moosalm 25.06 301 pP P 03 26 41.7 +3.4
comp=Z,10nm,1.0s
KSH Kashi 25.10 78 *e*P P 03 26 37.0 -1.6
KSH pP pP 03 26 43.4 +0.4
KSH PP **PnPn** 03 27 13.4 +1.3
KSH S **S** 03 30 55.1 -7.9
KSH sS pS 03 31 03.5 -4.3
KSH pmax pmax
comp=Z,88nm,5.9s
KSH LR LR
comp=N,150nm,12.8s
KSH LR LR
comp=E,130nm,7.9s
FINES FINESS Array B 25.15 340 P P 03 26 37.9 -0.8
comp=E,1.5nm,0.8s,baz=155,slow=14,SNR=3.5
FINES LR LR 03 36 49.7
comp=E,124nm,19.8s,baz=251,slow=37
FIA1 FINESS Array S 25.15 340 *e*P P 03 26 39.0 +0.3
FETA Feichten 25.27 300 pP P 03 26 42.8 +2.6
comp=E,6.3nm,1.0s
RETA Reutte 25.31 301 pP P 03 26 41.7 +1.3
comp=E,5.6nm,1.1s
GRF Grafenberg Arr 25.41 306 *e*P P 03 26 45.1 +3.8
comp=E,17nm,1.3s,baz=103,slow=9.8

FUORN	**Ofenpass-Fuorn**	**25.54**	**299**	*e*P		**P**	**03 26 45.5**	**+2.7**
	comp=E,35nm,1.9s							
DAVOX	**Davos/Dischmat**	**25.82**	**299**	P		**P**	**03 26 44.3**	**-1.0**
	comp=E,3.3nm,0.9s,baz=139,slow=20,SNR=2.8							
DAVA	**Damuels**	**25.88**	**300**	P		**P**	**03 26 46.0**	**+0.3**
	comp=E,2.4nm,0.6s							
ATD	**Arta Tunnel**	**27.13**	**181**	LR		LR	03 37 37.4	
	comp=E,57nm,19.1s,baz=264,slow=36							
KURBB	**Kurchatov Arra**	**27.29**	**53**	P		**P**	**03 26 58.4**	**+0.2**
	comp=E,2.8nm,0.7s,baz=263,slow=8.9,SNR=19							
KURK	**Kurchatov**	**27.37**	**53**	*e*P		**P**	**03 26 59.9**	**+1.0**
	comp=E,4.7nm,0.9s							
KURK	**Kurchatov**	**27.37**	**53**	⇓*e*P		**P**	**03 26 58.7**	**-0.2**
KURK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
HFS	**Hagfors**	**28.45**	**328**	P		**P**	**03 27 07.6**	**-0.9**
	comp=Z,2.5nm,0.8s,baz=103,slow=12,SNR=2.4							
MK31	**Makanchi Array**	**29.31**	**61**	*e*P		**P**	**03 27 18.4**	**+2.2**
	comp=Z,2.2nm,0.8s							
MK31	**Makanchi Array**	**29.31**	**61**	*e*P		**P**	**03 27 18.5**	**+2.2**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**29.31**	**61**	P		**P**	**03 27 16.9**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=262,slow=5.9,SNR=11							
MK01	**Makanchi Array**	**29.32**	**62**	*e*P		**P**	**03 27 18.2**	**+1.8**
NVS	**Novosibirsk**	**31.06**	**46**	*e*P		**P**	**03 27 33.1**	**+1.5**
ZALV	**Zalesovo Beam**	**31.76**	**48**	P		**P**	**03 27 37.0**	**-0.8**
ZALV	**Zalesovo Beam**	**31.76**	**48**	P		**P**	**03 27 37.0**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=249,slow=7.6,SNR=2.2							
WMQ	**Urumqi**	**33.25**	**67**	*e*P		**P**	**03 27 51.4**	**+0.3**
WMQ				LR		LR		
	comp=N,120nm,31.5s							
WMQ				LR		LR		
	comp=E,250nm,23.9s							
WMQ				LR		LR		
	comp=Z,190nm,29.3s							
TAM	**Tamanrasset**	**36.05**	**255**	*e*P		**P**	**03 28 19.4**	**+3.9**
	comp=Z,9.9nm,1.6s							
TAM	**Tamanrasset**	**36.05**	**255**	*e*P		**P**	**03 28 19.4**	**+3.9**
TAM				pmax	pmax			
	comp=Z,10.0nm,1.6s							
ES06	**SONSECA Array**	**36.47**	**287**	*e*P		**P**	**03 28 20.9**	**+2.0**
ESDC	**Sonseca Array**	**36.48**	**287**	P		**P**	**03 28 16.7**	**-2.3**
	comp=Z,3.2nm,0.9s,baz=74,slow=9.0,SNR=7.8							
TORD	**Torodi Ar. Bea**	**44.91**	**247**	P		**P**	**03 29 27.4**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=22,slow=8.5,SNR=9.1							
SONM	**Songino Array**	**45.48**	**57**	P		**P**	**03 29 33.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=282,slow=8.4,SNR=3.1							
CD2	**Chengdu**	**49.27**	**80**	*e*P		**P**	**03 30 01.6**	**-1.1**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
HHC	**Hu-ho-hao-te**	**51.08**	**65**	*e*P		**P**	**03 30 16.1**	**-0.3**
HHC				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC				pmax	pmax			
	comp=Z,170nm,6.0s							
XAN	**Xi'an**	**51.84**	**74**	P		**P**	**03 30 24.2**	**+2.1**
XAN				pP		sP	03 30 30.0	+1.6
XAN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,67nm,4.3s							
CMAR	**Chiang Mai Arr**	**51.86**	**97**	P		**P**	**03 30 21.0**	**-1.4**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**51.86**	**97**	P		**P**	**03 30 20.9**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=298,slow=8.1,SNR=6.1							
TIXI	**Tiksi**	**52.29**	**24**	⇓*e*P		**P**	**03 30 27.9**	**+3.1**
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.1s							
SEY	**Seymchan**	**63.96**	**29**	⇑*e*P		**P**	**03 31 46.0**	**-0.6**
SEY	**Seymchan**	**63.96**	**29**	P		**P**	**03 31 46.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=163,slow=19,SNR=2.9							
KSAR	**Wonju Array Be**	**63.97**	**62**	P		**P**	**03 31 46.8**	**-0.4**
KSAR	**Wonju Array Be**	**63.97**	**62**	P		**P**	**03 31 46.8**	**-0.4**
KSRS	**Korea Array**	**63.99**	**62**	P		**P**	**03 31 46.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=288,slow=6.2,SNR=3.0							
MJAR	**Matsushiro Arr**	**71.43**	**58**	P		**P**	**03 32 36.2**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=309,slow=4.2,SNR=3.2							
YKA	**Yellowknife Ar**	**77.56**	**350**	P		**P**	**03 33 08.4**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=19,slow=6.6,SNR=9.9							

*KRSC **07** 03:26:17.5±10.0, 49.93N×157.43E, h48km±10km, ML4.7*
*MOS **07** 03:26:18.9±0.9, 49.94N×157.09E, h51km, mb4.2/15, Error ellipse: s-maj=11.8km s-min=3.7km az=80.2*
*ISCJB **07** 03:26:20.0±0.7, 49.99N±0.05×157.10E±0.07, h64km±5km, mb3.9/25, Error ellipse: s-maj=10.3km s-min=4.6km az=138.9*
*IDC **07** 03:26:22.6±2.3, 50.08N×156.80E, h67km±20km, mb3.6/23, mb1 3.8/29, mb1mx3.6/64, mbtmp3.9/29, MS3.5/3, Ms1 3.5/3, ms1mx3.0/41, Error ellipse: s-maj=17.0km s-min=11.4km az=149.0*

ISC 07 03:26:21.3±1.3, 49.99N±0.08×157.16E±0.06, h57km±10km, n113, σ1§18/134, mb3.9/25, 1C-9D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.97**	**317**	*e*P		**Pn**	**03 26 37.4**	**-1.4**
SKR				*e*S		**Sn**	**03 26 50.1**	**-1.6**
SKR	**Severo-Kuril's**	**0.97**	**317**	⇓*i*PN		**Pn**	**03 26 37.4**	**-1.4**
SKR				*i* S		**Sn**	**03 26 51.1**	**-0.6**
SKR				pmax	pmax			
	comp=Z,4μm,1.0s							
SKR				pmax	pmax			
	comp=Z,300nm,1.3s							
SKR				pmax	pmax			
	comp=Z,3μm,0.5s							
SKR				smax	smax			
	comp=N,13μm,0.4s							
SKR				smax	smax			
	comp=E,17μm,0.4s							
ALID	**Alaid**	**1.36**	**311**	*e*P		**Pn**	**03 26 44.0**	**-0.1**
ALID				*e*S		**Sn**	**03 27 02.5**	**+1.3**
ALID	**Alaid**	**1.36**	**311**	PN		**Pn**	**03 26 44.0**	**-0.1**
ALID				S		**Sn**	**03 27 02.5**	**+1.3**
PAU	**Pauzhetka**	**1.50**	**352**	*e*P		**Pn**	**03 26 45.4**	**-0.5**
PAU				*e*S		**Sn**	**03 27 04.3**	**-0.1**
PAU	**Pauzhetka**	**1.50**	**352**	PN		**Pn**	**03 26 45.4**	**-0.5**
PAU				S		**Sn**	**03 27 04.3**	**-0.1**
KDTR	**Khodutka, Kamc**	**1.92**	**17**	*e*P		**Pn**	**03 26 50.1**	**-1.4**
KDTR				*e*S		**Sn**	**03 27 13.2**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.92**	**17**	PN		**Pn**	**03 26 50.1**	**-1.4**
KDTR				S		**Sn**	**03 27 13.2**	**-1.3**
ASAK	**Asacha**	**2.44**	**11**	*e*P		**Pn**	**03 26 58.7**	**-0.1**
ASAK	**Asacha**	**2.44**	**11**	PN		**Pn**	**03 26 58.7**	**-0.1**
MTVR	**Mutnovka**	**2.58**	**14**	*e*P		**Pn**	**03 27 00.4**	**-0.3**
MTVR				*e*S		**Sn**	**03 27 31.1**	**+0.1**
MTVR	**Mutnovka**	**2.58**	**14**	PN		**Pn**	**03 27 00.4**	**-0.3**
MTVR				S		**Sn**	**03 27 31.1**	**+0.1**
RUS	**Russkaya**	**2.59**	**19**	*e*P		**Pn**	**03 26 59.4**	**-1.4**
RUS				*e*S		**Sn**	**03 27 29.9**	**-1.1**
RUS	**Russkaya**	**2.59**	**19**	PN		**Pn**	**03 26 59.4**	**-1.4**
RUS				S		**Sn**	**03 27 29.9**	**-1.1**
GRL	**Gorelyy**	**2.63**	**12**	*e*P		**Pn**	**03 27 01.0**	**-0.4**
GRL				*e*S		**Sn**	**03 27 33.2**	**+1.0**
GRL	**Gorelyy**	**2.63**	**12**	PN		**Pn**	**03 27 01.0**	**-0.4**
GRL				S		**Sn**	**03 27 33.2**	**+1.0**
KRMR	**Karymshinskiy**	**2.91**	**12**	*e*P		**Pn**	**03 27 05.6**	**+0.5**
KRMR				*e*S		**Sn**	**03 27 40.7**	**+1.9**
KRMR	**Karymshinskiy**	**2.91**	**12**	PN		**Pn**	**03 27 05.6**	**+0.5**
KRMR				S		**Sn**	**03 27 40.7**	**+1.9**
APC	**Apacha**	**2.94**	**360**	*e*P		**Pn**	**03 27 05.7**	**+0.2**
APC	**Apacha**	**2.94**	**360**	PN		**Pn**	**03 27 05.7**	**+0.2**
PETK	**Petropavlovsk-**	**3.15**		P		**Pn**	**03 27 08.9**	**+0.6**
	comp=E,4.9nm,0.3s,baz=171,slow=14,SNR=36							
PETK				LR		LR	03 28 36.0	
	comp=E,341nm,18.1s,baz=174,slow=43							
PET	**Petropavlovsk**	**3.18**	**16**	*e*P		**Pn**	**03 27 08.3**	**-0.5**
PET				*e*S		**Sn**	**03 27 45.3**	**-0.2**
PET	**Petropavlovsk**	**3.18**	**16**	*e*PN		**Pn**	**03 27 08.7**	**-0.1**
PET				*e*S		**Sn**	**03 27 46.6**	**+1.1**
PET				pmax	pmax			
	comp=Z,67nm,0.4s							
PET				smax	smax			
	comp=N,513nm,0.6s							
PET				smax	smax			
	comp=E,876nm,0.6s							
DALK	**Dalny**	**3.21**	**17**	*e*P		**Pn**	**03 27 08.5**	**-0.6**
DALK				*e*S		**Sn**	**03 27 46.1**	**0.0**
DALK	**Dalny**	**3.21**	**17**	PN		**Pn**	**03 27 08.5**	**-0.6**
DALK				S		**Sn**	**03 27 46.1**	**0.0**
UGLR	**Uglovaya**	**3.39**	**17**	*e*P		**Pn**	**03 27 12.3**	**+0.5**
UGLR	**Uglovaya**	**3.39**	**17**	PN		**Pn**	**03 27 12.3**	**+0.5**
AVH	**Avacha**	**3.43**	**16**	*e*P		**Pn**	**03 27 13.2**	**+1.0**
AVH	**Avacha**	**3.43**	**16**	PN		**Pn**	**03 27 13.2**	**+1.0**
KOK	**Koryaka**	**3.44**	**15**	*e*P		**Pn**	**03 27 13.6**	**+1.2**
KOK	**Koryaka**	**3.44**	**15**	PN		**Pn**	**03 27 13.6**	**+1.2**
SMAR	**Somma**	**3.44**	**17**	*e*P		**Pn**	**03 27 13.5**	**+1.0**
SMAR	**Somma**	**3.44**	**17**	PN		**Pn**	**03 27 13.5**	**+1.0**
KRER	**Koryakskii**	**3.47**	**16**	*e*P		**Pn**	**03 27 13.7**	**+0.8**
KRER	**Koryakskii**	**3.47**	**16**	PN		**Pn**	**03 27 13.7**	**+0.8**
SDLR	**Sedlovina**	**3.47**	**17**	*e*P		**Pn**	**03 27 12.5**	**-0.3**
SDLR				*e*S		**Sn**	**03 27 54.7**	**+2.0**
SDLR	**Sedlovina**	**3.47**	**17**	PN		**Pn**	**03 27 12.5**	**-0.3**
SDLR				S		**Sn**	**03 27 54.7**	**+2.0**
NLC	**Nalytchevo**	**3.47**	**22**	*e*P		**Pn**	**03 27 12.5**	**-0.2**
NLC				*e*S		**Sn**	**03 27 54.4**	**+1.9**
NLC	**Nalytchevo**	**3.47**	**22**	PN		**Pn**	**03 27 12.5**	**-0.2**
NLC				S		**Sn**	**03 27 54.4**	**+1.9**
KRX	**Arik**	**3.50**	**15**	*e*P		**Pn**	**03 27 14.6**	**+1.3**
KRX	**Arik**	**3.50**	**15**	PN		**Pn**	**03 27 14.6**	**+1.3**
SPN	**Mys Shipunski**	**3.59**	**29**	*e*P		**Pn**	**03 27 13.5**	**-0.9**
SPN				*e*S		**Sn**	**03 27 55.1**	**-0.4**
SPN	**Mys Shipunski**	**3.59**	**29**	PN		**Pn**	**03 27 13.5**	**-0.9**
SPN				S		**Sn**	**03 27 55.1**	**-0.4**
GNL	**Ganaly**	**3.75**	**7**	*e*P		**Pn**	**03 27 17.2**	**+0.6**
GNL	**Ganaly**	**3.75**	**7**	PN		**Pn**	**03 27 17.2**	**+0.6**
KII	**Karymskiy**	**4.30**	**18**	*e*P		**Pn**	**03 27 25.5**	**+1.4**
KII	**Karymskiy**	**4.30**	**18**	PN		**Pn**	**03 27 25.5**	**+1.4**
KZV	**Kizimen**	**5.48**	**19**	*e*P		**Pn**	**03 27 41.1**	**+0.7**
KZV	**Kizimen**	**5.48**	**19**	PN		**Pn**	**03 27 41.1**	**+0.7**
TUMD	**Tumrok D**	**5.59**	**19**	P		**Pn**	**03 27 42.4**	**+0.7**
TUMR	**Tumrok**	**5.61**	**18**	*e*P		**Pn**	**03 27 43.3**	**+1.2**
TUMR	**Tumrok**	**5.61**	**18**	PN		**Pn**	**03 27 42.4**	**+0.3**
SMKR	**Semkarok**	**7.09**	**20**	P		**Pn**	**03 28 02.5**	**+0.1**
SMKR	**Semkarok**	**7.09**	**20**	PN		**Pn**	**03 28 02.5**	**+0.1**
SRKR	**Sorokina**	**7.10**	**18**	P		**Pn**	**03 28 03.2**	**+0.8**
SRKR	**Sorokina**	**7.10**	**18**	PN		**Pn**	**03 28 03.2**	**+0.8**
KBTR	**Krutoberegovo**	**7.10**	**26**	*e*P		**Pn**	**03 28 01.9**	**-0.5**
KBTR				*e*S		**Sn**	**03 29 20.3**	**-1.3**
KBTR	**Krutoberegovo**	**7.10**	**26**	PN		**Pn**	**03 28 01.9**	**-0.5**
BKI	**Bering**	**7.49**	**42**	*e*P		**Pn**	**03 28 06.6**	**-1.1**
BKI	**Bering**	**7.49**	**42**	PN		**Pn**	**03 28 06.6**	**-1.1**
KUR	**Kuril'sk**	**7.88**	**236**	⇓*e*PN		**Pn**	**03 28 17.3**	**+4.2**
YSS	**Yuzh-Sakhalins**	**10.04**	**258**	*e*PN		**Pn**	**03 28 42.3**	**-0.3**
MA2	**Magadan**	**10.29**	**341**	⇑*e*PN		**Pn**	**03 28 46.3**	**+0.3**
MA2				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MA2	**Magadan**	**10.29**	**341**	P		**Pn**	**03 28 44.8**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=142,slow=9.2,SNR=5.1							
MA2				LR		LR	03 32 45.7	
	comp=Z,61nm,18.8s,baz=214,slow=38							
ASAJ	**Asahikawa**	**11.53**	**245**	P		**Pn**	**03 29 01.9**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=66,slow=12,SNR=2.2							
ERM	**Erimo**	**12.57**	**236**	⇓*e*PN		**Pn**	**03 29 18.1**	**+0.9**
SEY	**Seymchan**	**13.24**	**350**	⇓*e*PN		**Pn**	**03 29 30.3**	**+4.1**
SEY	**Seymchan**	**13.24**	**350**	P		**Pn**	**03 29 27.4**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=153,slow=10,SNR=8.8							
KLR	**Kul'dur**	**16.47**	**277**	P		**Pn**	**03 30 07.0**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=13,SNR=2.7							
BILL	**Bilibino**	**18.66**	**11**	⇓*e*P		**P**	**03 30 35.1**	**+0.9**
BILL				pmax	pmax			
	comp=Z,15nm,3.2s							
MJA0	**Matsu Arr-Jizo**	**19.17**	**233**	*e*P		**Pn**	**03 30 42.2**	**+0.8**
MAJO	**Matsushiro**	**19.19**	**233**	⇓*e*P		**Pn**	**03 30 44.3**	**+2.7**
MAJO				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MJAR	**Matsushiro Arr**	**19.19**	**233**	P		**P**	**03 30 39.6**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=26,slow=9.5,SNR=5.2							
TIXI	**Tiksi**	**25.25**	**339**	⇓*e*P		**P**	**03 31 40.9**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TIXI	**Tiksi**	**25.25**	**339**	P		**P**	**03 31 39.2**	**-2.3**
	comp=Z,1.8nm,0.3s,baz=122,slow=5.0,SNR=6.3							
H11N2	**WAKE ISLAND Hy**	**31.17**	**162**	T		T	04 06 26.1	
	baz=348,slow=76,SNR=19							
H11N3	**WAKE ISLAND Hy**	**31.18**	**162**	T		T	04 06 20.5	
	baz=348,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**31.19**	**162**	T		T	04 06 23.6	
	baz=348,slow=76,SNR=17							
COLA	**College**	**31.92**	**41**	⇓*e*P		**P**	**03 32 41.7**	**+0.8**
COLA				pmax	pmax			
	comp=Z,21nm,3.2s							
H11S1	**WAKE ISLAND Hy**	**32.32**	**163**	T		T	04 07 07.6	
	baz=347,slow=76,SNR=49							
H11S3	**WAKE ISLAND Hy**	**32.33**	**163**	T		T	04 07 13.2	
	baz=347,slow=76,SNR=79							
ILAR	**Eielson Array**	**32.33**	**42**	P		**P**	**03 32 45.6**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=277,slow=9.9,SNR=3.2							
H11S2	**WAKE ISLAND Hy**	**32.34**	**163**	T		T	04 07 09.0	
	baz=347,slow=76,SNR=38							
SONM	**Songino Array**	**32.92**	**286**	P		**P**	**03 32 47.7**	**-2.3**
	comp=Z,0.1nm,0.5s,baz=79,slow=7.8,SNR=2.3							
INK	**Inuvik**	**37.46**	**35**	P		**P**	**03 33 29.3**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=304,slow=7.3,SNR=3.2							
YKA	**Yellowknife Ar**	**46.71**	**40**	P		**P**	**03 34 45.0**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=300,slow=8.0,SNR=9.1							
RES	**Resolute Bay**	**46.89**	**20**	P		**P**	**03 34 45.5**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=297,slow=8.8,SNR=6.8							
KURK	**Kurchatov**	**47.85**	**303**	P		**P**	**03 34 52.0**	**-1.0**
KURK							03 36 20.6	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KURK				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**47.88**	**297**	*i* P		**P**	**03 34 52.7**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**47.88**	**297**	P		**P**	**03 34 51.6**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=51,slow=6.1,SNR=28							
KURBB	**Kurchatov Arra**	**47.95**	**303**	P		**P**	**03 34 52.0**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=62,slow=7.7,SNR=6.6							
KURBB				PcP		**PcP**	**03 36 20.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=46,slow=3.7,SNR=4.4							
BVAR	**Borovoye Array**	**50.90**	**309**	P		**P**	**03 35 13.8**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=35,slow=8.3,SNR=4.5							
ARU	**Arti**	**54.45**	**318**	⇓*e*P		**P**	**03 35 43.2**	**+0.9**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.3s							
CMAR	**Chiang Mai Arr**	**55.73**	**258**	*e*P		**P**	**03 35 54.3**	**+2.2**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**55.73**	**258**	P		**P**	**03 35 51.4**	**-0.7**
	comp=Z,1.7nm,0.3s,baz=36,slow=6.9,SNR=11							
NVAR	**Mina Array Bea**	**58.60**	**66**	P		**P**	**03 36 12.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=288,slow=6.6,SNR=3.3							
PDAR	**Pinedale Array**	**60.69**	**57**	P		**P**	**03 36 28.7**	**+2.0**
	comp=Z,0.3nm,0.6s,baz=297,slow=9,SNR=3.1							
NB2	**NORSAR Subarra**	**65.99**	**343**	P		**P**	**03 37 01.0**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**65.99**	**343**	*e*P		**P**	**03 37 01.3**	**+0.1**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
NOA	**NORSAR Array B**	**65.99**	**343**	P		**P**	**03 37 00.5**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=21,slow=6.5,SNR=4.5							
HFS	**Hagfors**	**66.32**	**341**	P		**P**	**03 37 02.6**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=68,slow=5.3,SNR=4.1							
GEYT	**Alibeck**	**67.22**	**302**	P		**P**	**03 37 08.1**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=20,slow=4.6,SNR=2.8							
AKASG	**Malin Array Be**	**70.30**	**328**	P		**P**	**03 37 26.1**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=29,slow=6.0,SNR=3.3							
KBZ	**Khabaz**	**70.50**	**315**	P		**P**	**03 37 28.8**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=181,slow=2.8,SNR=4.7							
WRA	**Warramunga Arr**	**72.50**	**202**	P		**P**	**03 37 41.9**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=27,slow=7.6,SNR=3.6							
WRA				LR		LR	04 07 13.9	
	comp=Z,267nm,22.0s,baz=355,slow=34							
TXAR	**Lajitas Array**	**73.60**	**64**	P		**P**	**03 37 50.5**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=297,slow=4.8,SNR=7.5							
CLL	**Collm**	**74.57**	**338**	*e*P		P	03 38 00.0	+6.4
VYHS	**Vyhne**	**75.55**	**333**	*e*P		**P**	**03 37 59.5**	**+0.1**
VYHS	**Vyhne**	**75.55**	**333**	*e*P		**P**	**03 37 59.5**	**+0.1**
ASAR	**Alice Springs**	**76.18**	**202**	P		**P**	**03 38 03.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=14,slow=5.1,SNR=3.0							
GERES	**GERESS Array B**	**76.66**	**336**	P		**P**	**03 38 05.2**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=35,slow=4.9,SNR=5.1							
BRTR	**Keskin Array B**	**77.81**	**319**	P		**P**	**03 38 11.7**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=12,slow=2.1,SNR=4.2							
DAVOX	**Davos/Dischmat**	**79.54**	**338**	P		**P**	**03 38 22.4**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=339,slow=14,SNR=5.9							

KRSC 07 03:28:52.6±10.0, 50.09N×157.32E, h24km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.98**	**308**	*e*P		Pn	03 29 10.6	-0.2
SKR				*e*S		Sb	03 29 22.6	-0.7
ALID	**Alaid**	**1.38**	**305**	*e*P		Pn	03 29 16.9	+0.4
ALID				*e*S		Sb	03 29 35.4	+0.4
PAU	**Pauzhetka**	**1.42**	**347**	*e*P		Pb	03 29 18.8	+0.4
PAU				*e*S		Sb	03 29 37.3	+1.3
KDTR	**Khodutka, Kamc**	**1.79**	**15**	*e*P		Pb	03 29 23.7	-1.0
KDTR				*e*S		Sb	03 29 46.4	-0.2
ASAK	**Asacha**	**2.33**	**9**	*e*P		Pn	03 29 30.7	+1.2
MTVR	**Mutnovka**	**2.46**	**12**	*e*P		Pn	03 29 33.8	-2.4
MTVR				*e*S		Sb	03 30 03.8	-2.3
RUS	**Russkaya**	**2.47**	**17**	*e*P		Pn	03 29 32.7	+1.4
RUS				*e*S		Sn	03 30 02.8	+2.2
DALK	**Dalny**	**3.08**	**16**	*e*P		Pn	03 29 41.7	+2.0
DALK				*e*S		Sn	03 30 19.4	+3.6
UGLR	**Uglovaya**	**3.26**	**16**	*e*P		Pb	03 29 46.9	-3.0
AVH	**Avacha**	**3.30**	**15**	*e*P		Pb	03 29 47.0	-3.5
SMAR	**Somma**	**3.31**	**16**	*e*P		Pb	03 29 47.5	-3.2
KOK	**Koryaka**	**3.31**	**14**	*e*P		Pb	03 29 47.2	-3.5
SDLR	**Sedlovina**	**3.34**	**16**	*e*P		Pn	03 29 46.6	+3.2
SPN	**Mys Shipunski**	**3.45**	**28**	P		Pn	03 29 48.3	+3.5
SPN				*e*S		Sn	03 30 27.8	+2.8
GNL	**Ganaly**	**3.63**	**6**	P		Pb	03 29 52.0	-4.2

*NIED **07** 03:36:00, 24.30N×121.40E, h8km, Mw5.5 Best double couple: M0 1.94000×10^17 NP1:φs187.00000°, δ52.00000°, λ-40.00000°. NP2:φs304.00000°, δ60.00000°, λ-134.00000°.*
*JMA **07** 03:36:45.1±0.1, 24.28N×121.44E, h0km, M5.9*
*IDC **07** 03:36:45.2±0.3, 24.25N×121.56E, h0km, mb5.1/46, mb1 5.2/51, mb1mx5.1/58, mbtmp5.1/51, ML3.7/5, MS4.8/31, Ms1 4.8/31, ms1mx4.7/45, Error ellipse: s-maj=9.9km s-min=8.4km az=74.0*
*TAP **07** 03:36:45.7, 24.30N×121.46E, h6km, ML5.9, C*
*BJI **07** 03:36:45.1, 24.30N×121.50E, h10km, mb5.1/60, mB5.6/59, ML5.4/8, Ms5.8/88, Ms7 5.7/81*
*ISCJB **07** 03:36:46.3±0.2, 24.313N±0.007×121.476E±0.009, h8km±1km, mb5.5/376, MS5.1/175, Error ellipse: s-maj=1.5km s-min=1.1km az=28.6*
*NEIC **07** 03:36:46.1±0.0, 24.31N×121.49E, h15km, mb5.6/246, MS5.1/98, MW5.5, MW5.5, ML5.6(TAP), Moment Tensor Solution. s22 Moment tensor: Scale 10^17Nm; Mrr-1.80; Mθθ 0.15; Mθφ 1.65; Mrθ 0.65; Mθφ-0.76; Mφr 0.69; Best double couple: M0 2.10000×10^17 NP1:φs316.00000°, δ43.00000°, λ-124.00000°. NP2:φs179.00000°, δ55.00000°, λ-62.00000°. Principal axes: T 2.0100, Plg6.0000°, Azm250.0000°; N 0.2000, Plg23.0000°, Azm342.0000°; P -2.2100, Plg67.0000°, Azm145.0000°; After TAP.*
NEIC Felt [IV] at Taipei. Felt in much of Taiwan. Recorded [5 TAP] in Yilan; [4 TAP] in Hsinchu, Hualien and Nantou; [3 TAP] in Changhua, Miaoli, Taoyuan and Yunlin; [2 TAP] in Chiayi and Taitung; [1 TAP] in Penghu and Pingtung.
*NEIC **07** 03:36:47.0±0.0, 24.37N×121.54E, h11km, Moment Tensor Solution. s19 Moment tensor: Scale 10^17Nm; Mrr-1.72; Mθθ 0.58; Mφφ 1.14; Mrθ 1.04; Mθφ-1.00; Mφr 0.82; Best double couple: M0 2.20000×10^17 NP1:φs169.00000°, δ53.00000°, λ-51.00000°. NP2:φs296.00000°, δ52.00000°, λ-129.00000°. Principal axes: T 1.8900, Plg0.0000°, Azm233.0000°; N 0.5900, Plg29.0000°, Azm323.0000°; P -2.4800, Plg60.0000°, Azm142.0000°;*
*BGR **07** 03:36:47.4

	baz=51						
TWC				eS	Sg	03 37 02.6	+0.1
	baz=51						
TWE	Neicheng	0.46	19	⇑P	Pg	03 36 55.3	-1.3
	baz=39						
TWE				S	Sg	03 37 02.3	-0.4
	baz=39						
ESL	Shilin	0.48	188	⇑iP	Pg	03 36 55.6	-1.4
	baz=183						
ESL				eS	Sg	03 37 03.0	-0.3
	baz=183						
NWLT	Wulai	0.49	360	⇑eP	Pg	03 36 55.7	-1.5
	baz=356						
NWLT				eS	Sg	03 37 01.7	-2.0
	baz=356						
WHP	Taichung City	0.51	269	⇑iP	Pg	03 36 55.9	-1.7
	baz=265						
WHP				S	Sg	03 37 02.6	-1.8
	baz=265						
ILA	Ilan	0.53	25	⇑P	Pg	03 36 56.9	-1.0
	baz=42						
ILA				S	Sg	03 37 05.5	+0.6
	baz=42						
LIOB	Emei	0.57	309	⇑iP	Pg	03 36 56.2	-2.6
	baz=309						
LIOB				eS	Sg	03 37 03.9	-2.5
	baz=309						
NSTT	Nanjuang	0.57	307	⇑P	Pg	03 36 57.2	-1.6
	baz=307						
NSTT				S	Sg	03 37 04.4	-1.9
	baz=307						
WLTB	Daxi	0.61	338	⇑eP	Pg	03 36 58.8	-0.6
	baz=351						
WLTB				eS	Sg	03 37 06.2	-1.3
	baz=351						
EGFH	Guangfu	0.62	186	eP	Pg	03 36 58.3	-1.4
	baz=183						
EGFH				eS	Sg	03 37 07.8	-0.1
	baz=183						
EOS1	EOS1	0.63	65	⇑P	Pg	03 36 59.5	-0.4
	baz=70						
VWDT	VWDT	0.63	212	⇑P	Pg	03 36 57.7	-2.1
	baz=213						
NTC	Toucheng	0.64	28	eP	Pg	03 36 59.0	-1.1
	baz=44						
NTC				eS	Sg	03 37 08.4	0.0
	baz=44						
TWQ1	Liyutan	0.67	275	⇑P	Pg	03 36 59.5	-1.2
	baz=272						
NHDH	Xindian Distri	0.67	2	eP	Pg	03 36 59.6	-1.1
	baz=19						
NHDH				eS	Sg	03 37 08.6	-1.0
	baz=19						
EGS		0.68	35	⇑iP	Pg	03 36 59.8	-1.0
	baz=41						
SMLT	Sun Moon Lake	0.68	234	⇑iP	Pg	03 36 59.1	-1.8
	baz=230						
SMLT				eS	Sg	03 37 09.9	0.0
	baz=230						
TATO	Taipei	0.68	359	ePg	Pg	03 36 59.8	-1.1
TATO				eSg	Sg	03 37 07.9	-2.0
TATO	Taipei	0.68	359	⇑P	Pg	03 36 59.9	-1.1
	baz=17						
TATO	Taipei	0.68	359	P	Pg	03 37 00.1	-0.9
	SNR=940						
NSY	Sanyi	0.69	281	⇑P	Pg	03 37 00.1	-0.9
	baz=279						
NSY				eS	Sg	03 37 09.6	-0.5
	baz=279						
SBCB	Hsinchu	0.69	317	⇑P	Pg	03 37 00.5	-0.5
	baz=317						
NMLH	Miaoli	0.69	291	⇑eP	Pg	03 37 00.3	-0.8
	baz=288						
HSN	Hsinchu	0.71	317	eP	Pg	03 37 01.0	-0.3
	baz=320						
SSLB	Suanglung	0.71	225	ePg	Pg	03 36 58.5	-2.9
SSLB				eSg	Sg	03 37 07.2	-3.4
SSLB	Suanglung	0.71	225	⇑P	Pg	03 36 59.0	-2.4
	baz=222						
SSLB				eS	Sg	03 37 09.0	-1.7
	baz=222						
NCUH	Zhongli	0.74	337	eP	Pg	03 37 01.9	0.0
	baz=339						
NCUH				eS	Sb	03 37 12.8	+0.3
	baz=339						
NCU	National Centr	0.74	337	eP	Pg	03 37 01.6	-0.3
	baz=339						
NCU				eS	Sb	03 37 12.8	+0.2
	baz=339						
TIPB	Shuangxi	0.74	23	⇑iP	Pg	03 37 00.6	-1.5
	baz=14						
TIPB				eS	Sg	03 37 10.8	-0.9
	baz=14						
PTSB	Yuanli	0.74	282	⇑iP	Pg	03 37 01.4	-0.7
	baz=280						
PTSB				eS	Sg	03 37 11.2	-0.6
	baz=280						
TAP	Taipei	0.75	0	eP	Pg	03 37 01.6	-0.5
	baz=5.0						
TCU	Taichung	0.77	260	⇑P	Pg	03 37 02.1	-0.5
	baz=256						
TCU				eS	Sb	03 37 13.3	-0.1
	baz=256						
WDJ	Dajia District	0.79	274	⇑P	Pg	03 37 02.5	-0.4
	baz=271						
EHY	Hungye	0.80	192	⇓P	Pg	03 37 01.4	-1.7
	baz=181						
EHY				eS	Sg	03 37 13.9	+0.5
	baz=181						
HGSD	Ruisui	0.80	185	⇑P	Pg	03 37 02.0	-1.0
	baz=191						
TWS1	Kuangyinshan	0.81	354	⇑iP	Pg	03 37 03.2	-0.2
	baz=9.0						
TWS1				eS	Sb	03 37 14.9	+0.2
	baz=9.0						
NWF	Wu-fen Shan	0.82	18	⇑iP	Pg	03 37 02.4	-1.1
	baz=21						
NWF				eS	Sg	03 37 13.7	-0.6
	baz=21						
WFSB	Wu-fen Shan	0.82	18	⇑P	Pg	03 37 02.4	-1.1
	baz=21						
WFSB				eS	Sg	03 37 13.5	-0.7
	baz=21						
WHYT	Xinyi Township	0.84	225	eP	Pg	03 37 01.6	-2.2
	baz=222						
TWB1	Santiao Chiao	0.84	31	⇑P	Pg	03 37 02.3	-1.6
	baz=37						
WJS	Zhushan	0.85	237	eP	Pg	03 37 02.9	-1.1
	baz=228						
WJS				eS	Sg	03 37 15.4	+0.3
	baz=228						
WNT	Mingjian	0.85	242	eP	Pg	03 37 03.4	-0.7
	baz=230						
WNT				eS	Sb	03 37 16.6	+0.7
	baz=230						
YM01	YM01	0.86	4	⇑P	Pg	03 37 03.4	-0.8
	baz=7.0						
YM01				S	Sg	03 37 14.4	-1.1
	baz=7.0						
YM04	YM04	0.86	2	⇑iP	Pg	03 37 03.2	-1.1
	baz=21						
NTST	Danshui	0.87	357	eP	Pg	03 37 04.5	0.0
	baz=10.0						
NTST				eS	Sb	03 37 17.0	+0.5
	baz=10.0						
YM05	YM05	0.87	4	⇑P	Pg	03 37 03.7	-0.8
	baz=6.0						
YM05				eS	Sg	03 37 16.0	0.0
	baz=6.0						
YM11	YM11	0.88	4	⇑P	Pg	03 37 03.9	-0.7
	baz=7.0						
YM11				S	Sg	03 37 15.5	-0.6
	baz=7.0						
WCHH	Zhanghua	0.89	257	eP	Pg	03 37 04.9	+0.1
	baz=252						
ANP	Anpu	0.89	1	⇑P	Pg	03 37 04.0	-0.9
	baz=20						
YM08	YM08	0.90	5	⇑P	Pg	03 37 03.7	-1.3
	baz=9.0						
YULB	Yu-li	0.91	192	ePg	Pg	03 37 02.9	-2.4
YULB				eSg	Sg	03 37 15.5	-1.6
YULB	Yu-li	0.91	192	⇑P	Pg	03 37 03.2	-2.0
	baz=178						
YULB				eS	Sg	03 37 16.5	-0.6
	baz=178						
TWF1	Yuli	0.95	192	eP	Pg	03 37 04.0	-2.0
	baz=189						
TWF1				eS	Sb	03 37 18.9	+0.3
	baz=189						
TWY	Chenhua	0.99	5	⇑eP	Pb	03 37 06.0	-0.8
	baz=9.0						
ALS	Alishan	1.00	220	⇑eP	Pg	03 37 05.0	-2.0
	baz=224						
CHN5	Tsauling	1.02	228	⇑P	Pb	03 37 06.0	-1.4
	baz=219						
CHN5				eS	Sg	03 37 21.5	+0.8
	baz=219						
WGK	Gukeng	1.05	235	eP	Pb	03 37 07.2	-0.6
	baz=232						
WDLH	Douliu	1.07	236	eP	Pb	03 37 07.7	-0.4
	baz=234						
WDLH				eS	Sn	03 37 24.2	+1.0
	baz=234						
FULB	Fuli	1.10	190	⇑P	Pb	03 37 07.7	-1.0
	baz=189						
FULB				eS	Sn	03 37 24.4	+0.3
	baz=189						
RLNB	Erlin	1.12	250	⇑P	Pb	03 37 08.1	-0.9
	baz=260						
RLNB				eS	Sn	03 37 24.8	+0.3
	baz=260						
ELDTW	Lidau	1.18	202	eP	Pb	03 37 08.4	-1.7
	baz=200						
ELDTW				eS	Sg	03 37 25.7	-0.1
	baz=200						
CHKT	Chengkung	1.19	186	eP	Pn	03 37 09.0	-1.2
	baz=170						
WTCT	Ta-ch'eng	1.20	250	eP	Pn	03 37 08.8	-1.4
	baz=246						
WTCT				S	Sb	03 37 26.1	+0.4
	baz=246						
CHN2	Minshiung	1.21	232	eP	Pn	03 37 10.0	-0.3
	baz=229						
CHN2				eS	Sg	03 37 28.2	+1.7
	baz=229						
CHN4	Tsaushan	1.25	222	⇑P	Pn	03 37 10.3	-0.7
	baz=221						
CHN4				eS	Sg	03 37 29.8	+1.8
	baz=221						
CHY	Chiayi	1.26	232	eP	Pn	03 37 10.7	-0.5
	baz=229						
CHY				eS	Sn	03 37 28.3	+0.2
	baz=229						
WMLT	Mailiao	1.27	248	eP	Pn	03 37 10.5	-0.7
	baz=257						
WMLT				S	Sn	03 37 28.2	0.0
	baz=257						
TPUB	Ta-pu	1.27	219	ePg	Pn	03 37 10.2	-1.1
TPUB				eSg	Sb	03 37 25.3	-2.5
TPUB	Ta-pu	1.27	219	⇑P	Pn	03 37 10.2	-1.1
	baz=218						
TPUB				eS	Sg	03 37 28.8	+0.3
	baz=218						
STYT	Tauyuan	1.31	212	⇑P	Pn	03 37 10.5	-1.4
	baz=197						
STYT				eS	Sg	03 37 30.3	+0.4
	baz=197						
WTP	Ta-pu	1.32	218	⇑iP	Pn	03 37 11.2	-0.8
	baz=216						
JYNG	Yonagunijimaku	1.32	83	P	Pn	03 37 11.8	-0.2
JYNG				S	Sg	03 37 30.8	+0.5
WSF	Szhu	1.34	241	eP	Pn	03 37 11.7	-0.5
	baz=239						
WSF				S	Sn	03 37 30.4	+0.4
	baz=239						
TWK	Hsinying	1.38	223	⇑P	Pn	03 37 12.2	-0.6
	baz=221						
TWK				eS	Sg	03 37 33.4	+1.3
	baz=221						
YOJ	Yonaguni jima	1.39	83	ePn	Pn	03 37 12.4	-0.4
YOJ				eSg	Sb	03 37 31.1	0.0
YOJ	Yonaguni jima	1.39	83	⇑P	Pn	03 37 12.4	-0.4
	baz=73						
YOJ				eS	Sb	03 37 31.6	+0.4
	baz=73						
YOJ	Yonaguni jima	1.39	83	eP	Pn	03 37 12.4	-0.4
YOJ				e		03 37 31.1	
YOJ	Yonaguni jima	1.39	83	P	Pn	03 37 12.5	-0.4
YOJ				eS	Sg	03 37 32.5	+0.2
SNST	Tainan City	1.41	221	eP	Pn	03 37 13.3	+0.2
	baz=219						
CHN1	Nanshi	1.42	219	⇑P	Pn	03 37 13.3	0.0
	baz=218						
CHN1				eS	Sg	03 37 34.6	+1.3
	baz=218						
PCYT	Pengchaiyu	1.43	21	eP	Pn	03 37 12.8	-0.7
	baz=5.0						
CHN8	Yiju	1.51	232	eP	Pn	03 37 14.7	+0.1
	baz=241						
CHN8				eS	Sg	03 37 37.0	+0.7
	baz=241						
SLGT	Liugui	1.51	212	eP	Pn	03 37 14.9	+0.3
	baz=200						
SLGT				eS	Sg	03 37 38.0	+1.7
	baz=200						
TWG	Pinlang	1.51	195	ePn	Pn	03 37 12.3	-2.4
TWG	Pinlang	1.51	195	eP	Pn	03 37 12.7	-1.9
	baz=174						
TWGBT	Beinan	1.52	195	eP	Pn	03 37 12.9	-1.7
	baz=174						
TTN	Taitung	1.56	192	eP	Pn	03 37 15.8	+0.5
	baz=171						
CHN3	Shinhua	1.60	221	eP	Pb	03 37 16.9	-0.2
	baz=220						
CHN3				eS	Sg	03 37 39.7	+0.7
	baz=220						
SCLT	Jiali	1.63	228	P	Pb	03 37 17.1	-0.6
	baz=225						
SCLT				eS	Sg	03 37 40.7	+0.5
	baz=225						
TAI1	Yung-k'ang	1.71	224	eP	Pb	03 37 18.2	-0.7
	baz=223						
TAI1				eS	Sg	03 37 43.0	+0.4
	baz=223						
ECL	Taimali	1.76	197	eP	Pn	03 37 18.7	+0.7
	baz=178						
TWM1	Shoushan	1.76	214	eP	Pb	03 37 20.5	+0.5
	baz=213						
SGLT	Jiouru	1.81	211	⇓P	Pb	03 37 21.1	+0.3
	baz=210						
MASBT	Mashibuluo	1.85	206	⇑P	Pb	03 37 20.4	-1.0
	baz=207						
MASBT				S	Sb	03 37 45.6	+1.1
	baz=207						
PNG	Penghu	1.92	248	⇑eP	Pn	03 37 18.4	-1.9
	baz=246						
PHUB	P'eng-hu	1.93	247	⇑P	Pn	03 37 18.4	-1.9
	baz=243						
PHUB				eS	Sn	03 37 45.2	+0.7
	baz=243						
WDGT	Dungji	1.98	239	eP	Pn	03 37 19.9	-1.0
	baz=237						
WDGT				eS	Sb	03 37 48.0	-0.1
	baz=237						
PTTC	Pingtan	1.98	308	eP	Pn	03 37 18.4	-2.6
	baz=308						
EAST	Anshuo	1.99	198	eP	Pb	03 37 23.2	-0.6
	baz=178						
SSPT	Xinbi	1.99	206	eP	Pb	03 37 22.8	-1.1
	baz=205						
VWUC	VWUC	2.00	291	⇑eP	Pn	03 37 18.8	-2.4
	baz=291						
TAW	Tawu	2.00	196	eP	Pb	03 37 23.4	-0.7
	baz=182						
IRIF	Iriomote-Funau	2.03	88	P	Pn	03 37 21.9	+0.2
IRIF				eS	Sb	03 37 49.2	-0.6
KAU	Kaohsiung	2.03	213	⇑eP	Pn	03 37 23.1	+1.3
	baz=212						
SCZT	Fangliau	2.07	203	eP	Pb	03 37 24.5	-0.8
	baz=220						
HATJ	Hateruma jima	2.11	96	P	Pn	03 37 23.5	+0.6
VCHM	Qimei	2.18	241	⇑eP	Pn	03 37 22.4	-1.4
	baz=239						
WLCH	Liuqiu	2.19	208	eP	Pb	03 37 26.3	-0.9
	baz=208						
TWP	Hsiaoliuchiu	2.20	209	eP	Pb	03 37 27.4	0.0
	baz=209						
LAY	Lan-yu	2.24	179	eP	Pn	03 37 23.4	-1.3
	baz=164						
JKRS	Kuro-shima	2.29	91	P	Pn	03 37 26.2	+1.0
JKRS				S	Sb	03 37 57.2	+0.1
PTMZ	Houxiangcun	2.29	290	⇑eP	Pn	03 37 22.9	-2.4
	baz=291						
MATB	Ma-tsu	2.33	323	eP	Pn	03 37 23.5	-2.4
	baz=323						
HEN	Hengchun	2.38	197	eP	Pb	03 37 28.5	-1.9
	baz=180						
JIJ	Ishigaki jima	2.41	88	P	Pn	03 37 27.2	+0.3
JIJ				S	Sb	03 37 59.1	-1.6
TWK1	Hengchun	2.42	196	eP	Pn	03 37 28.6	+1.5
	baz=178						
TWKBT	Hengchun	2.42	195	eP	Pn	03 37 27.7	+0.6
	baz=178						
TSEB	Hengchuen, Pin	2.44	193	eP	Pb	03 37 29.6	-1.9
	baz=178						
JISG	Ishigakijimahi	2.58	83	P	Pn	03 37 29.5	+0.3
JISG				eS	Sb	03 38 02.9	-2.6
QZH	Quanzhou	2.73	284	⇑iPn	Pn	03 37 28.7	-2.6
QZH				Sn	Sn	03 38 00.1	-4.2
QZH				smax	smax		
	comp=N,8μm,0.7s						
QZH				smax	smax		
	comp=E,7μm,0.9s						
LYJJ	Jianjiangzhen	2.75	325	eP	Pn	03 37 29.7	-1.9
	baz=326						
KNM	Kinmen	2.80	273	eP	Pn	03 37 32.0	-0.4
	baz=275						
KNMB	Chin-men Tao	2.85	274	⇑eP	Pn	03 37 30.7	-2.2
	baz=276						
MHZQ	Yeshan	2.88	309	eP	Pn	03 37 31.6	-1.8
	baz=309						
XPSS	Dashiqiu	2.89	336	eP	Pn	03 37 31.3	-2.1
	baz=336						
JTJ	Tarama	2.94	82	P	Pn	03 37 35.1	+0.9
JTJ				eS	Sb	03 38 13.0	-2.8
AXDP	Jialang	3.27	281	⇑eP	Pn	03 37 36.9	-2.0
	baz=282						
JIRB	Irabujima	3.38	80	P	Pn	03 37 41.7	+1.4
JIRB				eS	Sn	03 38 23.4	+2.9
ZPLA	Ao Xicun	3.45	265	⇑eP	Pn	03 37 39.2	-2.0
	baz=266						
JIKM	Ikemajima	3.47	79	P	Pn	03 37 43.2	+1.7
JIKM				S	Sn	03 38 25.7	+3.2
JMJ	Miyako jima 2	3.49	81	eP	Pn	03 37 43.7	+2.0
	baz=82						
JMJ	Miyako jima 2	3.49	81	P	Pn	03 37 43.8	+2.0
JMJ				eS	Sn	03 38 27.0	+3.9
ZZJH	Jiuhuzhen	3.54	274	eP	Pn	03 37 40.2	-2.2
	baz=274						
JOGS	Gusukube	3.58	82	P	Pn	03 37 45.5	+2.4
JOGS				eS	Sb	03 38 30.1	-4.4
VDOS	Pratas Island	5.68	232	eP	Pn	03 38 13.4	+1.6
	baz=231						
JOW	Kunigami	6.62	66	ePn	Pn	03 38 26.2	+1.4
JOW				eSn	Sn	03 39 41.6	+1.3
JOW	Kunigami	6.62	66	eP	Pn	03 38 25.8	+0.9
	baz=70						
JOW	Kunigami	6.62	66	Pn	Pn	03 38 24.5	-0.3
	2.1nm,0.3s,baz=176,slow=14,SNR=38						
JOW				Sn	Sn	03 39 41.6	+1.3
	baz=202,slow=17,SNR=1.4						
SSE	Sheshan	6.79	358	P	Pn	03 38 25.4	-1.7
SSE				S	Sn	03 39 39.5	-4.9
SSE				smax	smax		
	comp=N,780nm,1.2s						
SSE				smax	smax		
	comp=E,860nm,1.0s						
SSE				LR	LR		
	comp=N,9μm,7.3s						
SSE				LR	LR		
	comp=E,3μm,8.3s						
SSE	Sheshan	6.79	358	ePn	Pn	03 38 25.7	-1.4
SSE				eSn	Sn	03 39 38.0	-6.3
HKC	Hong Kong Obse	7.02	255	⇑P	Pn	03 38 31.0	+0.6
GZH	Guangzhou	7.57	263	Pn	Pn	03 38 32.0	-5.9
GZH				Sn	Sn	03 39 48.9	-15
GZH				smax	smax		
	comp=N,6μm,1.2s						
GZH				smax	smax		
	comp=E,4μm,1.0s						
MCO	Taipa Grande	7.62	255	P	Pn	03 38 39.0	+0.4
NJ2	Nanjing	8.08	344	eP	Pn	03 38 42.6	-2.2
NJ2				sP	sP	03 38 49.0	
NJ2				S	Sn	03 40 12.3	-3.9
NJ2				pmax	pmax		
	comp=E,51nm,0.6s						
NJ2				smax	smax		
	comp=E,2μm,1.1s						
NJ2				smax	smax		
	comp=E,2μm,1.3s						
NJ2				LR	LR		
	comp=E,48μm,9.2s						
NJ2				LR	LR		
	comp=E,44μm,8.9s						
NJ2				LR	LR		
	comp=E,52μm,10.0s						
WHN	Wuhan	8.90	316	⇓P	Pn	03 38 54.8	-1.3
WHN				S	Sn	03 40 37.1	+0.8
WHN				LR	LR		
	comp=E,122μm,8.3s						
WHN				LR	LR		
	comp=E,52μm,10.0s						
WHN				LR	LR		
	comp=E,122μm,9.6s						
TGY	Tagaytay City	10.15	183	Pn	Pn	03 39 11.4	-2.0
	comp=E,20nm,0.3s,baz=330,slow=13,SNR=2.3						
TGY				LR	LR	03 43 58.6	
	comp=E,9μm,19.4s,baz=358,slow=43						
GQP	Guinayangan	10.37	175	⇓eP	Sn	03 41 10.0	-2.5
QIZ	Qiongzhong	12.04	246	P	Pn	03 39 39.0	-0.1
QIZ				S	Sn	03 41 54.7	+1.3
QIZ				LR	LR		
	comp=E,22μm,7.9s						
QIZ				LR	LR		
	comp=E,8μm,8.4s						
QIZ				LR	LR		
	comp=E,18μm,14.1s						
QIZ	Qiongzhong	12.04	246	ePn	Pn	03 39 41.5	+2.4
QIZ				eSn	Sn	03 41 47.7	-5.7
JNU	Nakatsue	12.04	41	ePn	Pn	03 39 38.9	-0.3
JNU				eSn	Sn	03 41 57.2	+3.7
JNU	Nakatsue	12.04	41	Pn	Pn	03 39 38.9	-0.3
	comp=E,0.3nm,0.3s,baz=250,slow=9.5,SNR=1.9						
JNU				LR	LR	03 44 49.8	
	comp=E,9μm,19.3s,baz=236,slow=40						
ENH	Enshi	12.23	302	ePn	Pn	03 39 44.5	+2.7
TIA	Tai'an	12.47	343	P	Pn	03 39 43.9	-1.1
TIA				pmax	pmax		
	comp=E,250nm,5.9s						
TIA				LR	LR		
	comp=E,10μm,9.4s						
TIA				LR	LR		
	comp=E,12μm,9.6s						
TIA				LR	LR		
	comp=E,17μm,9.8s						
TJN	Taejon	13.06	21	⇑eP	Pn	03 39 55.0	+1.9
GYA	Guiyang	13.59	282	⇑iP	Pn	03 39 59.7	-0.7
GYA				PP	P	03 40 11.4	+1.9
GYA				pmax	pmax		
	comp=E,90nm,1.4s						
GYA				pmax	pmax		
	comp=E,830nm,8.3s						
GYA				LR	LR		
	comp=E,22μm,8.6s						
GYA				LR	LR		
	comp=E,39μm,9.3s						
GYA				LR	LR		
	comp=E,47μm,8.8s						
KS15	Wonju Array Si	14.20	21	ePn	Pn	03 40 11.7	+3.0
KSAR	Wonju Array Be	14.20	21	Pn	Pn	03 40 08.6	-0.1
KSAR	Wonju Array Be	14.20	21	P	Pn	03 40 08.6	-0.1
KSRS	Korea Array	14.23	21	Pn	Pn	03 40 08.6	-0.4
	comp=E,1.9nm,0.3s,baz=208,slow=14,SNR=17						
KSRS				LR	LR	03 45 57.7	
	comp=E,4μm,19.4s,baz=204,slow=39						
KS01	Wonju Array Si	14.24	21	ePn	Pn	03 40 11.0	+1.9
DL2	Dalian	14.57	0	⇑iP	P	03 40 18.1	-2.1
DL2				S	Sn	03 43 02.2	+7.0
DL2				pmax	pmax		
	comp=E,150nm,1.0s						
DL2				pmax	pmax		
	comp=E,2μm,4.5s						
DL2				LR	LR		
	comp=E,15μm,12.8s						
DL2				LR	LR		
	comp=E,9μm,8.4s						
DL2				LR	LR		
	comp=E,19μm,12.1s						
XAN	Xi'an	14.66	314	P	Pn	03 40 15.7	+0.7
XAN				sP	P	03 40 23.1	+1.8
XAN				PP	PnPn	03 40 28.3	+5.3

XAN pmax pmax
comp=E,19nm,1.1s
XAN LR LR
comp=E,17µm,8.0s
XAN LR LR
comp=E,20µm,11.6s
XAN LR LR
comp=E,30µm,10.4s
XAN Xi'an 14.66 314 *e*Pn **Pn 03 40 16.1 +1.1**
XAN Xi'an 14.66 314 *e*P **Pn 03 40 16.1 +1.1**
TIY Taiyuan 15.46 332 *e*P **P 03 40 29.2 -1.0**
TIY PP **sP 03 40 39.2 +3.3**
TIY S **Sn 03 43 24.8 +7.7**
TIY SS **S 03 43 39.1 +6.1**
TIY pmax pmax
comp=E,54nm,1.0s
TIY pmax pmax
comp=E,790nm,3.5s
TIY LR LR
comp=E,26µm,9.8s
TIY LR LR
comp=E,12µm,10.7s
TIY LR LR
comp=E,24µm,10.3s
BJT Baijiatuau 16.32 345 *e*Pn **P 03 40 41.3 +1.7**
comp=E,188nm,1.3s
BJT Baijiatuau 16.32 345 *e*P **P 03 40 41.3 +1.7**
BJT pmax pmax
comp=Z,188nm,1.3s
BJI Beijing 16.34 345 P **P 03 40 39.9 +0.1**
BJI S **Sn 03 43 40.5 +2.5**
BJI LR LR
comp=Z,9µm,13.5s
BJI LR LR
comp=Z,3µm,15.0s
CD2 Chengdu 17.05 297 ⇑P **Pn 03 40 46.0 0.0**
CD2 PP **PnPn 03 41 00.0 +4.2**
CD2 S **Sn 03 43 57.5 +1.9**
CD2 SS **S 03 44 14.7 +9.3**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,140nm,4.8s
CD2 LR LR
comp=Z,76µm,10.1s
CD2 LR LR
comp=Z,44µm,15.0s
CD2 LR LR
comp=Z,81µm,10.7s
KMI Kunming 17.07 277 P **Pn 03 40 45.6 -1.0**
KMI pP P 03 40 48.2 -0.1
KMI sP pP 03 40 50.3 -1.8
KMI PP **PnPn 03 41 00.0 +3.7**
KMI S **Sn 03 43 54.3 -2.2**
KMI SS **SnSn 03 44 09.3 -0.5**
KMI pmax pmax
comp=Z,440nm,4.8s
KMI LR LR
comp=Z,46µm,13.4s
KMI LR LR
comp=Z,51µm,9.3s
KMI LR LR
comp=Z,47µm,10.0s
INU Inuyama 17.37 47 *e*Pn **Pn 03 40 49.5 -0.5**
comp=Z,71nm,1.7s
KCP Kidapawan 17.52 168⇑ *i*P P 03 41 01.5 +8.4
DAV Davao City (W) 17.56 166⇓ *e*P **Pn 03 40 52.4 -0.1**
SNY Shenyang 17.58 5⇓ P **P 03 40 54.5 +1.0**
SNY S **Sn 03 44 07.5 -0.6**
SNY pmax pmax
comp=Z,110nm,2.5s
SNY pmax pmax
comp=Z,7µm,9.2s
SNY LR LR
comp=Z,18µm,11.7s
SNY LR LR
comp=Z,13µm,9.8s
SNY LR LR
comp=Z,27µm,12.7s
KDM Kudat 17.84 195 P **P 03 40 59.8 +3.1**
SKNT Sakolnakorn 17.93 249 P **P 03 41 01.8 +4.2**
comp=Z,18nm,0.9s
JHJ Hachijo jima 2 18.27 57 P **Pn 03 41 00.8 -0.3**
comp=Z,3.7nm,0.3s,baz=249,slow=11,SNR=2.1
JHJ LR LR 03 47 52.7
comp=Z,4µm,21.9s,baz=270,slow=36
JHJ2 Mitsune 18.29 57 *e*Pn **P 03 41 04.3 +2.9**
comp=Z,696nm,1.1s
HHC Hu-ho-hao-te 18.49 336 *e*P **Pn 03 41 05.9 +2.0**
HHC sP sP 03 41 17.2 +7.7
HHC S **S 03 44 32.7 -2.1**
HHC sS sS 03 44 38.4 -2.5
HHC SS Sn 03 44 54.5 +24
HHC pmax pmax
comp=Z,40nm,1.2s
HHC pmax pmax
comp=Z,3µm,4.2s
HHC LR LR
comp=Z,12µm,11.7s
HHC LR LR
comp=Z,4µm,10.6s
HHC LR LR
comp=Z,12µm,11.6s
KKM Kota Kinabalu 18.84 196 *e*P **Pn 03 41 11.1 +2.9**
comp=Z,1µm,1.5s
KKM Kota Kinabalu 18.84 196 P **Pn 03 41 11.7 +3.5**
CBIJ Chichi jima 18.85 77 *e*P **P 03 41 07.0 -0.6**
JCJ Chichijima 18.85 77 P **P 03 41 07.0 -0.6**
comp=Z,7.5nm,0.3s,baz=77,slow=6.7,SNR=12
JCJ LR LR 03 47 34.0
comp=Z,4µm,21.1s,baz=260,slow=34
MAJO Matsushiro 18.85 46 *e*P **P 03 41 04.9 -2.7**
comp=Z,42nm,1.0s
MAJO Matsushiro 18.85 46 *c i*P **P 03 41 07.7 0.0**
MAT Matsushiro 18.85 46 P **P 03 41 07.8 +0.1**
MAT S **Sn 03 44 39.6 +0.5**
MJB9 Matsu-Tunnel 18.85 46 *e*P **P 03 41 07.8 +0.1**
comp=Z,41nm,1.0s
MJAR Matsushiro Arr 18.85 46 P **P 03 41 06.5 -1.1**
comp=Z,0.1nm,0.3s,baz=167,slow=9.0,SNR=6.7
MJAR LR LR 03 49 29.6
comp=Z,4µm,18.6s,baz=230,slow=40
BTO Baotou 18.91 332 *e*P **Pn 03 41 11.3 +2.4**
SDKM Sandakan 19.00 193 P **Pn 03 41 15.8 +5.7**
LZH Lanzhou 19.23 312 *e*P **Pn 03 41 14.6 +1.6**
LZH pP sP 03 41 19.4 +1.7
LZH sP pP 03 41 21.8 +6.0
LZH PP **PnPn 03 41 31.2 +5.4**
LZH S **S 03 44 52.1 +2.2**
LZH SS **SnSn 03 45 07.8 +5.0**
LZH pmax pmax
comp=Z,180nm,1.1s
LZH pmax pmax
comp=Z,2µm,5.4s
LZH LR LR
comp=Z,18µm,11.9s
LZH LR LR
comp=Z,29µm,10.8s
LZH LR LR
comp=Z,32µm,14.1s
CN2 Changchun 19.73 8 *e*P **Pn 03 41 18.6 -0.1**
CN2 *es*P sP 03 41 25.6 +2.9
CN2 *e*S **S 03 44 55.6 -3.9**
CN2 pmax pmax
comp=Z,2µm,8.3s
CN2 LR LR
comp=Z,18µm,12.0s
CN2 LR LR
comp=Z,5µm,12.0s
CN2 LR LR
comp=Z,19µm,14.0s
MSHR Mys Shultsa 19.92 21⇓ *i*P **Pn 03 41 20.3 -0.6**
TSM Tawau 20.18 191 P Pn 03 41 27.5 +3.3
VLA Vladivostok 20.64 22⇓ *e*P Pn 03 41 28.5 -0.9
PBKT Sadao Pong 20.70 252 *e*P Pn 03 41 29.8 -0.5
PBKT Sadao Pong 20.70 252 P Pn 03 41 30.3 0.0
comp=Z,197nm,1.5s,comp=Z,3µm
MDJ Mudanjiang 21.33 16 P **P 03 41 35.4 +0.9**
MDJ pP pP 03 41 38.2 0.0
MDJ PP **PnPn 03 41 54.6 +0.3**
MDJ S Sn 03 45 35.5 -3.0
MDJ SS **SnSn 03 45 59.5 +5.7**
MDJ pmax pmax
comp=Z,22nm,0.9s
MDJ pmax pmax
comp=Z,2µm,5.7s
MDJ LR LR
comp=Z,10µm,14.7s
MDJ LR LR
comp=Z,20µm,17.2s
MDJ LR LR
comp=Z,12µm,12.1s
MDJ Mudanjiang 21.33 16 *e*P **P 03 41 35.6 +1.2**
comp=Z,202nm,1.4s
MDJ LR LR
comp=Z,7µm,20.0s
USA0B Ussuriysk Arra 21.64 21 *e*P **P 03 41 39.7 +1.9**
comp=Z,49nm,1.1s
USA0B LR LR
comp=Z,3µm,18.0s
USA0B Ussuriysk Arra 21.64 21 *e*P **P 03 41 39.7 +1.9**
USRK Ussuriysk Ar. 21.64 21 P **P 03 41 37.8 0.0**
comp=Z,8.7nm,0.6s,baz=210,slow=9.7,SNR=24
CMMT Chiang Mai 21.66 260 P **P 03 41 42.2 +3.9**
comp=Z,83nm,1.3s,comp=Z,2µm
CHTO Chiang Mai 21.67 260 *e*P **P 03 41 41.1 +2.8**
comp=Z,86nm,1.0s
CHTO LR LR
comp=Z,11µm,18.0s
CHTO Chiang Mai 21.67 260 P **P 03 41 42.3 +3.9**
comp=Z,382nm,1.3s,comp=Z,7µm
CM01 Chiang Mai Arr 21.78 259 *e*P **P 03 41 38.1 -1.5**
CM01 *e*S **S 03 45 39.7 -0.8**
CM31 Chiang Mai Arr 21.78 259 *e*P **P 03 41 39.3 -0.3**
comp=Z,94nm,1.0s
CM31 *e*S **S 03 45 40.4 -0.2**
CM31 Chiang Mai Arr 21.78 259 P **P 03 41 44.6 +5.0**
SNR=36
CMAR Chiang Mai Arr 21.78 259 P **P 03 41 40.0 +0.4**
comp=Z,6.8nm,0.8s,baz=64,slow=8.8,SNR=32
CMAR PcP **PcP 03 45 40.4 +0.4**
comp=Z,8.2nm,0.8s,baz=16,slow=1.0,SNR=13
CMAR LR LR 03 51 29.7
comp=Z,3µm,19.8s,baz=65,slow=40
BTM Bintulu 22.49 202 P **P 03 41 48.2 +1.0**
SRDT SRDT 23.29 249 P **P 03 41 59.1 +3.6**
comp=Z,72nm,1.4s,comp=Z,3µm
SBUM Sibu 23.49 204 *e*P **P 03 41 57.3 -0.2**
comp=Z,575nm,1.5s
SBUM LR LR
comp=Z,3µm,20.0s
SBUM Sibu 23.49 204 P **P 03 41 58.3 +0.8**
MRSI Marisa 23.67 179 P **P 03 41 59.0 -0.3**
comp=Z,90nm,1.1s,comp=Z,2µm
GTA Gaotai 23.72 315 *e*P **P 03 41 59.9 +0.1**
GTA pP pP 03 42 04.4 +0.6
GTA sP sP 03 42 07.0 +1.4
GTA S **S 03 46 17.6 +2.7**
GTA sS sS 03 46 24.6 +3.0
GTA pmax pmax
comp=Z,39nm,1.3s
GTA pmax pmax
comp=Z,2µm,5.4s
GTA LR LR
comp=Z,6µm,10.8s
GTA LR LR
comp=Z,12µm,10.2s
GTA LR LR
comp=Z,17µm,12.7s
MPSI Mapaga 23.86 184 P **P 03 42 00.9 -0.2**
comp=Z,64nm,1.2s,comp=Z,1µm
SARN Sarigan 23.93 104 *e*P **P 03 42 02.6 +0.7**
comp=Z,186nm,1.3s
ANA2 Anatahan 24.01 105 *e*P **P 03 41 59.3 -3.3**
comp=Z,270nm,0.4s
TNTI Ternate 24.06 165 *e*P **P 03 42 02.7 -0.3**
comp=Z,326nm,1.4s
TNTI Ternate 24.06 165 P **P 03 42 02.9 -0.1**
TEY Ternei 24.06 27⇑ *e*P P 03 41 54.2 -8.5
TEY pmax pmax
comp=Z,20nm,1.9s
TEY MLR MLR
comp=E,200nm,17.0s
TEY MLR MLR
comp=N,500nm,12.0s
TEY MLR MLR
comp=Z,500nm,11.0s
GUMO Guam 24.49 112 *e*P **P 03 42 05.5 -1.5**
GUMO *e*PcP **PcP 03 45 41.2 -4.4**
GUMO Guam 24.49 112 *e*P **P 03 42 05.5 -1.5**
GUMO *e* 03 45 41.2
GUMO Guam 24.49 112 P **P 03 42 05.5 -1.5**
comp=Z,970nm,1.2s,baz=243,slow=2.2,SNR=8.6
GUMO LR LR 03 51 25.4
comp=Z,2µm,19.6s,baz=294,slow=36
HIA Hailar 24.97 357 *e*P **P 03 42 11.0 -0.1**
comp=Z,109nm,1.1s
HIA LR LR
comp=Z,6µm,20.0s
HIA Hailar 24.97 357 *e*P **P 03 42 11.0 -0.1**
HIA pmax pmax
comp=Z,109nm,1.1s
HIA MLR MLR
comp=Z,6µm,20.0s
APSI Ampana 25.05 180 P **P 03 42 11.7 -0.3**
comp=Z,162nm,1.3s,comp=Z,2µm
PCI Palu 25.10 184 P **P 03 42 12.3 -0.1**
comp=Z,264nm,1.5s,comp=Z,5µm
KSM Kuching 25.14 207 *e*P **P 03 42 13.6 +0.8**
comp=Z,708nm,1.4s
KSM Kuching 25.14 207 P **P 03 42 14.3 +1.5**
ERM Erimo 25.21 40 *e*P **P 03 42 12.5 -0.7**
comp=Z,45nm,0.9s
ERM LR LR
comp=Z,5µm,20.0s
ERM Erimo 25.21 40 *ce*P **P 03 42 13.2 0.0**
LUWI Luwuk 25.21 177 *e*P **P 03 42 13.4 -0.1**
comp=Z,743nm,1.2s
LUWI Luwuk 25.21 177 P **P 03 42 13.5 +0.1**
comp=Z,517nm,1.2s,comp=Z,7µm
BKB Balikpapan 25.79 191 P **P 03 42 18.4 -0.3**
KTGM Kuala Trenggan 25.83 226 P **P 03 42 21.4 +2.2**
KLR Kul'dur 26.16 15 P **P 03 42 21.4 -0.5**
comp=Z,15nm,0.9s,baz=204,slow=7.4,SNR=17
KLR PcP **PcP 03 45 48.8 0.0**
comp=Z,3.9nm,0.8s,baz=217,slow=5.1,SNR=3.4
KLR LR LR 03 53 23.6
comp=Z,4µm,18.3s,baz=199,slow=38
ASAJ Asahikawa 26.24 36 P **P 03 42 22.6 0.0**
comp=Z,4.0nm,0.4s,baz=294,slow=4.9,SNR=7.2
ASAJ LR LR 03 53 10.6
comp=Z,6µm,19.7s,baz=258,slow=38
SONA0 Songino Array 26.39 337 *e*P **P 03 42 24.3 +0.2**
SONM Songino Array 26.39 337 P **P 03 42 24.3 +0.2**
comp=Z,40nm,0.7s,baz=153,slow=8.9,SNR=162
SONM LR LR 03 54 15.2
comp=Z,354nm,19.9s,baz=154,slow=40
SANI Sanana 26.54 170 P **P 03 42 24.3 -1.2**
SHL Shillong 26.87 279 *e*P **P 03 42 31.0 +2.3**
comp=Z,331nm,1.6s
SHL LR LR
comp=Z,6µm,19.0s
SHL Shillong 26.87 279 *e*P **P 03 42 31.0 +2.3**
SHL pmax pmax
comp=Z,331nm,1.6s
SHL MLR MLR
comp=Z,6µm,19.0s
SHL Shillong 26.87 279 *e*P **P 03 42 27.0 -1.7**
SHL IAmb IAmb 03 42 36.8
comp=Z,476nm,2.0s
SHL *ex* x 03 43 08.0
TTSI Tana Toraja 27.22 184 P **P 03 42 30.8 -0.8**
comp=Z,66nm,1.6s,comp=Z,2µm
BRDH Bariadhala 27.41 273 P **P 03 42 33.9 +0.6**
comp=Z,73nm,0.7s,baz=225,slow=20,SNR=4.7
BRDH LR LR 03 54 09.5
comp=Z,4µm,18.3s,baz=102,slow=38
PKDT Phuket 27.52 238 P P 03 42 42.3 +8.0
LSA Lhasa 27.53 288 P **P 03 42 36.8 +1.8**
LSA pmax pmax
comp=Z,11nm,0.6s
LSA LR LR
comp=Z,2µm,9.7s
LSA LR LR
comp=Z,5µm,11.8s
LSA LR LR
comp=Z,16µm,10.7s
LSA Lhasa 27.53 288 *e*P **P 03 42 37.7 +2.7**
comp=Z,39nm,0.9s
LSA LR LR
comp=Z,6µm,20.0s
LSA Lhasa 27.53 288 P **P 03 42 38.2 +3.2**
LSA Lhasa 27.53 288 *e*P **P 03 42 37.7 +2.7**
LSA pmax pmax
comp=Z,39nm,0.9s
LSA MLR MLR
comp=Z,6µm,20.0s
KULM Kulim 27.55 230 *e*P **P 03 42 37.4 +2.8**
comp=Z,156nm,1.4s
KULM LR LR
comp=Z,3µm,20.0s
KULM Kulim 27.55 230 P **P 03 42 38.0 +3.3**
IPM Ipoh 27.87 228 *e*P **P 03 42 38.1 +0.6**
comp=Z,161nm,1.3s
IPM LR LR
comp=Z,2µm,20.0s
IPM Ipoh 27.87 228 P **P 03 42 38.6 +1.1**
NLAI Namlea 27.90 168 P **P 03 42 38.1 +0.4**
comp=Z,294nm,1.0s,comp=Z,3µm
YUK Yuzh-Kuril'sk 28.01 39 *d i*P **P 03 42 37.3 -1.1**
YUK *i* S **S 03 47 22.2 -0.3**
YUK pmax pmax
comp=Z,15nm,1.1s
YUK pmax pmax
comp=N,224nm,1.0s
YUK pmax pmax
comp=E,99nm,0.6s
YUK pmax pmax
comp=Z,15nm,1.5s
YUK MLR MLR
comp=N,5µm,19.0s
YUK MLR MLR
comp=Z,93nm,19.0s
YUK MLR MLR
comp=E,1µm,17.0s
SPSI Sidrap Palu 28.13 184 P **P 03 42 39.0 -0.8**
comp=E,24nm,1.0s,comp=E,629nm
MYKOM Kota Tinggi 28.14 220 *e*P **P 03 42 41.5 +1.6**
comp=E,75nm,1.0s
MYKOM Kota Tinggi 28.14 220 P **P 03 42 42.2 +2.3**
KGM Kluang 28.27 221 P **P 03 42 43.7 +2.6**
YSS Yuzh-Sakhalins 28.29 32 *e*P **P 03 42 44.9 +4.0**
comp=E,97nm,1.1s
YSS Yuzh-Sakhalins 28.29 32 *e*P **P 03 42 43.5 +2.6**
YSS *e**SP **sP 03 42 48.0 +1.4**
YSS *e* 03 42 54.7
YSS *e* 03 43 32.5
YSS *e*PPP PPP 03 43 50.3
YSS *e*S **S 03 47 33.6 +6.7**
YSS *e* 03 47 46.8
YSS pmax pmax
comp=Z,70nm,1.4s
YSS pmax pmax
comp=Z,1µm,5.0s
YSS MLR MLR
comp=Z,5µm,14.0s
YSS MLR MLR
comp=N,4µm,13.0s
YSS MLR MLR
comp=E,3µm,17.0s
FRIM Kepong 28.39 226 P **P 03 42 44.2 +2.0**
BNSI Bone 28.55 183 P **P 03 42 42.9 -0.6**
comp=E,43nm,1.2s,comp=E,1µm
GRNR Gornyy 28.85 20 *e*P **P 03 42 46.0 +0.1**
FAKI Fak Fak 28.99 157 *e*P **P 03 42 47.5 0.0**
comp=E,292nm,1.5s
FAKI LR LR
comp=Z,2µm,21.0s
ZAK Zakamensk 29.64 336 *e*P **P 03 42 51.0 -2.1**
ZAK pmax pmax
comp=Z,20nm,1.3s
ZEA Zeya 29.73 7 *e*P **P 03 42 52.0 -1.6**
ZEA *e* 03 44 02.5
ZEA pmax pmax
comp=N,65nm,1.2s
ZEA pmax pmax
comp=Z,85nm,1.2s
ZEA pmax pmax
comp=Z,1µm,10.0s
ZEA pmax pmax
comp=N,900nm,7.0s
ZEA pmax pmax
comp=Z,700nm,10.0s
ZEA pmax pmax
comp=N,500nm,6.0s
ZEA MLR MLR
comp=Z,15µm,13.0s
ZEA MLR MLR
comp=E,6µm,11.0s
ZEA MLR MLR
comp=N,11µm,12.0s
KUR Kuril'sk 29.87 39 *c i*P **P 03 42 55.2 +0.2**
KUR *i* 03 43 48.9
KUR MLR MLR
comp=N,1µm,14.0s
KUR MLR MLR
comp=Z,2µm,14.0s
PBA Port Blair 30.03 250 *e*P P 03 42 52.4 -4.3
TPI Tanjungpandan 30.07 209 P **P 03 42 58.1 +1.1**
comp=Z,47nm,1.8s,comp=Z,2µm
PSI Prapat 30.52 229 *e*P **P 03 43 00.8 -0.4**
comp=Z,98nm,1.0s
PSI *e*PcP **PcP 03 46 00.5 +0.2**
PSI LR LR
comp=Z,2µm,20.0s
PSI Prapat 30.52 229 *e*P **P 03 43 00.8 -0.4**
PSI *e* 03 46 00.5
PSI pmax pmax
comp=Z,98nm,1.0s
PSI MLR MLR
comp=Z,2µm,20.0s
PSI Prapat 30.52 229 P **P 03 43 01.8 +0.6**
comp=Z,43nm,0.9s,baz=0.1,slow=5.9,SNR=30
PSI PcP **PcP 03 45 59.6 -0.6**
comp=Z,19nm,1.1s,baz=359,slow=1.9,SNR=3.8
PSI LR LR 03 56 22.4
comp=Z,2µm,19.6s,baz=89,slow=38
TLY Talaya 30.59 338 *e*P **P 03 43 02.0 +0.7**
comp=Z,43nm,1.2s
TLY Talaya 30.59 338 *d i*P **P 03 43 00.9 -0.4**
TLY *e* 03 43 57.7
TLY *e*S **S 03 48 07.3 +4.3**
TLY *e* 03 53 40.5
TLY pmax pmax
comp=Z,141nm,1.5s
TLY MLR MLR
comp=Z,8µm,11.0s
TLY Talaya 30.59 338 P **P 03 43 01.7 +0.4**
SNR=28
IRK Irkutsk 30.85 339 *e*P **P 03 43 01.5 -2.1**
IRK pmax pmax
comp=Z,176nm,2.4s
BKNI Bangkinang 30.99 223 *e*P **P 03 43 03.0 -2.2**
comp=Z,204nm,1.3s
BKNI LR LR
comp=Z,2µm,22.0s
TYV Tymovskoe 31.16 26 *e*P P 03 43 12.5 +6.2
TYV pmax pmax
comp=Z,18nm,1.1s
CMBY CAMPBELL BAY 31.52 242 *e*P **P 03 43 07.6 -2.2**
CMBY IAmb IAmb 03 43 16.5
comp=Z,187nm,1.1s
RAMN Ramite 31.53 282 *e*P **P 03 43 11.6 +1.4**
comp=Z,206nm,1.0s
MOY Mondy 31.54 335 *e*P **P 03 43 09.3 -0.5**
MOY pmax pmax
comp=Z,113nm,2.0s
JIRN Jiri 31.86 284 *e*P **P 03 43 14.4 +1.2**
comp=Z,174nm,1.0s
PPI Padang Panjang 32.00 223 P **P 03 43 15.8 +1.7**
GUN Gumba 32.12 284 *e*P **P 03 43 16.6 +1.1**
comp=Z,166nm,1.0s
NKL Nikolayevsk 32.26 22 *e*P **P 03 43 15.5 -0.4**
NKL *e* 03 44 42.0
NKL pmax pmax
comp=Z,800nm,10.0s
NKL pmax pmax
comp=Z,79nm,1.5s
NKL MLR MLR
comp=N,7µm,14.0s
NKL MLR MLR
comp=E,5µm,14.0s
NKL MLR MLR
comp=Z,10µm,14.0s
BOK Bokaro 32.48 277 *e*P **P 03 43 16.5 -1.7**
BOK IAmb IAmb 03 43 25.4
comp=Z,51nm,1.1s
GSI Gunungsitoli 32.53 229 *e*P **P 03 43 19.7 +1.0**

	comp=Z,50nm,1.0s								
GSI					LR	LR			
	comp=Z,3μm,21.0s								
PKI	**Pulchoki**	**32.55**	**284**	*e*P		**P**	**03 43 19.8**	**+0.5**	
	comp=Z,98nm,1.2s								
PKIN	**Phulchoki**	**32.56**	**284**	*e*P		**P**	**03 43 20.0**	**+0.7**	
	comp=Z,87nm,1.3s								
KKN	**Kakani**	**32.66**	**284**	*e*P		**P**	**03 43 21.1**	**+1.0**	
	comp=Z,130nm,1.1s								
DMN	**Daman**	**32.82**	**284**	*e*P		**P**	**03 43 22.3**	**+0.8**	
	comp=Z,89nm,0.9s								
NGJI	**Ngawi**	**32.95**	**199**	P		**P**	**03 43 21.4**	**-1.0**	
	comp=Z,242nm,1.0s								
SMRI	**Semarang**	**32.96**	**200**	*e*P		**P**	**03 43 24.7**	**+2.2**	
	comp=Z,107nm,0.8s								
SMRI					LR	LR			
	comp=Z,2μm,19.0s								
MDSI	**Maura Dua**	**33.21**	**213**	P		**P**	**03 43 25.7**	**+1.1**	
BWNR	**Bhubaneshwar**	**33.21**	**270**	*e*P		**P**	**03 43 21.4**	**-3.3**	
BWNR				IAmb		IAmb	03 43 28.3		
	comp=Z,60nm,1.1s								
GKN	**Gorkha**	**33.22**	**284**	*e*P		**P**	**03 43 25.6**	**+0.7**	
	comp=Z,276nm,1.4s								
JAGI	**Jajag, Banyuwa**	**33.34**	**193**	*e*P		**P**	**03 43 27.9**	**+2.1**	
	comp=Z,43nm,0.9s								
SISI	**Saibi**	**33.49**	**224**	P		**P**	**03 43 27.7**	**+0.6**	
WMQ	**Urumqi**	**33.79**	**314**	*e*P		**P**	**03 43 31.1**	**+1.5**	
WMQ				pP		sP	03 43 35.3	-0.3	
WMQ				PP		**PP**	**03 44 44.5**	**-1.6**	
WMQ				S		**S**	**03 48 58.3**	**+5.0**	
WMQ				ScS		**ScS**	**03 53 47.2**	**-7.7**	
WMQ				pmax		pmax			
	comp=Z,72nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,1μm,3.9s								
WMQ				LR		LR			
	comp=Z,4μm,13.3s								
WMQ				LR		LR			
	comp=Z,4μm,16.1s								
WMQ	**Urumqi**	**33.79**	**314**	*e*P		**P**	**03 43 30.7**	**+1.1**	
	comp=Z,422nm,1.6s								
WMQ				LR		LR			
	comp=Z,4μm,19.0s								
WMQ	**Urumqi**	**33.79**	**314**	*e*P		**P**	**03 43 30.7**	**+1.1**	
WMQ				pmax		pmax			
	comp=Z,422nm,1.6s								
WMQ				MLR		MLR			
	comp=Z,4μm,19.0s								
BOD	**Bodaibo**	**33.93**	**353**	*e*P		**P**	**03 43 29.9**	**-0.6**	
BOD				pmax		pmax			
	comp=Z,22nm,1.4s								
SOEI	**Soe**	**33.94**	**175**	*e*P		**P**	**03 43 28.5**	**-2.7**	
	comp=Z,98nm,1.0s								
SOEI	**Soe**	**33.94**	**175**	P		**P**	**03 43 30.1**	**-1.1**	
KASI	**Kota Agung**	**33.95**	**211**	P		**P**	**03 43 32.5**	**+1.4**	
DANN	**Dangsing**	**33.98**	**285**	*e*P		**P**	**03 43 32.2**	**+0.5**	
	comp=Z,114nm,0.8s								
KOLN	**Koldanda**	**34.15**	**284**	*e*P		**P**	**03 43 33.9**	**+0.8**	
	comp=Z,141nm,1.0s								
CISI	**Cisompet, Garu**	**34.35**	**205**	*e*P		**P**	**03 43 34.5**	**-0.2**	
	comp=Z,221nm,1.3s								
PYUN	**Piuthan**	**34.67**	**285**	*e*P		**P**	**03 43 38.6**	**+1.0**	
	comp=Z,98nm,0.9s								
MANU	**Manus Island**	**36.28**	**133**	*e*P		**P**	**03 43 53.0**	**+1.8**	
	comp=Z,288nm,1.5s								
ZSN	**Zaisan**	**37.12**	**318**	*e*P		**P**	**03 43 58.7**	**+0.6**	
ZSN				pmax		pmax			
	comp=Z,83nm,0.7s								
ZSN				MLR		MLR			
	comp=Z,967nm,13.0s								
ZSN	**Zaisan**	**37.12**	**318**	*e*P		**P**	**03 43 58.7**	**+0.6**	
	comp=Z,83nm,0.7s								
ZSN				*e*LR		LR	03 59 15.6		
	comp=Z,967nm,13.3s								
XMIS	**Christmas Isla**	**37.87**	**206**	*e*P		**P**	**03 44 06.4**	**+1.8**	
	comp=Z,76nm,1.1s								
JBP	**Jabalpur**	**37.93**	**277**⇑	*e*P		**P**	**03 44 03.4**	**-1.8**	
JBP				AMS		AMS	04 01 02.6		
	comp=Z,6μm,13.7s								
MTN	**Manton Dam**	**38.09**	**165**	*e*P		**P**	**03 44 04.0**	**-2.5**	
	comp=Z,184nm,1.3s								
YAK	**Yakutsk**	**38.13**	**6**	*e*P		**P**	**03 44 05.6**	**-0.8**	
YAK				*e*			03 45 32.6		
YAK				*e*PPP		PPP	03 45 52.7		
YAK				*e*			03 46 20.4		
YAK				*e*S		**S**	**03 49 59.9**	**+0.8**	
YAK				*e*SSS		SSS	03 53 05.8		
YAK				*e*			03 54 14.4		
YAK				pmax		pmax			
	comp=Z,59nm,0.6s								
YAK				pmax		pmax			
	comp=N,36nm,0.8s								
YAK				pmax		pmax			
	comp=E,29nm,0.8s								
YAK				pmax		pmax			
	comp=Z,350nm,1.8s								
YAK				pmax		pmax			
	comp=N,252nm,1.8s								
YAK				pmax		pmax			
	comp=E,84nm,1.9s								
YAK				smax		smax			
	comp=N,272nm,2.3s								
YAK				smax		smax			
	comp=E,333nm,3.2s								
YAK				MLR		MLR			
	comp=Z,21μm,17.0s								
YAK				MLR		MLR			
	comp=N,18μm,16.0s								
YAK				MLR		MLR			
	comp=E,9μm,16.0s								
MK01	**Makanchi Array**	**38.45**	**316**	*e*P		**P**	**03 44 08.4**	**-1.0**	
MK31	**Makanchi Array**	**38.47**	**316**	*e*P		**P**	**03 44 10.2**	**+0.7**	
	comp=E,123nm,1.0s								
MK31	**Makanchi Array**	**38.47**	**316**	*e*P		**P**	**03 44 09.8**	**+0.3**	
MK31				pmax		pmax			
	comp=Z,202nm,1.1s								
MK32	**Makanchi Array**	**38.47**	**316**	*e*P		**P**	**03 44 10.2**	**+0.7**	
MKAR	**Makanchi Array**	**38.47**	**316**	*ce*P		**P**	**03 44 10.1**	**+0.6**	
MKAR				pmax		pmax			
	comp=Z,98nm,0.7s								
MKAR	**Makanchi Array**	**38.47**	**316**	P		**P**	**03 44 10.2**	**+0.7**	
	comp=Z,98nm,0.7s,baz=107,slow=10,SNR=312								
MKAR				PcP		**PcP**	**03 46 21.4**	**-1.1**	
	comp=Z,4.6nm,0.8s,baz=126,slow=4.1,SNR=4.3								
MKAR				ScP		**ScP**	**03 50 07.7**	**-2.8**	
	comp=Z,0.7nm,0.8s,baz=259,slow=2.9,SNR=2.6								
MAKZ	**Makanchi**	**38.67**	**316**	*e*P		**P**	**03 44 11.7**	**+0.5**	
	comp=Z,555nm,1.6s								
MAKZ				LR		LR			
	comp=Z,1μm,20.0s								
MAKZ	**Makanchi**	**38.67**	**316**	P		**P**	**03 44 11.7**	**+0.5**	
MAKZ				pmax		pmax			
	comp=Z,233nm,1.1s								
DDI	**Dehra Dun**	**38.89**	**289**	*e*P		**P**	**03 44 09.5**	**-3.9**	
DDI				IAmb		IAmb	03 44 20.1		
	comp=Z,137nm,0.8s								
NGP	**Nagpur**	**39.18**	**274**⇑	*e*P		**P**	**03 44 13.1**	**-2.7**	
NGP				IAmb		IAmb	03 44 24.5		
	comp=Z,33nm,0.6s								
NGP				*e*S		**S**	**03 50 14.3**	**-1.6**	
PDGK	**Podgornoye**	**39.25**	**309**	P		**P**	**03 44 16.6**	**+0.3**	
PDGK				pmax		pmax			
	comp=Z,224nm,1.4s								
UZB	**Uzynbulak**	**39.53**	**309**	*e*P		**P**	**03 44 17.9**	**-0.7**	
UZB				pmax		pmax			
	comp=Z,184nm,1.7s								
UZB				MLR		MLR			
	comp=Z,1μm,14.0s								
UZB	**Uzynbulak**	**39.53**	**309**	*e*P		**P**	**03 44 17.9**	**-0.7**	
	comp=Z,184nm,1.7s								
UZB				*e*LR		LR	04 00 45.9		
	comp=Z,1μm,14.0s								
PEA0B	**Petropavlovsk-**	**39.62**	**34**	PFAKE			03 44 30.0	+11	
PEA0B				LR		LR			
	comp=Z,3μm,18.0s								
PETK	**Petropavlovsk-**	**39.62**	**34**	LR		LR	04 02 14.8		
	comp=Z,2μm,18.2s,baz=223,slow=39								
SMLA	**Simla**	**39.64**	**290**	*e*P		**P**	**03 44 17.2**	**-2.2**	
SATY	**Saty**	**39.95**	**309**	*e*P		**P**	**03 44 22.1**	**0.0**	
SATY				pmax		pmax			
	comp=Z,341nm,0.8s								
SATY				MLR		MLR			
	comp=Z,2μm,12.0s								
SATY	**Saty**	**39.95**	**309**	*e*P		**P**	**03 44 22.2**	**0.0**	
	comp=Z,341nm,0.8s								
SATY				*e*LR		LR	04 01 06.8		
	comp=Z,2μm,11.9s								
ZHN	**Zhinishke**	**39.95**	**309**	*e*P		**P**	**03 44 22.0**	**-0.1**	
ZHN				pmax		pmax			
	comp=Z,87nm,1.8s								
ZHN				MLR		MLR			
	comp=Z,1μm,14.0s								
ZHN	**Zhinishke**	**39.95**	**309**	*e*P		**P**	**03 44 22.0**	**-0.1**	
	comp=Z,87nm,1.8s								
ZHN				*e*LR		LR	04 00 59.6		
	comp=Z,1μm,14.4s								
PET	**Petropavlovsk**	**40.06**	**35***ce*P			**P**	**03 44 23.8**	**+1.1**	
PET				*e*S		**S**	**03 50 29.9**	**+1.5**	
PET				pmax		pmax			
	comp=Z,400nm,12.0s								
PET				pmax		pmax			
	comp=Z,28nm,1.0s								
PET				MLR		MLR			
	comp=Z,2μm,19.0s								
PET				MLR		MLR			
	comp=Z,2μm,18.0s								
BHPL	**Bhopal**	**40.23**	**278**	*e*P		**P**	**03 44 22.3**	**-2.3**	
BHPL				IAmb		IAmb	03 44 30.6		
	comp=Z,299nm,2.3s								
ZAA0	**Zalesovo Array**	**40.32**	**327**	*e*P		**P**	**03 44 24.2**	**-0.6**	
	comp=Z,125nm,1.0s								
ZAA0				LR		LR			
	comp=Z,3μm,18.0s								
ZALV	**Zalesovo Beam**	**40.32**	**327**	*e*P		**P**	**03 44 22.6**	**-2.1**	
ZALV	**Zalesovo Beam**	**40.32**	**327**	*e*P		**P**	**03 44 22.7**	**-2.1**	
ZALV	**Zalesovo Beam**	**40.32**	**327**	P		**P**	**03 44 24.3**	**-0.5**	
	comp=Z,34nm,0.6s,baz=116,slow=8.2,SNR=103								
ZALV				PcP		**PcP**	**03 46 25.6**	**-2.5**	
	comp=Z,6.2nm,0.8s,baz=109,slow=3.9,SNR=3.6								
ZALV				LR		LR	04 00 44.7		
	comp=Z,961nm,18.1s,baz=102,slow=36								
ZAA1	**Zalesovo Array**	**40.32**	**327**	*e*P		**P**	**03 44 24.3**	**-0.5**	
ZAA1				*e*PcP		**PcP**	**03 46 25.6**	**-2.5**	
DHRM	**DHARAMSHALA**	**40.36**	**292**	*e*P		**P**	**03 44 23.4**	**-2.3**	
DHRM				IAmb		IAmb	03 44 31.6		
	comp=Z,51nm,1.0s								
MDRS	**Chennai**	**40.51**	**262**	*e*P		**P**	**03 44 25.2**	**-1.7**	
MDRS				IAmb		IAmb	03 44 35.2		
	comp=Z,316nm,2.2s								
HYB	**Hyderabad**	**40.59**	**269**	*i* P		**P**	**03 44 28.0**	**+0.4**	
HYB				*e*S		**S**	**03 50 40.0**	**+2.8**	
HYB	**Hyderabad**	**40.59**	**269**	*e*P		**P**	**03 44 25.2**	**-2.4**	
HYB				IAmb		IAmb	03 44 34.2		
	comp=Z,133nm,1.8s								
KDJ	**Kajisay**	**40.63**	**307**	*e*P		**P**	**03 44 26.9**	**-0.9**	
	comp=Z,70nm,1.4s								
KDJ				LR		LR			
	comp=Z,2μm,19.0s								
KDJ	**Kajisay**	**40.63**	**307**	*e*P		**P**	**03 44 26.9**	**-0.9**	
KDJ				pmax		pmax			
	comp=Z,70nm,1.4s								
KDJ				MLR		MLR			
	comp=Z,2μm,19.0s								
MA2	**Magadan**	**40.78**	**22**	*e*P		**P**	**03 44 28.4**	**-0.1**	
	comp=Z,12nm,1.0s								
MA2				LR		LR			
	comp=Z,2μm,20.0s								
MA2	**Magadan**	**40.78**	**22**⇓	*e*P		**P**	**03 44 27.8**	**-0.7**	
MA2				pmax		pmax			
	comp=Z,10.0nm,1.1s								
MA2				MLR		MLR			
	comp=Z,3μm,16.0s								
MA2	**Magadan**	**40.78**	**22**	P		**P**	**03 44 27.5**	**-1.1**	
	comp=Z,3.1nm,0.3s,baz=217,slow=9.5,SNR=5.6								
MDOK	**Medeo**	**40.94**	**309**	*e*P		**P**	**03 44 29.4**	**-0.9**	
MDOK				*e*S		**S**	**03 50 45.5**	**+3.4**	
MDOK				pmax		pmax			
	comp=Z,82nm,0.9s								
MDOK				MLR		MLR			
	comp=Z,2μm,14.0s								
MDOK	**Medeo**	**40.94**	**309**	*e*P		**P**	**03 44 29.5**	**-0.9**	
	comp=Z,82nm,0.9s								
MDOK				*e*S		**S**	**03 50 45.5**	**+3.4**	
MDOK				*e*LR		LR	04 03 31.2		
	comp=Z,2μm,14.2s								
AAA	**Alma-Ata**	**41.05**	**309**	*e*P		**P**	**03 44 33.6**	**+2.5**	
AAA				*e*S		**S**	**03 50 49.2**	**+5.7**	
AAA				pmax		pmax			
	comp=Z,500nm,4.5s								
AAA				smax		smax			
	comp=N,1μm,16.6s								
AAA				MLR		MLR			
	comp=Z,3μm,12.0s								
KSH	**Kashi**	**41.09**	**303**	P		**P**	**03 44 36.2**	**+4.6**	
KSH				pP		sP	03 44 39.7	+2.1	
KSH				PP		**PnPn**	**03 46 14.5**	**+3.8**	
KSH				S		**S**	**03 50 51.4**	**+7.0**	
KSH				sS		sS	03 50 57.7	+6.5	
KSH				SS		**SS**	**03 53 48.8**	**+2.1**	
KSH				pmax		pmax			
	comp=Z,13nm,0.5s								
KSH				pmax		pmax			
	comp=Z,430nm,5.6s								
KSH				LR		LR			
	comp=Z,4μm,10.9s								
KSH				LR		LR			
	comp=Z,5μm,11.8s								
KSH				LR		LR			
	comp=Z,3μm,19.9s								
SEM	**Semipalatinsk**	**41.12**	**320**	*e*P		**P**	**03 44 30.3**	**-1.5**	
SEM				pmax		pmax			
	comp=Z,680nm,1.0s								
SEM				MLR		MLR			
	comp=Z,1μm,12.0s								
SEM	**Semipalatinsk**	**41.12**	**320**	*e*P		**P**	**03 44 30.4**	**-1.5**	
	comp=Z,680nm,1.0s								
SEM				*e*LR		LR	04 01 55.1		
	comp=Z,1μm,12.3s								
RABL	**Rabaul**	**41.13**	**129**	*e*P		**P**	**03 44 30.9**	**-1.1**	
	comp=Z,323nm,1.1s								
ULHL	**Ulaho**	**41.33**	**307**	P		**P**	**03 44 35.0**	**+1.4**	
	SNR=24								
NRN	**Naryn**	**41.36**	**306**	*e*P		**P**	**03 44 32.6**	**-1.4**	
	comp=Z,58nm,0.9s								
NRN				*e*pP		**P**	**03 44 35.8**	**+1.7**	
NRN				LR		LR			
	comp=Z,2μm,18.0s								
NRN	**Naryn**	**41.36**	**306**	*e*P		**P**	**03 44 32.6**	**-1.4**	
NRN				pmax		pmax			
	comp=Z,58nm,0.9s								
NRN				MLR		MLR			
	comp=Z,2μm,18.0s								
NVS	**Novosibirsk**	**41.58**	**327**⇑	*i*P		**P**	**03 44 35.1**	**-0.1**	
NVS				*e*S		**S**	**03 50 45.9**	**-5.0**	
NVS				pmax		pmax			
	comp=Z,126nm,1.4s								
NVS				pmax		pmax			
	comp=N,55nm,1.2s								
NVS				pmax		pmax			
	comp=E,98nm,1.5s								
NVS				smax		smax			
	comp=N,9.0nm,1.3s								
NVS				smax		smax			
	comp=E,28nm,1.5s								
KUU	**Kurty**	**41.60**	**309**	*e*P		**P**	**03 44 35.1**	**-0.5**	
KUU				MLR		MLR			
	comp=Z,695nm,12.0s								
KUU	**Kurty**	**41.60**	**309**	*e*P		**P**	**03 44 35.2**	**-0.5**	
KUU				*e*LR		LR	04 02 15.3		
	comp=Z,695nm,12.3s								
TKM2	**Tokmak 2**	**41.93**	**308**	P		**P**	**03 44 39.8**	**+1.3**	
	SNR=53								
KZA	**Kyzart**	**42.03**	**307**	P		**P**	**03 44 42.4**	**+2.8**	
	SNR=14								
H11N1	**WAKE ISLAND Hy**	**42.19**	**87**	T		T	04 30 15.8		
	baz=283,slow=74								
H11N2	**WAKE ISLAND Hy**	**42.19**	**87**	T		T	04 30 02.7		
	baz=283,slow=74								
KURK	**Kurchatov**	**42.20**	**320**	*e*P		**P**	**03 44 40.3**	**0.0**	
	comp=Z,222nm,1.3s								
KURK				LR		LR			
	comp=Z,100nm,18.0s								
KURK	**Kurchatov**	**42.20**	**320**	*d i*P		**P**	**03 44 40.3**	**0.0**	
KURK				pmax		pmax			
	comp=Z,286nm,1.7s								
KURK				MLR		MLR			
	comp=Z,2μm,14.0s								
KURK	**Kurchatov**	**42.20**	**320**	P		**P**	**03 44 40.2**	**-0.2**	
	SNR=114								
H11N3	**WAKE ISLAND Hy**	**42.21**	**87**	T		T	04 30 13.0		
	baz=283,slow=74								
KURBB	**Kurchatov Arra**	**42.22**	**320**	P		**P**	**03 44 39.6**	**-0.8**	
	comp=Z,14nm,0.5s,baz=110,slow=9.6,SNR=106								
FITZ	**Fitzroy Crossi**	**42.32**	**174**	*e*P		**P**	**03 44 39.1**	**-2.5**	
	comp=Z,103nm,1.4s								
FITZ				*e*PcP		**PcP**	**03 46 32.8**	**-2.4**	
FITZ	**Fitzroy Crossi**	**42.32**	**174**	P		**P**	**03 44 39.8**	**-1.8**	
	comp=Z,34nm,1.1s,baz=2.1,slow=9.6,SNR=20								
FITZ				PcP		**PcP**	**03 46 32.8**	**-2.4**	
	comp=Z,8.9nm,0.9s,baz=187,slow=2.1,SNR=3.8								
H11S3	**WAKE ISLAND Hy**	**42.33**	**89**	T		T	04 29 58.2		
	baz=284,slow=74								
H11S1	**WAKE ISLAND Hy**	**42.33**	**89**	T		T	04 30 10.1		
	baz=284,slow=74								
H11S2	**WAKE ISLAND Hy**	**42.34**	**89**	T		T	04 30 12.6		
	baz=284,slow=74								
KBK	**Karagaybulak**	**42.35**	**307**	P		**P**	**03 44 44.0**	**+2.1**	
	SNR=13								
PALK	**Pallekele**	**42.55**	**253**	*e*P		**P**	**03 44 42.4**	**-1.3**	
	comp=Z,60nm,1.4s								
PALK				LR		LR			
	comp=Z,1μm,19.0s								
PALK	**Pallekele**	**42.55**	**253**	P		**P**	**03 44 48.4**	**+4.7**	
PALK	**Pallekele**	**42.55**	**253**	P		**P**	**03 44 42.4**	**-1.3**	
	comp=Z,6.2nm,0.8s,baz=116,slow=4.7,SNR=2.7								
CHMS	**Chumysh**	**42.55**	**308**	P		**P**	**03 44 45.2**	**+1.8**	
	SNR=10.0								
UCH	**Uchtor**	**42.59**	**307**	P		**P**	**03 44 46.0**	**+1.8**	
	SNR=23								
FRU1	**Bishkek**	**42.61**	**307**	*e*P		**P**	**03 44 41.4**	**-2.5**	
	comp=Z,139nm,1.6s								
FRU1				LR		LR			
	comp=Z,3μm,19.0s								
FRU1	**Bishkek**	**42.61**	**307**	*e*P		**P**	**03 44 41.4**	**-2.5**	
FRU1				pmax		pmax			
	comp=Z,139nm,1.6s								
FRU1				MLR		MLR			
	comp=Z,3μm,19.0s								
FRU	**Bishkek**	**42.62**	**308**	*e*P		**P**	**03 44 44.0**	**0.0**	
FRU				*e*			03 46 53.0		
FRU				pmax		pmax			
	comp=Z,202nm,2.0s								
FRU				MLR		MLR			
	comp=E,2μm,13.5s								
AAK	**Ala-Archa**	**42.67**	**307**	P		**P**	**03 44 46.5**	**+1.9**	
	SNR=8.5								
AAK	**Ala-Archa**	**42.67**	**307**	*e*P		**P**	**03 44 44.1**	**-0.4**	
AAK				*e*PcP		**PcP**	**03 46 36.0**	**-0.3**	
AAK				LR		LR			
	comp=Z,2μm,18.0s								
AAK	**Ala-Archa**	**42.67**	**307**	*i* P		**P**	**03 44 46.5**	**+1.9**	
	SNR=8.9								
AAK	**Ala-Archa**	**42.67**	**307**	*d i*P		**P**	**03 44 45.1**	**+0.5**	
AAK				pmax		pmax			
	comp=Z,42nm,1.7s								
AAK				MLR		MLR			
	comp=Z,3μm,14.0s								
AAK	**Ala-Archa**	**42.67**	**307**	P		**P**	**03 44 45.6**	**+1.0**	
	SNR=18								
AAK	**Ala-Archa**	**42.67**	**307**	P		**P**	**03 44 44.1**	**-0.4**	
	comp=Z,8.0nm,0.8s,baz=130,slow=7.4,SNR=21								
AAK				PcP		**PcP**	**03 46 36.0**	**-0.3**	
	comp=Z,2.6nm,0.4s,baz=56,slow=5.8,SNR=6.4								
USP	**Ospenovka**	**42.78**	**308**	P		**P**	**03 44 47.2**	**+1.9**	
	SNR=7.3								
AML	**Almayashu**	**43.18**	**306**	P		**P**	**03 44 50.5**	**+1.5**	
	SNR=18								
EKS2	**Erkin-Say**	**43.20**	**307**	P		**P**	**03 44 50.3**	**+1.6**	
	SNR=13								
BTLS	**Baital**	**43.46**	**311**	*e*P		**P**	**03 44 49.8**	**-0.8**	
BTLS				pmax		pmax			
	comp=Z,157nm,2.2s								
BTLS				MLR		MLR			
	comp=Z,877nm,12.0s								
BTLS	**Baital**	**43.46**	**311**	*e*P		**P**	**03 44 49.9**	**-0.8**	
	comp=Z,157nm,2.2s								
BTLS				*e*LR		LR	04 03 31.2		
	comp=Z,878nm,12.3s								
COEN	**Coen**	**43.51**	**149**	*e*P		**P**	**03 44 52.5**	**+1.2**	
	comp=Z,259nm,1.2s								
COEN				LR		LR			
	comp=Z,2μm,21.0s								
ARSB	**Arslanbob**	**43.59**	**305**	*e*P		**P**	**03 44 54.0**	**+2.0**	
	comp=Z,73nm,1.3s								
SEY	**Seymchan**	**43.78**	**20**⇑	*e*P		**P**	**03 44 52.3**	**-0.6**	
SEY	**Seymchan**	**43.78**	**20**	P		**P**	**03 44 53.1**	**+0.1**	
	comp=Z,4.7nm,0.7s,baz=221,slow=6.9,SNR=14								
SEY				PcP		**PcP**	**03 46 39.2**	**-0.2**	
	comp=Z,5.1nm,0.7s,baz=246,slow=7.6,SNR=6.5								
POO	**Poona**	**44.57**	**272**	*e*P		**P**	**03 44 57.9**	**-2.1**	
POO				IAmb		IAmb	03 45 04.3		
	comp=Z,54nm,0.9s								
MBWA	**Marble Bar**	**45.21**	**182**	*e*P		**P**	**03 45 02.6**	**-2.2**	
	comp=Z,318nm,1.6s								
TRD	**Trivandrum**	**45.30**	**257**	*e*P		**P**	**03 45 02.5**	**-3.3**	
TRD				IAmb		IAmb	03 45 12.9		
	comp=Z,49nm,1.1s								
OTUK	**Ortayu**	**45.33**	**315**	P		**P**	**03 45 05.7**	**+0.1**	
OTUK				pmax		pmax			
	comp=Z,156nm,1.2s								
GOA	**Goa**	**45.50**	**268**	*e*P		**P**	**03 45 04.5**	**-2.8**	
GOA				IAMs_20		IAMs_20	04 08 06.5		
	comp=Z,3μm,4.0s								
KK31	**Karatay Array**	**45.64**	**307**	*e*P		**P**	**03 45 08.7**	**+0.6**	
	comp=Z,152nm,1.8s								
KK31	**Karatay Array**	**45.64**	**307**	*e*P		**P**	**03 45 09.2**	**+1.1**	
KK31				pmax		pmax			
	comp=Z,20nm,0.8s								
KKAR	**Karatay Array**	**45.64**	**307**	*e*P		**P**	**03 45 08.7**	**+0.6**	
	comp=Z,152nm,1.8s								
WRAB	**Tennant Creek**	**45.70**	**163**	*e*P		**P**	**03 45 06.7**	**-2.1**	
	comp=Z,118nm,1.2s								
WRAB	**Tennant Creek**	**45.70**	**163***ce*P			**P**	**03 45 07.1**	**-1.6**	
WRAB				MLR		MLR			
	comp=Z,554nm,19.0s								
WR1	**Warramunga Arr**	**45.71**	**163**	*e*P		**P**	**03 45 07.2**	**-1.6**	
	comp=Z,162nm,1.3s								
WR1				*e*PcP		**PcP**	**03 46 45.4**	**-1.3**	
WR1				*e*ScP		**ScP**	**03 50 39.0**	**-0.6**	
WRA	**Warramunga Arr**	**45.71**	**163**	P		**P**	**03 45 07.2**	**-1.6**	
	comp=Z,84nm,1.2s,baz=345,slow=8.1,SNR=79								
WRA				PcP		**PcP**	**03 46 45.4**	**-1.3**	
	comp=Z,9.7nm,0.8s,baz=348,slow=3.5,SNR=6.0								
WRA				ScP		**ScP**	**03 50 39.0**	**-0.6**	
	comp=Z,1.2nm,1.0s,baz=338,slow=4.0,SNR=3.0								
WB2	**Warramunga Arr**	**45.71**	**163**	*e*P		**P**	**03 45 07.2**	**-1.7**	
	comp=Z,156nm,1.3s								
KBL	**Kabul**	**46.38**	**295**	*e*P		**P**	**03

AS31 ePcP **PcP** **03 46 57.9 -1.1**
AS31 eScP **ScP** **03 50 52.6 -1.5**
ASAR Alice Springs 49.16 165 P **P** **03 45 34.5 -1.1**
comp=Z,31nm,1.0s,baz=343,slow=6.3,SNR=86
ASAR PcP **PcP** **03 46 57.9 -1.1**
comp=Z,9.1nm,0.9s,baz=342,slow=3.8,SNR=6.0
ASAR ScP **ScP** **03 50 52.6 -1.6**
comp=Z,1.6nm,0.9s,baz=352,slow=5.6,SNR=4.6
AS01 Alice Springs 49.17 165 eP **P** **03 45 33.8 -1.9**
NRIK Noril'sk 49.38 345 P **P** **03 45 36.1 -0.7**
comp=Z,14nm,0.8s,baz=130,slow=7.9,SNR=16
NRIK LR LR 04 10 02.7
comp=Z,2μm,18.2s,baz=146,slow=40
CTAO Charters Tower 50.27 149 eP **P** **03 45 46.6 +2.5**
comp=Z,92nm,1.2s
CTAO Charters Tower 50.27 149 eP **P** **03 45 46.6 +2.5**
CTAO pmax pmax
comp=Z,92nm,1.2s
BILL Bilibino 51.49 20 eP **P** **03 45 51.7 -1.1**
comp=Z,18nm,1.0s
BILL Bilibino 51.49 20 eP **P** **03 45 52.5 -0.2**
BILL *i* 03 46 00.0
BILL *i* 03 47 13.9
BILL *e* 03 47 56.0
BILL eS **S** **03 53 09.9 -2.6**
BILL pmax pmax
comp=Z,26nm,1.6s
BILL MLR MLR
comp=Z,3μm,17.0s
MORW Morawa 53.31 186 eP **P** **03 46 06.1 -0.6**
comp=Z,161nm,1.4s
AB31 Akbulak array 53.58 314 P **P** **03 46 07.9 -0.6**
AB31 pmax pmax
comp=Z,123nm,1.4s
ABKAR Akbulak array 53.58 314 eP **P** **03 46 08.9 +0.4**
comp=Z,153nm,1.4s
SVE Sverdlovsk 54.13 324⇑ *i* P **P** **03 46 12.6 +0.1**
SVE eS **S** **03 53 46.8 -2.1**
SVE pmax pmax
comp=Z,121nm,1.3s
SVE MLR MLR
comp=Z,3μm,13.0s
AKTO Aktyubinsk 54.90 316 P **P** **03 46 18.3 +0.1**
comp=Z,66nm,1.3s,baz=116,slow=11,SNR=26
GEYT Alibeck 55.00 300 P **P** **03 46 19.1 0.0**
comp=Z,34nm,0.7s,baz=56,slow=2.7,SNR=44
GYA0B ALIBECK ARRAY 55.00 300 eP **P** **03 46 21.1 +2.0**
comp=Z,229nm,1.4s
FORT Forrest 55.11 173 eP **P** **03 46 19.1 -0.6**
comp=Z,201nm,1.2s
ARU Arti 55.20 323 eP **P** **03 46 19.7 -0.5**
ARU comp=Z,175nm,1.4s
ARU LR LR
comp=Z,1μm,18.0s
ARU Arti 55.20 323 *d i* P **P** **03 46 19.3 -0.9**
ARU 04 48 25.1
ARU PPP PPP 04 49 33.4
ARU pmax pmax
comp=Z,799nm,11.7s
JLN Jalan Bani Buh 56.68 281 P **P** **03 46 36.0 +4.6**
SNR=13
NWAO Narrogin (SRO) 57.04 184 eP **P** **03 46 32.9 -0.7**
comp=Z,228nm,1.3s
NWAO Narrogin (SRO) 57.04 184 eP **P** **03 46 32.9 -0.7**
NWAO pmax pmax
comp=Z,228nm,1.3s
NWAO Narrogin (SRO) 57.04 184 P **P** **03 46 32.6 -0.9**
comp=Z,94nm,1.1s,baz=234,slow=7.6,SNR=17
EIDS Eidsvold 57.07 148 eP **P** **03 46 36.1 +2.2**
comp=Z,137nm,1.8s
WSAR Wadi Sarin 57.10 283 P **P** **03 46 35.9 +1.6**
SNR=6.4
BIDO Bidbid 57.48 283 P **P** **03 46 38.2 +1.2**
SNR=14
MHTO MHTO 58.29 280 P **P** **03 46 44.0 +1.3**
SNR=18
BBOO Buckleboo 58.45 166 eP **P** **03 46 42.7 -0.7**
comp=Z,148nm,1.6s
SHME Shamm 58.61 287 P **P** **03 46 47.8 +2.8**
SOHO SOHO 58.73 284 P P 03 46 51.0 +5.2
SNR=11
MSFE Esma-Masafi 58.76 286 P **P** **03 46 48.5 +2.5**
HATD Hatta, Dubai 58.91 285 *i* P **P** **03 46 47.7 +0.7**
SNR=5.8
HATD Hatta, Dubai 58.91 285 P **P** **03 46 50.2 +3.1**
SNR=5.7
DQM DQM 58.97 279 P **P** **03 46 50.2 +2.7**
SNR=7.3
ASHO Ashiyiah 59.01 285 *i* P **P** **03 46 49.0 +1.2**
SNR=12
ASHO Ashiyiah 59.01 285 P **P** **03 46 50.0 +2.3**
SNR=5.4
STKA Stephens Creek 59.06 160 eP **P** **03 46 46.6 -1.1**
comp=Z,12nm,1.2s
STKA Stephens Creek 59.06 160 eP **P** **03 46 46.7 -1.1**
STKA pmax pmax
comp=Z,12nm,1.2s
STKA Stephens Creek 59.06 160 P **P** **03 46 47.2 -0.6**
comp=Z,16nm,0.7s,baz=343,slow=7.7,SNR=29
STKA LR LR 04 13 30.2
comp=Z,699nm,21.3s,baz=333,slow=37
NAZ Nazwa, Dubai 59.29 286 *i* P **P** **03 46 50.4 +0.8**
SNR=8.0
FAQ Al Faqa, Dubai 59.41 285 P **P** **03 46 51.1 +0.6**
ALNE Al Ain 59.44 285 *i* P **P** **03 46 50.1 -0.6**
SNR=7.7
ASUD Al Ashush, Dub 59.67 285 P **P** **03 46 54.9 +2.6**
KIRV Kirov 60.30 325 P **P** **03 46 55.6 -0.4**
comp=Z,50nm,0.5s,baz=68,slow=0.1,SNR=24
ANM Nome 61.10 28 eP **P** **03 47 02.9 +1.5**
comp=Z,42nm,1.4s
ANM LR LR
comp=Z,1μm,18.0s
ANM Nome 61.10 28 eP **P** **03 47 02.9 +1.5**
ANM pmax pmax
comp=Z,42nm,1.4s
ANM MLR MLR
comp=Z,1μm,18.0s
ARMA Armidale 61.59 150 PFAKE 03 47 20.0 +15
ARMA LR LR
comp=Z,2μm,22.0s
RDOG Red Dog Mine 62.33 24 eP **P** **03 47 12.4 +2.8**
comp=Z,22nm,1.2s
RDOG LR LR
comp=Z,1μm,19.0s
MAK Makhachkala 62.46 307 eP P 03 47 05.9 -5.0
MAK eS **S** **03 55 30.5 -7.4**
MAK pmax pmax
comp=Z,67nm,0.6s
MAK MLR MLR
comp=Z,2μm,15.0s
RBK Rabkut 62.72 278 P **P** **03 47 13.4 +0.3**
SNR=5.6
DZM Mont Dzumac 63.49 133 eP **P** **03 47 17.3 -0.8**
comp=Z,159nm,1.3s
DZM Mont Dzumac 63.49 133 eLR LR 04 06 17.0
comp=Z,1μm,22.2s
DZM Mont Dzumac 63.49 133 eP **P** **03 47 19.2 +1.1**
comp=Z,82nm,1.2s
ABTO Aybut 63.59 278 P **P** **03 47 20.2 +1.3**
SNR=6.4
GROC Groznyy 63.66 308 eP **P** **03 47 16.7 -2.2**
GROC *e* 03 47 52.4
GROC eS **S** **03 55 53.7 +0.7**
GROC pmax pmax
comp=Z,148nm,1.2s
TBLG Delisi 64.68 306 P **P** **03 47 28.3 +2.6**
GNI Garni 64.98 305 P **P** **03 47 28.9 +1.0**
GNI Garni 64.98 305 eP **P** **03 47 27.6 -0.3**
comp=Z,2μm,1.5s
GNI LR LR
comp=Z,800nm,20.0s
GNI Garni 64.98 305 *i* P **P** **03 47 28.6 +0.8**
SNR=15
GNI Garni 64.98 305 *d i* P **P** **03 47 28.5 +0.6**
GNI pmax pmax
comp=Z,197nm,1.6s
GNI MLR MLR
comp=Z,2μm,16.0s
GNI Garni 64.98 305 P **P** **03 47 28.8 +0.9**
SNR=32
ZEI Tsey 65.10 308 eP **P** **03 47 28.0 -0.6**
ZEI pmax pmax
comp=Z,77nm,0.9s
VRH Novokhopyorsk 65.18 317 eP **P** **03 47 28.0 -0.7**
VRH pmax pmax
comp=Z,170nm,1.0s
NCK Nalchik 65.19 308⇑ eP **P** **03 47 30.5 +1.6**
NCK pmax pmax
comp=Z,69nm,1.3s
NCK MLR MLR
comp=Z,1μm,14.0s
KLMR Klimovskoe 65.23 328 eP **P** **03 47 24.6 -4.2**
KLMR pmax pmax
comp=Z,124nm,1.1s
KLMR Klimovskoe 65.23 328 eP **P** **03 47 24.7 -4.1**
KLMR AMP 03 47 33.5
comp=Z,124nm,1.1s
KLMR ePP **PP** **03 49 45.6 -6.4**
GOF Gofitskoye 65.30 310 eP **P** **03 47 31.3 +1.7**
GOF pmax pmax
comp=Z,200nm,1.3s
TOO Toolangi 65.54 159 eP **P** **03 47 31.0 -0.1**
comp=Z,44nm,1.1s
TOO Toolangi 65.54 159 eP **P** **03 47 31.0 -0.1**
TOO pmax pmax
comp=Z,44nm,1.1s
TMCR Tamitsa 65.60 331 eP **P** **03 47 31.1 0.0**
TMCR eS **S** **03 56 20.8 +4.7**
TMCR pmax pmax
comp=Z,115nm,1.0s
KBZ Khabaz 65.64 309 P **P** **03 47 32.4 +0.6**
comp=Z,71nm,1.2s,baz=118,slow=4.7,SNR=21
KBZ LR LR 04 17 50.2
comp=Z,844nm,20.0s,baz=96,slow=38
SVW2 Sparrevohn 65.66 32 eP **P** **03 47 32.0 +0.4**
comp=Z,112nm,2.0s
KVAR Kislovodsk Arr 65.74 309 P **P** **03 47 34.2 +1.6**
comp=Z,31nm,1.1s,baz=117,slow=21,SNR=22
KIV Kislovodsk 65.75 309 P **P** **03 47 33.9 +1.3**
KIV Kislovodsk 65.75 309 eP **P** **03 47 33.6 +1.0**
comp=Z,412nm,1.4s
KIV LR LR
comp=Z,800nm,20.0s
KIV Kislovodsk 65.75 309⇑ *i* P **P** **03 47 34.0 +1.3**
KIV Kislovodsk 65.75 309 *i* P **P** **03 47 32.5 -0.1**
SNR=32
KIV Kislovodsk 65.75 309 eP **P** **03 47 33.2 +0.5**
KIV eS **S** **03 56 20.5 +1.5**
KIV eSS **SS** **04 00 36.2 +3.2**
KIV pmax pmax
comp=Z,228nm,1.1s
KIV pmax pmax
comp=Z,178nm,3.3s
KIV MLR MLR
comp=Z,608nm,17.0s
KIV Kislovodsk 65.75 309 P **P** **03 47 33.8 +1.1**
SNR=52
NEY Neytrino 65.86 308⇓ eP **P** **03 47 35.1 +1.6**
NEY pmax pmax
comp=Z,5.0nm,0.8s
NEY MLR MLR
comp=Z,513nm,15.0s
IM3 Indian Mountai 65.96 27 eP **P** **03 47 32.6 -0.8**
VANB Van 66.33 303 P **P** **03 47 38.6 +2.0**
AGRB Hanur-Agry 66.42 304 P **P** **03 47 38.9 +1.7**
CUKT Cukurca 66.47 302 P **P** **03 47 39.6 +2.1**
VORR Voronezh 66.66 318 P **P** **03 47 37.0 -1.2**
VORR pmax pmax
comp=Z,300nm,2.0s
LPSR Galich'ya Gora 66.67 319 eP **P** **03 47 37.7 -0.5**
LPSR pmax pmax
comp=Z,150nm,1.1s
SENK Senkaya-Erzuru 66.69 305 P **P** **03 47 42.2 +3.3**
AKDM Akdamar-Van 66.71 303 P **P** **03 47 39.8 +0.8**
VSR Storozhevoye 66.76 317 *d i* P **P** **03 47 38.4 -0.5**
VSR pmax pmax
comp=Z,208nm,1.9s
VSR MLR MLR
comp=Z,1μm,18.0s
MLAZ Malazgirt-MUS 66.85 304 P **P** **03 47 41.5 +1.6**
MOS Moscow 66.90 322 eP **P** **03 47 37.7 -1.9**
MOS *e* 03 50 02.6
MOS eS **S** **03 56 30.1 -2.2**
MOS eSS **SS** **04 00 50.6 +0.5**
MOS pmax pmax
comp=Z,243nm,1.5s
MOS MLR MLR
comp=E,2μm,13.0s
MOS MLR MLR
comp=Z,2μm,13.0s
CAST Castle Rocks 66.98 29 eP **P** **03 47 39.8 -0.3**
comp=Z,94nm,1.4s
CAST LR LR
comp=Z,900nm,18.0s
PPLA Purkeypile 67.01 30 eP **P** **03 47 41.2 +0.7**
comp=Z,158nm,1.8s
PPLA LR LR
comp=Z,800nm,18.0s
BCA Borcka 67.03 307 P **P** **03 47 42.7 +1.9**
APA Apatity 67.09 335⇑ *i* P **P** **03 47 39.6 -1.0**
APA *i* 03 48 03.0
APA *i* 03 50 05.0
APA *i* S **S** **03 56 29.0 -5.2**
APA pmax pmax
comp=Z,44nm,1.0s
APA MLR MLR
comp=Z,3μm,14.0s
RSO Redoubt South 67.12 32 eP **P** **03 47 43.6 +2.3**
KOPR Koprukoy-ERZUR 67.18 305 P **P** **03 47 43.8 +1.8**
COLD Coldfoot 67.21 25 eP **P** **03 47 44.0 +2.5**
comp=Z,12nm,1.1s
COLD LR LR
comp=Z,700nm,19.0s
TOLK Toolik Lake Re 67.24 23 eP **P** **03 47 41.8 +0.1**
comp=Z,33nm,0.9s
TOLK LR LR
comp=Z,2μm,19.0s
TOLK Toolik Lake Re 67.24 23 P **P** **03 47 40.3 -1.4**
baz=278
SIRT Sirnak 67.32 302 P **P** **03 47 45.3 +2.5**
SIRT Sirnak 67.32 302 eP **P** **03 47 44.5 +1.7**
comp=Z,1μm,1.6s
MLY Manley 67.32 27 eP **P** **03 47 42.1 -0.2**
comp=Z,68nm,1.3s
MLY LR LR
comp=Z,1μm,18.0s
GURO Guroymak-BITLI 67.38 303 P **P** **03 47 44.8 +1.6**
OBN Obninsk 67.60 322 eP **P** **03 47 44.0 -0.1**
comp=Z,116nm,1.1s
OBN Obninsk 67.60 322⇑ eP **P** **03 47 43.9 -0.1**
OBN *e* 03 50 11.3
OBN eS **S** **03 56 42.2 +1.5**
OBN pmax pmax
comp=Z,193nm,1.7s
OBN MLR MLR
comp=Z,853nm,16.0s
OBN Obninsk 67.60 322 P **P** **03 47 42.2 -1.9**
comp=Z,5.3nm,0.4s,baz=122,slow=2.8,SNR=14
KDAK Kodiak Island 67.65 35 eP **P** **03 47 45.2 +0.8**
comp=Z,190nm,1.6s
KDAK Kodiak Island 67.65 35 *i* P **P** **03 47 44.1 -0.3**
VRTB Varto-Mus 67.67 304 P **P** **03 47 48.5 +3.4**
CHOM Cayeli-Rize 67.74 306 P **P** **03 47 48.0 +2.7**
TRF Thorofare Moun 67.78 29 eP **P** **03 47 46.0 +0.7**
comp=Z,91nm,1.9s
TRF LR LR
comp=Z,1μm,18.0s
SOC Sochi 67.93 309 *d i* P **P** **03 47 46.6 +0.2**
SOC *e* 03 50 14.8
SOC eS **S** **03 56 45.2 +0.1**
SOC eSS **SS** **04 01 08.5 +1.9**
SOC pmax pmax
comp=Z,114nm,1.1s
SOC MLR MLR
comp=Z,1μm,15.0s
BWN Browne 68.01 28 eP **P** **03 47 48.1 +1.6**
comp=Z,40nm,0.9s
BWN LR LR
comp=Z,900nm,19.0s
SVAN Silvan-Diyarba 68.11 303 P **P** **03 47 49.0 +1.2**
BRLK Bradley Lake 68.16 33 eP **P** **03 47 47.9 +0.3**
comp=Z,32nm,0.8s
BRLK LR LR
comp=Z,1μm,20.0s
BNGB Bingl 68.30 304 P **P** **03 47 51.8 +2.8**
MCK McKinley 68.32 29 eP **P** **03 47 48.8 +0.2**
comp=Z,54nm,1.1s
MCK LR LR
comp=Z,1μm,18.0s
MDM Murphy Dome 68.39 27 eP **P** **03 47 48.5 -0.4**
comp=Z,155nm,1.3s
RND Reindeer 68.42 29 eP **P** **03 47 47.9 -1.3**
comp=Z,77nm,0.9s
RND LR LR
comp=Z,800nm,20.0s
RND Reindeer 68.42 29 eP **P** **03 47 47.9 -1.3**
RND pmax pmax
comp=Z,77nm,0.9s
RND MLR MLR
comp=Z,800nm,20.0s
RC01 Rabbit Creek A 68.46 31 eP **P** **03 47 52.6 +3.2**
comp=Z,164nm,2.0s
RC01 LR LR
comp=Z,900nm,22.0s
KTUT Trabzon 68.50 306 P **P** **03 47 51.4 +1.4**
KTUT Trabzon 68.50 306⇑ *i* P **P** **03 47 51.0 +1.0**
WRH Wood River Hil 68.54 28 eP **P** **03 47 51.0 +1.1**
comp=Z,29nm,1.0s
TCOL CIGO, UAF Yank 68.56 27 P **P** **03 47 49.4 -0.5**
baz=281
COLA College 68.56 27 eP **P** **03 47 51.4 +1.4**
comp=Z,22nm,0.9s
COLA College 68.56 27⇓ eP **P** **03 47 50.6 +0.6**
COLA pmax pmax
comp=Z,38nm,2.7s
COLA MLR MLR
comp=Z,766nm,16.0s
RAYN Ar Rayn 68.59 287 eP **P** **03 47 51.6 +0.6**
comp=Z,153nm,1.3s
RAYN LR LR
comp=Z,1μm,20.0s
RAYN Ar Rayn 68.59 287 *i* P **P** **03 47 51.8 +0.8**
SNR=39
CCB Clear Creek Bu 68.63 28 eP **P** **03 47 50.8 +0.4**
comp=Z,16nm,1.0s
PMR Palmer 68.65 31 eP **P** **03 47 50.0 -0.6**
comp=Z,103nm,1.7s
PMR LR LR
comp=Z,1μm,19.0s
PMR Palmer 68.65 31 eP **P** **03 47 50.0 -0.6**
PMR pmax pmax
comp=Z,103nm,1.7s
PMR MLR MLR
comp=Z,1μm,19.0s
POKR Poker Flat Res 68.69 27 P **P** **03 47 50.3 -0.5**
baz=282
SEW Seward 68.80 32 eP **P** **03 47 53.2 +1.7**
SEW LR LR
comp=Z,1μm,21.0s
MAZI Mazidag 68.86 303 P **P** **03 47 54.1 +1.6**
SML Sawmill 68.98 31 eP **P** **03 47 52.2 -0.5**
comp=Z,67nm,1.1s
SML Sawmill 68.98 31 eP **P** **03 47 52.2 -0.5**
SML pmax pmax
comp=Z,67nm,1.1s
IL1 Eielson Array 68.99 27 eP **P** **03 47 52.1 -0.6**
ILAR Eielson Array 68.99 27 P **P** **03 47 51.1 -1.5**
comp=Z,2.2nm,0.6s,baz=264,slow=5.4,SNR=35
ILAR PKPPKP **P'P'df** **04 16 07.5 -2.6**
comp=Z,2.3nm,1.1s,baz=97,slow=1.8,SNR=9.2
ILAR LR LR 04 21 42.7
comp=Z,899nm,18.3s,baz=298,slow=39
ILB Eielson Array 68.99 27 eP **P** **03 47 53.1 +0.5**
comp=Z,13nm,1.0s
KNK Knik Glacier 69.00 31 eP **P** **03 47 54.0 +1.1**
comp=Z,70nm,1.2s
KNK LR LR
comp=Z,900nm,19.0s
HDA Harding Lake 69.04 28 eP **P** **03 47 52.1 -0.9**
comp=Z,53nm,1.2s
HDA Harding Lake 69.04 28 P **P** **03 47 51.9 -1.1**
baz=282
DHY Denali Highway 69.14 29 eP **P** **03 47 53.8 -0.1**
comp=Z,44nm,1.6s
MSVF Nonsavu 69.17 122 eP **P** **03 47 56.0 +1.5**
comp=Z,107nm,1.0s
MSVF Nonsavu 69.17 122⇑ eP **P** **03 47 54.3 -0.3**
MSVF pmax pmax
comp=Z,166nm,1.6s
MSVF MLR MLR
comp=Z,607nm,15.0s
ANN Anapa 69.25 311 eP **P** **03 47 54.2 -0.4**
ANN eS **S** **03 57 02.6 +1.9**
ANN pmax pmax
comp=Z,402nm,1.8s
ANN MLR MLR
comp=Z,2μm,21.0s
FYU Fort Yukon 69.26 25 eP **P** **03 47 55.6 +1.3**
comp=Z,79nm,1.4s
PRP Porcupine Dome 69.38 26 eP **P** **03 47 55.8 +0.5**
comp=Z,52nm,1.4s
SCM Sheep Creek Mo 69.44 30 eP **P** **03 47 55.8 +0.2**
comp=Z,125nm,1.3s
SCM LR LR
comp=Z,900nm,19.0s
SCM Sheep Creek Mo 69.44 30 eP **P** **03 47 55.8 +0.2**
SCM pmax pmax
comp=Z,125nm,1.3s
SCM MLR MLR
comp=Z,900nm,19.0s
SPA0 Spitsbergen Ar 69.44 348 eP **P** **03 47 54.6 -0.7**
comp=Z,30nm,1.0s
SPA0 Spitsbergen Ar 69.44 348 eP **P** **03 47 55.1 -0.2**
SPITS Spitsbergen Ar 69.44 348 P **P** **03 47 54.6 -0.7**
comp=Z,5.7nm,0.5s,baz=270,slow=12,SNR=37
ARA0 ARCESS Array S 69.55 338 eP **P** **03 47 56.2 +0.1**
ARCES ARCESS Array B 69.55 338 eP **P** **03 47 56.3 +0.2**
ARCES ARCESS Array B 69.55 338 P **P** **03 47 56.2 +0.1**
comp=Z,13nm,0.8s,baz=71,slow=7.9,SNR=17
ARCES LR LR 04 23 18.5
comp=Z,857nm,19.0s,baz=74,slow=40
ARE0 ARCESS Array S 69.55 338 eP **P** **03 47 55.9 -0.2**
PUL Pulkovo 69.93 327⇑ eP **P** **03 47 58.8 +0.3**
PUL pmax pmax
comp=Z,265nm,1.3s
PUL MLR MLR
comp=Z,1μm,15.0s
KBS Kingsbay 69.99 349 PFAKE 03 48 10.0 +11
KBS LR LR
comp=Z,4μm,18.0s
PAX Paxson 70.01 29 eP **P** **03 47 59.6 +0.4**
comp=Z,46nm,1.2s
PAX LR LR
comp=Z,1μm,22.0s
PAX Paxson 70.01 29 eP **P** **03 47 59.6 +0.4**
PAX pmax pmax
comp=Z,46nm,1.2s
PAX MLR MLR
comp=Z,1μm,22.0s
HSPB Hornsund (broa 70.03 347 eP **P** **03 47 58.7 -0.2**
HSPB Hornsund (broa 70.03 347 eP **P** **03 47 58.9 +0.1**
RIDG Independ'e Rid 70.09 28 eP **P** **03 47 59.3 -0.3**
comp=Z,69nm,1.2s
URFA Urfa 70.11 303 P **P** **03 48 00.8 +0.6**
KLU Klutina 70.17 31 eP **P** **03 48 01.6 +1.4**
comp=Z,22nm,0.8s
KLU LR LR
comp=Z,900nm,19.0s
HARP HAARP 70.29 30 eP **P** **03 48 03.0 +2.3**
comp=Z,84nm,1.4s
DIV Divide 70.33 31 eP **P** **03 48 02.6 +1.5**
comp=Z,101nm,1.3s
DIV LR LR
comp=Z,800nm,18.0s
SCRK Sand Creek 70.40 28 eP **P** **03 48 01.2 -0.4**
comp=Z,41nm,1.0s
RSDY Resadiye-TOKAT 70.44 306 P **P** **03 48 03.2 +1.1**
DOT Dot Lake 70.45 28 eP **P** **03 48 01.3 -0.4**
comp=Z,42nm,1.1s
DOT LR LR
comp=Z,800nm,20.0s
KTK1 Kautokeino 70.47 338 eP **P** **03 48 01.8 +0.1**
EYAK Cordova Ski Ar 70.49 32 eP **P** **03 48 03.6 +1.6**
comp=Z,89nm,1.2s
EYAK LR LR
comp=Z,2μm,22.0s
MENT Mentasta 70.79 29 eP **P** **03 48 03.9 0.0**
comp=Z,42nm,1.0s
SVSK Karacayir 70.81 306 P **P** **03 48 05.6 +1.3**
DARE Darende-Malaty 70.82 304 P **P** **03 48 06.1 +1.5**
TOKT Tokat 71.04 306 P **P** **03 48 06.9 +1.1**
KVT Kavak 71.19 307 P **P** **03 48 08.1 +1.4**
HMT Hamilton 71.26 32 eP **P** **03 48 08.6 +1.9**
comp=Z,50nm,1.1s
HMT LR LR
comp=Z,1μm,22.0s
EGAK Eagle 71.36 27 eP **P** **03 48 07.1 -0.1**
comp=Z,41nm,0.9s
GAZ Gaziantep 71.42 303 P **P** **03 48 09.3 +1.1**

SIM	**Simferopol'**	**71.49**	**312**	*ce*	P	**P**	**03 48 09.5**	**+1.2**
SIM				*e*			03 48 28.6	
SIM				*eS*		**S**	**03 57 32.4**	**+5.5**
SIM				pmax	pmax			
	comp=Z,106nm,1.0s							
FIA1	**FINESS Array S**	**71.50**	**330**	*e*	P	**P**	**03 48 07.5**	**-0.6**
FIA0	**FINESS Array S**	**71.50**	**330**	*e*	P	**P**	**03 48 07.8**	**-0.3**
FIA0	**FINESS Array S**	**71.50**	**330**	*e*	P	**P**	**03 48 07.8**	**-0.3**
FINES	**FINESS Array B**	**71.50**	**330**		P	**P**	**03 48 07.8**	**-0.3**
	comp=Z,60nm,0.8s,baz=68,slow=5.6,SNR=121							
FINES					LR	LR	04 21 37.5	
	comp=Z,904nm,18.1s,baz=77,slow=38							
KMRS	**Kahramanmaras**	**71.56**	**303**		P	**P**	**03 48 10.3**	**+1.3**
BALM	**Baldy**	**71.96**	**31**	*e*	P	**P**	**03 48 12.3**	**+1.3**
	comp=Z,52nm,1.4s							
BALM					LR	LR		
	comp=Z,1µm,22.0s							
BALM	**Baldy**	**71.96**	**31**	*e*	P	**P**	**03 48 12.3**	**+1.3**
BALM					pmax	pmax		
	comp=Z,52nm,1.4s							
BALM					MLR	MLR		
	comp=Z,1µm,22.0s							
BNN	**Bunyan**	**71.97**	**305**		P	**P**	**03 48 12.4**	**+0.8**
VSU	**Vasula**	**72.06**	**327**	⇑*e*	P	**P**	**03 48 10.7**	**-0.7**
VSU					pmax	pmax		
	comp=Z,534nm,1.3s							
VSU					MLR	MLR		
	comp=Z,3µm,16.0s							
VSU	**Vasula**	**72.06**	**327**	*e*	P	**P**	**03 48 10.7**	**-0.7**
VSU					IAmb	IAmb	03 48 16.7	
	comp=Z,388nm,1.0s							
YOZ	**Yozgat**	**72.13**	**306**		P	**P**	**03 48 12.9**	**+0.4**
DAWY	**Dawson**	**72.31**	**27**	*e*	P	**P**	**03 48 12.2**	**-0.8**
	comp=Z,81nm,1.0s							
DAWY					LR	LR		
	comp=Z,1µm,18.0s							
KOZT	**Kozan**	**72.39**	**304**		P	**P**	**03 48 14.4**	**+0.5**
BZK	**Bozkurt**	**72.41**	**309**		P	**P**	**03 48 15.9**	**+2.0**
DAMY	**Dhamar**	**72.58**	**278**	*e*	P	**P**	**03 48 17.5**	**+1.8**
	comp=Z,116nm,1.2s							
DAMY					LR	LR		
	comp=Z,800nm,21.0s							
EPYK	**Eagle Plains**	**72.59**	**24**	*e*	P	**P**	**03 48 14.6**	**0.0**
	comp=Z,64nm,1.1s							
EPYK	**Eagle Plains**	**72.59**	**24**		P	**P**	**03 48 13.2**	**-1.4**
	baz=291							
CEYT	**Ceyhan**	**72.59**	**303**		P	**P**	**03 48 17.2**	**+2.1**
MICGM	**Minsk**	**72.62**	**322**	*e*	P	**P**	**03 48 15.0**	**+0.1**
MNK	**Minsk**	**72.62**	**322**	*e*	P	**P**	**03 48 15.0**	**+0.1**
ILGA	**Ilgaz**	**72.89**	**308**	*e*	P	**P**	**03 48 18.7**	**+1.6**
	comp=Z,149nm,1.4s							
ILGA					LR	LR		
	comp=Z,600nm,18.0s							
AKASG	**Malin Array Be**	**72.99**	**318**		P	**P**	**03 48 16.2**	**-0.9**
	comp=Z,76nm,1.1s,baz=60,slow=6.1,SNR=53							
AKBB	**Malin Array Si**	**72.99**	**318**	*e*	P	**P**	**03 48 16.8**	**-0.4**
	comp=Z,80nm,1.0s							
KIEV	**Kiev**	**73.00**	**318**	*e*	P	**P**	**03 48 16.1**	**-1.1**
	comp=Z,71nm,1.0s							
KIEV	**Kiev**	**73.00**	**318**	⇑*i*	P	**P**	**03 48 16.9**	**-0.3**
KIEV	**Kiev**	**73.00**	**318**	*i*	P	**P**	**03 48 15.8**	**-1.5**
	SNR=30							
KIEV	**Kiev**	**73.00**	**318**	*d i*	P	**P**	**03 48 16.1**	**-1.1**
KIEV					MLR	MLR		
	comp=Z,796nm,16.0s							
IDID	**Didziasalis**	**73.00**	**323**	*e*	P	**P**	**03 48 17.3**	**+0.1**
IDID					IAmb	IAmb	03 48 22.7	
	comp=Z,72nm,1.0s							
INK	**Inuvik**	**73.02**	**22**	*e*	P	**P**	**03 48 17.0**	**0.0**
	comp=Z,70nm,1.1s							
INK					LR	LR		
	comp=Z,1µm,20.0s							
INK	**Inuvik**	**73.02**	**22**	*e*	P	**P**	**03 48 17.0**	**0.0**
INK					pmax	pmax		
	comp=Z,70nm,1.1s							
INK					MLR	MLR		
	comp=Z,1µm,20.0s							
INK	**Inuvik**	**73.02**	**22**		P	**P**	**03 48 17.1**	**+0.1**
	comp=Z,28nm,1.0s,baz=312,slow=5.6,SNR=33							
AK11	**Malin Array Si**	**73.03**	**318**	*e*	P	**P**	**03 48 16.4**	**-1.0**
KARA	**Karaisali**	**73.04**	**304**		P	**P**	**03 48 18.7**	**+0.9**
NACGM	**Naroch**	**73.11**	**323**	*e*		**P**	**03 48 17.0**	**-0.8**
NACGM				*e*	LQ	LQ	04 18 46.0	
NACGM				*e*	LR	LR	04 21 20.0	
IZAR	**Zarasai**	**73.14**	**324**	*e*	P	**P**	**03 48 18.0**	**0.0**
IZAR					IAmb	IAmb	03 48 23.4	
	comp=Z,53nm,0.9s							
ASF	**Jabal al Asfar**	**73.17**	**298**		P	**P**	**03 48 20.4**	**+1.6**
IIGN	**Ignalina**	**73.28**	**324**	*e*	P	**P**	**03 48 18.3**	**-0.5**
IIGN					IAmb	IAmb	03 48 24.3	
	comp=Z,44nm,0.9s							
BR101	**Keskin Array S**	**73.34**	**306**	*e*	P	**P**	**03 48 19.6**	**-0.1**
KURC	**Kurucasile-Bar**	**73.34**	**309**		P	**P**	**03 48 19.4**	**-0.1**
BR131	**Keskin Array S**	**73.35**	**306**	*e*	P	**P**	**03 48 19.8**	**+0.1**
	comp=Z,164nm,1.3s							
BR131	**Keskin Array S**	**73.35**	**306**		P	**P**	**03 48 19.7**	**-0.1**
	SNR=53							
BRTR	**Keskin Array B**	**73.35**	**306**		P	**P**	**03 48 19.6**	**-0.1**
	comp=Z,96nm,1.2s,baz=110,slow=3.4,SNR=99							
BRTR					LR	LR	04 23 19.2	
	comp=Z,439nm,21.4s,baz=92,slow=38							
YAYX	**Yaylak**	**73.46**	**306**		P	**P**	**03 48 20.9**	**+0.5**
MERS	**Mersin**	**73.57**	**303**		P	**P**	**03 48 21.2**	**+0.2**
STEI	**Steigen**	**73.61**	**338**	*e*	P	**P**	**03 48 20.6**	**+0.1**
SERE	**Sereflikochisa**	**73.64**	**306**		P	**P**	**03 48 21.9**	**+0.5**
KSDI	**Kefar Szold**	**73.84**	**299**		P	**P**	**03 48 22.7**	**+0.2**
AFSR	**Afar-Bala (An**	**73.85**	**306**		P	**P**	**03 48 22.7**	**+0.1**
SHMJ	**Saham**	**73.91**	**299**		P	**P**	**03 48 24.9**	**+1.9**
SULT	**Sultanhani-AKS**	**73.91**	**305**		P	**P**	**03 48 23.5**	**+0.5**
ANTO	**Ankara**	**73.92**	**307**		P	**P**	**03 48 23.6**	**+0.6**
ANTO	**Ankara**	**73.92**	**307**	*e*	P	**P**	**03 48 23.6**	**+0.6**
	comp=Z,159nm,1.1s							
ANTO					LR	LR		
	comp=Z,500nm,20.0s							
ANTO	**Ankara**	**73.92**	**307**	⇓*i*	P	**P**	**03 48 23.2**	**+0.2**
ANTO	**Ankara**	**73.92**	**307**	*e*	P	**P**	**03 48 23.6**	**+0.6**
ANTO					pmax	pmax		
	comp=Z,159nm,1.1s							
ANTO					MLR	MLR		
	comp=Z,500nm,20.0s							
ANTO	**Ankara**	**73.92**	**307**		P	**P**	**03 48 23.7**	**+0.6**
	SNR=34							
LOD	**Lodumlu**	**73.94**	**307**		P	**P**	**03 48 23.7**	**+0.6**
BR231	**Keskin MP Arra**	**73.94**	**307**	*e*	P	**P**	**03 48 23.9**	**+0.7**
	comp=Z,146nm,1.1s							
KIZK	**Mersin**	**73.98**	**303**		P	**P**	**03 48 23.1**	**-0.2**
KULU	**Kulu**	**74.03**	**306**		P	**P**	**03 48 24.8**	**+1.1**
CHBY	**Cihanbeyli**	**74.26**	**306**		P	**P**	**03 48 25.4**	**+0.4**
HYT	**Haines Junctio**	**74.26**	**30**	*e*	P	**P**	**03 48 25.9**	**+1.3**
	comp=Z,57nm,1.0s							
HYT					LR	LR		
	comp=Z,900nm,20.0s							
EREN	**Erenkoy**	**74.26**	**302**		P	**P**	**03 48 25.4**	**+0.4**
MMLI	**Mount Malkishu**	**74.27**	**299**		P	**P**	**03 48 26.5**	**+1.4**
MMLI	**Mount Malkishu**	**74.27**	**299**		P	**P**	**03 48 26.8**	**+1.7**
KEBE	**Keben-Mersin**	**74.32**	**303**		P	**P**	**03 48 26.0**	**+0.6**
KIS	**Kishinev**	**74.40**	**315**	*e*	P		03 48 19.0	-6.5
	comp=Z,200nm,2.0s							
KIS	**Kishinev**	**74.40**	**315**	*e*	PcP	**PcP**	**03 48 34.0**	**-6.2**
KIS				*eS*		**SKiKP**	**03 57 47.0**	**-5.3**
KIS	**Kishinev**	**74.40**	**315**	*e*	P		03 48 19.0	-6.5
KIS				*i*			03 48 31.0	
KIS				*e*			03 48 40.0	
KIS				*eS*		**SKiKP**	**03 57 47.0**	**-5.3**
KIS				pmax	pmax			
	comp=Z,210nm,2.0s							
KIS					MLR	MLR		
	comp=Z,2µm,16.0s							
KIS					MLR	MLR		
	comp=N,1µm,19.0s							
IKL	**Isikli**	**74.41**	**303**		P	**P**	**03 48 25.8**	**0.0**
GHAJ	**Ghor Haditha**	**74.53**	**298**		P	**P**	**03 48 28.1**	**+1.6**
	comp=N,101nm,1.3s							
TEVE	**Tevekalti-Mers**	**74.53**	**303**		P	**P**	**03 48 26.7**	**+0.1**
AKKU	**Akkuyu-Mersin**	**74.53**	**303**		P	**P**	**03 48 26.5**	**0.0**
MOR8	**Moi Rana**	**74.63**	**336**	*e*	P	**P**	**03 48 24.6**	**-2.0**
BERE	**Bereket-Mersin**	**74.72**	**303**		P	**P**	**03 48 28.1**	**+0.3**
LADK	**Ladik-KONYA**	**74.77**	**305**		P	**P**	**03 48 28.1**	**+0.1**
HSNJ	**Maan**	**74.77**	**297**		P	**P**	**03 48 29.8**	**+1.6**
LFK	**Lefkose**	**74.83**	**302**		P	**P**	**03 48 29.3**	**+0.9**
KONT	**Konya--Tatoy**	**74.86**	**305**		P	**P**	**03 48 28.9**	**+0.5**
TEKE	**Tekeli-Mersin**	**74.87**	**303**		P	**P**	**03 48 28.9**	**+0.4**
MDUB	**Mudurnu**	**74.89**	**308**		P	**P**	**03 48 29.0**	**+0.3**
LEOM	**Leova**	**74.94**	**314**	⇑*i*	P	**P**	**03 48 28.9**	**+0.2**
AMAZ	**Amatzia**	**74.97**	**298**		P	**P**	**03 48 31.0**	**+1.8**
SVRH	**Sivrihisar-ESK**	**74.98**	**307**		P	**P**	**03 48 29.5**	**+0.3**
TLCR		**74.99**	**313**	⇑*i*	P	**P**	**03 48 29.3**	**+0.3**
CSS	**Mathiatis**	**75.09**	**302**		P	**P**	**03 48 30.2**	**+0.3**
CSS	**Mathiatis**	**75.09**	**302**	*e*	P	**P**	**03 48 30.1**	**+0.2**
	comp=N,107nm,0.9s							
CSS					LR	LR		
	comp=Z,700nm,20.0s							
CSS	**Mathiatis**	**75.09**	**302**		P	**P**	**03 48 30.7**	**+0.8**
CSS	**Mathiatis**	**75.09**	**302**		P	**P**	**03 48 29.7**	**-0.2**
CSS	**Mathiatis**	**75.09**	**302**		P	**P**	**03 48 30.0**	**+0.2**
	comp=Z,26nm,0.7s							
ATD	**Arta Tunnel**	**75.10**	**276**	*e*	P	**P**	**03 48 31.9**	**+1.7**
	comp=Z,76nm,1.3s							
ATD					LR	LR		
	comp=Z,500nm,22.0s							
MAMC	**Mammari**	**75.11**	**302**		P	**P**	**03 48 30.5**	**+0.6**
IAS	**Iasi**	**75.14**	**315**	⇓*i*	P	**P**	**03 48 30.4**	**+0.5**
PBUR	**Paburg**	**75.33**	**325**	*e*	P	**P**	**03 48 30.3**	**-0.4**
PBUR					IAmb	IAmb	03 48 36.0	
	comp=Z,283nm,1.1s							
HRFI	**Mount Harif**	**75.38**	**297**		P	**P**	**03 48 32.5**	**+0.9**
HRFI	**Mount Harif**	**75.38**	**297**		P	**P**	**03 48 32.2**	**+0.6**
LEF	**Lefka**	**75.38**	**302**		P	**P**	**03 48 32.5**	**+1.0**
LEF	**Lefka**	**75.38**	**302**	⇓*i*	P	**P**	**03 48 31.4**	**-0.1**
SUW	**Suwalki**	**75.39**	**323**	*e*	P	**P**	**03 48 30.9**	**-0.2**
SUW	**Suwalki**	**75.39**	**323**	*e*	P	**P**	**03 48 31.0**	**-0.2**
	comp=Z,489nm,1.0s							
SUW	**Suwalki**	**75.39**	**323**	*e*	P	**P**	**03 48 30.9**	**-0.2**
GULT	**Gulveren**	**75.39**	**308**		P	**P**	**03 48 31.8**	**+0.3**
SAUV	**Serdivan-Sakar**	**75.42**	**308**		P	**P**	**03 48 31.9**	**+0.3**
CFR	**Carcaliu**	**75.45**	**313**	⇑*i*	P	**P**	**03 48 31.7**	**+0.1**
AQBJ	**Aqaba**	**75.47**	**296**		P	**P**	**03 48 33.7**	**+1.6**
TIRR	**Tirgusor**	**75.51**	**312**	*e*	P	**P**	**03 48 32.5**	**+0.5**
	comp=Z,39nm,0.9s							
TIRR	**Tirgusor**	**75.51**	**312**	⇑*i*	P	**P**	**03 48 33.1**	**+1.1**
TIRR	**Tirgusor**	**75.51**	**312**	*e*	P	**P**	**03 48 32.5**	**+0.5**
TIRR					pmax	pmax		
	comp=Z,39nm,0.9s							
SZAC	**Souni**	**75.51**	**302**		P	**P**	**03 48 32.7**	**+0.4**
WHY	**Whitehorse**	**75.51**	**30**	*e*	P	**P**	**03 48 32.7**	**+0.8**
	comp=Z,90nm,1.4s							
WHY					LR	LR		
	comp=Z,900nm,21.0s							
EIL	**Elat**	**75.57**	**296**		P	**P**	**03 48 32.7**	**0.0**
EIL	**Elat**	**75.57**	**296**		P	**P**	**03 48 33.6**	**+0.9**
	comp=Z,62nm,1.3s							
MFTR	**Murfatlar**	**75.59**	**312**	⇑*i*	P	**P**	**03 48 32.9**	**+0.4**
KZIT	**Kziot**	**75.60**	**298**		P	**P**	**03 48 32.5**	**-0.3**
KZIT	**Kziot**	**75.60**	**298**		P	**P**	**03 48 34.0**	**+1.2**
TLB	**Topalu**	**75.71**	**313**	⇑*i*	P	**P**	**03 48 34.7**	**+1.5**
HARR	**Harsova**	**75.75**	**313**	⇓*i*	P	**P**	**03 48 34.2**	**+0.8**
SILT	**Sile**	**75.77**	**309**		P	**P**	**03 48 35.3**	**+1.7**
SILT	**Sile**	**75.77**	**309**	⇑*i*	P	**P**	**03 48 34.2**	**+0.6**
SKAG	**Skagway**	**75.79**	**31**	*e*	P	**P**	**03 48 33.5**	**+0.2**
	comp=Z,58nm,0.9s							
PPCY	**Paphos**	**75.88**	**302**		P	**P**	**03 48 34.9**	**+0.6**
PRAR	**RASCA**	**75.94**	**316**	⇓*i*	P	**P**	**03 48 35.3**	**+0.8**
CAVI	**Cavuskoy**	**75.95**	**308**		P	**P**	**03 48 35.9**	**+1.2**
ODBI	**Odobesti**	**75.96**	**314**	⇓*i*	P	**P**	**03 48 36.3**	**+1.7**
TESR	**Tescani**	**75.97**	**315**	⇓*i*	P	**P**	**03 48 35.1**	**+0.5**
SHUT	**Suhut-Afyon**	**76.00**	**306**		P	**P**	**03 48 35.4**	**+0.3**
ICOR	**Ion Corvin**	**76.04**	**312**	⇑*i*	P	**P**	**03 48 35.9**	**+0.9**
VRI	**Vrincioaia**	**76.14**	**314**		P	**P**	**03 48 37.0**	**+1.4**
VRI	**Vrincioaia**	**76.14**	**314**	⇓*i*	P	**P**	**03 48 36.8**	**+1.2**
KLYT	**Kilyos**	**76.17**	**309**		P	**P**	**03 48 35.8**	**0.0**
KLYT	**Kilyos**	**76.17**	**309**	⇓*i*	P	**P**	**03 48 36.5**	**+0.7**
YLV	**Yalova**	**76.17**	**308**		P	**P**	**03 48 36.4**	**+0.5**
YLV	**Yalova**	**76.17**	**308**	⇑*i*	P	**P**	**03 48 36.0**	**+0.1**
BIZ	**Bicaz**	**76.17**	**315**	⇑*i*	P	**P**	**03 48 37.0**	**+1.2**
PLOR	**Plostina**	**76.20**	**314**	⇓*i*	P	**P**	**03 48 37.8**	**+1.8**
ISK	**Istanbul-Kandi**	**76.22**	**309**		P	**P**	**03 48 35.9**	**-0.2**
ISK	**Istanbul-Kandi**	**76.22**	**309**		P	**P**	**03 48 36.1**	**0.0**
ISK	**Istanbul-Kandi**	**76.22**	**309**		P	**P**	**03 48 36.1**	**0.0**
ISK	**Istanbul-Kandi**	**76.22**	**309**		P	**P**	**03 48 36.1**	**0.0**
KAVV	**Kandilli-Istan**	**76.22**	**309**		P	**P**	**03 48 35.4**	**-0.7**
BUY	**Buyukada**	**76.25**	**309**		P	**P**	**03 48 37.7**	**+1.4**
ISP	**Isparta**	**76.27**	**305**		P	**P**	**03 48 37.1**	**+0.5**
ISP	**Isparta**	**76.27**	**305**	*eP*		**P**	**03 48 36.9**	**+0.3**
	comp=Z,148nm,1.1s							
ISP					LR	LR		
	comp=Z,500nm,22.0s							
ISP	**Isparta**	**76.27**	**305**	⇓*i*	P	**P**	**03 48 36.5**	**-0.1**
ISP	**Isparta**	**76.27**	**305**		P	**P**	**03 48 36.0**	**-0.6**
ISP	**Isparta**	**76.27**	**305**	*eP*		**P**	**03 48 36.9**	**+0.3**
ISP					pmax	pmax		
	comp=Z,148nm,1.1s							
ISP					MLR	MLR		
	comp=Z,500nm,22.0s							
DAG	**Danmarks Havn**	**76.31**	**351**	*i*	P	**P**	**03 48 34.9**	**-1.1**
	comp=Z,3.3nm,0.8s							
DAG	**Danmarks Havn**	**76.31**	**351**	*i*	P	**P**	**03 48 34.9**	**-1.1**
DAG					pmax	pmax		
	comp=Z,3.0nm,0.8s							
BESE	**Bessie Mountai**	**76.37**	**32**	*e*	P	**P**	**03 48 38.5**	**+1.7**
	comp=Z,77nm,1.2s							
LVV	**L'vov**	**76.42**	**319**	*e*	P	**P**	**03 48 37.5**	**+0.4**
MRIV	**Mauritius Mete**	**76.45**	**240**	*e*	P	**P**	**03 48 38.6**	**+0.9**
	comp=Z,152nm,1.8s							
MRIV					LR	LR		
	comp=Z,400nm,21.0s							
TVSB	**Tavsanli**	**76.49**	**307**		P	**P**	**03 48 37.5**	**-0.3**
BUR08	**Bucovina Ar. S**	**76.49**	**316**	*e*	P	**P**	**03 48 38.0**	**+0.3**
	comp=Z,59nm,1.1s							
BURAR	**Bucovina Array**	**76.49**	**316**	⇓*i*	P	**P**	**03 48 38.5**	**+0.8**
ISR	**Istrita**	**76.53**	**314**	⇑*i*	P	**P**	**03 48 40.1**	**+2.2**
ARMT	**Armutlu**	**76.53**	**309**		P	**P**	**03 48 39.1**	**+1.1**
CTKS	**Kestanelik-??a**	**76.55**	**309**		P	**P**	**03 48 39.3**	**+1.3**
LEHL	**Lehliu**	**76.57**	**313**	⇓*i*	P	**P**	**03 48 39.9**	**+1.8**
MDNY	**Mudanya-Bursa**	**76.58**	**308**		P	**P**	**03 48 38.3**	**+0.1**
CTYL	**Yalikoy Yolu**	**76.62**	**310**		P	**P**	**03 48 38.5**	**+0.1**
CTYL	**Yalikoy Yolu**	**76.62**	**310**	⇓*i*	P	**P**	**03 48 38.5**	**+0.1**
PRD	**Provadia**	**76.63**	**311**	*eP*		**P**	**03 48 39.7**	**+1.3**
OZUR		**76.67**	**315**	⇓*i*	P	**P**	**03 48 39.8**	**+1.1**
KORT	**Korkueli**	**76.68**	**305**		P	**P**	**03 48 39.7**	**+0.7**
JIS	**Juneau Island**	**76.72**	**32**	*eP*		**P**	**03 48 40.6**	**+2.0**
	comp=Z,75nm,1.3s							
SIT	**Sitka**	**76.76**	**33**	*eP*		**P**	**03 48 41.3**	**+2.4**
	comp=Z,73nm,1.2s							
KLNR	**Kaliningrad**	**76.78**	**324**	*de*	P	**P**	**03 48 39.0**	**0.0**
KLNR					pmax	pmax		
	comp=Z,178nm,1.2s							
KLNR					MLR	MLR		
	comp=Z,2µm,14.0s							
MLR	**Muntele Rosu**	**76.79**	**314**	⇓*i*	P	**P**	**03 48 40.5**	**+1.0**
MLR	**Muntele Rosu**	**76.79**	**314**		P	**P**	**03 48 39.1**	**-0.3**
	comp=Z,61nm,0.9s,baz=46,slow=1.4,SNR=45							
SECR		**76.87**	**314**	⇑*i*	P	**P**	**03 48 41.7**	**+1.9**
SULR		**76.88**	**313**	⇑*i*	P	**P**	**03 48 40.8**	**+1.0**
DOPR	**Dopca**	**76.98**	**315**	⇑*i*	P	**P**	**03 48 41.4**	**+1.0**
KCTX	**Karacabey (Bur**	**77.00**	**308**		P	**P**	**03 48 42.1**	**+1.5**
ELL	**Elmali**	**77.10**	**305**		P	**P**	**03 48 41.3**	**-0.1**
PHSR	**Pinarhisar**	**77.10**	**310**	⇑*i*	P	**P**	**03 48 41.6**	**+0.5**
CRLT	**Corlu**	**77.13**	**309**		P	**P**	**03 48 42.6**	**+1.3**
ARCR	**ARCALIA**	**77.23**	**316**	⇑*i*	P	**P**	**03 48 43.9**	**+2.1**
KWP	**Kalwaria Pacla**	**77.29**	**319**	*e*	P	**P**	**03 48 42.7**	**+0.7**
KWP	**Kalwaria Pacla**	**77.29**	**319**	*e*	P	**P**	**03 48 42.3**	**+0.3**
	comp=Z,1µm,0.9s							
KWP	**Kalwaria Pacla**	**77.29**	**319**	*e*	P	**P**	**03 48 42.3**	**+0.3**
KWP					pmax	pmax		
	comp=Z,1µm,0.9s							
EDC	**Edincik**	**77.32**	**309**		P	**P**	**03 48 44.0**	**+1.6**
VOIR		**77.39**	**314**	⇓*i*	P	**P**	**03 48 43.3**	**+0.5**
KULA	**Kula-Manisa**	**77.40**	**307**		P	**P**	**03 48 42.9**	**-0.1**
KULA	**Kula-Manisa**	**77.40**	**307**		P	**P**	**03 48 42.1**	**-0.9**
KULA	**Kula-Manisa**	**77.40**	**307**		P	**P**	**03 48 42.1**	**-0.9**
JMB	**Yambol**	**77.45**	**311**	*eP*		**P**	**03 48 43.6**	**+0.5**
MANT	**Manisa**	**77.48**	**307**	*eP*		**P**	**03 48 43.9**	**+0.2**
	comp=Z,314nm,1.2s							
AKAS	**Kas**	**77.51**	**304**		P	**P**	**03 48 41.2**	**-2.5**
BMR	**Baia Mare**	**77.55**	**317**	⇑*i*	P	**P**	**03 48 45.2**	**+1.7**
BEL	**Belsk**	**77.56**	**321**	*eP*		**P**	**03 48 44.2**	**+0.8**
BEL	**Belsk**	**77.56**	**321**	*eP*		**P**	**03 48 44.2**	**+0.8**
BALB	**Balikesir**	**77.56**	**308**		P	**P**	**03 48 42.8**	**-0.9**
EDRB	**Edirne**	**77.57**	**310**		P	**P**	**03 48 43.5**	**-0.2**
EDRB	**Edirne**	**77.57**	**310**		P	**P**	**03 48 43.7**	**0.0**
EDRB	**Edirne**	**77.57**	**310**		P	**P**	**03 48 43.7**	**0.0**
SZH	**Strazhica**	**77.61**	**312**	*eP*		P	03 48 53.7	+10
HFS	**Hagfors**	**77.62**	**331**		P	**P**	**03 48 43.5**	**-0.2**
	comp=Z,35nm,0.8s,baz=76,slow=6.6,SNR=20							
RKY	**Sarkoy-Tekirda**	**77.69**	**309**		P	**P**	**03 48 45.1**	**+0.6**
ARR	**Arges**	**77.69**	**314**	⇓*i*	P	**P**	**03 48 46.0**	**+1.5**
KRBG	**Karabiga-Canak**	**77.71**	**309**		P	**P**	**03 48 43.9**	**-0.6**
FETY	**Fethiye**	**77.76**	**305**		P	**P**	**03 48 44.4**	**-0.5**
FETY	**Fethiye**	**77.76**	**305**		P	**P**	**03 48 43.9**	**-1.0**
FETY	**Fethiye**	**77.76**	**305**		P	**P**	**03 48 43.9**	**-1.0**
HUMR	**Humele**	**77.78**	**313**	⇓*i*	P	**P**	**03 48 45.2**	**+0.3**
ZIMR		**77.84**	**312**	⇓*i*	P	**P**	**03 48 46.1**	**+0.9**
CJR	**Cluj-Napoca**	**77.85**	**316**	⇓*i*	P	**P**	**03 48 46.8**	**+1.5**
UZH	**Uzhgorod**	**77.93**	**318**	*e*	P	**P**	**03 48 46.0**	**+0.4**
UZH				*eS*		**S**	**03 58 35.0**	**-3.7**
UZH					MLR	MLR		
	comp=Z,200nm,13.0s							
TRPA	**Tarpa**	**77.97**	**317**	⇑*i*	P	**P**	**03 48 46.4**	**+0.6**
TRPA	**Tarpa**	**77.97**	**317**	⇓*e*	P	**P**	**03 48 45.1**	**-0.7**
DALY	**Dalyan (Mula)**	**78.02**	**305**		P	**P**	**03 48 46.0**	**-0.3**
NC405	**NORSAR Array S**	**78.02**	**332**	*e*	P	**P**	**03 48 45.9**	**0.0**
	comp=Z,85nm,0.8s							
TURN	**Turunc**	**78.03**	**305**		P	**P**	**03 48 48.0**	**+1.6**
LPK	**Lapseki**	**78.10**	**309**		P	**P**	**03 48 47.4**	**+0.7**
NC303	**NORSAR Array S**	**78.11**	**332**	*e*	P	**P**	**03 48 46.4**	**-0.1**
	comp=Z,54nm,1.0s							
ERIK	**Erikli-Kesan**	**78.16**	**309**		P	**P**	**03 48 46.8**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**78.17**	**306**		P	**P**	**03 48 47.8**	**+0.5**
YER	**Yerkesik**	**78.18**	**305**		P	**P**	**03 48 46.4**	**-0.9**
YER	**Yerkesik**	**78.18**	**305**		P	**P**	**03 48 44.6**	**-2.7**
YER	**Yerkesik**	**78.18**	**305**		P	**P**	**03 48 44.6**	**-2.7**
YER	**Yerkesik**	**78.18**	**305**		P	**P**	**03 48 44.6**	**-2.7**
LOT	**Lotru**	**78.22**	**315**	⇓*i*	P	**P**	**03 48 48.2**	**+0.7**
NB201	**NORSAR Array S**	**78.23**	**332**	*e*	P	**P**	**03 48 47.0**	**-0.1**
	comp=Z,71nm,0.9s							
NB2	**NORSAR Subarra**	**78.27**	**332**		P	**P**	**03 48 46.7**	**-0.6**
	comp=Z,64nm,1.0s,baz=59,slow=5.6							
NB2	**NORSAR Subarra**	**78.27**	**332**		P	**P**	**03 48 46.7**	**-0.6**
	baz=59,slow=5.6							
NB200	**NORSAR Array S**	**78.27**	**332**	*e*	P	**P**	**03 48 46.5**	**-0.8**
NOA	**NORSAR Array B**	**78.27**	**332**		P	**P**	**03 48 46.5**	**-0.8**
	comp=Z,36nm,0.9s,baz=60,slow=5.5,SNR=27							
NOA					LR	LR	04 25 04.2	
	comp=Z,388nm,19.7s,baz=75,slow=37							
NC602	**NORSAR Array S**	**78.28**	**332**	*e*	P	**P**	**03 48 47.8**	**+0.4**
	comp=Z,34nm,1.0s							
GELI	**Tayfur-Gelibol**	**78.29**	**309**		P	**P**	**03 48 47.8**	**0.0**
NC204	**NORSAR Array S**	**78.34**	**333**	*e*	P	**P**	**03 48 48.1**	**+0.3**
	comp=Z,178nm,1.7s							
VLAD	**Vladila**	**78.36**	**313**	⇑*i*	P	**P**	**03 48 48.4**	**+0.3**
DRGR		**78.38**	**316**	⇑*i*	P	**P**	**03 48 48.7

MORC Moravsky Berou 80.29 320 *e*P P 03 48 58.6 0.0
comp=Z,50nm,1.1s
MORC LR LR
comp=Z,1µm,18.0s
MORC Moravsky Berou 80.29 320⇓ *i*P P 03 48 59.4 +0.8
MORC Moravsky Berou 80.29 320 *e*P P 03 48 58.6 0.0
MORC pmax pmax
comp=Z,50nm,1.1s
MORC MLR MLR
comp=Z,1µm,18.0s
MORC Moravsky Berou 80.29 320 *e*P P 03 48 59.0 +0.4
KOLL Kolacno 80.30 319 *e*P P 03 48 59.7 +1.1
KOLL Kolacno 80.30 319 *e*P P 03 48 59.7 +1.1
BUD Budapest 80.40 318⇑ *e*P P 03 49 00.1 +0.9
PLG Polygyros 80.43 310 P P 03 48 58.8 -0.7
PLG Polygyros 80.43 310 P P 03 48 58.8 -0.7
PLG Polygyros 80.43 310 P P 03 48 58.8 -0.7
PAIG Paliouri 80.45 309 P P 03 48 59.1 -0.5
PAIG Paliouri 80.45 309 P P 03 48 59.1 -0.5
PAIG Paliouri 80.45 309 P P 03 48 59.1 -0.5
KNT Kendrikon 80.50 311 P P 03 49 00.7 +0.9
KNT Kendrikon 80.50 311 P P 03 49 00.3 +0.5
KNT Kendrikon 80.50 311 P P 03 49 00.3 +0.5
KNT Kendrikon 80.50 311 P P 03 49 00.3 +0.5
KSP Ksiaz 80.53 322 *e*P P 03 49 00.3 +0.5
KSP Ksiaz 80.53 322 *e*P P 03 49 00.3 +0.5
KRLC Kraliky 80.60 321 *e*P P 03 49 01.2 +1.0
KRLC Kraliky 80.60 321 *e*P P 03 49 01.2 +1.0
AOS Alonnisos 80.61 309 P P 03 49 01.1 +0.7
JAVC Velka Javorina 80.62 319 *e*P P 03 49 02.1 +1.7
VAY Valandovo 80.66 311 *e*P P 03 49 00.5 -0.2
SRO Srobarova 80.69 318 *e*P P 03 49 02.2 +1.5
SRO Srobarova 80.69 318 *e*P P 03 49 02.1 +1.4
DPC Dobruska-Polom 80.74 321 *e*P P 03 49 01.5 +0.5
DPC *e*pP pP 03 49 05.8 +0.2
DPC AMS AMS 04 29 00.0
comp=Z,1µm,15.3s
DPC Dobruska-Polom 80.74 321 *e*P P 03 49 01.5 +0.5
DPC *e* 03 49 05.8
DPC MLR MLR
comp=Z,1µm,15.3s
STIP Stip 80.77 312 *i*P P 03 48 60.0 -1.3
UPC Upice 80.84 321 *e*P P 03 49 02.2 +0.7
UPC *ex* x 03 49 06.1
UPC AMS AMS 04 29 20.0
comp=Z,2µm,14.5s
UPC Upice 80.84 321 *e*P P 03 49 02.2 +0.7
UPC MLR MLR
comp=Z,2µm,14.5s
FRGS Fruska Gora 80.90 315 *e*P P 03 49 01.0 -0.9
SMOL Smolenice 80.91 319 *e*P P 03 49 03.6 +1.7
SMOL Smolenice 80.91 319 *e*P P 03 49 03.6 +1.7
LAST Lasithi 81.02 304 P P 03 49 02.9 0.0
LAST Lasithi 81.02 304 P P 03 49 02.9 0.0
VRAC Vranov 81.05 320⇑ *i*P P 03 49 03.6 +1.0
VRAC Vranov 81.05 320 *e*P P 03 49 02.8 +0.2
MODS Modra-Piesok 81.06 319 *e*P P 03 49 04.3 +1.6
MODS pmax pmax
comp=Z,101nm,1.8s
MODS Modra-Piesok 81.06 319 *e*P P 03 49 04.3 +1.6
RUE Ruedersdorf 81.16 324 *e*P P 03 49 04.5 +1.5
comp=Z,93nm,1.0s,baz=59,slow=5.0
RUE Ruedersdorf 81.16 324 *e*P P 03 49 03.6 +0.5
RUE IAmb IAmb 03 49 08.4
comp=Z,72nm,0.9s
URZ Urewera 81.17 139 LR LR 04 21 52.7
comp=Z,320nm,20.3s,baz=358,slow=33
MORH Mrgy, Hungar 81.18 317 *e*P P 03 49 02.3 -1.0
MORH Mrgy, Hungar 81.18 317⇑ *e*P P 03 49 03.0 -0.3
LIT Litokhoron 81.21 310 *e*P P 03 49 02.9 -0.8
comp=Z,56nm,1.1s
DIVS Divibare 81.23 314 *e*P P 03 49 03.6 -0.2
comp=Z,48nm,1.1s
DIVS Divibare 81.23 314 *e*P P 03 49 03.5 -0.3
ZST Bratislava 81.25 319 *e*P P 03 49 06.5 +2.8
ZST Bratislava 81.25 319 *e*P P 03 49 06.5 +2.8
KRUC Moravsky 81.28 320 *e*P P 03 49 04.3 +0.5
TIH Tihany 81.35 318⇓ *e*P P 03 49 03.1 -1.1
ATAL Atalanti 81.41 308⇑ P P 03 49 03.5 -1.3
ATAL Atalanti 81.41 308 P P 03 49 03.5 -1.3
IDI Anoyia 81.42 305⇑ *i*P P 03 49 05.0 +0.1
MXZ Matakaoa Point 81.45 138 PFAKE 03 49 10.0 +5.3
MXZ LR LR
comp=Z,2µm,18.0s
MUD Monsted U'grnd 81.50 329 *i*P P 03 49 06.8 +2.0
comp=Z,44nm,1.1s
comp=Z,3µm,14.0s
MUD Monsted U'grnd 81.50 329 *i*P P 03 49 06.8 +2.0
MUD pmax pmax
comp=Z,44nm,1.1s
MUD MLR MLR
comp=Z,3µm,14.0s
RPZ Rata Peaks 81.51 146 LR LR 04 22 57.5
comp=Z,334nm,19.9s,baz=322,slow=34
KZN Kozani 81.63 310 P P 03 49 02.6 -3.4
KZN Kozani 81.63 310 P P 03 49 02.6 -3.4
KZN Kozani 81.63 310 P P 03 49 02.6 -3.4
PVCC Panska Ves 81.65 322 *e*P P 03 49 07.4 +1.6
PVCC AMS AMS 04 29 10.0
comp=Z,1µm,14.6s
PVCC Panska Ves 81.65 322 *e*P P 03 49 07.4 +1.6
PVCC MLR MLR
comp=Z,1µm,14.6s
TREC Trest 81.70 321 *ex* P 03 49 10.6 +4.5
TREC AMS AMS 04 28 40.0
comp=Z,1µm,16.8s
TREC Trest 81.70 321 *e*P P 03 49 10.6 +4.5
TREC MLR MLR
comp=Z,1µm,16.8s
FNA Florina 81.70 311 *e*P P 03 49 06.2 -0.1
comp=Z,61nm,1.1s
BBLS Lazići 81.71 314 *e*P P 03 49 06.7 +0.4
OXZ Oxford 81.74 145 PFAKE 03 49 20.0 +14
OXZ LR LR
comp=Z,2µm,22.0s
AGG Agios Georgios 81.77 309 *e*P P 03 49 05.5 -1.2
comp=Z,90nm,1.0s
AGG Agios Georgios 81.77 309 *e*P P 03 49 05.5 -1.2
AGG pmax pmax
comp=Z,90nm,1.0s
SOP Sopron 81.81 319⇓ *e*P P 03 49 07.0 +0.4
GOPC GO Pecny, Ondr 81.81 321 *e*P P 03 49 07.5 +0.8
GOPC *e*pP pP 03 49 11.2 -0.1
GOPC AMS AMS 04 29 50.0
comp=Z,1µm,19.0s
GOPC GO Pecny, Ondr 81.81 321 *e*P P 03 49 07.5 +0.8
GOPC MLR MLR
comp=Z,1µm,19.0s
BRG Berggiesshubel 81.83 322 *e*P P 03 49 07.7 +0.9
comp=Z,30nm,1.2s
BRG Berggiesshubel 81.83 322 S S 03 59 23.0 +3.1
comp=N,1µm,18.0s
comp=E,1µm,13.0s
comp=Z,2µm,12.5s
BRG Berggiesshubel 81.83 322 *e*P P 03 49 07.9 +1.1
comp=Z,30nm,1.2s,baz=59,slow=5.0
BRG Berggiesshubel 81.83 322 *e*P P 03 49 07.7 +0.9
BRG S S 03 59 23.0 +3.1
BRG pmax pmax
comp=Z,30nm,1.2s
BRG MLR MLR
comp=N,1µm,18.0s
BRG MLR MLR
comp=E,1µm,13.0s
BRG MLR MLR
comp=Z,2µm,12.5s
PRU Pruhonice 81.92 321 *e*P P 03 49 08.1 +0.9
PRU *e*pP pP 03 49 11.7 -0.1
PRU AMS AMS 04 29 50.0
comp=Z,1µm,14.2s
PRU Pruhonice 81.92 321 *e*P P 03 49 08.1 +0.9
PRU MLR MLR
comp=Z,1µm,14.2s
PHP Peshkopia 81.96 312 P P 03 49 05.9 -1.8
PHP Peshkopia 81.96 312 P P 03 49 05.9 -1.8
PHP Peshkopia 81.96 312 P P 03 49 05.9 -1.8
IMMV Iera Moni Meta 82.03 305 P P 03 49 09.4 +1.3
IMMV Iera Moni Meta 82.03 305 P P 03 49 06.5 -1.6
CONA Conrad Observa 82.11 319 *e*pP P 03 49 08.8 +0.4
comp=Z,11nm,0.8s,SNR=13
CONA PP PP 03 52 20.6 +4.7
comp=Z,22nm,1.5s
FBE Freiberg 82.14 323 *e*P P 03 49 09.8 +1.5
comp=Z,61nm,1.0s,baz=59,slow=5.0

CLL Collm 82.14 323 PFAKE 03 49 20.0 +12
CLL LR LR
comp=Z,400nm,21.0s
CLL Collm 82.14 323 *i*P P 03 49 08.5 +0.2
comp=Z,30nm,1.0s
CLL *i*sP pP 03 49 12.2 -0.7
comp=Z,53nm,1.0s
CLL *i* 03 49 16.5
CLL *e* 03 49 42.0
CLL *e*(PP) 03 52 21.0
CLL *e*S S 03 59 25.0 +1.9
CLL *e* 04 05 42.0
CLL *e* 04 09 36.0
CLL Collm 82.14 323 *i*P P 03 49 08.5 +0.2
CLL *i* 03 49 16.5
CLL *e*S S 03 59 25.0 +1.9
CLL pmax pmax
comp=Z,53nm,1.0s
BEHE Becsehely 82.23 318 *e*P P 03 49 09.0 +0.1
BSEG Bad Segeberg 82.25 326 *e*P P 03 49 10.1 +1.3
comp=Z,38nm,1.1s,baz=59,slow=5.0
SUMG Summit 82.43 354 *e*P P 03 49 09.7 -0.3
comp=Z,39nm,1.7s
SUMG Summit 82.43 354 *i*P P 03 49 09.2 -0.7
SUMG Summit 82.43 354 *i*P P 03 49 09.2 -0.7
PDG Podgorica 82.44 313⇓ *i*P P 03 49 09.9 -0.1
PDG Podgorica 82.44 313 *e*P P 03 49 11.3 +1.3
TIR Tirane 82.50 312 *e*P P 03 49 11.3 +0.9
comp=Z,96nm,1.0s
TIR Tirane 82.50 312⇓ *i*P P 03 49 11.1 +0.7
DRME Dracevica, Mon 82.59 313 *e*P P 03 49 11.3 +0.4
ARSA Arzberg 82.63 319 *e*P P 03 49 09.9 -1.1
comp=Z,25nm,1.1s,SNR=10
BLY Banja Luka 82.75 316 *e*P P 03 49 12.9 +1.3
comp=Z,49nm,1.0s
BLY Banja Luka 82.75 316⇓ *i*P P 03 49 13.3 +1.6
BLY Banja Luka 82.75 316 *e*P P 03 49 11.9 +0.2
YKA Yellowknife Ar 82.76 23 P P 03 49 10.2 -1.1
comp=Z,4.1nm,0.5s,baz=312,slow=4.9,SNR=11
YKA LR LR 04 29 39.1
comp=Z,37nm,18.8s,baz=312,slow=38
YKB5 Yellowknife Ar 82.76 23 *e*P P 03 49 10.2 -1.1
ITM Ithomi 82.83 307 P P 03 49 10.4 -1.8
ITM Ithomi 82.83 307 *e*P P 03 49 11.6 -0.7
comp=Z,176nm,1.1s
ITM Ithomi 82.83 307 P P 03 49 11.2 -1.0
NEUB Neuenburg 82.86 323 *e*P P 03 49 13.3 +1.2
comp=Z,65nm,1.1s,baz=59,slow=5.0
KHC Kasperske Hory 82.88 321 *e*P P 03 49 12.3 0.0
comp=Z,14nm,1.1s
KHC LR LR
comp=Z,400nm,19.0s
KHC Kasperske Hory 82.88 321 *e*P P 03 49 13.0 +0.7
KHC *ex* x 03 49 16.8
KHC AMS AMS 04 28 50.0
comp=Z,1µm,15.7s
KHC Kasperske Hory 82.88 321 *e*P P 03 49 12.3 0.0
KHC pmax pmax
comp=Z,14nm,1.1s
KHC MLR MLR
comp=Z,400nm,19.0s
TANN Tannenbergstha 82.88 322 *e*P P 03 49 13.4 +1.1
comp=Z,113nm,1.8s,baz=59,slow=5.0
GEC2 GERESS Array S 82.95 321 *e*P P 03 49 12.8 0.0
comp=Z,45nm,1.0s
GEC2 GERESS Array S 82.95 321 *e*P P 03 49 13.9 +1.2
comp=Z,54nm,1.1s,baz=59,slow=5.0
GEC2 GERESS Array S 82.95 321 *e*P P 03 49 12.8 0.0
GEC2 pmax pmax
comp=Z,45nm,1.0s
GERES GERESS Array B 82.95 321 P P 03 49 12.8 0.0
comp=Z,24nm,0.9s,baz=57,slow=4.9,SNR=65
GEA0 GERESS Array S 82.95 321 *e*P P 03 49 11.8 -1.0
GUNZ Gunzen 82.98 322 *e*P P 03 49 14.0 +1.2
comp=Z,122nm,1.9s,baz=59,slow=5.0
NKC Novy Kostel 82.98 322 AMS AMS 04 31 00.0
comp=Z,2µm,16.0s
ASSE Asse, Remlinge 82.99 325 *e*P P 03 49 13.9 +1.2
comp=Z,104nm,2.0s,baz=59,slow=5.0
WERN Wernitzgruen 82.99 322 *e*P P 03 49 14.1 +1.2
comp=Z,43nm,1.1s,baz=59,slow=5.0
PLN Plauen 83.02 323 *e*P P 03 49 14.1 +1.1
comp=Z,24nm,1.1s,baz=59,slow=5.0
MOA Molln 83.10 320 *e*PcP P 03 49 14.1 +0.7
comp=Z,46nm,1.0s,SNR=15
MOA PP PP 03 52 28.1 +4.1
comp=Z,12nm,1.4s
NRDL Niedersach Rie 83.10 325 *e*P P 03 49 14.7 +1.5
comp=Z,83nm,1.8s,baz=59,slow=5.0
PERS Pernice 83.16 318 *i*P P 03 49 14.4 +0.5
SOKA Soboth 83.19 318 *e*PcP P 03 49 14.3 +0.2
comp=Z,31nm,1.0s,SNR=8.0
MOX Moxa 83.24 323 *e*P P 03 49 15.1 +1.1
comp=Z,55nm,1.6s,baz=59,slow=5.0
MOX *e*L L 04 31 55.2
comp=Z,1µm,18.0s
WET Wettzell 83.28 321 *e*P P 03 49 15.7 +1.4
comp=Z,39nm,1.2s,baz=59,slow=5.0
MANZ Manzenberg 83.29 322 *e*P P 03 49 15.7 +1.3
comp=Z,38nm,1.3s,baz=59,slow=5.0
CLZ Clausthal 83.30 324 *e*P P 03 49 16.0 +1.5
comp=Z,87nm,1.2s,baz=59,slow=5.0
CRES Cresnjev 83.34 317 *e*P P 03 49 14.2 -0.5
ROTZ Rotzenmuhle 83.35 322 *e*P P 03 49 16.1 +1.4
comp=Z,51nm,1.1s,baz=59,slow=5.0
RETH Rethem/Aller, 83.36 325 *e*P P 03 49 15.8 +1.2
comp=Z,22nm,1.1s,baz=59,slow=5.0
OBKA Obir 83.57 318 *e*PcP P 03 49 16.0 0.0
comp=Z,45nm,1.0s,SNR=5.4
OBKA *e*PP PP 03 52 32.1 +4.2
comp=Z,20nm,1.5s
BOJS Bojanci 83.61 317 *i*P P 03 49 17.1 +1.0
GTTG Gyttingen 83.67 324 *e*P P 03 49 17.7 +1.5
comp=Z,67nm,1.1s,baz=59,slow=5.0
VISS Visnje 83.73 318 *e*P P 03 49 16.7 0.0
LJU Ljubljana 83.81 318 *e*P P 03 49 17.0 -0.1
GRA1 Grafenberg Arr 83.94 322 *e*P P 03 49 18.6 +0.9
comp=Z,62nm,1.2s
GRA1 LR LR
comp=Z,1µm,18.0s
GRF Grafenberg Arr 83.94 322 *e*P P 03 49 19.1 +1.4
comp=Z,96nm,1.6s,baz=59,slow=5.0
GRF *e*PP PP 03 52 31.7 +1.0
baz=58,slow=7.5
GRF *e*L L 04 28 49.1
comp=Z,831nm,18.0s
GRF Grafenberg Arr 83.94 322 *e*P P 03 49 18.6 +0.9
GRF pmax pmax
comp=Z,62nm,1.2s
GRF MLR MLR
comp=Z,1µm,18.0s
GRFO Grafenberg 83.94 322 *e*P P 03 49 18.7 +1.0
comp=Z,56nm,1.2s
GRFO LR LR
comp=Z,1µm,18.0s
GRFO Grafenberg 83.94 322 *e*P P 03 49 18.7 +1.0
GRFO pmax pmax
comp=Z,56nm,1.2s
GRFO MLR MLR
comp=Z,1µm,18.0s
CEY Cerknica 84.01 318 *e*P P 03 49 17.4 -0.8
KBA Koelnbreinsper 84.02 319 *e*PcP P 03 49 18.1 -0.3
comp=Z,30nm,0.9s
UBBA Unterbreizbach 84.03 324 *e*P P 03 49 19.1 +1.2
comp=Z,62nm,1.7s,baz=59,slow=5.0
JAVS Javornik 84.16 318 *i*P P 03 49 19.1 +0.1
ABPO Ambohimpanom 84.18 246 *e*P P 03 49 20.1 +0.5
comp=Z,37nm,0.9s
ABPO LR LR
comp=Z,700nm,22.0s
ABPO Ambohimpanom 84.18 246 *e*P P 03 49 20.1 +0.5
ABPO pmax pmax
comp=Z,37nm,0.9s
ABPO MLR MLR
comp=Z,700nm,22.0s
IBBN Ibbenburen 84.42 326 *e*P P 03 49 21.2 +1.2
comp=Z,152nm,1.9s,baz=59,slow=5.0
TRI Trieste 84.43 318 *e*P P 03 49 20.3 0.0
comp=Z,45nm,1.1s
TRI Trieste 84.43 318 *e*P P 03 49 20.3 0.0
TRI pmax pmax
comp=Z,45nm,1.1s
ABTA Abfaltersbach 84.68 319 *e*PcP P 03 49 21.5 -0.1
comp=Z,52nm,1.0s,SNR=14
FUR Furstenfeldbru 84.69 321 *e*P P 03 49 23.1 +1.6
comp=Z,180nm,1.1s,baz=59,slow=5.0

WATA Walderalm 84.93 320 *e*PcP P 03 49 23.2 +0.3
comp=Z,21nm,0.9s,SNR=15
WATA PP PP 03 52 43.5 +4.4
comp=Z,6.3nm,1.0s
WTTA Wattenberg 84.94 320 *e*PcP P 03 49 22.7 -0.3
comp=Z,53nm,1.1s,SNR=14
WTTA PP PP 03 52 42.6 +3.5
comp=Z,26nm,1.7s
BUG Bochum--Univer 85.15 325 *e*P P 03 49 24.7 +1.0
comp=Z,61nm,1.1s,baz=59,slow=5.0
TNS Taunus Mts 85.19 324 *e*P P 03 49 25.2 +1.1
comp=Z,89nm,2.1s,baz=59,slow=5.0
MOTA Moosalm 85.20 320 *e*PcP P 03 49 24.6 +0.2
comp=Z,35nm,1.0s,SNR=18
MOTA *e*PP PP 03 52 45.5 +4.2
comp=Z,10nm,1.1s
SQTA Sankt Quirin 85.21 320 *e*PcP P 03 49 23.9 -0.4
comp=Z,41nm,1.1s,SNR=16
KMBO Kilima Mbogo 85.22 267 *e*P P 03 49 26.5 +1.4
comp=Z,61nm,1.3s
KMBO LR LR
comp=Z,600nm,21.0s
KMBO Kilima Mbogo 85.22 267 *i*P P 03 49 26.2 +1.2
SNR=33
KMBO Kilima Mbogo 85.22 267 *ce*P P 03 49 26.7 +1.6
KMBO pmax pmax
comp=Z,25nm,1.0s
KMBO Kilima Mbogo 85.22 267 P P 03 49 27.0 +2.0
SNR=18
KMBO Kilima Mbogo 85.22 267 P P 03 49 25.5 +0.4
comp=Z,24nm,1.0s,baz=44,slow=6.8,SNR=42
RETA Reutte 85.33 320 *e*PcP P 03 49 25.2 +0.3
comp=Z,23nm,1.1s
RETA PP PP 03 52 42.9 +0.7
comp=Z,8.3nm,1.3s
STU Stuttgart 85.55 322 PFAKE 03 49 30.0 +4.2
STU LR LR
comp=Z,700nm,19.0s
STU Stuttgart 85.55 322 *e*P P 03 49 26.7 +0.9
comp=Z,47nm,1.2s,baz=59,slow=5.0
FETA Feichten 85.59 320 *e*PcP P 03 49 25.4 -0.9
comp=Z,38nm,1.1s,SNR=10.0
UBR Ueberruh 85.61 321 *e*P P 03 49 27.2 +0.9
comp=Z,50nm,1.0s,baz=59,slow=5.0
AHRW Bad Neuenahr-A 85.75 324 *e*P P 03 49 28.0 +1.3
comp=Z,51nm,1.5s,baz=59,slow=5.0
DAVA Damuels 85.95 321 *e*pP P 03 49 28.8 +0.8
comp=Z,21nm,1.4s,SNR=7.6
DAVA *i*PP PP 03 52 48.8 +1.4
FUORN Ofenpass-Fuorn 86.07 320 *e*P P 03 49 29.2 +0.4
comp=Z,67nm,1.1s
FUORN LR LR
comp=Z,1µm,20.0s
DAVOX Davos/Dischmat 86.21 320 P P 03 49 29.8 +0.4
comp=Z,26nm,1.0s,baz=358,slow=12,SNR=8.4
BFO Black Forest 86.27 322 *e*P P 03 49 30.3 +0.8
comp=Z,70nm,1.9s
BFO Black Forest 86.27 322 *e*P P 03 49 29.5 0.0
comp=Z,92nm,2.0s,baz=59,slow=5.0
BFO Black Forest 86.27 322 *e*P P 03 49 30.3 +0.8
BFO pmax pmax
comp=Z,70nm,1.9s
MEM Membach 86.27 325 ⇑P P 03 49 29.7 +0.3
comp=Z,18nm,1.6s
AQU L'Aquila 86.31 315 *e*P P 03 49 31.2 +1.4
comp=Z,114nm,1.0s
AQU L'Aquila 86.31 315 *e*P P 03 49 31.2 +1.4
AQU pmax pmax
comp=Z,114nm,1.0s
AQU L'Aquila 86.31 315 *e*P P 03 49 33.6 +3.8
BEBN Eben Emael 86.34 325 ⇑P P 03 49 30.0 +0.3
CEL Celeste 86.62 311 *e*P P 03 49 32.7 +1.3
comp=Z,149nm,1.0s
TUE Stuetta 86.69 320 *e*P P 03 49 33.1 +1.3
comp=Z,58nm,1.3s
TUE LR LR
comp=Z,1µm,18.0s
WLF Walferdange 86.73 324 *e*P P 03 49 32.4 +0.8
comp=Z,352nm,1.1s
WLF Walferdange 86.73 324 *e*P P 03 49 32.9 +1.3
baz=59,slow=5.0
WLF Walferdange 86.73 324 *e*P P 03 49 32.4 +0.8
WLF pmax pmax
comp=Z,352nm,1.1s
WLF Walferdange 86.73 324 ⇓P P 03 49 32.7 +1.1
comp=Z,50nm,1.1s
BCLA Clavier 86.75 325 ⇓P P 03 49 32.7 +1.0
LLLB Lillooet 86.86 35 *e*P P 03 49 33.5 +1.1
comp=Z,30nm,1.0s
ECH Echery 86.99 322 *e*P P 03 49 33.9 +0.9
comp=Z,22nm,1.3s
ECH Echery 86.99 322 *e*P P 03 49 33.9 +0.9
ECH pmax pmax
comp=Z,22nm,1.3s
UCC Uccle 87.02 326 *e*P P 03 49 34.7 +1.7
comp=Z,22nm,0.9s
UCC LR LR
comp=Z,1µm,19.0s
UCC Uccle 87.02 326 *e*P P 03 49 34.7 +1.7
UCC pmax pmax
comp=Z,22nm,0.9s
UCC MLR MLR
comp=Z,1µm,19.0s
UCC Uccle 87.02 326 ⇑P P 03 49 33.0 0.0
PGC Sidney 87.14 37 *e*P P 03 49 33.9 +0.3
comp=Z,32nm,1.0s
DOU Dourbes 87.31 325 ⇓P P 03 49 33.6 -0.8
comp=Z,19nm,1.4s
A04D Lummi Island 87.50 37 P P 03 49 34.9 -0.4
baz=305
NLWA Neilton Lookou 87.61 38 *e*P P 03 49 37.7 +1.7
comp=Z,42nm,1.1s
EKA Eskdalemuir Ar 87.76 332 P P 03 49 36.6 +0.1
comp=Z,2.7nm,0.6s,baz=46,slow=2.4,SNR=7.9
SENIN Lac Senin/Sane 87.94 321 *e*P P 03 49 39.6 +1.8
comp=Z,12nm,0.9s
D03D Eldon 87.96 38 P P 03 49 37.7 +0.1
baz=304,SNR=16
B05A Bryant 88.10 37 P P 03 49 38.2 0.0
baz=305,SNR=12
B06A Marblemount 88.28 36 *e*P P 03 49 40.1 +1.0
comp=Z,64nm,1.0s
D04E Lakebay 88.34 38 P P 03 49 39.7 +0.3
baz=305
D05A Enumclaw 88.78 38 *e*P P 03 49 42.6 +1.1
comp=Z,121nm,1.4s
E04D Cinebar 88.81 38 P P 03 49 42.0 +0.3
baz=305
F04D Rainier, OR 88.83 39 P P 03 49 41.5 -0.3
baz=305
RAR Rarotonga 88.89 114 LR LR 04 25 39.2
comp=Z,322nm,18.4s,baz=343,slow=33
C06D Leavenworth 88.95 37 P P 03 49 42.2 -0.1
baz=306
LON Longmire 89.13 38 *e*P P 03 49 44.1 +0.9
comp=Z,30nm,1.1s
LON Longmire 89.13 38 *e*P P 03 49 44.1 +0.9
LON pmax pmax
comp=Z,30nm,1.1s
G03D McMinnville, O 89.18 40 P P 03 49 43.1 -0.3
baz=304
I02D Swisshome 89.45 41 P P 03 49 44.3 -0.4
baz=304
LTY Liberty 89.47 37 *e*P P 03 49 44.6 -0.2
comp=Z,60nm,1.5s
COR Corvallis 89.51 40 *e*P P 03 49 45.0 0.0
comp=Z,155nm,1.4s
COR Corvallis 89.51 40 *e*P P 03 49 45.0 0.0
COR pmax pmax
comp=Z,155nm,1.4s
B08A Colville Reser 89.53 36 *e*P P 03 49 45.0 0.0
comp=Z,35nm,0.9s
F05D White Salmon 89.83 38 P P 03 49 46.0 -0.5
baz=306
J01E Myrtle Point 89.93 42 P P 03 49 46.3 -0.6
baz=304
I03D Drain, OR 89.98 41 P P 03 49 47.4 +0.2
baz=304
G05D Wamic, OR 90.29 39 P P 03 49 48.9 +0.2
baz=306
E07A Sunnyside 90.33 37 *e*P P 03 49 50.5 +1.6
comp=Z,74nm,1.1s
K02D Willamette Mer 90.35 42 P P 03 49 49.8 +0.7
baz=304
C09A Chrisman Ranch 90.43 36 *e*P P 03 49 50.5 +1.2
comp=Z,91nm,1.4s
I04A Tendick Farm, 90.48 41 P P 03 49 50.1 +0.4
baz=305,SNR=7.1

D08A	Wollman Farm,	90.54	36	eP		P	03 49 51.0	+1.2
	comp=Z,30nm,0.9s							
HAWA	Hanford	90.61	37	eP		P	03 49 51.2	+1.2
	comp=Z,50nm,1.1s							
F07A	Phinny Hill Vi	90.69	38	eP		P	03 49 52.2	+1.8
	comp=Z,63nm,1.2s							
L02E	Cave Junction	90.69	42	P		P	03 49 50.8	+0.2
	baz=304							
NEW	Newport	90.75	35	eP		P	03 49 50.8	0.0
	comp=Z,44nm,1.1s							
NEW	Newport	90.75	35	eP		P	03 49 50.8	0.0
NEW				pmax		pmax		
	comp=Z,44nm,1.1s							
NEW	Newport	90.75	35	P		P	03 49 50.4	-0.4
	baz=309							
I05D	Terrebonne, OR	90.80	40	P		P	03 49 51.5	+0.4
	baz=306							
E08A	Dider Farm, El	90.81	37	eP		P	03 49 53.0	+2.0
	comp=Z,48nm,1.3s							
HUMO	Hull Mountain	90.83	42	eP		P	03 49 53.7	+2.5
	comp=Z,37nm,1.4s							
MBAR	Mbarara	90.94	270	PFAKE			03 50 00.0	+7.6
MBAR				LR		LR		
	comp=Z,700nm,22.0s							
J04D	Umpqua Nationa	90.98	41	P		P	03 49 52.3	+0.2
	baz=305,SNR=5.8							
E09A	Wood Farm, Sta	91.30	37	eP		P	03 49 55.2	+2.0
	comp=Z,53nm,1.1s							
PINE	Pine Mountain	91.35	40	eP		P	03 49 55.7	+1.8
	comp=Z,88nm,1.2s							
L04D	Klamath Falls	91.45	42	P		P	03 49 54.5	+0.3
	baz=305							
J05D	Fort Rock, OR	91.48	40	P		P	03 49 54.8	+0.4
	baz=306,SNR=11							
YBH	Yreka Blue Hor	91.48	42	eP		P	03 49 56.0	+1.6
	comp=Z,49nm,1.4s							
YBH	Yreka Blue Hor	91.48	42	eP		P	03 49 56.0	+1.6
YBH				pmax		pmax		
	comp=Z,49nm,1.4s							
K04D	Chiloquin, OR	91.55	41	P		P	03 49 54.8	0.0
	baz=306							
M02C	Callahan	91.59	43	P		P	03 49 54.8	0.0
	baz=305							
G08A	Pilot Rock	91.59	38	eP		P	03 49 56.2	+1.3
	comp=Z,15nm,1.0s							
WALA	Waterton Lakes	91.87	33	eP		P	03 49 56.2	+0.1
	comp=Z,72nm,1.2s							
N02D	Trinity Center	91.92	43	P		P	03 49 56.5	+0.1
	baz=305							
M04C	Macdoel	91.99	42	P		P	03 49 57.1	+0.4
	baz=305							
I07A	Izee	92.02	39	eP		P	03 49 58.3	+1.5
	comp=Z,34nm,1.4s							
F10A	Beach Ranch, E	92.13	37	eP		P	03 49 58.1	+0.8
	comp=Z,23nm,1.3s							
FCC	Fort Churchill	92.16	18	eP		P	03 49 56.0	-0.9
	comp=Z,18nm,0.9s							
FCC				LR		LR		
	comp=Z,2μm,22.0s							
FCC	Fort Churchill	92.16	18	eP		P	03 49 56.0	-0.9
FCC				pmax		pmax		
	comp=Z,18nm,0.9s							
FCC				MLR		MLR		
	comp=Z,2μm,22.0s							
WDC	Whiskeytown Da	92.24	43	eP		P	03 49 58.9	+1.1
	comp=Z,50nm,1.4s							
WDC	Whiskeytown Da	92.24	43	eP		P	03 49 58.9	+1.1
WDC				pmax		pmax		
	comp=Z,50nm,1.4s							
O02D	Mt. Diablo Mer	92.32	44	P		P	03 49 59.0	+0.8
	baz=305							
KEST	Kesra	92.42	311	eP		P	03 49 59.9	+1.1
	comp=Z,87nm,1.7s							
KEST	Kesra	92.42	311	P		P	03 49 58.4	-0.4
	comp=Z,13nm,1.1s,baz=31,slow=2.3,SNR=6.4							
KEST				LR		LR	04 39 15.3	
	comp=Z,341nm,18.0s,baz=332,slow=41							
BMO	Blue Mountains	92.79	38	eP		P	03 50 00.8	+0.4
	comp=Z,16nm,0.9s							
MOD	Modoc Plateau	92.85	41	eP		P	03 50 01.4	+0.7
	comp=Z,73nm,1.5s							
O03E	Paynes Creek	92.87	43	P		P	03 50 01.3	+0.5
	baz=305							
FFC	Flin Flon	92.92	24	eP		P	03 49 59.9	-0.7
	comp=Z,30nm,1.3s							
FFC	Flin Flon	92.92	24	eP		P	03 49 59.9	-0.7
FFC				pmax		pmax		
	comp=Z,30nm,1.3s							
J08A	Circle Bar Ran	93.05	39	eP		P	03 50 02.1	+0.5
	comp=Z,29nm,1.0s							
MSO	Missoula	93.33	35	eP		P	03 50 03.7	+0.9
	comp=Z,29nm,1.3s							
MSO	Missoula	93.33	35	P		P	03 50 03.2	+0.4
	baz=311							
ORV	Oroville	93.49	44	eP		P	03 50 03.7	+0.1
	comp=Z,14nm,0.8s							
ORV	Oroville	93.49	44	eP		P	03 50 03.7	+0.1
ORV				pmax		pmax		
	comp=Z,14nm,0.8s							
WVOR	Wild Horse Val	93.52	40	eP		P	03 50 05.0	+1.2
	comp=Z,18nm,1.1s							
WVOR	Wild Horse Val	93.52	40	eP		P	03 50 05.0	+1.2
WVOR				pmax		pmax		
	comp=Z,18nm,1.1s							
BEKR	Beckworth	94.02	43	eP		P	03 50 06.8	+0.5
	comp=Z,17nm,0.8s							
AFDM	Forest Hills D	94.17	44	eP		P	03 50 07.1	+0.3
	comp=Z,15nm,1.1s							
HRY	Holter Researc	94.48	34	eP		P	03 50 08.5	+0.3
EGMT	Eagleton	94.60	32	eP		P	03 50 09.3	+0.7
	comp=Z,42nm,1.3s							
EGMT	Eagleton	94.60	32	P		P	03 50 09.0	+0.4
	baz=314							
PAHR	Pah Rah Range	94.72	43	eP		P	03 50 10.1	+0.8
	comp=Z,17nm,1.0s							
VCNR	Virginia City	94.80	43	eP		P	03 50 11.1	+1.2
	comp=Z,12nm,0.8s							
PNTR	Pine Nut	94.95	43	eP		P	03 50 11.9	+1.3
	comp=Z,113nm,1.9s							
DLMT	Dillon	95.00	35	eP		P	03 50 11.7	+1.1
	comp=Z,28nm,1.2s							
CMB	Columbia Colle	95.08	44	eP		P	03 50 11.4	+0.4
	comp=Z,78nm,1.0s							
CMB	Columbia Colle	95.08	44	eP		P	03 50 11.4	+0.4
CMB				pmax		pmax		
	comp=Z,18nm,1.0s							
HLID	Hailey	95.21	37	eP		P	03 50 12.6	+1.0
	comp=Z,13nm,0.9s							
HLID	Hailey	95.21	37	P		P	03 50 12.1	+0.5
	baz=311							
MCMT	McKenzie Canyo	95.22	35	eP		P	03 50 13.3	+1.6
YERR	Yerington	95.24	43	eP		P	03 50 13.5	+1.6
	comp=Z,22nm,1.3s							
YERR				LR		LR		
	comp=Z,600nm,20.0s							
BOZ	Bozeman (W)	95.34	34	eP		P	03 50 13.0	+0.9
	comp=Z,26nm,1.7s							
BOZ	Bozeman (W)	95.34	34	eP		P	03 50 13.0	+0.9
BOZ				pmax		pmax		
	comp=Z,26nm,1.7s							
BOZ	Bozeman (W)	95.34	34	P		P	03 50 12.1	-0.1
	baz=313							
WAKR	Walker	95.40	44	eP		P	03 50 13.9	+1.3
	comp=Z,52nm,1.6s							
BMN	Battle Mountai	95.59	41	eP		P	03 50 15.6	+2.2
	comp=Z,34nm,1.5s							
BMN	Battle Mountai	95.59	41	eP		P	03 50 15.6	+2.2
BMN				pmax		pmax		
	comp=Z,34nm,1.5s							
RYN	Ryan	95.90	43	eP		P	03 50 16.6	+1.8
	comp=Z,16nm,1.1s							
KVN	Kaiserville	95.90	42	eP		P	03 50 15.7	+0.8
	comp=Z,25nm,1.3s							
KVN	Kaiserville	95.90	42	eP		P	03 50 15.7	+0.8
KVN				pmax		pmax		
	comp=Z,25nm,1.3s							
PPT	Papeete	96.10	106	LR		LR	04 25 06.5	
	comp=Z,226nm,21.8s,baz=282,slow=30							
PPT2	Papeete2	96.11	106	eS		S	04 01 24.2	-11
	comp=Z,516nm,27.0s							
PPT2				eSS		SS	04 08 01.4	-5.9
	comp=Z,198nm,25.2s							
PPT2				eLQ		LQ	04 17 16.1	
	comp=Z,523nm,26.5s							
PPT2				eLR		LR	04 20 45.4	
	comp=Z,863nm,28.8s							
YHB	Horse Butte	96.14	35	eP		P	03 50 18.0	+2.1
	comp=Z,20nm,1.2s							

NV01	Mina Array Sit	96.16	43	eP		P	03 50 16.4	+0.3
NVAR	Mina Array Bea	96.16	43	P		P	03 50 16.2	+0.2
	comp=Z,5.1nm,0.8s,baz=284,slow=5.2,SNR=22							
NVAR				LR		LR	04 29 54.3	
	comp=Z,233nm,21.0s,baz=301,slow=33							
OMMB	Old Mammoth Mi	96.21	44	eP		P	03 50 18.1	+1.7
	comp=Z,13nm,1.2s							
NV11	Mina Array Sit	96.25	43	eP		P	03 50 17.4	+0.9
	comp=Z,3.3nm,1.9s							
YHH	Holmes Hill	96.30	35	eP		P	03 50 18.6	+1.9
	comp=Z,18nm,1.6s							
MLAC	Mammoth, Mammo	96.31	44	P		P	03 50 17.0	+0.2
	baz=307							
PAGB	Antelope Grade	96.52	46	eP		P	03 50 19.2	+1.6
	comp=Z,40nm,1.3s							
ELK	Elko	96.56	40	eP		P	03 50 20.0	+2.1
	comp=Z,7.4nm,1.3s							
ELK	Elko	96.56	40	eP		P	03 50 20.0	+2.1
ELK				pmax		pmax		
	comp=Z,7.0nm,1.3s							
H17A	Grant Village	96.71	35	P		P	03 50 19.4	+0.9
	baz=314							
DGMT	Dagmar	96.83	29	P		P	03 50 19.8	+1.2
	baz=319							
FLWY	Flagg Ranch	96.86	35	eP		P	03 50 22.2	+3.1
	comp=Z,48nm,1.8s							
IMW	Indian Meadow	96.86	35	eP		P	03 50 21.5	+2.2
	comp=Z,94nm,1.1s							
RLMT	Red Lodge	96.87	34	eP		P	03 50 21.4	+2.2
	comp=Z,14nm,1.1s							
RLMT	Red Lodge	96.87	34	P		P	03 50 20.1	+0.9
	baz=315							
SMMC	Simmler	96.93	46	P		P	03 50 19.3	-0.1
	baz=306							
FXWY	Fox Creek	96.99	35	eP		P	03 50 21.8	+2.0
	comp=Z,16nm,1.7s							
TIN	Tinnaha, Big	97.04	44	P		P	03 50 19.3	-0.7
	baz=308							
MOOW	Moose Ponds	97.07	35	eP		Pdif	03 50 22.7	+2.5
	comp=Z,9.2nm,1.4s							
VES	Vestal, Richgr	97.22	46	P		P	03 50 19.8	-0.9
	baz=307							
LAO	LASA Array	97.23	31	P		P	03 50 19.9	-0.7
	baz=317							
PKM	Mcpherson Peak	97.30	47	P		Pdif	03 50 21.6	+0.3
	baz=306							
CWC	Cottonwood Cre	97.51	45	P		Pdif	03 50 22.6	+0.4
	baz=308							
GRAC	Grapevine Rang	97.62	44	P		Pdif	03 50 22.5	0.0
	baz=308							
SBC	Santa Barbara	97.63	47	P		P	03 50 22.0	-0.5
	baz=306							
ISA	Isabella, Lake	97.72	45	eP		Pdif	03 50 23.6	+0.5
	comp=Z,9.9nm,1.4s							
ISA	Isabella, Lake	97.72	45	eP		Pdif	03 50 23.6	+0.5
ISA				pmax		pmax		
	comp=Z,10.0nm,1.4s							
ISA	Isabella, Lake	97.72	45	P		Pdif	03 50 23.1	+0.1
	baz=307							
R11A	Troy Canyon, C	97.88	42	eP		Pdif	03 50 24.9	+1.0
	comp=Z,25nm,2.0s							
R11A	Troy Canyon, C	97.88	42	P		Pdif	03 50 24.1	+0.2
	baz=310							
DAC	Darwin (Calif)	97.92	44	eP		Pdif	03 50 27.1	+3.0
	comp=Z,8.2nm,1.1s							
MPMC	Manual Prospec	98.12	45	P		Pdif	03 50 25.1	+0.1
	baz=308							
BLG	Laguna Peak, P	98.26	47	P		Pdif	03 50 25.8	+0.4
	baz=307							
FURC	Furnace Creek,	98.26	44	P		P	03 50 24.7	-0.6
	baz=308							
DUG	Dugway, Tooele	98.32	39	eP		Pdif	03 50 28.6	+2.8
	comp=Z,33nm,2.0s							
DUG				LR		LR		
	comp=Z,700nm,18.0s							
DUG	Dugway, Tooele	98.32	39	P		Pdif	03 50 26.1	+0.4
	baz=312							
TPNV	Topopah Spring	98.35	43	P		P	03 50 25.8	-0.2
	baz=309							
PD31	Pinedale Array	98.37	35	eP		Pdif	03 50 26.2	+0.1
	comp=Z,14nm,1.9s							
PDAR	Pinedale Array	98.37	35	P		Pdif	03 50 26.2	+0.2
	comp=Z,1.4nm,1.1s,baz=162,slow=0.9,SNR=4.8							
PDAR				LR		LR	04 37 12.8	
	comp=Z,255nm,19.5s,baz=350,slow=37							
TBI	Tubuai	98.46	112	eS		S	04 01 47.7	-7.4
	comp=Z,264nm,24.8s							
TBI				eSS		SS	04 08 23.9	-16
	comp=Z,339nm,25.5s							
TBI				eLQ		LQ	04 18 16.7	
	comp=Z,336nm,25.8s							
TBI				eLR		LR	04 22 29.8	
	comp=Z,613nm,33.0s							
EDW2	Edwards Air Fo	98.51	46	P		Pdif	03 50 26.6	+0.1
	baz=308							
ESDC	Sonseca Array	98.54	321	P		P	03 50 26.3	-0.3
	comp=Z,0.1nm,0.3s,baz=36,slow=5.6,SNR=2.8							
ULM	Lac du Bonnet	98.74	23	P		P	03 50 27.0	-0.1
	comp=Z,2.0nm,0.7s,baz=358,slow=2.1,SNR=5.0							
ULM				LR		LR	04 38 22.3	
	comp=Z,801nm,18.9s,baz=342,slow=37							
GSC	Goldstone, Bar	99.02	45	eP		Pdif	03 50 30.6	+1.7
	comp=Z,34nm,1.7s							
GSC	Goldstone, Bar	99.02	45	P		Pdif	03 50 29.4	+0.5
	baz=308							
LSZ	Lusaka	99.09	257	eP		Pdif	03 50 28.6	-0.9
	comp=Z,6.3nm,0.9s							
LSZ	Lusaka	99.09	257	eP		Pdif	03 50 28.6	-0.9
LSZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BFSC	Mount Baldy Ra	99.12	46	P		Pdif	03 50 29.0	-0.4
	baz=306							
SHPR	Sheep Range	99.31	43	eP		Pdif	03 50 32.2	+2.0
	comp=Z,19nm,1.9s							
PFO	Pinyon Flats O	100.29	46	ePdif		Pdif	03 50 36.2	+1.6
PFO	Pinyon Flats O	100.29	46	eP		Pdif	03 50 36.2	+1.6
PFO	Pinyon Flats O	100.29	46	P		Pdif	03 50 34.4	-0.2
	baz=308							
XPFO	Pion Flat	100.29	46	ePdif		Pdif	03 50 36.2	+1.6
KNB	Kanab	100.41	41	ePdif		Pdif	03 50 36.9	+1.7
KNB	Kanab	100.41	41	eP		Pdif	03 50 36.9	+1.7
IRM	Iron Mountain	100.80	45	P		Pdif	03 50 36.7	-0.1
	baz=309							
SWSC	Sam W. Stewart	101.13	46	P		Pdif	03 50 38.2	0.0
	baz=309							
TAOE	Nuku Hiva Isla	101.16	95	eLR		LR	04 23 44.8	
	comp=Z,468nm,22.2s							
PV16	Nyswonger Mesa	101.82	38	PFAKE			03 50 50.0	+8.5
PV16				LR		LR		
	comp=Z,1μm,20.0s							
PV01	Paradox Valley	102.14	38	PFAKE			03 50 50.0	+7.1
PV01				LR		LR		
	comp=Z,1μm,18.0s							
TAM	Tamanrasset	102.20	302	PFAKE			03 50 50.0	+6.7
TAM				LR		LR		
	comp=Z,400nm,20.0s							
VNDA	Vanda	104.36	172	ePKiKP		PKiKP	03 55 08.3	+0.7
VNDA	Vanda	104.36	172	PKiKP		PKiKP	03 55 07.1	-0.5
	comp=Z,5.5nm,1.1s,baz=180,slow=1.0,SNR=4.6							
F43A	Flat Rock, Esc	105.51	20	P		PKiKP	03 55 10.8	0.0
	baz=333							
D50A	G1974 Best Tow	106.31	15	P		PKiKP	03 55 12.6	+0.3
	baz=340							
I48A	Sherman Twp	108.05	19	P		PKiKP	03 55 15.6	0.0
	baz=336							
SYO	Syowa Base	109.59	202	eX		Pdif	03 51 24.7	+10
PKME	Peaks-Kenny Pk	110.09	8	P		PKiKP	03 55 19.4	0.0
	baz=350							
TOA1	Torodi Ar. Sit	110.45	296	ePKiKP		PKiKP	03 55 19.9	-1.0
TORD	Torodi Ar. Bea	110.45	296	PKiKP		PKiKP	03 55 19.9	-0.9
	comp=Z,0.8nm,0.6s,baz=31,slow=3.3,SNR=10							
TORD				PKKP		PKKPdf	04 06 35.4	-1.5
	comp=Z,4.8nm,1.1s,baz=268,slow=1.9,SNR=11							
PLIO	Pelee Island,	110.60	19	P		PKiKP	03 55 20.4	0.0
	baz=337							
LBNH	Lisbon	110.70	10	P		PKiKP	03 55 19.6	-0.9
	baz=347							
TXAR	Lajitas Array	111.25	42	PKiKP		PKiKP	03 55 22.5	+0.4
	comp=Z,1.2nm,0.8s,baz=220,slow=1.0,SNR=5.2							
M55A	Ridgway	111.93	16	P		PKiKP	03 55 23.0	0.0
	baz=340							
T49A	Edmonton	113.83	23	P		PKiKP	03 55 26.0	-0.7
	baz=333							
NVL	N'lazarevskaya	119.19	201	ePKiKP		PKPdf	03 55 26.2	-10
NVL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
DBIC	Dimbokro	119.35	293	PKP		PKPdf	03 55 36.7	-1.2
	comp=Z,3.7nm,0.7s,baz=56,slow=2.1,SNR=6.5							

KIC	Kosan Boka	119.42	293	eP		PKPdf	03 55 37.6	-0.5
	comp=Z,47nm,1.4s							
Z59A	Georgetown, SC	119.46	20	P		PKPdf	03 55 36.9	-0.7
	baz=338							
TIC	Toumodi	119.50	293	eP		PKPdf	03 55 37.2	-1.0
LIC	Lamto	119.73	293	eP		PKPdf	03 55 34.7	-3.9
	comp=Z,57nm,1.5s							
VNA2	Neumayer--Watz	125.08	198	P		PKPdf	03 55 47.3	+0.1
	baz=270,slow=1.1							
VNA1	Neumayer--Stat	125.47	198	P		PKPdf	03 55 47.5	-0.4
VNA3	Neumayer Olymp	125.55	197	P		PKPdf	03 55 47.6	-0.5
MPR	Mayaguez	136.93	12	PFAKE			03 56 20.0	+7.0
MPR				LR		LR		
	comp=Z,1μm,21.0s							
SEUS	St. Eustatius	138.24	6	PFAKE			03 56 20.0	+4.3
SEUS				LR		LR		
	comp=Z,700nm,22.0s							
ZARC	Zaragoza, Cauc	144.61	29	eP		PKPab	03 56 17.5	-6.1
ZARC	Zaragoza, Cauc	144.61	29	eP		PKPab	03 56 17.5	-6.1
SDV	Santo Domingo	144.96	21	ePKPbc		PKPab	03 56 23.9	-1.2
SDV				LR		LR		
	comp=Z,400nm,19.0s							
SDV	Santo Domingo	144.96	21	PKP		PKPab	03 56 24.0	-1.2
	comp=Z,41nm,0.8s,baz=12,slow=1.4,SNR=48							
BRRC	Barranca, Sant	145.44	27	eP		PKPbc	03 56 23.4	-3.1
BRRC	Barranca, Sant	145.44	27	eP		PKPbc	03 56 23.4	-3.1
HELC	Santa Helena	145.45	31	eP		PKPbc	03 56 22.4	-4.6
HELC	Santa Helena	145.45	31	eP		PKPbc	03 56 22.4	-4.6
PTBC	PUERTO BERRIO	145.63	29	eP		PKPdf	03 56 24.1	-2.9
PTBC	PUERTO BERRIO	145.63	29	eP		PKPdf	03 56 24.1	-2.9
PAMC	Pamplona, Colo	145.65	26	eP		PKPdf	03 56 26.1	-1.5
PAMC	Pamplona, Colo	145.65	26	eP		PKPdf	03 56 26.1	-1.5
BARC	Barichara	146.13	27	eP		PKPdf	03 56 27.7	-0.4
BARC	Barichara	146.13	27	eP		PKPdf	03 56 27.7	-0.4
RREF	El Recreo	146.66	32	eP		PKPdf	03 56 28.6	-0.8
RREF	El Recreo	146.66	32	eP		PKPdf	03 56 28.6	-0.8
TAMC	Tame, Arauca	146.82	25	eP		PKPdf	03 56 27.5	-1.5
TAMC	Tame, Arauca	146.82	25	eP		PKPdf	03 56 27.5	-1.5
YOTC	Yotoco, Valle	146.96	34	eP		PKPdf	03 56 28.1	-1.3
YOTC	Yotoco, Valle	146.96	34	eP		PKPdf	03 56 28.1	-1.3
ANIL	Santa Ana	147.00	32	eP		PKPab	03 56 33.4	+0.5
ANIL	Santa Ana	147.00	32	eP		PKPab	03 56 33.4	+0.5
ROSC	El Rosal	147.20	30	ePKPbc		PKPab	03 56 33.4	-0.5
ROSC	El Rosal	147.20	30	eP		PKPdf	03 56 30.9	+0.8
ROSC	El Rosal	147.20	30	eP		PKPdf	03 56 30.9	+0.8
ROSC	El Rosal	147.20	30	PKPbc		PKPbc	03 56 31.9	-0.4
	comp=Z,17nm,0.9s,baz=12,slow=5.0,SNR=10							
CHIC	Chingaza	147.65	29	eP		PKPdf	03 56 31.5	+0.7
CHIC	Chingaza	147.65	29	eP		PKPdf	03 56 31.5	+0.7
PRAC	Prado	147.92	32	eP		PKPdf	03 56 32.1	+1.2
PRAC	Prado	147.92	32	eP		PKPdf	03 56 32.1	+1.2
POPC	Popayan, Colom	148.01	36	eP		PKPbc	03 56 33.4	-0.9
POPC	Popayan, Colom	148.01	36	eP		PKPbc	03 56 33.4	-0.9
VILC	Villavicencio,	148.13	30	eP		PKPbc	03 56 33.4	-1.1
VILC	Villavicencio,	148.13	30	eP		PKPbc	03 56 33.4	-1.1
MARP	Paez Belalcaza	148.13	35	eP		PKPdf	03 56 28.6	-2.9
MARP	Paez Belalcaza	148.13	35	eP		PKPdf	03 56 28.6	-2.9
PCON	Cinco Dias	148.34	36	eP		PKPbc	03 56 34.7	-0.8
PCON	Cinco Dias	148.34	36	eP		PKPbc	03 56 34.7	-0.8
SOTA	Rioblanco	148.38	36	eP		PKPbc	03 56 34.0	-1.7
SOTA	Rioblanco	148.38	36	eP		PKPbc	03 56 34.0	-1.7
BETC	Betania	148.53	34	eP		PKPab	03 56 38.5	-0.3
BETC	Betania	148.53	34	eP		PKPab	03 56 38.5	-0.3
USHA	Ushuaia	148.61	169	PKPbc		PKPbc	03 56 34.4	+0.1
	comp=Z,59nm,1.1s,baz=234,slow=2.7,SNR=12							
CRUC	La Cruz	148.67	37	eP		PKPbc	03 56 35.8	-0.3
CRUC	La Cruz	148.67	37	eP		PKPbc	03 56 35.8	-0.3
GCUF	Volcan Galeras	148.73	38	eP		PKPdf	03 56 29.1	-3.6
GCUF				eP		pPKPdf	03 56 37.7	+0.4
GCUF	Volcan Galeras	148.73	38	eP		PKPdf	03 56 29.1	-3.6
GCUF				eP		pPKPdf	03 56 37.7	+0.4
OTAV	Otavalo	148.88	41	ePKPbc		PKPbc	03 56 37.0	+0.2
OTAV	Otavalo	148.88	41	ePKP2		PKPbc	03 56 37.0	+0.2
FLOC	Florencia	149.36	35	eP		PKPdf	03 56 29.3	-3.8
FLOC	Florencia	149.36	35	eP		PKPdf	03 56 29.3	-3.8
GO10	Punta Arenas	149.65	165	ePKPbc		PKiKP	03 56 38.0	-0.1
MDP	Montagnes des	150.24	348	PKPbc		PKPbc	03 56 39.6	0.0
	comp=Z,4.9nm,0.5s,baz=11,slow=0.7,SNR=5.4							
GO09	Cerro Castillo	151.03	162	ePKPbc		PKiKP	03 56 40.8	-0.1
ATAH	Atahualpa	154.42	51	PKPbc		PKPbc	03 56 49.1	-0.4
	baz=108,slow=3.2							
PTGA	Pitinga	156.54	4	ePKPdf		PKPdf	03 56 44.5	+1.0
PTGA				PKPab		PKPab	03 57 09.3	-2.7
PTGA				ePKPab		pPKPab	03 57 14.8	-1.7
PTGA	Pitinga	156.54	4	PKP		PKPdf	03 56 44.5	+1.0
	comp=Z,3.7nm,0.3s,baz=4.1,slow=4.9,SNR=4.9							
PTGA				PKPab		PKPab	03 57 09.3	-2.7
	comp=Z,1.1nm,0.3s,baz=337,slow=6.9,SNR=2.0							
NNA	Nana	158.73	58	PKPab		PKPab	03 57 20.2	-1.6
	comp=Z,17nm,0.9s,baz=285,slow=4.9,SNR=7.3							
PLCA	Paso Flores	160.74	151	PKP		PKPdf	03 56 48.3	+0.4
	comp=Z,2.1nm,0.9s,baz=56,slow=3.6,SNR=4.3							
PLCA				PKPab		PKPab	03 57 28.9	-0.9
	comp=Z,4.3nm,0.9s,baz=247,slow=7.7,SNR=3.4							
TRQA	Tornquist	165.96	169

	baz=336								
CHGB	**Renai**	**0.37**	**221**	*e*P		Pg	03 37 53.4	-0.2	
	baz=221								
TWE	**Neicheng**	**0.43**	**28**	*e*P		Pg	03 37 55.3	+0.7	
	baz=40								
NWLT	**Wulai**	**0.44**	**7**	*e*P		Pb	03 37 55.7	-0.6	
	baz=357								
TWC	**Suao**	**0.45**	**54**	*e*P		Pg	03 37 55.2	+0.1	
	baz=47								
OWD	**Renai**	**0.46**	**212**	*e*P		Pg	03 37 55.2	0.0	
	baz=212								
WHP	**Taichung City**	**0.46**	**262**	*e*P		Pb	03 37 56.4	-0.3	
	baz=262								
ENLB	**Shoufeng**	**0.46**	**162**	*e*P		Pb	03 37 56.0	-0.6	
	baz=150								
LIOB	**Emei**	**0.49**	**308**	*e*P		Pg	03 37 56.3	+0.5	
	baz=309								
LIOB				*e*S		Sg	03 38 03.0	+0.7	
	baz=309								
NSTT	**Nanjuang**	**0.49**	**305**	*e*P		Pb	03 37 57.1	-0.1	
	baz=305								
ESL	**Shilin**	**0.53**	**181**	*e*P		Pb	03 37 57.6	-0.1	
	baz=169								
NHDH	**Xindian Distri**	**0.62**	**7**	*e*P		Pb	03 37 59.1	-0.3	
	baz=2.0								
EGFH	**Guangfu**	**0.67**	**181**	*e*P		Pg	03 37 59.6	+0.4	
	baz=181								
TIPB	**Shuangxi**	**0.72**	**29**	*e*P		Pb	03 38 00.8	-0.3	
	baz=18								
TIPB				*e*S		Sg	03 38 10.0	+0.5	
	baz=18								
NWF	**Wu-fen Shan**	**0.79**	**23**	*e*P		Pn	03 38 03.3	-0.5	
	baz=23								
WFSB	**Wu-fen Shan**	**0.79**	**23**	*e*P		Pb	03 38 02.3	+0.1	
	baz=23								
YM01	**YM01**	**0.81**	**8**	*e*P		Pb	03 38 02.8	+0.2	
	baz=8.0								

TAP 07 03:39:35.1,24°32N×121°42E,h8km,ML3.9,1C,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.12**	**344**	P	Pg	03 39 38.3	+0.5
	baz=344						
NNSB				S	Sg	03 39 40.2	+0.5
	baz=344						
ETLH	**Xiulin Townshi**	**0.12**	**152**	*e*P	Pg	03 39 37.8	0.0
	baz=162						
ETLH				S	Sg	03 39 40.7	+0.9
	baz=162						
NNS	**Nan Shan**	**0.13**	**341**	P	Pg	03 39 38.6	+0.5
	baz=344						
NNS				S	Sg	03 39 40.4	+0.3
	baz=344						
NACB	**Ninganchiao**	**0.21**	**131**	*e*P	Pg	03 39 39.7	+0.3
	baz=131						
WHF	**Hehuan Shan**	**0.22**	**220**	*e*P	Pg	03 39 39.4	-0.2
	baz=218						
TWT	**Tachien**	**0.23**	**255**	*e*P	Pg	03 39 40.2	+0.4
	baz=248						
TDCB	**Techi**	**0.25**	**256**	*e*P	Pg	03 39 40.5	+0.4
	baz=250						
TWD	**Chiawan**	**0.28**	**145**	*e*P	Pb	03 39 41.7	-0.7
	baz=130						
NDT	**Datong Townshi**	**0.30**	**17**	*e*P	Pg	03 39 41.2	+0.2
	baz=17						
ENA	**Nanau**	**0.31**	**69**	*e*P	Pg	03 39 40.6	-0.7
	baz=70						
CHGB	**Renai**	**0.34**	**221**	*e*P	Pg	03 39 41.5	-0.3
	baz=213						
ENTT	**Nioudou**	**0.35**	**22**	*e*P	Pg	03 39 42.1	+0.1
	baz=18						
ENTT				*e*S	Sg	03 39 47.0	+0.4
	baz=18						
YHNB	**Yeheng**	**0.35**	**354**	*e*P	Pg	03 39 41.4	-0.7
	baz=344						
YHNB				*e*S	Sg	03 39 47.1	+0.2
	baz=344						
NSK	**Sanguang**	**0.36**	**351**	*e*P	Pg	03 39 41.7	-0.6
	baz=342						
HWA	**Hwalien**	**0.38**	**153**	*e*P	Pb	03 39 43.8	-0.2
	baz=141						
OWD	**Renai**	**0.42**	**212**	*e*P	Pg	03 39 43.0	-0.3
	baz=212						
WHP	**Taichung City**	**0.43**	**265**	*e*P	Pb	03 39 45.3	+0.2
	baz=265						
ENLB	**Shoufeng**	**0.44**	**158**	*e*P	Pb	03 39 44.9	-0.2
	baz=156						
TWE	**Neicheng**	**0.46**	**29**	*e*P	Pg	03 39 44.8	+0.7
	baz=43						
NWLT	**Wulai**	**0.47**	**9**	*e*P	Pg	03 39 44.3	+0.2
	baz=1.0						
TWC	**Suao**	**0.49**	**53**	*e*P	Pg	03 39 44.7	+0.1
	baz=56						
TWC				*e*S	Sg	03 39 51.1	+0.1
	baz=56						
LIOB	**Emei**	**0.49**	**312**	*e*P	Pg	03 39 45.3	+0.6
	baz=313						
LIOB				S	Sg	03 39 52.3	+1.1
	baz=313						
NSTT	**Nanjuang**	**0.49**	**310**	⇑P	Pb	03 39 46.4	+0.4
	baz=310						
NSTT				S	Sb	03 39 53.2	-0.2
	baz=310						
ESL	**Shilin**	**0.50**	**179**	*e*P	Pb	03 39 45.5	-0.7
	baz=177						
ILA	**Ilan**	**0.54**	**34**	*e*P	Pg	03 39 46.1	+0.6
	baz=43						
WLTB	**Daxi**	**0.56**	**344**	*e*P	Pb	03 39 47.2	+0.1
	baz=353						
TWQ1	**Liyutan**	**0.59**	**273**	*e*P	Pn	03 39 48.8	-1.0
	baz=273						
NSY	**Sanyi**	**0.61**	**280**	*e*P	Pn	03 39 49.3	-0.7
	baz=280						
NMLH	**Miaoli**	**0.61**	**291**	*e*P	Pn	03 39 49.3	-0.9
	baz=301						
VWDT	**VWDT**	**0.61**	**205**	*e*P	Pg	03 39 45.5	-1.4
	baz=210						
SBCB	**Hsinchu**	**0.62**	**320**	*e*P	Pn	03 39 49.6	-0.6
	baz=321						
SMLT	**Sun Moon Lake**	**0.64**	**228**	*e*P	Pg	03 39 48.0	+0.5
	baz=237						
EGFH	**Guangfu**	**0.64**	**179**	*e*P	Pb	03 39 48.3	-0.3
	baz=179						
NHDH	**Xindian Distri**	**0.65**	**8**	*e*P	Pb	03 39 48.8	+0.1
	baz=22						
NHDH				*e*S	Sg	03 39 56.8	+0.6
	baz=22						
NTC	**Toucheng**	**0.65**	**35**	*e*P	Pg	03 39 47.6	-0.1
	baz=45						
PTSB	**Yuanli**	**0.66**	**282**	*e*P	Pn	03 39 50.5	-0.3
	baz=282						
SSLB	**Suanglung**	**0.68**	**219**	*e*P	Pg	03 39 48.2	+0.1
	baz=219						
EOS1	**EOS1**	**0.69**	**70**	*e*P	Pb	03 39 48.8	-0.5
	baz=70						
TCU	**Taichung**	**0.70**	**256**	*e*P	Pn	03 39 51.6	+0.4
	baz=256						
EGS		**0.70**	**41**	*e*P	Pg	03 39 48.7	0.0
	baz=43						
WDJ	**Dajia District**	**0.71**	**273**	*e*P	Pn	03 39 51.1	-0.3
	baz=284						
TAP	**Taipei**	**0.72**	**6**	*e*P	Pb	03 39 50.7	+0.7
	baz=8.0						
TIPB	**Shuangxi**	**0.75**	**29**	*e*P	Pg	03 39 49.6	0.0
	baz=20						
TIPB				*e*S	Sg	03 39 59.4	0.0
	baz=20						
TWS1	**Kuangyinshan**	**0.78**	**360**	*e*P	Pn	03 39 51.8	-0.6
	baz=355						
WJS	**Zhushan**	**0.80**	**232**	*e*P	Pn	03 39 52.2	-0.5
	baz=226						
WNT	**Mingjian**	**0.80**	**237**	*e*P	Pb	03 39 51.7	+0.5
	baz=231						
WHYT	**Xinyi Township**	**0.81**	**220**	*e*P	Pb	03 39 51.2	-0.2
	baz=220						
EHY	**Hungye**	**0.81**	**186**	*e*P	Pb	03 39 51.6	+0.2
	baz=178						
NWF	**Wu-fen Shan**	**0.82**	**24**	*e*P	Pb	03 39 51.6	-0.1
	baz=24						
WFSB	**Wu-fen Shan**	**0.82**	**24**	*e*P	Pg	03 39 51.2	+0.3
	baz=24						
YM01	**YM01**	**0.84**	**9**	*e*P	Pb	03 39 52.1	+0.2
	baz=10.0						
YM04	**YM04**	**0.84**	**7**	*e*P	Pb	03 39 52.6	+0.6
	baz=22						
NTST	**Danshui**	**0.85**	**2**	*e*P	Pn	03 39 53.8	+0.5
	baz=3.0						
YM11	**YM11**	**0.86**	**9**	*e*P	Pb	03 39 52.5	+0.1
	baz=11						
TWB1	**Santiao Chiao**	**0.86**	**37**	*e*P	Pb	03 39 52.0	-0.3
	baz=45						
ANP	**Anpu**	**0.87**	**6**	*e*P	Pb	03 39 52.4	-0.1
	baz=21						
YM08	**YM08**	**0.88**	**10**	*e*P	Pg	03 39 52.3	+0.3
	baz=11						
YULB	**Yu-li**	**0.93**	**187**	*e*P	Pg	03 39 50.9	-2.0
	baz=180						
TWF1	**Yuli**	**0.96**	**187**	*e*P	Pb	03 39 54.5	+0.4
	baz=179						
ALS	**Alishan**	**0.98**	**215**	*e*P	Pg	03 39 53.8	-0.1
	baz=223						
CHN5	**Tsauling**	**0.98**	**224**	*e*P	Pn	03 39 55.5	+0.2
	baz=217						
WGK	**Gukeng**	**1.00**	**232**	*e*P	Pn	03 39 56.9	+1.4
	baz=231						
RLNB	**Erlin**	**1.06**	**247**	*e*P	Pn	03 39 57.5	+1.4
	baz=247						
FULB	**Fuli**	**1.12**	**186**	*e*P	Pn	03 39 57.2	+0.1
	baz=196						
CHN2	**Minshiung**	**1.16**	**228**	*e*P	Pn	03 39 59.4	+1.7
	baz=244						
CHN4	**Tsaushan**	**1.22**	**218**	*e*P	Pg	03 39 59.0	+0.5
	baz=218						
TPUB	**Ta-pu**	**1.24**	**216**	*e*P	Pg	03 39 58.9	0.0
	baz=215						
STYT	**Tauyuan**	**1.30**	**208**	*e*P	Pg	03 40 00.7	+0.7
	baz=193						
TWK	**Hsinying**	**1.35**	**219**	*e*P	Pg	03 40 02.1	+1.1
	baz=218						
SNST	**Tainan City**	**1.38**	**218**	*e*P	Pg	03 40 02.4	+0.8
	baz=217						
CHN1	**Nanshi**	**1.39**	**216**	*e*P	Pg	03 40 02.0	+0.3
	baz=215						
SLGT	**Liugui**	**1.49**	**208**	*e*P	Pb	03 40 03.4	+0.3
	baz=197						
TWG	**Pinlang**	**1.52**	**192**	*e*P	Pg	03 40 05.3	+1.1
	baz=172						
TWGBT	**Beinan**	**1.52**	**192**	*e*P	Pg	03 40 04.4	+0.1
	baz=172						
MASBT	**Mashibuluo**	**1.84**	**203**	*e*P	Pg	03 40 10.4	0.0
	baz=202						
WDGT	**Dungji**	**1.92**	**237**	*e*P	Pg	03 40 11.2	-0.8
	baz=238						
EAST	**Anshuo**	**1.99**	**195**	*e*P	Pg	03 40 13.0	-0.3
	baz=193						

*THE **07** 03:46:43.2, 39°28N×23°00E, h10km±1km, ML1.9/14, Error ellipse: s-maj=1.1km s-min=0.5km az=341.0*

ATH 07 03:46:42.5, 39°26N×22°97E, h15km±3km, ML2.0/8, Error ellipse: s-maj=4.0km s-min=0.7km az=25.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FYTO	**Fytoko, Volos**	**0.15**	**350**	P	Pg	03 46 46.4	0.0
FYTO				S	Sg	03 46 48.7	-0.3
FYTO	**Fytoko, Volos**	**0.15**	**350**	P	Pg	03 46 46.4	0.0
FYTO				S	Sg	03 46 48.5	-0.4
XOR	**Xorichti**	**0.20**	**59**	P	Pg	03 46 47.1	-0.1
XOR				S	Sg	03 46 50.4	+0.1
XOR	**Xorichti**	**0.20**	**59**	P	Pg	03 46 47.2	0.0
XOR				S	Sg	03 46 49.9	-0.4
XOR				AML	AML	03 46 50.6	
	comp=E,3761μm,0.3s						
XOR				AML	AML	03 46 51.2	
	comp=N,5030μm,0.2s						
NEO	**Neokhori**	**0.20**	**77**	P	Pg	03 46 47.1	-0.1
NEO				S	Sg	03 46 50.2	-0.1
NEO	**Neokhori**	**0.20**	**77**	P	Pg	03 46 47.2	0.0
NEO				S	Sg	03 46 50.1	-0.2
NEO				AML	AML	03 46 51.3	
	comp=E,6548μm,0.1s						
NEO				AML	AML	03 46 51.4	
	comp=N,12862μm,0.3s						
SKIA	**Skiathos**	**0.40**	**104**	P	Pg	03 46 50.6	+0.1
SKIA				S	Sg	03 46 56.2	+0.3
SKIA	**Skiathos**	**0.40**	**104**	P	Pg	03 46 50.6	+0.1
SKIA				S	Sg	03 46 56.1	+0.1
SKIA				AML	AML	03 46 56.8	
	comp=E,509μm,0.1s						
SKIA				AML	AML	03 46 57.5	
	comp=N,435μm,0.2s						
SMIA	**Simia**	**0.42**	**154**	P	Pb	03 46 51.6	-0.1
SMIA				S	Sb	03 46 57.4	-0.6
SMIA	**Simia**	**0.42**	**154**	P	Pb	03 46 51.6	-0.1
SMIA				S	Sb	03 46 57.9	-0.1
AXAR	**Agios Charalam**	**0.55**	**206**	P	Pb	03 46 54.6	+0.7
AXAR				S	Sn	03 47 03.5	-1.3
AGG	**Agios Georgios**	**0.55**	**245**	P	Pg	03 46 53.4	0.0
AGG				S	Sb	03 47 02.9	+1.2
AGG	**Agios Georgios**	**0.55**	**245**	P	Pg	03 46 53.3	-0.1
AGG				S	Sb	03 47 01.5	-0.2
AGG				AML	AML	03 47 05.2	
	comp=N,194μm,0.2s						
AGG				AML	AML	03 47 05.7	
	comp=E,248μm,0.4s						
ATAL	**Atalanti**	**0.57**	**176**	P	Pb	03 46 54.1	-0.1
ATAL				S	Sb	03 47 02.7	+0.6
ATAL	**Atalanti**	**0.57**	**176**	P	Pg	03 46 53.9	+0.1
ATAL				S	Sg	03 47 01.6	+0.2
ATAL				AML	AML	03 47 06.0	
	comp=N,148μm,0.2s						
ATAL				AML	AML	03 47 06.0	
	comp=E,175μm,0.4s						
LRSO	**Larissa Observ**	**0.61**	**313**	P	Pg	03 46 54.6	+0.2
LRSO	**Larissa Observ**	**0.61**	**313**	P	Pg	03 46 54.2	-0.3
LRSO				S	Sb	03 47 03.3	+0.1
ALNA	**Alonissos**	**0.70**	**99**	P	Pb	03 46 56.9	+0.4
ALNA				S	Sg	03 47 05.3	-0.3
AOS	**Alonnisos**	**0.71**	**97**	P	Pg	03 46 56.0	-0.4
AOS				S	Sg	03 47 05.7	-0.1
AOS	**Alonnisos**	**0.71**	**97**	P	Pg	03 46 55.8	-0.6
AOS				S	Sg	03 47 05.9	+0.2
AOS				AML	AML	03 47 06.5	
	comp=N,175μm,0.3s						
AOS				AML	AML	03 47 08.9	
	comp=E,201μm,0.3s						
MRKA	**Markates**	**0.73**	**139**	P	Pg	03 46 56.8	0.0
MRKA				S	Sb	03 47 07.2	+0.3
MRKA	**Markates**	**0.73**	**139**	P	Pg	03 46 56.6	-0.3
MRKA				S	Sg	03 47 06.1	-0.4
THL	**Klokotos Trika**	**0.80**	**292**	P	Pg	03 46 57.3	-0.8
THL				S	Sb	03 47 09.3	+0.6
THL				AML	AML	03 47 11.2	
	comp=N,155μm,0.2s						
THL				AML	AML	03 47 12.7	
	comp=E,169μm,0.4s						
PAIG	**Paliouri**	**0.86**	**39**	P	Pg	03 46 59.5	+0.3
PAIG				S	Sn	03 47 11.8	-0.6
LIT	**Litokhoron**	**0.92**	**336**	P	Pb	03 46 59.9	-0.2
LIT				S	Sn	03 47 13.3	-0.6
DSF	**Desfina**	**0.92**	**202**	P	Pb	03 46 59.4	-0.8
DSF				S	Sn	03 47 13.1	-0.8
EVR	**Evrytania**	**0.97**	**249**	P	Pg	03 47 01.3	0.0
VIL2	**Platees**	**1.07**	**167**	P	Pg	03 47 03.6	+0.4
VIL2				S	Sn	03 47 18.9	+1.2
SERG	**Sergoula**	**1.11**	**220**	P	Pb	03 47 03.3	-0.1
SERG				S	Sg	03 47 18.1	-0.3
SERG				AML	AML	03 47 22.9	
	comp=N,113μm,0.4s						
SERG				AML	AML	03 47 23.0	
	comp=E,129μm,0.5s						
EREA	**Eretria**	**1.13**	**138**	P	Pg	03 47 04.3	+0.1
EREA				S	Sn	03 47 20.2	+1.2
EREA	**Eretria**	**1.13**	**138**	P	Pn	03 47 04.0	+0.2
EREA				S	Sg	03 47 18.8	-0.1
TRIZ	**Trizonia**	**1.14**	**218**	P	Pn	03 47 04.0	+0.2
EFP	**Efpalio**	**1.18**	**225**	P	Pb	03 47 04.6	0.0
EFP				S	Sg	03 47 21.6	+1.0
LTK	**Loutraki**	**1.24**	**180**	P	Pb	03 47 05.8	+0.2
LAKA	**Lakka**	**1.28**	**218**	P	Pb	03 47 06.8	+0.4
SKY	**Skiros Island**	**1.29**	**107**	P	Pn	03 47 05.6	-0.4
SKY				S	Sg	03 47 24.5	+0.4
PVO	**Paravola**	**1.30**	**241**	P	Pg	03 47 07.2	-0.3
KLV	**Kalavryta, Ach**	**1.38**	**208**	P	Pg	03 47 08.9	0.0
GUR	**Goura**	**1.41**	**201**	P	Pb	03 47 08.4	-0.3

TAP 07 03:52:34.8,24°31N×121°43E,h6km,ML2.5,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.11**	**154**	*e*P	Pg	03 52 38.2	+0.9
	baz=155						
ETLH				S	Sg	03 52 39.9	+1.0
	baz=155						
NNSB	**Datong**	**0.13**	**341**	P	Pg	03 52 37.9	+0.4
	baz=340						
NNS	**Nan Shan**	**0.14**	**339**	P	Pg	03 52 38.2	+0.4
	baz=340						
NACB	**Ninganchiao**	**0.20**	**131**	P	Pg	03 52 39.6	+0.8
	baz=132						
NACB				S	Sg	03 52 42.2	+0.8
	baz=132						
WHF	**Hehuan Shan**	**0.22**	**223**	P	Pg	03 52 39.7	+0.4
	baz=210						
TDCB	**Techi**	**0.25**	**258**	P	Pb	03 52 40.9	-0.9
	baz=255						
TDCB				S	Sg	03 52 44.3	+1.1
	baz=255						
TWD	**Chiawan**	**0.27**	**146**	P	Pg	03 52 41.0	+0.9
	baz=146						
NDT	**Datong Townshi**	**0.30**	**15**	*e*P	Pg	03 52 41.1	+0.4
	baz=13						
ENA	**Nanau**	**0.31**	**67**	*e*P	Pg	03 52 41.0	+0.2
	baz=69						
ENA				*e*S	Sg	03 52 44.8	-0.1
	baz=69						
CHGB	**Renai**	**0.34**	**223**	*e*P	Pg	03 52 41.7	+0.2
	baz=222						
CHGB				*e*S	Sg	03 52 46.8	+0.8
	baz=222						
ENTT	**Nioudou**	**0.35**	**21**	*e*P	Pg	03 52 42.2	+0.6
	baz=12						
YHNB	**Yeheng**	**0.36**	**352**	*e*P	Pg	03 52 42.3	+0.4
	baz=353						
YHNB				*e*S	Sg	03 52 47.0	+0.3
	baz=353						
HWA	**Hwalien**	**0.37**	**154**	*e*P	Pb	03 52 43.2	-0.4
	baz=143						
NSK	**Sanguang**	**0.37**	**350**	*e*P	Pg	03 52 42.9	+0.8
	baz=352						
NSK				*e*S	Sg	03 52 47.6	+0.6
	baz=352						
OWD	**Renai**	**0.42**	**213**	*e*P	Pg	03 52 42.8	-0.2
	baz=214						
ENLB	**Shoufeng**	**0.43**	**159**	*e*P	Pb	03 52 44.0	-0.7
	baz=147						
WHP	**Taichung City**	**0.44**	**266**	*e*P	Pb	03 52 44.5	-0.6
	baz=265						
TWE	**Neicheng**	**0.47**	**28**	*e*P	Pg	03 52 44.3	+0.5
	baz=41						
NWLT	**Wulai**	**0.47**	**8**	*e*P	Pg	03 52 44.4	+0.4
	baz=357						
TWC	**Suao**	**0.49**	**52**	*e*P	Pg	03 52 44.2	0.0
	baz=54						
ESL	**Shilin**	**0.49**	**180**	*e*P	Pb	03 52 44.9	+0.6
	baz=169						
LIOB	**Emei**	**0.51**	**312**	*e*P	Pg	03 52 45.1	+0.5
	baz=310						
NSTT	**Nanjuang**	**0.51**	**310**	*e*P	Pb	03 52 46.0	-0.1
	baz=308						
TWQ1	**Liyutan**	**0.60**	**274**	*e*P	Pb	03 52 48.1	+0.4
	baz=273						
VWDT	**VWDT**	**0.61**	**206**	*e*P	Pg	03 52 46.4	-0.1
	baz=211						
EGFH	**Guangfu**	**0.64**	**180**	*e*P	Pg	03 52 47.4	+0.4
	baz=174						
SMLT	**Sun Moon Lake**	**0.64**	**229**	*e*P	Pb	03 52 48.0	-0.4
	baz=228						
TYC	**Yuchr**	**0.66**	**233**	*e*P	Pb	03 52 48.3	-0.4
	baz=241						
TATO	**Taipei**	**0.67**	**5**	*e*P	Pg	03 52 47.4	-0.3
	baz=3.0						
SSLB	**Suanglung**	**0.68**	**220**	P	Pg	03 52 47.6	-0.2
	baz=220						
EOS1	**EOS1**	**0.68**	**69**	*e*P	Pb	03 52 48.6	-0.4
	baz=71						
TWA	**Mucha**	**0.68**	**12**	*e*P	Pn	03 52 50.4	-0.6
	baz=25						
EGS		**0.70**	**40**	*e*P	Pb	03 52 49.5	+0.1
	baz=41						
TCU	**Taichung**	**0.71**	**257**	*e*P	Pb	03 52 49.1	-0.4
	baz=256						
TIPB	**Shuangxi**	**0.75**	**29**	P	Pg	03 52 49.3	0.0
	baz=18						
TIPB				*e*S	Sg	03 52 58.7	-0.4
	baz=18						
TWS1	**Kuangyinshan**	**0.79**	**359**	*e*P	Pb	03 52 50.7	-0.2
	baz=358						
EHY	**Hungye**	**0.80**	**187**	*e*P	Pb	03 52 51.2	0.0
	baz=180						
HGSD	**Ruisui**	**0.81**	**180**	*e*P	Pb	03 52 51.8	+0.5
	baz=189						
NWF	**Wu-fen Shan**	**0.82**	**23**	*e*P	Pb	03 52 52.0	+0.5
	baz=22						
WFSB	**Wu-fen Shan**	**0.82**	**23**	*e*P	Pb	03 52 52.1	+0.6
	baz=22						
YM01	**YM01**	**0.84**	**9**	*e*P	Pb	03 52 51.8	0.0
	baz=8.0						
YM05	**YM05**	**0.86**	**8**	*e*P	Pb	03 52 52.6	+0.4
	baz=22						
TWB1	**Santiao Chiao**	**0.86**	**36**	*e*P	Pb	03 52 52.1	0.0
	baz=36						
YULB	**Yu-li**	**0.92**	**188**	*e*P	Pb	03 52 53.0	-0.2
	baz=182						
TWF1	**Yuli**	**0.96**	**187**	*e*P	Pg	03 52 53.3	+0.1
	baz=182						
CHN5	**Tsauling**	**0.99**	**224**	*e*P	Pn	03 52 55.1	-0.1
	baz=218						
CHN4	**Tsaushan**	**1.22**	**219**	*e*P	Pn	03 52 58.6	+0.2
	baz=229						
TWK	**Hsinying**	**1.35**	**220**	*e*P	Pg	03 53 01.3	+0.6
	baz=220						
CHN1	**Nanshi**	**1.39**	**217**	*e*P	Pg	03 53 02.3	+0.8
	baz=217						
YOJ	**Yonaguni jima**	**1.45**	**84**	*e*P	Pn	03 53 01.6	+0.1
	baz=74						

UCR 07 03:56:17.7±2.2,9°16N×84°12W,h18km±6km,MD3.9, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDLM	**Las Mercedes**	**0.53**	**77**	*e*P	Pg	03 56 27.8	-0.7
EDLM				*e*S	Sb	03 56 36.4	+0.5
LCR2	**La Lucha 2**	**0.59**	**11**	*e*P	Pg	03 56 28.7	-0.9
LCR2				*e*S	Sb	03 56 38.3	+0.6
EDPN	**Palmar Norte**	**0.68**	**107**	*e*P	Pb	03 56 30.1	-0.8
SJS	**Escuela Geolog**	**0.78**	**4**	*e*P	Pg	03 56 33.0	0.0
EDBA	**Buenos Aires**	**0.83**	**90**	*e*P	Pb	03 56 32.1	-1.5
EDBA				*e*S	Sg	03 56 45.1	+0.1
HDC	**Heredia**	**0.84**	**0**	*i* P	Pb	03 56 33.0	-0.8
HDC				*e*S	Sg	03 56 45.4	+0.2
PTJ1	**Puerto Jimnez**	**1.01**	**128**	*i* P	Pb	03 56 35.5	-1.2
PTJ1				*e*S	Sg	03 56 50.6	-0.2
EDSV	**San Vito**	**1.18**	**107**	*e*P	Pn	03 56 37.1	-2.3
JTS	**JuntasAbangare**	**1.39**	**324**	*i* P	Pn	03 56 40.6	-1.6
JTS				*i* S	Sn	03 56 59.3	-1.0
CASO	**Castillo**	**1.41**	**334**	*i* P	Pn	03 56 42.9	+0.4
FORC	**Fortuna**	**1.41**	**337**	*i* P	Pn	03 56 41.7	-0.7
ARE1	**Arenal 1**	**1.42**	**335**	*e*P	Pn	03 56 42.3	-0.4
CEDE	**Laguna Cedeo**	**1.44**	**336**	*e*P	Pn	03 56 43.1	+0.2
TRT1	**Tortuguero**	**1.49**	**16**	*e*P	Pn	03 56 43.3	-0.2
AMAS	**Alto Masis**	**1.68**	**329**	*i* P	Pn	03 56 45.9	-0.4
AMAS				*i* S	Sn	03 57 07.5	0.0
PLVR	**Palo Verde**	**1.70**	**314**	*e*P	Pn	03 56 44.7	-1.9
ACAL	**Aguas Claras**	**1.72**	**328**	*i* P	Pn	03 56 47.4	+0.5

LAPC	**Finca la Perla**	**2.06 321**	*i* P	Pn	03 56 51.1	-0.3
GB1A	**Borinquen Arri**	**2.08 323**	*i* P	Pn	03 56 52.6	+0.9
GBS3	**Finca Las Img**	**2.08 321**	*i* P	Pn	03 56 51.4	-0.3
BUAI	**Buenos Aires**	**2.08 325**	*i* P	Pn	03 56 53.0	+1.2
AZU	**Azuero**	**4.04 109**	*e*P	Pn	03 57 18.5	-0.1
ZANG	**Zanguenga, Cho**	**4.20 92**	*i* P	Pn	03 57 20.7	-0.1
BCIP	**Isla Barro Col**	**4.22 90**	*e*P	Pn	03 57 21.0	-0.2
FRIJ	**El Hiral**	**4.33 89**	*i* P	Pn	03 57 22.5	-0.2
UPA	**Univ. de Panam**	**4.53 92**	*e*P	Pn	03 57 25.5	+0.1
UPD2	**Meteti**	**6.06 95**	*e*P	Pn	03 57 46.9	+0.5

*TRN **07** 03:58:15.6, 17.17N×60.69W, h40km, MD4.0*
*ISCJB **07** 03:58:17.0±0.6, 17.11N±0.03×60.71W±0.04, h63km±5km, mb3.8/9, Error ellipse: s-maj=7.8km s-min=3.2km az=150.8*
*IDC **07** 03:58:18.3±5.7, 16.95N×60.83W, h53km±47km, mb3.6/9, mb1 3.8/12, mb1mx3.5/42, mbtmp3.9/12, ML2.5/2, Error ellipse: s-maj=41.1km s-min=14.7km az=79.0*
ISC 07 03:58:17.2±1.5, 17.13N±0.05×60.72W±0.07, h47km±14km, n85, σ1s31/113, mb4.0/9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H05N1	**Guadeloupe/Mar** SNR=4996	**0.87**	**202**	P	**Pn**	**03 58 32.2**	**-0.9**
H05N1				S	**Sn**	**03 58 43.6**	**-1.2**
DEG	**La Desirade**	**0.87**	**202**	*e*P	**Pn**	**03 58 33.6**	**+0.4**
ABD	**La Joyeuse, An**	**0.98**	**229**	*e*P	**Pn**	**03 58 34.3**	**-0.3**
BPA	**Boggy Peak**	**1.09**	**266**	*e*P	**Pn**	**03 58 36.8**	**+0.6**
BPA				*e*S	**Sn**	**03 58 50.9**	**+0.7**
ANWB	**Willy Bob**	**1.15**	**298**	*e*P	**Pn**	**03 58 36.4**	**-0.6**
ANWB				*e*S	**Sn**	**03 58 52.3**	**+0.8**
MAGL	**Barre de l'ile**	**1.29**	**205**	*e*P	**Pn**	**03 58 39.0**	**+0.1**
CBE	**Ff, Capester**	**1.35**	**219**	*e*P	**Pn**	**03 58 40.5**	**+0.7**
MLYT	**Lee's Yard**	**1.47**	**254**	*e*P	**Pn**	**03 58 42.6**	**+1.4**
MLYT				*e*S	**Sn**	**03 59 01.8**	**+2.5**
TDBA	**Terre de Bas,**	**1.55**	**215**	*e*P	**Pn**	**03 58 43.5**	**+1.1**
TBG	**Guadaloupe-3**	**1.55**	**215**	*e*P	**Pn**	**03 58 43.7**	**+1.4**
TBG				*e*S	**Sn**	**03 59 03.9**	**+2.6**
MDPV	**Dominica, Penn**	**1.64**	**204**	*e*P	**Pn**	**03 58 44.7**	**+1.1**
MDPV				*e*S	**Sn**	**03 59 05.2**	**+1.7**
DWS	**Wesley**	**1.65**	**200**	*e*P	**Pn**	**03 58 44.0**	**+0.3**
DWS				*e*S	**Sn**	**03 59 05.9**	**+2.1**
MDPO	**Dominica; Chan**	**1.70**	**205**	*e*P	**Pn**	**03 58 45.1**	**+0.7**
MDPO				*e*S	**Sn**	**03 59 05.8**	**+0.9**
BBL	**Barber's Block**	**1.75**	**204**	*e*P	**Pn**	**03 58 45.7**	**+0.6**
BBL				*e*S	**Sn**	**03 59 07.9**	**+1.7**
NEV	**Hard Times**	**1.77**	**271**	*e*P	**Pn**	**03 58 47.0**	**+1.6**
NEV				*e*S	**Sn**	**03 59 08.1**	**+1.3**
DLPL	**La Plaine**	**1.86**	**196**	*e*P	**Pn**	**03 58 47.1**	**+0.5**
DLPL				*e*S	**Sn**	**03 59 10.1**	**+1.2**
MDN	**Morne-Daniel**	**1.91**	**200**	*e*P	**Pn**	**03 58 48.0**	**+0.6**
MDN				*e*S	**Sn**	**03 59 12.5**	**+2.3**
DBCT	**Belle View Cho**	**1.94**	**198**	*e*P	**Pn**	**03 58 48.4**	**+0.5**
DBCT				*e*S	**Sn**	**03 59 12.9**	**+1.9**
DSTT	**Stowe**	**1.95**	**197**	*e*P	**Pn**	**03 58 49.3**	**+1.4**
DSTT				*e*S	**Sn**	**03 59 13.6**	**+2.3**
DPMT	**Pointe Michel**	**1.96**	**199**	*e*P	**Pn**	**03 58 48.9**	**+0.9**
DPMT				*e*S	**Sn**	**03 59 13.0**	**+1.6**
SEUS	**St. Eustatius**	**2.19**	**280**	*e*P	**Pn**	**03 58 52.1**	**+0.9**
SEUS				*e*S	**Sn**	**03 59 18.3**	**+1.2**
BAMF	**Morne Balai**	**2.34**	**190**	*e*P	**Pn**	**03 58 53.5**	**+0.3**
CXM	**Morne La Croix**	**2.34**	**191**	*e*P	**Pn**	**03 58 53.6**	**+0.1**
ILAM	**Ilet Lapin Mar**	**2.34**	**184**	*e*P	**Pn**	**03 58 54.0**	**+0.7**
PCM	**Pelee Case Pet**	**2.35**	**192**	*e*P	**Pn**	**03 58 53.5**	**+0.2**
GBMF	**Grand Be**	**2.36**	**191**	*e*P	**Pn**	**03 58 53.6**	**0.0**
PML	**Morne Lenard**	**2.38**	**191**	*e*P	**Pn**	**03 58 54.0**	**+0.2**
FDF	**Fort de France**	**2.42**	**190**	*e*P	**Pn**	**03 58 54.4**	**+0.1**
FDF				*e*S	**Sn**	**03 59 23.3**	**+0.6**
SMRT	**St. Maarten**	**2.43**	**293**	*e*P	**Pn**	**03 58 54.1**	**-0.3**
SMRT				*e*S	**Sn**	**03 59 22.8**	**-0.1**
LPMF	**Morne Lapointe**	**2.55**	**185**	*e*P	**Pn**	**03 58 56.2**	**+0.1**
ZAM	**Aeronautique**	**2.56**	**187**	*e*P	**Pn**	**03 58 56.3**	**+0.1**
TRMF	**Trois Ilets**	**2.60**	**187**	*e*P	**Pn**	**03 58 57.3**	**+0.6**
BIM	**Bigot**	**2.62**	**187**	*e*P	**Pn**	**03 58 57.9**	**+0.8**
H05S1	**Guadeloupe/Mar**	**2.69**	**182**	P	**Pn**	**03 58 59.8**	**+1.8**
H05S1				S	**Sn**	**03 59 28.8**	**-0.6**
SLB	**Belfond**	**3.30**	**185**	*e*P	**Pn**	**03 59 07.8**	**+1.3**
SLB				*e*S	**Sn**	**03 59 45.0**	**+0.6**
MCLT	**Moule a Chique**	**3.41**	**184**	*e*P	**Pn**	**03 59 09.0**	**+1.1**
MCLT				*e*S	**Sn**	**03 59 47.0**	**0.0**
SFAN	**Fancy Village**	**3.75**	**187**	*e*P	**Pn**	**03 59 13.7**	**+1.1**
SFAN				*e*S	**Sn**	**03 59 55.8**	**+0.3**
SSV	**Crater Summit**	**3.81**	**187**	*e*P	**Pn**	**03 59 15.1**	**+1.6**
SSV				*e*S	**Sn**	**03 59 56.1**	**-1.0**
SVV	**Soufriere Volc**	**3.82**	**187**	*e*P	**Pn**	**03 59 14.9**	**+1.3**
SVV				*e*S	**Sn**	**03 59 57.8**	**+0.6**
SVCV	**St. Vincent, C**	**3.86**	**186**	*e*P	**Pn**	**03 59 15.2**	**+1.1**
SVCV				*e*S	**Sn**	**03 59 58.7**	**+0.5**
SVB	**Belmont**	**3.87**	**188**	*e*P	**Pn**	**03 59 15.7**	**+1.5**
SVB				*e*S	**Sn**	**03 59 59.4**	**+0.9**
FCV	**Fort Charlotte**	**3.98**	**187**	*e*P	**Pn**	**03 59 16.9**	**+1.1**
FCV				*e*S	**Sn**	**04 00 01.6**	**+0.4**
BBGH	**Gun Hill**	**4.12**	**164**	*e*P	**Pn**	**03 59 19.2**	**+1.6**
BBGH	**Gun Hill**	**4.12**	**164**	*e*S	**Sn**	**04 00 05.3**	**+0.8**
BBSP	**Saint Philip**	**4.18**	**163**	*e*P	**Pn**	**03 59 19.0**	**+0.5**
BBSP	**Saint Philip**	**4.18**	**163**	*e*S	**Sn**	**04 00 06.5**	**+0.3**
GRSS	**Sisters**	**4.88**	**190**	*e*P	**Pn**	**03 59 30.1**	**+2.0**
GRSS	**Sisters**	**4.88**	**190**	*e*S	**Sn**	**04 00 23.3**	**0.0**
GRHS	**Sauteurs**	**4.96**	**190**	*e*P	**Pn**	**03 59 30.2**	**+1.0**
GRHS	**Sauteurs**	**4.96**	**190**	*e*S	**Sn**	**04 00 25.5**	**+0.3**
GRGR	**Grenville**	**5.05**	**190**	*e*P	**Pn**	**03 59 31.9**	**+1.5**
GRGR	**Grenville**	**5.05**	**190**	*e*S	**Sn**	**04 00 26.6**	**-1.0**
SJG	**San Juan** 5.4nm,0.3s,baz=104,slow=18,SNR=18	**5.27**	**282**	P	**Pn**	**03 59 33.9**	**+0.5**
SJG				S	**Sn**	**04 00 33.1**	**+0.2**
	5.0nm,0.3s,baz=328,slow=9.5,SNR=3.4						
TOSP	**Speyside**	**5.80**	**178**	*e*P	**Pn**	**03 59 42.3**	**+1.5**
TOSP	**Speyside**	**5.80**	**178**	*e*S	**Sn**	**04 00 44.5**	**-1.4**
TPR	**Prospect**	**5.91**	**181**	*e*P	**Pn**	**03 59 43.9**	**+1.6**
BOT	**Bacolet**	**5.93**	**180**	*e*P	**Pn**	**03 59 43.9**	**+1.4**
TRN	**Trinidad (W)**	**6.48**	**186**	*e*P	**Pn**	**03 59 52.7**	**+2.7**
TRN	**Trinidad (W)**	**6.48**	**186**	*e*S	**Sn**	**04 01 01.6**	**-1.0**
SDDR	**Presa de Saban**	**10.22**	**282**	*e*P	**Pn**	**04 00 40.9**	**-0.5**
SDV	**Santo Domingo** 0.3nm,0.3s,baz=58,slow=13,SNR=2.7	**12.66**	**231**	P	**Pn**	**04 01 13.2**	**-1.7**
OCAC	**Ocana**	**15.13**	**236**	*e*P	**P**	**04 01 49.6**	**-2.9**
OCAC	**Ocana**	**15.13**	**236**	*e*P	**P**	**04 01 49.6**	**-2.9**
PAMC	**Pamplona, Colo**	**15.21**	**232**	*e*P	**P**	**04 01 54.6**	**+0.8**
PAMC	**Pamplona, Colo**	**15.21**	**232**	*e*P	**P**	**04 01 54.6**	**+0.8**
BRRC	**Barranca, Sant**	**16.13**	**233**	*e*P	**P**	**04 02 02.3**	**-1.2**
BRRC	**Barranca, Sant**	**16.13**	**233**	*e*P	**P**	**04 02 02.3**	**-1.2**
RUSC	**La Rusia**	**16.46**	**229**	*e*P	**Pn**	**04 02 04.3**	**-1.2**
RUSC	**La Rusia**	**16.46**	**229**	*e*P	**Pn**	**04 02 04.3**	**-1.2**
PTBC	**PUERTO BERRIO,**	**17.06**	**234**	*e*P	**Pn**	**04 02 09.7**	**-2.8**
PTBC	**PUERTO BERRIO,**	**17.06**	**234**	*e*P	**Pn**	**04 02 09.7**	**-2.8**
CHIC	**Chingaza**	**17.80**	**227**	*e*P	**P**	**04 02 24.4**	**+2.0**
CHIC	**Chingaza**	**17.80**	**227**	*e*P	**P**	**04 02 24.4**	**+2.0**
ROSC	**El Rosal** 0.3nm,0.3s,baz=37,slow=18,SNR=4.6	**18.07**	**229**	P	**Pn**	**04 02 25.3**	**-0.1**
HELC	**Santa Helena**	**18.11**	**235**	*e*P	**Pn**	**04 02 25.5**	**-0.3**
HELC	**Santa Helena**	**18.11**	**235**	*e*P	**Pn**	**04 02 25.5**	**-0.3**
ATAH	**Atahualpa** 4.2nm,0.8s,baz=41,slow=11,SNR=3.0	**29.77**	**217**	P	**P**	**04 04 17.0**	**-3.1**
LPAZ	**La Paz** 1.2nm,0.8s,baz=352,slow=8.1,SNR=3.0	**34.00**	**193**	P	**P**	**04 04 56.2**	**-1.1**
SCHQ	**Schefferville** 1.4nm,0.7s,baz=218,slow=17,SNR=3.6	**37.92**	**354**	P	**P**	**04 05 31.4**	**+1.5**
LVC	**Limon Verde** 2.8nm,0.8s,baz=354,slow=10,SNR=3.9	**40.30**	**192**	P	**P**	**04 05 48.7**	**-1.8**
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=105,slow=7.9,SNR=4.0	**41.08**	**295**	P	**P**	**04 05 57.9**	**+1.3**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=110,slow=9.7,SNR=3.0	**48.59**	**312**	P	**P**	**04 06 56.5**	**+0.1**
PLCA	**Paso Flores** 2.3nm,0.9s,baz=30,slow=8.1,SNR=3.8	**58.28**	**189**	P	**P**	**04 08 07.7**	**+0.5**
YKA	**Yellowknife Ar** 0.8nm,0.7s,baz=107,slow=7.4,SNR=5.7	**58.61**	**334**	P	**P**	**04 08 10.3**	**+1.2**
ILAR	**Eielson Array** 0.5nm,0.6s,baz=100,slow=3.7,SNR=14	**73.03**	**333**	P	**P**	**04 09 42.9**	**+0.9**

*TAP **07** 04:03:51.8, 24.34N×121.44E, h7km, ML3.7, C*
*ISCJB **07** 04:03:52.3±0.2, 24.34N±0.01×121.47E±0.01, h0km±2km, Error ellipse: s-maj=2.2km s-min=1.5km az=29.8*
*JMA **07** 04:03:52.2±0.1, 24.32N×121.42E, h6km±3km, M3.5*
ISC 07 04:03:52.3±0.8, 24.34N±0.01×121.44E±0.02, h7km±6km, n102, σ0s73/147, 9C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong** baz=332	**0.10**	**331**	P	**Pg**	**04 03 54.6**	**-0.1**
NNSB				S	**Sg**	**04 03 56.2**	**-0.1**
NNS	**Nan Shan** baz=334	**0.12**	**329**	P	**Pg**	**04 03 54.9**	**0.0**
NNS				S	**Sg**	**04 03 56.7**	**0.0**
ETLH	**Xiulin Townshi** baz=172	**0.14**	**163**	*e*P	**Pg**	**04 03 55.8**	**+0.5**
ETLH				S	**Sg**	**04 03 57.8**	**+0.5**
NACB	**Ninganchiao** baz=139	**0.22**	**139**	⇑P	**Pg**	**04 03 57.0**	**+0.3**
NACB				S	**Sg**	**04 03 59.9**	**+0.2**
WHF	**Hehuan Shan** baz=207	**0.25**	**219**	⇑*i*P	**Pg**	**04 03 57.4**	**0.0**
WHF				S	**Sg**	**04 04 00.9**	**+0.1**
TDCB	**Techi** baz=241	**0.27**	**251**	P	**Pg**	**04 03 57.8**	**+0.1**
TDCB				S	**Sg**	**04 04 01.4**	**+0.2**
NDT	**Datong Townshi** baz=16	**0.27**	**15**	P	**Pg**	**04 03 57.5**	**-0.1**
NDT				S	**Sg**	**04 04 01.8**	**+0.5**
ENA	**Nanau** baz=85	**0.29**	**72**	P	**Pg**	**04 03 57.8**	**-0.2**
TWD	**Chiawan** baz=149	**0.30**	**151**	*e*P	**Pb**	**04 03 58.8**	**-1.2**
TWD				S	**Sg**	**04 04 02.7**	**+0.6**
ENTT	**Nioudou** baz=15	**0.32**	**21**	*e*P	**Pg**	**04 03 58.5**	**-0.1**
ENTT				S	**Sg**	**04 04 03.3**	**+0.4**
YHNB	**Yeheng** baz=352	**0.33**	**350**	P	**Pg**	**04 03 59.0**	**+0.1**
YHNB				S	**Sg**	**04 04 03.0**	**-0.2**
NSK	**Sanguang** baz=350	**0.34**	**348**	*e*P	**Pg**	**04 03 59.2**	**+0.2**
NSK				S	**Sg**	**04 04 03.5**	**0.0**
CHGB	**Renai** baz=219	**0.37**	**221**	⇑P	**Pg**	**04 03 59.5**	**0.0**
CHGB				*e*S	**Sb**	**04 04 05.6**	**-1.7**
HWA	**Hwalien** baz=146	**0.39**	**157**	*e*P	**Pb**	**04 04 00.7**	**-0.9**
TWE	**Neicheng** baz=44	**0.43**	**29**	*e*P	**Pg**	**04 04 00.4**	**-0.3**
TWE				S	**Sg**	**04 04 06.6**	**+0.2**
NWLT	**Wulai** baz=358	**0.44**	**8**	*e*P	**Pg**	**04 04 00.7**	**-0.1**
OWD	**Renai** baz=213	**0.45**	**212**	*e*P	**Pg**	**04 04 00.8**	**-0.3**
WHP	**Taichung City** baz=260	**0.45**	**262**	P	**Pb**	**04 04 01.9**	**-0.8**
WHP				S	**Sg**	**04 04 07.8**	**+0.8**
ENLB	**Shoufeng** baz=161	**0.46**	**161**	P	**Pb**	**04 04 01.7**	**-1.0**
ENLB				*e*S	**Sb**	**04 04 08.0**	**-1.8**
TWC	**Suao** baz=46	**0.46**	**54**	P	**Pg**	**04 04 00.7**	**-0.5**
TWC				*e*S	**Sg**	**04 04 07.1**	**-0.1**
NSTT	**Nanjuang** baz=308	**0.49**	**306**	⇑*i*P	**Pb**	**04 04 02.7**	**-0.6**
NSTT				*i* S	**Sb**	**04 04 09.4**	**-1.3**
ILA	**Ilan** baz=45	**0.51**	**34**	*e*P	**Pb**	**04 04 03.3**	**-0.3**
ESL	**Shilin** baz=179	**0.52**	**180**	*e*P	**Pg**	**04 04 02.4**	**0.0**
ESL				*e*S	**Sg**	**04 04 09.7**	**+0.4**
WLTB	**Daxi** baz=344	**0.54**	**342**	*e*P	**Pb**	**04 04 03.9**	**-0.2**
WLTB				*e*S	**Sb**	**04 04 11.6**	**-0.4**
TWQ1	**Liyutan** baz=271	**0.61**	**271**	P	**Pb**	**04 04 05.1**	**-0.2**
SBCB	**Hsinchu** baz=318	**0.61**	**318**	*e*P	**Pb**	**04 04 05.2**	**-0.1**
NMLH	**Miaoli** baz=289	**0.62**	**289**	*e*P	**Pb**	**04 04 05.6**	**+0.1**
NSY	**Sanyi** baz=278	**0.62**	**277**	*e*P	**Pb**	**04 04 05.8**	**+0.2**
NTC	**Toucheng** baz=44	**0.62**	**35**	*e*P	**Pg**	**04 04 03.9**	**-0.4**
NHDH	**Xindian Distri** baz=7.0	**0.62**	**7**	*e*P	**Pb**	**04 04 05.4**	**-0.2**
TATO	**Taipei** baz=17	**0.63**	**4**	*e*P	**Pg**	**04 04 05.0**	**+0.5**
TATO				*e*S	**Sg**	**04 04 13.0**	**+0.2**
VWDT	**VWDT** baz=211	**0.64**	**205**	⇑P	**Pg**	**04 04 04.2**	**-0.5**
TWA	**Mucha** baz=14	**0.65**	**12**	*e*P	**Pb**	**04 04 05.4**	**-0.6**
TWA				*e*S	**Sg**	**04 04 13.9**	**+0.5**
EOS1	**EOS1** baz=71	**0.66**	**72**	*e*P	**Pg**	**04 04 05.0**	**-0.1**
EOS1				*e*S	**Sb**	**04 04 15.4**	**-0.2**
NCU	**National Centr** baz=340	**0.67**	**340**	*e*P	**Pg**	**04 04 04.5**	**-0.6**
EGFH	**Guangfu** baz=180	**0.67**	**181**	*e*P	**Pg**	**04 04 05.1**	**0.0**
EGFH				*e*S	**Sb**	**04 04 14.2**	**-1.6**
SMLT	**Sun Moon Lake** baz=236	**0.67**	**227**	⇑*i*P	**Pb**	**04 04 05.4**	**-1.0**
EGS	baz=42	**0.68**	**42**	P	**Pg**	**04 04 05.1**	**-0.2**
PTSB	**Yuanli** baz=279	**0.68**	**279**	P	**Pn**	**04 04 07.1**	**-1.2**
PTSB				S	**Sb**	**04 04 16.5**	**+0.5**
TYC	**Yuchr** baz=220	**0.69**	**231**	⇑*i*P	**Pb**	**04 04 05.5**	**-1.1**
TYC				*e*S	**Sb**	**04 04 16.0**	**-0.3**
SSLB	**Suanglung** baz=219	**0.71**	**219**	⇑P	**Pg**	**04 04 05.3**	**-0.6**
TCU	**Taichung** baz=254	**0.72**	**255**	*e*P	**Pn**	**04 04 07.7**	**-1.3**
TIPB	**Shuangxi** baz=18	**0.72**	**29**	P	**Pg**	**04 04 05.6**	**-0.6**
TIPB				S	**Sg**	**04 04 14.7**	**-0.9**
WDJ	**Dajia District** baz=271	**0.73**	**271**	⇑P	**Pn**	**04 04 08.0**	**-1.0**
TWS1	**Kuangyinshan** baz=352	**0.76**	**359**	*e*P	**Pb**	**04 04 08.5**	**+0.7**
NWF	**Wu-fen Shan** baz=23	**0.79**	**23**	*e*P	**Pn**	**04 04 09.4**	**-0.6**
WFSB	**Wu-fen Shan** baz=23	**0.79**	**23**	*e*P	**Pb**	**04 04 08.0**	**-0.4**
YM01	**YM01** baz=8.0	**0.81**	**9**	*e*P	**Pb**	**04 04 08.6**	**-0.2**
YM04	**YM04** baz=21	**0.81**	**6**	*e*P	**Pb**	**04 04 08.4**	**-0.5**
NTST	**Danshui**	**0.82**	**1**	*e*P	**Pg**	**04 04 08.2**	**+0.1**
YM05	**YM05** baz=8.0	**0.83**	**8**	*e*P	**Pb**	**04 04 08.7**	**-0.4**
YM11	**YM11** baz=8.0	**0.83**	**9**	*e*P	**Pb**	**04 04 08.8**	**-0.4**
TWB1	**Santiao Chiao** baz=45	**0.83**	**37**	*e*P	**Pg**	**04 04 07.6**	**-0.7**
TWB1				*e*S	**Sg**	**04 04 18.1**	**-1.1**
WHYT	**Xinyi Township** baz=220	**0.83**	**220**	*e*P	**Pg**	**04 04 07.8**	**-0.6**
EHY	**Hungye** baz=179	**0.84**	**187**	*e*P	**Pb**	**04 04 08.8**	**-0.4**
EHY				*e*S	**Sb**	**04 04 20.0**	**-0.7**
WCHH	**Zhanghua** baz=252	**0.84**	**252**	*e*P	**Pn**	**04 04 10.7**	**+0.1**
HGSD	**Ruisui** baz=189	**0.84**	**181**	*e*P	**Pb**	**04 04 08.6**	**-0.7**
ANP	**Anpu** baz=19	**0.85**	**5**	*e*P	**Pg**	**04 04 08.8**	**+0.3**
YM08	**YM08** baz=9.0	**0.85**	**9**	*e*P	**Pb**	**04 04 09.2**	**-0.4**
TWY	**Chenhua** baz=9.0	**0.94**	**9**	*e*P	**Pn**	**04 04 12.2**	**+0.2**
YULB	**Yu-li** baz=176	**0.95**	**188**	⇓P	**Pb**	**04 04 10.5**	**-0.6**
YULB				*e*S	**Sb**	**04 04 23.5**	**-0.5**
TWF1	**Yuli** baz=172	**0.99**	**187**	*e*P	**Pb**	**04 04 11.3**	**-0.5**
CHN5	**Tsauling** baz=220	**1.01**	**223**	*e*P	**Pn**	**04 04 12.9**	**-0.2**
CHN5				*e*S	**Sn**	**04 04 27.6**	**-0.1**
WGK	**Gukeng** baz=231	**1.03**	**231**	*e*P	**Pn**	**04 04 13.6**	**+0.4**
WDLH	**Douliu** baz=232	**1.05**	**232**	*e*P	**Pn**	**04 04 13.4**	**0.0**
RLNB	**Erlin** baz=257	**1.08**	**246**	*e*P	**Pn**	**04 04 13.8**	**-0.1**
RLNB				*e*S	**Sn**	**04 04 30.5**	**+1.4**
FULB	**Fuli** baz=185	**1.14**	**187**	*e*P	**Pn**	**04 04 14.5**	**-0.3**
FULB				*e*S	**Sn**	**04 04 31.8**	**+1.1**
WTCT	**Ta-ch'eng** baz=246	**1.16**	**246**	*e*P	**Pn**	**04 04 14.8**	**-0.1**
CHN2	**Minshiung** baz=243	**1.19**	**228**	*e*P	**Pn**	**04 04 15.5**	**+0.1**
ELDTW	**Lidau** baz=196	**1.21**	**199**	*e*P	**Pg**	**04 04 14.8**	**-0.7**
ELDTW				*e*S	**Sn**	**04 04 31.7**	**-0.8**
CHY	**Chiayi** baz=244	**1.25**	**228**	*e*P	**Pn**	**04 04 17.1**	**+0.8**
CHN4	**Tsaushan** baz=214	**1.25**	**218**	*e*P	**Pn**	**04 04 16.7**	**+0.4**
CHN4				*e*S	**Sn**	**04 04 35.6**	**+2.2**
TPUB	**Ta-pu** baz=212	**1.27**	**216**	*e*P	**Pg**	**04 04 16.3**	**-0.4**
TPUB				*e*S	**Sn**	**04 04 34.9**	**+1.0**
WTP	**Ta-pu** baz=229	**1.32**	**215**	*e*P	**Pg**	**04 04 18.0**	**+0.2**
STYT	**Tauyuan** baz=191	**1.33**	**208**	*e*P	**Pg**	**04 04 17.6**	**-0.2**
STYT				*e*S	**Sn**	**04 04 36.7**	**+1.3**
TWK	**Hsinying** baz=215	**1.38**	**219**	P	**Pg**	**04 04 18.9**	**+0.2**
TWK				*e*S	**Sn**	**04 04 39.7**	**+3.1**
JYNG	**Yonagunijimaku**	**1.38**	**85**	P	**Pb**	**04 04 18.1**	**-0.3**
JYNG				*e*S	**Sb**	**04 04 36.0**	**-0.3**
PCYT	**Pengchaiyu** baz=6.0	**1.41**	**24**	*e*P	**Pb**	**04 04 19.0**	**+0.1**
SNST	**Tainan City** baz=218	**1.41**	**218**	*e*P	**Pg**	**04 04 19.1**	**-0.2**
CHN1	**Nanshi** baz=212	**1.42**	**216**	*e*P	**Pg**	**04 04 19.6**	**+0.1**
CHN1				*e*S	**Sg**	**04 04 40.1**	**+2.1**
YOJ	**Yonaguni jima** baz=74	**1.44**	**85**	*e*P	**Pn**	**04 04 18.8**	**-0.1**
YOJ				*e*S	**Sb**	**04 04 38.1**	**0.0**
YOJ	**Yonaguni jima**	**1.44**	**85**	P	**Pn**	**04 04 18.9**	**+0.1**
YOJ				*e*S	**Sb**	**04 04 38.2**	**+0.2**
SLGT	**Liugui** baz=197	**1.52**	**209**	*e*P	**Pg**	**04 04 21.5**	**-0.1**
TWG	**Pinlang** baz=173	**1.55**	**193**	*e*P	**Pb**	**04 04 20.6**	**-0.8**
TWGBT	**Beinan** baz=173	**1.55**	**192**	*e*P	**Pb**	**04 04 20.6**	**-0.7**
TWM1	**Shoushan** baz=210	**1.77**	**212**	*e*P	**Pg**	**04 04 26.3**	**0.0**
ECL	**Taimali** baz=176	**1.79**	**194**	*e*P	**Pb**	**04 04 25.4**	**-0.1**
MASBT	**Mashibuluo** baz=202	**1.87**	**203**	*e*P	**Pb**	**04 04 26.9**	**0.0**
PNG	**Penghu** baz=247	**1.89**	**246**	*e*P	**Pb**	**04 04 26.6**	**-0.5**
PHUB	**P'eng-hu** baz=245	**1.90**	**245**	*e*P	**Pn**	**04 04 24.1**	**-1.0**
VWUC	**VWUC** baz=288	**1.92**	**290**	*e*P	**Pn**	**04 04 24.5**	**-1.0**
EAST	**Anshuo** baz=176	**2.02**	**196**	*e*P	**Pg**	**04 04 29.9**	**-1.2**
IRIF	**Iriomote-Funau**	**2.09**	**90**	P	**Pn**	**04 04 28.0**	**+0.2**
IRIF				S	**Sb**	**04 04 55.5**	**-1.3**
SCZT	**Fangliau** baz=219	**2.10**	**201**	*e*P	**Pn**	**04 04 28.4**	**+0.5**
VCHM	**Qimei** baz=239	**2.16**	**239**	*e*P	**Pn**	**04 04 28.5**	**-0.2**
HATJ	**Hateruma jima**	**2.18**	**97**	S	**Sb**	**04 04 58.9**	**-0.5**
MATB	**Ma-tsu** baz=321	**2.25**	**323**	*e*P	**Pn**	**04 04 30.4**	**+0.4**
JKRS	**Kuro-shima**	**2.35**	**92**	P	**Pn**	**04 04 32.3**	**+1.0**
JKRS				*e*S	**Sn**	**04 05 01.2**	**+0.7**
TWKBT	**Hengchun** baz=176	**2.46**	**194**	*e*P	**Pn**	**04 04 34.3**	**+1.5**
JIJ	**Ishigaki jima**	**2.47**	**89**	P	**Pn**	**04 04 33.5**	**+0.5**
JIJ				*e*S	**Sn**	**04 05 03.8**	**+0.4**
JISG	**Ishigakijimahi**	**2.63**	**84**	P	**Pn**	**04 04 35.6**	**+0.4**
JISG				*e*S	**Sn**	**04 05 07.8**	**+0.4**
JTJ	**Tarama**	**2.99**	**84**	P	**Pn**	**04 04 41.6**	**+1.4**

TAP 07 04:15:23.5, 24.30N×121.43E, h7km, ML2.3, 9C-2D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi** baz=154	**0.10**	**152**	P	Pg	04 15 26.5	+0.7
ETLH				S	Sg	04 15 28.2	+0.8
NNSB	**Datong** baz=341	**0.14**	**342**	⇓P	Pg	04 15 27.0	+0.6
NNSB				S	Sg	04 15 29.0	+0.5
NNS	**Nan Shan** baz=341	**0.15**	**340**	⇓*i*P	Pg	04 15 27.2	+0.5
NNS				S	Sg	04 15 29.5	+0.6
NACB	**Ninganchiao** baz=129	**0.19**	**129**	⇑P	Pg	04 15 27.9	+0.6
NACB				S	Sg	04 15 30.6	+0.6
WHF	**Hehuan Shan** baz=212	**0.21**	**225**	⇑*i*P	Pg	04 15 28.4	+0.5
WHF				*e*S	Sg	04 15 31.2	+0.4
TWT	**Tachien** baz=257	**0.24**	**260**	P	Pg	04 15 29.3	+1.1
TWT				S	Sg	04 15 32.8	+1.4
TDCB	**Techi** baz=258	**0.25**	**260**	⇑P	Pg	04 15 29.4	+0.9
TDCB				S	Sg	04 15 32.6	+0.7
TWD	**Chiawan** baz=144	**0.26**	**145**	*e*P	Pg	04 15 29.3	+0.6
TWD				*e*S	Sg	04 15 33.1	+0.9
ENA	**Nanau** baz=66	**0.31**	**65**	P	Pg	04 15 29.7	+0.1
ENA				*e*S	Sg	04 15 35.1

YHNB	**Yeheng** baz=351	**0.38**	**352**	⇑P		Pg	04 15 31.6	+0.7
NSK	**Sanguang** baz=350	**0.38**	**350**	P		Pg	04 15 31.7	+0.7
OWD	**Renai** baz=213	**0.41**	**214**	⇑*e*P		Pg	04 15 31.6	+0.1
ENLB	**Shoufeng** baz=159	**0.42**	**158**	*e*P		Pg	04 15 32.3	+0.6
ENLB	baz=159			*e*S		Sb	04 15 38.8	-1.0
WHP	**Taichung City** baz=266	**0.44**	**268**	P		Pb	04 15 33.4	-0.3
TWE	**Neicheng** baz=40	**0.47**	**27**	⇑P		Pg	04 15 33.1	+0.5
TWE	baz=40			*e*S		Sg	04 15 39.9	+1.0
ESL	**Shilin** baz=168	**0.48**	**180**	*e*P		Pg	04 15 33.1	+0.4
NWLT	**Wulai**	**0.48**	**8**	*e*P		Pg	04 15 33.4	+0.6
TWC	**Suao** baz=52	**0.49**	**51**	*e*P		Pg	04 15 33.1	+0.1
NSTT	**Nanjuang** baz=310	**0.52**	**310**	*e*P		Pb	04 15 34.3	-0.6
NSTT	baz=310			*e*S		Sb	04 15 41.6	-1.0
VWDT	**VWDT** baz=212	**0.60**	**206**	P		Pg	04 15 35.1	+0.1
EGFH	**Guangfu** baz=173	**0.62**	**180**	*e*P		Pg	04 15 35.8	+0.3
SMLT	**Sun Moon Lake** baz=229	**0.64**	**230**	*e*P		Pb	04 15 36.5	-0.6
TYC	**Yuchr** baz=232	**0.65**	**233**	*e*P		Pg	04 15 36.5	+0.4
TYC	baz=232			*e*S		Sg	04 15 44.6	0.0
SSLB	**Suanglung** baz=232	**0.67**	**221**	⇑P		Pg	04 15 36.4	0.0
EOS1	**EOS1** baz=69	**0.68**	**68**	*e*P		Pg	04 15 37.1	+0.5
TIPB	**Shuangxi** baz=18	**0.76**	**28**	P		Pg	04 15 38.1	-0.1
TIPB	baz=18			*e*S		Sg	04 15 48.1	0.0
EHY	**Hungye** baz=180	**0.79**	**187**	*e*P		Pb	04 15 39.3	-0.3
HGSD	**Ruisui** baz=189	**0.80**	**180**	*e*P		Pb	04 15 39.6	-0.1
YM01	**YM01** baz=8.0	**0.86**	**8**	*e*P		Pb	04 15 41.0	+0.2
YM04	**YM04** baz=22	**0.86**	**6**	*e*P		Pb	04 15 40.8	0.0
YM04	baz=22			*e*S		Sb	04 15 52.6	+0.1
YM05	**YM05** baz=8.0	**0.87**	**8**	*e*P		Pb	04 15 41.3	+0.3
YM11	**YM11** baz=9.0	**0.88**	**9**	*e*P		Pb	04 15 41.1	0.0
YM08	**YM08** baz=9.0	**0.90**	**9**	*e*P		Pb	04 15 41.6	+0.2
YULB	**Yu-li** baz=182	**0.91**	**188**	*e*P		Pg	04 15 41.0	0.0
CHN5	**Tsauling** baz=218	**0.98**	**225**	*e*P		Pn	04 15 43.5	-0.2
FULB	**Fuli** baz=198	**1.10**	**187**	*e*P		Pn	04 15 45.4	+0.1
CHN4	**Tsaushan** baz=230	**1.21**	**219**	*e*P		Pn	04 15 47.6	+0.6

DDA ***07*** *04:21:23.9,38°.77N×43°.38E,h7km±5km,ML2.7*
ISCJB ***07*** *04:21:24.8±0.6,38°.76N±0°.03×43°.42E±0°.07,h14km±5km, Error ellipse: s-maj=9.8km s-min=4.7km az=6.4*
ISK ***07*** *04:21:24.3,38°.73N×43°.42E,h8km,ML2.1/8*

ISC 07 04:21:24.7±0.9, 38°.77N±0°.04×43°.43E±0°.06, h16km±8km, n12, σ0°88/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**192**	PG	**Pg**	**04 21 29.0**	**-0.2**
VANB				SG	**Sg**	**04 21 33.4**	**+1.2**
TVAN	**Van**	**0.24**	**185**	*i* P	**Pg**	**04 21 28.6**	**-1.6**
TVAN				*i* S	**Sg**	**04 21 34.6**	**+0.7**
TVAN	comp=Z,7μm,0.2s			IAML_P			
VMUR	**Van-Muradiye**	**0.25**	**26**	*i* P	**Pg**	**04 21 29.4**	**-0.9**
VMUR				*i* S	**Sg**	**04 21 34.8**	**+0.6**
VMUR	comp=Z,1μm,0.1s			IAML_P			
GEVA	**Gevas**	**0.54**	**213**	*i* P	**Pg**	**04 21 34.2**	**-1.3**
AKDM	**Akdamar-Van**	**0.56**	**219**	PG	**Pg**	**04 21 34.8**	**-1.1**
MLAZ	**Malazgirt-MUS**	**0.79**	**299**	PG	**Pb**	**04 21 40.4**	**+0.4**
TUTA	**Tutak**	**0.80**	**323**	*i* P	**Pg**	**04 21 39.6**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**337**	PG	**Pb**	**04 21 41.9**	**+0.3**
AGRB				SG	**Sn**	**04 21 55.1**	**0.0**
GURO	**Guroymak-BITLI**	**1.12**	**259**	PN	**Pn**	**04 21 45.6**	**-0.2**
GURO				SN	**Sn**	**04 22 01.6**	**+0.7**
CUKT	**Cukurca**	**1.52**	**175**	PN	**Pn**	**04 21 51.8**	**+0.5**
VRTB	**Varto-Mus**	**1.59**	**285**	PN	**Pb**	**04 21 53.6**	**-0.2**
GNI	**Garni**	**1.71**	**36**	PN	**Pb**	**04 21 55.8**	**0.0**

IDC 07 04:22:29.7±2.5, 1°.36S×134°.53E, h0km, mb3.3/2, mb1 3.7/4, mb1mx3.4/33, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=90.7km s-min=25.2km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.47**	**181**	P	Pn	04 26 47.6	+0.3
	0.3nm,0.3s,baz=360,slow=12,SNR=23						
FITZ	**Fitzroy Crossi**	**18.79**	**207**	P	P	04 26 50.8	0.0
	0.1nm,0.3s,baz=34,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**22.19**	**182**	P	P	04 27 27.5	-0.2
	1.0nm,0.6s,baz=6.1,slow=12,SNR=9.9						
MKAR	**Makanchi Array**	**66.20**	**324**	P	P	04 33 19.4	0.0
	0.3nm,0.9s,baz=121,slow=7.2,SNR=2.6						

IDC 07 04:27:29.9±2.0, 3°.97S×151°.64E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/30, mbtmp3.6/4, Error ellipse: s-maj=121.2km s-min=26.8km az=127.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**225**	P	P	04 32 39.3	+1.0
	0.5nm,0.5s,baz=52,slow=9.8,SNR=7.2						
ASAR	**Alice Springs**	**26.01**	**220**	P	P	04 33 05.4	+0.5
	0.4nm,0.8s,baz=46,slow=7.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**29.06**	**239**	P	P	04 33 30.6	-1.6
	1.5nm,0.9s,baz=40,slow=7.9,SNR=2.9						
ILAR	**Eielson Array**	**81.84**	**22**	P	P	04 39 50.4	-0.3
	0.8nm,0.9s,baz=249,slow=5.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**148.94**	**289**	PKPbc	PKPbc	04 47 21.1	+0.1
	0.5nm,0.7s,baz=74,slow=2.3,SNR=7.2						

JMA ***07*** *04:28:39.8±0.1,24°.27N×121°.44E,h3km,M3.0*
TAP ***07*** *04:28:39.8,24°.28N×121°.44E,h7km,ML3.6,C*
ISCJB ***07*** *04:28:40.2±0.2,24°.290N±0°.009×121°.46E±0°.01, h1km±2km, Error ellipse: s-maj=2.0km s-min=1.4km az=25.0*

ISC 07 04:28:40.1±0.8, 24°.27N±0°.01×121°.47E±0°.01, h9km±5km, n109, σ0°75/165, 27C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi** baz=153	**0.07**	**169**	P	**Pg**	**04 28 42.6**	**+0.4**
ETLH	baz=153			S	**Sg**	**04 28 44.2**	**+0.4**
NACB	**Ninganchiao** baz=127	**0.15**	**130**	⇑P	**Pg**	**04 28 44.1**	**+0.7**
NACB	baz=127			S	**Sg**	**04 28 46.5**	**+0.8**
NNSB	**Datong** baz=340	**0.17**	**334**	⇓P	**Pg**	**04 28 43.5**	**-0.3**
NNSB	baz=340			S	**Sg**	**04 28 45.6**	**-0.8**
NNS	**Nan Shan** baz=340	**0.19**	**333**	P	**Pg**	**04 28 43.8**	**-0.3**
NNS	baz=340			*i* S	**Sg**	**04 28 46.2**	**-0.7**
WHF	**Hehuan Shan** baz=227	**0.22**	**236**	⇑*i* P	**Pg**	**04 28 44.6**	**-0.2**
WHF				*i* S	**Sg**	**04 28 47.8**	**-0.3**
TWD	**Chiawan** baz=143	**0.23**	**149**	P	**Pg**	**04 28 45.4**	**+0.7**
TWD	baz=143			S	**Sg**	**04 28 49.0**	**+1.2**
TDCB	**Techi** baz=262	**0.28**	**266**	⇑P	**Pg**	**04 28 45.8**	**0.0**
TDCB	baz=262			S	**Sg**	**04 28 49.0**	**-0.7**
ENA	**Nanau** baz=63	**0.29**	**58**	P	**Pg**	**04 28 45.9**	**0.0**
HWA	**Hwalien** baz=153	**0.32**	**157**	*e*P	**Pb**	**04 28 47.5**	**-0.5**
HWA	baz=153			*e*S	**Sb**	**04 28 52.4**	**-0.9**
NDT	**Datong Townshi** baz=11	**0.33**	**7**	⇑*i* P	**Pg**	**04 28 46.6**	**-0.1**
NDT	baz=11			S	**Sg**	**04 28 51.0**	**-0.1**
CHGB	**Renai** baz=228	**0.34**	**232**	⇑P	**Pg**	**04 28 46.8**	**-0.2**
CHGB	baz=228			*e*S	**Sg**	**04 28 51.2**	**-0.3**
ENTT	**Nioudou** baz=11	**0.38**	**14**	⇑*i* P	**Pg**	**04 28 47.5**	**0.0**
ENTT	baz=11			S	**Sg**	**04 28 52.5**	**-0.1**
ENLB	**Shoufeng** baz=159	**0.39**	**162**	*e*P	**Pb**	**04 28 48.6**	**-0.6**
ENLB	baz=159			*e*S	**Sb**	**04 28 54.2**	**-1.0**
YHNB	**Yeheng** baz=351	**0.40**	**348**	⇑P	**Pg**	**04 28 48.1**	**+0.1**
YHNB	baz=351			S	**Sg**	**04 28 52.7**	**-0.7**
NSK	**Sanguang** baz=350	**0.41**	**346**	⇑*i* P	**Pg**	**04 28 48.3**	**0.0**
NSK	baz=350			S	**Sg**	**04 28 52.8**	**-0.9**
OWD	**Renai** baz=217	**0.41**	**220**	⇑*i* P	**Pg**	**04 28 47.9**	**-0.3**
OWD	baz=217			*e*S	**Sg**	**04 28 53.6**	**-0.2**
ESL	**Shilin** baz=168	**0.46**	**184**	⇑*i* P	**Pb**	**04 28 49.3**	**-1.1**
WHP	**Taichung City** baz=269	**0.48**	**271**	*i* P	**Pg**	**04 28 49.8**	**+0.4**
WHP	baz=269			*i* S	**Sg**	**04 28 55.6**	**-0.1**
TWC	**Suao** baz=41	**0.48**	**46**	⇑*i* P	**Pg**	**04 28 49.4**	**-0.1**
TWC	baz=41			*e*S	**Sg**	**04 28 56.0**	**+0.1**
NWLT	**Wulai** baz=358	**0.50**	**4**	⇑*i* P	**Pg**	**04 28 50.0**	**+0.1**
NWLT	baz=358			S	**Sg**	**04 28 55.9**	**-0.7**
ILA	**Ilan** baz=31	**0.55**	**27**	*e*P	**Pg**	**04 28 51.3**	**+0.4**
NSTT	**Nanjuang** baz=311	**0.56**	**310**	⇑*i* P	**Pg**	**04 28 51.2**	**+0.3**
NSTT	baz=311			*i* S	**Sg**	**04 28 58.0**	**-0.2**
VWDT	**VWDT** baz=213	**0.60**	**210**	P	**Pg**	**04 28 51.3**	**-0.3**
VWDT	baz=213			*e*S	**Sg**	**04 28 59.4**	**-0.1**
EGFH	**Guangfu** baz=182	**0.60**	**184**	*e*P	**Pb**	**04 28 51.9**	**-0.9**
EGFH	baz=182			*e*S	**Sb**	**04 29 00.9**	**-0.5**
WLTB	**Daxi** baz=343	**0.61**	**341**	P	**Pb**	**04 28 52.8**	**-0.1**
WLTB	baz=343			S	**Sg**	**04 29 00.7**	**+0.7**
TWQ1	**Liyutan** baz=276	**0.64**	**277**	P	**Pb**	**04 28 53.1**	**-0.4**
TWQ1	baz=276			*e*S	**Sg**	**04 29 01.2**	**+0.4**
SMLT	**Sun Moon Lake** baz=231	**0.65**	**233**	⇑*i* P	**Pg**	**04 28 52.7**	**0.0**
NSY	**Sanyi** baz=282	**0.66**	**283**	P	**Pb**	**04 28 54.0**	**+0.1**
NSY	baz=282			S	**Sb**	**04 29 02.9**	**-0.2**
EOS1	**EOS1** baz=67	**0.66**	**65**	*e*P	**Pb**	**04 28 53.6**	**-0.2**
NTC	**Toucheng** baz=43	**0.67**	**30**	*e*P	**Pg**	**04 28 52.9**	**-0.1**
NTC	baz=43			*e*S	**Sg**	**04 29 02.5**	**+0.7**
TYC	**Yuchr** baz=234	**0.67**	**237**	⇑*i* P	**Pg**	**04 28 52.9**	**-0.1**
TYC	baz=234			S	**Sg**	**04 29 00.7**	**-1.1**
NMLH	**Miaoli** baz=292	**0.67**	**293**	*e*P	**Pb**	**04 28 53.9**	**-0.1**
SSLB	**Suanglung** baz=222	**0.67**	**224**	⇑P	**Pg**	**04 28 52.6**	**-0.6**
SSLB	baz=222			*e*S	**Sg**	**04 29 01.3**	**-0.7**
SBCB	**Hsinchu** baz=320	**0.68**	**320**	*e*P	**Pb**	**04 28 54.4**	**+0.2**
NHDH	**Xindian Distri** baz=17	**0.69**	**4**	*e*P	**Pg**	**04 28 53.4**	**-0.1**
NHDH	baz=17			*e*S	**Sg**	**04 29 02.3**	**-0.2**
TATO	**Taipei** baz=14	**0.70**	**2**	⇑P	**Pg**	**04 28 54.1**	**+0.4**
TATO	baz=14			S	**Sg**	**04 29 02.5**	**-0.3**
EGS	baz=39	**0.71**	**36**	*e*P	**Pg**	**04 28 53.7**	**-0.2**
TWA	**Mucha** baz=11	**0.71**	**9**	P	**Pg**	**04 28 54.2**	**+0.3**
TWA	baz=11			S	**Sg**	**04 29 02.7**	**-0.5**
PTSB	**Yuanli** baz=283	**0.72**	**284**	⇑P	**Pb**	**04 28 55.3**	**+0.5**
PTSB	baz=283			S	**Sb**	**04 29 04.9**	**+0.1**
TCU	**Taichung** baz=259	**0.73**	**260**	*e*P	**Pb**	**04 28 55.7**	**+0.7**
NCUH	**Zhongli** baz=342	**0.74**	**340**	*e*P	**Pb**	**04 28 55.4**	**+0.2**
NCU	**National Centr** baz=343	**0.74**	**340**	*e*P	**Pn**	**04 28 57.1**	**+0.4**
WDJ	**Dajia District** baz=275	**0.76**	**276**	*e*P	**Pb**	**04 28 56.3**	**+0.8**
TIPB	**Shuangxi** baz=14	**0.77**	**25**	⇑P	**Pg**	**04 28 54.8**	**-0.2**
TIPB	baz=14			S	**Sg**	**04 29 04.5**	**-0.6**
EHY	**Hungye** baz=180	**0.78**	**190**	*e*P	**Pg**	**04 28 54.7**	**-0.4**
HGSD	**Ruisui** baz=188	**0.78**	**183**	⇑P	**Pb**	**04 28 55.5**	**-0.3**
HGSD	baz=188			*e*S	**Sb**	**04 29 07.0**	**+0.5**
WHYT	**Xinyi Township** baz=223	**0.80**	**225**	*e*P	**Pg**	**04 28 55.1**	**-0.5**
WNT	**Mingjian** baz=233	**0.82**	**241**	*e*P	**Pb**	**04 28 56.2**	**-0.2**
TWS1	**Kuangyinshan** baz=6.0	**0.83**	**357**	*e*P	**Pb**	**04 28 57.0**	**+0.4**
TWS1	baz=6.0			*e*S	**Sb**	**04 29 08.5**	**+0.6**
NWF	**Wu-fen Shan** baz=22	**0.84**	**20**	*e*P	**Pg**	**04 28 56.1**	**-0.3**
WFSB	**Wu-fen Shan** baz=22	**0.84**	**20**	*e*P	**Pg**	**04 28 55.6**	**-0.8**
WCHH	**Zhanghua** baz=256	**0.85**	**257**	*e*P	**Pn**	**04 28 58.1**	**-0.2**
TWB1	**Santiao Chiao** baz=35	**0.87**	**33**	*e*P	**Pg**	**04 28 56.5**	**-0.5**
YM01	**YM01** baz=7.0	**0.88**	**6**	⇑P	**Pb**	**04 28 57.6**	**+0.1**
YM01	baz=7.0			S	**Sg**	**04 29 08.3**	**-0.1**
YM04	**YM04** baz=19	**0.88**	**4**	*e*P	**Pb**	**04 28 57.4**	**-0.2**
YM04	baz=19			*e*S	**Sb**	**04 29 09.4**	**-0.1**
NTST	**Danshui** baz=1.0	**0.89**	**359**	*e*P	**Pb**	**04 28 57.9**	**+0.2**
YULB	**Yu-li** baz=184	**0.89**	**190**	P	**Pg**	**04 28 57.1**	**-0.2**
YULB	baz=184			*e*S	**Sb**	**04 29 09.8**	**+0.1**
YM05	**YM05** baz=7.0	**0.89**	**6**	⇑P	**Pb**	**04 28 57.8**	**0.0**
YM11	**YM11** baz=7.0	**0.89**	**6**	⇑P	**Pb**	**04 28 57.9**	**0.0**
YM11	baz=7.0			*e*S	**Sg**	**04 29 09.1**	**+0.1**
ANP	**Anpu** baz=19	**0.91**	**3**	*e*P	**Pb**	**04 28 58.0**	**-0.2**
YM08	**YM08** baz=9.0	**0.92**	**7**	⇑P	**Pg**	**04 28 58.0**	**+0.2**
TWF1	**Yuli** baz=182	**0.93**	**190**	*e*P	**Pg**	**04 28 57.7**	**-0.3**
CHN5	**Tsauling** baz=221	**0.99**	**227**	P	**Pb**	**04 28 59.6**	**+0.1**
CHN5	baz=221			*e*S	**Sn**	**04 29 15.0**	**+0.6**
TWY	**Chenhua** baz=9.0	**1.01**	**7**	*e*P	**Pn**	**04 29 00.2**	**-0.2**
WDLH	**Douliu** baz=235	**1.03**	**236**	*e*P	**Pn**	**04 29 00.4**	**-0.3**
FULB	**Fuli** baz=199	**1.08**	**189**	*e*P	**Pn**	**04 29 01.4**	**-0.1**
FULB	baz=199			*e*S	**Sn**	**04 29 17.0**	**+0.4**
RLNB	**Erlin** baz=262	**1.08**	**250**	*e*P	**Pn**	**04 29 01.2**	**-0.2**
RLNB	baz=262			*e*S	**Sn**	**04 29 17.2**	**+0.6**
ELDTW	**Lidau** baz=201	**1.16**	**201**	*e*P	**Pg**	**04 29 01.4**	**-0.9**
ELDTW	baz=201			*e*S	**Sn**	**04 29 18.5**	**-0.1**
WTCT	**Ta-ch'eng** baz=249	**1.16**	**250**	*e*P	**Pn**	**04 29 02.6**	**+0.1**
CHN2	**Minshiung** baz=231	**1.17**	**231**	*e*P	**Pg**	**04 29 02.2**	**-0.3**
CHKT	**Chengkung** baz=169	**1.17**	**185**	*e*P	**Pg**	**04 29 01.7**	**-0.9**
CHN4	**Tsaushan** baz=221	**1.22**	**221**	⇑*i* P	**Pn**	**04 29 03.9**	**+0.6**
CHN4	baz=221			*e*S	**Sn**	**04 29 22.0**	**+2.1**
CHY	**Chiayi** baz=247	**1.23**	**231**	*e*P	**Pg**	**04 29 03.4**	**-0.3**
TPUB	**Ta-pu** baz=218	**1.23**	**219**	⇑P	**Pg**	**04 29 03.5**	**-0.3**
TPUB	baz=218			*e*S	**Sn**	**04 29 22.4**	**+2.0**
WTP	**Ta-pu** baz=217	**1.29**	**218**	*e*P	**Pb**	**04 29 04.3**	**-0.2**
TWK	**Hsinying** baz=221	**1.34**	**222**	*e*P	**Pg**	**04 29 05.6**	**-0.4**
TWK	baz=221			*e*S	**Sn**	**04 29 25.9**	**+2.8**
JYNG	**Yonagunijimaku**	**1.36**	**82**	P	**Pg**	**04 29 06.3**	**+0.1**
JYNG				S	**Sg**	**04 29 24.6**	**+0.7**
SNST	**Tainan City** baz=220	**1.37**	**221**	*e*P	**Pb**	**04 29 05.8**	**-0.2**
CHN1	**Nanshi** baz=219	**1.38**	**219**	⇑P	**Pg**	**04 29 06.9**	**+0.2**
CHN1	baz=219			*e*S	**Sg**	**04 29 27.0**	**+2.3**
YOJ	**Yonaguni jima** baz=70	**1.42**	**82**	*e*P	**Pb**	**04 29 06.7**	**-0.1**
YOJ	baz=70			*e*S	**Sg**	**04 29 26.9**	**+1.1**
YOJ	**Yonaguni jima**	**1.42**	**82**	P	**Pg**	**04 29 06.9**	**-0.5**
YOJ				*e*S	**Sg**	**04 29 26.6**	**+0.8**
PCYT	**Pengchaiyu** baz=5.0	**1.46**	**22**	*e*P	**Pb**	**04 29 07.3**	**-0.1**
CHN8	**Yiju** baz=242	**1.48**	**232**	*e*P	**Pn**	**04 29 07.0**	**+0.1**
CHN8	baz=242			*e*S	**Sg**	**04 29 29.4**	**+1.9**
SLGT	**Liugui** baz=199	**1.48**	**211**	*e*P	**Pg**	**04 29 08.4**	**-0.2**
TWG	**Pinlang** baz=193	**1.49**	**194**	*e*P	**Pn**	**04 29 07.2**	**+0.1**
TWGBT	**Beinan** baz=193	**1.49**	**194**	*e*P	**Pn**	**04 29 07.2**	**+0.1**
CHN3	**Shinhua** baz=220	**1.56**	**221**	*e*P	**Pg**	**04 29 10.2**	**+0.1**
SCLT	**Jiali** baz=244	**1.60**	**227**	*e*P	**Pb**	**04 29 09.4**	**-0.4**
TWM1	**Shoushan** baz=212	**1.73**	**214**	*e*P	**Pg**	**04 29 13.6**	**+0.2**
ECL	**Taimali** baz=178	**1.73**	**196**	*e*P	**Pb**	**04 29 11.9**	**-0.2**
MASBT	**Mashibuluo** baz=207	**1.82**	**205**	*e*P	**Pg**	**04 29 14.1**	**-1.0**
MASBT	baz=207			*e*S	**Sg**	**04 29 38.4**	**-0.3**
PNG	**Penghu** baz=249	**1.89**	**249**	*e*P	**Pn**	**04 29 13.1**	**+0.6**
PHUB	**P'eng-hu** baz=252	**1.89**	**247**	*e*P	**Pn**	**04 29 12.5**	**-0.1**
PHUB	baz=252			*e*S	**Sn**	**04 29 37.2**	**+0.6**
WDGT	**Dungji** baz=238	**1.94**	**239**	*e*P	**Pn**	**04 29 14.2**	**+0.9**
SSPT	**Xinbi** baz=206	**1.96**	**205**	*e*P	**Pb**	**04 29 16.2**	**+0.2**
VWUC	**VWUC** baz=295	**1.97**	**292**	*e*P	**Pn**	**04 29 12.4**	**-1.3**
SCZT	**Fangliau** baz=203	**2.05**	**203**	*e*P	**Pb**	**04 29 17.0**	**-0.5**
IRIF	**Iriomote-Funau**	**2.06**	**88**	P	**Pb**	**04 29 16.3**	**-1.5**
IRIF				S	**Sb**	**04 29 43.3**	**-0.3**
VCHM	**Qimei** baz=240	**2.15**	**241**	*e*P	**Pn**	**04 29 15.3**	**-0.8**
PTMZ	**Houxiangcun** baz=294	**2.27**	**290**	*e*P	**Pn**	**04 29 16.5**	**-1.3**
JKRS	**Kuro-shima**	**2.32**	**90**	P	**Pb**	**04 29 20.3**	**-1.8**
JKRS				S	**Sb**	**04 29 50.7**	**-0.2**
MATB	**Ma-tsu** baz=326	**2.32**	**324**	*e*P	**Pn**	**04 29 18.1**	**-0.5**
TWK1	**Hengchun** baz=178	**2.40**	**195**	*e*P	**Pb**	**04 29 22.3**	**-1.2**
TWKBT	**Hengchun** baz=178	**2.40**	**195**	*e*P	**Pb**	**04 29 21.7**	**-1.7**
JIJ	**Ishigaki jima**	**2.44**	**87**	P	**Pn**	**04 29 21.8**	**+1.6**
JIJ				*e*S	**Sn**	**04 29 52.0**	**+1.8**
JISG	**Ishigakijimahi**	**2.61**	**83**	S	**Sb**	**04 29 56.9**	**-2.4**
JTJ	**Tarama**	**2.97**	**82**	P	**Pn**	**04 29 28.3**	**+0.9**
JTJ				S	**Sb**	**04 30 06.9**	**-2.7**
AXDP	**Jialang** baz=287	**3.25**	**282**	*e*P	**Pn**	**04 29 30.4**	**-0.9**
ZPLA	**Ao Xicun** baz=269	**3.41**	**265**	*e*P	**Pn**	**04 29 33.4**	**-0.1**

TIF ***07*** *04:42:37.7,42°.35N×40°.91E,h26km±2km*
DDA ***07*** *04:42:38.9,42°.24N×41°.03E,h7km±1km,ML3.1*
ISK ***07*** *04:42:38.3,42°.34N×41°.15E,h3km,ML2.5/2*
NORS ***07*** *04:42:39.3±0.0,42°.52N×41°.10E,h4km,MPVA3.2*
MOS ***07*** *04:42:39.3±0.0,42°.48N×41°.04E,h9km,MPVA3.3*

ISC 07 04:42:37.6±1.9, 42°.41N±0°.02×41°.04E±0°.03, h9km±15km, n27, σ0°65/53, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.94**	**149**	P	**Pb**	**04 42 56.4**	**+0.3**
BATM				S	**Sn**	**04 43 10.4**	**-0.3**
DOMR	**Dombai**	**0.98**	**26**	*e*Pg	**Pn**	**04 42 57.2**	**-0.5**
DOMR				*e*Sg	**Sb**	**04 43 09.8**	**-0.2**
BCA	**Borcka**	**1.06**	**156**	PG	**Pb**	**04 42 57.6**	**-0.5**
BCA				SG	**Sb**	**04 43 11.9**	**-0.2**
DBOC	**Borcka**	**1.16**	**156**	*i* P	**Pn**	**04 42 59.5**	**-0.6**
DBOC				*i* S	**Sn**	**04 43 15.8**	**-0.3**
DBOC	comp=Z,2μm,0.1s			IAML_P			
ARXR	**Arkhyz**	**1.16**	**8**	*i* Pg	**Pn**	**04 42 59.9**	**-0.4**
ARXR				*i* Sg	**Sb**	**04 43 15.0**	**-0.3**
ARTV	**Artvin**	**1.39**	**151**	*i* P	**Pn**	**04 43 03.6**	**+0.2**
ARTV				*i* S	**Sn**	**04 43 21.4**	**-0.7**
ARTV	comp=Z,2μm,0.1s			IAML_P			
RPOR	**Krasnaya Polya**	**1.41**	**336**	*e*Pg	**Pb**	**04 43 03.8**	**-0.3**
RPOR				*e*Sg	**Sb**	**04 43 22.9**	**+0.6**
DBAD	**Bademkaya**	**1.47**	**160**	*i* P	**Pn**	**04 43 04.8**	**+0.3**
DBAD				*i* S	**Sn**	**04 43 23.1**	**-0.8**
DBAD	comp=Z,1μm,0.1s			IAML_P			
DAGI	**Agillar**	**1.48**	**154**	*i* P	**Pn**	**04 43 04.4**	**-0.2**
DAGI				*i* S	**Sn**	**04 43 23.5**	**-0.7**
DAGI				IAML_P			

	comp=Z,373nm,0.1s							
NEY	**Neytrino**	**1.49**	**55**	*e*Pg		**Pb**	**04 43 05.5**	**-0.2**
NEY				*e*Sg		**Sb**	**04 43 25.1**	**+0.3**
SOC	**Sochi**	**1.52**	**321**	*e*Pg		**Pb**	**04 43 07.1**	**+1.0**
SOC				*e*Sg		**Sb**	**04 43 26.2**	**+0.7**
EPOS	**Posof**	**1.55**	**125**	*i* P		**Pb**	**04 43 07.2**	**+0.6**
EPOS				*i* S		**Sg**	**04 43 27.8**	**+0.3**
DDEM	**Demirkent**	**1.61**	**161**	*i* P		**Pn**	**04 43 07.0**	**+0.7**
DDEM				*i* S		**Sb**	**04 43 27.8**	**-0.2**
DDEM				IAML_P				
	comp=Z,1μm,0.1s							
KTUT	**Trabzon**	**1.71**	**214**	PN		**Pb**	**04 43 09.8**	**+0.5**
GUZR	**Guzeripl'**	**1.72**	**337**	*i* Pg		**Pb**	**04 43 09.2**	**-0.3**
GUZR				*i* Sg		**Sb**	**04 43 32.3**	**+1.0**
SHA1	**Shidzhatmaz**	**1.78**	**41**	*e*Pg		**Pb**	**04 43 10.9**	**+0.4**
SHA1				*i* Pg		**Pb**	**04 43 11.0**	**+0.4**
SHA1				*i* Sg		**Sb**	**04 43 33.5**	**+0.5**
SHA1				*e*Sg		**Sg**	**04 43 33.8**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.93**	**75**	*e*Pg		**Pb**	**04 43 13.1**	**-0.1**
DIGR				*e*Sg		**Sb**	**04 43 38.1**	**+0.6**
LZRR	**Lazarevskoye**	**1.95**	**322**	*e*Pg		**Pb**	**04 43 13.2**	**-0.1**
LZRR				*i* Sg		**Sb**	**04 43 38.2**	**+0.5**
KIV	**Kislovodsk**	**1.96**	**37**	PN		**Pb**	**04 43 13.8**	**+0.3**
KIV				SN		**Sb**	**04 43 39.3**	**+1.2**
KIV	**Kislovodsk**	**1.96**	**37**	*e*Pg		**Pb**	**04 43 13.7**	**+0.2**
KIV				*e*Sg		**Sb**	**04 43 38.9**	**+0.8**
KIV0	**Kislovodsk Arr**	**1.96**	**37**	*e*Pg		**Pb**	**04 43 13.9**	**+0.3**
KIV0				*e*Sg		**Sb**	**04 43 39.0**	**+0.8**
BEYR	**Belyy Ugol+**	**2.06**	**38**	*e*Pg		**Pb**	**04 43 14.4**	**-0.8**
BEYR				*e*Sg		**Sb**	**04 43 40.3**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.09**	**152**	PN		**Pn**	**04 43 14.0**	**+0.9**
BAYT	**Aydıntepe-Bayb**	**2.13**	**199**	PN		**Pb**	**04 43 15.4**	**-1.1**
ZEI	**Tsey**	**2.14**	**79**	*e*Pg		**Pb**	**04 43 16.1**	**-0.6**
ZEI				*e*Sg		**Sb**	**04 43 44.4**	**+0.9**
LACR	**Lac**	**2.44**	**79**	*e*Pn		**Pb**	**04 43 21.0**	**-0.7**
LACR				*e*Sn		**Sb**	**04 43 52.0**	**+0.1**
TRLG	**Trialeti**	**2.44**	**110**	P		**Pn**	**04 43 19.5**	**+1.6**
TRLG				S		**Sb**	**04 43 52.8**	**+0.8**

KRSC 07 04:46:39.0±10.0, 51.00N×157.77E, h46km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.77**	**308**	*e*P	Pn	04 46 55.2	+1.7
PAU				*e*S	Sn	04 47 05.8	+1.8
KDTR	**Khodutka, Kamc**	**0.84**	**13**	*e*P	Pn	04 46 56.2	+1.7
KDTR				*e*S	Sn	04 47 07.6	+1.9
SKR	**Severo-Kuril's**	**1.10**	**254**	*e*S	Sn	04 47 12.3	+0.4
ASAK	**Asacha**	**1.39**	**3**	*e*P	Pn	04 47 04.0	+1.9
ASAK				*e*S	Sn	04 47 21.2	+1.9
ALID	**Alaid**	**1.41**	**266**	*e*P	Pn	04 47 03.8	+1.4
ALID				*e*S	Sn	04 47 20.3	+0.4
MTVR	**Mutnovka**	**1.51**	**10**	*e*P	Pn	04 47 06.0	+2.2
MTVR				*e*S	Sn	04 47 24.1	+1.7
RUS	**Russkaya**	**1.51**	**17**	*e*P	Pn	04 47 05.2	+1.6
RUS				*e*S	Sn	04 47 23.2	+1.1
KRMR	**Karymshinskiy**	**1.85**	**7**	*e*P	Pn	04 47 10.3	+2.0
KRMR				*e*S	Sn	04 47 32.2	+1.8
APC	**Apacha**	**1.97**	**349**	*e*P	Pn	04 47 12.6	+2.7
PET	**Petropavlovsk**	**2.10**	**15**	*e*S	Sn	04 47 39.3	+2.7
DALK	**Dalny**	**2.13**	**16**	*e*P	Pn	04 47 14.5	+2.5
DALK				*e*S	Sn	04 47 39.8	+2.6
UGLR	**Uglovaya**	**2.31**	**16**	*e*P	Pn	04 47 18.0	+3.3
UGLR				*e*S	Sn	04 47 46.2	+4.3
AVH	**Avacha**	**2.35**	**14**	*e*P	Pn	04 47 18.8	+3.6
AVH				*e*S	Sn	04 47 47.8	+5.0
SMAR	**Somma**	**2.36**	**15**	*e*P	Pn	04 47 19.3	+3.9
KOK	**Koryaka**	**2.36**	**13**	*e*P	Pn	04 47 19.2	+3.8
NLC	**Nalytchevo**	**2.38**	**23**	S	Sn	04 47 43.5	-0.1
SDLR	**Sedlovina**	**2.39**	**16**	*e*P	Pn	04 47 18.2	+2.5
KRER	**Koryakskii**	**2.39**	**14**	S	Sn	04 47 46.8	+2.8
KRX	**Arik**	**2.43**	**12**	*e*P	Pn	04 47 19.5	+3.2
SPN	**Mys Shipunski**	**2.52**	**33**	*e*P	Pn	04 47 19.8	+2.3
SPN				*e*S	Sn	04 47 49.1	+2.1
GNL	**Ganaly**	**2.71**	**2**	*e*P	Pn	04 47 23.4	+3.3

NIED ***07*** *04:52:00.2±4.0, 24.30N×121.40E, h5km, Mw4.0 Best double couple: M0=9.75000×10^14 NP1:φ=327.00000°, δ=24.00000°, λ=-47.00000°. NP2:φ=101.00000°, δ=72.00000°, λ=-107.00000°.*

IDC ***07*** *04:52:40.8±0.8, 24.24N×121.67E, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/54, mbtmp3.7/12, MS3.4/3, Ms1 3.4/3, ms1mx2.8/46, Error ellipse: s-maj=32.3km s-min=16.6km az=66.0*

JMA ***07*** *04:52:42.2±0.1, 24.27N×121.42E, h0km, M4.0*

TAP ***07*** *04:52:42.8, 24.28N×121.44E, h7km, ML4.3, C*

ISCJB ***07*** *04:52:43.3±0.2, 24.294N±0.008×121.46E±0.01, h3km±1km, mb3.6/11, MS3.4/2, Error ellipse: s-maj=1.8km s-min=1.2km az=27.3*

BJI ***07*** *04:52:51.3, 24.76N×120.90E, h21km, mb3.6/4, ML3.9/6*

ISC 07 04:52:43.2±0.8, 24.28N±0.01×121.44E±0.01, h9km±5km, n148, σ0=95/229, mb3.8/11, 68C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi** baz=154	**0.09**	**155**	⇑P	**Pg**	**04 52 45.6**	**+0.1**
ETLH				S	**Sg**	**04 52 47.2**	**0.0**
NNSB	**Datong** baz=339	**0.15**	**339**	⇑P	**Pg**	**04 52 46.6**	**0.0**
NNSB				S	**Sg**	**04 52 48.8**	**-0.2**
NNS	**Nan Shan** baz=340	**0.17**	**338**	⇑*i*P	**Pg**	**04 52 46.9**	**+0.1**
NNS				S	**Sg**	**04 52 49.3**	**-0.1**
NACB	**Ninganchiao** baz=127	**0.18**	**128**	⇑P	**Pg**	**04 52 47.1**	**+0.2**
NACB				S	**Sg**	**04 52 49.5**	**+0.1**
WHF	**Hehuan Shan** baz=228	**0.21**	**229**	⇑*i*P	**Pg**	**04 52 47.7**	**0.0**
WHF				S	**Sg**	**04 52 50.6**	**-0.2**
TWD	**Chiawan** baz=144	**0.25**	**145**	⇑*i*P	**Pg**	**04 52 48.5**	**+0.3**
TWD				S	**Sg**	**04 52 51.8**	**+0.3**
TDCB	**Techi** baz=263	**0.26**	**263**	⇑P	**Pg**	**04 52 48.8**	**+0.3**
TDCB				S	**Sg**	**04 52 51.9**	**-0.1**
ENA	**Nanau** baz=50	**0.31**	**62**	⇑*i*P	**Pg**	**04 52 49.1**	**-0.2**
ENA				*e*S	**Sg**	**04 52 53.8**	**+0.4**
NDT	**Datong Townshi** baz=11	**0.32**	**12**	⇑*i*P	**Pg**	**04 52 49.8**	**+0.2**
NDT				S	**Sg**	**04 52 54.0**	**+0.1**
CHGB	**Renai** baz=228	**0.33**	**228**	⇑P	**Pg**	**04 52 49.8**	**-0.1**
CHGB				*e*S	**Sg**	**04 52 54.8**	**+0.5**
HWA	**Hwalien** baz=153	**0.34**	**154**	P	**Pb**	**04 52 50.6**	**-0.8**
HWA				S	**Sb**	**04 52 55.8**	**-1.1**
ENTT	**Nioudou** baz=11	**0.37**	**18**	⇑*i*P	**Pg**	**04 52 50.6**	**+0.1**
ENTT				S	**Sg**	**04 52 55.5**	**0.0**
YHNB	**Yeheng** baz=351	**0.39**	**351**	⇑P	**Pg**	**04 52 51.3**	**+0.4**
YHNB				S	**Sg**	**04 52 55.9**	**-0.1**
NSK	**Sanguang** baz=350	**0.40**	**349**	⇑*i*P	**Pg**	**04 52 51.4**	**+0.3**
NSK				S	**Sg**	**04 52 56.1**	**-0.2**
ENLB	**Shoufeng** baz=159	**0.41**	**159**	⇑P	**Pb**	**04 52 51.6**	**-1.0**
ENLB				*e*S	**Sb**	**04 52 57.5**	**-1.4**
OWD	**Renai** baz=217	**0.41**	**217**	⇑*i*P	**Pg**	**04 52 50.9**	**-0.3**
OWD				S	**Sg**	**04 52 55.9**	**-0.7**
	baz=217						
WHP	**Taichung City** baz=269	**0.45**	**269**	⇑*i*P	**Pb**	**04 52 52.9**	**-0.6**
WHP				S	**Sg**	**04 52 58.2**	**+0.2**
	baz=269						
ESL	**Shilin** baz=181	**0.47**	**181**	⇑*i*P	**Pg**	**04 52 52.2**	**-0.1**
ESL				*e*S	**Sg**	**04 52 58.5**	**0.0**
	baz=181						
TWE	**Neicheng** baz=37	**0.48**	**25**	⇑*i*P	**Pg**	**04 52 52.7**	**+0.1**
TWE				S	**Sg**	**04 52 59.7**	**+0.8**
	baz=37						
TWC	**Suao** baz=40	**0.49**	**49**	⇑*i*P	**Pg**	**04 52 52.5**	**-0.3**
TWC				*e*S	**Sg**	**04 52 58.8**	**-0.5**
	baz=40						
NWLT	**Wulai** baz=358	**0.49**	**6**	⇑P	**Pg**	**04 52 53.0**	**+0.2**
NWLT				S	**Sg**	**04 52 59.0**	**-0.3**
	baz=358						
LIOB	**Emei** baz=313	**0.53**	**313**	⇑*i*P	**Pg**	**04 52 53.1**	**-0.4**
LIOB				*e*S	**Sg**	**04 53 00.2**	**-0.3**
	baz=313						
NSTT	**Nanjuang** baz=312	**0.53**	**311**	⇑*i*P	**Pb**	**04 52 54.3**	**-0.4**
NSTT				S	**Sg**	**04 53 01.1**	**+0.6**
	baz=312						
ILA	**Ilan** baz=31	**0.55**	**30**	⇑P	**Pg**	**04 52 54.0**	**0.0**
WLTB	**Daxi** baz=343	**0.59**	**343**	⇑P	**Pb**	**04 52 55.9**	**+0.1**
WLTB				S	**Sb**	**04 53 03.3**	**-1.0**
	baz=343						
VWDT	**VWDT** baz=213	**0.59**	**208**	⇑P	**Pg**	**04 52 54.3**	**-0.4**
VWDT				S	**Sg**	**04 53 02.3**	**-0.2**
	baz=213						
EGFH	**Guangfu** baz=182	**0.61**	**181**	⇑P	**Pg**	**04 52 54.9**	**-0.1**
EGFH				*e*S	**Sb**	**04 53 04.0**	**-0.9**
	baz=182						
TWQ1	**Liyutan** baz=276	**0.61**	**276**	⇑P	**Pb**	**04 52 56.2**	**+0.1**
TWQ1				*e*S	**Sb**	**04 53 04.2**	**-0.7**
	baz=276						
NSY	**Sanyi** baz=282	**0.64**	**282**	⇑*i*P	**Pb**	**04 52 57.0**	**+0.5**
NSY				S	**Sb**	**04 53 05.4**	**-0.1**
	baz=282						
SMLT	**Sun Moon Lake** baz=231	**0.64**	**231**	⇑*i*P	**Pb**	**04 52 55.7**	**-0.9**
NMLH	**Miaoli** baz=293	**0.65**	**293**	*e*P	**Pb**	**04 52 57.1**	**+0.4**
NMLH				*e*S	**Sb**	**04 53 06.1**	**+0.4**
	baz=293						
SBCB	**Hsinchu** baz=320	**0.66**	**321**	*e*P	**Pn**	**04 52 57.7**	**-1.0**
TYC	**Yuchr** baz=235	**0.66**	**235**	⇑P	**Pb**	**04 52 56.0**	**-0.8**
TYC				S	**Sg**	**04 53 04.0**	**-0.4**
	baz=235						
SSLB	**Suanglung** baz=223	**0.67**	**222**	⇑P	**Pg**	**04 52 55.7**	**-0.4**
SSLB				*e*S	**Sb**	**04 53 05.7**	**-0.7**
	baz=223						
NTC	**Toucheng** baz=43	**0.67**	**32**	⇑*i*P	**Pg**	**04 52 55.9**	**-0.2**
NTC				*e*S	**Sg**	**04 53 05.3**	**+0.4**
	baz=43						
EOS1	**EOS1** baz=57	**0.68**	**67**	⇑P	**Pg**	**04 52 56.4**	**+0.1**
EOS1				*e*S	**Sb**	**04 53 06.9**	**+0.2**
	baz=57						
NHDH	**Xindian Distri** baz=17	**0.68**	**6**	⇑P	**Pb**	**04 52 56.8**	**-0.5**
NHDH				S	**Sg**	**04 53 05.6**	**+0.3**
	baz=17						
TATO	**Taipei** baz=14	**0.69**	**3**	⇑P	**Pb**	**04 52 57.1**	**-0.3**
TATO				S	**Sg**	**04 53 05.4**	**-0.1**
	baz=14						
PTSB	**Yuanli** baz=283	**0.69**	**284**	⇑*i*P	**Pn**	**04 52 58.4**	**-0.8**
PTSB				S	**Sb**	**04 53 07.7**	**+0.6**
	baz=283						
TWA	**Mucha** baz=10.0	**0.70**	**11**	⇑*i*P	**Pb**	**04 52 57.3**	**-0.4**
TWA				S	**Sg**	**04 53 05.9**	**-0.1**
	baz=10.0						
TCU	**Taichung** baz=259	**0.71**	**259**	⇑*e*P	**Pn**	**04 52 58.5**	**-1.0**
EGS		**0.71**	**39**	*e*P	**Pg**	**04 52 57.0**	**+0.1**
	baz=39						
NCUH	**Zhongli** baz=342	**0.72**	**341**	*e*P	**Pn**	**04 52 58.7**	**-0.9**
NCU	**National Centr** baz=342	**0.72**	**341**	*e*P	**Pn**	**04 52 58.7**	**-0.9**
NCU				*e*S	**Sn**	**04 53 09.5**	**-1.3**
	baz=342						
WDJ	**Dajia District** baz=275	**0.73**	**275**	⇑*i*P	**Pn**	**04 52 59.3**	**-0.5**
TAP	**Taipei** baz=14	**0.75**	**4**	P	**Pb**	**04 52 58.6**	**+0.1**
TAP				*e*S	**Sb**	**04 53 08.5**	**-0.4**
	baz=14						
TIPB	**Shuangxi** baz=14	**0.77**	**27**	⇑*i*P	**Pg**	**04 52 57.9**	**-0.2**
TIPB				*e*S	**Sg**	**04 53 07.2**	**-0.9**
	baz=14						
HGSD	**Ruisui** baz=188	**0.79**	**181**	⇑P	**Pb**	**04 52 58.4**	**-0.7**
HGSD				*e*S	**Sb**	**04 53 10.5**	**+0.6**
	baz=188						
WHYT	**Xinyi Township** baz=223	**0.80**	**223**	⇑P	**Pg**	**04 52 58.0**	**-0.5**
WJS	**Zhushan** baz=227	**0.80**	**235**	P	**Pb**	**04 52 59.3**	**0.0**
WNT	**Mingjian** baz=234	**0.80**	**240**	⇑P	**Pb**	**04 52 59.6**	**+0.3**
WNT				*e*S	**Sn**	**04 53 11.6**	**-1.2**
	baz=234						
TWS1	**Kuangyinshan** baz=6.0	**0.81**	**358**	⇑*i*P	**Pn**	**04 53 00.3**	**-0.6**
TWS1				*e*S	**Sb**	**04 53 11.2**	**+0.6**
	baz=6.0						
WCHH	**Zhanghua** baz=256	**0.83**	**256**	*e*P	**Pn**	**04 53 01.0**	**-0.1**
NWF	**Wu-fen Shan** baz=21	**0.84**	**21**	⇑*i*P	**Pb**	**04 52 59.7**	**-0.4**
NWF				*e*S	**Sb**	**04 53 12.1**	**+0.6**
	baz=21						
WFSB	**Wu-fen Shan** baz=21	**0.84**	**21**	⇑P	**Pb**	**04 52 59.7**	**-0.4**
WFSB				*e*S	**Sb**	**04 53 12.2**	**+0.8**
	baz=21						
YM01	**YM01** baz=7.0	**0.87**	**8**	⇑P	**Pb**	**04 53 00.7**	**+0.2**
YM01				S	**Sb**	**04 53 11.6**	**-0.6**
	baz=7.0						
YM04	**YM04** baz=18	**0.87**	**6**	⇑*i*P	**Pb**	**04 53 00.6**	**+0.1**
YM04				S	**Sn**	**04 53 13.9**	**-0.7**
	baz=18						
NTST	**Danshui** baz=8.0	**0.88**	**0**	⇑P	**Pn**	**04 53 01.2**	**-0.5**
NTST				*e*S	**Sn**	**04 53 14.5**	**-0.1**
	baz=8.0						
TWB1	**Santiao Chiao** baz=34	**0.88**	**34**	⇑P	**Pg**	**04 52 59.4**	**-0.6**
TWB1				*e*S	**Sg**	**04 53 11.1**	**-0.4**
	baz=34						
YM05	**YM05** baz=6.0	**0.88**	**7**	⇑P	**Pb**	**04 53 00.9**	**+0.2**
YM05				*e*S	**Sg**	**04 53 11.6**	**-0.1**
	baz=6.0						
YM11	**YM11** baz=7.0	**0.89**	**8**	⇑P	**Pb**	**04 53 01.0**	**+0.1**
YM11				S	**Sg**	**04 53 12.0**	**+0.2**
	baz=7.0						
YULB	**Yu-li** baz=179	**0.90**	**189**	⇑P	**Pg**	**04 52 59.7**	**-0.7**
YULB				*e*S	**Sb**	**04 53 12.6**	**-0.5**
	baz=179						
ANP	**Anpu** baz=18	**0.90**	**5**	⇑*i*P	**Pb**	**04 53 01.3**	**+0.2**
YM08	**YM08** baz=9.0	**0.91**	**8**	⇑P	**Pb**	**04 53 01.1**	**-0.1**
TWF1	**Yuli** baz=179	**0.94**	**188**	P	**Pg**	**04 53 00.6**	**-0.6**
TWF1				S	**Sb**	**04 53 13.9**	**-0.2**
	baz=179						
ALS	**Alishan** baz=206	**0.97**	**217**	⇑*i*P	**Pg**	**04 53 01.5**	**-0.3**
CHN5	**Tsauling** baz=227	**0.98**	**226**	⇑*i*P	**Pn**	**04 53 02.6**	**-0.6**
CHN5				*e*S	**Sn**	**04 53 17.9**	**+0.7**
	baz=227						
TWY	**Chenhua** baz=9.0	**1.00**	**8**	*e*P	**Pb**	**04 53 02.9**	**+0.2**
WGK	**Gukeng** baz=252	**1.00**	**234**	*e*P	**Pn**	**04 53 03.1**	**-0.4**
WDLH	**Douliu** baz=252	**1.02**	**235**	⇑P	**Pn**	**04 53 03.7**	**0.0**
RLNB	**Erlin** baz=249	**1.06**	**249**	⇑P	**Pn**	**04 53 04.2**	**-0.1**
RLNB				*e*S	**Sn**	**04 53 20.2**	**+1.0**
	baz=249						
FULB	**Fuli** baz=189	**1.09**	**187**	⇑P	**Pb**	**04 53 04.1**	**-0.1**
FULB				*e*S	**Sn**	**04 53 20.5**	**+0.6**
	baz=189						
WTCT	**Ta-ch'eng** baz=248	**1.14**	**249**	*e*P	**Pn**	**04 53 05.6**	**+0.2**
WTCT				*e*S	**Sn**	**04 53 21.7**	**+0.6**
	baz=248						
ELDTW	**Lidau** baz=201	**1.16**	**200**	*e*P	**Pg**	**04 53 04.4**	**-1.0**
ELDTW				*e*S	**Sg**	**04 53 19.9**	**-0.5**
	baz=201						
CHN2	**Minshiung** baz=230	**1.16**	**230**	P	**Pn**	**04 53 06.1**	**+0.5**
CHN2				*e*S	**Sn**	**04 53 23.0**	**+1.5**
	baz=230						
CHKT	**Chengkung** baz=169	**1.18**	**183**	*e*P	**Pg**	**04 53 05.2**	**-0.7**
CHN4	**Tsaushan** baz=221	**1.21**	**220**	⇑*i*P	**Pn**	**04 53 06.9**	**+0.5**
CHN4				*e*S	**Sn**	**04 53 26.1**	**+3.3**
	baz=221						
CHY	**Chiayi** baz=230	**1.22**	**230**	⇑*e*P	**Pn**	**04 53 06.6**	**+0.2**
CHY				*e*S	**Sn**	**04 53 24.8**	**+1.8**
	baz=230						
TPUB	**Ta-pu** baz=219	**1.23**	**217**	⇑P	**Pn**	**04 53 06.7**	**+0.1**
TPUB				*e*S	**Sn**	**04 53 24.4**	**+1.0**
	baz=219						
WTP	**Ta-pu** baz=218	**1.28**	**216**	⇑*i*P	**Pg**	**04 53 07.8**	**0.0**
WTP				*e*S	**Sn**	**04 53 28.3**	**+3.6**
	baz=218						
WSF	**Szhu** baz=241	**1.29**	**240**	*e*P	**Pg**	**04 53 07.6**	**-0.3**
TWK	**Hsinying** baz=222	**1.34**	**221**	*e*P	**Pg**	**04 53 08.7**	**-0.1**
TWK				*e*S	**Sn**	**04 53 28.6**	**+2.5**
	baz=222						
SNST	**Tainan City** baz=220	**1.37**	**219**	*e*P	**Pg**	**04 53 09.6**	**+0.1**
CHN1	**Nanshi** baz=219	**1.38**	**218**	⇑P	**Pg**	**04 53 09.8**	**+0.1**
CHN1				*e*S	**Sg**	**04 53 29.9**	**+2.4**
	baz=219						
JYNG	**Yonagunijimaku**	**1.38**	**83**	P	**Pg**	**04 53 09.3**	**-0.4**
JYNG				S	**Sg**	**04 53 27.2**	**-0.4**
YOJ	**Yonaguni jima** baz=70	**1.44**	**83**	⇑P	**Pn**	**04 53 09.6**	**+0.1**
YOJ				S	**Sg**	**04 53 28.9**	**-0.6**
	baz=70						
YOJ	**Yonaguni jima**	**1.44**	**83**	P	**Pb**	**04 53 10.0**	**-0.2**
YOJ				*e*S	**Sg**	**04 53 29.5**	**-0.1**
PCYT	**Pengchaiyu** baz=5.0	**1.46**	**23**	*e*P	**Pn**	**04 53 09.6**	**-0.1**
CHN8	**Yiju** baz=242	**1.46**	**231**	*e*P	**Pg**	**04 53 10.9**	**-0.4**
CHN8				*e*S	**Sg**	**04 53 32.0**	**+1.8**
	baz=242						
SLGT	**Liugui** baz=201	**1.48**	**210**	⇑*e*P	**Pg**	**04 53 11.0**	**-0.5**
SLGT				*e*S	**Sg**	**04 53 32.2**	**+1.5**
	baz=201						
TWG	**Pinlang** baz=173	**1.50**	**193**	*e*P	**Pn**	**04 53 10.2**	**-0.1**
TWGBT	**Beinan** baz=173	**1.50**	**193**	*e*P	**Pn**	**04 53 09.7**	**-0.6**
TTN	**Taitung** baz=171	**1.55**	**190**	*e*P	**Pg**	**04 53 12.5**	**-0.4**
CHN3	**Shinhua** baz=221	**1.56**	**220**	⇓P	**Pg**	**04 53 13.2**	**+0.2**
CHN3				*e*S	**Sg**	**04 53 36.3**	**+3.1**
	baz=221						
SCLT	**Jiali** baz=210	**1.59**	**226**	*e*P	**Pb**	**04 53 12.6**	**-0.1**
SCLT				*e*S	**Sg**	**04 53 35.4**	**+1.1**
	baz=210						
TWM1	**Shoushan** baz=213	**1.73**	**213**	*e*P	**Pg**	**04 53 16.1**	**-0.3**
ECL	**Taimali** baz=178	**1.74**	**195**	*e*P	**Pb**	**04 53 14.7**	**-0.6**
SGLT	**Jiouru** baz=210	**1.78**	**210**	*e*P	**Pg**	**04 53 17.9**	**+0.5**
MASBT	**Mashibuluo** baz=207	**1.82**	**204**	⇑P	**Pb**	**04 53 16.8**	**+0.1**
MASBT				*e*S	**Sg**	**04 53 41.2**	**-0.6**
	baz=207						
SNJT	**Kaohsiung City** baz=214	**1.83**	**214**	*e*P	**Pb**	**04 53 16.1**	**-0.8**
PNG	**Penghu** baz=249	**1.87**	**248**	*e*P	**Pn**	**04 53 16.2**	**+0.8**
PHUB	**P'eng-hu** baz=247	**1.88**	**246**	*e*P	**Pn**	**04 53 14.8**	**-0.6**
WDGT	**Dungji** baz=237	**1.93**	**238**	*e*P	**Pn**	**04 53 16.8**	**+0.7**
WDGT				*e*S	**Sg**	**04 53 43.5**	**-1.5**
	baz=237						
PTTC	**Pingtan** baz=312	**1.94**	**309**	*e*P	**Pn**	**04 53 15.8**	**-0.5**
VWUC	**VWUC** baz=295	**1.94**	**292**	*e*P	**Pn**	**04 53 15.6**	**-0.8**
SSPT	**Xinbi** baz=206	**1.96**	**204**	*e*P	**Pg**	**04 53 19.9**	**-1.0**
EAST	**Anshuo** baz=178	**1.97**	**196**	*e*P	**Pb**	**04 53 18.9**	**-0.4**
TAW	**Tawu** baz=177	**1.98**	**195**	*e*P	**Pb**	**04 53 19.3**	**-0.2**
SCZT	**Fangliau** baz=204	**2.05**	**202**	*e*P	**Pb**	**04 53 20.3**	**-0.3**
SCZT				*e*S	**Sg**	**04 53 47.5**	**-1.5**
	baz=204						
IRIF	**Iriomote-Funau**	**2.09**	**88**	P	**Pn**	**04 53 18.6**	**+0.2**
IRIF				S	**Sb**	**04 53 46.3**	**-1.0**
VCHM	**Qimei** baz=239	**2.13**	**240**	*e*P	**Pn**	**04 53 19.3**	**+0.3**
VCHM				*e*S	**Sb**	**04 53 47.9**	**-0.7**
	baz=239						
WLCH	**Liuqiu** baz=209	**2.16**	**207**	*e*P	**Pg**	**04 53 24.1**	**-0.4**
TWP	**Hsiaoliuchiu** baz=209	**2.17**	**207**	*e*P	**Pg**	**04 53 24.8**	**0.0**
HATJ	**Hateruma jima**	**2.17**	**96**	S	**Sb**	**04 53 48.2**	**-1.5**
LAY	**Lan-yu** baz=164	**2.24**	**177**	*e*P	**Pn**	**04 53 18.5**	**-2.0**
PTMZ	**Houxiangcun** baz=294	**2.24**	**290**	*e*P	**Pn**	**04 53 19.9**	**-0.6**
MATB	**Ma-tsu** baz=327	**2.30**	**324**	*e*P	**Pn**	**04 53 22.2**	**+0.9**
JKRS	**Kuro-shima**	**2.34**	**91**	P	**Pn**	**04 53 22.9**	**+1.0**
JKRS				S	**Sb**	**04 53 53.9**	**-0.8**
HEN	**Hengchun** baz=180	**2.36**	**196**	*e*P	**Pb**	**04 53 26.7**	**+0.9**
TWK1	**Hengchun** baz=178	**2.40**	**194**	*e*P	**Pn**	**04 53 24.4**	**+1.7**
TWKBT	**Hengchun** baz=178	**2.40**	**194**	*e*P	**Pb**	**04 53 25.3**	**-1.3**
JIJ	**Ishigaki jima**	**2.46**	**88**	P	**Pn**	**04 53 24.0**	**+0.4**
JIJ				*e*S	**Sn**	**04 53 55.3**	**+1.5**
JISG	**Ishigakijimahi**	**2.63**	**83**	P	**Pn**	**04 53 26.8**	**+0.9**
JISG				S	**Sn**	**04 54 00.1**	**+2.1**
QZH	**Quanzhou**	**2.68**	**285**	Pn	**Pn**	**04 53 26.6**	**+0.1**
QZH				Sn	**Sn**	**04 53 56.6**	**-2.4**
QZH				smax	smax		
	comp=N,280nm,0.6s						
QZH				smax	smax		
	comp=E,120nm,0.6s						
LYJJ	**Jianjiangzhen**	**2.72**	**326**	*e*P	**Pn**	**04 53 29.0**	**+1.9**

	baz=328								
KNM	**Kinmen**	**2.75**	**273**	*e*P		**Pb**	**04 53 30.3**	**-2.2**
	baz=278								
MHZQ	**Yeshan**	**2.84**	**310**	*e*P		**Pn**	**04 53 28.9**	**+0.2**
	baz=314								
XPSS	**Dashiqiu**	**2.87**	**337**	*e*P		**Pn**	**04 53 28.4**	**-0.8**
	baz=339								
JTJ	**Tarama**	**2.99**	**83**	P		**Pn**	**04 53 31.9**	**+1.1**
JTJ				S		**Sn**	**04 54 09.7**	**+2.9**
AXDP	**Jialang**	**3.22**	**282**	*e*P		**Pn**	**04 53 33.6**	**-0.4**
	baz=287								
ZPLA	**Ao Xicun**	**3.39**	**265**	*e*P		**Pn**	**04 53 36.0**	**-0.3**
	baz=269								
ZZJH	**Jiuhuzhen**	**3.48**	**274**	*e*P		**Pn**	**04 53 38.5**	**+0.9**
	baz=279								
KSRS	**Korea Array**	**14.25**	**21**	Pn		**Pn**	**04 56 05.0**	**-0.2**
	baz=201,slow=11,SNR=2.9								
JCJ	**Chichijima**	**18.90**	**77**	LR		LR	05 03 44.1		
	comp=Z,77nm,19.4s,baz=84,slow=35								
CMAR	**Chiang Mai Arr**	**21.73**	**259**	P		**P**	**04 57 37.6**	**+2.7**
	0.7nm,0.3s,baz=56,slow=8.1,SNR=3.6								
SONM	**Songino Array**	**26.37**	**337**	P		**P**	**04 58 20.6**	**+0.8**
	2.8nm,0.8s,baz=153,slow=9.4,SNR=17								
BRDH	**Bariadhala**	**27.36**	**273**	LR		LR	05 09 09.4		
	comp=Z,139nm,20.1s,baz=256,slow=36								
MKAR	**Makanchi Array**	**38.43**	**316**	P		**P**	**05 00 05.7**	**+0.5**
	1.2nm,0.6s,baz=105,slow=10,SNR=16								
MKAR				PcP		**PcP**	**05 02 18.9**	**+0.5**
	0.2nm,0.5s,baz=94,slow=4.8,SNR=3.1								
ZALV	**Zalesovo Beam**	**40.29**	**327**	P		**P**	**05 00 20.9**	**+0.3**
	1.7nm,0.6s,baz=108,slow=7.2,SNR=6.9								
KURBB	**Kurchatov Arra**	**42.18**	**320**	P		**P**	**05 00 34.4**	**-1.8**
	0.3nm,0.7s,baz=118,slow=7.4,SNR=3.4								
FITZ	**Fitzroy Crossi**	**42.32**	**174**	LR		LR	05 20 39.5		
	comp=Z,41nm,18.0s,baz=196,slow=40								
WRA	**Warramunga Arr**	**45.72**	**163**	P		**P**	**05 01 02.1**	**-2.8**
	0.8nm,0.6s,baz=345,slow=8.6,SNR=8.1								
WRA				PcP		**PcP**	**05 02 41.2**	**-1.6**
	0.5nm,1.0s,baz=342,slow=3.3,SNR=2.6								
ASAR	**Alice Springs**	**49.17**	**165**	P		**P**	**05 01 30.3**	**-1.4**
	0.4nm,0.6s,baz=337,slow=6.1,SNR=3.7								
FINES	**FINESS Array B**	**71.48**	**330**	P		**P**	**05 04 03.5**	**-0.4**
	1.7nm,0.8s,baz=78,slow=8.7,SNR=4.3								
AKASG	**Malin Array Be**	**72.95**	**318**	P		**P**	**05 04 11.8**	**-1.1**
	0.1nm,0.3s,baz=60,slow=7.6,SNR=4.5								
BRTR	**Keskin Array B**	**73.30**	**306**	P		**P**	**05 04 15.8**	**+0.3**
	0.6nm,0.6s,baz=79,slow=6.4,SNR=3.5								
VYHS	**Vyhne**	**80.04**	**319**	*e*P		**P**	**05 04 57.9**	**+4.6**
YKA	**Yellowknife Ar**	**82.79**	**23**	P		**P**	**05 05 06.8**	**-0.6**
	0.2nm,0.6s,baz=312,slow=4.6,SNR=3.1								

TAP 07 04:53:58.6,24.30N×121.42E,h10km±1km,ML2.5,1C,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.11**	**148**	P	Pg	04 54 02.5	+1.1
	baz=147						
ETLH				S	Sg	04 54 04.4	+1.0
	baz=147						
NNSB	**Datong**	**0.13**	**346**	P	Pg	04 54 02.7	+0.9
	baz=346						
NNSB				S	Sg	04 54 04.5	+0.6
	baz=346						
NNS	**Nan Shan**	**0.14**	**344**	P	Pg	04 54 02.7	+0.7
	baz=346						
NNS				S	Sg	04 54 05.0	+0.8
	baz=346						
NACB	**Ninganchiao**	**0.21**	**128**	P	Pg	04 54 04.0	+1.1
	baz=127						
NACB				S	Sg	04 54 06.8	+1.0
	baz=127						
WHF	**Hehuan Shan**	**0.21**	**221**	⇑*i*P	Pg	04 54 04.2	+1.0
	baz=219						
WHF				S	Sg	04 54 07.5	+1.2
	baz=219						
TDCB	**Techi**	**0.24**	**258**	P	Pg	04 54 04.9	+1.3
	baz=258						
TDCB				*e*S	Sg	04 54 08.2	+1.2
	baz=258						
TWD	**Chiawan**	**0.28**	**143**	P	Pb	04 54 05.3	-0.4
	baz=141						
TWD				S	Sb	04 54 09.2	-1.2
	baz=141						
NDT	**Datong Townshi**	**0.31**	**16**	P	Pb	04 54 05.6	-0.7
	baz=16						
ENA	**Nanau**	**0.32**	**67**	*e*P	Pb	04 54 06.8	+0.3
	baz=67						
CHGB	**Renai**	**0.33**	**223**	P	Pb	04 54 06.2	-0.5
	baz=222						
CHGB				S	Sb	04 54 11.1	-1.0
	baz=222						
ENTT	**Nioudou**	**0.36**	**22**	P	Pb	04 54 06.9	-0.3
	baz=23						
HWA	**Hwalien**	**0.37**	**152**	*e*P	Pb	04 54 07.3	+0.1
	baz=150						
YHNB	**Yeheng**	**0.37**	**354**	P	Pb	04 54 07.2	-0.1
	baz=354						
YHNB				*e*S	Sg	04 54 11.4	+0.6
	baz=354						
NSK	**Sanguang**	**0.38**	**352**	*e*P	Pb	04 54 07.5	0.0
	baz=353						
OWD	**Renai**	**0.41**	**212**	*e*P	Pg	04 54 07.3	+0.6
	baz=212						
WHP	**Taichung City**	**0.43**	**267**	*e*P	Pb	04 54 08.7	+0.4
	baz=266						
ENLB	**Shoufeng**	**0.43**	**157**	*e*P	Pb	04 54 08.3	-0.1
	baz=156						
TWE	**Neicheng**	**0.48**	**29**	*e*P	Pb	04 54 08.8	-0.3
	baz=30						
NWLT	**Wulai**	**0.48**	**9**	*e*P	Pb	04 54 09.1	-0.1
	baz=9.0						
ESL	**Shilin**	**0.49**	**178**	*e*P	Pb	04 54 09.1	-0.2
	baz=177						
TWC	**Suao**	**0.50**	**52**	*e*P	Pb	04 54 09.2	-0.3
	baz=52						
VWDT	**VWDT**	**0.60**	**205**	*e*P	Pb	04 54 10.7	-0.5
	baz=204						
SMLT	**Sun Moon Lake**	**0.63**	**229**	*e*P	Pb	04 54 12.0	+0.2
	baz=227						
SSLB	**Suanglung**	**0.66**	**220**	*e*P	Pg	04 54 11.8	+0.4
	baz=219						
TATO	**Taipei**	**0.67**	**6**	*e*P	Pb	04 54 13.0	+0.5
	baz=6.0						

*SOME **07** 04:54:15.7,42.55N×79.57E,h5km*
*KRNET **07** 04:54:16.6±0.1,42.55N×79.58E,h17km,mb2.0*
*NNC **07** 04:54:16.3±3.8,42.55N×79.59E,h0km,mb2.6,mpv2.0, Error ellipse: s-maj=24.3km s-min=21.2km az=13.0*
ISC 07 04:54:14.3±2.2,42.50N±0.09×79.7E±0.1,h15km±14km, n10,σ0956/20,6C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.80**	**324**	P	**Pb**	**04 54 30.4**	**+0.4**
	0.8nm,0.2s						
UZB				S	**Sb**	**04 54 41.2**	**+0.4**
	3.4nm,0.3s						
UZB	**Uzynbulak**	**0.80**	**324**	*e*P	**Pb**	**04 54 30.4**	**+0.4**
	0.5nm,0.1s						
UZB				*e*S	**Sb**	**04 54 41.2**	**+0.4**
	4.5nm,0.2s						
PDGK	**Podgornoye**	**0.84**	**351**	P	**Pb**	**04 54 30.9**	**+0.2**
	0.4nm,0.3s						
PDGK				S	**Sb**	**04 54 42.1**	**+0.3**
	1.0nm,0.3s						
PDGK	**Podgornoye**	**0.84**	**351**	⇑*i*P	**Pn**	**04 54 31.8**	**0.0**
	baz=55						
PDGK				⇑*i*S	**Sb**	**04 54 42.2**	**+0.3**
	baz=55						
PRZ	**Przheval'sk**	**0.93**	**269**	⇓*i*P	**Pn**	**04 54 33.2**	**+0.1**
	baz=66						
PRZ				⇓*i*S	**Sb**	**04 54 45.2**	**+0.6**
	baz=66						
TARG	**Taragay, Kyrgy**	**1.58**	**241**	⇑*i*P	**Pg**	**04 54 45.2**	**+0.4**
	baz=39						
TARG				⇑*i*S	**Sg**	**04 55 06.2**	**+0.8**
	baz=39						
DJR	**Jarkent**	**1.83**	**3**	P	**Pg**	**04 54 49.1**	**-0.5**
	0.6nm,0.2s						
DJR				S	**Sg**	**04 55 13.4**	**0.0**
	1.0nm,0.3s						
DJR	**Jarkent**	**1.83**	**3**	*e*P	**Pg**	**04 54 49.1**	**-0.5**
	0.7nm,0.2s						
DJR				*e*S	**Sg**	**04 55 13.4**	**0.0**
	0.8nm,0.2s						
KDJ	**Kajisay**	**1.88**	**259**	⇑*i*P	**Pg**	**04 54 50.3**	**-0.1**
	baz=57						
KDJ				⇑*i*S	**Sg**	**04 55 14.6**	**-0.2**
	baz=57						
BOOM	**Boomskoye usch**	**2.75**	**271**	⇓*i*P	**Pb**	**04 55 02.3**	**-1.1**
	baz=70						
BOOM				⇓*i*S	**Sb**	**04 55 35.8**	**-1.2**
	baz=70						

*ISK **07** 04:58:35.2,38.76N×43.43E,h5km,ML2.3/8*
*ISCJB **07** 04:58:37.0±0.5,38.79N±0.03×43.36E±0.07,h12km±6km, Error ellipse: s-maj=9.7km s-min=5.1km az=16.1*
*DDA **07** 04:58:36.0,38.74N×43.45E,h7km±4km,ML2.8*
ISC 07 04:58:36.5±1.1,38.79N±0.03×43.44E±0.05,h14km±11km, n13,σ0958/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.19**	**191**	PG	**Pg**	**04 58 41.1**	**+0.1**
VANB				SG	**Sb**	**04 58 45.9**	**+0.4**
VMUR	**Van-Muradiye**	**0.23**	**28**	*i*P	**Pg**	**04 58 41.0**	**-0.6**
VMUR				*i*S	**Sb**	**04 58 47.5**	**+0.8**
VMUR				IAML_P			
	comp=Z,2μm,0.1s						
ERCV	**ERCIS-VAN**	**0.25**	**342**	PG	**Pg**	**04 58 41.9**	**0.0**
TVAN	**Van**	**0.26**	**185**	*i*P	**Pg**	**04 58 41.8**	**-0.3**
TVAN				IAML_P			
	comp=Z,10μm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.56**	**273**	*i*P	**Pb**	**04 58 48.8**	**+0.7**
GEVA	**Gevas**	**0.56**	**212**	*i*P	**Pg**	**04 58 46.6**	**-0.8**
AKDM	**Akdamar-Van**	**0.58**	**218**	PG	**Pg**	**04 58 47.4**	**-0.5**
AKDM				SG	**Sg**	**04 58 56.2**	**+0.6**
MLAZ	**Malazgirt-MUS**	**0.78**	**297**	PG	**Pb**	**04 58 51.2**	**-0.7**
TUTA	**Tutak**	**0.78**	**322**	*i*P	**Pb**	**04 58 52.1**	**0.0**
AGRB	**Hanur-Agry**	**0.86**	**337**	PG	**Pb**	**04 58 53.2**	**-0.1**
GURO	**Guroymak-BITLI**	**1.12**	**255**	PN	**Pb**	**04 58 57.2**	**-0.0**
CUKT	**Cukurca**	**1.54**	**175**	PN	**Pb**	**04 59 04.9**	**0.0**
GNI	**Garni**	**1.70**	**36**	PN	**Pb**	**04 59 07.3**	**-0.3**

TAP 07 05:20:42.9,24.31N×121.42E,h8km±1km,ML1.1,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.12**	**152**	P	Pg	05 20 46.5	+1.0
	baz=152						
NNSB	**Datong**	**0.12**	**343**	P	Pg	05 20 46.6	+0.9
	baz=342						
NNSB				S	Sg	05 20 48.5	+0.8
	baz=342						
NNS	**Nan Shan**	**0.14**	**341**	P	Pg	05 20 46.6	+0.7
	baz=343						
NNS				*e*S	Sg	05 20 49.0	+0.9
	baz=343						
NACB	**Ninganchiao**	**0.21**	**131**	*e*P	Pg	05 20 47.8	+0.7
	baz=130						
WHF	**Hehuan Shan**	**0.22**	**221**	*e*P	Pg	05 20 48.3	+0.8
	baz=219						
TDCB	**Techi**	**0.25**	**257**	*e*P	Pg	05 20 49.0	+1.1
	baz=256						
TWD	**Chiawan**	**0.28**	**145**	*e*P	Pb	05 20 49.4	-0.7
	baz=143						
CHGB	**Renai**	**0.34**	**222**	*e*P	Pb	05 20 50.4	-0.8
	baz=222						
YHNB	**Yeheng**	**0.36**	**353**	*e*P	Pb	05 20 51.2	-0.4
	baz=353						
OWD	**Renai**	**0.42**	**212**	*e*P	Pg	05 20 51.6	+0.5
	baz=212						

*NEIC **07** 05:21:50.5±1.0,18.07S×175.15W,h201km±10km, mb4.5/14,Error ellipse: s-maj=10.5km s-min=5.7km az=142.0*
*ISCJB **07** 05:21:51.6±0.3,18.18S±0.06×175.12W±0.05,h228km, mb4.4/26,Error ellipse: s-maj=9.2km s-min=6.7km az=160.8*
*IDC **07** 05:21:55.3±2.4,18.17S×175.27W,h243km±22km,mb3.8/9, mb1 4.0/10,mb1mx3.7/30,mbtmp4.4/10,Error ellipse: s-maj=18.7km s-min=11.5km az=121.0*
ISC 07 05:21:52.9±0.4,18.23S±0.08×175.09W±0.07,h228km, n64,σ1905/70,mb4.6/26,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.97**	**101**	*e*Pn	**Pn**	**05 23 05.8**	**-1.8**
NIUE				*e*Sn	**S**	**05 24 05.1**	**-1.7**
RAO	**Raoul Island**	**11.27**	**193**	*e*Pn	**Pn**	**05 24 25.7**	**-2.1**
DZM	**Mont Dzumac**	**17.75**	**255**	*e*P	**Pn**	**05 25 45.8**	**-0.9**
	11nm,0.9s						
DZM	**Mont Dzumac**	**17.75**	**255**	P	**Pn**	**05 25 45.8**	**-0.9**
	0.4nm,0.3s,baz=74,slow=20,SNR=4.4						
OUZ	**Omahuta**	**19.68**	**208**	*e*P	**P**	**05 26 06.6**	**+1.8**
	63nm,1.7s						
URZ	**Urewera**	**21.08**	**197**	*e*P	**P**	**05 26 20.7**	**+0.9**
URZ				*e*S	**S**	**05 30 01.3**	**+1.4**
URZ	**Urewera**	**21.08**	**197**	P	**P**	**05 26 20.2**	**+0.4**
	10nm,0.3s,baz=256,slow=3.7,SNR=25						
URZ				S	**S**	**05 30 01.3**	**+1.4**
	6.7nm,0.9s,baz=171,slow=13,SNR=3.0						
HIZ	**Hauiti**	**22.03**	**201**	*e*P	**P**	**05 26 32.2**	**+3.3**
	87nm,1.4s						
BKZ	**Black Stump Fm**	**22.10**	**198**	*e*P	**P**	**05 26 29.2**	**-0.5**
	22nm,1.3s						
BFZ	**Birch Farm**	**23.58**	**197**	*e*P	**P**	**05 26 44.2**	**+1.1**
	77nm,1.5s						
STKA	**Stephens Creek**	**41.26**	**242**	*e*P	**P**	**05 29 17.5**	**+1.5**
	1.9nm,1.0s						
STKA	**Stephens Creek**	**41.26**	**242**	P	**P**	**05 29 15.7**	**-0.4**
	6.1nm,0.9s,baz=72,slow=9.4,SNR=9.7						
WB2	**Warramunga Arr**	**47.66**	**259**	*e*P	**P**	**05 30 06.7**	**-0.1**
	18nm,0.4s						
WRAB	**Tennant Creek**	**47.66**	**259**	*e*P	**P**	**05 30 06.8**	**-0.1**
	14nm,0.5s						
WR1	**Warramunga Arr**	**47.67**	**259**	*e*P	**P**	**05 30 06.5**	**-0.4**
	21nm,0.4s						
WRA	**Warramunga Arr**	**47.67**	**259**	P	**P**	**05 30 06.5**	**-0.4**
	11nm,0.4s,baz=98,slow=7.1,SNR=360						
AS01	**Alice Springs**	**47.70**	**254**	*e*P	**P**	**05 30 07.1**	**0.0**
AS31	**Alice Springs**	**47.74**	**254**	*e*P	**P**	**05 30 07.6**	**+0.2**
	16nm,0.9s						
AS31				*e*S	**S**	**05 36 43.2**	**-3.1**
ASAR	**Alice Springs**	**47.74**	**254**	P	**P**	**05 30 07.3**	**-0.1**
	50nm,0.6s,baz=90,slow=7.9,SNR=490						
ASAR				S	**S**	**05 36 43.2**	**-3.1**
	0.4nm,0.8s,baz=89,slow=18,SNR=3.3						
MTN	**Manton Dam**	**51.94**	**268**	*e*P	**P**	**05 30 38.1**	**-0.9**
	14nm,0.6s						
SOEI	**Soe**	**59.23**	**269**	*e*P	**P**	**05 31 30.9**	**-0.1**
	27nm,0.6s						
MJAR	**Matsushiro Arr**	**70.09**	**321**	P	**P**	**05 32 40.2**	**-0.3**
	5.2nm,0.7s,baz=169,slow=6.6,SNR=10						
MAJO	**Matsushiro**	**70.09**	**321**	*e*P	**P**	**05 32 40.2**	**-0.3**
QSPA	**South Pole Qui**	**71.83**	**180**	P	**P**	**05 32 53.2**	**+2.6**
	1.7nm,1.0s,baz=33,slow=2.0,SNR=5.2						
KSRS	**Korea Array**	**77.07**	**317**	P	**P**	**05 33 21.1**	**+0.1**
	2.4nm,0.7s,baz=138,slow=5.9,SNR=5.5						
KS15	**Wonju Array Si**	**77.09**	**317**	*e*P	**P**	**05 33 20.8**	**-0.4**
	28nm,1.4s						
KSAR	**Wonju Array Be**	**77.09**	**317**	P	**P**	**05 33 21.1**	**0.0**
NV01	**Mina Array Sit**	**77.50**	**42**	*e*P	**P**	**05 33 24.3**	**+0.5**
NV01				*e*PKKPbc	**PKKPbc**	**05 52 29.2**	**+1.3**
NVAR	**Mina Array Bea**	**77.50**	**42**	P	**P**	**05 33 24.3**	**+0.5**
	0.5nm,0.7s,baz=215,slow=9.4,SNR=4.4						
NVAR				PKKPbc	**PKKPbc**	**05 52 29.2**	**+1.3**
	0.7nm,0.9s,baz=62,slow=6.2,SNR=4.0						
WRH	**Wood River Hil**	**85.03**	**11**	*e*P	**P**	**05 34 01.9**	**-0.4**
	7.1nm,1.0s						
HDA	**Harding Lake**	**85.19**	**12**	*e*P	**P**	**05 34 03.0**	**-0.1**
	4.1nm,0.6s						
CCB	**Clear Creek Bu**	**85.24**	**11**	*e*P	**P**	**05 34 03.0**	**-0.4**
	5.8nm,0.8s						
QLMT	**Earthquake Lak**	**85.32**	**40**	*e*P	**P**	**05 34 04.6**	**+0.1**
COLA	**College**	**85.44**	**11**	*e*P	**P**	**05 34 04.1**	**-0.2**
	7.8nm,0.7s						
ILAR	**Eielson Array**	**85.53**	**12**	P	**P**	**05 34 04.1**	**-0.7**
	1.1nm,0.5s,baz=225,slow=6.0,SNR=35						
ILB	**Eielson Array**	**85.53**	**12**	*e*P	**P**	**05 34 04.4**	**-0.4**
	0.7nm,0.8s						
IL1	**Eielson Array**	**85.53**	**12**	*e*P	**P**	**05 34 04.4**	**-0.4**
N23A	**Red Feather La**	**86.92**	**45**	*e*P	**P**	**05 34 12.8**	**+0.3**
	16nm,0.9s						
PSI	**Prapat**	**87.06**	**274**	*e*P	**P**	**05 34 12.3**	**-1.2**
	11nm,0.8s						

YKA	**Yellowknife Ar**	**93.33**	**24**	P		**P**	**05 34 41.7**	**+0.2**
	0.2nm,0.4s,baz=244,slow=4.2,SNR=10.0								
YKB5	**Yellowknife Ar**	**93.33**	**24**	*e*P		**P**	**05 34 41.7**	**+0.2**
MK32	**Makanchi Array**	**111.63**	**314**	*e*PKiKP		**PKiKP**	**05 40 00.1**	**-0.2**
MKAR	**Makanchi Array**	**111.63**	**314**	PKiKP		**PKiKP**	**05 40 00.1**	**-0.2**
	0.4nm,0.5s,baz=90,slow=2.4,SNR=3.6								
ARA0	**ARCESS Array S**	**127.16**	**351**	*e*PKPdf		**PKPdf**	**05 40 29.8**	**+0.4**
ARCES	**ARCESS Array B**	**127.16**	**351**	PKP		**PKPdf**	**05 40 29.8**	**+0.4**
	2.8nm,0.8s,baz=23,slow=0.4,SNR=12								
FIA0	**FINESS Array S**	**134.31**	**346**	*e*PKPdf		**PKiKP**	**05 40 44.2**	**-0.3**
FINES	**FINESS Array B**	**134.31**	**346**	PKP		**PKiKP**	**05 40 44.2**	**-0.3**
	1.4nm,0.8s,baz=36,slow=3.5,SNR=5.9								
LSZ	**Lusaka**	**139.56**	**216**	*e*PKPdf		**PKPdf**	**05 40 55.1**	**+0.7**
AKASG	**Malin Array Be**	**142.26**	**335**	PKhKP		PKPpre	05 40 52.6		
	0.4nm,0.5s,baz=39,slow=4.7,SNR=4.0								
AKBB	**Malin Array Si**	**142.26**	**335**	*e*PKPpre		PKPpre	05 40 52.6		
CLL	**Collm**	**146.38**	**351**	*i* PKPbc		**PKPab**	**05 41 08.0**	**-0.1**
CLL				Lm		MLR	07 37 00.0		
	comp=Z,200nm,20.3s								
BR101	**Keskin Array S**	**147.22**	**317**	*e*PKPbc		**PKPbc**	**05 41 10.2**	**+0.5**
BR131	**Keskin Array S**	**147.22**	**317**	*e*PKPdf		**PKPdf**	**05 41 07.8**	**+0.7**
BR131				*e*PKPbc		**PKPbc**	**05 41 10.4**	**+0.7**
BRTR	**Keskin Array B**	**147.22**	**317**	PKPbc		**PKPbc**	**05 41 10.2**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=105,slow=2.3,SNR=9.1								
GEC2	**GERESS Array S**	**148.64**	**349**	*e*PKPbc		**PKPbc**	**05 41 13.4**	**+0.3**
GERES	**GERESS Array B**	**148.64**	**349**	PKPbc		**PKPbc**	**05 41 13.4**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=20,slow=4.3,SNR=8.4								
GEA0	**GERESS Array S**	**148.65**	**349**	*e*PKPbc		**PKPbc**	**05 41 13.3**	**+0.2**
KBA	**Koelnbreinsper**	**150.41**	**348**	*i* PKPbc		**PKPbc**	**05 41 17.4**	**-0.2**
	comp=Z,1.8nm,0.4s								
MOTA	**Moosalm**	**150.52**	**351**	*e*PKiKP		**PKiKP**	**05 41 19.2**	**+0.7**
	comp=Z,2.5nm,0.6s								
DAVA	**Damuels**	**150.74**	**353**	*e*PKiKP		**PKiKP**	**05 41 19.4**	**+0.5**
	comp=Z,3.4nm,0.5s								
MYKA	**Terra Mystica**	**150.78**	**348**	*i* PKPbc		**PKPbc**	**05 41 18.1**	**-0.3**
	comp=Z,0.4nm,0.2s								
ABTA	**Abfaltersbach**	**150.88**	**349**	*i* PKPbc		**PKPbc**	**05 41 18.6**	**0.0**
	comp=Z,2.9nm,0.5s								
FUORN	**Ofenpass-Fuorn**	**151.35**	**352**	*e*PKPbc		**PKPbc**	**05 41 20.3**	**+0.4**
ESDC	**Sonseca Array**	**157.29**	**18**	PKPab		**PKPab**	**05 41 54.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=346,slow=4.5,SNR=3.3								

*IDC **07** 05:44:12.3±4.0,4.90S×101.65E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.6/40,mbtmp3.5/6,Error ellipse: s-maj=160.3km s-min=22.5km az=56.0*
*ISCJB **07** 05:44:17.3±1.0,4.6S±0.1×101.96E±0.06,h36km,mb3.5/6, Error ellipse: s-maj=17.6km s-min=8.0km az=16.5*
*DJA **07** 05:44:20.5±1.2,5°S±5°×10°2E±°,h17km±7km,M3.7/7, MLv3.7/7*
ISC 07 05:44:19.3±1.2,4.6S±0.1×102.0E±0.1,h36km,n14, σ0975/14,mb3.6/6,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.97**	**75**	P	**Pn**	**05 44 36.6**	**+0.3**
MNAI				S	**Sn**	**05 44 47.8**	**-1.1**
LWLI	**Liwa**	**2.07**	**101**	P	**Pn**	**05 44 51.8**	**+0.2**
LWLI				S	**Sn**	**05 45 16.2**	**0.0**
MDSI	**Maura Dua**	**2.16**	**87**	P	**Pn**	**05 44 53.5**	**+0.8**
MDSI				S	**Sn**	**05 45 18.6**	**+0.4**
KASI	**Kota Agung**	**2.63**	**110**	P	**Pn**	**05 44 59.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**23.13**	**353**	P	**P**	**05 49 23.6**	**+1.2**
	0.6nm,0.3s,baz=184,slow=10,SNR=4.9								
H08S2	**Diego Garcia H**	**29.51**	**263**	T	T	06 20 51.9			
	baz=83								
H08S3	**Diego Garcia H**	**29.51**	**263**	T	T	06 20 53.7			
	baz=83								
H08S1	**Diego Carcia H**	**29.52**	**263**	T	T	06 20 53.5			
	baz=83								
WRA	**Warramunga Arr**	**34.96**	**119**	P	**P**	**05 51 07.3**	**-0.9**
	0.3nm,0.6s,baz=305,slow=8.5,SNR=4.6								
ASAR	**Alice Springs**	**36.10**	**125**	P	**P**	**05 51 18.1**	**+0.1**
	0.2nm,0.6s,baz=298,slow=8.2,SNR=2.6								
SONM	**Songino Array**	**52.37**	**4**	P	**P**	**05 53 28.0**	**+0.1**
	0.5nm,0.6s,baz=186,slow=10,SNR=4.8								
MKAR	**Makanchi Array**	**54.09**	**343**	P	**P**	**05 53 40.4**	**-0.1**
	0.4nm,0.6s,baz=144,slow=8.5,SNR=4.5								
ZALV	**Zalesovo Beam**	**60.11**	**348**	P	**P**	**05 54 21.7**	**-1.2**
	0.5nm,0.3s,baz=174,slow=6.3,SNR=4.0								
TXAR	**Lajitas Array**	**145.42**	**42**	PKPbc	**PKPbc**	**06 03 54.2**	**-0.1**
	0.3nm,0.6s,baz=285,slow=1.4,SNR=3.8								

IDC 07 05:53:18.4±1.1,3.90S×142.05E,h74km±7km,mb3.6/5, mb1 3.9/6,mb1mx3.5/37,mbtmp4.0/6,Error ellipse: s-maj=39.3km s-min=12.0km az=111.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.63**	**205**	P	Pn	05 57 18.0	-1.2
	1.8nm,0.3s,baz=19,slow=12,SNR=75						
WRA				pP	pP	05 57 32.5	-1.6
	0.8nm,0.3s,baz=28,slow=14,SNR=16						
ASAR	**Alice Springs**	**21.17**	**201**	P	P	05 57 57.1	-0.6
	2.6nm,0.5s,baz=27,slow=12,SNR=26						
ASAR				pP	pP	05 58 13.4	+0.4
	0.6nm,0.4s,baz=34,slow=9.2,SNR=2.7						
ASAR				sP	sP	05 58 20.6	-1.8

DAGI				*i* S		**Sn**	**05 58 06.9**	**-1.9**
RPOR	**Krasnaya Polya**	**1.45**	**335**	*e*PG		**Pn**	**05 57 48.2**	**-1.5**
RPOR				*e*S		**Sn**	**05 58 07.0**	**-2.2**
RPOR	**Krasnaya Polya**	**1.45**	**335**	*e*Pg		**Pn**	**05 57 48.2**	**-1.5**
RPOR				*e*Sg		**Sn**	**05 58 07.0**	**-2.2**
NEY	**Neytrino**	**1.46**	**53**	*i* PG		**Pn**	**05 57 49.6**	**-0.4**
NEY				pmax	pmax			
	comp=Z,152nm,0.6s							
NEY	**Neytrino**	**1.46**	**53**	*e*Pg		**Pn**	**05 57 49.6**	**-0.4**
NEY				*e*Sg		**Sg**	**05 58 10.2**	**+0.4**
EPOS	**Posof**	**1.49**	**126**	*i* P		**Pb**	**05 57 50.7**	**-0.3**
EPOS				*i* S		**Sg**	**05 58 10.8**	**+0.2**
EPOS	**Posof**	**1.49**	**126**	*i* P		**Pb**	**05 57 50.5**	**-0.5**
EPOS				*i* S		**Sg**	**05 58 10.9**	**+0.2**
DDEM	**Demirkent**	**1.57**	**162**	*i* P		**Pn**	**05 57 50.9**	**-0.4**
DDEM				*i* S		**Sb**	**05 58 11.7**	**-0.7**
DDEM				IAML_P				
	comp=Z,2µm,0.1s							
DDEM	**Demirkent**	**1.57**	**162**	*i* P		**Pn**	**05 57 50.7**	**-0.6**
DDEM				*i* S		**Sn**	**05 58 10.7**	**-1.3**
DDEM				IAML_P				
	comp=Z,2µm,0.1s							
SOC	**Sochi**	**1.58**	**320**	*e*PG		**Pn**	**05 57 50.1**	**-1.3**
SOC				*e*			05 58 10.3	
SOC				pmax	pmax			
	comp=Z,42nm,0.2s							
SOC				smax	smax			
	comp=N,276nm,0.3s							
SOC				smax	smax			
	comp=E,46nm,0.2s							
SOC	**Sochi**	**1.58**	**320**	*e*Pg		**Pn**	**05 57 50.3**	**-1.1**
SOC				*e*Sg		**Sn**	**05 58 10.2**	**-1.9**
KTUT	**Trabzon**	**1.72**	**216**	PN		**Pg**	**05 57 58.4**	**+2.6**
SHA1	**Shidzhatmaz**	**1.76**	**39**	*e*PN		**Pb**	**05 57 54.9**	**-0.8**
SHA1				*e*S		**Sb**	**05 58 18.3**	**+0.1**
SHA1	**Shidzhatmaz**	**1.76**	**39**	*e*Pg		**Pb**	**05 57 54.5**	**-1.2**
SHA1				*e*Pg		**Pb**	**05 57 54.9**	**-0.8**
SHA1				*e*Sg		**Sb**	**05 58 18.1**	**-0.1**
SHA1				*e*Sg		**Sn**	**05 58 18.3**	**+0.1**
GUZR	**Guzeripl'**	**1.77**	**336**	*e*Pg		**Pn**	**05 57 53.3**	**-0.7**
GUZR				*e*Sg		**Sn**	**05 58 16.3**	**-0.7**
DIGR	**Digorskoe uzhe**	**1.89**	**73**	*e*PN		**Pb**	**05 57 56.9**	**-0.9**
DIGR				pmax	pmax			
	comp=Z,24nm,0.5s							
DIGR	**Digorskoe uzhe**	**1.89**	**73**	*e*Pg		**Pb**	**05 57 57.2**	**-0.7**
DIGR				*e*Sg		**Sb**	**05 58 22.0**	**+0.2**
KIV	**Kislovodsk**	**1.94**	**36**	PN		**Pb**	**05 57 58.2**	**-0.5**
KIV				SN		**Sb**	**05 58 22.9**	**-0.4**
KIV	**Kislovodsk**	**1.94**	**36**	*e*PN		**Pb**	**05 57 57.9**	**-0.8**
KIV	**Kislovodsk**	**1.94**	**36**	*e*Pg		**Pb**	**05 57 57.6**	**-1.1**
KIV				*e*Sg		**Sb**	**05 58 22.6**	**-0.7**
KIV0	**Kislovodsk Arr**	**1.95**	**36**	*e*Pg		**Pb**	**05 57 57.9**	**-0.9**
KIV0				*e*Sg		**Sb**	**05 58 23.3**	**-0.1**
LZRR	**Lazarevskoye**	**2.00**	**321**	*e*Pg		**Pn**	**05 57 56.6**	**-0.6**
LZRR				*e*Sg		**Sn**	**05 58 22.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.04**	**153**	PN		**Pb**	**05 57 59.1**	**-1.4**
SENK				SN		**Sb**	**05 58 25.0**	**-1.3**
BEYR	**Belyy Ugol+**	**2.05**	**37**	*e*PN		**Pb**	**05 57 59.8**	**-0.6**
BEYR				*e*S		**Sb**	**05 58 25.7**	**-0.5**
BEYR	**Belyy Ugol+**	**2.05**	**37**	*e*Pg		**Pb**	**05 57 59.9**	**-0.6**
BEYR				*e*Sg		**Sb**	**05 58 25.7**	**-0.5**
ZEI	**Tsey**	**2.10**	**78**	*e*PN		**Pn**	**05 57 58.3**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.4s							
ZEI	**Tsey**	**2.10**	**78**	*e*Pg		**Pb**	**05 58 00.3**	**-1.1**
ZEI				*e*Sg		**Sb**	**05 58 28.3**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**2.12**	**201**	PN		**Pg**	**05 58 03.2**	**-0.2**
NCK	**Nalchik**	**2.13**	**58**	*ce*PN		**Pb**	**05 58 00.8**	**-1.1**
NCK	**Nalchik**	**2.13**	**58**	*e*Pg		**Pb**	**05 58 00.8**	**-1.1**
LSNR	**Lesken**	**2.18**	**65**	*e*PN		**Pg**	**05 58 03.8**	**-0.8**
LSNR				*e*S		**Sg**	**05 58 33.1**	**+0.2**
LSNR	**Lesken**	**2.18**	**65**	*e*Pg		**Pg**	**05 58 04.2**	**-0.3**
LSNR				*e*Sg		**Sg**	**05 58 33.5**	**+0.6**
BAYB	**BAYBURT**	**2.22**	**197**	*i* P		**Pn**	**05 58 00.9**	**+0.5**
BAYB				*i* S		**Sn**	**05 58 26.9**	**-1.4**
TRLG	**Trialeti**	**2.38**	**110**	P		**Pb**	**05 58 04.7**	**-1.5**
TRLG				S		**Sn**	**05 58 33.5**	**+1.3**
LACR	**Lac**	**2.39**	**78**	*e*PN		**Pb**	**05 58 04.8**	**-1.5**
LACR				*e*S		**Sb**	**05 58 36.3**	**+0.2**
LACR	**Lac**	**2.39**	**78**	*e*Pn		**Pb**	**05 58 04.8**	**-1.5**
LACR				*e*Sn		**Sb**	**05 58 36.3**	**+0.2**
TBLG	**Delisi**	**2.78**	**102**	PN		**Pn**	**05 58 07.9**	**0.0**
VSR	**Storozhevoye**	**8.93**	**352**	*i* P		**Pn**	**05 59 32.6**	**+0.3**
VSR	**Storozhevoye**	**8.93**	**352**	*e*Pn		**Pn**	**05 59 32.6**	**+0.3**
ARU	**Arti**	**17.99**	**33**	*i* P		**P**	**06 01 38.1**	**+4.2**
ARU				pmax	pmax			
	comp=Z,3.0nm,1.1s							
BRVK	**Borovoye**	**22.18**	**51**	*i* P		**P**	**06 02 20.7**	**+1.2**
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
AAK	**Ala-Archa**	**24.52**	**78**	*i* P		**P**	**06 02 44.1**	**+0.9**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**54.14**	**98**	*i* P		**P**	**06 06 50.7**	**+1.7**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							

TAP 07 06:01:55.5,24°.37N×121°.46E,h8km±1km,ML1.1,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.09**	**310**	P	Pg	06 01 58.1	+0.3
	baz=311						
NNSB				S	Sg	06 01 59.6	+0.2
	baz=311						
NNS	**Nan Shan**	**0.10**	**312**	P	Pg	06 01 58.3	+0.3
	baz=315						
NNS				*e*S	Sg	06 01 59.5	-0.2
	baz=315						
ETLH	**Xiulin Townshi**	**0.17**	**172**	P	Pg	06 01 59.9	+0.9
	baz=172						
NACB	**Ninganchiao**	**0.23**	**147**	*e*P	Pg	06 02 01.0	+0.8
	baz=148						
ENTT	**Nioudou**	**0.28**	**21**	*e*P	Pb	06 02 03.9	+0.9
	baz=17						
TDCB	**Techi**	**0.30**	**247**	*e*P	Pb	06 02 02.4	-0.8
	baz=237						
YHNB	**Yeheng**	**0.30**	**346**	*e*P	Pb	06 02 02.7	-0.6
	baz=345						
CHGB	**Renai**	**0.40**	**220**	*e*P	Pg	06 02 04.0	+0.5
	baz=209						

TAP 07 06:01:57.4,24°.31N×121°.39E,h3km,ML1.3,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.12**	**356**	*e*P	Pg	06 02 00.2	+0.4
	baz=356						
NNSB				S	Sg	06 02 02.1	+0.7
	baz=356						
ETLH	**Xiulin Townshi**	**0.13**	**141**	*e*P	Pg	06 02 00.7	+0.8
	baz=147						
ETLH				*e*S	Sg	06 02 01.9	+0.2
	baz=147						
NNS	**Nan Shan**	**0.13**	**353**	*e*P	Pg	06 02 00.4	+0.3
	baz=355						
NNS				*e*S	Sg	06 02 02.6	+0.8
	baz=355						
WHF	**Hehuan Shan**	**0.20**	**216**	*e*P	Pg	06 02 01.8	+0.5
	baz=216						
WHF	**Hehuan Shan**	**0.20**	**216**	*e*P	Pg	06 02 01.8	+0.5
	baz=213						
NACB	**Ninganchiao**	**0.23**	**126**	*e*P	Pg	06 02 02.4	+0.7
	baz=127						
CHGB	**Renai**	**0.32**	**219**	*e*P	Pg	06 02 04.5	+1.0
	baz=205						
YHNB	**Yeheng**	**0.36**	**358**	*e*P	Pb	06 02 05.8	-0.7
	baz=358						

*SJA **07** 06:06:54.9±0.3,22°.60S×69°.56W,h46km±3km,ML1.9, MW3.8*
*ISCJB **07** 06:06:55.7±0.7,22°.60S±0°.03×69°.59W±0°.04,h55km±7km, Error ellipse: s-maj=6.5km s-min=4.8km az=9.1*
*GUC **07** 06:06:55.0±0.7,22°.59S×69°.57W,h53km±2km,ML3.0*
ISC 07 06:06:56.5±1.3,22°.60S±0°.03×69°.59W±0°.04,h45km±9km, n21,σ0°61/37,3C-6D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**0.11**	**174**	*i* P	**Pn**	**06 07 03.1**	**-0.8**
PB06	**IPOC Station P**	**0.11**	**174**	⇑*i* P	**Pn**	**06 07 03.9**	**-0.1**
PB06				*i* S	**Sn**	**06 07 10.3**	**+1.1**
PB06				IAML		06 07 11.1	
	comp=N,1µm,0.1s						
PB03	**IPOC Station P**	**0.57**	**344**	*i* P	**Pn**	**06 07 08.0**	**-0.5**
PB03				*i* S	**Sn**	**06 07 17.7**	**+0.6**
PB03	**IPOC Station P**	**0.57**	**344**	⇓*i* P	**Pn**	**06 07 08.0**	**-0.5**
PB03				*i* S	**Sn**	**06 07 17.2**	**+0.2**
PB03				IAML		06 07 18.1	
	comp=E,3µm,0.1s						
PB04	**IPOC Station P**	**0.58**	**297**	*i* P	**Pn**	**06 07 08.5**	**-0.2**
PB04	**IPOC Station P**	**0.58**	**297**	⇓*i* P	**Pn**	**06 07 08.4**	**-0.2**
PB04				*i* S	**Sn**	**06 07 17.8**	**+0.4**
PB04				IAML		06 07 21.0	
	comp=N,1µm,0.1s						
PB15	**IPOC Station P**	**0.62**	**170**	*i* P	**Pn**	**06 07 08.6**	**-0.6**
PB15	**IPOC Station P**	**0.62**	**170**	⇓*i* P	**Pn**	**06 07 08.6**	**-0.6**
PB15				*i* S	**Sn**	**06 07 18.2**	**0.0**
LVC	**Limon Verde**	**0.62**	**91**	*i* P	**Pn**	**06 07 08.6**	**-0.8**
LVC				*i* S	**Sn**	**06 07 18.6**	**0.0**
LVC	**Limon Verde**	**0.62**	**91**	*e*P	**Pn**	**06 07 08.4**	**-0.9**
LVC				*i* S	**Sn**	**06 07 18.0**	**-0.6**
PB05	**IPOC Station P**	**0.62**	**246**	*i* P	**Pn**	**06 07 08.8**	**-0.4**
PB05	**IPOC Station P**	**0.62**	**246**	⇑*i* P	**Pn**	**06 07 08.9**	**-0.2**
PB05				*i* S	**Sn**	**06 07 18.7**	**+0.4**
PB05				IAML		06 07 19.2	
	comp=N,387nm,0.2s						
PB09	**IPOC Station P**	**0.86**	**22**	*i* P	**Pn**	**06 07 12.0**	**-0.3**
PB09				*i* S	**Sn**	**06 07 24.1**	**+0.1**
PB09	**IPOC Station P**	**0.86**	**22**	*e*P	**Pn**	**06 07 11.9**	**-0.5**
PB09				*i* S	**Sn**	**06 07 24.0**	**+0.1**
PB09				AMP		06 07 25.3	
	comp=E,1µm,0.2s						
PB07	**IPOC Station P**	**0.91**	**342**	⇓*i* P	**Pn**	**06 07 12.3**	**-0.7**
PB07				*i* S	**Sn**	**06 07 25.2**	**0.0**
PB07				IAML		06 07 26.0	
	comp=N,561nm,0.3s						
PB10	**IPOC Station P**	**1.28**	**224**	*e*P	**Pn**	**06 07 17.1**	**-0.8**
PB10				*e*S	**Sn**	**06 07 34.1**	**+0.3**
PB02	**IPOC Station P**	**1.30**	**347**	⇓*i* P	**Pn**	**06 07 17.4**	**-0.9**
PB02				*i* S	**Sn**	**06 07 34.9**	**+0.2**
PB02				IAML		06 07 42.7	
	comp=E,529nm,0.3s						
PB01	**IPOC Station P**	**1.55**	**3**	⇓*i* P	**Pn**	**06 07 21.4**	**-0.3**
PB01				*i* S	**Sn**	**06 07 40.5**	**-0.1**
PB01				IAML		06 07 45.2	
	comp=E,403nm,0.2s						
PB08	**IPOC Station P**	**2.48**	**9**	*e*P	**Pn**	**06 07 34.7**	**-0.1**
PB08				*e*S	**Sn**	**06 08 05.0**	**+1.1**
PB08				IAML		06 08 12.4	
	comp=N,69nm,0.1s						
PB11	**IPOC Station P**	**2.82**	**359**	⇑*i* P	**Pn**	**06 07 38.9**	**-0.3**
PB11				*e*S	**Sn**	**06 08 12.5**	**+0.3**
PB11				IAML		06 08 34.0	
	comp=E,93nm,0.3s						
HJA	**Humahuaca**	**3.90**	**100**	*i* P	**Pn**	**06 07 55.6**	**+1.4**
HJA				IAML		06 08 10.3	
	comp=Z,1.6nm,0.4s						

*SOME **07** 06:17:18.6,43°.28N×80°.27E,h5km*
*KRNET **07** 06:17:18.4±0.1,43°.26N×80°.31E,h8km,mb2.5*
ISC 07 06:17:18.4±1.5,43°.26N±0°.05×80°.28E±0°.06,h5km±12km, n18,σ1°13/36,8C-1D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**0.19**	**15**	*e*P	**Pg**	**06 17 22.5**	**+0.1**
	baz=7.0						
KTMS				*e*S	**Sg**	**06 17 25.4**	**+0.4**
	baz=7.0						
KTMS	**Ketmen**	**0.19**	**15**	*e*P	**Pg**	**06 17 22.5**	**+0.1**
	15nm,0.1s						
KTMS				*e*S	**Sg**	**06 17 25.3**	**+0.4**
	201nm,0.2s						
PDGK	**Podgornoye**	**0.58**	**277**	⇑*i* P	**Pb**	**06 17 30.5**	**-0.7**
	baz=77						
PDGK				⇑*i* S	**Sb**	**06 17 39.0**	**-0.8**
	baz=77						
UZB	**Uzynbulak**	**0.93**	**264**	*e*P	**Pg**	**06 17 36.4**	**+0.1**
	baz=64						
UZB				*e*S	**Sb**	**06 17 49.6**	**-0.2**
	baz=64						
UZB	**Uzynbulak**	**0.93**	**264**	*e*P	**Pg**	**06 17 36.4**	**+0.1**
	3.0nm,0.1s						
UZB				*e*S	**Sb**	**06 17 49.6**	**-0.2**
	7.4nm,0.1s						
DJR	**Jarkent**	**1.13**	**342**	*e*P	**Pg**	**06 17 39.5**	**-0.7**
	0.4nm,0.2s						
DJR				*e*S	**Sb**	**06 17 54.9**	**-0.7**
	0.9nm,0.2s						
SATY	**Saty**	**1.39**	**262**	*e*P	**Pb**	**06 17 45.0**	**+0.1**
	1.5nm,0.1s						
SATY				⇓*i* S	**Sn**	**06 18 04.3**	**+0.9**
	19nm,0.2s						
KURS	**Kuram**	**1.56**	**279**	*e*P	**Pg**	**06 17 48.6**	**+0.3**
	baz=79						
KURS				*e*S	**Sg**	**06 18 10.1**	**+1.6**
	baz=79						
KURS	**Kuram**	**1.56**	**279**	*e*P	**Pg**	**06 17 48.6**	**+0.3**
	0.5nm,0.4s						
KURS				*e*S	**Sg**	**06 18 10.1**	**+1.6**
	2.6nm,0.3s						
ARXS	**Arharly**	**2.02**	**299**	*e*P	**Pb**	**06 17 55.7**	**0.0**
	2.9nm,0.8s						
ARXS				*e*S	**Sg**	**06 18 22.3**	**-1.1**
	6.8nm,0.5s						
KAPS	**Kapalarasan**	**2.13**	**342**	*e*P	**Pb**	**06 17 57.8**	**+0.2**
	1.2nm,0.2s						
KAPS				*e*S	**Sg**	**06 18 25.9**	**-1.0**
	2.5nm,0.2s						
KOTS	**Kotyrbulak**	**2.32**	**270**	*e*P	**Pb**	**06 18 01.2**	**+0.4**
	baz=70						
KOTS				*e*S	**Sg**	**06 18 31.7**	**-1.1**
	baz=70						
KOTS	**Kotyrbulak**	**2.32**	**270**	*e*P	**Pb**	**06 18 01.2**	**+0.4**
	4.9nm,0.5s						
KOTS				*e*S	**Sg**	**06 18 31.7**	**-1.1**
	9.4nm,0.7s						
TARG	**Taragay, Kyrgy**	**2.39**	**231**	⇑*i* P	**Pb**	**06 18 02.5**	**+0.4**
	baz=31						
TARG				⇑*i* S	**Sg**	**06 18 35.2**	**+0.1**
	baz=31						
CHKK	**Chushkaly**	**2.47**	**285**	*e*P	**Pb**	**06 18 03.6**	**+0.3**
	baz=85						
CHKK				*e*S	**Sb**	**06 18 35.8**	**+1.8**
	baz=85						
CHKK	**Chushkaly**	**2.47**	**285**	*e*P	**Pb**	**06 18 03.6**	**+0.3**
	1.2nm,0.1s						
CHKK				*e*S	**Sb**	**06 18 35.7**	**+1.8**
	8.1nm,0.4s						
KDJ	**Kajisay**	**2.55**	**245**	⇑*i* P	**Pb**	**06 18 04.4**	**-0.4**
	baz=45						
KDJ				⇑*i* S	**Sb**	**06 18 38.0**	**+1.5**
	baz=45						
BOOM	**Boomskoye usch**	**3.28**	**258**	⇑*i* P	**Pb**	**06 18 14.1**	**-3.2**
	baz=58						
BOOM				⇑*i* S	**Sb**	**06 18 54.8**	**-2.8**
	baz=58						

*ISCJB **07** 06:18:07.9±1.5,30°.9S±0°.1×178°.0W±0°.3,h100km,mb3.8/4, Error ellipse: s-maj=40.2km s-min=8.0km az=18.0*
*IDC **07** 06:18:08.8±2.0,30°.81S×178°.09W,h82km±13km,mb3.7/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.9/5,Error ellipse: s-maj=40.1km s-min=13.1km az=113.0*
ISC 07 06:18:09.3±1.6,30°.8S±0°.1×178°.0W±0°.3,h100km,n9, σ1°68/11,mb4.0/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.56**	**1**	P	**Pn**	**06 18 35.7**	**-0.6**
	208nm,0.3s,baz=63,slow=21,SNR=5.1						
RAO				S	**Sn**	**06 18 54.6**	**-2.2**
	574nm,0.3s,baz=3.3,slow=23,SNR=8.7						
URZ	**Urewera**	**8.46**	**207**	P	**Pn**	**06 20 08.1**	**-0.9**
	0.4nm,0.3s,baz=304,slow=3.9,SNR=11						
URZ				S	**Sn**	**06 21 40.4**	**-2.3**
	5.6nm,0.3s,baz=145,slow=23,SNR=15						
STKA	**Stephens Creek**	**34.42**	**258**	P	**P**	**06 24 49.2**	**+2.1**
	1.9nm,0.7s,baz=106,slow=14,SNR=5.4						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**06 25 59.8**	**-0.2**
	0.2nm,0.4s,baz=108,slow=7.6,SNR=4.3						
WRA	**Warramunga Arr**	**44.15**	**273**	P	**P**	**06 26 07.9**	**-0.3**
	1.2nm,0.5s,baz=110,slow=8.1,SNR=33						
ILAR	**Eielson Array**	**98.33**	**13**	P	Pdif	06 31 36.7	+1.7
	0.4nm,0.9s,baz=222,slow=7.9,SNR=4.3						
FINES	**FINESS Array B**	**145.55**	**340**	PKPbc	**PKPbc**	**06 37 34.5**	**-0.8**
	14nm,1.4s,baz=52,slow=2.3,SNR=5.9						
AKASG	**Malin Array Be**	**151.65**	**322**	PKPbc	**PKiKP**	**06 37 52.9**	**+1.0**
	0.6nm,0.5s,baz=52,slow=3.9,SNR=3.4						
BRTR	**Keskin Array B**	**152.82**	**298**	PKP	**PKPdf**	**06 37 49.7**	**+2.1**
	1.0nm,1.0s,baz=45,slow=4.3,SNR=2.6						
BRTR				PKPbc	**PKiKP**	**06 37 55.9**	**+1.0**
	0.9nm,1.0s,baz=106,slow=5.1,SNR=2.7						

*SJA **07** 06:38:07.9±0.6,21°.70S×68°.61W,h127km±6km,ML1.9, MW3.7*
*ISCJB **07** 06:38:08.8±0.8,21°.65S±0°.03×68°.66W±0°.07, h126km±10km,Error ellipse: s-maj=10.7km s-min=5.6km az=173.3*
*GUC **07** 06:38:09.5±0.7,21°.64S×68°.73W,h120km±4km,ML3.1*
ISC 07 06:38:09.2±1.7,21°.65S±0°.04×68°.65W±0°.06, h123km±14km,n26,σ0°58/42,1C-1D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.57**	**255**	*i* P	**Pn**	**06 38 28.3**	**+0.1**
PB09	**IPOC Station P**	**0.57**	**255**	⇓*i* P	**Pn**	**06 38 28.2**	**+0.1**
PB09				*i* S	**Sn**	**06 38 42.0**	**-0.4**
PB09				IAML		06 38 43.8	
	comp=E,589nm,0.6s						
LVC	**Limon Verde**	**0.98**	**194**	*i* P	**Pn**	**06 38 31.6**	**-0.1**
LVC				*i* S	**Sn**	**06 38 48.2**	**-0.5**
PB01	**IPOC Station P**	**0.99**	**308**	*i* P	**Pn**	**06 38 30.0**	**-1.5**
PB01	**IPOC Station P**	**0.99**	**308**	*e*P	**Pn**	**06 38 31.3**	**-0.2**
PB01				*i* S	**Sn**	**06 38 47.9**	**-0.5**
PB01				IAML		06 38 49.6	
	comp=E,519nm,0.3s						
PB03	**IPOC Station P**	**1.10**	**249**	*i* P	**Pn**	**06 38 32.7**	**+0.1**
PB03				*i* S	**Sn**	**06 38 50.9**	**+0.5**
PB03	**IPOC Station P**	**1.10**	**249**	*e*P	**Pn**	**06 38 32.7**	**+0.1**
PB03				*i* S	**Sn**	**06 38 50.0**	**-0.4**
PB03				IAML		06 38 50.4	
	comp=N,680nm,0.3s						
PB07	**IPOC Station P**	**1.15**	**266**	*i* P	**Pn**	**06 38 33.0**	**-0.2**
PB07	**IPOC Station P**	**1.15**	**266**	*e*P	**Pn**	**06 38 33.4**	**+0.1**
PB07				*i* S	**Sn**	**06 38 51.4**	**0.0**
PB07				IAML		06 38 51.8	
	comp=N,1µm,0.2s						
PB02	**IPOC Station P**	**1.21**	**286**	*i* P	**Pn**	**06 38 34.3**	**+0.6**
PB02				*i* S	**Sn**	**06 38 53.5**	**+1.2**
PB02	**IPOC Station P**	**1.21**	**286**	*e*P	**Pn**	**06 38 33.9**	**+0.2**
PB02				*i* S	**Sn**	**06 38 51.8**	**-0.5**
PB02				IAML		06 38 53.8	
	comp=E,1µm,0.3s						
PB06	**IPOC Station P**	**1.35**	**219**	*i* P	**Pn**	**06 38 35.0**	**-0.3**
PB06				*i* S	**Sn**	**06 38 55.2**	**+0.1**
PB06	**IPOC Station P**	**1.35**	**219**	⇑*i* P	**Pn**	**06 38 35.7**	**+0.3**
PB06				*i* S	**Sn**	**06 38 55.6**	**+0.4**
PB06				IAML		06 38 56.2	
	comp=E,283nm,0.3s						
PB04	**IPOC Station P**	**1.55**	**244**	*i* P	**Pn**	**06 38 37.6**	**0.0**
PB04	**IPOC Station P**	**1.55**	**244**	*e*P	**Pn**	**06 38 37.5**	**0.0**
PB04				*i* S	**Sn**	**06 38 58.8**	**-0.3**
PB04				IAML		06 39 01.7	
	comp=N,307nm,0.1s						
PB08	**IPOC Station P**	**1.58**	**343**	*i* P	**Pn**	**06 38 38.9**	**+0.7**
PB08	**IPOC Station P**	**1.58**	**343**	*e*P	**Pn**	**06 38 39.2**	**+1.0**
PB08				*i* S	**Sn**	**06 39 00.9**	**+0.8**
PB08				IAML		06 39 01.9	
	comp=E,143nm,0.3s						
PB15	**IPOC Station P**	**1.72**	**206**	*i* P	**Pn**	**06 38 39.7**	**0.0**
PB15	**IPOC Station P**	**1.72**	**206**	*e*P	**Pn**	**06 38 40.2**	**+0.5**
PB15				*i* S	**Sn**	**06 39 04.0**	**+1.1**
PB05	**IPOC Station P**	**1.87**	**230**	*i* P	**Pn**	**06 38 41.1**	**-0.3**
PB05	**IPOC Station P**	**1.87**	**230**	*e*P	**Pn**	**06 38 41.3**	**0.0**
PB05				*i* S	**Sn**	**06 39 05.8**	**-0.1**
PB05				IAML		06 39 09.4	
	comp=E,102nm,0.3s						
PB11	**IPOC Station P**	**2.11**	**333**	*i* P	**Pn**	**06 38 44.6**	**+0.3**
PB11	**IPOC Station P**	**2.11**	**333**	*e*P	**Pn**	**06 38 44.6**	**+0.3**
PB11				*i* S	**Sn**	**06 39 11.5**	**+0.3**
PB11				IAML		06 39 12.7	
	comp=N,151nm,0.5s						
PSGC	**Pisagua**	**2.47**	**326**	*e*P	**Pn**	**06 38 48.2**	**-0.7**
PSGC				*i* S	**Sn**	**06 39 17.8**	**-1.4**
PSGC				IAML		06 39 20.3	
	comp=N,67nm,0.3s						
YJA	**Yavi**	**2.96**	**101**	*i* P	**Pn**	**06 38 55.6**	**+0.1**
YJA				IAML		06 39 01.6	
	comp=Z,1.9nm,0.6s						
HJA	**Humahuaca**	**3.37**	**118**	*i* P	**Pn**	**06 39 00.3**	**-0.6**
HJA				IAML		06 39 19.1	
	comp=Z,4.7nm,0.3s						

*MOS **07** 06:39:23.9±1.0,43°.42S×39°.61E,h11km,mb5.1/23,Error ellipse: s-maj=19.3km s-min=9.8km az=97.2*
*ISCJB **07** 06:39:23.8±0.2,43°.39S±0°.05×39°.52E±0°.08,h10km, mb4.8/54,MS4.5/35,Error ellipse: s-maj=8.4km s-min=6.8km az=160.5*
*IDC **07** 06:39:23.6±0.4,43°.38S×39°.57E,h0km,mb4.6/25, mb1 4.7/27,mb1mx4.7/35,mbtmp4.6/27,ML4.2/2,MS4.4/31, Ms1 4.4/31,ms1mx4.3/35,Error ellipse: s-maj=14.9km s-min=11.7km az=65.0*
*BJI **07** 06:39:24.0,43°.27S×39°.43E,h11km,mb5.1/16,mB5.5/14, Ms5.1/8,Ms7 4.8/4*
*NEIC **07** 06:39:25.1±0.2,43°.44S×39°.57E,h10km,mb5.1/27,Error ellipse: s-maj=8.0km s-min=6.1km az=66.0*
*GCMT **07** 06:39:27.1±0.2,43°.23S±0°.01×39°.69E±0°.03,h12km, M

MATP Matopo 24.64 335 P **P 06 44 45.2 -1.1**
comp=Z,20nm,1.0s,baz=165,slow=10,SNR=28
MATP LR LR 06 53 16.4
comp=Z,2µm,19.4s,baz=163,slow=34
OPO Ambohidratompo 25.58 17 P **P 06 44 55.3 +0.4**
comp=Z,10.0nm,1.2s,baz=274,slow=3.9,SNR=3.1
OPO LR LR 06 53 33.2
comp=Z,1µm,20.1s,baz=176,slow=33
MAW Mawson 27.32 161 *e*P **P 06 45 08.8 -1.2**
comp=Z,46nm,1.5s
MAW Mawson 27.32 161 *e*P **P 06 45 08.8 -1.2**
MAW pmax pmax
comp=Z,46nm,1.5s
MAW Mawson 27.32 161 LR LR 06 53 12.2
comp=Z,1µm,21.8s,baz=342,slow=30
LSZ Lusaka 29.61 338 *e*P **P 06 45 32.1 +1.2**
comp=Z,39nm,1.2s
LSZ Lusaka 29.61 338 *e*P **P 06 45 32.1 +1.2**
LSZ pmax pmax
comp=Z,39nm,1.2s
LSZ Lusaka 29.61 338 P **P 06 45 30.4 -0.5**
comp=Z,25nm,1.2s,baz=162,slow=9.0,SNR=18
LSZ LR LR 06 56 09.3
comp=Z,860nm,19.9s,baz=185,slow=34
TSUM Tsumeb 30.30 316 *e*P **P 06 45 37.9 +0.8**
comp=Z,37nm,1.0s
SNAA Sanae 34.93 202 P **P 06 46 17.8 +0.8**
SNAA Sanae 34.93 202 *e*P **P 06 46 17.6 +0.6**
comp=Z,10nm,1.0s
SNAA Sanae 34.93 202 *e*P **P 06 46 17.6 +0.6**
SNAA pmax pmax
comp=Z,10.0nm,1.0s
SNAA Sanae 34.93 202 P **P 06 46 17.3 +0.3**
comp=Z,7.0nm,0.9s,baz=64,slow=7.8,SNR=12
VNA2 Neumayer--Watz 35.87 204 P **P 06 46 26.3 +1.2**
baz=58,slow=9.1
VNA1 Neumayer--Stat 36.02 205 P **P 06 46 28.1 +1.8**
VNA3 Neumayer Olymp 36.68 204 P **P 06 46 32.6 +0.7**
KMBO Kilima Mbogo 42.11 357 *ce*P **P 06 47 20.7 +2.7**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 42.11 357 P **P 06 47 19.1 +1.1**
comp=Z,1.2nm,0.3s,baz=213,slow=5.7,SNR=6.1
QSPA South Pole Qui 46.84 180 *e*P **P 06 47 54.6 -0.7**
comp=Z,20nm,1.3s
QSPA PcP **PcP 06 49 27.4 -0.6**
QSPA South Pole Qui 46.84 180 P **P 06 47 54.0 -1.2**
comp=Z,6.9nm,1.0s,baz=258,slow=2.6,SNR=14
QSPA PcP **PcP 06 49 27.4 -0.6**
comp=Z,3.3nm,0.9s,baz=259,slow=3.1,SNR=3.7
VNDA Vanda 54.35 167 P **P 06 48 50.7 -0.9**
comp=Z,2.0nm,1.1s,baz=255,slow=13,SNR=4.2
VNDA LR LR 07 10 21.9
comp=Z,482nm,20.3s,baz=243,slow=34
ATD Arta Tunnel 54.73 4 *e*P **P 06 48 55.7 +0.7**
comp=Z,25nm,1.1s
H01W2 Cape Leeuwin H 56.78 109 T T 07 50 31.8
baz=238,slow=75,SNR=12
H01W3 Cape Leeuwin H 56.80 109 T T 07 50 31.8
baz=238,slow=75,SNR=10
H01W1 Cape Leeuwin H 56.80 109 T T 07 50 32.5
baz=238,slow=75,SNR=12
H10S2 ASCENSION HYDR 58.09 290 T T 07 52 25.0
baz=137,slow=75,SNR=5.1
H10S1 ASCENSION HYDR 58.10 290 T T 07 52 30.0
baz=137,slow=75,SNR=3.8
H10S3 ASCENSION HYDR 58.10 290 T T 07 52 24.2
baz=137,slow=75,SNR=5.3
PALK Pallekele 62.77 47 LR LR 07 10 23.4
comp=Z,464nm,21.0s,baz=296,slow=30
KIC Kosan Boka 63.60 309 *e*P **P 06 49 56.9 +0.3**
comp=Z,59nm,1.3s
LIC Lamto 63.65 309 *e*P **P 06 49 57.2 +0.3**
comp=Z,55nm,1.0s
DBIC Dimbokro 63.92 309 *e*P **P 06 49 59.5 +0.8**
comp=Z,60nm,1.4s
DBIC Dimbokro 63.92 309 *e*P **P 06 49 59.5 +0.8**
DBIC pmax pmax
comp=Z,60nm,1.4s
DBIC Dimbokro 63.92 309 P **P 06 49 59.0 +0.4**
comp=Z,14nm,0.9s,baz=127,slow=7.3,SNR=11
DBIC LR LR 07 14 20.3
comp=Z,273nm,21.6s,baz=112,slow=33
TIC Toumodi 63.99 309 *e*P **P 06 49 59.6 +0.4**
TOA0 Torodi Ar. Sit 65.97 319 *e*P **P 06 50 12.7 +0.7**
TORD Torodi Ar. Bea 65.97 319 P **P 06 50 10.8 -1.2**
comp=Z,19nm,0.9s,baz=202,slow=11,SNR=67
TORD LR LR 07 17 56.4
comp=Z,389nm,19.5s,baz=355,slow=35
RAYN Ar Rayn 66.80 6 *e*P **P 06 50 17.0 -0.1**
comp=Z,24nm,1.4s
RAYN Ar Rayn 66.80 6 *e*P **P 06 50 17.0 -0.1**
RAYN pmax pmax
comp=Z,24nm,1.4s
HYB Hyderabad 70.34 40 *i* P **P 06 50 39.0 -0.4**
PSI Prapat 70.34 66 *e*P **P 06 50 38.5 -1.2**
comp=Z,25nm,1.2s
PSI Prapat 70.34 66 *e*P **P 06 50 38.5 -1.2**
PSI pmax pmax
comp=Z,25nm,1.2s
TRQA Tornquist 72.17 234 *e*P **P 06 50 50.7 +0.3**
comp=Z,21nm,1.3s
TRQA Tornquist 72.17 234 *e*P **P 06 50 50.7 +0.3**
TRQA pmax pmax
comp=Z,21nm,1.3s
TAM Tamanrasset 72.84 327 *e*P **P 06 50 55.8 +1.3**
comp=Z,16nm,1.2s
TAM Tamanrasset 72.84 327 *e*P **P 06 50 55.8 +1.3**
TAM pmax pmax
comp=Z,16nm,1.2s
FITZ Fitzroy Crossi 75.11 101 *e*P **P 06 51 06.6 -1.3**
comp=Z,12nm,1.0s
FITZ Fitzroy Crossi 75.11 101 P **P 06 51 07.6 -0.2**
comp=Z,9.9nm,0.9s,baz=220,slow=10,SNR=12
PLCA Paso Flores 75.19 228 P **P 06 51 08.3 +0.1**
comp=Z,6.5nm,0.9s,baz=171,slow=4.2,SNR=8.4
PLCA LR LR 07 20 30.4
comp=Z,96nm,18.2s,baz=156,slow=33
GO06 Curarrehue 76.51 228 *e*P **P 06 51 16.0 +0.2**
comp=Z,20nm,1.1s
STKA Stephens Creek 76.77 121 *e*P **P 06 51 16.7 -0.5**
comp=Z,2.1nm,0.8s
STKA Stephens Creek 76.77 121 *e*P **P 06 51 16.7 -0.5**
STKA pmax pmax
comp=Z,2.0nm,0.8s
STKA Stephens Creek 76.77 121 P **P 06 51 16.3 -0.9**
comp=Z,7.6nm,0.6s,baz=211,slow=3.4,SNR=20
STKA LR LR 07 18 15.5
comp=Z,395nm,19.9s,baz=207,slow=30
CPUP Villa Florida 77.00 246 *e*P **P 06 51 18.9 +0.3**
comp=Z,9.9nm,0.9s
CPUP Villa Florida 77.00 246 *e*P **P 06 51 18.9 +0.3**
CPUP pmax pmax
comp=Z,10.0nm,0.9s
CPUP Villa Florida 77.00 246 P **P 06 51 18.9 +0.3**
comp=Z,7.6nm,0.9s,baz=119,slow=5.9,SNR=16
CPUP LR LR 07 18 33.7
comp=Z,86nm,22.0s,baz=164,slow=30
ASAR Alice Springs 77.24 110 P **P 06 51 19.2 -0.8**
comp=Z,4.2nm,0.9s,baz=218,slow=5.7,SNR=16
ASAR LR LR 07 20 12.6
comp=Z,243nm,19.6s,baz=231,slow=32
AS31 Alice Springs 77.24 110 *e*P **P 06 51 18.8 -1.2**
comp=Z,1.8nm,1.0s
AS01 Alice Springs 77.27 110 *e*P **P 06 51 19.0 -1.2**
BDFB Brasilia 77.60 260 *e*P **P 06 51 23.0 +0.8**
comp=Z,25nm,1.2s
BDFB Brasilia 77.60 260 *e*P **P 06 51 23.0 +0.8**
BDFB pmax pmax
comp=Z,25nm,1.2s
BDFB Brasilia 77.60 260 P **P 06 51 23.5 +1.3**
comp=Z,12nm,1.1s,baz=72,slow=4.2,SNR=11
BDFB LR LR 07 18 15.2
comp=Z,94nm,21.5s,baz=126,slow=30
WRA Warramunga Arr 80.03 108 P **P 06 51 34.3 -1.1**
comp=Z,4.8nm,1.0s,baz=223,slow=4.3,SNR=16
WRA LR LR 07 21 09.7
comp=Z,411nm,21.9s,baz=235,slow=31
WB2 Warramunga Arr 80.03 108 *e*P **P 06 51 34.1 -1.3**
WRAB Tennant Creek 80.04 108 *ce*P **P 06 51 33.7 -1.7**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
CM01 Chiang Mai Arr 82.18 56 *e*P **P 06 51 45.9 -0.8**
CMAR Chiang Mai Arr 82.20 56 *i* P **P 06 51 46.5 -0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 82.20 56 P **P 06 51 46.1 -0.7**
comp=Z,1.3nm,0.3s,baz=222,slow=6.8,SNR=16
CMAR LR LR 07 24 59.2
comp=Z,120nm,18.0s,baz=214,slow=33
GEYT Alibeck 82.69 15 P **P 06 51 48.9 +0.1**
comp=Z,11nm,1.2s,baz=291,slow=9.1,SNR=9.0
GEYT LR LR 07 24 58.7
comp=Z,207nm,21.2s,baz=190,slow=33
BRTR Keskin Array B 82.88 356 *i* P **P 06 51 50.2 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
BRTR Keskin Array B 82.88 356 P **P 06 51 49.6 -0.3**
comp=Z,2.4nm,0.9s,baz=193,slow=8.9,SNR=9.6
BRTR LR LR 07 29 19.0
comp=Z,152nm,18.4s,baz=142,slow=36
GNI Garni 83.28 4 *e*P **P 06 51 53.5 +1.4**
comp=Z,22nm,1.2s
GNI Garni 83.28 4 *ce*P **P 06 51 51.9 -0.2**
GNI pmax pmax
comp=Z,33nm,1.1s
KEST Kesra 83.36 336 P **P 06 51 55.5 +3.0**
comp=Z,12nm,1.1s,baz=294,slow=6.5,SNR=4.7
KEST LR LR 07 31 17.5
comp=Z,708nm,18.6s,baz=113,slow=37
ZEI Tsey 85.87 3 *e*P **P 06 52 03.6 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.4s
GAR Garm 86.64 24 *e*P **P 06 52 09.3 +0.4**
comp=Z,40nm,1.3s
GAR Garm 86.64 24 *e*P **P 06 52 09.3 +0.4**
GAR pmax pmax
comp=Z,40nm,1.3s
KBZ Khabaz 86.77 3 P **P 06 52 10.3 +1.1**
comp=Z,7.2nm,1.0s,baz=170,slow=3.3,SNR=7.9
KBZ LR LR 07 31 03.7
comp=Z,93nm,19.1s,baz=170,slow=36
KIV Kislovodsk 86.99 2 *e*P **P 06 52 10.1 -0.4**
comp=Z,38nm,1.2s
KIV Kislovodsk 86.99 2 *e*P **P 06 52 10.5 0.0**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,163nm,19.0s
LVC Limon Verde 87.15 241 LR LR 07 24 36.6
comp=Z,160nm,19.9s,baz=152,slow=31
KSH Kashi 88.89 27 *e*P **P 06 52 17.7 -2.0**
KSH pP pP 06 52 21.7 -0.2
KSH S **S 07 03 00.8 -6.4**
KSH sS pS 07 03 09.8 -0.1
KSH LR LR
comp=Z,120nm,9.0s
KSH LR LR
comp=Z,130nm,7.9s
MLR Muntele Rosu 89.29 351 *e*P **P 06 52 22.2 +0.8**
comp=Z,34nm,1.6s
MLR Muntele Rosu 89.29 351 *e*P **P 06 52 22.2 +0.8**
MLR pmax pmax
comp=Z,34nm,1.6s
QIZ Qiongzhong 89.46 63 P **P 06 52 22.5 -0.2**
QIZ S **S 07 03 13.1 -0.2**
KMI Kunming 89.55 54 P **P 06 52 24.6 +1.3**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.2s
ARSB Arslanbob 89.57 25 *e*P **P 06 52 23.2 +0.3**
comp=Z,13nm,1.3s
LPAZ La Paz 91.17 246 P **P 06 52 31.6 -0.1**
comp=Z,0.5nm,0.5s,baz=212,slow=9.5,SNR=2.7
LPAZ LR LR 07 27 54.6
comp=Z,93nm,21.1s,baz=131,slow=32
AAK Ala-Archa 91.23 25 *ce*P **P 06 52 28.0 -2.6**
AAK pmax pmax
comp=Z,2.0nm,1.3s
ES06 SONSECA Array 91.49 328 *e*P **P 06 52 32.3 +0.5**
ESDC Sonseca Array 91.50 328 P **P 06 52 32.5 +0.7**
comp=Z,1.9nm,0.8s,baz=159,slow=4.9,SNR=9.0
ESDC LR LR 07 34 30.2
comp=Z,443nm,19.1s,baz=150,slow=36
BUR08 Bucovina Ar. S 91.50 350 *e*P **P 06 52 31.4 -0.3**
comp=Z,23nm,1.5s
GYA Guiyang 92.89 56 P **P 06 52 40.0 +1.4**
GYA PP **PP 06 56 25.2 +3.7**
GYA SKS **SKSac 07 03 12.8 +0.2**
GYA S **S 07 03 43.0 -1.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
KIEV Kiev 94.11 354 *i* P **P 06 52 43.9 +0.5**
KIEV pmax pmax
comp=Z,4.0nm,1.2s
CD2 Chengdu 94.49 51 *e*P **P 06 52 47.6 +1.8**
CD2 pmax pmax
comp=Z,160nm,4.7s
CD2 LR LR
comp=Z,640nm,24.3s
CD2 LR LR
comp=Z,400nm,16.3s
CD2 LR LR
comp=Z,660nm,23.2s
GERES GERESS Array B 94.57 343 LR LR 07 37 41.9
comp=Z,191nm,20.2s,baz=169,slow=37
AKTO Aktyubinsk 94.83 12 P **P 06 52 46.0 -0.7**
comp=Z,1.5nm,1.0s,baz=104,slow=12,SNR=4.3
AKTO LR LR 07 36 51.7
comp=Z,112nm,18.9s,baz=176,slow=36
MDP Montagnes des 94.97 272 LR LR 07 33 01.0
comp=Z,62nm,18.1s,baz=160,slow=34
PTGA Pitinga 96.33 263 LR LR 07 31 03.9
comp=Z,62nm,21.4s,baz=138,slow=32
WMQ Urumqi 96.94 33 *e*P **P 06 52 57.8 +1.1**
WMQ LR LR
comp=Z,360nm,32.3s
WMQ LR LR
comp=Z,340nm,25.5s
WMQ LR LR
comp=Z,400nm,29.3s
MK01 Makanchi Array 97.45 28 *e*P **P 06 52 57.3 -1.6**
MK31 Makanchi Array 97.47 28 *e*P **P 06 52 57.5 -1.4**
comp=Z,4.1nm,1.4s
MK31 Makanchi Array 97.47 28 *e*P **P 06 52 57.5 -1.4**
MK31 pmax pmax
comp=Z,4.0nm,1.4s
MKAR Makanchi Array 97.47 28 P **P 06 52 57.8 -1.2**
comp=Z,1.0nm,1.0s,baz=224,slow=5.1,SNR=6.5
MKAR LR LR 07 33 47.7
comp=Z,76nm,19.7s,baz=208,slow=34
OBN Obninsk 98.14 358 *e*P Pdif 06 53 02.7 +1.0
OBN *e*S **SKSac 07 03 45.5 +6.8**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,198nm,20.0s
OBN Obninsk 98.14 358 LR LR 07 38 19.1
comp=Z,31nm,18.5s,baz=182,slow=36
LZH Lanzhou 98.41 48 *e*P Pdif 06 53 05.4 +1.7
LZH pP pwP 06 53 09.8 -0.8
LZH sP sP 06 53 12.5 +6.0
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.1s
LZH LR LR
comp=Z,260nm,15.0s
LZH LR LR
comp=Z,230nm,15.3s
LZH LR LR
comp=Z,290nm,17.0s
GTA Gaotai 98.84 43 *e*P **P 06 53 04.8 -0.6**
GTA pP sP 06 53 09.0 +0.7
GTA sP pwP 06 53 12.2 -0.1
GTA pmax pmax
comp=Z,3.0nm,1.2s
BRVK Borovoye 99.66 18 *i* P **Pdif 06 53 06.5 -2.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
HHC Hu-ho-hao-te 106.03 49 Pdif **Pdif 06 53 40.9 +3.5**
HHC PP **PP 06 58 05.7 +4.2**
HHC S **Sdif 07 05 39.0 +3.7**
HHC AMB AMB
comp=Z,120nm,8.8s
HHC LR LR
comp=Z,130nm,17.7s
HHC LR LR
comp=Z,190nm,16.1s
HHC LR LR
comp=Z,220nm,18.1s
TBI Tubuai 113.11 171 *e*LR LR 07 31 44.7
comp=Z,389nm,39.8s
PPT2 Papeete2 118.78 170 *e*SS SS 07 15 56.7 +7.5
comp=Z,92nm,28.0s
PPT2 Papeete2 118.78 170 *e*LR LR 07 34 19.2
comp=Z,286nm,21.0s
KLR Kul'dur 122.42 51 *i* PKIKP **PKPdf 06 58 19.6 -0.6**
DAG Danmarks Havn 125.25 346 *i* PKIKP **PKPdf 06 58 23.5 -1.3**
DAG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 127.33 338 *e*PKIKP **PKPdf 06 58 27.4 -2.0**
SUMG pmax pmax
comp=Z,28nm,1.0s
TIXI Tiksi 130.30 25 *c i* PKIKP **PKPdf 06 58 34.7 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
SCHQ Schefferville 132.55 311 PKP **PKPdf 06 58 38.7 -0.7**
comp=Z,2.4nm,0.7s,baz=61,slow=4.8,SNR=5.7
FRB Frobisher Bay 135.47 323 PKP **PKPdf 06 58 44.4 -0.1**
comp=Z,4.0nm,1.0s,baz=115,slow=4.9,SNR=7.9
MA2 Magadan 136.40 43 *c i* PKIKP **PKPdf 06 58 46.5 +0.1**
MA2 pmax pmax
comp=Z,7.0nm,1.3s
SEY Seymchan 137.62 39 *c i* PKIKP **PKPdf 06 58 46.8 -1.7**
T42A Van Buren 142.13 278 P PKPpre 06 58 52.0
baz=116
W41B Gary Mavity, V 142.15 274 P PKPpre 06 58 52.4
baz=118
S42A Caledonia 142.23 279 P PKPpre 06 58 52.3
baz=115
U41A Viola 142.44 276 P PKPpre 06 58 53.2
baz=116
F43A Flat Rock, Esc 142.48 293 P PKPpre 06 58 53.6
baz=106
H43A Windswept, Lux 142.50 290 P PKPpre 06 58 52.8
baz=108
E43A Lone Tree Farm 142.51 294 P PKPpre 06 58 53.4
baz=106
J43A Natural Harves 142.61 289 P PKPpre 06 58 54.1
baz=109
T41A Mountain View 142.62 277 P PKPpre 06 58 53.4
baz=116
P42A Winchester 142.63 282 P PKPpre 06 58 53.8
baz=113
RES Resolute Bay 142.66 342 PKhKP PKPpre 06 58 52.6
comp=Z,2.8nm,1.0s,baz=151,slow=1.6,SNR=7.8
G43A Wallace 142.67 292 P PKPpre 06 58 54.1
baz=106
CCM Cathedral Cave 142.67 279 *e*PKPdf PKPpre 06 58 53.8
CCM Cathedral Cave 142.67 279 *e*PKIKP PKPpre 06 58 53.8
CCM Cathedral Cave 142.67 279 P PKPpre 06 58 54.0
baz=114
MIAR Mount Ida 142.82 273 P PKPpre 06 58 55.6
baz=118
S41A Jillco Farms, 142.84 278 P PKPpre 06 58 54.7
baz=115
BILL Bilibino 142.99 30 *e*PKIKP **PKPdf 06 58 55.4 -2.7**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,133nm,18.0s
Q41A Truxton 143.02 280 P PKPbc 06 58 55.4 -0.6
baz=113
H42A Shiocton 143.03 290 P PKPbc 06 58 55.8 0.0
baz=107
K42A Prairie Point, 143.06 287 P PKPbc 06 58 56.1 +0.2
baz=109
J42A Columbus 143.07 288 P PKPbc 06 58 55.9 0.0
baz=108
I42A Draeger Farm, 143.11 289 P PKPbc 06 58 56.0 0.0
baz=108,SNR=5.4
F42A Maple Grove Fa 143.11 292 P PKPbc 06 58 56.3 +0.3
baz=106
U40A Yellville 143.12 276 P PKPbc 06 58 56.1 -0.2
baz=116
E42A Champion 143.14 294 P PKPbc 06 58 56.2 +0.1
baz=105
G42A Mountain 143.17 291 P PKPbc 06 58 56.1 0.0
baz=106
P41A Barry, Barry 143.18 282 P PKPbc 06 58 56.3 0.0
baz=112
O41A Passleys Farm, 143.22 282 P PKPbc 06 58 55.8 -0.6
baz=112,SNR=5.4
W39A Magazine 143.28 273 P PKPab 06 58 56.0 +0.5
baz=118
M41A Milan 143.43 285 P PKPbc 06 58 56.4 -0.5
baz=110,SNR=6.3
L41A Preston 143.63 286 P PKPab 06 58 57.0 +0.3
baz=110
K41A Shullsburg 143.67 287 P PKPbc 06 58 57.4 -0.3
baz=109,SNR=6.2
G41A Antigo 143.67 291 P PKPbc 06 58 57.4 -0.1
baz=106,SNR=6.3
J41A Loganville 143.71 288 P PKPbc 06 58 57.6 -0.2
baz=108,SNR=15
D41A Chassel 143.73 294 P PKPbc 06 58 57.8 +0.1
baz=104
JFWS Jewell Farm 143.73 287 *e*PKPdf PKPbc 06 58 57.7 -0.1
JFWS Jewell Farm 143.73 287 *e*PKIKP PKPbc 06 58 57.7 -0.1
JFWS Jewell Farm 143.73 287 P PKPbc 06 58 57.8 -0.1
baz=108,SNR=14
F41A Three Lakes 143.76 292 P PKPbc 06 58 57.9 +0.1
baz=105
I41A Arkdale 143.82 289 P PKPbc 06 58 58.3 +0.2
baz=107,SNR=26
H41A Junction City 143.83 290 P PKPbc 06 58 57.9 -0.1
baz=106,SNR=13
E41A Kenton 143.85 293 P PKPbc 06 58 57.9 -0.2
baz=104,SNR=13
435B Jarrell 143.85 264 P PKPbc 06 58 58.5 0.0
baz=123
N40A Mertquake, Sal 143.99 283 P PKPbc 06 58 58.4 -0.2
baz=111,SNR=8.8
M40A Post Highland 144.12 284 P **PKPab 06 58 58.7 +0.1**
baz=110,SNR=23
L40A Anamosa 144.14 285 P PKPbc 06 58 59.1 +0.1
baz=109,SNR=10.0
J40A Soldiers Grove 144.22 288 P PKPbc 06 58 59.2 -0.1
baz=108,SNR=16
I40A Norwalk 144.28 289 P PKPbc 06 58 59.4 -0.1
baz=107,SNR=8.7
K40A Colesburg 144.28 286 P PKPbc 06 58 59.4 -0.1
baz=108,SNR=15
H40A Chili 144.34 290 P PKPbc 06 58 59.7 +0.1
baz=106,SNR=35
G40A Rib Lake 144.38 291 P PKPbc 06 58 59.7 0.0
baz=105,SNR=5.6
WHTX Lake Whitney, 144.39 266 P **PKPab 06 58 60.0 +0.1**
baz=121
E40A Wakefield 144.47 293 P PKPbc 06 59 00.1 +0.1
baz=104,SNR=5.8
F40A Park Falls 144.50 292 P PKPbc 06 59 00.2 +0.1
baz=105,SNR=20
M39A Webster 144.61 284 P PKPbc 06 59 00.8 +0.2
baz=110,SNR=25
L39A Vinton 144.71 285 P PKPbc 06 59 00.9 0.0
baz=109,SNR=23
K39A Oelwein 144.81 286 P **PKPab 06 59 00.7 -0.5**
baz=108,SNR=14
J39A Decorah 144.88 287 P PKPbc 06 59 01.4 0.0
baz=107,SNR=26
E39A Mellen 144.90 293 P PKPbc 06 59 01.4 0.0
baz=104,SNR=12
I39A Houston 144.90 288 P PKPbc 06 59 01.4 0.0
baz=107
H39A Augusta 144.96 290 P PKPbc 06 59 01.6 -0.1
baz=106,SNR=6.6
F39A Loretta 145.03 292 P **PKPab 06 59 01.8 0.0**
baz=104,SNR=13
G39A Holcombe 145.05 291 P **PKPbc 06 59 01.7 -0.2**
baz=105,SNR=8.8
TUL1 Leonard 145.06 273 P **PKPbc 06 59 01.8 -0.4**
baz=116
JCT Junction City 145.29 262 *e*PKPdf **PKPbc 06 59 02.2 -1.0**
JCT Junction City 145.29 262 *e*PKIKP **PKPbc 06 59 02.2 -1.0**
JCT Junction City 145.29 262 P **PKPbc 06 59 03.2 0.0**
baz=124
G38A Ridgeland 145.48 290 P **PKPab 06 59 03.4 -0.1**
baz=105,SNR=9.6
SCIA State Center 145.49 284 *e*PKPdf **PKPab 06 59 03.7 0.0**
SCIA State Center 145.49 284 P **PKPab 06 59 03.6 0.0**
baz=109
E38A The Farm, Brul 145.62 293 P **PKPab 06 59 03.8 -0.2**
baz=103,SNR=5.7
H38A Maiden Rock 145.65 289 P **PKPbc 06 59 03.7 -0.2**
baz=105
F38A Pierce - Schro 145.69 292 P **PKPab 06 59 04.2 -0.1**

baz=104,SNR=14
EYMN Ely 145.86 295 *e*PKPdf **PKPbc** 06 59 04.1 -0.3
EYMN Ely 145.86 295 P **PKPbc** 06 59 04.4 0.0
baz=101
F37A Hinrichs Farm, 146.15 291 P **PKPbc** 06 59 05.4 +0.1
baz=104,SNR=7.3
SPMN Marine on St. 146.15 290 P **PKPbc** 06 59 05.3 0.0
baz=104
ABTX Abilene, Hawle 146.31 265 P **PKPbc** 06 59 06.2 -0.1
baz=121
WMOK Wichita Mounta 146.71 269 P **PKPbc** 06 59 07.1 -0.2
baz=118
KSU1 Kansas State U 146.95 278 *e*PKPdf **PKPbc** 06 59 06.9 -1.0
KSU1 Kansas State U 146.95 278 P **PKPbc** 06 59 07.8 -0.1
baz=112
TXAR Lajitas Array 147.42 257 PKPbc **PKPbc** 06 59 08.8 -0.8
comp=Z,14nm,0.9s,baz=141,slow=4.7,SNR=91
FCC Fort Churchill 147.74 315 *e*PKPbc **PKPbc** 06 59 09.4 0.0
FCC *e*PKPab **pPKPab** 06 59 13.2 -0.5
FCC Fort Churchill 147.74 315 *e*PKP2 **PKPbc** 06 59 09.4 0.0
ECSD EROS Data Cent 148.41 286 *e*PKPdf **PKPdf** 06 59 07.2 -1.0
ECSD *e*PKPbc **sPKPdf** 06 59 11.1 +0.3
ECSD EROS Data Cent 148.41 286 P **PKPbc** 06 59 11.4 -0.3
baz=105
AGMN Agassiz Nation 148.80 295 *e*PKPdf **PKPdf** 06 59 08.1 -0.5
AGMN *e*PKPbc **PKPbc** 06 59 12.1 -0.5
AGMN *e*PKPab **PKPab** 06 59 17.1 +0.6
AGMN Agassiz Nation 148.80 295 P **PKPbc** 06 59 12.3 -0.3
baz=98
BGNE Belgrade 148.84 281 P **PKPbc** 06 59 12.7 -0.2
baz=108
AMTX Amarillo 148.89 267 *e*PKPdf **PKPdf** 06 59 07.9 -1.4
AMTX *e*PKPbc **PKPbc** 06 59 13.8 +0.5
AMTX Amarillo 148.89 267 P **PKPbc** 06 59 13.1 -0.2
baz=118
ULM Lac du Bonnet 149.03 299 PKPbc **PKPbc** 06 59 12.5 -0.5
comp=Z,27nm,0.9s,baz=83,slow=2.7,SNR=44
CBKS Cedar Bluff 149.11 276 P **PKPbc** 06 59 13.7 +0.1
baz=112
MSTX Muleshoe 149.25 265 P **PKPbc** 06 59 14.1 -0.1
baz=119
MNTX Cornudas Mount 149.97 259 P **PKPbc** 06 59 15.9 -0.1
baz=123
SUSD Miller 150.22 287 P **PKPbc** 06 59 16.2 0.0
baz=103
MDND Maddock 151.24 293 P **PKPbc** 06 59 18.0 -0.4
baz=96
KSCO Kaye Shedlock' 151.28 274 P **PKPbc** 06 59 18.7 -0.4
baz=111
OGNE Ogallala 151.49 279 P **PKiKP** 06 59 19.7 -0.2
baz=108
T25A Trinidad 151.86 270 P **PKPbc** 06 59 20.7 +0.1
baz=114
121A Cookes Peak, D 152.13 258 P **PKPbc** 06 59 20.9 -0.3
baz=123
Y22D IRIS PASSCAL I 152.31 262 P **PKPbc** 06 59 21.6 0.0
baz=120
ANMO Albuquerque 152.39 264 *c i*PKIKP **PKPdf** 06 59 16.8 +1.9
ANMO pmax pmax
comp=Z,6.0nm,1.3s
ANMO Albuquerque 152.39 264 P **PKiKP** 06 59 22.2 +0.2
baz=118
FFC Flin Flon 152.62 308 *e*PKPbc **PKPbc** 06 59 21.2 -0.2
FFC *e*PKPab **PKPab** 06 59 32.5 +0.5
FFC Flin Flon 152.62 308 *c i*PKIKP **PKiKP** 06 59 21.5 -0.1
SDCO Great Sand Dun 152.90 270 P **PKPbc** 06 59 22.8 -0.1
baz=113
Q24A Divide 153.10 273 P **PKPbc** 06 59 23.0 -0.4
baz=111
ISCO Idaho Springs 153.72 274 P **PKPbc** 06 59 24.2 -0.5
baz=110
RSSD Black Hills 153.72 284 *e*PKPdf **PKPdf** 06 59 15.4 -1.2
RSSD *e*PKPab **PKPab** 06 59 37.4 0.0
RSSD Black Hills 153.72 284 *e*PKIKP **PKPdf** 06 59 15.4 -1.2
RSSD Black Hills 153.72 284 P **PKPbc** 06 59 24.1 -0.3
baz=101
S22A 4UR Ranch, Cre 153.87 269 P **PKPbc** 06 59 24.9 -0.1
baz=113
TUC Tucson 154.14 255 *e*PKPdf **PKPdf** 06 59 17.2 -0.1
TUC *e*PKPbc **pPKPbc** 06 59 26.7 -0.8
TUC *e*PKPab **PKPab** 06 59 39.6 +0.3
TUC Tucson 154.14 255 P **PKPbc** 06 59 25.0 -0.5
baz=124
TOLK Toolik Lake Re 154.23 8 P **PKiKP** 06 59 25.2 +0.6
baz=344
N23A Red Feather La 154.30 276 P **PKPab** 06 59 41.6 +1.6
baz=107
DGMT Dagmar 154.35 294 P **PKPab** 06 59 42.1 +2.5
baz=92
W18A Petrified Fore 154.84 261 P **PKPab** 06 59 43.5 +1.2
baz=119
MVCO Mesa Verde 154.87 267 P **PKPab** 06 59 43.9 +1.5
baz=114
K22A Casper 155.18 280 P **PKPab** 06 59 44.2 +0.6
baz=104
214A Organ Pipe Nat 155.35 252 P **PKPab** 06 59 44.6 +0.3
baz=126
YKA Yellowknife Ar 155.57 331 PKP **PKPdf** 06 59 15.4 -2.8
comp=Z,1.5nm,0.9s,baz=42,slow=1.7,SNR=17
YKA PP **PP** 07 03 22.1 +0.8
comp=Z,0.3nm,0.9s,baz=58,slow=6.1,SNR=4.2
LAO LASA Array 155.61 290 P **PKPab** 06 59 46.3 +1.2
baz=95
O20A White River Ci 155.74 273 P **PKPab** 06 59 47.2 +1.1
baz=108
WUAZ Wupatki 156.21 261 P **PKPab** 06 59 48.3 +0.2
baz=118
EPYK Eagle Plains 156.85 356 P **PKPab** 06 59 50.1 +0.3
baz=6.9
GLA Glamis 157.38 252 P **PKPab** 06 59 53.1 0.0
baz=125
BW06 Boulder Array 157.39 279 P **PKPab** 06 59 53.5 +0.4
baz=102
PDAR Pinedale Array 157.39 279 PKP **PKPdf** 06 59 19.7 -1.9
comp=Z,1.5nm,0.9s,baz=111,slow=3.3,SNR=7.2
PDAR PKPab **PKPab** 06 59 54.2 +1.0
comp=Z,1.9nm,0.9s,baz=146,slow=2.9,SNR=6.4
Y12C Blythe 157.55 253 P **PKPab** 06 59 54.8 +1.1
baz=123
RLMT Red Lodge 157.57 285 P **PKPab** 06 59 54.5 +0.7
baz=97
PDMCI Parker Dam,Lak 157.58 255 P **PKPab** 06 59 54.5 +0.7
baz=122
POKR Poker Plat Res 157.87 8 P **PKPab** 06 59 54.4 +0.2
baz=346
SWSC Sam W. Stewart 157.99 250 P **PKPab** 06 59 56.8 +1.2
baz=126
EGMT Eagleton 158.06 293 P **PKPab** 06 59 56.5 +0.9
baz=89
ILAR Eielson Array 158.26 7 PKP **PKPdf** 06 59 19.6 -2.0
comp=Z,0.8nm,1.2s,baz=316,slow=3.3,SNR=4.2
ILAR PKPab **PKPab** 06 59 55.0 -0.8
comp=Z,1.3nm,0.9s,baz=336,slow=3.1,SNR=7.1
MONP2 Monument Peak 158.38 249 P **PKPab** 06 59 56.8 -0.8
baz=126
H17A Grant Village 158.40 283 P **PKPab** 06 59 58.3 +0.8
baz=98
HDA Harding Lake 158.61 8 P **PKPab** 06 59 58.1 +0.8
baz=347
BELC Belle Mtn. Jos 158.72 252 P **PKPab** 06 59 59.2 +0.2
baz=124
GMRC Granite Mounta 158.90 254 P **PKPab** 07 00 00.3 +0.6
baz=122
DUG Dugway, Tooele 159.09 271 P **PKPab** 07 00 01.4 +0.9
baz=108
BOZ Bozeman (W) 159.27 286 P **PKPab** 07 00 02.6 +1.5
baz=94
MURC Murrieta 159.32 250 P **PKPab** 07 00 01.7 +0.2
baz=125
HEC Hector,Ludlow 159.40 254 P **PKPab** 07 00 03.3 +1.5
baz=122
BFSC Mount Baldy Ra 160.00 251 P **PKPab** 07 00 05.3 +0.8
baz=124
CIS Catalina Islan 160.03 248 P **PKPab** 07 00 05.6 +1.0
baz=127
TPNV Topopah Spring 160.37 259 P **PKPab** 07 00 07.5 +1.3
baz=117
R11A Troy Canyon, C 160.47 264 P **PKPab** 07 00 07.4 +0.8
baz=113
EDW2 Edwards Air Fo 160.58 252 P **PKPab** 07 00 07.4 +0.5
baz=123
MPMC Manual Prospec 160.83 255 P **PKPab** 07 00 08.8 +0.6
baz=120
MSO Missoula 160.92 290 P **PKPab** 07 00 09.5 +1.3
baz=89
ELK Elko 161.02 271 PKP **PKPdf** 06 59 26.2 +0.4
comp=Z,1.5nm,0.8s,baz=120,slow=8.5,SNR=5.7
ELK PKPab **PKPab** 07 00 10.1 +1.1
comp=Z,2.3nm,0.9s,baz=134,slow=3.9,SNR=6.2
NVAR Mina Array Bea 162.47 261 PKP **PKPdf** 06 59 28.0 +0.6
comp=Z,2.0nm,1.0s,baz=214,slow=2.1,SNR=7.4
NVAR PKPab **pPKPab** 07 00 16.5 -0.8
comp=Z,2.2nm,1.0s,baz=124,slow=4.8,SNR=7.8
NVAR PP **PP** 07 04 02.0 +1.8
comp=Z,0.2nm,0.3s,baz=93,slow=8.2,SNR=3.6
DLBC Dease Lake 163.55 340 PKP **PKPdf** 06 59 26.5 -1.1
comp=Z,0.6nm,0.3s,baz=311,slow=11,SNR=2.9

IDC 07 06:45:01.1±2.2, 49.06S×121.03E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, MS3.7/2, Ms1 3.6/2, ms1mx3.1/21, Error ellipse: s-maj=119.7km s-min=24.7km az=107.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**23.10**	**50**	P	P	06 50 08.7	+0.2
	2.4nm,0.8s,baz=194,slow=17,SNR=2.3						
STKA				LR	LR	06 57 43.2	
	comp=Z,85nm,19.1s,baz=202,slow=33						
ASAR	**Alice Springs**	**27.30**	**26**	P	P	06 50 46.9	-0.5
	1.4nm,1.0s,baz=195,slow=11,SNR=6.8						
WRA	**Warramunga Arr**	**30.95**	**25**	P	P	06 51 19.4	-0.4
	1.1nm,1.1s,baz=195,slow=8.2,SNR=1.5						
QSPA	**South Pole Qui**	**41.07**	**180**	P	P	06 52 45.7	-0.4
	baz=342,slow=3.2						
SONM	**Songino Array**	**97.34**	**350**	LR	LR	07 45 47.6	
	comp=Z,61nm,18.4s,baz=202,slow=38						
H10S2	**ASCENSION HYDR**	**10.39**	**227**	T	T	09 04 33.9	
	baz=149						
H10S3	**ASCENSION HYDR**	**10.41**	**227**	T	T	09 04 31.1	
	baz=149						
H10S1	**ASCENSION HYDR**	**10.41**	**227**	T	T	09 04 37.2	
	baz=149						
YKA	**Yellowknife Ar**	**147.08**	**45**	PKPbc	PKPbc	07 04 45.0	+0.3
	1.0nm,1.0s,baz=276,slow=2.0,SNR=5.5						

SJA 07 06:50:40.5±0.6, 21.61S×69.92W, h30km±3km, ML2.4, MW3.9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**IPOC Station P**	**0.12**	**163**	*i* P	Pn	06 50 46.9	+0.4
PB02	**IPOC Station P**	**0.29**	**5**	*i* P	Pb	06 50 48.4	+0.4
PB02				*i* S	Sn	06 50 53.9	-0.3
PB03	**IPOC Station P**	**0.46**	**160**	*i* P	Pn	06 50 51.0	-0.3
PB03				*i* S	Sn	06 50 58.5	-0.1
PB09	**IPOC Station P**	**0.66**	**106**	*i* P	Pn	06 50 54.4	+0.4
PB04	**IPOC Station P**	**0.75**	**196**	*i* S	Sn	06 51 07.0	+1.4
HJA	**Humahuaca**	**4.47**	**112**	*i* P	Pn	06 51 50.5	+4.0
HJA				IAML		06 52 01.0	
	comp=Z,4.0nm,1.1s						

*NIED **07** 07:00:00.24˚30N×121˚40E, h5km, Mw3.8 Best double couple: M0 6.53000×10^14 NP1:φs326.00000°, δ21.00000°, λ-57.00000°. NP2:φs112.00000°, δ73.00000°, λ-101.00000°.*
*IDC **07** 07:00:22.6±1.6, 24˚25N×121˚69E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/38, mbtmp3.6/7, MS3.8/3, Ms1 3.8/3, ms1mx2.9/41, Error ellipse: s-maj=137.7km s-min=20.9km az=65.0*
*ISCJB **07** 07:00:23.9±0.2, 24˚298N±0˚008×121˚45E±0˚01, h2km±2km, mb3.5/7, MS4.3/2, Error ellipse: s-maj=1.8km s-min=1.3km az=26.2*
*JMA **07** 07:00:23.3±0.1, 24˚28N×121˚42E, h3km, M3.6*
*TAP **07** 07:00:23.4, 24˚29N×121˚43E, h7km, ML3.9, C*

ISC 07 07:00:24.1±0.8, 24˚28N±0˚01×121˚44E±0˚01, h8km±5km, n127, σ0°85/192, mb3.6/7, 32C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.08**	**153**	*e*P	**Pg**	**07 00 26.5**	**+0.3**
	baz=155						
ETLH				S	**Sg**	**07 00 28.3**	**+0.6**
	baz=155						
NNSB	**Datong**	**0.16**	**340**	⇓P	**Pg**	**07 00 27.0**	**-0.4**
	baz=340						
NNSB				S	**Sg**	**07 00 29.0**	**-0.7**
	baz=340						
NNS	**Nan Shan**	**0.17**	**339**	⇓*i*P	**Pg**	**07 00 27.2**	**-0.5**
	baz=341						
NNS				S	**Sg**	**07 00 29.5**	**-0.6**
	baz=341						
NACB	**Ninganchiao**	**0.18**	**127**	⇑P	**Pg**	**07 00 27.9**	**+0.2**
	baz=129						
NACB				S	**Sg**	**07 00 30.7**	**+0.5**
	baz=129						
WHF	**Hehuan Shan**	**0.21**	**230**	⇑*i*P	**Pg**	**07 00 28.3**	**-0.2**
	baz=214						
WHF				S	**Sg**	**07 00 31.3**	**-0.1**
	baz=214						
TWT	**Tachien**	**0.24**	**264**	⇑*i*P	**Pg**	**07 00 29.2**	**+0.2**
	baz=258						
TWT				S	**Sg**	**07 00 32.7**	**+0.4**
	baz=258						
TWD	**Chiawan**	**0.24**	**145**	P	**Pg**	**07 00 29.2**	**+0.3**
	baz=144						
TWD				S	**Sg**	**07 00 32.9**	**+0.7**
	baz=144						
TDCB	**Techi**	**0.26**	**264**	⇑P	**Pg**	**07 00 29.3**	**0.0**
	baz=260						
TDCB				S	**Sg**	**07 00 32.7**	**-0.1**
	baz=260						
ENA	**Nanau**	**0.31**	**62**	⇑P	**Pg**	**07 00 29.6**	**-0.6**
	baz=66						
NANB	**Nanao**	**0.32**	**62**	⇑P	**Pg**	**07 00 29.7**	**-0.7**
	baz=52						
NANB				S	**Sg**	**07 00 33.5**	**-1.1**
	baz=52						
NDT	**Datong Townshi**	**0.33**	**12**	P	**Pg**	**07 00 30.1**	**-0.4**
	baz=13						
NDT				S	**Sg**	**07 00 34.2**	**-0.8**
	baz=13						
CHGB	**Renai**	**0.33**	**228**	⇑P	**Pg**	**07 00 30.4**	**-0.2**
	baz=225						
CHGB				S	**Sg**	**07 00 34.8**	**-0.1**
	baz=225						
HWA	**Hwalien**	**0.34**	**154**	*e*P	**Pb**	**07 00 31.6**	**-0.8**
	baz=153						
HWA				*e*S	**Sb**	**07 00 36.5**	**-1.4**
	baz=153						
ENTT	**Nioudou**	**0.38**	**18**	⇑*i*P	**Pg**	**07 00 31.0**	**-0.4**
	baz=13						
ENTT				S	**Sg**	**07 00 35.9**	**-0.6**
	baz=13						
YHNB	**Yeheng**	**0.39**	**351**	⇑P	**Pg**	**07 00 31.6**	**-0.2**
	baz=353						
YHNB				S	**Sg**	**07 00 35.9**	**-1.1**
	baz=353						
NSK	**Sanguang**	**0.40**	**349**	⇑*i*P	**Pg**	**07 00 31.7**	**-0.2**
	baz=352						
NSK				*e*S	**Sg**	**07 00 36.4**	**-0.8**
	baz=352						
ENLB	**Shoufeng**	**0.40**	**159**	*e*P	**Pb**	**07 00 32.2**	**-1.3**
	baz=159						
ENLB				*e*S	**Sb**	**07 00 38.4**	**-1.4**
	baz=159						
OWD	**Renai**	**0.41**	**217**	P	**Pg**	**07 00 31.6**	**-0.5**
	baz=215						
WHP	**Taichung City**	**0.45**	**270**	⇑*i*P	**Pb**	**07 00 33.3**	**-1.1**
	baz=267						
WHP				*e*S	**Sg**	**07 00 39.0**	**+0.1**
	baz=267						
ESL	**Shilin**	**0.46**	**181**	*e*P	**Pg**	**07 00 33.0**	**-0.1**
	baz=180						
ESL				*e*S	**Sg**	**07 00 39.7**	**+0.5**
	baz=180						
TWE	**Neicheng**	**0.48**	**25**	P	**Pg**	**07 00 33.0**	**-0.5**
	baz=39						
TWE				*e*S	**Sg**	**07 00 40.6**	**+0.7**
	baz=39						
TWC	**Suao**	**0.50**	**49**	*e*P	**Pg**	**07 00 33.0**	**-0.7**
	baz=42						
TWC				*e*S	**Sg**	**07 00 39.1**	**-1.1**
	baz=42						
NWLT	**Wulai**	**0.50**	**6**	P	**Pg**	**07 00 33.4**	**-0.3**
	baz=8.0						
NWLT				*e*S	**Sg**	**07 00 39.2**	**-1.1**
	baz=8.0						
LIOB	**Emei**	**0.53**	**313**	⇑*i*P	**Pg**	**07 00 33.5**	**-0.9**
	baz=313						
LIOB				S	**Sg**	**07 00 40.3**	**-1.1**
	baz=313						
NSTT	**Nanjuang**	**0.53**	**311**	⇑*i*P	**Pb**	**07 00 34.6**	**-1.1**
	baz=311						
NSTT				*e*S	**Sg**	**07 00 41.2**	**-0.2**
	baz=311						
ILA	**Ilan**	**0.56**	**30**	*e*P	**Pg**	**07 00 34.4**	**-0.5**
	baz=39						
ILA				*e*S	**Sb**	**07 00 42.9**	**-1.4**
	baz=39						
VWDT	**VWDT**	**0.59**	**208**	⇑P	**Pg**	**07 00 35.0**	**-0.5**
	baz=212						
WLTB	**Daxi**	**0.59**	**343**	⇑P	**Pb**	**07 00 36.2**	**-0.6**
	baz=352						
WLTB				*e*S	**Sg**	**07 00 43.6**	**+0.2**
	baz=352						
EGFH	**Guangfu**	**0.61**	**181**	*e*P	**Pg**	**07 00 35.5**	**-0.3**
	baz=181						
EGFH				*e*S	**Sb**	**07 00 45.3**	**-0.5**
	baz=181						
TWQ1	**Liyutan**	**0.61**	**276**	*e*P	**Pb**	**07 00 36.4**	**-0.7**
	baz=274						
TWQ1				*e*S	**Sb**	**07 00 44.5**	**-1.4**
	baz=274						
SMLT	**Sun Moon Lake**	**0.63**	**231**	⇑P	**Pb**	**07 00 36.3**	**-1.2**
	baz=230						
NSY	**Sanyi**	**0.63**	**282**	*e*P	**Pb**	**07 00 37.0**	**-0.4**
	baz=281						
NSY				*e*S	**Sb**	**07 00 45.2**	**-1.3**
	baz=281						
NMLH	**Miaoli**	**0.65**	**293**	*e*P	**Pb**	**07 00 37.4**	**-0.3**
	baz=292						
NMLH				*e*S	**Sb**	**07 00 45.9**	**-1.0**
	baz=292						
TYC	**Yuchr**	**0.65**	**235**	⇑*i*P	**Pb**	**07 00 36.6**	**-1.2**
	baz=233						
TYC				S	**Sb**	**07 00 45.8**	**-1.2**
	baz=233						
SBCB	**Hsinchu**	**0.66**	**321**	*e*P	**Pb**	**07 00 38.0**	**+0.1**
	baz=321						
SBCB				*e*S	**Sb**	**07 00 48.4**	**+1.2**
	baz=321						
SSLB	**Suanglung**	**0.66**	**222**	⇑P	**Pg**	**07 00 36.2**	**-0.6**
	baz=233						
NTC	**Toucheng**	**0.67**	**32**	⇑*e*P	**Pg**	**07 00 36.1**	**-1.0**
	baz=44						
EOS1	**EOS1**	**0.68**	**67**	⇑P	**Pb**	**07 00 37.2**	**-1.0**
	baz=59						
EOS1				*e*S	**Sb**	**07 00 47.9**	**+0.1**
	baz=59						
NHDH	**Xindian Distri**	**0.68**	**6**	*e*P	**Pg**	**07 00 37.0**	**-0.2**
	baz=18						
NHDH				*e*S	**Sg**	**07 00 45.8**	**-0.4**
	baz=18						
PTSB	**Yuanli**	**0.69**	**284**	⇑P	**Pb**	**07 00 38.6**	**+0.1**
	baz=282						
PTSB				S	**Sb**	**07 00 48.3**	**+0.1**
	baz=282						
TATO	**Taipei**	**0.69**	**4**	⇑P	**Pg**	**07 00 37.3**	**-0.1**
	baz=15						
TATO				S	**Sg**	**07 00 45.6**	**-0.9**
	baz=15						
TWA	**Mucha**	**0.71**	**11**	⇑P	**Pg**	**07 00 37.5**	**-0.3**
	baz=22						
TWA				S	**Sg**	**07 00 46.6**	**-0.4**
	baz=22						
TCU	**Taichung**	**0.71**	**259**	*e*P	**Pb**	**07 00 38.8**	**0.0**
	baz=258						
EGS		**0.72**	**38**	*e*P	**Pg**	**07 00 37.7**	**-0.3**
	baz=40						
NCUH	**Zhongli**	**0.72**	**341**	*e*P	**Pb**	**07 00 38.6**	**-0.4**
	baz=342						
NCU	**National Centr**	**0.72**	**341**	*e*P	**Pb**	**07 00 39.0**	**-0.1**
	baz=343						
WDJ	**Dajia District**	**0.73**	**275**	*e*P	**Pn**	**07 00 39.6**	**-1.2**
	baz=274						
TAP	**Taipei**	**0.76**	**4**	*e*P	**Pb**	**07 00 38.5**	**-1.0**
	baz=15						
TAP				*e*S	**Sg**	**07 00 48.8**	**+0.2**
	baz=15						
TIPB	**Shuangxi**	**0.77**	**27**	P	**Pg**	**07 00 38.2**	**-0.8**
	baz=15						
TIPB				*e*S	**Sg**	**07 00 48.4**	**-0.7**
	baz=15						
EHY	**Hungye**	**0.78**	**188**	*e*P	**Pg**	**07 00 38.6**	**-0.5**
	baz=182						
EHY				*e*S	**Sb**	**07 00 50.2**	**-0.4**
	baz=182						
HGSD	**Ruisui**	**0.79**	**181**	⇑P	**Pb**	**07 00 39.1**	**-1.0**
	baz=187						
HGSD				*e*S	**Sb**	**07 00 51.9**	**+1.0**
	baz=187						
WHYT	**Xinyi Township**	**0.79**	**223**	*e*P	**Pg**	**07 00 38.6**	**-0.8**
	baz=222						
WJS	**Zhushan**	**0.80**	**235**	*e*P	**Pb**	**07 00 39.7**	**-0.5**
	baz=226						
WNT	**Mingjian**	**0.80**	**240**	*e*P	**Pn**	**07 00 40.6**	**-1.1**
	baz=233						
TWS1	**Kuangyinshan**	**0.82**	**359**	*e*P	**Pb**	**07 00 40.6**	**0.0**
	baz=8.0						
TWS1				*e*S	**Sb**	**07 00 52.3**	**+0.5**
	baz=8.0						
NWF	**Wu-fen Shan**	**0.85**	**21**	P	**Pg**	**07 00 40.0**	**-0.4**
	baz=22						
WFSB	**Wu-fen Shan**	**0.85**	**21**	⇑P	**Pg**	**07 00 40.0**	**-0.4**
	baz=21						
WFSB				*e*S	**Sb**	**07 00 52.1**	**-0.6**
	baz=21						
YM01	**YM01**	**0.87**	**8**	⇑P	**Pb**	**07 00 41.0**	**-0.5**
	baz=9.0						
YM01				*e*S	**Sg**	**07 00 51.8**	**-0.3**
	baz=9.0						
YM04	**YM04**	**0.87**	**6**	⇑*i*P	**Pb**	**07 00 41.0**	**-0.6**
	baz=19						
YM04				*e*S	**Sb**	**07 00 53.9**	**+0.4**
	baz=19						
NTST	**Danshui**	**0.88**	**1**	*e*P	**Pb**	**07 00 41.5**	**-0.2**
	baz=11						
NTST				*e*S	**Sb**	**07 00 54.6**	**+1.0**
	baz=11						
TWB1	**Santiao Chiao**	**0.88**	**34**	*e*P	**Pg**	**07 00 39.8**	**-1.2**
	baz=44						
TWB1				*e*S	**Sg**	**07 00 51.1**	**-1.3**
	baz=44						
YM05	**YM05**	**0.89**	**7**	⇑P	**Pb**	**07 00 41.2**	**-0.7**
	baz=9.0						
YM11	**YM11**	**0.89**	**8**	⇑P	**Pb**	**07 00 41.5**	**-0.4**
	baz=9.0						
YM11				S	**Sb**	**07 00 53.8**	**-0.2**
	baz=9.0						
YULB	**Yu-li**	**0.89**	**188**	⇑P	**Pg**	**07 00 40.4**	**-0.8**
	baz=179						
YULB				*e*S	**Sb**	**07 00 53.2**	**-0.8**
	baz=179						
ANP	**Anpu**	**0.91**	**5**	*e*P	**Pb**	**07 00 41.7**	**-0.5**
	baz=19						
YM08	**YM08**	**0.91**	**8**	*e*P	**Pg**	**07 00 41.3**	**-0.3**
	baz=10.0						
TWF1	**Yuli**	**0.93**	**188**	*e*P	**Pb**	**07 00 41.7**	**-0.9**
	baz=196						
TWF1				*e*S	**Sn**	**07 00 56.0**	**-1.1**
	baz=196						
ALS	**Alishan**	**0.96**	**217**	⇑P	**Pb**	**07 00 42.4**	**-0.9**
	baz=224						
CHN5	**Tsauling**	**0.97**	**226**	*e*P	**Pb**	**07 00 43.3**	**0.0**
	baz=223						
CHN5				*e*S	**Sn**	**07 00 59.3**	**+1.0**
	baz=223						
WGK	**Gukeng**	**1.00**	**234**	*e*P	**Pn**	**07 00 44.3**	**-0.2**
	baz=233						
TWY	**Chenhua**	**1.00**	**8**	*e*P	**Pb**	**07 00 43.7**	**0.0**
	baz=10.0						
TWY				*e*S	**Sb**	**07 00 57.6**	**+0.5**
	baz=10.0						
WDLH	**Douliu**	**1.01**	**235**	*e*P	**Pn**	**07 00 44.9**	**+0.2**
	baz=234						
RLNB	**Erlin**	**1.06**	**249**	*e*P	**Pn**	**07 00 45.3**	**0.0**
	baz=261						
RLNB				*e*S	**Sn**	**07 01 01.0**	**+0.7**
	baz=261						
FULB	**Fuli**	**1.08**	**187**	*e*P	**Pb**	**07 00 44.8**	**-0.3**
	baz=198						
FULB				*e*S	**Sn**	**07 01 01.5**	**+0.5**
	baz=198						
ELDTW	**Lidau**	**1.15**	**200**	*e*P	**Pg**	**07 00 45.5**	**-0.8**
	baz=200						
ELDTW				*e*S	**Sb**	**07 01 01.7**	**+0.1**
	baz=200						

CHN2	**Minshiung**	**1.16**	**230**	*e*P	**Pn**	**07 00 47.0**	**+0.4**
	baz=227						
CHN2				*e*S	**Sn**	**07 01 03.6**	**+1.0**
	baz=227						
CHKT	**Chengkung**	**1.18**	**183**	*e*P	**Pg**	**07 00 44.7**	**-2.0**
	baz=168						
CHN4	**Tsaushan**	**1.21**	**220**	*e*P	**Pn**	**07 00 47.5**	**+0.2**
	baz=218						
CHN4				*e*S	**Sn**	**07 01 06.0**	**+2.1**
	baz=218						
CHY	**Chiayi**	**1.21**	**230**	*e*P	**Pn**	**07 00 47.5**	**+0.1**
	baz=246						
TPUB	**Ta-pu**	**1.23**	**217**	P	**Pn**	**07 00 47.5**	**-0.2**
	baz=216						
TPUB				*e*S	**Sn**	**07 01 05.2**	**+0.8**
	baz=216						
STYT	**Tauyuan**	**1.28**	**210**	*e*P	**Pn**	**07 00 48.2**	**-0.2**
	baz=209						
STYT				*e*S	**Sn**	**07 01 06.3**	**+0.6**
	baz=209						
WTP	**Ta-pu**	**1.28**	**217**	*e*P	**Pn**	**07 00 48.3**	**-0.1**
	baz=215						
WTP				*e*S	**Sn**	**07 01 08.3**	**+2.5**
	baz=215						
WSF	**Szhu**	**1.28**	**240**	*e*P	**Pg**	**07 00 46.8**	**-1.9**
	baz=240						
WLGB	**Puzi**	**1.31**	**233**	*e*P	**Pn**	**07 00 48.5**	**-0.3**
	baz=248						
TWK	**Hsinying**	**1.33**	**221**	*e*P	**Pb**	**07 00 49.7**	**+0.3**
	baz=217						
TWK				*e*S	**Sn**	**07 01 09.5**	**+2.4**
	baz=217						
SNST	**Tainan City**	**1.36**	**219**	*e*P	**Pb**	**07 00 50.3**	**+0.4**
	baz=219						
JYNG	**Yonagunijimaku**	**1.38**	**83**	P	**Pg**	**07 00 50.2**	**-0.4**
JYNG				*e*S	**Sn**	**07 01 08.5**	**+0.3**
YOJ	**Yonaguni jima**	**1.44**	**82**	*e*P	**Pn**	**07 00 50.5**	**-0.1**
	baz=71						
YOJ	**Yonaguni jima**	**1.44**	**82**	P	**Pb**	**07 00 50.9**	**-0.4**
YOJ				*e*S	**Sn**	**07 01 10.3**	**+0.6**
PCYT	**Pengchaiyu**	**1.46**	**23**	*e*P	**Pn**	**07 00 50.3**	**-0.5**
	baz=7.0						
CHN8	**Yiju**	**1.46**	**231**	*e*P	**Pb**	**07 00 51.1**	**-0.4**
	baz=243						
SLGT	**Liugui**	**1.47**	**210**	*e*P	**Pg**	**07 00 52.3**	**-0.1**
	baz=199						
TWG	**Pinlang**	**1.49**	**193**	*e*P	**Pn**	**07 00 51.0**	**-0.2**
	baz=192						
TWGBT	**Beinan**	**1.49**	**193**⇑	*e*P	**Pb**	**07 00 51.3**	**-0.8**
	baz=192						
CHN3	**Shinhua**	**1.55**	**220**	*e*P	**Pg**	**07 00 53.2**	**-0.7**
	baz=219						
SCLT	**Jiali**	**1.59**	**226**	*e*P	**Pb**	**07 00 53.2**	**-0.5**
	baz=244						
TWM1	**Shoushan**	**1.73**	**213**	*e*P	**Pg**	**07 00 56.6**	**-0.5**
	baz=210						
ECL	**Taimali**	**1.73**	**195**	*e*P	**Pb**	**07 00 55.1**	**-1.1**
	baz=194						
MASBT	**Mashibuluo**	**1.82**	**204**	*e*P	**Pg**	**07 00 57.9**	**-1.1**
	baz=205						
MASBT				*e*S	**Sg**	**07 01 21.5**	**-1.1**
	baz=205						
PNG	**Penghu**	**1.87**	**248**	*e*P	**Pb**	**07 00 57.5**	**-0.9**
	baz=248						
PHUB	**P'eng-hu**	**1.87**	**246**	*e*P	**Pn**	**07 00 57.0**	**+0.5**
	baz=247						
WDGT	**Dungji**	**1.92**	**238**	*e*P	**Pn**	**07 00 57.7**	**+0.5**
	baz=238						
VWUC	**VWUC**	**1.94**	**292**	*e*P	**Pn**	**07 00 56.4**	**-1.1**
	baz=295						
SSPT	**Xinbi**	**1.96**	**204**	*e*P	**Pg**	**07 01 01.2**	**-0.4**
	baz=203						
EAST	**Anshuo**	**1.97**	**196**	*e*P	**Pb**	**07 00 59.8**	**-0.4**
	baz=196						
SCZT	**Fangliau**	**2.04**	**202**	*e*P	**Pb**	**07 01 00.6**	**-0.9**
	baz=219						
IRIF	**Iriomote-Funau**	**2.09**	**88**	P	**Pn**	**07 00 59.7**	**+0.2**
IRIF				*e*S	**Sn**	**07 01 26.1**	**+0.4**
VCHM	**Qimei**	**2.13**	**240**	*e*P	**Pn**	**07 01 00.7**	**+0.7**
	baz=240						
WLCH	**Liuqiu**	**2.15**	**207**	*e*P	**Pg**	**07 01 05.5**	**+0.1**
	baz=204						
HATJ	**Hateruma jima**	**2.17**	**95**	*e*S	**Sn**	**07 01 28.3**	**+0.6**
MATB	**Ma-tsu**	**2.30**	**324**	*e*P	**Pn**	**07 01 02.6**	**+0.2**
	baz=326						
JKRS	**Kuro-shima**	**2.34**	**91**	P	**Pb**	**07 01 04.7**	**-1.9**
JKRS				*e*S	**Sn**	**07 01 33.9**	**+1.9**
TWK1	**Hengchun**	**2.40**	**194**	*e*P	**Pn**	**07 01 04.8**	**+1.1**
	baz=178						
TWKBT	**Hengchun**	**2.40**	**194**	*e*P	**Pb**	**07 01 05.8**	**-1.8**
	baz=177						
JIJ	**Ishigaki jima**	**2.47**	**88**	P	**Pn**	**07 01 05.4**	**+0.7**
JIJ				*e*S	**Sn**	**07 01 35.6**	**+0.6**
JISG	**Ishigakijimahi**	**2.63**	**83**	P	**Pn**	**07 01 07.9**	**+0.9**
JISG				*e*S	**Sn**	**07 01 40.9**	**+1.8**
JTJ	**Tarama**	**2.99**	**82**	P	**Pn**	**07 01 13.5**	**+1.6**
JTJ				*e*S	**Sn**	**07 01 50.4**	**+2.4**
KSRS	**Korea Array**	**14.26**	**21**	LR	LR	07 08 57.0	
	comp=Z,40nm,19.8s,baz=332,slow=36						
SONM	**Songino Array**	**26.37**	**337**	P	**P**	**07 06 01.5**	**+0.5**
	1.9nm,1.0s,baz=155,slow=8.6,SNR=9.6						
MKAR	**Makanchi Array**	**38.43**	**316**	P	**P**	**07 07 47.6**	**+1.3**
	0.9nm,0.6s,baz=109,slow=9.9,SNR=10						
ZALV	**Zalesovo Beam**	**40.29**	**327**	P	**P**	**07 08 01.7**	**0.0**
	0.5nm,0.4s,baz=106,slow=9.1,SNR=3.9						
KURBB	**Kurchatov Arra**	**42.19**	**320**	P	**P**	**07 08 18.2**	**+0.9**
	0.4nm,0.8s,baz=117,slow=7.8,SNR=2.2						
AAK	**Ala-Archa**	**42.63**	**307**	LR	LR	07 29 39.2	
	comp=Z,256nm,21.7s,baz=198,slow=41						
WRA	**Warramunga Arr**	**45.72**	**163**	P	**P**	**07 08 44.3**	**-1.6**
	0.5nm,0.6s,baz=345,slow=8.8,SNR=2.4						
ASAR	**Alice Springs**	**49.17**	**165**	P	**P**	**07 09 12.1**	**-0.8**
	0.3nm,0.7s,baz=338,slow=7.0,SNR=2.4						
KIRV	**Kirov**	**60.27**	**325**	LR	LR	07 38 31.4	
	comp=Z,328nm,20.4s,baz=173,slow=38						
NOA	**NORSAR Array B**	**78.25**	**332**	P	**P**	**07 12 25.8**	**+1.5**
	0.8nm,0.7s,baz=63,slow=9.8,SNR=1.6						

TAP 07 07:02:59.6, 24°.34N×121°.41E, h4km, ML1.3, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.09**	**343**	P	Pg	07 03 01.9	+0.2
	baz=342						
NNSB				*e*S	Sg	07 03 03.2	+0.2
	baz=342						
NNS	**Nan Shan**	**0.11**	**340**	*e*P	Pg	07 03 02.2	+0.3
	baz=343						
NNS				*e*S	Sg	07 03 03.7	+0.3
	baz=343						
ETLH	**Xiulin Townshi**	**0.15**	**155**	*e*P	Pg	07 03 03.4	+0.8
	baz=162						
NACB	**Ninganchiao**	**0.23**	**135**	*e*P	Pg	07 03 04.8	+0.6
	baz=137						
WHF	**Hehuan Shan**	**0.24**	**215**	*e*P	Pg	07 03 05.1	+0.8
	baz=211						

*ISCJB **07** 07:05:52.2±1.8, 42°.5N±0°.1×41°.00E±0°.06, h15km±30km, Error ellipse: s-maj=18.8km s-min=6.6km az=9.9*
*DDA **07** 07:05:54.9, 42°.16N×40°.86E, h7km±3km, ML2.7*
*MOS **07** 07:05:54.6±0.0, 42°.49N×41°.08E, h10km, MPVA2.9*
ISC 07 07:05:52.6±1.2, 42°.38N±0°.03×40°.98E±0°.05, h12km±14km, n9, σ0s53/18, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**1.02**	**27**	*i* Pg	**Pn**	**07 06 12.7**	**-0.2**
DOMR				*i* Sg	**Sb**	**07 06 25.6**	**-0.2**
DBOC	**Borcka**	**1.16**	**153**	*i* P	**Pg**	**07 06 15.2**	**+0.4**
DBOC				*i* S	**Sg**	**07 06 30.2**	**+0.4**
DBOC				IAML_P			
	comp=Z,487nm,0.1s						
ARTV	**Artvin**	**1.39**	**149**	*i* P	**Pg**	**07 06 19.3**	**0.0**
ARTV				*i* S	**Sg**	**07 06 37.4**	**0.0**
DBAD	**Bademkaya**	**1.46**	**158**	*i* P	**Pb**	**07 06 19.9**	**+0.2**
DBAD				*i* S	**Sb**	**07 06 38.1**	**-0.2**
DBAD				IAML_P			
	comp=Z,197nm,0.1s						
DAGI	**Agillar**	**1.48**	**152**	*i* P	**Pn**	**07 06 18.5**	**-0.6**
DAGI				*i* S	**Sg**	**07 06 39.8**	**-0.4**
NEY	**Neytrino**	**1.55**	**55**	*i* Pg	**Pb**	**07 06 21.4**	**+0.2**
NEY				*e*Sg	**Sb**	**07 06 40.4**	**-0.4**
GUZR	**Guzeripl'**	**1.73**	**339**	*i* Pg	**Pb**	**07 06 24.9**	**+0.6**
GUZR				*i* Sg	**Sb**	**07 06 47.3**	**+1.2**
SHA1	**Shidzhatmaz**	**1.83**	**42**	*e*Pg	**Pg**	**07 06 27.7**	**0.0**
SHA1				*i* Sg	**Sb**	**07 06 49.4**	**+0.4**
LZRR	**Lazarevskoye**	**1.94**	**323**	*e*Pg	**Pg**	**07 06 29.5**	**-0.4**
LZRR				*i* Sg	**Sg**	**07 06 54.3**	**-0.8**

*ISCJB **07** 07:19:31.0±0.4, 6°.81N±0°.03×73°.11W±0°.04, h157km±3km, mb3.7/6, Error ellipse: s-maj=5.9km s-min=4.3km az=18.2*
*IDC **07** 07:19:32.2±1.2, 6°.77N×72°.93W, h163km±10km, mb3.5/6, mb1 3.7/8, mb1mx3.4/33, mbtmp4.0/8, Error ellipse: s-maj=20.9km s-min=13.2km az=130.0*
*RSNC **07** 07:19:33.1±1.0, 6°.79N×73°.15W, h146km±4km, ML4.0, Mw3.9*
ISC 07 07:19:31.5±0.7, 6°.80N±0°.03×73°.10W±0°.04, h155km±5km, n40, σ0s97/61, mb3.8/6, 6C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**202**	*i* P	**Pn**	**07 19 53.0**	**+0.2**
BARC				*e*S	**Sn**	**07 20 07.2**	**-1.8**
BARC				*i*		07 20 09.3	
	comp=Z,6μm,0.2s						
PAMC	**Pamplona, Colo**	**0.67**	**36**⇓	*e*P	**Pn**	**07 19 55.9**	**+0.9**
PAMC				*i*		07 19 56.3	
	comp=Z,2μm,0.2s						
PAMC				*e*S	**Sn**	**07 20 12.9**	**0.0**
BRRC	**Barranca, Sant**	**0.68**	**297**⇑	*i* P	**Pn**	**07 19 55.0**	**+0.5**
BRRC				*e*S	**Sn**	**07 20 10.9**	**-1.1**
BRRC				*i*		07 20 12.7	
	comp=N,5μm,0.4s						
RUSC	**La Rusia**	**0.90**	**179**⇑	*i* P	**Pn**	**07 19 56.8**	**+0.2**
RUSC				*e*S	**Sn**	**07 20 15.0**	**-0.8**
RUSC				*i*		07 20 17.5	
	comp=E,2μm,0.3s						
TAMC	**Tame, Arauca**	**1.35**	**105**⇑	*i* P	**Pn**	**07 20 01.3**	**+1.3**
TAMC				*i*		07 20 01.7	
	comp=Z,1μm,0.3s						
TAMC				*e*S	**Sn**	**07 20 22.4**	**+0.6**
PTBC	**PUERTO BERRIO,**	**1.37**	**259**⇓	*e*P	**Pn**	**07 19 59.6**	**-0.6**
PTBC				*e*S	**Sn**	**07 20 20.9**	**-1.3**
PTBC				*i*		07 20 28.7	
	comp=Z,1μm,0.3s						
OCAC	**Ocana**	**1.45**	**351**	*e*P	**Pn**	**07 20 01.3**	**+0.2**
OCAC				*e*S	**Sn**	**07 20 22.9**	**-1.0**
OCAC				*i*		07 20 30.2	
	comp=Z,717nm,0.5s						
CTAU	**Tausa, Cundina**	**1.84**	**211**	*i* P	**Pn**	**07 20 07.8**	**+2.1**
ZARC	**Zaragoza, Cauc**	**1.88**	**292**	*e*P	**Pn**	**07 20 05.8**	**+0.2**
ZARC				*e*S	**Sn**	**07 20 31.2**	**-0.5**
ZARC				*i*		07 20 37.4	
	comp=Z,1μm,0.5s						
CTAB	**Cerro Tablazo,**	**2.09**	**212**	*e*P	**Pn**	**07 20 11.2**	**+2.8**
SMLC	**San Martn de**	**2.21**	**334**	*e*P	**Pn**	**07 20 09.3**	**-0.1**
SMLC				*e*S	**Sn**	**07 20 39.1**	**+0.4**
CHIC	**Chingaza**	**2.25**	**196**⇑	*e*P	**Pn**	**07 20 10.8**	**+0.5**
	comp=Z,346nm,0.5s						
CHIC				*e*S	**Sn**	**07 20 39.7**	**-0.4**
CHIC				*i*		07 20 48.8	
	comp=Z,346nm,0.5s						
ROSC	**El Rosal**	**2.29**	**212**⇑	*i* P	**Pn**	**07 20 12.7**	**+1.8**
ROSC				*e*S	**Sn**	**07 20 41.5**	**+0.4**
ROSC				*i*		07 20 47.8	
	comp=Z,921nm,0.4s						
ROSC	**El Rosal**	**2.29**	**212**	P	**Pn**	**07 20 12.8**	**+2.0**
	comp=Z,52nm,0.3s,baz=119,slow=15,SNR=263						
ROSC				S	**Sn**	**07 20 39.8**	**-1.3**
	comp=Z,137nm,0.3s,baz=98,slow=17,SNR=9.4						
HELC	**Santa Helena**	**2.49**	**256**⇑	*e*P	**Pn**	**07 20 13.1**	**0.0**
HELC				*e*S	**Sn**	**07 20 44.7**	**-0.4**
HELC				*i*		07 20 53.2	
	comp=Z,574nm,0.5s						
UREC	**San Jos de Ur**	**2.59**	**292**	*e*P	**Pn**	**07 20 13.9**	**-0.2**
VILC	**Villavicencio,**	**2.73**	**193**	*e*P	**Pn**	**07 20 16.0**	**+0.1**
VILC				*e*S	**Sn**	**07 20 49.6**	**-0.7**
VILC				*i*		07 20 53.1	
	comp=Z,444nm,0.5s						
RREF	**El Recreo**	**2.92**	**230**	*e*P	**Pn**	**07 20 19.4**	**+0.6**
RREF				*e*S	**Sn**	**07 20 55.8**	**+0.5**
SDV	**Santo Domingo**	**3.20**	**50**⇓	*e*P	**Pn**	**07 20 22.4**	**+0.5**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**07 20 22.4**	**+0.5**
	comp=Z,42nm,0.3s,baz=216,slow=9.0,SNR=541						
SDV				S	**Sn**	**07 20 59.9**	**-1.0**
	comp=Z,60nm,0.3s,baz=7.3,slow=14,SNR=20						
ANIL	**Santa Ana**	**3.24**	**225**	*e*P	**Pn**	**07 20 23.9**	**+1.5**
PRAC	**Prado**	**3.54**	**210**	*e*P	**Pn**	**07 20 26.1**	**0.0**
PRAC				*e*S	**Sn**	**07 21 07.6**	**-0.8**
PRAC				*i*		07 21 13.9	
	comp=Z,405nm,0.7s						
GUVC	**San Jose del G**	**4.25**	**174**	*e*P	**Pn**	**07 20 34.5**	**-0.7**
GUVC				*e*S	**Sn**	**07 21 23.1**	**-1.8**
GUVC				*i*		07 21 29.0	
	comp=Z,206nm,0.4s						
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P	**Pn**	**07 20 35.6**	**0.0**
SMRC	**Santa Marta, M**	**4.48**	**346**	*e*P	**Pn**	**07 20 38.9**	**+0.8**
PCON	**Cinco Dias**	**5.53**	**217**	*e*P	**Pn**	**07 20 53.5**	**+1.0**
POPC	**Popayan, Colom**	**5.53**	**220**	*e*P	**Pn**	**07 20 52.8**	**+0.5**
FLOC	**Florencia**	**5.77**	**206**⇓	*e*P	**Pn**	**07 20 55.4**	**0.0**
FLOC				*i*		07 22 38.7	
	comp=Z,34nm,0.8s						
PTGA	**Pitinga**	**15.09**	**119**	P	**P**	**07 22 58.1**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=310,slow=21,SNR=1.9						
TXAR	**Lajitas Array**	**36.49**	**312**	P	**P**	**07 26 23.1**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=128,slow=9.1,SNR=12						
ULM	**Lac du Bonnet**	**47.31**	**340**	P	**P**	**07 27 49.2**	**-0.1**
	comp=Z,1.8nm,0.4s,baz=134,slow=7.4,SNR=7.2						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**07 27 56.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=124,slow=7.7,SNR=3.7						
SCHQ	**Schefferville**	**48.16**	**5**	P	**P**	**07 27 56.7**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=197,slow=6.4,SNR=13						
YKA	**Yellowknife Ar**	**63.29**	**340**	P	**P**	**07 29 43.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=132,slow=6.6,SNR=21						
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P	**P**	**07 30 47.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=276,slow=6.6,SNR=3.4						
MKAR	**Makanchi Array**	**122.33**	**20**	PKP	**PKPdf**	**07 38 07.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=315,slow=2.5,SNR=6.4						
SONM	**Songino Array**	**125.60**	**0**	PKP	**PKPdf**	**07 38 14.1**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=349,slow=2.2,SNR=3.0						
ASAR	**Alice Springs**	**149.12**	**234**	PKP	**PKPdf**	**07 38 58.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=119,slow=3.6,SNR=10						
ASAR				PKPbc	**PKPbc**	**07 39 01.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=116,slow=3.7,SNR=19						
WRA	**Warramunga Arr**	**150.34**	**241**	PKP	**PKPdf**	**07 39 00.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=107,slow=2.6,SNR=3.5						
WRA				PKPbc	**PKPbc**	**07 39 04.9**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=108,slow=2.6,SNR=32						
CMAR	**Chiang Mai Arr**	**153.70**	**17**	PKP	**PKPdf**	**07 39 05.4**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=340,slow=3.8,SNR=5.0						
CMAR				PKPbc	**PKiKP**	**07 39 13.4**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=308,slow=3.0,SNR=4.0						

*SKHL **07** 07:23:19.8±0.2, 44°.45N×148°.52E, h63km±4km, mb4.5/10*
*MOS **07** 07:23:20.6±1.2, 44°.44N×148°.26E, h68km, mb4.3/23, MS2.8/4, Error ellipse: s-maj=8.1km s-min=5.8km az=75.2*
*JMA **07** 07:23:20.0±0.3, 44°.04N×148°.15E, h0km, M5.0*
*ISCJB **07** 07:23:20.5±0.5, 44°.44N±0°.03×148°.28E±0°.04, h63km±4km, mb4.2/67, Error ellipse: s-maj=6.7km s-min=3.5km az=137.6*
*NEIC **07** 07:23:23.5±0.7, 44°.46N×148°.26E, h76km±6km, mb4.3/40, Error ellipse: s-maj=8.8km s-min=4.3km az=150.0*
*IDC **07** 07:23:24.2±2.4, 44°.59N×148°.22E, h80km±21km, mb3.8/20, mb1 4.0/25, mb1mx3.8/46, mbtmp4.1/25, MS3.2/8, Ms1 3.3/8, ms1mx3.0/38, Error ellipse: s-maj=15.6km s-min=11.2km az=142.0*
ISC 07 07:23:20.9±1.0, 44°.43N±0°.05×148°.36E±0°.06, h51km±8km, n208, σ1s32/226, mb4.1/67, MS3.9/4, 3C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.88**	**337**	*i* P	**Pn**	**07 23 36.0**	**-0.9**
KUR				AMB	AMB	07 23 37.0	
	861nm,0.3s						
KUR				AMB	AMB	07 23 37.0	
	845nm,0.3s						
KUR				AMB	AMB	07 23 37.0	
	317nm,0.3s						
KUR				*i* S	**Sn**	**07 23 48.0**	**-0.7**
KUR				A	A	07 23 49.0	
	4μm,0.2s						
KUR				A	A	07 23 49.0	
	672nm,0.2s						
KUR	**Kuril'sk**	**0.88**	**337**	*d* iPN	**Pn**	**07 23 36.5**	**-0.4**
KUR				*i* S	**Sn**	**07 23 48.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,951nm,0.5s						
KUR				pmax	pmax		
	comp=Z,3μm,0.5s						
KUR				pmax	pmax		
	comp=E,980nm,0.1s						
KUR				smax	smax		
	comp=N,4μm,0.2s						
KUR				smax	smax		
	comp=E,7μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**258**	*e*P	**Pn**	**07 23 49.0**	**-0.9**
YUK				AMB	AMB	07 23 53.0	
	comp=E,150nm,0.2s						
YUK				AMB	AMB	07 23 53.0	
	comp=E,406nm,0.2s						
YUK				AMB	AMB	07 23 53.0	
	comp=E,141nm,0.2s						
YUK				*i* S	**Sn**	**07 24 11.0**	**-1.0**
YUK				A	A	07 24 17.0	
	comp=E,3μm,0.4s						
YUK				A	A	07 24 17.0	
	comp=E,388nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**258**	*e*PN	**Pn**	**07 23 49.8**	**-0.1**
YUK				*i* S	**Sn**	**07 24 11.1**	**-1.0**
YUK				pmax	pmax		
	comp=E,406nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=N,150nm,0.1s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
LAGR	**Lagunnoye**	**1.89**	**259**	*e*P	**Pn**	**07 23 50.0**	**-0.6**
LAGR				AMB	AMB	07 23 52.0	
	comp=E,85nm,0.4s						
LAGR				*i* S	**Sn**	**07 24 12.0**	**-1.2**
LAGR				A	A	07 24 20.0	
	comp=E,4μm,0.4s						
LAGR				A	A	07 24 20.0	
	comp=E,480nm,0.4s						
LAGR	**Lagunnoye**	**1.89**	**259**	*e*PN	**Pn**	**07 23 50.8**	**+0.2**
LAGR				*i* S	**Sn**	**07 24 12.7**	**-0.5**
LAGR				pmax	pmax		
	comp=Z,850nm,0.2s						
LAGR				smax	smax		
	comp=E,5μm,0.4s						
LAGR				smax	smax		
	comp=N,4μm,0.3s						
GRPR	**Tuman**	**1.91**	**258**	*i* P	**Pn**	**07 23 51.0**	**0.0**
GRPR				AMB	AMB	07 23 53.0	
	comp=N,91nm,0.5s						
GRPR				*e*S	**Sn**	**07 24 12.0**	**-1.8**
GRPR				A	A	07 24 17.0	
	comp=N,3μm,0.4s						
GRPR				A	A	07 24 17.0	
	comp=N,447nm,0.4s						
GRPR	**Tuman**	**1.91**	**258**⇓	*i* PN	**Pn**	**07 23 51.0**	**0.0**
GRPR				*e*S	**Sn**	**07 24 12.7**	**-1.1**
GRPR				pmax	pmax		
	comp=Z,909nm,0.3s						
GRPR				pmax	pmax		
	comp=N,478nm,0.2s						
GRPR				pmax	pmax		
	comp=E,214nm,0.3s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
GRPR				smax	smax		
	comp=E,4μm,0.3s						
GLVR	**Golovnino**	**2.16**	**252**	*e*P	**Pn**	**07 23 55.0**	**+0.7**
GLVR				AMB	AMB	07 23 56.0	
	comp=E,60nm,0.5s						
GLVR				*i* S	**Sn**	**07 24 21.0**	**+1.1**
GLVR				A	A	07 24 29.0	
	comp=E,307nm,0.3s						
GLVR				A	A	07 24 29.0	
	comp=E,499nm,0.3s						
GLVR	**Golovnino**	**2.16**	**252**	*e*PN	**Pn**	**07 23 55.4**	**+1.1**
GLVR				*i* S	**Sn**	**07 24 21.6**	**+1.7**
GLVR				pmax	pmax		
	comp=Z,598nm,0.3s						
GLVR				smax	smax		
	comp=N,3μm,0.2s						
GLVR				smax	smax		
	comp=E,5μm,0.3s						
NEM2	**Nemuro 2**	**2.17**	**242**	P	**Pn**	**07 23 53.6**	**-0.9**
NEM2				*e*S	**Sn**	**07 24 18.1**	**-2.1**
JRA	**Rausu**	**2.38**	**259**	P	**Pn**	**07 23 58.5**	**+1.1**
JRA				*e*S	**Sn**	**07 24 26.9**	**+1.6**
JKHN	**Kushirohamanak**	**2.68**	**241**	P	**Pn**	**07 24 01.1**	**-0.4**
JNK	**Nakash**	**2.76**	**253**	P	**Pn**	**07 24 03.3**	**+0.7**
JNK				*e*S	**Sn**	**07 24 34.8**	**+0.1**
JAK	**Akkeshi**	**3.02**	**243**	P	**Pn**	**07 24 05.8**	**-0.3**
JAK				*e*S	**Sn**	**07 24 39.4**	**-1.6**
JTKR	**Abashiri--Toko**	**3.23**	**263**	P	**Pn**	**07 24 10.0**	**+0.9**
JAR	**Ashorobuto**	**3.51**	**253**	P	**Pn**	**07 24 14.3**	**+1.5**
JAR				*e*S	**Sn**	**07 24 54.6**	**+1.5**
JCH	**Churui**	**4.06**	**245**	P	**Pn**	**07 24 20.4**	**0.0**
JCH				*e*S	**Sn**	**07 25 05.9**	**-0.8**
JKK2	**Kamakawa 2**	**4.08**	**264**	P	**Pn**	**07 24 23.0**	**+2.4**
JKA	**Kamikawa-asahi**	**4.15**	**268**	*e*P	**Pn**	**07 24 23.6**	**+2.0**
ASAJ	**Asahikawa**	**4.15**	**268**	P	**Pn**	**07 24 23.6**	**+2.0**
	comp=E,10nm,0.3s,baz=57,slow=19,SNR=37						
ASAJ				S	Sn	07 25 23.8	+15
	comp=E,5.3nm,0.3s,baz=72,slow=20,SNR=2.7						
JSE	**Soyaes**	**4.15**	**279**	P	**Pn**	**07 24 22.9**	**+1.3**
ERM	**Erimo**	**4.50**	**239**	*e*Pn	**Pn**	**07 24 29.1**	**+2.7**
ERM	**Erimo**	**4.50**	**239**	*e*P	**Pn**	**07 24 29.3**	**+2.8**
ERM	**Erimo**	**4.50**	**239**	*de*PN	**Pn**	**07 24 29.3**	**+2.8**
ERM				pmax	pmax		
	comp=Z,131nm,1.0s						
JNBK	**Urakawa-nobuka**	**4.62**	**244**	P	**Pn**	**07 24 28.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**

MAJO	**Matsushiro**	**11.03**	**228**	*e*PN		**Pn**	**07 25 55.6**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.73**	**275**	P		**Pn**	**07 26 06.6**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=90,slow=13,SNR=6.8							
USRK				LR		LR	07 30 29.4	
	comp=Z,177nm,20.0s,baz=65,slow=37							
KLR	**Kul'dur**	**12.34**	**299**	*e*P		**Pn**	**07 26 16.9**	**+3.2**
KLR	**Kul'dur**	**12.34**	**299**	*i* PN		**Pn**	**07 26 16.9**	**+3.2**
KLR	**Kul'dur**	**12.34**	**299**	P		**Pn**	**07 26 17.9**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=111,slow=16,SNR=9.1							
KLR				LR		LR	07 31 01.7	
	comp=Z,182nm,20.9s,baz=350,slow=38							
EKMR	**Ekimchan**	**13.32**	**316**	*e*P		**Pn**	**07 26 25.0**	**-2.1**
EKMR				AMB		AMB	07 26 31.2	
	comp=Z,10.0nm,0.9s							
MA2	**Magadan**	**15.24**	**5**	*ce*P		**P**	**07 26 55.4**	**-1.1**
MA2				pmax		pmax		
	comp=Z,3.0nm,1.3s							
MA2	**Magadan**	**15.24**	**5**	P		**P**	**07 26 55.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=166,slow=15,SNR=4.2							
MA2				LR		LR	07 33 01.7	
	comp=Z,67nm,18.2s,baz=172,slow=38							
BMKR	**Bomnak**	**16.25**	**316**	*e*P		**Pn**	**07 27 03.5**	**-2.0**
KSRS	**Korea Array**	**16.92**	**253**	P		**Pn**	**07 27 12.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=65,slow=12,SNR=3.7							
KSRS				LR		LR	07 33 01.9	
	comp=Z,82nm,20.7s,baz=65,slow=34							
JNU	**Nakatsue**	**17.66**	**236**	P		**P**	**07 27 26.0**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=43,slow=14,SNR=3.3							
SEY	**Seymchan**	**18.68**	**6**	*i* P		**P**	**07 27 32.9**	**-1.6**
SEY	**Seymchan**	**18.68**	**6**	P		**P**	**07 27 34.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=172,slow=10.0,SNR=9.5							
BILL	**Bilibino**	**25.47**	**16**	*e*P		**P**	**07 28 45.1**	**+1.4**
BILL	**Bilibino**	**25.47**	**16**	*e*P		**P**	**07 28 45.1**	**+1.4**
BILL				pmax		pmax		
	comp=Z,1.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**27.15**	**275**	*e*P		**P**	**07 28 59.8**	**+0.5**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,240nm,6.4s							
TIK	**Tiksi**	**28.86**	**347**	*e*P		**P**	**07 29 12.6**	**-1.5**
TIXI	**Tiksi**	**28.88**	**347**	*i* P		**P**	**07 29 12.6**	**-1.6**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.8s							
SONA0	**Songino Array**	**29.02**	**292**	*e*P		**P**	**07 29 16.3**	**+0.4**
SONM	**Songino Array**	**29.02**	**292**	P		**P**	**07 29 16.3**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=88,slow=8.9,SNR=12							
H11N2	**WAKE ISLAND Hy**	**29.07**	**142**	T		T	08 00 06.5	
	baz=333,slow=76,SNR=1114							
H11N1	**WAKE ISLAND Hy**	**29.09**	**142**	T		T	08 00 05.6	
	baz=333,slow=76,SNR=913							
H11N3	**WAKE ISLAND Hy**	**29.09**	**142**	T		T	08 00 06.5	
	baz=333,slow=76,SNR=905							
H11S1	**WAKE ISLAND Hy**	**30.07**	**143**	T		T	08 01 20.3	
	baz=334,slow=76,SNR=1346							
H11S3	**WAKE ISLAND Hy**	**30.07**	**143**	T		T	08 01 19.5	
	baz=334,slow=76,SNR=847							
H11S2	**WAKE ISLAND Hy**	**30.09**	**143**	T		T	08 01 20.9	
	baz=334,slow=76,SNR=972							
SVW2	**Sparrevohn**	**36.48**	**43**	*e*P		**P**	**07 30 22.3**	**+1.7**
	comp=Z,5.8nm,1.0s							
CD2	**Chengdu**	**37.34**	**264**	*e*P		**P**	**07 30 28.6**	**+0.2**
IM3	**Indian Mountai**	**37.59**	**35**	*e*P		**P**	**07 30 30.3**	**+0.3**
RSO	**Redoubt South**	**37.87**	**44**	*e*P		**P**	**07 30 34.1**	**+1.4**
PPLA	**Purkeypile**	**38.10**	**40**	*e*P		**P**	**07 30 35.9**	**+1.4**
	comp=Z,8.1nm,1.1s							
KDAK	**Kodiak Island**	**38.15**	**48**	*e*P		**P**	**07 30 35.5**	**+0.7**
	comp=Z,15nm,1.0s							
KDAK	**Kodiak Island**	**38.15**	**48**	*e*P		**P**	**07 30 35.5**	**+0.7**
KDAK				pmax		pmax		
	comp=Z,15nm,1.0s							
MLY	**Manley**	**38.78**	**36**	*e*P		**P**	**07 30 40.4**	**+0.3**
TRF	**Thorofare Moun**	**38.96**	**39**	*e*P		**P**	**07 30 42.9**	**+1.1**
	comp=Z,4.9nm,1.2s							
BWN	**Browne**	**39.32**	**38**	*e*P		**P**	**07 30 45.0**	**+0.5**
	comp=Z,26nm,1.2s							
TOLK	**Toolik Lake Re**	**39.46**	**31**	*e*P		**P**	**07 30 46.1**	**+0.4**
	comp=Z,1.5nm,0.8s							
RND	**Reindeer**	**39.61**	**39**	*e*P		**P**	**07 30 47.0**	**+0.1**
	comp=Z,3.5nm,1.2s							
RND	**Reindeer**	**39.61**	**39**	*e*P		**P**	**07 30 47.1**	**+0.1**
RND				pmax		pmax		
	comp=Z,4.0nm,1.2s							
MDM	**Murphy Dome**	**39.84**	**36**	*e*P		**P**	**07 30 49.7**	**+0.8**
	comp=Z,5.7nm,1.2s							
KNK	**Knik Glacier**	**39.91**	**42**	*e*P		**P**	**07 30 50.2**	**+0.7**
	comp=Z,7.9nm,1.2s							
WRH	**Wood River Hil**	**39.91**	**37**	*e*P		**P**	**07 30 50.4**	**+0.9**
	comp=Z,1.3nm,0.9s							
SML	**Sawmill**	**39.93**	**41**	*e*P		**P**	**07 30 50.7**	**+1.0**
	comp=Z,10.0nm,1.1s							
SML	**Sawmill**	**39.93**	**41**	*e*P		**P**	**07 30 50.7**	**+1.0**
SML				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CCB	**Clear Creek Bu**	**40.03**	**37**	*e*P		**P**	**07 30 51.2**	**+0.8**
	comp=Z,2.7nm,1.1s							
DHY	**Denali Highway**	**40.29**	**39**	*e*P		**P**	**07 30 53.4**	**+0.6**
	comp=Z,1.5nm,0.8s							
SCM	**Sheep Creek Mo**	**40.41**	**41**	*e*P		**P**	**07 30 54.5**	**+0.8**
	comp=Z,5.2nm,1.0s							
SCM	**Sheep Creek Mo**	**40.41**	**41**	*e*P		**P**	**07 30 54.5**	**+0.8**
SCM				pmax		pmax		
	comp=Z,5.0nm,1.0s							
HDA	**Harding Lake**	**40.41**	**37**	*e*P		**P**	**07 30 53.7**	**+0.1**
	comp=Z,3.6nm,1.1s							
ILAR	**Eielson Array**	**40.42**	**37**	P		**P**	**07 30 53.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=261,slow=7.8,SNR=16							
ILAR				PcP		**PcP**	**07 32 54.9**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=287,slow=4.0,SNR=4.0							
ILB	**Eielson Array**	**40.42**	**37**	*e*P		**P**	**07 30 53.7**	**0.0**
IL1	**Eielson Array**	**40.42**	**37**	*e*P		**P**	**07 30 54.4**	**+0.7**
PRP	**Porcupine Dome**	**40.97**	**36**	*e*P		**P**	**07 30 59.4**	**+1.0**
	comp=Z,3.5nm,1.0s							
FYU	**Fort Yukon**	**41.05**	**34**	*e*P		**P**	**07 31 01.2**	**+2.4**
KLU	**Klutina**	**41.11**	**42**	*e*P		**P**	**07 31 00.2**	**+0.8**
	comp=Z,5.7nm,1.2s							
ZALV	**Zalesovo Beam**	**41.29**	**307**	PcP		**PcP**	**07 32 58.3**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=90,slow=1.6,SNR=8.0							
HARP	**HAARP**	**41.37**	**40**	*e*P		**P**	**07 31 02.9**	**+1.4**
	comp=Z,14nm,1.1s							
RIDG	**Independ'e Rid**	**41.38**	**38**	*e*P		**P**	**07 31 00.7**	**-0.9**
	comp=Z,7.7nm,1.2s							
SCRK	**Sand Creek**	**41.73**	**38**	*e*P		**P**	**07 31 04.5**	**-0.1**
	comp=Z,2.5nm,0.9s							
MENT	**Mentasta**	**41.96**	**39**	*e*P		**P**	**07 31 05.5**	**-0.9**
	comp=Z,1.9nm,1.0s							
WMQ	**Urumqi**	**42.66**	**291**	*e*P		**P**	**07 31 12.8**	**+0.5**
WMQ				LR		LR		
	comp=N,110nm,18.7s							
WMQ				LR		LR		
	comp=E,130nm,19.5s							
WMQ				LR		LR		
	comp=Z,180nm,20.5s							
EGAK	**Eagle**	**42.87**	**36**	*e*P		**P**	**07 31 13.7**	**+0.1**
	comp=Z,8.0nm,1.1s							
BALM	**Baldy**	**42.89**	**42**	P		**P**	**07 31 14.6**	**+0.6**
	comp=Z,4.3nm,1.1s							
BALM	**Baldy**	**42.89**	**42**	*e*P		**P**	**07 31 14.6**	**+0.6**
BALM				pmax		pmax		
	comp=Z,4.0nm,1.1s							
DAWY	**Dawson**	**43.73**	**37**	*e*P		**P**	**07 31 21.6**	**+0.9**
MK31	**Makanchi Array**	**45.04**	**297**	*e*P		**P**	**07 31 31.2**	**-0.2**
	comp=Z,1.4nm,0.7s							
MK31	**Makanchi Array**	**45.04**	**297**	*e*P		**P**	**07 31 31.2**	**-0.2**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.7s							
MK32	**Makanchi Array**	**45.04**	**297**	*e*P		**P**	**07 31 31.2**	**-0.2**
MK32				*e*PcP		**PcP**	**07 33 11.2**	**-0.3**
MKAR	**Makanchi Array**	**45.04**	**297**	P		**P**	**07 31 31.2**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=77,slow=8.4,SNR=8.5							
MKAR				PcP		**PcP**	**07 33 11.2**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=70,slow=4.5,SNR=11							
MKAR				LR		LR	07 51 38.5	
	comp=Z,102nm,18.4s,baz=310,slow=38							
MK01	**Makanchi Array**	**45.05**	**297**	*e*P		**P**	**07 31 30.7**	**-0.7**
MAKZ	**Makanchi**	**45.24**	**298**	*e*P		**P**	**07 31 33.2**	**+0.3**
	comp=Z,1.6nm,0.6s							
MAKZ	**Makanchi**	**45.24**	**298**	*e*P		**P**	**07 31 33.2**	**+0.3**
MAKZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
HYT	**Haines Junctio**	**45.24**	**42**	*e*P		**P**	**07 31 33.0**	**+0.1**
	comp=Z,8.3nm,1.0s							
INK	**Inuvik**	**45.38**	**31**	P		**P**	**07 31 33.6**	**0.0**
	comp=Z,1.0nm,0.4s,baz=302,slow=11,SNR=24							
KURK	**Kurchatov**	**45.87**	**304**	*e*P		**P**	**07 31 37.2**	**-0.6**
	comp=Z,0.1nm,0.4s							
KURK	**Kurchatov**	**45.87**	**304**	*e*P		**P**	**07 31 37.2**	**-0.6**
KURBB	**Kurchatov Arra**	**45.96**	**304**	P		**P**	**07 31 37.2**	**-1.3**
	baz=71,slow=8.4							
CMMT	**Chiang Mai**	**48.30**	**254**	P		**P**	**07 31 58.8**	**+1.6**
	comp=Z,10nm,0.4s							
CHTO	**Chiang Mai**	**48.31**	**254**	P		**P**	**07 31 58.9**	**+1.7**
	comp=Z,44nm,0.5s							
CMAR	**Chiang Mai Arr**	**48.55**	**254**	P		**P**	**07 31 59.6**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=63,slow=5.6,SNR=6.2							
CMAR				LR		LR	07 53 17.7	
	comp=Z,22nm,18.3s,baz=60,slow=37							
BVAR	**Borovoye Array**	**49.74**	**309**	PcP		**PcP**	**07 33 27.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=85,slow=1.6,SNR=5.3							
BRVK	**Borovoye**	**49.79**	**309**	*e*P		**P**	**07 32 07.1**	**-1.0**
BRVK	**Borovoye**	**49.79**	**309**	*i* P		**P**	**07 32 07.1**	**-1.0**
BRVK				pmax		pmax		
	comp=Z,1.0nm,1.1s							
TARG	**Taragay, Kyrgy**	**50.12**	**293**	*e*P		**P**	**07 32 11.7**	**+0.4**
	comp=Z,1.0nm,0.9s							
JIRN	**Jiri**	**51.77**	**273**	*e*P		**P**	**07 32 24.1**	**+0.3**
GUN	**Gumba**	**51.84**	**274**	*e*P		**P**	**07 32 24.4**	**+0.1**
	comp=Z,24nm,0.4s							
AAK	**Ala-Archa**	**51.85**	**296**	*e*P		**P**	**07 32 22.3**	**-1.6**
AAK	**Ala-Archa**	**51.85**	**296**	*i* P		**P**	**07 32 22.3**	**-1.6**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.9s							
RAMN	**Ramite**	**51.90**	**272**	*e*P		**P**	**07 32 24.5**	**-0.1**
	comp=Z,59nm,0.4s							
KKN	**Kakani**	**52.34**	**274**	*e*P		**P**	**07 32 28.1**	**+0.2**
PKI	**Pulchoki**	**52.38**	**273**	*e*P		**P**	**07 32 28.3**	**0.0**
PKIN	**Phulchoki**	**52.38**	**274**	*e*P		**P**	**07 32 28.1**	**-0.1**
KSH	**Kashi**	**52.42**	**292**	*e*P		P	07 32 34.7	+6.5
KSH				PcP		**PcP**	**07 33 42.5**	**+4.1**
KSH				S		**S**	**07 39 54.2**	**+3.6**
KSH				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KSH				pmax		pmax		
	comp=Z,81nm,5.2s							
KSH				LR		LR		
	comp=N,150nm,10.1s							
KSH				LR		LR		
	comp=E,120nm,7.1s							
KSH				LR		LR		
	comp=Z,110nm,10.3s							
DMN	**Daman**	**52.57**	**274**	*e*P		**P**	**07 32 29.8**	**+0.2**
	comp=Z,31nm,0.8s							
GKN	**Gorkha**	**52.68**	**274**	*e*P		**P**	**07 32 30.3**	**0.0**
DANN	**Dangsing**	**53.10**	**275**	*e*P		**P**	**07 32 34.1**	**+0.6**
KOLN	**Koldanda**	**53.55**	**275**	*e*P		**P**	**07 32 37.1**	**+0.3**
PYUN	**Piuthan**	**53.80**	**276**	*e*P		**P**	**07 32 38.7**	**+0.2**
RES	**Resolute Bay**	**54.06**	**17**	*e*P		**P**	**07 32 38.3**	**-1.2**
	comp=Z,0.7nm,0.8s							
RES	**Resolute Bay**	**54.06**	**17**	*e*P		**P**	**07 32 38.3**	**-1.2**
RES	**Resolute Bay**	**54.06**	**17**	*e*P		**P**	**07 32 38.3**	**-1.2**
RES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
KBS	**Kingsbay**	**54.26**	**351**	*e*P		**P**	**07 32 40.5**	**-0.4**
	comp=Z,19nm,0.6s							
KBS	**Kingsbay**	**54.26**	**351**	*e*P		**P**	**07 32 40.5**	**-0.4**
KBS				pmax		pmax		
	comp=Z,19nm,0.6s							
YKA	**Yellowknife Ar**	**54.75**	**34**	P		**P**	**07 32 44.8**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=300,slow=6.9,SNR=19							
GAR	**Garm**	**56.43**	**294**	*e*P		**P**	**07 32 56.8**	**-0.5**
	comp=Z,8.4nm,1.1s							
GAR	**Garm**	**56.43**	**294**	*e*P		**P**	**07 32 56.8**	**-0.5**
GAR				pmax		pmax		
	comp=Z,8.0nm,1.1s							
ABKAR	**Akbulak array**	**57.31**	**309**	*e*P		**P**	**07 33 02.5**	**-0.8**
	comp=Z,1.9nm,0.9s							
CHGR	**Chuyangaron**	**57.38**	**294**	*e*P		**P**	**07 33 03.6**	**-0.4**
	comp=Z,9.5nm,0.7s							
WALA	**Waterton Lakes**	**62.48**	**47**	*e*P		**P**	**07 33 39.8**	**+1.0**
	comp=Z,2.5nm,0.8s							
SUMG	**Summit**	**63.20**	**2**	*e*P		**P**	**07 33 43.3**	**-0.3**
SUMG	**Summit**	**63.20**	**2**	*e*P		**P**	**07 33 43.3**	**-0.3**
FFC	**Flin Flon**	**64.63**	**37**	*e*P		**P**	**07 33 53.2**	**+0.4**
	comp=Z,4.7nm,0.8s							
FFC	**Flin Flon**	**64.63**	**37**	*e*P		**P**	**07 33 53.8**	**+1.0**
FFC	**Flin Flon**	**64.63**	**37**	*ce*P		**P**	**07 33 53.8**	**+1.0**
FIA1	**FINESS Array S**	**64.66**	**333**	*e*P		**P**	**07 33 51.1**	**-1.7**
FIA0	**FINESS Array S**	**64.66**	**333**	*e*P		**P**	**07 33 50.0**	**-2.8**
FIA0	**FINESS Array S**	**64.66**	**333**	*e*P		**P**	**07 33 50.0**	**-2.8**
FINES	**FINESS Array B**	**64.66**	**333**	*e*P		**P**	**07 33 51.5**	**-1.3**
FINES	**FINESS Array B**	**64.66**	**333**	*e*P		**P**	**07 33 51.6**	**-1.3**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**64.66**	**333**	P		**P**	**07 33 50.0**	**-2.8**
	comp=Z,1.8nm,0.6s,baz=45,slow=5.1,SNR=9.3							
GEYT	**Alibeck**	**64.87**	**299**	P		**P**	**07 33 51.9**	**-2.8**
	comp=Z,1.9nm,0.4s,baz=30,slow=12,SNR=6.9							
FCC	**Fort Churchill**	**65.00**	**31**	*e*P		**P**	**07 33 54.7**	**-0.3**
	comp=Z,2.2nm,0.6s							
FCC	**Fort Churchill**	**65.00**	**31**	*e*P		**P**	**07 33 54.7**	**-0.3**
FCC				pmax		pmax		
	comp=Z,2.0nm,0.6s							
WB2	**Warramunga Arr**	**65.33**	**195**	*e*P		**P**	**07 33 57.3**	**-0.3**
WR1	**Warramunga Arr**	**65.33**	**195**	*e*P		**P**	**07 33 57.6**	**0.0**
	comp=Z,3.9nm,0.9s							
WRA	**Warramunga Arr**	**65.33**	**195**	P		**P**	**07 33 57.6**	**0.0**
	comp=Z,2.7nm,0.9s,baz=15,slow=6.8,SNR=12							
NV01	**Mina Array Sit**	**66.48**	**59**	*e*P		**P**	**07 34 04.2**	**-1.0**
NVAR	**Mina Array Bea**	**66.48**	**59**	P		**P**	**07 34 04.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=292,slow=7.1,SNR=7.6							
RLMT	**Red Lodge**	**67.42**	**48**	*e*P		**P**	**07 34 10.8**	**-0.3**
	comp=Z,8.9nm,0.6s							
PDAR	**Pinedale Array**	**68.80**	**51**	*e*P		**P**	**07 34 20.3**	**+0.4**
PDAR	**Pinedale Array**	**68.80**	**51**	P		**P**	**07 34 20.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=303,slow=2.1,SNR=6.8							
AS01	**Alice Springs**	**69.03**	**194**	*e*P		**P**	**07 34 22.6**	**+1.6**
ASAR	**Alice Springs**	**69.05**	**194**	P		**P**	**07 34 22.3**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=11,slow=6.1,SNR=18							
NC405	**NORSAR Array S**	**69.09**	**339**	*e*P		**P**	**07 34 19.0**	**-2.0**
NC204	**NORSAR Array S**	**69.19**	**340**	*e*P		**P**	**07 34 21.1**	**-0.6**
NB2	**NORSAR Subarra**	**69.28**	**339**	P		**P**	**07 34 21.2**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.5							
NB200	**NORSAR Array S**	**69.28**	**339**	*e*P		**P**	**07 34 20.7**	**-1.6**
NOA	**NORSAR Array B**	**69.28**	**339**	*e*P		**P**	**07 34 21.5**	**-0.7**
NOA	**NORSAR Array B**	**69.28**	**339**	*e*P		**P**	**07 34 21.5**	**-0.7**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
NOA	**NORSAR Array B**	**69.28**	**339**	P		**P**	**07 34 20.7**	**-1.6**
	comp=Z,1.3nm,0.4s,baz=30,slow=6.3,SNR=4.6							
KBZ	**Khabaz**	**70.00**	**312**	*e*P		**P**	**07 34 27.0**	**+0.2**
KBZ	**Khabaz**	**70.00**	**312**	P		**P**	**07 34 27.0**	**+0.2**
KBZ				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**70.00**	**312**	P		**P**	**07 34 27.0**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=94,slow=6.7,SNR=4.6							
ULM	**Lac du Bonnet**	**70.43**	**38**	P		**P**	**07 34 28.3**	**-1.1**
	comp=Z,1.9nm,0.5s,baz=316,slow=6.7,SNR=4.3							
GNI	**Garni**	**71.41**	**308**	*ce*P		**P**	**07 34 36.1**	**+0.3**
GNI				pmax		pmax		
	comp=Z,22nm,1.2s							
AKASG	**Malin Array Be**	**71.54**	**324**	P		**P**	**07 34 34.6**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=6.1,SNR=3.8							
STKA	**Stephens Creek**	**76.19**	**186**	P		**P**	**07 35 04.5**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=126,slow=18,SNR=4.0							
LANS	**Liptovska Anna**	**76.65**	**328**	*e*P		**P**	**07 35 05.0**	**-1.0**
LANS	**Liptovska Anna**	**76.65**	**328**	*e*P		**P**	**07 35 05.0**	**-1.0**
VYHS	**Vyhne**	**77.43**	**328**	*e*P		**P**	**07 35 10.4**	**0.0**
VYHS	**Vyhne**	**77.43**	**328**	*e*P		**P**	**07 35 10.4**	**0.0**
BR101	**Keskin Array S**	**77.70**	**314**	*e*P		**P**	**07 35 11.7**	**-0.5**
BRTR	**Keskin Array B**	**77.70**	**314**	*e*P		**P**	**07 35 11.7**	**-0.5**
	comp=Z,1.0nm,0.9s,baz=73,slow=5.2,SNR=3.5							
GERES	**GERESS Array B**	**78.98**	**331**	*e*P		**P**	**07 35 19.0**	**-0.1**
GERES	**GERESS Array B**	**78.98**	**331**	P		**P**	**07 35 18.3**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=64,slow=6.5,SNR=4.0							
TX31	**Lajitas Ar. Si**	**81.55**	**57**	*e*P		**P**	**07 35 33.2**	**0.0**
	comp=Z,2.3nm,1.0s							
TXAR	**Lajitas Array**	**81.55**	**57**	P		**P**	**07 35 33.6**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=298,slow=4.5,SNR=21							
TOA1	**Torodi Ar. Sit**	**115.17**	**324**	*e*PKiKP	**PKiKP**		**07 41 55.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**115.17**	**324**	PKP	**PKiKP**		**07 41 55.6**	**-1.2**
	comp=Z,0.5nm,1.0s,baz=27,slow=1.6,SNR=3.3							
PLCA	**Paso Flores**	**151.30**	**96**	*e*PKPbc	**PKPbc**		**07 43 08.0**	**-0.4**
PLCA	**Paso Flores**	**151.30**	**96**	PKPbc	**PKPbc**		**07 43 07.8**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=285,slow=2.0,SNR=7.1							
CPUP	**Villa Florida**	**152.52**	**57**	*e*PKPbc	**PKiKP**		**07 43 12.0**	**+0.3**
CPUP	**Villa Florida**	**152.52**	**57**	PKPbc	**PKPbc**		**07 43 11.5**	**+0.1**
	comp=Z,1.1nm,1.0s,baz=4.5,slow=4.4,SNR=2.8							

TAP 07 07:30:07.2, 24°.31N×121°.43E, h4km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.12**	**155**	*e*P		P	Pg	07 30 10.3	+0.7
	baz=162								
ETLH				*e*S		Sg		07 30 12.1	+1.0
	baz=162								
NNSB	**Datong**	**0.12**	**340**	P		P	Pg	07 30 10.1	+0.4
	baz=340								
NNS	**Nan Shan**	**0.14**	**338**	P		P	Pg	07 30 10.3	+0.4
	baz=341								
NNS				S		Sg		07 30 12.3	+0.5
	baz=341								
NACB	**Ninganchiao**	**0.21**	**132**	P		P	Pg	07 30 11.8	+0.6
	baz=132								
WHF	**Hehuan Shan**	**0.23**	**222**	P		P	Pg	07 30 12.2	+0.5
	baz=220								
TDCB	**Techi**	**0.25**	**256**	*e*P		P	Pg	07 30 12.7	+0.6
	baz=247								
TDCB				S		Sg		07 30 16.6	+1.1
	baz=247								
NDT	**Datong Townshi**	**0.30**	**15**	*e*P		P	Pg	07 30 13.7	+0.7
	baz=15								
NDT				*e*S		Sg		07 30 17.6	+0.8
	baz=15								
CHGB	**Renai**	**0.34**	**223**	P		P	Pg	07 30 14.2	+0.4
	baz=222								
ENTT	**Nioudou**	**0.35**	**21**	*e*P		P	Pb	07 30 15.0	-0.9
	baz=23								
YHNB	**Yeheng**	**0.36**	**352**	P		P	Pg	07 30 14.9	+0.9
	baz=353								
OWD	**Renai**	**0.43**	**213**	*e*P		P	Pg	07 30 15.6	+0.2
	baz=212								
WHP	**Taichung City**	**0.44**	**265**	*e*S		S	Sg	07 30 22.8	+1.4
	baz=265								
TWE	**Neicheng**	**0.46**	**28**	*e*P		P	Pg	07 30 16.4	+0.4
	baz=43								
NWLT	**Wulai**	**0.47**	**8**	*e*P		P	Pg	07 30 16.5	+0.4
	baz=356								
TWC	**Suao**	**0.48**	**52**	*e*P		P	Pg	07 30 16.3	-0.1
	baz=42								
ESL	**Shilin**	**0.50**	**179**	*e*P		P	Pg	07 30 17.4	+0.7
	baz=169								
VWDT	**VWDT**	**0.62**	**205**	*e*P		P	Pg	07 30 18.8	-0.2
	baz=212								

MAN 07 07:40:41.7, 9°.97N×123°.09E, h1km, mb4.2, ML3.0, MS2.7, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.64**	**167**	⇓ *i* P		P	Pg	07 40 54.2	+0.1
SNPH				*i* S		S	Sg	07 41 03.2	+0.8
TBP	**Tagbilaran**	**0.81**	**110**	*e*P		P	Pg	07 40 57.3	0.0
TBP				*i* S		S	Sb	07 41 09.7	-0.3
LLP	**Lapu-Lapu**	**0.93**	**68**	⇑ *e*P		P	Pg	07 40 59.6	+0.1
LLP				*e*S		S	Sb	07 41 13.3	-0.1
RCP	**Roxas**	**1.61**	**348**	⇑ *e*P		P	Pb	07 41 11.9	-0.5
RCP				*e*S		S	Sg	07 41 35.9	+2.2

TAP 07 07:44:20.2, 24°.32N×121°.43E, h7km, ML1.8, B, Taiwan

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

NACB	**Ninganchiao**	0.21	148	⇓P		Pg	07 57 18.9	+0.7
	baz=141								
NACB				S		Sg	07 57 22.1	+1.2
	baz=141								
NDT	**Datong Townshi**	0.25	8	P		Pg	07 57 19.4	+0.4
	baz=16								
NDT				*e*S		Sg	07 57 22.7	+0.4
	baz=16								
ENA	**Nanau**	0.25	73	⇑*i*P		Pg	07 57 19.7	+0.6
	baz=75								
ENA				*e*S		Sg	07 57 23.5	+1.0
	baz=75								
NANB	**Nanao**	0.26	73	⇑P		Pg	07 57 19.6	+0.4
	baz=75								
NANB				*e*S		Sg	07 57 23.4	+0.7
	baz=75								
WHF	**Hehuan Shan**	0.28	223	⇑*i*P		Pg	07 57 19.4	-0.3
	baz=206								
WHF				S		Sg	07 57 23.0	-0.6
	baz=206								
TWT	**Tachien**	0.29	250	P		Pg	07 57 19.6	-0.2
	baz=238								
TWT				S		Sg	07 57 23.6	-0.1
	baz=238								
TWD	**Chiawan**	0.29	158	*e*P		Pg	07 57 20.6	+0.8
	baz=150								
TWD				S		Sg	07 57 24.8	+1.1
	baz=150								
ENTT	**Nioudou**	0.30	16	⇑*i*P		Pg	07 57 20.4	+0.4
	baz=24								
ENTT				*i* S		Sg	07 57 24.7	+0.8
	baz=24								
TDCB	**Techi**	0.30	251	P		Pg	07 57 19.8	-0.3
	baz=244								
TDCB				S		Sg	07 57 23.4	-0.7
	baz=244								
YHNB	**Yeheng**	0.33	344	*e*Pg		Pg	07 57 20.9	+0.4
YHNB				*e*Sg		Sg	07 57 24.9	0.0
YHNB	**Yeheng**	0.33	344	P		Pg	07 57 20.9	+0.4
	baz=339								
YHNB				S		Sg	07 57 24.9	0.0
	baz=339								
NSK	**Sanguang**	0.34	342	P		Pg	07 57 20.9	+0.1
	baz=338								
NSK				S		Sg	07 57 25.3	0.0
	baz=338								
HWA	**Hwalien**	0.39	162	*e*P		Pb	07 57 22.8	-0.8
	baz=156								
HWA				*e*S		Sb	07 57 28.7	-1.2
	baz=156								
CHGB	**Renai**	0.40	223	⇑P		Pg	07 57 21.5	-0.4
	baz=218								
CHGB				*e*S		Sg	07 57 27.2	0.0
	baz=218								
TWE	**Neicheng**	0.41	26	⇑*i*P		Pg	07 57 22.5	+0.5
	baz=45								
TWE				S		Sb	07 57 28.4	-1.9
	baz=45								
NWLT	**Wulai**	0.42	3	P		Pg	07 57 22.8	+0.5
	baz=2.0								
NWLT				*e*S		Sg	07 57 27.8	-0.1
	baz=2.0								
TWC	**Suao**	0.43	53	⇑*i*P		Pg	07 57 22.6	+0.2
	baz=57								
TWC				S		Sg	07 57 28.4	+0.5
	baz=57								
ENLB	**Shoufeng**	0.46	165	P		Pg	07 57 23.6	+0.6
	baz=161								
ENLB				*e*S		Sg	07 57 29.7	+0.7
	baz=161								
ILA	**Ilan**	0.48	31	*e*P		Pg	07 57 23.3	-0.1
	baz=44								
OWD	**Renai**	0.48	215	⇑*i*P		Pg	07 57 22.8	-0.6
	baz=209								
OWD				*e*S		Sg	07 57 28.6	-1.1
	baz=209								
WHP	**Taichung City**	0.49	261	⇑P		Pg	07 57 23.8	+0.3
	baz=260								
WHP				*e*S		Sg	07 57 29.4	-0.5
	baz=260								
LIOB	**Emei**	0.51	305	P		Pg	07 57 23.3	-0.7
	baz=309								
LIOB				S		Sg	07 57 30.2	-0.3
	baz=309								
NSTT	**Nanjuang**	0.51	303	⇑*i*P		Pg	07 57 24.6	+0.6
	baz=306								
NSTT				S		Sg	07 57 31.0	+0.3
	baz=306								
WLTB	**Daxi**	0.54	338	⇓P		Pb	07 57 25.7	-0.3
	baz=351								
WLTB				S		Sg	07 57 32.7	+1.2
	baz=351								
ESL	**Shilin**	0.54	184	⇑P		Pg	07 57 24.5	0.0
	baz=178								
ESL				*e*S		Sg	07 57 30.6	-0.8
	baz=178								
NTC	**Toucheng**	0.59	33	*e*P		Pg	07 57 25.6	+0.1
	baz=45								
NHDH	**Xindian Distri**	0.61	4	*e*P		Pb	07 57 27.0	-0.3
	baz=21								
NHDH				*e*S		Sg	07 57 34.4	+0.6
	baz=21								
TATO	**Taipei**	0.62	1	*e*Pg		Pb	07 57 26.8	-0.6
TATO				*e*Pn		Pn	07 57 35.2	+5.6
TATO	**Taipei**	0.62	1	⇑P		Pb	07 57 27.0	-0.5
	baz=17								
TATO				S		Sg	07 57 34.2	+0.1
	baz=17								
SBCB	**Hsinchu**	0.62	315	*e*P		Pg	07 57 26.1	-0.1
	baz=317								
EOS1	**EOS1**	0.63	72	*e*P		Pb	07 57 27.1	-0.4
	baz=64								
EOS1				*e*S		Sb	07 57 36.4	-0.2
	baz=64								
TWA	**Mucha**	0.63	9	*e*P		Pb	07 57 27.1	-0.6
	baz=14								
TWA				*e*S		Sg	07 57 35.0	+0.4
	baz=14								
TWQ1	**Liyutan**	0.64	270	⇑P		Pg	07 57 27.0	+0.6
	baz=269								
TWQ1				*e*S		Sg	07 57 34.3	-0.5
	baz=269								
NMLH	**Miaoli**	0.65	287	*e*P		Pg	07 57 27.4	+0.8
	baz=287								
NSY	**Sanyi**	0.65	276	P		Pg	07 57 27.6	+0.9
	baz=276								
NCUH	**Zhongli**	0.67	337	*e*P		Pb	07 57 28.2	0.0
	baz=339								
NCU	**National Centr**	0.67	337	*e*P		Pb	07 57 28.0	-0.2
	baz=340								
VWDT	**VWDT**	0.67	207	⇑P		Pg	07 57 26.2	-0.7
	baz=208								
VWDT				*e*S		Sg	07 57 35.3	-0.3
	baz=208								
EGFH	**Guangfu**	0.68	184	*e*P		Pg	07 57 27.2	0.0
	baz=181								
TAP	**Taipei**	0.68	2	*e*P		Pb	07 57 28.5	0.0
	baz=358								
TIPB	**Shuangxi**	0.69	27	P		Pg	07 57 27.6	+0.1
	baz=18								
TIPB				*e*S		Sg	07 57 36.5	0.0
	baz=18								
SMLT	**Sun Moon Lake**	0.70	228	⇑*i*P		Pg	07 57 27.3	-0.3
	baz=215								
SMLT				*e*S		Sg	07 57 37.5	+0.7
	baz=215								
PTSB	**Yuanli**	0.71	278	*e*P		Pb	07 57 29.1	+0.1
	baz=278								
PTSB				S		Sg	07 57 38.1	+1.2
	baz=278								
TYC	**Yuchr**	0.72	232	⇑P		Pg	07 57 27.6	-0.3
	baz=239								
SSLB	**Suanglung**	0.74	220	*e*Pg		Pg	07 57 27.4	-0.8
SSLB				*e*Sg		Sg	07 57 37.6	-0.2
SSLB	**Suanglung**	0.74	220	⇑P		Pg	07 57 27.4	-0.8
	baz=218								
TWS1	**Kuangyinshan**	0.75	356	*e*P		Pb	07 57 29.8	+0.2
	baz=352								
TCU	**Taichung**	0.76	255	⇑*e*P		Pg	07 57 29.2	+0.6
	baz=253								
WDJ	**Dajia District**	0.76	270	*e*P		Pb	07 57 30.1	+0.2
	baz=269								
NWF	**Wu-fen Shan**	0.77	21	*e*P		Pb	07 57 29.3	-0.8
	baz=23								
WFSB	**Wu-fen Shan**	0.77	21	*e*P		Pg	07 57 29.2	+0.3
	baz=25								
WFSB				S		Sb	07 57 39.4	-1.3
	baz=25								
YM01	**YM01**	0.80	6	P		Pb	07 57 30.5	0.0
	baz=8.0								
YM04	**YM04**	0.80	4	*e*P		Pb	07 57 30.2	-0.3
	baz=21								
TWB1	**Santiao Chiao**	0.80	36	*e*P		Pg	07 57 29.1	-0.4
	baz=45								
NTST	**Danshui**	0.81	358	*e*P		Pb	07 57 30.1	-0.5
YM05	**YM05**	0.81	6	⇑P		Pb	07 57 30.6	-0.2
	baz=8.0								
YM11	**YM11**	0.81	6	*e*P		Pb	07 57 30.8	-0.1
	baz=8.0								
ANP	**Anpu**	0.83	3	*e*P		Pb	07 57 31.0	-0.1
	baz=20								
YM08	**YM08**	0.84	7	*e*P		Pb	07 57 30.6	-0.6
	baz=9.0								
EHY	**Hungye**	0.85	189	*e*P		Pg	07 57 29.8	-0.8
	baz=180								
EHY				*e*S		Sg	07 57 41.9	+0.3
	baz=180								
HGSD	**Ruisui**	0.86	183	⇑P		Pg	07 57 30.9	+0.3
	baz=185								
HGSD				*e*S		Sb	07 57 43.1	-0.2
	baz=185								
WJS	**Zhushan**	0.86	232	*e*P		Pg	07 57 30.8	+0.2
	baz=231								
WHYT	**Xinyi Township**	0.87	221	*e*P		Pg	07 57 29.6	-1.2
	baz=219								
WCHH	**Zhanghua**	0.88	252	*e*P		Pb	07 57 32.2	+0.3
	baz=251								
TWY	**Chenhua**	0.93	7	*e*P		Pb	07 57 32.7	+0.1
	baz=9.0								
YULB	**Yu-li**	0.97	190	*e*Pg		Pg	07 57 32.0	-0.8
YULB				*e*Sg		Sg	07 57 44.1	-1.3
YULB	**Yu-li**	0.97	190	⇑P		Pg	07 57 32.1	-0.6
	baz=174								
YULB				S		Sg	07 57 45.2	-0.1
	baz=174								
YUS	**Yu-Shan**	0.98	209	*e*P		Pg	07 57 31.8	-1.2
	baz=194								
TWF1	**Yuli**	1.01	189	P		Pg	07 57 33.2	-0.3
	baz=175								
TWF1				*e*S		Sg	07 57 46.6	0.0
	baz=175								
ALS	**Alishan**	1.04	216	⇑P		Pg	07 57 33.2	-0.9
	baz=222								
CHN5	**Tsauling**	1.05	224	*e*P		Pg	07 57 34.5	+0.2
	baz=220								
CHN5				*e*S		Sg	07 57 48.4	+0.6
	baz=220								
WGK	**Gukeng**	1.07	232	*e*P		Pg	07 57 35.0	+0.4
	baz=230								
WDLH	**Douliu**	1.08	233	*e*P		Pg	07 57 35.1	+0.2
	baz=231								
RLNB	**Erlin**	1.12	246	P		Pb	07 57 35.7	-0.2
	baz=242								
RLNB				S		Sn	07 57 52.0	-0.1
	baz=242								
FULB	**Fuli**	1.16	188	P		Pb	07 57 36.3	-0.4
	baz=193								
FULB				S		Sn	07 57 52.7	-0.6
	baz=193								
WTCT	**Ta-ch'eng**	1.19	246	*e*P		Pb	07 57 36.8	-0.4
	baz=244								
CHN2	**Minshiung**	1.23	228	*e*P		Pb	07 57 37.8	+0.1
	baz=224								
CHN2				*e*S		Sn	07 57 55.1	+0.3
	baz=224								
ELDTW	**Lidau**	1.23	200	*e*P		Pn	07 57 36.6	-1.5
	baz=187								
CHKT	**Chengkung**	1.25	185	*e*P		Pn	07 57 37.4	-0.9
	baz=168								
CHN4	**Tsaushan**	1.28	219	⇑P		Pb	07 57 38.8	0.0
	baz=214								
CHN4				*e*S		Sn	07 57 58.0	+1.7
	baz=214								
CHY	**Chiayi**	1.28	229	*e*P		Pb	07 57 38.8	0.0
	baz=243								
TPUB	**Ta-pu**	1.30	217	*e*Pn		Pn	07 57 38.6	-0.4
TPUB				*e*Sg		Sb	07 57 53.4	-2.7
TPUB	**Ta-pu**	1.30	217	P		Pn	07 57 38.6	-0.4
	baz=212								
TPUB				*e*S		Sg	07 57 57.4	+1.4
	baz=212								
JYNG	**Yonagunijimaku**	1.34	86	P		Pg	07 57 40.1	+0.2
JYNG				*e*S		Sg	07 57 58.2	+0.8
WSF	**Szhu**	1.35	238	*e*P		Pn	07 57 38.8	-0.8
	baz=237								
STYT	**Tauyuan**	1.35	209	*e*P		Pn	07 57 39.7	0.0
	baz=218								
STYT				*e*S		Sn	07 57 57.9	-0.2
	baz=218								
WTP	**Ta-pu**	1.35	216	*e*P		Pn	07 57 39.3	-0.4
	baz=210								
WTP				*e*S		Sg	07 57 58.8	+1.2
	baz=210								
PCYT	**Pengchaiyu**	1.38	23	*e*P		Pn	07 57 39.5	-0.5
	baz=7.0								
WLGB	**Puzi**	1.38	231	*e*P		Pn	07 57 39.0	-1.1
	baz=230								
YOJ	**Yonaguni jima**	1.41	85	*e*Pn		Pg	07 57 40.6	-0.5
YOJ				*e*Sn		Sb	07 57 56.8	-2.3
YOJ	**Yonaguni jima**	1.41	85	⇑P		Pg	07 57 40.6	-0.5
	baz=76								
YOJ				*e*S		Sn	07 57 58.4	-0.9
	baz=76								
YOJ	**Yonaguni jima**	1.41	85	P		Pg	07 57 40.8	-0.3
YOJ				*e*S		Sg	07 58 00.2	+0.9
TWK	**Hsinying**	1.41	220	*e*P		Pb	07 57 40.8	-0.1
	baz=215								
TWK				*e*S		Sg	07 58 00.5	+1.0
	baz=215								
SNST	**Tainan City**	1.44	219	*e*P		Pg	07 57 41.9	+0.1
	baz=216								
CHN1	**Nanshi**	1.45	217	⇑P		Pb	07 57 41.5	-0.1
	baz=212								
CHN1				*e*S		Sg	07 58 02.2	+1.5
	baz=212								
CHN8	**Yiju**	1.53	229	*e*P		Pn	07 57 42.1	+0.1
	baz=237								
CHN8				*e*S		Sb	07 58 03.3	+0.7
	baz=237								
SLGT	**Liugui**	1.55	209	*e*P		Pn	07 57 42.8	+0.4
	baz=194								
SLGT				*e*S		Sg	07 58 05.8	+1.8
	baz=194								
TWG	**Pinlang**	1.57	194	*e*Pn		Pb	07 57 43.0	-0.6
TWG				*e*Sn		Sb	07 58 04.2	+0.4
TWG	**Pinlang**	1.57	194	*e*P		Pn	07 57 42.5	-0.1
	baz=173								
TWGBT	**Beinan**	1.57	193	*e*P		Pn	07 57 42.1	-0.5
	baz=173								
TTN	**Taitung**	1.62	191	*e*P		Pn	07 57 43.5	+0.2
	baz=171								
CHN3	**Shinhua**	1.63	219	*e*P		Pb	07 57 44.5	-0.1
	baz=216								
SCLT	**Jiali**	1.66	225	*e*P		Pn	07 57 44.2	+0.4
	baz=220								
SCLT				*e*S		Sg	07 58 08.0	+0.5
	baz=220								
TWM1	**Shoushan**	1.80	213	*e*P		Pb	07 57 46.8	-0.8
	baz=210								
ECL	**Taimali**	1.81	195	*e*P		Pb	07 57 47.0	-0.7
	baz=180								
ECL				*e*S		Sb	07 58 11.0	+0.2
	baz=180								
MASBT	**Mashibuluo**	1.90	204	⇑P		Pb	07 57 48.8	-0.4
	baz=219								
MASBT				*e*S		Sb	07 58 12.5	-0.7
	baz=219								
PNG	**Penghu**	1.92	246	*e*P		Pn	07 57 47.6	+0.1
	baz=246								
PTTC	**Pingtan**	1.92	307	*e*P		Pn	07 57 47.5	0.0
	baz=305								
PHUB	**P'eng-hu**	1.93	245	*e*P		Pn	07 57 46.7	-0.9
	baz=244								
VWUC	**VWUC**	1.95	289	*e*P		Pn	07 57 46.2	-1.6
	baz=287								
WDGT	**Dungji**	1.99	237	*e*P		Pn	07 57 48.3	-0.1
	baz=235								
SSPT	**Xinbi**	2.04	204	*e*P		Pb	07 57 50.4	-1.2
	baz=221								
EAST	**Anshuo**	2.04	196	*e*P		Pb	07 57 51.6	-0.1
	baz=193								
IRIF	**Iriomote-Funau**	2.06	90	P		Pn	07 57 49.3	0.0
IRIF				S		Sb	07 58 16.1	-1.7
SCZT	**Fangliau**	2.12	202	*e*P		Pb	07 57 51.9	-1.2
	baz=217								
HATJ	**Hateruma jima**	2.15	97	P		Pb	07 57 51.9	-1.6
HATJ				*e*S		Sb	07 58 20.2	-0.2
VCHM	**Qimei**	2.19	239	*e*P		Pn	07 57 50.6	-0.6
	baz=238								
PTMZ	**Houxiangcun**	2.25	288	*e*P		Pn	07 57 50.7	-1.3
	baz=285								
MATB	**Ma-tsu**	2.26	323	*e*P		Pn	07 57 50.6	-1.6
	baz=320								
LAY	**Lan-yu**	2.30	178	*e*P		Pn	07 57 52.4	-0.4
	baz=164								
JKRS	**Kuro-shima**	2.32	92	P		Pb	07 57 54.4	-2.0
JKRS				*e*S		Sb	07 58 23.1	-2.2
JIJ	**Ishigaki jima**	2.43	89	P		Pn	07 57 55.1	+0.6
JIJ				*e*S		Sb	07 58 25.9	-2.8
TWK1	**Hengchun**	2.48	195	*e*P		Pb	07 57 57.5	-1.6
	baz=176								
TWKBT	**Hengchun**	2.48	194	*e*P		Pn	07 57 56.3	+1.2
	baz=176								
TSEB	**Hengchuen, Pin**	2.50	192	*e*P		Pb	07 57 57.7	-1.7
	baz=176								
JISG	**Ishigakijimahi**	2.59	84	P		Pn	07 57 58.0	+1.3
JISG				*e*S		Sn	07 58 29.4	+0.8
LYJJ	**Jianjiangzhen**	2.68	325	*e*P		Pn	07 57 56.8	-1.1
	baz=323								
KNM	**Kinmen**	2.77	272	*e*P		Pn	07 57 59.8	+0.6
	baz=271								
MHZQ	**Yeshan**	2.82	309	*e*P		Pn	07 57 59.4	-0.4
	baz=306								
XPSS	**Dashiqiu**	2.82	336	*e*P		Pn	07 57 59.0	-0.8
	baz=335								
JTJ	**Tarama**	2.95	84	P		Pn	07 58 03.7	+2.0
JTJ				*e*S		Sb	07 58 39.5	-4.2
AXDP	**Jialang**	3.23	280	*e*P		Pn	07 58 04.8	-0.8
	baz=278								
ZPLA	**Ao Xicun**	3.43	264	*e*P		Pn	07 58 06.8	-1.4
	baz=264								
ZZJH	**Jiuhuzhen**	3.51	273	*e*P		Pn	07 58 09.8	+0.6
	baz=273								
KSRS	**Korea Array**	14.18	21	LR		LR	08 06 44.8		
	comp=Z,25nm,18.7s,baz=335,slow=41								
CMAR	**Chiang Mai Arr**	21.77	259	P		P	08 02 09.5	+2.6
	0.7nm,0.3s,baz=57,slow=8.7,SNR=2.4								
SONA0	**Songino Array**	26.32	337	*e*P		P	08 02 52.1	+1.2
SONM	**Songino Array**	26.32	337	P		P	08 02 52.1	+1.2
	3.3nm,0.8s,baz=156,slow=9.6,SNR=19								
MK01	**Makanchi Array**	38.39	316	*e*P		P	08 04 37.4	+1.1
MK31	**Makanchi Array**	38.40	316	*e*P		P	08 04 36.4	0.0
	2.1nm,0.9s								
MK32	**Makanchi Array**	38.40	316	*e*P		P	08 04 37.4	+1.0
MKAR	**Makanchi Array**	38.40	316	P		P	08 04 37.4	+1.0
	2.0nm,0.7s,baz=109,slow=9.8,SNR=20								
MAKZ	**Makanchi**	38.61	316	*e*P		P	08 04 39.2	+1.1
	3.1nm,0.9s								
ZAA0	**Zalesovo Array**	40.25	327	*e*P		P	08 04 51.7	0.0
	3.2nm,0.8s								
ZALV	**Zalesovo Beam**	40.25	327	*e*P		P	08 04 51.5	-0.2
ZALV	**Zalesovo Beam**	40.25	327	P		P	08 04 51.8	+0.1
	3.3nm,0.8s,baz=115,slow=8.5,SNR=12								
ZAA1	**Zalesovo Array**	40.25	327	*e*P		P	08 04 51.8	0.0
NRN	**Naryn**	41.30	306	*e*P		P	08 04 59.1	-1.9
	5.6nm,0.4s								
WR1	**Warramunga Arr**	45.78	163	*e*P		P	08 05 35.0	-1.9
	4.5nm,1.1s								
WRA	**Warramunga Arr**	45.78	163	P		P	08 05 35.0	-1.9
	0.6nm,0.8s,baz=344,slow=8.8,SNR=4.0								
BRVK	**Borovoye**	47.78	321	*e*P		P	08 05 53.4	+1.2
	2.5nm,0.7s								
ASAR	**Alice Springs**	49.23	165	P		P	08 06 04.2	+0.4
	0.4nm,0.8s,baz=340,slow=6.9,SNR=3.7								
FIA0	**FINESS Array S**	71.43	330	*e*P		P	08 08 35.4	+0.2
FINES	**FINESS Array B**	71.43	330	P		P	08 08 35.4	+0.2
	3.7nm,1.1s,baz=61,slow=6.5,SNR=5.3								
AKASG	**Malin Array Be**	72.92	318	P		P	08 08 44.4	+0.1
	0.3nm,0.4s,baz=57,slow=6.8,SNR=2.0								
BR101	**Keskin Array S**	73.29	306	*e*P		P	08 08 47.5	+0.6
BRTR	**Keskin Array B**	73.29	306	P		P	08 08 47.5	+0.6
	0.7nm,0.9s,baz=91,slow=7.2,SNR=2.4								
NVAR	**Mina Array Bea**	96.13	43	P		P	08 10 43.6	+0.1
	0.2nm,0.5s,baz=282,slow=4.5,SNR=1.9								

MEX 07 08:01:03.1±0.4, 18°23N×99°64W, h5km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PLIG	**Platanillo**	0.21	40	*e*P		Pg	08 01 06.5	-0.7
PLIG				*i* S		Sg	08 01 09.9	-0.1
MEIG	**Mezcala**	0.30	176	*i* P		Pg	08 01 08.4	-0.7
MEIG				*i* S		Sg	08 01 13.3	+0.2
ARIG	**Puente Sto Nin**	0.67	274	*e*P		Pg	08 01 14.7	-1.3
ARIG				*e*S		Sg	08 01 24.7	-0.1
YAIG	**Yautepec**	0.83	41	*e*P		Pg	08 01 17.7	-1.4
YAIG				*i* S		Sg	08 01 29.7	-0.2
TLIG	**Tlapa**	1.22	123	*e*P		Pg	08 01 24.0	-2.6
TLIG				*i* S		Sg	08 01 39.1	-3.3
CAIG	**El Cayaco**	1.32	207	*e*P		Pn	08 01 25.1	-3.1
CAIG				*i* S		Sg	08 01 41.0	-4.6
ZIIG	**Zihuatanejo**	1.84	251	*e*P		Pn	08 01 31.6	-3.8
ZIIG				*i* S		Sn	08 01 55.1	-4.0
MOIG	**Morelia**	2.05	315	*i* P		Pn	08 01 35.2	-3.3
MOIG				*e*S		Sn	08 02 00.2	-4.4
PNIG	**Pinotepa**	2.33	141	*i* P		Pn	08 01 39.1	-3.1
PNIG				*e*S		Sn	08 02 07.1	-4.2
MMIG	**Aquila**	3.52	271	*i* P		Pn	08 01 56.5	-2.0
MMIG				*i* S		Sn	08 02 37.1	-3.4

NIED ***07*** *08:07:00, 24.°30N×121.°40E, h5km, Mw4.2 Best double couple: M0 2.64000×10^15 NP1:φ=177.00000°, δ40.00000°, λ-58.00000°. NP2:φ=317.00000°, δ57.00000°, λ-114.00000°.*

IDC ***07*** *08:07:19.8±0.7, 24.°32N×121.°74E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.1/47, mbtmp4.2/14, MS3.4/9, Ms1 3.4/9, ms1mx3.1/46, Error ellipse: s-maj=26.7km s-min=15.6km az=69.0*

JMA ***07*** *08:07:20.8±0.2, 24.°33N×121.°42E, h3km±3km, M4.3*

TAP ***07*** *08:07:21.0, 24.°34N×121.°45E, h6km, ML4.6,C*

ISCJB ***07*** *08:07:21.7±0.2, 24.°359N±0.°008×121.°46E±0.°01, h7km±1km, mb4.4/43, MS3.5/8, Error ellipse: s-maj=1.8km s-min=1.2km az=28.8*

NEIC ***07*** *08:07:22.0±0.4, 24.°32N×121.°57E, h10km, mb4.4/15, Error ellipse: s-maj=8.6km s-min=5.6km az=90.0*

BJI ***07*** *08:07:22.9, 24.°31N×121.°44E, h22km, mb4.3/32, mB4.6/21, ML4.4/6, Ms4.1/26, Ms7 4.0/24*

MOS ***07*** *08:07:24.3±1.1, 24.°38N

	baz=151						
TWD				eS	Sb	08 07 32.0	-2.2
	baz=151						
TDCB	Techi	0.29	254	⇑P	Pg	08 07 27.3	-0.4
	baz=242						
TDCB				S	Sg	08 07 30.7	-0.9
	baz=242						
ENTT	Nioudou	0.32	17	⇑iP	Pg	08 07 28.0	-0.3
	baz=12						
ENTT				S	Sg	08 07 32.5	-0.1
	baz=12						
YHNB	Yeheng	0.34	347	ePg	Pg	08 07 28.5	-0.3
YHNB				eSg	Sg	08 07 33.3	-0.1
YHNB	Yeheng	0.34	347	⇑P	Pg	08 07 28.5	-0.3
	baz=350						
YHNB				S	Sg	08 07 32.5	-0.8
	baz=350						
NSK	Sanguang	0.35	345	P	Pg	08 07 28.7	-0.3
	baz=348						
NSK				S	Sg	08 07 32.8	-0.9
	baz=348						
CHGB	Renai	0.38	224	⇑P	Pg	08 07 28.8	-0.7
	baz=221						
CHGB				S	Sg	08 07 34.7	+0.2
	baz=221						
HWA	Hwalien	0.38	160	eP	Pb	08 07 29.9	-1.1
	baz=145						
TWE	Neicheng	0.43	26	⇑iP	Pg	08 07 30.1	-0.3
	baz=41						
TWE				eS	Sg	08 07 35.8	-0.2
	baz=41						
NWLT	Wulai	0.44	5	P	Pg	08 07 30.4	-0.2
	baz=1.0						
NWLT				S	Sg	08 07 35.5	-0.9
	baz=1.0						
ENLB	Shoufeng	0.45	163	eP	Pb	08 07 30.9	-1.3
	baz=148						
TWC	Suao	0.45	52	⇑iP	Pg	08 07 30.2	-0.5
	baz=44						
TWC				S	Sg	08 07 36.3	-0.2
	baz=44						
OWD	Renai	0.46	215	⇑iP	Pg	08 07 30.1	-0.8
	baz=212						
OWD				eS	Sg	08 07 36.0	-0.9
	baz=212						
WHP	Taichung City	0.47	263	⇑iP	Pb	08 07 31.2	-1.5
	baz=262						
WHP				eS	Sg	08 07 37.3	-0.1
	baz=262						
ILA	Ilan	0.50	31	⇑iP	Pg	08 07 31.5	-0.2
	baz=44						
ILA				S	Sb	08 07 38.9	-1.8
	baz=44						
LIOB	Emei	0.51	307	⇑P	Pg	08 07 30.7	-1.2
	baz=310						
LIOB				eS	Sg	08 07 37.6	-1.0
	baz=310						
NSTT	Nanjuang	0.51	305	⇑iP	Pb	08 07 32.0	-1.4
	baz=308						
NSTT				iS	Sg	08 07 38.5	-0.1
	baz=308						
ESL	Shilin	0.52	183	eP	Pb	08 07 31.8	-1.6
	baz=169						
WLTB	Daxi	0.55	340	⇑P	Pb	08 07 33.3	-0.7
	baz=342						
WLTB				eS	Sb	08 07 40.4	-1.7
	baz=342						
NTC	Toucheng	0.62	33	⇑eP	Pg	08 07 33.3	-0.6
	baz=46						
TWQ1	Liyutan	0.63	271	⇑iP	Pb	08 07 34.4	-0.9
	baz=273						
NHDH	Xindian Distri	0.63	5	eP	Pb	08 07 34.4	-0.9
	baz=7.0						
NHDH				eS	Sg	08 07 42.1	-0.2
	baz=7.0						
SBCB	Hsinchu	0.63	317	⇑P	Pb	08 07 35.1	-0.3
	baz=318						
SBCB				eS	Sb	08 07 44.0	-0.3
	baz=318						
TATO	Taipei	0.64	2	ePg	Pb	08 07 34.4	-1.1
TATO				ePn	Pn	08 07 42.4	+4.9
TATO	Taipei	0.64	2	⇑P	Pb	08 07 34.4	-1.1
	baz=355						
EOS1	EOS1	0.64	70	⇑P	Pb	08 07 34.5	-1.1
	baz=59						
EOS1				eS	Sb	08 07 44.9	+0.1
	baz=59						
NMLH	Miaoli	0.64	288	⇑P	Pb	08 07 35.2	-0.3
	baz=290						
NMLH				eS	Sb	08 07 43.8	-0.9
	baz=290						
NSY	Sanyi	0.64	277	⇑iP	Pb	08 07 35.2	-0.4
	baz=278						
NSY				eS	Sb	08 07 43.4	-1.4
	baz=278						
VWDT	VWDT	0.65	207	⇑P	Pg	08 07 33.6	-0.9
	baz=210						
VWDT				eS	Sg	08 07 42.0	-0.9
	baz=210						
TWA	Mucha	0.65	10	⇑P	Pb	08 07 34.6	-1.1
	baz=12						
TWA				S	Sg	08 07 42.8	-0.4
	baz=12						
EGFH	Guangfu	0.66	183	eP	Pb	08 07 34.5	-1.4
	baz=182						
EGFH				eS	Sg	08 07 43.3	-0.1
	baz=182						
EGS		0.67	40	⇑iP	Pb	08 07 34.5	-1.4
	baz=42						
NCUH	Zhongli	0.68	338	eP	Pn	08 07 36.1	-1.9
	baz=339						
NCU	National Centr	0.68	339	eP	Pn	08 07 36.5	-1.6
	baz=350						
NCU				eS	Sb	08 07 46.1	+0.2
	baz=350						
SMLT	Sun Moon Lake	0.68	229	⇑iP	Pb	08 07 34.7	-1.6
	baz=227						
SMLT				eS	Sg	08 07 43.3	-0.8
	baz=227						
PTSB	Yuanli	0.70	279	⇑iP	Pn	08 07 36.6	-1.8
	baz=280						
PTSB				S	Sb	08 07 45.8	-0.5
	baz=280						
TYC	Yuchr	0.70	232	⇑iP	Pg	08 07 34.7	-0.7
	baz=241						
TAP	Taipei	0.70	3	eP	Pb	08 07 35.7	-0.9
	baz=18						
TAP				eS	Sb	08 07 45.0	-1.5
	baz=18						
SSLB	Suanglung	0.71	221	ePg	Pg	08 07 34.7	-1.0
SSLB				ePn	Pn	08 07 42.9	+4.4
SSLB	Suanglung	0.71	221	⇑P	Pg	08 07 34.7	-1.0
	baz=218						
SSLB				eS	Sb	08 07 45.3	-1.5
	baz=218						
TIPB	Shuangxi	0.72	27	⇑iP	Pg	08 07 35.2	-0.6
	baz=16						
TIPB				S	Sg	08 07 43.9	-1.3
	baz=16						
TCU	Taichung	0.74	256	⇑iP	Pn	08 07 37.2	-1.7
	baz=254						
TCU				eS	Sn	08 07 49.3	-1.1
	baz=254						
WDJ	Dajia District	0.75	271	⇑iP	Pn	08 07 37.5	-1.5
	baz=272						
TWS1	Kuangyinshan	0.76	357	P	Pn	08 07 37.5	-1.7
	baz=357						
NWF	Wu-fen Shan	0.79	22	eP	Pb	08 07 36.8	-1.3
	baz=23						
WFSB	Wu-fen Shan	0.79	22	⇑P	Pb	08 07 36.8	-1.2
	baz=22						
WFSB				eS	Sg	08 07 47.1	-0.3
	baz=22						
YM01	YM01	0.81	7	⇑P	Pb	08 07 38.0	-0.5
	baz=9.0						
YM01				S	Sb	08 07 48.2	-1.6
	baz=9.0						
YM04	YM04	0.82	5	P	Pb	08 07 38.0	-0.6
	baz=21						
YM04				eS	Sb	08 07 50.1	+0.3
	baz=21						
TWB1	Santiao Chiao	0.82	35	⇑P	Pg	08 07 36.9	-1.0
	baz=46						
TWB1				S	Sg	08 07 47.4	-1.2
	baz=46						
NTST	Danshui	0.83	359	eP	Pb	08 07 38.2	-0.5
	baz=15						
YM05	YM05	0.83	6	⇑P	Pb	08 07 38.2	-0.6

	baz=8.0						
EHY	Hungye	0.83	189	eP	Pb	08 07 37.5	-1.3
	baz=180						
EHY				eS	Sb	08 07 50.0	-0.3
	baz=180						
YM11	YM11	0.83	7	⇑P	Pb	08 07 38.4	-0.5
	baz=8.0						
HGSD	Ruisui	0.84	182	⇑P	Pb	08 07 37.9	-1.0
	baz=190						
WJS	Zhushan	0.84	233	eP	Pb	08 07 37.6	-1.4
	baz=233						
WNT	Mingjian	0.84	238	eP	Pn	08 07 38.7	-1.6
	baz=238						
WHYT	Xinyi Township	0.84	221	eP	Pg	08 07 37.0	-1.3
	baz=221						
ANP	Anpu	0.85	4	⇑P	Pb	08 07 38.4	-0.8
	baz=20						
YM08	YM08	0.86	8	eP	Pb	08 07 38.3	-1.0
	baz=10.0						
YM08				eS	Sb	08 07 50.0	-0.9
	baz=10.0						
WCHH	Zhanghua	0.86	253	eP	Pn	08 07 39.5	-1.1
	baz=251						
WCHH				eS	Sn	08 07 53.4	0.0
	baz=251						
TWY	Chenhua	0.95	8	eP	Pn	08 07 40.6	-1.1
	baz=9.0						
YULB	Yu-li	0.95	189	ePg	Pg	08 07 39.4	-0.8
YULB				eSg	Sg	08 07 50.6	-1.9
YULB	Yu-li	0.95	189	⇑P	Pg	08 07 39.2	-1.0
	baz=178						
YULB				eS	Sb	08 07 52.3	-1.3
	baz=178						
TWF1	Yuli	0.99	189	eP	Pb	08 07 40.3	-1.1
	baz=177						
TWF1				eS	Sg	08 07 53.2	-0.6
	baz=177						
CHN5	Tsauling	1.03	224	⇓P	Pn	08 07 42.1	-0.8
	baz=221						
CHN5				eS	Sn	08 07 57.7	+0.1
	baz=221						
WGK	Gukeng	1.04	232	eP	Pn	08 07 42.4	-0.7
	baz=228						
WGK				eS	Sn	08 07 58.9	+1.0
	baz=228						
WDLH	Douliu	1.06	233	⇑P	Pn	08 07 42.9	-0.4
	baz=229						
WDLH				eS	Sn	08 07 59.1	+0.8
	baz=229						
RLNB	Erlin	1.10	247	⇑P	Pn	08 07 43.1	-0.7
	baz=259						
RLNB				eS	Sn	08 07 59.8	+0.5
	baz=259						
FULB	Fuli	1.14	188	⇑P	Pn	08 07 43.5	-0.9
	baz=188						
FULB				eS	Sn	08 08 00.8	+0.5
	baz=188						
WTCT	Ta-ch'eng	1.18	247	⇑P	Pn	08 07 44.0	-0.8
	baz=243						
WTCT				eS	Sn	08 08 00.8	-0.3
	baz=243						
CHN2	Minshiung	1.21	229	eP	Pn	08 07 45.4	+0.1
	baz=225						
CHN2				eS	Sn	08 08 02.4	+0.6
	baz=225						
ELDTW	Lidau	1.21	200	eP	Pb	08 07 44.4	-0.9
	baz=187						
CHKT	Chengkung	1.23	184	eP	Pg	08 07 43.9	-1.7
	baz=168						
WMLT	Mailiao	1.25	245	eP	Pn	08 07 45.4	-0.4
	baz=254						
WMLT				eS	Sn	08 08 03.6	+0.7
	baz=254						
CHN4	Tsaushan	1.26	219	eP	Pn	08 07 45.8	-0.2
	baz=215						
CHN4				eS	Sn	08 08 05.1	+1.8
	baz=215						
CHY	Chiayi	1.26	229	eP	Pg	08 07 45.9	-0.4
	baz=244						
TPUB	Ta-pu	1.28	217	ePn	Pg	08 07 45.9	-0.7
TPUB				eSn	Sn	08 08 03.0	-0.8
TPUB	Ta-pu	1.28	217	⇑P	Pg	08 07 45.9	-0.7
	baz=213						
TPUB				eS	Sn	08 08 04.2	+0.5
	baz=213						
WSF	Szhu	1.33	239	P	Pg	08 07 46.8	-0.7
	baz=234						
WSF				S	Sn	08 08 05.6	+0.7
	baz=234						
STYT	Tauyuan	1.33	209	⇑eP	Pb	08 07 46.3	-1.1
	baz=196						
STYT				eS	Sn	08 08 05.4	+0.3
	baz=196						
WTP	Ta-pu	1.33	216	⇑iP	Pg	08 07 47.0	-0.6
	baz=212						
WTP				eS	Sn	08 08 05.8	+0.7
	baz=212						
JYNG	Yonagunijimaku	1.36	85	P	Pg	08 07 47.2	-0.8
JYNG				eS	Sn	08 08 06.0	+0.4
WLGB	Puzi	1.36	232	eP	Pg	08 07 47.4	-0.7
	baz=227						
WLGB				eS	Sn	08 08 07.5	+1.8
	baz=227						
TWK	Hsinying	1.39	220	P	Pg	08 07 48.4	-0.2
	baz=215						
TWK				eS	Sn	08 08 08.0	+1.5
	baz=215						
PCYT	Pengchaiyu	1.40	23	⇑P	Pn	08 07 46.8	-1.2
	baz=4.0						
SNST	Tainan City	1.42	219	eP	Pg	08 07 49.0	-0.1
	baz=214						
SNST				eS	Sg	08 08 09.5	+1.9
	baz=214						
YOJ	Yonaguni jima	1.42	85	ePn	Pb	08 07 47.8	-1.0
YOJ	Yonaguni jima	1.42	85	⇑P	Pb	08 07 47.7	-1.0
	baz=73						
YOJ				eS	Sg	08 08 07.8	+0.2
	baz=73						
YOJ	Yonaguni jima	1.42	85	eP	Pb	08 07 47.8	-1.0
YOJ	Yonaguni jima	1.42	85	P	Pb	08 07 48.1	-0.7
YOJ				eS	Sg	08 08 08.5	+0.9
CHN1	Nanshi	1.43	217	⇑P	Pg	08 07 49.0	-0.4
	baz=212						
CHN1				eS	Sg	08 08 09.7	+1.8
	baz=212						
SGST	Jiashian	1.48	213	⇑P	Pg	08 07 49.9	-0.6
	baz=202						
SGST				eS	Sg	08 08 09.8	+0.1
	baz=202						
CHN8	Yiju	1.51	230	eP	Pg	08 07 49.7	-1.3
	baz=237						
CHN8				eS	Sg	08 08 11.7	+1.1
	baz=237						
SLGT	Liugui	1.53	209	⇑eP	Pg	08 07 50.8	-0.5
	baz=196						
TWG	Pinlang	1.55	193	ePn	Pg	08 07 50.4	-1.3
TWG				eSn	Sn	08 08 08.7	-1.6
TWG	Pinlang	1.55	193	eP	Pb	08 07 49.6	-1.4
	baz=173						
TWGBT	Beinan	1.55	193	eP	Pb	08 07 49.6	-1.4
	baz=173						
TTN	Taitung	1.60	190	eP	Pg	08 07 52.2	-0.5
	baz=170						
CHN3	Shinhua	1.61	219	P	Pg	08 07 52.4	-0.4
	baz=213						
CHN3				eS	Sg	08 08 15.9	+2.3
	baz=213						
SCLT	Jiali	1.64	225	P	Pg	08 07 52.2	-1.2
	baz=203						
SCLT				eS	Sg	08 08 15.5	+0.8
	baz=203						
TAI1	Yung-k'ang	1.71	222	eP	Pg	08 07 53.2	-1.6
	baz=238						
TWM1	Shoushan	1.78	213	⇑P	Pg	08 07 55.3	-0.8
	baz=212						
ECL	Taimali	1.79	195	⇓eP	Pb	08 07 54.5	-0.6
	baz=176						
SGLT	Jiouru	1.83	209	eP	Pg	08 07 55.8	-1.3
	baz=208						
MASBT	Mashibuluo	1.88	204	⇑P	Pb	08 07 56.2	-0.4
	baz=203						
MASBT				eS	Sg	08 08 20.9	-1.4
	baz=203						
PNG	Penghu	1.90	247	eP	Pn	08 07 54.3	-0.6
	baz=247						
PHUB	P'eng-hu	1.91	245	eP	Pn	08 07 52.8	-2.2
	baz=245						
PTTC	Pingtan	1.93	307	eP	Pn	08 07 54.2	-1.0

	baz=307						
VWUC	VWUC	1.94	290	⇑eP	Pn	08 07 53.7	-1.8
	baz=289						
WDGT	Dungji	1.97	237	eP	Pn	08 07 55.7	-0.1
	baz=232						
WDGT				eS	Sb	08 08 22.1	-0.7
	baz=232						
SSPT	Xinbi	2.02	204	eP	Pb	08 07 56.8	-2.2
	baz=201						
EAST	Anshuo	2.02	196	eP	Pb	08 07 58.8	-0.3
	baz=176						
IRIF	Iriomote-Funau	2.07	90	P	Pn	08 07 57.6	+0.5
IRIF				eS	Sb	08 08 24.7	-1.1
SCZT	Fangliau	2.10	202	eP	Pb	08 07 58.8	-1.6
	baz=219						
HATJ	Hateruma jima	2.16	97	P	Pb	08 07 59.6	-1.8
HATJ				eS	Sb	08 08 28.3	0.0
VCHM	Qimei	2.17	239	eP	Pn	08 07 58.5	-0.1
	baz=239						
WLCH	Liuqiu	2.21	207	eP	Pb	08 08 02.0	-0.2
	baz=203						
TWP	Hsiaoliuchiu	2.22	207	eP	Pb	08 08 00.6	-1.9
	baz=204						
PTMZ	Houxiangcun	2.24	289	⇑P	Pn	08 07 57.9	-1.6
	baz=287						
MATB	Ma-tsu	2.27	323	eP	Pn	08 07 58.3	-1.7
	baz=321						
LAY	Lan-yu	2.29	178	eP	Pn	08 07 59.7	-0.5
	baz=164						
JKRS	Kuro-shima	2.33	92	P	Pn	08 08 01.7	+1.0
JKRS				S	Sb	08 08 31.3	-1.9
HEN	Hengchun	2.41	196	eP	Pb	08 08 04.9	-0.8
	baz=179						
JIJ	Ishigaki jima	2.45	89	P	Pn	08 08 02.8	+0.5
JIJ				eS	Sn	08 08 33.3	+0.8
TWK1	Hengchun	2.46	194	eP	Pb	08 08 04.5	-1.9
	baz=177						
TWKBT	Hengchun	2.46	194	eP	Pb	08 08 04.0	-2.5
	baz=177						
TSEB	Hengchuen, Pin	2.48	192	eP	Pb	08 08 05.9	-1.0
	baz=177						
JISG	Ishigakijimahi	2.61	84	P	Pn	08 08 04.0	-0.6
JISG				eS	Sn	08 08 36.6	+0.1
QZH	Quanzhou	2.68	284	⇓iPn	Pn	08 08 04.0	-1.6
QZH				Pg	Pg	08 08 13.1	-0.3
QZH				Sn	Sn	08 08 35.9	-2.4
QZH				smax	smax		
	comp=N,700nm,0.8s						
QZH				smax	smax		
	comp=E,360nm,1.2s						
LYJJ	Jianjiangzhen	2.69	325	eP	Pn	08 08 05.0	-0.7
	baz=323						
MHZQ	Yeshan	2.82	309	eP	Pn	08 08 06.8	-0.6
	baz=307						
XPSS	Dashiqiu	2.83	336	eP	Pn	08 08 06.7	-0.9
	baz=335						
JTJ	Tarama	2.97	83	P	Pn	08 08 10.8	+1.3
JTJ				eS	Sb	08 08 48.1	-3.6
AXDP	Jialang	3.23	281	eP	Pn	08 08 12.1	-1.0
	baz=283						
JIRB	Irabujima	3.41	81	P	Pn	08 08 16.3	+0.6
ZPLA	Ao Xicun	3.42	264	eP	Pn	08 08 14.4	-1.3
	baz=266						
ZZJH	Jiuhuzhen	3.50	273	eP	Pn	08 08 15.8	-1.0
	baz=274						
JOW	Kunigami	6.63	67	ePn	Pn	08 08 57.9	-2.0
GZH	Guangzhou	7.54	262	Pn	Pn	08 09 07.0	-5.4
GZH				Sn	Sn	08 10 22.6	-16
GZH				smax	smax		
	comp=N,230nm,1.0s						
GZH				smax	smax		
	comp=E,200nm,1.0s						
MCO	Taipa Grande	7.59	255	P	Sg	08 11 28.0	+2.1
NJ2	Nanjing	8.03	344	eP	Pn	08 09 16.8	-2.2
NJ2				pmax	pmax		
	comp=E,20nm,0.6s						
NJ2				smax	smax		
	comp=E,130nm,0.8s						
NJ2				smax	smax		
	comp=E,120nm,1.2s						
NJ2				LR	LR		
	comp=E,670nm,8.1s						
NJ2				LR	LR		
	comp=E,610nm,7.5s						
NJ2				LR	LR		
	comp=E,890nm,9.6s						
WHN	Wuhan	8.84	316	P	Pn	08 09 32.2	+2.0
WHN				S	Sn	08 11 11.5	+1.4
WHN				LR	LR		
	comp=E,1μm,11.1s						
WHN				LR	LR		
	comp=E,2μm,9.3s						
TGY	Tagaytay City	10.19	183	LR	LR	08 14 34.3	
	comp=E,151nm,19.6s,baz=198,slow=43						
QIZ	Qiongzhong	12.02	246	P	Pn	08 10 12.3	-1.5
QIZ				S	Sn	08 12 27.1	-1.1
QIZ				LR	LR		
	comp=E,350nm,13.2s						
QIZ				LR	LR		
	comp=E,270nm,8.9s						
QIZ				LR	LR		
	comp=E,260nm,11.3s						
GYA	Guiyang	13.54	282	eP	Pn	08 10 35.2	+0.5
GYA				PP	P	08 10 45.0	+1.0
GYA				S	Sn	08 13 07.2	+1.6
GYA				SS	S	08 13 22.8	-6.4
GYA				pmax	pmax		
	comp=E,10.0nm,0.7s						
GYA				LR	LR		
	comp=E,520nm,8.3s						
GYA				LR	LR		
	comp=E,510nm,9.2s						
GYA				LR	LR		
	comp=E,490nm,8.6s						
KSRS	Korea Array	14.20	21	Pn	P	08 10 49.6	-1.5
	comp=E,0.4nm,0.3s,baz=197,slow=12,SNR=9.0						
KSRS				LR	LR	08 16 39.7	
	comp=E,90nm,18.9s,baz=224,slow=40						
XAN	Xi'an	14.60	314	P	P	08 11 00.0	+4.4
XAN				sP	Pn	08 11 07.5	+18
XAN				PP	PnPn	08 11 11.4	+14
XAN				S	Sn	08 13 39.0	+7.8
XAN				PcP	PcP	08 16 15.5	+13
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,110nm,6.3s						
XAN				LR	LR		
	comp=N,270nm,8.2s						
XAN				LR	LR		
	comp=E,460nm,9.6s						
XAN				LR	LR		
	comp=Z,530nm,10.5s						
CD2	Chengdu	16.99	297	P	Pn	08 11 19.8	-0.5
CD2				PP	PnPn	08 11 34.3	+4.4
CD2				S	S	08 14 35.5	-4.2
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,190nm,4.7s						
CD2				LR	LR		
	comp=Z,920nm,8.1s						
CD2				LR	LR		
	comp=Z,1μm,8.8s						
KMI	Kunming	17.03	277	P	Pn	08 11 20.3	-0.7
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KMI				pmax	pmax		
	comp=Z,130nm,4.4s						
KMI				LR	LR		
	comp=Z,560nm,9.2s						
KMI				LR	LR		
	comp=Z,690nm,9.6s						
HHC	Hu-ho-hao-te	18.44	336	eP	P	08 11 38.6	+0.5
HHC				PP	PnPn	08 11 51.8	+2.0
HHC				S	Sn	08 15 05.4	+1.0
HHC				pmax	pmax		
	comp=Z,20nm,0.9s						
HHC				pmax	pmax		
	comp=Z,80nm,4.5s						
HHC				LR	LR		
	comp=Z,210nm,7.8s						
HHC				LR	LR		
	comp=Z,150nm,5.1s						
HHC				LR	LR		
	comp=Z,280nm,7.9s						

MJAR	**Matsushiro Arr**	**18.85**	**46**	LR	LR	08 19 04.4		
	comp=Z,77nm,21.9s,baz=235,slow=38							
LZH	**Lanzhou**	**19.18**	**312**	*e*P	**Pn**	**08 11 52.5**	**+5.3**	
LZH				pP	sP	08 11 55.2	+5.1	
LZH				sP	pP	08 11 57.4	+8.5	
LZH				pmax	pmax			
	comp=Z,28nm,1.0s							
LZH				pmax	pmax			
	comp=Z,170nm,4.8s							
LZH				LR	LR			
	comp=Z,530nm,8.2s							
LZH				LR	LR			
	comp=Z,640nm,9.0s							
LZH				LR	LR			
	comp=Z,670nm,10.2s							
CN2	**Changchun**	**19.69**	**9**	*e*P	**Pn**	**08 11 53.7**	**+0.5**	
CN2				*es*P	sP	08 12 00.7	+5.2	
CN2				*e*S	**S**	**08 15 30.7**	**-3.4**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=Z,100nm,10.0s							
CN2				LR	LR			
	comp=Z,260nm,11.0s							
CMMT	**Chiang Mai**	**21.64**	**260**	P	P	08 12 19.6	+6.6	
	comp=Z,5.6nm,0.9s							
CHTO	**Chiang Mai**	**21.64**	**260**	*e*P	**P**	**08 12 16.9**	**+3.8**	
	comp=Z,4.1nm,0.8s							
CHTO	**Chiang Mai**	**21.64**	**260**	*e*P	**P**	**08 12 16.9**	**+3.8**	
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**21.64**	**260**	P	P	08 12 19.7	+6.6	
	comp=Z,25nm,0.9s							
CM01	**Chiang Mai Arr**	**21.75**	**259**	*e*P	**P**	**08 12 16.1**	**+1.8**	
CMAR	**Chiang Mai Arr**	**21.75**	**259**	P	**P**	**08 12 17.0**	**+2.7**	
	comp=Z,0.9nm,0.3s,baz=58,slow=8.1,SNR=7.4							
CMAR				LR	LR	08 21 56.1		
	comp=Z,66nm,19.4s,baz=69,slow=40							
UTHA	**Uthaitani**	**22.44**	**251**	P	P	08 12 27.9	+6.3	
UMPA	**Umpang Tak**	**22.67**	**253**	P	**P**	**08 12 29.5**	**+5.4**	
SBUM	**Sibu**	**23.52**	**204**	*e*P	**P**	**08 12 32.9**	**+0.1**	
	comp=Z,14nm,0.9s							
GTA	**Gaotai**	**23.66**	**315**	*e*P	**P**	**08 12 36.0**	**+1.8**	
GTA				pP	sP	08 12 40.1	+2.1	
GTA				sP	pP	08 12 43.2	+6.3	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,88nm,6.4s							
GTA				LR	LR			
	comp=Z,140nm,12.4s							
GTA				LR	LR			
	comp=Z,180nm,12.1s							
GTA				LR	LR			
	comp=Z,220nm,10.8s							
ERM	**Erimo**	**25.20**	**40**	*ce*P	**P**	**08 12 48.6**	**+0.5**	
ERM				pmax	pmax			
	comp=Z,70nm,1.7s							
KLR	**Kul'dur**	**26.13**	**15**	*i* P	**P**	**08 12 56.4**	**-0.2**	
KLR	**Kul'dur**	**26.13**	**15**	P	**P**	**08 12 56.1**	**-0.5**	
	comp=Z,2.4nm,0.9s,baz=190,slow=8.2,SNR=5.2							
KLR				LR	LR	08 23 55.8		
	comp=Z,64nm,20.8s,baz=322,slow=38							
ASAJ	**Asahikawa**	**26.22**	**36**	LR	LR	08 23 21.2		
	comp=Z,111nm,19.6s,baz=152,slow=37							
SONA0	**Songino Array**	**26.33**	**337**	*e*P	**P**	**08 12 59.0**	**+0.5**	
SONM	**Songino Array**	**26.33**	**337**	*e*P	**P**	**08 12 59.4**	**+0.8**	
SONM				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SONM	**Songino Array**	**26.33**	**337**	P	**P**	**08 12 59.0**	**+0.5**	
	comp=Z,9.2nm,0.9s,baz=153,slow=9.1,SNR=48							
TLY	**Talaya**	**30.53**	**338**	*e*P	**P**	**08 13 36.7**	**+0.8**	
TLY				pmax	pmax			
	comp=Z,10.0nm,1.3s							
TLY				MLR	MLR			
	comp=Z,49nm,6.0s							
WMQ	**Urumqi**	**33.73**	**314**	*e*P	**P**	**08 14 04.5**	**+0.3**	
WMQ				LR	LR			
	comp=Z,97nm,15.7s							
WMQ				LR	LR			
	comp=Z,95nm,16.5s							
WMQ				LR	LR			
	comp=Z,74nm,14.1s							
MK01	**Makanchi Array**	**38.39**	**316**	*e*P	**P**	**08 14 43.7**	**-0.3**	
MK31	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**08 14 44.7**	**+0.6**	
	comp=Z,3.6nm,0.9s							
MK31	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**08 14 44.7**	**+0.6**	
MK31				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MK32	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**08 14 44.7**	**+0.6**	
MKAR	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**08 14 45.1**	**+1.0**	
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	**38.41**	**316**	P	**P**	**08 14 44.7**	**+0.6**	
	comp=Z,4.8nm,0.6s,baz=106,slow=10,SNR=42							
MAKZ	**Makanchi**	**38.61**	**316**	*e*P	**P**	**08 14 46.9**	**+1.1**	
	comp=Z,4.9nm,0.8s							
MAKZ	**Makanchi**	**38.61**	**316**	*e*P	**P**	**08 14 46.9**	**+1.1**	
MAKZ				pmax	pmax			
	comp=Z,5.0nm,0.8s							
ZAA0	**Zalesovo Array**	**40.26**	**327**	*e*P	**P**	**08 14 58.9**	**-0.5**	
	comp=Z,7.3nm,0.8s							
ZALV	**Zalesovo Beam**	**40.26**	**327**	*e*P	**P**	**08 14 58.5**	**-0.9**	
ZALV	**Zalesovo Beam**	**40.26**	**327**	*e*P	**P**	**08 14 58.5**	**-0.9**	
ZALV	**Zalesovo Beam**	**40.26**	**327**	P	**P**	**08 14 59.0**	**-0.4**	
	comp=Z,5.8nm,0.7s,baz=114,slow=7.7,SNR=26							
ZAA1	**Zalesovo Array**	**40.26**	**327**	*e*P	**P**	**08 14 59.0**	**-0.4**	
KSH	**Kashi**	**41.03**	**303**	*e*P	**P**	**08 15 08.5**	**+2.3**	
NRN	**Naryn**	**41.30**	**306**	*e*P	**P**	**08 15 10.7**	**+2.1**	
	comp=Z,3.3nm,0.9s							
NRN	**Naryn**	**41.30**	**306**	*e*P	**P**	**08 15 10.7**	**+2.1**	
NRN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KURK	**Kurchatov**	**42.14**	**320**	*e*P	**P**	**08 15 16.2**	**+1.3**	
	comp=Z,3.4nm,0.9s							
KURK	**Kurchatov**	**42.14**	**320**	*i* P	**P**	**08 15 13.1**	**-1.8**	
KURK				pmax	pmax			
	comp=Z,5.0nm,1.0s							
AAK	**Ala-Archa**	**42.62**	**307**	LR	LR	08 34 11.0		
	comp=Z,56nm,18.2s,baz=94,slow=38							
COEN	**Coen**	**43.57**	**149**	*e*P	**P**	**08 15 26.9**	**+0.1**	
	comp=Z,8.7nm,1.0s							
WR1	**Warramunga Arr**	**45.76**	**163**	*e*P	**P**	**08 15 42.1**	**-2.2**	
	comp=Z,3.8nm,0.9s							
WRA	**Warramunga Arr**	**45.76**	**163**	*e*P	**P**	**08 15 44.3**	**0.0**	
WRA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WRA	**Warramunga Arr**	**45.76**	**163**	P	**P**	**08 15 42.1**	**-2.2**	
	comp=Z,1.8nm,0.8s,baz=345,slow=8.8,SNR=8.0							
WB2	**Warramunga Arr**	**45.77**	**163**	*e*P	**P**	**08 15 43.1**	**-1.2**	
KBL	**Kabul**	**46.33**	**295**	*e*P	**P**	**08 15 50.2**	**+1.2**	
	comp=Z,7.7nm,1.1s							
KBL	**Kabul**	**46.33**	**295**	*e*P	**P**	**08 15 50.2**	**+1.2**	
KBL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
TIXI	**Tiksi**	**47.53**	**3**	*e*P	**P**	**08 15 55.8**	**-1.8**	
	comp=Z,4.2nm,0.9s							
TIXI	**Tiksi**	**47.53**	**3**	*ce*P	**P**	**08 15 56.2**	**-1.3**	
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TIXI	**Tiksi**	**47.53**	**3**	LR	LR	08 38 47.9		
	comp=Z,52nm,19.1s,baz=179,slow=40							
BRVK	**Borovoye**	**47.79**	**321**	*e*P	**P**	**08 16 00.4**	**+0.5**	
	comp=Z,10.0nm,1.0s							
BRVK	**Borovoye**	**47.79**	**321**	*i* P	**P**	**08 15 59.6**	**-0.3**	
BRVK				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ASAR	**Alice Springs**	**49.22**	**165**	*e*P	**P**	**08 16 10.3**	**-0.9**	
ASAR	**Alice Springs**	**49.22**	**165**	P	**P**	**08 16 09.2**	**-2.0**	
	comp=Z,1.8nm,1.0s,baz=336,slow=6.3,SNR=9.7							
AS01	**Alice Springs**	**49.23**	**165**	*e*P	**P**	**08 16 09.8**	**-1.5**	
BILL	**Bilibino**	**51.46**	**20**	*e*P	**P**	**08 16 30.0**	**+2.4**	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ABKAR	**Akbulak array**	**53.52**	**314**	*e*P	**P**	**08 16 39.6**	**-3.5**	
	comp=Z,3.0nm,0.8s							
GEYT	**Alibeck**	**54.94**	**300**	LR	LR	08 45 50.8		
	comp=Z,61nm,19.1s,baz=305,slow=42							
ARU	**Arti**	**55.14**	**323**	*d* iP	**P**	**08 16 54.8**	**-0.1**	
ARU						08 18 56.5		
ARU				S	**S**	**08 24 41.3**	**+3.3**	
ARU				SS	**SS**	**08 28 20.6**	**-1.0**	
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s							
STKA	**Stephens Creek**	**59.12**	**160**	*e*P	**P**	**08 17 24.1**	**+0.9**	
STKA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
STKA	**Stephens Creek**	**59.12**	**160**	P	**P**	**08 17 22.1**	**-1.1**	
	comp=Z,0.6nm,0.3s,baz=340,slow=11,SNR=3.7							
ZEI	**Tsey**	**65.04**	**308**	*e*P	**P**	**08 18 04.7**	**+1.4**	
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KLMR	**Klimovskoe**	**65.17**	**328**	*e*P	**P**	**08 18 02.7**	**-0.8**	
KLMR				pmax	pmax			
	comp=Z,21nm,1.2s							
KLMR	**Klimovskoe**	**65.17**	**328**	*e*P	**P**	**08 18 02.8**	**-0.8**	
KLMR				AMP		08 18 06.9		
	comp=Z,21nm,1.2s							
KIV	**Kislovodsk**	**65.69**	**309**	*e*P	**P**	**08 18 04.6**	**-2.8**	
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
OBN	**Obninsk**	**67.54**	**322**	*e*P	**P**	**08 18 17.5**	**-1.3**	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.0s							
RND	**Reindeer**	**68.40**	**29**	*e*P	**P**	**08 18 22.9**	**-1.3**	
RND	**Reindeer**	**68.40**	**29**	*e*P	**P**	**08 18 22.9**	**-1.3**	
ILAR	**Eielson Array**	**68.96**	**27**	*e*P	**P**	**08 18 27.6**	**0.0**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ILAR	**Eielson Array**	**68.96**	**27**	P	**P**	**08 18 26.1**	**-1.6**	
	comp=Z,0.5nm,0.9s,baz=264,slow=5.2,SNR=6.1							
FIA0	**FINESS Array S**	**71.44**	**330**	*e*P	**P**	**08 18 42.6**	**-0.2**	
FIA0	**FINESS Array S**	**71.44**	**330**	*e*P	**P**	**08 18 42.6**	**-0.2**	
FINES	**FINESS Array B**	**71.44**	**330**	P	**P**	**08 18 42.6**	**-0.2**	
	comp=Z,7.3nm,0.8s,baz=101,slow=1.9,SNR=10.0							
AKASG	**Malin Array Be**	**72.93**	**318**	*e*P	**P**	**08 18 51.5**	**-0.4**	
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.9s							
AKASG	**Malin Array Be**	**72.93**	**318**	P	**P**	**08 18 51.2**	**-0.7**	
	comp=Z,3.1nm,0.8s,baz=60,slow=5.9,SNR=9.6							
BR101	**Keskin Array S**	**73.29**	**306**	*e*P	**P**	**08 18 54.4**	**-0.1**	
BRTR	**Keskin Array B**	**73.29**	**306**	P	**P**	**08 18 54.4**	**-0.1**	
	comp=Z,8.8nm,1.1s,baz=104,slow=6.1,SNR=9.7							
KWP	**Kalwaria Pacla**	**77.23**	**319**	*e*P	**P**	**08 19 17.6**	**+0.8**	
	comp=Z,178nm,1.0s							
KWP	**Kalwaria Pacla**	**77.23**	**319**	*e*P	**P**	**08 19 17.6**	**+0.8**	
KWP				pmax	pmax			
	comp=Z,178nm,1.0s							
NB2	**NORSAR Subarra**	**78.21**	**332**	P	**P**	**08 19 21.6**	**-0.5**	
	comp=Z,12nm,1.1s,baz=61,slow=5.6							
NB200	**NORSAR Array S**	**78.21**	**332**	*e*P	**P**	**08 19 21.4**	**-0.7**	
NOA	**NORSAR Array B**	**78.21**	**332**	*e*P	**P**	**08 19 22.7**	**+0.6**	
NOA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
NOA	**NORSAR Array B**	**78.21**	**332**	P	**P**	**08 19 21.4**	**-0.7**	
	comp=Z,4.0nm,0.8s,baz=59,slow=5.5,SNR=7.7							
OJC	**Ojcow**	**78.72**	**320**	*e*P	**P**	**08 19 25.3**	**+0.2**	
	comp=Z,13nm,0.9s							
OJC	**Ojcow**	**78.72**	**320**	*e*P	**P**	**08 19 25.3**	**+0.2**	
OJC				pmax	pmax			
	comp=Z,13nm,0.9s							
VTS	**Vitosha**	**79.62**	**312**	*e*P	**P**	**08 19 31.3**	**+0.9**	
	comp=Z,14nm,1.1s							
VTS	**Vitosha**	**79.62**	**312**	*e*P	**P**	**08 19 31.3**	**+0.9**	
VTS				pmax	pmax			
	comp=Z,14nm,1.1s							
VYHS	**Vyhne**	**80.02**	**319**	*e*P	**P**	**08 19 33.1**	**+0.9**	
VYHS				pmax	pmax			
	comp=Z,8.0nm,1.0s							
VYHS	**Vyhne**	**80.02**	**319**	*e*P	**P**	**08 19 33.1**	**+0.9**	
BRG	**Berggiesshubel**	**81.78**	**322**	*e*(P)	**P**	**08 19 45.0**	**+3.5**	
	comp=Z,6.6nm,1.0s							
BRG	**Berggiesshubel**	**81.78**	**322**	*e*P	**P**	**08 19 45.0**	**+3.5**	
BRG				pmax	pmax			
	comp=Z,7.0nm,1.0s							
YKA	**Yellowknife Ar**	**82.73**	**23**	P	**P**	**08 19 44.6**	**-1.7**	
	comp=Z,0.3nm,0.5s,baz=314,slow=5.0,SNR=6.0							
NVAR	**Mina Array Bea**	**96.15**	**43**	P	**P**	**08 20 51.6**	**+0.4**	
	comp=Z,0.5nm,0.8s,baz=308,slow=4.4,SNR=3.6							

MEX 07 08:14:18.8±0.8, 14.50N×92.19W, h105km±10km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.41**	**350**	*i* P	Pn	08 14 32.7	-1.9
THIG				*e*S	Sn	08 14 44.9	-1.6
PCIG		**1.56**	**321**	*i* P	Pn	08 14 44.4	-1.6
PCIG				*e*S	Sn	08 15 06.0	-0.8
CCIG	**Comitan**	**1.78**	**2**	*e*P	Pn	08 14 48.1	-0.8
CCIG				*i* S	Sn	08 15 10.3	-1.6

*IDC **07** 08:19:36.3±1.7, 44.00N×128.91W, h0km, mb3.4/5, mb1 3.7/9, mb1mx3.5/55, mbtmp3.5/9, ML3.3/4, MS3.2/3, Ms1 3.2/3, ms1mx2.7/30, Error ellipse: s-maj=35.2km s-min=15.3km az=48.0*

*ANF **07** 08:19:36.7±0.8, 43.89N×128.82W, ML3.7/7, Error ellipse: s-maj=8.4km s-min=4.8km az=50.0*

*ISCJB **07** 08:19:37.0±0.6, 44.05N±0.06×128.87W±0.05, h15km, mb3.4/4, Error ellipse: s-maj=5.8km s-min=4.0km az=140.6*

*NEIC **07** 08:19:38.5±0.9, 44.07N×128.95W, h10km, ML3.5, Error ellipse: s-maj=12.4km s-min=7.1km az=65.0*

ISC 07 08:19:38.7±1.1, 44.02N±0.06×128.93W±0.08, h15km, n71, σ1s48/80, mb3.5/4, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**3.54**	**107**	*e*Pn	**Pn**	**08 20 29.9**	**-3.2**
KEBM				*e*Sn	**Sn**	**08 21 12.8**	**-1.9**
I02D	**Swisshome**	**3.67**	**87**	P	**Pn**	**08 20 33.7**	**-1.1**
	baz=271						
I02D				S	**Sn**	**08 21 17.2**	**-0.6**
	baz=271						
J01E	**Myrtle Point**	**3.73**	**102**	P	**Pn**	**08 20 33.0**	**-2.7**
	baz=286,SNR=11						
J01E				S	**Sn**	**08 21 17.4**	**-2.0**
	baz=286						
I03D	**Drain, OR**	**4.05**	**93**	P	**Pn**	**08 20 39.4**	**-0.7**
	baz=277,SNR=387						
I03D				S	**Sn**	**08 21 26.4**	**-0.9**
	baz=277						
K02D	**Willamette Mer**	**4.06**	**107**	P	**Pn**	**08 20 37.6**	**-2.8**
	baz=292,SNR=20						
K02D				S	**Sn**	**08 21 25.2**	**-2.5**
	baz=292						
COR	**Corvallis**	**4.08**	**80**	*e*Pn	**Pn**	**08 20 39.5**	**-1.0**
COR				*e*Sn	**Sn**	**08 21 28.0**	**0.0**
G03D	**McMinnville, O**	**4.22**	**72**	P	**Pn**	**08 20 40.9**	**-1.5**
	baz=256,SNR=30						
G03D				S	**Sn**	**08 21 32.8**	**+1.4**
	baz=256						
L02E	**Cave Junction**	**4.32**	**114**	S	**Sn**	**08 21 32.5**	**-1.5**
	baz=298						
H04D	**Lebanon**	**4.48**	**81**	P	**Pn**	**08 20 45.2**	**-0.7**
	baz=266						
HUMO	**Hull Mountain**	**4.58**	**106**	*e*Pn	**Pn**	**08 20 45.8**	**-1.7**
HUMO				*e*Sn	**Sn**	**08 21 39.4**	**-1.1**
I04A	**Tendick Farm,**	**4.72**	**91**	P	**Pn**	**08 20 48.8**	**-0.6**
	baz=276,SNR=9.4						
I04A				S	**Sn**	**08 21 44.3**	**+0.5**
	baz=276						
NLWA	**Neilton Lookou**	**4.89**	**45**	*e*Pn	**Pn**	**08 20 51.2**	**-0.5**
NLWA				*e*Sn	**Sn**	**08 21 45.3**	**-2.7**
J04D	**Umpqua Nationa**	**5.01**	**97**	P	**Pn**	**08 20 53.0**	**-0.6**
	baz=282,SNR=10						
YBH	**Yreka Blue Hor**	**5.11**	**114**	*e*Pn	**Pn**	**08 20 54.1**	**-0.7**
YBH				*e*Sn	**Sn**	**08 21 52.1**	**-1.5**
YBH	**Yreka Blue Hor**	**5.11**	**114**	Pn	**Pn**	**08 20 54.1**	**-0.7**
	0.4nm,0.3s,baz=307,slow=18,SNR=7.2						
YBH				Sn	**Sn**	**08 21 54.4**	**+0.8**
	0.4nm,0.3s,baz=168,slow=9.3,SNR=3.8						
E04D	**Cinebar**	**5.16**	**58**	P	**Pn**	**08 20 55.1**	**-0.2**
	baz=243,SNR=10						
L04D	**Klamath Falls**	**5.17**	**108**	P	**Pn**	**08 20 55.6**	**-0.2**
	baz=293,SNR=14						
L04D				S	**Sn**	**08 21 55.8**	**+0.6**
	baz=293						
D04E	**Lakebay**	**5.35**	**52**	P	**Pn**	**08 20 57.8**	**-0.1**
	baz=236						
D03D	**Eldon**	**5.39**	**47**	P	**Pn**	**08 20 58.1**	**-0.4**
	baz=232						
I05D	**Terrebonne, OR**	**5.47**	**84**	P	**Pn**	**08 20 58.9**	**-0.8**
	baz=270						
G05D	**Wamic, OR**	**5.57**	**75**	P	**Pn**	**08 21 00.9**	**-0.2**
	baz=261,SNR=5.1						
G05D				S	**Sn**	**08 22 06.9**	**+2.2**
	baz=261						
F05D	**White Salmon**	**5.62**	**68**	P	**Pn**	**08 21 01.3**	**-0.4**
	baz=254,SNR=5.6						
F05D				S	**Sn**	**08 22 07.3**	**+1.4**
	baz=254						
J05D	**Fort Rock, OR**	**5.63**	**95**	P	**Pn**	**08 21 00.7**	**-1.3**
	baz=281						
LON	**Longmire**	**5.71**	**59**	*e*Pn	**Pn**	**08 21 03.7**	**+0.7**
PINE	**Pine Mountain**	**5.78**	**90**	*e*Pn	**Pn**	**08 21 02.9**	**-1.2**
D05A	**Enumclaw**	**5.81**	**55**	*e*Pn	**Pn**	**08 21 05.3**	**+1.0**
WDC	**Whiskeytown Da**	**5.85**	**124**	*e*Pn	**Pn**	**08 21 06.2**	**+1.3**
PGC	**Sidney**	**5.98**	**37**	*e*Pn	**Pn**	**08 21 05.5**	**-1.1**
PGC				*e*Sn	**Sn**	**08 22 11.4**	**-3.4**
B05A	**Bryant**	**6.37**	**46**	P	**Pn**	**08 21 12.0**	**+0.1**
	baz=231						
B05A				S	**Sn**	**08 22 25.6**	**+1.3**
	baz=231						
LTY	**Liberty**	**6.63**	**58**	*e*Pn	**Pn**	**08 21 15.9**	**+0.3**
F07A	**Phinny Hill Vi**	**6.66**	**71**	*e*Pn	**Pn**	**08 21 15.6**	**-0.4**
MOD	**Modoc Plateau**	**6.67**	**106**	*e*Pn	**Pn**	**08 21 17.2**	**+0.8**
HOPS	**Hopland Field**	**6.67**	**137**	*e*Pn	**Pn**	**08 21 18.2**	**+2.0**
I07A	**Izee**	**6.79**	**86**	*e*Pn	**Pn**	**08 21 18.4**	**+0.4**
B06A	**Marblemount**	**6.84**	**46**	*e*Pn	**Pn**	**08 21 19.1**	**+0.7**
E07A	**Sunnyside**	**6.88**	**65**	*e*Pn	**Pn**	**08 21 21.8**	**+2.7**
ORV	**Oroville**	**7.12**	**126**	*e*Pn	**Pn**	**08 21 23.6**	**+1.3**
G08A	**Pilot Rock**	**7.22**	**76**	*e*Pn	**Pn**	**08 21 22.0**	**-1.8**
J08A	**Circle Bar Ran**	**7.61**	**91**	*e*Pn	**Pn**	**08 21 32.5**	**+3.4**
BEKR	**Beckworth**	**7.62**	**120**	*e*Pn	**Pn**	**08 21 31.8**	**+2.5**
D08A	**Wollman Farm,**	**7.65**	**63**	*e*Pn	**Pn**	**08 21 30.0**	**+0.4**
WVOR	**Wild Horse Val**	**7.68**	**98**	*e*Pn	**Pn**	**08 21 29.1**	**-1.0**
B08A	**Colville Reser**	**7.94**	**54**	*e*Pn	**Pn**	**08 21 34.8**	**+1.2**
E09A	**Wood Farm, Sta**	**8.01**	**68**	*e*Pn	**Pn**	**08 21 34.7**	**+0.3**
LLLB	**Lillooet**	**8.14**	**34**	*e*Pn	**Pn**	**08 21 36.5**	**+0.2**
BBB	**Bella Bella**	**8.19**	**4**	Pn	**Pn**	**08 21 37.2**	**+0.4**
	0.3nm,0.3s,baz=195,slow=12,SNR=6.6						
C09A	**Chrisman Ranch**	**8.34**	**59**	*e*Pn	**Pn**	**08 21 38.6**	**-0.4**
BMO	**Blue Mountains**	**8.36**	**80**	*e*Pn	**Pn**	**08 21 37.9**	**-1.6**
F10A	**Beach Ranch, E**	**8.52**	**73**	*e*Pn	**Pn**	**08 21 44.5**	**+2.9**
PNTR	**Pine Nut**	**8.55**	**122**	*e*Pn	**Pn**	**08 21 45.0**	**+2.7**
YERR	**Yerington**	**8.84**	**121**	*e*Pn	**Pn**	**08 21 48.7**	**+2.6**
WAKR	**Walker**	**9.02**	**124**	*e*Pn	**Pn**	**08 21 50.5**	**+1.8**
NEW	**Newport**	**9.23**	**59**	Pn	**Pn**	**08 21 51.1**	**-0.1**
	0.4nm,0.3s,baz=252,slow=12,SNR=6.8						
NEW				LR	LR	08 25 32.8	
	comp=Z,175nm,20.1s,baz=334,slow=39						
NVAR	**Mina Array Bea**	**9.76**	**121**	Pn	**Pn**	**08 21 58.7**	**0.0**
	0.1nm,0.3s,baz=298,slow=13,SNR=5.8						
HLID	**Hailey**	**10.51**	**87**	*e*Pn	**Pn**	**08 22 10.7**	**+1.8**
WALA	**Waterton Lakes**	**11.50**	**59**	*e*Pn	**Pn**	**08 22 23.6**	**+1.2**
PDAR	**Pinedale Array**	**14.14**	**88**	LR	LR	08 27 21.9	
	comp=Z,101nm,21.3s,baz=344,slow=33						
PFO	**Pinyon Flats O**	**14.21**	**133**	LR	LR	08 27 10.4	
	comp=Z,62nm,18.7s,baz=284,slow=32						
YKA	**Yellowknife Ar**	**20.30**	**19**	P	**P**	**08 24 13.1**	**-0.6**
	1.5nm,0.9s,baz=211,slow=10,SNR=11						
YKB5	**Yellowknife Ar**	**20.30**	**19**	*e*P	**P**	**08 24 13.1**	**-0.6**
ILAR	**Eielson Array**	**23.10**	**340**	P	**P**	**08 24 43.5**	**-0.1**
	0.9nm,1.0s,baz=145,slow=9.3,SNR=7.0						
TXAR	**Lajitas Array**	**24.88**	**118**	P	**P**	**08 25 01.6**	**+0.6**
	0.7nm,0.9s,baz=289,slow=7.8,SNR=6.6						
RES	**Resolute Bay**	**34.26**	**15**	P	**P**	**08 26 23.9**	**+0.4**
	0.7nm,0.7s,baz=233,slow=12,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**58.10**	**267**	T	T	09 32 13.1	
	baz=49,slow=75,SNR=457						
H11N2	**WAKE ISLAND Hy**	**58.10**	**267**	T	T	09 32 22.2	
	baz=49,slow=75,SNR=345						
H11N1	**WAKE ISLAND Hy**	**58.11**	**267**	T	T	09 32 23.3	
	baz=49,slow=75,SNR=325						
H11S1	**WAKE ISLAND Hy**	**59.03**	**266**	T	T	09 33 34.5	
	baz=49,slow=75,SNR=112						
H11S2	**WAKE ISLAND Hy**	**59.04**	**266**	T	T	09 33 20.7	
	baz=49,slow=75,SNR=60						
H11S3	**WAKE ISLAND Hy**	**59.05**	**266**	T	T	09 33 35.6	
	baz=49,slow=75,SNR=53						
SONA0	**Songino Array**	**76.39**	**325**	*e*P	**P**	**08 31 27.2**	**-0.2**
SONM	**Songino Array**	**76.39**	**325**	P	**P**	**08 31 27.2**	**-0.2**
	0.6nm,0.9s,baz=45,slow=4.5,SNR=3.9						

IDC 07 08:23:04.0±2.5, 14.51N×27.71E, h0km, mb3.7/7, mb1 3.7/7, mb1mx3.6/45, mbtmp3.7/7, MS3.2/3, Ms1 3.2/3, ms1mx2.8/48, Error ellipse: s-maj=70.2km s-min=27.3km az=155.0, Sudan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**25.29**	**270**	P	P	08 28 32.6	+0.2
	1.7nm,1.0s,baz=73,slow=7.8,SNR=7.5				

baz=21
ENTT *eS* Sb 08 50 47.1 -1.1
baz=21
TDCB Techi 0.29 248 *eP* Pb 08 50 43.1 -0.3
baz=247
YHNB Yeheng 0.31 346 *eP* Pb 08 50 44.1 +0.5
baz=346
YHNB *eS* Sb 08 50 48.2 -0.6
baz=346
TWD Chiawan 0.31 156 *eP* Pb 08 50 44.0 +0.4
baz=154
NSK Sanguang 0.32 344 *eP* Pb 08 50 44.2 +0.4
baz=344
NSK *eS* Sb 08 50 48.6 -0.5
baz=344
TWE Neicheng 0.40 28 *eP* Pb 08 50 44.7 -0.5
baz=30
TWE *eS* Sb 08 50 50.7 -0.6
baz=30

TAP 07 08:50:42.1, 24°31N×121°47E, h9km±1km, ML2.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.11**	**173**	*eS*	Sg	08 50 47.1	+0.5
	baz=173						
NNSB	**Datong**	**0.14**	**326**	*eP*	Pg	08 50 45.9	+0.6
	baz=325						
NNSB				*eS*	Sg	08 50 48.1	+0.6
	baz=325						
NNS	**Nan Shan**	**0.15**	**325**	P	Pg	08 50 45.5	0.0
	baz=327						
NNS				S	Sg	08 50 48.4	+0.5
	baz=327						
NACB	**Ninganchiao**	**0.18**	**140**	*eP*	Pg	08 50 46.4	+0.4
	baz=140						
NACB				*eS*	Sg	08 50 49.7	+1.2
	baz=140						
WHF	**Hehuan Shan**	**0.25**	**228**	*eS*	Sg	08 50 52.2	+1.4
	baz=226						
TWD	**Chiawan**	**0.26**	**153**	*eS*	Sg	08 50 51.9	+1.0
	baz=151						
TWT	**Tachien**	**0.27**	**257**	*eP*	Pb	08 50 48.9	-0.5
	baz=256						
TWT				*eS*	Sg	08 50 52.6	+1.2
	baz=256						
ENA	**Nanau**	**0.27**	**65**	*eP*	Pg	08 50 48.4	+0.8
	baz=66						
ENA				*eS*	Sg	08 50 52.5	+1.2
	baz=66						
TDCB	**Techi**	**0.29**	**258**	*eP*	Pb	08 50 48.9	-0.7
	baz=257						
TDCB				*eS*	Sg	08 50 52.6	+0.8
	baz=257						
CHGB	**Renai**	**0.37**	**227**	*eP*	Pb	08 50 50.8	-0.2
	baz=226						
CHGB				*eS*	Sg	08 50 55.6	+1.3
	baz=226						

IDC 07 08:55:04.8±2.4, 5°92S×130°64E, h0km, mb3.6/1, mb1 3.9/4, mb1mx3.5/47, mbtmp3.7/4, ML3.9/3, Error ellipse: s-maj=92.9km s-min=29.3km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.06**	**202**	Pn	Pn	08 58 11.6	0.0
	0.3nm,0.3s,baz=24,slow=7.7,SNR=7.8						
FITZ				Sn	Sn	09 00 23.6	-14
	0.5nm,0.3s,baz=271,slow=21,SNR=6.8						
WRA	**Warramunga Arr**	**14.40**	**166**	Pn	Pn	08 58 29.1	-1.0
	0.5nm,0.3s,baz=349,slow=13,SNR=16						
WRA				Sn	Sn	09 00 58.9	-12
	0.5nm,0.3s,baz=330,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.93**	**170**	P	P	08 59 16.3	-0.1
	0.5nm,0.3s,baz=346,slow=9.4,SNR=29						
ASAR				S	Sn	09 02 23.0	-13
	0.2nm,0.3s,baz=348,slow=26,SNR=5.0						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	09 06 03.9	0.0
	0.6nm,0.8s,baz=140,slow=7.7,SNR=4.3						

*ISCJB **07** 08:55:23.0±0.7, 12°90S×107°66'9E±0°2, h250km, mb3.9/9, Error ellipse: s-maj=22.6km s-min=9.9km az=6.2*
*IDC **07** 08:55:24.5±5.5, 13°02S×167°01E, h256km±59km, mb3.7/9, mb1 3.9/10, mb1mx3.5/44, mbtmp4.2/10, Error ellipse: s-maj=43.2km s-min=20.2km az=154.0*
ISC 07 08:55:24.0±0.8, 12°98S±0°09×167°0E±0°2, h250km, n11, σ1s05/12, mb4.0/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.06**	**183**	P	**Pn**	**08 57 32.2**	**+1.4**
	0.6nm,0.3s,baz=330,slow=20,SNR=5.5						
DZM				S	**S**	**08 59 11.8**	**-1.5**
	0.3nm,0.3s,baz=124,slow=22,SNR=2.4						
STKA	**Stephens Creek**	**29.98**	**227**	P	**P**	**09 01 10.1**	**+0.6**
	1.5nm,0.5s,baz=26,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**32.07**	**253**	P	**P**	**09 01 26.8**	**-1.1**
	1.8nm,0.5s,baz=84,slow=9.4,SNR=6.3						
ASAR	**Alice Springs**	**33.12**	**247**	P	**P**	**09 01 36.0**	**-1.0**
	2.6nm,0.7s,baz=73,slow=9.7,SNR=25						
SEY	**Seymchan**	**76.53**	**353**	P	**P**	**09 06 46.2**	**0.0**
	3.2nm,0.6s,baz=163,slow=5.9,SNR=20						
SONM	**Songino Array**	**80.96**	**324**	P	**P**	**09 07 12.1**	**+1.3**
	0.6nm,0.9s,baz=134,slow=6.2,SNR=3.9						
ILAR	**Eielson Array**	**84.94**	**18**	P	**P**	**09 07 30.1**	**-0.5**
	2.0nm,0.5s,baz=230,slow=5.4,SNR=52						
NVAR	**Mina Array Bea**	**86.31**	**49**	P	**P**	**09 07 38.3**	**+0.1**
	0.9nm,0.7s,baz=234,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**95.78**	**317**	P	**P**	**09 08 22.0**	**+0.2**
	0.5nm,0.5s,baz=92,slow=6.4,SNR=8.3						
YKA	**Yellowknife Ar**	**96.11**	**27**	P	**P**	**09 08 21.8**	**-1.1**
	0.2nm,0.2s,baz=260,slow=5.0,SNR=8.5						
ARCES	**ARCESS Array B**	**118.51**	**346**	PKP	**PKPdf**	**09 13 41.6**	**+0.3**
	2.3nm,0.7s,baz=73,slow=2.1,SNR=8.7						

IDC 07 09:07:27.5±10.0, 1°15S×16°01W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/29, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/33, Error ellipse: s-maj=369.3km s-min=40.5km az=159.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**6.81**	**167**	T	T	09 17 07.0	
	baz=347,slow=74,SNR=122						
H10N3	**ASCENSION HYDR**	**6.82**	**167**	T	T	09 17 09.9	
	baz=347,slow=74,SNR=149						
H10N1	**ASCENSION HYDR**	**6.83**	**167**	T	T	09 17 11.9	
	baz=347,slow=74,SNR=174						
H10S1	**ASCENSION HYDR**	**7.86**	**170**	T	T	09 18 27.3	
	baz=350,slow=74,SNR=50						
H10S3	**ASCENSION HYDR**	**7.87**	**170**	T	T	09 18 26.6	
	baz=350,slow=74,SNR=58						
H10S2	**ASCENSION HYDR**	**7.88**	**170**	T	T	09 18 29.1	
	baz=350,slow=74,SNR=36						
TORD	**Torodi Ar. Bea**	**22.59**	**50**	P	P	09 12 29.9	+0.1
	1.3nm,0.7s,baz=226,slow=11,SNR=6.3						
CPUP	**Villa Florida**	**46.95**	**234**	LR	LR	09 33 15.6	
	comp=Z,35nm,20.1s,baz=193,slow=33						
FINES	**FINESS Array B**	**70.18**	**20**	P	P	09 18 41.7	-0.1
	0.9nm,0.6s,baz=224,slow=3.8,SNR=4.4						
TXAR	**Lajitas Array**	**88.51**	**299**	P	P	09 20 22.6	0.0
	0.1nm,0.6s,baz=110,slow=7.8,SNR=2.1						

*NIED **07** 09:17:00, 38°60N×141°90E, h44km, Mw3.7 Best double couple: M₀3.93000×10¹⁴ NP1:φs278.00000°, δ23.00000°, λ179.00000°. NP2:φs9.00000°, δ90.00000°, λ67.00000°.*
*IDC **07** 09:17:49.8±2.7, 38°78N×142°55E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/39, mbtmp3.9/5, ML3.2/2, MS2.3/2, Ms1 2.3/2, ms1mx2.2/47, Error ellipse: s-maj=64.6km s-min=27.7km az=77.0*
*ISCJB **07** 09:17:57.3±0.9, 38°59N±0°04×141°98E±0°10, h15km±6km, mb3.6/3, Error ellipse: s-maj=13.2km s-min=5.9km az=12.2*
*JMA **07** 09:17:58.6, 38°62N×141°90E, h48km±1km, M3.7*
JMA Felt II J1.
ISC 07 09:17:57.4±1.6, 38°59N±0°04×142°0E±0°1, h42km±13km, n25, σ0s97/30, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.49**	**296**	P	**Pn**	**09 18 08.5**	**+0.3**
JKMT				S	**Sn**	**09 18 15.3**	**-0.4**
JIKH	**Ishinomakikobu**	**0.53**	**238**	P	**Pn**	**09 18 09.2**	**+0.5**
JIKH				S	**Sn**	**09 18 16.3**	**-0.3**
JIO	**Ouri**	**0.56**	**256**	P	**Pn**	**09 18 09.3**	**+0.3**
JIO				S	**Sn**	**09 18 16.5**	**-0.7**
OFUJ	**Ofunato**	**0.57**	**329**	P	**Pn**	**09 18 09.8**	**+0.6**
OFUJ				S	**Sn**	**09 18 17.4**	**-0.1**
JMK	**Ichinoseki**	**0.73**	**300**	P	**Pn**	**09 18 11.5**	**+0.1**
JMK				S	**Sn**	**09 18 20.7**	**-0.7**
JOM	**Ohasama**	**1.05**	**327**	P	**Pn**	**09 18 16.2**	**+0.4**
JOM				S	**Sn**	**09 18 29.2**	**-0.1**
JOU	**Okura**	**1.10**	**259**	P	**Pn**	**09 18 16.4**	**0.0**
JOU				S	**Sn**	**09 18 29.5**	**-1.0**
JMM	**Marumori**	**1.22**	**234**	P	**Pn**	**09 18 17.9**	**-0.1**
JMM				S	**Sn**	**09 18 32.1**	**-1.2**
JYK	**Kaneyama**	**1.35**	**284**	P	**Pn**	**09 18 19.8**	**-0.1**
JRG	**Rokugo**	**1.36**	**307**	P	**Pn**	**09 18 19.9**	**0.0**
JFK	**Kawauchi**	**1.53**	**217**	P	**Pn**	**09 18 22.6**	**+0.3**
JFK				S	**Sn**	**09 18 40.3**	**-0.7**
JYS	**Shirataka**	**1.59**	**257**	P	**Pn**	**09 18 23.4**	**+0.2**
JYS				*eS*	**Sn**	**09 18 41.9**	**-0.7**
MAT	**Matsushiro**	**3.67**	**237**	P	**Pn**	**09 18 53.5**	**+1.8**
MAT				S	**Sn**	**09 19 36.3**	**+2.6**
MJAR	**Matsushiro Arr**	**3.67**	**237**	Pn	**Pn**	**09 18 53.6**	**+2.0**
	0.8nm,0.3s,baz=40,slow=11,SNR=28						
MJAR				LR	LR	09 20 59.1	
	comp=Z,26nm,18.2s,baz=315,slow=46						
JHJ	**Hachijo jima 2**	**5.76**	**199**	Pn	**Pn**	**09 19 21.0**	**+0.6**
	4.1nm,0.3s,baz=62,slow=10,SNR=4.3						
JHJ				Sn	**Sn**	**09 20 23.2**	**-2.0**
	16nm,0.3s,baz=28,slow=22,SNR=6.1						
KSRS	**Korea Array**	**11.20**	**269**	LR	LR	09 24 41.7	
	comp=Z,23nm,19.5s,baz=30,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.56**	**124**	T	T	09 54 20.3	
	baz=317,slow=75,SNR=84						
H11N1	**WAKE ISLAND Hy**	**28.57**	**124**	T	T	09 54 21.0	
	baz=317,slow=75,SNR=247						
H11N3	**WAKE ISLAND Hy**	**28.58**	**124**	T	T	09 54 21.7	
	baz=317,slow=75,SNR=135						
H11S1	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	09 55 16.5	
	baz=318,slow=76,SNR=52						
H11S3	**WAKE ISLAND Hy**	**29.33**	**126**	T	T	09 55 18.4	
	baz=318,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy**	**29.35**	**126**	T	T	09 55 18.9	
	baz=318,slow=76,SNR=52						
ZALV	**Zalesovo Beam**	**41.25**	**311**	P	**P**	**09 25 37.9**	**-0.3**
	1.0nm,0.4s,baz=83,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**43.73**	**301**	P	**P**	**09 25 58.3**	**-0.2**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=6.2						
WRA	**Warramunga Arr**	**58.67**	**188**	P	**P**	**09 27 50.6**	**0.0**
	0.5nm,0.7s,baz=5.9,slow=6.9,SNR=5.1						

IDC 07 09:18:39.2±26.0, 20°52S×172°74W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.1/4, Error ellipse: s-maj=490.5km s-min=162.9km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.39**	**263**	P	P	09 26 03.0	+0.5
	2.6nm,0.6s,baz=90,slow=9.1,SNR=4.6						
STKA	**Stephens Creek**	**42.23**	**245**	P	P	09 26 33.7	-0.5
	2.9nm,0.9s,baz=84,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**49.30**	**256**	P	P	09 27 30.0	-0.4
	1.3nm,0.7s,baz=100,slow=7.2,SNR=19						
WRA	**Warramunga Arr**	**49.47**	**261**	P	P	09 27 31.6	-0.1
	1.2nm,0.8s,baz=96,slow=8.3,SNR=22						

*ISCJB **07** 09:39:44.6±0.5, 34°82N±0°02×25°96E±0°02, h9km±3km, mb3.9/14, MS3.1/3, Error ellipse: s-maj=3.4km s-min=2.5km az=20.2*
*THE **07** 09:39:45.8, 34°92N×25°93E, h4km, ML3.8/9, Error ellipse: s-maj=1.1km s-min=0.4km az=353.0*
*GII **07** 09:39:45.2±0.0, 34°93N×26°01E, h2km, MD3.7/1*
*IDC **07** 09:39:46.0±2.6, 34°93N×25°90E, h10km±16km, mb4.0/13, mb1 4.1/16, mb1mx3.9/44, mbtmp4.0/16, ML3.7/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/55, Error ellipse: s-maj=22.8km s-min=12.9km az=5.0*
*ATH **07** 09:39:46.2, 34°98N×25°94E, h20km±1km, ML3.8/7, Error ellipse: s-maj=2.8km s-min=0.9km az=356.0*
*ISK **07** 09:39:46.6, 35°00N×25°90E, h8km, ML3.9/22*
*HLW **07** 09:39:48.2, 34°88N×26°07E, h21km±17km, Ml3.6*
ISC 07 09:39:45.7±1.1, 34°91N±0°04×25°92E±0°02, h10km±7km, n139, σ1s57/158, mb4.1/14, MS3.0/3, 6C-4D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.32**	**50**	PG	**Pg**	**09 39 52.4**	**+0.4**
ZKR				SG	**Sb**	**09 39 57.8**	**-1.0**
ZKR	**Zakros**	**0.32**	**50**	P	**Pg**	**09 39 52.3**	**+0.3**
ZKR				S	**Sg**	**09 39 57.1**	**+0.8**
ZKR	**Zakros**	**0.32**	**50**	P	**Pg**	**09 39 52.4**	**+0.4**
ZKR				S	**Sg**	**09 39 56.8**	**+0.5**
ZKR				AML	AML	09 39 58.0	
	comp=N,64163μm,0.2s						
ZKR				AML	AML	09 39 58.5	
	comp=E,62581μm,0.2s						
STIA	**Sitia Lasithi**	**0.32**	**25**	P	**Pg**	**09 39 52.5**	**+0.3**
STIA				S	**Sg**	**09 39 57.3**	**+0.8**
NPS	**Neapolis**	**0.43**	**324**	P	**Pg**	**09 39 54.2**	**-0.1**
NPS				S	**Sg**	**09 40 01.2**	**+1.2**
NPS	**Neapolis**	**0.43**	**324**	P	**Pg**	**09 39 54.2**	**-0.1**
NPS				S	**Sg**	**09 40 01.0**	**+1.0**
NPS				AML	AML	09 40 06.3	
	comp=E,18041μm,0.5s						
NPS				AML	AML	09 40 09.0	
	comp=N,18594μm,0.7s						
LAST	**Lasithi**	**0.44**	**304**	P	**Pg**	**09 39 54.3**	**-0.1**
LAST				S	**Sb**	**09 40 01.8**	**-0.7**
LAST	**Lasithi**	**0.44**	**304**	P	**Pg**	**09 39 54.4**	**-0.1**
LAST				S	**Sg**	**09 40 01.1**	**+0.8**
LAST				AML	AML	09 40 02.3	
	comp=N,18059μm,0.4s						
LAST				AML	AML	09 40 02.3	
	comp=E,23777μm,0.4s						
KSTL	**Kastelli Herak**	**0.80**	**300**	P	**Pg**	**09 39 56.7**	**-4.5**
KSTL				S	**Sg**	**09 40 05.6**	**-6.1**
IACM	**Heraklion**	**0.80**	**300**	P	**Pg**	**09 40 01.5**	**+0.3**
IACM				S	**Sb**	**09 40 12.7**	**-0.1**
IACM	**Heraklion**	**0.80**	**300**	P	**Pg**	**09 40 01.6**	**+0.3**
IDI	**Anoyia**	**0.93**	**294**	PG	**Pg**	**09 40 03.3**	**-0.3**
IDI				SG	**Sb**	**09 40 16.8**	**+0.4**
IDI	**Anoyia**	**0.93**	**294**	⇑*iP*	**Pg**	**09 40 03.0**	**-0.6**
IDI	**Anoyia**	**0.93**	**294**	Pg	**Pg**	**09 40 03.0**	**-0.6**
	comp=E,33nm,0.3s,baz=158,slow=7.7,SNR=151						
IDI				Lg	Lg	09 40 16.8	
	comp=E,284nm,0.3s,baz=271,slow=22,SNR=28						
TMBK	**Timbaki Herakl**	**0.96**	**280**	P	**Pg**	**09 40 04.3**	**0.0**
TMBK				S	**Sn**	**09 40 18.7**	**-0.5**
KARP	**Karpathos**	**1.20**	**58**	PN	**Pg**	**09 40 09.1**	**+0.4**
KARP	**Karpathos**	**1.20**	**58**	P	**Pg**	**09 40 07.7**	**-0.9**
KARP				S	**Sg**	**09 40 24.3**	**0.0**
KARP	**Karpathos**	**1.20**	**58**	P	**Pb**	**09 40 08.0**	**-0.6**
KARP				S	**Sg**	**09 40 24.1**	**-0.1**
KARP				AML	AML	09 40 31.0	
	comp=N,11694μm,0.8s						
KARP				AML	AML	09 40 37.9	
	comp=E,9866μm,0.5s						
PRNS	**Prines Rethymn**	**1.25**	**292**	P	**Pn**	**09 40 09.4**	**+0.1**
PRNS				S	**Sn**	**09 40 27.4**	**+1.1**
ANAF	**Anafi Island**	**1.45**	**355**	P	**Pn**	**09 40 10.8**	**-1.3**
ANAF				S	**Sb**	**09 40 31.5**	**+0.1**
ANAF	**Anafi Island**	**1.45**	**355**	P	**Pn**	**09 40 12.0**	**-0.1**
ANAF				AML	AML	09 40 34.6	
	comp=E,22538μm,0.4s						
ANAF				AML	AML	09 40 35.0	
	comp=N,21324μm,0.4s						
VAM	**Vamos**	**1.50**	**290**	P	**Pn**	**09 40 12.4**	**-0.3**
VAM				S	**Sn**	**09 40 32.0**	**-0.4**
VAM	**Vamos**	**1.50**	**290**	P	**Pn**	**09 40 12.7**	**0.0**
VAM				AML	AML	09 40 44.1	
	comp=E,4152μm,0.8s						
VAM				AML	AML	09 40 50.2	
	comp=N,4844μm,1.1s						
THR6	**Thira Island,**	**1.50**	**344**	P	**Pn**	**09 40 11.8**	**-1.0**
SANT	**Santorini**	**1.51**	**346**	PN	**Pb**	**09 40 13.5**	**-0.4**
SANT				SN	**Sn**	**09 40 32.7**	**+0.1**
SANT	**Santorini**	**1.51**	**346**	⇓*iP*	**Pb**	**09 40 13.8**	**-0.1**
SANT	**Santorini**	**1.51**	**346**	P	**Pn**	**09 40 12.1**	**-0.8**
SANT	**Santorini**	**1.51**	**346**	P	**Pb**	**09 40 14.0**	**+0.2**
SANT				AML	AML	09 40 38.9	
	comp=E,9127μm,0.7s						
SANT				AML	AML	09 40 42.8	
	comp=N,3560μm,0.7s						
GVD	**Gavdhos**	**1.51**	**268**	PN	**Pb**	**09 40 14.4**	**+0.5**
GVD	**Gavdhos**	**1.51**	**268**	P	**Pg**	**09 40 14.9**	**+0.2**
THT2	**Imerovigli**	**1.57**	**345**	P	**Pn**	**09 40 13.0**	**-0.8**
CMBO	**Columbo, Santo**	**1.61**	**345**	P	**Pn**	**09 40 14.9**	**+0.5**
IMMV	**Iera Moni Meta**	**1.68**	**290**	PN	**Pb**	**09 40 16.8**	**-0.1**
IMMV	**Iera Moni Meta**	**1.68**	**290**	P	**Pb**	**09 40 17.5**	**+0.6**
NISR	**Nisiros**	**1.96**	**30**	P	**Pn**	**09 40 17.8**	**-1.3**
NISR				S	**Sn**	**09 40 44.1**	**+0.3**
NISR	**Nisiros**	**1.96**	**30**	P	**Pn**	**09 40 19.1**	**0.0**
KERA	**Keramoti**	**1.99**	**284**	P	**Pn**	**09 40 20.6**	**+1.0**
MHLO	**Agia Marina, M**	**2.16**	**326**	P	**Pn**	**09 40 22.9**	**+1.0**
APE	**Apeiranthos**	**2.18**	**352**	PN	**Pn**	**09 40 22.5**	**+0.4**
APE	**Apeiranthos**	**2.18**	**352**	⇑*iP*	**Pn**	**09 40 22.3**	**+0.2**
APE	**Apeiranthos**	**2.18**	**352**	P	**Pn**	**09 40 22.0**	**-0.2**
ARG	**Arkhangelos**	**2.22**	**53**	PN	**Pb**	**09 40 24.8**	**-1.2**
ARG	**Arkhangelos**	**2.22**	**53**	P	**Pn**	**09 40 22.4**	**-0.2**
ARG				S	**Sn**	**09 40 49.9**	**-0.3**
ARG	**Arkhangelos**	**2.22**	**53**	P	**Pb**	**09 40 24.7**	**-1.3**
DAT	**Datca**	**2.26**	**36**	PN	**Pn**	**09 40 24.8**	**+1.5**
DAT	**Datca**	**2.26**	**36**	*iP*	**Pb**	**09 40 25.2**	**-1.5**
ANKY	**Antikythira Is**	**2.35**	**295**	P	**Pn**	**09 40 25.5**	**+1.1**
BODT	**Bodrum**	**2.42**	**27**	PN	**Pn**	**09 40 26.9**	**+1.4**
BDRM	**Kayabasi**	**2.48**	**29**	*iP*	**Pb**	**09 40 28.5**	**-1.9**
SERI	**Serifos**	**2.53**	**333**	P	**Pn**	**09 40 27.5**	**+0.5**
KYTH	**Kithira**	**2.71**	**301**	P	**Pn**	**09 40 30.6**	**+1.2**
SMG	**Samos**	**2.89**	**15**	P	**Pn**	**09 40 31.5**	**-0.4**
DALY	**Dalyan (Mula)**	**2.92**	**49**	PN	**Pn**	**09 40 34.8**	**+2.5**
DALY	**Dalyan (Mula)**	**2.92**	**49**	*iP*	**Pb**	**09 40 36.8**	**-1.1**
DALY				IAML_P			
	comp=Z,4μm,0.4s						
TURN	**Turunc**	**2.93**	**47**	PN	**Pn**	**09 40 30.4**	**-2.0**
TURN	**Turunc**	**2.93**	**47**	*iP*	**Pn**	**09 40 30.2**	**-2.1**
YER	**Yerkesik**	**2.93**	**40**	PN	**Pn**	**09 40 34.8**	**+2.3**
VLI	**Veliai**	**3.02**	**307**	P	**Pn**	**09 40 34.5**	**+0.8**
FETY	**Fethiye**	**3.09**	**55**	PN	**Pn**	**09 40 36.8**	**+2.1**
FETY	**Fethiye**	**3.09**	**55**	*iP*	**Pn**	**09 40 37.0**	**+2.3**
FETY				IAML_P			
	comp=Z,4μm,0.3s						
AYDN	**Tasoluk**	**3.17**	**29**	*iP*	**Pb**	**09 40 40.0**	**-2.2**
AYDN				IAML_P			
	comp=Z,501nm,0.3s						
DGB	**zmir**	**3.23**	**14**	*iP*	**Pn**	**09 40 37.5**	**+1.0**
AKAS	**Kas**	**3.28**	**65**	PN	**Pn**	**09 40 39.2**	**+1.8**
AKAS	**Kas**	**3.28**	**65**	*iP*	**Pn**	**09 40 39.9**	**+2.6**
AKAS				IAML_P			
	comp=Z,2μm,0.3s						
KRND	**KRANIDI**	**3.33**	**319**	P	**Pn**	**09 40 39.8**	**+1.8**
DID	**Didima**	**3.38**	**321**	P	**Pn**	**09 40 39.5**	**+0.9**
AYDB	**Zeytinkoy-Aydi**	**3.42**	**27**	PN	**Pn**	**09 40 40.9**	**+1.6**
SLUM	**Salum**	**3.46**	**190**	P	**Pn**	**09 40 40.5**	**+0.7**
	baz=193						
SLUM				S	**Sn**	**09 41 18.6**	**-2.2**
	baz=193						
CHOS	**Chios island**	**3.47**	**2**	PN	**Pn**	**09 40 40.9**	**+0.9**
CHOS	**Chios island**	**3.47**	**2**	P	**Pn**	**09 40 39.8**	**-0.1**
URLA	**Izmir**	**3.48**	**9**	PN	**Pn**	**09 40 40.8**	**+0.7**
TAVA	**DENIZLI_Tavas**	**3.51**	**43**	*iP*	**Pb**	**09 40 44.8**	**-3.3**
BLCB	**Balcova**	**3.58**	**14**	PN	**Pn**	**09 40 42.5**	**+1.1**
ELL	**Elmali**	**3.72**	**59**	PN	**Pn**	**09 40 45.5**	**+2.1**
GOLH	**Golhisar**	**3.75**	**51**	*iP*	**Pb**	**09 40 48.0**	**-4.2**
GOLH				IAML_P			
	comp=Z,4μm,0.4s						
VLX	**Vlachokerasia**	**3.77**	**312**	P	**Pn**	**09 40 46.0**	**+1.9**
AKUM	**Antalya-Kumluc**	**3.87**	**67**	*iP*	**Pn**	**09 40 47.0**	**+1.7**
VIL2	**Platees**	**3.93**	**328**	P	**Pn**	**09 40 47.7**	**+1.6**
TRIP	**Tripoli**	**3.94**	**313**	P	**Pn**	**09 40 48.9**	**+2.4**
ITM	**Ithomi**	**3.95**	**306**	PN	**Pn**	**09 40 48.5**	**+2.0**
ITM	**Ithomi**	**3.95**	**306**	P	**Pn**	**09 40 48.7**	**+2.2**
KORT	**Korkueli**	**4.15**	**59**	PN	**Pn**	**09 40 51.9**	**+2.5**
KORT	**Korkueli**	**4.15**	**59**	*iP*	**Pb**	**09 40 54.8**	**-4.2**
KORT				IAML_P			
	comp=Z,932nm,0.5s						
MANT	**Manisa**	**4.15**	**30**	*iP*	**Pn**	**09 40 51.2**	**+1.8**
MANT				IAML_P			
	comp=Z,972nm,0.2s						
KULA	**Kula-Manisa**	**4.21**	**31**	PN	**Pn**	**09 40 51.9**	**+1.7**
SIGR	**SIGRI**	**4.29**	**359**	PN	**Pn**	**09 40 52.5**	**+1.3**
KLV	**Kalavryta, Ach**	**4.36**	**317**	P	**Pn**	**09 40 53.4**	**+1.2**
KHAL	**Karahalli**	**4.49**	**39**	*iP*	**Pn**	**09 40 58.1**	**+4.1**
KHAL				IAML_P			
	comp=Z,584nm,0.5s						
USAK	**Uak-Merkez**	**4.54**	**32**	*iP*	**Pn**	**09 40 57.4**	**+2.8**
USAK				IAML_P			
	comp=Z,2μm,0.3s						
AOS	**Alonnisos**	**4.55**	**340**	PN	**Pn**	**09 40 56.9**	**+2.1**
DEMI	**Demirci**	**4.69**	**28**	*iP*	**Pn**	**09 41 01.4**	**+4.7**
KZIL	**AFYON_Kizioren**	**4.76**	**44**	*iP*	**Pn**	**09 40 58.4**	**+0.6**
KZIL				IAML_P			
	comp=Z,123nm,0.1s						
BAGO	**Egridir - ISPA**	**4.98**	**50**	*iP*	**Pn**	**09 41 05.3**	**+4.5**
BAGO				IAML_P			
	comp=Z,313nm,0.3s						
KEPZ	**Antalya-Kepez**	**5.02**	**65**	*iP*	**Pn**	**09 41 04.4**	**+3.2**
KEPZ				IAML_P			
	comp=Z,915nm,0.6s						
DOGA	**KONYA_Doganhis**	**5.62**	**54**	*iP*	**Pn**	**09 41 13.7**	**+4.2**
DOGA				IAML_P			
	comp=Z,52nm,0.3s						
SWA2		**5.67**	**184**	P	**Pn**	**09 41 11.0**	**+0.9**
	baz=186						
CSS	**Mathiatis**	**6.08**	**87**	Pn	**Pn**	**09 41 15.4**	**-0.4**
CSS				Sn	**Sn**	**09 42 25.8**	**+0.3**
HNAT	**Natroun**	**6.59**	**142**	P	**Pn**	**09 41 23.5**	**+0.6**
	baz=142			

comp=Z,3.8nm,0.8s
AKTO Aktyubinsk 27.96 46 P **P** **09 45 36.6 +0.3**
AKTO LR LR 10 02 11.2
comp=Z,41nm,18.4s,baz=318,slow=48
AB31 Akbulak array 28.75 50 ⇓Pn **P** **09 45 42.5 -0.9**
comp=Z,0.5nm,0.5s,baz=34,slow=13,SNR=7.8
AB31 ⇓Lg Lg 09 46 57.6
comp=Z,9.2nm,0.9s,baz=27,slow=30,SNR=7.1
TORD Torodi Ar. Bea 30.82 231 P **P** **09 46 01.4 -0.5**
comp=Z,1.0nm,0.5s,baz=31,slow=9.1,SNR=14
ARCES ARCESS Array B 34.68 360 P **P** **09 46 33.7 -1.6**
comp=Z,4.4nm,1.0s,baz=179,slow=9.0,SNR=3.8
MKAR Makanchi Array 43.39 56 P **P** **09 47 49.4 +1.0**
comp=Z,4.1nm,0.6s,baz=279,slow=6.6,SNR=36
ZALV Zalesovo Beam 44.73 46 P **P** **09 47 59.0 0.0**
comp=Z,2.2nm,0.5s,baz=265,slow=8.6,SNR=8.5
ZALV LR LR 10 09 23.5
comp=Z,34nm,18.9s,baz=76,slow=40
SONM Songino Array 59.16 51 P **P** **09 49 48.1 +1.3**
comp=Z,0.8nm,0.8s,baz=304,slow=8.2,SNR=5.7
SCHQ Schefferville 63.78 320 P **P** **09 50 18.1 +0.2**
comp=Z,3.7nm,0.8s,baz=60,slow=4.7,SNR=11
USRK Ussuriysk Ar. 76.57 45 P **P** **09 51 37.0 +0.7**
comp=Z,2.0nm,0.7s,baz=300,slow=4.5,SNR=6.1
YKA Yellowknife Ar 77.88 342 P **P** **09 51 43.0 -0.3**
comp=Z,0.3nm,0.5s,baz=35,slow=5.4,SNR=4.7
ILAR Eielson Array 80.49 357 P **P** **09 51 57.5 -0.1**
comp=Z,0.5nm,0.9s,baz=338,slow=3.3,SNR=4.7

KRSC 07 09:45:04.4±10.0, **48.17N**×**156.59E**, **h28**km±10km, **ML3.8, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.53**	**353**	*e*P	Pn	09 45 43.3	-0.3
SKR				*e*S	Sn	09 46 14.3	+0.8
PAU	**Pauzhetka**	**3.30**	**2**	*e*P	Pn	09 45 57.6	+3.4
PAU				*e*S	Sn	09 46 36.5	+4.0
KDTR	**Khodutka, Kamc**	**3.77**	**14**	*e*P	Pn	09 46 04.3	+3.8
KDTR				*e*S	Sb	09 46 50.4	-4.9
ASAK	**Asacha**	**4.30**	**11**	P	Pn	09 46 12.4	+4.4
RUS	**Russkaya**	**4.44**	**15**	*e*P	Pn	09 46 13.6	+3.8
DALK	**Dalny**	**5.06**	**15**	*e*P	Pn	09 46 23.1	+4.8
UGLR	**Uglovaya**	**5.24**	**15**	*e*P	Pn	09 46 26.2	+5.3
AVH	**Avacha**	**5.28**	**14**	*e*P	Pn	09 46 27.3	+5.9
KOK	**Koryaka**	**5.29**	**13**	*e*P	Pn	09 46 27.8	+6.2
SDLR	**Sedlovina**	**5.32**	**15**	*e*P	Pn	09 46 26.2	+4.2
SPN	**Mys Shipunski**	**5.39**	**23**	*e*P	Pn	09 46 28.2	+5.3
SPN				*e*S	Sn	09 47 30.3	+6.3
GNL	**Ganaly**	**5.60**	**8**	*e*P	Pn	09 46 30.3	+4.5
MKZ	**Mys Kozlova**	**7.16**	**25**	*e*P	Pn	09 46 50.8	+3.7

*DDA **07** 09:45:07.9, 41.42N×44.01E, h7km±3km, ML2.6*
*TIF **07** 09:45:08.0, 41.45N×44.04E, h5km±1km*
ISC 07 09:45:08.1±0.9, **41.45N**±0.05×**44.02E**±0.03, **h9**km±8km, **n14**, σ0**90**/23, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRLG	**Trialeti**	**0.11**	**36**	P	**Pg**	**09 45 10.5**	**-0.3**
TRLG				S	**Sg**	**09 45 12.5**	**-0.3**
KZRT	**Kazreti**	**0.29**	**103**	P	**Pb**	**09 45 14.6**	**-0.9**
KZRT				S	**Sg**	**09 45 18.7**	**+0.8**
BGD	**Bogdanovka**	**0.37**	**239**	P	**Pg**	**09 45 15.9**	**+0.5**
BGD				S	**Sg**	**09 45 21.3**	**+1.0**
TBLG	**Delisi**	**0.61**	**63**	P	**Pb**	**09 45 20.7**	**-0.1**
TBLG				S	**Sb**	**09 45 29.5**	**0.0**
TBLG	**Delisi**	**0.61**	**63**	*i* P	**Pb**	**09 45 21.1**	**+0.3**
TBLG				*i* S	**Sb**	**09 45 29.4**	**-0.1**
TBLG				IAML_P			
comp=Z,3μm,0.1s							
BTNK	**Botanikuri**	**0.63**	**68**	P	**Pb**	**09 45 20.9**	**-0.3**
BTNK				S	**Sb**	**09 45 29.9**	**-0.2**
BTNK	**Botanikuri**	**0.63**	**68**	*i* P	**Pg**	**09 45 20.7**	**+0.4**
BTNK				IAML_P			
comp=Z,3μm,0.1s							
GUDG	**Gudauri**	**1.07**	**19**	P	**Pn**	**09 45 30.1**	**+0.8**
DIGO	**Kars**	**1.15**	**205**	*i* P	**Pn**	**09 45 30.7**	**+0.2**
DIGO				*i* S	**Sb**	**09 45 45.8**	**+0.6**
DIGO				IAML_P			
comp=Z,933nm,0.1s							
ARTV	**Artvin**	**1.60**	**261**	*i* P	**Pg**	**09 45 38.6**	**-0.1**
DAGI	**Agillar**	**1.63**	**257**	*i* P	**Pn**	**09 45 36.2**	**-0.8**
DAGI				IAML_P			
comp=Z,532nm,0.2s							
LGD	**Lagodekhi**	**1.71**	**76**	P	**Pg**	**09 45 40.3**	**-0.6**
LGD				S	**Sg**	**09 46 04.5**	**+1.5**
BATM	**Batumi**	**1.75**	**276**	P	**Pb**	**09 45 40.4**	**+0.1**
BATM				S	**Sb**	**09 46 03.2**	**+0.8**
DBAD	**Bademkaya**	**1.81**	**257**	*i* P	**Pn**	**09 45 36.7**	**-2.7**

*IDC **07** 09:53:33.7±3.7, 36.65N×68.10E, h0km, mb3.3/2, mb1 3.5/6, mb1mx3.3/47, mbtmp3.4/6, ML3.4/4, Error ellipse: s-maj=71.4km s-min=24.2km az=152.0*
*ISCJB **07** 09:53:35.2±2.5, 37.1N±0.3×67.8E±0.2, h10km, mb3.2/1, Error ellipse: s-maj=47.2km s-min=11.0km az=153.8*
*NNC **07** 09:54:07.0±6.2, 38.19N×70.51E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=59.9km s-min=47.5km az=74.0*
ISC 07 09:53:37.0±3.2, **37.0N**±0.4×**67.8E**±0.2, **h10**km, **n9**, σ1§**96**/9, **3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.42**	**18**	⇓Pg	Pb	09 55 35.9	+7.1
4.2nm,0.8s,baz=194,slow=16,SNR=6.3							
KK31				⇓Lg	Lg	09 56 45.3	
3.4nm,0.5s,baz=201,slow=29,SNR=4.1							
AAK	**Ala-Archa**	**7.61**	**40**	⇑Pn	**Pn**	**09 55 29.1**	**+1.0**
3.0nm,0.8s							
AAK				Lg	Lg	09 56 58.1	
2.7nm,0.6s							
AAK	**Ala-Archa**	**7.61**	**40**	Pn	**Pn**	**09 55 29.7**	**+1.6**
0.7nm,0.3s,baz=202,slow=8.2,SNR=7.7							
AAK				Sn	**Sn**	**09 56 56.1**	**+1.6**
0.4nm,0.3s,baz=171,slow=19,SNR=3.5							
GEYT	**Alibeck**	**7.76**	**280**	Pn	**Pn**	**09 55 30.0**	**0.0**
0.5nm,0.3s,baz=98,slow=10,SNR=2.5							
TKM2	**Tokmak 2**	**8.39**	**43**	⇑Pn	**Pn**	**09 55 38.7**	**-0.2**
2.3nm,0.5s							
TKM2				⇑Lg	Lg	09 57 18.2	
2.5nm,0.8s							
MKAR	**Makanchi Array**	**14.53**	**43**	Pn	**Pn**	**09 56 59.2**	**-3.4**
0.1nm,0.3s,baz=234,slow=12,SNR=4.0							
BVAR	**Borovoye Array**	**16.11**	**6**	Pn	**Pn**	**09 57 21.8**	**-1.6**
0.2nm,0.3s,baz=170,slow=9.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**20.62**	**29**	P	**P**	**09 58 15.7**	**-0.6**
0.6nm,0.4s,baz=253,slow=9.8,SNR=3.8							
YKA	**Yellowknife Ar**	**80.81**	**1**	P	**P**	**10 05 52.0**	**+1.6**
0.3nm,0.8s,baz=345,slow=5.6,SNR=3.9							

*IDC **07** 09:59:32.1±1.3, 9.18S×152.52E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.2/42, mbtmp4.3/10, ML4.1/1, MS3.5/10, Ms1 3.5/10, ms1mx3.3/26, Error ellipse: s-maj=41.3km s-min=19.8km az=124.0*
*NEIC **07** 09:59:37.3±1.6, 9.27S×152.58E, h38km±12km, mb4.4/6, Error ellipse: s-maj=20.0km s-min=7.6km az=112.0*
ISC 07 09:59:37.5±0.8, **9.22S**±0.09×**152.6E**±0.2, **h35**km, **n47**, σ1§**67**/36, **mb4.3**/16, **MS3.4**/9, **D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**5.01**	**355**	*e*Pn	**Pn**	**10 00 48.7**	**-1.7**
HNR	**Honiara**	**7.24**	**92**	LR	LR	10 03 42.3	
comp=Z,623nm,20.4s,baz=297,slow=34							
MANU	**Manus Island**	**8.84**	**323**	*e*Pn	**Pn**	**10 01 45.5**	**+2.7**
CTA	**Charters Tower**	**12.43**	**209**	Pn	**Pn**	**10 02 30.7**	**-1.4**
0.7nm,0.3s,baz=31,slow=14,SNR=7.0							
WRAB	**Tennant Creek**	**20.61**	**237**	*e*P	**P**	**10 04 13.3**	**-0.7**
75nm,0.8s							
WB2	**Warramunga Arr**	**20.62**	**237**	*e*P	**P**	**10 04 12.2**	**-1.8**
WB2				*e*P	Pn	10 04 12.8	-3.7
WR1	**Warramunga Array**	**20.62**	**237**	*e*P	**P**	**10 04 13.4**	**-0.7**
70nm,0.8s							
WRA	**Warramunga Arr**	**20.63**	**237**	P	**P**	**10 04 13.4**	**-0.7**
89nm,0.9s,baz=61,slow=11,SNR=218							
WRA				LR	LR	10 12 08.1	
comp=Z,199nm,18.0s,baz=45,slow=37							
MTN	**Manton Dam**	**21.39**	**258**	*e*P	**P**	**10 04 21.4**	**-0.9**
30nm,0.9s							
AS01	**Alice Springs**	**22.91**	**229**	*e*P	**P**	**10 04 36.6**	**-2.0**
AS31	**Alice Springs**	**22.94**	**229**	*e*P	**P**	**10 04 38.3**	**-0.6**
14nm,1.0s							
ASAR	**Alice Springs**	**22.94**	**229**	P	**P**	**10 04 38.2**	**-0.7**
46nm,1.0s,baz=61,slow=9.1,SNR=162							
ASAR				LR	LR	10 12 35.3	
comp=Z,134nm,18.6s,baz=54,slow=34							
GUMO	**Guam**	**23.93**	**341**	LR	LR	10 11 48.0	
comp=Z,119nm,20.9s,baz=134,slow=31							
STKA	**Stephens Creek**	**24.76**	**203**	*e*P	**P**	**10 05 01.3**	**+5.3**
1.2nm,1.0s							
STKA	**Stephens Creek**	**24.76**	**203**	LR	LR	10 14 56.0	
comp=Z,75nm,19.0s,baz=14,slow=37							
ANA2	**Anatahan**	**26.30**	**345**	*e*P	**P**	**10 05 09.4**	**-0.6**
411nm,0.3s							
FITZ	**Fitzroy Crossi**	**27.62**	**249**	*e*P	**P**	**10 05 20.8**	**-1.2**
5.4nm,0.8s							
FITZ	**Fitzroy Crossi**	**27.62**	**249**	P	**P**	**10 05 20.8**	**-1.2**
2.9nm,0.5s,baz=65,slow=7.4,SNR=10							
H11S3	**WAKE ISLAND Hy**	**30.84**	**27**	T	T	10 38 11.6	
baz=202,slow=74,SNR=9.6							
H11S2	**WAKE ISLAND Hy**	**30.85**	**27**	T	T	10 38 29.1	
baz=202,slow=74,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**30.86**	**27**	T	T	10 38 22.1	
baz=202							
FORT	**Forrest**	**31.36**	**223**	*e*P	**P**	**10 05 54.4**	**-0.6**
35nm,0.8s							
MJAR	**Matsushiro Arr**	**47.49**	**344**	LR	LR	10 26 34.6	
comp=Z,20nm,20.0s,baz=210,slow=34							
KSRS	**Korea Array**	**51.87**	**335**	P	**P**	**10 08 43.0**	**+0.5**
0.8nm,0.4s,baz=150,slow=6.7,SNR=3.7							
KSAR	**Wonju Array Be**	**51.88**	**335**	P	**P**	**10 08 43.0**	**+0.5**
PPT	**Papeete**	**56.67**	**105**	LR	LR	10 29 27.9	
comp=Z,35nm,19.6s,baz=256,slow=32							
CMAR	**Chiang Mai Arr**	**59.66**	**299**	P	**P**	**10 09 38.8**	**-0.1**
1.2nm,0.4s,baz=122,slow=5.4,SNR=5.3							
CMAR				LR	LR	10 34 35.6	
comp=Z,17nm,21.6s,baz=355,slow=35							
SONA0	**Songino Array**	**69.96**	**329**	*e*P	**P**	**10 10 45.2**	**-0.3**
SONM	**Songino Array**	**69.96**	**329**	P	**P**	**10 10 45.2**	**-0.3**
1.4nm,0.5s,baz=145,slow=4.4,SNR=12							
SONM				LR	LR	10 43 45.6	
comp=Z,40nm,18.0s,baz=27,slow=38							
MK01	**Makanchi Array**	**83.51**	**319**	*e*P	**P**	**10 12 01.0**	**-0.9**
MK31	**Makanchi Array**	**83.53**	**319**	*e*P	**P**	**10 12 01.4**	**-0.5**
3.0nm,1.1s							
MK32	**Makanchi Array**	**83.53**	**319**	*e*P	**P**	**10 12 01.1**	**-0.8**
MKAR	**Makanchi Array**	**83.53**	**319**	P	**P**	**10 12 01.1**	**-0.9**
1.6nm,0.9s,baz=106,slow=5.9,SNR=8.9							
IM3	**Indian Mountai**	**84.59**	**19**	*e*P	**P**	**10 12 10.6**	**+3.7**
ZALV	**Zalesovo Beam**	**84.71**	**327**	*e*P	**P**	**10 12 09.3**	**+1.6**
ZALV	**Zalesovo Beam**	**84.71**	**327**	P	**P**	**10 12 06.1**	**-1.7**
0.6nm,0.5s,baz=116,slow=5.0,SNR=2.8							
ZALV				LR	LR	10 50 19.2	
comp=Z,30nm,20.0s,baz=70,slow=36							
ZAA1	**Zalesovo Array**	**84.71**	**327**	*e*P	**P**	**10 12 06.1**	**-1.7**
IL1	**Eielson Array**	**86.30**	**22**	*e*P	**P**	**10 12 14.1**	**-1.4**
ILAR	**Eielson Array**	**86.30**	**22**	P	**P**	**10 12 15.1**	**-0.3**
1.0nm,0.9s,baz=256,slow=4.8,SNR=5.3							
EGAK	**Eagle**	**88.47**	**23**	*e*P	P	10 12 32.0	+6.0
9.4nm,1.1s							
DAWY	**Dawson**	**88.87**	**24**	*e*P	P	10 12 34.4	+6.5
NV01	**Mina Array Sit**	**94.94**	**52**	*e*P	P	10 13 01.0	+4.1
NVAR	**Mina Array Bea**	**94.94**	**52**	P	**P**	**10 12 58.7**	**+1.8**
0.3nm,0.5s,baz=270,slow=9.6,SNR=2.9							
MPR	**Mayaguez**	**140.44**	**73**	*e*PKPdf	**PKiKP**	**10 19 05.6**	**-0.9**
TOD	**Torodi Ar. Sit**	**151.22**	**280**	*e*PKPbc	**PKPbc**	**10 19 26.7**	**-1.6**
TORD	**Torodi Ar. Bea**	**151.22**	**280**	PKPbc	**PKPbc**	**10 19 26.9**	**-1.4**
2.5nm,0.9s,baz=49,slow=3.3,SNR=14							
TOA1	**Torodi Ar. Sit**	**151.22**	**280**	*e*PKPbc	**PKPbc**	**10 19 26.9**	**-1.4**

*SOME **07** 10:02:51.5, 43.97N×84.20E, h15km*
*NNC **07** 10:02:54.1±7.9, 44.52N×84.54E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=62.3km s-min=23.3km az=117.0*
ISC 07 10:02:46.4±4.1, **43.9N**±0.1×**84.8E**±0.2, **h10**km, **n6**, σ1§**58**/10, **1C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.36**	**329**	⇓Pg	**Pb**	**10 03 43.4**	**-2.7**
0.9nm,0.3s,baz=144,slow=16,SNR=16							
MK31				⇓Lg	Lg	10 04 20.3	
2.2nm,0.3s,baz=143,slow=26,SNR=13							
MAKZ	**Makanchi**	**3.50**	**326**	⇑Pg	**Pb**	**10 03 50.4**	**+2.1**
1.1nm,0.5s							
MAKZ				⇓Lg	Lg	10 04 24.9	
4.6nm,0.6s							
DJR	**Jarkent**	**3.64**	**278**	*e*P	**Pb**	**10 03 49.6**	**-1.1**
0.3nm,0.1s							
DJR				*e*S	**Sb**	**10 04 33.7**	**-1.3**
6.0nm,0.4s							
PDGK	**Podgornoye**	**3.91**	**263**	⇓Pg	**Pg**	**10 04 02.2**	**+0.9**
0.9nm,0.6s							
PDGK				⇓Sn	**Sb**	**10 04 41.7**	**-1.2**
7.5nm,0.8s							
KAPS	**Kapalarasan**	**4.12**	**291**	*e*P	**Pb**	**10 03 59.1**	**+0.1**
0.3nm,0.0s							
KAPS				*e*S	**Sb**	**10 04 49.7**	**+0.8**
6.2nm,0.2s							
UZB	**Uzynbulak**	**4.28**	**261**	*e*P	**Pb**	**10 04 01.7**	**-0.1**
0.4nm,0.1s							
UZB				*e*S	**Sb**	**10 04 54.0**	**+0.3**
1.6nm,0.1s							

IDC 07 10:03:31.9±2.0, **19.74S**×**178.74W**, **h0**km, **mb3.9**/4, **mb1 4.1**/5, **mb1mx3.8**/32, **mbtmp3.9**/5, **ML4.3**/1, **Error ellipse: s-maj=54.2km s-min=34.4km az=127.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.81**	**190**	P	P	10 07 52.5	-0.5
0.8nm,0.3s,baz=0.0,slow=17,SNR=6.7							
STKA	**Stephens Creek**	**37.50**	**243**	P	P	10 10 47.5	-0.1
1.5nm,0.7s,baz=68,slow=6.4,SNR=3.7							
ASAR	**Alice Springs**	**44.02**	**256**	P	P	10 11 41.9	+0.2
0.9nm,0.4s,baz=89,slow=8.4,SNR=40							
WRA	**Warramunga Arr**	**44.02**	**261**	P	P	10 11 41.1	-0.5
0.5nm,0.3s,baz=92,slow=8.1,SNR=7.8							
ILAR	**Eielson Array**	**87.73**	**13**	P	P	10 16 22.2	+0.1
0.5nm,0.9s,baz=223,slow=5.7,SNR=5.1							

*NIED **07** 10:05:00, 36.70N×141.90E, h26km, Mw3.7 Best double couple: M0 3.82000×10^14 NP1:φs217.00000°, δ28.00000°, λ94.00000°. NP2:φs33.00000°, δ62.00000°, λ88.00000°.*
JMA 07 10:05:38.6±0.2, **36.72N**×**141.87E**, **h39**km±4km, **M3.7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**294**	P	Pn	10 05 55.3	0.0
JFK	**Kawauchi**	**1.02**	**309**	P	Pn	10 05 56.5	0.0
JHO	**Hitachi**	**1.05**	**264**	P	Pn	10 05 56.8	0.0
JHO				S	Sn	10 06 10.7	+0.4
JHYU	**Hitachinakayam**	**1.10**	**250**	P	Pn	10 05 58.1	+0.6
JHYU				S	Sn	10 06 12.3	+0.9
JFFD	**Fukushimafurud**	**1.11**	**290**	P	Pn	10 05 57.7	0.0
JMM	**Marumori**	**1.43**	**323**	P	Pn	10 06 02.8	+0.8
JFT	**Otama**	**1.46**	**303**	P	Pn	10 06 04.0	+1.5
JFT				S	Sn	10 06 21.6	+1.2
JIO	**Ouri**	**1.78**	**347**	P	Pn	10 06 08.0	+1.2
JFY	**Yanaizu**	**1.86**	**292**	P	Pn	10 06 10.1	+2.1
JFY				S	Sn	10 06 33.4	+3.1
JOU	**Okura**	**1.90**	**330**	P	Pn	10 06 10.9	+2.4
JOU				S	Sn	10 06 33.4	+2.1
JAG	**Ashikaga**	**1.97**	**262**	P	Pn	10 06 10.4	+1.0
MAT	**Matsushiro**	**2.95**	**268**	P	Pn	10 06 25.6	+2.6
MAT				S	Sn	10 06 58.3	+1.2

*NNC **07** 10:07:50.7±0.4, 42.67N×75.70E, h0km, mb2.4, mpv2.7, Error ellipse: s-maj=2.5km s-min=1.8km az=172.0*
*SOME **07** 10:07:51.0, 42.70N×75.72E, h0km*
ISC 07 10:07:50.9±1.1, **42.70N**±0.04×**75.71E**±0.03, **h7**km±10km, **n20**, σ1§**08**/32, **1C-5D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.24**	**340**	P	**Pg**	**10 07 56.0**	**+0.3**
SNR=17							
TKM2	**Tokmak 2**	**0.24**	**340**	⇑P	**Pg**	**10 07 56.2**	**+0.5**
2.2nm,0.3s							
TKM2				⇓S	**Sg**	**10 07 59.8**	**+0.8**
6.1nm,0.3s							
KST	**Kastek**	**0.39**	**29**	P	**Pg**	**10 07 59.3**	**+0.7**
13nm,0.1s							
KST				S	**Sb**	**10 08 05.3**	**-1.2**
16nm,0.2s							
KST	**Kastek**	**0.39**	**29**	*e*P	**Pg**	**10 07 59.3**	**+0.7**
13nm,0.1s							
KST				*e*S	**Sb**	**10 08 05.9**	**-0.5**
20nm,0.4s							
DGS	**Degeres**	**0.55**	**5**	P	Pg	10 07 56.1	-5.3
3.9nm,0.2s							
DGS				S	**Sg**	**10 08 04.2**	**-4.4**
7.6nm,0.4s							
ULHL	**Ulahol**	**0.60**	**139**	P	Pg	**10 08 02.8**	**+0.3**
SNR=80							
MTBS	**Maitube**	**0.68**	**51**	P	**Pb**	**10 08 05.1**	**0.0**
4.6nm,0.1s							
MTBS				S	**Sb**	**10 08 15.0**	**+0.2**
8.0nm,0.2s							
KZA	**Kyzart**	**0.71**	**209**	P	**Pg**	**10 08 04.9**	**+0.3**
SNR=17							
AAK	**Ala-Archa**	**0.90**	**266**	P	**Pg**	**10 08 07.9**	**-0.1**
SNR=8.4							
AAK	**Ala-Archa**	**0.90**	**266**	⇓P	**Pg**	**10 08 08.0**	**-0.1**
0.8nm,0.6s							
AAK				⇓S	**Sg**	**10 08 19.9**	**+0.1**
1.4nm,0.3s							
TNSS	**Tian-Shan**	**0.97**	**69**	P	**Pn**	**10 08 10.6**	**-0.6**
4.2nm,0.2s							
TNSS				S	**Sn**	**10 08 24.6**	**-0.9**
4.8nm,0.6s							
MDOK	**Medeo**	**1.09**	**64**	P	Pg	**10 08 11.6**	**-0.2**
1.4nm,0.5s							
MDOK				S	**Sb**	**10 08 26.5**	**-0.1**
5.9nm,0.8s							
MDOK	**Medeo**	**1.09**	**64**	Pg	**Pn**	**10 08 12.3**	**-0.3**
3.6nm,0.2s							
MDOK				Lg	Lg	10 08 27.4	
2.5nm,0.3s							
KOTS	**Kotyrbulak**	**1.16**	**62**	P	**Pn**	**10 08 14.2**	**+0.6**
6.7nm,0.6s							
KOTS				S	**Sn**	**10 08 30.5**	**+0.7**
15nm,0.6s							
KUU	**Kurty**	**1.28**	**21**	P	Pg	**10 08 15.9**	**+0.5**
1.7nm,0.3s							
KUU				S	**Sn**	**10 08 34.0**	**+1.5**
2.3nm,0.3s							
EKS2	**Erkin-Say**	**1.42**	**269**	P	Pg	**10 08 18.4**	**+0.2**
SNR=41							
CHKK	**Chushkaly**	**1.49**	**39**	P	Pg	**10 08 19.7**	**+0.4**
3.1nm,0.1s							
CHKK				S	**Sg**	**10 08 40.7**	**+2.1**
9.1nm,0.2s							
MRKS	**Merke**	**1.83**	**272**	P	**Pb**	**10 08 25.0**	**+0.3**
12nm,0.2s							
MRKS				S	**Sg**	**10 08 49.3**	**-0.3**
5.3nm,0.2s							
MRKS	**Merke**	**1.83**	**272**	*e*P	**Pb**	**10 08 25.0**	**+0.3**
12nm,0.2s							
MRKS				*e*S	**Sg**	**10 08 49.4**	**-0.3**
5.3nm,0.3s							
PDGK	**Podgornoye**	**2.84**	**76**	⇓Pg	**Pb**	**10 08 41.7**	**-0.3**
1.4nm,0.7s							
PDGK				⇓Lg	Lg	10 09 21.6	
3.5nm,1.0s							

IDC 07 10:25:10.2±6.0, **10.89N**×**87.03W**, **h0**km, **mb3.2**/3, **mb1 3.7**/5, **mb1mx3.5**/34, **mbtmp3.4**/5, **ML3.5**/2, **Error ellipse: s-maj=202.0km s-min=25.1km az=31.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.13**	**106**	Pn	Pn	10 25 47.4	+0.3
9.1nm,0.3s,baz=17,slow=15,SNR=24							
CMIG	**Matias Romero**	**9.80**	**310**	Pn	Pn	10 27 34.5	+1.9
0.7nm,0.3s,baz=140,slow=9.5,SNR=18							
TXAR	**Lajitas Array**	**24.05**	**322**	P	P	10 30 27.4	+0.1
1.0nm,0.6s,baz=143,slow=9.4,SNR=6.3							
PDAR	**Pinedale Array**	**37.34**	**332**	P	P	10 32 23.1	-1.6
0.2nm,0.6s,baz=141,slow=10,SNR=2.6							
YKA	**Yellowknife Ar**	**55.22**	**345**	P	P	10 34 45.4	+0.6
0.2nm,0.6s,baz=151,slow=7.0,SNR=2.8							

*IDC **07** 10:27:03.9±2.2, 10.91N×86.97W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/34, mbtmp3.6/7, ML3.2/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/37, Error ellipse: s-maj=67.3km s-min=24.5km az=31.0*
*ISCJB **07** 10:27:06.0±2.1, 10.8N±0.4×87.1W±0.2, h30km, mb3.4/5, MS3.2/2, Error ellipse: s-maj=57.5km s-min=13.6km az=27.6*
ISC 07 10:27:08.1±1.9, **10.9N**±0.4×**86.9W**±0.2, **h30**km, **n9**, σ1§**37**/8, **mb3.3**/5, **Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.02**	**108**	Pn	**Pn**	**10 27 40.0**	**-0.2**
2.8nm,0.3s,baz=271,slow=17,SNR=8.0							
JTS				LR	LR	10 28 14.0	
comp=Z,129nm,20.3s,baz=318,slow=34							
CMIG	**Matias Romero**	**9.87**	**309**	Pn	**Pn**	**10 29 27.8**	**-0.2**
0.6nm,0.3s,baz=136,slow=12,SNR=16							
TXAR	**Lajitas Array**	**24.08**	**322**	P	**P**	**10 32 19.8**	**-1.5**
0.8nm,0.7s,baz=136,slow=10,SNR=7.8							
TKL	**Tuckaleechee C**	**24.77**	**6**	P	**P**	**10 32 28.0**	**+0.7**
1.7nm,0.8s,baz=195,slow=8.1,SNR=3.9							
PTGA	**Pitinga**	**29.18**	**112**	LR	LR	10 45 31.3	
comp=Z,52nm,18.8s,baz=302,slow=38							
**PDA

*IDC **07** 10:46:12.5±1.1, 11°.73N×85°.57W, h0km, mb3.4/6, mb1 3.7/7, mb1mx3.5/42, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=62.5km s-min=17.0km az=64.0*
*ISCJB **07** 10:46:16.0±0.7, 11°.7N±0°.2×85°.8W±0°.2, h33km, mb3.4/6, Error ellipse: s-maj=41.1km s-min=8.1km az=146.2*
ISC 07 10:46:17.5±0.8, 11°.7N±0°.2×85°.7W±0°.3, h35km, n8, σ1§35/9, mb3.3/6, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.57**	**151**	Pn		**Pn**		**10 46 41.4**	**-1.5**
	17nm,0.3s,baz=14,slow=19,SNR=23								
JTS				LR		LR		10 47 02.3	
	comp=Z,32nm,19.1s,baz=156,slow=32								
JTS				Sn		**Sn**		**10 47 03.9**	**+1.9**
	23nm,0.3s,baz=5.3,slow=14,SNR=7.0								
CMIG	**Matias Romero**	**10.37**	**302**	Pn		**Pn**		**10 48 43.5**	**-0.4**
	0.2nm,0.3s,baz=138,slow=14,SNR=4.5								
TXAR	**Lajitas Array**	**24.25**	**319**	P		**P**		**10 51 31.4**	**-0.2**
	0.6nm,0.7s,baz=137,slow=9.7,SNR=9.7								
PDAR	**Pinedale Array**	**37.26**	**331**	P		**P**		**10 53 27.0**	**+0.8**
	0.3nm,0.7s,baz=114,slow=10.0,SNR=2.9								
ULM	**Lac du Bonnet**	**39.37**	**350**	P		**P**		**10 53 43.8**	**+0.3**
	0.9nm,0.5s,baz=157,slow=12,SNR=3.7								
NVAR	**Mina Array Bea**	**39.40**	**318**	P		**P**		**10 53 46.0**	**+1.8**
	0.3nm,0.6s,baz=128,slow=8.2,SNR=3.4								
YKA	**Yellowknife Ar**	**54.81**	**344**	P		**P**		**10 55 43.8**	**0.0**
	0.2nm,0.6s,baz=144,slow=6.9,SNR=3.2								
ILAR	**Eielson Array**	**67.41**	**336**	P		**P**		**10 57 08.2**	**-1.0**
	0.3nm,0.6s,baz=131,slow=4.8,SNR=5.4								

*IDC **07** 10:49:07.4±1.2, 11°.47S×165°.02E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/40, mbtmp4.1/8, MS3.5/2, Ms1 3.5/2, ms1mx2.9/29, Error ellipse: s-maj=53.3km s-min=20.2km az=138.0*
*ISCJB **07** 10:49:11.3±1.0, 11°.5S±0°.2×164°.9E±0°.2, h34km, mb4.1/8, MS3.7/1, Error ellipse: s-maj=44.6km s-min=17.3km az=138.2*
ISC 07 10:49:12.7±1.1, 11°.5S±0°.3×165°.0E±0°.3, h34km, n10, σ0§79/8, mb4.1/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.38**	**292**	LR		LR		10 52 41.9	
	comp=Z,321nm,21.6s,baz=114,slow=40								
STKA	**Stephens Creek**	**29.61**	**223**	P		**P**		**10 55 15.4**	**+0.5**
	2.8nm,0.7s,baz=49,slow=7.0,SNR=6.4								
WRA	**Warramunga Arr**	**30.64**	**250**	P		**P**		**10 55 23.7**	**-0.5**
	8.3nm,1.0s,baz=80,slow=9.2,SNR=19								
ASAR	**Alice Springs**	**31.93**	**244**	P		**P**		**10 55 34.9**	**-0.7**
	4.7nm,1.0s,baz=73,slow=9.3,SNR=17								
SEY	**Seymchan**	**74.84**	**354**	P		**P**		**11 00 49.3**	**-0.1**
	0.9nm,0.7s,baz=152,slow=5.2,SNR=5.0								
SONM	**Songino Array**	**78.60**	**324**	P		**P**		**11 01 12.2**	**+1.0**
	0.7nm,0.8s,baz=142,slow=5.9,SNR=4.7								
ILAR	**Eielson Array**	**84.17**	**19**	P		**P**		**11 01 39.4**	**-0.8**
	0.9nm,0.7s,baz=241,slow=4.4,SNR=13								
TIXI	**Tiksi**	**86.39**	**349**	LR		LR		11 39 05.8	
	comp=Z,30nm,19.2s,baz=354,slow=35								
NVAR	**Mina Array Bea**	**86.87**	**50**	P		**P**		**11 01 54.2**	**-0.3**
	2.1nm,1.0s,baz=240,slow=8.1,SNR=8.6								
TXAR	**Lajitas Array**	**96.69**	**62**	P		**P**		**11 02 40.7**	**+0.5**
	0.3nm,0.8s,baz=188,slow=2.5,SNR=3.4								

PGC 07 10:49:16.8±4.2, 48°.99N×129°.47W, h10km, MLSn2.8/11, Mw3.5/11, 241km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KEMF	**NEPTUNE Canada**	**1.07**	**166**	P		Pb		10 49 35.3	-1.9
KEMF				S		Sb		10 49 48.1	-2.9
BPBC	**Brooks Peninsu**	**1.61**	**43**	Pn		Pn		10 49 43.2	-2.1
BPBC				Sn		Sn		10 50 01.6	-4.6
EDB	**Eliza Dome**	**1.77**	**59**	Pn		Pn		10 49 45.3	-2.2
EDB				Sn		Sn		10 50 06.0	-4.0
HOLB	**Holberg**	**1.87**	**27**	Pn		Pn		10 49 46.7	-2.1
HOLB				Sn		Sn		10 50 07.6	-4.9
PACB	**Port Alice, BC**	**1.94**	**41**	Pn		Pn		10 49 47.5	-2.3
PACB				Sn		Sn		10 50 08.4	-5.6
MAYB	**Maynard**	**2.06**	**46**	Pn		Pn		10 49 49.5	-2.0
MAYB				Sn		Sn		10 50 11.8	-5.6
PHC	**Port Hardy**	**2.17**	**37**	Pn		Pn		10 49 52.2	-0.7
PHC				Sn		Sn		10 50 12.4	-7.4
TLCB	**Telegraph Cove**	**2.31**	**47**	Pn		Pn		10 49 53.7	-1.2
TLCB				Sn		Sn		10 50 19.4	-4.0
TOFB	**Tofino**	**2.35**	**85**	Sn		Sn		10 50 20.7	-3.6
BTB	**Buttle Lake**	**2.63**	**78**	Pn		Pn		10 49 58.6	-0.9
MGB	**Mount Grey**	**3.15**	**88**	Pn		Pn		10 50 05.7	-0.9
MGB				Sn		Sn		10 50 40.3	-3.9
BBB	**Bella Bella**	**3.32**	**15**	Pn		Pn		10 50 08.2	-0.5
BBB				Sn		Sn		10 50 42.1	-6.0
TXB	**Texada**	**3.37**	**76**	Pn		Pn		10 50 09.2	-0.2
SHB	**Sechelt**	**3.71**	**78**	Pn		Pn		10 50 14.6	+0.4
WSLR	**Whistler**	**4.41**	**73**	Pn		Pn		10 50 24.7	+0.9
LLLB	**Lillooet**	**5.18**	**69**	Pn		Pn		10 50 35.2	+0.9

KRSC 07 10:51:34.5±10.0, 50°.95N×157°.99E, h47km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.86**	**4**	*eP*		Pn		10 51 51.7	+1.4
KDTR				*eS*		Sn		10 52 02.9	+1.0
PAU	**Pauzhetka**	**0.91**	**306**	*eP*		Pn		10 51 52.5	+1.6
PAU				*eS*		Sn		10 52 04.1	+1.2
SKR	**Severo-Kuril's**	**1.22**	**258**	*eP*		Pn		10 51 56.0	+0.9
SKR				*eS*		Sn		10 52 10.9	+0.5
ASAK	**Asacha**	**1.44**	**358**	*eP*		Pn		10 52 00.3	+2.1
ASAK				*eS*		Sn		10 52 17.7	+1.7
RUS	**Russkaya**	**1.52**	**12**	*eP*		Pn		10 52 00.8	+1.5
RUS				*eS*		Sn		10 52 19.0	+1.1
MTVR	**Mutnovka**	**1.54**	**4**	*eP*		Pn		10 52 01.8	+2.1
MTVR				*eS*		Sn		10 52 20.4	+1.8
ALID	**Alaid**	**1.55**	**268**	*eP*		Pn		10 52 01.3	+1.5
ALID				*eS*		Sn		10 52 19.2	+0.5
GRL	**Gorelyy**	**1.61**	**2**	*eP*		Pn		10 52 02.5	+1.9
GRL				*eS*		Sn		10 52 22.6	+2.4
KRMR	**Karymshinskiy**	**1.89**	**3**	*eP*		Pn		10 52 06.9	+2.6
KRMR				*eS*		Sn		10 52 30.7	+3.8
APC	**Apacha**	**2.05**	**346**	*eP*		Pn		10 52 09.6	+3.1
PET	**Petropavlovsk**	**2.12**	**11**	*eP*		Pn		10 52 09.7	+2.2
PET				*eS*		Sn		10 52 34.2	+1.6
DALK	**Dalny**	**2.14**	**12**	*eP*		Pn		10 52 09.9	+2.2
DALK				*eS*		Sn		10 52 34.9	+1.9
UGLR	**Uglovaya**	**2.32**	**12**	*eP*		Pn		10 52 13.2	+2.8
UGLR				*eS*		Sn		10 52 41.3	+3.6
AVH	**Avacha**	**2.37**	**11**	*eP*		Pn		10 52 14.2	+3.3
AVH				*eS*		Sn		10 52 43.0	+4.2
SMAR	**Somma**	**2.37**	**12**	*eP*		Pn		10 52 13.9	+2.8
SMAR				*eS*		Sn		10 52 43.8	+4.7
KOK	**Koryaka**	**2.38**	**9**	*eP*		Pn		10 52 14.7	+3.5
SDLR	**Sedlovina**	**2.40**	**13**	*eP*		Pn		10 52 13.7	+2.3
KRER	**Koryakskii**	**2.41**	**11**	*eP*		Pn		10 52 15.2	+3.6
KRER				*eS*		Sn		10 52 44.5	+4.6
KRX	**Arik**	**2.45**	**9**	*eP*		Pn		10 52 16.1	+4.0
SPN	**Mys Shipunski**	**2.49**	**29**	*eP*		Pn		10 52 15.1	+2.5
SPN				*eS*		Sn		10 52 44.3	+2.6
GNL	**Ganaly**	**2.75**	**359**	*eP*		Pn		10 52 19.7	+3.4
KII	**Karymskiy**	**3.22**	**16**	*eP*		Pn		10 52 26.8	+4.2
MKZ	**Mys Kozlova**	**4.27**	**31**	*eP*		Pn		10 52 39.6	+2.7
KZV	**Kizimen**	**4.40**	**18**	*eP*		Pn		10 52 44.2	+5.3
KBTR	**Krutoberegovo**	**6.00**	**27**	*eP*		Pn		10 53 04.1	+3.4

*ISCJB **07** 10:51:56.8±0.5, 49°.13S±0°.07×121°.9E±0°.2, h10km, mb4.2/10, MS3.7/8, Error ellipse: s-maj=19.4km s-min=8.7km az=12.5*
*IDC **07** 10:51:57.7±0.9, 49°.07S×121°.99E, h0km, mb4.3/6, mb1 4.5/7, mb1mx4.2/32, mbtmp4.4/7, ML3.2/1, MS3.7/8, Ms1 3.7/8, ms1mx3.6/18, Error ellipse: s-maj=41.5km s-min=18.6km az=101.0*
*NEIC **07** 10:51:59.1±0.9, 49°.10S×121°.88E, h10km±5km, mb4.3/9, Error ellipse: s-maj=17.2km s-min=9.6km az=98.0*
ISC 07 10:51:58.8±0.7, 49°.13S±0°.09×122°.0E±0°.2, h10km, n47, σ1§02/33, mb4.3/10, MS3.8/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.35**	**335**	T		T		11 11 06.2	
	baz=159,slow=74,SNR=349								
H01W2	**Cape Leeuwin H**	**15.35**	**335**	T		T		11 11 09.5	
	baz=159,slow=74,SNR=233								
H01W3	**Cape Leeuwin H**	**15.36**	**335**	T		T		11 11 06.5	
	baz=159,slow=74,SNR=286								
NWAO	**Narrogin (SRO)**	**16.57**	**346**	*e*Pn		**Pn**		**10 55 51.4**	**+0.2**
NWAO				*e*Pn		**Pn**		**10 55 51.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**16.57**	**346**	Pn		**Pn**		**10 55 51.4**	**+0.2**
	4.3nm,0.3s,baz=38,slow=7.8,SNR=23								
BBOO	**Buckleboo**	**19.43**	**38**	*e*P		**P**		**10 56 25.1**	**-0.1**
	16nm,0.9s								
MORW	**Morawa**	**20.54**	**345**	*e*P		Pn		10 56 38.6	-1.0
	9.1nm,0.8s								
TOO	**Toolangi**	**20.56**	**65**	*e*P		Pn		10 56 41.0	+1.2
	48nm,1.1s								
STKA	**Stephens Creek**	**22.70**	**48**	*e*P		**P**		**10 57 01.7**	**+1.2**
	4.5nm,0.9s								
STKA	**Stephens Creek**	**22.70**	**48**	P		**P**		**10 57 01.7**	**+1.2**
	3.7nm,0.7s,baz=195,slow=12,SNR=10								
STKA						LR	LR	11 04 18.1	
	comp=Z,367nm,20.9s,baz=203,slow=33								
ASAR	**Alice Springs**	**27.11**	**25**	P		**P**		**10 57 41.4**	**-0.5**
	6.9nm,0.9s,baz=194,slow=9.1,SNR=38								
AS31	**Alice Springs**	**27.11**	**25**	*e*P		**P**		**10 57 41.5**	**-0.4**
	1.6nm,0.6s								
AS01	**Alice Springs**	**27.12**	**25**	*e*P		**P**		**10 57 41.0**	**-0.9**
WR1	**Warramunga Arr**	**30.77**	**23**	*e*P		**P**		**10 58 13.5**	**-0.9**
	5.2nm,0.9s								
WRA	**Warramunga Arr**	**30.77**	**23**	P		**P**		**10 58 13.5**	**-0.9**
	2.3nm,0.7s,baz=196,slow=12,SNR=14								
WRA						LR	LR	11 09 40.2	
	comp=Z,147nm,20.9s,baz=200,slow=35								
WB2	**Warramunga Arr**	**30.78**	**23**	*e*P		**P**		**10 58 14.4**	**0.0**
VNDA	**Vanda**	**32.27**	**165**	*e*P		**P**		**10 58 26.8**	**-0.2**
VNDA				*e*pP		**P**		**10 58 27.3**	**+0.3**
VNDA	**Vanda**	**32.27**	**165**	P		**P**		**10 58 27.2**	**+0.2**
	3.7nm,0.9s,baz=302,slow=9.0,SNR=10								
VNDA						LR	LR	11 10 17.9	
	comp=Z,308nm,21.4s,baz=312,slow=34								
MAW	**Mawson**	**34.33**	**216**	LR		LR		11 09 26.2	
	comp=Z,186nm,21.1s,baz=100,slow=30								
QSPA	**South Pole Qui**	**40.99**	**180**	*e*P		**P**		**10 59 41.3**	**-0.3**
	6.6nm,1.0s								
SNAA	**Sanae**	**53.36**	**199**	P		**P**		**11 01 19.7**	**+1.9**
SNAA	**Sanae**	**53.36**	**199**	*e*P		**P**		**11 01 19.8**	**+1.9**
	6.3nm,1.0s								
SNAA	**Sanae**	**53.36**	**199**	P		**P**		**11 01 19.5**	**+1.7**
	5.3nm,0.9s,baz=132,slow=9.8,SNR=7.6								
VNA2	**Neumayer--Watz**	**54.88**	**198**	P		**P**		**11 01 27.7**	**-1.1**
	baz=125,slow=3.6								
VNA3	**Neumayer Olymp**	**55.08**	**197**	P		**P**		**11 01 27.6**	**-2.7**
VNA1	**Neumayer--Stat**	**55.28**	**198**	P		**P**		**11 01 32.3**	**+0.7**
H08S2	**Diego Garcia H**	**58.47**	**298**	T		T		12 04 46.0	
	baz=144,slow=76,SNR=12								
H08S1	**Diego Carcia H**	**58.48**	**298**	T		T		12 04 46.6	
	baz=144,slow=76,SNR=12								
H08S3	**Diego Garcia H**	**58.49**	**298**	T		T		12 04 55.0	
	baz=144,slow=76,SNR=14								
CM31	**Chiang Mai Arr**	**70.33**	**337**	*e*P		**P**		**11 03 12.8**	**+0.3**
	4.9nm,1.0s								
CMAR	**Chiang Mai Arr**	**70.33**	**337**	P		**P**		**11 03 12.8**	**+0.3**
	1.1nm,0.3s,baz=188,slow=6.5,SNR=5.9								
JNU	**Nakatsue**	**82.28**	**8**	LR		LR		11 38 54.5	
	comp=Z,22nm,19.2s,baz=166,slow=34								
MJAR	**Matsushiro Arr**	**86.52**	**13**	LR		LR		11 44 32.8	
	comp=Z,14mn,18.1s,baz=225,slow=36								
PLCA	**Pass Fires**	**89.84**	**171**	LR		LR		11 43 24.7	
	comp=Z,53nm,18.8s,baz=212,slow=34								
SONM	**Songino Array**	**97.52**	**350**	LR		LR		11 51 58.7	
	comp=Z,30nm,18.9s,baz=350,slow=37								
H10S2	**ASCENSION HYDR**	**110.78**	**227**	T		T		13 11 30.3	
	baz=151,slow=74,SNR=6.0								
H10S3	**ASCENSION HYDR**	**110.79**	**227**	T		T		13 11 22.4	
	baz=151,slow=74,SNR=8.5								
H10S1	**ASCENSION HYDR**	**110.80**	**227**	T		T		13 11 22.6	
	baz=151,slow=74,SNR=6.6								
LOHW	**Long Hollow**	**143.94**	**78**	*e*PKPdf		**PKPdf**		**11 11 35.3**	**+1.2**
PD31	**Pinedale Array**	**144.22**	**80**	*e*PKPdf		**PKPdf**		**11 11 34.7**	**+0.2**
PDAR	**Pinedale Array**	**144.22**	**80**	*e*PKPdf		**PKPdf**		**11 11 34.9**	**+0.3**
PDAR	**Pinedale Array**	**144.22**	**80**	PKP		**PKPdf**		**11 11 34.7**	**+0.2**
	0.8nm,0.7s,baz=286,slow=1.1,SNR=4.1								
YHH	**Holmes Hill**	**144.31**	**76**	*e*PKPdf		**PKPdf**		**11 11 35.5**	**+0.8**
YKA	**Yellowknife Ar**	**146.71**	**45**	PKPbc		**PKPbc**		**11 11 39.0**	**-0.6**
YKA	**Yellowknife Ar**	**146.71**	**45**	PKPbc		**PKPbc**		**11 11 39.0**	**-0.6**
	1.9nm,0.8s,baz=271,slow=2.4,SNR=16								
RES	**Resolute Bay**	**150.07**	**19**	*e*pPKPdf		**PKPbc**		**11 11 46.5**	**-1.5**
RES	**Resolute Bay**	**150.07**	**19**	PKPbc		**PKPbc**		**11 11 47.6**	**-0.4**
	1.4nm,0.7s,baz=265,slow=3.0,SNR=9.7								

*IDC **07** 11:01:58.5±64.0, 22°.56N×123°.53E, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.4/48, mbtmp4.0/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/39, Error ellipse: s-maj=1142.0km s-min=157.4km az=134.0*
*JMA **07** 11:02:18.8±0.1, 24°.34N×121°.40E, h0km, M3.4*
*ISCJB **07** 11:02:19.7±0.2, 24°.358N±0°.009×121°.46E±0°.01, h1km±2km, mb3.8/3, Error ellipse: s-maj=1.9km s-min=1.3km az=32.7*
*TAP **07** 11:02:19.2, 24°.35N×121°.44E, h6km, ML3.8, C*
ISC 07 11:02:19.8±0.9, 24°.36N±0°.01×121°.44E±0°.01, h5km±6km, n129, σ0§74/195, mb3.8/3, 37C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.09**	**325**	⇓P		**Pg**		**11 02 21.9**	**0.0**
	baz=328								
NNSB				S		**Sg**		**11 02 23.3**	**+0.1**
	baz=328								
NNS	**Nan Shan**	**0.10**	**324**	⇓*i*P		**Pg**		**11 02 22.1**	**0.0**
	baz=330								
NNS				*i* S		**Sg**		**11 02 23.7**	**+0.1**
	baz=330								
ETLH	**Xiulin Townshi**	**0.15**	**165**	P		**Pg**		**11 02 23.4**	**+0.5**
	baz=172								
ETLH				S		**Sg**		**11 02 25.6**	**+0.5**
	baz=172								
NACB	**Ninganchiao**	**0.23**	**142**	⇑P		**Pg**		**11 02 24.6**	**+0.2**
	baz=140								
NACB				S		**Sg**		**11 02 27.7**	**+0.3**
	baz=140								
NDT	**Datong Townshi**	**0.25**	**15**	⇑*i*P		**Pg**		**11 02 24.9**	**+0.1**
	baz=15								
NDT				*e*S		**Sg**		**11 02 28.2**	**0.0**
	baz=15								
TWT	**Tachien**	**0.26**	**247**	⇑*i*P		**Pg**		**11 02 25.3**	**+0.4**
	baz=239								
TWT				S		**Sg**		**11 02 29.5**	**+1.1**
	baz=239								
WHF	**Hehuan Shan**	**0.26**	**217**	⇑*i*P		**Pg**		**11 02 25.1**	**0.0**
	baz=216								
WHF				S		**Sg**		**11 02 28.6**	**0.0**
	baz=216								
TDCB	**Techi**	**0.28**	**248**	⇑P		**Pg**		**11 02 25.4**	**+0.2**
	baz=240								
TDCB				S		**Sg**		**11 02 29.1**	**+0.1**
	baz=240								
ENA	**Nanau**	**0.28**	**76**	⇑*i*P		**Pg**		**11 02 25.1**	**-0.2**
	baz=74								
ENA				S		**Sg**		**11 02 29.0**	**-0.2**
	baz=74								
ENTT	**Nioudou**	**0.30**	**22**	⇓*i*P		**Pg**		**11 02 25.9**	**+0.1**
	baz=14								
ENTT				S		**Sg**		**11 02 29.8**	**-0.1**
	baz=14								
TWD	**Chiawan**	**0.31**	**152**	P		**Pg**		**11 02 26.2**	**+0.4**
	baz=150								
TWD				S		**Sg**		**11 02 30.4**	**+0.4**
	baz=150								
YHNB	**Yeheng**	**0.32**	**350**	⇑P		**Pg**		**11 02 26.4**	**+0.3**
	baz=351								
YHNB				S		**Sg**		**11 02 30.3**	**0.0**
	baz=351								
NSK	**Sanguang**	**0.33**	**347**	⇑*i*P		**Pg**		**11 02 26.6**	**+0.4**
	baz=349								
NSK				*e*S		**Sg**		**11 02 30.5**	**0.0**
	baz=349								
CHGB	**Renai**	**0.38**	**219**	⇑P		**Pg**		**11 02 27.0**	**-0.3**
	baz=219								
CHGB				S		**Sg**		**11 02 32.5**	**+0.2**
	baz=219								
HWA	**Hwalien**	**0.41**	**158**	*e*P		**Pb**		**11 02 28.5**	**-1.0**
	baz=145								
TWE	**Neicheng**	**0.42**	**30**	⇑*i*P		**Pg**		**11 02 28.0**	**+0.1**
	baz=44								
TWE				*e*S		**Sg**		**11 02 33.4**	**0.0**
	baz=44								
NWLT	**Wulai**	**0.42**	**8**	⇑*i*P		**Pg**		**11 02 28.2**	**+0.2**
	baz=2.0								
NWLT				*e*S		**Sg**		**11 02 33.0**	**-0.5**
	baz=2.0								
TWC	**Suao**	**0.45**	**56**	⇑*i*P		**Pg**		**11 02 28.2**	**-0.3**
	baz=46								
TWC				S		**Sg**		**11 02 34.1**	**-0.3**
	baz=46								
WHP	**Taichung City**	**0.46**	**260**	⇑*i*P		**Pb**		**11 02 29.4**	**-1.0**
	baz=261								
WHP				*e*S		**Sg**		**11 02 34.8**	**+0.1**
	baz=261								
OWD	**Renai**	**0.47**	**211**	P		**Pg**		**11 02 28.4**	**-0.5**
	baz=210								
OWD				*e*S		**Sg**		**11 02 34.8**	**-0.1**
	baz=210								
ENLB	**Shoufeng**	**0.47**	**162**	⇑P		**Pg**		**11 02 29.4**	**+0.4**
	baz=161								
ENLB				*e*S		**Sg**		**11 02 35.8**	**+0.6**
	baz=161								
LIOB	**Emei**	**0.48**	**307**	⇑*i*P		**Pg**		**11 02 28.9**	**-0.2**
	baz=310								
LIOB				S		**Sg**		**11 02 35.6**	**+0.2**
	baz=310								
NSTT	**Nanjuang**	**0.48**	**305**	⇑*i*P		**Pb**		**11 02 30.1**	**-0.7**
	baz=308								
NSTT				S		**Sg**		**11 02 36.4**	**+0.9**
	baz=308								
ILA	**Ilan**	**0.49**	**35**	*e*P		**Pg**		**11 02 29.7**	**+0.3**
	baz=46								
ILA				*e*S		**Sg**		**11 02 37.0**	**+1.2**
	baz=46								
WLTB	**Daxi**	**0.52**	**341**	P		**Pb**		**11 02 31.2**	**-0.3**
	baz=343								
WLTB				S		**Sb**		**11 02 38.5**	**-0.8**
	baz=343								
ESL	**Shilin**	**0.54**	**181**	⇓P		**Pg**		**11 02 30.2**	**-0.1**
	baz=179								
ESL				*e*S		**Sg**		**11 02 37.3**	**0.0**
	baz=179								
SBCB	**Hsinchu**	**0.60**	**317**	*e*P		**Pb**		**11 02 32.3**	**-0.5**
	baz=317								
TWQ1	**Liyutan**	**0.61**	**269**	⇑*i*P		**Pb**		**11 02 32.7**	**-0.2**
	baz=271								
NHDH	**Xindian Distri**	**0.61**	**7**	*e*P		**Pb**		**11 02 32.4**	**-0.6**
	baz=8.0								
NHDH				*e*S		**Sg**		**11 02 39.8**	**+0.3**
	baz=8.0								
NTC	**Toucheng**	**0.61**	**36**	*e*P		**Pg**		**11 02 31.2**	**-0.4**
	baz=21								
NTC				*e*S		**Sg**		**11 02 40.5**	**+0.9**
	baz=21								
NMLH	**Miaoli**	**0.62**	**287**	P		**Pb**		**11 02 33.6**	**+0.5**
	baz=289								
TATO	**Taipei**	**0.62**	**4**	P		**Pg**		**11 02 32.0**	**+0.3**
	baz=357								
TATO				*e*S		**Sg**		**11 02 40.0**	**+0.3**
	baz=357								
NSY	**Sanyi**	**0.62**	**276**	⇑*i*P		**Pb**		**11 02 33.4**	**+0.2**
	baz=277								
NSY				*e*S		**Sb**		**11 02 41.6**	**-0.6**
	baz=277								
TWA	**Mucha**	**0.64**	**12**	P		**Pg**		**11 02 32.5**	**+0.4**
	baz=13								
TWA				S		**Sg**		**11 02 41.1**	**+0.8**
	baz=13								
NCUH	**Zhongli**	**0.65**	**339**	*e*P		**Pb**		**11 02 33.4**	**-0.3**
	baz=346								
NCU	**National Centr**	**0.65**	**340**	*e*P		**Pb**		**11 02 33.5**	**-0.2**
	baz=347								
EOS1	**EOS1**	**0.66**	**73**	*e*P		**Pg**		**11 02 32.6**	**+0.2**
	baz=72								
EOS1				*e*S		**Sb**		**11 02 42.4**	**-0.8**
	baz=72								
VWDT	**VWDT**	**0.66**	**204**	⇑P		**Pg**		**11 02 31.9**	**-0.5**
	baz=209								
VWDT				S		**Sg**		**11 02 40.1**	**-0.9**
	baz=209								
EGS		**0.66**	**43**	P		**Pg**		**11 02 32.6**	**0.0**
	baz=54								
EGS				*e*S		**Sb**		**11 02 42.5**	**-0.8**
	baz=54								
PTSB	**Yuanli**	**0.68**	**278**	⇑P		**Pb**		**11 02 34.5**	**+0.4**
	baz=279								
PTSB				S		**Sb**		**11 02 43.7**	**-0.1**
	baz=279								
SMLT	**Sun Moon Lake**	**0.68**	**226**	⇑*i*P		**Pg**		**11 02 33.0**	**+0.1**
	baz=237								
EGFH	**Guangfu**	**0.69**	**181**	*e*P		**Pg**		**11 02 32.9**	**-0.1**
	baz=180								
EGFH				*e*S		**Sg**		**11 02 42.2**	**+0.3**
	baz=180								
TYC

CHN5				S		Sn	11 02 55.4	-0.4
	baz=215							
WGK	**Gukeng**	**1.04**	**230**	P		**Pn**	**11 02 40.6**	**-0.5**
	baz=227							
WGK				*e*S		**Sn**	**11 02 56.5**	**+0.5**
	baz=227							
WDLH	**Douliu**	**1.06**	**231**	*e*P		**Pn**	**11 02 40.8**	**-0.5**
	baz=232							
RLNB	**Erlin**	**1.09**	**245**	*e*P		**Pn**	**11 02 41.9**	**+0.2**
	baz=243							
RLNB				*e*S		**Sn**	**11 02 58.1**	**+0.9**
	baz=243							
FULB	**Fuli**	**1.16**	**187**	⇑P		**Pb**	**11 02 42.1**	**-0.3**
	baz=184							
FULB				*e*S		**Sn**	**11 02 58.5**	**-0.4**
	baz=184							
WTCT	**Ta-ch'eng**	**1.17**	**245**	*e*P		**Pn**	**11 02 42.6**	**-0.2**
	baz=243							
WTCT				*e*S		**Sn**	**11 02 59.3**	**+0.2**
	baz=243							
CHN2	**Minshiung**	**1.21**	**227**	*e*P		**Pn**	**11 02 44.0**	**+0.7**
	baz=244							
ELDTW	**Lidau**	**1.23**	**198**	*e*P		**Pg**	**11 02 42.6**	**-0.8**
	baz=186							
ELDTW				*e*S		**Sg**	**11 02 58.9**	**-0.3**
	baz=186							
CHKT	**Chengkung**	**1.25**	**183**	*e*P		**Pn**	**11 02 42.1**	**-1.9**
	baz=169							
CHY	**Chiayi**	**1.26**	**228**	*e*P		**Pn**	**11 02 43.5**	**-0.6**
	baz=244							
CHN4	**Tsaushan**	**1.27**	**218**	*e*P		**Pg**	**11 02 44.4**	**+0.3**
	baz=214							
CHN4				*e*S		**Sn**	**11 03 03.8**	**+2.2**
	baz=214							
TPUB	**Ta-pu**	**1.29**	**215**	⇑P		**Pg**	**11 02 44.4**	**-0.1**
	baz=212							
TPUB				S		**Sn**	**11 03 02.8**	**+0.7**
	baz=212							
WSF	**Szhu**	**1.32**	**238**	*e*P		**Pb**	**11 02 44.7**	**-0.4**
	baz=238							
WTP	**Ta-pu**	**1.34**	**215**	⇑P		**Pg**	**11 02 45.3**	**-0.3**
	baz=211							
WTP				*e*S		**Sn**	**11 03 06.0**	**+2.5**
	baz=211							
STYT	**Tauyuan**	**1.34**	**208**	*e*P		**Pn**	**11 02 44.6**	**-0.6**
	baz=195							
JYNG	**Yonagunijimaku**	**1.38**	**86**	P		**Pn**	**11 02 45.6**	**-0.1**
JYNG				*e*S		**Sg**	**11 03 04.1**	**0.0**
PCYT	**Pengchaiyu**	**1.39**	**24**	*e*P		**Pn**	**11 02 44.9**	**-1.0**
	baz=25							
TWK	**Hsinying**	**1.39**	**219**	P		**Pg**	**11 02 46.6**	**+0.1**
	baz=215							
TWK				*e*S		**Sg**	**11 03 07.0**	**+2.5**
	baz=215							
SNST	**Tainan City**	**1.42**	**217**	*e*P		**Pg**	**11 02 47.0**	**-0.2**
	baz=218							
CHN1	**Nanshi**	**1.43**	**216**	*e*P		**Pg**	**11 02 47.3**	**-0.1**
	baz=212							
CHN1				*e*S		**Sg**	**11 03 06.8**	**+0.9**
	baz=212							
YOJ	**Yonaguni jima**	**1.44**	**86**	⇑P		**Pn**	**11 02 46.0**	**-0.5**
	baz=74							
YOJ				*e*S		**Sn**	**11 03 05.3**	**-0.4**
	baz=74							
YOJ	**Yonaguni jima**	**1.44**	**86**	P		**Pn**	**11 02 46.1**	**-0.4**
YOJ				*e*S		**Sn**	**11 03 05.2**	**-0.6**
CHN8	**Yiju**	**1.51**	**228**	*e*P		**Pg**	**11 02 48.5**	**-0.3**
	baz=238							
CHN8				*e*S		**Sg**	**11 03 10.2**	**+1.9**
	baz=238							
SLGT	**Liugui**	**1.54**	**208**	⇑P		**Pg**	**11 02 49.1**	**-0.3**
	baz=193							
SLGT				*e*S		**Sg**	**11 03 10.8**	**+1.5**
	baz=193							
TWG	**Pinlang**	**1.57**	**192**	*e*P		**Pb**	**11 02 48.8**	**-0.5**
	baz=174							
TWG				*e*S		**Sg**	**11 03 10.0**	**-0.2**
	baz=174							
TWGBT	**Beinan**	**1.57**	**192**	⇑P		**Pn**	**11 02 48.4**	**+0.1**
	baz=193							
CHN3	**Shinhua**	**1.61**	**218**	*e*P		**Pg**	**11 02 50.4**	**-0.4**
	baz=230							
TWM1	**Shoushan**	**1.79**	**212**	*e*P		**Pg**	**11 02 54.0**	**-0.2**
	baz=211							
ECL	**Taimali**	**1.81**	**194**	*e*P		**Pb**	**11 02 52.6**	**-0.8**
	baz=177							
SGLT	**Jiouru**	**1.84**	**208**	*e*P		**Pg**	**11 02 54.8**	**-0.4**
	baz=207							
MASBT	**Mashibuluo**	**1.89**	**203**	⇑P		**Pb**	**11 02 54.7**	**-0.1**
	baz=198							
MASBT				*e*S		**Sg**	**11 03 19.3**	**-1.2**
	baz=198							
PNG	**Penghu**	**1.89**	**246**	*e*P		**Pn**	**11 02 53.4**	**+0.6**
	baz=247							
PHUB	**P'eng-hu**	**1.90**	**244**	*e*P		**Pn**	**11 02 52.1**	**-0.8**
	baz=245							
VWUC	**VWUC**	**1.92**	**290**	*e*P		**Pn**	**11 02 52.2**	**-0.9**
	baz=289							
WDGT	**Dungji**	**1.96**	**237**	*e*P		**Pb**	**11 02 54.8**	**-1.2**
	baz=237							
SSPT	**Xinbi**	**2.03**	**203**	*e*P		**Pb**	**11 02 57.2**	**0.0**
	baz=202							
EAST	**Anshuo**	**2.04**	**196**	*e*P		**Pb**	**11 02 57.0**	**-0.3**
	baz=195							
TAW	**Tawu**	**2.05**	**194**	*e*P		**Pb**	**11 02 57.4**	**-0.2**
	baz=194							
IRIF	**Iriomote-Funau**	**2.09**	**90**	P		**Pn**	**11 02 55.8**	**+0.3**
IRIF				*e*S		**Sn**	**11 03 22.1**	**+0.2**
SCZT	**Fangliau**	**2.11**	**201**	⇓*e*P		**Pb**	**11 02 58.0**	**-0.6**
	baz=199							
VCHM	**Qimei**	**2.17**	**239**	*e*P		**Pb**	**11 02 57.9**	**-1.6**
	baz=240							
HATJ	**Hateruma jima**	**2.18**	**97**	P		**Pn**	**11 02 57.6**	**+0.9**
HATJ				*e*S		**Sb**	**11 03 25.6**	**-1.5**
PTMZ	**Houxiangcun**	**2.22**	**288**	*e*P		**Pn**	**11 02 56.1**	**-1.2**
	baz=287							
MATB	**Ma-tsu**	**2.24**	**323**	*e*P		**Pn**	**11 02 57.3**	**-0.3**
	baz=321							
JKRS	**Kuro-shima**	**2.35**	**92**	P		**Pn**	**11 02 59.9**	**+0.9**
JKRS				S		**Sn**	**11 03 29.6**	**+1.3**
JIJ	**Ishigaki jima**	**2.47**	**89**	P		**Pn**	**11 03 00.7**	**0.0**
JIJ				S		**Sn**	**11 03 31.2**	**0.0**
TWK1	**Hengchun**	**2.47**	**194**	*e*P		**Pb**	**11 03 03.6**	**-1.1**
	baz=177							
TWKBT	**Hengchun**	**2.47**	**194**	*e*P		**Pb**	**11 03 03.4**	**-1.3**
	baz=177							
JISG	**Ishigakijimahi**	**2.63**	**84**	P		**Pn**	**11 03 03.7**	**+0.8**
JISG				*e*S		**Sn**	**11 03 35.9**	**+0.8**
QZH	**Quanzhou**	**2.66**	**283**	*e*Pn		**Pn**	**11 03 02.2**	**-1.1**
QZH				Sn		**Sn**	**11 03 32.2**	**-3.6**
QZH				smax		smax		
	comp=N,86nm,0.9s							
QZH				smax		smax		
	comp=E,43nm,0.8s							
LYJJ	**Jianjiangzhen**	**2.66**	**326**	*e*P		**Pn**	**11 03 03.6**	**+0.3**
	baz=323							
MHZQ	**Yeshan**	**2.79**	**309**	*e*P		**Pn**	**11 03 06.5**	**+1.4**
	baz=307							
XPSS	**Dashiqiu**	**2.80**	**337**	*e*P		**Pn**	**11 03 04.5**	**-0.8**
	baz=334							
AXDP	**Jialang**	**3.20**	**280**	*e*P		**Pn**	**11 03 09.8**	**-1.0**
	baz=280							
ZPLA	**Ao Xicun**	**3.40**	**264**	*e*P		**Pn**	**11 03 12.6**	**-0.9**
	baz=265							
JIRB	**Irabujima**	**3.43**	**81**	P		**Pn**	**11 03 15.3**	**+1.4**
JNU	**Nakatsue**	**12.03**	**41**	LR		LR	11 10 13.5	
	comp=E,32nm,18.3s,baz=172,slow=40							
SONM	**Songino Array**	**26.30**	**337**	P		**P**	**11 07 57.7**	**+1.3**
	comp=E,2.2nm,0.9s,baz=160,slow=9.4,SNR=12							
MKAR	**Makanchi Array**	**38.38**	**316**	P		**P**	**11 09 43.3**	**+1.4**
	comp=E,1.3nm,0.7s,baz=109,slow=9.6,SNR=14							
ZALV	**Zalesovo Beam**	**40.23**	**327**	P		**P**	**11 09 57.3**	**0.0**
	comp=E,1.2nm,0.5s,baz=109,slow=7.8,SNR=7.6							

IDC 07 11:07:34.3±1.2, 31°15N×41°25W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.5/44, mbtmpg3.7/5, MS3.5/6, Ms1 3.5/6, ms1mx3.1/40, Error ellipse: s-maj=40.9km s-min=27.2km az=45.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**28.04**	**205**	LR	LR	11 21 46.2	
	comp=Z,58nm,20.9s,baz=200,slow=30						
DBIC	**Dimbokro**	**41.84**	**118**	LR	LR	11 31 20.8	
	comp=Z,45nm,18.5s,baz=326,slow=34						
TORD	**Torodi Ar. Bea**	**43.30**	**105**	P	P	11 15 37.8	-0.3
	1.0nm,0.9s,baz=311,slow=9.2,SNR=5.4						
NOA	**NORSAR Array B**	**45.26**	**33**	LR	LR	11 32 17.4	
	comp=Z,27nm,19.0s,baz=340,slow=33						
H10N2	**ASCENSION HYDR**	**46.46**	**142**	T	T	12 05 41.2	
	baz=327,slow=75,SNR=16						
H10N3	**ASCENSION HYDR**	**46.46**	**142**	T	T	12 05 34.8	
	baz=327,slow=75,SNR=16						
H10N1	**ASCENSION HYDR**	**46.48**	**142**	T	T	12 05 36.0	
	baz=327,slow=75,SNR=16						
H10S1	**ASCENSION HYDR**	**47.31**	**143**	T	T	12 06 35.7	
	baz=329,slow=75,SNR=25						
H10S3	**ASCENSION HYDR**	**47.32**	**143**	T	T	12 06 38.6	
	baz=329,slow=75,SNR=34						
H10S2	**ASCENSION HYDR**	**47.33**	**143**	T	T	12 06 39.7	
	baz=329,slow=75,SNR=36						
SIV	**San Ignacio**	**50.59**	**205**	LR	LR	11 35 31.7	
	comp=Z,66nm,20.3s,baz=13,slow=33						
TXAR	**Lajitas Array**	**53.31**	**285**	LR	LR	11 38 45.6	
	comp=Z,58nm,18.8s,baz=0.0,slow=35						
LPAZ	**La Paz**	**53.78**	**213**	P	P	11 16 59.5	+0.1
	1.0nm,0.8s,baz=43,slow=12,SNR=3.8						
PDAR	**Pinedale Array**	**54.44**	**303**	P	P	11 17 03.0	-0.6
	0.9nm,0.8s,baz=81,slow=9.2,SNR=7.2						
YKA	**Yellowknife Ar**	**55.26**	**327**	P	P	11 17 08.1	-0.8
	0.4nm,0.9s,baz=85,slow=6.9,SNR=3.7						
ILAR	**Eielson Array**	**58.53**	**334**	P	P	11 18 39.2	+1.0
	1.0nm,0.8s,baz=56,slow=4.2,SNR=11						
BVAR	**Borovoye Array**	**77.33**	**35**	LR	LR	11 50 17.7	
	comp=Z,63nm,21.3s,baz=200,slow=33						

*SOME **07** 11:13:12.8, 43°.65N×69°.83E*
NNC 07 11:13:13.7±1.1, 43°.70N×69°.82E, h0km, mb3.5, mpv3.0, 1C-1D, Error ellipse: s-maj=6.2km s-min=4.4km az=137.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.78**	**139**	⇑P	Pg	11 13 28.5	-0.1
	1.9nm,0.7s,baz=322,slow=16,SNR=15						
KK31				⇓S	Sg	11 13 39.7	+1.0
	11nm,0.5s,baz=319,slow=30,SNR=78						
IUG	**Iuzhnay**	**1.56**	**174**	P	Pn	11 13 42.6	-0.1
	24nm,0.4s						
IUG				S	Sb	11 14 04.4	+0.7
	32nm,0.3s						
MRKS	**Merke**	**2.67**	**110**	Pg	Pb	11 14 03.4	+1.0
	3.7nm,0.5s						
MRKS				Lg	Lg	11 14 40.3	
	7.8nm,0.5s						
AAK	**Ala-Archa**	**3.58**	**106**	Pg	Pb	11 14 18.3	+0.4
	3.6nm,0.7s						
AAK				Lg	Lg	11 15 09.6	
	1.6nm,0.6s						
KST	**Kastek**	**4.53**	**96**	Pg	Pb	11 14 37.1	+3.0
	3.2nm,0.6s						
KST				Lg	Lg	11 15 38.4	
	6.3nm,0.8s						
KUU	**Kurty**	**4.72**	**85**	Pg	Pb	11 14 40.6	+3.2
	1.6nm,0.5s						
KUU				Lg	Lg	11 15 43.9	
	4.1nm,0.5s						

TAP 07 11:14:57.4, 24°.36N×121°.42E, h8km±1km, ML1.5, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.08**	**333**	⇓P	Pg	11 14 59.4	-0.2
	baz=332						
NNSB				S	Sg	11 15 00.9	-0.2
	baz=332						
NNS	**Nan Shan**	**0.09**	**331**	P	Pg	11 14 59.6	-0.2
	baz=334						
NNS				*e*S	Sg	11 15 01.2	-0.2
	baz=334						
ETLH	**Xiulin Townshi**	**0.16**	**160**	*e*P	Pg	11 15 00.7	-0.1
	baz=160						
ETLH				*e*S	Sg	11 15 03.1	-0.1
	baz=160						
NACB	**Ninganchiao**	**0.24**	**139**	*e*P	Pg	11 15 02.0	-0.2
	baz=139						
NACB				*e*S	Sg	11 15 06.3	+0.8
	baz=139						
NDT	**Datong Townshi**	**0.26**	**19**	*e*P	Pg	11 15 02.8	+0.2
	baz=18						
ENA	**Nanau**	**0.30**	**76**	*e*S	Sg	11 15 08.6	+1.3
	baz=77						
ENTT	**Nioudou**	**0.31**	**25**	*e*P	Pg	11 15 03.5	0.0
	baz=26						
ENTT				*e*S	Sg	11 15 08.2	+0.5
	baz=26						
TWC	**Suao**	**0.46**	**57**	*e*P	Pg	11 15 06.3	-0.1
	baz=57						
TWC				*e*S	Sb	11 15 14.7	-0.2
	baz=57						

PGC 07 11:25:01.1±0.5, 52°.88N×132°.99W, h18km, ML3.5/13, ML3.5/13, 88km Wsw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DIB	**Dawson Inlet,**	**0.45**	**43**	P	Pg	11 25 09.5	-0.7
DIB				S	Sg	11 25 14.7	-1.7
HG1B	**Mitchell Dam**	**0.52**	**83**	P	Pg	11 25 11.3	-0.2
HG1B				S	Sg	11 25 17.8	-0.7
MOBC	**Moresby Island**	**0.67**	**66**	P	Pb	11 25 13.6	-0.6
MOBC				S	Sb	11 25 22.2	-1.0
BNB	**Barry Inlet**	**0.81**	**111**	P	Pb	11 25 16.5	-0.1
BNB				S	Sg	11 25 27.7	+0.1
HG3B	**Hotspring**	**0.99**	**107**	S	Sb	11 25 32.1	-0.1
NDB	**Naden**	**1.08**	**1**	P	Pb	11 25 20.5	-0.7
NDB				S	Sb	11 25 34.1	-0.9
HG4B	**Hotspring**	**1.24**	**118**	P	Pn	11 25 22.9	-0.6
MASB	**Masset**	**1.28**	**26**	P	Pn	11 25 24.2	+0.2
MASB				S	Sg	11 25 41.7	-0.7
RUBB	**Prince Rupert**	**2.18**	**47**	Pn	Pn	11 25 35.8	-0.6
RUBB				Pg	Pb	11 25 38.9	-1.1
RUBB				Sg	Sb	11 26 06.9	+0.2
BBB	**Bella Bella**	**3.06**	**101**	Pn	Pn	11 25 47.5	-1.0
BBB				Sg	Sb	11 26 32.9	+1.1
HOLB	**Holberg**	**3.76**	**125**	Pn	Pn	11 25 57.4	-0.7
HOLB				Sn	Sn	11 26 38.1	-3.7
PHC	**Port Hardy**	**4.08**	**120**	Pn	Pn	11 26 00.9	-1.5
PHC				Sn	Sn	11 26 46.8	-2.8
PACB	**Port Alice, BC**	**4.21**	**123**	Pn	Pn	11 26 04.7	+0.5
BPBC	**Brooks Peninsu**	**4.25**	**128**	Pn	Pn	11 26 05.6	+0.7
BPBC				Sn	Sn	11 26 53.2	-0.7
MAYB	**Maynard**	**4.39**	**122**	Pn	Pn	11 26 06.3	-0.5
MAYB				Sn	Sn	11 26 55.5	-2.1
TLCB	**Telegraph Cove**	**4.48**	**119**	Pn	Pn	11 26 07.9	-0.1
TLCB				Sn	Sn	11 26 57.8	-1.8
FSB	**Fort Saint Jam**	**5.39**	**69**	Pg	Pb	11 26 36.2	+1.6
FSB				Sg	Sb	11 27 46.4	+7.4
BTB	**Buttle Lake**	**5.80**	**123**	Pn	Pn	11 26 24.3	-2.0
DLBC	**Dease Lake**	**5.82**	**16**	Pn	Pn	11 26 29.0	+2.5
DLBC				Sg	Sg	11 28 01.3	-6.4
BMBC	**Bull Mountain**	**7.08**	**59**	Sg	Sb	11 28 37.7	+10
WHY	**Whitehorse**	**7.87**	**353**	Pn	Pn	11 26 55.9	+1.3
WHY				Sg	Sb	11 29 04.3	+14
FNBB	**Fort Nelson**	**8.22**	**39**	Pn	Pn	11 26 59.6	+0.2
FNBB				Sg	Sb	11 29 11.2	+11
YUK5	**Granite Creek**	**8.69**	**344**	Pn	Pn	11 27 08.2	+2.3
YUK5				Sn	Sn	11 28 43.0	-0.3
YUK4	**Talbot Arm**	**9.03**	**342**	Pn	Pn	11 27 17.8	+7.3
CTGM	**Chitina Glacie**	**9.29**	**334**	Pn	Pn	11 27 16.9	+2.7
BALM	**Baldy**	**9.63**	**332**	Pn	Pn	11 27 19.6	+0.9

*IDC **07** 11:28:53.6±1.8, 0°.04S×96°.67E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/46, mbtmp3.5/6, ML3.5/2, Error ellipse: s-maj=57.3km s-min=22.0km az=62.0*
*ISCJB **07** 11:28:57.1±1.4, 0°.1N±0°.1×96°.8E±0°.2, h32km, mb3.6/4, Error ellipse: s-maj=32.8km s-min=16.7km az=161.2*
ISC 07 11:28:59.2±1.7, 0°.1N±0°.2×96°.9E±0°.3, h32km, n10, σ0s67/7, mb3.5/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.35**	**37**	Pn	**Pn**	**11 29 49.3**	**-0.3**
	0.9nm,0.3s,baz=359,slow=5.1,SNR=6.9						
CMAR	**Chiang Mai Arr**	**18.35**	**6**	P	**Pn**	**11 33 11.9**	**+0.6**
	0.2nm,0.3s,baz=196,slow=11,SNR=6.4						
H08S2	**Diego Garcia H**	**25.53**	**252**	T	T	12 01 47.6	
	baz=71,slow=75,SNR=4.2						
H08S3	**Diego Garcia H**	**25.54**	**252**	T	T	12 01 54.0	
	baz=71,slow=75,SNR=3.0						
H08S1	**Diego Garcia H**	**25.55**	**252**	T	T	12 02 04.6	
	baz=71,slow=75,SNR=5.2						
WRA	**Warramunga Arr**	**41.72**	**121**	P	**P**	**11 36 45.8**	**+0.2**
	0.4nm,0.5s,baz=302,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**42.98**	**126**	P	**P**	**11 36 55.8**	**-0.1**
	0.4nm,0.4s,baz=298,slow=7.6,SNR=7.9						
MKAR	**Makanchi Array**	**48.23**	**347**	P	**P**	**11 37 36.1**	**-0.9**
	0.3nm,0.5s,baz=153,slow=11,SNR=3.4						
ZALV	**Zalesovo Beam**	**54.59**	**351**	P	**P**	**11 38 25.1**	**+0.7**
	0.5nm,0.3s,baz=177,slow=7.0,SNR=5.0						
TXAR	**Lajitas Array**	**144.75**	**32**	PKP	**PKPab**	**11 48 32.4**	**-0.2**
	0.3nm,0.7s,baz=302,slow=1.6,SNR=4.6						

MAN 07 11:44:10.7, 6°.19N×124°.38E, h11km, mb4.7, ML3.6, MS3.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**0.36**	**26**	*e*P	Pb	11 44 18.7	-0.5
SKMP				*e*S	Sb	11 44 26.2	+1.3
CTBH	**Cotabato--PC H**	**1.03**	**352**	⇑*i*P	Pn	11 44 30.9	-0.2
CTBH				*i* S	Sn	11 44 45.6	+0.1
KCP	**Kidapawan**	**1.07**	**41**	⇓*e*P	Pb	11 44 30.2	-1.2
DDMP	**Don Marcelino,**	**1.32**	**94**	*e*P	Pn	11 44 31.2	-3.9
DDMP				*e*S	Sb	11 44 47.8	-4.8
BUKP	**Musuan**	**1.81**	**22**	*e*P	Pn	11 44 41.6	-0.3
BUKP				*e*S	Sn	11 45 05.4	+0.6
PAGZ	**Pagadian**	**1.92**	**329**	*e*P	Pn	11 44 42.1	-1.2
PAGZ				*e*S	Sb	11 45 10.1	+0.3
IPIL	**Ipil**	**2.40**	**312**	*e*P	Sn	11 45 19.0	-0.3

IDC 07 11:45:08.3±1.0, 43°.17S×39°.78E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/40, mbtmp4.0/5, MS3.5/13, Ms1 3.5/13, ms1mx3.3/38, Error ellipse: s-maj=64.6km s-min=26.8km az=29.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.42**	**300**	LR	LR	11 54 54.8	
	comp=Z,123nm,18.7s,baz=145,slow=32						
BOSA	**Boshof**	**18.66**	**316**	LR	LR	11 54 19.6	
	comp=Z,40nm,20.4s,baz=207,slow=30						
LBTB	**Lobatse**	**21.53**	**323**	LR	LR	11 56 57.7	
	comp=Z,139nm,19.2s,baz=150,slow=33						
MATP	**Matopo**	**24.58**	**334**	LR	LR	11 58 17.6	
	comp=Z,108nm,20.1s,baz=170,slow=32						
MAW	**Mawson**	**27.43**	**161**	LR	LR	12 00 19.1	
	comp=Z,115nm,18.1s,baz=216,slow=33						
LSZ	**Lusaka**	**29.52**	**337**	LR	LR	12 00 58.6	
	comp=Z,86nm,19.9s,baz=210,slow=32						
TSUM	**Tsumeb**	**30.34**	**315**	LR	LR	12 02 01.4	
	comp=Z,107nm,19.2s,baz=168,slow=33						
KMBO	**Kilima Mbogo**	**41.92**	**356**	LR	LR	12 07 57.5	
	comp=Z,116nm,21.0s,baz=94,slow=33						
VNDA	**Vanda**	**54.48**	**167**	LR	LR	12 15 06.5	
	comp=Z,70nm,18.4s,baz=280,slow=33						
PALK	**Pallekele**	**62.44**	**47**	LR	LR	12 16 04.5	
	comp=Z,38nm,19.1s,baz=296,slow=30						
TORD	**Torodi Ar. Bea**	**66.00**	**319**	P	P	11 55 56.6	0.0
	1.8nm,1.1s,baz=148,slow=5.1,SNR=6.7						
WSAR	**Wadi Sarin**	**68.33**	**19**	LR	LR	12 20 41.5	
	comp=Z,52nm,20.7s,baz=221,slow=31						
STKA	**Stephens Creek**	**76.65**	**121**	P	P	11 57 01.3	+0.2
	2.8nm,0.6s,baz=222,slow=3.2,SNR=6.6						
ASAR	**Alice Springs**	**77.06**	**110**	P	P	11 57 03.4	-0.1
	1.4nm,1.0s,baz=229,slow=5.1,SNR=7.1						
CPUP	**Villa Florida**	**77.32**	**246**	LR	LR	12 26 23.6	
	comp=Z,42nm,18.5s,baz=188,slow=32						
WRA	**Warramunga Arr**	**79.84**	**108**	P	P	11 57 18.9	0.0
	0.9nm,0.8s,baz=222,slow=4.0,SNR=5.8						
CMAR	**Chiang Mai Arr**	**81.87**	**55**	P	P	11 57 29.7	+0.2
	0.2nm,0.3s,baz=230,slow=5.6,SNR=4.7						
GEYT	**Alibeck**	**82.43**	**15**	LR	LR	12 33 23.7	
	comp=Z,32nm,18.4s,baz=260,slow=35						
TXAR	**Lajitas Array**	**147.72**	**257**	PKPbc	PKPbc	12 04 54.5	-0.5
	2.2nm,0.9s,baz=134,slow=6.6,SNR=17						
ULM	**Lac du Bonnet**	**149.16**	**299**	PKPbc	PKPbc	12 04 57.0	-0.9
	2.1nm,0.8s,baz=92,slow=4.1,SNR=4.8						

IDC 07 11:48:01.3±3.6, 30°.00N×138°.32E, h450km±99km, mb2.6/3, mb1 2.8/4, mb1mx2.5/44, mbtmp3.4/4, Error ellipse: s-maj=188.4km s-min=22.6km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.52**	**359**	P	P	11 49 40.8	-0.1
	0.1nm,0.3s,baz=180,slow=12,SNR=10						
MKAR	**Makanchi Array**	**46.01**	**308**	P	P	11 55 42.8	0.0
	0.1nm,0.3s,baz=94,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**49.80**	**185**	P	P	11 56 11.4	-0.1
	0.2nm,0.3s,baz=3.1,slow=7.8,SNR=5.8						
BVAR	**Borovoye Array**	**53.61**	**316**	P	P	11 56 38.5	-0.3
	0.5nm,0.4s,baz=81,slow=5.8,SNR=3.7						

MAN 07 12:15:30.8, 10°.34N×122°.12E, h38km, mb4.0, ML2.8, MS2.4, 2D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**0.54**	**58**	*e*P	Pn	12 15 44.0	+1.9
CUYO	**Cuyo Island**	**1.20**	**295**	*e*P	Pn	12 15 51.9	+0.9
CUYO				*e*S	Sn	12 16 07.0	+0.9
RCP	**Roxas**	**1.36**	**27**	⇓*e*P	Sn	12 16 19.5	+9.3
PAGZ	**Pagadian**	**2.77**	**153**	*e*P	Pn	12 16 13.7	+1.1
PAGZ				*e*S	Sn	12 16 39.0	-5.7
ENPP	**El N

AKASG Malin Array Be 142.44 333 PKP **PKiKP 12 42 54.4 -2.1**
0.6nm,0.6s,baz=42,slow=4.5,SNR=5.3

MEX 07 12:23:49.9±0.4, 15°.94N×93°.92W, h87km±8km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.71**	**109**	*eP*	Pn	12 24 04.8	-1.4
PCIG				*i* S	Sn	12 24 17.0	-1.4
CCIG	**Comitan**	**1.74**	**79**	*eP*	Pn	12 24 17.9	-0.9
CCIG				*eS*	Sn	12 24 38.5	-2.3

TAP 07 12:33:22.4, 24°.34N×121°.43E, h10km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.10**	**333**	P	Pg	12 33 24.9	-0.1
	baz=333						
NNS	**Nan Shan**	**0.11**	**332**	P	Pg	12 33 25.1	-0.1
	baz=334						
ETLH	**Xiulin Townshi**	**0.14**	**161**	*eP*	Pg	12 33 25.7	+0.1
	baz=160						
NACB	**Ninganchiao**	**0.22**	**138**	*eP*	Pg	12 33 27.0	0.0
	baz=138						
WHF	**Hehuan Shan**	**0.25**	**218**	*eP*	Pg	12 33 27.5	-0.1
	baz=216						
NDT	**Datong Townshi**	**0.27**	**16**	*eP*	Pg	12 33 27.8	-0.1
	baz=16						
ENTT	**Nioudou**	**0.32**	**22**	*eP*	Pg	12 33 28.7	-0.1
	baz=23						
YHNB	**Yeheng**	**0.33**	**351**	*eP*	Pg	12 33 29.3	+0.3
	baz=351						
YHNB				*eS*	Sg	12 33 33.3	-0.1
	baz=351						
NSK	**Sanguang**	**0.34**	**349**	*eS*	Sg	12 33 33.7	0.0
	baz=349						
NWLT	**Wulai**	**0.44**	**9**	*eP*	Pg	12 33 31.1	+0.1
	baz=8.0						
OWD	**Renai**	**0.45**	**211**	*eP*	Pg	12 33 30.8	-0.4
	baz=211						

*MDD **07** 12:37:47.6±1.9, 37°.21N×13°.08W, h0km, mb4.3/5, Error ellipse: s-maj=16.2km s-min=12.7km az=41.0, PRX/IMO*
*INMG **07** 12:37:48.4±1.4, 36°.98N×13°.48W, h10km, ML2.8, Error ellipse: s-maj=8.4km s-min=6.6km az=67.0*
*CNRM **07** 12:37:51.3, 37°.08N×12°.68W, h98km*
ISC 07 12:37:48.3±3.0, 37°.18N±0°.06×12°.9W±0°.2, h10km, n62, σ2s17/97, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.23**	**90**	*ePn*	**Pn**	**12 38 40.2**	**+1.2**
PFVI				*eSn*	**Sn**	**12 39 18.4**	**+0.9**
PFVI				A	A	12 39 19.2	
	21nm,0.4s						
PFVI	**Vila Bisbo**	**3.23**	**90**	S	**Sn**	**12 39 18.2**	**+0.8**
	31nm,0.1s,SNR=6.1						
PTEO	**Sao Teotonio**	**3.32**	**82**	*eSn*	**Sn**	**12 39 19.9**	**+0.1**
PTEO				A	A	12 39 33.5	
	18nm,0.8s						
PTEO	**Sao Teotonio**	**3.32**	**82**	S	**Sn**	**12 39 19.9**	**+0.1**
	8.9nm,0.8s						
PMAFR	**Mafra**	**3.34**	**57**	*ePn*	**Pn**	**12 38 41.8**	**+1.2**
PMAFR				*eSn*	**Sn**	**12 39 22.5**	**+2.2**
PMAFR				A	A	12 39 34.2	
	33nm,0.7s						
PMAFR	**Mafra**	**3.34**	**57**	P	**Pn**	**12 38 41.8**	**+1.2**
	4.7nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**12 39 22.5**	**+2.2**
	14nm,0.1s,SNR=7.9						
MORF	**Marmelete**	**3.36**	**87**	*ePn*	**Pn**	**12 38 42.9**	**+1.9**
MORF				*eSn*	**Sn**	**12 39 21.7**	**+0.7**
MORF				A	A	12 39 27.5	
	16nm,0.2s						
MORF	**Marmelete**	**3.36**	**87**	P	**Pn**	**12 38 42.9**	**+1.9**
MORF				S	**Sn**	**12 39 21.7**	**+0.7**
	16nm,0.2s						
PNCL	**Nicolau / Gran**	**3.56**	**73**	*ePn*	**Pn**	**12 38 44.7**	**+1.0**
PNCL				*eSn*	**Sn**	**12 39 27.0**	**+1.1**
PNCL				A	A	12 39 32.6	
	10nm,0.5s						
PNCL	**Nicolau / Gran**	**3.56**	**73**	P	**Pn**	**12 38 44.7**	**+1.0**
PNCL				S	**Sn**	**12 39 27.0**	**+1.1**
	10nm,0.5s						
MESJ	**Messejana**	**3.75**	**78**	*ePn*	**Pn**	**12 38 47.6**	**+1.4**
MESJ				*eSn*	**Sn**	**12 39 31.4**	**+0.9**
MESJ				A	A	12 39 36.1	
	6.5nm,0.3s						
MESJ	**Messejana**	**3.75**	**78**	P	**Pn**	**12 38 47.6**	**+1.4**
MESJ				S	**Sn**	**12 39 31.4**	**+0.9**
	6.5nm,0.3s						
PBDV	**Barranco-do-Ve**	**3.94**	**88**	*ePn*	**Pn**	**12 38 50.9**	**+2.1**
PBDV				*eSn*	**Sn**	**12 39 36.2**	**+1.1**
PBDV				A	A	12 39 42.2	
	8.0nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.94**	**88**	P	**Pn**	**12 38 50.9**	**+2.1**
PBDV				S	**Sn**	**12 39 36.2**	**+1.1**
	8.0nm,0.6s						
PBEJ	**Beja**	**4.06**	**76**	*eSn*	**Sn**	**12 39 40.1**	**+2.1**
PBEJ				A	A	12 39 44.7	
	5.9nm,0.4s						
PBEJ	**Beja**	**4.06**	**76**	S	**Sn**	**12 39 40.1**	**+2.1**
	3.0nm,0.4s						
EVO	**Evora**	**4.07**	**69**	*eSn*	**Sn**	**12 39 40.3**	**+2.0**
EVO				A	A	12 39 45.9	
	16nm,0.1s						
EVO	**Evora**	**4.07**	**69**	S	**Sn**	**12 39 40.3**	**+2.0**
	16nm,0.1s						
PVAQ	**Vaqueiros**	**4.11**	**85**	*eSn*	**Sn**	**12 39 39.9**	**+0.6**
PVAQ				A	A	12 39 42.5	
	17nm,0.9s						
PVAQ	**Vaqueiros**	**4.11**	**85**	S	**Sn**	**12 39 39.9**	**+0.6**
	17nm,0.9s						
PMTG	**Montargil**	**4.12**	**61**	*ePn*	**Pn**	**12 38 52.1**	**+0.8**
PMTG				*eSn*	**Sn**	**12 39 40.3**	**+0.8**
PMTG				A	A	12 39 43.5	
	4.4nm,0.1s						
PMTG	**Montargil**	**4.12**	**61**	P	**Pn**	**12 38 52.1**	**+0.8**
PMTG				S	**Sn**	**12 39 40.3**	**+0.8**
	4.4nm,0.1s						
PTOM	**Tomar**	**4.26**	**54**	*ePn*	**Pn**	**12 38 54.9**	**+1.6**
PTOM				*eSn*	**Sn**	**12 39 44.5**	**+1.4**
PTOM				A	A	12 39 48.4	
	10.0nm,0.2s						
PTOM	**Tomar**	**4.26**	**54**	P	**Pn**	**12 38 54.9**	**+1.6**
PTOM				S	**Sn**	**12 39 44.5**	**+1.4**
	5.0nm,0.2s						
EGRO	**El Granado**	**4.30**	**84**	P	**Pn**	**12 38 56.6**	**+2.8**
	2.1nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**12 39 46.1**	**+2.1**
	7.2nm,0.1s,SNR=4.9						
PCAS	**Casmilo, Conde**	**4.46**	**49**	*ePn*	**Pn**	**12 38 57.3**	**+1.2**
PCAS				*eSn*	**Sn**	**12 39 48.1**	**0.0**
PCAS				A	A	12 39 53.9	
	3.6nm,0.2s						
PCAS	**Casmilo, Conde**	**4.46**	**49**	P	**Pn**	**12 38 57.3**	**+1.2**
PCAS				S	**Sn**	**12 39 48.1**	**0.0**
	3.6nm,0.2s						
PESTR	**Estremoz**	**4.49**	**66**	*eSn*	**Sn**	**12 39 49.1**	**+0.3**
PESTR				A	A	12 40 01.9	
	5.8nm,0.6s						
PBAR	**Barrancos**	**4.73**	**76**	*eSn*	**Sn**	**12 39 55.3**	**+0.8**
PBAR				A	A	12 39 59.3	
	18nm,0.3s						
PBAR	**Barrancos**	**4.73**	**76**	S	**Sn**	**12 39 55.3**	**+0.8**
	18nm,0.3s						
PMRV	**Marv??o**	**4.86**	**61**	*eSn*	**Sn**	**12 39 58.1**	**+0.4**
PMRV				A	A	12 40 01.1	
	5.6nm,0.4s						
PMRV	**Marv??o**	**4.86**	**61**	S	**Sn**	**12 39 58.1**	**+0.4**
	5.6nm,0.4s						
EBAD	**Badajoz**	**4.88**	**69**	S	**Sn**	**12 39 58.6**	**+0.2**
	12nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.96**	**81**	S	**Sn**	**12 39 59.3**	**-1.0**
	2.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.99**	**56**	*eSn*	**Sn**	**12 40 02.1**	**+1.1**
PCBR				A	A	12 40 09.2	
	3.3nm,0.4s						
PCBR	**Castelo Branco**	**4.99**	**56**	S	**Sn**	**12 40 02.1**	**+1.1**
	1.7nm,0.4s						
PVIS	**Viseu**	**5.24**	**46**	*eSn*	**Sn**	**12 40 05.9**	**-1.4**
PVIS				A	A	12 40 18.2	
	7.0nm,0.6s						
PVIS	**Viseu**	**5.24**	**46**	S	**Sn**	**12 40 05.9**	**-1.4**
	3.5nm,0.6s						
ESPR	**Espera**	**5.62**	**91**	S	**Sn**	**12 40 17.5**	**+1.1**
	29nm,0.3s,SNR=7.9						
PVRL	**Vila Real**	**5.72**	**43**	*eSn*	**Sn**	**12 40 18.5**	**-0.6**
PVRL	**Vila Real**	**5.72**	**43**	S	**Sn**	**12 40 18.5**	**-0.6**
POLO	**Lamas de Olo**	**5.75**	**42**	*eSn*	**Sn**	**12 40 18.8**	**-1.0**
POLO	**Lamas de Olo**	**5.75**	**42**	S	**Sn**	**12 40 18.8**	**-1.0**
PGAV	**Gavieira, Arco**	**5.96**	**35**	*ePn*	**Pn**	**12 39 16.8**	**+0.2**
PGAV				*eSn*	**Sn**	**12 40 22.2**	**-2.7**
PGAV	**Gavieira, Arco**	**5.96**	**35**	P	**Pn**	**12 39 16.8**	**+0.2**
PGAV				S	**Sn**	**12 40 22.2**	**-2.7**
ECAB	**El Cabril**	**5.98**	**79**	P	**Pn**	**12 39 18.1**	**+1.2**
	0.1nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**12 40 25.1**	**-0.3**
	0.9nm,0.1s,SNR=6.0						
ELOB	**Lobios**	**5.98**	**37**	S	**Sn**	**12 40 22.1**	**-3.4**
	1.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.03**	**47**	*ePn*	**Pn**	**12 39 18.2**	**+0.5**
MVO				*eSn*	**Sn**	**12 40 25.8**	**-1.0**
MVO				A	A	12 40 28.4	
	3.8nm,0.2s						
MVO	**Moncorvo**	**6.03**	**47**	P	**Pn**	**12 39 18.4**	**+0.7**
	0.4nm,0.0s,SNR=7.9						
MVO				S	**Sn**	**12 40 24.7**	**-2.2**
	2.3nm,0.1s,SNR=7.9						
ZHG	**ZHG**	**6.30**	**124**	P	**Pn**	**12 39 18.5**	**-2.9**
ZHG				S	**Sn**	**12 40 29.0**	**-4.4**
EMAZ	**Mazaricos**	**6.49**	**26**	P	**Pn**	**12 39 22.7**	**-1.2**
	2.5nm,0.1s,SNR=4.0						
EMAZ				S	**Sn**	**12 40 30.5**	**-7.5**
	4.7nm,0.1s,SNR=4.0						
PBRG	**Braganca**	**6.62**	**44**	*ePn*	**Pn**	**12 39 26.3**	**+0.7**
PBRG				*eSn*	**Sn**	**12 40 40.3**	**-0.8**
PBRG	**Braganca**	**6.62**	**44**	P	**Pn**	**12 39 26.3**	**+0.7**
PBRG				S	**Sn**	**12 40 40.3**	**-0.8**
EADA	**Adamuz**	**6.65**	**79**	S	**Sn**	**12 40 41.0**	**-0.9**
	1.2nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**6.71**	**32**	P	**Pn**	**12 39 25.7**	**-1.2**
	1.6nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**12 40 37.7**	**-5.6**
	2.3nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**7.10**	**68**	P	**Pn**	**12 39 34.2**	**+2.0**
	0.1nm,0.2s,SNR=4.0						
PAB				S	**Sn**	**12 40 51.8**	**-1.2**
	0.2nm,0.1s,SNR=7.9						
OUK	**Oukaimeden**	**7.25**	**144**	P	**Pn**	**12 39 31.6**	**-3.0**
OUK				S	**Sn**	**12 40 53.8**	**-3.4**
ESDC	**Sonseca Array**	**7.42**	**68**	P	**Pn**	**12 39 37.4**	**+0.7**
	baz=257,slow=13,SNR=7.9						
ESDC				S	**Sn**	**12 40 57.6**	**-3.3**
	baz=310,slow=38,SNR=7.9						
EPON	**Pontenova**	**7.54**	**34**	P	**Pn**	**12 39 37.8**	**-0.4**
	1.0nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**12 40 57.7**	**-6.1**
	1.3nm,0.2s,SNR=7.9						
MD31	**MD31**	**7.92**	**121**	P	**Pn**	**12 39 42.1**	**-1.4**
MD31				S	**Sn**	**12 41 06.9**	**-6.3**
OUZM	**OUZ**	**8.04**	**139**	P	**Pn**	**12 39 42.5**	**-2.8**
OUZM				S	**Sn**	**12 41 11.4**	**-5.0**
MDT	**Midelt**	**8.05**	**120**	P	**Pn**	**12 39 44.8**	**-0.6**
MDT				S	**Sn**	**12 41 10.7**	**-5.9**

*IDC **07** 12:43:24.0±1.0, 55°.97S×27°.20W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/27, mbtmp4.1/4, Error ellipse: s-maj=39.2km s-min=28.5km az=64.0*
*ISCJB **07** 12:43:28.4±0.9, 55°.9S±0°.1×27°.4W±0°.4, h35km, mb4.1/4, Error ellipse: s-maj=39.2km s-min=12.9km az=153.5*
ISC 07 12:43:30.8±0.9, 56°.0S±0°.2×27°.6W±0°.3, h35km, n10, σ2s06/10, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.14**	**160**	P	**Pn**	**12 47 27.8**	**+0.6**
VNA2	**Neumayer--Watz**	**17.35**	**158**	P	**Pn**	**12 47 30.4**	**+0.6**
	baz=314,slow=15						
SNAA	**Sanae**	**18.91**	**156**	P	**P**	**12 47 47.1**	**-0.9**
CPUP	**Villa Florida**	**36.58**	**312**	P	**P**	**12 50 32.8**	**-0.4**
	1.2nm,0.5s,baz=175,slow=10,SNR=3.0						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**12 51 53.9**	**-1.0**
	1.4nm,0.8s,baz=220,slow=5.3,SNR=3.9						
LPAZ	**La Paz**	**50.14**	**306**	P	**P**	**12 52 23.6**	**+0.3**
	2.4nm,0.4s,baz=83,slow=3.8,SNR=12						
TORD	**Torodi Ar. Bea**	**73.10**	**30**	P	**P**	**12 54 56.0**	**-1.3**
	0.7nm,0.5s,baz=198,slow=6.6,SNR=7.1						
YKA	**Yellowknife Ar**	**135.96**	**318**	PKP	**PKPdf**	**13 02 43.9**	**-2.4**
	0.3nm,0.4s,baz=133,slow=1.8,SNR=4.1						
ILAR	**Eielson Array**	**149.89**	**312**	PKPbc	**PKPdf**	**13 03 13.5**	**+2.8**
	2.2nm,0.8s,baz=133,slow=3.0,SNR=22						
SONM	**Songino Array**	**150.96**	**87**	PKPbc	**PKPdf**	**13 03 16.5**	**+3.4**
	1.1nm,0.4s,baz=220,slow=3.9,SNR=11						

IDC 07 12:59:06.5±1.6, 11°.45S×165°.03E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.5/38, mbtmp3.8/4, ML3.6/1, Error ellipse: s-maj=52.5km s-min=30.2km az=130.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.65**	**173**	Pn	Pn	13 01 40.5	0.0
	0.4nm,0.3s,baz=312,slow=16,SNR=6.1						
WRA	**Warramunga Arr**	**30.69**	**250**	P	P	13 05 23.6	+0.4
	1.0nm,0.9s,baz=79,slow=7.8,SNR=7.6						
ASAR	**Alice Springs**	**31.98**	**243**	P	P	13 05 34.3	-0.4
	0.8nm,1.0s,baz=68,slow=10,SNR=6.2						
ILAR	**Eielson Array**	**84.12**	**19**	P	P	13 11 39.0	0.0
	0.3nm,0.5s,baz=239,slow=4.7,SNR=12						

TAP 07 13:02:55.7, 24°.39N×121°.43E, h7km, ML0.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.05**	**311**	*eP*	Pg	13 02 57.6	+0.2
	baz=310						
NNSB				*eS*	Sg	13 02 59.1	+0.3
	baz=310						
NNS	**Nan Shan**	**0.07**	**313**	P	Pg	13 02 57.8	+0.2
	baz=316						
NNS				*i* S	Sg	13 02 59.7	+0.6
	baz=316						
ETLH	**Xiulin Townshi**	**0.19**	**165**	*eP*	Pg	13 03 00.7	+1.1
	baz=165						
NDT	**Datong Townshi**	**0.22**	**20**	*eP*	Pg	13 03 00.9	+0.7
	baz=20						
NDT				*eS*	Sg	13 03 05.4	+2.2
	baz=20						
NACB	**Ninganchiao**	**0.27**	**145**	*eS*	Sb	13 03 06.8	-0.8
	baz=145						
TWT	**Tachien**	**0.27**	**239**	*eS*	Sb	13 03 07.4	-0.5
	baz=239						
YHNB	**Yeheng**	**0.28**	**350**	*eS*	Sb	13 03 07.2	-0.9
	baz=350						
WHF	**Hehuan Shan**	**0.29**	**211**	*eP*	Pb	13 03 02.6	-0.9
	baz=209						

*JMA **07** 13:03:09.4±0.2, 23°.69N×142°.19E, h148km, M4.4*
*IDC **07** 13:03:09.5±2.7, 23°.61N×141°.84E, h70km±26km, mb3.4/7, mb1 3.5/10, mb1mx3.3/46, mbtmp3.7/10, MS3.0/3, Ms1 3.0/3, ms1mx2.7/23, Error ellipse: s-maj=36.8km s-min=16.7km az=89.0*
*ISCJB **07** 13:03:10.6±0.8, 23°.70N±0°.06×141°.9E±0°.2, h100km, mb3.7/7, Error ellipse: s-maj=26.7km s-min=7.1km az=9.9*
ISC 07 13:03:12.9±1.1, 23°.83N±0°.08×141°.8E±0°.2, h100km, n19, σ2s27/18, mb3.9/7, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.81**	**7**	P	**Pn**	**13 03 56.4**	**+0.3**
JHHJ				*eS*	**Sn**	**13 04 31.8**	**+2.5**
CBIJ	**Chichi jima**	**3.27**	**6**	P	**Pn**	**13 04 02.5**	**+0.3**
CBIJ				*eS*	**Sn**	**13 04 42.5**	**+2.2**
JCJ	**Chichijima**	**3.27**	**6**	P	**Pn**	**13 04 02.9**	**+0.7**
	24nm,0.3s,baz=33,slow=6.5,SNR=106						
JCJ				S	**Sn**	**13 04 41.6**	**+1.3**
	68nm,0.3s,baz=144,slow=21,SNR=13						
JAG	**Ashikaga**	**12.71**	**351**	P	**Pn**	**13 06 07.6**	**-2.3**
JHO	**Hitachi**	**12.78**	**356**	P	**Pn**	**13 06 08.2**	**-2.6**
JHO				*eS*	**Sn**	**13 08 26.0**	**-5.3**
MJAR	**Matsushiro Arr**	**13.04**	**347**	P	**Pn**	**13 06 12.7**	**-1.6**
	0.1nm,0.3s,baz=158,slow=11,SNR=7.3						
JNU	**Nakatsue**	**13.32**	**316**	LR	LR	13 10 19.6	
	comp=Z,54nm,19.2s,baz=34,slow=32						
KSRS	**Korea Array**	**18.04**	**322**	P	**Pn**	**13 07 18.0**	**+1.0**
	0.1nm,0.3s,baz=142,slow=12,SNR=3.0						
KSRS				LR	LR	13 13 45.8	
	comp=Z,24nm,20.7s,baz=15,slow=35						
H11N1	**WAKE ISLAND Hy 23.66**	**95**		T	T	13 32 07.5	
	baz=282,slow=74,SNR=3.0						
H11N2	**WAKE ISLAND Hy 23.66**	**95**		T	T	13 32 10.6	
	baz=282,slow=74,SNR=4.1						
H11N3	**WAKE ISLAND Hy 23.68**	**95**		T	T	13 32 20.4	
	baz=282,slow=74,SNR=3.0						
SONM	**Songino Array**	**36.88**	**319**	LR	LR	13 24 27.3	
	comp=Z,42nn,19.7s,baz=3.0,slow=34						
WRA	**Warramunga Arr**	**44.11**	**190**	P	**P**	**13 11 08.8**	**-2.6**
	0.8nm,0.4s,baz=9.7,slow=8.6,SNR=24						
ASAR	**Alice Springs**	**47.83**	**190**	P	**P**	**13 11 39.0**	**-1.6**
	0.2nm,0.7s,baz=16,slow=13,SNR=9.7						
MKAR	**Makanchi Array**	**52.32**	**312**	P	**P**	**13 12 17.1**	**+2.7**
	0.7nm,0.6s,baz=92,slow=8.4,SNR=7.3						
ILAR	**Eielson Array**	**60.75**	**28**	P	**P**	**13 13 15.3**	**+1.5**
	0.2nm,0.7s,baz=261,slow=5.3,SNR=3.4						
GEYT	**Alibeck**	**70.99**	**304**	P	**P**	**13 14 19.9**	**0.0**
	1.1nm,0.4s,baz=90,slow=8.9,SNR=4.3						
FINES	**FINESS Array B**	**80.71**	**334**	P	**P**	**13 15 15.2**	**+0.5**
	0.6nm,0.4s,baz=26,slow=4.9,SNR=3.8						
BRTR	**Keskin Array B**	**87.95**	**313**	P	**P**	**13 15 52.8**	**+0.8**
	0.9nm,0.7s,baz=96,slow=5.0,SNR=4.3						

*IDC **07** 13:07:33.0±0.8, 11°.50S×165°.20E, h0km, mb4.1/10, mb1 4.3/12, mb1mx4.1/38, mbtmp4.1/12, ML4.5/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/25, Error ellipse: s-maj=31.5km s-min=18.3km az=140.0*
*ISCJB **07** 13:07:36.5±0.6, 11°.56S±0°.09×165°.04E±0°.08, h34km, mb4.0/9, MS3.4/3, Error ellipse: s-maj=13.8km s-min=10.3km az=21.4*
ISC 07 13:07:38.1±0.7, 11°.5S±0°.1×165°.13E±0°.10, h34km, n16, σ0s92/14, mb4.0/9, MS3.3/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.49**	**291**	P	Pn	13 08 50.0	-7.6
HNR	**Honiara**	**5.49**	**291**	Pn	**Pn**	**13 08 57.4**	**-0.2**
	34nm,0.3s,baz=130,slow=6.5,SNR=8.7						
HNR				Sn	**Sn**	**13 09 58.5**	**-1.1**
	5.9nm,0.3s,baz=49,slow=11,SNR=3.6						
HNR				LR	LR	13 11 10.1	
	comp=Z,269nm,20.8s,baz=118,slow=39						
DZM	**Mont Dzumac**	**10.60**	**173**	Pn	**Pn**	**13 10 07.2**	**-0.6**
	1.7nm,0.3s,baz=314,slow=7.2,SNR=32						
DZM				LR	LR	13 13 23.3	
	comp=Z,80nm,18.3s,baz=230,slow=33						
CTA	**Charters Tower**	**20.06**	**242**	P	**P**	**13 12 09.8**	**+1.1**
	7.9nm,0.8s,baz=55,slow=16,SNR=3.7						
STKA	**Stephens Creek**	**29.71**	**223**	P	**P**	**13 13 41.8**	**+0.6**
	1.2nm,0.6s,baz=80,slow=9.9,SNR=3.7						
STKA				LR	LR	13 24 29.5	
	comp=Z,72nm,18.2s,baz=30,slow=34						
H11S2	**WAKE ISLAND Hy 29.83**	**3**		T	T	13 45 12.7	
	baz=184,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy 29.83**	**3**		T	T	13 45 10.1	
	baz=184,slow=76,SNR=4.1						
H11S1	**WAKE ISLAND Hy 29.85**	**3**		T	T	13 45 09.7	
	baz=184,slow=76,SNR=4.4						
WRA	**Warramunga Arr**	**30.76**	**250**	P	**P**	**13 13 50.2**	**-0.4**
	1.7nm,0.6s,baz=80,slow=8.0,SNR=21						
WRA				LR	LR	13 25 11.1	
	comp=Z,66nm,20.4s,baz=185,slow=34						
ASAR	**Alice Springs**	**32.05**	**244**	P	**P**	**13 14 01.1**	**-1.0**
	1.6nm,0.7s,baz=63,slow=10,SNR=21						
ASAR				PcP	**PcP**	**13 16 52.0**	**+0.7**
	0.5nm,0.9s,baz=53,slow=3.6,SNR=4.4						
ASAR				LR	LR	13 26 03.8	
	comp=Z,96nm,19.8s,baz=102,slow=35						
SONM	**Songino Array**	**78.67**	**324**	P	**P**	**13 19 38.5**	**+1.6**
	0.6nm,0.8s,baz=139,slow=6.9,SNR=6.4						
ILAR	**Eielson Array**	**84.12**	**19**	P	**P**	**13 20 05.3**	**0.0**
	1.2nm,0.5s,baz=240,slow=4.7,SNR=40						
NVAR	**Mina Array Bea**	**86.77**	**50**	P	**P**	**13 20 19.3**	**-0.1**
	1.6nm,0.8s,baz=231,slow=8.5,SNR=9.8						
MKAR	**Makanchi Array**	**93.43**	**317**	P	**P**	**13 20 50.7**	**+0.5**
	0.7nm,0.7s,baz=95,slow=5.7,SNR=7.3						
YKA	**Yellowknife Ar**	**95.64**	**27**	P	**P**	**13 20 58.7**	**-1.2**
	0.3nm,0.8s,baz=256,slow=4.3,SNR=4.4						
TXAR	**Lajitas Array**	**96.57**	**61**	P	**P**	**13 21 04.7**	**-0.3**
	0.2nm,0.7s,baz=216,slow=4.5,SNR=2.9						

TAP 07 13:12:47.9, 24°.32N×121°.44E, h8km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.12**	**335**	*eP*	Pg	13 12 51.6	+0.9
	baz=335						
NNSB				*eS*	Sg	13 12 53.4	+0.8
	baz=335						
ETLH	**Xiulin Townshi**	**0.12**	**160**	*eP*	Pg	13 12 51.7	+1.0
	baz=160						
ETLH				*eS*	Sg	13 12 53.8	+1.1
	baz=160						
NNS	**Nan Shan**	**0.13**	**334**	*i* P	Pg	13 12 51.8	+0.9
	baz=336						
NNS				*i* S	Sg	13 12 53.8	+0.8
	baz=336						
NACB	**Ninganchiao**	**0.21**	**136**	*eP*	Pg	13 12 52.4	+0.4
	baz=135						
NACB				*eS*	Sg	13 12 56.8	+1.9
	baz=135						
WHF	**Hehuan Shan**	**0.24**	**222**	P	Pg	13 12 53.6	+0.8
	baz=220						
WHF				S	Sg	13 12 57.7	+1.6
	baz=220						
NDT	**Datong Townshi**	**0.29**	**14**	P	Pb	13 12 54.6	-0.7
	baz=13						
NDT				*eS*	Sg	13 12 58.8	+1.3
	baz=13						
ENTT	**Nioudou**	**0.34**	**20**	P	Pb	13 12 55.5	-0.7
	baz=21						
YHNB	**Yeheng**	**0.35**	**351**	*eP*	Pb	13 12 56.2	-0.2
	baz=350	

WHF	**Hehuan Shan**	**0.24**	**209**	*e*P		Pg	13	20	40.0 +1.3
	baz=207								
WHF				*e*S		Sg	13	20	44.0 +2.1
	baz=207								
NDT	**Datong Townshi**	**0.27**	**24**	*e*P		Pb	13	20	40.5 -0.9
	baz=23								
NDT				S		Sb	13	20	45.1 -1.3
	baz=23								
YHNB	**Yeheng**	**0.31**	**357**	*e*P		Pb	13	20	41.5 -0.8
	baz=356								
YHNB				*e*S		Sb	13	20	46.8 -1.0
	baz=356								
TWD	**Chiawan**	**0.33**	**146**	*e*P		Pb	13	20	42.2 -0.3
	baz=145								

TAP 07 13:36:31.5, 23.40N×121.27E, h8km, ML1.5, 1C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YULB	**Yu-li**	**0.03**	**117**	⇑*i* P	Pg	13 36 33.0	-0.1
	baz=116						
YULB				*i* S	Sg	13 36 34.3	+0.1
	baz=116						
TWF1	**Yuli**	**0.06**	**157**	*i* P	Pg	13 36 33.1	-0.2
	baz=150						
TWF1				S	Sg	13 36 34.6	-0.1
	baz=150						
EHY	**Hungye**	**0.11**	**24**	*i* P	Pg	13 36 34.2	+0.1
	baz=26						
EHY				*i* S	Sg	13 36 36.1	+0.1
	baz=26						
HGSD	**Ruisui**	**0.16**	**58**	*i* P	Pg	13 36 35.5	+0.5
	baz=56						
HGSD				S	Sg	13 36 39.0	+1.7
	baz=56						
FULB	**Fuli**	**0.20**	**175**	*i* P	Pg	13 36 36.0	+0.3
	baz=182						
FULB				S	Sg	13 36 40.5	+2.0
	baz=182						
EGFH	**Guangfu**	**0.30**	**28**	*e*P	Pg	13 36 37.5	+0.1
	baz=18						
EGFH				*e*S	Sg	13 36 42.1	+0.6
	baz=18						
YUS	**Yu-Shan**	**0.31**	**286**	P	Pg	13 36 38.5	+0.7
	baz=274						
YUS				*e*S	Sb	13 36 43.8	-1.1
	baz=274						
CHKT	**Chengkung**	**0.32**	**164**	*e*S	Sb	13 36 44.5	-0.1
	baz=165						
ELDTW	**Lidau**	**0.32**	**228**	*i* P	Pg	13 36 37.6	-0.3
	baz=227						
ELDTW				S	Sg	13 36 41.8	-0.3
	baz=227						
VWDT	**VWDT**	**0.37**	**341**	P	Pg	13 36 39.3	+0.5
	baz=339						
VWDT				S	Sg	13 36 44.8	+1.2
	baz=339						
ALS	**Alishan**	**0.44**	**284**	P	Pb	13 36 41.1	-0.6
	baz=284						
ALS				*e*S	Sb	13 36 47.5	-1.1
	baz=284						
SSLB	**Suanglung**	**0.48**	**323**	P	Pg	13 36 41.3	+0.4
	baz=321						
SSLB				S	Sg	13 36 47.7	+0.5
	baz=321						
WHYT	**Xinyi Township**	**0.48**	**307**	P	Pb	13 36 41.9	-0.4
	baz=306						
WHYT				S	Sb	13 36 49.2	-0.3
	baz=306						
STYT	**Tauyuan**	**0.53**	**243**	*e*P	Pg	13 36 41.9	0.0
	baz=239						
STYT				S	Sg	13 36 48.9	+0.1
	baz=239						
OWD	**Renai**	**0.56**	**351**	*e*S	Sg	13 36 50.0	+0.3
	baz=356						
CHN5	**Tsauling**	**0.58**	**289**	*e*P	Pb	13 36 44.0	+0.1
	baz=289						
CHN5				*e*S	Sb	13 36 51.6	-0.8
	baz=289						
ENLB	**Shoufeng**	**0.58**	**31**	*e*S	Sb	13 36 51.8	-0.5
	baz=19						
SMLT	**Sun Moon Lake**	**0.59**	**324**	*e*P	Pg	13 36 43.5	+0.5
	baz=324						
SMLT				*e*S	Sg	13 36 50.9	+0.2
	baz=324						
TPUB	**Ta-pu**	**0.60**	**260**	P	Pb	13 36 44.2	0.0
	baz=258						
TPUB				S	Sb	13 36 53.0	+0.1
	baz=258						
WTP	**Ta-pu**	**0.63**	**256**	*e*P	Pg	13 36 44.1	+0.5
	baz=253						
WTP				S	Sb	13 36 53.4	-0.2
	baz=253						
CHN4	**Tsaushan**	**0.63**	**265**	*e*P	Pb	13 36 44.9	+0.2
	baz=258						
CHN4				*e*S	Sb	13 36 53.4	-0.2
	baz=258						
TYC	**Yuchr**	**0.63**	**323**	*e*P	Pg	13 36 43.9	+0.3
	baz=318						
SLGT	**Liugui**	**0.71**	**235**	P	Pb	13 36 45.7	-0.4
	baz=231						
SLGT				*e*S	Sg	13 36 54.9	+0.5
	baz=231						
CHN1	**Nanshi**	**0.72**	**252**	*e*P	Pb	13 36 46.5	+0.3
	baz=247						
CHN1				*e*S	Sb	13 36 56.9	+0.6
	baz=247						

DDA 07 13:51:26.4, 38.00N×34.72E, h7km±2km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YAHY	**KAYSERI_Yahyal**	**0.52**	**79**	*i* P	Pb	13 51 37.5	-0.4
YAHY				IAML_P			
	comp=Z,589nm,0.2s						
GULE	**Gulek**	**0.72**	**176**	*i* P	Pb	13 51 41.1	-0.3
GULE				IAML_P			
	comp=Z,460nm,0.2s						
KERG	**Konya-Eregli**	**0.75**	**219**	*i* P	Pb	13 51 42.0	+0.1
KERG				IAML_P			
	comp=Z,44nm,0.1s						
AKO	**Adana**	**0.79**	**133**	*i* P	Pg	13 51 40.3	-1.3
AKO				IAML_P			
	comp=Z,211nm,0.1s						
SAIM	**ADANA**	**1.08**	**91**	*i* P	Pn	13 51 51.7	+3.7

TIF 07 13:53:28.0, 42.40N×42.16E, h20km±4km
NORS 07 13:53:29.8±0.0, 42.30N×42.14E, h6km, MPVA3.3
ISCJB 07 13:53:31.5±0.6, 42.27N±0.04×42.13E±0.08, h16km±10km, Error ellipse: s-maj=10.8km s-min=4.3km az=27.7
DDA 07 13:53:46.8, 41.28N×41.73E, h7km±1km, ML2.4
ISC 07 13:53:30.0±1.2, 42.30N±0.04×42.12E±0.06, h15km±12km, n11, σ0=31/19, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.76**	**205**	P	Pb	**13 53 45.2**	**+0.2**
BATM				S	Sn	**13 53 57.6**	**+0.2**
DBOC	**Borcka**	**1.01**	**200**	*i* P	Pb	**13 53 49.2**	**+0.1**
NEY	**Neytrino**	**1.05**	**25**	*e*Pg	Pb	**13 53 49.5**	**-0.5**
NEY				*e*Sg	Sg	**13 54 04.2**	**+0.1**
ARTV	**Artvin**	**1.12**	**187**	*i* P	Pg	**13 53 51.5**	**-0.1**
ARTV				*i* S	Sn	**13 54 07.1**	**+0.5**
DAGI	**Agillar**	**1.23**	**187**	*i* P	Pn	**13 53 52.3**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.23**	**60**	*e*Pg	Pn	**13 53 52.8**	**-0.1**
DIGR				*e*Sg	Sg	**13 54 10.1**	**+0.1**
ZEI	**Tsey**	**1.41**	**69**	*e*Pg	Pb	**13 53 56.2**	**+0.2**
ZEI				*e*Sg	Sg	**13 54 15.5**	**+0.2**
DDEM	**Demirkent**	**1.43**	**191**	*i* P	Pb	**13 53 56.4**	**0.0**
DDEM				IAML_P			
	comp=Z,1μm,0.1s						
SHA1	**Shidzhatmaz**	**1.49**	**15**	*e*Pg	Pg	**13 53 59.0**	**+0.2**
SHA1				*e*Sg	Sg	**13 54 18.4**	**+0.2**
TRLG	**Trialeti**	**1.66**	**116**	P	Pn	**13 53 58.3**	**-0.4**
TRLG				S	Sn	**13 54 20.0**	**+0.1**
LACR	**Lac**	**1.69**	**71**	*e*Pg	Pb	**13 54 01.2**	**+0.3**
LACR				*e*Sg	Sg	**13 54 24.1**	**-0.4**

ISCJB 07 13:57:19.3±1.5, 36.63N±0.08×70.7E±0.3, h200km, mb2.9/2, Error ellipse: s-maj=31.5km s-min=11.4km az=178.8

IDC 07 13:57:21.0±9.1, 36.48N×71.31E, h190km±67km, mb2.9/2, mb1 2.9/5, mb1mx2.7/42, mbtmp3.3/5, Error ellipse: s-maj=171.2km s-min=56.7km az=94.0
ISC 07 13:57:20.6±1.8, 36.7N±0.1×70.9E±0.2, h200km, n7, σ1=65/10, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.45**	**358**	⇑Pn	Pn	**13 58 55.0**	**+1.5**
	0.2nm,0.3s,baz=185,slow=13,SNR=4.0						
KK31				⇑Sn	Sn	**14 00 05.2**	**-2.1**
	1.1nm,0.5s,baz=188,slow=24,SNR=5.0						
AAK	**Ala-Archa**	**6.61**	**24**	⇓Pn	Pn	**13 58 58.2**	**+2.5**
	1.3nm,0.7s						
AAK				⇑Sn	Sn	**14 00 09.9**	**-1.3**
	1.7nm,0.5s						
AAK	**Ala-Archa**	**6.61**	**24**	P	Pn	**13 58 56.5**	**+0.8**
	0.2nm,0.3s,baz=195,slow=12,SNR=3.3						
AAK				S	Sn	**14 00 11.1**	**-0.1**
	0.4nm,0.3s,baz=295,slow=23,SNR=9.9						
MKAR	**Makanchi Array**	**13.24**	**36**	P	P	**14 00 22.6**	**-1.1**
	0.1nm,0.3s,baz=223,slow=7.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**19.83**	**25**	P	P	**14 01 37.1**	**+1.3**
	0.2nm,0.3s,baz=214,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**82.17**	**122**	P	P	**14 09 18.5**	**-0.7**
	0.1nm,0.4s,baz=317,slow=5.1,SNR=3.6						
ASAR	**Alice Springs**	**84.43**	**125**	P	P	**14 09 30.4**	**-0.4**
	0.2nm,0.7s,baz=317,slow=5.2,SNR=5.8						

JMA 07 14:19:47.8±0.1, 24.07N×122.46E, h60km±3km, M2.1
ISCJB 07 14:19:48.3±0.4, 24.15N±0.03×122.48E±0.02, h57km±8km, Error ellipse: s-maj=4.9km s-min=2.4km az=169.0
TAP 07 14:19:48.3, 24.10N×122.45E, h45km±1km, ML2.6, D
ISC 07 14:19:49.0±1.2, 24.15N±0.04×122.47E±0.02, h53km±12km, n62, σ0=79/102, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.51**	**322**	*e*P	Pn	**14 20 00.8**	**+0.3**
	baz=327						
EOS1				*e*S	Sn	**14 20 10.2**	**+1.4**
	baz=327						
JYNG	**Yonagunijimaku**	**0.53**	**55**	P	Pn	**14 20 00.7**	**-0.1**
JYNG				S	Sn	**14 20 10.4**	**+1.1**
YOJ	**Yonaguni jima**	**0.58**	**58**	P	Pn	**14 20 01.4**	**0.0**
	baz=53						
YOJ				*e*S	Sn	**14 20 11.1**	**+0.7**
	baz=53						
YOJ	**Yonaguni jima**	**0.58**	**58**	P	Pn	**14 20 01.4**	**0.0**
YOJ				S	Sn	**14 20 10.9**	**+0.5**
ENA	**Nanau**	**0.72**	**293**	*e*P	Pn	**14 20 02.7**	**-0.5**
	baz=297						
TWC	**Suao**	**0.73**	**309**	*i* P	Pn	**14 20 02.8**	**-0.4**
	baz=313						
TWC				*e*S	Sn	**14 20 13.0**	**-0.7**
	baz=313						
NACB	**Ninganchiao**	**0.80**	**272**	*e*P	Pn	**14 20 03.3**	**-0.9**
	baz=275						
NACB				*i* S	Sn	**14 20 14.5**	**-0.8**
	baz=275						
TWD	**Chiawan**	**0.80**	**265**	*e*P	Pn	**14 20 03.2**	**-1.0**
	baz=268						
ENLB	**Shoufeng**	**0.83**	**253**	*e*P	Pn	**14 20 04.1**	**-0.5**
	baz=256						
ENLB				*e*S	Sn	**14 20 16.6**	**+0.6**
	baz=256						
EGS		**0.85**	**325**	*e*P	Pn	**14 20 05.2**	**+0.4**
	baz=328						
EGS				*e*S	Sn	**14 20 16.6**	**+0.2**
	baz=328						
ETLH	**Xiulin Townshi**	**0.91**	**274**	*e*P	Pn	**14 20 04.8**	**-0.8**
	baz=277						
ETLH				*e*S	Sn	**14 20 16.9**	**-1.0**
	baz=277						
TWE	**Neicheng**	**0.93**	**308**	*i* P	Pn	**14 20 06.0**	**+0.1**
	baz=311						
TWE				*e*S	Sn	**14 20 19.1**	**+0.8**
	baz=311						
ENTT	**Nioudou**	**0.96**	**301**	P	Pn	**14 20 06.2**	**-0.1**
	baz=304						
ENTT				*e*S	Sn	**14 20 19.2**	**+0.1**
	baz=304						
TWB1	**Santiao Chiao**	**0.96**	**333**	*e*P	Pn	**14 20 05.7**	**-0.6**
	baz=335						
TWB1				*e*S	Sn	**14 20 18.3**	**-0.8**
	baz=335						
SLBB	**Yuanshan**	**0.97**	**309**	*e*P	Pn	**14 20 06.8**	**+0.3**
	baz=311						
SLBB				*e*S	Sn	**14 20 20.6**	**+1.2**
	baz=311						
NDT	**Datong Townshi**	**0.98**	**298**	*e*P	Pn	**14 20 06.5**	**-0.1**
	baz=300						
NDT				*i* S	Sn	**14 20 20.1**	**+0.4**
	baz=300						
ESL	**Shilin**	**1.01**	**251**	*e*P	Pn	**14 20 05.6**	**-1.3**
	baz=252						
ESL				*e*S	Sn	**14 20 19.2**	**-1.0**
	baz=252						
TIPB	**Shuangxi**	**1.01**	**324**	*e*P	Pn	**14 20 06.5**	**-0.5**
	baz=327						
NNSB	**Datong**	**1.03**	**286**	*e*P	Pn	**14 20 06.9**	**-0.5**
	baz=288						
NNS	**Nan Shan**	**1.04**	**286**	*e*P	Pn	**14 20 07.0**	**-0.5**
	baz=289						
NNS				S	Sn	**14 20 21.0**	**-0.2**
	baz=289						
EGFH	**Guangfu**	**1.07**	**244**	*e*P	Pn	**14 20 06.7**	**-1.1**
	baz=245						
EGFH				*e*S	Sn	**14 20 20.5**	**-1.1**
	baz=245						
NWLT	**Wulai**	**1.08**	**306**	*i* P	Pn	**14 20 08.0**	**+0.1**
	baz=308						
NWLT				*e*S	Sn	**14 20 22.6**	**+0.7**
	baz=308						
WHF	**Hehuan Shan**	**1.10**	**270**	*e*P	Pn	**14 20 07.8**	**-0.7**
	baz=272						
WHF				*e*S	Sn	**14 20 22.0**	**-1.0**
	baz=272						
YHNB	**Yeheng**	**1.13**	**298**	*e*P	Pn	**14 20 08.4**	**-0.2**
	baz=300						
YHNB				*i* S	Sn	**14 20 22.9**	**-0.2**
	baz=300						
NSK	**Sanguang**	**1.14**	**298**	*e*P	Pn	**14 20 08.7**	**-0.1**
	baz=300						
NSK				*e*S	Sn	**14 20 23.2**	**-0.3**
	baz=300						
TWA	**Mucha**	**1.16**	**316**	*e*S	Sn	**14 20 23.5**	**-0.2**
	baz=318						
HGSD	**Ruisui**	**1.16**	**236**	*e*P	Pn	**14 20 08.1**	**-0.8**
	baz=237						
IRIF	**Iriomote-Funau**	**1.16**	**81**	P	Pn	**14 20 08.6**	**-0.4**
IRIF				*e*S	Sn	**14 20 23.7**	**-0.2**
CHGB	**Renai**	**1.19**	**266**	*e*P	Pn	**14 20 09.1**	**-0.5**
	baz=268						
CHGB				*e*S	Sn	**14 20 24.7**	**-0.2**
	baz=268						
OWD	**Renai**	**1.20**	**261**	*e*P	Pn	**14 20 08.9**	**-0.7**
	baz=263						
OWD				*e*S	Sn	**14 20 23.7**	**-1.3**
	baz=263						
TDCB	**Techi**	**1.20**	**275**	*e*P	Pn	**14 20 09.6**	**-0.1**
	baz=277						
TDCB				*e*S	Sn	**14 20 24.9**	**-0.2**
	baz=277						
HATJ	**Hateruma jima**	**1.22**	**94**	P	Pn	**14 20 09.8**	**0.0**
EHY	**Hungye**	**1.23**	**239**	*e*P	Pn	**14 20 08.8**	**-1.1**
	baz=239						
VWDT	**VWDT**	**1.28**	**252**	*e*P	Pn	**14 20 10.2**	**-0.3**
	baz=254						
VWDT				*e*S	Sn	**14 20 25.9**	**-0.8**
	baz=254						
YM07	**YM07**	**1.28**	**323**	*e*P	Pn	**14 20 10.9**	**+0.2**
	baz=325						
YM07				*e*S	Sn	**14 20 25.7**	**-1.1**
	baz=325						
YM01	**YM01**	**1.29**	**321**	*e*P	Pn	**14 20 09.9**	**-0.8**
	baz=322						
YULB	**Yu-li**	**1.31**	**235**	*e*P	Pn	**14 20 10.0**	**-1.0**
	baz=236						
TWF1	**Yuli**	**1.34**	**234**	*e*P	Pn	**14 20 10.5**	**-0.9**
	baz=234						
WHP	**Taichung City**	**1.40**	**276**	*e*P	Pn	**14 20 12.7**	**+0.4**
	baz=277						
JKRS	**Kuro-shima**	**1.41**	**86**	P	Pn	**14 20 12.2**	**-0.1**
JKRS				*e*S	Sn	**14 20 30.4**	**+0.7**
LIOB	**Emei**	**1.42**	**291**	*e*P	Pn	**14 20 11.7**	**-0.8**
	baz=292						
LIOB				*e*S	Sn	**14 20 30.0**	**-0.1**
	baz=292						
NSTT	**Nanjuang**	**1.42**	**290**	*e*P	Pn	**14 20 13.0**	**+0.4**
	baz=292						
SSLB	**Suanglung**	**1.43**	**256**	*e*P	Pn	**14 20 12.2**	**-0.5**
	baz=257						
FULB	**Fuli**	**1.44**	**229**	*e*P	Pn	**14 20 11.5**	**-1.2**
	baz=229						
SMLT	**Sun Moon Lake**	**1.46**	**260**	*e*P	Pn	**14 20 13.0**	**-0.1**
	baz=261						
TYC	**Yuchr**	**1.50**	**261**	*e*P	Pn	**14 20 13.5**	**0.0**
	baz=262						
YUS	**Yu-Shan**	**1.54**	**245**	*e*P	Pn	**14 20 14.3**	**-0.2**
	baz=245						
YUS				*e*S	Sn	**14 20 32.6**	**-1.1**
	baz=245						
JIJ	**Ishigaki jima**	**1.54**	**82**	P	Pn	**14 20 13.3**	**-0.8**
JIJ				*e*S	Sn	**14 20 32.4**	**-0.6**
WHYT	**Xinyi Township**	**1.55**	**253**	*e*P	Pn	**14 20 14.5**	**+0.2**
	baz=254						
WHYT				*e*S	Sn	**14 20 33.7**	**+0.4**
	baz=254						
TWQ1	**Liyutan**	**1.56**	**278**	*e*P	Pn	**14 20 14.9**	**+0.5**
	baz=279						
WJS	**Zhushan**	**1.63**	**259**	*e*P	Pn	**14 20 16.3**	**+1.0**
	baz=260						
ELDTW	**Lidau**	**1.64**	**235**	*e*P	Pn	**14 20 14.6**	**-1.0**
	baz=235						
CHN5	**Tsauling**	**1.73**	**252**	*e*P	Pn	**14 20 17.5**	**+0.7**
	baz=252						
CHN5				*e*S	Sn	**14 20 39.2**	**+1.4**
	baz=252						
JISG	**Ishigakijimahi**	**1.73**	**75**	P	Pn	**14 20 15.9**	**-0.8**
JISG				*e*S	Sn	**14 20 36.9**	**-0.8**
TPUB	**Ta-pu**	**1.89**	**244**	*e*P	Pn	**14 20 19.7**	**+0.9**
	baz=244						
TPUB				*e*S	Sn	**14 20 42.8**	**+1.2**
	baz=244						
WTP	**Ta-pu**	**1.93**	**243**	*e*P	Pn	**14 20 20.6**	**+1.2**
	baz=243						
WTP				*e*S	Sn	**14 20 43.8**	**+1.2**
	baz=243						
TWK	**Hsinying**	**2.02**	**245**	*e*P	Pn	**14 20 21.6**	**+0.9**
	baz=245						
TWK				*e*S	Sn	**14 20 46.7**	**+1.9**
	baz=245						
SLGT	**Liugui**	**2.03**	**236**	*e*P	Pn	**14 20 22.0**	**+1.2**
	baz=236						
SLGT				*e*S	Sn	**14 20 47.4**	**+2.4**
	baz=236						
JTJ	**Tarama**	**2.09**	**76**	P	Pn	**14 20 21.2**	**-0.4**
JTJ				*e*S	Sn	**14 20 46.5**	**0.0**
MASBT	**Mashibuluo**	**2.28**	**228**	*e*P	Pn	**14 20 25.6**	**+1.4**
	baz=228						
EAST	**Anshuo**	**2.31**	**221**	*e*P	Pn	**14 20 24.2**	**-0.4**
	baz=220						
JIRB	**Irabujima**	**2.55**	**74**	P	Pn	**14 20 27.3**	**-0.6**
JIRB				*e*S	Sn	**14 20 58.1**	**+0.3**

NNC 07 14:24:15.9±0.4, 44.20N×78.55E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=3.3km s-min=2.6km az=156.0
SOME 07 14:24:17.1, 44.20N×78.53E, h20km
ISC 07 14:24:16.1±1.1, 44.20N±0.02×78.54E±0.02, h5km±10km, n41, σ0=93/71, 8C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARXS	**Arharly**	**0.51**	**272**	P	Pb	**14 24 27.4**	**-0.2**
	186nm,0.2s						
ARXS				S	Sb	**14 24 34.9**	**-0.4**
	818nm,0.3s						
ARXS	**Arharly**	**0.51**	**272**	*e*P	Pb	**14 24 27.4**	**-0.2**
	186nm,0.2s						
ARXS				*e*S	Sb	**14 24 34.9**	**-0.4**
	818nm,0.3s						
TDK	**Taldyqorghan**	**0.81**	**353**	P	Pg	**14 24 31.9**	**+0.3**
	350nm,0.4s						
TDK				S	Sg	**14 24 42.4**	**+0.2**
	183nm,0.4s						
TDK	**Taldyqorghan**	**0.81**	**353**	*e*P	Pg	**14 24 31.9**	**+0.3**
	350nm,0.4s						
TDK				*e*S	Sg	**14 24 42.4**	**+0.2**
	183nm,0.4s						
DJR	**Jarkent**	**0.91**	**81**	P	Pg	**14 24 33.7**	**+0.1**
	36nm,0.5s						
DJR				S	Sg	**14 24 45.3**	**0.0**
	54nm,0.3s						
DJR	**Jarkent**	**0.91**	**81**	*e*P	Pg	**14 24 33.5**	**-0.1**
	44nm,0.3s						
DJR				*e*S	Sg	**14 24 45.3**	**0.0**
	80nm,0.1s						
ZHN	**Zhinishke**	**1.03**	**184**	*e*P	Pg	**14 24 36.1**	**+0.2**
	45nm,0.1s						
ZHN				*e*S	Sg	**14 24 49.6**	**+0.4**
	92nm,0.2s						
UZB	**Uzynbulak**	**1.11**	**161**	P	Pg	**14 24 37.6**	**+0.3**
	102nm,0.1s						
UZB				S	Sg	**14 24 52.0**	**+0.3**
	102nm,0.2s						
UZB	**Uzynbulak**	**1.11**	**161**	*e*P	Pg	**14 24 37.4**	**+0.1**
	102nm,0.1s						
UZB				*e*S	Sb	**14 24 52.3**	**-0.2**
	102nm,0.2s						
PDGK	**Podgornoye**	**1.11**	**141**	P	Pg	**14 24 37.2**	**-0.1**
	25nm,0.1s						
PDGK				S	Sg	**14 24 51.3**	**-0.4**
	93nm,0.2s						
PDGK	**Podgornoye**	**1.11**	**141**	⇓P	Pg	**14 24 36.8**	**-0.5**
	10nm,0.2s						
PDGK				⇓S	Sg	**14 24 51.7**	**0.0**
	64nm,0.3s						
CHKK	**Chushkaly**	**1.17**	**253**	P	Pb	**14 24 38.3**	**-0.5**
	58nm,0.3s						
CHKK				S	Sb	**14 24 53.3**	**-0.9**
	172nm,0.3s						
CHKK	**Chushkaly**	**1.17**	**253**	*e*P	Pb	**14 24 38.3**	**-0.5**
	58nm,0.3s						
CHKK				*e*S	Sb	**14 24 53.3**	**-0.9**
	172nm,0.3s						
KAPS	**Kapalarasan**	**1.23**	**28**	P	Pn	**14 24 39.6**	**-0.5**
	12nm,0.2s						
KAPS				S	Sb	**14 24 55.4**	**-0.7**
	51nm,0.2s						
KAPS	**Kapalarasan**	**1.23**	**28**	*e*P	Pn	**14 24 39.6**	**-0.5**
	12nm,0.2s						
KAPS				*e*S	Sb	**14 24 55.4**	**-0.7**
	51nm,0.2s						
KOTS	**Kotyrbulak**	**1.41**	**228**	P	Pb	**14 24 43.0**	**0.0**
	32nm,0.4s						
KOTS				S	Sb	**14 25 01.4**	**0.0**
	242nm,0.5s						
KOTS	**Kotyrbulak**	**1.41**	**228**	*e*P	Pb	**14 24 43.0**	**0.0**
	32nm,0.4s						
KOTS				*e*S	Sb	**14 25 01.4**	**0.0**
	242nm,0.5s						
KTBS	**Karatobe**	**1.43**	**251**	P	Pn	**14 24 42.7**	**+0.1**
	40nm,0.4s						
KTBS				S	Sn	**14 25 00.9**	**-0.8**
	130nm,0.6s						
KTBS	**Karatobe**	**1.43**	**251**	*e*P	Pn	**14 24 42.7**	**+0.1**
	40nm,0.4s						
KTBS				*e*S	Sn	**14 25 00.9**	**-0.8**
	130nm,0.6s						
MDOK	**Medeo**	**1.50**	**227**	⇓P	Pn	**14 24 43.5**	**-0.2**
	11nm,0.4s						
MDOK				⇓S	Sg	**14 25 04.6**	**+0.4**
	42nm,0.5s						
MDOK	**Medeo**	**1.50**	**227**	Pg	Pb	**14 24 44.2**	**-0.2**
	20nm,0.5s						
MDOK				Lg	Lg	14 25 03.4	
	71nm,0.5s						
MDOK	**Medeo**	**1.50**	**227**	*e*P	Pb	**14 24 44.2**	**-0.2**
	20nm,0.5s						
MDOK				*e*S	Sn	**14 25 03.4**	**-0.3**
	71nm,0.5s						
AAA	**Alma-Ata**	**1.54**	**231**	P	Pb	**14 24 45.2**	**+0.1**
	40nm,0.5s						
AAA				S	Sb	**14 25 05.1**	**+0.2**
	158nm,0.2s						
KUU	**Kurty**	**1.61**	**260**	P	Pb	**14 24 45.9**	**-0.5**
	49nm,0.2s						
KUU				S	Sn	**14 25 06.3**	**-0.1**
	48nm,0.4s						
KUU	**Kurty**	**1.61**	**260**	*e*P	Pb	**14 24 45.9**	**-0.5**
	49nm,0.2s						
KUU				*e*S	Sn	**14 25 06.3**	**-0.1**

	48nm,0.4s							
TNSS	**Tian-Shan**	**1.64**	**225**	P	**Pb**	**14 24 46.5**	**-0.4**
	24nm,0.5s							
TNSS				S	**Sn**	**14 25 07.2**	**-0.2**
	170nm,0.3s							
TNSS	**Tian-Shan**	**1.64**	**225**	*e*P	**Pb**	**14 24 46.5**	**-0.4**
	24nm,0.5s							
TNSS				*e*S	**Sn**	**14 25 07.2**	**-0.2**
	170nm,0.3s							
MTBS	**Maitube**	**1.87**	**236**	P	**Pb**	**14 24 50.2**	**-0.5**
	34nm,0.4s							
MTBS				S	**Sb**	**14 25 13.5**	**-0.8**
	134nm,0.4s							
MTBS	**Maitube**	**1.87**	**236**	*e*P	**Pb**	**14 24 50.1**	**-0.5**
	34nm,0.4s							
MTBS				*e*S	**Sb**	**14 25 13.5**	**-0.8**
	134nm,0.4s							
KST	**Kastek**	**2.20**	**239**	Pg	**Pb**	**14 24 55.4**	**-0.9**
	11nm,0.4s							
KST				Lg	Lg	14 25 22.6		
	53nm,0.6s							
KST	**Kastek**	**2.20**	**239**	*e*P	**Pb**	**14 24 56.9**	**+0.6**
	5.1nm,0.2s							
KST				*e*S	**Sb**	**14 25 25.1**	**+1.1**
	53nm,0.6s							
DGS	**Degeres**	**2.22**	**246**	Pg	**Pg**	**14 24 59.2**	**+0.6**
	18nm,0.5s							
DGS				Lg	Lg	14 25 29.4		
	40nm,0.7s							
TKM2	**Tokmak 2**	**2.49**	**240**	⇓P	**Pb**	**14 25 02.8**	**+1.4**
	6.5nm,0.5s							
TKM2				⇓S	**Sb**	**14 25 34.0**	**+1.6**
	11nm,0.2s							
AAK	**Ala-Archa**	**3.33**	**244**	Pg	**Pb**	**14 25 16.9**	**+1.1**
	6.3nm,0.7s							
AAK				⇓Lg	Lg	14 26 01.8		
	9.1nm,0.5s							
MAKZ	**Makanchi**	**3.56**	**42**	⇑Pg	**Pb**	**14 25 20.3**	**+0.9**
	5.5nm,0.6s							
MAKZ				⇑Lg	Lg	14 26 05.8		
	6.6nm,0.4s							
MK31	**Makanchi Array**	**3.70**	**44**	⇑Pn	**Pn**	**14 25 15.1**	**+1.2**
	0.1nm,0.2s,baz=219,slow=16,SNR=14							
MK31				⇑Pg	**Pg**	**14 25 24.9**	**-2.1**
	0.5nm,0.2s,baz=220,slow=16,SNR=23							
MK31				⇑Lg	Lg	14 26 10.1		
	6.5nm,0.5s,baz=219,slow=29,SNR=14							
MRKS	**Merke**	**4.13**	**251**	Pg	**Pb**	**14 25 30.6**	**+1.3**
	3.1nm,0.7s							
MRKS				Lg	Lg	14 26 22.8		
	4.1nm,0.5s							
MRKS	**Merke**	**4.13**	**251**	*e*P	**Pb**	**14 25 30.6**	**+1.3**
	3.1nm,0.7s							
MRKS				*e*S	**Sb**	**14 26 22.8**	**+3.3**
	4.1nm,0.5s							
KK31	**Karatay Array**	**5.93**	**262**	⇑Pg	**Pg**	**14 26 05.4**	**-4.2**
	0.5nm,0.3s,baz=72,slow=16,SNR=4.2							
KK31				⇓Lg	Lg	14 27 24.1		
	0.8nm,0.3s,baz=72,slow=25,SNR=7.6							
KURBB	**Kurchatov Arra**	**6.43**	**360**	⇑Lg	Lg	14 27 39.1		
	6.8nm,0.7s							
KURK	**Kurchatov**	**6.52**	**0**	⇑Lg	Lg	14 27 41.5		
	6.2nm,0.7s							

IDC 07 14:33:29.9±2.5, 9°44N×127°39E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/31, mbtmp3.7/4, Error ellipse: s-maj=143.7km s-min=25.2km az=69.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**27.41**	**184**	P	P	14 39 18.1	+0.7
	1.6nm,0.7s,baz=0.7,slow=8.3,SNR=6.6						
WRA	**Warramunga Arr**	**29.99**	**167**	P	P	14 39 40.0	-0.4
	0.3nm,0.7s,baz=347,slow=10,SNR=15						
ASAR	**Alice Springs**	**33.51**	**169**	P	P	14 40 11.2	-0.2
	0.3nm,0.3s,baz=343,slow=6.9,SNR=20						
MKAR	**Makanchi Array**	**53.35**	**323**	P	P	14 42 51.0	-0.1
	0.3nm,0.3s,baz=122,slow=9.0,SNR=6.2						

IDC 07 14:59:26.2±3.4, 29°75S×176°02W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/30, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=81.2km s-min=38.2km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.22**	**212**	Pn	Pn	15 01 52.9	-1.1
	0.2nm,0.3s,baz=17,slow=17,SNR=5.0						
URZ				Sn	Sn	15 03 48.9	-0.5
	1.0nm,0.3s,baz=96,slow=19,SNR=9.6						
ASAR	**Alice Springs**	**44.86**	**265**	P	P	15 07 42.9	+0.3
	0.3nm,0.4s,baz=104,slow=7.1,SNR=9.7						
WRA	**Warramunga Arr**	**45.80**	**270**	P	P	15 07 49.9	-0.1
	0.3nm,0.3s,baz=108,slow=7.9,SNR=9.0						
FINES	**FINESS Array B**	**145.10**	**342**	PKPbc	PKPbc	15 19 03.4	-1.0
	2.0nm,0.8s,baz=29,slow=3.2,SNR=3.9						

*SOME **07** 14:59:44.3, 40°.62N×74°.48E, h0km*
*NNC **07** 14:59:45.6±2.9, 40°.05N×75°.86E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=19.7km s-min=15.1km az=175.0*
*KRNET **07** 14:59:48.7±0.1, 40°.15N×76°.02E, mb3.2*
ISC 07 14:59:46.9±2.2, 40°.12N±0°.09×75°.92E±0°.04, h2km±12km, n36, σ0°96/53, 19C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.31**	**3**	⇓*i*P	**Pn**	**15 00 13.0**	**+0.4**
	baz=58						
NRN				⇓*i*S	**Sn**	**15 00 30.8**	**-0.1**
	baz=58						
KZA	**Kyzart**	**2.02**	**346**	P	**Pg**	**15 00 26.7**	**+1.0**
	SNR=14						
KZA	**Kyzart**	**2.02**	**346**	⇓*i*P	**Pg**	**15 00 26.2**	**+0.5**
	baz=43						
KZA				⇓*i*S	**Sg**	**15 00 53.8**	**+1.9**
	baz=43						
ARLS	**Aral**	**2.12**	**326**	⇑*e*P	**Pg**	**15 00 28.1**	**+0.6**
	baz=24						
ARLS				⇑*i*S	**Sg**	**15 00 56.6**	**+1.6**
	baz=24						
ULHL	**Ulahol**	**2.14**	**6**	P	**Pg**	**15 00 28.1**	**+0.2**
	SNR=15						
ULHL	**Ulahol**	**2.14**	**6**	⇑*e*P	**Pg**	**15 00 27.3**	**-0.6**
	baz=4.0						
ULHL				⇑*i*S	**Sg**	**15 00 55.6**	**-0.1**
	baz=4.0						
TARG	**Taragay, Kyrgy**	**2.15**	**41**	⇑*i*P	**Pb**	**15 00 27.1**	**+0.2**
	baz=40						
TARG				⇑*i*S	**Sb**	**15 00 55.2**	**+1.0**
	baz=40						
KDJ	**Kajisay**	**2.22**	**25**	⇑*e*P	**Pb**	**15 00 28.2**	**+0.2**
	baz=24						
KDJ				⇑*e*S	**Sb**	**15 00 57.1**	**+1.1**
	baz=24						
UCH	**Uchtor**	**2.36**	**334**	P	**Pg**	**15 00 31.8**	**-0.3**
	SNR=27						
UCH	**Uchtor**	**2.36**	**334**	⇑*i*P	**Pg**	**15 00 31.4**	**-0.7**
	baz=32						
UCH				⇑*i*S	**Sg**	**15 01 02.3**	**-0.4**
	baz=32						
BOOM	**Boomskoye usch**	**2.37**	**0**	⇓*i*P	**Pb**	**15 00 30.8**	**+0.4**
	baz=59						
BOOM				⇓*i*S	**Sb**	**15 01 00.9**	**+0.7**
	baz=59						
ARSB	**Arslanbob**	**2.54**	**299**	⇓*i*P	**Pb**	**15 00 34.0**	**+0.8**
	baz=98						
ARSB				⇓*i*S	**Sg**	**15 01 07.7**	**-0.7**
	baz=98						
AML	**Almayashu**	**2.62**	**321**	P	**Pb**	**15 00 35.0**	**+0.2**
	SNR=12						
AML	**Almayashu**	**2.62**	**321**	⇑*e*P	**Pb**	**15 00 35.0**	**+0.2**
	baz=19						
AML				⇑*i*S	**Sb**	**15 01 08.9**	**+1.3**
	baz=19						
KBK	**Karagaybulak**	**2.64**	**344**	P	**Pg**	**15 00 38.1**	**+0.6**
	SNR=15						
AAK	**Ala-Archa**	**2.73**	**337**	P	**Pb**	**15 00 36.1**	**-0.6**
	SNR=11						
AAK	**Ala-Archa**	**2.73**	**337**	Pg	**Pb**	**15 00 37.5**	**+0.9**
	19nm,1.1s						
AAK				Lg	Lg	15 01 14.7	
	20nm,0.7s						

AAK	**Ala-Archa**	**2.73**	**337**	⇑*i*P	**Pb**	**15 00 36.2**	**-0.4**
	baz=36						
AAK				⇑*i*S	**Sb**	**15 01 11.0**	**+0.3**
	baz=36						
TKM2	**Tokmak 2**	**2.81**	**355**	P	**Pb**	**15 00 38.2**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**2.81**	**355**	⇑Pg	**Pb**	**15 00 38.1**	**+0.2**
	9.7nm,0.5s						
TKM2				⇓Lg	Lg	15 01 17.6	
	8.6nm,0.5s						
KST	**Kastek**	**2.92**	**1**	Pg	**Pb**	**15 00 40.1**	**+0.3**
	11nm,0.7s						
KST				Lg	Lg	15 01 22.2	
	21nm,0.7s						
EKS2	**Erkin-Say**	**3.01**	**328**	⇑*i*P	**Pb**	**15 00 40.4**	**-0.9**
	baz=27						
EKS2				⇑*i*S	**Sb**	**15 01 17.3**	**-1.2**
	baz=27						
DGS	**Degeres**	**3.12**	**358**	Pg	**Pn**	**15 00 36.8**	**-0.5**
	7.0nm,0.7s						
DGS				Lg	Lg	15 01 15.7	
	9.9nm,0.6s						
DGS	**Degeres**	**3.12**	**358**	*e*P	**Pn**	**15 00 36.8**	**-0.5**
	9.9nm,0.5s						
DGS				*e*S	**Sn**	**15 01 14.6**	**-0.6**
	15nm,0.6s						
MDOK	**Medeo**	**3.16**	**15**	Pg	**Pb**	**15 00 44.6**	**+0.8**
	6.6nm,0.5s						
MDOK				Lg	Lg	15 01 26.6	
	19nm,0.9s						
MDOK	**Medeo**	**3.16**	**15**	Pg	**Pb**	**15 00 43.5**	**-0.3**
	2.2nm,0.8s						
MDOK				Lg	Lg	15 01 27.7	
	10nm,0.8s						
MDOK	**Medeo**	**3.16**	**15**	*e*P	**Pb**	**15 00 44.2**	**+0.4**
	0.7nm,0.2s						
MDOK				*e*S	**Sg**	**15 01 27.6**	**-0.8**
	12nm,0.8s						
KOTS	**Kotyrbulak**	**3.24**	**16**	Pg	**Pb**	**15 00 45.5**	**+0.2**
	6.5nm,0.5s						
KOTS				Lg	Lg	15 01 30.5	
	46nm,0.5s						
KOTS	**Kotyrbulak**	**3.24**	**16**	*e*P	**Pb**	**15 00 45.4**	**+0.2**
	6.5nm,0.5s						
KOTS				*e*S	**Sg**	**15 01 29.3**	**-1.7**
	50nm,0.5s						
MRKS	**Merke**	**3.31**	**323**	Pg	**Pb**	**15 00 43.8**	**-2.7**
	3.4nm,0.6s						
MRKS				Lg	Lg	15 01 34.5	
	8.0nm,0.5s						
KTBS	**Karatobe**	**3.64**	**9**	Pg	**Pb**	**15 00 53.4**	**+1.5**
	2.8nm,0.6s						
KTBS				Lg	Lg	15 01 44.1	
	13nm,0.7s						
KTBS	**Karatobe**	**3.64**	**9**	*e*P	**Pb**	**15 00 49.8**	**-2.1**
	1.6nm,0.3s						
KTBS				*e*S	**Sb**	**15 01 36.9**	**+0.4**
	13nm,0.7s						
PDGK	**Podgornoye**	**4.18**	**39**	Pg	**Pg**	**15 01 06.8**	**-0.1**
	1.2nm,0.7s						
PDGK				Lg	Lg	15 02 07.4	
	2.2nm,0.9s						
PDGK	**Podgornoye**	**4.18**	**39**	⇑Pg	**Pg**	**15 01 06.5**	**-0.4**
	4.4nm,0.9s						
PDGK				⇑Lg	Lg	15 01 59.1	
	7.6nm,0.7s						
ARXS	**Arharly**	**4.33**	**19**	Pg	**Pg**	**15 01 09.6**	**-0.2**
	3.1nm,0.8s						
ARXS				Lg	Lg	15 02 12.1	
	5.6nm,0.7s						
ARXS	**Arharly**	**4.33**	**19**	*e*P	**Pb**	**15 01 05.5**	**+1.7**
	1.2nm,0.5s						
ARXS				*e*S	**Sg**	**15 02 04.1**	**-1.9**
	5.5nm,0.5s						

IDC 07 15:12:38.0±1.7, 11°40S×164°79E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/23, mbtmp3.8/5, ML4.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/33, Error ellipse: s-maj=49.1km s-min=31.2km az=123.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.15**	**292**	LR	LR	15 16 16.1	
	comp=Z,150nm,20.3s,baz=188,slow=42						
DZM	**Mont Dzumac**	**10.73**	**172**	Pn	Pn	15 15 12.8	-0.3
	1.4nm,0.3s,baz=180,slow=2.0,SNR=9.3						
DZM				LR	LR	15 19 06.3	
	comp=Z,107nm,18.3s,baz=48,slow=36						
STKA	**Stephens Creek**	**29.55**	**223**	LR	LR	15 30 00.9	
	comp=Z,76nm,18.1s,baz=27,slow=35						
WRA	**Warramunga Arr**	**30.49**	**250**	P	P	15 18 53.3	+0.3
	0.3nm,0.5s,baz=80,slow=9.0,SNR=4.8						
ASAR	**Alice Springs**	**31.80**	**243**	P	P	15 19 04.2	-0.3
	0.8nm,0.8s,baz=70,slow=10,SNR=9.8						
ASAR				LR	LR	15 31 00.1	
	comp=Z,57nm,18.1s,baz=97,slow=35						
ILAR	**Eielson Array**	**84.14**	**19**	P	P	15 25 10.6	-0.1
	0.5nm,0.8s,baz=225,slow=4.6,SNR=5.0						
MKAR	**Makanchi Array**	**93.14**	**317**	P	P	15 25 54.3	+0.2
	0.4nm,0.7s,baz=104,slow=5.1,SNR=3.7						

*ISK **07** 15:26:01.9, 38°.85N×43°.45E, h13km, ML2.2/7*
*ISCJB **07** 15:26:03.0±0.6, 38°.87N±0°.03×43°.46E±0°.05, h14km±6km, Error ellipse: s-maj=6.9km s-min=4.3km az=17.8*
*DDA **07** 15:26:02.7, 38°.84N×43°.49E, h7km±3km, ML2.6*
ISC 07 15:26:02.5±1.1, 38°.84N±0°.03×43°.48E±0°.03, h11km±9km, n13, σ0°92/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.16**	**25**	*i* P	**Pb**	**15 26 07.0**	**-0.8**
VMUR				*i* S	**Sg**	**15 26 10.3**	**+1.4**
VMUR				IAML_P			
	comp=Z,2μm,0.1s						
ERCV	**ERCIS-VAN**	**0.21**	**328**	PG	**Pg**	**15 26 06.6**	**-0.5**
VANB	**Van**	**0.26**	**197**	PG	**Pb**	**15 26 08.9**	**-0.3**
VANB				SG	**Sb**	**15 26 15.4**	**+1.7**
TVAN	**Van**	**0.32**	**191**	*i* P	**Pb**	**15 26 09.7**	**-0.6**
TVAN				*i* S	**Sb**	**15 26 15.3**	**-0.3**
TVAN				IAML_P			
	comp=Z,10μm,0.1s						
CLDR	**Caldiran**	**0.45**	**48**	PG	**Pg**	**15 26 11.4**	**-0.1**
CLDR				SG	**Sb**	**15 26 18.9**	**-0.6**
CLDR	**Caldiran**	**0.45**	**48**	*i* P	**Pg**	**15 26 11.4**	**-0.1**
CLDR				*i* S	**Sb**	**15 26 19.2**	**-0.4**
CLDR				IAML_P			
	comp=Z,1μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.59**	**267**	*i* P	**Pb**	**15 26 14.9**	**-0.2**
ADCV				*i* S	**Sb**	**15 26 24.2**	**+0.7**
ADCV				IAML_P			
	comp=Z,802nm,0.2s						
AKDM	**Akdamar-Van**	**0.65**	**218**	PG	**Pg**	**15 26 14.5**	**-0.6**
TUTA	**Tutak**	**0.77**	**317**	*i* P	**Pg**	**15 26 17.1**	**-0.2**
TUTA				*i* S	**Sg**	**15 26 27.2**	**-0.2**
TUTA				IAML_P			
	comp=Z,2μm,0.2s						
MLAZ	**Malazgirt-MUS**	**0.79**	**293**	PG	**Pg**	**15 26 17.4**	**-0.3**
AGRB	**Hanur-Agry**	**0.83**	**333**	PG	**Pg**	**15 26 18.0**	**-0.5**
AGRB				SG	**Sb**	**15 26 29.5**	**-0.8**
GURO	**Guroymak-BITLI**	**1.17**	**256**	PN	**Pb**	**15 26 23.9**	**-1.0**
GURO				SN	**Sn**	**15 26 40.5**	**-0.6**
EATA	**Eleskirt**	**1.28**	**323**	*i* P	**Pg**	**15 26 27.5**	**+0.4**
EATA				*i* S	**Sn**	**15 26 46.4**	**+2.4**
EATA				IAML_P			
	comp=Z,25nm,0.1s						

*ISCJB **07** 15:33:50.0±0.6, 7°.98N±0°.04×126°.26E±0°.08, h165km±5km, mb3.5/6, Error ellipse: s-maj=12.7km s-min=6.0km az=167.5*
*IDC **07** 15:33:51.2±2.2, 7°.92N×126°.27E, h161km±16km, mb3.3/6, mb1 3.5/8, mb1mx3.2/45, mbtmp3.9/8, Error ellipse: s-maj=55.3km s-min=15.1km az=65.0*
*MAN **07** 15:33:51.4, 7°.99N×126°.25E, h143km, mb4.8, ML3.7, MS3.6*
ISC 07 15:33:50.6±0.9, 7°.95N±0°.04×126°.30E±0°.09, h153km±7km, n22, σ2°02/35, mb3.5/6, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.13**	**219**	P	**Pn**	**15 34 17.5**	**+0.7**
	108nm,0.3s,baz=293,slow=7.7,SNR=4.1						
DAV				S	**Sn**	**15 34 38.2**	**+1.5**

	83nm,0.3s,baz=278,slow=22,SNR=18						
DMPH	**Davao City--Mi**	**1.16**	**222**	⇑*i*P	**Pn**	**15 34 18.1**	**+1.0**
DMPH				*i* S	**Sn**	**15 34 28.9**	**-8.4**
BUTP	**Butuan**	**1.22**	**327**	*e*P	**Pn**	**15 34 17.7**	**+0.2**
BUTP				*e*S	**Sn**	**15 34 40.1**	**+1.9**
BUKP	**Musuan**	**1.23**	**267**	*e*P	**Pn**	**15 34 18.0**	**+0.3**
BUKP				*e*S	**Sn**	**15 34 38.3**	**-0.1**
KCP	**Kidapawan**	**1.52**	**232**	⇑*e*P	**Pn**	**15 34 21.2**	**+0.6**
KCP				*i* S	**Sn**	**15 34 43.3**	**-0.3**
DDMP	**Don Marcelino,**	**1.92**	**198**	*e*P	**Pn**	**15 34 25.2**	**+0.1**
DDMP				*e*S	**Sn**	**15 34 53.5**	**+2.0**
SCPH	**Surigao**	**1.99**	**336**	⇓*e*P	**Pn**	**15 34 25.9**	**+0.1**
CTBH	**Cotabato--PC H**	**2.16**	**251**	⇓*i*P	**Pn**	**15 34 27.9**	**+0.1**
GSPH	**General Santos**	**2.28**	**216**	⇓*i*P	**Pn**	**15 34 31.2**	**+1.9**
GSPH				*i* S	**Sn**	**15 35 02.3**	**+3.1**
MSLP	**Maasin**	**2.60**	**327**	*e*P	**Pn**	**15 34 33.0**	**0.0**
MSLP				*e*S	**Sn**	**15 35 05.2**	**-0.7**
PAGZ	**Pagadian**	**2.89**	**268**	*e*P	**Pn**	**15 34 37.4**	**+0.8**
PAGZ				*e*S	**Sn**	**15 35 12.9**	**+0.6**
DCPH	**Dipolog City**	**2.98**	**282**	⇑*e*P	**Pn**	**15 34 39.0**	**+1.2**
SNPH	**Sibulan**	**3.33**	**295**	⇓*e*P	**Pn**	**15 34 43.2**	**+0.9**
SNPH				*e*S	**Sn**	**15 35 21.4**	**-1.0**
OCLP	**Ormoc**	**3.50**	**332**	*e*P	**Pn**	**15 34 44.6**	**+0.1**
OCLP				*e*S	**Sn**	**15 35 30.6**	**+4.2**
SIJI	**Sorong**	**10.06**	**150**	P	**Pn**	**15 36 12.9**	**+1.4**
	0.8nm,0.3s,baz=180,slow=20,SNR=4.9						
BATI	**Baumata**	**18.23**	**188**	P	**P**	**15 37 53.3**	**+1.0**
	2.4nm,0.3s,baz=104,slow=7.9,SNR=3.6						
FITZ	**Fitzroy Crossi**	**25.89**	**181**	P	**P**	**15 39 08.5**	**+0.1**
	0.6nm,0.3s,baz=14,slow=9.4,SNR=5.2						
WRA	**Warramunga Arr**	**28.82**	**164**	P	**P**	**15 39 33.5**	**-1.1**
	0.6nm,1.0s,baz=344,slow=9.9,SNR=3.3						
ASAR	**Alice Springs**	**32.29**	**167**	P	**P**	**15 40 04.0**	**-1.1**
	0.2nm,0.4s,baz=346,slow=7.2,SNR=6.1						
ASAR				PcP	**PcP**	**15 42 50.0**	**+0.2**
	0.2nm,0.6s,baz=356,slow=2.4,SNR=5.0						
MKAR	**Makanchi Array**	**53.89**	**324**	P	**P**	**15 42 58.5**	**+0.4**
	0.5nm,0.5s,baz=117,slow=8.9,SNR=6.1						
MKAR				PcP	**PcP**	**15 44 01.6**	**-0.1**
	1.0nm,0.7s,baz=104,slow=5.1,SNR=7.1						
BRTR	**Keskin Array B**	**87.02**	**310**	P	**P**	**15 46 17.9**	**-1.3**
	0.2nm,0.3s,baz=95,slow=6.5,SNR=2.9						
FINES	**FINESS Array B**	**87.94**	**332**	P	**P**	**15 46 22.3**	**-0.5**
	1.4nm,0.6s,baz=88,slow=3.9,SNR=8.2						

*ISCJB **07** 15:37:58.8±0.2, 52°.46N±0°.04×179°.50W±0°.03, h233km±2km, mb4.1/156, Error ellipse: s-maj=6.5km s-min=3.3km az=172.9*
*AEIC **07** 15:37:59.5±0.0, 52°.47N×179°.45W, h243km*
*NEIC **07** 15:38:00.1±0.2, 52°.44N×179°.45W, h231km±2km, mb4.2/162, ML4.4(AEIC), Error ellipse: s-maj=4.6km s-min=3.1km az=172.0*
*IDC **07** 15:38:02.0±2.2, 52°.59N×179°.58W, h252km±22km, mb3.7/23, mb1 3.8/27, mb1mx3.6/48, mbtmp4.3/27, Error ellipse: s-maj=17.3km s-min=6.9km az=162.0*
ISC 07 15:37:59.5±0.6, 52°.55N±0°.07×179°.52W±0°.04, h228km±6km, n243, σ1°00/254, mb4.1/156, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAFP	**Tanaga Falls P**	**1.15**	**124**	*e*Pn	**Pn**	**15 38 33.3**	**+0.2**
TAFP				*e*S	**S**	**15 38 58.8**	**-0.6**
KICM	**Kanaga Island**	**1.56**	**113**	*e*Pn	**Pn**	**15 38 36.6**	**+0.4**
KIKV	**Kanaga Island**	**1.59**	**114**	*e*Pn	**Pn**	**15 38 36.7**	**+0.2**
KIMD	**Kanaga Island**	**1.61**	**118**	P	**Pn**	**15 38 36.3**	**-0.4**
KIWB	**Kanaga Island**	**1.62**	**115**	*e*Pn	**Pn**	**15 38 36.6**	**0.0**
KIWB				*e*S	**S**	**15 39 04.5**	**-1.1**
KIRH	**Kanaga Island**	**1.63**	**113**	*e*Pn	**Pn**	**15 38 37.1**	**+0.3**
ADK	**Adak**	**1.87**	**110**	*e*Pn	**Pn**	**15 38 38.5**	**-0.4**
ADK				*e*S	**S**	**15 39 08.2**	**-1.4**
ADAG	**Mount Adagdak**	**1.88**	**107**	*e*Pn	**Pn**	**15 38 39.1**	**+0.1**
ETKA	**Kagalaska Isla**	**2.04**	**109**	*e*Pn	**Pn**	**15 38 40.1**	**-0.3**
GSSP	**Great Sitkin S**	**2.10**	**101**	P	**Pn**	**15 38 41.1**	**0.0**
GSTD	**Great Sitkin T**	**2.13**	**102**	*e*S	**S**	**15 39 14.2**	**0.0**
GSTR	**Great Sitkin T**	**2.17**	**101**	*e*Pn	**Pn**	**15 38 41.8**	**0.0**
GSTR				*e*S	**S**	**15 39 14.6**	**-0.3**
GSIG	**Igitkin Island**	**2.28**	**103**	P	**Pn**	**15 38 42.7**	**-0.2**
GSIG				S	**S**	**15 39 16.2**	**-0.6**
SMY	**Shemya**	**3.89**	**275**	*e*Pn	**Pn**	**15 39 00.8**	**-0.1**
SMY				*e*S	**S**	**15 39 48.4**	**-0.9**
MREP	**Makushin Rep't**	**7.78**	**76**	P	**Pn**	**15 39 50.8**	**+1.0**
UNV	**Unalaska Valle**	**7.93**	**75**	*e*Pn	**Pn**	**15 39 52.3**	**+0.7**
UNV				*e*S	**S**	**15 41 20.8**	**-0.7**
FALS	**False Pass**	**9.82**	**70**	*e*Pn	**Pn**	**15 40 17.5**	**+1.6**
SDPT	**Sand Point**	**11.56**	**68**	*e*Pn	**Pn**	**15 40 37.4**	**-0.5**
GAMB	**Gambell**	**11.98**	**17**	*e*P	**P**	**15 40 47.0**	**+0.3**
CHGN	**Chignik**	**12.83**	**65**	*e*Pn	**P**	**15 40 55.8**	**-0.5**
PET	**Petropavlovsk**	**13.21**	**281**	*e*Pn	**P**	**15 41 02.0**	**+1.4**
PEA0B	**Petropavlovsk-**	**13.78**	**281**	*e*Pn	**P**	**15 41 07.6**	**+0.8**
PETK	**Petropavlovsk-**	**13.78**	**281**	*e*Pn	**P**	**15 41 07.6**	**+0.8**
PETK	**Petropavlovsk-**	**13.78**	**281**	P	**P**	**15 41 06.7**	**-0.2**
	0.6nm,0.3s,baz=96,slow=13,SNR=14						
PETK				S	**S**	**15 43 34.6**	**-3.1**
	0.2nm,0.3s,baz=122,slow=25,SNR=2.8						
SVW2	**Sparrevohn**	**15.57**	**47**	*e*P	**Pn**	**15 41 29.2**	**+2.1**
	16nm,1.0s						
OHAK	**Old Harbor**	**15.75**	**62**	*e*P	**P**	**15 41 27.1**	**-1.5**
	303nm,1.7s						
KDAK	**Kodiak Island**	**16.19**	**60**	*e*P	**P**	**15 41 32.8**	**-0.6**
	149nm,1.6s						
KDAK	**Kodiak Island**	**16.19**	**60**	P	**P**	**15 41 33.0**	**-0.5**
	3.7nm,0.3s,baz=179,slow=2.4,SNR=20						
KDAK				S	**S**	**15 44 22.8**	**-8.6**
	0.2nm,0.3s,baz=133,slow=19,SNR=2.1						
RSO	**Redoubt South**	**16.66**	**51**	*e*P	**P**	**15 41 38.5**	**-0.3**
BILL	**Bilibino**	**16.98**	**342**	*e*P	**Pn**	**15 41 44.5**	**+0.9**
	5.8nm,0.7s						
HOM	**Homer**	**17.00**	**54**	*e*P	**Pn**	**15 41 44.5**	**+0.5**
	1μm,1.6s

HDA	Harding Lake 13nm,0.4s	20.48	42	eP	P	15 42 20.0	+0.3
COLD	Coldfoot 10nm,1.7s	20.49	33	eP	P	15 42 20.6	+0.8
IL1	Eielson Array	20.63	41	eP	P	15 42 20.3	-0.9
ILAR	Eielson Array 2.0nm,0.5s,baz=231,slow=8.7,SNR=24	20.63	41	P	P	15 42 20.4	-0.8
ILAR	0.4nm,0.6s,baz=275,slow=3.8,SNR=8.0			ScP	ScP	15 49 31.8	-3.8
ILB	Eielson Array 24nm,1.6s	20.63	41	eP	P	15 42 20.8	-0.4
PAX	Paxson 9.0nm,0.8s	20.68	46	eP	P	15 42 22.1	+0.2
HARP	HAARP 76nm,1.6s	20.69	48	eP	P	15 42 21.8	-0.2
HMT	Hamilton 46nm,1.0s	20.77	54	eP	P	15 42 23.5	+0.7
RIDG	Independ'e Rid 15nm,1.1s	21.15	45	eP	P	15 42 26.1	-0.7
PRP	Porcupine Dome 4.3nm,0.5s	21.43	40	eP	P	15 42 29.2	-0.4
MENT	Mentasta 7.1nm,0.6s	21.45	47	eP	P	15 42 30.3	+0.6
TOLK	Toolik Lake Re 6.6nm,1.0s	21.46	30	eP	P	15 42 30.8	+1.0
DOT	Dot Lake 10nm,0.7s	21.46	45	eP	P	15 42 30.1	+0.2
SCRK	Sand Creek 10nm,0.6s	21.58	44	eP	P	15 42 30.9	-0.2
BALM	Baldy 11nm,0.8s	21.78	52	eP	P	15 42 33.8	+0.8
FYU	Fort Yukon 11nm,0.7s	21.94	37	eP	P	15 42 35.8	+1.5
EGAK	Eagle 21nm,0.7s	22.97	43	eP	P	15 42 44.6	+0.9
BCPM	Bancas Point 22nm,0.5s	23.05	55	eP	P	15 42 45.6	+1.1
DAWY	Dawson 17nm,0.9s	23.57	45	eP	P	15 42 50.6	+1.3
HYT	Haines Junctio 14nm,0.7s	24.13	53	eP	P	15 42 55.8	+1.4
EPYK	Eagle Plains 8.1nm,0.6s	25.13	40	eP	P	15 43 04.0	+0.7
SKAG	Skagway 42nm,2.0s	25.25	57	eP	P	15 43 04.5	+0.2
WHY	Whitehorse 7.1nm,1.3s	25.42	54	eP	P	15 43 05.8	-0.2
SIT	Sitka 23nm,1.3s	25.52	62	eP	P	15 43 07.5	+0.7
JIS	Juneau Island 7.4nm,0.8s	25.85	59	eP	P	15 43 09.8	0.0
ASAJ	Asahikawa 10nm,0.9s,baz=197,slow=19,SNR=4.4	26.30	267	P	P	15 43 14.4	+0.4
INK	Inuvik 6.6nm,1.1s	26.77	36	eP	P	15 43 18.7	+0.9
INK	Inuvik 2.0nm,0.4s,baz=245,slow=11,SNR=15	26.77	36	P	P	15 43 18.8	+1.0
ERM	Erimo 99nm,1.3s	27.13	262	eP	P	15 43 21.6	+0.3
DLBC	Dease Lake 3.6nm,0.6s	28.10	58	eP	P	15 43 32.4	+2.5
DLBC	Dease Lake 2.5nm,0.5s,baz=176,slow=25,SNR=6.5	28.10	58	P	P	15 43 31.5	+1.6
KLR	Kul'dur 0.7nm,0.4s,baz=75,slow=9.3,SNR=5.5	30.45	284	P	P	15 43 49.7	-1.0
USRK	Ussuriysk Ar. 1.1nm,0.7s,baz=66,slow=10,SNR=4.3	32.73	275	P	P	15 44 09.4	-1.1
MJAR	Matsushiro Arr 2.6nm,0.7s,baz=39,slow=6.2,SNR=8.5	33.55	259	P	P	15 44 18.4	+0.6
MJB9	Matsu-Tunnel 24nm,1.4s	33.55	259	eP	P	15 44 18.5	+0.6
MAJO	Matsushiro 25nm,1.4s	33.56	259	eP	P	15 44 18.5	+0.7
MAT	Matsushiro	33.56	259	P	P	15 44 18.4	+0.6
YKW3	Yellowknife Ar 4.2nm,0.8s	34.73	47	eP	P	15 44 28.6	+1.0
YKA	Yellowknife Ar 2.6nm,0.6s,baz=280,slow=7.9,SNR=34	34.76	48	P	P	15 44 28.9	+1.2
YKB5	Yellowknife Ar	34.76	48	eP	P	15 44 28.3	+0.6
JHJ2	Mitsune 1µm,1.6s	34.98	253	eP	P	15 44 30.5	+0.5
LON	Longmire 10nm,1.4s	36.94	75	eP	P	15 44 45.8	-0.7
LTY	Liberty 24nm,1.8s	37.35	74	eP	P	15 44 50.9	+0.9
B08A	Colville Reser 3.2nm,0.8s	37.58	72	eP	P	15 44 52.3	+0.5
JCJ	Chichijima 43nm,0.9s,baz=282,slow=20,SNR=4.3	38.19	243	P	P	15 44 57.8	+0.7
E07A	Sunnyside 6.9nm,1.2s	38.19	74	eP	P	15 44 56.7	-0.2
HAWA	Hanford 4.9nm,0.8s	38.47	74	eP	P	15 44 59.4	+0.2
C09A	Chrisman Ranch 4.7nm,0.5s	38.47	72	eP	P	15 44 58.4	-0.9
RES	Resolute Bay 18nm,2.0s	38.86	25	eP	P	15 45 03.9	+1.8
NEW	Newport 3.0nm,0.8s	38.90	71	eP	P	15 45 02.4	-0.4
KHMM	Horse Mountain 95nm,1.9s	39.05	84	eP	P	15 45 06.1	+1.8
KSRS	Korea Array 2.0nm,0.7s,baz=58,slow=8.5,SNR=6.7	39.20	269	P	P	15 45 06.5	+1.1
KS01	Wonju Array Si	39.20	269	eP	P	15 45 06.2	+0.8
KMRM	Mail Ridge 48nm,1.5s	39.46	85	eP	P	15 45 08.9	+1.3
I07A	Izee 2.9nm,0.8s	39.74	78	eP	P	15 45 10.7	+0.8
JNU	Nakatsue 74nm,2.0s	40.29	261	eP	P	15 45 14.9	+0.5
WALA	Waterton Lakes 6.9nm,0.9s	40.33	68	eP	P	15 45 14.8	+0.2
MOD	Modoc Plateau 2.1nm,0.7s	40.52	81	eP	P	15 45 17.4	+1.1
HOPS	Hopland Field 148nm,1.8s	40.60	86	eP	P	15 45 17.8	+0.9
BMO	Blue Mountains 2.5nm,0.8s	40.61	75	eP	P	15 45 16.9	-0.1
WVOR	Wild Horse Val 6.5nm,1.3s	41.21	79	eP	P	15 45 22.6	+0.7
MSO	Missoula 21nm,1.9s	41.49	71	eP	P	15 45 24.0	-0.2
BEKR	Beckworth 3.7nm,1.1s	41.71	83	eP	P	15 45 26.9	+0.8
PAHR	Pah Rah Range 3.6nm,0.8s	42.40	83	eP	P	15 45 32.4	+0.7
VCNR	Virginia City 5.7nm,0.8s	42.49	83	eP	P	15 45 33.2	+0.8
PNTR	Pine Nut 7.9nm,0.7s	42.65	84	eP	P	15 45 35.3	+1.6
HRY	Holter Researc	42.77	70	eP	P	15 45 34.5	0.0
CMB	Columbia Colle 3.9nm,0.9s	42.84	85	eP	P	15 45 36.0	+1.0
YERR	Yerington 3.7nm,0.7s	42.94	84	eP	P	15 45 36.8	+0.8
SAO	San Andreas Ge 47nm,1.6s	43.01	88	eP	P	15 45 37.6	+1.2
HLID	Hailey 2.3nm,0.9s	43.06	75	eP	P	15 45 37.1	+0.2
WAKR	Walker 4.0nm,0.8s	43.12	84	eP	P	15 45 38.8	+1.3
EGMT	Eagleton 40nm,2.0s	43.22	67	eP	P	15 45 37.9	-0.1
MCMT	McKenzie Canyo	43.24	73	eP	P	15 45 38.2	-0.2
BOZ	Bozeman (W) 4.0nm,0.5s	43.51	71	eP	P	15 45 39.5	-1.0
KVN	Kaiserville 2.6nm,0.6s	43.59	83	eP	P	15 45 42.0	+0.8
RYN	Ryan 4.7nm,0.7s	43.59	83	eP	P	15 45 41.7	+0.5
FFC	Flin Flon 6.7nm,1.5s	43.82	55	eP	P	15 45 42.8	+0.1
NV01	Mina Array Sit	43.85	83	eP	P	15 45 44.0	+0.6
NVAR	Mina Array Bea 3.0nm,0.6s,baz=293,slow=7.8,SNR=22	43.85	83	P	P	15 45 44.4	+1.0
MDPB	Devils Postpil 6.4nm,0.8s	43.89	85	eP	P	15 45 44.8	+1.1
NV11	Mina Array Sit 0.2nm,0.7s	43.94	83	eP	P	15 45 44.3	+0.3
TULEG	Thule 11nm,1.4s	44.00	18	eP	P	15 45 44.1	+0.4
QLMT	Earthquake Lak	44.06	72	eP	P	15 45 45.0	+0.1
YHB	Horse Butte 6.8nm,0.8s	44.25	72	eP	P	15 45 46.2	-0.2
ELK	Elko 16nm,2.0s	44.26	79	eP	P	15 45 46.6	+0.1
PAGB	Antelope Grade 38nm,1.6s	44.41	88	eP	P	15 45 48.6	+1.1
YHH	Holmes Hill 4.0nm,0.8s	44.42	71	eP	P	15 45 47.6	-0.3
YFT	Old Faithful 4.4nm,0.8s	44.63	72	eP	P	15 45 50.3	+0.9
YPP	Pitchstone Pla 3.6nm,1.3s	44.75	72	eP	P	15 45 50.6	+0.1
FXWY	Fox Creek 0.1nm,0.2s	45.00	73	eP	P	15 45 52.8	+0.4
TLY	Talaya 3.5nm,0.6s	45.07	301	eP	P	15 45 51.3	-1.2
HVU	Hansel Valley 2.9nm,0.6s	45.09	76	eP	P	15 45 53.5	+0.5
MOOW	Moose Ponds	45.10	73	eP	P	15 45 53.3	+0.2
TPAW	Teton Pass 6.1nm,1.5s	45.13	73	eP	P	15 45 53.3	-0.1
RLMT	Red Lodge 3.2nm,0.8s	45.14	70	eP	P	15 45 53.6	+0.2
SNOW	Snow King Moun 11nm,1.6s	45.26	73	eP	P	15 45 55.4	+0.9
FCC	Fort Churchill	45.48	47	eP	P	15 45 56.1	+0.6
ISA	Isabella, Lake 7.2nm,1.4s	45.54	87	eP	P	15 45 56.7	+0.2
R11A	Troy Canyon, C 2.6nm,0.5s	45.55	82	eP	P	15 45 56.8	+0.2
DAC	Darwin (Calif) 2.2nm,0.8s	45.67	85	eP	P	15 45 57.5	-0.1
SONM	Songino Array 0.2nm,0.3s,baz=65,slow=7.2,SNR=3.6	45.73	295	P	P	15 45 58.4	+0.5
DUG	Dugway, Tooele 4.5nm,1.0s	46.05	78	eP	P	15 46 01.2	+0.8
TPNV	Topopah Spring 6.0nm,0.6s	46.05	84	eP	P	15 46 01.4	+0.8
CTU	Camp Tracy 2.4nm,0.6s	46.37	77	eP	P	15 46 02.3	-0.7
BW06	Boulder Array 3.7nm,0.8s	46.38	73	eP	P	15 46 02.4	-0.7
PD31	Pinedale Array 3.4nm,0.8s	46.38	73	eP	P	15 46 02.1	-1.0
PDAR	Pinedale Array	46.38	73	eP	P	15 46 02.5	-0.7
PDAR	Pinedale Array 1.4nm,0.4s,baz=297,slow=4.1,SNR=16	46.38	73	P	P	15 46 03.2	+0.1
PSUT	Pine Spring 6.1nm,1.2s	46.48	80	eP	P	15 46 03.9	0.0
NLU	North Lily Min 4.3nm,1.5s	46.64	78	eP	P	15 46 05.5	+0.4
MWC	Mount Wilson 5.5nm,0.8s	46.76	88	eP	P	15 46 06.1	0.0
GSC	Goldstone, Bar 14nm,1.3s	46.80	86	eP	P	15 46 06.3	0.0
HHC	Hu-ho-hao-te	46.95	284	eP	P	15 46 07.9	+0.5
HHC	comp=Z,12nm,1.0s			pmax	pmax		
HHC	comp=Z,150nm,5.1s			pmax	pmax		
SHPR	Sheep Range comp=Z,2.6nm,1.3s	47.00	83	eP	P	15 46 07.0	-0.9
CCUT	Cedar City comp=Z,3.9nm,1.5s	47.41	81	eP	P	15 46 12.0	+0.9
MSU	Marysvale	47.50	79	eP	P	15 46 13.0	+1.2
TMUT	Trail Mountain comp=Z,4.9nm,0.8s	47.57	78	eP	P	15 46 12.6	+0.1
LCMT	Little Creek M comp=Z,5.5nm,1.5s	47.83	81	eP	P	15 46 15.5	+1.3
KNB	Kanab comp=Z,1.9nm,0.5s	48.08	81	eP	P	15 46 17.0	+0.8
SRU	San Rafael Swe comp=Z,6.6nm,1.1s	48.10	77	eP	P	15 46 16.5	+0.1
PKCU	Pink Cliffs comp=Z,3.6nm,0.7s	48.11	80	eP	P	15 46 16.6	-0.1
PFO	Pinyon Flats O comp=Z,19nm,1.9s	48.15	87	eP	P	15 46 16.2	-0.5
XPFO	Pion Flat comp=Z,2.3nm,0.7s	48.15	87	eP	P	15 46 16.2	-0.6
BAR	Barrett comp=Z,15nm,1.6s	48.66	88	eP	P	15 46 20.6	+0.1
U15A	North Rim comp=Z,4.3nm,0.5s	48.79	81	eP	P	15 46 22.2	+0.4
O20A	White River Ci comp=Z,5.5nm,1.1s	48.80	75	eP	P	15 46 21.5	-0.2
SPA0	Spitsbergen Ar comp=Z,34nm,1.2s	49.17	356	eP	P	15 46 23.9	+0.1
PV21	Cone Mtn., Par comp=Z,7.5nm,1.4s	49.38	77	eP	P	15 46 26.1	0.0
ULM	Lac du Bonnet	49.41	57	eP	P	15 46 25.7	-0.1
ULM	Lac du Bonnet comp=Z,19nm,1.8s	49.41	57	P	P	15 46 25.8	-0.1
PV23	Carpenter Ridg comp=Z,2.7nm,0.5s,baz=304,slow=6.7,SNR=6.1	49.43	77	eP	P	15 46 26.1	-0.5
PV10	Paradox Valley comp=Z,3.6nm,0.8s	49.46	77	eP	P	15 46 27.7	+0.9
PV14	Lion Creek, Pa comp=Z,13nm,1.4s	49.47	77	eP	P	15 46 25.6	-1.3
PV20	West Nyswonger comp=Z,5.2nm,0.8s	49.53	77	eP	P	15 46 28.0	+0.8
GLA	Glamis comp=Z,14nm,1.5s	49.53	86	eP	P	15 46 27.1	+0.1
PV04	Paradox Valley comp=Z,7.7nm,0.6s	49.53	77	eP	P	15 46 27.4	+0.2
PV19	Morning Glory comp=Z,5.4nm,1.2s	49.54	77	eP	P	15 46 27.7	+0.4
PV17	East Wray Mesa comp=Z,4.1nm,0.5s	49.57	77	eP	P	15 46 26.3	-1.3
PV16	Nyswonger Mesa comp=Z,13nm,1.6s	49.58	77	eP	P	15 46 27.7	+0.1
PV11	David Mesa, Pa comp=Z,8.1nm,1.0s	49.61	77	eP	P	15 46 28.2	+0.4
PV05	Paradox Valley comp=Z,3.8nm,0.7s	49.62	77	eP	P	15 46 27.5	-0.4
PV12	Saucer Basin, comp=Z,5.9nm,0.9s	49.64	77	eP	P	15 46 28.5	+0.4
PV03	Paradox Valley comp=Z,6.3nm,1.1s	49.65	77	eP	P	15 46 28.0	-0.2
PV07	Paradox Valley comp=Z,4.7nm,1.2s	49.65	77	eP	P	15 46 28.2	0.0
N23A	Red Feather La comp=Z,14nm,1.8s	49.66	73	eP	P	15 46 27.1	-1.1
PV13	Radium Mtn., P comp=Z,8.6nm,0.7s	49.73	77	eP	P	15 46 28.9	+0.1
PV02	Paradox Valley comp=Z,14nm,0.7s	49.75	77	eP	P	15 46 28.9	0.0
PV01	Paradox Valley comp=Z,8.8nm,1.6s	49.90	77	eP	P	15 46 30.1	0.0
WUAZ	Wupatki comp=Z,5.5nm,1.4s	49.95	82	eP	P	15 46 30.1	-0.3
MVCO	Mesa Verde comp=Z,14nm,1.8s	50.55	78	eP	P	15 46 34.5	-0.5
ISCO	Idaho Springs	50.56	73	eP	P	15 46 35.4	+0.3
X16A	Lo Mia Camp, P comp=Z,14nm,2.0s	50.65	83	eP	P	15 46 35.2	-0.5
S22A	4UR Ranch, Cre comp=Z,8.6nm,1.7s	51.19	76	eP	P	15 46 37.9	-1.8
YOJ	Yonaguni jima comp=Z,248nm,1.8s	51.29	260	eP	P	15 46 39.2	-1.1
TARA	Tarawa comp=Z,256nm,1.4s	51.41	190	eP	P	15 46 40.2	-0.9
X18A	Snowflake comp=Z,17nm,1.8s	51.48	81	eP	P	15 46 42.6	+0.8
SDCO	Great Sand Dun comp=Z,7.1nm,1.9s	51.97	75	eP	P	15 46 45.9	+0.4
EYMN	Ely comp=Z,4.3nm,0.8s	53.10	57	eP	P	15 46 53.7	+0.4
LENM	Lemitar	53.52	80	eP	P	15 46 57.8	+1.1
TPUB	Ta-pu comp=Z,8.8nm,1.0s	53.60	261	eP	P	15 46 57.7	+0.5
LZH	Lanzhou	54.64	285	eP	P	15 47 07.0	+2.2
LZH				pP	pP	15 47 52.5	-1.5
LZH				sP	sP	15 48 20.9	+2.1
LZH	comp=Z,27nm,1.1s			pmax	pmax		
F41A	Three Lakes comp=Z,7.1nm,0.7s	55.79	58	eP	P	15 47 12.5	-0.2
MNTX	Cornudas Mount comp=Z,2.5nm,1.0s	56.20	81	eP	P	15 47 15.8	+0.1
E43A	Lone Tree Farm comp=Z,98nm,1.9s	56.44	56	eP	P	15 47 17.7	+0.5
G42A	Mountain comp=Z,29nm,1.5s	56.48	58	eP	P	15 47 17.5	0.0
JFWS	Jewell Farm comp=Z,30nm,1.8s	57.11	61	eP	P	15 47 22.0	0.0
I42A	Draeger Farm, comp=Z,41nm,1.6s	57.15	59	eP	P	15 47 21.9	-0.3
WMOK	Wichita Mounta comp=Z,9.5nm,1.6s	57.98	73	eP	P	15 47 28.2	0.0
L42A	Oliver, Polo comp=Z,50nm,1.7s	58.05	61	eP	P	15 47 28.0	-0.5
WMQ	Urumqi	58.34	302	eP	P	15 47 33.1	+2.6
WMQ				LR	LR		
WMQ	comp=N,310nm,23.5s			LR	LR		
WMQ	comp=E,280nm,23.5s			LR	LR		
TXAR	Lajitas Array comp=Z,1.3nm,0.5s,baz=306,slow=5.3,SNR=26	58.92	81	P	P	15 47 34.9	+0.2
TXAR	comp=Z,0.3nm,0.4s,baz=302,slow=3.8,SNR=3.7			PcP	PcP	15 48 21.1	-0.4
MK01	Makanchi Array	58.97	307	eP	P	15 47 34.1	-0.7
SCHQ	Schefferville comp=Z,41nm,1.9s	59.36	38	eP	P	15 47 37.9	+0.6
SCHQ	Schefferville comp=Z,1.1nm,0.4s,baz=317,slow=6.0,SNR=5.6	59.36	38	P	P	15 47 37.9	+0.6
FVM	French Village comp=Z,14nm,1.5s	60.46	65	eP	P	15 47 44.9	-0.2
Q51A	Peebles comp=Z,30nm,1.6s	63.55	60	eP	P	15 48 05.8	+0.3
MOQ	Mont Orford	64.33	48	eP	P	15 48 10.1	-0.4
SIJI	Sorong comp=Z,8.9nm,0.7s,baz=57,slow=3.5,SNR=8.1	67.24	235	P	P	15 48 28.8	-0.6
CMAR	Chiang Mai Arr comp=Z,1.3nm,0.7s,baz=26,slow=7.0,SNR=15	70.46	275	P	P	15 48 48.8	-0.5
AKASG	Malin Array Be comp=Z,0.5nm,0.3s,baz=21,slow=6.5,SNR=3.6	74.29	341	P	P	15 49 10.9	-0.4
BATI	Baumata comp=Z,1.1nm,0.5s,baz=194,slow=0.7,SNR=4.1	79.07	237	P	P	15 49 38.5	0.0
WRA	Wararamunga Arr comp=Z,0.7nm,0.4s,baz=32,slow=6.1,SNR=27	82.56	223	P	P	15 49 56.5	-0.3
FITZ	Fitzroy Crossi comp=Z,2.1nm,0.5s,baz=2.7,slow=6.0,SNR=9.0	84.84	231	P	P	15 50 08.3	0.0
ASAR	Alice Springs comp=Z,2.5nm,0.7s,baz=22,slow=4.8,SNR=46	86.06	222	P	P	15 50 14.5	+0.2

TAP 07 15:44:40.0, 24°.47N×121°.93E, h10km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	Suao baz=337	0.16	334	*i* P	Pb	15 44 44.4	-0.6
TWC	baz=337			*i* S	Sg	15 44 47.0	+1.0
ENA	Nanau baz=256	0.17	257	*i* P	Pb	15 44 44.7	-0.6
ENA	baz=256			*i* S	Sg	15 44 47.7	+1.3
EOS1	EOS1 baz=65	0.20	66	eP	Pg	15 44 44.5	+0.2
EOS1	baz=65			eS	Sg	15 44 48.3	+1.1
TWE	Neicheng baz=318	0.35	317	eP	Pb	15 44 48.0	-0.3
TWE	baz=318			S	Sb	15 44 53.2	-0.5
ENTT	Nioudou baz=298	0.37	298	eP	Pb	15 44 48.7	0.0
ENTT	baz=298			S	Sb	15 44 54.1	-0.4
SLBB	Yuanshan baz=317	0.39	317	eP	Pb	15 44 49.0	0.0
SLBB	baz=317			eS	Sb	15 44 54.4	-0.7
NDT	Datong Townshi baz=289	0.40	290	eP	Pb	15 44 49.7	+0.5
NDT	baz=289			S	Sb	15 44 55.2	-0.2
NACB	Ninganchiao baz=226	0.42	226	eP	Pg	15 44 48.8	+0.5
NACB	baz=226			eS	Sb	15 44 55.2	-0.7
ETLH	Xiulin Townshi baz=237	0.48	238	eP	Pb	15 44 50.1	-0.5
NWLT	Wulai baz=308	0.49	309	eP	Pb	15 44 51.5	+0.7
NWLT	baz=308			eS	Sb	15 44 58.2	+0.1
NNSB	Datong baz=265	0.50	266	eP	Pb	15 44 50.7	-0.1
NNS	Nan Shan baz=266	0.50	267	eP	Pb	15 44 50.9	-0.2
TIPB	Shuangxi baz=349	0.51	350	eP	Pb	15 44 51.3	+0.2
TIPB	baz=349			eS	Sb	15 44 59.2	+0.5
YHNB	Yeheng baz=292	0.54	292	eP	Pb	15 44 52.1	+0.5
YHNB	baz=292			eS	Sb	15 44 59.1	-0.3
WHF	Hehuan Shan baz=241	0.68	242	eP	Pb	15 44 54.0	-0.2
WHF	baz=241			eS	Sb	15 45 04.1	+0.3

TAP 07 15:46:23.0, 24°.32N×121°.42E, h8km±1km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	Datong baz=344	0.11	345	P	Pg	15 46 26.2	+0.6
NNSB	baz=344			eS	Sg	15 46 28.4	+1.0
NNS	Nan Shan baz=345	0.12	342	eP	Pg	15 46 26.8	+1.0
NNS	baz=345			S	Sg	15 46 28.8	+1.0
ETLH	Xiulin Townshi baz=151	0.13	152	eP	Pg	15 46 26.8	+0.9
NACB	Ninganchiao baz=131	0.22	132	eP	Pg	15 46 28.3	+0.9
WHF	Hehuan Shan baz=216	0.22	218	eP	Pg	15 46 28.3	+0.6
NDT	Datong Townshi baz=17	0.29	18	eP	Pb	15 46 30.0	-0.6
NSK	Sanguang baz=352	0.36	352	eP	Pg	15 46 30.3	+0.3

TAP 07 15:51:42.7, 24°.33N×121°.43E, h4km, ML1.0, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	Datong baz=338	0.11	338	P	Pg	15 51 45.4	+0.4
NNS	Nan Shan baz=339	0.12	336	P	Pg	15 51 45.7	+0.4
ETLH	Xiulin Townshi baz=164	0.13	157	P	Pg	15 51 46.3	+0.9
ETLH	baz=164			S	Sg	15 51 47.9	+0.8
NACB	Ninganchiao baz=134	0.22	135	⇑P	Pg	15 51 47.7	+0.7
WHF	Hehuan Shan baz=218	0.23	219	eP	Pg	15 51 48.0	+0.6
WHF	baz=218			eS	Sg	15 51 52.2	+1.7
TWD	Chiawan baz=147	0.29	148	eP	Pg	15 51 49.2	+0.8
ENA	Nanau baz=72	0.30	71	eP	Pg	15 51 49.5	+0.9
ENTT	Nioudou baz=24	0.34	22	eP	Pg	15 51 49.6	+0.3
YHNB	Yeheng baz=352	0.34	352	P	Pg	15 51 50.0	+0.6
CHGB	Renai baz=209	0.35	221	eP	Pg	15 51 50.0	+0.3
OWD	Renai baz=211	0.44	212	eP	Pg	15 51 51.3	+0.1
WHP	Taichung City baz=263	0.44	264	eP	Pb	15 51 52.5	-0.6
WHP	baz=263			eS	Sb	15 51 60.0	-0.2

*IDC **07** 15:56:36.5±0.7, 24°.17N×68°.55E, h0km, mb4.1/21, mb1 4.2/24, mb1mx4.1/48, mbtmp4.1/24, ML3.6/3, MS3.6/17, Ms1 3.7/17, ms1mx3.4/47, Error ellipse: s-maj=18.0km s-min=14.1km az=34.0*

*BJI **07** 15:56:39.9, 24°.40N×68°.77E, h7km, mb4.3/29, mB4.8/20, Ms4.2/13, Ms7 4.0/12*

*ISCJB **07** 15:56:40.3±0.3, 24°.41N±0°.03×68°.68E±0°.03, h33km, mb4.4/74, MS3.8/19, Error ellipse: s-maj=4.8km s-min=3.6km az=33.1*

*MOS **07** 15:56:40.8±1.3, 24°.46N×68°.65E, h33km, mb4.6/30, Error*

ellipse: s-maj=8.0km s-min=5.1km az=88.0
*NEIC **07** 15:56:40.3±0.3,24°.36N×68°.57E,h20^{km},mb4.5/48,Error*
ellipse: s-maj=7.0km s-min=5.3km az=194.0
NEIC Felt at Tando Ikram, Pakistan.
ISC 07 15:56:42.2±0.4,24°.43N±0°.04×68°.69E±0°.04,h35^{km},n203,
d2^{s}09/213,mb4.4/74,MS3.7/19,7C-1D,India-Pakistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**1.47**	**143**	*e*P	**Pn**		**15 57 04.1**	**-2.0**
BHJ				*e*S	**Sn**		**15 57 23.8**	**-0.3**
BHJ				IAML			15 57 27.0	
	comp=N,2μm,0.4s							
BHJ				IAML			15 57 27.7	
	comp=E,3μm,0.3s							
POO	**Poona**	**7.58**	**140**	*e*P	**Pn**		**15 58 28.3**	**-2.0**
POO				*e*S	**Sn**		**15 59 49.8**	**-5.3**
BHPL	**Bhopal**	**8.08**	**97**	*e*P	**Pn**		**15 58 37.4**	**+0.2**
BHPL				*e*S	**Sn**		**16 00 02.2**	**-5.2**
NDI	**New Delhi**	**8.73**	**59**	*e*P	**Pn**		**15 58 47.0**	**+1.1**
THW	**Thamme Wali**	**8.75**	**17**	P	**Pn**		**15 58 46.7**	**+0.4**
WSAR	**Wadi Sarin**	**9.29**	**265**	Pn	**Pn**		**15 58 49.0**	**-4.6**
	comp=E,0.8nm,0.3s,baz=125,slow=9.9,SNR=50							
WSAR				Sn	Sn		16 00 24.2	-13
	comp=E,0.5nm,0.3s,baz=121,slow=12,SNR=3.0							
WSAR				LR	LR		16 03 08.8	
	comp=E,147nm,18.9s,baz=118,slow=43							
LATR	**Latur**	**9.46**	**128**	*e*P	**Pn**		**15 58 53.1**	**-2.8**
LATR				*ex*	x		16 00 22.2	
BHK	**Bhakra**	**9.75**	**43**	*e*S	**Sn**		**16 00 42.0**	**-6.2**
CHCP	**Chirah Chowk**	**10.03**	**22**	P	**Pn**		**15 59 03.0**	**-0.8**
SMLA	**Simla**	**10.04**	**46**	*e*P	**Pn**		**15 59 05.0**	**+1.2**
SMLA				*e*S	**Sn**		**16 00 50.1**	**-5.2**
SMLA				IAML			16 02 23.8	
	comp=E,55nm,0.7s							
KBL	**Kabul**	**10.08**	**2**	*e*Pn	**Pn**		**15 59 03.0**	**-1.7**
KBL				*e*Sn	**Sn**		**16 00 52.5**	**-4.1**
KBL	**Kabul**	**10.08**	**2**	*e*P	**Pn**		**15 59 03.0**	**-1.7**
KBL				*e*			16 00 52.5	
NGP	**Nagpur**	**10.10**	**107**	*e*P	**Pn**		**15 59 04.2**	**-0.5**
NGP				*e*S	**Sn**		**16 00 50.9**	**-6.0**
DDI	**Dehra Dun**	**10.18**	**53**	*e*P	**Pn**		**15 59 06.6**	**+0.7**
DDI				*e*S	**Sn**		**16 00 53.1**	**-5.8**
DHRM	**DHARAMSHALA**	**10.27**	**39**	*e*P	**Pn**		**15 59 07.0**	**-0.3**
DHRM				*ex*	x		16 00 50.5	
DHRM				IAML			16 02 39.9	
	comp=N,2μm,1.1s							
DHRM				IAML			16 02 49.7	
	comp=E,110nm,0.3s							
JBP	**Jabalpur**	**10.42**	**95↑**	*e*P	**Pn**		**15 59 07.8**	**-1.3**
JBP				*e*S	**Sn**		**16 00 55.7**	**-8.9**
HYB	**Hyderabad**	**11.55**	**125**	*i* P	Pn		15 59 32.5	+7.8
HYB				*e*S	**Sn**		**16 01 38.0**	**+5.4**
HYB	**Hyderabad**	**11.55**	**125**	*e*P	**Pn**		**15 59 25.1**	**+0.3**
HYB				*e*S	Sn		16 01 23.5	-9.1
PYUN	**Piuthan**	**13.34**	**71**	*e*P	**Pn**		**15 59 49.2**	**-0.1**
	comp=E,58nm,1.0s							
PYUN				*e*S	Sn		16 02 27.4	+11
KOLN	**Koldanda**	**13.80**	**73**	*e*P	**Pn**		**15 59 55.8**	**+0.2**
	comp=E,31nm,0.7s							
DANN	**Dangsing**	**14.06**	**71**	*e*P	**Pn**		**15 59 57.9**	**-1.2**
CHGR	**Chuyangaron**	**14.19**	**1**	*e*Pn	**Pn**		**15 59 58.1**	**-2.6**
GAR	**Garm**	**14.59**	**5**	*e*Pn	**Pn**		**16 00 04.1**	**-2.1**
GAR	**Garm**	**14.59**	**5**	*e*P	**Pn**		**16 00 04.1**	**-2.1**
GKN	**Gorkha**	**14.75**	**73**	*e*P	**Pn**		**16 00 07.3**	**-1.1**
DMN	**Daman**	**15.09**	**74**	*e*P	**Pn**		**16 00 10.3**	**-2.8**
KKN	**Kakani**	**15.27**	**74**	*e*P	**Pn**		**16 00 12.3**	**-3.1**
PKI	**Pulchoki**	**15.35**	**75**	*e*P	**Pn**		**16 00 12.6**	**-4.0**
BOK	**Bokaro**	**15.71**	**89**	*e*P	**Pn**		**16 00 21.2**	**+0.2**
GUN	**Gumba**	**15.82**	**74**	*e*P	**Pn**		**16 00 19.6**	**-3.0**
JIRN	**Jiri**	**16.05**	**75**	*e*P	**Pn**		**16 00 21.4**	**-4.3**
GEYT	**Alibeck**	**16.20**	**329**	Pn	**Pn**		**16 00 27.9**	**+0.7**
	comp=E,0.1nm,0.3s,baz=163,slow=11,SNR=11							
GEYT				LR	LR		16 07 34.1	
	comp=E,211nm,19.7s,baz=95,slow=40							
GYA0B	**ALIBECK ARRAY**	**16.20**	**329**	*e*Pn	**Pn**		**16 00 25.2**	**-1.9**
	comp=E,6.2nm,0.9s							
KSH	**Kashi**	**16.25**	**21**	P	**Pn**		**16 00 22.5**	**-5.4**
KSH				PP	**PnPn**		**16 00 35.5**	**-1.6**
KSH				S	Sn		16 03 15.7	-11
KSH				SS	**S**		**16 03 34.6**	**-4.5**
KSH				PcP	**PcP**		**16 05 20.1**	**-0.8**
KSH				pmax	pmax			
	comp=E,10.0nm,1.0s							
KSH				pmax	pmax			
	comp=E,230nm,5.7s							
KSH				LR	LR			
	comp=E,330nm,11.1s							
KSH				LR	LR			
	comp=E,740nm,10.4s							
KSH				LR	LR			
	comp=E,300nm,11.2s							
RAMN	**Ramite**	**16.34**	**77**	*e*P	**Pn**		**16 00 24.0**	**-5.2**
NRN	**Naryn**	**18.02**	**18**	*e*Pn	**P**		**16 00 50.5**	**+0.1**
	comp=E,17nm,1.1s							
NRN	**Naryn**	**18.02**	**18**	*e*P	**P**		**16 00 50.5**	**+0.1**
NRN				pmax	pmax			
	comp=E,17nm,1.1s							
AML	**Almayashu**	**18.14**	**12**	P	**P**		**16 00 51.9**	**+0.1**
	SNR=34							
UCH	**Uchtor**	**18.40**	**14**	P	**P**		**16 00 51.4**	**-3.2**
	SNR=26							
KZA	**Kyzart**	**18.42**	**16**	P	**P**		**16 00 53.5**	**-1.5**
	SNR=13							
EKS2	**Erkin-Say**	**18.66**	**12**	P	**Pn**		**16 00 57.6**	**-0.2**
	SNR=16							
KK31	**Karatay Array**	**18.69**	**4**	*e*P	**P**		**16 00 56.6**	**-0.8**
	comp=E,8.8nm,1.0s							
KK31	**Karatay Array**	**18.69**	**4**	*e*P	**P**		**16 00 56.6**	**-0.8**
KK31				pmax	pmax			
	comp=E,9.0nm,1.0s							
KKAR	**Karatay Array**	**18.69**	**4**	*e*P	**P**		**16 00 56.3**	**-1.1**
	comp=E,8.8nm,1.0s							
KKAR	**Karatay Array**	**18.69**	**4**	*e*P	**P**		**16 00 56.3**	**-1.1**
KKAR				pmax	pmax			
	comp=E,9.0nm,1.0s							
AAK	**Ala-Archa**	**18.78**	**13**	P	**Pn**		**16 00 59.7**	**+0.4**
	SNR=18							
AAK	**Ala-Archa**	**18.78**	**13**	*e*P	**P**		**16 00 58.9**	**+0.3**
AAK				*e*Sn	**Sn**		**16 04 22.6**	**-5.8**
AAK	**Ala-Archa**	**18.78**	**13**	*de*P	**Pn**		**16 00 59.5**	**+0.2**
AAK				pmax	pmax			
	comp=E,11nm,0.6s							
AAK	**Ala-Archa**	**18.78**	**13**	P	**P**		**16 00 58.9**	**+0.3**
	comp=E,0.5nm,0.3s,baz=176,slow=6.2,SNR=31							
AAK				S	**Sn**		**16 04 26.0**	**-2.4**
	comp=E,0.1nm,0.3s,baz=328,slow=22,SNR=6.3							
TARG	**Taragay, Kyrgy**	**18.85**	**22**	*e*P	**P**		**16 00 59.9**	**+0.3**
	comp=E,9.9nm,0.9s							
FRU1	**Bishkek**	**18.98**	**14**	*e*P	**Pn**		**16 01 01.7**	**+0.2**
	comp=E,36nm,1.3s							
FRU1	**Bishkek**	**18.98**	**14**	*e*P	**Pn**		**16 01 01.7**	**+0.2**
FRU1				pmax	pmax			
	comp=E,36nm,1.3s							
FRU	**Bishkek**	**19.00**	**13**	*e*P	**Pn**		**16 01 02.0**	**+0.3**
FRU				*e*S	Sn		16 04 21.0	-12
FRU				pmax	pmax			
	comp=E,45nm,2.0s							
FRU				smax	smax			
	comp=N,72nm,2.0s							
KDJ	**Kajisay**	**19.01**	**20**	*e*P	**Pn**		**16 01 01.8**	**-0.2**
	comp=N,17nm,0.9s							
KDJ	**Kajisay**	**19.01**	**20**	*e*P	**Pn**		**16 01 01.8**	**-0.2**
KDJ				pmax	pmax			
	comp=E,17nm,0.9s							
CHMS	**Chumysh**	**19.18**	**14**	P	**Pn**		**16 01 05.2**	**+1.3**
	SNR=8.6							
TKM2	**Tokmak 2**	**19.30**	**15**	P	**Pn**		**16 01 06.3**	**+0.7**
	SNR=9.2							
USP	**Ospenovka**	**19.39**	**13**	P	**Pn**		**16 01 07.0**	**+0.6**
	SNR=9.0							
PRZ	**Przheval'sk**	**19.72**	**22**	*e*P	**Pn**		**16 01 10.0**	**-0.5**
	comp=E,16nm,0.7s							
PRZ	**Przheval'sk**	**19.72**	**22**	*e*P	**Pn**		**16 01 10.0**	**-0.5**
PRZ				pmax	pmax			
	comp=E,16nm,0.7s							
PALK	**Pallekele**	**20.58**	**144**	LR	LR		16 09 27.2	
	comp=Z,276nm,19.1s,baz=296,slow=38							
LSA	**Lhasa**	**20.67**	**70**	*e*P	Pn		16 01 22.2	+0.2
	comp=Z,19nm,1.4s							
LSA	**Lhasa**	**20.67**	**70**	*e*P	Pn		16 01 22.2	+0.2
LSA				pmax	pmax			
	comp=Z,19nm,1.4s							
SHL	**Shillong**	**21.05**	**82**	*e*P	**P**		**16 01 24.3**	**+0.9**
	comp=Z,19nm,1.1s							
SHL	**Shillong**	**21.05**	**82**	*e*P	**P**		**16 01 24.3**	**+0.9**
SHL				pmax	pmax			
	comp=Z,19nm,1.1s							
SHL	**Shillong**	**21.05**	**82**	*e*P	**P**		**16 01 23.7**	**+0.3**
RAYN	**Ar Rayn**	**21.21**	**272**	*e*P	**P**		**16 01 24.1**	**-0.9**
	comp=Z,15nm,0.8s							
RAYN	**Ar Rayn**	**21.21**	**272**	*e*P	**P**		**16 01 24.1**	**-0.9**
RAYN				pmax	pmax			
	comp=Z,15nm,0.8s							
MAKZ	**Makanchi**	**24.74**	**22**	*e*P	**P**		**16 02 01.6**	**+1.3**
	comp=Z,12nm,0.8s							
MAKZ	**Makanchi**	**24.74**	**22**	*e*P	**P**		**16 02 01.6**	**+1.3**
MAKZ				pmax	pmax			
	comp=Z,12nm,0.8s							
WMQ	**Urumqi**	**24.83**	**34**	*e*P	**P**		**16 02 04.0**	**+2.9**
WMQ				pP	pP		16 02 05.9	-5.3
WMQ				pmax	pmax			
	comp=Z,18nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,150nm,3.8s							
WMQ				LR	LR			
	comp=Z,320nm,22.3s							
WMQ				LR	LR			
	comp=Z,220nm,21.7s							
WMQ				LR	LR			
	comp=Z,250nm,23.7s							
WMQ	**Urumqi**	**24.83**	**34**	*e*P	**P**		**16 02 04.1**	**+2.9**
	comp=Z,10nm,1.0s							
WMQ	**Urumqi**	**24.83**	**34**	*e*P	**P**		**16 02 04.1**	**+2.9**
WMQ				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MK31	**Makanchi Array**	**24.83**	**23**	*e*P	**P**		**16 02 02.4**	**+1.3**
	comp=Z,5.6nm,0.9s							
MK31	**Makanchi Array**	**24.83**	**23**	*e*P	**P**		**16 02 02.4**	**+1.3**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MK32	**Makanchi Array**	**24.83**	**23**	*e*P	**P**		**16 02 02.2**	**+1.1**
MKAR	**Makanchi Array**	**24.83**	**23**	P	**P**		**16 02 02.2**	**+1.1**
	comp=Z,5.5nm,0.8s,baz=216,slow=10,SNR=1.8							
DAMY	**Dhamar**	**24.88**	**251**	*e*P	**P**		**16 02 01.5**	**-0.6**
	comp=Z,8.4nm,0.9s							
GNI	**Garni**	**25.49**	**314**	*e*P	**P**		**16 02 08.8**	**+1.4**
	comp=Z,15nm,1.4s							
GNI	**Garni**	**25.49**	**314**	*i* P	**P**		**16 02 07.5**	**+0.2**
GNI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
ABKAR	**Akbulak array**	**25.71**	**347**	*e*P	**P**		**16 02 10.8**	**+1.7**
	comp=Z,6.3nm,0.9s							
SIRT	**Sirnak**	**25.91**	**306**	*e*P	**P**		**16 02 11.3**	**+0.2**
	comp=Z,33nm,0.9s							
TBLG	**Delisi**	**26.33**	**317**	*e*P	**P**		**16 02 14.1**	**-0.7**
	comp=Z,6.9nm,0.5s							
TBLG	**Delisi**	**26.33**	**317**	*e*P	**P**		**16 02 14.1**	**-0.7**
TBLG				pmax	pmax			
	comp=Z,7.0nm,0.5s							
KURBB	**Kurchatov Arra**	**27.24**	**14**	P	**P**		**16 02 24.0**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=208,slow=9.2,SNR=10							
AKTO	**Akhubinsk**	**27.25**	**345**	P	**P**		**16 02 24.9**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=144,slow=5.9,SNR=7.2							
KURK	**Kurchatov**	**27.34**	**14**	*e*P	**P**		**16 02 24.0**	**+0.3**
KURK	**Kurchatov**	**27.34**	**14**	*e*P	**P**		**16 02 24.0**	**+0.3**
BVAR	**Borovoye Array**	**28.58**	**2**	P	**P**		**16 02 38.0**	**+3.3**
	comp=Z,2.1nm,0.7s,baz=170,slow=9.0,SNR=11							
BRVK	**Borovoye**	**28.61**	**2**	*e*P	**P**		**16 02 34.1**	**-0.9**
	comp=Z,23nm,1.9s							
BRVK	**Borovoye**	**28.61**	**2**	*e*P	**P**		**16 02 34.1**	**-0.9**
BRVK				pmax	pmax			
	comp=Z,23nm,1.9s							
CHTO	**Chiang Mai**	**28.64**	**95**	*e*P	**P**		**16 02 37.4**	**+1.8**
	comp=Z,6.3nm,1.2s							
CHTO	**Chiang Mai**	**28.64**	**95**	*e*P	**P**		**16 02 37.4**	**+1.8**
CHTO				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CHTO	**Chiang Mai**	**28.64**	**95**	P	**P**		**16 02 38.4**	**+2.7**
	comp=Z,25nm,1.4s							
CMMT	**Chiang Mai**	**28.64**	**95**	P	**P**		**16 02 38.4**	**+2.7**
	comp=Z,5.7nm,1.4s							
CM31	**Chiang Mai Arr**	**28.74**	**96**	*e*P	**P**		**16 02 38.5**	**+1.9**
	comp=Z,8.9nm,1.5s							
CMAR	**Chiang Mai Arr**	**28.74**	**96**	P	**P**		**16 02 37.8**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=282,slow=9.7,SNR=8.0							
CMAR				PcP	**PcP**		**16 05 47.3**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=289,slow=5.5,SNR=4.7							
CMAR				LR	LR		16 16 06.4	
	comp=Z,27nm,18.2s,baz=170,slow=41							
CM01	**Chiang Mai Arr**	**28.77**	**96**	*e*P	**P**		**16 02 38.6**	**+1.8**
KIV	**Kislovodsk**	**28.82**	**319**	*e*P	**P**		**16 02 40.1**	**+3.0**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.0s							
GTA	**Gaotai**	**30.17**	**53**	*e*P	**P**		**16 02 51.7**	**+2.5**
GTA				pP	pP		16 02 56.9	-2.3
GTA				sP	sP		16 03 00.2	-3.3
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,66nm,5.5s							
GTA				LR	LR			
	comp=Z,340nm,19.1s							
GTA				LR	LR			
	comp=Z,230nm,16.0s							
GTA				LR	LR			
	comp=Z,330nm,19.1s							
PBKT	**Sadao Pong**	**31.17**	**98**	*e*P	**P**		**16 03 00.1**	**+2.1**
	comp=Z,4.1nm,1.1s							
CD2	**Chengdu**	**31.63**	**70**	*e*P	**P**		**16 03 05.0**	**+2.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,120nm,5.0s							
ZAA0	**Zalesovo Array**	**31.86**	**18**	*e*P	**P**		**16 03 05.7**	**+2.0**
	comp=Z,4.1nm,1.0s							
ZALV	**Zalesovo Beam**	**31.86**	**18**	*e*P	**P**		**16 03 04.2**	**+0.5**
ZALV	**Zalesovo Beam**	**31.86**	**18**	*e*P	**P**		**16 03 04.2**	**+0.5**
ZALV	**Zalesovo Beam**	**31.86**	**18**	P	**P**		**16 03 04.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=224,slow=8.2,SNR=3.9							
ZALV				LR	LR		16 18 26.9	
	comp=Z,118nm,18.0s,baz=46,slow=41							
ZAA1	**Zalesovo Array**	**31.87**	**18**	*e*P	**P**		**16 03 04.5**	**+0.7**
LZH	**Lanzhou**	**32.34**	**61**	*e*P	**P**		**16 03 10.1**	**+1.7**
LZH				pP	pP		16 03 15.3	-3.2
LZH				sP	sP		16 03 18.5	-4.3
LZH				pmax	pmax			
	comp=Z,29nm,1.2s							
ARU	**Arti**	**32.81**	**350**	*c* *i*P	**P**		**16 03 12.3**	**+0.3**
ARU				S	**S**		**16 08 30.0**	**+3.3**
ARU				SS	**SnSn**		**16 10 24.2**	**-0.4**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
BR101	**Keskin Array S**	**33.15**	**306**	*e*P	**P**		**16 03 15.7**	**+0.3**
BR101				*e*PcP	**PcP**		**16 05 58.0**	**+0.2**
BRTR	**Keskin Array B**	**33.15**	**306**	P	**P**		**16 03 15.7**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=89,slow=8.8,SNR=3.3							
BRTR				PcP	**PcP**		**16 05 58.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=117,slow=4.3,SNR=3.8							
BRTR				LR	LR		16 19 09.2	
	comp=Z,45nm,18.7s,baz=92,slow=41							
ISP	**Isparta**	**35.05**	**302**	*e*P	**P**		**16 03 30.2**	**-1.7**
	comp=Z,6.3nm,0.7s							
ISP	**Isparta**	**35.05**	**302**	*e*P	**P**		**16 03 30.2**	**-1.7**
ISP				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KULM	**Kulim**	**36.12**	**117**	*e*P	**P**		**16 03 40.9**	**-0.2**
	comp=Z,46nm,1.8s							
XAN	**Xi'an**	**36.19**	**65**	P	**P**		**16 03 43.2**	**+1.5**
XAN				pP	pP		16 03 47.4	-4.4
XAN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
XAN				pmax	pmax			
	comp=Z,64nm,3.3s							
XAN	**Xi'an**	**36.19**	**65**	*e*P	**P**		**16 03 40.6**	**-1.0**
	comp=Z,5.9nm,1.0s							
XAN	**Xi'an**	**36.19**	**65**	*e*P	**P**		**16 03 40.7**	**-1.0**
XAN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
PSI	**Prapat**	**36.24**	**122**	LR	LR		16 17 08.7	
	comp=Z,73nm,21.5s,baz=80,slow=34							
MOY	**Mondy**	**36.72**	**34**	*e*P	**P**		**16 03 48.9**	**+2.9**
SONA0	**Songino Array**	**37.83**	**42**	*e*P	**P**		**16 03 58.9**	**+3.3**
SONM	**Songino Array**	**37.83**	**42**	P	**P**		**16 03 58.9**	**+3.3**
	comp=Z,3.6nm,0.8s,baz=243,slow=8.6,SNR=25							
SONM				LR	LR		16 21 10.7	
	comp=Z,127nm,19.7s,baz=327,slow=39							
TLY	**Talaya**	**38.09**	**35**	*e*P	**P**		**16 03 58.6**	**+1.1**
	comp=Z,3.4nm,0.7s							
TLY	**Talaya**	**38.09**	**35**	*e*P	**P**		**16 03 58.6**	**+1.1**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ULN	**Ulaanbaatar**	**38.25**	**42**	*e*P	**P**		**16 04 01.7**	**+2.7**
	comp=Z,5.9nm,1.1s							
ULN	**Ulaanbaatar**	**38.25**	**42**	*ce*P	**P**		**16 03 59.8**	**+0.7**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
OBN	**Obninsk**	**38.73**	**331**	*i* P	**P**		**16 04 02.6**	**-0.1**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**39.22**	**55**	*e*P	**P**		**16 04 10.1**	**+2.9**
HHC				sP	pP		16 04 17.8	+0.3
HHC				S	**S**		**16 10 07.1**	**+1.7**
HHC				pmax	pmax			
	comp=Z,19nm,1.1s							
HHC				pmax	pmax			
	comp=Z,110nm,6.1s							
HHC				LR	LR			
	comp=Z,310nm,14.9s							
HHC				LR	LR			
	comp=Z,150nm,12.0s							
HHC				LR	LR			
	comp=Z,230nm,12.3s							
AKASG	**Malin Array Be**	**40.10**	**321**	P	**P**		**16 04 14.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=111,slow=7.0,SNR=5.8							
KIEV	**Kiev**	**40.11**	**321**	*i* P	**P**		**16 04 14.1**	**-0.2**
KIEV				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MLR	**Muntele Rosu**	**40.26**	**312**	*e*P	**P**		**16 04 18.4**	**+2.6**
	comp=Z,23nm,1.5s							
MLR	**Muntele Rosu**	**40.26**	**312**	*e*P	**P**		**16 04 18.4**	**+2.6**
MLR				pmax	pmax			
	comp=Z,23nm,1.5s							
KLMR	**Klimovskoe**	**41.56**	**339**	*e*P	**P**		**16 04 25.9**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,11nm,1.0s							
KLMR	**Klimovskoe**	**41.56**	**339**	*e*P	**P**		**16 04 25.9**	**-0.2**
KLMR				AMP			16 04 27.7	
	comp=Z,11nm,1.0s							
ITM	**Ithomi**	**41.74**	**299**	*e*P	**P**		**16 04 26.6**	**-1.4**
	comp=Z,124nm,1.7s							
FNA	**Florina**	**42.53**	**304**	*e*P	**P**		**16 04 33.8**	**-0.7**
	comp=Z,12nm,1.0s							
FNA	**Florina**	**42.53**	**304**	*e*P	**P**		**16 04 33.8**	**-0.7**
FNA				pmax	pmax			
	comp=Z,12nm,1.0s							
BJT	**Baijiatuan**	**42.56**	**57**	*e*P	**P**		**16 04 36.0**	**+1.4**
	comp=Z,8.1nm,0.5s							
BJT	**Baijiatuan**	**42.56**	**57**	*e*P	**P**		**16 04 36.0**	**+1.4**
BJT				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KWP	**Kalwaria Pacla**	**43.59**	**317**	*e*P	**P**		**16 04 43.8**	**+1.0**
	comp=Z,570nm,2.0s							
KWP	**Kalwaria Pacla**	**43.59**	**317**	*e*P	**P**		**16 04 43.8**	**+1.0**
KWP				pmax	pmax			
	comp=Z,570nm,2.0s							
TTG	**Podgorica**	**44.33**	**306**	*e*P	**P**		**16 04 48.3**	**-0.5**
	comp=Z,181nm,1.9s							
TTG	**Podgorica**	**44.33**	**306**	*e*P	**P**		**16 04 48.3**	**-0.5**
TTG				pmax	pmax			
	comp=Z,181nm,1.9s							
TMCR	**Tamitsa**	**44.50**	**341**	*e*P	**P**		**16 04 49.3**	**-0.5**
TMCR				pmax	pmax			
	comp=Z,24nm,0.9s							
NJ2	**Nanjing**	**44.52**	**68**	*e*P	**P**		**16 04 53.2**	**+2.7**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
PSZ	**Piszkesteto**	**44.91**	**314**	*e*P	**P**		**16 04 55.9**	**+2.4**
	comp=Z,5.0nm,1.0s							
PSZ	**Piszkesteto**	**44.91**	**314**	*e*P	**P**		**16 04 55.9**	**+2.4**
PSZ				pmax	pmax			
	comp=Z,5.0nm,1.0s							
OJC	**Ojcow**	**45.56**	**317**	*e*P	**P**		**16 04 59.8**	**+1.3**
	comp=Z,5.8nm,1.0s							
OJC	**Ojcow**	**45.56**	**317**	*e*P	**P**		**16 04 59.8**	**+1.3**
OJC				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VYHS	**Vyhne**	**45.73**	**315**	*e*P	**P**		**16 05 01.7**	**+1.7**
VYHS	**Vyhne**	**45.73**	**315**	*e*P	**P**		**16 05 01.7**	**+1.7**
NRIK	**Noril'sk**	**46.32**	**9**	P	**P**		**16 05 06.7**	**+2.4**
	comp=Z,4.1nm,0.8s,baz=207,slow=4.8,SNR=10							
NRIK				LR	LR		16 28 46.8	
	comp=Z,78nm,19.6s,baz=196,slow=41							
HIA	**Hailar**	**46.68**	**44**	*i* P	**P**		**16 05 07.4**	**0.0**
HIA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
FIA0	**FINESS Array S**	**46.92**	**334**	*e*P	**P**		**16 05 09.9**	**+0.9**
FIA0	**FINESS Array S**	**46.92**	**334**	*e*P	**P**		**16 05 09.9**	**+0.9**
FINES	**FINESS Array B**	**46.92**	**334**	P	**P**		**16 05 09.9**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=277,slow=3.1,SNR=4.1							
FINES				LR	LR		16 26 32.8	
	comp=Z,160nm,18.8s,baz=110,slow=38							
YHNB	**Yeheng**	**47.67**	**78**	*e*P	**P**		**16 05 17.8**	**+2.2**
	comp=Z,36nm,1.6s							
NACB	**Ninganchiao**	**47.96**	**79**	*e*P	**P**		**16 05 20.2**	**+2.5**
	comp=Z,15nm,0.8s							
APA	**Apatity**	**48.29**	**343↑**	*i*P	P		16 05 06.8	-13

	comp=Z,20nm,1.5s							
ASAR	**Alice Springs**	**79.27**	**122**	P		**P**	**16 08 44.0**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=305,slow=5.1,SNR=23							
AS31	**Alice Springs**	**79.27**	**122**	*eP*		**P**	**16 08 43.5**	**-0.8**
	comp=Z,1.0nm,1.0s							
AS01	**Alice Springs**	**79.30**	**122**	*eP*		**P**	**16 08 43.8**	**-0.7**
RES	**Resolute Bay**	**80.55**	**356**	LR		LR	16 48 41.5	
	comp=Z,80nm,19.6s,baz=43,slow=39							
IM3	**Indian Mountai**	**84.27**	**16**	*eP*		**P**	**16 09 10.9**	**+0.9**
MDM	**Murphy Dome**	**86.44**	**15**	*eP*		**P**	**16 09 21.8**	**+0.9**
	comp=Z,8.2nm,0.9s							
ILAR	**Eielson Array**	**86.91**	**14**	P		**P**	**16 09 23.6**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=317,slow=4.4,SNR=15							
ILAR				LR		LR	16 55 08.9	
	comp=Z,86nm,18.3s,baz=295,slow=40							
ILB	**Eielson Array**	**86.91**	**14**	*eP*		**P**	**16 09 23.2**	**+0.1**
	comp=Z,12nm,1.5s							
STKA	**Stephens Creek**	**89.32**	**126**	*eP*		**P**	**16 09 34.1**	**-1.0**
	comp=Z,1.4nm,1.3s							
STKA	**Stephens Creek**	**89.32**	**126**	*eP*		**P**	**16 09 34.1**	**-1.0**
STKA				pmax		pmax		
	comp=Z,1.0nm,1.3s							
STKA	**Stephens Creek**	**89.32**	**126**	P		**P**	**16 09 34.4**	**-0.7**
	comp=Z,2.3nm,0.9s,baz=291,slow=16,SNR=3.7							
YKA	**Yellowknife Ar**	**93.34**	**2**	P		**P**	**16 09 54.7**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=341,slow=4.9,SNR=5.5							

*ISCJB **07** 15:58:04.9±0.4, 16°.35N±0°.03×61°.68W±0°.06, h130km±3km, mb3.5/4, Error ellipse: s-maj=10.4km s-min=3.1km az=157.7*

*TRN **07** 15:58:05.0, 16°.38N×61°.64W, h120km, MD3.8*

*IDC **07** 15:58:05.1±0.7, 16°.39N×61°.70W, h118km±14km, mb3.3/4, mb1 3.7/5, mb1mx3.3/39, mbtmp3.7/5, Error ellipse: s-maj=36.8km s-min=10.7km az=77.0*

ISC 07 15:58:05.3±0.9, **16°.38N**±0°.04×**61°.62W**±0°.07, **h129**km±5km, **n59**, σ0**82**/87, **mb3.7**/4, **2C-4D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.16**	**55**	*eP*	**Pn**	**15 58 23.0**	**+0.1**
CBE	**Ff, Capester**	**0.31**	**177**	*eP*	**Pn**	**15 58 23.2**	**-0.2**
TBG	**Guadaloupe-3**	**0.53**	**182**	*eP*	**Pn**	**15 58 24.2**	**-0.3**
TBG				*eS*	**Sn**	**15 58 38.0**	**-0.9**
TDBA	**Terre de Bas,**	**0.53**	**181**	*eP*	**Pn**	**15 58 24.3**	**-0.2**
MAGL	**Barre de l'ile**	**0.54**	**143**	*eP*	**Pn**	**15 58 24.6**	**+0.1**
DEG	**La Desirade**	**0.54**	**97**	*eP*	**Pn**	**15 58 25.1**	**+0.4**
H05N1	**Guadeloupe/Mar**	**0.55**	**97**	P	**Pn**	**15 58 24.8**	**+0.2**
H05N1				S	**Sn**	**15 58 38.8**	**-0.3**
MLYT	**Lee's Yard**	**0.64**	**302**	*eS*	**Sn**	**15 58 40.1**	**-0.2**
BPA	**Boggy Peak**	**0.69**	**341**	*iP*	**Pn**	**15 58 26.7**	**+1.1**
BPA				*eS*	**Sn**	**15 58 40.5**	**-0.4**
MDPV	**Dominica, Penn**	**0.78**	**166**	*eP*	**Pn**	**15 58 26.2**	**0.0**
MDPV				*eS*	**Sn**	**15 58 41.0**	**-1.1**
MDPO	**Dominica; Chan**	**0.82**	**168**	*eP*	**Pn**	**15 58 26.5**	**-0.1**
MDPO				*eS*	**Sn**	**15 58 41.4**	**-1.2**
DWS	**Wesley**	**0.86**	**160**	*eP*	**Pn**	**15 58 26.1**	**-0.8**
DWS				*eS*	**Sn**	**15 58 42.1**	**-1.1**
BBL	**Barber's Block**	**0.87**	**170**	*eP*	**Pn**	**15 58 26.9**	**-0.1**
BBL				*eS*	**Sn**	**15 58 43.4**	**+0.1**
MDN	**Morne-Daniel**	**1.08**	**168**	*eP*	**Pn**	**15 58 30.1**	**+1.2**
MDN				*eS*	**Sn**	**15 58 46.9**	**+0.1**
DLPL	**La Plaine**	**1.11**	**161**	*eP*	**Pn**	**15 58 29.3**	**+0.1**
DLPL				*eS*	**Sn**	**15 58 46.8**	**-0.6**
DBCT	**Belle View Cho**	**1.14**	**166**	*eP*	**Pn**	**15 58 30.8**	**+1.2**
DBCT				*eS*	**Sn**	**15 58 48.0**	**0.0**
DPMT	**Pointe Michel**	**1.14**	**168**	*eP*	**Pn**	**15 58 30.7**	**+1.1**
DPMT				*eS*	**Sn**	**15 58 48.3**	**+0.4**
DSTT	**Stowe**	**1.17**	**165**	*eP*	**Pn**	**15 58 30.5**	**+0.6**
DSTT				*eS*	**Sn**	**15 58 48.9**	**+0.4**
NEV	**Hard Times**	**1.18**	**310**	*eP*	**Pn**	**15 58 30.6**	**+0.7**
NEV				*eS*	**Sn**	**15 58 48.0**	**-0.6**
DSHT	**Scott's Head**	**1.19**	**168**	*eP*	**Pn**	**15 58 30.9**	**+0.9**
DSHT				*eS*	**Sn**	**15 58 48.1**	**-0.6**
ANWB	**Willy Bob**	**1.29**	**353**	*eP*	**Pn**	**15 58 31.5**	**+0.5**
ANWB				*eS*	**Sn**	**15 58 49.9**	**-0.7**
PCM	**Pelee Case Pet**	**1.61**	**166**	*eP*	**Pn**	**15 58 35.6**	**+0.9**
CXM	**Morne La Croix**	**1.62**	**164**	*eP*	**Pn**	**15 58 35.5**	**+0.5**
BAMF	**Morne Balai**	**1.62**	**164**	*eP*	**Pn**	**15 58 35.6**	**+0.7**
GBMF	**Grand Be**	**1.64**	**164**	*eP*	**Pn**	**15 58 35.8**	**+0.7**
PML	**Morne Lenard**	**1.65**	**165**	*eP*	**Pn**	**15 58 36.1**	**+1.0**
FDF	**Fort de France**	**1.70**	**164**	*eP*	**Pn**	**15 58 36.4**	**+0.6**
FDF				*eS*	**Sn**	**15 58 58.6**	**-0.4**
SEUS	**St. Eustatius**	**1.71**	**310**	*eP*	**Pn**	**15 58 36.2**	**+0.5**
SEUS				*eS*	**Sn**	**15 58 59.9**	**+1.0**
ILAM	**Ilet Lapin Mar**	**1.75**	**156**	*eP*	**Pn**	**15 58 36.3**	**0.0**
ZAM	**Aeronautique**	**1.89**	**162**	*eP*	**Pn**	**15 58 37.9**	**0.0**
TRMF	**Trois Ilets**	**1.92**	**163**	*eP*	**Pn**	**15 58 38.7**	**+0.4**
BIM	**Bigot**	**1.93**	**164**	*eP*	**Pn**	**15 58 39.4**	**+0.9**
H05S1	**Guadeloupe/Mar**	**2.09**	**159**	P	**Pn**	**15 58 41.1**	**+0.8**
H05S1				S	**Sn**	**15 59 07.1**	**-0.1**
SMRT	**St. Maarten**	**2.16**	**320**	*iP*	**Pn**	**15 58 40.8**	**-0.5**
SMRT				*eS*	**Sn**	**15 59 06.9**	**-1.9**
SLB	**Belfond**	**2.60**	**167**	*eP*	**Pn**	**15 58 47.7**	**+0.8**
SLB				*eS*	**Sn**	**15 59 17.8**	**-1.0**
MCLT	**Moule a Chique**	**2.74**	**166**	*eP*	**Pn**	**15 58 48.4**	**-0.2**
MCLT				*eS*	**Sn**	**15 59 22.0**	**+0.1**
SFAN	**Fancy Village**	**3.02**	**172**	*eP*	**Pn**	**15 58 52.2**	**0.0**
SFAN				*eS*	**Sn**	**15 59 28.4**	**+0.1**
SSV	**Crater Summit**	**3.07**	**172**	*eP*	**Pn**	**15 58 53.2**	**+0.3**
SSV				*eS*	**Sn**	**15 59 29.1**	**-0.5**
SVV	**Soufriere Volc**	**3.07**	**173**	*eP*	**Pn**	**15 58 54.2**	**+1.2**
SVV				*eS*	**Sn**	**15 59 29.3**	**-0.4**
SVB	**Belmont**	**3.12**	**173**	*eP*	**Pn**	**15 58 54.6**	**+1.1**
SVB				*eS*	**Sn**	**15 59 29.3**	**-1.3**
SVCV	**St. Vincent, C**	**3.13**	**171**	*eP*	**Pn**	**15 58 54.4**	**+0.8**
SVCV				*eS*	**Sn**	**15 59 30.0**	**-0.9**
FCV	**Fort Charlotte**	**3.23**	**173**	*eP*	**Pn**	**15 58 55.7**	**+0.7**
FCV				*eS*	**Sn**	**15 59 32.9**	**-0.4**
BBGH	**Gun Hill**	**3.79**	**148**	*eP*	**Pn**	**15 59 00.4**	**-1.9**
BBGH	**Gun Hill**	**3.79**	**148**	*eS*	**Sn**	**15 59 45.6**	**-0.9**
BBSP	**Saint Philip**	**3.88**	**147**	*eP*	**Pn**	**15 59 03.8**	**+0.4**
BBSP				*eS*	**Sn**	**15 59 48.0**	**-0.5**
GRSS	**Sisters**	**4.06**	**180**	*eP*	**Pn**	**15 59 06.2**	**+0.3**
GRHS	**Sauteurs**	**4.14**	**180**	*eP*	**Pn**	**15 59 07.7**	**+0.7**
GRGR	**Grenville**	**4.23**	**180**	*eP*	**Pn**	**15 59 08.8**	**+0.7**
GRGR	**Grenville**	**4.23**	**180**	*eS*	**Sn**	**15 59 55.2**	**-1.7**
SJG	**San Juan**	**4.66**	**292**	P	**Pn**	**15 59 12.9**	**-0.9**
	3.0nm,0.3s,baz=89,slow=17,SNR=4.4						
TOSP	**Speyside**	**5.17**	**168**	*eP*	**Pn**	**15 59 21.3**	**+0.6**
TOSP	**Speyside**	**5.17**	**168**	*eS*	**Sn**	**16 00 18.0**	**-1.3**
TRN	**Trinidad (W)**	**5.71**	**178**	*eP*	**Pn**	**15 59 28.4**	**+0.4**
TRN	**Trinidad (W)**	**5.71**	**178**	*eS*	**Sn**	**16 00 30.1**	**-2.3**
TPP	**Pointe-a-Pierr**	**6.03**	**178**	*eP*	**Pn**	**15 59 34.0**	**+1.6**
TXAR	**Lajitas Array**	**40.62**	**296**	P	**P**	**16 05 32.8**	**-0.1**
	0.2nm,0.3s,baz=114,slow=7.8,SNR=4.7						
PDAR	**Pinedale Array**	**48.45**	**313**	P	**P**	**16 06 35.2**	**+0.1**
	0.9nm,0.3s,baz=131,slow=11,SNR=8.1						
NVAR	**Mina Array Bea**	**54.01**	**306**	P	**P**	**16 07 15.9**	**-0.7**
	0.4nm,0.6s,baz=113,slow=7.2,SNR=4.1						
YKA	**Yellowknife Ar**	**58.90**	**334**	P	**P**	**16 07 51.7**	**+1.2**
	1.0nm,0.6s,baz=106,slow=7.6,SNR=8.3						

MEX 07 16:20:51.6±0.4, **15°.17N×93°.01W**, **h96**km±4km, **MD3.8, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.57**	**339**	*eP*	Pn	16 21 06.3	-1.3
PCIG				*iS*	Sn	16 21 17.6	-1.8
THIG		**0.77**	**110**	*eP*	Pn	16 21 08.6	-0.7
THIG				*iS*	Sn	16 21 21.1	-1.4
CCIG	**Comitan**	**1.39**	**37**	*eP*	Pn	16 21 15.0	-1.5
CCIG				*iS*	Sn	16 21 34.0	-1.4

*IDC **07** 16:27:17.9±2.3, 10°.27S×114°.42E, h0km, mb3.2/3, mb1 3.6/4, mb1mx3.3/38, mbtmp3.4/4, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/15, Error ellipse: s-maj=110.8km s-min=23.6km az=47.0*

*ISCJB **07** 16:27:24.6±0.8, 9°.85S±0°.09×115°.28E±0°.08, h33km, mb3.2/2, Error ellipse: s-maj=14.5km s-min=8.6km az=32.7*

*DJA **07** 16:27:25.5±4.0, 10°S±16°×11°.5E±°, h11km±27km, M4.0/9, mb4.2/2, MLv4.0/9*

ISC 07 16:27:25.7±1.0, **9°.8S**±0°.1×**115°.22E**±0°.07, **h35**km, **n11**, σ1**14**/**12**, **mb3.2**/3, **South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.69**	**321**	P	**Pn**	**16 27 53.2**	**+0.4**
SRBI	**Singaraja**	**1.70**	**360**	P	**Pn**	**16 27 53.6**	**+0.7**
GMJI	**Gumukmas**	**2.32**	**311**	P	**Pn**	**16 28 02.5**	**+1.1**
PLAI	**Plampang**	**2.70**	**69**	P	**Pn**	**16 28 07.6**	**+0.9**
PWJI	**Pagerwojo**	**3.81**	**297**	P	**Pn**	**16 28 23.3**	**+1.4**
BKSI	**Bulukumba**	**6.58**	**48**	P	**Pn**	**16 29 00.6**	**+0.5**
BNSI	**Bone**	**7.23**	**42**	P	**Pn**	**16 29 09.6**	**+0.7**
FITZ	**Fitzroy Crossi**	**13.05**	**130**	Pn	**Pn**	**16 30 27.6**	**-1.1**
	0.1nm,0.3s,baz=320,slow=10.0,SNR=6.9						
FITZ				Sn	Sn	16 32 42.2	-10
	0.2nm,0.3s,baz=204,slow=20,SNR=4.4						
FITZ				LR	LR	16 35 47.8	
	comp=Z,54nm,18.2s,baz=173,slow=38						
WRA	**Warramunga Arr**	**21.03**	**121**	P	**P**	**16 32 07.9**	**+1.2**
	0.5nm,0.5s,baz=293,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**22.55**	**130**	P	**P**	**16 32 23.4**	**+0.4**
	0.4nm,0.5s,baz=305,slow=9.2,SNR=25						
ASAR				S	**S**	**16 36 29.1**	**+0.9**
	0.3nm,0.8s,baz=299,slow=24,SNR=3.5						
MKAR	**Makanchi Array**	**63.54**	**335**	P	**P**	**16 37 51.1**	**-1.6**
	0.2nm,0.5s,baz=147,slow=6.5,SNR=4.0						

*TIF **07** 16:34:06.5, 43°.23N×46°.29E, h11km±2km*

*NORS **07** 16:34:06.6±0.0, 43°.19N×46°.24E, h12km, MPVA4.1*

*ISCJB **07** 16:34:07.7±0.5, 43°.34N±0°.02×46°.31E±0°.03, h15km±4km, mb3.8/1, Error ellipse: s-maj=4.4km s-min=2.7km az=24.6*

*MOS **07** 16:34:07.5±0.8, 43°.25N×46°.25E, h11km, mb4.0/1, Error ellipse: s-maj=6.7km s-min=5.1km az=44.8*

*DRS **07** 16:34:07.6±0.0, 43°.29N×46°.19E, h16km*

ISC 07 16:34:07.4±0.9, **43°.29N**±0°.02×**46°.28E**±0°.02, **h16**km±6km, **n84**, σ1**21**/148, **6C-6D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.34**	**131**	*ePG*	**Pg**	**16 34 14.5**	**0.0**
DLMR				*eS*	**Sb**	**16 34 20.0**	**-0.2**
DLMR	**Dylym**	**0.34**	**131**	*ePg*	**Pg**	**16 34 14.5**	**0.0**
DLMR				*eSg*	**Sb**	**16 34 20.0**	**-0.2**
DVE	**Vedeno**	**0.36**	**199**	*iPG*	**Pg**	**16 34 13.5**	**-1.3**
DVE				pmax	pmax		
	comp=Z,538nm,0.1s						
DVE	**Vedeno**	**0.36**	**199**	*iPg*	**Pg**	**16 34 13.5**	**-1.3**
DVE				*eSg*	**Sg**	**16 34 18.4**	**-1.5**
GROC	**Groznyy**	**0.37**	**256**	*ePG*	**Pg**	**16 34 14.5**	**-0.5**
GROC				*e*		16 34 20.0	
GROC				pmax	pmax		
	comp=Z,71nm,0.5s						
GROC				smax	smax		
	comp=N,847nm,0.6s						
GROC				smax	smax		
	comp=N,2μm,0.7s						
GROC				smax	smax		
	comp=E,1μm,0.6s						
GROC	**Groznyy**	**0.37**	**256**	*ePg*	**Pg**	**16 34 14.8**	**-0.1**
GROC				*eSg*	**Sb**	**16 34 20.6**	**-0.3**
DBC	**Dubki**	**0.48**	**124**	*iPG*	**Pb**	**16 34 17.4**	**-0.2**
DBC				*i*		16 34 24.8	
DBC	**Dubki**	**0.48**	**124**	*iPg*	**Pb**	**16 34 17.4**	**-0.2**
DBC				*eSg*	**Sb**	**16 34 24.9**	**+0.4**
BTLR	**Botlikh**	**0.63**	**184**	*ePG*	**Pg**	**16 34 18.5**	**-1.4**
BTLR				*e*		16 34 26.6	
BTLR				pmax	pmax		
	comp=Z,170nm,0.6s						
BTLR				smax	smax		
	comp=N,366nm,0.7s						
BTLR	**Botlikh**	**0.63**	**184**	*iPg*	**Pg**	**16 34 18.4**	**-1.4**
BTLR				*eSg*	**Sg**	**16 34 26.7**	**-1.5**
KRNR	**Karanay**	**0.65**	**135**	*ePG*	**Pg**	**16 34 20.0**	**-0.3**
KRNR				*eS*	**Sg**	**16 34 29.0**	**0.0**
KRNR				pmax	pmax		
	comp=Z,43nm,0.1s						
KRNR	**Karanay**	**0.65**	**135**	*ePg*	**Pg**	**16 34 20.0**	**-0.3**
KRNR				*eSg*	**Sg**	**16 34 29.0**	**0.0**
UNCR	**Uncukul**	**0.69**	**147**	*ePG*	**Pg**	**16 34 20.5**	**-0.4**
UNCR				*eS*	**Sg**	**16 34 30.0**	**-0.1**
UNCR				pmax	pmax		
	comp=Z,127nm,0.1s						
UNCR	**Uncukul**	**0.69**	**147**	*ePg*	**Pg**	**16 34 20.5**	**-0.4**
UNCR				*eSg*	**Sg**	**16 34 30.0**	**-0.1**
BUJR	**Buynaksk**	**0.77**	**127**	*ePG*	**Pn**	**16 34 23.5**	**0.0**
BUJR				*eS*	**Sn**	**16 34 35.0**	**+0.3**
BUJR				pmax	pmax		
	comp=Z,81nm,0.2s						
BUJR	**Buynaksk**	**0.77**	**127**	*ePg*	**Pn**	**16 34 23.5**	**0.0**
BUJR				*eSg*	**Sn**	**16 34 35.0**	**+0.3**
XNZR	**Khunzakh**	**0.81**	**157**	*iPG*	**Pb**	**16 34 23.0**	**-0.2**
XNZR				*e*		16 34 33.9	
XNZR	**Khunzakh**	**0.81**	**157**	*ePg*	**Pb**	**16 34 23.0**	**-0.2**
XNZR				*eSg*	**Sg**	**16 34 33.7**	**-0.3**
MAK	**Makhachkala**	**0.95**	**110**	*ePG*	**Pg**	**16 34 25.7**	**-0.2**
MAK				*e*		16 34 39.5	
MAK				pmax	pmax		
	comp=Z,84nm,0.3s						
MAK				smax	smax		
	comp=N,509nm,0.3s						
MAK				smax	smax		
	comp=N,383nm,0.6s						
MAK	**Makhachkala**	**0.95**	**110**	*ePg*	**Pg**	**16 34 25.9**	**0.0**
MAK				*eSg*	**Sn**	**16 34 42.0**	**+2.7**
GNBR	**Gunib**	**1.03**	**151**	*iPG*	**Pg**	**16 34 27.7**	**+0.3**
GNBR				*e*		16 34 42.5	
GNBR				pmax	pmax		
	comp=Z,96nm,0.5s						
GNBR				smax	smax		
	comp=N,653nm,0.4s						
GNBR	**Gunib**	**1.03**	**151**	*ePg*	**Pn**	**16 34 27.2**	**-0.1**
GNBR				*eSg*	**Sn**	**16 34 41.6**	**+0.2**
VLKR	**Vladikavkaz**	**1.20**	**259**	*ePG*	**Pg**	**16 34 30.4**	**-0.1**
VLKR				*eS*	**Sg**	**16 34 47.3**	**+1.1**
VLKR	**Vladikavkaz**	**1.20**	**259**	*ePg*	**Pg**	**16 34 30.4**	**-0.1**
VLKR				*ePg*	**Pg**	**16 34 30.4**	**-0.1**
VLKR				*eSg*	**Sg**	**16 34 47.3**	**+1.1**
VLKR				*eSg*	**Sn**	**16 34 47.6**	**+2.1**
TRKR	**Terskaya**	**1.21**	**291**	*ePG*	**Pg**	**16 34 30.9**	**+0.2**
TRKR				*eS*	**Sg**	**16 34 48.2**	**+1.7**
TRKR	**Terskaya**	**1.21**	**291**	*ePg*	**Pg**	**16 34 30.9**	**+0.2**
TRKR				*eSg*	**Sg**	**16 34 48.2**	**+1.7**
BTKR	**Batakoyurt**	**1.27**	**274**	*iPG*	**Pg**	**16 34 31.8**	**-0.1**
BTKR				*eS*	**Sg**	**16 34 49.3**	**+0.8**
BTKR	**Batakoyurt**	**1.27**	**274**	*iPg*	**Pg**	**16 34 31.8**	**-0.1**
BTKR				*eSg*	**Sg**	**16 34 49.3**	**+0.8**
KMKR	**Kumukh**	**1.31**	**152**	*ePG*	**Pb**	**16 34 32.0**	**+0.3**
KMKR				*iS*	**Sg**	**16 34 51.0**	**+1.3**
KMKR				pmax	pmax		
	comp=Z,77nm,0.1s						
KMKR	**Kumukh**	**1.31**	**152**	*ePg*	**Pb**	**16 34 32.0**	**+0.3**
KMKR				*iSg*	**Sg**	**16 34 51.0**	**+1.3**
LGD	**Lagodekhi**	**1.46**	**181**	P	**Pn**	**16 34 33.4**	**+0.4**
LGD				S	**Sn**	**16 34 52.2**	**+0.4**
LGD	**Lagodekhi**	**1.46**	**181**	*ePG*	**Pn**	**16 34 33.4**	**+0.4**
LGD				*eS*	**Sn**	**16 34 52.2**	**+0.4**
LGD	**Lagodekhi**	**1.46**	**181**	*ePg*	**Pn**	**16 34 33.4**	**+0.4**
LGD				*eSg*	**Sn**	**16 34 52.2**	**+0.4**
ARNR	**Ardon**	**1.47**	**266**	*ePG*	**Pb**	**16 34 34.1**	**-0.1**
ARNR				*eS*	**Sg**	**16 34 54.9**	**+0.3**
ARNR	**Ardon**	**1.47**	**266**	*ePg*	**Pb**	**16 34 34.1**	**-0.1**
ARNR				*eSg*	**Sg**	**16 34 54.9**	**+0.3**
URKR	**Urkarakh**	**1.50**	**138**	*ePG*	**Pg**	**16 34 36.0**	**-0.3**
URKR				*e*		16 34 57.9	
URKR	**Urkarakh**	**1.50**	**138**	*ePg*	Pn	16 34 26.0	-7.8
URKR				*eSg*	Sn	16 34 40.0	-13
PRTR	**Priterechnaya**	**1.52**	**288**	*ePG*	**Pb**	**16 34 35.8**	**+0.5**
PRTR				pmax	pmax		
	comp=Z,139nm,1.3s						
PRTR	**Priterechnaya**	**1.52**	**288**	*ePg*	**Pb**	**16 34 35.8**	**+0.5**
PRTR				*eSg*	**Sg**	**16 34 58.0**	**+1.4**
LACR	**Lac**	**1.53**	**253**	*iPG*	**Pn**	**16 34 33.7**	**-0.4**
LACR				*eS*	**Sn**	**16 34 53.8**	**+0.2**
LACR				pmax	pmax		
	comp=Z,90nm,0.3s						
LACR				smax	smax		
	comp=N,372nm,0.5s						
LACR	**Lac**	**1.53**	**253**	*ePg*	**Pn**	**16 34 33.6**	**-0.4**
LACR				*eSg*	**Sn**	**16 34 53.9**	**+0.2**
GUDG	**Gudauri**	**1.56**	**239**	P	**Pb**	**16 34 35.4**	**-0.7**
GUDG				S	**Sn**	**16 34 55.2**	**+0.5**
STDR	**Stavd-Durt**	**1.62**	**273**	*ePG*	**Pb**	**16 34 37.2**	**+0.3**
STDR				*eS*	**Sg**	**16 34 58.7**	**-0.9**
STDR	**Stavd-Durt**	**1.62**	**273**	*ePg*	**Pb**	**16 34 37.2**	**+0.3**
STDR				*eSg*	**Sg**	**16 34 58.7**	**-0.9**
KORR	**Kora**	**1.63**	**263**	*ePG*	**Pb**	**16 34 37.1**	**0.0**
KORR				*eSg*	**Sg**	**16 34 59.1**	**-0.9**
LSNR	**Lesken**	**1.79**	**270**	*ePN*	**Pb**	**16 34 40.1**	**+0.2**
LSNR				*eS*	**Sb**	**16 35 03.3**	**+1.2**
LSNR	**Lesken**	**1.79**	**270**	*ePg*	**Pn**	**16 34 38.0**	**+0.3**
LSNR				*eSg*	**Sb**	**16 35 02.6**	**+0.6**
ZEI	**Tsey**	**1.82**	**255**	*ePN*	**Pb**	**16 34 39.4**	**-1.0**
ZEI				*eS*	**Sb**	**16 35 02.1**	**-0.8**
ZEI	**Tsey**	**1.82**	**255**	*ePg*	**Pn**	**16 34 37.4**	**-0.8**
ZEI				*eSg*	**Sn**	**16 35 00.2**	**-0.7**
DDFL	**Dedoflistskaro**	**1.85**	**184**	P	**Pg**	**16 34 42.4**	**-0.5**
DDFL				S	**Sg**	**16 35 12.3**	**+5.3**
TBLG	**Delisi**	**1.94**	**217**	P	**Pb**	**16 34 41.2**	**-1.0**
TBLG				S	**Sb**	**16 35 06.7**	**+0.6**
TBLG	**Delisi**	**1.94**	**217**	*ePN*	**Pb**	**16 34 41.2**	**-1.0**
TBLG				*eS*	**Sb**	**16 35 06.7**	**+0.6**
TBLG	**Delisi**	**1.94**	**217**	*iP*	**Pb**	**16 34 42.4**	**+0.2**
TBLG				*iS*	**Sb**	**16 35 07.0**	**+0.9**
TBLG				IAML_P			
	comp=Z,2μm,0.2s						
TBLG	**Delisi**	**1.94**	**217**	*ePg*	**Pb**	**16 34 41.2**	**-1.0**
TBLG				*eSg*	**Sb**	**16 35 06.7**	**+0.6**
BTNK	**Botanikuri**	**1.95**	**215**	P	**Pb**	**16 34 41.6**	**-0.8**
BTNK				S	**Sb**	**16 35 06.5**	**0.0**
BTNK	**Botanikuri**	**1.95**	**215**	*iP*	**Pb**	**16 34 42.0**	**-0.5**
BTNK				*iS*	**Sb**	**16 35 07.8**	**+1.3**
BTNK				IAML_P			
	comp=Z,1μm,0.1s						
DRN	**Derbent**	**1.97**	**129**	*ePN*	**Pb**	**16 34 43.7**	**+0.9**
DRN				*eS*	**Sg**	**16 35 11.1**	**+0.4**
DRN				pmax	pmax		
	comp=Z,56nm,1.1s						
DRN	**Derbent**	**1.97**	**129**	*ePg*	**Pb**	**16 34 43.7**	**+0.9**
DRN				*eSg*	**Sg**	**16 35 11.1**	**+0.4**
DIGR	**Digorskoe uzhe**	**2.02**	**260**	*ePN*	**Pn**	**16 34 42.2**	**+1.3**
DIGR	**Digorskoe uzhe**	**2.02**	**260**	*ePg*	**Pn**	**16 34 40.6**	**-0.3**
DIGR				*eSg*	**Sn**	**16 35 06.5**	**+0.7**
AKT	**Akhty**	**2.11**	**149**	*iPN*	**Pb**	**16 34 45.7**	**+0.5**
AKT				*e*		16 35 14.1	
AKT				pmax	pmax		
	comp=Z,46nm,0.4s						
AKT				smax	smax		
	comp=N,130nm,0.5s						
AKT	**Akhty**	**2.11**	**149**	*ePg*	**Pb**	**16 34 44.5**	**-0.8**
AKT				*eSg*	**Sb**	**16 35 09.8**	**-1.4**
KZRT	**Kazreti**	**2.36**	**217**	P	**Pb**	**16 34 49.0**	**-0.5**
KZRT				S	**Sb**	**16 35 18.9**	**+0.4**
TRLG	**Trialeti**	**2.38**	**223**	P	**Pn**	**16 34 46.4**	**+0.5**
TRLG				S	**Sb**	**16 35 17.7**	**-1.4**
PYA1	**Pyatigorsk**	**2.44**	**289**	*ePn*	**Pn**	**16 34 45.7**	**-0.8**
PYA1				*eSn*	**Sn**	**16 35 16.6**	**+0.6**
NEY	**Neytrino**	**2.60**	**270**	*ePN*	**Pn**	**16 34 49.9**	**+1.0**
NEY				*eS*	**Sn**	**16 35 21.9**	**+1.7**
NEY	**Neytrino**	**2.60**	**270**	*ePn*	**Pn**	**16 34 49.9**	**+1.0**
NEY				*eSn*	**Sn**	**16 35 21.9**	**+1.7**
SHA1	**Shidzhatmaz**	**2.67**	**281**	*ePN*	**Pn**	**16 34 49.2**	**-0.7**
SHA1				*eS*	**Sn**	**16 35 23.3**	**+1.2**
SHA1	**Shidzhatmaz**	**2.67**	**281**	*ePn*	**Pn**	**16 34 49.2**	**-0.7**
SHA1				*eSn*	**Sn**	**16 35 23.4**	**+1.2**
KIV0	**Kislovodsk Arr**	**2.69**	**285**	*ePn*	**Pn**	**16 34 49.3**	**-0.7**
KIV0				*eSn*	**Sn**	**16 35 22.1**	**-0.2**
KIV	**Kislovodsk**	**2.69**	**285**	*iPN*	**Pn**	**16 34 49.6**	**-0.5**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KIV	**Kislovodsk**	**2.69**	**285**	*ePn*	**Pn**	**16 34 49.5**	**-0.5**
KIV				*eSn*	**Sn**	**16 35 22.5**	**+0.1**
BGD	**Bogdanovka**	**2.84**	**225**	P	**Pn**	**16 34 54.2**	**+1.9**

ELDTW	**Lidau** baz=300	0.41	304	⇓*i*P	Pn	16 48 58.1	-0.6
ELDTW				*e*S	Sb	16 49 03.9	-1.0
YULB	**Yu-li** baz=343	0.44	350	⇑*i*P	Pb	16 48 58.3	-0.5
YULB				*e*S	Sb	16 49 04.5	-1.0
HGSD	**Ruisui** baz=358	0.53	4	*e*P	Pn	16 49 00.2	0.0
HGSD				*e*S	Sb	16 49 06.8	-1.2
ECL	**Taimali** baz=230	0.54	228	*i* P	Pb	16 48 59.2	-1.1
ECL				*e*S	Sb	16 49 06.5	-1.5
EHY	**Hungye** baz=349	0.55	354	P	Pb	16 48 59.8	-0.7
EHY				S	Sb	16 49 06.9	-1.4
STYT	**Tauyuan** baz=288	0.61	289	⇓*i*P	Pb	16 49 01.4	-0.2
STYT				*e*S	Sn	16 49 10.2	+0.2
YUS	**Yu-Shan** baz=319	0.66	323	*i* P	Pb	16 49 02.4	-0.2
YUS				*e*S	Sn	16 49 11.3	-0.5
SLGT	**Liugui** baz=272	0.68	273	⇓*i*P	Pb	16 49 02.7	+0.1
SLGT				*e*S	Sb	16 49 12.8	+1.0
EGFH	**Guangfu** baz=359	0.71	3	*e*P	Pn	16 49 01.6	-1.0
TAW	**Tawu** baz=219	0.75	217	*e*P	Pb	16 49 03.4	-0.4
EAST	**Anshuo** baz=223	0.76	221	*e*P	Pn	16 49 02.7	-0.7
ALS	**Alishan** baz=313	0.76	316	*i* P	Pb	16 49 04.5	+0.3
ALS				*e*S	Sb	16 49 14.5	0.0
WTP	**Ta-pu** baz=290	0.76	292	⇓*i*P	Pb	16 49 04.3	+0.3
WTP				*e*S	Sb	16 49 14.6	+0.4
TPUB	**Ta-pu** baz=294	0.77	296	⇓*i*P	Pb	16 49 04.4	+0.2
TPUB				*e*S	Sb	16 49 15.1	+0.6
MASBT	**Mashibuluo** baz=245	0.77	244	P	Pb	16 49 03.6	-0.6
CHN1	**Nanshi** baz=285	0.82	286	P	Pb	16 49 05.4	+0.5
CHN1				*e*S	Sb	16 49 17.2	+1.4
VWDT	**VWDT** baz=340	0.82	344	*i* P	Pb	16 49 04.5	-0.5
VWDT				*e*S	Sb	16 49 14.9	-0.9
CHN4	**Tsaushan** baz=296	0.82	298	P	Pb	16 49 05.3	+0.3
CHN4				*e*S	Sb	16 49 17.2	+1.3
ESL	**Shilin** baz=296	0.85	3	*e*P	Pn	16 49 03.8	-0.9
SNST	**Tainan City** baz=286	0.85	288	*e*P	Pb	16 49 05.8	+0.2
SNST				*e*S	Sb	16 49 17.8	+1.1
TWK	**Hsinying** baz=289	0.88	291	*e*P	Pb	16 49 06.2	+0.2
TWK				*e*S	Sb	16 49 18.4	+1.0
WHYT	**Xinyi Township** baz=323	0.88	327	*e*P	Pb	16 49 06.0	0.0
WHYT				*e*S	Sb	16 49 17.0	-0.5
SSPT	**Xinbi** baz=239	0.89	238	*e*P	Pb	16 49 06.1	0.0
SSPT				*e*S	Sb	16 49 17.1	-0.6
TWM1	**Shoushan** baz=261	0.90	261	*e*P	Pb	16 49 06.2	-0.1
CHN5	**Tsauling** baz=312	0.91	315	*e*P	Pb	16 49 06.7	+0.2
CHN5				*e*S	Sb	16 49 19.5	+1.2
SSLB	**Suanglung** baz=331	0.91	335	*e*P	Pb	16 49 06.1	-0.5
SSLB				*e*S	Sn	16 49 16.8	-0.6
SCZT	**Fangliau** baz=232	0.92	230	*e*P	Pb	16 49 06.5	0.0
LAY	**Lan-yu** baz=173	0.93	170	*e*P	Pn	16 49 05.7	-0.1
LAY				*e*S	Sn	16 49 17.8	-0.1
CHN3	**Shinhua** baz=276	0.94	277	*e*P	Pb	16 49 07.0	0.0
SNJT	**Kaohsiung City** baz=258	0.99	258	*e*S	Sb	16 49 20.5	+0.1
OWD	**Renai** baz=346	1.01	349	*e*P	Pn	16 49 06.8	-0.2
SMLT	**Sun Moon Lake** baz=332	1.02	334	P	Pb	16 49 08.3	-0.1
SMLT				*e*S	Sb	16 49 20.8	-0.8
WGK	**Gukeng** baz=312	1.04	314	*e*P	Pb	16 49 10.0	+1.3
WGK				*e*S	Sb	16 49 23.7	+1.5
WJS	**Zhushan** baz=322	1.05	325	*e*P	Pb	16 49 08.4	-0.4
TYC	**Yuchr** baz=330	1.06	333	*e*P	Pb	16 49 09.0	+0.1
TYC				*e*S	Sb	16 49 22.6	+0.2
CHGB	**Renai** baz=347	1.11	350	*e*P	Pb	16 49 08.8	-1.2
TWKBT	**Hengchun** baz=209	1.14	208	*e*P	Pb	16 49 09.6	-0.8
CHN8	**Yiju** baz=289	1.14	290	*e*P	Pn	16 49 08.4	-0.2
CHN8				*e*S	Sb	16 49 24.3	-0.6
TWK1	**Hengchun** baz=209	1.14	208	*e*P	Pb	16 49 09.7	-0.7
TWK1				*e*S	Sn	16 49 23.3	+0.2
NACB	**Ninganchiao** baz=6.0	1.22	9	*e*P	Pn	16 49 08.6	-1.2
ETLH	**Xiulin Townshi** baz=1.0	1.25	4	*e*P	Pn	16 49 09.1	-1.1
WHP	**Taichung City** baz=340	1.37	343	*e*P	Pb	16 49 14.0	-0.3
WHP				*e*S	Sb	16 49 31.5	-0.1
NNS	**Nan Shan** baz=357	1.47	360	*e*P	Pn	16 49 13.9	+0.5
TWQ1	**Liyutan** baz=336	1.49	338	*e*P	Pb	16 49 15.5	-0.7
TWQ1				*e*S	Sb	16 49 35.1	+0.2
NDT	**Datong Townshi** baz=2.0	1.64	4	*e*P	Pb	16 49 17.4	-1.4
ENTT	**Nioudou** baz=4.0	1.68	6	*e*P	Pn	16 49 16.4	+0.3
NSTT	**Nanjuang** baz=346	1.70	348	*e*P	Pb	16 49 18.1	-1.7
YHNB	**Yeheng** baz=358	1.70	360	*e*P	Pn	16 49 17.4	+1.0
LIOB	**Emei** baz=346	1.71	349	*e*P	Pn	16 49 17.1	+0.6
PNG	**Penghu** baz=289	1.79	290	*e*P	Pn	16 49 17.8	+0.3
NWLT	**Wulai** baz=1.0	1.81	3	*e*P	Pb	16 49 19.5	-2.2
TIPB	**Shuangxi** baz=9.0	2.04	11	*e*P	Pb	16 49 20.9	-0.2
JYNG	**Yonagunijimaku**	2.06	44	P	Pn	16 49 22.7	+1.4
JYNG				*e*S	Sn	16 49 46.8	+1.0
YOJ	**Yonaguni jima**	2.11	45	P	Pn	16 49 23.5	+1.5
YOJ				S	Sn	16 49 47.7	+0.6
HATJ	**Hateruma jima**	2.48	63	S	Sn	16 49 56.2	+0.1
IRIF	**Iriomote-Funau**	2.55	57	P	Pn	16 49 30.0	+2.0
IRIF				S	Sn	16 49 59.1	+1.2
JKRS	**Kuro-shima**	2.73	62	P	Pn	16 49 31.6	+1.2
JKRS				*e*S	Sn	16 50 02.5	+0.3
JIJ	**Ishigaki jima**	2.89	61	P	Pn	16 49 33.7	+1.0
JIJ				S	Sn	16 50 06.5	+0.2
JISG	**Ishigakijimahi**	3.13	58	P	Pn	16 49 36.6	+0.6
JISG				*e*S	Sn	16 50 12.0	-0.3
JTJ	**Tarama**	3.47	61	*e*S	Sn	16 50 21.1	+0.5

*NNC **07** 16:53:52.2±0.4,43˚.25N×76˚.00E,h0km,mb4.1,mpv4.2, Error ellipse: s-maj=3.2km s-min=2.1km az=147.0*
*KRNET **07** 16:53:52.8±0.1,43˚.21N×75˚.99E,h18km,mb4.0*
*SOME **07** 16:53:53.7,43˚.18N×76˚.07E,h5km*
*KNET **07** 16:53:53.5±0.6,43˚.19N×75˚.90E,h19km±2km, ml2.9, Error ellipse: s-maj=3.6km s-min=2.8km az=47.0*

ISC 07 16:53:52.7±0.9,**43˚21N**±0˚.02×**76˚01E**±0˚.01,**h13**km±7km, **n78,σ1907**/138,**54C-20D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
KST	**Kastek** 1μm,0.1s	0.17	190	P		Pb	16 53 56.8	-1.0
KST				S		Sb	16 53 59.3	-1.9
KST	**Kastek** 6μm,0.2s baz=87	0.17	190	*e*P		Pb	16 53 56.8	-1.0
KST				*e*S		Sb	16 53 59.2	-1.9
KST	**Kastek** 1μm,0.1s baz=87	0.17	190	*e*P		Pb	16 53 56.8	-1.0
KST				*e*S		Sb	16 53 59.3	-1.9
MTBS	**Maitube** 350nm,0.1s 4μm,0.2s	0.32	104	P		Pg	16 53 59.3	0.0
MTBS				S		Sg	16 54 03.5	-0.2
MTBS	**Maitube** baz=3.0	0.32	104	*e*P		Pg	16 53 59.3	0.0
MTBS				*e*S		Sg	16 54 03.5	-0.2
MTBS	**Maitube** 350nm,0.1s baz=3.0	0.32	104	*e*P		Pg	16 53 59.3	0.0
MTBS				*e*S		Sg	16 54 03.5	-0.2
TKM2	**Tokmak 2** 733nm,0.2s,SNR=726 2μm,0.1s	0.41	226	P		Pg	16 54 01.1	0.0
TKM2				⇑S		Sg	16 54 07.0	+0.3
TKM2	**Tokmak 2** 117nm,0.2s 194nm,0.2s	0.41	226	⇑P		Pg	16 54 00.9	-0.2
TKM2				⇑S		Sg	16 54 06.9	+0.3
TKM2	**Tokmak 2** baz=26	0.41	226	⇑*i*P		Pg	16 54 01.1	0.0
TKM2				⇑*i*S		Sg	16 54 07.0	+0.3
AAA	**Alma-Ata** 572nm,0.2s 1μm,0.2s	0.67	90	P		Pb	16 54 05.9	-0.3
AAA				S		Sb	16 54 15.0	-0.5
AAA	**Alma-Ata** baz=89	0.67	90	*e*P		Pb	16 54 06.2	-0.1
AAA				*e*S		Sb	16 54 15.2	-0.2
AAA	**Alma-Ata** 572nm,0.2s 1μm,0.1s	0.67	90	*e*P		Pb	16 54 06.2	-0.1
AAA				*e*S		Sb	16 54 15.2	-0.2
KTBS	**Karatobe** 685nm,0.3s 778nm,0.4s	0.70	44	P		Pb	16 54 05.9	-1.1
KTBS				S		Sb	16 54 15.0	-1.6
KTBS	**Karatobe** baz=34	0.70	44	*e*P		Pb	16 54 07.0	+0.1
KTBS				*e*S		Sb	16 54 16.5	-0.1
KTBS	**Karatobe** 211nm,0.2s baz=34	0.70	44	*e*P		Pb	16 54 07.0	+0.1
KTBS				*e*S		Sb	16 54 16.4	-0.1
TNSS	**Tian-Shan** 104nm,0.1s 397nm,0.3s	0.71	104	P		Pb	16 54 06.8	-0.4
TNSS				S		Sg	16 54 16.3	+0.2
TNSS	**Tian-Shan** baz=3.0 817nm,0.2s	0.71	104	*e*P		Pb	16 54 06.3	-1.0
TNSS				*e*S		Sg	16 54 15.5	-0.5
TNSS	**Tian-Shan** 74nm,0.2s baz=3.0	0.71	104	*e*P		Pb	16 54 06.3	-1.0
TNSS				*e*S		Sg	16 54 15.5	-0.5
BOOM	**Boomskoye usch** baz=83	0.72	184	⇓*i*P		Pb	16 54 06.6	-0.6
BOOM				⇓*i*S		Sb	16 54 16.6	-0.5
KUU	**Kurty** 78nm,0.2s 2μm,0.6s	0.73	19	P		Pb	16 54 06.1	-1.3
KUU				S		Sb	16 54 15.1	-2.1
KUU	**Kurty** baz=20	0.73	19	*e*P		Pb	16 54 06.0	-1.3
KUU				*e*S		Sb	16 54 14.7	-2.5
KUU	**Kurty** 78nm,0.2s 1μm,0.4s	0.73	19	*e*P		Pb	16 54 06.0	-1.3
KUU				*e*S		Sb	16 54 14.7	-2.5
MDOK	**Medeo** 115nm,0.4s 70nm,0.2s	0.77	93	⇑P		Pb	16 54 07.0	-1.0
MDOK				⇑S		Sb	16 54 17.3	-1.0
MDOK	**Medeo** 228nm,0.4s 345nm,0.4s	0.77	93	Pg		Pb	16 54 07.4	-0.6
MDOK				Lg		Lg	16 54 17.4	
MDOK	**Medeo** baz=93	0.77	93	*e*P		Pb	16 54 07.4	-0.6
MDOK				*e*S		Sb	16 54 17.4	-1.0
MDOK	**Medeo** 228nm,0.4s baz=93	0.77	93	*e*P		Pb	16 54 07.4	-0.6
MDOK				*e*S		Sb	16 54 17.4	-1.0
KOTS	**Kotyrbulak** 301nm,0.6s 380nm,0.5s	0.81	88	P		Pb	16 54 08.3	-0.5
KOTS				S		Sb	16 54 19.1	-0.5
KOTS	**Kotyrbulak** baz=88	0.81	88	*e*P		Pb	16 54 08.5	-0.3
KOTS				*e*S		Sb	16 54 19.2	-0.5
KOTS	**Kotyrbulak** 244nm,0.2s baz=88	0.81	88	*e*P		Pb	16 54 08.5	-0.3
KOTS				*e*S		Sb	16 54 19.2	-0.5
CHMS	**Chumysh** 136nm,0.1s,SNR=387 748nm,0.2s	0.94	258	⇑P		Pb	16 54 10.0	-0.9
CHMS				⇑S		Sb	16 54 22.7	-0.7
CHMS	**Chumysh** baz=58	0.94	258	⇑*i*P		Pb	16 54 10.1	-0.9
CHMS				⇑*i*S		Sb	16 54 22.6	-0.7
KBK	**Karagaybulak** 187nm,0.1s,SNR=122	0.95	235	P		Pb	16 54 10.9	-0.3
KBK				⇑S		Sg	16 54 24.2	+0.6
KBK	**Karagaybulak** 676nm,0.2s baz=35	0.95	235	⇑*i*P		Pb	16 54 10.9	-0.3
KBK				⇑*i*S		Sb	16 54 23.6	-0.2
CHKK	**Chushkaly** 143nm,0.5s 338nm,0.3s	0.96	48	P		Pb	16 54 10.4	-1.0
CHKK				S		Sb	16 54 22.5	-1.4
CHKK	**Chushkaly** baz=48	0.96	48	*e*P		Pb	16 54 11.7	+0.4
CHKK				*e*S		Sg	16 54 25.0	+1.1
CHKK	**Chushkaly** 117nm,0.2s 499nm,0.3s	0.96	48	*e*P		Pb	16 54 11.7	+0.4
CHKK				*e*S		Sg	16 54 24.9	+1.1
ULHL	**Ulahol** 52nm,0.2s,SNR=292	0.98	170	⇓P		Pb	16 54 11.2	-0.5
ULHL	**Ulahol** baz=69	0.98	170	⇓*i*P		Pb	16 54 11.2	-0.5
ULHL				⇓*i*S		Sb	16 54 24.8	+0.2
FRU1	**Bishkek** baz=49	1.08	249	⇓*i*P		Pb	16 54 13.0	-0.4
FRU1				⇓*i*S		Sb	16 54 27.0	-0.5
USP	**Ospenovka** 65nm,0.2s,SNR=238 603nm,0.2s	1.10	274	⇑P		Pb	16 54 12.7	-1.0
USP				⇓S		Sb	16 54 27.1	-0.9
USP	**Ospenovka** baz=74	1.10	274	⇑*i*P		Pb	16 54 12.7	-1.0
USP				⇑*i*S		Sb	16 54 27.5	-0.5
AAK	**Ala-Archa** 70nm,0.2s,SNR=96 121nm,0.2s	1.25	243	⇑P		Pn	16 54 15.8	-0.3
AAK				⇓S		Sn	16 54 32.6	-0.3
AAK	**Ala-Archa** 30nm,0.3s 69nm,0.3s	1.25	243	⇑P		Pn	16 54 15.5	-0.6
AAK				⇑S		Sn	16 54 32.7	-0.1
AAK	**Ala-Archa** baz=43	1.25	243	⇑*i*P		Pn	16 54 15.8	-0.3
AAK				⇑*e*S		Sn	16 54 32.4	-0.4
KZA	**Kyzart** 30nm,0.2s,SNR=75 194nm,0.4s	1.26	206	⇑P		Pb	16 54 16.7	+0.1
KZA				⇓S		Sg	16 54 33.8	+0.4
KZA	**Kyzart** baz=6.0	1.26	206	⇑*i*P		Pn	16 54 16.0	-0.4
KZA				⇑*i*S		Sn	16 54 33.0	-0.5
KDJ	**Kajisay** baz=40	1.38	141	⇓*i*P		Pb	16 54 19.5	+0.9
KDJ				⇓*i*S		Sg	16 54 37.5	+0.2
UCH	**Uchtor** 53nm,0.2s,SNR=236 71nm,0.2s	1.47	229	⇑P		Pb	16 54 20.2	-0.1
UCH				⇓S		Sb	16 54 39.7	+0.6
UCH	**Uchtor** baz=29	1.47	229	⇑*i*P		Pb	16 54 20.2	-0.1
UCH				⇑*i*S		Sb	16 54 39.2	+0.1
ARXS	**Arharly** 167nm,0.3s 885nm,0.4s	1.66	52	P		Pb	16 54 23.1	-0.1
ARXS				S		Sb	16 54 44.4	+0.3
ARXS	**Arharly** 164nm,0.4s 1μm,0.4s	1.66	52	*e*P		Pb	16 54 24.0	+0.8
ARXS				*e*S		Sb	16 54 45.7	+1.6
EKS2	**Erkin-Say** 48nm,0.1s,SNR=304	1.73	252	P		Pb	16 54 24.4	0.0
EKS2	**Erkin-Say** baz=52	1.73	252	⇑*i*P		Pb	16 54 24.4	0.0
EKS2				⇑*i*S		Sb	16 54 46.8	+0.8
SATY	**Saty** 200nm,0.2s 499nm,0.3s	1.76	94	P		Pb	16 54 25.5	+0.5
SATY				S		Sb	16 54 48.4	+1.2
SATY	**Saty** 200nm,0.2s 983nm,0.1s	1.76	94	*e*P		Pb	16 54 25.5	+0.5
SATY				*e*S		Sb	16 54 48.4	+1.2
NRN	**Naryn** baz=81	1.77	180	⇑*i*P		Pb	16 54 25.8	+0.5
NRN				⇑*i*S		Sg	16 54 49.2	-0.6
ARLS	**Aral** baz=23	1.83	223	⇑*i*P		Pb	16 54 26.1	-0.1
ARLS				⇑*i*S		Sb	16 54 49.8	+0.7
PRZ	**Przheval'sk** baz=11	1.91	112	⇑*i*P		Pb	16 54 28.1	+0.6
PRZ				⇑*i*S		Sb	16 54 53.2	+2.0
AML	**Almayashu** baz=38	2.02	238	⇑*i*P		Pb	16 54 29.5	0.0
AML				⇑*i*S		Sb	16 54 55.1	+0.5
MRKS	**Merke** 165nm,0.3s 607nm,0.4s	2.09	258	Pg		Pb	16 54 31.3	+0.7
MRKS				Lg		Lg	16 54 58.4	
UZB	**Uzynbulak** 237nm,0.3s	2.21	91	Pg		Pb	16 54 33.3	+0.7
UZB				Lg		Lg	16 55 01.6	
UZB	**Uzynbulak** baz=90	2.21	91	*e*P		Pb	16 54 33.7	+1.1
UZB				*e*S		Sb	16 55 02.0	+2.1
UZB	**Uzynbulak** 36nm,0.2s 233nm,0.3s	2.21	91	*e*P		Pb	16 54 33.7	+1.1
UZB				*e*S		Sb	16 55 02.0	+2.1
TDK	**Taldyqorghan** 107nm,0.3s 219nm,0.6s	2.49	43	Pg		Pb	16 54 36.2	-1.2
TDK				Lg		Lg	16 55 06.7	
PDGK	**Podgornoye** 10nm,0.3s 73nm,0.8s	2.55	86	Pg		Pb	16 54 37.3	-1.1
PDGK				Lg		Lg	16 55 08.6	
PDGK	**Podgornoye** 20nm,0.3s 190nm,0.8s	2.55	86	⇑Pg		Pb	16 54 38.2	-0.2
PDGK				⇓Lg		Lg	16 55 10.9	
PDGK	**Podgornoye** baz=86	2.55	86	⇑*i*P		Pb	16 54 37.0	-1.4
PDGK				⇑*i*S		Sb	16 55 08.9	-0.8
ARSB	**Arslanbob** baz=31	2.93	231	⇑*e*P		Pn	16 54 41.4	+2.2
ARSB				⇑*e*S		Sn	16 55 16.5	+2.2
DJR	**Jarkent** 15nm,0.4s 30nm,0.4s	2.96	66	Pg		Pg	16 54 49.6	+0.1
DJR				Lg		Lg	16 55 29.8	
ARK	**Arkit** baz=46	3.30	246	⇓*e*P		Pn	16 54 46.8	+2.5
ARK				⇓*i*S		Sn	16 55 25.3	+1.8
KK31	**Karatay Array** 5.2nm,0.5s,baz=89,slow=16,SNR=45	4.02	270	⇓Pg		Pb	16 55 05.3	+1.9
KK31	15nm,0.3s,baz=72,slow=28,SNR=20			⇑Lg		Lg	16 55 58.5	
MAKZ	**Makanchi** 4.4nm,0.6s 5.5nm,0.5s	5.56	48	⇑Pn		Pn	16 55 15.4	+0.3
MAKZ				⇑Lg		Lg	16 56 41.4	
OTUK	**Ortayu** 3.1nm,0.6s 9.5nm,0.4s	5.65	334	⇑Pg		Pb	16 55 35.5	+4.3
OTUK				⇑Lg		Lg	16 56 49.2	
MK31	**Makanchi Array** 5.7nm,0.3s,baz=226,slow=13,SNR=228	5.72	49	⇓Pn		Pn	16 55 18.9	+1.6
MK31	2.6nm,0.5s,baz=221,slow=26,SNR=4.9			⇓Sn		Sn	16 56 23.4	+0.6
MK31	3.3nm,0.5s,baz=235,slow=28,SNR=3.7			⇓Lg		Lg	16 56 51.4	
KURBB	**Kurchatov Arra** 19nm,0.6s	7.62	12	⇑Lg		Lg	16 57 47.9	
KURK	**Kurchatov** 48nm,0.8s	7.72	12	⇑Lg		Lg	16 57 52.8	
BVA0	**Borovoye Array** 0.7nm,0.7s,baz=151,slow=14,SNR=7.6	10.51	341	⇑Pn		Pn	16 56 20.7	-2.4
BVA0	5.5nm,0.8s,baz=141,slow=22,SNR=4.7			⇑Lg		Lg	16 59 27.1	
BRVK	**Borovoye** 0.6nm,0.4s 2.8nm,0.5s	10.57	341	⇑Pn		Pn	16 56 21.0	-2.7
BRVK				⇑Lg		Lg	16 59 24.6	

WEL 07 16:59:56.1,42˚S±2˚×**17˚4E**±˚,**h30**km±7km,**ML3.6**/26, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CMWZ	**Cape Campbell**	0.13	357	P		Pb	17 00 00.8	-0.9
BSWZ	**Blackbirch Sta**	0.31	302	P		Pb	17 00 03.5	-0.1
BSWZ				S		Sb	17 00 09.0	+0.3
TUWZ	**Tuamarina**	0.49	335	P		Pb	17 00 06.6	+0.3
TUWZ				S		Sb	17 00 13.9	+0.5

TCW	**Tory Channel**	**0.67**	**4**	P	Pb	17 00 09.3	+0.1
TCW				S	Sn	17 00 19.4	+0.4
BHW	**Baring Head**	**0.68**	**46**	P	Pn	17 00 09.9	+0.4
BHW				S	Sn	17 00 20.0	+0.9
KHZ	**Kahutara**	**0.74**	**223**	P	Pn	17 00 12.0	+1.6
KHZ				S	Sn	17 00 24.0	+3.3
PLWZ	**Palliser**	**0.83**	**69**	P	Pb	17 00 12.4	+0.4
MSWZ	**Moikau Station**	**0.90**	**59**	P	Pb	17 00 13.3	+0.2
NNZ	**Nelson**	**0.91**	**316**	P	Pb	17 00 14.2	+0.9
THZ	**Tophouse**	**0.99**	**276**	P	Pb	17 00 15.8	+1.1
CAW	**Cannon Point**	**1.00**	**40**	P	Pb	17 00 15.0	+0.2
PAWZ	**Paruwai Farm**	**1.03**	**62**	P	Pn	17 00 14.9	+0.4
DUWZ	**D'Urville Isla**	**1.10**	**348**	P	Pb	17 00 16.8	+0.3
KIW	**Kapiti Island**	**1.14**	**27**	P	Pb	17 00 17.3	+0.2
TRWZ	**Traveller**	**1.20**	**67**	P	Pb	17 00 17.5	-0.7
MTW	**Mount Morrison**	**1.20**	**54**	P	Pn	17 00 17.2	+0.3
OGWZ	**Otaki Gorge**	**1.28**	**34**	P	Pb	17 00 18.9	-0.6
HOWZ	**Holdsworth Sta**	**1.38**	**45**	P	Pn	17 00 19.7	+0.4
TMWZ	**Te Maipa**	**1.47**	**59**	P	Pn	17 00 20.6	0.0
MRZ	**Mangatainoka R**	**1.59**	**41**	P	Pn	17 00 22.7	+0.6
QRZ	**Quartz Range**	**1.65**	**309**	P	Pb	17 00 26.1	+0.2
TIWZ	**Tintock**	**1.67**	**49**	P	Pn	17 00 23.3	0.0
LTZ	**Lake Taylor**	**1.71**	**237**	P	Pb	17 00 25.7	-1.1
AMCZ	**Amberley**	**1.74**	**221**	P	Pn	17 00 25.7	+1.4
DSZ	**Denniston Nort**	**1.81**	**273**	P	Pb	17 00 28.4	-0.2
OHWZ	**Ohakea**	**1.86**	**27**	P	Pb	17 00 28.4	-1.1
PRWZ	**Pori Road**	**1.87**	**46**	P	Pn	17 00 26.2	+0.2
POWZ	**Post Office Ro**	**1.89**	**39**	P	Pn	17 00 26.8	+0.5
BFZ	**Birch Farm**	**1.94**	**53**	P	Pn	17 00 26.4	-0.6
OKCZ	**Okains Bay**	**2.03**	**204**	P	Pn	17 00 29.0	+0.7
DVHZ	**Dannevirke**	**2.16**	**44**	P	Pn	17 00 29.6	-0.4
MQZ	**McQueen's Vall**	**2.16**	**212**	P	Pn	17 00 30.0	0.0
OXZ	**Oxford**	**2.17**	**227**	P	Pn	17 00 30.6	+0.5
WAZ	**Wanganui**	**2.20**	**16**	P	Pb	17 00 33.8	-1.4
AKCZ	**Akaroa Harbour**	**2.21**	**205**	P	Pn	17 00 31.6	+0.8
ANWZ	**Angora Road**	**2.21**	**51**	P	Pn	17 00 30.2	-0.5
INZ	**Inchbonnie**	**2.23**	**247**	P	Pn	17 00 33.1	+2.1
TSZ	**Takapari Road**	**2.24**	**36**	P	Pn	17 00 31.5	+0.3
LREZ	**Lake Rotokare**	**2.42**	**3**	P	Pb	17 00 37.4	-1.5
PRHZ	**Porangahau**	**2.43**	**49**	P	Pn	17 00 33.1	-0.7
PNHZ	**Pukenui**	**2.47**	**38**	P	Pn	17 00 34.3	0.0
NMEZ	**Namu Road**	**2.48**	**354**	P	Pb	17 00 40.0	+0.2
PREZ	**Palmer Road**	**2.53**	**359**	P	Pb	17 00 39.6	-1.2
KHEZ	**Kahui Hut**	**2.59**	**356**	P	Pb	17 00 41.2	-0.6
NBEZ	**Newall Road No**	**2.62**	**354**	P	Pb	17 00 41.4	-1.0
MTVZ	**Mangateitei**	**2.67**	**21**	P	Pn	17 00 39.3	+2.3
DREZ	**Durham Road**	**2.69**	**360**	P	Pb	17 00 42.6	-0.9
PKE	**Pukeiti**	**2.69**	**356**	P	Pb	17 00 41.2	-2.3
PKVZ	**Pokaka**	**2.72**	**19**	P	Pn	17 00 40.3	+2.5
MOVZ	**Moawhango**	**2.73**	**26**	P	Pn	17 00 39.1	+1.2
KRHZ	**Kereru**	**2.77**	**37**	P	Pn	17 00 38.1	-0.3
BHHZ	**Black Hill Sta**	**2.77**	**31**	P	Pn	17 00 39.1	+0.7
VRZ	**Vera Road**	**2.78**	**9**	P	Pn	17 00 41.5	+2.9
WHVZ	**Whangaehu Hut**	**2.79**	**22**	P	Pn	17 00 40.9	+1.9
MHEZ	**Mangahewa**	**2.80**	**2**	P	Pb	17 00 45.3	0.0
TUVZ	**Tukino**	**2.83**	**23**	P	Pn	17 00 41.1	+1.8
WVZ	**Waitaha Valley**	**2.84**	**244**	P	Pn	17 00 42.5	+3.1
KAHZ	**Kahuranaki**	**2.90**	**45**	P	Pn	17 00 39.1	-1.1
NGZ	**Ngauruhoe**	**2.90**	**22**	P	Pn	17 00 42.3	+2.1
WTVZ	**West Tongariro**	**2.95**	**21**	P	Pn	17 00 43.1	+2.1
TWVZ	**Taurewa**	**2.95**	**19**	P	Pn	17 00 43.1	+2.1
RPZ	**Rata Peaks**	**2.97**	**231**	P	Pn	17 00 42.3	+1.2
KRVZ	**Karewarewa**	**2.98**	**22**	P	Pn	17 00 43.9	+2.4
KRVZ				P	Pb	17 00 49.2	+0.6
MCHZ	**McNeill Hill**	**3.08**	**39**	P	Pn	17 00 42.2	-0.4
RITZ	**Rihia Road**	**3.15**	**24**	P	Pb	17 00 48.5	-3.0
BKZ	**Black Stump Fm**	**3.21**	**33**	P	Pn	17 00 44.1	-0.5
RATZ	**Rangitukua**	**3.23**	**22**	P	Pn	17 00 47.9	+3.1
WATZ	**Wairara**	**3.37**	**21**	P	Pn	17 00 50.4	+3.7
HIZ	**Hauiti**	**3.40**	**8**	P	Pn	17 00 50.6	+3.6
MRHZ	**Matea Rd**	**3.47**	**30**	P	Pn	17 00 47.8	-0.3
FOZ	**Fox Glacier**	**3.64**	**242**	P	Pn	17 00 52.6	+2.2
TLZ	**Tolley Road**	**3.69**	**16**	P	Pn	17 00 53.0	+2.0
ODZ	**Otahua Downs**	**4.10**	**218**	P	Pn	17 00 56.7	+0.1
JCZ	**Jackson Bay**	**4.55**	**239**	P	Pn	17 01 06.4	+3.4
MKAZ	**Moumakai**	**4.82**	**9**	P	Pn	17 01 08.5	+1.9

*NEIC **07** 17:16:03.5±0.9, 11°.09S×163°.11E, h10km, mb4.5/3, Error ellipse: s-maj=21.9km s-min=17.4km az=105.0*
*ISCJB **07** 17:16:06.0±0.8, 11°.1S±0°.1×162°.9E±0°.1, h34km, mb4.0/13, MS3.4/4, Error ellipse: s-maj=21.9km s-min=15.0km az=30.3*
*IDC **07** 17:16:12.9±4.4, 11°.04S×162°.81E, h77km±36km, mb3.8/11, mb1 3.9/13,mb1mx3.7/42, mbtmp4.1/13, MS3.4/5, Ms1 3.4/5,ms1mx3.1/30, Error ellipse: s-maj=29.1km s-min=20.0km az=96.0*

ISC 07 17:16:07.7±0.9, 11°.1S±0°.1×163°.0E±0°.1, h34km, n19, σ1°63/21, mb4.0/13, MS3.5/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.44**	**298**	*eP*	**Pn**	**17 17 02.0**	**+3.1**
HNR				eS	**Sb**	**17 17 46.0**	**-3.4**
HNR	**Honiara**	**3.44**	**298**	P	**Pn**	**17 17 01.5**	**+2.6**
	80nm,0.3s,baz=145,slow=13,SNR=12						
HNR				S	**Sb**	**17 17 51.1**	**+1.7**
	238nm,0.3s,baz=61,slow=22,SNR=5.8						
HNR				LR	LR	17 18 29.3	
	comp=Z,477nm,19.2s,baz=126,slow=42						
CTA	**Charters Tower**	**18.48**	**239**	P	**Pn**	**17 20 21.5**	**+0.3**
	0.4nm,0.3s,baz=70,slow=11,SNR=4.6						
STKA	**Stephens Creek**	**28.65**	**220**	P	**P**	**17 22 02.3**	**+1.0**
	2.2nm,0.8s,baz=68,slow=11,SNR=4.4						
STKA				LR	LR	17 32 50.7	
	comp=Z,91nm,18.5s,baz=33,slow=35						
WR1	**Warramunga Arr**	**28.99**	**249**	*eP*	**P**	**17 22 03.2**	**-1.3**
	43nm,1.8s						
WRA	**Warramunga Arr**	**28.99**	**249**	P	**P**	**17 22 03.2**	**-1.3**
	1.9nm,0.5s,baz=79,slow=9.1,SNR=21						
WRA				LR	LR	17 34 31.1	
	comp=Z,129nm,18.2s,baz=180,slow=38						
AS31	**Alice Springs**	**30.42**	**242**	*eP*	**P**	**17 22 15.7**	**-1.5**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**30.43**	**242**	P	**P**	**17 22 15.6**	**-1.6**
	3.6nm,0.6s,baz=65,slow=10,SNR=74						
ASAR				LR	LR	17 34 13.1	
	comp=Z,96nm,18.2s,baz=82,slow=36						
FITZ	**Fitzroy Crossi**	**36.81**	**255**	*eP*	**P**	**17 23 11.3**	**-1.4**
	5.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**36.81**	**255**	P	**P**	**17 23 11.3**	**-1.4**
	4.1nm,0.5s,baz=70,slow=9.4,SNR=20						
BATI	**Baumata**	**38.69**	**267**	P	**P**	**17 23 28.5**	**-0.2**
	10nm,0.5s,baz=145,slow=2.6,SNR=6.2						
VNDA	**Vanda**	**66.45**	**180**	P	**P**	**17 26 54.1**	**+1.0**
	0.6nm,0.7s,baz=338,slow=2.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**69.69**	**294**	P	**P**	**17 27 14.2**	**-0.4**
	0.2nm,0.5s,baz=93,slow=6.6,SNR=3.2						
CMAR				LR	LR	17 59 21.2	
	comp=Z,11nm,18.6s,baz=135,slow=37						
SONA0	**Songino Array**	**77.12**	**325**	*eP*	**P**	**17 27 57.5**	**-0.4**
SONM	**Songino Array**	**77.12**	**325**	P	**P**	**17 27 57.5**	**-0.4**
	0.8nm,0.7s,baz=144,slow=5.7,SNR=4.7						
QSPA	**South Pole Qui**	**78.94**	**180**	P	**P**	**17 28 07.9**	**+0.1**
	1.8nm,1.1s,baz=8.0,slow=8.7,SNR=2.5						
ILAR	**Eielson Array**	**84.39**	**19**	P	**P**	**17 28 36.4**	**+0.2**
	0.8nm,1.1s,baz=245,slow=5.5,SNR=3.9						
MK32	**Makanchi Array**	**91.72**	**317**	*eP*	**P**	**17 29 10.7**	**-1.2**
MKAR	**Makanchi Array**	**91.72**	**317**	P	**P**	**17 29 10.7**	**-1.2**
	0.3nm,0.5s,baz=101,slow=6.3,SNR=4.2						

MEX 07 17:23:55.3±0.3, 18°.27N×101°.97W, h16km±4km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.81**	**144**	*eP*	Pb	17 24 08.3	-2.8
ZIIG				*i* S	Sb	17 24 18.3	-3.6
MMIG	**Aquila**	**1.31**	**271**	*eP*	Pn	17 24 15.1	-3.8
MMIG				*i* S	Sn	17 24 31.1	-5.1
ARIG	**Puente Sto Nin**	**1.54**	**89**	*eP*	Pn	17 24 18.3	-3.8
ARIG				eS	Sn	17 24 36.5	-5.3
CAIG	**El Cayaco**	**2.02**	**127**	*eP*	Pn	17 24 25.6	-3.2
CAIG				eS	Sn	17 24 48.9	-4.9
MEIG	**Mezcala**	**2.26**	**98**	*eP*	Pn	17 24 29.3	-2.8
MEIG				eS	Sn	17 24 55.3	-4.3
PLIG	**Platanillo**	**2.34**	**87**	*eP*	Pn	17 24 30.4	-2.8
PLIG				*i* S	Sn	17 24 57.4	-4.4
TLIG	**Tlapa**	**3.31**	**102**	*eP*	Pn	17 24 43.8	-2.8
TLIG				*i* S	Sn	17 25 21.5	-4.3

IDC 07 17:34:41.1±4.1, 18°.09S×176°.26W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/28, mbtmp4.0/4, Error ellipse: s-maj=148.2km s-min=30.0km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.61**	**259**	P	P	17 43 11.4	-0.1
	0.7nm,0.3s,baz=96,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**46.71**	**254**	P	P	17 43 12.6	+0.4
	0.9nm,0.5s,baz=89,slow=8.0,SNR=26						
PETK	**Petropavlovsk-**	**74.40**	**344**	P	P	17 46 20.6	-0.1
	4.2nm,1.0s,baz=138,slow=9.6,SNR=3.5						
ILAR	**Eielson Array**	**85.62**	**12**	P	P	17 47 22.1	+1.0
	0.3nm,0.4s,baz=219,slow=4.9,SNR=9.4						
BRTR	**Keskin Array B**	**146.35**	**316**	PKPbc	PKPdf	17 54 21.4	-1.8
	0.4nm,0.6s,baz=26,slow=8.8,SNR=3.6						

IDC 07 17:44:34.4±2.2, 5°.03S×152°.43E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/38, mbtmp3.6/4, Error ellipse: s-maj=129.3km s-min=28.5km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.02**	**228**	P	P	17 49 40.3	-1.0
	0.7nm,0.9s,baz=51,slow=9.9,SNR=3.6						
ASAR	**Alice Springs**	**25.73**	**222**	P	P	17 50 06.2	-0.6
	0.4nm,0.7s,baz=54,slow=9.5,SNR=6.1						
FITZ	**Fitzroy Crossi**	**29.23**	**241**	P	P	17 50 39.8	+1.6
	1.6nm,0.8s,baz=90,slow=7.1,SNR=6.6						
ILAR	**Eielson Array**	**82.51**	**22**	P	P	17 56 58.6	-0.1
	0.5nm,0.8s,baz=240,slow=5.4,SNR=4.9						

*IDC **07** 17:47:47.9±1.0, 11°.86N×145°.03E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/45, mbtmp3.8/11, MS3.0/1, Ms1 3.0/1, ms1mx2.5/41, Error ellipse: s-maj=35.2km s-min=15.4km az=91.0*
*ISCJB **07** 17:47:48.5±0.6, 11°.80N±0°.05×145°.0E±0°.1, h16km, mb4.1/16, MS2.8/1, Error ellipse: s-maj=21.0km s-min=7.8km az=2.5*
*NEIC **07** 17:47:53.5±1.4, 11°.86N×144°.98E, h39km±12km, mb4.8/5, Error ellipse: s-maj=14.0km s-min=7.3km az=92.0*

ISC 07 17:47:50.2±0.8, 11°.86N±0°.08×145°.0E±0°.2, h16km, n31, σ0°70/26, mb4.0/16, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.72**	**355**	Pn	**Pb**	**17 48 21.0**	**-0.4**
	145nm,0.3s,baz=156,slow=23,SNR=77						
GUMO				Sn	**Sn**	**17 48 41.8**	**+0.6**
	256nm,0.3s,baz=269,slow=20,SNR=7.4						
H11S3	**WAKE ISLAND Hy**	**21.92**	**70**	T	T	18 16 21.9	
	baz=254						
H11S1	**WAKE ISLAND Hy**	**21.93**	**70**	T	T	18 16 24.0	
	baz=254						
H11S2	**WAKE ISLAND Hy**	**21.93**	**70**	T	T	18 16 26.5	
	baz=254						
H11N1	**WAKE ISLAND Hy**	**22.43**	**67**	T	T	18 17 28.0	
	baz=248						
H11N2	**WAKE ISLAND Hy**	**22.44**	**67**	T	T	18 17 06.6	
	baz=248						
H11N3	**WAKE ISLAND Hy**	**22.45**	**67**	T	T	18 17 24.8	
	baz=248						
MJAR	**Matsshiro Arr**	**25.33**	**347**	P	**P**	**17 53 16.2**	**-0.1**
	2.8nm,0.7s,baz=171,slow=8.3,SNR=7.9						
MJAR				LR	LR	18 01 18.8	
	comp=Z,30nm,19.4s,baz=15,slow=32						
MAJO	**Matsushiro**	**25.33**	**347**	*eP*	**P**	**17 53 16.2**	**-0.1**
SSLB	**Suanglung**	**25.75**	**301**	*eP*	**P**	**17 53 20.5**	**+0.2**
	8.2nm,0.9s						
WR1	**Warramunga Arr**	**33.31**	**199**	*eP*	**P**	**17 54 27.2**	**-0.3**
	33nm,1.6s						
WRA	**Warramunga Arr**	**33.31**	**199**	P	**P**	**17 54 27.2**	**-0.3**
	1.1nm,0.7s,baz=23,slow=9.7,SNR=9.5						
AS31	**Alice Springs**	**36.95**	**197**	*eP*	**P**	**17 54 59.1**	**+0.3**
	1.8nm,1.4s						
ASAR	**Alice Springs**	**36.95**	**197**	P	**P**	**17 54 59.0**	**+0.1**
	0.6nm,0.6s,baz=24,slow=8.9,SNR=17						
KLR	**Kul'dur**	**38.84**	**346**	P	**P**	**17 55 14.2**	**-0.4**
	1.1nm,0.8s,baz=166,slow=8.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**44.86**	**284**	P	**P**	**17 56 05.0**	**+0.8**
	0.9nm,0.5s,baz=86,slow=6.7,SNR=8.1						
SONA0	**Songino Array**	**48.22**	**326**	*eP*	**P**	**17 56 30.8**	**+0.5**
SONM	**Songino Array**	**48.22**	**326**	P	**P**	**17 56 30.8**	**+0.5**
	0.2nm,0.5s,baz=151,slow=9.1,SNR=4.0						
MK32	**Makanchi Array**	**62.83**	**317**	*eP*	**P**	**17 58 16.1**	**+0.8**
MKAR	**Makanchi Array**	**62.83**	**317**	P	**P**	**17 58 16.1**	**+0.8**
	0.4nm,0.5s,baz=91,slow=9.0,SNR=6.4						
ZALV	**Zalesovo Beam**	**63.11**	**325**	P	**P**	**17 58 17.2**	**+0.3**
	0.6nm,0.3s,baz=122,slow=5.2,SNR=2.2						
ZAA1	**Zalesovo Array**	**63.11**	**325**	*eP*	**P**	**17 58 17.2**	**+0.3**
ILAR	**Eielson Array**	**70.06**	**25**	P	**P**	**17 59 01.1**	**-0.1**
	0.3nm,0.5s,baz=256,slow=5.5,SNR=6.1						
JIS	**Juneau Island**	**75.06**	**33**	*eP*	**P**	**17 59 32.2**	**+1.2**
	11nm,0.6s						
FIA0	**FINESS Array S**	**92.78**	**335**	*eP*	**P**	**18 01 00.8**	**-0.9**
FINES	**FINESS Array B**	**92.78**	**335**	P	**P**	**18 01 00.8**	**-0.9**
	0.5nm,0.5s,baz=291,slow=1.6,SNR=4.2						
PV13	**Radium Mtn., P**	**95.11**	**49**	*eP*	**P**	**18 01 13.2**	**-0.1**
	7.7nm,1.2s						
BR101	**Keskin Array S**	**98.35**	**313**	*eP*	**P**	**18 01 26.5**	**-1.3**
BRTR	**Keskin Array B**	**98.35**	**313**	P	**P**	**18 01 26.5**	**-1.3**
	0.2nm,0.4s,baz=19,slow=8.0,SNR=3.6						
TSUM	**Tsumeb**	**128.98**	**255**	*e*PKPdf	**PKPdf**	**18 06 57.9**	**-0.5**
LPAZ	**La Paz**	**147.57**	**102**	PKPbc	**PKPbc**	**18 07 36.5**	**+1.0**
	0.9nm,0.7s,baz=284,slow=3.4,SNR=4.3						

*ISCJB **07** 19:12:34.4±0.4, 18°.47N±0°.06×68°.88W±0°.03, h134km, mb3.5/10, Error ellipse: s-maj=9.2km s-min=4.4km az=2.5*
*IDC **07** 19:12:35.1±1.8, 18°.64N×68°.90W, h115km±18km, mb3.4/11, mb1 3.7/13, mb1mx3.4/48, mbtmp3.9/13, Error ellipse: s-maj=20.3km s-min=15.3km az=178.0*
*NEIC **07** 19:12:36.2±0.0, 18°.25N×68°.82W, h132km, MD3.9(RSPR), After RSPR.*
*RSPR **07** 19:12:36.2, 18°.25N×68°.82W, h132km±2km, MD3.9/10*

ISC 07 19:12:35.3±0.6, 18°.27N±0°.07×68°.94W±0°.05, h134km, n46, σ1°66/57, mb3.6/10, 6C-10D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.74**	**83**	eS	**Sn**	**19 13 28.5**	**-1.7**
AGPR	**Aguadilla, PR**	**1.74**	**83**	*e*P	**Pn**	**19 13 05.8**	**-0.6**
AGPR	**Aguadilla, PR**	**1.74**	**83**	*e*P	**Pn**	**19 13 05.8**	**-0.6**
AGPR				eS	**Sn**	**19 13 28.5**	**-1.7**
CRPR	**Cabo Rojo, PR**	**1.75**	**98**	eS	**Sn**	**19 13 29.3**	**-1.1**
CRPR	**Cabo Rojo, PR**	**1.75**	**98**	*e*P	**Pn**	**19 13 05.7**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.75**	**98**	*e*P	**Pn**	**19 13 05.7**	**-0.8**
CRPR				eS	**Sn**	**19 13 29.3**	**-1.1**
LSP	**Las Mesas**	**1.76**	**93**	eS	**Sn**	**19 13 29.1**	**-1.5**
LSP	**Las Mesas**	**1.76**	**93**	*e*P	**Pn**	**19 13 06.2**	**-0.5**
LSP	**Las Mesas**	**1.76**	**93**	*e*P	**Pn**	**19 13 06.2**	**-0.5**
LSP				eS	**Sn**	**19 13 29.1**	**-1.5**
CELP	**Cerrillos**	**2.25**	**95**	*e*P	**Pn**	**19 13 11.7**	**-0.8**
CELP	**Cerrillos**	**2.25**	**95**	*e*P	**Pn**	**19 13 11.7**	**-0.8**
EMPR	**Esperanza - Ma**	**2.29**	**84**	*e*P	**Pn**	**19 13 12.7**	**-0.3**
EMPR	**Esperanza - Ma**	**2.29**	**84**	eS	**Sn**	**19 13 41.1**	**-0.9**
EMPR	**Esperanza - Ma**	**2.29**	**84**	*e*P	**Pn**	**19 13 12.7**	**-0.3**
EMPR				eS	**Sn**	**19 13 41.1**	**-0.9**
SDJR	**Presa de Saban**	**2.34**	**288**	*e*Pn	**Pn**	**19 13 11.7**	**-2.1**
SJG	**San Juan**	**2.65**	**93**	*e*P	**Pn**	**19 13 17.1**	**-0.5**
SJG				eS	**Sn**	**19 13 49.3**	**-0.8**
SJG	**San Juan**	**2.65**	**93**	*e*P	**Pn**	**19 13 17.1**	**-0.5**
SJG				eS	**Sn**	**19 13 49.3**	**-0.8**
SJG	**San Juan**	**2.65**	**93**	P	**Pn**	**19 13 17.1**	**-0.5**
	18nm,0.3s,baz=278,slow=11,SNR=21						
SJG				S	**Sn**	**19 13 49.4**	**-0.7**
	37nm,0.3s,baz=333,slow=22,SNR=6.2						
CBYP	**Canovanas**	**2.92**	**89**	*e*P	**Pn**	**19 13 19.8**	**-1.3**
CBYP				eS	**Sn**	**19 13 54.7**	**-1.8**
CBYP	**Canovanas**	**2.92**	**89**	*e*P	**Pn**	**19 13 19.8**	**-1.3**
CBYP				eS	**Sn**	**19 13 54.7**	**-1.8**
HUMP	**Col San Antoni**	**2.94**	**92**	*e*P	**Pn**	**19 13 20.9**	**-0.3**
HUMP	**Col San Antoni**	**2.94**	**92**	eS	**Sn**	**19 13 55.8**	**-0.8**
HUMP	**Col San Antoni**	**2.94**	**92**	*e*P	**Pn**	**19 13 20.9**	**-0.3**
HUMP				eS	**Sn**	**19 13 55.8**	**-0.8**
MTP	**Monte Pirata**	**3.22**	**93**	*e*P	**Pn**	**19 13 24.9**	**0.0**
MTP	**Monte Pirata**	**3.22**	**93**	eS	**Sn**	**19 14 02.0**	**-1.3**
MTP	**Monte Pirata**	**3.22**	**93**	*e*P	**Pn**	**19 13 24.9**	**0.0**
MTP				*e*S	**Sn**	**19 14 02.0**	**-1.3**
URIC	**Uribia, Colomb**	**7.17**	**205**	*e*P	**Pn**	**19 14 19.3**	**+1.7**
URIC	**Uribia, Colomb**	**7.17**	**205**	*e*P	**Pn**	**19 14 19.3**	**+1.7**
CODC	**Agustn Codazz**	**9.37**	**208**	*e*P	**Pn**	**19 14 48.7**	**+1.6**
CODC	**Agustn Codazz**	**9.37**	**208**	*e*P	**Pn**	**19 14 48.7**	**+1.6**
SDV	**Santo Domingo**	**9.47**	**190**	P	**Pn**	**19 14 53.5**	**+4.8**
	5.3nm,0.3s,baz=138,slow=5.8,SNR=29						
SDV				S	**Sn**	**19 16 27.2**	**-6.5**
	1.0nm,0.3s,baz=336,slow=10.0,SNR=1.8						
SJCC	**San Jacinto, C**	**10.29**	**217**	*e*P	**Pn**	**19 15 03.0**	**+3.5**
SJCC	**San Jacinto, C**	**10.29**	**217**	*e*P	**Pn**	**19 15 03.0**	**+3.5**
PTGA	**Pitinga**	**20.84**	**154**	P	Pn	19 17 12.3	+1.8
	1.2nm,0.3s,baz=311,slow=19,SNR=3.1						
TXAR	**Lajitas Array**	**33.52**	**296**	P	**P**	**19 19 03.0**	**+0.7**
	0.3nm,0.6s,baz=102,slow=8.4,SNR=3.5						
SCHQ	**Schefferville**	**36.53**	**2**	P	**P**	**19 19 26.8**	**-0.9**
	1.6nm,0.5s,baz=194,slow=7.9,SNR=6.4						
NVAR	**Mina Array Bea**	**47.25**	**306**	P	**P**	**19 20 56.1**	**+0.9**
	0.3nm,0.5s,baz=74,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**54.25**	**336**	P	**P**	**19 21 46.0**	**-1.0**
YKA	**Yellowknife Ar**	**54.25**	**336**	P	**P**	**19 21 46.0**	**-1.0**
	0.8nm,0.7s,baz=112,slow=7.3,SNR=7.8						
ESDC	**Sonseca Array**	**59.44**	**54**	P	**P**	**19 22 24.6**	**+0.5**
	0.1nm,0.3s,baz=279,slow=8.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**67.83**	**83**	P	**P**	**19 23 20.1**	**+0.6**
	0.3nm,0.4s,baz=279,slow=6.2,SNR=4.6						
ILAR	**Eielson Array**	**68.50**	**333**	P	**P**	**19 23 22.3**	**-0.5**
	0.2nm,0.6s,baz=90,slow=3.7,SNR=3.9						
KEST	**Kesra**	**70.23**	**58**	P	**P**	**19 23 35.4**	**+1.2**
	1.7nm,0.8s,baz=270,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**74.59**	**21**	P	**P**	**19 23 59.2**	**0.0**
	4.1nm,0.9s,baz=317,slow=5.0,SNR=5.1						
FINES	**FINESS Array B**	**76.50**	**29**	P	**P**	**19 24 10.5**	**+0.2**
	3.3nm,1.0s,baz=253,slow=5.2,SNR=7.2						
ASAR	**Alice Springs**	**158.02**	**252**	PKPab	**PKPab**	**19 32 52.6**	**+1.6**
	0.3nm,0.9s,baz=100,slow=4.3,SNR=3.0						

MEX 07 19:15:52.0±0.6, 16°.50N×98°.40W, h6km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.28**	**112**	*e*P	Pg	19 15 57.1	-0.5
PNIG				*i* S	Sg	19 16 01.7	+0.3
TLIG	**Tlapa**	**1.07**	**352**	*e*P	Pg	19 16 09.3	-3.3
TLIG				*i* S	Sg	19 16 23.3	-3.1
VHO	**Vista Hermosa**	**1.70**	**70**	*i* P	Pn	19 16 19.6	-2.7
VHO				*i* S	Sn	19 16 40.4	-4.0
CAIG	**El Cayaco**	**1.87**	**287**	*i* P	Pn	19 16 20.5	-4.0
CAIG				*i* S	Sn	19 16 44.1	-4.3
HUIG	**Huatulco**	**2.32**	**108**	*i* P	Pn	19 16 27.7	-3.0
HUIG				eS	Sn	19 16 54.6	-4.9

RSNC 07 19:16:23.1±1.2, 6°.82N×73°.12W, h145km±5km, ML3.4, Mw3.5, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.

LSZ	**Lusaka**	**29.95**	**336**	P	**P**	**19 32 39.2**	**-0.2**
	5.8nm,0.9s,baz=151,slow=8.8,SNR=9.5							
LSZ				LR	LR	19 43 31.8		
	comp=Z,73nm,18.6s,baz=174,slow=34							
SNAA	**Sanae**	**35.17**	**202**	P	**P**	**19 33 24.9**	**+0.4**
	2.2nm,0.9s,baz=60,slow=20,SNR=3.0							
QSPA	**South Pole Qui**	**46.79**	**180**	P	**P**	**19 35 00.0**	**-0.3**
	3.7nm,0.9s,baz=222,slow=3.0,SNR=6.3							
VNDA	**Vanda**	**54.13**	**167**	P	**P**	**19 35 55.0**	**-0.4**
	0.9nm,1.0s,baz=233,slow=5.1,SNR=2.8							
H01W2	**Cape Leeuwin H**	**56.05**	**108**	T	T	20 37 05.4		
	baz=238,slow=75,SNR=5.3							
H01W3	**Cape Leeuwin H**	**56.05**	**108**	T	T	20 37 11.1		
	baz=238,slow=75,SNR=4.2							
H01W1	**Cape Leeuwin H**	**56.06**	**108**	T	T	20 36 55.7		
	baz=238,slow=75,SNR=3.4							
DBIC	**Dimbokro**	**64.54**	**309**	P	**P**	**19 37 08.4**	**+0.3**
	5.7nm,1.0s,baz=121,slow=13,SNR=3.7							
TOA0	**Torodi Ar. Sit**	**66.51**	**318**	*eP*	**P**	**19 37 20.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**66.51**	**318**	P	**P**	**19 37 21.4**	**+0.5**
	2.4nm,0.8s,baz=152,slow=3.8,SNR=13							
TOA1	**Torodi Ar. Sit**	**66.52**	**318**	*eP*	**P**	**19 37 21.4**	**+0.5**
PLCA	**Paso Flores**	**75.73**	**227**	P	**P**	**19 38 16.4**	**-0.2**
	4.0nm,0.9s,baz=149,slow=7.4,SNR=6.3							
PLCA				LR	LR	20 05 02.6		
	comp=Z,80nm,18.3s,baz=176,slow=30							
STKA	**Stephens Creek**	**76.09**	**121**	P	**P**	**19 38 18.8**	**0.0**
	1.1nm,0.7s,baz=215,slow=7.2,SNR=3.7							
ASAR	**Alice Springs**	**76.50**	**110**	P	**P**	**19 38 21.2**	**-0.1**
	0.3nm,0.8s,baz=228,slow=8.1,SNR=3.5							
CPUP	**Villa Florida**	**77.68**	**246**	P	**P**	**19 38 28.1**	**+0.3**
	1.5nm,0.8s,baz=43,slow=6.2,SNR=3.0							
WRA	**Warramunga Arr**	**79.28**	**107**	P	**P**	**19 38 36.9**	**+0.1**
	0.4nm,0.8s,baz=222,slow=3.9,SNR=4.8							
WR1	**Warramunga Arr**	**79.28**	**107**	*eP*	**P**	**19 38 36.9**	**+0.1**
	45nm,1.9s							
CMAR	**Chiang Mai Arr**	**81.60**	**55**	P	**P**	**19 38 49.2**	**+0.2**
	0.5nm,0.8s,baz=241,slow=5.7,SNR=5.8							
CMAR				LR	LR	20 11 20.5		
	comp=Z,36nm,18.0s,baz=210,slow=33							
GEYT	**Alibeck**	**82.54**	**14**	LR	LR	20 15 44.0		
	comp=Z,28nm,18.1s,baz=305,slow=36							
BRTR	**Keskin Array B**	**82.99**	**355**	P	**P**	**19 38 56.1**	**+0.1**
	1.1nm,0.9s,baz=160,slow=3.9,SNR=5.8							
BR101	**Keskin Array S**	**82.99**	**355**	*eP*	**P**	**19 38 56.1**	**+0.1**
LPAZ	**La Paz**	**91.85**	**246**	LR	LR	20 19 32.4		
	comp=Z,42nm,19.2s,baz=144,slow=35							
TXAR	**Lajitas Array**	**148.15**	**256**	PKPbc	**PKPbc**	**19 46 17.4**	**+0.5**
	4.3nm,0.8s,baz=136,slow=5.4,SNR=34							
ULM	**Lac du Bonnet**	**149.72**	**298**	PKPbc	**PKPbc**	**19 46 19.4**	**-0.8**
	1.0nm,0.4s,baz=75,slow=4.5,SNR=8.4							
INK	**Inuvik**	**154.85**	**355**	PKPbc	**PKiKP**	**19 46 30.9**	**-0.2**
	2.4nm,1.1s,baz=144,slow=7.4,SNR=3.8							
YKA	**Yellowknife Ar**	**155.98**	**331**	PKPbc	PKPdf	19 46 33.6	+9.4	
	0.7nm,0.7s,baz=41,slow=2.1,SNR=7.6							
YKA				PKPab	**PKPab**	**19 46 51.6**	**+0.1**	
	0.6nm,0.7s,baz=49,slow=4.4,SNR=7.3							

*SOME **07** 19:36:47.9, 42°.53N×79°.53E, h10km*
*KRNET **07** 19:36:47.2±0.1, 42°.52N×79°.57E, h14km, mb2.8*
*NNC **07** 19:36:48.0±1.3, 42°.60N×79°.56E, h2km±4km, mb2.9,*
mpv2.5, Error ellipse: s-maj=8.7km s-min=4.7km az=141.0

ISC 07 19:36:46.7±1.9, 42°.52N±0°.05×79°.59E±0°.05, h1km±11km, n33, σ0s76/58, 17C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak**	**0.76**	**326**	P	**Pg**	**19 37 01.6**	**+0.3**
	11nm,0.2s						
UZB				S	**Sg**	**19 37 10.4**	**-0.7**
	28nm,0.2s						
UZB	**Uzunbulak**	**0.76**	**326**	*eP*	**Pg**	**19 37 01.6**	**+0.3**
	baz=27						
UZB				*eS*	**Sg**	**19 37 10.6**	**-0.5**
	baz=27						
UZB	**Uzunbulak**	**0.76**	**326**	*eP*	**Pg**	**19 37 01.6**	**+0.3**
	11nm,0.2s						
UZB				*eS*	**Sg**	**19 37 11.7**	**+0.6**
	33nm,0.2s						
PDGK	**Podgornoye**	**0.82**	**355**	P	**Pg**	**19 37 02.5**	**0.0**
	4.9nm,0.3s						
PDGK				S	**Sg**	**19 37 11.8**	**-1.2**
	2.1nm,0.4s						
PDGK	**Podgornoye**	**0.82**	**355**	⇑P	**Pg**	**19 37 01.9**	**-0.5**
	2.7nm,0.4s						
PDGK				⇑S	**Sg**	**19 37 13.0**	**0.0**
	1.9nm,0.5s						
PDGK	**Podgornoye**	**0.82**	**355**	⇑*iP*	**Pg**	**19 37 02.4**	**0.0**
	baz=55						
PDGK				⇑*iS*	**Sg**	**19 37 13.3**	**+0.3**
	baz=55						
PRZ	**Przheval'sk**	**0.88**	**268**	⇑*iP*	**Pg**	**19 37 03.6**	**-0.1**
	baz=68						
PRZ				⇑*iS*	**Sb**	**19 37 16.7**	**-0.7**
	baz=68						
SATY	**Saty**	**1.03**	**302**	P	**Pb**	**19 37 07.5**	**0.0**
	2.4nm,0.3s						
SATY				S	**Sb**	**19 37 20.8**	**-0.7**
SATY	**Saty**	**1.03**	**302**	*eP*	**Pg**	**19 37 07.3**	**+0.8**
	1.6nm,0.1s						
SATY				*eS*	**Sg**	**19 37 20.2**	**+0.4**
	26nm,0.1s						
TARG	**Taragay, Kyrgy**	**1.55**	**240**	⇑*iP*	**Pn**	**19 37 15.4**	**-0.4**
	baz=40						
TARG				⇑*iS*	**Sn**	**19 37 36.0**	**-0.7**
	baz=40						
DJR	**Jarkent**	**1.82**	**4**	P	**Pb**	**19 37 20.3**	**-0.6**
	1.3nm,0.3s						
DJR				S	**Sn**	**19 37 42.6**	**-0.5**
	3.9nm,0.2s						
DJR	**Jarkent**	**1.82**	**4**	*eP*	**Pb**	**19 37 20.4**	**-0.6**
	1.6nm,0.2s						
DJR				*eS*	**Sb**	**19 37 44.2**	**-0.1**
	3.5nm,0.2s						
KDJ	**Kajisay**	**1.83**	**259**	⇓*iP*	**Pb**	**19 37 20.4**	**-0.8**
	baz=58						
KDJ				⇓*iS*	**Sb**	**19 37 44.5**	**-0.2**
	baz=58						
KOTS	**Kotyrbulak**	**1.96**	**292**	Pg	**Pg**	**19 37 25.8**	**+1.4**
	7.4nm,0.5s						
KOTS				Lg	Lg	19 37 51.7		
	16nm,0.4s						
MDOK	**Medeo**	**1.98**	**290**	Pn	**Pn**	**19 37 20.1**	**-1.5**
	2.0nm,0.5s						
MDOK				Sn	**Sb**	**19 37 48.7**	**-0.2**
	6.0nm,0.6s						
MDOK	**Medeo**	**1.98**	**290**	Pg	**Pb**	**19 37 23.9**	**+0.2**
	2.0nm,0.5s						
MDOK				Lg	Lg	19 37 48.6		
	4.3nm,0.6s						
MDOK	**Medeo**	**1.98**	**290**	*eP*	**Pb**	**19 37 24.4**	**+0.7**
	baz=90						
MDOK				*eS*	**Sg**	**19 37 49.6**	**-0.8**
	baz=90						
MDOK	**Medeo**	**1.98**	**290**	*eP*	**Pb**	**19 37 23.9**	**+0.2**
	1.5nm,0.2s						
MDOK				*eS*	**Sg**	**19 37 49.6**	**-0.8**
	9.2nm,1.2s						
TNSS	**Tian-Shan**	**2.02**	**286**	P	**Pb**	**19 37 23.5**	**-1.0**
	1.6nm,0.7s						
TNSS				S	**Sn**	**19 37 47.9**	**-0.4**
	5.2nm,0.5s						
TNSS	**Tian-Shan**	**2.02**	**286**	*eP*	**Pg**	**19 37 25.4**	**0.0**
	baz=86						
TNSS				*eS*	**Sg**	**19 37 51.2**	**-0.4**
	baz=86						
TNSS	**Tian-Shan**	**2.02**	**286**	*eP*	**Pb**	**19 37 24.8**	**+0.3**
	2.3nm,0.2s						
TNSS				*eS*	**Sg**	**19 37 50.9**	**-0.7**
	5.5nm,0.4s						
ARXS	**Arharly**	**2.13**	**323**	Pg	**Pb**	**19 37 25.5**	**-0.7**
	2.9nm,0.5s						
ARXS				Lg	Lg	19 37 51.4		
	17nm,0.6s						
ARXS	**Arharly**	**2.13**	**323**	*eP*	**Pb**	**19 37 25.6**	**-0.7**
	1.6nm,0.2s						
ARXS				*eS*	**Sb**	**19 37 53.5**	**+0.4**
	17nm,0.6s						
KTBS	**Karatobe**	**2.44**	**300**	Pg	**Pb**	**19 37 32.4**	**+0.9**
	1.3nm,0.6s						
KTBS				Lg	Lg	19 38 03.1		
	11nm,0.6s						
KTBS	**Karatobe**	**2.44**	**300**	*eP*	**Pb**	**19 37 32.8**	**+1.3**
	baz=99						
KTBS				*eS*	**Sg**	**19 38 03.8**	**-1.5**
	baz=99						
KTBS	**Karatobe**	**2.44**	**300**	*eP*	**Pb**	**19 37 32.2**	**+0.7**
	1.3nm,0.6s						
KTBS				*eS*	**Sb**	**19 38 03.2**	**+1.0**
	11nm,0.6s						
ULHL	**Ulahol**	**2.50**	**265**	⇑*iP*	**Pn**	**19 37 29.3**	**+0.6**
	baz=65						
ULHL				⇑*iS*	**Sn**	**19 38 00.3**	**+0.3**
	baz=65						
BOOM	**Boomskoye usch**	**2.70**	**271**	⇑*eP*	**Pn**	**19 37 32.1**	**+0.6**
	baz=71						
BOOM				⇑*iS*	**Sn**	**19 38 05.7**	**+0.7**
	baz=71						
KUU	**Kurty**	**2.75**	**301**	Pg	**Pb**	**19 37 36.3**	**-0.4**
	0.5nm,0.6s						
KUU				Lg	Lg	19 38 10.1		
	5.2nm,0.6s						
DGS	**Degeres**	**2.90**	**286**	Pg	**Pn**	**19 37 33.8**	**-0.4**
	2.5nm,0.5s						
DGS				Lg	Lg	19 38 05.5		
	10.0nm,0.6s						
TKM2	**Tokmak 2**	**2.97**	**279**	⇓Pg	**Pb**	**19 37 42.3**	**+1.7**
	1.9nm,0.9s						
TKM2				⇑Lg	Lg	19 38 18.9		
	3.8nm,0.7s						
AAK	**Ala-Archa**	**3.77**	**274**	⇑Pg	**Pb**	**19 37 54.8**	**+0.6**
	0.8nm,0.7s						
AAK				⇑Lg	Lg	19 38 44.0		
	1.6nm,0.5s						
MK31	**Makanchi Array**	**4.69**	**23**	⇓Pn	**Pn**	**19 38 00.7**	**+2.0**
	0.1nm,0.3s,baz=207,slow=13,SNR=4.5						
MK31				⇑Sn	**Sn**	**19 38 53.4**	**-0.4**
	0.3nm,0.5s,baz=205,slow=25,SNR=4.8						
MK31				⇑Lg	Lg	19 39 11.4		
	0.1nm,0.3s,baz=209,slow=28,SNR=4.1							

MAN 07 19:40:00.1, 9°.37N×122°.54E, h15km, mb4.2, ML3.0, MS2.7, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.69**	**92**	⇓*iP*	Pg	19 40 13.6	0.0
SNPH				*i* S	Sn	19 40 24.9	-1.0
GUIM	**Jordan**	**1.25**	**2**	*eP*	Pn	19 40 21.4	-1.6
GUIM				*eS*	Sb	19 40 39.4	0.0
TBP	**Tagbilaran**	**1.35**	**76**	*eP*	Pn	19 40 23.0	-1.3
TBP				*i* S	Sn	19 40 41.9	-0.1
IPIL	**Ipil**	**1.57**	**179**	*eP*	Pn	19 40 23.7	-3.7
IPIL				*eS*	Sn	19 40 40.7	-6.7
LLP	**Lapu-Lapu**	**1.70**	**56**	⇑*eP*	Pn	19 40 28.6	-0.6
LLP				*eS*	Sn	19 40 50.8	+0.1
PAGZ	**Pagadian**	**1.73**	**151**	*eP*	Pn	19 40 29.1	-0.4
PAGZ				*eS*	Sn	19 40 51.9	+0.6
RCP	**Roxas**	**2.19**	**5**	⇑*eP*	Pn	19 40 36.6	+0.6
RCP				*eS*	Sb	19 41 04.8	-1.6
MSLP	**Maasin**	**2.42**	**71**	*eP*	Pn	19 40 39.4	+0.4
MSLP				*eS*	Sn	19 41 10.2	+1.9
BUKP	**Musuan**	**2.90**	**120**	*eP*	Pn	19 40 47.0	+1.2
BUKP				*eS*	Sb	19 41 24.1	-2.9

UCR 07 19:40:32.1±2.2, 9°.11N×84°.13W, h11km±15km, MD4.1, 2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDLM	**Las Mercedes**	**0.56**	**73**	*eP*	Pg	19 40 43.4	+0.2
EDLM				*i* S	Sb	19 40 52.1	0.0
LCR2	**La Lucha 2**	**0.64**	**12**	⇓*iP*	Pg	19 40 43.5	-1.1
LCR2				*i* S	Sg	19 40 53.8	+0.6
EDBA	**Buenos Aires**	**0.85**	**86**	*eP*	Pg	19 40 47.5	-1.0
HDC	**Heredia**	**0.89**	**1**	⇓*iP*	Pg	19 40 48.1	-1.2
HDC				*i* S	Sg	19 41 00.7	-0.2
PTJ1	**Puerto Jimnez**	**1.00**	**125**	*eP*	Pg	19 40 50.6	-0.8
JTS	**JuntasAbangare**	**1.43**	**326**	*eP*	Pn	19 40 56.6	-1.3
JTS				*i* S	Sn	19 41 15.0	-1.7
CASO	**Castillo**	**1.44**	**336**	*i* P	Pn	19 40 58.3	+0.1
FORC	**Fortuna**	**1.45**	**339**	*i* P	Pb	19 40 58.9	-0.2
FORC				*i* S	Sb	19 41 17.6	0.0
BRU2	**Volcan**	**1.46**	**102**	*eP*	Pn	19 40 57.3	-1.2
TRT1	**Tortuguero**	**1.54**	**16**	*eP*	Pn	19 40 58.8	-0.7
PLVR	**Palo Verde**	**1.72**	**316**	*eP*	Pn	19 41 01.7	-0.4
ACAL	**Aguas Claras**	**1.76**	**330**	*i* P	Pn	19 41 02.8	+0.3
PTEN	**Parque Tenorio**	**1.80**	**332**	*i* P	Pn	19 41 03.4	+0.2
COLC	**Colonia**	**1.87**	**326**	*i* P	Pn	19 41 03.0	-1.1
MESS	**Mesas**	**1.93**	**327**	*i* P	Pn	19 41 05.5	+0.6
LAPC	**Finca la Perla**	**2.09**	**322**	*i* P	Pn	19 41 08.0	+1.0

*ISCJB **07** 19:50:32.2±0.8, 34°.59N±0°.02×32°.07E±0°.04, h5km±4km,*
Error ellipse: s-maj=6.3km s-min=3.7km az=158.8
*ISK **07** 19:50:32.6, 34°.65N×32°.08E, h12km, ML3.0/17*
*NIC **07** 19:50:33.3±0.2, 34°.74N×31°.95E, h17km, ML3.2*
*GII **07** 19:50:34.4±0.0, 34°.68N×32°.15E, h10km, MD2.6/2*

ISC 07 19:50:33.5±1.6, 34°.68N±0°.04×32°.09E±0°.05, h9km±11km, n44, σ0s81/64, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.29**	**46**	P	**Pb**	**19 50 40.4**	**-0.5**
	baz=245						
SZAC	**Souni**	**0.66**	**83**	P	**Pb**	**19 50 47.9**	**+0.8**
	baz=268						
SZAC				S	**Sn**	**19 50 59.5**	**0.0**
LEF	**Lefka**	**0.79**	**56**	PG	**Pg**	**19 50 48.6**	**-0.1**
LEF				SG	**Sg**	**19 50 59.2**	**+0.2**
LEF	**Lefka**	**0.79**	**56**	*i* P	**Pg**	**19 50 49.0**	**+0.3**
LEF				*i* S	**Sn**	**19 51 01.6**	**-1.1**
LEF				IAML_P			
	comp=Z,6μm,0.1s						
AKDN	**Akdeniz- Kıbrı**	**0.95**	**49**	PG	**Pb**	**19 50 52.1**	**+0.1**
MAMC	**Mammari**	**1.05**	**62**	P	**Pb**	**19 50 53.7**	**-0.1**
	baz=247						
CSS	**Mathiatis**	**1.06**	**74**	PG	**Pg**	**19 50 53.6**	**-0.2**
CSS				SG	**Sb**	**19 51 08.7**	**+0.8**
CSS	**Mathiatis**	**1.06**	**74**	P	**Pg**	**19 50 53.8**	**0.0**
	baz=259						
CSS				S	**Sn**	**19 51 09.5**	**+0.1**
CSS	**Mathiatis**	**1.06**	**74**	Pg	**Pg**	**19 50 53.5**	**-0.2**
CSS				Sg	**Sb**	**19 51 08.3**	**+0.4**
AKIN	**Akıncılar- Kıb**	**1.18**	**73**	PN	**Pn**	**19 50 56.5**	**+0.4**
LFK	**Lefkose**	**1.33**	**63**	PN	**Pn**	**19 50 57.9**	**-0.3**
TEKE	**Tekeli-Mersin**	**1.68**	**30**	PN	**Pn**	**19 51 02.5**	**-0.5**
TEKE				SN	**Sn**	**19 51 25.4**	**+0.7**
ALAN	**Alanya-ANTALYA**	**1.87**	**359**	PN	**Pn**	**19 51 06.3**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.90**	**39**	PN	**Pn**	**19 51 05.5**	**-0.5**
BERE	**Bereket-Mersin**	**1.90**	**29**	PN	**Pn**	**19 51 06.0**	**-0.2**
EREN	**Erenkoy**	**1.90**	**63**	PN	**Pn**	**19 51 06.5**	**+0.4**
GULN	**MERSIN_Gulnar**	**1.91**	**38**	*i* P	**Pn**	**19 51 05.2**	**-1.0**
GULN				*i* S	**Sb**	**19 51 33.0**	**+0.6**
GULN				IAML_P			
	comp=Z,193nm,0.1s						
IKL	**Isikli**	**2.03**	**40**	PN	**Pn**	**19 51 07.1**	**-0.7**
ERMK	**Ermenek**	**2.07**	**19**	*i* P	**Pb**	**19 51 10.5**	**-0.7**
ERMK				IAML_P			
	comp=Z,676nm,0.2s						
TEVE	**Tevekalti-Mers**	**2.07**	**32**	PN	**Pn**	**19 51 08.5**	**+0.1**
KEBE	**Keben-Mersin**	**2.20**	**36**	PN	**Pn**	**19 51 10.4**	**+0.1**
KEPZ	**Antalya-Kepez**	**2.25**	**350**	*i* P	**Pn**	**19 51 11.4**	**+0.5**
KEPZ				*i* S	**Sb**	**19 51 43.6**	**+1.4**
KEPZ				IAML_P			
	comp=Z,261nm,0.1s						
KIZK	**Mersin**	**2.45**	**42**	PN	**Pn**	**19 51 14.2**	**+0.5**
KIZK	**Mersin**	**2.45**	**42**	*i* P	**Pn**	**19 51 15.5**	**+1.8**
KIZK				*i* S	**Sb**	**19 51 47.2**	**-0.8**
KIZK				IAML_P			
	comp=Z,556nm,0.2s						
KORT	**Korkueli**	**2.71**	**329**	PN	**Pn**	**19 51 17.6**	**+0.3**
MERS	**Mersin**	**2.94**	**41**	PN	**Pn**	**19 51 21.2**	**+0.7**
HNTI	**Hanita**	**3.02**	**121**	Pn	**Pn**	**19 51 21.8**	**+0.3**
HNTI				Sn	**Sn**	**19 51 57.3**	**-0.5**
FETY	**Fethiye**	**3.13**	**309**	PN	**Pn**	**19 51 22.9**	**-0.1**
OFRI	**`Ofer**	**3.17**	**130**	Pn	**Pn**	**19 51 23.8**	**+0.2**
OFRI				Sn	**Sn**	**19 52 00.6**	**-0.9**
KERG	**Konya-Eregli**	**3.19**	**31**	*i* P	**Pn**	**19 51 26.6**	**+2.7**
KERG				*i* S	**Sb**	**19 52 07.9**	**-1.4**
KERG				IAML_P			
	comp=Z,234nm,0.3s						
MMA0B	**Mount Meron ar**	**3.22**	**120**	Pn	**Pn**	**19 51 24.0**	**-0.3**
KONT	**Konya--Tatoy**	**3.26**	**4**	PN	**Pn**	**19 51 25.8**	**+1.0**
GEM	**Giv'at Ha'Em**	**3.31**	**115**	Pn	**Pn**	**19 51 25.8**	**+0.3**
GEM				Sn	**Sn**	**19 52 04.4**	**-0.6**
KSDI	**Kefar Szold**	**3.32**	**116**	Pn	**Pn**	**19 51 25.7**	**+0.2**
KSDI				Sn	**Sn**	**19 52 04.1**	**-1.0**
GULE	**Gulek**	**3.39**	**39**	*i* P	**Pb**	**19 51 31.3**	**-2.5**
GULE				*i* S	**Sb**	**19 52 16.6**	**+1.5**
GULE				IAML_P			
	comp=Z,140nm,0.1s						
KARA	**Karaisali**	**3.52**	**42**	PN	**Pn**	**19 51 29.2**	**+0.8**
MMLI	**Mount Malkishu**	**3.57**	**128**	PN	**Pn**	**19 51 29.1**	**+0.1**
MMLI	**Mount Malkishu**	**3.57**	**128**	Pn	**Pn**	**19 51 29.1**	**+0.1**
MMLI				Sn	**Sn**	**19 52 10.9**	**-0.5**
HMDT	**Nahal Hemdat**	**3.76**	**129**	Pn	**Pn**	**19 51 32.5**	**+0.9**
HMDT				Sn	**Sn**	**19 52 15.6**	**-0.3**
KOZT	**Kozan**	**4.12**	**46**	PN	**Pn**	**19 51 37.6**	**+1.0**
DSI	**Dead Sea**	**4.15**	**137**	Pn	**Pn**	**19 51 37.4**	**+0.4**
DSI				Sn	**Sn**	**19 52 25.9**	**+0.2**
YTIR	**Yattir**	**4.17**	**142**	Pn	**Pn**	**19 51 38.0**	**+0.6**
YTIR				Sn	**Sn**	**19 52 26.4**	**+0.1**
MZDA	**Masada**	**4.34**	**140**	Pn	**Pn**	**19 51 39.7**	**+0.1**
MBRI	**Mt Berech**	**5.43**	**153**	Pn	**Pn**	**19 51 55.2**	**+0.6**

*SJA **07** 20:00:10.8±0.8, 23°.35S×66°.71W, h228km±6km, ML2.3, MW2.7*
*ISCJB **07** 20:00:13.8±1.1, 23°.23S±0°.07×66°.90W±0°.05, h212km±10km, Error ellipse: s-maj=11.6km s-min=7.9km az=166.5*
*GUC **07** 20:00:13.8±0.5, 23°.14S×67°.32W, h252km±7km, ML3.5*

ISC 07 20:00:11.5±2.7, 23°.30S±0°.09×66°.81W±0°.07, h227km±18km, n29, σ1s22/44, 5C-4D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.64**	**47**	*eP*	**Pn**	**20 00 49.4**	**+0.1**
YJA				IAML		20 00 49.7	
	comp=Z,7.1nm,0.4s						
YJA				*eS*	**S**	**20 01 17.7**	**-1.0**
LVC	**Limon Verde**	**2.05**	**289**	*eP*	**Pn**	**20 00 54.0**	**+1.1**
LVC				IAML		20 00 54.5	
	comp=Z,18nm,0.5s						
LVC				*eS*	**S**	**20 01 25.5**	**+0.4**
LVC	**Limon Verde**	**2.05**	**289**	*eP*	**Pn**	**20 00 53.9**	**+1.0**
LVC				*eS*	**S**	**20 01 24.7**	**-0.4**
PB15	**IPOC Station P**	**2.45**	**272**	*eP*	**Pn**	**20 00 58.1**	**+1.4**
PB15				*eS*	**S**	**20 01 31.9**	**-0.1**
PB15	**IPOC Station P**	**2.45**	**272**	⇓*iP*	**Pn**	**20 00 57.9**	**+1.1**
PB15				*i* S	**S**	**20 01 32.2**	**+0.2**
PB06	**IPOC Station P**	**2.61**	**283**	*eP*	**Pn**	**20 00 59.4**	**+1.0**
PB06	**IPOC Station P**	**2.61**	**283**	⇑*iP*	**Pn**	**20 00 59.4**	**+1.0**
PB06				*i* S	**S**	**20 01 34.6**	**-0.4**
PB06				IAML		20 01 36.9	
	comp=E,61nm,0.4s						
PB09	**IPOC Station P**	**2.70**	**303**	*eP*	**Pn**	**20 01 01.0**	**+1.6**
PB09	**IPOC Station P**	**2.70**	**303**	*eP*	**Pn**	**20 01 00.9**	**+1.5**
PB09				*eS*	**S**	**20 01 36.1**	**-0.7**
PB03	**IPOC Station P**	**2.99**	**294**	*eP*	**Pn**	**20 01 03.4**	**+0.8**
PB03	**IPOC Station P**	**2.99**	**294**	⇑*iP*	**Pn**	**20 01 03.4**	**+0.8**
PB03				*i* S	**S**	**20 01 40.9**	**-1.6**
PB03				IAML		20 01 42.0	
	comp=N,93nm,0.5s						
PB05	**IPOC Station P**	**3.15**	**277**	*eP*	**Pn**	**20 01 05.6**	**+1.2**
PB05	**IPOC Station P**	**3.15**	**277**	⇑*iP*	**Pn**	**20 01 05.1**	**+0.7**
PB05				*i* S	**S**	**20 01 44.1**	**-1.8**
PB04	**IPOC Station P**	**3.22**	**287**	*eP*	**Pn**	**20 01 06.1**	**+0.9**
PB04	**IPOC Station P**	**3.22**	**287**	⇓*iP*	**Pn**	**20 01 06.2**	**+0.9**
PB04				*i* S	**S**	**20 01 45.7**	**-1.7**
PB04				IAML		20 01 48.7	
	comp=N,67nm,0.3s						
PB07	**IPOC Station P**	**3.24**	**298**	*eP*	**Pn**	**20 01 06.4**	**+0.9**
PB07	**IPOC Station P**	**3.24**	**298**	⇑*iP*	**Pn**	**20 01 06.4**	**+0.9**
PB07				*i* S	**S**	**20 01 46.0**	**-1.9**
PB07				IAML		20 01 47.2	
	comp=N,117nm,0.3s						
PB01	**IPOC Station P**	**3.34**	**312**	*eP*	**Pn**	**20 01 07.6**	**+1.0**
PB01				*i* S	**S**	**20 01 48.8**	**-1.1**
PB10	**IPOC Station P**	**3.44**	**266**	*eP*	**Pn**	**20 01 08.4**	**+0.8**
PB10	**IPOC Station P**	**3.44**	**266**	⇑*iP*	**Pn**	**20 01 08.4**	**+0.8**
PB10				*eS*	**S**	**20 01 50.4**	**-1.3**
PB02	**IPOC Station P**	**3.47**	**304**	*eP*	**Pn**	**20 01 08.7**	**+0.6**
PB02	**IPOC Station P**	**3.47**	**304**	*eP*	**Pn**	**20 01 08.8**	**+0.7**
PB02				*eS*	**S**	**20 01 50.3**	**-2.1**
PB14	**IPOC Station P**	**3.54**	**247**	*eP*	**Pn**	**20 01 09.3**	**+0.2**
PB08	**IPOC Station P**	**3.82**	**325**	*eP*	**Pn**	**20 01 14.9**	**+2.4**
PB08	**IPOC Station P**	**3.82**	**325**	⇓*iP*	**Pn**	**20 01 14.5**	**+1.9**
PB11	**IPOC Station P**	**4.40**	**323**	*eP*	**Pn**	**20 01 20.8**	**+1.4**
PSGCX	**Pisagua**	**4.80**	**319**	*eP*	**Pn**	**20 01 25.0**	**+0.8**
MNMC	**Minye Minye**	**4.89**	**327**	⇓*iP*	**Pn**	**20 01 26.3**	**+0.8**
MNMC				*i* S	**S**	**20 02 22.4**	**-1.7**
MNMCX	**Minye Minye**	**4.89**	**327**	*eP*	**Pn**	**20 01

KATZ	**Kakaramea**	**15.89**	**194**	P	**P**	**20**	**24**	**02.8 +0.8**
BKZ	**Black Stump Fm**	**15.91**	**192**	P	**P**	**20**	**24**	**00.0 -2.1**
TWVZ	**Taurewa**	**16.04**	**195**	P	**P**	**20**	**24**	**03.2 -0.2**
NGZ	**Ngauruhoe**	**16.10**	**194**	P	**P**	**20**	**24**	**02.9 -1.1**
KWHZ	**Kaweka Forest**	**16.17**	**192**	P	**P**	**20**	**24**	**02.2 -2.4**
TUVZ	**Tukino**	**16.18**	**194**	P	**P**	**20**	**24**	**02.7 -2.0**
FWVZ	**Far West T-bar**	**16.19**	**194**	P	**P**	**20**	**24**	**05.1 +0.2**
WHVZ	**Whangaehu Hut**	**16.20**	**194**	P	**P**	**20**	**24**	**04.8 -0.2**
KRHZ	**Kereru**	**16.40**	**191**	P	**P**	**20**	**24**	**04.8 -1.8**
STKA	**Stephens Creek**	**35.30**	**248**	P	**P**	**20**	**26**	**52.0 +0.7**
	1.9nm,0.5s,baz=89,slow=11,SNR=12							
ASAR	**Alice Springs**	**42.58**	**260**	P	**P**	**20**	**27**	**50.2 +0.6**
	4.6nm,0.5s,baz=98,slow=7.9,SNR=85							
WRA	**Warramunga Arr**	**42.93**	**266**	P	**P**	**20**	**27**	**52.3 0.0**
	6.2nm,0.4s,baz=91,slow=8.4,SNR=595							
VNDA	**Vanda**	**54.73**	**185**	P	PcP	20	30	25.6 +16
	1.1nm,0.4s,baz=17,slow=4.5,SNR=17							

ISCJB ***07*** *20:37:36.8±0.7, 13°.98N±0°.08×91°.42W±0°.05, h82km±9km, mb3.6/2, Error ellipse: s-maj=15.1km s-min=4.2km az=30.7*

UCR ***07*** *20:37:38.3±1.6, 13°.85N×91°.27W, h16km±6km, MD3.8, ML3.5*

IDC ***07*** *20:37:38.7±2.0, 14°.13N×91°.31W, h80km±17km, mb3.3/2, mb1 3.6/5, mb1mx3.3/34, mbtmp3.6/5, Error ellipse: s-maj=25.9km s-min=12.5km az=27.0*

MEX ***07*** *20:37:38.6±0.4, 13°.87N×91°.39W, h23km±12km, MD3.9*

ISC 07 20:37:37.8±1.1, 14°.02N±0°.09×91°.39W±0°.06, h76km±11km, n25, σ0s.99/33, 1C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.68**	**51**	*e*P	**Pn**	**20 37 52.7**	**-0.5**
PCG	**Pacaya**	**0.84**	**64**	*e*P	**Pn**	**20 37 54.7**	**-0.3**
IXG	**Ixpaco**	**0.92**	**81⇑**	*e*P	**Pn**	**20 37 55.4**	**-0.4**
NBG	**Las Nubes**	**1.15**	**61**	*e*P	**Pn**	**20 37 59.0**	**+0.2**
NBG				*e*S	**Sn**	**20 38 15.1**	**+0.6**
THIG		**1.22**	**316**	*i* P	**Pn**	**20 37 58.4**	**-1.1**
THIG				*i* S	**Sn**	**20 38 15.3**	**-0.4**
APG	**El Apazote**	**1.32**	**42**	P	**Pn**	**20 37 59.7**	**-1.3**
	baz=204,slow=16						
APG				S	**Sn**	**20 38 16.8**	**-1.5**
	42nm,0.3s,baz=1.9,slow=20,SNR=7.4						
APG				LR	LR	20 38 33.6	
	comp=Z,123nm,20.9s,baz=311,slow=46						
RTR	**El Retiro**	**1.69**	**94**	*e*P	**Pn**	**20 38 05.7**	**0.0**
CEVE	**Cerro Verde**	**1.72**	**96**	*e*P	**Pn**	**20 38 05.9**	**-0.3**
CEVE				*e*S	**Sn**	**20 38 28.2**	**+0.6**
SBLS	**San Blas**	**1.72**	**96**	*e*P	**Pn**	**20 38 06.0**	**-0.2**
SNJE	**San Jose**	**1.74**	**95**	*e*P	**Pn**	**20 38 06.3**	**0.0**
UNIC	**Santa Ana**	**1.77**	**91**	*e*S	**Sn**	**20 38 29.6**	**+1.0**
MRL	**Marmol**	**1.94**	**58**	*e*P	**Pn**	**20 38 10.5**	**+1.5**
BOQS	**Boqueron**	**2.07**	**98**	*e*P	**Pn**	**20 38 10.7**	**0.0**
BOQS				*e*S	**Sn**	**20 38 36.2**	**+0.4**
SNET	**Serv Nac Est T**	**2.12**	**99**	IAML		20 38 43.3	
	comp=Z,954nm,0.3s						
LFRS	**El Faro**	**2.29**	**100**	*e*P	**Pn**	**20 38 13.6**	**-0.1**
CCIG	**Comitan**	**2.36**	**342**	*e*P	**Pn**	**20 38 15.7**	**+1.1**
CCIG				*i* S	**Sn**	**20 38 45.0**	**+2.3**
PAVA	**Las Pavas**	**2.40**	**97**	*e*P	**Pn**	**20 38 14.3**	**-0.8**
PAVA				IAML		20 38 52.1	
	comp=Z,293nm,0.5s						
PCIG		**2.44**	**314**	*e*P	**Pn**	**20 38 16.5**	**+1.1**
PCIG				*i* S	**Sn**	**20 38 45.5**	**+1.1**
CMIG	**Matias Romero**	**4.54**	**313**	P	**Pn**	**20 38 45.5**	**+1.3**
	comp=Z,8.2nm,0.3s,baz=137,slow=8.7,SNR=50						
CMIG				S	**Sn**	**20 39 35.9**	**+0.1**
	comp=Z,9.7nm,0.3s,baz=123,slow=14,SNR=5.1						
JTS	**JuntasAbangare**	**7.30**	**120**	P	**Pn**	**20 39 22.4**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=333,slow=16,SNR=3.9						
JTS				S	**Sn**	**20 40 45.0**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=258,slow=19,SNR=1.5						
TXAR	**Lajitas Array**	**19.01**	**325**	P	**Pn**	**20 41 55.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=4.0						
NVAR	**Mina Array Bea**	**34.03**	**321**	P	**P**	**20 44 15.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=126,slow=9.0,SNR=7.8						
YKA	**Yellowknife Ar**	**51.14**	**346**	P	**P**	**20 46 31.4**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=146,slow=7.9,SNR=5.3						
WRA	**Warramunga Arr**	**135.98**	**256**	PKP	**PKiKP**	**20 56 51.9**	**-0.6**
	comp=Z,1.0nm,1.3s,baz=91,slow=2.6,SNR=3.3						
CMAR	**Chiang Mai Arr**	**146.16**	**342**	PKPbc	**PKPbc**	**20 57 09.0**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=338,slow=3.2,SNR=9.5						

GUC ***07*** *20:44:50.8±0.7, 32°.62S×71°.67W, h29km±5km, ML3.0*

SJA ***07*** *20:44:51.1±0.8, 32°.56S×72°.04W, h63km±14km, ML3.2, MW3.8*

ISC 07 20:44:47.2±2.5, 32°.62S±0°.05×71°.9W±0°.1, h8km±12km, n27, σ1s.95/35, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.85**	**115**	*e*P	**Pg**	**20 45 04.7**	**+1.0**
ROCH				*i* S	**Sg**	**20 45 14.9**	**0.0**
ROCH				IAML		20 45 16.2	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.18**	**117**	*e*P	**Pb**	**20 45 09.4**	**-0.4**
PEL				*i* S	**Sb**	**20 45 24.1**	**-1.2**
PEL				IAML		20 45 27.3	
	comp=E,924nm,0.3s						
CLCH	**Cerro Calan**	**1.41**	**124**	*e*P	**Pn**	**20 45 13.6**	**+0.3**
CLCH				*i* S	**Sn**	**20 45 30.5**	**-1.6**
CLCH				IAML		20 45 36.3	
	comp=E,597nm,0.5s						
ANTU	**Antumapu**	**1.45**	**131**	*e*P	**Pn**	**20 45 14.3**	**+0.5**
ANTU				*e*S	**Sn**	**20 45 32.2**	**-0.8**
ANTU				IAML		20 45 36.4	
	comp=N,402nm,0.6s						
FCH	**Farellones**	**1.55**	**118**	*e*P	**Pn**	**20 45 15.8**	**+0.3**
FCH				*i* S	**Sn**	**20 45 34.6**	**-1.4**
FCH				IAML		20 45 37.3	
	comp=E,374nm,0.6s						
CMCH	**Combarbala**	**1.64**	**29**	*e*P	**Pg**	**20 45 18.5**	**-0.2**
CMCH				*i* S	**Sg**	**20 45 39.5**	**-0.5**
LMEL	**Las Melosas**	**1.90**	**131**	*e*P	**Pn**	**20 45 21.9**	**+1.8**
LMEL				*i* S	**Sn**	**20 45 45.1**	**+0.8**
AUSP	**Uspallata**	**2.19**	**80**	*e*P	**Pb**	**20 45 28.2**	**+0.9**
AUSP				*e*S	**Sg**	**20 45 56.6**	**-1.0**
RTLS	**Leoncito**	**2.38**	**71**	*e*P	**Pb**	**20 45 31.5**	**+1.0**
RTLS				IAML		20 46 04.1	
	comp=Z,84nm,0.5s						
ARCO	**CERRO ARCO**	**2.54**	**96**	*e*P	**Pb**	**20 45 33.4**	**+0.3**
ARCO				IAML		20 46 13.2	
	comp=Z,65nm,0.5s						
ASAL	**Salagasta**	**2.62**	**90**	*e*P	**Pb**	**20 45 34.7**	**+0.2**
GO04	**Tololo Observa**	**2.62**	**22**	*e*P	**Pn**	**20 45 32.1**	**+2.0**
GO04				*e*S	**Sb**	**20 46 05.1**	**-1.9**
AAGR	**Agrelo**	**2.66**	**101**	*e*P	**Pb**	**20 45 35.2**	**+0.1**
ZON	**Zonda**	**2.96**	**70**	*e*P	**Pb**	**20 45 39.3**	**-1.0**
RTCV	**Cerro Valdivia**	**2.97**	**76**	*e*P	**Pb**	**20 45 40.4**	**-0.1**
ACCO	**Cerro Coronel**	**3.17**	**51**	*e*P	**Pb**	**20 45 43.0**	**-1.1**
RTLL	**Cerro Villicun**	**3.21**	**67**	*e*P	**Pb**	**20 45 43.2**	**-1.3**
AROD	**Rodeo**	**3.22**	**41**	*e*P	**Pb**	**20 45 42.8**	**-2.1**
CFA	**Coronel Fontan**	**3.29**	**73**	*e*P	**Pb**	**20 45 43.5**	**-2.5**
AMOG	**MOGNA**	**3.37**	**61**	*e*P	**Pb**	**20 45 45.0**	**-2.4**
LCO	**Las Campanas**	**3.75**	**17**	*e*P	**Pn**	**20 45 47.1**	**+1.5**
ACAN	**Cantantal**	**4.03**	**86**	*e*P	**Pb**	**20 45 54.1**	**-4.3**
AGUA	**GUANDACOL**	**4.30**	**44**	*e*P	**Pn**	**20 45 57.5**	**+4.4**
VCA	**Vinchina**	**5.03**	**41**	*e*P	**Pn**	**20 46 06.0**	**+2.9**
VCA				IAML		20 46 15.0	
	comp=Z,30nm,0.6s						
APLL	**PUNTA DE LOS L**	**5.12**	**66**	*e*P	**Pn**	**20 46 08.2**	**+3.9**
ACLC	**CERRO LA CRUZ**	**5.33**	**55**	*e*P	Pb	20 46 14.0	-6.7
TCA	**Tanti**	**6.36**	**80**	*e*P	**Pn**	**20 46 24.6**	**+3.2**

IDC ***07*** *20:52:56.2±0.6, 32°.71S×71°.71W, h0km, mb3.9/8, mb1 3.9/13, mb1mx3.9/35, mbtmp3.8/13, ML3.8/5, MS4.0/3, Ms1 4.0/3, ms1mx3.1/24, Error ellipse: s-maj=23.1km s-min=16.6km az=96.0*

ISCJB ***07*** *20:52:57.4±1.1, 32°.80S±0°.03×72°.04W±0°.05, h17km±8km, mb4.0/9, MS4.0/3, Error ellipse: s-maj=7.6km s-min=5.8km az=169.8*

GUC ***07*** *20:52:59.6±0.6, 32°.70S×71°.74W, h27km±5km, ML4.0*

NEIC ***07*** *20:52:59.0±0.0, 32°.69S×71°.73W, h22km, mb4.4/1, ML4.0(GUC), After GUC.*

NEIC Felt [III] at Quilpue, Valparaiso and Villa Alemana and [II] at Vina del Mar.

SJA ***07*** *20:53:00.0±0.9, 32°.91S×71°.82W, h19km±12km, ML3.7, MW4.1*

ISC 07 20:52:56.7±1.6, 32°.72S±0°.04×71°.88W±0°.06, h5km±10km, n66, σ1s48/67, mb4.0/9, MS3.9/3, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.77**	**110**	*e*Pg	**Pb**	**20 53 13.3**	**+0.5**
ROC1	**El Roble**	**0.77**	**110**	*e*P	**Pn**	**20 53 13.6**	**-0.9**
ROC1				*e*S	**Sn**	**20 53 23.8**	**-2.8**
ROCH	**El Roble**	**0.78**	**110**	⇓*i* P	**Pn**	**20 53 13.5**	**-0.9**
ROCH				*i* S	**Sn**	**20 53 23.8**	**-2.8**
ROCH				IAML		20 53 28.1	
	comp=N,6μm,0.5s						
PEL	**Peldehue**	**1.09**	**113**	*e*Pg	**Pg**	**20 53 18.6**	**+1.0**
PEL	**Peldehue**	**1.09**	**113**	*e*P	**Pn**	**20 53 18.3**	**-0.4**
PEL				*e*S	**Sn**	**20 53 32.8**	**-1.4**
PEL				IAML		20 53 37.3	
	comp=E,10μm,0.2s						
CLCH	**Cerro Calan**	**1.32**	**121**	⇓*i* P	**Pg**	**20 53 22.2**	**+0.2**
CLCH				*i* S	**Sg**	**20 53 39.6**	**+0.6**
CLCH				IAML		20 53 44.6	
	comp=E,6μm,0.7s						
ANTU	**Antumapu**	**1.35**	**129**	*e*P	**Pg**	**20 53 22.7**	**+0.2**
ANTU				*i* S	**Sg**	**20 53 40.8**	**+0.7**
ANTU				IAML		20 53 45.3	
	comp=E,5μm,0.3s						
FCH	**Farellones**	**1.47**	**115**	⇑*i* P	**Pb**	**20 53 24.7**	**+0.1**
FCH				*i* S	**Sg**	**20 53 44.0**	**+0.1**
FCH				IAML		20 53 46.6	
	comp=E,6μm,0.2s						
CMCH	**Combarbala**	**1.71**	**26**	*e*P	**Pn**	**20 53 28.9**	**+1.8**
CMCH				*i* S	**Sb**	**20 53 51.1**	**+0.7**
LMEL	**Las Melosas**	**1.80**	**129**	*e*P	**Pb**	**20 53 30.2**	**-0.1**
LMEL				*i* S	**Sg**	**20 53 53.5**	**-1.1**
LMEL				IAML		20 53 59.4	
	comp=N,4μm,0.3s						
AUSP	**Uspallata**	**2.17**	**78**	*e*P	**Pg**	**20 53 38.2**	**0.0**
GO05	**Huala**	**2.29**	**181**	*e*Pn	**Pn**	**20 53 34.5**	**-0.6**
RTLS	**Leoncito**	**2.37**	**68**	*e*P	**Pb**	**20 53 40.9**	**+0.9**
RTLS				IAML		20 54 14.4	
	comp=Z,381nm,0.7s						
ARCO	**CERRO ARCO**	**2.49**	**94**	*e*P	**Pg**	**20 53 43.7**	**-0.6**
ARCO				IAML		20 53 46.4	
	comp=Z,461nm,0.2s						
ASAL	**Salagasta**	**2.57**	**88**	*e*P	**Pb**	**20 53 44.5**	**+1.2**
AAGR	**Agrelo**	**2.59**	**99**	*e*P	**Pg**	**20 53 46.1**	**-0.3**
GO04	**Tololo Observa**	**2.70**	**20**	*e*Pn	**Pn**	**20 53 42.2**	**+1.3**
RTCV	**Cerro Valdivia**	**2.96**	**74**	*e*P	**Pb**	**20 53 49.8**	**0.0**
ZON	**Zonda**	**2.96**	**68**	*e*P	**Pb**	**20 53 49.1**	**-0.8**
ACCO	**Cerro Coronel**	**3.20**	**49**	*e*P	**Pb**	**20 53 54.7**	**+0.5**
RTLL	**Cerro Villicun**	**3.21**	**65**	*e*P	**Pb**	**20 53 52.5**	**-1.7**
AROD	**Rodeo**	**3.27**	**40**	*e*P	**Pb**	**20 53 56.4**	**+1.1**
CFA	**Coronel Fontan**	**3.28**	**71**	*e*P	**Pb**	**20 53 53.9**	**-1.6**
AMOG	**MOGNA**	**3.38**	**59**	*e*P	**Pb**	**20 53 56.2**	**-0.9**
LCO	**Las Campanas**	**3.83**	**16**	*e*Pn	**Pn**	**20 53 57.2**	**+0.7**
ACAN	**Cantantal**	**3.99**	**85**	*e*P	**Pb**	**20 54 03.5**	**-3.9**
AGUA	**GUANDACOL**	**4.34**	**43**	*e*P	Pn	20 54 08.2	+4.9
VCA	**Vinchina**	**5.07**	**40**	*e*P	Pb	20 54 20.9	-5.2
APLL	**PUNTA DE LOS L**	**5.12**	**65**	*e*P	**Pn**	**20 54 18.2**	**+4.1**
GO03	**Copiap**	**5.30**	**16**	*e*Pn	**Pn**	**20 54 17.0**	**+0.4**
ACLC	**CERRO LA CRUZ**	**5.35**	**54**	*e*P	**Pn**	**20 54 21.8**	**+4.5**
TCA	**Tanti**	**6.34**	**79**	*e*P	**Pn**	**20 54 33.6**	**+2.8**
GO02	**Mina Guanaco**	**7.79**	**16**	*e*Pn	**Pn**	**20 54 49.6**	**-1.4**
PLCA	**Paso Flores**	**8.07**	**173**	Pn	**Pn**	**20 54 55.6**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=357,slow=11,SNR=30						
PLCA				Lg	Lg	20 57 07.0	
	comp=Z,0.1nm,0.3s,baz=275,slow=23,SNR=1.2						
LVC	**Limon Verde**	**10.40**	**15**	Pn	**Pn**	**20 55 24.2**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=148,slow=9.5,SNR=2.7						
CPUP	**Villa Florida**	**14.17**	**67**	Pn	**Pn**	**20 56 17.3**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=246,slow=16,SNR=1.7						
CPUP				Sn	**Sn**	**20 58 59.5**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=184,slow=7.9,SNR=2.7						
CPUP				Lg	Lg	21 00 29.3	
	comp=Z,0.2nm,0.3s,baz=239,slow=4.5,SNR=3.2						
LPAZ	**La Paz**	**16.70**	**13**	Pn	**Pn**	**20 56 52.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=186,slow=8.4,SNR=3.3						
SIV	**San Ignacio**	**19.32**	**33**	P	**P**	**20 57 22.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=230,slow=16,SNR=3.3						
USHA	**Ushuaia**	**22.24**	**175**	P	**P**	**20 57 53.5**	**-0.6**
	comp=Z,5.8nm,1.0s,baz=15,slow=12,SNR=2.5						
PMSA	**Palmer Station**	**32.45**	**174**	LR	LR	21 12 05.3	
	comp=Z,132nm,19.4s,baz=129,slow=35						
RPN	**Rapa Nui**	**32.82**	**270**	P	**P**	**20 59 33.0**	**+1.9**
	comp=Z,37nm,0.6s,baz=105,slow=12,SNR=2.4						
SNAA	**Sanae**	**52.72**	**158**	P	**P**	**21 02 11.9**	**0.0**
	comp=Z,0.8nm,0.8s,baz=270,slow=16,SNR=3.8						
QSPA	**South Pole Qui**	**57.52**	**180**	*e*P	**P**	**21 02 47.2**	**+0.5**
	comp=Z,1.6nm,0.4s						
QSPA	**South Pole Qui**	**57.52**	**180**	P	**P**	**21 02 47.3**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=162,slow=3.2,SNR=4.0						
TXAR	**Lajitas Array**	**68.68**	**330**	P	**P**	**21 04 01.9**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=153,slow=8.4,SNR=3.7						
LENM	**Lemitar**	**74.26**	**330**	*e*P	**P**	**21 04 33.3**	**-1.6**
MAW	**Mawson**	**74.37**	**164**	LR	LR	21 38 42.8	
	comp=Z,204nm,18.1s,baz=102,slow=37						
DBIC	**Dimbokro**	**74.65**	**72**	P	**P**	**21 04 36.5**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=212,slow=3.8,SNR=2.4						
BOSA	**Boshof**	**80.55**	**118**	P	**P**	**21 05 10.1**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=29,slow=1.6,SNR=3.8						
NVAR	**Mina Array Bea**	**82.91**	**325**	P	**P**	**21 05 23.1**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=162,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**83.65**	**70**	P	**P**	**21 05 26.4**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=209,slow=2.7,SNR=5.3						
TOA1	**Torodi Ar. Sit**	**83.65**	**70**	*e*P	**P**	**21 05 26.4**	**-0.2**
RPZ	**Rata Peaks**	**84.70**	**220**	LR	LR	21 36 01.8	
	comp=Z,48nm,18.7s,baz=302,slow=30						
WR1	**Warramunga Arr**	**121.94**	**209**	*e*PKPdf	**PKPdf**	**21 11 51.9**	**-0.8**
WRA	**Warramunga Arr**	**121.94**	**209**	PKP	**PKPdf**	**21 11 51.9**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=157,slow=1.8,SNR=3.4						
H11S2	**WAKE ISLAND Hyl**	**25.91**	**270**	T	T	23 30 56.8	
	baz=118,slow=75,SNR=51						
H11S1	**WAKE ISLAND Hyl**	**25.92**	**270**	T	T	23 31 00.2	
	baz=118,slow=75,SNR=83						
H11S3	**WAKE ISLAND Hyl**	**25.93**	**270**	T	T	23 30 58.1	
	baz=118,slow=75,SNR=57						
BVAR	**Borovoye Array**	**146.24**	**42**	PKPbc	**PKPbc**	**21 12 38.0**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=269,slow=2.7,SNR=6.6						
KURBB	**Kurchatov Arra**	**151.84**	**42**	PKPbc	**PKPbc**	**21 12 52.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=303,slow=2.9,SNR=12						
KURK	**Kurchatov**	**151.84**	**42**	*e*PKPbc	**PKPbc**	**21 12 52.2**	**+0.1**
ZAA1	**Zalesovo Array**	**153.06**	**31**	*e*PKPbc	**PKPbc**	**21 12 54.7**	**0.0**
ZALV	**Zalesovo Beam**	**153.07**	**31**	PKPbc	**PKPbc**	**21 12 54.7**	**0.0**
	comp=Z,1.9nm,0.7s,baz=302,slow=2.8,SNR=6.0						
MK32	**Makanchi Array**	**155.81**	**47**	*e*PKPab	**PKPab**	**21 13 18.3**	**+0.1**
MKAR	**Makanchi Array**	**155.81**	**47**	PKPab	**PKPab**	**21 13 18.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=291,slow=4.0,SNR=5.3						
CMAR	**Chiang Mai Arr**	**163.58**	**148**	PKP	**PKPdf**	**21 13 02.2**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=232,slow=1.0,SNR=3.0						

IDC ***07*** *20:55:50.0±1.2, 19°.10S×169°.69E, h214km±9km, mb5.0/45, mb1 5.1/46, mb1mx5.1/51, mbtmp5.6/46, Error ellipse: s-maj=8.4km s-min=7.9km az=124.0*

BGR ***07*** *20:55:50.6±0.0, 20°.19S×169°.95E, h240km*

NEIC ***07*** *20:55:52.9±0.1, 18°.97S×169°.38E, mb5.5/300, MW5.5, Error ellipse: s-maj=3.3km s-min=2.4km az=144.0, Moment Tensor Solution. s23 Moment tensor: Scale 10^{17}Nm; M_{rr}2.32; $M_{\theta\theta}$-0.62; $M_{\phi\phi}$-1.69; $M_{r\theta}$0.63; $M_{\theta\phi}$-0.63; $M_{\phi r}$-0.98; Best double couple: M_o2.50000×10^{17} NP1: ϕ_s39.00000°, δ39.00000°, λ118.00000°. NP2: ϕ_s185.00000°, δ56.00000°, λ70.00000°. Principal axes: T 2.7200, Plg71.0000°, Azm197.0000°; P -2.0900, Plg9.0000°, Azm290.0000°;*

MOS ***07*** *20:55:52.5±1.0, 19°.02S×169°.40E, h246km, mb5.6/65 Error ellipse: s-maj=7.2km s-min=6.1km az=94.3*

ISCJB ***07*** *20:55:53.0±0.5, 18°.94S±0°.02×169°.33E±0°.02, h245km±5km, mb5.3/380, Error ellipse: s-maj=4.0km s-min=2.9km az=170.4*

BJI ***07*** *20:55:53.0, 19°.00S×169°.40E, h242km, mb5.2/76, mB5.3/47*

GCMT ***07*** *20:55:54.9±0.1, 19°.03S±0°.01×169°.35E±0°.01, h246km, MW5.5/114, Moment Tensor Solution. s102,c165; s114,c186; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.06±.02; $M_{\theta\theta}$0.69±.03; $M_{\phi\phi}$-1.75±.02; $M_{r\theta}$0.89±.03; $M_{\theta\phi}$0.31±.03; $M_{\phi r}$-0.53±.03; Best double couple: M_o1.86500×10^{17} NP1:ϕ_s142.00000°, δ67.00000°, λ51.00000°. NP2:ϕ_s26.00000°, δ44.00000°, λ145.00000°. Principal axes: T 1.7960, Plg52.0000°, Azm6.0000°; N 0.1410, Plg35.0000°, Azm160.0000°; P -1.9340, Plg13.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 20:55:53.1±0.3, 19°.04S±0°.03×169°.49E±0°.03, h242km±2km, h243km: pP-P, n1451, σ1s27/1488, mb5.5/372, 116C-24D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.79**	**209**	*e*Pn	**Pn**	**20 56 42.5**	**-0.3**
PINNC	**Pines Island,**	**4.04**	**208**	*e*Pn	**Pn**	**20 56 56.8**	**-0.1**
DZM	**Mont Dzumac**	**4.15**	**223**	*e*P	**Pn**	**20 56 59.4**	**+1.0**
	3μm,1.4s						
DZM	**Mont Dzumac**	**4.15**	**223**	*e*Pn	**Pn**	**20 56 58.9**	**+0.5**
DZM	**Mont Dzumac**	**4.15**	**223**	P	**Pn**	**20 56 59.5**	**+1.0**
	52nm,0.3s,baz=291,slow=3.7,SNR=102						
DZM				S	**S**	**20 57 49.7**	**-0.5**
	103nm,0.3s,baz=92,slow=20,SNR=1.6						
ONTNC	**Ouen Toro**	**4.32**	**221**	*e*Pn	**Pn**	**20 57 01.4**	**+1.0**
MSVF	**Nonsavu**	**8.23**	**82**	*e*Pn	**Pn**	**20 57 52.8**	**+3.3**
MSVF	**Nonsavu**	**8.23**	**82**	*e*P	**Pn**	**20 57 52.8**	**+3.3**
NFK	**Norfolk Island**	**10.06**	**188**	P	**P**	**20 58 17.3**	**-1.2**
	baz=10,SNR=3.8						
HNR	**Honiara**	**13.29**	**315**	*e*P	**Pn**	**20 58 52.0**	**-0.9**
HNR				*e*S	**S**	**21 01 20.0**	**-0.4**
HNR	**Honiara**	**13.29**	**315**	P	**Pn**	**20 58 53.5**	**+0.6**
	45nm,0.3s,baz=192,slow=2.6,SNR=45						
HNR				S	**S**	**21 01 20.0**	**-0.4**
	8.0nm,0.3s,baz=257,slow=18,SNR=1.4						
LHI	**Lord Howe Isla**	**15.59**	**215**	P	**Pn**	**20 59 22.2**	**+1.6**
	baz=16,SNR=14						
LHI	**Lord Howe Isla**	**15.59**	**215**	*e*P	**Pn**	**20 59 21.6**	**+1.0**
	2μm,1.8s						
OUZ	**Omahuta**	**16.52**	**168**	*e*P	**Pn**	**20 59 33.2**	**+1.5**
	123nm,1.0s						
OUZ	**Omahuta**	**16.52**	**168**	P	**Pn**	**20 59 33.3**	**+1.7**
WCZ	**Waipu Caves**	**17.37**	**167**	P	**Pn**	**20 59 43.1**	**+1.5**
GRZ	**Great Barrier**	**17.93**	**164**	P	**Pn**	**20 59 48.4**	**+0.2**
ABAZ	**Army Bay**	**18.11**	**166**	P	**Pn**	**20 59 49.0**	**-1.3**
EIDS	**Eidsvold**	**18.16**	**246**	P	**Pn**	**20 59 50.2**	**-0.8**
	baz=18,SNR=37						
EIDS	**Eidsvold**	**18.16**	**246**	*e*P	**P**	**20 59 48.5**	**+0.4**
	995nm,1.7s						
MBAZ	**Motutapu North**	**18.29**	**166**	P	**Pn**	**20 59 52.4**	**+0.1**
WIAZ	**Waiheke Island**	**18.37**	**165**	P	**Pn**	**20 59 52.7**	**-0.6**
KUZ	**Kuaotunu**	**18.47**	**164**	P	**Pn**	**20 59 53.9**	**-0.6**
MKAZ	**Moumakai**	**18.67**	**166**	P	**Pn**	**20 59 56.4**	**-0.4**
NIUE	**Niue**	**19.46**	**93**	*e*P	**P**	**21 00 03.1**	**+1.1**
ARMA	**Armidale**	**19.76**	**232**	P	**P**	**21 00 07.2**	**+2.0**
	baz=20,SNR=53						
ARMA	**Armidale**	**19.76**	**232**	*e*P	**P**	**21 00 06.5**	**+1.2**
	187nm,0.8s						
HIZ	**Hauiti**	**19.96**	**168**	*e*P	**Pn**	**21 00 09.9**	**-2.2**
	128nm,1.0s						
MXZ	**Matakaoa Point**	**20.00**	**159**	P	Pn	21 00 10.5	-2.0
TARZ	**Mount Tarawera**	**20.08**	**164**	P	Pn	21 00 13.7	+0.1
RUGZ	**Raukumara Rang**	**20.16**	**161**	P	Pn	21 00 13.1	-1.6
PKGZ	**Pakihiroa**	**20.22**	**160**

STKA Stephens Creek 28.15 238 P **P** **21 01 24.2 +1.0**
comp=Z,150nm,0.7s,baz=72,slow=8.8,SNR=418
STKA PcP **PcP** **21 04 31.3 +0.6**
comp=Z,26nm,0.9s,baz=92,slow=7.0,SNR=3.9
STKA ScP **ScP** **21 07 51.2 +2.6**
comp=Z,19nm,0.8s,baz=54,slow=2.8,SNR=12
STKA PKiKP **PKiKP** **21 12 04.8 -1.3**
comp=Z,1.1nm,0.5s,baz=317,slow=2.6,SNR=4.2
STKA P3KPbc 21 33 41.8
comp=Z,5.6nm,1.0s,baz=254,slow=5.1,SNR=7.0
ARPS Mount Arapiles 29.99 228 P **P** **21 01 40.5 +1.2**
baz=30,SNR=18
MOO Moorlands 30.02 214 P **P** **21 01 40.9 +1.4**
baz=30,SNR=26
TAU Tasmania Unive 30.28 213 *e*P **P** **21 01 41.4 -0.3**
comp=Z,152nm,1.6s
TAU Tasmania Unive 30.28 213 *e*P **P** **21 01 41.4 -0.3**
TAU pmax pmax
comp=Z,152nm,1.6s
HTT Hallett 30.80 236 P **P** **21 01 47.3 +0.7**
baz=31,SNR=57
JAY Jayapura 32.60 297 P **P** **21 02 02.1 -0.3**
comp=Z,30nm,0.9s,baz=121,slow=2.9,SNR=9.3
BBOO Buckleboo 32.89 239 P **P** **21 02 05.2 +0.4**
baz=33,SNR=126
BBOO Buckleboo 32.89 239 *e*P **P** **21 02 04.6 -0.2**
comp=Z,127nm,0.8s
GENI Genyem 33.02 296 P **P** **21 02 06.4 +0.4**
WB2 Warramunga Arr 33.10 262 *e*P **P** **21 02 04.4 -2.3**
WRAB Tennant Creek 33.10 263 *de*P **P** **21 02 05.8 -0.9**
WRAB pmax pmax
comp=Z,226nm,1.2s
WR1 Warramunga Arr 33.11 262 *e*P **P** **21 02 06.0 -0.9**
comp=Z,238nm,1.0s
WR1 *e*PP **PP** **21 03 27.4 +0.3**
WR1 *e*PcP **PcP** **21 04 44.4 +0.3**
WR1 *e*S **S** **21 07 04.8 -3.2**
WR1 *e*ScP **ScP** **21 08 07.0 +1.8**
WR1 *e* 21 08 29.4
WR1 *e*ScS **ScS** **21 12 08.5 +2.0**
WR1 *e* 21 33 17.7
WRA Warramunga Arr 33.11 262 P **P** **21 02 06.0 -0.9**
comp=Z,105nm,0.7s,baz=97,slow=8.6,SNR=249
WRA PP **PP** **21 03 27.4 +0.3**
comp=Z,18nm,1.0s,baz=92,slow=9.1,SNR=5.5
WRA PcP **PcP** **21 04 44.4 +0.3**
comp=Z,6.8nm,0.7s,baz=93,slow=3.2,SNR=4.4
WRA S **S** **21 07 04.8 -3.2**
comp=Z,30nm,1.1s,baz=89,slow=14,SNR=20
WRA ScP **ScP** **21 08 07.0 +1.8**
comp=Z,14nm,1.1s,baz=85,slow=4.2,SNR=5.9
WRA PcS **PcS** **21 08 29.4 -0.7**
comp=Z,1.0nm,0.3s,baz=90,slow=5.9,SNR=26
WRA PKiKP **PKiKP** **21 12 08.5 -1.3**
comp=Z,2.4nm,0.6s,baz=69,slow=1.0,SNR=24
WRA P3KPbc 21 33 17.7
comp=Z,2.7nm,0.9s,baz=288,slow=3.2,SNR=11
AS01 Alice Springs 33.36 256 *e*P **P** **21 02 08.0 -1.0**
AS31 Alice Springs 33.41 256 *e*P **P** **21 02 08.5 -0.9**
comp=Z,220nm,0.6s
AS31 *e*PP **PnPn** **21 03 34.0 +3.5**
AS31 *e*PcP **PcP** **21 04 42.4 -2.5**
AS31 *e*S **S** **21 07 10.6 -1.8**
AS31 *e*ScP **ScP** **21 08 08.2 +1.9**
AS31 *e*ScS **ScS** **21 12 08.7 +0.7**
AS31 *e* 21 33 18.0
ASAR Alice Springs 33.41 256 P **P** **21 02 09.3 0.0**
ASAR 21 03 34.0
ASAR 21 04 42.4
ASAR S **S** **21 07 10.6 -1.8**
ASAR *i* 21 12 08.7
ASAR pmax pmax
comp=Z,572nm,0.7s
ASAR pmax pmax
comp=Z,25nm,1.0s
ASAR pmax pmax
comp=Z,6.0nm,0.7s
ASAR smax smax
comp=N,17nm,0.7s
ASAR pmax pmax
comp=N,15nm,0.9s
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 33.41 256 P **P** **21 02 09.3 0.0**
comp=Z,585nm,0.7s,baz=84,slow=9.0,SNR=4072
ASAR PP **PnPn** **21 03 34.0 +3.5**
comp=Z,25nm,1.0s,baz=89,slow=11,SNR=4.5
ASAR PcP **PcP** **21 04 42.4 -2.5**
comp=Z,5.5nm,0.7s,baz=104,slow=2.4,SNR=3.9
ASAR S **S** **21 07 10.6 -1.8**
comp=Z,17nm,0.7s,baz=81,slow=17,SNR=15
ASAR ScP **ScP** **21 08 08.2 +1.9**
comp=Z,15nm,0.8s,baz=99,slow=3.7,SNR=15
ASAR PKiKP **PKiKP** **21 12 08.7 -1.2**
comp=Z,1.9nm,0.7s,baz=67,slow=1.2,SNR=17
ASAR P3KPbc 21 33 18.0
comp=Z,2.1nm,0.8s,baz=286,slow=4.0,SNR=17
KDU Kakadu 36.11 274 P **P** **21 02 32.2 -0.3**
baz=36,SNR=22
MTN Manton Dam 37.34 274 P **P** **21 02 42.8 0.0**
baz=37,SNR=55
MTN Manton Dam 37.34 274 *e*P **P** **21 02 41.9 -0.9**
comp=Z,214nm,0.7s
WAKE Wake Island 38.19 356 *e*P **P** **21 02 48.9 -0.8**
comp=Z,452nm,1.0s
TBI Tubuai 38.42 104 *e*S **S** **21 08 27.3 -1.2**
comp=Z,325nm,27.5s
WRKA Warakurna 38.54 254 P **P** **21 02 52.6 -0.1**
baz=39,SNR=317
XMAS Kiritimati 38.67 61 *e*P **P** **21 02 54.8 +1.0**
comp=Z,187nm,0.8s
PAE Paea 38.81 95 *e*P **P** **21 02 55.0 0.0**
comp=Z,4.4nm,0.9s
PPT2 Papeete2 38.83 95 *e*P **P** **21 02 55.4 +0.2**
comp=Z,72nm,1.4s
PPT2 *e*S **S** **21 08 33.9 -1.0**
comp=Z,230nm,26.0s
PPT Papeete 38.83 95 P **P** **21 02 54.6 -0.6**
comp=Z,32nm,0.7s,baz=100,slow=6.4,SNR=4.8
KNRA Kununurra 38.96 268 P **P** **21 02 55.9 -0.3**
baz=39,SNR=64
TIAR Tiarei 39.05 95 *e*P **P** **21 02 57.5 +0.5**
comp=Z,16nm,1.0s
FORT Forrest 39.15 244 P **P** **21 02 57.7 +0.1**
baz=39,SNR=27
FORT Forrest 39.15 244 *e*P **P** **21 02 57.2 -0.4**
comp=Z,134nm,0.9s
FAKI Fak Fak 39.78 289 *e*P **P** **21 03 02.4 -0.7**
comp=Z,57nm,0.9s
FAKI Fak Fak 39.78 289 P **P** **21 03 02.3 -0.8**
GUMO Guam 40.49 321 P **P** **21 03 09.2 +0.5**
comp=Z,56nm,0.6s,baz=167,slow=19,SNR=2.6
JOHN Johnston Islan 41.10 31 *e*P **P** **21 03 13.9 +0.2**
comp=Z,353nm,0.8s
FITZ Fitzroy Crossi 41.50 264 P **P** **21 03 17.5 +0.4**
baz=42,SNR=232
FITZ Fitzroy Crossi 41.50 264 *e*P **P** **21 03 16.9 -0.1**
comp=Z,223nm,0.8s
FITZ ScP **ScP** **21 08 38.8 +2.1**
FITZ S **S** **21 09 12.4 -1.8**
FITZ Fitzroy Crossi 41.50 264 P **P** **21 03 17.4 +0.4**
comp=Z,213nm,0.7s,baz=99,slow=6.7,SNR=445
FITZ ScP **ScP** **21 08 38.8 +2.1**
comp=Z,7.5nm,1.1s,baz=108,slow=8.4,SNR=3.3
FITZ S **S** **21 09 12.4 -1.8**
comp=Z,11nm,1.1s,baz=272,slow=20,SNR=7.0
SIJI Sorong 41.59 291 P **P** **21 03 17.9 +0.1**
comp=Z,41nm,0.7s,baz=84,slow=6.8,SNR=19
SIJI pP **pwP** **21 04 12.3 -0.4**
comp=Z,14nm,0.8s,baz=125,slow=12,SNR=2.3
SIJI PP **PP** **21 05 02.0 +2.5**
comp=Z,12nm,0.9s,baz=99,slow=6.8,SNR=3.8
SIJI ScP **ScP** **21 08 40.0 +2.9**
comp=Z,20nm,0.3s,baz=122,slow=4.5,SNR=18
SIJI S **S** **21 09 14.1 -1.6**
comp=Z,3.8nm,0.3s,baz=248,slow=23,SNR=2.0
NLAI Namlea 44.29 285 P **P** **21 03 39.9 +0.4**
comp=Z,48nm,1.1s
SOEI Soe 44.65 275 *e*P **P** **21 03 41.9 -0.6**
comp=Z,68nm,0.8s
SOEI Soe 44.65 275 P **P** **21 03 43.4 +0.9**
BATI Baumata 45.09 275 P **P** **21 03 47.0 +1.2**
comp=Z,169nm,0.8s,baz=153,slow=1.9,SNR=23

SANI Sanana 45.79 286 P **P** **21 03 50.5 -0.7**
SANI S **pP** **21 04 38.0 -3.1**
MBWA Marble Bar 46.63 259 *e*P **P** **21 03 57.8 +0.1**
comp=Z,235nm,0.9s
MEEK Meekatharra 47.24 251 P **P** **21 04 02.3 -0.1**
baz=47,SNR=111
KLBR Kellerberrin 48.01 244 P **P** **21 04 08.0 -0.1**
baz=48,SNR=30
WSI Waingapu 48.42 274 P **P** **21 04 11.0 -0.5**
NWAO Narrogin (SRO) 48.52 243 P **P** **21 04 11.9 -0.1**
baz=49,SNR=17
NWAO Narrogin (SRO) 48.52 243 *e*P **P** **21 04 11.1 -0.9**
comp=Z,97nm,1.0s
NWAO *e*PP **PP** **21 06 06.3 -0.8**
NWAO Narrogin (SRO) 48.52 243 P **P** **21 04 11.8 -0.2**
comp=Z,81nm,0.9s,baz=308,slow=7.5,SNR=23
NWAO pP **pwP** **21 05 06.4 -3.3**
comp=Z,30nm,1.0s,baz=120,slow=1.0,SNR=4.0
NWAO PP **PP** **21 06 06.3 -0.8**
comp=Z,20nm,1.1s,baz=312,slow=11,SNR=3.2
RKGY Rocky Gully 48.84 240 P **P** **21 04 15.2 +0.8**
baz=49,SNR=34
BLDU Ballidu 48.88 246 P **P** **21 04 14.5 -0.3**
baz=49,SNR=14
LUWI Luwuk 49.13 286 *e*P **P** **21 04 17.3 +0.4**
comp=Z,52nm,0.9s
LUWI Luwuk 49.13 286 P **P** **21 04 16.6 -0.3**
MUN Mundaring 49.34 244 P **P** **21 04 18.1 -0.1**
baz=49,SNR=4.3
MORW Morawa 49.47 248 P **P** **21 04 19.2 -0.1**
baz=50,SNR=18
MORW Morawa 49.47 248 *e*P **P** **21 04 18.8 -0.4**
comp=Z,78nm,0.8s
TAOE Nuku Hiva Isla 49.76 86 *e*P **P** **21 04 22.0 +0.2**
comp=Z,274nm,1.1s
TAOE Nuku Hiva Isla 49.76 86 *e*P **P** **21 04 21.9 +0.2**
comp=Z,89nm,0.6s
BKSI Bulukumba 49.96 279 P **P** **21 04 23.1 0.0**
APSI Ampana 50.21 285 P **P** **21 04 25.7 +0.7**
BNSI Bone 50.30 280 P **P** **21 04 26.4 +0.7**
KEKH Kekaha 50.69 38 *e*P **P** **21 04 28.8 +0.4**
comp=Z,357nm,0.9s
SPSI Sidrap Palu 50.77 281 P **P** **21 04 27.8 -1.4**
comp=Z,16nm,0.9s
KCP Kidapawan 50.83 296 ⇓ *i*P **P** **21 04 30.1 +0.5**
PLAI Plampang 51.05 274 P **P** **21 04 30.7 -0.5**
comp=Z,68nm,1.3s,comp=Z,1μm
TTSI Tana Toraja 51.06 282 P **P** **21 04 30.4 -1.0**
comp=Z,23nm,1.5s
KHU Kahuku 51.19 44 *e*P **P** **21 04 32.8 +0.4**
comp=Z,310nm,1.0s
KHU Kahuku 51.19 44 *e*P **P** **21 04 32.8 +0.4**
KHU pmax pmax
comp=Z,310nm,1.0s
KHLU Kahalu`u 51.25 43 *e*P **P** **21 04 33.3 +0.6**
comp=Z,220nm,1.0s
KIP Kipapa 51.27 40 *e*P **P** **21 04 33.0 +0.3**
comp=Z,136nm,0.8s
KIP Kipapa 51.27 40 *ce*P **P** **21 04 33.0 +0.3**
KIP pmax pmax
comp=Z,148nm,0.8s
HUH Hualalai 51.36 43 *e*P **P** **21 04 34.4 +0.7**
comp=Z,122nm,0.8s
MWH Moku'aweowe 51.37 44 *e*P **P** **21 04 34.0 0.0**
comp=Z,251nm,0.9s
AIN Ainahou 51.38 44 *e*P **P** **21 04 34.0 +0.2**
comp=Z,322nm,0.9s
MLOA Mauna Loa Obse 51.42 44 *e*P **P** **21 04 34.7 +0.3**
comp=Z,251nm,0.9s
OPA Opana 51.47 40 *e*P **P** **21 04 34.8 +0.6**
comp=Z,335nm,0.8s
OPA Opana 51.47 40 *e*P **P** **21 04 34.8 +0.6**
OPA pmax pmax
comp=Z,335nm,0.8s
MLH Mauna Loa 51.51 44 *e*P **P** **21 04 35.5 +0.7**
comp=Z,222nm,0.9s
MLH Mauna Loa 51.51 44 *e*P **P** **21 04 35.5 +0.7**
MLH pmax pmax
comp=Z,222nm,0.9s
GIRL Giralia 51.52 256 P **P** **21 04 36.2 +1.6**
baz=52,SNR=9.1
HMH Humu'ula Sheep 51.53 44 *e*P **P** **21 04 35.9 +0.9**
comp=Z,544nm,0.9s
PUH Pauahi 51.54 44 *e*P **P** **21 04 35.5 +0.6**
comp=Z,157nm,0.9s
POHA Pohakuloa 51.61 44 *e*P **P** **21 04 36.1 +0.6**
comp=Z,162nm,0.9s
MHA Mahukona 51.68 43 *e*P **P** **21 04 37.0 +1.3**
MHA Mahukona 51.68 43 *e*P **P** **21 04 37.0 +1.3**
HPAH Hawaii Prepara 51.70 43 *e*P **P** **21 04 36.6 +0.6**
comp=Z,401nm,0.9s
RKT Rikitea 51.73 105 *e*P **P** **21 04 36.3 +0.1**
comp=Z,88nm,1.0s
KHLH Kahului Airpor 51.86 42 *e*P **P** **21 04 38.1 +1.0**
comp=Z,413nm,1.1s
LPH Laupahoehoe 51.86 43 *e*P **P** **21 04 38.3 +1.2**
PCI Palu 51.87 284 P **P** **21 04 37.9 +0.6**
comp=Z,53nm,1.0s,comp=Z,665nm
HLK Haleakala 51.87 42 *e*P **P** **21 04 38.4 +1.0**
comp=Z,283nm,0.9s
MPSI Mapaga 52.32 286 P **P** **21 04 39.6 -1.0**
comp=Z,20nm,0.9s
CBIJ Chichi jima 52.95 329 *e*P **P** **21 04 44.8 -0.1**
JCJ Chichijima 52.95 329 P **P** **21 04 44.8 -0.1**
comp=Z,139nm,0.7s,baz=294,slow=22,SNR=28
JAGI Jajag, Banyuwa 54.57 273 *e*P **P** **21 04 54.8 -2.2**
comp=Z,64nm,1.1s
JAGI Jajag, Banyuwa 54.57 273 P **P** **21 04 54.3 -2.7**
comp=Z,63nm,1.2s
GMJI Gumukmas 55.30 273 P **P** **21 05 00.8 -1.4**
comp=Z,27nm,0.9s
TSM Tawau 55.83 289 P **P** **21 05 06.9 +1.0**
PWJI Pagerwojo 56.92 273 P **P** **21 05 12.8 -0.8**
comp=Z,37nm,0.7s
SDKM Sandakan 57.03 290 P **P** **21 05 14.2 -0.3**
PCJI Pacitan 57.47 272 P **P** **21 05 18.2 +0.8**
comp=Z,133nm,1.1s
KDM Kudat 57.93 291 P **P** 21 05 26.4 +5.7
TGY Tagaytay City 58.06 301 P **P** **21 05 22.1 +0.5**
TGY pmax pmax
comp=Z,125nm,0.4s
TGY Tagaytay City 58.06 301 P **P** **21 05 22.1 +0.5**
comp=Z,126nm,0.4s,baz=28,slow=0.9,SNR=5.2
KKM Kota Kinabalu 58.09 290 *e*P **P** **21 05 21.5 -0.4**
comp=Z,27nm,0.6s
KKM Kota Kinabalu 58.09 290 P **P** **21 05 22.6 +0.7**
UGM Wanagama 58.17 272 *e*P **P** **21 05 22.8 +0.5**
comp=Z,129nm,1.1s
UGM Wanagama 58.17 272 P **P** **21 05 21.9 -0.5**
comp=Z,109nm,1.3s
VNDA Vanda 58.64 182 *e*P **P** **21 05 24.6 +0.1**
comp=Z,11nm,0.6s
VNDA Vanda 58.64 182 P **P** **21 05 25.3 +0.8**
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 58.64 182 P **P** **21 05 25.3 +0.8**
comp=Z,7.3nm,0.5s,baz=357,slow=8.0,SNR=77
SBA Scott Base 58.87 181 *e*P **P** **21 05 27.8 +1.7**
comp=Z,91nm,0.9s
SBA Scott Base 58.87 181 *e*P **P** **21 05 27.8 +1.7**
SBA pmax pmax
comp=Z,91nm,0.9s
KPJI Karang Pucung 59.85 273 P **P** **21 05 31.5 -2.3**
JOW Kunigami 60.64 318 *e*P **P** **21 05 39.6 +0.7**
comp=Z,47nm,0.9s
JOW Kunigami 60.64 318 P **P** **21 05 39.9 +0.9**
comp=Z,8.1nm,0.8s,baz=148,slow=12,SNR=18
CISI Cisompet, Garu 60.83 272 *e*P **P** **21 05 40.3 -0.2**
comp=Z,85nm,1.2s
CISI Cisompet, Garu 60.83 272 P **P** **21 05 40.4 -0.2**
KSM Kuching 61.56 282 *e*P **P** **21 05 45.7 +0.3**
comp=Z,29nm,0.7s
KSM Kuching 61.56 282 P **P** **21 05 46.5 +1.1**
XMIS Christmas Isla 62.04 268 *e*P **P** **21 05 48.0 -0.6**
comp=Z,61nm,0.8s
SKJI Sukabumi 62.19 272 P **P** **21 05 49.3 -0.2**
comp=Z,152nm,0.9s
INU Inuyama 62.25 330 *e*P **P** **21 05 49.0 -0.5**
comp=Z,181nm,1.6s
YOJ Yonaguni jima 62.61 312 *e*P **P** **21 05 51.3 -0.7**
comp=Z,83nm,0.8s
YOJ Yonaguni jima 62.61 312 *e*P **P** **21 05 51.3 -0.7**
YOJ pmax pmax
comp=Z,83nm,0.8s
MJAR Matsushiro Arr 62.69 332 P **P** **21 05 51.9 -0.4**
comp=Z,48nm,1.0s,baz=171,slow=7.2,SNR=88
MAJO Matsushiro 62.69 332 *e*P **P** **21 05 52.3 0.0**
comp=Z,192nm,1.4s
MAJO Matsushiro 62.69 332 *c i*P **P** **21 05 52.4 0.0**
MAJO pmax pmax
comp=Z,138nm,1.4s
MAT Matsushiro 62.69 332 P **P** **21 05 52.0 -0.4**
MAT S **S** **21 14 01.2 -0.1**
MJB9 Matsu-Tunnel 62.69 332 *e*P **P** **21 05 52.2 -0.2**
comp=Z,179nm,1.4s
TWG Pinlang 62.98 309 *e*P **P** **21 05 52.9 -1.6**
comp=Z,98nm,0.9s
YULB Yu-li 63.17 310 *e*P **P** **21 05 54.5 -1.3**
comp=Z,20nm,0.9s
NACB Ninganchiao 63.43 311 *e*P **P** **21 05 57.0 -0.5**
comp=Z,101nm,1.0s
TPUB Ta-pu 63.60 309 *e*P **P** **21 05 57.1 -1.5**
comp=Z,80nm,0.8s
JNU Nakatsue 63.64 324 *e*P **P** **21 05 58.3 -0.4**
comp=Z,58nm,0.8s
JNU Nakatsue 63.64 324 P **P** **21 05 58.5 -0.2**
comp=Z,45nm,0.8s,baz=113,slow=4.0,SNR=20
SSLB Suanglung 63.66 310 *e*P **P** **21 05 57.5 -1.5**
comp=Z,59nm,0.7s
YHNB Yeheng 63.90 311 *e*P **P** **21 05 59.9 -0.7**
comp=Z,88nm,0.8s
TATO Taipei 64.00 311 *e*P **P** **21 06 00.4 -0.8**
comp=Z,287nm,1.5s
TATO Taipei 64.00 311 P **P** **21 06 01.6 +0.4**
SNR=6.1
KASI Kota Agung 64.59 273 P **P** **21 06 04.2 -1.1**
comp=Z,151nm,0.8s,comp=Z,1μm
MDSI Maura Dua 65.22 274 P **P** **21 06 07.7 -1.6**
comp=Z,58nm,0.6s,comp=Z,648nm
ERM Erimo 65.44 339 *i* P **P** **21 06 09.0 -1.1**
ERM pmax pmax
comp=Z,58nm,1.0s
QZH Quanzhou 66.07 310 ⇑ *i*P **P** **21 06 14.5 +0.1**
QZH S **S** **21 14 43.7 +0.7**
QZH LR LR
comp=Z,180nm,14.7s
KUR Kuril'sk 66.92 344 *ce*P **P** **21 06 19.3 -0.1**
ASAJ Asahikawa 67.50 339 P **P** **21 06 24.6 +1.6**
comp=Z,107nm,0.8s,baz=218,slow=10,SNR=48
TJN Taejon 67.99 324 *ce*P **P** **21 06 27.5 +1.2**
KGM Kluang 68.25 280 P **P** **21 06 29.5 +1.1**
KSRS Korea Array 68.48 325 P **P** **21 06 29.7 +0.4**
KSRS 21 06 53.8
KSRS 21 09 03.6
KSRS pmax pmax
comp=Z,6.0nm,0.7s
KSRS pmax pmax
comp=Z,5.0nm,0.9s
KSRS pmax pmax
comp=Z,3.0nm,1.0s
KSRS Korea Array 68.48 325 P **P** **21 06 29.7 +0.4**
comp=Z,6.5nm,0.7s,baz=149,slow=5.9,SNR=24
KSRS PcP **PcP** **21 06 53.8 +1.1**
comp=Z,4.6nm,0.9s,baz=135,slow=5.0,SNR=4.2
KSRS PP **PP** **21 09 03.6 -0.5**
comp=Z,2.9nm,1.0s,baz=130,slow=9.3,SNR=4.0
KS15 Wonju Array Si 68.49 325 *e*P **P** **21 06 29.5 +0.2**
comp=Z,128nm,1.6s
KS15 *e*PcP **PcP** **21 06 53.8 +1.0**
KS15 *e*PP **PP** **21 09 03.5 -0.7**
KSAR Wonju Array Be 68.49 325 P **P** **21 06 29.6 +0.3**
KSAR PcP **PcP** **21 06 53.8 +1.0**
KSAR PP **PP** **21 09 03.5 -0.7**
KSAR Wonju Array Be 68.49 325 P **P** **21 06 29.7 +0.3**
KSAR 21 06 53.8
KSAR 21 09 03.6
KS01 Wonju Array Si 68.51 325 *e*P **P** **21 06 29.6 +0.1**
KRJI Kerinci 68.56 275 P **P** **21 06 29.1 -1.4**
comp=Z,23nm,0.5s,comp=Z,2μm
GZH Guangzhou 68.97 305 P **P** **21 06 34.0 +1.4**
GZH S **S** **21 15 21.6 +4.1**
GZH pmax pmax
comp=Z,36nm,1.0s
KTGM Kuala Trenggan 69.64 283 P **P** **21 06 37.3 +0.4**
QIZ Qiongzhong 69.69 299 P **P** **21 06 37.8 +0.7**
QIZ S **S** **21 15 27.0 +0.9**
QIZ SS **SS** **21 20 01.1 +1.2**
QIZ pmax pmax
comp=Z,15nm,0.7s
QIZ LR LR
comp=Z,170nm,10.4s
QIZ LR LR
comp=Z,64nm,5.1s
QIZ LR LR
comp=Z,130nm,7.0s
QIZ Qiongzhong 69.69 299 *e*P **P** **21 06 38.0 +0.9**
comp=Z,22nm,0.8s
YSS Yuzh-Sakhalins 69.97 341 ⇑ *i*P **P** **21 06 39.8 +1.6**
YSS pmax pmax
comp=Z,100nm,1.0s
NJ2 Nanjing 70.23 316 ⇑ *i*P **P** **21 06 40.7 +0.6**
NJ2 S **S** **21 15 34.0 +2.1**
NJ2 pmax pmax
comp=Z,50nm,0.9s
NJ2 pmax pmax
comp=Z,310nm,3.5s
NJ2 LR LR
comp=Z,100nm,13.3s
NJ2 LR LR
comp=Z,96nm,17.0s
NJ2 LR LR
comp=Z,520nm,15.3s
SKR Severo-Kuril's 70.41 351 *ce*P **P** **21 06 42.3 +1.6**
QSPA South Pole Qui 71.01 180 P **P** **21 06 44.8 +0.3**
comp=Z,73nm,0.9s,baz=28,slow=4.3,SNR=176
QSPA pP **pP** **21 07 40.0 -0.2**
comp=Z,48nm,1.0s,baz=31,slow=4.8,SNR=5.5
IPM Ipoh 71.27 282 *e*P **P** **21 06 46.3 -0.5**
comp=Z,18nm,0.7s
IPM Ipoh 71.27 282 P **P** **21 06 47.4 +0.5**
MNSI Mandailing Nat 71.31 278 P **P** **21 06 46.4 -0.6**
KIWB Kanaga Island 71.55 9 *e*P **P** **21 06 48.2 +0.6**
SMY Shemya 71.58 3 *e*P **P** **21 06 48.2 +0.5**
comp=Z,431nm,1.3s
ADK Adak 71.65 9 *e*P **P** **21 06 48.0 -0.1**
comp=Z,259nm,1.2s
ADK Adak 71.65 9 *e*P **P** **21 06 48.0 -0.1**
ADK pmax pmax
comp=Z,259nm,1.2s
USA0B Ussuriysk Arra 71.67 333 *e*P **P** **21 06 49.2 +0.7**
comp=Z,160nm,1.3s
USA0B Ussuriysk Arra 71.67 333 *e*P **P** **21 06 49.2 +0.7**
USRK Ussuriysk Ar. 71.67 333 P **P** **21 06 49.4 +1.0**
comp=Z,57nm,1.0s,baz=148,slow=4.2,SNR=56
KULM Kulim 71.92 282 P **P** **21 06 50.9 +0.2**
PET Petropavlovsk 72.37 353 *e*P **P** **21 06 52.8 +0.4**
comp=Z,384nm,1.4s
PET Petropavlovsk 72.37 353 ⇑ *i*P **P** **21 06 53.1 +0.7**
PET *e*S **S** **21 15 54.5 -1.0**
PET pmax pmax
comp=Z,156nm,0.7s
PET pmax pmax
comp=Z,200nm,11.3s
WHN Wuhan 72.39 312 ⇑ *i*P **P** **21 06 53.3 +0.2**
WHN S **S** **21 15 56.5 -0.2**
WHN pmax pmax
comp=Z,120nm,1.0s
PEA0B Petropavlovsk- 72.57 353 *e*P **P** **21 06 54.2 +0.7**
comp=Z,543nm,1.4s
PEA0B Petropavlovsk- 72.57 353 *e*P **P** **21 06 54.3 +0.7**
PETK Petropavlovsk- 72.57 353 *e*P **P** **21 06 53.6 0.0**
PETK Petropavlovsk- 72.57 353 P **P** **21 06 54.7 +1.1**
PETK pmax pmax
comp=Z,158nm,0.8s
PETK Petropavlovsk- 72.57 353 P **P** **21 06 54.7 +1.1**
comp=Z,161nm,0.8s,baz=136,slow=6.0,SNR=146
PEA1 Petropavlovsk- 72.57 353 *e*P **P** **21 06 54.7 +1.0**
PSI Prapat 72.62 279 *e*P **P** **21 06 54.0 -1.0**
comp=Z,17nm,0.9s
PSI *e*PP **PP** **21 09 40.8 +0.6**
PSI Prapat 72.62 279 P **P** **21 06 54.3 -0.7**
comp=Z,13nm,0.8s,baz=180,slow=2.2,SNR=11
PSI PP **PP** **21 09 40.8 +0.6**
comp=Z,1.6nm,0.4s,baz=180,slow=5.2,SNR=4.2
DL2 Dalian 73.00 323 ⇑ *i*P **P** **21 06 56.0 -0.4**
DL2 S **SKiKP** **21 16 04.9 +1.2**
DL2 pmax pmax
comp=Z,150nm,0.9s
DL2 pmax pmax
comp=Z,520nm,4.9s
MDJ Mudanjiang 73.06 331 P **P** **21 06 57.2 +0.5**
MDJ pP pP 21 07 53.6 +0.8
MDJ sP sP 21 08 21.3 +2.8

MDJ S **S** **21 16 07.9 +4.2**
MDJ SS **SS** **21 20 49.7 -1.0**
MDJ pmax pmax
comp=Z,87nm,1.0s
MDJ pmax pmax
comp=Z,290nm,2.9s
MDJ **Mudanjiang** **73.06 331** *e*P **P** **21 06 57.7 +1.0**
comp=Z,99nm,1.0s
GSI **Gunungsitoli** **73.37 277** *e*P **P** **21 06 58.8 -0.4**
comp=Z,24nm,0.8s
GSI **Gunungsitoli** **73.37 277** P **P** **21 06 59.7 +0.5**
TYV **Tymovskoe** **73.50 343** *e*P **P** **21 06 59.3 +0.3**
TYV pmax pmax
comp=Z,400nm,1.9s
TYV pmax pmax
comp=Z,66nm,1.4s
SKNT **Sakolnakorn** **73.67 295** P **P** **21 07 01.3 +0.5**
comp=Z,29nm,1.3s,comp=Z,1µm
SNY **Shenyang** **73.95 326** ⇑P **P** **21 07 02.2 +0.3**
SNY S **S** **21 16 14.2 +0.5**
SNY pmax pmax
comp=Z,36nm,1.0s
SNY pmax pmax
comp=Z,350nm,3.5s
SNY LR LR
comp=Z,110nm,4.5s
SNY LR LR
comp=Z,120nm,4.9s
SNY LR LR
comp=Z,160nm,5.0s
TIA **Tai'an** **73.95 318** P **P** **21 07 02.4 +0.3**
TIA pmax pmax
comp=Z,27nm,0.9s
CN2 **Changchun** **74.41 328** *e*P **P** **21 07 05.2 +0.7**
CN2 *e*pP pP 21 08 05.0 +4.1
CN2 *e*S **S** **21 16 18.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,130nm,21.0s
CN2 LR LR
comp=Z,140nm,21.0s
CN2 LR LR
comp=Z,180nm,22.0s
CHAI **Chaiyaphum** **74.93 293** P **P** **21 07 08.8 +0.7**
comp=Z,5.6nm,1.0s,comp=Z,56nm
GRNR **Gornyy** **75.35 339** ⇑*i*P **P** **21 07 11.1 +1.3**
GRNR pmax pmax
comp=N,50nm,1.0s
GRNR pmax pmax
comp=Z,130nm,1.0s
UNV **Unalaska Valle** **75.47 14** *e*P **P** **21 07 09.9 -0.5**
comp=Z,174nm,0.8s
ENH **Enshi** **75.73 309** *e*P **P** **21 07 12.2 -0.3**
comp=Z,175nm,1.8s
PHET **Kaeng Krachan** **75.78 289** P **P** **21 07 15.9 +2.9**
comp=Z,7.7nm,1.2s
KLR **Kul'dur** **75.79 336** P **P** **21 07 13.4 +1.2**
comp=Z,56nm,0.9s,baz=133,slow=3.9,SNR=214
GYA **Guiyang** **75.90 305** ⇑*i*P **P** **21 07 13.9 +0.3**
GYA pP pP 21 08 13.2 +3.0
GYA PP **PP** **21 10 11.6 +3.9**
GYA S **S** **21 16 36.3 +0.1**
GYA SKS **SKSac** **21 16 57.0 -4.2**
GYA sS sS 21 18 17.4 +4.1
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,140nm,5.4s
NKL **Nikolayevsk** **76.09 343** *e*P **P** **21 07 15.0 +1.2**
NKL pmax pmax
comp=E,20nm,0.8s
NKL pmax pmax
comp=Z,150nm,0.8s
PBKT **Sadao Pong** **76.10 293** *e*P **P** **21 07 15.5 +0.8**
comp=Z,60nm,1.6s
PBKT **Sadao Pong** **76.10 293** P **P** **21 07 15.9 +1.2**
comp=Z,21nm,1.3s
SRDT **SRDT** **76.81 290** P **P** **21 07 20.6 +1.9**
comp=Z,26nm,1.3s,comp=Z,2µm
BJT **Baijiatuao** **76.92 321** *e*P **P** **21 07 19.6 +0.8**
comp=Z,64nm,0.9s
BJT **Baijiatuao** **76.92 321** *e*P **P** **21 07 19.6 +0.8**
BJT pmax pmax
comp=Z,64nm,0.9s
BJI **Beijing** **76.93 321** P **P** **21 07 19.5 +0.6**
BJI S **S** **21 16 49.6 +3.1**
BJI pmax pmax
comp=Z,52nm,1.1s
BJI LR LR
comp=Z,130nm,18.7s
BJI LR LR
comp=Z,170nm,14.0s
UTTA **Uttaradit** **76.95 294** P **P** **21 07 20.8 +1.4**
comp=Z,4.8nm,1.2s,comp=Z,46nm
UTHA **Uthaitani** **77.01 292** P **P** **21 07 21.5 +1.7**
comp=Z,8.4nm,1.1s,comp=Z,86nm
NANT **Nan** **77.27 295** P **P** **21 07 22.3 +1.1**
comp=Z,9.2nm,0.8s,comp=Z,97nm
SUKH **Sukhothai** **77.64 293** P **P** **21 07 25.3 +2.0**
UMPA **Umpang Tak** **77.79 292** P **P** **21 07 26.0 +1.8**
comp=Z,7.4nm,1.2s
TIY **Taiyuan** **77.85 317** *e*P **P** **21 07 23.8 -0.3**
TIY S **S** **21 16 59.3 +2.6**
TIY sS **sS** **21 18 40.1 +5.2**
TIY SS **SS** **21 22 06.5 +3.0**
TIY pmax pmax
comp=Z,32nm,0.6s
TIY pmax pmax
comp=Z,290nm,4.7s
TIY LR LR
comp=Z,120nm,5.7s
TIY LR LR
comp=Z,110nm,5.7s
TIY LR LR
comp=Z,160nm,18.8s
LAMP **Lampang** **78.07 294** P **P** **21 07 27.2 +1.5**
comp=Z,17nm,0.9s,comp=Z,137nm
XAN **Xi'an** **78.15 312** P **P** **21 07 26.6 +0.8**
XAN pP pP 21 08 23.7 +1.0
XAN PP **PP** **21 10 24.9 -1.4**
XAN S **S** **21 16 56.1 -3.9**
XAN SKS **SKSac** **21 17 12.2 -4.8**
XAN ScS **SKKSac** **21 17 18.3 +0.1**
XAN pmax pmax
comp=Z,67nm,1.0s
XAN pmax pmax
comp=Z,290nm,3.9s
XAN **Xi'an** **78.15 312** *e*P **P** **21 07 26.2 +0.4**
comp=Z,61nm,0.9s
XAN **Xi'an** **78.15 312** *e*P **P** **21 07 26.2 +0.4**
XAN pmax pmax
comp=Z,61nm,0.9s
PAYA **Payao** **78.22 295** P **P** **21 07 27.8 +1.3**
comp=Z,11nm,1.1s,comp=Z,335nm
KMI **Kunming** **78.37 302** P **P** **21 07 28.9 +1.4**
KMI pP pP 21 08 23.9 -0.6
KMI sP sP 21 08 51.1 +1.1
KMI PP **PP** **21 10 31.6 +3.1**
KMI S **S** **21 17 05.6 +2.6**
KMI sS sS 21 18 45.8 +4.9
KMI SS **SS** **21 22 09.2 -2.8**
KMI pmax pmax
comp=Z,95nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.2s
KMI LR LR
comp=Z,120nm,5.8s
KMI LR LR
comp=Z,110nm,7.1s
KMI LR LR
comp=Z,110nm,11.6s
KMI **Kunming** **78.37 302** *e*P **P** **21 07 28.6 +1.2**
comp=Z,81nm,0.9s
KMI **Kunming** **78.37 302** *e*P **P** **21 07 28.7 +1.2**
KMI pmax pmax
comp=Z,81nm,0.9s
CM01 **Chiang Mai Arr** **78.61 294** *e*P **P** **21 07 29.1 +0.5**
CM31 **Chiang Mai Arr** **78.64 294** *e*P **P** **21 07 30.3 +1.5**
comp=Z,28nm,0.9s
CM31 *e*pP **pP** **21 08 26.9 +0.9**
CM31 *e*PKKPbc **PKKPbc** **21 26 22.9 +0.5**
CM31 *e*P'P'df **P'P'df** **21 34 24.9 -1.0**
CM31 **Chiang Mai Arr** **78.64 294** P **P** **21 07 30.6 +1.8**
SNR=16
CMAR **Chiang Mai Arr** **78.64 294** P **P** **21 07 29.9 +1.2**
CMAR *PP **pP** **21 08 26.8 +0.9**
CMAR pmax pmax
comp=Z,15nm,0.8s
CMAR pmax pmax
comp=Z,2.0nm,0.5s
CMAR pmax pmax
comp=Z,1.0nm,0.5s
CMAR **Chiang Mai Arr** **78.64 294** P **P** **21 07 29.9 +1.2**
comp=Z,14nm,0.8s,baz=133,slow=4.4,SNR=95
CMAR pP **pP** **21 08 26.8 +0.9**
comp=Z,9.3nm,1.1s,baz=121,slow=4.0,SNR=2.6
CMAR PKKPbc **PKKPbc** **21 26 22.9 +0.5**
comp=Z,0.9nm,0.5s,baz=289,slow=4.1,SNR=5.3
CMAR PKPPKP **P'P'df** **21 34 24.9 -1.0**
comp=Z,0.3nm,0.5s,baz=286,slow=2.1,SNR=4.8
MAW **Mawson** **78.71 202** *e*P **P** **21 07 29.0 +0.8**
comp=Z,92nm,1.8s
MAW **Mawson** **78.71 202** P **P** **21 07 29.0 +0.8**
MAW pmax pmax
comp=Z,26nm,0.9s
MAW **Mawson** **78.71 202** P **P** **21 07 29.0 +0.8**
comp=Z,26nm,0.9s,baz=36,slow=6.2,SNR=2.8
CMMT **Chiang Mai** **78.78 294** P **P** **21 07 30.6 +1.0**
comp=Z,41nm,1.3s,comp=Z,445nm
CHTO **Chiang Mai** **78.78 294** *e*P **P** **21 07 30.2 +0.7**
comp=Z,25nm,0.9s
CHTO **Chiang Mai** **78.78 294** P **P** **21 07 31.1 +1.6**
SNR=14
CHTO **Chiang Mai** **78.78 294** P **P** **21 07 30.7 +1.1**
comp=Z,183nm,1.3s,comp=Z,2µm
MA2 **Magadan** **79.81 350** *e*P **P** **21 07 34.0 -0.2**
comp=Z,75nm,1.3s
MA2 **Magadan** **79.81 350** *ce*P **P** **21 07 33.7 -0.4**
MA2 pmax pmax
comp=Z,67nm,1.3s
MA2 **Magadan** **79.81 350** P **P** **21 07 33.7 -0.4**
comp=Z,32nm,1.0s,baz=154,slow=6.6,SNR=23
HHC **Hu-ho-hao-te** **80.22 319** *e*P **P** **21 07 38.0 +1.0**
HHC sP sP 21 09 01.1 +1.5
HHC S **S** **21 17 24.3 +2.6**
HHC sS sS 21 19 05.9 +5.1
HHC SS **SS** **21 22 43.3 +4.4**
HHC pmax pmax
comp=Z,55nm,1.2s
HHC pmax pmax
comp=Z,200nm,5.6s
CD2 **Chengdu** **80.30 307** P **P** **21 07 38.5 +1.0**
CD2 pP pP 21 08 35.9 +1.2
CD2 S **S** **21 17 23.8 +1.0**
CD2 SKS **SKSac** **21 17 31.7 -0.5**
CD2 SS **SS** **21 22 41.8 +1.4**
CD2 pmax pmax
comp=Z,90nm,1.2s
CD2 pmax pmax
comp=Z,500nm,5.7s
BTO **Baotou** **81.05 318** *e*P **P** **21 07 41.5 +0.2**
HIA **Hailar** **81.06 330** *e*P **P** **21 07 41.2 +0.1**
comp=Z,48nm,1.0s
HIA **Hailar** **81.06 330** *e*P **P** **21 07 41.2 +0.1**
HIA pmax pmax
comp=Z,48nm,1.0s
ZEA **Zeya** **81.07 336** *e*P **P** **21 07 41.9 +0.9**
ZEA pmax pmax
comp=N,65nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.2s
SII **Sitkinak Islan** **81.26 19** *e*P **P** **21 07 43.2 +1.2**
comp=Z,1µm,1.8s
KDAK **Kodiak Island** **82.77 19** *e*P **P** **21 07 50.4 +0.8**
comp=Z,224nm,1.0s
KDAK **Kodiak Island** **82.77 19** *i*P **P** **21 07 50.8 +1.1**
KDAK **Kodiak Island** **82.77 19** P **P** **21 07 50.4 +0.8**
comp=Z,134nm,0.9s,baz=220,slow=4.5,SNR=18
LZH **Lanzhou** **82.77 312** *e*P **P** **21 07 51.9 +1.4**
LZH pP pP 21 08 48.7 +0.7
LZH sP sP 21 09 15.5 +2.2
LZH PP **PP** **21 11 02.9 -1.6**
LZH S **S** **21 17 51.3 +3.2**
LZH sS sS 21 19 28.6 +0.8
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,580nm,4.9s
SEY **Seymchan** **82.80 352** *ce*P **P** **21 07 50.0 +0.2**
SEY **Seymchan** **82.80 352** P **P** **21 07 49.9 +0.1**
comp=Z,25nm,1.0s,baz=158,slow=5.8,SNR=64
GAMB **Gambell** **83.84 8** *e*P **P** **21 07 55.9 +1.0**
comp=Z,110nm,0.8s
HOM **Homer** **84.57 19** *e*P **P** **21 07 59.8 +1.0**
comp=Z,523nm,1.0s
SVW2 **Sparrevohn** **84.64 16** *e*P **P** **21 07 59.8 +0.6**
comp=Z,334nm,1.6s
RSO **Redoubt South** **84.90 18** *e*P **P** **21 08 00.5 -0.2**
MCCM **Marconi Confer** **85.16 47** *e*P **P** **21 08 03.4 +1.2**
comp=Z,111nm,0.8s
SYO **Syowa Base** **85.19 196** ⇓*e*P **P** **21 08 00.6 -1.3**
SNCC **San Nicolas Is** **85.33 53** *e*P **P** **21 08 04.9 +1.7**
comp=Z,172nm,0.8s
SNCC **San Nicolas Is** **85.33 53** P **P** **21 08 04.9 +1.7**
baz=244,SNR=6.0
KCPM **Cahto Peak** **85.42 45** *e*P **P** **21 08 05.0 +1.3**
comp=Z,191nm,0.8s
HOPS **Hopland Field** **85.43 46** *e*P **P** **21 08 05.3 +1.7**
comp=Z,137nm,1.1s
SAO **San Andreas Ge** **85.51 49** *e*P **P** **21 08 05.6 +1.6**
comp=Z,97nm,0.9s
SAO **San Andreas Ge** **85.51 49** *e*P **P** **21 08 05.6 +1.6**
SAO pmax pmax
comp=Z,97nm,0.9s
GDXM **Geysers** **85.53 46** *e*P **P** **21 08 06.1 +1.9**
comp=Z,107nm,1.2s
ANM **Nome** **85.56 11** *e*P **P** **21 08 04.8 +1.2**
comp=Z,98nm,0.9s
ANM **Nome** **85.56 11** *e*P **P** **21 08 04.8 +1.2**
ANM pmax pmax
comp=Z,98nm,0.9s
SCZ2 **Santa Cruz Isl** **85.58 52** P **P** **21 08 05.7 +1.3**
baz=244,SNR=8.8
KMRM **Mail Ridge** **85.60 45** *e*P **P** **21 08 06.3 +1.9**
comp=Z,210nm,0.9s
JCC **Jacoby Creek,** **85.68 44** *e*P **P** **21 08 06.5 +1.8**
comp=Z,110nm,1.0s
SBC **Santa Barbara** **85.72 52** P **P** **21 08 06.9 +1.8**
baz=244
PKM **Mcpherson Peak** **85.85 51** P **P** **21 08 07.6 +1.6**
baz=244,SNR=23
SMMC **Simmler** **85.90 51** P **P** **21 08 07.9 +1.8**
baz=243,SNR=8.0
KHMM **Horse Mountain** **85.90 44** *e*P **P** **21 08 07.6 +1.6**
comp=Z,185nm,0.9s
PAGB **Antelope Grade** **85.90 50** *e*P **P** **21 08 07.8 +1.8**
comp=Z,61nm,0.8s
SCI2 **San Clemente I** **85.96 53** P **P** **21 08 07.5 +1.3**
baz=244,SNR=10
BLG **Laguna Peak, P** **86.06 52** P **P** **21 08 08.0 +1.2**
baz=244
O02D **Mt. Diablo Mer** **86.19 45** P **P** **21 08 09.6 +2.2**
baz=241
CIS **Catalina Islan** **86.24 53** P **P** **21 08 08.7 +1.0**
baz=244,SNR=6.7
RC01 **Rabbit Creek A** **86.29 19** *e*P **P** **21 08 07.1 -0.2**
comp=Z,126nm,1.3s
FMP **Fort Macarthur** **86.46 53** P **P** **21 08 10.2 +1.4**
baz=244
KEBM **Edson Butte** **86.50 42** *e*P **P** **21 08 09.4 +0.6**
comp=Z,158nm,1.1s
OSI **Osito Audit: C** **86.53 52** P **P** **21 08 10.7 +1.6**
baz=244
WDC **Whiskeytown Da** **86.55 45** *e*P **P** **21 08 10.1 +1.1**
comp=Z,127nm,1.1s
BRDH **Bariadhala** **86.58 295** P **P** **21 08 10.1 +0.6**
comp=Z,52nm,0.4s,baz=106,slow=5.6,SNR=13
L02E **Cave Junction** **86.61 43** P **P** **21 08 11.1 +1.8**
baz=241,SNR=9.5
N02D **Trinity Center** **86.63 45** P **P** **21 08 11.6 +2.1**
baz=241,SNR=71
DECC **Green Verdugo** **86.67 52** P **P** **21 08 10.7 +1.0**
baz=244
ARVC **Arvin** **86.67 51** P **P** **21 08 11.2 +1.4**
baz=244,SNR=9.8
M02C **Callahan** **86.73 44** P **P** **21 08 12.1 +2.2**
baz=241,SNR=60
PASC **Pasadena Art C** **86.74 52** *e*P **P** **21 08 10.9 +0.8**
comp=Z,88nm,0.8s
YAK **Yakutsk** **86.75 342** *c i*P **P** **21 08 09.3 -0.1**
YAK *e*PP **pP** **21 09 07.2 -0.2**
YAK *e* 21 11 38.3
YAK *e*PPP PPP 21 13 30.5
YAK *e*S **SKSac** **21 18 11.8 -0.6**
YAK *e* 21 18 32.9
YAK *e*SS sS 21 19 58.9 -8.5
YAK *e*SS **SS** **21 24 13.4 -0.6**
YAK *e*SSS SSS 21 27 47.4
YAK pmax pmax
comp=Z,429nm,0.6s
YAK pmax pmax
comp=N,308nm,1.3s
YAK pmax pmax
comp=E,319nm,1.4s
YAK pmax pmax
comp=Z,309nm,1.8s
YAK pmax pmax
comp=N,257nm,1.7s
YAK pmax pmax
comp=E,248nm,1.8s
YAK smax smax
comp=N,148nm,2.5s
YAK smax smax
comp=E,285nm,3.0s
ORV **Oroville** **86.77 46** *e*P **P** **21 08 11.2 +1.0**
comp=E,98nm,1.0s
VOG **Valley Oaks Go** **86.80 50** P **P** **21 08 11.3 +1.0**
baz=244
VES **Vestal, Richgr** **86.80 50** P **P** **21 08 11.3 +1.0**
baz=244,SNR=8.6
K02D **Willamette Mer** **86.84 43** P **P** **21 08 12.0 +1.6**
baz=241,SNR=19
CMB **Columbia Colle** **86.85 48** *e*P **P** **21 08 11.4 +0.8**
comp=E,105nm,0.9s
CMB **Columbia Colle** **86.85 48** *e*P **P** **21 08 11.4 +0.8**
CMB pmax pmax
comp=Z,105nm,0.9s
ULN **Ulaanbaatar** **86.85 323** *e*P **P** **21 08 10.7 +0.2**
comp=Z,129nm,1.1s
ULN **Ulaanbaatar** **86.85 323** *ce*P **P** **21 08 10.9 +0.4**
ULN pmax pmax
comp=Z,82nm,1.0s
ULN **Ulaanbaatar** **86.85 323** P **P** **21 08 11.4 +1.0**
SNR=57
AFDM **Forest Hills D** **86.86 47** *e*P **P** **21 08 11.4 +0.9**
comp=Z,134nm,1.0s
BILL **Bilibino** **86.86 359** *e*P **P** **21 08 10.0 +0.2**
comp=Z,97nm,0.8s
BILL **Bilibino** **86.86 359** *ce*P **P** **21 08 10.1 +0.2**
BILL pmax pmax
comp=Z,120nm,0.9s
MWC **Mount Wilson** **86.86 52** *e*P **P** **21 08 11.5 +0.6**
comp=Z,168nm,1.2s
MWC **Mount Wilson** **86.86 52** *e*P **P** **21 08 11.5 +0.6**
MWC pmax pmax
comp=Z,168nm,1.2s
PMR **Palmer** **86.87 18** *e*P **P** **21 08 10.3 +0.3**
comp=Z,29nm,0.8s
PMR **Palmer** **86.87 18** *e*P **P** **21 08 10.3 +0.3**
PMR pmax pmax
comp=Z,29nm,0.8s
J01E **Myrtle Point** **86.90 42** P **P** **21 08 12.0 +1.4**
baz=240,SNR=10
O03E **Paynes Creek** **86.91 46** P **P** **21 08 12.1 +1.2**
baz=242,SNR=61
KNK **Knik Glacier** **86.93 19** *e*P **P** **21 08 10.0 -0.3**
comp=Z,139nm,1.5s
YBH **Yreka Blue Hor** **86.99 44** *e*P **P** **21 08 12.6 +1.4**
comp=Z,131nm,1.1s
YBH PP **PP** **21 11 39.6 +1.2**
YBH **Yreka Blue Hor** **86.99 44** P **P** **21 08 12.8 +1.6**
comp=Z,85nm,1.0s,baz=264,slow=0.1,SNR=128
YBH PP **PP** **21 11 39.6 +1.2**
comp=Z,1.5nm,0.6s,baz=228,slow=10,SNR=3.9
109C **Camp Elliot, M** **87.02 54** P **P** **21 08 12.8 +1.4**
baz=245,SNR=9.8
CPE **Camp Elliot** **87.02 54** *e*P **P** **21 08 12.1 +0.7**
comp=Z,97nm,0.9s
PMSA **Palmer Station** **87.02 160** P **P** **21 08 10.7 -0.1**
comp=Z,35nm,0.7s,baz=200,slow=2.1,SNR=11
PMSA pP **pP** **21 09 08.7 -0.1**
comp=Z,12nm,0.6s,baz=250,slow=13,SNR=2.3
PPLA **Purkeypile** **87.04 17** *e*P **P** **21 08 10.8 -0.2**
comp=Z,46nm,1.2s
EYAK **Cordova Ski Ar** **87.13 20** *e*P **P** **21 08 11.1 -0.1**
comp=Z,71nm,1.0s
GTA **Gaotai** **87.16 313** P **P** **21 08 12.9 +0.8**
GTA pP pP 21 09 12.7 +2.4
GTA sP sP 21 09 40.6 +5.1
GTA pmax pmax
comp=Z,47nm,1.0s
BFSC **Mount Baldy Ra** **87.17 52** P **P** **21 08 13.4 +1.1**
baz=245,SNR=42
ISA **Isabella, Lake** **87.17 51** *e*P **P** **21 08 12.8 +0.6**
comp=Z,105nm,0.9s
ISA **Isabella, Lake** **87.17 51** P **P** **21 08 13.6 +1.4**
baz=244,SNR=88
EDW2 **Edwards Air Fo** **87.19 52** P **P** **21 08 13.8 +1.5**
baz=245,SNR=51
SONA0 **Songino Array** **87.20 323** *e*P **P** **21 08 12.5 +0.3**
SONA0 *e*PP **PP** **21 11 37.6 -2.4**
SONA0 *e*PKKPbc **PKKPbc** **21 26 02.6 -1.8**
SONA0 *e*P'P'df **P'P'df** **21 34 06.4 -3.0**
SONM **Songino Array** **87.20 323** P **P** **21 08 12.5 +0.3**
comp=Z,47nm,0.8s,baz=144,slow=5.9,SNR=239
SONM PP **PP** **21 11 37.6 -2.4**
comp=Z,1.1nm,1.0s,baz=130,slow=4.5,SNR=2.8
SONM PKKPbc **PKKPbc** **21 26 02.6 -1.8**
comp=Z,1.5nm,0.9s,baz=268,slow=3.2,SNR=8.7
SONM PKPPKP **P'P'df** **21 34 06.4 -3.0**
comp=Z,1.0nm,1.1s,baz=257,slow=2.8,SNR=4.1
MURC **Murrieta** **87.24 53** P **P** **21 08 13.8 +1.2**
baz=245,SNR=22
HUMO **Hull Mountain** **87.25 43** *e*P **P** **21 08 14.1 +1.7**
comp=Z,122nm,1.0s
BAR **Barrett** **87.26 54** *e*P **P** **21 08 13.4 +0.8**
comp=Z,70nm,1.0s
SML **Sawmill** **87.27 19** *e*P **P** **21 08 12.3 +0.4**
comp=Z,68nm,1.3s
SML **Sawmill** **87.27 19** *e*P **P** **21 08 12.4 +0.4**
SML pmax pmax
comp=Z,68nm,1.3s
I02D **Swisshome** **87.42 41** P **P** **21 08 14.9 +1.9**
baz=240
SHL **Shillong** **87.47 298** *e*P **P** **21 08 12.5 -1.5**
comp=Z,24nm,0.4s
SHL **Shillong** **87.47 298** *e*P **P** **21 08 12.5 -1.5**
SHL pmax pmax
comp=Z,24nm,0.4s
SHL **Shillong** **87.47 298** *e*P **P** **21 08 15.5 +1.5**
RUBR **Rubicon Trail** **87.47 47** *e*P **P** **21 08 15.6 +1.8**
comp=Z,303nm,1.6s
CAST **Castle Rocks** **87.49 16** *e*P **P** **21 08 11.3 -1.7**
comp=Z,74nm,0.8s
L04D **Klamath Falls** **87.49 44** P **P** **21 08 15.2 +1.6**
baz=242,SNR=56
I03D **Drain, OR** **87.53 42** P **P** **21 08 15.2 +1.7**
baz=241,SNR=14
MONP2 **Monument Peak** **87.54 54** P **P** **21 08 15.8 +1.6**
baz=246,SNR=85
DIV **Divide** **87.56 20** *e*P **P** **21 08 13.0 -0.4**
comp=Z,102nm,1.4s
DIB **Dawson Inlet,** **87.58 31** *e*P **P** **21 08 14.8 +1.3**
comp=Z,95nm,1.0s
M04C **Macdoel** **87.59 44** P **P** **21 08 15.7 +1.6**
baz=242,SNR=46
MDPB **Devils Postpil** **87.59 49** *e*P **P** **21 08 15.5 +1.1**
comp=Z,118nm,1.2s
SCM **Sheep Creek Mo** **87.60 19** *e*P **P** **21 08 13.3 -0.2**
comp=Z,43nm,0.8s
SCM **Sheep Creek Mo** **87.60 19** *e*P **P** **21 08 13.4 -0.2**
SCM pmax pmax
comp=Z,43nm,0.8s
OMMB **Old Mammoth Mi** **87.64 49** *e*P **P** **21 08 15.7 +1.0**
comp=Z,140nm,1.5s
LRMC **Laurel Mtn Rad** **87.67 51** P **P** **21 08 16.1 +1.4**
baz=245
IKP **In-Ko-Pah, Jac** **87.68 54** P **P** **21 08 16.5 +1.8**
baz=246,SNR=37
BEKR **Beckworth** **87.70 46** *e*P **P** **21 08 15.5 +0.8**
comp=Z,234nm,1.5s
WAKR **Walker** **87.72 48** *e*P **P** **21 08 16.4 +1.4**
comp=Z,211nm,1.4s
BBRC **Big Bear Solar** **87.73 53** P **P** **21 08 16.2 +1.1**
baz=245
MLAC **Mammoth, Mammo** **87.77 49** P **P** **21 08 16.5 +1.3**
baz=244,SNR=5.6

KLU **Klutina** 87.78 20 *e*P P 21 08 14.1 -0.4
comp=Z,64nm,1.3s
CWC **Cottonwood Cre** 87.79 50 P P 21 08 16.7 +1.4
baz=244
PFO **Pinyon Flats O** 87.81 53 *e*P P 21 08 16.5 +1.2
comp=Z,64nm,1.0s
PFO **Pinyon Flats O** 87.81 53 P P 21 08 16.7 +1.4
baz=246,SNR=23
PFO **Pinyon Flats O** 87.81 53 P P 21 08 16.4 +1.1
comp=Z,41nm,0.9s,baz=266,slow=4.0,SNR=45
XPFO **Pion Flat** 87.81 53 *e*P P 21 08 16.3 +0.9
comp=Z,70nm,1.0s
PNTR **Pine Nut** 87.87 47 *e*P P 21 08 16.8 +1.2
comp=Z,141nm,1.2s
RRX **Edison Barstow** 87.93 52 P P 21 08 17.1 +1.4
baz=245
VCNR **Virginia City** 87.93 47 *e*P P 21 08 16.8 +0.9
comp=Z,156nm,1.8s
TIN **Tinemaha, Big** 87.95 50 P P 21 08 17.5 +1.6
baz=244,SNR=11
COR **Corvallis** 87.99 41 *e*P P 21 08 17.4 +1.7
comp=Z,188nm,1.3s
TRF **Thorofare Moun** 88.00 17 *e*P P 21 08 14.1 -1.4
comp=Z,55nm,0.9s
SWSC **Sam W. Stewart** 88.04 54 P P 21 08 17.7 +1.5
baz=246,SNR=29
K04D **Chiloquin, OR** 88.04 43 P P 21 08 17.8 +1.5
baz=242,SNR=12
MPMC **Manual Prospec** 88.06 51 P P 21 08 18.1 +1.5
baz=245,SNR=74
YERR **Yerington** 88.08 48 *e*P P 21 08 17.8 +1.2
comp=Z,74nm,1.0s
DAC **Darwin (Calif)** 88.08 51 *e*P P 21 08 17.4 +0.7
comp=Z,145nm,1.4s
J04D **Umpqua Nationa** 88.10 43 P P 21 08 18.3 +1.7
baz=242,SNR=11
I04A **Tendick Farm,** 88.17 42 P P 21 08 17.7 +1.0
baz=242,SNR=21
GSC **Goldstone, Bar** 88.25 52 *e*P P 21 08 18.2 +0.9
comp=Z,85nm,1.3s
GSC **Goldstone, Bar** 88.25 52 P P 21 08 18.7 +1.4
baz=245,SNR=32
PAHR **Pah Rah Range** 88.30 47 *e*P P 21 08 18.8 +1.3
comp=Z,168nm,1.3s
H04D **Lebanon** 88.32 41 P P 21 08 18.9 +1.7
baz=241,SNR=12
BELC **Belle Mtn. Jos** 88.32 53 P P 21 08 19.4 +1.6
baz=246,SNR=77
G03D **McMinnville, O** 88.32 41 P P 21 08 19.0 +1.7
baz=241,SNR=11
BPAW **Bear Paw Mtn.** 88.33 16 *e*P P 21 08 15.4 -1.5
comp=Z,32nm,1.4s
RND **Reindeer** 88.36 17 *e*P P 21 08 16.2 -0.9
comp=Z,65nm,1.0s
RND **Reindeer** 88.36 17 *e*P P 21 08 16.3 -0.9
RND pmax pmax
comp=Z,65nm,1.0s
HEC **Hector,Ludlow** 88.40 52 P P 21 08 19.4 +1.4
baz=246,SNR=52
RYN **Ryan** 88.42 48 *e*P P 21 08 19.0 +0.8
comp=Z,83nm,1.1s
NV01 **Mina Array Sit** 88.49 48 *e*P P 21 08 19.4 +0.9
NV01 *e*PP **PP** 21 11 51.7 +1.0
NV01 *e*PKKPdf **PKKPbc** 21 26 01.9 +1.2
NVAR **Mina Array Bea** 88.49 48 P P 21 08 19.8 +1.3
comp=Z,38nm,0.8s,baz=228,slow=7.1,SNR=149
NVAR PP **PP** 21 11 51.7 +1.0
comp=Z,1.9nm,1.1s,baz=226,slow=7.2,SNR=3.7
NVAR PKKPbc **PKKPbc** 21 26 01.9 +1.1
comp=Z,0.3nm,0.6s,baz=52,slow=3.8,SNR=2.8
F03A **Seaside** 88.50 40 *e*P P 21 08 19.9 +1.8
comp=Z,208nm,1.2s
DHY **Denali Highway** 88.54 18 *e*P P 21 08 17.1 -1.0
comp=Z,21nm,0.8s
GRAC **Grapevine Rang** 88.55 50 P P 21 08 20.3 +1.7
baz=245,SNR=9.2
BC3 **Big Chuckawall** 88.59 54 P P 21 08 20.7 +1.7
baz=246,SNR=36
MCK **McKinley** 88.60 17 *e*P P 21 08 17.1 -1.1
comp=Z,169nm,1.8s
MCK **McKinley** 88.60 17 *e*P P 21 08 17.1 -1.1
MCK pmax pmax
comp=Z,169nm,1.8s
NV11 **Mina Array Sit** 88.60 48 *e*P P 21 08 19.2 +0.2
comp=Z,12nm,1.3s
BALM **Baldy** 88.63 21 *e*P P 21 08 18.1 -0.4
comp=Z,37nm,0.8s
BALM **Baldy** 88.63 21 *e*P P 21 08 18.1 -0.4
BALM pmax pmax
comp=Z,37nm,0.8s
CRAG **Craig** 88.64 29 *e*P P 21 08 19.4 +1.0
comp=Z,88nm,1.5s
SIT **Sitka** 88.65 27 *e*P P 21 08 19.4 +0.9
comp=Z,51nm,1.2s
MOD **Modoc Plateau** 88.66 45 *e*P P 21 08 20.1 +0.9
comp=Z,178nm,1.1s
SRIG **Santa Rosalia** 88.68 61 *e*P P 21 08 20.9 +1.5
comp=Z,271nm,1.5s
J05D **Fort Rock, OR** 88.69 43 P P 21 08 21.0 +1.8
baz=242,SNR=117
FURC **Furnace Creek,** 88.69 51 P P 21 08 21.0 +1.8
baz=245
HARP **HAARP** 88.71 19 *e*P P 21 08 18.6 -0.2
comp=Z,60nm,0.9s
BWN **Browne** 88.80 17 *e*P P 21 08 18.2 -0.8
comp=Z,162nm,1.0s
GLA **Glamis** 88.83 54 *e*P P 21 08 21.4 +1.4
comp=Z,188nm,1.1s
GLA **Glamis** 88.83 54 P P 21 08 22.1 +2.0
baz=246,SNR=31
SHOC **Shoshone, Teco** 88.89 51 P P 21 08 21.5 +1.3
baz=246,SNR=41
GMRC **Granite Mounta** 88.89 53 P P 21 08 21.9 +1.5
baz=246,SNR=47
F04D **Rainier, OR** 88.90 40 P P 21 08 21.8 +1.8
baz=241
KVN **Kaiserville** 88.90 48 *e*P P 21 08 21.6 +1.1
comp=Z,121nm,1.2s
TUQ **Turquoise Moun** 88.96 52 P P 21 08 22.1 +1.4
baz=246,SNR=98
IRM **Iron Mountain** 89.03 53 P P 21 08 22.6 +1.7
baz=246,SNR=71
PAX **Paxson** 89.03 19 *e*P P 21 08 18.9 -1.4
comp=Z,18nm,1.2s
PAX **Paxson** 89.03 19 *e*P P 21 08 18.9 -1.4
PAX pmax pmax
comp=Z,18nm,1.2s
NLWA **Neilton Lookou** 89.03 39 *e*P P 21 08 22.1 +1.4
comp=Z,139nm,1.1s
NVL **N'lazarevskaya** 89.08 187 ⇓ *i*P P 21 08 20.3 -0.2
NVL pmax pmax
comp=Z,22nm,0.7s
I05D **Terrebonne, OR** 89.11 42 P P 21 08 22.7 +1.6
baz=242,SNR=23
PINE **Pine Mountain** 89.11 43 *e*P P 21 08 22.6 +1.3
comp=Z,190nm,0.9s
MLY **Manley** 89.14 16 *e*P P 21 08 19.6 -1.1
comp=Z,15nm,0.7s
RDOG **Red Dog Mine** 89.16 10 *e*P P 21 08 21.2 +0.5
comp=Z,83nm,1.0s
BBB **Bella Bella** 89.18 33 P P 21 08 22.3 +1.2
comp=Z,72nm,0.9s,baz=255,slow=5.5,SNR=28
IM3 **Indian Mountai** 89.18 14 *e*P P 21 08 21.0 +0.2
BOD **Bodaibo** 89.26 334 ⇑ *i*P P 21 08 21.2 -0.2
BOD pmax pmax
comp=Z,79nm,1.4s
Y12C **Blythe** 89.34 54 *e*P P 21 08 23.7 +1.3
comp=Z,145nm,1.1s
Y12C **Blythe** 89.34 54 P P 21 08 24.2 +1.8
baz=247,SNR=38
TPNV **Topopah Spring** 89.34 50 *e*P P 21 08 23.8 +1.3
comp=Z,139nm,1.0s
TPNV **Topopah Spring** 89.34 50 P P 21 08 24.1 +1.6
baz=246,SNR=71
SNAA **Sanae** 89.37 182 P P 21 08 21.6 -0.3
SNAA **Sanae** 89.37 182 P pP 21 09 19.1 -1.1
SNAA **Sanae** 89.37 182 *e*P P 21 08 21.4 -0.5
comp=Z,119nm,1.6s
SNAA *e*pP **pP** 21 09 18.9 -1.3
SNAA **Sanae** 89.37 182 *i*P P 21 08 22.0 +0.1
SNAA **Sanae** 89.37 182 P P 21 08 21.6 -0.3
comp=Z,23nm,0.8s,baz=207,slow=7.2,SNR=96
SNAA pP **pP** 21 09 18.9 -1.3
comp=Z,15nm,1.0s,baz=176,slow=10,SNR=5.1
E04D **Cinebar** 89.40 40 P P 21 08 24.1 +1.9
baz=241,SNR=30
WRH **Wood River Hil** 89.41 17 *e*P P 21 08 20.7 -1.2
comp=Z,266nm,0.7s

LDFC **Landfair** 89.42 53 *e*P P 21 08 24.7 +1.8
comp=Z,295nm,1.0s
113A **Mohawk Valley,** 89.54 55 *e*P P 21 08 24.6 +1.3
comp=Z,151nm,1.4s
G05D **Wamic, OR** 89.55 41 P P 21 08 24.5 +1.5
baz=242,SNR=17
MENT **Mentasta** 89.55 19 *e*P P 21 08 22.4 -0.3
comp=Z,21nm,0.8s
WRAK **Wrangell Islan** 89.56 28 *e*P P 21 08 23.5 +0.7
comp=Z,135nm,1.1s
D03D **Eldon** 89.56 39 P P 21 08 24.9 +1.9
baz=241,SNR=5.7
D04E **Lakebay** 89.58 39 P P 21 08 25.3 +2.2
baz=241,SNR=11
CCB **Clear Creek Bu** 89.62 17 *e*P P 21 08 21.3 -1.6
comp=Z,30nm,0.8s
LSA **Lhasa** 89.63 302 *e*P P 21 08 24.3 -0.1
comp=Z,14nm,0.8s
NEE2 **Needles Airpor** 89.67 53 P P 21 08 25.6 +1.7
baz=247,SNR=9.2
HDA **Harding Lake** 89.68 17 *e*P P 21 08 22.1 -1.0
comp=Z,55nm,0.8s
MDM **Murphy Dome** 89.75 17 *e*P P 21 08 22.2 -1.4
comp=Z,51nm,0.9s
F05D **White Salmon** 89.76 41 P P 21 08 25.5 +1.5
baz=242,SNR=18
TCOL **CIGO, UAF Yank** 89.78 17 P P 21 08 22.5 -1.1
baz=220,SNR=15
COLA **College** 89.78 17 *e*P P 21 08 22.3 -1.3
comp=Z,75nm,0.9s
COLA **College** 89.78 17 *i*P P 21 08 22.2 -1.4
COLA pmax pmax
comp=Z,69nm,0.9s
RIDG **Independ'e Rid** 89.79 19 *e*P P 21 08 22.7 -1.1
comp=Z,65nm,0.9s
BESE **Bessie Mountai** 89.81 26 *e*P P 21 08 24.3 +0.3
comp=Z,156nm,1.0s
JIS **Juneau Island** 89.81 26 *e*P P 21 08 24.4 +0.5
comp=Z,122nm,1.3s
PDMCI **Parker Dam,Lak** 89.85 54 P P 21 08 26.5 +1.8
baz=247,SNR=55
PGC **Sidney** 89.90 38 *e*P P 21 08 25.4 +0.9
comp=Z,170nm,0.9s
LON **Longmire** 89.95 40 *e*P P 21 08 25.6 +0.6
comp=Z,117nm,1.4s
LON **Longmire** 89.95 40 *e*P P 21 08 25.6 +0.6
LON pmax pmax
comp=Z,117nm,1.4s
DOT **Dot Lake** 89.96 19 *e*P P 21 08 24.1 -0.4
comp=Z,44nm,0.8s
SHPR **Sheep Range** 89.96 51 *e*P P 21 08 26.5 +1.1
comp=Z,125nm,1.2s
214A **Organ Pipe Nat** 89.97 56 P P 21 08 27.2 +1.9
baz=248
IL1 **Eielson Array** 89.97 17 *e*P P 21 08 22.6 -2.0
ILAR **Eielson Array** 89.97 17 P P 21 08 23.3 -1.2
comp=Z,30nm,0.8s,baz=236,slow=4.5,SNR=204
ILB **Eielson Array** 89.97 17 *e*P P 21 08 23.0 -1.6
comp=Z,37nm,0.8s
WVOR **Wild Horse Val** 90.01 45 *e*P P 21 08 26.4 +1.0
comp=Z,185nm,1.1s
WVOR **Wild Horse Val** 90.01 45 *e*P P 21 08 26.4 +1.0
WVOR pmax pmax
comp=Z,185nm,1.1s
D05A **Enumclaw** 90.05 39 *e*P P 21 08 26.8 +1.5
comp=Z,486nm,1.2s
POKR **Poker Plat Res** 90.08 17 P P 21 08 23.9 -1.2
baz=220,SNR=21
BMN **Battle Mountai** 90.11 47 *e*P P 21 08 27.1 +1.1
BMN **Battle Mountai** 90.11 47 *e*P P 21 08 27.1 +1.1
I07A **Izee** 90.17 43 *e*P P 21 08 27.4 +1.3
comp=Z,136nm,0.9s
SKAG **Skagway** 90.17 25 *e*P P 21 08 26.3 +0.7
comp=Z,130nm,1.0s
HYT **Haines Junctio** 90.22 23 *e*P P 21 08 25.8 -0.1
comp=Z,60nm,1.0s
SCRK **Sand Creek** 90.22 19 *e*P P 21 08 25.5 -0.4
comp=Z,47nm,0.8s
VNA2 **Neumayer--Watz** 90.25 181 P P 21 08 26.1 +0.1
baz=181,slow=4.9
VNA2 **Neumayer--Watz** 90.25 181 P pP 21 09 23.7 -0.6
baz=156,slow=5.1
ZAK **Zakamensk** 90.28 324 *e*P P 21 08 26.1 -0.3
ZAK pmax pmax
comp=Z,43nm,1.4s
W13A **Hualapai Mount** 90.35 53 *e*P P 21 08 28.5 +1.2
comp=Z,100nm,1.0s
A04D **Lummi Island** 90.36 38 P P 21 08 28.6 +1.9
baz=241,SNR=43
HSIG 90.36 59 *e*P P 21 08 28.5 +1.2
comp=Z,205nm,1.2s
R11A **Troy Canyon, C** 90.40 49 *e*P P 21 08 28.1 +0.7
comp=Z,40nm,1.0s
R11A **Troy Canyon, C** 90.40 49 P P 21 08 28.4 +1.0
baz=246,SNR=31
B05A **Bryant** 90.50 38 P P 21 08 29.0 +1.6
baz=242,SNR=49
J08A **Circle Bar Ran** 90.52 44 *e*P P 21 08 28.9 +1.2
comp=Z,127nm,0.9s
VNA1 **Neumayer--Stat** 90.54 181 P P 21 08 27.5 +0.2
VNA1 **Neumayer--Stat** 90.54 181 P pP 21 09 25.2 -0.4
Y14A **Wickenburg** 90.58 54 *e*P P 21 08 29.4 +1.2
comp=Z,75nm,1.2s
IRK **Irkutsk** 90.68 326 *e*P P 21 08 27.4 -0.7
IRK pmax pmax
comp=Z,51nm,1.5s
F07A **Phinny Hill Vi** 90.71 41 *e*P P 21 08 29.6 +1.2
comp=Z,82nm,0.8s
TLY **Talaya** 90.73 325 *e*P P 21 08 28.1 -0.3
comp=Z,37nm,0.9s
TLY **Talaya** 90.73 325 *c i*P P 21 08 28.3 -0.1
TLY *e*S S 21 18 59.6 -3.7
TLY pmax pmax
comp=Z,165nm,1.5s
PRP **Porcupine Dome** 90.91 17 *e*P P 21 08 27.7 -1.4
comp=Z,20nm,0.9s
B06A **Marblemount** 90.98 38 *e*P P 21 08 30.4 +0.9
comp=Z,101nm,1.1s
COLD **Coldfoot** 91.02 15 *e*P P 21 08 29.9 +0.5
comp=Z,22nm,1.0s
C06D **Leavenworth** 91.05 39 P P 21 08 31.0 +1.0
baz=242,SNR=8.7
G08A **Pilot Rock** 91.05 42 *e*P P 21 08 31.1 +0.9
comp=Z,128nm,1.0s
E07A **Sunnyside** 91.06 41 *e*P P 21 08 31.0 +0.9
comp=Z,126nm,0.9s
WHY **Whitehorse** 91.10 24 *e*P P 21 08 29.8 -0.3
comp=Z,64nm,0.9s
HAWA **Hanford** 91.18 41 *e*P P 21 08 31.8 +1.2
comp=Z,137nm,1.0s
GO10 **Punta Arenas** 91.22 148 *e*P P 21 08 32.2 +1.3
comp=Z,108nm,1.0s
USHA **Ushuaia** 91.50 151 P P 21 08 32.2 +0.2
comp=Z,19nm,1.0s,baz=259,slow=3.2,SNR=10
E08A **Dider Farm, El** 91.52 41 *e*P P 21 08 33.0 +0.8
comp=Z,149nm,1.3s
LCMT **Little Creek M** 91.57 51 *e*P P 21 08 34.0 +1.2
comp=Z,109nm,1.0s
ELK **Elko** 91.61 47 *e*P P 21 08 33.6 +0.6
comp=Z,47nm,1.3s
ELK **Elko** 91.61 47 *e*P P 21 08 33.6 +0.6
ELK pmax pmax
comp=Z,47nm,1.3s
ELK **Elko** 91.61 47 P P 21 08 34.0 +1.0
comp=Z,18nm,1.0s,baz=254,slow=4.8,SNR=17
GO09 **Cerro Castillo** 91.62 146 *e*P P 21 08 33.4 +0.6
comp=Z,42nm,1.3s
EGAK **Eagle** 91.66 19 *e*P P 21 08 31.6 -0.7
comp=Z,60nm,0.6s
CCUT **Cedar City** 91.69 51 *e*P P 21 08 34.5 +1.1
comp=Z,93nm,1.2s
TUC **Tucson** 91.70 56 *e*P P 21 08 35.2 +1.7
comp=Z,118nm,1.1s
TUC **Tucson** 91.70 56 P P 21 08 35.2 +1.7
baz=249
PSUT **Pine Spring** 91.72 50 *e*P P 21 08 34.4 +0.8
comp=Z,126nm,1.9s
DAWY **Dawson** 91.73 20 *e*P P 21 08 32.1 -0.7
comp=Z,111nm,1.8s
LLLB **Lillooet** 91.73 36 *e*P P 21 08 33.6 +0.5
comp=Z,76nm,1.0s
DLBC **Dease Lake** 91.76 27 *e*P P 21 08 33.6 +0.6
comp=Z,138nm,1.1s
DLBC **Dease Lake** 91.76 27 P P 21 08 33.9 +0.9
comp=Z,83nm,1.0s,baz=238,slow=4.3,SNR=110
FYU **Fort Yukon** 91.78 17 *e*P P 21 08 32.8 0.0
comp=Z,24nm,0.8s
D08A **Wollman Farm,** 91.85 40 *e*P P 21 08 34.5 +0.8
comp=Z,183nm,1.8s
KNB **Kanab** 91.89 51 *e*P P 21 08 35.9 +1.5
comp=Z,114nm,1.2s
SZCU **Shurtz Canyon** 91.91 51 *e*P P 21 08 36.0 +1.5
comp=Z,85nm,1.2s
BMO **Blue Mountains** 91.92 43 *e*P P 21 08 34.5 +0.4
comp=Z,40nm,1.4s
BMO **Blue Mountains** 91.92 43 *e*P P 21 08 34.6 +0.4
BMO pmax pmax
comp=Z,40nm,1.4s
X16A **Lo Mia Camp, P** 91.96 54 *e*P P 21 08 36.2 +1.5
comp=Z,103nm,0.9s
U15A **North Rim** 92.06 52 *e*P P 21 08 36.5 +1.2
comp=Z,101nm,0.9s
E09A **Wood Farm, Sta** 92.10 41 *e*P P 21 08 35.9 +1.1
comp=Z,76nm,1.4s
MOY **Mondy** 92.16 325 *e*P P 21 08 35.5 +0.3
MOY pmax pmax
comp=Z,58nm,1.6s
B08A **Colville Reser** 92.18 39 *e*P P 21 08 35.5 +0.2
comp=Z,45nm,1.0s
TOLK **Toolik Lake Re** 92.29 14 *e*P P 21 08 35.4 +0.2
comp=Z,77nm,1.3s
TOLK **Toolik Lake Re** 92.29 14 P P 21 08 35.8 +0.5
baz=218
RAMN **Ramite** 92.39 298 *e*P P 21 08 36.9 -0.1
comp=Z,35nm,1.2s
WUAZ **Wupatki** 92.41 53 *e*P P 21 08 38.1 +1.4
comp=Z,113nm,1.1s
WUAZ **Wupatki** 92.41 53 P P 21 08 38.5 +1.8
baz=248
PKCU **Pink Cliffs** 92.43 51 *e*P P 21 08 39.0 +2.0
comp=Z,156nm,1.2s
F10A **Beach Ranch, E** 92.44 42 *e*P P 21 08 36.7 +0.1
comp=Z,50nm,1.3s
319A **Douglas** 92.56 58 *e*P P 21 08 39.3 +1.8
comp=Z,155nm,0.9s
C09A **Chrisman Ranch** 92.57 40 *e*P P 21 08 37.5 +0.5
comp=Z,20nm,1.0s
MTPU **Mount Pierson** 92.74 51 *e*P P 21 08 40.5 +2.0
comp=Z,47nm,1.0s
TCRU **Three Creeks R** 92.76 50 *e*P P 21 08 40.2 +1.7
comp=Z,29nm,0.9s
MSU **Marysvale** 92.92 50 *e*P P 21 08 39.8 +0.7
MSU **Marysvale** 92.92 50 *e*P P 21 08 39.8 +0.7
JIRN **Jiri** 92.97 298 *e*P P 21 08 39.7 -0.1
comp=Z,61nm,1.2s
DUG **Dugway, Tooele** 93.10 49 *e*P P 21 08 40.6 +0.8
comp=Z,52nm,1.5s
DUG **Dugway, Tooele** 93.10 49 *e*P P 21 08 40.6 +0.8
DUG pmax pmax
comp=Z,52nm,1.5s
DUG **Dugway, Tooele** 93.10 49 P P 21 08 40.8 +1.0
baz=248
X18A **Snowflake** 93.14 55 *e*P P 21 08 41.5 +1.3
comp=Z,64nm,1.0s
BGU **Big Grassy Mou** 93.22 48 *e*P P 21 08 41.6 +1.2
comp=Z,54nm,1.9s
HLID **Hailey** 93.29 45 *e*P P 21 08 41.5 +0.8
comp=Z,26nm,0.9s
HLID **Hailey** 93.29 45 P P 21 08 41.9 +1.2
baz=247,SNR=32
GUN **Gumba** 93.31 298 *e*P P 21 08 41.1 -0.2
comp=Z,32nm,1.0s
NEW **Newport** 93.47 40 *e*P P 21 08 41.4 +0.2
comp=Z,19nm,0.9s
NEW PP **PP** 21 12 27.6 -1.8
NEW **Newport** 93.47 40 P P 21 08 41.8 +0.6
baz=245
NEW **Newport** 93.47 40 P P 21 08 41.1 -0.1
comp=Z,17nm,0.9s,baz=247,slow=4.5,SNR=20
NEW PP **PP** 21 12 27.6 -1.8
comp=Z,2.5nm,0.9s,baz=239,slow=7.4,SNR=3.8
W18A **Petrified Fore** 93.52 54 P P 21 08 43.1 +1.2
baz=249
NLU **North Lily Min** 93.53 49 *e*P P 21 08 43.0 +1.1
comp=Z,22nm,1.0s
PKI **Pulchoki** 93.59 298 *e*P P 21 08 42.1 -0.5
comp=Z,46nm,1.0s
HVU **Hansel Valley** 93.72 47 *e*P P 21 08 43.6 +0.9
comp=Z,26nm,0.9s
HVU **Hansel Valley** 93.72 47 *e*P P 21 08 43.6 +0.9
HVU pmax pmax
comp=Z,27nm,0.9s
KKN **Kakani** 93.78 298 *e*P P 21 08 43.1 -0.2
comp=Z,30nm,0.9s
Q16A **Castle Valley** 93.80 50 *e*P P 21 08 44.1 +1.0
comp=Z,62nm,1.2s
DMN **Daman** 93.86 298 *e*P P 21 08 43.7 0.0
comp=Z,71nm,1.1s
MPU **Maple Canyon** 93.87 49 *e*P P 21 08 43.5 0.0
comp=Z,28nm,1.1s
TMUT **Trail Mountain** 93.92 50 *e*P P 21 08 44.8 +1.0
comp=Z,30nm,1.1s
CTU **Camp Tracy** 94.04 48 *e*P P 21 08 45.3 +1.2
comp=Z,30nm,1.2s
EPYK **Eagle Plains** 94.10 19 *e*P P 21 08 43.1 -0.5
comp=Z,68nm,0.8s
EPYK **Eagle Plains** 94.10 19 P P 21 08 43.4 -0.3
baz=230
121A **Cookes Peak, D** 94.15 57 P P 21 08 46.5 +1.6
baz=250
JLU **Jordanelle** 94.22 49 *e*P P 21 08 46.1 +1.1
comp=Z,33nm,1.3s
P17A **Butcher Ranch,** 94.32 50 *e*P P 21 08 46.2 +0.7
comp=Z,25nm,1.3s
SRU **San Rafael Swe** 94.34 50 *e*P P 21 08 46.5 +0.9
comp=Z,36nm,1.2s
GKN **Gorkha** 94.38 298 *e*P P 21 08 45.2 -0.8
comp=Z,40nm,1.0s
TCUT **Toone Canyon** 94.43 48 *e*P P 21 08 46.6 +0.5
comp=Z,44nm,0.9s
HWUT **Hardware Ranch** 94.50 48 *e*P P 21 08 46.1 -0.2
comp=Z,6.2nm,0.8s
TIXI **Tiksi** 94.60 348 *e*P P 21 08 44.2 -1.5
comp=Z,32nm,1.7s
TIXI *e*PP **PP** 21 12 33.9 -3.6
TIXI **Tiksi** 94.60 348 *c i*P P 21 08 44.2 -1.5
TIXI pmax pmax
comp=Z,6.0nm,1.0s
TIXI **Tiksi** 94.60 348 P P 21 08 44.5 -1.2
comp=Z,5.2nm,1.0s,baz=154,slow=5.2,SNR=12
TIXI PP **PP** 21 12 33.9 -3.6
comp=Z,1.2nm,0.3s,baz=125,slow=10.0,SNR=6.9
MCMT **McKenzie Canyo** 94.82 44 *e*P P 21 08 48.0 +0.3
MSO **Missoula** 94.87 42 P P 21 08 48.0 +0.3
baz=248
PV05 **Paradox Valley** 95.03 52 *e*P P 21 08 50.1 +1.3
comp=Z,24nm,1.0s
PV09 **Paradox Valley** 95.15 51 *e*P P 21 08 49.7 +0.3
KOLN **Koldanda** 95.17 297 *e*P P 21 08 48.8 -0.9
comp=Z,21nm,0.9s
PV10 **Paradox Valley** 95.18 51 *e*P P 21 08 50.0 +0.5
comp=Z,26nm,0.9s
MVCO **Mesa Verde** 95.18 53 P P 21 08 50.3 +0.8
baz=250
PV14 **Lion Creek, Pa** 95.19 51 *e*P P 21 08 49.6 +0.1
comp=Z,21nm,0.9s
PV19 **Morning Glory** 95.19 51 *e*P P 21 08 49.8 +0.3
comp=Z,20nm,0.9s
PV20 **West Nyswonger** 95.22 51 *e*P P 21 08 50.2 +0.6
comp=Z,29nm,0.9s
PV23 **Carpenter Ridg** 95.22 51 *e*P P 21 08 50.2 +0.5
comp=Z,33nm,1.1s
DANN **Dangsing** 95.23 298 *e*P P 21 08 48.8 -1.2
comp=Z,27nm,0.9s
PV16 **Nyswonger Mesa** 95.24 51 *e*P P 21 08 49.9 +0.1
comp=Z,12nm,0.9s
PV13 **Radium Mtn., P** 95.26 52 *e*P P 21 08 49.3 -0.6
comp=Z,9.8nm,0.8s
PV11 **David Mesa, Pa** 95.27 51 *e*P P 21 08 49.6 -0.3
comp=Z,19nm,1.0s
PV03 **Paradox Valley** 95.28 51 *e*P P 21 08 49.0 -1.0
comp=Z,10nm,1.0s
LAZ **Ladron** 95.28 56 *e*P P 21 08 49.6 -0.4
PV12 **Saucer Basin,** 95.33 51 *e*P P 21 08 50.3 +0.1
comp=Z,53nm,1.0s
LENM **Lemitar** 95.33 56 *e*P P 21 08 51.3 +1.1
PV02 **Paradox Valley** 95.34 52 *e*P P 21 08 49.9 -0.3
comp=Z,12nm,1.0s
PV01 **Paradox Valley** 95.44 52 *e*P P 21 08 50.1 -0.6
comp=Z,14nm,0.9s
LRM **Limekiln Ridge** 95.45 43 *e*P P 21 08 50.8 +0.3
PV07 **Paradox Valley** 95.49 51 *e*P P 21 08 51.7 +0.8
comp=Z,25nm,1.1s
PV15 **Paradox Valley** 95.58 51 *e*P P 21 08 51.8 +0.5
comp=Z,25nm,1.1s
BNM **Barren Site** 95.60 56 *e*P P 21 08 50.6 -0.9

FXWY Fox Creek 95.60 46 *e*P P 21 08 50.6 -0.6
comp=Z,13nm,1.1s
SNOW Snow King Moun 95.72 46 *e*P P 21 08 52.7 +0.8
comp=Z,37nm,1.5s
WALA Waterton Lakes 95.74 40 *e*P P 21 08 50.9 -0.7
comp=Z,15nm,1.3s
QLMT Earthquake Lak 95.76 45 *e*P P 21 08 53.2 +1.3
PYUN Piuthan 95.79 298 *e*P P 21 08 51.0 -1.5
comp=Z,31nm,1.1s
MNTX Cornudas Mount 95.80 59 *e*P P 21 08 53.1 +0.9
comp=Z,38nm,1.3s
MNTX Cornudas Mount 95.80 59 P P 21 08 53.3 +1.1
baz=251
MOOW Moose Ponds 95.83 46 *e*P P 21 08 52.7 +0.4
comp=Z,10.0nm,1.1s
LOHW Long Hollow 95.88 46 *e*P P 21 08 53.4 +0.9
comp=Z,12nm,0.7s
YHB Horse Butte 95.89 45 *e*P P 21 08 53.2 +0.7
comp=Z,14nm,0.6s
BOZ Bozeman (W) 95.90 44 *e*P P 21 08 53.0 +0.5
comp=Z,27nm,1.3s
BOZ Bozeman (W) 95.90 44 P P 21 08 53.2 +0.7
baz=249
ANMO Albuquerque 95.99 55 *e*P P 21 08 54.0 +0.8
comp=Z,32nm,1.4s
ANMO PP PP 21 12 48.3 -1.1
ANMO Albuquerque 95.99 55 *ce*P P 21 08 54.0 +0.8
ANMO pmax pmax
comp=Z,26nm,1.3s
ANMO Albuquerque 95.99 55 P P 21 08 54.4 +1.2
baz=251
ANMO Albuquerque 95.99 55 P P 21 08 53.8 +0.6
comp=Z,13nm,0.9s,baz=217,slow=4.5,SNR=7.6
ANMO PP PP 21 12 48.3 -1.1
comp=Z,2.0nm,0.9s,baz=262,slow=9.2,SNR=3.3
YHH Holmes Hill 96.13 45 *e*P P 21 08 55.0 +1.3
comp=Z,8.6nm,1.1s
H17A Grant Village 96.17 45 *e*P P 21 08 55.7 +1.8
H17A Grant Village 96.17 45 P P 21 08 55.7 +1.8
baz=250
YNR Norris Junctio 96.22 45 *e*P P 21 08 56.5 +2.5
comp=Z,20nm,0.4s
INK Inuvik 96.28 18 *e*P P 21 08 52.7 -0.7
comp=Z,83nm,1.1s
INK PKKPbc **PKKPbc** 21 25 38.3 -3.3
INK Inuvik 96.28 18 *e*P P 21 08 52.7 -0.7
INK pmax pmax
comp=Z,83nm,1.1s
INK Inuvik 96.28 18 P P 21 08 53.2 -0.2
comp=Z,44nm,1.0s,baz=233,slow=5.1,SNR=74
INK PKKPbc **PKKPbc** 21 25 38.3 -3.3
comp=Z,1.0nm,0.5s,baz=21,slow=6.1,SNR=4.7
BW06 Boulder Array 96.31 47 *e*P P 21 08 54.3 -0.2
comp=Z,22nm,1.4s
BW06 Boulder Array 96.31 47 P P 21 08 55.6 +1.1
baz=250
PD31 Pinedale Array 96.31 47 *e*P P 21 08 54.6 +0.1
comp=Z,21nm,1.4s
PDAR Pinedale Array 96.31 47 P P 21 08 54.7 +0.2
comp=Z,3.4nm,0.7s,baz=204,slow=3.3,SNR=17
PDAR PP PP 21 12 56.2 +4.5
comp=Z,0.6nm,0.4s,baz=229,slow=3.4,SNR=3.9
O20A White River Ci 96.35 50 *e*P P 21 08 55.4 +0.7
comp=Z,14nm,0.8s
O20A White River Ci 96.35 50 P P 21 08 56.0 +1.2
baz=251
HYB Hyderabad 96.39 286 *i* P P 21 08 55.0 -0.2
TX31 Lajitas Ar. Si 96.46 61 *e*P P 21 08 56.2 +0.9
TXAR Lajitas Array 96.46 61 P P 21 08 56.5 +1.2
comp=Z,5.1nm,0.9s,baz=225,slow=4.6,SNR=32
S22A 4UR Ranch, Cre 96.61 52 *e*P P 21 08 57.0 +1.0
comp=Z,15nm,1.1s
S22A 4UR Ranch, Cre 96.61 52 P P 21 08 57.3 +1.2
baz=251
GDL2 Guadalupe Moun 96.78 58 *e*P P 21 08 58.0 +1.2
SMCO Snowmass 96.96 51 *e*P P 21 08 58.5 +0.7
comp=Z,26nm,1.4s
WMQ Urumqi 97.24 314 *e*P Pdif 21 08 58.8 +0.3
WMQ S S 21 20 04.5 +3.8
WMQ pmax pmax
comp=Z,47nm,1.7s
WMQ pmax pmax
comp=Z,170nm,3.7s
WMQ LR LR
comp=Z,300nm,24.5s
WMQ LR LR
comp=Z,340nm,31.1s
WMQ LR LR
comp=Z,140nm,24.5s
WMQ Urumqi 97.24 314 *e*P Pdif 21 08 58.9 +0.4
comp=Z,59nm,1.5s
WMQ Urumqi 97.24 314 *e*P Pdif 21 08 58.9 +0.4
WMQ pmax pmax
comp=Z,59nm,1.5s
RLMT Red Lodge 97.30 45 *e*P Pdif 21 08 59.6 +0.7
comp=Z,16nm,1.3s
RLMT Red Lodge 97.30 45 P Pdif 21 09 00.1 +1.2
baz=251
RWWY Rawlins 97.60 49 *e*P Pdif 21 09 00.8 +0.4
comp=Z,19nm,1.0s
SDCO Great Sand Dun 97.61 53 *e*P Pdif 21 09 01.1 +0.5
comp=Z,8.2nm,1.1s
SDCO Great Sand Dun 97.61 53 P Pdif 21 09 01.4 +0.8
baz=252
EGMT Eagleton 97.95 42 *e*P Pdif 21 09 01.9 +0.3
comp=Z,15nm,1.3s
EGMT Eagleton 97.95 42 P Pdif 21 09 02.3 +0.7
baz=251
ISCO Idaho Springs 98.16 51 P Pdif 21 09 03.9 +0.8
baz=252
Q24A Divide 98.25 52 *e*P Pdif 21 09 03.9 +0.4
comp=Z,11nm,1.1s
Q24A Divide 98.25 52 P Pdif 21 09 04.5 +1.0
baz=252
T25A Trinidad 98.25 54 P Pdif 21 09 04.3 +1.0
baz=252
K22A Casper 98.38 48 P P 21 09 04.1 +0.3
baz=252
PLCA Paso Flores 98.52 138 P Pdif 21 09 03.1 -1.3
comp=Z,3.8nm,0.9s,baz=202,slow=24,SNR=3.5
MSTX Muleshoe 98.59 57 *e*P P 21 09 05.3 +0.5
comp=Z,31nm,1.2s
MSTX Muleshoe 98.59 57 P P 21 09 05.4 +0.5
baz=253
LNIG Linares 98.71 67 *e*P P 21 09 06.0 +0.6
comp=Z,27nm,1.7s
AMTX Amarillo 99.71 57 *e*Pdif Pdif 21 09 10.1 +0.3
comp=Z,22nm,1.1s
AMTX Amarillo 99.71 57 P Pdif 21 09 10.1 +0.3
baz=254
LAO LASA Array 99.81 44 P Pdif 21 09 11.2 +1.3
baz=253
YKA Yellowknife Ar 100.38 27 P Pdif 21 09 12.1 +0.2
comp=Z,18nm,0.9s,baz=254,slow=4.6,SNR=119
YKA pP pwP 21 10 13.5 +0.6
comp=Z,1.6nm,0.9s,baz=255,slow=4.7,SNR=1.9
YKA PP PP 21 13 20.7 -1.1
comp=Z,2.0nm,0.9s,baz=248,slow=7.4,SNR=9.5
YKA PKiKP **PKiKP** 21 13 37.4 0.0
comp=Z,0.4nm,0.5s,baz=271,slow=1.3,SNR=4.4
YKB5 Yellowknife Ar 100.38 27 *e*Pdif Pdif 21 09 11.8 -0.1
YKW3 Yellowknife Ar 100.40 27 *e*Pdif Pdif 21 09 12.0 0.0
ABTX Abilene, Hawle 100.72 59 *e*Pdif Pdif 21 09 14.9 +0.7
ABTX Abilene, Hawle 100.72 59 P Pdif 21 09 15.0 +0.7
baz=254
MK01 Makanchi Array 101.75 315 *e*Pdif Pdif 21 09 18.2 -0.3
MK31 Makanchi Array 101.76 315 *e*Pdif Pdif 21 09 18.6 +0.1
MK32 Makanchi Array 101.76 315 *e*Pdif Pdif 21 09 18.6 +0.1
MK32 *e*PP PP 21 13 29.8 -2.9
MK32 *e*PKiKP **PKiKP** 21 13 40.1 -0.3
MK32 *e*PKKPbc **PKKPbc** 21 25 22.3 -3.0
MKAR Makanchi Array 101.76 315 P Pdif 21 09 18.6 +0.1
comp=Z,5.8nm,0.8s,baz=106,slow=4.6,SNR=50
MKAR PP PP 21 13 29.8 -2.9
comp=Z,1.1nm,0.8s,baz=108,slow=6.5,SNR=5.7
MKAR PKiKP **PKiKP** 21 13 40.1 -0.3
comp=Z,2.5nm,0.8s,baz=81,slow=2.6,SNR=7.4
MKAR PKKPbc **PKKPbc** 21 25 22.3 -3.0
comp=Z,0.7nm,0.6s,baz=269,slow=2.9,SNR=7.0
WMOK Wichita Mounta 101.97 57 P Pdif 21 09 20.0 +0.3
baz=255
MAKZ Makanchi 101.97 315 *e*Pdif Pdif 21 09 19.3 -0.2
ZAA0 Zalesovo Array 102.10 323 *e*Pdif Pdif 21 09 19.2 -0.6
ZALV Zalesovo Beam 102.10 323 *e*Pdif Pdif 21 09 18.4 -1.3
ZALV PKiKP **PKiKP** 21 13 40.7 -0.1
ZALV Zalesovo Beam 102.10 323 P Pdif 21 09 19.3 -0.5
comp=Z,3.3nm,0.6s,baz=120,slow=4.6,SNR=15
ZALV PKiKP **PKiKP** 21 13 40.7 -0.1
comp=Z,1.0nm,0.4s,baz=107,slow=1.5,SNR=4.7
ZAA1 Zalesovo Array 102.10 323 *e*Pdif Pdif 21 09 19.3 -0.5
ZAA1 *e*PP **PKiKP** 21 13 40.7 -0.1
NVS Novosibirsk 103.22 324 *i* P Pdif 21 09 25.4 +0.7
NRIK Noril'sk 104.83 339 Pdiff Pdif 21 09 31.3 -0.3
comp=Z,2.2nm,0.4s,baz=94,slow=5.6,SNR=5.4
NRIK PP PP 21 13 54.5 -0.3
comp=Z,2.5nm,0.5s,baz=124,slow=8.1,SNR=5.0
KURK Kurchatov 105.04 319 *e*Pdif Pdif 21 09 32.9 +0.1
KURK *e*PKiKP **PKiKP** 21 13 47.4 +1.1
KURK *e*PP PP 21 13 57.0 +0.2
KURK *e*PKKPbc **PKKPbc** 21 25 13.8 -1.8
KURK *e*PKKPab **PKKPab** 21 25 31.1 -0.1
KURK Kurchatov 105.04 319 P Pdif 21 09 33.9 +1.0
KURK 21 13 57.0
KURK pmax pmax
comp=Z,2.0nm,0.7s
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURBB Kurchatov Arra 105.07 319 Pdiff Pdif 21 09 33.9 +0.8
comp=Z,1.5nm,0.7s,baz=104,slow=3.5,SNR=10
KURBB PKiKP **PKiKP** 21 13 47.4 +1.0
comp=Z,2.4nm,0.8s,baz=107,slow=1.5,SNR=8.1
KURBB PP PP 21 13 57.0 -0.1
comp=Z,1.2nm,0.8s,baz=115,slow=1.2,SNR=4.8
KURBB PKKPbc **PKKPbc** 21 25 13.8 -1.7
comp=Z,0.9nm,0.8s,baz=284,slow=3.8,SNR=7.6
KURBB PKKPab **PKKPab** 21 25 31.1 +0.1
comp=Z,2.1nm,0.9s,baz=285,slow=5.1,SNR=7.2
ECSD EROS Data Cent 105.66 49 P PKiKP 21 13 46.7 -1.0
baz=259
AAK Ala-Archa 106.24 310 PKKPab PKKPab 21 25 26.8 +0.4
comp=Z,3.0nm,0.9s,baz=231,slow=6.0,SNR=6.7
U40A Yellville 107.05 57 P PKiKP 21 13 49.9 -0.6
baz=259
W41B Gary Mavity, V 107.30 58 P PKiKP 21 13 50.0 -0.9
baz=259
ULM Lac du Bonnet 107.32 42 PKiKP PKiKP 21 13 48.6 -1.9
comp=Z,1.7nm,0.7s,baz=281,slow=1.3,SNR=6.6
U41A Viola 107.78 57 P PKiKP 21 13 51.1 -0.7
baz=259
U42A Revenden 108.33 57 P PKiKP 21 13 51.7 -1.1
baz=260
R41A Rosebud 108.56 55 P PKiKP 21 13 52.1 -1.1
baz=260
CCM Cathedral Cave 108.62 55 P PKiKP 21 13 52.1 -1.2
baz=260
S42A Caledonia 108.92 56 P PKiKP 21 13 53.0 -0.9
baz=260
R42A Luebbering 109.01 55 P PKiKP 21 13 53.1 -1.0
baz=261
T43A Greenville 109.20 56 P PKiKP 21 13 52.9 -1.6
baz=260
F38A Pierce - Schro 109.35 47 P PKiKP 21 13 53.5 -1.0
baz=262
K40A Colesburg 109.43 50 P PKiKP 21 13 53.8 -1.0
baz=262
RES Resolute Bay 109.70 16 *e*Pdif Pdif 21 09 54.3 +1.2
RES PKiKP **PKiKP** 21 13 52.9 -1.4
RES PKKPbc **PKKPbc** 21 24 59.3 -2.5
RES Resolute Bay 109.70 16 *e*P Pdif 21 09 54.3 +1.2
RES Resolute Bay 109.70 16 Pdiff Pdif 21 09 53.7 +0.6
comp=Z,4.6nm,1.1s,baz=259,slow=5.5,SNR=12
RES PKiKP **PKiKP** 21 13 52.9 -1.4
comp=Z,1.9nm,0.9s,baz=280,slow=3.2,SNR=5.8
RES PKKPbc **PKKPbc** 21 24 59.3 -2.5
comp=Z,1.2nm,0.7s,baz=32,slow=4.4,SNR=5.0
G39A Holcombe 109.76 48 P PKiKP 21 13 53.9 -1.4
baz=263
EYMN Ely 109.86 45 P PKiKP 21 13 54.2 -1.2
baz=264
F39A Loretta 110.01 47 P PKiKP 21 13 54.6 -1.1
baz=263
E39A Mellen 110.32 47 P PKiKP 21 13 55.0 -1.3
baz=264
J41A Loganville 110.34 50 P PKiKP 21 13 55.0 -1.4
baz=263
BVAR Borovoye Array 110.41 320 Pdiff Pdif 21 09 57.6 +0.8
comp=Z,1.2nm,0.7s,baz=108,slow=9.5,SNR=4.9
BVAR PKiKP **PKiKP** 21 13 55.9 -0.4
comp=Z,2.2nm,0.5s,baz=64,slow=3.4,SNR=9.4
L42A Oliver, Polo 110.42 51 P PKiKP 21 13 55.3 -1.3
baz=263
G40A Rib Lake 110.44 48 P PKiKP 21 13 55.4 -1.2
baz=263
HDIL Hopedale 110.50 53 P PKiKP 21 13 55.8 -1.0
baz=262
F40A Park Falls 110.56 47 P PKiKP 21 13 55.5 -1.2
baz=264
H41A Junction City 110.75 49 P PKiKP 21 13 55.9 -1.3
baz=264
E40A Wakefield 110.78 47 P PKiKP 21 13 57.0 -0.2
baz=264
P44A Sand Creek, Wi 110.86 54 P PKiKP 21 13 56.9 -0.6
baz=262
M43A Waltham Townsh 110.87 52 P PKiKP 21 13 56.8 -0.7
baz=263
J42A Columbus 110.98 50 P PKiKP 21 13 57.1 -0.5
baz=263
WVT Waverly 111.00 58 P PKiKP 21 13 56.5 -1.4
baz=261
Q45A Warren Harvey, 111.14 55 P PKiKP 21 13 57.6 -0.5
baz=262
I42A Draeger Farm, 111.19 49 P PKiKP 21 13 56.8 -1.2
baz=264
LRAL Lakeview Retre 111.20 61 P PKiKP 21 13 58.0 -0.3
baz=261
F41A Three Lakes 111.25 47 P PKiKP 21 13 57.4 -0.7
baz=264
C40A Isle Royale Na 111.42 45 P PKiKP 21 13 57.5 -0.8
baz=265
K43A Burlington 111.48 51 P PKiKP 21 13 58.0 -0.6
baz=264
P45A Graceland, Par 111.54 54 P PKiKP 21 13 58.1 -0.7
baz=263
G42A Mountain 111.68 48 P PKiKP 21 13 57.8 -1.1
baz=265
Y49A Blount Mountai 111.81 60 P PKiKP 21 13 58.6 -0.9
baz=261
150A Eclectic 111.94 62 P PKiKP 21 13 58.7 -1.0
baz=261
P46A Rosedale 111.97 54 P PKiKP 21 13 58.2 -1.4
baz=263
R47A Wooly Knot Far 112.33 56 P PKiKP 21 13 59.3 -1.1
baz=263
251A Midway 112.37 62 P PKiKP 21 14 00.3 -0.4
baz=261
F43A Flat Rock, Esc 112.61 47 P PKiKP 21 13 59.8 -0.9
baz=266
S48A Wiedeman Farm, 112.62 56 P PKiKP 21 13 59.9 -1.0
baz=263
U49A Red Boiling Sp 112.70 58 P PKiKP 21 14 00.1 -1.0
baz=263
553A Crawfordville 112.90 65 P PKiKP 21 14 00.3 -1.3
baz=261
W50A Signal Mountai 112.90 59 P PKiKP 21 14 00.6 -1.0
baz=262
Y51A Rockmart 112.93 61 P PKiKP 21 14 00.7 -0.9
baz=262
T49A Edmonton 112.97 57 P PKiKP 21 14 00.7 -0.9
baz=263
Q48A North Vernon 113.03 55 P PKiKP 21 14 00.9 -0.7
baz=264
152A Waverly Hall 113.04 62 P PKiKP 21 14 00.9 -0.9
baz=262
V50A Pikeville 113.14 59 P PKiKP 21 14 01.0 -1.0
baz=263
F44A Big Bay de Noc 113.14 47 P PKiKP 21 14 01.0 -0.6
baz=266
LPAZ La Paz 113.34 118 SKP SKPdf 21 17 17.3 +1.3
comp=Z,0.4nm,0.5s,baz=260,slow=6.1,SNR=2.6
Z52A Williamson 113.36 61 P PKiKP 21 14 02.4 -0.1
baz=262
U50A Jamestown 113.44 58 P PKiKP 21 14 01.8 -0.8
baz=263
T50A Nancy 113.51 57 P PKiKP 21 14 01.3 -1.4
baz=263
I46A Reed City 113.69 50 P PKiKP 21 14 02.6 -0.2
baz=266
L47A Sherwood 113.72 52 P PKiKP 21 14 02.2 -0.7
baz=265
Y52A Lilburn 113.75 61 P PKiKP 21 14 03.0 -0.2
baz=262
F45A CMU Biological 113.75 48 P PKiKP 21 14 01.1 -1.7
baz=267
N48A Decatur 113.76 53 P PKiKP 21 14 02.3 -0.7
baz=265
P49A Miami Univ. Ec 113.87 54 P PKiKP 21 14 02.4 -0.9
baz=265
K47A Vermontville 113.93 51 P PKiKP 21 14 03.0 -0.3
baz=266
S50A Richmond 113.93 57 P PKiKP 21 14 02.6 -0.8
baz=264
X52A Dahlonega 113.98 60 P PKiKP 21 14 03.2 -0.5
baz=263
W52A Murphy 114.01 59 P PKPdf 21 14 03.0 -0.7
baz=263
Z53A Monticello 114.08 61 P PKPdf 21 14 02.8 -1.0
baz=262
254A Abbeville 114.13 63 P PKPdf 21 14 02.9 -1.0
baz=262
GOGA Godfrey 114.18 61 P PKPdf 21 14 03.0 -1.0
baz=263
TKL Tuckaleechee C 114.21 59 PKP PKPdf 21 14 03.1 -0.9
comp=Z,3.9nm,0.7s,baz=232,slow=2.6,SNR=6.3
T51A Gray 114.22 57 P PKPdf 21 14 02.6 -1.4
baz=264
O49A Covington 114.22 54 P PKPdf 21 14 03.1 -0.8
baz=265
L48A N Adams 114.29 52 P PKPdf 21 14 03.2 -0.8
baz=266
V52A Sevierville 114.37 59 P PKPdf 21 14 03.7 -0.6
baz=264
N49A Columbus Grove 114.40 53 P PKPdf 21 14 03.4 -0.8
baz=266
X53A Estanollee 114.45 60 P PKPdf 21 14 04.2 -0.3
baz=263
TZTN Tazewell 114.49 58 P PKPdf 21 14 04.3 -0.3
baz=264
K48A Perry 114.58 51 P PKPdf 21 14 04.0 -0.5
baz=266
M49A Liberty Center 114.60 52 P PKPdf 21 14 03.9 -0.7
baz=266
E46A Sault Ste Mari 114.63 47 P PKPdf 21 14 03.3 -1.2
baz=268
W53A Cullowhee 114.65 59 P PKPdf 21 14 04.5 -0.6
baz=264
D46A Sault St. Mari 114.83 46 P PKPdf 21 14 03.5 -1.3
baz=268
Y54A Tignall 114.88 61 P PKPdf 21 14 04.7 -0.7
baz=263
062Z Marathon 114.93 71 P PKPdf 21 14 04.8 -0.9
baz=260
I48A Sherman Twp 114.96 49 P PKPdf 21 14 05.1 -0.1
baz=267
657A Interlachen 115.00 66 P **PKPdf** 21 14 05.2 -0.5
baz=262
X54A Belton 115.22 60 P **PKPdf** 21 14 05.8 -0.2
baz=264
U53A Fall Branch 115.25 58 P **PKPdf** 21 14 05.7 -0.3
baz=264
T53A Wise 115.34 57 P **PKPdf** 21 14 05.8 -0.5
baz=265
E47A Iron Bridge 115.34 47 P **PKPdf** 21 14 05.0 -0.9
baz=269
W54A Cherokee Point 115.43 60 P **PKPdf** 21 14 05.1 -1.3
baz=264
D47A Chapleau 115.47 46 P **PKPdf** 21 14 04.9 -1.3
baz=269
L50A Kingsville 115.50 52 P **PKPdf** 21 14 04.8 -1.5
baz=267
Y55A Saluda 115.58 61 P **PKPdf** 21 14 05.6 -1.1
baz=264
PLIO Pelee Island, 115.62 52 P **PKPdf** 21 14 05.0 -1.6
baz=267
X55A Gracelyn & Ava 115.82 60 P **PKPdf** 21 14 05.2 -1.9
baz=264
P52A Corning 115.87 55 P **PKPdf** 21 14 05.5 -1.6
baz=266
CPUP Villa Florida 115.97 133 PKP **PKPdf** 21 14 07.2 -0.6
comp=Z,1.6nm,0.7s,baz=246,slow=3.5,SNR=5.6
CPUP PKKPbc **PKKPbc** 21 24 39.3 -0.2
comp=Z,2.3nm,1.0s,baz=48,slow=6.1,SNR=4.1
SVE Sverdlovsk 116.03 325 *e*PKIKP **PKPdf** 21 14 06.7 -0.2
E48A Lockeyer 116.11 47 P **PKPdf** 21 14 06.1 -1.3
baz=270
O52A Adamsville 116.13 54 P **PKPdf** 21 14 06.3 -1.3
baz=267
KMSC Kings Mountain 116.13 60 P **PKPdf** 21 14 07.1 -0.7
baz=264
Q53A Leroy 116.29 55 P **PKPdf** 21 14 06.8 -1.1
baz=266
X56A White Oak 116.32 60 P **PKPdf** 21 14 06.4 -1.7
baz=264
D48A Paudash Townsh 116.36 46 P **PKPdf** 21 14 06.6 -1.3
baz=270
P53A Whipple 116.43 55 P **PKPdf** 21 14 07.0 -1.2
baz=267
U55A TA2, Sparta 116.49 58 P **PKPdf** 21 14 07.7 -0.9
baz=265
M52A Chesterland 116.56 52 P **PKPdf** 21 14 07.4 -1.0
baz=268
O53A New Philadelph 116.61 54 P **PKPdf** 21 14 07.1 -1.4
baz=267
D49A Beulah Townshi 116.67 46 P **PKPdf** 21 14 07.0 -1.4
baz=271
T55A Pulaski 116.75 57 P **PKPdf** 21 14 07.7 -1.3
baz=266
BWLO Walkerton 116.80 50 P **PKPdf** 21 14 07.8 -1.0
baz=269
Q54A Coxs Mills 116.83 55 P **PKPdf** 21 14 08.1 -0.9
baz=267
ABKAR Akbulak array 116.89 316 *e*PKPdf **PKPdf** 21 14 08.2 -0.5
N53A Lisbon 116.92 53 P **PKPdf** 21 14 08.0 -1.1
baz=268
BLA Blacksburg 117.04 57 P **PKPdf** 21 14 08.0 -1.5
baz=266
M53A WI Miller and 117.07 53 P **PKPdf** 21 14 08.4 -1.0
baz=268
E50A Wahnapitae 117.10 47 P **PKPdf** 21 14 08.2 -1.0
baz=271
P54A Burton 117.14 55 P **PKPdf** 21 14 08.6 -1.0
baz=267
ARU Arti 117.22 324 *e*PKPdf **PKPdf** 21 14 08.3 -0.8
ARU Arti 117.22 324 *i* PKIKP **PKPdf** 21 14 08.7 -0.5
ARU 21 20 56.4
O54A Avella 117.25 54 P **PKPdf** 21 14 09.0 -0.8
baz=268
J52A Paris 117.27 51 P **PKPdf** 21 14 08.5 -1.1
baz=269
R55A Marlinton 117.35 56 P **PKPdf** 21 14 08.8 -1.3
baz=267
L53A Girard 117.40 52 P **PKPdf** 21 14 08.9 -1.1
baz=269
KLBO Killbear Provi 117.47 48 P **PKPdf** 21 14 08.7 -1.3
baz=270
N54A Moraine State 117.57 53 P **PKPdf** 21 14 09.6 -0.8
baz=268
P55A Reedsville 117.64 55 P **PKPdf** 21 14 09.5 -1.1
baz=268
F51A Arnstein 117.67 48 P **PKPdf** 21 14 09.3 -1.1
baz=271
D50A G1974 Best Tow 117.70 46 P **PKPdf** 21 14 09.4 -1.0
baz=272
TYNO Tyneside 117.71 51 P **PKPdf** 21 14 09.3 -1.2
baz=269
M54A Oil Creek Stat 117.83 53 P **PKPdf** 21 14 09.9 -1.0
baz=269
E51A G1948 Merrick 117.96 47 P **PKPdf** 21 14 09.7 -1.2
baz=272
D51A Lot 18 Range I 118.02 46 P **PKPdf** 21 14 09.9 -1.2
baz=272
O55A Ligonier 118.07 54 P **PKPdf** 21 14 10.2 -1.2
baz=268
AKTO Aktyubinsk 118.08 318 PKP **PKPdf** 21 14 10.8 -0.3
comp=Z,13nm,0.8s,baz=103,slow=2.6,SNR=32
AKTO SKP 21 17 23.7
comp=Z,1.7nm,1.0s,baz=104,slow=1.1,SNR=4.8
AKTO PKKPab **PKKPab** 21 24 34.0 +0.4
comp=Z,1.5nm,0.7s,baz=298,slow=2.5,SNR=4.0
F52A Sundridge 118.09 48 P **PKPdf** 21 14 09.9 -1.3
baz=271
GEYT Alibeck 118.11 303 PKP **PKPdf** 21 14 11.4 -0.1
comp=Z,13nm,0.7s,baz=232,slow=1.7,SNR=28
GYA0B ALIBECK ARRAY 118.11 303 *e*PKPdf **PKPdf** 21 14 11.5 0.0
SADO Sadowa 118.24 49 PKP **PKPdf** 21 14 10.5 -1.0
comp=Z,8.5nm,0.8s,baz=301,slow=1.5,SNR=4.5
M55A Ridgway 118.51 53 P **PKPdf** 21 14 10.8 -1.4
baz=269

E52A	Mattawa	118.54	47	P		PKPdf	21 14 11.0	-1.1	
	baz=272								
DRCO	St. Marys Ceme	118.56	50	P		PKPdf	21 14 11.0	-1.1	
	baz=271								
G53A	Haliburton	118.60	48	P		PKPdf	21 14 11.2	-1.0	
	baz=271								
O56A	Blue Knob Stat	118.64	54	P		PKPdf	21 14 11.1	-1.4	
	baz=269								
D52A	ZEK Kipawa Sen	118.69	46	P		PKPdf	21 14 11.1	-1.2	
	baz=273								
MEDO	Medina	118.75	51	P		PKPdf	21 14 11.5	-1.0	
	baz=270								
L55A	Hinsdale	118.76	52	P		PKPdf	21 14 11.7	-0.9	
	baz=270								
WLVO	Wesleyville	118.78	50	P		PKPdf	21 14 11.8	-0.8	
	baz=271								
ALGO	Algonquin Park	118.97	47	P		PKPdf	21 14 11.7	-1.2	
	baz=272								
MATQ	Matagami	119.03	43	P		PKPdf	21 14 11.0	-1.9	
	baz=275								
K55A	Perry	119.03	51	P		PKPdf	21 14 11.8	-1.3	
	baz=270								
BANO	Bancroft	119.09	49	P		PKPdf	21 14 12.0	-1.1	
	baz=272								
R58B	Mineral	119.10	57	P		PKPdf	21 14 12.2	-1.2	
	baz=268								
KBS	Kingsbay	119.15	355	ePKPdf		PKPdf	21 14 11.3	-1.0	
SSPA	Standing Stone	119.16	54	P		PKPdf	21 14 12.1	-1.4	
	baz=269								
D53A	Lac Vacive, Po	119.17	46	P		PKPdf	21 14 12.4	-0.8	
	baz=273								
J55A	Hilton	119.21	51	P		PKPdf	21 14 12.1	-1.3	
	baz=271								
E53A	Dumoine, Ponti	119.23	47	P		PKPdf	21 14 12.3	-1.1	
	baz=273								
I55A	Frankford	119.29	49	P		PKPdf	21 14 12.6	-0.9	
	baz=272								
DELO	Deloro Mine	119.33	49	P		PKPdf	21 14 12.1	-1.5	
	baz=272								
SPA0	Spitsbergen Ar	119.42	354	ePKPdf		PKPdf	21 14 11.8	-1.1	
SPA0	Spitsbergen Ar	119.42	354	ePKPdf		PKPdf	21 14 12.6	-0.3	
SPA0				epPKPdf		pPKPdf	21 15 16.2	+1.9	
SPITS	Spitsbergen Ar	119.42	354	PKIKP		PKPdf	21 14 12.3	-0.6	
SPITS				pmax	pmax				
	comp=Z,9.0nm,0.7s								
SPITS				pmax	pmax				
	comp=Z,7.0nm,0.9s								
SPITS	Spitsbergen Ar	119.42	354	PKP		PKPdf	21 14 12.3	-0.6	
	comp=Z,6.3nm,0.5s,baz=101,slow=7.7,SNR=26								
SPITS				pPKP		pPKPdf	21 15 06.5	-7.8	
	comp=Z,7.4nm,0.9s,baz=57,slow=5.3,SNR=2.0								
LSQQ	Lebel-sur-Quev	119.52	44	P		PKPdf	21 14 12.3	-1.5	
	baz=275								
PEMO	Pembroke	119.55	48	P		PKPdf	21 14 12.8	-1.2	
	baz=273								
E54A	Lac Daplat, Po	119.55	47	P		PKPdf	21 14 12.7	-1.3	
	baz=273								
H55A	Tweed	119.64	49	P		PKPdf	21 14 12.7	-1.5	
	baz=272								
PLVO	Plevna	119.70	48	P		PKPdf	21 14 12.3	-2.0	
	baz=272								
HOPEN	Hopen	119.73	351	ePKPdf		PKPdf	21 14 13.2	-0.3	
HOPEN				epPKPdf		pPKPdf	21 15 16.9	+2.0	
PECO	Prince Edward	119.79	50	P		PKPdf	21 14 12.2	-2.3	
	baz=272								
D54A	Lac Fusel, La	119.87	46	P		PKPdf	21 14 13.2	-1.4	
	baz=274								
G55A	Calabogie	119.94	48	P		PKPdf	21 14 13.3	-1.5	
	baz=273								
F55A	Otter Lake	120.17	48	P		PKPdf	21 14 13.6	-1.6	
	baz=274								
H56A	Elgin	120.30	49	P		PKPdf	21 14 14.0	-1.5	
	baz=273								
HSPB	Hornsund (broa	120.55	353	ePKPdf		PKPdf	21 14 14.5	-0.6	
BINY	Binghamton	120.58	52	P		PKPdf	21 14 14.8	-1.4	
	baz=272								
N59A	State Game Lan	120.77	53	P		PKPdf	21 14 15.5	-1.1	
	baz=271								
ORIO	Orleans, Innes	120.78	48	P		PKPdf	21 14 15.3	-1.0	
	baz=274								
FRB	Frobisher Bay	120.87	26	PKP		PKPdf	21 14 15.0	-0.9	
	comp=Z,11nm,0.9s,baz=29,slow=3.0,SNR=20								
FRB				PP		PP	21 15 46.0	-2.3	
	comp=Z,3.5nm,0.9s,baz=289,slow=13,SNR=3.3								
SDV	Santo Domingo	121.02	91	ePKPdf		PKPdf	21 14 17.1	-0.9	
CHGQ	Chibougamau	121.12	43	P		PKPdf	21 14 14.9	-2.0	
	baz=277								
ALFO	Alfred	121.20	48	P		PKPdf	21 14 15.9	-1.2	
	baz=274								
BOSA	Boshof	121.36	217	PKP		PKiKP	21 14 18.6	+0.2	
	comp=Z,5.2nm,0.6s,baz=129,slow=1.9,SNR=20								
BOSA				PKKPbc		PKKPbc	21 24 19.4	-1.1	
	comp=Z,3.7nm,0.7s,baz=315,slow=2.8,SNR=9.7								
LONY	Lake Ozonia	121.49	49	P		PKPdf	21 14 16.4	-1.4	
	baz=274								
KIRV	Kirov	121.64	328	PKP		PKPdf	21 14 17.1	-0.4	
	comp=Z,14nm,0.6s,baz=66,slow=2.4,SNR=5.7								
DAG	Danmarks Havn	122.09	2	*i* P		PKPdf	21 14 16.4	-1.6	
	comp=Z,5.8nm,0.7s								
DAG	Danmarks Havn	122.09	2	*i* PKIKP		PKPdf	21 14 16.4	-1.6	
DAG				pmax	pmax				
	comp=Z,4.0nm,0.7s								
PAL	Palisades	122.18	53	P		PKPdf	21 14 18.1	-1.0	
	baz=272								
BJO	Bjornoya	122.22	351	ePKPdf		PKPdf	21 14 17.7	-0.6	
LATQ	La Tuque	122.48	45	P		PKPdf	21 14 18.6	-1.0	
	baz=277								
SDDR	Presa de Saban	122.81	79	ePKPdf		PKPdf	21 14 20.2	-0.9	
ILULI	Ilulissat	124.01	16	ePKPdf		PKPdf	21 14 20.9	-1.0	
ILULI	Ilulissat	124.01	16	*i* P		PKPdf	21 14 20.5	-1.3	
	comp=Z,42nm,1.2s								
ILULI	Ilulissat	124.01	16	ePKIKP		PKPdf	21 14 20.9	-1.0	
APA	Apatity	124.12	341	⇑*i* PKIKP		PKPdf	21 14 15.5	-6.6	
APA				pmax	pmax				
	comp=Z,10.0nm,1.1s								
APA				MLR	MLR				
	comp=Z,900nm,19.0s								
SUMG	Summit	124.12	10	ePKPdf		PKPdf	21 14 22.1	-0.5	
SUMG	Summit	124.12	10	*i* P		PKPdf	21 14 22.3	-0.2	
	comp=Z,56nm,1.1s								
SUMG	Summit	124.12	10	*i* PKIKP		PKPdf	21 14 22.3	-0.2	
SUMG				pmax	pmax				
	comp=Z,56nm,1.1s								
TMCR	Tamitsa	124.46	337	*i* PKIKP		PKPdf	21 14 21.9	-0.9	
TMCR				pmax	pmax				
	comp=Z,27nm,1.1s								
HAMF	Hammerfest	124.51	347	ePKPdf		PKPdf	21 14 21.7	-1.1	
HAMF				epPKPdf		pPKPdf	21 15 26.5	+2.0	
SCHQ	Schefferville	124.61	36	ePKPdf		PKPdf	21 14 22.5	-1.0	
SCHQ	Schefferville	124.61	36	PKP		PKPdf	21 14 22.2	-1.3	
	comp=Z,9.4nm,0.8s,baz=331,slow=3.2,SNR=14								
ARA0	ARCESS Array S	124.94	345	ePKPdf		PKPdf	21 14 23.3	-0.3	
ARCES	ARCESS Array B	124.94	345	PKP		PKPdf	21 14 23.3	-0.3	
	comp=Z,17nm,0.6s,baz=67,slow=1.3,SNR=81								
ARE0	ARCESS Array S	124.94	345	ePKPdf		PKPdf	21 14 23.7	0.0	
ARE0				epPKPdf		pPKPdf	21 15 27.4	+2.1	
ARE0				ePP		PP	21 16 14.9	-0.5	
PKME	Peaks-Kenny Pk	125.16	48	P		PKPdf	21 14 24.3	-0.4	
	baz=278								
KLMR	Klimovskoe	125.47	333	ePKIKP		PKPdf	21 14 23.3	-1.6	
KLMR				*e*			21 15 26.5		
KLMR				pmax	pmax				
	comp=Z,35nm,1.2s								
KLMR	Klimovskoe	125.47	333	ePKPdf		PKPdf	21 14 23.3	-1.6	
KLMR				AMP			21 14 26.2		
	comp=Z,35nm,1.2s								
KLMR				epPKPdf		pPKPdf	21 15 26.5	+0.1	
SFJD	Kangerlussuaq	125.63	18	*i* P		PKPdf	21 14 23.7	-1.3	
	comp=Z,6.7nm,0.8s								
SFJD	Kangerlussuaq	125.63	18	PKP		PKPdf	21 14 24.0	-1.0	
	comp=Z,7.9nm,0.9s,baz=307,slow=1.2,SNR=2.7								
KTK1	Kautokeino	125.86	346	ePKPdf		PKPdf	21 14 25.2	-0.3	
TRO	Tromso	126.31	348	ePKPdf		PKPdf	21 14 26.0	-0.2	
TRO				epPKPdf		pPKPdf	21 15 30.0	+2.4	
CRPR	Cabo Rojo, PR	126.53	81	ePKPdf		PKPdf	21 14 27.2	-1.0	
BATG	Bathurst New B	127.00	45	ePKPdf		PKPdf	21 14 27.8	-0.5	
OBIP	Obispado Ponce	127.00	81	ePKPdf		PKPdf	21 14 27.2	-1.9	
GROC	Groznyy	127.22	310	*i* PKIKP		PKPdf	21 14 27.2	-1.6	
GROC				pmax	pmax				
	comp=Z,41nm,1.0s								
SJG	San Juan	127.44	81	ePKPdf		PKPdf	21 14 29.2	-0.7	
PTGA	Pitinga	127.64	106	ePKPdf		PKPdf	21 14 29.7	-0.8	
HUMP	Col San Antoni	127.73	81	ePKPdf		PKPdf	21 14 29.8	-0.7	
CBYP	Canovanas	127.75	81	ePKPdf		PKPdf	21 14 29.5	-1.1	
RAYN	Ar Rayn	127.88	285	ePKPdf		PKiKP	21 14 31.0	-0.3	
MTP	Monte Pirata	128.00	82	ePKPdf		PKPdf	21 14 30.0	-0.9	
JMIC	Jan Mayen	128.04	359	PP	PP		21 16 36.4	+0.8	
	comp=Z,70nm,0.8s,baz=167,slow=16,SNR=3.2								
VRH	Novokhopyorsk	128.06	321	ePKIKP		PKPdf	21 14 29.5	-0.6	
VRH				pmax	pmax				
	comp=Z,40nm,1.0s								
SCO	Scoresbysund	128.10	5	*i* P		PKPdf	21 14 29.7	+0.1	
	comp=Z,9.7nm,0.9s								
SCO	Scoresbysund	128.10	5	*i* PKIKP		PKPdf	21 14 29.7	+0.1	
SCO				pmax	pmax				
	comp=Z,10.0nm,0.9s								
TBLG	Delisi	128.22	308	ePKPdf		PKiKP	21 14 31.4	0.0	
GNI	Garni	128.43	306	ePKPdf		PKiKP	21 14 32.6	+0.6	
STEI	Steigen	128.48	348	ePKPdf		PKPdf	21 14 30.2	-0.2	
STEI				epPKPdf		pPKPdf	21 15 33.9	+2.1	
STVI	Saint Thomas	128.60	81	ePKPdf		PKPdf	21 14 31.1	-1.0	
LOF	Lofoten	128.63	349	ePKPdf		PKPdf	21 14 30.4	-0.3	
LOF				epPKPdf		pPKPdf	21 15 34.1	+2.0	
MOS	Moscow	128.64	327	ePKIKP		PKPdf	21 14 28.8	-2.3	
MOS				*e*			21 15 31.2		
MOS				*e*			21 16 39.9		
MOS				pmax	pmax				
	comp=Z,38nm,0.8s								
CDVI	St. Croix	128.67	82	ePKPdf		PKPdf	21 14 31.1	-1.1	
LSZ	Lusaka	128.88	231	ePKPdf		PKPdf	21 14 32.6	-0.4	
KMBO	Kilima Mbogo	129.01	252	ePKPdf		PKiKP	21 14 34.5	+0.4	
KMBO				SKPbc	SKPbc		21 17 34.5	+3.2	
KMBO	Kilima Mbogo	129.01	252	PKP		PKiKP	21 14 34.9	+0.7	
	comp=Z,4.8nm,0.9s,baz=36,slow=4.0,SNR=12								
KMBO				SKPbc	SKPbc		21 17 34.5	+3.2	
	comp=Z,6.4nm,1.0s,baz=45,slow=2.2,SNR=11								
KBZ	Khabaz	129.21	311	PKP		PKiKP	21 14 34.2	+0.9	
	comp=Z,4.5nm,0.9s,baz=111,slow=5.3,SNR=6.6								
LPSR	Galich'ya Gora	129.21	323	ePKIKP		PKPdf	21 14 31.6	-0.6	
LPSR				pmax	pmax				
	comp=Z,60nm,1.3s								
KVAR	Kislovodsk Arr	129.31	312	SKP		SKiKP	21 17 47.7	+1.3	
	comp=Z,8.4nm,1.1s,baz=74,slow=7.4,SNR=1.6								
KIV	Kislovodsk	129.31	312	ePKPdf		PKPdf	21 14 32.4	-0.5	
KIV	Kislovodsk	129.31	312	*i* PKIKP		PKPdf	21 14 32.7	-0.2	
KIV				pmax	pmax				
	comp=Z,18nm,1.1s								
OBN	Obninsk	129.46	327	ePKPdf		PKPdf	21 14 32.8	+0.2	
OBN	Obninsk	129.46	327	*d i* PKIKP		PKPdf	21 14 32.1	-0.5	
OBN				*e*			21 16 44.6		
OBN				pmax	pmax				
	comp=Z,20nm,1.1s								
OBN	Obninsk	129.46	327	PKP		PKPdf	21 14 32.9	+0.3	
	comp=Z,1.8nm,0.6s,baz=346,slow=3.9,SNR=2.3								
BDFB	Brasilia	129.50	131	PKP		PKPdf	21 14 34.2	+0.1	
	comp=Z,14nm,1.0s,baz=226,slow=1.5,SNR=11								
BDFB				SKPbc	SKPbc		21 17 33.1	+0.2	
	comp=Z,3.9nm,0.7s,baz=201,slow=3.9,SNR=5.7								
VSR	Storozhevoye	129.57	322	ePKIKP		PKPdf	21 14 31.8	-1.2	
VSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KONS	Konsvik	130.13	348	ePKPdf		PKPdf	21 14 33.7	+0.1	
MOR8	Moi Rana	130.15	347	ePKPdf		PKPdf	21 14 32.9	-0.8	
STOK	Stokkvaagen	130.30	348	ePKPdf		PKPdf	21 14 33.3	-0.6	
FIA1	FINESS Array S	130.49	338	ePKPdf		PKiKP	21 14 35.0	-0.3	
FIA0	FINESS Array S	130.49	338	ePKPpre		PKPpre	21 14 21.4		
FIA0				ePKPdf		PKiKP	21 14 34.9	-0.4	
FIA0				ePP		PP	21 16 52.1	+0.4	
FIA0				eSKPbc		SKPbc	21 17 34.6	-0.5	
FIA0				eSKPdf		SKiKP	21 17 48.4	+0.3	
FIA0	FINESS Array S	130.49	338	ePKHKP		PKPpre	21 14 21.4		
FIA0				*e*			21 14 34.9		
FIA0				*e*			21 16 52.2		
FINES	FINESS Array B	130.49	338	PKHKP		PKPpre	21 14 21.4		
FINES							21 14 34.9		
FINES							21 16 52.2		
FINES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
FINES				pmax	pmax				
	comp=Z,7.0nm,0.9s								
FINES				pmax	pmax				
	comp=Z,4.0nm,1.0s								
FINES				pmax	pmax				
	comp=N,7.0nm,0.7s								
FINES				pmax	pmax				
	comp=N,1.0nm,0.6s								
FINES	FINESS Array B	130.49	338	PKhKP		PKPpre	21 14 21.4		
	comp=N,3.0nm,0.9s,baz=25,slow=6.3,SNR=4.2								
FINES				PKP		PKiKP	21 14 34.9	-0.4	
	comp=N,10nm,1.0s,baz=106,slow=4.5,SNR=11								
FINES				PP		PP	21 16 52.1	+0.4	
	comp=N,4.2nm,1.0s,baz=132,slow=2.8,SNR=4.1								
FINES				SKPbc		SKPbc	21 17 34.6	-0.5	
	comp=N,6.7nm,0.7s,baz=56,slow=3.7,SNR=13								
FINES				SKP			21 17 48.4		
	comp=N,1.3nm,0.6s,baz=74,slow=4.9,SNR=2.6								
SIRT	Sirnak	130.53	303	ePKPdf		PKPdf	21 14 34.8	-0.6	
BCA	Borcka	130.57	309	⇑*i* P		PKiKP	21 14 36.1	-0.1	
FDF	Fort de France	131.48	87	ePKPdf		PKPdf	21 14 37.5	-0.2	
NSS	Namsos	132.09	347	ePKPdf		PKPdf	21 14 37.6	+0.2	
TSUM	Tsumeb	133.05	218	ePKPdf		PKPdf	21 14 39.9	-0.9	
MOL	Molde	134.74	348	ePKPdf		PKPdf	21 14 42.0	-0.4	
DOMB	Dombas	134.91	347	ePKPdf		PKPdf	21 14 43.2	+0.4	
MBAR	Mbarara	135.06	249	ePKPdf		PKPdf	21 14 43.9	-0.8	
AKN	Aaknes	135.20	348	ePKPdf		PKPdf	21 14 43.2	-0.1	
NB2	NORSAR Subarra	135.31	345	PKPdf		PKPpre	21 14 34.0		
	comp=Z,1.2nm,0.5s,baz=31,slow=1.9								
NB200	NORSAR Array S	135.31	345	ePKPpre		PKPpre	21 14 32.4		
NB200				ePKPdf		PKPdf	21 14 43.3	-0.3	
NB200				ePP		PP	21 17 24.6	+2.3	
NB200				eSKPbc		SKPab	21 17 54.8	-1.4	
NOA	NORSAR Array B	135.31	345	PKHKP		PKPpre	21 14 32.4		
NOA							21 14 43.3		
NOA							21 17 24.6		
NOA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
NOA				pmax	pmax				
	comp=Z,4.0nm,0.7s								
NOA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
NOA				pmax	pmax				
	comp=N,2.0nm,0.8s								
NOA	NORSAR Array B	135.31	345	PKhKP		PKPpre	21 14 32.4		
	comp=N,1.0nm,0.7s,baz=252,slow=3.1,SNR=4.0								
NOA				PKP		PKPdf	21 14 43.3	-0.3	
	comp=N,3.5nm,0.7s,baz=30,slow=2.0,SNR=12								
NOA				PP		PP	21 17 24.6	+2.3	
	comp=N,3.5nm,1.1s,baz=35,slow=6.0,SNR=2.8								
NOA				SKPbc		SKPab	21 17 54.8	-1.4	
	comp=N,1.5nm,0.8s,baz=26,slow=3.3,SNR=5.9								
HFS	Hagfors	135.44	343	PKhKP	PKPpre		21 14 32.5		
	comp=N,1.7nm,0.7s,baz=301,slow=0.9,SNR=4.1								
AKASG	Malin Array Be	135.47	325	PKhKP	PKPpre		21 14 31.5		
	comp=N,1.5nm,0.6s,baz=72,slow=2.5,SNR=4.5								
AKASG				PKP		PKPdf	21 14 43.5	-0.7	
	comp=N,10.0nm,0.9s,baz=59,slow=2.2,SNR=16								
AKASG				SKPbc		SKPbc	21 17 52.8	+0.5	
	comp=N,5.1nm,0.5s,baz=48,slow=4.0,SNR=16								
AKBB	Malin Array Si	135.47	325	ePKPdf		PKPdf	21 14 43.6	-0.5	
KIEV	Kiev	135.48	325	ePKPdf		PKPdf	21 14 43.5	-0.7	
KIEV	Kiev	135.48	325	⇑*i* P		PKPdf	21 14 44.2	+0.1	
KIEV	Kiev	135.48	325	⇑PKIKP		PKPdf	21 14 44.2	+0.1	
NC602	NORSAR Array S	135.50	345	ePKPdf		PKiKP	21 14 44.9	-0.6	
AK11	Malin Array Si	135.51	325	ePKPdf		PKPdf	21 14 43.8	-0.4	
ASF	Jabal al Asfar	135.62	297	PKP		PKiKP	21 14 46.1	-0.7	
	comp=N,7.1nm,0.8s,baz=84,slow=2.1,SNR=7.4								
ASF				SKPbc		SKPab	21 17 56.1	-2.5	
	comp=N,7.0nm,0.8s,baz=111,slow=1.7,SNR=9.7								
SUW	Suwalki	136.58	332	ePKP		PKPdf	21 14 46.0	-0.1	
SUW	Suwalki	136.58	332	ePKIKP		PKPdf	21 14 46.0	-0.1	
MMAI	Mount Meron Ar	136.79	298	PKP		PKPdf	21 14 48.2	+0.9	
	comp=N,13nm,0.8s,baz=72,slow=11,SNR=10.0								
MMAI				SKPbc		SKPbc	21 17 59.3	+2.3	
	comp=N,24nm,0.9s,baz=74,slow=3.7,SNR=16								
BR101	Keskin Array S	136.88	308	ePKPpre	PKPpre		21 14 35.6		
BR101				ePKPdf		PKPdf	21 14 47.7	+0.4	
BR101				ePP		PP	21 17 34.4	+0.9	
BR101				eSKPbc		SKPbc	21 17 58.0	+0.9	
BRTR	Keskin Array B	136.88	308	PKhKP	PKPpre		21 14 35.6		
	comp=N,1.5nm,0.9s,baz=145,slow=3.0,SNR=5.5								
BRTR				PKP		PKPdf	21 14 47.7	+0.4	
	comp=N,4.1nm,0.7s,baz=147,slow=3.7,SNR=12								
BRTR				PP		PP	21 17 34.4	+0.9	
	comp=N,3.3nm,1.0s,baz=103,slow=3.9,SNR=7.4								
BRTR				SKPbc		SKPbc	21 17 58.0	+0.9	
	comp=N,6.4nm,1.0s,baz=97,slow=6.0,SNR=10								
KONO	Kongsberg	136.92	345	ePKPdf		PKPdf	21 14 46.0	-0.5	
ASK	Askoy	137.11	349	ePKPdf		PKPdf	21 14 46.1	-0.7	
ANTO	Ankara	137.46	309	ePKPdf		PKPdf	21 14 47.7	-0.6	
ANTO	Ankara	137.46	309	⇓*i* P		PKPdf	21 14 46.5	-1.8	
ANTO	Ankara	137.46	309	⇓PKIKP		PKPdf	21 14 46.5	-1.8	
BR231	Keskin MP Arra	137.49	309	ePKPdf		PKPdf	21 14 48.3	-0.1	
EIL	Elat	137.49	293	PKP		PKPdf	21 14 48.9	+0.4	
	comp=N,15nm,0.9s,baz=81,slow=1.0,SNR=11								
EIL				SKPbc		SKiKP	21 18 01.3	-2.1	
	comp=N,12nm,1.0s,baz=143,slow=4.0,SNR=7.4								
LEOM	Leova	138.09	320	⇑*i* P		PKPdf	21 14 49.7	+0.6	
LEOM	Leova	138.09	320	⇑PKIKP		PKPdf	21 14 49.7	+0.6	
CSS	Mathiatis	138.19	301	ePKPdf		PKPdf	21 14 49.7	0.0	
LEF	Lefka	138.52	302	⇑*i* P		PKPdf	21 14 50.0	-0.3	
LVV	L'vov	138.74	326	ePKIKP		PKPdf	21 14 49.8	-0.4	
PRAR	RASCA	138.87	322	⇑*i* P		PKPdf	21 14 50.7	+0.2	
TESR	Tescani	139.04	320	⇓*i* P		PKPdf	21 14 50.9	0.0	
BEL	Belsk	139.10	331	ePKP		PKiKP	21 14 53.5	+0.4	
BEL	Belsk	139.10	331	ePKIKP		PKiKP	21 14 53.5	+0.4	
BIZ	Bicaz	139.15	321	⇓*i* P		PKPdf	21 14 51.5	+0.4	
BUR08	Bucovina Ar. S	139.31	323	ePKPpre		PKPpre	21 14 44.5		
BURAR	Bucovina Array	139.32	323	⇑*i* P		PKPpre	21 14 47.5		
SILT	Sile	139.34	312	⇑*i* P		PKPdf	21 14 49.8	-1.8	
KWP	Kalwaria Pacla	139.55	327	ePKP		PKiKP	21 14 54.5	+0.4	
KWP	Kalwaria Pacla	139.55	327	ePKIKP		PKiKP	21 14 54.5	+0.4	
YLV	Yalova	139.73	311	⇑*i* P		PKPdf	21 14 51.3	-1.1	
YLV	Yalova	139.73	311	⇑PKIKP		PKPdf	21 14 51.3	-1.1	
OZUR		139.77	320	⇑*i* P		PKPpre	21 14 45.3		
MLR	Muntele Rosu	139.97	319	⇑*i* P		PKPpre	21 14 45.9		
MLR	Muntele Rosu	139.97	319	⇑PKHKP		PKPpre	21 14 45.9		
MLR	Muntele Rosu	139.97	319	PKhKP		PKPpre	21 14 45.0		
	comp=N,4.7nm,0.9s,baz=59,slow=6.8,SNR=9.3								
MLR				SKPbc		SKPbc	21 18 06.3	+0.7	
	comp=N,17nm,1.3s,baz=6.7,slow=11,SNR=5.2								
DOPR	Dopca	140.07	320	⇑*i* P		PKPpre	21 14 46.0		
UZH	Uzhgorod	140.36	326	ePKHKP		PKPpre	21 14 44.4		
TRPA	Tarpa	140.53	325	⇑*i* P		PKPpre	21 14 47.2		
TRPA	Tarpa	140.53	325	ePKiKP		PKPdf	21 14 52.0	-1.5	
ARR	Arges	140.83	320	⇑*i* P		PKPpre	21 14 49.0		
NIE	Niedzica	140.91	328	ePKP		PKPdf	21 14 55.4	+1.2	
NIE	Niedzica	140.91	328	ePKIKP		PKPdf	21 14 55.4	+1.2	
HUMR	Humele	141.03	319	⇑*i* P		PKPpre	21 14 48.4		
LTVH	Ltavrtes, Hu	141.31	324	ePKIKP		PKPpre	21 14 50.0		
LANS	Liptovska Anna	141.50	328	ePKIKP		PKPdf	21 14 52.9	-2.4	
LANS				*e*			21 18 07.1		
LANS	Liptovska Anna	141.50	328	ePKP		PKPdf	21 14 52.8	-2.5	
LANS				ePP		PP	21 18 07.1	+6.2	
VLAD	Vladila	141.65	318	⇑*i* P		PKPpre	21 14 50.4		
OKC	Ostrava-Krasne	141.68	330	ePKP		PKPdf	21 14 54.7	-0.8	
OKC	Ostrava-Krasne	141.68	330	ePKIKP		PKPdf	21 14 54.7	-0.8	
KSP	Ksiaz	141.82	332	ePKP		PKPpre	21 14 51.2		
KSP	Ksiaz	141.82	332	ePKHKP		PKPpre	21 14 51.2		
GZR	Gura Zlata	141.93	321	⇑*i* P		PKPpre	21 14 52.1		

TIH	Tihany	143.76 327⇑	*e*PKiKP	PKPab	21 14 57.1	+0.2	
GTTG	Gvttingen	143.77 338	*e*PKPbc	PKPbc	21 14 57.6	+0.2	
	baz=35,slow=3.3						
FRGS	Fruska Gora	143.79 323⇑	*i*P	PKPbc	21 14 57.9	+0.1	
MORH	Mrgy, Hungar	143.80 325⇑	*i*P	PKPbc	21 14 56.6	-0.4	
MORH	Mrgy, Hungar	143.80 325⇑	*e*PKiKP	PKPab	21 14 56.1	-0.9	
PLN	Plauen	143.81 335	*e*PKPbc	PKPbc	21 14 57.7	0.0	
	baz=35,slow=3.3						
SOH	Sokhos	143.83 314	P	PKPab	21 14 56.4	-1.0	
SOH	Sokhos	143.83 314	P	PKPab	21 14 56.4	-1.0	
SOH	Sokhos	143.83 314	PKiKP	PKPab	21 14 56.4	-1.0	
GUNZ	Gunzen	143.84 335	*e*PKPbc	PKPbc	21 14 58.1	+0.3	
	baz=35,slow=3.3						
IBBN	Ibbenburen	143.85 341	*e*PKPbc	PKPbc	21 14 57.5	-0.2	
	baz=35,slow=3.3						
WERN	Wernitzgruen	143.88 335	*e*PKPbc	PKPbc	21 14 58.3	+0.4	
	baz=35,slow=3.3						
NKC	Novy Kostel	143.90 335	*e*PKP	PKPbc	21 14 58.5	+0.6	
NKC			*ep*PKP	pPKPdf	21 16 07.2	+6.0	
NKC	Novy Kostel	143.90 335	*e*PKiKP	PKPbc	21 14 58.5	+0.6	
MOX	Moxa	143.90 336	*e*PKPbc	PKPbc	21 14 57.9	0.0	
	baz=35,slow=3.3						
SOP	Sopron	143.92 329⇓	*e*PKiKP	PKPbc	21 14 58.1	0.0	
IDGL	Inch Island, C	143.96 357	*e*P	PKPab	21 14 56.8	-0.5	
GAL1	Galloway	143.96 354	*e*P	PKPbc	21 14 57.7	-0.2	
PLG	Polygyros	143.97 313	P	PKPab	21 14 57.1	-0.8	
PLG	Polygyros	143.97 313	P	PKPab	21 14 57.1	-0.8	
PLG	Polygyros	143.97 313	PKiKP	PKPab	21 14 57.1	-0.8	
KNT	Kendrikon	143.98 315	P	PKPab	21 14 57.7	-0.2	
PAIG	Paliouri	144.00 313	P	PKPab	21 14 57.2	-0.8	
PAIG	Paliouri	144.00 313	P	PKPab	21 14 57.2	-0.8	
PAIG	Paliouri	144.00 313	PKiKP	PKPab	21 14 57.2	-0.8	
SANT	Santorini	144.03 306	*e*PKPdf	**PKPab**	**21 14 58.0**	**-0.2**	
SANT	Santorini	144.03 306⇑	*i*P	**PKPab**	**21 14 58.4**	**+0.1**	
THR7	Fira-Santorini	144.04 306	P	**PKPab**	**21 14 58.5**	**+0.2**	
THR3	Thira Island,	144.07 306	*e*PKPdf	**PKPab**	**21 14 58.3**	**0.0**	
THR3	Thira Island,	144.07 306	P	**PKPab**	**21 14 58.3**	**0.0**	
CONA	Conrad Observa	144.09 329	*i* PKPdf	PKPbc	21 14 59.2	+0.6	
	comp=Z,95nm,1.3s,SNR=38						
HORT	Hortiatis	144.10 314	P	**PKPab**	**21 14 57.9**	**-0.6**	
VAY	Valandovo	144.13 315	*i* P	**PKPab**	**21 14 58.4**	**0.0**	
AOS	Alonnisos	144.17 311	P	**PKPab**	**21 14 57.9**	**-0.8**	
THE	Thessaloniki	144.18 314	*e*PKPdf	**PKPab**	**21 14 58.1**	**-0.5**	
THE	Thessaloniki	144.18 314	P	**PKPab**	**21 14 58.1**	**-0.5**	
THE	Thessaloniki	144.18 314	*e*PKiKP	**PKPab**	**21 14 58.1**	**-0.5**	
STIP	Stip	144.20 316	*i* P	**PKPab**	**21 14 58.0**	**-0.8**	
MANZ	Manzenberg	144.22 335	*e*PKPbc	PKPbc	21 14 59.2	+0.3	
	baz=35,slow=3.3						
NPS	Neapolis	144.26 304	P	**PKPab**	**21 14 59.2**	**0.0**	
KHC	Kasperske Hory	144.27 333	*e*PKPdf	**PKPab**	**21 14 58.8**	**0.0**	
KHC	Kasperske Hory	144.27 333	*e*PKP	PKPbc	21 14 59.2	+0.1	
KHC			*ex*	X	21 15 06.7		
KHC	Kasperske Hory	144.27 333	*e*PKiKP	PKPbc	21 14 59.2	+0.1	
DIVS	Divibare	144.30 321	*e*PKPdf	PKPbc	21 14 59.6	+0.2	
DIVS	Divibare	144.30 321⇑	*i*P	PKPbc	21 14 59.7	+0.3	
ROTZ	Rotzenmuhle	144.36 335	*e*PKPbc	**PKPdf**	**21 14 59.8**	**-0.5**	
	baz=35,slow=3.3						
UBBA	Unterbreizbach	144.36 338	*e*PKPbc	PKPbc	21 14 59.2	+0.1	
	baz=35,slow=3.3						
LAST	Lasithi	144.39 304	*e*PKPdf	PKPbc	21 15 00.1	+0.1	
LAST	Lasithi	144.39 304	P	PKPbc	21 15 00.1	+0.1	
WTSB	Winterswijk	144.44 342	*e*PKP	**PKPab**	**21 14 58.7**	**-0.5**	
	comp=Z,294nm,1.9s						
SKIA	Skiathos	144.47 312	P	**PKPab**	**21 14 58.8**	**-1.0**	
HPK	Haverah Park	144.48 351	*e*P	**PKPab**	**21 14 59.3**	**0.0**	
IOMK	Kirk Michael	144.55 354⇑	*e*P	**PKPab**	**21 14 58.7**	**-0.8**	
WET	Wettzell	144.56 333	*e*PKPbc	**PKPdf**	**21 15 00.3**	**-0.3**	
	baz=35,slow=3.3						
XOR	Xorichti	144.58 312	P	**PKPab**	**21 14 59.2**	**-1.1**	
NEO	Neokhori	144.58 312	*e*PKPbc	**PKPab**	**21 14 59.3**	**-1.0**	
NEO	Neokhori	144.58 312	P	**PKPab**	**21 14 59.3**	**-1.0**	
BEHE	Becsehely	144.63 327⇑	*i*P	**PKPdf**	**21 15 00.6**	**-0.2**	
BEHE	Becsehely	144.63 327⇑	*e*PKiKP	**PKPab**	**21 15 00.1**	**-0.1**	
PTL	Penteli	144.63 310	P	**PKPab**	**21 14 59.2**	**-1.3**	
WIM	Isle of Man	144.67 354⇑	*e*P	**PKPab**	**21 14 59.7**	**-0.4**	
ATHU	Athens Univers	144.72 310	P	PKPbc	21 14 59.2	-1.6	
ARSA	Arzberg	144.73 329	*i* PKPdf	**PKPdf**	**21 15 00.9**	**-0.1**	
	comp=Z,136nm,1.4s,SNR=42						
FYTO	Fytoko, Volos	144.74 312	P	PKPbc	21 14 59.7	-1.1	
LIT	Litokhoron	144.74 314	*e*PKPbc	PKPbc	21 14 59.8	-1.0	
LIT	Litokhoron	144.74 314	P	PKPbc	21 15 00.0	-0.8	
BUG	Bochum--Univer	144.75 341	*e*PKPbc	PKPbc	21 15 00.4	0.0	
	baz=35,slow=3.3						
VLY	Voula,Athens	144.76 309	P	PKPbc	21 14 59.7	-1.2	
ATH	Athens Observa	144.77 310	*e*PKPbc	PKPbc	21 14 59.8	-1.1	
ATH	Athens Observa	144.77 310	P	PKPbc	21 14 59.8	-1.1	
ATH	Athens Observa	144.77 310	*e*PKiKP	PKPbc	21 14 59.8	-1.1	
SMIA	Simia	144.77 311	P	PKPbc	21 14 59.8	-1.1	
BBLS	Lazići	144.78 321⇑	*i*P	**PKPdf**	**21 15 01.6**	**+0.3**	
GRA1	Grafenberg Arr	144.81 335	*e*PKPbc	**PKPdf**	**21 15 01.1**	**+0.1**	
GRF	Grafenberg Arr	144.81 335	*e*PKPbc	**PKPdf**	**21 15 01.2**	**+0.1**	
	baz=35,slow=3.3						
GRF			*ep*PKPbc	**pPKPdf**	**21 16 01.5**	**-1.3**	
GRF			*e*PP	**PP**	**21 18 22.6**	**+2.1**	
	baz=52,slow=5.8						
GRFO	Grafenberg	144.81 335	*e*PKPbc	**PKPdf**	**21 15 01.2**	**+0.1**	
IDI	Anoyia	144.81 305	*e*PKPbc	PKPbc	21 15 00.3	-1.0	
IDI			SKPbc	**SKiKP**	**21 18 18.3**	**-0.1**	
IDI	Anoyia	144.81 305⇑	*i*P	PKPbc	21 15 01.1	-0.2	
IDI	Anoyia	144.81 305	PKPbc	PKPbc	21 15 01.1	-0.2	
	comp=Z,135nm,1.0s,baz=26,slow=10,SNR=31						
IDI			SKPbc	**SKiKP**	**21 18 18.3**	**-0.1**	
	comp=Z,20nm,1.0s,baz=107,slow=15,SNR=4.1						
RCBR	Riachuelo	144.84 132	*e*PKPbc	PKPbc	21 15 01.1	-0.7	
MOA	Molln	144.90 331	*i* PKPdf	**PKPdf**	**21 15 01.5**	**+0.1**	
	comp=Z,166nm,0.9s,SNR=68						
SHEL	Horse Pasture	144.91 188	*i* PKiKP	**PKiKP**	**21 15 04.6**	**-1.6**	
HAPS	Han Pijesak,BI	144.92 322	*e*P	PKPbc	21 15 00.9	-0.5	
KRUS	Krusevo	144.97 316	*i* P	**PKPab**	**21 15 01.9**	**+0.1**	
ATAL	Atalanti	144.98 311	*e*PKPbc	PKPbc	21 15 00.0	-1.6	
ATAL	Atalanti	144.98 311	P	PKPbc	21 15 00.0	-1.6	
VILL	Villia	144.99 310	P	PKPbc	21 15 00.3	-1.4	
LKR	Lokris	145.01 311	P	**PKPbc**	**21 14 58.0**	**-3.7**	
LKR	Lokris	145.01 311	P	**PKPbc**	**21 14 58.0**	**-3.7**	
LBWR	Ladybower, Pea	145.03 351	*e*P	**PKPab**	**21 15 01.4**	**-0.1**	
IVA	Berane	145.05 320⇑	*i*PKP	**PKPab**	**21 15 02.1**	**+0.1**	
BIA	Bitola	145.10 316	*i* P	**PKPab**	**21 15 02.4**	**+0.2**	
PLE	Pljevlja	145.10 321⇑	*i*PKP	**PKPab**	**21 15 02.5**	**+0.3**	
KZN	Kozani	145.14 314	P	**PKPab**	**21 15 01.2**	**-0.8**	
PVY	Plav	145.16 319⇑	*i*PKP	**PKPdf**	**21 15 01.9**	**-0.1**	
FNA	Florina	145.18 315	*e*PKPdf	**PKPdf**	**21 15 01.3**	**-0.7**	
FNA	Florina	145.18 315	P	**PKPdf**	**21 15 01.3**	**-0.7**	
PROD	Prodromos	145.24 311	P	**PKPdf**	**21 15 01.0**	**-1.2**	
WACR	West Acre	145.28 348⇑	*e*P	**PKPdf**	**21 15 01.3**	**-0.4**	
KOME	Kolasin	145.29 320⇑	*i*PKP	**PKPbc**	**21 15 02.7**	**+0.2**	
LTK	Loutraki	145.29 310	*e*PKPdf	**PKPdf**	**21 15 01.3**	**-1.0**	
LTK	Loutraki	145.29 310	P	**PKPdf**	**21 15 01.3**	**-1.0**	
DID	Didima	145.30 309	P	**PKPdf**	**21 15 01.0**	**-1.3**	
LOUT	Loutraki	145.30 310	P	**PKPdf**	**21 15 01.1**	**-1.2**	
VAM	Vamos	145.31 305	*e*PKPdf	**PKPab**	**21 15 03.1**	**0.0**	
VAM	Vamos	145.31 305	P	**PKPab**	**21 15 03.1**	**0.0**	
AGG	Agios Georgios	145.33 312	*e*PKPdf	**PKPdf**	**21 15 01.1**	**-1.2**	
AGG	Agios Georgios	145.33 312	P	**PKPdf**	**21 15 01.1**	**-1.2**	
AGG	Agios Georgios	145.33 312	*e*PKiKP	**PKPdf**	**21 15 01.1**	**-1.2**	
PHP	Peshkopia	145.34 317	*e*PKPdf	**PKPdf**	**21 15 02.1**	**-0.2**	
PHP	Peshkopia	145.34 317	P	**PKPdf**	**21 15 02.1**	**-0.2**	
PHP	Peshkopia	145.34 317	*e*PKP2	**PKPdf**	**21 15 02.1**	**-0.2**	
PERS	Pernice	145.36 324	*i* PKPbc	**PKPbc**	**21 15 02.4**	**-0.2**	
SOKA	Soboth	145.37 329	*i* PKPab	**PKPdf**	**21 15 01.9**	**-0.3**	
	comp=Z,88nm,1.0s,SNR=35						
WME	Myndd Eilian	145.37 353⇑	*e*P	**PKPdf**	**21 15 01.9**	**0.0**	
WPS	Cemaes, Angles	145.39 354⇑	*e*P	**PKPdf**	**21 15 01.6**	**-0.2**	
OHR	Ohrid	145.40 316	*i* P	**PKPbc**	**21 15 03.0**	**+0.1**	
STNC	Stoke	145.41 351⇑	*e*P	**PKPbc**	**21 15 02.6**	**+0.2**	
TNS	Taunus Mts	145.41 338	*e*PKPbc	**PKPab**	**21 15 03.0**	**-0.1**	
	baz=35,slow=3.3						
KRND	KRANIDI	145.41 309	P	**PKPdf**	**21 15 01.6**	**-0.8**	
DSF	Desfina	145.45 311	P	**PKPdf**	**21 15 01.9**	**-0.7**	
IMMV	Iera Moni Meta	145.46 305	P	**PKPbc**	**21 15 03.1**	**-0.1**	
ZAG	Zagreb	145.47 327⇑	*i*P	**PKPab**	**21 15 03.6**	**+0.2**	
WLF1	Llynfaes	145.49 354⇑	*e*P	**PKPbc**	**21 15 02.4**	**-0.2**	
BLY	Banja Luka	145.52 324	*e*PKPdf	**PKPbc**	**21 15 03.0**	**-0.1**	
BLY	Banja Luka	145.52 324⇓	*i*P	**PKPab**	**21 15 04.2**	**+0.6**	
BLY	Banja Luka	145.52 324⇑	*i*P	**PKPab**	**21 15 03.6**	**0.0**	
YRC	Rhoscolyn	145.54 354⇑	*i*P	**PKPbc**	**21 15 02.4**	**-0.3**	
NEST	Nestorio	145.57 315	P	**PKPdf**	**21 15 02.9**	**+0.1**	
KPRO	Kipourio	145.58 314	P	**PKPdf**	**21 15 02.9**	**+0.1**	
AHRW	Bad Neuenahr-A	145.59 340	*e*PKPbc	**PKPbc**	**21 15 03.3**	**+0.3**	
	baz=35,slow=3.3						
CWF	Charnwood Fore	145.61 350⇑	*e*P	**PKPbc**	**21 15 02.8**	**-0.2**	
YLL	Llanberis	145.61 353⇑	*e*P	**PKPdf**	**21 15 02.4**	**+0.1**	
NKY	Niksic	145.63 320⇑	*i*PKP	**PKPbc**	**21 15 03.6**	**0.0**	
IGLA	Glengowla, Co	145.67 359	*e*P	**PKPbc**	**21 15 02.8**	**-0.3**	
NKME	Niksic	145.68 320⇑	*i*PKP	**PKPdf**	**21 15 02.7**	**-0.1**	
PDG	Podgorica	145.68 319⇓	*i*P	**PKPab**	**21 15 04.0**	**-0.3**	
PDG	Podgorica	145.68 319⇑	*i*P	**PKPbc**	**21 15 03.5**	**-0.1**	
TTG	Podgorica	145.68 319⇑	*i*PKP	**PKPbc**	**21 15 03.7**	**+0.1**	
TTG	Podgorica	145.68 319	*e*PKPdf	**PKPbc**	**21 15 03.3**	**-0.3**	
TTG	Podgorica	145.68 319	*e*PKP2	**PKPbc**	**21 15 03.3**	**-0.3**	
DSB	Dublin	145.71 356	*e*P	**PKPbc**	**21 15 03.3**	**0.0**	
DSB	Dublin	145.71 356	*e*PKPdf	**PKPbc**	**21 15 03.4**	**0.0**	
OBKA	Obir	145.72 329	*i* PKPab	**PKPdf**	**21 15 03.3**	**+0.4**	
	comp=Z,40nm,0.8s,SNR=13						
KALE	Kalithea	145.73 311	P	**PKPdf**	**21 15 03.4**	**+0.3**	
FOEL	Foel Wylfa	145.74 352⇑	*e*P	**PKPbc**	**21 15 03.5**	**+0.1**	
CRES	Cresnjev	145.74 327⇑	*i*P	**PKPbc**	**21 15 03.5**	**-0.2**	
EVR	Evrytania	145.74 312	*e*PKPdf	**PKPbc**	**21 15 03.6**	**-0.4**	
EVR	Evrytania	145.74 312	P	**PKPbc**	**21 15 03.6**	**-0.4**	
HGN	Heimansgroeve	145.76 341	*e*PKP	**PKPbc**	**21 15 03.6**	**+0.1**	
	comp=Z,536nm,2.0s						
GUR	Goura	145.78 310	*e*PKPdf	**PKPdf**	**21 15 03.6**	**+0.4**	
GUR	Goura	145.78 310	P	**PKPdf**	**21 15 03.6**	**+0.4**	
SERG	Sergoula	145.78 311	P	**PKPdf**	**21 15 03.4**	**+0.3**	
TRIZ	Trizonia	145.79 311	P	**PKPbc**	**21 15 03.6**	**-0.4**	
BEBN	Eben Emael	145.81 342	⇑PKP	**PKPbc**	**21 15 03.6**	**0.0**	
VLI	Veliai	145.82 308	*e*PKPdf	**PKPdf**	**21 15 03.1**	**-0.1**	
VLI	Veliai	145.82 308	P	**PKPdf**	**21 15 03.1**	**-0.1**	
LLW	Llanuwchllyn	145.84 353⇑	*e*P	**PKPbc**	**21 15 03.5**	**-0.2**	
BRY	Bratogost	145.85 321⇑	*i*PKP	**PKPbc**	**21 15 03.9**	**-0.3**	
BRY	Bratogost	145.85 321⇑	*i*P	**PKPbc**	**21 15 04.0**	**-0.3**	
DRME	Dracevica, Mon	145.86 319⇑	*i*PKP	**PKPbc**	**21 15 04.2**	**+0.1**	
DRME	Dracevica, Mon	145.86 319⇑	*i*P	**PKPbc**	**21 15 04.3**	**+0.1**	
MEM	Membach	145.87 341	⇑PKP	**PKPdf**	**21 15 02.3**	**-0.5**	
KLV	Kalavryta, Ach	145.87 311	P	**PKPbc**	**21 15 03.9**	**-0.5**	
TIR	Tirane	145.88 317	*e*PKPdf	**PKPbc**	**21 15 04.3**	**+0.1**	
TIR	Tirane	145.88 317⇓	*i*P	**PKPab**	**21 15 05.0**	**-0.1**	
TIR	Tirane	145.88 317	⇓PKP2	**PKPab**	**21 15 05.0**	**-0.1**	
EFP	Efpalio	145.88 311	P	**PKPbc**	**21 15 04.6**	**+0.3**	
KBA	Koelnbreinsper	145.89 330	*i* PKPdf	**PKPdf**	**21 15 02.1**	**-1.1**	
	comp=Z,43nm,0.8s,SNR=26						
LAKA	Lakka	145.91 311	P	**PKPbc**	**21 15 04.4**	**-0.1**	
ULC	Ulcinj	145.94 319⇑	*i*PKP	**PKPdf**	**21 15 02.1**	**-1.2**	
BUM	Brajici-Budva	145.98 319⇑	*i*PKP	**PKPdf**	**21 15 01.8**	**-1.6**	
VLX	Vlachokerasia	145.98 309	P	**PKPbc**	**21 15 04.6**	**-0.2**	
FUR	Furstenfeldbru	145.99 334	*e*PKPbc	**PKPab**	**21 15 04.9**	**-0.4**	
	baz=35,slow=3.3						
TRIP	Tripoli	146.00 310	P	**PKPbc**	**21 15 05.0**	**+0.2**	
HLM1	Long Mynd	146.06 352⇑	*e*P	**PKPbc**	**21 15 04.2**	**-0.2**	
LJU	Ljubljana	146.06 328⇑	*i*P	**PKPbc**	**21 15 04.6**	**0.0**	
BOJS	Bojanci	146.06 327	*e*PKPdf	**PKPdf**	**21 15 03.1**	**-0.2**	
BOJS			*i* PKPbc	**PKPab**	**21 15 05.2**	**-0.5**	
BOJS			*i* PKPab	**PKiKP**	**21 15 08.1**	**+0.5**	
VISS	Visnje	146.07 328	*i* PKPdf	**PKPdf**	**21 15 02.2**	**-1.1**	
VISS			*e*PKPbc	PKPbc	**21 15 04.9**	**+0.2**	
PVO	Paravola	146.07 312	P	**PKPbc**	**21 15 05.2**	**+0.3**	
TREB	Trebinje	146.07 320	*e*P	**PKPdf**	**21 15 03.9**	**+0.5**	
MYKA	Terra Mystica	146.08 330	*i* PKPbc	**PKPdf**	**21 15 04.0**	**+0.6**	
	comp=Z,21nm,0.7s,SNR=12						
HCY	Herceg Novi	146.14 320⇑	*i*PKP	**PKPbc**	**21 15 04.8**	**-0.2**	
UCC	Uccle	146.18 343	*e*PKPdf	**PKPdf**	**21 15 03.9**	**+0.6**	
UCC	Uccle	146.18 343	*e*PKP2	**PKPdf**	**21 15 03.9**	**+0.6**	
UCC	Uccle	146.18 343	⇑PKP	**PKPbc**	**21 15 04.7**	**0.0**	
DRO	Drossia	146.23 311	P	**PKPbc**	**21 15 05.9**	**+0.5**	
BCLA	Clavier	146.25 342	⇑PKP	**PKPdf**	**21 15 03.7**	**+0.3**	
CEY	Cerknica	146.32 328⇑	*i*P	**PKPbc**	**21 15 04.9**	**-0.5**	
STU	Stuttgart	146.34 336	*e*PKPdf	**PKPdf**	**21 15 04.0**	**+0.3**	
STU	Stuttgart	146.34 336	*e*PKPbc	**PKPbc**	**21 15 05.8**	**+0.5**	
	baz=35,slow=3.3						
STU	Stuttgart	146.34 336	*e*PKP2	**PKPdf**	**21 15 04.0**	**+0.3**	
RLS	Riolos of Patr	146.35 311	P	**PKPbc**	**21 15 05.9**	**+0.2**	
STON	Ston	146.37 321	P	**PKPdf**	**21 15 04.5**	**+0.6**	
STON	Ston	146.37 321⇑	*i*P	**PKPdf**	**21 15 04.5**	**+0.6**	
ITM	Ithomi	146.38 309	P	**PKPbc**	**21 15 05.2**	**-0.7**	
ITM	Ithomi	146.38 309	P	**PKPbc**	**21 15 05.2**	**-0.7**	
JAVS	Javornik	146.40 328	*i* PKPbc	**PKPbc**	**21 15 05.3**	**-0.4**	
UDBI	Udbina	146.44 325	P	**PKPbc**	**21 15 05.9**	**0.0**	
SNF	Seneffe	146.46 343	⇑PKP	**PKPbc**	**21 15 05.7**	**+0.1**	
WATA	Walderalm	146.50 332	*i* PKPdf	**PKPdf**	**21 15 03.9**	**-0.3**	
	comp=Z,1.9nm,0.6s						
WATA			*i* PKPab	**PKPbc**	**21 15 06.2**	**+0.2**	
	comp=Z,22nm,0.6s,SNR=30						
ABTA	Abfaltersbach	146.52 331	*i* PKPdf	**PKPdf**	**21 15 03.5**	**-0.6**	
	comp=Z,109nm,1.1s,SNR=32						
WTTA	Wattenberg	146.53 332	*i* PKPdf	**PKPdf**	**21 15 04.2**	**-0.1**	
	comp=Z,97nm,1.2s,SNR=31						
RIY	Rijeka	146.58 327⇑	*i*P	**PKPbc**	**21 15 05.8**	**-0.3**	
MCH1	Michaelchurch	146.58 352⇑	*e*P	**PKPbc**	**21 15 05.5**	**-0.4**	
LKD2	Lefkada island	146.60 313	P	**PKPbc**	**21 15 06.5**	**+0.1**	
IWEX	Carrickbyrne,	146.60 356	*e*P	**PKPbc**	**21 15 05.8**	**-0.1**	
LPW	Lampeter	146.61 353	*e*P	**PKPbc**	**21 15 05.7**	**-0.3**	
PYL	PYLOS	146.63 309	P	**PKPbc**	**21 15 05.9**	**-0.6**	
WLF	Walferdange	146.65 340	*e*PKPbc	**PKPbc**	**21 15 07.0**	**+0.8**	
WLF	Walferdange	146.65 340	*e*PKPbc	**PKPab**	**21 15 07.1**	**-0.7**	
	baz=35,slow=3.3						
WLF	Walferdange	146.65 340	*e*PKP2	**PKPbc**	**21 15 07.0**	**+0.8**	
WLF	Walferdange	146.65 340	⇑PKP	**PKPbc**	**21 15 06.5**	**+0.3**	
ELSH	Elham, Standar	146.66 347⇑	*e*P	**PKPbc**	**21 15 06.1**	**0.0**	
STRD	Stroud	146.68 351⇑	*e*P	**PKPbc**	**21 15 05.9**	**-0.2**	
MOTA	Moosalm	146.70 333	*i* PKPdf	**PKPdf**	**21 15 04.0**	**-0.5**	
	comp=Z,3.0nm,0.8s						
MOTA			*i* PKPab	**PKPbc**	**21 15 06.9**	**+0.2**	
	comp=Z,80nm,0.8s,SNR=48						
MONM	Monmouth	146.71 351⇑	*e*P	**PKPbc**	**21 15 05.7**	**-0.6**	
RETA	Reutte	146.74 333	*i* PKPab	**PKPbc**	**21 15 06.7**	**+0.1**	
	comp=Z,25nm,0.7s,SNR=15						
DOU	Dourbes	146.75 342	PKP	**PKPbc**	**21 15 06.0**	**-0.5**	
SQTA	Sankt Quirin	146.75 333	*i* PKPdf	**PKPdf**	**21 15 04.3**	**-0.3**	
	comp=Z,6.2nm,1.0s						
SQTA			*i* PKPab	**PKPbc**	**21 15 06.8**	**+0.1**	
	comp=Z,94nm,0.6s,SNR=33						
RSBS	Rosebush, Pemb	146.84 353	*e*P	**PKPbc**	**21 15 05.5**	**-1.1**	
UBR	Ueberruh	146.86 334	*e*PKPbc	**PKPbc**	**21 15 07.1**	**+0.2**	
	baz=35,slow=3.3						
SWN1	Swindon	146.87 350⇑	*e*P	**PKPbc**	**21 15 06.8**	**+0.1**	
NVLJ	Novalja	146.90 326	P	**PKPbc**	**21 15 06.5**	**-0.5**	
BATH	Bath	147.03 351	*e*P	**PKPbc**	**21 15 06.8**	**-0.3**	
BFO	Black Forest	147.03 337	*e*PKPbc	**PKPbc**	**21 15 07.2**	**-0.1**	
BFO	Black Forest	147.03 337	*e*PKPbc	**PKPbc**	**21 15 07.5**	**+0.1**	
	baz=35,slow=3.3						
BFO	Black Forest	147.03 337	*e*PKP2	**PKPbc**	**21 15 07.2**	**-0.1**	
HMNX	Herstmonceux	147.09 347⇑	*e*P	**PKPbc**	**21 15 07.6**	**+0.3**	
FETA	Feichten	147.11 333	*i* PKPdf	**PKPdf**	**21 15 04.9**	**-0.4**	
	comp=Z,14nm,1.2s						
FETA			*i* PKPab	**PKPbc**	**21 15 08.1**	**+0.3**	
	comp=Z,77nm,0.7s,SNR=27						
VAL	Valentia	147.17 360	*e*P	**PKPbc**	**21 15 07.3**	**-0.2**	
DAVA	Damuels	147.26 334	*i* PKPab	**PKPbc**	**21 15 08.4**	**+0.3**	
	comp=Z,69nm,0.8s,SNR=28						
ECH	Echery	147.55 338	*e*PKPbc	**PKPbc**	**21 15 08.5**	**-0.3**	
ECH	Echery	147.55 338	*e*PKP2	**PKPbc**	**21 15 08.5**	**-0.3**	
FUORN	Ofenpass-Fuorn	147.62 333	*e*PKPbc	**PKPbc**	**21 15 09.8**	**+0.5**	
DAVOX	Davos/Dischmat	147.66 333	PKPbc	**PKPbc**	**21 15 09.4**	**+0.1**	
HTL	Hartland	147.76 353⇑	*e*P	**PKPbc**	**21 15 08.8**	**-0.4**	
TUE	Stuetia	148.13 334	*e*PKPbc	**PKPbc**	**21 15 10.5**	**-0.1**	
MATE	Matera	148.26 319⇑	*i*P	**PKPbc**	**21 15 10.9**	**+0.1**	
CCA1	Carnmenellis	148.64 353⇑	*e*P	**PKPbc**	**21 15 11.0**	**-0.5**	
TIP	Timpagrande	149.04 316	P	**PKPbc**	**21 15 12.9**	**0.0**	
TIP	Timpagrande	149.04 316⇑	*i*P	**PKiKP**	**21 15 13.7**	**-0.4**	
TIP	Timpagrande	149.04 316	P	**PKPbc**	**21 15 12.9**	**0.0**	
SENIN	Lac Senin/Sane	149.05 336	*e*PKPbc	**PKPbc**	**21 15 12.5**	**-0.4**	
AQU	L'Aquila	149.17 324	*e*PKPbc	**PKPbc**	**21 15 12.7**	**-0.4**	
AQU	L'Aquila	149.17 324	*e*PKP2	**PKPbc**	**21 15 12.7**	**-0.4**	
AQU	L'Aquila	149.17 324⇑	*i*P	**PKPbc**	**21 15 13.0**	**-0.1**	
JSA	Saint Aubin	149.18 349⇑	*e*P	**PKPbc**	**21 15 12.5**	**-0.3**	
CLF	Chambon-Foret	149.28 343	*e*PKPbc	**PKiKP**	**21 15 13.6**	**-0.5**	
VLC	Villacollemand	149.45 330	*e*PKPbc	**PKPbc**	**21 15 12.8**	**-0.9**	
CEL	Celeste	150.11 315	*e*PKPbc	**PKPbc**	**21 15 14.9**	**-0.6**	
BNI	Bardonecchia	150.38 335	*e*PKPbc	**PKPbc**	**21 15 16.2**	**+0.2**	
BNI	Bardonecchia	150.38 335	*e*PKiKP	**PKPbc**	**21 15 16.2**	**+0.2**	
SSB	Saint Sauveur	151.00 338	*e*PKPbc	**PKPbc**	**21 15 17.5**	**+0.1**	
SSB	Saint Sauveur	151.00 338	*e*PKiKP	**PKPbc**	**21 15 17.5**	**+0.1**	
VAE	Valguarnera	151.52 315	PKPbc	**PKiKP**	**21 15 19.6**	**+0.4**	
	comp=Z,12nm,0.9s,baz=235,slow=9.2,SNR=3.9						
VAE			PKPab	**PKPab**	**21 15 27.5**	**-0.7**	
	comp=Z,41nm,0.8s,baz=92,slow=9.8,SNR=15						
CLTB	Caltabellotta	152.25 317	*e*PKPbc	**PKPbc**	**21 15 20.1**	**-0.4**	
KEST	Kesra	155.84 318	PKPbc	PKPbc	21 15 28.9		
	comp=Z,7.9nm,0.9s,baz=301,slow=8.9,SNR=6.7						
KEST			PKPab	**PKPab**	**21 15 47.8**	**+1.1**	
	comp=Z,33nm,1.0s,baz=352,slow=1.4,SNR=13						
PGAV	Gavieira, Arco	157.07 356	*e*PKPab	**PKPab**	**21 15 52.1**	**+0.5**	
PBRG	Braganca	157.08 353	*e*PKPab	**PKPab**	**21 15 51.9**	**+0.3**	
PCAB	Cabril	157.30 355	*e*PKPab	**PKPab**	**21 15 53.1**	**+0.5**	
POLO	Lamas de Olo	157.62 355	*e*PKPab	**PKPab**	**21 15 54.7**	**+0.7**	
PVRL	Vila Real	157.71 354	*e*PKPab	**PKPab**	**21 15 55.1**	**+0.7**	
MVO	Moncorvo	157.75 353	*e*PKPab	**PKPab**	**21 15 55.0**	**+0.4**	
PVIS	Viseu	158.28 355	*e*PKPab	**PKPab**	**21 15 57.3**	**+0.4**	
MTE	Mante

NNZ	**Nelson**	**1.22**	**280**	P	Pn	21 15 39.0	+1.2
NNZ				P	Pb	21 15 38.6	-0.6
BFZ	**Birch Farm**	**1.23**	**52**	P	Pn	21 15 37.2	-0.8
KHZ	**Kahutara**	**1.44**	**227**	P	Pn	21 15 40.0	-0.9
DVHZ	**Dannevirke**	**1.46**	**39**	P	Pn	21 15 40.6	-0.6
ANWZ	**Angora Road**	**1.51**	**50**	P	Pn	21 15 41.1	-0.7
TSZ	**Takapari Road**	**1.58**	**29**	P	Pn	21 15 42.8	0.0
THZ	**Tophouse**	**1.58**	**258**	P	Pn	21 15 42.4	-0.4
PRHZ	**Porangahau**	**1.73**	**48**	P	Pn	21 15 44.0	-0.9
WPHZ	**Waipukurau**	**1.77**	**40**	P	Pn	21 15 45.1	-0.4
PNHZ	**Pukenui**	**1.79**	**32**	P	Pn	21 15 45.5	-0.2
QRZ	**Quartz Range**	**1.94**	**288**	P	Pn	21 15 48.9	+1.2
PXZ	**Pawanui**	**2.02**	**46**	P	Pn	21 15 47.3	-1.4
KRHZ	**Kereru**	**2.09**	**31**	P	Pn	21 15 49.3	-0.5
MOVZ	**Moawhango**	**2.12**	**17**	P	Pn	21 15 51.0	+0.7
BHHZ	**Black Hill Sta**	**2.12**	**24**	P	Pn	21 15 50.5	+0.2
TRVZ	**Turoa**	**2.19**	**12**	P	Pn	21 15 52.8	+1.5
NMEZ	**Namu Road**	**2.19**	**337**	P	Pb	21 15 55.3	-0.5
KAHZ	**Kahuranaki**	**2.20**	**42**	P	Pn	21 15 50.1	-1.2
WHVZ	**Whangaehu Hut**	**2.21**	**13**	P	Pn	21 15 53.3	+1.6
DRZ	**Dome Shelter**	**2.21**	**12**	P	Pb	21 15 55.0	-1.4
FWVZ	**Far West T-bar**	**2.23**	**12**	P	Pn	21 15 53.4	+1.4
TUVZ	**Tukino**	**2.23**	**14**	P	Pn	21 15 53.6	+1.6
KHEZ	**Kahui Hut**	**2.27**	**341**	P	Pb	21 15 56.2	-0.9
KWHZ	**Kaweka Forest**	**2.30**	**29**	P	Pn	21 15 52.2	-0.6
NGZ	**Ngauruhoe**	**2.32**	**12**	P	Pn	21 15 54.6	+1.6
VRZ	**Vera Road**	**2.32**	**356**	P	Pb	21 15 57.2	-0.9
WTVZ	**West Tongariro**	**2.37**	**12**	P	Pn	21 15 55.6	+1.9
DSZ	**Denniston Nort**	**2.39**	**262**	P	Pn	21 15 53.9	-0.1
TWVZ	**Taurewa**	**2.40**	**9**	P	Pn	21 15 56.3	+2.2
KRVZ	**Karewarewa**	**2.40**	**13**	P	Pn	21 15 55.8	+1.6
LTZ	**Lake Taylor**	**2.41**	**235**	P	Pn	21 15 53.1	-1.1
BKZ	**Black Stump Fm**	**2.56**	**28**	P	Pn	21 15 55.5	-0.8
OKCZ	**Okains Bay**	**2.68**	**211**	P	Pn	21 15 56.0	-1.9
MQZ	**McQueen's Vall**	**2.83**	**216**	P	Pn	21 15 57.4	-2.6
AKCZ	**Akaroa Harbour**	**2.86**	**211**	P	Pn	21 15 58.2	-2.2
INZ	**Inchbonnie**	**2.92**	**243**	P	Pn	21 16 00.2	-0.9
MTHZ	**Maungataniwha**	**2.96**	**30**	P	Pn	21 16 00.7	-1.1
RAHZ	**Arahi**	**3.00**	**33**	P	Pn	21 16 00.8	-1.5
RTZ	**Ruatahuna**	**3.22**	**29**	P	Pn	21 16 04.1	-1.3
MWZ	**Matawai**	**3.68**	**33**	P	Pn	21 16 09.1	-2.6

*ISCJB **07** 21:24:12.4±0.5, 39°.85N±0°.02×26°.62E±0°.05, h2km±9km, Error ellipse: s-maj=6.4km s-min=3.9km az=179.4*
*DDA **07** 21:24:12.1, 39°.82N×26°.63E, h6km±3km, ML2.5*
*ISK **07** 21:24:12.7, 39°.89N×26°.56E, h5km, ML1.8/11*

ISC 07 21:24:12.6±0.9, 39°.85N±0°.03×26°.61E±0°.04, h10km±9km, n19, σ0.943/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYC	**CANAKKALE_Bayr**	**0.12**	**206**	*i* P	**Pg**	**21 24 15.8**	**+0.3**
BAYC				*i* S	**Sg**	**21 24 16.9**	**-0.6**
BAYC				IAML_P			
	comp=Z,26μm,0.1s						
EZN	**Ezine**	**0.22**	**265**	PG	**Pg**	**21 24 17.2**	**0.0**
EZN				SG	**Sg**	**21 24 20.3**	**0.0**
BOZC	**Bozcaada**	**0.43**	**270**	PG	**Pg**	**21 24 20.9**	**-0.2**
LPK	**Lapseki**	**0.54**	**12**	PG	**Pg**	**21 24 23.4**	**+0.3**
AYVA	**Ayvalik**	**0.54**	**174**	*i* P	**Pg**	**21 24 22.9**	**-0.2**
AYVA				*i* S	**Sg**	**21 24 30.5**	**+0.2**
AYVA				IAML_P			
	comp=Z,364nm,0.1s						
GELI	**Tayfur-Gelibol**	**0.56**	**349**	PG	**Pg**	**21 24 23.0**	**-0.5**
KRBG	**Karabiga-Canak**	**0.76**	**44**	PG	**Pg**	**21 24 27.4**	**+0.2**
ERIK	**Erikli-Kesan**	**0.83**	**355**	PG	**Pg**	**21 24 28.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.94**	**27**	PG	**Pg**	**21 24 30.8**	**0.0**
SART	**Tekirdag**	**0.95**	**27**	*i* P	**Pb**	**21 24 31.4**	**+0.3**
SART				IAML_P			
	comp=Z,1μm,0.1s						
ZEDA	**zmir-Bergama**	**0.95**	**158**	*i* P	**Pg**	**21 24 30.2**	**-0.7**
ZEDA				*i* S	**Sg**	**21 24 43.3**	**+0.1**
ZEDA				IAML_P			
	comp=Z,242nm,0.1s						
ENEZ	**Enez**	**0.96**	**338**	PG	**Pg**	**21 24 30.2**	**-0.8**
STEP	**BALIKESIR_Sava**	**0.97**	**118**	*i* P	**Pn**	**21 24 32.5**	**+0.2**
STEP				IAML_P			
	comp=Z,561nm,0.1s						
KESN	**Edirne-Kesan**	**0.98**	**3**	*i* P	**Pb**	**21 24 32.4**	**+0.5**
KESN				*i* S	**Sn**	**21 24 46.7**	**-0.1**
KESN				IAML_P			
	comp=Z,120nm,0.2s						
BALB	**Balikesir**	**1.00**	**102**	PG	**Pn**	**21 24 32.9**	**+0.3**
EDC	**Edincik**	**1.08**	**62**	PN	**Pn**	**21 24 34.1**	**+0.3**
ALN	**Alexandroupoli**	**1.14**	**338**	PG	**Pg**	**21 24 34.0**	**-0.4**
SBT4	**Kumbag-Tekirda**	**1.21**	**35**	PN	**Pg**	**21 24 35.1**	**-0.7**
ARMT	**Armutlu**	**1.86**	**67**	PN	**Pb**	**21 24 46.3**	**-0.4**

NNC 07 21:30:42.9±7.6, 49°.83N×86°.74E, h0km, mb3.5, mpv3.1, 7C-4D, Error ellipse: s-maj=59.8km s-min=31.9km az=64.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**4.25**	**226**	⇓Pn	Pn	21 31 45.3	-3.6
	2.0nm,0.6s,baz=47,slow=12,SNR=22						
MK31				⇑Sn	Sn	21 32 39.8	+0.7
	0.6nm,0.3s,baz=38,slow=21,SNR=4.0						
MK31				⇑Lg	Lg	21 32 56.6	
	8.2nm,0.8s,baz=33,slow=32,SNR=7.1						
MAKZ	**Makanchi**	**4.39**	**228**	⇓Pn	Pn	21 31 51.8	+1.1
	5.0nm,0.6s						
MAKZ				⇓Lg	Lg	21 33 01.2	
	3.9nm,0.6s						
KURK	**Kurchatov**	**5.28**	**283**	⇑Pn	Pn	21 32 02.0	-1.0
	1.1nm,0.6s						
KURK				⇑Sn	Sn	21 33 07.8	+3.3
	1.9nm,0.9s						
KURK				⇑Lg	Lg	21 33 31.8	
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**5.33**	**282**	⇑Pn	Pn	21 32 02.4	-1.2
	1.4nm,0.6s						
KURBB				⇓Sn	Sn	21 33 09.9	+4.3
	4.0nm,0.6s						
KURBB				⇑Lg	Lg	21 33 34.4	
	4.6nm,0.5s						

*SJA **07** 21:31:42.1±0.7, 24°.10S×66°.82W, h218km±7km, ML2.5, MW2.8*
*ISCJB **07** 21:31:43.4±0.7, 24°.12S±0°.04×66°.96W±0°.05, h200km±9km, Error ellipse: s-maj=8.2km s-min=5.1km az=44.2*
*GUC **07** 21:31:44.4±0.5, 23°.86S×67°.39W, h249km±7km, ML3.5*

ISC 07 21:31:42.1±2.3, 24°.10S±0°.06×66°.90W±0°.06, h215km±23km, n33, σ1.938/46, 2C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.41**	**116**	*e*P	**Pn**	**21 32 17.2**	**+0.6**
SLA				*e*S	**Sn**	**21 32 43.0**	**-0.4**
SLA				IAML		21 32 43.1	
	comp=Z,14nm,0.6s						
FSA	**Cafayete**	**2.16**	**158**	*e*P	**Pn**	**21 32 23.8**	**+0.2**
YJA	**Yavi**	**2.30**	**34**	*e*P	**Pn**	**21 32 26.1**	**+0.7**
YJA				IAML		21 32 27.4	
	comp=Z,5.5nm,0.4s						
YJA				*e*S	**Sn**	**21 32 58.4**	**-0.7**
LVC	**Limon Verde**	**2.38**	**308**	*e*P	**Pn**	**21 32 27.4**	**+1.3**
LVC				IAML		21 32 30.2	
	comp=Z,11nm,0.1s						
LVC	**Limon Verde**	**2.38**	**308**	⇑*i*P	**Pn**	**21 32 27.3**	**+1.3**
LVC				*e*S	**Sn**	**21 33 00.8**	**+0.5**
PB15	**IPOC Station P**	**2.52**	**290**	*e*P	**Pn**	**21 32 28.9**	**+1.4**
PB15	**IPOC Station P**	**2.52**	**290**	*e*P	**Pn**	**21 32 28.9**	**+1.4**
PB15				*i* S	**Sn**	**21 33 02.4**	**-0.5**
PB06	**IPOC Station P**	**2.83**	**299**	*e*P	**Pn**	**21 32 32.1**	**+1.3**
PB06	**IPOC Station P**	**2.83**	**299**	⇑*i*P	**Pn**	**21 32 32.1**	**+1.3**
PB06				*e*S	**Sn**	**21 33 07.9**	**-0.9**
PB06				IAML		21 33 10.3	
	comp=N,123nm,0.1s						
PB09	**IPOC Station P**	**3.15**	**316**	*e*P	**Pn**	**21 32 36.5**	**+1.9**
PB09	**IPOC Station P**	**3.15**	**316**	*e*P	**Pn**	**21 32 35.6**	**+1.1**
PB09				*i* S	**Sn**	**21 33 14.5**	**-1.2**
PB14	**IPOC Station P**	**3.24**	**260**	*e*P	**Pn**	**21 32 37.1**	**+1.4**
PB14	**IPOC Station P**	**3.24**	**260**	*e*P	**Pn**	**21 32 37.0**	**+1.3**
PB14				*i* S	**Sn**	**21 33 16.4**	**-1.3**
PB05	**IPOC Station P**	**3.28**	**292**	*e*P	**Pn**	**21 32 37.1**	**+1.1**
PB05	**IPOC Station P**	**3.28**	**292**	*e*P	**Pn**	**21 32 37.0**	**+1.1**
PB05				*i* S	**Sn**	**21 33 16.1**	**-2.1**
PB05				IAML		21 33 18.9	
	comp=E,43nm,0.6s						
PB03	**IPOC Station P**	**3.33**	**307**	*e*P	**Pn**	**21 32 37.8**	**+1.1**
PB03	**IPOC Station P**	**3.33**	**307**	*e*P	**Pn**	**21 32 37.6**	**+1.0**
PB03				*i* S	**Sn**	**21 33 17.5**	**-1.9**
PB03				IAML		21 33 20.4	
	comp=E,88nm,0.1s						
PB10	**IPOC Station P**	**3.40**	**279**	*e*P	**Pn**	**21 32 38.6**	**+1.4**
PB04	**IPOC Station P**	**3.47**	**300**	*e*P	**Pn**	**21 32 39.8**	**+1.5**
PB04	**IPOC Station P**	**3.47**	**300**	*e*P	**Pn**	**21 32 39.5**	**+1.2**
PB04				*i* S	**Sn**	**21 33 20.4**	**-2.0**
PB07	**IPOC Station P**	**3.63**	**310**	*e*P	**Pn**	**21 32 41.1**	**+0.9**
PB07	**IPOC Station P**	**3.63**	**310**	*e*P	**Pn**	**21 32 40.8**	**+0.6**
PB07				*i* S	**Sn**	**21 33 23.9**	**-1.9**
PB01	**IPOC Station P**	**3.88**	**321**	*e*P	**Pn**	**21 32 43.8**	**+0.7**
PB01				*e*S	**Sn**	**21 33 29.1**	**-1.9**
PB02	**IPOC Station P**	**3.92**	**314**	*e*P	**Pn**	**21 32 45.2**	**+1.6**
PB02	**IPOC Station P**	**3.92**	**314**	*i* P	**Pn**	**21 32 44.0**	**+0.4**
PB02				*e*S	**Sn**	**21 33 29.6**	**-2.4**
PB08	**IPOC Station P**	**4.46**	**332**	*e*P	**Pn**	**21 32 53.1**	**+2.4**
PB11	**IPOC Station P**	**5.03**	**329**	*e*P	**Pn**	**21 32 58.9**	**+1.4**
ACLC	**CERRO LA CRUZ**	**5.30**	**181**	*e*P	**Pn**	**21 33 01.5**	**+0.7**
PSGCX	**Pisagua**	**5.39**	**326**	*e*P	**Pn**	**21 33 03.7**	**+1.6**
AGUA	**GUANDACOL**	**5.55**	**195**	*e*P	**Pn**	**21 33 05.4**	**+1.5**
MNMCX	**Minye Minye**	**5.55**	**333**	*e*P	**Pn**	**21 33 05.5**	**+1.3**
APLL	**PUNTA DE LOS L**	**6.28**	**177**	*e*P	**Pn**	**21 33 13.3**	**+0.2**
APLL				IAML		21 33 13.7	
	comp=Z,6.4nm,0.2s						
CFA	**Coronel Fontan**	**7.57**	**189**	*e*P	**Pn**	**21 33 30.0**	**+0.3**

*ISCJB **07** 21:34:30.8±0.7, 9°.7S±0°.1×71°.2W±0°.1, h599km, mb3.1/4, Error ellipse: s-maj=18.9km s-min=15.2km az=34.7*
*IDC **07** 21:34:31.7±1.2, 9°.73S×71°.11W, h605km±21km, mb2.8/4, mb1 3.1/9, mb1mx2.9/33, mbtmp3.9/9, Error ellipse: s-maj=40.4km s-min=19.2km az=26.0*

ISC 07 21:34:31.1±0.8, 9°.8S±0°.1×71°.2W±0°.1, h599km, n12, σ1.928/12, mb3.0/4, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**5.99**	**248**	P	**P**	**21 36 12.1**	**-0.1**
	2.2nm,0.3s,baz=322,slow=7.1,SNR=4.6						
LPAZ	**La Paz**	**7.10**	**156**	P	**P**	**21 36 23.9**	**+1.2**
	0.5nm,0.3s,baz=335,slow=6.9,SNR=8.8						
ATAH	**Atahualpa**	**7.62**	**290**	P	**P**	**21 36 29.4**	**+2.0**
	0.8nm,0.3s,baz=111,slow=1.5,SNR=5.8						
SIV	**San Ignacio**	**11.60**	**123**	P	**P**	**21 37 07.0**	**+1.0**
	0.8nm,0.3s,baz=312,slow=9.6,SNR=10						
PTGA	**Pitinga**	**14.33**	**52**	P	**P**	**21 37 33.8**	**+0.6**
	0.7nm,0.3s,baz=230,slow=9.5,SNR=10						
ULM	**Lac du Bonnet**	**63.56**	**343**	P	**P**	**21 44 02.6**	**-1.4**
	1.6nm,0.3s,baz=216,slow=2.5,SNR=4.5						
NVAR	**Mina Array Bea**	**65.04**	**321**	P	**P**	**21 44 15.2**	**+1.2**
	0.3nm,0.6s,baz=159,slow=5.7,SNR=2.5						
TORD	**Torodi Ar. Bea**	**75.83**	**74**	P	**P**	**21 45 17.3**	**-0.4**
	0.3nm,0.8s,baz=250,slow=4.5,SNR=5.9						
YKA	**Yellowknife Ar**	**79.48**	**341**	P	**P**	**21 45 35.4**	**-0.8**
	0.6nm,0.7s,baz=134,slow=5.3,SNR=9.4						
ASAR	**Alice Springs**	**138.68**	**216**	PKP	**PKPdf**	**21 52 49.7**	**-1.2**
	0.1nm,0.3s,baz=130,slow=1.4,SNR=3.2						
WRA	**Warramunga Arr**	**141.22**	**220**	PKhKP	PKPpre	21 52 49.3	
	0.3nm,0.6s,baz=138,slow=3.0,SNR=7.5						
WRA				PKP	**PKiKP**	**21 52 57.0**	**-1.5**
	0.3nm,0.3s,baz=127,slow=1.9,SNR=14						
KSRS	**Korea Array**	**147.52**	**331**	PKPbc	**PKPbc**	**21 53 08.7**	**-0.6**
	1.0nm,0.5s,baz=7.9,slow=2.4,SNR=3.8						

JMA 07 21:35:27.8±0.2, 28°.06N×140°.73E, h257km, M3.9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.61**	**126**	P	Pn	21 36 07.8	+0.2
CBIJ				*e*S	S	21 36 38.7	-0.3
JHHJ	**Haha-jima-NKT**	**1.92**	**138**	P	Pn	21 36 10.2	0.0
JHHJ				*e*S	S	21 36 43.1	-0.6
BSO3	**Boso 3**	**6.72**	**358**	P	Pn	21 37 05.4	+0.7
JOD2	**Odawara 2**	**7.32**	**349**	P	Pn	21 37 13.9	+1.4
JRY	**Ryogami san**	**8.08**	**349**	P	Pn	21 37 21.8	-0.3
JAG	**Ashikaga**	**8.41**	**353**	P	Pn	21 37 25.7	-0.5
JHO	**Hitachi**	**8.53**	**359**	P	Pn	21 37 28.1	+0.4

RSPR 07 21:48:52.8, 19°.77N×67°.84W, h119km±5km, MD3.5/6, 3C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.47**	**152**	*i*eP	Pn	21 49 18.7	-1.1
AGPR	**Aguadilla, PR**	**1.47**	**152**	*e*S	Sn	21 49 40.4	0.0
LSP	**Las Mesas**	**1.74**	**156**	*i*eP	Pn	21 49 22.5	-0.6
LSP	**Las Mesas**	**1.74**	**156**	*e*S	Sn	21 49 46.7	+0.5
EMPR	**Esperanza - Ma**	**1.79**	**136**	*e*S	Sn	21 49 46.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.89**	**158**	*i*eP	Pn	21 49 24.4	-0.4
CRPR	**Cabo Rojo, PR**	**1.89**	**158**	*e*S	Sn	21 49 49.4	+0.2
CELP	**Cerrillos**	**2.07**	**144**	*i*eP	Pn	21 49 27.1	0.0
CELP				*e*S	Sn	21 49 53.3	0.0
OBIP	**Obispado Ponce**	**2.08**	**146**	*i*eP	Pn	21 49 26.9	-0.4
OBIP				*e*S	Sn	21 49 53.5	0.0
HUMP	**Col San Antoni**	**2.49**	**130**	⇑*i*eP	Pn	21 49 32.3	-0.1
HUMP	**Col San Antoni**	**2.49**	**130**	*e*S	Sn	21 50 02.8	0.0
MTP	**Monte Pirata**	**2.73**	**127**	⇑*i*eP	Pn	21 49 35.9	+0.3
MTP	**Monte Pirata**	**2.73**	**127**	*e*S	Sn	21 50 09.0	+0.5

*IDC **07** 21:49:29.7±1.2, 28°.23N×104°.75E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.2/60, mbtmp3.3/5, ML3.8/1, Error ellipse: s-maj=80.8km s-min=20.6km az=61.0*
*BJI **07** 21:49:33.2, 28°.28N×104°.84E, h16km, ML3.4/9*

ISC 07 21:49:32.7±1.2, 28°.2N±0°.1×104°.9E±0°.2, h19km, n8, σ0.974/11, mb3.4/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.84**	**340**	*e*Pn	**Pn**	**21 50 17.5**	**+0.4**
CD2				Pg	**Pb**	**21 50 22.4**	**-0.4**
CD2				Sn	**Sn**	**21 50 51.2**	**+0.4**
CD2				Sg	**Sb**	**21 50 57.8**	**+0.5**
CD2				smax	smax		
	comp=N,400nm,0.5s						
CD2				smax	smax		
	comp=E,880nm,0.5s						
XAN	**Xi'an**	**6.74**	**30**	Pn	**Pn**	**21 51 10.6**	**0.0**
XAN				Pg	Pg	21 51 36.6	-5.1
XAN				Sg	Sb	21 52 59.2	+10
XAN				smax	smax		
	comp=N,27nm,0.8s						
XAN				smax	smax		
	comp=E,28nm,1.0s						
SONM	**Songino Array**	**19.60**	**3**	P	**P**	**21 53 60.0**	**+0.1**
	0.3nm,0.3s,baz=184,slow=12,SNR=3.8						
WMQ	**Urumqi**	**20.80**	**323**	*e*P	**P**	**21 54 12.3**	**-0.6**
MKAR	**Makanchi Array**	**25.62**	**322**	P	**P**	**21 54 59.6**	**-1.4**
	0.5nm,0.7s,baz=126,slow=12,SNR=5.8						
KURBB	**Kurchatov Arra**	**29.96**	**326**	P	**P**	**21 55 39.3**	**-0.3**
	0.3nm,0.7s,baz=131,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**55.72**	**146**	P	**P**	**21 59 08.0**	**-0.3**
	0.3nm,0.6s,baz=337,slow=8.4,SNR=6.2						
ASAR	**Alice Springs**	**58.70**	**149**	P	**P**	**21 59 30.3**	**+1.1**
	0.2nm,0.5s,baz=326,slow=6.7,SNR=5.1						

*IDC **07** 21:50:57.0±0.9, 40°.73N×36°.22E, h0km, mb3.7/5, mb1 3.9/12, mb1mx3.6/52, mbtmp3.9/12, ML3.8/6, MS3.0/3, Ms1 3.0/3, ms1mx2.6/55, Error ellipse: s-maj=17.7km s-min=9.3km az=159.0*
*ISCJB **07** 21:50:58.6±0.5, 40°.89N±0°.02×36°.21E±0°.02, h5km±3km, mb3.7/6, MS3.0/1, Error ellipse: s-maj=3.3km s-min=2.2km az=34.0*
*NEIC **07** 21:50:58.6±0.0, 40°.83N×36°.25E, h9km, ML4.2(ISK), After ISK.*
*ISK **07** 21:50:58.7, 40°.85N×36°.25E, h10km, ML4.2/15*
*DDA **07** 21:50:58.4, 40°.82N×36°.17E, h21km, ML4.3*

ISC 07 21:50:59.5±1.0, 40°.86N±0°.02×36°.24E±0°.02, h9km±7km, n109, σ1.910/149, mb3.8/6, 28C-20D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVT	**Kavak**	**0.26**	**327**	PG	**Pg**	**21 51 05.0**	**+0.2**
KVT				SG	**Sg**	**21 51 09.4**	**+1.0**
ERBA	**Erbaa**	**0.43**	**114**	⇑*i*P	**Pg**	**21 51 08.2**	**+0.2**
ERBA				*i* S	**Sb**	**21 51 15.0**	**-0.9**
ERBA				IAML_P			
	comp=Z,838μm,0.1s						
HAVZ	**Havza**	**0.45**	**299**	⇓*i*P	**Pg**	**21 51 08.5**	**+0.3**
HAVZ				*i* S	**Sg**	**21 51 14.4**	**+0.2**
HAVZ				IAML_P			
	comp=Z,423μm,0.1s						
SAMS	**Samsun-Alacam**	**0.50**	**356**	⇓*i*P	**Pb**	**21 51 10.2**	**-0.3**
SAMS				*i* S	**Sb**	**21 51 18.5**	**+0.6**
SAMS				IAML_P			
	comp=Z,51μm,0.1s						
TOKA	**Tokat**	**0.57**	**161**	⇓*i*P	**Pg**	**21 51 10.2**	**-0.3**
TOKA				*i* S	**Sg**	**21 51 17.0**	**-0.9**
TOKA				IAML_P			
	comp=Z,277μm,0.2s						
TOKA				IAML_P			
	comp=Z,277μm,0.2s						
TOKT	**Tokat**	**0.59**	**156**	PG	**Pg**	**21 51 10.6**	**-0.3**
TOKT				SG	**Sg**	**21 51 18.9**	**+0.3**
RSDY	**Resadiye-TOKAT**	**0.95**	**119**	PG	**Pg**	**21 51 17.2**	**-0.6**
DIKM	**Dikmen**	**1.08**	**317**	PN	**Pg**	**21 51 19.4**	**-0.9**
DIKM	**Dikmen**	**1.08**	**317**	⇑*i*P	**Pg**	**21 51 19.8**	**-0.5**
SVSK	**Karacayir**	**1.11**	**148**	PN	**Pg**	**21 51 19.7**	**-1.0**
SVSK				SN	**Sb**	**21 51 35.7**	**+0.5**
COAL	**Corum-Alaca**	**1.13**	**238**	⇑*i*P	**Pg**	**21 51 18.2**	**-3.0**
COAL				*i* S	**Sg**	**21 51 34.8**	**-1.1**
COAL				IAML_P			
	comp=Z,8μm,0.2s						
PRSB	**Persembe-Ordu**	**1.19**	**78**	PN	**Pb**	**21 51 21.3**	**-0.9**
SCER	**sogukcermik**	**1.21**	**145**	⇓*i*P	**Pb**	**21 51 21.6**	**-0.9**
SCER				*i* S	**Sn**	**21 51 38.9**	**-0.3**
SCER				IAML_P			
	comp=Z,151μm,0.2s						
ORDU	**Ordu-Boztepe**	**1.23**	**83**	⇑*i*P	**Pg**	**21 51 23.0**	**-0.2**
ORDU				*i* S	**Sn**	**21 51 39.9**	**+0.2**
ORDU				IAML_P			
	comp=Z,64μm,0.2s						
KAGI	**orum-Kargı**	**1.36**	**282**	⇑*i*P	**Pn**	**21 51 22.9**	**-1.8**
KAGI				*i* S	**Sn**	**21 51 42.8**	**0.0**
KAGI				IAML_P			
	comp=Z,7μm,0.1s						
SNOP	**Sinop**	**1.39**	**327**	PN	**Pb**	**21 51 25.3**	**-0.4**
SINO	**SINOP_Merkez**	**1.40**	**326**	⇓*i*P	**Pb**	**21 51 25.6**	**-0.1**
SINO				*i* S	**Sg**	**21 51 45.1**	**+0.7**
SINO				IAML_P			
	comp=Z,65μm,0.2s						
YOZ	**Yozgat**	**1.41**	**210**	PN	**Pn**	**21 51 24.6**	**-0.8**
CUSAR	**Sarkisla-SIVAS**	**1.44**	**180**	⇓*i*P	**Pn**	**21 51 25.0**	**-0.9**
CUSAR				*i* S	**Sb**	**21 51 45.3**	**+0.3**
CUZAR	**Zara_SIVAS**	**1.52**	**129**	⇓*i*P	**Pn**	**21 51 27.0**	**0.0**
CUZAR				*i* S	**Sg**	**21 51 48.7**	**+0.3**
CUALT	**Altinyayla-SIV**	**1.63**	**166**	⇓*i*P	**Pb**	**21 51 29.2**	**-0.6**
CUALT				*i* S	**Sg**	**21 51 53.3**	**+1.3**
SUSE	**Susehri**	**1.63**	**113**	⇓*i*P	**Pb**	**21 51 29.7**	**-0.1**
SUSE				*i* S	**Sg**	**21 51 53.0**	**+1.0**
SUSE				IAML_P			
	comp=Z,37μm,0.2s						
TOS	**Tosya**	**1.69**	**277**	PN	**Pn**	**21 51 29.1**	**-0.1**
SIRC	**Yozgat**	**1.74**	**209**	⇑*i*P	**Pn**	**21 51 29.8**	**-0.1**
SIRC				*i* S	**Sn**	**21 51 51.6**	**-0.7**
SIRC				IAML_P			
	comp=Z,8μm,0.3s						
CUKAN	**kangal_SIVAS**	**1.81**	**148**	⇓*i*P	**Pn**	**21 51 31.8**	**+0.9**
CUKAN				*i* S	**Sg**	**21 51 58.4**	**+0.8**
CDAG	**Cicekdag**	**1.89**	**230**	⇑*i*P	**Pn**	**21 51 31.1**	**-0.9**
CDAG				*i* S	**Sb**	**21 51 57.1**	**-0.7**
CDAG				IAML_P			
	comp=Z,2μm,0.1s						
ILGA	**Ilgaz**	**1.92**	**277**	⇑*i*P	**Pn**	**21 51 32.2**	**-0.3**
ILGA				*i* S	**Sb**	**21 51 58.2**	**-0.7**
DELI	**KIRIKKALE**	**1.97**	**245**	⇑*i*P	**Pn**	**21 51 32.7**	**-0.4**
DELI				*i* S	**Sb**	**21 52 00.3**	**+0.1**
DELI				IAML_P			
	comp=Z,4μm,0.1s						
BZK	**Bozkurt**	**2.01**	**304**	PN	**Pn**	**21 51 33.8**	**+0.3**
BZK	**Bozkurt**	**2.01**	**304**	⇑*i*P	**Pn**	**21 51 32.9**	**-0.6**
GUNE	**Kayseri**	**2.01**	**194**	*i* P	**Pn**	**21 51 34.5**	**+0.8**
GUNE				*i* S	**Sb**	**21 52 02.6**	**+1.1**
GUNE				IAML_P			
	comp=Z,12μm,0.3s						

SILT	Sile	5.00	276	⇑	*i*P		Pn		21 52 14.7	+0.1
KLYT	Kilyos	5.45	276	⇓	*i*P		Pn		21 52 21.0	+0.1
KIV	Kislovodsk	5.69	55	⇑	*i*P		Pn		21 52 23.1	-1.1
KVAR	Kislovodsk Arr	5.69	55		Pn		Pn		21 52 25.8	+1.5
	baz=250,slow=19,SNR=20									
KBZ	Khabaz	5.71	58		Pn		Pn		21 52 25.9	+1.5
	comp=Z,2.3nm,0.3s,baz=233,slow=11,SNR=56									
GNI	Garni	6.52	93		LR		LR		21 54 41.6	
	comp=Z,48nm,21.1s,baz=342,slow=34									
TIRR	Tirgusor	6.80	305	⇓	*i*P		Pn		21 52 37.8	-1.5
TLCR		6.95	311	⇑	*i*P		Pn		21 52 39.9	-1.5
TLB	Topalu	7.09	304	⇑	*i*P		Pn		21 52 42.3	-1.0
CFR	Carcaliu	7.34	309	⇓	*i*P		Pn		21 52 45.1	-1.6
EZN	Ezine	7.64	265	⇑	*i*P		Pn		21 52 51.2	+0.3
MMAI	Mount Meron Ar	7.86	185		Pn		Pn		21 52 54.5	+0.4
	comp=Z,1.2nm,0.3s,baz=12,slow=13,SNR=8.8									
MILM	Milestii Mici	8.09	321	⇓	*i*P		Pn		21 52 56.1	-0.9
VRI	Vrincioaia	8.54	309	⇑	*i*P		Pn		21 53 02.0	-1.3
PLOR	Plostina	8.58	309	⇑	*i*P		Pn		21 53 02.8	-1.1
MLR	Muntele Rosu	8.83	305	⇓	*i*P		Pn		21 53 06.5	-0.8
MLR	Muntele Rosu	8.83	305		Pn		Pn		21 53 06.7	-0.7
	baz=236,slow=3.6									
MLR					LR		LR		21 56 58.6	
	comp=Z,138nm,19.4s,baz=92,slow=41									
TESR	Tescani	8.95	312	⇑	*i*P		Pn		21 53 07.2	-1.7
VOIR		9.37	303	⇓	*i*P		Pn		21 53 13.7	-1.0
BIZ	Bicaz	9.51	313	⇑	*i*P		Pn		21 53 15.1	-1.4
BURAR	Bucovina Array	10.39	314	⇓	*i*P		Pn		21 53 28.1	-0.6
KIEV	Kiev	10.99	336		*e*Pn		Pn		21 53 37.1	+0.4
	comp=Z,6.6nm,0.8s									
KIEV	Kiev	10.99	336	⇑	*i*P		Pn		21 53 35.5	-1.2
AKASG	Malin Array Be	10.99	336		Pn		Pn		21 53 35.8	-0.9
	comp=Z,1.9nm,0.3s,baz=134,slow=14,SNR=11									
DRGR		11.42	306	⇑	*i*P		Pn		21 53 41.9	-0.9
VYHS	Vyhne	14.52	308		*e*		P		21 54 39.3	+7.5
AKTO	Aktyubinsk	17.93	50		P		Pn		21 55 07.3	-1.5
	comp=Z,0.3nm,0.3s,baz=254,slow=9.2,SNR=9.2									
FETA	Feichten	19.33	297		pP		Pn		21 55 26.7	+0.6
	comp=Z,3.2nm,0.8s									
DAVOX	Davos/Dischmat	19.87	296		P		P		21 55 31.1	+0.1
	comp=Z,0.3nm,0.3s,baz=110,slow=8.8,SNR=5.3									
DAVA	Damuels	19.94	298		*i* Pn		P		21 55 32.0	+0.3
	comp=Z,7.7nm,0.7s									
FINES	FINESS Array B	21.52	347		P		P		21 55 50.5	+1.9
	comp=Z,3.1nm,0.7s,baz=160,slow=16,SNR=4.6									
KEST	Kesra	21.68	265		P		P		21 55 53.0	+2.5
	comp=Z,4.0nm,0.8s,baz=315,slow=3.4,SNR=5.3									
HFS	Hagfors	23.82	332		P		P		21 56 13.2	+0.7
	comp=Z,2.2nm,0.7s,baz=143,slow=5.0,SNR=2.6									
NOA	NORSAR Array B	25.34	331		LR		LR		22 08 25.4	
	comp=Z,43nm,19.1s,baz=40,slow=41									
KURBB	Kurchatov Arra	30.71	57		P		P		21 57 15.1	+0.6
	comp=Z,1.2nm,1.1s,baz=274,slow=9.4,SNR=3.7									
KURK	Kurchatov	30.77	57		P		P		21 57 15.1	+0.1
MKAR	Makanchi Array	33.37	64		P		P		21 57 39.4	+1.5
	comp=Z,0.5nm,0.6s,baz=276,slow=6.9,SNR=6.9									
TORD	Torodi Ar. Bea	40.90	238		P		P		21 58 39.5	-2.6
	comp=Z,1.5nm,0.9s,baz=29,slow=8.0,SNR=7.6									

*IDC **07** 22:08:27.3±1.8,53.°31N×109.°15E,h0km,mb3.4/2, mb1 3.3/5,mb1mx3.2/50,mbtmp3.2/5,ML2.9/3,MS3.1/1, Ms1 3.1/1,ms1mx2.4/42,Error ellipse: s-maj=34.3km s-min=20.5km az=115.0*
*MOS **07** 22:08:27.7±2.7,53.°47N×108.°25E,h10km,mb4.4/1,Error ellipse: s-maj=14.4km s-min=9.2km az=49.4*
*BYKL **07** 22:08:27.8±0.2,53.°53N×108.°24E,h22km±3km*

ISC 07 22:08:29.5±0.8,53.°51N±0.°02×108.°22E±0.°02,h22km±2km, n50,σ2°32/89,9C-4D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
OGRR	Ongureny	0.40	290	⇑	*i*Pg	Pb	22 08 37.0	-0.8
OGRR					*e*Sg	Sb	22 08 42.8	-0.7
OGRR					Pmax			
	290nm,0.1s							
OGRR					Smax			
	2μm,0.2s							
OGRR	Ongureny	0.40	290	⇑	*i*PG	Pb	22 08 37.1	-0.8
OGRR					*i*		22 08 42.8	
OGRR					pmax	pmax		
	comp=Z,895nm,0.5s							
OGRR					smax	smax		
	comp=N,3μm,0.8s							
MXMB	Maximikha	0.40	128	⇑	*i*Pg	Pb	22 08 36.0	-1.8
MXMB					*e*Sg	Sb	22 08 42.3	-1.2
MXMB					*e*		22 08 46.9	
KELR	Kotokel	0.76	187	⇑	*i*Pg	Pb	22 08 42.0	-1.9
KELR					*e*Sg	Sb	22 08 52.5	-1.3
KELR					*e*Sb	Sn	22 08 55.8	+0.2
SYVR	Suvo	1.07	81	⇑	*i*Pg	Pn	22 08 47.3	-1.9
SYVR					*e*Pb	Pb	22 08 48.6	-0.7
SYVR					*e*Sg	Sn	22 09 01.7	-1.7
SYVR					max			
	comp=N,161nm,0.3s							
SYVR					Smax			
	comp=N,1μm,0.3s							
SYVR	Suvo	1.07	81	⇑	*i*PG	Pn	22 08 47.3	-1.9
SYVR					*e*		22 09 01.7	
SYVR					pmax	pmax		
	comp=Z,148nm,0.5s							
SYVR					smax	smax		
	comp=N,994nm,0.4s							
ZRHB	Zarechye	1.15	214	⇑	*i*Pg	Pb	22 08 49.7	-1.0
ZRHB					*e*Sg	Sn	22 09 06.2	+0.7
ZRHB					Pmax			
	comp=N,147nm,0.5s							
ZRHB					Smax			
	comp=N,1μm,0.5s							
TRTB	Turuntaevo	1.33	196	⇓	*i*Pg	Pb	22 08 52.2	-1.6
TRTB					*e*Sg	Sb	22 09 11.0	+0.6
TRG	Tyrgan	1.36	237		*e*Pg	Pn	22 08 51.9	-1.2
TRG					*e*Sg	Sb	22 09 10.3	-0.8
TRG					*e*Sb	Sn	22 09 11.8	+1.3
TRG					Pmax			
	comp=N,61nm,0.1s							
TRG					max			
	comp=N,547nm,0.3s							
TRG	Tyrgan	1.36	237		*e*PG	Pn	22 08 51.9	-1.2
TRG					*e*		22 09 09.5	
TRG					pmax	pmax		
	comp=Z,61nm,0.1s							
TRG					smax	smax		
	comp=E,483nm,0.1s							
KAB	Kabansk	1.74	214		*e*	Pn	22 08 49.7	-8.8
KAB					*e*Sg	Sb	22 09 23.5	+1.3
KAB					Smax			
	comp=E,954nm,0.7s							
STDB	Stepnoy Dvoret	1.75	221		*e*Pg	Pb	22 08 59.7	-1.2
STDB					*e*		22 09 04.8	
STDB					*e*Sg	Sb	22 09 23.3	+0.8
STDB					*e*		22 09 26.6	
HRMR	Khuramsha	2.04	203		*e*	Pb	22 09 02.9	-2.9
HRMR					*e*Pg	Pn	22 09 04.8	+2.3
HRMR					*e*Sg	Sb	22 09 31.9	+1.2
HRMR					*e*		22 09 34.8	
HRMR					Pmax			
	comp=E,251nm,0.4s							
HRMR					max			
	comp=E,2μm,0.5s							
YLYR	Ulyunkhan	2.21	50	⇓	*i*Pn	Pn	22 09 04.4	-0.4
YLYR					*e*Pg	Pb	22 09 06.4	-2.2
YLYR					*e*Sg	Sb	22 09 35.2	-0.3
YLYR					Pmax			
	comp=E,51nm,0.8s							
YLYR					Smax			
	comp=E,248nm,0.4s							
BGT	Bolshoye Golou	2.25	231		*e*Pg	Pb	22 09 07.8	-1.7
BGT					*e*Sg	Sb	22 09 38.6	+1.8
BGT					Pmax			
	comp=E,29nm,0.4s							
BGT					Smax			
	comp=E,117nm,0.3s							
NIZ	Nizh Angarsk	2.40	18	⇑	*i*Pn	Pn	22 09 07.5	+0.1
NIZ					*e*Pg	Pb	22 09 09.2	-2.7
NIZ					*e*PgPg	PbPb	22 09 14.1	-0.8
NIZ					*e*Sg	Sb	22 09 40.6	-0.4
NIZ					max			
	comp=E,32nm,0.3s							
NIZ					Smax			
	comp=E,291nm,0.3s							
NIZ	Nizh Angarsk	2.40	18		*e*PN	Pb	22 09 07.7	-4.2
NIZ					*e*		22 09 09.9	
NIZ					*e*S	Sn	22 09 35.0	-1.1
NIZ					*e*		22 09 41.0	
NIZ					pmax	pmax		
	comp=Z,30nm,0.4s							
NIZ					smax	smax		
	comp=N,292nm,0.4s							
LSTR	Listvyanka	2.64	233		*e*Pn	Pn	22 09 10.3	-0.4
LSTR					*e*Pg	Pb	22 09 15.1	-0.9
LSTR					*e*Sg	Sb	22 09 49.8	+1.9
LSTR					Pmax			
	comp=N,15nm,0.4s							
LSTR					Smax			
	comp=N,150nm,0.5s							
IRK	Irkutsk	2.71	244		*e*	Pb	22 09 13.6	-3.6
IRK					*e*Sg	Sb	22 09 51.1	+1.1
IRK					Smax			
	comp=N,546nm,0.5s							
IRK	Irkutsk	2.71	244		*e*PN	Pb	22 09 16.8	-0.4
IRK					*e*		22 09 51.0	
IRK					pmax	pmax		
	comp=Z,82nm,0.1s							
IRK					smax	smax		
	comp=N,551nm,0.6s							
KMO	Kumora	2.94	35	⇓	*i*Pn	Pn	22 09 14.8	-0.1
KMO					*e*Pg	Pb	22 09 20.1	-1.1
KMO					*e*		22 09 27.4	
KMO					*e*Sg	Sb	22 09 58.5	+1.8
KMO					max			
	comp=N,60nm,0.4s							
KMO					Smax			
	comp=N,215nm,0.8s							
KMO	Kumora	2.94	35		*e*PN	Pn	22 09 14.5	-0.4
KMO					*e*		22 09 20.0	
KMO					*e*S	Sn	22 09 49.6	0.0
KMO					*e*		22 09 57.7	
KMO					pmax	pmax		
	comp=Z,16nm,0.3s							
KMO					smax	smax		
	comp=N,187nm,1.1s							
YOA	Uoyan	3.32	36		Pg	Pb	22 09 26.1	-1.5
YOA					*e*Sg	Sb	22 10 09.4	+1.9
YOA					Pmax			
	comp=N,52nm,0.2s							
YOA					Smax			
	comp=N,606nm,1.1s							
TLY	Talaya	3.34	239		*e*PN	Pn	22 09 20.2	-0.2
TLY					*e*		22 09 27.0	
TLY					*e*		22 10 09.5	
TLY					pmax	pmax		
	comp=Z,37nm,0.3s							
CIT	Chita	3.56	113		*e*	Pb	22 09 28.3	-3.5
CIT					*e*Sg	Sb	22 10 18.2	+3.6
CIT					*e*		22 10 23.3	
CIT					max			
	comp=Z,323nm,0.7s							
UKT	Uakit	3.72	56		*i* Pn	Pn	22 09 25.4	-0.3
UKT					*e*Pg	Pb	22 09 34.2	-0.4
UKT					*e*Sg	Sb	22 10 23.1	+3.9
UKT					Pmax			
	comp=Z,18nm,0.7s							
UKT					Smax			
	comp=Z,152nm,1.5s							
ARS	Arshan	3.87	248		*e*Pn	Pn	22 09 27.8	+0.1
ARS					*e*Pg	Pb	22 09 36.3	-0.7
ARS					*e*Sg	Sb	22 10 26.8	+3.4
ARS					Pmax			
	comp=Z,38nm,0.6s							
ARS					Smax			
	comp=Z,845nm,0.7s							
ARS	Arshan	3.87	248		*e*PN	Pn	22 09 28.1	+0.4
ARS					*e*		22 09 37.0	
ARS					*e*		22 10 25.0	
ARS					pmax	pmax		
	comp=Z,38nm,0.5s							
ARS					smax	smax		
	comp=E,846nm,0.7s							
SVKR	Severomuysk	4.04	48		*e*Pn	Pn	22 09 28.8	-1.3
SVKR					*e*		22 09 33.7	
SVKR					*e*Pg	Pb	22 09 40.4	+0.4
SVKR					*e*		22 10 10.2	
SVKR					*e*Sg	Sb	22 10 33.4	+5.0
SVKR					Pmax			
	comp=E,40nm,0.6s							
SVKR					Smax			
	comp=E,340nm,0.6s							
ZAK	Zakamensk	4.38	226		*e*	Pb	22 09 42.4	-3.3
ZAK					*e*		22 10 27.4	
ZAK					*e*Sg	Sb	22 10 45.0	+7.0
ZAK					max			
	comp=E,8.0nm,0.9s							
ZAK					Smax			
	comp=E,52nm,0.8s							
KPC	Khapcheranga	4.61	144	⇑	*i*Pn	Pn	22 09 35.9	-2.0
KPC					*e*Pg	Pb	22 09 50.5	+0.9
KPC					*e*Sn	Sn	22 10 27.2	-3.5
KPC					*e*Sg	Sb	22 10 50.1	+5.5
KPC					Pmax			
	comp=E,9.0nm,0.5s							
KPC					Smax			
	comp=E,85nm,0.9s							
MOY	Mondy	4.78	250		*e*	Pn	22 09 42.2	+2.0
MOY					*e*		22 09 46.6	
MOY					*e*		22 10 37.6	
MOY					*e*Sg	Sb	22 10 55.7	+6.1
MOY					*e*		22 11 07.1	
MOY					max			
	comp=E,19nm,0.8s							
MOY					max			
	comp=E,329nm,1.3s							
MOY	Mondy	4.78	250		*e*PN	Pn	22 09 42.5	+2.3
MOY					*e*		22 09 56.1	
MOY					*e*		22 10 55.4	
MOY					pmax	pmax		
	comp=Z,18nm,0.5s							
MOY					smax	smax		
	comp=E,331nm,1.2s							
ORL	Orlik	5.17	263		*e*Pn	Pn	22 09 45.5	-0.1
ORL					⇓*i*		22 09 47.6	
ORL					*e*		22 09 52.8	
ORL					*e*Sn	Sn	22 10 42.4	-2.2
ORL					*e*Sg	Sb	22 11 09.3	+8.4
ORL					max			
	comp=E,26nm,0.5s							
ORL					Smax			
	comp=E,78nm,0.8s							
ORL	Orlik	5.17	263		*e*PN	Pn	22 09 47.3	+1.7
ORL					*e*		22 10 01.1	
ORL					*e*S	Sn	22 10 44.6	0.0
ORL					*e*		22 11 06.3	
ORL					pmax	pmax		
	comp=Z,9.0nm,0.5s							
ORL					smax	smax		
	comp=N,78nm,1.0s							
NLYR	Nelyaty	5.24	52		*e*Pn	Pn	22 09 46.4	-0.1
NLYR					*e*		22 09 54.4	
NLYR					*e*Pg	Pb	22 10 02.2	+1.9
NLYR					*e*Sg	Sb	22 11 09.2	+6.4
NLYR					Pmax			
	comp=N,11nm,0.7s							
NLYR					Smax			
	comp=N,93nm,1.0s							
BOD	Bodaibo	5.42	35		*e*	Pb	22 10 07.4	+4.1
BOD					Sg	Sb	22 11 13.0	+5.2
BOD					*e*		22 11 16.0	
BOD					max			
	comp=N,51nm,1.1s							
SONM	Songino Array	5.80	192		Pn	Pn	22 09 54.6	+0.3
	comp=N,0.5nm,0.3s,baz=11,slow=12,SNR=6.8							
SONM					Pg	Pb	22 10 13.1	+3.2
	comp=N,0.9nm,0.3s,baz=7.3,slow=17,SNR=9.7							
SONM					Lg	Lg	22 11 27.9	
	comp=N,2.1nm,0.3s,baz=7.7,slow=34,SNR=22							
CRS	Chara	6.68	55		*e*Pn	Pn	22 10 05.6	-0.6
CRS					*e*Pg	Pb	22 10 28.2	+3.4
CRS					*e*Sg	Sb	22 11 54.1	+10
CRS					Pmax			
	comp=N,11nm,1.1s							
CRS					Smax			
	comp=N,42nm,1.2s							
TUP	Tupik	6.98	78		*e*Pn	Pn	22 10 08.3	-2.1
TUP					*e*		22 10 16.3	
TUP					*e*		22 10 31.9	
TUP					*e*Sg	Sb	22 12 02.8	+10
TUP					*e*		22 12 06.5	
TUP					max			
	comp=N,4.0nm,0.8s							
TUP					max			
	comp=N,77nm,0.9s							
TUP	Tupik	6.98	78		*e*PN	Pn	22 10 09.5	-0.9
TUP					*e*		22 10 33.0	
TUP					*e*S	Sn	22 11 28.1	-1.0
TUP					*e*		22 12 02.3	
TUP					pmax	pmax		
	comp=Z,3.0nm,0.7s							
TUP					smax	smax		
	comp=N,77nm,0.9s							
KNGR	Kungurtug, Tuv	7.21	251		*e*Pn	Pn	22 10 12.0	-1.6
KNGR					*e*		22 11 52.4	
KNGR					*e*Sg	Sb	22 12 12.8	+13
TDJR	Todzha	7.41	266		*e*	Pn	22 10 19.0	+2.7
TDJR					*e*		22 11 12.9	
TDJR					*e*		22 11 56.0	
TDJR					*e*Sg	Sb	22 12 17.5	+12
KZLR	Kyzyl	8.57	263		*e*Sg	Sn	22 12 54.4	+46
KZLR					*e*		22 13 04.3	
KZLR					*e*		22 13 20.9	
ERNS	Erzin	8.71	253		*e*		22 12 32.3	
ERNS					*e*Sg	Sn	22 12 56.4	+45
MKAR	Makanchi Array	17.86	258		P	P	22 12 44.7	+7.8
	comp=N,0.0nm,0.3s,baz=57,slow=10,SNR=2.9							
KURK	Kurchatov	18.33	273		P	Pn	22 12 49.2	+7.1
KURBB	Kurchatov Arra	18.42	273		P	Pn	22 12 49.2	+6.1
	comp=N,0.0nm,0.3s,baz=70,slow=12,SNR=3.0							
BVAR	Borovoye Array	22.46	284		P	P	22 13 33.8	+6.9
	comp=N,1.2nm,0.7s,baz=64,slow=13,SNR=5.6							
BVAR					LR	LR	22 22 06.4	
	comp=N,46nm,18.9s,baz=166,slow=36							
ILAR	Eielson Array	48.79	33		P	P	22 17 12.2	-0.1
	comp=N,0.3nm,0.6s,baz=312,slow=7.2,SNR=5.5							

IDC 07 22:17:09.7±4.4,5.°85S×103.°69E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/50,mbtmp3.7/5,Error ellipse: s-maj=177.0km s-min=26.1km az=52.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.61	349		P	P	22 22 31.4	-0.5
	1.3nm,0.7s,baz=183,slow=8.7,SNR=13							
WRA	Warramunga Arr	32.91	118		P	P	22 23 45.7	-0.3
	0.2nm,0.6s,baz=288,slow=9.6,SNR=3.0							
SONM	Songino Array	53.51	2		P	P	22 26 32.4	+0.3
	0.8nm,0.9s,baz=177,slow=7.6,SNR=6.4							
MKAR	Makanchi Array	55.75	342		P	P	22 26 48.5	+0.1
	0.4nm,0.5s,baz=146,slow=8.3,SNR=13							
ZALV	Zalesovo Beam	61.66	347		P	P	22 27 28.8	-0.5
	1.0nm,0.3s,baz=166,slow=6.1,SNR=5.3							
TXAR	Lajitas Array	145.18	45		PKPbc	PKPbc	22 36 49.6	-0.1
	0.4nm,0.6s,baz=297,slow=1.9,SNR=4.0							

*ISCJB **07** 22:18:37.3±0.3,48.°54N±0.°02×71.°22W±0.°02,h0km,Error ellipse: s-maj=2.8km s-min=2.3km az=7.0*
*OTT **07** 22:18:39.8±0.1,48.°54N×71.°18W,h0km,MN3.0/20*
OTT Probable blast, west of Saint-Honore, Qc. Felt Mining explosion.
*ANF **07** 22:18:41.1±0.9,48.°52N×71.°51W,h2km±15km,ML4.1/1, Error ellipse: s-maj=15.8km s-min=4.7km az=84.0*

ISC 07 22:18:38.2±0.8,48.°51N±0.°03×71.°22W±0.°02,h0km,n38, σ0.°93/68,Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
DAQ	Lac Daran	0.55	181		PG	Pb	22 18 50.1	-0.7
DAQ					SG	Sb	22 18 58.1	-1.1
DAQ					Trac		22 18 58.5	
	comp=Z,31nm,0.1s							
DMCQ	Dolbeau-Mistas	0.72	309		PG	Pg	22 18 52.9	+0.9
DMCQ					SG	Sg	22 19 03.0	+1.7
DMCQ					Trac		22 19 04.6	
	comp=Z,50nm,0.1s							
A61	Sainte Mathild	1.12	137		PG	Pg	22 18 59.5	-0.1
A61					SG	Sb	22 19 14.9	-0.6
A61					Trac		22 19 16.0	
	comp=Z,58nm,0.1s							
A64	Saint Simeon	1.12	127		PG	Pg	22 18 59.7	-0.1
A64					SG	Sb	22 19 15.1	-0.7
A64					Trac		22 19 16.7	
	comp=Z,48nm,0.1s							
LMQ	La Malbaie	1.14	148		PG	Pg	22 19 00.1	+0.1
LMQ					SG	Sb	22 19 15.5	-0.6
LMQ					Trac		22 19 18.9	
	comp=Z,43nm,0.1s							
A54	Misere	1.19	152		PG	Pg	22 19 00.8	-0.2
A54					SG	Sb	22 19 17.3	-0.2
A54					Trac		22 19 19.1	
	comp=Z,120nm,0.2s							
A21	Saint Andre	1.31	128		PG	Pg	22 19 03.0	-0.2
A21					SG	Sb	22 19 20.5	-0.5
A21					Trac		22 19 22.6	
	comp=Z,53nm,0.2s							
A16	Riviere Ouelle	1.32	141		PG	Pg	22 19 03.4	-0.2
A16					SG	Sb	22 19 21.4	-0.1
A16					Trac		22 19 27.9	
	comp=Z,33nm,0.2s							
LATQ	La Tuque	1.54	223		PN	Pg	22 19 07.9	+0.1
LATQ					SN	Sn	22 19 29.9	+2.3
LATQ	La Tuque	1.54	223		P	Pg	22 19 07.9	+0.1
	baz=42							
LATQ					S	Sn	22 19 29.6	+1.9
	baz=42							
BCLQ	Boischatel	1.59	179		PN	Pb	22 19 08.0	-0.4
BCLQ					SN	Sg	22 19 29.7	+0.4
BCLQ					Trac		22 19 35.9	
	comp=Z,29nm,0.1s							
QCQ	Quebec	1.73	181		PN	Pb	22 19 11.0	+0.1
QCQ					SN	Sg	22 19 34.9	+0.9
QCQ					Trac		22 19 39.5	
	comp=Z,14nm,0.1s							
DPQ	Saint Jean	2.11	210		PN	Pb	22 19 16.4	-1.0
DPQ					SN	Sb	22 19 43.7	-0.4
DPQ					Trac		22 19 47.0	
	comp=Z,38nm,0.2s							
CNQ	Baie Comeau	2.22	68		PN	Pn	22 19 16.8	+0.4
CNQ					SN	Sn	22 19 44.8	+0.3
CNQ					Trac		22 19 46.6	
	comp=Z,60nm,0.2s							
CHGQ	Chibougamau	2.50	305		PN	Pn	22 19 21.1	+1.0
CHGQ					SN	Sn	22 19 52.0	+0.8
CHGQ					Trac		22 19 58.9	
CHGQ	Chibougamau	2.50	305		P	Pn	22 19 20.9	+0.8
	baz=122							
CHGQ					S	Sn	22 19 51.4	+0.2
	baz=122							
STUQ	Sainte-Ursule	2.55	211		PN	Pn	22 19 22.8	+2.0
STUQ					SN	Sb	22 19 54.7	-2.1
STUQ					Trac		22 19 59.8	
	comp=Z,17nm,0.2s							
MNQ	Manicouagan	2.58	37		PN	Pn	22 19 21.6	+0.4
MNQ					SN	Sn	22 19 53.4	+0.1
MNQ					Trac		22 20 00.2	
	comp=Z,33nm,0.1s							
GSQ	Grosses Roches	2.75	80		PN	Pn	22 19 24.1	+0.4
GSQ					SN	Sn	22 19 57.4	-0.1
GSQ					Trac		22 20 05.4	
	comp=Z,36nm,0.3s							
ICQ	Pointe Anglais	2.79	67		PN	Pn	22 19 24.1	-0.1
ICQ					SN	Sn	22 19 58.4	-0.1
ICQ					Trac		22 20 05.9	
	comp=Z,26nm,0.2s							
ICQ					LG	Lg	22 20 06.8	
TRQ	Mont Tremblant	3.22	226		PN	Pn	22 19 31.7	+1.6
TRQ					SN	Sn	22 20 10.0	+0.8
TRQ					Trac		22 20 24.5	
	comp=Z,11nm,0.2s							
MOQ	Mont Orford	3.28	193		PN	Pn

GRQ				Trac			22 20 39.1	
	comp=Z,26nm,0.3s							
LSQQ	**Lebel-sur-Quev**	**3.84**	**280**	P		**Pn**	**22 19 38.6**	**0.0**
	baz=96							
LSQQ				S		**Sn**	**22 20 22.6**	**-1.9**
	baz=96							
D54A	**Lac Fusel, La**	**3.91**	**252**	P		**Pn**	**22 19 39.3**	**-0.2**
	baz=67							
F55A	**Otter Lake**	**4.41**	**234**	P		**Pn**	**22 19 47.2**	**+0.8**
	baz=50							
E54A	**Lac Daplat, Po**	**4.55**	**245**	P		**Pn**	**22 19 48.4**	**+0.2**
	baz=60							
E54A				S		**Sn**	**22 20 42.4**	**+0.5**
	baz=60							
D53A	**Lac Vacive, Po**	**4.59**	**254**	P		**Pn**	**22 19 48.8**	**-0.1**
	baz=69,SNR=21							
E53A	**Dumoine, Ponti**	**4.86**	**246**	P		**Pn**	**22 19 52.7**	**+0.1**
	baz=61							
E53A				S		**Sn**	**22 20 47.9**	**-1.7**
	baz=61							
D52A	**ZEK Kipawa Sen**	**5.09**	**255**	P		**Pn**	**22 19 55.8**	**+0.1**
	baz=70,SNR=20							
D52A				S		**Sn**	**22 20 54.6**	**-0.6**
	baz=70							
E51A	**G1948 Merrick**	**5.94**	**254**	P		**Pn**	**22 20 07.2**	**-0.3**
	baz=67,SNR=6.6							
E51A				S		**Sn**	**22 21 14.6**	**-1.6**
	baz=67							
G53A	**Haliburton**	**6.11**	**239**	S		**Sn**	**22 21 19.4**	**-0.8**
	baz=54							
F52A	**Sundridge**	**6.16**	**247**	S		**Sn**	**22 21 20.2**	**-1.3**
	baz=61							
BUKO	**Buck Lake**	**6.38**	**244**	P		**Pn**	**22 20 13.3**	**-0.2**
	baz=58,SNR=6.2							
F51A	**Arnstein**	**6.46**	**250**	P		**Pn**	**22 20 14.1**	**-0.5**
	baz=63,SNR=8.5							
F51A				S		**Sn**	**22 21 27.7**	**-1.2**
	baz=63							
KLBO	**Killbear Provi**	**6.92**	**246**	P		**Pn**	**22 20 20.5**	**-0.3**
	baz=60,SNR=6.6							

*ISCJB **07** 22:19:24.4±1.2, 11°.08S±0°.09×166°.0E±0°.2, h61km, mb3.7/5, Error ellipse: s-maj=23.0km s-min=11.3km az=165.1*

*IDC **07** 22:19:28.6±3.8, 10°.80S×165°.88E, h77km±33km, mb3.5/5, mb1 3.8/7, mb1mx3.5/50, mbtmp4.0/7, MS2.9/1, Ms1 2.9/1, ms1mx2.6/30, Error ellipse: s-maj=36.6km s-min=27.9km az=143.0*

ISC 07 22:19:26.6±1.2, 10°.9S±0°.1×166°.0E±0°.2, h61km, n14, σ2.8°08/9, mb3.7/5, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.12**	**283**	P		**Pn**	**22 20 54.7**	**+0.2**
	20nm,0.3s,baz=141,slow=1.8,SNR=5.6							
DZM	**Mont Dzumac**	**11.11**	**178**	P		**Pn**	**22 22 05.9**	**+3.2**
	0.8nm,0.3s,baz=344,slow=11,SNR=9.9							
DZM				S		**Sn**	**22 24 01.8**	**-3.7**
	0.3nm,0.3s,baz=333,slow=18,SNR=2.4							
DZM				LR		LR	22 25 29.0	
	comp=Z,64nm,19.9s,baz=246,slow=32							
H11S2	**WAKE ISLAND Hy 29.22**	**1**		T		T	22 55 48.4	
	baz=181,slow=76,SNR=52							
H11S3	**WAKE ISLAND Hy 29.23**	**1**		T		T	22 55 48.6	
	baz=181,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy 29.24**	**1**		T		T	22 55 49.7	
	baz=181,slow=76,SNR=17							
H11N1	**WAKE ISLAND Hy 30.45**	**2**		T		T	22 57 21.6	
	baz=182,slow=76,SNR=19							
H11N3	**WAKE ISLAND Hy 30.45**	**2**		T		T	22 57 20.4	
	baz=182,slow=76,SNR=15							
H11N2	**WAKE ISLAND Hy 30.46**	**2**		T		T	22 57 21.4	
	baz=182,slow=76,SNR=15							
WRA	**Warramunga Arr**	**31.75**	**250**	P		**P**	**22 25 45.0**	**-0.2**
	0.4nm,0.6s,baz=81,slow=9.4,SNR=6.8							
ASAR	**Alice Springs**	**33.06**	**243**	P		**P**	**22 25 57.0**	**+0.3**
	0.3nm,0.6s,baz=59,slow=11,SNR=4.0							
FITZ	**Fitzroy Crossi**	**39.64**	**255**	P		**P**	**22 26 52.6**	**-0.1**
	1.8nm,0.9s,baz=78,slow=8.9,SNR=7.0							
ILAR	**Eielson Array**	**83.31**	**18**	P		**P**	**22 31 46.5**	**+0.1**
	0.5nm,0.6s,baz=241,slow=5.1,SNR=12							
MKAR	**Makanchi Array**	**93.58**	**317**	P		**P**	**22 32 35.1**	**-1.0**
	0.5nm,0.7s,baz=94,slow=5.6,SNR=5.7							
ARCES	**ARCESS Array B**	**116.26**	**346**	PKP		**PKiKP**	**22 38 01.5**	**-1.0**
	6.1nm,0.9s,baz=20,slow=9.0,SNR=3.5							

*NIED **07** 22:19:00, 35°.70N×139°.60E, h32km, Mw3.6 Best double couple: M0 2.37000×10^14 NP1:φ=40.00000°, δ=22.00000°, λ=142.00000°. NP2:φ=167.00000°, δ=76.00000°, λ=72.00000°.*

*ISCJB **07** 22:19:46.8±0.7, 35°.62N±0°.03×139°.67E±0°.05, h27km±5km, mb3.5/4, MS2.8/1, Error ellipse: s-maj=7.0km s-min=4.9km az=1.8*

*JMA **07** 22:19:47.4±0.1, 35°.70N×139°.63E, h32km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φ=172.00000°, δ=82.00000°, λ=95.00000°. NP2: φ=316.00000°, δ=9.00000°, λ=54.00000°. Principal axes: T Plg52.0000°, Azm88.0000°; N Plg5.0000°, Azm351.0000°; P Plg37.0000°, Azm257.0000°;*

JMA Felt II J1.

*IDC **07** 22:19:50.2±1.2, 35°.50N×139°.49E, h71km±14km, mb3.2/4, mb1 3.6/5, mb1mx3.2/53, mbtmp3.6/5, MS2.7/3, Ms1 2.7/3, ms1mx2.5/16 Error ellipse: s-maj=28.6km s-min=6.1km az=68.0*

ISC 07 22:19:47.0±1.0, 35°.64N±0°.04×139°.62E±0°.04, h33km±3km, n21, σ0.9°89/28, mb3.6/4, 3C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TOK	**Tokyo**	**0.12**	**67**	P		**Pb**	**22 19 53.6**	**+0.8**
TOK				eS		**Sb**	**22 19 57.1**	**+0.2**
JHU	**Hanno**	**0.35**	**308**	↑P		**Pb**	**22 19 55.2**	**-0.2**
JHU				eS		**Sb**	**22 20 00.8**	**-0.4**
JOD2	**Odawara 2**	**0.57**	**230**	↓P		**Pb**	**22 19 58.9**	**+0.1**
JOD2				S		**Sn**	**22 20 07.7**	**+0.6**
JRY	**Ryogami san**	**0.70**	**303**	↑P		**Pn**	**22 19 59.9**	**-0.6**
JAG	**Ashikaga**	**0.80**	**350**	↑P		**Pn**	**22 20 01.5**	**-0.4**
JFNN	**Fujinakano**	**0.89**	**240**	P		**Pn**	**22 20 03.4**	**+0.3**
JFNN				S		**Sn**	**22 20 15.5**	**+0.8**
JYN	**Shimob**	**0.89**	**261**	↓P		**Pn**	**22 20 03.5**	**+0.3**
JYN				S		**Sn**	**22 20 15.7**	**+0.7**
JIM2	**Oshima 2**	**0.93**	**190**	P		**Pn**	**22 20 03.8**	**0.0**
JIM2				eS		**Sn**	**22 20 15.8**	**-0.2**
JIZS	**Izushimoda**	**1.10**	**214**	P		**Pn**	**22 20 06.5**	**+0.4**
JIZS				S		**Sb**	**22 20 21.4**	**-0.2**
BSO3	**Boso 3**	**1.11**	**139**	P		**Pn**	**22 20 06.4**	**+0.5**
JKT	**Katashina**	**1.17**	**345**	P		**Pn**	**22 20 07.5**	**+0.5**
MJAR	**Matsushiro Arr**	**1.46**	**309**	P		**Pn**	**22 20 12.3**	**+1.3**
	20nm,0.3s,baz=141,slow=16,SNR=513							
MJAR				S		**Sb**	**22 20 32.8**	**+1.1**
	7.6nm,0.3s,baz=114,slow=26,SNR=12							
MJAR				LR		LR	22 21 04.3	
	comp=Z,84nm,21.9s,baz=65,slow=52							
MAT	**Matsushiro**	**1.46**	**309**	P		**Pn**	**22 20 12.6**	**+1.6**
MAT				S		**Sb**	**22 20 33.4**	**+1.6**
JHJ	**Hachijo jima 2**	**2.52**	**177**	P		**Pn**	**22 20 26.6**	**+1.1**
	53nm,0.3s,baz=44,slow=5.8,SNR=12							
JHJ				S		**Sn**	**22 20 56.2**	**+1.2**
	69nm,0.3s,baz=249,slow=23,SNR=11							
JNU	**Nakatsue**	**7.65**	**253**	LR		LR	22 24 08.5	
	comp=Z,30nm,21.1s,baz=4.5,slow=34							
KSRS	**Korea Array**	**9.59**	**284**	LR		LR	22 25 46.9	
	comp=Z,54nm,19.4s,baz=20,slow=37							
SONM	**Songino Array**	**27.41**	**307**	LR		LR	22 36 33.9	
	comp=Z,27nm,19.4s,baz=4.0,slow=37							
MKAR	**Makanchi Array**	**43.65**	**303**	P		**P**	**22 27 47.0**	**-1.3**
	0.2nm,0.7s,baz=99,slow=7.6,SNR=2.3							
ILAR	**Eielson Array**	**51.44**	**32**	P		**P**	**22 28 47.9**	**-0.7**
	0.5nm,0.8s,baz=273,slow=6.1,SNR=4.1							
WRA	**Warramunga Arr**	**55.50**	**186**	P		**P**	**22 29 17.4**	**-1.4**
	0.5nm,0.5s,baz=0.8,slow=7.3,SNR=8.0							
NVAR	**Mina Array Bea**	**76.98**	**52**	P		**P**	**22 31 37.5**	**+0.9**
	0.5nm,0.6s,baz=305,slow=4.1,SNR=3.9							

*KRSC **07** 22:23:57.9±10.0, 53°.45N×159°.32E, h132km±10km, ML4.0*

*ISCJB **07** 22:23:58.7±0.3, 53°.45N±0°.04×159°.24E±0°.08, h133km±2km, mb3.4/11, Error ellipse: s-maj=9.8km s-min=4.1km az=37.0*

*MOS **07** 22:23:58.4±0.6, 53°.48N×159°.20E, h130km, mb3.8/3, Error ellipse: s-maj=19.1km s-min=6.5km az=69.3*

*IDC **07** 22:23:59.8±0.6, 53°.66N×158°.79E, h132km±6km, mb3.2/10, mb1 3.5/11, mb1mx3.3/62, mbtmp3.6/11, MS2.9/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=21.4km s-min=13.1km az=144.0*

ISC 07 22:23:59.4±0.7, 53°.46N±0°.04×159°.24E±0°.04, h130km±4km, n78, σ0.9°92/116, mb3.5/11, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDLR	**Sedlovina**	**0.28**	**229**	*i* P		**Pn**	**22 24 17.4**	**-0.3**
SDLR				eS		**Sn**	**22 24 30.9**	**-0.6**
SDLR	**Sedlovina**	**0.28**	**229**	PN		**Pn**	**22 24 17.4**	**-0.3**
SDLR				S		**Sn**	**22 24 30.9**	**-0.6**
NLC	**Nalytchevo**	**0.30**	**168**	eP		**Pn**	**22 24 17.3**	**-0.3**
NLC				eS		**Sn**	**22 24 31.3**	**+0.1**
NLC	**Nalytchevo**	**0.30**	**168**	PN		**Pn**	**22 24 17.3**	**-0.3**
NLC				S		**Sn**	**22 24 31.3**	**+0.1**
SMAR	**Somma**	**0.33**	**233**	eP		**Pn**	**22 24 18.0**	**0.0**
SMAR				eS		**Sn**	**22 24 32.2**	**+0.2**
SMAR	**Somma**	**0.33**	**233**	PN		**Pn**	**22 24 18.0**	**0.0**
SMAR				S		**Sn**	**22 24 32.2**	**+0.2**
KRER	**Koryakskii**	**0.33**	**242**	eP		**Pn**	**22 24 17.9**	**-0.1**
KRER				eS		**Sn**	**22 24 32.0**	**0.0**
KRER	**Koryakskii**	**0.33**	**242**	PN		**Pn**	**22 24 17.9**	**-0.1**
KRER				S		**Sn**	**22 24 32.0**	**0.0**
UGLR	**Uglovaya**	**0.35**	**225**	eP		**Pn**	**22 24 17.8**	**-0.2**
UGLR				eS		**Sn**	**22 24 32.1**	**+0.2**
UGLR	**Uglovaya**	**0.35**	**225**	PN		**Pn**	**22 24 17.8**	**-0.2**
UGLR				S		**Sn**	**22 24 32.1**	**+0.2**
AVH	**Avacha**	**0.36**	**237**	*i* P		**Pn**	**22 24 17.8**	**-0.1**
AVH				eS		**Sn**	**22 24 31.8**	**-0.1**
AVH	**Avacha**	**0.36**	**237**	PN		**Pn**	**22 24 17.8**	**-0.1**
AVH				S		**Sn**	**22 24 31.8**	**-0.1**
KRX	**Arik**	**0.37**	**254**	eP		**Pn**	**22 24 17.6**	**-0.5**
KRX				eS		**Sn**	**22 24 31.8**	**-0.3**
KRX	**Arik**	**0.37**	**254**	PN		**Pn**	**22 24 17.6**	**-0.5**
KRX				S		**Sn**	**22 24 31.8**	**-0.3**
KOK	**Koryaka**	**0.40**	**245**	*i* P		**Pn**	**22 24 17.9**	**-0.2**
KOK				eS		**Sn**	**22 24 32.8**	**+0.5**
KOK	**Koryaka**	**0.40**	**245**	PN		**Pn**	**22 24 17.9**	**-0.2**
KOK				S		**Sn**	**22 24 32.8**	**+0.5**
DALK	**Dalny**	**0.52**	**214**	eP		**Pn**	**22 24 18.2**	**-0.4**
DALK				eS		**Sn**	**22 24 32.4**	**-0.7**
DALK	**Dalny**	**0.52**	**214**	PN		**Pn**	**22 24 18.2**	**-0.4**
DALK				S		**Sn**	**22 24 32.4**	**-0.7**
PET	**Petropavlovsk**	**0.56**	**219**	eP		**Pn**	**22 24 18.5**	**-0.4**
PET				eS		**Sn**	**22 24 33.0**	**-0.5**
PET	**Petropavlovsk**	**0.56**	**219**	PN		**Pn**	**22 24 18.5**	**-0.4**
PET				S		**Sn**	**22 24 33.0**	**-0.5**
KII	**Karymskiy**	**0.59**	**12**	eP		**Pn**	**22 24 18.9**	**-0.3**
KII				eS		**Sn**	**22 24 34.3**	**+0.1**
KII	**Karymskiy**	**0.59**	**12**	PN		**Pn**	**22 24 18.9**	**-0.3**
KII				S		**Sn**	**22 24 34.3**	**+0.1**
SPN	**Mys Shipunski**	**0.59**	**127**	P		**Pn**	**22 24 19.0**	**-0.1**
SPN				eS		**Sn**	**22 24 33.9**	**0.0**
SPN	**Mys Shipunski**	**0.59**	**127**	PN		**Pn**	**22 24 19.0**	**-0.1**
SPN				S		**Sn**	**22 24 33.9**	**0.0**
GNL	**Ganaly**	**0.81**	**287**	eP		**Pn**	**22 24 19.7**	**-1.1**
GNL	**Ganaly**	**0.81**	**287**	PN		**Pn**	**22 24 19.7**	**-1.1**
KRMR	**Karymshinskiy**	**0.92**	**227**	eP		**Pn**	**22 24 21.1**	**-0.5**
KRMR				eS		**Sn**	**22 24 38.0**	**-0.4**
KRMR	**Karymshinskiy**	**0.92**	**227**	PN		**Pn**	**22 24 21.1**	**-0.5**
KRMR				S		**Sn**	**22 24 38.0**	**-0.4**
PETK	**Petropavlovsk-**	**0.99**	**250**	S		**Pn**	**22 24 21.6**	**-0.7**
	255nm,0.3s,baz=71,slow=14,SNR=9364							
PETK				S		**Sn**	**22 24 38.8**	**-0.8**
	6.4nm,0.3s,baz=9.4,slow=28,SNR=3.5							
RUS	**Russkaya**	**1.12**	**203**	eP		**Pn**	**22 24 23.1**	**-0.4**
RUS				eS		**Sn**	**22 24 40.9**	**-0.8**
RUS	**Russkaya**	**1.12**	**203**	PN		**Pn**	**22 24 23.1**	**-0.4**
RUS				S		**Sn**	**22 24 40.9**	**-0.8**
GRL	**Gorelyy**	**1.15**	**218**	P		**Pn**	**22 24 24.6**	**+0.6**
GRL	**Gorelyy**	**1.15**	**218**	PN		**Pn**	**22 24 24.6**	**+0.6**
MTVR	**Mutnovka**	**1.17**	**214**	eP		**Pn**	**22 24 24.3**	**+0.1**
MTVR				eS		**Sn**	**22 24 43.4**	**+0.5**
MTVR	**Mutnovka**	**1.17**	**214**	PN		**Pn**	**22 24 24.3**	**+0.1**
MTVR				S		**Sn**	**22 24 43.4**	**+0.5**
ASAK	**Asacha**	**1.35**	**217**	eP		**Pn**	**22 24 26.2**	**+0.2**
ASAK				eS		**Sn**	**22 24 47.4**	**+1.3**
ASAK	**Asacha**	**1.35**	**217**	PN		**Pn**	**22 24 26.2**	**+0.2**
ASAK				S		**Sn**	**22 24 47.4**	**+1.3**
APC	**Apacha**	**1.36**	**248**	eP		**Pn**	**22 24 25.8**	**-0.2**
APC				eS		**Sn**	**22 24 46.0**	**-0.2**
APC	**Apacha**	**1.36**	**248**	PN		**Pn**	**22 24 25.8**	**-0.2**
APC				S		**Sn**	**22 24 46.0**	**-0.2**
KZV	**Kizimen**	**1.77**	**20**	eP		**Pn**	**22 24 31.1**	**+0.4**
KZV	**Kizimen**	**1.77**	**20**	PN		**Pn**	**22 24 31.1**	**+0.4**
KDTR	**Khodutka, Kamc**	**1.80**	**204**	eP		**Pn**	**22 24 30.6**	**-0.4**
KDTR				eS		**Sn**	**22 24 53.7**	**-1.3**
KDTR	**Khodutka, Kamc**	**1.80**	**204**	PN		**Pn**	**22 24 30.6**	**-0.4**
KDTR				S		**Sn**	**22 24 53.7**	**-1.3**
MKZ	**Mys Kozlova**	**1.83**	**52**	eP		**Pn**	**22 24 31.4**	**+0.1**
MKZ				eS		**Sn**	**22 24 54.6**	**-1.2**
MKZ	**Mys Kozlova**	**1.83**	**52**	PN		**Pn**	**22 24 31.4**	**+0.1**
MKZ				S		**Sn**	**22 24 54.6**	**-1.2**
TUMD	**Tumrok D**	**1.87**	**21**	eP		**Pn**	**22 24 33.0**	**+1.1**
TUMD				eS		**Sn**	**22 24 57.9**	**+1.2**
TUMR	**Tumrok**	**1.90**	**16**	eP		**Pn**	**22 24 33.4**	**+1.1**
TUMR	**Tumrok**	**1.90**	**16**	PN		**Pn**	**22 24 33.0**	**+0.7**
TUMR				S		**Sn**	**22 24 57.9**	**+0.4**
BDR	**Baidarnaya**	**3.31**	**19**	eP		**Pn**	**22 24 51.5**	**+1.4**
BDR	**Baidarnaya**	**3.31**	**19**	PN		**Pn**	**22 24 51.5**	**+1.4**
SRKR	**Sorokina**	**3.39**	**18**	eP		**Pn**	**22 24 52.4**	**+1.3**
SRKR	**Sorokina**	**3.39**	**18**	PN		**Pn**	**22 24 52.4**	**+1.3**
KBG	**Krutoberegovo**	**3.44**	**34**	eP		**Pn**	**22 24 52.0**	**+0.3**
KBG				eS		**Sn**	**22 25 30.0**	**-2.2**
KBG	**Krutoberegovo**	**3.44**	**34**	PN		**Pn**	**22 24 52.0**	**+0.3**
KBG				S		**Sn**	**22 25 30.0**	**-2.2**
KBTR	**Krutoberegovo**	**3.44**	**35**	eP		**Pn**	**22 24 52.1**	**+0.3**
KBTR	**Krutoberegovo**	**3.44**	**35**	PN		**Pn**	**22 24 52.1**	**+0.3**
BKI	**Bering**	**4.31**	**63**	eP		**Pn**	**22 25 03.1**	**-0.1**
BKI				eS		**Sn**	**22 25 49.6**	**-3.1**
BKI	**Bering**	**4.31**	**63**	PN		**Pn**	**22 25 03.1**	**-0.1**
BKI				S		**Sn**	**22 25 49.6**	**-3.1**
MA2	**Magadan**	**7.71**	**326**	P		**Pn**	**22 25 46.4**	**-2.4**
	0.4nm,0.3s,baz=94,slow=11,SNR=3.7							
KLR	**Kul'dur**	**17.63**	**267**	P		**Pn**	**22 27 56.9**	**+0.2**
	0.1nm,0.3s,baz=63,slow=11,SNR=3.0							
USRK	**Ussuriysk Ar.**	**20.08**	**254**	LR		LR	22 37 32.3	
	comp=Z,32nm,19.1s,baz=340,slow=41							
MJAR	**Matsushiro Arr**	**22.39**	**229**	P		**P**	**22 28 47.6**	**+0.7**
	1.4nm,0.6s,baz=14,slow=10.0,SNR=5.0							
ILAR	**Eielson Array**	**28.92**	**46**	P		**P**	**22 29 45.8**	**+0.1**
	0.6nm,0.7s,baz=268,slow=7.8,SNR=7.8							
SONM	**Songino Array**	**33.32**	**282**	P		**P**	**22 30 22.0**	**-2.6**
	0.2nm,0.5s,baz=55,slow=10.0,SNR=2.6							
INK	**Inuvik**	**33.89**	**38**	P		**P**	**22 30 29.4**	**+0.2**
	0.7nm,0.6s,baz=284,slow=5.7,SNR=6.3							
H11N2	**WAKE ISLAND Hy 34.18**	**167**		T		T	23 06 42.6	
	baz=352,slow=76,SNR=5.6							
H11N3	**WAKE ISLAND Hy 34.20**	**167**		T		T	23 06 48.0	
	baz=352,slow=76,SNR=7.9							
H11N1	**WAKE ISLAND Hy 34.20**	**167**		T		T	23 06 41.6	
	baz=352,slow=76,SNR=7.1							
H11S1	**WAKE ISLAND Hy 35.36**	**168**		T		T	23 08 05.4	
	baz=352							
H11S3	**WAKE ISLAND Hy 35.37**	**168**		T		T	23 08 06.0	
	baz=352,SNR=3.7							
H11S2	**WAKE ISLAND Hy 35.38**	**168**		T		T	23 08 09.3	
	baz=352							
YKA	**Yellowknife Ar**	**43.24**	**43**	P		**P**	**22 31 47.0**	**-0.1**
	0.6nm,0.7s,baz=298,slow=8.1,SNR=7.7							
MKAR	**Makanchi Array**	**47.53**	**295**	P		**P**	**22 32 18.6**	**-2.7**
	0.4nm,0.4s,baz=53,slow=7.0,SNR=13							
NVAR	**Mina Array Bea**	**56.10**	**70**	P		**P**	**22 33 27.4**	**+2.3**
	0.6nm,0.7s,baz=307,slow=6.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**57.76**	**257**	P		**P**	**22 33 38.1**	**+1.4**
	0.3nm,0.5s,baz=27,slow=7.7,SNR=4.4							
TXAR	**Lajitas Array**	**70.96**	**66**	P		**P**	**22 35 04.1**	**+1.3**
	1.0nm,0.6s,baz=296,slow=5.2,SNR=10							
WRA	**Warramunga Arr**	**76.20**	**204**	P		**P**	**22 35 33.1**	**0.0**
	0.8nm,1.2s,baz=20,slow=6.3,SNR=4.4							
ASAR	**Alice Springs**	**79.89**	**203**	P		**P**	**22 35 54.2**	**+0.8**
	0.2nm,0.4s,baz=32,slow=5.5,SNR=3.5							

IDC 07 22:24:03.2±3.4, 30°.25S×177°.86W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/30, mbtmp3.7/2, Error ellipse: s-maj=74.3km s-min=22.4km az=111.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.99**	**357**	Pn		Pn	22 24 25.4	+1.1
	124nm,0.3s,baz=60,slow=23,SNR=6.7							
RAO				Sn		Sn	22 24 38.3	-0.8
	470nm,0.3s,baz=38,slow=23,SNR=14							
ASAR	**Alice Springs**	**43.23**	**267**	P		P	22 32 06.3	-0.1
	0.3nm,0.5s,baz=100,slow=7.2,SNR=4.9							
WRA	**Warramunga Arr**	**44.21**	**272**	P		P	22 32 14.2	-0.1
	0.7nm,0.4s,baz=110,slow=8.1,SNR=14							
FINES	**FINESS Array B**	**145.04**	**340**	PKPbc		PKPbc	22 43 39.7	-1.4
	1.8nm,0.7s,baz=110,slow=2.1,SNR=5.7							

IDC 07 22:25:04.9±2.9, 6°.45S×104°.79E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.4/56, mbtmp3.8/4, ML4.5/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/48, Error ellipse: s-maj=81.1km s-min=42.6km az=10.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LEM	**Lembang**	**2.84**	**98**	Pn		Pn	22 25 53.2	+1.6
	76nm,0.3s,baz=185,slow=16,SNR=63							
LEM				Sn		Sn	22 26 27.9	+1.3
	15nm,0.3s,baz=49,slow=20,SNR=2.9							
LEM				LR		LR	22 27 16.0	
	comp=Z,219nm,21.2s,baz=340,slow=46							
PSI	**Prapat**	**10.90**	**327**	LR		LR	22 32 41.6	
	comp=Z,42nm,19.2s,baz=269,slow=42							
PALK	**Pallekele**	**27.63**	**299**	LR		LR	22 40 41.9	
	comp=Z,59nm,18.3s,baz=117,slow=34							
H01W3	**Cape Leeuwin H**	**29.58**	**164**	T		T	23 01 37.4	
	baz=344,slow=76,SNR=8.1							
H01W1	**Cape Leeuwin H**	**29.59**	**164**	T		T	23 01 38.3	
	baz=344,slow=76,SNR=8.5							
H01W2	**Cape Leeuwin H**	**29.59**	**164**	T		T	23 01 39.1	
	baz=344,slow=76,SNR=10							
WRA	**Warramunga Arr**	**31.67**	**118**	P		P	22 31 29.2	-1.1
	0.4nm,0.4s,baz=296,slow=10.0,SNR=6.9							
H08S2	**Diego Garcia H**	**32.07**	**266**	T		T	23 05 33.1	
	baz=90,slow=76,SNR=13							
H08S3	**Diego Garcia H**	**32.08**	**266**	T		T	23 05 34.2	
	baz=90,slow=76,SNR=11							
H08S1	**Diego Garcia H**	**32.09**	**266**	T		T	23 05 38.5	
	baz=90,slow=76,SNR=14							
ASAR	**Alice Springs**	**32.80**	**125**	P		P	22 31 39.5	-0.7
	0.2nm,0.4s,baz=296,slow=7.1,SNR=4.1							
STKA	**Stephens Creek**	**42.65**	**131**	P		P	22 33 03.9	+0.5
	2.2nm,0.6s,baz=309,slow=10,SNR=7.2							
TXAR	**Lajitas Array**	**144.81**	**46**	PKP		PKPdf	22 44 44.8	0.0
	0.2nm,0.7s,baz=233,slow=0.9,SNR=2.9							

*ISCJB **07** 22:30:00.7±1.1, 43°.44N±0°.07×104°.9W±0°.1, h0km, mb4.7/1, Error ellipse: s-maj=11.8km s-min=9.2km az=37.8*

*IDC **07** 22:30:03.1±2.1, 43°.52N×105°.34W, h0km, mb4.4/1, mb1 4.2/3, mb1mx3.5/49, mbtmp4.0/3, ML3.5/2, Error ellipse: s-maj=47.9km s-min=8.0km az=151.0*

*NEIC **07** 22:30:04.7±0.9, 43°.64N×105°.19W, h0km, ML3.3, Error ellipse: s-maj=16.1km s-min=7.0km az=151.0, Suspected Mining explosion.*

NEIC 77 km [48 miles] SSE of Gillette.

ISC 07 22:30:04.0±1.3, 43°.59N±0°.07×104°.96W±0°.07, h0km, n13, σ1.5°56/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**0.85**	**51**	ePg		**Pn**	**22 30 24.1**	**+0.6**
LAO	**LASA Array**	**3.22**	**344**	ePn		**Pn**	**22 30 56.5**	**+0.6**
RLMT	**Red Lodge**	**3.44**	**298**	ePn		**Pn**	**22 30 56.7**	**-2.4**
BW06	**Boulder Array**	**3.46**	**258**	ePn		**Pn**	**22 30 57.5**	**-1.8**
PDAR	**Pinedale Array**	**3.46**	**258**	Pn		**Pn**	**22 30 57.6**	**-1.7**
	3.6nm,0.3s,baz=79,slow=16,SNR=44							
PDAR				Lg		Lg	22 31 42.2	
	16nm,0.3s,baz=79,slow=30,SNR=9.9							
LKWY	**Lake**	**4.04**	**286**	ePn		**Pn**	**22 31 06.5**	**-0.8**
DGMT	**Dagmar**	**4.91**	**6**	ePn		**Pn**	**22 31 20.0**	**+1.0**
EGMT	**Eagleton

comp=E,38800µm,0.4s
MUCR AML AML
comp=N,62700µm,0.3s
MUCR AML AML
comp=E,38800µm,0.4s
MUCR AML AML
comp=N,62700µm,0.3s
MUCR AML AML
comp=E,38800µm,0.4s
MUCR AML AML
comp=N,62700µm,0.3s
GALF Gagliano Caste 0.29 178 P **Pg 22 37 05.2 -0.7**
GALF S **Sg 22 37 09.2 -0.5**
GALF AML AML
comp=E,62550µm,0.8s
GALF AML AML
comp=N,54550µm,0.5s
GALF AML AML
comp=E,62550µm,0.8s
GALF AML AML
comp=N,54550µm,0.5s
GALF AML AML
comp=E,62550µm,0.8s
GALF AML AML
comp=N,54550µm,0.5s
GALF AML AML
comp=N,54550µm,0.5s
GALF AML AML
comp=E,62550µm,0.8s
CAGR Agira 0.38 186 P **Pg 22 37 07.1 -0.4**
CAGR S **Sg 22 37 13.4 +0.9**
CAGR AML AML
comp=E,37300µm,0.6s
CAGR AML AML
comp=N,34000µm,0.5s
CAGR AML AML
comp=E,37300µm,0.6s
CAGR AML AML
comp=N,34000µm,0.5s
CAGR AML AML
comp=E,37300µm,0.6s
CAGR AML AML
comp=N,34000µm,0.5s
CAGR AML AML
comp=N,34000µm,0.5s
CAGR AML AML
comp=E,37300µm,0.6s
PETRA Petralia Sopra 0.38 245 *i* P **Pg 22 37 06.2 -1.5**
PETRA S **Sg 22 37 12.4 -0.4**
PETRA AML AML
comp=E,19600µm,1.0s
PETRA AML AML
comp=N,18850µm,0.6s
PETRA AML AML
comp=E,19600µm,1.0s
PETRA AML AML
comp=N,18850µm,0.6s
PETRA AML AML
comp=E,19600µm,1.0s
PETRA AML AML
comp=N,18850µm,0.6s
PETRA AML AML
comp=E,19600µm,1.0s
PETRA AML AML
comp=N,18850µm,0.6s
GIB Gibilmanna 0.42 269 P **Pg 22 37 06.8 -1.4**
GIB AML AML
comp=E,11730µm,0.6s
GIB AML AML
comp=N,20250µm,0.8s
GIB AML AML
comp=E,11730µm,0.6s
GIB AML AML
comp=N,20250µm,0.8s
GIB AML AML
comp=E,11730µm,0.6s
GIB AML AML
comp=N,20250µm,0.8s
GIB AML AML
comp=E,11730µm,0.6s
GIB AML AML
comp=N,20250µm,0.8s
ECNV Catenanuova 0.42 163 P **Pg 22 37 08.9 +0.5**
ECNV S **Sg 22 37 15.4 +1.5**
ECNV AML AML
comp=E,19100µm,1.2s
ECNV AML AML
comp=N,23500µm,0.7s
ECNV AML AML
comp=E,19100µm,1.2s
ECNV AML AML
comp=N,23500µm,0.7s
ECNV AML AML
comp=E,19100µm,1.2s
ECNV AML AML
comp=N,23500µm,0.7s
ECNV AML AML
comp=E,19100µm,1.2s
ECNV AML AML
comp=N,23500µm,0.7s
ESLN Serra La Nave 0.45 132 P **Pb 22 37 09.6 -0.6**
ESLN AML AML
comp=E,23100µm,0.7s
ESLN AML AML
comp=N,19550µm,0.9s
ESLN AML AML
comp=E,23100µm,0.7s
ESLN AML AML
comp=N,19550µm,0.9s
ESLN AML AML
comp=N,19550µm,0.9s
ESLN AML AML
comp=E,23100µm,0.7s
VPL Vulcano Piano 0.51 42 P **Pb 22 37 10.3 -0.9**
VPL S **Sb 22 37 19.2 +0.6**
VPL AML AML
comp=E,57450µm,0.5s
VPL AML AML
comp=N,63350µm,0.6s
VPL AML AML
comp=E,57450µm,0.5s
VPL AML AML
comp=N,63350µm,0.6s
VPL AML AML
comp=N,63350µm,0.6s
VPL AML AML
comp=E,57450µm,0.5s
VAE Valguarnera 0.53 192 Pg **Pb 22 37 12.0 +0.5**
comp=E,56nm,0.3s,baz=58,slow=2.8,SNR=67
LLI Lipari 0.54 35 P **Pb 22 37 11.2 -0.5**
LLI AML AML
comp=E,39300µm,0.5s
LLI AML AML
comp=N,47350µm,0.8s
LLI AML AML
comp=E,39300µm,0.5s
LLI AML AML
comp=N,47350µm,0.8s
LLI AML AML
comp=N,47350µm,0.8s
LLI AML AML
comp=E,39300µm,0.5s
MCSR Castroreale 0.55 83 P **Pg 22 37 10.0 -0.8**
MCSR AML AML
comp=E,23000µm,0.3s
MCSR AML AML
comp=N,15950µm,1.2s
MCSR AML AML
comp=E,23000µm,0.3s
MCSR AML AML
comp=N,15950µm,1.2s
MCSR AML AML
comp=E,23000µm,0.3s
MCSR AML AML
comp=N,15950µm,1.2s
IACL Alicudi 0.56 344 P **Pb 22 37 11.4 -0.5**
IACL AML AML
comp=E,10555µm,0.3s
IACL AML AML
comp=N,13050µm,0.8s
IACL AML AML
comp=E,10555µm,0.3s
IACL AML AML
comp=N,13050µm,0.8s
IACL AML AML
comp=E,10555µm,0.3s
IACL AML AML
comp=N,13050µm,0.8s
IFIL Filicudi I Eol 0.56 1 P **Pb 22 37 11.6 -0.5**
IFIL S **Sb 22 37 21.0 +0.8**
IFIL AML AML
comp=E,53400µm,0.8s
IFIL AML AML
comp=N,15100µm,1.4s
IFIL AML AML
comp=E,53400µm,0.8s
IFIL AML AML
comp=N,15100µm,1.4s
IFIL AML AML
comp=E,53400µm,0.8s
IFIL AML AML
comp=N,15100µm,1.4s
MILZ Milazzo 0.60 63 P **Pg 22 37 11.4 -0.2**
MILZ S **Sb 22 37 21.5 +0.3**
MILZ AML AML
comp=E,10850µm,1.0s
MILZ AML AML
comp=N,12300µm,0.5s
MILZ AML AML
comp=E,10850µm,1.0s
MILZ AML AML
comp=N,12300µm,0.5s
MILZ AML AML
comp=E,10850µm,1.0s
MILZ AML AML
comp=N,12300µm,0.5s
MPNC Port Mandanici 0.65 77 P **Pg 22 37 12.1 -0.5**
MPNC S **Sb 22 37 23.3 +0.7**
MPNC AML AML
comp=E,16400µm,0.5s
MPNC AML AML
comp=N,10600µm,0.6s
MPNC AML AML
comp=E,16400µm,0.5s
MPNC AML AML
comp=N,10600µm,0.6s
ALJA Alia 0.68 249 P **Pg 22 37 12.0 -1.2**
ALJA AML AML
comp=E,5610µm,0.5s
ALJA AML AML
comp=N,4600µm,0.5s
ALJA AML AML
comp=E,5610µm,0.5s
ALJA AML AML
comp=N,4600µm,0.5s
ALJA AML AML
comp=N,4600µm,0.5s
ALJA AML AML
comp=E,5610µm,0.5s
RAFF Raffo Rosso 0.79 191 P **Pg 22 37 15.4 +0.1**
RAFF AML AML
comp=E,9310µm,0.9s
RAFF AML AML
comp=N,10025µm,1.0s
RAFF AML AML
comp=N,10025µm,1.0s
RAFF AML AML
comp=E,9310µm,0.9s
MSRU Castanea 0.80 70 P **Pg 22 37 14.9 -0.6**
MSRU S **Sb 22 37 27.3 +0.4**
MSRU AML AML
comp=E,7385µm,0.5s
MSRU AML AML
comp=N,6610µm,0.5s
MSRU AML AML
comp=E,7385µm,0.5s
MSRU AML AML
comp=N,6610µm,0.5s
MSRU AML AML
comp=E,7385µm,0.5s
MSRU AML AML
comp=N,6610µm,0.5s
HCRL Carlentini 0.81 152 P **Pg 22 37 14.7 -1.0**
HCRL AML AML
comp=E,3045µm,1.2s
HCRL AML AML
comp=N,2545µm,0.6s
HCRL AML AML
comp=E,3045µm,1.2s
HCRL AML AML
comp=N,2545µm,0.6s
HCRL AML AML
comp=E,3045µm,1.2s
HCRL AML AML
comp=N,2545µm,0.6s
SOLUN Solunto 0.81 277 P **Pg 22 37 14.2 -1.4**
SOLUN AML AML
comp=E,1405µm,0.5s
SOLUN AML AML
comp=N,1130µm,1.0s
SOLUN AML AML
comp=E,1400µm,0.5s
SOLUN AML AML
comp=N,1130µm,1.0s
SOLUN AML AML
comp=E,1400µm,0.5s
SOLUN AML AML
comp=N,1130µm,1.0s
HVZN Vizzini 0.83 171 P **Pg 22 37 15.0 -1.0**
HVZN AML AML
comp=E,21400µm,1.0s
HVZN AML AML
comp=N,20100µm,0.8s
HVZN AML AML
comp=E,21400µm,1.0s
HVZN AML AML
comp=N,20100µm,0.8s
HVZN AML AML
comp=N,20100µm,0.8s
HVZN AML AML
comp=E,21400µm,1.0s
HAGA Augusta 0.86 146 P **Pg 22 37 15.4 -1.2**
HAGA AML AML
comp=E,6505µm,0.4s
HAGA AML AML
comp=N,3445µm,1.2s
HAGA AML AML
comp=E,6505µm,0.4s
HAGA AML AML
comp=N,3445µm,1.2s
HAGA AML AML
comp=N,3445µm,1.2s
HAGA AML AML
comp=E,6505µm,0.4s
MTTG Motta San Giov 0.90 89 P **Pg 22 37 16.6 -0.8**
MTTG AML AML
comp=E,4720µm,0.6s
MTTG AML AML
comp=N,9135µm,0.5s
MTTG AML AML
comp=E,4720µm,0.6s
MTTG AML AML
comp=N,9135µm,0.5s
MTTG AML AML
comp=E,4720µm,0.6s
MTTG AML AML
comp=N,9135µm,0.5s
AGST Augusta-Monte 0.91 144 P **Pg 22 37 16.3 -1.4**
AGST AML AML
comp=E,4465µm,0.6s
AGST AML AML
comp=N,3145µm,0.8s
AGST AML AML
comp=E,4465µm,0.6s
AGST AML AML
comp=N,3145µm,0.8s
AGST AML AML
comp=E,4465µm,0.6s
AGST AML AML
comp=N,3145µm,0.8s
ISTR Stromboli Gino 0.93 32 P **Pb 22 37 17.9 -0.5**
ISTR AML AML
comp=E,2380µm,0.5s
ISTR AML AML
comp=N,2465µm,0.7s
ISTR AML AML
comp=E,2380µm,0.5s
ISTR AML AML
comp=N,2465µm,0.7s
SSY Sortino 0.94 154 P **Pg 22 37 16.8 -1.3**
SSY AML AML
comp=E,6990µm,0.4s
SSY AML AML
comp=N,9800µm,0.6s
SSY AML AML
comp=E,6990µm,0.4s
SSY AML AML
comp=N,9800µm,0.6s
MEU Monte Lauro 0.94 161 P **Pg 22 37 16.2 -2.0**
MEU AML AML
comp=E,5705µm,0.4s
MEU AML AML
comp=N,6615µm,0.4s
MEU AML AML
comp=E,5705µm,0.4s
MEU AML AML
comp=N,6615µm,0.4s
MEU AML AML
comp=N,6615µm,0.4s
MEU AML AML
comp=E,5705µm,0.4s
CORL Corleone 0.99 264 P **Pg 22 37 17.2 -2.0**
CORL AML AML
comp=E,3905µm,0.6s
CORL AML AML
comp=N,3180µm,0.6s
CORL AML AML
comp=E,3910µm,0.6s
CORL AML AML
comp=N,3180µm,0.6s
CORL AML AML
comp=N,3180µm,0.6s
CORL AML AML
comp=E,3910µm,0.6s
MSCL Scilla 1.00 76 P **Pg 22 37 18.2 -1.2**
MSCL AML AML
comp=E,5100µm,1.3s
MSCL AML AML
comp=N,4930µm,0.6s
MSCL AML AML
comp=E,5100µm,1.3s
MSCL AML AML
comp=N,4930µm,0.6s
MSCL AML AML
comp=E,5100µm,1.3s
MSCL AML AML
comp=N,4930µm,0.6s
FAVR Favara 1.01 224 AML AML
comp=E,2830µm,0.6s
FAVR AML AML
comp=N,3350µm,1.2s
FAVR AML AML
comp=E,2830µm,0.6s
FAVR AML AML
comp=N,3350µm,1.2s
GMB Gambarie 1.02 80 P **Pg 22 37 18.7 -1.0**
GMB AML AML
comp=E,7480µm,0.5s
GMB AML AML
comp=N,12700µm,1.2s
GMB AML AML
comp=N,12700µm,1.2s
GMB AML AML
comp=E,7480µm,0.5s
HMDC Modica 1.05 170 P **Pg 22 37 18.7 -1.7**
HMDC AML AML
comp=E,4395µm,1.1s
HMDC AML AML
comp=N,4325µm,0.5s
HMDC AML AML
comp=E,4395µm,1.1s
HMDC AML AML
comp=N,4325µm,0.5s
CEL Celeste 1.09 76 P **Pg 22 37 19.9 -1.1**
CEL AML AML
comp=E,2045µm,0.6s
CEL AML AML
comp=N,1910µm,0.7s
CEL AML AML
comp=E,2415µm,0.6s
CEL AML AML
comp=N,2340µm,0.7s
CEL AML AML
comp=E,2415µm,0.6s
CEL AML AML
comp=E,2045µm,0.6s
CEL AML AML
comp=N,2340µm,0.7s
CEL AML AML
comp=N,1910µm,0.7s
HAVL Avola 1.13 156 P **Pg 22 37 19.9 -1.9**
HAVL AML AML
comp=E,4580µm,0.8s
HAVL AML AML
comp=N,4920µm,1.0s
HAVL AML AML
comp=E,4580µm,0.8s
HAVL AML AML
comp=N,4920µm,1.0s
CLTB Caltabellotta 1.14 249 P **Pn 22 37 22.4 +0.3**
CLTB AML AML
comp=E,5390µm,0.6s
CLTB AML AML
comp=N,10600µm,0.7s
CLTB AML AML
comp=N,10600µm,0.7s
CLTB AML AML
comp=E,5390µm,0.6s
SOI Samo 1.19 86 P **Pg 22 37 21.4 -1.4**
SOI AML AML
comp=E,3475µm,0.5s
SOI AML AML
comp=N,4680µm,0.6s
SOI AML AML
comp=N,4680µm,0.6s
SOI AML AML
comp=E,3475µm,0.5s
JOPP Joppolo 1.21 60 AML AML
comp=E,1525µm,0.6s
JOPP AML AML
comp=E,1525µm,0.6s
JOPP AML AML
comp=N,1540µm,0.7s
JOPP AML AML
comp=N,1540µm,0.7s
GRI Girifalco 1.68 60 AML AML
comp=E,1585µm,0.5s
GRI AML AML
comp=E,1585µm,0.5s
GRI AML AML
comp=N,1162µm,0.9s
GRI AML AML
comp=N,1162µm,0.9s
CET2 Cetraro 1.88 35 P **Pn 22 37 30.8 -1.5**
CET2 AML AML
comp=E,1600µm,0.8s
CET2 AML AML
comp=N,1480µm,0.7s
CET2 AML AML
comp=N,1480µm,0.7s
CET2 AML AML
comp=E,1600µm,0.8s
CELI Celico 2.08 47 P **Pn 22 37 33.8 -1.3**
CELI AML AML
comp=E,463µm,0.6s
CELI AML AML
comp=N,578µm,1.0s
CELI AML AML
comp=E,1150µm,1.3s
CELI AML AML
comp=N,1425µm,1.0s
CELI AML AML
comp=N,1425µm,1.0s
CELI AML AML
comp=E,1150µm,1.3s
CELI AML AML
comp=E,463µm,0.6s
CELI AML AML
comp=N,578µm,1.0s
TIP Timpagrande 2.09 55 AML AML
comp=E,548µm,1.1s
TIP AML AML
comp=N,554µm,1.5s
TIP AML AML
comp=N,554µm,1.5s
TIP AML AML
comp=E,548µm,1.1s
T0702 Acquaformosa (2.09 34 P **Pn 22 37 34.0 -1.3**
BULG Bulgheria - Ca 2.17 17 P **Pn 22 37 35.0 -1.4**

BULG					AML	AML				
	comp=E,162μm,1.0s									
BULG					AML	AML				
	comp=N,332μm,0.5s									
BULG					AML	AML				
	comp=E,166μm,1.0s									
BULG					AML	AML				
	comp=N,345μm,0.5s									
BULG					AML	AML				
	comp=E,166μm,1.0s									
BULG					AML	AML				
	comp=E,162μm,1.0s									
BULG					AML	AML				
	comp=N,345μm,0.5s									
BULG					AML	AML				
	comp=N,332μm,0.5s									
MMN	**Mormanno**	**2.20**	**30**		AML	AML				
	comp=N,188μm,0.5s									
MMN					AML	AML				
	comp=E,130μm,0.7s									
MMN					AML	AML				
	comp=N,188μm,0.5s									
MMN					AML	AML				
	comp=E,130μm,0.7s									
CUC	**Castrococco**	**2.22**	**26**		P	**Pn**		**22 37 36.0**		**-1.0**
CUC					AML	AML				
	comp=E,338μm,0.6s									
CUC					AML	AML				
	comp=N,248μm,0.7s									
CUC					AML	AML				
	comp=E,422μm,0.6s									
CUC					AML	AML				
	comp=N,290μm,0.7s									
CUC					AML	AML				
	comp=E,422μm,0.6s									
CUC					AML	AML				
	comp=E,338μm,0.6s									
CUC					AML	AML				
	comp=N,248μm,0.7s									
CUC					AML	AML				
	comp=N,290μm,0.7s									
MGR	**Morigerati**	**2.27**	**20**		P	**Pn**		**22 37 36.4**		**-1.4**
MGR					AML	AML				
	comp=E,192μm,1.6s									
MGR					AML	AML				
	comp=N,198μm,0.5s									
MGR					AML	AML				
	comp=N,198μm,0.5s									
MGR					AML	AML				
	comp=E,192μm,1.6s									
SALB	**San Lorenzo Be**	**2.34**	**36**		AML	AML				
	comp=E,440μm,0.9s									
SALB					AML	AML				
	comp=E,440μm,0.9s									
SALB					AML	AML				
	comp=N,380μm,1.0s									
SALB					AML	AML				
	comp=E,476μm,0.9s									
SALB					AML	AML				
	comp=N,380μm,1.1s									
SALB					AML	AML				
	comp=N,380μm,1.0s									
SALB					AML	AML				
	comp=N,380μm,1.1s									
SALB					AML	AML				
	comp=E,476μm,0.9s									
CMPR	**Campora**	**2.39**	**14**		AML	AML				
	comp=E,124μm,0.6s									
CMPR					AML	AML				
	comp=N,126μm,0.8s									
CMPR					AML	AML				
	comp=N,126μm,0.8s									
CMPR					AML	AML				
	comp=E,124μm,0.6s									
MCEL	**Monticello**	**2.52**	**22**		AML	AML				
	comp=E,184μm,1.6s									
MCEL					AML	AML				
	comp=E,200μm,1.6s									
MCEL					AML	AML				
	comp=N,226μm,1.4s									
MCEL					AML	AML				
	comp=N,234μm,1.4s									
MCEL					AML	AML				
	comp=N,226μm,1.4s									
MCEL					AML	AML				
	comp=N,234μm,1.4s									
MCEL					AML	AML				
	comp=E,184μm,1.6s									
MCEL					AML	AML				
	comp=E,200μm,1.6s									
SLCN	**Sala Consilina**	**2.53**	**19**		AML	AML				
	comp=E,365μm,0.6s									
SLCN					AML	AML				
	comp=N,228μm,0.8s									
SLCN					AML	AML				
	comp=N,228μm,0.8s									
SLCN					AML	AML				
	comp=E,365μm,0.6s									
SG1	**Sgolgore (BA)**	**3.28**	**29**	*e*Pn		**Pn**		**22 37 51.9**		**+0.3**
BAI	**Bari**	**3.59**	**29**	*e*Pn		**Pn**		**22 37 56.3**		**+0.6**
KEST	**Kesra**	**4.75**	**243**	Pn		**Pn**		**22 38 12.5**		**+0.7**
	comp=E,1.9nm,0.3s,baz=19,slow=8.7,SNR=44									
KEST				Sn		**Sn**		**22 39 10.6**		**+3.7**
	comp=E,1.2nm,0.3s,baz=21,slow=23,SNR=6.3									
KEST				LR		LR		22 40 01.3		
	comp=E,92nm,18.9s,baz=286,slow=38									
IDI	**Anoyia**	**8.74**	**105**	Sn		**Sn**		**22 40 39.5**		**-5.6**
	comp=E,0.8nm,0.3s,baz=242,slow=18,SNR=4.4									
MOA	**Molln**	**9.85**	**359**	*e*Pn		**Pn**		**22 39 24.7**		**+3.0**
	comp=E,5.0nm,0.8s									
MLR	**Muntele Rosu**	**11.32**	**45**	Pn		**Pn**		**22 39 44.0**		**+1.9**
	comp=E,0.2nm,0.3s,baz=192,slow=7.3,SNR=5.2									
MLR				LR		LR		22 45 02.1		
	comp=E,75nm,18.6s,baz=260,slow=43									
AKASG	**Malin Array Be**	**16.43**	**35**	Pn		**P**		**22 40 53.1**		**-0.3**
	comp=E,0.7nm,0.3s,baz=231,slow=11,SNR=4.0									
HFS	**Hagfors**	**22.16**	**359**	P		**P**		**22 41 56.6**		**+0.7**
	comp=E,4.6nm,1.1s,baz=141,slow=9.3,SNR=5.2									
HFS				LR		LR		22 51 48.4		
	comp=E,74nm,18.3s,baz=245,slow=40									
FINES	**FINESS Array B**	**24.55**	**13**	P		**P**		**22 42 18.7**		**-1.0**
	comp=E,6.4nm,0.9s,baz=190,slow=7.7,SNR=14									
MKAR	**Makanchi Array**	**49.38**	**57**	P		**P**		**22 45 49.8**		**+0.1**
	comp=E,0.3nm,0.5s,baz=280,slow=7.3,SNR=6.5									
YKA	**Yellowknife Ar**	**71.86**	**338**	P		**P**		**22 48 24.6**		**+1.8**
	comp=E,0.2nm,0.5s,baz=59,slow=6.9,SNR=4.5									

TAP 07 22:39:51.8, 23.31N×121.51E, h47km±1km, ML1.8, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli**	**0.20**	**283**	P	Pn	22 40 00.3	+0.4
	baz=282						
TWF1				*e*S	Sn	22 40 06.2	+0.7
	baz=282						
HGSD	**Ruisui**	**0.20**	**338**	P	Pn	22 39 59.9	+0.1
	baz=337						
HGSD				*e*S	Sn	22 40 06.4	+0.9
	baz=337						
YULB	**Yu-li**	**0.21**	**294**	P	Pn	22 39 59.9	0.0
	baz=293						
YULB				*e*S	Sn	22 40 05.8	+0.2
	baz=293						
FULB	**Fuli**	**0.22**	**241**	*e*S	Sn	22 40 07.0	+1.1
	baz=240						
ELDTW	**Lidau**	**0.46**	**255**	*e*P	Pn	22 40 03.1	+0.5
	baz=254						
ELDTW				*e*S	Sn	22 40 11.3	+1.0
	baz=254						
ESL	**Shilin**	**0.51**	**353**	*e*P	Pn	22 40 03.5	+0.5
	baz=353						
ESL				*e*S	Sn	22 40 12.2	+1.2
	baz=353						
YUS	**Yu-Shan**	**0.54**	**290**	P	Pn	22 40 04.0	+0.1
	baz=288						
YUS				*e*S	Sn	22 40 12.7	+0.2
	baz=288						
ENLB	**Shoufeng**	**0.60**	**9**	*e*S	Sn	22 40 13.7	+0.7
	baz=8.0						
ALS	**Alishan**	**0.67**	**287**	*e*P	Pn	22 40 05.6	+0.2
	baz=287						
ALS				*e*S	Sn	22 40 15.5	+0.4
	baz=287						

*IDC **07** 22:44:36.9±1.3, 12.89N×88.40W, h0km, mb4.1/9,*

mb1 4.3/12, mb1mx4.0/37, mbtmp4.0/12, ML3.3/4, MS3.8/12, Ms1 3.8/12, ms1mx3.5/28, Error ellipse: s-maj=37.9km s-min=20.1km az=37.0

*UCR **07** 22:44:36.2±1.4, 12.23N×88.92W, h19km±5km, ML3.8, mb4.4(NEIC)*

*NEIC **07** 22:44:40.6±0.6, 12.64N×88.58W, h35km, mb4.4/6, Error ellipse: s-maj=16.2km s-min=8.1km az=39.0*

ISC 07 22:44:39.4±0.7, 12.36N±0.06×88.78W±0.06, h35km, n267, σ1s62/256, mb4.3/16, MS3.9/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**1.16**	**24**	*e*P	**Pn**	**22 44 59.6**	**+0.3**
TECA	**Tecapa**	**1.16**	**14**	*e*P	**Pn**	**22 44 59.2**	**-0.1**
VSM	**San Miguel**	**1.17**	**25**	*e*P	**Pn**	**22 45 00.2**	**+0.6**
BLLM	**Bellamira**	**1.20**	**26**	*e*P	**Pn**	**22 44 60.0**	**+0.2**
SNVI	**San Vicente**	**1.24**	**357**	*e*P	**Pn**	**22 45 00.6**	**+0.1**
LCND	**La Caada**	**1.28**	**43**	*e*P	**Pn**	**22 45 00.6**	**-0.3**
LCND				IAML		22 45 25.9	
	comp=Z,1μm,0.4s						
LFRS	**El Faro**	**1.28**	**348**	*e*P	**Pn**	**22 45 00.2**	**-0.8**
CNCH	**Conchagua**	**1.30**	**45**	*e*P	**Pn**	**22 45 01.7**	**+0.5**
PAVA	**Las Pavas**	**1.35**	**354**	*e*P	**Pn**	**22 45 01.3**	**-0.7**
PAVA				*e*S	**Sn**	**22 45 21.7**	**+3.0**
PAVA				IAML		22 45 25.3	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**1.39**	**342**	*e*P	**Pn**	**22 45 02.0**	**-0.4**
SNET				*e*S	**Sn**	**22 45 21.5**	**+1.9**
SNET				IAML		22 45 25.6	
	comp=Z,2μm,0.3s						
LFU	**La Fuente**	**1.42**	**347**	*e*P	**Pn**	**22 45 02.2**	**-0.5**
LFU				*e*S	**Sn**	**22 45 22.4**	**+2.1**
CUSC	**San Salvador**	**1.42**	**344**	*e*P	**Pn**	**22 45 02.9**	**+0.1**
BOQS	**Boqueron**	**1.45**	**340**	*e*P	**Pn**	**22 45 02.9**	**-0.4**
CAHU	**Cacacuatique**	**1.51**	**22**	*e*P	**Pn**	**22 45 04.7**	**+0.6**
VICT	**Victoria**	**1.59**	**5**	*e*P	**Pn**	**22 45 05.8**	**+0.6**
VICT				*e*S	**Sn**	**22 45 29.2**	**+4.5**
VICT				IAML		22 45 35.7	
	comp=Z,1μm,0.5s						
CEVE	**Cerro Verde**	**1.67**	**331**	*e*P	**Pn**	**22 45 05.9**	**-0.5**
CEVE				IAML		22 45 40.2	
	comp=Z,2μm,0.4s						
SBLS	**San Blas**	**1.68**	**331**	*e*P	**Pn**	**22 45 05.5**	**-1.0**
SNJE	**San Jose**	**1.70**	**332**	*e*P	**Pn**	**22 45 06.3**	**-0.5**
CRIN	**San Cristobal**	**1.72**	**79**	*e*P	**Pn**	**22 45 07.5**	**+0.5**
TEL3	**Telica 3**	**1.90**	**84**	*e*P	**Pn**	**22 45 09.6**	**+0.1**
CNGN	**Cerro Negro**	**2.04**	**86**	*e*P	**Pn**	**22 45 10.7**	**-0.6**
COPN	**Copaltepe**	**2.15**	**95**	*e*P	**Pn**	**22 45 12.3**	**-0.5**
MOMN	**Momotombo**	**2.19**	**89**	*e*P	**Pn**	**22 45 12.8**	**-0.7**
TGUH	**Tegucigalpa,Un**	**2.23**	**41**	*e*P	**Pn**	**22 45 15.0**	**+1.0**
MATN	**Matagalpa**	**2.84**	**78**	*e*P	**Pn**	**22 45 22.7**	**+0.3**
APG	**El Apazote**	**3.09**	**328**	Pn	**Pn**	**22 45 26.7**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=170,slow=5.7,SNR=9.5						
CONN	**Concepcion**	**3.19**	**104**	*e*P	**Pn**	**22 45 26.5**	**-0.7**
JTS	**JuntasAbangare**	**4.28**	**118**	Pn	**Pn**	**22 45 43.8**	**+1.6**
	comp=Z,5.4nm,0.3s,baz=10,slow=19,SNR=11						
JTS				Sn	**Sn**	**22 46 27.9**	**-3.1**
	comp=Z,9.9nm,0.3s,baz=314,slow=23,SNR=6.1						
JTS				LR	LR	22 47 43.5	
	comp=Z,519nm,20.6s,baz=20,slow=44						
JTS	**JuntasAbangare**	**4.28**	**118**	*e*P	**Pn**	**22 45 42.8**	**+0.6**
ARE1	**Arenal 1**	**4.41**	**115**	*e*P	**Pn**	**22 45 44.7**	**+0.7**
LCR2	**La Lucha 2**	**5.37**	**119**	*e*P	**Pn**	**22 45 59.5**	**+2.2**
CMIG	**Matias Romero**	**7.54**	**309**	Pn	**Pn**	**22 46 27.0**	**0.0**
	comp=Z,0.9nm,0.3s,baz=134,slow=7.4,SNR=9.3						
062Z	**Marathon**	**14.31**	**30**	P	**P**	**22 48 02.2**	**-4.0**
	baz=212						
ROSC	**El Rosal**	**16.13**	**116**	LR	LR	22 54 34.2	
	comp=Z,108nm,19.2s,baz=336,slow=37						
757A	**Oxford**	**17.64**	**20**	P	**P**	**22 48 43.7**	**+0.5**
	baz=202						
552A	**Lynn Haven**	**17.98**	**10**	P	**P**	**22 48 49.9**	**+3.0**
	baz=191						
SDV	**Santo Domingo**	**18.17**	**99**	P	**P**	**22 48 49.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=248,slow=5.7,SNR=5.0						
553A	**Crawfordville**	**18.19**	**12**	P	**P**	**22 48 51.9**	**+2.6**
	baz=193						
555A	**McAlpin**	**18.48**	**16**	P	**Pn**	**22 48 54.7**	**+2.0**
	baz=198						
452A	**Marianna**	**18.70**	**10**	P	**Pn**	**22 48 56.5**	**+1.1**
	baz=190						
833A	**Chaparral WMA,**	**18.72**	**330**	P	**Pn**	**22 48 56.1**	**+0.4**
	baz=145						
454A	**Quitman**	**18.88**	**14**	P	**Pn**	**22 48 59.2**	**+1.7**
	baz=195						
349A	**Repton**	**18.95**	**4**	P	**Pn**	**22 49 00.1**	**+1.6**
	baz=184						
352A	**Blakely**	**19.35**	**10**	P	**Pn**	**22 49 04.0**	**+0.7**
	baz=191						
353A	**Camilla**	**19.36**	**12**	P	**Pn**	**22 49 03.9**	**+0.6**
	baz=193						
249A	**Camden**	**19.58**	**4**	P	**Pn**	**22 49 06.0**	**0.0**
	baz=184						
TIGA	**Tifton**	**19.58**	**13**	P	**Pn**	**22 49 06.0**	**0.0**
	baz=195						
355A	**Pearson**	**19.67**	**15**	P	**Pn**	**22 49 06.6**	**-0.4**
	baz=197						
251A	**Midway**	**19.88**	**8**	P	**Pn**	**22 49 09.5**	**-0.1**
	baz=189						
252A	**Lumpkin**	**19.89**	**10**	P	**Pn**	**22 49 09.5**	**-0.2**
	baz=191						
435B	**Jarrell**	**20.06**	**337**	P	**Pn**	**22 49 10.6**	**-1.1**
	baz=153						
254A	**Abbeville**	**20.14**	**14**	P	Pn	22 49 11.8	-0.8
	baz=195						
145A	**Houston Renfro**	**20.17**	**357**	P	Pn	22 49 13.2	+0.2
	baz=176						
147A	**Livingston**	**20.22**	**1**	P	Pn	22 49 13.2	-0.3
	baz=181						
149A	**Jones**	**20.22**	**5**	P	Pn	22 49 13.1	-0.5
	baz=185						
150A	**Eclectic**	**20.31**	**7**	P	Pn	22 49 14.1	-0.5
	baz=187						
255A	**Hazlehurst**	**20.32**	**16**	P	**P**	**22 49 12.8**	**+0.3**
	baz=198						
151A	**Opelika**	**20.32**	**8**	P	Pn	22 49 13.4	-1.3
	baz=189,SNR=7.1						
152A	**Waverly Hall**	**20.55**	**10**	P	Pn	22 49 16.5	-0.9
	baz=191						
LRAL	**Lakeview Retre**	**20.64**	**4**	P	Pn	22 49 17.5	-0.9
	baz=184						
JCT	**Junction City**	**20.71**	**332**	*e*P	**P**	**22 49 16.6**	**-0.3**
	comp=Z,13nm,0.6s						
JCT	**Junction City**	**20.71**	**332**	P	**P**	**22 49 16.6**	**-0.3**
	baz=147,SNR=6.2						
Z49A	**Columbiana**	**20.84**	**5**	P	Pn	22 49 20.0	-0.7
	baz=186						
Z50A	**Ashland**	**20.96**	**7**	P	Pn	22 49 21.2	-1.0
	baz=187						
155A	**Kite**	**20.98**	**15**	P	Pn	22 49 20.4	-2.0
	baz=197						
WHTX	**Lake Whitney,**	**21.10**	**339**	P	**P**	**22 49 21.4**	**+0.4**
	baz=155						
Z52A	**Williamson**	**21.11**	**10**	P	**P**	**22 49 22.1**	**+1.0**
	baz=192						
Z53A	**Monticello**	**21.36**	**12**	P	**P**	**22 49 24.2**	**+0.4**
	baz=194						
157A	**Early Branch**	**21.44**	**18**	P	**P**	**22 49 25.3**	**+0.6**
	baz=201						
Z54A	**Sparta**	**21.48**	**14**	P	**P**	**22 49 25.1**	**+0.1**
	baz=196						
Y48A	**Jasper**	**21.50**	**4**	P	**P**	**22 49 26.2**	**+0.9**
	baz=184						
Y49A	**Blount Mountai**	**21.51**	**5**	P	**P**	**22 49 26.4**	**+1.0**
	baz=186						
GOGA	**Godfrey**	**21.51**	**12**	P	**P**	**22 49 22.0**	**-3.3**
	comp=Z,6.1nm,0.6s						
GOGA	**Godfrey**	**21.51**	**12**	P	**P**	**22 49 26.2**	**+0.9**
	baz=194						
Y51A	**Rockmart**	**21.70**	**8**	P	**P**	**22 49 28.3**	**+0.8**
	baz=189,SNR=6.1						
Y52A	**Lilburn**	**21.83**	**11**	P	**P**	**22 49 29.3**	**+0.5**
	baz=192						
TXAR	**Lajitas Array**	**21.84**	**323**	P	**P**	**22 49 29.9**	**+0.9**
	comp=Z,4.9nm,0.7s,baz=148,slow=11,SNR=51						
TXAR				S	**S**	**22 53 21.2**	**-7.4**
	comp=Z,0.4nm,0.6s,baz=119,slow=7.3,SNR=4.2						
TXAR				ScP	**ScP**	**22 57 10.0**	**+7.1**
	comp=Z,0.3nm,0.9s,baz=159,slow=5.4,SNR=3.6						
Y53A	**Monroe**	**21.91**	**12**	P	**P**	**22 49 31.1**	**+1.4**
	baz=193						
Z56A	**Williston**	**21.94**	**17**	P	**P**	**22 49 30.7**	**+0.7**
	baz=199						
X48A	**Hartselle**	**22.05**	**4**	P	**P**	**22 49 32.0**	**+0.9**
	baz=184						
X47A	**Russelville**	**22.07**	**2**	P	**P**	**22 49 32.2**	**+0.8**
	baz=182,SNR=5.8						
X46A	**Booneville**	**22.09**	**0**	P	**P**	**22 49 32.6**	**+1.0**
	baz=180						
NHSC	**New Hope**	**22.10**	**19**	P	**P**	**22 49 31.3**	**-0.3**
	baz=202						
Y54A	**Tignall**	**22.11**	**14**	P	**P**	**22 49 32.1**	**+0.2**
	baz=196						
X49A	**Woodville**	**22.16**	**5**	P	**P**	**22 49 33.0**	**+0.6**
	baz=186						
X50B	**Fort Payne**	**22.18**	**7**	P	**P**	**22 49 33.1**	**+0.5**
	baz=188						
X40A	**Basin Creek Fa**	**22.33**	**351**	P	**P**	**22 49 34.1**	**0.0**
	baz=169						
Y55A	**Saluda**	**22.39**	**15**	P	**P**	**22 49 34.7**	**-0.1**
	baz=198						
ABTX	**Abilene, Hawle**	**22.49**	**335**	P	**P**	**22 49 35.3**	**-0.7**
	baz=151						
MIAR	**Mount Ida**	**22.51**	**350**	*e*P	**P**	**22 49 35.3**	**-0.8**
	comp=Z,36nm,1.1s						
MIAR	**Mount Ida**	**22.51**	**350**	P	**P**	**22 49 36.3**	**+0.2**
	baz=167,SNR=15						
X52A	**Dahlonega**	**22.58**	**11**	P	**P**	**22 49 36.5**	**-0.4**
	baz=192						
X53A	**Estanollee**	**22.60**	**12**	P	**P**	**22 49 36.6**	**-0.4**
	baz=194						
W46A	**Michie**	**22.67**	**1**	P	**P**	**22 49 38.0**	**+0.2**
	baz=180						
W48A	**Pulaski**	**22.74**	**4**	P	**P**	**22 49 38.2**	**-0.3**
	baz=184						
W49A	**Belvidere**	**22.77**	**5**	P	**P**	**22 49 38.3**	**-0.5**
	baz=186						
W47A	**Westpoint**	**22.81**	**3**	P	**P**	**22 49 39.3**	**0.0**
	baz=182,SNR=6.0						
X54A	**Belton**	**22.84**	**14**	P	**P**	**22 49 40.1**	**+0.6**
	baz=196						
W41B	**Gary Mavity, V**	**22.93**	**353**	P	**P**	**22 49 40.9**	**+0.5**
	baz=171						
X55A	**Gracelyn & Ava**	**22.95**	**15**	P	**P**	**22 49 40.8**	**+0.1**
	baz=198						
W50A	**Signal Mountai**	**22.95**	**7**	P	**P**	**22 49 40.4**	**-0.4**
	baz=188						
W51A	**Cleveland**	**22.99**	**8**	P	**P**	**22 49 40.6**	**-0.5**
	baz=190						
X56A	**White Oak**	**23.13**	**16**	P	**P**	**22 49 41.6**	**-1.0**
	baz=199						
W39A	**Magazine**	**23.18**	**350**	P	**P**	**22 49 43.0**	**0.0**
	baz=167,SNR=7.3						
W53A	**Cullowhee**	**23.27**	**12**	P	**P**	**22 49 43.9**	**-0.1**
	baz=194						
V48A	**Smith Brothers**	**23.34**	**4**	P	**P**	**22 49 44.6**	**0.0**
	baz=184						
V47A	**Nunnelly**	**23.39**	**3**	P	**P**	**22 49 44.6**	**-0.5**
	baz=183						
W54A	**Cherokee Point**	**23.40**	**14**	P	**P**	**22 49 44.8**	**-0.5**
	baz=196						
V50A	**Pikeville**	**23.44**	**8**	P	**P**	**22 49 44.8**	**-0.8**
	baz=189						
V49A	**McMinnville**	**23.45**	**6**	P	**P**	**22 49 44.9**	**-0.7**
	baz=187						
TKL	**Tuckaleechee C**	**23.63**	**10**	P	**P**	**22 49 46.8**	**-0.7**
	comp=Z,7.7nm,0.8s,baz=182,slow=10,SNR=12						
KMSC	**Kings Mountain**	**23.66**	**15**	P	**P**	**22 49 46.5**	**-1.3**
	baz=198						
WVT	**Waverly**	**23.68**	**2**	P	**P**	**22 49 47.5**	**-0.4**
	baz=182						
V53A	**Saluda**	**23.82**	**12**	P	**P**	**22 49 49.2**	**-0.1**
	baz=194						
V52A	**Sevierville**	**23.84**	**10**	P	**P**	**22 49 49.0**	**-0.4**
	baz=192						
U42A	**Revenden**	**23.99**	**355**	P	**P**	**22 49 50.2**	**-0.6**
	baz=174,SNR=6.4						
U47A	**Clarksville**	**24.01**	**3**	P	**P**	**22 49 50.2**	**-0.8**
	baz=183						
U41A	**Viola**	**24.04**	**354**	P	**P**	**22 49 50.6**	**-0.7**
	baz=172,SNR=6.3						
WMOK	**Wichita Mounta**	**24.05**	**339**	P	**P**	**22 49 50.3**	**-1.1**
	baz=155						
V54A	**Nebo**	**24.12**	**14**	P	**P**	**22 49 51.3**	**-0.7**
	baz=196						
U48A	**Cassie Pea, Po**	**24.13**	**4**	P	**P**	**22 49 50.8**	**-1.2**
	baz=185						
U40A	**Yellville**	**24.17**	**352**	P	**P**	**22 49 52.3**	**-0.2**
	baz=170,SNR=17						
U49A	**Red Boiling Sp**	**24.20**	**6**	P	**P**	**22 49 51.7**	**-1.0**
	baz=187						
U50A	**Jamestown**	**24.21**	**8**	P	**P**	**22 49 51.1**	**-1.8**
	baz=189						
TUL1	**Leonard**	**24.28**	**346**	P	**P**	**22 49 51.4**	**-2.1**
	baz=163						
U51A	**La Follette**	**24.30**	**9**	P	**P**	**22 49 51.6**	**-2.1**
	baz=191						
V55A	**Taylorsville**	**24.36**	**15**	P	**P**	**22 49 51.5**	**-2.7**
	baz=198						
U53A	**Fall Branch**	**24.54**	**12**	P	**P**	**22 49 53.8**	**-2.1**
	baz=194						
T47A	**Sharon Grove**	**24.57**	**3**	P	**P**	**22 49 54.6**	**-1.5**
	baz=184,SNR=7.5						
MNTX	**Cornudas Mount**	**24.58**	**324**	*e*P	**P**	**22 49 56.2**	**-0.1**
	comp=Z,18nm,1.8s						
T46A	**Princeton**	**24.59**	**2**	P	**P**	**22 49 54.9**	**-1.4**
	baz=182						
T42A	**Van Buren**	**24.65**	**356**	P	**P**	**22 49 55.8**	**-1.0**
	baz=174						
T43A	**Greenville**	**24.65**	**357**	P	**P**	**22 49 56.3**	**-0.5**
	baz=176,SNR=6.2						
T41A	**Mountain View**	**24.72**	**354**	P	**P**	**22 49 57.0**	**-0.5**
	baz=172,SNR=6.6						
T50A	**Nancy**	**24.81**	**8**	P	**P**	**22 49 57.1**	**-1.2**
	baz=189						
T49A	**Edmonton**	**24.81**	**6**	P	**P**	**22 49 57.5**	**-0.8**
	baz=187						
T51A	**Gray**	**24.88**	**9**	P	**P**	**22 49 58.0**	**-0.9**
	baz=191						
MSTX	**Muleshoe**	**25.00**	**332**	P	**P**	**22 49 58.3**	**-1.9**
	baz=145						
U55A	**TA2, Sparta**	**25.02**	**15**	P	**P**	**22 49 59.1**	**-1.2**
	baz=198						
S43A	**Fulton Ridge,**	**25.13**	**358**	P	**P**	**22 50 00.4**	**-0.8**
	baz=177						
T53A	**Wise**	**25.15**	**12**	P	**P**	**22 50 00.4**	**-1.0**
	baz=194						
S44A	**Carbondale**	**25.23**	**359**	P	**P**	**22 50 00.7**	**-1.3**
	baz=178						
S46A	**Don Dixon Farm**	**25.23**	**2**	P	**P**	**22 50 00.4**	**-1.7**
	baz=182						
S41A	**Jillco Farms,**	**25.26**	**354**	P	**P**	**22 50 01.8**	**-0.6**
	baz=173,SNR=5.3						
AMTX	**Amarillo**	**25.29**	**335**	P	**P**	**22 50 01.4**	**-1.4**
	baz=149						
S48A	**Wiedeman Farm,**	**25.31**	**5**	P	**P**	**22 50 01.3**	**-1.5**
	baz=186						
S42A	**Caledonia**	**25.36**	**356**	P	**P**	**22 50 02.1**	**-1.2**
	baz=175						
S50A	**Richmond**	**25.51**	**8**	P	**P**	**22 50 02.4**	**-2.3**
	baz=190						
CCM	**Cathedral Cave**	**25.68**	**356**	*e*P	**P**	**22 50 05.3**	**-0.9**
	comp=Z,110nm,0.6s						
CCM	**Cathedral Cave**	**25.68**	**356**	P	**P**	**22 50 05.3**	**-0.9**
	baz=174						
R46A	**Gibon Southern**	**25.77**	**2**	P	**P**	**22 50 05.1**	**-1.9**
	baz=182						
R44A	**Waltonville**	**25.78**	**359**	P	**P**	**22 50 06.0**	**-1.0**
	baz=179						
R45A	**Skylar, Fairfi**	**25.83**	**1**	P	**P**	**22 50 06.4**	**-1.0**
	baz=181						
WCI	**Wyandotte Cave**	**25.86**

P41A	**Barry, Barry**	**27.28**	**356**	P		**P**	**22 50 19.7**	**-0.9**
	baz=175								
Q54A	**Coxs Mills**	**27.44**	**14**	P		**P**	**22 50 20.9**	**-1.1**
	baz=197								
O45A	**Potomac**	**27.79**	**2**	P		**P**	**22 50 24.0**	**-1.2**
	baz=182								
P52A	**Corning**	**27.79**	**11**	P		**P**	**22 50 24.3**	**-0.9**
	baz=194								
P53A	**Whipple**	**27.80**	**12**	P		**P**	**22 50 24.6**	**-0.6**
	baz=195								
O47A	**Sheridan**	**27.86**	**4**	P		**P**	**22 50 23.9**	**-1.8**
	baz=185								
O50A	**Cable**	**28.05**	**8**	P		**P**	**22 50 26.0**	**-1.5**
	baz=190								
O51A	**Pataskala**	**28.21**	**10**	P		**P**	**22 50 26.9**	**-2.0**
	baz=192								
ACSO	**Alum Creek Sta**	**28.23**	**9**	P		**P**	**22 50 27.9**	**-1.2**
	baz=192								
N43A	**Stutzman Famil**	**28.47**	**359**	P		**P**	**22 50 30.1**	**-1.1**
	baz=179								
O54A	**Avella**	**28.68**	**13**	P		**P**	**22 50 31.5**	**-1.6**
	baz=197								
N50A	**Nevada**	**28.73**	**9**	P		**P**	**22 50 32.5**	**-1.0**
	baz=191								
N52A	**McGinn's Farm,**	**29.02**	**11**	P		**P**	**22 50 34.3**	**-1.7**
	baz=194								
M39A	**Webster**	**29.16**	**355**	P		**P**	**22 50 36.1**	**-1.2**
	baz=173								
M50A	**Fremont**	**29.36**	**9**	P		**P**	**22 50 37.6**	**-1.5**
	baz=191								
N54A	**Moraine State**	**29.52**	**14**	P		**P**	**22 50 38.5**	**-2.0**
	baz=197								
L42A	**Oliver, Polo**	**29.54**	**359**	P		**P**	**22 50 39.5**	**-1.2**
	baz=178								
L41A	**Preston**	**29.64**	**357**	P		**P**	**22 50 39.8**	**-1.8**
	baz=176								
L40A	**Anamosa**	**29.66**	**356**	P		**P**	**22 50 41.2**	**-0.6**
	baz=175								
L47A	**Sherwood**	**29.67**	**5**	P		**P**	**22 50 40.0**	**-1.8**
	baz=187								
PLIO	**Pelee Island,**	**29.77**	**9**	P		**P**	**22 50 41.2**	**-1.5**
	baz=192								
L39A	**Vinton**	**29.78**	**355**	P		**P**	**22 50 41.6**	**-1.2**
	baz=173								
K41A	**Shullsburg**	**30.16**	**358**	P		**P**	**22 50 45.2**	**-1.0**
	baz=177								
K40A	**Colesburg**	**30.29**	**357**	P		**P**	**22 50 46.6**	**-0.8**
	baz=175								
K39A	**Oelwein**	**30.35**	**355**	P		**P**	**22 50 46.9**	**-0.9**
	baz=174,SNR=6.3								
JFWS	**Jewell Farm**	**30.47**	**358**	P		**P**	**22 50 47.0**	**-1.9**
	baz=177								
K49A	**Clarkson**	**30.66**	**8**	P		**P**	**22 50 49.1**	**-1.5**
	baz=190								
J42A	**Columbus**	**30.84**	**360**	P		**P**	**22 50 50.3**	**-1.9**
	baz=179								
J41A	**Loganville**	**30.91**	**358**	P		**P**	**22 50 51.4**	**-1.4**
	baz=177								
J39A	**Decorah**	**30.96**	**356**	P		**P**	**22 50 51.8**	**-1.5**
	baz=174								
J40A	**Soldiers Grove**	**30.97**	**357**	P		**P**	**22 50 52.5**	**-0.8**
	baz=176								
J48A	**Bridge Port**	**31.13**	**7**	P		**P**	**22 50 53.6**	**-1.1**
	baz=191								
J49A	**Marlette**	**31.27**	**8**	P		**P**	**22 50 53.5**	**-2.4**
	baz=190								
I43A	**Langenfeld Bro**	**31.41**	**1**	P		**P**	**22 50 55.0**	**-2.2**
	baz=181								
I42A	**Draeger Farm,**	**31.42**	**360**	P		**P**	**22 50 55.4**	**-1.9**
	baz=179								
I40A	**Norwalk**	**31.46**	**357**	P		**P**	**22 50 56.2**	**-1.4**
	baz=176								
I39A	**Houston**	**31.47**	**356**	P		**P**	**22 50 55.9**	**-1.8**
	baz=174								
I41A	**Arkdale**	**31.60**	**359**	P		**P**	**22 50 57.4**	**-1.4**
	baz=178								
ECSD	**EROS Data Cent**	**31.98**	**349**	P		**P**	**22 51 00.7**	**-1.6**
	baz=165								
H41A	**Junction City**	**32.15**	**359**	P		**P**	**22 51 01.9**	**-1.8**
	baz=178								
H40A	**Chili**	**32.18**	**358**	P		**P**	**22 51 01.7**	**-2.2**
	baz=177								
H39A	**Augusta**	**32.28**	**357**	P		**P**	**22 51 03.2**	**-1.6**
	baz=175								
BWLO	**Walkerton**	**32.32**	**10**	P		**P**	**22 51 03.0**	**-2.1**
	baz=194								
H38A	**Maiden Rock**	**32.34**	**355**	P		**P**	**22 51 03.4**	**-2.0**
	baz=173								
MONP2	**Monument Peak**	**32.51**	**313**	P		P	22 51 01.0	-6.4
	baz=122								
O20A	**White River Ci**	**32.55**	**332**	P		**P**	**22 51 03.5**	**-4.0**
	baz=142								
H48A	**Harrisville**	**32.56**	**7**	P		**P**	**22 51 05.2**	**-2.1**
	baz=190								
G45A	**Suttons Bay**	**32.67**	**4**	P		**P**	**22 51 07.0**	**-1.2**
	baz=185								
WLVO	**Wesleyville**	**32.70**	**14**	P		**P**	**22 51 06.7**	**-1.8**
	baz=199								
G42A	**Mountain**	**32.77**	**0**	P		**P**	**22 51 07.2**	**-1.9**
	baz=180								
G43A	**Wallace**	**32.80**	**1**	P		**P**	**22 51 07.0**	**-2.3**
	baz=182								
G38A	**Ridgeland**	**32.80**	**356**	P		**P**	**22 51 07.9**	**-1.5**
	baz=174								
G40A	**Rib Lake**	**32.81**	**358**	P		**P**	**22 51 08.0**	**-1.5**
	baz=177								
G39A	**Holcombe**	**32.88**	**357**	P		**P**	**22 51 08.7**	**-1.3**
	baz=175,SNR=6.2								
SPMN	**Marine on St.**	**32.93**	**355**	P		**P**	**22 51 09.2**	**-1.3**
	baz=172,SNR=7.5								
F41A	**Three Lakes**	**33.27**	**360**	P		**P**	**22 51 12.0**	**-1.5**
	baz=179								
SADO	**Sadowa**	**33.33**	**13**	P		**P**	**22 51 11.5**	**-2.5**
	comp=Z,5.2nm,0.9s,baz=233,slow=3.6,SNR=4.9								
F43A	**Flat Rock, Esc**	**33.38**	**2**	P		**P**	**22 51 12.1**	**-2.3**
	baz=182								
F37A	**Hinrichs Farm,**	**33.41**	**355**	P		**P**	**22 51 13.7**	**-1.0**
	baz=173								
F40A	**Park Falls**	**33.46**	**358**	P		**P**	**22 51 13.2**	**-1.9**
	baz=177								
F39A	**Loretta**	**33.49**	**357**	P		**P**	**22 51 13.5**	**-1.9**
	baz=176								
F44A	**Big Bay de Noc**	**33.56**	**3**	P		**P**	**22 51 14.7**	**-1.2**
	baz=184								
F38A	**Pierce - Schro**	**33.59**	**356**	P		**P**	**22 51 14.9**	**-1.3**
	baz=174,SNR=8.1								
KLBO	**Killbear Provi**	**33.68**	**11**	P		**P**	**22 51 15.5**	**-1.6**
	baz=195								
F48A	**Evansville**	**33.76**	**8**	P		**P**	**22 51 16.3**	**-1.4**
	baz=191								
H56A	**Elgin**	**33.87**	**16**	P		**P**	**22 51 16.3**	**-2.3**
	baz=202								
BUKO	**Buck Lake**	**33.92**	**12**	P		**P**	**22 51 16.7**	**-2.4**
	baz=196								
E43A	**Lone Tree Farm**	**33.93**	**2**	P		**P**	**22 51 18.0**	**-1.2**
	baz=183								
E39A	**Mellen**	**33.94**	**358**	P		**P**	**22 51 18.2**	**-1.1**
	baz=176,SNR=5.8								
E40A	**Wakefield**	**33.98**	**359**	P		**P**	**22 51 17.9**	**-1.8**
	baz=178								
E38A	**The Farm, Brul**	**34.21**	**357**	P		**P**	**22 51 20.4**	**-1.2**
	baz=175								
E47A	**Iron Bridge**	**34.30**	**7**	P		**P**	**22 51 20.6**	**-1.8**
	baz=189								
G55A	**Calabogie**	**34.36**	**15**	P		**P**	**22 51 20.9**	**-2.0**
	baz=201								
LONY	**Lake Ozonia**	**34.37**	**18**	P		**P**	**22 51 19.8**	**-3.3**
	baz=205								
PDAR	**Pinedale Array**	**35.25**	**333**	P		**P**	**22 51 32.1**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=127,slow=9.5,SNR=5.0								
PDAR				PcP		**PcP**	**22 54 01.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=140,slow=4.7,SNR=4.5								
E54A	**Lac Daplat, Po**	**35.35**	**14**	P		**P**	**22 51 29.2**	**-2.3**
	baz=200								
D49A	**Beulah Townshi**	**35.35**	**9**	P		**P**	**22 51 29.2**	**-2.4**
	baz=192								
C40A	**Isle Royale Na**	**35.44**	**360**	P		**P**	**22 51 30.6**	**-1.7**
	baz=179								
EYMN	**Ely**	**35.54**	**357**	P		**P**	**22 51 31.1**	**-2.1**
	baz=175								
D53A	**Lac Vacive, Po**	**35.84**	**13**	P		**P**	**22 51 35.0**	**-0.7**
	baz=198								
AGMN	**Agassiz Nation**	**36.31**	**352**	P		**P**	**22 51 38.4**	**-1.3**
	baz=168,SNR=5.6								
NVAR	**Mina Array Bea**	**36.92**	**320**	P		**P**	**22 51 47.6**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=140,slow=6.9,SNR=5.0								
NVAR				PcP		**PcP**	**22 54 07.7**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=106,slow=4.8,SNR=3.3								
NVAR				ScP		**ScP**	**22 57 58.4**	**+7.7**
	comp=Z,0.2nm,0.3s,baz=157,slow=4.9,SNR=2.7								
NVAR				LR		LR	23 08 48.7		
	comp=Z,158nm,18.5s,baz=121,slow=40								
LATQ	**La Tuque**	**37.41**	**18**	P		**P**	**22 51 46.3**	**-2.7**
	baz=206								
LSQQ	**Lebel-sur-Quev**	**37.87**	**13**	P		**P**	**22 51 51.2**	**-1.8**
	baz=199								
DGMT	**Dagmar**	**38.22**	**343**	P		**P**	**22 51 54.0**	**-1.9**
	baz=155								
ULM	**Lac du Bonnet**	**38.22**	**353**	P		**P**	**22 51 54.2**	**-1.6**
	comp=Z,6.5nm,0.9s,baz=158,slow=10.0,SNR=9.9								
ULM				LR		LR	23 09 02.5		
	comp=Z,166nm,19.2s,baz=156,slow=39								
MATQ	**Matagami**	**38.40**	**12**	P		**P**	**22 51 55.8**	**-1.6**
	baz=197								
EGMT	**Eagleton**	**39.63**	**338**	*e*P		**P**	**22 52 07.7**	**-0.2**
	comp=Z,3.9nm,0.6s								
EGMT	**Eagleton**	**39.63**	**338**	P		**P**	**22 52 06.0**	**-1.8**
	baz=146								
RPN	**Rapa Nui**	**44.03**	**207**	LR		LR	23 06 11.2		
	comp=Z,120nm,20.9s,baz=136,slow=29								
SCHQ	**Schefferville**	**45.74**	**18**	P		**P**	**22 52 54.8**	**-2.4**
	comp=Z,6.3nm,0.7s,baz=224,slow=8.4,SNR=13								
BDFB	**Brasilia**	**49.01**	**124**	LR		LR	23 15 50.3		
	comp=Z,169nm,18.8s,baz=273,slow=38								
CPUP	**Villa Florida**	**49.14**	**142**	LR		LR	23 15 17.2		
	comp=Z,82nm,19.2s,baz=294,slow=37								
YKA	**Yellowknife Ar**	**53.36**	**345**	P		**P**	**22 53 54.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=142,slow=7.4,SNR=19								
PLCA	**Paso Flores**	**55.46**	**163**	LR		LR	23 13 20.6		
	comp=Z,50nm,18.2s,baz=229,slow=31								
INK	**Inuvik**	**62.90**	**343**	P		**P**	**22 55 01.2**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=142,slow=5.2,SNR=4.8								
ILAR	**Eielson Array**	**65.58**	**336**	P		**P**	**22 55 18.7**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=103,slow=4.1,SNR=4.2								
ILAR				LR		LR	23 26 37.6		
	comp=Z,116nm,19.3s,baz=124,slow=39								
PPT	**Papeete**	**66.98**	**245**	LR		LR	23 17 47.7		
	comp=Z,82nm,18.9s,baz=160,slow=30								
NOA	**NORSAR Array B**	**84.07**	**29**	LR		LR	23 30 36.5		
	comp=Z,40nm,21.7s,baz=280,slow=33								
NRIK	**Norilʹsk**	**98.46**	**1**	LR		LR	23 45 44.0		
	comp=Z,76nm,18.4s,baz=36,slow=37								
WRA	**Warramunga Arr**	**138.00**	**254**	PKhKP		PKPpre	23 04 03.0		
	comp=Z,0.7nm,1.0s,baz=87,slow=2.3,SNR=3.3								
WRA				PKP		**PKiKP**	**23 04 06.8**	**+3.4**
	comp=Z,0.8nm,0.6s,baz=87,slow=2.1,SNR=16								
ASAR	**Alice Springs**	**138.03**	**248**	PKhKP		PKPpre	23 04 01.0		
	comp=Z,0.2nm,0.5s,baz=122,slow=3.4,SNR=2.5								
CMAR	**Chiang Mai Arr**	**148.44**	**346**	PKPbc		**PKiKP**	**23 04 24.6**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=344,slow=3.3,SNR=18								

*ISCJB **07** 22:45:37.8±0.5, 35°.98N±0°.03×140°.11E±0°.04, h71km±4km, mb3.6/5, Error ellipse: s-maj=6.2km s-min=4.6km az=19.3*
*JMA **07** 22:45:39.1±0.1, 36°.02N×140°.07E, h62km±1km, M3.1*
JMA Felt I J1.
*IDC **07** 22:45:40.6±2.1, 35°.91N×140°.01E, h88km±19km, mb3.3/5, mb1 3.6/6, mb1mx3.2/33, mbtmp3.7/6, MS3.1/3, Ms1 3.1/3, ms1mx2.5/31, Error ellipse: s-maj=30.1km s-min=16.4km az=59.0*

ISC 07 22:45:38.6±0.8, 35°.99N±0°.03×140°.09E±0°.04, h66km±7km, n25, σ0°93/36, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**19**	P		**Pn**	**22 45 49.0**	**0.0**
JYT				S		**Sn**	**22 45 56.2**	**-0.4**
JIHU	**Itakohorinouch**	**0.35**	**94**	P		**Pn**	**22 45 50.5**	**+0.8**
JIHU				*e*S		**Sn**	**22 45 58.5**	**+0.7**
JAG	**Ashikaga**	**0.67**	**310**	P		**Pn**	**22 45 53.0**	**+0.1**
JAG				S		**Sn**	**22 46 03.1**	**-0.4**
JRY	**Ryogami san**	**0.97**	**272**	P		**Pn**	**22 45 56.8**	**+0.3**
JRY				*e*S		**Sn**	**22 46 09.9**	**+0.1**
JKT	**Katashina**	**1.03**	**319**	P		**Pn**	**22 45 57.3**	**0.0**
JKT				*e*S		**Sn**	**22 46 10.2**	**-1.1**
JOD2	**Odawara 2**	**1.10**	**229**	P		**Pn**	**22 45 58.3**	**+0.2**
JOD2				S		**Sn**	**22 46 12.0**	**-0.7**
BSO3	**Boso 3**	**1.24**	**164**	P		**Pn**	**22 46 01.2**	**+1.5**
JYN	**Shimob**	**1.35**	**249**	P		**Pn**	**22 46 02.3**	**+0.8**
JYN				*e*S		**Sn**	**22 46 18.7**	**-0.1**
JIM2	**Oshima 3**	**1.38**	**203**	P		**Pn**	**22 46 01.9**	**0.0**
JIM2				*e*S		**Sn**	**22 46 18.3**	**-1.1**
JFNN	**Fujinakano**	**1.40**	**236**	P		**Pn**	**22 46 02.5**	**+0.4**
JFNN				S		**Sn**	**22 46 19.9**	**+0.2**
JFY	**Yanaizu**	**1.44**	**348**	P		**Pn**	**22 46 03.0**	**+0.3**
JFY				S		**Sn**	**22 46 21.4**	**+0.6**
JFK	**Kawauchi**	**1.51**	**24**	*e*S		**Sn**	**22 46 21.8**	**-0.5**
JHK	**Hiroka**	**1.52**	**326**	P		**Pn**	**22 46 04.0**	**+0.3**
JFT	**Otama**	**1.53**	**7**	P		**Pn**	**22 46 04.3**	**+0.4**
JFT				*e*S		**Sn**	**22 46 22.7**	**-0.3**
MJAR	**Matsushiro Arr**	**1.62**	**290**	P		**Pn**	**22 46 05.5**	**+0.5**
	3.7nm,0.3s,baz=98,slow=9.0,SNR=240							
MJAR				S		**Sn**	**22 46 27.1**	**+2.1**
	1.4nm,0.3s,baz=143,slow=12,SNR=9.0							
MJAR				LR		LR	22 46 54.2	
	comp=Z,52nm,21.0s,baz=120,slow=47							
MAT	**Matsushiro**	**1.62**	**290**	P		**Pn**	**22 46 05.9**	**+0.9**
MAT				S		**Sn**	**22 46 26.7**	**+1.7**
JHJ	**Hachijo jima 2**	**2.88**	**185**	P		**Pn**	**22 46 24.2**	**+2.1**
	14nm,0.3s,baz=252,slow=20,SNR=4.0							
JHJ				S		**Sn**	**22 46 53.5**	**-2.0**
	8.6nm,0.3s,baz=66,slow=19,SNR=3.1							
JNU	**Nakatsue**	**8.12**	**252**	LR		LR	22 51 03.0	
	comp=Z,44nm,19.7s,baz=144,slow=40							
ZALV	**Zalesovo Beam**	**41.84**	**313**	P		**P**	**22 53 21.4**	**-0.3**
	0.6nm,0.4s,baz=93,slow=7.4,SNR=4.9							
MKAR	**Makanchi Array**	**43.78**	**303**	P		**P**	**22 53 37.5**	**-0.1**
	1.4nm,0.8s,baz=90,slow=10,SNR=12							
AAK	**Ala-Archa**	**50.05**	**299**	LR		LR	23 14 49.3	
	comp=Z,27nm,18.7s,baz=258,slow=35							
ILAR	**Eielson Array**	**50.94**	**32**	P		**P**	**22 54 33.1**	**+0.3**
	0.5nm,0.7s,baz=274,slow=6.1,SNR=5.8							
LEM	**Lembang**	**52.39**	**222**	LR		LR	23 16 41.4	
	comp=Z,47nm,18.5s,baz=248,slow=36							
WRA	**Warramunga Arr**	**55.90**	**187**	P		**P**	**22 55 08.2**	**-1.4**
	0.4nm,0.6s,baz=4.5,slow=7.5,SNR=7.9							
TXAR	**Lajitas Array**	**91.60**	**52**	P		**P**	**22 58 39.1**	**+0.5**
	0.1nm,0.5s,baz=341,slow=7.6,SNR=2.6							

*JMA **07** 23:04:27.7±0.1, 24°.01N×122°.27E, h34km±3km, M2.8*
*TAP **07** 23:04:27.3, 24°.07N×122°.28E, h17km, ML3.4, D*
*ISCJB **07** 23:04:28.2±0.3, 24°.06N±0°.01×122°.29E±0°.01, h25km±2km, Error ellipse: s-maj=2.2km s-min=1.7km az=35.4*

ISC 07 23:04:27.8±1.3, 24°.06N±0°.02×122°.30E±0°.02, h21km±4km, n119, σ0°68/231, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.51**	**343**	P		**Pb**	**23 04 37.4**	**-0.7**
	baz=343							
EOS1				S		**Sb**	**23 04 44.6**	**-0.5**
	baz=343							
ENA	**Nanau**	**0.63**	**306**	P		**Pb**	**23 04 40.0**	**-0.2**
	baz=306							
ENA				S		**Sb**	**23 04 48.5**	**-0.1**
	baz=306							
HWA	**Hwalien**	**0.64**	**263**	*e*P		**Pb**	**23 04 40.0**	**-0.3**
	baz=261							
HWA				*e*S		**Sb**	**23 04 49.4**	**+0.5**
	baz=261							
TWD	**Chiawan**	**0.64**	**272**	P		**Pb**	**23 04 40.2**	**-0.1**
	baz=271							
TWD				S		**Sb**	**23 04 49.4**	**+0.5**
	baz=271							
NACB	**Ninganchiao**	**0.65**	**280**	P		**Pb**	**23 04 40.3**	**-0.3**
	baz=279							
NACB				*e*S		**Sb**	**23 04 49.5**	**+0.2**
	baz=279							
ENLB	**Shoufeng**	**0.65**	**257**	*e*P		**Pb**	**23 04 40.9**	**+0.4**
	baz=255							
ENLB				*e*S		**Sb**	**23 04 49.6**	**+0.4**
	baz=255							
TWC	**Suao**	**0.68**	**323**	*e*P		**Pb**	**23 04 39.8**	**-1.3**
	baz=324							
TWC				*e*S		**Sb**	**23 04 50.3**	**+0.2**
	baz=324							
JYNG	**Yonagunijimaku**	**0.71**	**56**	P		**Pn**	**23 04 41.9**	**-0.7**
JYNG				S		**Sn**	**23 04 52.9**	**0.0**
ETLH	**Xiulin Townshi**	**0.76**	**281**	P		**Pb**	**23 04 42.0**	**-0.4**
	baz=280							
ETLH				*e*S		**Sb**	**23 04 52.7**	**+0.4**
	baz=280							
YOJ	**Yonaguni jima**	**0.77**	**58**	P		**Pn**	**23 04 42.8**	**-0.6**
	baz=58							
YOJ				*e*S		**Sn**	**23 04 53.2**	**-1.0**
	baz=58							
YOJ	**Yonaguni jima**	**0.77**	**58**	P		**Pn**	**23 04 42.8**	**-0.6**
YOJ				*e*S		**Sn**	**23 04 53.1**	**-1.2**
ESL	**Shilin**	**0.83**	**253**	P		**Pb**	**23 04 43.1**	**-0.3**
	baz=251							
ESL				S		**Sb**	**23 04 54.2**	**+0.1**
	baz=251							
ILA	**Ilan**	**0.86**	**325**	*e*P		**Pb**	**23 04 43.6**	**-0.4**
	baz=325							
ILA				*e*S		**Sb**	**23 04 54.7**	**-0.5**
	baz=325							
TWE	**Neicheng**	**0.88**	**319**	P		**Pb**	**23 04 43.6**	**-0.6**
	baz=319							
TWE				*e*S		**Sb**	**23 04 55.9**	**+0.3**
	baz=319							
ENTT	**Nioudou**	**0.88**	**311**	P		**Pb**	**23 04 44.1**	**-0.4**
	baz=311							
ENTT				*e*S		**Sb**	**23 04 56.2**	**+0.4**
	baz=311							
EGFH	**Guangfu**	**0.89**	**244**	*e*P		**Pb**	**23 04 44.3**	**-0.1**
	baz=242							
EGFH				S		**Sb**	**23 04 55.9**	**0.0**
	baz=242							
NDT	**Datong Townshi**	**0.90**	**307**	P		**Pn**	**23 04 44.6**	**-0.6**
	baz=307							
NDT				*e*S		**Sb**	**23 04 56.8**	**+0.6**
	baz=307							
NTC	**Toucheng**	**0.90**	**332**	*e*P		**Pn**	**23 04 44.0**	**-1.2**
	baz=332							
NTC				*e*S		**Sb**	**23 04 56.6**	**+0.3**
	baz=332							
NNSB	**Datong**	**0.91**	**294**	P		**Pn**	**23 04 44.7**	**-0.8**
	baz=293							
NNSB				*e*S		**Sb**	**23 04 57.3**	**+0.5**
	baz=293							
NNS	**Nan Shan**	**0.93**	**294**	P		**Pn**	**23 04 45.2**	**-0.5**
	baz=293							
NNS				*e*S		**Sb**	**23 04 57.4**	**+0.3**
	baz=293							
WHF	**Hehuan Shan**	**0.95**	**275**	P		**Pn**	**23 04 45.1**	**-1.1**
	baz=274							
WHF				*e*S		**Sb**	**23 04 58.1**	**+0.1**
	baz=274							
HGSD	**Ruisui**	**0.98**	**235**	*e*P		**Pb**	**23 04 46.0**	**-0.1**
	baz=233							
HGSD				*e*S		**Sn**	**23 04 59.6**	**+0.1**
	baz=233							
TWB1	**Santiao Chiao**	**0.99**	**344**	*e*P		**Pn**	**23 04 45.2**	**-1.2**
	baz=344							
TWB1				*e*S		**Sn**	**23 04 59.5**	**-0.3**
	baz=344							
TIPB	**Shuangxi**	**1.01**	**335**	*e*P		**Pn**	**23 04 45.8**	**-0.9**
	baz=335							
TIPB				*e*S		**Sn**	**23 05 00.3**	**0.0**
	baz=335							
NWLT	**Wulai**	**1.02**	**315**	P		**Pn**	**23 04 46.4**	**-0.4**
	baz=314							
NWLT				*e*S		**Sn**	**23 05 00.5**	**-0.1**
	baz=314							
CHGB	**Renai**	**1.03**	**270**	P		**Pn**	**23 04 46.3**	**-0.8**
	baz=269							
CHGB				S		**Sb**	**23 05 00.0**	**-0.1**
	baz=269							
OWD	**Renai**	**1.03**	**264**	*e*P		**Pn**	**23 04 46.7**	**-0.4**
	baz=263							
OWD				*e*S		**Sn**	**23 05 00.9**	**-0.1**
	baz=263							
YHNB	**Yeheng**	**1.04**	**306**	P		**Pn**	**23 04 46.7**	**-0.5**
	baz=305							
YHNB				*e*S		**Sn**	**23 05 01.1**	**-0.1**
	baz=305							
TWT	**Tachien**	**1.04**	**281**	*e*P		**Pn**	**23 04 46.9**	**-0.4**
	baz=279							
TWT				*e*S		**Sn**	**23 05 01.9**	**+0.5**
	baz=279							
EHY	**Hungye**	**1.05**	**239**	*e*P		**Pb**	**23 04 47.1**	**-0.1**
	baz=237							
EHY				S		**Sn**	**23 05 01.7**	**+0.4**
	baz=237							
NSK	**Sanguang**	**1.05**	**306**	P		**Pn**	**23 04 47.0**	**-0.4**
	baz=305							
NSK				*e*S		**Sn**	**23 05 01.3**	**-0.2**
	baz=305							
TDCB	**Techi**	**1.06**	**281**	P		**Pn**	**23 04 47.2**	**-0.3**
	baz=280							
TDCB				*e*S		**Sb**	**23 05 01.6**	**+0.7**
	baz=280							
VWDT	**VWDT**	**1.10**	**254**	P		**Pb**	**23 04 47.9**	**-0.3**
	baz=253							
VWDT				*e*S		**Sb**	**23 05 03.0**	**+1.0**
	baz=253							
NWF	**Wu-fen Shan**	**1.11**	**335**	*e*P		**Pn**	**23 04 47.4**	**-0.8**
	baz=335							
NWF				*e*S		**Sn**	**23 05 02.1**	**-0.9**
	baz=335							
WFSB	**Wu-fen Shan**	**1.11**	**335**	*e*P		**Pn**	**23 04 47.5**	**-0.6**
	baz=335							
WFSB				*e*S		**Sb**	**23 05 03.3**	**+1.0**
	baz=335							
TWA	**Mucha**	**1.12**	**325**	*e*P		**Pn**	**23 04 48.2**	**-0.1**
	baz=325							
TWA				S		**Sb**	**23 05 04.3**	**+1.5**
	baz=325							
YULB	**Yu-li**	**1.13**	**234**	*e*P		**Pb**	**23 04 48.5**	**-0.1**
	baz=233							
YULB				*e*S		**Sb**	**23 05 04.0**	**+1.0**
	baz=233							
NHDH	**Xindian Distri**	**1.14**	**322**	*e*P		**Pn**	**23 04 48.5**	**0.0**
	baz=322							
NHDH				S		**Sb**	**23 05 04.1**	**+0.9**
	baz=322							
TWF1	**Yuli**	**1.16**	**233**	P		**Pb**	**23 04 48.9**	**-0.1**
	baz=231		

baz=330
YM08 eS Sn 23 05 07.6 +0.2
baz=330
LIOB Emei 1.31 297 eP Pn 23 04 50.1 -0.7
baz=296
LIOB eS Sn 23 05 08.0 +0.4
baz=296
TWS1 Kuangyinshan 1.31 323 eP Pn 23 04 50.9 0.0
baz=322
TWS1 eS Sn 23 05 08.1 +0.4
baz=322
NSTT Nanjuang 1.31 296 eP Pn 23 04 51.2 +0.3
baz=295
NSTT eS Sn 23 05 07.7 -0.1
baz=295
TYC Yuchr 1.33 264 eP Pn 23 04 51.0 -0.1
baz=262
TYC eS Sn 23 05 08.3 +0.2
baz=262
ANP Anpu 1.33 328 eP Pn 23 04 51.3 +0.1
baz=328
ANP eS Sn 23 05 08.0 -0.2
baz=328
IRIF Iriomote-Funau 1.34 78 P Pb 23 04 51.9 -0.3
IRIF eS Sb 23 05 11.1 +2.3
NTST Danshui 1.34 325 eP Pb 23 04 53.1 +0.8
baz=325
NTST eS Sn 23 05 09.0 +0.5
baz=325
YUS Yu-Shan 1.36 246 P Pn 23 04 51.7 -0.2
baz=244
YUS eS Sb 23 05 09.5 -0.3
baz=244
NCU National Centr 1.36 312 eP Pn 23 04 51.4 -0.1
baz=312
NCU eS Sn 23 05 08.4 -0.5
baz=312
NCUH Zhongli 1.36 312 eP Pb 23 04 53.8 +1.3
baz=311
NCUH eS Sn 23 05 09.2 +0.3
baz=311
WHYT Xinyi Township 1.37 255 eP Pn 23 04 51.8 +0.1
baz=254
WHYT eS Sb 23 05 09.7 -0.1
baz=254
HATJ Hateruma jima 1.38 90 P Pb 23 04 53.5 +0.6
HATJ eS Sb 23 05 11.6 +1.6
SBCB Hsinchu 1.40 302 eP Pn 23 04 52.0 -0.2
baz=301
SBCB eS Sn 23 05 10.5 +0.6
baz=301
TWQ1 Liyutan 1.42 282 eP Pb 23 04 53.1 -0.4
baz=281
TWQ1 eS Sn 23 05 10.6 +0.1
baz=281
NSY Sanyi 1.45 285 eP Pn 23 04 52.3 -0.5
baz=283
NSY eS Sn 23 05 10.7 -0.4
baz=283
NMLH Miaoli 1.45 289 eP Pn 23 04 53.0 +0.1
baz=288
NMLH eS Sn 23 05 11.4 +0.1
baz=288
WJS Zhushan 1.46 261 eP Pn 23 04 52.3 -0.6
baz=260
WJS eS Sn 23 05 11.4 +0.1
baz=260
ELDTW Lidau 1.46 234 eP Pn 23 04 53.1 +0.1
baz=232
ELDTW eS Sb 23 05 11.9 -0.5
baz=232
ALS Alishan 1.47 249 eP Pn 23 04 53.0 -0.4
baz=247
ALS eS Sb 23 05 12.4 -0.6
baz=247
TCU Taichung 1.48 274 eP Pn 23 04 53.8 +0.6
baz=272
TCU eS Sb 23 05 13.3 +0.2
baz=272
WNT Mingjian 1.49 263 eP Pn 23 04 53.3 +0.1
baz=262
WNT eS Sn 23 05 12.1 0.0
baz=262
PTSB Yuanli 1.50 285 eP Pn 23 04 54.0 +0.5
baz=284
PTSB eS Sn 23 05 12.9 +0.4
baz=284
WDJ Dajia District 1.54 281 eP Pn 23 04 54.2 +0.2
baz=280
WDJ eS Sn 23 05 13.5 +0.1
baz=280
CHN5 Tsauling 1.55 253 eP Pn 23 04 54.5 +0.2
baz=252
CHN5 eS Sn 23 05 14.2 +0.4
baz=252
JKRS Kuro-shima 1.57 83 P Pb 23 04 55.8 -0.4
JKRS S Sb 23 05 17.8 +2.1
PCYT Pengchaiyu 1.58 353 eP Pn 23 04 53.9 -0.6
baz=353
PCYT eS Sn 23 05 14.6 +0.3
baz=353
WCHH Zhanghua 1.59 271 eP Pn 23 04 55.0 +0.4
baz=270
WCHH eS Sb 23 05 15.5 -0.6
baz=270
WGK Gukeng 1.63 257 eP Pn 23 04 55.4 +0.1
baz=256
WGK eS Sn 23 05 15.3 -0.3
baz=256
WDLH Douliu 1.65 257 eP Pn 23 04 55.2 -0.3
baz=256
WDLH eS Sn 23 05 16.2 +0.1
baz=256
TWGBT Beinan 1.67 222 eP Pn 23 04 55.5 -0.2
baz=221
TWGBT eS Sb 23 05 17.3 -1.0
baz=221
TWG Pinlang 1.67 223 P Pn 23 04 55.7 -0.1
baz=221
TWG eS Sb 23 05 17.3 -1.1
baz=221
STYT Tauyuan 1.67 238 eP Pn 23 04 56.1 +0.3
baz=236
STYT eS Sn 23 05 17.1 +0.5
baz=236
TTN Taitung 1.67 219 eS Sn 23 05 16.9 +0.2
baz=218
TPUB Ta-pu 1.70 244 eP Pn 23 04 56.7 +0.4
baz=243
TPUB eS Sn 23 05 18.1 +0.6
baz=243
CHN4 Tsaushan 1.71 246 eP Pn 23 04 56.8 +0.4
baz=245
CHN4 eS Sn 23 05 18.3 +0.6
baz=245
JIJ Ishigaki jima 1.71 79 P Pn 23 04 56.4 0.0
JIJ S Sb 23 05 19.0 -0.7
WTP Ta-pu 1.74 243 eP Pn 23 04 57.1 +0.3
baz=241
WTP eS Sn 23 05 18.9 +0.4
baz=241
RLNB Erlin 1.78 265 eP Pn 23 04 57.8 +0.5
baz=264
RLNB eS Sn 23 05 19.1 -0.1
baz=264
CHY Chiayi 1.80 252 eP Pn 23 04 58.5 +0.9
baz=251
CHY eS Sn 23 05 20.3 +0.5
baz=251
TWK Hsinying 1.84 245 eP Pn 23 04 57.8 -0.3
baz=243
TWK eS Sn 23 05 20.9 +0.1
baz=243
CHN1 Nanshi 1.84 242 eP Pn 23 04 58.6 +0.4
baz=241
CHN1 eS Sn 23 05 21.5 +0.6
baz=241
SLGT Liugui 1.85 235 eP Pn 23 04 59.2 +0.9
baz=234
SLGT eS Sb 23 05 22.2 -1.4
baz=234
SNST Tainan City 1.85 244 eP Pn 23 04 58.9 +0.6
baz=242
SNST eS Sb 23 05 22.3 -1.3
baz=242
WTCT Ta-ch'eng 1.85 264 eP Pn 23 04 57.8 -0.5
baz=263
WTCT eS Sn 23 05 21.9 +0.8
baz=263
ECL Taimali 1.91 221 eP Pn 23 04 60.0 +0.9
baz=219
ECL eS Sn 23 05 21.4 -1.1
baz=219
JISG Ishigakijimahi 1.91 74 P Pn 23 04 59.2 +0.1
WSF Szhu 1.94 258 eP Pn 23 04 59.7 +0.1
baz=257
WSF eS Sn 23 05 23.8 +0.4
baz=257
CHN8 Yiju 2.04 250 eP Pn 23 05 00.9 0.0
baz=249
CHN8 eS Sn 23 05 26.2 +0.5
baz=249
MASBT Mashibuluo 2.10 227 eP Pn 23 05 02.4 +0.7
baz=226
MASBT eS Sn 23 05 28.1 +0.8
baz=226
LAY Lan-yu 2.12 199 eP Pn 23 05 01.4 -0.7
baz=198
LAY eS Sn 23 05 25.0 -2.8
baz=198
EAST Anshuo 2.13 219 eP Pn 23 05 02.8 +0.5
baz=217
EAST eS Sn 23 05 28.2 +0.1
baz=217
SSPT Xinbi 2.23 226 eP Pn 23 05 04.3 +0.8
baz=224
SSPT eS Sn 23 05 30.5 0.0
baz=224
JTJ Tarama 2.27 75 P Pn 23 05 05.2 +1.2
JTJ eS Sb 23 05 33.7 -2.0
SCZT Fangliau 2.28 223 eP Pn 23 05 05.4 +1.2
baz=221
SCZT eS Sn 23 05 32.6 +0.9
baz=221
WLCH Liuqiu 2.45 226 eP Pn 23 05 07.8 +1.3
baz=225
WLCH eS Sb 23 05 38.9 -1.9
baz=225
TWP Hsiaoliuchiu 2.46 227 eS Sn 23 05 37.5 +1.3
baz=225
HEN Hengchun 2.50 215 eS Sn 23 05 38.2 +1.2
baz=214
TSEB Hengchuen, Pin 2.50 211 eP Pn 23 05 07.6 +0.3
baz=211
TSEB eS Sn 23 05 38.4 +1.2
baz=211
TWKBT Hengchun 2.51 213 eP Pn 23 05 07.3 -0.1
baz=212
TWK1 Hengchun 2.51 213 eP Pn 23 05 07.4 0.0
baz=212
TWK1 eS Sn 23 05 38.4 +1.0
baz=212
WDGT Dungji 2.54 252 eP Pn 23 05 08.3 +0.5
baz=251
WDGT eS Sn 23 05 38.7 +0.5
baz=251
PHUB P'eng-hu 2.55 258 eP Pn 23 05 08.5 +0.6
baz=257
PHUB eS Sn 23 05 38.6 +0.2
baz=257
PNG Penghu 2.56 260 eP Pn 23 05 08.6 +0.6
baz=258
PNG eS Sn 23 05 38.7 +0.2
baz=258
PTTC Pingtan 2.71 303 eP Pn 23 05 11.0 +0.9
baz=301
PTTC eS Sn 23 05 42.5 +0.2
baz=301
VWUC VWUC 2.75 290 eP Pn 23 05 09.9 -0.8
baz=289
VCHM Qimei 2.76 253 eP Pn 23 05 11.1 +0.3
baz=251
VCHM eS Sn 23 05 43.5 -0.1
baz=251
MATB Ma-tsu 2.98 315 eP Pn 23 05 13.3 -0.6
baz=314

LJU 07 23:06:55.3, 45.58N×14.47E, h14km, ML0.2, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDS	**Knezji Dol**	**0.08**	**232**	*i* Pg	Pg	23 06 58.5	+0.1
KNDS				*i* Sg	Sg	23 07 00.7	+0.2
	comp=Z,1.0nm,0.0s						
CEY	**Cerknica**	**0.16**	**349**	*i* Pg	Pg	23 06 59.5	+0.1
CEY				*i* Sg	Sg	23 07 02.4	+0.3
	comp=Z,2.0nm,0.1s						
GBRS	**Gornja Briga**	**0.24**	**101**	*i* Pg	Pg	23 07 00.8	+0.2
GBRS				*i* Sg	Sg	23 07 04.6	+0.5
	comp=Z,1.0nm,0.0s						
SKDS	**Skadanscina**	**0.32**	**264**	*i* Pg	Pg	23 07 01.9	-0.1
SKDS				*i* Sg	Sg	23 07 07.2	+0.7
	comp=Z,2.0nm,0.1s						
GBAS	**Gorenja Brezov**	**0.36**	**357**	*i* Sg	Sg	23 07 08.2	+0.6
	comp=Z,0.0nm,0.1s						

*IDC **07** 23:24:18.0±15.0, 13.75N×89.30W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.5/23, mbtmp3.6/3, Error ellipse: s-maj=291.6km s-min=53.9km az=179.0*
*ISCJB **07** 23:24:22.3±0.7, 13.26N±0.05×90.09W±0.04, h40km±14km, mb3.8/2, Error ellipse: s-maj=9.5km s-min=5.2km az=25.6*
*UCR **07** 23:24:23.4±1.6, 13.35N×90.04W, h43km±10km, MD3.8, ML4.1*

ISC 07 23:24:24.6±1.5, 13.41N±0.10×89.98W±0.07, h54km±13km, n43, σ1s17/58, 1C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEVE	**Cerro Verde**	**0.54**	**40**	‖ eP	Pn	23 24 36.4	-0.6
SBLS	**San Blas**	**0.55**	**39**	‖ iP	Pn	23 24 36.4	-0.7
RTR	**El Retiro**	**0.58**	**34**	‖ iP	Pn	23 24 36.8	-0.5
SNJE	**San Jose**	**0.58**	**39**	‖ iP	Pn	23 24 36.8	-0.6
UNIC	**Santa Ana**	**0.71**	**36**	eP	Pn	23 24 38.0	-0.7
UNIC				eS	Sn	23 24 49.2	+0.2
BOQS	**Boqueron**	**0.75**	**65**	‖ iP	Pn	23 24 38.9	-0.6
CLUB	**San Salvador**	**0.76**	**68**	eP	Pn	23 24 39.0	-0.5
CLUB				eS	Sn	23 24 51.6	+1.4
CLUB				IAML		23 24 53.5	
	comp=Z,8μm,0.3s						
SNET	**Serv Nac Est T**	**0.78**	**70**	eP	Pn	23 24 38.9	-0.8
SNET				eS	Sn	23 24 50.8	+0.1
UEES	**San Salvador**	**0.78**	**66**	eP	Pn	23 24 39.1	-0.6
UEES				eS	Sn	23 24 51.1	+0.3
UESS	**San Salvador**	**0.81**	**69**	eP	Pn	23 24 39.6	-0.5
UESS				eS	Sn	23 24 52.3	+0.9
OPAM	**San Salvador**	**0.82**	**68**	eP	Pn	23 24 39.7	-0.5
OPAM				eS	Sn	23 24 52.5	+1.0
CUSC	**San Salvador**	**0.83**	**68**	eP	Pn	23 24 40.0	-0.4
CUSC				eS	Sn	23 24 52.5	+0.6
UDBS	**Soyapango**	**0.86**	**69**	eP	Pn	23 24 40.3	-0.4
UDBS				eS	Sn	23 24 53.0	+0.5
UDBS				IAML		23 24 58.9	
	comp=Z,7μm,0.3s						
IXG	**Ixpaco**	**0.89**	**329**	‖ iP	Pn	23 24 40.4	-0.8
LFU	**La Fuente**	**0.91**	**68**	eP	Pn	23 24 41.0	-0.3
LFRS	**El Faro**	**0.92**	**77**	eP	Pn	23 24 40.6	-1.0
LBRS	**Las Brisas**	**0.97**	**70**	‖ iP	Pn	23 24 41.9	-0.3
PAVA	**Las Pavas**	**1.06**	**74**	eP	Pn	23 24 43.3	-0.1
PAVA				eS	Sn	23 24 59.5	+2.2
SNVI	**San Vicente**	**1.13**	**80**	eP	Pn	23 24 44.0	-0.4
PCG	**Pacaya**	**1.15**	**328**	eP	Pn	23 24 44.7	0.0
UESV	**Ojushtada**	**1.16**	**91**	eP	Pn	23 24 44.4	-0.3
UESV				eS	Sn	23 25 01.6	+2.0
NBG	**Las Nubes**	**1.22**	**343**	eP	Pn	23 24 46.4	+0.7
FUG	**Fuego 3**	**1.32**	**321**	eP	Pn	23 24 46.5	-0.5
VICT	**Victoria**	**1.42**	**67**	eP	Pn	23 24 47.5	-0.7
VICT				eS	Sn	23 25 07.5	+1.6
VICT				IAML		23 25 14.1	
	comp=Z,600nm,0.5s						
TECA	**Tecapa**	**1.44**	**87**	eP	Pn	23 24 48.1	-0.5
PACA	**Pacayal**	**1.61**	**88**	eP	Pn	23 24 50.4	-0.5
PACA				eS	Sn	23 25 13.1	+2.4
LCY	**Lacayo**	**1.64**	**89**	eP	Pn	23 24 51.0	-0.3
VSM	**San Miguel**	**1.66**	**89**	eP	Pn	23 24 51.5	-0.1
MRL	**Marmol**	**1.67**	**10**	eP	Pn	23 24 52.6	+0.9
CAHU	**Cacacuatique**	**1.76**	**78**	eP	Pn	23 24 52.5	-0.5
LCND	**La Caada**	**2.04**	**93**	eP	Pn	23 24 56.0	-0.5
LCND				eS	Sn	23 25 22.7	+1.8
LCND				IAML		23 25 27.4	
	comp=Z,3μm,0.4s						
CNCH	**Conchagua**	**2.10**	**93**	eP	Pn	23 24 57.1	-0.3
TGUH	**Tegucigalpa,Un**	**2.71**	**76**	eP	Pn	23 25 05.3	-0.5
CRIN	**San Cristobal**	**2.94**	**104**	eP	Pn	23 25 09.1	+0.1
CRIN				eS	Sn	23 25 46.1	+2.8
TEL3	**Telica 3**	**3.17**	**105**	eP	Pn	23 25 11.1	-1.0
TELN	**Telica**	**3.17**	**104**	eP	Pn	23 25 11.1	-1.1
CNGN	**Cerro Negro**	**3.33**	**105**	eP	Pn	23 25 14.1	-0.2
CNGN				eS	Sn	23 25 54.8	+2.2
MOMN	**Momotombo**	**3.50**	**106**	eP	Pn	23 25 15.1	-1.5
COPN	**Copaltepe**	**3.53**	**110**	eP	Pn	23 25 15.4	-1.5
MATN	**Matagalpa**	**3.98**	**96**	eP	Pn	23 25 22.7	-0.6
TXAR	**Lajitas Array**	**20.30**	**323**	P	P	23 28 57.1	+1.0
	comp=Z,0.3nm,0.5s,baz=138,slow=11,SNR=6.4						
NVAR	**Mina Array Bea**	**35.37**	**320**	P	P	23 31 17.1	+1.7
	comp=Z,0.8nm,0.7s,baz=144,slow=7.8,SNR=4.7						
SCHQ	**Schefferville**	**45.12**	**19**	P	P	23 32 31.7	-3.8
	comp=Z,0.8nm,0.4s,baz=234,slow=8.7,SNR=5.6						

MEX 07 23:29:16.2±0.5, 16.26N×98.04W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**329**	*i* P	Pg	23 29 18.8	-0.6
PNIG				*i* S	Sg	23 29 21.5	-0.1
TLIG	**Tlapa**	**1.39**	**339**	*i* P	Pn	23 29 39.2	-3.3
TLIG				*i* S	Sb	23 29 57.1	-3.8
VHO	**Vista Hermosa**	**1.49**	**57**	*i* P	Pn	23 29 39.5	-4.5
VHO				*i* S	Sn	23 29 59.5	-4.4
HUIG	**Huatulco**	**1.92**	**104**	*i* P	Pn	23 29 45.5	-4.1
HUIG				eS	Sn	23 30 09.9	-4.3

IDC 07 23:40:54.7±6.0, 19.32S×169.39E, h251km±65km, mb3.4/2, mb1 3.5/3, mb1mx3.1/31, mbtmp3.9/3, Error ellipse: s-maj=148.6km s-min=41.9km az=164.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.89**	**225**	P	Pn	23 41 59.0	+1.7
	1.3nm,0.3s,baz=29,slow=13,SNR=11						
DZM				S	S	23 42 46.5	-0.7
	1.0nm,0.3s,baz=127,slow=20,SNR=2.0						
WRA	**Warramunga Arr**	**32.99**	**263**	P	P	23 47 05.8	-0.6
	0.2nm,0.4s,baz=95,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**33.25**	**256**	P	P	23 47 09.4	+0.6
	3.0nm,0.4s,baz=82,slow=8.9,SNR=44						
ARCES	**ARCESS Array B**	**125.18**	**345**	PKP	PKPdf	23 59 23.7	-0.9
	3.2nm,0.8s,baz=41,slow=2.9,SNR=2.9						

*NAO **08** 00:01:50.7±1.2, 67.69N×33.66E, ML2.5*
*KOLA **08** 00:01:50.4, 67.68N×33.76E, h0km*
*HEL **08** 00:01:51.4±0.4, 67.68N×33.63E, h0km, ML2.2, Explosion*
*IDC **08** 00:01:53.0±1.8, 67.67N×33.23E, h0km, mb1 3.6/4, mb1mx3.1/37, mbtmp3.5/4, ML2.5/4, Error ellipse: s-maj=20.8km s-min=9.3km az=81.0*

ISC 08 00:01:48.8±1.6, 67.66N±0.03×33.81E±0.08, h0km, n35, σ1s91/66, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.18**	**240**	P	**Pg**	**00 01 53.6**	**+1.4**
APA				S	**Sg**	**00 01 55.9**	**+1.4**
APZ9	**Apatity**	**0.18**	**240**	Pg	**Pg**	**00 01 53.6**	**+1.4**
APZ9				Lg	Lg	00 01 55.9	
APZ9	**Apatity**	**0.18**	**240**	Pg	**Pg**	**00 01 53.6**	**+1.4**
APZ9				Sg	**Sg**	**00 01 55.9**	**+1.4**
APA0	**Apatity Array**	**0.32**	**261**	Pg	**Pg**	**00 01 55.8**	**+1.0**
APA0				Lg	Lg	00 01 59.8	
APA0				Rg	Rg	00 02 01.4	
	baz=69,slow=56						
APA0	**Apatity Array**	**0.32**	**261**	P	**Pg**	**00 01 55.8**	**+1.0**
APA0				S	**Sg**	**00 01 59.8**	**+0.9**
APA0	**Apatity Array**	**0.32**	**261**	Pg	**Pg**	**00 01 55.8**	**+1.0**
APA0				Sg	**Sg**	**00 01 59.8**	**+0.9**
APA0				Rg	Rg	00 02 01.4	
	baz=69,slow=56						
VRF	**Varrio**	**1.61**	**275**	PG	**Pn**	**00 02 18.4**	**0.0**
VRF				MSG		00 02 37.3	
	comp=Z,26nm,0.2s						
VRF				SG	**Sg**	**00 02 38.0**	**-2.3**
KU6	**Riekki**	**2.26**	**225**	PN	**Pn**	**00 02 29.3**	**+2.0**
KU6				MSG		00 02 57.2	
	comp=Z,11nm,0.2s						
KU6				SG	**Sb**	**00 02 59.8**	**+1.0**
MSF	**Maaselka**	**2.58**	**229**	PN	**Pn**	**00 02 34.6**	**+2.9**
	baz=39						
MSF				SG	**Sg**	**00 03 10.4**	**-1.1**
SGF	**Sodankyl**	**2.81**	**269**	PN	**Pn**	**00 02 35.7**	**+0.9**
SGF				SG	**Sb**	**00 03 13.8**	**-0.8**
RNF	**Rovaniemi**	**3.22**	**255**	PN	**Pn**	**00 02 41.7**	**+1.2**
RNF				SN	**Sn**	**00 03 20.6**	**+1.0**
KEV	**Kevo**	**3.25**	**313**	Pn	**Pn**	**00 02 43.0**	**+2.0**
KEV				Sn	**Sn**	**00 03 20.7**	**+0.4**
KEV				Lg	Lg	00 03 28.2	
KEV	**Kevo**	**3.25**	**313**	eP	**Pn**	**00 02 42.9**	**+2.0**
KEV				S	**Sn**	**00 03 20.7**	**+0.4**
KEV				Sg	**Sb**	**00 03 28.2**	**+0.8**
KEV	**Kevo**	**3.25**	**313**	PN	**Pn**	**00 02 42.5**	**+1.6**
KEV				SN	**Sn**	**00 03 20.7**	**+0.4**
KEV				MSG		00 03 24.9	
	comp=Z,7.9nm,0.2s						
ARA0	**ARCESS Array S**	**3.58**	**306**	Pn	**Pn**	**00 02 46.5**	**+1.0**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**00 02 54.1**	**+1.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**00 03 27.6**	**-0.8**
	baz=129,slow=28						
ARA0				Lg	Lg	00 03 38.8	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.58**	**306**	Pn	**Pn**	**00 02 46.5**	**+1.0**
	baz=123,slow=16						
ARA0				Pg	**Pb**	**00 02 54.1**	**+1.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**00 03 27.6**	**-0.8**
	baz=129,slow=28						
ARA0				Sg	**Sb**	**00 03 38.8**	**+2.0**
	baz=121,slow=37						
ARCES	**ARCESS Array B**	**3.58**	**306**	Pn	**Pn**	**00 02 46.5**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=123,slow=15,SNR=168						
ARCES				Pg	**Pb**	**00 02 54.1**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=121,slow=15,SNR=18						
ARCES				Sn	**Sn**	**00 03 27.1**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=119,slow=24,SNR=7.1						
ARCES				Lg	Lg	00 03 38.2	
	comp=Z,3.6nm,0.3s,baz=123,slow=29,SNR=12						
ARE0	**ARCESS Array S**	**3.58**	**306**	PN	**Pn**	**00 02 47.2**	**+1.7**
ARE0				SN	**Sn**	**00 03 27.6**	**-0.8**
HEF	**Hetta**	**3.89**	**286**	eP	**Pn**	**00 02 50.4**	**+0.7**
HEF				eS	**Sn**	**00 03 30.2**	**-5.8**
HEF	**Hetta**	**3.89**	**286**	PN	**Pn**	**00 02 50.3**	**+0.7**
HEF				SN	**Sn**	**00 03 35.1**	**-0.9**
TOF	**Tornio**	**4.07**	**251**	PN	**Pn**	**00 02 53.0**	**+0.9**
OUL	**Oulu**	**4.10**	**235**	PB	**Pb**	**00 02 59.3**	**-2.4**
KTK1	**Kautokeino**	**4.15**	**294**	eP	**Pn**	**00 02 54.0**	**+0.7**
KTK1				eS	**Sn**	**00 03 40.7**	**-1.7**
KTK1				eSg	**Sb**	**00 03 54.6**	**+1.4**
KTK1				IAML		00 04 02.1	
	comp=Z,4.1nm,0.4s						
LANU	**Lannavaara**	**4.49**	**280**	PN	**Pn**	**00 02 57.8**	**-0.2**
KALU	**Kalix**	**4.52**	**251**	PN	**Pn**	**00 02 59.6**	**+1.3**
	baz=57						
KALU				SN	**Sn**	**00 03 51.4**	**0.0**
ERTU	**Ertsjaerv**	**4.67**	**262**	PN	**Pn**	**00 03 01.1**	**+0.7**
	baz=66						
ERTU				SN	**Sn**	**00 03 54.7**	**-0.6**
KIF	**Kilpisjarvi**	**5.01**	**292**	Pn	**Pn**	**00 03 05.2**	**+0.2**
KIF				Sn	**Sn**	**00 04 00.7**	**-2.8**
KIF	**Kilpisjarvi**	**5.01**	**292**	Pn	**Pn**	**00 03 05.2**	**+0.2**
KIF				Sn	**Sn**	**00 04 00.7**	**-2.8**
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	**Pn**	**00 03 34.3**	**+1.0**
	baz=21,slow=14						
FIA0				Lg	Lg	00 05 27.2	
	baz=30,slow=28						
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	**Pn**	**00 03 34.3**	**+1.0**
	baz=21,slow=14						
FIA0				Sg	Sg	00 05 27.2	-8.3
	baz=30,slow=28						
FINES	**FINESS Array B**	**7.07**	**212**	Pn	**Pn**	**00 03 34.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=4.5						
FINES				Sn	**Sn**	**00 04 49.4**	**-4.8**

comp=Z,0.1nm,0.3s,baz=22,slow=30,SNR=3.1
FINES Lg Lg 00 05 24.5
comp=Z,0.4nm,0.3s,baz=27,slow=28,SNR=5.1
SPITS Spitsbergen Ar 11.65 342 Pn **Pn 00 04 35.4 -0.6**
baz=142,slow=16,SNR=4.8
SPITS Sn **Sn 00 06 39.3 -7.3**
baz=224,slow=24,SNR=1.8
NOA NORSAR Array B 11.77 247 Pn **Pn 00 04 36.1 -1.5**
comp=Z,0.0nm,0.3s,baz=51,slow=13,SNR=2.8
NRA0 NORESS Array S 11.87 245 Pn **Pn 00 04 36.1 -2.9**
baz=52,slow=16
NRA0 NORESS Array S 11.87 245 Pn **Pn 00 04 36.1 -2.9**
baz=52,slow=16

*ISCJB **08** 00:25:46.9±0.5, 38.62N±0.04×43.15E±0.05, h15km, Error ellipse: s-maj=5.4km s-min=5.0km az=172.8*
*DDA **08** 00:25:46.4, 38.64N×43.19E, h7km±5km, ML2.6*
*ISK **08** 00:25:46.6, 38.62N×43.04E, h13km, ML1.9/6*
ISC 08 00:25:46.8±0.9, 38.62N±0.04×43.15E±0.04, h15km, n11, σ0s93/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.22**	**114**	*i*	P	**Pg**		**00 25 50.1**	**-1.8**
TVAN					S	**Sg**		**00 25 55.2**	**-0.2**
TVAN					IAML_P				
	comp=Z,6μm,0.1s								
GEVA	**Gevas**	**0.31**	**193**	*i*	P	**Pg**		**00 25 53.2**	**-0.2**
GEVA					S	**Sb**		**00 26 00.4**	**+1.2**
GEVA					IAML_P				
	comp=Z,7μm,0.2s								
ADCV	**BITLIS_Adilcev**	**0.38**	**300**	*i*	P	**Pb**		**00 25 55.0**	**-0.4**
ADCV					S	**Sb**		**00 26 02.2**	**+1.1**
ADCV					IAML_P				
	comp=Z,312nm,0.1s								
ERCV	**ERCIS-VAN**	**0.43**	**20**		PG	**Pb**		**00 25 56.4**	**+0.2**
VMUR	**Van-Muradiye**	**0.50**	**42**	*i*	P	**Pg**		**00 25 56.3**	**-0.5**
VMUR					S	**Sb**		**00 26 05.2**	**+0.7**
VMUR					IAML_P				
	comp=Z,254nm,0.1s								
MLAZ	**Malazgirt-MUS**	**0.70**	**318**		PG	**Pg**		**00 25 59.1**	**-1.4**
GURO	**Guroymak-BITLI**	**0.88**	**266**		PG	**Pg**		**00 26 02.7**	**-1.1**
AGRB	**Hanur-Agry**	**0.96**	**353**		PG	**Pg**		**00 26 05.4**	**-0.1**
SIRT	**Sirnak**	**1.25**	**207**		PN	**Pn**		**00 26 09.9**	**+0.1**
CUKT	**Cukurca**	**1.42**	**165**		PN	**Pn**		**00 26 12.7**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.61**	**32**		PN	**Pb**		**00 26 16.2**	**0.0**

TAP 08 00:35:34.9, 24.32N×121.44E, h8km, ML1.5, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETLH	**Xiulin Townshi**	**0.12**	**160**	*eP*		Pg		00 35 38.8	+1.2
	baz=159								
ETLH					S	Sg		00 35 40.5	+1.1
	baz=159								
NNSB	**Datong**	**0.12**	**336**	P		Pg		00 35 38.5	+0.8
	baz=335								
NNSB					S	Sg		00 35 40.4	+0.7
	baz=335								
NNS	**Nan Shan**	**0.14**	**334**	*eP*		Pg		00 35 38.7	+0.8
	baz=336								
NNS					S	Sg		00 35 40.8	+0.8
	baz=336								
NACB	**Ninganchiao**	**0.20**	**135**	P		Pg		00 35 40.1	+1.1
	baz=134								
NACB					S	Sg		00 35 42.8	+1.1
	baz=134								
WHF	**Hehuan Shan**	**0.23**	**223**	P		Pg		00 35 40.9	+1.1
	baz=221								
WHF					eS	Sg		00 35 44.3	+1.3
	baz=221								
TWT	**Tachien**	**0.25**	**255**	P		Pg		00 35 41.6	+1.7
	baz=255								
TWT					S	Sg		00 35 45.3	+2.0
	baz=255								
TDCB	**Techi**	**0.26**	**256**	P		Pb		00 35 41.5	-0.6
	baz=256								
TDCB					S	Sb		00 35 45.4	-1.4
	baz=256								
TWD	**Chiawan**	**0.28**	**148**	*eP*		Pb		00 35 42.0	-0.2
	baz=146								
TWD					S	Sb		00 35 45.6	-1.4
	baz=146								
CHGB	**Renai**	**0.35**	**223**	*eP*		Pb		00 35 42.8	-0.8
	baz=223								
CHGB					S	Sb		00 35 48.8	-0.6
	baz=223								
YHNB	**Yeheng**	**0.36**	**351**	*eP*		Pb		00 35 43.2	-0.4
	baz=350								
OWD	**Renai**	**0.43**	**214**	*eP*		Pb		00 35 44.4	-0.5
	baz=213								
OWD					eS	Sb		00 35 51.5	-0.2
	baz=213								
WHP	**Taichung City**	**0.45**	**265**	P		Pb		00 35 45.2	0.0
	baz=265								
WHP					S	Sb		00 35 51.8	-0.4
	baz=265								
NWLT	**Wulai**	**0.46**	**7**	P		Pb		00 35 45.6	+0.2
	baz=7.0								
NSTT	**Nanjuang**	**0.51**	**308**	*eS*		Sb		00 35 53.6	-0.1
	baz=308								
VWDT	**VWDT**	**0.62**	**206**	*eP*		Pb		00 35 47.9	-0.2
	baz=205								

*HEL **08** 00:58:39.5, 67.83N×19.92E, h0km, ML1.7, Explosion*
UPP 08 00:58:41.0±0.0, 67.82N×20.21E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**20**	P		Pg		00 58 44.0	+0.2
KUA					S	Sg		00 58 46.0	+0.5
KUA	**Kurravaara**	**0.14**	**20**	*i*	P	Pg		00 58 44.0	+0.2
KUA				*i*	S	Sg		00 58 46.0	+0.5
RATU	**Laukkuluspa**	**0.23**	**271**		P	Pg		00 58 45.6	+0.1
RATU	**Laukkuluspa**	**0.23**	**271**	*i*	P	Pg		00 58 45.6	+0.1
NIKU	**Nikkaluokta**	**0.45**	**277**		P	Pg		00 58 49.7	+0.2
NIKU	**Nikkaluokta**	**0.45**	**277**	*i*	P	Pg		00 58 49.7	+0.2
LANU	**Lannavaara**	**0.71**	**70**		P	Pg		00 58 54.4	-0.2
LANU	**Lannavaara**	**0.71**	**70**	*eP*		Pg		00 58 54.3	-0.3
	baz=259								
LANU					eS	Sb		00 59 06.1	-0.5
DUNU	**Dundret**	**0.72**	**169**		P	Pg		00 58 54.4	-0.3
DUNU	**Dundret**	**0.72**	**169**	*i*	P	Pg		00 58 54.4	-0.3
MASU	**Masugnsbyn**	**0.78**	**117**		P	Pg		00 58 55.7	-0.2
MASU	**Masugnsbyn**	**0.78**	**117**	*i*	P	Pg		00 58 55.7	-0.2
SALU	**Saltoluokta**	**0.79**	**237**		P	Pg		00 58 56.1	0.0
SALU	**Saltoluokta**	**0.79**	**237**	*i*	P	Pg		00 58 56.1	0.0
KIF	**Kilpisjarvi**	**1.21**	**10**	*eP*		Pg		00 59 04.2	+0.1
KIF	**Kilpisjarvi**	**1.21**	**10**	*ePB*		Pg		00 59 04.2	+0.1
	baz=198								
KIF					MSG			00 59 17.6	
	comp=Z,6.7nm,0.2s								
KIF					eSN	Sn		00 59 24.2	+2.1
PAJU	**Pajala**	**1.38**	**124**		P	Pg		00 59 06.3	-1.1
PAJU	**Pajala**	**1.38**	**124**	*eP*		Pg		00 59 06.3	-1.1
HEF	**Hetta**	**1.42**	**64**	*eP*		Pn		00 59 07.5	-0.6
HEF	**Hetta**	**1.42**	**64**	*eP*		Pn		00 59 06.9	-1.2
HEF					MSG			00 59 25.1	
	comp=Z,4.9nm,0.2s								
ERTU	**Ertsjaerv**	**1.49**	**148**	*ePG*		Pn		00 59 08.3	-0.7
	baz=324								
ERTU					eSN	Sn		00 59 31.1	+2.1
KALU	**Kalix**	**2.33**	**146**	*ePB*		Pn		00 59 21.6	+1.2
KALU					eSG	Sb		00 59 53.8	+0.8
TOF	**Tornio**	**2.38**	**135**	*ePB*		Pn		00 59 22.8	+1.5
TOF					MSG			00 59 52.6	
	comp=Z,4.4nm,0.2s								
TOF					eSG	Sb		00 59 54.7	+0.1
SGF	**Sodankyl**	**2.45**	**96**	*ePB*		Pb		00 59 24.1	-1.7
SGF					eSG	Sb		00 59 57.6	+1.2
RNF	**Rovaniemi**	**2.57**	**116**	*ePB*		Pn		00 59 25.6	+1.8
RNF					eSG	Sb		00 59 59.7	-0.2
ARE0	**ARCESS Array S**	**2.59**	**46**	*eP*		Pn		00 59 25.2	+1.1
	baz=229								
ARE0					eSB	Sb		00 59 59.0	-1.6
KEV	**Kevo**	**3.14**	**49**	*eS*		Sn		01 00 11.1	+1.3
KEV					MSG			01 00 14.1	
	comp=Z,1.9nm,0.2s								
KU6	**Riekki**	**4.22**	**111**	*ePG*		Pb		00 59 56.8	+0.9

*ISCJB **08** 00:58:43.8±0.6, 67.81N±0.04×20.2E±0.1, h0km, Error ellipse: s-maj=6.3km s-min=5.3km az=23.0*
*UPP **08** 00:58:44.1±0.1, 67.82N×20.20E, h0km, ML2.5, Explosion*
ISC 08 00:58:44.0±1.2, 67.80N±0.04×20.25E±0.04, h0km, n7, σ0s26/10, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**13**	P		Pg		**00 58 47.1**	**+0.1**
KUA					S	**Sg**		**00 58 49.0**	**+0.1**
RATU	**Laukkuluspa**	**0.25**	**275**	P		Pg		**00 58 48.8**	**0.0**
RATU					S	**Sg**		**00 58 52.0**	**0.0**
NIKU	**Nikkaluokta**	**0.46**	**279**	P		Pg		**00 58 52.6**	**-0.2**
DUNU	**Dundret**	**0.70**	**170**	P		Pg		**00 58 57.6**	**+0.3**
LANU	**Lannavaara**	**0.70**	**69**	P		Pg		**00 58 57.4**	**0.0**
PAJU	**Pajala**	**1.36**	**124**	P		Pg		**00 59 09.4**	**-0.5**
PAJU					S	**Sg**		**00 59 27.6**	**+0.1**
HARU	**Harads**	**1.67**	**170**	P		**Pb**		**00 59 15.6**	**0.0**

*SJA **08** 00:59:27.7±0.6, 22.05S×65.82W, h298km±5km, ML3.3, MW4.0*
*ISCJB **08** 00:59:32.3±0.6, 21.96S±0.05×66.12W±0.05, h262km, Error ellipse: s-maj=7.9km s-min=5.4km az=36.7*
*GUC **08** 00:59:32.5±0.6, 21.91S×66.62W, h334km±7km, ML3.9*
ISC 08 00:59:31.6±1.4, 21.95S±0.06×66.08W±0.06, h262km, n30, σ1s23/48, 7C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**0.57**	**113**	*i*	P	**Pn**		**01 00 07.1**	**+0.5**
YJA					IAML			01 00 07.8	
	comp=Z,160nm,0.4s								
YJA				*i*	S	**S**		**01 00 35.3**	**+1.1**
HJA	**Humahuaca**	**1.40**	**154**	*i*	P	**Pn**		**01 00 09.7**	**-1.0**
HJA					IAML			01 00 11.9	
	comp=Z,69nm,0.4s								
HJA				*i*	S	**S**		**01 00 41.1**	**-0.7**
LVC	**Limon Verde**	**2.70**	**255**	⇓*i*	P	**Pn**		**01 00 23.1**	**+1.0**
LVC	**Limon Verde**	**2.70**	**255**	⇑*i*	P	**Pn**		**01 00 23.1**	**+1.0**
LVC					eS	**S**		**01 01 04.7**	**+2.6**
SLA	**San Lorenzo**	**2.81**	**169**	*eP*		**Pn**		**01 00 23.7**	**+0.7**
PB09	**IPOC Station P**	**2.94**	**272**	⇑*i*	P	**Pn**		**01 00 25.9**	**+1.5**
PB09					*i*	**S**		**01 01 07.6**	**+1.4**
PB09					IAML			01 01 14.2	
	comp=E,104nm,0.2s								
PB01	**IPOC Station P**	**3.30**	**285**	*i*	P	**Pn**		**01 00 28.1**	**0.0**
PB01					*i*	**S**		**01 01 13.6**	**+0.5**
PB01	**IPOC Station P**	**3.30**	**285**	⇑*i*	P	**Pn**		**01 00 29.1**	**+0.9**
PB01					*i*	**S**		**01 01 12.7**	**-0.4**
PB06	**IPOC Station P**	**3.32**	**256**	*i*	P	**Pn**		**01 00 29.1**	**+0.7**
PB06	**IPOC Station P**	**3.32**	**256**	*eP*		**Pn**		**01 00 29.6**	**+1.2**
PB06					*i*	**S**		**01 01 14.1**	**+0.6**
PB15	**IPOC Station P**	**3.37**	**248**	*i*	P	**Pn**		**01 00 30.1**	**+1.0**
PB15	**IPOC Station P**	**3.37**	**248**	*eP*		**Pn**		**01 00 30.0**	**+0.9**
PB15					*i*	**S**		**01 01 14.9**	**+0.2**
PB08	**IPOC Station P**	**3.39**	**302**	*i*	P	**Pn**		**01 00 30.6**	**+1.1**
PB08	**IPOC Station P**	**3.39**	**302**	⇑*i*	P	**Pn**		**01 00 31.3**	**+1.8**
PB08					*i*	**S**		**01 01 16.3**	**+0.9**
PB03	**IPOC Station P**	**3.41**	**268**	*i*	P	**Pn**		**01 00 30.6**	**+1.1**
PB03	**IPOC Station P**	**3.41**	**268**	*eP*		**Pn**		**01 00 30.4**	**+0.9**
PB03					*i*	**S**		**01 01 14.5**	**-0.9**
PB07	**IPOC Station P**	**3.54**	**273**	*i*	P	**Pn**		**01 00 32.0**	**+1.0**
PB07	**IPOC Station P**	**3.54**	**273**	*eP*		**Pn**		**01 00 32.0**	**+1.0**
PB07					*i*	**S**		**01 01 17.0**	**-1.1**
PB02	**IPOC Station P**	**3.60**	**279**	*i*	P	**Pn**		**01 00 32.6**	**+1.0**
PB02	**IPOC Station P**	**3.60**	**279**	*eP*		**Pn**		**01 00 32.4**	**+0.8**
PB02					*i*	**S**		**01 01 17.6**	**-1.6**
PB04	**IPOC Station P**	**3.79**	**263**	*i*	P	**Pn**		**01 00 34.4**	**+0.7**
PB04	**IPOC Station P**	**3.79**	**263**	*eP*		**Pn**		**01 00 34.5**	**+0.7**
PB04					*i*	**S**		**01 01 21.5**	**-1.7**
PB11	**IPOC Station P**	**3.99**	**302**	⇑*i*	P	**Pn**		**01 00 36.7**	**+0.6**
PB11					*i*	**S**		**01 01 26.5**	**-0.8**
MNMC	**Minye Minye**	**4.33**	**310**	⇑*i*	P	**Pn**		**01 00 41.3**	**+1.2**
MNMC					eS	**S**		**01 01 34.1**	**-0.5**
MNMCX	**Minye Minye**	**4.33**	**310**	*i*	P	**Pn**		**01 00 41.3**	**+1.2**
PB10	**IPOC Station P**	**4.41**	**249**	*eP*		**Pn**		**01 00 40.8**	**+0.1**
PSGC	**Pisagua**	**4.45**	**301**	*eP*		**Pn**		**01 00 41.1**	**-0.3**
PSGC					*i*	**S**		**01 01 34.5**	**-2.4**
PB14	**IPOC Station P**	**4.78**	**235**	*i*	P	**Pn**		**01 00 45.3**	**-0.2**
PB14	**IPOC Station P**	**4.78**	**235**	⇑*eP*		**Pn**		**01 00 45.4**	**-0.1**
PB14					*i*	**S**		**01 01 41.9**	**-2.6**
PB12	**IPOC Station P**	**5.19**	**309**	*eP*		**Pn**		**01 00 50.0**	**-0.2**
PB12					*eS*	**S**		**01 01 49.8**	**-3.3**

*ISCJB **08** 01:12:08.5±0.4, 20.34S±0.03×69.35W±0.06, h98km±4km, mb3.5/4, Error ellipse: s-maj=9.8km s-min=4.1km az=173.3*
*GUC **08** 01:12:08.9±0.6, 20.35S×69.30W, h84km±3km, ML4.0*
*SJA **08** 01:12:08.9±0.7, 20.37S×69.34W, h78km±4km, ML2.6, MW3.4*
*IDC **08** 01:12:10.4±1.1, 20.35S×69.12W, h109km±12km, mb3.4/5, mb1 3.6/9, mb1mx3.4/28, mbtmp3.8/9, Error ellipse: s-maj=22.0km s-min=10.0km az=96.0*
ISC 08 01:12:08.5±0.7, 20.33S±0.03×69.31W±0.06, h86km±6km, n33, σ1s45/43, mb3.6/4, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.24**	**37**	*i*	P	**Pn**		**01 12 22.5**	**+0.8**
PB08					*i*	**Sn**		**01 12 31.6**	**+0.2**
PB08	**IPOC Station P**	**0.24**	**37**	⇓*i*	P	**Pn**		**01 12 22.4**	**+0.8**
PB08					*i*	**Sn**		**01 12 32.2**	**+0.8**
PB08					IAML			01 12 33.1	
	comp=N,12μm,0.2s								
PB11	**IPOC Station P**	**0.66**	**330**	⇑*i*	P	**Pn**		**01 12 25.4**	**+0.9**
PB11					*i*	**Sn**		**01 12 37.4**	**+1.1**
PB11					IAML			01 12 38.3	
	comp=E,22μm,0.2s								
PB01	**IPOC Station P**	**0.72**	**193**	⇓*i*	P	**Pn**		**01 12 25.7**	**+0.6**
PB01					*i*	**Sn**		**01 12 38.1**	**+0.8**
PB01					IAML			01 12 39.7	
	comp=N,14μm,0.2s								
PSGC	**Pisagua**	**1.06**	**314**	⇑*i*	P	**Pn**		**01 12 29.3**	**+0.5**
PSGC					*i*	**Sn**		**01 12 45.3**	**+1.4**
PSGC					IAML			01 12 49.2	
	comp=N,3μm,0.2s								
PSGCX	**Pisagua**	**1.06**	**314**	*i*	P	**Pn**		**01 12 29.3**	**+0.6**
PSGCX					*i*	**Sn**		**01 12 45.4**	**+1.4**
PB02	**IPOC Station P**	**1.12**	**209**	*i*	P	**Pn**		**01 12 30.1**	**+0.6**
PB02	**IPOC Station P**	**1.12**	**209**	⇑*i*	P	**Pn**		**01 12 30.1**	**+0.6**
PB02					*i*	**Sn**		**01 12 46.3**	**+1.0**
PB02					IAML			01 12 51.9	
	comp=N,5μm,0.2s								
MNMC	**Minye Minye**	**1.23**	**347**	*eP*		**Pn**		**01 12 32.2**	**+1.2**
MNMC					*i*	**Sn**		**01 12 49.5**	**+1.7**
MNMC					IAML			01 12 53.3	
	comp=E,7μm,0.2s								
MNMCX	**Minye Minye**	**1.23**	**347**	*i*	P	**Pn**		**01 12 32.4**	**+1.4**
PB09	**IPOC Station P**	**1.46**	**178**	*i*	P	**Pn**		**01 12 34.8**	**+1.1**
PB09					*i*	**Sn**		**01 12 53.4**	**+0.7**
PB09	**IPOC Station P**	**1.46**	**178**	⇓*i*	P	**Pn**		**01 12 34.8**	**+1.1**
PB09					*i*	**Sn**		**01 12 53.9**	**+1.2**
PB09					IAML			01 12 56.7	
	comp=E,2μm,0.3s								
PB07	**IPOC Station P**	**1.49**	**201**	*i*	P	**Pn**		**01 12 35.2**	**+1.1**
PB07	**IPOC Station P**	**1.49**	**201**	*eP*		**Pn**		**01 12 34.9**	**+0.8**
PB07					*i*	**Sn**		**01 12 54.0**	**+0.6**
PB07					IAML			01 12 59.9	
	comp=E,3μm,0.3s								
PB03	**IPOC Station P**	**1.75**	**194**	*eP*		**Pn**		**01 12 38.2**	**+0.6**
PB03					*i*	**Sn**		**01 13 00.8**	**+1.2**
PB03					IAML			01 13 05.5	
	comp=N,2μm,0.5s								
PB12	**IPOC Station P**	**1.96**	**330**	*eP*		**Pn**		**01 12 40.8**	**+0.6**
PB12					*i*	**Sn**		**01 13 05.7**	**+1.4**
LVC	**Limon Verde**	**2.29**	**171**	P		**Pn**		**01 12 47.1**	**+2.2**
	comp=N,71nm,0.3s,baz=352,slow=9.5,SNR=509								
LVC					S	**Sn**		**01 13 15.4**	**+2.9**
	comp=N,34nm,0.3s,baz=327,slow=14,SNR=6.6								
YJA	**Yavi**	**3.98**	**118**	*i*	P	**Pn**		**01 13 10.4**	**+2.8**
YJA					IAML			01 13 13.0	
	comp=Z,7.4nm,0.7s								
LPAZ	**La Paz**	**4.18**	**16**	P		**Pn**		**01 13 13.6**	**+3.1**
	comp=Z,2.1nm,0.3s,baz=189,slow=9.7,SNR=19								
LPAZ					S	**Sn**		**01 14 01.1**	**+2.7**
	comp=Z,1.0nm,0.3s,baz=60,slow=20,SNR=2.8								
SIV	**San Ignacio**	**8.94**	**62**	P		**Pn**		**01 14 13.5**	**-1.4**
	comp=Z,1.9nm,0.3s,baz=257,slow=13,SNR=32								
CPUP	**Villa Florida**	**12.52**	**121**	P		**Pn**		**01 15 01.9**	**-1.4**
BDFB	**Brasilia**	**20.78**	**80**	P		**P**		**01 16 39.5**	**-3.4**
	comp=Z,1.7nm,0.7s,baz=262,slow=14,SNR=2.7								
TXAR	**Lajitas Array**	**59.46**	**325**	P		**P**		**01 22 01.7**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=128,slow=5.8,SNR=2.6								
NVAR	**Mina Array Bea**	**74.35**	**322**	P		**P**		**01 23 37.5**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=136,slow=7.2,SNR=4.0								
TORD	**Torodi Ar. Bea**	**77.32**	**71**	P		**P**		**01 23 53.7**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=250,slow=5.0,SNR=12								
YKA	**Yellowknife Ar**	**89.97**	**341**	P		**P**		**01 24 57.6**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.5,SNR=12								
YKA					pP	**pP**		**01 25 21.3**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=135,slow=5.2,SNR=3.8								
H11S2	**WAKE ISLAND Hyf**	**27.35**	**278**		T	T		03 50 52.2	
	baz=101,slow=74,SNR=60								
H11S1	**WAKE ISLAND Hyf**	**27.36**	**278**		T	T		03 50 50.6	
	baz=101,slow=74,SNR=34								
H11S3	**WAKE ISLAND Hyf**	**27.37**	**278**		T	T		03 50 51.8	
	baz=101,slow=74,SNR=39								
H11N3	**WAKE ISLAND Hyf**	**27.41**	**280**		T	T		03 50 53.9	
	baz=100,slow=74,SNR=13								
H11N2	**WAKE ISLAND Hyf**	**27.42**	**280**		T	T		03 50 55.0	
	baz=100,slow=74,SNR=20								
H11N1	**WAKE ISLAND Hyf**	**27.42**	**280**		T	T		03 50 57.4	
	baz=100,slow=74,SNR=12								
MKAR	**Makanchi Array**	**144.90**	**35**	PKP		**PKPab**		**01 31 34.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=292,slow=2.4,SNR=2.9								

*ISCJB **08** 01:34:05.2±0.8, 5.88N±0.08×126.05E±0.10, h137km±8km, mb3.4/3, Error ellipse: s-maj=15.9km s-min=13.6km az=15.1*
*IDC **08** 01:34:06.2±1.5, 5.96N×125.74E, h141km±34km, mb3.2/3, mb1 3.4/3, mb1mx2.9/39, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/13, Error ellipse: s-maj=221.8km s-min=19.4km az=66.0*
ISC 08 01:34:05.8±1.1, 5.90N±0.09×126.03E±0.10, h138km±8km, n12, σ1s15/16, mb3.5/3, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.38**	**302**	*eP*		**Pn**		**01 34 25.1**	**-0.1**
DDMP					*eS*	**Sn**		**01 34 40.5**	**+0.6**
MATI	**Mati**	**1.06**	**12**	*eP*		**Pn**		**01 34 30.0**	**0.0**
MATI					*eS*	**Sn**		**01 34 48.6**	**+0.1**
GSPH	**General Santos**	**1.09**	**280**	⇑*i*	P	**Pn**		**01 34 30.6**	**+0.2**
GSPH					*i*	**Sn**		**01 34 49.1**	**0.0**
DAV	**Davao City (W)**	**1.25**	**339**	P		**Pn**		**01 34 32.2**	**+0.3**
	70nm,0.3s,baz=255,slow=4.8,SNR=6.9								
DAV					S	**Sn**		**01 34 50.2**	**-1.4**
	baz=270,slow=20								
SKMP	**Bagumbayan, Su**	**1.60**	**293**	*eP*		**Pn**		**01 34 35.2**	**-0.4**
BUKP	**Musuan**	**2.19**	**334**	*eP*		**Pn**		**01 34 43.5**	**+0.9**
BUKP					*eS*	**Sn**		**01 35 12.2**	**+1.4**
CTBH	**Cotabato--PC H**	**2.21**	**307**	⇑*i*	P	**Pn**		**01 34 42.8**	**+0.1**
PAGZ	**Pagadian**	**3.27**	**306**	*eP*		**Pn**		**01 34 57.1**	**+0.9**
WRA	**Warramunga Arr**	**26.95**	**163**	P		**P**		**01 39 37.2**	**+2.7**
	0.2nm,0.4s,baz=343,slow=10.0,SNR=2.6								
ASAR	**Alice Springs**	**30.38**	**166**	P		**P**		**01 40 04.7**	**-0.3**
	0.5nm,0.5s,baz=336,slow=6.5,SNR=7.0								
PALK	**Pallekele**	**45.04**	**274**	LR		LR		02 04 56.4	
	comp=Z,36nm,18.5s,baz=116,slow=41								
MKAR	**Makanchi Array**	**55.39**	**325**	P		**P**		**01 43 24.1**	**-1.6**
	0.6nm,0.5s,baz=120,slow=7.7,SNR=8.8								

*ISCJB **08** 01:35:57.5±0.4, 46.19N±0.05×149.87E±0.08, h158km, mb4.0/45, Error ellipse: s-maj=9.2km s-min=3.1km az=39.5*
*IDC **08** 01:35:58.0±2.3, 46.35N×149.65E, h146km±20km, mb3.7/24, mb1 3.9/30, mb1mx3.8/44, mbtmp4.1/30, Error ellipse: s-maj=16.2km s-min=10.2km az=150.0*
*MOS **08** 01:35:58.4±1.1, 46.31N×149.67E, h165km, mb4.0/21, Error ellipse: s-maj=10.3km s-min=6.3km az=77.3*
*SKHL **08** 01:36:00.1±0.4, 45.85N×149.69E, h180km±7km, mb5.0/7, msh5.9/6*
*JMA **08** 01:36:02.4±0.6, 45.37N×149.91E, h178km, M4.5*
ISC 08 01:35:58.3±0.5, 46.09N±0.07×149.88E±0.07, h158km, n170, σ1s63/185, mb4.2/53, 26C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.65**	**240**	*i*	P	**Pn**		**01 36 32.0**	**+2.0**
KUR					AMB	AMB		01 36 32.0	
	157nm,0.4s								
KUR					AMB	AMB		01 36 32.0	
	54nm,0.4s								
KUR					AMB	AMB		01 36 32.0	
	605nm,0.4s								
KUR				*eS*		**Sn**		**01 36 57.4**	**+3.0**
KUR					A	A		01 37 01.0	
	332nm,0.4s								
KUR					A	A		01 37 01.0	
	139nm,0.4s								
KUR	**Kuril'sk**	**1.65**	**240**	*d*	PN	**Pn**		**01 36 32.5**	**+2.5**
KUR					eS	**Sn**		**01 36 59.0**	**+4.6**
KUR					pmax	pmax			
	comp=Z,741nm,0.5s								
KUR					pmax	pmax			
	comp

LAGR pmax pmax
comp=Z,295nm,0.2s
LAGR smax smax
comp=N,1μm,0.2s
LAGR smax smax
comp=E,555nm,0.2s
GRPR Tuman 3.59 236 *e*P **Pn 01 36 54.0 +0.6**
GRPR AMB AMB 01 36 57.0
comp=E,51nm,0.3s
GRPR *i* S **Sn 01 37 36.0 -0.2**
GRPR A A 01 37 42.0
comp=E,127nm,0.3s
GRPR A A 01 37 42.0
comp=E,997nm,0.3s
GRPR Tuman 3.59 236 *e*PN **Pn 01 36 54.9 +1.5**
GRPR *i* S **Sn 01 37 36.1 -0.2**
GRPR pmax pmax
comp=Z,509nm,0.4s
GRPR pmax pmax
comp=N,322nm,0.3s
GRPR pmax pmax
comp=E,185nm,0.2s
GRPR smax smax
comp=E,997nm,0.2s
GRPR smax smax
comp=N,1μm,0.3s
GLVR Golovnino 3.89 234 *i* P **Pn 01 36 58.0 +0.7**
GLVR AMB AMB 01 37 05.0
comp=N,305nm,0.4s
GLVR AMB AMB 01 37 05.0
comp=N,239nm,0.4s
GLVR *e*S **Sn 01 37 43.0 -0.1**
GLVR A A 01 37 46.0
comp=N,154nm,0.3s
GLVR A A 01 37 46.0
comp=N,620nm,0.3s
GLVR Golovnino 3.89 234*c i* PN **Pn 01 36 58.7 +1.4**
GLVR *e*S **Sn 01 37 43.7 +0.6**
GLVR pmax pmax
comp=Z,239nm,0.4s
GLVR pmax pmax
comp=E,305nm,0.2s
GLVR smax smax
comp=N,2μm,0.3s
GLVR smax smax
comp=E,620nm,0.2s
JRA Rausu 4.00 239 P **Pn 01 37 00.5 +1.8**
NEM2 Nemuro 2 4.01 229 P **Pn 01 36 58.4 -0.5**
NEM2 *e*S **Sn 01 37 42.2 -3.8**
JNK Nakash 4.44 238 P **Pn 01 37 05.7 +1.2**
JTKR Abashiri--Toko 4.73 246 P **Pn 01 37 10.1 +1.8**
JAK Akkeshi 4.82 232 P **Pn 01 37 09.0 -0.5**
JAK *e*S **Sn 01 38 01.6 -3.5**
YSS Yuzh-Sakhalins 5.00 283 *e*P **Pn 01 37 12.9 +1.2**
YSS AMB AMB 01 37 15.8
comp=E,23nm,0.6s
YSS Yuzh-Sakhalins 5.00 283 *e*PN **Pn 01 37 15.0 +3.3**
YSS pmax pmax
comp=Z,20nm,1.1s
JMP Maruseppu 5.07 248 P **Pn 01 37 15.0 +2.2**
JAR Ashorobuto 5.17 240 P **Pn 01 37 15.7 +1.6**
JOB Onbets 5.37 236 P **Pn 01 37 17.2 +0.5**
JOB *e*S **Sn 01 38 15.6 -2.4**
JKA Kamikawa-asahi 5.52 252 *e*P **Pn 01 37 20.8 +2.1**
ASAJ Asahikawa 5.52 252 P **Pn 01 37 21.6 +2.9**
ASAJ Asahikawa 5.52 252 P **Pn 01 37 20.8 +2.1**
comp=Z,18nm,0.3s,baz=75,slow=14,SNR=117
JKK2 Kamakawa 2 5.52 249 P **Pn 01 37 21.2 +2.4**
JWK2 Keihoku 5.64 265 P **Pn 01 37 24.7 +4.4**
JCH Churui 5.82 236 P **Pn 01 37 22.3 -0.4**
JCH *e*S **Sn 01 38 24.6 -4.1**
JFR Furan 5.96 243 P **Pn 01 37 26.4 +1.8**
JAB Ashibetsu 6.03 247 P **Pn 01 37 28.4 +3.0**
MYR Moyori 6.07 234 *e*P **Pn 01 37 25.3 -0.7**
SKR Severo-Kuril's 6.20 40 *e*rx rx 01 37 27.2
JBT2 Biratori 2 6.32 241 P **Pn 01 37 29.6 +0.3**
ERM Erimo 6.33 232*de*PN **Pn 01 37 29.7 +0.3**
ERM pmax pmax
comp=Z,47nm,0.7s
JNBK Urakawa-nobuka 6.38 236 P **Pn 01 37 28.8 -1.3**
JNB Noboribetsu 7.30 243 P **Pn 01 37 41.9 -0.5**
JKB Kayabe 7.64 240 P **Pn 01 37 45.8 -1.0**
JKB *e*S **Sn 01 39 05.9 -6.2**
JSH Shimam 7.84 247 P **Pn 01 37 50.5 +1.0**
JSR Shiriuchi 8.22 240 P **Pn 01 37 53.7 -0.8**
JANG Nango 8.36 230 P **Pn 01 37 53.6 -2.8**
PETK Petropavlovsk- 8.67 33 P **Pn 01 37 59.5 -0.9**
comp=Z,1.3nm,0.3s,baz=198,slow=9.9,SNR=25
KLR Kul'dur 12.62 291 P **Pn 01 38 49.4 -2.9**
comp=Z,0.0nm,0.3s,baz=147,slow=15,SNR=2.2
USRK Ussuriysk Ar. 12.78 269 P **Pn 01 38 51.5 -2.7**
comp=Z,0.1nm,0.3s,baz=91,slow=8.9,SNR=2.2
MJA0 Matsu Arr-Jizo 12.92 227 *e*PN **P 01 39 01.8 +0.9**
MJAR Matsushiro Arr 12.94 227 P **Pn 01 38 55.9 -0.6**
comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=5.7
EKMR Ekimchan 13.00 309 *e*P **Pn 01 38 58.1 +1.0**
EKMR AMB AMB 01 39 04.0
comp=Z,9.0nm,0.7s
MA2 Magadan 13.52 2 P **Pn 01 39 01.3 -2.4**
comp=Z,0.5nm,0.3s,baz=180,slow=9.6,SNR=5.8
BMKR Bomnak 15.90 311 *e*rx rx 01 39 06.8
BMKR *e*P **P 01 39 34.2 +0.5**
BMKR AMB AMB 01 39 37.2
comp=Z,12nm,0.5s
ZEA Zeya 16.42 306 *e*P **P 01 39 40.8 +1.4**
ZEA AMB AMB 01 39 41.8
comp=Z,24nm,1.0s
ZEA AMB AMB 01 39 41.8
comp=Z,29nm,1.0s
ZEA Zeya 16.42 306 *e*P **P 01 39 40.8 +1.4**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,29nm,1.0s
SEY Seymchan 16.94 4 P **P 01 39 43.0 -2.0**
comp=Z,0.6nm,0.3s,baz=180,slow=8.7,SNR=27
KSRS Korea Array 18.47 250 P **P 01 40 03.0 +1.0**
KSRS pmax pmax
comp=Z,1.0nm,0.3s
KSRS Korea Array 18.47 250 P **P 01 40 03.0 +1.0**
comp=Z,0.6nm,0.3s,baz=54,slow=11,SNR=8.4
YAK Yakutsk 19.75 331 *e*P **P 01 40 15.4 -0.2**
YAK Yakutsk 19.75 331 *e*P **P 01 40 15.4 -0.2**
YAK pmax pmax
comp=Z,145nm,1.0s
YAK pmax pmax
comp=N,48nm,1.0s
YAK pmax pmax
comp=E,36nm,1.4s
BILL Bilibino 23.59 15 *e*P **P 01 40 53.9 -0.3**
BILL Bilibino 23.59 15 *e*P **P 01 40 53.9 -0.3**
BILL *e* 01 41 22.5
BILL *e* 01 44 42.7
BILL pmax pmax
comp=Z,2.0nm,0.9s
TIK Tiksi 27.50 346 *e*P **P 01 41 29.7 +0.2**
TIXI Tiksi 27.52 346*ce*P **P 01 41 27.9 -1.7**
TIXI pmax pmax
comp=Z,6.0nm,1.7s
TIXI Tiksi 27.52 346 P **P 01 41 26.7 -2.9**
comp=Z,3.0nm,0.4s,baz=142,slow=8.9,SNR=12
ULN Ulaanbaatar 29.01 289 *e*P **P 01 41 40.7 -2.6**
ULN Ulaanbaatar 29.01 289 *i* P **P 01 41 40.7 -2.6**
ULN pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 29.45 289 *e*P **P 01 41 47.1 0.0**
SONM pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 29.45 289 P **P 01 41 45.1 -2.0**
comp=Z,0.4nm,0.3s,baz=62,slow=8.4,SNR=6.5
H11N2 WAKE ISLAND Hy 29.78 146 T T 02 13 14.8
baz=334,slow=75,SNR=400
H11N1 WAKE ISLAND Hy 29.80 146 T T 02 13 24.9
baz=334,slow=75,SNR=337
H11N3 WAKE ISLAND Hy 29.80 146 T T 02 13 16.7
baz=334,slow=75,SNR=302
H11S1 WAKE ISLAND Hy 30.82 148 T T 02 14 35.9
baz=335,slow=76,SNR=427
H11S3 WAKE ISLAND Hy 30.83 148 T T 02 14 29.7
baz=335,slow=76,SNR=302
H11S2 WAKE ISLAND Hy 30.84 148 T T 02 14 30.6
baz=335,slow=76,SNR=424
GTA Gaotai 36.86 278 *e*P **P 01 42 53.0 +1.6**
GTA pP pP 01 42 57.1 -27
GTA sP pwP 01 43 00.4 -28
GTA pmax pmax
comp=Z,9.0nm,0.9s
ILAR Eielson Array 38.45 38 P **P 01 43 04.1 -0.2**
comp=Z,1.0nm,1.0s,baz=254,slow=6.3,SNR=7.4
ZALV Zalesovo Beam 41.18 306 P **P 01 43 26.4 -0.5**
comp=Z,1.3nm,0.4s,baz=81,slow=7.4,SNR=3.9
ZALV PcP **PcP 01 45 23.5 +0.6**
comp=Z,0.8nm,0.4s,baz=71,slow=3.6,SNR=3.8
INK Inuvik 43.40 32 P **P 01 43 45.8 +1.2**
comp=Z,1.2nm,0.5s,baz=303,slow=3.5,SNR=14
MKAR Makanchi Array 45.25 297 *e*P **P 01 43 59.1 -0.6**
MKAR Makanchi Array 45.25 297*ce*P **P 01 43 59.2 -0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.25 297 P **P 01 43 59.3 -0.4**
comp=Z,2.2nm,0.7s,baz=70,slow=7.6,SNR=19
MKAR PcP **PcP 01 45 37.5 +0.7**
comp=Z,0.9nm,0.6s,baz=65,slow=3.9,SNR=5.9
KURK Kurchatov 45.86 303 *e*P **P 01 44 03.5 -0.9**
KURK Kurchatov 45.86 303*ce*P **P 01 44 03.5 -0.9**
KURK pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 49.58 309 *e*P **P 01 44 33.0 0.0**
BRVK Borovoye 49.58 309*ce*P **P 01 44 33.0 0.0**
BRVK pmax pmax
comp=Z,9.0nm,2.5s
CMAR Chiang Mai Arr 50.04 254 P **P 01 44 37.3 +0.4**
comp=Z,0.7nm,0.3s,baz=52,slow=7.6,SNR=4.7
AAK Ala-Archa 52.11 295 *e*P **P 01 44 51.3 -0.9**
AAK Ala-Archa 52.11 295*ce*P **P 01 44 51.3 -0.9**
AAK pmax pmax
comp=Z,4.0nm,1.7s
RES Resolute Bay 52.16 18 P **P 01 44 51.1 -0.8**
comp=Z,9.4nm,0.9s,baz=330,slow=8.2,SNR=31
JIRN Jiri 52.76 273 *e*P **P 01 44 59.2 +1.8**
comp=Z,40nm,0.5s
YKA Yellowknife Ar 52.78 35 P **P 01 44 56.5 -0.1**
comp=Z,0.5nm,0.4s,baz=300,slow=7.5,SNR=7.5
GUN Gumba 52.82 273 *e*P **P 01 44 59.3 +1.4**
comp=Z,11nm,0.3s
KSH Kashi 52.82 291 P **P** 01 45 02.8 +5.3
KSH PcP **PcP 01 46 09.3 +4.7**
KSH PP PP 01 47 06.2 +8.0
KSH S **S 01 52 14.1 +0.4**
KSH sS sS 01 53 24.1 +8.5
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,89nm,5.8s
KSH LR LR
comp=N,140nm,8.7s
KSH LR LR
comp=E,76nm,9.3s
SPITS Spitsbergen Ar 52.86 349 P **P 01 44 55.1 -1.9**
SPITS pmax pmax
comp=Z,5.0nm,0.9s
SPITS Spitsbergen Ar 52.86 349 P **P 01 44 55.1 -1.9**
comp=Z,1.9nm,0.7s,baz=56,slow=9.1,SNR=10
RAMN Ramite 52.91 272 *e*P **P 01 44 59.9 +1.4**
comp=Z,26nm,0.4s
KKN Kakani 53.31 274 *e*P **P 01 45 03.3 +2.0**
comp=Z,20nm,0.6s
PKI Pulchoki 53.36 273 *e*P **P 01 45 03.2 +1.4**
comp=Z,8.4nm,0.4s
DMN Daman 53.54 274 *e*P **P 01 45 04.9 +1.8**
comp=Z,14nm,0.5s
GKN Gorkha 53.62 274 *e*P **P 01 45 05.1 +1.6**
comp=Z,22nm,0.5s
ARU Arti 53.98 317 *e*P **P 01 45 04.5 -0.9**
ARU Arti 53.98 317*c i*P **P 01 45 04.2 -1.2**
ARU 01 46 09.1
ARU 01 47 04.0
ARU S **S 01 52 26.8 -1.7**
ARU SS **SKiKP 01 56 04.9 +4.5**
ARU pmax pmax
comp=Z,7.0nm,0.8s
DANN Dangsing 54.02 275 *e*P **P 01 45 08.4 +1.9**
comp=Z,32nm,0.5s
KOLN Koldanda 54.49 275 *e*P **P 01 45 11.5 +1.7**
PYUN Piuthan 54.71 275 *e*P **P 01 45 13.0 +1.6**
ARCES ARCESS Array B 57.73 340 *e*P **P 01 45 31.0 -0.9**
ARCES ARCESS Array B 57.73 340 *e*P **P 01 45 31.0 -0.9**
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 57.73 340 P **P 01 45 30.6 -1.4**
comp=Z,3.1nm,0.8s,baz=29,slow=7.5,SNR=9.1
SUMG Summit 61.50 3 *i* P **P 01 45 59.3 +1.2**
comp=Z,4.4nm,0.4s
SUMG Summit 61.50 3 *i* P **P 01 45 59.3 +1.2**
SUMG pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 63.66 334 P **P 01 46 11.0 -1.2**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES FINESS Array B 63.66 334 P **P 01 46 10.9 -1.2**
comp=Z,6.1nm,0.6s,baz=40,slow=7.8,SNR=29
OBN Obninsk 64.57 324 *e*P **P 01 46 16.7 -1.4**
OBN Obninsk 64.57 324 *e*P **P 01 46 16.7 -1.4**
OBN *e* 01 46 53.0
OBN *e* 01 48 39.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
NVAR Mina Array Bea 64.71 60 P **P 01 46 20.4 +0.7**
comp=Z,0.8nm,0.6s,baz=295,slow=7.6,SNR=6.6
GEYT Alibeck 65.00 299 P **P 01 46 20.4 -0.9**
comp=Z,4.7nm,0.8s,baz=29,slow=3.4,SNR=9.4
VRH Novokhopyorsk 65.06 319 *e*P **P 01 46 19.2 -2.2**
VRH pmax pmax
comp=Z,10.0nm,1.8s
LPSR Galich'ya Gora 65.34 321 *e*P **P 01 46 22.0 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
FRB Frobisher Bay 66.38 18 P **P 01 46 29.1 -0.5**
comp=Z,1.3nm,0.4s,baz=334,slow=8.1,SNR=11
PDAR Pinedale Array 66.93 52 P **P 01 46 34.0 +0.2**
comp=Z,0.8nm,0.8s,baz=287,slow=1.5,SNR=6.0
WRA Warramunga Arr 67.21 196 P **P 01 46 38.1 +2.7**
comp=Z,0.5nm,0.9s,baz=17,slow=7.0,SNR=2.9
NB2 NORSAR Subarra 68.11 340 P **P 01 46 39.4 -1.2**
comp=Z,3.0nm,0.6s,baz=29,slow=6.2
NOA NORSAR Array B 68.11 340 *e*P **P 01 46 39.6 -1.0**
NOA NORSAR Array B 68.11 340 *e*P **P 01 46 39.6 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.6s
NOA NORSAR Array B 68.11 340 P **P 01 46 39.2 -1.4**
comp=Z,2.8nm,0.6s,baz=28,slow=6.6,SNR=23
KIV Kislovodsk 69.63 313 *i* P **P 01 46 49.6 -0.8**
KIV Kislovodsk 69.63 313 *e*P **P 01 46 52.0 +1.6**
KIV Kislovodsk 69.63 313 *e*P **P 01 46 52.0 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 69.68 312 P **P 01 46 50.1 -0.5**
comp=Z,1.4nm,0.5s,baz=204,slow=7.8,SNR=6.0
AKASG Malin Array Be 70.82 325 *e*P **P 01 46 56.5 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 70.82 325 P **P 01 46 55.6 -1.7**
comp=Z,1.2nm,0.3s,baz=35,slow=6.3,SNR=9.5
KIEV Kiev 70.83 325 *i* P **P 01 46 56.8 -0.6**
ASAR Alice Springs 70.92 195 P **P 01 46 59.9 +1.6**
comp=Z,0.3nm,0.5s,baz=11,slow=6.7,SNR=2.4
LEOM Leova 74.53 322 *i* P **P 01 47 18.6 -0.7**
BURAR Bucovina Array 74.88 325 *i* P **P 01 47 22.3 +0.9**
BIZ Bicaz 75.06 324 *i* P **P 01 47 23.0 +0.6**
TESR Tescani 75.17 323 *i* P **P 01 47 23.3 +0.2**
TRPA Tarpa 75.51 327 *i* P **P 01 47 25.3 +0.4**
CFR Carcaliu 75.61 322 *i* P **P 01 47 25.4 -0.1**
VRI Vrincioaia 75.66 323 *i* P **P 01 47 25.9 +0.1**
LANS Liptovska Anna 75.80 329 *e*P **P 01 47 27.9 +1.3**
LANS Liptovska Anna 75.80 329 *e*P **P 01 47 27.9 +1.3**
MORC Moravsky Berou 75.95 330 *i* P **P 01 47 28.1 +0.7**
HARR Harsova 76.08 321 *i* P **P 01 47 28.3 +0.1**
CLL Collm 76.11 334 *e*P **P 01 47 28.0 -0.2**
comp=Z,6.0nm,0.8s
CLL Collm 76.11 334 *e*P **P 01 47 28.0 -0.2**
CLL Collm 76.11 334 *e*P **P 01 47 28.0 -0.2**
CLL pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 76.29 323 *i* P **P 01 47 30.6 +1.0**
PGOR Pogoanele 76.31 322 *i* P **P 01 47 29.6 +0.1**
EKA Eskdalemuir Ar 76.42 345 P **P 01 47 29.9 0.0**
comp=Z,0.4nm,0.3s,baz=15,slow=5.2,SNR=8.5
DRGR 76.54 326 *i* P **P 01 47 31.1 +0.2**
VYHS Vyhne 76.58 329 *e*P **P 01 47 31.6 +0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.7s
VYHS Vyhne 76.58 329 *e*P **P 01 47 31.6 +0.6**
ICOR Ion Corvin 76.59 321 *i* P **P 01 47 31.5 +0.4**
VRAC Vranov 76.67 331 *i* P **P 01 47 32.4 +0.9**
PSZ Piszkesteto 76.68 328 *i* P **P 01 47 32.2 +0.6**
VOIR 76.70 324 *i* P **P 01 47 32.1 +0.3**
ARR Arges 76.93 324 *i* P **P 01 47 33.5 +0.4**
BRTR Keskin Array B 77.31 315 *e*P **P 01 47 36.3 +0.9**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 77.31 315 P **P 01 47 35.7 +0.3**
comp=Z,0.9nm,0.5s,baz=83,slow=2.3,SNR=7.7
GZR Gura Zlata 77.66 325 *i* P **P 01 47 37.0 -0.2**
KHC Kasperske Hory 77.83 332 *e*P **P 01 47 38.0 0.0**
KHC Kasperske Hory 77.83 332 *e*P **P 01 47 38.0 0.0**
KHC Kasperske Hory 77.83 332 *e*P **P 01 47 38.0 0.0**
BZS Buzias 77.94 326 *i* P **P 01 47 38.7 +0.1**
CONA Conrad Observa 78.11 330 *i* P **P 01 47 40.5 +0.9**
comp=Z,1.6nm,0.5s
PUNG Punghina 78.52 324 *i* P **P 01 47 41.8 0.0**
MDVR Moldovita 78.59 325 *i* P **P 01 47 41.9 -0.4**
SOKA Soboth 79.47 330 *i* P **P 01 47 47.9 +0.9**
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 79.75 58 P **P 01 47 50.2 +1.3**
comp=Z,0.5nm,0.5s,baz=296,slow=4.2,SNR=8.9
WATA Walderalm 80.04 333 *i* P **P 01 47 50.8 +0.6**
comp=Z,4.2nm,0.4s
WTTA Wattenberg 80.09 333 *i* P **P 01 47 51.2 +0.7**
comp=Z,6.0nm,0.4s
MOTA Moosalm 80.19 333 *i* P **P 01 47 51.3 +0.3**
comp=Z,1.7nm,0.5s
SQTA Sankt Quirin 80.26 333 *i* P **P 01 47 51.9 +0.6**
comp=Z,2.1nm,0.6s

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*IDC **08** 01:54:10.8±0.7,5.°18S×125.°82E, h0km, mb4.1/11, mb1 4.3/14, mb1mx4.2/31, mbtmp4.2/14, ML4.7/4, MS3.4/8, Ms1 3.4/8, ms1mx3.2/26, Error ellipse: s-maj=22.7km s-min=14.2km az=73.0*
*ISCJB **08** 01:54:13.2±0.3, 5.°25S±0.°03×125.°82E±0.°03, h33km, mb4.4/27, MS3.3/5, Error ellipse: s-maj=4.5km s-min=4.2km az=175.7*
*DJA **08** 01:54:14.2±0.2, 5.°5S×12.°6E±.°, h66km±14km, M4.5/13, mb4.7/11, mB4.9/6, MLv4.6/13, Mw(mB)4.2/6*
*NEIC **08** 01:54:14.0±2.1, 5.°23S×125.°80E, h24km±16km, mb4.5/13, Error ellipse: s-maj=8.1km s-min=5.6km az=77.0*
ISC 08 01:54:15.1±0.4, 5.°33S±0.°05×125.°80E±0.°05, h35km, n78, σ1°84/84, mb4.4/27, MS3.3/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**2.45**	**32**	P	**Pn**	**01 54 51.5**	**-1.2**
NLAI				S	**Sn**	**01 55 19.4**	**-2.0**
BBSI	**Bau Bau**	**3.22**	**267**	P	**Pn**	**01 55 03.7**	**+0.5**
SANI	**Sanana**	**3.27**	**3**	P	**Pn**	**01 55 00.9**	**-3.0**
KDI	**Kendari**	**3.45**	**293**	P	**Pn**	**01 55 05.1**	**-1.4**
KDI				S	**Sn**	**01 55 41.1**	**-5.1**
BNDI	**Bandanaira**	**4.17**	**79**	P	**Pn**	**01 55 14.8**	**-1.5**
SOEI	**Soe**	**4.65**	**199**	*e*Pn	**Pn**	**01 55 25.3**	**+2.2**
SOEI	**Soe**	**4.65**	**199**	P	**Pn**	**01 55 26.0**	**+3.0**
LUWI	**Luwuk**	**5.23**	**325**	P	**Pn**	**01 55 29.1**	**-1.8**
BATI	**Baumata**	**5.28**	**203**	Pn	**Pn**	**01 55 34.1**	**+2.4**
	23nm,0.3s,baz=189,slow=0.9,SNR=14						
BATI				LR	LR	01 57 57.2	
	comp=Z,1μm,18.2s,baz=27,slow=42						
BKSI	**Bulukumba**	**5.65**	**270**	P	**Pn**	**01 55 36.6**	**-0.1**
	169nm,0.8s,1μm0.5nm						
BKSI				S	**Sn**	**01 56 39.4**	**-1.1**
	169nm,0.8s,1μm0.5nm						
BNSI	**Bone**	**5.75**	**279**	P	**Pn**	**01 55 37.1**	**-0.9**
	91nm,0.7s,1μm0.4nm						
BNSI				S	**Sn**	**01 56 42.0**	**-0.8**
	91nm,0.7s,1μm0.4nm						
APSI	**Ampana**	**6.04**	**317**	P	**Pn**	**01 55 41.5**	**-0.5**
	65nm,0.7s,787nm0.3nm						
KMSI	**Cibinong**	**6.14**	**343**	P	**Pn**	**01 55 42.3**	**-1.2**
SPSI	**Sidrap Palu**	**6.16**	**282**	P	**Pn**	**01 55 43.6**	**-0.1**
	31nm,0.6s,576nm0.1nm						
FAKI	**Fak Fak**	**6.86**	**70**	*e*Pn	**Pn**	**01 55 53.1**	**-0.3**
FAKI	**Fak Fak**	**6.86**	**70**	P	**Pn**	**01 55 53.8**	**+0.4**
	201nm,0.8s,2μm0.8nm						
MRSI	**Marisa**	**6.94**	**326**	P	**Pn**	**01 55 52.7**	**-1.7**
	35nm,0.9s,0.1nm						
SIJI	**Sorong**	**7.03**	**51**	Pn	**Pn**	**01 55 55.4**	**-0.3**
	5.6nm,0.3s,baz=223,slow=6.5,SNR=24						
SIJI					Sn	**Sn**	**01 57 12.8**	**-1.6**
	2.7nm,0.3s,baz=88,slow=22,SNR=13						
MPSI	**Mapaga**	**8.15**	**314**	P	**Pn**	**01 56 08.2**	**-2.9**
	24nm,0.7s,654nm						
MTN	**Manton Dam**	**9.13**	**145**	*e*Pn	**Pn**	**01 56 25.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.69**	**181**	*e*Pn	**Pn**	**01 57 12.4**	**-0.8**
FITZ					Sn	**Sn**	**01 59 27.3**	**-6.0**
FITZ	**Fitzroy Crossi**	**12.69**	**181**	Pn	**Pn**	**01 57 11.0**	**-2.2**
	1.3nm,0.3s,baz=12,slow=10,SNR=33						
FITZ					Sn	**Sn**	**01 59 27.3**	**-6.0**
	0.3nm,0.3s,baz=269,slow=17,SNR=3.9						
WRAB	**Tennant Creek**	**16.73**	**151**	*e*Pn	**Pn**	**01 58 03.4**	**-3.5**
	16nm,0.6s						
WRA	**Warramunga Arr**	**16.73**	**151**	Pn	**Pn**	**01 58 02.8**	**-4.2**
	1.0nm,0.3s,baz=320,slow=13,SNR=44						
WRA					Sn	Sn	02 01 01.0	-11
	baz=319,slow=23,SNR=4.4						
WRA				LR	LR	02 04 46.7	
	comp=Z,110nm,21.1s,baz=0.0,slow=38						
WB2	**Warramunga Arr**	**16.74**	**151**	*e*Pn	**Pn**	**01 58 04.7**	**-2.3**
COEN	**Coen**	**19.14**	**118**	*e*P	**Pn**	**01 58 36.5**	**-0.1**
	26nm,0.7s						
AS31	**Alice Springs**	**19.83**	**158**	*e*P	**Pn**	**01 58 44.3**	**-0.5**
	8.1nm,0.6s						
ASAR	**Alice Springs**	**19.83**	**158**	P	**Pn**	**01 58 44.4**	**-0.4**
	0.6nm,0.3s,baz=335,slow=11,SNR=48						
ASAR				LR	LR	02 06 51.3	
	comp=Z,154nm,18.4s,baz=325,slow=38						
AS01	**Alice Springs**	**19.85**	**157**	*e*P	**Pn**	**01 58 44.2**	**-0.8**
TGY	**Tagaytay City**	**19.90**	**346**	P	**P**	**01 58 43.1**	**-0.8**
	21nm,0.3s,baz=181,slow=8.6,SNR=3.9						
MDSI	**Maura Dua**	**21.56**	**271**	P	**P**	**01 59 04.0**	**+2.2**
CTA	**Charters Tower**	**24.71**	**128**	P	**P**	**01 59 34.4**	**+1.1**
	6.6nm,1.1s,baz=304,slow=3.6,SNR=1.8						
PSI	**Prapat**	**28.04**	**286**	*e*P	**P**	**02 00 03.3**	**-0.2**
	13nm,0.9s						
PSI	**Prapat**	**28.04**	**286**	P	**P**	**02 00 03.2**	**-0.3**
	7.9nm,0.8s,baz=179,slow=4.9,SNR=4.8						
STKA	**Stephens Creek**	**30.27**	**153**	*e*P	**P**	**02 00 24.2**	**+1.2**
	1.4nm,0.7s						
STKA	**Stephens Creek**	**30.27**	**153**	P	**P**	**02 00 24.4**	**+1.4**
	5.5nm,1.0s,baz=339,slow=4.3,SNR=6.9						
STKA				LR	LR	02 13 21.5	
	comp=Z,117nm,19.0s,baz=342,slow=38						
CMAR	**Chiang Mai Arr**	**35.50**	**312**	P	**P**	**02 01 09.3**	**+0.5**
	1.5nm,0.6s,baz=134,slow=7.1,SNR=8.5						
KMI	**Kunming**	**37.67**	**324**	P	**P**	**02 01 29.2**	**+1.6**
KMI				pmax	pmax		
	comp=Z,22nm,0.5s						
NJ2	**Nanjing**	**37.76**	**350**	*e*P	**P**	**02 01 29.1**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
CD2	**Chengdu**	**41.75**	**331**	*e*P	**P**	**02 02 03.8**	**+2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				pmax	pmax		
	comp=Z,130nm,4.9s						
XAN	**Xi'an**	**42.29**	**339**	P	**P**	**02 02 05.8**	**+0.3**
XAN				pP	pP	02 02 14.5	-0.3
XAN				sP	sP	02 02 18.6	+0.1
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,4.9s						
XAN				LR	LR		
	comp=E,110nm,13.0s						
XAN	**Xi'an**	**42.29**	**339**	*e*P	**P**	**02 02 05.2**	**-0.3**
	11nm,0.6s						
KSAR	**Wonju Array Be**	**42.60**	**2**	P	**P**	**02 02 07.5**	**-0.5**
KSRS	**Korea Array**	**42.61**	**2**	P	**P**	**02 02 07.4**	**-0.6**
	0.7nm,0.5s,baz=186,slow=10,SNR=3.1						
KSRS					LR	LR	02 19 29.9	
	comp=Z,17nm,21.4s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**43.25**	**15**	P	**P**	**02 02 12.8**	**-0.4**
	0.9nm,0.3s,baz=195,slow=8.7,SNR=2.7						
MJAR					LR	LR	02 21 09.7	
	comp=Z,18nm,19.2s,baz=350,slow=38						

LZH	**Lanzhou**	**46.06**	**335**	*eP*	**P**	**02 02 37.2**	**+1.3**
LZH				pP	pwP	02 02 50.0	+0.2
LZH				sP	sP	02 02 54.9	+6.0
LZH				pmax	pmax		
	comp=Z,23nm,1.1s						
HHC	**Hu-ho-hao-te**	**47.78**	**345**	*eP*	**P**	**02 02 50.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.4s						
LSA	**Lhasa**	**48.15**	**318**	*eP*	**P**	**02 02 52.2**	**-0.4**
USRK	**Ussuriysk Ar.**	**49.62**	**6**	P	**P**	**02 03 02.8**	**-0.3**
	1.5nm,0.6s,baz=176,slow=5.8,SNR=8.1						
USRK				LR	LR	02 23 25.0	
	comp=Z,21nm,21.0s,baz=192,slow=36						
JIRN	**Jiri**	**50.37**	**313**	*eP*	**P**	**02 03 11.9**	**+2.3**
GTA	**Gaotai**	**50.58**	**334**	*eP*	**P**	**02 03 13.9**	**+3.3**
GTA				pP	sP	02 03 23.2	-0.6
GTA				sP	pwP	02 03 27.0	+2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GUN	**Gumba**	**50.74**	**313**	*eP*	**P**	**02 03 14.7**	**+2.4**
PKI	**Pulchoki**	**50.90**	**312**	*eP*	**P**	**02 03 15.4**	**+1.9**
	9.1nm,0.5s						
GKN	**Gorkha**	**51.70**	**312**	*eP*	**P**	**02 03 21.5**	**+2.2**
KOLN	**Koldanda**	**52.35**	**311**	*eP*	**P**	**02 03 25.0**	**+0.8**
DANN	**Dangsing**	**52.54**	**312**	*eP*	**P**	**02 03 26.1**	**+0.4**
PYUN	**Piuthan**	**52.98**	**311**	*eP*	**P**	**02 03 29.5**	**+0.6**
ULN	**Ulaanbaatar**	**55.48**	**345**	*eP*	**P**	**02 03 46.1**	**-0.6**
	3.7nm,0.8s						
SONM	**Songino Array**	**55.63**	**344**	P	**P**	**02 03 47.6**	**-0.1**
	1.1nm,0.8s,baz=157,slow=7.5,SNR=8.4						
WMQ	**Urumqi**	**59.77**	**329**	*eP*	**P**	**02 04 18.4**	**+1.6**
WMQ				pP	pwP	02 04 31.4	+0.4
WMQ				sP	sP	02 04 37.1	+7.0
WMQ				pmax	pmax		
	comp=Z,12nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.3s						
CASY	**Casey**	**61.77**	**187**	*eP*	**P**	**02 04 29.3**	**-0.6**
	2.0nm,0.8s						
MK01	**Makanchi Array**	**64.57**	**328**	*eP*	**P**	**02 04 48.3**	**-0.6**
MK31	**Makanchi Array**	**64.59**	**328**	*eP*	**P**	**02 04 48.8**	**-0.2**
	4.9nm,1.4s						
MKAR	**Makanchi Array**	**64.59**	**328**	P	**P**	**02 04 49.2**	**+0.2**
	1.3nm,0.6s,baz=128,slow=7.5,SNR=16						
KBL	**Kabul**	**66.52**	**311**	*eP*	**P**	**02 05 02.1**	**+0.1**
	29nm,0.7s						
AAK	**Ala-Archa**	**66.61**	**321**	*eP*	**P**	**02 05 01.7**	**-0.6**
	4.3nm,0.8s						
ZAA0	**Zalesovo Array**	**68.29**	**335**	*eP*	**P**	**02 05 11.9**	**-0.6**
	8.1nm,1.1s						
ZALV	**Zalesovo Beam**	**68.29**	**335**	*eP*	**P**	**02 05 11.5**	**-1.0**
ZALV	**Zalesovo Beam**	**68.29**	**335**	P	**P**	**02 05 11.8**	**-0.7**
	2.0nm,0.6s,baz=144,slow=6.4,SNR=8.8						
KURK	**Kurchatov**	**68.96**	**330**	*eP*	**P**	**02 05 16.2**	**-0.5**
BRVK	**Borovoye**	**74.53**	**329**	*eP*	**P**	**02 05 49.7**	**-0.5**
VNDA	**Vanda**	**74.62**	**172**	P	**P**	**02 05 52.6**	**+2.3**
	1.2nm,1.0s,baz=297,slow=6.2,SNR=2.2						
ABKAR	**Akbulak array**	**78.63**	**322**	*eP*	**P**	**02 06 13.0**	**-0.5**
	3.5nm,1.3s						
ARU	**Arti**	**82.11**	**329**	*eP*	**P**	**02 06 31.6**	**-0.5**
RAYN	**Ar Rayn**	**83.26**	**294**	*eP*	**P**	**02 06 38.5**	**-0.3**
	4.8nm,0.8s						
KMBO	**Kilima Mbogo**	**88.45**	**269**	LR	LR	02 43 26.0	
	comp=Z,44nm,19.5s,baz=96,slow=33						
TORD	**Torodi Ar. Bea**	**124.38**	**282**	PKP	**PKiKP**	**02 13 13.9**	**+2.0**
	0.2nm,0.6s,baz=113,slow=1.7,SNR=2.4						
CPUP	**Villa Florida**	**148.38**	**175**	PKPbc	**PKiKP**	**02 14 00.3**	**-0.1**
	1.9nm,1.0s,baz=180,slow=4.0,SNR=2.2						

TAP ***08*** *01:57:18.0,24.31N×121.43E,h8km,ML3.5,B*
ISCJB ***08*** *01:57:18.5±0.2,24.311N±0.010×121.45E±0.01, h2km±2km, Error ellipse: s-maj=2.2km s-min=1.4km az=28.3*
JMA ***08*** *01:57:18.0±0.1,24.30N×121.42E,h3km,M2.9*

ISC 08 01:57:18.2±0.8,24.33N±0.01×121.42E±0.01,h11km±5km, n99,σ0.74/154,29C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.11**	**341**	⇑P		**Pg**	**01 57 21.4**	**+0.3**
	baz=339							
NNSB				S		**Sg**	**01 57 23.2**	**0.0**
	baz=339							
NNS	**Nan Shan**	**0.12**	**339**	⇑*i*P		**Pg**	**01 57 21.6**	**+0.3**
	baz=340							
NNS				S		**Sg**	**01 57 23.8**	**+0.2**
	baz=340							
ETLH	**Xiulin Townshi**	**0.13**	**155**	⇓P		**Pg**	**01 57 21.4**	**-0.1**
	baz=157							
ETLH				S		**Sg**	**01 57 23.2**	**-0.5**
	baz=157							
NACB	**Ninganchiao**	**0.22**	**134**	⇓P		**Pg**	**01 57 22.8**	**0.0**
	baz=132							
NACB				S		**Sg**	**01 57 25.5**	**-0.5**
	baz=132							
WHF	**Hehuan Shan**	**0.23**	**218**	⇑*i*P		**Pg**	**01 57 23.1**	**-0.1**
	baz=222							
TWT	**Tachien**	**0.23**	**252**	⇑*i*P		**Pb**	**01 57 23.8**	**-0.8**
	baz=255							
TWT				S		**Sg**	**01 57 27.2**	**+0.7**
	baz=255							
TDCB	**Techi**	**0.25**	**253**	⇑P		**Pg**	**01 57 23.9**	**+0.5**
	baz=251							
TDCB				S		**Sg**	**01 57 26.9**	**0.0**
	baz=251							
NDT	**Datong Townshi**	**0.29**	**17**	⇑*i*P		**Pg**	**01 57 24.5**	**+0.5**
	baz=16							
NDT				S		**Sg**	**01 57 28.7**	**+0.7**
	baz=16							
TWD	**Chiawan**	**0.29**	**147**	⇓*i*P		**Pg**	**01 57 24.1**	**0.0**
	baz=146							
TWD				*i* S		**Sg**	**01 57 28.0**	**-0.1**
	baz=146							
ENA	**Nanau**	**0.31**	**71**	⇑*i*P		**Pg**	**01 57 24.3**	**-0.2**
	baz=68							
ENTT	**Nioudou**	**0.34**	**23**	⇑*i*P		**Pg**	**01 57 25.4**	**+0.4**
	baz=15							
ENTT				S		**Sg**	**01 57 30.1**	**+0.5**
	baz=15							
YHNB	**Yeheng**	**0.34**	**353**	⇑P		**Pb**	**01 57 26.0**	**-0.5**
	baz=342							
YHNB				S		**Sg**	**01 57 30.0**	**+0.2**
	baz=342							
CHGB	**Renai**	**0.35**	**220**	⇑P		**Pg**	**01 57 25.2**	**0.0**
	baz=222							
CHGB				eS		**Sg**	**01 57 30.5**	**+0.6**
	baz=222							
NSK	**Sanguang**	**0.35**	**351**	P		**Pb**	**01 57 26.0**	**-0.6**
	baz=352							
NSK				eS		**Sg**	**01 57 30.2**	**+0.2**
	baz=352							
HWA	**Hwalien**	**0.39**	**154**	*eP*		**Pg**	**01 57 26.2**	**+0.3**
	baz=142							
OWD	**Renai**	**0.43**	**211**	⇑*i*P		**Pg**	**01 57 26.5**	**-0.3**
	baz=212							
OWD				eS		**Sg**	**01 57 31.9**	**-0.7**
	baz=212							
WHP	**Taichung City**	**0.43**	**264**	⇑*i*P		**Pb**	**01 57 27.9**	**-0.1**
	baz=265							
WHP				S		**Sb**	**01 57 33.5**	**-1.1**
	baz=265							
ENLB	**Shoufeng**	**0.45**	**158**	*eP*		**Pg**	**01 57 27.3**	**+0.2**
	baz=145							
TWE	**Neicheng**	**0.45**	**30**	⇑*i*P		**Pg**	**01 57 27.6**	**+0.5**
	baz=41							
TWE				S		**Sg**	**01 57 33.6**	**+0.4**
	baz=41							
NWLT	**Wulai**	**0.46**	**9**	P		**Pg**	**01 57 27.6**	**+0.5**
	baz=4.0							
NWLT				eS		**Sg**	**01 57 33.5**	**+0.3**
	baz=4.0							
SLBB	**Yuanshan**	**0.47**	**25**	P		**Pg**	**01 57 27.8**	**+0.4**
	baz=35							
SLBB				S		**Sb**	**01 57 34.8**	**-0.7**
	baz=35							
TWC	**Suao**	**0.48**	**54**	⇑*i*P		**Pg**	**01 57 27.5**	**-0.2**
	baz=44							
TWC				eS		**Sg**	**01 57 33.9**	**-0.1**
	baz=44							
LIOB	**Emei**	**0.49**	**311**	⇓*i*P		**Pg**	**01 57 28.0**	**+0.2**
	baz=312							
LIOB				eS		**Sg**	**01 57 34.8**	**+0.6**
	baz=312							
NSTT	**Nanjuang**	**0.49**	**309**	P		**Pb**	**01 57 29.0**	**+0.1**
	baz=310							
NSTT				S		**Sb**	**01 57 35.7**	**-0.3**
	baz=310							
ESL	**Shilin**	**0.51**	**179**	⇑*i*P		**Pg**	**01 57 27.9**	**-0.2**
	baz=167							
ILA	**Ilan**	**0.53**	**34**	*eP*		**Pg**	**01 57 28.8**	**+0.3**
	baz=43							
WLTB	**Daxi**	**0.55**	**344**	*eP*		**Pb**	**01 57 30.7**	**+0.9**
	baz=353							
WLTB				eS		**Sb**	**01 57 38.4**	**+0.7**
	baz=353							
TWQ1	**Liyutan**	**0.59**	**272**	*eP*		**Pb**	**01 57 31.2**	**+0.6**
	baz=273							
TWQ1				eS		**Sb**	**01 57 38.9**	**-0.1**
	baz=273							
NSY	**Sanyi**	**0.61**	**279**	*eP*		**Pn**	**01 57 31.9**	**-1.0**
	baz=280							
NMLH	**Miaoli**	**0.61**	**290**	*eP*		**Pb**	**01 57 31.8**	**+0.9**
	baz=291							
NMLH				eS		**Sn**	**01 57 41.1**	**-1.6**
	baz=291							
SBCB	**Hsinchu**	**0.61**	**320**	*eP*		**Pb**	**01 57 31.2**	**+0.2**
	baz=320							
VWDT	**VWDT**	**0.62**	**204**	⇑P		**Pg**	**01 57 29.9**	**-0.5**
	baz=210							
VWDT				S		**Sg**	**01 57 38.8**	**+0.2**
	baz=210							
NHDH	**Xindian Distri**	**0.64**	**9**	*eP*		**Pb**	**01 57 31.3**	**-0.2**
	baz=20							
NHDH				eS		**Sb**	**01 57 39.8**	**-0.7**
	baz=20							
NTC	**Toucheng**	**0.64**	**35**	*eP*		**Pg**	**01 57 30.6**	**-0.2**
	baz=45							
SMLT	**Sun Moon Lake**	**0.65**	**227**	⇑*i*P		**Pg**	**01 57 31.1**	**+0.2**
	baz=227							
SMLT				S		**Sb**	**01 57 40.6**	**-0.2**
	baz=227							
TATO	**Taipei**	**0.65**	**5**	P		**Pb**	**01 57 31.7**	**+0.1**
	baz=18							
TATO				eS		**Sg**	**01 57 39.7**	**+0.4**
	baz=18							
EGFH	**Guangfu**	**0.66**	**179**	⇑*e*P		**Pg**	**01 57 30.4**	**-0.5**
	baz=180							
PTSB	**Yuanli**	**0.66**	**281**	*eP*		**Pn**	**01 57 33.1**	**-0.5**
	baz=281							
PTSB				S		**Sn**	**01 57 42.7**	**-1.3**
	baz=281							
TYC	**Yuchr**	**0.67**	**231**	⇑*i*P		**Pg**	**01 57 31.3**	**+0.2**
	baz=231							
TYC				S		**Sg**	**01 57 39.5**	**-0.3**
	baz=231							
TWA	**Mucha**	**0.67**	**13**	⇑P		**Pb**	**01 57 32.0**	**+0.1**
	baz=25							
TWA				S		**Sb**	**01 57 41.0**	**-0.2**
	baz=25							
NCUH	**Zhongli**	**0.67**	**342**	*eP*		**Pn**	**01 57 33.2**	**-0.6**
	baz=348							
NCU	**National Centr**	**0.68**	**342**	*eP*		**Pn**	**01 57 33.6**	**-0.2**
	baz=350							
NCU				eS		**Sn**	**01 57 44.2**	**-0.2**
	baz=350							
EOS1	**EOS1**	**0.68**	**71**	⇑P		**Pb**	**01 57 31.8**	**-0.4**
	baz=60							
EOS1				eS		**Sb**	**01 57 42.3**	**+0.7**
	baz=60							
SSLB	**Suanglung**	**0.69**	**219**	⇑P		**Pg**	**01 57 31.1**	**-0.5**
	baz=219							
SSLB				eS		**Sg**	**01 57 38.8**	**-1.7**
	baz=219							
TCU	**Taichung**	**0.70**	**255**	*eP*		**Pn**	**01 57 33.9**	**-0.3**
	baz=257							
WDJ	**Dajia District**	**0.71**	**272**	*eP*		**Pn**	**01 57 33.8**	**-0.5**
	baz=284							
TAP	**Taipei**	**0.71**	**6**	*eP*		**Pb**	**01 57 33.1**	**+0.4**
	baz=6.0							
TIPB	**Shuangxi**	**0.74**	**30**	⇑*i*P		**Pg**	**01 57 32.7**	**+0.1**
	baz=19							
TIPB				eS		**Sg**	**01 57 42.0**	**-0.3**
	baz=19							
TWS1	**Kuangyinshan**	**0.77**	**360**	*eP*		**Pn**	**01 57 34.4**	**-0.7**
	baz=22							
WJS	**Zhushan**	**0.81**	**232**	*eP*		**Pb**	**01 57 34.6**	**+0.3**
	baz=227							
NWF	**Wu-fen Shan**	**0.81**	**24**	P		**Pb**	**01 57 34.2**	**-0.2**
	baz=25							
NWF				eS		**Sn**	**01 57 46.8**	**-1.0**
	baz=25							
WFSB	**Wu-fen Shan**	**0.81**	**24**	⇑P		**Pb**	**01 57 34.3**	**0.0**
	baz=25							
WFSB				eS		**Sb**	**01 57 46.3**	**+1.0**
	baz=25							
WHYT	**Xinyi Township**	**0.81**	**220**	*eP*		**Pb**	**01 57 33.7**	**-0.2**
	baz=221							
WCHH	**Zhanghua**	**0.82**	**253**	*eP*		**Pn**	**01 57 35.8**	**0.0**
	baz=254							
YM01	**YM01**	**0.83**	**9**	⇑P		**Pn**	**01 57 35.4**	**-0.5**
	baz=11							
YM01				S		**Sb**	**01 57 45.8**	**-0.1**
	baz=11							
YM04	**YM04**	**0.83**	**7**	*eP*		**Pb**	**01 57 34.9**	**+0.2**
	baz=21							
HGSD	**Ruisui**	**0.83**	**180**	⇑P		**Pg**	**01 57 34.0**	**-0.3**
	baz=186							
HGSD				eS		**Sn**	**01 57 47.0**	**-1.1**
	baz=186							
NTST	**Danshui**	**0.83**	**2**	*eP*		**Pn**	**01 57 35.8**	**-0.1**
	baz=2.0							
YM05	**YM05**	**0.84**	**9**	⇑P		**Pn**	**01 57 35.8**	**-0.4**
	baz=25							
YM05				eS		**Sn**	**01 57 48.1**	**-0.5**
	baz=25							
YM11	**YM11**	**0.85**	**9**	P		**Pn**	**01 57 35.9**	**-0.3**
	baz=12							
YM11				eS		**Sn**	**01 57 48.2**	**-0.5**
	baz=12							
TWB1	**Santiao Chiao**	**0.85**	**37**	*eP*		**Pg**	**01 57 33.9**	**-0.8**
	baz=37							
ANP	**Anpu**	**0.86**	**6**	*eP*		**Pg**	**01 57 34.1**	**-0.7**
	baz=20							
YM08	**YM08**	**0.87**	**10**	*eP*		**Pb**	**01 57 35.8**	**+0.4**
	baz=10.0							
YULB	**Yu-li**	**0.94**	**187**	*eP*		**Pg**	**01 57 35.7**	**-0.6**
	baz=178							
YULB				S		**Sb**	**01 57 48.9**	**-0.1**
	baz=178							
TWY	**Chenhua**	**0.96**	**10**	*eP*		**Pn**	**01 57 37.9**	**+0.2**
	baz=10.0							
TWF1	**Yuli**	**0.98**	**187**	P		**Pg**	**01 57 36.8**	**-0.2**
	baz=177							
TWF1				eS		**Sb**	**01 57 50.0**	**-0.1**
	baz=177							
CHN5	**Tsauling**	**0.99**	**223**	*eP*		**Pn**	**01 57 37.8**	**-0.4**
	baz=222							
CHN5				eS		**Sn**	**01 57 52.9**	**+0.6**
	baz=222							
WDLH	**Douliu**	**1.03**	**232**	*eP*		**Pn**	**01 57 38.8**	**+0.2**
	baz=233							
RLNB	**Erlin**	**1.06**	**246**	*eP*		**Pn**	**01 57 39.5**	**+0.5**
	baz=248							
FULB	**Fuli**	**1.13**	**186**	⇓P		**Pn**	**01 57 40.5**	**+0.5**
	baz=194							
FULB				eS		**Sn**	**01 57 57.3**	**+1.7**
	baz=194							
WTCT	**Ta-ch'eng**	**1.14**	**246**	*eP*		**Pn**	**01 57 40.5**	**+0.4**
	baz=248							
ELDTW	**Lidau**	**1.19**	**198**	*eP*		**Pb**	**01 57 39.9**	**-1.1**
	baz=196							
ELDTW				eS		**Sg**	**01 57 56.6**	**0.0**
	baz=196							
CHY	**Chiayi**	**1.23**	**228**	*eP*		**Pg**	**01 57 41.8**	**-0.1**
	baz=245							
CHN4	**Tsaushan**	**1.23**	**218**	⇑*i*P		**Pg**	**01 57 42.4**	**+0.5**
	baz=212							
CHN4				eS		**Sn**	**01 58 02.0**	**+3.9**
	baz=212							
TPUB	**Ta-pu**	**1.25**	**215**	*eP*		**Pg**	**01 57 42.1**	**-0.2**
	baz=227							
WTP	**Ta-pu**	**1.30**	**215**	⇑P		**Pg**	**01 57 43.2**	**-0.1**
	baz=213							
WTP				eS		**Sg**	**01 58 03.3**	**+3.1**
	baz=213							
STYT	**Tauyuan**	**1.31**	**208**	*eP*		**Pb**	**01 57 42.7**	**-0.2**
	baz=202							
TWK	**Hsinying**	**1.36**	**219**	*eP*		**Pb**	**01 57 43.7**	**0.0**
	baz=219							
SNST	**Tainan City**	**1.39**	**218**	*eP*		**Pg**	**01 57 44.8**	**-0.1**
	baz=218							
JYNG	**Yonagunijimaku**	**1.40**	**85**	P		**Pb**	**01 57 44.6**	**+0.3**
JYNG				S		**Sg**	**01 58 02.7**	**-0.5**
CHN1	**Nanshi**	**1.40**	**216**	P		**Pg**	**01 57 45.2**	**+0.1**
	baz=211							
CHN1				eS		**Sg**	**01 58 05.9**	**+2.6**
	baz=211							
PCYT	**Pengchaiyu**	**1.43**	**24**	*eP*		**Pb**	**01 57 44.9**	**+0.1**
	baz=18							
YOJ	**Yonaguni jima**	**1.46**	**84**	*eP*		**Pb**	**01 57 45.2**	**-0.1**
	baz=72							
YOJ				eS		**Sg**	**01 58 06.4**	**+1.3**
	baz=72							
YOJ	**Yonaguni jima**	**1.46**	**84**	P		**Pb**	**01 57 45.3**	**-0.1**
YOJ				eS		**Sg**	**01 58 05.3**	**+0.2**
SLGT	**Liugui**	**1.50**	**208**	*eP*		**Pb**	**01 57 46.4**	**+0.2**
	baz=204							
SLGT				eS		**Sg**	**01 58 08.6**	**+1.9**
	baz=204							
TWG	**Pinlang**	**1.53**	**192**	*eP*		**Pb**	**01 57 46.1**	**-0.6**
	baz=173							
TWGBT	**Beinan**	**1.53**	**192**	*eP*		**Pg**	**01 57 47.1**	**-0.6**
	baz=173							
MASBT	**Mashibuluo**	**1.85**	**203**	*eP*		**Pb**	**01 57 52.6**	**+0.5**
	baz=200							
MASBT				eS		**Sg**	**01 58 16.8**	**-1.1**
	baz=200							
PNG	**Penghu**	**1.87**	**246**	*eP*		**Pb**	**01 57 51.6**	**-0.8**
	baz=248							
PHUB	**P'eng-hu**	**1.88**	**245**	*eP*		**Pn**	**01 57 50.5**	**+0.2**
	baz=246							
VWUC	**VWUC**	**1.91**	**291**	*eP*		**Pn**	**01 57 50.4**	**-0.4**
	baz=294							
WDGT	**Dungji**	**1.93**	**237**	*eP*		**Pb**	**01 57 52.5**	**-0.9**
	baz=237							
EAST	**Anshuo**	**2.00**	**195**	*eP*		**Pb**	**01 57 55.1**	**+0.3**
	baz=177							
SCZT	**Fangliau**	**2.08**	**201**	*eP*		**Pb**	**01 57 55.6**	**-0.4**
	baz=219							
IRIF	**Iriomote-Funau**	**2.11**	**89**	P		**Pn**	**01 57 54.0**	**+0.6**
IRIF				eS		**Sb**	**01 58 22.4**	**-0.2**
VCHM	**Qimei**	**2.14**	**239**	*eP*		**Pb**	**01 57 55.4**	**-1.5**
	baz=240							
MATB	**Ma-tsu**	**2.25**	**324**	*eP*		**Pn**	**01 57 55.1**	**-0.3**
	baz=325							
JKRS	**Kuro-shima**	**2.36**	**92**	P		**Pn**	**01 57 57.8**	**+0.8**
JKRS				eS		**Sb**	**01 58 28.5**	**-1.6**
JIJ	**Ishigaki jima**	**2.48**	**89**	eS		**Sn**	**01 58 30.1**	**+1.1**

MEX 08 01:58:07.9±0.6,16.28N×98.02W,h2km±6km,MD3.8,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**316**	*eP*		**Pg**	**01 58 10.5**	**-0.4**
PNIG				eS		Sg	01 58 13.2	+0.3
TLIG	**Tlapa**	**1.38**	**338**	*eP*		**Pg**	**01 58 30.7**	**-3.7**
TLIG				eS		Sg	01 58 48.0	-4.2
VHO	**Vista Hermosa**	**1.46**	**57**	*i* P		**Pn**	**01 58 32.5**	**-3.0**
VHO				eS		Sg	01 58 50.3	-4.6
CAIG	**El Cayaco**	**2.29**	**290**	*i* P		**Pn**	**01 58 44.0**	**-2.8**
CAIG				*i* S		**Sn**	**01 59 11.4**	**-4.2**

GUC ***08*** *02:14:32.8±0.6,31.90S×68.83W,h204km±17km,ML3.5*
ISCJB ***08*** *02:14:34.0±0.8,31.86S±0.03×68.31W±0.05,h112km±6km, Error ellipse: s-maj=6.9km s-min=5.4km az=2.2*
SJA ***08*** *02:14:33.6±0.7,31.85S×68.35W,h104km±3km,ML3.6, MW4.3*

ISC 08 02:14:34.9±1.6,31.85S±0.04×68.33W±0.05,h106km±9km, n21,σ0.66/34,5C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.18**	**265**	*i* P		**Pn**	**02 14 49.3**	**-0.5**
RTCV				*i* S		**Sn**	**02 15 00.9**	**-0.1**
SJA	**San Juan**	**0.38**	**328**	*i* P		**Pn**	**02 14 50.6**	**0.0**
SJA				IAML			02 14 51.0	
	comp=Z,1μm,0.3s							
SJA				*i* S		**Sn**	**02 15 02.6**	**+0.2**
RTLL	**Cerro Villicun**	**0.53**	**346**	*i* P		**Pn**	**02 14 51.3**	**-0.4**
RTLL				IAML			02 14 51.8	
	comp=Z,1μm,0.4s							
RTLL				*i* S		**Sn**	**02 15 04.5**	**+0.4**
RTLS	**Leoncito**	**0.82**	**273**	*i* P		**Pn**	**02 14 54.4**	**0.0**
RTLS				*i* S		**Sn**	**02 15 09.3**	**+0.3**
RTLS				IAML			02 15 11.0	
	comp=Z,1μm,0.3s							
ASAL	**Salagasta**	**0.86**	**210**	⇓*i*P		**Pn**	**02 14 54.2**	**-0.3**
AMOG	**MOGNA**	**0.92**	**351**	*i* P		**Pn**	**02 14 55.1**	**0.0**
AUSP	**Uspallata**	**0.97**	**247**	*i* P		**Pn**	**02 14 55.5**	**-0.3**
ACAN	**Cantantal**	**1.06**	**114**	*i* S		**Sn**	**02 15 12.8**	**+0.1**
ARCO	**CERRO ARCO**	**1.11**	**207**	*i* P		**Pn**	**02 14 56.9**	**-0.3**
ARCO				IAML			02 15 15.0	
	comp=Z,825nm,0.4s							
AAGR	**Agrelo**	**1.30**	**199**	*i* P		**Pn**	**02 14 59.0**	**-0.3**
AAGR				⇓*i*S		**Sn**	**02 15 17.5**	**-0.3**
ACDV	**Cuesta del Vie**	**1.80**	**338**	*i* P		**Pn**	**02 15 05.5**	**0.0**
ACDV				*i* S		**Sn**	**02 15 28.9**	**+0.2**
ACDV				IAML			02 15 30.1	
	comp=Z,343nm,0.3s							
AROD	**Rodeo**	**1.94**	**329**	*i* P		**Pn**	**02 15 07.7**	**+0.3**
AROD				*i* S		**Sn**	**02 15 32.5**	**+0.5**
FCH	**Farellones**	**2.22**	**228**	⇑*i*P		**Pn**	**02 15 11.2**	**+0.4**
FCH				*i* S		**Sn**	**02 15 40.7**	**+2.3**
FCH				IAML			02 15 42.6	
	comp=N,146nm,0.3s							
MRA	**San Martin**	**2.29**	**105**	*i* P		**Pn**	**02 15 11.3**	**-0.2**
MRA				IAML			02 15 11.5	
	comp=Z,384nm,0.4s							
PEL	**Peldehue**	**2.37**	**236**	*eP*		**Pn**	**02 15 11.9**	**-0.7**
PEL				*i* S		**Sn**	**02 15 41.1**	**-0.4**
PEL				IAML			02 15 43.4	
	comp=N,198nm,0.5s							
CMCH	**Combarbala**	**2.38**	**286**	*eP*		**Pn**	**02 15 12.3**	**-0.4**
CMCH				*i* S		**Sn**	**02 15 41.6**	**0.0**
CLCH	**Cerro Calan**	**2.42**	**230**	⇑*i*P		**Pn**	**02 15 13.4**	**+0.1**
CLCH				*i* S		**Sn**	**02 15 43.7**	**+1.1**
CLCH				IAML			02 15 53.7	
	comp=E,219nm,0.4s							
ROCH	**El Roble**	**2.53**	**243**	⇑*i*P		**Pn**	**02 15 13.6**	**-1.2**
ROCH				*i* S		**Sn**	**02 15 44.7**	**-0.7**
ROCH				IAML			02 15 46.3	
	comp=E,330nm,0.3s							
LMEL	**Las Melosas**	**2.54**	**218**	*eP*		**Pn**	**02 15 15.2**	**+0.3**
GO04	**Tololo Observa**	**2.70**	**308**	⇑*i*P		**Pn**	**02 15 16.6**	**-0.5**

s-maj=42.4km s-min=14.3km az=128.0

ISC 08 03:04:19.6±1.0, 5°4S±0°3×147°0E±0°3, h195km, n7, σ1ᵍ26/9, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.98**	**219**	P	**P**	**03 08 26.9**	**+0.4**
	1.9nm,0.3s,baz=44,slow=9.8,SNR=116						
WRA				S	**S**	**03 11 49.9**	**-1.8**
	0.0nm,0.3s,baz=42,slow=20,SNR=3.5						
ASAR	**Alice Springs**	**22.10**	**213**	P	**P**	**03 08 59.4**	**+0.1**
	4.5nm,0.4s,baz=49,slow=8.2,SNR=64						
ASAR				S	**S**	**03 12 50.7**	**+2.0**
	0.5nm,0.9s,baz=30,slow=22,SNR=2.8						
FITZ	**Fitzroy Crossi**	**24.37**	**237**	P	**P**	**03 09 20.6**	**+0.7**
	4.3nm,0.3s,baz=52,slow=11,SNR=33						
VNDA	**Vanda**	**72.51**	**177**	P	**P**	**03 15 23.9**	**-0.7**
	0.8nm,0.7s,baz=9.5,slow=6.1,SNR=3.9						
ILAR	**Eielson Array**	**84.94**	**23**	P	**P**	**03 16 31.9**	**-0.5**
	0.4nm,0.7s,baz=265,slow=5.2,SNR=4.9						
NVAR	**Mina Array Bea**	**97.02**	**52**	P	**P**	**03 17 30.5**	**+0.8**
	0.1nm,0.5s,baz=250,slow=6.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**144.91**	**285**	PKPbc	**PKPbc**	**03 23 33.6**	**-0.5**
	0.3nm,0.8s,baz=64,slow=3.6,SNR=4.3						

*IDC **08** 03:10:55.3±0.8, 30°.99S×177°.09W, h0km, mb4.4/8, mb1 4.6/10, mb1mx4.3/40, mbtmp4.4/10, ML3.9/2, MS3.8/8, Ms1 3.8/8, ms1mx3.6/27, Error ellipse: s-maj=26.6km s-min=20.2km az=145.0*

*NEIC **08** 03:10:56.9±0.3, 30°.99S×177°.15W, h10km, mb4.5/6, Error ellipse: s-maj=8.9km s-min=5.0km az=110.0*

*ISCJB **08** 03:10:58.7±0.7, 31°.23S±0°.06×177°.2W±0°.1, h33km, mb4.4/12, MS3.8/6, Error ellipse: s-maj=17.7km s-min=6.2km az=19.4*

ISC 08 03:11:00.8±0.7, 31°.06S±0°.06×177°.3W±0°.1, h35km, n55, σ1ᵍ74/63, mb4.5/12, MS3.7/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.87**	**344**	Pn	**Pn**	**03 11 27.4**	**-2.9**
	455nm,0.3s,baz=212,slow=11,SNR=11						
RAO				Sn	**Sn**	**03 11 49.1**	**-3.7**
	742nm,0.3s,baz=99,slow=20,SNR=7.5						
URZ	**Urewera**	**8.52**	**211**	*e*Pn	**Pn**	**03 13 00.3**	**-1.3**
URZ				*e*Sn	**Sn**	**03 14 34.7**	**-1.7**
URZ	**Urewera**	**8.52**	**211**	Pn	**Pn**	**03 13 00.3**	**-1.3**
	1.4nm,0.3s,baz=263,slow=5.3,SNR=6.6						
URZ				Sn	**Sn**	**03 14 36.5**	**+0.1**
	5.4nm,0.3s,baz=281,slow=22,SNR=13						
BKZ	**Black Stump Fm**	**9.54**	**210**	*e*Pn	**Pn**	**03 13 16.6**	**+0.9**
BKZ				*e*Sn	**Sn**	**03 15 02.1**	**+0.5**
BFZ	**Birch Farm**	**10.92**	**207**	*e*Pn	**Pn**	**03 13 35.9**	**+1.4**
BFZ				*e*Sn	**Sn**	**03 15 32.1**	**-3.3**
SNZO	**South Karori**	**12.08**	**210**	*e*Pn	**Pn**	**03 13 50.6**	**+0.3**
THZ	**Tophouse**	**13.25**	**214**	*e*Pn	**Pn**	**03 14 07.7**	**+1.3**
THZ				*e*Sn	**Sn**	**03 16 26.6**	**-5.9**
KHZ	**Kahutara**	**13.48**	**210**	*e*Pn	**Pn**	**03 14 08.9**	**-0.6**
KHZ				*e*Sn	**Sn**	**03 16 31.2**	**-6.8**
RPZ	**Rata Peaks**	**15.62**	**213**	Pn	**Pn**	**03 14 35.0**	**-3.3**
	2.1nm,0.3s,baz=45,slow=3.2,SNR=9.8						
RPZ				Sn	Sn	03 17 19.0	-11
	0.6nm,0.3s,baz=267,slow=22,SNR=6.6						
DZM	**Mont Dzumac**	**17.04**	**298**	*e*P	**P**	**03 15 01.2**	**+3.2**
	108nm,1.3s						
DZM				*e*LR	LR	03 18 36.5	
	comp=Z,392nm,24.8s						
DZM	**Mont Dzumac**	**17.04**	**298**	*e*Pn	**Pn**	**03 14 55.6**	**-0.9**
	53nm,1.2s						
DZM	**Mont Dzumac**	**17.04**	**298**	P	**P**	**03 14 58.7**	**+0.7**
	0.5nm,0.3s,baz=86,slow=12,SNR=4.2						
DZM				LR	LR	03 20 38.0	
	comp=Z,391nm,18.3s,baz=165,slow=34						
RAR	**Rarotonga**	**18.54**	**62**	LR	LR	03 19 43.9	
	comp=Z,129nm,20.8s,baz=251,slow=29						
PPT	**Papeete**	**28.54**	**68**	LR	LR	03 25 51.8	
	comp=Z,172nm,18.8s,baz=248,slow=32						
HNR	**Honiara**	**30.17**	**311**	LR	LR	03 27 03.4	
	comp=Z,120nm,18.6s,baz=132,slow=32						
CTA	**Charters Tower**	**34.48**	**280**	P	**P**	**03 17 47.2**	**+1.7**
	baz=107,slow=11						
CTAO	**Charters Tower**	**34.48**	**280**	*e*P	**P**	**03 17 47.8**	**+2.2**
STKA	**Stephens Creek**	**34.90**	**258**	*e*P	**P**	**03 17 51.9**	**+2.8**
	3.3nm,1.0s						
STKA	**Stephens Creek**	**34.90**	**258**	P	**P**	**03 17 51.3**	**+2.2**
	12nm,0.9s,baz=87,slow=8.7,SNR=19						
STKA				LR	LR	03 30 18.2	
	comp=Z,111nm,18.3s,baz=84,slow=33						
AS01	**Alice Springs**	**43.61**	**267**	*e*P	**P**	**03 19 02.6**	**+0.6**
AS31	**Alice Springs**	**43.65**	**267**	*e*P	**P**	**03 19 03.8**	**+1.5**
	1.4nm,0.8s						
ASAR	**Alice Springs**	**43.65**	**267**	P	**P**	**03 19 03.4**	**+1.1**
	3.7nm,0.7s,baz=103,slow=7.5,SNR=41						
ASAR				PcP	**PcP**	**03 20 50.1**	**+0.9**
	0.9nm,0.6s,baz=120,slow=4.2,SNR=4.7						
ASAR				LR	LR	03 37 04.3	
	comp=Z,104nm,18.6s,baz=136,slow=36						
WRAB	**Tennant Creek**	**44.70**	**272**	*e*P	**P**	**03 19 11.8**	**+1.1**
	11nm,0.9s						
WRA	**Warramunga Arr**	**44.70**	**272**	P	**P**	**03 19 11.6**	**+0.9**
	8.0nm,0.8s,baz=110,slow=8.0,SNR=47						
WRA				PcP	**PcP**	**03 20 53.3**	**+0.5**
	1.7nm,0.8s,baz=105,slow=3.3,SNR=4.6						
WRA				LR	LR	03 37 42.4	
	comp=Z,193nm,18.2s,baz=105,slow=36						
FORT	**Forrest**	**46.44**	**256**	*e*P	**P**	**03 19 24.7**	**+0.4**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.94**	**270**	P	**P**	**03 20 14.7**	**+0.8**
	4.6nm,1.0s,baz=130,slow=7.9,SNR=6.2						
BATI	**Baumata**	**58.31**	**277**	LR	LR	03 47 19.4	
	comp=Z,217nm,18.5s,baz=114,slow=37						
MAJO	**Matsushiro**	**79.11**	**325**	*e*P	**P**	**03 23 01.4**	**-0.3**
	2.4nm,0.5s						
KSRS	**Korea Array**	**85.22**	**319**	P	**P**	**03 23 34.0**	**+0.5**
	1.6nm,0.8s,baz=152,slow=7.6,SNR=3.6						
KSAR	**Wonju Array Be**	**85.24**	**319**	P	**P**	**03 23 34.0**	**+0.4**
PETK	**Petropavlovsk-**	**86.59**	**345**	P	**P**	**03 23 40.1**	**+0.1**
	5.9nm,0.9s,baz=157,slow=4.1,SNR=2.7						
PEA1	**Petropavlovsk-**	**86.60**	**345**	*e*P	**P**	**03 23 40.1**	**+0.1**
NV01	**Mina Array Sit**	**88.33**	**42**	*e*P	**P**	**03 23 48.5**	**-0.5**
NVAR	**Mina Array Bea**	**88.33**	**42**	P	**P**	**03 23 48.5**	**-0.5**
	0.9nm,0.8s,baz=215,slow=6.2,SNR=3.5						
KLR	**Kul'dur**	**91.90**	**329**	P	**P**	**03 24 06.1**	**+1.0**
	1.0nm,0.6s,baz=142,slow=8.0,SNR=3.3						
MK32	**Makanchi Array**	**118.64**	**310**	*e*PKPdf	**PKiKP**	**03 29 45.1**	**+0.2**
MKAR	**Makanchi Array**	**118.64**	**310**	PKP	**PKiKP**	**03 29 45.1**	**+0.2**
	0.3nm,0.8s,baz=14,slow=0.6,SNR=2.7						
KURK	**Kurchatov**	**121.92**	**313**	*e*PKPdf	**PKPdf**	**03 29 50.5**	**-0.4**
KURBB	**Kurchatov Arra**	**121.96**	**313**	PKP	**PKPdf**	**03 29 50.5**	**-0.5**
	0.4nm,0.7s,baz=111,slow=2.1,SNR=4.8						
KBZ	**Khabaz**	**145.96**	**303**	PKPbc	**PKPbc**	**03 30 36.6**	**+0.1**
	2.8nm,1.0s,baz=169,slow=5.2,SNR=2.3						
FIA1	**FINESS Array S**	**145.96**	**340**	*e*PKPdf	**PKPbc**	**03 30 35.8**	**-0.2**
FIA1				*e*PKPdf	**PKPab**	**03 30 36.3**	**-0.2**
FIA0	**FINESS Array S**	**145.96**	**340**	*e*PKPdf	**PKPbc**	**03 30 35.7**	**-0.3**
FINES	**FINESS Array B**	**145.96**	**340**	PKPbc	**PKPbc**	**03 30 35.7**	**-0.3**
	4.2nm,0.6s,baz=64,slow=3.2,SNR=26						
NB2	**NORSAR Subarra**	**149.49**	**352**	PKP	**PKPbc**	**03 30 45.8**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=20,slow=2.8						
NB200	**NORSAR Array S**	**149.49**	**352**	*e*PKPbc	**PKPbc**	**03 30 45.2**	**-0.4**
NOA	**NORSAR Array B**	**149.49**	**352**	PKPbc	**PKPbc**	**03 30 45.2**	**-0.4**
	comp=Z,2.6nm,0.9s,baz=14,slow=4.3,SNR=5.8						
HFS	**Hagfors**	**150.00**	**349**	PKPbc	**PKPbc**	**03 30 46.6**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=158,slow=1.6,SNR=3.1						
AKASG	**Malin Array Be**	**152.17**	**322**	PKPbc	**PKPbc**	**03 30 52.2**	**0.0**
	comp=Z,3.1nm,0.8s,baz=50,slow=3.0,SNR=11						
AKBB	**Malin Array Si**	**152.17**	**322**	*e*PKPbc	**PKPbc**	**03 30 52.2**	**0.0**
AK11	**Malin Array Si**	**152.22**	**322**	*e*PKPbc	**PKPbc**	**03 30 52.3**	**0.0**
BR101	**Keskin Array S**	**153.42**	**298**	*e*PKPbc	**PKiKP**	**03 30 56.0**	**+0.3**
BR101				*e*PKPab	**sPKPbc**	**03 31 07.8**	**-0.6**
BRTR	**Keskin Array B**	**153.42**	**298**	PKPbc	**PKiKP**	**03 30 56.0**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=70,slow=1.4,SNR=5.3						
BRTR				PKPab	**sPKPbc**	**03 31 07.8**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=64,slow=2.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**162.15**	**177**	PKPab	**PKPab**	**03 31 46.0**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=184,slow=3.8,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**162.16**	**177**	*e*PKPab	**PKPab**	**03 31 46.0**	**+0.2**
DAVOX	**Davos/Dischmat**	**163.34**	**342**	PKPab	**PKPab**	**03 31 50.2**	**-0.3**
	baz=304,slow=3.6						

MEX 08 03:30:08.8±0.8, 16°.43N×98°.20W, h25km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.08**	**119**	*i* P	Pb	03 30 11.8	-1.5
PNIG				*i* S	Sb	03 30 15.2	-1.1
TLIG	**Tlapa**	**1.18**	**343**	*e*P	Pn	03 30 27.0	-2.9
TLIG				*i* S	Sn	03 30 41.6	-3.7

MEX 08 03:47:36.7±0.6, 18°.28N×102°.66W, h68km±10km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.65**	**271**	*e*P	Pn	03 47 49.2	-1.7
MMIG				*i* S	Sn	03 47 59.6	-1.7
ZIIG	**Zihuatanejo**	**1.32**	**120**	*i* P	Pn	03 47 57.9	-1.3
ZIIG				*i* S	Sn	03 48 14.4	-1.6
EZ5V		**1.49**	**324**	*e*P	Pn	03 48 00.1	-1.7
EZ5V				*i* S	Sn	03 48 18.6	-2.0
R15V		**1.54**	**306**	*e*P	Pn	03 48 01.1	-1.0
R15V				*i* S	Sn	03 48 19.8	-1.5
ARIG	**Puente Sto Nin**	**2.20**	**89**	*e*P	Pn	03 48 09.9	-1.1
ARIG				*i* S	Sn	03 48 34.6	-2.6

*IDC **08** 03:53:16.1±2.9, 4°.96S×11°.67W, h0km, mb3.8/5, mb1 3.9/6, mb1mx3.6/31, mbtmp3.8/6, ML2.9/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=79.7km s-min=35.1km az=80.0*

ISC 08 03:53:18.9±2.4, 5°.0S±0°.2×11°.7W±0°.4, h18km, n14, σ0ˢ52/6, mb3.8/5, MS3.5/4, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**3.98**	**225**	T	T	03 58 18.0	
	baz=46,slow=74,SNR=790						
H10N1	**ASCENSION HYDR**	**3.99**	**224**	T	T	03 58 18.6	
	baz=46,slow=74,SNR=561						
H10N3	**ASCENSION HYDR**	**4.00**	**225**	T	T	03 58 19.4	
	baz=46,slow=74,SNR=513						
H10S1	**ASCENSION HYDR**	**4.92**	**217**	T	T	03 59 28.0	
	baz=38,slow=74,SNR=161						
H10S2	**ASCENSION HYDR**	**4.94**	**217**	T	T	03 59 29.1	
	baz=38,slow=74,SNR=164						
H10S3	**ASCENSION HYDR**	**4.94**	**217**	T	T	03 59 28.9	
	baz=38,slow=74,SNR=186						
DBIC	**Dimbokro**	**13.42**	**30**	Pn	**Pn**	**03 56 29.0**	**+0.4**
	0.1nm,0.3s,baz=195,slow=12,SNR=2.7						
DBIC				LR	LR	04 00 02.6	
	comp=Z,67nm,19.6s,baz=229,slow=30						
TORD	**Torodi Ar. Bea**	**22.37**	**36**	P	**P**	**03 58 15.6**	**-0.8**
	1.6nm,0.6s,baz=219,slow=11,SNR=22						
TORD				LR	LR	04 05 47.2	
	comp=Z,72nm,20.5s,baz=295,slow=34						
BDFB	**Brasilia**	**37.24**	**251**	LR	LR	04 13 02.2	
	comp=Z,94nm,18.9s,baz=216,slow=32						
BOSA	**Boshof**	**42.15**	**128**	P	**P**	**04 01 10.8**	**+0.1**
	1.3nm,0.7s,baz=231,slow=6.5,SNR=2.5						
LPAZ	**La Paz**	**56.46**	**254**	LR	LR	04 26 50.5	
	comp=Z,34nm,18.9s,baz=54,slow=36						
AKASG	**Malin Array Be**	**65.64**	**27**	P	**P**	**04 04 01.8**	**-0.1**
	0.1nm,0.3s,baz=231,slow=6.4,SNR=5.1						
AKASG				LR	LR	04 33 41.8	
	comp=Z,36nm,18.5s,baz=305,slow=37						
NOA	**NORSAR Array B**	**68.20**	**12**	P	**P**	**04 04 18.2**	**+0.1**
	0.5nm,0.7s,baz=204,slow=6.6,SNR=2.9						
FINES	**FINESS Array B**	**72.37**	**18**	P	**P**	**04 04 43.6**	**+0.1**
	1.7nm,0.9s,baz=224,slow=3.8,SNR=3.0						

*SJA **08** 04:21:22.8±0.7, 30°.39S×72°.87W, h40km±23km, ML3.3, MW4.0*

*GUC **08** 04:21:27.9±0.6, 30°.56S×72°.13W, h35km±10km, ML3.1*

ISC 08 04:21:26.0±2.8, 30°.53S±0°.05×72°.2W±0°.1, h6km±16km, n16, σ1ᵍ31/25, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Cambarbala**	**1.23**	**122**	*i* P	**Pb**	**04 21 49.1**	**-0.6**
CMCH				*i* S	**Sb**	**04 22 05.0**	**-0.8**
CMCH				IAML		04 22 06.9	
	comp=N,1μm,0.3s						
GO04	**Tololo Observa**	**1.27**	**74**	*i* P	**Pg**	**04 21 50.7**	**+0.2**
GO04				*i* S	**Sg**	**04 22 08.2**	**+1.1**
LCO	**Las Campanas**	**2.00**	**41**	*i* P	**Pb**	**04 22 02.1**	**-0.9**
LCO				*i* S	**Sb**	**04 22 26.9**	**-1.5**
LCO				IAML		04 22 42.2	
	comp=E,116nm,0.5s						
AROD	**Rodeo**	**2.40**	**82**	*i* P	**Pb**	**04 22 09.6**	**-0.2**
ROCH	**El Roble**	**2.64**	**157**	*e*P	**Pn**	**04 22 10.6**	**+1.2**
ROCH				*i* S	**Sn**	**04 22 41.1**	**-0.8**
ROCH				IAML		04 22 55.9	
	comp=N,153nm,0.4s						
ROC1	**El Roble**	**2.65**	**158**	*i* P	**Pn**	**04 22 10.9**	**+1.4**
ROC1				*i* S	**Sb**	**04 22 46.1**	**-0.8**
ACDV	**Cuesta del Vie**	**2.70**	**83**	*i* P	**Pb**	**04 22 13.9**	**-0.9**
ACCO	**Cerro Coronel**	**2.72**	**92**	*i* P	**Pb**	**04 22 15.1**	**-0.2**
ACCO				*i* S	**Sg**	**04 22 53.6**	**+0.2**
RTLS	**Leoncito**	**2.81**	**118**	*i* P	**Pb**	**04 22 16.4**	**-0.4**
RTLS				IAML		04 22 55.7	
	comp=Z,71nm,0.5s						
RTLS				*i* S	**Sg**	**04 22 55.9**	**-0.3**
PEL	**Peldehue**	**2.92**	**154**	*e*P	**Pn**	**04 22 14.4**	**+1.4**
PEL				*e*S	**Sn**	**04 22 49.0**	**+0.6**
AUSP	**Uspallata**	**2.95**	**126**	*i* P	**Pb**	**04 22 18.0**	**-1.3**
AMOG	**MOGNA**	**3.23**	**98**	*i* P	**Pb**	**04 22 21.5**	**-2.4**
FCH	**Farellones**	**3.24**	**150**	*e*P	**Pn**	**04 22 19.0**	**+1.3**
FCH				*i* S	**Sn**	**04 22 56.7**	**0.0**
FCH				IAML		04 23 20.8	
	comp=N,41nm,0.6s						
RTLL	**Cerro Villicun**	**3.31**	**105**	*i* P	**Pb**	**04 22 23.5**	**-1.7**
RTLL				*i* S	**Sb**	**04 23 07.5**	**+1.6**
RTCV	**Cerro Valdivia**	**3.42**	**114**	*i* P	**Pb**	**04 22 24.2**	**-2.9**
ACLC	**CERRO LA CRUZ**	**4.70**	**78**	*i* P	Pb	04 22 42.2	-6.7

*NEIC **08** 04:21:46.6±0.0, 17°.55N×94°.99W, h134km, MD4.1(MEX), After MEX.*

MEX 08 04:21:46.7±0.9, 17°.55N×94°.99W, h134km±7km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.47**	**167**	*i* P	Pn	04 22 05.1	-1.0
CMIG				*e*S	Sn	04 22 19.2	-1.6
CMIG	**Matias Romero**	**0.47**	**167**	*i* P	Pn	04 22 05.1	-1.0
CMIG				*e*S	Sn	04 22 19.2	-1.6
TUIG	**Tuzandepetl**	**0.73**	**48**	*e*P	Pn	04 22 05.7	-2.0
TUIG				*i* S	Sn	04 22 21.2	-2.5
TUIG	**Tuzandepetl**	**0.73**	**48**	*e*P	Pn	04 22 05.7	-2.0
TUIG				*i* S	Sn	04 22 21.2	-2.5
VHO	**Vista Hermosa**	**1.73**	**254**	*e*P	Pn	04 22 17.4	-0.5
VHO				*i* S	Sn	04 22 40.3	-1.4
VHO	**Vista Hermosa**	**1.73**	**254**	*e*P	Pn	04 22 17.4	-0.5
VHO				*i* S	Sn	04 22 40.3	-1.4
HUIG	**Huatulco**	**2.07**	**211**	*e*P	Pn	04 22 19.7	-2.0
HUIG				*i* S	Sn	04 22 46.3	-2.4
HUIG	**Huatulco**	**2.07**	**211**	*e*P	Pn	04 22 19.7	-2.0
HUIG				*i* S	Sn	04 22 46.3	-2.4
TPIG	**Tehuac#an**	**2.42**	**291**	*e*P	Pn	04 22 25.1	-1.1
TPIG				*i* S	Sn	04 22 54.5	-2.1
TPIG	**Tehuac#an**	**2.42**	**291**	*e*P	Pn	04 22 25.1	-1.1
TPIG				*i* S	Sn	04 22 54.5	-2.1
PCIG		**2.50**	**137**	*e*P	Pn	04 22 26.4	-0.6
PCIG				*i* S	Sn	04 22 57.1	-1.0
PCIG		**2.50**	**137**	*e*P	Pn	04 22 26.4	-0.6
PCIG				*i* S	Sn	04 22 57.1	-1.0
LVIG	**Laguna Verde**	**2.55**	**328**	*i* P	Pn	04 22 24.2	-3.5
LVIG	**Laguna Verde**	**2.55**	**328**	*i* P	Pn	04 22 24.2	-3.5
PNIG	**Pinotepa**	**3.21**	**250**	*e*P	Pn	04 22 33.2	-3.0
PNIG				*i* S	Sn	04 23 10.8	-3.7
PNIG	**Pinotepa**	**3.21**	**250**	*e*P	Pn	04 22 33.2	-3.0
PNIG				*i* S	Sn	04 23 10.8	-3.7
TLIG	**Tlapa**	**3.41**	**271**	*e*P	Pn	04 22 37.5	-1.5
TLIG				*e*S	Sn	04 23 17.7	-1.6
TLIG	**Tlapa**	**3.41**	**271**	*e*P	Pn	04 22 37.5	-1.5
TLIG				*e*S	Sn	04 23 17.7	-1.6
PPM	**Popocatepetl**	**3.77**	**294**	*e*P	Pn	04 22 43.3	-0.7
PPM				*i* S	Sn	04 23 26.7	-1.6
PPM	**Popocatepetl**	**3.77**	**294**	*e*P	Pn	04 22 43.3	-0.7
PPM				*i* S	Sn	04 23 26.7	-1.6
YAIG	**Yautepec**	**4.09**	**289**	*e*P	Pn	04 22 47.2	-0.6
YAIG				*i* S	Sn	04 23 33.6	-1.7
YAIG	**Yautepec**	**4.09**	**289**	*e*P	Pn	04 22 47.2	-0.6
YAIG				*i* S	Sn	04 23 33.6	-1.7

*NEIC **08** 04:34:29.6±0.0, 15°.42N×94°.65W, h24km, MD4.0(MEX), After MEX.*

MEX 08 04:34:29.6±0.2, 15°.42N×94°.65W, h24km±8km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.41**	**78**	*e*P	Pn	04 34 51.0	-2.8
PCIG				*i* S	Sn	04 35 07.6	-4.0
PCIG		**1.41**	**78**	*e*P	Pn	04 34 51.0	-2.8
PCIG				*i* S	Sn	04 35 07.6	-4.0
HUIG	**Huatulco**	**1.45**	**284**	*e*P	Pn	04 34 51.8	-2.6
HUIG				*e*S	Sn	04 35 08.7	-4.0
HUIG	**Huatulco**	**1.45**	**284**	*e*P	Pn	04 34 51.8	-2.6
HUIG				*e*S	Sn	04 35 08.7	-4.0
CMIG	**Matias Romero**	**1.68**	**352**	*e*P	Pn	04 34 55.0	-2.5
CMIG				*i* S	Sn	04 35 14.7	-3.7
CMIG	**Matias Romero**	**1.68**	**352**	*e*P	Pn	04 34 55.0	-2.5
CMIG				*i* S	Sn	04 35 14.7	-3.7
VHO	**Vista Hermosa**	**2.59**	**310**	*i* P	Pn	04 35 07.5	-2.8
VHO				*i* S	Sn	04 35 38.7	-2.5
VHO	**Vista Hermosa**	**2.59**	**310**	*i* P	Pn	04 35 07.5	-2.8
VHO				*i* S	Sn	04 35 38.7	-2.5
TUIG	**Tuzandepetl**	**2.61**	**5**	*i* P	Pn	04 35 08.3	-2.0
TUIG	**Tuzandepetl**	**2.61**	**5**	*i* P	Pn	04 35 08.3	-2.0
PNIG	**Pinotepa**	**3.49**	**287**	*i* P	Pn	04 35 20.9	-1.5
PNIG				*i* S	Sn	04 35 59.6	-3.4
PNIG	**Pinotepa**	**3.49**	**287**	*i* P	Pn	04 35 20.9	-1.5
PNIG				*i* S	Sn	04 35 59.6	-3.4
TPIG	**Tehuac#an**	**3.96**	**319**	*i* S	Sn	04 36 12.3	-2.6
TPIG	**Tehuac#an**	**3.96**	**319**	*i* S	Sn	04 36 12.3	-2.6

*BJI **08** 04:40:19.1, 18°.00S×175°.70W, h52km, mb5.0/6*

*IDC **08** 04:40:30.6±0.7, 15°.08S×173°.53W, h0km, mb4.1/11, mb1 4.4/11, mb1mx4.1/38, mbtmp4.1/11, MS3.6/5, Ms1 3.6/5, ms1mx3.4/28, Error ellipse: s-maj=33.7km s-min=16.4km az=133.0*

*ISCJB **08** 04:40:33.6±0.4, 15°.1S±0°.1×173°.6W±0°.1, h30km, mb4.5/47, MS3.3/1, Error ellipse: s-maj=24.8km s-min=10.3km az=135.3*

*NEIC **08** 04:40:35.9±0.2, 15°.08S×173°.60W, h35km, mb4.6/35, Error ellipse: s-maj=13.7km s-min=5.9km az=137.0*

ISC 08 04:40:35.2±0.6, 15°.1S±0°.2×173°.6W±0°.2, h30km, n77, σ0ˢ59/55, mb4.6/47, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.28**	**139**	*e*Pn	Pn	04 41 44.2	-7.9
RAR	**Rarotonga**	**14.45**	**117**	LR	LR	04 48 20.7	
	comp=Z,78nm,20.5s,baz=262,slow=33						
PPT	**Papeete**	**23.15**	**99**	LR	LR	04 51 42.3	
	comp=Z,103nm,21.0s,baz=294,slow=29						
PAE	**Paea**	**23.15**	**100**	*e*T	T	05 08 51.3	
	2.0nm,0.2s						
PPT2	**Papeete2**	**23.15**	**99**	*e*LR	LR	04 51 01.9	
	comp=Z,148nm,23.2s						
PPT2	**Papeete2**	**23.15**	**99**	*e*T	T	05 08 52.2	
	2.2nm,0.2s						
TBI	**Tubuai**	**24.17**	**114**	*e*LR	LR	04 51 05.9	
	comp=Z,178nm,27.8s						
TBI	**Tubuai**	**24.17**	**114**	*e*T	T	05 10 02.2	
	5.6nm,0.2s						
URZ	**Urewera**	**24.52**	**198**	P	**P**	**04 45 51.4**	**-0.5**
	4.4nm,0.7s,baz=354,slow=10,SNR=4.0						
URZ				LR	LR	04 54 04.7	
	comp=Z,103nm,20.7s,baz=11,slow=33						
PMOR	**Pomariorio Ree**	**24.79**	**93**	*e*T	T	05 10 52.3	
	3.6nm,0.2s						
VAH	**Vaihoa**	**25.03**	**94**	*e*T	T	05 11 10.6	
	3.9nm,0.3s						
TAOE	**Nuku Hiva Isla**	**33.24**	**83**	*e*T	T	05 21 23.7	
	24nm,0.2s						
RKT	**Rikitea**	**37.24**	**108**	*e*T	T	05 26 26.5	
	3.0nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.61**	**329**	T	T	05 29 43.9	
	baz=149,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**38.62**	**329**

30nm,1.8s
SEY Seymchan 82.17 345 P **P** 04 52 53.3 +0.5
1.1nm,0.7s,baz=150,slow=6.6,SNR=6.6
YMR Madison River 82.18 40 *e*P **P** 04 52 53.8 +0.2
8.8nm,1.1s
SMCO Snowmass 82.20 46 *e*P **P** 04 52 53.9 -0.2
5.8nm,1.2s
BOZ Bozeman (W) 82.24 39 *e*P **P** 04 52 54.3 +0.5
5.6nm,1.2s
YHH Holmes Hill 82.31 40 *e*P **P** 04 52 54.7 +0.3
10nm,1.6s
SDCO Great Sand Dun 82.62 48 *e*P **P** 04 52 55.9 -0.3
13nm,2.0s
HRY Holter Researc 82.69 38 *e*P **P** 04 52 56.2 +0.1
MSTX Muleshoe 83.09 52 *e*P **P** 04 52 57.5 -0.9
24nm,1.7s
RLMT Red Lodge 83.45 40 *e*P **P** 04 53 00.3 +0.1
8.8nm,1.1s
AMTX Amarillo 84.28 52 *e*P **P** 04 53 03.6 -0.9
12nm,0.9s
HHC Hu-ho-hao-te 88.69 313 *e*P P 04 53 10.8 -15
HHC pmax pmax
comp=Z,14nm,0.9s
YKA Yellowknife Ar 89.87 23 P **P** 04 53 30.9 +0.1
0.6nm,0.7s,baz=237,slow=4.6,SNR=11
LZH Lanzhou 92.91 306 *e*P P 04 53 30.4 -15
LZH pmax pmax
comp=Z,22nm,1.0s
ATAH Atahualpa 93.12 98 LR LR 05 26 23.1
comp=Z,71nm,19.2s,baz=310,slow=30
SONM Songino Array 94.50 318 LR LR 05 38 15.5
comp=Z,95nm,18.3s,baz=169,slow=37
AKASG Malin Array Be 139.99 337 PKP **PKPdf** **05 00 00.8 +0.3**
0.2nm,0.4s,baz=42,slow=1.5,SNR=4.1
GOPC GO Pecny, Ondr 144.60 351 *e*PKP **PKiKP** **05 00 11.5 -1.1**
KHC Kasperske Hory 145.54 352 *e*PKP **PKPab** **05 00 12.0 +1.1**
KHC *ex* x 05 00 28.4
BRTR Keskin Array B 145.81 321 PKPbc **PKPab** **05 00 12.6 +0.2**
4.2nm,0.9s,baz=108,slow=2.9,SNR=19

IDC 08 04:42:18.9±2.0, 1°89.N×125°25.E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/44, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/30, Error ellipse: s-maj=188.3km s-min=26.0km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.46**	**158**	P	P	04 47 30.3	0.0
1.4nm,0.8s,baz=336,slow=11,SNR=16							
ASAR	**Alice Springs**	**26.76**	**162**	P	P	04 48 00.7	+0.1
0.3nm,0.5s,baz=355,slow=8.6,SNR=3.9							
HNR	**Honiara**	**36.34**	**109**	LR	LR	05 06 06.1	
comp=Z,87nm,19.3s,baz=84,slow=39							
MKAR	**Makanchi Array**	**58.24**	**327**	P	P	04 52 15.1	-0.1
0.2nm,0.5s,baz=114,slow=8.3,SNR=5.3							

NIED ***08*** *04:50:00, 36°.90N×141°.10E, h56km, Mw3.5 Best double couple: M0 2.24000×10^14 NP1: φ=226.00000°, δ=17.00000°, λ=116.00000°. NP2: φ=19.00000°, δ=75.00000°, λ=82.00000°.*

ISCJB ***08*** *04:50:44.1±1.1, 36°.92N±0°.06×141°.20E±0°.10, h51km±6km, mb3.5/3, Error ellipse: s-maj=15.1km s-min=6.7km az=32.8*

IDC ***08*** *04:50:44.3±6.0, 36°.81N×141°.31E, h51km±31km, mb3.5/3, mb1 3.6/5, mb1mx3.3/47, mbtmp3.7/5, ML3.3/2, MS2.3/2, Ms1 2.3/2, ms1mx2.2/36, Error ellipse: s-maj=81.2km s-min=23.0km az=149.0*

JMA ***08*** *04:50:45.6±0.1, 36°.93N×141°.07E, h50km±1km, M3.4*

JMA Felt I J1.

ISC 08 04:50:44.6±1.9, 36°.90N±0°.07×141°.2E±0°.1, h42km±11km, n18, σ0°70/26, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**301**	P	**Pn**	**04 50 54.5**	**+0.5**
ONAJ				S	**Sn**	**04 51 00.6**	**0.0**
JFK	**Kawauchi**	**0.53**	**330**	P	**Pn**	**04 50 56.3**	**+0.4**
JFK				*i* S	**Sn**	**04 51 03.6**	**-0.3**
JFFD	**Fukushimafurud**	**0.55**	**290**	P	**Pn**	**04 50 56.2**	**+0.1**
JFFD				S	**Sn**	**04 51 03.3**	**-0.9**
JHO	**Hitachi**	**0.59**	**240**	P	**Pn**	**04 50 56.9**	**+0.3**
JHO				S	**Sn**	**04 51 04.7**	**-0.4**
JFT	**Otama**	**0.92**	**312**	P	**Pn**	**04 51 01.8**	**+0.6**
JFT				*e*S	**Sn**	**04 51 13.3**	**0.0**
JMM	**Marumori**	**1.01**	**341**	P	**Pn**	**04 51 02.6**	**+0.2**
JMM				S	**Sn**	**04 51 14.8**	**-0.6**
JFY	**Yanaizu**	**1.30**	**293**	P	**Pn**	**04 51 06.2**	**-0.1**
JAG	**Ashikaga**	**1.49**	**252**	P	**Pn**	**04 51 08.9**	**+0.1**
JAG				*e*S	**Sn**	**04 51 26.1**	**-0.9**
JOU	**Okura**	**1.52**	**344**	P	**Pn**	**04 51 10.0**	**+0.7**
JKT	**Katashina**	**1.57**	**266**	P	**Pn**	**04 51 10.5**	**+0.4**
JYS	**Shirataka**	**1.59**	**326**	P	**Pn**	**04 51 11.0**	**+0.6**
MJAR	**Matsushiro Arr**	**2.43**	**262**	P	**Pn**	**04 51 22.2**	**+0.4**
1.1nm,0.3s,baz=85,slow=14,SNR=23							
MJAR				S	**Sn**	**04 51 52.0**	**+1.6**
1.0nm,0.3s,baz=180,slow=33,SNR=5.9							
MJAR				LR	LR	04 52 45.7	
comp=Z,35nm,18.3s,baz=75,slow=49							
MAT	**Matsushiro**	**2.43**	**262**	P	**Pn**	**04 51 23.0**	**+1.1**
MAT				*e*S	**Sn**	**04 51 51.3**	**+0.9**
ASAJ	**Asahikawa**	**7.28**	**8**	P	**Pn**	**04 52 29.1**	**+0.7**
1.0nm,0.3s,baz=192,slow=14,SNR=4.6							
KSRS	**Korea Array**	**10.61**	**277**	LR	LR	04 56 40.3	
comp=Z,28nm,21.6s,baz=80,slow=33							
ZALV	**Zalesovo Beam**	**41.88**	**312**	P	**P**	**04 58 29.3**	**-1.1**
0.5nm,0.4s,baz=97,slow=12,SNR=2.3							
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**04 58 47.9**	**-0.3**
0.5nm,0.8s,baz=84,slow=11,SNR=5.9							
FINES	**FINESS Array B**	**68.85**	**332**	P	**P**	**05 01 44.6**	**+0.2**
1.0nm,0.8s,baz=71,slow=6.0,SNR=3.3							

IDC ***08*** *04:55:18.3±0.4, 5°.22S×125°.77E, h0km, mb4.7/27, mb1 4.8/31, mb1mx4.7/40, mbtmp4.8/31, ML4.9/4, MS4.5/27, Ms1 4.5/27, ms1mx4.3/39, Error ellipse: s-maj=6.3km s-min=10.2km az=84.0*

BJI ***08*** *04:55:19.3, 5°.20S×125°.80E, h15km, mb5.1/72, mB5.3/50, Ms4.8/63, Ms7 4.5/56*

DJA ***08*** *04:55:19.9±1.8, 5°.5S±2°×12°.6E±°, h18km±16km, M5.2/32, mb5.4/32, mB5.7/31, MLv5.4/18, Mw(mB)5.2/31, Mwp5.3/3*

ISCJB ***08*** *04:55:20.9±0.1, 5°.27S±0°.02×125°.81E±0°.02, h33km, mb5.0/122, MS4.5/42, Error ellipse: s-maj=3.3km s-min=2.6km az=168.2*

NEIC ***08*** *04:55:20.5±1.4, 5°.23S×125°.77E, h14km±9km, mb5.2/53, Error ellipse: s-maj=4.0km s-min=2.8km az=72.0*

MOS ***08*** *04:55:21.4±0.9, 5°.18S×125°.82E, h33km, mb5.2/59, MS4.5/10, Error ellipse: s-maj=11.4km s-min=5.5km az=112.4*

GCMT ***08*** *04:55:22.5±0.1, 5°.19S±0°.01×125°.80E±0°.01, h19km, MW5.4/120, Moment Tensor Solution. s96,c156; s120,c224; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=0.10±.02; Mθθ=1.42±.02; Mφφ=1.51±.03; Mrθ=0.19±.04; Mrφ=0.15±.02; Mθφ=0.13±.04; Best double couple: M0=1.49000×10^17 NP1: φ=42.00000°, δ=87.00000°, λ=-9.00000°. NP2: φ=132.00000°, δ=81.00000°, λ=-177.00000°. Principal axes: T 1.5260, Plg4.0000°, Azm87.0000°; N -0.0770, Plg81.0000°, Azm205.0000°; P -1.4550, Plg8.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KLM ***08*** *04:55:24.2, 5°.06S×125°.75E, h30km, mb5.2*

ISC 08 04:55:23.0±0.2, 5°25S±0°.03×125°82E±0°.04, h35km, n367, σ1°69/396, mb5.1/131, MS4.5/42, 13C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**2.37**	**33**	P	**Pn**	**04 55 58.8**	**-0.7**
SANI	**Sanana**	**3.19**	**3**	P	**Pn**	**04 56 08.6**	**-2.1**
BBSI	**Bau Bau**	**3.24**	**266**	P	**Pn**	**04 56 11.0**	**-0.4**
KDI	**Kendari**	**3.44**	**292**	P	**Pn**	**04 56 13.5**	**-0.6**
BNDI	**Bandanaira**	**4.14**	**80**	P	**Pn**	**04 56 23.1**	**-0.6**
SOEI	**Soe**	**4.73**	**199**	*e*Pn	**Pn**	**04 56 32.6**	**+0.5**
SOEI	**Soe**	**4.73**	**199**	P	**Pn**	**04 56 29.8**	**-2.2**
LUWI	**Luwuk**	**5.17**	**324**	*e*Pn	**Pn**	**04 56 36.3**	**-1.7**
LUWI	**Luwuk**	**5.17**	**324**	P	**Pn**	**04 56 36.2**	**-1.7**
2µm,0.6s,15µm5.7nm							
BATI	**Baumata**	**5.36**	**203**	Pn	**Pn**	**04 56 40.7**	**0.0**
43nm,0.3s,baz=52,slow=0.4,SNR=48							
BATI				Sn	**Sn**	**04 57 44.0**	**+2.7**
baz=53,slow=20,SNR=1.6							
BATI				LR	LR	04 58 19.1	
comp=Z,6µm,21.4s,baz=25,slow=34							
BKSI	**Bulukumba**	**5.67**	**269**	P	**Pn**	**04 56 44.0**	**-0.9**
456nm,0.6s,5µm11µm1.7nm							
BNSI	**Bone**	**5.75**	**278**	P	**Pn**	**04 56 45.3**	**-0.7**
442nm,0.8s,4µm1.5nm							
APSI	**Ampana**	**5.99**	**316**	P	**Pn**	**04 56 47.4**	**-1.9**
462nm,0.9s,4µm1.3nm							
KMSI	**Cibinong**	**6.07**	**342**	P	**Pn**	**04 56 50.0**	**-0.4**
SPSI	**Sidrap Palu**	**6.16**	**282**	P	**Pn**	**04 56 50.9**	**-0.7**
TNTI	**Ternate**	**6.18**	**15**	*e*Pn	**Pn**	**04 56 52.6**	**+0.8**
TNTI	**Ternate**	**6.18**	**15**	P	**Pn**	**04 56 51.3**	**-0.6**
TTSI	**Tana Toraja**	**6.37**	**290**	P	**Pn**	**04 56 53.8**	**-0.7**
FAKI	**Fak Fak**	**6.82**	**70**	*e*Pn	**Pn**	**04 57 01.3**	**+0.6**
FAKI	**Fak Fak**	**6.82**	**70**	P	**Pn**	**04 56 59.8**	**-0.9**
MRSI	**Marisa**	**6.88**	**326**	P	**Pn**	**04 57 01.1**	**-0.4**
SIJI	**Sorong**	**6.97**	**51**	Pn	**Pn**	**04 57 03.6**	**+0.9**
26nm,0.3s,baz=236,slow=6.1,SNR=164							
SIJI				Sn	**Sn**	**04 58 19.2**	**-1.6**
8.2nm,0.3s,baz=66,slow=22,SNR=19							
SIJI				LR	LR	04 59 57.4	
comp=Z,10µm,18.6s,baz=208,slow=40							
PCI	**Palu**	**7.37**	**306**	P	**Pn**	**04 57 07.7**	**-0.5**
MPSI	**Mapaga**	**8.11**	**313**	P	**Pn**	**04 57 17.4**	**-1.0**
110nm,0.8s,1µm							
PLAI	**Plampang**	**8.73**	**246**	P	**Pn**	**04 57 25.8**	**-1.2**
MTN	**Manton Dam**	**9.19**	**146**	P	**Pn**	**04 57 31.8**	**-1.3**
baz=9.3,SNR=39							
MTN	**Manton Dam**	**9.19**	**146**	*e*Pn	**Pn**	**04 57 31.9**	**-1.3**
KDU	**Kakadu**	**9.89**	**139**	P	**Pn**	**04 57 40.8**	**-1.9**
baz=10.0,SNR=43							
KNRA	**Kununurra**	**10.76**	**165**	P	**Pn**	**04 57 52.3**	**-2.3**
baz=11,SNR=19							
SRBI	**Singaraja**	**10.90**	**254**	P	**Pn**	**04 57 55.6**	**-1.1**
BAKI	**Biak**	**11.04**	**69**	P	**Pn**	**04 57 57.9**	**-0.6**
DDMP	**Don Marcelino,**	**11.28**	**359**	*e*P	**Pn**	**04 58 05.2**	**+3.3**
SKMP	**Bagumbayan, Su**	**11.76**	**354**	*e*P	**Pn**	**04 58 08.1**	**-0.3**
JAGI	**Jajag, Banyuwa**	**12.01**	**254**	*e*Pn	**Pn**	**04 58 10.8**	**-1.1**
JAGI	**Jajag, Banyuwa**	**12.01**	**254**	P	**Pn**	**04 58 10.1**	**-1.8**
203nm,1.8s,5µm							
MATI	**Mati**	**12.13**	**2**	*e*P	**Pn**	**04 58 13.2**	**-0.2**
DAV	**Davao City (W)**	**12.24**	**359**	LR	LR	05 03 56.8	
comp=Z,2µm,19.1s,baz=214,slow=42							
TSM	**Tawau**	**12.37**	**320**	P	**Pn**	**04 58 16.9**	**+0.2**
CTBH	**Cotabato--PC H**	**12.49**	**353**	*i*P	**Pn**	**04 58 18.9**	**+0.5**
GMJI	**Gumukmas**	**12.65**	**256**	P	**Pn**	**04 58 19.2**	**-1.4**
76nm,1.1s,3µm							
FITZ	**Fitzroy Crossi**	**12.77**	**181**	P	**Pn**	**04 58 18.0**	**-4.2**
baz=13,SNR=51							
FITZ	**Fitzroy Crossi**	**12.77**	**181**	*e*Pn	**Pn**	**04 58 17.9**	**-4.3**
FITZ				Sn	Sn	05 00 30.4	-13
FITZ	**Fitzroy Crossi**	**12.77**	**181**	Pn	**Pn**	**04 58 18.6**	**-3.5**
5.7nm,0.3s,baz=18,slow=9.3,SNR=54							
FITZ				Sn	Sn	05 00 30.4	-13
baz=332,slow=15,SNR=3.0							
FITZ				LR	LR	05 03 42.8	
comp=Z,2µm,20.0s,baz=352,slow=39							
BUKP	**Musuan**	**13.07**	**357**	*e*P	**Pn**	**04 58 26.5**	**+0.2**
PAGZ	**Pagadian**	**13.24**	**349**	*e*P	**Pn**	**04 58 29.5**	**+0.9**
IPIL	**Ipil**	**13.35**	**346**	*e*P	**Pn**	**04 58 31.0**	**+0.8**
BUTP	**Butuan**	**14.13**	**359**	*e*P	**Pn**	**04 58 42.0**	**+1.2**
PWJI	**Pagerwojo**	**14.19**	**258**	P	**Pn**	**04 58 41.1**	**-0.5**
GENI	**Genyem**	**14.56**	**80**	P	**Pn**	**04 58 44.5**	**-2.1**
284nm,1.9s,4µm							
KKM	**Kota Kinabalu**	**14.76**	**319**	P	**Pn**	**04 58 50.0**	**+0.5**
PCJI	**Pacitan**	**14.83**	**258**	P	**Pn**	**04 58 48.3**	**-2.0**
143nm,1.3s,3µm							
KDM	**Kudat**	**15.05**	**323**	P	**P**	**04 58 58.9**	**+0.7**
JAY	**Jayapura**	**15.10**	**80**	LR	LR	05 05 37.8	
comp=Z,1µm,21.4s,baz=256,slow=41							
MSLP	**Maasin**	**15.31**	**356**	*e*P	**P**	**04 59 03.5**	**+2.4**
SMRI	**Semarang**	**15.39**	**263**	P	**P**	**04 59 05.1**	**+3.1**
UGM	**Wanagama**	**15.42**	**259**	*e*Pn	**Pn**	**04 58 57.2**	**-0.9**
768nm,1.6s							
UGM	**Wanagama**	**15.42**	**259**	P	**Pn**	**04 58 57.1**	**-1.1**
SBUM	**Sibu**	**15.59**	**299**	P	**P**	**04 59 03.7**	**-0.5**
OCLP	**Ormoc**	**16.24**	**356**	*e*P	**P**	**04 59 11.5**	**+0.1**
WRAB	**Tennant Creek**	**16.79**	**151**	*e*Pn	**Pn**	**04 59 11.2**	**-4.4**
150nm,1.4s							
WRAB	**Tennant Creek**	**16.79**	**151**	*ce*P	**Pn**	**04 59 11.6**	**-4.0**
WRAB				pmax	pmax		
comp=Z,112nm,2.5s							
WRA	**Warramunga Arr**	**16.79**	**151**	Pn	**Pn**	**04 59 11.4**	**-4.2**
comp=Z,3.7nm,0.3s,baz=320,slow=13,SNR=132							
WRA				Sn	Sn	05 02 08.5	-13
comp=Z,1.1nm,0.3s,baz=324,slow=23,SNR=3.7							
WRA				LR	LR	05 05 53.9	
comp=Z,2µm,19.9s,baz=340,slow=38							
KSM	**Kuching**	**16.87**	**293**	P	**P**	**04 59 20.8**	**+2.4**
BUSP	**Coron**	**18.03**	**342**	*e*P	**P**	**04 59 31.6**	**+0.4**
CISI	**Cisompet, Garu**	**18.04**	**262**	*e*Pn	**Pn**	**04 59 30.1**	**-1.1**
comp=Z,714nm,1.9s							
CISI	**Cisompet, Garu**	**18.04**	**262**	P	**Pn**	**04 59 25.1**	**-6.0**
LEM	**Lembang**	**18.17**	**264**	P	**P**	**04 59 33.0**	**+0.1**
LEM				pmax	pmax		
comp=Z,7.0nm,0.3s							
LEM				MLR	MLR		
comp=Z,5µm,18.6s							
LEM	**Lembang**	**18.17**	**264**	P	**P**	**04 59 33.0**	**+0.1**
comp=Z,6.6nm,0.3s,baz=51,slow=8.5,SNR=14							
LEM				LR	LR	05 07 24.6	
comp=Z,5µm,18.6s,baz=87,slow=40							
CBJI	**Citeko**	**18.91**	**266**	P	**P**	**04 59 39.5**	**-1.4**
comp=Z,488nm,1.1s,comp=Z,1.1µm							
BOAC	**Boac**	**19.00**	**348**	*e*P	**Pn**	**04 59 44.1**	**+1.3**
COEN	**Coen**	**19.16**	**118**	P	**Pn**	**04 59 44.5**	**-0.3**
baz=19,SNR=83							
COEN	**Coen**	**19.16**	**118**	*e*P	**Pn**	**04 59 44.5**	**-0.3**
comp=Z,137nm,0.9s							
SKJI	**Sukabumi**	**19.23**	**264**	P	**P**	**04 59 42.5**	**-1.9**
comp=Z,1µm,1.3s,comp=Z,13µm							
WRKA	**Warakurna**	**19.82**	**173**	P	**P**	**04 59 51.1**	**+0.4**
baz=20,SNR=93							
TGY	**Tagaytay City**	**19.83**	**346**	P	**P**	**04 59 51.7**	**+0.7**
comp=Z,75nm,0.3s,baz=204,slow=2.9,SNR=35							
AS31	**Alice Springs**	**19.90**	**158**	*e*P	**P**	**04 59 51.5**	**-0.1**
comp=Z,25nm,0.7s							
ASAR	**Alice Springs**	**19.90**	**158**	P	**P**	**04 59 52.0**	**+0.4**
comp=Z,2.2nm,0.3s,baz=332,slow=10,SNR=80							
ASAR				S	**S**	**05 03 28.7**	**-5.2**
comp=Z,0.4nm,0.3s,baz=330,slow=18,SNR=2.8							
AS01	**Alice Springs**	**19.91**	**158**	*e*P	**P**	**04 59 51.8**	**-0.1**
QIS	**Mount Isa**	**20.27**	**140**	P	**P**	**04 59 56.5**	**+0.8**
baz=20,SNR=20							
GIRL	**Giralia**	**20.60**	**212**	P	**P**	**04 59 59.7**	**+0.5**
baz=21,SNR=8.9							
GIRL	**Giralia**	**20.60**	**212**	*e*P	**P**	**04 59 59.4**	**+0.2**
comp=Z,154nm,0.8s							
XMIS	**Christmas Isla**	**20.63**	**254**	*e*P	**P**	**04 59 58.1**	**-1.7**
comp=Z,95nm,1.1s							
KASI	**Kota Agung**	**21.23**	**268**	P	**P**	**05 00 03.9**	**-2.2**
comp=Z,99nm,1.6s,comp=Z,1µm							
MDSI	**Maura Dua**	**21.57**	**271**	P	**P**	**05 00 09.8**	**-0.1**
comp=Z,93nm,0.7s,comp=Z,2µm							
MTSU	**Mount Surprise**	**22.15**	**127**	P	**P**	**05 00 16.6**	**+0.6**
baz=22,SNR=32							
LHSI	**Lahat**	**22.27**	**273**	P	**P**	**05 00 16.0**	**-1.3**
comp=Z,260nm,1.7s,comp=Z,9µm							
MEEK	**Meekatharra**	**22.35**	**197**	P	**P**	**05 00 17.2**	**-0.9**
baz=22,SNR=21							
CAUP	**Cauayan**	**22.41**	**350**	*e*P	**P**	**05 00 21.2**	**+2.5**
MNAI	**Manna**	**22.80**	**271**	*e*P	**P**	**05 00 22.5**	**-0.4**
comp=Z,205nm,1.0s							
MNAI	**Manna**	**22.80**	**271**	P	**P**	**05 00 23.7**	**+0.7**
MYKOM	**Kota Tinggi**	**23.03**	**287**	P	**P**	**05 00 27.7**	**+2.4**
ABRA	**Dolores**	**23.31**	**348**	*e*P	**P**	**05 00 27.4**	**-0.6**
APYP	**Conner**	**23.41**	**349**	*e*P	**P**	**05 00 30.3**	**+1.3**
KGM	**Kluang**	**23.61**	**287**	P	**P**	**05 00 32.7**	**+1.7**
KRJI	**Kerinci**	**24.50**	**276**	P	**P**	**05 00 46.1**	**+6.6**
CTA	**Charters Tower**	**24.75**	**128**	P	**P**	**05 00 43.0**	**+1.5**
comp=Z,12nm,0.7s,baz=312,slow=12,SNR=16							
CTA				S	**S**	**05 05 07.6**	**+5.9**
comp=Z,2.4nm,0.6s,baz=24,slow=16,SNR=1.6							
CTA				LR	LR	05 11 24.4	
comp=Z,2µm,19.1s,baz=298,slow=39							
CTAO	**Charters Tower**	**24.75**	**128**	*e*P	**P**	**05 00 42.4**	**+0.8**
CTAO	**Charters Tower**	**24.75**	**128**	P	**P**	**05 00 42.4**	**+0.8**
KTGM	**Kuala Trenggan**	**24.97**	**295**	P	**P**	**05 00 45.1**	**+1.5**
MORW	**Morawa**	**25.43**	**200**	P	**P**	**05 00 48.7**	**+1.1**
baz=26,SNR=7.9							
MORW	**Morawa**	**25.43**	**200**	*e*P	**P**	**05 00 48.4**	**+0.7**
comp=Z,44nm,0.9s							
FORT	**Forrest**	**25.48**	**176**	P	**P**	**05 00 47.5**	**-0.6**
baz=26,SNR=14							
FORT	**Forrest**	**25.48**	**176**	*e*P	**P**	**05 00 47.5**	**-0.6**
comp=Z,79nm,0.8s							
FRIM	**Kepong**	**25.60**	**289**	P	**P**	**05 00 52.1**	**+2.8**
IPM	**Ipoh**	**26.58**	**291**	P	P	05 01 08.0	+10
GUMO	**Guam**	**26.61**	**45**	LR	LR	05 13 12.5	
comp=Z,352nm,18.5s,baz=228,slow=40							
MNSI	**Mandailing Nat**	**26.89**	**282**	P	P	05 01 09.3	+8.4
KULM	**Kulim**	**27.23**	**292**	P	**P**	**05 01 06.1**	**+2.1**
PSI	**Prapat**	**28.03**	**286**	*e*P	**P**	**05 01 11.0**	**-0.4**
comp=Z,52nm,0.8s							
PSI	**Prapat**	**28.03**	**286**	*e*P	**P**	**05 01 11.0**	**-0.4**
PSI				pmax	pmax		
comp=Z,52nm,0.8s							
PSI	**Prapat**	**28.03**	**286**	P	**P**	**05 01 10.8**	**-0.6**
comp=Z,32nm,1.1s,baz=180,slow=6.0,SNR=14							
PSI				LR	LR	05 14 08.5	
comp=Z,2µm,19.4s,baz=90,slow=40							
TWG	**Pinlang**	**28.29**	**351**	*e*P	**P**	**05 01 13.3**	**0.0**
comp=Z,175nm,1.0s							
NWAO	**Narrogin (SRO)**	**28.68**	**195**	*e*P	**P**	**05 01 16.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**28.68**	**195**	*e*P	**P**	**05 01 16.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**28.68**	**195**	P	**P**	**05 01 15.9**	**-0.8**
comp=Z,4.6nm,0.6s,baz=291,slow=8.6,SNR=2.6							
NWAO				LR	LR	05 13 24.6	
comp=Z,869nm,20.0s,baz=246,slow=38							
QIZ	**Qiongzhong**	**28.81**	**327**	P	**P**	**05 01 18.9**	**+0.9**
QIZ				S	**S**	**05 06 07.7**	**+2.0**
QIZ				LR	LR		
comp=Z,2µm,13.3s							
QIZ				LR	LR		
comp=Z,2µm,22.0s							
QIZ				LR	LR		
comp=Z,770nm,18.2s							
TPUB	**Ta-pu**	**28.83**	**350**	*e*P	**P**	**05 01 18.0**	**-0.2**
comp=Z,105nm,0.9s							
GSI	**Gunungsitoli**	**28.95**	**282**	P	**P**	**05 01 20.6**	**+1.2**
BBOO	**Buckleboo**	**29.04**	**162**	P	**P**	**05 01 20.3**	**+0.3**
baz=29,SNR=11							
BBOO	**Buckleboo**	**29.04**	**162**	*e*P	**P**	**05 01 20.5**	**+0.5**
comp=Z,27nm,0.8s							
SSLB	**Suanglung**	**29.25**	**351**	*e*P	**P**	**05 01 21.7**	**-0.3**
comp=Z,28nm,0.8s							
NACB	**Ninganchiao**	**29.54**	**352**	*e*P	**P**	**05 01 23.7**	**-0.7**
comp=Z,36nm,1.0s							
TPTI		**29.83**	**286**	P	**P**	**05 01 27.6**	**+0.4**
YHNB	**Yeheng**	**30.05**	**352**	*e*P	**P**	**05 01 29.4**	**+0.3**
comp=Z,52nm,1.0s							
STKA	**Stephens Creek**	**30.33**	**153**	P	**P**	**05 01 32.1**	**+0.7**
baz=30,SNR=31							
STKA	**Stephens Creek**	**30.33**	**153**	*e*P	**P**	**05 01 32.0**	**+0.6**
comp=Z,10nm,1.1s							
STKA	**Stephens Creek**	**30.33**	**153**	P	**P**	**05 01 32.0**	**+0.6**
STKA				pmax	pmax		
comp=Z,19nm,0.7s							
STKA				MLR	MLR		
comp=Z,2µm,19.8s							
STKA	**Stephens Creek**	**30.33**	**153**	P	**P**	**05 01 32.0**	**+0.6**
comp=Z,19nm,0.7s,baz=322,slow=9.8,SNR=28							
STKA				LR	LR	05 14 30.3	
comp=Z,2µm,19.8s,baz=318,slow=38							
HTT	**Hallett**	**30.57**	**158**	P	**P**	**05 01 34.4**	**+0.8**
baz=31,SNR=6.5							
LHMI	**Lhok Sumawe**	**30.65**	**289**	*e*P	**P**	**05 01 34.3**	**-0.2**
comp=Z,119nm,0.8s							
LHMI	**Lhok Sumawe**	**30.65**	**289**	P	P	05 01 43.8	+9.3
GZH	**Guangzhou**	**30.69**	**337**	P	P	05 01 39.6	+5.0
GZH				S	**S**	**05 06 42.6**	**+7.4**
GZH				LR	LR		
comp=Z,590nm,14.7s							
GZH				LR	LR		
comp=Z,740nm,14.3s							
QZH	**Quanzhou**	**30.83**	**347**	*i*P	**P**	**05 01 37.1**	**+1.3**
QZH				S	**S**	**05 06 38.1**	**+0.9**
QZH				pmax	pmax		
comp=Z,77nm,1.4s							
QZH				pmax	pmax		
comp=Z,270nm,3.8s							
QZH				LR	LR		
comp=Z,370nm,15.6s							
QZH				LR	LR		
comp=Z,380nm,13.3s							
QZH				LR	LR		
comp=Z,550nm,20.4s							
SKNT	**Sakolnakorn**	**30.88**	**316**	P	**P**	**05 01 37.5**	**+1.1**
comp=Z,9.4nm,1.0s,comp=Z,2µm							
CHAI	**Chaiyaphum**	**31.60**	**312**	P	**P**	**05 01 44.0**	**+1.3**
comp=Z,9.4nm,0.7s							
PHET	**Kaeng Krachan**	**31.66**	**305**	P	**P**	**05 01 46.1**	**+2.8**
comp=Z,4.8nm,1.2s,comp=Z,162nm							
JOW	**Kunigami**	**31.98**	**4**	*e*P	**P**	**05 01 44.3**	**-1.7**
comp=Z,65nm,1.2s							
JOW	**Kunigami**	**31.98**	**4**	P	**P**	**05 01 45.5**	**-0.5**
comp=Z,1.1nm,0.3s,baz=200,slow=17,SNR=3.6							
CMSA	**Cobar Meteorol**	**32.11**	**147**	P	**P**	**05 01 48.1**	**+1.0**
baz=32,SNR=11							
**PBK

comp=Z,510nm,17.2s
GYA LR LR
comp=Z,550nm,17.6s
CAN Canberra 36.78 147 *e*P **P 05 02 28.2 +0.7**
comp=Z,28nm,1.1s
CAN Canberra 36.78 147 *e*P **P 05 02 28.2 +0.7**
CAN pmax pmax
comp=Z,28nm,1.1s
TOO Toolangi 36.84 154 P **P 05 02 30.5 +2.5**
baz=37,SNR=8.6
TOO Toolangi 36.84 154 *e*P **P 05 02 28.7 +0.7**
comp=Z,48nm,1.1s
TOO Toolangi 36.84 154 *e*P **P 05 02 28.7 +0.7**
TOO pmax pmax
comp=Z,48nm,1.1s
PBA Port Blair 36.94 297 *ex* P 05 02 23.5 -5.6
PBA IAmb IAmb 05 02 24.3
comp=Z,39nm,0.9s
CNB Canberra Magne 36.97 147 P **P 05 02 31.8 +2.6**
baz=37,SNR=5.5
WHN Wuhan 37.25 344 ⇑P **P 05 02 34.0 +2.6**
WHN S **S 05 08 15.5 -0.9**
WHN LR LR
comp=Z,820nm,14.8s
WHN LR LR
comp=Z,810nm,15.3s
WHN LR LR
comp=Z,2μm,26.2s
KMI Kunming 37.62 324 P **P 05 02 36.4 +1.4**
KMI pP pP 05 02 42.3 -1.8
KMI sP sP 05 02 44.1 -3.8
KMI S **S 05 08 25.9 +3.2**
KMI sS ScP 05 08 36.2 -1.0
KMI pmax pmax
comp=Z,15nm,1.3s
KMI pmax pmax
comp=Z,190nm,6.0s
KMI LR LR
comp=Z,870nm,16.2s
KMI LR LR
comp=Z,500nm,16.7s
KMI LR LR
comp=Z,660nm,25.4s
NJ2 Nanjing 37.69 350⇑ *i*P **P 05 02 37.2 +2.1**
NJ2 pmax pmax
comp=Z,32nm,1.0s
ENH Enshi 38.63 337 *e*P **P 05 02 44.5 +1.3**
CD2 Chengdu 41.69 331 ⇓P **P 05 03 09.5 +0.9**
CD2 pP pP 05 03 13.9 -3.9
CD2 PP **PP 05 04 46.3 +0.9**
CD2 S **S 05 09 25.9 +2.7**
CD2 pmax pmax
comp=Z,70nm,1.0s
CD2 pmax pmax
comp=Z,430nm,3.2s
CD2 LR LR
comp=Z,920nm,14.8s
CD2 LR LR
comp=Z,2μm,12.3s
CD2 LR LR
comp=Z,1μm,15.5s
TIA Tai'an 42.04 349 P **P 05 03 11.8 +0.5**
TIA S **S 05 09 28.5 +0.3**
TIA pmax pmax
comp=Z,81nm,2.2s
TIA LR LR
comp=Z,120nm,19.2s
TIA LR LR
comp=Z,170nm,15.7s
TIA LR LR
comp=Z,170nm,16.4s
XAN Xi'an 42.22 339 P **P 05 03 13.0 +0.2**
XAN pP pP 05 03 22.3 +0.1
XAN sP pwP 05 03 26.4 0.0
XAN S **S 05 09 26.9 -4.1**
XAN SS **SS 05 12 35.0 -5.1**
XAN ScS **ScS 05 13 13.2 +0.6**
XAN pmax pmax
comp=Z,88nm,0.8s
XAN pmax pmax
comp=Z,340nm,3.6s
XAN LR LR
comp=Z,380nm,15.2s
XAN LR LR
comp=Z,550nm,20.6s
XAN LR LR
comp=Z,560nm,16.3s
XAN Xi'an 42.22 339 *e*P **P 05 03 13.1 +0.2**
XAN Xi'an 42.22 339 *e*P **P 05 03 13.1 +0.2**
KSAR Wonju Array Be 42.52 2 P **P 05 03 15.5 +0.3**
KSAR Wonju Array Be 42.52 2 P **P 05 03 15.5 +0.3**
KSRS Korea Array 42.53 2 P **P 05 03 15.5 +0.2**
comp=Z,2.9nm,0.7s,baz=171,slow=8.7,SNR=8.4
KS01 Wonju Array Si 42.55 2 *e*P **P 05 03 15.9 +0.5**
MJAR Matsushiro Arr 43.16 15 P **P 05 03 19.5 -0.9**
comp=Z,8.4nm,0.7s,baz=193,slow=9.4,SNR=12
MJAR LR LR 05 20 46.8
comp=Z,333nm,20.9s,baz=205,slow=35
MAJO Matsushiro 43.16 15 *e*P **P 05 03 20.0 -0.4**
comp=Z,19nm,1.0s
MAJO Matsushiro 43.16 15 *i* P **P 05 03 18.8 -1.6**
MAJO pmax pmax
comp=Z,4.0nm,0.4s
MAT Matsushiro 43.16 15 P **P 05 03 19.5 -0.9**
MAT S **S 05 09 39.8 -4.9**
MJB9 Matsu-Tunnel 43.17 15 *e*P **P 05 03 20.7 +0.2**
comp=Z,21nm,1.1s
TIY Taiyuan 44.53 345 *e*P **P 05 03 32.0 +0.6**
TIY pmax pmax
comp=Z,33nm,0.5s
TIY LR LR
comp=Z,260nm,11.1s
TIY LR LR
comp=Z,350nm,13.4s
TIY LR LR
comp=Z,310nm,14.2s
SHL Shillong 44.99 315 *e*P **P 05 03 35.2 -0.3**
comp=Z,37nm,0.8s
SHL Shillong 44.99 315 *e*P **P 05 03 35.2 -0.3**
SHL pmax pmax
comp=Z,37nm,0.8s
SHL Shillong 44.99 315 *e*P **P 05 03 35.0 -0.5**
SHL IAmb IAmb 05 03 36.5
comp=Z,52nm,1.5s
BJT Baijiatuan 45.92 350 *e*P **P 05 03 42.9 +0.6**
comp=Z,71nm,1.4s
BJT Baijiatuan 45.92 350 *e*P **P 05 03 42.9 +0.6**
BJT pmax pmax
comp=Z,71nm,1.4s
BJI Beijing 45.94 350 P **P 05 03 42.8 +0.3**
BJI S **S 05 10 24.3 -0.5**
BJI pmax pmax
comp=Z,15nm,1.4s
BJI LR LR
comp=Z,260nm,14.8s
BJI LR LR
comp=Z,240nm,17.7s
BJI LR LR
comp=Z,540nm,46.7s
LZH Lanzhou 45.99 335 *e*P **P 05 03 45.3 +2.1**
LZH pP pP 05 03 49.2 -3.4
LZH sP sP 05 03 51.9 -4.5
LZH *e*S **S 05 10 28.7 +2.5**
LZH sS sS 05 10 36.6 -4.8
LZH pmax pmax
comp=Z,140nm,1.3s
LZH pmax pmax
comp=Z,520nm,4.0s
LZH LR LR
comp=Z,730nm,17.0s
LZH LR LR
comp=Z,1μm,17.9s
LZH LR LR
comp=Z,2μm,18.9s
BWNR Bhubaneshwar 46.80 304 *ex* P 05 03 43.7 -5.8
HHC Hu-ho-hao-te 47.70 345 *e*P **P 05 03 56.5 0.0**
HHC sP pP 05 04 02.6 -3.3
HHC S **S 05 10 52.0 +1.7**
HHC pmax pmax
comp=Z,26nm,1.2s
HHC LR LR
comp=Z,340nm,17.3s
HHC LR LR
comp=Z,330nm,14.3s
HHC LR LR
comp=Z,450nm,12.7s

BTO Baotou 47.89 344 *e*P **P 05 03 56.3 -1.6**
LSA Lhasa 48.10 318 P **P 05 04 01.6 +1.4**
LSA pmax pmax
comp=Z,35nm,0.9s
LSA Lhasa 48.10 318 *e*P **P 05 04 02.0 +1.8**
LSA Lhasa 48.10 318 *e*P **P 05 04 02.0 +1.8**
BOK Bokaro 48.47 308 *e*P **P 05 04 02.1 -0.4**
BOK IAmb IAmb 05 04 08.5
comp=Z,18nm,1.5s
MDRS Chennai 48.79 292 *e*P **P 05 04 01.6 -3.5**
USA0B Ussuriysk Arra 49.54 6 *e*P **P 05 04 10.3 -0.1**
comp=Z,20nm,0.9s
USRK Ussuriysk Ar. 49.54 6 P **P 05 04 10.3 0.0**
comp=Z,8.5nm,0.6s,baz=194,slow=7.5,SNR=20
USRK LR LR 05 22 26.9
comp=Z,182nm,21.9s,baz=181,slow=33
RAMN Ramite 49.63 312 *e*P **P 05 04 12.5 +0.8**
comp=Z,63nm,0.7s
MDJ Mudanjiang 49.76 4 P **P 05 04 09.6 -2.4**
MDJ pmax pmax
comp=Z,12nm,1.8s
MDJ Mudanjiang 49.76 4 *e*P **P 05 04 12.5 +0.5**
comp=Z,7.2nm,0.6s
JIRN Jiri 50.33 313 *e*P **P 05 04 17.5 +0.3**
comp=Z,38nm,0.8s
GTA Gaotai 50.51 334 *e*P **P 05 04 18.7 +0.7**
GTA pP pP 05 04 23.0 -4.5
GTA sP sP 05 04 26.2 -5.0
GTA S **S 05 11 31.2 +1.3**
GTA sS sS 05 11 39.1 -6.3
GTA pmax pmax
comp=Z,34nm,1.2s
GTA pmax pmax
comp=Z,210nm,7.2s
GTA LR LR
comp=Z,380nm,19.2s
GTA LR LR
comp=Z,410nm,19.9s
GTA LR LR
comp=Z,350nm,18.9s
TRD Trivandrum 50.60 285 *e*P **P 05 04 18.8 -0.2**
GUN Gumba 50.70 313 *e*P **P 05 04 20.2 +0.3**
comp=Z,52nm,0.7s
PKI Pulchoki 50.86 312 *e*P **P 05 04 21.1 0.0**
comp=Z,19nm,0.6s
TEY Ternei 50.99 10⇑ *e*P **P 05 04 17.7 -3.6**
TEY pmax pmax
comp=Z,10.0nm,1.2s
KKN Kakani 51.07 312 *e*P **P 05 04 22.8 +0.2**
DMN Daman 51.10 312 *e*P **P 05 04 23.0 +0.2**
comp=Z,35nm,0.7s
ASAJ Asahikawa 51.42 15 P **P 05 04 24.8 +0.3**
comp=Z,6.6nm,0.7s,baz=213,slow=16,SNR=4.0
GKN Gorkha 51.66 312 *e*P **P 05 04 27.0 +0.1**
comp=Z,29nm,0.7s
HYB Hyderabad 51.82 297 *i* P **P 05 04 29.0 +0.9**
HYB Hyderabad 51.82 297 *e*P **P 05 04 28.1 0.0**
HYB IAmb IAmb 05 04 31.8
comp=Z,7.2nm,0.6s
KOLN Koldanda 52.31 311 *e*P **P 05 04 32.2 +0.4**
comp=Z,76nm,1.1s
DANN Dangsing 52.50 312 *e*P **P 05 04 33.5 +0.2**
NGP Nagpur 52.84 301 *e*P **P 05 04 34.7 -0.8**
NGP IAmb IAmb 05 04 35.9
comp=Z,24nm,1.4s
JBP Jabalpur 52.92 304 *e*P **P 05 04 37.0 +0.9**
JBP IAmb IAmb 05 04 40.6
comp=Z,434nm,4.9s
JBP *ex* x 05 07 41.6
comp=Z,110nm,1.1s
PYUN Piuthan 52.94 311 *e*P **P 05 04 36.8 +0.3**
KLR Kul'dur 54.50 5 *i* P **P 05 04 47.2 0.0**
BHPL Bhopal 55.07 303 *e*P **P 05 04 51.5 -0.4**
BHPL IAmb IAmb 05 04 53.1
comp=Z,41nm,0.2s
RPZ Rata Peaks 55.17 141 *e*P **P 05 04 53.3 +1.0**
comp=Z,55nm,1.1s
ULN Ulaanbaatar 55.41 345 *e*P **P 05 04 54.3 +0.3**
comp=Z,72nm,1.5s
ULN Ulaanbaatar 55.41 345 *ce*P **P 05 04 54.1 +0.1**
ULN pmax pmax
comp=Z,57nm,1.7s
ULN Ulaanbaatar 55.41 345 P **P 05 04 54.8 +0.8**
SNR=14
GOA Goa 55.45 293 *e*P **P 05 04 53.3 -1.4**
GOA IAmb IAmb 05 04 53.7
comp=Z,30nm,0.2s
SONM Songino Array 55.56 344 P **P 05 04 55.3 +0.2**
comp=Z,11nm,0.9s,baz=162,slow=7.6,SNR=42
POO Poona 56.40 296 *e*P **P 05 05 01.1 -0.4**
POO IAmb IAmb 05 05 01.6
comp=Z,6.2nm,0.6s
GRNR Gornyy 56.54 8 *e*P **P 05 05 01.8 -0.1**
GRNR pmax pmax
comp=Z,21nm,1.0s
DDI Dehra Dun 57.78 311 *e*P **P 05 05 08.7 -2.4**
DDI IAmb IAmb 05 05 08.9
comp=Z,233nm,0.1s
ZAK Zakamensk 58.73 343 *e*P **P 05 05 17.1 -0.3**
ZAK *e* 05 13 42.4
ZAK pmax pmax
comp=Z,9.0nm,1.4s
ZEA Zeya 58.78 1 *e*P **P 05 05 18.8 +1.2**
ZEA pmax pmax
comp=Z,23nm,1.0s
SMLA Simla 58.84 311 *e*P **P 05 05 18.7 +0.3**
SMLA IAmb IAmb 05 05 19.6
comp=Z,30nm,0.5s
NKL Nikolayevsk 59.53 10 *e*P **P 05 05 23.0 +0.3**
NKL pmax pmax
comp=Z,79nm,1.5s
WMQ Urumqi 59.71 329 P **P 05 05 25.7 +1.4**
WMQ pP pP 05 05 30.1 -3.7
WMQ sP sP 05 05 33.3 -4.2
WMQ PcS **PcS 05 10 12.8 -0.3**
WMQ S **S 05 13 33.5 +0.6**
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,530nm,6.3s
WMQ LR LR
comp=Z,1μm,18.9s
WMQ LR LR
comp=Z,1μm,17.7s
WMQ LR LR
comp=Z,770nm,26.3s
WMQ Urumqi 59.71 329 *e*P **P 05 05 25.3 +1.0**
comp=Z,48nm,1.3s
WMQ Urumqi 59.71 329 *e*P **P 05 05 25.3 +1.0**
WMQ pmax pmax
comp=Z,48nm,1.3s
TLY Talaya 59.80 344 *e*P **P 05 05 25.8 +1.1**
comp=Z,17nm,1.3s
TLY Talaya 59.80 344 *e*P **P 05 05 26.1 +1.4**
TLY *e*S **S 05 13 35.3 +1.7**
TLY *e*SS **SS 05 17 26.1 -4.2**
TLY pmax pmax
comp=Z,35nm,1.3s
TLY MLR MLR
comp=Z,383nm,18.0s
DHRM DHARAMSHALA 60.03 312 *e*P **P 05 05 26.8 -0.1**
IRK Irkutsk 60.14 345 *e*P **P 05 05 27.8 +0.8**
IRK pmax pmax
comp=Z,54nm,2.7s
MOY Mondy 60.54 343 *e*P **P 05 05 30.8 +0.9**
MOY pmax pmax
comp=Z,51nm,1.9s
BHJ Bhuj 61.69 300 *ex* P **P 05 05 35.3 -2.7**
BHJ IAmb IAmb 05 05 36.4
comp=Z,25nm,0.4s
CASY Casey 61.85 187 *e*P **P 05 05 39.1 +0.7**
comp=Z,4.0nm,0.8s
BOD Bodaibo 63.59 353 *e*P **P 05 05 50.3 +0.3**
BOD pmax pmax
comp=Z,25nm,1.6s
PDGK Podgornoye 63.92 324 P **P 05 05 53.1 +0.4**
PDGK pmax pmax
comp=Z,19nm,1.1s
KSH Kashi 63.95 319 P **P 05 05 54.2 +1.2**
KSH pP pP 05 05 59.1 -3.5
KSH PcP **PcP 05 06 30.4 +2.1**
KSH S **S 05 14 26.0 -0.8**
KSH SS **SS 05 18 36.2 +0.2**
KSH pmax pmax
comp=Z,7.0nm,0.7s

KSH pmax pmax
comp=Z,140nm,3.5s
KSH LR LR
comp=Z,130nm,9.6s
KSH LR LR
comp=Z,200nm,11.5s
KSH LR LR
comp=Z,350nm,15.1s
PETK Petropavlovsk- 64.07 21 P **P 05 05 54.1 +0.7**
comp=Z,10.0nm,0.8s,baz=186,slow=4.5,SNR=5.8
PETK LR LR 05 35 16.6
comp=Z,88nm,19.1s,baz=221,slow=37
MK01 Makanchi Array 64.51 328 *e*P **P 05 05 56.3 -0.1**
MK31 Makanchi Array 64.53 328 *e*P **P 05 05 56.8 +0.3**
comp=Z,14nm,0.8s
MK31 Makanchi Array 64.53 328 *e*P **P 05 05 56.1 -0.4**
MK31 pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 64.53 328 *ce*P **P 05 05 56.5 0.0**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 64.53 328 P **P 05 05 56.7 +0.2**
comp=Z,9.3nm,0.6s,baz=127,slow=7.7,SNR=110
MKAR LR LR 05 37 03.1
comp=Z,159nm,18.1s,baz=128,slow=39
MAKZ Makanchi 64.70 328 *e*P **P 05 05 57.8 +0.2**
comp=Z,47nm,1.4s
MAKZ Makanchi 64.70 328 P **P 05 05 57.1 -0.5**
MAKZ pmax pmax
comp=Z,15nm,0.9s
NRN Naryn 64.96 321 *e*P **P 05 05 59.8 0.0**
comp=Z,27nm,1.5s
NRN Naryn 64.96 321 *e*P **P 05 05 59.8 0.0**
NRN pmax pmax
comp=Z,27nm,1.5s
TKM2 Tokmak 2 66.03 322 P **P 05 06 05.7 -0.8**
TKM2 pmax pmax
comp=Z,20nm,1.4s
UCH Uchtor 66.33 321 P **P 05 06 09.8 +1.0**
SNR=5.2
AAK Ala-Archa 66.56 321 P **P 05 06 11.1 +1.2**
SNR=5.6
AAK Ala-Archa 66.56 321 *e*P **P 05 06 11.1 +1.2**
comp=Z,18nm,1.0s
AAK Ala-Archa 66.56 321 P **P 05 06 10.8 +0.9**
AAK pmax pmax
comp=Z,21nm,1.0s
AML Almayashu 66.80 320 P **P 05 06 12.9 +1.2**
SNR=9.0
USP Ospenovka 66.89 322 P **P 05 06 12.6 +0.8**
SNR=7.2
EKS2 Erkin-Say 67.02 321 P **P 05 06 13.6 +0.8**
SNR=5.8
YAK Yakutsk 67.16 2 *e*P **P 05 06 12.4 -0.6**
YAK *e**PP **pP 05 06 22.1 -0.6**
YAK *e* 05 06 41.0
YAK *e* 05 08 40.3
YAK *e*S **S 05 15 01.5 -3.2**
YAK *e* 05 16 08.2
YAK *e*SS **SS 05 19 19.9 -4.7**
YAK pmax pmax
comp=Z,177nm,0.9s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=N,111nm,1.2s
YAK pmax pmax
comp=Z,737nm,3.8s
YAK pmax pmax
comp=E,331nm,3.1s
YAK pmax pmax
comp=N,377nm,3.6s
YAK smax smax
comp=E,502nm,2.5s
YAK smax smax
comp=N,356nm,2.7s
YAK MLR MLR
comp=Z,1μm,18.0s
YAK MLR MLR
comp=N,1μm,18.0s
YAK MLR MLR
comp=E,531nm,21.0s
MA2 Magadan 67.59 13 *e*P **P 05 06 16.0 +0.2**
comp=E,18nm,0.8s
MA2 Magadan 67.59 13 P **P 05 06 16.6 +0.7**
comp=E,16nm,0.7s,baz=183,slow=6.5,SNR=20
ZAA0 Zalesovo Array 68.23 335 *e*P **P 05 06 18.9 -1.0**
comp=E,54nm,1.3s
ZALV Zalesovo Beam 68.23 335 *e*P **P 05 06 18.0 -2.0**
ZALV Zalesovo Beam 68.23 335 *e*P **P 05 06 18.0 -2.0**
ZALV Zalesovo Beam 68.23 335 P **P 05 06 19.2 -0.7**
comp=E,14nm,0.6s,baz=129,slow=4.4,SNR=57
KURK Kurchatov 68.90 330 *e*P **P 05 06 23.5 -0.7**
KURK Kurchatov 68.90 330 *ce*P **P 05 06 24.7 +0.5**
KURK pmax pmax
comp=Z,45nm,1.3s
KURK Kurchatov 68.90 330 P **P 05 06 24.4 +0.2**
SNR=16
KK31 Karatay Array 69.31 320 *e*P **P 05 06 27.1 0.0**
comp=Z,15nm,1.1s
KK31 Karatay Array 69.31 320 *i* P **P 05 06 27.1 0.0**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 69.31 320 *e*P **P 05 06 27.1 0.0**
comp=Z,15nm,1.1s
KKAR Karatay Array 69.31 320 *e*P **P 05 06 27.1 0.0**
KKAR pmax pmax
comp=Z,15nm,1.1s
NVS Novosibirsk 69.52 335⇑ *i*P **P 05 06 27.0 -0.9**
NVS *e* 05 09 04.6
NVS *e*S **S 05 15 34.5 +1.4**
NVS pmax pmax
comp=N,21nm,1.3s
NVS pmax pmax
comp=E,18nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s
NVS pmax pmax
comp=N,13nm,1.7s
NVS pmax pmax
comp=E,12nm,1.7s
NVS pmax pmax
comp=Z,13nm,1.7s
NVS smax smax
comp=N,21nm,2.1s
NVS smax smax
comp=E,22nm,2.1s
SEY Seymchan 70.94 13 P **P 05 06 37.2 +0.7**
comp=E,14nm,0.6s,baz=211,slow=4.9,SNR=65
BRVK Borovoye 74.48 329 *e*P **P 05 06 58.0 +0.2**
comp=E,23nm,1.3s
BRVK Borovoye 74.48 329 P **P 05 06 57.3 -0.4**
BRVK pmax pmax
comp=Z,24nm,1.3s
BRVK Borovoye 74.48 329 P **P 05 06 58.6 +0.9**
SNR=7.1
VNDA Vanda 74.69 172 *e*P **P 05 06 59.9 +1.3**
comp=Z,23nm,1.5s
VNDA Vanda 74.69 172 P **P 05 06 59.4 +0.8**
comp=Z,1.0nm,0.7s,baz=326,slow=7.4,SNR=10
VNDA LR LR 05 39 39.8
comp=Z,695nm,18.2s,baz=346,slow=36
MAW Mawson 75.07 201 LR LR 05 38 20.6
comp=Z,477nm,18.8s,baz=60,slow=34
SBA Scott Base 75.63 172 *e*P **P 05 07 05.0 +1.0**
comp=Z,20nm,1.4s
SBA Scott Base 75.63 172 *e*P **P 05 07 05.0 +1.0**
SBA pmax pmax
comp=Z,20nm,1.4s
GEYT Alibeck 75.93 311 P **P 05 07 08.8 +2.2**
comp=Z,1.5nm,0.5s,baz=108,slow=4.7,SNR=3.6
TIXI Tiksi 76.78 1 *e*P **P 05 07 09.8 -0.7**
comp=Z,16nm,0.7s
TIXI Tiksi 76.78 1 *de*P **P 05 07 10.0 -0.5**
TIXI pmax pmax
comp=Z,30nm,1.3s
OPO Ambohidratompo 77.58 252 LR LR 05 37 16.1
comp=Z,229nm,19.8s,baz=50,slow=32
BILL Bilibino 78.42 14 *e*P **P 05 07 19.6 -0.2**
BILL Bilibino 78.42 14 *e*P **P 05 07 20.2 +0.4**
BILL *e* 05 07 26.5
BILL *e* 05 10 19.2
BILL pmax pmax
comp=Z,1.0nm,1.1s
AB31 Akbulak array 78.58 322 *i* P **P 05 07 20.7 -0.4**
AB31 pmax pmax
comp=Z,6.0nm,0.7s

ABKAR Akbulak array 78.58 322 *e*P **P** 05 07 20.7 -0.4
comp=Z,11nm,0.9s
NRIK Noril'sk 78.90 347 P **P** 05 07 23.1 +0.7
comp=Z,6.0nm,0.6s,baz=133,slow=5.1,SNR=11
NRIK LR LR 05 45 13.5
comp=Z,195nm,21.9s,baz=165,slow=38
ARU Arti 82.05 329 *e*P **P** 05 07 38.9 -0.7
ARU Arti 82.05 329 *d*/P **P** 05 07 39.0 -0.6
ARU 05 10 44.8
ARU S **S** 05 17 54.3 +2.8
ARU SS **SS** 05 23 09.6 -1.6
ARU pmax pmax
comp=Z,34nm,1.5s
TBI Tubuai 83.11 113 *e*LR LR 05 33 56.7
comp=Z,428nm,25.8s
RAYN Ar Rayn 83.24 294 *e*P **P** 05 07 46.3 -0.3
comp=Z,12nm,1.0s
RAYN Ar Rayn 83.24 294 *e*P **P** 05 07 46.3 -0.3
RAYN pmax pmax
comp=Z,12nm,1.0s
PPT2 Papeete2 83.30 107 *e*LR LR 05 33 55.4
comp=Z,1µm,37.2s
PPT Papeete 83.31 107 LR LR 05 42 47.5
comp=Z,100nm,19.6s,baz=257,slow=34
SYO Syowa Base 83.77 201‖ *e*P **P** 05 07 45.4 -2.9
QSPA South Pole Qui 84.71 180 *e*P **P** 05 07 54.1 +0.8
QSPA South Pole Qui 84.71 180 P **P** 05 07 54.2 +0.9
comp=Z,3.2nm,0.7s,baz=316,slow=3.2,SNR=16
KMBO Kilima Mbogo 88.47 269 *e*P **P** 05 08 13.1 +0.2
comp=Z,7.9nm,1.2s
KMBO Kilima Mbogo 88.47 269 P **P** 05 08 16.0 +3.1
SNR=5.0
KMBO Kilima Mbogo 88.47 269 P **P** 05 08 13.5 +0.6
comp=Z,0.6nm,0.2s,baz=77,slow=3.5,SNR=2.5
KMBO LR LR 05 44 34.2
comp=Z,762nm,19.9s,baz=96,slow=33
KBZ Khabaz 88.49 314 P **P** 05 08 12.6 +0.6
comp=Z,2.6nm,0.9s,baz=135,slow=2.9,SNR=2.3
KBZ LR LR 05 56 31.9
comp=Z,79nm,18.8s,baz=92,slow=42
GOF Gofitskoye 88.59 315 *e*P **P** 05 08 12.9 +0.4
GOF pmax pmax
comp=Z,40nm,1.4s
KIV Kislovodsk 88.68 314 *e*P **P** 05 08 12.9 -0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,130nm,20.0s
VRH Novokhopyorsk 90.36 321 *e*P **P** 05 08 20.9 +0.3
VRH *e**PP **pP** 05 08 30.3 -0.3
VRH pmax pmax
comp=Z,6.0nm,0.5s
SOC Sochi 90.76 314 *e*P **P** 05 08 18.4 -4.3
SOC *e*PPP PPP 05 14 06.0
SOC *e*S **SKSac** 05 18 46.1 -5.8
SOC *e*SS **SS** 05 25 22.7 +3.2
SOC pmax pmax
comp=Z,44nm,1.0s
SOC MLR MLR
comp=Z,268nm,23.0s
VSR Storozhevoye 91.95 321 *e*P **P** 05 08 27.7 -0.3
VSR *e**PP **pP** 05 08 37.6 -0.4
VSR pmax pmax
comp=Z,6.0nm,0.6s
LPSR Galich'ya Gora 92.24 322 *e*P **P** 05 08 29.3 0.0
LPSR *e**PP **pP** 05 08 39.2 -0.1
LPSR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 92.74 331 *e*P **P** 05 08 26.9 -4.5
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 92.74 331 *e*P **P** 05 08 27.0 -4.5
KLMR AMP 05 08 35.9
comp=Z,18nm,1.4s
KLMR *e*PP **PP** 05 12 07.2 -6.5
NVL N'lazarevskaya 92.77 198 *e*P **P** 05 08 30.5 -0.9
NVL pmax pmax
comp=Z,4.0nm,0.6s
ILAR Eielson Array 93.56 25 P **P** 05 08 33.5 -1.7
comp=Z,0.6nm,0.6s,baz=240,slow=5.4,SNR=13
ILAR PKKPbc **PKKPbc** 05 25 45.5 +1.9
comp=Z,0.1nm,0.7s,baz=46,slow=2.6,SNR=2.8
ILAR LR LR 05 46 03.7
comp=Z,172nm,20.1s,baz=268,slow=33
OBN Obninsk 93.84 325 *e*P **P** 05 08 34.9 -1.7
OBN *e* 05 12 22.0
OBN *e*PPP PPP 05 14 24.4
OBN pmax pmax
comp=Z,6.0nm,1.0s
BRTR Keskin Array B 95.00 309 *ce*P **P** 05 08 42.0 -0.5
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR Keskin Array B 95.00 309 P **P** 05 08 41.5 -1.0
comp=Z,0.6nm,0.7s,baz=144,slow=5.2,SNR=4.5
BRTR LR LR 05 56 25.8
comp=Z,128nm,22.0s,baz=96,slow=39
APA Apatity 95.74 337‖ *i*/P **P** 05 08 42.0 -3.1
APA pmax pmax
comp=Z,9.0nm,1.1s
APA MLR MLR
comp=Z,1µm,22.0s
LSZ Lusaka 95.96 254 *e*P **P** 05 08 46.9 -0.5
comp=Z,3.2nm,0.6s
LSZ Lusaka 95.96 254 *e*P **P** 05 08 46.9 -0.5
LSZ pmax pmax
comp=Z,3.0nm,0.6s
BOSA Boshof 96.73 240 P **P** 05 08 51.1 +0.4
comp=Z,2.2nm,0.9s,baz=121,slow=5.9,SNR=2.4
BOSA LR LR 05 47 28.5
comp=Z,331nm,19.2s,baz=54,slow=32
AKASG Malin Array Be 98.22 320 P Pdif 05 08 57.0 +0.3
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 98.22 320 P Pdif 05 08 57.0 +0.4
comp=Z,0.2nm,0.3s,baz=78,slow=3.6,SNR=8.2
KIEV Kiev 98.23 320 *e*P Pdif 05 08 57.1 +0.4
comp=Z,8.4nm,1.0s
KIEV Kiev 98.23 320 *i* P **P** 05 08 55.0 -1.7
KIEV pmax pmax
comp=Z,2.0nm,1.2s
FINES FINESS Array B 99.25 331 P **Pdif** 05 09 01.7 +0.7
comp=Z,2.1nm,0.9s,baz=88,slow=4.9,SNR=2.7
YKA Yellowknife Ar 107.98 25 PKiKP **PKiKP** 05 13 47.8 +1.1
comp=Z,0.1nm,0.3s,baz=288,slow=2.1,SNR=2.3
YKA PP PP 05 14 20.6 +12
comp=Z,0.4nm,0.8s,baz=291,slow=6.1,SNR=3.6
YKA PKKPbc **PKKPbc** 05 25 00.9 -0.9
comp=Z,0.2nm,0.6s,baz=103,slow=2.9,SNR=3.7
NVAR Mina Array Bea 113.43 50 PP PP 05 15 06.2 +17
comp=Z,1.5nm,1.1s,baz=257,slow=8.2,SNR=4.6
REDW Red Top Meadow 117.47 43 *e*PKPdf **PKiKP** 05 14 07.0 +1.3
PDAR Pinedale Array 118.57 44 PKP **PKiKP** 05 14 08.5 +0.6
comp=Z,0.1nm,0.3s,baz=252,slow=1.8,SNR=3.8
PDAR PKKPbc **PKKPab** 05 24 33.0 +5.8
comp=Z,0.4nm,0.6s,baz=127,slow=5.9,SNR=4.1
O20A White River Ci 120.43 46 *e*PKPdf **PKiKP** 05 14 12.7 +1.1
TOA0 Torodi Ar. Sit 124.39 282 *e*PKPdf **PKiKP** 05 14 20.2 +0.5
TORD Torodi Ar. Bea 124.39 282 PKP **PKiKP** 05 14 19.9 +0.1
comp=Z,0.8nm,0.7s,baz=101,slow=2.2,SNR=6.5
MNTX Cornudas Mount 125.41 55 *e*PKPdf **PKiKP** 05 14 22.4 +1.0
TXAR Lajitas Array 127.53 57 PKP **PKiKP** 05 14 26.3 +0.5
comp=Z,0.4nm,0.9s,baz=238,slow=1.7,SNR=2.8
SCHQ Schefferville 129.52 9 PKP **PKiKP** 05 14 29.6 +0.7
comp=Z,2.2nm,1.0s,baz=352,slow=7.1,SNR=2.1
JCT Junction City 130.33 54 *e*PKPdf **PKPdf** 05 14 30.7 +0.2
JCT Junction City 130.33 54 *e*PKIKP **PKPdf** 05 14 30.7 +0.2
DBIC Dimbokro 130.94 274 PKP **PKiKP** 05 14 33.3 +0.4
comp=Z,2.2nm,0.8s,baz=342,slow=3.2,SNR=2.8
TRQA Tornquist 136.31 171 *e*PKPdf **PKPdf** 05 14 42.3 +0.8
TRQA Tornquist 136.31 171 *e*PKIKP **PKPdf** 05 14 42.3 +0.8
GO02 Mina Guanaco 146.26 154 *e*PKPdf **PKPbc** 05 15 01.4 +0.3
TGUH Tegucigalpa,Un 146.27 73 *e*PKPdf **PKPab** 05 15 02.0 +0.2
CPUP Villa Florida 148.46 175 *e*PKPbc **PKiKP** 05 15 08.1 -0.2
CPUP Villa Florida 148.46 175 PKPbc **PKiKP** 05 15 07.7 -0.7
comp=Z,6.8nm,1.1s,baz=43,slow=2.7,SNR=6.9
LVC Limon Verde 148.78 153 PKPbc **PKiKP** 05 15 09.0 -0.6
comp=Z,1.6nm,0.7s,baz=244,slow=2.1,SNR=2.6
JTS JuntasAbangare 149.12 79 *e*PKPbc **PKiKP** 05 15 10.6 +0.5
JTS JuntasAbangare 149.12 79 *e*PKP2 **PKiKP** 05 15 10.6 +0.5
LPAZ La Paz 154.53 147 PKPbc **PKiKP** 05 15 23.2 +1.2
comp=Z,4.0nm,1.2s,baz=270,slow=2.0,SNR=3.1
LPAZ PKPab **PKPab** 05 15 36.8 +0.6
comp=Z,3.3nm,0.7s,baz=243,slow=3.7,SNR=11
BDFB Brasilia 158.36 196 PKP **PKPdf** 05 15 19.5 +1.7
comp=Z,1.4nm,0.7s,baz=225,slow=1.4,SNR=2.6

ROM 08 04:58:38.6±0.2, 36°57'N±0'.004×15°.238E±0'.009, h28km, ML2.6/8, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HAVL	**Avola**	**0.09**	**272**	*i* P	Pb		04 58 43.8	+0.1
HAVL				S	Sb		04 58 47.5	+0.5
HAVL					AML	AML		
	comp=E,1195µm,0.4s							
HAVL					AML	AML		
	comp=N,1665µm,0.1s							
HAVL					AML	AML		
	comp=E,1195µm,0.4s							
HAVL					AML	AML		
	comp=N,1665µm,0.1s							
HAVL					AML	AML		
	comp=E,1195µm,0.4s							
HAVL					AML	AML		
	comp=N,1665µm,0.1s							
SSY	**Sortino**	**0.24**	**326**	P	Pb		04 58 45.3	+0.2
SSY				S	Sb		04 58 50.1	+0.6
SSY					AML	AML		
	comp=E,1205µm,1.1s							
SSY					AML	AML		
	comp=N,2080µm,1.0s							
SSY					AML	AML		
	comp=E,1205µm,1.1s							
SSY					AML	AML		
	comp=N,2080µm,1.0s							
SSY					AML	AML		
	comp=N,2080µm,1.0s							
SSY					AML	AML		
	comp=E,1205µm,1.1s							
AGST	**Augusta-Monte**	**0.30**	**358**	P	Pb		04 58 45.9	0.0
AGST				S	Sb		04 58 51.4	+0.6
AGST					AML	AML		
	comp=E,817µm,0.2s							
AGST					AML	AML		
	comp=N,898µm,0.4s							
AGST					AML	AML		
	comp=E,817µm,0.2s							
AGST					AML	AML		
	comp=N,898µm,0.4s							
AGST					AML	AML		
	comp=N,898µm,0.4s							
AGST					AML	AML		
	comp=E,817µm,0.2s							
HAGA	**Augusta**	**0.33**	**349**	P	Pb		04 58 46.4	0.0
HAGA				S	Sb		04 58 52.1	+0.5
HAGA					AML	AML		
	comp=E,389µm,0.4s							
HAGA					AML	AML		
	comp=N,484µm,1.2s							
HAGA					AML	AML		
	comp=E,388µm,0.4s							
HAGA					AML	AML		
	comp=N,484µm,1.2s							
HAGA					AML	AML		
	comp=N,484µm,1.2s							
HAGA					AML	AML		
	comp=E,388µm,0.4s							
HCRL	**Carlentini**	**0.36**	**333**	P	Pb		04 58 47.1	+0.2
HCRL				S	Sb		04 58 53.3	+0.8
HCRL					AML	AML		
	comp=E,1070µm,1.0s							
HCRL					AML	AML		
	comp=N,1960µm,0.2s							
HCRL					AML	AML		
	comp=E,1070µm,1.0s							
HCRL					AML	AML		
	comp=N,1960µm,0.2s							
HCRL					AML	AML		
	comp=N,1960µm,0.2s							
HCRL					AML	AML		
	comp=E,1070µm,1.0s							
HMDC	**Modica**	**0.36**	**270**	P	Pb		04 58 46.8	-0.1
HMDC				S	Sb		04 58 52.4	-0.1
HMDC					AML	AML		
	comp=E,1109µm,0.7s							
HMDC					AML	AML		
	comp=N,732µm,0.3s							
HMDC					AML	AML		
	comp=E,1109µm,0.7s							
HMDC					AML	AML		
	comp=N,732µm,0.3s							
HMDC					AML	AML		
	comp=N,732µm,0.3s							
HMDC					AML	AML		
	comp=E,1109µm,0.7s							
HVZN	**Vizzini**	**0.47**	**298**	P	Pb		04 58 48.6	+0.1
HVZN				S	Sn		04 58 56.2	-0.8
HVZN					AML	AML		
	comp=E,1855µm,0.5s							
HVZN					AML	AML		
	comp=N,2095µm,0.5s							
HVZN					AML	AML		
	comp=N,2095µm,0.5s							
HVZN					AML	AML		
	comp=E,1855µm,0.5s							
RAFF	**Raffo Rosso**	**0.75**	**291**	P	Pn		04 58 53.4	0.0

ROM 08 04:59:24.2±0.1, 36°.958N±0'.004×15°.218E±0'.009, h28km, ML2.0/3, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HAVL	**Avola**	**0.07**	**272**	P	Pb		04 59 29.1	0.0
HAVL				S	Sb		04 59 32.8	+0.5
HAVL					AML	AML		
	comp=E,610µm,0.3s							
HAVL					AML	AML		
	comp=N,832µm,0.3s							
HAVL					AML	AML		
	comp=N,832µm,0.3s							
HAVL					AML	AML		
	comp=E,610µm,0.3s							
SSY	**Sortino**	**0.23**	**329**	P	Pb		04 59 30.6	+0.1
SSY				S	Sb		04 59 35.4	+0.5
SSY					AML	AML		
	comp=E,242µm,1.4s							
SSY					AML	AML		
	comp=N,526µm,1.6s							
SSY					AML	AML		
	comp=E,242µm,1.4s							
SSY					AML	AML		
	comp=N,526µm,1.6s							
AGST	**Augusta-Monte**	**0.30**	**1**	P	Pb		04 59 31.5	+0.1
AGST				S	Sb		04 59 37.0	+0.7
HAGA	**Augusta**	**0.33**	**351**	P	Pb		04 59 32.2	+0.4
HAGA				S	Sb		04 59 37.5	+0.5
HMDC	**Modica**	**0.35**	**270**	P	Pb		04 59 32.1	-0.1
HMDC				S	Sb		04 59 37.8	+0.3
HCRL	**Carlentini**	**0.36**	**335**	P	Pb		04 59 32.3	+0.1
HCRL				S	Sb		04 59 38.6	+0.9
HCRL					AML	AML		
	comp=E,206µm,1.1s							
HCRL					AML	AML		
	comp=N,350µm,0.2s							
HCRL					AML	AML		
	comp=N,350µm,0.2s							
HCRL					AML	AML		
	comp=E,206µm,1.1s							
HVZN	**Vizzini**	**0.46**	**299**	P	Pb		04 59 34.0	+0.1
HVZN				S	Sn		04 59 41.5	-0.8
KIBS	**BOLU**	**13.45**	**70**	*i* P	Pn		05 01 45.3	-48
KIBS				*i* S	S		05 02 05.8	-199
BCAM	**Yenicaga**	**13.68**	**68**	*i* P	Pn		05 01 41.0	-55

IDC 08 05:25:52.8±2.8, 27°.36S×23°.08E, h0km, mb1 2.8/3, mb1mx2.8/29, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=25.4km s-min=15.9km az=101.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**2.28**	**124**	*i*			05 43 18.1	
	baz=301,slow=301,SNR=1.9							
BOSA	**Boshof**	**2.29**	**124**	Pn	Pn		05 26 32.0	0.0
	0.4nm,0.3s,baz=300,slow=18,SNR=12							
BOSA				Pg	Pb		05 26 34.7	-0.5
	0.4nm,0.3s,baz=300,slow=18,SNR=12							
BOSA				Lg	Lg		05 27 05.5	
	1.5nm,0.3s,baz=203,slow=15,SNR=14							
LBTB	**Lobatse**	**3.25**	**45**	Pn	Pn		05 26 45.4	+0.2
	0.1nm,0.3s,baz=219,slow=14,SNR=2.9							
LBTB				Pg	Pg		05 26 53.6	-1.5
	0.4nm,0.3s,baz=229,slow=15,SNR=18							
LBTB				Sn	Sn		05 27 23.8	-0.8
	1.0nm,0.3s,baz=303,slow=21,SNR=15							
LBTB				Lg	Lg		05 27 34.4	
	1.4nm,0.3s,baz=133,slow=23,SNR=13							
SUR	**Sutherland**	**5.38**	**201**	Pn	Pn		05 27 14.7	+0.2
	0.1nm,0.3s,baz=23,slow=14,SNR=4.1							
SUR				Sn	Sn		05 28 14.4	-2.9
	0.3nm,0.3s,baz=81,slow=19,SNR=6.2							
SUR				Lg	Lg		05 28 34.2	
	0.9nm,0.3s,baz=300,slow=23,SNR=11							
I35NA	**TSUMEB INFRASO**	**9.57**	**327**	*i*			06 25 00.0	
	baz=153,slow=314,SNR=1.8							

IDC 08 05:25:54.3±8.7, 16°.45S×172°.73W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/29, mbtmp3.7/3, Error ellipse: s-maj=383.5km s-min=35.7km az=139.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**50.24**	**258**	P	P		05 34 52.0	-0.6
	0.4nm,0.9s,baz=95,slow=8.0,SNR=4.9							
ASAR	**Alice Springs**	**50.40**	**253**	P	P		05 34 54.1	+0.2
	1.1nm,0.6s,baz=86,slow=8.2,SNR=16							
ILAR	**Eielson Array**	**83.35**	**11**	P	P		05 38 22.8	0.0
	0.6nm,0.6s,baz=228,slow=6.4,SNR=9.0							

*ISCJB **08** 05:26:52.8±0.8, 45°.2N±0'.1×151°.55E±0'.09, h32km, mb4.1/20, Error ellipse: s-maj=17.2km s-min=4.1km az=148.7*
*JMA **08** 05:26:53.1±0.7, 45°.52N×151°.58E, h30km, M4.5*
*SKHL **08** 05:26:54.9±0.3, 45°.05N×151°.61E, h38km±5km, mb4.6/5*
*MOS **08** 05:26:55.0±2.7, 45°.00N×151°.56E, h39km, mb4.4/6, Error ellipse: s-maj=12.0km s-min=9.9km az=148.6*
*IDC **08** 05:26:58.7±1.0, 46°.61N×150°.53E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.7/39, mbtmp3.8/13, ML4.2/2, Error ellipse: s-maj=25.0km s-min=19.4km az=133.0*
*NEIC **08** 05:27:02.7±3.2, 46°.47N×150°.77E, h33km±23km, mb4.6/11, Error ellipse: s-maj=13.4km s-min=9.3km az=151.0*

ISC 08 05:26:53.8±1.1, 45°.2N±0'.1×151°.67E±0'.10, h32km, n78, σ1§42/72, mb4.1/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.69**	**273**	*e*P	**Pn**		**05 27 35.0**	**+0.2**
KUR					AMB	AMB	05 27 36.0	
	40nm,0.4s							
KUR				*e*S	**Sn**		**05 28 04.8**	**-1.5**
KUR				A	A		05 28 13.0	
	460nm,0.5s							
KUR				A	A		05 28 13.0	
	199nm,0.5s							
KUR	**Kuril'sk**	**2.69**	**273**	*e*PN	**Pn**		**05 27 35.5**	**+0.7**
KUR				*i* S	**Sn**		**05 28 05.4**	**-0.9**
KUR				pmax	pmax			
	comp=Z,76nm,0.4s							
KUR				smax	smax			
	comp=N,460nm,0.5s							
KUR				smax	smax			
	comp=E,199nm,0.5s							
SHO	**Shikotan**	**3.70**	**251**	*e*P	**Pn**		**05 27 48.5**	**-0.1**
SHO					AMB	AMB	05 27 50.0	
	comp=E,42nm,0.4s							
SHO				*e*S	**Sn**		**05 28 28.9**	**-2.2**
SHO				A	A		05 28 33.0	
	comp=E,125nm,0.4s							
SHO				A	A		05 28 33.0	
	comp=E,144nm,0.4s							
SHO	**Shikotan**	**3.70**	**251**	*e*PN	**Pn**		**05 27 48.3**	**-0.3**
SHO				*e*S	**Sn**		**05 28 28.7**	**-2.4**
SHO				pmax	pmax			
	comp=Z,42nm,0.4s							
SHO				smax	smax			
	comp=E,46nm,0.2s							
SHO				smax	smax			
	comp=N,103nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**4.30**	**257**	*e*P	**Pn**		**05 27 57.9**	**+1.0**
YUK					AMB	AMB	05 28 01.3	
	comp=N,25nm,0.3s							
YUK					AMB	AMB	05 28 01.3	
	comp=N,38nm,0.3s							
YUK					AMB	AMB	05 28 01.3	
	comp=N,30nm,0.3s							
YUK				*e*S	**Sn**		**05 28 45.2**	**-0.8**
YUK				A	A		05 28 56.0	
	comp=N,157nm,0.4s							
YUK				A	A		05 28 56.0	
	comp=N,120nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**4.30**	**257**	*e*PN	**Pn**		**05 27 58.5**	**+1.6**
YUK				*e*S	**Sn**		**05 28 45.8**	**-0.2**
YUK				pmax	pmax			
	comp=Z,3.0nm,0.3s							
YUK				pmax	pmax			
	comp=E,38nm,0.1s							
YUK				pmax	pmax			
	comp=N,24nm,0.2s							
YUK				smax	smax			
	comp=E,206nm,0.5s							
YUK				smax	smax			
	comp=N,157nm,0.4s							
LAGR	**Lagunnoye**	**4.35**	**257**	*e*P	**Pn**		**05 27 58.0**	**+0.4**
LAGR				*e*S	**Sn**		**05 28 47.0**	**-0.1**
LAGR				A	A		05 28 56.0	
	comp=N,150nm,0.5s							
LAGR	**Lagunnoye**	**4.35**	**257**	*e*PN	**Pn**		**05 27 58.5**	**+0.9**
LAGR				*e*S	**Sn**		**05 28 47.0**	**-0.1**
LAGR				smax	smax			
	comp=E,297nm,0.5s							
LAGR				smax	smax			
	comp=N,150nm,0.2s							
GRPR	**Tuman**	**4.38**	**257**	*e*P	**Pn**		**05 27 58.0**	**0.0**
GRPR					AMB	AMB	05 28 00.0	
	comp=N,45nm,0.3s							
GRPR					AMB	AMB	05 28 00.0	
	comp=N,18nm,0.3s							
GRPR					AMB	AMB	05 28 00.0	
	comp=N,50nm,0.3s							
GRPR				*e*S	**Sn**		**05 28 48.0**	**+0.2**
GRPR				A	A		05 28 50.0	
	comp=N,90nm,0.4s							
GRPR				A	A		05 28 50.0	
	comp=N,121nm,0.4s							
GRPR	**Tuman**	**4.38**	**257**	PN	**Pn**		**05 27 58.7**	**+0.7**
GRPR				*e*S	**Sn**		**05 28 48.6**	**+0.8**
GRPR				pmax	pmax			
	comp=Z,50nm,0.2s							
GRPR				pmax	pmax			
	comp=N,45nm,0.1s							
GRPR				pmax	pmax			
	comp=E,18nm,0.1s							
GRPR				smax	smax			
	comp=E,121nm,0.4s							
GRPR				smax	smax			
	comp=N,186nm,0.3s							
NEM2	**Nemuro 2**	**4.62**	**249**	P	**Pn**		**05 28 01.2**	**-0.2**
NEM2				*e*S	**Sn**		**05 28 51.4**	**-2.5**
GLVR	**Golovnino**	**4.63**	**254**	*e*P	**Pn**		**05 28 01.9**	**+0.4**
GLVR					AMB	AMB	05 28 02.0	
	comp=N,15nm,0.3s							
GLVR					AMB	AMB	05 28 02.0	
	comp=N,11nm,0.3s							
GLVR					AMB	AMB	05 28 02.0	
	comp=N,87nm,0.3s							
GLVR				*e*S	**Sn**		**05 28 53.0**	**-1.1**
GLVR				A	A		05 28 58.0	
	comp=N,172nm,0.3s							
GLVR				A	A		05 28 58.0	
	comp=N,120nm,0.3s							
GLVR	**Golovnino**	**4.63**	**254**	*e*PN	**Pn**		**05 28 01.5**	**0.0**
GLVR				*e*S	**Sn**		**05 28 53.9**	**-0.2**
GLVR				pmax	pmax			
	comp=Z,87nm,0.2s							
GLVR				pmax	pmax			
	comp=E,11nm,0.1s							
GLVR				pmax	pmax			
	comp=N,15nm,0.2s							
GLVR				smax	smax			
	comp=N,172nm,0.3s							
GLVR				smax	smax			
	comp=E,247nm,0.2s							
JRA	**Rausu**	**4.84**	**258**	P	**Pn**		**05 28 06.0**	**+1.7**

JNK	**Nakash**	**5.23**	**255**	P		**Pn**	**05 28 10.9**	**+1.2**
JAK	**Akkeshi**	**5.47**	**249**	P		**Pn**	**05 28 12.9**	**-0.1**
JAK				*e*S		**Sn**	**05 29 12.3**	**-2.5**
JAR	**Ashorobuto**	**5.98**	**255**	P		**Pn**	**05 28 21.4**	**+1.4**
JAR				*e*S		**Sn**	**05 29 26.8**	**-0.5**
JKK2	**Kamakawa 2**	**6.51**	**262**	P		**Pn**	**05 28 29.2**	**+1.9**
JCH	**Churui**	**6.52**	**250**	P		**Pn**	**05 28 27.5**	**0.0**
JKA	**Kamikawa-asahi**	**6.56**	**264**	*e*P		**Pn**	**05 28 30.6**	**+2.7**
ASAJ	**Asahikawa**	**6.56**	**264**	Pn		**Pn**	**05 28 30.6**	**+2.7**
	comp=E,1.8nm,0.3s,baz=60,slow=21,SNR=7.8							
ERM	**Erimo**	**6.94**	**246**	*e*Pn		**Pn**	**05 28 35.8**	**+2.6**
ERM	**Erimo**	**6.94**	**246**	*e*P		**Pn**	**05 28 35.8**	**+2.6**
ERM	**Erimo**	**6.94**	**246**	*e*PN		**Pn**	**05 28 35.8**	**+2.6**
JNBK	**Urakawa-nobuka**	**7.08**	**249**	P		**Pn**	**05 28 34.6**	**-0.5**
JKB	**Kayabe**	**8.40**	**251**	P		**Pn**	**05 28 52.9**	**-0.2**
JANG	**Nango**	**8.87**	**241**	*e*S		Sn	05 30 30.7	-7.8
PETK	**Petropavlovsk-**	**8.87**	**24**	*e*Pn		Pn	05 29 02.2	+2.5
PETK	**Petropavlovsk-**	**8.87**	**24**	*e*PN		Pn	05 29 02.2	+2.5
PETK	**Petropavlovsk-**	**8.87**	**24**	Pn		**Pn**	**05 28 57.1**	**-2.6**
	comp=E,0.2nm,0.3s,baz=200,slow=17,SNR=4.1							
PEA1	**Petropavlovsk-**	**8.88**	**24**	*e*Pn		**Pn**	**05 28 57.1**	**-2.7**
MA2	**Magadan**	**14.44**	**358**	P		Pn	05 30 08.0	-7.7
MA2	**Magadan**	**14.44**	**358**	Pn		Pn	05 30 08.0	-7.7
	comp=E,0.3nm,0.3s,baz=162,slow=20,SNR=1.8							
BMKR	**Bomnak**	**17.45**	**311**	*e*P		**P**	**05 30 56.6**	**+1.1**
JNU	**Nakatsue**	**20.05**	**240**	*e*P		Pn	05 31 38.8	+13
	comp=E,14nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**28.33**	**149**	T		T	06 04 32.8	
	baz=337,slow=76,SNR=3.8							
H11N1	**WAKE ISLAND Hy**	**28.35**	**149**	T		T	06 04 32.5	
	baz=337,slow=76,SNR=4.6							
H11N3	**WAKE ISLAND Hy**	**28.35**	**149**	T		T	06 04 33.2	
	baz=337,slow=76,SNR=16							
H11S1	**WAKE ISLAND Hy**	**29.39**	**150**	T		T	06 05 54.0	
	baz=338,slow=76,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**29.39**	**150**	T		T	06 05 54.0	
	baz=338,slow=76,SNR=3.9							
H11S2	**WAKE ISLAND Hy**	**29.40**	**150**	T		T	06 05 55.0	
	baz=338,slow=76,SNR=3.7							
SONA0	**Songino Array**	**30.94**	**291**	*e*P		**P**	**05 33 07.9**	**+0.1**
SONM	**Songino Array**	**30.94**	**291**	P		**P**	**05 33 07.9**	**+0.1**
	comp=E,0.2nm,0.4s,baz=82,slow=9.9,SNR=2.7							
BWN	**Browne**	**37.29**	**38**	*e*P		**P**	**05 34 05.3**	**+2.9**
	comp=E,72nm,1.0s							
SML	**Sawmill**	**37.81**	**42**	*e*P		**P**	**05 34 09.3**	**+2.4**
	comp=E,20nm,1.2s							
SML	**Sawmill**	**37.81**	**42**	*e*P		**P**	**05 34 09.3**	**+2.4**
SML	**Sawmill**	**37.81**	**42**	*e*P		**P**	**05 34 09.3**	**+2.4**
SML					pmax	pmax		
	comp=Z,20nm,1.2s							
ZAA0	**Zalesovo Array**	**42.74**	**307**	*e*P		P	05 34 53.6	+5.9
	comp=Z,1.6nm,0.7s							
ZALV	**Zalesovo Beam**	**42.74**	**307**	*e*P		P	05 34 54.3	+6.7
ZALV	**Zalesovo Beam**	**42.74**	**307**	*e*P		P	05 34 54.3	+6.6
MK31	**Makanchi Array**	**46.79**	**298**	*e*P		**P**	**05 35 20.5**	**+0.4**
	comp=Z,0.9nm,1.0s							
MK31	**Makanchi Array**	**46.79**	**298**	*e*P		**P**	**05 35 20.5**	**+0.4**
MK31					pmax	pmax		
	comp=Z,1.0nm,1.0s							
MK32	**Makanchi Array**	**46.79**	**298**	*e*P		**P**	**05 35 19.9**	**-0.2**
MKAR	**Makanchi Array**	**46.79**	**298**	P		**P**	**05 35 19.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=60,slow=5.6,SNR=6.7							
MK01	**Makanchi Array**	**46.79**	**298**	*e*P		**P**	**05 35 20.7**	**+0.6**
OPA	**Opana**	**47.17**	**103**	*e*P		P	05 35 37.7	+14
	comp=Z,26nm,0.9s							
OPA	**Opana**	**47.17**	**103**	*e*P		P	05 35 37.7	+14
OPA					pmax	pmax		
	comp=Z,26nm,0.9s							
YKA	**Yellowknife Ar**	**52.80**	**36**	P		P	05 36 10.1	+4.6
	comp=Z,0.1nm,0.4s,baz=302,slow=7.1,SNR=2.9							
ABKAR	**Akbulak array**	**58.67**	**310**	*e*P		**P**	**05 36 47.3**	**-0.5**
	comp=Z,1.4nm,1.0s							
ARA0	**ARCESS Array S**	**59.02**	**341**	*e*P		**P**	**05 36 49.4**	**-0.5**
ARCES	**ARCESS Array B**	**59.02**	**341**	P		**P**	**05 36 49.4**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=35,slow=13,SNR=2.0							
SUMG	**Summit**	**62.35**	**3**	*e*P		**P**	**05 37 12.6**	**-0.4**
	comp=Z,6.6nm,1.1s							
SUMG	**Summit**	**62.35**	**3**	*e*P		**P**	**05 37 12.6**	**-0.4**
SUMG					pmax	pmax		
	comp=Z,7.0nm,1.1s							
NVAR	**Mina Array Bea**	**64.07**	**61**	P		P	05 37 35.1	+10
	comp=Z,0.1nm,0.5s,baz=270,slow=6.3,SNR=2.5							
FIA1	**FINESS Array S**	**65.04**	**334**	*e*P		**P**	**05 37 30.1**	**-0.3**
FIA0	**FINESS Array S**	**65.04**	**334**	*e*P		**P**	**05 37 28.7**	**-1.7**
FIA0	**FINESS Array S**	**65.04**	**334**	*e*P		**P**	**05 37 28.7**	**-1.7**
FINES	**FINESS Array B**	**65.04**	**334**	P		**P**	**05 37 28.7**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=46,slow=5.5,SNR=4.0							
WR1	**Warramunga Arr**	**66.69**	**198**	*e*P		P	05 37 58.0	+17
	comp=Z,9.1nm,0.8s							
WRA	**Warramunga Arr**	**66.69**	**198**	P		P	05 37 58.1	+17
	comp=Z,1.1nm,1.1s,baz=14,slow=6.3,SNR=3.2							
NC405	**NORSAR Array S**	**69.21**	**340**	*e*P		**P**	**05 37 57.3**	**+0.4**
	comp=Z,7.4nm,1.1s							
NB2	**NORSAR Subarra**	**69.40**	**341**	P		**P**	**05 37 57.1**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.2							
NB200	**NORSAR Array S**	**69.40**	**341**	*e*P		**P**	**05 37 56.4**	**-1.7**
NOA	**NORSAR Array B**	**69.40**	**341**	P		**P**	**05 37 56.4**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=29,slow=6.6,SNR=4.9							
KBZ	**Khabaz**	**71.23**	**314**	P		**P**	**05 38 09.3**	**-0.2**
KBZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
KBZ	**Khabaz**	**71.23**	**314**	P		**P**	**05 38 09.3**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=78,slow=6.3,SNR=4.9							
AKASG	**Malin Array Be**	**72.30**	**326**	P		**P**	**05 38 15.3**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=36,slow=6.5,SNR=4.6							
BUR08	**Bucovina Ar. S**	**76.33**	**326**	*e*P		**P**	**05 38 40.2**	**+0.7**
	comp=Z,3.0nm,0.6s							

*SOME **08** 05:28:49.7, 44.27N×83.05E, h25km*
*NNC **08** 05:28:49.3±1.8, 44.35N×82.83E, h0km, mb2.7, mpv2.3, Error ellipse: s-maj=19.2km s-min=4.7km az=117.0*

ISC 08 05:28:50.6±2.9, 44.37N±0.09×82.9E±0.1, h17km, n8, σ2°08/13, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**2.23**	**270**	*e*P	**Pb**	**05 29 31.4**	**+0.8**
	1.7nm,0.2s						
DJR				*e*S	**Sg**	**05 30 01.3**	**-1.2**
	4.3nm,0.4s						
MK31	**Makanchi Array**	**2.47**	**350**	⇑Pg	**Pb**	**05 29 34.7**	**+0.1**
	0.2nm,0.2s,baz=164,slow=14,SNR=24						
MK31				⇑Lg	Lg	05 30 07.6	
	1.5nm,0.4s,baz=169,slow=28,SNR=12						
MAKZ	**Makanchi**	**2.53**	**345**	⇑Pg	**Pb**	**05 29 35.4**	**-0.1**
	2.1nm,0.9s						
MAKZ				⇓Lg	Lg	05 30 09.4	
	0.6nm,0.4s						
PDGK	**Podgornoye**	**2.68**	**248**	⇑Pg	**Pb**	**05 29 37.2**	**-1.0**
	3.0nm,0.9s						
PDGK				⇑Lg	Lg	05 30 12.9	
	3.3nm,0.6s						
KAPS	**Kapalarasan**	**2.69**	**291**	*e*P	**Pb**	**05 29 39.4**	**+1.2**
	0.5nm,0.1s						
KAPS				*e*S	**Sg**	**05 30 15.3**	**-1.6**
	2.0nm,0.4s						
UZB	**Uzynbulak**	**3.06**	**248**	*e*P	**Pb**	**05 29 44.2**	**-0.5**
	0.7nm,0.1s						
UZB				*e*S	**Sb**	**05 30 23.2**	**+1.2**
	1.0nm,0.2s						
SATY	**Saty**	**3.51**	**250**	*e*P	**Pb**	**05 29 52.6**	**+0.2**
	1.6nm,0.2s						
SATY				*e*S	**Sb**	**05 30 37.8**	**+3.0**
	4.0nm,0.3s						
CHKK	**Chushkaly**	**4.29**	**265**	*e*P	**Pb**	**05 30 08.0**	**+2.4**
	0.4nm,0.1s						
CHKK				*e*S	**Sg**	**05 31 04.0**	**-4.4**
	1.8nm,0.3s						

*ISCJB **08** 06:16:03.8±0.6, 59.73N±0.05×22.37E±0.05, h0km, Error ellipse: s-maj=7.2km s-min=3.4km az=167.4*
*HEL **08** 06:16:04.5±0.1, 59.68N×22.31E, h0km, ML2.0, ML2.0(UPP), Explosion*
*UPP **08** 06:16:04.5±1.2, 59.81N×22.35E, h0km, ML2.0, Suspected explosion*
*IDC **08** 06:16:06.4±2.5, 59.76N×22.52E, h0km, mb1 3.0/3, mb1mx2.9/36, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=32.0km s-min=9.4km az=160.0*

ISC 08 06:16:04.1±1.0, 59.76N±0.06×22.37E±0.03, h0km, n32, σ0°98/38, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.12**	**65**	*e*P	**Pg**	**06 16 25.6**	**+0.1**
AAL	**Aland**	**1.27**	**290**	P	**Pg**	**06 16 27.3**	**-1.1**
AAL				S	**Sb**	**06 16 46.0**	**+0.5**
AAL	**Aland**	**1.27**	**290**	*e*P	**Pg**	**06 16 27.2**	**-1.1**
AAL				*e*S	**Sg**	**06 16 45.3**	**+0.7**
RAF	**Rauma**	**1.30**	**347**	*e*P	**Pb**	**06 16 29.2**	**-0.3**
RAF				*e*S	**Sn**	**06 16 47.3**	**-0.3**
NUR	**Nurmijrvi**	**1.37**	**56**	*e*P	**Pg**	**06 16 30.1**	**-0.2**
NUR				*e*SN	**Sn**	**06 16 51.7**	**+2.4**
ARBE	**Arbavere**	**1.87**	**98**	*e*P	**Pn**	**06 16 37.6**	**+0.4**
NRTU	**Norrtaelje**	**1.89**	**269**	P	**Pn**	**06 16 37.4**	**-0.2**
NRTU	**Norrtaelje**	**1.89**	**269**	*e*P	**Pn**	**06 16 37.4**	**-0.2**
PVF	**Pernaja**	**1.92**	**64**	*e*P	**Pb**	**06 16 39.2**	**-0.7**
PVF				*e*SG	**Sg**	**06 17 05.8**	**+0.2**
PVF				MSG		06 17 11.2	
	comp=Z,14nm,0.2s						
GRAU	**Graesoe**	**2.00**	**288**	P	**Pn**	**06 16 39.0**	**-0.2**
GRAU	**Graesoe**	**2.00**	**288**	*e*P	**Pn**	**06 16 39.0**	**-0.2**
SLIT	**Slitere, Latvi**	**2.14**	**181**	*e*PG	**Pn**	**06 16 41.0**	**+0.1**
FORU	**Forsmark**	**2.19**	**289**	P	**Pn**	**06 16 42.1**	**+0.4**
FORU	**Forsmark**	**2.19**	**289**	*e*P	**Pn**	**06 16 42.1**	**+0.4**
NYNU	**Nynaeshamn**	**2.36**	**253**	P	**Pn**	**06 16 44.9**	**+0.9**
NYNU	**Nynaeshamn**	**2.36**	**253**	*e*P	**Pn**	**06 16 44.9**	**+0.9**
FIA0	**FINESS Array S**	**2.49**	**46**	*e*PB	**Pb**	**06 16 48.6**	**-1.1**
FIA0				*e*SB	**Sg**	**06 17 22.1**	**-1.9**
FIA0				MSG		06 17 27.1	
	comp=Z,6.4nm,0.1s						
FINES	**FINESS Array B**	**2.49**	**46**	Pn	**Pb**	**06 16 48.9**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=226,slow=13,SNR=27						
FINES				Lg	Lg	06 17 22.4	
	comp=Z,2.6nm,0.3s,baz=229,slow=30,SNR=27						
FIBU	**Brunna**	**2.54**	**275**	P	**Pn**	**06 16 47.3**	**+0.9**
BACU	**Backbrunna**	**2.66**	**274**	P	**Pn**	**06 16 49.9**	**+1.8**
BACU	**Backbrunna**	**2.66**	**274**	*e*P	**Pn**	**06 16 49.9**	**+1.8**
OSTU	**Oestervaala**	**2.67**	**282**	P	**Pn**	**06 16 48.7**	**+0.4**
OSTU	**Oestervaala**	**2.67**	**282**	*e*P	**Pn**	**06 16 48.7**	**+0.4**
KEF	**Keuruu**	**2.71**	**26**	*e*PB	**Pb**	**06 16 52.2**	**-1.1**
VJF	**Virojoki**	**2.71**	**71**	*e*SB	**Sb**	**06 17 26.5**	**-0.7**
VJF				MSG		06 17 33.7	
	comp=Z,4.5nm,0.1s						
IGGU	**Iggoen**	**2.75**	**296**	P	**Pn**	**06 16 50.1**	**+0.7**
IGGU	**Iggoen**	**2.75**	**296**	*e*P	**Pn**	**06 16 50.1**	**+0.7**
KAF	**Kangasniemi**	**3.05**	**37**	MSG		06 17 52.4	
	comp=Z,4.1nm,0.1s						
VAF	**Ylistaro**	**3.30**	**2**	*e*SB	**Sb**	**06 17 44.9**	**+0.9**
VAF				MSG		06 17 53.2	
	comp=Z,1.8nm,0.1s						
HEMU	**Hemsoen**	**3.60**	**326**	*e*P	**Pn**	**06 17 03.1**	**+2.1**
NOA	**NORSAR Array B**	**5.68**	**288**	Pn	**Pn**	**06 17 30.6**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=104,slow=11,SNR=3.6						
NOA				Sn	**Sn**	**06 18 35.0**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=111,slow=19,SNR=2.8						
ARCES	**ARCESS Array B**	**9.91**	**6**	Pn	**Pn**	**06 18 27.4**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=184,slow=12,SNR=9.2						

SJA 08 06:21:25.8±0.7, 32.59S×70.23W, h91km±5km, ML3.5, MW4.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.67**	**215**	*i* P	Pn	06 21 42.8	+0.6
PEL				*i* S	Sn	06 21 55.5	+1.1
ROC1	**El Roble**	**0.77**	**240**	*i* P	Pn	06 21 44.1	+0.8
ROC1				*i* S	Sn	06 21 57.8	+1.4
AUSP	**Uspallata**	**0.80**	**63**	*i* P	Pn	06 21 45.0	+1.3
AUSP				*i* S	Sn	06 21 59.0	+2.0
RTLS	**Leoncito**	**1.12**	**45**	*i* P	Pn	06 21 49.0	+1.8
RTLS				IAML		06 22 08.0	
	comp=Z,576nm,0.2s						
ARCO	**CERRO ARCO**	**1.12**	**103**	*i* P	Pn	06 21 48.4	+1.3
ARCO				IAML		06 22 09.7	
	comp=Z,805nm,0.4s						
ASAL	**Salagasta**	**1.17**	**90**	*i* P	Pn	06 21 49.0	+1.3
AAGR	**Agrelo**	**1.27**	**113**	*i* P	Pn	06 21 50.1	+1.2
RTCV	**Cerro Valdivia**	**1.60**	**63**	*i* P	Pn	06 21 53.9	+0.9
SJA	**San Juan**	**1.77**	**54**	IAML		06 21 57.0	
	comp=Z,236nm,0.2s						
RTLL	**Cerro Villicun**	**1.95**	**50**	*i* P	Pn	06 21 58.4	+0.9
RTLL				IAML		06 22 23.8	
	comp=Z,759nm,0.4s						
AMOG	**MOGNA**	**2.21**	**42**	*i* P	Pn	06 22 02.0	+1.1
ACCO	**Cerro Coronel**	**2.23**	**27**	*i* P	Pn	06 22 03.0	+1.6
AROD	**Rodeo**	**2.50**	**15**	*i* P	Pn	06 22 07.4	+2.4
ACDV	**Cuesta del Vie**	**2.59**	**22**	*i* P	Pn	06 22 07.8	+1.7
AGUA	**GUANDACOL**	**3.44**	**26**	IAML		06 22 19.9	
MRA	**San Martin**	**3.81**	**89**	IAML		06 23 07.9	
	comp=Z,36nm,0.5s						
APLL	**PUNTA DE LOS L**	**3.84**	**56**	IAML		06 22 23.4	
	comp=Z,43nm,0.1s						
VCA	**Vinchina**	**4.22**	**25**	IAML		06 23 25.4	
	comp=Z,54nm,0.3s						
TCA	**Tanti**	**4.95**	**77**	IAML		06 22 36.9	
	comp=Z,36nm,0.2s						
CYA	**Choya**	**5.63**	**44**	IAML		06 22 45.0	
	comp=Z,54nm,0.3s						

SJA 08 06:30:31.2±0.8, 21.95S×70.45W, h24km±5km, ML2.5, MW4.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**IPOC Station P**	**0.48**	**144**	*i* P	Pb	06 30 41.9	+0.7
PB04				*i* S	Sb	06 30 49.1	+1.2
PB07	**IPOC Station P**	**0.57**	**68**	*i* P	Pn	06 30 43.4	-0.7
PB03	**IPOC Station P**	**0.66**	**99**	*i* P	Pb	06 30 44.4	+0.2
PB02	**IPOC Station P**	**0.81**	**40**	*i* P	Pb	06 30 46.9	+0.2
PB01	**IPOC Station P**	**1.27**	**45**	*i* P	Pn	06 30 51.6	-1.9
PB15	**IPOC Station P**	**1.55**	**144**	*i* P	Pb	06 30 59.6	+0.2
HJA	**Humahuaca**	**4.83**	**106**	*i* P	Pn	06 31 47.2	+4.4
HJA				IAML		06 31 52.8	
	comp=Z,3.2nm,0.3s						

*ISCJB **08** 06:55:02.1±1.1, 36.80N±0.05×140.51E±0.06, h101km±7km, mb3.7/1, Error ellipse: s-maj=9.7km s-min=7.3km az=144.0*
*JMA **08** 06:55:02.0±0.1, 36.77N×140.53E, h103km±1km, M3.4*
*IDC **08** 06:55:04.4±5.5, 36.54N×140.28E, h119km±47km, mb3.2/1, mb1 3.4/2, mb1mx2.8/32, mbtmp3.5/2, Error ellipse: s-maj=67.5km s-min=64.0km az=59.0*

ISC 08 06:55:01.4±1.3, 36.78N±0.06×140.57E±0.06, h108km±9km, n15, σ0°83/27, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.17**	**179**	P	**Pn**	**06 55 16.6**	**+0.1**
JHO				S	**Sn**	**06 55 27.2**	**-0.5**
JFFD	**Fukushimafurud**	**0.31**	**359**	P	**Pn**	**06 55 17.1**	**+0.1**
JFFD				S	**Sn**	**06 55 27.9**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.37**	**30**	P	**Pn**	**06 55 17.6**	**+0.3**
ONAJ				S	**Sn**	**06 55 29.1**	**-0.2**
JHYU	**Hitachinakayam**	**0.44**	**178**	P	**Pn**	**06 55 17.8**	**+0.2**
JHYU				S	**Sn**	**06 55 29.7**	**0.0**
JFK	**Kawauchi**	**0.64**	**23**	P	**Pn**	**06 55 19.2**	**+0.1**
JFK				S	**Sn**	**06 55 31.9**	**-0.4**
JFT	**Otama**	**0.76**	**346**	P	**Pn**	**06 55 20.4**	**+0.3**
JFT				S	**Sn**	**06 55 33.8**	**-0.4**
JFY	**Yanaizu**	**0.93**	**312**	P	**Pn**	**06 55 21.9**	**+0.2**
JFY				*e*S	**Sn**	**06 55 36.7**	**-0.4**
JAG	**Ashikaga**	**0.96**	**249**	P	**Pn**	**06 55 22.1**	**+0.1**
JKT	**Katashina**	**1.06**	**270**	P	**Pn**	**06 55 23.4**	**+0.3**
JKT				*e*S	**Sn**	**06 55 39.7**	**+0.2**
JMM	**Marumori**	**1.10**	**9**	P	**Pn**	**06 55 23.4**	**-0.1**
JMM				*e*S	**Sn**	**06 55 39.0**	**-1.1**
JHK	**Hiroka**	**1.32**	**291**	P	**Pn**	**06 55 26.3**	**+0.3**
JHK				S	**Sn**	**06 55 44.3**	**-0.4**
MJAR	**Matsushiro Arr**	**1.91**	**264**	P	**Pn**	**06 55 33.4**	**+0.2**
	1.7nm,0.3s,baz=79,slow=12,SNR=32						
MJAR				S	**Sn**	**06 55 55.6**	**-1.8**
	1.1nm,0.3s,baz=73,slow=16,SNR=10						
MAT	**Matsushiro**	**1.91**	**264**	P	**Pn**	**06 55 33.7**	**+0.5**
MAT				S	**Sn**	**06 55 55.8**	**-1.7**
KSRS	**Korea Array**	**10.12**	**278**	P	**Pn**	**06 57 26.1**	**+2.5**
	0.2nm,0.3s,baz=91,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**56.72**	**187**	P	**P**	**07 04 33.6**	**-0.4**
	0.5nm,0.7s,baz=3.8,slow=7.4,SNR=7.9						

*WEL **08** 07:04:38.7±1.8, 35.5S±16×17.9E±1.6, h248km±13km*
*IDC **08** 07:04:39.9±6.6, 35.34S×178.18E, h250km±59km, mb3.2/2, mb1 3.4/3, mb1mx3.1/25, mbtmp3.7/3, Error ellipse: s-maj=100.1km s-min=43.0km az=20.0*

ISC 08 07:04:40.1±1.7, 35.4S±0.1×178.3E±0.1, h261km, n57, σ1°02/61, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.17**	**180**	P	Pn	**07 05 24.4**	**-0.5**
MXZ				S	**S**	**07 06 00.1**	**-0.4**
HAZ	**Te Kaha**	**2.40**	**190**	P	Pn	**07 05 27.1**	**0.0**
HAZ				S	**S**	**07 06 05.5**	**+1.1**
WMGZ	**Waiomatatini S**	**2.43**	**178**	P	Pn	**07 05 27.6**	**+0.2**
WMGZ				S	**S**	**07 06 06.6**	**+1.7**
GRZ	**Great Barrier**	**2.48**	**249**	P	Pn	**07 05 27.6**	**-0.3**
PKGZ	**Pakihiroa**	**2.50**	**184**	P	Pn	**07 05 28.3**	**+0.2**
KUZ	**Kuaotunu**	**2.50**	**237**	P	Pn	**07 05 28.9**	**+0.8**
RUGZ	**Raukumara Rang**	**2.62**	**191**	P	Pn	**07 05 29.4**	**0.0**
PUZ	**Puketiti**	**2.68**	**181**	P	Pn	**07 05 29.7**	**-0.2**
TWGZ	**Tauwhareparae**	**2.80**	**186**	P	Pn	**07 05 31.8**	**+0.6**
OPRZ	**Ohinepanea**	**2.83**	**210**	P	Pn	**07 05 34.3**	**+2.8**
WIAZ	**Waiheke Island**	**2.94**	**241**	P	Pn	**07 05 33.9**	**+1.4**
MWZ	**Matawai**	**3.01**	**192**	P	Pn	**07 05 34.1**	**+0.7**
URZ	**Urewera**	**3.02**	**198**	P	Pn	**07 05 34.0**	**+0.5**
	4.6nm,0.3s,baz=34,slow=18,SNR=72						
URZ				S	**S**	**07 06 14.5**	**-1.4**
	10nm,0.3s,baz=75,slow=22,SNR=30						
URZ	**Urewera**	**3.02**	**198**	P	Pn	**07 05 34.0**	**+0.5**
TKGZ	**Te Karaka**	**3.07**	**187**	P	Pn	**07 05 34.3**	**+0.4**
MKAZ	**Moumakai**	**3.08**	**235**	P	Pn	**07 05 35.8**	**+1.8**
MBAZ	**Motutapu North**	**3.10**	**243**	P	Pn	**07 05 36.0**	**+1.8**
ETAZ	**East Tamaki Re**	**3.16**	**239**	P	Pn	**07 05 37.0**	**+2.1**
WCZ	**Waipu Caves**	**3.28**	**259**	P	Pn	**07 05 36.2**	**-0.1**
RIGZ	**Rimuhau**	**3.34**	**188**	P	Pn	**07 05 37.1**	**+0.2**
SNGZ	**Shannon Statio**	**3.48**	**193**	P	Pn	**07 05 39.7**	**+1.3**
PRGZ	**Paritu Road**	**3.54**	**186**	P	Pn	**07 05 39.5**	**+0.3**
MTHZ	**Maungataniwha**	**3.65**	**198**	P	Pn	**07 05 41.4**	**+0.9**
RAHZ	**Arahi**	**3.66**	**195**	P	Pn	**07 05 41.3**	**+0.8**
KNZ	**Kokohu**	**3.66**	**188**	P	Pn	**07 05 40.3**	**-0.1**
MRHZ	**Matea Rd**	**3.76**	**203**	P	Pn	**07 05 42.8**	**+1.2**
MHGZ	**Mahia Peninsul**	**3.77**	**185**	P	Pn	**07 05 42.3**	**+0.6**
WHHZ	**Waihua**	**3.78**	**193**	P	Pn	**07 05 42.8**	**+1.0**
OUZ	**Omahuta**	**3.87**	**271**	P	Pn	**07 05 41.8**	**-1.1**
NMHZ	**Naumai**	**3.89**	**198**	P	Pn	**07 05 44.4**	**+1.2**
BKZ	**Black Stump Fm**	**4.04**	**201**	P	Pn	**07 05 45.7**	**+0.8**
MCHZ	**McNeill Hill**	**4.25**	**197**	P	Pn	**07 05 48.1**	**+0.8**
CKHZ	**Cape Kidnapper**	**4.38**	**193**	P	Pn	**07 05 49.6**	**+0.9**
KRHZ	**Kereru**	**4.52**	**199**	P	Pn	**07 05 50.9**	**+0.4**
PNHZ	**Pukenui**	**4.82**	**200**	P	Pn	**07 05 54.3**	**+0.2**
PRHZ	**Porangahau**	**5.05**	**195**	P	Pn	**07 05 56.7**	**-0.1**
MRZ	**Mangatainoka R**	**5.69**	**202**	P	Pn	**07 06 04.0**	**-0.6**
CPWZ	**Castlepoint**	**5.76**	**196**	P	Pn	**07 06 06.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**5.93**	**201**	P	Pn	**07 06 06.6**	**-0.9**
OGWZ	**Otaki Gorge**	**5.96**	**204**	P	Pn	**07 06 07.1**	**-0.8**
TMWZ	**Te Maipa**	**6.02**	**198**	P	Pn	**07 06 08.1**	**-0.6**
KIW	**Kapiti Island**	**6.09**	**205**	P	Pn	**07 06 08.7**	**-0.8**
MTW	**Mount Morrison**	**6.17**	**200**	P	Pn	**07 06 09.4**	**-1.1**
CAW	**Cannon Point**	**6.26**	**203**	P	Pn	**07 06 10.4**	**-1.1**
TRWZ	**Traveller**	**6.35**	**198**	P	Pn	**07 06 12.2**	**-0.5**
PAWZ	**Paruwai Farm**	**6.40**	**200**	P	Pn	**07 06 12.3**	**-1.0**
DUWZ	**D'Urville Isla**	**6.42**	**211**	P	Pn	**07 06 12.8**	**-0.8**
MSWZ	**Moikau Station**	**6.48**	**

AAK					Lg	Lg	07 23 11.4		
	8.8nm,0.8s								
KK31	**Karatay Array**	**8.94**	**223**	⇑Pn	Pn		07 21 06.5	-1.4	
	3.2nm,1.2s,baz=34,slow=12,SNR=7.8								
KK31				⇑Sn	Sn		07 22 49.8	+0.5	
	1.2nm,0.6s								
KK31				⇑Lg	Lg		07 23 42.6		
	4.2nm,0.8s,baz=37,slow=26,SNR=4.5								

*ISK **08** 07:33:17.3,38.69N×43.14E,h5km,ML2.0/3*
*DDA **08** 07:33:18.0,38.72N×43.21E,h7km±3km,ML2.6*
ISC 08 07:33:18.6±1.0,38.71N±0.03×43.16E±0.03,h9km±10km, n11,σ0988/21,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.21**	**122**	PG		**Pg**	**07 33 23.2**	**+0.3**
VANB				SG		**Sg**	**07 33 27.5**	**+1.7**
TVAN	**Van**	**0.26**	**133**	*i* P		**Pg**	**07 33 23.2**	**-0.7**
TVAN				*i* S		**Sg**	**07 33 27.4**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.36**	**287**	*i* P		**Pg**	**07 33 26.1**	**+0.4**
ADCV				*i* S		**Sb**	**07 33 33.1**	**0.0**
GEVA	**Gevas**	**0.40**	**192**	*i* P		**Pg**	**07 33 26.2**	**-0.3**
GEVA				*i* S		**Sb**	**07 33 33.7**	**-0.6**
GEVA				IAML_P				
	comp=Z,2μm,0.1s							
AKDM	**Akdamar-Van**	**0.40**	**201**	PG		**Pg**	**07 33 25.7**	**-0.8**
VMUR	**Van-Muradiye**	**0.43**	**48**	*i* P		**Pb**	**07 33 27.1**	**-1.3**
VMUR				*i* S		**Sb**	**07 33 34.2**	**-0.9**
TUTA	**Tutak**	**0.75**	**339**	*i* P		**Pg**	**07 33 32.7**	**-0.3**
TUTA				*i* S		**Sg**	**07 33 43.3**	**+0.5**
AGRB	**Hanur-Agry**	**0.88**	**351**	PG		**Pg**	**07 33 34.9**	**-0.6**
AGRB				SG		**Sb**	**07 33 47.9**	**-0.2**
GURO	**Guroymak-BITLI**	**0.90**	**260**	PG		**Pg**	**07 33 34.7**	**-1.2**
GURO				SG		**Sg**	**07 33 47.1**	**-0.5**
SRTM	**Siirt_Merkez**	**1.21**	**234**	*i* P		**Pn**	**07 33 42.9**	**+1.0**
SRTM				*i* S		**Sn**	**07 33 59.7**	**+1.3**
EATA	**Eleskirt**	**1.27**	**336**	*i* P		**Pg**	**07 33 42.9**	**0.0**
EATA				*i* S		**Sn**	**07 34 01.0**	**+0.9**

KRSC 08 07:50:42.0±10.0,50.62N×157.80E,h51km±10km,ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**1.05**	**324**	*eP*		Pn	07 51 01.8	+1.4
PAU				*eS*		Sn	07 51 15.7	+1.7
SKR	**Severo-Kuril's**	**1.07**	**274**	*eP*		Pn	07 51 00.9	+0.2
SKR				*eS*		Sn	07 51 14.0	-0.5
KDTR	**Khodutka, Kamc**	**1.20**	**8**	*eP*		Pn	07 51 04.3	+1.9
KDTR				*eS*		Sn	07 51 19.3	+1.7
ASAK	**Asacha**	**1.77**	**2**	*eP*		Pn	07 51 13.1	+2.9
RUS	**Russkaya**	**1.87**	**14**	*eP*		Pn	07 51 13.1	+1.6
RUS				*eS*		Sn	07 51 35.1	+1.2
MTVR	**Mutnovka**	**1.88**	**7**	*eP*		Pn	07 51 14.2	+2.4
MTVR				*eS*		Sn	07 51 36.6	+2.2
KRMR	**Karymshinskiy**	**2.22**	**5**	*eP*		Pn	07 51 19.3	+3.0
KRMR				*eS*		Sn	07 51 46.1	+3.5
APC	**Apacha**	**2.34**	**350**	*eP*		Pn	07 51 21.3	+3.3
PET	**Petropavlovsk**	**2.46**	**12**	*eP*		Pn	07 51 22.7	+3.1
PET				*eS*		Sn	07 51 51.1	+2.6
DALK	**Dalny**	**2.49**	**13**	*eS*		Sn	07 51 51.3	+2.3
UGLR	**Uglovaya**	**2.67**	**13**	*eP*		Pn	07 51 25.9	+3.3
AVH	**Avacha**	**2.71**	**12**	*eP*		Pn	07 51 27.1	+4.0
SMAR	**Somma**	**2.72**	**13**	*eP*		Pn	07 51 27.2	+3.9
KOK	**Koryaka**	**2.73**	**11**	*eP*		Pn	07 51 27.0	+3.7
SDLR	**Sedlovina**	**2.75**	**14**	*eP*		Pn	07 51 26.9	+3.3
KRX	**Arik**	**2.79**	**11**	*eP*		Pn	07 51 28.6	+4.3
SPN	**Mys Shipunski**	**2.84**	**28**	S		Sn	07 52 02.4	+4.7
GNL	**Ganaly**	**3.08**	**2**	*eP*		Pn	07 51 32.4	+4.2
MKZ	**Mys Kozlova**	**4.61**	**30**	*eP*		Pn	07 51 51.1	+2.1
MKZ				*eS*		Sn	07 52 44.6	+3.4
KBTR	**Krutoberegovo**	**6.35**	**26**	*eP*		Pn	07 52 15.9	+3.0

*IDC **08** 07:59:43.8±2.2,38.74N×122.79W,h0km,mb1 3.5/5, mb1mx3.2/46,mbtmp3.1/5,ML3.2/5, Error ellipse: s-maj=26.1km s-min=13.0km az=29.0*
*ISCJB **08** 07:59:44.6±0.5,38.70N±0.03×122.79W±0.05,h10km, Error ellipse: s-maj=6.6km s-min=3.7km az=149.2*
*NEIC **08** 07:59:45.1±0.0,38.76N×122.73W,h2km,ML3.3(NCEDC), After NCEDC.*
NEIC Felt [III] at Healdsburg and Middletown. Also felt at Berkeley, Calistoga, Geyserville, Napa, Redwood City, Saint Helena, San Anselmo and San Francisco.
*NCEDC **08** 07:59:45.1,38.76N×122.73W,h2km,ML3.3*
ISC 08 07:59:45.8±0.9,38.75N±0.04×122.74W±0.05,h10km,n50, σ1942/55,Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GDXM	**Geysers**	**0.07**	**326**	*eP*		**Pg**	**07 59 46.7**	**-1.5**
GDXM				*eS*		**Sg**	**07 59 48.1**	**-1.8**
HOPS	**Hopland Field**	**0.35**	**314**	*eP*		**Pg**	**07 59 52.8**	**-0.1**
MCCM	**Marconi Confer**	**0.61**	**190**	*eP*		**Pg**	**07 59 57.7**	**0.0**
KCPM	**Cahto Peak**	**1.14**	**325**	*eP*		**Pb**	**08 00 07.2**	**-0.6**
ORV	**Oroville**	**1.26**	**50**	*eP*		**Pn**	**08 00 06.8**	**-2.7**
AFDM	**Forest Hills D**	**1.40**	**81**	*eP*		**Pn**	**08 00 09.4**	**-2.1**
O02D	**Mt. Diablo Mer**	**1.43**	**359**	P		**Pb**	**08 00 12.0**	**-0.6**
	baz=178							
KMRM	**Mail Ridge**	**1.65**	**333**	*eP*		**Pn**	**08 00 14.8**	**-0.1**
O03E	**Paynes Creek**	**1.71**	**25**	P		**Pn**	**08 00 13.7**	**-2.0**
	baz=205							
WDC	**Whiskeytown Da**	**1.84**	**5**	*eP*		**Pn**	**08 00 16.1**	**-1.3**
CMB	**Columbia Colle**	**1.98**	**110**	*eP*		**Pn**	**08 00 18.7**	**-0.8**
CMB				*eSn*		**Sn**	**08 00 43.9**	**-0.5**
RUBR	**Rubicon Trail**	**2.04**	**81**	*eP*		**Pn**	**08 00 20.7**	**+0.2**
RUBR				*eSn*		**Sg**	**08 00 49.4**	**-2.1**
BEKR	**Beckworth**	**2.16**	**58**	*eP*		**Pn**	**08 00 22.2**	**+0.1**
N02D	**Trinity Center**	**2.22**	**1**	P		**Pn**	**08 00 23.0**	**+0.2**
	baz=180							
SAO	**San Andreas Ge**	**2.23**	**152**	*eP*		**Pn**	**08 00 20.5**	**-2.3**
VCNR	**Virginia City**	**2.47**	**76**	*eP*		**Pn**	**08 00 26.6**	**+0.3**
PNTR	**Pine Nut**	**2.48**	**81**	*eP*		**Pn**	**08 00 27.0**	**+0.5**
WAKR	**Walker**	**2.60**	**94**	*eP*		**Pn**	**08 00 29.1**	**+0.9**
YERR	**Yerington**	**2.75**	**84**	*eP*		**Pn**	**08 00 30.3**	**+0.2**
PAHR	**Pah Rah Range**	**2.78**	**69**	*eP*		**Pn**	**08 00 30.1**	**-0.4**
YBH	**Yreka Blue Hor**	**2.98**	**0**	*eP*		**Pn**	**08 00 34.7**	**+1.4**
YBH	**Yreka Blue Hor**	**2.98**	**0**	Pn		**Pn**	**08 00 33.9**	**+0.6**
	1.2nm,0.3s,baz=188,slow=10.0,SNR=13							
MDPB	**Devils Postpil**	**3.09**	**110**	*eP*		**Pn**	**08 00 35.5**	**+0.6**
M04C	**Macdoel**	**3.11**	**13**	P		**Pn**	**08 00 37.0**	**+2.0**
	baz=193							
OMMB	**Old Mammoth Mi**	**3.16**	**110**	*eP*		**Pn**	**08 00 36.7**	**+0.8**
MLAC	**Mammoth, Mammo**	**3.27**	**109**	P		**Pn**	**08 00 39.2**	**+1.8**
	baz=291							
RYN	**Ryan**	**3.31**	**91**	*eP*		**Pn**	**08 00 37.7**	**-0.1**
NVAR	**Mina Array Bea**	**3.49**	**94**	Pn		**Pn**	**08 00 40.3**	**-0.1**
	1.2nm,0.3s,baz=268,slow=15,SNR=25							
NVAR				Lg		Lg	08 01 34.1	
	5.7nm,0.3s,baz=291,slow=23,SNR=7.5							
PAGB	**Antelope Grade**	**3.61**	**146**	*eP*		**Pn**	**08 00 41.1**	**-0.7**
KVN	**Kaiserville**	**3.64**	**84**	*eP*		**Pn**	**08 00 41.8**	**-0.6**
MOD	**Modoc Plateau**	**3.66**	**30**	*eP*		**Pn**	**08 00 42.2**	**-0.4**
VES	**Vestal, Richgr**	**4.11**	**134**	P		**Pn**	**08 00 48.4**	**-0.4**
	baz=316							
PKM	**Mcpherson Peak**	**4.51**	**148**	P		**Pn**	**08 00 53.3**	**-1.1**
	baz=330							
ISA	**Isabella, Lake**	**4.59**	**131**	*eP*		**Pn**	**08 00 54.9**	**-0.5**
ISA	**Isabella, Lake**	**4.59**	**131**	P		**Pn**	**08 00 55.8**	**+0.4**
	baz=314							
WVOR	**Wild Horse Val**	**4.83**	**39**	*eP*		**Pn**	**08 01 01.8**	**+3.1**
PINE	**Pine Mountain**	**5.22**	**15**	*eP*		**Pn**	**08 01 06.9**	**+2.8**
TPNV	**Topopah Spring**	**5.44**	**107**	*eP*		**Pn**	**08 01 09.6**	**+2.4**
J08A	**Circle Bar Ran**	**5.62**	**34**	*eP*		**Pn**	**08 01 10.3**	**+0.7**
R11A	**Troy Canyon, C**	**5.62**	**92**	*eP*		**Pn**	**08 01 09.6**	**-0.1**
GSC	**Goldstone, Bar**	**5.86**	**124**	*eP*		**Pn**	**08 01 13.3**	**+0.5**
ELK	**Elko**	**6.12**	**69**	*eP*		**Pn**	**08 01 18.3**	**+1.8**
ELK				Sn		**Sn**	**08 02 28.9**	**+2.3**
ELK				Lg		Lg	08 02 56.4	
ELK	**Elko**	**6.12**	**69**	Pn		**Pn**	**08 01 16.9**	**+0.4**
	0.2nm,0.3s,baz=255,slow=14,SNR=10.0							
ELK				Sn		**Sn**	**08 02 28.9**	**+2.3**
	0.2nm,0.3s,baz=94,slow=14,SNR=2.3							
ELK				Lg		Lg	08 02 56.4	
	0.2nm,0.3s,baz=32,slow=13,SNR=3.6							
SHPR	**Sheep Range**	**6.42**	**108**	*eP*		**Pn**	**08 01 23.1**	**+2.5**
PFO	**Pinyon Flats O**	**7.22**	**133**	*eP*		**Pn**	**08 01 31.2**	**-0.3**
XPFO	**Pion Flat**	**7.22**	**133**	*eP*		**Pn**	**08 01 31.2**	**-0.3**

BGU	**Big Grassy Mou**	**7.78**	**71**	*eP*		**Pn**	**08 01 40.5**	**+1.2**	
DUG	**Dugway, Tooele**	**7.82**	**76**	*eP*		**Pn**	**08 01 42.0**	**+2.2**	
PDAR	**Pinedale Array**	**10.78**	**64**	Pn		**Pn**	**08 02 22.6**	**+2.2**	
	0.1nm,0.3s,baz=242,slow=15,SNR=7.8								
TXAR	**Lajitas Array**	**18.36**	**115**	P		**P**	**08 04 00.9**	**+0.3**	
	0.0nm,0.3s,baz=297,slow=9.8,SNR=3.7								

*ISCJB **08** 08:03:60.0±0.5,43.4S±0.1×40.3E±0.2,h10km,mb4.0/10, MS3.7/13,Error ellipse: s-maj=19.8km s-min=10.5km az=141.9*
*IDC **08** 08:04:00.2±0.8,43.45S×40.25E,h0km,mb4.1/10, mb1 4.2/11,mb1mx3.9/31,mbtmp4.1/11,ML3.4/1,MS3.6/14, Ms1 3.7/14,ms1mx3.5/27,Error ellipse: s-maj=37.6km s-min=18.6km az=73.0*
*NEIC **08** 08:04:02.0±0.3,43.41S×40.26E,h10km,mb4.2/5,Error ellipse: s-maj=14.5km s-min=8.3km az=55.0*
ISC 08 08:04:01.9±0.6,43.4S±0.1×40.2E±0.1,h10km,n47, σ0991/35,mb4.2/10,MS3.8/13,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CRZF	**Crozet Islands**	**8.77**	**114**	*eP*		**Pn**	**08 06 09.4**	**+0.7**
SUR	**Sutherland**	**18.84**	**299**	LR		LR	08 14 30.2	
	comp=Z,80nm,19.1s,baz=154,slow=33							
BOSA	**Boshof**	**19.08**	**316**	*eP*		**Pn**	**08 08 27.4**	**+2.0**
	7.2nm,1.0s							
BOSA	**Boshof**	**19.08**	**316**	P		**Pn**	**08 08 25.7**	**+0.3**
	0.1nm,0.3s,baz=140,slow=7.1,SNR=5.6							
LBTB	**Lobatse**	**21.95**	**322**	*eP*		**P**	**08 08 54.3**	**-1.4**
	3.4nm,0.9s							
LBTB	**Lobatse**	**21.95**	**322**	P		**P**	**08 08 55.0**	**-0.7**
	2.2nm,0.7s,baz=150,slow=14,SNR=3.1							
LBTB				LR		LR	08 16 09.5	
	comp=Z,62nm,18.9s,baz=152,slow=33							
MATP	**Matopo**	**24.96**	**333**	P		**P**	**08 09 24.7**	**-1.0**
	6.1nm,1.1s,baz=171,slow=7.8,SNR=6.4							
MATP				LR		LR	08 17 59.8	
	comp=Z,87nm,18.1s,baz=172,slow=34							
OPO	**Ambohidratompo**	**25.48**	**15**	LR		LR	08 18 03.5	
	comp=Z,385nm,19.2s,baz=166,slow=33							
MAW	**Mawson**	**27.07**	**161**	LR		LR	08 17 41.1	
	comp=Z,123nm,19.9s,baz=294,slow=30							
LSZ	**Lusaka**	**29.90**	**336**	*eP*		**P**	**08 10 10.2**	**+0.2**
	4.0nm,1.0s							
LSZ	**Lusaka**	**29.90**	**336**	P		**P**	**08 10 10.0**	**0.0**
	4.3nm,0.8s,baz=166,slow=10,SNR=5.6							
LSZ				LR		LR	08 19 58.7	
	comp=Z,76nm,18.3s,baz=128,slow=32							
KMBO	**Kilima Mbogo**	**42.21**	**356**	LR		LR	08 27 02.9	
	comp=Z,124nm,20.7s,baz=96,slow=33							
QSPA	**South Pole Qui**	**46.77**	**180**	*eP*		**P**	**08 12 31.3**	**+0.1**
	4.4nm,1.1s							
QSPA	**South Pole Qui**	**46.77**	**180**	P		**P**	**08 12 30.8**	**-0.4**
	3.3nm,1.1s,baz=233,slow=3.5,SNR=4.1							
VNDA	**Vanda**	**54.15**	**167**	*eP*		**P**	**08 13 26.3**	**-0.3**
VNDA	**Vanda**	**54.15**	**167**	P		**P**	**08 13 25.6**	**-1.0**
	0.6nm,0.9s,baz=238,slow=9.5,SNR=2.7							
VNDA				LR		LR	08 34 00.4	
	comp=Z,76nm,19.0s,baz=162,slow=33							
H01W2	**Cape Leeuwin H**	**56.20**	**108**	T		T	09 14 48.0	
	baz=238,slow=75,SNR=8.5							
H01W3	**Cape Leeuwin H**	**56.21**	**108**	T		T	09 14 48.8	
	baz=238,slow=75,SNR=9.3							
H01W1	**Cape Leeuwin H**	**56.22**	**108**	T		T	09 14 48.5	
	baz=238,slow=75,SNR=8.9							
DBIC	**Dimbokro**	**64.42**	**309**	P		**P**	**08 14 38.6**	**+0.2**
	1.4nm,0.7s,baz=148,slow=9.5,SNR=2.4							
TOA0	**Torodi Ar. Sit**	**66.41**	**319**	*eP*		**P**	**08 14 50.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**66.41**	**319**	P		**P**	**08 14 51.0**	**-0.2**
	1.6nm,0.9s,baz=140,slow=3.3,SNR=8.5							
TOA1	**Torodi Ar. Sit**	**66.42**	**319**	*eP*		**P**	**08 14 51.0**	**-0.2**
PLCA	**Paso Flores**	**75.59**	**227**	*eP*		**P**	**08 15 47.7**	**+0.9**
	4.3nm,1.1s							
PLCA	**Paso Flores**	**75.59**	**227**	P		**P**	**08 15 47.0**	**+0.1**
	4.1nm,1.1s,baz=158,slow=9.8,SNR=3.5							
PLCA				LR		LR	08 44 41.6	
	comp=Z,42nm,18.9s,baz=188,slow=32							
CPUP	**Villa Florida**	**77.52**	**246**	*eP*		**P**	**08 15 58.9**	**+1.0**
CPUP	**Villa Florida**	**77.52**	**246**	LR		LR	08 43 59.7	
	comp=Z,49nm,19.7s,baz=176,slow=31							
BDFB	**Brasilia**	**78.17**	**260**	LR		LR	08 45 54.4	
	comp=Z,56nm,18.6s,baz=246,slow=32							
CMAR	**Chiang Mai Arr**	**81.75**	**55**	P		**P**	**08 16 21.0**	**+0.2**
	1.1nm,0.4s,baz=230,slow=5.6,SNR=2.4							
CMAR				LR		LR	08 47 29.3	
	comp=Z,38nm,18.1s,baz=200,slow=32							
BR101	**Keskin Array S**	**83.00**	**355**	*eP*		**P**	**08 16 26.6**	**-0.4**
BRTR	**Keskin Array B**	**83.00**	**355**	P		**P**	**08 16 26.6**	**-0.4**
	0.5nm,0.3s,baz=184,slow=4.0,SNR=5.1							
LPAZ	**La Paz**	**91.69**	**246**	LR		LR	08 53 16.3	
	comp=Z,41nm,18.5s,baz=80,slow=32							
MKAR	**Makanchi Array**	**97.25**	**28**	LR		LR	08 56 44.3	
	comp=Z,30nm,20.0s,baz=338,slow=32							
I41A	**Arkdale**	**144.40**	**289**	*e*PKPdf		PKPbc	08 23 36.6	+0.3
WMOK	**Wichita Mounta**	**147.30**	**269**	*e*PKPdf		**PKPdf**	**08 23 43.4**	**+0.4**
TX31	**Lajitas Ar. Si**	**147.98**	**256**	*e*PKPbc		**PKPbc**	**08 23 47.6**	**+0.1**
TXAR	**Lajitas Array**	**147.98**	**256**	PKPbc		**PKPbc**	**08 23 47.9**	**+0.4**
	2.2nm,0.8s,baz=141,slow=5.7,SNR=21							
FCC	**Fort Churchill**	**148.21**	**315**	*e*PKPbc		**PKPbc**	**08 23 47.5**	**+0.5**
ULM	**Lac du Bonnet**	**149.58**	**298**	*e*PKPbc		**PKPbc**	**08 23 51.1**	**+0.4**
ULM	**Lac du Bonnet**	**149.58**	**298**	PKPbc		**PKPbc**	**08 23 50.1**	**-0.7**
	2.3nm,0.7s,baz=162,slow=1.4,SNR=6.2							
CLNB	**Carlsbad**	**149.77**	**260**	*e*PKPdf		**PKPdf**	**08 23 47.4**	**+0.2**
MNTX	**Cornudas Mount**	**150.54**	**258**	*e*PKPbc		**PKPbc**	**08 23 53.8**	**0.0**
INK	**Inuvik**	**154.85**	**355**	PKPab		**PKPab**	**08 24 17.7**	**+0.3**
	1.0nm,0.8s,baz=39,slow=3.4,SNR=2.9							
YKA	**Yellowknife Ar**	**155.91**	**331**	PKPab		**PKPab**	**08 24 21.8**	**-0.3**
	0.4nm,0.7s,baz=45,slow=4.5,SNR=7.5							
PV12	**Saucer Basin,**	**156.12**	**268**	*e*PKPdf		**PKPdf**	**08 23 55.5**	**-0.9**
ILAR	**Eielson Array**	**158.25**	**8**	PKPab		**PKPab**	**08 24 32.9**	**+0.8**
	0.3nm,1.0s,baz=256,slow=5.8,SNR=3.1							
SZCU	**Shurtz Canyon**	**158.94**	**263**	*e*PKPdf		**PKPdf**	**08 23 56.6**	**-3.4**

*TEH **08** 08:08:49.6,38.62N×48.74E,h28km,ML3.0*
ISC 08 08:08:39.1±1.1,38.76N±0.08×49.63E±0.09,h10km,n9, σ1823/10,1C-2D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
ISRB	**Sarab**	**1.80**	**240**	*e*Pg		**Pn**	**08 09 11.7**	**+1.3**
ISRB				IAMB		IAmb	08 09 31.0	
	comp=E,5μm,0.4s							
IHRS	**Heris**	**2.07**	**259**	*e*Pg		**Pn**	**08 09 14.1**	**-0.1**
IHRS				IAMB		IAmb	08 09 14.9	
	comp=Z,4μm,0.1s							
IBST	**Bostanabad**	**2.40**	**245**	*e*Pn		**Pn**	**08 09 18.2**	**-0.4**
IBST				IAMB		IAmb	08 09 18.5	
	comp=Z,266nm,0.2s							
IMRD	**Marand**	**3.07**	**270**	*e*Pn		**Pn**	**08 09 28.3**	**+0.5**
IMRD				IAMB		IAmb	08 10 06.0	
	comp=Z,480nm,0.3s							
IALA	**Alasht**	**3.68**	**136**	*e*Pn		**Pg**	**08 09 49.9**	**+0.4**
IALA				IAMB		IAmb	08 09 51.5	
	comp=Z,610nm,0.1s							
IFIR	**Firoozkooh**	**3.99**	**140**	*e*Pn		**Pg**	**08 09 55.8**	**+0.4**
IFIR				IAMB		IAmb	08 09 57.2	
	comp=N,259nm,0.2s							
ISHM	**Shahmirzad**	**4.15**	**134**	*e*Pn		**Pg**	**08 09 58.0**	**-0.5**
AB31	**Akbulak array**	**12.84**	**32**	⇓Pn		Pn	08 11 49.2	+7.7
	comp=N,3.5nm,1.3s,baz=212,slow=14,SNR=3.6							
AB31				Sn		**Sn**	**08 14 05.9**	**+1.4**
	comp=N,0.1nm,0.3s,baz=219,slow=25,SNR=4.2							
AKTO	**Aktyubinsk**	**13.11**	**24**	⇑Pn		**P**	**08 11 53.6**	**-1.9**
	comp=N,3.7nm,1.1s							
AKTO				⇓Sn		**Sn**	**08 14 12.5**	**+1.5**
	comp=N,2.3nm,0.9s							

*ISCJB **08** 08:10:50.0±0.6,33.31N±0.04×139.52E±0.04,h26km±5km, mb3.3/5,Error ellipse: s-maj=7.8km s-min=4.4km az=43.2*
*IDC **08** 08:10:49.3±0.8,33.15N×139.88E,h0km,mb3.3/5, mb1 3.6/6,mb1mx3.4/31,mbtmp3.3/6,ML2.1/1,MS2.6/2, Ms1 2.6/2,ms1mx2.3/21,Error ellipse: s-maj=26.3km s-min=6.8km az=146.0*
*JMA **08** 08:10:50.3±0.1,33.34N×139.54E,h27km±4km,M3.0*
ISC 08 08:10:50.1±1.2,33.34N±0.04×139.45E±0.06,h11km±9km, n30,σ0887/33,mb3.3/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.36**	**128**	Pn		**Pg**	**08 10 57.7**	**+0.5**
	392nm,0.3s,baz=333,slow=20,SNR=80							
JHJ				Sn		**Sg**	**08 11 02.8**	**+0.7**
	1μm,0.3s,baz=46,slow=23,SNR=45							
JHJ2	**Mitsune**	**0.39**	**126**	P		**Pg**	**08 10 57.6**	**-0.1**
JHCJ	**Hachijojimakas**	**0.40**	**132**	P		**Pg**	**08 10 57.8**	**-0.2**
JHCJ				S		**Sg**	**08 11 02.9**	**-0.4**
JMKN	**Mikurajimanish**	**0.56**	**12**	P		**Pg**	**08 11 01.2**	**+0.2**
JMKN				*eS*		**Sg**	**08 11 09.0**	**+0.5**
TK03	**Tokai 3**	**1.48**	**304**	P		**Pn**	**08 11 16.8**	**+0.3**
TK03				S		**Sn**	**08 11 36.3**	**+0.5**
TK02	**Tokai 2**	**1.53**	**294**	P		**Pn**	**08 11 17.2**	**+0.1**
TK01	**Tokai 1**	**1.61**	**286**	*eS*		**Sn**	**08 11 39.3**	**+0.7**
TK04	**Tokai 4**	**1.67**	**309**	P		**Pn**	**08 11 19.3**	**+0.2**
TK04				S		**Sn**	**08 11 40.9**	**+0.4**
TTO5	**TONANKAI O.B.S**	**1.70**	**303**	P		**Pn**	**08 11 19.4**	**-0.1**
TTO5				S		**Sn**	**08 11 41.7**	**+0.5**
TTO4	**TONANKAI O.B.S**	**1.73**	**293**	P		**Pn**	**08 11 19.5**	**-0.2**
TTO4				S		**Sn**	**08 11 41.7**	**+0.1**
BSO4	**Boso 4**	**1.80**	**24**	S		**Sn**	**08 11 42.2**	**-1.5**
JHMK	**Hamakita**	**2.03**	**317**	*eS*		**Sn**	**08 11 49.2**	**-0.1**
HMMJ	**Hamamatsu 2**	**2.08**	**317**	*eS*		**Sn**	**08 11 50.1**	**-0.6**
JAO	**Obara**	**2.64**	**317**	P		**Pn**	**08 11 33.0**	**+0.4**
JAO				*eS*		**Sn**	**08 12 05.3**	**+0.7**
JKN2	**Miekihoku**	**2.79**	**290**	P		**Pn**	**08 11 34.7**	**+0.1**
JKN2				*eS*		**Sn**	**08 12 07.7**	**-0.5**
MJAR	**Matsushiro Arr**	**3.35**	**343**	Pn		**Pb**	**08 11 48.1**	**-1.4**
	0.1nm,0.3s,baz=154,slow=14,SNR=6.4							
MJAR				Sn		**Sb**	**08 12 31.9**	**+1.7**
	0.0nm,0.3s,baz=161,slow=19,SNR=2.5							
MAT	**Matsushiro**	**3.35**	**343**	P		**Pn**	**08 11 44.2**	**+1.8**
MAT				*eS*		**Sb**	**08 12 27.7**	**-2.5**
JNU	**Nakatsue**	**7.18**	**271**	LR		LR	08 15 28.7	
	comp=Z,50nm,20.0s,baz=0.5,slow=37							
KSRS	**Korea Array**	**10.26**	**297**	LR		LR	08 17 13.9	
	comp=Z,31nm,18.2s,baz=80,slow=36							
H11N2	**WAKE ISLAND Hy**	**27.95**	**112**	T		T	08 45 46.1	
	baz=305,slow=75,SNR=57							
H11N1	**WAKE ISLAND Hy**	**27.95**	**112**	T		T	08 45 46.5	
	baz=305,slow=75,SNR=51							
H11N3	**WAKE ISLAND Hy**	**27.97**	**112**	T		T	08 45 47.4	
	baz=305,slow=75,SNR=47							
H11S3	**WAKE ISLAND Hy**	**28.50**	**114**	T		T	08 46 27.3	
	baz=307,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**28.51**	**114**	T		T	08 46 27.8	
	baz=307,slow=75,SNR=16							
H11S2	**WAKE ISLAND Hy**	**28.52**	**114**	T		T	08 46 28.8	
	baz=307,slow=75,SNR=11							
WRA	**Warramunga Arr**	**53.21**	**186**	P		**P**	**08 20 08.1**	**-0.3**
	0.3nm,0.7s,baz=4.7,slow=7.6,SNR=3.2							
ILAR	**Eielson Array**	**53.48**	**31**	P		**P**	**08 20 10.1**	**+0.2**
	0.3nm,0.7s,baz=279,slow=7.1,SNR=6.1							
ASAR	**Alice Springs**	**56.94**	**186**	P		**P**	**08 20 35.3**	**0.0**
	0.2nm,0.9s,baz=3.0,slow=6.7,SNR=2.9							
YKA	**Yellowknife Ar**	**67.81**	**29**	P		**P**	**08 21 47.4**	**-0.2**
	0.1nm,0.4s,baz=300,sl

ellipse: s-maj=28.2km s-min=20.1km az=11.0
*ISCJB **08** 09:09:26.5±0.3,37.00N±0.03×5.30E±0.03,h18km,*
mb3.5/9, Error ellipse: s-maj=4.8km s-min=3.0km az=38.3
*MDD **08** 09:09:28.3±0.8,36.75N×5.28E,h16km±10km,mb4.4/7,*
Error ellipse: s-maj=8.2km s-min=6.0km az=29.0, PRXIMO
*LDG **08** 09:09:29.6±0.3,37.11N×5.04E,h2km,Ml3.1/14, Error*
ellipse: s-maj=6.0km s-min=3.1km az=157.0

ISC 08 09:09:27.9±0.7,36.89N±0.04×5.29E±0.04,h18km,n63,
σ2.86/85,mb3.5/9,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.58**	**126**	P	**Pb**	**09 09 38.6**	**-0.9**
DFRA	**Djebel Bou Aff**	**0.58**	**126**	P	**Pb**	**09 09 38.6**	**-0.9**
SET	**Setif**	**0.69**	**173**	P	**Pb**	**09 09 38.0**	**-3.4**
SET	**Setif**	**0.69**	**173**	P	**Pb**	**09 09 38.0**	**-3.4**
CKHR	**Kef el Ahmar**	**0.89**	**169**	P	**Pb**	**09 09 41.9**	**-2.9**
CKHR	**Kef el Ahmar**	**0.89**	**169**	P	**Pb**	**09 09 41.9**	**-2.9**
CASM	**Ain Smara**	**1.15**	**123**	P	**Pn**	**09 09 47.7**	**-1.4**
CASM	**Ain Smara**	**1.15**	**123**	P	**Pn**	**09 09 47.7**	**-1.4**
CTEI	**Djebel Teioual**	**1.22**	**132**	P	**Pn**	**09 09 47.8**	**-2.3**
CTEI	**Djebel Teioual**	**1.22**	**132**	P	**Pn**	**09 09 47.8**	**-2.3**
CKFL	**Kef-Lekhel**	**1.25**	**113**	P	**Pn**	**09 09 49.7**	**-0.8**
CKFL	**Kef-Lekhel**	**1.25**	**113**	P	**Pn**	**09 09 49.7**	**-0.8**
CAEH	**'Ain El Ouahch**	**1.25**	**94**	P	**Pb**	**09 09 50.5**	**-0.5**
CAEH	**'Ain El Ouahch**	**1.25**	**94**	P	**Pb**	**09 09 50.5**	**-0.5**
ATAF	**Djebel Tarf**	**1.30**	**219**	P	**Pn**	**09 09 49.9**	**-1.4**
ATAF	**Djebel Tarf**	**1.30**	**219**	P	**Pn**	**09 09 49.9**	**-1.4**
CMAH	**Djebel Manchou**	**1.73**	**98**	P	**Pn**	**09 09 56.9**	**-0.2**
CMAH	**Djebel Manchou**	**1.73**	**98**	P	**Pn**	**09 09 56.9**	**-0.2**
ABA	**Alger-Bouzarea**	**1.81**	**268**	P	**Pn**	**09 09 55.0**	**-3.2**
MAHO	**Mahon**	**3.11**	**345**	P	**Pn**	**09 10 51.9**	**-0.8**
MAHO				S	**Sn**	**09 10 51.9**	**-0.8**
MAHO	**Mahon**	**3.11**	**345**	*i* P	**Pn**	**09 10 18.5**	**+2.5**
MAHO				*e*S	**Sn**	**09 10 51.9**	**-0.8**
KEST	**Kesra**	**3.47**	**108**	Pn	**Pn**	**09 10 21.3**	**+0.3**
	4.0nm,0.3s,baz=240,slow=5.6,SNR=22						
KEST				Sn	**Sn**	**09 11 03.6**	**+1.9**
	5.2nm,0.3s,baz=98,slow=23,SNR=12						
ETOS	**Mallorca**	**3.47**	**327**	P	**Pn**	**09 10 21.9**	**+0.9**
	11nm,0.2s,SNR=15						
ETOS				S	**Sn**	**09 11 00.1**	**-1.6**
	11nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.78**	**306**	P	**Pn**	**09 10 26.5**	**+1.3**
	0.7nm,0.1s,SNR=10						
EIBI				S	**Sn**	**09 11 07.9**	**-1.4**
	3.9nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**5.29**	**282**	P	**Pn**	**09 10 46.8**	**+0.8**
	0.6nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**09 11 46.7**	**+0.1**
	3.5nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**5.53**	**325**	P	**Pn**	**09 10 50.3**	**+0.9**
	1.5nm,0.1s,SNR=8.5						
EPOB				S	**Sn**	**09 11 49.0**	**-3.5**
	2.0nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.70**	**290**	P	**Pn**	**09 10 54.6**	**+2.9**
	1.9nm,0.2s,SNR=10						
ETOB				S	**Sn**	**09 11 57.6**	**+1.0**
	0.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.81**	**331**	P	**Pn**	**09 10 55.3**	**+2.2**
	3.3nm,0.1s,SNR=9.1						
EMIR				S	**Sn**	**09 11 57.6**	**-1.7**
	10nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.86**	**342**	P	**Pn**	**09 10 56.5**	**+2.7**
	0.6nm,0.1s,SNR=7.9						
EJON				S	**Sn**	**09 11 59.3**	**-1.2**
	3.4nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**5.89**	**342**	P	**Pn**	**09 10 55.7**	**+1.5**
	0.7nm,0.2s,SNR=7.9						
SJAF				S	**Sn**	**09 12 00.4**	**-0.8**
	0.4nm,0.2s,SNR=7.9						
PGF	**Pioggiola**	**6.33**	**26**	*e*Pn	**Pn**	**09 11 00.2**	**-0.2**
PGF				*e*Sn	**Sn**	**09 12 08.3**	**-4.0**
	7.8nm,0.3s						
PGF	**Pioggiola**	**6.33**	**26**	P	**Pn**	**09 11 00.2**	**-0.2**
PGF				S	**Sn**	**09 12 08.3**	**-4.0**
	3.9nm,0.3s						
CSOR	**Sort**	**6.35**	**331**	P	**Pn**	**09 11 03.2**	**+2.5**
	5.2nm,0.3s,SNR=10						
CSOR				S	**Sn**	**09 12 12.2**	**-0.6**
	2.7nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**6.50**	**8**	*e*Pn	**Pn**	**09 11 01.9**	**-0.7**
LMR				*e*Sn	**Sn**	**09 12 10.5**	**-5.9**
	0.9nm,0.1s						
LMR	**La Mourre**	**6.50**	**8**	P	**Pn**	**09 11 01.9**	**-0.7**
EQES	**Quesada**	**6.73**	**280**	P	**Pn**	**09 11 08.2**	**+2.4**
	1.2nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**09 12 23.1**	**+1.1**
	1.9nm,0.4s,SNR=7.9						
FRF	**La Foret Royal**	**6.75**	**8**	*e*Pn	**Pn**	**09 11 05.0**	**-0.9**
FRF				*e*Sn	**Sn**	**09 12 15.7**	**-6.6**
	1.5nm,0.2s						
FRF	**La Foret Royal**	**6.75**	**8**	Pn	**Pn**	**09 11 05.0**	**-0.9**
MTLF	**Montolieu**	**6.86**	**341**	*e*Pn	**Pn**	**09 11 04.7**	**-2.9**
MTLF				*e*Sn	Sn	09 12 15.9	-9.3
	2.2nm,0.4s						
ELGU	**Los Guajares,**	**7.15**	**273**	P	**Pn**	**09 11 12.1**	**+0.5**
	2.4nm,0.2s,SNR=7.9						
SBF	**Sospel**	**7.16**	**13**	*e*Pn	**Pn**	**09 11 10.8**	**-0.9**
SBF				*e*Sn	**Sn**	**09 12 25.8**	**-6.7**
	2.6nm,0.2s						
EPF	**Esparros**	**7.22**	**330**	*e*Pn	**Pn**	**09 11 10.4**	**-2.1**
EPF				*e*Sn	Sn	09 12 23.9	-10
	1.6nm,0.2s						
LASF	**Ste Croix**	**7.26**	**352**	*e*Pn	**Pn**	**09 11 10.8**	**-2.3**
LASF				*e*Sn	**Sn**	**09 12 26.9**	**-8.2**
	1.9nm,0.4s						
ETSF	**Etsaut**	**7.50**	**325**	*e*Pn	**Pn**	**09 11 14.3**	**-2.1**
ETSF	**Etsaut**	**7.50**	**325**	*e*P	**Pn**	**09 11 19.0**	**+2.6**
ETSF	**Etsaut**	**7.50**	**325**	P	**Pn**	**09 11 19.0**	**+2.6**
IELO	**Elcoad**	**7.78**	**322**	P	**Pn**	**09 11 22.1**	**+1.8**
	1.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.79**	**294**	Pn	**Pn**	**09 11 22.3**	**+1.8**
	0.3nm,0.3s,baz=112,slow=13,SNR=2.6						
MBDF	**Montbardon**	**7.91**	**8**	*e*Pn	**Pn**	**09 11 20.3**	**-1.8**
MBDF				*e*Sn	**Sn**	**09 12 42.7**	**-8.5**
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**7.97**	**357**	*e*Pn	**Pn**	**09 11 20.7**	**-2.1**
VIVF				*e*Sn	**Sn**	**09 12 44.4**	**-8.2**
	1.1nm,0.3s						
SJPF	**Ste Jean**	**7.98**	**323**	*e*Pn	Pn	**09 11 19.3**	**-3.6**
SJPF				*e*Sn	Sn	09 12 43.2	-9.5
	0.9nm,0.2s						
ORIF	**Oris-en-Rattie**	**8.04**	**3**	*e*Pn	**Pn**	**09 11 21.6**	**-2.1**
ORIF				*e*Sn	**Sn**	**09 12 46.2**	**-7.9**
	1.3nm,0.3s						
EALK	**Alkurruntz**	**8.20**	**323**	P	**Pn**	**09 11 27.7**	**+1.8**
	21nm,1.2s,SNR=5.8						
CAF	**Calviac**	**8.39**	**344**	*e*Pn	**Pn**	**09 11 26.8**	**-1.8**
AKASG	**Malin Array Be**	**21.99**	**44**	P	**P**	**09 14 20.9**	**+0.2**
	1.2nm,0.6s,baz=242,slow=10,SNR=3.6						
BRTR	**Keskin Array B**	**22.39**	**74**	P	**P**	**09 14 27.1**	**+1.8**
	0.7nm,0.7s,baz=255,slow=8.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**23.86**	**189**	P	**P**	**09 14 39.8**	**-0.4**
	0.6nm,1.0s,baz=10.0,slow=9.4,SNR=2.8						
KURBB	**Kurchatov Arra**	**52.55**	**50**	P	**P**	**09 18 41.2**	**+1.2**
	0.5nm,0.7s,baz=291,slow=8.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**55.37**	**45**	P	**P**	**09 19 01.7**	**+1.1**
	0.8nm,0.5s,baz=273,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**56.07**	**54**	P	**P**	**09 19 06.8**	**+1.1**
	0.6nm,0.6s,baz=284,slow=5.8,SNR=8.4						
YKA	**Yellowknife Ar**	**69.89**	**335**	P	**P**	**09 20 38.9**	**+1.6**
	0.3nm,0.7s,baz=48,slow=6.4,SNR=4.6						
INK	**Inuvik**	**70.70**	**345**	P	**P**	**09 20 44.4**	**+2.2**
	0.8nm,0.8s,baz=27,slow=2.3,SNR=2.7						
PDAR	**Pinedale Array**	**81.01**	**317**	P	**P**	**09 21 42.6**	**+0.8**
	0.1nm,0.4s,baz=50,slow=8.4,SNR=2.6						

*ISCJB **08** 09:33:22.1±0.9,14.24N±0.12×145.26E±0.2,h109km,mb3.3/7,*
Error ellipse: s-maj=36.3km s-min=12.7km az=21.0
*IDC **08** 09:33:23.0±1.0,13.87N×145.28E,h123km±7km,mb3.0/7,*
mb1 3.3/7,mb1mx3.1/36,mbtmp3.4/7,MS3.9/1,Ms1 3.9/1,
ms1mx2.7/10,Error ellipse: s-maj=40.9km s-min=21.5km
az=102.0

ISC 08 09:33:23.2±1.1,14.12N±0.12×145.45E±0.3,h109km,n9,
σ0.55/7,mb3.2/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.81**	**216**	P	**Pn**	**09 33 42.8**	**+0.4**
	106nm,0.3s,baz=133,slow=21,SNR=40						
GUMO				S	**Sn**	**09 33 56.3**	**-0.5**
	342nm,0.3s,baz=41,slow=23,SNR=105						
JHJ	**Hachijo jima 2**	**19.46**	**346**	LR	LR	09 44 35.6	
	comp=Z,385nm,21.4s,baz=260,slow=34						
WRA	**Warramunga Arr**	**35.66**	**198**	P	P	09 40 06.0	-5.1
	0.3nm,0.6s,baz=20,slow=9.2,SNR=5.0						
ASAR	**Alice Springs**	**39.31**	**197**	P	P	09 40 37.0	-4.7
	0.3nm,0.8s,baz=24,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**61.35**	**316**	P	**P**	**09 43 27.3**	**-0.3**
	0.2nm,0.5s,baz=101,slow=8.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**61.37**	**324**	P	**P**	**09 43 28.1**	**+0.6**
	0.4nm,0.4s,baz=111,slow=11,SNR=2.4						
ILAR	**Eielson Array**	**67.78**	**25**	P	**P**	**09 44 08.5**	**-0.5**
	0.2nm,0.6s,baz=255,slow=5.5,SNR=3.4						
YKA	**Yellowknife Ar**	**82.06**	**27**	P	**P**	**09 45 31.1**	**-0.1**
	0.1nm,0.3s,baz=254,slow=5.5,SNR=3.1						
NVAR	**Mina Array Bea**	**86.14**	**51**	P	**P**	**09 45 53.0**	**+0.3**
	0.1nm,0.5s,baz=249,slow=7.6,SNR=2.3						

*NIED **08** 10:06:00,33.30N×139.40E,h5km,Mw4.1 Best double*
couple: Mo1.77000×10^15 NP1:φ=12.00000°,δ24.00000°,
λ-97.00000°. NP2:φ=199.00000°,δ67.00000°,
λ-87.00000°.
*ISCJB **08** 10:06:33.9±0.3,33.24N±0.03×139.37E±0.04,h10km,*
mb3.9/15,MS3.4/8, Error ellipse: s-maj=6.0km
s-min=3.5km az=137.2
*IDC **08** 10:06:33.0±0.6,33.19N×139.59E,h0km,mb3.9/13,*
mb1 4.1/16,mb1mx4.0/36,mbtmp3.9/16,ML3.5/3,MS3.4/11,
Ms1 3.4/11,ms1mx3.2/42, Error ellipse: s-maj=18.5km
s-min=8.9km az=35.0
*JMA **08** 10:06:35.7±0.1,33.32N×139.44E,h12km±4km,M3.8*
*NEIC **08** 10:06:36.9±0.9,33.20N×139.49E,h22km±7km,mb4.4/3,*
Error ellipse: s-maj=8.7km s-min=6.2km az=64.0

ISC 08 10:06:35.0±0.5,33.28N±0.04×139.37E±0.05,h10km,n62,
σ1.52/57,mb4.0/15,MS3.4/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.39**	**115**	Pn	**Pg**	**10 06 43.2**	**+0.7**
	1μm,0.3s,baz=93,slow=22,SNR=81						
JHJ2	**Mitsune**	**0.41**	**114**	*e*Pg	**Pg**	**10 06 43.2**	**+0.1**
JHJ2				*e*Sg	**Sb**	**10 06 49.3**	**-1.4**
JHJ2	**Mitsune**	**0.41**	**114**	P	**Pg**	**10 06 43.1**	**0.0**
JHCJ	**Hachijojimakas**	**0.42**	**120**	P	**Pg**	**10 06 43.3**	**+0.1**
JHCJ				S	**Sg**	**10 06 48.5**	**-0.2**
JMKN	**Mikurajimanish**	**0.64**	**17**	P	**Pg**	**10 06 47.0**	**-0.3**
JMKN				S	**Sg**	**10 06 55.1**	**-0.5**
JAOM	**Aogashimamukai**	**0.88**	**158**	P	**Pg**	**10 06 53.0**	**+1.0**
JKO	**Kozu shima**	**0.92**	**348**	P	**Pg**	**10 06 52.5**	**-0.2**
JTHY	**Toshimahigashi**	**1.24**	**357**	P	**Pn**	**10 06 57.4**	**-1.0**
JIM2	**Oshima 3**	**1.43**	**2**	P	**Pn**	**10 07 00.2**	**-0.8**
TK03	**Tokai 3**	**1.46**	**307**	P	**Pn**	**10 07 02.5**	**+1.2**
JIZS	**Izushimoda**	**1.49**	**344**	P	**Pn**	**10 07 01.3**	**-0.5**
TK02	**Tokai 2**	**1.50**	**297**	P	**Pn**	**10 07 02.8**	**+1.1**
TK01	**Tokai 1**	**1.56**	**288**	P	**Pn**	**10 07 03.7**	**+1.2**
KTJ3	**Kamata3**	**1.67**	**352**	P	**Pn**	**10 07 04.0**	**-0.2**
INU	**Inuyama**	**2.83**	**317**	*e*Pn	**Pn**	**10 07 21.2**	**+0.9**
INU				*e*Sn	**Sn**	**10 07 54.6**	**+0.1**
MJAR	**Matsushiro Arr**	**3.39**	**344**	Pn	**Pn**	**10 07 30.8**	**+2.9**
	0.6nm,0.3s,baz=145,slow=13,SNR=21						
MJAR				LR	LR	10 09 05.6	
	comp=Z,203nm,21.1s,baz=155,slow=44						
MAJO	**Matsushiro**	**3.39**	**344**	*e*Pn	**Pn**	**10 07 31.8**	**+3.8**
MAT	**Matsushiro**	**3.39**	**344**	P	**Pb**	**10 07 32.3**	**-2.8**
MAT				*e*S	**Sn**	**10 08 11.7**	**+3.5**
MJB9	**Matsu-Tunnel**	**3.39**	**344**	*e*Pn	**Pn**	**10 07 31.3**	**+3.3**
CBIJ	**Chichi jima**	**6.63**	**158**	*e*Pn	**Pn**	**10 08 11.7**	**-0.8**
JCJ	**Chichijima**	**6.63**	**158**	Pn	**Pn**	**10 08 11.7**	**-0.8**
	2.8nm,0.3s,baz=288,slow=20,SNR=3.0						
JNU	**Nakatsue**	**7.12**	**271**	*e*Pn	**Pn**	**10 08 21.9**	**+2.7**
JNU				*e*Sn	**Sn**	**10 09 34.9**	**-5.3**
JNU	**Nakatsue**	**7.12**	**271**	Pn	**Pn**	**10 08 21.9**	**+2.7**
	1.0nm,0.3s,baz=155,slow=6.3,SNR=14						
ERM	**Erimo**	**9.22**	**18**	*e*Pn	**Pn**	**10 08 48.3**	**+0.4**
KSRS	**Korea Array**	**10.23**	**297**	LR	LR	10 13 19.2	
	comp=Z,146nm,18.4s,baz=106,slow=39						
KLR	**Kul'dur**	**16.91**	**343**	LR	LR	10 15 49.4	
	comp=Z,90nm,19.4s,baz=162,slow=33						
GUMO	**Guam**	**20.24**	**164**	LR	LR	10 17 51.7	
	comp=Z,65nm,20.8s,baz=55,slow=34						
PETK	**Petropavlovsk-**	**23.77**	**28**	LR	LR	10 23 09.6	
	comp=Z,79nm,18.2s,baz=128,slow=42						
MA2	**Magadan**	**27.37**	**13**	P	**P**	**10 12 20.8**	**+0.7**
	1.8nm,0.3s,baz=203,slow=9.6,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**27.99**	**112**	T	T	10 41 31.1	
	baz=305,slow=75,SNR=186						
H11N1	**WAKE ISLAND Hy**	**27.99**	**112**	T	T	10 41 31.2	
	baz=305,slow=75,SNR=150						
H11N3	**WAKE ISLAND Hy**	**28.01**	**112**	T	T	10 41 32.4	
	baz=305,slow=75,SNR=169						
H11S3	**WAKE ISLAND Hy**	**28.54**	**114**	T	T	10 42 13.8	
	baz=307,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**28.54**	**114**	T	T	10 42 13.9	
	baz=307,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**28.56**	**114**	T	T	10 42 14.7	
	baz=307,slow=75,SNR=40						
CMAR	**Chiang Mai Arr**	**39.00**	**258**	LR	LR	10 30 50.9	
	comp=Z,40nm,18.1s,baz=26,slow=37						
ZALV	**Zalesovo Beam**	**43.30**	**315**	PcP	**PcP**	**10 16 23.9**	**-1.6**
	1.6nm,0.6s,baz=102,slow=3.4,SNR=5.7						
MK32	**Makanchi Array**	**44.79**	**305**	*e*P	**P**	**10 14 49.1**	**+0.3**
MK32				*e*PcP	**PcP**	**10 16 30.9**	**+0.1**
MKAR	**Makanchi Array**	**44.79**	**305**	P	**P**	**10 14 49.1**	**+0.3**
	0.3nm,0.6s,baz=91,slow=11,SNR=5.3						
MKAR				PcP	**PcP**	**10 16 30.9**	**+0.1**
	0.4nm,0.8s,baz=98,slow=2.5,SNR=3.8						
MKAR				LR	LR	10 34 20.4	
	comp=Z,37nm,20.0s,baz=43,slow=37						
HNR	**Honiara**	**46.78**	**152**	LR	LR	10 33 20.1	
	comp=Z,61nm,21.5s,baz=86,slow=34						
WR1	**Warramunga Arr**	**53.14**	**186**	*e*P	**P**	**10 15 52.2**	**-0.8**
	9.9nm,1.4s						
WRA	**Warramunga Arr**	**53.14**	**186**	P	**P**	**10 15 52.2**	**-0.8**
	0.5nm,0.7s,baz=3.8,slow=7.8,SNR=7.2						
ILAR	**Eielson Array**	**53.56**	**31**	P	**P**	**10 15 55.6**	**-0.1**
	1.3nm,0.7s,baz=268,slow=6.4,SNR=19						
ILB	**Eielson Array**	**53.56**	**31**	*e*P	**P**	**10 15 55.4**	**-0.2**
	1.1nm,0.8s						
ASAR	**Alice Springs**	**56.87**	**186**	P	**P**	**10 16 20.0**	**0.0**
	0.5nm,0.9s,baz=3.4,slow=7.0,SNR=4.9						
RES	**Resolute Bay**	**66.64**	**14**	*e*P	**P**	**10 17 25.3**	**+0.1**
	2.9nm,0.8s						
YKA	**Yellowknife Ar**	**67.89**	**29**	P	**P**	**10 17 32.6**	**-0.6**
	0.6nm,0.5s,baz=304,slow=6.1,SNR=11						
FIA0	**FINESS Array S**	**71.34**	**332**	*e*P	**P**	**10 17 54.5**	**-0.1**
FINES	**FINESS Array B**	**71.34**	**332**	P	**P**	**10 17 54.5**	**-0.1**
	2.0nm,0.6s,baz=86,slow=4.3,SNR=8.7						
AKASG	**Malin Array Be**	**76.23**	**322**	P	**P**	**10 18 23.7**	**+0.2**
	0.3nm,0.4s,baz=50,slow=6.3,SNR=3.8						
NB2	**NORSAR Subarra**	**76.98**	**337**	P	**P**	**10 18 28.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=42,slow=5.9						
NB200	**NORSAR Array S**	**76.98**	**337**	*e*P	**P**	**10 18 28.1**	**+0.5**
NOA	**NORSAR Array B**	**76.98**	**337**	P	**P**	**10 18 28.1**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=42,slow=5.9,SNR=5.0						
NOA				LR	LR	10 56 10.4	
	comp=Z,28nm,20.0s,baz=295,slow=39						
NV01	**Mina Array Sit**	**78.60**	**52**	*e*P	**P**	**10 18 37.6**	**+0.3**
NVAR	**Mina Array Bea**	**78.60**	**52**	P	**P**	**10 18 37.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=292,slow=5.3,SNR=4.8						
BR101	**Keskin Array S**	**80.06**	**311**	*e*P	**P**	**10 18 46.2**	**+1.0**
BRTR	**Keskin Array B**	**80.06**	**311**	P	**P**	**10 18 46.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=77,slow=7.0,SNR=4.0						
BRTR				LR	LR	10 56 13.2	
	comp=Z,27nm,18.4s,baz=270,slow=37						
PDAR	**Pinedale Array**	**81.50**	**44**	P	**P**	**10 18 53.0**	**0.0**
	comp=Z,0.5nm,0.9s,baz=308,slow=3.0,SNR=3.1						
CLL	**Collm**	**83.49**	**329**	*i* pP	pP	10 19 10.1	+4.4
TXAR	**Lajitas Array**	**93.75**	**51**	P	**P**	**10 19 52.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=290,slow=2.0,SNR=7.8						
TXAR				LR	LR	10 59 21.9	
	comp=Z,53nm,19.4s,baz=0.0,slow=34						
LPAZ	**La Paz**	**149.98**	**62**	*e*PKPdf	**PKPdf**	**10 26 24.1**	**+2.0**
LPAZ	**La Paz**	**149.98**	**62**	PKPbc	**PKPdf**	**10 26 23.9**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=247,slow=7.7,SNR=5.9						

*IDC **08** 10:14:53.6±2.3,9.71N×121.96E,h0km,mb3.3/3,*
mb1 3.6/3,mb1mx3.3/34,mbtmp3.3/3, Error ellipse:
s-maj=245.9km s-min=25.9km az=63.0
*ISCJB **08** 10:14:54.9±1.5,9.90N±0.06×122.02E±0.05,h24km±11km,*
mb3.4/3, Error ellipse: s-maj=11.5km s-min=7.1km
az=36.0
*MAN **08** 10:14:56.8,10.02N×122.16E,h21km,mb4.4,ML3.3,*
MS3.1
MAN INTENSITY I - SIPALAY NEGROS OCCIDENTAL.

ISC 08 10:14:55.1±1.9,9.94N±0.07×122.08E±0.05,h15km±11km,
n13,σ1.68/20,mb3.5/3,1C-1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAP	**San Jose, Anti**	**0.82**	**351**	*e*P	**Pg**	**10 15 12.1**	**+1.0**
GUIM	**Jordan**	**0.85**	**36**	*e*P	**Pg**	**10 15 10.5**	**-1.2**
GUIM				*e*S	**Sg**	**10 15 23.1**	**+0.3**
SNPH	**Sibulan**	**1.28**	**117**	*i* P	**Pn**	**10 15 17.9**	**-0.8**
SNPH				*i* S	**Sn**	**10 15 36.2**	**+0.5**
TBP	**Tagbilaran**	**1.77**	**98**	*e*P	**Pn**	**10 15 26.0**	**+0.7**
LLP	**Lapu-Lapu**	**1.90**	**78**	*e*P	**Pn**	**10 15 25.2**	**-1.8**
LLP				*e*S	**Sn**	**10 15 49.5**	**-1.2**
OTRP	**Odiongan**	**2.41**	**359**	*e*P	**Pn**	**10 15 34.5**	**+0.3**
OTRP				*e*S	**Sn**	**10 16 03.3**	**-0.1**
SJMP	**San Jose**	**2.68**	**339**	*e*P	**Pb**	**10 15 43.2**	**+0.3**
OCLP	**Ormoc**	**2.72**	**66**	*e*P	**Pb**	**10 15 42.8**	**-0.8**
OCLP				*e*S	**Sb**	**10 16 16.6**	**-0.2**
MSLP	**Maasin**	**2.74**	**86**	*e*P	**Pn**	**10 15 40.2**	**+1.5**
MSLP				*e*S	**Sn**	**10 16 15.2**	**+3.6**
BUSP	**Coron**	**2.76**	**318**	*e*P	**Pn**	**10 15 39.8**	**+0.8**
BUSP				*e*S	**Sn**	**10 16 08.1**	**-4.0**
WRA	**Warramunga Arr**	**32.05**	**158**	P	**P**	**10 21 20.4**	**-1.2**
	0.3nm,0.5s,baz=335,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**35.34**	**161**	P	**P**	**10 21 49.9**	**-0.4**
	0.5nm,0.7s,baz=345,slow=7.2,SNR=10						
MKAR	**Makanchi Array**	**49.86**	**325**	P	**P**	**10 23 49.5**	**+1.5**
	0.2nm,0.5s,baz=124,slow=8.6,SNR=3.2						

TAP 08 10:19:29.5,23.48N×121.61E,h36km,ML1.7,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HGSD	**Ruisui**	**0.17**	**275**	*e*P	Pn	10 19 37.0	-2.4
	baz=274						
HGSD				*e*S	Sn	10 19 41.1	-7.7
	baz=274						
EGFH	**Guangfu**	**0.25**	**319**	*e*P	Pn	10 19 37.6	-0.2
	baz=318						
EGFH				*e*S	Sn	10 19 42.8	-2.5
	baz=318						
YULB	**Yu-li**	**0.30**	**254**	*e*P	Pn	10 19 37.8	+0.1
	baz=253						
YULB				*e*S	Sn	10 19 43.6	-1.0
	baz=253						
TWF1	**Yuli**	**0.31**	**247**	P	Pn	10 19 37.9	+0.2
	baz=245						
TWF1				S	Sn	10 19 44.3	-0.3
	baz=245						
ESL	**Shilin**	**0.37**	**334**	P	Pn	10 19 38.7	+0.5
	baz=335						
ESL				S	Sn	10 19 46.0	+1.2
	baz=335						
FULB	**Fuli**	**0.40**	**226**	*e*P	Pn	10 19 39.3	+0.8
	baz=226						
FULB				*e*S	Sn	10 19 46.9	+1.5
	baz=226						
ENLB	**Shoufeng**	**0.42**	**359**	*e*P	Pn	10 19 39.4	+0.5
	baz=358						
ENLB				*e*S	Sn	10 19 45.8	0.0
	baz=358						
VWDT	**VWDT**	**0.51**	**303**	*e*P	Pn	10 19 41.0	+0.7
	baz=302						
VWDT				*e*S	Sn	10 19 49.4	+1.6
	baz=302						
TWD	**Chiawan**	**0.60**	**359**	P	Pn	10 19 42.1	+0.4
	baz=359						
TWD				*e*S	Sn	10 19 51.4	+1.3
	baz=359

UGM	**Wanagama**	**2.53**	**91**	P	**Pn**	**10 44 07.6**	**-0.1**
UGM				S	**Sn**	**10 44 36.9**	**-0.6**
SMRI	**Semarang**	**2.58**	**72**	*e*Pn	**Pn**	**10 44 10.7**	**+2.4**
SMRI				*e*Sn	**Sn**	**10 44 38.2**	**-0.4**
SMRI	**Semarang**	**2.58**	**72**	P	**Pn**	**10 44 09.9**	**+1.6**
PCJI	**Pacitan**	**3.19**	**96**	P	**Pn**	**10 44 16.8**	**+0.1**
PCJI				S	**Sn**	**10 44 52.1**	**-1.5**
XMIS	**Christmas Isla**	**3.47**	**221**	*e*Pn	Pn	10 44 15.8	-4.7
XMIS				*e*Sn	Sn	10 44 50.4	-10
PWJI	**Pagerwojo**	**3.80**	**93**	P	**Pn**	**10 44 26.0**	**+1.0**
PWJI				S	**Sn**	**10 45 08.2**	**-0.3**
TBJI	**Tambak Boyo**	**3.98**	**75**	P	**Pn**	**10 44 28.4**	**+1.0**
KASI	**Kota Agung**	**4.16**	**304**	P	Pn	10 44 34.7	+4.8
GRJI	**Gresik**	**4.57**	**178**	P	**Pn**	**10 44 36.3**	**+0.8**
MDSI	**Maura Dua**	**5.04**	**311**	P	**Pn**	**10 44 44.4**	**+2.4**
JAGI	**Jajag, Banyuwa**	**6.15**	**96**	*e*Pn	**Pn**	**10 44 57.7**	**+0.6**
JAGI				*e*Sn	**Sn**	**10 46 03.9**	**-2.2**
JAGI	**Jajag, Banyuwa**	**6.15**	**96**	P	**Pn**	**10 44 58.8**	**+1.7**
PLAI	**Plampang**	**9.75**	**96**	P	**Pn**	**10 45 47.8**	**+1.4**
SANI	**Sanana**	**18.84**	**73**	P	**Pn**	**10 47 48.4**	**+3.8**
FITZ	**Fitzroy Crossi**	**19.98**	**122**	P	**P**	**10 47 56.9**	**+1.2**
	3.0nm,0.6s,baz=282,slow=9.4,SNR=9.9						
FITZ				S	S	10 51 26.2	-11
	1.4nm,0.7s,baz=27,slow=14,SNR=3.2						
CMAR	**Chiang Mai Arr**	**27.62**	**341**	LR	LR	11 02 31.8	
	comp=Z,40nm,18.7s,baz=208,slow=42						
WRA	**Warramunga Arr**	**28.22**	**118**	P	**P**	**10 49 15.4**	**+0.1**
	0.6nm,0.5s,baz=294,slow=11,SNR=7.5						
WRA				PcP	**PcP**	**10 52 27.0**	**-0.5**
	0.6nm,1.0s,baz=311,slow=2.3,SNR=3.0						
WR1	**Warramunga Arr**	**28.22**	**118**	*e*P	**P**	**10 49 15.4**	**+0.1**
WR1				*e*PcP	**PcP**	**10 52 27.0**	**-0.5**
ASAR	**Alice Springs**	**29.41**	**125**	P	**P**	**10 49 27.4**	**+1.6**
	0.2nm,0.4s,baz=302,slow=8.7,SNR=5.2						
ASAR				PcP	**PcP**	**10 52 30.7**	**+0.3**
	0.3nm,0.8s,baz=318,slow=2.6,SNR=2.4						
H08S2	**Diego Garcia H**	**35.15**	**268**	T	T	11 27 44.2	
	baz=92,slow=76,SNR=456						
H08S3	**Diego Garcia H**	**35.16**	**268**	T	T	11 27 45.0	
	baz=92,slow=76,SNR=166						
H08S1	**Diego Garcia H**	**35.17**	**268**	T	T	11 27 30.9	
	baz=92,slow=76,SNR=420						
STKA	**Stephens Creek**	**39.35**	**132**	*e*P	**P**	**10 50 52.5**	**+0.9**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**39.35**	**132**	P	**P**	**10 50 51.8**	**+0.2**
	1.5nm,0.4s,baz=316,slow=8.3,SNR=10.0						
SONA0	**Songino Array**	**55.46**	**359**	*e*P	**P**	**10 52 55.9**	**-0.5**
SONM	**Songino Array**	**55.46**	**359**	P	**P**	**10 52 55.9**	**-0.5**
	1.7nm,0.5s,baz=188,slow=7.3,SNR=2.4						
MK01	**Makanchi Array**	**58.99**	**340**	*e*P	**P**	**10 53 20.0**	**-1.2**
MK31	**Makanchi Array**	**59.02**	**340**	*e*P	**P**	**10 53 20.4**	**-0.9**
	1.4nm,0.5s						
MK32	**Makanchi Array**	**59.02**	**340**	*e*P	**P**	**10 53 20.3**	**-1.0**
MKAR	**Makanchi Array**	**59.02**	**340**	P	**P**	**10 53 20.3**	**-1.0**
	2.2nm,0.5s,baz=150,slow=7.9,SNR=44						
GEYT	**Alibeck**	**65.04**	**318**	P	**P**	**10 54 00.5**	**-1.4**
	2.3nm,0.3s,baz=140,slow=4.8,SNR=5.2						
ABKAR	**Akbulak array**	**70.64**	**329**	*e*P	**P**	**10 54 37.0**	**+0.2**
	5.6nm,0.5s						
SEY	**Seymchan**	**78.28**	**19**	P	**P**	**10 55 19.5**	**-1.3**
	0.4nm,0.3s,baz=198,slow=20,SNR=3.3						
BOSA	**Boshof**	**79.92**	**242**	P	**P**	**10 55 31.6**	**+0.9**
	1.4nm,0.8s,baz=68,slow=11,SNR=3.8						
BR101	**Keskin Array S**	**83.11**	**312**	*e*P	**P**	**10 55 46.5**	**-0.9**
BRTR	**Keskin Array B**	**83.11**	**312**	P	**P**	**10 55 46.5**	**-0.9**
	0.7nm,0.7s,baz=140,slow=8.5,SNR=4.9						
AKASG	**Malin Array Be**	**88.96**	**321**	P	**P**	**10 56 15.8**	**+0.2**
	0.4nm,0.4s,baz=85,slow=5.1,SNR=3.6						
FIA0	**FINESS Array S**	**92.98**	**332**	*e*P	**P**	**10 56 33.7**	**-0.4**
FINES	**FINESS Array B**	**92.98**	**332**	P	**P**	**10 56 33.7**	**-0.4**
	1.7nm,0.8s,baz=113,slow=4.4,SNR=4.0						
YKA	**Yellowknife Ar**	**117.32**	**21**	PKP	**PKiKP**	**11 02 06.1**	**+0.3**
	0.2nm,0.5s,baz=341,slow=1.3,SNR=5.5						
TXAR	**Lajitas Array**	**143.39**	**50**	PKP	**PKPdf**	**11 02 54.7**	**-1.4**
	0.2nm,0.4s,baz=357,slow=0.9,SNR=7.9						

NIED ***08*** *10:53:00,36.°00N×139.°50E,h53km,Mw4.0 Best double couple: M₀1.22000×10¹⁵ NP1:φ₀=293.00000°,δ40.00000°, λ140.00000°. NP2:φ₀56.00000°,δ65.00000°,λ57.00000°.*

ISCJB ***08*** *10:53:17.6±0.5,35.°91N±0.°03×139.°62E±0.°08,h58km±4km, mb3.7/14, Error ellipse: s-maj=10.3km s-min=5.7km az=179.4*

JMA ***08*** *10:53:19.1±0.1,35.°96N×139.°57E,h45km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φ₀=64.00000°,δ50.00000°,λ68.00000°. NP2:φ₀=276.00000°, δ44.00000°,λ114.00000°. Principal axes: T Plg73.0000°, Azm269.0000°; N Plg17.0000°, Azm78.0000°; P Plg3.0000°, Azm169.0000°;*

JMA Felt II J1.

IDC ***08*** *10:53:20.3±1.1,35.°82N×139.°40E,h71km±10km, mb3.5/14, mb1 3.7/16,mb1mx3.6/47,mbtmp3.8/16,MS2.9/1, Ms1 2.9/1,ms1mx2.5/29 Error ellipse: s-maj=20.3km s-min=8.0km az=69.0*

ISC 08 10:53:18.8±0.9,35.°85N±0.°05×139.°62E±0.°08,h55km±8km, n35,σ1°65/39,mb3.8/14,1C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHU	**Hanno**	**0.27**	**270**	⇑P	**Pn**	**10 53 27.4**	**-0.7**
JHU				S	**Sn**	**10 53 33.4**	**-1.5**
JAG	**Ashikaga**	**0.59**	**347**	⇓P	**Pn**	**10 53 29.8**	**-1.6**
JAG				S	**Sn**	**10 53 37.6**	**-2.9**
JRY	**Ryogami san**	**0.60**	**286**	⇓P	**Pn**	**10 53 30.6**	**-1.0**
JRY				S	**Sn**	**10 53 39.2**	**-1.6**
JOD2	**Odawara 2**	**0.73**	**216**	⇓P	**Pn**	**10 53 33.3**	**+0.2**
JOD2				S	**Sn**	**10 53 44.3**	**+0.8**
JYN	**Shimob**	**0.94**	**248**	P	**Pn**	**10 53 36.2**	**+0.3**
JYN				S	**Sn**	**10 53 49.1**	**+0.6**
JKT	**Katashina**	**0.96**	**342**	⇓P	**Pn**	**10 53 34.6**	**-1.6**
JFNN	**Fujinakano**	**1.00**	**229**	P	**Pn**	**10 53 37.1**	**+0.5**
JFNN				S	**Sn**	**10 53 50.7**	**+0.9**
MJAR	**Matsushiro Arr**	**1.33**	**302**	P	**Pn**	**10 53 40.1**	**-1.0**
	7.4nm,0.3s,baz=138,slow=10,SNR=328						
MJAR				S	**Sn**	**10 53 56.9**	**-0.9**
	5.9nm,0.3s,baz=114,slow=19,SNR=11						
MJAR				LR	LR	10 54 13.3	
	comp=Z,149nm,18.2s,baz=100,slow=45						
MAT	**Matsushiro**	**1.33**	**302**	P	**Pn**	**10 53 40.5**	**-0.6**
MAT				S	**Sn**	**10 54 01.0**	**+3.2**
JHJ	**Hachijo jima 2**	**2.73**	**177**	P	**Pn**	**10 54 02.0**	**+2.0**
	184nm,0.3s,baz=227,slow=3.2,SNR=5.5						
JHJ				S	**Sn**	**10 54 33.4**	**+1.5**
	128nm,0.3s,baz=274,slow=17,SNR=2.4						
JCJ	**Chichijima**	**9.00**	**165**	P	**Pn**	**10 55 24.9**	**-1.1**
	5.3nm,0.3s,baz=97,slow=24,SNR=6.2						
JCJ				S	**Sn**	**10 57 01.3**	**-4.6**
	2.9nm,0.3s,baz=308,slow=19,SNR=3.1						
KSRS	**Korea Array**	**9.53**	**283**	P	**Pn**	**10 55 35.8**	**+2.5**
	0.3nm,0.3s,baz=95,slow=14,SNR=8.4						
KSRS				LR	LR	10 59 08.2	
	comp=Z,72nm,20.5s,baz=68,slow=37						
USRK	**Ussuriysk Ar.**	**10.18**	**327**	P	**Pn**	**10 55 45.7**	**+3.6**
	0.1nm,0.3s,baz=127,slow=13,SNR=5.6						
KLR	**Kul'dur**	**14.56**	**339**	P	**Pn**	**10 56 42.0**	**+0.5**
	0.1nm,0.3s,baz=107,slow=5.9,SNR=2.7						
MA2	**Magadan**	**24.83**	**14**	P	**P**	**10 58 36.2**	**+0.7**
	2.3nm,0.5s,baz=164,slow=7.0,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**28.86**	**117**	T	T	11 28 55.8	
	baz=308,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**28.86**	**117**	T	T	11 28 59.8	
	baz=308,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**28.87**	**117**	T	T	11 29 01.7	
	baz=308,slow=75,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**29.50**	**119**	T	T	11 30 19.5	
	baz=314,slow=76,SNR=3.9						
H11S1	**WAKE ISLAND Hy**	**29.50**	**119**	T	T	11 30 22.9	
	baz=314,slow=76,SNR=8.7						
H11S2	**WAKE ISLAND Hy**	**29.52**	**119**	T	T	11 30 21.6	
	baz=314,slow=76,SNR=4.8						
ZALV	**Zalesovo Beam**	**41.66**	**313**	P	**P**	**11 01 00.2**	**-1.3**
	0.7nm,0.4s,baz=90,slow=7.2,SNR=3.5						
MKAR	**Makanchi Array**	**43.53**	**303**	P	**P**	**11 01 15.6**	**-1.3**
	0.3nm,0.6s,baz=87,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**51.27**	**32**	P	**P**	**11 02 17.8**	**+1.1**
	0.8nm,0.6s,baz=269,slow=5.5,SNR=11						
WRA	**Warramunga Arr**	**55.71**	**186**	P	**P**	**11 02 49.5**	**-0.2**
	1.2nm,0.5s,baz=0.9,slow=7.7,SNR=51						
INK	**Inuvik**	**56.10**	**27**	P	**P**	**11 02 52.6**	**+0.8**
	0.5nm,0.5s,baz=282,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**59.44**	**186**	P	**P**	**11 03 15.9**	**0.0**
	0.3nm,0.5s,baz=15,slow=10,SNR=12						
YKA	**Yellowknife Ar**	**65.55**	**29**	P	**P**	**11 03 56.0**	**-0.1**
	0.2nm,0.7s,baz=307,slow=7.0,SNR=5.1						
FINES	**FINESS Array B**	**69.18**	**332**	P	**P**	**11 04 18.4**	**-0.7**
	1.7nm,1.0s,baz=64,slow=3.2,SNR=2.8						
AKASG	**Malin Array Be**	**74.34**	**322**	P	**P**	**11 04 48.6**	**-1.6**
	0.7nm,0.5s,baz=53,slow=6.0,SNR=5.7						
NB2	**NORSAR Subarra**	**74.71**	**337**	P	**P**	**11 04 51.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=42,slow=5.9						
NOA	**NORSAR Array B**	**74.71**	**337**	P	**P**	**11 04 51.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.6,SNR=4.0						
NVAR	**Mina Array Bea**	**76.86**	**52**	P	**P**	**11 05 05.6**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=284,slow=5.0,SNR=4.3						
BRTR	**Keskin Array B**	**78.54**	**311**	P	**P**	**11 05 13.3**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=114,slow=3.0,SNR=3.7						
TXAR	**Lajitas Array**	**91.99**	**51**	P	**P**	**11 06 23.2**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=304,slow=4.9,SNR=3.3						

ISCJB ***08*** *11:00:18.8±0.7, 14.°13S±0.°07×167.°2E±0.°2, h250km, mb3.9/11, Error ellipse: s-maj=21.2km s-min=9.4km az=5.1*

IDC ***08*** *11:00:18.2±3.7, 13.°99S×167.°20E, h226km±34km, mb3.7/11,mb1 3.8/12,mb1mx3.6/40, mbtmp4.2/12, Error ellipse: s-maj=25.7km s-min=19.4km az=141.0*

ISC 08 11:00:19.9±0.7,14.°17S±0.°09×167.°3E±0.°2,h250km,n19, σ1°26/22,mb3.7/11,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.90**	**186**	P	**Pn**	**11 02 12.9**	**+0.8**
	0.6nm,0.3s,baz=64,slow=11,SNR=17						
DZM				S	**S**	**11 03 39.7**	**-2.7**
	baz=90,slow=20,SNR=1.8						
STKA	**Stephens Creek**	**29.39**	**229**	P	**P**	**11 06 01.8**	**+1.6**
	7.0nm,0.5s,baz=50,slow=9.2,SNR=30						
WRA	**Warramunga Arr**	**32.01**	**255**	P	**P**	**11 06 21.8**	**-1.6**
	1.0nm,0.6s,baz=85,slow=8.9,SNR=17						
WRA				PcP	**PcP**	**11 09 08.5**	**+1.5**
	0.6nm,0.9s,baz=82,slow=3.7,SNR=4.0						
ASAR	**Alice Springs**	**32.92**	**248**	P	**P**	**11 06 30.3**	**-1.0**
	2.5nm,0.3s,baz=75,slow=10.0,SNR=43						
ASAR				PcP	**PcP**	**11 09 10.0**	**+0.5**
	0.8nm,0.8s,baz=62,slow=2.9,SNR=5.7						
ASAJ	**Asahikawa**	**62.23**	**340**	P	**P**	**11 10 15.4**	**+0.2**
	3.1nm,0.5s,baz=250,slow=3.2,SNR=5.6						
VNDA	**Vanda**	**63.42**	**181**	P	**P**	**11 10 24.5**	**+1.9**
	0.9nm,0.8s,baz=284,slow=2.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**74.77**	**294**	P	**P**	**11 11 34.2**	**+1.0**
	1.3nm,0.8s,baz=133,slow=4.5,SNR=7.5						
ILAR	**Eielson Array**	**85.98**	**18**	P	**P**	**11 12 30.7**	**-1.0**
	0.5nm,0.6s,baz=241,slow=5.2,SNR=8.5						
NVAR	**Mina Array Bea**	**86.87**	**49**	P	**P**	**11 12 36.9**	**-0.1**
	0.3nm,0.5s,baz=227,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**96.83**	**316**	P	**P**	**11 13 23.2**	**+0.7**
	1.5nm,0.7s,baz=94,slow=6.4,SNR=11						
ZALV	**Zalesovo Beam**	**96.97**	**324**	P	**P**	**11 13 22.1**	**-0.8**
	0.9nm,0.4s,baz=110,slow=4.1,SNR=3.1						
YKA	**Yellowknife Ar**	**97.03**	**27**	P	**P**	**11 13 22.7**	**-0.2**
	0.2nm,0.5s,baz=268,slow=5.1,SNR=4.0						
ARCES	**ARCESS Array B**	**119.73**	**345**	PKP	**PKiKP**	**11 18 40.5**	**+0.7**
	3.2nm,0.7s,baz=76,slow=1.9,SNR=16						
FINES	**FINESS Array B**	**125.22**	**338**	PKP	**PKiKP**	**11 18 51.4**	**+0.7**
	0.5nm,0.4s,baz=48,slow=2.8,SNR=8.5						
NOA	**NORSAR Array B**	**130.10**	**345**	PKP	**PKiKP**	**11 18 59.6**	**-1.0**
	0.2nm,0.5s,baz=32,slow=2.5,SNR=2.6						
AKASG	**Malin Array Be**	**130.30**	**326**	PKP	**PKiKP**	**11 19 01.2**	**0.0**
	0.5nm,0.5s,baz=43,slow=2.1,SNR=3.3						
BRTR	**Keskin Array B**	**132.18**	**311**	PKP	**PKiKP**	**11 19 05.3**	**-0.3**
	0.8nm,0.3s,baz=39,slow=2.6,SNR=5.2						
KEST	**Kesra**	**150.81**	**321**	PKPbc	**PKiKP**	**11 19 42.0**	**-1.9**
	0.3nm,0.6s,baz=36,slow=8.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**165.99**	**268**	PKPab	**PKPab**	**11 20 56.5**	**-1.1**
	0.7nm,1.0s,baz=106,slow=4.8,SNR=3.7						

MAN ***08*** *11:01:06.7,5.°02N×126.°64E,h90km, mb4.8, ML3.7, MS3.7*

IDC ***08*** *11:01:10.3±2.1,5.°49N×126.°74E,h62km±20km, mb3.7/8, mb1 3.8/9,mb1mx3.5/39,mbtmp4.0/9,MS2.9/3,Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=54.6km s-min=12.3km az=60.0*

ISCJB ***08*** *11:01:12.8±0.6,5.°28N±0.°06×126.°41E±0.°10,h100km, mb3.8/8, Error ellipse: s-maj=15.4km s-min=6.0km az=153.5*

ISC 08 11:01:13.4±0.7,5.°31N±0.°07×126.°51E±0.°09,h100km,n19, σ2°85/25,mb3.8/8,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.64**	**351**	*e*P	**Pn**	**11 01 38.3**	**-3.2**
MATI				*e*S	**Sn**	**11 01 55.8**	**-7.0**
GSPH	**General Santos**	**1.73**	**297**	⇑*i*P	Pn	11 01 37.1	-5.5
GSPH				*i* S	**Sn**	**11 01 59.7**	**-5.2**
DAV	**Davao City (W)**	**1.98**	**332**	P	**Pn**	**11 01 41.6**	**-4.1**
	47nm,0.3s,baz=342,slow=3.2,SNR=3.0						
DAV				S	**Sn**	**11 02 09.7**	**-0.6**
	76nm,0.3s,baz=289,slow=22,SNR=8.9						
DAV				LR	LR	11 02 13.3	
	comp=Z,141nm,21.5s,baz=142,slow=32						
SKMP	**Bagumbayan, Su**	**2.29**	**302**	*e*P	**Pn**	**11 01 47.3**	**-2.5**
SKMP				*e*S	**Sn**	**11 02 17.2**	**-0.5**
BUKP	**Musuan**	**2.93**	**331**	*e*P	**Pn**	**11 01 55.4**	**-2.8**
BUKP				*e*S	**Sn**	**11 02 34.4**	**+1.6**
CTBH	**Cotabato--PC H**	**2.94**	**310**	⇓P	**Pn**	**11 01 56.5**	**-1.9**
BUTP	**Butuan**	**3.74**	**346**	*e*P	**Pn**	**11 02 10.7**	**+1.6**
BUTP				*e*S	**Sn**	**11 02 54.3**	**+2.1**
SIJI	**Sorong**	**7.76**	**142**	P	**Pn**	**11 03 00.9**	**-2.8**
	1.8nm,0.3s,baz=358,slow=21,SNR=5.6						
SIJI				S	**Sn**	**11 04 26.6**	**-3.5**
	0.6nm,0.3s,baz=180,slow=20,SNR=2.1						
JAY	**Jayapura**	**16.17**	**118**	LR	LR	11 10 07.5	
	comp=Z,53nm,21.7s,baz=316,slow=34						
FITZ	**Fitzroy Crossi**	**23.27**	**182**	P	**P**	**11 06 14.1**	**+1.7**
	1.6nm,0.6s,baz=25,slow=7.4,SNR=5.6						
WRA	**Warramunga Arr**	**26.25**	**163**	P	**P**	**11 06 41.0**	**+1.6**
	1.3nm,0.5s,baz=343,slow=10,SNR=14						
WRA				PcP	**PcP**	**11 10 05.7**	**+2.0**
	0.3nm,0.8s,baz=337,slow=2.5,SNR=3.1						
ASAR	**Alice Springs**	**29.69**	**166**	P	**P**	**11 07 11.9**	**+1.9**
	0.3nm,0.6s,baz=350,slow=6.9,SNR=4.8						
ASAR				PcP	**PcP**	**11 10 14.8**	**+2.7**
	0.2nm,0.5s,baz=342,slow=2.3,SNR=5.8						
CMAR	**Chiang Mai Arr**	**29.91**	**298**	P	**P**	**11 07 13.6**	**+1.6**
	0.7nm,0.5s,baz=118,slow=7.5,SNR=5.7						
CMAR				LR	LR	11 20 16.0	
	comp=Z,8.7nm,18.1s,baz=55,slow=38						
KSRS	**Korea Array**	**32.02**	**2**	LR	LR	11 21 20.9	
	comp=Z,42nm,18.7s,baz=4.5,slow=38						
STKA	**Stephens Creek**	**39.68**	**160**	P	**P**	**11 08 37.2**	**+1.4**
	0.5nm,0.4s,baz=332,slow=14,SNR=3.4						
MKAR	**Makanchi Array**	**56.14**	**325**	P	**P**	**11 10 43.5**	**+0.8**
	1.1nm,0.5s,baz=116,slow=7.5,SNR=23						
ARCES	**ARCESS Array B**	**88.90**	**340**	P	**P**	**11 13 57.4**	**+1.1**
	2.4nm,0.7s,baz=90,slow=7.3,SNR=8.4						
FINES	**FINESS Array B**	**90.34**	**332**	P	**P**	**11 14 03.7**	**+0.7**
	1.3nm,0.7s,baz=44,slow=5.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**122.21**	**289**	PKP	**PKiKP**	**11 19 57.4**	**-0.4**
	0.4nm,0.7s,baz=98,slow=2.9,SNR=2.8						

ISC 08 11:05:19.6±1.0,50.°18N±0.°04×19.°04E±0.°04,h0km,n6, σ0°98/12,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.11**	**345**	*e*Pg	**Pg**	**11 05 22.6**	**+0.8**
CHZP				*e*Sg	**Sg**	**11 05 24.5**	**+1.3**
OJC	**Ojcow**	**0.49**	**86**	*e*Pg	**Pg**	**11 05 28.3**	**-0.7**
OJC				*e*Sg	**Sg**	**11 05 34.9**	**-0.5**
MORC	**Moravsky Berou**	**1.05**	**248**	*e*PG	**Pb**	**11 05 39.6**	**-1.0**
MORC				*e*SG	**Sb**	**11 05 54.2**	**-0.7**
LANS	**Liptovska Anna**	**1.07**	**165**	*e*PG	**Pg**	**11 05 41.0**	**+0.9**
LANS				*e*SG	**Sg**	**11 05 55.3**	**+1.3**
NIE	**Niedzica**	**1.12**	**133**	*e*Pg	**Pb**	**11 05 41.9**	**0.0**
NIE				*e*Sg	**Sb**	**11 05 58.0**	**+1.0**
VYHS	**Vyhne**	**1.70**	**185**	*e*PN	**Pn**	**11 05 50.0**	**-0.5**
VYHS				*e*SN	**Sn**	**11 06 12.4**	**-0.5**
VYHS				*e*LG	Lg	11 06 16.1	

IDC 08 11:06:58.8±1.6,3.°65N×126.°77E,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/35,mbtmp3.6/5,ML3.7/1,Error ellipse: s-maj=96.2km s-min=24.5km az=61.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.35**	**135**	Pn	Pn	11 08 35.5	+1.7
	1.8nm,0.3s,baz=330,slow=21,SNR=5.6						
WRA	**Warramunga Arr**	**24.60**	**163**	P	P	11 12 21.1	+0.2
	1.2nm,0.6s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	11 12 51.7	-0.2
	0.3nm,0.7s,baz=344,slow=7.1,SNR=5.0						
STKA	**Stephens Creek**	**38.04**	**159**	P	P	11 14 18.2	-0.8
	0.7nm,0.4s,baz=324,slow=7.8,SNR=2.9						
MKAR	**Makanchi Array**	**57.64**	**325**	P	P	11 16 50.9	0.0
	0.2nm,0.4s,baz=113,slow=6.2,SNR=5.0						

CRAAG ***08*** *11:23:46.9,36.°87N×5.°27E,Ml2.9*

ISCJB ***08*** *11:23:47.3±0.9,36.°99N±0.°05×5.°4E±0.°2,h10km, Error ellipse: s-maj=20.6km s-min=6.7km az=179.9*

LDG ***08*** *11:23:54.2±0.5,37.°20N×5.°01E,h2km,Ml2.7/6, Error ellipse: s-maj=9.6km s-min=7.2km az=164.0*

ISC 08 11:23:47.3±1.3,36.°97N±0.°06×5.°2E±0.°1,h10km,n8, σ3°04/12,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.71**	**126**	P	**Pg**	**11 24 00.1**	**-0.9**
SET	**Setif**	**0.79**	**166**	P	**Pg**	**11 24 02.0**	**-0.5**
CKHR	**Kef el Ahmar**	**0.99**	**164**	P	**Pg**	**11 24 05.0**	**-1.3**
PGF	**Pioggiola**	**6.31**	**27**	*e*Pn	**Pn**	**11 25 23.9**	**+3.5**
PGF				*e*Sn	**Sn**	**11 26 30.9**	**-1.7**
	0.7nm,0.2s						
LMR	**La Mourre**	**6.44**	**9**	*e*Pn	**Pn**	**11 25 25.5**	**+3.3**
LMR				*e*Sn	**Sn**	**11 26 32.9**	**-2.8**
	0.7nm,0.2s						
FRF	**La Foret Royal**	**6.68**	**9**	*e*Pn	**Pn**	**11 25 28.5**	**+3.0**
FRF				*e*Sn	**Sn**	**11 26 38.1**	**-3.6**
	0.7nm,0.2s						
MTLF	**Montolieu**	**6.76**	**341**	*e*Pn	**Pn**	**11 25 28.2**	**+1.7**
SBF	**Sospel**	**7.10**	**13**	*e*Pn	**Pn**	**11 25 34.3**	**+3.0**
SBF				*e*Sn	**Sn**	**11 26 48.5**	**-3.6**
	0.3nm,0.2s						

ISK ***08*** *11:34:48.7,39.°72N×41.°49E,h24km,ML2.3/6*

DDA ***08*** *11:34:49.7,39.°89N×41.°41E,h7km±4km,ML2.6*

ISCJB ***08*** *11:34:50.4±0.6,39.°89N±0.°04×41.°37E±0.°03,h3km±6km, Error ellipse: s-maj=6.3km s-min=3.7km az=172.6*

ISC 08 11:34:50.8±1.1,39.°90N±0.°04×41.°38E±0.°02,h8km±12km, n17,σ1°27/27,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOPR	**Koprukoy-ERZUR**	**0.37**	**76**	PG	**Pg**	**11 34 57.6**	**-0.6**
KOPR				SG	**Sg**	**11 35 04.1**	**+1.0**
HOMI	**Horasan**	**0.43**	**70**	*i* P	**Pg**	**11 34 58.2**	**-1.0**
HOMI				*i* S	**Sg**	**11 35 06.7**	**+1.9**
HOMI				IAML_P			
	comp=Z,2μm,0.2s						
ECAT	**Cat-ERZURUM**	**0.43**	**227**	*i* P	**Pg**	**11 34 58.4**	**-0.9**
ECAT				*i* S	**Sg**	**11 35 05.1**	**+0.2**
KOPT	**Kop Dagi**	**0.69**	**280**	*i* P	**Pg**	**11 35 03.5**	**-0.7**
KOPT				*i* S	**Sb**	**11 35 15.8**	**+0.6**
KOPT				IAML_P			
	comp=Z,1μm,0.2s						
VRTB	**Varto-Mus**	**0.74**	**176**	PG	Pg	11 35 00.6	-4.5
EATA	**Eleskirt**	**0.85**	**92**	*i* P	**Pg**	**11 35 07.3**	**+0.1**
EATA				*i* S	**Sb**	**11 35 21.2**	**+1.4**
EATA				IAML_P			
	comp=Z,426nm,0.3s						
BAYB	**BAYBURT**	**

ELDTW				*i* S		**Sg**	**12 01 25.0**	**-0.8**
	baz=277								
HGSD	**Ruisui**	**0.36**	**7**	*e*P		**Pb**	**12 01 22.3**	**+0.7**
	baz=15								
HGSD				*e*S		**Sg**	**12 01 27.2**	**+0.8**
	baz=15								
EHY	**Hungye**	**0.37**	**352**	P		**Pg**	**12 01 21.5**	**0.0**
EHY				*i* S		**Sg**	**12 01 27.2**	**+0.4**
TWGBT	**Beinan**	**0.42**	**221**	*e*P		**Pg**	**12 01 22.6**	**+0.3**
	baz=214								
TWGBT				*e*S		**Sg**	**12 01 28.9**	**+0.7**
	baz=214								
TWG	**Pinlang**	**0.42**	**222**	*i* P		**Pg**	**12 01 22.6**	**+0.2**
	baz=214								
TWG				*i* S		**Sg**	**12 01 28.9**	**+0.6**
	baz=214								
TTN	**Taitung**	**0.44**	**209**	*e*P		**Pg**	**12 01 23.0**	**+0.3**
	baz=201								
TTN				*e*S		**Sb**	**12 01 29.7**	**+0.6**
	baz=201								
YUS	**Yu-Shan**	**0.52**	**312**	⇓ *i*P		**Pg**	**12 01 24.1**	**-0.4**
	baz=313								
YUS				S		**Sg**	**12 01 31.0**	**-0.7**
	baz=313								
STYT	**Tauyuan**	**0.57**	**273**	⇓ *i*P		**Pb**	**12 01 24.9**	**-0.2**
	baz=270								
STYT				*i* S		**Sb**	**12 01 32.3**	**-0.6**
	baz=270								
VWDT	**VWDT**	**0.65**	**341**	*e*P		**Pb**	**12 01 26.3**	**-0.2**
	baz=344								
VWDT				*e*S		**Sb**	**12 01 34.5**	**-0.6**
	baz=344								
ECL	**Taimali**	**0.66**	**216**	*e*P		**Pb**	**12 01 25.9**	**-0.8**
	baz=211								
ECL				S		**Sg**	**12 01 36.4**	**+0.7**
	baz=211								
ESL	**Shilin**	**0.68**	**4**	*e*P		**Pb**	**12 01 27.4**	**+0.5**
	baz=9.0								
ESL				*e*S		**Sb**	**12 01 36.6**	**+0.7**
	baz=9.0								
SLGT	**Liugui**	**0.69**	**258**	*e*P		**Pb**	**12 01 27.1**	**0.0**
	baz=255								
SLGT				*e*S		**Sb**	**12 01 36.2**	**0.0**
	baz=255								
TPUB	**Ta-pu**	**0.71**	**283**	*e*P		**Pb**	**12 01 27.8**	**+0.4**
	baz=282								
TPUB				*e*S		**Sb**	**12 01 37.2**	**+0.4**
	baz=282								
WTP	**Ta-pu**	**0.71**	**279**	P		**Pb**	**12 01 27.8**	**+0.3**
	baz=278								
WTP				S		**Sb**	**12 01 36.9**	**-0.1**
	baz=278								
WHYT	**Xinyi Township**	**0.73**	**319**	*e*P		**Pb**	**12 01 28.0**	**0.0**
	baz=321								
WHYT				*e*S		**Sb**	**12 01 37.6**	**-0.1**
	baz=321								
CHN4	**Tsaushan**	**0.75**	**287**	*e*P		**Pb**	**12 01 28.7**	**+0.5**
	baz=286								
CHN4				*e*S		**Sb**	**12 01 38.5**	**+0.4**
	baz=286								
SSLB	**Suanglung**	**0.75**	**329**	*e*P		**Pb**	**12 01 27.9**	**-0.4**
	baz=331								
SSLB				*e*S		**Sb**	**12 01 38.2**	**-0.1**
	baz=331								
CHN1	**Nanshi**	**0.78**	**274**	*e*P		**Pb**	**12 01 29.4**	**+0.7**
	baz=272								
CHN1				*e*S		**Sb**	**12 01 39.8**	**+0.7**
	baz=272								
CHN5	**Tsauling**	**0.79**	**306**	*e*P		**Pb**	**12 01 29.3**	**+0.4**
	baz=306								
CHN5				*e*S		**Sb**	**12 01 38.9**	**-0.4**
	baz=306								
ENLB	**Shoufeng**	**0.79**	**15**	*e*S		**Sn**	**12 01 41.1**	**-0.1**
	baz=18								
SNST	**Tainan City**	**0.81**	**276**	*e*P		**Pb**	**12 01 29.7**	**+0.4**
	baz=275								
SNST				*e*S		**Sb**	**12 01 40.0**	**+0.1**
	baz=275								
TWK	**Hsinying**	**0.83**	**279**	*e*P		**Pb**	**12 01 29.8**	**+0.3**
	baz=278								
TWK				*e*S		**Sb**	**12 01 40.9**	**+0.5**
	baz=278								
OWD	**Renai**	**0.83**	**347**	*e*P		**Pb**	**12 01 29.3**	**-0.5**
	baz=350								
OWD				*e*S		**Sb**	**12 01 39.4**	**-1.3**
	baz=350								
MASBT	**Mashibuluo**	**0.86**	**233**	*e*P		**Pb**	**12 01 29.6**	**-0.5**
	baz=229								
MASBT				*e*S		**Sb**	**12 01 41.8**	**+0.5**
	baz=229								
SMLT	**Sun Moon Lake**	**0.86**	**330**	*e*P		**Pb**	**12 01 30.1**	**-0.1**
	baz=332								
SMLT				*e*S		**Sb**	**12 01 41.0**	**-0.4**
	baz=332								
EAST	**Anshuo**	**0.90**	**213**	*e*P		**Pb**	**12 01 30.0**	**-0.7**
	baz=209								
EAST				*e*S		**Sb**	**12 01 42.5**	**+0.2**
	baz=209								
TYC	**Yuchr**	**0.90**	**328**	*e*P		**Pb**	**12 01 31.4**	**+0.6**
	baz=330								
TYC				*e*S		**Sg**	**12 01 44.0**	**+0.8**
	baz=330								
WJS	**Zhushan**	**0.91**	**319**	*e*P		**Pb**	**12 01 31.9**	**+1.1**
	baz=320								
WJS				*e*S		**Sg**	**12 01 44.7**	**+1.4**
	baz=320								
CHGB	**Renai**	**0.94**	**349**	*e*P		**Pb**	**12 01 31.1**	**-0.5**
	baz=351								
CHGB				*e*S		**Sb**	**12 01 43.9**	**+0.2**
	baz=351								
CHY	**Chiayi**	**0.95**	**292**	*e*P		**Pb**	**12 01 30.7**	**-0.8**
	baz=292								
CHY				*e*S		**Sb**	**12 01 43.6**	**-0.2**
	baz=292								
TWD	**Chiawan**	**0.96**	**12**	*e*P		**Pb**	**12 01 32.3**	**+0.5**
	baz=15								
TWD				*e*S		**Sn**	**12 01 46.2**	**+0.7**
	baz=15								
WNT	**Mingjian**	**0.97**	**319**	*e*P		**Pb**	**12 01 32.4**	**+0.3**
	baz=321								
WNT				*e*S		**Sb**	**12 01 45.2**	**+0.7**
	baz=321								
WHF	**Hehuan Shan**	**1.01**	**354**	*e*P		**Pb**	**12 01 32.0**	**-0.8**
	baz=357								
WHF				*e*S		**Sb**	**12 01 46.7**	**+0.8**
	baz=357								
SCZT	**Fangliau**	**1.03**	**223**	*e*P		**Pb**	**12 01 33.4**	**+0.4**
	baz=219								
JYNG	**Yonagunijimaku**	**1.94**	**47**	P		**Pn**	**12 01 45.7**	**-0.1**
JYNG				*e*S		**Sn**	**12 02 09.5**	**-0.2**
YOJ	**Yonaguni jima**	**2.00**	**48**	P		**Pn**	**12 01 46.6**	**+0.1**
YOJ				*e*S		**Sn**	**12 02 10.8**	**-0.2**
HATJ	**Hateruma jima**	**2.41**	**67**	S		**Sn**	**12 02 18.9**	**-2.3**
IRIF	**Iriomote-Funau**	**2.46**	**61**	P		**Pn**	**12 01 53.2**	**+0.3**
IRIF				S		**Sn**	**12 02 21.7**	**-0.9**
JKRS	**Kuro-shima**	**2.65**	**65**	P		**Pn**	**12 01 55.3**	**-0.2**
JIJ	**Ishigaki jima**	**2.81**	**64**	P		**Pn**	**12 01 57.4**	**-0.3**
JISG	**Ishigakijimahi**	**3.05**	**61**	P		**Pn**	**12 02 00.3**	**-0.7**
JTJ	**Tarama**	**3.39**	**63**	P		**Pn**	**12 02 05.2**	**-0.5**

*ISCJB **08** 12:01:50.8±0.9, 6.74S±0.07×129.75E±0.09, h146km, mb3.7/2, Error ellipse: s-maj=13.2km s-min=9.6km az=20.6*
*IDC **08** 12:01:52.6±2.1, 6.65S×129.97E, h151km±23km, mb3.6/2, mb1 3.4/7, mb1mx3.2/38, mbtmp3.9/7, Error ellipse: s-maj=32.9km s-min=16.9km az=81.0*
ISC 08 12:01:50.8±0.9, **6.73S**±0.06×**130.0E**±0.1, **h146**km, **n7**, σ3**$69**/12, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.97**	**13**	P	**Pn**	**12 03 18.5**	**+1.3**
	baz=180,slow=20						
SIJI				S	**Sn**	**12 04 19.0**	**-5.6**
	4.4nm,0.3s,baz=244,slow=23,SNR=13						
BATI	**Baumata**	**7.13**	**241**	P	**Pn**	**12 03 35.2**	**+2.5**
	3.8nm,0.3s,baz=66,slow=13,SNR=3.6						
BATI				S	**Sn**	**12 04 48.6**	**-3.8**
	3.1nm,0.3s,baz=111,slow=8.6,SNR=2.7						
FITZ	**Fitzroy Crossi**	**12.06**	**200**	P	**Pn**	**12 04 39.6**	**+1.6**
	0.3nm,0.3s,baz=32,slow=8.9,SNR=16						
FITZ				S	**Sn**	**12 06 46.1**	**-5.2**
	0.3nm,0.3s,baz=86,slow=19,SNR=3.8						
WRA	**Warramunga Arr**	**13.80**	**163**	P	**Pn**	**12 05 01.2**	**+0.8**
	0.4nm,0.3s,baz=349,slow=13,SNR=15						
WRA				S	**Sn**	**12 07 29.0**	**-4.3**
	0.7nm,0.3s,baz=343,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**17.26**	**168**	P	**Pn**	**12 05 46.7**	**+3.6**
	0.3nm,0.3s,baz=341,slow=9.1,SNR=21						
ASAR				S	**Sn**	**12 08 54.1**	**-0.8**
	0.2nm,0.3s,baz=0.0,slow=29,SNR=5.2						
STKA	**Stephens Creek**	**27.27**	**158**	P	**Pn**	**12 07 23.9**	**+2.4**
	0.4nm,0.3s,baz=332,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**Pn**	**12 12 34.9**	**+0.7**
	1.4nm,0.4s,baz=129,slow=6.8,SNR=36						

*ISCJB **08** 12:01:55.8±0.2, 24.04N±0.01×121.77E±0.01, h42km±4km, Error ellipse: s-maj=2.6km s-min=1.8km az=39.3*
*JMA **08** 12:01:55.2±0.1, 24.02N×121.76E, h43km±1km, M2.6*
*TAP **08** 12:01:55.6, 24.06N×121.71E, h42km, ML3.1, B*
ISC 08 12:01:56.2±1.0, **24.05N**±0.02×**121.75E**±0.02, **h34**km±2km, **n89**, σ0**86**/167, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.14**	**284**	P	**Pb**	**12 02 03.1**	**+0.7**
	baz=281						
TWD				S	**Sb**	**12 02 08.2**	**+1.6**
	baz=281						
HWA	**Hwalien**	**0.15**	**243**	*e*P	**Pb**	**12 02 03.5**	**+1.1**
	baz=226						
HWA				*e*S	**Sb**	**12 02 08.8**	**+2.2**
	baz=226						
NACB	**Ninganchiao**	**0.19**	**312**	*e*P	**Pn**	**12 02 03.0**	**+1.6**
	baz=316						
NACB				*e*S	**Sb**	**12 02 08.5**	**+1.2**
	baz=316						
ENLB	**Shoufeng**	**0.20**	**224**	*e*P	**Pb**	**12 02 03.8**	**+1.0**
	baz=212						
ENLB				*e*S	**Sb**	**12 02 09.0**	**+1.6**
	baz=212						
ETLH	**Xiulin Townshi**	**0.29**	**303**	*e*P	**Pb**	**12 02 03.8**	**-0.3**
	baz=304						
ETLH				*e*S	**Sn**	**12 02 09.8**	**+1.3**
	baz=304						
ESL	**Shilin**	**0.37**	**232**	P	**Pb**	**12 02 04.4**	**-0.6**
	baz=224						
ESL				S	**Sb**	**12 02 11.0**	**+0.1**
	baz=224						
ENA	**Nanau**	**0.38**	**359**	P	**Pb**	**12 02 04.8**	**-0.3**
	baz=5.0						
ENA				S	**Sb**	**12 02 12.2**	**+1.0**
	baz=5.0						
NANB	**Nanao**	**0.38**	**360**	*e*P	**Pb**	**12 02 04.7**	**-0.4**
	baz=5.0						
NANB				*e*S	**Sb**	**12 02 11.3**	**+0.2**
	baz=5.0						
WHF	**Hehuan Shan**	**0.45**	**283**	*i* P	**Pb**	**12 02 05.8**	**-0.7**
	baz=281						
WHF				*i* S	**Sb**	**12 02 13.5**	**-0.1**
	baz=281						
EGFH	**Guangfu**	**0.48**	**218**	*e*P	**Pb**	**12 02 05.7**	**-0.8**
	baz=213						
EGFH				*e*S	**Sb**	**12 02 14.5**	**+1.0**
	baz=213						
NNSB	**Datong**	**0.51**	**319**	*e*P	**Pb**	**12 02 06.2**	**-0.8**
	baz=320						
NNSB				*e*S	**Sb**	**12 02 13.9**	**-0.6**
	baz=320						
NNS	**Nan Shan**	**0.52**	**319**	*i* P	**Pb**	**12 02 06.4**	**-0.9**
	baz=321						
NNS				S	**Sb**	**12 02 14.4**	**-0.5**
	baz=321						
CHGB	**Renai**	**0.53**	**272**	*e*P	**Pb**	**12 02 06.9**	**-0.6**
	baz=269						
CHGB				*e*S	**Sb**	**12 02 14.7**	**-0.5**
	baz=269						
OWD	**Renai**	**0.53**	**260**	P	**Pb**	**12 02 07.0**	**-0.5**
	baz=257						
OWD				S	**Sb**	**12 02 14.7**	**-0.6**
	baz=257						
TWT	**Tachien**	**0.56**	**292**	P	**Pb**	**12 02 07.5**	**-0.5**
	baz=290						
TWT				S	**Sb**	**12 02 15.8**	**-0.3**
	baz=290						
TWC	**Suao**	**0.57**	**9**	*i* P	**Pb**	**12 02 07.7**	**-0.3**
	baz=13						
TWC				*i* S	**Sb**	**12 02 16.8**	**+0.8**
	baz=13						
TDCB	**Techi**	**0.58**	**291**	*e*P	**Pb**	**12 02 07.5**	**-0.7**
	baz=290						
TDCB				*e*S	**Sb**	**12 02 15.6**	**-0.8**
	baz=290						
NDT	**Datong Townshi**	**0.60**	**339**	*e*P	**Pn**	**12 02 07.7**	**-0.6**
	baz=341						
NDT				*e*S	**Sb**	**12 02 15.8**	**-0.9**
	baz=341						
EOS1	**EOS1**	**0.61**	**34**	*e*P	**Pn**	**12 02 08.7**	**+0.3**
	baz=38						
EOS1				*e*S	**Sn**	**12 02 19.0**	**+2.0**
	baz=38						
ENTT	**Nioudou**	**0.62**	**344**	*e*P	**Pn**	**12 02 07.9**	**-0.6**
	baz=347						
ENTT				*e*S	**Sb**	**12 02 16.6**	**-0.7**
	baz=347						
HGSD	**Ruisui**	**0.63**	**209**	*e*P	**Pn**	**12 02 09.1**	**+0.5**
	baz=204						
HGSD				*e*S	**Sb**	**12 02 18.6**	**+1.1**
	baz=204						
VWDT	**VWDT**	**0.63**	**243**	*e*P	**Pn**	**12 02 08.3**	**-0.4**
	baz=239						
VWDT				*e*S	**Sb**	**12 02 17.2**	**-0.3**
	baz=239						
EHY	**Hungye**	**0.67**	**216**	*e*P	**Pn**	**12 02 07.7**	**-1.5**
	baz=212						
EHY				*e*S	**Sb**	**12 02 17.1**	**-1.4**
	baz=212						
TWE	**Neicheng**	**0.68**	**354**	*e*P	**Pn**	**12 02 09.2**	**-0.1**
	baz=357						
TWE				*e*S	**Sb**	**12 02 19.2**	**+0.3**
	baz=357						
YHNB	**Yeheng**	**0.71**	**331**	*e*P	**Pn**	**12 02 09.0**	**-0.9**
	baz=333						
YHNB				*e*S	**Sn**	**12 02 18.4**	**-1.3**
	baz=333						
NSK	**Sanguang**	**0.72**	**330**	*e*P	**Pn**	**12 02 09.2**	**-0.9**
	baz=332						
NSK				*e*S	**Sn**	**12 02 18.5**	**-1.5**
	baz=332						
NWLT	**Wulai**	**0.76**	**343**	*e*P	**Pn**	**12 02 10.7**	**+0.1**
	baz=345						
NWLT				*e*S	**Sn**	**12 02 21.1**	**+0.2**
	baz=345						
WHP	**Taichung City**	**0.77**	**288**	*e*P	**Pn**	**12 02 10.6**	**-0.2**
	baz=287						
WHP				*e*S	**Sb**	**12 02 22.7**	**+1.1**
	baz=287						
YULB	**Yu-li**	**0.77**	**213**	*e*P	**Pn**	**12 02 09.1**	**-1.6**
	baz=209						
YULB				*e*S	**Sn**	**12 02 20.2**	**-0.9**
	baz=209						
SSLB	**Suanglung**	**0.77**	**251**	*e*P	**Pn**	**12 02 09.8**	**-1.0**
	baz=248						
SSLB				*e*S	**Sn**	**12 02 20.8**	**-0.4**
	baz=248						
SMLT	**Sun Moon Lake**	**0.79**	**258**	P	**Pn**	**12 02 10.6**	**-0.5**
	baz=256						
SMLT				*e*S	**Sn**	**12 02 23.1**	**+1.3**
	baz=256						
TWF1	**Yuli**	**0.81**	**211**	*e*P	**Pn**	**12 02 09.7**	**-1.5**
	baz=207						
TWF1				*e*S	**Sn**	**12 02 22.1**	**+0.2**
	baz=207						
NTC	**Toucheng**	**0.81**	**5**	*e*P	**Pn**	**12 02 10.9**	**-0.3**
	baz=7.0						
NTC				*e*S	**Sn**	**12 02 22.8**	**+0.8**
	baz=7.0						
EGS		**0.81**	**12**	*e*P	**Pn**	**12 02 11.5**	**+0.2**
	baz=15						
EGS				S	**Sb**	**12 02 24.3**	**+1.6**
	baz=15						
TYC	**Yuchr**	**0.83**	**260**	*e*P	**Pn**	**12 02 11.0**	**-0.5**
	baz=258						
TYC				*e*S	**Sn**	**12 02 22.9**	**+0.4**
	baz=258						
WHYT	**Xinyi Township**	**0.89**	**247**	*e*P	**Pn**	**12 02 12.3**	**0.0**
	baz=245						
WHYT				*e*S	**Sn**	**12 02 24.0**	**-0.1**
	baz=245						
LIOB	**Emei**	**0.90**	**312**	P	**Pn**	**12 02 11.1**	**-1.3**
	baz=312						
LIOB				*e*S	**Sn**	**12 02 24.0**	**-0.3**
	baz=312						
NSTT	**Nanjuang**	**0.90**	**311**	*e*P	**Pn**	**12 02 12.5**	**+0.1**
	baz=311						
NSTT				*e*S	**Sn**	**12 02 23.7**	**-0.5**
	baz=311						
YUS	**Yu-Shan**	**0.92**	**233**	P	**Pn**	**12 02 12.7**	**-0.4**
	baz=230						
YUS				*e*S	**Sn**	**12 02 24.4**	**-1.0**
	baz=230						
WLTB	**Daxi**	**0.92**	**331**	*e*P	**Pn**	**12 02 12.8**	**+0.1**
	baz=332						
WLTB				*e*S	**Sn**	**12 02 25.5**	**+0.7**
	baz=332						
TIPB	**Shuangxi**	**0.93**	**4**	P	**Pn**	**12 02 12.8**	**0.0**
	baz=6.0						
TIPB				S	**Sn**	**12 02 25.6**	**+0.6**
	baz=6.0						
NHDH	**Xindian Distri**	**0.94**	**347**	*e*P	**Pn**	**12 02 13.3**	**+0.4**
	baz=349						
NHDH				*e*S	**Sn**	**12 02 25.4**	**+0.2**
	baz=349						
FULB	**Fuli**	**0.94**	**206**	*e*P	**Pn**	**12 02 12.4**	**-0.6**
	baz=204						
FULB				*e*S	**Sn**	**12 02 26.2**	**+0.8**
	baz=204						
TWQ1	**Liyutan**	**0.94**	**289**	*e*P	**Pn**	**12 02 12.8**	**-0.3**
	baz=288						
TWQ1				*e*S	**Sn**	**12 02 25.5**	**+0.2**
	baz=288						
TWA	**Mucha**	**0.94**	**351**	*e*P	**Pn**	**12 02 12.8**	**-0.2**
	baz=353						
TWA				*e*S	**Sn**	**12 02 24.8**	**-0.6**
	baz=353						
TATO	**Taipei**	**0.96**	**346**	*e*P	**Pn**	**12 02 13.2**	**-0.1**
	baz=347						
TATO				*e*S	**Sn**	**12 02 25.1**	**-0.6**
	baz=347						
WJS	**Zhushan**	**0.96**	**257**	*e*P	**Pn**	**12 02 13.7**	**+0.3**
	baz=255						
WJS				*e*S	**Sn**	**12 02 27.3**	**+1.5**
	baz=255						
NSY	**Sanyi**	**0.97**	**292**	*e*P	**Pn**	**12 02 13.6**	**0.0**
	baz=292						
NSY				*e*S	**Sn**	**12 02 26.3**	**+0.1**
	baz=292						
TWB1	**Santiao Chiao**	**0.98**	**13**	*e*P	**Pn**	**12 02 13.2**	**-0.4**
	baz=15						
TWB1				*e*S	**Sb**	**12 02 28.3**	**+0.8**
	baz=15						
TCU	**Taichung**	**0.99**	**276**	*e*P	**Pn**	**12 02 13.7**	**+0.1**
	baz=275						
TCU				*e*S	**Sn**	**12 02 27.2**	**+0.8**
	baz=275						
WNT	**Mingjian**	**0.99**	**261**	*e*P	**Pn**	**12 02 14.2**	**+0.5**
	baz=258						
WNT				*e*S	**Sn**	**12 02 26.3**	**-0.2**
	baz=258						
NMLH	**Miaoli**	**1.00**	**299**	*e*P	**Pn**	**12 02 13.6**	**-0.3**
	baz=299						
NMLH				*e*S	**Sn**	**12 02 26.7**	**-0.1**
	baz=299						
CHKT	**Chengkung**	**1.01**	**201**	*e*P	**Pn**	**12 02 13.2**	**-0.8**
	baz=197						
CHKT				*e*S	**Sn**	**12 02 25.7**	**-1.2**
	baz=197						
NWF	**Wu-fen Shan**	**1.02**	**2**	*e*P	**Pn**	**12 02 13.7**	**-0.5**
	baz=3.0						
NWF				*e*S	**Sn**	**12 02 28.9**	**+1.4**
	baz=3.0						
WFSB	**Wu-fen Shan**	**1.02**	**2**	*e*P	**Pn**	**12 02 14.1**	**-0.1**
	baz=3.0						
WFSB				*e*S	**Sn**	**12 02 28.5**	**+1.2**
	baz=3.0						
PTSB	**Yuanli**	**1.03**	**293**	*e*S	**Sn**	**12 02 27.3**	**-0.3**
	baz=292						
NCU	**National Centr**	**1.05**	**331**	*e*S	**Sn**	**12 02 28.6**	**+0.5**
	baz=332						
WDJ	**Dajia District**	**1.06**	**287**	*e*P	**Pn**	**12 02 14.1**	**-0.5**
	baz=286						
CHN5	**Tsauling**	**1.08**	**246**	*e*P	**Pn**	**12 02 15.0**	**0.0**
	baz=243						
CHN5				*e*S	**Sn**	**12 02 29.8**	**+0.9**
	baz=243						
ELDTW	**Lidau**	**1.09**	**218**	*e*P	**Pn**	**12 02 14.0**	**-1.2**
	baz=215						
ELDTW				*e*S	**Sn**	**12 02 27.9**	**-1.2**
	baz=215						
WCHH	**Zhanghua**	**1.09**	**272**	*e*P	**Pn**	**12 02 14.9**	**-0.1**
	baz=270						
WCHH				*e*S	**Sn**	**12 02 30.2**	**+1.2**
	baz=270						
TWS1	**Kuangyinshan**	**1.09**	**344**	*e*P	**Pn**	**12 02 14.3**	**-0.8**
	baz=345						
TWS1				*e*S	**Sn**	**12 02 28.0**	**-1.1**
	baz=345						
YM01	**YM01**	**1.11**	**352**	*e*P	**Pn**	**12 02 14.0**	**-1.4**
	baz=353						
WGK	**Gukeng**	**1.15**	**252**	*e*P	**Pn**	**12 02 16.3**	**+0.4**
	baz=250						
WGK				*e*S	**Sb**	**12 02 33.1**	**+1.0**
	baz=250						
JYNG	**Yonagunijimaku**	**1.16**	**69**	P	**Pn**	**12 02 15.6**	**-0.5**
JYNG				S	**Sn**	**12 02 30.1**	**-0.7**
WDLH	**Douliu**	**1.17**	**253**	*e*P	**Pn**	**12 02 16.3**	**+0.2**
	baz=250						
WDLH				*e*S	**Sn**	**12 02 32.0**	**+1.2**
	baz=250						
YOJ	**Yonaguni jima**	**1.22**	**70**	*e*P	**Pn**	**12 02 16.1**	**-0.8**
	baz=70						
YOJ				*e*S	**Sn**	**12 02 34.0**	**+1.7**
	baz=70						
YOJ	**Yonaguni jima**	**1.22**	**70**	P	**Pn**	**12 02 16.4**	**-0.5**
YOJ				*e*S	**Sn**	**12 02 32.1**	**-0.2**
STYT	**Tauyuan**	**1.27**	**226**	*e*P	**Pn**	**12 02 18.0**	**+0.4**
	baz=224						
STYT				*e*S	**Sn**	**12 02 34.2**	**+0.8**
	baz=224						
CHN4	**Tsaushan**	**1.27**	**237**	*e*P	**Pn**	**12 02 17.9**	**+0.4**
	baz=235						
CHN4				*e*S	**Sb**	**12 02 35.9**	**+0.3**
	baz=235						
TPUB	**Ta-pu**	**1.27**	**234**	*e*P	**Pn**	**12 02 17.5**	**-0.1**
	baz=232						
TPUB				*e*S	**Sn**	**12 02 35.0**	**+1.6**
	baz=232						
CHN2	**Minshiung**	**1.27**	**247**	*e*P	**Pn**	**12 02 19.1**	**+1.5**
	baz=245						
RLNB	**Erlin**	**1.28**	**263**	*e*P	**Pn**	**12 02 17.6**	**-0.1**
	baz=262						
RLNB				*e*S	**Sn**	**12 02 34.6**	**+0.9**
	baz=262						
WTP	**Ta-pu**	**1.31**	**233**	*e*P	**Pn**	**12 02 18.4**	**+0.2**
	baz=230						
WTP				*e*S	**Sn**	**12 02 36.8**	**+2.3**
	baz=230						
CHY	**Chiayi**	**1.33**	**246**	*e*P	**Pn**	**12 02 18.8**	**+0.4**
	baz=244						
CHY				*e*S	**Sn**	**12 02 34.8**	**-0.1**
	baz=244						
TWG	**Pinlang**	**1.37**	**207**	*e*P	**Pn**	**12 02 18.7**	**-0.2**
	baz=205						
TWG				*e*S	**Sn**	**12 02 33.8**	**-2.1**
	baz=205						
TWK	**Hsinying**	**1.39**	**236**	*e*P	**Pn**	**12 02 19.3**	**0.0**
	baz=234						
TWK				*e*S	**Sn**	**12 02 38.0**	**+1.4**
	baz=234						
CHN1	**Nanshi**	**1.41**	**233**	*e*P	**Pn**	**12 02 19.4**	**-0.1**
	baz=231						
CHN1				*e*S	**Sn**	**12 02 38.6**	**+1.7**
	baz=231						
SLGT	**Liugui**	**1.46**	**224**	*e*P	**Pn**	**12 02 21.3**	**+1.2**
	baz=222						
SLGT				*e*S	**Sn**	**12 02 40.2**	**+2.1**
	baz=222						
IRIF	**Iriomote-Funau**	**1.83**	**81**	P	**Pn**	**12 02 24.8**	**-0.5**
HATJ	**Hateruma jima**	**1.88**	**89**	P	**Pn**	**12 02 26.0**	**+0.1**
HATJ				S	**Sn**	**12 02 48.6**	**+0.1**
JKRS	**Kuro-shima**	**2.07**	**84**	P	**Pn**	**12 02 28.9**	**+0.3**
JIJ	**Ishigaki jima**	**2.21**	**81**	P	**Pn**	**12 02 29.9**	**-0.6**
JIJ				*e*S	**Sn**	**12 02 56.3

JOGS	**Gusukube**	**3.41**	**77**	P		**Pn**	**12 02 47.6**	**+0.6**

NIED ***08*** *12:18:00, 33.10N×140.70E, h68km, Mw3.8 Best double couple: M≤5.87000×10¹⁴ NP1:φ=234.00000°, δ=69.00000°, λ=160.00000°. NP2:φ=331.00000°, δ=72.00000°, λ=23.00000°.*
ISCJB ***08*** *12:18:01.1±0.7, 33.09N±0.04×140.67E±0.08, h65km±7km, mb3.9/6, Error ellipse: s-maj=11.6km s-min=6.2km az=174.6*
IDC ***08*** *12:18:01.4±2.0, 33.09N×140.80E, h55km±16km, mb3.6/6, mb1 3.9/11, mb1mx3.5/36, mbtmp4.0/11, ML3.6/5, Error ellipse: s-maj=32.4km s-min=15.8km az=79.0*
JMA ***08*** *12:18:02.0±0.1, 33.13N×140.66E, h58km±5km, M3.9*

ISC 08 12:18:00.6±1.2, 33.07N±0.05×140.83E±0.07, h48km±13km, n32, σ1§68/37, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.85**	**273**	P	**Pn**	**12 18 16.6**	**+0.4**
JHJ2				S	**Sn**	**12 18 27.0**	**-0.7**
JHCJ	**Hachijojimakas**	**0.87**	**270**	P	**Pn**	**12 18 16.6**	**+0.1**
JHCJ				S	**Sn**	**12 18 26.4**	**-1.7**
JHJ	**Hachijo jima 2**	**0.88**	**274**	P	**Pn**	**12 18 16.6**	**0.0**
	291nm,0.3s,baz=93,slow=22,SNR=94						
JHJ				S	**Sn**	**12 18 25.9**	**-2.5**
	2μm,0.3s,baz=49,slow=20,SNR=24						
JAOM	**Aogashimamukai**	**1.08**	**236**	P	**Pn**	**12 18 20.3**	**+0.9**
BSO1	**Boso 1**	**1.58**	**4**	P	**Pn**	**12 18 27.0**	**+1.3**
BSO3	**Boso 3**	**1.75**	**351**	P	**Pn**	**12 18 29.3**	**+1.1**
JKO	**Kozu shima**	**1.80**	**309**	P	**Pn**	**12 18 29.5**	**+0.3**
JKO				S	**Sn**	**12 18 49.4**	**-1.4**
JTHY	**Toshimahigashi**	**1.94**	**319**	P	**Pn**	**12 18 31.7**	**+0.7**
BSO4	**Boso 4**	**1.96**	**348**	P	**Pn**	**12 18 32.6**	**+1.3**
JIM2	**Oshima 3**	**2.01**	**325**	P	**Pn**	**12 18 32.5**	**+0.4**
JIM2				*e*S	**Sn**	**12 18 53.8**	**-2.3**
JIZS	**Izushimoda**	**2.31**	**316**	P	**Pn**	**12 18 37.0**	**+0.8**
KTJ3	**Kamata3**	**2.36**	**322**	P	**Pn**	**12 18 37.5**	**+0.6**
KTJ3				S	**Sn**	**12 19 02.5**	**-2.2**
JSMT	**Sammumatsuo**	**2.59**	**353**	P	**Pn**	**12 18 40.6**	**+0.7**
JSMT				S	**Sn**	**12 19 05.5**	**-4.6**
JOD2	**Odawara 2**	**2.62**	**327**	P	**Pn**	**12 18 41.0**	**+0.5**
JOD2				S	**Sn**	**12 19 09.2**	**-1.9**
MJAR	**Matsushiro Arr**	**4.08**	**329**	P	**Pn**	**12 19 02.3**	**+1.8**
	1.8nm,0.3s,baz=52,slow=32,SNR=64						
MJAR				S	**Sn**	**12 19 45.7**	**-1.2**
	0.2nm,0.3s,baz=150,slow=26,SNR=4.8						
MAT	**Matsushiro**	**4.08**	**329**	P	**Pn**	**12 19 03.3**	**+2.8**
MAT				S	**Sn**	**12 19 48.5**	**+1.5**
JCJ	**Chichijima**	**6.07**	**168**	P	**Pn**	**12 19 29.6**	**+1.9**
	6.7nm,0.3s,baz=7.7,slow=20,SNR=16						
JCJ				S	**Sn**	**12 20 33.1**	**-2.8**
	5.1nm,0.3s,baz=300,slow=20,SNR=2.7						
JNU	**Nakatsue**	**8.35**	**273**	P	**Pn**	**12 20 01.0**	**+1.9**
	0.4nm,0.3s,baz=22,slow=19,SNR=4.8						
ASAJ	**Asahikawa**	**11.12**	**7**	P	**Pn**	**12 20 35.8**	**-1.0**
	2.0nm,0.3s,baz=221,slow=10,SNR=24						
KSRS	**Korea Array**	**11.42**	**296**	P	**Pn**	**12 20 43.1**	**+2.2**
	0.1nm,0.3s,baz=114,slow=15,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**26.78**	**113**	T	T	12 52 34.4	
	baz=305,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy**	**26.78**	**113**	T	T	12 52 36.7	
	baz=305,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**26.79**	**113**	T	T	12 52 37.3	
	baz=305,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**27.34**	**116**	T	T	12 53 09.1	
	baz=307,slow=75,SNR=9.5						
H11S1	**WAKE ISLAND Hy**	**27.34**	**116**	T	T	12 52 59.9	
	baz=307,slow=75,SNR=9.8						
H11S2	**WAKE ISLAND Hy**	**27.36**	**116**	T	T	12 53 18.1	
	baz=307,slow=75,SNR=5.8						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**12 26 17.4**	**-1.0**
	0.3nm,0.4s,baz=89,slow=10,SNR=6.7						
WRA	**Warramunga Arr**	**53.08**	**188**	P	**P**	**12 27 13.1**	**-0.1**
	0.9nm,0.3s,baz=4.3,slow=7.6,SNR=38						
ASAR	**Alice Springs**	**56.80**	**188**	P	**P**	**12 27 40.2**	**+0.2**
	0.5nm,0.6s,baz=5.0,slow=7.0,SNR=14						
ARCES	**ARCESS Array B**	**67.54**	**340**	P	**P**	**12 28 52.5**	**+1.1**
	12nm,1.1s,baz=52,slow=8.1,SNR=3.5						
FINES	**FINESS Array B**	**72.10**	**333**	P	**P**	**12 29 18.6**	**-1.0**
	1.1nm,0.9s,baz=74,slow=5.9,SNR=2.8						
TXAR	**Lajitas Array**	**92.92**	**52**	P	**P**	**12 31 09.2**	**+0.3**
	0.2nm,0.8s,baz=321,slow=2.3,SNR=3.1						

SJA 08 12:32:48.0±0.8, 31.99S×67.22W, h137km±6km, ML3.3, MW3.7,2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACAN	**Cantantal**	**0.28**	**175**	*i* P	Pn	12 33 07.8	+0.8
RTCV	**Cerro Valdivia**	**1.13**	**276**	*i* P	Pn	12 33 13.3	+0.5
RTCV				⇓*i* S	Sn	12 33 32.3	+0.6
SJA	**San Juan**	**1.23**	**292**	IAML		12 33 35.6	
	comp=Z,202nm,0.2s						
RTLL	**Cerro Villicun**	**1.26**	**301**	*i* P	Pn	12 33 14.7	+0.6
RTLL				IAML		12 33 35.2	
	comp=Z,433nm,0.3s						
ZON	**Zonda**	**1.32**	**289**	IAML		12 33 36.7	
	comp=Z,170nm,0.3s						
MRA	**San Martin**	**1.34**	**109**	*i* P	Pn	12 33 15.9	+0.9
MRA				*i* P		12 33 16.0	
MRA				*i* S	Sn	12 33 35.9	+0.4
MRA				IAML		12 33 36.8	
	comp=Z,141nm,0.4s						
ASAL	**Salagasta**	**1.49**	**246**	*i* P	Pn	12 33 17.6	+1.1
ASAL				*i* S	Sn	12 33 38.7	+0.3
AMOG	**MOGNA**	**1.51**	**314**	*i* P	Pn	12 33 17.8	+0.9
AMOG				⇓*i* S	Sn	12 33 39.5	+0.8
ARCO	**CERRO ARCO**	**1.68**	**239**	*i* P	Pn	12 33 19.9	+1.2
ARCO				IAML		12 33 45.4	
	comp=Z,527nm,0.6s						
APLL	**PUNTA DE LOS L**	**1.70**	**21**	*i* P	Pn	12 33 19.8	+0.9
APLL				IAML		12 33 43.4	
	comp=Z,99nm,0.4s						
AAGR	**Agrelo**	**1.74**	**231**	*i* P	Pn	12 33 20.5	+1.1
RTLS	**Leoncito**	**1.78**	**276**	*i* P	Pn	12 33 21.1	+1.1
RTLS				IAML		12 33 46.0	
	comp=Z,118nm,0.3s						
RTLS				*i* S	Sn	12 33 46.1	+1.6
AUSP	**Uspallata**	**1.85**	**262**	*i* P	Pn	12 33 21.7	+0.8
TCA	**Tanti**	**2.33**	**74**	*i* P	Pn	12 33 26.9	+0.4
TCA				IAML		12 33 27.3	
	comp=Z,110nm,0.2s						
AROD	**Rodeo**	**2.66**	**313**	*i* P	Pn	12 33 32.1	+1.3
VCA	**Vinchina**	**3.36**	**345**	IAML		12 34 31.3	
	comp=Z,29nm,0.3s						

TAP 08 12:36:05.9, 24.10N×121.69E, h22km±1km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.09**	**256**	*e*P	Pb	12 36 09.4	-0.6
	baz=255						
NACB	**Ninganchiao**	**0.11**	**309**	*e*P	Pb	12 36 10.5	-0.4
	baz=309						
HWA	**Hwalien**	**0.15**	**212**	*e*P	Pb	12 36 11.0	0.0
	baz=209						
HWA				*e*S	Sb	12 36 14.6	0.0
	baz=209						
ENLB	**Shoufeng**	**0.21**	**202**	*e*P	Pb	12 36 12.1	+0.5
	baz=202						
ESL	**Shilin**	**0.37**	**220**	*e*P	Pb	12 36 14.2	+0.4
	baz=218						
ESL				S	Sb	12 36 20.7	+1.5
	baz=218						
WHF	**Hehuan Shan**	**0.39**	**276**	*e*P	Pb	12 36 14.8	+0.4
	baz=276						
WHF				S	Sb	12 36 21.2	+1.0
	baz=276						
NNSB	**Datong**	**0.43**	**319**	*e*P	Pb	12 36 15.1	+0.2
	baz=319						
NNSB				*e*S	Sb	12 36 21.8	+0.8
	baz=319						
NNS	**Nan Shan**	**0.44**	**319**	P	Pb	12 36 15.5	+0.4
	baz=319						
NNS				*e*S	Sb	12 36 22.4	+1.0
	baz=319						
EGFH	**Guangfu**	**0.49**	**209**	*e*P	Pb	12 36 16.3	+0.4
	baz=209						
EGFH				*e*S	Sn	12 36 24.1	-1.4
	baz=209						
TWC	**Suao**	**0.53**	**16**	*e*P	Pb	12 36 17.0	+0.5
	baz=16						
TWC				*e*S	Sn	12 36 25.0	-1.3
	baz=16						
ENTT	**Nioudou**	**0.55**	**348**	P	Pb	12 36 17.1	+0.3
	baz=348						
ENTT				*e*S	Sn	12 36 25.8	-1.1
	baz=348						

ATH 08 12:41:30.0, 38.33N×23.31E, h17km±7km, ML1.2/1, Error ellipse: s-maj=8.1km s-min=1.5km az=136.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIL2	**Platees**	**0.12**	**197**	P	Pg	12 41 33.4	-0.3
VIL2				S	Sb	12 41 37.6	+1.2
VIL2				AML	AML	12 41 38.9	
	comp=N,223μm,0.2s						
VIL2				AML	AML	12 41 40.5	
	comp=E,228μm,0.4s						
LTK	**Loutraki**	**0.41**	**222**	P	Pg	12 41 38.5	+0.2
LTK				S	Sb	12 41 45.0	+0.3
ATAL	**Atalanti**	**0.43**	**328**	P	Pg	12 41 38.2	-0.5
ATAL				S	Sg	12 41 44.9	+0.2
MRKA	**Markates**	**0.44**	**30**	P	Pg	12 41 38.8	0.0
MRKA				S	Sb	12 41 46.0	+0.4

TAP 08 12:44:17.6, 23.61N×121.57E, h35km, ML2.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.14**	**294**	*e*P	Pn	12 44 24.7	-1.5
	baz=294						
EGFH				*e*S	Sn	12 44 29.4	-4.3
	baz=294						
HGSD	**Ruisui**	**0.18**	**229**	*e*P	Pn	12 44 26.0	+0.3
	baz=229						
HGSD				*e*S	Sn	12 44 30.9	-1.8
	baz=229						
ESL	**Shilin**	**0.24**	**328**	*i* P	Pn	12 44 25.5	0.0
	baz=329						
ESL				S	Sn	12 44 30.7	-1.1
	baz=329						
EHY	**Hungye**	**0.25**	**246**	P	Pn	12 44 25.3	-0.2
	baz=244						
EHY				S	Sn	12 44 30.6	-1.1
	baz=244						
ENLB	**Shoufeng**	**0.29**	**5**	*e*P	Pn	12 44 26.3	+0.7
	baz=5.0						
ENLB				*e*S	Sn	12 44 32.0	+0.2
	baz=5.0						
YULB	**Yu-li**	**0.33**	**229**	*e*P	Pn	12 44 26.2	+0.3
	baz=229						
YULB				*e*S	Sn	12 44 31.8	-0.4
	baz=229						
TWF1	**Yuli**	**0.36**	**225**	P	Pn	12 44 26.5	+0.2
	baz=223						
TWF1				S	Sn	12 44 33.0	+0.4
	baz=223						
VWDT	**VWDT**	**0.42**	**290**	*e*P	Pn	12 44 28.1	+1.0
	baz=290						
VWDT				*e*S	Sn	12 44 35.1	+1.4
	baz=290						
TWD	**Chiawan**	**0.47**	**3**	*e*P	Pn	12 44 28.3	+0.5
	baz=3.0						
TWD				S	Sn	12 44 36.0	+1.1
	baz=3.0						
FULB	**Fuli**	**0.48**	**212**	*e*P	Pn	12 44 28.5	+0.5
	baz=211						
FULB				*e*S	Sn	12 44 36.5	+1.2
	baz=211						
OWD	**Renai**	**0.50**	**314**	*e*P	Pn	12 44 28.9	+0.5
	baz=313						
OWD				S	Sn	12 44 36.3	+0.4
	baz=313						
NACB	**Ninganchiao**	**0.56**	**2**	*e*P	Pn	12 44 29.3	+0.1
	baz=2.0						
NACB				*e*S	Sn	12 44 37.9	+0.6
	baz=2.0						
CHGB	**Renai**	**0.58**	**321**	*e*P	Pn	12 44 30.2	+0.6
	baz=320						
CHGB				*e*S	Sn	12 44 38.4	+0.4
	baz=320						
YUS	**Yu-Shan**	**0.58**	**258**	*i* P	Pn	12 44 30.4	+0.5
	baz=257						
YUS				*i* S	Sn	12 44 38.7	+0.4
	baz=257						
SSLB	**Suanglung**	**0.59**	**288**	*e*P	Pn	12 44 29.8	+0.1
	baz=287						
SSLB				*e*S	Sn	12 44 39.8	+1.7
	baz=287						
ETLH	**Xiulin Townshi**	**0.60**	**352**	*e*P	Pn	12 44 29.8	-0.1
ETLH				*e*S	Sn	12 44 38.0	-0.3
	baz=352						
WHF	**Hehuan Shan**	**0.60**	**332**	P	Pn	12 44 30.4	+0.2
	baz=332						
WHF				S	Sn	12 44 39.0	+0.1
	baz=332						
ELDTW	**Lidau**	**0.66**	**231**	P	Pn	12 44 30.2	-0.4
	baz=230						
ELDTW				S	Sn	12 44 39.0	-0.8
	baz=230						
WHYT	**Xinyi Township**	**0.66**	**278**	*e*P	Pn	12 44 31.4	+0.8
	baz=277						
WHYT				*e*S	Sn	12 44 41.3	+1.5
	baz=277						
SMLT	**Sun Moon Lake**	**0.67**	**294**	P	Pn	12 44 31.2	+0.4
	baz=294						
SMLT				*e*S	Sn	12 44 41.2	+1.0
	baz=294						
ALS	**Alishan**	**0.71**	**262**	*e*P	Pn	12 44 32.2	+0.7
	baz=261						
ALS				*e*S	Sn	12 44 41.9	+0.7
	baz=261						
TYC	**Yuchr**	**0.72**	**294**	P	Pn	12 44 32.1	+0.8
	baz=294						
TYC				S	Sn	12 44 42.4	+1.4
	baz=294						
TWT	**Tachien**	**0.74**	**331**	P	Pn	12 44 32.7	+1.0
	baz=329						
TWT				S	Sn	12 44 41.9	+0.2
	baz=329						
TDCB	**Techi**	**0.74**	**330**	*e*P	Pn	12 44 32.7	+0.9
	baz=329						
TDCB				*e*S	Sn	12 44 42.0	+0.1
	baz=329						
WJS	**Zhushan**	**0.80**	**286**	*e*P	Pn	12 44 33.9	+1.5
	baz=285						
WJS				*e*S	Sn	12 44 44.1	+1.0
	baz=285						
CHN5	**Tsauling**	**0.82**	**269**	P	Pn	12 44 34.0	+1.2
	baz=269						
CHN5				S	Sn	12 44 45.1	+1.4
	baz=269						
NANB	**Nanao**	**0.83**	**11**	*e*P	Pn	12 44 33.2	+0.3
	baz=11						
NANB				*e*S	Sn	12 44 45.5	+1.6
	baz=11						
NNSB	**Datong**	**0.83**	**348**	*e*P	Pn	12 44 33.9	+0.9
	baz=348						
NNS	**Nan Shan**	**0.85**	**348**	*e*P	Pn	12 44 34.1	+1.0
	baz=348						
STYT	**Tauyuan**	**0.87**	**239**	*e*P	Pn	12 44 34.3	+0.9
	baz=238						
STYT				*e*S	Sn	12 44 45.7	+0.8
	baz=238						
WHP	**Taichung City**	**0.88**	**319**	*e*P	Pn	12 44 35.1	+1.6
	baz=319						
WHP				*e*S	Sn	12 44 46.8	+1.6
	baz=319						
TPUB	**Ta-pu**	**0.92**	**251**	*e*P	Pn	12 44 35.5	+1.4
	baz=250						
TPUB				*e*S	Sn	12 44 47.8	+1.8
	baz=250						
CHN4	**Tsaushan**	**0.93**	**254**	*e*S	Sn	12 44 47.6	+1.2
	baz=254						
WTP	**Ta-pu**	**0.95**	**248**	*e*P	Pn	12 44 35.6	+1.1
	baz=247						
WTP				*e*S	Sn	12 44 48.2	+1.3
	baz=247						
ENTT	**Nioudou**	**1.03**	**360**	*e*P	Pn	12 44 36.0	+0.4
ENTT				*e*S	Sn	12 44 49.5	+0.8
TWQ1	**Liyutan**	**1.04**	**315**	*e*P	Pn	12 44 36.5	+0.8
	baz=315						
TWQ1				*e*S	Sn	12 44 50.1	+1.2
	baz=315						
CHN1	**Nanshi**	**1.05**	**246**	*e*P	Pn	12 44 36.6	+0.8
	baz=246						
CHN1				*e*S	Sn	12 44 50.2	+1.0
	baz=246						
SLGT	**Liugui**	**1.05**	**234**	*e*P	Pn	12 44 37.4	+1.6
	baz=234						
SLGT				*e*S	Sn	12 44 51.1	+1.9
	baz=234						
TWK	**Hsinying**	**1.05**	**251**	*e*P	Pn	12 44 37.0	+1.1
	baz=250						
TWK				*e*S	Sn	12 44 51.0	+1.6
	baz=250						
YHNB	**Yeheng**	**1.07**	**350**	*e*P	Pn	12 44 37.2	+1.0
	baz=350						
NSK	**Sanguang**	**1.08**	**350**	P	Pn	12 44 37.3	+1.0
	baz=349						
LIOB	**Emei**	**1.15**	**334**	*e*P	Pn	12 44 38.3	+1.1
	baz=333						
LIOB				*e*S	Sn	12 44 52.4	+0.7
	baz=333						
NWLT	**Wulai**	**1.17**	**357**	*e*P	Pn	12 44 38.6	+1.2
	baz=356						
NWLT				*e*S	Sn	12 44 52.4	+0.3
	baz=356						

DJA 08 12:52:39.5±1.3, 4°S±5°×14°E±°, h10km, M4.8/5, mb4.6/2, mB5.8/1, MLv4.9/5, Mw(mB)5.4/1, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.98**	**0**	P	Pg	12 52 57.3	-1.1
JAY				S	Sn	12 53 13.2	-0.1
GENI	**Genyem**	**1.05**	**329**	P	Pg	12 52 58.0	-1.7
GENI				S	Sg	12 53 13.3	0.0
SRPI	**Serui, Papua**	**4.74**	**290**	P	Pn	12 53 52.1	+1.0
SRPI				S	Sn	12 54 27.0	-19
RKPI	**Ransiki, Papua**	**6.81**	**287**	P	Pn	12 54 18.1	-1.5

SJA ***08*** *12:58:17.3±0.7, 33.67S×73.05W, h44km±16km, ML3.1, MW4.1*
GUC ***08*** *12:58:18.8±0.8, 34.20S×72.43W, h29km±3km, ML3.2*

ISC 08 12:58:18.0±2.6, 34.23S±0.05×72.5W±0.1, h25km±13km, n17, σ1§67/24, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**0.41**	**113**	*e*P	**Pb**	**12 58 27.8**	**+1.1**
CHPI				*e*S	**Sb**	**12 58 32.8**	**+0.2**
GO05	**Huala**	**0.89**	**151**	*e*P	**Pn**	**12 58 35.2**	**+0.2**
GO05				*e*S	**Sn**	**12 58 46.3**	**-0.7**
GO05				IAML		12 58 48.9	
	comp=E,1μm,0.8s						
ROC1	**El Roble**	**1.74**	**44**	*i* P	**Pn**	**12 58 47.7**	**+0.9**
ROC1				*i* S	**Sb**	**12 59 11.3**	**+0.4**
ROCH	**El Roble**	**1.75**	**44**	*e*P	**Pn**	**12 58 47.4**	**+0.5**
ROCH				*i* S	**Sn**	**12 59 09.0**	**+0.5**
CLCH	**Cerro Calan**	**1.81**	**63**	*e*P	**Pn**	**12 58 48.2**	**+0.6**
CLCH				*i* S	**Sn**	**12 59 10.5**	**+0.8**
PEL	**Peldehue**	**1.84**	**54**	*e*P	**Pn**	**12 58 48.6**	**+0.6**
PEL				*i* S	**Sn**	**12 59 11.4**	**+1.0**
LMEL	**Las Melosas**	**1.91**	**79**	*e*P	**Pn**	**12 58 49.9**	**+0.8**
LMEL				*i* S	**Sb**	**12 59 14.2**	**-1.6**
LMEL				IAML		12 59 16.6	
	comp=E,452nm,0.3s						
FCH	**Farellones**	**2.02**	**64**	*e*P	**Pn**	**12 58 51.4**	**+0.6**
FCH				*i* S	**Sn**	**12 59 16.6**	**+1.2**
FCH				IAML		12 59 22.6	
	comp=E,226nm,0.2s						
AAGR	**Agrelo**	**3.24**	**70**	*i* P	**Pb**	**12 59 13.3**	**-1.6**
ARCO	**CERRO ARCO**	**3.26**	**66**	*i* P	**Pb**	**12 59 12.7**	**-2.5**
ARCO				IAML		12 59 20.6	
	comp=Z,42nm,0.4s						
AUSP	**Uspallata**	**3.26**	**53**	*i* P	**Pn**	**12 59 11.0**	**+3.1**
ASAL	**Salagasta**	**3.45**	**63**	*i* P	**Pb**	**12 59 14.7**	**-3.6**
RTLS	**Leoncito**	**3.60**	**48**	*i* P	**Pn**	**12 59 15.3**	**+2.9**
RTLS				IAML		13 00 18.6	
	comp=Z,25nm,0.6s						
ACCO	**Cerro Coronel**	**4.63**	**39**	*i* P	**Pn**	**12 59 27.6**	**+0.9**
AMOG	**MOGNA**	**4.69**	**47**	*i* P	**Pn**	**12 59 29.3**	**+2.0**
ACAN	**Cantantal**	**4.83**	**68**	*i* P	Pn	12 59 34.3	+5.1
ACDV	**Cuesta del Vie**	**4.94**	**36**	*i* P	**Pn**	**12 59 30.8**	**0.0**

IDC ***08*** *12:58:45.5±1.3, 18.70N×65.03W, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.2/3, Error ellipse: s-maj=24.3km s-min=21.6km az=170.0*
ISCJB ***08*** *12:58:49.4±0.4, 18.59N±0.04×64.96W±0.02, h51km±4km, mb3.2/3, Error ellipse: s-maj=6.7km s-min=2.4km az=8.0*
NEIC ***08*** *12:58:50.0±0.0, 18.74N×65.03W, h7km, ML3.2(RSPR), After RSPR.*
NEIC Felt [III] on Saint John and Saint Thomas. Also felt on Saint Croix.
RSPR ***08*** *12:58:50.1, 18.74N×65.03W, h7km±1km, MD3.1/18*

ISC 08 12:58:49.9±0.9, 18.69N±0.04×65.01W±0.02, h34km±2km, n101, σ1§42/135, mb3.3/3, 25C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.34**	**171**	⇓*e*P	**Pb**	**12 58 58.1**	**-0.1**
STVI	**Saint Thomas**	**0.34**	**171**	*e*S	**Sn**	**12 59 03.6**	**0.0**
STVI	**Saint Thomas**	**0.34**	**171**	*e*Pg	**Pb**	**12 58 58.0**	**-0.3**
STVI				*e*Sg	**Sn**	**12 59 03.7**	**0.0**
STVI	**Saint Thomas**	**0.34**	**171**	⇓*e*P	**Pb**	**12 58 58.1**	**-0.1**
STVI				*e*S	**Sn**	**12 59 03.6**	**0.0**
CUPR	**Culebra, Puert**	**0.46**	**215**	⇑*e*P	**Pb**	**12 58 59.8**	**-0.1**
CUPR	**Culebra, Puert**	**0.46**	**215**	*e*S	**Sn**	**12 59 06.8**	**-0.3**
CUPR	**Culebra, Puert**	**0.46**	**215**	*e*Pg	**Pb**	**12 58 59.8**	**-0.1**
CUPR				*e*Sg	**Sn**	**12 59 06.7**	**-0.3**
TBVI	**Tortola**	**0.46**	**126**	⇑*e*P	**Pb**	**12 58 59.4**	**-0.5**
TBVI	**Tortola**	**0.46**	**126**	*e*Pg	**Pb**	**12 58 59.4**	**-0.5**
TBVI	**Tortola**	**0.46**	**126**	⇑*e*P	**Pb**	**12 58 59.4**	**-0.5**
ABVI	**Anegada Island**	**0.64**	**86**	*e*Pg	**Pn**	**12 59 02.2**	**-0.4**
ABVI				*e*Sg	**Sn**	**12 59 10.5**	**-1.1**
ABVI				*e*Sg	**Sb**	**12 59 11.9**	**+0.2**
ABV	**Anegada**	**0.64**	**86**	*e*S	**Sb**	**12 59 11.9**	**+0.2**
ABV	**Anegada**	**0.64**	**86**	⇑*e*P	**Pn**	**12 59 02.2**	**-0.3**
ABV	**Anegada**	**0.64**	**86**	⇑*e*P	**Pn**	**12 59 02.2**	**-0.3**
ABV				*e*S	**Sb**	**12 59 11.9**	**+0.2**
MTP	**Monte Pirata**	**0.78**	**221**	⇑*e*P	**Pn**	**12 59 04.4**	**-0.2**
MTP	**Monte Pirata**	**0.78**	**221**	*e*Pg	**Pn**	**12 59 04.4**	**-0.2**
MTP				*e*Sn	**Sn**	**12 59 14.8**	**-0.2**
MTP	**Monte Pirata**	**0.78**	**221**	⇑*e*P	**Pn**	**12 59 04.4**	**-0.2**
CBYP	**Canovanas**	**0.90**	**243**	⇑*e*P	**Pn**	**12 59 05.7**	**-0.6**
CBYP	**Canovanas**	**0.90**	**243**	*e*Pg	**Pn**	**12 59 05.7**	**-0.6**
CBYP				*e*Sg	**Sn**	**12 59 18.0**	**-0.1**
CBYP	**Canovanas**	**0.90**	**243**	⇑*e*P	**Pn**	**12 59 05.7**	**-0.6**
CDVI	**St. Croix**	**0.96**	**166**	*e*S	**Sb**	**12 59 21.4**	**+0.9**
CDVI	**St. Croix**	**0.96**	**166**	⇑*e*P	**Pb**	**12 59 08.0**	**-0.1**
CDVI	**St. Croix**	**0.96**	**166**	*e*Pg	**Pb**	**12 59 08.0**	**-0.1**
CDVI				*e*Sg	**Sb**	**12 59 21.4**	**+0.9**
CDVI	**St. Croix**	**0.96**	**166**	⇑*e*P	**Pb**	**12 59 08.0**

SMRT	**St. Maarten**	**1.94 109**	*e*P	**Pn**	**12 59 19.9**	**-0.7**
SMRT	**St. Maarten**	**1.94 109**⇑	*e*P	**Pn**	**12 59 20.7**	**+0.1**
SMRT			*e*S	**Sn**	**12 59 42.2**	**-1.6**
SMRT			*e*S	**Sn**	**12 59 45.0**	**+1.2**
AGPR	**Aguadilla, PR**	**2.00 264**⇑	*e*P	**Pn**	**12 59 21.2**	**-0.2**
AGPR	**Aguadilla, PR**	**2.00 264**⇑	*e*P	**Pn**	**12 59 21.2**	**-0.2**
AGPR	**Aguadilla, PR**	**2.00 264**⇑	*e*P	**Pn**	**12 59 21.2**	**-0.2**
LSP	**Las Mesas**	**2.04 256**⇓	*e*P	**Pn**	**12 59 22.4**	**+0.6**
LSP	**Las Mesas**	**2.04 256**	*e*Pn	**Pn**	**12 59 22.4**	**+0.6**
LSP	**Las Mesas**	**2.04 256**⇓	*e*P	**Pn**	**12 59 22.4**	**+0.6**
AGP	**Aguadilla**	**2.04 263**	*e*Pn	**Pn**	**12 59 21.1**	**-0.8**
AGP			*e*Sn	**Sn**	**12 59 46.3**	**+0.1**
MLPR	**Magueyes Islan**	**2.06 250**⇑	*e*P	**Pn**	**12 59 22.7**	**+0.5**
MLPR			*e*S	**Sn**	**12 59 46.9**	**+0.3**
MPR	**Mayaguez**	**2.08 257**	*e*Pn	**Pn**	**12 59 22.4**	**+0.1**
MPR			*e*Sn	**Sb**	**12 59 50.3**	**-2.1**
CRPR	**Cabo Rojo, PR**	**2.11 252**⇑	*e*P	**Pn**	**12 59 23.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.11 252**	*e*Pn	**Pn**	**12 59 23.2**	**+0.5**
CRPR			*e*Sn	**Sn**	**12 59 48.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.11 252**⇑	*e*P	**Pn**	**12 59 23.3**	**+0.5**
SEUS	**St. Eustatius**	**2.27 121**	*e*P	**Pn**	**12 59 23.4**	**-1.6**
SEUS			*e*S	**Sb**	**13 00 00.5**	**+2.7**
IDE	**Isla Desecheo**	**2.36 263**⇑	*e*P	**Pn**	**12 59 26.1**	**-0.1**
IDE	**Isla Desecheo**	**2.36 263**	*e*Pn	**Pn**	**12 59 26.1**	**-0.1**
IDE	**Isla Desecheo**	**2.36 263**⇑	*e*P	**Pn**	**12 59 26.1**	**-0.1**
ANWB	**Willy Bob**	**3.23 108**	*e*Pn	**Pn**	**12 59 37.5**	**-0.7**
ANWB			*e*Sn	**Sn**	**13 00 14.8**	**-0.8**
ANWB	**Willy Bob**	**3.23 108**	*e*P	**Pn**	**12 59 37.9**	**-0.3**
ANWB			*e*S	**Sn**	**13 00 13.3**	**-2.2**
MLYT	**Lee's Yard**	**3.32 126**	*e*P	**Pn**	**12 59 39.4**	**-0.2**
MLYT			*e*S	**Sn**	**13 00 17.6**	**-0.3**
BPA	**Boggy Peak**	**3.42 118**	*e*Pn	**Pn**	**12 59 42.7**	**+1.8**
BPA			*e*Sn	**Sn**	**13 00 19.6**	**-0.7**
BPA	**Boggy Peak**	**3.42 118**	*e*P	**Pn**	**12 59 42.7**	**+1.8**
BPA			*e*S	**Sn**	**13 00 19.6**	**-0.7**
TBG	**Guadaloupe-3**	**4.28 131**	*e*P	**Pn**	**12 59 52.8**	**+0.1**
TBG			*e*S	**Sn**	**13 00 35.2**	**-6.1**
DEG	**La Desirade**	**4.45 121**	*e*Pn	**Pn**	**12 59 57.7**	**+2.7**
DEG			*e*Sn	**Sn**	**13 00 49.4**	**+3.7**
DEG	**La Desirade**	**4.45 121**	*e*P	**Pn**	**12 59 57.7**	**+2.7**
DEG	**La Desirade**	**4.45 121**	*e*S	**Sn**	**13 00 49.4**	**+3.7**
H05N1	**Guadeloupe/Mar**	**4.45 121**	Pn	**Pn**	**12 59 54.2**	**-0.8**
H05N1			Sn	**Sn**	**13 00 43.4**	**-2.3**
MDPV	**Dominica, Penn**	**4.58 131**	*e*P	**Pn**	**12 59 57.5**	**+0.6**
MDPV	**Dominica, Penn**	**4.58 131**	*e*S	**Sn**	**13 00 47.9**	**-1.1**
MDPO	**Dominica; Chan**	**4.60 132**	*e*P	**Pn**	**12 59 57.0**	**0.0**
MDPO	**Dominica; Chan**	**4.60 132**	*e*S	**Sn**	**13 00 47.9**	**-1.4**
BBL	**Barber's Block**	**4.62 132**	*e*Pn	**Pn**	**12 59 57.0**	**-0.4**
BBL	**Barber's Block**	**4.62 132**	*e*P	**Pn**	**12 59 57.0**	**-0.4**
BBL	**Barber's Block**	**4.62 132**	*e*S	**Sn**	**13 00 47.9**	**-2.0**
DWS	**Wesley**	**4.70 131**	*e*Pn	**Pn**	**12 59 56.0**	**-2.6**
DWS			*e*Sn	**Sn**	**13 00 47.3**	**-4.6**
DWS	**Wesley**	**4.70 131**	*e*P	**Pn**	**12 59 56.0**	**-2.6**
DWS	**Wesley**	**4.70 131**	*e*S	**Sn**	**13 00 47.3**	**-4.6**
MDN	**Morne-Daniel**	**4.82 134**	*e*Pn	**Pn**	**13 00 00.4**	**+0.4**
MDN	**Morne-Daniel**	**4.82 134**	*e*P	**Pn**	**13 00 00.4**	**+0.4**
MDN	**Morne-Daniel**	**4.82 134**	*e*S	**Sn**	**13 00 55.7**	**+1.0**
DBCT	**Belle View Cho**	**4.88 134**	*e*Pn	**Pn**	**12 59 59.3**	**-1.7**
DBCT	**Belle View Cho**	**4.88 134**	*e*P	**Pn**	**12 59 59.3**	**-1.7**
DBCT	**Belle View Cho**	**4.88 134**	*e*S	**Sn**	**13 00 55.6**	**-0.8**
DSHT	**Scott's Head**	**4.90 134**	*e*Pn	**Pn**	**12 59 59.9**	**-1.3**
DSHT	**Scott's Head**	**4.90 134**	*e*P	**Pn**	**12 59 59.9**	**-1.3**
DSHT	**Scott's Head**	**4.90 134**	*e*S	**Sn**	**13 00 55.5**	**-1.3**
DLPL	**La Plaine**	**4.91 132**	*e*P	**Pn**	**12 59 59.0**	**-2.3**
DLPL	**La Plaine**	**4.91 132**	*e*S	**Sn**	**13 00 54.3**	**-2.7**
DSTT	**Stowe**	**4.93 133**	*e*Pn	**Pn**	**12 59 59.7**	**-1.9**
DSTT	**Stowe**	**4.93 133**	*e*P	**Pn**	**12 59 59.7**	**-1.9**
DSTT	**Stowe**	**4.93 133**	*e*S	**Sn**	**13 00 56.5**	**-1.0**
FDF	**Fort de France**	**5.40 136**	*e*Pn	**Pn**	**13 00 10.8**	**+2.7**
H05S1	**Guadeloupe/Mar**	**5.83 136**	Pn	**Pn**	**13 00 14.5**	**+0.5**
H05S1			Sn	**Sn**	**13 01 17.5**	**-2.1**
SDDR	**Presa de Saban**	**5.95 274**	*e*Pn	**Pn**	**13 00 17.5**	**+1.7**
SVB	**Belmont**	**6.48 146**	*e*Pn	Pn	13 00 28.5	+5.5
TXAR	**Lajitas Array**	**36.72 294**	P	**P**	**13 05 56.0**	**+1.8**
	0.1nm,0.4s,baz=106,slow=9.5,SNR=2.2					
YKA	**Yellowknife Ar**	**55.44 335**	P	**P**	**13 08 20.8**	**0.0**
	0.3nm,0.6s,baz=111,slow=7.3,SNR=5.1					
ILAR	**Eielson Array**	**69.81 333**	P	**P**	**13 09 57.0**	**+0.3**
	0.2nm,0.7s,baz=98,slow=4.2,SNR=5.5					

SJA 08 13:11:34.9±0.6, 22°.03S×68°.98W, h172km±6km, ML2.3, MW3.6,1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB03	**IPOC Station P**	**0.72 269**		*i* P	Pn	13 12 00.3	+0.2
PB06	**IPOC Station P**	**0.87 219**		*i* P	Pn	13 12 01.5	+0.4
PB06				*i* S	Sn	13 12 21.1	-0.3
PB07	**IPOC Station P**	**0.90 290**		*i* P	Pn	13 12 02.0	+0.7
PB07				*i* S	Sn	13 12 21.9	+0.4
PB01	**IPOC Station P**	**1.09 334**		*i* P	Pn	13 12 01.0	-1.7
PB01				*i* S	Sn	13 12 19.7	-4.4
PB02	**IPOC Station P**	**1.11 310**		*i* P	Pn	13 12 03.4	+0.6
PB02				*i* S	Sn	13 12 24.2	-0.2
PB15	**IPOC Station P**	**1.26 201**		*i* P	Pn	13 12 04.5	+0.2
PB08	**IPOC Station P**	**1.89 355**⇓		*i*P	Pn	13 12 11.1	+0.3
PB08				*i* S	Sn	13 12 38.1	-0.2
HJA	**Humahuaca**	**3.50 110**		*i* P	Pn	13 12 31.4	+1.6
HJA				IAML		13 12 51.6	
	comp=Z,4.4nm,0.5s						

*SOME **08** 13:12:22.9, 42°.53N×79°.65E, h20km*
*KRNET **08** 13:12:22.5±0.1, 42°.55N×79°.67E, h20km, mb3.4*
*NNC **08** 13:12:22.5±0.6, 42°.58N×79°.62E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=3.5km s-min=2.0km az=135.0*
ISC 08 13:12:22.4±1.5, 42°.57N±0°.04×79°.67E±0°.03, h1km±10km, n55, σ0s80/96, 40C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.75 321**		P	**Pg**	**13 12 37.0**	**+0.3**
	107nm,0.2s						
UZB				S	**Sg**	**13 12 47.2**	**+0.7**
	147nm,0.3s						
UZB	**Uzynbulak**	**0.75 321**⇑		*i*P	**Pg**	**13 12 37.1**	**+0.3**
	baz=22						
UZB			⇑	*e*S	**Sg**	**13 12 47.4**	**+0.9**
	baz=22						
UZB	**Uzynbulak**	**0.75 321**⇑		*i*P	**Pg**	**13 12 37.0**	**+0.3**
	107nm,0.2s						
UZB				*e*S	**Sg**	**13 12 47.3**	**+0.7**
	147nm,0.3s						
PDGK	**Podgornoye**	**0.77 350**		P	**Pg**	**13 12 37.6**	**+0.3**
	5.9nm,0.1s						
PDGK				S	**Sg**	**13 12 47.8**	**+0.6**
	52nm,0.2s						
PDGK	**Podgornoye**	**0.77 350**	⇑	P	**Pg**	**13 12 37.4**	**+0.2**
	4.9nm,0.3s						
PDGK			⇓	S	**Sg**	**13 12 47.8**	**+0.6**
	41nm,0.3s						
PDGK	**Podgornoye**	**0.77 350**⇑		*i*P	**Pg**	**13 12 37.5**	**+0.3**
	baz=50						
PDGK			⇑	*i*S	**Sb**	**13 12 48.2**	**-1.6**
	baz=50						
PRZ	**Przheval'sk**	**0.94 265**⇑		*i*P	**Pg**	**13 12 39.9**	**-0.5**
	baz=66						
PRZ			⇑	*i*S	**Sg**	**13 12 52.6**	**-0.1**
	baz=66						
KTMS	**Ketmen**	**1.01 29**		P	**Pg**	**13 12 41.8**	**0.0**
	64nm,0.1s						
KTMS				S	**Sb**	**13 12 55.6**	**-1.1**
	29nm,0.1s						
KTMS	**Ketmen**	**1.01 29**⇑		*i*P	**Pg**	**13 12 41.9**	**+0.1**
	baz=28						
KTMS			⇑	*e*S	**Sb**	**13 12 55.5**	**-1.1**
	baz=28						
KTMS	**Ketmen**	**1.01 29**⇑		*i*P	**Pg**	**13 12 41.9**	**+0.1**
	64nm,0.1s						
KTMS				*e*S	**Sb**	**13 12 55.5**	**-1.1**
	29nm,0.1s						
SATY	**Saty**	**1.05 298**		P	**Pg**	**13 12 42.1**	**-0.5**
	38nm,0.1s						
SATY				S	**Sg**	**13 12 56.0**	**-0.3**
	60nm,0.1s						
SATY	**Saty**	**1.05 298**⇑		*i*P	**Pg**	**13 12 41.9**	**-0.7**
	38nm,0.1s						
SATY				*e*S	**Sg**	**13 12 55.9**	**-0.3**
	146nm,0.1s						
KURS	**Kuram**	**1.44 310**		P	**Pn**	**13 12 49.1**	**-0.4**
	19nm,0.5s						
KURS				S	**Sn**	**13 13 08.0**	**-1.1**
	16nm,0.2s						
KURS	**Kuram**	**1.44 310**⇑		*i*P	**Pn**	**13 12 49.2**	**-0.4**
	baz=11						
KURS			⇑	*e*S	**Sn**	**13 13 08.0**	**-1.1**
	baz=11						
KURS	**Kuram**	**1.44 310**⇑		*i*P	**Pn**	**13 12 49.2**	**-0.4**
	10.0nm,0.2s						
KURS				*e*S	**Sn**	**13 13 08.0**	**-1.1**
	16nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.62 240**⇑		*i*P	**Pn**	**13 12 51.8**	**-0.6**
	baz=40						
TARG			⇑	*i*S	**Sn**	**13 13 12.6**	**-1.5**
	baz=40						
DJR	**Jarkent**	**1.77 3**		*e*P	**Pb**	**13 12 55.1**	**-0.5**
	17nm,0.2s						
DJR				*e*S	**Sg**	**13 13 18.8**	**-0.3**
	76nm,0.3s						
MNBS	**Baschi**	**1.77 329**⇑		*i*P	**Pb**	**13 12 55.1**	**-0.6**
	29nm,0.2s						
MNBS				*e*S	**Sb**	**13 13 18.5**	**0.0**
	189nm,0.3s						
KDJ	**Kajisay**	**1.90 258**⇑		*i*P	**Pn**	**13 12 56.9**	**+0.9**
	baz=58						
KDJ			⇑	*i*S	**Sb**	**13 13 21.9**	**-0.2**
	baz=58						
MDOK	**Medeo**	**2.02 288**		Pg	**Pn**	**13 12 58.8**	**+1.2**
	20nm,0.6s						
MDOK			⇓	Lg	Lg	13 13 25.4	
	20nm,0.5s						
MDOK	**Medeo**	**2.02 288**		Pg	**Pn**	**13 12 58.6**	**+0.9**
	25nm,0.2s						
MDOK				Lg	Lg	13 13 24.3	
	27nm,0.2s						
MDOK	**Medeo**	**2.02 288**		*e*P	**Pn**	**13 12 58.6**	**+0.9**
	baz=89						
MDOK				*e*S	**Sn**	**13 13 24.3**	**+0.7**
	baz=89						
MDOK	**Medeo**	**2.02 288**		*e*P	**Pn**	**13 12 58.6**	**+0.9**
	25nm,0.2s						
MDOK				*e*S	**Sn**	**13 13 24.3**	**+0.7**
	27nm,0.2s						
TNSS	**Tian-Shan**	**2.06 284**		Pg	**Pn**	**13 12 59.6**	**+1.1**
	27nm,0.3s						
TNSS				Lg	Lg	13 13 26.4	
	23nm,0.2s						
TNSS	**Tian-Shan**	**2.06 284**		*e*P	**Pn**	**13 12 59.6**	**+1.1**
	baz=85						
TNSS				*e*S	**Sb**	**13 13 26.4**	**-0.6**
	baz=85						
TNSS	**Tian-Shan**	**2.06 284**		*e*P	**Pn**	**13 12 59.6**	**+1.1**
	27nm,0.3s						
TNSS				*e*S	**Sb**	**13 13 26.4**	**-0.6**
	23nm,0.2s						
ARXS	**Arharly**	**2.12 321**		*e*P	**Pb**	**13 13 00.8**	**-1.0**
	22nm,0.3s						
ARXS				*e*S	**Sb**	**13 13 28.4**	**-0.2**
	100nm,0.3s						
IZV	**Izvestkoviy**	**2.30 283**		Pg	**Pb**	**13 13 03.8**	**-0.9**
	20nm,0.2s						
IZV				Lg	Lg	13 13 33.7	
	64nm,0.2s						
IZV	**Izvestkoviy**	**2.30 283**		*e*P	**Pb**	**13 13 03.8**	**-0.9**
	baz=83						
IZV				*e*S	**Sb**	**13 13 33.5**	**-0.2**
	baz=83						
IZV	**Izvestkoviy**	**2.30 283**		*e*P	**Pb**	**13 13 03.8**	**-0.9**
	20nm,0.2s						
IZV				*e*S	**Sb**	**13 13 33.5**	**-0.2**
	64nm,0.2s						
CHKK	**Chushkaly**	**2.35 304**		*e*P	**Pb**	**13 13 04.2**	**-1.2**
	baz=5.0						
CHKK				*e*S	**Sb**	**13 13 34.3**	**-0.6**
	baz=5.0						
CHKK	**Chushkaly**	**2.35 304**		*e*P	**Pb**	**13 13 04.2**	**-1.2**
	7.8nm,0.1s						
CHKK				*e*S	**Sb**	**13 13 34.2**	**-0.6**
	52nm,0.2s						
KTBS	**Karatobe**	**2.47 299**		Pg	**Pb**	**13 13 07.0**	**-0.6**
	12nm,0.2s						
KTBS				Lg	Lg	13 13 38.5	
	76nm,0.3s						
KTBS	**Karatobe**	**2.47 299**		*e*P	**Pb**	**13 13 07.0**	**-0.6**
	baz=98						
KTBS				*e*S	**Sb**	**13 13 38.6**	**+0.1**
	baz=98						
KTBS	**Karatobe**	**2.47 299**		*e*P	**Pb**	**13 13 07.0**	**-0.6**
	12nm,0.2s						
KTBS				*e*S	**Sb**	**13 13 38.5**	**+0.1**
	76nm,0.3s						
ULHL	**Ulahol**	**2.56 264**⇓		*i*P	**Pn**	**13 13 06.1**	**+0.9**
	baz=64						
ULHL			⇓	*i*S	**Sn**	**13 13 37.7**	**+0.7**
	baz=64						
KAPS	**Kapalarasan**	**2.73 355**		Pg	**Pb**	**13 13 11.6**	**-0.4**
	3.0nm,0.3s						
KAPS				Lg	Lg	13 13 46.4	
	24nm,0.3s						
KAPS	**Kapalarasan**	**2.73 355**		*e*P	**Pb**	**13 13 11.6**	**-0.4**
	3.0nm,0.3s						
KAPS				*e*S	**Sb**	**13 13 46.4**	**+0.5**
	24nm,0.3s						
BOOM	**Boomskoye usch**	**2.76 270**⇑		*i*P	**Pn**	**13 13 08.7**	**+0.8**
	baz=70						
BOOM			⇑	*i*S	**Sn**	**13 13 42.6**	**+0.7**
	baz=70						
KST	**Kastek**	**2.77 281**		Pg	**Pb**	**13 13 12.1**	**-0.7**
	17nm,0.2s						
KST				Lg	Lg	13 13 47.5	
	36nm,0.3s						
KST	**Kastek**	**2.77 281**		*e*P	**Pb**	**13 13 12.1**	**-0.7**
	17nm,0.2s						
KST				*e*S	**Sb**	**13 13 47.5**	**+0.3**
	36nm,0.3s						
KUU	**Kurty**	**2.77 300**		Pg	**Pb**	**13 13 11.5**	**-1.2**
	3.8nm,0.2s						
KUU				Lg	Lg	13 13 46.4	
	22nm,0.2s						
KUU	**Kurty**	**2.77 300**		*e*P	**Pb**	**13 13 11.5**	**-1.2**
	3.8nm,0.2s						
KUU				*e*S	**Sb**	**13 13 46.4**	**-0.8**
	22nm,0.2s						
DGS	**Degeres**	**2.94 285**		*e*P	**Pn**	**13 13 12.3**	**+1.9**
	14nm,0.3s						
DGS				*e*S	**Sn**	**13 13 46.8**	**+0.5**
	54nm,0.6s						
NRN	**Naryn**	**2.96 249**⇑		*i*P	**Pn**	**13 13 11.4**	**+0.6**
	baz=49						
NRN			⇑	*i*S	**Sn**	**13 13 47.8**	**+0.7**
	baz=49						
TKM2	**Tokmak 2**	**3.02 278**	⇑	Pg	**Pb**	**13 13 16.7**	**-0.4**
	2.6nm,0.3s						
TKM2			⇑	Lg	Lg	13 13 55.6	
	11nm,0.5s						
TKM2	**Tokmak 2**	**3.02 278**⇑		*i*P	**Pn**	**13 13 12.2**	**+0.7**
	baz=78						
TKM2			⇑	*i*S	**Sn**	**13 13 48.8**	**+0.4**
	baz=78						
KZA	**Kyzart**	**3.31 263**⇑		*i*P	**Pn**	**13 13 16.6**	**+0.9**
	baz=63						
KZA			⇑	*i*S	**Sn**	**13 13 56.2**	**+0.3**
	baz=63						
KBK	**Karagaybulak**	**3.49 273**⇑		*i*P	**Pn**	**13 13 19.0**	**+1.1**
	baz=73						
KBK			⇑	*i*S	**Sn**	**13 14 00.1**	**+0.2**
	baz=73						
CHMS	**Chumysh**	**3.65 278**⇑		*i*P	**Pn**	**13 13 20.7**	**+0.8**
	baz=79						
CHMS			⇑	*i*S	**Sn**	**13 14 03.7**	**+0.1**
	baz=79						
AAK	**Ala-Archa**	**3.82 273**	⇓	Pg	**Pb**	**13 13 31.7**	**+1.0**
	1.6nm,0.3s						
AAK			⇑	Lg	Lg	13 14 20.3	
	8.3nm,0.5s						
ARLS	**Aral**	**4.03 262**⇑		*i*P	**Pn**	**13 13 26.7**	**+1.3**
	baz=62						
ARLS			⇑	*i*S	**Sn**	**13 14 13.0**	**-0.3**
	baz=62						
MAKZ	**Makanchi**	**4.55 20**	⇑	Pn	**Pn**	**13 13 33.5**	**+1.2**
	1.3nm,0.2s						
MAKZ			⇓	Lg	Lg	13 14 48.1	
	1.6nm,0.6s						
MK31	**Makanchi Array**	**4.62 23**		Pn	**Pn**	**13 13 34.6**	**+1.3**
	0.8nm,0.3s,baz=208,slow=12,SNR=89						
MK31			⇓	Lg	Lg	13 14 48.1	
	3.8nm,0.8s,baz=202,slow=27,SNR=8.2						
KK31	**Karatay Array**	**6.75 278**	⇑	Pg	Pb	13 14 26.0	+5.5
	0.6nm,0.6s,baz=85,slow=15,SNR=4.4						
KK31			⇑	Lg	Lg	13 15 55.6	
	0.7nm,0.5s,baz=87,slow=30,SNR=6.5						

NNC 08 13:19:37.5±5.1, 36°.90N×70°.12E, h0km, mb3.8, mpv3.4, 4C-5D, Error ellipse: s-maj=42.6km s-min=30.7km az=164.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.21**	**3**	⇓P	Pn	13 21 11.7	+1.4
	1.1nm,0.4s,baz=188,slow=15,SNR=36						
KK31				⇓S	Sn	13 22 24.9	+2.9
	7.0nm,0.7s,baz=192,slow=25,SNR=7.3						
AAK	**Ala-Archa**	**6.65**	**29**	⇓P	Pn	13 21 17.7	+1.2
	2.5nm,1.0s						
AAK				⇓S	Sn	13 22 33.5	+0.5
	14nm,0.8s						
TKM2	**Tokmak 2**	**7.34**	**33**	⇓P	Pn	13 21 26.1	0.0
	1.8nm,0.7s						
TKM2				⇑S	Sn	13 22 49.0	-1.1
	3.4nm,0.8s						
AB31	**Akbulak array**	**14.40**	**332**	⇑P	Pn	13 23 00.6	-1.8
	0.4nm,0.5s,baz=149,slow=11,SNR=13						
AB31				⇑S	Sn	13 25 42.6	-0.1
	0.7nm,0.7s						
AKTO	**Aktyubinsk**	**16.09**	**331**	⇑P	Pn	13 23 22.2	-2.7
	3.4nm,0.7s						

*JMA **08** 13:32:38.3±0.3, 32°.78N×138°.51E, h317km, M3.3*
*ISCJB **08** 13:32:39.7±0.5, 32°.86N±0°.05×138°.51E±0°.10, h300km, mb2.8/4, Error ellipse: s-maj=11.6km s-min=6.6km az=166.2*
*IDC **08** 13:32:40.4±1.2, 32°.84N×138°.26E, h283km±15km, mb2.8/4, mb1 3.0/9, mb1mx2.9/48, mbtmp3.6/9, Error ellipse: s-maj=30.9km s-min=14.1km az=72.0*
ISC 08 13:32:40.2±0.9, 32°.86N±0°.07×138°.5E±0°.1, h300km, n20, σ1s72/23, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**1.14**	**76**	S	**S**	**13 33 58.4**	**+4.5**
	24nm,0.3s,baz=66,slow=19,SNR=4.6						
TK02	**Tokai 2**	**1.24 332**		P	**Pn**	**13 33 22.9**	**+1.4**
TTO2	**TONANKAI O.B.S**	**1.49 306**		P	**Pn**	**13 33 24.3**	**+1.4**
TTO1	**TONANKAI O.B.S**	**1.60 299**		P	**Pn**	**13 33 24.8**	**+1.2**
JHMK	**Hamakita**	**2.04 344**		P	**Pn**	**13 33 27.5**	**+0.4**
JIE	**Ise**	**2.12 317**		P	**Pn**	**13 33 28.3**	**+0.4**
JKN2	**Miekihoku**	**2.29 308**		P	**Pn**	**13 33 29.4**	**+0.1**
JOD2	**Odawara 2**	**2.46 12**		P	**Pn**	**13 33 31.5**	**+0.7**
JNY	**Yasuok**	**2.54 349**		P	**Pn**	**13 33 32.4**	**+0.7**
BSO3	**Boso 3**	**2.58 41**		P	**Pn**	**13 33 31.6**	**0.0**
BSO3				S	**S**	**13 34 12.8**	**+0.1**
MJAR	**Matsushiro Arr**	**3.68 357**		P	**Pn**	**13 33 42.9**	**0.0**
	0.2nm,0.3s,baz=165,slow=11,SNR=14						
MJAR				S	**S**	**13 34 31.5**	**-1.7**
	0.1nm,0.3s,baz=242,slow=23,SNR=4.5						
MAT	**Matsushiro**	**3.68 357**		P	**Pn**	**13 33 43.7**	**+0.8**
MAT				S	**S**	**13 34 31.5**	**-1.6**
JCJ	**Chichijima**	**6.59 150**		P	**Pn**	**13 34 16.4**	**-0.2**
	3.2nm,0.3s,baz=360,slow=21,SNR=11						
JCJ				S	**S**	**13 35 30.2**	**-4.4**
	1.9nm,0.3s,baz=279,slow=19,SNR=2.9						
KSRS	**Korea Array**	**9.77 301**		P	**Pn**	**13 34 56.0**	**+0.6**
	0.4nm,0.3s,baz=111,slow=13,SNR=11						
USRK	**Ussuriysk Ar.**	**12.40 338**		P	**P**	**13 35 27.3**	**-1.1**
	0.2nm,0.3s,baz=147,slow=11,SNR=3.9						
KLR	**Kul'dur**	**17.11 345**		P	**P**	**13 36 19.5**	**-0.6**
	0.2nm,0.3s,baz=181,slow=9.8,SNR=7.1						
MKAR	**Makanchi Array**	**44.41 305**		P	**P**	**13 40 21.8**	**0.0**
	0.1nm,0.3s,baz=87,slow=7.8,SNR=5.5						
WRA	**Warramunga Arr**	**52.65 185**		P	**P**	**13 41 25.3**	**+1.0**
	0.3nm,0.4s,baz=360,slow=7.7,SNR=9.2						
ASAR	**Alice Springs**	**56.38 185**		P	**P**	**13 41 53.0**	**+2.1**
	0.3nm,0.8s,baz=344,slow=3.1,SNR=5.4						
TXAR	**Lajitas Array**	**94.61 51**		P	P	13 45 31.1	+3.5
	0.1nm,0.6s,baz=288,slow=0.9,SNR=2.2						

SJA 08 13:35:06.9±0.4, 26°.55S×65°.48W, h16km±5km, ML1.5, MW3.5, Tucuman Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AHML	**Horco Molle**	**0.27 151**		*i* P	Pb	13 35 13.2	-0.2
AHML				*i* S	Sb	13 35 17.6	-0.2
AHML				IAML		13 35 17.7	
	comp=Z,50nm,0.2s						
FSA	**Cafayete**	**0.63 314**		*i* P	Pb	13 35 19.6	0.0
FSA				*i* S	Sb	13 35 29.4	+1.2
FSA				IAML		13 35 29.4	
	comp=Z,20nm,0.4s						
CYA	**Choya**	**1.91 189**		*i* P	Pb	13 35 41.0	-0.3
CYA				*i* S	Sb	13 36 06.2	+1.2
CYA				IAML		13 36 06.4	
	comp=Z,5.5nm,0.3s						

*IDC **08** 13:42:43.2±1.3, 29°.95S×177°.75W, h113km±6km, mb3.8/4, mb1 3.9/6, mb1mx3.5/32, mbtmp4.1/6, Error ellipse: s-maj=31.4km s-min=19.4km az=122.0*
ISC 08 13:42:41.6±1.1, 30°.00S±0°.09×177°.5W±0°.2, h100km, n16, σ1s54/20, mb4.1/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81 336**	

baz=259
TDCB Techi 0.26 261 *e*P Pb 13 42 56.2 +0.5
baz=260
ENA Nanau 0.30 64 P Pb 13 42 56.2 -0.1
baz=65
ENA S Sb 13 43 01.1 -0.1
baz=65
NANB Nanao 0.31 65 *e*P Pb 13 42 56.0 -0.5
baz=64
NANB *e*S Sb 13 43 01.3 -0.1
baz=64
NDT Datong Townshi 0.31 12 *e*P Pg 13 42 55.8 +0.3
baz=11
NDT *e*S Sb 13 43 00.9 -0.6
baz=11
CHGB Renai 0.34 226 *e*P Pb 13 42 56.6 -0.5
baz=226
CHGB *e*S Sg 13 43 01.5 +0.7
baz=226
ENTT Nioudou 0.36 18 *e*P Pb 13 42 57.5 +0.2
baz=19
ENTT S Sb 13 43 02.5 -0.5
baz=19
YHNB Yeheng 0.38 351 *e*P Pb 13 42 57.7 +0.1
baz=350
YHNB *e*S Sb 13 43 03.4 -0.1
baz=350
NWLT Wulai 0.48 6 *e*P Pb 13 42 59.9 +0.4
baz=6.0
NWLT *e*S Sb 13 43 07.0 +0.6
baz=6.0

*AZER **08** 13:45:39.4±0.0, 38°.25N×46°.55E, h10km, ml4.3/28, Error ellipse: s-maj=2.4km s-min=0.8km az=18.0*
*NSSP **08** 13:45:41.5, 38°.43N×46°.68E, h10km, Ms3.9*
*THR **08** 13:45:42.2, 38°.43N×46°.65E, h14km, ML3.6*
*TEH **08** 13:45:42.0, 38°.37N×46°.68E, h4km, ML4.0*
*NEIC **08** 13:45:42.0±0.0, 38°.37N×46°.68E, h4km, mb3.9/2, MN4.0(TEH), After TEH.*
*IDC **08** 13:45:43.1±1.1, 38°.38N×46°.74E, h0km, mb3.8/9, mb1 3.9/15, mb1mx3.7/49, mbtmp3.8/15, ML2.5/3, MS3.1/6, Ms1 3.1/6, ms1mx2.7/49, Error ellipse: s-maj=19.5km s-min=10.3km az=14.0*
*NNC **08** 13:45:52.0±2.1, 38°.81N×47°.83E, h0km, mb4.0, Error ellipse: s-maj=45.8km s-min=15.9km az=104.0*

ISC 08 13:45:43.6±1.0, **38°.46N**±0°.02×**46.75E**±0°.02, **h7**km±7km, **n151**, σ2°18/208, **mb3.7**/10, **34C-35D, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IHRS	**Heris**	**0.27**	**121**	*e*Pg		**Pg**		**13 45 47.9**	**-1.1**
IHRS				*e*Sg		**Sg**		**13 45 52.7**	**+0.1**
IHRS				IAMB		IAmb		13 45 54.5	
	comp=Z,1358μm,0.3s								
ITBZ	**Tabriz**	**0.52**	**245**	*e*Pg		**Pg**		**13 45 51.0**	**-2.7**
ITBZ				IAMB		IAmb		13 46 07.8	
	comp=Z,78μm,0.8s								
ORD	**Ordubad**	**0.76**	**309**	*e*Pg		**Pg**		**13 45 56.3**	**-1.8**
ORD	**Ordubad**	**0.76**	**309**	⇓P		**Pg**		**13 45 56.4**	**-1.8**
ORD				⇑S		**Sg**		**13 46 07.6**	**-0.3**
IBST	**Bostanabad**	**0.76**	**171**	*e*Pg		**Pg**		**13 45 54.6**	**-3.7**
IBST				IAMB		IAmb		13 46 05.9	
	comp=Z,77μm,0.3s								
IMRD	**Marand**	**0.86**	**288**	*e*Pg		**Pg**		**13 45 57.7**	**-2.4**
IMRD				IAMB		IAmb		13 46 12.7	
	comp=Z,66μm,0.4s								
ISRB	**Sarab**	**0.96**	**131**	*e*Pg		**Pg**		**13 45 59.7**	**-2.4**
ISRB				IAMB		IAmb		13 46 16.8	
	comp=Z,79μm,0.4s								
IAZR	**Azarshahr**	**0.99**	**218**	*e*Pg		**Pg**		**13 45 59.3**	**-3.3**
IAZR				IAMB		IAmb		13 46 18.8	
	comp=Z,62μm,0.3s								
GRS	**Goris**	**1.09**	**343**	⇑*i*P		**Pg**		**13 46 03.0**	**-1.6**
GRS				⇓*i*S		**Sg**		**13 46 18.0**	**-0.7**
NAX	**Nakhchivan**	**1.21**	**307**	*e*Pg		**Pb**		**13 46 04.9**	**-2.0**
NAX	**Nakhchivan** SNR=56	**1.21**	**307**	⇓P		**Pb**		**13 46 05.0**	**-2.0**
NAX				⇑S		**Sb**		**13 46 22.7**	**-0.2**
LRK	**Lerik**	**1.26**	**81**	*e*Pg		**Pn**		**13 46 06.4**	**-1.3**
LRK	**Lerik** SNR=585	**1.26**	**81**	⇑Pg		**Pn**		**13 46 06.5**	**-1.3**
LRK				⇑Sg		**Sn**		**13 46 25.7**	**+0.6**
SBZ	**Shahbuz**	**1.32**	**316**	*e*Pg		**Pn**		**13 46 07.0**	**-1.6**
SBZ	**Shahbuz**	**1.32**	**316**	⇑P		**Pn**		**13 46 07.1**	**-1.6**
SBZ				⇑S		**Sn**		**13 46 26.3**	**-0.3**
GLBA	**Clilabad**	**1.50**	**58**	*e*Pn		**Pb**		**13 46 12.2**	**+0.4**
GLBA	**Clilabad** SNR=21	**1.50**	**58**	⇓P		**Pb**		**13 46 12.2**	**+0.4**
GLBA				⇓S		**Sg**		**13 46 36.3**	**+4.3**
ASTR	**Astara**	**1.60**	**86**	*e*Pn		**Pn**		**13 46 13.0**	**+0.7**
ASTR	**Astara** SNR=96	**1.60**	**86**	⇓P		**Pn**		**13 46 13.1**	**+0.7**
ASTR				⇓S		**Sg**		**13 46 36.9**	**+1.7**
LKRN	**Lenkeran, Azer**	**1.61**	**80**	*e*Pn		**Pn**		**13 46 12.9**	**+0.5**
LKRN	**Lenkeran, Azer** SNR=48	**1.61**	**80**	⇑P		**Pn**		**13 46 13.0**	**+0.5**
LKRN				⇓S		**Sg**		**13 46 37.1**	**+1.7**
BRDA	**Brd**	**1.83**	**10**	*e*Pn		**Pb**		**13 46 17.8**	**+0.4**
BRDA	**Brd** SNR=16	**1.83**	**10**	⇓P		**Pb**		**13 46 17.9**	**+0.4**
BRDA				⇓S		**Sg**		**13 46 46.1**	**+3.6**
MAKU	**Maku**	**1.84**	**300**	*e*Pg		**Pn**		**13 46 15.3**	**-0.5**
MAKU	**Maku** comp=N,499nm,0.5s	**1.84**	**300**	*e*AML		AML		13 46 41.5	
MAKU				*e*AML		AML		13 46 49.9	
	comp=E,443nm,0.5s								
MAKU	**Maku**	**1.84**	**300**	*e*Pg		**Pn**		**13 46 15.3**	**-0.5**
MAKU				*e*Sg		**Sn**		**13 46 39.0**	**-0.5**
SAAT	**Saatly**	**1.91**	**42**	*e*Pn		**Pb**		**13 46 18.7**	**-0.1**
SAAT	**Saatly**	**1.91**	**42**	⇓P		**Pb**		**13 46 18.7**	**-0.1**
SAAT				⇑S		**Sg**		**13 46 46.0**	**+0.9**
HYR	**Heyderabad**	**1.94**	**311**	*e*Pn		**Pn**		**13 46 16.9**	**-0.1**
HYR	**Heyderabad**	**1.94**	**311**	⇓P		**Pn**		**13 46 16.9**	**-0.1**
HYR				⇓S		**Sg**		**13 46 45.1**	**-0.9**
ZRD	**Zardab**	**1.96**	**21**	*e*Pn		**Pb**		**13 46 19.3**	**-0.2**
ZRD	**Zardab** SNR=5.2	**1.96**	**21**	⇑P		**Pb**		**13 46 19.3**	**-0.2**
ZRD				⇑S		**Sg**		**13 46 49.8**	**+3.2**
YOVA	**Hakkari_Yksek**	**2.13**	**247**	*i*P		**Pb**		**13 46 20.9**	**-1.7**
YOVA				*i*S		**Sg**		**13 46 52.6**	**+0.7**
BASK	**Baskale_VAN**	**2.20**	**260**	*i*P		**Pb**		**13 46 23.7**	**-0.1**
BASK				*i*S		**Sg**		**13 46 57.8**	**+3.5**
BASK				IAML_P					
	comp=Z,779nm,0.1s								
GANJ	**Ganja**	**2.21**	**352**	*e*Pn		**Pb**		**13 46 22.4**	**-1.5**
GANJ	**Ganja** SNR=124	**2.21**	**352**	⇓P		**Pb**		**13 46 22.5**	**-1.5**
GANJ				⇑S		**Sb**		**13 46 52.6**	**+1.1**
KDMR	**Kurdemir**	**2.21**	**30**	*e*Pn		**Pb**		**13 46 23.6**	**-0.3**
KDMR	**Kurdemir** SNR=4.0	**2.21**	**30**	P		**Pb**		**13 46 23.6**	**-0.3**
KDMR				⇑S		**Sg**		**13 46 56.6**	**+1.8**
GNI	**Garni**	**2.30**	**318**	*i*P		**Pb**		**13 46 24.5**	**-1.0**
GNI	**Garni**	**2.30**	**318**	*e*Pn		**Pb**		**13 46 24.2**	**-1.2**
GNI				Sn		**Sg**		**13 46 56.2**	**-1.2**
GNI	**Garni**	**2.30**	**318**	⇓*i*P		**Pb**		**13 46 24.1**	**-1.4**
GNI				⇑*i*S		**Sb**		**13 46 55.5**	**+1.3**
GNI	**Garni**	**2.30**	**318**	Pn		**Pb**		**13 46 24.7**	**-0.8**
	comp=Z,40nm,0.3s,baz=136,slow=2.0,SNR=206								
GNI				Sn		**Sg**		**13 46 56.2**	**-1.2**
	comp=Z,39nm,0.3s,baz=32,slow=17,SNR=5.1								
GNI				LR		LR		13 47 32.5	
	comp=Z,393nm,20.8s,baz=185,slow=47								
ALIB	**Äli-Bayra**	**2.31**	**49**	*e*Pn		**Pb**		**13 46 24.5**	**-1.0**
ALIB	**Äli-Bayra** SNR=9.0	**2.31**	**49**	⇓P		**Pb**		**13 46 24.6**	**-1.0**
ALIB				⇓S		**Sb**		**13 46 55.9**	**+1.7**
CLDR	**Caldiran**	**2.32**	**288**	*i*P		**Pb**		**13 46 24.6**	**-1.2**
CLDR	**Caldiran**	**2.32**	**288**	*i*P		**Pb**		**13 46 24.4**	**-1.4**
CLDR				*i*S		**Sg**		**13 47 02.9**	**+4.9**
CLDR				IAML_P					
	comp=Z,3μm,0.7s								
MNGR	**Mingechevir, A**	**2.33**	**6**	*e*Pn		**Pb**		**13 46 24.7**	**-1.1**
MNGR	**Mingechevir, A** SNR=7.4	**2.33**	**6**	⇓P		**Pb**		**13 46 24.8**	**-1.1**
MNGR				⇓S		**Sg**		**13 46 59.3**	**+1.0**
ZNJK	**Zanjan**	**2.36**	**139**	*e*Pn		**Pn**		**13 46 22.8**	**-0.1**
ZNJK	**Zanjan** comp=N,267nm,0.4s	**2.36**	**139**	*e*AML		AML		13 46 58.7	
ZNJK				*e*AML		AML		13 47 01.0	
	comp=E,443nm,0.6s								
ZNJK	**Zanjan**	**2.36**	**139**	*e*Pn		**Pn**		**13 46 22.8**	**-0.1**
GDB	**GEDABAY**	**2.39**	**342**	*e*Pn		**Pn**		**13 46 24.5**	**+1.3**
GDB	**GEDABAY** SNR=114	**2.39**	**342**	⇓P		**Pn**		**13 46 24.6**	**+1.3**
GDB				⇑S		**Sb**		**13 46 58.8**	**+2.1**
TASB	**TASBURUN-IGDIR**	**2.48**	**309**	*i*P		**Pn**		**13 46 25.0**	**+0.6**
IGDI	**IGDIR**	**2.51**	**305**	*i*P		**Pn**		**13 46 23.5**	**-1.3**
IGDI				*i*S		**Sg**		**13 47 06.8**	**+2.6**
IGDI				IAML_P					
	comp=Z,137nm,0.1s								
VMUR	**Van-Muradiye**	**2.54**	**283**	*i*P		**Pn**		**13 46 25.9**	**+0.5**
VMUR				*i*S		**Sg**		**13 47 09.4**	**+4.2**
VMUR				IAML_P					
	comp=Z,24nm,0.2s								
IML	**Ismayilli**	**2.58**	**25**	*e*Pn		**Pb**		**13 46 28.5**	**-1.7**
IML	**Ismayilli** SNR=5.9	**2.58**	**25**	⇓P		**Pb**		**13 46 28.6**	**-1.7**
IML				⇑S		**Sb**		**13 47 04.0**	**+1.8**
DYDN	**Diyadin**	**2.62**	**295**	*i*P		**Pg**		**13 46 32.6**	**-1.2**
DYDN				*i*S		**Sg**		**13 47 14.2**	**+6.5**
DYDN				IAML_P					
	comp=Z,245nm,0.2s								
QBL	**Gabala**	**2.62**	**18**	*e*Pn		**Pn**		**13 46 28.6**	**+2.2**
QBL	**Gabala** SNR=4.4	**2.62**	**18**	⇑P		**Pn**		**13 46 28.6**	**+2.2**
QBL				⇓S		**Sb**		**13 47 03.0**	**-0.3**
TVAN	**Van**	**2.62**	**273**	*i*P		**Pb**		**13 46 29.1**	**-2.0**
TVAN				*i*S		**Sg**		**13 47 12.9**	**+5.0**
TVAN				IAML_P					
	comp=Z,918nm,0.5s								
VANB	**Van**	**2.64**	**274**	*e*P		**Pb**		**13 46 29.4**	**-1.9**
GBS	**Qobustan**	**2.68**	**39**	*e*Pn		**Pb**		**13 46 30.2**	**-1.7**
GBS	**Qobustan** SNR=8.5	**2.68**	**39**	⇑P		**Pb**		**13 46 30.2**	**-1.7**
GBS				⇑S		**Sb**		**13 47 05.7**	**+0.6**
PQL	**Pirkuli**	**2.73**	**31**	*e*Pn		**Pb**		**13 46 30.7**	**-2.1**
PQL	**Pirkuli** SNR=18	**2.73**	**31**	⇑P		**Pb**		**13 46 30.8**	**-2.1**
PQL				⇑S		**Sg**		**13 47 10.1**	**-1.2**
CUKT	**Cukurca**	**2.76**	**245**	*e*P		**Pg**		**13 46 35.9**	**-0.7**
CUKT	**Cukurca**	**2.76**	**245**	*i*P		**Pg**		**13 46 35.9**	**-0.7**
CUKT				*i*S		**Sg**		**13 47 17.1**	**+4.7**
CUKT				IAML_P					
	comp=Z,2μm,0.5s								
SEKA	**Sheki**	**2.77**	**7**	*e*Pn		**Pn**		**13 46 30.5**	**+2.1**
SEKA	**Sheki** SNR=8.7	**2.77**	**7**	⇓P		**Pn**		**13 46 30.5**	**+2.1**
SEKA				⇑S		**Sb**		**13 47 08.2**	**+0.5**
QZX	**Qazax, Azerbai**	**2.81**	**338**	*e*Pn		**Pn**		**13 46 30.2**	**+1.3**
QZX	**Qazax, Azerbai** SNR=28	**2.81**	**338**	⇑P		**Pn**		**13 46 30.2**	**+1.3**
QZX				⇑S		**Sb**		**13 47 07.7**	**-0.9**
GEVA	**Gevas**	**2.90**	**268**	*i*P		**Pn**		**13 46 32.2**	**+1.8**
GEVA				*i*S		**Sg**		**13 47 14.4**	**-2.4**
GEVA				IAML_P					
	comp=Z,626nm,0.7s								
XNQ	**Khinaliq**	**2.92**	**21**	*e*Pn		**Pn**		**13 46 32.2**	**+1.6**
XNQ	**Khinaliq** SNR=19	**2.92**	**21**	⇑P		**Pn**		**13 46 32.2**	**+1.6**
XNQ				⇑S		**Sn**		**13 47 09.5**	**+3.6**
ATGJ	**Altiaghaj**	**2.94**	**34**	*e*Pn		**Pn**		**13 46 32.9**	**+2.2**
ATGJ	**Altiaghaj** SNR=11	**2.94**	**34**	⇓P		**Pn**		**13 46 32.9**	**+2.2**
ATGJ				⇓S		**Sb**		**13 47 14.8**	**+2.4**
AKDM	**Akdamar-Van**	**2.96**	**269**	*e*P		**Pb**		**13 46 33.5**	**-3.3**
DDFL	**Dedoflistskaro**	**3.02**	**351**	P		**Pb**		**13 46 37.3**	**-0.5**
DDFL				S		**Sg**		**13 47 23.0**	**+2.3**
SIZA	**Siyzn**	**3.10**	**32**	*e*Pn		**Pn**		**13 46 35.8**	**+2.9**
SIZA	**Siyzn** SNR=18	**3.10**	**32**	⇑P		**Pn**		**13 46 35.8**	**+2.9**
SIZA				⇓S		**Sb**		**13 47 17.8**	**+0.7**
STEZ	**Stepenevan**	**3.12**	**325**	⇑*e*P		**Pb**		**13 46 38.0**	**-1.5**
STEZ				⇑*e*S		**Sg**		**13 47 24.0**	**+0.2**
AGRB	**Hanur-Agry**	**3.13**	**292**	*i*P		**Pb**		**13 46 38.7**	**-1.0**
QUB	**Quba**	**3.17**	**22**	*e*Pn		**Pn**		**13 46 36.5**	**+2.5**
ZKTA	**Zakatala**	**3.18**	**358**	*e*Pn		**Pn**		**13 46 36.3**	**+2.3**
ZKTA	**Zakatala** SNR=11	**3.18**	**358**	⇓P		**Pn**		**13 46 36.4**	**+2.3**
ZKTA				⇑S		**Sb**		**13 47 18.6**	**-0.7**
QUBA	**Quba, Azerbaij** SNR=6.6	**3.19**	**24**	⇓P		**Pn**		**13 46 36.6**	**+2.4**
QUBA				⇑S		**Sb**		**13 47 20.1**	**+0.4**
TUTA	**Tutak**	**3.21**	**288**	*i*P		**Pb**		**13 46 39.7**	**-1.3**
TUTA				*i*S		**Sg**		**13 47 30.3**	**+3.5**
TUTA				IAML_P					
	comp=Z,550nm,0.5s								
DIGO	**Kars**	**3.26**	**308**	*i*P		**Pb**		**13 46 39.8**	**-2.2**
DIGO				*i*S		**Sg**		**13 47 33.8**	**+5.3**
DIGO				IAML_P					
	comp=Z,605nm,0.3s								
QSAR	**Qusar**	**3.27**	**20**	*e*Pn		**Pn**		**13 46 36.2**	**+1.0**
QSAR	**Qusar** SNR=17	**3.27**	**20**	⇑P		**Pn**		**13 46 36.3**	**+1.0**
QSAR				⇓S		**Sb**		**13 47 22.1**	**+0.2**
EAK	**Akyaka**	**3.29**	**314**	*i*P		**Pn**		**13 46 38.2**	**+2.4**
EAK				*i*S		**Sg**		**13 47 29.1**	**-0.3**
EAK				IAML_P					
	comp=Z,295nm,0.3s								
MLAZ	**Malazgirt-MUS**	**3.35**	**283**	*e*P		**Pg**		**13 46 47.2**	**-0.6**
SNGE	**Sanandaj**	**3.39**	**172**	*e*Pn		**Pn**		**13 46 36.8**	**-0.3**
SNGE	**Sanandaj**	**3.39**	**172**	*e*Pn		**Pn**		**13 46 36.8**	**-0.3**
SNGE				*e*Sg		**Sb**		**13 47 27.3**	**+1.6**
LGD	**Lagodekhi**	**3.40**	**354**	P		**Pb**		**13 46 41.6**	**-2.5**
LGD				S		**Sb**		**13 47 27.4**	**+1.8**
HSRG	**Sareghieh**	**3.44**	**159**	*e*Pn		**Pn**		**13 46 38.5**	**+0.7**
HSRG				IAMB		IAmb		13 47 47.3	
	comp=N,0.0nm,1.3s								
KZRT	**Kazreti**	**3.44**	**329**	P		**Pb**		**13 46 45.2**	**+0.4**
KZRT				S		**Sg**		**13 47 32.1**	**-2.0**
ILIN	**Lien**	**3.54**	**177**	*e*Pn		**Pn**		**13 46 38.7**	**-0.4**
ILIN				IAMB		IAmb		13 47 36.4	
	comp=Z,2μm,0.6s								
SIRT	**Sirnak**	**3.54**	**256**	*e*P		**Pg**		**13 46 49.2**	**-2.2**
BTNK	**Botanikuri**	**3.55**	**336**	P		**Pb**		**13 46 48.2**	**+1.4**
BTNK				S		**Sg**		**13 47 37.4**	**-0.3**
EATA	**Eleskirt**	**3.59**	**294**	*i*P		**Pb**		**13 46 46.8**	**-0.9**
EATA				*i*S		**Sg**		**13 47 35.2**	**-3.9**
EATA				IAML_P					
	comp=Z,41nm,0.1s								
TBLG	**Delisi**	**3.62**	**335**	*e*P		**Pb**		**13 46 46.8**	**-1.0**
TBLG	**Delisi**	**3.62**	**335**	P		**Pb**		**13 46 47.7**	**-0.1**
TBLG				S		**Sg**		**13 47 38.2**	**-1.4**
TRLG	**Trialeti**	**3.69**	**327**	P		**Pb**		**13 46 47.5**	**-1.6**
TRLG				S		**Sb**		**13 47 36.7**	**+2.6**
BGD	**Bogdanovka**	**3.71**	**320**	P		**Pb**		**13 46 51.5**	**+2.0**
BGD				S		**Sg**		**13 47 39.2**	**-3.5**
SRTM	**Siirt_Merkez**	**3.83**	**265**	*i*P		**Pn**		**13 46 45.4**	**+2.3**
SRTM				*i*S		**Sg**		**13 47 50.2**	**+3.6**
SRTM				IAML_P					
	comp=Z,320nm,0.5s								
IVIS	**Veis**	**3.92**	**179**	*e*Pn		**Pn**		**13 46 46.7**	**+2.4**
IVIS				IAMB		IAmb		13 47 58.9	
	comp=Z,3μm,1.5s								
HOMI	**Horasan**	**4.08**	**294**	*i*P		**Pb**		**13 46 55.4**	**-0.5**
HOMI				*i*S		**Sg**		**13 48 02.9**	**+8.2**
IGHG	**Ghaleghazi**	**4.12**	**182**	*e*Pn		**Pn**		**13 46 47.5**	**+0.3**
IGHG				IAMB		IAmb		13 48 11.2	
	comp=Z,2μm,0.8s								
IMHD	**Mahdasht**	**4.18**	**130**	*e*Pn		**Pn**		**13 46 48.4**	**+0.5**
IMHD				IAMB		IAmb		13 48 01.4	
	comp=Z,2μm,0.3s								
IKOM	**Komasi**	**4.32**	**172**	*e*Pn		**Pn**		**13 46 51.3**	**+1.5**
IKOM				IAMB		IAmb		13 48 11.5	
	comp=Z,0.0nm,1.5s								
GUDG	**Gudauri**	**4.36**	**337**	P		**Pb**		**13 47 03.5**	**+2.8**
GUDG				S		**Sg**		**13 48 02.0**	**-1.7**
ASAO	**Ashtian**	**4.71**	**145**	*e*Pn		**Pn**		**13 46 55.5**	**+0.2**
ASAO	**Ashtian**	**4.71**	**145**	*e*Pn		**Pn**		**13 46 55.5**	**+0.2**
IDOB	**Doab**	**4.80**	**166**	*e*Pn		**Pn**		**13 46 58.1**	**+1.6**
IDMV	**Damavand**	**5.11**	**123**	*e*Pn		Pn		13 47 05.4	+4.6
IALA	**Alasht**	**5.38**	**114**	*e*Pn		**Pn**		**13 47 06.1**	**+1.5**
IFIR	**Firoozkooh**	**5.56**	**118**	*e*Pn		**Pn**		**13 47 09.6**	**+2.6**
ISHM	**Shahmirzad**	**5.86**	**115**	*e*Pn		**Pn**		**13 47 13.3**	**+2.2**
IKIA	**Kiasar**	**5.96**	**110**	*e*Pn		**Pn**		**13 47 14.0**	**+1.5**
IKIA				IAMB		IAmb		13 48 36.6	
	comp=Z,374nm,0.7s								
KBZ	**Khabaz**	**6.02**	**332**	Pn		Pn		13 47 19.0	+6.0
	comp=Z,0.0nm,0.3s,baz=155,slow=12,SNR=2.0								
KBZ				Lg		Lg		13 48 51.7	
	baz=248,slow=19,SNR=2.2								
KBZ				LR		LR		13 49 59.9	
	comp=Z,122nm,18.5s,baz=129,slow=42								
IANJ	**Anjilo**	**6.47**	**115**	*e*Pn		**Pn**		**13 47 22.7**	**+3.3**
GEYT	**Alibeck**	**8.97**	**90**	Pn		**Pn**		**13 47 52.9**	**-0.7**
	comp=Z,3.0nm,0.3s,baz=288,slow=15,SNR=26								
GEYT				Sn		**Sn**		**13 49 35.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=281,slow=26,SNR=2.7								
ISFR	**Sfrayin**	**9.02**	**95**	*e*Pn		**Pn**		**13 47 56.3**	**+1.8**
IKRD	**Kardeh**	**9.49**	**97**	*e*Pn		Pn		13 48 12.4	+12
BRTR	**Keskin Array B**	**10.27**	**281**	Pn		**Pn**		**13 48 15.6**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=105,slow=14,SNR=9.2								
IMOG	**Moghan**	**10.30**	**99**	*e*Pn		**Pn**		**13 48 12.7**	**+0.6**
AB31	**Akbulak array**	**14.37**	**37**	⇑P		**Pn**		**13 49 05.6**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=224,slow=12,SNR=33								
AB31				⇓S		**Sn**		**13 51 40.0**	**-6.7**
	comp=Z,1.2nm,0.5s,baz=221,slow=25,SNR=5.7								
AKTO	**Aktyubinsk**	**14.41**	**30**	⇓P		**Pn**		**13 49 05.9**	**-1.9**
	comp=Z,5.5nm,0.8s								
AKTO				⇓S		**Sn**		**13 51 40.9**	**-6.9**
	comp=Z,3.7nm,0.6s								
AKTO	**Aktyubinsk**	**14.41**	**30**	Pn		**Pn**		**13 49 05.5**	**-2.3**
	comp=Z,1.6nm,0.3s,baz=210,slow=12,SNR=22								
AKTO				Sn		**Sn**		**13 51 40.0**	**-7.7**
	comp=Z,0.4nm,0.3s,baz=314,slow=20,SNR=5.7								
AKASG	**Malin Array Be**	**17.43**	**320**	P		**P**		**13 49 48.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=122,slow=12,SNR=4.7								
AKASG				LR		LR		13 57 00.2	
	comp=Z,51nm,18.4s,baz=320,slow=39								
WSAR	**Wadi Sarin**	**18.25**	**143**	LR		LR		13 58 36.9	
	comp=Z,42nm,18.0s,baz=8.5,slow=42								
KK31	**Karatay Array**	**18.56**	**68**	⇓P		**P**		**13 49 58.2**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=160,slow=11,SNR=9.4								
ARU	**Arti**	**19.62**	**20**	*e*P		**P**		**13 50 11.7**	**-0.7**
	comp=Z,3.2nm,0.5s								
KIRV	**Kirov**	**20.22**	**4**	P		**P**		**13 50 19.6**	**+0.7**
	comp=Z,5.3nm,0.5s,baz=195,slow=4.7,SNR=3.2								
KIRV				LR		LR		14 00 04.2	
	comp=Z,99nm,18.1s,baz=111,slow=42								
AAK	**Ala-Archa**	**21.45**	**70**	P		**P**		**13 50 33.5**	**+0.9**
	comp=Z,4.7nm,0.8s								
AAK	**Ala-Archa**	**21.45**	**70**	P		**P**		**13 50 34.1**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=198,slow=6.3,SNR=6.3								
BVAR	**Borovoye Array**	**21.87**	**41**	P		**P**		**13 50 37.7**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=237,slow=10,SNR=4.0								
VYHS	**Vyhne**	**22.49**	**306**	*e*PN		**P**		**13 50 46.7**	**+3.2**
MODS	**Modra-Piesok**	**23.46**	**305**	*e*P		**P**		**13 50 53.0**	**-0.5**
KURBB	**Kurchatov Arra**	**25.50**	**51**	⇑P		**P**		**13 51 14.1**	**+1.8**
	comp=Z,4.2nm,0.8s								
KURBB	**Kurchatov Arra**	**25.50**	**51**	P		**P**		**13 51 13.9**	**+1.5**
	comp=Z,3.7nm,0.7s,baz=262,slow=9.2,SNR=30								
KURK	**Kurchatov**	**25.58**	**51**	⇓P		**P**		**13 51 14.5**	**+1.4**
	comp=Z,4.4nm,0.8s								
MKAR	**Makanchi Array**	**27.26**	**61**	P		**P**		**13 51 30.1**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=256,slow=8.7,SNR=7.6								
MK31	**Makanchi Array**	**27.26**	**61**	⇓P		**P**		**13 51 29.8**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=259,slow=7.7,SNR=7.2								
NOA	**NORSAR Array B**	**31.57**	**327**	P		**P**		**13 52 09.0**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=126,slow=20,SNR=2.5								
NOA				LR		LR		14 07 08.6	
	comp=Z,20nm,18.2s,baz=260,slow=41								
TORD	**Torodi Ar. Bea**	**47.14**	**250**	P		**P**		**13 54 15.3**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=56,slow=7.5,SNR=3.5								
CMAR	**Chiang Mai Arr**	**49.33**	**99**	P		**P**		**13 54 34.2**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=300,slow=8.3,SNR=15								
SEY	**Seymchan**	**63.00**	**30**	P		**P**		**13 56 12.1**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=281,slow=9.1,SNR=7.3								

*NNC **08** 13:55:41.9±2.8, 36°.78N×70°.60E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=22.1km s-min=17.7km az=164.0*
*IDC **08** 13:55:46.7±6.6, 36°.84N×70°.59E, h123km±57km, mb1 3.1/5, mb1mx2.8/53, mbtmp3.6/5, Error ellipse: s-maj=85.4km s-min=19.7km az=153.0*

ISC 08 13:55:41.8±2.1, **36°.5N**

SLBB	baz=314			*e*S		Sg	13 57 09.6	-0.1
NDT	**Datong Townshi**	**0.48**	**291**	*e*P		Pg	13 57 03.8	+0.1
NDT	baz=290			S		Sg	13 57 09.3	-0.7
TWD	**Chiawan**	**0.51**	**227**⇓	*i*P		Pg	13 57 04.2	0.0
TWD	baz=229			S		Sg	13 57 11.0	0.0
ETLH	**Xiulin Townshi**	**0.52**	**245**	⇓P		Pg	13 57 04.3	-0.2
ETLH	baz=243			*e*S		Sb	13 57 12.2	-0.5
NNSB	**Datong**	**0.56**	**270**	⇓P		Pg	13 57 05.2	-0.1
NNSB	baz=268			S		Sg	13 57 12.1	-0.7
TIPB	**Shuangxi**	**0.56**	**343**⇑	*i*P		Pg	13 57 05.2	0.0
TIPB	baz=344			S		Sg	13 57 13.1	+0.3
NWLT	**Wulai**	**0.57**	**307**	*e*P		Pg	13 57 05.5	+0.1
NWLT	baz=299			*e*S		Sg	13 57 12.3	-0.7
NNS	**Nan Shan**	**0.57**	**271**⇓	*i*P		Pg	13 57 05.3	-0.1
NNS	baz=269			S		Sg	13 57 12.3	-0.9
HWA	**Hwalien**	**0.58**	**219**	*e*P		Pb	13 57 06.3	+0.2
TWB1	**Santiao Chiao**	**0.58**	**359**	*e*P		Pg	13 57 05.3	-0.2
YHNB	**Yeheng**	**0.62**	**293**	⇑P		Pb	13 57 06.5	-0.4
YHNB	baz=297			S		Sg	13 57 13.5	-1.1
NSK	**Sanguang**	**0.64**	**293**⇑	*i*P		Pb	13 57 06.7	-0.4
NSK	baz=292			*e*S		Sg	13 57 13.9	-1.2
ENLB	**Shoufeng**	**0.64**	**215**	*e*P		Pn	13 57 08.3	-0.5
TWA	**Mucha**	**0.67**	**325**	P		Pb	13 57 07.7	0.0
TWA	baz=326			*e*S		Sg	13 57 15.9	-0.1
NWF	**Wu-fen Shan**	**0.67**	**343**⇑	*e*P		Pg	13 57 07.6	+0.3
NWF	baz=332			S		Sg	13 57 16.0	-0.2
WFSB	**Wu-fen Shan**	**0.67**	**343**	⇑P		Pg	13 57 07.5	+0.3
WFSB	baz=332			S		Sg	13 57 16.4	+0.2
NHDH	**Xindian Distri**	**0.69**	**321**⇑	*e*P		Pb	13 57 08.0	0.0
TATO	**Taipei**	**0.72**	**319**	⇑P		Pb	13 57 08.6	+0.1
TATO	baz=309			S		Sg	13 57 16.9	-0.8
WHF	**Hehuan Shan**	**0.73**	**247**⇓	*i*P		Pg	13 57 08.3	-0.2
WHF	baz=255			S		Sb	13 57 18.2	-0.8
TWT	**Tachien**	**0.77**	**257**	*e*P		Pb	13 57 09.5	0.0
TWT	baz=255			*e*S		Sb	13 57 19.5	-0.5
TDCB	**Techi**	**0.79**	**257**	⇓P		Pb	13 57 09.5	-0.3
TDCB	baz=256			S		Sg	13 57 19.0	-0.9
ESL	**Shilin**	**0.80**	**221**	⇓P		Pg	13 57 09.3	-0.4
WLTB	**Daxi**	**0.80**	**302**	⇑P		Pn	13 57 10.7	-0.4
WLTB	baz=301			*e*S		Sb	13 57 20.8	+0.1
YM01	**YM01**	**0.82**	**331**	⇑P		Pb	13 57 10.5	+0.3
YM11	**YM11**	**0.83**	**332**	⇑P		Pb	13 57 10.9	+0.4
YM11	baz=332			*e*S		Sb	13 57 22.1	+0.5
YM05	**YM05**	**0.83**	**332**	⇑P		Pb	13 57 10.9	+0.4
YM05	baz=331			*e*S		Sb	13 57 22.6	+0.9
YM04	**YM04**	**0.84**	**330**	⇑P		Pb	13 57 10.7	+0.2
CHGB	**Renai**	**0.84**	**244**	⇓P		Pb	13 57 10.4	-0.3
CHGB	baz=252			S		Sb	13 57 21.2	-0.7
YM08	**YM08**	**0.84**	**334**	⇑P		Pb	13 57 10.8	+0.1
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P		Pn	13 57 11.9	+0.1
TWS1	baz=314			*e*S		Sb	13 57 22.4	+0.2
JYNG	**Yonaguni jima**	**0.86**	**88**	P		Pb	13 57 10.9	0.0
JYNG				*e*S		Sb	13 57 22.1	-0.2
ANP	**Anpu**	**0.87**	**330**	*e*P		Pb	13 57 11.3	+0.2
NTST	**Danshui**	**0.89**	**326**	*e*P		Pn	13 57 12.0	-0.3
OWD	**Renai**	**0.89**	**238**	⇓P		Pg	13 57 11.1	-0.3
NCU	**National Centr**	**0.92**	**306**	*e*P		Pn	13 57 13.1	+0.4
NCU	baz=306			*e*S		Sn	13 57 26.8	+1.1
NCUH	**Zhongli**	**0.92**	**306**	*e*P		Pn	13 57 13.3	+0.6
YOJ	**Yonaguni jima**	**0.92**	**88**	P		Pb	13 57 11.9	0.0
YOJ	baz=88			*e*S		Sb	13 57 24.3	+0.3
YOJ	**Yonaguni jima**	**0.92**	**88**	P		Pb	13 57 11.8	-0.1
YOJ				S		Sb	13 57 24.0	0.0
TWY	**Chenhua**	**0.92**	**337**	*e*P		Pg	13 57 12.3	+0.3
TWY	baz=336			*e*S		Sn	13 57 25.7	-0.1
EGFH	**Guangfu**	**0.92**	**215**	*e*P		Pb	13 57 11.5	-0.4
LIOB	**Emei**	**0.93**	**284**⇓	*e*P		Pb	13 57 11.0	-1.0
LIOB	baz=283			*e*S		Sb	13 57 22.6	-1.6
NSTT	**Nanjuang**	**0.93**	**283**	P		Pn	13 57 12.7	-0.2
NSTT	baz=282			S		Sb	13 57 23.8	-0.7
WHP	**Taichung City**	**0.97**	**261**	*e*P		Pn	13 57 13.5	0.0
WHP	baz=260			S		Sg	13 57 25.2	-0.6
SBCB	**Hsinchu**	**0.99**	**292**	*e*P		Pn	13 57 15.0	+1.2
SBCB	baz=284			*e*S		Sn	13 57 27.9	+0.3
VWDT	**VWDT**	**1.03**	**230**	*e*P		Pb	13 57 13.7	-0.1
VWDT	baz=233			*e*S		Sn	13 57 28.2	-0.3
HGSD	**Ruisui**	**1.07**	**210**	*e*P		Pg	13 57 15.4	+0.6
HGSD	baz=209			*e*S		Sn	13 57 32.6	+3.1
EHY	**Hungye**	**1.11**	**214**	*e*P		Pb	13 57 14.9	-0.2
NMLH	**Miaoli**	**1.11**	**276**	*e*P		Pg	13 57 16.6	+1.1
TWQ1	**Liyutan**	**1.12**	**266**	*e*P		Pg	13 57 16.2	+0.4
NSY	**Sanyi**	**1.13**	**270**	*e*P		Pb	13 57 16.6	+0.6
SMLT	**Sun Moon Lake**	**1.14**	**242**	*e*P		Pg	13 57 16.0	-0.2
SSLB	**Suanglung**	**1.15**	**237**	⇓P		Pg	13 57 16.0	-0.4
SSLB	baz=243			*e*S		Sg	13 57 30.9	-0.5
TYC	**Yuchr**	**1.17**	**244**	*e*P		Pn	13 57 16.0	-0.1
PTSB	**Yuanli**	**1.18**	**271**	*e*P		Pg	13 57 17.9	+1.0
PCYT	**Pengchaiyu**	**1.20**	**3**	*e*P		Pn	13 57 16.4	-0.2
YULB	**Yu-li**	**1.22**	**212**	*e*P		Pn	13 57 16.4	-0.4
WDJ	**Dajia District**	**1.25**	**267**	*e*P		Pg	13 57 19.1	+1.0
TWF1	**Yuli**	**1.25**	**211**	*e*P		Pn	13 57 17.1	-0.1
WHYT	**Xinyi Township**	**1.28**	**236**	*e*P		Pg	13 57 18.6	-0.1
WJS	**Zhushan**	**1.31**	**243**	*e*P		Pg	13 57 19.2	-0.2
WNT	**Mingjian**	**1.32**	**246**	*e*P		Pg	13 57 20.6	+0.9
YUS	**Yu-Shan**	**1.34**	**226**	*e*P		Pg	13 57 20.0	0.0
FULB	**Fuli**	**1.39**	**208**	*e*P		Pn	13 57 19.1	0.0
ALS	**Alishan**	**1.43**	**230**	*e*P		Pg	13 57 21.6	-0.1
CHN5	**Tsauling**	**1.47**	**236**	*e*P		Pg	13 57 22.5	+0.2
CHN5	baz=239			*e*S		Sg	13 57 43.7	+2.2
WGK	**Gukeng**	**1.51**	**241**	*e*P		Pg	13 57 23.7	+0.5
ELDTW	**Lidau**	**1.53**	**216**	*e*P		Pb	13 57 22.3	0.0
IRIF	**Iriomote-Funau**	**1.58**	**93**	P		Pn	13 57 21.2	-0.5
IRIF				S		Sn	13 57 41.0	-1.0
RLNB	**Erlin**	**1.59**	**251**	*e*P		Pg	13 57 24.9	+0.2
CHN4	**Tsaushan**	**1.68**	**231**	*e*P		Pg	13 57 25.5	-0.9
TPUB	**Ta-pu**	**1.69**	**229**	*e*P		Pg	13 57 26.2	-0.3
HATJ	**Hateruma jima**	**1.69**	**102**	P		Pb	13 57 25.1	+0.1
HATJ				S		Sb	13 57 47.2	+1.1
WTP	**Ta-pu**	**1.73**	**228**	*e*P		Pb	13 57 26.3	+0.5
TWK	**Hsinying**	**1.81**	**230**	*e*P		Pb	13 57 27.6	+0.6
CHN1	**Nanshi**	**1.83**	**228**	*e*P		Pb	13 57 27.9	+0.4
CHN1	baz=232			*e*S		Sg	13 57 54.0	+0.9
JKRS	**Kuro-shima**	**1.84**	**95**	P		Pn	13 57 25.4	+0.1
JKRS				S		Sn	13 57 47.5	-1.0
SLGT	**Liugui**	**1.89**	**221**	*e*P		Pb	13 57 28.6	+0.1
JIJ	**Ishigaki jima**	**1.95**	**91**	P		Pn	13 57 26.5	-0.4
JIJ				S		Sn	13 57 49.4	-1.8
ECL	**Taimali**	**2.06**	**208**	*e*P		Pn	13 57 27.9	-0.5
JISG	**Ishigakijimahi**	**2.11**	**85**	P		Pn	13 57 28.4	-0.6
JISG				*e*S		Sn	13 57 54.9	-0.2
MASBT	**Mashibuluo**	**2.20**	**215**	*e*P		Pb	13 57 32.2	-1.6
EAST	**Anshuo**	**2.29**	**208**	*e*P		Pn	13 57 33.4	+1.7
PNG	**Penghu**	**2.40**	**250**	*e*P		Pn	13 57 33.6	+0.6
PHUB	**P'eng-hu**	**2.40**	**248**	*e*P		Pn	13 57 33.4	+0.3
SCZT	**Fangliau**	**2.41**	**212**	*e*P		Pn	13 57 34.2	+1.0
WDGT	**Dungji**	**2.44**	**242**	*e*P		Pn	13 57 34.7	+1.1
JTJ	**Tarama**	**2.47**	**85**	P		Pn	13 57 34.5	+0.5
JTJ				*e*S		Sn	13 58 03.4	-0.5
MATB	**Ma-tsu**	**2.53**	**313**	*e*P		Pn	13 57 34.7	-0.2
PTMZ	**Houxiangcun**	**2.69**	**284**	*e*P		Pn	13 57 38.4	+1.3
LYJJ	**Jianjiangzhen**	**2.93**	**317**	*e*P		Pn	13 57 40.1	-0.2
XPSS	**Dashiqiu**	**2.98**	**327**	*e*P		Pn	13 57 40.3	-0.7
AXDP	**Jialang**	**3.70**	**278**	*e*P		Pn	13 57 52.7	+1.8
AML	**Almayashu**	**6.42**	**19**	P		Pn	14 14 22.6	+1.9
UCH	**Uchtor**	**6.75**	**24**	P		Pn	14 14 27.2	+1.9
KZA	**Kyzart**	**6.88**	**29**	P		Pn	14 14 28.9	+1.7
EKS2	**Erkin-Say**	**6.93**	**18**	P		Pn	14 14 29.5	+2.0
KK31	**Karatay Array**	**6.99**	**358**	⇓P		Pn	14 14 29.3	+1.1
KK31				⇓S		Sn	14 15 41.3	-4.9
AAK	**Ala-Archa**	**7.11**	**22**	P		Pn	14 14 32.2	+2.1
AAK	**Ala-Archa**	**7.11**	**22**	⇑P		Pn	14 14 31.8	+1.8
AAK				⇑S		Sn	14 15 46.1	-3.3
AAK	**Ala-Archa**	**7.11**	**22**	P		Pn	14 14 32.1	+2.1
AAK				S		Sn	14 15 46.5	-2.8
KBK	**Karagaybulak**	**7.28**	**25**	P		Pn	14 14 35.4	+3.1
CHMS	**Chumysh**	**7.52**	**23**	P		Pn	14 14 37.7	+2.3
USP	**Ospennovka**	**7.69**	**20**	P		Pn	14 14 39.4	+1.7
TKM2	**Tokmak 2**	**7.74**	**27**	P		Pn	14 14 40.7	+2.1
TKM2	**Tokmak 2**	**7.74**	**27**	⇓P		Pn	14 14 40.3	+1.7
TKM2				⇑S		Sn	14 16 03.6	-1.0
GEYT	**Alibeck**	**10.33**	**284**	P		Pn	14 15 13.9	+0.2
GEYT				S		Sn	14 17 02.8	-4.6
PYUN	**Piuthan**	**13.03**	**124**	*e*P		P	14 15 50.4	-6.2
DANN	**Dangsing**	**13.39**	**122**	*e*P		P	14 15 55.2	-5.5
KOLN	**Koldanda**	**13.65**	**124**	*e*P		P	14 15 58.7	-4.8
MKAR	**Makanchi Array**	**13.69**	**35**	P		Pn	14 15 59.2	+0.9
GKN	**Gorkha**	**14.21**	**121**	*e*P		P	14 16 05.7	-4.0
DMN	**Daman**	**14.78**	**121**	*e*P		P	14 16 12.4	-3.7
PKIN	**Phulchoki**	**15.01**	**120**	*e*P		P	14 16 16.3	-2.3
PKI	**Pulchoki**	**15.02**	**120**	*e*P		P	14 16 16.4	-2.4
GUN	**Gumba**	**15.14**	**118**	*e*P		P	14 16 18.7	-1.5
AB31	**Akbulak array**	**15.37**	**332**	⇑P		Pn	14 16 19.4	-0.2
AB31				⇑S		Sn	14 19 03.4	-5.8
JIRN	**Jiri**	**15.52**	**119**	*e*P		P	14 16 22.9	-1.4
KURBB	**Kurchatov Arra**	**15.54**	**19**	P		P	14 16 24.9	+0.9
BVAR	**Borovoye Array**	**16.92**	**359**	P		P	14 16 40.6	+1.4
AKTO	**Aktyubinsk**	**17.06**	**331**	⇑P		Pn	14 16 42.6	+2.0
AKTO				⇑S		Sn	14 19 46.4	-3.6
AKTO	**Aktyubinsk**	**17.06**	**331**	P		Pn	14 16 42.2	+1.6
ZALV	**Zalesovo Beam**	**20.33**	**24**	P		Pn	14 17 18.6	-0.7
MMAI	**Mount Meron Ar**	**29.24**	**274**	LR		LR	14 31 48.6	
BRTR	**Keskin Array B**	**29.43**	**288**	P		P	14 18 46.0	+3.3
ARCES	**ARCESS Array B**	**41.46**	**338**	P		P	14 20 29.9	+4.9
NOA	**NORSAR Array B**	**44.61**	**323**	P		P	14 20 55.0	+4.5
TORD	**Torodi Ar. Bea**	**65.57**	**269**	P		P	14 23 24.9	+3.1
YKA	**Yellowknife Ar**	**81.64**	**3**	P		P	14 24 59.6	+4.5

SJA ***08*** *14:11:19.8±0.4, 23°.83S×66°.79W, h216km±8km, ML2.1, MW3.5*
ISCJB ***08*** *14:11:22.0±1.0, 23°.85S±0°.09×66°.97W±0°.06, h200km, Error ellipse: s-maj=12.3km s-min=7.7km az=6.2*
GUC ***08*** *14:11:22.6±0.5, 23°.67S×67°.41W, h247km±9km, ML3.5*

ISC 08 14:11:21.0±1.8, **23°.9S**±0°.1×**66°.88W**±0°.07, **h200**km, **n16,** σ1°**11**/27, **7C-1D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.50**	**64**	*i*	P	Pn		**14 11 55.4**	**+0.2**
HJA					IAML			14 11 58.5	
	comp=Z,16nm,0.6s								
YJA	**Yavi**	**2.10**	**37**	*i*	P	Pn		**14 12 01.3**	**+0.2**
YJA					IAML			14 12 03.2	
	comp=Z,5.0nm,0.7s								
PB15	**IPOC Station P**	**2.47**	**285**	*i*	P	Pn		**14 12 05.8**	**+1.0**
PB15				*i*	S	Sn		**14 12 39.9**	**+1.0**
PB15	**IPOC Station P**	**2.47**	**285**⇑	*i*	P	Pn		**14 12 06.0**	**+1.1**
PB15				*i*	S	Sn		**14 12 39.5**	**+0.6**
PB06	**IPOC Station P**	**2.74**	**295**	*i*	P	Pn		**14 12 08.8**	**+1.0**
PB06	**IPOC Station P**	**2.74**	**295**⇑	*i*	P	Pn		**14 12 08.8**	**+1.0**
PB06				*i*	S	Sn		**14 12 44.0**	**-0.2**
PB06					IAML			14 12 45.8	
	comp=N,87nm,0.5s								
PB09	**IPOC Station P**	**3.01**	**313**⇑	*i*	P	Pn		**14 12 12.4**	**+1.4**
PB09				*i*	S	Sn		**14 12 49.2**	**-0.8**
PB03	**IPOC Station P**	**3.22**	**304**	*i*	P	Pn		**14 12 13.8**	**+0.4**
PB03	**IPOC Station P**	**3.22**	**304**⇑	*i*	P	Pn		**14 12 14.0**	**+0.6**
PB03				*i*	S	Sn		**14 12 53.2**	**-1.1**
PB03					IAML			14 12 54.6	
	comp=E,61nm,0.5s								
PB05	**IPOC Station P**	**3.22**	**288**	*e*	P	Pn		**14 12 13.8**	**+0.4**
PB05				*e*	S	Sn		**14 12 52.3**	**-2.1**
PB04	**IPOC Station P**	**3.38**	**296**	*e*	P	Pn		**14 12 16.0**	**+0.6**
PB04				*i*	S	Sn		**14 12 56.2**	**-1.7**
PB04					IAML			14 12 59.3	
	comp=N,54nm,0.6s								
PB10	**IPOC Station P**	**3.39**	**275**⇑	*i*	P	Pn		**14 12 15.8**	**+0.5**
PB10				*i*	S	Sn		**14 12 56.3**	**-1.5**
PB07	**IPOC Station P**	**3.51**	**307**⇑	*i*	P	Pn		**14 12 17.2**	**+0.3**
PB07				*i*	S	Sn		**14 12 58.8**	**-1.8**
PB01	**IPOC Station P**	**3.71**	**319**⇓	*i*	P	Pn		**14 12 19.7**	**+0.4**
PB01				*i*	S	Sn		**14 13 03.9**	**-1.2**
PB02	**IPOC Station P**	**3.78**	**312**⇑	*i*	P	Pn		**14 12 20.5**	**+0.4**
PB02					IAML			14 13 10.4	
	comp=E,46nm,0.3s								
PB08	**IPOC Station P**	**4.28**	**330**	*e*	P	Pn		**14 12 28.6**	**+2.0**
PB08				*i*	S	Sn		**14 13 18.2**	**0.0**

IDC 08 14:11:28.5±2.4, **1°.23N**×**127°.63E, h0**km, **mb3.1**/3, **mb1 3.3**/3, **mb1mx3.1**/46, **mbtmp3.1**/3, **Error ellipse: s-maj=189.6km s-min=27.8km az=67.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.04**	**163**	P		P		14 16 24.3	-0.6
	0.2nm,0.5s,baz=343,slow=11,SNR=3.6								
ASAR	**Alice Springs**	**25.48**	**167**	P		P		14 16 59.2	+0.6
	0.2nm,0.8s,baz=342,slow=9.4,SNR=4.1								
MKAR	**Makanchi Array**	**60.11**	**326**	P		P		14 21 37.7	-0.1
	0.3nm,0.6s,baz=115,slow=8.6,SNR=3.9								

IDC ***08*** *14:12:46.5±5.1, 35°.89N×70°.90E, h54km±34km, mb3.3/6, mb1 3.5/11, mb1mx3.2/50, mbtmp3.6/11, ML3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=59.4km s-min=22.7km az=149.0*
ISCJB ***08*** *14:12:48.8±0.5, 36°.09N±0°.05×70°.85E±0°.07, h100km, mb3.4/5, Error ellipse: s-maj=8.8km s-min=5.0km az=146.9*
NNC ***08*** *14:12:54.4±5.6, 36°.90N×70°.50E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=44.5km s-min=31.2km az=170.0*

ISC 08 14:12:48.5±0.8, **36°.11N**±0°.07×**70°.83E**±0°.06, **h100**km, **n36,** σ2°**82**/36, **mb3.4**/5, **7C-3D, Hindu Kush region**

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

NIED ***08*** *14:14:00, 40°.60N×142°.20E, h56km, Mw3.9 Best double couple: M0 8.73000×10^14 NP1:φ0=201.00000°, δ31.00000°, λ93.00000°. NP2:φ0=17.00000°, δ59.00000°, λ88.00000°.*
ISCJB ***08*** *14:14:44.9±0.5, 40°.61N±0°.03×142°.13E±0°.06, h64km±3km, mb3.8/15, Error ellipse: s-maj=7.6km s-min=4.4km az=14.1*
JMA ***08*** *14:14:45.2±0.1, 40°.64N×142°.23E, h45km±2km, M3.7*
JMA Felt II J1.
IDC ***08*** *14:14:47.6±1.9, 40°.66N×142°.30E, h78km±15km, mb3.5/15, mb1 3.5/20, mb1mx3.4/46, mbtmp3.7/20, MS2.6/3, Ms1 2.6/3, ms1mx2.4/30, Error ellipse: s-maj=19.3km s-min=11.7km az=109.0*

ISC 08 14:14:46.0±0.9, **40°.61N**±0°.03×**142°.13E**±0°.05, **h55**km±8km, **n34,** σ1°**06**/47, **mb3.9**/15, **1C-7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.52**	**218**	P		Pn		**14 14 57.3**	**-0.4**
JKEN				S		Sn		**14 15 05.6**	**-0.7**
JANG	**Nango**	**0.53**	**243**	⇓P		Pn		**14 14 57.8**	**-0.1**
JANG				S		Sn		**14 15 06.1**	**-0.4**
JARK	**Aomorirokkasho**	**0.70**	**305**	P		Pn		**14 14 59.3**	**-0.6**
JARK				S		Sn		**14 15 09.2**	**-0.9**
JTH	**Tanohata**	**0.70**	**197**	⇑P		Pn		**14 14 59.3**	**-0.7**
JTH				S		Sn		**14 15 09.1**	**-1.1**
JTM	**Tenmabayashi**	**0.83**	**283**	⇓P		Pn		**14 15 01.3**	**-0.2**
JTM				S		Sn		**14 15 12.5**	**-0.5**
JKZ	**Kuzumaki**	**0.88**	**225**	⇓P		Pn		**14 15 02.7**	**+0.5**
JKZ				S		Sn		**14 15 14.7**	**+0.5**
JOT	**Ohata**	**1.12**	**314**	⇓P		Pn		**14 15 04.7**	**-0.8**
JOT				*e*S		Sn		**14 15 19.4**	**-0.5**
JAH	**Hinai**	**1.22**	**250**	⇓P		Pn		**14 15 07.3**	**+0.6**
JAH				S		Sn		**14 15 23.2**	**+1.0**
JOM	**Ohasama**	**1.31**	**210**	⇓P		Pn		**14 15 08.5**	**+0.6**
JOM				S		Sn		**14 15 24.6**	**+0.3**
JKB	**Kayabe**	**1.52**	**327**	⇓P		Pn		**14 15 10.3**	**-0.5**
JKB				S		Sn		**14 15 29.0**	**-0.5**
JSR	**Shiriuchi**	**1.59**	**306**	P		Pn		**14 15 11.8**	**+0.1**
JSR				*e*S		Sn		**14 15 30.8**	**-0.3**
JEM	**Erimo**	**1.60**	**29**	P		Pn		**14 15 12.0**	**+0.1**
JEM				*e*S		Sn		**14 15 32.3**	**+0.8**
JIW	**Iwasaki**	**1.62**	**270**	P		Pn		**14 15 12.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.73**	**15**	P		Pn		**14 15 14.6**	**+0.9**
JNBK				*e*S		Sn		**14 15 35.3**	**+0.7**
ASAJ	**Asahikawa**	**3.52**	**5**	P		Pn		**14 15 38.9**	**+0.8**
ASAJ	4.0nm,0.3s,baz=207,slow=11,SNR=58								
				S		Sn		**14 16 19.2**	**+0.7**
ASAJ	3.9nm,0.3s,baz=153,slow=22,SNR=3.9								
				LR		LR		14 16 59.0	
	comp=Z,71nm,18.3s,baz=174,slow=38								
MJAR	**Matsushiro Arr**	**5.09**	**218**	P		Pn		**14 16 03.5**	**+3.7**
	0.2nm,0.3s,baz=30,slow=12,SNR=10								
USRK	**Ussuriysk Ar.**	**8.31**	**299**	P		Pn		**14 16 46.0**	**+2.2**
	0.4nm,0.3s,baz=101,slow=15,SNR=7.1								
USRK				LR		LR		14 19 44.7	
	comp=Z,65nm,21.6s,baz=22,slow=35								
KLR	**Kul'dur**	**11.32**	**323**	P		Pn		**14 17 27.0**	**+2.2**
	0.1nm,0.3s,baz=139,slow=11,SNR=3.2								
KSRS	**Korea Array**	**11.49**	**259**	P		Pn		14 17 32.3	+5.1
	0.1nm,0.3s,baz=69,slow=14,SNR=3.4								
KSRS				LR		LR		14 21 30.6	
	comp=Z,19nm,21.5s,baz=60,slow=35								
SEY	**Seymchan**	**23.18**	**12**	P		P		**14 19 46.6**	**-0.8**
	0.5nm,0.3s,baz=223,slow=18,SNR=6.0								
ZALV	**Zalesovo Beam**	**40.00**	**309**	P		P		**14 22 15.0**	**0.0**
	0.9nm,0.3s,baz=99,slow=8.9,SNR=3.1								
MKAR	**Makanchi Array**	**42.78**	**299**	P		P		**14 22 37.2**	**-0.8**
	1.1nm,0.5s,baz=85,slow=11,SNR=24								
CMAR	**Chiang Mai Arr**	**43.04**	**252**	P		P		**14 22 41.9**	**+1.6**
	0.4nm,0.3s,baz=39,slow=7.4,SNR=3.2								
KURBB	**Kurchatov Arra**	**44.32**	**305**	P		P		**14 22 49.8**	**-0.4**
	2.4nm,0.6s,baz=79,slow=8.6,SNR=14								
ILAR	**Eielson Array**	**46.20**	**34**	P		P		**14 23 03.0**	**-2.0**
	0.3nm,0.9s,baz=277,slow=4.0,SNR=4.5								
BVAR	**Borovoye Array**	**48.64**	**310**	P		P		**14 23 23.6**	**-0.4**
	1.1nm,0.4s,baz=56,slow=9.3,SNR=5.8								
INK	**Inuvik**	**50.97**	**28**	P		P		**14 23 41.4**	**0.0**

0.7nm,0.5s,baz=306,slow=4.0,SNR=3.3
AKTO Aktyubinsk 56.74 310 P **P** 14 24 24.3 **+0.5**
0.7nm,0.5s,baz=72,slow=15,SNR=3.4
WRA Warramunga Arr 60.68 188 P **P** 14 24 50.4 **-1.0**
0.2nm,0.5s,baz=6.9,slow=7.1,SNR=4.8
GEYT Alibeck 62.63 298 P **P** 14 25 04.5 **-0.1**
1.1nm,0.4s,baz=298,slow=6.4,SNR=3.5
ASAR Alice Springs 64.40 188 P **P** 14 25 15.4 **-0.8**
0.2nm,0.3s,baz=3.1,slow=6.5,SNR=17
FINES FINESS Array B 65.92 332 P **P** 14 25 25.5 **-0.2**
0.6nm,0.5s,baz=30,slow=12,SNR=5.6
NOA NORSAR Array B 71.11 337 P **P** 14 25 57.3 **-0.8**
0.9nm,0.8s,baz=15,slow=2.9,SNR=2.1
AKASG Malin Array Be 71.82 322 P **P** 14 26 00.7 **-1.7**
0.4nm,0.4s,baz=45,slow=6.5,SNR=3.4

RSNC 08 14:17:17.4±1.1, 6.82N×76.22W, h0km±7km, ML3.3, Mw3.7, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HELC	**Santa Helena**	**0.93**	**132**	*e*P		Pg	14 17 34.7	-0.5
HELC				*e*S		Sg	14 17 47.7	+0.5
HELC				*i*			14 17 51.5	
	comp=N,418nm,0.4s							
UREC	**San Jos de Ur**	**1.15**	**36**	*e*P		Pg	14 17 37.8	-1.7
UREC				*e*S		Sg	14 17 54.6	+0.1
UREC				*i*			14 17 56.0	
	comp=Z,411nm,0.3s							
SOLC	**Bahia Solano**	**1.32**	**244**	*e*P		Pg	14 17 40.3	-2.4
SOLC				*e*S		Sg	14 17 59.1	-0.7
ZARC	**Zaragoza, Cauc**	**1.51**	**64**	⇑*i*P		Pn	14 17 43.8	-1.9
ZARC				*e*S		Sg	14 18 03.8	-2.1
ZARC				*i*			14 18 06.3	
	comp=N,542nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.77**	**99**	*e*P		Pn	14 17 48.5	-0.9
PTBC				*e*S		Sn	14 18 13.0	+0.3
PTBC				*i*			14 18 16.0	
	comp=N,492nm,0.4s							
YOTC	**Yotoco, Valle**	**2.82**	**183**	*e*P		Pn	14 18 02.9	-1.0
YOTC				*e*S		Sn	14 18 40.1	+1.4

*ISCJB **08** 14:37:58.5±0.2,21.98S±0.03×68.72W±0.05, h130km±4km, mb3.6/6, Error ellipse: s-maj=7.1km s-min=5.1km az=160.5*
*VAO **08** 14:37:58.2±0.4,22.17S×68.97W, h140km±4km, mb4.3*
*IDC **08** 14:37:59.2±0.6,22.00S×68.53W, h110km±10km, mb3.6/7, mb1 3.8/10, mb1mx3.6/25, mbtmp3.9/10, Error ellipse: s-maj=24.6km s-min=18.6km az=168.0*
*GUC **08** 14:37:59.6±1.2,21.96S×68.82W, h124km±8km, ML4.1*
*SJA **08** 14:37:59.1±0.8,22.01S×68.76W, h125km±4km, ML3.3, MW3.5*

ISC 08 14:37:59.2±0.6, 21.97S±0.04×68.68W±0.05, h123km±5km, n74, σ1s43/89, mb3.7/6, 2C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.55**	**288**	*e*P		**Pn**	**14 38 18.7**	**+0.7**
PB09				*e*S		**Sn**	**14 38 32.5**	**+0.2**
PB09	**IPOC Station P**	**0.55**	**288**	*e*P		**Pn**	**14 38 18.3**	**+0.3**
PB09				*i* S		**Sn**	**14 38 32.1**	**-0.1**
LVC	**Limon Verde**	**0.67**	**199**	*e*P		**Pn**	**14 38 19.6**	**+0.5**
LVC				*e*S		**Sn**	**14 38 34.0**	**-0.1**
LVC				IAML			14 38 34.2	
	comp=Z,3μm,0.4s							
LVC	**Limon Verde**	**0.67**	**199**	P		**Pn**	**14 38 19.1**	**0.0**
	comp=Z,282nm,0.3s,baz=25,slow=8.3,SNR=1554							
LVC				S		**Sn**	**14 38 33.1**	**-1.0**
	comp=Z,2μm,0.3s,baz=194,slow=19,SNR=409							
LVC				LR		LR	14 38 36.7	
	comp=Z,62nm,18.7s,baz=45,slow=53							
LVC	**Limon Verde**	**0.67**	**199**	*e*P		**Pn**	**14 38 19.4**	**+0.4**
PB03	**IPOC Station P**	**1.00**	**266**	*e*P		**Pn**	**14 38 21.7**	**0.0**
PB03	**IPOC Station P**	**1.00**	**266**	*e*P		**Pn**	**14 38 21.6**	**-0.1**
PB03				*i* S		**Sn**	**14 38 38.3**	**-0.4**
PB03				IAML			14 38 40.4	
	comp=E,3μm,0.7s							
PB06	**IPOC Station P**	**1.10**	**228**	*e*P		**Pn**	**14 38 23.1**	**+0.4**
PB06	**IPOC Station P**	**1.10**	**228**	*e*P		**Pn**	**14 38 22.9**	**+0.2**
PB06				*i* S		**Sn**	**14 38 40.6**	**+0.1**
PB06				IAML			14 38 41.6	
	comp=E,5μm,0.6s							
PB07	**IPOC Station P**	**1.15**	**282**	*e*P		**Pn**	**14 38 23.4**	**+0.3**
PB07	**IPOC Station P**	**1.15**	**282**	*e*P		**Pn**	**14 38 23.2**	**+0.1**
PB07				*i* S		**Sn**	**14 38 40.7**	**-0.6**
PB07				IAML			14 38 42.9	
	comp=E,3μm,0.3s							
PB01	**IPOC Station P**	**1.19**	**321**	*e*P		**Pn**	**14 38 23.5**	**-0.1**
PB01				*i* S		**Sn**	**14 38 41.5**	**-0.6**
PB01				IAML			14 38 43.0	
	comp=E,5μm,0.4s							
PB02	**IPOC Station P**	**1.31**	**300**	*e*P		**Pn**	**14 38 24.9**	**+0.1**
PB02	**IPOC Station P**	**1.31**	**300**	*e*P		**Pn**	**14 38 24.6**	**-0.2**
PB02				*i* S		**Sn**	**14 38 43.2**	**-1.0**
PB02				IAML			14 38 44.0	
	comp=N,6μm,0.3s							
PB04	**IPOC Station P**	**1.41**	**255**	*e*P		**Pn**	**14 38 26.0**	**0.0**
PB04	**IPOC Station P**	**1.41**	**255**	*e*P		**Pn**	**14 38 25.8**	**-0.2**
PB04				*i* S		**Sn**	**14 38 45.7**	**-0.6**
PB15	**IPOC Station P**	**1.43**	**211**	⇑*i*P		**Pn**	**14 38 26.8**	**+0.5**
PB15				*e*S		**Sn**	**14 38 47.6**	**+0.7**
PB05	**IPOC Station P**	**1.66**	**238**	*e*P		**Pn**	**14 38 28.9**	**+0.1**
PB05	**IPOC Station P**	**1.66**	**238**	*e*P		**Pn**	**14 38 28.8**	**0.0**
PB05				*i* S		**Sn**	**14 38 50.2**	**-1.2**
PB08	**IPOC Station P**	**1.88**	**346**	*e*P		**Pn**	**14 38 32.9**	**+1.2**
PB08	**IPOC Station P**	**1.88**	**346**	⇑*i*P		**Pn**	**14 38 32.8**	**+1.1**
PB10	**IPOC Station P**	**2.31**	**228**	*e*P		**Pn**	**14 38 36.2**	**-0.5**
PB10	**IPOC Station P**	**2.31**	**228**	*e*P		**Pn**	**14 38 36.0**	**-0.7**
PB10				*i* S		**Sn**	**14 39 02.4**	**-3.2**
PB11	**IPOC Station P**	**2.38**	**337**	*e*P		**Pn**	**14 38 37.7**	**-0.1**
PB11	**IPOC Station P**	**2.38**	**337**	*e*P		**Pn**	**14 38 37.4**	**-0.4**
PB11				*i* S		**Sn**	**14 39 06.3**	**-1.1**
PSGCX	**Pisagua**	**2.72**	**330**	*e*P		**Pn**	**14 38 41.0**	**-1.1**
YJA	**Yavi**	**2.94**	**95**	*e*P		**Pn**	**14 38 47.7**	**+2.5**
YJA				IAML			14 38 48.8	
	comp=Z,27nm,0.5s							
MNMCX	**Minye Minye**	**2.96**	**343**	*e*P		**Pn**	**14 38 46.3**	**+1.0**
PB14	**IPOC Station P**	**3.08**	**211**	*e*P		**Pn**	**14 38 46.5**	**-0.4**
HJA	**Humahuaca**	**3.26**	**113**	*e*P		**Pn**	**14 38 52.0**	**+2.7**
HJA				IAML			14 38 53.2	
	comp=Z,28nm,0.6s							
PB12	**IPOC Station P**	**3.68**	**335**	*e*P		**Pn**	**14 38 53.3**	**-1.4**
LPAZ	**La Paz**	**5.68**	**5**	P		**Pn**	**14 39 23.4**	**+1.5**
	comp=Z,1.4nm,0.3s,baz=186,slow=3.0,SNR=46							
LPAZ				S		**Sn**	**14 40 19.8**	**-6.5**
	comp=Z,0.7nm,0.3s,baz=316,slow=1.3,SNR=5.6							
LPAZ	**La Paz**	**5.68**	**5**	*e*P		**Pn**	**14 39 23.9**	**+1.9**
VCA	**Vinchina**	**6.75**	**176**	*e*P		**Pn**	**14 39 36.7**	**+0.9**
LCO	**Las Campanas**	**7.24**	**194**	*e*P		**Pn**	**14 39 38.5**	**-4.2**
SIV	**San Ignacio**	**9.33**	**52**	P		**Pn**	**14 40 08.1**	**-2.6**
	comp=Z,3.1nm,0.3s,baz=245,slow=11,SNR=60							
CPUP	**Villa Florida**	**11.23**	**115**	P		**Pn**	**14 40 35.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=308,slow=18,SNR=2.0							
AQDB	**Aquidauana**	**12.20**	**85**	*e*P		**Pn**	**14 40 51.1**	**+2.2**
SALV	**Santo Antonio**	**13.68**	**66**	*e*P		**Pn**	**14 41 06.6**	**-1.6**
C2SB	**Chapadao do Su**	**15.19**	**81**	*e*P		**P**	**14 41 30.4**	**+1.0**
PTGB	**Pitanga**	**15.50**	**103**	*e*P		**P**	**14 41 33.6**	**+0.7**
ITAB	**Concordia**	**15.93**	**112**	*e*P		**Pn**	**14 41 37.4**	**+1.1**
CPSB	**Cacapava Do Su**	**16.04**	**125**	*e*P		**Pn**	**14 41 37.2**	**-0.5**
PLTB	**Pedras Altas**	**16.59**	**129**	*e*P		**Pn**	**14 41 43.5**	**-1.0**
TRQA	**Tornquist**	**17.04**	**162**	*e*P		**P**	**14 41 44.8**	**-4.9**
ITRB	**Iturama**	**17.27**	**86**	*e*P		**P**	**14 41 53.5**	**+1.1**
CNLB	**Canela**	**17.64**	**118**	*e*P		**P**	**14 41 55.8**	**-0.7**
FRTB	**Fartura**	**17.70**	**98**	*e*P		**P**	**14 41 57.6**	**+0.5**
BB19B	**Bebedouro**	**18.77**	**91**	*e*P		**P**	**14 42 09.2**	**+0.3**
RCLB	**Rio Claro- Sao**	**19.59**	**95**	*e*P		**P**	**14 42 17.7**	**0.0**
IPMB	**Ipameri, GO**	**19.64**	**82**	*e*P		**P**	**14 42 18.4**	**+0.1**
SPB	**Sao Paulo**	**19.66**	**99**	*e*P		**P**	**14 42 18.8**	**+0.4**
BDFB	**Brasilia**	**20.54**	**76**	P		**P**	**14 42 28.5**	**+0.4**
	comp=Z,4.6nm,0.5s,baz=247,slow=15,SNR=7.0							
BSCB	**Bom Sucesso**	**22.26**	**92**	*e*P		**P**	**14 42 46.4**	**+0.1**
PTGA	**Pitinga**	**22.76**	**23**	P		**P**	**14 42 51.6**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=280,slow=22,SNR=6.7							
PTGA	**Pitinga**	**22.76**	**23**	*e*P		**P**	**14 42 51.6**	**+0.5**
VAS01	**Vassouras-RJ**	**23.37**	**96**	*e*P		**P**	**14 42 57.5**	**+0.6**
MCI8	**Montes Claros**	**23.94**	**82**	*e*P		**P**	**14 43 02.1**	**0.0**
MCI9	**Montes Claros**	**23.95**	**82**	*e*P		**P**	**14 43 02.1**	**-0.1**
JANB	**Januaria**	**24.09**	**78**	*e*P		**P**	**14 43 03.0**	**-0.4**
SJMB	**Sao Joao De Ma**	**25.97**	**88**	*e*P		**P**	**14 43 21.3**	**+0.8**
ALF01	**Guarapari-ES**	**26.07**	**92**	*e*P		**P**	**14 43 21.4**	**+0.1**
RIB01	**Linhares ES**	**26.58**	**89**	*e*P		**P**	**14 43 26.4**	**+0.5**
SDV	**Santo Domingo**	**30.73**	**356**	*e*P		**P**	**14 44 02.2**	**-0.8**
RCBR	**Riachuelo**	**35.51**	**68**	*e*P		**P**	**14 44 44.8**	**+0.4**
PMSA	**Palmer Station**	**42.90**	**177**	*e*P		**P**	14 45 39.9	-5.1
TXAR	**Lajitas Array**	**61.14**	**325**	P		**P**	**14 48 02.1**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=149,slow=8.3,SNR=5.3							
PDAR	**Pinedale Array**	**74.63**	**330**	P		**P**	**14 49 27.3**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=135,slow=7.4,SNR=6.5							
NVAR	**Mina Array Bea**	**76.00**	**322**	P		**P**	**14 49 36.0**	**+3.0**
	comp=Z,0.3nm,0.4s,baz=153,slow=8.1,SNR=3.8							
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P		**P**	**14 49 41.0**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=255,slow=4.8,SNR=5.4							
TORD				pP		**pP**	**14 50 12.2**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=292,slow=8.6,SNR=5.2							
YKA	**Yellowknife Ar**	**91.70**	**341**	P		**P**	**14 50 53.9**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=135,slow=4.6,SNR=21							
VYHS	**Vyhne**	**104.53**	**43**	*e*PDIF		**Pdif**	**14 51 50.3**	**0.0**
KURBB	**Kurchatov Arra**	**141.61**	**34**	PKP		**PKiKP**	**14 57 18.2**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.9,SNR=2.8							
MKAR	**Makanchi Array**	**145.89**	**36**	PKPbc		**PKPab**	**14 57 25.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.7,SNR=4.6							

*ISCJB **08** 14:51:46.9±0.6,67.62N±0.04×142.75E±0.1, h10km, mb3.3/4, Error ellipse: s-maj=7.6km s-min=6.1km az=155.2*
*IDC **08** 14:51:46.4±1.1,67.53N×142.71E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.3/46, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=28.0km s-min=17.5km az=16.0*
*YARS **08** 14:51:48.3±0.2,67.62N±0.02×142.54E±0.04, h5km±5km*

ISC 08 14:51:47.8±0.8, 67.62N±0.04×142.75E±0.04, h10km, n11, σ0s72/17, mb3.4/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.17**	**171**	*i* P		**Pb**	**14 52 09.3**	**-0.8**
MOMR				Pmax			14 52 09.3	
	comp=Z,292nm,0.4s							
MOMR				*e*S		**Sb**	**14 52 25.4**	**+0.1**
MOMR				Smax			14 52 25.4	
	comp=N,1μm,0.4s							
YBGR	**Belaya Gora**	**1.59**	**53**	*e*P		**Pb**	**14 52 16.7**	**-0.5**
YBGR				*e*S		**Sg**	**14 52 38.5**	**-0.3**
YBGR				Smax			14 52 38.5	
	comp=N,1μm,0.3s							
DEPR	**Deputatskiy**	**2.07**	**331**	*e*P		**Pn**	**14 52 23.1**	**+0.5**
DEPR				*e*P		**Pb**	**14 52 24.1**	**-1.3**
DEPR				Pmax			14 52 24.1	
	comp=Z,15nm,0.3s							
DEPR				*e*S		**Sb**	**14 52 51.6**	**+0.4**
DEPR				Smax			14 52 51.6	
	comp=E,757nm,0.7s							
BTGS	**Batagay**	**3.10**	**274**	*e*P		**Pn**	**14 52 37.0**	**+0.3**
BTGS				*e*P		**Pb**	**14 52 42.2**	**-0.8**
BTGS				Pmax			14 52 42.2	
	comp=Z,18nm,0.3s							
BTGS				*e*S		**Sb**	**14 53 22.1**	**+1.3**
BTGS				Smax			14 53 22.1	
	comp=N,575nm,1.1s							
SEY	**Seymchan**	**6.20**	**135**	Pn		**Pn**	**14 53 19.2**	**0.0**
	comp=N,0.5nm,0.3s,baz=328,slow=12,SNR=14							
SEY				Lg		Lg	14 54 59.3	
	comp=N,1.5nm,0.3s,baz=19,slow=23,SNR=3.5							
TIXI	**Tiksi**	**6.30**	**316**	Pn		**Pn**	**14 53 21.3**	**+0.7**
	comp=N,1.6nm,0.3s,baz=124,slow=15,SNR=29							
TIXI				Sn		**Sn**	**14 54 31.7**	**-0.8**
	comp=N,2.5nm,0.3s,baz=328,slow=17,SNR=8.9							
TIXI				Lg		Lg	14 54 58.6	
	comp=N,3.2nm,0.3s,baz=42,slow=16,SNR=5.6							
MA2	**Magadan**	**8.82**	**152**	Lg		Lg	14 56 25.7	
	comp=N,0.5nm,0.3s,baz=287,slow=16,SNR=4.4							
ILAR	**Eielson Array**	**27.16**	**62**	P		**P**	**14 57 31.1**	**+0.4**
	comp=N,0.6nm,0.8s,baz=295,slow=7.4,SNR=4.1							
KURBB	**Kurchatov Arra**	**35.09**	**274**	P		**P**	**14 58 40.5**	**-0.2**
	comp=N,0.3nm,0.5s,baz=36,slow=8.4,SNR=4.1							
MKAR	**Makanchi Array**	**36.78**	**267**	P		**P**	**14 58 55.0**	**-0.2**
	comp=N,0.6nm,0.5s,baz=38,slow=7.3,SNR=10							
YKA	**Yellowknife Ar**	**38.81**	**46**	P		**P**	**14 59 12.7**	**+0.6**
	comp=N,0.1nm,0.4s,baz=326,slow=7.6,SNR=2.6							

*DDA **08** 15:06:21.9,41.00N×41.76E, h7km±1km, ML2.9*
*ISK **08** 15:06:21.6,41.04N×41.78E, h5km, ML2.4/4*
*ISCJB **08** 15:06:22.7±0.5,41.02N±0.02×41.77E±0.06, h7km±6km, Error ellipse: s-maj=7.6km s-min=4.1km az=2.4*

ISC 08 15:06:22.3±1.0, 41.02N±0.03×41.76E±0.04, h11km±7km, n13, σ0s62/18, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DBAD	**Bademkaya**	**0.05**	**268**	*i* P		**Pg**	**15 06 24.9**	**+0.4**
DBAD				IAML_P				
	comp=Z,89μm,0.1s							
DDEM	**Demirkent**	**0.13**	**183**	*i* P		**Pg**	**15 06 25.5**	**0.0**
DDEM				*i* S		**Sg**	**15 06 26.8**	**-0.9**
DDEM				IAML_P				
	comp=Z,41μm,0.1s							
DAGI	**Agillar**	**0.13**	**64**	*i* P		**Pg**	**15 06 25.6**	**+0.1**
DAGI				IAML_P				
	comp=Z,12μm,0.2s							
ARTV	**Artvin**	**0.21**	**38**	*i* P		**Pg**	**15 06 27.1**	**+0.3**
ARTV				*i* S		**Sg**	**15 06 30.1**	**+0.1**
ARTV				IAML_P				
	comp=Z,24μm,0.1s							
DBOC	**Borcka**	**0.33**	**348**	*i* P		**Pb**	**15 06 30.1**	**-0.2**
DBOC				*i* S		**Sg**	**15 06 34.3**	**+0.8**
DBOC				IAML_P				
	comp=Z,11μm,0.1s							
BCA	**Borcka**	**0.44**	**346**	PG		**Pb**	**15 06 31.4**	**-0.6**
BCA				SG		**Sb**	**15 06 37.6**	**-1.0**
SENK	**Senkaya-Erzuru**	**0.64**	**135**	PG		**Pb**	**15 06 34.9**	**-0.7**
CHOM	**Cayeli-Rize**	**0.76**	**276**	PG		**Pb**	**15 06 37.4**	**-0.1**
EPOS	**Posof**	**0.88**	**56**	*i* P		**Pb**	**15 06 39.5**	**-0.1**
HOMI	**Horasan**	**0.98**	**173**	*i* P		**Pb**	**15 06 41.5**	**+0.1**
HOMI				IAML_P				
	comp=Z,593nm,0.1s							
KOPR	**Koprukoy-ERZUR**	**1.03**	**176**	PG		**Pb**	**15 06 42.4**	**+0.2**
KOPR				SG		**Sn**	**15 06 58.6**	**+1.3**
BAYB	**BAYBURT**	**1.37**	**237**	*i* P		**Pg**	**15 06 48.6**	**-0.1**
BAYT	**Aydıntepe-Bayb**	**1.38**	**244**	PN		**Pg**	**15 06 48.7**	**-0.1**

IDC 08 15:10:37.5±2.9, 30.46N×141.06E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.2/46, mbtmp3.3/6, ML2.8/2, Error ellipse: s-maj=120.9km s-min=19.8km az=69.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.49**	**163**	Pn		Pn	15 11 33.8	+0.7
	1.0nm,0.3s,baz=11,slow=20,SNR=8.1							
JCJ				Sn		Sn	15 12 13.4	-1.8
	3.0nm,0.3s,baz=253,slow=19,SNR=4.2							
MJAR	**Matsushiro Arr**	**6.52**	**339**	Pn		Pn	15 12 14.4	-0.3
	0.2nm,0.3s,baz=159,slow=11,SNR=13							
MKAR	**Makanchi Array**	**47.61**	**307**	P		P	15 19 16.3	+1.1
	0.2nm,0.7s,baz=97,slow=9.2,SNR=2.9							
KURBB	**Kurchatov Arra**	**50.02**	**312**	P		P	15 19 32.4	-1.2
	0.2nm,0.6s,baz=89,slow=8.0,SNR=3.0							
WRA	**Warramunga Arr**	**50.52**	**188**	P		P	15 19 36.8	-1.0
	0.3nm,0.3s,baz=6.7,slow=7.7,SNR=13							
ASAR	**Alice Springs**	**54.25**	**188**	P		P	15 20 06.0	+0.6
	0.2nm,0.7s,baz=0.5,slow=5.0,SNR=4.7							

*ISCJB **08** 15:22:23.9±0.4,37.46N±0.03×72.18E±0.07, h130km, mb3.4/6, Error ellipse: s-maj=8.5km s-min=4.0km az=159.3*
*IDC **08** 15:22:23.4±3.2,37.40N×72.11E, h108km±27km, mb3.4/6, mb1 3.5/11, mb1mx3.2/36, mbtmp3.7/11, Error ellipse: s-maj=27.4km s-min=21.9km az=3.0*
*NNC **08** 15:22:29.0±2.4,38.14N×71.89E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=18.6km s-min=12.6km az=171.0*

ISC 08 15:22:24.1±0.6, 37.40N±0.05×72.08E±0.06, h130km, n43, σ2s74/51, mb3.6/6, 7C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.88**	**14**	P		**Pn**	**15 23 35.3**	**-0.6**
	SNR=38							
UCH	**Uchtor**	**5.17**	**20**	P		**Pn**	**15 23 39.3**	**-0.5**
	SNR=12							
EKS2	**Erkin-Say**	**5.41**	**13**	P		**Pn**	**15 23 43.0**	**+0.3**
	SNR=13							
AAK	**Ala-Archa**	**5.55**	**19**	P		**Pn**	**15 23 44.7**	**+0.1**
	SNR=28							
AAK	**Ala-Archa**	**5.55**	**19**	⇓P		**Pn**	**15 23 44.5**	**0.0**
	8.0nm,0.4s							
AAK				⇑S		**Sn**	**15 24 42.6**	**-4.8**
	21nm,0.8s							
AAK	**Ala-Archa**	**5.55**	**19**	P		**Pn**	**15 23 44.3**	**-0.2**
	6.0nm,0.3s,baz=178,slow=4.7,SNR=123							
AAK				S		**Sn**	**15 24 42.6**	**-4.8**
	1.6nm,0.3s,baz=304,slow=23,SNR=18							
ULHL	**Ulahol**	**5.80**	**32**	P		**Pn**	**15 23 48.6**	**+0.6**
	SNR=6.7							
KK31	**Karatay Array**	**5.82**	**349**	⇑P		**Pn**	**15 23 47.7**	**-0.4**
	13nm,0.4s,baz=159,slow=10,SNR=295							
KK31				⇑S		**Sn**	**15 24 47.0**	**-6.7**
	8.1nm,0.3s,baz=176,slow=15,SNR=15							
CHMS	**Chumysh**	**5.95**	**19**	P		**Pn**	**15 23 50.0**	**+0.1**
	SNR=14							
TKM2	**Tokmak 2**	**6.13**	**25**	P		**Pn**	**15 23 52.9**	**+0.4**
	SNR=7.3							
TKM2	**Tokmak 2**	**6.13**	**25**	⇑P		**Pn**	**15 23 52.6**	**+0.1**
	1.7nm,0.5s							
TKM2				⇑S		**Sn**	**15 24 58.6**	**-2.9**
	3.1nm,0.8s							
USP	**Ospenovka**	**6.14**	**17**	P		**Pn**	**15 23 51.7**	**-0.8**
	SNR=7.5							
DHRM	**DHARAMSHALA**	**6.20**	**145**	*e*P		**Pn**	**15 23 56.8**	**+3.3**
DHRM				*e*S		**Sn**	**15 25 04.2**	**+0.9**
DHRM				IAML			15 25 08.8	
	comp=E,289nm,0.2s							
DHRM				IAML			15 25 08.9	
	comp=N,412nm,0.1s							
SMLA	**Simla**	**7.54**	**145**	*e*P		**Pn**	**15 24 13.9**	**+2.6**
SMLA				*e*S		**Sn**	**15 25 30.8**	**-4.5**
SMLA				IAML			15 25 38.5	
	comp=N,102nm,0.2s							
SMLA				IAML			15 25 38.5	
	comp=E,135nm,0.3s							
DDI	**Dehra Dun**	**8.63**	**143**	*e*S		**Sn**	**15 25 57.5**	**-4.3**
DDI				IAML			15 26 04.6	
	comp=N,115nm,0.3s							
DDI				IAML			15 26 04.7	
	comp=E,135nm,0.3s							
KHET	**Khetri**	**9.81**	**160**	*e*P		**Pn**	**15 24 43.0**	**+1.0**
KHET				*e*S		**Sn**	**15 26 23.6**	**-6.8**
KHET				IAML			15 26 37.4	
	comp=N,5.9nm,0.5s							
KHET				IAML			15 26 38.6	
	comp=E,8.1nm,0.2s							
KUDL	**Kundal**	**9.95**	**157**	*e*P		**Pn**	**15 24 45.3**	**+1.6**
KUDL				*e*S		**Sn**	**15 26 26.6**	**-6.9**
KUDL				IAML			15 26 36.0	
	comp=N,7.2nm,0.4s							
SONA	**Sohna**	**10.05**	**154**	*e*S		**Sn**	**15 26 30.2**	**-5.8**
GEYT	**Alibeck**	**11.08**	**277**	P		**Pn**	**15 24 58.4**	**-0.5**
	comp=N,0.9nm,0.3s,baz=118,slow=13,SNR=11							
GEYT				S		**Sn**	**15 26 55.4**	**-5.5**
	comp=N,1.4nm,0.3s,baz=116,slow=16,SNR=6.4							
MKAR	**Makanchi Array**	**12.05**	**36**	P		**Pn**	**15 25 11.0**	**-0.5**
	comp=N,0.0nm,0.3s,baz=208,slow=15,SNR=2.4							
PYUN	**Piuthan**	**13.04**	**132**	*e*P		**Pn**	**15 25 24.2**	**-0.5**
	comp=N,16nm,0.3s							
DANN	**Dangsing**	**13.32**	**129**	*e*P		**Pn**	**15 25 28.0**	**-0.4**
	comp=N,32nm,0.4s							
KOLN	**Koldanda**	**13.65**	**131**	*e*P		**Pn**	**15 25 32.5**	**0.0**
	comp=N,15nm,0.4s							
KURBB	**Kurchatov Arra**	**14.00**	**17**	P		**Pn**	**15 25 38.1**	**+1.6**
	comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=3.4							
GKN	**Gorkha**	**14.12**	**128**	*e*P		**Pn**	**15 25 38.0**	**-0.4**
	comp=N,20nm,0.3s							
DMN	**Daman**	**14.69**	**128**	*e*P		**Pn**	**15 25 45.3**	**-0.4**
	comp=N,14nm,0.4s							
AB31	**Akbulak array**	**14.75**	**327**	⇓P		**Pn**	**15 25 47.1**	**+0.9**
	comp=N,0.8nm,0.4s,baz=138,slow=13,SNR=39							
AB31				⇑S		Sn	15 28 16.2	-13
	comp=N,2.7nm,0.8s,baz=135,slow=24,SNR=7.6							
BHPL	**Bhopal**	**14.84**	**160**	*e*P		**P**	**15 25 52.7**	**+2.8**
PKIN	**Phulchoki**	**14.89**	**127**	*e*P		**Pn**	**15 25 47.6**	**-0.7**
	comp=N,7.2nm,0.3s							
PKI	**Pulchoki**	**14.90**	**127**	*e*P		**Pn

UGLR	**Uglovaya**	**4.39 248**	*e*P	Pn	15 32 17.1	+4.6
AVH	**Avacha**	**4.42 249**	*e*P	Pn	15 32 17.3	+4.5
OSSR	**Ossora**	**4.42 343**	*e*P	Pn	15 32 17.1	+4.4
KOK	**Koryaka**	**4.46 249**	*e*P	Pn	15 32 17.4	+4.0
GNL	**Ganaly**	**4.68 256**	P	Pn	15 32 22.7	+6.3
RUS	**Russkaya**	**4.96 241**	*e*P	Pn	15 32 23.9	+3.8

MEX 08 15:44:35.0±0.3, 17.05N×95.39W, h102km±5km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.48**	**85**	*i* P	Pn	15 44 49.5	-1.4
CMIG				*e*S	Sn	15 45 01.1	-1.7
VHO	**Vista Hermosa**	**1.29**	**271**	*e*P	Pn	15 44 58.0	-1.1
VHO				*i* S	Sn	15 45 15.7	-1.5
HUIG	**Huatulco**	**1.45**	**209**	*i* P	Pn	15 44 58.8	-2.0
HUIG				*e*S	Sn	15 45 18.7	-1.6

*ISCJB **08** 16:11:51.8±0.8, 6.83N±0.03×73.16W±0.04, h153km±6km, Error ellipse: s-maj=6.8km s-min=4.9km az=4.2*
*IDC **08** 16:11:52.2±7.0, 7.26N×74.73W, h142km±173km, mb1 3.7/1, mb1mx2.9/25, mbtmp4.2/1, ML2.8/1, Error ellipse: s-maj=1134.0km s-min=78.9km az=85.0*
*RSNC **08** 16:11:52.8±1.0, 6.80N×73.14W, h151km±4km, ML3.5, Mw3.5*

ISC 08 16:11:50.9±1.2, 6.84N±0.04×73.12W±0.05, h161km±7km, n23, σ1§06/41, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**194**	*i* P	**Pn**	**16 12 13.1**	**+0.1**
BARC				*e*S	**Sn**	**16 12 28.7**	**-1.1**
BARC				*i*		16 12 31.5	
	comp=Z,730nm,0.4s						
BRRC	**Barranca, Sant**	**0.64**	**294**↑	*i* P	**Pn**	**16 12 15.1**	**+0.8**
BRRC				*e*S	**Sn**	**16 12 32.4**	**+0.2**
BRRC				*i*		16 12 33.9	
	comp=N,1µm,0.2s						
PAMC	**Pamplona, Colo**	**0.65**	**40**↑	*i* P	**Pn**	**16 12 15.9**	**+1.0**
PAMC				*e*S	**Sn**	**16 12 33.0**	**-0.2**
PAMC				*i*		16 12 35.7	
	comp=Z,379nm,0.5s						
RUSC	**La Rusia**	**0.94**	**178**↓	*i* P	**Pn**	**16 12 17.1**	**+0.2**
RUSC				*e*S	**Sn**	**16 12 35.7**	**-1.1**
RUSC				*i*		16 12 37.7	
	comp=N,911nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P	**Pn**	**16 12 19.8**	**-0.2**
PTBC				*e*S	**Sn**	**16 12 41.6**	**-0.7**
PTBC				*i*		16 12 43.4	
	comp=Z,408nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**107**↑	*e*P	**Pn**	**16 12 21.3**	**+1.1**
TAMC				*i*		16 12 21.6	
	comp=Z,522nm,0.4s						
TAMC				*e*S	**Sn**	**16 12 42.6**	**-0.1**
OCAC	**Ocana**	**1.40**	**352**	*e*P	**Pn**	**16 12 21.4**	**+0.8**
OCAC				*e*S	**Sn**	**16 12 43.6**	**+0.1**
OCAC				*i*		16 12 48.2	
	comp=Z,298nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**16 12 25.6**	**+0.6**
ZARC				*e*S	**Sn**	**16 12 51.3**	**+0.1**
ZARC				*i*		16 12 58.2	
	comp=Z,295nm,0.3s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**16 12 29.2**	**+0.6**
SMLC				*e*S	**Sn**	**16 12 58.2**	**+0.4**
SMLC				*i*		16 13 00.2	
	comp=Z,153nm,0.1s						
CHIC	**Chingaza**	**2.28**	**196**	*e*P	**Pn**	**16 12 31.2**	**+0.8**
CHIC				*e*S	**Sn**	**16 12 59.7**	**-1.2**
CHIC				*i*		16 13 09.4	
	comp=Z,128nm,0.6s						
ROSC	**El Rosal**	**2.32**	**211**	*e*P	**Pn**	**16 12 32.7**	**+1.8**
ROSC				*e*S	**Sn**	**16 13 00.6**	**-1.1**
ROSC				*i*		16 13 07.8	
	comp=Z,261nm,0.3s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**16 12 32.7**	**+1.8**
	comp=Z,44nm,0.3s,baz=286,slow=5.5,SNR=37						
ROSC				S	**Sn**	**16 13 04.2**	**+2.5**
	comp=Z,61nm,0.3s,baz=17,slow=22,SNR=18						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**16 12 34.1**	**+1.4**
HELC				*e*S	**Sn**	**16 13 05.5**	**+0.5**
HELC				*i*		16 13 11.8	
	comp=N,180nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**291**	*e*P	**Pn**	**16 12 33.0**	**-0.3**
UREC				*e*S	**Sn**	**16 13 03.9**	**-2.3**
UREC				*i*		16 13 18.3	
	comp=Z,132nm,0.2s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**16 12 35.8**	**-0.3**
VILC				*e*S	**Sn**	**16 13 09.9**	**-1.1**
VILC				*i*		16 13 16.4	
	comp=Z,180nm,0.5s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**16 12 40.1**	**+1.6**
RREF				*e*S	**Sn**	**16 13 15.1**	**-0.3**
RREF				*i*		16 13 24.3	
	comp=Z,178nm,0.2s						
DBBC	**Dabeiba**	**3.07**	**273**	*e*P	**Pn**	**16 12 40.6**	**+0.9**
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P	**Pn**	**16 12 40.8**	**+0.9**
ANIL	**Santa Ana**	**3.26**	**224**	*e*P	**Pn**	**16 12 43.8**	**+1.5**
ANIL				*e*S	**Sn**	**16 13 21.9**	**-0.2**
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**16 12 46.5**	**+0.5**
PRAC				*e*S	**Sn**	**16 13 28.3**	**-0.6**
PRAC				*i*		16 13 34.3	
	comp=Z,126nm,0.2s						
SJCC	**San Jacinto, C**	**3.66**	**326**	*e*P	**Pn**	**16 12 47.3**	**+0.2**
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKiKP**	**16 31 21.2**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=125,slow=4.0,SNR=6.1						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKiKP**	**16 31 24.4**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.7,SNR=8.2						

IDC 08 16:32:55.4±1.6, 9.77S×160.08E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/43, mbtmp3.6/4, Error ellipse: s-maj=36.2km s-min=14.6km az=87.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.36**	**339**	LR	LR	16 32 59.8	
	comp=Z,100nm,21.5s,baz=308,slow=12						
HNR				Pn	Pn	16 33 08.3	+0.4
	348nm,0.3s,baz=124,slow=9.9,SNR=122						
HNR				Sn	Sb	16 33 15.2	+4.3
	2µm,0.3s,baz=158,slow=19,SNR=72						
WRA	**Warramunga Arr**	**26.82**	**245**	P	P	16 38 37.9	+0.3
	0.5nm,0.6s,baz=74,slow=9.6,SNR=6.7						
ASAR	**Alice Springs**	**28.55**	**238**	P	P	16 38 52.8	-0.4
	0.6nm,1.0s,baz=62,slow=10,SNR=6.2						
H11S2	**WAKE ISLAND Hy**	**28.83**	**13**	T	T	17 07 42.3	
	baz=194,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.83**	**13**	T	T	17 07 39.9	
	baz=194,slow=76,SNR=5.7						
H11S1	**WAKE ISLAND Hy**	**28.85**	**13**	T	T	17 07 42.7	
	baz=194,slow=76,SNR=4.3						
H11N1	**WAKE ISLAND Hy**	**30.05**	**13**	T	T	17 09 14.9	
	baz=194,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**30.06**	**13**	T	T	17 09 12.8	
	baz=194,slow=76,SNR=5.9						
H11N2	**WAKE ISLAND Hy**	**30.07**	**13**	T	T	17 09 14.2	
	baz=194,slow=76,SNR=9.7						
ILAR	**Eielson Array**	**84.16**	**20**	P	P	16 45 27.9	-0.2
	0.5nm,0.4s,baz=240,slow=4.6,SNR=14						
MKAR	**Makanchi Array**	**88.81**	**318**	P	P	16 45 51.4	0.0
	0.4nm,0.8s,baz=93,slow=5.3,SNR=4.0						

*IDC **08** 16:59:48.6±0.5, 43.35S×39.77E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.2/36, mbtmp4.2/17, ML3.7/1, MS3.9/24, Ms1 3.9/24, ms1mx3.8/37, Error ellipse: s-maj=22.4km s-min=15.1km az=49.0*
*ISCJB **08** 16:59:49.0±0.5, 43.45S±0.1×39.5E±0.1, h10km, mb4.2/19, MS4.0/22, Error ellipse: s-maj=17.6km s-min=11.5km az=138.7*
*NEIC **08** 16:59:50.1±0.4, 43.36S×39.75E, h10km, mb4.0/1, Error ellipse: s-maj=14.6km s-min=9.8km az=55.0*

ISC 08 16:59:49.4±0.5, 43.55S±0.1×39.5E±0.1, h10km, n89, σ1§62/72, mb4.3/19, MS3.9/22, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.42**	**301**	LR	LR	17 09 48.5	
	comp=Z,391nm,19.3s,baz=152,slow=32						
BOSA	**Boshof**	**18.77**	**318**	P	**Pn**	**17 04 10.0**	**+0.8**
	0.2nm,0.3s,baz=118,slow=12,SNR=3.8						
BOSA				LR	LR	17 09 54.3	
	comp=Z,504nm,20.9s,baz=154,slow=32						
LBTB	**Lobatse**	**21.69**	**324**	P	**P**	**17 04 40.5**	**-0.1**
	7.5nm,0.8s,baz=144,slow=12,SNR=8.7						
LBTB				LR	LR	17 11 42.4	
	comp=Z,531nm,20.8s,baz=152,slow=33						
MATP	**Matopo**	**24.80**	**335**	P	**P**	**17 05 11.3**	**-0.5**
	2.8nm,0.9s,baz=160,slow=9.0,SNR=4.1						
MATP				LR	LR	17 13 42.4	
	comp=Z,459nm,19.1s,baz=168,slow=34						
OPO	**Ambohidratompo**	**25.71**	**17**	LR	LR	17 13 47.1	
	comp=Z,274nm,21.8s,baz=175,slow=33						
MAW	**Mawson**	**27.17**	**161**	LR	LR	17 13 46.8	
	comp=Z,211nm,21.8s,baz=342,slow=31						
LSZ	**Lusaka**	**29.76**	**338**	*e*P	**P**	**17 05 56.3**	**-0.1**
	2.2nm,0.8s						
LSZ	**Lusaka**	**29.76**	**338**	P	**P**	**17 05 56.0**	**-0.3**
	3.6nm,1.0s,baz=154,slow=8.2,SNR=7.6						
LSZ				LR	LR	17 16 44.5	
	comp=Z,192nm,18.9s,baz=180,slow=34						
QSPA	**South Pole Qui**	**46.69**	**180**	P	P	17 08 20.3	+2.2
	1.8nm,0.8s,baz=259,slow=4.4,SNR=4.9						
VNDA	**Vanda**	**54.19**	**167**	LR	LR	17 30 24.0	
	comp=Z,135nm,20.2s,baz=210,slow=34						
H01W2	**Cape Leeuwin H**	**56.69**	**108**	T	T	18 10 46.1	
	baz=238,slow=75,SNR=37						
H01W3	**Cape Leeuwin H**	**56.70**	**108**	T	T	18 10 46.8	
	baz=238,slow=75,SNR=33						
H01W1	**Cape Leeuwin H**	**56.71**	**108**	T	T	18 10 47.5	
	baz=238,slow=75,SNR=26						
PMSA	**Palmer Station**	**56.84**	**210**	LR	LR	17 28 11.8	
	comp=Z,202nm,20.5s,baz=160,slow=30						
DBIC	**Dimbokro**	**64.05**	**309**	P	**P**	**17 10 24.3**	**+0.7**
	3.0nm,0.7s,baz=149,slow=10,SNR=3.3						
DBIC				LR	LR	17 35 07.6	
	comp=Z,117nm,19.4s,baz=124,slow=33						
TORD	**Torodi Ar. Bea**	**66.12**	**319**	P	**P**	**17 10 37.1**	**+0.2**
	2.5nm,0.8s,baz=127,slow=1.5,SNR=13						
TORD				LR	LR	17 38 13.3	
	comp=Z,112nm,19.4s,baz=325,slow=35						
WSAR	**Wadi Sarin**	**68.72**	**19**	LR	LR	17 35 32.9	
	comp=Z,151nm,20.7s,baz=208,slow=31						
PLCA	**Paso Flores**	**75.13**	**228**	P	**P**	**17 11 33.7**	**+1.9**
	1.4nm,0.7s,baz=52,slow=3.6,SNR=3.0						
PLCA				LR	LR	17 40 03.4	
	comp=Z,56nm,18.1s,baz=198,slow=32						
STKA	**Stephens Creek**	**76.65**	**121**	P	**P**	**17 11 41.3**	**+0.8**
	4.6nm,0.7s,baz=252,slow=3.8,SNR=10						
STKA				LR	LR	17 38 51.4	
	comp=Z,103nm,21.1s,baz=205,slow=31						
CPUP	**Villa Florida**	**76.98**	**246**	P	P	17 11 45.7	+3.2
	1.9nm,0.7s,baz=167,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**17 11 42.9**	**-0.6**
	2.5nm,1.0s,baz=221,slow=5.4,SNR=11						
ASAR				LR	LR	17 40 05.9	
	comp=Z,64nm,19.4s,baz=175,slow=31						
BDFB	**Brasilia**	**77.62**	**260**	LR	LR	17 38 41.8	
	comp=Z,45nm,21.6s,baz=239,slow=30						
WRA	**Warramunga Arr**	**79.93**	**108**	P	**P**	**17 11 58.3**	**-0.6**
	4.0nm,1.1s,baz=218,slow=4.1,SNR=10						
PBKT	**Sadao Pong**	**82.03**	**58**	P	**P**	**17 12 11.9**	**+2.0**
	5.6nm,1.5s						
CMAR	**Chiang Mai Arr**	**82.24**	**56**	P	**P**	**17 12 11.2**	**+0.2**
	3.3nm,1.1s,baz=227,slow=5.3,SNR=14						
CMAR				LR	LR	17 41 46.3	
	comp=Z,26nm,20.0s,baz=216,slow=31						
CHTO	**Chiang Mai**	**82.52**	**55**	P	**P**	**17 12 14.0**	**+1.6**
	21nm,1.5s						
CMMT	**Chiang Mai**	**82.52**	**55**	P	**P**	**17 12 13.9**	**+1.5**
	4.8nm,1.4s						
GEYT	**Alibeck**	**82.82**	**15**	P	**P**	**17 12 14.1**	**+0.5**
	2.2nm,1.0s,baz=214,slow=7.2,SNR=7.1						
GEYT				LR	LR	17 45 12.2	
	comp=Z,47nm,21.4s,baz=340,slow=33						
BRTR	**Keskin Array B**	**83.04**	**355**	P	**P**	**17 12 14.7**	**-0.1**
	0.9nm,1.0s,baz=163,slow=4.8,SNR=5.1						
BRTR				LR	LR	17 49 53.6	
	comp=Z,34nm,18.7s,baz=132,slow=36						
KEST	**Kesra**	**83.52**	**336**	LR	LR	17 51 44.3	
	comp=Z,154nm,18.5s,baz=318,slow=37						
KBZ	**Khabaz**	**86.92**	**2**	P	**P**	**17 12 35.5**	**+1.5**
	0.9nm,0.6s,baz=240,slow=19,SNR=3.7						
KSH	**Kashi**	**89.00**	**27**	*e*P	**P**	**17 12 47.5**	**+3.3**
KSH				pP	pwP	17 12 52.5	+5.3
KSH	**Kashi**	**89.00**	**27**	S	**S**	**17 23 28.0**	**-4.3**
KSH				pmax	pmax		
	comp=Z,77nm,4.8s						
KSH				LR	LR		
	comp=N,110nm,8.3s						
KSH				LR	LR		
	comp=E,110nm,9.9s						
URZ	**Urewera**	**89.99**	**148**	LR	LR	17 49 20.4	
	comp=E,91nm,18.6s,baz=198,slow=33						
ESDC	**Sonseca Array**	**91.65**	**328**	LR	LR	17 55 06.2	
	comp=E,143nm,18.5s,baz=310,slow=36						
AKASG	**Malin Array Be**	**94.27**	**353**	LR	LR	17 57 02.2	
	comp=E,14nm,20.2s,baz=315,slow=36						
MKAR	**Makanchi Array**	**97.58**	**28**	P	**P**	**17 13 22.6**	**-0.9**
	comp=E,0.3nm,0.8s,baz=213,slow=4.2,SNR=3.9						
MKAR				LR	LR	17 55 13.2	
	comp=E,35nm,18.3s,baz=258,slow=34						
S44A	**Carbondale**	**141.16**	**279**	P	**PKiKP**	**17 19 27.6**	**+5.1**
	baz=115						
T42A	**Van Buren**	**142.20**	**277**	P	**PKiKP**	**17 19 23.8**	**-0.9**
	baz=115						
W41B	**Gary Mavity, V**	**142.21**	**274**	P	**PKPdf**	**17 19 20.2**	**-1.6**
	baz=118						
S42A	**Caledonia**	**142.30**	**279**	P	**PKiKP**	**17 19 25.5**	**+0.6**
	baz=115						
S41A	**Jillco Farms,**	**142.91**	**278**	P	**PKPdf**	**17 19 21.1**	**-1.8**
	baz=115						
R41A	**Rosebud**	**142.94**	**279**	P	**PKPdf**	**17 19 20.7**	**-2.2**
	baz=114						
L42A	**Oliver, Polo**	**143.12**	**286**	P	PKPbc	17 19 20.5	+0.4
	baz=110						
J42A	**Columbus**	**143.17**	**288**	P	**PKPdf**	**17 19 21.2**	**-2.0**
	baz=105						
U40A	**Yellville**	**143.18**	**275**	P	**PKPdf**	**17 19 23.1**	**-0.4**
	baz=116						
L41A	**Preston**	**143.72**	**285**	P	**PKPdf**	**17 19 22.6**	**-1.6**
	baz=109						
K41A	**Shullsburg**	**143.76**	**286**	P	**PKPdf**	**17 19 23.1**	**-1.2**
	baz=109						
J41A	**Loganville**	**143.80**	**288**	P	**PKPdf**	**17 19 22.7**	**-1.6**
	baz=108						
JFWS	**Jewell Farm**	**143.82**	**287**	P	**PKPdf**	**17 19 23.9**	**-0.5**
	baz=108						
435B	**Jarrell**	**143.89**	**264**	P	**PKPdf**	**17 19 23.8**	**-1.0**
	baz=123						
H41A	**Junction City**	**143.93**	**290**	P	**PKPdf**	**17 19 22.9**	**-1.6**
	baz=106						
E41A	**Kenton**	**143.96**	**293**	P	**PKPdf**	**17 19 22.7**	**-1.8**
	baz=104						
N40A	**Mertquake, Sal**	**144.07**	**283**	P	PKPbc	17 19 22.6	-0.3
	baz=110						
M40A	**Post Highland**	**144.21**	**284**	P	**PKPdf**	**17 19 23.6**	**-1.5**
	baz=110						
L40A	**Anamosa**	**144.22**	**285**	P	**PKPdf**	**17 19 23.6**	**-1.5**
	baz=109						
J40A	**Soldiers Grove**	**144.31**	**287**	P	**PKPdf**	**17 19 24.0**	**-1.2**
	baz=108						
K40A	**Colesburg**	**144.37**	**286**	P	**PKPdf**	**17 19 24.2**	**-1.2**
	baz=108,SNR=7.7						
I40A	**Norwalk**	**144.38**	**288**	P	**PKPdf**	**17 19 25.0**	**-0.3**
	baz=107						
H40A	**Chili**	**144.43**	**290**	P	**PKPdf**	**17 19 24.8**	**-0.6**
	baz=106,SNR=9.5						
WHTX	**Lake Whitney,**	**144.43**	**266**	P	**PKPdf**	**17 19 25.2**	**-0.6**
	baz=121						
G40A	**Rib Lake**	**144.48**	**291**	P	**PKPdf**	**17 19 24.3**	**-1.1**
	baz=105						
E40A	**Wakefield**	**144.58**	**293**	P	**PKPdf**	**17 19 25.5**	**-0.1**
	baz=104						
F40A	**Park Falls**	**144.60**	**292**	P	**PKPdf**	**17 19 24.5**	**-1.1**
	baz=104,SNR=8.9						
M39A	**Webster**	**144.70**	**284**	P	**PKPdf**	**17 19 24.6**	**-1.3**
	baz=110,SNR=5.9						
L39A	**Vinton**	**144.79**	**285**	P	**PKPdf**	**17 19 25.5**	**-0.6**
	baz=109,SNR=5.8						
K39A	**Oelwein**	**144.90**	**286**	P	**PKPab**	**17 19 24.3**	**-1.1**
	baz=108						
J39A	**Decorah**	**144.97**	**287**	P	**PKPdf**	**17 19 26.4**	**0.0**
	baz=107,SNR=7.8						
I39A	**Houston**	**144.99**	**288**	P	**PKPdf**	**17 19 26.3**	**-0.1**
	baz=107,SNR=6.1						
E39A	**Mellen**	**145.00**	**292**	P	**PKPdf**	**17 19 26.5**	**+0.2**
	baz=104						
H39A	**Augusta**	**145.06**	**289**	P	**PKPbc**	**17 19 23.9**	**-2.0**
	baz=106						
F39A	**Loretta**	**145.13**	**292**	P	**PKPdf**	**17 19 26.1**	**-0.4**
	baz=104						
G39A	**Holcombe**	**145.15**	**290**	P	**PKPdf**	**17 19 26.2**	**-0.4**
	baz=105						
JCT	**Junction City**	**145.32**	**262**	P	**PKiKP**	**17 19 28.6**	**-2.7**
	baz=123						
G38A	**Ridgeland**	**145.58**	**290**	P	**PKPab**	**17 19 28.3**	**+0.4**
	baz=105						
F38A	**Pierce - Schro**	**145.79**	**291**	P	**PKiKP**	**17 19 29.8**	**-2.0**
	baz=104						
ABTX	**Abilene, Hawle**	**146.34**	**265**	P	**PKPdf**	**17 19 28.3**	**-0.8**
	baz=121						
WMOK	**Wichita Mounta**	**146.75**	**269**	P	**PKPab**	**17 19 30.8**	**-1.9**
	baz=118						
TXAR	**Lajitas Array**	**147.43**	**257**	PKPbc	**PKiKP**	**17 19 34.5**	**-1.3**
	comp=E,7.8nm,1.1s,baz=147,slow=3.0,SNR=21						
ECSD	**EROS Data Cent**	**148.50**	**286**	P	**PKiKP**	**17 19 37.2**	**-0.2**
	baz=105						
AGMN	**Agassiz Nation**	**148.91**	**295**	P	**PKiKP**	**17 19 37.0**	**-1.1**
	baz=98						
ULM	**Lac du Bonnet**	**149.14**	**298**	PKPbc	**PKPbc**	**17 19 36.7**	**-0.6**
	comp=E,4.5nm,0.7s,baz=62,slow=5.3,SNR=8.7						
MSTX	**Muleshoe**	**149.28**	**265**	P	**PKiKP**	**17 19 38.7**	**-0.8**
	baz=119						
MNTX	**Cornudas Mount**	**149.99**	**259**	P	**PKPbc**	**17 19 37.2**	**-2.9**
	baz=123						
ANMO	**Albuquerque**	**152.42**	**264**	P	**PKPbc**	**17 19 42.2**	**-3.6**
	baz=118						
YKA	**Yellowknife Ar**	**155.72**	**330**	PKP	**PKPdf**	**17 19 41.8**	**-0.6**
	comp=E,1.7nm,1.2s,baz=39,slow=1.6,SNR=6.7						
YKA				PKPab	**PKPab**	**17 20 09.4**	**+0.5**
	comp=E,0.5nm,0.9s,baz=44,slow=4.2,SNR=4.6						
PDAR	**Pinedale Array**	**157.46**	**279**	PKPab	**PKPab**	**17 20 19.9**	**+2.5**
	comp=E,0.5nm,0.8s,baz=126,slow=4.6,SNR=4.8						
DUG	**Dugway, Tooele**	**159.14**	**270**	P	**PKPdf**	**17 19 50.5**	**+2.8**
	baz=108						
NVAR	**Mina Array Bea**	**162.49**	**261**	PKPab	**PKPdf**	**17 20 41.4**	**+1.9**
	comp=E,0.2nm,0.4s,baz=134,slow=4.3,SNR=3.8						

MAN 08 17:06:13.1, 7.51N×122.97E, h32km, mb4.0, ML2.8, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.48**	**305**	*e*P	**Pn**	17 06 24.9	+1.1
IPIL				*e*S	Sn	17 06 33.0	+1.9
PAGZ	**Pagadian**	**0.53**	**50**	*e*P	**Pn**	17 06 25.0	+0.5
PAGZ				*e*S	Sn	17 06 33.2	+0.9
CTBH	**Cotabato--PC H**	**1.30**	**103**↑	*i* P	**Pn**	17 06 35.0	0.0
SKMP	**Bagumbayan, Su**	**1.84**	**122**	*e*P	**Pn**	17 06 43.0	+0.5
SKMP				*e*S	Sn	17 07 05.1	+0.3
CGP	**Cagayan de Oro**	**1.95**	**61**↓	*e*P	**Pb**	17 06 48.5	+0.5
CGP				*e*S	Sb	17 07 13.3	+1.4
BUKP	**Musuan**	**2.11**	**80**	*e*P	**Pn**	17 06 47.0	+0.8
BUKP				*e*S	Sb	17 07 16.0	-0.5

RSNC 08 17:11:04.6±1.3, 6.80N×76.04W, h2km±12km, ML3.2, Mw3.8, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HELC	**Santa Helena**	**0.79**	**140**	*e*P	Pg	17 11 19.4	-0.4
HELC				*e*S	Sg	17 11 30.4	+0.2
UREC	**San Jos de Ur**	**1.07**	**28**	*e*P	Pg	17 11 22.6	-2.5
UREC				*e*S	Sg	17 11 38.9	0.0
UREC				*i*		17 11 40.5	
	comp=Z,498nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.36**	**60**	*e*P	Pn	17 11 28.1	-2.5
ZARC				*e*S	Sg	17 11 46.5	-1.8
ZARC				*i*		17 11 51.1	
	comp=Z,239nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.59**	**99**↑	*e*P	Pn	17 11 33.2	-0.7
PTBC				*e*S	Sn	17 11 53.9	-1.1
PTBC				*i*		17 12 01.2	
	comp=Z,189nm,0.5s						
BRRC	**Barranca, Sant**	**2.33**	**82**	*e*P	Pn	17 11 43.2	-0.8
BRRC				*i*		17 12 25.6	
	comp=Z,105nm,0.7s						
SMLC	**San Martn de**	**2.78**	**44**	*e*P	Pn	17 11 48.9	-1.3
SMLC				*i*		17 12 34.4	
	comp=Z,186nm,0.9s						

IDC 08 17:12:04.9±1.7, 1.75N×123.38E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/26, mbtmp3.2/3, Error ellipse: s-maj=198.4km s-min=24.8km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.09**	**154**	P	P	17 17 22.6	+0.2
	0.4nm,0.5s,baz=332,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**27.26**	**159**	P	P	17 17 51.5	+0.4
	0.1nm,0.7s,baz=337,slow=7.1,SNR=4.3						
MKAR	**Makanchi Array**	**57.34**	**328**	P	P	17 21 54.5	-0.4
	0.2nm,0.3s,baz=121,slow=7.2,SNR=9.4						

UCR 08 17:14:59.6±2.2, 8.35N×82.79W, h14km±6km, MD3.9, ML4.3, 3C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.35**	**76**↑	*i* P	Pg	17 15 06.7	-0.1
DVD				AMP		17 15 07.0	
	comp=Z,28µm,0.2s						
DVD				*e*S	Sg	17 15 12.0	+0.5
BRU2	**Volcan**	**0.45**	**13**↓	*i* P	Pg	17 15 08.9	+0.2
BRU2				*i* S	Sb	17 15 16.2	0.0
TBS2		**0.46**	**17**↓	*i* P	Pb	17 15 09.8	+0.2
TBS2				*e*S	Sb	17 15

BANOM	**Banah** SNR=9.8	2.21 142	P	Pn	17 35 53.9	+1.2
ISRV	**Sarvestan** comp=Z,958nm,0.4s	2.25 319	*e*Pn IAMB	Pn IAmb	17 35 53.7 17 36 46.0	+0.1
IPAR	**Pars** comp=Z,596nm,0.6s	2.65 325	*e*Pn IAMB	Pn IAmb	17 36 00.6 17 36 58.9	+1.6
MDH	**Madha**	2.73 150	P	Pn	17 36 01.6	+1.8
TVBK	**TV Kerman** comp=Z,0.0nm,0.2s	2.87 36	IAMB	IAmb	17 36 12.2	
TVBK			*e*Pn	Pn	17 36 02.5	+0.4
FAQ	**Al Faqa, Dubai**	3.01 166	P	Pn	17 36 06.2	+2.5
KHGB	**Koh Gabri** comp=Z,0.0nm,0.4s	3.06 28	IAMB	IAmb	17 36 12.8	
KHGB			*e*Pn	Pn	17 36 05.0	+0.4
ASUD	**Al Ashush, Dub** SNR=5.6	3.08 171	P	Pn	17 36 08.0	+3.3
HATD	**Hatta, Dubai**	3.08 157	P	Pn	17 36 06.7	+2.0
ASHO	**Ashiyiah** SNR=19	3.19 159	P	Pn	17 36 08.2	+1.9
CHMN	**Cheshme madani** comp=Z,0.0nm,0.3s	3.24 47	IAMB	IAmb	17 36 18.3	
CHMN			*e*Pn	Pn	17 36 08.3	+1.1
IMEH	**Mehriz**	3.70 358	*e*Pn IAMB	Pn IAmb	17 36 15.2 17 36 30.4	+1.8
IMEH	comp=Z,207nm,0.3s					
SOHO	**SOHO**	3.86 156	P	Pn	17 36 16.2	+0.8
ISAD	**Sadrabad** comp=Z,196nm,0.6s	4.33 347	*e*Pn IAMB	Pn IAmb	17 36 23.0 17 37 31.8	+0.9
ISAD						
WSAR	**Wadi Sarin** comp=Z,0.6nm,0.3s,baz=311,slow=6.4,SNR=18	5.62 141	Pn Sn	Pn Sn	17 36 40.8 17 37 44.2	+1.2 +0.7
WSAR	comp=Z,0.4nm,0.3s,baz=241,slow=19,SNR=3.4					
MHTO	**MHTO**	7.26 156	P	Pn	17 37 03.0	+0.9
MHTO			S	Sn	17 38 22.4	-1.7
DQM	**DQM**	8.11 161	P	Pn	17 37 13.6	-0.3
DQM			S	Sn	17 38 40.3	-4.7
BRTR	**Keskin Array B** comp=Z,0.5nm,0.6s,baz=134,slow=10,SNR=4.0	21.25 310	P	P	17 40 02.5	+0.4
MKAR	**Makanchi Array** comp=Z,0.2nm,0.7s,baz=235,slow=5.1,SNR=2.5	28.80 41	P	P	17 41 14.2	+0.4
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=241,slow=10,SNR=2.9	34.25 32	P	P	17 42 01.1	-0.4
ZALV			LR	LR	17 57 27.3	
SONM	**Songino Array** comp=Z,0.7nm,0.6s,baz=242,slow=3.1,SNR=3.4	44.55 49	P	P	17 43 26.7	-1.0
NRIK	**Noril'sk** comp=Z,46nm,20.8s,baz=200,slow=41	45.84 16	LR	LR	18 06 39.4	
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.7s,baz=64,slow=7.2,SNR=3.1	51.46 265	P	P	17 44 21.6	+0.2

IDC 08 18:00:44.7±2.3, 5.89N×126.88E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/26, mbtmp3.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/13, Error ellipse: s-maj=175.0km s-min=26.6km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=344,slow=10,SNR=6.2	26.70 164		P	P	18 06 26.2	+0.3
ASAR	**Alice Springs** 0.1nm,0.6s,baz=349,slow=8.5,SNR=3.0	30.17 167		P	P	18 06 56.5	-0.3
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=118,slow=8.3,SNR=6.2	55.88 324		P	P	18 10 24.2	-0.1
MKAR	comp=Z,50nm,19.4s,baz=340,slow=36			LR	LR	18 34 08.7	

*ATH **08** 18:05:43.3, 41.99N×26.02E, h10km±3km, ML2.7/2, Error ellipse: s-maj=5.1km s-min=2.6km az=66.0*
*DDA **08** 18:05:43.0, 41.98N×26.05E, h7km±4km, ML2.8*
*SOF **08** 18:05:43.3, 42.05N×26.04E, h2km*
*THE **08** 18:05:43.8, 41.95N×26.09E, h4km±1km, ML2.5/5, Error ellipse: s-maj=2.3km s-min=0.8km az=135.0*
*ISK **08** 18:05:45.3, 41.85N×26.22E, h5km, ML2.7/26*
ISC 08 18:05:43.0±1.1, 41.99N±0.02×26.04E±0.02, h2km±10km, n84, σ0s79/98, 4C-8D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIM	**Dimitrovgrad**	0.38 280		*i* P	Pg	18 05 50.0	-0.4
EDRB	**Edirne**	0.54 104		PG	Pg	18 05 53.5	+0.1
EDRB				SG	Sg	18 06 00.4	0.0
EDRB	**Edirne**	0.54 104		P	Pg	18 05 53.5	+0.1
EDRB				S	Sg	18 06 00.6	+0.2
JMB	**Yambol**	0.63 40		*i* P	Pg	18 05 54.6	-0.5
KIRK	**Kırklareli**	0.81 104		*i* P	Pg	18 05 58.6	0.0
KIRK				*i* S	Sg	18 06 08.9	-0.3
RDO	**Rodhopi**	0.92 204		PG	Pn	18 06 02.5	-0.5
RDO	**Rodhopi**	0.92 204		P	Pg	18 06 00.9	+0.3
RDO				S	Sb	18 06 14.5	+0.2
RDO	**Rodhopi**	0.92 204		P	Pg	18 06 00.9	+0.3
RDO				S	Sb	18 06 14.3	0.0
RDO	comp=E,1390μm,0.4s			AML	AML	18 06 16.9	
RDO	comp=N,1667μm,0.3s			AML	AML	18 06 18.7	
RZN	**Rozhen**	1.03 254		*i* P	Pb	18 06 03.8	+0.1
ALN	**Alexandroupoli**	1.09 180		PG	Pg	18 06 04.1	+0.3
ALN	**Alexandroupoli**	1.09 180		P	Pg	18 06 04.1	+0.3
ALN				S	Sg	18 06 18.4	+0.5
ALN	**Alexandroupoli**	1.09 180		P	Pg	18 06 04.1	+0.3
ALN				S	Sg	18 06 18.3	+0.5
ALN	comp=E,424μm,0.3s			AML	AML	18 06 23.6	
ALN	comp=N,374μm,0.5s			AML	AML	18 06 23.7	
PHSR	**Pinarhisar**	1.16 107		PG	Pg	18 06 04.7	-0.6
PHSR	**Pinarhisar**	1.16 107		*i* P	Pg	18 06 04.6	-0.7
PHSR	**Pinarhisar**	1.16 107		S	Sg	18 06 19.2	-1.2
ENEZ	**Enez**	1.25 176		PN	Pg	18 06 07.3	+0.3
ENEZ				SN	Sn	18 06 24.5	-0.4
KESN	**Edirne-Kesan**	1.25 157		*i* P	Pg	18 06 07.3	+0.3
KESN				*i* S	Sb	18 06 24.4	+0.1
SZH	**Strazhica**	1.28 357		*i* P	Pn	18 06 07.5	-0.5
ERIK	**Erikli-Kesan**	1.36 165		PN	Pn	18 06 08.9	-0.1
TKD	**Tekirdag**	1.50 131		PN	Pg	18 06 12.3	+0.7
KAVA	**Kavala**	1.51 230		P	Pb	18 06 11.2	+0.1
KAVA				S	Sb	18 06 31.3	-0.1
KAVA	**Kavala**	1.51 230		P	Pn	18 06 11.3	+0.1
CRLT	**Corlu**	1.53 123		PN	Pb	18 06 12.3	+0.1
RKY	**Sarkoy-Tekirda**	1.55 146		PN	Pn	18 06 11.4	-0.4
SMTH	**Samothraki Isl**	1.56 194		P	Pn	18 06 11.7	-0.1
SMTH				S	Sb	18 06 33.0	+0.2
SMTH	**Samothraki Isl**	1.56 194		P	Pg	18 06 13.0	+0.1
SBT4	**Kumbag-Tekirda**	1.61 135		PN	Pb	18 06 13.6	+0.2
GELI	**Tayfur-Gelibol**	1.62 168		PN	Pb	18 06 13.7	+0.1
THAS	**Thassos island**	1.70 216		P	Pn	18 06 13.1	-0.6
THAS				S	Sb	18 06 36.6	-0.2
THAS	**Thassos island**	1.70 216		P	Pb	18 06 15.4	+0.5
THAS				S	Sg	18 06 38.0	+0.5
LPK	**Lapseki**	1.70 161		PN	Pg	18 06 15.5	-0.1
NVR	**Nevrokopi**	1.75 249		P	Pb	18 06 15.5	-0.4
CTYL	**Yalikoy Yolu**	1.76 106		PN	Pb	18 06 15.4	-0.6
CTYL	**Yalikoy Yolu**	1.76 106		*i* P	Pb	18 06 15.3	-0.7
CTYL	**Yalikoy Yolu**	1.76 106		S	Sn	18 06 36.8	-0.7
MMB	**Musomiste**	1.77 258		*i* P	Pb	18 06 16.6	+0.3
SLVT	**Silivri**	1.79 114		PN	Pb	18 06 16.5	-0.1
KRBG	**Karabiga-Canak**	1.85 149		PN	Pn	18 06 15.7	-0.1
CTKS	**Kestanelik-??a**	2.00 111		PN	Pb	18 06 19.6	-0.4
SRS	**Serrai**	2.03 246		P	Pn	18 06 18.4	+0.1
EDC	**Edincik**	2.14 139		PN	Pn	18 06 20.5	+0.8
BOZC	**Bozcaada**	2.14 180		PN	Pb	18 06 21.8	-0.7
BOZC	**Bozcaada**	2.14 180		*i* P	Pb	18 06 21.3	-1.2
BOZC	comp=Z,102nm,0.1s			IAML_P			
EZN	**Ezine**	2.17 174		PN	Pb	18 06 22.2	-0.8
EZN	**Ezine**	2.17 174		*i* P	Pb	18 06 23.5	+0.5
LIA	**Limnos Island**	2.18 198		P	Pn	18 06 19.9	-0.4
VTS	**Vitosha**	2.19 287		*i* P	Pn	18 06 20.4	-0.2
VTS	**Vitosha**	2.19 287		S	Sn	18 06 48.1	-0.2
VTS	**Vitosha**	2.19 287		P	Pn	18 06 20.1	-0.5
VTS	**Vitosha**	2.19 287		*i* P	Pn	18 06 20.3	-0.3
BGKT	**Bogazkoy**	2.20 110		PN	Pb	18 06 22.4	-1.1
SGRR	**Singureni**	2.24 359		*i* P	Pb	18 06 24.0	-0.2
SGRR	**Singureni**	2.24 359		S	Sg	18 06 53.8	-1.1
OUR	**Ouranopolis**	2.27 224		PN	Pb	18 06 25.7	+1.1
OUR	**Ouranopolis**	2.27 224		P	Pn	18 06 20.5	-1.0
BAYC	**CANAKKALE_Bayr**	2.27 170		*i* P	Pn	18 06 22.4	+0.8
VLAD	**Vladila**	2.34 330		S	Sg	18 06 58.8	+0.5
KLYT	**Kilyos**	2.37 107		PN	Pn	18 06 24.5	+1.6
KLYT	**Kilyos**	2.37 107		*i* P	Pn	18 06 23.0	+0.1
KLYT	**Kilyos**	2.37 107		S	Sn	18 06 53.0	+0.5
RASA	**Rasa**	2.37 20		S	Sb	18 06 57.2	+1.0
ISK	**Istanbul-Kandi**	2.45 111		PN	Pn	18 06 25.2	+1.2
KAVV	**Kandilli-Istan**	2.45 111		PN	Pb	18 06 26.0	-1.7
KCTX	**Karacabey (Bur**	2.45 134		PN	Pn	18 06 25.3	+1.2
KNT	**Kendrikon**	2.50 252		P	Pn	18 06 24.4	-0.3
BALY	**Balya**	2.54 151		*i* P	Pn	18 06 24.9	-0.4
ARMT	**Armutlu**	2.56 123		PN	Pn	18 06 27.1	+1.6
BUY	**Buyukada**	2.58 115		PN	Pb	18 06 28.1	-1.8
BUY	**Buyukada**	2.58 115		P	Pb	18 06 28.6	-1.3
HUMR	**Humele**	2.66 343		*i* P	Pb	18 06 31.8	+0.5
VAY	**Valandovo**	2.68 257		*i* Pn	Pg	18 06 33.9	-0.5
VAY				*i* Sn	Sg	18 07 10.7	+1.5
SULR		2.70 3		*i* P	Pb	18 06 31.8	-0.2
AYVA	**Ayvalik**	2.72 169		*i* P	Pb	18 06 33.6	+1.3
PAIG	**Paliouri**	2.72 222		P	Pn	18 06 26.9	-0.9
SILT	**Sile**	2.83 106		PN	Pn	18 06 30.7	+1.5
SILT	**Sile**	2.83 106		*i* P	Pn	18 06 30.9	+1.7
STIP	**Stip**	2.89 266		*i* Pn	Pn	18 06 27.5	-2.6
STEP	**BALIKESIR_Sava**	2.90 153		*i* P	Pn	18 06 29.1	-1.2
TLB	**Topalu**	2.98 29		*i* P	Pn	18 06 31.9	+0.6
DURS	**Dursunbey**	3.01 141		*i* P	Pg	18 06 40.4	-0.4
TIRR	**Tirgusor**	3.02 34		*i* P	Pb	18 06 38.3	+0.8
KAND	**Kocaeli-Kandir**	3.24 105		*i* P	Pn	18 06 35.7	+0.8
MLR	**Muntele Rosu**	3.51 359		*i* P	Pn	18 06 40.3	+1.6
BORA	**Eskisehir**	3.95 121		*i* P	Pn	18 06 44.2	-0.5

MAN 08 18:14:11.7, 6.57N×124.65E, h1km, mb3.9, ML2.7, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	0.12 246		*e*P	Pg	18 14 13.7	-0.2
SKMP				*e*S	Sg	18 14 16.3	+1.0
CTBH	**Cotabato--PC H**	0.76 328		*i* P	Pg	18 14 26.5	+0.2
CTBH				*i* S	Sb	18 14 38.0	-0.7
PAGZ	**Pagadian**	1.79 315		*e*P	Pn	18 14 44.2	+0.5
PAGZ				*e*S	Sn	18 15 07.6	+0.5

JSN 08 18:21:32.1±2.0, 17.61N×78.68W, h4km±48km, MD3.6, 1C-2D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEJ	**Negril**	0.72 27		*i* P	Pg	18 21 45.7	-0.2
MCJ	**Malvern**	0.99 71		*i* P	Pg	18 21 49.4	-1.8
MCJ				*i* S	Sg	18 22 03.4	-0.7
BBJ	**Bamboo Saint A**	1.55 60		*i* P	Pn	18 21 57.4	-3.1
STH	**Stony Hill**	1.84 75		*i* P	Pn	18 22 03.2	-1.3
HOJ	**Hope**	1.88 78		*i* P	Pn	18 22 04.4	-0.6

*ISCJB **08** 18:21:38.8±0.8, 7.33S±0.06×129.36E±0.08, h79km, mb3.3/1, Error ellipse: s-maj=11.4km s-min=7.6km az=19.0*
*IDC **08** 18:21:40.6±1.6, 7.29S×129.31E, h129km±21km, mb3.0/1, mb1 3.2/6, mb1mx3.0/33, mbtmp3.5/6, Error ellipse: s-maj=21.5km s-min=12.5km az=107.0*
ISC 08 18:21:40.5±1.0, 7.39S±0.06×129.41E±0.10, h79km, n6, σ1s99/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 3.9nm,0.3s,baz=305,slow=4.5,SNR=8.4	6.33 243		P	Pn	18 23 12.5	+1.2
BATI				S	Sn	18 24 20.9	-1.4
SIJI	**Sorong** 0.3nm,0.3s,baz=253,slow=19,SNR=5.6	6.74 16		P	Pn	18 23 18.2	+1.4
SIJI				S	Sn	18 24 29.6	-2.5
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=8.7,slow=13,SNR=6.1	11.26 199		P	Pn	18 24 20.3	+1.8
FITZ				S	Sn	18 26 19.7	-2.9
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=346,slow=13,SNR=16	13.36 160		P	Pn	18 24 47.4	+0.5
WRA				S	Sn	18 27 12.3	-1.5
ASAR	**Alice Springs** 0.2nm,0.3s,baz=337,slow=9.1,SNR=33	16.75 166		P	P	18 25 31.0	-0.2
ASAR				S	Sn	18 28 37.1	+1.3
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=118,slow=8.0,SNR=6.5	68.23 327		P	P	18 32 26.3	-6.5

UCR 08 18:35:34.2±1.4, 13.53N×90.73W, h7km±9km, MD4.0, ML4.0, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	0.69 24		*e*P	Pb	18 35 48.5	-0.3
PCG	**Pacaya**	0.86 8		*e*P	Pg	18 35 50.7	-0.2
FUG	**Fuego 3**	0.92 353		*e*P	Pg	18 35 50.6	-1.2
NBG	**Las Nubes**	1.11 19		*e*P	Pg	18 35 55.4	-0.2
CEVE	**Cerro Verde**	1.11 75		*i* P	Pg	18 35 55.0	-0.6
CEVE				*e*S	Sn	18 36 11.9	-0.4
CEVE	comp=Z,8μm,0.2s			IAML		18 36 17.7	
RTR	**El Retiro**	1.11 71		*i* P	Pg	18 35 55.2	-0.4
SBLS	**San Blas**	1.12 74		*e*P	Pg	18 35 55.0	-0.7
BOQS	**Boqueron**	1.42 82		*e*P	Pn	18 35 59.9	-0.9
BOQS				*e*S	Sb	18 36 19.4	-0.3
SNET	**Serv Nac Est T**	1.47 84		*e*P	Pn	18 36 00.3	-0.9
SNET				*e*S	Sn	18 36 20.1	-0.6
LFRS	**El Faro**	1.62 87		*e*P	Pn	18 36 02.8	-0.7
LBRS	**Las Brisas**	1.65 83		*i* P	Pn	18 36 03.4	-0.4
SNVI	**San Vicente**	1.84 87		*e*P	Pn	18 36 06.0	-0.4
MRL	**Marmol**	1.84 33		*e*P	Pn	18 36 05.9	-0.6
TECA	**Tecapa**	2.17 91		*e*P	Pn	18 36 10.4	-0.6
PACA	**Pacayal**	2.34 91		*e*P	Pn	18 36 13.1	-0.3
PACA				*e*S	Sb	18 36 44.5	-1.6
PACA				IAML		18 36 47.8	
VSM	**San Miguel**	2.39 92		*e*P	Pn	18 36 14.4	+0.3
CAHU	**Cacaocuatique**	2.46 84		*e*P	Pn	18 36 13.8	-1.2
LCND	**La Caada**	2.77 94		*e*P	Pn	18 36 19.1	0.0
LCND				*e*S	Sn	18 36 54.2	+1.3
LCND				IAML		18 37 02.6	
CNCH	comp=Z,647nm,0.4s **Conchagua**	2.83 95		*e*P	Pn	18 36 19.7	-0.3

*ISCJB **08** 18:44:56.8±0.8, 7.11S±0.05×129.83E±0.08, h100km, mb3.5/2, Error ellipse: s-maj=11.2km s-min=7.3km az=179.2*
*IDC **08** 18:45:02.3±2.1, 7.17S×129.63E, h132km±22km, mb3.3/2, mb1 3.5/7, mb1mx3.1/49, mbtmp3.9/7, Error ellipse: s-maj=26.5km s-min=19.2km az=110.0*
ISC 08 18:44:59.6±0.9, 7.23S±0.06×129.84E±0.10, h100km, n7, σ3s18/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 2.3nm,0.3s,baz=244,slow=23,SNR=32	6.48 13		P	Pn	18 46 35.0	+2.5
SIJI				S	Sn	18 47 40.5	-4.5
BATI	**Baumata** 1.6nm,0.3s,baz=140,slow=3.1,SNR=6.7	6.78 244		P	Pn	18 46 39.0	+2.3
BATI				S	Sn	18 47 51.4	-1.0
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=33,slow=14,SNR=30	11.55 200		P	Pn	18 47 42.3	+1.0
FITZ				S	Sn	18 49 44.1	-4.3
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=334,slow=13,SNR=51	13.37 161		P	Pn	18 48 07.6	+2.2
WRA				S	Sn	18 50 30.8	-1.8
ASAR	**Alice Springs** 0.6nm,0.3s,baz=339,slow=9.4,SNR=28	16.80 167		P	P	18 48 52.2	+2.8
ASAR				S	Sn	18 51 51.5	-4.1
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=121,slow=7.8,SNR=16	68.33 327		P	P	18 55 48.8	-1.4
KURBB	**Kurchatov Arra**	72.62 329		P	P	18 56 13.9	-2.2
	0.2nm,0.5s,baz=125,slow=4.5,SNR=2.7						

TAP 08 19:28:38.7, 24.45N×121.96E, h12km±1km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1** baz=57	0.18 57		*e*P	Pg	19 28 43.4	+0.6
EOS1	baz=57			*e*S	Sg	19 28 46.7	+1.2
TWC	**Suao** baz=329	0.19 327		*i* P	Pb	19 28 43.8	-0.4
TWC	baz=329			S	Sg	19 28 46.4	+0.6
NANB	**Nanao** baz=263	0.19 263		P	Pb	19 28 44.1	-0.1
NANB	baz=263			S	Sg	19 28 47.3	+1.4
ENA	**Nanau** baz=262	0.20 264		P	Pb	19 28 44.1	-0.3
ENA	baz=262			*e*S	Sg	19 28 47.4	+1.3
TWE	**Neicheng** baz=316	0.38 315		*e*P	Pg	19 28 45.3	-1.1
TWE	baz=316			*e*S	Sg	19 28 52.1	+0.7
ENTT	**Nioudou** baz=297	0.41 298		*e*P	Pb	19 28 47.9	0.0
NACB	**Ninganchiao** baz=230	0.43 231		*e*P	Pb	19 28 48.0	-0.3
NACB	baz=230			*e*S	Sb	19 28 54.3	-0.5
NDT	**Datong Townshi** baz=290	0.43 291		*e*P	Pb	19 28 48.5	+0.1
NDT	baz=290			*e*S	Sb	19 28 55.0	+0.1
ETLH	**Xiulin Townshi** baz=240	0.50 241		*e*P	Pb	19 28 49.3	-0.2
NNSB	**Datong** baz=267	0.53 268		*e*P	Pb	19 28 49.6	-0.4
NWLT	**Wulai** baz=308	0.53 308		*e*P	Pb	19 28 50.5	+0.5
TIPB	**Shuangxi** baz=346	0.53 347		*e*P	Pb	19 28 50.8	+0.7
TIPB	baz=346			*e*S	Sb	19 28 58.3	+0.5
YHNB	**Yeheng** baz=292	0.57 292		*e*P	Pg	19 28 50.3	+0.3
YHNB	baz=292			*e*S	Sb	19 28 58.8	-0.2

*IDC **08** 19:43:26.4±3.4, 24.25S×68.53W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/32, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=94.8km s-min=52.8km az=55.0*
*SJA **08** 19:43:45.8±1.1, 22.96S×68.21W, h138km±7km, ML2.8, MW2.9*
*ISCJB **08** 19:43:46.8±0.6, 22.95S±0.05×68.30W±0.06, h140km±7km, mb3.4/2, Error ellipse: s-maj=9.7km s-min=7.9km az=178.5*
*GUC **08** 19:43:47.7±0.6, 22.94S×68.48W, h147km±4km, ML3.6*
ISC 08 19:43:46.9±1.7, 22.96S±0.05×68.30W±0.06, h143km±13km, n31, σ0s66/41, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	0.66 302		*e*P	Pn	19 44 08.2	-0.7
LVC	comp=Z,304nm,0.1s			IAML		19 44 08.6	
LVC				*e*S	Sn	19 44 24.4	-1.1
PB15	**IPOC Station P**	1.10 257		*e*P	Pn	19 44 12.4	+0.2
PB15				*e*S	Sn	19 44 31.8	+0.4
PB15	**IPOC Station P**	1.10 257		*e*P	Pn	19 44 12.4	+0.2
PB15				*i* S	Sn	19 44 31.6	+0.1
PB06	**IPOC Station P**	1.20 282		*e*P	Pn	19 44 13.3	+0.3
PB06	**IPOC Station P**	1.20 282		*e*P	Pn	19 44 13.2	+0.3
PB06				*i* S	Sn	19 44 32.9	0.0
PB06	comp=N,695nm,0.3s			IAML		19 44 35.2	
PB09	**IPOC Station P**	1.45 323		*e*P	Pn	19 44 16.3	+0.7
PB09	**IPOC Station P**	1.45 323		*e*P	Pn	19 44 16.1	+0.5
PB09				*i* S	Sn	19 44 38.0	+0.6
PB03	**IPOC Station P**	1.62 304		*e*P	Pn	19 44 17.8	+0.4
PB03	**IPOC Station P**	1.62 304		*e*P	Pn	19 44 17.8	+0.4
PB03				*i* S	Sn	19 44 40.8	0.0
PB03	comp=N,710nm,0.3s			IAML		19 44 43.3	
PB05	**IPOC Station P**	1.75 273		*e*P	Pn	19 44 19.1	+0.2
PB05	**IPOC Station P**	1.75 273		*e*P	Pn	19 44 18.8	-0.1
PB05				*i* S	Sn	19 44 42.6	-0.8
PB04	**IPOC Station P**	1.81 290		*e*P	Pn	19 44 20.1	+0.5
PB04	**IPOC Station P**	1.81 290		*e*P	Pn	19 44 20.1	+0.5
PB04				*i* S	Sn	19 44 45.7	+1.0
PB04	comp=N,455nm,0.4s			IAML		19 44 50.4	
PB07	**IPOC Station P**	1.91 310		*e*P	Pn	19 44 21.4	+0.6
PB07	**IPOC Station P**	1.91 310		*e*P	Pn	19 44 21.4	+0.6
PB07				*i* S	Sn	19 44 46.7	0.0
PB07	comp=N,772nm,0.3s			IAML		19 44 48.8	
PB10	**IPOC Station P**	2.14 255		*e*P	Pn	19 44 23.7	+0.4
PB10	**IPOC Station P**	2.14 255		*e*P	Pn	19 44 23.8	+0.4
PB10				*i* S	Sn	19 44 50.1	-1.2
PB01	**IPOC Station P**	2.20 330		*e*P	Pn	19 44 24.4	+0.2
PB01				*e*S	Sn	19 44 52.5	-0.2
PB01	comp=E,353nm,0.2s			IAML		19 44 53.5	
PB02	**IPOC Station P**	2.20 318		*e*P	Pn	19 44 24.6	+0.5
PB02	**IPOC Station P**	2.20 318		*e*P	Pn	19 44 24.4	+0.3
PB02				*i* S	Sn	19 44 52.5	-0.2
PB14	**IPOC Station P**	2.54 229		*e*P	Pn	19 44 28.5	0.0
YJA	**Yavi**	2.69 74		*e*P	Pn	19 44 30.1	-0.5
YJA	comp=Z,16nm,0.4s			IAML		19 44 30.4	
PB08	**IPOC Station P**	2.91 344		*e*P	Pn	19 44 34.5	+1.2
SLA	**San Lorenzo**	3.11 125		*e*P	Pn	19 44 36.1	+0.6
PB11	**IPOC Station P**	3.42 338		*e*P	Pn	19 44 39.1	-0.5
PSGCX	**Pisagua**	3.75 333		*e*P	Pn	19 44 42.7	-1.1
MNMCX	**Minye Minye**	3.99 342		*e*P	Pn	19 44 46.9	-0.3
PB12	**IPOC Station P**	4.72 336		*e*P	Pn	19 44 54.9	-1.7
LPAZ	**La Paz** comp=Z,0.8nm,0.3s,baz=190,slow=7.3,SNR=16	6.64 1		Pn	Pn	19 45 23.7	+1.0
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.4s,baz=249,slow=5.0,SNR=8.2	77.32 70		P	P	19 55 27.1	+1.0
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.4s,baz=137,slow=4.7,SNR=3.6	92.74 340		P	P	19 56 45.2	+3.0

TAP 08 20:37:48.4, 24.35N×121.41E, h8km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong** baz=343	0.08 342		P	Pg	20 37 50.9	+0.3
NNSB	baz=343			S	Sg	20 37 52.4	+0.2
NNS	**Nan Shan** baz=344	0.10 339		*i* P	Pg	20 37 51.2	+0.4
NNS	baz=344			*i* S	Sg	20 37 52.9	+0.3
ETLH	**Xiulin Townshi** baz=155	0.16 155		*e*S	Sg	20 37 55.3	+1.3
WHF	**Hehuan Shan** baz=200	0.24 213		P	Pg	20 37 54.0	+0.6
TDCB	**Techi** baz=240	0.25 247		*e*S	Sg	20 37 59.2	+2.4
NDT	**Datong Townshi** baz=22	0.27 20		P	Pg	20 37 54.1	+0.3
YHNB	**Yeheng** baz=344	0.32 354		*e*P	Pg	20 37 55.3	+0.5

mb4.3/14, Error ellipse: s-maj=15.0km s-min=7.2km az=165.2

ISC 08 20:38:36.9±0.9, **13°75S**±0°08×**166°0E**±0°1, **h31**km, **n29**, σ**2s06**/32, **mb4.5**/14, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.28**	**305**	*e*Pn	**Pn**	**20 40 20.7**	**-0.4**
MARNC	**Mare, Loyalty**	**7.94**	**166**	*e*Pn	**Pn**	**20 40 30.7**	**+0.4**
DZM	**Mont Dzumac**	**8.29**	**177**	Pn	**Pn**	**20 40 34.0**	**-1.2**
	2.5nm,0.3s,baz=353,slow=24,SNR=17						
DZM				Sn	**Sn**	**20 42 03.4**	**-4.5**
	0.1nm,0.3s,baz=323,slow=20,SNR=2.0						
ONTNC	**Ouen Toro**	**8.53**	**177**	*e*Pn	**Pn**	**20 40 37.7**	**-0.6**
ONTNC				*e*Sn	**Sn**	**20 42 11.1**	**-2.4**
PINNC	**Pines Island,**	**8.93**	**171**	*e*Pn	**Pn**	**20 40 44.1**	**+0.2**
RABL	**Rabaul**	**16.59**	**304**	*e*Pn	**Pn**	**20 42 23.9**	**-3.4**
	62nm,0.6s						
EIDS	**Eidsvold**	**18.14**	**228**	*e*P	**P**	**20 42 46.9**	**+0.1**
	32nm,1.4s						
STKA	**Stephens Creek**	**28.68**	**227**	*e*P	**P**	**20 44 35.1**	**+3.8**
	4.6nm,1.6s						
STKA	**Stephens Creek**	**28.68**	**227**	P	**P**	**20 44 30.8**	**-0.5**
	0.4nm,0.4s,baz=59,slow=18,SNR=2.4						
WB2	**Warramunga Arr**	**30.83**	**254**	*e*P	**P**	**20 44 51.6**	**+1.2**
WRAB	**Tennant Creek**	**30.83**	**254**	*e*P	**P**	**20 44 53.7**	**+3.3**
	21nm,1.7s						
WR1	**Warramunga Arr**	**30.84**	**254**	*e*P	**P**	**20 44 47.9**	**-2.6**
	47nm,2.0s						
WRA	**Warramunga Arr**	**30.84**	**254**	P	**P**	**20 44 47.9**	**-2.6**
	0.3nm,0.6s,baz=86,slow=9.1,SNR=4.3						
WRA				PcP	**PcP**	**20 47 48.4**	**+1.1**
	0.5nm,0.9s,baz=97,slow=2.4,SNR=2.4						
AS01	**Alice Springs**	**31.80**	**247**	*e*P	**P**	**20 45 01.9**	**+2.9**
ASAR	**Alice Springs**	**31.84**	**247**	P	**P**	**20 44 58.1**	**-1.3**
	0.6nm,0.7s,baz=73,slow=10.0,SNR=2.8						
BBOO	**Buckleboo**	**33.19**	**230**	*e*P	**P**	**20 45 12.9**	**+1.8**
	29nm,1.6s						
MTN	**Manton Dam**	**33.88**	**267**	*e*P	**P**	**20 45 18.5**	**+1.3**
	31nm,1.6s						
VNDA	**Vanda**	**63.81**	**181**	*e*P	**P**	**20 49 07.6**	**+1.9**
	18nm,1.9s						
CASY	**Casey**	**63.95**	**202**	*e*P	**P**	**20 49 09.1**	**+2.3**
	23nm,1.4s						
CMAR	**Chiang Mai Arr**	**73.38**	**294**	P	**P**	**20 50 06.9**	**+0.5**
	0.3nm,0.7s,baz=105,slow=5.7,SNR=3.1						
ULN	**Ulaanbaatar**	**80.59**	**324**	*e*P	**P**	**20 50 46.6**	**0.0**
	3.2nm,1.0s						
RSO	**Redoubt South**	**80.99**	**19**	*e*P	**P**	**20 50 46.2**	**-2.3**
ILAR	**Eielson Array**	**86.00**	**18**	P	**P**	**20 51 14.3**	**+0.4**
	0.7nm,0.6s,baz=237,slow=4.8,SNR=14						
ILB	**Eielson Array**	**86.00**	**18**	*e*P	**P**	**20 51 14.7**	**+0.8**
	27nm,1.9s						
MK01	**Makanchi Array**	**95.60**	**317**	*e*P	**P**	**20 51 59.0**	**-0.3**
MK32	**Makanchi Array**	**95.61**	**317**	*e*P	**P**	**20 51 59.6**	**+0.2**
MKAR	**Makanchi Array**	**95.61**	**317**	P	**P**	**20 51 59.6**	**+0.2**
	0.6nm,0.7s,baz=96,slow=6.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**95.85**	**324**	P	**P**	**20 51 58.0**	**-2.2**
	0.4nm,0.3s,baz=120,slow=5.2,SNR=3.0						
ZAA1	**Zalesovo Array**	**95.85**	**324**	*e*P	**P**	**20 51 58.0**	**-2.2**

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*NEIC **08** 20:43:22.7±2.2, 20°.92S×173°.83W, h6km±13km, mb5.3/225, Error ellipse: s-maj=5.0km s-min=2.8km az=139.0*

*IDC **08** 20:43:22.1±0.4, 20°.85S×173°.91W, h0km, mb4.7/26, mb1 4.9/28, mb1mx4.8/40, mbtmp4.7/28, ML4.8/2, MS4.3/12, Ms1 4.3/12, ms1mx4.0/28, Error ellipse: s-maj=18.9km s-min=11.7km az=142.0*

*BJI **08** 20:43:24.5, 20°.42S×173°.36W, h21km, mb5.0/32, mB5.5/23, Ms5.3/14, Ms7 5.0/6*

*ISCJB **08** 20:43:25.1±0.1, 20°.91S±0°.03×173°.90W±0°.03, h31km, mb5.2/254, MS4.4/15, Error ellipse: s-maj=4.8km s-min=2.4km az=41.1*

*BGR **08** 20:43:25.5±0.0, 22°.16S×173°.65W, h35km±2km, Ms4.9*

*MOS **08** 20:43:26.1±1.2, 20°.75S×173°.92W, h33km, mb5.3/60, Error ellipse: s-maj=9.8km s-min=6.8km az=62.0*

ISC 08 20:43:23.9±0.5, **20°.93S**±0°.05×**173°.83W**±0°.06, **h15**km±2km, **h15**km:**pP-P, n702,** σ**1s19**/723, **mb5.2**/253, **MS4.5**/15, **43C-18D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.11**	**64**	P	Pn	20 44 18.8	-7.3
	baz=3.8,SNR=42						
NIUE	**Niue**	**4.11**	**64**	*e*Pn	Pn	20 44 18.7	-7.5
NIUE				*e*Sn	Sn	20 44 58.9	-15
MSVF	**Nonsavu**	**8.30**	**291**	*e*Pn	Pn	20 45 29.6	+5.7
MSVF	**Nonsavu**	**8.30**	**291**	*e*P	Pn	20 45 29.7	+5.7
RAO	**Raoul Island**	**9.07**	**203**	*e*Pn	**Pn**	**20 45 30.6**	**-3.8**
RAO	**Raoul Island**	**9.07**	**203**	*e*P	**Pn**	**20 45 30.6**	**-3.8**
GLKZ	**Green Lake**	**9.08**	**203**	P	**Pn**	**20 45 33.7**	**-0.8**
GLKZ				S	**Sn**	**20 47 12.0**	**-4.5**
RAR	**Rarotonga**	**13.12**	**94**	*e*P	Pn	20 46 22.7	-7.2
RAR	**Rarotonga**	**13.12**	**94**	Pn	Pn	20 46 22.4	-7.5
	15nm,0.3s,baz=250,slow=6.5,SNR=19						
RAR				Sn	Sn	20 48 35.2	-20
	3.2nm,0.3s,baz=205,slow=4.6,SNR=2.9						
RAR				LR	LR	20 51 08.9	
	comp=Z,1μm,18.0s,baz=316,slow=35						
MARNC	**Mare, Loyalty**	**16.93**	**265**	*e*Pn	**Pn**	**20 47 20.1**	**-0.3**
	538nm,1.5s						
PINNC	**Pines Island,**	**17.48**	**261**	*e*Pn	**P**	**20 47 29.2**	**+0.9**
	267nm,1.6s						
OUZ	**Omahuta**	**18.02**	**215**	*e*Pn	**P**	**20 47 35.4**	**+1.1**
	215nm,1.9s						
KNTN	**Kanton**	**18.17**	**7**	*e*Pn	**P**	**20 47 37.4**	**+1.4**
	496nm,1.8s						
WCZ	**Waipu Caves**	**18.19**	**212**	P	**P**	**20 47 37.7**	**+1.6**
HAZ	**Te Kaha**	**18.27**	**202**	P	**Pn**	**20 47 35.6**	**-1.3**
ONTNC	**Ouen Toro**	**18.39**	**262**	*e*P	**P**	**20 47 42.4**	**+4.0**
	180nm,1.6s						
DZM	**Mont Dzumac**	**18.39**	**263**	*e*P	**P**	**20 47 41.1**	**+2.5**
	166nm,1.1s						
DZM				*e*LR	LR	20 52 00.3	
	comp=Z,1μm,22.7s						
DZM	**Mont Dzumac**	**18.39**	**263**	*e*P	**P**	**20 47 40.6**	**+2.0**
	67nm,1.0s						
DZM	**Mont Dzumac**	**18.39**	**263**	P	**P**	**20 47 39.0**	**+0.4**
	1.7nm,0.3s,baz=66,slow=16,SNR=16						
DZM				LR	LR	20 54 02.8	
	comp=Z,1μm,18.7s,baz=83,slow=35						
PUZ	**Puketiti**	**18.40**	**200**	P	**Pn**	**20 47 40.2**	**+1.6**
RUGZ	**Raukumara Rang**	**18.50**	**202**	P	**Pn**	**20 47 43.1**	**+3.3**
WIAZ	**Waiheke Island**	**18.50**	**209**	P	**Pn**	**20 47 41.3**	**+1.5**
TWGZ	**Tauwhareparae**	**18.59**	**201**	P	**Pn**	**20 47 41.6**	**+0.7**
URZ	**Urewera**	**18.96**	**202**	P	**Pn**	**20 47 45.9**	**+0.6**
	4.1nm,0.3s,baz=30,slow=2.8,SNR=22						
URZ				S	Sn	20 51 04.4	-13
	0.4nm,0.3s,baz=114,slow=19,SNR=3.8						
URZ	**Urewera**	**18.96**	**202**	P	**Pn**	**20 47 47.0**	**+1.7**
MTHZ	**Maungataniwha**	**19.58**	**202**	P	**Pn**	**20 47 52.7**	**-0.2**
NMHZ	**Naumai**	**19.81**	**202**	P	**Pn**	**20 48 02.2**	**+6.6**
BKZ	**Black Stump Fm**	**19.98**	**202**	*e*P	**P**	**20 47 55.1**	**-0.8**
	39nm,1.2s						
BKZ	**Black Stump Fm**	**19.98**	**202**	P	**Pn**	**20 47 58.3**	**+0.7**
HIZ	**Hauiti**	**20.06**	**207**	*e*P	**P**	**20 47 56.9**	**+0.3**
	85nm,1.0s						
HIZ	**Hauiti**	**20.06**	**207**	P	Pn	20 47 59.3	+0.8
BHHZ	**Black Hill Sta**	**20.43**	**203**	P	Pn	20 48 01.6	-1.2
KRHZ	**Kereru**	**20.45**	**202**	P	Pn	20 48 02.4	-0.7
PNHZ	**Pukenui**	**20.75**	**202**	P	Pn	20 48 05.9	-0.8
TSZ	**Takapari Road**	**20.97**	**202**	P	Pn	20 48 08.1	-1.0
DVHZ	**Dannevirke**	**21.11**	**202**	P	**P**	**20 48 11.0**	**+3.0**
BFZ	**Birch Farm**	**21.42**	**201**	*e*P	**P**	**20 48 11.9**	**+0.5**
	55nm,0.9s						
BFZ	**Birch Farm**	**21.42**	**201**	P	**P**	**20 48 13.0**	**+1.6**
MRZ	**Mangatainoka R**	**21.63**	**202**	P	**P**	**20 48 14.7**	**+1.1**
HOWZ	**Holdsworth Sta**	**21.87**	**202**	P	**P**	**20 48 16.1**	**-0.1**
TMWZ	**Te Maipa**	**21.92**	**201**	P	**P**	**20 48 19.8**	**+3.0**
TRWZ	**Traveller**	**22.25**	**201**	P	**P**	**20 48 23.2**	**+2.9**
DUWZ	**D'Urville Isla**	**22.38**	**205**	P	**P**	**20 48 21.0**	**-0.7**
MSWZ	**Moikau Station**	**22.42**	**202**	P	**P**	**20 48 23.0**	**+0.9**
SNZO	**South Karori**	**22.52**	**203**	*e*P	**P**	**20 48 23.4**	**+0.3**
	213nm,1.4s						
PLWZ	**Palliser**	**22.55**	**202**	P	**P**	**20 48 24.8**	**+1.2**
TCW	**Tory Channel**	**22.59**	**204**	P	**P**	**20 48 23.0**	**-0.9**
TBI	**Tubuai**	**22.69**	**101**	*e*P	**P**	**20 48 22.8**	**-2.3**
	458nm,1.5s						
TBI				*e*LR	LR	20 53 40.8	
	comp=Z,732nm,21.0s						
NNZ	**Nelson**	**22.95**	**205**	P	**P**	**20 48 27.7**	**+0.1**
PAE	**Paea**	**23.11**	**86**	*e*P	**P**	**20 48 27.2**	**-2.3**
	10nm,1.2s						
PPT2	**Papeete2**	**23.13**	**86**	*e*P	**P**	**20 48 27.8**	**-2.0**
	88nm,1.3s						
PPT2				*e*LR	LR	20 53 54.3	
	comp=Z,739nm,21.0s						
PPT	**Papeete**	**23.13**	**86**	LR	LR	20 55 44.8	
	comp=Z,912nm,19.1s,baz=263,slow=32						
TIAR	**Tiarei**	**23.35**	**86**	*e*P	**P**	**20 48 29.7**	**-2.3**
	22nm,1.1s						
THZ	**Tophouse**	**23.60**	**205**	*e*P	**P**	**20 48 33.5**	**-0.7**
	184nm,1.9s						
THZ	**Tophouse**	**23.60**	**205**	P	**P**	**20 48 34.2**	**0.0**
KHZ	**Kahutara**	**23.91**	**204**	*e*P	**P**	**20 48 37.5**	**+0.3**
	177nm,1.8s						
LTZ	**Lake Taylor**	**24.71**	**205**	*e*P	**P**	**20 48 45.7**	**+1.1**
	29nm,0.7s						
OXZ	**Oxford**	**25.26**	**205**	*e*P	**P**	**20 48 49.3**	**-0.2**
	45nm,0.6s						
MQZ	**McQueen's Vall**	**25.35**	**203**	*e*P	**P**	**20 48 49.8**	**-0.5**
	46nm,1.3s						
TARA	**Tarawa**	**25.67**	**328**	*e*P	**P**	**20 48 51.6**	**-1.8**
	396nm,1.3s						
RPZ	**Rata Peaks**	**25.98**	**206**	*e*P	**P**	**20 48 56.1**	**+0.1**
	24nm,0.7s						
RPZ	**Rata Peaks**	**25.98**	**206**	P	**P**	**20 48 56.6**	**+0.6**
	18nm,0.7s,baz=40,slow=18,SNR=17						
FOZ	**Fox Glacier**	**26.35**	**207**	*e*P	**P**	**20 48 59.2**	**-0.2**
	53nm,0.8s						
LHI	**Lord Howe Isla**	**26.44**	**241**	*e*P	**P**	**20 49 00.7**	**+0.4**
	92nm,1.1s						
LBZ	**Lake Benmore**	**26.89**	**206**	*e*P	**P**	**20 49 03.7**	**-0.5**
	64nm,1.5s						
ODZ	**Otahua Downs**	**27.25**	**204**	*e*P	**P**	**20 49 07.4**	**-0.1**
	47nm,1.4s						
HNR	**Honiara**	**27.72**	**290**	LR	LR	20 59 17.7	
	comp=Z,271nm,18.5s,baz=120,slow=35						
WKZ	**Wanaka**	**27.73**	**207**	*e*P	**P**	**20 49 12.8**	**+1.0**
	171nm,1.7s						
MLZ	**Mavora Lakes**	**28.54**	**207**	*e*P	**P**	**20 49 19.1**	**0.0**
	36nm,1.1s						
WHZ	**Wether Hill Ro**	**29.03**	**207**	*e*P	**P**	**20 49 22.3**	**-1.1**
	114nm,1.8s						
DCZ	**Deep Cove**	**29.04**	**208**	*e*P	**P**	**20 49 23.2**	**-0.2**
	19nm,0.9s						
PYZ	**Puysegur Point**	**29.79**	**208**	*e*P	**P**	**20 49 31.1**	**+1.0**
	60nm,1.1s						
ARMA	**Armidale**	**32.43**	**246**	*e*P	**P**	**20 49 53.9**	**+0.2**
	41nm,1.6s						
EIDS	**Eidsvold**	**32.51**	**255**	P	**P**	**20 49 54.4**	**+0.1**
	baz=33,SNR=6.3						
EIDS	**Eidsvold**	**32.51**	**255**	*e*P	**P**	**20 49 53.7**	**-0.6**
	50nm,1.5s						
TAOE	**Nuku Hiva Isla**	**34.61**	**75**	*e*LR	LR	20 59 18.2	
	comp=Z,3μm,28.2s						
RMQ	**Roma**	**34.62**	**253**	P	**P**	**20 50 13.1**	**+0.4**
	baz=35,SNR=14						
KWAJ	**Kwajalein Atol**	**34.73**	**326**	*e*P	**P**	**20 50 13.1**	**-0.5**
	504nm,1.3s						
KWAJ	**Kwajalein Atol**	**34.73**	**326**	*e*P	**P**	**20 50 13.1**	**-0.5**
KWAJ				pmax	pmax		
	comp=Z,504nm,1.3s						
CNB	**Canberra Magne**	**35.27**	**238**	P	**P**	**20 50 19.6**	**+1.3**
	baz=36,SNR=7.1						
CAN	**Canberra**	**35.56**	**238**	*e*P	**P**	**20 50 21.2**	**+0.4**
	comp=Z,21nm,0.9s						
CAN	**Canberra**	**35.56**	**238**	*e*P	**P**	**20 50 21.2**	**+0.4**
CAN				pmax	pmax		
	comp=Z,21nm,0.9s						
CTA	**Charters Tower**	**37.33**	**264**	P	**P**	**20 50 35.2**	**-0.8**
	comp=Z,12nm,0.7s,baz=82,slow=9.6,SNR=15						
CTAO	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**20 50 35.3**	**-0.8**
	comp=Z,76nm,1.6s						
CTAO	**Charters Tower**	**37.33**	**264**	*e*P	**P**	**20 50 35.3**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,76nm,1.6s						
CMSA	**Cobar Meteorol**	**37.63**	**245**	P	**P**	**20 50 38.4**	**0.0**
	baz=38,SNR=19						
JOHN	**Johnston Islan**	**37.67**	**7**	*e*P	**P**	**20 50 39.3**	**+0.5**
	comp=Z,162nm,1.0s						
TOO	**Toolangi**	**38.84**	**236**	P	**P**	**20 50 49.4**	**+0.8**
	baz=39,SNR=4.8						
TOO	**Toolangi**	**38.84**	**236**	*e*P	**P**	**20 50 49.4**	**+0.8**
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**38.84**	**236**	*e*P	**P**	**20 50 49.4**	**+0.8**
TOO				pmax	pmax		
	comp=Z,13nm,0.8s						
MOO	**Moorlands**	**39.04**	**228**	P	**P**	**20 50 52.1**	**+2.0**
	baz=39,SNR=3.9						
MTSU	**Mount Surprise**	**39.47**	**267**	P	**P**	**20 50 54.1**	**+0.1**
	baz=40,SNR=11						
PTCN	**Pitcairn Islan**	**40.34**	**104**	*e*P	**P**	**20 51 00.5**	**-0.7**
	comp=Z,272nm,0.5s						
STKA	**Stephens Creek**	**41.14**	**245**	P	**P**	**20 51 07.6**	**-0.1**
	baz=41,SNR=43						
STKA	**Stephens Creek**	**41.14**	**245**	*e*P	**P**	**20 51 07.4**	**-0.3**
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**41.14**	**245**	*e*P	**P**	**20 51 07.4**	**-0.3**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
STKA	**Stephens Creek**	**41.14**	**245**	P	**P**	**20 51 07.5**	**-0.2**
	comp=Z,18nm,0.8s,baz=92,slow=10,SNR=49						
STKA				LR	LR	21 06 56.3	
	comp=Z,389nm,19.0s,baz=57,slow=34						
COEN	**Coen**	**41.51**	**272**	P	**P**	**20 51 10.6**	**-0.3**
	baz=42,SNR=11						
COEN	**Coen**	**41.51**	**272**	*e*P	**P**	**20 51 10.4**	**-0.5**
	comp=Z,176nm,1.9s						
ARPS	**Mount Arapiles**	**41.53**	**238**	P	**P**	**20 51 11.3**	**+0.4**
	baz=42,SNR=15						
HTT	**Hallett**	**43.50**	**243**	P	**P**	**20 51 26.7**	**-0.3**
	baz=44,SNR=13						
KHU	**Kahuku**	**43.73**	**25**	*e*P	**P**	**20 51 27.3**	**-1.8**
	comp=Z,158nm,1.3s						
KHU	**Kahuku**	**43.73**	**25**	*e*P	**P**	**20 51 27.3**	**-1.8**
KHU				pmax	pmax		
	comp=Z,158nm,1.3s						
KHLU	**Kahalu`u**	**43.94**	**25**	*e*P	**P**	**20 51 29.6**	**-1.0**
	comp=Z,82nm,1.0s						
KKH	**Kailua Kona**	**43.95**	**25**	*e*P	**P**	**20 51 29.5**	**-1.0**
KKH	**Kailua Kona**	**43.95**	**25**	*e*P	**P**	**20 51 29.5**	**-1.0**
HUH	**Hualalai**	**44.04**	**25**	*e*P	**P**	**20 51 31.1**	**-0.5**
	comp=Z,68nm,0.9s						
MLH	**Mauna Loa**	**44.05**	**25**	*e*P	**P**	**20 51 30.6**	**-1.1**
	comp=Z,64nm,1.0s						
MLH	**Mauna Loa**	**44.05**	**25**	*e*P	**P**	**20 51 30.6**	**-1.1**
MLH				pmax	pmax		
	comp=Z,64nm,1.0s						
HMH	**Humu'ula Sheep**	**44.11**	**25**	*e*P	**P**	**20 51 31.8**	**-0.4**
	comp=Z,83nm,0.9s						
POHA	**Pohakuloa**	**44.23**	**25**	*e*P	**P**	**20 51 32.3**	**-0.8**
	comp=Z,72nm,1.0s						
HPAH	**Hawaii Prepara**	**44.41**	**25**	*e*P	**P**	**20 51 33.6**	**-0.7**
	comp=Z,61nm,0.5s						
MHA	**Mahukona**	**44.47**	**24**	*e*P	**P**	**20 51 34.0**	**-0.7**
MHA	**Mahukona**	**44.47**	**24**	*e*P	**P**	**20 51 34.0**	**-0.7**
HON	**Honolulu**	**44.76**	**21**	*e*P	**P**	**20 51 35.9**	**-1.1**
	comp=Z,67nm,0.9s						
HON	**Honolulu**	**44.76**	**21**	*e*P	**P**	**20 51 35.9**	**-1.1**
HON				pmax	pmax		
	comp=Z,67nm,0.9s						
KEKH	**Kekaha**	**44.83**	**19**	*e*P	**P**	**20 51 36.3**	**-1.3**
	comp=Z,178nm,1.4s						
KIP	**Kipapa**	**44.84**	**21**	*e*P	**P**	**20 51 37.5**	**-0.2**
	comp=Z,105nm,1.2s						
KIP	**Kipapa**	**44.84**	**21**	*e*P	**P**	**20 51 37.8**	**+0.1**
KIP				pmax	pmax		
	comp=Z,153nm,2.5s						
HLK	**Haleakala**	**44.86**	**24**	*e*P	**P**	**20 51 37.4**	**-0.8**
	comp=Z,187nm,1.5s						
KHLH	**Kahului Airpor**	**44.92**	**23**	*e*P	**P**	**20 51 37.8**	**-0.5**
	comp=Z,236nm,1.8s						
OPA	**Opana**	**45.09**	**21**	*e*P	**P**	**20 51 38.5**	**-1.2**
	comp=Z,302nm,2.0s						
OPA	**Opana**	**45.09**	**21**	*e*P	**P**	**20 51 38.5**	**-1.2**
OPA				pmax	pmax		
	comp=Z,302nm,2.0s						
BBOO	**Buckleboo**	**45.86**	**244**	P	**P**	**20 51 45.4**	**-0.4**
	baz=46,SNR=20						
BBOO	**Buckleboo**	**45.86**	**244**	*e*P	**P**	**20 51 44.7**	**-1.1**
	comp=Z,17nm,0.8s						
JAY	**Jayapura**	**47.90**	**286**	P	**P**	**20 52 01.7**	**-0.3**
	comp=Z,47nm,0.6s,baz=159,slow=6.6,SNR=15						
AS01	**Alice Springs**	**48.18**	**257**	*e*P	**P**	**20 52 03.3**	**-0.8**
AS01				*e*PcP	**PcP**	**20 53 32.4**	**+1.0**
AS31	**Alice Springs**	**48.22**	**257**	*e*P	**P**	**20 52 03.3**	**-1.2**
	comp=Z,7.0nm,0.8s						
AS31				*e*PcP	**PcP**	**20 53 30.3**	**-1.3**
AS31				*e*S	**S**	**20 58 57.3**	**-6.3**
ASAR	**Alice Springs**	**48.22**	**257**	P	**P**	**20 52 03.5**	**-0.9**
	comp=Z,27nm,0.8s,baz=89,slow=8.2,SNR=142						
ASAR				PcP	**PcP**	**20 53 32.8**	**+1.2**
	comp=Z,3.9nm,0.8s,baz=108,slow=3.5,SNR=5.8						
ASAR				S	**S**	**20 58 57.3**	**-6.3**
	comp=Z,0.7nm,0.9s,baz=93,slow=17,SNR=3.6						
ASAR				LR	LR	21 11 41.5	
	comp=Z,369nm,18.4s,baz=170,slow=35						
WB2	**Warramunga Arr**	**48.39**	**262**	*e*P	**P**	**20 52 03.2**	**-2.5**
WRAB	**Tennant Creek**	**48.40**	**262**	*e*P	**P**	**20 52 03.6**	**-2.2**
	comp=Z,24nm,1.0s						
WRAB	**Tennant Creek**	**48.40**	**262**	*ce*P	**P**	**20 52 04.3**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,45nm,1.7s						
WR1	**Warramunga Arr**	**48.40**	**262**	*e*P	**P**	**20 52 04.3**	**-1.5**
	comp=Z,25nm,0.8s						
WR1				*e*PcP	**PcP**	**20 53 33.5**	**+1.3**
WRA	**Warramunga Arr**	**48.41**	**262**	P	**P**	**20 52 04.3**	**-1.5**
	comp=Z,11nm,0.7s,baz=92,slow=5.8,SNR=170						
WRA				PcP	**PcP**	**20 53 33.5**	**+1.3**
	comp=Z,4.7nm,0.8s,baz=93,slow=3.7,SNR=6.3						
MIDW	**Midway**	**48.98**	**356**	*e*P	**P**	**20 52 10.4**	**+0.4**
KDU	**Kakadu**	**51.86**	**270**	P	**P**	**20 52 30.9**	**-1.1**
	baz=52,SNR=10						
FORT	**Forrest**	**52.71**	**247**	P	**P**	**20 52 38.1**	**-0.1**
	baz=53,SNR=12						
FORT	**Forrest**	**52.71**	**247**	*e*P	**P**	**20 52 36.6**	**-1.7**
	comp=Z,53nm,0.6s						
MTN	**Manton Dam**	**53.07**	**269**	P	**P**	**20 52 40.1**	**-1.0**
	baz=53,SNR=10.0						
MTN	**Manton Dam**	**53.07**	**269**	*e*P	**P**	**20 52 39.9**	**-1.2**
	comp=Z,36nm,0.8s						
WRKA	**Warakurna**	**53.10**	**254**	P	**P**	**20 52 40.6**	**-0.7**
	baz=53,SNR=64						
SAUI	**Saumlaki**	**54.43**	**275**	*e*P	**P**	**20 52 51.4**	**+0.4**
	comp=Z,313nm,1.3s						
KNRA	**Kununurra**	**54.52**	**265**	P	**P**	**20 52 51.6**	**-0.1**
	baz=55,SNR=8.0						
FAKI	**Fak Fak**	**55.41**	**281**	*e*P	**P**	**20 52 57.8**	**-0.4**
	comp=Z,18nm,0.9s						
FITZ	**Fitzroy Crossi**	**56.84**	**262**	P	**P**	**20 53 08.0**	**-0.3**
	baz=57,SNR=7.0						
FITZ	**Fitzroy Crossi**	**56.84**	**262**	*e*P	**P**	**20 53 07.5**	**-0.8**
	comp=Z,29nm,1.4s						
SBA	**Scott Base**	**57.73**	**185**	*e*P	**P**	**20 53 17.4**	**+3.7**
	comp=Z,20nm,0.9s						
SBA	**Scott Base**	**57.73**	**185**	*e*P	**P**	**20 53 17.4**	**+3.7**
SBA				pmax	pmax		
	comp=Z,20nm,0.9s						
VNDA	**Vanda**	**57.86**	**186**	*e*P	**P**	**20 53 17.6**	**+2.9**
	comp=Z,10nm,1.0s						
VNDA	**Vanda**	**57.86**	**186**	P	**P**	**20 53 16.7**	**+2.1**
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
VNDA	**Vanda**	**57.86**	**186**	P	**P**	**20 53 16.7**	**+2.1**
	comp=Z,5.7nm,0.9s,baz=7.1,slow=6.4,SNR=19						
SOEI	**Soe**	**60.41**	**270**	*e*P	**P**	**20 53 33.7**	**+0.2**
	comp=Z,135nm,0.8s						
TNTI	**Ternate**	**61.36**	**283**	*e*P	**P**	**20 53 38.9**	**-0.8**
	comp=Z,80nm,1.0s						
KLBR	**Kellerberrin**	**61.41**	**245**	P	**P**	**20 53 40.7**	**+0.8**
	baz=62,SNR=16						
MEEK	**Meekatharra**	**61.46**	**250**	P	**P**	**20 53 40.2**	**-0.1**
	baz=62,SNR=7.9						
MBWA	**Marble Bar**	**61.56**	**257**	*e*P	**P**	**20 53 40.6**	**-0.4**
	comp=Z,37nm,0.7s						
NWAO	**Narrogin (SRO)**	**61.66**	**243**	*e*P	**P**	**20 53 42.1**	**+0.5**
	comp=Z,64nm,1.7s						
NWAO	**Narrogin (SRO)**	**61.66**	**243**	*e*P	**P**	**20 53 42.1**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,65nm,1.7s						
BLDU	**Ballidu**	**62.44**	**246**	P	**P**	**20 53 47.3**	**+0.5**
	baz=63,SNR=12						
MUN	**Mundaring**	**62.65**	**244**	P	**P**	**20 53 49.6**	**+1.4**
	baz=63,SNR=6.1						
MMRI	**Maumere**	**62.67**	**271**	*e*P	**P**	**20 53 48.3**	**-0.2**
	comp=Z,44nm,0.9s						
MORW	**Morawa**	**63.27**	**247**	P	**P**	**20 53 53.2**	**+0.8**
	baz=64,SNR=7.7						
MORW	**Morawa**	**63.27**	**247**	*e*P	**P**	**20 53 52.9**	**+

ISA	**Isabella, Lake**	**76.90**	**43**	*eP*		**P**		**20 55 15.4**	**-0.5**
ISA	comp=Z,22nm,1.0s			pmax		pmax				
ISA	**Isabella, Lake**	**76.90**	**43**	P		**P**		**20 55 17.0**	**+1.1**
	baz=232									
TWG	**Pinlang**	**76.93**	**301**	*eP*		**P**		**20 55 14.8**	**-1.4**
	comp=Z,62nm,0.5s									
PFO	**Pinyon Flats O**	**77.00**	**46**	*eP*		**P**		**20 55 15.9**	**-0.6**
	comp=Z,24nm,1.3s									
PFO	**Pinyon Flats O**	**77.00**	**46**	*eP*		**P**		**20 55 15.9**	**-0.6**
PFO	comp=Z,24nm,1.3s			pmax		pmax				
PFO	**Pinyon Flats O**	**77.00**	**46**	P		**P**		**20 55 17.4**	**+0.9**
	comp=Z,8.4nm,1.2s,baz=308,slow=2.5,SNR=4.3									
TPFO	**Pinon Flats**	**77.00**	**46**	P		**P**		**20 55 17.7**	**+1.2**
	baz=234									
XPFO	**Pion Flat**	**77.00**	**46**	*eP*		**P**		**20 55 16.1**	**-0.5**
	comp=Z,26nm,1.3s									
YULB	**Yu-li**	**77.03**	**301**	*eP*		**P**		**20 55 15.5**	**-1.2**
	comp=Z,11nm,0.9s									
O02D	**Mt. Diablo Mer**	**77.17**	**38**	P		**P**		**20 55 18.8**	**+1.6**
	baz=228									
NACB	**Ninganchiao**	**77.18**	**302**	*eP*		**P**		**20 55 16.5**	**-1.0**
	comp=Z,35nm,1.0s									
CMB	**Columbia Colle**	**77.19**	**41**	*eP*		**P**		**20 55 17.0**	**-0.4**
	comp=Z,13nm,1.0s									
CMB	**Columbia Colle**	**77.19**	**41**	*eP*		**P**		**20 55 17.0**	**-0.4**
CMB	comp=Z,13nm,1.0s			pmax		pmax				
LRMC	**Laurel Mtn Rad**	**77.30**	**44**	P		**P**		**20 55 19.3**	**+1.2**
	baz=233									
KSM	**Kuching**	**77.34**	**277**	*eP*		**P**		**20 55 19.7**	**+1.0**
	comp=Z,32nm,0.9s									
KSM	**Kuching**	**77.34**	**277**	P		**P**		**20 55 21.2**	**+2.5**
AFDM	**Forest Hills D**	**77.42**	**40**	*eP*		**P**		**20 55 16.8**	**-1.8**
	comp=Z,9.5nm,1.1s									
SSLB	**Suanglung**	**77.50**	**302**	*eP*		**P**		**20 55 18.4**	**-0.9**
	comp=Z,14nm,0.9s									
ORV	**Oroville**	**77.50**	**39**	*eP*		**P**		**20 55 18.5**	**-0.5**
	comp=Z,26nm,1.6s									
ORV	**Oroville**	**77.50**	**39**	*eP*		**P**		**20 55 18.5**	**-0.5**
ORV	comp=Z,26nm,1.6s			pmax		pmax				
TPUB	**Ta-pu**	**77.52**	**301**	*eP*		**P**		**20 55 18.4**	**-1.1**
	comp=Z,35nm,0.8s									
BELC	**Belle Mtn. Jos**	**77.54**	**46**	P		**P**		**20 55 20.9**	**+1.4**
	baz=234									
XMIS	**Christmas Isla**	**77.55**	**263**	*eP*		**P**		**20 55 20.3**	**+0.4**
	comp=Z,32nm,0.9s									
WDC	**Whiskeytown Da**	**77.58**	**37**	*eP*		**P**		**20 55 19.6**	**+0.2**
	comp=Z,24nm,1.5s									
WDC	**Whiskeytown Da**	**77.58**	**37**	*eP*		**P**		**20 55 19.6**	**+0.2**
WDC	comp=Z,24nm,1.5s			pmax		pmax				
YHNB	**Yeheng**	**77.60**	**303**	*eP*		**P**		**20 55 20.5**	**+0.5**
	comp=Z,35nm,1.2s									
CWC	**Cottonwood Cre**	**77.63**	**43**	P		**P**		**20 55 21.1**	**+1.1**
	baz=232									
TATO	**Taipei**	**77.67**	**303**	*eP*		**P**		**20 55 20.7**	**+0.4**
	comp=Z,89nm,1.5s									
BC3	**Big Chuckawall**	**77.71**	**47**	P		**P**		**20 55 22.1**	**+1.7**
	baz=234									
MDPB	**Devils Postpil**	**77.74**	**42**	*eP*		**P**		**20 55 21.2**	**+0.4**
	comp=Z,16nm,1.0s									
PEA0B	**Petropavlovsk-**	**77.76**	**343**	*eP*		**P**		**20 55 20.0**	**-0.1**
	comp=Z,285nm,1.9s									
PEA0B	**Petropavlovsk-**	**77.76**	**343**	*eP*		**P**		**20 55 20.0**	**-0.1**
PETK	**Petropavlovsk-**	**77.76**	**343**	*eP*		**P**		**20 55 20.0**	**-0.1**
PETK	**Petropavlovsk-**	**77.76**	**343**	P		**P**		**20 55 20.4**	**+0.3**
PETK	comp=Z,22nm,0.7s			pmax		pmax				
PETK	**Petropavlovsk-**	**77.76**	**343**	P		**P**		**20 55 20.4**	**+0.3**
	comp=Z,21nm,0.7s,baz=144,slow=6.9,SNR=18									
PEA1	**Petropavlovsk-**	**77.77**	**343**	*eP*		**P**		**20 55 20.4**	**+0.2**
GSC	**Goldstone, Bar**	**77.77**	**45**	*eP*		**P**		**20 55 21.0**	**+0.3**
	comp=Z,13nm,1.1s									
GSC	**Goldstone, Bar**	**77.77**	**45**	*eP*		**P**		**20 55 21.0**	**+0.3**
GSC	comp=Z,13nm,1.1s			pmax		pmax				
GSC	**Goldstone, Bar**	**77.77**	**45**	P		**P**		**20 55 21.5**	**+0.8**
	baz=233									
OMMB	**Old Mammoth Mi**	**77.78**	**42**	*eP*		**P**		**20 55 21.1**	**+0.1**
	comp=Z,16nm,1.1s									
MPMC	**Manual Prospec**	**77.78**	**44**	P		**P**		**20 55 22.4**	**+1.5**
	baz=233									
GLA	**Glamis**	**77.79**	**47**	*eP*		**P**		**20 55 21.4**	**+0.6**
	comp=Z,37nm,1.3s									
GLA	**Glamis**	**77.79**	**47**	*eP*		**P**		**20 55 21.4**	**+0.6**
GLA	comp=Z,37nm,1.3s			pmax		pmax				
GLA	**Glamis**	**77.79**	**47**	P		**P**		**20 55 21.9**	**+1.1**
	baz=235									
HEC	**Hector,Ludlow**	**77.80**	**45**	P		**P**		**20 55 21.7**	**+0.8**
	baz=234									
O03E	**Paynes Creek**	**77.81**	**38**	P		**P**		**20 55 22.3**	**+1.5**
	baz=229									
DAC	**Darwin (Calif)**	**77.84**	**43**	*eP*		**P**		**20 55 22.0**	**+0.8**
	comp=Z,19nm,1.5s									
DAC	**Darwin (Calif)**	**77.84**	**43**	*eP*		**P**		**20 55 22.0**	**+0.8**
DAC	comp=Z,19nm,1.5s			pmax		pmax				
MLAC	**Mammoth, Mammo**	**77.89**	**42**	P		**P**		**20 55 23.3**	**+1.8**
	baz=231									
M02C	**Callahan**	**77.94**	**37**	P		**P**		**20 55 22.8**	**+1.3**
	baz=228									
WAKR	**Walker**	**78.06**	**41**	*eP*		**P**		**20 55 22.3**	**-0.1**
	comp=Z,21nm,1.2s									
YSS	**Yuzh-Sakhalins**	**78.09**	**331**	*eP*		**P**		**20 55 23.3**	**+1.2**
YSS	comp=Z,20nm,0.7s			pmax		pmax				
YSS	comp=Z,100nm,17.0s			MLR		MLR				
IRM	**Iron Mountain**	**78.20**	**46**	P		**P**		**20 55 24.3**	**+1.2**
	baz=235									
GMRC	**Granite Mounta**	**78.22**	**46**	P		**P**		**20 55 24.5**	**+1.2**
	baz=234									
YBH	**Yreka Blue Hor**	**78.25**	**37**	*eP*		**P**		**20 55 23.8**	**+0.5**
	comp=Z,3µm,0.8s									
YBH	**Yreka Blue Hor**	**78.25**	**37**	*eP*		**P**		**20 55 23.8**	**+0.5**
YBH	comp=Z,3µm,0.8s			pmax		pmax				
YBH	**Yreka Blue Hor**	**78.25**	**37**	P		**P**		**20 55 24.3**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=139,slow=6.4,SNR=6.8									
PNTR	**Pine Nut**	**78.33**	**40**	*eP*		**P**		**20 55 24.2**	**+0.3**
	comp=Z,25nm,1.0s									
BEKR	**Beckworth**	**78.38**	**39**	*eP*		**P**		**20 55 24.2**	**+0.1**
	comp=Z,26nm,1.5s									
GRAC	**Grapevine Rang**	**78.42**	**43**	P		**P**		**20 55 25.8**	**+1.5**
	baz=233									
TUQ	**Turquoise Moun**	**78.43**	**45**	P		**P**		**20 55 25.6**	**+1.2**
	baz=234									
VCNR	**Virginia City**	**78.43**	**40**	*eP*		**P**		**20 55 24.6**	**+0.2**
	comp=Z,27nm,1.3s									
YERR	**Yerington**	**78.48**	**40**	*eP*		**P**		**20 55 24.8**	**0.0**
	comp=Z,20nm,1.0s									
214A	**Organ Pipe Nat**	**78.58**	**49**	P		**P**		**20 55 26.3**	**+1.1**
	baz=236									
HUMO	**Hull Mountain**	**78.70**	**36**	*eP*		**P**		**20 55 26.7**	**+1.0**
	comp=Z,26nm,1.6s									
RYN	**Ryan**	**78.70**	**41**	*eP*		**P**		**20 55 26.5**	**+0.6**
	comp=Z,28nm,1.3s									
NVAR	**Mina Array Bea**	**78.71**	**41**	P		**P**		**20 55 27.0**	**+0.9**
	comp=Z,13nm,0.8s,baz=224,slow=8.6,SNR=61									
NV01	**Mina Array Sit**	**78.71**	**41**	*eP*		**P**		**20 55 26.4**	**+0.4**
LDFC	**Landfair**	**78.76**	**46**	*eP*		**P**		**20 55 27.1**	**+0.9**
	comp=Z,26nm,0.4s									
M04C	**Macdoel**	**78.77**	**37**	P		**P**		**20 55 26.4**	**+0.3**
	baz=229									
L04D	**Klamath Falls**	**78.80**	**36**	P		**P**		**20 55 27.0**	**+0.7**
	baz=228									
NV11	**Mina Array Sit**	**78.81**	**41**	*eP*		**P**		**20 55 25.6**	**-0.9**
	comp=Z,2.1nm,1.1s									
PAHR	**Pah Rah Range**	**78.85**	**40**	*eP*		**P**		**20 55 27.1**	**+0.4**
	comp=Z,64nm,2.0s									
PDMCI	**Parker Dam,Lak**	**78.97**	**47**	P		**P**		**20 55 28.6**	**+1.4**
	baz=235									
TPNV	**Topopah Spring**	**79.11**	**44**	*eP*		**P**		**20 55 28.5**	**+0.3**
	comp=Z,12nm,0.9s									
TPNV	**Topopah Spring**	**79.11**	**44**	*eP*		**P**		**20 55 28.5**	**+0.3**
TPNV	comp=Z,12nm,0.9s			pmax		pmax				
TPNV	**Topopah Spring**	**79.11**	**44**	P		**P**		**20 55 29.7**	**+1.5**
	baz=233									
KVN	**Kaiserville**	**79.22**	**41**	*eP*		**P**		**20 55 28.8**	**0.0**
	comp=Z,49nm,1.8s									
KVN	**Kaiserville**	**79.22**	**41**	*eP*		**P**		**20 55 28.8**	**0.0**
KVN				pmax		pmax				
	comp=Z,49nm,1.8s									
SHPR	**Sheep Range**	**79.56**	**44**	*eP*		**P**		**20 55 31.7**	**+1.1**
	comp=Z,18nm,1.2s									
J04D	**Umpqua Nationa**	**79.59**	**36**	P		**P**		**20 55 31.6**	**+0.9**
	baz=228									
W13A	**Hualapai Mount**	**79.59**	**46**	*eP*		**P**		**20 55 31.4**	**+0.4**
	comp=Z,22nm,1.5s									
MOD	**Modoc Plateau**	**79.72**	**38**	*eP*		**P**		**20 55 31.3**	**-0.1**
	comp=Z,21nm,1.4s									
I04A	**Tendick Farm,**	**79.79**	**35**	P		**P**		**20 55 32.5**	**+0.9**
	baz=228									
KSRS	**Korea Array**	**79.84**	**317**	P		**P**		**20 55 32.2**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=132,slow=5.9,SNR=11									
KSAR	**Wonju Array Be**	**79.86**	**317**	P		**P**		**20 55 32.2**	**+0.2**
KSAR	**Wonju Array Be**	**79.86**	**317**	P		**P**		**20 55 32.2**	**+0.2**
KS01	**Wonju Array Si**	**79.87**	**317**	*eP*		**P**		**20 55 33.4**	**+1.2**
J05D	**Fort Rock, OR**	**80.09**	**36**	P		**P**		**20 55 34.6**	**+1.3**
	baz=229									
TUC	**Tucson**	**80.22**	**50**	*eP*		**P**		**20 55 35.4**	**+1.2**
	comp=Z,12nm,1.0s									
TUC	**Tucson**	**80.22**	**50**	*eP*		**P**		**20 55 35.4**	**+1.2**
TUC	comp=Z,12nm,1.0s			pmax		pmax				
TUC	**Tucson**	**80.22**	**50**	P		**P**		**20 55 35.6**	**+1.4**
	baz=238									
R11A	**Troy Canyon, C**	**80.36**	**43**	*eP*		**P**		**20 55 34.9**	**-0.1**
	comp=Z,15nm,1.6s									
R11A	**Troy Canyon, C**	**80.36**	**43**	P		**P**		**20 55 35.8**	**+0.8**
	baz=234									
PINE	**Pine Mountain**	**80.59**	**36**	*eP*		**P**		**20 55 36.8**	**+0.7**
	comp=Z,13nm,0.9s									
319A	**Douglas**	**80.82**	**51**	*eP*		**P**		**20 55 37.3**	**-0.2**
	comp=Z,21nm,1.3s									
X16A	**Lo Mia Camp, P**	**80.89**	**48**	*eP*		**P**		**20 55 38.1**	**+0.2**
	comp=Z,18nm,1.4s									
WVOR	**Wild Horse Val**	**81.01**	**38**	*eP*		**P**		**20 55 38.6**	**+0.3**
	comp=Z,14nm,1.1s									
WVOR	**Wild Horse Val**	**81.01**	**38**	*eP*		**P**		**20 55 38.6**	**+0.3**
WVOR	comp=Z,14nm,1.1s			pmax		pmax				
LCMT	**Little Creek M**	**81.11**	**45**	*eP*		**P**		**20 55 39.7**	**+0.7**
	comp=Z,32nm,1.6s									
CCUT	**Cedar City**	**81.33**	**44**	*eP*		**P**		**20 55 41.7**	**+1.4**
	comp=Z,21nm,1.4s									
HPIG		**81.35**	**57**	*eP*		**P**		**20 55 40.5**	**0.0**
	comp=Z,43nm,2.0s									
KNB	**Kanab**	**81.39**	**45**	*eP*		**P**		**20 55 41.0**	**+0.5**
	comp=Z,60nm,1.7s									
KNB	**Kanab**	**81.39**	**45**	*eP*		**P**		**20 55 41.0**	**+0.5**
KNB	comp=Z,61nm,1.7s			pmax		pmax				
U15A	**North Rim**	**81.41**	**46**	*eP*		**P**		**20 55 41.1**	**+0.4**
	comp=Z,27nm,1.4s									
NLWA	**Neilton Lookou**	**81.49**	**32**	*eP*		**P**		**20 55 41.5**	**+0.9**
	comp=Z,34nm,1.5s									
WUAZ	**Wupatki**	**81.53**	**47**	*eP*		**P**		**20 55 41.4**	**+0.1**
	comp=Z,17nm,1.4s									
SZCU	**Shurtz Canyon**	**81.54**	**44**	*eP*		**P**		**20 55 41.7**	**+0.4**
	comp=Z,11nm,1.0s									
USA0B	**Ussuriysk Arra**	**81.57**	**324**	*eP*		**P**		**20 55 43.0**	**+2.0**
	comp=Z,19nm,1.2s									
USA0B	**Ussuriysk Arra**	**81.57**	**324**	*eP*		**P**		**20 55 43.0**	**+2.0**
USRK	**Ussuriysk Ar.**	**81.57**	**324**	P		**P**		**20 55 41.7**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=153,slow=11,SNR=4.1									
I07A	**Izee**	**81.57**	**36**	*eP*		**P**		**20 55 41.8**	**+0.6**
	comp=Z,40nm,1.9s									
E04D	**Cimebar**	**81.57**	**33**	P		**P**		**20 55 42.0**	**+1.0**
	baz=227									
PSUT	**Pine Spring**	**81.58**	**43**	*eP*		**P**		**20 55 42.0**	**+0.5**
	comp=Z,21nm,1.6s									
J08A	**Circle Bar Ran**	**81.68**	**37**	*eP*		**P**		**20 55 42.5**	**+0.7**
	comp=Z,36nm,1.8s									
ZAIG	**Zacatecas**	**81.92**	**62**	*eP*		**P**		**20 55 43.6**	**-0.1**
	comp=Z,8.9nm,1.3s									
PKCU	**Pink Cliffs**	**81.96**	**45**	*eP*		**P**		**20 55 44.3**	**+0.6**
	comp=Z,63nm,1.5s									
X18A	**Snowflake**	**81.99**	**48**	*eP*		**P**		**20 55 43.9**	**+0.2**
	comp=Z,25nm,1.8s									
ELK	**Elko**	**82.00**	**41**	*eP*		**P**		**20 55 44.3**	**+0.6**
	comp=Z,8.2nm,1.2s									
ELK	**Elko**	**82.00**	**41**	P		**P**		**20 55 44.0**	**+0.3**
	comp=Z,3.8nm,1.1s,baz=223,slow=3.6,SNR=9.2									
LON	**Longmire**	**82.09**	**33**	*eP*		**P**		**20 55 43.7**	**-0.1**
	comp=Z,6.3nm,0.9s									
LON	**Longmire**	**82.09**	**33**	*eP*		**P**		**20 55 43.7**	**-0.1**
LON	comp=Z,6.0nm,0.9s			pmax		pmax				
MNAI	**Manna**	**82.13**	**268**	*eP*		**P**		**20 55 45.1**	**+0.4**
	comp=Z,347nm,1.5s									
D05A	**Enumclaw**	**82.29**	**33**	*eP*		**P**		**20 55 45.3**	**+0.6**
	comp=Z,17nm,0.8s									
HOM	**Homer**	**82.33**	**11**	*eP*		**P**		**20 55 46.5**	**+1.9**
	comp=Z,214nm,1.1s									
MTPU	**Mount Pierson**	**82.38**	**45**	*eP*		**P**		**20 55 46.8**	**+0.9**
	comp=Z,33nm,1.4s									
W18A	**Petrified Fore**	**82.45**	**48**	*eP*		**P**		**20 55 46.6**	**+0.5**
	comp=Z,46nm,1.9s									
MAW	**Mawson**	**82.45**	**199**	LR		LR		21 32 09.4		
	comp=Z,295nm,18.6s,baz=130,slow=36									
F07A	**Phinny Hill Vi**	**82.51**	**35**	*eP*		**P**		**20 55 47.1**	**+1.2**
	comp=Z,17nm,0.5s									
TCRU	**Three Creeks R**	**82.53**	**44**	*eP*		**P**		**20 55 48.0**	**+1.4**
	comp=Z,18nm,0.3s									
PGC	**Siney**	**82.56**	**31**	*eP*		**P**		**20 55 46.2**	**+0.2**
G08A	**Pilot Rock**	**82.64**	**36**	*eP*		**P**		**20 55 47.0**	**+0.3**
	comp=Z,11nm,1.0s									
MSU	**Marysvale**	**82.65**	**44**	*eP*		**P**		**20 55 48.3**	**+1.2**
MSU	**Marysvale**	**82.65**	**44**	*eP*		**P**		**20 55 48.3**	**+1.2**
BBB	**Bella Bella**	**82.99**	**26**	P		**P**		**20 55 48.2**	**0.0**
	comp=Z,4.0nm,0.8s,baz=298,slow=7.7,SNR=3.8									
LTY	**Liberty**	**83.01**	**33**	*eP*		**P**		**20 55 48.7**	**+0.1**
	comp=Z,14nm,0.6s									
HAWA	**Hanford**	**83.04**	**34**	*eP*		**P**		**20 55 49.1**	**+0.5**
	comp=Z,53nm,1.9s									
DUG	**Dugway, Tooele**	**83.19**	**42**	*eP*		**P**		**20 55 49.9**	**+0.1**
	comp=Z,29nm,1.9s									
DUG	**Dugway, Tooele**	**83.19**	**42**	P		**P**		**20 55 50.3**	**+0.5**
	baz=235									
NJ2	**Nanjing**	**83.19**	**308**	*eP*		**P**		**20 55 50.9**	**+1.1**
NJ2	comp=Z,12nm,1.0s			pmax		pmax				
BMO	**Blue Mountains**	**83.28**	**37**	*eP*		**P**		**20 55 49.9**	**-0.2**
	comp=Z,45nm,2.0s									
BMO	**Blue Mountains**	**83.28**	**37**	*eP*		**P**		**20 55 49.9**	**-0.2**
BMO	comp=Z,45nm,2.0s			pmax		pmax				
C06D	**Leavenworth**	**83.33**	**33**	P		**P**		**20 55 50.6**	**+0.5**
	baz=229									
MYKOM	**Kota Tinggi**	**83.47**	**274**	*eP*		**P**		**20 55 52.9**	**+1.2**
	comp=Z,27nm,0.8s									
MYKOM	**Kota Tinggi**	**83.47**	**274**	P		**P**		**20 55 54.0**	**+2.3**
Q16A	**Castle Valley**	**83.53**	**44**	*eP*		**P**		**20 55 52.8**	**+1.1**
	comp=Z,51nm,1.8s									
NKL	**Nikolayevsk**	**83.62**	**334**	*eP*		**P**		**20 55 51.7**	**+0.3**
TMUT	**Trail Mountain**	**83.71**	**44**	*eP*		**P**		**20 55 53.7**	**+1.0**
	comp=Z,113nm,2.0s									
D08A	**Wollman Farm,**	**83.79**	**34**	*eP*		**P**		**20 55 52.8**	**+0.3**
	comp=Z,13nm,0.8s									
E09A	**Wood Farm, Sta**	**83.85**	**35**	*eP*		**P**		**20 55 52.8**	**0.0**
	comp=Z,36nm,1.8s									
MNTX	**Cornudas Mount**	**83.86**	**53**	*eP*		**P**		**20 55 53.6**	**+0.3**
	comp=Z,17nm,1.4s									
MNTX	**Cornudas Mount**	**83.86**	**53**	P		**P**		**20 55 54.3**	**+1.1**
	baz=241									
LENM	**Lemitar**	**83.91**	**50**	*eP*		**P**		**20 55 54.1**	**+0.5**
LAZ	**Ladron**	**83.91**	**50**	*eP*		**P**		**20 55 54.5**	**+0.8**
F10A	**Beach Ranch, E**	**84.01**	**36**	*eP*		**P**		**20 55 53.7**	**-0.2**
	comp=Z,19nm,0.8s									
TX31	**Lajitas Ar. Si**	**84.04**	**56**	*eP*		**P**		**20 55 54.4**	**0.0**
TXAR	**Lajitas Array**	**84.04**	**56**	P		**P**		**20 55 55.2**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=227,slow=6.6,SNR=15									
KGM	**Kluang**	**84.04**	**274**	P		**P**		**20 55 56.9**	**+2.3**
SRU	**San Rafael Swe**	**84.06**	**44**	*eP*		**P**		**20 55 54.9**	**+0.6**
	comp=Z,18nm,1.0s									
HVU	**Hansel Valley**	**84.11**	**41**	*eP*		**P**		**20 55 54.3**	**-0.2**
	comp=Z,7.4nm,0.8s									
HVU	**Hansel Valley**	**84.11**	**41**	*eP*		**P**		**20 55 54.3**	**-0.2**
HVU	comp=Z,7.0nm,0.8s			pmax		pmax				
P17A	**Butcher Ranch,**	**84.11**	**44**	*eP*		**P**		**20 55 56.2**	**+1.6**
	comp=Z,44nm,1.6s									
BNM	**Barren Site**	**84.15**	**50**	*eP*		**P**		**20 55 55.4**	**+0.4**
HLID	**Hailey**	**84.15**	**39**	*eP*		**P**		**20 55 55.5**	**+0.7**
	comp=Z,12nm,0.9s									
HLID	**Hailey**	**84.15**	**39**	P		**P**		**20 55 56.1**	**+1.4**
	baz=234									
JLU	**Jordanelle**	**84.28**	**43**	*eP*		**P**		**20 55 55.8**	**+0.3**
	comp=Z,17nm,1.4s									
B08A	**Colville Reser**	**84.41**	**33**	*eP*		**P**		**20 55 55.0**	**-0.7**
	comp=Z,9.2nm,0.9s									
GAMB	**Gambell**	**84.44**	**1**	*eP*		**P**		**20 55 56.0**	**+0.6**
	comp=Z,20nm,1.0s									
TCUT	**Toone Canyon**	**84.59**	**42**	*eP*		**P**		**20 55 57.6**	**+0.6**
	comp=Z,30nm,0.9s									
C09A	**Chrisman Ranch**	**84.60**	**34**	*eP*		**P**		**20 55 56.4**	**-0.3**
	comp=Z,8.3nm,0.7s									
LLLB	**Lillooet**	**84.64**	**30**	*eP*		**P**		**20 55 57.2**	**+0.3**
	comp=Z,12nm,1.3s									
PV19	**Morning Glory**	**84.64**	**46**	*eP*		**P**		**20 55 56.8**	**-0.6**
	comp=Z,44nm,1.9s									
TASM	**ASL Pad, Albuq**	**84.67**	**50**	P		**P**		**20 55 58.6**	**+1.1**
	baz=240									
TASM	**ASL Pad, Albuq**	**84.67**	**50**	P		**P**		**20 55 58.6**	**+1.1**
	baz=240									
ANMO	**Albuquerque**	**84.67**	**50**	*eP*		**P**		**20 55 58.1**	**+0.6**
	comp=Z,38nm,1.8s									
ANMO	**Albuquerque**	**84.67**	**50⇑**	*eP*		**P**		**20 55 58.7**	**+1.1**
ANMO	comp=Z,19nm,1.7s			pmax		pmax				
ANMO	**Albuquerque**	**84.67**	**50**	P		**P**		**20 55 58.6**	**+1.1**
	baz=240									
ANMO	**Albuquerque**	**84.67**	**50**	P		**P**		**20 55 58.1**	**+0.6**
	comp=Z,4.3nm,0.9s,baz=336,slow=23,SNR=15									
PV20	**West Nyswonger**	**84.67**	**46**	*eP*		**P**		**20 55 57.6**	**+0.1**
	comp=Z,9.9nm,0.8s									
PV13	**Radium Mtn., P**	**84.67**	**46**	*eP*		**P**		**20 55 57.8**	**+0.2**
	comp=Z,44nm,1.9s									
PV16	**Nyswonger Mesa**	**84.69**	**46**	*eP*		**P**		**20 55 57.7**	**+0.1**
	comp=Z,61nm,2.0s									
PV03	**Paradox Valley**	**84.71**	**46**	*eP*		**P**		**20 55 58.2**	**+0.5**
	comp=Z,26nm,1.5s									
PV11	**David Mesa, Pa**	**84.71**	**46**	*eP*		**P**		**20 55 58.4**	**+0.7**
	comp=Z,46nm,1.7s									
PV04	**Paradox Valley**	**84.74**	**46**	*eP*		**P**		**20 55 59.0**	**+1.1**
	comp=Z,49nm,1.9s									
PV12	**Saucer Basin,**	**84.77**	**46**	*eP*		**P**		**20 55 59.6**	**+1.6**
	comp=Z,19nm,1.1s									
PV21	**Cone Mtn., Par**	**84.78**	**45**	*eP*		**P**		**20 55 57.8**	**-0.3**
	comp=Z,22nm,1.1s									
PV01	**Paradox Valley**	**84.83**	**46**	*eP*		**P**		**20 55 59.4**	**+1.0**
	comp=Z,26nm,1.7s									
KLR	**Kul'dur**	**84.94**	**328⇑**	*iP*		**P**		**20 56 00.0**	**+1.7**
CN2	**Changchun**	**85.07**	**321**	*eP*		**P**		**20 56 00.0**	**+0.9**
CN2				*es*	P	pwP		20 56 11.1	+3.0
CN2				*eS*		**S**		**21 06 27.5**	**-0.5**
CN2	comp=Z,10.0nm,0.8s			pmax		pmax				
CN2	comp=Z,140nm,4.0s			pmax		pmax				
MA2	**Magadan**	**85.30**	**343**	*eP*		**P**		**20 55 59.8**	**0.0**
	comp=Z,70nm,2.0s									
MA2	**Magadan**	**85.30**	**343⇑**	*eP*		**P**		**20 55 59.6**	**-0.2**
MA2	comp=Z,20nm,1.7s			pmax		pmax				
LNIG	**Linares**	**85.40**	**61**	*eP*		**P**		**20 56 00.3**	**-0.9**
	comp=Z,19nm,1.2s									
KTGM	**Kuala Trenggan**	**85.41**	**277**	P		**P**		**20 56 04.4**	**+3.0**
CAST	**Castle Rocks**	**85.79**	**10**	*eP*		**P**		**20 56 00.7**	**-1.6**
	comp=Z,7.1nm,0.8s									
MCMT	**McKenzie Canyo**	**85.81**	**39**	*eP*		**P**		**20 56 03.4**	**+0.3**
S22A	**4UR Ranch, Cre**	**85.81**	**47**	*eP*		**P**		**20 56 04.2**	**+0.8**
	comp=Z,21nm,1.7s									
WHN	**Wuhan**	**85.87**	**305**	⇓P		**P**		**20 56 06.8**	**+3.4**

comp=Z,23nm,1.0s
PSI Prapat 88.42 274 *e*P **P 20 56 17.2 +0.8**
PSI pmax pmax
comp=Z,23nm,1.0s
DAWY Dawson 88.85 14 *e*P **P 20 56 18.1 +1.1**
comp=Z,14nm,1.0s
GSI Gunungsitoli 89.15 272 *e*P **P 20 56 21.6 +2.0**
comp=Z,47nm,1.0s
APG El Apazote 89.25 74 LR LR 21 27 53.1
comp=Z,278nm,18.9s,baz=259,slow=30
EGMT Eagleton 89.36 37 P **P 20 56 20.5 +0.6**
baz=237
ENH Enshi 89.54 303 *e*P **P 20 56 22.5 +1.4**
comp=Z,42nm,1.4s
BILL Bilibino 89.91 353 *e*P **P 20 56 22.1 +0.2**
comp=Z,6.3nm,1.0s
BILL Bilibino 89.91 353 *e*P **P 20 56 21.1 -0.8**
BILL *e* 20 56 30.6
BILL *e* 20 59 58.2
BILL *e*PPP PPP 21 01 56.4
BILL pmax pmax
comp=Z,4.0nm,0.8s
ZEA Zeya 89.95 329 *e*P **P 20 56 23.6 +1.2**
ZEA *e* 20 56 34.6
ZEA pmax pmax
comp=Z,15nm,0.8s
GYA Guiyang 90.28 298 P **P 20 56 26.4 +1.7**
GYA PP **PP 21 00 03.2 +4.2**
GYA SKS **SKSac 21 06 54.6 -1.3**
GYA S **S 21 07 18.0 -0.9**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.6s
HKT Hockley 90.44 58⇓ *e*P **P 20 56 27.6 +2.4**
HKT pmax pmax
comp=Z,5.0nm,1.0s
RSSD Black Hills 90.79 43 P **P 20 56 26.6 -0.2**
baz=241
PBKT Sadao Pong 91.47 287 *e*P **P 20 56 32.9 +2.6**
XAN Xi'an 91.53 306 P **P 20 56 32.2 +1.9**
XAN pP pwP 20 56 42.8 +2.2
XAN sP sP 20 56 48.1 +14
XAN SKS **SKSac 21 07 02.1 -0.5**
XAN S **ScS 21 07 33.4 +0.7**
XAN pmax pmax
comp=Z,9.0nm,0.9s
XAN pmax pmax
comp=Z,160nm,5.3s
HHC Hu-ho-hao-te 92.48 313 *e*P **P 20 56 35.1 +0.5**
HHC sP pwP 20 56 51.6 +8.0
HHC SKS **SKSac 21 07 05.2 -2.6**
HHC S **S 21 07 34.9 -3.4**
HHC sS sS 21 07 47.5 +3.5
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,140nm,6.4s
HHC LR LR
comp=Z,260nm,16.2s
HHC LR LR
comp=Z,360nm,16.9s
HHC LR LR
comp=Z,360nm,16.4s
UTHA Uthaitani 92.48 286 P P 20 56 41.1 +6.1
UTHA Uthaitani 92.48 286 P P 20 56 41.1 +6.1
JTS JuntasAbangare 92.58 80 *e*P **P 20 56 36.0 +0.4**
DGMT Dagmar 92.78 39 *e*P **P 20 56 36.5 +0.8**
comp=Z,26nm,1.0s
DGMT Dagmar 92.78 39 P **P 20 56 36.9 +1.2**
baz=241
KMI Kunming 93.04 296 P **P 20 56 41.1 +3.4**
KMI pmax pmax
comp=Z,15nm,0.6s
KMI LR LR
comp=Z,86nm,25.6s
KMI LR LR
comp=Z,160nm,25.6s
INK Inuvik 93.71 14 *e*P **P 20 56 39.5 +0.1**
comp=Z,7.1nm,0.4s
INK Inuvik 93.71 14 *e*P **P 20 56 39.5 +0.1**
INK pmax pmax
comp=Z,7.0nm,0.4s
INK Inuvik 93.71 14 P **P 20 56 39.5 +0.1**
comp=Z,2.4nm,0.8s,baz=202,slow=9.6,SNR=9.9
CM01 Chiang Mai Arr 93.92 288 *e*P **P 20 56 42.8 +1.2**
CM31 Chiang Mai Arr 93.95 288 *e*P **P 20 56 43.2 +1.4**
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 93.95 288 P **P 20 56 43.8 +2.0**
comp=Z,2.1nm,0.8s,baz=99,slow=3.0,SNR=12
CMAR LR LR 21 38 27.2
comp=Z,24nm,19.7s,baz=145,slow=35
CMMT Chiang Mai 94.07 288 P **P 20 56 45.6 +3.3**
CMMT Chiang Mai 94.07 288 P **P 20 56 45.6 +3.3**
comp=Z,7.1nm,1.1s,comp=Z,0.0nm
CHTO Chiang Mai 94.08 288 *e*P **P 20 56 44.3 +2.0**
comp=Z,8.9nm,1.0s
CHTO Chiang Mai 94.08 288 *e*P **P 20 56 44.3 +2.0**
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO Chiang Mai 94.08 288 P **P 20 56 45.7 +3.4**
CHTO Chiang Mai 94.08 288 P **P 20 56 45.7 +3.4**
comp=Z,40nm,1.8s,comp=Z,0.2nm
MDND Maddock 95.24 41 *e*P **P 20 56 46.6 -0.4**
comp=Z,106nm,1.9s
MDND Maddock 95.24 41 P **P 20 56 47.5 +0.5**
baz=245
YKA Yellowknife Ar 95.31 24 P **P 20 56 47.1 +0.2**
comp=Z,2.1nm,0.6s,baz=237,slow=4.5,SNR=55
YKA PP **PP 21 00 34.3 -3.2**
comp=Z,0.1nm,0.4s,baz=242,slow=7.4,SNR=4.9
YKB5 Yellowknife Ar 95.31 24 *e*P **P 20 56 47.0 +0.1**
ECSD EROS Data Cent 95.44 45 *e*P **P 20 56 47.4 -0.6**
comp=Z,10.0nm,1.3s
ECSD EROS Data Cent 95.44 45 P **P 20 56 48.0 0.0**
baz=246
LZH Lanzhou 96.16 306 *e*P **P 20 56 52.2 +0.5**
LZH pP pwP 20 57 00.6 -1.4
LZH sP sP 20 57 03.8 +7.8
LZH pmax pmax
comp=Z,28nm,1.1s
ULN Ulaanbaatar 98.27 318⇑ *e*P Pdif 20 57 01.5 +0.5
ULN pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 98.27 111 LR LR 21 32 42.7
comp=Z,170nm,19.7s,baz=245,slow=30
ULM Lac du Bonnet 98.46 39 LR LR 21 35 08.4
comp=Z,166nm,20.3s,baz=283,slow=32
SONA0 Songino Array 98.67 318 *e*P Pdif 20 57 03.3 +0.6
SONA0 *e*PP **PP 21 01 03.4 -0.6**
SONM Songino Array 98.67 318 P Pdif 20 57 03.3 +0.6
SONM 21 01 03.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 98.67 318 P Pdif 20 57 03.3 +0.6
comp=Z,0.5nm,0.7s,baz=101,slow=3.7,SNR=3.9
SONM PP **PP 21 01 03.4 -0.6**
comp=Z,0.5nm,0.7s,baz=117,slow=7.0,SNR=4.4
GTA Gaotai 100.29 308 *e*P **Pdif 20 57 13.2 +3.1**
GTA pP pwP 20 57 21.3 +0.8
GTA sP sP 20 57 25.3 +11
GTA pmax pmax
comp=Z,1.0nm,0.6s
WMQ Urumqi 110.17 310 *e*PKP **PKiKP 21 01 56.0 +0.7**
WMQ LR LR
comp=Z,87nm,17.9s
WMQ LR LR
comp=Z,120nm,19.1s
ZAA1 Zalesovo Array 113.28 321 *e*PKiKP **PKiKP 21 02 00.5 -0.3**
ZALV Zalesovo Beam 113.28 321 PKiKP **PKiKP 21 02 00.5 -0.3**
comp=Z,1.9nm,0.5s,baz=142,slow=1.8,SNR=9.6
MK32 Makanchi Array 114.34 313 *e*PKiKP **PKiKP 21 02 03.0 -0.1**
MKAR Makanchi Array 114.34 313 PKiKP **PKiKP 21 02 03.0 -0.1**
comp=Z,2.2nm,0.7s,baz=72,slow=2.1,SNR=27
KURK Kurchatov 116.96 317 *e*PKPdf **PKiKP 21 02 07.8 -0.2**
KURK Kurchatov 116.96 317 *d* iPKIKP **PKiKP 21 02 08.1 +0.1**
KURK pmax pmax
comp=Z,10.0nm,2.5s
KSH Kashi 118.35 304 *e*PKP **PKPdf 21 02 10.6 -0.6**
KSH sPKP 21 02 25.4
KSH PP PP 21 03 35.2 +7.5
KSH AMB AMB
comp=Z,88nm,5.5s

AAK Ala-Archa 119.64 308 *e*PKPdf **PKiKP 21 02 13.7 0.0**
AAK Ala-Archa 119.64 308 *d* iPKIKP **PKiKP 21 02 14.2 +0.5**
AAK pmax pmax
comp=Z,9.0nm,2.5s
BRVK Borovoye 121.98 320 *e*PKPdf **PKiKP 21 02 17.6 -0.1**
BRVK Borovoye 121.98 320⇓ *i* PKIKP **PKiKP 21 02 18.1 +0.4**
KBL Kabul 123.53 298 *e*PKPdf **PKiKP 21 02 21.2 -0.5**
KBL Kabul 123.53 298 *e*PKIKP **PKiKP 21 02 21.2 -0.5**
ARU Arti 127.75 326 *e*PKPdf **PKiKP 21 02 28.5 -0.6**
ARU Arti 127.75 326 *i* PKIKP **PKiKP 21 02 29.4 +0.3**
ARU 21 04 30.8
ARU 21 09 37.7
ABKAR Akbulak array 129.07 317 *e*PKPdf **PKiKP 21 02 31.4 -0.5**
ARA0 ARCESS Array S 130.00 351 *e*PKPdf **PKPdf 21 02 32.4 -0.1**
ARCES ARCESS Array B 130.00 351 PKP **PKPdf 21 02 32.4 -0.1**
comp=Z,4.7nm,0.6s,baz=345,slow=1.4,SNR=21
GEYT Alibeck 132.31 303 PKP **PKPdf 21 02 37.2 -0.6**
comp=Z,3.9nm,0.8s,baz=57,slow=8.8,SNR=8.7
GYA0B ALIBECK ARRAY 132.31 303 *e*PKPdf **PKiKP 21 02 38.4 -0.5**
FIA0 FINESS Array S 137.21 346 *e*PKPdf **PKiKP 21 02 47.2 -0.8**
FIA0 FINESS Array S 137.21 346 *e*PKIKP **PKiKP 21 02 47.2 -0.8**
FINES FINESS Array B 137.21 346 PKP **PKiKP 21 02 47.2 -0.8**
comp=Z,2.7nm,0.7s,baz=32,slow=2.9,SNR=13
OBN Obninsk 138.94 334 *e*PKIKP **PKiKP 21 02 50.9 -0.8**
OBN *e* 21 05 40.0
OBN *e*PPP PPP 21 08 46.1
OBN pmax pmax
comp=Z,4.0nm,0.9s
VRH Novokhopyorsk 138.99 326 *e*PKIKP **PKPdf 21 02 46.3 -3.4**
VRH pmax pmax
comp=Z,5.0nm,0.7s
LPSR Galich'ya Gora 139.55 329 *e*PKIKP **PKPdf 21 02 50.5 -0.2**
LPSR pmax pmax
comp=Z,5.0nm,1.0s
NB2 NORSAR Subarra1 139.77 356 PKP PKPpre 21 02 43.0
comp=Z,0.4nm,0.5s,baz=26,slow=2.6
NB200 NORSAR Array S 139.77 356 *e*PKPdf **PKPdf 21 02 48.2 -2.8**
NOA NORSAR Array B 139.77 356 PKhKP PKPpre 21 02 48.2
comp=Z,0.9nm,0.8s,baz=17,slow=5.2,SNR=3.5
VSR Storozhevoye 140.29 328 *e*PKIKP **PKPdf 21 02 52.3 +0.2**
VSR pmax pmax
comp=Z,10.0nm,1.9s
ZEI Tsey 141.69 313 *i* PKIKP **PKPdf 21 02 52.3 -2.9**
ZEI pmax pmax
comp=Z,5.0nm,1.1s
KBZ Khabaz 141.98 315 PKhKP PKPpre 21 02 51.6
comp=Z,1.8nm,0.9s,baz=17,slow=20,SNR=3.6
KIV Kislovodsk 142.03 316 *i* PKIKP **PKiKP 21 02 58.2 -0.4**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,126nm,24.0s
GNI Garni 142.03 309⇓ *i* PKIKP **PKiKP 21 03 00.0 +1.2**
KMBO Kilima Mbogo 142.51 238 PKhKP PKPpre 21 02 54.9
comp=Z,0.9nm,0.5s,baz=280,slow=4.2,SNR=3.8
RAYN Ar Rayn 143.58 282 *e*PKPdf PKPbc 21 02 57.0 +0.7
RAYN Ar Rayn 143.58 282 *e*PKIKP PKPbc 21 02 57.0 +0.7
SUW Suwalki 144.52 343 *e*PKP PKPbc 21 02 58.3 +0.2
SUW Suwalki 144.52 343 *e*PKIKP PKPbc 21 02 58.3 +0.2
SIRT Sirnak 144.56 306 *e*PKPdf **PKPdf 21 02 59.6 -0.7**
KLNR Kaliningrad 144.74 346 *de*PKIKP **PKPdf 21 02 59.3 -0.6**
ANN Anapa 144.92 320 *e*PKIKP **PKPdf 21 03 00.4 -0.1**
ANN pmax pmax
comp=Z,51nm,1.0s
AKASG Malin Array Be 145.20 334 PKPbc **PKPdf 21 03 00.3 -0.5**
comp=Z,16nm,0.7s,baz=41,slow=4.5,SNR=100
AKBB Malin Array Si 145.20 334 *e*PKPbc **PKPdf 21 03 00.4 -0.4**
AKBB Malin Array Si 145.20 334 *e*PKIKP **PKPdf 21 03 00.4 -0.4**
KIEV Kiev 145.21 334 *e*PKPbc **PKPdf 21 03 00.6 -0.2**
KIEV Kiev 145.21 334⇑ PKIKP **PKPdf 21 03 00.5 -0.3**
AK11 Malin Array Si 145.24 334 *e*PKPbc **PKPab 21 03 00.2 -0.4**
GKP Gorka Klasztor 146.62 348 *e*PKP **PKPab 21 03 05.7 0.0**
GKP Gorka Klasztor 146.62 348 *e*PKP2 **PKPab 21 03 05.7 0.0**
SIM Simferopol' 146.77 323 *e*PKP2 **PKPab 21 03 06.8 +0.1**
BSEG Bad Segeberg 146.90 356 *e*PKPbc **PKPab 21 03 06.9 0.0**
baz=8.0,slow=2.4
BEL Belsk 147.12 343 *e*PKP **PKPab 21 03 07.5 -0.2**
BEL Belsk 147.12 343 *e*PKP2 **PKPab 21 03 07.5 -0.2**
LVV L'vov 147.88 338 *e*PKP2 **PKiKP 21 03 09.0 -1.3**
RUE Ruedersdorf 147.96 351 *e*PKPbc **PKiKP 21 03 09.7 -0.6**
baz=8.0,slow=2.4
NRDL Niedersach Rie 148.35 355 *e*PKPbc **PKiKP 21 03 10.7 -0.3**
baz=8.0,slow=2.4
KWP Kalwaria Pacla 148.49 339 *e*PKP **PKiKP 21 03 11.1 -0.5**
KWP Kalwaria Pacla 148.49 339 *e*PKPbc **PKiKP 21 03 10.9 -0.7**
KWP Kalwaria Pacla 148.49 339 *e*PKP2 **PKiKP 21 03 11.1 -0.5**
IBBN Ibbenburen 148.66 358 *e*PKPbc **PKiKP 21 03 11.6 -0.2**
baz=8.0,slow=2.4
ASSE Asse, Remlinge 148.67 355 *e*PKPbc **PKiKP 21 03 11.7 0.0**
baz=8.0,slow=2.4
LEOM Leova 148.81 330⇓ PKP2 **PKiKP 21 03 12.2 -0.1**
OJC Ojcow 148.85 343 *e*PKP **PKiKP 21 03 11.8 -0.5**
OJC Ojcow 148.85 343 *e*PKPdf **PKPdf 21 03 06.9 -0.1**
OJC *e*PKPbc **PKiKP 21 03 11.4 -0.9**
OJC Ojcow 148.85 343 *e*PKIKP **PKPdf 21 03 06.9 -0.1**
OJC *e* 21 03 11.4
CLZ Clausthal 148.98 355 *e*PKPbc **PKiKP 21 03 12.6 0.0**
baz=8.0,slow=2.4
KSP Ksiaz 149.11 347 *e*PKP **PKiKP 21 03 13.0 +0.2**
KSP Ksiaz 149.11 347 *e*PKP2 **PKiKP 21 03 13.0 +0.2**
CLL Collm 149.22 352 *e*PKPdf **PKPdf 21 03 07.7 +0.2**
CLL *e*PKPbc **PKiKP 21 03 12.5 -0.5**
CLL Collm 149.22 352 *e*PKPbc **PKiKP 21 03 12.9 0.0**
baz=8.0,slow=2.4
CLL *ep*PKPbc **sPKPab 21 03 23.7 +3.2**
baz=3.9,slow=2.5
CLL Collm 149.22 352 *e*PKPdf **PKPdf 21 03 08.0 +0.5**
comp=Z,14nm,1.6s
CLL ⇑ *i* PKPbc **PKiKP 21 03 12.5 -0.5**
comp=Z,25nm,1.0s
CLL *i* PKPab **PKPab 21 03 16.5 +0.3**
comp=Z,17nm,1.0s
CLL *i* 21 03 23.5
comp=Z,27nm,0.9s
CLL Collm 149.22 352⇑ *e*PKIKP **PKPdf 21 03 08.0 +0.5**
CLL *i* 21 03 12.5
CLL *i* 21 03 16.5
CLL *i* 21 03 23.5
CLL pmax pmax
comp=Z,14nm,1.6s
CLL pmax pmax
comp=Z,25nm,1.0s
CLL pmax pmax
comp=Z,17nm,1.0s
ILGA Ilgaz 149.23 317 *e*PKPbc **PKiKP 21 03 14.0 +0.3**
BUR08 Bucovina Ar. S 149.23 334 *e*PKPbc **PKiKP 21 03 13.2 -0.1**
BURAR Bucovina Array 149.25 334⇑ PKP2 **PKiKP 21 03 13.5 +0.2**
GTTG Gyttingen 149.31 355 *e*PKPbc **PKiKP 21 03 13.2 0.0**
baz=8.0,slow=2.4
NIE Niedzica 149.43 342 *e*PKP **PKiKP 21 03 13.8 +0.3**
NIE Niedzica 149.43 342 *e*PKP2 **PKiKP 21 03 13.8 +0.3**
TLCR 149.46 328⇓ PKP2 **PKiKP 21 03 13.9 +0.2**
NEUB Neuenburg 149.47 353 *e*PKPbc **PKiKP 21 03 13.7 +0.2**
baz=8.0,slow=2.4
NEUB *ep*PKPbc **sPKPab 21 03 24.4 +2.8**
baz=3.9,slow=2.5
UPC Upice 149.48 348⇑ *e*PKP **PKiKP 21 03 13.9 +0.3**
UPC Upice 149.48 348 *e*PKP2 **PKiKP 21 03 13.9 +0.3**
UZH Uzhgorod 149.49 339 *d* iPKP2 **PKiKP 21 03 14.0 +0.4**
BRG Berggiesshubel 149.50 350 *e*PKP **PKPdf 21 03 09.7 +1.7**
comp=Z,11nm,1.5s
BRG *i* 21 03 13.6
comp=Z,20nm,1.0s
BRG *i* 21 03 24.6
comp=Z,18nm,1.0s
BRG Berggiesshubel 149.50 350 *e*PKPbc **PKiKP 21 03 13.9 +0.3**
baz=8.0,slow=2.4
BRG Berggiesshubel 149.50 350 *e*PKHKP PKPpre 21 03 09.7
BRG *i* 21 03 13.6
BRG pmax pmax
comp=Z,11nm,1.5s
BRG pmax pmax
comp=Z,18nm,1.0s
BUG Bochum--Univer 149.54 359 *e*PKPbc **PKiKP 21 03 13.5 -0.1**
baz=8.0,slow=2.4
FBE Freiberg 149.54 351 *e*PKPbc **PKiKP 21 03 14.4 +0.7**
baz=8.0,slow=2.4
FBE *ep*PKPbc **sPKPab 21 03 25.0 +3.1**
baz=3.9,slow=2.5
DPC Dobruska-Polom 149.57 347⇑ *e*PKP **PKiKP 21 03 13.6 -0.2**
DPC *ex* x 21 03 25.2
DPC Dobruska-Polom 149.57 347 *e*PKP2 **PKiKP 21 03 13.6 -0.2**
OKC Ostrava-Krasne 149.63 345⇑ *e*PKP **PKiKP 21 03 14.1 +0.2**
OKC Ostrava-Krasne 149.63 345 *e*PKP2 **PKiKP 21 03 14.1 +0.2**

KRLC Kraliky 149.73 346⇑ *e*PKP **PKiKP 21 03 14.2 0.0**
KRLC *ex* x 21 03 24.6
KRLC Kraliky 149.73 346 *e*PKP2 **PKiKP 21 03 14.2 0.0**
PVCC Panska Ves 149.73 349⇑ *e*PKP **PKiKP 21 03 14.3 +0.2**
PVCC *ex* x 21 03 25.7
PVCC Panska Ves 149.73 349 *e*PKP2 **PKiKP 21 03 14.3 +0.2**
CFR Carcaliu 149.80 328⇑ PKP2 **PKiKP 21 03 14.3 -0.1**
MORC Moravsky Berou 149.83 345 *e*PKPdf **PKPdf 21 03 09.1 +0.5**
MORC *e*PKPbc **PKiKP 21 03 14.2 -0.2**
MORC Moravsky Berou 149.83 345⇑ PKP2 **PKiKP 21 03 14.7 +0.3**
MORC Moravsky Berou 149.83 345 *e*PKP **PKiKP 21 03 14.5 +0.1**
TRPA Tarpa 149.83 338 *e*PKIKP **PKiKP 21 03 14.0 -0.3**
BMR Baia Mare 149.87 336⇓ PKP2 **PKiKP 21 03 14.9 +0.4**
LANS Liptovska Anna 149.91 342 *e*PKP2 **PKiKP 21 03 15.3 +0.7**
LANS Liptovska Anna 149.91 342 *e*PKP **PKiKP 21 03 15.3 +0.7**
VRI Vrincioaia 149.96 331⇓ PKP2 **PKiKP 21 03 14.8 +0.1**
BR101 Keskin Array S 149.97 315 *e*PKPbc **PKiKP 21 03 15.0 -0.2**
BR131 Keskin Array S 149.97 315 *e*PKPdf **PKPdf 21 03 09.8 +0.5**
BR131 *e*PKPbc **PKiKP 21 03 14.8 -0.3**
BRTR Keskin Array B 149.97 315 PKP2 **PKiKP 21 03 15.0 -0.1**
BRTR pmax pmax
comp=Z,11nm,0.8s
BRTR Keskin Array B 149.97 315 PKPbc **PKiKP 21 03 15.0 -0.1**
comp=Z,11nm,0.8s,baz=133,slow=2.6,SNR=57
PLOR Plostina 150.01 331⇓ PKP2 **PKiKP 21 03 14.7 -0.2**
MOX Moxa 150.04 353 *e*PKPbc **PKiKP 21 03 15.1 +0.3**
baz=8.0,slow=2.4
MOX *ep*PKPbc **sPKPab 21 03 25.7 +1.7**
baz=3.9,slow=2.5
MOX *e*L L 22 10 08.4
comp=Z,182nm,18.9s
TANN Tannenbergstha 150.16 352 *e*PKPbc **PKiKP 21 03 15.6 +0.5**
baz=8.0,slow=2.4
TANN *ep*PKPbc **sPKPab 21 03 26.3 +1.8**
baz=3.9,slow=2.5
GUNZ Gunzen 150.23 352 *e*PKPbc **PKiKP 21 03 15.9 +0.7**
baz=8.0,slow=2.4
GUNZ *ep*PKPbc **sPKPab 21 03 26.6 +1.8**
baz=3.9,slow=2.5
HARR Harsova 150.25 328⇓ PKIKP **PKiKP 21 03 16.5 +1.2**
PRU Pruhonice 150.26 349⇑ *e*PKP **PKiKP 21 03 15.4 +0.2**
PRU *ex* x 21 03 26.5
PRU Pruhonice 150.26 349 *e*PKIKP **PKiKP 21 03 15.4 +0.2**
PRU *e* 21 03 26.5
TLB Topalu 150.27 328⇑ PKIKP **PKiKP 21 03 15.7 +0.3**
GOPC GO Pecny, Ondr 150.28 349⇑ *e*PKP **PKiKP 21 03 15.2 -0.1**
GOPC *ex* x 21 03 26.6
GOPC GO Pecny, Ondr 150.28 349 *e*PKIKP **PKiKP 21 03 15.2 -0.1**
GOPC *e* 21 03 26.6
WERN Wernitzgruen 150.30 352 *e*PKPbc **PKiKP 21 03 16.1 +0.8**
baz=8.0,slow=2.4
NKC Novy Kostel 150.34 352⇑ *e*PKP **PKiKP 21 03 15.8 +0.4**
NKC Novy Kostel 150.34 352 *e*PKIKP **PKiKP 21 03 15.8 +0.4**
MEM Membach 150.38 0⇑ PKP **PKiKP 21 03 15.2 -0.2**
MEM ⇑ pPKP **sPKPab 21 03 26.3 +0.9**
AHRW Bad Neuenahr-A 150.44 359 *e*PKPbc **PKiKP 21 03 16.8 +1.3**
baz=8.0,slow=2.4
AHRW *ep*PKPbc **sPKPab 21 03 26.6 +1.0**
baz=3.9,slow=2.5
SNF Seneffe 150.45 2⇑ PKP **PKiKP 21 03 15.1 -0.4**
ANTO Ankara 150.46 316 *e*PKPdf **PKPdf 21 03 10.9 +1.0**
ANTO *e*PKPbc **pPKPbc 21 03 16.8 -1.8**
ANTO Ankara 150.46 316⇑ PKIKP **PKiKP 21 03 16.6 +0.6**
BR231 Keskin MP Arra 150.48 316 *e*PKPbc **PKiKP 21 03 16.7 +0.5**
VRAC Vranov 150.49 346⇑ PKIKP **PKiKP 21 03 16.2 +0.5**
VRAC Vranov 150.49 346 *e*PKP **PKiKP 21 03 16.0 +0.3**
BCLA Clavier 150.57 1⇑ PKP **PKiKP 21 03 15.4 -0.4**
BCLA ⇑ pPKP **PKPab 21 03 21.0 -0.8**
MLR Muntele Rosu 150.60 331 *e*PKPdf **PKPdf 21 03 09.8 -0.3**
MLR *e*PKPbc **PKiKP 21 03 16.2 0.0**
MLR Muntele Rosu 150.60 331 *e*PKIKP **PKPdf 21 03 09.8 -0.3**
MLR *e* 21 03 16.2
ISR Istrita 150.61 330⇓ PKIKP **PKiKP 21 03 16.9 +0.7**
CJR Cluj-Napoca 150.63 335⇑ PKIKP **PKiKP 21 03 16.7 +0.6**
MANZ Manzenberg 150.63 352 *e*PKPbc **PKiKP 21 03 16.7 +0.7**
baz=8.0,slow=2.4
MANZ *ep*PKPbc **sPKPab 21 03 27.4 +0.9**
baz=3.9,slow=2.5
JAVC Velka Javorina 150.66 344 *e*PKP **PKiKP 21 03 17.6 +1.5**
VYHS Vyhne 150.68 343 *e*PKIKP **PKiKP 21 03 16.7 +0.6**
VYHS *e* 21 03 27.6
VYHS Vyhne 150.68 343 *e*PKP **PKiKP 21 03 16.7 +0.6**
VYHS *e* 21 03 27.6
LTVH Ltavrtes, Hu 150.69 338 *e*PKiKP **PKiKP 21 03 17.0 +0.9**
TNS Taunus Mts 150.72 357 *e*PKPbc **PKiKP 21 03 16.7 +0.5**
baz=8.0,slow=2.4
TREC Trest 150.74 347⇑ *e*PKP **PKiKP 21 03 16.6 +0.4**
TREC Trest 150.74 347 *e*PKIKP **PKiKP 21 03 16.6 +0.4**
KRUC Moravsky 150.77 346 *e*PKP **PKiKP 21 03 16.5 +0.2**
ROTZ Rotzenmuhle 150.83 352 *e*PKPbc **PKiKP 21 03 17.1 +0.7**
baz=8.0,slow=2.4
ROTZ *ep*PKPbc **sPKPab 21 03 27.7 +0.4**
baz=3.9,slow=2.5
DOU Dourbes 150.87 2⇑ PKP **PKiKP 21 03 16.7 +0.3**
DOU ⇑ pPKP **sPKPab 21 03 27.6 +0.2**
PSZ Piszkesteto 150.89 341 *e*PKPbc **PKiKP 21 03 16.4 -0.3**
PSZ Piszkesteto 150.89 341⇑ PKIKP **PKiKP 21 03 16.6 -0.1**
PSZ Piszkesteto 150.89 341 *e*PKIKP **PKiKP 21 03 16.1 -0.6**
DRGR 150.90 336⇑ PKIKP **PKiKP 21 03 16.9 +0.2**
GRF Grafenberg Arr 151.02 353 *e*PKPbc **PKiKP 21 03 17.6 +0.8**
baz=8.0,slow=2.4
GRF *e*L L 22 16 20.4
comp=Z,147nm,18.9s
VOIR 151.05 332⇑ PKIKP **PKiKP 21 03 18.0 +0.9**
MODS Modra-Piesok 151.20 345 *e*PKIKP **PKiKP 21 03 18.2 +1.0**
MODS *e* 21 03 29.4
MODS Modra-Piesok 151.20 345 *e*PKP **PKiKP 21 03 18.2 +1.0**
MODS *e* 21 03 29.4
KHC Kasperske Hory 151.25 350 *e*PKPdf **PKPdf 21 03 11.5 +0.6**
KHC *e*PKPbc **pPKPbc 21 03 17.9 -1.7**
KHC *e*PKPab **sPKPab 21 03 27.3 -1.8**
KHC Kasperske Hory 151.25 350 *e*PKPDF **PKPdf 21 03 11.7 +0.8**
KHC ⇑ *e*PKP **pPKPbc 21 03 17.8 -1.7**
KHC *ex* x 21 03 28.8
KHC *ex* x 21 03 39.1
KHC Kasperske Hory 151.25 350 *e*PKIKP **PKPdf 21 03 11.5 +0.6**
KHC *e* 21 03 17.9
KHC *e* 21 03 27.3
WLF Walferdange 151.33 0 *e*PKPbc **PKiKP 21 03 18.6 +1.2**
baz=8.0,slow=2.4
WLF Walferdange 151.33 0⇑ PKP **PKiKP 21 03 17.7 +0.3**
WLF ⇑ pPKP **sPKPab 21 03 26.7 -2.7**
WET Wettzell 151.35 351 *e*PKPbc **PKiKP 21 03 18.2 +0.6**
baz=8.0,slow=2.4
ZST Bratislava 151.41 345 *e*PKIKP **PKiKP 21 03 17.9 +0.3**
ZST Bratislava 151.41 345 *e*PKP **PKiKP 21 03 17.9 +0.3**
CONA Conrad Observa 151.96 346 *e*PKiKP **PKiKP 21 03 19.5 +0.7**
comp=Z,15nm,0.9s
GZR Gura Zlata 152.04 335⇑ PKIKP **PKiKP 21 03 19.2 +0.1**
STU Stuttgart 152.12 356 *e*PKPbc **PKiKP 21 03 19.9 +0.8**
baz=8.0,slow=2.4
BZS Buzias 152.30 336⇑ PKIKP **PKiKP 21 03 20.7 +1.2**
MOA Molln 152.36 348 *e*PKiKP **PKiKP 21 03 19.7 +0.1**
comp=Z,7.6nm,0.8s
TIH Tihany 152.40 343 *e*PKiKP **PKPbc 21 03 19.1 -0.3**
FUR Furstenfeldbru 152.52 353 *e*PKPbc **PKiKP 21 03 20.7 +0.8**
baz=8.0,slow=2.4
BFO Black Forest 152.61 357 *e*PKPbc **PKiKP 21 03 20.0 -0.1**
BFO *e*PKPab **pPKPab 21 03 31.1 -2.6**
BFO Black Forest 152.61 357 *e*PKPbc **PKiKP 21 03 20.9 +0.7**
baz=8.0,slow=2.4
BFO *ep*PKPbc **pPKPab 21 03 31.5 -2.1**
baz=3.9,slow=2.5
BFO Black Forest 152.61 357 *i* PKIKP **PKPbc 21 03 18.2 -1.7**
ARSA Arzberg 152.67 346 *e*PKiKP **PKiKP 21 03 20.2 -0.1**
comp=Z,6.1nm,1.1s
MORH Mrgy, Hungar 152.80 341 *e*PKiKP **PKiKP 21 03 20.1 -0.5**
UBR Ueberruh 153.13 354 *e*PKPbc **PKiKP 21 03 21.9 +0.7**
baz=8.0,slow=2.4
RETA Reutte 153.25 353 *i* pPKPbc pPKPbc 21 03 22.7 -1.5
comp=Z,4.5nm,1.1s
KBA Koelnbreinsper 153.28 349 *e*PKiKP **PKiKP 21 03 22.3 +0.5**
comp=Z,5.4nm,0.8s
WATA Walderalm 153.30 352 *i* PKiKP **PKiKP 21 03 22.2 +0.5**
comp=Z,4.3nm,0.5s,SNR=5.0
SOKA Soboth 153.32 346 *e*PKiKP **PKiKP 21 03 21.8 0.0**
comp=Z,8.1nm,0.9s,SNR=6.8
PERS Pernice 153.34 346 *i* PKPdf **PKPdf 21 03 14.5 +0.4**
PERS *i* PKPbc **pPKPbc 21 03 22.1 -2.3**
PERS *i* PKPab **PKPab 21 03 33.1 -0.4**
MOTA Moosalm 153.35 353 *e*PKiKP **PKiKP 21 03 21.9 +0.1**
comp=Z,8.0nm,0.8s
WTTA Wattenberg 153.36 352 *i* PKiKP **PKiKP 21 03 22.3 +0.4**

comp=Z,8.1nm,0.6s,SNR=5.8
SQTA Sankt Quirin 153.46 352 *e*PKiKP **PKiKP 21 03 22.4 +0.3**
comp=Z,6.4nm,0.8s
DAVA Damuels 153.54 354 *i* pPKPbc pPKPbc 21 03 23.6 -1.3
comp=Z,8.4nm,0.8s
FETA Feichten 153.71 353 *e*PKiKP **PKiKP 21 03 23.2 +0.5**
comp=Z,5.2nm,0.6s
ABTA Abfaltersbach 153.74 350 *e*PKiKP **PKiKP 21 03 22.7 +0.1**
comp=Z,12nm,1.0s,SNR=7.3
VTS Vitosha 154.06 330 *e*PKPdf **PKPdf 21 03 14.7 -0.7**
VTS *e*PKPbc **pPKPbc 21 03 24.1 -2.1**
VTS Vitosha 154.06 330 *e*PKPdf **PKPdf 21 03 14.7 -0.7**
VTS *e* 21 03 24.1
FUORN Ofenpass-Fuorn 154.16 354 *e*PKPdf **PKPdf 21 03 15.9 +0.4**
FUORN *e*PKPbc **pPKPbc 21 03 24.6 -1.8**
VISS Visnje 154.19 346 *i* PKPbc **PKiKP 21 03 24.3 +0.9**
VISS *i* PKPab **PKPab 21 03 35.2 -1.9**
JAVS Javornik 154.28 347 *i* PKPbc **PKiKP 21 03 24.3 +0.6**
JAVS *i* PKPab **PKPab 21 03 36.8 -0.8**
BOJS Bojanci 154.38 345 *i* PKPdf **PKPdf 21 03 16.7 +1.2**
BOJS *i* PKPbc **pPKPbc 21 03 24.9 -1.7**
BOJS *i* PKPab **PKPab 21 03 35.8 -2.1**
BOJS *i* 21 03 45.2
ESDC Sonseca Array 159.40 23 PKP **PKPdf 21 03 23.2 +1.0**
comp=Z,0.5nm,0.7s,baz=354,slow=1.3,SNR=3.9
ESDC PKPab **PKPab 21 03 58.8 -1.0**
comp=Z,1.3nm,0.7s,baz=324,slow=4.3,SNR=7.8
ES06 SONSECA Array 159.40 23 *e*PKPdf **PKPdf 21 03 19.9 -2.3**
ES06 *e*PKPab **PKPab 21 03 59.4 -0.4**
TOA0 Torodi Ar. Sit 171.15 150 *e*PKPdf **PKPdf 21 03 31.1 -1.6**
TOA0 *e*PKPab **PKPab 21 04 52.1 +0.2**
TORD Torodi Ar. Bea 171.15 150 PKP **PKPdf 21 03 31.9 -0.7**
comp=Z,1.5nm,0.9s,baz=344,slow=3.2,SNR=6.7
TORD PKPab **PKPab 21 04 51.6 -0.3**
comp=Z,1.5nm,0.9s,baz=197,slow=4.6,SNR=5.2
TOA1 Torodi Ar. Sit 171.16 150 *e*PKPdf **PKPdf 21 03 31.9 -0.7**
TOA1 *e*PKPab **PKPab 21 04 51.6 -0.3**

TRN 08 20:45:30.9, 14°92N×58°42W, h99km, MD3.8, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSP	**Saint Philip**	**2.06**	**209**	*e*S	Sn	20 46 30.8	+1.1
ILAM	**Ilet Lapin Mar**	**2.38**	**267**	*e*P	Pn	20 46 08.4	+0.1
LPMF	**Morne Lapointe**	**2.48**	**262**	*e*P	Pn	20 46 10.5	+0.7
ZAM	**Aeronautique**	**2.54**	**263**	*e*P	Pn	20 46 11.3	+0.8
ZAM	**Aeronautique**	**2.54**	**263**	*e*P	Pn	20 46 11.4	+0.9
TRMF	**Trois Ilets**	**2.57**	**262**	*e*P	Pn	20 46 13.2	+2.3
BAMF	**Morne Balai**	**2.64**	**268**	*e*P	Pn	20 46 13.0	+1.2
FDF	**Fort de France**	**2.65**	**266**	*e*P	Pn	20 46 12.7	+0.8
FDF				*e*S	Sn	20 46 44.5	+1.0
GBMF	**Grand Be**	**2.66**	**268**	*e*P	Pn	20 46 13.5	+1.4
CXM	**Morne La Croix**	**2.66**	**268**	*e*P	Pn	20 46 13.6	+1.4
PML	**Morne Lenard**	**2.67**	**267**	*e*P	Pn	20 46 13.5	+1.3
PCM	**Pelee Case Pet**	**2.70**	**268**	*e*P	Pn	20 46 13.9	+1.3
MCLT	**Moule a Chique**	**2.72**	**244**	*e*P	Pn	20 46 13.6	+0.7
MCLT				*e*S	Sn	20 46 45.6	+0.4
SLB	**Belfond**	**2.76**	**247**	*e*P	Pn	20 46 14.9	+1.4
SLB				*e*S	Sn	20 46 46.9	+0.7
MAGL	**Barre de l'ile**	**2.94**	**291**	*e*P	Pn	20 46 17.2	+1.4
SVCV	**St. Vincent, C**	**3.11**	**239**	*e*P	Pn	20 46 19.9	+1.8
SVCV				*e*S	Sn	20 46 53.6	-0.9
SSV	**Crater Summit**	**3.12**	**240**	*e*P	Pn	20 46 19.7	+1.4
SSV				*e*S	Sn	20 46 55.4	+0.5
SVV	**Soufriere Volc**	**3.14**	**240**	*e*P	Pn	20 46 20.4	+1.9
SVV				*e*S	Sn	20 46 55.9	+0.6
SVB	**Belmont**	**3.20**	**240**	*e*P	Pn	20 46 20.2	+1.0
SVB				*e*S	Sn	20 46 56.5	-0.1
TDBA	**Terre de Bas,**	**3.23**	**287**	*e*P	Pn	20 46 22.6	+2.8
ANWB	**Willy Bob**	**4.23**	**311**	*e*P	Pn	20 46 33.4	+0.2

*IDC **08** 20:46:01.0±2.8, 35°.69N×140°.67E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.5/49, mbtmp3.8/5, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/35, Error ellipse: s-maj=76.2km s-min=20.6km az=53.0*
*ISCJB **08** 20:46:10.2±0.6, 35°.56N±0°.06×140°.15E±0°.06, h79km±6km, mb3.6/3, Error ellipse: s-maj=10.6km s-min=7.6km az=33.1*
*JMA **08** 20:46:11.1±0.2, 35°.69N×140°.13E, h64km±2km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs=356.00000°, δ75.00000°, λ86.00000°. NP2: ϕs=193.00000°, δ16.00000°, λ106.00000°. Principal axes: T Plg60.0000°, Azm260.0000°; N Plg4.0000°, Azm358.0000°; P Plg30.0000°, Azm90.0000°;*
JMA Felt I J1.

ISC 08 20:46:11.3±1.1, 35°.60N±0°.06×140°.13E±0°.06, h71km±8km, n19, σ0°79/23, mb3.6/3, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.19**	**163**	↑P	**Pn**	**20 46 22.1**	**+0.1**
JSMT	**Sammumatsuo**	**0.26**	**81**	P	**Pn**	**20 46 22.0**	**-0.3**
TOK	**Tokyo**	**0.32**	**285**	P	**Pn**	**20 46 22.6**	**0.0**
BSO3	**Boso 3**	**0.86**	**159**	↑P	**Pn**	**20 46 27.9**	**+0.1**
JOD2	**Odawara 2**	**0.92**	**249**	↓P	**Pn**	**20 46 28.3**	**-0.5**
JOD2				S	**Sn**	**20 46 41.0**	**-0.9**
JAG	**Ashikaga**	**0.99**	**326**	↓P	**Pn**	**20 46 28.5**	**-1.2**
JIM2	**Oshima 3**	**1.05**	**213**	P	**Pn**	**20 46 30.3**	**-0.2**
JRY	**Ryogami san**	**1.08**	**293**	↓P	**Pn**	**20 46 30.8**	**-0.1**
BSO1	**Boso 1**	**1.17**	**144**	P	**Pn**	**20 46 31.2**	**-0.3**
JFNN	**Fujinakano**	**1.25**	**251**	P	**Pn**	**20 46 32.9**	**-0.1**
JFNN				S	**Sn**	**20 46 49.1**	**-0.2**
JYN	**Shimob**	**1.30**	**266**	↓P	**Pn**	**20 46 33.5**	**-0.2**
JYN				S	**Sn**	**20 46 50.0**	**-0.5**
JIZS	**Izushimoda**	**1.36**	**230**	P	**Pn**	**20 46 34.2**	**-0.2**
JKT	**Katashina**	**1.36**	**329**	P	**Pn**	**20 46 33.5**	**-1.1**
MJAR	**Matsushiro Arr**	**1.82**	**302**	Pn	**Pn**	**20 46 39.9**	**-0.6**
	5.2nm,0.3s,baz=110,slow=13,SNR=169						
MJAR				Sn	**Sn**	**20 47 04.1**	**+1.4**
	1.8nm,0.3s,baz=190,slow=25,SNR=6.2						
MAT	**Matsushiro**	**1.82**	**302**	P	**Pn**	**20 46 40.6**	**+0.1**
MAT				S	**Sn**	**20 47 05.0**	**+2.2**
JCJ	**Chichijima**	**8.66**	**168**	Pn	Pn	20 48 07.4	-6.5
	1.5nm,0.3s,baz=317,slow=18,SNR=2.6						
JCJ				Sn	Sn	20 49 37.1	-13
	2.4nm,0.3s,baz=322,slow=19,SNR=2.1						
MKAR	**Makanchi Array**	**44.02**	**303**	P	**P**	**20 54 12.0**	**+0.4**
	0.4nm,0.7s,baz=92,slow=8.7,SNR=4.2						
MKAR				LR	LR	21 13 15.2	
	comp=Z,38nm,19.0s,baz=12,slow=37						
WRA	**Warramunga Arr**	**55.51**	**187**	P	**P**	**20 55 38.7**	**-0.3**
	0.9nm,0.5s,baz=0.8,slow=7.5,SNR=7.3						
ASAR	**Alice Springs**	**59.24**	**187**	P	**P**	**20 56 05.2**	**-0.1**
	0.2nm,0.4s,baz=358,slow=6.5,SNR=2.5						

MEX 08 20:59:26.0±0.6, 17°.02N×94°.89W, h129km±5km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.07**	**5**	*i* P	Pn	20 59 42.6	-1.0
CMIG				*i* S	Sn	20 59 54.5	-2.4
TUIG	**Tuzandepetl**	**1.10**	**24**	*i* P	Pn	20 59 48.6	-1.2
TUIG				*i* S	Sn	21 00 05.7	-2.3
HUIG	**Huatulco**	**1.71**	**223**	*e*P	Pn	20 59 54.7	-1.7
HUIG				*e*S	Sn	21 00 18.1	-1.6
VHO	**Vista Hermosa**	**1.76**	**272**	*e*P	Pn	20 59 56.5	-0.8
VHO				*i* S	Sn	21 00 19.3	-1.9
PNIG	**Pinotepa**	**3.16**	**259**	*e*P	Pn	21 00 11.9	-2.8
PNIG				*i* S	Sn	21 00 49.1	-3.3

TAP 08 21:14:21.4, 24°.37N×121°.43E, h9km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.07**	**324**	*e*P	Pg	21 14 23.4	-0.2
	baz=323						
NNSB				*e*S	Sg	21 14 24.7	-0.5
	baz=323						
NNS	**Nan Shan**	**0.08**	**323**	*e*P	Pg	21 14 23.5	-0.3
	baz=326						
NNS				S	Sg	21 14 25.2	-0.3
	baz=326						
ETLH	**Xiulin Townshi**	**0.17**	**163**	*e*S	Sg	21 14 27.7	+0.2
	baz=163						
NACB	**Ninganchiao**	**0.25**	**142**	*e*P	Pg	21 14 26.5	+0.1
	baz=142						
NACB				*e*S	Sg	21 14 29.9	+0.2
	baz=142						
WHF	**Hehuan Shan**	**0.27**	**213**	*e*S	Sg	21 14 30.7	0.0
	baz=212						
NANB	**Nanao**	**0.30**	**79**	*e*P	Pg	21 14 27.2	-0.1
	baz=79						
NANB				*e*S	Sg	21 14 31.7	+0.3
	baz=79						

*ISCJB **08** 21:24:00.3±0.7, 33°.19S±0°.04×68°.86W±0°.04, h19km±4km, Error ellipse: s-maj=8.5km s-min=4.2km az=145.0*
*GUC **08** 21:24:00.9±0.5, 33°.17S×69°.12W, h5km±1km, ML2.7*
*SJA **08** 21:24:00.0±0.7, 33°.09S×68°.90W, h24km±1km, ML3.2, MW3.6*

ISC 08 21:24:00.1±1.1, 33°.17S±0°.04×68°.94W±0°.04, h17km±7km, n30, σ1°03/39, 3D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAGR	**Agrelo**	**0.12**	**48**	*e*P	**Pg**	**21 24 04.7**	**+0.7**
AAGR				*e*S	**Sb**	**21 24 08.4**	**+1.8**
ARCO	**CERRO ARCO**	**0.32**	**1**	*e*P	**Pg**	**21 24 06.8**	**-0.3**
ARCO				*e*S	**Sg**	**21 24 11.6**	**-0.4**
ARCO				IAML		21 24 12.9	
	comp=Z,5μm,0.3s						
ASAL	**Salagasta**	**0.58**	**8**	*e*P	**Pg**	**21 24 11.0**	**-0.7**
AUSP	**Uspallata**	**1.01**	**338**	*e*P	**Pb**	**21 24 18.9**	**-0.5**
AUSP				*e*S	**Sn**	**21 24 33.3**	**-0.5**
FCH	**Farellones**	**1.15**	**262**	↓*i*P	**Pb**	**21 24 21.3**	**-0.4**
FCH				*i* S	**Sn**	**21 24 37.4**	**+0.3**
FCH				IAML		21 24 38.1	
	comp=N,291nm,0.4s						
LMEL	**Las Melosas**	**1.26**	**237**	↓*i*P	**Pb**	**21 24 23.5**	**+0.1**
LMEL				*i* S	**Sg**	**21 24 41.0**	**0.0**
LMEL				IAML		21 24 42.1	
	comp=N,441nm,0.2s						
RTCV	**Cerro Valdivia**	**1.34**	**15**	*e*P	**Pn**	**21 24 24.1**	**0.0**
CLCH	**Cerro Calan**	**1.36**	**260**	*e*P	**Pb**	**21 24 24.9**	**-0.2**
CLCH				*i* S	**Sg**	**21 24 43.9**	**-0.3**
RTLS	**Leoncito**	**1.40**	**347**	*e*P	**Pb**	**21 24 25.6**	**-0.4**
RTLS				IAML		21 24 47.2	
	comp=Z,174nm,0.4s						
PEL	**Peldehue**	**1.47**	**270**	↓*i*P	**Pb**	**21 24 26.4**	**-0.6**
PEL				*i* S	**Sg**	**21 24 46.4**	**-1.2**
PEL				IAML		21 24 46.9	
	comp=N,264nm,0.5s						
ZON	**Zonda**	**1.63**	**8**	*e*P	**Pn**	**21 24 28.3**	**+0.2**
ZON				IAML		21 24 51.3	
	comp=Z,151nm,0.3s						
SJA	**San Juan**	**1.67**	**11**	*e*P	**Pn**	**21 24 28.9**	**+0.4**
SJA				IAML		21 24 54.6	
	comp=Z,204nm,0.3s						
CFA	**Coronel Fontan**	**1.67**	**21**	*e*P	**Pn**	**21 24 28.7**	**+0.2**
ACAN	**Cantantal**	**1.72**	**59**	*e*P	**Pn**	**21 24 29.6**	**+0.3**
ROCH	**El Roble**	**1.75**	**276**	*e*P	**Pb**	**21 24 31.9**	**-0.1**
ROCH				*i* S	**Sg**	**21 24 54.9**	**-1.8**
ROCH				IAML		21 24 56.5	
	comp=N,225nm,0.3s						
ROC1	**El Roble**	**1.76**	**276**	*e*P	**Pb**	**21 24 31.7**	**-0.3**
RTLL	**Cerro Villicun**	**1.87**	**12**	*e*P	**Pn**	**21 24 31.1**	**-0.3**
RTLL				IAML		21 24 60.0	
	comp=Z,347nm,0.3s						
RTLL	**Cerro Villicun**	**1.87**	**12**	*e*P	**Pn**	**21 24 32.3**	**+0.9**
RTLL				*e*S	**Sb**	**21 24 56.7**	**-0.3**
AMOG	**MOGNA**	**2.25**	**10**	*e*P	**Pn**	**21 24 37.5**	**+0.9**
ACCO	**Cerro Coronel**	**2.57**	**358**	*e*P	**Pn**	**21 24 42.8**	**+1.5**
MRA	**San Martin**	**2.81**	**75**	*e*P	**Pn**	**21 24 44.7**	**+0.3**
MRA				IAML		21 25 27.5	
	comp=Z,119nm,0.3s						
ACDV	**Cuesta del Vie**	**2.99**	**357**	*e*P	**Pb**	**21 24 53.1**	**0.0**
AROD	**Rodeo**	**3.03**	**351**	*e*P	**Pn**	**21 24 49.9**	**+2.3**
GO04	**Tololo Observa**	**3.38**	**331**	*e*P	**Pn**	**21 24 54.4**	**+2.1**
APLL	**PUNTA DE LOS L**	**3.44**	**37**	*e*P	**Pn**	**21 24 53.9**	**+0.9**
APLL				IAML		21 25 50.2	
	comp=Z,71nm,0.8s						
AGUA	**GUANDACOL**	**3.69**	**6**	*e*P	**Pn**	**21 24 58.1**	**+1.7**
ACLC	**CERRO LA CRUZ**	**4.10**	**25**	*e*P	**Pb**	**21 25 12.4**	**+0.5**
TCA	**Tanti**	**4.11**	**65**	*e*P	**Pn**	**21 25 01.4**	**-0.8**
TCA				IAML		21 26 20.6	
	comp=Z,61nm,0.5s						
VCA	**Vinchina**	**4.46**	**8**	*e*P	**Pb**	**21 25 18.2**	**+0.1**
VCA				IAML		21 26 21.5	
	comp=Z,58nm,0.3s						
CYA	**Choya**	**5.43**	**31**	*e*P	**Pn**	**21 25 17.4**	**-2.9**
CYA				IAML		21 26 57.3	
	comp=Z,21nm,0.4s						

*PRU **08** 21:26:37.0±0.0, 50°.27N×18°.75E, h0km*
IPEC 08 21:26:36.6±0.2, 50°.29N×18°.77E, h1km±1km, ML1.7/3, Error ellipse: s-maj=2.3km s-min=1.1km az=169.0, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**90**	*e*Pg	Pg	21 26 39.6	+0.2
CHZP				*e*Sg	Sg	21 26 41.4	+0.2
OKC	**Ostrava-Krasne**	**0.60**	**222**	*e*PG	Pg	21 26 48.4	+0.2
OKC				*e*SG	Sg	21 26 55.6	-0.4
	comp=Z,10nm,0.4s						
OKC	**Ostrava-Krasne**	**0.60**	**222**	*e*	Pg	21 26 48.4	+0.2
OJC	**Ojcow**	**0.67**	**96**	*e*Pg	Pg	21 26 49.0	-0.3
OJC				*e*Sg	Sg	21 26 57.8	-0.1
MORC	**Moravsky Berou**	**0.94**	**237**	*e*PG	Pg	21 26 54.5	-0.1
MORC				*e*SG	Sg	21 27 06.3	-0.6
MORC	**Moravsky Berou**	**0.94**	**237**	*e*Pg	Pg	21 26 54.5	-0.1
	baz=56						
MORC				*e*Sg	Sg	21 27 06.2	-0.7
	14nm,0.5s,baz=56						
LANS	**Liptovska Anna**	**1.23**	**158**	*e*PG	Pg	21 26 59.9	-0.2
LANS				*e*SG	Sg	21 27 16.1	+0.1
KRLC	**Kraliky**	**1.29**	**261**	*e*PG	Pg	21 27 00.5	-0.9
KRLC				*e*SG	Sg	21 27 18.2	0.0
	comp=Z,1.5nm,0.3s						
NIE	**Niedzica**	**1.32**	**131**	*e*Pg	Pg	21 27 01.6	-0.3
NIE				*e*Sg	Sb	21 27 19.5	-0.1
DPC	**Dobruska-Polom**	**1.57**	**273**	*e*PG	Pn	21 27 05.4	-0.3
DPC				*e*SG	Sg	21 27 27.0	0.0
	comp=Z,4.1nm,0.4s						
JAVC	**Velka Javorina**	**1.60**	**207**	*e*PN	Pn	21 27 06.2	+0.1
JAVC	**Velka Javorina**	**1.60**	**207**	*e*Pn	Pn	21 27 06.2	+0.1
	baz=26						
KSP	**Ksiaz**	**1.67**	**290**	*e*Pg	Pg	21 27 08.6	-0.1
KSP				*e*Sg	Sg	21 27 31.1	+0.8
VRAC	**Vranov**	**1.72**	**236**	*e*PN	Pn	21 27 07.9	+0.2
VRAC				*e*SG	Sn	21 27 30.5	+0.2
VRAC	**Vranov**	**1.72**	**236**	*e*Pn	Pn	21 27 07.9	+0.2
	baz=54						
VRAC				*e*Sg	Sn	21 27 30.4	+0.1
	8.6nm,0.3s,baz=54						
UPC	**Upice**	**1.78**	**278**	*e*PG	Pb	21 27 10.3	+0.3
UPC				*e*SG	Sg	21 27 34.8	+1.1
VYHS	**Vyhne**	**1.80**	**179**	*e*PN	Pn	21 27 07.9	-0.9
VYHS				*e*SN	Sn	21 27 30.9	-1.4
VYHS				eLG	Lg	21 27 35.2	
KRUC	**Moravsky**	**1.97**	**232**	*e*PN	Pn	21 27 11.3	+0.1
KRUC				*e*SG	Sb	21 27 38.3	-0.1
KRUC	**Moravsky**	**1.97**	**232**	*e*Pn	Pn	21 27 11.2	0.0
	baz=50						
KRUC				*e*Sg	Sb	21 27 38.3	-0.1
	3.6nm,0.3s,baz=50						
GOPC	**GO Pecny, Ondr**	**2.59**	**263**	*e*SG	Sg	21 27 59.7	-0.1
PRU	**Pruhonice**	**2.74**	**265**	*e*SG	Sg	21 28 02.9	-1.5
KHC	**Kasperske Hory**	**3.56**	**253**	*e*SG	Sg	21 28 27.8	-3.2

*IDC **08** 21:38:10.6±2.3, 43°.24N×105°.18W, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.3/56, mbtmp3.7/3, ML3.2/2, Error ellipse: s-maj=52.1km s-min=8.9km az=156.0*
*ISCJB **08** 21:38:13.5±0.4, 43°.63N±0°.03×105°.29W±0°.04, h0km, mb4.3/1, Error ellipse: s-maj=4.8km s-min=4.5km az=39.1*
*NEIC **08** 21:38:14.3±0.5, 43°.65N×105°.25W, h0km, ML3.4, Error ellipse: s-maj=6.8km s-min=4.9km az=66.0, Suspected Mining explosion.*
NEIC 73 km [45 miles] SSE of Gillette.

ISC 08 21:38:13.7±0.7, 43°.71N±0°.03×105°.19W±0°.03, h0km, n49, σ1°93/57, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.93**	**63**	*e*Pg	**Pb**	**21 38 33.2**	**+0.3**
RSSD				*e*Sg	**Sn**	**21 38 48.8**	**+0.4**
K22A	**Casper**	**1.44**	**223**	*e*Pg	**Pn**	**21 38 37.2**	**-4.0**
PHWY	**Pilot Hill**	**2.42**	**185**	*e*Pn	**Pn**	**21 38 53.7**	**-1.0**
RWWY	**Rawlins**	**2.51**	**217**	*e*Pn	**Pn**	**21 38 55.2**	**-0.8**
N23A	**Red Feather La**	**2.87**	**191**	*e*Pn	**Pn**	**21 38 59.3**	**-1.6**
LAO	**LASA Array**	**3.07**	**347**	*e*Pn	**Pn**	**21 39 04.1**	**+0.7**
RLMT	**Red Lodge**	**3.24**	**297**	*e*Pn	**Pn**	**21 39 05.9**	**-0.1**
BW06	**Boulder Array**	**3.33**	**255**	*e*Pn	**Pn**	**21 39 07.0**	**-0.2**
PD31	**Pinedale Array**	**3.33**	**255**	*e*Pn	**Pn**	**21 39 06.1**	**-1.1**
PDAR	**Pinedale Array**	**3.33**	**255**	*e*Pn	**Pn**	**21 39 06.3**	**-0.8**
PDAR	**Pinedale Array**	**3.33**	**255**	Pn	**Pn**	**21 39 05.5**	**-1.6**
	1.9nm,0.3s,baz=74,slow=17,SNR=45						
PDAR				Lg	Lg	21 39 52.4	
	12nm,0.3s,baz=79,slow=34,SNR=23						
OGNE	**Ogallala**	**3.62**	**139**	*e*Pn	**Pn**	**21 39 12.2**	**+1.1**
GCMT	**Greycliff**	**3.81**	**305**	*e*Pn	**Pn**	**21 39 14.3**	**+0.7**
LKWY	**Lake**	**3.84**	**285**	*e*Pn	**Pn**	**21 39 13.7**	**-0.7**
ISCO	**Idaho Springs**	**3.92**	**185**	*e*Pn	**Pn**	**21 39 15.4**	**0.0**
LOHW	**Long Hollow**	**3.93**	**270**	*e*Pn	**Pn**	**21 39 14.6**	**-0.8**
H17A	**Grant Village**	**3.94**	**282**	*e*Pb	**Pb**	**21 39 21.7**	**-2.4**
FLWY	**Flagg Ranch**	**4.00**	**277**	*e*Pn	**Pn**	**21 39 15.5**	**-0.9**
FLWY				*e*Pb	**Pg**	**21 39 28.2**	**-2.1**
MOOW	**Moose Ponds**	**4.03**	**272**	*e*Pn	**Pn**	**21 39 17.4**	**+0.6**
SNOW	**Snow King Moun**	**4.05**	**268**	*e*Pn	**Pn**	**21 39 16.2**	**-0.9**
SNOW				*e*Sg	**Sb**	**21 40 19.4**	**+3.8**
YPP	**Pitchstone Pla**	**4.09**	**280**	*e*Pn	**Pn**	**21 39 18.1**	**+0.4**
REDW	**Red Top Meadow**	**4.13**	**267**	*e*Pb	**Pb**	**21 39 24.0**	**-3.4**
YFT	**Old Faithful**	**4.13**	**282**	*e*Pb	**Pg**	**21 39 30.1**	**-2.8**
IMW	**Indian Meadow**	**4.16**	**275**	*e*Pn	**Pn**	**21 39 20.0**	**+1.3**
TPAW	**Teton Pass**	**4.19**	**269**	*e*Pn	**Pn**	**21 39 19.5**	**+0.5**
YHH	**Holmes Hill**	**4.21**	**287**	*e*Pb	**Pb**	**21 39 28.7**	**0.0**
FXWY	**Fox Creek**	**4.23**	**271**	*e*Pn	**Pn**	**21 39 20.9**	**+1.3**
O20A	**White River Ci**	**4.24**	**214**	*e*Pn	**Pn**	**21 39 20.6**	**+0.9**
YMR	**Madison River**	**4.26**	**285**	*e*Pb	**Pb**	**21 39 30.6**	**+1.0**
YHB	**Horse Butte**	**4.44**	**286**	*e*Pb	**Pb**	**21 39 33.8**	**+1.2**
YHB				*e*Sg	**Sg**	**21 40 35.5**	**-0.8**
SMCO	**Snowmass**	**4.72**	**197**	*e*Pb	**Pb**	**21 39 38.3**	**+0.7**
DGMT	**Dagmar**	**4.81**	**8**	*e*Pb	**Pb**	**21 39 40.3**	**+1.4**
DGMT				*e*Sb	**Sg**	**21 40 45.5**	**-2.7**
BOZ	**Bozeman (W)**	**4.96**	**295**	*e*Pb	**Pb**	**21 39 40.8**	**-0.8**
KSCO	**Kaye Shedlock'**	**5.08**	**157**	*e*Pg	**Pg**	**21 39 49.5**	**-1.4**
KSCO				*e*Sg	**Sg**	**21 40 55.7**	**-1.0**
EGMT	**Eagleton**	**5.36**	**325**	*e*Pn	**Pn**	**21 39 36.8**	**+1.8**
P18A	**Preston Nutter**	**5.56**	**225**	*e*Pn	**Pn**	**21 39 38.7**	**+0.7**
HRY	**Holter Researc**	**5.57**	**305**	*e*Pn	**Pn**	**21 39 39.2**	**+1.4**
PV21	**Lone Mtn., Par**	**5.88**	**210**	*e*Pb	**Pb**	**21 39 53.5**	**-3.7**
P17A	**Butcher Ranch,**	**5.93**	**226**	*e*Pb	**Pb**	**21 40 00.1**	**+2.0**
P17A				*e*Sb	**Sb**	**21 41 13.4**	**+3.7**
PV14	**Lion Creek, Pa**	**6.07**	**210**	*e*Pb	**Pb**	**21 40 00.4**	**0.0**
PV11	**David Mesa, Pa**	**6.08**	**208**	*e*Pn	**Pn**	**21 39 44.8**	**-0.2**
PV16	**Nyswonger Mesa**	**6.08**	**209**	*e*Pn	**Pn**	**21 39 44.9**	**-0.1**
SRU	**San Rafael Swe**	**6.10**	**223**	*e*Pb	**Pb**	**21 40 04.5**	**+3.6**
SRU				*e*Sg	**Sb**	**21 41 20.6**	**+6.2**
PV03	**Paradox Valley**	**6.11**	**208**	*e*Pn	**Pn**	**21 39 45.1**	**-0.4**
PV03				*e*Pb	**Pb**	**21 40 04.3**	**+3.2**
TMUT	**Trail Mountain**	**6.31**	**228**	*e*Pb	**Pb**	**21 40 06.9**	**+2.3**
Q16A	**Castle Valley**	**6.57**	**225**	*e*Pn	**Pn**	**21 39 51.1**	**-0.6**
I10CA	**LAC DU BONNET**	**9.02**	**41**	*i*		22 29 45.0	
	baz=224,slow=334,SNR=6.3						
ULM	**Lac du Bonnet**	**9.12**	**41**	Pn	**Pn**	**21 40 26.4**	**-0.1**
	0.6nm,0.3s,baz=234,slow=11,SNR=9.4						
ULM				Lg	Lg	21 43 00.6	
	0.4nm,0.3s,baz=267,slow=19,SNR=3.4						
ARCES	**ARCESS Array B**	**61.43**	**18**	P	**P**	**21 48 30.9**	**-0.3**
	1.6nm,0.8s,baz=327,slow=6.5,SNR=2.6						

*ISCJB **08** 21:38:49.5±0.2, 28°.40N±0°.02×57°.96E±0°.02, h100km, mb4.2/43, Error ellipse: s-maj=2.9km s-min=2.5km az=5.7*
*THR **08** 21:38:49.0, 28°.33N×57°.92E, h34km, ML4.6*
*BJI **08** 21:38:50.3, 28°.37N×57°.90E, h112km, mb4.3/14, mB4.7/10*
*NEIC **08** 21:38:50.0±0.0, 28°.40N×57°.97E, h105km, MN4.4(TEH), After TEH.*
*TEH **08** 21:38:50.0, 28°.40N×57°.97E, h105km, ML4.4*
*IDC **08** 21:38:51.5±0.6, 28°.46N×58°.04E, h105km±5km, mb3.8/27, mb1 3.9/34, mb1mx3.8/54, mbtmp4.1/34, MS3.0/3, Ms1 3.1/3, ms1mx2.6/42, Error ellipse: s-maj=11.5km s-min=9.5km az=155.0*
*OMAN **08** 21:38:54.9±0.5, 28°.05N×58°.15E, h34km, ml4.6/14, Error ellipse: s-maj=15.4km s-min=5.1km az=330.0*
*DSN **08** 21:38:55.0±1.8, 27°.86N×58°.14E, h15km, ML4.3/12, Error ellipse: s-maj

ASHO	Ashiyiah		4.05	206	P		Pn	21 39 53.0	+2.6	
	SNR=285									
ASHO	Ashiyiah		4.05	206	*e*Pn		Pn	21 39 53.0	+2.6	
IKOO	Kooshah		4.15	12	*e*Pn		Pn	21 39 51.9	0.0	
IKOO					IAMB		IAmb	21 41 19.1		
	comp=N,3μm,0.4s									
FAQ	Al Faqa, Dubai		4.19	211	*i* P		Pn	21 39 54.1	+1.8	
	SNR=44									
FAQ	Al Faqa, Dubai		4.19	211	P		Pn	21 39 54.1	+1.8	
	SNR=44									
FAQ					S		Sn	21 40 42.0	+1.8	
FAQ	Al Faqa, Dubai		4.19	211	*e*Pn		Pn	21 39 54.2	+1.9	
IMEH	Mehriz		4.21	317	*e*Pn		Pn	21 39 52.7	-0.1	
IMEH					IAMB		IAmb	21 40 30.5		
	comp=Z,2μm,0.4s									
ISRV	Sarvestan		4.40	285	*e*Pn		Pn	21 39 56.0	+0.6	
ISRV					IAMB		IAmb	21 40 48.7		
	comp=Z,12μm,0.3s									
SOHO	SOHO		4.41	198	P		Pn	21 39 54.5	-0.7	
	SNR=164									
SOHO					S		Sn	21 40 43.3	-2.1	
GHIR	Ghir-Karzin		4.41	270	*e*Pn		Pn	21 39 55.4	0.0	
GHIR	Ghir-Karzin		4.41	270	*e*AML		AML	21 40 48.8		
	comp=E,1μm,0.3s									
GHIR	Ghir-Karzin		4.41	270	*e*Pn		Pn	21 39 55.4	0.0	
ASUD	Al Ashush, Dub		4.42	213	*i* P		Pn	21 39 58.0	+2.6	
	SNR=92									
ASUD	Al Ashush, Dub		4.42	213	P		Pn	21 39 57.9	+2.6	
	SNR=91									
ASUD	Al Ashush, Dub		4.42	213	*e*Pn		Pn	21 39 57.8	+2.5	
ITEG	Tejag		4.57	8	*e*Pn		Pn	21 39 58.0	+0.4	
ITEG					IAMB		IAmb	21 40 33.3		
	comp=Z,1μm,0.4s									
IPAR	Pars		4.57	290	*e*Pn		Pn	21 39 58.5	+0.8	
AJN	Ajban		4.64	216	*i* P		Pn	21 40 00.2	+1.8	
	SNR=11									
AJN	Ajban		4.64	216	P		Pn	21 40 00.2	+1.8	
	SNR=51									
AJN					S		Sn	21 40 52.0	+0.9	
IDAH	Dahanechah		4.66	20	*e*Pn		Pn	21 39 59.8	+1.0	
IDAH					IAMB		IAmb	21 40 36.8		
	comp=Z,959nm,0.5s									
ALNE	Al Ain		4.73	206	*i* P		Pn	21 40 01.7	+2.0	
	SNR=34									
ALNE	Al Ain		4.73	206	*e*Pn		Pn	21 40 01.6	+2.0	
TPRV	Parvadeh(Tabas		4.79	347	*e*Pn		Pn	21 40 01.1	+0.7	
TPRV					IAMB		IAmb	21 41 53.1		
	comp=Z,0.0nm,0.6s									
HOQ	Hoqain		4.79	188	P		Pn	21 40 01.2	+0.7	
HOQ	Hoqain		4.79	188	*e*Pn		Pn	21 40 00.8	+0.3	
BIDO	Bidbid		4.82	179	*e*Pn		Pn	21 40 03.5	+2.7	
ICHK	Chekchek		4.96	322	*e*Pn		Pn	21 40 03.3	+0.4	
ICHK					IAMB		IAmb	21 40 42.7		
	comp=Z,1μm,0.5s									
SHI	Shiraz		4.97	286	*e*Pn		Pn	21 40 02.7	-0.2	
SHI					IAMB		IAmb	21 40 58.4		
	comp=Z,5μm,0.3s									
YZKH	Yazd		4.98	325	*e*Pn		Pn	21 40 03.5	+0.5	
YZKH	Yazd		4.98	325	*e*Pn		Pn	21 40 03.5	+0.5	
WSAR	Wadi Sarin		5.13	173	P		Pn	21 40 06.0	+0.9	
	SNR=9.5									
WSAR	Wadi Sarin		5.13	173	P		Pn	21 40 05.5	+0.5	
	comp=Z,23nm,0.3s,baz=349,slow=6.8,SNR=179									
WSAR					S		Sn	21 41 00.1	-2.9	
	comp=Z,89nm,0.3s,baz=292,slow=19,SNR=30									
WSAR					LR		LR	21 42 20.9		
	comp=Z,67nm,20.5s,baz=320,slow=40									
ISAD	Sadrabad		5.14	315	*e*Pn		Pn	21 40 05.9	+0.5	
ISAD					IAMB		IAmb	21 41 37.8		
	comp=Z,1μm,0.7s									
TKDS	Koohdasht(Taba		5.29	352	*e*Pn		Pn	21 40 07.8	+0.5	
TKDS					IAMB		IAmb	21 42 18.0		
	comp=Z,0.0nm,1.0s									
TABS	Tabas		5.33	352	*e*Pn		Pn	21 40 08.3	+0.6	
TABS	Tabas		5.33	352	*e*Pn		Pn	21 40 08.3	+0.6	
IKAZ	Kazeroun		5.57	286	*e*Pn		Pn	21 40 11.4	+0.2	
IKAZ					IAMB		IAmb	21 41 13.8		
	comp=Z,20μm,0.2s									
TNSJ	Nastanj		5.71	348	*e*Pn		Pn	21 40 13.6	+0.6	
TNSJ					IAMB		IAmb	21 42 21.0		
	comp=Z,0.0nm,1.0s									
WBK	Wadi Bani Khal		5.79	171	P		Pn	21 40 15.3	+1.3	
JMDO	Jabal Madar		5.96	179	S		Sn	21 41 22.6	-0.7	
JLN	Jalan Bani Buh		6.31	168	P		Pn	21 40 21.0	-0.1	
	SNR=88									
IBRJ	Brojen		6.82	303	*e*Pn		Pn	21 40 31.0	+2.8	
ZNGN	Zangian		7.22	303	*e*Pn		Pn	21 40 32.8	-0.9	
MHTO	MHTO		7.34	180	P		Pn	21 40 36.5	+1.4	
	SNR=16									
JHBN	Jahan bin		7.42	303	*e*Pn		Pn	21 40 35.2	-1.1	
IANJ	Anjilo		7.89	335	*e*Pn		Pn	21 40 43.4	+0.7	
IFIR	Firoozkooh		8.51	330	*e*Pn		Pn	21 40 52.0	+0.8	
IFIR					IAMB		IAmb	21 40 53.4		
	comp=Z,98nm,0.4s									
IDMV	Damavand		8.80	326	*e*Pn		Pn	21 40 55.8	+0.7	
IDMV					IAMB		IAmb	21 40 57.1		
	comp=Z,255nm,0.6s									
IALA	Alasht		8.86	332	*e*Pn		Pn	21 40 58.0	+2.0	
GEYT	Alibeck		9.55	1	P		Pn	21 41 04.2	-0.8	
	comp=Z,0.4nm,0.3s,baz=185,slow=16,SNR=5.1									
BHJ	Bhuj		11.67	113	*e*P		Pn	21 41 33.7	-0.1	
THW	Thamme Wali		12.64	66	P		Pn	21 41 47.4	+0.7	
CEP	Cherat		13.11	62	P		Pn	21 41 53.2	+0.3	
CHCP	Chirah Chowk		14.12	64	P		Pn	21 42 05.4	-0.6	
GNI	Garni		16.05	321	P		P	21 42 30.3	-1.7	
	comp=Z,0.9nm,0.3s,baz=159,slow=1.5,SNR=10									
DHRM	DHARAMSHALA		16.28	72	*e*P		Pn	21 42 33.4	-0.1	
DHRM					IAMB		IAmb	21 42 37.8		
	comp=Z,50nm,1.1s									
SMLA	Simla		16.88	76	*e*P		P	21 42 40.9	-0.1	
SMLA					IAMB		IAmb	21 42 43.3		
	comp=Z,45nm,1.2s									
POO	Poona		17.52	121	*e*P		P	21 42 48.2	+0.1	
DDI	Dehra Dun		17.60	79	*e*P		Pn	21 42 49.1	-0.4	
DDI					IAMB		IAmb	21 42 50.3		
	comp=Z,22nm,0.3s									
BHPL	Bhopal		18.22	102	*e*P		P	21 42 55.6	-0.3	
BHPL					IAMB		IAmb	21 42 59.4		
	comp=Z,27nm,0.2s									
KSH	Kashi		18.58	49	P		P	21 42 56.3	-3.5	
KSH					S		S	21 46 03.7	-23	
KSH					PcP		PcP	21 47 24.9	0.0	
KSH					pmax		pmax			
	comp=Z,19nm,1.2s									
KSH					pmax		pmax			
	comp=Z,110nm,6.0s									
ASF	Jabal al Asfar		18.61	287	P		Pn	21 43 01.2	-0.4	
	comp=Z,1.2nm,0.3s,baz=56,slow=7.0,SNR=14									
ASF					S		S	21 46 12.8	-14	
	comp=Z,0.6nm,0.3s,baz=73,slow=20,SNR=4.0									
GOA	Goa		19.46	128	*e*P		P	21 43 08.0	-1.4	
GOA					IAMB		IAmb	21 43 08.9		
	comp=Z,7.6nm,0.8s									
AAK	Ala-Archa		19.53	39	P		P	21 43 08.0	-2.2	
	comp=Z,2.0nm,0.3s,baz=156,slow=6.4,SNR=38									
KBZ	Khabaz		19.55	326	P		Pn	21 43 11.1	-1.3	
	comp=Z,0.1nm,0.3s,baz=197,slow=11,SNR=3.8									
KVAR	Kislovodsk Arr		19.82	326	P		Pn	21 43 16.4	+0.7	
	baz=202,slow=19,SNR=11									
MMAI	Mount Meron Ar		19.96	289	P		Pn	21 43 16.4	-1.0	
	comp=Z,1.5nm,0.3s,baz=94,slow=13,SNR=24									
MMAI					S		S	21 46 47.3	-6.7	
	comp=Z,0.5nm,0.3s,baz=109,slow=26,SNR=3.5									
NGP	Nagpur		20.41	106	*e*P		P	21 43 20.4	+0.7	
HYB	Hyderabad		21.81	116	*e*P		P	21 43 36.5	+1.7	
HYB					IAMB		IAmb	21 43 37.9		
	comp=Z,13nm,1.3s									
PYUN	Piuthan		22.02	85	*e*P		P	21 43 38.9	+1.8	
	comp=Z,38nm,0.7s									
AKTO	Aktyubinsk		22.05	0	P		P	21 43 36.0	-0.9	
	comp=Z,6.3nm,0.9s,baz=183,slow=10,SNR=20									
AKTO					ScP		ScP	21 50 57.9	-1.4	
	comp=Z,0.7nm,0.5s,baz=179,slow=4.6,SNR=3.5									
KOLN	Koldanda		22.60	85	*e*P		P	21 43 44.7	+1.6	
	comp=Z,24nm,0.7s									
DANN	Dangsing		22.67	84	*e*P		P	21 43 45.8	+1.9	
BRTR	Keskin Array B		23.07	306	P		P	21 43 46.6	-1.0	
	comp=Z,5.1nm,0.8s,baz=121,slow=13,SNR=29									
BRTR					pP		pP	21 44 09.4	+1.3	
	comp=Z,3.2nm,0.9s,baz=119,slow=10.0,SNR=4.7									
BRTR					LR		LR	21 54 02.4		
	comp=Z,29nm,18.1s,baz=216,slow=40									
GKN	Gorkha		23.48	84	*e*P		P	21 43 52.9	+1.4	
	comp=Z,16nm,0.6s									
DMN	Daman		23.94	85	*e*P		P	21 43 57.4	+1.6	
	comp=Z,15nm,0.6s									
KKN	Kakani		24.07	85	*e*P		P	21 43 58.5	+1.6	
	comp=Z,64nm,0.6s									
PKIN	Phulchoki		24.20	85	*e*P		P	21 43 59.6	+1.5	
	comp=Z,30nm,0.5s									
PKI	Pulchoki		24.21	85	*e*P		P	21 43 59.7	+1.4	
	comp=Z,38nm,0.6s									
GUN	Gumba		24.58	84	*e*P		P	21 44 03.4	+1.8	
	comp=Z,48nm,0.6s									
JIRN	Jiri		24.89	85	*e*P		P	21 44 06.0	+1.5	
	comp=Z,52nm,0.6s									
RAMN	Ramite		25.36	86	*e*P		P	21 44 09.6	+1.0	
	comp=Z,8.7nm,0.6s									
BOK	Bokaro		25.44	94	*e*P		P	21 44 06.7	-2.3	
BOK					IAmb		IAmb	21 44 15.4		
	comp=Z,6.9nm,1.0s									
BVAR	Borovoye Array		26.30	17	P		P	21 44 15.8	-0.7	
	comp=Z,2.1nm,0.7s,baz=207,slow=9.3,SNR=8.1									
BVAR					pP		pP	21 44 40.3	+1.2	
	comp=Z,3.1nm,0.8s,baz=206,slow=9.4,SNR=7.5									
BVAR					ScP		ScP	21 51 09.0	-1.9	
	comp=Z,1.3nm,0.8s,baz=266,slow=4.0,SNR=5.9									
MKAR	Makanchi Array		26.46	39	P		P	21 44 18.8	+0.6	
	comp=Z,0.7nm,0.6s,baz=227,slow=9.2,SNR=8.9									
MKAR					pP		pP	21 44 42.0	+1.4	
	comp=Z,1.6nm,0.7s,baz=231,slow=7.7,SNR=9.3									
BWNR	Bhubaneshwar		26.54	101	*e*P		P	21 44 18.0	-1.0	
KURBB	Kurchatov Arra		27.13	29	P		P	21 44 22.7	-1.3	
	comp=Z,0.8nm,0.8s,baz=226,slow=8.9,SNR=8.0									
KURBB					ScP		ScP	21 51 12.3	-1.1	
	comp=Z,0.2nm,0.5s,baz=240,slow=3.6,SNR=4.4									
KURK	Kurchatov		27.24	29	P		P	21 44 22.7	-2.3	
SANT	Santorini		28.52	295	*i* P		P	21 44 37.3	+0.7	
IDI	Anoyia		28.87	292	*i* P		P	21 44 40.8	+1.0	
IDI	Anoyia		28.87	292	P		P	21 44 40.6	+0.8	
	comp=Z,12nm,0.6s,baz=60,slow=14,SNR=23									
PLOR	Plostina		30.23	314	*i* P		P	21 44 51.9	+0.3	
SHL	Shillong		30.28	87	*e*P		P	21 44 51.9	-0.6	
TESR	Tescani		30.51	315	*i* P		P	21 44 53.6	-0.5	
MLR	Muntele Rosu		30.54	313	*i* P		P	21 44 52.8	-1.7	
MLR	Muntele Rosu		30.54	313	P		P	21 44 55.9	+1.4	
	comp=Z,2.5nm,0.8s,baz=72,slow=19,SNR=6.8									
AKASG	Malin Array Be		31.14	324	P		P	21 44 58.4	-1.1	
	comp=Z,1.5nm,0.5s,baz=130,slow=8.3,SNR=12									
KIEV	Kiev		31.14	324	*i* P		P	21 44 58.6	-0.9	
ARR	Arges		31.34	312	*i* P		P	21 45 00.9	-0.6	
VTS	Vitosha		31.43	306	*i* P		P	21 45 02.3	-0.1	
BURAR	Bucovina Array		31.86	316	*i* P		P	21 45 06.0	-0.1	
ZALV	Zalesovo Beam		32.22	30	P		P	21 45 09.1	+0.1	
	comp=Z,1.6nm,0.6s,baz=245,slow=9.0,SNR=8.1									
ZALV					pP		pP	21 45 32.7	+0.9	
	comp=Z,2.4nm,0.7s,baz=237,slow=9.9,SNR=3.3									
DRGR			33.11	313	*i* P		P	21 45 15.3	-1.6	
PSZ	Piszkesteto		35.30	314	*e*P		P	21 45 35.0	-0.8	
KMBO	Kilima Mbogo		35.43	218	P		P	21 45 40.8	+3.3	
	comp=Z,3.0nm,0.6s,baz=34,slow=12,SNR=12									
MORH	Mrgy, Hungar		35.58	311	*e*P		P	21 45 37.1	-1.1	
LANS	Liptovska Anna		35.99	316	*e*P		P	21 45 41.6	-0.1	
GTA	Gaotai		36.14	61	*e*P		P	21 45 44.2	+1.0	
GTA					pmax		pmax			
	comp=Z,3.0nm,0.8s									
VYHS	Vyhne		36.16	315	*e*P		P	21 45 42.7	-0.4	
JAVC	Velka Javorina		37.01	315	*e*P		P	21 45 50.8	+0.4	
MODS	Modra-Piesok		37.10	314	*e*P		P	21 45 50.5	-0.6	
MORC	Moravsky Berou		37.39	316	*e*P		P	21 45 52.8	-0.8	
BOJS	Bojanci		37.71	309	*i* P		P	21 45 56.0	-0.2	
VRAC	Vranov		37.82	315	*e*P		P	21 45 56.6	-0.6	
KRUC	Moravsky		37.87	315	*e*P		P	21 45 57.1	-0.5	
CONA	Conrad Observa		37.88	313	*e*P		P	21 45 57.2	-0.6	
	comp=Z,4.1nm,0.9s									
ARSA	Arzberg		37.93	312	*i* P		P	21 45 58.0	-0.2	
	comp=Z,5.7nm,0.7s									
PERS	Pernice		38.05	310	*e*P		P	21 45 58.6	-0.6	
VISS	Visnje		38.05	309	*i* P		P	21 45 58.9	-0.3	
SOKA	Soboth		38.12	311	*i* P		P	21 45 59.2	-0.6	
	comp=Z,2.3nm,0.7s									
DPC	Dobruska-Polom		38.32	317	*e*P		P	21 46 00.8	-0.6	
OBKA	Obir		38.40	310	*i* P		P	21 46 01.9	-0.3	
	comp=Z,6.2nm,1.4s									
TREC	Trest		38.51	315	*e*P		P	21 46 02.1	-0.9	
JAVS	Javornik		38.60	309	*e*P		P	21 46 03.0	-0.9	
CMAR	Chiang Mai Arr		38.69	96	LR		LR	22 05 03.0		
	comp=Z,55nm,19.2s,baz=100,slow=41									
MOA	Molln		38.90	312	*e*P		P	21 46 05.8	-0.5	
	comp=Z,6.6nm,0.6s									
FINES	FINESS Array B		39.30	336	P		P	21 46 09.0	-0.3	
	comp=Z,2.0nm,0.4s,baz=134,slow=7.9,SNR=36									
KBA	Koelnbreinsper		39.33	311	*e*P		P	21 46 09.5	-0.5	
	comp=Z,4.2nm,0.9s,SNR=4.7									
KHC	Kasperske Hory		39.66	314	*e*P		P	21 46 11.8	-0.8	
ABTA	Abfaltersbach		39.83	310	*i* P		P	21 46 13.5	-0.6	
	comp=Z,5.5nm,0.6s									
CMBY	CAMPBELL BAY		40.04	115	*e*P		P	21 46 16.1	+0.1	
WTTA	Wattenberg		40.51	311	*i* P		P	21 46 18.8	-1.0	
	comp=Z,10nm,0.6s,SNR=8.9									
WATA	Walderalm		40.57	311	*i* P		P	21 46 18.8	-1.4	
	comp=Z,4.5nm,0.6s									
CLL	Collm		40.62	317	*i* P		P	21 46 20.0	-0.4	
	comp=Z,8.0nm,1.1s									
SQTA	Sankt Quirin		40.79	311	*i* P		P	21 46 20.8	-1.2	
	comp=Z,8.9nm,0.6s,SNR=12									
MOTA	Moosalm		40.88	311	*i* P		P	21 46 21.1	-1.8	
	comp=Z,6.6nm,0.7s,SNR=9.7									
FETA	Feichten		41.08	310	*e*P		P	21 46 23.5	-1.0	
	comp=Z,13nm,0.9s,SNR=14									
RETA	Reutte		41.14	311	*i* P		P	21 46 23.3	-1.5	
	comp=Z,4.1nm,0.6s,SNR=6.1									
KEST	Kesra		41.54	293	P		P	21 46 30.2	+1.9	
	comp=Z,7.2nm,1.0s,baz=25,slow=3.8,SNR=6.9									
DAVA	Damuels		41.69	310	*i* P		P	21 46 28.2	-1.3	
	comp=Z,12nm,0.7s,SNR=8.0									
SONM	Songino Array		41.98	49	P		P	21 46 32.7	+1.0	
	comp=Z,1.0nm,0.7s,baz=264,slow=9.1,SNR=11									
SONM					pP		pP	21 46 55.9	+0.6	
	comp=Z,0.4nm,0.7s,baz=257,slow=7.7,SNR=4.4									
NB2	NORSAR Subarra		45.05	330	P		P	21 46 55.0	-1.0	
	comp=Z,2.3nm,0.5s,baz=116,slow=7.9									
NOA	NORSAR Array B		45.05	330	P		P	21 46 55.1	-1.0	
	comp=Z,5.5nm,0.8s,baz=116,slow=7.9,SNR=19									
ARCES	ARCESS Array B		45.27	345	P		P	21 46 57.1	-0.5	
	comp=Z,0.9nm,0.4s,baz=141,slow=8.7,SNR=20									
ESDC	Sonseca Array		51.66	300	P		P	21 47 47.2	0.0	
	comp=Z,1.4nm,0.6s,baz=78,slow=7.3,SNR=19									
SPITS	Spitsbergen Ar		52.36	350	P		P	21 47 58.2	-0.1	
	comp=Z,1.3nm,0.4s,baz=126,slow=9.4,SNR=9.3									
TORD	Torodi Ar. Bea		54.33	266	P		P	21 48 06.1	-0.9	
	comp=Z,12nm,0.6s,baz=71,slow=5.2,SNR=76									
KSAR	Wonju Array Be		58.18	62	P		P	21 48 34.0	-0.1	
KSRS	Korea Array		58.21	62	P		P	21 48 34.0	-0.3	
	comp=Z,3.6nm,0.7s,baz=278,slow=7.1,SNR=11									
KLR	Kul'dur		58.77	47	P		P	21 48 37.6	-0.4	
	comp=Z,0.9nm,0.6s,baz=228,slow=1.8,SNR=4.3									
DBIC	Dimbokro		63.00	263	P		P	21 49 07.8	+0.7	
	comp=Z,3.1nm,0.8s,baz=46,slow=6.6,SNR=4.9									
BOSA	Boshof		64.74	212	P		P	21 49 19.8	+1.3	
	comp=Z,2.9nm,0.8s,baz=79,slow=4.1,SNR=4.4									
FRB	Frobisher Bay		79.06	339	P		P	21 50 44.0	+0.6	
	comp=Z,1.4nm,0.6s,baz=23,slow=6.9,SNR=4.8									
ILAR	Eielson Array		85.17	10	P		P	21 51 14.2	-1.0	
	comp=Z,0.3nm,0.7s,baz=321,slow=4.8,SNR=4.5									
WRA	Warramunga Arr		87.97	114	P		P	21 51 30.5	+0.9	
	comp=Z,0.5nm,0.9s,baz=318,slow=4.3,SNR=3.4									
WRA					pP		pP	21 51 56.5	+0.3	
	comp=Z,1.3nm,0.9s,baz=320,slow=4.0,SNR=6.2									
YKA	Yellowknife Ar		89.27	357	P		P	21 51 34.5	-0.6	
	comp=Z,0.4nm,0.6s,baz=1.8,slow=5.5,SNR=7.4									
ASAR	Alice Springs		89.54	117	P		P	21 51 37.5	+0.5	
	comp=Z,0.2nm,0.6s,baz=288,slow=4.6,SNR=3.1									
ASAR					pP		pP	21 52 03.7	+0.1	
	comp=Z,0.7nm,0.8s,baz=315,slow=4.7,SNR=4.5									

AUST 08 21:59:20.4±0.0, 21°.74S×122°.23E, h10km, Error ellipse: s-maj=0.3km s-min=0.1km az=316.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	4.84	42	P		P	Pn	22 00 30.5	-2.9
	baz=4.8								
FITZ				S		S	Sn	22 01 23.8	-5.7
	baz=4.8,SNR=6.0								
FITZ	Fitzroy Crossi	4.84	42	P		P	Pn	22 00 30.3	-3.0
	baz=4.9,SNR=17								
FITZ				S		S	Sn	22 01 23.2	-6.3
	baz=4.9,SNR=6.0								
MEEK	Meekatharra	5.89	213	P		P	Pn	22 00 46.3	-1.5
	baz=5.9,SNR=12								
MEEK				S		S	Sn	22 01 48.4	-7.0
	baz=5.9								
WRKA	Warakurna	6.47	122	P		P	Pn	22 00 53.8	-2.0
	baz=6.5,SNR=62								
WRKA	Warakurna	6.47	122	P		P	Pn	22 00 53.8	-2.0
	baz=6.5,SNR=62								
GIRL	Giralia	7.46	262	P		P	Pn	22 01 07.2	-2.2
	baz=7.5,SNR=64								
GIRL	Giralia	7.46	262	P		P	Pn	22 01 07.2	-2.2
	baz=7.5,SNR=64								
GIRL				S		S	Sn	22 02 25.7	-8.4
	baz=7.5								
KNRA	Kununurra	8.64	47	P		P	Pn	22 01 22.5	-3.1
	baz=8.7								
KNRA				S		S	Sn	22 02 54.1	-9.1
	baz=8.7								
MORW	Morawa	9.19	216	P		P	Pn	22 01 28.7	-4.4
	baz=9.2,SNR=16								
MORW				S		S	Sn	22 03 06.1	-11
	baz=9.2,SNR=5.0								
MORW	Morawa	9.19	216	P		P	Pn	22 01 28.7	-4.4
	baz=9.2,SNR=16								
MORW				S		S	Sn	22 03 05.7	-11
	baz=9.2								
BLDU	Ballidu	10.13	208	P		P	Pn	22 01 42.1	-3.9
	baz=10,SNR=18								
BLDU	Ballidu	10.13	208	P		P	Pn	22 01 42.1	-3.9
	baz=10,SNR=18								
BLDU				S		S	Sn	22 03 28.6	-11
	baz=10								
FORT	Forrest	10.41	151	P		P	Pn	22 01 46.0	-3.8
	baz=10								
FORT				S		S	Sn	22 03 37.4	-9.1
	baz=10								
KLBR	Kellerberrin	10.59	201	P		P	Pn	22 01 49.3	-3.1
	baz=11,SNR=5.1								
KLBR	Kellerberrin	10.59	201	P		P	Pn	22 01 49.3	-3.1
	baz=11,SNR=5.1								
KLBR				S		S	Sn	22 03 38.7	-12
	baz=11								
AS01	Alice Springs	10.99	102	P		P	Pn	22 01 53.8	-4.1
	baz=11								
WB2	Warramunga Arr	11.48	83	P		P	Pn	22 02 00.1	-4.4
	baz=12								
MUN	Mundaring	11.52	206	P		P	Pn	22 02 01.4	-3.7
	baz=12								
NWAO	Narrogin (SRO)	11.99	201	P		P	Pn	22 02 06.5	-5.0
	baz=12,SNR=5.0								
NWAO	Narrogin (SRO)	11.99	201	P		P	Pn	22 02 06.9	-4.6
	baz=12,SNR=5.0								
NWAO				P		P	Pn	22 02 06.9	-4.6
	baz=12,SNR=5.0								
MTN	Manton Dam	12.27	45	P		P	Pn	22 02 11.0	-4.3
	baz=12,SNR=4.6								
MTN	Manton Dam	12.27	45	P		P	Pn	22 02 11.0	-4.3
	baz=12,SNR=4.6								
RKGY	Rocky Gully	13.63	199	P		P	Pn	22 02 30.5	-3.3
	baz=14								
LUWI	Luwuk	20.58	2	S		S	S	22 07 50.5	+0.7
	baz=21,SNR=3.7								

*ISCJB **08** 22:03:59.1±

PETK	**Petropavlovsk-**	**64.51**	**18**	P		**P**	**22 18 14.7**	**+3.0**
	4.4nm,0.9s,baz=193,slow=8.1,SNR=4.5								
MKAR	**Makanchi Array**	**68.44**	**327**	P		**P**	**22 18 38.9**	**+2.1**
	5.1nm,0.6s,baz=124,slow=7.9,SNR=63								
ZALV	**Zalesovo Beam**	**71.80**	**334**	P		**P**	**22 18 57.9**	**+0.8**
	1.3nm,0.6s,baz=130,slow=4.6,SNR=4.2								
TORD	**Torodi Ar. Bea**	**128.91**	**281**	PKP		**PKiKP**	**22 26 45.1**	**+2.4**
	0.5nm,0.7s,baz=144,slow=3.4,SNR=3.3								
CPUP	**Villa Florida**	**145.89**	**168**	PKPbc		**PKiKP**	**22 27 17.9**	**+0.8**
	1.7nm,0.5s,baz=181,slow=5.3,SNR=4.2								
LPAZ	**La Paz**	**150.51**	**142**	PKPbc		**PKPab**	**22 27 31.3**	**-2.5**
	1.7nm,0.4s,baz=56,slow=4.2,SNR=12								

*NEIC **08** 22:32:20.8±0.0,41.71N×81.47W,h5km,ML2.1, MN2.7(OTT),After OGSO.*
NEIC Felt at Eastlake and Timberlake.
*OTT **08** 22:32:20.7±0.2,41.69N×81.47W,h5km,MN2.7/11,South shore Lake Erie. 84km southeast from Blenheim, On Eastern Background Seismic Zone.*

ISC 08 22:32:20.1±0.9,**41.69N**±0.03×**81.49W**±0.02,**h9**km±7km, **n36,σ1s14/61,Ohio**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCO2	**Lakeland CC 2,**	**0.11**	**119**	P	**Pg**	**22 32 23.1**	**+0.3**
LCCO2				S	**Sg**	**22 32 24.2**	**-0.4**
M52A	**Chesterland**	**0.18**	**147**	*e*Pg	**Pg**	**22 32 24.0**	**+0.1**
M52A				*e*Sg	**Sg**	**22 32 26.5**	**-0.1**
GPDO	**Montville, Ohi**	**0.33**	**109**	P	**Pg**	**22 32 26.9**	**+0.2**
GPDO				S	**Sg**	**22 32 30.8**	**-0.3**
PLIO	**Pelee Island,**	**0.85**	**274**	*e*Pg	**Pg**	**22 32 36.5**	**-0.1**
PLIO				*e*Sg	**Sg**	**22 32 47.7**	**0.0**
PLIO	**Pelee Island,**	**0.85**	**274**	PG	**Pg**	**22 32 36.5**	**-0.1**
PLIO				SG	**Sg**	**22 32 47.7**	**0.0**
PLIO				Trac		22 32 48.5	
	comp=Z,13nm,0.1s						
N53A	**Lisbon**	**1.01**	**151**	*e*Pg	**Pg**	**22 32 38.4**	**-1.2**
N51A	**Ashland**	**1.02**	**221**	*e*Pg	**Pg**	**22 32 38.9**	**-0.9**
ERPA	**Erie**	**1.20**	**69**	*e*Pg	**Pg**	**22 32 42.3**	**-0.9**
ERPA	**Erie**	**1.20**	**69**	PG	**Pg**	**22 32 42.2**	**-0.9**
ERPA				SG	**Sg**	**22 32 57.0**	**-1.6**
N54A	**Moraine State**	**1.35**	**122**	*e*Pn	**Pn**	**22 32 44.2**	**-0.9**
M54A	**Oil Creek Stat**	**1.38**	**97**	*e*Pn	**Pn**	**22 32 45.1**	**-0.5**
ELFO	**Elginfield**	**1.50**	**5**	*e*Pn	**Pn**	**22 32 47.4**	**+0.1**
ELFO				*e*Sn	**Sn**	**22 33 07.2**	**+0.1**
ELFO	**Elginfield**	**1.50**	**5**	PG	**Pn**	**22 32 47.4**	**+0.1**
ELFO				SG	**Sn**	**22 33 07.2**	**+0.1**
ELFO				Trac		22 33 11.7	
	comp=Z,26nm,0.1s						
O52A	**Adamsville**	**1.60**	**190**	*e*Pn	**Pn**	**22 32 48.9**	**+0.3**
TYNO	**Tyneside**	**1.84**	**40**	PN	**Pn**	**22 32 52.5**	**+0.5**
TYNO				SN	**Sn**	**22 33 16.6**	**+1.1**
N49A	**Columbus Grove**	**2.17**	**250**	*e*Pn	**Pn**	**22 32 55.8**	**-0.6**
N49A				*e*Pg	**Pb**	**22 32 59.3**	**-0.2**
N49A				*e*Sn	**Sb**	**22 33 28.1**	**+1.5**
ACTO	**Acton**	**2.18**	**28**	*e*Pn	**Pn**	**22 32 57.2**	**+0.6**
ACTO				*e*Sn	**Sn**	**22 33 24.9**	**+1.0**
ACTO	**Acton**	**2.18**	**28**	PN	**Pn**	**22 32 57.2**	**+0.6**
ACTO				SN	**Sn**	**22 33 24.9**	**+1.0**
P53A	**Whipple**	**2.21**	**178**	*e*Pn	**Pn**	**22 32 56.7**	**-0.3**
STCO	**Saint Catharin**	**2.29**	**48**	PN	**Pn**	**22 32 59.3**	**+1.2**
STCO				SN	**Sn**	**22 33 27.8**	**+1.5**
BASO	**Ashfield**	**2.32**	**357**	*e*Pn	**Pn**	**22 33 00.9**	**+2.4**
BASO	**Ashfield**	**2.32**	**357**	PN	**Pn**	**22 33 00.9**	**+2.4**
BASO				SN	**Sn**	**22 33 29.1**	**+1.9**
BASO				Trac		22 33 31.9	
	comp=Z,44nm,0.7s						
BASO				LG	Lg	22 33 34.0	
BWLO	**Walkerton**	**2.44**	**6**	PN	**Pn**	**22 33 00.7**	**+0.6**
BWLO				SN	**Sn**	**22 33 30.5**	**+0.5**
BWLO				Trac		22 33 38.1	
	comp=Z,8.8nm,0.1s						
I49A	**Point Hope**	**2.45**	**337**	*e*Pn	**Pn**	**22 32 58.8**	**-1.5**
I49A				*e*Pg	**Pb**	**22 33 04.6**	**+0.3**
I49A				*e*Sn	**Sn**	**22 33 27.1**	**-3.2**
I49A				*e*Sg	**Sb**	**22 33 36.1**	**+1.5**
BRCO	**Bruce Peninsul**	**2.55**	**1**	SN	**Sn**	**22 33 33.3**	**+0.5**
BRCO				SN	**Sb**	**22 33 34.4**	**-3.1**
BRCO				Trac		22 33 44.2	
	comp=Z,12nm,0.2s						
O49A	**Covington**	**2.63**	**236**	*e*Pn	**Pn**	**22 33 02.7**	**-0.1**
MEDO	**Medina**	**2.69**	**56**	*e*Pn	**Pb**	**22 33 07.6**	**-0.8**
MEDO	**Medina**	**2.69**	**56**	PN	**Pn**	**22 33 04.2**	**+0.7**
MEDO				SN	**Sn**	**22 33 36.6**	**+0.5**
MEDO				LG	Lg	22 33 43.7	
MEDO				Trac		22 33 46.0	
	comp=Z,1.6nm,0.0s						
Q54A	**Coxs Mills**	**2.75**	**169**	*e*Pn	**Pb**	**22 33 09.7**	**+0.2**
BMRO	**Meriville Lake**	**2.91**	**4**	PN	**Pn**	**22 33 06.8**	**+0.2**
BMRO				SN	**Sn**	**22 33 41.4**	**-0.2**
BMRO				LG	Lg	22 33 52.2	
BMRO				Trac		22 33 57.1	
	comp=Z,27nm,0.6s						
SSPA	**Standing Stone**	**2.92**	**110**	*e*Pn	**Pn**	**22 33 08.7**	**+1.9**
Q51A	**Peebles**	**3.02**	**209**	*e*Sn	**Sb**	**22 33 52.4**	**+1.3**
WLVO	**Wesleyville**	**3.19**	**45**	PN	**Pn**	**22 33 11.5**	**+1.1**
WLVO				SN	**Sn**	**22 33 40.4**	**-0.1**
WLVO				LG	Lg	22 34 00.7	
WLVO				Trac		22 34 00.7	
	comp=Z,5.7nm,0.2s						
SADO	**Sadowa**	**3.52**	**28**	PN	**Pn**	**22 33 16.2**	**+1.2**
SADO				SN	**Sn**	**22 33 56.5**	**-0.3**
SADO				Trac		22 34 08.8	
	comp=Z,29nm,0.7s						
SADO				LG	Lg	22 34 10.1	
TOBO	**Tobermory, Bru**	**3.53**	**360**	PN	**Pn**	**22 33 15.9**	**+0.8**
TOBO				Trac		22 34 08.5	
	comp=Z,21nm,0.5s						
KLBO	**Killbear Provi**	**3.78**	**14**	PN	**Pn**	**22 33 20.3**	**+1.8**
KLBO				SN	**Sn**	**22 34 01.9**	**-1.2**
KLBO				LG	Lg	22 34 17.1	
KLBO				Trac		22 34 19.5	
	comp=Z,4.4nm,0.3s						

*IDC **08** 22:33:27.0±1.2,11.60S×165.89E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/34,mbtmp3.9/8,ML3.9/1,Error ellipse: s-maj=35.6km s-min=25.8km az=100.0*
*ISCJB **08** 22:33:31.1±1.0,11.8S±0.1×165.8E±0.2,h37km,mb3.8/7, Error ellipse: s-maj=30.2km s-min=17.6km az=172.9*

ISC 08 22:33:32.7±1.1,**11.7S**±0.1×**165.9E**±0.2,**h37**km,**n8,** σ0s**85**/8,**mb3.8**/7,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.37**	**177**	Pn	**Pn**	**22 35 59.0**	**0.0**
	0.9nm,0.3s,baz=33,slow=11,SNR=11						
WRA	**Warramunga Arr**	**31.40**	**251**	P	**P**	**22 39 50.5**	**+0.1**
	0.9nm,0.6s,baz=82,slow=9.1,SNR=8.6						
ASAR	**Alice Springs**	**32.63**	**244**	P	**P**	**22 39 60.0**	**-1.3**
	1.1nm,0.8s,baz=73,slow=9.7,SNR=9.0						
CMAR	**Chiang Mai Arr**	**72.47**	**294**	P	**P**	**22 44 56.5**	**+0.5**
	0.4nm,0.3s,baz=129,slow=4.5,SNR=5.0						
QSPA	**South Pole Qui**	**78.35**	**180**	P	**P**	**22 45 29.6**	**+0.6**
	2.9nm,1.1s,baz=358,slow=3.1,SNR=2.3						
SONM	**Songino Array**	**79.23**	**324**	P	**P**	**22 45 34.8**	**+0.6**
	0.3nm,0.4s,baz=141,slow=4.8,SNR=3.7						
ILAR	**Eielson Array**	**84.05**	**18**	P	**P**	**22 45 58.2**	**-0.9**
	0.1nm,0.5s,baz=246,slow=4.9,SNR=3.4						
MKAR	**Makanchi Array**	**94.06**	**317**	P	**P**	**22 46 47.3**	**+0.1**
	0.7nm,0.7s,baz=98,slow=6.5,SNR=9.2						

*ISCJB **08** 22:42:55.0±0.6,28.1N±0.03×57.5E±0.1,h30km,Error ellipse: s-maj=13.2km s-min=4.3km az=10.1*
*TEH **08** 22:42:54.7,28.27N×57.17E,h10km,ML3.0*
*OMAN **08** 22:42:54.5±0.6,28.26N×57.43E,h37km±120km,ml3.0/9, Error ellipse: s-maj=23.9km s-min=10.6km az=331.0*

ISC 08 22:42:54.2±1.2,**28.27N**±0.05×**57.4E**±0.1,**h30**km,**n18,** σ0s**89**/21,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**0.86**	**214**	IAMB	IAmb	22 43 24.2	
	comp=Z,0.0nm,0.2s						
NIAN				*e*Pg	**Pn**	**22 43 09.7**	**-0.6**
GENO	**Geno**	**1.38**	**231**	*e*Pg	**Pb**	**22 43 18.8**	**-0.7**
GENO				IAMB	IAmb	22 43 42.3	
	comp=Z,0.0nm,0.2s						
NGRK	**Negar Kerman**	**1.48**	**337**	*e*Pn	**Pb**	**22 43 20.8**	**-0.6**
NGRK				IAMB	IAmb	22 43 49.6	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**1.59**	**5**	*e*Pn	**Pb**	**22 43 23.2**	**+0.1**
CHMN				IAMB	IAmb	22 43 28.0	
	comp=Z,0.0nm,0.4s						
TVBK	**TV Kerman**	**1.79**	**342**	*e*Pn	**Pb**	**22 43 26.8**	**+0.2**
TVBK				IAMB	IAmb	22 43 32.2	
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	**2.24**	**339**	*e*Pn	**Pb**	**22 43 33.6**	**-0.6**
KHGB				IAMB	IAmb	22 43 37.2	
	comp=Z,0.0nm,0.4s						
BANOM	**Banah**	**2.53**	**203**	P	**Pn**	**22 43 33.4**	**+0.1**
	SNR=18						
BANOM				S	**Sn**	**22 44 04.4**	**+1.2**
MDH	**Madha**	**3.12**	**198**	P	**Pn**	**22 43 40.5**	**-0.8**
HATD	**Hatta, Dubai**	**3.61**	**198**	P	**Pn**	**22 43 48.6**	**+0.5**
ASHO	**Ashiyiah**	**3.77**	**199**	P	**Pn**	**22 43 51.6**	**+1.3**
FAQ	**Al Faqa, Dubai**	**3.86**	**205**	P	**Pn**	**22 43 51.7**	**+0.1**
FAQ				S	**Sn**	**22 44 36.7**	**+0.7**
SOHO	**SOHO**	**4.19**	**191**	P	**Pn**	**22 43 54.5**	**-1.6**
SOHO				S	**Sn**	**22 44 44.6**	**+0.5**
AJN	**Ajban**	**4.28**	**211**	P	**Pn**	**22 43 57.7**	**+0.5**
	SNR=6.7						
AJN				S	**Sn**	**22 44 45.6**	**-0.6**
IKOO	**Kooshah**	**4.37**	**18**	IAMB	IAmb	22 44 14.0	
	comp=Z,93nm,0.3s						
IKOO				*e*Pn	Pn	22 44 04.6	+5.8
ITEG	**Tejag**	**4.76**	**14**	*e*Pn	Pn	22 44 10.5	+6.5
ITEG				IAMB	IAmb	22 44 19.2	
	comp=Z,149nm,0.6s						
ARQ	**Araqi**	**4.98**	**189**	P	**Pn**	**22 44 08.4**	**+1.5**
ARQ				S	**Sn**	**22 45 04.8**	**+1.3**
WSAR	**Wadi Sarin**	**5.14**	**167**	P	**Pn**	**22 44 08.5**	**-0.7**
JLN	**Jalan Bani Buh**	**6.37**	**163**	P	**Pn**	**22 44 25.4**	**-0.7**

*ISCJB **08** 22:47:17.2±0.9,49.9S±0.1×115.9E±0.4,h10km,mb3.8/6, MS3.1/2,Error ellipse: s-maj=33.3km s-min=14.8km az=11.3*
*IDC **08** 22:47:17.5±1.1,49.85S×115.77E,h0km,mb4.0/6, mb1 4.2/7,mb1mx3.9/25,mbtmp4.0/7,ML2.4/1,MS3.1/2, Ms1 3.1/2,ms1mx2.9/23,Error ellipse: s-maj=43.7km s-min=19.7km az=107.0*

ISC 08 22:47:18.9±1.0,**49.8S**±0.1×**115.7E**±0.3,**h10**km,**n11,** σ0s**27**/8,**mb3.9**/6,**Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**14.98**	**355**	T	T	23 06 09.9	
	baz=174,slow=73,SNR=62						
H01W1	**Cape Leeuwin H**	**14.99**	**355**	T	T	23 06 16.8	
	baz=174,slow=73,SNR=72						
H01W3	**Cape Leeuwin H**	**15.00**	**355**	T	T	23 06 13.3	
	baz=174,slow=73,SNR=88						
NWAO	**Narrogin (SRO)**	**16.94**	**4**	Pn	**P**	**22 51 18.1**	**+0.2**
	0.7nm,0.3s,baz=63,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**26.34**	**57**	P	**P**	**22 52 55.2**	**+0.3**
	2.0nm,0.7s,baz=190,slow=11,SNR=5.5						
STKA				LR	LR	23 01 54.1	
	comp=Z,50nm,20.1s,baz=205,slow=33						
ASAR	**Alice Springs**	**29.75**	**35**	P	**P**	**22 53 25.4**	**-0.1**
	1.4nm,0.8s,baz=207,slow=7.9,SNR=14						
VNDA	**Vanda**	**32.70**	**163**	P	**P**	**22 53 50.9**	**0.0**
	1.0nm,0.8s,baz=302,slow=9.7,SNR=5.8						
WRA	**Warramunga Arr**	**33.31**	**33**	P	**P**	**22 53 56.5**	**-0.3**
	1.9nm,0.6s,baz=201,slow=11,SNR=18						
SNAA	**Sanae**	**51.32**	**201**	P	**P**	**22 56 22.9**	**+0.1**
	1.7nm,0.9s,baz=139,slow=11,SNR=3.1						
CMAR	**Chiang Mai Arr**	**69.61**	**343**	P	**P**	**22 58 28.1**	**0.0**
	0.2nm,0.3s,baz=190,slow=5.0,SNR=4.5						
CMAR				LR	LR	23 27 01.6	
	comp=Z,9.9nm,19.4s,baz=50,slow=34						
YKA	**Yellowknife Ar**	**150.09**	**46**	PKPbc	**PKPbc**	**23 07 08.2**	**-0.3**
	0.3nm,0.7s,baz=300,slow=1.7,SNR=4.5						

*NIED **08** 23:17:00,46.30N×153.30E,h50km,Mw4.8 Best double couple: M₀2.04000×10¹⁶ NP1:φ₀290.00000°,δ8.00000°, λ127.00000°. NP2:φ₀72.00000°,δ84.00000°,λ85.00000°.*
*IDC **08** 23:17:48.0±0.4,45.87N×153.50E,h0km,mb4.5/31, mb1 4.6/38,mb1mx4.5/56,mbtmp4.5/38,ML3.6/6,MS3.5/24, Ms1 3.6/24,ms1mx3.4/51,Error ellipse: s-maj=12.7km s-min=9.8km az=131.0*
*BJI **08** 23:17:49.3,46.09N×153.28E,h7km,mb4.9/49,mB5.0/31, Ms4.4/18,Ms7 4.1/13*
*SKHL **08** 23:17:50.8±0.2,45.81N×153.53E,h30km±5km,mb4.8/10*
*JMA **08** 23:17:50.5±0.8,46.32N×153.31E,h30km,M4.9*
*ISCJB **08** 23:17:51.4±0.2,45.77N±0.03×153.30E±0.03,h27km, mb4.7/152,MS3.8/27,Error ellipse: s-maj=5.1km s-min=2.5km az=159.2*
*MOS **08** 23:17:52.1±1.2,45.83N×153.33E,h35km,mb4.9/62, MS3.5/14,Error ellipse: s-maj=6.2km s-min=5.3km az=115.9*
*NEIC **08** 23:17:54.2±0.2,45.82N×153.27E,h35km,mb4.8/97,Error ellipse: s-maj=7.9km s-min=4.2km az=158.0*

ISC 08 23:17:52.9±0.4,**45.88N**±0.05×**153.34E**±0.05,**h27**km,**n410,** σ1s**78**/416,**mb4.8**/155,**MS3.7**/27,**36C-11D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.90**	**262**	*i* P		**Pn**	**23 18 52.0**	**+1.0**
KUR				AMB	AMB	23 18 52.9	
	45nm,0.4s						
KUR				*i* S		**Sn**	**23 19 36.7**	**+0.8**
KUR				A	A	23 19 40.0	
	303nm,0.7s						
KUR				A	A	23 19 40.0	
	1μm,0.7s						
KUR	**Kuril'sk**	**3.90**	**262**	*ce*PN		**Pn**	**23 18 52.5**	**+1.5**
KUR				*i* S		**Sn**	**23 19 36.9**	**+1.0**
KUR				pmax	pmax			
	comp=Z,451nm,0.5s							
KUR				pmax	pmax			
	comp=E,34nm,0.4s							
KUR				pmax	pmax			
	comp=N,144nm,0.3s							
KUR				smax	smax			
	comp=E,1μm,0.7s							
KUR				smax	smax			
	comp=N,436nm,0.5s							
SHO	**Shikotan**	**5.04**	**249**	*e*P	**Pn**	**23 19 04.9**	**-1.8**
SHO				AMB	AMB	23 19 07.0	
	comp=N,17nm,0.5s						
SHO				AMB	AMB	23 19 07.0	
	comp=N,36nm,0.5s						
SHO				AMB	AMB	23 19 07.0	
	comp=N,64nm,0.5s						
SHO				*e*S	**Sn**	**23 20 00.3**	**-3.8**
SHO				A	A	23 20 10.0	
	comp=N,274nm,0.5s						
SHO				A	A	23 20 10.0	
	comp=N,189nm,0.5s						
SHO	**Shikotan**	**5.04**	**249**	*e*PN	**Pn**	**23 19 05.3**	**-1.4**
SHO				pmax	pmax		
	comp=N,17nm,0.5s						
SHO				pmax	pmax		
	comp=Z,64nm,0.5s						
SHO				pmax	pmax		
	comp=E,36nm,0.3s						
SKR	**Severo-Kuril's**	**5.15**	**20**	*e*P	**Pn**	**23 19 07.1**	**-1.1**
SKR				AMB	AMB	23 19 10.0	
	comp=E,172nm,0.9s						
SKR				*e*S	**Sn**	**23 20 04.5**	**-2.2**
SKR				A	A	23 20 06.0	
	comp=E,402nm,0.5s						
SKR				A	A	23 20 06.0	
	comp=E,132nm,0.5s						
SKR	**Severo-Kuril's**	**5.15**	**20**	*e*PN	**Pn**	**23 19 09.3**	**+1.1**
SKR				pmax	pmax		
	comp=Z,172nm,0.9s						
SKR				MLR	MLR		
	comp=Z,1μm,15.0s						
SKR				MLR	MLR		
	comp=Z,900nm,12.0s						
LAGR	**Lagunnoye**	**5.66**	**254**	*e*S	**Sn**	**23 20 19.0**	**-0.3**
GRPR	**Tuman**	**5.70**	**253**	*e*P	**Pn**	**23 19 15.0**	**-0.7**
GRPR				*e*S	**Sn**	**23 20 16.0**	**-4.1**
GRPR				A	A	23 20 22.0	
	comp=Z,605nm,0.5s						
GRPR				A	A	23 20 22.0	
	comp=Z,435nm,0.5s						
GRPR	**Tuman**	**5.70**	**253**	PN	**Pn**	**23 19 15.0**	**-0.7**

GLVR	**Golovnino**	**5.96**	**252**	*e*rx		rx	23 20 23.0		
NEM2	**Nemuro 2**	**5.98**	**248**	P		**Pn**	**23 19 18.3**	**-1.2**
NEM2				*e*S		**Sn**	**23 20 22.9**	**-4.1**
PAU	**Pauzhetka**	**6.05**	**21**	*e*P		**Pn**	**23 19 18.9**	**-1.6**
PAU				*e*S		**Sn**	**23 20 24.1**	**-4.6**
JRA	**Rausu**	**6.15**	**255**	P		**Pn**	**23 19 22.8**	**+0.9**
JNK	**Nakash**	**6.56**	**253**	P		**Pn**	**23 19 27.1**	**-0.4**
JNK				*e*S		**Sn**	**23 20 39.6**	**-1.7**
JAK	**Akkeshi**	**6.83**	**248**	P		**Pn**	**23 19 30.3**	**-0.9**
JAK				*e*S		**Sn**	**23 20 44.0**	**-3.9**
JTKR	**Abashiri--Toko**	**6.96**	**257**	P		**Pn**	**23 19 34.0**	**+0.9**
JAR	**Ashorobuto**	**7.30**	**253**	P		**Pn**	**23 19 38.3**	**+0.5**
JAR				*e*S		**Sn**	**23 20 57.8**	**-2.0**
JMP	**Maruseppu**	**7.33**	**259**	P		**Pn**	**23 19 40.0**	**+1.9**
YSS	**Yuzh-Sakhalins**	**7.40**	**282**	*e*P		**Pn**	**23 19 42.3**	**+3.3**
YSS				AMB	AMB	23 19 43.4		
	comp=Z,60nm,0.8s							
YSS	**Yuzh-Sakhalins**	**7.40**	**282**	*i*PN		**Pn**	**23 19 42.5**	**+3.5**
YSS				pmax	pmax			
	comp=Z,60nm,0.8s							
YSS				MLR	MLR			
	comp=Z,700nm,15.0s							
PETK	**Petropavlovsk-**	**7.77**	**20**	*e*PN		**Pn**	**23 19 42.5**	**-1.7**
PETK	**Petropavlovsk-**	**7.77**	**20**	Pn		**Pn**	**23 19 42.3**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=181,slow=12,SNR=24								
PETK				Sn		**Sn**	**23 21 11.2**	**-0.1**	
	baz=190,slow=13,SNR=2.1								
PETK				LR		LR	23 23 35.3		
	comp=Z,226nm,18.4s,baz=200,slow=45								
JKK2	**Kamakawa 2**	**7.79**	**259**	P		**Pn**	**23 19 45.7**	**+1.3**	
ASAJ	**Asahikawa**	**7.82**	**261**	Pn		**Pn**	**23 19 46.3**	**+1.5**	
	comp=Z,2.4nm,0.3s,baz=86,slow=15,SNR=6.4								
JCH	**Churui**	**7.87**	**249**	P		**Pn**	**23 19 44.9**	**-0.7**	
JCH				*e*S		**Sn**	**23 21 09.0**	**-4.7**	
PET	**Petropavlovsk**	**7.94**	**24**	*e*P		**Pn**	**23 19 45.3**	**-1.2**	
PET				AMB	AMB	23 19 46.0			
	comp=Z,14nm,0.5s								
PET	**Petropavlovsk**	**7.94**	**24**	*e*PN		**Pn**	**23 19 43.0**	**-3.5**	
PET				pmax	pmax				
	comp=Z,18nm,0.7s								
PET				MLR	MLR				
	comp=Z,300nm,17.0s								
PET				MLR	MLR				
	comp=Z,900nm,14.0s								
MYR	**Moyori**	**8.08**	**247**	*e*P		**Pn**	**23 19 47.4**	**-1.0**	
UGL	**Uglegorsk**	**8.28**	**297**	*e*P		**Pn**	**23 19 53.1**	**+2.0**	
UGL				AMB	AMB	23 19 57.0			
	comp=Z,92nm,1.0s								
UGL	**Uglegorsk**	**8.28**	**297**	*e*PN		**Pn**	**23 19 55.1**	**+4.0**	
UGL				*e*S		**Sn**	**23 21 28.8**	**+5.1**	
UGL				pmax	pmax				
	comp=Z,92nm,1.0s								
UGL				smax	smax				
	comp=E,97nm,0.5s								
UGL				smax	smax				
	comp=N,65nm,0.6s								
ERM	**Erimo**	**8.30**	**246**	*e*Pn		**Pn**	**23 19 50.0**	**-1.4**	
ERM				*e*Sn		**Sn**	**23 21 18.9**	**-5.3**	
ERM	**Erimo**	**8.30**	**246**	*e*P		**Pn**	**23 19 52.9**	**+1.5**	
ERM	**Erimo**	**8.30**	**246**	*e*PN		**Pn**	**23 19 52.9**	**+1.5**	
TYV	**Tymovskoe**	**8.69**	**309**	*e*P		**Pn**	**23 19 59.8**	**+3.1**	
TYV				AMB	AMB	23 20 01.9			
	comp=N,36nm,0.9s								
TYV	**Tymovskoe**	**8.69**	**309**	*e*PN		**Pn**	**23 19 59.8**	**+3.1**	
TYV				pmax	pmax				
	comp=Z,36nm,0.9s								
JKB	**Kayabe**	**9.74**	**250**	*e*S		**Sn**	**23 21 52.2**	**-7.4**	
JTM	**Tenmabayashi**	**10.29**	**245**	*e*S		**Sn**	**23 22 04.2**	**-8.7**	
NKL	**Nikolayevsk**	**10.98**	**316**	*e*P		**Pn**	**23 20 28.0**	**0.0**	
NKL				AMB	AMB	23 20 31.8			
	comp=Z,150nm,2.0s								
NKL	**Nikolayevsk**	**10.98**	**316**	*e*PN		**Pn**	**23 20 30.3**	**+2.3**	
NKL				pmax	pmax				
	comp=Z,150nm,2.0s								
NKL				MLR	MLR				
	comp=E,1μm,14.0s								
NKL				MLR	MLR				
	comp=Z,2μm,14.0s								
TEY	**Ternei**	**11.79**	**272**	*e*P		**Pn**	**23 20 40.2**	**+1.0**	
TEY				AMB	AMB	23 20 46.2			
	comp=Z,40nm,0.9s								
TEY				AMB	AMB	23 20 46.2			
	comp=Z,30nm,0.9s								
TEY	**Ternei**	**11.79**	**272**	*i*PN		Pn	23 20 45.2	+6.0	
TEY				pmax	pmax				
	comp=E,40nm,0.8s								
TEY				pmax	pmax				
	comp=Z,30nm,0.9s								
GRNR	**Gornyy**	**12.27**	**300**	*e*P		**Pn**	**23 20 44.5**	**-1.3**	
MA2	**Magadan**	**13.81**	**355**	*e*Pn		**Pn**	**23 21 07.2**	**+0.6**	
MA2	**Magadan**	**13.81**	**355**	*ce*P		**Pn**	**23 21 06.4**	**-0.2**	
MA2				pmax	pmax				
	comp=Z,12nm,0.7s								
MA2	**Magadan**	**13.81**	**355**	Pn		**Pn**	**23 21 06.4**	**-0.2**	
	comp=Z,3.7nm,0.3s,baz=161,slow=9.0,SNR=18								
MA2				LR		LR	23 26 13.2		
	comp=Z,94nm,21.7s,baz=119,slow=36								
MAJO	**Matsushiro**	**14.70**	**236**	*e*Pn		**Pn**	**23 21 16.2**	**-2.7**	
MAJO	**Matsushiro**	**14.70**	**236**	*i*eP		**Pn**	**23 21 18.6**	**-0.4**	
MAT	**Matsushiro**	**14.70**	**236**	P		**Pn**	**23 21 19.1**	**+0.1**	
MAT				*e*S		**Sn**	**23 24 09.8**	**+8.9**	
MJAR	**Matsushiro Arr**	**14.70**	**236**	Pn		**Pn**	**23 21 16.8**	**-2.2**	
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=5.1								
MJAR				LR		LR	23 30 26.7		
	comp=Z,59nm,18.2s,baz=15,slow=51								
MJB9	**Matsu

comp=E,129nm,18.1s,baz=59,slow=41
KSAR Wonju Array Be 20.74 255 P P 23 22 32.3 +1.0
KSAR Wonju Array Be 20.74 255 P P 23 22 32.3 +1.0
CBIJ Chichi jima 20.74 209 P P 23 22 31.1 -0.3
JCJ Chichijima 20.74 209 P P 23 22 31.1 -0.3
comp=E,68nm,0.8s,baz=313,slow=13,SNR=3.6
YAK Yakutsk 21.14 328 *eP* **P 23 22 33.0 -2.5**
YAK *e* 23 22 48.9
YAK *eS* **S 23 26 23.6 -5.4**
YAK *e*SS Sn 23 26 33.3 -3.0
YAK *e* 23 26 39.6
YAK pmax pmax
comp=Z,168nm,0.9s
YAK pmax pmax
comp=E,33nm,0.9s
YAK pmax pmax
comp=N,44nm,1.0s
YAK pmax pmax
comp=Z,72nm,0.5s
YAK pmax pmax
comp=N,38nm,0.6s
YAK smax smax
comp=N,136nm,2.0s
YAK smax smax
comp=E,298nm,1.9s
YAK MLR MLR
comp=Z,891nm,17.0s
YAK MLR MLR
comp=N,456nm,16.0s
YAK MLR MLR
comp=E,161nm,15.0s
TJN Taejon 21.67 253⇑ *eP* **P 23 22 41.5 +0.2**
HIA Hailar 22.81 291 *eP* **P 23 22 51.3 -2.2**
HIA Hailar 22.81 291⇑ *eP* **P 23 22 51.3 -2.2**
HIA pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 23.21 12 *eP* **P 23 22 56.4 -0.9**
comp=Z,18nm,0.9s
BILL Bilibino 23.21 12 *eP* **P 23 22 56.2 -1.1**
BILL Bilibino 23.21 12 *eP* **P 23 22 56.2 -1.1**
BILL *e* 23 23 10.1
BILL *e*PPP PPP 23 23 28.1
BILL *e*S **S 23 27 05.9 -1.3**
BILL pmax pmax
comp=Z,43nm,1.7s
BILL MLR MLR
comp=Z,196nm,17.0s
BOD Bodaibo 26.67 311 *eP* **P 23 23 27.4 -1.9**
BOD pmax pmax
comp=Z,16nm,1.4s
BJI Beijing 27.64 271 P **P 23 23 42.4 +4.3**
BJI pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuau 27.66 271 *eP* **P 23 23 38.1 -0.2**
comp=Z,27nm,1.1s
BJT Baijiatuau 27.66 271 *eP* **P 23 23 38.1 -0.2**
BJT Baijiatuau 27.66 271 *eP* **P 23 23 38.1 -0.2**
BJT pmax pmax
comp=Z,27nm,1.1s
TIXI Tiksi 28.35 344 *eP* **P 23 23 42.2 -1.9**
comp=Z,26nm,1.9s
TIXI Tiksi 28.35 344⇓ *iP* **P 23 23 41.3 -2.8**
TIXI pmax pmax
comp=Z,2.0nm,0.4s
TIXI Tiksi 28.35 344 P **P 23 23 41.9 -2.3**
comp=Z,1.5nm,0.3s,baz=146,slow=8.6,SNR=9.2
TIXI LR LR 23 35 18.4
comp=Z,80nm,21.2s,baz=177,slow=37
H11N2 WAKE ISLAND Hy 28.37 152 T T 23 53 10.8
baz=341
H11N1 WAKE ISLAND Hy 28.39 152 T T 23 53 15.1
baz=341
H11N3 WAKE ISLAND Hy 28.39 152 T T 23 53 12.2
baz=341
H11S1 WAKE ISLAND Hy 29.45 154 T T 23 54 32.2
baz=341
H11S3 WAKE ISLAND Hy 29.46 154 T T 23 54 34.3
baz=341
H11S2 WAKE ISLAND Hy 29.47 154 T T 23 54 36.4
baz=341
HHC Hu-ho-hao-te 30.53 276 *eP* **P 23 24 06.0 +2.1**
HHC pP sP 23 24 10.8 -1.0
HHC S **S 23 29 07.1 +3.3**
HHC sS sS 23 29 18.2 +5.1
HHC pmax pmax
comp=Z,26nm,1.0s
HHC pmax pmax
comp=Z,200nm,5.9s
HHC LR LR
comp=Z,540nm,16.2s
HHC LR LR
comp=Z,460nm,13.7s
HHC LR LR
comp=Z,480nm,15.6s
ULN Ulaanbaatar 31.35 291 *eP* **P 23 24 11.1 0.0**
comp=Z,8.1nm,0.9s
ULN Ulaanbaatar 31.35 291 *eP* **P 23 24 10.7 -0.4**
ULN Ulaanbaatar 31.35 291⇓ *eP* **P 23 24 10.2 -0.9**
ULN pmax pmax
comp=Z,12nm,1.7s
SONM Songino Array 31.78 291 P **P 23 24 13.7 -1.3**
comp=Z,2.3nm,0.9s,baz=76,slow=7.8,SNR=13
SONM LR LR 23 37 41.3
comp=Z,112nm,19.8s,baz=74,slow=37
TLY Talaya 32.73 299 *eP* **P 23 24 20.9 -2.1**
comp=Z,8.6nm,0.9s
TLY Talaya 32.73 299 *eP* **P 23 24 21.6 -1.5**
TLY Talaya 32.73 299 *eP* **P 23 24 22.5 -0.6**
TLY *e*S **S 23 29 39.4 +1.6**
TLY pmax pmax
comp=Z,25nm,1.1s
TLY MLR MLR
comp=Z,422nm,15.0s
GUMO Guam 32.97 195 LR LR 23 34 28.7
comp=Z,272nm,21.0s,baz=78,slow=30
ZAK Zakamensk 33.20 296 *eP* **P 23 24 26.6 -0.7**
ZAK Zakamensk 33.20 296 *eP* **P 23 24 26.6 -0.7**
ZAK pmax pmax
comp=Z,7.0nm,1.2s
IM3 Indian Mountai 34.38 35 *eP* **P 23 24 37.1 -0.1**
KDAK Kodiak Island 34.54 50 *eP* **P 23 24 39.4 +0.8**
KDAK Kodiak Island 34.54 50 *iP* **P 23 24 39.4 +0.8**
KDAK Kodiak Island 34.54 50 P **P 23 24 36.3 -2.3**
comp=Z,11nm,0.8s,baz=273,slow=6.3,SNR=4.3
BPAW Bear Paw Mtn. 35.33 39 *eP* **P 23 24 47.5 +2.0**
comp=Z,9.4nm,1.0s
MLY Manley 35.51 37 *eP* **P 23 24 49.1 +2.0**
comp=Z,13nm,1.1s
XAN Xi'an 35.61 267 P **P 23 24 51.3 +3.1**
XAN pP sP 23 24 59.9 +3.7
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN Xi'an 35.61 267 *eP* **P 23 24 48.6 +0.3**
comp=Z,8.7nm,1.0s
XAN Xi'an 35.61 267 *eP* **P 23 24 48.6 +0.3**
XAN pmax pmax
comp=Z,9.0nm,1.0s
TOLK Toolik Lake Re 36.41 31 *eP* **P 23 24 57.2 +2.6**
comp=Z,17nm,1.7s
SML Sawmill 36.50 43 *eP* **P 23 24 55.1 -0.4**
comp=Z,24nm,0.7s
SML Sawmill 36.50 43 *eP* **P 23 24 55.1 -0.4**
SML Sawmill 36.50 43 *eP* **P 23 24 55.1 -0.4**
SML pmax pmax
comp=Z,24nm,0.7s
MDM Murphy Dome 36.57 37 *eP* **P 23 24 58.0 +1.9**
comp=Z,8.8nm,0.9s
WRH Wood River Hil 36.61 38 *eP* **P 23 24 57.3 +1.0**
comp=Z,36nm,1.7s
COLA College 36.73 38 *eP* **P 23 24 58.6 +1.2**
comp=Z,14nm,0.8s
COLA College 36.73 38 *eP* **P 23 24 58.7 +1.4**
COLA College 36.73 38 *ceP* **P 23 24 58.7 +1.4**
COLA pmax pmax
comp=Z,9.0nm,0.9s
CCB Clear Creek Bu 36.74 38 *eP* **P 23 24 58.8 +1.3**
comp=Z,9.4nm,1.3s
DHY Denali Highway 36.92 41 *eP* **P 23 24 59.4 +0.2**
comp=Z,10.0nm,0.9s
HDA Harding Lake 37.10 38 *eP* **P 23 25 00.9 +0.3**
comp=Z,7.4nm,0.7s
IL1 Eielson Array 37.14 38 *eP* **P 23 24 59.5 -1.4**
ILAR Eielson Array 37.14 38 P **P 23 24 59.2 -1.7**
comp=Z,1.8nm,0.8s,baz=250,slow=6.5,SNR=25
ILAR LR LR 23 40 34.2
comp=Z,36nm,20.9s,baz=85,slow=37
ILB Eielson Array 37.14 38 *eP* **P 23 25 01.9 +1.1**
comp=Z,27nm,1.6s
FYU Fort Yukon 37.87 35 *eP* **P 23 25 10.2 +3.2**
comp=Z,48nm,1.4s
LZH Lanzhou 38.08 273 *eP* **P 23 25 11.1 +1.7**
LZH pP pP 23 25 14.8 -0.4
LZH sP sP 23 25 17.4 0.0
LZH pmax pmax
comp=Z,27nm,1.0s
LZH pmax pmax
comp=Z,96nm,4.3s
LZH LR LR
comp=Z,220nm,17.9s
LZH LR LR
comp=Z,320nm,15.7s
LZH LR LR
comp=Z,290nm,16.0s
GTA Gaotai 39.27 280 P **P 23 25 21.2 +1.9**
GTA pP pP 23 25 25.6 +0.7
GTA sP sP 23 25 28.6 +1.3
GTA pmax pmax
comp=Z,20nm,1.0s
EGAK Eagle 39.59 38 *eP* **P 23 25 22.8 +1.3**
comp=Z,20nm,1.0s
NRIK Noril'sk 39.59 329 P **P 23 25 19.8 -1.6**
comp=Z,2.9nm,0.5s,baz=98,slow=10,SNR=14
NRIK LR LR 23 41 54.7
comp=Z,38nm,20.4s,baz=52,slow=36
CD2 Chengdu 40.97 266 *eP* **P 23 25 34.1 +0.7**
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,160nm,4.1s
HYT Haines Junctio 41.79 43 *eP* **P 23 25 43.0 +3.2**
comp=Z,12nm,0.9s
INK Inuvik 42.31 32 *eP* **P 23 25 44.2 +0.4**
comp=Z,12nm,1.2s
INK Inuvik 42.31 32 *eP* **P 23 25 44.2 +0.4**
INK Inuvik 42.31 32 *eP* **P 23 25 44.2 +0.4**
INK pmax pmax
comp=Z,12nm,1.2s
INK Inuvik 42.31 32 P **P 23 25 42.5 -1.2**
comp=Z,4.3nm,0.7s,baz=273,slow=7.1,SNR=14
ZAA0 Zalesovo Array 43.26 307 *eP* **P 23 25 50.6 -1.0**
comp=Z,13nm,1.6s
ZALV Zalesovo Beam 43.26 307 *eP* **P 23 25 50.2 -1.5**
ZALV Zalesovo Beam 43.26 307 P **P 23 25 50.5 -1.1**
comp=Z,2.9nm,0.6s,baz=68,slow=6.4,SNR=10
ZALV LR LR 23 44 56.7
comp=Z,128nm,18.4s,baz=71,slow=38
KMI Kunming 45.25 261 P **P 23 26 08.7 +0.5**
KMI pmax pmax
comp=Z,16nm,0.5s
KMI Kunming 45.25 261 *eP* **P 23 26 10.8 +2.6**
comp=Z,18nm,0.4s
KMI Kunming 45.25 261 *eP* **P 23 26 10.8 +2.6**
KMI pmax pmax
comp=Z,18nm,0.4s
WMQ Urumqi 45.40 292 *eP* **P 23 26 11.0 +2.0**
WMQ pP pP 23 26 15.5 +0.6
WMQ sP sP 23 26 17.9 +1.1
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,130nm,5.9s
WMQ LR LR
comp=Z,130nm,18.7s
WMQ LR LR
comp=Z,140nm,30.1s
WMQ LR LR
comp=Z,140nm,19.7s
DAV Davao City (W) 45.49 220 P **P 23 26 09.2 -0.7**
comp=Z,213nm,0.4s,baz=76,slow=12,SNR=2.0
DLBC Dease Lake 46.09 45 P **P 23 26 12.6 -1.7**
comp=Z,5.2nm,0.9s,baz=287,slow=7.8,SNR=2.0
MK31 Makanchi Array 47.49 298 *eP* **P 23 26 25.3 0.0**
comp=Z,13nm,1.3s
MK31 Makanchi Array 47.49 298 *eP* **P 23 26 25.3 0.0**
MK31 pmax pmax
comp=Z,13nm,1.3s
MKAR Makanchi Array 47.49 298 *eP* **P 23 26 25.2 -0.1**
MKAR Makanchi Array 47.49 298 *ceP* **P 23 26 25.2 -0.1**
MKAR pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 47.49 298 P **P 23 26 25.3 0.0**
comp=Z,5.8nm,0.6s,baz=66,slow=6.9,SNR=115
MKAR LR LR 23 47 18.9
comp=Z,79nm,18.6s,baz=58,slow=37
MK01 Makanchi Array 47.49 298 *eP* **P 23 26 25.2 -0.2**
KURK Kurchatov 47.98 304 *eP* **P 23 26 28.5 -0.6**
comp=Z,8.9nm,0.8s
KURK Kurchatov 47.98 304 *eP* **P 23 26 28.0 -1.1**
KURK Kurchatov 47.98 304 *ciP* **P 23 26 28.0 -1.1**
KURK pmax pmax
comp=Z,12nm,1.0s
SIJI Sorong 50.47 209 P **P 23 26 48.5 +0.1**
comp=Z,12nm,0.6s,baz=19,slow=3.2,SNR=8.7
LSA Lhasa 50.49 274 *eP* **P 23 26 52.5 +3.4**
comp=Z,11nm,0.6s
LSA Lhasa 50.49 274 *eP* **P 23 26 52.5 +3.4**
LSA pmax pmax
comp=Z,11nm,0.6s
PDGK Podgornoye 50.88 295 *iP* **P 23 26 51.3 -0.1**
PDGK pmax pmax
comp=Z,5.0nm,0.9s
YKW3 Yellowknife Ar 51.50 36 *eP* **P 23 26 57.5 +1.9**
comp=Z,6.1nm,0.9s
YKA Yellowknife Ar 51.53 36 *eP* **P 23 26 57.5 +1.6**
YKA Yellowknife Ar 51.53 36 P **P 23 26 56.1 +0.2**
comp=Z,2.7nm,0.7s,baz=296,slow=7.4,SNR=27
YKB5 Yellowknife Ar 51.53 36 *eP* **P 23 26 56.8 +0.9**
BRVK Borovoye 51.58 310 *eP* **P 23 26 56.0 -0.4**
comp=Z,16nm,0.6s
BRVK Borovoye 51.58 310 *eP* **P 23 26 55.7 -0.7**
BRVK Borovoye 51.58 310 *ciP* **P 23 26 55.7 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
RES Resolute Bay 51.61 18 *eP* **P 23 26 56.9 +0.6**
comp=Z,5.5nm,1.0s
RES Resolute Bay 51.61 18 *eP* **P 23 26 56.9 +0.6**
RES Resolute Bay 51.61 18 P **P 23 26 56.3 0.0**
comp=Z,3.3nm,0.6s,baz=322,slow=9.4,SNR=13
PRZ Przheval'sk 52.00 295 *eP* **P 23 27 01.8 +1.9**
comp=Z,16nm,1.0s
FAKI Fak Fak 52.06 207 *eP* **P 23 26 58.7 -1.7**
comp=Z,23nm,1.3s
CMMT Chiang Mai 52.08 258 P **P 23 27 04.5 +4.0**
comp=Z,7.2nm,1.0s
CHTO Chiang Mai 52.08 258 *eP* **P 23 27 00.6 +0.1**
comp=Z,4.6nm,0.7s
CHTO Chiang Mai 52.08 258 *eP* **P 23 27 00.6 +0.1**
CHTO Chiang Mai 52.08 258 *eP* **P 23 27 00.6 +0.1**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 52.08 258 P **P 23 27 04.6 +4.1**
comp=Z,33nm,1.0s
CMAR Chiang Mai Arr 52.33 257 *eP* **P 23 27 02.6 +0.2**
CMAR Chiang Mai Arr 52.33 257 P **P 23 27 02.7 +0.3**
comp=Z,1.3nm,0.6s,baz=35,slow=7.9,SNR=8.6
CMAR LR LR 23 51 50.1
comp=Z,37nm,18.3s,baz=40,slow=39
KDJ Kajisay 52.95 295 *eP* **P 23 27 09.3 +2.3**
comp=Z,20nm,1.1s
KDJ Kajisay 52.95 295 *eP* **P 23 27 09.3 +2.3**
KDJ pmax pmax
comp=Z,20nm,1.1s
ULHL Ulahol 53.48 296 P **P 23 27 12.3 +1.4**
SNR=6.1
SPITS Spitsbergen Ar 53.50 350 LR LR 23 53 13.8
comp=Z,45nm,18.1s,baz=15,slow=40
TKM2 Tokmak 2 53.53 297 P **P 23 27 12.7 +1.5**
SNR=8.1
TKM2 Tokmak 2 53.53 297 *iP* **P 23 27 12.3 +1.1**
TKM2 pmax pmax
comp=Z,10.0nm,1.1s
CHMS Chumysh 54.01 297 P **P 23 27 16.2 +1.6**
SNR=5.4
USP Ospenovka 54.03 298 P **P 23 27 15.9 +1.2**
SNR=22
NRN Naryn 54.07 295 *eP* **P 23 27 16.8 +1.4**
comp=Z,4.7nm,0.8s
NRN Naryn 54.07 295 *eP* **P 23 27 16.8 +1.4**
NRN pmax pmax
comp=Z,5.0nm,0.8s
KBK Karagaybulak 54.07 297 P **P 23 27 16.4 +1.2**
SNR=12
FRU1 Bishkek 54.19 297 *eP* **P 23 27 18.0 +2.1**
comp=Z,24nm,1.2s
KZA Kyzart 54.20 296 P **P 23 27 18.3 +2.0**
SNR=20
AAK Ala-Archa 54.37 297 P **P 23 27 18.2 +0.9**
SNR=9.9
AAK Ala-Archa 54.37 297 *eP* **P 23 27 16.8 -0.5**
comp=Z,8.8nm,1.0s
AAK Ala-Archa 54.37 297 *eP* **P 23 27 17.7 +0.4**
AAK Ala-Archa 54.37 297 *ceP* **P 23 27 17.7 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.9s
BRDH Bariadhala 54.54 267 LR LR 23 51 18.0
comp=Z,52nm,20.8s,baz=112,slow=37
SVE Sverdlovsk 54.58 318 *eP* **P 23 27 18.9 +0.5**
SVE Sverdlovsk 54.58 318 *eP* **P 23 27 18.9 +0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
EKS2 Erkin-Say 54.80 297 P **P 23 27 21.7 +1.3**
SNR=20
KSH Kashi 55.14 293 P P 23 27 28.0 +5.1
KSH pP sP 23 27 33.2 +2.4
KSH PcP **PcP 23 28 27.8 +3.9**
KSH S **S 23 35 05.4 +1.3**
KSH sS sS 23 35 26.8 +13
KSH pmax pmax
comp=Z,10.0nm,0.6s
KSH pmax pmax
comp=Z,93nm,3.8s
AML Almayashu 55.14 297 P **P 23 27 24.3 +1.1**
SNR=7.9
JIRN Jiri 55.18 275 *eP* **P 23 27 25.9 +2.3**
comp=Z,59nm,0.7s
GUN Gumba 55.24 276 *eP* **P 23 27 25.9 +1.9**
comp=Z,15nm,0.5s
RAMN Ramite 55.34 274 *eP* **P 23 27 25.8 +1.2**
comp=Z,43nm,0.5s
KKN Kakani 55.73 276 *eP* **P 23 27 29.4 +2.0**
comp=Z,31nm,0.6s
ARU Arti 55.77 318 *eP* **P 23 27 25.4 -1.6**
comp=Z,19nm,0.5s
ARU Arti 55.77 318 *eP* **P 23 27 26.2 -0.7**
ARU Arti 55.77 318 *ciP* **P 23 27 26.3 -0.7**
ARU 23 28 21.4
ARU 23 29 28.1
ARU S **S 23 35 09.3 -2.5**
ARU SS **SS 23 38 53.4 -3.3**
ARU pmax pmax
comp=Z,15nm,0.6s
PKI Pulchoki 55.78 276 *eP* **P 23 27 29.5 +1.6**
PKIN Phulchoki 55.78 276 *eP* **P 23 27 29.5 +1.7**
comp=Z,11nm,0.5s
DMN Daman 55.97 276 *eP* **P 23 27 31.4 +2.3**
GKN Gorkha 56.05 277 *eP* **P 23 27 31.2 +1.6**
comp=Z,44nm,0.8s
DANN Dangsing 56.44 278 *eP* **P 23 27 34.6 +2.0**
comp=Z,49nm,0.6s
KK31 Karatay Array 56.56 299 *eP* **P 23 27 33.8 +0.9**
comp=Z,11nm,1.0s
KK31 Karatay Array 56.56 299 *eP* **P 23 27 33.8 +0.9**
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 56.56 299 *eP* **P 23 27 33.4 +0.5**
comp=Z,11nm,1.0s
KKAR Karatay Array 56.56 299 *eP* **P 23 27 33.4 +0.5**
KKAR pmax pmax
comp=Z,11nm,1.0s
KOLN Koldanda 56.91 277 *eP* **P 23 27 37.9 +2.1**
comp=Z,36nm,0.9s
PYUN Piuthan 57.13 278 *eP* **P 23 27 39.3 +1.9**
comp=Z,74nm,0.9s
DAG Danmarks Havn 57.52 358 *iP* **P 23 27 38.5 -0.7**
comp=Z,3.9nm,0.9s
DAG *i* 23 27 45.3
DAG Danmarks Havn 57.52 358 *eP* **P 23 27 38.5 -0.7**
DAG *i* 23 27 45.3
DAG pmax pmax
comp=Z,3.0nm,0.9s
NEW Newport 57.58 52 P **P 23 27 39.5 -0.6**
comp=Z,0.9nm,0.7s,baz=308,slow=4.4,SNR=3.8
PINE Pine Mountain 57.91 58 *eP* **P 23 27 45.0 +2.3**
comp=Z,15nm,1.4s
KIRV Kirov 58.57 323 LR LR 23 54 11.7
comp=Z,42nm,20.9s,baz=189,slow=37
ARCES ARCESS Array B 58.73 341 P **P 23 27 47.6 -0.1**
comp=Z,5.6nm,0.8s,baz=32,slow=7.1,SNR=7.8
ABKAR Akbulak array 59.11 310 *eP* **P 23 27 50.9 +0.2**
comp=Z,8.4nm,0.7s
TMCR Tamitsa 59.18 333 *eP* **P 23 27 49.9 -1.0**
TMCR pmax pmax
comp=Z,24nm,0.8s
AKTO Aktyubinsk 59.43 312 LR LR 23 56 25.6
comp=Z,212nm,18.0s,baz=45,slow=39
BMO Blue Mountains 59.43 56 *eP* **P 23 27 54.6 +1.5**
comp=Z,4.2nm,1.1s
BMO Blue Mountains 59.43 56 *eP* **P 23 27 54.6 +1.5**
BMO pmax pmax
comp=Z,4.0nm,1.1s
MSO Missoula 60.17 52 *eP* **P 23 28 00.0 +1.9**
comp=Z,18nm,1.4s
KLMR Klimovskoe 60.94 329 *eP* **P 23 28 01.4 -1.6**
KLMR pmax pmax
comp=Z,20nm,0.9s
KLMR Klimovskoe 60.94 329 *eP* **P 23 28 01.4 -1.6**
KLMR AMP 23 28 04.3
comp=Z,20nm,0.9s
FFC Flin Flon 61.31 40 *eP* **P 23 28 02.2 -3.4**
comp=Z,12nm,0.5s
FFC Flin Flon 61.31 40 *eP* **P 23 28 07.0 +1.4**
FFC Flin Flon 61.31 40 *iP* **P 23 28 07.0 +1.4**
HRY Holter Researc 61.40 51 *eP* **P 23 28 08.2 +1.7**
SUMG Summit 61.56 4 *eP* **P 23 28 07.7 +0.2**
comp=Z,14nm,0.7s
SUMG Summit 61.56 4 *iP* **P 23 28 07.6 +0.1**
SUMG *i* 23 28 24.7
SUMG Summit 61.56 4 *eP* **P 23 28 07.6 +0.1**
SUMG *i* 23 28 24.7
LRM Limekiln Ridge 61.60 52 *eP* **P 23 28 07.9 -0.2**
EGMT Eagleton 61.71 49 *eP* **P 23 28 10.1 +1.6**
comp=Z,10.0nm,1.1s
HLID Hailey 61.87 55 *eP* **P 23 28 11.5 +1.6**
comp=Z,5.5nm,1.3s
BOZ Bozeman (W) 62.19 52 *eP* **P 23 28 13.1 +1.2**
comp=Z,17nm,1.5s
BOZ Bozeman (W) 62.19 52 *eP* **P 23 28 13.1 +1.2**
BOZ Bozeman (W) 62.19 52 *eP* **P 23 28 13.1 +1.2**
BOZ pmax pmax
comp=Z,17nm,1.5s
KVN Kaiserville 62.44 61 *eP* **P 23 28 14.1 +0.3**
comp=Z,7.7nm,1.3s
KVN Kaiserville 62.44 61 *eP* **P 23 28 14.1 +0.3**
KVN pmax pmax
comp=Z,8.0nm,1.3s
RYN Ryan 62.44 62 *eP* **P 23 28 15.3 +1.6**
comp=Z,3.4nm,0.8s
KBL Kabul 62.54 292 *eP* **P 23 28 14.9 +0.4**
comp=Z,32nm,1.5s
KBL Kabul 62.54 292 *eP* **P 23 28 14.9 +0.4**
KBL pmax pmax
comp=Z,32nm,1.5s
NV01 Mina Array Sit 62.70 62 *eP* **P 23 28 15.0 -0.5**
NVAR Mina Array Bea 62.70 62 P **P 23 28 14.5 -1.0**
comp=Z,3.7nm,0.7s,baz=292,slow=7.5,SNR=14
YHB Horse Butte 62.96 53 *eP* **P 23 28 19.1 +1.9**
comp=Z,4.7nm,0.8s
YHH Holmes Hill 63.13 53 *eP* **P 23 28 19.2 +0.8**
comp=Z,4.9nm,1.1s
IMW Indian Meadow 63.64 53 *eP* **P 23 28 24.5 +2.8**
comp=Z,11nm,1.4s
FXWY Fox Creek 63.75 54 *eP* **P 23 28 24.4 +2.0**
comp=Z,16nm,1.9s
RLMT Red Lodge 63.79 51 *eP* **P 23 28 24.0 +1.4**
comp=Z,13nm,1.5s
MOOW Moose Ponds 63.84 53 *eP* **P 23 28 24.6 +1.6**
comp=Z,19nm,1.9s
TPAW Teton Pass 63.89 54 *eP* **P 23 28 24.9 +1.5**
comp=Z,7.1nm,0.8s
SCO Scoresbysund 63.90 358 *iP* **P 23 28 25.1 +2.5**
SCO Scoresbysund 63.90 358 *iP* **P 23 28 25.1 +2.5**
LOHW Long Hollow 64.00 53 *eP* **P 23 28 26.1 +2.0**
comp=Z,14nm,1.6s
REDW Red Top Meadow 64.02 54 *eP* **P 23 28 26.5 +2.3**
comp=Z,29nm,1.6s
R11A Troy Canyon, C 64.42 61 *eP* **P 23 28 26.0 -0.8**
comp=Z,3.5nm,0.8s
FIA1 FINESS Array S 64.90 335 *eP* **P 23 28 29.8 +0.5**

FINES	**FINESS Array B**	**64.90**	**335**	P		**P**	**23 28 28.2**	**-1.1**	
	comp=Z,10.0nm,0.5s,baz=30,slow=8.0,SNR=63								
FINES				LR		LR	00 00 11.0		
	comp=Z,41nm,19.6s,baz=32,slow=39								
DUG	**Dugway, Tooele**	**64.91**	**58**	*eP*		**P**	**23 28 31.7**	**+1.8**	
	comp=Z,5.4nm,0.8s								
DUG	**Dugway, Tooele**	**64.91**	**58**	*eP*		**P**	**23 28 31.7**	**+1.8**	
DUG	**Dugway, Tooele**	**64.91**	**58**	*eP*		**P**	**23 28 31.7**	**+1.8**	
DUG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
BW06	**Boulder Array**	**65.13**	**54**	*eP*		**P**	**23 28 32.8**	**+1.3**	
	comp=Z,5.3nm,1.0s								
PD31	**Pinedale Array**	**65.13**	**54**	*eP*		**P**	**23 28 32.8**	**+1.3**	
	comp=Z,4.9nm,1.0s								
PDAR	**Pinedale Array**	**65.13**	**54**	*eP*		**P**	**23 28 29.7**	**-1.7**	
PDAR	**Pinedale Array**	**65.13**	**54**	P		**P**	**23 28 30.0**	**-1.5**	
	comp=Z,2.0nm,0.8s,baz=288,slow=1.4,SNR=16								
NLU	**North Lily Min**	**65.50**	**57**	*eP*		**P**	**23 28 35.5**	**+1.7**	
	comp=Z,3.2nm,0.8s								
OBN	**Obninsk**	**66.12**	**326**	*eP*		**P**	**23 28 37.3**	**0.0**	
OBN	**Obninsk**	**66.12**	**326**	*eP*		**P**	**23 28 37.3**	**0.0**	
OBN				*e*			23 29 06.0		
OBN				*e*PPP		PPP	23 32 41.4		
OBN				pmax		pmax			
	comp=Z,31nm,1.7s								
OBN				MLR		MLR			
	comp=Z,63nm,14.0s								
CCUT	**Cedar City**	**66.28**	**60**	*eP*		**P**	**23 28 40.7**	**+1.8**	
	comp=Z,3.0nm,0.9s								
MTPU	**Mount Pierson**	**66.67**	**59**	*eP*		**P**	**23 28 43.6**	**+2.0**	
	comp=Z,3.9nm,1.1s								
LCMT	**Little Creek M**	**66.70**	**60**	*eP*		**P**	**23 28 42.4**	**+0.9**	
	comp=Z,5.5nm,0.9s								
VRH	**Novokhopyorsk**	**66.78**	**320**	*eP*		**P**	**23 28 41.2**	**-0.4**	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KNB	**Kanab**	**66.95**	**60**	*eP*		**P**	**23 28 44.4**	**+1.2**	
	comp=Z,7.1nm,1.1s								
KNB	**Kanab**	**66.95**	**60**	*eP*		**P**	**23 28 44.4**	**+1.2**	
KNB				pmax		pmax			
	comp=Z,7.0nm,1.1s								
SRU	**San Rafael Swe**	**66.95**	**57**	*eP*		**P**	**23 28 43.0**	**-0.2**	
	comp=Z,7.0nm,0.8s								
SRU	**San Rafael Swe**	**66.95**	**57**	*eP*		**P**	**23 28 43.0**	**-0.2**	
SRU				pmax		pmax			
	comp=Z,7.0nm,0.8s								
LPSR	**Galich'ya Gora**	**66.99**	**323**	*eP*		**P**	**23 28 43.0**	**+0.1**	
LPSR				pmax		pmax			
	comp=Z,20nm,1.2s								
GEYT	**Ailbeck**	**67.19**	**301**	P		**P**	**23 28 44.6**	**+0.1**	
	comp=Z,7.1nm,0.6s,baz=42,slow=3.1,SNR=16								
GYA0B	**ALIBECK ARRAY**	**67.19**	**301**	*eP*		**P**	**23 28 46.4**	**+1.9**	
	comp=Z,7.1nm,0.6s								
RSSD	**Black Hills**	**67.27**	**50**	*eP*		**P**	**23 28 45.4**	**+0.3**	
RSSD	**Black Hills**	**67.27**	**50**	*eP*		**P**	**23 28 45.4**	**+0.3**	
U15A	**North Rim**	**67.66**	**60**	*eP*		**P**	**23 28 50.0**	**+2.2**	
	comp=Z,6.3nm,1.1s								
WRA	**Warramunga Arr**	**67.74**	**199**	P		**P**	**23 28 46.2**	**-1.7**	
	comp=Z,6.5nm,0.7s,baz=19,slow=7.0,SNR=4.9								
WRA				LR		LR	23 55 28.1		
	comp=Z,16nm,21.9s,baz=75,slow=33								
VSR	**Storozhevoye**	**67.89**	**322**	*eP*		**P**	**23 28 49.2**	**+0.6**	
VSR				pmax		pmax			
	comp=Z,19nm,1.2s								
PV14	**Lion Creek, Pa**	**68.32**	**57**	*eP*		**P**	**23 28 53.6**	**+1.8**	
	comp=Z,5.2nm,0.9s								
PV17	**East Wray Mesa**	**68.42**	**57**	*eP*		**P**	**23 28 53.5**	**+1.1**	
	comp=Z,14nm,0.8s								
PV16	**Nyswonger Mesa**	**68.43**	**57**	*eP*		**P**	**23 28 54.2**	**+1.8**	
	comp=Z,7.1nm,0.9s								
PV11	**David Mesa, Pa**	**68.46**	**57**	*eP*		**P**	**23 28 53.5**	**+0.8**	
	comp=Z,17nm,1.2s								
PV03	**Paradox Valley**	**68.50**	**57**	*eP*		**P**	**23 28 54.1**	**+1.1**	
	comp=Z,8.1nm,0.9s								
PV13	**Radium Mtn., P**	**68.58**	**57**	*eP*		**P**	**23 28 53.1**	**-0.4**	
	comp=Z,8.9nm,0.9s								
DZM	**Mont Dzumac**	**68.66**	**167**	P		**P**	**23 28 53.0**	**-0.8**	
	comp=Z,16nm,1.0s,baz=59,slow=5.7,SNR=4.1								
NB2	**NORSAR Subarra**	**69.11**	**341**	P		**P**	**23 28 55.8**	**-0.3**	
	comp=Z,1.2nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**69.11**	**341**	P		**P**	**23 28 56.0**	**-0.1**	
NOA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
NOA				MLR		MLR			
	comp=Z,33nm,18.4s								
NOA	**NORSAR Array B**	**69.11**	**341**	P		**P**	**23 28 56.0**	**-0.1**	
	comp=Z,1.2nm,0.5s,baz=29,slow=6.5,SNR=16								
NOA				LR		LR	00 02 23.5		
	comp=Z,33nm,18.4s,baz=20,slow=39								
BORG	**Borgarnes**	**69.64**	**358**	*i* P		**P**	**23 29 01.7**	**+2.5**	
MAK	**Makhachkala**	**69.76**	**311**	*eP*		**P**	**23 28 59.5**	**-0.9**	
MAK				*eS*		**S**	**23 38 07.1**	**-0.5**	
MAK				pmax		pmax			
	comp=Z,95nm,1.0s								
MAK				MLR		MLR			
	comp=Z,377nm,20.0s								
GOF	**Gofitskoye**	**70.55**	**315**⇑	*iP*		**P**	**23 29 06.5**	**+1.3**	
GOF				pmax		pmax			
	comp=Z,40nm,0.8s								
AS01	**Alice Springs**	**71.42**	**199**	*eP*		**P**	**23 29 10.3**	**-0.3**	
ASAR	**Alice Springs**	**71.43**	**199**	P		**P**	**23 29 10.1**	**-0.6**	
ASAR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
ASAR	**Alice Springs**	**71.43**	**199**	P		**P**	**23 29 10.1**	**-0.6**	
	comp=Z,8.7nm,0.9s,baz=16,slow=6.9,SNR=4.2								
KIV	**Kislovodsk**	**71.52**	**315**	*eP*		**P**	**23 29 13.0**	**+1.7**	
	comp=Z,15nm,0.7s								
KIV	**Kislovodsk**	**71.52**	**315**⇑	*iP*		**P**	**23 29 12.5**	**+1.2**	
KIV	**Kislovodsk**	**71.52**	**315**	*eP*		**P**	**23 29 13.2**	**+1.9**	
KIV				pmax		pmax			
	comp=Z,24nm,1.1s								
KIV				MLR		MLR			
	comp=Z,76nm,18.0s								
KBZ	**Khabaz**	**71.58**	**314**	P		**P**	**23 29 13.0**	**+1.6**	
	comp=Z,8.0nm,0.7s,baz=87,slow=3.2,SNR=36								
KBZ				LR		LR	00 03 34.0		
	comp=Z,48nm,18.6s,baz=32,slow=38								
ZEI	**Tsey**	**71.75**	**313**	*eP*		**P**	**23 29 13.9**	**+1.1**	
ZEI	**Tsey**	**71.75**	**313**	*eP*		**P**	**23 29 13.9**	**+1.1**	
ZEI				pmax		pmax			
	comp=Z,6.0nm,0.7s								
TBLG	**Delisi**	**72.08**	**312**	*eP*		**P**	**23 29 16.6**	**+2.0**	
	comp=Z,19nm,0.7s								
ANMO	**Albuquerque**	**72.16**	**58**⇑	*eP*		**P**	**23 29 14.8**	**-0.6**	
ANMO				pmax		pmax			
	comp=Z,5.0nm,1.7s								
AKASG	**Malin Array Be**	**72.36**	**326**	P		**P**	**23 29 16.1**	**+0.1**	
	comp=Z,4.7nm,0.4s,baz=36,slow=6.3,SNR=27								
AKBB	**Malin Array Si**	**72.36**	**326**	*eP*		**P**	**23 29 16.2**	**+0.2**	
	comp=Z,8.8nm,0.7s								
KIEV	**Kiev**	**72.37**	**326**	*eP*		**P**	**23 29 15.8**	**-0.3**	
	comp=Z,8.6nm,0.7s								
KIEV	**Kiev**	**72.37**	**326**⇑	*iP*		**P**	**23 29 16.0**	**0.0**	
KIEV	**Kiev**	**72.37**	**326**	*eP*		**P**	**23 29 16.1**	**0.0**	
KIEV	**Kiev**	**72.37**	**326**⇓	*eP*		**P**	**23 29 16.1**	**0.0**	
KIEV				pmax		pmax			
	comp=Z,9.0nm,0.7s								
AK11	**Malin Array Si**	**72.40**	**326**	*eP*		**P**	**23 29 17.0**	**+0.8**	
GNI	**Garni**	**73.22**	**311**	*eP*		**P**	**23 29 22.5**	**+1.0**	
	comp=Z,50nm,0.8s								
GNI	**Garni**	**73.22**	**311**⇓	*eP*		**P**	**23 29 23.6**	**+2.1**	
GNI				pmax		pmax			
	comp=Z,23nm,0.9s								
SCHQ	**Schefferville**	**74.05**	**23**	P		**P**	**23 29 25.6**	**-0.4**	
	comp=Z,2.4nm,1.0s,baz=39,slow=6.5,SNR=2.6								
KWP	**Kalwaria Pacla**	**75.65**	**329**	*eP*		**P**	**23 29 35.2**	**-0.1**	
	comp=Z,180nm,1.1s								
KWP	**Kalwaria Pacla**	**75.65**	**329**	*eP*		**P**	**23 29 35.2**	**-0.1**	
KWP				pmax		pmax			
	comp=Z,180nm,1.1s								
SIRT	**Sirnak**	**76.38**	**310**	*eP*		**P**	**23 29 43.0**	**+3.3**	
	comp=Z,22nm,1.0s								
BUR08	**Bucovina Ar. S**	**76.39**	**327**	*eP*		**P**	**23 29 40.0**	**+0.3**	
	comp=Z,5.0nm,0.6s								
BURAR	**Bucovina Array**	**76.41**	**327**⇓	*iP*		**P**	**23 29 40.5**	**+0.8**	
BIZ	**Bicaz**	**76.62**	**326**⇑	*iP*		**P**	**23 29 41.7**	**+0.9**	
TESR	**Tescani**	**76.75**	**325**⇑	*iP*		**P**	**23 29 42.0**	**+0.4**	
TRPA	**Tarpa**	**76.97**	**329**⇑	*iP*		**P**	**23 29 43.7**	**+0.9**	
ARCR	**ARCALIA**	**77.17**	**327**⇑	*iP*		**P**	**23 29 45.5**	**+1.5**	
DPC	**Dobruska-Polom**	**77.17**	**333**	*eP*		**P**	**23 29 44.9**	**+0.9**	
DPC				*ex*		x	23 29 48.3		
DPC	**Dobruska-Polom**	**77.17**	**333**	*eP*		**P**	**23 29 44.9**	**+0.9**	
DPC				*e*			23 29 48.3		
LANS	**Liptovska Anna**	**77.19**	**331**	*eP*		**P**	**23 29 45.7**	**+1.6**	
LANS	**Liptovska Anna**	**77.19**	**331**	*eP*		**P**	**23 29 45.7**	**+1.6**	
ODBI	**Odobesti**	**77.20**	**325**⇑	*iP*		**P**	**23 29 45.8**	**+1.7**	
CFR	**Carcaliu**	**77.24**	**324**⇓	*iP*		**P**	**23 29 46.3**	**+2.0**	
MORC	**Moravsky Berou**	**77.29**	**332**	*eP*		**P**	**23 29 45.2**	**+0.6**	
	comp=Z,4.9nm,0.7s								
MORC	**Moravsky Berou**	**77.29**	**332**⇓	*iP*		**P**	**23 29 45.3**	**+0.6**	
MORC	**Moravsky Berou**	**77.29**	**332**	*eP*		**P**	**23 29 45.2**	**+0.6**	
MORC				pmax		pmax			
	comp=Z,5.0nm,0.7s								
MORC	**Moravsky Berou**	**77.29**	**332**	*eP*		**P**	**23 29 45.1**	**+0.5**	
CLL	**Collm**	**77.33**	**336**	*eP*		**P**	**23 29 46.7**	**+2.0**	
	comp=Z,9.8nm,0.9s								
CLL	**Collm**	**77.33**	**336**⇑	*iP*		**P**	**23 29 45.0**	**+0.3**	
	comp=Z,6.0nm,0.8s								
CLL				*i*			23 29 47.2		
	comp=Z,11nm,1.0s								
CLL				*i*			23 29 49.1		
CLL	**Collm**	**77.33**	**336**	*eP*		**P**	**23 29 44.4**	**-0.3**	
CLL	**Collm**	**77.33**	**336**⇑	*iP*		**P**	**23 29 44.4**	**-0.3**	
CLL				*i*			23 29 49.0		
CLL				pmax		pmax			
	comp=Z,6.0nm,0.8s								
TLB	**Topaltu**	**77.75**	**323**⇑	*iP*		**P**	**23 29 47.9**	**+0.7**	
TX31	**Lajitas Ar. Si**	**77.78**	**61**	*eP*		**P**	**23 29 46.9**	**-0.9**	
TXAR	**Lajitas Array**	**77.78**	**61**	P		**P**	**23 29 46.8**	**-1.0**	
	comp=Z,1.9nm,0.6s,baz=315,slow=4.4,SNR=15								
MLR	**Muntele Rosu**	**77.87**	**325**	*eP*		**P**	**23 29 48.1**	**0.0**	
	comp=Z,6.2nm,0.6s								
MLR	**Muntele Rosu**	**77.87**	**325**⇑	*iP*		**P**	**23 29 48.0**	**0.0**	
ISR	**Istrita**	**77.94**	**325**⇑	*iP*		**P**	**23 29 49.4**	**+1.1**	
VYHS	**Vyhne**	**77.97**	**331**	*eP*		**P**	**23 29 49.1**	**+0.7**	
VYHS				pmax		pmax			
	comp=Z,3.0nm,0.9s								
VYHS	**Vyhne**	**77.97**	**331**	*eP*		**P**	**23 29 49.1**	**+0.7**	
VRAC	**Vranov**	**78.00**	**333**⇑	*iP*		**P**	**23 29 49.3**	**+0.7**	
VRAC	**Vranov**	**78.00**	**333**	*eP*		**P**	**23 29 49.2**	**+0.7**	
GOPC	**GO Pecny, Ondr**	**78.03**	**334**	*eP*		P	23 29 54.3	+5.6	
GOPC	**GO Pecny, Ondr**	**78.03**	**334**	*eP*		P	23 29 54.3	+5.6	
DRGR		**78.04**	**328**⇑	*iP*		**P**	**23 29 49.3**	**+0.4**	
JAVC	**Velka Javorina**	**78.04**	**332**	*eP*		**P**	**23 29 50.4**	**+1.6**	
PRU	**Pruhonice**	**78.04**	**334**	*eP*		**P**	**23 29 49.0**	**+0.3**	
PRU				*ex*		x	23 29 52.9		
PRU	**Pruhonice**	**78.04**	**334**	*eP*		**P**	**23 29 49.0**	**+0.3**	
PRU	**Pruhonice**	**78.04**	**334**	*eP*		**P**	**23 29 49.0**	**+0.3**	
PRU				*e*			23 29 52.9		
STKA	**Stephens Creek**	**78.12**	**190**	P		**P**	**23 29 48.0**	**-1.1**	
	comp=Z,2.2nm,0.5s,baz=23,slow=6.5,SNR=9.2								
VOIR		**78.27**	**326**⇑	*iP*		**P**	**23 29 51.1**	**+0.9**	
KRUC	**Moravsky**	**78.28**	**333**	*eP*		**P**	**23 29 50.7**	**+0.6**	
ARR	**Arges**	**78.49**	**326**⇑	*iP*		**P**	**23 29 53.7**	**+2.3**	
MODS	**Modra-Piesok**	**78.59**	**332**	*eP*		**P**	**23 29 53.5**	**+1.7**	
MODS				pmax		pmax			
	comp=Z,14nm,1.7s								
MODS	**Modra-Piesok**	**78.59**	**332**	*eP*		**P**	**23 29 53.5**	**+1.7**	
KHC	**Kasperske Hory**	**79.09**	**334**	*eP*		**P**	**23 29 55.5**	**+0.9**	
	comp=Z,1.9nm,0.7s								
KHC	**Kasperske Hory**	**79.09**	**334**	*eP*		**P**	**23 29 55.2**	**+0.6**	
KHC				*ex*		x	23 29 58.1		
KHC				*es*P		**pwP**	**23 30 10.3**	**-0.5**	
KHC	**Kasperske Hory**	**79.09**	**334**	*eP*		**P**	**23 29 55.5**	**+0.9**	
KHC	**Kasperske Hory**	**79.09**	**334**	*eP*		**P**	**23 29 55.2**	**+0.6**	
KHC				*e*			23 29 58.1		
KHC				*e*			23 30 10.3		
BR131	**Keskin Array S**	**79.14**	**317**	*eP*		**P**	**23 29 56.3**	**+1.2**	
	comp=Z,22nm,1.9s								
BRTR	**Keskin Array B**	**79.14**	**317**	P		**P**	**23 29 56.1**	**+0.9**	
	comp=Z,2.5nm,0.7s,baz=81,slow=3.8,SNR=16								
GZR	**Gura Zlata**	**79.19**	**327**⇑	*iP*		**P**	**23 29 56.0**	**+0.8**	
BZS	**Buzias**	**79.44**	**328**⇓	*iP*		**P**	**23 29 56.8**	**+0.3**	
CONA	**Conrad Observa**	**79.44**	**332**	*eP*		**P**	**23 29 58.2**	**+1.6**	
	comp=Z,6.5nm,1.1s								
MEM	**Membach**	**79.82**	**340**	⇓P		**P**	**23 29 58.9**	**+0.4**	
ARSA	**Arzberg**	**80.15**	**332**	*eP*		**P**	**23 30 02.0**	**+1.6**	
	comp=Z,4.1nm,1.0s								
BCLA	**Clavier**	**80.17**	**340**	⇑pP		**P**	**23 30 04.3**	**+4.0**	
SOKA	**Soboth**	**80.81**	**332**	*iP*		**P**	**23 30 04.2**	**+0.2**	
	comp=Z,3.5nm,0.9s								
KBA	**Koelnbreinsper**	**80.99**	**334**	*eP*		**P**	**23 30 05.9**	**+0.8**	
	comp=Z,12nm,0.6s								
BFO	**Black Forest**	**81.32**	**337**	*i* P		**P**	**23 30 08.1**	**+1.5**	
VTS	**Vitosha**	**81.34**	**325**	*eP*		**P**	**23 30 07.7**	**+0.7**	
	comp=Z,7.6nm,1.0s								
VTS	**Vitosha**	**81.34**	**325**⇑	*iP*		**P**	**23 30 07.7**	**+0.7**	
VTS	**Vitosha**	**81.34**	**325**	*eP*		**P**	**23 30 07.7**	**+0.7**	
VTS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
RETA	**Reutte**	**81.40**	**335**	*i* P		**P**	**23 30 08.5**	**+1.4**	
	comp=Z,4.6nm,0.9s								
MOTA	**Moosalm**	**81.43**	**335**	*i* P		**P**	**23 30 08.1**	**+0.7**	
	comp=Z,2.7nm,0.3s								
SQTA	**Sankt Quirin**	**81.51**	**335**	*e*PcP		**P**	**23 30 09.4**	**+1.6**	
	comp=Z,9.0nm,1.0s								
ABTA	**Abfaltersbach**	**81.55**	**334**	*e*PcP		**P**	**23 30 09.8**	**+1.9**	
	comp=Z,7.4nm,1.4s								
DAVA	**Damuels**	**81.84**	**336**	*i* PcP		**P**	**23 30 13.9**	**+4.3**	
	comp=Z,6.1nm,0.9s								
TZTN	**Tazewell**	**83.29**	**43**	*eP*		**P**	**23 30 19.5**	**+2.4**	
	comp=Z,23nm,1.0s								
CPCT	**Cooper Cave**	**83.70**	**44**	*eP*		**P**	**23 30 20.2**	**+1.0**	
	comp=Z,41nm,1.3s								
TKL	**Tuckaleechee C**	**83.89**	**43**	*eP*		**P**	**23 30 18.2**	**-2.0**	
	comp=Z,24nm,1.1s								
TKL	**Tuckaleechee C**	**83.89**	**43**	*eP*		**P**	**23 30 18.2**	**-2.0**	
TKL				pmax		pmax			
	comp=Z,25nm,1.1s								
RAYN	**Ar Rayn**	**84.98**	**299**	*eP*		**P**	**23 30 26.2**	**+0.3**	
	comp=Z,4.4nm,0.8s								
RAYN	**Ar Rayn**	**84.98**	**299**	*eP*		**P**	**23 30 26.2**	**+0.3**	
RAYN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
RPZ	**Rata Peaks**	**90.58**	**167**	LR		LR	00 10 47.9		
	comp=Z,105nm,18.1s,baz=210,slow=35								
BDFB	**Brasilia**	**144.94**	**38**	PKP		**PKPab**	**23 37 26.2**	**-0.9**	
	comp=Z,1.5nm,0.7s,baz=93,slow=14,SNR=2.2								
PLCA	**Paso Flores**	**147.96**	**97**	PKPbc		**PKPdf**	**23 37 32.8**	**+0.5**	
	comp=Z,4.0nm,0.8s,baz=295,slow=4.6,SNR=8.1								
CPUP	**Villa Florida**	**148.75**	**62**	PKPbc		**PKPdf**	**23 37 35.1**	**+1.3**	
	comp=Z,1.5nm,0.9s,baz=315,slow=1.4,SNR=2.5								
PMSA	**Palmer Station**	**152.17**	**146**	*e*PKPab		**PKPab**	**23 37 54.8**	**+0.4**	

*IDC **08** 23:18:13.5±1.0,5.°98S×143.°09E, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/35, mbtmp4.1/12, ML4.2/3, MS3.5/7, Ms1 3.5/7, ms1mx3.1/30, Error ellipse: s-maj=35.3km s-min=15.8km az=91.0*

*ISCJB **08** 23:18:16.9±0.7, 6.°11S±0.°05×142.°9E±0.°1, h33km, mb3.9/8, MS3.3/3, Error ellipse: s-maj=18.2km s-min=6.7km az=178.6*

*NEIC **08** 23:18:19.0±0.7, 6.°05S×142.°90E, h35km, mb4.2/1, Error ellipse: s-maj=22.0km s-min=8.4km az=95.0*

ISC 08 23:18:18.9±0.9, 6.°14S±0.°07×142.°8E±0.°2, h35km, n17,
σ2s 06/17, mb3.9/8, MS3.4/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.18**	**329**	Pn	**Pn**	**23 19 19.8**	**-0.5**
	5.3nm,0.3s,baz=195,slow=9.4,SNR=13						
JAY				Sn	**Sn**	**23 20 09.0**	**+1.0**
	6.5nm,0.3s,baz=317,slow=19,SNR=4.0						
JAY				LR	LR	23 21 24.2	
	comp=Z,355nm,19.7s,baz=166,slow=46						
WRAB	**Tennant Creek**	**16.01**	**210**	*e*Pn	**Pn**	**23 22 02.5**	**+0.9**
	11nm,0.6s						
WRA	**Warramunga Arr**	**16.02**	**210**	Pn	**Pn**	**23 22 01.5**	**-0.2**
	0.8nm,0.3s,baz=28,slow=14,SNR=41						
WRA				Sn	Sn	23 24 51.9	-6.5
	1.6nm,0.3s,baz=30,slow=24,SNR=5.0						
WRA				Lg	Lg	23 26 51.1	
	baz=31,slow=32,SNR=4.9						
WRA				LR	LR	23 29 01.3	
	comp=Z,185nm,18.6s,baz=35,slow=40						
BATI	**Baumata**	**19.41**	**257**	LR	LR	23 31 26.3	
	comp=Z,131nm,20.1s,baz=118,slow=40						
ASAR	**Alice Springs**	**19.44**	**205**	P	**P**	**23 22 44.6**	**+2.0**
	1.8nm,0.3s,baz=32,slow=9.8,SNR=201						
ASAR				S	**S**	**23 26 14.1**	**-6.4**
	0.6nm,0.3s,baz=18,slow=28,SNR=8.0						
ASAR				Lg	Lg	23 28 36.2	
	0.1nm,0.3s,baz=34,slow=27,SNR=3.1						
ASAR				LR	LR	23 30 59.8	
	comp=Z,247nm,19.9s,baz=41,slow=39						
FITZ	**Fitzroy Crossi**	**20.57**	**233**	P	**P**	**23 22 56.6**	**+1.8**
	3.8nm,0.6s,baz=55,slow=12,SNR=15						
FITZ				S	S	23 26 35.3	-7.9
	7.7nm,0.7s,baz=88,slow=9.6,SNR=6.3						
FITZ				Lg	Lg	23 29 16.2	
	22nm,1.0s,baz=204,slow=20,SNR=3.7						
FITZ				LR	LR	23 31 08.6	
	comp=Z,100nm,21.6s,baz=50,slow=37						
STKA	**Stephens Creek**	**25.64**	**182**	P	**P**	**23 23 46.7**	**+1.3**
	1.6nm,0.5s,baz=323,slow=8.9,SNR=6.1						
STKA				LR	LR	23 34 53.9	
	comp=Z,112nm,20.7s,baz=22,slow=39						
KSAR	**Wonju Array Be**	**45.55**	**343**	P	**P**	**23 26 34.6**	**-0.7**
KSRS	**Korea Array**	**45.55**	**343**	P	**P**	**23 26 34.6**	**-0.7**
	1.3nm,0.7s,baz=163,slow=8.9,SNR=4.2						
KLR	**Kul'dur**	**55.98**	**351**	LR	LR	23 50 25.0	
	comp=Z,37nm,18.8s,baz=72,slow=35						
SONM	**Songino Array**	**62.58**	**333**	P	**P**	**23 28 39.4**	**-0.3**
	0.2nm,0.5s,baz=156,slow=8.1,SNR=2.4						
VNDA	**Vanda**	**72.05**	**176**	P	**P**	**23 29 40.2**	**+1.2**
	0.4nm,0.5s,baz=329,slow=5.3,SNR=4.5						
MKAR	**Makanchi Array**	**75.00**	**322**	P	**P**	**23 29 57.5**	**+0.6**
	2.5nm,0.8s,baz=101,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**76.96**	**329**	P	**P**	**23 30 07.3**	**-0.5**
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.3						
NRIK	**Noril'sk**	**84.16**	**343**	P	**P**	**23 30 45.5**	**-0.6**
	1.1nm,0.7s,baz=124,slow=3.1,SNR=2.6						
ILAR	**Eielson Array**	**87.25**	**24**	P	**P**	**23 31 00.0**	**-1.6**
	1.4nm,0.8s,baz=262,slow=4.7,SNR=11						
DBIC	**Dimbokro**	**147.90**	**273**	PKPbc	**PKPbc**	**23 38 02.6**	**+1.1**
	1.8nm,0.6s,baz=38,slow=2.3,SNR=4.1						

*EAF **08** 23:22:19.8±0.6, 10.°38S×34.°21E, h10km, MD4.0*

ISC 08 23:22:16.5±1.5, 10.°5S±0.°2×34.°4E±0.°2, h10km, n10,
σ2s 81/14, Malawi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VWZMW	**Thunduwike**	**1.01**	**231**	*i* P	**Pb**	**23 22 38.1**	**+1.9**
VWZMW				S	**Sg**	**23 22 51.0**	**+1.7**
VWZMW	**Thunduwike**	**1.01**	**231**	*i* P	**Pb**	**23 22 38.1**	**+1.9**
VWZMW				S	**Sg**	**23 22 51.0**	**+1.7**
LSZ	**Lusaka**	**7.66**	**231**	*i* P	**Pn**	**23 24 09.9**	**+1.7**
LSZ				*i* S	**Sn**	**23 25 29.5**	**-5.8**
LSZ	**Lusaka**	**7.66**	**231**	*i* P	**Pn**	**23 24 09.9**	**+1.7**
LSZ				*i* S	**Sn**	**23 25 29.5**	**-5.8**
KMBO	**Kilima Mbogo**	**9.78**	**17**	*i* P	**Pn**	**23 24 37.0**	**-0.5**
KMBO	**Kilima Mbogo**	**9.78**	**17**	*i* P	**Pn**	**23 24 37.0**	**-0.5**
BLWY	**Bulawayo**	**11.04**	**210**	*i* P	**Pn**	**23 24 55.6**	**+0.8**
BLWY	**Bulawayo**	**11.04**	**210**	*i* P	**Pn**	**23 24 55.6**	**+0.8**
MATP	**Matopo**	**11.34**	**209**	*i* P	**Pn**	**23 24 59.2**	**+0.3**
MATP	**Matopo**	**11.34**	**209**	*i* P	**Pn**	**23 24 59.2**	**+0.3**

SJA 08 23:38:24.4±0.6, 20.°41S×66.°60W, h269km±13km, ML2.1, MW4.0, 2D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**2.03**	**150**	*i* P	**Pn**	**23 39 10.0**	**+0.8**
YJA				IAML		23 39 11.4	
	comp=Z,5.1nm,0.2s	

ROSC LR LR 23 50 24.9
comp=Z,69nm,21.3s,baz=358,slow=38
PRAC Prado 11.75 233 *eP* **Pn 23 46 27.4 +0.1**
PRAC Prado 11.75 233 *eP* **Pn 23 46 27.4 +0.1**
PTGA Pitinga 12.81 154 Pn **Pn 23 46 40.4 -1.5**
0.4nm,0.3s,baz=354,slow=17,SNR=2.3
PTGA Lg Lg 23 50 22.3
0.5nm,0.3s,baz=221,slow=15,SNR=3.9
MDP Montagnes des 13.97 113 Pn **Pn 23 46 56.1 -1.5**
0.5nm,0.3s,baz=288,slow=14,SNR=10.0
MDP Sn **Sn 23 49 26.5 -6.3**
0.3nm,0.3s,baz=162,slow=9.8,SNR=3.3
OTAV Otavalo 16.69 231 *e*Pn **Pn 23 47 33.6 -0.4**
TXAR Lajitas Array 40.01 303 P **P 23 51 17.0 +2.2**
0.2nm,0.5s,baz=136,slow=8.9,SNR=5.4
TX31 Lajitas Ar. Si 40.02 303 *eP* **P 23 51 17.5 +2.7**
PDAR Pinedale Array 49.68 318 P **P 23 52 33.9 +2.1**
0.3nm,0.2s,baz=121,slow=9.6,SNR=3.4
YKA Yellowknife Ar 62.32 327 P **P 23 54 01.1 -0.2**
0.2nm,0.6s,baz=110,slow=6.9,SNR=3.1
TORD Torodi Ar. Bea 65.57 80 P **P 23 54 22.0 -1.9**
0.3nm,0.9s,baz=292,slow=7.6,SNR=4.0
FINES FINESS Array B 81.24 29 P **P 23 55 57.3 +1.9**
2.3nm,1.1s,baz=270,slow=5.6,SNR=2.3

*ISCJB **09** 00:23:51.4±0.7,5.9S±0.1×154.8E±0.1, h89km, mb3.8/10, Error ellipse: s-maj=20.5km s-min=14.8km az=9.3*
*IDC **09** 00:24:02.8±6.4, 6.1OS×154.82E, h183km±62km, mb3.5/10, mb1 3.6/12, mb1mx3.5/32, mbtmp4.0/12, Error ellipse: s-maj=26.0km s-min=21.1km az=135.0*
ISC 09 00:23:53.1±0.8,**5.9S**±0.1×**154.8E**±0.2, **h89**km, **n13,** σ1**s30**/14, **mb3.8**/10, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**16.39**	**210**	P		**P**		**00 27 41.6**	**+2.3**
	0.2nm,0.3s,baz=12,slow=14,SNR=2.9								
DZM	**Mont Dzumac**	**19.62**	**146**	P		**P**		**00 28 15.1**	**+0.4**
	0.3nm,0.3s,baz=306,slow=17,SNR=3.2								
WRA	**Warramunga Arr**	**24.33**	**233**	P		**P**		**00 29 02.9**	**+0.1**
	2.3nm,0.3s,baz=60,slow=10.0,SNR=56								
WRA				PcP		**PcP**		**00 32 39.2**	**-1.3**
	0.5nm,0.9s,baz=57,slow=2.8,SNR=2.8								
ASAR	**Alice Springs**	**26.80**	**227**	P		**P**		**00 29 24.3**	**-0.8**
	1.1nm,0.5s,baz=57,slow=9.0,SNR=20								
STKA	**Stephens Creek**	**28.67**	**204**	P		**P**		**00 29 40.9**	**-0.8**
	0.7nm,0.4s,baz=10,slow=11,SNR=2.6								
PETK	**Petropavlovsk-**	**58.82**	**2**	P		**P**		**00 33 43.7**	**+1.5**
	5.7nm,0.9s,baz=191,slow=8.2,SNR=5.8								
CMAR	**Chiang Mai Arr**	**60.17**	**295**	P		**P**		**00 33 53.0**	**+0.9**
	0.6nm,0.4s,baz=125,slow=5.4,SNR=6.5								
SONM	**Songino Array**	**68.32**	**327**	P		**P**		**00 34 45.3**	**+0.3**
	0.4nm,0.7s,baz=124,slow=7.2,SNR=3.7								
ILAR	**Eielson Array**	**82.41**	**22**	P		**P**		**00 36 05.1**	**-0.1**
	0.4nm,0.8s,baz=241,slow=5.6,SNR=2.8								
MKAR	**Makanchi Array**	**82.47**	**319**	P		**P**		**00 36 05.7**	**-0.3**
	0.5nm,0.5s,baz=106,slow=4.7,SNR=9.3								
ZALV	**Zalesovo Beam**	**83.18**	**326**	P		**P**		**00 36 07.8**	**-1.6**
	0.4nm,0.3s,baz=98,slow=7.4,SNR=2.5								
NVAR	**Mina Array Bea**	**91.17**	**52**	P		**P**		**00 36 48.8**	**0.0**
	0.9nm,0.8s,baz=247,slow=6.4,SNR=4.1								
TORD	**Torodi Ar. Bea**	**152.56**	**287**	PKPbc		**PKPbc**		**00 43 38.3**	**-2.0**
	0.1nm,0.3s,baz=32,slow=2.9,SNR=5.9								

*ISCJB **09** 00:46:38.0±1.0,21.2S±0.03×70.30W±0.07, h32km±4km, Error ellipse: s-maj=10.7km s-min=5.2km az=15.4*
*SJA **09** 00:46:37.4±0.7,21.88S×70.26W, h30km±3km, ML2.2, MW3.8*
*GUC **09** 00:46:38.2±0.6,21.90S×70.21W, h41km±2km, ML2.5*
ISC 09 00:46:36.6±1.7,**21.88S**±0.04×**70.31W**±0.07, **h26**km±14km, **n18,** σ0**s54**/29, **7D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
PB07	**IPOC Station P**	**0.42**	**69**	*i* P		**Pn**		**00 46 46.9**	**-0.2**
PB07				*i* S		**Sn**		**00 46 53.5**	**-0.6**
PB07	**IPOC Station P**	**0.42**	**69**	⇓*i*P		**Pn**		**00 46 47.2**	**+0.2**
PB07				*i* S		**Sn**		**00 46 53.6**	**-0.5**
PB07				IAML				00 46 54.3	
	comp=N,471nm,0.1s								
PB04	**IPOC Station P**	**0.47**	**162**	*i* P		**Pn**		**00 46 47.9**	**+0.1**
PB04	**IPOC Station P**	**0.47**	**162**	⇓*i*P		**Pn**		**00 46 48.5**	**+0.7**
PB04				*i* S		**Sn**		**00 46 55.8**	**+0.3**
PB04				IAML				00 46 58.0	
	comp=N,992nm,0.2s								
PB03	**IPOC Station P**	**0.54**	**108**	*i* P		**Pn**		**00 46 48.9**	**+0.1**
PB03				*i* S		**Sn**		**00 46 56.7**	**-0.3**
PB03	**IPOC Station P**	**0.54**	**108**	*eP*		**Pn**		**00 46 48.7**	**0.0**
PB03				*i* S		**Sn**		**00 46 56.1**	**-0.9**
PB03				IAML				00 46 57.2	
	comp=N,531nm,0.1s								
PB02	**IPOC Station P**	**0.68**	**34**	*i* P		**Pn**		**00 46 50.9**	**+0.3**
PB02	**IPOC Station P**	**0.68**	**34**	⇓*i*P		**Pn**		**00 46 50.9**	**+0.3**
PB02				*i* S		**Sn**		**00 46 59.8**	**-0.5**
PB02				IAML				00 47 00.2	
	comp=E,823nm,0.3s								
PB05	**IPOC Station P**	**0.97**	**174**	⇓*i*P		**Pn**		**00 46 55.7**	**+1.0**
PB05				*i* S		**Sn**		**00 47 08.5**	**+0.8**
PB05				IAML				00 47 10.7	
	comp=N,283nm,0.3s								
PB09	**IPOC Station P**	**0.99**	**85**	*i* P		**Pb**		**00 46 55.8**	**+0.6**
PB09	**IPOC Station P**	**0.99**	**85**	⇓*i*P		**Pb**		**00 46 55.8**	**+0.6**
PB09				*i* S		**Sb**		**00 47 07.8**	**-0.1**
PB09				IAML				00 47 10.5	
	comp=E,215nm,0.2s								
PB06	**IPOC Station P**	**1.07**	**141**	*eP*		**Pb**		**00 46 56.5**	**+0.1**
PB06				*i* S		**Sn**		**00 47 10.2**	**+0.1**
PB06				IAML				00 47 13.6	
	comp=N,207nm,0.2s								
PB01	**IPOC Station P**	**1.13**	**43**	⇓*i*P		**Pb**		**00 46 57.6**	**+0.1**
PB01				*i* S		**Sn**		**00 47 11.8**	**+0.3**
PB01				IAML				00 47 14.2	
	comp=E,306nm,0.2s								
LVC	**Limon Verde**	**1.48**	**120**	*eP*		**Pb**		**00 47 03.5**	**-0.1**
LVC				*eS*		**Sb**		**00 47 21.9**	**-0.3**
PB15	**IPOC Station P**	**1.53**	**150**	*i* P		**Pb**		**00 47 04.5**	**+0.1**
PB15	**IPOC Station P**	**1.53**	**150**	*eP*		**Pb**		**00 47 04.0**	**-0.4**
PB15				*i* S		**Sb**		**00 47 23.3**	**-0.2**
PB10	**IPOC Station P**	**1.64**	**188**	⇓*eP*		**Pb**		**00 47 04.8**	**-1.3**
HJA	**Humahuaca**	**4.71**	**107**	*i* P		Pn		00 47 51.0	+4.6
HJA				IAML				00 47 55.8	
	comp=Z,2.1nm,0.7s								

WEL 09 00:59:44.0, 39.7S±0.8×**17.7E**±, **h39**km±1km, **ML3.5**/28, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CKHZ	**Cape Kidnapper**	**0.10**	**97**	P		P	Pn	00 59 50.6	0.0
CKHZ				S			Sn	00 59 55.9	+0.8
KAHZ	**Kahuranaki**	**0.16**	**202**	P		P	Pn	00 59 51.3	-0.8
KAHZ				S			Sn	00 59 57.0	-1.6
MCHZ	**McNeill Hill**	**0.28**	**316**	P		P	Pn	00 59 51.4	-0.7
ARHZ	**Aropaoanui**	**0.39**	**5**	P		P	Pn	00 59 53.3	+0.2
ARHZ				S			Sn	01 00 00.5	+0.8
PXZ	**Pawanui**	**0.39**	**190**	P		P	Pn	00 59 54.1	+1.0
PXZ				S			Sn	01 00 02.6	+2.8
KRHZ	**Kereru**	**0.45**	**270**	P		P	Pn	00 59 53.9	-0.1
KRHZ				S			Sn	01 00 01.5	+0.4
KWHZ	**Kaweka Forest**	**0.47**	**298**	P		P	Pn	00 59 54.0	-0.3
NMHZ	**Naumai**	**0.56**	**348**	P		P	Pn	00 59 55.8	+0.2
WPHZ	**Waipukurau**	**0.57**	**223**	P		P	Pn	00 59 56.9	+1.2
BKZ	**Black Stump Fm**	**0.60**	**323**	P		P	Pn	00 59 55.9	-0.2
BKZ				S			Sn	01 00 04.9	+0.3
WHHZ	**Waihua**	**0.61**	**21**	P		P	Pn	00 59 57.1	+0.9
PNHZ	**Pukenui**	**0.64**	**245**	P		P	Pn	00 59 57.1	+0.4
PRHZ	**Porangahau**	**0.67**	**201**	P		P	Pn	00 59 57.7	+0.8
BHHZ	**Black Hill Sta**	**0.70**	**283**	P		P	Pn	00 59 57.6	+0.1
RAHZ	**Arahi**	**0.74**	**8**	P		P	Pn	00 59 58.7	+0.7
MTHZ	**Maungataniwha**	**0.80**	**354**	P		P	Pn	00 59 59.2	+0.4
KNZ	**Kokohu**	**0.84**	**42**	P		P	Pn	00 59 59.7	+0.5
TSZ	**Takapari Road**	**0.87**	**241**	P		P	Pn	01 00 00.1	+0.4
DVHZ	**Dannevirke**	**0.89**	**223**	P		P	Pn	01 00 00.6	+0.6
MHGZ	**Mahia Peninsul**	**0.89**	**57**	P		P	Pn	01 00 00.8	+0.8
ANWZ	**Angora Road**	**0.89**	**204**	P		P	Pn	01 00 00.7	+0.7
MRHZ	**Matea Rd**	**0.91**	**333**	P		P	Pn	01 00 01.1	+0.8
SNGZ	**Shannon Statio**	**0.92**	**19**	P		P	Pn	01 00 01.1	+0.7
MOVZ	**Moawhango**	**0.96**	**284**	P		P	Pn	01 00 01.8	+0.9
HATZ	**Hinemaiaia**	**1.01**	**318**	P		P	Pn	01 00 02.6	+1.0
PRGZ	**Paritu Road**	**1.02**	**45**	P		P	Pn	01 00 02.5	+0.7
RTZ	**Ruatahuna**	**1.03**	**1**	P		P	Pn	01 00 02.7	+0.7
TUVZ	**Tukino**	**1.07**	**290**	P		P	Pn	01 00 04.1	+1.5
RITZ	**Rihia Road**	**1.08**	**308**	P		P	Pn	01 00 03.9	+1.3
WHVZ	**Whangaehu Hut**	**1.12**	**289**	P		P	Pn	01 00 04.7	+1.4
WHVZ				P			Pn	01 00 04.7	+1.4
RIGZ	**Rimuhau**	**1.13**	**34**	P		P	Pn	01 00 04.0	+0.6
DRZ	**Dome Shelter**	**1.14**	**289**	P		P	Pn	01 00 05.2	+1.5
TRVZ	**Turoa**	**1.14**	**287**	P		P	Pn	01 00 04.7	+1.1
NGZ	**Ngauruhoe**	**1.15**	**294**	P		P	Pn	01 00 05.0	+1.4
FWVZ	**Far West T-bar**	**1.15**	**289**	P		P	Pn	01 00 04.7	+0.9
KRVZ	**Karewarewa**	**1.16**	**298**	P		P	Pn	01 00 05.0	+1.2
BFZ	**Birch Farm**	**1.17**	**207**	P		P	Pn	01 00 04.0	+0.2
POWZ	**Post Office Ro**	**1.18**	**230**	P		P	Pn	01 00 04.8	+0.9
MUGZ	**Murupara**	**1.18**	**353**	P		P	Pn	01 00 04.7	+0.8
PRWZ	**Pori Road**	**1.18**	**219**	P		P	Pn	01 00 04.8	+0.8
WTVZ	**West Tongariro**	**1.18**	**296**	P		P	Pn	01 00 05.4	+1.3
ALRZ	**Allen Road**	**1.18**	**336**	P		P	Pn	01 00 04.9	+0.9
KATZ	**Kakaramea**	**1.18**	**304**	P		P	Pn	01 00 06.1	+1.9
RATZ	**Rangitukua**	**1.20**	**310**	P		P	Pn	01 00 06.5	+2.2
PRRZ	**Plateau Road**	**1.23**	**339**	P		P	Pn	01 00 06.1	+1.5
WHTZ	**Whakaora**	**1.25**	**321**	P		P	Pn	01 00 07.6	+2.6
PKVZ	**Pokaka**	**1.29**	**286**	P		P	Pn	01 00 06.5	+0.9
TWVZ	**Taurewa**	**1.31**	**296**	P		P	Pn	01 00 06.5	+0.7
WATZ	**Wairara**	**1.33**	**314**	P		P	Pn	01 00 08.8	+2.7
RRRZ	**Republican Roa**	**1.35**	**345**	P		P	Pn	01 00 09.4	+3.0
HRRZ	**Handcock Road**	**1.36**	**337**	P		P	Pn	01 00 09.1	+2.6
MWZ	**Matawai**	**1.39**	**19**	P		P	Pn	01 00 07.0	+0.1
URZ	**Urewera**	**1.39**	**5**	P		P	Pn	01 00 07.1	+0.3
TIWZ	**Tintock**	**1.39**	**216**	P		P	Pn	01 00 07.6	+0.6
MRZ	**Mangatainoka R**	**1.46**	**226**	P		P	Pn	01 00 07.9	+0.1
CNGZ	**Carnagh Statio**	**1.52**	**40**	P		P	Pn	01 00 09.2	+0.7
WAZ	**Wanganui**	**1.52**	**265**	P		P	Pn	01 00 11.1	+2.5
OMRZ	**Omania**	**1.60**	**343**	P		P	Pn	01 00 14.0	+4.1
HOWZ	**Holdsworth Sta**	**1.66**	**221**	P		P	Pn	01 00 10.5	-0.2
TMWZ	**Te Maipa**	**1.67**	**209**	P		P	Pn	01 00 10.4	-0.3
TWGZ	**Tauwhareparae**	**1.67**	**29**	P		P	Pn	01 00 12.1	+1.3
RUGZ	**Raukumara Rang**	**1.77**	**19**	P		P	Pn	01 00 12.5	+0.3
VRZ	**Vera Road**	**1.78**	**286**	P		P	Pn	01 00 12.9	+0.7
OGWZ	**Otaki Gorge**	**1.80**	**229**	P		P	Pn	01 00 12.8	+0.4
OPRZ	**Ohinepanea**	**1.83**	**350**	P		P	Pn	01 00 13.9	+1.1
MTW	**Mount Morrison**	**1.87**	**216**	P		P	Pn	01 00 12.8	-0.6
KIW	**Kapiti Island**	**1.98**	**232**	P		P	Pn	01 00 15.2	+0.2
HIZ	**Hauiti**	**1.99**	**304**	P		P	Pn	01 00 17.1	+2.0
HAZ	**Te Kaha**	**2.00**	**19**	P		P	Pn	01 00 15.7	+0.6
TRWZ	**Traveller**	**2.00**	**208**	P		P	Pn	01 00 14.3	-0.9
CAW	**Cannon Point**	**2.05**	**224**	P		P	Pn	01 00 15.2	-0.7
PAWZ	**Paruwai Farm**	**2.09**	**213**	P		P	Pn	01 00 15.8	-0.7
MSWZ	**Moikau Station**	**2.19**	**216**	P		P	Pn	01 00 16.7	-1.1
PLWZ	**Palliser**	**2.31**	**213**	P		P	Pn	01 00 18.1	-1.5
TCW	**Tory Channel**	**2.57**	**232**	P		P	Pn	01 00 22.5	-0.5
DUWZ	**D'Urville Isla**	**2.59**	**243**	P		P	Pn	01 00 24.3	+0.9
TUWZ	**Tuamarina**	**2.90**	**231**	P		P	Pn	01 00 26.5	-1.1
BSWZ	**Blackbirch Sta**	**3.12**	**228**	P		P	Pn	01 00 29.5	-1.1
NNZ	**Nelson**	**3.15**	**239**	P		P	Pn	01 00 31.0	0.0
QRZ	**Quartz Range**	**3.58**	**249**	P		P	Pn	01 00 36.2	-0.8
THZ	**Tophouse**	**3.73**	**234**	P		P	Pn	01 00 38.2	-0.9
KHZ	**Kahutara**	**3.78**	**222**	P		P	Pn	01 00 38.4	-1.2
OKCZ	**Okains Bay**	**5.01**	**214**	P		P	Pn	01 00 54.6	-2.0
MQZ	**McQueen's Vall**	**5.18**	**217**	P		P	Pn	01 00 56.7	-2.2
CTZ	**Chatham Island**	**6.31**	**132**	P		P	Pn	01 01 15.2	+0.8

MEX 09 01:05:30.0±1.1, **18.99N**×**104.04W**, **h18**km±6km, **MD3.5, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
R15V		**0.19**	**16**	*eP*			Pb	01 05 33.5	-1.0
R15V				*i* S			Sb	01 05 37.5	+0.1
EZ5V		**0.64**	**40**	*eP*			Pb	01 05 40.9	-1.9
EZ5V				*i* S			Sb	01 05 49.6	-1.8
MMIG	**Aquila**	**0.96**	**136**	*eP*			Pb	01 05 44.6	-3.4
MMIG				*eS*			Sb	01 05 57.5	-2.8
CJM	**Chamela**	**1.08**	**298**	*eP*			Pb	01 05 46.4	-3.7
CJM				*eS*			Sb	01 06 00.3	-3.6

IDC 09 01:08:08.2±21.0, **21.19S**×**177.16W**, **h428**km±212km, **mb3.0**/4, **mb1 3.2**/4, **mb1mx3.0**/30, **mbtmp3.8**/4, **Error ellipse: s-maj=146.2km s-min=68.1km az=132.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STKA	**Stephens Creek**	**38.20**	**245**	P		P		**01 14 48.0**	**-1.5**
	0.7nm,0.3s,baz=274,slow=14,SNR=3.5								
ASAR	**Alice Springs**	**45.13**	**257**	P		P		01 15 45.7	+0.8
	1.0nm,0.5s,baz=95,slow=7.9,SNR=15								
WRA	**Warramunga Arr**	**45.28**	**263**	P		P		01 15 45.8	-0.3
	0.5nm,0.3s,baz=96,slow=7.4,SNR=30								
ILAR	**Eielson Array**	**88.81**	**12**	P		P		01 20 14.9	+0.3
	0.3nm,0.8s,baz=204,slow=5.9,SNR=3.0								
AKASG	**Malin Array Be**	**143.99**	**331**	PKP		PKPbc		01 26 52.0	-0.5
	0.4nm,0.5s,baz=43,slow=4.0,SNR=6.4								

*ISCJB **09** 01:14:12.0±0.5, 14.8S±0.1×178.1W±0.1, h379km, mb3.9/13, Error ellipse: s-maj=22.2km s-min=9.9km az=153.7*
*IDC **09** 01:14:12.8±1.8, 14.81S×178.11W, h376km±18km, mb3.5/12, mb1 3.8/13, mb1mx3.6/31, mbtmp4.3/13, Error ellipse: s-maj=21.3km s-min=10.0km az=146.0*
ISC 09 01:14:12.8±0.5, **14.8S**±0.2×**178.1W**±0.1, **h379**km, **n38,** σ0**s84**/42, **mb3.9**/13, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
AFI	**Afiamalu**	**6.14**	**82**	P		**P**	**Pn**	**01 15 45.1**	**-1.3**
	27nm,0.3s,baz=102,slow=1.1,SNR=40								
DZM	**Mont Dzumac**	**16.37**	**242**	P		**P**	**Pn**	**01 17 44.2**	**-0.5**
	1.4nm,0.3s,baz=48,slow=21,SNR=14								
CTA	**Charters Tower**	**34.41**	**256**	P		**P**	**P**	**01 20 26.6**	**+0.3**
	3.1nm,0.4s,baz=91,slow=11,SNR=8.1								
STKA	**Stephens Creek**	**40.48**	**238**	P		**P**	**P**	**01 21 16.4**	**-0.1**
	2.0nm,0.7s,baz=96,slow=6.8,SNR=5.3								
STKA				PcP		**PcP**	**PcP**	**01 23 11.4**	**+0.7**
	0.8nm,0.4s,baz=120,slow=5.3,SNR=3.9								
WRA	**Warramunga Arr**	**45.61**	**257**	P		**P**	**P**	**01 21 56.8**	**-0.5**
	0.3nm,0.3s,baz=83,slow=6.3,SNR=30								
WRA				PcP		**PcP**	**PcP**	**01 23 28.4**	**0.0**
	0.6nm,0.5s,baz=90,slow=3.6,SNR=6.9								
WRA				S		**S**	**S**	**01 28 11.9**	**+1.1**
	0.5nm,0.9s,baz=88,slow=14,SNR=2.7								
ASAR	**Alice Springs**	**46.03**	**251**	P		**P**	**P**	**01 22 00.5**	**0.0**
	8.4nm,0.4s,baz=85,slow=8.4,SNR=181								
ASAR				PcP		**PcP**	**PcP**	**01 23 30.0**	**+0.1**
	1.2nm,0.4s,baz=99,slow=3.8,SNR=7.4								
ASAR				S		**S**	**S**	**01 28 14.6**	**-2.1**
	0.8nm,0.7s,baz=93,slow=15,SNR=7.4								
VNDA	**Vanda**	**63.52**	**185**	P		**P**	**P**	**01 24 03.5**	**+0.1**
	0.9nm,0.6s,baz=357,slow=7.5,SNR=11								
PETK	**Petropavlovsk-**	**70.82**	**345**	P		**P**	**P**	**01 24 50.1**	**+1.0**
	7.2nm,0.8s,baz=110,slow=8.9,SNR=7.3								
NVAR	**Mina Array Bea**	**76.98**	**44**	P		**P**	**P**	**01 25 25.9**	**+0.8**
	1.5nm,0.7s,baz=226,slow=8.5,SNR=9.2								
ILAR	**Eielson Array**	**82.83**	**13**	P		**P**	**P**	**01 25 55.4**	**+0.1**
	3.6nm,0.9s,baz=231,slow=6.2,SNR=29								
TXAR	**Lajitas Array**	**84.07**	**58**	P		**P**	**P**	**01 26 03.8**	**+1.4**
	1.9nm,0.8s,baz=221,slow=6.2,SNR=22								
PDAR	**Pinedale Array**	**84.89**	**43**	P		**P**	**P**	**01 26 06.7**	**+0.3**
	1.0nm,0.5s,baz=210,slow=3.2,SNR=14								
MAW	**Mawson**	**86.86**	**200**	P		**P**	**P**	**01 26 17.3**	**+2.2**
	67nm,0.6s,baz=162,slow=22,SNR=17								
YKA	**Yellowknife Ar**	**91.41**	**25**	P		**P**	**P**	**01 26 36.2**	**-0.1**
	0.1nm,0.5s,baz=248,slow=4.4,SNR=4.8								
SONM	**Songino Array**	**91.46**	**319**	P		**P**	**P**	**01 26 36.7**	**-0.4**
	0.6nm,0.9s,baz=123,slow=5.5,SNR=4.1								
MKAR	**Makanchi Array**	**107.24**	**315**	PKiKP		**PKiKP**	**PKiKP**	**01 31 54.0**	**-0.7**
	0.2nm,0.5s,baz=70,slow=3.6,SNR=5.9								
BVAR	**Borovoye Array**	**114.67**	**322**	PKP		PKPdf	01 32 07.5	-1.0	
	0.5nm,0.5s,baz=146,slow=3.3,SNR=4.5								
ARCES	**ARCESS Array B**	**123.36**	**350**	PKP		**PKPdf**	**01 32 24.4**	**-0.4**	
	1.4nm,0.4s,baz=59,slow=1.4,SNR=19								
FINES	**FINESS Array B**	**130.33**	**345**	PKP		**PKPdf**	**01 32 37.4**	**-0.8**	
	1.3nm,0.8s,baz=57,slow=5.1,SNR=3.8								
NOA	**NORSAR Array B**	**133.38**	**354**	PKP		**PKiKP**	**01 32 45.1**	**-0.2**	
	1.5nm,1.2s,baz=15,slow=5.0,SNR=3.6								
AKASG	**Malin Array Be**	**137.99**	**334**	PKP		**PKiKP**	**01 32 54.4**	**-0.6**	
	0.3nm,0.4s,baz=36,slow=3.4,SNR=3.7								
BRTR	**Keskin Array B**	**142.81**	**318**	PKP		**PKPdf**	**01 33 00.1**	**-2.0**	
	3.6nm,0.9s,baz=52,slow=1.7,SNR=21								
ASF	**Jabal al Asfar**	**143.81**	**305**	PKP		**PKPdf**	**01 33 03.9**	**-0.2**	
	3.2nm,0.8s,baz=73,slow=4.3,SNR=6.8								
KHC	**Kasperske Hory**	**144.49**	**347**	*eP*		**PKPdf**	**01 33 04.8**	**+0.2**	
MMAI	**Mount Meron Ar**	**144.68**	**307**	PKP		**PKPab**	**01 33 06.2**	**+0.6**	
	6.2nm,0.6s,baz=71,slow=6.3,SNR=21								
CONA	**Conrad Observa**	**145.05**	**344**	*e*PKPab		**PKPab**	**01 33 07.0**	**+0.5**	
	3.4nm,0.7s								
MOA	**Molln**	**145.53**	**345**	*e*PKPab		**PKPab**	**01 33 08.0**	**-0.2**	
	3.5nm,0.6s,SNR=5.4								
SOKA	**Soboth**	**146.42**	**344**	*i* PKPab		**PKPbc**	**01 33 10.0**	**0.0**	
	2.5nm,0.7s								
KBA	**Koelnbreinsper**	**146.48**	**346**	*e*PKPbc		**PKPbc**	**01 33 10.1**	**-0.3**	
	3.9nm,0.6s,SNR=5.6								
WATA	**Walderalm**	**146.62**	**348**	*i* PKPab		**PKPbc**	**01 33 10.8**	**+0.1**	
	1.5nm,0.3s								
RETA	**Reutte**	**146.63**	**349**	*i* PKPab		**PKPbc**	**01 33 11.0**	**+0.4**	
	2.0nm,0.6s								
MOTA	**Moosalm**	**146.70**	**349**	*i* PKPab		**PKPbc**	**01 33 11.1**	**+0.1**	
	1.1nm,0.3s								
SQTA	**Sankt Quirin**	**146.80**	**348**	*i* PKPab		**PKPbc**	**01 33 11.8**	**+0.7**	
	3.2nm,0.6s								
MYKA	**Terra Mystica**	**146.82**	**345**	*i* PKPbc		**PKPbc**	**01 33 10.8**	**-0.3**	
	3.1nm,0.4s								
DAVA	**Damuels**	**146.98**	**350**	*i* PKiKP		**PKiKP**	**01 33 12.9**	**-0.9**	
	3.3nm,0.7s								
ABTA	**Abfaltersbach**	**146.98**	**347**	*e*PKPbc		**PKPbc**	**01 33 11.4**	**-0.2**	
	4.2nm,0.6s,SNR=5.5								
FETA	**Feichten**	**147.08**	**349**	*i* PKPbc		**PKPbc**	**01 33 11.9**	**0.0**	
	4.6nm,1.0s								
TORD	**Torodi Ar. Bea**	**178.31**	**171**	PKP		**PKPdf**	**01 33 37.9**	**-1.4**	
	0.6nm,0.8s,baz=2.9,slow=2.9,SNR=3.6								

*ISCJB **09** 01:17:49.9±0.2,21.89S±0.03×68.61W±0.03, h102km±2km, mb4.4/44, Error ellipse: s-maj=5.3km s-min=3.8km az=144.5*
*IDC **09** 01:17:51.2±0.4,22.01S×68.60W, h104km±4km, mb4.0/10, mb1 4.1/13, mb1mx4.0/23, mbtmp4.3/13, MS4.1/2, Ms1 4.1/2, ms1mx3.1/32, Error ellipse: s-maj=15.8km s-min=11.2km az=98.0*
*VAO **09** 01:17:51.5±0.3,21.70S×68.45W, h85km, mb4.8*
*NEIC **09** 01:17:51.0±0.0,21.89S×68.85W, h105km, mb4.5/36, ML4.4(GUC), After GUC.*
*GUC **09** 01:17:51.6±0.5,21.89S×68.85W, h105km±3km, ML4.4*
*SJA **09** 01:17:51.0±0.6,21.91S×68.80W, h105km±7km, ML3.4, MW4.2*
ISC 09 01:17:50.9±0.5, **21.89S**±0.03×**68.70W**±0.05, **h102**km±4km, **n174,** σ1**s53**/194, **mb4.5**/44, **7C-4D, Chile-Bolivia border region**

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

BB19B **Bebedouro** 18.80 91 *e*P P 01 22 02.1 -0.4
PLCA **Paso Flores** 18.85 184 P P 01 22 03.5 +0.6
comp=Z,0.2nm,0.3s,baz=18,slow=10,SNR=6.4
TER01 **Tubaro-SC** 18.89 114 *e*P P 01 22 02.7 -0.8
RCLB **Rio Claro- Sao** 19.62 96 *e*P P 01 22 10.2 -1.2
IPMB **Ipameri, GO** 19.65 82 *e*P P 01 22 10.9 -0.9
SPB **Sao Paulo** 19.69 99 *e*P P 01 22 11.4 -0.8
comp=Z,19nm,0.8s
SPB **Sao Paulo** 19.69 99 *e*P P 01 22 11.8 -0.3
BDFB **Brasilia** 20.54 76 *e*P P 01 22 20.1 -1.4
comp=Z,12nm,0.8s
BDFB **Brasilia** 20.54 76 P P 01 22 19.7 -1.8
comp=Z,7.8nm,0.5s,baz=233,slow=10.0,SNR=16
BSCB **Bom Sucesso** 22.29 92 *e*P P 01 22 39.4 -0.7
ESAR **Angra dos Reis** 22.45 97 *e*P P 01 22 42.4 +0.8
PTGA **Pitinga** 22.69 23 *e*P P 01 22 42.5 -1.6
comp=Z,10.0nm,0.6s
PTGA **Pitinga** 22.69 23 P P 01 22 41.7 -2.3
comp=Z,9.3nm,0.3s,baz=207,slow=14,SNR=27
PTGA **Pitinga** 22.69 23 *e*P P 01 22 42.3 -1.8
MCI6 **Montes Claros** 23.93 82 *e*P P 01 22 54.0 -1.8
OTAV **Otavalo** 23.96 335 *e*P P 01 22 58.4 +1.9
comp=Z,8.1nm,0.6s
OTAV **Otavalo** 23.96 335 *e*P P 01 22 58.8 +2.4
JANB **Januaria** 24.09 78 *e*P P 01 22 55.1 -2.1
FLOC **Florencia** 24.30 343 *e*P P 01 23 00.0 +1.1
FLOC **Florencia** 24.30 343 *e*P P 01 23 00.0 +1.1
CMBC **Cumbal** 24.38 337 *e*P P 01 23 04.5 +4.3
CMBC **Cumbal** 24.38 337 *e*P P 01 23 04.5 +4.3
POPC **Popayan, Colom** 25.50 341 *e*P P 01 23 12.7 +2.5
POPC **Popayan, Colom** 25.50 341 *e*P P 01 23 12.7 +2.5
SJMB **Sao Joao De Ma** 25.99 88 *e*P P 01 23 13.4 -0.9
PRAC **Prado** 26.15 346 *e*P P 01 23 15.2 -0.7
PRAC **Prado** 26.15 346 *e*P P 01 23 15.2 -0.7
RIB01 **Linhares ES** 26.61 90 *e*P P 01 23 19.7 -0.2
RUSC **La Rusia** 27.94 351 *e*P P 01 23 31.7 -0.6
RUSC **La Rusia** 27.94 351 *e*P P 01 23 31.7 -0.6
NORC **Norcasia** 27.94 347 *e*P P 01 23 31.5 -0.4
NORC **Norcasia** 27.94 347 *e*P P 01 23 31.5 -0.4
HELC **Santa Helena** 28.70 346 *e*P P 01 23 38.3 -0.6
HELC **Santa Helena** 28.70 346 *e*P P 01 23 38.3 -0.6
PTBC **PUERTO BERRIO,** 28.81 348 *e*P P 01 23 36.7 -2.9
PTBC **PUERTO BERRIO,** 28.81 348 *e*P P 01 23 36.7 -2.9
PAMC **Pamplona, Colo** 29.31 352 *e*P P 01 23 43.3 -1.2
PAMC **Pamplona, Colo** 29.31 352 *e*P P 01 23 43.3 -1.2
SDV **Santo Domingo** 30.64 356 *e*P P 01 23 54.3 -1.7
comp=Z,15nm,1.4s
SDV **Santo Domingo** 30.64 356 *e*P P 01 23 54.9 -1.1
SDV **Santo Domingo** 30.64 356 *e*P P 01 23 54.9 -1.1
SMLC **San Martn de** 30.95 350 *e*P P 01 23 54.0 -4.4
SMLC **San Martn de** 30.95 350 *e*P P 01 23 54.0 -4.4
MDP **Montagnes des** 31.10 32 LR LR 01 37 17.9
comp=Z,77nm,18.9s,baz=218,slow=38
RCBR **Riachuelo** 35.50 68 *e*P P 01 24 38.2 0.0
OBIP **Obispado Ponce** 39.74 3 *e*P P 01 25 12.1 -1.5
comp=Z,21nm,0.8s
SJG **San Juan** 39.83 4 *e*P P 01 25 12.7 -1.7
comp=Z,13nm,0.6s
PMSA **Palmer Station** 42.98 177 *e*P P 01 25 42.0 +2.4
PMSA **Palmer Station** 42.98 177 P P 01 25 41.2 +1.6
comp=Z,7.7nm,0.5s,baz=163,slow=17,SNR=10.0
PMSA **Palmer Station** 42.98 177 *e*P P 01 25 42.6 +3.0
DWPF **Disney Wildern** 51.20 346 *e*P P 01 26 44.9 +0.9
VNA3 **Neumayer Olymp** 59.65 161 P P 01 27 45.2 +1.2
VNA1 **Neumayer--Stat** 59.86 160 P P 01 27 46.7 +1.4
VNA2 **Neumayer--Watz** 60.22 161 P P 01 27 49.0 +1.1
baz=282,slow=7.9
TXAR **Lajitas Array** 61.06 325 P P 01 27 54.5 +0.3
comp=Z,0.8nm,0.6s,baz=148,slow=7.9,SNR=10
TXAR pP pP 01 28 20.6 +0.1
comp=Z,0.6nm,0.7s,baz=133,slow=7.3,SNR=4.0
TX31 **Lajitas Ar. Si** 61.06 325 *e*P P 01 27 55.3 +1.1
comp=Z,8.3nm,1.6s
SNAA **Sanae** 61.85 161 P P 01 27 59.9 +0.9
SNAA **Sanae** 61.85 161 *e*P P 01 27 58.5 -0.5
comp=Z,6.1nm,0.8s
LIC **Lamto** 68.31 74 *e*P P 01 28 41.1 -0.5
comp=Z,112nm,2.1s
TIC **Toumodi** 68.50 73 *e*P P 01 28 43.3 +0.5
KIC **Kosan Boka** 68.63 74 *e*P P 01 28 43.3 -0.3
comp=Z,20nm,0.6s
DBIC **Dimbokro** 68.66 73 *e*P P 01 28 43.7 -0.1
comp=Z,9.6nm,0.8s
DBIC **Dimbokro** 68.66 73 P P 01 28 43.1 -0.6
comp=Z,9.8nm,0.7s,baz=218,slow=7.4,SNR=15
DBIC **Dimbokro** 68.66 73 *e*P P 01 28 43.7 -0.1
SDCO **Great Sand Dun** 68.68 329 *e*P P 01 28 45.1 +1.4
comp=Z,15nm,1.6s
U15A **North Rim** 71.13 324 *e*P P 01 29 00.1 +1.4
comp=Z,3.9nm,0.8s
KNB **Kanab** 71.85 324 *e*P P 01 29 04.6 +1.6
comp=Z,6.9nm,0.9s
O20A **White River O** 71.87 329 *e*P P 01 29 05.1 +2.1
comp=Z,6.6nm,0.8s
SRU **San Rafael Swe** 72.20 327 *e*P P 01 29 06.3 +1.2
comp=Z,5.2nm,0.8s
MTPU **Mount Pierson** 72.26 325 *e*P P 01 29 07.0 +1.4
comp=Z,2.6nm,0.8s
P18A **Preston Nutter** 72.46 328 *e*P P 01 29 08.2 +1.5
comp=Z,5.8nm,0.7s
CCUT **Cedar City** 72.53 324 *e*P P 01 29 09.3 +2.2
comp=Z,6.5nm,0.8s
P17A **Butcher Ranch,** 72.59 327 *e*P P 01 29 08.7 +1.4
comp=Z,6.0nm,0.9s
MSU **Marysvale** 72.61 326 *e*P P 01 29 09.2 +1.7
PSUT **Pine Spring** 73.52 325 *e*P P 01 29 14.8 +2.0
comp=Z,3.0nm,0.7s
TCUT **Toone Canyon** 74.17 328 *e*P P 01 29 17.8 +1.2
comp=Z,7.5nm,0.6s
PDAR **Pinedale Array** 74.54 330 P P 01 29 19.5 +0.8
comp=Z,0.6nm,0.5s,baz=138,slow=5.7,SNR=2.5
REDW **Red Top Meadow** 75.60 330 *e*P P 01 29 26.4 +1.6
comp=Z,4.6nm,1.0s
ULM **Lac du Bonnet** 75.74 342 P P 01 29 24.6 -0.6
comp=Z,1.0nm,0.5s,baz=169,slow=7.2,SNR=4.4
NV01 **Mina Array Sit** 75.92 322 *e*P P 01 29 28.1 +1.5
NVAR **Mina Array Bea** 75.92 322 P P 01 29 28.1 +1.4
comp=Z,0.8nm,0.7s,baz=153,slow=8.1,SNR=5.6
NVAR pP pP 01 29 55.4 +1.5
comp=Z,1.5nm,0.8s,baz=164,slow=6.3,SNR=4.8
FLWY **Flagg Ranch** 76.08 330 *e*P P 01 29 29.0 +1.5
comp=Z,8.6nm,0.8s
KVN **Kaiserville** 76.23 323 *e*P P 01 29 29.8 +1.4
comp=Z,15nm,1.9s
VNDA **Vanda** 76.50 190 P P 01 29 29.1 -0.1
comp=Z,0.6nm,0.9s,baz=132,slow=6.7,SNR=4.2
YHH **Holmes Hill** 76.70 331 *e*P P 01 29 32.9 +1.8
comp=Z,7.4nm,1.1s
YHB **Horse Butte** 76.83 330 *e*P P 01 29 33.2 +1.5
comp=Z,5.7nm,0.9s
TOA0 **Torodi Ar. Sit** 77.31 70 *e*P P 01 29 33.8 -0.9
TORD **Torodi Ar. Bea** 77.31 70 P P 01 29 33.6 -1.2
comp=Z,4.5nm,0.4s,baz=244,slow=5.0,SNR=54
TORD pP pP 01 30 02.9 +0.5
comp=Z,1.9nm,0.9s,baz=276,slow=6.3,SNR=2.0
PAHR **Pah Rah Range** 77.40 322 *e*P P 01 29 36.4 +1.5
comp=Z,5.9nm,0.9s
HLID **Hailey** 77.47 328 *e*P P 01 29 37.0 +1.7
comp=Z,5.5nm,0.8s
MCMT **McKenzie Canyo** 77.65 330 *e*P P 01 29 38.1 +1.8
MOD **Modoc Plateau** 79.39 323 *e*P P 01 29 47.5 +1.6
comp=Z,4.3nm,0.9s
TSUM **Tsumeb** 79.75 107 *e*P P 01 29 49.0 +0.6
comp=Z,9.3nm,0.7s
BMO **Blue Mountains** 79.84 327 *e*P P 01 29 49.4 +1.2
comp=Z,3.9nm,0.8s
F10A **Beach Ranch, E** 80.60 328 *e*P P 01 29 53.4 +1.3
comp=Z,7.5nm,1.1s
YBH **Yreka Blue Hor** 80.63 322 LR LR 02 04 22.4
comp=Z,352nm,19.9s,baz=264,slow=34
PINE **Pine Mountain** 81.01 325 *e*P P 01 29 56.3 +1.8
comp=Z,6.0nm,0.8s
FCC **Fort Churchill** 83.05 347 *e*P P 01 30 05.1 +0.6
comp=Z,1.8nm,0.4s
BOSA **Boshof** 83.10 118 P P 01 30 05.8 0.0
comp=Z,7.6nm,0.8s,baz=248,slow=6.1,SNR=9.2
BOSA **Boshof** 83.10 118 *e*P P 01 30 06.4 +0.5
TAM **Tamanrasset** 84.82 63 *e*P P 01 30 14.7 0.0
comp=Z,14nm,2.0s
SFJD **Kangerlussuaq** 89.65 7 *e*P P 01 30 39.4 +2.8
YKA **Yellowknife Ar** 91.62 341 P P 01 30 46.4 +0.5
comp=Z,2.2nm,0.7s,baz=134,slow=4.4,SNR=38
YKA pP pP 01 31 14.0 +0.1
comp=Z,1.0nm,0.7s,baz=134,slow=4.6,SNR=5.6
YKB5 **Yellowknife Ar** 91.62 341 *e*P P 01 30 46.3 +0.4

ASAR **Alice Springs** 129.66 207 PKP **PKPdf** 01 36 48.7 -0.1
comp=Z,0.5nm,0.7s,baz=100,slow=1.9,SNR=5.1
ASAR pPKP **pPKPdf** 01 37 17.9 -0.2
comp=Z,0.7nm,0.7s,baz=164,slow=3.1,SNR=4.0
WRA **Warramunga Arr** 132.72 210 PKP **PKiKP** 01 36 55.5 -0.3
comp=Z,0.5nm,0.6s,baz=159,slow=1.8,SNR=12
WRA pPKP **pPKPdf** 01 37 23.2 -0.7
comp=Z,0.6nm,0.7s,baz=153,slow=1.6,SNR=2.1
BVAR **Borovoye Array** 136.00 35 PKP **PKPdf** 01 36 59.9 +0.2
comp=Z,0.2nm,0.3s,baz=268,slow=4.3,SNR=2.1
KURK **Kurchatov** 141.54 33 PKP **PKPdf** 01 37 07.9 -2.0
KURBB **Kurchatov Arra** 141.55 34 PKP **PKPdf** 01 37 07.9 -2.0
comp=Z,0.1nm,0.4s,baz=288,slow=2.7
ZALV **Zalesovo Beam** 142.22 25 PKhKP PKPpre 01 37 04.8
comp=Z,0.3nm,0.3s,baz=298,slow=3.1,SNR=2.3
ZALV PKP **PKPdf** 01 37 10.8 -0.2
comp=Z,0.9nm,0.5s,baz=325,slow=1.8,SNR=4.1
ZALV pPKP pPKPdf 01 37 42.6 +2.5
comp=Z,0.3nm,0.3s,baz=254,slow=42,SNR=1.7
KSH **Kashi** 145.19 52 *e*PKP **PKPdf** 01 37 17.8 +0.9
MKAR **Makanchi Array** 145.83 36 PKPbc **PKPab** 01 37 18.8 -0.1
comp=Z,1.7nm,0.6s,baz=331,slow=3.1,SNR=24
MKAR pPKPbc pPKPab 01 37 48.8 +1.4
comp=Z,4.3nm,0.9s,baz=316,slow=3.3,SNR=11
SONM **Songino Array** 153.81 7 PKP **PKPdf** 01 37 29.1 -1.1
comp=Z,0.2nm,0.6s,baz=0.0,slow=1.4,SNR=1.9
SONM PKPbc **PKiKP** 01 37 38.9 +0.6
comp=Z,0.2nm,0.5s,baz=318,slow=2.6,SNR=2.7
SONM PKPab **PKPab** 01 37 52.5 +1.0
comp=Z,0.3nm,0.6s,baz=353,slow=2.8,SNR=2.7
LZH **Lanzhou** 164.43 23 *e*PKP **PKPdf** 01 37 40.5 -2.5
LZH pPKP pPKPdf 01 38 06.2 -6.2
LZH sPKP 01 38 15.2
LZH PKP **PKPab** 01 38 35.4 -2.5

*ATH **09** 01:20:37.3, 39.97N×19.66E, h12km±1km, ML2.5/8, Error ellipse: s-maj=2.0km s-min=1.1km az=96.0*
*THE **09** 01:20:39.1, 39.93N×19.69E, h0km±2km, ML2.4/8, Error ellipse: s-maj=2.5km s-min=1.0km az=281.0*
ISC 09 01:20:38.2±1.2, 39.96N±0.02×19.67E±0.03, h4km±9km, n69, σ0.85/90, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.26**	**158**	P	**Pg**	**01 20 43.3**	**0.0**
KEK				S	**Sg**	**01 20 48.2**	**+1.5**
KEK	**Kerkira**	**0.26**	**158**	P	**Pg**	**01 20 43.1**	**-0.2**
KEK				AML	AML	01 20 51.1	
	comp=N,2305μm,0.3s						
KEK				AML	AML	01 20 51.2	
	comp=E,2007μm,0.2s						
KASA	**Kassiopi**	**0.29**	**136**	P	**Pg**	**01 20 43.4**	**-0.4**
KASA				S	**Sg**	**01 20 47.6**	**0.0**
KASA				AML	AML	01 20 49.1	
	comp=N,2293μm,0.2s						
KASA				AML	AML	01 20 50.6	
	comp=E,2243μm,0.4s						
TPE	**Tepelena**	**0.43**	**37**	P	**Pg**	**01 20 46.2**	**-0.2**
TPE				S	**Sg**	**01 20 53.6**	**+1.6**
VLO	**Vlora**	**0.53**	**345**	P	**Pb**	**01 20 50.3**	**+0.2**
IGT	**Igoumenitsa**	**0.66**	**130**	P	**Pg**	**01 20 49.9**	**-1.0**
IGT				S	**Sg**	**01 20 59.9**	**+0.4**
IGT	**Igoumenitsa**	**0.66**	**130**	P	**Pg**	**01 20 49.9**	**-1.0**
IGT				S	**Sg**	**01 20 59.6**	**+0.1**
IGT				AML	AML	01 21 01.1	
	comp=N,794μm,0.2s						
IGT				AML	AML	01 21 05.5	
	comp=E,400μm,0.3s						
JAN	**Janina**	**0.95**	**108**	P	**Pg**	**01 20 55.4**	**-1.1**
JAN				S	**Sb**	**01 21 10.2**	**-0.2**
JAN	**Janina**	**0.95**	**108**	P	**Pg**	**01 20 55.5**	**-1.1**
JAN				S	**Sg**	**01 21 08.6**	**-0.3**
JAN				AML	AML	01 21 14.0	
	comp=N,742μm,0.4s						
JAN				AML	AML	01 21 15.2	
	comp=E,888μm,0.3s						
NEST	**Nestorio**	**1.15**	**66**	P	**Pg**	**01 20 59.8**	**-0.4**
NEST				S	**Sn**	**01 21 18.4**	**+1.0**
NEST	**Nestorio**	**1.15**	**66**	P	**Pg**	**01 20 59.3**	**-1.0**
NEST				S	**Sg**	**01 21 15.3**	**+0.2**
NEST				AML	AML	01 21 21.6	
	comp=E,293μm,0.4s						
NEST				AML	AML	01 21 22.4	
	comp=N,361μm,0.6s						
PENT	**Pentalofos**	**1.15**	**78**	P	**Pg**	**01 20 59.5**	**-0.7**
PENT				S	**Sn**	**01 21 18.3**	**+0.9**
PENT	**Pentalofos**	**1.15**	**78**	P	**Pg**	**01 20 59.3**	**-0.9**
MEV	**Metsovon**	**1.21**	**98**	P	**Pn**	**01 21 02.5**	**+0.4**
MEV	**Metsovon**	**1.21**	**98**	P	**Pg**	**01 21 00.6**	**-0.8**
KPRO	**Kipourio**	**1.30**	**90**	P	**Pn**	**01 21 01.8**	**-1.4**
KPRO				S	**Sn**	**01 21 22.7**	**+1.6**
KPRO	**Kipourio**	**1.30**	**90**	P	**Pn**	**01 21 01.8**	**-1.4**
KPRO				AML	AML	01 21 24.7	
	comp=N,531μm,0.5s						
KPRO				AML	AML	01 21 25.6	
	comp=E,416μm,0.4s						
DSL	**Palaion Diasel**	**1.37**	**126**	P	**Pg**	**01 21 04.8**	**+0.3**
DSL				S	**Sn**	**01 21 24.1**	**+1.3**
DSL	**Palaion Diasel**	**1.37**	**126**	P	**Pb**	**01 21 04.1**	**-0.4**
LKD2	**Lefkada island**	**1.39**	**146**	P	**Pg**	**01 21 05.0**	**+0.1**
LKD2				S	**Sn**	**01 21 24.1**	**+0.8**
LKD2	**Lefkada island**	**1.39**	**146**	P	**Pb**	**01 21 04.5**	**-0.3**
LKD2				AML	AML	01 21 26.0	
	comp=N,289μm,0.4s						
LKD2				AML	AML	01 21 29.4	
	comp=E,298μm,0.4s						
TIR	**Tirane**	**1.40**	**6**	P	**Pg**	**01 21 06.1**	**+1.1**
TIR	**Tirane**	**1.40**	**6**	P	**Pn**	**01 21 03.2**	**-1.3**
OHR	**Ohrid**	**1.44**	**36**	*i* Pn	**Pg**	**01 21 06.8**	**+1.0**
EVGI	**Lefkada island**	**1.54**	**150**	P	**Pg**	**01 21 07.4**	**-0.2**
EVGI				S	**Sg**	**01 21 27.6**	**+0.1**
FNA	**Florina**	**1.54**	**57**	P	**Pn**	**01 21 06.8**	**+0.3**
FNA				S	**Sg**	**01 21 29.2**	**+1.5**
FNA	**Florina**	**1.54**	**57**	P	**Pn**	**01 21 06.7**	**+0.1**
KZN	**Kozani**	**1.65**	**77**	P	**Pb**	**01 21 09.2**	**0.0**
KZN				S	**Sg**	**01 21 31.9**	**+0.8**
KZN	**Kozani**	**1.65**	**77**	P	**Pb**	**01 21 09.1**	**-0.1**
BIA	**Bitola**	**1.65**	**49**	*i* Pn	**Pg**	**01 21 11.0**	**+0.2**
PHP	**Peshkopia**	**1.82**	**18**	P	**Pb**	**01 21 11.7**	**-0.5**
PHP				S	**Sb**	**01 21 34.6**	**-0.8**
THL	**Klokotos Trika**	**1.85**	**101**	P	**Pb**	**01 21 11.5**	**-1.1**
THL				S	**Sb**	**01 21 35.7**	**-0.3**
THL	**Klokotos Trika**	**1.85**	**101**	P	**Pb**	**01 21 11.4**	**-1.1**
THL				AML	AML	01 21 39.5	
	comp=E,113μm,0.5s						
THL				AML	AML	01 21 41.1	
	comp=N,127μm,0.5s						
KRUS	**Krusevo**	**1.85**	**40**	*i* Pn	**Pg**	**01 21 13.6**	**0.0**
VLS	**Valsamata**	**1.92**	**158**	P	**Pn**	**01 21 12.1**	**+0.5**
VLS				S	**Sn**	**01 21 36.6**	**+0.4**
VLS	**Valsamata**	**1.92**	**158**	P	**Pb**	**01 21 12.5**	**-1.2**
EVR	**Evrytania**	**1.95**	**121**	P	**Pn**	**01 21 13.0**	**+0.7**
EVR	**Evrytania**	**1.95**	**121**	P	**Pn**	**01 21 12.9**	**+0.7**
PVO	**Paravola**	**1.96**	**132**	P	**Pb**	**01 21 13.4**	**-1.1**
PVO	**Paravola**	**1.96**	**132**	P	**Pn**	**01 21 12.5**	**+0.2**
LIT	**Litokhoron**	**2.17**	**85**	P	**Pn**	**01 21 15.7**	**+0.6**
LIT				S	**Sb**	**01 21 44.3**	**-1.0**
LIT	**Litokhoron**	**2.17**	**85**	P	**Pn**	**01 21 16.0**	**+0.9**
AGG	**Agios Georgios**	**2.26**	**114**	P	**Pn**	**01 21 17.4**	**+1.0**
AGG	**Agios Georgios**	**2.26**	**114**	P	**Pn**	**01 21 17.1**	**+0.7**
EFP	**Efpalio**	**2.31**	**131**	P	**Pn**	**01 21 17.8**	**+0.8**
TIP	**Timpagrande**	**2.38**	**252**	P	**Pn**	**01 21 18.0**	**-0.2**
SERG	**Sergoula**	**2.41**	**129**	P	**Pn**	**01 21 19.7**	**+1.3**
TRIZ	**Trizonia**	**2.45**	**130**	P	**Pn**	**01 21 20.4**	**+1.4**
KALE	**Kalithea**	**2.47**	**128**	P	**Pn**	**01 21 20.5**	**+1.2**
LAKA	**Lakka**	**2.48**	**133**	P	**Pn**	**01 21 20.2**	**+0.8**
DRO	**Drossia**	**2.56**	**141**	P	**Pn**	**01 21 21.0**	**+0.6**
STIP	**Stip**	**2.58**	**47**	*i* Pn	**Pb**	**01 21 23.2**	**-1.8**
VAY	**Valandovo**	**2.59**	**57**	*e*Pn	**Pn**	**01 21 21.5**	**+0.6**
HORT	**Hortiatis**	**2.70**	**75**	P	**Pn**	**01 21 22.8**	**+0.4**
DSF	**Desfina**	**2.70**	**124**	P	**Pn**	**01 21 23.1**	**+0.6**
KLV	**Kalavryta, Ach**	**2.71**	**134**	P	**Pn**	**01 21 23.7**	**+1.0**
KNT	**Kendrikon**	**2.74**	**63**	P	**Pn**	**01 21 23.1**	**+0.2**
XOR	**Xorichti**	**2.78**	**101**	P	**Pn**	**01 21 24.2**	**+0.6**
NEO	**Neokhori**	**2.82**	**102**	P	**Pn**	**01 21 25.1**	**+1.1**
ATAL	**Atalanti**	**2.89**	**115**	P	**Pn**	**01 21 25.4**	**+0.4**
GUR	**Goura**	**2.90**	**133**	P	**Pn**	**01 21 26.2**	**+1.0**
PLG	**Polygyros**	**2.92**	**81**	P	**Pn**	**01 21 25.6**	**+0.2**
PAIG	**Paliouri**	**3.08**	**89**	P	**Pn**	**01 21 27.1**	**-0.5**
SRS	**Serrai**	**3.20**	**68**	P	**Pn**	**01 21 29.8**	**+0.4**
LTK	**Loutraki**	**3.21**	**126**	P	**Pn**	**01 21 30.9**	**+1.4**
STON	**Ston**	**3.27**	**334**	*i* Pn	**Pn**	**01 21 29.4**	**-0.8**
STON				Sn	**Sn**	**01 22 08.2**	**-1.3**
MRKA	**Markates**	**3.28**	**111**	P	**Pn**	**01 21 30.7**	**+0.3**
OUR	**Ouranopolis**	**3.32**	**82**	P	**Pn**	**01 21 31.3**	**+0.3**
NVR	**Nevrokopi**	**3.48**	**65**	P	**Pn**	**01 21 33.5**	**+0.3**

*ISCJB **09** 01:32:12.1±0.8, 16.05S±0.09×71.6W±0.1, h133km, mb3.4/3, Error ellipse: s-maj=18.6km s-min=7.2km az=139.5*
*IDC **09** 01:32:12.1±1.7, 16.01S×71.56W, h100km±18km, mb3.4/3, mb1 3.6/6, mb1mx3.3/44, mbtmp3.7/6, MS3.4/7, Ms1 3.4/7, ms1mx3.2/24, Error ellipse: s-maj=35.1km s-min=14.3km az=44.0*
ISC 09 01:32:13.7±0.8, 16.1S±0.1×71.7W±0.1, h133km, n13, σ2.26/10, mb3.6/3, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.38**	**94**	P	**Pn**	**01 33 03.2**	**-2.8**
	0.4nm,0.3s,baz=283,slow=11,SNR=12						
NNA	**Nana**	**6.49**	**308**	P	**Pn**	**01 33 44.0**	**-3.0**
	0.7nm,0.3s,baz=151,slow=19,SNR=3.1						
NNA				S	**Sn**	**01 35 00.3**	**+0.4**
	1.1nm,0.3s,baz=230,slow=19,SNR=1.7						
NNA				LR	LR	01 36 11.7	
	comp=Z,299nm,19.2s,baz=136,slow=37						
LVC	**Limon Verde**	**6.97**	**159**	P	**Pn**	**01 33 51.2**	**-2.4**
	3.3nm,0.3s,baz=335,slow=9.8,SNR=20						
LVC				S	**Sn**	**01 35 13.0**	**+1.3**
	1.9nm,0.3s,baz=158,slow=19,SNR=3.6						
LVC				LR	LR	01 36 35.1	
	comp=Z,215nm,22.0s,baz=346,slow=37						
ATAH	**Atahualpa**	**11.09**	**323**	LR	LR	01 39 02.8	
	comp=Z,302nm,19.6s,baz=167,slow=37						
CPUP	**Villa Florida**	**16.77**	**130**	LR	LR	01 42 50.8	
	comp=Z,80nm,19.1s,baz=306,slow=38						
ROSC	**El Rosal**	**20.98**	**353**	LR	LR	01 44 51.8	
	comp=Z,108nm,18.4s,baz=48,slow=36						
SDV	**Santo Domingo**	**24.85**	**2**	LR	LR	01 47 59.0	
	comp=Z,119nm,19.5s,baz=258,slow=38						
MDP	**Montagnes des**	**28.25**	**43**	LR	LR	01 49 56.7	
	comp=Z,74nm,18.9s,baz=225,slow=38						
TXAR	**Lajitas Array**	**54.74**	**325**	P	**P**	**01 41 30.0**	**+0.3**
	0.4nm,0.8s,baz=146,slow=6.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**78.11**	**73**	P	**P**	**01 43 59.6**	**+1.0**
	1.2nm,0.9s,baz=254,slow=5.6,SNR=6.4						
YKA	**Yellowknife Ar**	**85.27**	**341**	P	**P**	**01 44 37.4**	**+2.4**
	1.0nm,0.9s,baz=131,slow=5.2,SNR=8.5						
ZALV	**Zalesovo Beam**	**138.01**	**21**	PKP	**PKiKP**	**01 51 26.5**	**+1.9**
	0.3nm,0.3s,baz=287,slow=5.9,SNR=1.6						
SONM	**Songino Array**	**148.32**	**3**	PKPbc	**PKiKP**	**01 51 47.0**	**+0.9**
	0.6nm,0.7s,baz=340,slow=1.7,SNR=3.2						

IDC 09 01:35:23.2±4.3, 13.48N×91.42W, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/48, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=62.8km s-min=29.4km az=163.0, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**1.78**	**31**	Pn	Pb	01 35 56.6	-0.3
	19nm,0.3s,baz=211,slow=17,SNR=81						
APG				Sn	Sn	01 36 19.3	+0.3
	22nm,0.3s,baz=323,slow=18,SNR=10						
APG				LR	LR	01 36 27.1	
	comp=Z,73nm,21.8s,baz=356,slow=36						
CMIG	**Matias Romero**	**4.91**	**318**	Pn	Pn	01 36 38.9	+0.5
	0.4nm,0.3s,baz=119,slow=19,SNR=3.4						
CMIG				Sn	Sn	01 37 34.7	-1.2
	0.6nm,0.3s,baz=111,slow=4.1,SNR=2.8						
CMIG				Lg	Lg	01 37 48.8	
	1.3nm,0.3s,baz=40,slow=21,SNR=6.1						
TXAR	**Lajitas Array**	**19.45**	**326**	P	Pn	01 39 52.3	-0.4
	0.0nm,0.3s,baz=153,slow=12,SNR=6.6						
NVAR	**Mina Array Bea**	**34.43**	**321**	P	P	01 42 13.8	+1.0
	0.3nm,0.5s,baz=142,slow=7.6,SNR=2.7						
YKA	**Yellowknife Ar**	**51.66**	**347**	P	P	01 44 29.6	-2.0
	0.2nm,0.6s,baz=147,slow=7.4,SNR=5.3						

*SJA **09** 01:49:45.8±0.6, 23.94S×67.03W, h217km±4km, ML3.5, MW3.7*
*ISCJB **09** 01:49:46.7±0.3, 23.94S±0.03×67.11W±0.04, h200km±3km, mb3.7/10, Error ellipse: s-maj=5.8km s-min=3.8km az=151.7*
*IDC **09** 01:49:47.2±1.0, 23.86S×66.89W, h184km±10km, mb3.6/10, mb1 3.7/15, mb1mx3.5/33, mbtmp4.0/15, Error ellipse: s-maj=16.6km s-min=12.8km az=68.0*
*GUC **09** 01:49:48.7±0.6, 23.88S×67.55W, h227km±7km, ML4.2*
ISC 09 01:49:47.7±0.7, 23.92S±0.05×67.08W±0.04, h193km±6km, n78, σ1.16/93, mb3.9/10, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.65**	**119**	*e*P	**Pn**	**01 50 23.0**	**+0.6**
SLA				IAML		01 50 24.8	
	comp=Z,246nm,0.5s						
SLA				*e*S	**Sn**	**01 50 49.3**	**+0.1**
LVC	**Limon Verde**	**2.13**	**307**	*e*P	**Pn**	**01 50 28.5**	**+1.1**
LVC				IAML		01 50 29.8	
	comp=Z,210nm,0.1s						
LVC				*e*S	**Sn**	**01 50 59.6**	**+1.4**
LVC	**Limon Verde**	**2.13**	**307**	*e*P	**Pn**	**01 50 28.6**	**+1.1**
LVC				*e*S	**Sn**	**01 50 59.3**	**+1.1**
LVC	**Limon Verde**	**2.13**	**307**	P	**Pn**	**01 50 28.3**	**+0.9**
	comp=Z,102nm,0.3s,baz=154,slow=6.5,SNR=832						
LVC				S	**Sn**	**01 50 58.9**	**+0.6**
	comp=Z,31nm,0.3s,baz=266,slow=22,SNR=19						
YJA	**Yavi**	**2.25**	**40**	*e*P	**Pn**	**01 50 29.5**	**+0.6**
YJA				*e*S	**Sn**	**01 51 02.0**	**+1.1**
YJA				IAML		01 51 03.1	
	comp=Z,24nm,0.7s						
PB15	**IPOC Station P**	**2.30**	**287**	*e*P	**Pn**	**01 50 30.3**	**+1.1**
PB15	**IPOC Station P**	**2.30**	**287**	⇑*i*P	**Pn**	**01 50 30.3**	**+1.1**
PB15				*i* S	**Sn**	**01 51 01.5**	**+0.1**
FSA	**Cafayete**	**2.40**	**156**	*e*P	**Pn**	**01 50 30.0**	**-0.2**
PB06	**IPOC Station P**	**2.59**	**297**	*e*P	**Pn**	**01

PB08	IPOC Station P	4.22 332	⇑*i*P		Pn	01 50 53.2	+0.7
CYA	Choya	4.65 166	*e*P		Pn	01 50 57.2	-0.3
PB11	IPOC Station P	4.78 329	*e*P		Pn	01 50 58.3	-1.0
PB11	IPOC Station P	4.78 329	*e*P		Pn	01 50 58.3	-1.0
PB11			*i* S		Sn	01 51 52.5	-3.1
VCA	Vinchina	4.91 192	*e*P		Pn	01 50 58.7	-2.2
PSGCX	Pisagua	5.14 326	*e*P		Pn	01 51 03.5	-0.5
MNMCX	Minye Minye	5.31 333	*e*P		Pn	01 51 05.9	-0.3
ACLC	CERRO LA CRUZ	5.49 179	*e*P		Pn	01 51 07.4	-1.0
AGUA	GUANDACOL	5.69 193	*e*P		Pn	01 51 10.4	-0.5
LCO	Las Campanas	6.02 212	*e*P		Pn	01 51 14.8	-0.6
PB12	IPOC Station P	6.08 330	*e*P		Pn	01 51 15.4	-0.7
APLL	PUNTA DE LOS L	6.47 176	*e*P		Pn	01 51 19.5	-1.5
APLL			IAML			01 52 32.0	
	comp=Z,32nm,0.4s						
LPAZ	La Paz	7.65 352	*e*P		Pn	01 51 37.4	+0.3
LPAZ	La Paz	7.65 352	P		Pn	01 51 37.2	+0.1
	comp=Z,3.2nm,0.3s,baz=150,slow=8.6,SNR=70						
LPAZ			S		Sn	01 53 00.8	-3.1
	comp=Z,1.1nm,0.3s,baz=28,slow=22,SNR=8.1						
TCA	Tanti	7.71 164	*e*P		Pn	01 51 35.6	-1.7
CFA	Coronel Fontan	7.73 187	*e*P		Pn	01 51 35.5	-1.9
ASAL	Salagasta	8.78 190	*e*P		Pn	01 51 49.8	-1.4
CPUP	Villa Florida	9.16 107	P		Pn	01 51 53.4	-2.7
	comp=Z,0.2nm,0.3s,baz=303,slow=8.3,SNR=4.6						
PLCA	Paso Flores	17.02 189	P		P	01 53 33.1	-0.1
	comp=Z,0.2nm,0.3s,baz=27,slow=11,SNR=5.5						
BDFB	Brasilia	19.72 69	P		P	01 54 01.4	-1.5
	comp=Z,0.3nm,0.3s,baz=212,slow=9.7,SNR=3.0						
PTGA	Pitinga	24.06 18	P		P	01 54 44.4	-1.0
	comp=Z,1.8nm,0.4s,baz=304,slow=22,SNR=5.2						
FLOC	Florencia	26.68 341	*e*P		P	01 55 09.3	+0.2
FLOC			*e*P		P	01 55 09.3	+0.2
FLOC	Florencia	26.68 341	*e*P		P	01 55 09.3	+0.2
FLOC			*e*P		P	01 55 09.3	+0.2
POPC	Popayan, Colom	27.91 339	*e*P		P	01 55 22.6	+2.4
POPC	Popayan, Colom	27.91 339	*e*P		P	01 55 22.6	+2.4
CHIC	Chingaza	29.10 346	*e*P		P	01 55 31.0	0.0
CHIC	Chingaza	29.10 346	*e*P		P	01 55 31.0	0.0
RUSC	La Rusia	30.20 348	*e*P		P	01 55 41.0	+0.2
RUSC	La Rusia	30.20 348	*e*P		P	01 55 41.0	+0.2
PTBC	PUERTO BERRIO,	31.11 346	*e*P		P	01 55 45.2	-3.1
PTBC	PUERTO BERRIO,	31.11 346	*e*P		P	01 55 45.2	-3.1
SDV	Santo Domingo	32.78 354	*e*P		P	01 55 55.2	-7.9
SDV	Santo Domingo	32.78 354	*e*P		P	01 55 55.2	-7.9
SMLC	San Martn de	33.23 347	*e*P		P	01 56 03.6	-3.1
SMLC	San Martn de	33.23 347	*e*P		P	01 56 03.6	-3.1
VNA3	Neumayer Olymp	57.26 161	P		P	01 59 14.9	+0.3
VNA2	Neumayer--Watz	57.82 160	P		P	01 59 21.6	+3.1
SNAA	Sanae	59.45 161	P		P	01 59 30.5	+0.6
SNAA	Sanae	59.45 161	P		P	01 59 29.9	0.0
	comp=Z,2.5nm,1.0s,baz=256,slow=8.6,SNR=5.7						
TXAR	Lajitas Array	63.57 324	P		P	01 59 58.8	+0.8
	comp=Z,0.3nm,0.6s,baz=151,slow=7.9,SNR=4.5						
QSPA	South Pole Qui	66.29 180	P		P	02 00 16.0	+0.9
	comp=Z,1.7nm,0.5s,baz=256,slow=0.3,SNR=11						
DBIC	Dimbokro	67.84 72	P		P	02 00 24.7	-0.9
	comp=Z,3.1nm,1.0s,baz=256,slow=3.9,SNR=3.6						
TORD	Torodi Ar. Bea	76.61 69	P		P	02 01 17.1	-0.4
	comp=Z,0.9nm,0.5s,baz=251,slow=5.4,SNR=15						
PDAR	Pinedale Array	77.04 329	P		P	02 01 20.1	+0.5
	comp=Z,0.3nm,0.5s,baz=125,slow=7.9,SNR=3.9						
ULM	Lac du Bonnet	78.12 342	P		P	02 01 25.0	-0.1
	comp=Z,2.2nm,0.5s,baz=164,slow=7.3,SNR=6.6						
BOSA	Boshof	80.84 117	P		P	02 01 40.3	-0.3
	comp=Z,1.6nm,0.6s,baz=252,slow=5.4,SNR=6.1						
YKA	Yellowknife Ar	94.02 340	P		P	02 02 44.1	+0.8
	comp=Z,0.5nm,0.5s,baz=131,slow=4.6,SNR=13						
MKAR	Makanchi Array	146.51 39	PKPbc		PKPbc	02 09 07.0	+0.8
	comp=Z,0.4nm,0.6s,baz=296,slow=3.1,SNR=3.5						

MAN ***09*** *01:57:11.6,6˚.33N×126˚.13E,h44km,MS4.8*
ISCJB ***09*** *01:57:12.0±0.3,6˚.30N±0˚.02×126˚.12E±0˚.04,h64km±3km, mb4.5/56, Error ellipse: s-maj=6.3km s-min=3.6km az=166.4*
DJA ***09*** *01:57:12.7±1.5,6˚N±13˚×12˚6E±˚,h84km±27km,M4.8/7, mb5.0/7,mB5.1/5,MLv4.9/7,Mw(mB)4.4/5*
IDC ***09*** *01:57:13.8±0.8,6˚.35N×126˚.16E,h69km±6km, mb4.0/24, mb1 4.2/26,mb1mx4.0/46,mbtmp4.3/26,MS3.3/12, Ms1 3.3/12,ms1mx3.1/40, Error ellipse: s-maj=18.1km s-min=7.7km az=75.0*
NEIC ***09*** *01:57:14.2±0.6,6˚.35N×126˚.07E,h70km±5km,mb4.6/21, Error ellipse: s-maj=8.4km s-min=3.8km az=78.0*
BJI ***09*** *01:57:17.5,6˚.85N×126˚.27E,h68km,mb4.7/37,mB5.0/24, Ms4.5/8,Ms7 4.2/7*

ISC 09 01:57:13.7±0.7,6˚27N±0˚03×126˚10E±0˚05,h64km±5km, n159,σ1°61/176,mb4.5/56,3C-8D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	0.41	247	*e*P		Pn		01 57 24.3	-1.0
DDMP				*e*S		Sn		01 57 32.4	-1.2
MATI	Mati	0.69	13	*e*P		Pn		01 57 26.2	-2.0
MATI				*e*S		Sn		01 57 35.7	-3.1
DAV	Davao City (W)	0.95	327	*e*Pn		Pn		01 57 30.3	-1.1
DAV				S		Sn		01 57 45.0	+0.6
DAV	Davao City (W)	0.95	327	P		Pn		01 57 29.8	-1.5
	306nm,0.3s,baz=121,slow=2.0,SNR=74								
DAV				S		Sn		01 57 45.0	+0.6
	1μm,0.3s,baz=270,slow=20,SNR=26								
DMPH	Davao City--Mi	1.00	324	⇓*e*P		Pn		01 57 30.8	-1.2
DMPH				*e*S		Sn		01 57 43.5	-2.0
GSPH	General Santos	1.16	261	⇓*i*P		Pn		01 57 32.5	-1.5
GSPH				*i* S		Sn		01 57 46.9	-2.4
KCP	Kidapawan	1.24	307	⇓*i*P		Pn		01 57 33.5	-1.7
KCP				*i* S		Sn		01 58 01.0	+10
SKMP	Bagumbayan, Su	1.56	279	*e*P		Pn		01 57 38.2	-1.2
SKMP				*e*S		Sn		01 57 58.5	-0.2
BUKP	Musuan	1.90	327	*e*P		Pn		01 57 42.9	-1.1
BUKP				*e*S		Sn		01 58 04.1	-2.9
BIPH	Bislig	1.93	8	⇓*i*P		Pn		01 57 44.5	+0.2
BIPH				*i* S		Sn		01 58 08.3	+0.8
CTBH	Cotabato--PC H	2.07	297	⇓*e*P		Pn		01 57 44.6	-1.6
CGP	Cagayan de Oro	2.58	327	⇓*e*P		Pn		01 57 52.5	-0.7
CGP				*e*S		Sn		01 58 28.5	+5.0
SGSI	Sangihe	2.62	192	P		Pn		01 57 54.6	+0.8
BUTP	Butuan	2.73	350	*e*P		Pn		01 57 53.4	-1.8
BUTP				*e*S		Sn		01 58 34.6	+7.6
PAGZ	Pagadian	3.12	300	*e*P		Pn		01 57 59.4	-1.1
DCPH	Dipolog City	3.56	310	⇑*e*P		Pn		01 58 07.3	+0.7
IPIL	Ipil	3.81	294	*e*P		Pn		01 58 09.2	-0.8
MSLP	Maasin	4.04	342	*e*P		Pn		01 58 12.3	-0.8
LLP	Lapu-Lapu	4.54	333	*e*P		Pn		01 58 17.9	-2.2
LLP				*e*S		Sn		01 59 11.9	+0.2
PLP	Palo	4.99	347	⇓*e*P		Pn		01 58 24.7	-1.5
TNTI	Ternate	5.60	167	*e*Pn		Pn		01 58 35.9	+1.3
TNTI	Ternate	5.60	167	P		Pn		01 58 37.4	+2.9
RCP	Roxas	6.22	328	⇑*i*P		Pn		01 58 43.0	+0.1
MRSI	Marisa	7.09	216	P		Pn		01 58 55.2	+0.3
MRSI				S		Sn		02 00 09.0	-5.1
LUWI	Luwuk	7.98	205	P		Pn		01 59 11.8	+4.7
SANI	Sanana	8.26	181	P		Pn		01 59 09.7	-1.2
APSI	Ampana	8.40	212	P		Pn		01 59 17.8	+5.0
SIJI	Sorong	8.77	144	P		Pn		01 59 18.8	+0.9
	4.4nm,0.3s,baz=355,slow=6.1,SNR=10								
SIJI				S		Sn		02 00 56.1	+0.8
	0.8nm,0.3s,baz=180,slow=20,SNR=3.0								
NLAI	Namlea	9.49	174	P		Pn		01 59 27.8	0.0
FAKI	Fak Fak	11.00	146	*e*Pn		Pn		01 59 50.7	+2.3
FAKI	Fak Fak	11.00	146	P		Pn		01 59 50.7	+2.3
TTSI	Tana Toraja	11.17	214	P		Pn		02 00 00.6	+10
BNSI	Bone	12.17	210	P		P		02 00 12.0	-2.7
EDFI	Ende, Flores	15.55	196	P		P		02 00 55.2	+2.8
BATI	Baumata	16.54	188	P		P		02 01 03.3	-0.1
BATI				S		Sn		02 04 08.2	+3.5
BATI	Baumata	16.54	188	P		P		02 01 09.4	+6.1
BATI	Baumata	16.54	188	P		P		02 01 03.3	-0.1
	2.6nm,0.3s,baz=0.0,slow=6.1,SNR=2.6								
BATI				S		Sn		02 04 08.2	+3.5
	2.9nm,0.3s,baz=28,slow=19,SNR=1.6								
JAY	Jayapura	17.00	120	LR		LR		02 07 51.8	
	comp=Z,135nm,19.0s,baz=202,slow=38								
PLAI	Plampang	17.13	209	P		P		02 01 11.2	+1.3
MTN	Manton Dam	19.63	165	*e*P		Pn		02 01 38.8	-0.4
	36nm,0.5s								
GUMO	Guam	19.86	67	LR		LR		02 09 57.5	
	comp=Z,38nm,19.1s,baz=128,slow=39								
SKNT	Sakolnakorn	24.10	298	P		P		02 02 24.7	+1.0
	9.5nm,1.0s,421nm								
FITZ	Fitzroy Crossi	24.21	181	*e*P		P		02 02 25.4	+0.8
	22nm,1.3s								
FITZ	Fitzroy Crossi	24.21	181	P		P		02 02 25.1	+0.5
	5.8nm,0.5s,baz=4.8,slow=8.4,SNR=43								
CHAI	Chaiyaphum	25.50	294	P		P		02 02 38.4	+2.1
	3.3nm,0.8s								
JCJ	Chichijima	25.76	35	LR		LR		02 12 18.6	
	comp=Z,13nm,19.4s,baz=268,slow=35								
NJ2	Nanjing	26.53	346	*e*P		P		02 02 48.1	+2.6
NJ2				pmax		pmax			
	comp=Z,19nm,0.5s								
PBKT	Sadao Pong	26.64	295	P		P		02 02 47.5	+0.9
	11nm,0.9s								
JNU	Nakatsue	27.09	9	LR		LR		02 12 35.1	
	comp=Z,37nm,21.7s,baz=167,slow=34								
WRAB	Tennant Creek	27.27	163	*e*P		P		02 02 53.3	+1.0
	11nm,0.4s								
WRA	Warramunga Arr	27.28	163	P		P		02 02 51.2	-1.2
WRA				PcP		PcP		02 06 10.6	-0.3
WRA				ScP		ScP		02 09 45.2	-0.8
WRA	Warramunga Arr	27.28	163	P		P		02 02 51.2	-1.2
	1.5nm,0.5s,baz=333,slow=11,SNR=36								
WRA				PcP		PcP		02 06 10.6	-0.3
	0.9nm,0.6s,baz=329,slow=2.5,SNR=3.1								
WRA				ScP		ScP		02 09 45.2	-0.8
	0.8nm,0.7s,baz=339,slow=3.3,SNR=4.3								
WRA				LR		LR		02 15 17.6	
	comp=Z,85nm,18.0s,baz=225,slow=40								
WB2	Warramunga Arr	27.28	163	*e*P		P		02 02 52.8	+0.5
PSI	Prapat	27.30	264	P		P		02 02 54.2	+1.4
PSI	Prapat	27.30	264	P		P		02 02 54.2	+1.4
	2.3nm,0.3s,baz=360,slow=7.7,SNR=4.0								
PSI				LR		LR		02 16 12.6	
	comp=Z,68nm,18.4s,baz=92,slow=42								
MBWA	Marble Bar	27.96	193	*e*P		P		02 02 58.4	0.0
CMAR	Chiang Mai Arr	29.11	297	P		P		02 03 08.8	0.0
CMAR	Chiang Mai Arr	29.11	297	P		P		02 03 08.8	0.0
	1.8nm,0.7s,baz=122,slow=7.3,SNR=11								
CMAR				LR		LR		02 14 09.9	
	comp=Z,52nm,21.2s,baz=116,slow=35								
KMI	Kunming	29.18	313	P		P		02 03 12.8	+3.2
KMI				pmax		pmax			
	comp=Z,17nm,1.3s								
ASAR	Alice Springs	30.71	166	P		P		02 03 23.4	+0.5
ASAR				PcP		PcP		02 06 19.5	0.0
ASAR				S		S		02 08 20.8	-0.5
ASAR				ScP		ScP		02 09 57.0	+0.1
ASAR	Alice Springs	30.71	166	P		P		02 03 23.4	+0.5
	4.5nm,0.5s,baz=345,slow=6.8,SNR=53								
ASAR				PcP		PcP		02 06 19.5	0.0
	1.6nm,0.7s,baz=346,slow=2.3,SNR=5.7								
ASAR				S		S		02 08 20.8	-0.5
	2.2nm,1.0s,baz=346,slow=22,SNR=8.1								
ASAR				ScP		ScP		02 09 57.0	+0.1
	0.8nm,0.7s,baz=351,slow=2.8,SNR=4.3								
AS01	Alice Springs	30.72	166	*e*P		P		02 03 23.3	+0.4
KSAR	Wonju Array Be	31.08	3	P		P		02 03 25.3	-0.5
KSRS	Korea Array	31.09	3	P		P		02 03 25.3	-0.6
	2.3nm,0.8s,baz=181,slow=9.9,SNR=6.0								
KSRS				LR		LR		02 18 44.4	
	comp=Z,20nm,18.1s,baz=147,slow=42								
XAN	Xi'an	31.89	332	P		P		02 03 34.3	+1.2
XAN				pmax		pmax			
	comp=Z,31nm,0.7s								
XAN				pmax		pmax			
	comp=Z,65nm,4.3s								
XAN	Xi'an	31.89	332	*e*P		P		02 03 33.5	+0.4
CD2	Chengdu	32.25	322	*e*P		P		02 03 40.2	+3.8
CD2				pmax		pmax			
	comp=Z,20nm,1.0s								
CD2				pmax		pmax			
	comp=Z,110nm,7.0s								
SNY	Shenyang	35.48	357	⇓P		P		02 04 05.0	+0.9
SNY				pmax		pmax			
	comp=Z,40nm,0.9s								
LZH	Lanzhou	36.02	329	*e*P		P		02 04 12.1	+3.0
LZH				pP		sP		02 04 30.0	-1.6
LZH				sP		pP		02 04 40.5	+16
LZH				pmax		pmax			
	comp=Z,28nm,1.1s								
MORW	Morawa	36.44	195	*e*P		P		02 04 12.4	0.0
	38nm,1.7s								
HHC	Hu-ho-hao-te	36.81	341	*e*P		P		02 04 16.8	+1.1
HHC				S		S		02 09 57.0	+1.6
HHC				pmax		pmax			
	comp=Z,29nm,1.1s								
HHC				pmax		pmax			
	comp=Z,150nm,5.5s								
HHC				LR		LR			
	comp=N,290nm,16.7s								
HHC				LR		LR			
	comp=E,410nm,14.5s								
HHC				LR		LR			
	comp=Z,400nm,16.2s								
FORT	Forrest	36.88	177	*e*P		P		02 04 16.7	+0.5
	18nm,0.6s								
USRK	Ussuriysk Ar.	38.14	7	P		P		02 04 25.8	-0.9
USRK	Ussuriysk Ar.	38.14	7	P		P		02 04 25.8	-0.9
	4.2nm,0.7s,baz=191,slow=7.0,SNR=7.5								
NWAO	Narrogin (SRO)	39.88	192	*e*P		P		02 04 42.5	+1.2
NWAO	Narrogin (SRO)	39.88	192	P		P		02 04 42.0	+0.7
	9.7nm,0.5s,baz=258,slow=7.3,SNR=17								
BBOO	Buckleboo	40.00	167	*e*P		P		02 04 43.1	+0.8
	33nm,0.6s								
GTA	Gaotai	40.62	328	*e*P		P		02 04 51.2	+3.6
GTA				pP		sP		02 05 08.7	-1.5
GTA				sP		pP		02 05 18.2	+15
GTA				pmax		pmax			
	comp=Z,9.0nm,0.9s								
STKA	Stephens Creek	40.71	160	*e*P		P		02 04 49.0	+0.7
	2.3nm,0.9s								
STKA	Stephens Creek	40.71	160	P		P		02 04 49.0	+0.7
	7.9nm,0.6s,baz=335,slow=9.4,SNR=20								
STKA				LR		LR		02 25 26.6	
	comp=Z,78nm,18.2s,baz=17,slow=42								
H11S3	WAKE ISLAND Hy	41.36	69	T		T		02 48 58.4	
	baz=244,slow=72,SNR=23								
H11S1	WAKE ISLAND Hy	41.38	69	T		T		02 48 59.7	
	baz=244,slow=72,SNR=22								
H11S2	WAKE ISLAND Hy	41.38	69	T		T		02 49 03.1	
	baz=244,slow=72,SNR=36								
KLR	Kul'dur	43.08	5	P		P		02 05 05.9	-1.5
KLR	Kul'dur	43.08	5	P		P		02 05 05.9	-1.5
	4.1nm,0.8s,baz=206,slow=5.6,SNR=11								
HIA	Hailar	43.19	354	*e*P		P		02 05 08.0	-0.3
ULN	Ulaanbaatar	44.53	342	*e*P		P		02 05 20.0	+0.7
	7.5nm,1.0s								
SONM	Songino Array	44.71	341	P		P		02 05 19.3	-1.3
SONM				PcP		PcP		02 07 00.9	-1.2
SONM	Songino Array	44.71	341	P		P		02 05 19.3	-1.3
	0.8nm,0.8s,baz=165,slow=9.0,SNR=6.8								
SONM				PcP		PcP		02 07 00.9	-1.2
	1.4nm,0.7s,baz=159,slow=3.8,SNR=6.1								
WMQ	Urumqi	50.30	324	*e*P		P		02 06 07.5	+3.4
WMQ				pP		sP		02 06 25.4	-1.6
WMQ				sP		pP		02 06 34.5	+15
WMQ				pmax		pmax			
	comp=Z,16nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,240nm,4.5s								
WMQ				LR		LR			
	comp=N,160nm,18.5s								
WMQ				LR		LR			
	comp=E,180nm,16.1s								
PETK	Petropavlovsk-	53.35	23	*e*P		P		02 06 26.5	0.0
PETK	Petropavlovsk-	53.35	23	P		P		02 06 25.8	-0.7
	3.2nm,0.7s,baz=208,slow=5.7,SNR=7.8								
MK01	Makanchi Array	55.11	325	*e*P		P		02 06 37.9	-1.6
MKAR	Makanchi Array	55.13	325	P		P		02 06 38.0	-1.6
MKAR	Makanchi Array	55.13	325	P		P		02 06 38.0	-1.6
	0.8nm,0.4s,baz=119,slow=7.1,SNR=32								
KSH	Kashi	55.83	314	*e*P		P		02 06 48.2	+3.4
KSH				pP		sP		02 07 07.4	-0.5
KSH				PP		PP		02 08 56.4	+6.4
KSH				S		S		02 14 25.8	-1.8
KSH				pmax		pmax			
	comp=Z,99nm,6.4s								
ZALV	Zalesovo Beam	58.06	333	P		P		02 06 58.3	-1.9
ZALV	Zalesovo Beam	58.06	333	P		P		02 06 58.3	-1.9
	1.1nm,0.5s,baz=114,slow=3.6,SNR=5.6								
ZALV				LR		LR		02 32 15.7	
	comp=Z,43nm,21.9s,baz=24,slow=36								
AAK	Ala-Archa	58.08	317	P		P		02 06 58.5	-2.2
AAK	Ala-Archa	58.08	317	P		P		02 06 58.5	-2.2
	0.5nm,0.5s,baz=76,slow=4.2,SNR=3.4								
KURK	Kurchatov	59.28	327	*e*P		P		02 07 09.1	+0.4
	25nm,1.8s								
BRVK	Borovoye	64.94	327	*e*P		P		02 07 46.9	+0.3
	4.1nm,1.0s								
TIXI	Tiksi	65.33	1	*e*P		P		02 07 48.1	-0.7
	9.8nm,0.9s								
NRIK	Noril'sk	67.83	346	P		P		02 08 03.5	-1.3
	5.0nm,0.6s,baz=180,slow=5.8,SNR=5.6								
ABKAR	Akbulak array	69.80	320	*e*P		P		02 08 18.5	+1.1
	2.3nm,1.0s								
ARU	Arti	72.47	327	*e*P		P		02 08 31.7	-1.7
CASY	Casey	73.25	187	*e*P		P		02 08 38.4	+0.7
	9.6nm,0.8s								
RAYN	Ar Rayn	78.92	293	*e*P		P		02 09 09.1	-1.9
	4.9nm,0.8s								
IM3	Indian Mountai	80.30	24	*e*P		P		02 09 17.1	-0.4
CAST	Castle Rocks	80.77	27	*e*P		P		02 09 20.0	-0.1
	7.7nm,0.8s								
BPAW	Bear Paw Mtn.	81.30	26	*e*P		P		02 09 22.9	-0.1
	8.0nm,0.9s								
MLY	Manley	81.47	25	*e*P		P		02 09 23.9	0.0
	6.9nm,0.8s								
TOLK	Toolik Lake Re	82.14	22	*e*P		P		02 09 27.3	0.0
	9.4nm,0.8s								
MDM	Murphy Dome	82.53	25	*e*P		P		02 09 29.2	-0.2
	56nm,2.0s								
COLA	College	82.69	25	*e*P		P		02 09 29.6	-0.5
	3.5nm,0.7s								
KLMR	Klimovskoe	82.90	330	*e*P		P		02 09 29.4	-1.9
KLMR				AMP				02 09 43.0	
	comp=Z,11nm,1.2s								
IL1	Eielson Array	83.10	26	*e*P		P		02 09 30.8	-1.5
ILAR	Eielson Array	83.10	26	P		P		02 09 30.9	-1.5
ILAR	Eielson Array	83.10	26	P		P		02 09 30.9	-1.5
	comp=Z,2.2nm,0.7s,baz=245,slow=5.0,SNR=40								
ILB	Eielson Array	83.10	26	*e*P		P		02 09 31.4	-0.9
	comp=Z,23nm,1.8s								
RIDG	Independ'e Rid	84.01	27	*e*P		P		02 09 37.1	0.0
	comp=Z,50nm,1.9s								
VNDA	Vanda	86.00	173	P		P		02 09 46.9	+0.2
VNDA	Vanda	86.00	173	P		P		02 09 46.9	+0.2
	comp=Z,1.1nm,0.6s,baz=311,slow=8.0,SNR=5.7								
ARCES	ARCESS Array B	87.87	340	P		P		02 09 54.5	-1.4
ARCES	ARCESS Array B	87.87	340	P		P		02 09 54.5	-1.4
	comp=Z,3.3nm,0.8s,baz=82,slow=6.5,SNR=8.1								
BRTR	Keskin Array B	87.93	310	P		P		02 09 55.6	-1.4
BRTR	Keskin Array B	87.93	310	P		P		02 09 55.6	-1.4
	comp=Z,0.4nm,0.8s,baz=143,slow=4.2,SNR=3.4								
INK	Inuvik	88.05	21	*e*P		P		02 09 56.5	-0.3
	comp=Z,3.4nm,0.8s								
INK	Inuvik	88.05	21	P		P		02 09 55.2	-1.5
	comp=Z,2.8nm,0.7s,baz=278,slow=5.2,SNR=12								
FINES	FINESS Array B	89.31	332	P		P		02 10 03.1	+0.2
FINES	FINESS Array B	89.31	332	P		P		02 10 03.1	+0.2
	comp=Z,2.0nm,0.9s,baz=83,slow=4.8,SNR=8.0								
AKASG	Malin Array Be	89.54	321	P		P		02 10 04.2	+0.1
AKASG	Malin Array Be	89.54	321	P		P		02 10 04.2	+0.1
	comp=Z,0.2nm,0.2s,baz=70,slow=5.2,SNR=4.2								
SYO	Syowa Base	94.55	201	⇑*e*P		P		02 10 25.6	-1.2
DAG	Danmarks Havn	94.67	352	*i* P		P		02 10 26.0	-1.4
	comp=Z,6.2nm,0.9s								
RES	Resolute Bay	95.44	10	*e*P		P		02 10 30.5	-0.4
	comp=Z,1.3nm,0.7s								
NOA	NORSAR Array B	96.25	334	LR		LR		02 57 02.3	
	comp=Z,36nm,20.0s,baz=65,slow=37								
YKA	Yellowknife Ar	97.46	24	P		P		02 10 39.5	-0.8
YKA	Yellowknife Ar	97.46	24	P		P		02 10 39.5	-0.8
	comp=Z,0.8nm,0.8s,baz=300,slow=4.8,SNR=11								
MATP	Matopo	99.26	250	LR		LR		02 50 51.1	
	comp=Z,44nm,18.2s,baz=341,slow=32								
I39A	Houston	119.66	31	*e*PKPdf		PKPdf		02 15 56.1	-0.7
TXAR	Lajitas Array	120.52	51	PKP		PKPdf		02 15 59.0	0.0
TXAR	Lajitas Array	120.52	51	PKP		PKPdf		02 15 59.0	0.0
	comp=Z,0

GSPH *i* S **Sn** **02 11 22.4 -0.7**
CGP **Cagayan de Oro** **2.67 327**‖ *e*P **Pn** **02 11 29.0 +1.6**
CGP *e*S **Sn** **02 11 59.2 +0.6**
FITZ **Fitzroy Crossi** **24.16 181** P **P** **02 16 01.2 +1.2**
1.2nm,0.3s,baz=0.4,slow=9.1,SNR=10
WRA **Warramunga Arr** **27.20 163** P **P** **02 16 28.8 +1.1**
0.4nm,0.3s,baz=344,slow=10,SNR=11
ASAR **Alice Springs** **30.64 166** P **P** **02 16 59.8 +1.6**
0.6nm,0.5s,baz=345,slow=7.2,SNR=8.9
STKA **Stephens Creek** **40.63 160** P **P** **02 18 24.2 +0.5**
0.8nm,0.5s,baz=336,slow=12,SNR=2.4
MKAR **Makanchi Array** **55.22 325** P **P** **02 20 13.9 -2.6**
0.2nm,0.4s,baz=118,slow=7.3,SNR=4.9
ILAR **Eielson Array** **83.12 26** P **P** **02 23 06.5 -2.5**
0.3nm,0.6s,baz=236,slow=4.3,SNR=5.1

*ISCJB **09** 02:31:03.7±0.9,36°.12N±0°.06×140°.06E±0°.08,h79km±6km, mb3.2/2,Error ellipse: s-maj=11.2km s-min=9.9km az=20.1*
*IDC **09** 02:31:04.2±6.0,36°.07N×140°.16E,h75km±44km,mb2.9/2, mb1 3.1/2,mb1mx2.8/48,mbtmp3.2/2,Error ellipse: s-maj=73.5km s-min=35.5km az=55.0*
*JMA **09** 02:31:05.5±0.1,36°.14N×139°.99E,h67km±1km,M2.5*
ISC 09 02:31:04.5±1.2,**36°.13N**±0°.06×**140°.05E**±0°.08,**h74**km±8km, **n11**,σ⁰**98**/19,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.15**	**52**	P	**Pn**	**02 31 15.8**	**+0.4**
JYT				S	**Sn**	**02 31 23.3**	**-0.1**
JAG	**Ashikaga**	**0.56**	**301**	P	**Pn**	**02 31 18.4**	**+0.1**
JAG				S	**Sn**	**02 31 27.9**	**-0.6**
JKT	**Katashina**	**0.90**	**315**	P	**Pn**	**02 31 22.5**	**+0.4**
JKT				S	**Sn**	**02 31 35.0**	**-0.2**
JRY	**Ryogami san**	**0.93**	**263**	P	**Pn**	**02 31 22.7**	**+0.3**
JRY				S	**Sn**	**02 31 35.8**	**0.0**
JOD2	**Odawara 2**	**1.17**	**222**	P	**Pn**	**02 31 25.6**	**+0.3**
JOD2				S	**Sn**	**02 31 40.4**	**-0.5**
JYN	**Shimob**	**1.38**	**243**	P	**Pn**	**02 31 28.8**	**+0.8**
JYN				S	**Sn**	**02 31 45.7**	**0.0**
JHK	**Hiroka**	**1.39**	**324**	P	**Pn**	**02 31 28.5**	**+0.4**
MJAR	**Matsushiro Arr**	**1.54**	**286**	P	**Pn**	**02 31 30.1**	**+0.1**
	0.8nm,0.3s,baz=113,slow=8.5,SNR=15						
MJAR				S	**Sn**	**02 31 51.2**	**+1.7**
	0.4nm,0.3s,baz=238,slow=10,SNR=6.8						
MAT	**Matsushiro**	**1.54**	**286**	P	**Pn**	**02 31 31.0**	**+0.9**
MAT				*e*S	**Sn**	**02 31 46.6**	**-2.9**
MKAR	**Makanchi Array**	**43.67**	**303**	P	**P**	**02 39 02.1**	**+0.3**
	0.2nm,0.7s,baz=79,slow=7.5,SNR=2.1						
WRA	**Warramunga Arr**	**56.03**	**186**	P	**P**	**02 40 35.1**	**-0.5**
	0.2nm,0.6s,baz=2.8,slow=7.5,SNR=4.5						

*IDC **09** 02:38:24.7±2.8,8°.01S×150°.52E,h0km,mb3.5/5, mb1 3.5/6,mb1mx3.5/42,mbtmp3.4/6,ML2.9/1,Error ellipse: s-maj=94.8km s-min=29.5km az=119.0*
*ISCJB **09** 02:38:28.6±2.1,8°.0S±0°.3×150°.4E±0°.5,h33km,mb3.3/5, Error ellipse: s-maj=76.3km s-min=20.4km az=28.7*
ISC 09 02:38:29.9±2.3,**8°.1S**±0°.3×**150°.4E**±0°.5,**h35**km,**n6**,σ⁰**89**/6, **mb3.2**/5,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.54**	**231**	P	**Pn**	**02 42 55.6**	**-0.5**
	0.0nm,0.3s,baz=55,slow=9.3,SNR=4.7						
ASAR	**Alice Springs**	**22.15**	**224**	P	**P**	**02 43 23.4**	**+0.5**
	0.3nm,0.7s,baz=61,slow=9.9,SNR=2.0						
SONM	**Songino Array**	**67.91**	**330**	P	**P**	**02 49 25.0**	**-0.2**
	0.4nm,0.7s,baz=116,slow=6.6,SNR=4.4						
MKAR	**Makanchi Array**	**81.29**	**320**	P	**P**	**02 50 42.2**	**-0.5**
	0.2nm,0.8s,baz=114,slow=7.0,SNR=2.0						
ZALV	**Zalesovo Beam**	**82.61**	**327**	P	**P**	**02 50 50.6**	**+1.2**
	0.6nm,0.3s,baz=113,slow=6.7,SNR=2.1						
ILAR	**Eielson Array**	**86.08**	**22**	P	**P**	**02 51 06.5**	**-0.3**
	0.1nm,0.6s,baz=233,slow=5.5,SNR=1.3						

*ISCJB **09** 02:52:55.0±0.8,5°.62N±0°.06×126°.50E±0°.09,h66km, mb3.6/7,Error ellipse: s-maj=13.7km s-min=7.0km az=151.4*
*IDC **09** 02:52:57.2±4.4,6°.09N×126°.88E,h102km±35km,mb3.5/7, mb1 3.6/7,mb1mx3.2/37,mbtmp3.8/7,Error ellipse: s-maj=96.9km s-min=15.4km az=66.0*
*MAN **09** 02:52:57.7,5°.79N×126°.35E,h58km,MS3.2*
ISC 09 02:52:55.0±0.9,**5°.70N**±0°.07×**126°.51E**±0°.10,**h66**km,**n13**, σ²**s44**/17,**mb3.4**/7,**1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.89**	**297**	*e*P	**Pn**	**02 53 13.5**	**+1.7**
MATI	**Mati**	**1.26**	**349**	*e*P	**Pn**	**02 53 18.6**	**+1.8**
MATI				*e*S	**Sn**	**02 53 34.1**	**+1.1**
GSPH	**General Santos**	**1.60**	**284**‖	*i*P	**Pn**	**02 53 22.0**	**+0.8**
GSPH				*i*S	**Sn**	**02 53 40.3**	**-0.8**
DAV	**Davao City (W)**	**1.65**	**326**	P	**Pn**	**02 53 23.2**	**+1.4**
	43nm,0.3s,baz=59,slow=18,SNR=1.1						
DAV				S	**Sn**	**02 53 46.7**	**+4.7**
	169nm,0.3s,baz=317,slow=23,SNR=3.6						
DMPH	**Davao City--Mi**	**1.70**	**324**‖	*i*P	**Pn**	**02 53 19.6**	**-2.8**
DMPH				*i*S	**Sn**	**02 53 45.8**	**+2.6**
SKMP	**Bagumbayan, Su**	**2.12**	**293**	*e*P	**Pn**	**02 53 29.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**23.66**	**182**	P	**P**	**02 58 03.5**	**+2.9**
	1.3nm,0.8s,baz=8.7,slow=13,SNR=1.3						
WRA	**Warramunga Arr**	**26.62**	**163**	P	**P**	**02 58 29.7**	**+2.2**
	0.6nm,0.5s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**30.07**	**166**	P	**P**	**02 58 58.5**	**+0.3**
	0.3nm,0.4s,baz=342,slow=7.1,SNR=5.0						
STKA	**Stephens Creek**	**40.04**	**160**	P	**P**	**03 00 24.2**	**+0.4**
	1.2nm,0.5s,baz=338,slow=9.8,SNR=6.0						
MKAR	**Makanchi Array**	**55.83**	**325**	P	**P**	**03 02 23.1**	**-2.5**
	0.1nm,0.3s,baz=115,slow=7.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**59.98**	**327**	P	**P**	**03 02 51.3**	**-3.2**
	0.5nm,0.6s,baz=126,slow=7.3,SNR=2.0						
ARCES	**ARCESS Array B**	**88.54**	**340**	P	**P**	**03 05 37.8**	**-2.3**
	3.0nm,0.8s,baz=78,slow=5.6,SNR=2.1						

*IDC **09** 03:24:58.1±1.4,27°.85N×55°.02E,h0km,mb3.6/7, mb1 3.7/8,mb1mx3.4/32,mbtmp3.6/8,ML3.4/1,MS2.9/1, Ms1 2.8/1,ms1mx2.2/40,Error ellipse: s-maj=30.0km s-min=25.2km az=163.0*
*ISCJB **09** 03:24:59.8±0.6,27°.66N±0°.05×55°.14E±0°.07,h22km, mb3.5/8,Error ellipse: s-maj=9.5km s-min=6.2km az=150.3*
*THR **09** 03:25:01.3,27°.89N×55°.27E,h18km,ML3.4*
*TEH **09** 03:25:01.5,27°.82N×55°.28E,h18km,ML3.5*
ISC 09 03:25:01.1±0.8,**27°.66N**±0°.06×**55°.17E**±0°.06,**h22**km,**n31**, σ¹**s44**/31,**mb3.5**/8,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**0.92**	**106**	*e*Pg	**Pn**	**03 25 18.7**	**-0.2**
GENO				IAMB	IAmb	03 25 40.9	
	comp=Z,0.0nm,0.4s						
JHRM	**Jahrom**	**1.64**	**301**	*e*Pn	**Pb**	**03 25 31.7**	**+0.9**
JHRM				IAMB	IAmb	03 26 02.0	
	comp=E,0.0nm,0.3s						
GHIR	**Ghir-Karzin**	**2.03**	**288**	*e*Pb	**Pb**	**03 25 37.2**	**-0.2**
GHIR	**Ghir-Karzin**	**2.03**	**288**	*e*AML	AML	03 26 09.8	
	comp=E,279nm,0.5s						
GHIR				*e*AML	AML	03 26 18.8	
	comp=N,257nm,0.5s						
GHIR	**Ghir-Karzin**	**2.03**	**288**	*e*Pn	**Pb**	**03 25 37.2**	**-0.2**
GHIR				*e*Sg	**Sb**	**03 26 06.1**	**+3.8**
NGRK	**Negar Kerman**	**2.40**	**34**	*e*Pn	**Pn**	**03 25 39.6**	**+0.1**
NGRK				IAMB	IAmb	03 26 16.1	
	comp=E,0.0nm,0.7s						
ISRV	**Sarvestan**	**2.50**	**314**	*e*Pn	**Pb**	**03 25 43.1**	**-2.3**
ISRV				IAMB	IAmb	03 26 35.2	
	comp=N,4μm,0.6s						
KRBR	**Kerman**	**2.70**	**31**	*e*Pn	**Pn**	**03 25 42.9**	**-0.6**
KRBR	**Kerman**	**2.70**	**31**	*e*AML	AML	03 26 31.1	
	comp=E,147nm,0.6s						
KRBR	**Kerman**	**2.70**	**31**	*e*Pn	**Pn**	**03 25 42.9**	**-0.6**
KRBR				*e*Sg	**Sn**	**03 26 18.7**	**+3.1**
TVBK	**TV Kerman**	**2.70**	**31**	*e*Pn	**Pn**	**03 25 43.7**	**+0.1**
TVBK				IAMB	IAmb	03 26 21.7	
	comp=Z,0.0nm,0.3s						
KHGB	**Koh Gabri**	**2.94**	**23**	*e*Pn	**Pn**	**03 25 46.8**	**+0.1**
KHGB				IAMB	IAmb	03 26 36.9	
	comp=Z,0.0nm,0.8s						
CHMN	**Cheshme madani**	**3.02**	**43**	*e*Pn	**Pn**	**03 25 49.0**	**+1.1**
CHMN				IAMB	IAmb	03 26 45.4	
	comp=Z,0.0nm,0.8s						
IMEH	**Mehriz**	**3.75**	**353**	*e*Pn	**Pn**	**03 25 57.7**	**-0.2**
IMEH				IAMB	IAmb	03 27 02.5	
	comp=Z,460nm,0.5s						
ISAD	**Sadrabad**	**4.43**	**343**	IAMB	IAmb	03 26 15.0	
	comp=Z,370nm,0.4s						
ISAD				*e*Pn	**Pn**	**03 26 08.5**	**+1.2**
YZKH	**Yazd**	**4.74**	**354**	*e*Pn	**Pn**	**03 26 11.3**	**0.0**
YZKH	**Yazd**	**4.74**	**354**	*e*Pn	**Pn**	**03 26 11.3**	**0.0**
WSAR	**Wadi Sarin**	**5.40**	**144**	Pn	**Pn**	**03 26 23.7**	**+3.3**
	comp=Z,1.1nm,0.3s,baz=346,slow=8.0,SNR=12						
WSAR				Sn	**Sn**	**03 27 22.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=337,slow=13,SNR=1.8						
TPRV	**Parvadeh(Tabas**	**5.51**	**13**	*e*Pn	**Pn**	**03 26 22.1**	**+0.2**
IKOO	**Kooshah**	**5.79**	**34**	*e*Pn	**Pn**	**03 26 26.3**	**+0.3**
IKOO				IAMB	IAmb	03 28 12.8	
	comp=E,216nm,0.7s						
ZNGN	**Zangian**	**5.81**	**321**	*e*Pn	**Pn**	**03 26 26.6**	**+0.3**
TKDS	**Koohdasht(Taba**	**6.17**	**15**	*e*Pn	**Pn**	**03 26 31.9**	**+0.9**
KBZ	**Khaneh**	**18.84**	**331**	LR	LR	03 37 25.1	
	comp=E,34nm,19.5s,baz=31,slow=40						
BRTR	**Keskin Array B**	**21.52**	**309**	P	**P**	**03 29 46.5**	**-2.3**
	comp=E,0.4nm,0.6s,baz=131,slow=14,SNR=3.5						
AKTO	**Aktyubinsk**	**22.84**	**5**	P	**P**	**03 30 04.1**	**+1.4**
	comp=E,0.6nm,0.7s,baz=159,slow=9.3,SNR=4.5						
BVAR	**Borovoye Array**	**27.74**	**20**	P	**P**	**03 30 47.1**	**-0.9**
	comp=E,0.4nm,0.6s,baz=214,slow=7.0,SNR=3.0						
MKAR	**Makanchi Array**	**28.60**	**41**	P	**P**	**03 30 55.8**	**+0.1**
	comp=E,0.2nm,0.5s,baz=224,slow=9.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**34.09**	**31**	P	**P**	**03 31 42.7**	**-1.1**
	comp=E,0.6nm,0.3s,baz=242,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**38.98**	**338**	P	**P**	**03 32 24.3**	**-1.1**
	comp=E,1.6nm,0.8s,baz=138,slow=10.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**51.79**	**265**	P	**P**	**03 34 06.7**	**-0.9**
	comp=E,1.1nm,1.0s,baz=69,slow=8.7,SNR=5.7						
YKA	**Yellowknife Ar**	**89.79**	**355**	P	**P**	**03 37 57.5**	**-0.1**
	comp=E,0.2nm,0.6s,baz=7.2,slow=5.4,SNR=6.4						

IDC 09 03:31:04.4±1.0,**44°.72S×14°.81W,h0**km,**mb4.1**/4, **mb1 4.1**/4,**mb1mx3.7**/25,**mbtmp4.0**/4,**MS3.7**/8,**Ms1 3.7**/8, **ms1mx3.5**/24,**Error ellipse: s-maj=94.6km s-min=24.7km az=97.0,Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**30.22**	**78**	LR	LR	03 46 50.9	
	comp=Z,244nm,19.2s,baz=206,slow=31						
BOSA	**Boshof**	**35.53**	**77**	LR	LR	03 49 36.7	
	comp=Z,83nm,19.5s,baz=240,slow=31						
H10S2	**ASCENSION HYDR**	**35.63**	**0**	T	T	04 16 00.0	
	baz=181,slow=75,SNR=9.7						
H10S3	**ASCENSION HYDR**	**35.63**	**0**	T	T	04 15 58.6	
	baz=181,slow=75,SNR=8.1						
H10S1	**ASCENSION HYDR**	**35.65**	**0**	T	T	04 15 59.0	
	baz=181,slow=75,SNR=8.4						
CPUP	**Villa Florida**	**38.65**	**284**	LR	LR	03 50 46.1	
	comp=Z,98nm,20.8s,baz=175,slow=31						
BDFB	**Brasilia**	**40.30**	**305**	LR	LR	03 51 53.5	
	comp=Z,141nm,20.8s,baz=121,slow=31						
PLCA	**Paso Flores**	**40.46**	**255**	LR	LR	03 52 45.1	
	comp=Z,149nm,20.3s,baz=150,slow=32						
QSPA	**South Pole Qui**	**45.54**	**180**	P	P	03 39 25.3	-0.2
	4.6nm,0.9s,baz=219,slow=4.3,SNR=8.5						
DBIC	**Dimbokro**	**51.94**	**13**	LR	LR	03 56 24.8	
	comp=Z,58nm,21.0s,baz=190,slow=29						
LPAZ	**La Paz**	**52.81**	**285**	LR	LR	04 02 42.9	
	comp=Z,134nm,18.1s,baz=106,slow=36						
VNDA	**Vanda**	**58.02**	**179**	P	P	03 40 58.1	-0.2
	1.0nm,1.1s,baz=172,slow=7.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**59.51**	**19**	P	P	03 41 08.8	-0.6
	2.1nm,0.9s,baz=222,slow=3.7,SNR=9.7						
TORD				LR	LR	04 02 45.7	
	comp=Z,43nm,18.5s,baz=325,slow=32						
BRTR	**Keskin Array B**	**94.69**	**35**	P	P	03 44 28.1	+0.9
	0.7nm,0.9s,baz=198,slow=8.9,SNR=4.7						
MKAR	**Makanchi Array**	**124.76**	**56**	PKP	PKPdf	03 50 05.2	-0.2
	0.2nm,0.4s,baz=208,slow=2.8,SNR=2.2						
YKA	**Yellowknife Ar**	**132.64**	**322**	PKP	PKiKP	03 50 21.2	+0.2
	0.2nm,0.6s,baz=104,slow=2.0,SNR=4.1						
SONM	**Songino Array**	**140.09**	**64**	PKP	PKPdf	03 50 33.0	-1.3
	0.2nm,0.3s,baz=201,slow=1.2,SNR=1.6						
ILAR	**Eielson Array**	**146.96**	**324**	PKPbc	PKPdf	03 50 46.4	+0.7
	2.0nm,0.8s,baz=54,slow=1.2,SNR=16						

*IDC **09** 03:32:53.4±1.6,34°.25N×26°.82E,h0km,mb3.5/3, mb1 3.4/5,mb1mx3.2/38,mbtmp3.3/5,ML3.6/2,MS3.2/1, Ms1 3.2/1,ms1mx2.3/24,Error ellipse: s-maj=31.8km s-min=25.1km az=172.0*
*THE **09** 03:32:55.9,34°.10N×26°.87E,h27km±55km,ML2.6/3,Error ellipse: s-maj=56.2km s-min=3.5km az=156.0*
*ISCJB **09** 03:32:56.7±0.9,34°.29N±0°.07×26°.83E±0°.04,h48km±11km, mb3.3/3,MS3.1/1,Error ellipse: s-maj=11.4km s-min=4.7km az=170.4*
*ATH **09** 03:32:56.7,34°.30N×26°.76E,h36km±4km,ML2.4/2,Error ellipse: s-maj=5.9km s-min=2.4km az=352.0*
ISC 09 03:32:57.1±1.9,**34°.29N**±0°.09×**26°.81E**±0°.03,**h30**km±12km, **n41**,σ¹**s56**/54,**mb3.4**/3,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.96**	**329**	P	**Pb**	**03 33 14.4**	**-0.8**
ZKR				S	**Sb**	**03 33 29.6**	**+2.1**
ZKR	**Zakros**	**0.96**	**329**	P	**Pb**	**03 33 14.4**	**-0.8**
ZKR				S	**Sb**	**03 33 27.6**	**+0.1**
ZKR				AML	AML	03 33 33.7	
	comp=N,226μm,0.4s						
ZKR				AML	AML	03 33 35.1	
	comp=E,536μm,0.6s						
STIA	**Sitia Lasithi**	**1.09**	**327**	P	**Pb**	**03 33 16.4**	**-0.9**
STIA				S	**Sb**	**03 33 34.0**	**+2.8**
KARP	**Karpathos**	**1.29**	**13**	P	**Pb**	**03 33 19.7**	**-1.0**
KARP				S	**Sb**	**03 33 36.8**	**-0.1**
KARP	**Karpathos**	**1.29**	**13**	P	**Pb**	**03 33 19.9**	**-0.8**
NPS	**Neapolis**	**1.39**	**315**	P	**Pb**	**03 33 20.9**	**-1.5**
NPS	**Neapolis**	**1.39**	**315**	P	**Pb**	**03 33 20.8**	**-1.5**
LAST	**Lasithi**	**1.40**	**309**	P	**Pn**	**03 33 21.0**	**+0.3**
LAST				S	**Sn**	**03 33 39.0**	**+0.8**
LAST	**Lasithi**	**1.40**	**309**	P	**Pb**	**03 33 21.1**	**-1.6**
LAST				S	**Sn**	**03 33 38.6**	**+0.4**
LAST				AML	AML	03 33 38.9	
	comp=E,429μm,0.6s						
LAST				AML	AML	03 33 39.4	
	comp=N,256μm,0.5s						
KSTL	**Kastelli Herak**	**1.76**	**306**	P	**Pn**	**03 33 23.0**	**-2.4**
IDI	**Anoyia**	**1.87**	**303**	P	**Pn**	**03 33 26.1**	**-1.0**
IDI	**Anoyia**	**1.87**	**303**	Pn	**Pn**	**03 33 27.6**	**+0.5**
	comp=N,4.0nm,0.3s,baz=137,slow=11,SNR=47						
IDI				Sn	**Sn**	**03 33 49.6**	**-0.1**
	comp=N,7.5nm,0.3s,baz=28,slow=22,SNR=15						
ARG	**Arkhangelos**	**2.20**	**29**	P	**Pn**	**03 33 32.9**	**+1.3**
ANAF	**Anafi Island**	**2.23**	**338**	P	**Pn**	**03 33 31.0**	**-1.0**
GVD	**Gavdhos**	**2.32**	**285**	P	**Pn**	**03 33 33.7**	**+0.6**
THR3	**Thira Island,**	**2.41**	**332**	P	**Pn**	**03 33 33.1**	**-1.3**
VAM	**Vamos**	**2.42**	**298**	P	**Pn**	**03 33 35.4**	**+0.8**
VAM				S	**Sn**	**03 34 03.5**	**+0.3**
VAM	**Vamos**	**2.42**	**298**	P	**Pn**	**03 33 35.4**	**+0.8**
THR5	**Thira Island,**	**2.44**	**331**	P	**Pn**	**03 33 33.7**	**-1.1**
CMBO	**Columbo, Santo**	**2.46**	**333**	P	**Pn**	**03 33 34.8**	**-0.4**
DAT	**Datca**	**2.52**	**14**	*i*P	**Pn**	**03 33 35.9**	**-0.1**
DAT				*i*S	**Sn**	**03 34 02.6**	**-3.1**
DAT				IAML_P			
	comp=Z,84nm,0.1s						
IMMV	**Iera Moni Meta**	**2.61**	**297**	P	**Pn**	**03 33 38.0**	**+0.9**
IMMV				S	**Sn**	**03 34 06.9**	**-0.9**
IMMV	**Iera Moni Meta**	**2.61**	**297**	P	**Pn**	**03 33 38.1**	**+0.9**
BDRM	**Kayabasi**	**2.82**	**10**	*i*P	**Pn**	**03 33 40.3**	**+0.2**
BDRM				IAML_P			
	comp=Z,85nm,0.2s						
DALY	**Dalyan (Mula)**	**2.94**	**30**	*i*P	**Pn**	**03 33 43.0**	**+1.4**
DALY				IAML_P			
	comp=Z,160nm,0.1s						
TURN	**Turunc**	**2.96**	**29**	*i*P	**Pn**	**03 33 39.9**	**-2.1**
TURN				*i*S	Sn	03 34 07.0	-10
TURN				IAML_P			
	comp=Z,336nm,0.1s						
FETY	**Fethiye**	**2.99**	**38**	*i*P	**Pn**	**03 33 42.5**	**+0.1**
FETY				IAML_P			
	comp=Z,217nm,0.1s						
AKAS	**Kas**	**3.00**	**49**	*i*P	**Pn**	**03 33 43.1**	**+0.5**
AKAS				*i*S	**Sn**	**03 34 15.4**	**-2.2**
AKAS				IAML_P			
	comp=Z,533nm,0.1s						
AYDN	**Tasoluk**	**3.48**	**14**	*i*P	**Pn**	**03 33 50.5**	**+1.4**
AYDN				IAML_P			
	comp=Z,148nm,0.2s						
AKUM	**Antalya-Kumluc**	**3.53**	**54**	*i*P	**Pn**	**03 33 50.3**	**+0.5**
AKUM				IAML_P			
	comp=Z,604nm,0.1s						
KORT	**Korkueli**	**3.95**	**46**	*i*P	**Pn**	**03 33 58.5**	**+2.8**
KORT				*i*S	**Sn**	**03 34 43.9**	**+2.7**
KORT				IAML_P			
	comp=Z,184nm,0.1s						
BRDR	**BURDUR-Merkez**	**4.30**	**37**	*i*P	**Pn**	**03 34 03.9**	**+3.4**
BRDR				*i*S	**Sn**	**03 34 48.9**	**-0.8**
BRDR				IAML_P			
	comp=Z,294nm,0.2s						
KHAL	**Karahalli**	**4.61**	**27**	*i*P	**Pn**	**03 34 04.1**	**-0.7**
KHAL				IAML_P			
	comp=Z,53nm,0.1s						
USAK	**Uak-Merkez**	**4.76**	**21**	*i*P	**Pn**	**03 34 07.5**	**+0.7**
USAK				IAML_P			
	comp=Z,110nm,0.2s						
MMAI	**Mount Meron Ar**	**7.27**	**98**	Pn	**Pn**	**03 34 41.2**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=284,slow=10,SNR=10.0						
MMAI				Sn	**Sn**	**03 35 58.5**	**-4.4**
	comp=Z,2.3nm,0.3s,baz=268,slow=24,SNR=7.9						
BRTR	**Keskin Array B**	**7.70**	**43**	Sn	**Sn**	**03 36 10.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=218,slow=24,SNR=2.7						
AKASG	**Malin Array Be**	**16.50**	**5**	Pn	**Pn**	**03 36 46.5**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=191,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**27.18**	**359**	P	**P**	**03 38 37.7**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=168,slow=9.5,SNR=1.5						
TORD	**Torodi Ar. Bea**	**31.02**	**233**	P	**P**	**03 39 12.6**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=25,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**43.13**	**56**	P	**P**	**03 40 55.5**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=258,slow=13,SNR=1.8						
ZALV	**Zalesovo Beam**	**44.63**	**46**	LR	LR	04 04 46.7	
	comp=Z,25nm,19.6s,baz=43,slow=43						

*ISCJB **09** 03:43:11.2±1.0,13°.92N±0°.07×92°.19W±0°.06,h10km, mb3.6/5,Error ellipse: s-maj=11.1km s-min=7.4km az=26.8*
*IDC **09** 03:43:11.0±1.8,13°.89N×92°.08W,h0km,mb3.7/5, mb1 4.0/8,mb1mx3.8/31,mbtmp3.7/8,ML3.5/3,Error ellipse: s-maj=38.1km s-min=22.2km az=13.0*
*MEX **09** 03:43:16.8±0.6,14°.14N×91°.98W,h67km±19km,MD3.8*
ISC 09 03:43:12.8±0.9,**14°.04N**±0°.07×**92°.04W**±0°.07,**h10**km,**n15**, σ¹**s60**/20,**mb3.9**/5,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.89**	**346**	*e*P	**Pn**	**03 43 31.5**	**+0.1**
THIG				*i*S	**Sg**	**03 43 43.0**	**+1.3**
APG	**El Apazote**	**1.80**	**58**	Pn	**Pb**	**03 43 46.1**	**+0.1**
	42nm,0.3s,baz=211,slow=16,SNR=128						
APG				Sn	**Sb**	**03 44 10.7**	**+2.0**
	18nm,0.3s,baz=18,slow=13,SNR=5.1						
PCIG		**2.01**	**326**	*i*P	**Pn**	**03 43 46.7**	**-0.1**
PCIG				*i*S	**Sn**	**03 44 09.2**	**-2.9**
CCIG	**Comitan**	**2.23**	**357**	*i*P	**Pn**	**03 43 48.9**	**-1.1**
CCIG				*e*P	**Pb**	**03 43 53.4**	**0.0**
CCIG				*i*S	**Sn**	**03 44 14.3**	**-3.5**
CMIG	**Matias Romero**	**4.09**	**318**	Pn	**Pn**	**03 44 15.5**	**0.0**
	2.0nm,0.3s,baz=157,slow=13,SNR=30						
CMIG				Sn	**Sn**	**03 45 02.7**	**-0.8**
	11nm,0.3s,baz=48,slow=14,SNR=5.2						
CMIG				Lg	Lg	03 45 14.0	
	11nm,0.3s,baz=40,slow=21,SNR=12						
JTS	**JuntasAbangare**	**7.86**	**117**	Pn	**Pn**	**03 45 07.3**	**-0.1**
	0.4nm,0.3s,baz=307,slow=20,SNR=2.1						
JTS				Lg	Lg	03 47 04.7	
	0.8nm,0.3s,baz=31,slow=19,SNR=2.8						
TXAR	**Lajitas Array**	**18.65**	**327**	P	**Pn**	**03 47 32.8**	**+1.6**
	0.1nm,0.3s,baz=149,slow=12,SNR=10						
H06E1	**SOCORRO T-PHAS**	**18.72**	**287**	T	T	04 06 46.2	
	SNR=7.7						
ANMO	**Albuquerque**	**24.55**	**330**	P	**P**	**03 48 34.6**	**+1.6**
	1.3nm,0.7s,baz=153,slow=11,SNR=7.8						
PDAR	**Pinedale Array**	**32.37**	**336**	P	**P**	**03 49 44.3**	**+1.4**
	0.1nm,0.5s,baz=132,slow=12,SNR=3.0						
NVAR	**Mina Array Bea**	**33.62**	**321**	P	**P**	**03 49 56.0**	**+2.2**
	1.1nm,0.7s,baz=131,slow=7.5,SNR=6.5						
YKA	**Yellowknife Ar**	**50.98**	**347**	P	**P**	**03 52 13.3**	**

OBIP	**Obispado Ponce**	**2.19**	**237**	*e*P	**Pn**	**03 58 13.7**	**+0.1**
OBIP				*e*S	**Sn**	**03 58 41.2**	**+1.3**
SEUS	**St. Eustatius**	**2.38**	**137**	*e*P	**Pb**	**03 58 20.7**	**-0.6**
AGPR	**Aguadilla, PR**	**2.43**	**252**	*e*P	**Pn**	**03 58 16.4**	**-0.6**
AGPR	**Aguadilla, PR**	**2.43**	**252**	*e*P	**Pn**	**03 58 16.4**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.44**	**239**	*e*P	**Pn**	**03 58 18.6**	**+1.5**
GBPR	**Guanica, Bosqu**	**2.44**	**239**	*e*P	**Pn**	**03 58 18.6**	**+1.5**
LSP	**Las Mesas**	**2.52**	**245**	*e*P	**Pn**	**03 58 19.1**	**+0.9**
LSP	**Las Mesas**	**2.52**	**245**	*e*P	**Pn**	**03 58 19.1**	**+0.9**
NEV	**Hard Times**	**2.91**	**136**	*e*P	**Pn**	**03 58 24.8**	**+1.2**
ANWB	**Willy Bob**	**3.17**	**119**	*e*P	**Pn**	**03 58 26.9**	**-0.2**
ANWB				*e*S	**Sn**	**03 59 02.3**	**-1.8**
MLYT	**Lee's Yard**	**3.46**	**136**	*e*P	**Pn**	**03 58 31.6**	**+0.5**
BPA	**Boggy Peak**	**3.47**	**129**	*e*P	**Pn**	**03 58 31.0**	**-0.3**
BPA				*e*S	**Sn**	**03 59 11.8**	**+0.2**
TBG	**Guadaloupe-3**	**4.46**	**139**	*e*P	**Pn**	**03 58 45.4**	**+0.6**
TBG	**Guadaloupe-3**	**4.46**	**139**	*e*S	**Sn**	**03 59 40.2**	**+4.4**
DEG	**La Desirade**	**4.53**	**130**	*e*P	**Pn**	**03 58 46.2**	**+0.3**
H05N1	**Guadeloupe/Mar**	**4.53**	**130**	Pn	**Pn**	**03 58 44.3**	**-1.5**
H05N1				Sn	**Sn**	**03 59 37.6**	**0.0**
BBL	**Barber's Block**	**4.81**	**140**	*i*P	**Pn**	**03 58 50.5**	**+0.8**
DWS	**Wesley**	**4.88**	**138**	*e*P	**Pn**	**03 58 51.1**	**+0.5**
DWS	**Wesley**	**4.88**	**138**	*e*S	**Sn**	**03 59 48.7**	**+2.4**
DLPL	**La Plaine**	**5.10**	**139**	*e*P	**Pn**	**03 58 53.5**	**-0.1**
FDF	**Fort de France**	**5.63**	**143**	*e*P	**Pn**	**03 59 01.8**	**+0.8**
H05S1	**Guadeloupe/Mar**	**6.05**	**142**	Pn	**Pn**	**03 59 07.1**	**+0.3**
H05S1				Sn	**Sn**	**04 00 15.7**	**+0.5**
SDDR	**Presa de Saban**	**6.25**	**269**	*e*Pn	**Pn**	**03 59 10.7**	**+1.1**
	78nm,0.9s						
SDV	**Santo Domingo**	**11.81**	**210**	*e*Pn	**Pn**	**04 00 25.3**	**-0.7**
	12nm,0.8s						
SDV				Sn	**Sn**	**04 02 35.0**	**-2.2**
SDV	**Santo Domingo**	**11.81**	**210**	*e*P	**Pn**	**04 00 24.5**	**-1.5**
SDV	**Santo Domingo**	**11.81**	**210**	*e*P	**Pn**	**04 00 24.5**	**-1.5**
SDV	**Santo Domingo**	**11.81**	**210**	Pn	**Pn**	**04 00 25.4**	**-0.6**
	0.9nm,0.3s,baz=200,slow=3.3,SNR=12						
SDV				Sn	**Sn**	**04 02 34.9**	**-2.2**
	0.3nm,0.3s,baz=316,slow=18,SNR=3.1						
SDV				LR	LR	04 05 23.4	
	comp=Z,128nm,18.8s,baz=83,slow=39						
OCAC	**Ocana**	**13.79**	**219**	*e*P	**Pn**	**04 00 51.1**	**-1.9**
OCAC	**Ocana**	**13.79**	**219**	*e*P	**Pn**	**04 00 51.1**	**-1.9**
PAMC	**Pamplona, Colo**	**14.18**	**214**	*e*P	**Pn**	**04 00 59.6**	**+1.0**
PAMC				*e*		04 00 59.6	
PAMC	**Pamplona, Colo**	**14.18**	**214**	*e*P	**Pn**	**04 00 59.6**	**+1.0**
PAMC				*e*		04 00 59.6	
BARC	**Barichara**	**15.06**	**214**	*e*P	**Pn**	**04 01 10.2**	**-0.1**
BARC	**Barichara**	**15.06**	**214**	*e*P	**Pn**	**04 01 10.2**	**-0.1**
RUSC	**La Rusia**	**15.60**	**213**	*e*P	**Pn**	**04 01 18.9**	**+1.2**
RUSC	**La Rusia**	**15.60**	**213**	*e*P	**Pn**	**04 01 18.9**	**+1.2**
PTBC	**PUERTO BERRIO,**	**15.82**	**218**	*e*P	**Pn**	**04 01 18.9**	**-1.2**
PTBC	**PUERTO BERRIO,**	**15.82**	**218**	*e*P	**Pn**	**04 01 18.9**	**-1.2**
NORC	**Norcasia**	**16.85**	**217**	*e*P	**Pn**	**04 01 33.0**	**-0.2**
NORC	**Norcasia**	**16.85**	**217**	*e*P	**Pn**	**04 01 33.0**	**-0.2**
CHIC	**Chingaza**	**17.01**	**212**	*e*P	**Pn**	**04 01 35.2**	**-0.3**
CHIC	**Chingaza**	**17.01**	**212**	*e*P	**Pn**	**04 01 35.2**	**-0.3**
ROSC	**El Rosal**	**17.14**	**214**	P	**P**	**04 01 41.4**	**+2.7**
	1.3nm,0.3s,baz=42,slow=20,SNR=5.1						
ROSC				LR	LR	04 08 53.3	
	comp=Z,140nm,21.2s,baz=86,slow=39						
POPC	**Popayan, Colom**	**20.34**	**217**	*e*P	**P**	**04 02 14.9**	**+1.2**
POPC	**Popayan, Colom**	**20.34**	**217**	*e*P	**P**	**04 02 14.9**	**+1.2**
APG	**El Apazote**	**24.99**	**264**	P	**P**	**04 03 02.1**	**+1.1**
	8.4nm,0.9s,baz=41,slow=9.3,SNR=4.5						
APG				LR	LR	04 15 04.1	
	comp=Z,55nm,20.2s,baz=93,slow=42						
TXAR	**Lajitas Array**	**36.77**	**293**	P	**P**	**04 04 47.0**	**+2.4**
	0.1nm,0.5s,baz=101,slow=9.5,SNR=2.8						
ANMO	**Albuquerque**	**40.03**	**302**	P	**P**	**04 05 13.1**	**+1.0**
	0.5nm,0.6s,baz=95,slow=12,SNR=3.1						
PDAR	**Pinedale Array**	**44.37**	**312**	P	**P**	**04 05 48.6**	**+1.1**
	0.5nm,0.6s,baz=99,slow=9.2,SNR=5.6						
NVAR	**Mina Array Bea**	**49.98**	**304**	P	**P**	**04 06 32.0**	**+0.8**
	0.2nm,0.4s,baz=83,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**55.06**	**334**	P	**P**	**04 07 07.1**	**-1.0**
	0.4nm,0.6s,baz=111,slow=7.5,SNR=6.6						
TORD	**Torodi Ar. Bea**	**63.71**	**85**	P	**P**	**04 08 07.6**	**-1.2**
	0.5nm,0.8s,baz=257,slow=5.8,SNR=2.8						
ILAR	**Eielson Array**	**69.44**	**333**	P	**P**	**04 08 43.4**	**-1.1**
	0.2nm,0.6s,baz=102,slow=4.2,SNR=8.3						
FINES	**FINESS Array B**	**73.65**	**30**	P	**P**	**04 09 09.4**	**-0.5**
	0.6nm,0.6s,baz=235,slow=12,SNR=3.5						

MEX 09 03:59:19.3±0.5, 16°05.05'N × 97°19.19'W, h36km±3km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.96**	**291**	*e*P	Pn	03 59 34.6	-1.8
PNIG				*e*S	Sn	03 59 46.2	-2.7
HUIG	**Huatulco**	**1.07**	**105**	*e*P	Pn	03 59 36.2	-1.7
HUIG				*i* S	Sn	03 59 49.1	-2.4
VHO	**Vista Hermosa**	**1.11**	**23**	*i* P	Pn	03 59 36.5	-2.1
VHO				*i* S	Sn	03 59 50.3	-2.4
TLIG	**Tlapa**	**2.00**	**319**	*i* P	Pn	03 59 48.7	-2.1
TLIG				*i* S	Sn	04 00 12.9	-1.7
TPIG	**Tehuac#an**	**2.37**	**356**	*i* P	Pn	03 59 53.4	-2.4
TPIG				*i* S	Sn	04 00 20.9	-2.8
CMIG	**Matias Romero**	**2.44**	**65**	*e*P	Pn	03 59 55.0	-1.6
CMIG				*i* S	Sn	04 00 24.1	-1.2
YAIG	**Yautepec**	**3.33**	**328**	*e*P	Pn	04 00 08.0	-1.0
YAIG				*i* S	Sn	04 00 44.9	-2.4

*ISCJB **09** 04:11:54.1±0.6,5.°26S±0.°07×146.°84E±0.°10, h250km, mb4.0/11, Error ellipse: s-maj=13.5km s-min=10.1km az=8.2*

*IDC **09** 04:11:55.7±0.7, 5.°28S±0.°09×146.°62E±0.°10, h250km, n17, σ1§22/21, mb3.9/10, Eastern New Guinea region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.51**	**295**	P	**Pn**	**04 13 30.7**	**+0.4**
	3.8nm,0.3s,baz=166,slow=6.0,SNR=11						
JAY				S	**S**	**04 14 42.5**	**-3.6**
	2.0nm,0.3s,baz=15,slow=20,SNR=3.4						
CTA	**Charters Tower**	**14.73**	**181**	P	**Pn**	**04 15 12.8**	**+0.1**
	0.3nm,0.3s,baz=15,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**18.85**	**218**	P	**P**	**04 15 57.8**	**+0.2**
	4.8nm,0.3s,baz=38,slow=11,SNR=222						
WRA				S	**S**	**04 19 18.0**	**-0.5**
	0.3nm,0.3s,baz=38,slow=20,SNR=8.0						
ASAR	**Alice Springs**	**22.01**	**213**	P	**P**	**04 16 30.9**	**+1.0**
	9.2nm,0.6s,baz=46,slow=7.6,SNR=169						
ASAR				S	**S**	**04 20 15.8**	**+1.2**
	3.2nm,0.8s,baz=33,slow=17,SNR=8.7						
FITZ	**Fitzroy Crossi**	**24.14**	**236**	P	**P**	**04 16 50.4**	**+1.1**
	11nm,0.4s,baz=51,slow=12,SNR=67						
DZM	**Mont Dzumac**	**25.43**	**133**	P	**P**	**04 16 59.5**	**-1.6**
	3.2nm,0.4s,baz=288,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**26.88**	**189**	P	**P**	**04 17 13.5**	**-0.2**
	0.4nm,0.2s,baz=14,slow=12,SNR=2.5						
URZ	**Urewera**	**42.96**	**144**	P	**P**	**04 19 28.9**	**-1.5**
	15nm,0.9s,baz=252,slow=4.4,SNR=6.4						
SONM	**Songino Array**	**63.59**	**331**	P	**P**	**04 22 01.8**	**+1.7**
	0.8nm,0.7s,baz=141,slow=10,SNR=6.6						
VNDA	**Vanda**	**72.65**	**177**	P	**P**	**04 22 55.8**	**+0.2**
	1.5nm,0.6s,baz=327,slow=6.9,SNR=20						
MKAR	**Makanchi Array**	**76.70**	**320**	P	**P**	**04 23 20.4**	**+1.0**
	0.4nm,0.3s,baz=99,slow=8.5,SNR=4.8						
MKAR				pP	**pP**	**04 24 18.7**	**+0.9**
	0.9nm,0.9s,baz=116,slow=5.5,SNR=4.0						
ZALV	**Zalesovo Beam**	**78.20**	**328**	P	**P**	**04 23 27.5**	**0.0**
	1.1nm,0.4s,baz=106,slow=5.3,SNR=4.5						
ILAR	**Eielson Array**	**84.97**	**23**	P	**P**	**04 24 02.0**	**-0.6**
	1.7nm,0.7s,baz=250,slow=4.6,SNR=29						
ILAR				pP	**pP**	**04 25 01.3**	**-0.6**
	0.3nm,0.7s,baz=249,slow=4.6,SNR=2.0						
YKA	**Yellowknife Ar**	**98.71**	**28**	P	Pdif	04 25 06.3	0.0
	0.2nm,0.8s,baz=276,slow=5.3,SNR=3.0						
PLCA	**Paso Flores**	**122.93**	**147**	PKP	**PKiKP**	**04 30 23.1**	**+0.3**
	1.3nm,0.5s,baz=270,slow=4.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**144.54**	**285**	PKP	**PKPab**	**04 31 02.8**	**+0.2**
	0.5nm,0.4s,baz=66,slow=5.0,SNR=11						
BDFB	**Brasilia**	**154.66**	**145**	PKPbc	**PKiKP**	**04 31 28.3**	**+0.2**
	1.1nm,0.3s,baz=217,slow=3.3,SNR=4.5						

*ISCJB **09** 04:38:36.5±0.3, 7.°37N±0.°02×74.°88W±0.°02, h71km±3km, mb4.1/26, Error ellipse: s-maj=4.1km s-min=3.8km az=154.1*

*NEIC **09** 04:38:38.0±0.8, 7.°43N×74.°73W, h68km±10km, mb4.4/13, Error ellipse: s-maj=10.4km s-min=7.7km az=122.0*

NEIC Felt at Medellin.

*RSNC **09** 04:38:38.7±1.2, 7.°33N×74.°86W, h46km±6km, ML4.3, Mw4.3*

*IDC **09** 04:38:39.1±0.5, 7.°32N×74.°81W, h82km±5km, mb3.7/14, mb1 4.0/16, mb1mx3.8/31, mbtmp4.1/16, MS3.0/4, Ms1 3.0/4, ms1mx2.7/34, Error ellipse: s-maj=11.8km s-min=7.6km az=76.0*

ISC 09 04:38:38.2±0.5, 7.°36N±0.°03×74.°84W±0.°03, h71km±4km, n80, σ1§55/103, mb4.3/26, 14C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZARC	**Zaragoza, Cauc**	**0.13**	**354**	*i*P	Pn	04 38 45.6	-3.1
ZARC				*e*S	**Sn**	**04 38 51.7**	**-4.7**
ZARC				*i*		04 38 52.5	
	comp=Z,34µm,0.2s						
UREC	**San Jos de Ur**	**0.78**	**299**	*i*P	**Pn**	**04 38 52.3**	**-1.9**
UREC				*e*S	**Sn**	**04 39 04.5**	**-1.6**
UREC				*i*		04 39 06.5	
	comp=Z,16µm,0.1s						
PTBC	**PUERTO BERRIO,**	**0.91**	**155**	*i*P	**Pn**	**04 38 52.9**	**-2.8**
PTBC				*e*S	**Sn**	**04 39 04.8**	**-3.8**
PTBC				*i*		04 39 05.8	
	comp=Z,3µm,0.5s						
PTBC				*i*		04 39 06.7	
	comp=E,10µm,0.5s						
BRRC	**Barranca, Sant**	**1.15**	**103**	*i*P	**Pn**	**04 38 57.5**	**-1.2**
BRRC				*e*S	**Sn**	**04 39 12.2**	**-1.8**
BRRC				*i*		04 39 13.6	
	comp=N,8µm,0.3s						
BRRC				*i*		04 39 16.0	
	comp=Z,2µm,0.4s						
HELC	**Santa Helena**	**1.35**	**210**	*i*P	**Pn**	**04 38 59.9**	**-1.7**
HELC				*e*S	**Sn**	**04 39 17.7**	**-1.4**
HELC				*i*		04 39 19.2	
	comp=N,5µm,0.3s						
HELC				*i*		04 39 20.3	
	comp=Z,4µm,0.4s						
DBBC	**Dabeiba**	**1.40**	**256**	*i*P	**Pn**	**04 39 00.8**	**-1.2**
DBBC				*e*S	**Sn**	**04 39 18.8**	**-1.0**
DBBC				*i*		04 39 23.9	
	comp=Z,3µm,0.7s						
SMLC	**San Martn de**	**1.62**	**28**	*e*S	**Sn**	**04 39 25.3**	**+0.4**
OCAC	**Ocana**	**1.74**	**60**	*i*P	**Pn**	**04 39 06.0**	**-0.6**
OCAC				*e*S	**Sn**	**04 39 28.3**	**+0.2**
OCAC				*i*		04 39 33.3	
	comp=Z,4µm,0.7s						
BARC	**Barichara**	**1.82**	**115**	*i*P	**Pn**	**04 39 07.2**	**-0.5**
BARC				*i*		04 39 08.1	
	comp=Z,6µm,0.3s						
BARC				*e*S	**Sn**	**04 39 30.6**	**+0.5**
PAMC	**Pamplona, Colo**	**2.13**	**91**	*e*S	**Sn**	**04 39 38.3**	**+0.4**
PAMC				*i*		04 39 39.6	
	comp=N,6µm,0.5s						
PAMC	**Pamplona, Colo**	**2.13**	**91**	*i*P	**Pn**	**04 39 12.1**	**0.0**
PAMC				*e*S	Sn	04 39 27.2	-11
PAMC				*i*		04 39 29.3	
	comp=E,2µm,0.5s						
RUSC	**La Rusia**	**2.28**	**130**	*e*P	**Pn**	**04 39 13.2**	**-1.0**
RUSC				*e*S	**Sn**	**04 39 40.5**	**-0.9**
RUSC				*i*		04 39 43.2	
	comp=N,2µm,0.4s						
RUSC				*i*		04 39 45.4	
	comp=Z,683nm,0.3s						
RUSC	**La Rusia**	**2.28**	**130**	*i*P	**Pn**	**04 39 13.7**	**-0.5**
RUSC				*e*S	Sn	04 39 29.0	-13
RUSC				*i*		04 39 32.5	
	comp=E,525nm,0.3s						
RREF	**El Recreo**	**2.50**	**192**	*e*P	**Pn**	**04 39 17.3**	**+0.1**
RREF				*e*S	**Sn**	**04 39 51.1**	**+4.2**
RREF				*i*		04 39 59.0	
	comp=Z,862nm,0.4s						
SJCC	**San Jacinto, C**	**2.54**	**353**	*e*P	**Pn**	**04 39 16.8**	**-0.5**
SJCC				*e*S	**Sn**	**04 39 46.7**	**-0.5**
CAPV	**Capacho**	**2.56**	**79**	*i*P	**Pn**	**04 39 19.1**	**+1.4**
CAPV				*e*S	**Sn**	**04 39 48.0**	**+0.1**
ROSC	**El Rosal**	**2.56**	**168**	*e*Pn	**Pn**	**04 39 17.5**	**-0.3**
ROSC	**El Rosal**	**2.56**	**168**	*e*P	**Pn**	**04 39 17.4**	**-0.5**
ROSC				*e*S	**Sn**	**04 39 50.3**	**+2.1**
ROSC				*i*		04 39 56.2	
	comp=Z,408nm,0.4s						
ROSC	**El Rosal**	**2.56**	**168**	P	**Pn**	**04 39 17.6**	**-0.2**
	comp=Z,11nm,0.3s,baz=120,slow=5.0,SNR=20						
ROSC				S	**Sn**	**04 39 49.2**	**+1.0**
	comp=Z,136nm,0.3s,baz=92,slow=24,SNR=13						
ROSC				LR	LR	04 40 15.6	
	comp=Z,107nm,18.3s,baz=56,slow=39						
SOLC	**Bahia Solano**	**2.79**	**246**	*e*P	**Pn**	**04 39 19.6**	**-0.9**
SOLC				*i*		04 39 43.3	
	comp=Z,238nm,0.4s						
CODC	**Agustn Codazz**	**2.91**	**28**	*i*P	**Pn**	**04 39 21.6**	**-0.5**
CODC				*e*S	**Sn**	**04 39 56.9**	**+0.8**
CODC				*i*		04 40 03.3	
	comp=E,988nm,0.3s						
CHIC	**Chingaza**	**2.93**	**158**	*i*P	**Pn**	**04 39 22.1**	**-0.8**
TAMC	**Tame, Arauca**	**3.17**	**107**	*e*P	**Pn**	**04 39 26.0**	**+0.2**
TAMC	**Tame, Arauca**	**3.17**	**107**	*i*P	**Pn**	**04 39 26.0**	**+0.2**
TAMC				*i*		04 39 27.0	
	comp=Z,324nm,0.4s						
VILC	**Villavicencio,**	**3.43**	**160**	*e*P	**Pn**	**04 39 28.8**	**-0.6**
PRAC	**Prado**	**3.63**	**181**	*e*P	**Pn**	**04 39 30.6**	**-1.4**
YOTC	**Yotoco, Valle**	**3.67**	**204**	*e*P	**Pn**	**04 39 31.1**	**-1.6**
SOCV	**Socops**	**4.06**	**77**	*i* P	**Pn**	**04 39 37.9**	**0.0**
SDV	**Santo Domingo**	**4.43**	**70**	*e*Pn	**Pn**	**04 39 44.0**	**+0.8**
SDV	**Santo Domingo**	**4.43**	**70**	*e*P	**Pn**	**04 39 44.1**	**+0.8**
SDV	**Santo Domingo**	**4.43**	**70**	P	**Pn**	**04 39 44.0**	**+0.8**
	comp=Z,68nm,0.3s,baz=261,slow=3.0,SNR=942						
SDV				S	**Sn**	**04 40 35.8**	**+2.1**
	comp=Z,121nm,0.3s,baz=25,slow=18,SNR=12						
SDV				LR	LR	04 41 49.2	
	comp=Z,134nm,21.4s,baz=270,slow=43						
BCIP	**Isla Barro Col**	**5.26**	**290**	*e*Pn	**Pn**	**04 39 52.8**	**-1.4**
ELOV	**Elorza**	**5.33**	**94**	*i*P	**Pn**	**04 39 54.5**	**-0.8**
OTAV	**Otavalo**	**7.94**	**207**	*e*Pn	**Pn**	**04 40 34.4**	**+3.0**
BANI	**BANI**	**11.80**	**21**	*e*Pn	**Pn**	**04 41 23.3**	**-0.4**
SJG	**San Juan**	**13.63**	**38**	*e*Pn	**Pn**	**04 41 45.5**	**-3.0**
SJG	**San Juan**	**13.63**	**38**	P	**Pn**	**04 41 45.7**	**-2.7**
	comp=Z,3.0nm,0.3s,baz=224,slow=16,SNR=8.5						
SJG				S	Sn	04 44 07.3	-11
	comp=Z,1.1nm,0.3s,baz=198,slow=19,SNR=3.9						
HUMP	**Col San Antoni**	**13.84**	**38**	*e*Pn	**Pn**	**04 41 49.9**	**-1.3**
CBYP	**Canovanas**	**13.93**	**38**	*e*Pn	**Pn**	**04 41 50.7**	**-1.7**
MTP	**Monte Pirata**	**13.99**	**39**	*e*Pn	**Pn**	**04 41 50.9**	**-2.3**
CDVI	**St. Croix**	**14.25**	**43**	*e*Pn	**Pn**	**04 41 53.5**	**-3.1**
CUPR	**Culebra, Puert**	**14.32**	**40**	*e*Pn	**Pn**	**04 41 55.0**	**-2.4**
PTGA	**Pitinga**	**16.88**	**118**	*e*Pn	**Pn**	**04 42 26.9**	**-3.1**
	comp=Z,7.1nm,0.8s						
PTGA	**Pitinga**	**16.88**	**118**	P	**Pn**	**04 42 26.2**	**-3.8**
	comp=Z,2.1nm,0.3s,baz=299,slow=14,SNR=16						
PTGA				LR	LR	04 48 56.1	
	comp=Z,86nm,20.5s,baz=325,slow=37						
APG	**El Apazote**	**17.09**	**298**	LR	LR	04 50 45.9	
	comp=Z,99nm,20.3s,baz=110,slow=42						
LPAZ	**La Paz**	**24.42**	**164**	P	**P**	**04 43 50.8**	**-0.1**
	comp=Z,2.7nm,0.5s,baz=5.1,slow=9.9,SNR=4.1						
V48A	**Smith Brothers**	**30.30**	**340**	*e*P	**P**	**04 44 44.9**	**+2.1**
	comp=Z,8.7nm,0.9s						
CCM	**Cathedral Cave**	**33.97**	**336**	*e*P	**P**	**04 45 15.1**	**+0.2**
TXAR	**Lajitas Array**	**34.83**	**313**	P	**P**	**04 45 23.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=128,slow=5.9,SNR=3.8						
TXAR				pP	**pP**	**04 45 42.3**	**+2.4**
	comp=Z,0.8nm,0.9s,baz=133,slow=9.1,SNR=4.4						
TXAR				PcP	**PcP**	**04 47 55.5**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=143,slow=4.7,SNR=7.1						
SDCO	**Great Sand Dun**	**41.06**	**322**	*e*P	**P**	**04 46 15.9**	**+0.7**
	comp=Z,17nm,1.9s						
AGMN	**Agassiz Nation**	**44.52**	**340**	*e*P	**P**	**04 46 42.4**	**-0.2**
	comp=Z,4.7nm,0.6s						
ULM	**Lac du Bonnet**	**46.21**	**341**	*e*P	**P**	**04 46 55.5**	**-0.5**
	comp=Z,4.3nm,0.6s						
ULM	**Lac du Bonnet**	**46.21**	**341**	P	**P**	**04 46 55.6**	**-0.4**
	comp=Z,2.9nm,0.5s,baz=139,slow=9.0,SNR=14						
ULM				pP	**pP**	**04 47 16.3**	**+2.4**
	comp=Z,2.8nm,0.8s,baz=158,slow=9.7,SNR=3.6						
BW06	**Boulder Array**	**46.64**	**325**	*e*P	**P**	**04 47 00.1**	**+0.3**
	comp=Z,5.7nm,1.4s						
PD31	**Pinedale Array**	**46.64**	**325**	*e*P	**P**	**04 47 00.1**	**+0.3**
	comp=Z,5.2nm,1.4s						
PDAR	**Pinedale Array**	**46.64**	**325**	*e*P	**P**	**04 46 59.5**	**-0.3**
PDAR	**Pinedale Array**	**46.64**	**325**	P	**P**	**04 47 00.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=101,slow=7.9,SNR=6.3						
PDAR				pP	**pP**	**04 47 21.1**	**+3.4**
	comp=Z,0.6nm,0.8s,baz=111,slow=7.0,SNR=3.3						
PDAR				PcP	**PcP**	**04 48 32.2**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=138,slow=5.6,SNR=5.0						
TCUT	**Toone Canyon**	**46.74**	**322**	*e*P	**P**	**04 47 01.2**	**+0.6**
	comp=Z,7.9nm,0.6s						
TRQA	**Tornquist**	**46.75**	**166**	*e*P	**P**	**04 47 01.2**	**+0.8**
	comp=Z,0.1nm,0.4s						
REDW	**Red Top Meadow**	**47.76**	**325**	*e*P	**P**	**04 47 08.6**	**+0.2**
	comp=Z,9.1nm,1.1s						
SCHQ	**Schefferville**	**47.77**	**6**	P	**P**	**04 47 09.2**	**+1.1**
	comp=Z,6.6nm,0.6s,baz=201,slow=8.6,SNR=22						
MCMT	**McKenzie Canyo**	**49.79**	**325**	*e*P	**P**	**04 47 24.4**	**+0.4**
NVAR	**Mina Array Bea**	**49.89**	**315**	P	**P**	**04 47 25.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=123,slow=6.7,SNR=3.6						
NVAR				PcP	**PcP**	**04 48 45.3**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=134,slow=3.9,SNR=5.3						
FFC	**Flin Flon**	**51.99**	**340**	*e*P	**P**	**04 47 39.9**	**-0.2**
	comp=Z,1.1nm,0.6s						
FCC	**Fort Churchill**	**53.37**	**348**	*e*P	**P**	**04 47 49.7**	**-0.4**
	comp=Z,1.4nm,0.5s						
LLLB	**Lillooet**	**58.07**	**327**	*e*P	**P**	**04 48 24.3**	**+0.2**
	comp=Z,9.2nm,1.4s						
YKA	**Yellowknife Ar**	**62.17**	**340**	P	**P**	**04 48 51.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=134,slow=6.8,SNR=54						
YKA				pP	**pP**	**04 49 12.2**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=130,slow=7.2,SNR=13						
SUMG	**Summit**	**68.78**	**11**	*i* P	**P**	**04 49 35.4**	**+0.6**
	comp=Z,14nm,0.5s						
DBIC	**Dimbokro**	**69.40**	**86**	P	**P**	**04 49 38.1**	**-1.1**
	comp=Z,5.1nm,1.1s,baz=280,slow=6.1,SNR=2.6						
ESDC	**Sonseca Array**	**70.63**	**51**	P	**P**	**04 49 46.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=271,slow=6.6,SNR=3.8						
INK	**Inuvik**	**71.95**	**340**	*e*P	**P**	**04 49 53.4**	**-0.2**
	comp=Z,0.9nm,0.5s						
TORD	**Torodi Ar. Bea**	**75.30**	**78**	P	**P**	**04 50 12.7**	**-1.7**
	comp=Z,0.5nm,0.5s,baz=285,slow=6.0,SNR=16						
TORD				pP	**pP**	**04 50 34.4**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=284,slow=5.4,SNR=2.1						
ILAR	**Eielson Array**	**75.75**	**335**	P	**P**	**04 50 15.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=113,slow=4.8,SNR=6.3						
ILAR				pP	**pP**	**04 50 37.5**	**+2.3**
	comp=Z,0.5nm,0.8s,baz=118,slow=4.0,SNR=3.6						
NB2	**NORSAR Subarra**	**81.70**	**29**	P	**P**	**04 50 49.7**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=271,slow=5.3						
NOA	**NORSAR Array B**	**81.70**	**29**	P	**P**	**04 50 48.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=272,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**86.76**	**20**	P	**P**	**04 51 14.4**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=284,slow=4.9,SNR=14						
FINES	**FINESS Array B**	**88.78**	**28**	P	**P**	**04 51 24.1**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=259,slow=3.9,SNR=5.3						
BILL	**Bilibino**	**93.57**	**341**	*e*P	**P**	**04 51 45.3**	**-0.8**
ASAR	**Alice Springs**	**148.01**	**236**	PKPbc	**PKPbc**	**04 58 14.8**	**-1.7**
	52nm,1.6nm,0.5s,baz=121,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**149.07**	**243**	PKPbc	**PKPbc**	**04 58 17.3**	**-2.0**
	comp=Z,1.1nm,0.6s,baz=108,slow=2.5,SN

ZAA1	**Zalesovo Array**	**134.70**	**13**	*e*PKPdf	**PKPdf**	**04 59 39.2**	**-2.0**
ZALV	**Zalesovo Beam**	**134.71**	**13**	PKP	**PKPdf**	**04 59 39.2**	**-2.0**
	0.7nm,0.4s,baz=11,slow=2.9,SNR=3.6						
WR1	**Warramunga Arr**	**135.47**	**227**	*e*PKPdf	**PKPdf**	**04 59 44.6**	**+0.8**
WRA	**Warramunga Arr**	**135.47**	**227**	PKP	**PKPdf**	**04 59 44.6**	**+0.8**
	0.6nm,0.4s,baz=122,slow=2.2,SNR=6.0						
MK32	**Makanchi Array**	**140.41**	**20**	*e*PKPpre	PKPpre	04 59 43.3	
MK32				*e*PKPdf	**PKPdf**	**04 59 51.3**	**-0.7**
MKAR	**Makanchi Array**	**140.41**	**20**	PKhKP	PKPpre	04 59 43.3	
	0.1nm,0.4s,baz=338,slow=3.4,SNR=3.2						
MKAR				PKP	**PKPdf**	**04 59 51.3**	**-0.7**
	0.4nm,0.8s,baz=300,slow=3.2,SNR=3.4						
SONA0	**Songino Array**	**142.47**	**354**	*e*PKPdf	**PKPdf**	**04 59 53.5**	**-2.4**
SONM	**Songino Array**	**142.47**	**354**	PKP	**PKPdf**	**04 59 53.5**	**-2.4**
	1.0nm,0.9s,baz=328,slow=2.1,SNR=5.1						
KSRS	**Korea Array**	**143.88**	**322**	PKP	PKPab	04 59 56.4	+0.9
	1.1nm,0.5s,baz=86,slow=2.7,SNR=4.3						
KS15	**Wonju Array Si**	**143.91**	**323**	*e*PKPdf	PKPab	04 59 56.4	+0.8
KSAR	**Wonju Array Be**	**143.91**	**323**	PKP	PKPab	04 59 56.4	+0.8

*IDC **09** 05:02:39.6±1.2,2°.54S×141°.15E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/24, mbtmp3.9/5, ML3.9/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=23.7km s-min=10.1km az=4.0*

*ISCJB **09** 05:02:43.6±1.2,2°.6S±0°.1×140°.8E±0°.2, h31km, mb3.8/4, Error ellipse: s-maj=26.0km s-min=15.4km az=173.8*

ISC 09 05:02:44.7±1.4,2°.5S±0°.2×140°.8E±0°.4, h31km, n14, σ1§25/7, mb3.9/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**0.07**	**262**	Pg	**Pb**	**05 02 49.2**	**-0.9**
	1μm,0.3s,baz=263,slow=14,SNR=1433						
JAY				Lg	Lg	05 02 53.4	
	4μm,0.3s,baz=144,slow=19,SNR=236						
JAY				LR	LR	05 03 16.1	
	comp=Z,917nm,20.3s,baz=91,slow=82						
GUMO	**Guam**	**16.50**	**14**	LR	LR	05 11 30.0	
	comp=Z,73nm,20.7s,baz=78,slow=32						
WRA	**Warramunga Arr**	**18.43**	**199**	P	**P**	**05 06 58.1**	**+0.3**
	0.4nm,0.3s,baz=26,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**21.45**	**223**	P	**P**	**05 07 31.2**	**+0.6**
	5.4nm,1.0s,baz=50,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**22.06**	**197**	P	**P**	**05 07 37.8**	**+0.5**
	1.8nm,0.7s,baz=30,slow=10,SNR=21						
H11S3	**WAKE ISLAND Hy**	**32.96**	**50**	T	T	05 44 10.4	
	baz=231,slow=74,SNR=29						
H11S2	**WAKE ISLAND Hy**	**32.97**	**50**	T	T	05 44 10.6	
	baz=231,slow=74,SNR=23						
H11S1	**WAKE ISLAND Hy**	**32.98**	**50**	T	T	05 44 11.8	
	baz=231,slow=74,SNR=21						
H11N1	**WAKE ISLAND Hy**	**33.85**	**48**	T	T	05 45 20.9	
	baz=229,slow=76,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**33.86**	**48**	T	T	05 45 23.4	
	baz=229,slow=76,SNR=6.3						
H11N3	**WAKE ISLAND Hy**	**33.86**	**48**	T	T	05 45 21.4	
	baz=229,slow=76,SNR=6.3						
MKAR	**Makanchi Array**	**70.89**	**322**	P	**P**	**05 13 59.7**	**+0.8**
	0.8nm,0.7s,baz=114,slow=8.1,SNR=12						
ILAR	**Eielson Array**	**84.80**	**24**	P	**P**	**05 15 16.4**	**+0.6**
	0.7nm,0.9s,baz=254,slow=5.3,SNR=4.5						
DBIC	**Dimbokro**	**145.50**	**278**	PKPbc	**PKPdf**	**05 22 18.9**	**-2.0**
	3.3nm,0.7s,baz=58,slow=4.4,SNR=4.8						

IDC 09 05:14:59.0±3.0, 30°.15S×138°.65E, h0km, mb1 3.0/3, mb1mx3.0/19, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=82.6km s-min=15.1km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.06**	**125**	Pn	Pn	05 15 48.5	-0.1
	0.2nm,0.3s,baz=306,slow=14,SNR=1.5						
STKA				Pg	Pg	05 15 56.2	-1.4
	1.0nm,0.3s,baz=303,slow=16,SNR=6.3						
STKA				Sn	Sn	05 16 26.1	+0.3
	0.7nm,0.3s,baz=343,slow=14,SNR=4.3						
STKA				Lg	Lg	05 16 35.0	
	2.3nm,0.3s,baz=263,slow=18,SNR=7.5						
ASAR	**Alice Springs**	**7.72**	**326**	Pn	Pn	05 16 52.0	-0.8
	0.1nm,0.3s,baz=150,slow=12,SNR=4.4						
ASAR				Sn	Sn	05 18 21.6	+0.6
	0.1nm,0.3s,baz=154,slow=21,SNR=4.4						
WRA	**Warramunga Arr**	**10.89**	**338**	Pn	Pn	05 17 36.4	+0.2
	0.1nm,0.3s,baz=153,slow=11,SNR=2.2						
WRA				Sn	Sn	05 19 41.3	+2.5
	0.0nm,0.3s,baz=157,slow=26,SNR=1.7						

IDC 09 05:16:19.9±7.7, 26°.68N×44°.61W, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/38, mbtmp3.7/7, MS3.7/4, Ms1 3.7/4, ms1mx3.1/32, Error ellipse: s-maj=194.7km s-min=34.6km az=177.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**42.71**	**111**	LR	LR	05 39 19.1	
	comp=Z,82nm,18.1s,baz=292,slow=32						
H10N2	**ASCENSION HYDR**	**45.06**	**135**	T	T	06 12 22.0	
	baz=320,slow=75,SNR=84						
H10N3	**ASCENSION HYDR**	**45.06**	**135**	T	T	06 12 22.0	
	baz=320,slow=75,SNR=78						
H10N1	**ASCENSION HYDR**	**45.08**	**135**	T	T	06 12 23.3	
	baz=320,slow=75,SNR=83						
TORD	**Torodi Ar. Bea**	**45.33**	**98**	LR	LR	05 42 45.5	
	comp=Z,78nm,18.5s,baz=320,slow=35						
H10S1	**ASCENSION HYDR**	**45.82**	**137**	T	T	06 13 23.1	
	baz=321,slow=75,SNR=32						
H10S3	**ASCENSION HYDR**	**45.82**	**137**	T	T	06 13 19.1	
	baz=321,slow=75,SNR=44						
H10S2	**ASCENSION HYDR**	**45.84**	**137**	T	T	06 13 20.4	
	baz=321,slow=75,SNR=27						
PDAR	**Pinedale Array**	**54.47**	**305**	P	P	05 25 49.7	+0.1
	0.4nm,0.7s,baz=113,slow=6.9,SNR=2.6						
PDAR				LR	LR	05 46 31.5	
	comp=Z,48nm,20.2s,baz=102,slow=33						
YKA	**Yellowknife Ar**	**57.48**	**329**	P	P	05 26 09.9	-0.6
	0.8nm,0.9s,baz=91,slow=7.8,SNR=12						
FINES	**FINESS Array B**	**57.73**	**32**	P	P	05 26 13.0	+0.7
	0.8nm,0.7s,baz=268,slow=11,SNR=1.4						
ARCES	**ARCESS Array B**	**58.33**	**23**	P	P	05 26 16.3	-0.1
	2.3nm,0.9s,baz=245,slow=10,SNR=6.0						
AKASG	**Malin Array Be**	**59.80**	**45**	P	P	05 26 26.2	-0.6
	0.4nm,0.3s,baz=280,slow=5.7,SNR=3.5						
INK	**Inuvik**	**65.11**	**336**	P	P	05 27 02.1	0.0
	1.2nm,0.9s,baz=67,slow=7.4,SNR=3.7						
ILAR	**Eielson Array**	**71.22**	**334**	P	P	05 27 40.9	+0.4
	0.4nm,0.6s,baz=81,slow=4.3,SNR=5.5						
ILAR				LR	LR	05 58 29.6	
	comp=Z,52nm,18.3s,baz=123,slow=36						

*ISCJB **09** 05:28:38.9±0.4,29°.84S±0°.05×178°.03W±0°.08, h35km, mb4.3/19, Error ellipse: s-maj=10.6km s-min=7.1km az=22.7*

*NEIC **09** 05:28:43.2±0.9,29°.85S×177°.87W, h73km±7km, mb4.2/17, Error ellipse: s-maj=12.4km s-min=8.2km az=121.0*

*IDC **09** 05:28:44.0±0.9,29°.62S×178°.00W, h73km±6km, mb3.9/10, mb1 4.2/11, mb1mx3.9/29, mbtmp4.3/11, MS3.5/2, Ms1 3.5/2, ms1mx3.0/20, Error ellipse: s-maj=22.1km s-min=16.8km az=162.0*

ISC 09 05:28:41.0±0.4, 30°.00S±0°.05×177°.99W±0°.10, h35km, n80, σ2§64/82, mb4.4/19, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.75**	**5**	*e*Pn	**Pn**	**05 28 57.1**	**+2.1**
RAO				*e*Sn	**Sn**	**05 29 08.1**	**+3.1**
RAO	**Raoul Island**	**0.75**	**5**	P	**Pn**	**05 28 57.1**	**+2.1**
	4μm,0.3s,baz=192,slow=1.2,SNR=71						
RAO				S	**Sn**	**05 29 07.0**	**+1.9**
	13μm,0.3s,baz=270,slow=20,SNR=39						
OUZ	**Omahuta**	**8.80**	**232**	*e*Pn	Pn	05 30 59.4	+14
URZ	**Urewera**	**9.18**	**205**	*e*Pn	**Pn**	**05 30 51.8**	**+0.9**
URZ				S	**Sn**	**05 32 36.0**	**+3.0**
URZ	**Urewera**	**9.18**	**205**	P	**Pn**	**05 30 50.7**	**-0.2**
	1.0nm,0.3s,baz=283,slow=4.8,SNR=8.2						
URZ				S	**Sn**	**05 32 36.0**	**+3.0**
	4.4nm,0.3s,baz=26,slow=22,SNR=14						
BKZ	**Black Stump Fm**	**10.21**	**205**	*e*Pn	**Pn**	**05 31 07.2**	**+2.2**
HIZ	**Hauiti**	**10.35**	**213**	*e*Pn	Pn	05 31 12.9	+6.1
BFZ	**Birch Farm**	**11.65**	**202**	*e*Pn	**Pn**	**05 31 27.4**	**+2.8**
BFZ				*e*Sn	**Sn**	**05 33 32.9**	**-0.5**
THZ	**Tophouse**	**13.85**	**210**	*e*Pn	Pn	05 32 00.6	+5.8
THZ				*e*Sn	**Sn**	**05 34 26.3**	**-1.0**
KHZ	**Kahutara**	**14.14**	**207**	*e*Pn	Pn	05 31 56.2	-2.5
LTZ	**Lake Taylor**	**14.96**	**209**	*e*P	**P**	**05 32 17.2**	**+2.3**
	8.2nm,1.2s						
OXZ	**Oxford**	**15.50**	**208**	*e*Pn	**Pn**	**05 32 20.3**	**+3.4**
	8.9nm,0.6s						
DZM	**Mont Dzumac**	**16.05**	**296**	*e*LR	LR	05 35 57.9	
	comp=Z,285nm,30.1s						
DZM	**Mont Dzumac**	**16.05**	**296**	LR	LR	05 36 16.1	
	comp=Z,111nm,18.6s,baz=200,slow=28						
RPZ	**Rata Peaks**	**16.23**	**210**	*e*Pn	**Pn**	**05 32 30.2**	**+3.9**
	8.7nm,1.2s						
RPZ				*e*Sn	Sn	05 35 14.2	-11
RPZ	**Rata Peaks**	**16.23**	**210**	P	**Pn**	**05 32 27.5**	**+1.3**
	0.8nm,0.3s,baz=57,slow=11,SNR=3.1						
RPZ				S	Sn	05 35 14.2	-11
	0.4nm,0.3s,baz=240,slow=20,SNR=3.8						
LBZ	**Lake Benmore**	**17.15**	**210**	*e*Pn	**Pn**	**05 32 41.3**	**+3.5**
	4.6nm,0.9s						
ODZ	**Otahua Downs**	**17.49**	**208**	*e*P	**Pn**	**05 32 44.8**	**+2.8**
	19nm,1.2s						
RAR	**Rarotonga**	**18.60**	**66**	P	**P**	**05 32 54.8**	**-0.4**
	1.0nm,0.3s,baz=115,slow=18,SNR=6.5						
RAR				LR	LR	05 39 46.4	
	comp=Z,196nm,18.4s,baz=280,slow=36						
TBI	**Tubuai**	**26.30**	**82**	*e*LR	LR	05 40 34.6	
	comp=Z,146nm,29.8s						
TBI	**Tubuai**	**26.30**	**82**	*e*T	T	06 00 53.4	
	24nm,0.3s						
PAE	**Paea**	**28.66**	**71**	*e*T	T	06 03 53.0	
	8.0nm,0.3s						
PPT2	**Papeete2**	**28.70**	**71**	*e*LR	LR	05 41 31.0	
	comp=Z,199nm,33.8s						
PPT2	**Papeete2**	**28.70**	**71**	*e*T	T	06 03 56.4	
	5.2nm,0.3s						
TVO	**Taravao**	**28.87**	**72**	*e*T	T	06 04 08.3	
	1.7nm,0.3s						
VAH	**Vaihoa**	**31.52**	**69**	*e*T	T	06 07 27.9	
	17nm,0.2s						
CTA	**Charters Tower**	**33.74**	**279**	P	**P**	**05 35 19.7**	**+0.3**
	3.8nm,0.7s,baz=85,slow=11,SNR=5.0						
CTAO	**Charters Tower**	**33.74**	**279**	*e*P	**P**	**05 35 20.0**	**+0.7**
	11nm,1.1s						
STKA	**Stephens Creek**	**34.58**	**256**	*e*P	**P**	**05 35 28.4**	**+2.0**
	0.4nm,0.7s						
STKA	**Stephens Creek**	**34.58**	**256**	P	**P**	**05 35 27.7**	**+1.2**
	1.4nm,0.4s,baz=95,slow=12,SNR=7.0						
BBOO	**Buckleboo**	**39.08**	**254**	*e*P	**P**	**05 36 05.2**	**+0.4**
	5.5nm,0.8s						
AS01	**Alice Springs**	**43.10**	**267**	*e*P	**P**	**05 36 38.3**	**+0.3**
AS31	**Alice Springs**	**43.14**	**267**	*e*P	**P**	**05 36 37.3**	**-1.0**
	0.8nm,0.4s						
AS31				*e*ScP	**ScP**	**05 42 10.2**	**-6.1**
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**05 36 36.7**	**-1.6**
	1.1nm,0.5s,baz=103,slow=7.5,SNR=22						
ASAR				pP	**sP**	**05 36 58.0**	**+5.7**
	2.1nm,0.7s,baz=103,slow=7.5,SNR=6.7						
ASAR				ScP	**ScP**	**05 42 10.2**	**-6.1**
	0.2nm,0.5s,baz=108,slow=3.8,SNR=4.5						
WB2	**Warramunga Arr**	**44.08**	**272**	*e*P	**P**	**05 36 46.1**	**+0.2**
	6.2nm,1.0s						
WRAB	**Tennant Creek**	**44.08**	**272**	*e*P	**P**	**05 36 46.3**	**+0.4**
	6.5nm,1.1s						
WR1	**Warramunga Arr**	**44.09**	**272**	*e*P	**P**	**05 36 44.5**	**-1.4**
	4.0nm,0.6s						
WR1				*e*pP	**sP**	**05 37 04.6**	**+4.5**
WR1				*e*ScP	**ScP**	**05 42 14.1**	**-6.0**
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**05 36 44.5**	**-1.4**
	2.2nm,0.5s,baz=110,slow=7.7,SNR=39						
WRA				pP	**sP**	**05 37 04.6**	**+4.5**
	2.6nm,0.8s,baz=110,slow=8.0,SNR=4.4						
WRA				ScP	**ScP**	**05 42 14.1**	**-6.0**
	0.5nm,0.7s,baz=101,slow=4.1,SNR=5.5						
FORT	**Forrest**	**46.16**	**255**	*e*P	**P**	**05 37 01.2**	**-1.1**
	13nm,1.1s						
VNDA	**Vanda**	**48.49**	**186**	*e*P	**P**	**05 37 23.6**	**+3.9**
	1.7nm,1.1s						
VNDA	**Vanda**	**48.49**	**186**	P	**P**	**05 37 23.1**	**+3.3**
	0.3nm,0.5s,baz=2.2,slow=7.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**52.37**	**270**	*e*P	**P**	**05 37 49.8**	**0.0**
	4.2nm,1.1s						
QSPA	**South Pole Qui**	**60.11**	**180**	*e*P	**P**	**05 38 47.2**	**+2.6**
	6.2nm,0.9s						
MJAR	**Matsushiro Arr**	**77.92**	**325**	P	**P**	**05 40 33.3**	**-1.9**
	2.1nm,0.7s,baz=166,slow=5.5,SNR=5.4						
MAJO	**Matsushiro**	**77.92**	**325**	*e*P	**P**	**05 40 33.3**	**-2.0**
SNAA	**Sanae**	**78.56**	**178**	P	**P**	**05 40 39.3**	**+0.9**
SNAA	**Sanae**	**78.56**	**178**	*e*P	**P**	**05 40 38.8**	**+0.3**
	6.1nm,1.1s						
VNA3	**Neumayer Olymp**	**78.70**	**176**	P	**P**	**05 40 39.6**	**+0.3**
VNA2	**Neumayer--Watz**	**79.14**	**177**	P	**P**	**05 40 42.3**	**+0.7**
	baz=210,slow=4.2						
VNA1	**Neumayer--Stat**	**79.37**	**177**	P	**P**	**05 40 43.6**	**+0.8**
PLCA	**Paso Flores**	**82.78**	**133**	P	**P**	**05 41 01.6**	**0.0**
	3.6nm,0.9s,baz=291,slow=2.9,SNR=4.7						
PETK	**Petropavlovsk-**	**85.42**	**346**	P	**P**	**05 41 12.5**	**-1.9**
	7.9nm,1.1s,baz=268,slow=5.6,SNR=3.8						
PEA1	**Petropavlovsk-**	**85.43**	**346**	*e*P	**P**	**05 41 12.5**	**-1.9**
NVAR	**Mina Array Basa**	**87.94**	**43**	P	**P**	**05 41 25.4**	**-2.0**
	1.8nm,0.8s,baz=222,slow=8.5,SNR=7.8						
TXAR	**Lajitas Array**	**92.17**	**57**	P	**P**	**05 41 45.5**	**-1.7**
	0.7nm,0.9s,baz=184,slow=7.3,SNR=4.0						
MK01	**Makanchi Array**	**117.50**	**310**	*e*PKPdf	**PKPdf**	**05 47 19.5**	**-3.3**
MK32	**Makanchi Array**	**117.52**	**310**	*e*PKPdf	**PKPdf**	**05 47 19.3**	**-3.5**
MKAR	**Makanchi Array**	**117.52**	**310**	PKP	**PKPdf**	**05 47 19.3**	**-3.5**
	0.3nm,0.7s,baz=112,slow=1.6,SNR=3.8						
KK31	**Karatay Array**	**124.85**	**304**	*e*PKPdf	**PKPdf**	**05 47 34.7**	**-2.3**
KKAR	**Karatay Array**	**124.85**	**304**	*e*PKPdf	**PKPdf**	**05 47 34.7**	**-2.3**
ARA0	**ARCESS Array S**	**138.20**	**348**	*e*PKPpre	PKPpre	05 47 53.3	
ARA0				*e*PKPdf	**PKPdf**	**05 48 00.6**	**-0.8**
ARCES	**ARCESS Array B**	**138.20**	**348**	PKhKP	PKPpre	05 47 53.3	
	2.6nm,0.9s,baz=57,slow=3.3,SNR=3.3						
ARCES				PKP	**PKPdf**	**05 48 00.6**	**-0.8**
	5.7nm,1.0s,baz=95,slow=2.2,SNR=3.9						
FIA1	**FINESS Array S**	**144.77**	**340**	*e*PKPdf	**PKPab**	**05 48 08.9**	**-3.4**
FIA0	**FINESS Array S**	**144.77**	**340**	*e*PKPdf	**PKPab**	**05 48 08.8**	**-3.4**
FINES	**FINESS Array B**	**144.77**	**340**	PKP	**PKPab**	**05 48 08.8**	**-3.4**
	5.2nm,0.4s,baz=53,slow=4.0,SNR=53						
KBZ	**Khabaz**	**144.89**	**304**	PKP	**PKPab**	**05 48 11.4**	**-1.9**
	0.6nm,0.4s,baz=98,slow=7.1,SNR=3.5						
NC303	**NORSAR Array S**	**148.16**	**351**	*e*PKPbc	**PKPdf**	**05 48 19.6**	**+0.4**
NB201	**NORSAR Array S**	**148.34**	**351**	*e*PKPbc	**PKPdf**	**05 48 20.3**	**+0.8**
NB2	**NORSAR Subarra**	**148.35**	**351**	PKP	**PKPdf**	**05 48 19.6**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=12,slow=2.9						
NB200	**NORSAR Array S**	**148.35**	**351**	*e*PKPbc	**PKPdf**	**05 48 19.9**	**+0.4**
NOA	**NORSAR Array B**	**148.35**	**351**	PKPbc	**PKPdf**	**05 48 19.9**	**+0.4**
	comp=Z,2.1nm,0.7s,baz=14,slow=4.3,SNR=10						
NC602	**NORSAR Array S**	**148.61**	**351**	*e*PKPbc	**PKPdf**	**05 48 20.5**	**+0.6**
AKASG	**Malin Array Be**	**150.98**	**323**	PKPbc	**PKPdf**	**05 48 26.5**	**+2.6**
	comp=Z,3.2nm,0.6s,baz=47,slow=3.0,SNR=20						
AKBB	**Malin Array Si**	**150.98**	**323**	*e*PKPbc	**PKPdf**	**05 48 26.9**	**+3.0**
KIEV	**Kiev**	**151.00**	**323**	*e*PKPbc	**PKPdf**	**05 48 26.9**	**+2.9**
AK11	**Malin Array Si**	**151.03**	**323**	*e*PKPbc	**PKPdf**	**05 48 26.8**	**+2.8**
BR101	**Keskin Array S**	**152.41**	**299**	*e*PKPbc	**PKPdf**	**05 48 29.3**	**+2.7**
BRTR	**Keskin Array B**	**152.41**	**299**	PKPbc	**PKPdf**	**05 48 29.3**	**+2.7**
	comp=Z,1.1nm,0.8s,baz=96,slow=2.5,SNR=5.8						
TORD	**Torodi Ar. Bea**	**163.23**	**179**	PKP	**PKPdf**	**05 48 38.2**	**-2.2**
	comp=Z,1.0nm,1.0s,baz=169,slow=8.2,SNR=2.7						
TORD				PKPab	**PKPab**	**05 49 29.1**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=180,slow=3.6,SNR=5.9						
TOA1	**Torodi Ar. Sit**	**163.24**	**179**	*e*PKPdf	**PKPdf**	**05 48 38.2**	**-2.3**
TOA1				*e*PKPab	**PKPab**	**05 49 29.1**	**-1.6**

*ISCJB **09** 05:29:04.4±0.3,62°.18N±0°.02×150°.16W±0°.06, h72km±5km, mb3.3/6, Error ellipse: s-maj=4.5km s-min=3.7km az=166.5*

*IDC **09** 05:29:04.1±2.2,62°.28N×150°.50W, h49km±22km, mb3.1/6, mb1 3.3/10, mb1mx3.1/45, mbtmp3.3/10, ML3.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=23.2km s-min=15.6km az=94.0*

*NEIC **09** 05:29:06.3±0.0,62°.17N×150°.16W, h50km, ML3.1(AEIC), After AEIC.*

NEIC Felt at Talkeetna.

ISC 09 05:29:05.2±0.9, 62°.16N±0°.03×150°.18W±0°.03, h64km±9km, n64, σ0§95/73, mb3.3/6, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMR	**Palmer**	**0.76**	**139**	P	**Pn**	**05 29 19.6**	**-0.6**
PMR				S	**Sn**	**05 29 31.6**	**+0.3**
SML	**Sawmill**	**0.94**	**111**	P	**Pn**	**05 29 22.1**	**-0.5**
SML				S	**Sn**	**05 29 36.1**	**+0.6**
FIB	**Fire Island**	**1.00**	**180**	P	**Pn**	**05 29 24.0**	**+0.7**
RC01	**Rabbit Creek A**	**1.09**	**169**	P	**Pn**	**05 29 24.1**	**-0.4**
RC01				S	**Sn**	**05 29 39.7**	**+0.7**
KNK	**Knik Glacier**	**1.11**	**132**	P	**Pn**	**05 29 24.6**	**-0.2**
KNK				S	**Sn**	**05 29 40.3**	**+0.9**
PPLA	**Purkeypile**	**1.19**	**309**	P	**Pn**	**05 29 26.1**	**+0.1**
PPLA				S	**Sn**	**05 29 41.6**	**+0.2**
CGLM	**Capps Glacier**	**1.22**	**226**	P	**Pn**	**05 29 26.6**	**+0.3**
TRF	**Thorofare Moun**	**1.30**	**358**	P	**Pn**	**05 29 27.5**	**+0.2**
TRF				S	**Sn**	**05 29 44.1**	**+0.2**
SPCR	**Spurr Chakacha**	**1.37**	**226**	P	**Pn**	**05 29 29.1**	**+0.9**
SCM	**Sheep Creek Mo**	**1.38**	**102**	P	**Pn**	**05 29 28.6**	**+0.2**
RND	**Reindeer**	**1.39**	**25**	P	**Pn**	**05 29 28.5**	**0.0**
SPWE	**Spurr West**	**1.44**	**233**	P	**Pn**	**05 29 30.0**	**+0.8**
CAST	**Castle Rocks**	**1.54**	**326**	P	**Pn**	**05 29 30.6**	**+0.2**
PWL	**Port Wells**	**1.58**	**145**	P	**Pn**	**05 29 30.9**	**0.0**
DHY	**Denali Highway**	**1.59**	**53**	P	**Pn**	**05 29 31.0**	**-0.2**
SLKM	**Skilak Lake**	**1.66**	**181**	P	**Pn**	**05 29 32.0**	**0.0**
MCK	**McKinley**	**1.68**	**19**	P	**Pn**	**05 29 32.7**	**+0.4**
BPAW	**Bear Paw Mtn.**	**1.98**	**350**	P	**Pn**	**05 29 36.4**	**0.0**
JPK	**Jack Peak**	**2.04**	**121**	P	**Pn**	**05 29 37.1**	**-0.1**
BWN	**Browne**	**2.04**	**9**	P	**Pn**	**05 29 37.6**	**+0.4**
SEW	**Seward**	**2.09**	**170**	P	**Pn**	**05 29 39.0**	**+1.2**
RDWB	**Redoubt West**	**2.11**	**219**	P	**Pn**	**05 29 39.5**	**+1.2**
KLU	**Klutina**	**2.13**	**106**	P	**Pn**	**05 29 38.2**	**-0.2**
PS11	**TAPS Pump St11**	**2.21**	**90**	P	**Pn**	**05 29 40.5**	**+1.0**
PAX	**Paxson**	**2.33**	**67**	P	**Pn**	**05 29 41.8**	**+0.7**
DIV	**Divide**	**2.34**	**114**	P	**Pn**	**05 29 40.9**	**-0.4**
HARP	**HAARP**	**2.36**	**82**	P	**Pn**	**05 29 42.6**	**+1.1**
PS10	**TAPS Pump St10**	**2.39**	**56**	P	**Pn**	**05 29 43.7**	**+1.8**
NEA	**Nenana**	**2.48**	**11**	P	**Pn**	**05 29 43.0**	**0.0**
WRH	**Wood River Hil**	**2.50**	**21**	P	**Pn**	**05 29 43.6**	**+0.2**
ILW	**Iliamna West**	**2.55**	**216**	P	**Pn**	**05 29 45.7**	**+1.4**
EYAK	**Cordova Ski Ar**	**2.68**	**125**	P	**Pn**	**05 29 46.2**	**0.0**
HDA	**Harding Lake**	**2.69**	**31**	P	**Pn**	**05 29 46.2**	**+0.3**
CCB	**Clear Creek Bu**	**2.71**	**22**	P	**Pn**	**05 29 46.3**	**0.0**
SVW2	**Sparrevohn**	**2.79**	**250**	P	**Pn**	**05 29 47.7**	**+0.3**
TT01	**Tatalina**	**2.81**	**288**	P	**Pn**	**05 29 47.5**	**-0.1**
PS08	**TAPS Pump Stn8**	**2.83**	**31**	P	**Pn**	**05 29 48.3**	**+0.4**
MLY	**Manley**	**2.89**	**355**	P	**Pn**	**05 29 49.0**	**+0.2**
COLA	**College**	**2.92**	**20**	P	**Pn**	**05 29 49.3**	**+0.3**
MDM	**Murphy Dome**	**2.94**	**16**	P	**Pn**	**05 29 49.7**	**+0.3**
ILAR	**Eielson Array**	**3.01**	**28**	P	**Pn**	**05 29 50.5**	**+0.1**
	4.4nm,0.3s,baz=212,slow=14,SNR=154						
ILAR				S	**Sn**	**05 30 23.5**	**-1.7**
	15nm,0.3s,baz=215,slow=22,SNR=30						
SCRK	**Sand Creek**	**3.35**	**54**	P	**Pn**	**05 29 55.6**	**+0.4**
PS06	**TAPS Pump Stn6**	**3.71**	**3**	P	**Pn**	**05 30 00.5**	**+0.6**
PTPK	**Patty Peak**	**3.80**	**101**	P	**Pn**	**05 30 01.2**	**-0.2**
BALM	**Baldy**	**3.91**	**103**	P	**Pn**	**05 30 02.1**	**-0.6**
KIAG	**Kiagna River**	**3.94**	**105**	P	**Pn**	**05 30 02.3**	**-1.0**
PRP	**Porcupine Dome**	**3.95**	**29**	P	**Pn**	**05 30 03.9**	**+0.6**
IM3	**Indian Mountai**	**4.15**	**339**	P	**Pn**	**05 30 06.1**	**+0.2**
YUK2	**White River**	**4.42**	**91**	P	**Pn**	**05 30

PB14				*i* S		**S**	**05 50 05.2**	**-2.9**
LPAZ	**La Paz**	**5.88**	**339**	P		**Pn**	**05 49 20.6**	**+1.3**
	comp=Z,8.3nm,0.3s,baz=164,slow=9.4,SNR=166							
LPAZ				S		**S**	**05 50 27.4**	**-2.0**
	baz=202,slow=19,SNR=2.5							
LCO	**Las Campanas**	**8.34**	**210**	*e*Pn		**Pn**	**05 49 47.8**	**-1.8**
LCO				*e*S		**S**	**05 51 20.7**	**-3.9**
CPUP	**Villa Florida**	**9.07**	**121**	P		**Pn**	**05 49 57.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=308,slow=12,SNR=4.3							
GO04	**Tololo Observa**	**9.38**	**207**	*e*Pn		**Pn**	**05 50 01.6**	**-1.0**
ROC1	**El Roble**	**11.97**	**201**	*e*Pn		**Pn**	**05 50 34.4**	**-0.5**
GO05	**Huala**	**14.14**	**200**	*e*P		**Pn**	**05 51 02.1**	**+1.0**
TRQA	**Tornquist**	**16.54**	**169**	*e*P		**P**	**05 51 26.7**	**-0.9**
	comp=Z,2.9nm,0.7s							
BDFB	**Brasilia**	**18.07**	**73**	*e*P		**P**	**05 51 45.5**	**+0.8**
	comp=Z,12nm,1.2s							
BDFB	**Brasilia**	**18.07**	**73**	P		**P**	**05 51 45.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=258,slow=11,SNR=12							
GO06	**Curarrehue**	**18.32**	**194**	*e*P		**P**	**05 51 48.3**	**+1.3**
	comp=Z,12nm,0.8s							
PLCA	**Paso Flores**	**19.25**	**191**	*e*P		**P**	**05 51 57.8**	**+0.9**
	comp=Z,6.3nm,1.1s							
PLCA	**Paso Flores**	**19.25**	**191**	P		**P**	**05 51 57.7**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=19,slow=10,SNR=18							
PTGA	**Pitinga**	**21.77**	**16**	*e*P		**P**	**05 52 21.1**	**-1.7**
	comp=Z,5.1nm,0.6s							
PTGA	**Pitinga**	**21.77**	**16**	P		**P**	**05 52 20.7**	**-2.1**
	comp=Z,3.9nm,0.4s,baz=186,slow=10,SNR=9.2							
MDP	**Montagnes des**	**29.77**	**28**	P		**P**	**05 53 33.5**	**-1.0**
	comp=Z,5.5nm,0.4s,baz=208,slow=9.5,SNR=20							
EFI	**East Falkland**	**30.42**	**170**	*e*P		**P**	**05 53 41.0**	**+1.2**
	comp=Z,23nm,1.0s							
SDV	**Santo Domingo**	**30.87**	**351**	*e*P		**P**	**05 53 45.3**	**+1.0**
	comp=Z,3.6nm,0.9s							
RCBR	**Riachuelo**	**33.13**	**66**	*e*P		**P**	**05 54 04.0**	**0.0**
	comp=Z,11nm,1.0s							
GRGR	**Grenville**	**34.01**	**8**	*e*P		**P**	**05 54 10.5**	**-0.8**
	comp=Z,101nm,1.0s							
FDF	**Fort de France**	**36.64**	**8**	*e*P		**P**	**05 54 32.6**	**-1.1**
	comp=Z,24nm,1.1s							
OBIP	**Obispado Ponce**	**39.63**	**359**	*e*P		**P**	**05 54 56.5**	**-2.0**
	comp=Z,12nm,1.0s							
MTP	**Monte Pirata**	**39.68**	**1**	*e*P		**P**	**05 54 56.9**	**-1.9**
	comp=Z,12nm,1.1s							
HUMP	**Col San Antoni**	**39.72**	**0**	*e*P		**P**	**05 54 59.5**	**+0.3**
	comp=Z,7.2nm,1.1s							
SMRT	**St. Maarten**	**39.73**	**4**	*e*P		**P**	**05 54 57.6**	**-1.8**
	comp=Z,15nm,1.1s							
CBYP	**Canovanas**	**39.85**	**0**	*e*P		**P**	**05 54 59.3**	**-1.1**
	comp=Z,7.6nm,1.0s							
BANI	**BANI**	**40.20**	**354**	*e*P		**P**	**05 55 04.1**	**+0.8**
VNA3	**Neumayer Olymp**	**58.90**	**162**	P		**P**	**05 57 24.6**	**+1.6**
VNA1	**Neumayer--Stat**	**59.07**	**161**	P		**P**	**05 57 26.6**	**+2.4**
VNA2	**Neumayer--Watz**	**59.44**	**161**	P		**P**	**05 57 28.6**	**+1.9**
	baz=293,slow=8.6							
SNAA	**Sanae**	**61.08**	**161**	P		**P**	**05 57 39.4**	**+1.5**
SNAA	**Sanae**	**61.08**	**161**	*e*P		**P**	**05 57 39.6**	**+1.7**
	comp=Z,4.9nm,0.8s							
WVT	**Waverly**	**61.24**	**340**	*e*P		**P**	**05 57 38.9**	**-0.4**
	comp=Z,1.9nm,0.9s							
TXAR	**Lajitas Array**	**62.50**	**323**	pP		pP	05 58 51.9	+3.9
	comp=Z,0.2nm,0.7s,baz=143,slow=7.8,SNR=2.2							
DBIC	**Dimbokro**	**66.21**	**72**	*e*P		**P**	**05 58 10.2**	**-2.0**
DBIC	**Dimbokro**	**66.21**	**72**	P		**P**	**05 58 11.3**	**-0.8**
	comp=Z,1.2nm,0.4s,baz=226,slow=6.7,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**74.90**	**69**	*e*P		**P**	**05 59 03.7**	**-0.7**
	comp=Z,5.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**74.90**	**69**	P		**P**	**05 59 02.3**	**-2.1**
	comp=Z,3.5nm,0.5s,baz=251,slow=5.1,SNR=42							
SYO	**Syowa Base**	**75.22**	**159**‖	*e*P		**P**	**05 59 05.8**	**+0.5**
SYO	**Syowa Base**	**75.22**	**159**‖	*e*PcP		**PcP**	**05 59 14.0**	**-3.4**
PDAR	**Pinedale Array**	**75.79**	**328**	P		**P**	**05 59 09.8**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=132,slow=7.5,SNR=2.6							
NVAR	**Mina Array Bea**	**77.47**	**320**	P		**P**	**05 59 20.5**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=108,slow=8.7,SNR=3.2							
BOSA	**Boshof**	**80.86**	**117**	*e*P		**P**	**05 59 37.2**	**0.0**
	comp=Z,4.7nm,1.1s							
YKA	**Yellowknife Ar**	**92.43**	**340**	P		**P**	**06 00 33.0**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=126,slow=4.5,SNR=11							
YKA				pP		**pP**	**06 01 37.7**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=130,slow=4.4,SNR=3.7							
AS01	**Alice Springs**	**130.80**	**204**	*e*PKPdf		**PKPdf**	**06 06 33.3**	**+0.7**
ASAR	**Alice Springs**	**130.82**	**204**	PKP		**PKiKP**	**06 06 33.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=130,slow=1.8,SNR=10							
WRA	**Warramunga Arr**	**133.99**	**207**	PKP		**PKiKP**	**06 06 39.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=153,slow=1.7,SNR=12							
MK31	**Makanchi Array**	**144.24**	**38**	*e*PKPdf		**PKPdf**	**06 06 56.2**	**-0.2**
MKAR	**Makanchi Array**	**144.24**	**38**	PKP		**PKPdf**	**06 06 56.3**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=342,slow=2.9,SNR=14							
MK01	**Makanchi Array**	**144.26**	**38**	*e*PKPdf		**PKPdf**	**06 06 56.4**	**-0.1**
SONM	**Songino Array**	**153.33**	**12**	PKPbc		**PKiKP**	**06 07 19.8**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=347,slow=2.1,SNR=3.7							
SONM				pPKPbc		**pPKPbc**	**06 08 28.8**	**+2.3**
	comp=Z,0.7nm,0.8s,baz=318,slow=3.9,SNR=3.7							

*IDC **09** 05:56:12.9±11.0, 12.°31S×167.°22E, h158km±104km, mb3.6/9, mb1 3.8/9, mb1mx3.5/33, mbtmp4.0/9, MS3.6/2, Ms1 3.6/2, ms1mx2.9/21, Error ellipse: s-maj=40.8km s-min=34.2km az=93.0*

*ISCJB **09** 05:56:18.1±1.0, 12.°4S±0.°2×167.°2E±0.°2, h220km, mb3.7/9, Error ellipse: s-maj=33.4km s-min=18.2km az=42.5*

ISC 09 05:56:19.6±1.0, 12.°4S±0.°2×167.°2E±0.°2, h220km, n13, σ0§93/12, mb3.8/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**20.56**	**97**	LR	LR	06 07 36.7	
	comp=Z,118nm,18.1s,baz=22,slow=33						
CTA	**Charters Tower**	**21.49**	**246**	P	**P**	**06 00 51.3**	**0.0**
	2.1nm,0.4s,baz=79,slow=9.5,SNR=5.9						
STKA	**Stephens Creek**	**30.50**	**226**	P	**P**	**06 02 12.3**	**0.0**
	0.5nm,0.2s,baz=84,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**32.38**	**252**	P	**P**	**06 02 27.6**	**-1.3**
	1.3nm,0.4s,baz=84,slow=9.1,SNR=10						
RAR	**Rarotonga**	**32.79**	**110**	LR	LR	06 13 25.3	
	comp=Z,156nm,19.2s,baz=284,slow=32						
ASAR	**Alice Springs**	**33.49**	**246**	P	**P**	**06 02 37.1**	**-1.4**
	3.0nm,0.6s,baz=70,slow=9.4,SNR=52						
ASAR				pP	**pP**	**06 03 24.0**	**+1.6**
	0.7nm,0.6s,baz=70,slow=9.4,SNR=3.3						
VNDA	**Vanda**	**65.22**	**181**	P	**P**	**06 06 37.4**	**+0.4**
	0.4nm,0.6s,baz=8.1,slow=7.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**73.92**	**293**	P	**P**	**06 07 31.8**	**+0.6**
	1.9nm,0.9s,baz=128,slow=3.6,SNR=5.3						
ILAR	**Eielson Array**	**84.31**	**18**	P	**P**	**06 08 26.4**	**0.0**
	1.3nm,0.6s,baz=243,slow=5.2,SNR=28						
MKAR	**Makanchi Array**	**95.43**	**317**	P	**P**	**06 09 19.8**	**+0.6**
	0.2nm,0.6s,baz=100,slow=6.0,SNR=1.9						
YKA	**Yellowknife Ar**	**95.49**	**27**	P	**P**	**06 09 18.3**	**-0.7**
	0.2nm,0.5s,baz=256,slow=4.9,SNR=4.5						
ARCES	**ARCESS Array B**	**117.95**	**346**	PKP	**PKPdf**	**06 14 39.2**	**-0.2**
	4.1nm,0.9s,baz=63,slow=2.6,SNR=3						
KEST	**Kesra**	**149.30**	**323**	PKPbc	**PKiKP**	**06 15 44.0**	**+0.1**
	1.9nm,0.8s,baz=72,slow=3.2,SNR=2.1						

*IDC **09** 06:04:34.9±1.4, 15.°22S×176.°52W, h0km, mb3.9/7, mb1 4.3/7, mb1mx3.9/28, mbtmp3.9/7, MS3.8/16, Ms1 3.8/16, ms1mx3.6/27, Error ellipse: s-maj=108.9km s-min=20.0km az=148.0*

*ISCJB **09** 06:04:36.3±1.2, 15.°2S±0.°5×176.°6W±0.°3, h17km, mb3.8/7, MS3.8/15, Error ellipse: s-maj=86.9km s-min=16.7km az=148.0*

ISC 09 06:04:37.6±1.4, 15.°3S±0.°6×176.°5W±0.°4, h17km, n25, σ0§46/8, mb4.0/7, MS3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.76**	**73**	Pn	Pn	06 05 41.5	-7.2
	3.2nm,0.3s,baz=256,slow=4.2,SNR=5.5						
DZM	**Mont Dzumac**	**17.51**	**245**	*e*LR	LR	06 13 07.6	
	comp=Z,440nm,25.1s						
DZM	**Mont Dzumac**	**17.51**	**245**	LR	LR	06 14 25.0	
	comp=Z,252nm,18.8s,baz=360,slow=34						
URZ	**Urewera**	**23.54**	**193**	LR	LR	06 17 46.5	
	comp=Z,181nm,18.6s,baz=243,slow=34						
HNR	**Honiara**	**23.75**	**282**	LR	LR	06 17 17.6	
	comp=Z,359nm,20.1s,baz=118,slow=32						
TVO	**Taravao**	**26.20**	**99**	*e*T	T	06 36 54.7	
	0.8nm,0.3s						
TBI	**Tubuai**	**26.68**	**112**	*e*LR	LR	06 16 57.7	
	comp=Z,163nm,25.2s						
TBI	**Tubuai**	**26.68**	**112**	*e*T	T	06 37 40.3	
	2.9nm,0.3s						
RKT	**Rikitea**	**39.84**	**108**	*e*T	T	06 54 03.8	
	1.4nm,0.3s						
STKA	**Stephens Creek**	**41.52**	**239**	P	**P**	**06 12 24.4**	**+0.2**
	0.5nm,0.3s,baz=74,slow=10,SNR=2.5						
STKA				LR	LR	06 28 29.2	
	comp=Z,69nm,18.5s,baz=26,slow=34						
WRA	**Warramunga Arr**	**46.97**	**257**	P	**P**	**06 13 08.2**	**+0.1**
	1.7nm,1.0s,baz=95,slow=7.3,SNR=7.9						
WRA				LR	LR	06 31 16.1	
	comp=Z,83nm,18.6s,baz=190,slow=34						
ASAR	**Alice Springs**	**47.31**	**252**	P	**P**	**06 13 10.3**	**-0.4**
	1.5nm,0.6s,baz=85,slow=8.4,SNR=22						
VNDA	**Vanda**	**63.17**	**185**	LR	LR	06 39 42.2	
	comp=Z,62nm,18.7s,baz=162,slow=33						
MJAR	**Matsushiro Arr**	**67.00**	**322**	LR	LR	06 39 30.9	
	comp=Z,21nm,21.3s,baz=65,slow=31						
KSRS	**Korea Array**	**74.05**	**317**	LR	LR	06 45 29.8	
	comp=Z,35nm,18.1s,baz=98,slow=33						
YBH	**Yreka Blue Hor**	**75.36**	**39**	LR	LR	06 40 49.1	
	comp=Z,75nm,19.9s,baz=254,slow=29						
LPIG	**La Paz**	**75.54**	**60**	LR	LR	06 42 08.3	
	comp=Z,62nm,18.3s,baz=240,slow=30						
USRK	**Ussuriysk Ar.**	**75.56**	**324**	LR	LR	06 45 51.1	
	comp=Z,68nm,19.0s,baz=115,slow=33						
NVAR	**Mina Array Bea**	**76.28**	**43**	P	**P**	**06 16 26.2**	**+0.3**
	1.5nm,1.0s,baz=238,slow=8.4,SNR=5.0						
NVAR				LR	LR	06 45 13.6	
	comp=Z,63nm,18.0s,baz=178,slow=32						
ILAR	**Eielson Array**	**82.97**	**12**	P	**P**	**06 17 01.1**	**-0.2**
	0.6nm,0.9s,baz=215,slow=8.1,SNR=4.3						
TXAR	**Lajitas Array**	**83.05**	**57**	P	**P**	**06 17 02.8**	**+0.2**
	0.5nm,0.8s,baz=235,slow=5.8,SNR=5.6						
TXAR				LR	LR	06 46 47.1	
	comp=Z,63nm,19.3s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**84.21**	**43**	P	**P**	**06 17 07.9**	**-0.6**
	1.4nm,1.0s,baz=222,slow=2.0,SNR=7.2						
PDAR				LR	LR	06 50 51.5	
	comp=Z,73nm,19.1s,baz=96,slow=33						
CMAR	**Chiang Mai Arr**	**89.78**	**289**	LR	LR	06 53 09.0	
	comp=Z,21nm,21.6s,baz=125,slow=32						
ULM	**Lac du Bonnet**	**95.75**	**40**	LR	LR	06 53 57.9	
	comp=Z,64nm,19.8s,baz=135,slow=31						
BRTR	**Keskin Array B**	**144.18**	**319**	PKP	**PKPab**	**06 24 11.3**	**+0.6**
	1.8nm,0.9s,baz=128,slow=2.0,SNR=6.5						

IDC 09 06:08:41.5±1.6, 16.°44S×178.°25W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/25, mbtmp3.7/4, Error ellipse: s-maj=155.8km s-min=28.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.48**	**240**	P	P	06 16 15.0	+1.1
	0.5nm,0.2s,baz=69,slow=8.6,SNR=2.5						
WRA	**Warramunga Arr**	**45.06**	**258**	P	P	06 16 59.3	-0.3
	0.4nm,0.5s,baz=96,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**45.35**	**253**	P	P	06 17 00.9	-1.0
	1.6nm,0.5s,baz=86,slow=8.5,SNR=24						
TXAR	**Lajitas Array**	**85.09**	**58**	P	P	06 21 19.8	0.0
	0.2nm,0.7s,baz=239,slow=6.2,SNR=2.9						

*ISCJB **09** 06:11:45.1±0.7, 24.°32N±0.°09×68.°4E±0.°1, h10km, mb4.0/10, MS3.4/6, Error ellipse: s-maj=16.0km s-min=12.2km az=19.4*

*IDC **09** 06:11:45.4±0.8, 24.°17N×68.°51E, h0km, mb4.1/10, mb1 4.2/12, mb1mx3.8/45, mbtmp4.1/12, ML3.5/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/39, Error ellipse: s-maj=21.8km s-min=19.7km az=59.0*

ISC 09 06:11:46.3±0.7, 24.°12N±0.°08×68.°54E±0.°10, h10km, n25, σ1§98/17, mb4.1/10, MS3.4/6, 1C, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOM	**Bombay**	**6.55**	**142**	*e*P	**Sn**	**06 14 32.3**	**-5.3**
BOM				*e*S	**Sb**	**06 15 00.6**	**+1.9**
THW	**Thamme Wali**	**9.09**	**17**	P	**Pn**	**06 13 57.4**	**-0.2**
WSAR	**Wadi Sarin**	**9.12**	**266**	Pn	**Pn**	**06 13 56.9**	**-1.3**
	0.3nm,0.3s,baz=78,slow=19,SNR=4.1						
CEP	**Cherat**	**10.10**	**16**	P	**Pn**	**06 14 08.7**	**-3.0**
NGP	**Nagpur**	**10.15**	**105**‖	*e*P	Pn	06 14 00.1	-12
NGP				*e*S	Sn	06 15 56.2	-10
CHCP	**Chirah Chowk**	**10.36**	**22**	P	**Pn**	**06 14 12.9**	**-2.2**
HYB	**Hyderabad**	**11.50**	**124**	*e*P	Pn	06 14 46.0	+15
GEYT	**Alibeck**	**16.39**	**330**	LR	LR	06 22 10.3	
	comp=Z,56nm,19.8s,baz=150,slow=38						
AAK	**Ala-Archa**	**19.11**	**14**	P	**P**	**06 16 08.8**	**-0.8**
	0.2nm,0.3s,baz=186,slow=7.3,SNR=12						
MKAR	**Makanchi Array**	**25.17**	**23**	P	**P**	**06 17 11.7**	**-0.1**
	2.5nm,0.8s,baz=216,slow=10,SNR=18						
AKTO	**Aktyubinsk**	**27.51**	**345**	LR	LR	06 31 15.8	
	comp=Z,38nm,18.9s,baz=178,slow=43						
KURBB	**Kurchatov Arra**	**27.57**	**14**	P	**P**	**06 17 33.4**	**+0.1**
	0.9nm,0.8s,baz=209,slow=8.9,SNR=5.6						
BVAR	**Borovoye Array**	**28.89**	**2**	LR	LR	06 31 14.4	
	comp=Z,56nm,18.6s,baz=206,slow=40						
ZALV	**Zalesovo Beam**	**32.19**	**18**	LR	LR	06 32 32.9	
	comp=Z,66nm,19.8s,baz=42,slow=39						
PSI	**Prapat**	**36.20**	**121**	P	**P**	**06 18 51.3**	**+1.7**
	4.2nm,0.7s,baz=360,slow=6.9,SNR=4.6						
SONM	**Songino Array**	**38.15**	**42**	P	**P**	**06 19 07.5**	**+1.6**
	2.4nm,0.8s,baz=244,slow=9.0,SNR=15						
NRIK	**Noril'sk**	**46.64**	**9**	LR	LR	06 42 22.4	
	comp=Z,66nm,19.6s,baz=20,slow=39						
FINES	**FINESS Array B**	**47.13**	**334**	LR	LR	06 43 47.3	
	comp=Z,62nm,18.6s,baz=188,slow=41						
ARCES	**ARCESS Array B**	**52.02**	**342**	P	**P**	**06 20 56.3**	**+0.6**
	2.1nm,0.8s,baz=138,slow=8.2,SNR=3.3						
NOA	**NORSAR Array B**	**53.48**	**329**	LR	LR	06 47 39.6	
	comp=Z,24nm,18.9s,baz=290,slow=40						
KLR	**Kul'dur**	**54.77**	**46**	P	**P**	**06 21 16.4**	**+0.2**
	1.8nm,0.7s,baz=265,slow=7.8,SNR=7.6						
TORD	**Torodi Ar. Bea**	**63.78**	**273**	P	**P**	**06 22 20.1**	**+1.0**
	1.7nm,0.9s,baz=54,slow=7.7,SNR=8.2						
WRA	**Warramunga Arr**	**77.61**	**119**	P	**P**	**06 23 44.0**	**+0.8**
	1.5nm,0.9s,baz=312,slow=5.4,SNR=9.7						
ASAR	**Alice Springs**	**79.22**	**122**	P	**P**	**06 23 53.0**	**+0.9**
	1.6nm,0.8s,baz=306,slow=5.6,SNR=18						
ILAR	**Eielson Array**	**87.24**	**14**	P	**P**	**06 24 32.6**	**-0.2**
	0.8nm,0.9s,baz=319,slow=4.3,SNR=8.7						

SJA 09 06:43:03.5±1.2, 27.°97S×66.°95W, h166km±9km, ML2.1, MW2.7, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYA	**Choya**	**1.12**	**115**	*e*P	Pn	06 43 31.8	+1.0
CYA				IAML		06 43 31.9	
	comp=Z,19nm,0.2s						
CYA				*e*S	Sn	06 43 51.2	-0.6
VCA	**Vinchina**	**1.34**	**235**	*e*P	Pn	06 43 34.1	+1.1
VCA				*e*S	Sn	06 43 55.6	-0.1
VCA				IAML		06 43 59.5	
	comp=Z,46nm,0.2s						
ACLC	**CERRO LA CRUZ**	**1.45**	**180**	*e*P	Pn	06 43 34.7	+0.7
AGUA	**GUANDACOL**	**2.03**	**221**	*e*P	Pn	06 43 41.0	+1.0
FSA	**Cafayete**	**2.04**	**25**	*e*P	Pn	06 43 41.1	+0.8
FSA				IAML		06 43 41.4	
	comp=Z,2.2nm,0.3s						
APLL	**PUNTA DE LOS L**	**2.45**	**171**	*e*P	Pn	06 43 45.7	+0.9
APLL				IAML		06 44 17.4	
	comp=Z,7.0nm,0.6s						
LCO	**Las Campanas**	**3.46**	**252**	*e*P	Pn	06 43 57.6	+0.1
CFA	**Coronel Fontan**	**3.79**	**197**	*e*P	Pn	06 44 01.9	+0.3

IDC 09 06:44:58.5±2.3, 14.°85S×73.°60W, h0km, mb3.4/1, mb1 3.6/2, mb1mx3.3/20, mbtmp3.3/2, ML3.1/1, Error ellipse: s-maj=115.0km s-min=41.5km az=30.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.47**	**106**	Pn	Pn	06 46 21.8	0.0
	0.3nm,0.3s,baz=292,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**83.49**	**342**	P	P	06 57 27.7	0.0
	0.2nm,0.8s,baz=135,slow=5.6,SNR=5.6						
WRA	**Warramunga Arr**	**135.84**	**219**	PKP	PKPdf	07 04 21.6	-0.6
	0.6nm,1.1s,baz=134,slow=1.7,SNR=3.0						
SONM	**Songino Array**	**147.11**	**0**	PKPbc	PKPbc	07 04 43.0	-0.7
	0.5nm,0.8s,baz=345,slow=3.4,SNR=3.3						

*PDG **09** 06:58:08.8±0.6, 42.°83N×17.°46E, h11km±1km, MD3.5/6, ML3.5/9, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*

*LDG **09** 06:58:08.9±0.1, 42.°84N×17.°45E, h10km, Ml3.5/10, Error ellipse: s-maj=4.1km s-min=2.2km az=11.0*

*BEO **09** 06:58:08.1±0.5, 42.°85N×17.°34E, h0km, ML3.4/16*

*IDC **09** 06:58:09.5±4.0, 43.°08N×18.°02E, h0km, mb3.5/2, mb1 3.5/7, mb1mx3.3/39, mbtmp3.5/7, ML2.9/5, Error ellipse: s-maj=65.9km s-min=22.7km az=18.0*

*SAR **09** 06:58:09.6±0.4, 42.°86N×17.°46E, h5km±2km, ML3.5/1*

*PRU **09** 06:58:10.7±0.0, 42.°89N×17.°45E, h0km*

*TIR **09** 06:58:13.5, 42.°41N×17.°59E, h2km, Md3.5/3*

ISC 09 06:58:07.3±1.1, 42.°82N±0.°02×17.°33E±0.°03, h6km±8km, n138, σ2§10/231, 22C-18D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.28**	**79**	*i* Pg	**Pg**	**06 58 13.1**	**+0.2**
STON	**Ston**	**0.28**	**79**‖	*i* Pg	**Pg**	**06 58 13.0**	**+0.2**
STON				*e*Sg	**Sg**	**06 58 16.4**	**-0.1**
TREB	**Trebinje**	**0.76**	**97**	*e*Pg	**Pg**	**06 58 21.2**	**-0.7**
TREB				*e*Sg	**Sg**	**06 58 29.8**	**-2.0**
TREB	**Trebinje**	**0.76**	**97**⇑	*i* Pg	**Pg**	**06 58 21.2**	**-0.7**
TREB				*e*Sg	**Sg**	**06 58 31.7**	**-0.1**
BRY	**Bratogost**	**0.89**	**84**‖	*i* Pg	**Pg**	**06 58 23.2**	**-1.3**
BRY				*e*Sg	**Sg**	**06 58 36.0**	**-0.1**
BRY	**Bratogost**	**0.89**	**84**‖	*i* Pg	**Pg**	**06 58 23.1**	**-1.4**
BRY				*e*Sg	**Sg**	**06 58 35.0**	**-1.1**
HCY	**Herceg Novi**	**0.94**	**113**⇑	*i* Pg	**Pg**	**06 58 24.6**	**-0.7**
HCY				*e*Sg	**Sb**	**06 58 38.5**	**-0.2**
HCY	**Herceg Novi**	**0.94**	**113**⇑	*i* Pg	**Pg**	**06 58 24.7**	**-0.6**
HCY				*e*Sg	**Sg**	**06 58 37.5**	**0.0**
NKME	**Niksic**	**1.20**	**92**‖	*i* Pg	**Pg**	**06 58 28.9**	**-1.4**
NKME				*e*Sg	**Sb**	**06 58 46.3**	**+0.1**
CEME	**Cevo**	**1.20**	**103**⇑	*i* Pg	**Pg**	**06 58 29.2**	**-1.2**
CEME				*e*Sg	**Sb**	**06 58 46.7**	**+0.3**
NKY	**Niksic**	**1.23**	**90**⇑	*i* Pg	**Pg**	**06 58 30.0**	**-0.8**
NKY				*e*Sg	**Sn**	**06 58 47.6**	**-0.5**
BUM	**Brajici-Budva**	**1.27**	**114**‖	*i* Pg	**Pg**	**06 58 31.7**	**-0.6**
BUM				*e*Sg	**Sn**	**06 58 49.3**	**+0.3**
PDG	**Podgorica**	**1.48**	**105**	*e*Pn	**Pb**	**06 58 35.4**	**+0.3**
PDG				*e*Sg	**Sg**	**06 58 56.2**	**+1.5**
PDG	**Podgorica**	**1.48**	**105**‖	*i* P	**Pb**	**06 58 35.0**	**-0.1**
PDG	**Podgorica**	**1.48**	**105**	S	**Sg**	**06 58 56.0**	**+1.3**
PDG	**Podgorica**	**1.48**	**105**	*e*Pg	**Pn**	**06 58 34.3**	**-0.1**
PDG				*e*Sg	**Sg**	**06 58 54.5**	**-0.2**
TTG	**Podgorica**	**1.48**	**105**‖	*i* Pg	**Pn**	**06 58 34.7**	**+0.3**
TTG				*e*Sg	**Sg**	**06 58 55.8**	**+1.1**
DRME	**Dracevica, Mon**	**1.51**	**114**⇑	*i* Pg	**Pn**	**06 58 35.4**	**+0.5**
DRME				*e*Sg	**Sg**	**06 58 57.4**	**+1.5**
DRME	**Dracevica, Mon**	**1.51**	**114**	*e*Pg	**Pn**	**06 58 35.0**	**+0.1**
DRME				*e*Sg	**Sg**	**06 58 56.0**	**+0.1**
PLE	**Pljevlja**	**1.59**	**71**⇑	*i* Pg	**Pn**	**06 58 36.5**	**+0.3**
PLE				*e*Sg	**Sg**	**06 58 59.0**	**+0.4**
KOME	**Kolasin**	**1.61**	**88**‖	*i* Pg	**Pb**	**06 58 37.2**	**-0.3**
KOME				*e*Sg	**Sg**	**06 58 59.0**	**0.0**
ULC	**Ulcinj**	**1.66**	**120**‖	*i* Pg	**Pn**	**06 58 38.1**	**-0.2**
ULC				*e*Sn	**Sg**	**06 59 01.1**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.73**	**42**	*e*Pn	**Pn**	**06 58 38.3**	**+0.2**
HAPS				*e*Sg	**Sb**	**06 59 01.9**	**+0.2**
HAPS	**Han Pijesak,Bl**	**1.73**	**42**⇑	*i* Pn	**P

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SOKA				*e*Sn	**Sn**	**07 00 03.7**	**+2.5**
	7.9nm,0.4s								
HERR	**Herculane**	**4.22**	**59**	⇑*i*P	**Pn**	**06 59 13.5**	**+1.4**
VTS	**Vitosha**	**4.36**	**91**	*e*Pn	**Pn**	**06 59 14.8**	**+0.6**
VTS	**Vitosha**	**4.36**	**91**	⇑*i*P	**Pn**	**06 59 16.1**	**+1.9**
CSKK	**Cskako**	**4.59**	**8**	*e*Pn	**Pn**	**06 59 19.0**	**+1.8**
CSKK				Sn	**Sn**	**07 00 14.1**	**+3.1**
ARSA	**Arzberg**	**4.61**	**345**	*i* Pn	**Pn**	**06 59 20.5**	**+2.9**
	10nm,0.3s								
ARSA				*e*Sn	**Sn**	**07 00 13.3**	**+1.8**
	13nm,0.6s								
SIRR	**Siria**	**4.63**	**40**	⇓*i*P	**Pn**	**06 59 18.3**	**+0.4**
GZR	**Gura Zlata**	**4.69**	**55**	⇑*i*P	**Pn**	**06 59 19.7**	**+1.0**
SOP	**Sopron**	**4.89**	**354**	*e*Pn	**Pn**	**06 59 22.0**	**+0.6**
SOP				Sn	**Sn**	**07 00 20.1**	**+1.7**
SRO	**Srobarova**	**5.04**	**8**	*e*PN	**Pn**	**06 59 26.6**	**+3.1**
KBA	**Koelnbreinsper**	**5.11**	**328**	*i* Pn	**Pn**	**06 59 26.9**	**+2.3**
	1.7nm,0.3s								
KBA				*e*Sn	**Sn**	**07 00 25.6**	**+1.6**
	9.8nm,0.5s								
ABTA	**Abfaltersbach**	**5.21**	**321**	*i* Pn	**Pn**	**06 59 28.6**	**+2.7**
	1.4nm,0.2s								
ABTA				*e*Sn	**Sn**	**07 00 27.7**	**+1.3**
	20nm,0.6s								
CONA	**Conrad Observa**	**5.21**	**349**	*i* Pn	**Pn**	**06 59 28.8**	**+2.9**
	4.8nm,0.3s								
CONA				*e*Sn	**Sn**	**07 00 27.2**	**+0.8**
	11nm,0.5s								
ZST	**Bratislava**	**5.38**	**358**	*e*PN	**Pn**	**06 59 29.6**	**+1.5**
ZST				*e*		07 00 28.2			
PSZ	**Piszkesteto**	**5.41**	**19**	⇓*i*P	**Pn**	**06 59 29.8**	**+1.2**
PSZ	**Piszkesteto**	**5.41**	**19**	*e*Pn	**Pn**	**06 59 28.1**	**-0.5**
PSZ				*e*Sg	**Pg**	**06 59 50.0**	**-0.9**
PSZ				Sn	**Sn**	**07 00 36.0**	**+4.8**
MOA	**Molln**	**5.47**	**338**	*i* Pn	**Pn**	**06 59 33.0**	**+3.6**
	6.0nm,0.3s								
MOA				*e*Sn	**Sn**	**07 00 36.2**	**+3.5**
	6.6nm,0.3s								
DRGR		**5.52**	**42**	⇑*i*P	**Pn**	**06 59 30.9**	**+0.8**
MODS	**Modra-Piesok**	**5.55**	**360**	*e*PN	**Pn**	**06 59 32.8**	**+2.3**
MODS				*e*SN	**Sn**	**07 00 29.4**	**-5.3**
VYHS	**Vyhne**	**5.77**	**10**	*e*PN	**Pn**	**06 59 35.8**	**+2.3**
VYHS				*e*		07 00 39.6			
WTTA	**Wattenberg**	**6.00**	**320**	*e*Pn	**Pn**	**06 59 40.5**	**+3.7**
	2.4nm,0.3s								
WTTA				*e*Sn	**Sn**	**07 00 48.5**	**+2.7**
	8.6nm,0.4s								
WATA	**Walderalm**	**6.08**	**320**	*i* Pn	**Pn**	**06 59 41.0**	**+3.1**
	3.6nm,0.3s								
WATA				*i* Sn	**Sn**	**07 00 50.0**	**+2.2**
	8.8nm,0.4s								
VOIR		**6.14**	**62**	⇑*i*P	**Pn**	**06 59 40.6**	**+1.9**
PGF	**Pioggiola**	**6.14**	**270**	*e*Pn	**Pn**	**06 59 37.7**	**-1.0**
PGF				*e*Sn	**Sn**	**07 00 45.1**	**-4.3**
SQTA	**Sankt Quirin**	**6.18**	**318**	*i* Pn	**Pn**	**06 59 42.7**	**+3.5**
	0.8nm,0.2s								
SQTA				*e*Sn	**Sn**	**07 00 51.5**	**+1.3**
	9.1nm,0.3s								
KRUC	**Moravsky**	**6.28**	**354**	*e*PN	**Pn**	**06 59 42.7**	**+2.3**
KRUC				*e*SN	**Sn**	**07 00 51.6**	**-0.8**
FETA	**Feichten**	**6.29**	**314**	*e*Pn	**Pn**	**06 59 45.2**	**+4.4**
	1.2nm,0.4s								
FETA				*e*Sn	**Sn**	**07 00 58.0**	**+5.0**
	1.8nm,0.3s								
MOTA	**Moosalm**	**6.32**	**318**	*e*Pn	**Pn**	**06 59 43.8**	**+2.7**
	3.8nm,0.6s								
MOTA				*i* Sn	**Sn**	**07 00 56.7**	**+3.1**
	3.7nm,0.4s								
DAVOX	**Davos/Dischmat**	**6.61**	**309**	Pn	**Pn**	**06 59 49.3**	**+4.0**
	0.5nm,0.3s,baz=111,slow=17,SNR=4.3								
DAVOX				Sn	**Sn**	**07 01 04.1**	**+3.1**
	0.9nm,0.3s,baz=180,slow=20,SNR=5.2								
MLR	**Muntele Rosu**	**6.75**	**64**	⇑*i*P	**Pn**	**06 59 48.2**	**+1.2**
MLR	**Muntele Rosu**	**6.75**	**64**	Pn	**Pn**	**06 59 42.5**	**-4.6**
	0.2nm,0.3s,baz=270,slow=11,SNR=2.1								
KHC	**Kasperske Hory**	**6.83**	**339**	*e*PN	**Pn**	**06 59 50.0**	**+1.9**
KHC				*e*SN	**Sn**	**07 01 06.5**	**+0.4**
DAVA	**Damuels**	**6.91**	**313**	Pn	**Pn**	**06 59 52.7**	**+3.4**
	1.5nm,0.2s								
DAVA				*e*Sn	**Sn**	**07 01 10.2**	**+1.9**
	11nm,0.6s								
MORC	**Moravsky Berou**	**6.96**	**1**	⇑*i*P	**Pn**	**06 59 52.8**	**+2.9**
MORC	**Moravsky Berou**	**6.96**	**1**	*e*PN	**Pn**	**06 59 52.5**	**+2.6**
MORC				*e*SN	**Sn**	**07 01 08.5**	**-0.8**
SBF	**Sospel**	**7.29**	**282**	*e*Pn	**Pn**	**06 59 56.3**	**+1.9**
SBF				*e*Sn	**Sn**	**07 01 14.3**	**-3.1**
GOPC	**GO Pecny, Ondr**	**7.31**	**347**	*e*SN	**Sn**	**07 01 16.5**	**-1.4**
BURAR	**Bucovina Array**	**7.35**	**47**	⇑*i*P	**Pn**	**06 59 57.1**	**+1.9**
DPC	**Dobruska-Polom**	**7.56**	**355**	*e*SN	**Sn**	**07 01 23.7**	**-0.5**
FRF	**La Foret Royal**	**7.84**	**275**	*e*Pn	**Pn**	**07 00 03.6**	**+1.7**
MBDF	**Montbardon**	**7.88**	**288**	*e*Pn	**Pn**	**07 00 01.1**	**-1.4**
MBDF				*e*Sn	**Sn**	**07 01 26.9**	**-5.1**
	38nm,1.5s								
LMR	**La Mourre**	**7.94**	**277**	*e*Pn	**Pn**	**07 00 01.4**	**-1.8**
LMR				*e*Sn	**Sn**	**07 01 29.0**	**-4.3**
LPG	**La Plagne**	**8.06**	**293**	*e*Pn	**Pn**	**07 00 05.6**	**+0.4**
LPG				*e*Sn	**Sn**	**07 01 31.7**	**-5.1**
	10nm,0.6s								
LPL	**La Plagne**	**8.08**	**293**	*e*Pn	**Pn**	**07 00 05.7**	**+0.3**
LPL				*e*Sn	**Sn**	**07 01 32.7**	**-4.4**
	18nm,0.7s								
ORIF	**Oris-en-Rattie**	**8.53**	**288**	*e*Pn	**Pn**	**07 00 10.2**	**-1.3**
ORIF				*e*Sn	**Sn**	**07 01 42.5**	**-5.6**
	0.6nm,0.2s								
SMRF	**Simiane la Rot**	**8.64**	**282**	*e*Pn	**Pn**	**07 00 13.7**	**+0.8**
CABF	**La Chapelle**	**8.86**	**299**	*e*Pn	**Pn**	**07 00 16.1**	**+0.2**
CABF				*e*Sn	**Sn**	**07 01 50.1**	**-5.9**
	1.9nm,0.5s								
HAU	**Haudompre**	**9.30**	**308**	*e*Pn	**Pn**	**07 00 21.8**	**-0.1**
HAU				*e*Sn	**Sn**	**07 02 00.6**	**-6.2**
	1.2nm,0.2s								
MEZF	**Maizieres J'vi**	**10.30**	**308**	*e*Pn	**Pn**	**07 00 34.8**	**-0.7**
	baz=127								
MEZF				*e*Sn	**Sn**	**07 02 25.1**	**-6.1**
	3.3nm,0.3s								
SMF	**Signal de Mont**	**10.33**	**296**	*e*Pn	**Pn**	**07 00 35.0**	**-1.0**
SMF				*e*Sn	**Sn**	**07 02 26.0**	**-6.1**
	1.3nm,0.2s								
LOR	**Lormes**	**10.52**	**300**	*e*Pn	**Pn**	**07 00 38.3**	**-0.3**
	baz=122								
LOR				*e*Sn	**Sn**	**07 02 30.8**	**-5.8**
	4.2nm,0.3s								
SSF	**Saint Saulge**	**10.68**	**298**	*e*Pn	**Pn**	**07 00 40.7**	**0.0**
SSF				*e*Sn	**Sn**	**07 02 34.0**	**-6.5**
	1.1nm,0.3s								
HFS	**Hagfors**	**17.48**	**354**	Pn	**Pn**	**07 02 11.9**	**+0.4**
	0.1nm,0.3s,baz=172,slow=13,SNR=2.5								
NOA	**NORSAR Array B**	**18.62**	**351**	P	**Pn**	**07 02 26.4**	**+0.9**
	0.0nm,0.3s,baz=168,slow=9.5,SNR=2.7								
FINES	**FINESS Array B**	**19.38**	**13**	P	**P**	**07 02 32.3**	**-1.3**
	0.2nm,0.3s,baz=186,slow=11,SNR=7.3								
BVAR	**Borovoye Array**	**36.21**	**55**	P	**P**	**07 05 09.9**	**-0.8**
	0.5nm,0.5s,baz=270,slow=7.2,SNR=4.3								
SONM	**Songino Array**	**59.44**	**51**	P	**P**	**07 08 10.4**	**-0.4**
	0.3nm,0.7s,baz=292,slow=7.0,SNR=1.9								

MEX 09 07:10:42.3±0.3, 15°.91N×95°.61W, h53km±5km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.50**	**254**	*e*P	Pn	07 10 52.3	-1.5
HUIG				*e*S	Sn	07 11 00.3	-1.7
CMIG	**Matias Romero**	**1.36**	**31**	*e*P	Pn	07 11 03.7	-1.3
CMIG				*e*S	Sn	07 11 20.0	-2.1
VHO	**Vista Hermosa**	**1.58**	**317**	*e*P	Pn	07 11 06.7	-1.5
VHO				*i* S	Sn	07 11 25.3	-2.3
PNIG	**Pinotepa**	**2.46**	**282**	*i* P	Pn	07 11 18.7	-1.4
PNIG				*i* S	Sn	07 11 47.4	-1.6

*VAO **09** 07:21:24.3±0.3, 10°.91N×62°.16W, h10km, mb4.9*
*ISCJB **09** 07:21:32.8±0.2, 10°.91N±0°.01×62°.27W±0°.02, h111km±2km, mb4.5/217, Error ellipse: s-maj=2.9km s-min=2.3km az=177.3*
*NEIC **09** 07:21:34.4±0.3, 10°.85N×62°.25W, h113km±2km, mb4.5/193, MD5.0(TRN), MW4.8(CAR), Error ellipse: s-maj=3.7km s-min=2.9km az=51.0*
NEIC Felt [III] at Grenville and Saint George's, Grenada. Also felt at Hillsborough, Mount Moritz Land Settlement, Saint David's and Westerhall Land Settlement. Felt [III] at Port of Spain, Trinidad and Tobago. Also felt at Arima, Chaguanas, Mucurapo, San Juan and Tacarigua.
*CAR **09** 07:21:35.1±0.0, 10°.85N×62°.14W, h100km*
*IDC **09** 07:21:35.1±0.6, 10°.96N×62°.36W, h120km±5km, mb4.2/24, mb1 4.3/27, mb1mx4.3/31, mbtmp4.6/27, MS3.3/6, Ms1 3.3/6, ms1mx3.0/32, Error ellipse: s-maj=10.1km s-min=9.3km az=93.0*
*TRN **09** 07:21:35.8, 10°.90N×61°.96W, h114km, MD5.0*
TRN Felt widely throughout Trinidad MMI II and Grenada MMI III.

ISC 09 07:21:34.2±0.4, 10°.87N±0°.03×62°.27W±0°.03, h112km±3km, h112km: pP-P, n777, σ1946/864, mb4.5/217, 5C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.88**	**104**	*e*P	**Pn**	**07 21 54.1**	**-0.3**
TRN				*e*S	**Sn**	**07 22 06.9**	**-2.6**
TRN	**Trinidad (W)**	**0.88**	**104**	*e*P	**Pn**	**07 21 54.1**	**-0.3**
TRN				*e*S	**Sn**	**07 22 06.1**	**-3.4**
TPP	**Pointe-a-Pierr**	**0.97**	**124**	*e*P	**Pn**	**07 21 55.8**	**+0.6**
TPP				*e*S	**Sn**	**07 22 08.7**	**-2.5**
TPP	**Pointe-a-Pierr**	**0.97**	**124**	*e*P	**Pn**	**07 21 55.8**	**+0.6**
TPP				*e*S	**Sn**	**07 22 08.7**	**-2.5**
TBH	**Brigand Hill**	**1.24**	**108**	*e*P	**Pn**	**07 21 57.6**	**-0.5**
TBH				*e*S	**Sn**	**07 22 13.0**	**-3.3**
TBH	**Brigand Hill**	**1.24**	**108**	*e*P	**Pn**	**07 21 57.6**	**-0.5**
TBH				*e*S	**Sn**	**07 22 13.0**	**-3.3**
GRGR	**Grenville**	**1.39**	**26**	*e*Pn	**Pn**	**07 21 59.3**	**-0.6**
GRGR				*e*Sn	**Sn**	**07 22 18.3**	**-1.2**
GRGR	**Grenville**	**1.39**	**26**	*e*P	**Pn**	**07 21 59.4**	**-0.5**
GRGR				*e*S	**Sn**	**07 22 18.2**	**-1.2**
GRHS	**Sauteurs**	**1.48**	**24**	*e*P	**Pn**	**07 22 01.8**	**+0.8**
GRHS				*e*S	**Sn**	**07 22 20.4**	**-0.8**
GRHS	**Sauteurs**	**1.48**	**24**	*e*P	**Pn**	**07 22 01.8**	**+0.8**
GRHS				*e*S	**Sn**	**07 22 20.4**	**-0.8**
TPR	**Prospect**	**1.50**	**78**	*e*P	**Pn**	**07 21 58.7**	**-2.4**
TPR	**Prospect**	**1.50**	**78**	*e*P	**Pn**	**07 21 58.7**	**-2.4**
BOT	**Bacolet**	**1.55**	**79**	*e*P	**Pn**	**07 21 59.2**	**-2.5**
BOT	**Bacolet**	**1.55**	**79**	*e*P	**Pn**	**07 21 59.2**	**-2.5**
GRSS	**Sisters**	**1.56**	**24**	*e*P	**Pn**	**07 22 02.5**	**+0.7**
GRSS				*e*S	**Sn**	**07 22 21.6**	**-1.3**
GRSS	**Sisters**	**1.56**	**24**	*e*P	**Pn**	**07 22 02.5**	**+0.7**
GRSS				*e*S	**Sn**	**07 22 21.6**	**-1.3**
TOSP	**Speyside**	**1.75**	**76**	*i* P	**Pn**	**07 22 01.9**	**-2.3**
TOSP				*e*S	**Sn**	**07 22 22.4**	**-4.7**
TOSP	**Speyside**	**1.75**	**76**	⇑*i*P	**Pn**	**07 22 01.9**	**-2.3**
TOSP				*e*S	**Sn**	**07 22 22.4**	**-4.7**
FCV	**Fort Charlotte**	**2.48**	**24**	*e*P	**Pn**	**07 22 13.9**	**+0.3**
FCV				*e*S	**Sn**	**07 22 41.2**	**-2.5**
FCV	**Fort Charlotte**	**2.48**	**24**	*e*P	**Pn**	**07 22 13.9**	**+0.3**
FCV				*e*S	**Sn**	**07 22 41.2**	**-2.5**
SVB	**Belmont**	**2.59**	**22**	*e*Pn	**Pn**	**07 22 14.0**	**-0.9**
SVB				*e*Sn	**Sn**	**07 22 46.5**	**+0.4**
SVB	**Belmont**	**2.59**	**22**	*e*P	**Pn**	**07 22 15.2**	**+0.3**
SVB				*e*S	**Sn**	**07 22 44.0**	**-2.1**
SVCV	**St. Vincent, C**	**2.63**	**25**	*e*P	**Pn**	**07 22 15.3**	**-0.2**
SVCV				*e*S	**Sn**	**07 22 44.1**	**-3.0**
SVV	**Soufriere Volc**	**2.64**	**23**	*e*P	**Pn**	**07 22 16.0**	**+0.4**
SVV				*e*S	**Sn**	**07 22 45.3**	**-2.1**
SVV	**Soufriere Volc**	**2.64**	**23**	*e*P	**Pn**	**07 22 16.0**	**+0.4**
SVV				*e*S	**Sn**	**07 22 45.3**	**-2.1**
SSV	**Crater Summit**	**2.66**	**23**	*e*P	**Pn**	**07 22 16.6**	**+0.7**
SSV				*e*S	**Sn**	**07 22 45.1**	**-2.9**
SSV	**Crater Summit**	**2.66**	**23**	*e*P	**Pn**	**07 22 16.6**	**+0.7**
SSV				*e*S	**Sn**	**07 22 45.1**	**-2.9**
SFAN	**Fancy Village**	**2.72**	**23**	*e*P	**Pn**	**07 22 17.2**	**+0.6**
SFAN				*e*S	**Sn**	**07 22 46.6**	**-2.6**
SFAN	**Fancy Village**	**2.72**	**23**	*e*P	**Pn**	**07 22 17.2**	**+0.6**
SFAN				*e*S	**Sn**	**07 22 46.6**	**-2.6**
MCLT	**Moule a Chique**	**3.11**	**25**	*e*P	**Pn**	**07 22 21.4**	**-0.3**
MCLT				*e*S	**Sn**	**07 22 54.3**	**-4.0**
MCLT	**Moule a Chique**	**3.11**	**25**	*e*P	**Pn**	**07 22 21.4**	**-0.3**
MCLT				*e*S	**Sn**	**07 22 54.3**	**-4.0**
SLB	**Belfond**	**3.17**	**22**	*e*P	**Pn**	**07 22 24.1**	**+1.4**
SLB				*e*S	**Sn**	**07 22 57.3**	**-2.7**
SLB	**Belfond**	**3.17**	**22**	*e*P	**Pn**	**07 22 24.1**	**+1.4**
SLB				*e*S	**Sn**	**07 22 57.3**	**-2.7**
BBGH	**Gun Hill**	**3.48**	**49**	*e*Pn	**Pn**	**07 22 26.9**	**+0.2**
BBGH				*e*S	**Sn**	**07 23 01.3**	**-6.0**
BBGH	**Gun Hill**	**3.48**	**49**	*e*P	**Pn**	**07 22 26.7**	**0.0**
BBGH				*e*S	**Sn**	**07 23 01.3**	**-6.0**
BBSP	**Saint Philip**	**3.53**	**51**	*e*P	**Pn**	**07 22 25.6**	**-1.8**
BBSP				*e*S	**Sn**	**07 23 02.6**	**-5.9**
BBSP	**Saint Philip**	**3.53**	**51**	*e*P	**Pn**	**07 22 25.6**	**-1.8**
BBSP				*e*S	**Sn**	**07 23 02.6**	**-5.9**
H05S1	**Guadeloupe/Mar**	**3.80**	**21**	P	**Pn**	**07 22 30.8**	**-0.2**
H05S1				S	**Sn**	**07 23 12.8**	**-2.1**
FDF	**Fort de France**	**3.99**	**16**	*e*Pn	**Pn**	**07 22 33.3**	**-0.3**
FDF				*e*Sn	**Sn**	**07 23 20.5**	**+0.9**
FDF	**Fort de France**	**3.99**	**16**	*e*P	**Pn**	**07 22 33.2**	**-0.1**
FDF				*e*S	**Sn**	**07 23 27.0**	**-2.6**
DSHT	**Scott's Head**	**4.41**	**11**	*e*P	**Pn**	**07 22 39.4**	**+0.3**
DSHT				*e*S	**Sn**	**07 23 27.0**	**-2.4**
DSHT	**Scott's Head**	**4.41**	**11**	*e*P	**Pn**	**07 22 39.4**	**+0.3**
DPMT	**Pointe Michel**	**4.45**	**11**	*e*P	**Pn**	**07 22 40.3**	**+0.6**
DPMT				*e*S	**Sn**	**07 23 27.5**	**-3.0**
DPMT	**Pointe Michel**	**4.45**	**11**	*e*P	**Pn**	**07 22 40.3**	**+0.6**
DBCT	**Belle View Cho**	**4.47**	**11**	*e*P	**Pn**	**07 22 40.9**	**+0.9**
DBCT				*e*S	**Sn**	**07 23 27.8**	**-3.1**
DBCT	**Belle View Cho**	**4.47**	**11**	*e*P	**Pn**	**07 22 40.9**	**+0.9**
DBCT	**Belle View Cho**	**4.47**	**11**	*e*S	**Sn**	**07 23 27.8**	**-3.1**
DBCT				T	T	07 27 23.0	
MDN	**Morne-Daniel**	**4.50**	**11**	*e*P	**Pn**	**07 22 42.1**	**+1.7**
MDN				*e*S	**Sn**	**07 23 27.9**	**-3.9**
MDN	**Morne-Daniel**	**4.50**	**11**	*e*P	**Pn**	**07 22 42.1**	**+1.7**
DLPL	**La Plaine**	**4.55**	**13**	*e*P	**Pn**	**07 22 41.5**	**+0.5**
DLPL				*e*S	**Sn**	**07 23 29.6**	**-3.3**
DLPL	**La Plaine**	**4.55**	**13**	*e*P	**Pn**	**07 22 41.5**	**+0.5**
BBL	**Barber's Block**	**4.69**	**9**	*e*P	**Pn**	**07 22 43.4**	**+0.4**
BBL				*e*S	**Sn**	**07 23 32.8**	**-3.6**
BBL	**Barber's Block**	**4.69**	**9**	*e*P	**Pn**	**07 22 43.4**	**+0.4**
BBL	**Barber's Block**	**4.69**	**9**	*e*S	**Sn**	**07 23 32.8**	**-3.6**
BBL				*e*T	T	07 26 32.0	
BBL				T	T	07 27 33.2	
MDPO	**Dominica; Chan**	**4.75**	**10**	*e*P	**Pn**	**07 22 44.3**	**+0.7**
MDPO	**Dominica; Chan**	**4.75**	**10**	*e*S	**Sn**	**07 23 35.1**	**-2.5**
MDPO				*e*T	T	07 26 30.5	
MDPO				T	T	07 27 32.9	
DWS	**Wesley**	**4.76**	**11**	*e*P	**Pn**	**07 22 45.0**	**+1.1**
DWS				*e*S	**Sn**	**07 23 34.5**	**-3.5**
DWS	**Wesley**	**4.76**	**11**	*e*P	**Pn**	**07 22 45.0**	**+1.1**
MDPV	**Dominica, Penn**	**4.80**	**10**	*e*P	**Pn**	**07 22 44.9**	**+0.5**
MDPV	**Dominica, Penn**	**4.80**	**10**	*e*S	**Sn**	**07 23 36.5**	**-2.6**
TBG	**Guadaloupe-3**	**4.99**	**7**	*e*P	**Pn**	**07 22 47.9**	**+0.9**
TBG	**Guadaloupe-3**	**4.99**	**7**	*e*S	**Sn**	**07 23 40.6**	**-2.9**
DEG	**La Desirade**	**5.54**	**12**	*e*P	**Pn**	**07 22 54.2**	**-0.2**
DEG	**La Desirade**	**5.54**	**12**	*e*P	**Pn**	**07 22 54.2**	**-0.2**
H05N1	**Guadeloupe/Mar**	**5.54**	**12**	P	**Pn**	**07 22 54.2**	**-0.2**
H05N1				S	**Sn**	**07 23 53.7**	**-3.2**
MLYT	**Lee's Yard**	**5.82**	**1**	*e*P	**Pn**	**07 22 59.1**	**+1.0**
MLYT	**Lee's Yard**	**5.82**	**1**	*e*S	**Sn**	**07 24 01.5**	**-2.1**
MLYT				*e*T	T	07 27 35.4	
MLYT				T	T	07 28 44.5	
BPA	**Boggy Peak**	**6.15**	**4**	*e*P	**Pn**	**07 23 04.0**	**+1.2**
BPA				*e*S	**Sn**	**07 24 08.1**	**-3.7**
BPA	**Boggy Peak**	**6.15**	**4**	*e*P	**Pn**	**07 23 04.0**	**+1.2**
NEV	**Hard Times**	**6.24**	**357**	*e*P	**Pn**	**07 23 05.1**	**+1.3**
NEV				*e*S	**Sn**	**07 24 10.5**	**-3.3**
NEV	**Hard Times**	**6.24**	**357**	*e*P	**Pn**	**07 23 05.1**	**+1.3**
SEUS	**St. Eustatius**	**6.62**	**354**	*e*Pn	**Pn**	**07 23 10.8**	**+1.8**
SEUS				*e*S	**Sn**	**07 24 20.2**	**-2.8**
SEUS	**St. Eustatius**	**6.62**	**354**	*e*P	**Pn**	**07 23 11.0**	**+2.0**
ANWB	**Willy Bob**	**6.78**	**4**	*e*Pn	**Pn**	**07 23 12.2**	**+2.1**
ANWB				*e*S	**Sn**	**07 24 22.9**	**-3.9**
ANWB	**Willy Bob**	**6.78**	**4**	*e*P	**Pn**	**07 23 12.1**	**+1.0**
SMRT	**St. Maarten**	**7.18**	**354**	*e*Pn	**Pn**	**07 23 18.6**	**+2.0**
SMRT				*e*S	**Sn**	**07 24 32.8**	**-3.9**
SMRT				*e*Sn	Sn	07 24 40.5	+3.8
SMRT	**St. Maarten**	**7.18**	**354**	*e*P	**Pn**	**07 23 18.8**	**+2.2**
CDVI	**St. Croix**	**7.26**	**341**	*e*Pn	**Pn**	**07 23 18.3**	**+0.7**
MTP	**Monte Pirata**	**7.86**	**337**	*e*Pn	**Pn**	**07 23 26.6**	**+0.8**
MTP				*e*Sn	**Sn**	**07 24 47.3**	**-5.8**
CUPR	**Culebra, Puert**	**7.95**	**339**	*e*Pn	**Pn**	**07 23 28.0**	**+0.9**
HUMP	**Col San Antoni**	**8.02**	**335**	*e*Pn	**Pn**	**07 23 28.3**	**+0.3**
HUMP				*e*Sn	**Sn**	**07 24 51.4**	**-5.6**
ABVI	**Anegada Island**	**8.07**	**346**	*e*Pn	Pn	07 23 23.2	-5.4
ELOV	**Elorza**	**8.10**	**242**	*e*P	**Pn**	**07 23 27.6**	**-1.5**
ELOV	**Elorza**	**8.10**	**242**	*e*P	**Pn**	**07 23 27.6**	**-1.5**
SJG	**San Juan**	**8.12**	**333**	*e*Pn	**Pn**	**07 23 29.9**	**+0.5**
SJG				*e*Sn	**Sn**	**07 24 55.3**	**-4.3**
SJG	**San Juan**	**8.12**	**333**	P	**Pn**	**07 23 29.2**	**-0.2**
	6.2nm,0.3s,baz=130,slow=19,SNR=17						
SJG				S	**Sn**	**07 24 52.4**	**-7.1**
	14nm,0.3s,baz=70,slow=18,SNR=7.7						
SJG				LR	LR	07 26 58.3	
	comp=Z,130nm,20.1s,baz=146,slow=40						
CBYP	**Canovanas**	**8.14**	**335**	*e*Pn	**Pn**	**07 23 30.6**	**+0.9**
CBYP				*e*Sn	**Sn**	**07 24 54.5**	**-5.5**
DABV	**Dabajuro**	**8.22**	**271**	*e*P	**Pn**	**07 23 33.4**	**+2.7**
DABV	**Dabajuro**	**8.22**	**271**	*e*P	**Pn**	**07 23 33.4**	**+2.7**
OBIP	**Obispado Ponce**	**8.28**	**330**	*e*Pn	**Pn**	**07 23 31.0**	**-0.4**
SDV	**Santo Domingo**	**8.47**	**257**	*e*P	**Pn**	**07 23 33.4**	**-1.0**
SDV	**Santo Domingo**	**8.47**	**257**	*e*P	**Pn**	**07 23 33.4**	**-1.0**
SDV	**Santo Domingo**	**8.47**	**257**	P	**Pn**	**07 23 32.7**	**-1.7**
	15nm,0.3s,baz=138,slow=4.8,SNR=253						
SDV				S	**Sn**	**07 25 01.5**	**-7.0**
	38nm,0.3s,baz=61,slow=19,SNR=7.9						
CRPR	**Cabo Rojo, PR**	**8.50**	**327**	*e*Pn	**Pn**	**07 23 37.4**	**+2.9**
MPR	**Mayaguez**	**8.69**	**328**	*e*Pn	**Pn**	**07 23 41.5**	**+4.4**
SOCV	**Socops**	**8.85**	**254**	*e*P	**Pn**	**07 23 35.9**	**-3.4**
SOCV	**Socops**	**8.85**	**254**	*e*P	**Pn**	**07 23 35.9**	**-3.4**
AGP	**Aguadilla**	**8.85**	**328**	*e*Pn	**Pn**	**07 23 43.2**	**+3.9**
URIC	**Uribia, Colomb**	**9.57**	**276**	*e*P	**Pn**	**07 23 48.3**	**-0.8**
URIC	**Uribia, Colomb**	**9.57**	**276**	*e*P	**Pn**	**07 23 48.3**	**-0.8**
CAPV	**Capacho**	**10.35**	**254**	*e*P	**Pn**	**07 23 59.0**	**-0.8**
CAPV	**Capacho**	**10.35**	**254**	*e*P	**Pn**	**07 23 59.0**	**-0.8**
TAMC	**Tame, Arauca**	**10.39**	**246**	*e*P	**Pn**	**07 23 58.2**	**-2.0**
TAMC	**Tame, Arauca**	**10.39**	**246**	*e*P	**Pn**	**07 23 58.2**	**-2.0**
BANI	**BANI**	**10.82**	**315**	*e*Pn	**Pn**	**07 24 10.0**	**+3.9**
PAMC	**Pamplona, Colo**	**10.88**	**252**	*e*P	**Pn**	**07 24 05.2**	**-2.1**
PAMC				*e*S	**Sn**	**07 26 01.3**	**-6.0**
PAMC	**Pamplona, Colo**	**10.88**	**252**	*e*P	**Pn**	**07 24 05.2**	**-2.1**
PAMC				*e*S	**Sn**	**07 26 01.3**	**-6.0**
CCODA	**Codazzi, Cesar**	**11.03**	**266**	*e*P	**Pn**	**07 24 07.3**	**-1.5**
CCODA	**Codazzi, Cesar**	**11.03**	**266**	*e*P	**Pn**	**07 24 07.3**	**-1.5**
CODC	**Agustn Codazz**	**11.03**	**266**	*e*P	**Pn**	**07 24 09.0**	**+0.1**
CODC	**Agustn Codazz**	**11.03**	**266**	*e*P	**Pn**	**07 24 09.0**	**+0.1**
MDP	**Montagnes des**	**11.12**	**120**	P	Pn	07 24 03.8	-6.3
	20nm,0.3s,baz=310,slow=16,SNR=222						
MDP				S	Sn	07 25 57.6	-15
	89nm,0.3s,baz=35,slow=21,SNR=24

254A	Abbeville baz=133	28.58	320	P	P	07 27 19.2	-0.6
352A	Blakely 8.7nm,0.9s	29.33	318	eP	P	07 27 28.2	+1.8
352A	Blakely baz=130	29.33	318	P	P	07 27 26.1	-0.3
451A	Vernon baz=127	29.35	316	P	P	07 27 26.1	-0.5
CCIG	Comitan 24nm,0.6s	29.51	284	eP	P	07 27 29.2	+0.8
252A	Lumpkin baz=130	29.53	319	P	P	07 27 27.9	-0.3
Z53A	Monticello baz=134	29.66	322	P	P	07 27 29.6	+0.2
GOGA	Godfrey 5.7nm,1.0s	29.69	322	eP	P	07 27 32.0	+2.4
GOGA	Godfrey baz=134	29.69	322	P	P	07 27 29.6	0.0
X54A	Belton baz=137	29.87	325	P	P	07 27 31.5	+0.3
BDFB	Brasilia 13nm,0.6s	29.88	152	eP	P	07 27 33.1	+1.6
BDFB	Brasilia 12nm,0.5s,baz=317,slow=9.4,SNR=26	29.88	152	P	P	07 27 32.8	+1.2
BDFB	comp=Z,60nm,20.9s,baz=277,slow=38			LR	LR	07 40 36.6	
152A	Waverly Hall 6.6nm,0.8s	29.96	320	eP	P	07 27 33.3	+1.3
152A	Waverly Hall baz=131	29.96	320	P	P	07 27 32.4	+0.4
251A	Midway baz=130	30.03	318	P	P	07 27 32.8	+0.1
Y53A	Monroe baz=135	30.07	323	P	P	07 27 33.3	+0.3
Z52A	Williamson baz=133	30.12	321	P	P	07 27 33.6	+0.2
V55A	Taylorsville baz=141	30.23	328	P	P	07 27 34.4	0.0
151A	Opelika baz=130	30.26	319	P	P	07 27 35.4	+0.8
Y52A	Lilburn 6.8nm,1.1s	30.36	322	eP	P	07 27 36.0	+0.5
Y52A	Lilburn baz=134	30.36	322	P	P	07 27 35.8	+0.2
R58B	Mineral 9.4nm,1.1s	30.40	335	eP	P	07 27 37.9	+2.1
R58B				ePcP	PcP	07 30 32.6	-0.4
R58B	Mineral baz=149	30.40	335	P	P	07 27 36.3	+0.6
449A	Pace baz=125	30.45	314	P	P	07 27 37.1	+0.7
BG3	Lake Jocassee 3.2nm,0.7s	30.51	325	eP	P	07 27 38.2	+1.4
250A	Grady 12nm,0.8s	30.53	317	eP	P	07 27 37.4	+0.4
250A	Grady baz=128	30.53	317	P	P	07 27 37.5	+0.4
V54A	Nebo baz=140	30.55	327	P	P	07 27 38.1	+0.9
BRAL	Brewton 22nm,0.8s	30.58	315	eP	P	07 27 39.0	+1.5
BRAL	Brewton baz=126	30.58	315	P	P	07 27 37.7	+0.3
U55A	TA2, Sparta baz=142	30.65	329	P	P	07 27 38.7	+0.5
MNMC	Minye Minye 16nm,0.6s	30.67	194	eP	P	07 27 38.5	-0.1
MNMC				ePcP	PcP	07 30 36.0	+1.7
150A	Eclectic baz=130	30.76	318	P	P	07 27 39.2	+0.1
W53A	Cullowhee baz=137	30.77	325	P	P	07 27 39.7	+0.5
X52A	Dahlonega baz=135	30.78	324	P	P	07 27 39.7	+0.4
349A	Repton baz=126	30.78	315	P	P	07 27 39.2	-0.1
BLA	Blacksburg baz=144	30.91	331	P	P	07 27 41.3	+0.9
V53A	Saluda 5.7nm,1.0s	30.94	326	eP	P	07 27 42.5	+1.9
V53A	Saluda baz=138	30.94	326	P	P	07 27 41.4	+0.7
RCBR	Riachuelo 8.1nm,0.9s	31.05	121	eP	P	07 27 40.0	-1.8
249A	Camden baz=127	31.11	316	P	P	07 27 42.7	+0.6
Z50A	Ashland baz=130	31.11	319	P	P	07 27 42.3	+0.1
W52A	Murphy baz=136	31.15	324	P	P	07 27 42.9	+0.4
149A	Jones baz=128,SNR=8.2	31.26	318	P	P	07 27 44.1	+0.7
PB11	IPOC Station P 30nm,1.0s	31.30	193	eP	P	07 27 43.4	-0.6
JANB	Januaria	31.31	145	eP	P	07 27 44.5	+0.4
U53A	Fall Branch baz=139	31.33	327	P	P	07 27 44.8	+0.7
T54A	Tazewell baz=142	31.35	329	P	P	07 27 45.3	+1.0
Y50A	Piedmont baz=132	31.41	321	P	P	07 27 45.2	+0.5
Z49A	Columbiana baz=130	31.46	319	P	P	07 27 45.9	+0.7
TKL	Tuckaleechee C 3.4nm,1.0s	31.46	325	eP	P	07 27 45.7	+0.5
V52A	Sevierville 5.3nm,1.0s	31.50	326	eP	P	07 27 45.3	-0.3
LRAL	Lakeview Retre 13nm,1.0s	31.67	318	eP	P	07 27 48.2	+1.2
LRAL	Lakeview Retre baz=129,SNR=5.4	31.67	318	P	P	07 27 47.9	+0.9
U52A	Thorn Hill baz=138	31.78	327	P	P	07 27 48.6	+0.6
T53A	Wise baz=140	31.78	328	P	P	07 27 49.2	+1.2
Y49A	Blount Mountai 5.5nm,0.6s	31.81	320	eP	P	07 27 49.0	+0.8
Y49A	Blount Mountai baz=130	31.81	320	P	P	07 27 49.2	+0.9
AQDB	Aquidauana	31.81	168	eP	P	07 27 50.4	+2.1
IPMB	Ipameri, GO	31.85	154	eP	P	07 27 50.2	+1.4
V51A	Loudon baz=136	31.89	325	P	P	07 27 49.8	+0.8
R54A	Victor baz=144	31.95	331	P	P	07 27 50.2	+0.7
TZTN	Tazewell 6.3nm,1.0s	31.99	327	eP	P	07 27 50.8	+0.9
W50A	Signal Mountai 4.1nm,0.6s	32.03	323	eP	P	07 27 51.6	+1.4
W50A				ePcP	PcP	07 30 37.2	-0.2
W50A	Signal Mountai baz=134	32.03	323	P	P	07 27 51.3	+1.1
X49A	Woodville baz=131	32.18	321	P	P	07 27 52.0	+0.5
Q55A	Buckhannon baz=146	32.20	333	P	P	07 27 52.6	+0.9
V50A	Pikeville baz=134	32.23	324	P	P	07 27 53.0	+1.0
147A	Livingston 14nm,0.9s	32.30	316	eP	P	07 27 54.1	+1.5
147A	Livingston baz=126	32.30	316	P	P	07 27 53.6	+1.1
Y48A	Jasper baz=130	32.33	319	P	P	07 27 54.0	+1.1
PB01	IPOC Station P 16nm,0.7s	32.50	193	eP	P	07 27 54.5	0.0
Q54A	Coxs Mills baz=144	32.53	333	P	P	07 27 55.6	+1.1
R53A	Hurricane baz=142	32.53	330	P	P	07 27 55.7	+1.2
W49A	Belvidere baz=132	32.55	322	P	P	07 27 56.0	+1.3
ITRB	Iturama	32.57	159	eP	P	07 27 56.6	+1.6
X48A	Hartselle baz=130	32.59	320	P	P	07 27 55.9	+0.8
U50A	Jamestown baz=136	32.61	325	P	P	07 27 56.2	+0.9
MCWV	Mont Chateau baz=147	32.65	334	P	P	07 27 57.1	+1.5
SSPA	Standing Stone 7.8nm,1.1s	32.70	338	eP	P	07 27 57.3	+1.3
SSPA				ePcP	PcP	07 30 38.5	-0.7
V49A	McMinnville baz=133	32.77	323	P	P	07 27 57.7	+1.1
S51A	Beattyville 14nm,0.8s	32.83	328	eP	P	07 27 58.3	+1.2
S51A	Beattyville baz=139	32.83	328	P	P	07 27 57.9	+0.8
MCI9	Montes Claros	32.87	146	eP	P	07 27 58.5	+0.7
R52A	Catlettsburg baz=141	32.87	330	P	P	07 27 58.2	+0.7
P54A	Burton baz=146	32.88	334	P	P	07 27 58.9	+1.4
MCI6	Montes Claros	32.96	146	eP	P	07 27 59.1	+0.6
W48A	Pulaski baz=131	32.97	321	P	P	07 27 59.6	+1.2
T50A	Nancy baz=136	33.04	326	P	P	07 28 00.3	+1.3
PMNB	Patos De Minas	33.13	152	eP	P	07 28 00.9	+0.9
X47A	Russelville baz=129,SNR=8.2	33.15	319	P	P	07 28 00.6	+0.6
Q52A	Bidwell baz=142	33.18	331	P	P	07 28 01.5	+1.3
U49A	Red Boiling Sp baz=134	33.21	324	P	P	07 28 01.7	+1.2
S50A	Richmond baz=138	33.28	327	P	P	07 28 02.1	+1.0
V48A	Smith Brothers baz=132	33.30	322	P	P	07 28 02.4	+1.2
O54A	Avella baz=146	33.31	334	P	P	07 28 02.2	+0.9
R51A	Hillsboro baz=140	33.32	329	P	P	07 28 02.3	+0.9
145A	Houston Renfro baz=124	33.40	315	P	P	07 28 02.6	+0.4
W47A	Westpoint baz=130	33.45	321	P	P	07 28 03.2	+0.6
PLAL	Pickwick Lake 8.8nm,0.7s	33.59	320	eP	P	07 28 04.5	+0.8
PLAL				ePcP	PcP	07 30 40.7	-1.1
X46A	Booneville baz=128	33.65	319	P	P	07 28 04.9	+0.6
P52A	Corning baz=143	33.65	332	P	P	07 28 05.1	+0.9
U48A	Cassie Pea, Po baz=133	33.65	323	P	P	07 28 05.4	+1.1
O53A	New Philadelph baz=145	33.73	333	P	P	07 28 06.1	+1.1
M55A	Ridgway baz=150	33.76	337	P	P	07 28 06.2	+1.1
Q51A	Peebles baz=141	33.76	330	P	P	07 28 06.5	+1.4
V47A	Nunnelly baz=131	33.78	321	P	P	07 28 06.4	+0.9
S49A	Springfield baz=136	33.84	326	P	P	07 28 06.9	+1.0
W46A	Michie baz=129	33.87	320	P	P	07 28 07.2	+1.0
O52A	Adamsville 10.0nm,1.1s	33.90	333	eP	P	07 28 08.1	+1.7
O52A	Adamsville baz=144	33.90	333	P	P	07 28 07.2	+0.8
LVC	Limon Verde 8.8nm,0.8s	33.90	191	eP	P	07 28 07.6	+0.6
LVC	Limon Verde	33.90	191	eP	P	07 28 07.3	+0.3
P51A	Williamsport baz=142	33.97	331	P	P	07 28 08.1	+1.1
N53A	Lisbon baz=146	34.03	334	P	P	07 28 08.9	+1.4
U47A	Clarksville baz=132	34.05	322	P	P	07 28 08.8	+1.1
M54A	Oil Creek Stat 8.0nm,1.0s	34.14	336	eP	P	07 28 08.8	+0.4
M54A	Oil Creek Stat baz=148	34.14	336	P	P	07 28 09.5	+1.1
OXF	Oxford 16nm,1.0s	34.16	318	eP	P	07 28 08.9	+0.2
OXF				ePcP	PcP	07 30 43.0	-0.4
OXF	Oxford baz=127	34.16	318	P	P	07 28 09.5	+0.9
WVT	Waverly 6.6nm,0.6s	34.17	322	eP	P	07 28 09.1	+0.3
WVT				ePcP	PcP	07 30 42.8	-0.6
WVT	Waverly baz=131	34.17	322	P	P	07 28 09.6	+0.8
O51A	Pataskala baz=143	34.28	332	P	P	07 28 10.6	+1.0
T47A	Sharon Grove baz=133	34.31	323	P	P	07 28 10.9	+0.9
M53A	WI Miller and baz=147	34.48	335	P	P	07 28 12.5	+1.0
BB19B	Bebedouro	34.49	157	eP	P	07 28 13.3	+1.6
ACSO	Alum Creek Sta baz=142	34.52	331	P	P	07 28 13.1	+1.3
Q49A	Aurora baz=138	34.52	328	P	P	07 28 12.7	+0.9
U46A	Springville baz=131	34.53	322	P	P	07 28 12.3	+0.4
NCB	Newcomb	34.57	345	eP	P	07 28 13.2	+1.1
S47A	Hartford baz=134	34.59	324	P	P	07 28 13.3	+0.9
V45A	Humboldt baz=129	34.62	320	P	P	07 28 13.8	+1.1
L53A	Girard baz=148	34.75	336	P	P	07 28 14.1	+0.4
O50A	Cable baz=141	34.76	331	P	P	07 28 14.6	+0.8
TRCB	Terra Rica	34.76	164	eP	P	07 28 15.4	+1.3
N51A	Ashland baz=144	34.79	333	P	P	07 28 14.8	+0.8
T46A	Princeton baz=132	34.81	323	P	P	07 28 14.8	+0.5
P49A	Miami Univ. Ec baz=139,SNR=9.5	34.83	329	P	P	07 28 15.2	+0.8
R47A	Wooly Knot Far baz=135	34.89	326	P	P	07 28 15.5	+0.6
N50A	Nevada baz=142	35.02	332	P	P	07 28 17.3	+1.2
M51A	Elyria baz=144	35.04	333	P	P	07 28 17.4	+1.2
MEDO	Medina baz=152	35.12	339	P	P	07 28 17.4	+0.6
O49A	Covington 13nm,0.8s	35.14	330	eP	P	07 28 17.9	+0.8
O49A	Covington baz=140,SNR=6.0	35.14	330	P	P	07 28 17.5	+0.5
P48A	Milroy baz=138	35.14	328	P	P	07 28 17.6	+0.5
S46A	Don Dixon Farm baz=133	35.14	324	P	P	07 28 17.6	+0.5
X43A	Marvell baz=125	35.14	317	P	P	07 28 17.5	+0.4
Q47A	Bedord North L baz=136	35.29	326	P	P	07 28 19.2	+0.8
M50A	Fremont baz=143	35.48	333	P	P	07 28 20.6	+0.7
BLO	Bloomington 11nm,0.9s	35.51	327	eP	P	07 28 21.5	+1.2
BLO				ePcP	PcP	07 30 46.5	-0.7
TYNO	Tyneside baz=149	35.57	338	P	P	07 28 21.3	+0.5
PLIO	Pelee Island, baz=144	35.57	333	P	P	07 28 21.4	+0.7
O48A	Farmland baz=139	35.60	329	P	P	07 28 21.5	+0.6
K52A	Tillsonburg baz=148	35.63	336	P	P	07 28 22.5	+1.3
N49A	Columbus Grove baz=141	35.63	331	P	P	07 28 22.9	+1.6
Z41A	Richland Creek baz=122	35.79	313	P	P	07 28 23.1	+0.4
T44A	Benton baz=130	35.87	321	P	P	07 28 24.7	+1.4
J52A	Paris baz=148	35.93	337	P	P	07 28 24.9	+1.1
U43A	Rector baz=128	35.93	320	P	P	07 28 24.2	+0.3
N48A	Decatur baz=140,SNR=5.9	35.99	330	P	P	07 28 24.8	+0.5
SJMB	Sao Joao De Ma	36.00	145	eP	P	07 28 25.1	+0.5
BSCB	Bom Sucesso	36.03	151	eP	P	07 28 25.9	+0.9
SIUC	Southern Illin 9.6nm,0.8s	36.05	322	eP	P	07 28 25.5	+0.7
S44A	Carbondale baz=131,SNR=5.7	36.06	322	P	P	07 28 25.2	+0.2
OLIL	Olney 11nm,0.8s	36.08	325	eP	P	07 28 25.9	+0.8
ACTO	Acton baz=149	36.09	338	P	P	07 28 26.3	+1.2
RCLB	Rio Claro- Sao	36.10	156	eP	P	07 28 27.2	+1.7
O47A	Sheridan baz=138	36.10	328	P	P	07 28 26.0	+0.8
PBMO	Poplar Bluff 4.9nm,0.6s	36.20	320	eP	P	07 28 26.1	-0.1
PBMO				ePcP	PcP	07 30 48.6	-0.7
FRTB	Fartura	36.20	160	eP	P	07 28 28.5	+2.2
ELFO	Elginfield baz=147	36.21	336	P	P	07 28 27.4	+1.2
Q45A	Warren Harvey, baz=134	36.22	325	P	P	07 28 27.0	+0.7
WLAR	White Oak Lake 8.7nm,0.8s	36.23	314	eP	P	07 28 27.2	+0.7
BSFB	Barra de Sao F	36.29	144	eP	P	07 28 27.9	+0.7
T43A	Greenville baz=129	36.30	321	P	P	07 28 27.6	+0.6
R44A	Waltonville baz=132	36.32	323	P	P	07 28 27.8	+0.6
M48A	Edgerton baz=141	36.32	331	P	P	07 28 28.1	+0.9
N47A	Urbana baz=139,SNR=7.3	36.34	329	P	P	07 28 27.7	+0.4
PLVO	Plevna	36.35	342	eP	P	07 28 27.1	-0.2
NATX	Nacogdoches 14nm,0.6s	36.42	310	eP	P	07 28 29.4	+1.2
NATX	Nacogdoches baz=118	36.42	310	P	P	07 28 28.8	+0.7
P45A	Graceland, Par 12nm,0.9s	36.43	326	eP	P	07 28 29.0	+0.9
P45A	Graceland, Par baz=135	36.43	326	P	P	07 28 28.7	+0.6
W41B	Gary Mavity, V 3.8nm,0.5s	36.44	316	eP	P	07 28 28.4	+0.1
W41B				ePcP	PcP	07 30 49.8	-0.3
W41B	Gary Mavity, V baz=124	36.44	316	P	P	07 28 28.3	+0.1
U42A	Revenden baz=127	36.45	319	P	P	07 28 29.1	+0.7
X40A	Basin Creek Fa 2.6nm,0.6s	36.46	315	eP	P	07 28 28.6	+0.1
X40A	Basin Creek Fa baz=123	36.46	315	P	P	07 28 29.0	+0.5
AAM	Ann Arbor baz=143	36.47	333	P	P	07 28 30.0	+1.6
S43A	Fulton Ridge, baz=130	36.48	321	P	P	07 28 28.5	0.0
GO02	Mina Guanaco 16nm,0.6s	36.52	191	eP	P	07 28 29.6	+0.3
WHAR	Wooly Hollow 6.0nm,1.1s	36.53	317	eP	P	07 28 29.9	+0.8
WHAR				ePcP	PcP	07 30 50.2	-0.1
HKT	Hockley 8.2nm,1.1s	36.54	306	eP	P	07 28 29.5	+0.4
L48A	N Adams baz=142	36.54	332	P	P	07 28 29.9	+0.8
SFIN	Lafayette baz=136	36.69	328	P	P	07 28 31.0	+0.7
Q44A	Meyer Farm, Va	36.72	324	eP	P	07 28 31.2	+0.7
Q44A	Meyer Farm, Va baz=132	36.72	324	P	P	07 28 31.1	+0.5
PTGB	Pitanga	36.74	164	eP	P	07 28 32.3	+1.3
TRQ	Mont Tremblant	36.76	346	eP	P	07 28 31.7	+0.9
K49A	Clarkson baz=144	36.77	334	P	P	07 28 32.4	+1.4
SADO	Sadowa	36.77	340	eP	P	07 28 32.0	+1.1
T42A	Van Buren 2.6nm,1.0s	36.77	320	eP	P	07 28 30.7	-0.4
T42A	Van Buren baz=128	36.77	320	P	P	07 28 31.3	+0.3
R43A	Red Bud baz=131	36.84	322	P	P	07 28 32.1	+0.5
N46A	Monticello baz=137,SNR=7.2	36.87	328	P	P	07 28 32.3	+0.5
U41A	Viola baz=126,SNR=5.6	36.89	318	P	P	07 28 32.1	-0.1
BWLO	Walkerton baz=148	36.92	337	P	P	07 28 33.2	+1.0
O45A	Potomac baz=136	36.93	327	P	P	07 28 33.0	+0.7
L47A	Sherwood baz=140	36.93	331	P	P	07 28 32.7	+0.4
RIB01	Linhares ES	36.94	144	eP	P	07 28 33.1	+0.5
FVM	French Village 7.1nm,0.4s	36.95	322	eP	P	07 28 33.7	+1.1
MIAR	Mount Ida baz=122	37.01	315	P	P	07 28 32.7	-0.4
S42A	Caledonia baz=129	37.04	321	P	P	07 28 33.3	0.0
M46A	Old House Fiel 18nm,0.6s	37.06	329	eP	P	07 28 33.9	+0.5
M46A	Old House Fiel baz=138	37.06	329	P	P	07 28 34.1	+0.7
K48A	Perry baz=143	37.08	333	P	P	07 28 34.1	+0.5
J49A	Marlette baz=145	37.10	334	P	P	07 28 34.1	+0.3
Q43A	New Douglas baz=132	37.14	323	P	P	07 28 34.2	+0.1
BRCO	Bruce Peninsul baz=148	37.15	337	P	P	07 28 34.6	+0.5
T41A	Mountain View baz=127,SNR=6.6	37.21	319	P	P	07 28 34.5	-0.3
N45A	Kentland baz=136	37.24	328	P	P	07 28 35.4	+0.4
O44A	Mansfield baz=134	37.26	326	P	P	07 28 35.5	+0.3
CPUP	Villa Florida 13nm,0.8s	37.29	173	eP	P	07 28 35.5	+0.1
CPUP				ePcP	PcP	07 30 53.4	+0.7
CPUP				ScP	ScP	07 34 28.4	-1.3
CPUP	Villa Florida 13nm,0.7s,baz=353,slow=8.0,SNR=36	37.29	173	P	P	07 28 35.2	-0.2
CPUP	1.9nm,0.6s,baz=352,slow=1.8,SNR=5.5			PcP	PcP	07 30 53.3	+0.6
CPUP	2.3nm,1.1s,baz=31,slow=4.9,SNR=3.4			ScP	ScP	07 34 28.4	-1.3
CPUP	Villa Florida	37.29	173	eP	P	07 28 35.6	+0.2
R42A	Luebbering baz=130	37.36	322	P	P	07 28 36.2	+0.1
K47A	Vermontville baz=141	37.37	332	P	P	07 28 36.4	+0.4
CCM	Cathedral Cave 5.0nm,0.8s	37.50	321	eP	P	07 28 37.1	-0.1
CCM				ePcP	PcP	07 30 53.1	-0.1
CCM	Cathedral Cave baz=129	37.50	321	P	P	07 28 37.3	+0.1
M45A	Boilermakers S baz=137	37.50	329	P	P	07 28 37.9	+0.8
P43A	Skaggs, Pawnee baz=132,SNR=7.2	37.50	324	P	P	07 28 37.6	+0.4
W39A	Magazine 5.4nm,0.6s	37.50	315	eP	P	07 28 37.8	+0.5
W39A	Magazine baz=123	37.50	315	P	P	07 28 37.2	-0.1
U40A	Yellville baz=125	37.52	318	P	P	07 28 37.3	0.0
S41A	Jillco Farms, baz=128,SNR=9.7	37.52	320	P	P	07 28 37.0	-0.4
N44A	Piper City baz=135	37.53	327	P	P	07 28 37.8	+0.4
Q42A	Golden Eagle baz=130,SNR=5.5	37.61	323	P	P	07 28 38.0	-0.1
R41A	Rosebud baz=129,SNR=5.6	37.73	321	P	P	07 28 38.7	-0.4
K46A	Dorr baz=140	37.75	331	P	P	07 28 39.7	+0.5
ALF01	Guarapari-ES	37.79	146	eP	P	07 28 40.4	+0.7
O43A	Sugar Creek Fa baz=133	37.82	325	P	P	07 28 40.1	+0.2
M44A	Midewin, Midew 8.9nm,0.9s	37.91	328	eP	P	07 28 41.0	+0.4
ESAR	Angra dos Reis	37.94	153	eP	P	07 28 42.3	+1.3
P42A	Winchester 8.8nm,0.8s	37.94	324	eP	P	07 28 40.9	0.0
P42A				ePcP	PcP	07 30 54.5	-0.1
P42A	Winchester baz=131,SNR=5.5	37.94	324	P	P	07 28 40.7	-0.2
HDIL	Hopedale baz=134	38.00	326	P	P	07 28 41.9	+0.6
I48A	Sherman Twp baz=144	38.01	335	P	P	07 28 41.9	+0.6
DUB01	Friburgo-RJ	38.12	149	eP	P	07 28 43.6	+0.9
D54A	Lac Fusel, La baz=157	38.16	344	P	P	07 28 43.0	+0.4
O42A	Bath baz=132	38.19	325	P	P	07 28 43.1	+0.1
HHAR	Hobbs 4.4nm,0.6s	38.20	317	eP	P	07 28 42.9	-0.2
435B	Jarrell 8.2nm,0.8s	38.26	307	eP	P	07 28 45.5	+1.7
435B	Jarrell baz=114	38.26	307	P	P	07 28 43.6	-0.1
L44A	Lake County Fo baz=137	38.41	329	P	P	07 28 45.2	+0.4

M43A	Waltham Townsh	38.43	327	P		P	07 28 45.5	+0.6
	baz=135							
DRLN	Deer Lake	38.47	5	*e*P		P	07 28 45.6	+0.5
	17nm,1.0s							
H47A	Mio	38.55	335	P		P	07 28 46.6	+0.7
	baz=144							
I46A	Reed City	38.57	333	P		P	07 28 46.1	0.0
	baz=142							
N42A	Yates City	38.59	325	P		P	07 28 46.3	0.0
	baz=133,SNR=6.0							
O41A	Passleys Farm,	38.60	324	P		P	07 28 45.8	-0.6
	baz=131,SNR=7.2							
WHTX	Lake Whitney,	38.66	308	*e*P		P	07 28 47.0	0.0
	9.3nm,0.6s							
WHTX	Lake Whitney,	38.66	308	P		P	07 28 46.8	-0.2
	baz=115							
833A	Chaparral WMA,	38.84	302	P		P	07 28 48.3	-0.3
	baz=109							
L43A	Garden Prairie	38.84	328	P		P	07 28 48.6	+0.2
	baz=136							
GLMI	Grayling	38.91	334	P		P	07 28 49.6	+0.6
	baz=144							
N41A	Harden Midland	38.98	325	*e*P		P	07 28 49.3	-0.2
	6.0nm,0.8s							
N41A	Harden Midland	38.98	325	P		P	07 28 49.1	-0.4
	baz=132							
ITAB	Concordia	39.13	166	*e*P		P	07 28 52.5	+1.6
L42A	Oliver, Polo	39.20	327	*e*P		P	07 28 51.6	+0.2
	15nm,1.0s							
L42A	Oliver, Polo	39.20	327	P		P	07 28 51.1	-0.3
	baz=134							
TUL1	Leonard	39.27	315	*e*P		P	07 28 51.4	-0.7
	9.9nm,0.8s							
TUL1	Leonard	39.27	315	P		P	07 28 51.4	-0.7
	baz=121							
H45A	Beulah	39.37	333	P		P	07 28 52.9	+0.2
	baz=142							
N40A	Mertquake, Sal	39.51	324	P		P	07 28 53.8	-0.2
	baz=131							
J43A	Natural Harves	39.55	330	P		P	07 28 54.7	+0.4
	baz=137							
K42A	Prairie Point,	39.58	328	P		P	07 28 54.8	+0.3
	baz=136							
L41A	Preston	39.70	327	P		P	07 28 55.2	-0.3
	baz=133							
I43A	Langenfeld Bro	39.78	330	P		P	07 28 56.6	+0.4
	baz=138							
M40A	Post Highland	39.81	325	P		P	07 28 57.1	+0.6
	baz=132							
J42A	Columbus	39.85	329	P		P	07 28 56.7	-0.1
	baz=136							
JCT	Junction City	39.91	305	*e*P		P	07 28 58.0	+0.5
	7.4nm,0.7s							
JCT	Junction City	39.91	305	P		P	07 28 57.0	-0.6
	baz=111							
K41A	Shullsburg	39.96	327	P		P	07 28 57.6	-0.1
	baz=134,SNR=5.7							
E46A	Sault Ste Mari	40.03	336	P		P	07 28 59.1	+0.9
	baz=145							
H43A	Windswept, Lux	40.04	331	*e*P		P	07 28 59.8	+1.5
	20nm,0.8s							
H43A	Windswept, Lux	40.04	331	P		P	07 28 59.5	+1.1
	baz=139							
L40A	Anamosa	40.09	326	*e*P		P	07 28 58.4	-0.3
L40A	Anamosa	40.09	326	P		P	07 28 58.4	-0.3
	baz=132,SNR=5.7							
D47A	Chapleau	40.15	338	P		P	07 28 59.4	+0.2
	baz=147							
JFWS	Jewell Farm	40.15	328	*e*P		P	07 28 59.4	+0.1
	9.2nm,0.6s							
JFWS	Jewell Farm	40.15	328	P		P	07 28 59.0	-0.2
	baz=134,SNR=5.8							
I42A	Draeger Farm,	40.16	330	*e*P		P	07 28 59.2	-0.2
	9.6nm,0.8s							
I42A	Draeger Farm,	40.16	330	P		P	07 28 59.2	-0.2
	baz=137							
M39A	Webster	40.23	325	P		P	07 28 60.0	0.0
	baz=131							
J41A	Loganville	40.34	328	P		P	07 29 00.5	-0.3
	baz=135							
H42A	Shiocton	40.43	331	P		P	07 29 01.5	0.0
	baz=138							
K40A	Colesburg	40.47	327	P		P	07 29 01.6	-0.3
	baz=133,SNR=7.5							
LCO	Las Campanas	40.47	191	*e*P		P	07 29 02.2	-0.2
	12nm,1.1s							
LCO				*e*PcP		PcP	07 31 04.3	+1.3
LCO	Las Campanas	40.47	191	*e*P		P	07 29 01.7	-0.6
L39A	Vinton	40.56	325	P		P	07 29 02.3	-0.3
	baz=132,SNR=6.2							
F44A	Big Bay de Noc	40.59	334	P		P	07 29 04.4	+1.6
	baz=142							
ABTX	Abilene, Hawle	40.60	308	*e*P		P	07 29 03.8	+0.6
	8.4nm,0.6s							
ABTX	Abilene, Hawle	40.60	308	P		P	07 29 02.8	-0.4
	baz=114							
J40A	Soldiers Grove	40.74	328	P		P	07 29 03.8	-0.3
	baz=134,SNR=7.1							
I41A	Arkdale	40.76	329	P		P	07 29 04.1	-0.2
	baz=136							
F43A	Flat Rock, Esc	40.81	333	P		P	07 29 04.9	+0.3
	baz=141							
MATQ	Matagami	40.81	345	P		P	07 29 04.9	+0.3
	baz=157							
WMOK	Wichita Mounta	40.85	311	P		P	07 29 04.6	-0.6
	baz=117							
K39A	Oelwein	40.88	326	P		P	07 29 04.8	-0.5
	baz=132							
G42A	Mountain	40.93	332	*e*P		P	07 29 05.5	-0.1
	9.9nm,0.8s							
G42A	Mountain	40.93	332	P		P	07 29 06.0	+0.3
	baz=139							
I40A	Norwalk	41.02	328	P		P	07 29 06.2	-0.2
	baz=135							
H41A	Junction City	41.06	330	P		P	07 29 06.8	+0.1
	baz=137							
E43A	Lone Tree Farm	41.16	334	P		P	07 29 07.6	+0.2
	baz=141							
F42A	Maple Grove Fa	41.19	332	P		P	07 29 08.8	+1.0
	baz=140							
J39A	Decorah	41.21	327	P		P	07 29 07.5	-0.5
	baz=133							
H40A	Chili	41.43	329	P		P	07 29 09.1	-0.6
	baz=136,SNR=5.3							
I39A	Houston	41.47	328	*e*P		P	07 29 09.5	-0.6
	8.3nm,0.4s							
I39A	Houston	41.47	328	P		P	07 29 09.3	-0.8
	baz=134							
F41A	Three Lakes	41.62	332	*e*P		P	07 29 12.9	+1.6
	4.7nm,0.7s							
F41A	Three Lakes	41.62	332	P		P	07 29 11.9	+0.7
	baz=138							
GO04	Tololo Observa	41.62	191	*e*P		P	07 29 11.9	+0.2
	15nm,1.1s							
GO04				*e*PcP		PcP	07 31 08.0	+1.3
U32A	Winter Ranch,	41.76	314	*e*P		P	07 29 12.1	-0.5
	17nm,0.8s							
G40A	Rib Lake	41.80	330	*e*P		P	07 29 12.7	-0.1
	1.8nm,0.8s							
G40A	Rib Lake	41.80	330	P		P	07 29 12.7	-0.1
	baz=136							
COWI	Conover	41.91	332	*e*P		P	07 29 14.0	+0.4
	6.4nm,1.1s							
CPSB	Cacapava Do Su	41.91	169	*e*P		P	07 29 13.6	-0.1
E41A	Kenton	42.10	332	P		P	07 29 15.3	+0.1
	baz=139							
F40A	Park Falls	42.23	331	P		P	07 29 16.0	-0.3
	baz=137							
G39A	Holcombe	42.29	330	P		P	07 29 16.4	-0.3
	baz=135,SNR=6.5							
D41A	Chassel	42.37	333	*e*P		P	07 29 17.7	+0.3
	11nm,0.7s							
H38A	Maiden Rock	42.43	328	P		P	07 29 17.6	-0.2
	baz=133							
E40A	Wakefield	42.51	332	P		P	07 29 18.4	-0.1
	baz=138							
G38A	Ridgeland	42.55	329	P		P	07 29 18.5	-0.3
	baz=134							
F39A	Loretta	42.61	330	P		P	07 29 19.0	-0.4
	baz=136,SNR=5.8							
TXAR	Lajitas Array	42.72	302	P		P	07 29 20.1	-0.5
	2.0nm,0.6s,baz=118,slow=9.5,SNR=13							
TXAR				pP		pP	07 29 47.0	+0.7
	1.6nm,0.6s,baz=114,slow=8.2,SNR=4.2							
TXAR				PcP		PcP	07 31 10.4	0.0
	2.0nm,0.7s,baz=110,slow=5.2,SNR=7.0							
TXAR				ScP		ScP	07 34 49.1	-2.1
	0.4nm,0.5s,baz=90,slow=5.4,SNR=3.8							
TX31	Lajitas Ar. Si	42.72	302	*e*P		P	07 29 20.6	+0.1
E39A	Mellen	42.77	331	P		P	07 29 20.5	-0.1
	baz=137,SNR=5.9							
AMTX	Amarillo	43.07	310	*e*P		P	07 29 22.6	-0.7
	4.1nm,0.6s							
AMTX	Amarillo	43.07	310	P		P	07 29 22.2	-1.1
	baz=114							
SPMN	Marine on St.	43.08	328	P		P	07 29 22.6	-0.4
	baz=133							
F38A	Pierce - Schro	43.12	330	P		P	07 29 23.1	-0.2
	baz=135,SNR=6.4							
PLTB	Pedras Altas	43.19	169	*e*P		P	07 29 23.8	-0.3
C40A	Isle Royale Na	43.28	334	*e*P		P	07 29 24.7	0.0
	15nm,0.7s							
C40A	Isle Royale Na	43.28	334	P		P	07 29 25.1	+0.4
	baz=140							
F37A	Hinrichs Farm,	43.33	329	P		P	07 29 24.6	-0.4
	baz=134							
E38A	The Farm, Brul	43.42	331	P		P	07 29 25.7	0.0
	baz=136							
MSTX	Muleshoe	43.54	308	*e*P		P	07 29 27.1	0.0
	9.0nm,0.7s							
MSTX	Muleshoe	43.54	308	P		P	07 29 26.5	-0.6
	baz=112,SNR=7.3							
HPIG		43.81	298	*e*P		P	07 29 29.4	-0.2
	6.2nm,0.6s							
SCHQ	Schefferville	44.00	356	*e*P		P	07 29 30.7	+0.4
	6.1nm,0.7s							
SCHQ				pP		pP	07 29 57.3	+1.2
SCHQ				ScP		ScP	07 34 52.7	-3.0
SCHQ	Schefferville	44.00	356	P		P	07 29 30.6	+0.2
	3.7nm,0.5s,baz=181,slow=6.8,SNR=16							
SCHQ				pP		pP	07 29 57.3	+1.2
	9.7nm,0.8s,baz=192,slow=6.5,SNR=5.8							
SCHQ				ScP		ScP	07 34 52.7	-3.0
	1.8nm,0.6s,baz=162,slow=3.1,SNR=4.3							
ECSD	EROS Data Cent	44.20	324	*e*P		P	07 29 31.9	-0.2
	3.5nm,0.9s							
ECSD	EROS Data Cent	44.20	324	P		P	07 29 32.0	-0.2
	baz=127							
EYMN	Ely	44.36	332	*e*P		P	07 29 32.6	-0.7
	2.6nm,1.0s							
EYMN	Ely	44.36	332	P		P	07 29 33.4	+0.1
	baz=137							
ROC1	El Roble	44.39	191	*e*P		P	07 29 33.9	-0.1
	12nm,0.7s							
PEL	Peldehue	44.50	190	*e*P		P	07 29 35.2	+0.6
	11nm,0.9s							
MNTX	Cornudas Mount	44.83	304	*e*P		P	07 29 37.5	+0.2
MNTX	Cornudas Mount	44.83	304	P		P	07 29 37.2	-0.1
	baz=108							
KSCO	Kaye Shedlock'	45.52	315	*e*P		P	07 29 41.9	-0.9
	6.6nm,1.1s							
KSCO	Kaye Shedlock'	45.52	315	P		P	07 29 41.6	-1.2
	baz=117							
SUSD	Miller	45.98	323	P		P	07 29 45.2	-1.0
	baz=125,SNR=6.5							
GO05	Huala	46.54	191	*e*P		P	07 29 50.6	0.0
	10nm,1.0s							
AGMN	Agassiz Nation	46.70	329	*e*P		P	07 29 50.7	-1.1
	6.1nm,0.8s							
AGMN	Agassiz Nation	46.70	329	P		P	07 29 50.6	-1.1
	baz=132,SNR=5.4							
ANMO	Albuquerque	46.73	308	*e*P		P	07 29 53.0	+0.6
	1.8nm,0.6s							
ANMO	Albuquerque	46.73	308	P		P	07 29 52.6	+0.2
	baz=110							
SDCO	Great Sand Dun	47.04	312	*e*P		P	07 29 54.5	-0.5
	4.3nm,0.6s							
SDCO	Great Sand Dun	47.04	312	P		P	07 29 54.4	-0.5
	baz=113,SNR=8.9							
ISCO	Idaho Springs	47.95	315	*e*P		P	07 30 01.6	-0.3
	3.4nm,0.8s							
ISCO	Idaho Springs	47.95	315	P		P	07 30 01.2	-0.8
	baz=115							
S22A	4UR Ranch, Cre	48.01	312	*e*P		P	07 30 02.6	+0.1
	2.9nm,0.8s							
S22A	4UR Ranch, Cre	48.01	312	P		P	07 30 01.7	-0.8
	baz=112,SNR=6.2							
ULM	Lac du Bonnet	48.02	331	*e*P		P	07 30 00.5	-1.4
	5.4nm,0.5s							
ULM	Lac du Bonnet	48.02	331	P		P	07 29 60.0	-2.0
	5.0nm,0.5s,baz=128,slow=7.7,SNR=15							
N23A	Red Feather La	48.64	316	P		P	07 30 06.8	-0.4
	baz=115							
SMCO	Snowmass	48.66	313	*e*P		P	07 30 06.8	-0.8
	3.7nm,0.8s							
TRQA	Tornquist	48.67	180	*e*P		P	07 30 07.0	-0.1
	7.8nm,1.1s							
TRQA				*e*PcP		PcP	07 31 32.1	+1.4
RSSD	Black Hills	48.88	320	P		P	07 30 08.6	-0.3
	baz=120							
PV01	Paradox Valley	49.43	311	*e*P		P	07 30 13.8	+0.6
	7.5nm,0.6s							
PV15	Paradox Valley	49.44	312	*e*P		P	07 30 13.7	+0.4
	11nm,0.7s							
PV02	Paradox Valley	49.58	311	*e*P		P	07 30 15.0	+0.7
	13nm,1.1s							
PV07	Paradox Valley	49.60	312	*e*P		P	07 30 15.0	+0.5
	4.9nm,0.7s							
PV13	Radium Mtn., P	49.63	311	*e*P		P	07 30 15.1	+0.4
	9.5nm,1.1s							
PV12	Saucer Basin,	49.67	312	*e*P		P	07 30 15.5	+0.5
	8.2nm,1.0s							
PV03	Paradox Valley	49.68	311	*e*P		P	07 30 15.2	+0.1
	5.4nm,1.1s							
PV11	David Mesa, Pa	49.71	311	*e*P		P	07 30 15.7	+0.3
	7.4nm,0.5s							
PV16	Nyswonger Mesa	49.75	311	*e*P		P	07 30 15.7	+0.1
	3.4nm,0.5s							
K22A	Casper	49.80	318	*e*P		P	07 30 15.8	-0.1
	4.9nm,0.8s							
K22A	Casper	49.80	318	P		P	07 30 15.4	-0.5
	baz=116							
PV19	Morning Glory	49.80	311	*e*P		P	07 30 16.1	+0.1
	3.7nm,0.6s							
PV14	Lion Creek, Pa	49.85	311	*e*P		P	07 30 16.5	+0.1
	5.6nm,0.6s							
O20A	White River Ci	49.93	314	*e*P		P	07 30 16.2	-0.8
	2.5nm,0.6s							
O20A	White River Ci	49.93	314	P		P	07 30 16.7	-0.3
	baz=113							
PV09	Paradox Valley	49.98	312	*e*P		P	07 30 18.0	+0.5
H10N3	ASCENSION HYDR	51.04	109	T		T	08 25 57.0	
	baz=293,slow=75,SNR=29							
H10N2	ASCENSION HYDR	51.05	109	T		T	08 25 50.2	
	baz=293,slow=75,SNR=50							
H10N1	ASCENSION HYDR	51.06	109	T		T	08 25 52.4	
	baz=293,slow=75,SNR=26							
P18A	Preston Nutter	51.18	313	*e*P		P	07 30 26.6	+0.1
	7.1nm,0.8s							
SRU	San Rafael Swe	51.21	312	*e*P		P	07 30 27.1	+0.6
	4.3nm,0.9s							
DGMT	Dagmar	51.23	325	*e*P		P	07 30 26.9	+0.6
	19nm,0.8s							
DGMT	Dagmar	51.23	325	P		P	07 30 26.6	+0.2
	baz=123,SNR=7.1							
H10S3	ASCENSION HYDR	51.29	111	T		T	08 26 13.6	
	baz=294,slow=75,SNR=139							
H10S1	ASCENSION HYDR	51.30	111	T		T	08 26 14.2	
	baz=294,slow=75,SNR=166							
H10S2	ASCENSION HYDR	51.31	111	T		T	08 26 15.0	
	baz=294,slow=75,SNR=172							
P17A	Butcher Ranch,	51.49	312	*e*P		P	07 30 29.0	+0.4
	3.0nm,0.7s							
LAO	LASA Array	51.49	322	*e*P		P	07 30 27.7	-0.7
	4.5nm,0.7s							
LAO	LASA Array	51.49	322	P		P	07 30 27.9	-0.4
	baz=120							
TMUT	Trail Mountain	51.77	312	*e*P		P	07 30 31.0	+0.1
	5.6nm,0.9s							
PD31	Pinedale Array	51.87	317	*e*P		P	07 30 30.6	-0.9
	5.4nm,0.6s							
PDAR	Pinedale Array	51.87	317	P		P	07 30 30.4	-1.2
	4.5nm,0.5s,baz=107,slow=9.4,SNR=36							
PDAR				pP		pP	07 30 57.9	-0.2
	2.9nm,0.7s,baz=109,slow=8.3,SNR=5.2							
PDAR				ScP		ScP	07 35 25.9	-3.6
	0.9nm,0.6s,baz=108,slow=5.8,SNR=7.7							
BW06	Boulder Array	51.88	317	*e*P		P	07 30 30.6	-0.9
	6.0nm,0.6s							
BW06	Boulder Array	51.88	317	P		P	07 30 30.5	-0.9
	baz=114,SNR=12							
PLCA	Paso Flores	51.91	188	*e*P		P	07 30 32.2	+0.7
	12nm,0.7s							
PLCA	Paso Flores	51.91	188	P		P	07 30 32.2	+0.7
	7.9nm,0.6s,baz=27,slow=8.7,SNR=35							
PLCA	Paso Flores	51.91	188	*e*P		P	07 30 32.6	+1.1
MTPU	Mount Pierson	52.09	310	*e*P		P	07 30 35.6	+2.2
	1.4nm,0.6s							
MSU	Marysvale	52.23	311	*e*P		P	07 30 34.7	+0.5
TCUT	Toone Canyon	52.54	314	*e*P		P	07 30 36.1	-0.4
	9.0nm,0.7s							
NLU	North Lily Min	52.62	312	*e*P		P	07 30 36.9	-0.1
	2.1nm,0.8s							
CTU	Camp Tracy	52.63	313	*e*P		P	07 30 37.1	0.0
	6.0nm,0.7s							
RLMT	Red Lodge	52.66	319	*e*P		P	07 30 36.5	-0.7
	3.8nm,0.8s							
RLMT	Red Lodge	52.66	319	P		P	07 30 37.0	-0.3
	baz=115							
LOHW	Long Hollow	52.91	317	*e*P		P	07 30 39.0	-0.1
	2.6nm,0.8s							
REDW	Red Top Meadow	52.98	317	*e*P		P	07 30 39.2	-0.4
	4.1nm,0.9s							
MOOW	Moose Ponds	53.06	317	*e*P		P	07 30 40.3	+0.1
	0.8nm,0.7s							
TPAW	Teton Pass	53.10	317	*e*P		P	07 30 39.1	-1.4
	1.8nm,0.6s							
FLWY	Flagg Ranch	53.16	318	*e*P		P	07 30 40.7	-0.2
	2.2nm,0.9s							
GCMT	Greycliff	53.20	320	*e*P		P	07 30 40.6	-0.5
FXWY	Fox Creek	53.20	317	*e*P		P	07 30 40.7	-0.6
	3.3nm,0.9s							
DUG	Dugway, Tooele	53.23	312	*e*P		P	07 30 41.2	-0.3
	4.4nm,0.8s							
DUG	Dugway, Tooele	53.23	312	P		P	07 30 40.9	-0.6
	baz=109							
FCC	Fort Churchill	53.50	340	*e*P		P	07 30 41.0	-1.8
	2.5nm,0.9s							
YHH	Holmes Hill	53.54	318	*e*P		P	07 30 43.5	-0.3
	2.2nm,0.7s							
BGU	Big Grassy Mou	53.62	313	*e*P		P	07 30 43.4	-0.9
	4.9nm,0.7s							
YHB	Horse Butte	53.75	318	*e*P		P	07 30 45.8	+0.5
	8.7nm,0.9s							
FFC	Flin Flon	53.77	333	*e*P		P	07 30 43.4	-1.6
	1.5nm,1.1s							
EGMT	Eagleton	54.23	322	*e*P		P	07 30 48.1	-0.4
	6.9nm,0.8s							
EGMT	Eagleton	54.23	322	P		P	07 30 48.5	0.0
	baz=117							
BOZ	Bozeman (W)	54.37	319	*e*P		P	07 30 49.3	-0.3
	2.0nm,0.8s							
BOZ	Bozeman (W)	54.37	319	P		P	07 30 49.0	-0.6
	baz=114							
DLMT	Dillon	54.90	318	*e*P		P	07 30 53.4	-0.1
	2.2nm,0.6s							
HRY	Holter Researc	54.95	320	*e*P		P	07 30 53.6	-0.1
ELK	Elko	55.16	312	*e*P		P	07 30 55.0	-0.5
	1.2nm,0.8s							
HLID	Hailey	55.47	316	*e*P		P	07 30 57.8	+0.2
	4.6nm,1.0s							
HLID	Hailey	55.47	316	P		P	07 30 57.3	-0.3
	baz=110,SNR=7.3							
MSO	Missoula	56.33	320	P		P	07 31 03.0	-0.6
	baz=112							
SFJD	Kangerlussuaq	56.61	5	LR		LR	07 54 29.7	
	comp=Z,35nm,18.8s,baz=141,slow=35							
TIC	Toumodi	56.67	89	*e*PKIKP		P	07 31 07.2	+0.7
LIC	Lamto	56.73	90	*e*PKIKP		P	07 31 07.7	+0.9
	46nm,1.3s							
NV11	Mina Array Sit	56.73	309	*e*P		P	07 31 04.9	-1.7
	0.2nm,1.0s							
DBIC	Dimbokro	56.83	89	*e*P		P	07 31 07.8	+0.3
	12nm,0.9s							
DBIC	Dimbokro	56.83	89	P		P	07 31 07.5	-0.1
	5.3nm,0.7s,baz=266,slow=8.0,SNR=7.7							
DBIC	Dimbokro	56.83	89	*e*P		P	07 31 07.9	+0.3
KVN	Kaiserville	56.83	310	*e*P		P	07 31 08.7	+1.3
	0.4nm,0.7s							
NV01	Mina Array Sit	56.84	309	*e*P		P	07 31 07.2	-0.3
NVAR	Mina Array Bea	56.84	309	P		P	07 31 06.7	-0.9
	0.8nm,0.6s,baz=98,slow=6.6,SNR=5.4							
NVAR				ScP		ScP	07 35 48.3	-3.1
	0.3nm,0.5s,baz=103,slow=4.1,SNR=2.7							
KIC	Kosan Boka	56.99	89	*e*PKIKP		P	07 31 07.9	-0.8
	17nm,0.8s							
BMO	Blue Mountains	57.86	316	*e*P		P	07 31 13.9	-0.5
	1.2nm,0.8s							
PAB	San Pablo	58.52	50	*e*P		P	07 31 20.6	+1.4
	4.4nm,0.7s							
ESDC	Sonseca Array	58.84	50	P		P	07 31 22.6	+1.3
	2.8nm,0.5s,baz=259,slow=7.1,SNR=30							
ESDC				pP		pP	07 31 50.6	+2.1
	2.7nm,0.7s,baz=262,slow=7.6,SNR=4.7							
ESLA	Sonseca Array	58.84	50	*e*P		P	07 31 22.9	+1.6
	5.1nm,0.7s							
ES06	SONSECA Array	58.85	50	*e*P		P	07 31 23.0	+1.6
NEW	Newport	58.85	320	*e*P		P	07 31 20.1	-1.2
	5.0nm,0.7s							
NEW	Newport	58.85	320	P		P	07 31 20.1	-1.2
	baz=110,SNR=7.8							
G08A	Pilot Rock	59.10	317	*e*P		P	07 31 22.5	-0.6
	1.2nm,0.7s							
I07A	Izee	59.14	315	*e*P		P	07 31 22.9	-0.5
	4.4nm,0.9s							
PINE	Pine Mountain	60.06	314	*e*P		P	07 31 30.3	+0.5
	5.0nm,1.1s							
J05D	Fort Rock, OR	60.15	314	P		P	07 31 30.1	-0.3
	baz=104							
M04C	Macdoel	60.24	312	P		P	07 31 30.3	-0.6
	baz=103							
B08A	Colville Reser	60.28	320	*e*P		P	07 31 30.6	-0.4
	1.2nm,0.7s							
L04D	Klamath Falls	60.67	312	P		P	07 31 33.1	-0.7
	baz=103							
J04D	Umpqua Nationa	60.76	314	P		P	07 31 33.9	-0.7
	baz=103							
LTY	Liberty	60.81	318	*e*P		P	07 31 34.1	-0.6
	3.3nm,0.6s							
YBH	Yreka Blue Hor	60.86	312	*e*P		P	07 31 34.0	-1.1
HUMO	Hull Mountain	61.22	313	*e*P		P	07 31 35.9	-1.6
B05A	Bryant	62.01	319	P		P	07 31 40.4	-2.2
	baz=106							
EFI	East Falkland	62.39	177	*e*P		P	07 31 46.2	+1.3
	32nm,1.0s							
TOA1	Torodi Ar. Sit	62.46	81	*e*P		P	07 31 44.8	-1.4
TOA0	Torodi Ar. Sit	62.46	81	*e*P		P	07 31 46.9	+0.7
	6.6nm,1.0s							
TORD	Torodi Ar. Bea	62.46	81	P		P	07 31 44.8	-1.4
	3.8nm,0.6s,baz=286,slow=6.3,SNR=38							
D03D	Eldon	62.47	318	P		P	07 31 44.9	-0.8
	baz=105							
A04D	Lummi Island	62.53

NB201	**NORSAR Array S**	**72.61**	**29**	*eP*		**P**		07 32 50.8	+1.6	
	comp=Z,3.0nm,0.8s									
NC303	**NORSAR Array S**	**72.67**	**29**	*eP*		**P**		07 32 51.0	+1.4	
	comp=Z,4.1nm,1.0s									
NC602	**NORSAR Array S**	**72.68**	**30**	*eP*		**P**		07 32 51.2	+1.6	
	comp=Z,10.0nm,0.8s									
NC405	**NORSAR Array S**	**72.82**	**29**	*eP*		**P**		07 32 52.3	+1.8	
	comp=Z,12nm,0.9s									
MOA	**Molln**	**72.99**	**43**	*eP*		**P**		07 32 52.1	+0.3	
	comp=Z,6.2nm,1.2s									
INK	**Inuvik**	**73.06**	**338**	*eP*		**P**		07 32 50.3	-1.4	
	comp=Z,1.4nm,0.8s									
ARSA	**Arzberg**	**73.82**	**44**	*eP*		**P**		07 32 56.6	-0.1	
	comp=Z,2.3nm,0.8s									
CONA	**Conrad Observa**	**74.06**	**43**	*eP*		**P**		07 32 58.6	+0.5	
	comp=Z,6.2nm,1.7s									
DAWY	**Dawson**	**74.66**	**334**	*eP*		**P**		07 33 01.5	+0.2	
	comp=Z,2.1nm,0.8s									
MODS	**Modra-Piesok**	**75.02**	**43**	*eP*		**P**		07 33 03.7	+0.1	
EGAK	**Eagle**	**75.50**	**334**	*eP*		**P**		07 33 05.1	-0.9	
	comp=Z,4.4nm,0.8s									
VYHS	**Vyhne**	**76.06**	**43**	*eP*		**P**		07 33 09.4	-0.1	
MENT	**Mentasta**	**76.50**	**332**	*eP*		**P**		07 33 11.7	0.0	
	comp=Z,4.0nm,0.8s									
SCRK	**Sand Creek**	**76.67**	**333**	*eP*		**P**		07 33 11.8	-1.0	
	comp=Z,7.2nm,1.1s									
IL1	**Eielson Array**	**77.95**	**334**	*eP*		**P**		07 33 18.5	-1.2	
ILAR	**Eielson Array**	**77.95**	**334**	P		**P**		07 33 18.1	-1.7	
	comp=Z,1.8nm,0.7s,baz=91,slow=4.7,SNR=27									
ILB	**Eielson Array**	**77.95**	**334**	*eP*		**P**		07 33 18.5	-1.3	
	comp=Z,2.6nm,0.7s									
HDA	**Harding Lake**	**77.98**	**334**	P		**P**		07 33 18.8	-1.1	
	baz=90									
BZS	**Buzias**	**78.06**	**46**	⇑ *iP*		**P**		07 33 21.6	+0.9	
POKR	**Poker Plat Res**	**78.18**	**334**	P		**P**		07 33 20.4	-0.7	
	baz=90									
FNA	**Florina**	**78.20**	**50**	*eP*		**P**		07 33 23.3	+1.6	
	comp=Z,4.7nm,0.7s									
COLA	**College**	**78.36**	**334**	*eP*		**P**		07 33 25.4	+3.4	
WRH	**Wood River Hil**	**78.47**	**334**	*eP*		**P**		07 33 21.5	-1.1	
	comp=Z,4.6nm,1.1s									
MDM	**Murphy Dome**	**78.52**	**334**	*eP*		**P**		07 33 21.9	-1.0	
	comp=Z,5.3nm,0.8s									
KWP	**Kalwaria Pacla**	**78.56**	**41**	*eP*		**P**		07 33 24.8	+1.4	
	comp=Z,87nm,0.9s									
SML	**Sawmill**	**78.65**	**331**	*eP*		**P**		07 33 23.4	-0.3	
	comp=Z,7.7nm,1.1s									
RND	**Reindeer**	**78.83**	**333**	*eP*		**P**		07 33 24.4	-0.3	
	comp=Z,3.4nm,1.0s									
ARCES	**ARCESS Array B**	**79.12**	**21**	*eP*		**P**		07 33 26.7	+0.6	
ARCES				pP		**pP**		07 33 55.5	+0.9	
ARCES	**ARCESS Array B**	**79.12**	**21**	P		**P**		07 33 26.1	0.0	
	comp=Z,3.9nm,0.7s,baz=268,slow=5.0,SNR=23									
ARCES				pP		**pP**		07 33 55.5	+0.9	
	comp=Z,6.9nm,0.9s,baz=270,slow=3.6,SNR=3.4									
TRF	**Thorofare Moun**	**79.48**	**333**	*eP*		**P**		07 33 28.0	-0.3	
	comp=Z,9.8nm,0.7s									
MLY	**Manley**	**79.59**	**334**	*eP*		**P**		07 33 27.4	-1.3	
	comp=Z,2.1nm,1.0s									
BPAW	**Bear Paw Mtn.**	**79.75**	**334**	*eP*		**P**		07 33 29.4	-0.3	
	comp=Z,2.7nm,0.8s									
FIA0	**FINESS Array S**	**79.75**	**29**	*eP*		**P**		07 33 30.0	+0.4	
FINES	**FINESS Array B**	**79.75**	**29**	P		**P**		07 33 30.0	+0.4	
	comp=Z,6.2nm,0.6s,baz=279,slow=4.2,SNR=45									
FIA1	**FINESS Array S**	**79.75**	**29**	*eP*		**P**		07 33 30.2	+0.6	
SUA	**Susitna One**	**79.81**	**331**	*eP*		**P**		07 33 30.9	+0.8	
	comp=Z,12nm,1.1s									
CAST	**Castle Rocks**	**80.29**	**333**	*eP*		**P**		07 33 31.3	-1.2	
	comp=Z,3.4nm,0.8s									
BUR08	**Bucovina Ar. S**	**80.36**	**43**	*eP*		**P**		07 33 35.4	+2.0	
	comp=Z,7.0nm,0.9s									
PPLA	**Purkeypile**	**80.38**	**332**	*eP*		**P**		07 33 32.4	-0.8	
	comp=Z,6.8nm,1.2s									
BURAR	**Bucovina Array**	**80.38**	**43**	⇓ *iP*		**P**		07 33 35.1	+1.6	
VOIR		**80.48**	**45**	⇑ *iP*		**P**		07 33 35.8	+1.8	
IM3	**Indian Mountai**	**80.76**	**336**	*eP*		**P**		07 33 33.8	-1.2	
MLR	**Muntele Rosu**	**81.10**	**45**	⇑ *iP*		**P**		07 33 38.5	+1.1	
IDI	**Anoyia**	**81.51**	**56**	*eP*		**P**		07 33 41.4	+1.8	
	comp=Z,13nm,0.7s									
IDI	**Anoyia**	**81.51**	**56**	⇑ *iP*		**P**		07 33 41.5	+1.8	
SVW2	**Sparrevohn**	**82.17**	**331**	*eP*		**P**		07 33 42.1	-0.5	
	comp=Z,13nm,1.2s									
AKASG	**Malin Array Be**	**82.63**	**40**	P		**P**		07 33 44.6	-0.4	
	comp=Z,1.4nm,0.7s,baz=266,slow=4.7,SNR=7.4									
AKBB	**Malin Array Si**	**82.63**	**40**	*eP*		**P**		07 33 44.9	-0.2	
	comp=Z,2.5nm,1.0s									
KARP	**Karpathos**	**83.31**	**55**	*eP*		**P**		07 33 49.9	+0.9	
	comp=Z,39nm,1.0s									
TSUM	**Tsumeb**	**84.13**	**111**	*eP*		**P**		07 33 54.9	+1.4	
	comp=Z,13nm,0.8s									
KLMR	**Klimovskoe**	**86.27**	**29**	*eP*		**P**		07 34 02.0	-1.2	
KLMR					AMP			07 34 04.6		
	comp=Z,18nm,1.1s									
KLMR				*ep*	P	**pP**		07 34 29.9	-2.2	
ANTO	**Ankara**	**86.97**	**50**	*eP*		**P**		07 34 08.6	+1.4	
BR101	**Keskin Array S**	**87.63**	**50**	*eP*		**P**		07 34 10.8	+0.3	
BR131	**Keskin Array S**	**87.63**	**50**	*eP*		**P**		07 34 11.5	+1.0	
	comp=Z,7.6nm,0.8s									
BRTR	**Keskin Array B**	**87.63**	**50**	P		**P**		07 34 10.8	+0.3	
	comp=Z,5.9nm,0.6s,baz=262,slow=4.9,SNR=27									
VNA3	**Neumayer Olymp**	**89.10**	**165**	P		**P**		07 34 17.6	+1.2	
VNA2	**Neumayer--Watz**	**89.49**	**164**	P		**P**		07 34 19.6	+1.4	
SNAA	**Sanae**	**91.13**	**164**	P		**P**		07 34 27.1	+1.1	
SNAA	**Sanae**	**91.13**	**164**	*eP*		**P**		07 34 26.8	+0.8	
	comp=Z,7.7nm,0.9s									
BOSA	**Boshof**	**92.98**	**118**	P		**P**		07 34 36.1	+0.6	
	comp=Z,7.3nm,0.8s,baz=275,slow=4.2,SNR=8.6									
BOSA	**Boshof**	**92.98**	**118**	*eP*		**P**		07 34 37.0	+1.5	
KIV	**Kislovodsk**	**93.06**	**44**	*eP*		**P**		07 34 33.7	-1.9	
	comp=Z,13nm,0.4s									
SONA0	**Songino Array**	**120.69**	**9**	*e*PKPdf		**PKPdf**		07 40 12.2	-1.1	
SONM	**Songino Array**	**120.69**	**9**	PKP		**PKPdf**		07 40 12.2	-1.1	
	comp=Z,0.3nm,0.5s,baz=296,slow=2.4,SNR=4.2									
MAJO	**Matsushiro**	**129.05**	**339**	*eP*		**PKiKP**		07 40 33.1	+2.9	
CHTO	**Chiang Mai**	**145.17**	**32**	*e*PKPbc		**PKPab**		07 40 59.3	-0.1	
CM31	**Chiang Mai Arr**	**145.46**	**33**	*e*PKPdf		**PKPab**		07 41 00.5	0.0	
CMAR	**Chiang Mai Arr**	**145.46**	**33**	PKPbc		**PKPab**		07 41 00.6	+0.1	
	comp=Z,10nm,0.6s,baz=314,slow=5.8,SNR=52									
CMAR				SKPbc		**SKPbc**		07 44 28.1	-1.7	
	comp=Z,0.7nm,0.3s,baz=305,slow=3.7,SNR=4.2									
CM01	**Chiang Mai Arr**	**145.50**	**33**	*e*PKPdf		**PKPab**		07 41 00.6	-0.1	
PBA	**Port Blair**	**146.57**	**49**	*e*PKPbc		PKPab		07 41 04.8	-0.1	
STKA	**Stephens Creek**	**149.62**	**223**	*e*PKPdf		**PKPdf**		07 41 04.3	-2.3	
STKA				*e*PKPbc		**PKiKP**		07 41 12.1	-0.2	
STKA	**Stephens Creek**	**149.62**	**223**	PKP		**PKPdf**		07 41 07.1	+0.5	
	comp=Z,3.7nm,0.6s,baz=103,slow=4.1,SNR=5.1									
STKA				PKPbc		**PKPbc**		07 41 11.6	+0.3	
	comp=Z,3.7nm,0.6s,baz=85,slow=3.2,SNR=9.2									
CTA	**Charters Tower**	**151.07**	**248**	PKPbc		**PKPbc**		07 41 14.9	-0.2	
	comp=Z,7.2nm,1.1s,baz=101,slow=5.5,SNR=5.0									
CTAO	**Charters Tower**	**151.07**	**248**	*e*PKPbc		**PKiKP**		07 41 16.1	+0.5	
BBOO	**Buckleboo**	**152.41**	**215**	*e*PKPbc		**PKPbc**		07 41 17.3	-0.5	
AS01	**Alice Springs**	**159.98**	**228**	*e*PKPdf		**PKPdf**		07 41 20.2	-0.8	
ASAR	**Alice Springs**	**160.02**	**228**	PKP		**PKPdf**		07 41 20.4	-0.7	
	comp=Z,0.5nm,0.4s,baz=108,slow=1.4,SNR=7.9									
WB2	**Warramunga Arr**	**161.63**	**239**	*e*PKPdf		**PKPdf**		07 41 21.7	-1.2	
WR1	**Warramunga Arr**	**161.64**	**239**	*e*PKPdf		**PKPdf**		07 41 21.9	-1.0	
WR1				*e*PKPab		**sPKPdf**		07 42 06.9	+1.9	
WRA	**Warramunga Arr**	**161.64**	**239**	PKP		**PKPdf**		07 41 21.9	-1.0	
	comp=Z,1.5nm,0.9s,baz=91,slow=1.2,SNR=8.5									
WRA				PKPab		**sPKPdf**		07 42 06.9	+1.8	
	comp=Z,2.1nm,0.8s,baz=112,slow=3.6,SNR=13									
MBWA	**Marble Bar**	**169.59**	**190**	*eP*		**PKPdf**		07 41 35.1	+5.8	

IDC 09 07:27:01.8±2.7, 6°64S×129°93E, h142km±37km, mb3.1/1, mb1 3.2/5, mb1mx3.0/34, mbtmp3.6/5, Error ellipse: s-maj=66.8km s-min=20.6km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.89**	**13**	P		Pn	07 28 27.2	+0.3
	5.4nm,0.3s,baz=240,slow=20,SNR=34							
SIJI				S		Sn	07 29 29.2	-4.3
	3.0nm,0.3s,baz=249,slow=23,SNR=7.5							
FITZ	**Fitzroy Crossi**	**12.13**	**200**	P		Pn	07 29 50.0	-0.1
	0.4nm,0.3s,baz=27,slow=13,SNR=24							
FITZ				S		Sn	07 31 55.8	-8.3
	0.3nm,0.3s,baz=288,slow=20,SNR=4.5							
WRA	**Warramunga Arr**	**13.90**	**162**	P		Pn	07 30 10.9	-1.9
	0.4nm,0.3s,baz=346,slow=13,SNR=13							
WRA				S		Sn	07 32 37.2	-9.5
	0.2nm,0.3s,baz=331,slow=23,SNR=4.3							
ASAR	**Alice Springs**	**17.35**	**168**	P		Pn	07 30 56.5	+1.0
	0.1nm,0.3s,baz=347,slow=10,SNR=9.0							
ASAR				S		S	07 34 01.4	-6.9
	0.1nm,0.3s,baz=340,slow=23,SNR=3.1							
MKAR	**Makanchi Array**	**67.89**	**327**	P		P	07 37 44.9	-0.2
	0.2nm,0.4s,baz=121,slow=6.4,SNR=4.3							

*MOS **09** 07:41:45.0±2.0, 35°.24N×23°.41E, h33km, mb4.4/25, Error ellipse: s-maj=8.2km s-min=3.9km az=84.3*
*ISK **09** 07:41:47.4, 35°.63N×23°.43E, h9km±1km, ML3.7/17*
*ISCJB **09** 07:41:49.0±0.3, 35°.48N±0°.03×23°.35E±0°.03, h64km±2km, mb4.2/65, Error ellipse: s-maj=5.6km s-min=2.5km az=29.9*
*ATH **09** 07:41:49.2, 35°.47N×23°.40E, h42km±1km, ML3.8/13, Error ellipse: s-maj=2.6km s-min=0.9km az=220.0*
*IDC **09** 07:41:49.5±1.7, 35°.50N×23°.31E, h58km±14km, mb3.9/25, mb1 4.0/27, mb1mx3.8/54, mbtmp4.2/27, MS3.2/8, Ms1 3.2/8, ms1mx2.9/43, Error ellipse: s-maj=17.8km s-min=12.8km az=21.0*
*NEIC **09** 07:41:49.1±0.0, 35°.47N×23°.40E, h42km, mb4.3/40, ML3.8(ATH), ML3.9(THE), After ATH.*
*THE **09** 07:41:51.3, 35°.49N×23°.40E, h39km±2km, ML3.9/5, Error ellipse: s-maj=2.7km s-min=0.6km az=42.0*

ISC 09 07:41:48.9±0.7, 35°.45N±0°.05×23°.30E±0°.04, h50km±5km, n432, σ1°66/456, mb4.2/65, MS3.5/7, 10C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KERA	**Keramoti**	**0.23**	**111**	P	**Pn**		07 41 56.2	-1.3
KERA				S	**Sn**		07 42 01.2	-2.4
KERA				AML	AML		07 42 02.4	
KERA				AML	AML		07 42 03.8	
	comp=E,95786µm,0.9s							
ANKY	**Antikythira Is**	**0.41**	**0**	P	**Pn**		07 41 59.6	+0.3
ANKY				S	**Sn**		07 42 07.8	+1.2
ANKY	**Antikythira Is**	**0.41**	**0**	P	**Pn**		07 41 59.6	+0.3
ANKY				S	**Sn**		07 42 07.3	+0.7
ANKY				AML	AML		07 42 08.6	
	comp=N,39658µm,0.5s							
ANKY				AML	AML		07 42 09.3	
	comp=E,27960µm,0.4s							
IMMV	**Iera Moni Meta**	**0.56**	**89**	P	**Pn**		07 42 00.4	-0.5
IMMV				S	**Sn**		07 42 08.8	-0.7
IMMV	**Iera Moni Meta**	**0.56**	**89**	P	**Pn**		07 42 00.4	-0.5
IMMV				S	**Sn**		07 42 08.2	-1.3
IMMV				AML	AML		07 42 10.7	
	comp=N,23682µm,0.8s							
IMMV				AML	AML		07 42 12.1	
	comp=E,32263µm,0.4s							
CHAN	**Chania**	**0.61**	**83**	P	**Pn**		07 42 01.4	-0.1
CHAN				S	**Sn**		07 42 10.9	+0.2
VAM	**Vamos**	**0.74**	**93**	P	**Pn**		07 42 03.3	+0.1
VAM				S	**Sn**		07 42 13.2	-0.3
VAM	**Vamos**	**0.74**	**93**	P	**Pn**		07 42 03.5	+0.4
VAM				AML	AML		07 42 16.3	
	comp=N,21510µm,0.5s							
VAM				AML	AML		07 42 19.2	
	comp=E,17661µm,0.5s							
KYTH	**Kithira**	**0.84**	**346**	P	**Pn**		07 42 06.6	+2.1
KYTH				S	**Sn**		07 42 16.7	+0.8
KYTH	**Kithira**	**0.84**	**346**	P	**Pn**		07 42 06.7	+2.1
KYTH				S	**Sn**		07 42 19.0	+3.1
KYTH				AML	AML		07 42 22.1	
	comp=N,17012µm,0.5s							
KYTH				AML	AML		07 42 23.3	
	comp=E,17019µm,0.4s							
KTHR	**Kythira**	**0.84**	**344**	P	**Pn**		07 42 06.5	+1.9
KTHR				S	**Sn**		07 42 17.5	+1.5
GVD	**Gavdhos**	**0.89**	**133**	P	**Pn**		07 42 05.7	+0.6
GVD	**Gavdhos**	**0.89**	**133**	P	**Pn**		07 42 05.8	+0.6
PRNS	**Prines Rethymn**	**0.99**	**95**	P	**Pn**		07 42 06.8	+0.3
PRNS				S	**Sn**		07 42 18.4	-1.0
MNVA	**Monemvasia**	**1.25**	**350**	P	**Pn**		07 42 12.2	+2.1
TMBK	**Timbaki Herakl**	**1.26**	**107**	P	**Pn**		07 42 11.6	+1.5
VLI	**Veliai**	**1.30**	**347**	P	**Pn**		07 42 12.7	+2.0
VLI				S	**Sn**		07 42 28.5	+1.6
VLI	**Veliai**	**1.30**	**347**	P	**Pn**		07 42 13.0	+2.4
VLI				S	**Sn**		07 42 28.9	+1.9
VLI				AML	AML		07 42 33.9	
	comp=N,4288µm,0.7s							
VLI				AML	AML		07 42 39.4	
	comp=E,5677µm,0.7s							
IDI	**Anoyia**	**1.31**	**97**	PN	**Pn**		07 42 11.8	+0.8
IDI				SN	**Sn**		07 42 28.9	+1.5
IDI	**Anoyia**	**1.31**	**97**	*e*Pn	**Pn**		07 42 12.0	+1.1
IDI				S	**Sn**		07 42 28.3	+0.9
IDI	**Anoyia**	**1.31**	**97**	⇑ *iP*	**Pn**		07 42 10.9	0.0
IDI	**Anoyia**	**1.31**	**97**	S	**Sn**		07 42 29.4	+2.0
IDI	**Anoyia**	**1.31**	**97**	P	**Pn**		07 42 11.5	+0.6
IDI	**Anoyia**	**1.31**	**97**	P	**Pn**		07 42 11.7	+0.8
	comp=E,74nm,0.3s,baz=277,slow=13,SNR=176							
IDI				S	**Sn**		07 42 28.3	+0.9
	comp=E,48nm,0.3s,baz=342,slow=20,SNR=19							
IDI				LR	LR		07 43 00.8	
	comp=E,298nm,19.9s,baz=270,slow=54							
IACM	**Heraklion**	**1.46**	**95**	P	**Pn**		07 42 14.7	+1.9
IACM	**Heraklion**	**1.46**	**95**	P	**Pn**		07 42 14.8	+2.0
KSTL	**Kastelli Herak**	**1.46**	**95**	P	Pn		07 42 18.0	±5.2
MHLO	**Agia Marina, M**	**1.52**	**36**	P	**Pn**		07 42 14.5	+0.7
MHLO	**Agia Marina, M**	**1.52**	**36**	P	**Pn**		07 42 14.4	+0.6
MHLA	**Plaka, Milos I**	**1.58**	**35**	P	**Pn**		07 42 15.6	+1.1
MHLA				AML	AML		07 42 48.5	
	comp=N,5868µm,0.8s							
MHLA				AML	AML		07 42 52.0	
	comp=E,5713µm,1.2s							
LAST	**Lasithi**	**1.81**	**99**	P	**Pn**		07 42 20.1	+2.4
LAST	**Lasithi**	**1.81**	**99**	P	**Pn**		07 42 19.2	+1.5
LAST				AML	AML		07 42 59.2	
	comp=E,2010µm,0.9s							
LAST				AML	AML		07 43 01.3	
	comp=N,1980µm,1.0s							
MES2	**Methoni**	**1.88**	**317**	P	**Pn**		07 42 19.4	+0.8
NPS	**Neapolis**	**1.90**	**95**	P	**Pn**		07 42 20.1	+1.2
NPS	**Neapolis**	**1.90**	**95**	P	**Pn**		07 42 20.1	+1.2
NPS				AML	AML		07 42 56.2	
	comp=N,2702µm,0.8s							
NPS				AML	AML		07 43 01.4	
	comp=E,3018µm,0.7s							
THR9	**Santorini-Faro**	**1.90**	**61**	P	**Pn**		07 42 19.5	+0.6
PYL	**PYLOS**	**1.91**	**319**	P	**Pn**		07 42 19.7	+0.6
PYL	**PYLOS**	**1.91**	**319**	P	**Pn**		07 42 20.1	+1.1
THR6	**Thira Island,**	**1.93**	**61**	P	**Pn**		07 42 20.1	+0.8
SAP3	**Santorini-Thir**	**1.93**	**59**	P	**Pn**		07 42 19.9	+0.6
KRND	**KRANIDI**	**1.93**	**357**	P	**Pn**		07 42 21.0	+1.7
KRND	**KRANIDI**	**1.93**	**357**	P	**Pn**		07 42 20.8	+1.4
KRND				AML	AML		07 42 52.7	
	comp=E,2568µm,1.0s							
KRND				AML	AML		07 42 53.1	
	comp=N,3094µm,0.7s							
SERI	**Serifos**	**1.96**	**29**	P	**Pn**		07 42 20.2	+0.5
SERI	**Serifos**	**1.96**	**29**	P	**Pn**		07 42 20.1	+0.5
THT1	**Athinios (Pele**	**1.97**	**61**	P	**Pn**		07 42 20.1	+0.3
SANT	**Santorini**	**1.98**	**62**	PN	**Pn**		07 42 19.9	-0.1
SANT	**Santorini**	**1.98**	**62**	*e*Pn	**Pn**		07 42 20.2	+0.2
SANT	**Santorini**	**1.98**	**62**	⇑ *iP*	**Pn**		07 42 20.0	-0.1
SANT	**Santorini**	**1.98**	**62**	P	**Pn**		07 42 20.6	+0.5
SANT	**Santorini**	**1.98**	**62**	P	**Pn**		07 42 20.5	+0.5
SANT				AML	AML		07 42 59.1	
	comp=N,3107µm,0.7s							
SANT				AML	AML		07 43 02.1	
	comp=E,4438µm,0.9s							
THT2	**Imerovigli**	**1.98**	**60**	P	**Pn**		07 42 21.4	+1.4
SAP2K	**Karterados**	**1.99**	**61**	P	**Pn**		07 42 20.8	+0.7
CMBO	**Columbo, Santo**	**1.99**	**59**	P	**Pn**		07 42 20.8	+0.7
CMBO	**Columbo, Santo**	**1.99**	**59**	P	**Pn**		07 42 20.8	+0.7
ITM	**Ithomi**	**2.05**	**328**	*e*Pn	**Pn**		07 42 22.8	+1.8
ITM	**Ithomi**	**2.05**	**328**	P	**Pn**		07 42 22.9	+1.9
ITM	**Ithomi**	**2.05**	**328**	P	**Pn**		07 42 24.1	+3.1
DID	**Didima**	**2.05**	**359**	P	**Pn**		07 42 21.8	+0.8
DID	**Didima**	**2.05**	**359**	P	**Pn**		07 42 22.2	+1.2
DID				AML	AML		07 42 56.2	
	comp=N,1891µm,0.5s							
DID				AML	AML		07 43 01.6	
	comp=E,2295µm,0.5s							
VLX	**Vlachokerasia**	**2.05**	**339**	P	**Pn**		07 42 25.0	+3.9
VLX	**Vlachokerasia**	**2.05**	**339**	P	**Pn**		07 42 24.4	+3.3
ANAF	**Anafi Island**	**2.20**	**65**	P	**Pn**		07 42 23.1	+0.1
ANAF	**Anafi Island**	**2.20**	**65**	P	**Pn**		07 42 23.2	+0.2
MES3	**Kyparissia**	**2.22**	**324**	P	**Pn**		07 42 24.4	+1.1
TRIP	**Tripoli**	**2.23**	**339**	P	**Pn**		07 42 27.5	+4.0
TRIP	**Tripoli**	**2.23**	**339**	P	**Pn**		07 42 27.0	+3.5
STIA	**Sitia Lasithi**	**2.30**	**95**	P	**Pn**		07 42 26.2	+1.9
ZKR	**Zakros**	**2.41**	**97**	PN	**Pn**		07 42 27.5	+1.6
ZKR	**Zakros**	**2.41**	**97**	P	**Pn**		07 42 27.9	+2.0
ZKR	**Zakros**	**2.41**	**97**	P	**Pn**		07 42 27.7	+1.8
ZKR				AML	AML		07 43 14.0	
	comp=E,1549µm,1.0s							
ZKR				AML	AML		07 43 21.4	
	comp=N,472µm,0.6s							
APE	**Apeiranthos**	**2.42**	**48**	PN	**Pn**		07 42 25.6	-0.5
APE				SN	**Sn**		07 42 53.4	-1.1
APE	**Apeiranthos**	**2.42**	**48**	⇓ *iP*	**Pn**		07 42 25.8	-0.3
APE	**Apeiranthos**	**2.42**	**48**	S	**Sn**		07 42 55.1	+0.6
APE	**Apeiranthos**	**2.42**	**48**	P	**Pn**		07 42 26.4	+0.3
APE	**Apeiranthos**	**2.42**	**48**	*c iP*	**Pn**		07 42 26.1	0.0
APE	**Apeiranthos**	**2.42**	**48**	P	**Pn**		07 42 26.4	+0.3
VLY	**Voula,Athens**	**2.43**	**9**	P	**Pn**		07 42 27.1	+1.0
VLY	**Voula,Athens**	**2.43**	**9**	P	**Pn**		07 42 27.2	+1.1
AMT	**Artemida-Makis**	**2.44**	**329**	P	**Pn**		07 42 28.5	+2.2
AMGA	**Amorgos Island**	**2.51**	**56**	P	**Pn**		07 42 27.4	+0.1
AMGA	**Amorgos Island**	**2.51**	**56**	P	**Pn**		07 42 27.5	+0.1
ATH	**Athens Observa**	**2.54**	**7**	P	**Pn**		07 42 29.0	+1.4
ATHU	**Athens Univers**	**2.54**	**9**	P	**Pn**		07 42 28.7	+1.0
LOUT	**Loutraki**	**2.54**	**354**	P	**Pn**		07 42 29.6	+1.9
TNSA	**Tinos**	**2.57**	**35**	P	**Pn**		07 42 30.0	+1.9
LTK	**Loutraki**	**2.58**	**354**	P	**Pn**		07 42 29.3	+1.1
LTK	**Loutraki**	**2.58**	**354**	P	**Pn**		07 42 29.4	+1.1
GUR	**Goura**	**2.60**	**343**	P	**Pn**		07 42 31.5	+3.0
GUR	**Goura**	**2.60**	**343**	P	**Pn**		07 42 31.4	+2.8
VILL	**Villia**	**2.71**	**0**	P	**Pn**		07 42 30.6	+0.6
KLV	**Kalavryta, Ach**	**2.75**	**341**	P	**Pn**		07 42 32.7	+2.1
KLV	**Kalavryta, Ach**	**2.75**	**341**	P	**Pn**		07 42 32.8	+2.3
VIL2	**Platees**	**2.75**	**360**	P	**Pn**		07 42 31.0	+0.3
DRO	**Drossia**	**2.80**	**333**	P	**Pn**		07 42 33.6	+2.3
DRO	**Drossia**	**2.80**	**333**	P	**Pn**		07 42 33.9	+2.6
PROD	**Prodromos**	**2.82**	**354**	P	**Pn**		07 42 33.0	+1.5
PROD	**Prodromos**	**2.82**	**354**	P	**Pn**		07 42 32.6	+1.1
ALIK	**Aliki, Aigiali**	**2.96**	**342**	P	**Pn**		07 42 35.6	+2.2
LAKA	**Lakka**	**2.98**	**340**	P	**Pn**		07 42 35.9	+2.2
LAKA	**Lakka**	**2.98**	**340**	P	**Pn**		07 42 35.8	+2.2
RLS	**Riolos of Patr**	**2.99**	**331**	P	**Pn**		07 42 36.1	+2.3
RLS	**Riolos of Patr**	**2.99**	**331**	P	**Pn**		07 42 36.2	+2.4
VTN	**Vitineika**	**2.99**	**326**	P	**Pn**		07 42 35.

DURS IAML_P
comp=Z,529nm,0.4s
ALN Alexandroupoli 5.85 21 *e*Pn **Pn 07 43 13.8 +0.8**
ALN Alexandroupoli 5.85 21 P **Pn 07 43 13.3 +0.3**
ALN Alexandroupoli 5.85 21 *e*P **Pn 07 43 13.9 +0.8**
BRDR BURDUR-Merkez 5.89 66 *i* P **Pn 07 43 15.7 +2.1**
BRDR IAML_P
comp=Z,1µm,0.3s
KORT Korkueli 5.91 73 PN **Pn 07 43 14.9 +0.9**
KORT Korkueli 5.91 73 *i* P **Pn 07 43 15.5 +1.6**
KORT IAML_P
comp=Z,1000nm,0.3s
OHR Ohrid 5.98 342 *i* Pn **Pn 07 43 16.0 +1.1**
KRUS Krusevo 6.12 345 *i* Pn **Pn 07 43 17.0 +0.2**
STIP Stip 6.29 352 *e*Pn **Pn 07 43 19.6 +0.5**
TIP Timpagrande 6.40 307 *e*Pn **Pn 07 43 20.4 -0.3**
TIP *e*Sn Sn 07 44 24.3 -8.1
TIP Timpagrande 6.40 307 ⇑ *i*P **Pn 07 43 20.5 -0.2**
TIR Tirane 6.47 336 *e*Pn **Pn 07 43 22.9 +1.3**
TIR Tirane 6.47 336 *e*P **Pn 07 43 22.9 +1.3**
BAGO Egridir - ISPA 6.53 65 *i* P **Pn 07 43 23.6 +1.1**
BAGO IAML_P
comp=Z,361nm,0.3s
CGL1 Ceglie Messapi 6.93 320 *e*Pn **Pn 07 43 26.7 -1.2**
CGL1 Sn **Sn 07 44 37.4 -8.0**
TAR1 Taranto 6.94 319 *e*Pn **Pn 07 43 26.0 -2.0**
TAR1 Sn Sn 07 44 34.2 -11
MASS Massafra 7.09 319 *e*Pn **Pn 07 43 29.1 -1.0**
VTS Vitosha 7.16 360 *e*Pn **Pn 07 43 33.6 +2.5**
VTS Vitosha 7.16 360 ⇑ *i*P **Pn 07 43 30.3 -0.8**
VTS Vitosha 7.16 360 *e*P **Pn 07 43 33.6 +2.5**
MATE Matera 7.35 317 ⇓ *i*P **Pn 07 43 32.3 -1.2**
DRME Dracevica, Mon 7.45 336 *e*Pn **Pn 07 43 33.2 -1.8**
SG1 Sgolgore (BA) 7.49 318 *e*Pn **Pn 07 43 34.5 -1.0**
SG1 Sn Sn 07 44 50.7 -8.4
BAI Bari 7.57 320 *e*Pn **Pn 07 43 36.7 +0.1**
BAI Sn **Sn 07 44 54.2 -6.8**
PDG Podgorica 7.65 337 ⇑ *i*P **Pn 07 43 36.7 -0.9**
PDG Podgorica 7.65 337 *e*Pn **Pn 07 43 36.5 -1.1**
TTG Podgorica 7.65 337 *e*Pn **Pn 07 43 38.1 +0.5**
TTG *e*Sn **Sn 07 44 57.5 -5.3**
TTG Podgorica 7.65 337 *e*P **Pn 07 43 38.1 +0.5**
TREB Trebinje 8.21 334 *e*Pn **Pn 07 43 42.7 -2.7**
CSS Mathiatis 8.23 91 *e*Pn **Pn 07 43 42.9 -2.8**
BRY Bratogost 8.30 335 *e*Pn **Pn 07 43 44.2 -2.6**
STON Ston 8.59 331 *e*Pn **Pn 07 43 48.1 -2.4**
STON Sn Sn 07 45 16.0 -10
STON Ston 8.59 331 *e*Pn **Pn 07 43 49.4 -1.1**
BR231 Keskin MP Arra 8.70 57 *e*Pn **Pn 07 43 52.9 +0.7**
ANTO Ankara 8.72 57 *e*Pn **Pn 07 43 55.2 +2.7**
ANTO Ankara 8.72 57 *e*P **Pn 07 43 55.2 +2.7**
BBLS Lazići 8.92 342 *e*Pn **Pn 07 43 52.9 -2.3**
DIVS Divibare 9.00 345 *e*Pn **Pn 07 43 54.8 -1.5**
DIVS *e*Sn **Sn 07 45 29.7 -6.6**
DIVS Divibare 9.00 345 *e*Pn **Pn 07 43 53.2 -3.1**
BR131 Keskin Array S 9.25 59 *e*Pn **Pn 07 44 01.1 +1.3**
BRTR Keskin Array B 9.25 59 *i* P **Pn 07 44 01.3 +1.6**
BRTR pmax pmax
comp=Z,8.0nm,0.9s
BRTR Keskin Array B 9.25 59 P **Pn 07 44 00.7 +1.0**
comp=Z,0.6nm,0.3s,baz=235,slow=13,SNR=31
BRTR LR LR 07 48 19.3
comp=Z,91nm,19.3s,baz=247,slow=42
HAPS Han Pijesak,Bl 9.25 340 *e*Pn **Pn 07 43 55.6 -4.1**
BR101 Keskin Array S 9.25 59 *e*Pn **Pn 07 44 00.7 +1.0**
HERR Herculane 9.44 356 ⇓ *i*P **Pn 07 44 01.9 -0.3**
TIRR Tirgusor 9.81 22 *e*Pn **Pn 07 44 09.0 +1.8**
TIRR Tirgusor 9.81 22 *e*P **Pn 07 44 09.0 +1.8**
GZR Gura Zlata 9.94 358 ⇓ *i*P **Pn 07 44 09.1 0.0**
VOIR 10.06 7 ⇓ *i*P **Pn 07 44 10.8 0.0**
MLR Muntele Rosu 10.23 11 *e*Pn **Pn 07 44 16.6 +3.5**
MLR Muntele Rosu 10.23 11 ⇑ *i*P **Pn 07 44 13.4 +0.3**
MLR Muntele Rosu 10.23 11 *e*P **Pn 07 44 16.6 +3.5**
MLR Muntele Rosu 10.23 11 P **Pn 07 44 15.9 +2.8**
comp=Z,0.5nm,0.3s,baz=205,slow=8.4,SNR=4.4
BZS Buzias 10.23 353 ⇑ *i*P **Pn 07 44 12.8 -0.2**
MMAI Mount Meron Ar 10.31 100 P **Pn 07 44 09.8 -4.4**
comp=Z,2.2nm,0.3s,baz=280,slow=9.7,SNR=11
MMAI S Sn 07 45 57.2 -11
comp=Z,1.2nm,0.3s,baz=291,slow=24,SNR=3.2
BLY Banja Luka 10.40 335 *e*Pn **Pn 07 44 11.5 -3.8**
UDBI Udbina 10.74 330 *e*Pn **Pn 07 44 19.1 -1.0**
UDBI Sn Sn 07 46 09.5 -9.4
NVLJ Novalja 11.15 327 Sn Sn 07 46 18.6 -10
CRES Cresnjev 11.95 333 *e*Pn **Pn 07 44 33.4 -3.0**
CEY Cerknica 12.28 329 *e*Pn **Pn 07 44 38.2 -2.8**
SOKA Soboth 12.82 334 *i* Pn **Pn 07 44 46.5 -2.0**
comp=Z,0.4nm,0.1s
OBKA Obir 12.86 332 *e*Pn **Pn 07 44 47.8 -1.2**
comp=Z,1.7nm,0.3s
ARSA Arzberg 13.15 336 *i* Pn **Pn 07 44 50.6 -2.2**
comp=Z,0.5nm,0.2s
VYHS Vyhne 13.45 347 *e*P **P 07 45 05.0 +0.2**
VYHS Vyhne 13.45 347 *e*pPN **P 07 45 05.0 +0.2**
MODS Modra-Piesok 13.66 343 *e*P **P 07 45 08.7 +1.5**
MODS Modra-Piesok 13.66 343 *e*pPN **P 07 45 08.7 +1.5**
KBA Koelnbreinsper 13.80 330 *i* Pn **Pn 07 45 01.3 -0.6**
comp=Z,0.5nm,0.2s
MOA Molln 14.09 334 *i* Pn **Pn 07 45 05.2 -0.5**
comp=Z,1.8nm,0.4s
VRAC Vranov 14.70 342 P **P 07 45 18.2 -0.5**
comp=Z,1.1nm,0.3s,baz=157,slow=7.9,SNR=6.4
VRAC LR LR 07 52 11.3
comp=Z,113nm,18.0s,baz=164,slow=42
FUORN Ofenpass-Fuorn 14.85 323 *e*Pn **P 07 45 23.7 +3.0**
FETA Feichten 14.91 325 *i* P **P 07 45 20.8 -0.5**
comp=Z,2.8nm,0.7s
MORC Moravsky Berou 14.92 345 *e*Pn **P 07 45 22.8 +1.5**
OJC Ojcow 14.98 351 *e*Pn **P 07 45 22.2 +0.4**
OJC Ojcow 14.98 351 *e*P **P 07 45 22.2 +0.4**
DAVOX Davos/Dischmat 15.15 322 P **P 07 45 24.3 +0.3**
comp=Z,0.7nm,0.3s,baz=117,slow=10,SNR=8.8
KRLC Kraliky 15.37 344 *e*P **P 07 45 27.1 +0.9**
KRLC *e*sP **sP 07 45 42.6 -1.1**
KRLC Kraliky 15.37 344 *e*P **P 07 45 27.1 +0.9**
KHC Kasperske Hory 15.43 335 *e*Pn **P 07 45 28.4 +1.6**
comp=Z,2.0nm,0.8s
KHC Kasperske Hory 15.43 335 *e*P **P 07 45 28.1 +1.2**
KHC *e*pP **pP 07 45 40.9 +2.9**
KHC Kasperske Hory 15.43 335 *e*P **P 07 45 28.1 +1.2**
DPC Dobruska-Polom 15.73 343 *e*P **P 07 45 31.0 +0.8**
DPC Dobruska-Polom 15.73 343 *e*P **P 07 45 31.0 +0.8**
GOPC GO Pecny, Ondr 15.73 339 *e*P **P 07 45 31.0 +0.8**
GOPC GO Pecny, Ondr 15.73 339 *e*P **P 07 45 31.0 +0.8**
AK11 Malin Array Si 15.80 14 *e*Pn **Pn 07 45 29.4 +1.5**
KIEV Kiev 15.83 14 *i* P **Pn 07 45 25.2 -3.0**
KIEV pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 15.84 14 *i* P **Pn 07 45 25.7 -2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.84 14 P **Pn 07 45 25.5 -2.8**
comp=Z,1.1nm,0.3s,baz=206,slow=12,SNR=6.1
AKBB Malin Array Si 15.84 14 *e*Pn **Pn 07 45 25.5 -2.8**
comp=Z,3.7nm,0.7s
AKBB Malin Array Si 15.84 14 *e*P **Pn 07 45 25.5 -2.8**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
PRU Pruhonice 15.87 339 *e*P **P 07 45 31.7 0.0**
PRU Pruhonice 15.87 339 *e*P **P 07 45 31.7 0.0**
UPC Upice 15.95 343 *e*P **P 07 45 33.6 +1.0**
UPC Upice 15.95 343 *e*P **P 07 45 33.6 +1.0**
BRG Berggiesshubel 16.83 339 *e*P **P 07 45 42.9 +0.5**
comp=Z,5.4nm,1.1s
BRG Berggiesshubel 16.83 339 *e*P **P 07 45 42.9 +0.5**
BRG pmax pmax
comp=Z,5.0nm,1.1s
NEY Neytrino 16.90 57 *i* P **P 07 45 43.9 +0.5**
SHA1 Shidzhatmaz 17.04 55 *i* P **P 07 45 46.5 +1.6**
KIV Kislovodsk 17.14 54 *e*P **P 07 45 45.9 0.0**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV MLR MLR
comp=Z,30nm,13.0s
KBZ Khabaz 17.19 55 P **P 07 45 46.5 +0.1**
comp=Z,0.2nm,0.3s,baz=181,slow=9.9,SNR=8.0
KBZ LR LR 07 53 47.7
comp=Z,46nm,20.5s,baz=279,slow=42
GNI Garni 17.57 68 LR LR 07 53 47.6
comp=Z,82nm,19.9s,baz=276,slow=41
SUW Suwalki 18.56 360 *e*P **P 07 46 00.8 -0.5**
comp=Z,22nm,0.4s
SUW Suwalki 18.56 360 *e*P **P 07 46 00.8 -0.5**
SUW pmax pmax
comp=Z,22nm,0.4s
KLNR Kaliningrad 19.27 355 *i* P **P 07 46 06.5 -2.6**
VSR Storozhevoye 19.46 31 *i* P **P 07 46 09.9 -1.4**
VSR pmax pmax
comp=Z,8.0nm,1.0s
DOU Dourbes 19.98 323 ⇑ P Pn 07 46 18.8 -0.3
BSD Bornholm Skovb 20.50 346 *i* P **P 07 46 21.1 -1.4**
BSD Bornholm Skovb 20.50 346 *i* P **P 07 46 21.1 -1.4**
OBN Obninsk 21.70 21 *e*P **P 07 46 34.7 -0.6**
OBN *e* 07 46 58.9
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,34nm,14.0s
MOS Moscow 22.54 21 *e*P **P 07 46 42.9 -1.5**
MDT Midelt 23.22 272 LR LR 07 58 17.1
comp=Z,75nm,18.3s,baz=66,slow=42
HFS Hagfors 25.47 349 P **P 07 47 10.9 -1.0**
comp=Z,4.7nm,0.6s,baz=134,slow=8.5,SNR=23
KONO Kongsberg 25.81 344 *e*P **P 07 47 15.8 +0.8**
comp=Z,16nm,1.0s
FIA0 FINESS Array S 26.07 3 *e*P **P 07 47 15.8 -1.6**
FIA0 FINESS Array S 26.07 3 *e*P **P 07 47 15.8 -1.6**
FINES FINESS Array B 26.07 3 *i* P **P 07 47 16.2 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 26.07 3 P **P 07 47 15.8 -1.6**
comp=Z,3.3nm,0.6s,baz=158,slow=11,SNR=19
FIA1 FINESS Array S 26.07 3 *e*P **P 07 47 16.2 -1.2**
NC602 NORSAR Array S 26.41 347 *e*P **P 07 47 21.9 +1.4**
comp=Z,5.2nm,0.6s
NAO01 NORSAR Array S 26.63 346 *e*P **P 07 47 22.2 -0.3**
NC405 NORSAR Array S 26.73 347 *e*P **P 07 47 23.3 0.0**
comp=Z,9.4nm,1.1s
NB2 NORSAR Subarra 26.75 347 P **P 07 47 23.0 -0.6**
comp=Z,0.4nm,0.4s,baz=156,slow=9.3
NB200 NORSAR Array S 26.75 347 *e*P **P 07 47 22.5 -1.1**
NOA NORSAR Array B 26.75 347 P **P 07 47 22.5 -1.1**
comp=Z,1.1nm,0.4s,baz=148,slow=9.5,SNR=7.9
NOA LR LR 07 59 47.7
comp=Z,23nm,19.4s,baz=290,slow=40
NBO00 NORSAR Array S 26.82 346 *e*P **P 07 47 24.0 -0.2**
comp=Z,9.8nm,1.0s
NC303 NORSAR Array S 26.89 347 *e*P **P 07 47 25.3 +0.5**
comp=Z,2.9nm,0.8s
EKA Eskdalemuir Ar 26.93 326 P **P 07 47 25.2 0.0**
comp=Z,1.3nm,0.4s,baz=123,slow=8.3,SNR=10
ESK Eskdalemuir 26.95 326 *e*P **P 07 47 29.1 +3.8**
comp=Z,18nm,1.0s
ESK Eskdalemuir 26.95 326 *e*P **P 07 47 29.1 +3.8**
ESK pmax pmax
comp=Z,18nm,1.0s
NC204 NORSAR Array S 27.05 347 *e*P **P 07 47 27.6 +1.3**
comp=Z,0.3nm,0.6s
GEYT Alibeck 27.94 75 P **P 07 47 34.3 -0.2**
comp=Z,4.0nm,0.5s,baz=263,slow=9.0,SNR=11
GYA0B ALIBECK ARRAY 27.94 75 *e*P **P 07 47 34.5 +0.1**
comp=Z,4.1nm,0.5s
AKTO Aktyubinsk 29.18 48 P **P 07 47 43.6 -1.8**
comp=Z,1.6nm,0.5s,baz=243,slow=9.2,SNR=6.0
TOA1 Torodi Ar. Sit 29.54 227 *e*P **P 07 47 47.9 -1.0**
TOA0 Torodi Ar. Sit 29.55 227 *e*P **P 07 47 50.8 +1.9**
TORD Torodi Ar. Bea 29.55 227 P **P 07 47 47.9 -1.0**
comp=Z,2.1nm,0.8s,baz=21,slow=11,SNR=13
ABKAR Akbulak array 30.07 51 *e*P **P 07 47 52.2 -1.0**
comp=Z,1.0nm,1.0s
ARU Arti 31.74 38 P **P 07 48 05.6 -2.2**
ARU S **S 07 53 09.8 -4.1**
ARA0 ARCESS Array S 34.16 1 *e*P **P 07 48 27.2 -1.6**
ARCES ARCESS Array B 34.16 1 *e*P **P 07 48 28.1 -0.7**
ARCES ARCESS Array B 34.16 1 *e*P **P 07 48 28.1 -0.7**
ARCES ARCESS Array B 34.16 1 P **P 07 48 27.2 -1.6**
comp=Z,2.2nm,0.5s,baz=182,slow=8.9,SNR=29
ARE0 ARCESS Array S 34.16 1 *e*P **P 07 48 28.2 -0.6**
comp=Z,0.3nm,0.9s
CHGR Chuyangaron 36.45 71 *e*P **P 07 48 49.4 +0.4**
comp=Z,6.3nm,0.6s
KK31 Karatay Array 36.93 63 *e*P **P 07 48 52.8 -0.2**
comp=Z,2.9nm,0.6s
KK31 Karatay Array 36.93 63 *e*P **P 07 48 52.8 -0.2**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 36.93 63 *e*P **P 07 48 53.0 0.0**
comp=Z,2.9nm,0.6s
KKAR Karatay Array 36.93 63 *e*P **P 07 48 53.0 0.0**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 37.20 47 *e*P **P 07 48 55.2 +0.2**
comp=Z,2.4nm,0.7s
BRVK Borovoye 37.20 47 *i* P **P 07 48 53.4 -1.6**
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BVAR Borovoye Array 37.26 47 P **P 07 48 55.0 -0.5**
comp=Z,1.5nm,0.7s,baz=249,slow=6.7,SNR=9.1
ARSB Arslanbob 38.95 66 *e*P **P 07 49 10.8 +0.6**
comp=Z,3.6nm,0.9s
AAK Ala-Archa 39.89 64 *e*P **P 07 49 18.5 +0.5**
comp=Z,2.6nm,1.0s
AAK Ala-Archa 39.89 64 *e*P **P 07 49 18.5 +0.5**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 39.89 64 P **P 07 49 17.8 -0.2**
comp=Z,2.0nm,0.8s,baz=211,slow=4.9,SNR=3.5
KSH Kashi 41.51 68 P **P 07 49 28.1 -3.2**
KSH sP pP 07 49 45.7 +1.0
KSH PcP **PcP 07 51 26.8 -1.3**
KSH S **S 07 55 36.3 -7.1**
KSH pmax pmax
comp=Z,3.0nm,0.7s
KSH pmax pmax
comp=Z,80nm,7.7s
KSH LR LR
comp=N,97nm,8.3s
KSH LR LR
comp=E,85nm,8.4s
KSH LR LR
comp=Z,40nm,10.7s
KURBB Kurchatov Arra 42.12 51 P **P 07 49 34.8 -1.3**
comp=Z,3.7nm,0.5s,baz=274,slow=8.6,SNR=38
KURK Kurchatov 42.18 51 P **P 07 49 34.8 -1.7**
KURK pmax pmax
comp=Z,4.0nm,0.5s
TARG Taragay, Kyrgy 42.46 65 *e*P **P 07 49 41.0 +1.5**
comp=Z,2.5nm,0.7s
SPA0 Spitsbergen Ar 42.93 358 *e*P **P 07 49 42.2 -0.1**
comp=Z,16nm,1.1s
SPITS Spitsbergen Ar 42.93 358 P **P 07 49 41.8 -0.4**
comp=Z,2.3nm,0.6s,baz=163,slow=10,SNR=18
MAKZ Makanchi 44.67 57 *e*P **P 07 49 56.1 -0.5**
comp=Z,1.4nm,0.5s
MAKZ Makanchi 44.67 57 *e*P **P 07 49 56.2 -0.5**
MAKZ pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 44.88 57 *e*P **P 07 49 57.9 -0.4**
comp=Z,2.8nm,0.6s
MK31 Makanchi Array 44.88 57 *e*P **P 07 49 57.9 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK32 Makanchi Array 44.88 57 *e*P **P 07 49 57.3 -1.1**
MK32 *e*PcP **PcP 07 51 39.7 +0.5**
MKAR Makanchi Array 44.88 57 *i* P **P 07 49 57.7 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 44.88 57 P **P 07 49 57.3 -1.1**
comp=Z,2.5nm,0.5s,baz=271,slow=7.8,SNR=57
MKAR PcP **PcP 07 51 39.7 +0.5**
comp=Z,0.2nm,0.4s,baz=275,slow=3.8,SNR=3.2
MK01 Makanchi Array 44.90 57 *e*P **P 07 49 57.5 -0.9**
NVS Novosibirsk 44.96 45 *e*P **P 07 49 58.5 -0.2**
ZAA0 Zalesovo Array 45.90 46 *e*P **P 07 50 05.3 -1.0**
comp=Z,3.2nm,0.5s
ZAA1 Zalesovo Array 45.90 46 *e*P **P 07 50 04.8 -1.5**
ZALV Zalesovo Beam 45.90 46 *e*P **P 07 50 05.1 -1.1**
ZALV Zalesovo Beam 45.90 46 *e*P **P 07 50 05.1 -1.1**
ZALV Zalesovo Beam 45.90 46 P **P 07 50 04.8 -1.5**
comp=Z,5.8nm,0.3s,baz=270,slow=9.1,SNR=9.8
SONA0 Songino Array 60.48 50 *e*P **P 07 51 53.0 -0.6**
SONM Songino Array 60.48 50 P **P 07 51 53.0 -0.6**
comp=Z,0.4nm,0.5s,baz=285,slow=7.4,SNR=4.5
TIXI Tiksi 61.43 20 *e*P **P 07 52 01.4 +1.9**
comp=Z,1.9nm,0.4s
TIXI Tiksi 61.43 20 *e*P **P 07 52 01.4 +1.9**
TIXI pmax pmax
comp=Z,2.0nm,0.4s
SCHQ Schefferville 61.97 319 *e*P **P 07 52 04.7 +1.2**
comp=Z,1.4nm,1.0s
SCHQ Schefferville 61.97 319 P **P 07 52 04.5 +1.1**
comp=Z,1.5nm,0.6s,baz=77,slow=3.3,SNR=5.6
RES Resolute Bay 62.99 345 *e*P **P 07 52 11.5 +1.6**
comp=Z,0.4nm,0.8s
RES Resolute Bay 62.99 345 *e*P **P 07 52 11.5 +1.6**
BOSA Boshof 63.75 178 LR LR 08 23 40.8
comp=Z,57nm,18.5s,baz=208,slow=39
HHC Hu-ho-hao-te 66.74 56 *e*P **P 07 52 36.2 +1.2**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,89nm,6.0s
CM31 Chiang Mai Arr 68.05 83 *e*P **P 07 52 43.2 -0.3**
comp=Z,4.7nm,0.4s
CMAR Chiang Mai Arr 68.05 83 *i* P **P 07 52 46.0 +2.5**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 68.05 83 P **P 07 52 43.2 -0.3**
comp=Z,0.8nm,0.4s,baz=291,slow=7.6,SNR=5.0
FCC Fort Churchill 72.72 331 *e*P **P 07 53 13.1 +1.9**
FCC Fort Churchill 72.72 331 *e*P **P 07 53 13.1 +1.9**
BILL Bilibino 73.15 14 *e*P **P 07 53 12.8 -0.9**
BILL *e* 07 55 56.3
BILL *e*PPP PPP 07 57 40.8
BILL pmax pmax
comp=Z,1.0nm,1.1s
BILL MLR MLR
comp=Z,66nm,18.0s
SEY Seymchan 73.86 22 P **P 07 53 18.3 +0.4**
comp=Z,1.7nm,0.7s,baz=243,slow=7.2,SNR=7.4
KLR Kul'dur 74.53 40 P **P 07 53 22.3 +0.2**
comp=Z,1.7nm,0.6s,baz=315,slow=8.0,SNR=5.6
INK Inuvik 75.11 351 *e*P **P 07 53 25.3 +0.2**
INK Inuvik 75.11 351 *e*P **P 07 53 25.3 +0.2**
MA2 Magadan 75.86 25 *e*P **P 07 53 30.3 +0.7**
comp=Z,5.1nm,0.9s
MA2 Magadan 75.86 25 P **P 07 53 30.3 +0.7**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
MA2 Magadan 75.86 25 P **P 07 53 29.4 -0.2**
comp=Z,3.7nm,0.5s,baz=359,slow=8.7,SNR=7.8
YKA Yellowknife Ar 76.69 341 P **P 07 53 34.6 +0.4**
comp=Z,0.8nm,0.6s,baz=32,slow=5.4,SNR=18
YKB5 Yellowknife Ar 76.69 341 *e*P **P 07 53 34.6 +0.4**
USRK Ussuriysk Ar. 77.70 44 P **P 07 53 39.2 -1.0**
comp=Z,1.8nm,0.5s,baz=298,slow=4.0,SNR=7.0
IM3 Indian Mountai 78.86 359 *e*P **P 07 53 47.6 +1.3**
KS15 Wonju Array Si 79.29 52 *e*P **P 07 53 48.3 -0.7**
KSAR Wonju Array Be 79.29 52 P **P 07 53 48.3 -0.7**
KSAR Wonju Array Be 79.29 52 P **P 07 53 48.3 -0.7**
KSRS Korea Array 79.30 52 P **P 07 53 48.3 -0.8**
comp=Z,2.3nm,0.9s,baz=306,slow=4.5,SNR=4.1
MDM Murphy Dome 79.70 356 *e*P **P 07 53 52.0 +1.1**
comp=Z,1.2nm,0.9s
MLY Manley 79.74 357 *e*P **P 07 53 52.5 +1.4**
IL1 Eielson Array 79.81 356 *e*P **P 07 53 51.8 +0.4**
ILAR Eielson Array 79.81 356 P **P 07 53 51.5 +0.1**
comp=Z,0.3nm,0.5s,baz=345,slow=3.6,SNR=6.5
ILB Eielson Array 79.81 356 *e*P **P 07 53 51.5 +0.1**
HDA Harding Lake 80.17 356 *e*P **P 07 53 54.3 +0.9**
comp=Z,2.7nm,0.9s
WRH Wood River Hil 80.18 356 *e*P **P 07 53 54.2 +0.8**
comp=Z,1.1nm,1.0s
SCRK Sand Creek 80.39 354 *e*P **P 07 53 55.9 +1.2**
comp=Z,0.7nm,0.9s
BPAW Bear Paw Mtn. 80.68 357 *e*P **P 07 53 56.6 +0.4**
MCK McKinley 80.96 357 *e*P **P 07 53 58.4 +0.8**
MCK McKinley 80.96 357 *e*P **P 07 53 58.4 +0.8**
MENT Mentasta 81.40 354 *e*P **P 07 54 02.2 +2.2**
comp=Z,1.5nm,0.7s
CAST Castle Rocks 81.40 358 *e*P **P 07 54 01.7 +1.7**
comp=Z,0.5nm,0.8s
DHY Denali Highway 81.53 356 *e*P **P 07 54 01.5 +0.7**
comp=Z,7.4nm,1.2s
PPLA Purkeypile 81.92 358 *e*P **P 07 54 03.8 +0.8**
comp=Z,4.4nm,0.5s
SCM Sheep Creek Mo 82.76 356 *e*P **P 07 54 08.5 +1.3**
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 82.76 356 *e*P **P 07 54 08.5 +1.3**
SCM pmax pmax
comp=Z,15nm,1.2s
SUA Susitna Ono 83.31 357 *e*P **P 07 54 11.1 +1.0**
comp=Z,6.5nm,0.9s
RC01 Rabbit Creek A 83.64 357 *e*P **P 07 54 12.6 +1.0**
comp=Z,5.0nm,0.9s
SVW2 Sparrevohn 83.79 359 *e*P **P 07 54 13.9 +1.5**
comp=Z,4.5nm,1.2s
ECSD EROS Data Cent 84.11 321 *e*P **P 07 54 16.0 +1.6**
comp=Z,2.4nm,1.1s
MAJO Matsushiro 86.25 47 *e*P **P 07 54 25.3 0.0**
MAJO Matsushiro 86.25 47 *e*P **P 07 54 25.3 0.0**
MJAR Matsushiro Arr 86.25 47 P **P 07 54 25.3 0.0**
comp=Z,1.2nm,0.6s,baz=321,slow=6.2,SNR=3.2
MJAR LR LR 08 38 23.2
comp=Z,22nm,21.3s,baz=295,slow=39
WRA Warramunga Arr 118.14 95 PKP **PKPdf 08 00 29.9 -0.8**
comp=Z,0.8nm,1.1s,baz=322,slow=1.4,SNR=7.2
WR1 Warramunga Arr 118.14 95 *e*PKPdf **PKPdf 08 00 29.9 -0.8**
AS31 Alice Springs 119.60 99 *e*PKPdf **PKPdf 08 00 32.7 -0.8**
ASAR Alice Springs 119.60 99 PKP **PKPdf 08 00 32.7 -0.8**
comp=Z,0.2nm,0.4s,baz=315,slow=1.0,SNR=4.8
AS01 Alice Springs 119.64 99 *e*PKPdf **PKPdf 08 00 33.5 0.0**
QSPA South Pole Qui 125.31 180 *e*PKPdf **PKiKP 08 00 43.5 +0.1**

IDC ***09*** *07:49:27.9±1.1, 27.°14N×103.°04E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.3/50, mbtmp3.6/6, Error ellipse: s-maj=73.9km s-min=19.1km az=61.0*
ISC 09 07:49:29.3±1.2, 27.°0N±0.°1×102.°7E±0.°2, h10km, n7, σ0s84/7, mb3.5/6, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
XAN	**Xi'an**	**8.82**	**36**	P		**Pg**		**07 52 18.5**	**+0.4**
XAN				pP		pP		07 52 22.6	
XAN				pmax	pmax				
comp=Z,5.0nm,0.7s									
SONM	**Songino Array**	**21.01**	**7**	P		**P**		**07 54 11.6**	**-1.4**
comp=Z,0.3nm,0.5s,baz=194,slow=11,SNR=2.6									
MKAR	**Makanchi Array**	**25.52**	**326**	P		**P**		**07 54 58.1**	**+0.1**
comp=Z,0.4nm,0.6s,baz=133,slow=10.0,SNR=5.2									
KURBB	**Kurchatov Arra**	**29.96**	**328**	P		**P**		**07 55 38.2**	**+0.6**
comp=Z,0.6nm,0.2s,baz=135,slow=9.8,SNR=4.2									
WRA	**Warramunga Arr**	**55.80**	**143**	P		**P**		**07 59 06.5**	**-0.4**
comp=Z,0.2nm,0.4s,baz=334,slow=8.3,SNR=7.6									
ASAR	**Alice Springs**	**58.67**	**146**	P		**P**		**07 59 27.5**	**+0.4**
comp=Z,0.3nm,0.8s,baz=335,slow=6.4,SNR=2.7									
FINES	**FINESS Array B**	**60.35**	**327**	P		**P**		**07 59 38.3**	**+0.1**
comp=Z,1.7nm,0.9s,baz=69,slow=6.7,SNR=2.8									

IDC 09 08:24:44.2±8.0, 17.°80S×176.°97W, h0km, mb4.1/2, mb1 4.3/2, mb1mx3.6/28, mbtmp4.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/29, Error ellipse: s-maj=343.9km s-min=61.9km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.16**	**252**	LR		LR		08 33 57.8	
comp=Z,105nm,19.4s,baz=282,slow=34									
PPT	**Papeete**	**26.09**	**94**	LR		LR		08 37 27.5	
comp=Z,63nm,22.0s,baz=258,slow=29									
WRA	**Warramunga Arr**	**46.00**	**259**	P		P		08 33 09.0	-0.7
1.4nm,1.0s,baz=96,slow=7.4,SNR=5.1									
ASAR	**Alice Springs**	**46.14**	**254**	P		P		08 33 11.1	+0.3
4.0nm,0.8s,baz=88,slow=8.4,SNR=40									
BRTR	**Keskin Array B**	**145.67**	**316**	PKPbc		PKPdf		08 44 24.5	-0.6
0.5nm,0.5s,baz=46,slow=4.2,SNR=3.0									

ISCJB ***09*** *08:40:04.6±0.6, 49.°67S±0.°08×121.°7E±0.°2, h10km, mb4.2/11, MS3.5/4, Error ellipse: s-maj=20.6km s-min=11.4km az=10.5*
IDC ***09*** *08:40:04.7±0.8, 49.°69S×121.°90E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/31, mbtmp4.2/7, MS3.6/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=44.6km s-min=16.5km az=100.0*
NEIC ***09*** *08:40:06.5±0.4, 49.°69S×121.°76E, h10km, mb4.4/9, Error ellipse: s-maj=18.2km s-min=10.0km az=100.0*
ISC 09 08:40:06.4±0.7, 49.7S±0.°1×121.7E±0.°2, h10km, n34, σ1s31/33, mb4.4/11, MS3.5/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.81**	**337**	T	T	09 00 03.0	
	baz=160,slow=74,SNR=17						
H01W2	**Cape Leeuwin H**	**15.81**	**337**	T	T	09 00 06.5	
	baz=160,slow=74,SNR=25						
H01W3	**Cape Leeuwin H**	**15.83**	**337**	T	T	09 00 07.2	
	baz=160,slow=74,SNR=14						
NWAO	**Narrogin (SRO)**	**17.10**	**347**	LR	LR	08 49 08.1	
	comp=Z,157nm,18.4s,baz=26,slow=32						
BBOO	**Buckleboo**	**20.01**	**38**	*e*P	**Pn**	**08 44 44.0**	**+3.0**
	20nm,1.1s						
TOO	**Toolangi**	**21.00**	**64**	*e*P	Pn	08 44 50.8	-1.7
	13nm,1.0s						
MORW	**Morawa**	**21.07**	**346**	*e*P	**P**	**08 44 50.9**	**+0.3**
	18nm,1.1s						
STKA	**Stephens Creek**	**23.24**	**47**	*e*P	**P**	**08 45 13.6**	**-0.2**
	1.0nm,1.0s						
STKA	**Stephens Creek**	**23.24**	**47**	P	**P**	**08 45 12.3**	**-1.5**
	2.5nm,0.9s,baz=204,slow=15,SNR=6.1						
STKA				LR	LR	08 52 34.5	
	comp=Z,92nm,20.8s,baz=203,slow=32						
ASAR	**Alice Springs**	**27.73**	**25**	P	**P**	**08 45 54.1**	**-0.9**
	5.7nm,1.1s,baz=194,slow=9.2,SNR=20						
ASAR				PcP	**PcP**	**08 49 09.9**	**-1.7**
	0.4nm,0.6s,baz=190,slow=2.4,SNR=5.6						
ASAR				LR	LR	08 55 33.7	
	comp=Z,215nm,21.9s,baz=200,slow=34						
AS31	**Alice Springs**	**27.73**	**25**	*e*P	**P**	**08 45 59.9**	**+4.9**
	0.8nm,0.9s						
AS01	**Alice Springs**	**27.75**	**25**	*e*P	**P**	**08 45 54.1**	**-1.0**
WR1	**Warramunga Arr**	**31.40**	**23**	*e*P	**P**	**08 46 26.1**	**-1.4**
	6.6nm,1.1s						
WR1				*e*PcP	**PcP**	**08 49 20.0**	**-1.0**
WRA	**Warramunga Arr**	**31.40**	**23**	P	**P**	**08 46 26.1**	**-1.4**
	2.8nm,1.1s,baz=195,slow=8.7,SNR=7.1						
WRA				PcP	**PcP**	**08 49 20.0**	**-1.0**
	1.4nm,1.0s,baz=207,slow=2.6,SNR=5.6						
WRA				LR	LR	08 57 49.2	
	comp=Z,161nm,20.3s,baz=180,slow=34						
WB2	**Warramunga Arr**	**31.40**	**23**	*e*P	**P**	**08 46 26.8**	**-0.7**
VNDA	**Vanda**	**31.74**	**165**	*e*P	**P**	**08 46 30.4**	**+0.4**
	6.1nm,1.0s						
VNDA	**Vanda**	**31.74**	**165**	P	**P**	**08 46 30.1**	**+0.1**
	3.0nm,0.9s,baz=305,slow=9.4,SNR=14						
VNDA				LR	LR	08 58 36.5	
	comp=Z,60nm,18.2s,baz=302,slow=35						
QSPA	**South Pole Qui**	**40.40**	**180**	*e*P	**P**	**08 47 44.7**	**+0.4**
	17nm,1.1s						
QSPA	**South Pole Qui**	**40.40**	**180**	P	**P**	**08 47 44.5**	**+0.2**
	14nm,1.1s,baz=327,slow=5.3,SNR=20						
SNAA	**Sanae**	**52.74**	**199**	*e*P	**P**	**08 49 21.6**	**+0.8**
	6.0nm,1.1s						
SNAA	**Sanae**	**52.74**	**199**	P	**P**	**08 49 21.1**	**+0.3**
	4.0nm,1.0s,baz=163,slow=5.5,SNR=4.8						
CM01	**Chiang Mai Arr**	**70.76**	**337**	*e*P	**P**	**08 51 23.0**	**+0.3**
CM31	**Chiang Mai Arr**	**70.80**	**337**	*e*P	**P**	**08 51 23.9**	**+1.0**
	6.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**70.80**	**337**	P	**P**	**08 51 23.6**	**+0.6**
	1.1nm,0.4s,baz=186,slow=5.0,SNR=7.4						
DHY	**Denali Highway**	**133.04**	**39**	*e*PKPdf	**PKPdf**	**08 59 21.3**	**+0.4**
IMW	**Indian Meadow**	**144.17**	**79**	*e*PKPdf	PKPbc	08 59 40.4	+0.2
PDAR	**Pinedale Array**	**144.50**	**81**	PKP	**PKPab**	**08 59 40.2**	**-0.8**
	0.4nm,0.8s,baz=208,slow=2.7,SNR=3.6						
YHH	**Holmes Hill**	**144.64**	**77**	*e*PKPdf	**PKPdf**	**08 59 42.9**	**0.0**
HRY	**Holter Researc**	**144.87**	**74**	*e*PKPdf	**PKPdf**	**08 59 42.5**	**-0.5**
YKA	**Yellowknife Ar**	**147.27**	**46**	PKPbc	**PKPbc**	**08 59 48.2**	**-0.5**
	3.3nm,0.8s,baz=272,slow=2.6,SNR=12						
YKB5	**Yellowknife Ar**	**147.27**	**46**	*e*PKPbc	**PKPbc**	**08 59 48.7**	**-0.1**
YKW3	**Yellowknife Ar**	**147.27**	**45**	*e*PKPdf	**PKPbc**	**08 59 48.5**	**-0.2**
RES	**Resolute Bay**	**150.69**	**19**	*e*PKPbc	**PKPbc**	**08 59 57.1**	**0.0**
RES				*e*PKPab	**PKPab**	**09 00 03.5**	**-0.7**
RES	**Resolute Bay**	**150.69**	**19**	PKPbc	**PKPbc**	**08 59 56.8**	**-0.3**
	5.2nm,1.0s,baz=312,slow=3.6,SNR=18						
RES				PKPab	**PKPab**	**09 00 03.0**	**-1.1**
	5.5nm,0.9s,baz=328,slow=1.4,SNR=15						

*ISCJB **09** 08:54:37.8±0.4, 71°.42N±0°.04×3°.6W±0°.1, h12km, mb3.7/12, MS3.5/17, Error ellipse: s-maj=6.8km s-min=5.7km az=142.6*

*IDC **09** 08:54:38.5±0.7, 71°.32N×4°.11W, h0km, mb3.7/11, mb1 4.0/16, mb1mx3.7/47, mbtmp3.8/16, ML3.4/5, MS3.5/20, Ms1 3.5/20, ms1mx3.3/40, Error ellipse: s-maj=17.4km s-min=14.0km az=21.0*

*BER **09** 08:54:46.1±2.1, 71°.47N×3°.15W, h15km, ML2.6, Confirmed Earthquake*

ISC 09 08:54:40.3±0.5, 71°.40N±0°.07×4°.20W±0°.06, h12km, n59, σ2s18/50, mb3.7/12, MS3.4/17, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**1.46**	**255**	Pn	**Pn**	**08 55 04.4**	**-1.9**
	6.0nm,0.3s,baz=90,slow=3.0,SNR=2.4						
JMIC				Sn	**Sn**	**08 55 21.1**	**-4.2**
	8.6nm,0.3s,baz=155,slow=19,SNR=3.8						
JMIC				LR	LR	08 55 33.2	
	comp=Z,301nm,19.3s,baz=66,slow=37						
SCO	**Scoresbysund**	**5.88**	**269**	*i* P	**Pn**	**08 56 06.3**	**-0.8**
SCO	**Scoresbysund**	**5.88**	**269**	*i* P	**Pn**	**08 56 06.5**	**-0.6**
SCO				*i* S		08 56 11.8	
DAG	**Danmarks Havn**	**6.68**	**330**	*i* P	**Pn**	**08 56 13.7**	**-4.2**
DAG				*i* S	Sn	08 57 19.3	-14
LOF	**Lofoten**	**6.96**	**110**	*e*P	**Pn**	**08 56 19.7**	**-2.1**
LOF				IAML		08 57 38.8	
	comp=Z,7.2nm,0.7s						
BJO	**Bjornoya**	**7.51**	**55**	*e*P	**Pn**	**08 56 27.5**	**-1.8**
STEI	**Steigen**	**7.59**	**108**	*e*P	**Pn**	**08 56 28.5**	**-2.0**
STEI				IAML		08 57 49.5	
	comp=Z,5.7nm,0.6s						
HSPB	**Hornsund (broa**	**7.73**	**35**	*e*P	**Pn**	**08 56 30.2**	**-2.2**
TRO	**Tromso**	**7.91**	**92**	*e*P	**Pn**	**08 56 31.1**	**-3.8**
TRO				IAML		08 58 01.3	
	comp=Z,3.7nm,0.9s						
KONS	**Konsvik**	**7.91**	**120**	*e*P	**Pn**	**08 56 32.9**	**-2.0**
KONS				IAML		08 57 44.7	
	comp=Z,5.4nm,0.5s						
STOK	**Stokkvaagen**	**8.01**	**121**	*e*P	**Pn**	**08 56 34.6**	**-1.6**
MOR8	**Moi Rana**	**8.52**	**119**	*e*P	**Pn**	**08 56 42.4**	**-0.9**
MOR8				IAML		08 58 14.0	
	comp=Z,7.3nm,0.5s						
KBS	**Kingsbay**	**8.57**	**21**	*e*P	**Pn**	**08 56 41.6**	**-2.2**
SPA0	**Spitsbergen Ar**	**8.62**	**29**	*e*P	**Pn**	**08 56 43.5**	**-1.0**
SPITS	**Spitsbergen Ar**	**8.62**	**29**	Pn	**Pn**	**08 56 43.4**	**-1.2**
	baz=216,slow=14,SNR=78						
SPITS				LR	LR	08 59 16.1	
	comp=Z,95nm,20.5s,baz=330,slow=32						
KIF	**Kilpisjarvi**	**8.78**	**94**	*e*P	**Pn**	**08 56 44.4**	**-2.3**
HAMF	**Hammerfest**	**9.07**	**81**	*e*P	**Pn**	**08 56 46.4**	**-4.3**
NSS	**Namsos**	**9.15**	**131**	*e*P	**Pn**	**08 56 51.0**	**-0.9**
NSS				IAML		08 58 29.9	
	comp=Z,5.5nm,0.5s						
HOPEN	**Hopen**	**9.46**	**44**	*e*P	**Pn**	**08 56 54.1**	**-1.9**
KTK1	**Kautokeino**	**9.56**	**91**	*e*P	**Pn**	**08 56 55.2**	**-2.3**
HEF	**Hetta**	**9.98**	**94**	*e*P	**Pn**	**08 57 00.8**	**-2.5**
ARCES	**ARCESS Array B**	**10.06**	**86**	Pn	**Pn**	**08 57 01.1**	**-3.2**
	comp=Z,1.5nm,0.3s,baz=294,slow=12,SNR=41						
ARE0	**ARCESS Array S**	**10.06**	**86**	*e*P	**Pn**	**08 57 01.9**	**-2.3**
AKN	**Aaknes**	**10.23**	**149**	*e*P	**Pn**	**08 57 05.3**	**-1.4**
AKN				IAML		08 58 57.5	
	comp=Z,6.2nm,0.5s						
KEV	**Kevo**	**10.45**	**84**	*e*P	**Pn**	**08 57 06.3**	**-3.2**
NOR	**Nord**	**10.61**	**350**	*e*P	**Pn**	**08 57 13.7**	**+1.9**
DOMB	**Dombas**	**10.72**	**144**	*e*P	**Pn**	**08 57 12.5**	**-1.0**
NOA	**NORSAR Array B**	**12.06**	**142**	Pn	**Pn**	**08 57 30.2**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=330,slow=12,SNR=3.5						
NOA				LR	LR	09 01 57.9	
	comp=Z,279nm,21.0s,baz=335,slow=37						
HFS	**Hagfors**	**13.40**	**138**	Pn	**Pn**	**08 57 49.1**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=346,slow=12,SNR=18						
FINES	**FINESS Array B**	**15.47**	**115**	Pn	**Pn**	**08 58 15.0**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=339,slow=9.0,SNR=8.5						
FINES				LR	LR	09 03 36.6	
	comp=Z,245nm,20.0s,baz=30,slow=35						
EKA	**Eskdalemuir Ar**	**16.14**	**178**	Pn	**Pn**	**08 58 26.5**	**-0.1**
	baz=358,slow=12,SNR=4.2						
BRG	**Berggiesshubel**	**22.19**	**149**	*e*P	P	08 59 43.3	+7.4
	comp=Z,7.8nm,1.1s						
NKC	**Novy Kostel**	**22.57**	**151**	*e*P	**P**	**08 59 42.2**	**+2.2**
UPC	**Upice**	**22.90**	**145**	*e*P	**P**	**08 59 49.0**	**+5.5**
DPC	**Dobruska-Polom**	**23.11**	**145**	*e*P	**P**	**08 59 46.7**	**+1.0**
PRU	**Pruhonice**	**23.14**	**148**	*e*P	**P**	**08 59 49.3**	**+3.3**
OBN	**Obninsk**	**23.82**	**112**	LR	LR	09 08 36.9	
	comp=Z,51nm,19.0s,baz=344,slow=35						
AKASG	**Malin Array Be**	**25.68**	**126**	P	**P**	**09 00 09.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=335,slow=9.8,SNR=3.4						
AKASG				LR	LR	09 09 57.1	
	comp=Z,166nm,18.4s,baz=320,slow=36						
NRIK	**Noril'sk**	**28.12**	**49**	LR	LR	09 13 01.6	
	comp=Z,72nm,18.7s,baz=38,slow=39						
SCHQ	**Schefferville**	**30.93**	**271**	LR	LR	09 11 17.1	
	comp=Z,173nm,18.4s,baz=32,slow=32						
TIXI	**Tiksi**	**34.01**	**24**	P	**P**	**09 01 23.7**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=344,slow=5.2,SNR=4.5						
KBZ	**Khabaz**	**35.83**	**115**	LR	LR	09 15 18.2	
	comp=Z,52nm,21.3s,baz=344,slow=35						
BVAR	**Borovoye Array**	**36.26**	**80**	P	**P**	**09 01 42.8**	**0.0**
	comp=Z,2.8nm,0.9s,baz=331,slow=9.0,SNR=8.0						
KEST	**Kesra**	**36.44**	**161**	LR	LR	09 16 47.8	
	comp=Z,53nm,19.9s,baz=238,slow=37						
BRTR	**Keskin Array B**	**37.03**	**128**	LR	LR	09 18 58.8	
	comp=Z,38nm,18.7s,baz=280,slow=40						
YKA	**Yellowknife Ar**	**38.10**	**315**	P	**P**	**09 01 59.0**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=28,slow=8.6,SNR=5.1						
YKA				PcP	**PcP**	**09 04 13.1**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=20,slow=3.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**39.90**	**67**	P	**P**	**09 02 13.6**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=335,slow=6.4,SNR=3.8						
ILAR	**Eielson Array**	**41.73**	**337**	P	**P**	**09 02 29.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=15,slow=7.5,SNR=4.9						
ILAR				LR	LR	09 24 30.9	
	comp=Z,32nm,18.2s,baz=24,slow=43						
ULM	**Lac du Bonnet**	**43.93**	**292**	LR	LR	09 21 38.9	
	comp=Z,93nm,18.8s,baz=16,slow=37						
MKAR	**Makanchi Array**	**45.44**	**74**	P	**P**	**09 02 59.1**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=339,slow=6.3,SNR=4.7						
MKAR				PcP	**PcP**	**09 04 36.6**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=341,slow=3.2,SNR=4.1						
MKAR				LR	LR	09 24 15.5	
	comp=Z,39nm,18.1s,baz=326,slow=39						
GEYT	**Alibeck**	**45.76**	**102**	LR	LR	09 22 44.2	
	comp=Z,53nm,18.4s,baz=310,slow=37						
SONM	**Songino Array**	**51.40**	**54**	P	**P**	**09 03 44.6**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=324,slow=9.3,SNR=2.2						
PDAR	**Pinedale Array**	**54.68**	**300**	LR	LR	09 25 45.3	
	comp=Z,99nm,18.8s,baz=70,slow=34						
TORD	**Torodi Ar. Bea**	**58.33**	**173**	P	**P**	**09 04 35.1**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=350,slow=6.8,SNR=6.9						
TORD				LR	LR	09 28 56.1	
	comp=Z,28nm,19.1s,baz=330,slow=35						
DBIC	**Dimbokro**	**64.66**	**181**	LR	LR	09 33 19.7	
	comp=Z,50nm,19.1s,baz=333,slow=36						
TXAR	**Lajitas Array**	**65.45**	**289**	P	**P**	**09 05 24.6**	**+1.8**
	comp=Z,0.3nm,0.8s,baz=35,slow=6.5,SNR=3.1						
TXAR				LR	LR	09 34 12.7	
	comp=Z,60nm,19.6s,baz=0.0,slow=36						
KSRS	**Korea Array**	**66.28**	**40**	LR	LR	09 37 21.8	
	comp=Z,20nm,18.1s,baz=20,slow=39						
CMAR	**Chiang Mai Arr**	**76.77**	**72**	P	**P**	**09 06 31.6**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=311,slow=5.9,SNR=3.5						
CMAR				LR	LR	09 47 41.5	
	comp=Z,19nm,19.4s,baz=197,slow=42						
ASAR	**Alice Springs**	**126.66**	**50**	PKP	**PKPdf**	**09 13 41.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=338,slow=1.5,SNR=10.0						

IDC 09 09:02:17.5±3.2, 31°.79S×178°.16W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.8/27, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=71.8km s-min=46.4km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.53**	**210**	Pn	Pn	09 04 07.9	-0.6
	1.3nm,0.3s,baz=264,slow=4.2,SNR=17						
URZ				Sn	Sn	09 05 28.9	-5.7
	0.5nm,0.3s,baz=49,slow=20,SNR=4.9						
ASAR	**Alice Springs**	**42.92**	**268**	P	P	09 10 17.9	-0.3
	0.7nm,0.5s,baz=102,slow=7.6,SNR=12						
WRA	**Warramunga Arr**	**44.03**	**274**	P	P	09 10 27.3	+0.1
	1.1nm,0.3s,baz=111,slow=8.0,SNR=43						
FINES	**FINESS Array B**	**146.40**	**339**	PKPbc	PKPdf	09 21 58.9	+0.5
	1.4nm,0.8s,baz=29,slow=3.2,SNR=4.2						

IDC 09 09:15:49.5±14.0, 17°.95S×64°.69E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/50, mbtmp3.6/6, MS3.4/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=478.9km s-min=28.4km az=59.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**12.74**	**37**	T	T	09 31 06.9	
	baz=215,slow=75,SNR=8.1						
H08S2	**Diego Garcia H**	**12.75**	**38**	T	T	09 31 07.7	
	baz=215,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**12.76**	**37**	T	T	09 31 10.8	
	baz=215,slow=75,SNR=7.5						
H08N3	**Diego Garcia H**	**13.07**	**29**	T	T	09 31 32.9	
	baz=205,slow=75,SNR=35						
H08N1	**Diego Carcia H**	**13.08**	**29**	T	T	09 31 34.7	
	baz=205,slow=75,SNR=38						
H08N2	**Diego Garcia H**	**13.09**	**29**	T	T	09 31 34.4	
	baz=205,slow=75,SNR=47						
PALK	**Pallekele**	**29.63**	**34**	LR	LR	09 30 08.6	
	comp=Z,48nm,21.1s,baz=114,slow=29						
H01W2	**Cape Leeuwin H**	**46.90**	**121**	T	T	10 14 26.3	
	baz=278,slow=75,SNR=6.5						
H01W3	**Cape Leeuwin H**	**46.90**	**121**	T	T	10 14 25.2	
	baz=278,slow=75,SNR=5.8						
H01W1	**Cape Leeuwin H**	**46.92**	**121**	T	T	10 14 29.0	
	baz=278,slow=75,SNR=6.8						
AAK	**Ala-Archa**	**60.96**	**8**	P	P	09 26 05.5	+0.9
	1.5nm,0.9s,baz=187,slow=8.1,SNR=3.5						
ASAR	**Alice Springs**	**64.40**	**108**	P	P	09 26 27.5	-0.5
	0.4nm,0.8s,baz=270,slow=5.6,SNR=7.8						
ASAR				LR	LR	09 51 23.6	
	comp=Z,45nm,18.8s,baz=256,slow=33						
WRA	**Warramunga Arr**	**65.46**	**104**	P	P	09 26 35.5	+0.7
	0.5nm,0.8s,baz=262,slow=5.2,SNR=6.3						
MKAR	**Makanchi Array**	**66.37**	**13**	P	P	09 26 40.0	0.0
	0.3nm,0.7s,baz=216,slow=8.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**69.35**	**9**	P	P	09 26 58.2	-0.5
	0.2nm,0.6s,baz=211,slow=6.4,SNR=4.2						
SONM	**Songino Array**	**75.38**	**28**	P	P	09 27 34.3	-0.7
	0.8nm,0.8s,baz=233,slow=7.2,SNR=4.7						

*IDC **09** 09:23:32.0±0.7, 9°.10N×125°.98E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/47, mbtmp3.8/11, Error ellipse: s-maj=41.9km s-min=15.7km az=75.0*

*ISCJB **09** 09:23:35.9±0.6, 9°.08N±0°.06×126°.55E±0°.05, h35km, mb3.8/11, Error ellipse: s-maj=9.4km s-min=6.8km az=26.1*

*MAN **09** 09:23:37.6, 9°.11N×126°.55E, h56km, MS3.3*

ISC 09 09:23:37.7±0.8, 9°.13N±0°.07×126°.52E±0°.08, h35km, n22, σ1s64/20, mb3.8/11, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.93**	**250⇓**	*i* P	**Pn**	**09 24 10.8**	**+2.8**
CGP				*e*S	**Sn**	**09 24 30.3**	**-0.7**
PLP	**Palo**	**2.53**	**323⇑**	*e*P	**Pn**	**09 24 17.6**	**+1.3**
PLP				*e*S	**Sn**	**09 24 48.2**	**+2.3**
TBP	**Tagbilaran**	**2.68**	**282**	*e*P	**Pn**	**09 24 19.2**	**+0.7**
TBP				*i* S	**Sn**	**09 24 48.8**	**-1.0**
LLP	**Lapu-Lapu**	**2.78**	**295⇓**	*e*P	**Pn**	**09 24 21.4**	**+1.6**
LLP				*e*S	**Sn**	**09 24 52.3**	**+0.1**
RCP	**Roxas**	**4.43**	**303⇑**	*e*P	**Pn**	**09 24 44.8**	**+2.3**
WRA	**Warramunga Arr**	**29.90**	**165**	P	**P**	**09 29 42.5**	**+0.1**
	0.4nm,0.9s,baz=341,slow=8.4,SNR=4.9						
ASAR	**Alice Springs**	**33.38**	**168**	P	**P**	**09 30 13.2**	**+0.1**
	0.3nm,0.4s,baz=346,slow=7.3,SNR=11						
USRK	**Ussuriysk Ar.**	**35.26**	**7**	P	**P**	**09 30 29.4**	**+0.4**
	2.3nm,0.9s,baz=166,slow=12,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**40.02**	**72**	T	T	10 14 10.4	
	baz=262,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**40.03**	**72**	T	T	10 14 08.5	
	baz=262,slow=75,SNR=18						
H11S2	**WAKE ISLAND Hy**	**40.04**	**72**	T	T	10 14 10.5	
	baz=262,slow=75,SNR=23						
KLR	**Kul'dur**	**40.21**	**5**	P	**P**	**09 31 11.2**	**+0.4**
	0.6nm,0.3s,baz=186,slow=5.4,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**40.39**	**70**	T	T	10 14 43.5	
	baz=265,slow=74,SNR=11						
H11N2	**WAKE ISLAND Hy**	**40.40**	**70**	T	T	10 14 43.4	
	baz=265,slow=74,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**40.41**	**70**	T	T	10 14 49.1	
	baz=265,slow=74,SNR=9.7						
STKA	**Stephens Creek**	**43.25**	**161**	P	**P**	**09 31 36.9**	**+1.0**
	0.7nm,0.5s,baz=319,slow=9.3,SNR=2.6						
PETK	**Petropavlovsk-**	**50.57**	**24**	P	**P**	**09 32 34.1**	**+1.3**
	1.1nm,0.6s,baz=219,slow=8.9,SNR=3.9						
MKAR	**Makanchi Array**	**53.08**	**323**	P	**P**	**09 32 50.3**	**-1.4**
	0.7nm,0.6s,baz=119,slow=8.3,SNR=11						
MKAR				PcP	**PcP**	**09 33 58.0**	**-1.8**
	0.4nm,0.8s,baz=112,slow=5.0,SNR=2.8						
KURBB	**Kurchatov Arra**	**57.15**	**326**	P	**P**	**09 33 18.8**	**-2.1**
	0.7nm,0.5s,baz=124,slow=6.9,SNR=7.2						
BVAR	**Borovoye Array**	**62.74**	**326**	P	**P**	**09 33 57.0**	**-2.3**
	0.4nm,0.5s,baz=133,slow=6.3,SNR=2.6						
ARCES	**ARCESS Array B**	**85.34**	**340**	P	**P**	**09 36 09.3**	**-1.6**
	2.2nm,0.8s,baz=46,slow=5.2,SNR=5.1						
FINES	**FINESS Array B**	**87.01**	**332**	P	P	09 36 16.3	-3.0
	1.1nm,0.8s,baz=62,slow=4.5,SNR=4.5						

*ISCJB **09** 09:25:10.3±0.5, 39°.69N±0°.03×29°.47E±0°.05, h0km, Error ellipse: s-maj=5.8km s-min=4.2km az=29.4*

*DDA **09** 09:25:10.3, 39°.70N×29°.47E, h7km±1km, ML2.7*

*ISK **09** 09:25:10.1, 39°.68N×29°.44E, h6km, ML1.9/7, Suspected Mining explosion.*

ISC 09 09:25:09.8±0.9, 39°.72N±0°.04×29°.50E±0°.03, h0km, n13, σ0s39/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.27**	**186**	PG	**Pg**	**09 25 14.8**	**-0.2**
TVSB				SG	**Sg**	**09 25 19.3**	**+0.8**
CAVI	**Cavuskoy**	**0.55**	**28**	PG	**Pb**	**09 25 22.0**	**-0.3**
CAVI				SG	**Sb**	**09 25 31.3**	**+0.6**
GDZ	**Gediz**	**0.63**	**181**	*i* P	**Pg**	**09 25 21.2**	**-0.6**
BORA	**Eskisehir**	**0.75**	**77**	*i* P	**Pb**	**09 25 25.8**	**0.0**
BORA				IAML_P			
	comp=Z,1μm,0.1s						
DURS	**Dursunbey**	**0.80**	**262**	*i* P	**Pg**	**09 25 25.4**	**+0.2**
DURS				*i* S	**Sb**	**09 25 37.5**	**-0.5**
DURS				IAML_P			
	comp=Z,1μm,0.1s						
YLV	**Yalova**	**0.85**	**353**	PG	**Pb**	**09 25 27.5**	**0.0**
DEMI	**Demirci**	**0.91**	**222**	*i* P	**Pg**	**09 25 27.5**	**+0.3**
DEMI				*i* S	**Sn**	**09 25 43.7**	**-0.1**
DEMI				IAML_P			
	comp=Z,588nm,0.1s						
KCTX	**Karacabey (Bur**	**1.03**	**302**	PG	**Pb**	**09 25 30.2**	**-0.4**
GULT	**Gulveren**	**1.05**	**47**	PN	**Pn**	**09 25 31.8**	**-0.1**
USAK	**Uak-Merkez**	**1.07**	**201**	*i* P	**Pg**	**09 25 30.4**	**0.0**
USAK				IAML_P			
	comp=Z,838nm,0.1s						
BALB	**Balikesir**	**1.25**	**267**	PN	**Pg**	**09 25 33.9**	**+0.1**
KHAL	**Karahalli**	**1.35**	**180**	*i* P	**Pb**	**09 25 36.1**	**+0.1**
KHAL				IAML_P			
	comp=Z,241nm,0.2s						
SVRH	**Sivrihisar-ESK**	**1.59**	**99**	PN	**Pg**	**09 25 40.1**	**-0.1**

*SJA **09** 09:43:41.5±0.6, 20°.99S×67°.67W, h206km±12km, ML3.1, MW3.7*

*ISCJB **09** 09:43:43.5±0.5, 20°.92S±0°.05×67°.66W±0°.06, h183km, mb3.5/1, Error ellipse: s-maj=9.1km s-min=5.9km az=142.4*

*IDC **09** 09:43:44.5±3.0, 20°.84S×67°.92W, h177km±19km, mb3.4/1, mb1 3.7/2, mb1mx3.1/23, mbtmp3.8/2, Error ellipse: s-maj=118.9km s-min=10.9km az=100.0*

ISC 09 09:43:43.7±1.0, 20°.94S±0°.06×67°.67W±0°.07, h183km, n12, σ0s93/16, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**1.60**	**299**	*i* P	**Pn**	**09 44 17.7**	**+0.4**
PB01	**IPOC Station P**	**1.70**	**266**	*i* P	**Pn**	**09 44 18.3**	**+0.3**
LVC	**Limon Verde**	**2.03**	**214**	P	**Pn**	**09 44 22.1**	**+0.5**
	1.5nm,0.3s,baz=41,slow=7.6,SNR=20						
LVC				S	**Sn**	**09 44 50.5**	**-0.6**
	3.9nm,0.3s,baz=268,slow=20,SNR=22						
PB02	**IPOC Station P**	**2.11

n24,σ0.99/30, mb3.5/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**2.16**	**84**	*e*Pn	**Pn**	**11 02 36.1**	**+0.3**
TASE				*e*Sn	**Sn**	**11 02 59.6**	**-2.1**
TAFP	**Tanaga Falls P**	**2.20**	**82**	*e*Pn	**Pn**	**11 02 36.2**	**-0.1**
TAFP				*e*Sn	**Sn**	**11 03 00.8**	**-1.7**
KIMD	**Kanaga Island**	**2.65**	**86**	P	**Pn**	**11 02 42.8**	**+0.4**
KIKV	**Kanaga Island**	**2.70**	**83**	*e*Pn	**Pn**	**11 02 43.3**	**+0.2**
KIWB	**Kanaga Island**	**2.71**	**84**	*e*Pn	**Pn**	**11 02 43.2**	**0.0**
KIWB				*e*Sn	**Sn**	**11 03 15.5**	**+0.6**
SMY	**Shemya**	**2.92**	**294**	*e*Pn	**Pn**	**11 02 44.9**	**-1.1**
SMY				*e*Sn	**Sn**	**11 03 21.1**	**+1.2**
ADK	**Adak**	**3.00**	**84**	*e*Pn	**Pn**	**11 02 46.5**	**-0.6**
ADK				*e*Sn	**Sn**	**11 03 21.2**	**-0.7**
ADAG	**Mount Adagdak**	**3.06**	**82**	*e*Pn	**Pn**	**11 02 48.1**	**+0.2**
GSTD	**Great Sitkin T**	**3.34**	**81**	*e*Pn	**Pn**	**11 02 51.8**	**-0.1**
GSTD				*e*Sn	**Sn**	**11 03 30.9**	**+0.4**
GSTR	**Great Sitkin T**	**3.40**	**80**	*e*Pn	**Pn**	**11 02 53.1**	**+0.5**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=90,slow=17,SNR=2.8	**12.79**	**285**	P	**Pn**	**11 05 01.9**	**+1.3**
KDAK	**Kodiak Island** 0.3nm,0.3s,baz=269,slow=3.7,SNR=9.3	**17.70**	**58**	P	**P**	**11 06 02.6**	**-0.6**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=242,slow=8.3,SNR=5.3	**22.11**	**40**	P	**P**	**11 06 52.4**	**+1.5**
KLR	**Kul'dur** 0.7nm,0.7s,baz=85,slow=7.3,SNR=5.8	**29.48**	**284**	P	**P**	**11 07 57.8**	**-1.0**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=281,slow=7.9,SNR=5.0	**36.26**	**46**	P	**P**	**11 08 57.8**	**+0.2**
SONM	**Songino Array** 0.3nm,0.5s,baz=63,slow=8.9,SNR=4.0	**45.01**	**295**	P	**P**	**11 10 10.1**	**+0.1**
NVAR	**Mina Array Bea** 0.7nm,0.9s,baz=327,slow=6.5,SNR=2.2	**45.18**	**81**	P	**P**	**11 10 13.1**	**+1.6**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=293,slow=4.8,SNR=3.9	**47.82**	**71**	P	**P**	**11 10 31.2**	**-0.9**
ARCES	**ARCESS Array B** 3.0nm,0.9s,baz=34,slow=9.8,SNR=2.4	**57.52**	**349**	P	**P**	**11 11 43.7**	**+0.7**
KURBB	**Kurchatov Arra** 1.0nm,0.2s,baz=36,slow=8.2,SNR=5.2	**57.71**	**312**	P	**P**	**11 11 44.3**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=49,slow=6.6,SNR=4.6	**58.53**	**307**	P	**P**	**11 11 49.5**	**-0.9**
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=59,slow=8.6,SNR=4.2	**59.58**	**318**	P	**P**	**11 11 57.9**	**+0.3**
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=294,slow=6.8,SNR=3.4	**60.27**	**79**	P	**P**	**11 12 03.5**	**+0.8**
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=15,slow=5.6,SNR=3.5	**74.75**	**340**	P	**P**	**11 13 31.8**	**-1.8**

SJA 09 11:12:06.7±0.8, 31°.34S×64°.80W, h66km±9km, ML2.0, MW3.8, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.18**	**90**	*i* P	Pn	11 12 17.7	+0.9
TCA				IAML	S	11 12 25.4	+1.1
	comp=Z,46nm,0.6s						
TCA				*i* S	S	11 12 25.4	+1.1
MRA	**San Martin**	**1.33**	**216**	*i* P	Pn	11 12 30.2	+0.8
MRA				*i* S	Sn	11 12 48.7	+2.3
MRA				IAML		11 12 49.5	
	comp=Z,32nm,0.2s						
APLL	**PUNTA DE LOS L**	**1.76**	**302**	*i* P	Pn	11 12 36.8	+1.8
APLL				*i* S	Sn	11 12 58.6	+2.1
APLL				IAML		11 12 58.7	
	comp=Z,14nm,0.2s						

*NEIC **09** 11:15:59.0±0.0, 16°.44N×100°.17W, h20km, MD4.0(MEX), After MEX.*

MEX 09 11:15:59.4±0.7, 16°.44N×100°.16W, h16km±729km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.62**	**350**	*i* P	Pg	11 16 08.9	-2.6
CAIG				*i* S	Sg	11 16 16.6	-3.2
MEIG	**Mezcala**	**1.57**	**19**	*e*P	Pn	11 16 23.2	-3.4
MEIG				*i* S	Sn	11 16 41.9	-4.7
ZIIG	**Zihuatanejo**	**1.71**	**313**	*i* P	Pn	11 16 25.2	-3.3
ZIIG				*i* S	Sn	11 16 45.5	-4.4
ARIG	**Puente Sto Nin**	**1.84**	**354**	*e*P	Pn	11 16 27.8	-2.6
ARIG				*e*S	Sn	11 16 49.1	-4.2
TLIG	**Tlapa**	**1.89**	**53**	*e*Pn	Pn	11 16 29.4	-1.7
TLIG				*e*Sn	Sn	11 16 54.6	0.0
TLIG	**Tlapa**	**1.89**	**53**	*e*P	Pn	11 16 28.0	-3.1
TLIG				*i* S	Sn	11 16 50.1	-4.5
PNIG	**Pinotepa**	**1.95**	**91**	*e*P	Pn	11 16 28.1	-3.7
PNIG				*i* S	Sn	11 16 51.0	-5.0
PLIG	**Platanillo**	**2.04**	**18**	*i* P	Pn	11 16 29.8	-3.3
PLIG				*i* S	Sn	11 16 54.2	-4.1
YAIG	**Yautepec**	**2.62**	**23**	*e*P	Pn	11 16 38.3	-2.9
YAIG				*i* S	Sn	11 17 08.8	-4.1
UNM	**Universidad Na**	**3.02**	**18**	*e*Pn	Pn	11 16 45.5	-1.3
MOIG	**Morelia**	**3.37**	**343**	*e*Pn	Pn	11 16 50.8	-0.8
CCIG	**Comitan**	**7.70**	**90**	*e*Pn	Pn	11 17 51.0	0.0
LNIG	**Linares**	**8.44**	**4**	*e*Pn	Pn	11 18 01.5	+0.4

*DDA **09** 11:18:16.5, 39°.13N×29°.11E, h7km±2km, ML2.5*
*ISK **09** 11:18:16.8, 39°.14N×29°.14E, h5km, ML1.8/5*
*ISCJB **09** 11:18:17.2±0.4, 39°.12N±0°.03×29°.11E±0.04, h9km±4km, Error ellipse: s-maj=5.4km s-min=3.9km az=44.5*

ISC 09 11:18:16.9±1.0, 39°.13N±0°.03×29°.10E±0°.03, h13km±7km, n14, σ0.948/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	**Simav-Kutahya**	**0.10**	**255**	PG	**Pg**	**11 18 19.9**	**0.0**
SMAA				SG	**Sg**	**11 18 22.3**	**+0.3**
SHAP	**Saphane-Kutahy**	**0.14**	**137**	PG	**Pg**	**11 18 20.2**	**-0.3**
GDZ	**Gediz**	**0.30**	**97**	*i* P	**Pg**	**11 18 23.2**	**0.0**
GDZ				*i* S	**Sg**	**11 18 27.6**	**+0.2**
DEMI	**Demirci**	**0.31**	**255**	*i* P	**Pg**	**11 18 23.6**	**+0.3**
DEMI				*i* S	**Sb**	**11 18 28.7**	**-0.7**
DEMI				IAML_P			
	comp=Z,1μm,0.1s						
USAK	**Uak-Merkez**	**0.42**	**189**	*i* P	**Pg**	**11 18 25.1**	**-0.1**
USAK				*i* S	**Sg**	**11 18 31.3**	**+0.5**
USAK				IAML_P			
	comp=Z,3μm,0.2s						
TVSB	**Tavsanli**	**0.43**	**41**	PG	**Pg**	**11 18 24.9**	**-0.6**
TVSB				SG	**Sg**	**11 18 30.4**	**-0.8**
DURS	**Dursunbey**	**0.68**	**315**	*i* P	**Pb**	**11 18 30.9**	**+0.2**
DURS				IAML_P			
	comp=Z,396nm,0.1s						
MANT	**Manisa**	**0.76**	**214**	*i* P	**Pg**	**11 18 31.6**	**-0.1**
MANT				*i* S	**Sg**	**11 18 41.3**	**-0.5**
MANT				IAML_P			
	comp=Z,737nm,0.1s						
KHAL	**Karahalli**	**0.81**	**158**	*i* P	**Pg**	**11 18 33.0**	**+0.3**
KHAL				*i* S	**Sg**	**11 18 42.9**	**-0.5**
KHAL				IAML_P			
	comp=Z,358nm,0.1s						
KZIL	**AFYON_Kizioren**	**1.19**	**136**	*i* P	**Pg**	**11 18 39.9**	**+0.1**
KZIL				IAML_P			
	comp=Z,156nm,0.1s						
CAVI	**Cavuskoy**	**1.22**	**28**	PN	**Pb**	**11 18 40.0**	**+0.1**
CAVI				SN	**Sg**	**11 18 57.4**	**+1.2**
SHUT	**Suhut-Afyon**	**1.27**	**116**	PN	**Pg**	**11 18 41.7**	**+0.3**
BORA	**Eskisehir**	**1.29**	**54**	*i* P	**Pg**	**11 18 41.7**	**0.0**
BORA				*i* S	**Sg**	**11 18 58.8**	**+0.3**
BORA				IAML_P			
	comp=Z,463nm,0.2s						
YLV	**Yalova**	**1.45**	**8**	PN	**Pb**	**11 18 44.1**	**+0.2**

*KRNET **09** 11:19:27.9±0.1, 42°.54N×79°.64E, h17km, mb3.6*
*SOME **09** 11:19:28.0, 42°.50N×79°.67E, h20km*
*NNC **09** 11:19:28.6±0.9, 42°.57N×79°.57E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=6.1km s-min=3.2km az=131.0*
*ISCJB **09** 11:19:29.5±0.7, 42°.54N±0°.04×79°.64E±0°.05, h10km, Error ellipse: s-maj=6.5km s-min=3.0km az=136.1*

ISC 09 11:19:28.0±1.1, 42°.53N±0°.04×79°.58E±0°.04, h10km, n62, σ1.979/98, 28C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 198nm,0.1s	**0.74**	**326**	P	**Pb**	**11 19 42.5**	**-0.7**
UZB				S	**Sb**	**11 19 52.6**	**-0.9**
	356nm,0.2s						
UZB	**Uzynbulak**	**0.74**	**326**	*e*P	**Pb**	**11 19 42.5**	**-0.7**
	baz=23						
UZB				*e*S	**Sb**	**11 19 52.6**	**-0.9**
	baz=23						
UZB	**Uzynbulak** 198nm,0.1s	**0.74**	**326**	*e*P	**Pb**	**11 19 42.5**	**-0.7**
UZB				*e*S	**Sb**	**11 19 52.6**	**-0.9**
	356nm,0.2s						
PDGK	**Podgornoye** 84nm,0.1s	**0.80**	**355**	P	**Pb**	**11 19 43.2**	**-1.0**
PDGK				S	**Sb**	**11 19 53.8**	**-1.4**
	148nm,0.3s						
PDGK	**Podgornoye** 20nm,0.2s	**0.80**	**355**	⇑P	**Pb**	**11 19 43.1**	**-1.0**
PDGK				⇑S	**Sb**	**11 19 53.9**	**-1.2**
	156nm,0.4s						
PDGK	**Podgornoye** baz=52	**0.80**	**355**	⇑*i* P	**Pb**	**11 19 43.2**	**-1.0**
PDGK				⇑*i* S	**Sb**	**11 19 53.9**	**-1.2**
	baz=52						
PRZ	**Przheval'sk** baz=67	**0.88**	**267**	⇓*i* P	**Pb**	**11 19 45.3**	**-0.1**
PRZ				⇓*i* S	**Sb**	**11 19 57.8**	**+0.5**
	baz=67						
SATY	**Saty** 65nm,0.1s	**1.02**	**302**	P	**Pb**	**11 19 47.2**	**-0.6**
SATY				S	**Sb**	**11 20 00.8**	**-0.5**
	363nm,0.1s						
SATY	**Saty** 65nm,0.1s	**1.02**	**302**	*e*P	**Pb**	**11 19 47.2**	**-0.6**
SATY				*e*S	**Sb**	**11 20 00.8**	**-0.5**
	363nm,0.1s						
TARG	**Taragay, Kyrgy** baz=40	**1.55**	**239**	⇓*i* P	**Pg**	**11 19 56.7**	**-1.0**
TARG				⇓*i* S	**Sg**	**11 20 18.1**	**+0.3**
	baz=40						
MNBS	**Baschi** 62nm,0.2s	**1.77**	**331**	P	**Pg**	**11 20 00.8**	**-1.3**
MNBS				S	**Sg**	**11 20 24.7**	**-0.3**
	203nm,0.3s						
MNBS	**Baschi** 62nm,0.2s	**1.77**	**331**	*e*P	**Pg**	**11 20 00.8**	**-1.3**
MNBS				*e*S	**Sg**	**11 20 24.7**	**-0.3**
	203nm,0.3s						
DJR	**Jarkent** 36nm,0.2s	**1.81**	**5**	P	**Pg**	**11 20 01.1**	**-1.6**
DJR				S	**Sg**	**11 20 24.9**	**-1.3**
	98nm,0.2s						
DJR	**Jarkent** 36nm,0.2s	**1.81**	**5**	⇓*i* P	**Pg**	**11 20 01.1**	**-1.6**
DJR				*e*S	**Sg**	**11 20 24.9**	**-1.3**
	98nm,0.2s						
KDJ	**Kajisay** baz=58	**1.83**	**258**	⇑*i* P	**Pg**	**11 20 01.8**	**-1.2**
KDJ				⇑*i* S	**Sg**	**11 20 27.1**	**+0.4**
	baz=58						
KOTS	**Kotyrbulak** 83nm,0.2s	**1.95**	**292**	Pg	**Pg**	**11 20 04.5**	**-0.9**
KOTS				Lg	Lg	11 20 31.0	
	781nm,0.4s						
KOTS	**Kotyrbulak** 83nm,0.2s	**1.95**	**292**	*e*P	**Pg**	**11 20 04.6**	**-0.8**
KOTS				*e*S	**Sg**	**11 20 31.0**	**+0.3**
	781nm,0.4s						
MDOK	**Medeo** 23nm,0.4s	**1.97**	**290**	⇑Pg	**Pb**	**11 20 04.0**	**0.0**
MDOK				⇓Lg	Lg	11 20 29.8	
	268nm,1.0s						
TNSS	**Tian-Shan** 58nm,0.2s	**2.01**	**286**	Pg	**Pg**	**11 20 05.2**	**-1.3**
TNSS				Lg	Lg	11 20 31.9	
	121nm,0.3s						
TNSS	**Tian-Shan** baz=85	**2.01**	**286**	*e*P	**Pg**	**11 20 05.2**	**-1.3**
TNSS				*e*S	**Sg**	**11 20 31.9**	**-0.6**
	baz=85						
TNSS	**Tian-Shan** 58nm,0.2s	**2.01**	**286**	*e*P	**Pg**	**11 20 05.2**	**-1.3**
TNSS				*e*S	**Sg**	**11 20 31.9**	**-0.6**
	121nm,0.3s						
AAA	**Alma-Ata** 84nm,0.2s	**2.08**	**290**	Pg	**Pg**	**11 20 07.2**	**-0.6**
AAA				Lg	Lg	11 20 35.0	
	195nm,0.2s						
ARXS	**Arharly** 28nm,0.2s	**2.12**	**323**	Pg	**Pg**	**11 20 07.0**	**-1.5**
ARXS				Lg	Lg	11 20 34.8	
	230nm,0.5s						
ARXS	**Arharly** 28nm,0.2s	**2.12**	**323**	*e*P	**Pg**	**11 20 07.0**	**-1.5**
ARXS				*e*S	**Sg**	**11 20 34.8**	**-1.2**
	230nm,0.5s						
IZV	**Izvestkoviy** 46nm,0.1s	**2.25**	**284**	Pg	**Pg**	**11 20 09.3**	**-1.8**
IZV				Lg	Lg	11 20 39.0	
	258nm,0.4s						
IZV	**Izvestkoviy** 46nm,0.1s	**2.25**	**284**	*e*P	**Pg**	**11 20 09.3**	**-1.8**
IZV				*e*S	**Sg**	**11 20 39.0**	**-1.2**
	517nm,0.5s						
KTBS	**Karatobe** 20nm,0.2s	**2.43**	**300**	Pg	**Pb**	**11 20 12.0**	**+0.2**
KTBS				Lg	Lg	11 20 43.8	
	337nm,0.2s						
KTBS	**Karatobe** baz=98	**2.43**	**300**	*e*P	**Pb**	**11 20 12.0**	**+0.2**
KTBS				*e*S	**Sg**	**11 20 43.8**	**-2.3**
	baz=98						
KTBS	**Karatobe** 20nm,0.2s	**2.43**	**300**	*e*P	**Pb**	**11 20 12.0**	**+0.2**
KTBS				*e*S	**Sg**	**11 20 43.8**	**-2.3**
	337nm,0.2s						
ULHL	**Ulahol** SNR=113	**2.49**	**265**	P	**Pb**	**11 20 11.7**	**-1.3**
ULHL	**Ulahol** baz=64	**2.49**	**265**	⇓*i* P	**Pb**	**11 20 11.5**	**-1.5**
ULHL				⇓*i* S	**Sb**	**11 20 43.5**	**-0.3**
	baz=64						
TDK	**Taldyqorghan** 107nm,0.3s	**2.62**	**341**	Pg	**Pb**	**11 20 14.9**	**-0.1**
TDK				Lg	Lg	11 20 48.9	
	170nm,0.4s						
TDK	**Taldyqorghan** 107nm,0.3s	**2.62**	**341**	*e*P	**Pb**	**11 20 14.9**	**-0.1**
TDK				*e*S	**Sg**	**11 20 48.9**	**-3.1**
	170nm,0.4s						
BOOM	**Boomskoye usch** baz=70	**2.69**	**270**	⇑*i* P	**Pb**	**11 20 14.4**	**-2.0**
BOOM				⇑*i* S	**Sb**	**11 20 48.2**	**-1.4**
	baz=70						
KST	**Kastek** 45nm,0.2s	**2.71**	**282**	Pg	**Pb**	**11 20 16.6**	**-0.1**
KST				Lg	Lg	11 20 51.8	
	120nm,0.5s						
KST	**Kastek** 45nm,0.2s	**2.71**	**282**	*e*P	**Pb**	**11 20 16.6**	**-0.1**
KST				⇓*i* S	**Sb**	**11 20 51.8**	**+1.7**
	120nm,0.5s						
KUU	**Kurty** 5.4nm,0.2s	**2.74**	**301**	Pg	**Pb**	**11 20 17.6**	**+0.5**
KUU				Lg	Lg	11 20 52.9	
	182nm,0.3s						
KUU	**Kurty** 5.4nm,0.2s	**2.74**	**301**	*e*P	**Pb**	**11 20 17.6**	**+0.5**
KUU				*e*S	**Sg**	**11 20 52.9**	**-3.0**
	182nm,0.3s						
KAPS	**Kapalarasan** 11nm,0.2s	**2.76**	**357**	Pg	**Pb**	**11 20 17.7**	**+0.2**
KAPS				Lg	Lg	11 20 53.3	
	93nm,0.4s						
KAPS	**Kapalarasan** 11nm,0.2s	**2.76**	**357**	*e*P	**Pb**	**11 20 17.7**	**+0.2**
KAPS				*e*S	**Sg**	**11 20 53.3**	**-3.4**
	93nm,0.4s						
NRN	**Naryn** baz=49	**2.89**	**249**	⇑*i* P	**Pb**	**11 20 17.0**	**-2.8**
NRN				⇑*i* S	**Sb**	**11 20 53.2**	**-2.1**
	baz=49						
TKM2	**Tokmak 2** SNR=28	**2.96**	**279**	P	**Pb**	**11 20 19.4**	**-1.6**
TKM2	**Tokmak 2** 19nm,0.7s	**2.96**	**279**	⇑Pg	**Pb**	**11 20 20.5**	**-0.6**
TKM2				⇑Lg	Lg	11 21 00.0	
	62nm,0.6s						
TKM2	**Tokmak 2** baz=79	**2.96**	**279**	⇓*i* P	**Pb**	**11 20 17.9**	**-3.1**
TKM2				⇓*i* S	**Sb**	**11 20 54.5**	**-2.9**
	baz=79						
KZA	**Kyzart** SNR=12	**3.25**	**263**	P	**Pb**	**11 20 24.6**	**-1.4**
	baz=23						
KZA	**Kyzart** baz=63	**3.25**	**263**	⇓*i* P	**Pn**	**11 20 21.8**	**+2.4**
KZA				⇓*i* S	**Sb**	**11 21 01.6**	**-4.1**
	baz=63						
KBK	**Karagaybulak** SNR=20	**3.43**	**274**	P	**Pb**	**11 20 26.0**	**-2.9**
KBK	**Karagaybulak** baz=73	**3.43**	**274**	⇑*i* P	**Pn**	**11 20 24.5**	**+2.9**
KBK				⇑*i* S	**Sn**	**11 21 05.3**	**+2.9**
	baz=73						
CHMS	**Chumysh** baz=79	**3.59**	**279**	⇑*i* P	**Pn**	**11 20 26.3**	**+2.6**
CHMS				⇑*i* S	**Sn**	**11 21 09.2**	**+3.0**
	baz=79						
AAK	**Ala-Archa** 8.6nm,0.8s	**3.76**	**273**	⇓Pn	**Pn**	**11 20 28.2**	**+2.0**
AAK				⇑Lg	Lg	11 21 27.0	
	23nm,0.6s						
AAK	**Ala-Archa** baz=73	**3.76**	**273**	⇑*i* P	**Pn**	**11 20 28.8**	**+2.6**
AAK				⇑*i* S	**Sn**	**11 21 13.3**	**+2.7**
	baz=73						
UCH	**Uchtor** SNR=6.3	**3.77**	**267**	P	**Pb**	**11 20 32.8**	**-2.1**
UCH	**Uchtor** baz=67	**3.77**	**267**	⇓*i* P	**Pn**	**11 20 29.3**	**+2.7**
UCH				⇓*i* S	**Sn**	**11 21 13.9**	**+2.7**
	baz=67						
USP	**Ospenovka** SNR=5.9	**3.81**	**283**	P	**Pb**	**11 20 33.5**	**-1.8**
USP	**Ospenovka** baz=83	**3.81**	**283**	⇑*i* P	**Pn**	**11 20 29.5**	**+2.7**
USP				⇑*i* S	**Sn**	**11 21 14.5**	**+2.9**
	baz=83						
ARLS	**Aral** baz=62	**3.96**	**262**	⇓*i* P	**Pn**	**11 20 31.5**	**+2.5**
ARLS				⇓*i* S	**Sn**	**11 21 18.1**	**+2.4**
	baz=62						
AML	**Almayashu** SNR=5.8	**4.38**	**267**	P	**Pg**	**11 20 48.9**	**-3.1**
MAKZ	**Makanchi** 2.7nm,0.2s	**4.61**	**21**	⇑Pn	**Pn**	**11 20 40.2**	**+2.5**
MAKZ				⇓Sn	**Sn**	**11 21 34.2**	**+2.9**
	1.3nm,0.3s						
MAKZ				⇑Lg	Lg	11 21 53.2	
	4.6nm,0.3s						
MK31	**Makanchi Array** 0.8nm,0.2s,baz=205,slow=12,SNR=91	**4.68**	**23**	⇑Pn	**Pn**	**11 20 41.0**	**+2.2**
MK31				⇑Sn	**Sn**	**11 21 35.0**	**+1.9**
	0.9nm,0.2s,baz=191,slow=15,SNR=4.2						
MK31				⇓Lg	Lg	11 21 56.0	
	1.6nm,0.3s,baz=210,slow=27,SNR=5.7						
KK31	**Karatay Array** 0.9nm,0.4s,baz=87,slow=16,SNR=6.7	**6.70**	**278**	⇓Pg	Pg	11 21 30.0	-6.2
KK31				⇑Lg	Lg	11 22 59.0	
	3.6nm,0.5s,baz=100,slow=29,SNR=12						
OTUK	**Ortayu** 3.7nm,0.6s	**7.66**	**321**	⇓Lg	Lg	11 23 29.1	
KURBB	**Kurchatov Arra** 15nm,0.7s	**8.13**	**355**	⇑Lg	Lg	11 23 45.4	

*ISCJB **09** 11:26:48.5±0.5, 42°.86N±0°.02×17°.40E±0°.02, h3km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=30.9*
*PDG **09** 11:26:49.3±0.4, 42°.90N×17°.44E, h1km, ML3.0/10, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*SAR **09** 11:26:50.8±0.4, 42°.88N×17°.47E, h5km±2km, ML3.0/1*
*PRU **09** 11:26:50.4±0.0, 42°.74N×17°.45E, h10km*
*BEO **09** 11:26:50.7±0.5, 42°.92N×17°.48E, h0km, ML2.9/9*

ISC 09 11:26:48.7±1.2, 42°.84N±0°.02×17°.40E±0°.02, h2km±9km, n85, σ1.933/143, 17C-8D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.22**	**83**	*e*Pg	**Pg**	**11 26 53.7**	**+0.8**
STON				*e*Sg	**Sg**	**11 26 55.2**	**-0.6**
STON	**Ston**	**0.22**	**83**	*i* Pg	**Pg**	**11 26 51.8**	**-1.1**
STON				Sg	**Sg**	**11 26 55.1**	**-0.6**
STON	**Ston**	**0.22**	**83**	*i* Pg	**Pg**	**11 26 51.8**	**-1.1**
STON				Sg	**Sg**	**11 26 55.1**	**-0.7**
STON	**Ston**	**0.22**	**83**	⇓*i* Pg	**Pg**	**11 26 53.9**	**+1.0**
STON				*e*Sg	**Sg**	**11 26 57.0**	**+1.2**
TREB	**Trebinje**	**0.71**	**100**	*e*Pg	**Pg**	**11 27 02.2**	**-0.1**
TREB				*e*Sg	**Sg**	**11 27 11.8**	**+0.3**
TREB	**Trebinje**	**0.71**	**100**	*e*Pg	**Pg**	**11 27 01.9**	**-0.4**
TREB				*e*Sg	**Sb**	**11 27 12.5**	**-1.5**
BRY	**Bratogost**	**0.84**	**86**	⇑*i* Pg	**Pg**	**11 27 03.9**	**-0.8**
BRY				*e*Sg	**Sb**	**11 27 16.9**	**-1.0**
BRY	**Bratogost**	**0.84**	**86**	*e*Pg	**Pg**	**11 27 04.1**	**-0.6**
BRY				*e*Sg	**Sg**	**11 27 16.4**	**+0.8**
HCY	**Herceg Novi**	**0.90**	**116**	⇑*i* Pg	**Pg**	**11 27 06.0**	**+0.1**
HCY				*e*Sg	**Sn**	**11 27 19.9**	**-2.0**
HCY	**Herceg Novi**	**0.90**	**116**	*e*Pg	**Pb**	**11 27 06.8**	**-0.2**
HCY				*e*Sg	**Sb**	**11 27 18.9**	**-0.5**
NKME	**Niksic**	**1.15**	**93**	⇑*i* Pg	**Pb**	**11 27 10.1**	**-1.1**
NKME				*e*Sg	**Sn**	**11 27 27.3**	**-0.8**
NKY	**Niksic**	**1.17**	**91**	⇑*i* Pg	**Pb**	**11 27 10.1**	**-1.6**
NKY				*e*Sg	**Sn**	**11 27 28.5**	**-0.3**
BUM	**Brajici-Budva**	**1.23**	**116**	⇓*i* Pg	**Pn**	**11 27 12.0**	**-1.0**
BUM				*e*Sg	**Sn**	**11 27 31.1**	**+0.9**
PDG	**Podgorica**	**1.43**	**106**	*e*Pn	**Pg**	**11 27 17.4**	**+1.4**
PDG				*e*Sn	**Sg**	**11 27 35.7**	**+1.2**
PDG	**Podgorica**	**1.43**	**106**	⇑*i* P	**Pb**	**11 27 15.7**	**-0.3**
PDG	**Podgorica**	**1.43**	**106**	S	**Sg**	**11 27 35.5**	**+0.9**
PDG	**Podgorica**	**1.43**	**106**	*e*Pg	**Sg**	**11 27 15.8**	**-0.3**
PDG				*e*Sg	**Sg**	**11 27 35.8**	**+1.2**
TTG	**Podgorica**	**1.43**	**106**	⇓*i* Pg	**Pb**	**11 27 15.4**	**-0.6**
TTG				*e*Sg	**Sg**	**11 27 37.5**	**+2.9**
DRME	**Dracevica, Mon**	**1.47**	**116**	⇑*i* Pg	**Pg**	**11 27 16.8**	**-0.1**
DRME				*e*Sg	**Sg**	**11 27 39.6**	**+3.6**
DRME	**Dracevica, Mon**	**1.47**	**116**	*e*Pg	**Pg**	**11 27 16.7**	**-0.1**
DRME				*e*Sg	**Sg**	**11 27 36.8**	**+0.8**
PLE	**Pljevlja**	**1.54**	**71**	⇓*i* Pg	**Pb**	**11 27 17.1**	**-0.8**
PLE				*e*Sg	**Sg**	**11 27 40.4**	**+2.4**
KOME	**Kolasin**	**1.56**	**89**	⇑*i* Pg	**Pb**	**11 27 17.9**	**-0.3**
KOME				*e*Sg	**Sg**	**11 27 41.5**	**+2.9**
ULC	**Ulcinj**	**1.62**	**122**	⇓*i* Pn	**Pb**	**11 27 18.6**	**-0.8**
ULC				*e*Sn	**Sg**	**11 27 45.0**	**+4.2**
HAPS	**Han Pijesak,Bl**	**1.68**	**42**	*e*Pn	**Pn**	**11 27 19.0**	**-0.2**
HAPS				*e*Sn	**Sb**	**11 27 41.6**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.68**	**42**	⇑*i* Pn	**Pn**	**11 27 19.2**	**0.0**
HAPS				*e*Sg	**Sg**	**11 27 42.5**	**-0.1**
BAI	**Bari**	**1.78**	**193**	*e*Pn	**Pn**	**11 27 19.1**	**-1.3**
BAI				Sn	**Sn**	**11 27 42.3**	**-1.3**
BBLS	**Lazići**	**1.78**	**54**	*e*Pn	**Pb**	**11 27 21.8**	**-0.3**
BBLS				*e*Sn	**Sb**	**11 27 44.3**	**-0.7**
BBLS	**Lazići**	**1.78**	**54**	*e*Pn	**Pb**	**11 27 21.2**	**-0.9**

TRUS					*e*Sn	**Sn**	**11 28 03.2**	**-0.4**
GRUS	**Gruza**	**2.63**	**65**		*e*Pn	**Pn**	**11 27 33.4**	**+1.2**
GRUS					*e*Sn	**Sn**	**11 28 05.4**	**+0.7**
FRGS	**Fruska Gora**	**2.89**	**36**		*e*Pn	**Pn**	**11 27 35.7**	**-0.1**
FRGS					*e*Sn	**Sn**	**11 28 10.3**	**-0.9**
FRGS	**Fruska Gora**	**2.89**	**36**		*e*Pn	**Pn**	**11 27 35.9**	**+0.1**
FRGS					*e*Sn	**Sn**	**11 28 11.3**	**+0.1**
BOJS	**Bojanci**	**3.08**	**331**		*e*Pn	**Pn**	**11 27 39.8**	**+1.5**
BOJS					*e*Sn	**Sn**	**11 28 15.9**	**+0.2**
RIY	**Rijeka**	**3.25**	**321**		*e*Pn	**Pn**	**11 27 42.4**	**+1.7**
RIY					*e*Sn	**Sn**	**11 28 21.2**	**+1.2**
CRES	**Cresnjev**	**3.29**	**336**		*e*Pn	**Pn**	**11 27 42.8**	**+1.5**
CRES					*e*Sn	**Sn**	**11 28 21.9**	**+0.9**
CEY	**Cerknica**	**3.60**	**325**		*e*Pn	**Pn**	**11 27 47.0**	**+1.5**
CEY					*e*Sn	**Sn**	**11 28 29.8**	**+1.2**
MDVR	**Moldovita**	**3.67**	**57**	⇑	*i*P	**Pn**	**11 27 47.4**	**+0.9**
MDVR	**Moldovita**	**3.67**	**57**		S	**Sn**	**11 28 29.6**	**-0.9**
STIP	**Stip**	**3.73**	**106**		*i* Pn	**Pn**	**11 27 50.5**	**+3.2**
LJU	**Ljubljana**	**3.80**	**328**		*e*Sn	**Sn**	**11 28 34.4**	**+0.8**
ZAPS	**Zavoj**	**3.86**	**82**		*e*Pn	**Pn**	**11 27 51.2**	**+2.1**
TIH	**Tihany**	**4.07**	**5**		*e*Pn	**Pn**	**11 27 53.1**	**+1.1**
TIH					*e*Sg	**Sg**	**11 29 01.1**	**+1.7**
BZS	**Buzias**	**4.11**	**46**		*e*Pn	**Pn**	**11 27 52.7**	**+0.3**
BZS	**Buzias**	**4.11**	**46**	⇑	*i*P	**Pn**	**11 27 52.7**	**+0.3**
BZS	**Buzias**	**4.11**	**46**		S	**Sn**	**11 28 40.6**	**-0.5**
HERR	**Herculane**	**4.16**	**59**	⇑	*i*P	**Pn**	**11 27 54.3**	**+1.1**
HERR	**Herculane**	**4.16**	**59**		S	**Sn**	**11 28 42.0**	**-0.4**
SOKA	**Soboth**	**4.19**	**337**		*i* Pn	**Pn**	**11 27 54.8**	**+1.2**
	0.9nm,0.2s,SNR=6.7							
SOKA					*e*Sn	**Sn**	**11 28 44.4**	**+1.2**
	5.3nm,0.5s							
OBKA	**Obir**	**4.19**	**332**		*i* Pn	**Pn**	**11 27 55.8**	**+2.1**
	1.2nm,0.2s							
OBKA					*e*Sn	**Sn**	**11 28 46.8**	**+3.5**
	12nm,0.5s							
VTS	**Vitosha**	**4.30**	**91**		*e*Pn	**Pn**	**11 27 56.7**	**+1.4**
VTS	**Vitosha**	**4.30**	**91**	⇑	*i*P	**Pn**	**11 27 55.7**	**+0.4**
SIRR	**Siria**	**4.58**	**40**	⇓	*i*P	**Pn**	**11 27 59.0**	**0.0**
ARSA	**Arzberg**	**4.60**	**344**		*i* Pn	**Pn**	**11 28 01.5**	**+2.2**
	3.9nm,0.3s,SNR=7.9							
ARSA					*i* Sn	**Sn**	**11 28 55.7**	**+2.3**
	4.2nm,0.5s							
GZR	**Gura Zlata**	**4.63**	**55**	⇑	*i*P	**Pn**	**11 28 00.8**	**+1.0**
GZR	**Gura Zlata**	**4.63**	**55**		S	**Sn**	**11 28 54.0**	**-0.2**
KBA	**Koelnbreinsper**	**5.12**	**327**		*i* Sn	**Sn**	**11 29 06.6**	**+0.3**
	1.7nm,0.2s							
CONA	**Conrad Observa**	**5.20**	**349**		*i* Pn	**Pn**	**11 28 09.5**	**+2.0**
	0.6nm,0.2s,SNR=4.1							
CONA					*i* Sn	**Sn**	**11 29 08.6**	**+0.5**
	2.0nm,0.3s							
PSZ	**Piszkesteto**	**5.37**	**18**	⇓	*i*P	**Pn**	**11 28 10.7**	**+0.8**
PSZ	**Piszkesteto**	**5.37**	**18**		*e*Pn	**Pn**	**11 28 09.0**	**-0.8**
PSZ					*e*Sg	**Pg**	**11 28 28.1**	**-3.4**
PSZ					Sn	**Sn**	**11 29 14.1**	**+1.8**
MOA	**Molln**	**5.47**	**337**		*i* Pn	**Pn**	**11 28 14.2**	**+3.0**
	1.7nm,0.2s,SNR=4.3							
MOA					*e*Sn	**Sn**	**11 29 17.0**	**+2.2**
	2.4nm,0.3s							
MODS	**Modra-Piesok**	**5.53**	**359**		*e*PN	**Pn**	**11 28 14.3**	**+2.3**
MODS					*e*SN	**Sn**	**11 29 14.0**	**-2.2**
VYHS	**Vyhne**	**5.74**	**10**		*e*PN	**Pn**	**11 28 16.4**	**+1.5**
VYHS					*e*SN	**Sn**	**11 29 21.2**	**-0.1**
VOIR		**6.08**	**62**	⇑	*i*P	**Pn**	**11 28 21.5**	**+1.8**
VOIR		**6.08**	**62**		S	**Sn**	**11 29 29.8**	**-0.1**
KHC	**Kasperske Hory**	**6.83**	**338**		*e*PN	**Pn**	**11 28 31.1**	**+1.2**
KHC					*e*SN	**Sn**	**11 29 47.9**	**-0.3**

IDC 09 11:27:44.7±8.3,**43°19S**×**41°32E,h0**km,**mb3.8/1, mb1 3.8**/1,**mb1mx3.3**/24,**mbtmp3.8**/1,**Error ellipse: s-maj=497.2km s-min=83.0km az=71.0,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**66.76**	**317**	P	P	11 38 37.9	0.0
	0.5nm,0.6s,baz=156,slow=7.6,SNR=3.8						
TXAR	**Lajitas Array**	**148.81**	**255**	PKPbc	PKPbc	11 47 33.7	-0.5
	0.8nm,0.8s,baz=153,slow=5.0,SNR=8.7						
ULM	**Lac du Bonnet**	**150.16**	**299**	PKPbc	PKPbc	11 47 36.3	-0.5
	0.7nm,0.6s,baz=124,slow=3.6,SNR=3.0						

IDC 09 11:54:04.7±7.0,**42°34S**×**43°63E,h0**km,**mb3.9/1, mb1 3.9**/1,**mb1mx3.3**/30,**mbtmp3.9**/1,**Error ellipse: s-maj=451.7km s-min=79.7km az=67.0,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**67.32**	**315**	P	P	12 05 01.6	+0.1
	1.1nm,1.0s,baz=159,slow=6.7,SNR=4.4						
TXAR	**Lajitas Array**	**150.68**	**254**	PKPbc	PKPbc	12 13 58.6	-0.3
	1.3nm,0.8s,baz=131,slow=5.5,SNR=13						
ULM	**Lac du Bonnet**	**151.22**	**300**	PKPbc	PKPbc	12 13 59.0	-0.4
	0.4nm,0.4s,baz=104,slow=8.3,SNR=3.5						

*ISK **09** 11:59:53.1,37°.10N×32°.36E,h5km,ML2.2/7*
*ISCJB **09** 11:59:54.2±1.0,37°.05N±0°.04×32°.28E±0°.09,h5km±6km, Error ellipse: s-maj=13.0km s-min=4.6km az=154.1*
*DDA **09** 11:59:55.2,37°.10N×32°.41E,h7km±3km,ML2.6*
ISC 09 11:59:55.0±1.6,**37°.07N**±0°.05×**32°.39E**±0°.07,**h6**km±13km, **n14,σ0°55/20,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERMK	**Ermenek**	**0.60**	**135**	*i* P	**Pb**	**12 00 07.9**	**-0.1**
ERMK				*i* S	**Sb**	**12 00 16.9**	**+0.1**
KMER	**Konya-Meram**	**0.70**	**358**	*i* P	**Pg**	**12 00 08.1**	**-0.4**
KMER				IAML_P			
	comp=Z,270nm,0.2s						
KONT	**Konya--Tatoy**	**0.88**	**358**	PG	**Pg**	**12 00 11.4**	**-0.4**
KONT				SG	**Sg**	**12 00 23.3**	**+0.1**
KONT	**Konya--Tatoy**	**0.88**	**358**	*i* P	**Pg**	**12 00 11.2**	**-0.6**
KONT				IAML_P			
	comp=Z,587nm,0.1s						
BERE	**Bereket-Mersin**	**0.98**	**137**	PG	**Pg**	**12 00 13.8**	**-0.1**
BERE				SG	**Sn**	**12 00 29.5**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.05**	**127**	PN	**Pg**	**12 00 15.3**	**0.0**
TEVE				SN	**Sn**	**12 00 31.7**	**+0.2**
TEKE	**Tekeli-Mersin**	**1.09**	**148**	PN	**Pg**	**12 00 15.6**	**-0.4**
TEKE				SN	**Sn**	**12 00 33.0**	**+0.7**
DOGA	**KONYA_Doganhis**	**1.18**	**331**	*i* P	**Pn**	**12 00 18.3**	**0.0**
DOGA				IAML_P			
	comp=Z,666nm,0.2s						
KEBE	**Keben-Mersin**	**1.23**	**120**	PN	**Pb**	**12 00 18.2**	**-0.5**
AKKU	**Akkuyu-Mersin**	**1.30**	**134**	PN	**Pn**	**12 00 19.5**	**-0.2**
KERG	**Konya-Eregli**	**1.43**	**75**	*i* P	**Pn**	**12 00 21.2**	**-0.3**
KERG				*i* S	**Sg**	**12 00 42.3**	**+1.4**
KERG				IAML_P			
	comp=Z,227nm,0.2s						
KDHN	**Kadinhani**	**1.47**	**352**	*i* P	**Pg**	**12 00 23.8**	**+0.7**
KIZK	**Mersin**	**1.52**	**112**	PN	**Pb**	**12 00 23.5**	**-0.2**
GULE	**Gulek**	**1.92**	**83**	*i* P	**Pg**	**12 00 31.1**	**-0.6**
GULE				IAML_P			
	comp=Z,316nm,0.2s						

MEX 09 12:02:43.6±0.6,**15°27N**×**93°28W,h88**km±7km,**MD3.6, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.44**	**8**	*i* P	Pn	12 02 56.5	-1.1
PCIG				*i* S	Sn	12 03 06.0	-2.0
THIG		**1.05**	**110**	*i* P	Pn	12 03 08.1	-1.5
THIG				*i* S	Sn	12 03 17.8	-1.0
CCIG	**Comitan**	**1.50**	**47**	*e*P	Pn	12 03 07.8	-1.5
CCIG				*e*S	Sn	12 03 27.5	-1.3

*SOME **09** 12:06:45.3,41°.85N×80°.25E,h0km*
*KRNET **09** 12:06:46.9±0.1,41°.92N×80°.28E,mb3.3*
*NNC **09** 12:06:46.2±1.4,41°.82N×80°.23E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=9.2km s-min=6.4km az=141.0*
ISC 09 12:06:49.8±1.8,**41°.94N**±0°.07×**80°.23E**±0°.06,**h10**km,**n47, σ1s59/74,29C-9D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.46**	**292**	⇓ *i*P	**Pn**	**12 07 15.2**	**-1.2**
	baz=93						
PRZ				⇓ *i*S	**Sg**	**12 07 35.9**	**-0.9**
	baz=93						
PDGK	**Podgornoye**	**1.49**	**339**	P	**Pn**	**12 07 15.7**	**-1.1**
	15nm,0.1s						
PDGK				S	**Sg**	**12 07 37.8**	**+0.1**
	162nm,0.5s						
PDGK	**Podgornoye**	**1.49**	**339**	⇑ P	**Pn**	**12 07 15.6**	**-1.1**
	16nm,0.4s						
PDGK				⇑ S	**Sg**	**12 07 37.8**	**+0.1**
	259nm,0.6s						
PDGK	**Podgornoye**	**1.49**	**339**	⇓ *i*P	**Pn**	**12 07 15.7**	**-1.1**
	baz=38						
PDGK				⇓ *i*S	**Sg**	**12 07 37.0**	**-0.7**
	baz=38						
UZB	**Uzynbulak**	**1.50**	**324**	P	**Pn**	**12 07 15.9**	**-1.0**
	35nm,0.4s						
UZB				S	**Sg**	**12 07 37.9**	**-0.1**
	254nm,0.5s						
UZB	**Uzynbulak**	**1.50**	**324**	*e*P	**Pn**	**12 07 15.9**	**-1.0**
	35nm,0.4s						
UZB				*e*S	**Sg**	**12 07 37.9**	**-0.1**
	254nm,0.5s						
KTMS	**Ketmen**	**1.50**	**3**	P	**Pn**	**12 07 16.3**	**-0.8**
	34nm,0.2s						
KTMS				S	**Sg**	**12 07 38.7**	**+0.4**
	404nm,0.5s						
KTMS	**Ketmen**	**1.50**	**3**	*e*P	**Pn**	**12 07 16.2**	**-0.8**
	34nm,0.2s						
KTMS				*e*S	**Sg**	**12 07 38.7**	**+0.4**
	404nm,0.5s						
KURS	**Kuram**	**2.16**	**316**	Pg	**Pb**	**12 07 27.7**	**-1.4**
	18nm,0.4s						
KURS				Lg	Lg	12 07 58.0	
	102nm,0.4s						
KURS	**Kuram**	**2.16**	**316**	*e*P	**Pb**	**12 07 27.7**	**-1.4**
	18nm,0.4s						
KURS				*e*S	**Sg**	**12 07 58.0**	**-1.3**
	102nm,0.4s						
KDJ	**Kajisay**	**2.28**	**276**	⇑ *i*P	**Pb**	**12 07 28.6**	**-2.5**
	baz=76						
KDJ				⇑ *i*S	**Sb**	**12 07 59.2**	**-0.2**
	baz=76						
DJR	**Jarkent**	**2.41**	**353**	Pg	**Pb**	**12 07 31.9**	**-1.4**
	5.2nm,0.3s						
DJR				Lg	Lg	12 08 04.3	
	28nm,0.5s						
DJR	**Jarkent**	**2.41**	**353**	*e*P	**Pb**	**12 07 31.3**	**-2.0**
	5.2nm,0.3s						
DJR				*e*S	**Sb**	**12 08 04.3**	**+1.2**
	28nm,0.5s						
MNBS	**Baschi**	**2.52**	**329**	Pg	**Pb**	**12 07 33.3**	**-1.9**
	18nm,0.4s						
MNBS				Lg	Lg	12 08 07.2	
	52nm,0.3s						
MNBS	**Baschi**	**2.52**	**329**	*e*P	**Pb**	**12 07 32.8**	**-2.4**
	18nm,0.4s						
MNBS				*e*S	**Sb**	**12 08 07.2**	**+0.9**
	52nm,0.3s						
KOTS	**Kotyrbulak**	**2.64**	**300**	Pg	**Pb**	**12 07 37.5**	**+0.2**
	16nm,0.4s						
KOTS				Lg	Lg	12 08 14.3	
	56nm,0.3s						
KOTS	**Kotyrbulak**	**2.64**	**300**	*e*P	**Pb**	**12 07 37.1**	**-0.2**
	16nm,0.4s						
KOTS				*e*S	**Sg**	**12 08 14.3**	**-0.2**
	56nm,0.3s						
MDOK	**Medeo**	**2.65**	**298**	⇓Pg	**Pb**	**12 07 35.3**	**-2.1**
	31nm,0.6s						
MDOK				⇑Lg	Lg	12 08 12.5	
	51nm,0.6s						
TNSS	**Tian-Shan**	**2.66**	**295**	Pg	**Pb**	**12 07 36.1**	**-1.7**
	23nm,0.4s						
TNSS				Lg	Lg	12 08 11.5	
	55nm,0.5s						
TNSS	**Tian-Shan**	**2.66**	**295**	*e*P	**Pb**	**12 07 35.7**	**-2.1**
	23nm,0.4s						
TNSS				*e*S	**Sb**	**12 08 11.9**	**+1.2**
	55nm,0.5s						
AAA	**Alma-Ata**	**2.75**	**298**	Pg	**Pb**	**12 07 38.6**	**-0.6**
	16nm,0.1s						
AAA				Lg	Lg	12 08 16.4	
	54nm,0.4s						
AAA	**Alma-Ata**	**2.75**	**298**	*e*P	**Pb**	**12 07 38.3**	**-0.8**
	28nm,0.1s						
AAA				*e*S	**Sg**	**12 08 16.4**	**-1.9**
	54nm,0.4s						
IZV	**Izvestkoviy**	**2.89**	**293**	Pg	**Pb**	**12 07 39.9**	**-1.6**
	9.4nm,0.2s						
IZV				Lg	Lg	12 08 18.4	
	89nm,0.6s						
IZV	**Izvestkoviy**	**2.89**	**293**	*e*P	**Pb**	**12 07 39.5**	**-2.1**
	9.4nm,0.2s						
IZV				*e*S	**Sb**	**12 08 18.4**	**+1.5**
	89nm,0.6s						
ULHL	**Ulahol**	**2.98**	**277**	⇑ *i*P	**Pn**	**12 07 38.2**	**+0.8**
	baz=78						
ULHL				⇑ *i*S	**Sb**	**12 08 16.2**	**-3.5**
	baz=78						
MTBS	**Maitube**	**3.05**	**294**	Pg	**Pb**	**12 07 42.0**	**-2.2**
	10nm,0.4s						
MTBS				Lg	Lg	12 08 22.4	
	38nm,0.3s						
MTBS	**Maitube**	**3.05**	**294**	⇑ *i*P	**Pb**	**12 07 42.0**	**-2.2**
	3.9nm,0.3s						
MTBS				*e*S	**Sb**	**12 08 22.9**	**+1.4**
	38nm,0.3s						
KTBS	**Karatobe**	**3.15**	**305**	Pg	**Pb**	**12 07 44.6**	**-1.3**
	9.0nm,0.4s						
KTBS				Lg	Lg	12 08 26.6	
	34nm,0.6s						
KTBS	**Karatobe**	**3.15**	**305**	*e*P	**Pb**	**12 07 44.4**	**-1.5**
	6.2nm,0.5s						
KTBS				*e*S	**Sb**	**12 08 26.6**	**+2.2**
	34nm,0.6s						
NRN	**Naryn**	**3.21**	**262**	⇑ *i*P	**Pn**	**12 07 41.8**	**+1.2**
	baz=63						
NRN				⇑ *i*S	**Sn**	**12 08 21.6**	**+2.6**
	baz=63						
KST	**Kastek**	**3.34**	**291**	Pg	**Pb**	**12 07 47.3**	**-1.9**
	12nm,0.2s						
KST				Lg	Lg	12 08 31.3	
	52nm,0.6s						
KST	**Kastek**	**3.34**	**291**	*e*P	**Pb**	**12 07 46.6**	**-2.5**
	4.0nm,0.4s						
KST				*e*S	**Sb**	**12 08 30.7**	**+0.7**
	53nm,0.6s						
KAPS	**Kapalarasan**	**3.40**	**350**	Pg	**Pn**	**12 07 44.9**	**+1.9**
	5.4nm,0.2s						
KAPS				Lg	Lg	12 08 27.6	
	28nm,0.8s						
KAPS	**Kapalarasan**	**3.40**	**350**	*e*P	**Pb**	**12 07 49.3**	**-0.9**
	9.2nm,0.4s						
KAPS				*e*S	**Sg**	**12 08 35.5**	**-3.5**
	20nm,0.4s						
KUU	**Kurty**	**3.46**	**306**	Pg	**Pb**	**12 07 50.2**	**-0.9**
	4.4nm,0.3s						
KUU				Lg	Lg	12 08 35.5	
	40nm,0.4s						
KUU	**Kurty**	**3.46**	**306**	*e*P	**Pb**	**12 07 49.4**	**-1.7**
	2.9nm,0.5s						
KUU				⇓ *i*S	**Sb**	**12 08 35.5**	**+2.4**
	51nm,0.3s						
TKM2	**Tokmak 2**	**3.56**	**287**	⇑Pn	**Pn**	**12 07 43.4**	**-1.9**
	3.1nm,0.4s						
TKM2				⇑Lg	Lg	12 08 41.1	
	30nm,0.5s						
TKM2	**Tokmak 2**	**3.56**	**287**	⇑ *i*P	**Pn**	**12 07 46.7**	**+1.3**
	baz=88						
TKM2				⇑ *i*S	**Sn**	**12 08 30.1**	**+2.5**
	baz=88						
KZA	**Kyzart**	**3.71**	**274**	⇑ *i*P	**Pn**	**12 07 48.9**	**+1.3**
	baz=74						
KZA				⇑ *i*S	**Sn**	**12 08 33.8**	**+2.2**
	baz=74						
UCH	**Uchtor**	**4.26**	**276**	⇑ *i*P	**Pn**	**12 07 56.4**	**+1.2**
	baz=76						
UCH				⇑ *i*S	**Sn**	**12 08 46.9**	**+1.7**
	baz=76						
AAK	**Ala-Archa**	**4.31**	**281**	Pg	**Pb**	**12 08 04.6**	**-1.1**
	2.0nm,0.3s						
AAK				⇓Lg	Lg	12 09 03.8	
	20nm,1.0s						
ARLS	**Aral**	**4.41**	**271**	⇑ *e*P	**Pn**	**12 07 57.6**	**+0.7**
	baz=71						
ARLS				⇑ *i*S	**Sn**	**12 08 49.0**	**+0.6**
	baz=71						
MAKZ	**Makanchi**	**5.02**	**14**	⇑Pn	**Pn**	**12 08 05.1**	**-0.1**
	4.9nm,0.8s						
MAKZ				⇑Sn	**Sn**	**12 09 04.8**	**+1.4**
	6.5nm,0.6s						
MAKZ				⇑Lg	Lg	12 09 29.4	
	5.2nm,0.6s						
MK31	**Makanchi Array**	**5.07**	**16**	⇑Pn	**Pn**	**12 08 05.3**	**-0.5**
	1.0nm,0.2s,baz=195,slow=11,SNR=128						
MK31				⇑Sn	**Sn**	**12 09 07.1**	**+2.6**
	5.9nm,0.6s,baz=198,slow=23,SNR=9.5						
MK31				⇓Lg	Lg	12 09 30.8	
	7.5nm,0.6s,baz=154,slow=39,SNR=4.5						
KK31	**Karatay Array**	**7.27**	**282**	⇑Pg	Pb	12 09 00.3	+4.2
	2.2nm,0.8s,baz=96,slow=15,SNR=6.0						
KK31				⇑Lg	Lg	12 10 38.3	
	2.3nm,0.7s,baz=96,slow=26,SNR=6.1						
OTUK	**Ortayu**	**8.41**	**321**	⇑Pn	**Pn**	**12 08 51.7**	**-0.1**
	5.0nm,1.3s						
OTUK				⇓Lg	Lg	12 11 17.1	
	13nm,1.3s						
KURBB	**Kurchatov Arra**	**8.76**	**353**	⇑Lg	Lg	12 11 28.2	
	9.6nm,0.6s						

*DDA **09** 12:16:06.8,37°.38N×42°.54E,h3km±2km,ML2.9*
*ISK **09** 12:16:06.7,37°.42N×42°.58E,h7km,ML2.8/8*
ISC 09 12:16:07.3±1.3,**37°.40N**±0°.05×**42°.55E**±0°.03,**h4**km±10km, **n21,σ0°78/31,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.13**	**320**	PG	**Pg**	**12 16 09.4**	**-0.6**
SIRT				SG	**Sg**	**12 16 13.0**	**+1.2**
SIRN	**Sirnak**	**0.14**	**313**	*i* P	**Pg**	**12 16 10.1**	**-0.1**
SIRN				*i* S	**Sg**	**12 16 13.1**	**+1.0**
SIRN				IAML_P			
	comp=Z,47μm,0.3s						
SRTM	**Siirt_Merkez**	**0.77**	**320**	*i* P	**Pg**	**12 16 22.2**	**+0.1**
SRTM				*i* S	**Sb**	**12 16 33.2**	**-1.1**
SRTM				IAML_P			
	comp=Z,3μm,0.4s						
CUKT	**Cukurca**	**0.86**	**100**	PG	**Pg**	**12 16 23.4**	**-0.5**
CUKT				SG	**Sb**	**12 16 35.6**	**-1.3**
CUKT	**Cukurca**	**0.86**	**100**	*i* P	**Pg**	**12 16 23.8**	**-0.1**
CUKT				*i* S	**Sb**	**12 16 36.9**	**-0.1**
CUKT				IAML_P			
	comp=Z,1μm,0.1s						
AKDM	**Akdamar-Van**	**0.99**	**20**	PG	**Pg**	**12 16 25.4**	**-0.9**
AKDM				SG	**Sg**	**12 16 39.3**	**+0.1**
GEVA	**Gevas**	**1.00**	**24**	*i* P	**Pg**	**12 16 26.1**	**-0.4**
GEVA				IAML_P			
	comp=Z,910nm,0.2s						
BTMN	**Batman**	**1.12**	**296**	*i* P	**Pn**	**12 16 29.3**	**-0.7**
GURO	**Guroymak-BITLI**	**1.22**	**341**	PN	**Pg**	**12 16 30.2**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.30**	**306**	PN	**Pg**	**12 16 32.0**	**-0.4**
SVAN				SN	**Sn**	**12 16 50.4**	**0.0**
SVAN	**Silvan-Diyarba**	**1.30**	**306**	*i* P	**Pb**	**12 16 32.2**	**-0.3**
SVAN				*i* S	**Sn**	**12 16 51.5**	**+1.1**
SVAN				IAML_P			
	comp=Z,2μm,0.3s						
BASK	**Baskale_VAN**	**1.33**	**60**	*i* P	**Pb**	**12 16 33.4**	**+0.4**
BASK				IAML_P			
	comp=Z,813nm,0.2s						
YOVA	**Hakkari_Yksek**	**1.40**	**82**	*i* P	**Pg**	**12 16 33.6**	**-0.6**
YOVA				*i* S	**Sn**	**12 16 54.9**	**+1.9**
YOVA				IAML_P			
	comp=Z,1μm,0.3s						
ADCV	**BITLIS_Adilcev**	**1.41**	**6**	*i* P	**Pg**	**12 16 35.5**	**+1.0**
ADCV				IAML_P			
	comp=Z,563nm,0.2s						
MAZI	**Mazidag**	**1.67**	**273**	PN	**Pn**	**12 16 37.6**	**0.0**
VMUR	**Van-Muradiye**	**1.78**	**27**	*i* P	**Pg**	**12 16 41.3**	**-0.2**
VMUR				IAML_P			
	comp=Z,197nm,0.3s						
VRTB	**Varto-Mus**	**1.96**	**334**	PN	**Pn**	**12 16 41.7**	**+0.2**
VRTB	**Varto-Mus**	**1.96**	**334**	*i* P	**Pn**	**12 16 41.9**	**+0.3**
VRTB				*i* S	**Sg**	**12 17 10.9**	**+0.7**
HANI	**Diyarbakir_Han**	**1.98**	**302**	*i* P	**Pg**	**12 16 45.2**	**0.0**
HANI				IAML_P			
	comp=Z,687nm,0.2s						
TUTA	**Tutak**	**2.01**	**6**	*i* P	**Pb**	**12 16 43.7**	**-0.9**
TUTA				IAML_P			
	comp=Z,585nm,0.3s						
AGRB	**Hanur-Agry**	**2.20**	**9**	PN	**Pn**	**12 16 44.5**	**-0.4**

*NIED **09** 12:16:00,43°.20N×144°.80E,h95km,Mw5.0 Best double couple: M0 3.18000×10^16 NP1:φs69.00000°,δ25.00000°, λ-103.00000°. NP2:φs264.00000°,δ65.00000°, λ-84.00000°*
*BJI **09** 12:16:29.0,43°.35N×144°.93E,h86km,mb5.0/72,mB5.0/43, Ms4.5/45,Ms7 4.2/42*
*ISCJB **09** 12:16:32.3±0.1,43°.11N±0°.02×144°.76E±0°.02, h104km±1km,mb5.0/344,Error ellipse: s-maj=2.8km s-min=1.7km az=143.8*
*MOS **09** 12:16:32.8±0.9,43°.18N×144°.74E,h106km,mb5.2/74, Error ellipse: s-maj=5.5km s-min=3.8km az=96.0*
MOS Felt (II) at Yuzhno-Kuril'sk.
*SKHL **09** 12:16:32.9±0.6,43°.09N×144°.75E,h103km±1km,mb5.3/4, Ms4.3/2,msh5.2/3*
SKHL Felt (II) at Yushno-Kuril'sk.
*IDC **09** 12:16:33.7±0.4,43°.24N×144°.68E,h97km±3km,mb4.7/34, mb1 4.8/41,mb1mx4.8/47,mbtmp5.1/41,MS3.6/22, Ms1 3.6/22,ms1mx3.5/36,Error ellipse: s-maj=8.9km s-min=7.0km az=130.0*
*JMA **09** 12:16:33.4±0.1,43°.13N×144°.77E,h101km±1km,M5.0 Broadband fault plane solution: P waves. NP1: φs244.00000°,δ66.00000°,λ-87.00000°. NP2:φs57.00000°, δ24.00000°,λ-97.00000°. Principal axes: T Plg21.0000°, Azm332.0000°; N Plg3.0000°, Azm63.0000°; P Plg69.0000°, Azm160.0000°;*
JMA Felt III J1.
*NEIC **09** 12:16:33.6±0.1,43°.17N×144°.72E,mb4.9/227 Error ellipse: s-maj=3.0km s-min=1.7km az=143.0*
NEIC Recorded [3 JMA] in eastern and southeastern Hokkaido.
*GCMT **09** 12:16:34.6±0.2,43°.22N±0°.02×144°.73E±0°.02,h96km±2km, MW5.0/93,Moment Tensor Solution. s45,c55; s93,c139; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.63±.13; Mθθ2.58±.13; Mφφ0.05±.11; Mrθ2.74±.08; Mrφ1.13±.14; Mθφ0.31±.08; Best double couple: M0 3.95100×10^16 NP1:φs260.00000°,δ67.00000°,λ-81.00000°. NP2: φs57.00000°,δ24

GLVR pmax pmax
comp=E,9µm,0.5s
GLVR pmax pmax
comp=N,4µm,0.3s
GLVR smax smax
comp=N,80µm,0.4s
GLVR smax smax
comp=E,101µm,0.4s
JRA Rausu 0.83 21 ⇓P **Pn 12 16 52.4 +0.6**
JRA *e*S **Sn 12 17 06.9 +1.2**
JTKR Abashiri--Toko 1.00 324 ⇓P **Pn 12 16 54.8 +1.2**
JTKR *e*S **Sn 12 17 10.6 +1.7**
GRPR Tuman 1.13 42 *i*P AMB AMB 12 16 57.0
GRPR comp=E,1µm,0.5s
*i*S **Sn 12 17 12.0 +0.6**
GRPR A A 12 17 15.0
comp=E,4µm,0.6s
GRPR A A 12 17 15.0
comp=E,10µm,0.6s
GRPR Tuman 1.13 42 ⇑*i*PN **Pn 12 16 55.7 +0.7**
GRPR *i*S **Sn 12 17 12.1 +0.6**
GRPR pmax pmax
comp=Z,12µm,0.5s
GRPR pmax pmax
comp=N,5µm,0.2s
GRPR pmax pmax
comp=E,8µm,0.2s
GRPR smax smax
comp=N,37µm,0.6s
GRPR smax smax
comp=E,97µm,0.6s
JCH Churui 1.14 242 ⇓P **Pn 12 16 55.9 +0.8**
JCH *e*S **Sn 12 17 11.9 +0.2**
LAGR Lagunnoye 1.18 41 *i*P AMB AMB 12 16 57.0
LAGR comp=E,997nm,0.3s
AMB AMB 12 16 57.0
comp=E,1µm,0.3s
LAGR AMB AMB 12 16 57.0
comp=E,2µm,0.3s
LAGR *i*S **Sn 12 17 14.0 +1.5**
LAGR A A 12 17 16.0
comp=E,9µm,0.5s
LAGR A A 12 17 16.0
comp=E,4µm,0.5s
LAGR Lagunnoye 1.18 41*d i*PN **Pn 12 16 56.9 +1.3**
LAGR *i*S **Sn 12 17 14.6 +2.1**
LAGR pmax pmax
comp=Z,19µm,0.5s
LAGR pmax pmax
comp=N,997nm,0.3s
LAGR pmax pmax
comp=E,1µm,0.1s
LAGR smax smax
comp=N,87µm,0.5s
LAGR smax smax
comp=E,44µm,0.4s
HRK Horoka 1.20 285 *e*P **Pn 12 16 57.0 +1.1**
HRK *e*S **Sn 12 17 14.4 +1.4**
YUK Yuzh-Kuril'sk 1.20 43 *i*P AMB AMB 12 16 58.0
YUK comp=E,2µm,0.5s
YUK *i*S **Sn 12 17 13.4 +0.4**
YUK A A 12 17 15.0
comp=E,6µm,0.5s
YUK A A 12 17 15.0
comp=E,4µm,0.5s
YUK Yuzh-Kuril'sk 1.20 43*d i*PN **Pn 12 16 56.7 +0.8**
YUK *i*S **Sn 12 17 14.0 +1.0**
YUK pmax pmax
comp=Z,19µm,0.5s
YUK pmax pmax
comp=N,5µm,0.2s
YUK pmax pmax
comp=E,4µm,0.1s
YUK smax smax
comp=N,67nm,0.7s
YUK smax smax
comp=E,36nm,0.4s
JMP Maruseppu 1.30 311 ⇓P **Pn 12 16 58.1 +1.1**
JMP *e*S **Sn 12 17 16.5 +1.5**
JFR Furan 1.55 271 ⇓P **Pn 12 17 00.9 +0.8**
JFR *e*S **Sn 12 17 21.4 +0.8**
JKK2 Kamakawa 2 1.60 297 ⇓P **Pn 12 17 02.1 +1.4**
JKK2 *e*S **Sn 12 17 23.0 +1.5**
JEM Erimo 1.63 226 P **Pn 12 17 01.1 +0.1**
ERM Erimo 1.63 226 *e*Pn **Pn 12 17 01.7 +0.7**
ERM *e*Sn **Sn 12 17 22.1 -0.1**
ERM Erimo 1.63 226 *e*P **Pn 12 17 01.5 +0.5**
ERM Erimo 1.63 226*ce*PN **Pn 12 17 01.5 +0.5**
ERM pmax pmax
comp=Z,3µm,0.6s
SHO Shikotan 1.69 65 *i*P **Pn 12 17 01.0 -0.8**
SHO AMB AMB 12 17 02.0
comp=Z,487nm,0.2s
SHO AMB AMB 12 17 02.0
comp=Z,274nm,0.2s
SHO AMB AMB 12 17 02.0
comp=Z,1µm,0.2s
SHO *i*S **Sn 12 17 22.0 -1.5**
SHO A A 12 17 24.0
comp=Z,2µm,0.4s
SHO A A 12 17 24.0
comp=Z,1µm,0.4s
SHO Shikotan 1.69 65 ⇓*i*PN **Pn 12 17 01.8 0.0**
JNBK Urakawa-nobuka 1.70 239 ⇓P **Pn 12 17 01.9 0.0**
JNBK *e*S **Sn 12 17 22.3 -1.4**
JBT2 Biratori 2 1.77 258 ⇓P **Pn 12 17 03.3 +0.5**
JBT2 *e*S **Sn 12 17 25.8 +0.4**
JKA Kamikawa-asahi 1.81 302 *e*P **Pn 12 17 05.7 +2.4**
ASAJ Asahikawa 1.81 302 P **Pn 12 17 05.7 +2.3**
comp=Z,1µm,0.3s,baz=145,slow=10
ASAJ S **Sn 12 17 28.8 +2.6**
comp=Z,268nm,0.3s,baz=263,slow=18,SNR=33
ASAJ LR LR 12 17 47.1
comp=Z,4µm,21.7s,baz=25,slow=42
KUR Kuril'sk 3.07 46 *i*P **Pn 12 17 21.1 +1.3**
KUR AMB AMB 12 17 31.9
comp=Z,2µm,1.0s
KUR AMB AMB 12 17 34.7
comp=Z,560nm,0.7s
KUR AMB AMB 12 17 34.7
comp=Z,399nm,0.7s
KUR AMB AMB 12 17 34.7
comp=Z,1µm,0.7s
KUR *i*S **Sn 12 17 56.3 +0.6**
KUR A A 12 17 59.0
comp=Z,2µm,2.0s
KUR A A 12 17 59.0
comp=Z,1µm,2.0s
KUR A A 12 18 04.0
comp=Z,3µm,0.4s
KUR A A 12 18 04.0
comp=Z,2µm,0.4s
KUR Kuril'sk 3.07 46*c i*PN **Pn 12 17 21.4 +1.6**
KUR *i*S **Sn 12 17 58.0 +2.3**
KUR pmax pmax
comp=Z,3µm,1.2s
KUR pmax pmax
comp=Z,1µm,0.8s
KUR pmax pmax
comp=E,399nm,0.5s
KUR pmax pmax
comp=N,557nm,0.6s
KUR smax smax
comp=N,16µm,1.9s
KUR smax smax
comp=E,13µm,1.7s
KUR smax smax
comp=N,3µm,0.5s
KUR smax smax
comp=E,2µm,0.4s
JAHD Aomorihigashid 3.15 234 ⇑P **Pn 12 17 21.2 +0.3**
JOT Ohata 3.25 238 P **Pn 12 17 22.4 +0.1**
YSS Yuzh-Sakhalins 4.04 341 *i*P **Pn 12 17 34.4 +1.6**
YSS AMB AMB 12 17 35.0
comp=E,390nm,1.0s
YSS AMB AMB 12 17 36.4
comp=E,500nm,9.0s
YSS *e*S **Sn 12 18 20.0 +0.9**
YSS AMS AMS 12 19 22.0
comp=E,2µm,13.0s
YSS Yuzh-Sakhalins 4.04 341α *i*PN **Pn 12 17 34.4 +1.6**
YSS *e*S **Sn 12 18 18.9 -0.2**
YSS pmax pmax
comp=Z,390nm,1.1s
YSS pmax pmax
comp=Z,500nm,9.1s
YSS smax smax
comp=N,590nm,1.0s
YSS smax smax
comp=E,410nm,0.8s
YSS smax smax
comp=N,2µm,13.6s
YSS smax smax
comp=E,1µm,13.6s
YSS MLR MLR
comp=Z,1µm,14.0s
YSS MLR MLR
comp=N,1µm,12.3s
JKZ Kuzumaki 4.07 220 ⇑P **Pn 12 17 32.3 -1.1**
MIYJ Miyakonagasawa 4.20 212 P **Pn 12 17 33.5 -1.5**
JAH Hinai 4.26 227 P **Pn 12 17 35.8 -0.2**
JSZI Iwateshizukuis 4.44 221 ⇑P **Pn 12 17 37.8 -0.5**
JSZI S **Sn 12 18 25.9 -3.0**
OFUJ Ofunato 4.68 210 ⇑P **Pn 12 17 40.2 -1.5**
JMK Ichinoseki 4.97 213 ⇑P **Pn 12 17 44.2 -1.3**
JIO Ouri 5.35 210 P **Pn 12 17 48.8 -1.9**
JYYZ Yamagatayuza 5.50 223 P **Pn 12 17 53.5 +0.8**
JOU Okura 5.70 214 ⇑P **Pn 12 17 54.2 -1.2**
JYA Atsumi 5.94 221 ⇑P **Pn 12 17 58.4 -0.2**
TEY Ternei 6.14 291 *e*P **Pn 12 18 02.4 +1.1**
TEY AMB AMB 12 18 03.5
comp=N,120nm,0.9s
TEY *e*S **Sn 12 19 12.6 +2.6**
TEY A A 12 19 13.6
comp=N,70nm,1.0s
TEY Ternei 6.14 291 ⇓*e*PN **Pn 12 18 02.4 +1.1**
TEY *e*S **Sn 12 19 12.6 +2.6**
TEY pmax pmax
comp=N,400nm,0.9s
TEY pmax pmax
comp=E,130nm,0.9s
TEY pmax pmax
comp=Z,120nm,0.9s
TEY smax smax
comp=N,70nm,1.0s
UGL Uglegorsk 6.20 344 *i*P **Pn 12 18 03.6 +1.5**
UGL AMB AMB 12 18 05.0
comp=N,200nm,0.9s
UGL AMB AMB 12 18 05.0
comp=N,400nm,0.9s
UGL AMB AMB 12 18 05.0
comp=N,800nm,0.9s
UGL *e*S **Sn 12 19 12.5 +1.1**
UGL A A 12 19 19.0
comp=N,2µm,3.0s
UGL A A 12 19 19.0
comp=N,860nm,3.0s
UGL AMS AMS 12 21 23.0
comp=N,1µm,13.0s
UGL AMS AMS 12 21 23.0
comp=N,1µm,13.0s
UGL AMS AMS 12 21 23.0
comp=N,2µm,13.0s
UGL Uglegorsk 6.20 344 ⇑*i*PN **Pn 12 18 03.5 +1.5**
UGL *e*S **Sn 12 19 10.3 -1.1**
UGL pmax pmax
comp=Z,828nm,0.9s
UGL pmax pmax
comp=E,351nm,0.9s
UGL pmax pmax
comp=N,239nm,1.0s
UGL smax smax
comp=E,228nm,1.0s
UGL MLR MLR
comp=Z,2µm,12.0s
UGL MLR MLR
comp=N,1µm,10.0s
UGL MLR MLR
comp=E,1µm,18.0s
JAW Awa shima 6.27 223 P **Pn 12 18 03.3 +0.1**
JYAR Yonezawaarcadi 6.30 215 P **Pn 12 18 02.8 -0.7**
JNS Sasagawa 6.74 219 P **Pn 12 18 09.5 -0.1**
JIZZ Izumozaki 7.26 221 ⇓P **Pn 12 18 17.4 +0.8**
JHO Hitachi 7.28 207 P **Pn 12 18 14.7 -2.2**
JHK Hiroka 7.34 218 ⇑P **Pn 12 18 17.2 -0.6**
JHYU Hitachinakayam 7.52 206 P **Pn 12 18 17.9 -2.3**
JKT Katashina 7.64 215 P **Pn 12 18 21.8 -0.2**
TYV Tymovskoe 7.83 350 *e*P **Pn 12 18 24.6 +0.3**
TYV AMB AMB 12 18 27.0
comp=E,39nm,1.0s
TYV *e*S **Sn 12 19 48.5 -2.7**
TYV Tymovskoe 7.83 350 *e*PN **Pn 12 18 24.6 +0.3**
TYV pmax pmax
comp=Z,39nm,1.1s
JAG Ashikaga 7.85 213 P **Pn 12 18 23.3 -1.4**
JJN Nakama 7.86 222 P **Pn 12 18 25.5 +0.7**
MJB9 Matsu-Tunnel 8.29 219 *e*Pn **Pn 12 18 30.3 -0.4**
MAJO Matsushiro 8.29 219 *e*Pn **Pn 12 18 30.5 -0.1**
MAJO *e*Sn **Sn 12 19 59.9 -2.7**
MAJO Matsushiro 8.29 219 *e*P **Pn 12 18 30.6 -0.1**
MAJO Matsushiro 8.29 219 *i*PN **Pn 12 18 30.6 -0.1**
MAJO pmax pmax
comp=Z,130nm,0.7s
MAJO Matsushiro 8.29 219 *e*P **Pn 12 18 30.4 -0.3**
MAT Matsushiro 8.29 219 P **Pn 12 18 30.2 -0.5**
MAT S **Sn 12 19 59.2 -3.5**
MAT Matsushiro 8.29 219 P **Pn 12 18 30.2 -0.5**
MJAR Matsushiro Arr 8.29 219 P **Pn 12 18 30.6 -0.1**
comp=Z,1.5nm,0.3s,baz=28,slow=12,SNR=115
MJAR S **Sn 12 19 57.7 -5.0**
comp=Z,0.5nm,0.3s,baz=72,slow=11,SNR=3.0
MJAR LR LR 12 22 32.6
comp=Z,515nm,19.2s,baz=40,slow=43
JRY Ryogami san 8.43 214 P **Pn 12 18 31.2 -1.4**
JNG Nsakai 8.45 219 P **Pn 12 18 32.6 -0.4**
JOD2 Odawara 2 9.02 211 P **Pn 12 18 38.0 -2.6**
USA0B Ussuriysk Arra 9.28 281 *e*Pn **Pn 12 18 45.6 +1.5**
USA0B Ussuriysk Arra 9.28 281 *e*PN **Pn 12 18 45.6 +1.5**
USRK Ussuriysk Ar. 9.28 281 P **Pn 12 18 45.4 +1.3**
comp=Z,1.3nm,0.3s,baz=86,slow=16,SNR=13
USRK LR LR 12 22 14.8
comp=Z,424nm,21.0s,baz=79,slow=37
VLA Vladivostok 9.38 274 *e*P **Pn 12 18 48.0 +2.5**
VLA Vladivostok 9.38 274 ⇓*i*PN **Pn 12 18 48.0 +2.5**
VLA pmax pmax
comp=Z,102nm,1.1s
GRNR Gornyy 9.48 326 *e*P **Pn 12 18 47.9 +1.1**
GRNR AMB AMB 12 18 50.2
comp=Z,600nm,1.0s
GRNR AMB AMB 12 18 50.2
comp=Z,57nm,1.0s
GRNR AMB AMB 12 18 50.2
comp=Z,510nm,1.0s
GRNR Gornyy 9.48 326 *e*PN **Pn 12 18 47.9 +1.1**
GRNR *e* 12 20 37.2
GRNR pmax pmax
comp=N,600nm,1.0s
GRNR pmax pmax
comp=E,57nm,1.0s
GRNR pmax pmax
comp=Z,510nm,1.0s
INU Inuyama 9.82 220 *e*Pn **Pn 12 18 50.9 -0.6**
INU *e*Sn **Sn 12 20 35.9 -3.9**
NKL Nikolayevsk 10.35 346 *e*P **Pn 12 18 58.0 -0.5**
NKL AMB AMB 12 19 01.0
comp=Z,1µm,7.0s
NKL AMB AMB 12 19 01.4
comp=Z,140nm,1.0s
NKL AMB AMB 12 19 01.4
comp=Z,180nm,1.0s
NKL AMB AMB 12 19 01.4
comp=Z,360nm,1.0s
NKL AMS AMS 12 23 46.0
comp=Z,700nm,15.0s
NKL AMS AMS 12 23 46.0
comp=Z,1µm,15.0s
NKL Nikolayevsk 10.35 346 *e*PN **Pn 12 18 58.0 -0.5**
NKL pmax pmax
comp=Z,1µm,7.0s
NKL pmax pmax
comp=N,140nm,1.0s
NKL pmax pmax
comp=E,180nm,1.0s
NKL pmax pmax
comp=Z,360nm,1.0s
NKL MLR MLR
comp=N,700nm,15.0s
NKL MLR MLR
comp=Z,1µm,15.0s
OKH Okha 10.46 354 *e*P **Pn 12 18 57.7 -2.3**
OKH AMB AMB 12 19 03.1
comp=Z,200nm,8.0s
OKH AMS AMS 12 24 32.1
comp=Z,500nm,13.0s
JHJ2 Mitsune 10.75 203 *e*Pn **Pn 12 19 01.9 -2.2**
JHJ2 *e*Sn **Sn 12 20 53.8 -8.6**
JHJ Hachijo jima 2 10.75 203 P **Pn 12 19 01.3 -2.9**
comp=Z,41nm,0.3s,baz=79,slow=20,SNR=14
JHJ S Sn 12 20 52.7 -10
comp=Z,171nm,0.3s,baz=227,slow=21,SNR=13
SKR Severo-Kuril's 10.82 42 *e*PN Pn 12 18 50.8 -14
KLR Kul'dur 10.84 309 *e*P **Pn 12 19 06.3 +1.1**
KLR Kul'dur 10.84 309*c i*PN **Pn 12 19 06.3 +1.1**
KLR Kul'dur 10.84 309 P **Pn 12 19 06.5 +1.4**
comp=Z,1.1nm,0.3s,baz=114,slow=14,SNR=45
KLR LR LR 12 24 00.8
comp=Z,438nm,18.1s,baz=124,slow=42
KLR PcP **PcP 12 24 57.9 +1.4**
comp=Z,0.4nm,0.3s,baz=47,slow=3.7,SNR=4.7
KLR ScP **ScP 12 28 20.2 +0.5**
comp=Z,0.1nm,0.3s,baz=28,slow=0.9,SNR=3.9
MDJ Mudanjiang 11.02 283 P **Pn 12 19 06.5 -1.1**
MDJ sP 12 19 29.3
MDJ pmax pmax
comp=Z,33nm,1.0s
MDJ pmax pmax
comp=Z,150nm,3.9s
MDJ Mudanjiang 11.02 283 *e*Pn **Pn 12 19 07.1 -0.6**
EKMR Ekimchan 12.63 326 *e*P **Pn 12 19 28.0 -1.2**
EKMR AMB AMB 12 19 38.9
comp=Z,50nm,0.9s
PEA0B Petropavlovsk- 13.17 36 *e*Pn **Pn 12 19 34.0 -2.2**
PEA0B Petropavlovsk- 13.17 36 *e*PN **Pn 12 19 34.0 -2.2**
PETK Petropavlovsk- 13.17 36 *e*Pn **Pn 12 19 33.7 -2.6**
PETK Petropavlovsk- 13.17 36 P **Pn 12 19 33.9 -2.4**
comp=Z,3.5nm,0.3s,baz=204,slow=11,SNR=36
PEA1 Petropavlovsk- 13.18 36 *e*Pn **Pn 12 19 33.9 -2.4**
PET Petropavlovsk 13.54 38 *e*Pn **Pn 12 19 38.7 -2.4**
PET Petropavlovsk 13.54 38 *e*P **Pn 12 19 41.6 +0.6**
PET AMB AMB 12 19 42.1
comp=Z,19nm,0.4s
PET AMS AMS 12 24 21.4
comp=Z,290nm,18.0s
PET Petropavlovsk 13.54 38 *e*P **Pn 12 19 41.6 +0.6**
PET *e*S **Sn 12 22 10.5 +0.7**
PET pmax pmax
comp=Z,20nm,0.4s
PET MLR MLR
comp=Z,300nm,18.0s
CN2 Changchun 14.01 279 *e*P **Pn 12 19 47.1 -0.1**
CN2 *e*pP P 12 20 00.3 +8.4
CN2 *e*S **Sn 12 22 20.4 -0.9**
CN2 pmax pmax
comp=Z,70nm,0.9s
CN2 LR LR
comp=Z,390nm,14.0s
CN2 LR LR
comp=Z,360nm,14.0s
CN2 LR LR
comp=Z,300nm,15.0s
KSRS Korea Array 14.02 252 *e*P **Pn 12 19 47.0 -0.4**
KSRS Korea Array 14.02 252 P **Pn 12 19 47.0 -0.4**
comp=Z,0.4nm,0.3s,baz=62,slow=12,SNR=18
KSRS S **S 12 22 30.3 -6.0**
comp=Z,1.1nm,0.3s,baz=66,slow=24,SNR=11
KSRS LR LR 12 24 33.5
comp=Z,223nm,20.3s,baz=66,slow=34
KSRS PcP **PcP 12 25 01.9 +1.5**
comp=Z,0.0nm,0.3s,baz=8.1,slow=0.7,SNR=7.9
KS01 Wonju Array Si 14.03 252 *e*Pn **Pn 12 19 46.3 -1.2**
KS01 *e*PcP **PcP 12 25 01.6 +1.2**
KS15 Wonju Array Si 14.05 252 *e*Pn **Pn 12 19 46.6 -1.1**
JNU Nakatsue 14.78 232 *e*Pn **Pn 12 19 56.7 -0.6**
JNU Nakatsue 14.78 232 P **Pn 12 19 56.3 -0.9**
comp=Z,0.4nm,0.3s,baz=24,slow=7.6,SNR=4.9
JNU LR LR 12 26 33.2
comp=Z,84nm,20.4s,baz=18,slow=40
TJN Taejon 14.95 249*ce*P **Pn 12 20 00.0 +0.7**
BMKR Bomnak 15.52 324 *e*P **Pn 12 20 04.5 -1.8**
BMKR AMB AMB 12 20 09.8
comp=Z,96nm,0.8s
ZEA Zeya 15.65 319 *e*P **Pn 12 20 06.6 -1.3**
ZEA AMB AMB 12 20 10.4
comp=Z,110nm,0.8s
ZEA AMB AMB 12 20 10.4
comp=Z,100nm,0.8s
ZEA AMB AMB 12 20 10.4
comp=Z,190nm,0.8s
ZEA *e*S Sn 12 22 47.0 -14
ZEA A A 12 23 13.0
comp=Z,400nm,10.0s
ZEA A A 12 23 13.0
comp=Z,200nm,10.0s
ZEA AMS AMS 12 26 07.0
comp=Z,400nm,13.0s
ZEA Zeya 15.65 319 *e*P **Pn 12 20 06.6 -1.3**
ZEA *e*S **Sn 12 23 04.0 +3.3**
ZEA pmax pmax
comp=N,110nm,0.8s
ZEA pmax pmax
comp=E,100nm,0.8s
ZEA pmax pmax
comp=Z,190nm,0.8s
ZEA smax smax
comp=N,400nm,10.0s
ZEA smax smax
comp=E,200nm,10.0s
ZEA MLR MLR
comp=Z,400nm,13.0s
CBIJ Chichi jima 16.16 188 *e*Pn **Pn 12 20 14.4 -0.2**
CBIJ *e*Sn Sn 12 23 00.8 -13
JCJ Chichijima 16.16 188 P **Pn 12 20 14.4 -0.2**
comp=Z,15nm,0.3s,baz=297,slow=16,SNR=8.4
JCJ S Sn 12 23 00.8 -13
comp=Z,22nm,0.3s,baz=283,slow=22,SNR=9.6
JCJ LR LR 12 27 54.7
comp=Z,67nm,20.2s,baz=1.5,slow=42
KROS Kirovskiy 16.19 320 *e*P **Pn 12 20 10.0 -4.7**
KROS AMB AMB 12 20 13.0
comp=Z,15nm,0.5s
KROS AMB AMB 12 20 13.0
comp=Z,14nm,0.5s
KROS AMB AMB 12 20 13.0
comp=Z,33nm,0.5s
MA2 Magadan 16.85 11 *e*Pn **Pn 12 20 21.5 -1.3**
comp=Z,92nm,0.8s
MA2 Magadan 16.85 11 *e*P **Pn 12 20 21.6 -1.1**
MA2 Magadan 16.85 11*c i*P **Pn 12 20 21.6 -1.1**
MA2 pmax pmax
comp=Z,169nm,1.3s
MA2 Magadan 16.85 11 P **Pn 12 20 21.5 -1.3**
comp=Z,4.5nm,0.3s,baz=195,slow=9.0,SNR=89
MA2 LR LR 12 26 50.4
comp=Z,141nm,19.1s,baz=202,slow=37
DL2 Dalian 17.91 264 P **Pn 12 20 35.7 -0.1**
DL2 pmax pmax
comp=Z,97nm,0.7s
HIA Hailar 18.29 298 *e*P **P 12 20 37.1 -2.0**
comp=Z,32nm,0.9s
HIA Hailar 18.29 298 *e*P **P 12 20 37.1 -2.0**
HIA pmax pmax
comp=Z,32nm,0.9s
SEY Seymchan 20.30 10*ce*P **P 12 20 58.8 -2.1**
SEY Seymchan 20.30 10 P **P 12 20 59.1 -1.8**
comp=Z,30nm,0.4s,baz=187,slow=7.8,SNR=318
YAK Yakutsk 20.89 340 *e*P **P 12 21 03.0 -4.1**
YAK *e*S **S 12 24 44.9 -9.3**
YAK *e* 12 32 17.3
YAK pmax pmax
comp=Z,200nm,0.9s
YAK pmax pmax
comp=E,28nm,0.8s
YAK pmax pmax
comp=N,76nm,0.9s
YAK smax smax
comp=E,2µm,1.9s
YAK smax smax
comp=N,2µm,1.5s
JOW Kunigami 21.08 225 *e*P **P 12 21 10.1 +0.6**
comp=N,44nm,0.7s
JOW Kunigami 21.08 225 P **P 12 21 10.8 +1.3**
comp=N,12nm,0.9s,baz=107,slow=15,SNR=25
BJI Beijing 21.53 271 P **P 12 21 13.3 -0.9**
BJI S **S 12 25 03.6 -3.5**

BJI pmax pmax
comp=N,9.0nm,0.7s
BJI LR LR
comp=N,370nm,10.8s
BJI LR LR
comp=N,380nm,9.3s
BJT Baijiatuau 21.54 271 *e*P **P 12 21 13.8 -0.4**
comp=N,36nm,0.7s
BJT Baijiatuau 21.54 271 *e*P **P 12 21 13.9 -0.4**
BJT Baijiatuau 21.54 271 *e*P **P 12 21 13.9 -0.4**
BJT pmax pmax
comp=Z,36nm,0.7s
SMY Shemya 21.75 54 *e*P **P 12 21 15.7 -0.7**
comp=Z,124nm,1.0s
SMY Shemya 21.75 54 *e*P **P 12 21 15.7 -0.7**
SMY pmax pmax
comp=Z,124nm,1.0s
SSE Sheshan 22.21 245 P **P 12 21 24.3 +2.8**
SSE S **S 12 25 19.7 +0.1**
SSE pmax pmax
comp=Z,51nm,0.9s
SSE pmax pmax
comp=Z,220nm,3.8s
SSE LR LR
comp=Z,290nm,9.2s
SSE LR LR
comp=Z,190nm,10.3s
TIA Tai'an 22.28 261 P **P 12 21 21.6 -0.6**
TIA pmax pmax
comp=Z,63nm,0.7s
CIT Chita 22.66 304 *e*P **P 12 21 25.8 -0.2**
CIT Chita 22.66 304 *e*P **P 12 21 25.8 -0.2**
CIT *e* 12 21 51.1
CIT pmax pmax
comp=Z,145nm,1.2s
NJ2 Nanjing 23.21 250⇑ *i*P **P 12 21 31.7 +0.2**
NJ2 S **S 12 25 37.9 +2.4**
NJ2 pmax pmax
comp=Z,88nm,1.0s
NJ2 pmax pmax
comp=Z,210nm,3.5s
NJ2 LR LR
comp=Z,830nm,12.5s
NJ2 LR LR
comp=Z,420nm,10.6s
NJ2 LR LR
comp=Z,400nm,19.0s
BOD Bodaibo 24.15 318 *e*P **P 12 21 36.4 -3.4**
BOD pmax pmax
comp=Z,27nm,1.8s
HHC Hu-ho-hao-te 24.66 276 *e*P **P 12 21 44.3 -0.4**
HHC pP pP 12 22 05.7 -0.8
HHC S **S 12 25 57.5 -1.5**
HHC sS sS 12 26 31.5 -5.7
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,83nm,6.2s
HHC LR LR
comp=Z,500nm,10.2s
HHC LR LR
comp=Z,840nm,11.4s
HHC LR LR
comp=Z,820nm,14.2s
TIY Taiyuan 25.07 268 *e*P **P 12 21 49.1 +0.7**
TIY S **S 12 26 04.7 -0.9**
TIY SS **SnSn 12 27 11.2 +5.4**
TIY LR LR
comp=Z,710nm,10.7s
TIY LR LR
comp=Z,350nm,7.2s
TIY LR LR
comp=Z,320nm,12.1s
BTO Baotou 25.85 276 *e*P **P 12 21 56.4 +0.9**
TATO Taipei 26.30 234 *e*P **P 12 22 02.0 +2.5**
comp=Z,122nm,0.9s
YHNB Yeheng 26.60 234 *e*P **P 12 22 03.0 +0.7**
comp=Z,28nm,1.0s
SONA0 Songino Array 27.07 293 *e*P **P 12 22 08.1 +1.6**
SONA0 *e*PcP **PcP 12 25 25.4 +0.5**
SONA0 *e*ScP **ScP 12 28 56.0 0.0**
SONM Songino Array 27.07 293 P **P 12 22 08.1 +1.6**
comp=Z,121nm,0.8s,baz=87,slow=8.1,SNR=707
SONM PcP **PcP 12 25 25.4 +0.5**
comp=Z,1.7nm,0.7s,baz=157,slow=4.2,SNR=3.7
SONM ScP **ScP 12 28 56.0 0.0**
comp=Z,2.8nm,0.9s,baz=153,slow=3.3,SNR=5.1
SONM LR LR 12 33 50.7
comp=Z,312nm,18.8s,baz=110,slow=38
WHN Wuhan 27.21 253⇑ P **P 12 22 08.8 +1.1**
WHN S **S 12 26 34.5 -4.8**
WHN LR LR
comp=Z,1μm,4.9s
WHN LR LR
comp=Z,1μm,7.1s
WHN LR LR
comp=Z,990nm,14.1s
BILL Bilibino 27.43 17 *e*P **P 12 22 06.6 -2.7**
comp=Z,22nm,1.1s
BILL Bilibino 27.43 17⇓ *i*P **P 12 22 06.3 -3.0**
BILL *e* 12 22 56.8
BILL *e* 12 25 25.0
BILL pmax pmax
comp=Z,22nm,1.1s
SSLB Suanglung 27.52 233 *e*P **P 12 22 11.0 +0.5**
comp=Z,11nm,1.0s
YULB Yu-li 27.63 232 *e*P **P 12 22 11.1 -0.4**
comp=Z,17nm,1.1s
QZH Quanzhou 28.09 238⇓ *i*P **P 12 22 17.2 +1.7**
QZH S **S 12 26 56.3 +3.2**
QZH pmax pmax
comp=Z,31nm,1.0s
QZH LR LR
comp=Z,320nm,7.5s
QZH LR LR
comp=Z,440nm,10.1s
QZH LR LR
comp=Z,560nm,10.5s
TPUB Ta-pu 28.09 233 *e*P **P 12 22 15.1 -0.5**
comp=Z,37nm,1.1s
IRK Irkutsk 28.37 303 *e*P **P 12 22 17.1 -0.7**
IRK Irkutsk 28.37 303 *e*P **P 12 22 17.1 -0.7**
IRK pmax pmax
comp=Z,76nm,1.0s
TLY Talaya 28.74 302 *e*P **P 12 22 21.5 +0.3**
comp=Z,23nm,0.7s
TLY Talaya 28.74 302 *e*P **P 12 22 21.4 +0.3**
TLY Talaya 28.74 302 *e*P **P 12 22 21.9 +0.8**
TLY *e*S **S 12 27 03.1 +0.1**
TLY pmax pmax
comp=Z,61nm,0.8s
TLY MLR MLR
comp=Z,652nm,17.0s
TLY Talaya 28.74 302 P **P 12 22 22.2 +1.1**
SNR=7.2
ZAK Zakamensk 28.98 299 *e*P **P 12 22 23.3 0.0**
ZAK Zakamensk 28.98 299 *e*P **P 12 22 23.3 0.0**
ZAK pmax pmax
comp=Z,84nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
XAN Xi'an 29.24 264 P **P 12 22 26.0 +0.2**
XAN pmax pmax
comp=Z,31nm,0.8s
XAN pmax pmax
comp=Z,120nm,3.6s
XAN Xi'an 29.24 264 *e*P **P 12 22 25.9 +0.2**
comp=Z,34nm,0.6s
GUMO Guam 29.47 180 LR LR 12 32 23.5
comp=Z,94nm,21.1s,baz=352,slow=32
TIXI Tiksi 29.60 350 *e*P **P 12 22 24.8 -3.6**
comp=Z,0.4nm,0.8s
TIXI Tiksi 29.60 350⇑ *e*P **P 12 22 23.9 -4.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 29.60 350 P **P 12 22 24.8 -3.6**
comp=Z,2.9nm,0.4s,baz=144,slow=7.6,SNR=12
TIXI LR LR 12 35 26.6
comp=Z,120nm,18.1s,baz=164,slow=38
H11N2 WAKE ISLAND Hy 29.89 134 T T 12 53 49.7
baz=327,slow=75,SNR=861
H11N1 WAKE ISLAND Hy 29.90 134 T T 12 53 49.0
baz=327,slow=75,SNR=548
H11N3 WAKE ISLAND Hy 29.90 134 T T 12 53 51.2
baz=327,slow=75,SNR=551
MOY Mondy 30.39 302 *e*P **P 12 22 36.2 +0.4**
MOY pmax pmax
comp=Z,72nm,2.1s
ENH Enshi 30.80 257 *e*P **P 12 22 39.5 0.0**
comp=Z,37nm,0.8s
H11S1 WAKE ISLAND Hy 30.80 136 T T 12 54 59.7
baz=328,slow=76,SNR=1252
H11S3 WAKE ISLAND Hy 30.81 136 T T 12 54 59.7
baz=328,slow=76,SNR=1501
H11S2 WAKE ISLAND Hy 30.82 136 T T 12 55 01.9
baz=328,slow=76,SNR=979
LZH Lanzhou 32.02 271 *e*P **P 12 22 51.8 +1.5**
LZH pP pP 12 23 14.3 +1.5
LZH sP sP 12 23 26.5 +2.2
LZH pmax pmax
comp=Z,28nm,1.0s
APYP Conner 32.11 226 *e*P **P 12 22 50.7 -0.4**
GAMB Gambell 32.20 35 *e*P **P 12 22 51.0 -0.4**
comp=Z,6.3nm,0.9s
GTA Gaotai 33.64 279 *e*P **P 12 23 05.1 +0.7**
GTA pP pP 12 23 22.6 -4.4
GTA sP sP 12 23 32.6 -5.9
GTA PcP **PcP 12 25 43.7 +1.5**
GTA pmax pmax
comp=Z,8.0nm,1.1s
BALP Baler 33.73 223 *e*P **P 12 23 06.3 +1.2**
CD2 Chengdu 34.58 263⇓ P **P 12 23 13.6 +1.1**
CD2 pmax pmax
comp=Z,210nm,4.0s
GYA Guiyang 35.06 254⇓ *i*P **P 12 23 16.5 -0.2**
GYA pP pP 12 23 38.4 -0.9
GYA S **S 12 28 42.0 +0.1**
GYA sS sS 12 29 18.8 -2.2
GYA SS **SnSn 12 31 03.2 -5.1**
GYA pmax pmax
comp=Z,30nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=Z,550nm,17.6s
GYA LR LR
comp=Z,520nm,17.2s
GYA LR LR
comp=Z,530nm,17.8s
ANM Nome 35.09 35 *e*P **P 12 23 16.3 -0.1**
comp=Z,24nm,1.0s
ANM Nome 35.09 35 *e*P **P 12 23 16.3 -0.1**
ANM pmax pmax
comp=Z,24nm,1.0s
TGY Tagaytay City 35.44 222 P **P 12 23 22.4 +2.4**
comp=Z,179nm,0.3s,baz=9.3,slow=1.1,SNR=6.2
RDOG Red Dog Mine 36.91 30 *e*P **P 12 23 31.4 -0.6**
comp=Z,31nm,0.8s
MSLP Maasin 37.18 214 *e*P **P 12 23 35.7 +1.0**
KMI Kunming 38.66 256 P **P 12 23 48.4 +1.0**
KMI pmax pmax
comp=Z,45nm,1.0s
NRIK Noril'sk 38.91 332 P **P 12 23 47.5 -1.2**
comp=Z,6.8nm,0.5s,baz=118,slow=7.0,SNR=7.8
SVW2 Sparrevohn 39.18 42 *e*P **P 12 23 50.7 -0.4**
comp=Z,12nm,0.6s
ZAA1 Zalesovo Array 39.94 307 *e*P **P 12 23 57.1 -0.3**
ZAA1 *e*PcP **PcP 12 26 01.4 +0.6**
KCP Kidapawan 39.94 211⇑ *i*P **P 12 23 59.9 +2.0**
ZAA0 Zalesovo Array 39.94 307 *e*P **P 12 23 57.5 +0.1**
comp=Z,74nm,0.9s
ZALV Zalesovo Beam 39.94 307 *e*P **P 12 23 56.9 -0.5**
ZALV Zalesovo Beam 39.94 307 P **P 12 23 57.2 -0.3**
ZALV 12 26 01.4
ZALV pmax pmax
comp=Z,66nm,0.8s
ZALV pmax pmax
comp=Z,6.0nm,0.7s
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 39.94 307 P **P 12 23 57.1 -0.3**
comp=Z,49nm,0.7s,baz=86,slow=8.0,SNR=133
ZALV PcP **PcP 12 26 01.4 +0.6**
comp=Z,6.1nm,0.7s,baz=105,slow=2.4,SNR=3.8
ZALV pPcP 12 26 27.6
comp=Z,11nm,0.7s,baz=93,slow=2.3,SNR=7.1
IM3 Indian Mountai 40.12 34 *e*P **P 12 23 58.9 +0.1**
RSO Redoubt South 40.59 43 *e*P **P 12 24 03.8 +0.8**
WMQ Urumqi 40.66 291 P **P 12 24 04.6 +1.0**
WMQ pP pP 12 24 22.9 -3.9
WMQ sP sP 12 24 31.9 -6.3
WMQ S **S 12 30 04.4 -1.7**
WMQ SS **SS 12 33 03.7 -6.2**
WMQ ScS **ScS 12 33 56.3 -2.3**
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,380nm,3.7s
WMQ LR LR
comp=Z,800nm,14.5s
WMQ LR LR
comp=Z,490nm,10.9s
WMQ LR LR
comp=Z,460nm,16.7s
WMQ Urumqi 40.66 291 *e*P **P 12 24 04.1 +0.5**
comp=Z,28nm,0.9s
WMQ Urumqi 40.66 291 *e*P **P 12 24 04.1 +0.5**
WMQ pmax pmax
comp=Z,28nm,0.9s
NVS Novosibirsk 40.70 309 *e*P **P 12 24 03.8 +0.1**
NVS Novosibirsk 40.70 309 *e*P **P 12 24 03.8 +0.1**
NVS *e*S **S 12 30 04.6 -1.7**
NVS *e* 12 33 57.3
NVS pmax pmax
comp=Z,88nm,1.3s
NVS pmax pmax
comp=N,10.0nm,0.7s
NVS pmax pmax
comp=E,75nm,1.4s
NVS smax smax
comp=N,11nm,1.8s
NVS smax smax
comp=E,30nm,2.1s
PPLA Purkeypile 40.75 39 *e*P **P 12 24 04.5 +0.3**
comp=E,147nm,1.5s
CAST Castle Rocks 40.78 38 *e*P **P 12 24 05.0 +0.7**
comp=E,54nm,1.2s
KDAK Kodiak Island 40.94 47 *e*P **P 12 24 04.9 -0.7**
comp=E,91nm,0.9s
KDAK Kodiak Island 40.94 47 *e*P **P 12 24 05.6 0.0**
KDAK Kodiak Island 40.94 47 P **P 12 24 05.9 +0.3**
comp=E,39nm,0.8s,baz=310,slow=2.5,SNR=38
KDAK pP **pP 12 24 28.7 0.0**
comp=E,78nm,0.9s,baz=326,slow=2.9,SNR=11
BPAW Bear Paw Mtn. 41.26 37 *e*P **P 12 24 08.7 +0.5**
comp=E,18nm,0.8s
MLY Manley 41.35 35 *e*P **P 12 24 09.5 +0.6**
comp=E,36nm,0.9s
SUA Susitna One 41.50 41 *e*P **P 12 24 10.6 +0.3**
comp=E,21nm,0.7s
TRF Thorofare Moun 41.59 38 *e*P **P 12 24 11.5 +0.4**
comp=E,20nm,0.8s
COLD Coldfoot 41.59 32 *e*P **P 12 24 11.1 +0.3**
comp=E,5.8nm,0.7s
TOLK Toolik Lake Re 41.88 30 *e*P **P 12 24 13.1 -0.2**
comp=E,86nm,1.4s
TOLK Toolik Lake Re 41.88 30 P **P 12 24 13.3 +0.1**
baz=267,SNR=34
BWN Browne 41.92 37 *e*P **P 12 24 14.8 +1.3**
comp=E,150nm,1.1s
RC01 Rabbit Creek A 42.02 41 *e*P **P 12 24 14.8 +0.4**
comp=E,37nm,0.9s
MCK McKinley 42.18 37 *e*P **P 12 24 15.9 +0.2**
comp=E,36nm,0.8s
MCK McKinley 42.18 37 *e*P **P 12 24 15.9 +0.2**
MCK McKinley 42.18 37 *e*P **P 12 24 15.9 +0.2**
MCK pmax pmax
comp=Z,36nm,0.8s
RND Reindeer 42.24 38 *e*P **P 12 24 16.4 +0.1**
comp=Z,21nm,0.8s
RND *e*pP **pP 12 24 40.5 +1.1**
PMR Palmer 42.26 41 *e*P **P 12 24 16.1 -0.2**
comp=Z,20nm,1.0s
PMR *e*pP **pP 12 24 40.8 +1.4**
PMR Palmer 42.26 41 *e*P **P 12 24 16.1 -0.2**
PMR *e**PP **pP 12 24 40.8 +1.4**
PMR pmax pmax
comp=Z,20nm,1.0s
MDM Murphy Dome 42.42 36 *e*P **P 12 24 17.8 +0.2**
comp=Z,59nm,0.7s
WRH Wood River Hil 42.51 36 *e*P **P 12 24 18.8 +0.5**
comp=Z,26nm,0.7s
TCOL CIGO, UAF Yank 42.58 36 P **P 12 24 19.8 +0.9**
baz=273,SNR=51
COLA College 42.58 36 *e*P **P 12 24 19.3 +0.4**
comp=Z,102nm,0.6s
COLA *e*pP **pP 12 24 43.8 +1.7**
COLA College 42.58 36 *e*P **P 12 24 19.3 +0.4**
COLA College 42.58 36 *e*P **P 12 24 19.3 +0.4**
COLA *e**PP **pP 12 24 43.8 +1.7**
COLA pmax pmax
comp=Z,102nm,0.6s
COLA College 42.58 36 *e*P **P 12 24 19.8 +1.0**
KNK Knik Glacier 42.60 41 *e*P **P 12 24 19.7 +0.6**
comp=Z,55nm,1.0s
KNK *e*pP **pP 12 24 43.3 +1.0**
SML Sawmill 42.62 40 *e*P **P 12 24 20.1 +0.8**
SML *e*pP **pP 12 24 43.3 +0.9**
SML Sawmill 42.62 40 *e*P **P 12 24 20.1 +0.8**
SML *e**PP **pP 12 24 43.3 +0.9**
CCB Clear Creek Bu 42.62 36 *e*P **P 12 24 19.7 +0.5**
comp=Z,16nm,0.7s
CCB *e*pP **pP 12 24 43.6 +1.3**
POKR Poker Plat Res 42.75 35 P **P 12 24 21.6 +1.3**
baz=273,SNR=44
DHY Denali Highway 42.93 38 *e*P **P 12 24 21.8 -0.1**
comp=Z,38nm,0.6s
DHY *e*pP **pP 12 24 46.0 +0.9**
ILAR Eielson Array 43.00 36 P **P 12 24 22.4 +0.1**
comp=Z,20nm,0.6s,baz=252,slow=4.3,SNR=236
ILAR pP **pP 12 24 45.6 +0.1**
comp=Z,18nm,0.9s,baz=277,slow=7.0,SNR=6.4
ILB Eielson Array 43.00 36 *e*P **P 12 24 22.2 -0.1**
comp=Z,28nm,0.6s
ILB *e*pP **pP 12 24 47.2 +1.7**
HDA Harding Lake 43.00 36 *e*P **P 12 24 22.0 -0.3**
comp=Z,34nm,0.7s
HDA *e*pP **pP 12 24 46.6 +1.1**
HDA Harding Lake 43.00 36 P **P 12 24 22.1 -0.3**
baz=274,SNR=45
IL1 Eielson Array 43.00 36 *e*P **P 12 24 22.1 -0.2**
IL1 *e*pP **pP 12 24 47.0 +1.5**
SKNT Sakolnakorn 43.25 246 P **P 12 24 25.8 +0.9**
comp=Z,27nm,0.8s,comp=Z,267nm
MK31 Makanchi Array 43.28 297 *e*P **P 12 24 25.1 +0.2**
comp=Z,30nm,0.7s
MK31 Makanchi Array 43.28 297 *e*P **P 12 24 25.1 +0.2**
MK31 pmax pmax
comp=Z,30nm,0.7s
MK32 Makanchi Array 43.28 297 *e*P **P 12 24 25.1 +0.2**
MKAR Makanchi Array 43.28 297 P **P 12 24 25.1 +0.2**
comp=Z,21nm,0.5s,baz=83,slow=9.6,SNR=270
MKAR PcP **PcP 12 26 12.6 +0.6**
comp=Z,3.1nm,0.6s,baz=80,slow=1.6,SNR=3.5
MKAR S **S 12 30 43.6 -1.0**
comp=Z,5.4nm,1.2s,baz=75,slow=19,SNR=3.7
MK01 Makanchi Array 43.28 297 *e*P **P 12 24 25.1 +0.3**
MAKZ Makanchi 43.48 297 *e*P **P 12 24 26.6 +0.2**
comp=Z,66nm,1.1s
MAKZ Makanchi 43.48 297 *e*P **P 12 24 26.6 +0.2**
MAKZ pmax pmax
comp=Z,66nm,1.1s
PRP Porcupine Dome 43.52 35 *e*P **P 12 24 27.2 +0.6**
comp=Z,92nm,0.6s
FYU Fort Yukon 43.56 33 *e*P **P 12 24 28.0 +1.2**
comp=Z,81nm,0.7s
KLU Klutina 43.80 40 *e*P **P 12 24 29.3 +0.5**
comp=Z,83nm,1.2s
PAX Paxson 43.80 38 *e*P **P 12 24 29.8 +0.9**
comp=Z,18nm,1.0s
PAX Paxson 43.80 38 *e*P **P 12 24 29.8 +0.9**
PAX pmax pmax
comp=Z,18nm,1.0s
DIV Divide 43.92 41 *e*P **P 12 24 30.2 +0.4**
comp=Z,126nm,1.3s
RIDG Independ'e Rid 43.99 37 *e*P **P 12 24 30.6 +0.2**
comp=Z,40nm,0.8s
HARP HAARP 44.02 39 *e*P **P 12 24 31.2 +0.7**
comp=Z,118nm,1.1s
SCRK Sand Creek 44.34 37 *e*P **P 12 24 32.8 -0.4**
comp=Z,54nm,0.7s
DOT Dot Lake 44.35 37 *e*P **P 12 24 33.0 -0.1**
comp=Z,20nm,0.7s
KURK Kurchatov 44.39 304 *e*P **P 12 24 33.2 -0.3**
comp=Z,66nm,0.6s
KURK Kurchatov 44.39 304 *e*P **P 12 24 33.9 +0.4**
KURK Kurchatov 44.39 304*c* *i*P **P 12 24 33.9 +0.4**
KURK pmax pmax
comp=Z,168nm,1.7s
KURK Kurchatov 44.39 304 P **P 12 24 34.0 +0.4**
SNR=24
LSA Lhasa 44.43 271 P **P 12 24 35.4 +0.6**
LSA pmax pmax
comp=Z,18nm,1.0s
LSA Lhasa 44.43 271 *e*P **P 12 24 34.9 +0.1**
comp=Z,11nm,0.7s
LSA Lhasa 44.43 271 *e*P **P 12 24 34.9 +0.1**
LSA Lhasa 44.43 271 *e*P **P 12 24 34.9 +0.1**
LSA pmax pmax
comp=Z,11nm,0.7s
KURBB Kurchatov Arra 44.47 304 P **P 12 24 34.6 +0.4**
comp=Z,53nm,0.5s,baz=70,slow=8.8,SNR=201
KURBB S **S 12 31 00.0 -1.6**
comp=Z,0.3nm,0.3s,baz=79,slow=18,SNR=5.7
SDKM Sandakan 44.57 221 P **P 12 24 37.0 +1.5**
SDKM Sandakan 44.57 221 P **P 12 24 37.0 +1.5**
MENT Mentasta 44.60 38 *e*P **P 12 24 35.9 +0.7**
comp=Z,59nm,1.4s
UTTA Uttaradit 45.03 250 P **P 12 24 40.1 +1.0**
comp=Z,14nm,0.9s,comp=Z,102nm
LAMP Lampang 45.14 251 P **P 12 24 41.2 +1.3**
comp=Z,14nm,0.9s,comp=Z,112nm
CHAI Chaiyaphum 45.35 247 P **P 12 24 42.3 +0.7**
comp=Z,22nm,0.8s,comp=Z,152nm
CMMT Chiang Mai 45.42 252 P **P 12 24 42.9 +0.8**
comp=Z,37nm,1.0s,comp=Z,397nm
CHTO Chiang Mai 45.42 252 *e*P **P 12 24 42.3 +0.1**
comp=Z,48nm,1.2s
CHTO Chiang Mai 45.42 252 *e*P **P 12 24 42.3 +0.1**
CHTO Chiang Mai 45.42 252 *e*P **P 12 24 42.3 +0.1**
CHTO pmax pmax
comp=Z,48nm,1.2s
CHTO Chiang Mai 45.42 252 P **P 12 24 43.4 +1.3**
SNR=14
CHTO Chiang Mai 45.42 252 P **P 12 24 43.0 +0.9**
comp=Z,166nm,1.0s,comp=Z,2μm
CHTO Chiang Mai 45.42 252 *e*P **P 12 24 43.3 +1.1**
TSM Tawau 45.44 219 P **P 12 24 44.5 +2.2**
EGAK Eagle 45.44 35 *e*P **P 12 24 41.8 +0.1**
comp=Z,68nm,1.0s
SIJI Sorong 45.47 199 P **P 12 24 43.9 +1.3**
comp=Z,74nm,0.7s,baz=10,slow=9.0,SNR=36
PBKT Sadao Pong 45.57 248 *e*P **P 12 24 43.4 +0.1**
comp=Z,13nm,1.0s
PBKT Sadao Pong 45.57 248 P **P 12 24 44.1 +0.8**
comp=Z,18nm,0.9s,comp=Z,888nm
BALM Baldy 45.58 41 *e*P **P 12 24 43.6 +0.6**
comp=Z,41nm,0.9s
BALM Baldy 45.58 41 *e*P **P 12 24 43.6 +0.6**
BALM pmax pmax
comp=Z,41nm,0.9s
JAY Jayapura 45.61 186 P **P 12 24 45.1 +1.4**
JAY pmax pmax
comp=Z,28nm,1.1s
JAY Jayapura 45.61 186 P **P 12 24 45.0 +1.4**
comp=Z,31nm,0.9s,baz=340,slow=5.8,SNR=3.6
CM31 Chiang Mai Arr 45.66 252 *e*P **P 12 24 44.3 +0.3**
comp=Z,27nm,1.2s
CM31 *e*PcP **PcP 12 26 21.5 +0.9**
CMAR Chiang Mai Arr 45.66 252 P **P 12 24 45.1 +1.1**
comp=Z,7.1nm,0.7s,baz=45,slow=7.0,SNR=59
CMAR PcP **PcP 12 26 21.9 +1.3**
comp=Z,5.9nm,0.9s,baz=14,slow=2.6,SNR=8.9
CMAR ScP **ScP 12 30 05.7 +1.4**
comp=Z,1.1nm,0.6s,baz=5.3,slow=2.8,SNR=4.8
CMAR S **S 12 31 21.5 +2.0**
comp=Z,0.7nm,0.3s,baz=12,slow=13,SNR=6.4
CM01 Chiang Mai Arr 45.67 252 *e*P **P 12 24 44.4 +0.3**
CM01 *e*PcP **PcP 12 26 21.3 +0.7**
SUKH Sukhothai 45.85 250 P **P 12 24 47.2 +1.7**
comp=Z,9.5nm,0.9s
SHL Shillong 46.23 265 *e*P **P 12 24 49.0 +0.4**
DAWY Dawson 46.32 36 *e*P **P 12 24 49.3 +0.6**
comp=Z,16nm,0.4s
PDGK Podgornoye 46.39 294 P **P 12 24 49.4 -0.2**
PDGK pmax pmax
comp=Z,13nm,1.3s
SRAK Srakaew 46.67 245 P **P 12 24 50.2 -1.8**

comp=Z,95nm,0.9s,comp=Z,1µm
EPYK Eagle Plains 46.98 33 *e*P P 12 24 54.6 +0.8
comp=Z,205nm,1.4s
EPYK Eagle Plains 46.98 33 P P 12 24 54.8 +1.0
baz=281
MRSI Marisa 47.14 212 P P 12 24 56.1 +0.6
FAKI Fak Fak 47.23 197 *e*P P 12 24 56.2 -0.1
comp=Z,119nm,1.1s
UMPA Umpang Tak 47.26 250 P P 12 24 59.8 +3.2
comp=Z,5.3nm,0.8s,comp=Z,974nm
UTHA Uthaitani 47.31 249 P P 12 24 58.5 +1.5
comp=Z,4.8nm,0.8s,comp=Z,56nm
INK Inuvik 47.80 30 *e*P P 12 25 00.3 +0.3
comp=Z,38nm,0.6s
INK Inuvik 47.80 30 P P 12 25 00.6 +0.6
comp=Z,36nm,0.5s,baz=293,slow=6.4,SNR=386
SANI Sanana 48.06 206 P P 12 25 02.4 -0.3
MPSI Mapaga 48.08 214 P P 12 25 03.3 +0.5
APSI Ampana 48.52 212 P P 12 25 06.2 0.0
BRVK Borovoye 48.55 309 *e*P P 12 25 05.8 -0.3
comp=Z,76nm,0.9s
BRVK Borovoye 48.55 309 *e*P P 12 25 06.4 +0.3
BRVK Borovoye 48.55 309*c i*P P 12 25 06.4 +0.3
BRVK pmax pmax
comp=Z,92nm,1.0s
BRVK Borovoye 48.55 309 P P 12 25 06.7 +0.7
SNR=32
BTM Bintulu 48.72 224 P P 12 25 08.7 +0.9
NLAI Namlea 48.85 204 P P 12 25 09.6 +0.9
comp=Z,29nm,0.6s
OTUK Ortayu 49.08 303 P P 12 25 10.4 +0.2
OTUK pmax pmax
comp=Z,84nm,1.4s
PHET Kaeng Krachan 49.08 246 P P 12 25 12.5 +2.0
comp=Z,29nm,0.8s,comp=Z,288nm
TKM2 Tokmak 2 49.15 295 P P 12 25 12.1 +1.0
SNR=40
TKM2 Tokmak 2 49.15 295 P P 12 25 11.7 +0.6
TKM2 pmax pmax
comp=Z,20nm,0.7s
JIRN Jiri 49.19 272 *e*P P 12 25 12.1 +0.4
WHY Whitehorse 49.21 40 *e*P P 12 25 12.1 +0.9
comp=Z,28nm,0.8s
GUN Gumba 49.27 272 *e*P P 12 25 12.7 +0.3
comp=Z,95nm,0.5s
RAMN Ramite 49.29 271 *e*P P 12 25 12.5 +0.1
comp=Z,61nm,0.8s
KBK Karagaybulak 49.70 295 P P 12 25 15.8 +0.6
SNR=22
USP Ospenovka 49.73 296 P P 12 25 15.6 +0.3
SNR=16
KZA Kyzart 49.75 294 P P 12 25 17.4 +1.5
SNR=15
KKN Kakani 49.78 272 *e*P P 12 25 16.2 +0.2
comp=Z,41nm,0.8s
SBUM Sibu 49.80 225 *e*P P 12 25 16.1 +0.1
comp=Z,7.9nm,0.6s
SBUM Sibu 49.80 225 P P 12 25 17.4 +1.4
PKI Pulchoki 49.81 272 *e*P P 12 25 16.4 0.0
comp=Z,23nm,0.7s
PKIN Phulchoki 49.81 272 *e*P P 12 25 16.3 -0.1
comp=Z,18nm,0.7s
AAK Ala-Archa 50.01 295 P P 12 25 18.1 +0.5
SNR=12
AAK Ala-Archa 50.01 295 *e*P P 12 25 17.4 -0.1
comp=Z,6.7nm,0.5s
AAK Ala-Archa 50.01 295 *e*P P 12 25 18.0 +0.5
AAK Ala-Archa 50.01 295 P P 12 25 18.0 +0.5
AAK pmax pmax
comp=Z,6.0nm,0.5s
AAK Ala-Archa 50.01 295 P P 12 25 18.0 +0.5
comp=Z,5.9nm,0.5s,baz=109,slow=5.7,SNR=28
DMN Daman 50.01 272 *e*P P 12 25 18.2 +0.4
comp=Z,48nm,0.8s
GKN Gorkha 50.13 273 *e*P P 12 25 18.8 +0.2
comp=Z,35nm,0.5s
KSH Kashi 50.42 291 *e*P P 12 25 25.7 +5.1
KSH pP pP 12 25 45.5 +0.9
KSH PcP **PcP** **12 26 43.1 +5.5**
KSH S **S** **12 32 32.5 +6.0**
KSH pmax pmax
comp=Z,95nm,4.9s
KSH LR LR
comp=Z,1µm,12.1s
KSH LR LR
comp=Z,570nm,11.8s
KSH LR LR
comp=Z,200nm,15.6s
EKS2 Erkin-Say 50.47 295 P P 12 25 21.6 +0.6
SNR=14
DANN Dangsing 50.58 274 *e*P P 12 25 23.0 +0.9
comp=Z,217nm,0.7s
AML Almayashu 50.76 295 P P 12 25 24.5 +1.0
SNR=9.3
KOLN Koldanda 51.02 273 *e*P P 12 25 26.0 +0.6
comp=Z,51nm,0.5s
PYUN Piuthan 51.28 274 *e*P P 12 25 27.8 +0.5
comp=Z,75nm,0.8s
MTKI Muara Teweh, K 51.42 219 P P 12 25 29.6 +1.4
comp=Z,99nm,1.1s,comp=Z,7µm
ARSB Arslanbob 51.60 294 *e*P P 12 25 30.1 +0.6
comp=Z,42nm,0.6s
KSM Kuching 51.62 226 *e*P P 12 25 30.1 +0.5
comp=Z,113nm,1.5s
KSM Kuching 51.62 226 P P 12 25 31.7 +2.0
DLBC Dease Lake 52.30 41 *e*P P 12 25 34.6 +0.4
comp=Z,9.1nm,0.8s
DLBC Dease Lake 52.30 41 P P 12 25 36.2 +1.9
comp=Z,5.4nm,0.6s,baz=272,slow=3.2,SNR=32
DLBC pP **pP** **12 26 00.2 +2.0**
comp=Z,12nm,0.9s,baz=303,slow=12,SNR=6.8
BNSI Bone 52.31 212 P P 12 25 35.4 +0.6
SVE Sverdlovsk 52.35 316 *e*P P 12 25 34.9 +0.3
SVE Sverdlovsk 52.35 316*de*P P 12 25 34.9 +0.3
SVE pmax pmax
comp=Z,190nm,1.0s
KK31 Karatay Array 52.41 297 *e*P P 12 25 35.2 -0.1
comp=Z,17nm,0.8s
KK31 Karatay Array 52.41 297 *i*P P 12 25 35.2 -0.1
KK31 pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 52.41 297 *e*P P 12 25 35.1 -0.2
comp=Z,17nm,0.8s
KKAR Karatay Array 52.41 297 *e*P P 12 25 35.1 -0.2
KKAR pmax pmax
comp=Z,17nm,0.8s
KTGM Kuala Trenggan 52.57 236 P P 12 25 38.9 +2.2
SKLT Songkhla 52.70 240 P P 12 25 40.2 +2.5
comp=Z,64nm,1.0s,comp=Z,755nm
TRTT Trang 52.79 242 P P 12 25 39.9 +1.5
comp=Z,19nm,0.9s
ARU Arti 53.56 316 *e*P P 12 25 43.0 -0.5
comp=Z,255nm,1.2s
ARU Arti 53.56 316 *e*P P 12 25 43.3 -0.2
ARU Arti 53.56 316*c i*P P 12 25 43.3 -0.2
ARU 12 26 48.8
ARU 12 27 42.9
ARU S **S** **12 33 12.4 +3.7**
ARU SS **SS** **12 36 53.7 +4.0**
ARU pmax pmax
comp=Z,259nm,1.3s
PKDT Phuket 53.63 243 P P 12 25 46.2 +1.7
comp=Z,29nm,1.0s,comp=Z,373nm
KULM Kulim 54.13 239 *e*P P 12 25 49.0 +0.8
comp=Z,70nm,0.8s
KULM Kulim 54.13 239 P P 12 25 50.2 +2.0
IPM Ipoh 54.52 238 *e*P P 12 25 50.9 -0.2
comp=Z,29nm,0.8s
IPM Ipoh 54.52 238 P P 12 25 52.2 +1.1
HOPEN Hopen 54.73 346 *e*P P 12 25 50.8 -0.8
MYKOM Kota Tinggi 54.96 233 P P 12 25 56.1 +2.0
SPA0 Spitsbergen Ar 55.01 349 *e*P P 12 25 52.2 -1.6
SPITS Spitsbergen Ar 55.01 349 LR LR 12 49 38.4
comp=Z,35nm,19.9s,baz=220,slow=36
KBS Kingsbay 55.06 350 *e*P P 12 25 53.6 -0.5
comp=Z,45nm,0.8s
KBS Kingsbay 55.06 350 *e*P P 12 25 54.4 +0.4
KBS Kingsbay 55.06 350*ce*P P 12 25 54.4 +0.4
KBS pmax pmax
comp=Z,130nm,1.0s
KBS Kingsbay 55.06 350 *e*P P 12 25 54.1 +0.1
KGM Kluang 55.09 234 P P 12 25 57.2 +2.1
FRIM Kepong 55.13 236 P P 12 25 57.0 +1.6
CHGR Chuyangaron 55.47 293 *e*P P 12 25 57.5 -0.1
MMRI Maumere 55.47 207 *e*P P 12 25 57.7 -0.1
comp=Z,72nm,1.2s

EDFI Ende, Flores 55.76 208 P P 12 25 59.2 -0.7
comp=Z,30nm,1.0s,comp=Z,786nm
SOEI Soe 55.87 205 *e*P P 12 25 59.8 -0.9
comp=Z,36nm,0.6s
SOEI Soe 55.87 205 P P 12 26 08.5 +7.8
HSPB Hornsund (broa 55.99 348 *e*P P 12 25 60.0 -0.8
RES Resolute Bay 56.03 16 *e*P P 12 26 00.4 -0.6
comp=Z,127nm,0.8s
RES Resolute Bay 56.03 16 P P 12 26 01.6 +0.6
comp=Z,120nm,0.8s,baz=310,slow=7.3,SNR=346
AB31 Akbulak array 56.04 308 *i*P P 12 26 01.5 0.0
AB31 pmax pmax
comp=Z,67nm,0.6s
ABKAR Akbulak array 56.04 308 *e*P P 12 26 01.3 -0.2
comp=Z,115nm,0.6s
COEN Coen 56.86 182 *e*P P 12 26 07.5 0.0
comp=Z,37nm,1.1s
PPBI Pangkal Pinang 56.90 228 P P 12 26 09.6 +1.6
comp=Z,20nm,0.8s,comp=Z,15µm
MTN Manton Dam 57.10 196 *e*P P 12 26 09.0 -0.3
comp=Z,108nm,0.6s
PSI Prapat 57.14 238 *e*P P 12 26 10.3 +0.5
comp=Z,42nm,0.8s
PSI Prapat 57.14 238 P P 12 26 10.8 +1.0
comp=Z,43nm,0.9s,baz=0.1,slow=6.7,SNR=23
BJO Bjornoya 57.16 345 *e*P P 12 26 08.5 -0.5
YKW3 Yellowknife Ar 57.22 33 *e*P P 12 26 09.8 +0.2
comp=Z,18nm,0.6s
YKA Yellowknife Ar 57.26 33 P P 12 26 10.1 +0.2
comp=Z,13nm,0.6s,baz=302,slow=7.1,SNR=105
YKA pP **pP** 12 26 34.3 +0.1
comp=Z,7.1nm,0.7s,baz=302,slow=7.3,SNR=6.3
YKA ScP **ScP** 12 30 51.4 -2.1
comp=Z,0.3nm,0.8s,baz=305,slow=4.6,SNR=4.1
YKB5 Yellowknife Ar 57.26 33 *e*P P 12 26 09.5 -0.4
KCSI Kotacane, Aceh 57.30 240 P P 12 26 10.5 -0.4
comp=Z,15nm,1.4s
LVZ Lovozero 57.59 335 *e*P P 12 26 11.4 -0.8
comp=Z,44nm,0.8s
LVZ Lovozero 57.59 335*ce*P P 12 26 10.9 -1.3
LVZ pmax pmax
comp=Z,60nm,1.7s
MLSI Meulaboh, Aceh 57.61 242 P P 12 26 13.3 +0.3
comp=Z,112nm,0.8s
SRBI Singaraja 57.63 215 P P 12 26 14.2 +1.1
comp=Z,58nm,1.4s
KBL Kabul 57.71 289 *e*P P 12 26 12.9 -0.9
comp=Z,14nm,0.7s
KBL Kabul 57.71 289 *e*P P 12 26 12.9 -0.9
KBL pmax pmax
comp=Z,14nm,0.7s
BKNI Bangkinang 57.79 235 *e*P P 12 26 14.9 +0.6
comp=Z,163nm,0.8s
BKNI Bangkinang 57.79 235 P P 12 26 16.0 +1.8
comp=Z,213nm,0.9s,comp=Z,2µm
APA Apatity 58.17 335 ⇓*i*P P 12 26 15.3 -0.9
APA pmax pmax
comp=Z,44nm,0.6s
APA MLR MLR
comp=Z,500nm,16.0s
MNSI Mandailing Nat 58.30 236 P P 12 26 18.9 +1.1
TMCR Tamitsa 58.62 331 *e*P P 12 26 17.5 -1.8
TMCR pmax pmax
comp=Z,85nm,0.8s
KEV Kevo 58.63 339 *e*P P 12 26 18.7 -0.6
comp=Z,42nm,0.8s
KEV Kevo 58.63 339 *e*P P 12 26 18.7 -0.6
KEV pmax pmax
comp=Z,42nm,0.8s
KEV Kevo 58.63 339 *e*P P 12 26 19.4 +0.1
NGJI Ngawi 58.66 220 P P 12 26 22.8 +2.5
comp=Z,27nm,0.8s
TULEG Thule 58.68 9 *e*P P 12 26 18.4 -1.3
comp=Z,115nm,1.0s
PWJI Pagerwojo 59.08 219 P P 12 26 22.9 -0.2
comp=Z,103nm,1.6s
PDSI Padang 59.12 234 P P 12 26 24.5 +1.0
comp=Z,29nm,1.3s
GSI Gunungsitoli 59.14 239 *e*P P 12 26 23.5 -0.1
comp=Z,64nm,0.7s
GSI Gunungsitoli 59.14 239 P P 12 26 24.6 +1.0
comp=Z,90nm,0.7s
ARA0 ARCESS Array S 59.17 339 *e*P P 12 26 22.8 -0.4
ARCES ARCESS Array B 59.17 339 P P 12 26 22.8 -0.3
ARCES pmax pmax
comp=Z,18nm,0.8s
ARCES ARCESS Array B 59.17 339 P P 12 26 22.8 -0.3
comp=Z,17nm,0.8s,baz=38,slow=7.8,SNR=44
ARE0 ARCESS Array S 59.17 339 *e*P P 12 26 22.9 -0.2
WOJI Wonogiri, Jawa 59.33 220 P P 12 26 26.8 +2.0
comp=Z,33nm,1.2s
KRJI Kerinci 59.48 233 P P 12 26 28.0 +1.9
comp=Z,166nm,1.0s,comp=Z,2µm
LHSI Lahat 59.72 230 P P 12 26 29.0 +1.4
comp=Z,153nm,1.0s
DAG Danmarks Havn 59.88 356 ⇑*i*P P 12 26 27.1 -0.7
comp=Z,48nm,0.9s
DAG Danmarks Havn 59.88 356 ⇑*i*P P 12 26 27.1 -0.7
DAG pmax pmax
comp=Z,40nm,0.9s
MDSI Maura Dua 59.91 228 P P 12 26 29.5 +0.7
comp=Z,43nm,1.3s,comp=Z,944nm
KLMR Klimovskoe 59.97 327 *e*P P 12 26 25.6 -3.1
KLMR pmax pmax
comp=Z,89nm,1.2s
KLMR Klimovskoe 59.97 327 *e*P P 12 26 25.7 -3.0
KLMR AMP 12 26 30.1
comp=Z,89nm,1.2s
KTK1 Kautokeino 60.12 339 *e*P P 12 26 29.6 0.0
LLLB Lillooet 60.15 47 *e*P P 12 26 30.3 +0.1
comp=Z,8.8nm,1.1s
TRO Tromso 60.74 341 *e*P P 12 26 32.9 -0.9
HYB Hyderabad 60.98 267 *i*P P 12 26 36.0 -0.3
HYB *e*PcP PcP 12 27 19.0 +0.3
D03D Eldon 61.16 51 P P 12 26 38.3 +1.3
baz=304,SNR=5.9
B05A Bryant 61.32 50 P P 12 26 38.2 +0.1
baz=304,SNR=5.4
KULLO Kullorsuaq 61.63 7 ⇑*i*P P 12 26 39.1 -0.6
comp=Z,66nm,0.7s
KULLO Kullorsuaq 61.63 7 ⇑*i*P P 12 26 39.1 -0.6
KULLO pmax pmax
comp=Z,66nm,0.7s
E04D Cinebar 62.00 51 P P 12 26 44.0 +1.3
baz=304
LON Longmire 62.33 51 *e*P P 12 26 44.6 -0.3
comp=Z,2.6nm,0.8s
LON Longmire 62.33 51 *e*P P 12 26 44.6 -0.3
LON pmax pmax
comp=Z,3.0nm,0.8s
LTY Liberty 62.68 50 *e*P P 12 26 47.5 +0.2
comp=Z,4.7nm,1.0s
B08A Colville Reser 62.79 48 *e*P P 12 26 48.4 +0.4
comp=Z,12nm,1.2s
STEI Steigen 62.92 341 *e*P P 12 26 48.1 -0.2
GEYT Alibeck 63.16 298 P P 12 26 51.1 +0.6
comp=Z,4.7nm,0.5s,baz=308,slow=4.9,SNR=6.9
GEYT LR LR 12 56 03.6
comp=Z,96nm,21.5s,baz=75,slow=38
LOF Lofoten 63.16 342 *e*P P 12 26 49.6 -0.4
I03D Drain, OR 63.17 54 P P 12 26 51.7 +1.2
baz=305
FITZ Fitzroy Crossi 63.43 200 *e*P P 12 26 52.4 0.0
comp=Z,28nm,0.9s
G05D Wamic, OR 63.47 52 P P 12 26 53.5 +1.0
baz=305
WRAB Tennant Creek 63.50 191 *e*P P 12 26 51.7 -1.1
comp=Z,43nm,1.1s
WRAB Tennant Creek 63.50 191*ce*P P 12 26 51.3 -1.5
WRAB pmax pmax
comp=Z,37nm,1.0s
WB2 Warramunga Arr 63.51 191 *e*P P 12 26 52.3 -0.6
WR1 Warramunga Arr 63.51 191 *e*P P 12 26 52.5 -0.4
comp=Z,48nm,1.2s
WR1 *e*pP **pP** 12 27 17.7 +0.2
WRA Warramunga Arr 63.52 191 P P 12 26 52.5 -0.4
comp=Z,15nm,0.6s,baz=11,slow=7.1,SNR=82
WRA pP **pP** 12 27 17.7 +0.2
comp=Z,9.2nm,1.0s,baz=11,slow=7.2,SNR=3.4
WRA PKP2bc 12 55 53.7
comp=Z,0.9nm,0.8s,baz=202,slow=2.4,SNR=5.7
I04A Tendick Farm, 63.67 54 P P 12 26 55.0 +1.1
baz=306
C09A Chrisman Ranch 63.69 48 *e*P P 12 26 54.1 +0.2
comp=Z,9.0nm,0.9s
D08A Wollman Farm, 63.77 49 *e*P P 12 26 54.2 -0.2
comp=Z,4.9nm,0.8s

MOS Moscow 63.86 323 *e*P P 12 26 53.9 -0.9
MOS Moscow 63.86 323 *e*P P 12 26 53.9 -0.9
MOS *e*S S 12 35 20.0 -2.1
MOS pmax pmax
comp=Z,48nm,1.2s
F07A Phinny Hill Vi 63.88 51 *e*P P 12 26 55.5 +0.3
comp=Z,33nm,1.6s
I05D Terrebonne, OR 63.98 53 P P 12 26 56.8 +0.9
baz=306
E08A Dider Farm, El 64.02 50 *e*P P 12 26 55.8 -0.2
comp=Z,3.7nm,0.6s
NEW Newport 64.04 47 *e*P P 12 26 56.5 +0.3
comp=Z,15nm,1.3s
NEW Newport 64.04 47 *e*P P 12 26 56.5 +0.3
NEW Newport 64.04 47 *e*P P 12 26 56.5 +0.3
NEW pmax pmax
comp=Z,15nm,1.3s
NEW Newport 64.04 47 P P 12 26 56.9 +0.7
baz=306
J04D Umpqua Nationa 64.17 54 P P 12 26 58.1 +0.7
baz=306
XMIS Christmas Isla 64.18 224 *e*P P 12 26 56.8 -0.6
comp=Z,62nm,1.1s
MOR8 Moi Rana 64.49 340 *e*P P 12 26 57.4 -1.4
E09A Wood Farm, Sta 64.52 49 *e*P P 12 26 59.1 -0.3
comp=Z,10.0nm,1.1s
PINE Pine Mountain 64.53 53 *e*P P 12 26 59.6 -0.1
comp=Z,11nm,0.8s
SUMG Summit 64.54 1 *e*P P 12 26 59.3 -0.2
comp=Z,108nm,0.7s
SUMG Summit 64.54 1 ⇑*i*P P 12 27 00.2 +0.7
comp=Z,277nm,0.7s
SUMG Summit 64.54 1 ⇑*i*P P 12 27 00.2 +0.7
SUMG pmax pmax
comp=Z,280nm,0.7s
KONS Konsvik 64.56 341 *e*P P 12 26 58.8 -0.4
FIA1 FINESS Array S 64.58 332 *e*P P 12 26 59.1 -0.3
FIA0 FINESS Array S 64.58 332 *e*P P 12 26 59.2 -0.2
FIA0 FINESS Array S 64.58 332 *e*P P 12 26 59.2 -0.2
FINES FINESS Array B 64.58 332 P P 12 26 59.2 -0.2
comp=Z,115nm,0.5s,baz=46,slow=7.4,SNR=621
L04D Klamath Falls 64.65 55 P P 12 27 01.4 +0.9
baz=306
J05D Fort Rock, OR 64.66 54 P P 12 27 01.8 +1.4
baz=306
OBN Obninsk 64.72 323 *e*P P 12 27 00.1 -0.3
comp=Z,45nm,1.0s
OBN Obninsk 64.72 323 *e*P P 12 27 00.3 -0.1
OBN Obninsk 64.72 323 *e*P P 12 27 00.3 -0.1
OBN *e* 12 27 32.9
OBN *e* 12 29 25.7
OBN *e*PPP PPP 12 31 01.2
OBN pmax pmax
comp=Z,73nm,1.7s
VRH Novokhopyorsk 64.77 317 *e*P P 12 27 00.5 -0.3
VRH pmax pmax
comp=Z,120nm,0.7s
G08A Pilot Rock 64.79 51 *e*P P 12 27 00.9 -0.3
comp=Z,2.3nm,0.8s
N02D Trinity Center 65.14 56 P P 12 27 04.0 +0.5
baz=306
M04C Macdoel 65.19 55 P P 12 27 04.5 +0.6
baz=306
I07A Izee 65.20 52 *e*P P 12 27 03.9 0.0
comp=Z,4.7nm,1.1s
LPSR Galich'ya Gora 65.25 320 *e*P P 12 27 03.9 0.0
LPSR pmax pmax
comp=Z,70nm,0.8s
WALA Waterton Lakes 65.26 45 *e*P P 12 27 03.6 -0.7
comp=Z,6.6nm,0.9s
O02D Mt. Diablo Mer 65.57 57 P P 12 27 07.8 +1.5
baz=307
BMO Blue Mountains 65.99 50 *e*P P 12 27 09.2 +0.2
comp=Z,3.9nm,1.1s
BMO Blue Mountains 65.99 50 *e*P P 12 27 09.2 +0.2
BMO pmax pmax
comp=Z,4.0nm,1.1s
VSR Storozhevoye 66.01 318*c i*P P 12 27 09.0 +0.2
VSR pmax pmax
comp=Z,137nm,0.7s
MOD Modoc Plateau 66.04 54 *e*P P 12 27 09.2 -0.1
comp=Z,2.8nm,0.7s
O03E Paynes Creek 66.10 57 P P 12 27 10.0 +0.2
baz=307
PALK Pallekele 66.19 257 P P 12 27 10.4 -0.2
comp=Z,7.3nm,0.8s,baz=114,slow=7.3,SNR=3.7
J08A Circle Bar Ran 66.23 52 *e*P P 12 27 09.7 -0.9
comp=Z,6.3nm,0.9s
SCO Scoresbysund 66.25 355 *e*P P 12 27 09.9 -0.1
comp=Z,38nm,0.8s
SCO Scoresbysund 66.25 355 ⇑*i*P P 12 27 10.9 +0.9
SCO Scoresbysund 66.25 355 ⇑*i*P P 12 27 10.9 +0.9
NSS Namsos 66.43 340 *e*P P 12 27 11.1 -0.2
VSU Vasula 66.46 330*ce*P P 12 27 11.6 +0.1
VSU pmax pmax
comp=Z,221nm,0.8s
MSO Missoula 66.62 47 *e*P P 12 27 13.0 0.0
comp=Z,7.1nm,1.0s
MSO Missoula 66.62 47 P P 12 27 13.4 +0.4
baz=309
WVOR Wild Horse Val 66.70 53 *e*P P 12 27 13.4 -0.2
comp=Z,3.8nm,0.8s
WVOR Wild Horse Val 66.70 53 *e*P P 12 27 13.4 -0.2
WVOR pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 66.73 57 *e*P P 12 27 13.6 -0.1
comp=Z,4.8nm,0.8s
ORV Oroville 66.73 57 *e*P P 12 27 13.6 -0.1
ORV pmax pmax
comp=Z,5.0nm,0.8s
FFC Flin Flon 67.21 35 *e*P P 12 27 16.0 -0.4
comp=Z,11nm,0.9s
FFC Flin Flon 67.21 35 *e*P P 12 27 17.2 +0.8
FFC Flin Flon 67.21 35 *i*P P 12 27 17.2 +0.8
AS01 Alice Springs 67.23 191 *e*P P 12 27 16.6 -0.2
AS31 Alice Springs 67.24 191 *e*P P 12 27 16.7 -0.2
comp=Z,7.7nm,0.8s
ASAR Alice Springs 67.24 191 P P 12 27 17.5 +0.6
comp=Z,28nm,0.8s,baz=9.7,slow=4.9,SNR=280
ASAR PKP2bc 12 55 43.6
comp=Z,0.7nm,1.0s,baz=160,slow=3.5,SNR=4.1
ASAR LR LR 12 58 01.6
comp=Z,11nm,19.8s,baz=62,slow=37
BEKR Beckworth 67.24 56 *e*P P 12 27 16.9 -0.2
comp=Z,6.9nm,0.8s
ILULI Ilulissat 67.33 6 *i*P P 12 27 17.0 +0.1
comp=Z,38nm,0.8s
ILULI Ilulissat 67.33 6 *i*P P 12 27 17.0 +0.1
ILULI pmax pmax
comp=Z,38nm,0.8s
FCC Fort Churchill 67.40 29 *e*P P 12 27 17.0 -0.5
comp=Z,22nm,0.7s
FCC Fort Churchill 67.40 29 *e*P P 12 27 17.0 -0.5
FCC pmax pmax
comp=Z,22nm,0.7s
HRY Holter Researc 67.82 46 *e*P P 12 27 20.0 -0.5
GOF Gofitskoye 67.92 311 *e*P P 12 27 22.5 +1.4
GOF pmax pmax
comp=Z,450nm,0.8s
DZM Mont Dzumac 67.92 158 LR LR 12 53 03.0
comp=Z,52nm,19.4s,baz=15,slow=32
PAHR Pah Rah Range 67.93 56 *e*P P 12 27 20.8 -0.6
comp=Z,6.3nm,1.0s
MBWA Marble Bar 68.01 205 *e*P P 12 27 21.1 -0.7
comp=Z,31nm,1.2s
MBWA Marble Bar 68.01 205 *e*P P 12 27 22.1 +0.4
EGMT Eagleton 68.05 44 *e*P P 12 27 22.1 +0.2
comp=Z,12nm,0.8s
EGMT Eagleton 68.05 44 P P 12 27 22.6 +0.7
baz=311,SNR=11
DLMT Dillon 68.28 48 *e*P P 12 27 23.3 -0.2
comp=Z,6.4nm,0.6s
CMB Columbia Colle 68.35 58 *e*P P 12 27 24.2 +0.3
comp=Z,7.4nm,1.0s
CMB Columbia Colle 68.35 58 *e*P P 12 27 24.2 +0.3
CMB pmax pmax
comp=Z,7.0nm,1.0s
HLID Hailey 68.42 50 *e*P P 12 27 24.2 -0.2
comp=Z,4.7nm,1.1s
HLID Hailey 68.42 50 P P 12 27 25.0 +0.5
baz=310
YERR Yerington 68.47 56 *e*P P 12 27 24.5 -0.3
comp=Z,10.0nm,0.9s
NCK Nalchik 68.61 310 ⇑*e*P P 12 27 27.1 +1.7
WAKR Walker 68.64 57 *e*P P 12 27 25.7 -0.2
comp=Z,7.1nm,1.1s

BOZ Bozeman (W) 68.65 47 *e*P **P 12 27 25.5 -0.3**
comp=Z,11nm,0.8s
BOZ Bozeman (W) 68.65 47 *e*P **P 12 27 25.5 -0.3**
BOZ Bozeman (W) 68.65 47 *e*P **P 12 27 25.5 -0.3**
BOZ pmax pmax
comp=Z,11nm,0.8s
BOZ Bozeman (W) 68.65 47 P **P 12 27 26.2 +0.4**
baz=310
KIV Kislovodsk 68.82 311 *e*P **P 12 27 27.0 +0.2**
comp=Z,102nm,0.7s
KIV Kislovodsk 68.82 311 *e*P **P 12 27 28.6 +1.8**
KIV pmax pmax
comp=Z,150nm,1.1s
KIV MLR MLR
comp=Z,106nm,17.0s
KIV Kislovodsk 68.82 311 P **P 12 27 28.6 +1.8**
SNR=15
KBZ Khabaz 68.85 310 P **P 12 27 28.2 +1.4**
comp=Z,27nm,0.6s,baz=42,slow=4.6,SNR=53
KBZ LR LR 13 01 22.5
comp=Z,84nm,18.9s,baz=34,slow=39
ZEI Tsey 68.88 309 *e*P **P 12 27 26.6 -0.8**
ZEI pmax pmax
comp=Z,17nm,0.6s
TBLG Delisi 69.08 308 *e*P **P 12 27 29.0 +0.6**
comp=Z,38nm,0.8s
TBLG Delisi 69.08 308 *e*P **P 12 27 29.0 +0.6**
TBLG pmax pmax
comp=Z,38nm,0.8s
KVN Kaiserville 69.12 56 *e*P **P 12 27 29.1 +0.2**
comp=Z,12nm,1.2s
KVN Kaiserville 69.12 56 *e*P **P 12 27 29.1 +0.2**
KVN pmax pmax
comp=Z,12nm,1.2s
RYN Ryan 69.12 56 *e*P **P 12 27 29.0 +0.1**
comp=Z,5.8nm,0.9s
MOL Molde 69.17 340 *e*P **P 12 27 29.2 +0.8**
DOMB Dombas 69.23 339 *e*P **P 12 27 29.2 +0.2**
NEY Neytrino 69.25 310‖ *e*P **P 12 27 30.3 +0.7**
NEY pmax pmax
comp=Z,3.0nm,0.7s
NC303 NORSAR Array S 69.30 338 *e*P **P 12 27 29.0 -0.4**
comp=Z,29nm,0.8s
AFI Afiamalu 69.36 134 LR LR 12 58 17.0
comp=Z,17nm,18.1s,baz=52,slow=36
NV01 Mina Array Sit 69.38 56 *e*P **P 12 27 30.5 -0.1**
NVAR Mina Array Bea 69.38 56 P **P 12 27 31.9 +1.4**
comp=Z,4.8nm,0.7s,baz=289,slow=7.3,SNR=16
NVAR pP **pP 12 27 56.4 +0.7**
comp=Z,11nm,0.7s,baz=298,slow=6.7,SNR=12
YHB Horse Butte 69.43 48 *e*P **P 12 27 30.1 -0.6**
comp=Z,8.0nm,0.9s
NB201 NORSAR Array S 69.46 338 *e*P **P 12 27 30.2 -0.1**
comp=Z,48nm,0.6s
NB2 NORSAR Subarra 69.49 338 P **P 12 27 30.5 -0.1**
comp=Z,17nm,0.5s,baz=33,slow=6.5
NB2 NORSAR Subarra 69.49 338 P **P 12 27 30.5 -0.1**
baz=33,slow=6.5
NB200 NORSAR Array S 69.49 338 *e*P **P 12 27 30.8 +0.2**
NOA NORSAR Array B 69.49 338 P **P 12 27 30.8 +0.2**
comp=Z,17nm,0.5s,baz=34,slow=6.4,SNR=109
NOA LR LR 13 02 30.2
comp=Z,67nm,18.8s,baz=45,slow=40
SFJD Kangerlussuaq 69.55 6 *e*P **P 12 27 30.7 0.0**
comp=Z,25nm,0.8s
SFJD Kangerlussuaq 69.55 6 *i* P **P 12 27 32.0 +1.3**
comp=Z,28nm,0.8s
SFJD Kangerlussuaq 69.55 6 *i* P **P 12 27 32.0 +1.3**
SFJD pmax pmax
comp=Z,28nm,0.8s
SFJD Kangerlussuaq 69.55 6 *e*P **P 12 27 30.9 +0.1**
GCMT Greycliff 69.56 46 *e*P **P 12 27 31.4 0.0**
YHH Holmes Hill 69.59 47 *e*P **P 12 27 31.4 -0.5**
comp=Z,4.6nm,0.8s
YMR Madison River 69.61 48 *e*P **P 12 27 31.4 -0.4**
comp=Z,4.7nm,0.6s
NBO00 NORSAR Array S 69.62 338 *e*P **P 12 27 31.6 +0.2**
comp=Z,33nm,0.8s
AKN Aaknes 69.64 340 *e*P **P 12 27 32.0 +0.6**
NC602 NORSAR Array S 69.65 338 *e*P **P 12 27 31.0 -0.5**
ELK Elko 69.74 53 *e*P **P 12 27 32.2 -0.5**
comp=Z,2.2nm,0.8s
ELK Elko 69.74 53 *e*P **P 12 27 32.2 -0.5**
ELK pmax pmax
comp=Z,2.0nm,0.8s
NAO01 NORSAR Array S 69.75 338 *e*P **P 12 27 32.2 +0.1**
comp=Z,21nm,0.7s
LKWY Lake 69.98 47 *e*P **P 12 27 34.6 +0.4**
comp=Z,7.4nm,0.9s
LKWY Lake 69.98 47 *e*P **P 12 27 34.6 +0.4**
LKWY pmax pmax
comp=Z,7.0nm,0.9s
H17A Grant Village 70.00 48 *e*P **P 12 27 35.0 +0.7**
comp=Z,8.5nm,0.9s
IMW Indian Meadow 70.13 48 *e*P **P 12 27 35.5 +0.3**
comp=Z,6.0nm,1.0s
RLMT Red Lodge 70.22 46 *e*P **P 12 27 36.0 +0.5**
comp=Z,7.8nm,1.1s
RLMT Red Lodge 70.22 46 P **P 12 27 36.2 +0.7**
baz=312
FXWY Fox Creek 70.25 48 *e*P **P 12 27 36.2 +0.5**
comp=Z,4.1nm,0.6s
MOOW Moose Ponds 70.33 48 *e*P **P 12 27 36.8 +0.5**
comp=Z,4.2nm,0.8s
TPAW Teton Pass 70.39 48 *e*P **P 12 27 37.0 +0.4**
comp=Z,12nm,1.0s
LOHW Long Hollow 70.50 48 *e*P **P 12 27 37.7 +0.4**
comp=Z,2.9nm,0.9s
DGMT Dagmar 70.51 41 *e*P **P 12 27 37.2 +0.2**
comp=Z,17nm,0.6s
DGMT Dagmar 70.51 41 P **P 12 27 37.2 +0.2**
baz=314,SNR=6.2
REDW Red Top Meadow 70.53 49 *e*P **P 12 27 37.6 +0.2**
comp=Z,4.4nm,0.8s
VES Vestal, Richgr 70.54 59 P **P 12 27 37.3 -0.1**
baz=310
HYA Hoyanger 70.71 340 *e*P **P 12 27 38.4 +0.5**
LAO LASA Array 70.73 44 *e*P **P 12 27 38.6 +0.1**
comp=Z,13nm,1.1s
LAO LASA Array 70.73 44 P **P 12 27 39.1 +0.6**
baz=313
CWC Cottonwood Cre 70.78 58 P **P 12 27 39.9 +0.8**
baz=310
GRAC Grapevine Rang 70.87 57 P **P 12 27 40.7 +1.3**
baz=310
AKASG Malin Array Be 70.99 323 P **P 12 27 39.7 -0.1**
comp=Z,18nm,0.5s,baz=41,slow=6.7,SNR=95
AKASG PP **PP 12 30 14.8 -2.9**
comp=Z,2.0nm,0.8s,baz=41,slow=11,SNR=4.7
AKBB Malin Array Si 70.99 323 *e*P **P 12 27 39.5 -0.3**
comp=Z,60nm,0.9s
AKBB Malin Array Si 70.99 323 *e*P **P 12 27 39.5 -0.3**
AKBB pmax pmax
comp=Z,61nm,0.9s
KIEV Kiev 71.00 323 *e*P **P 12 27 39.6 -0.3**
comp=Z,59nm,0.9s
KIEV Kiev 71.00 323 *e*P **P 12 27 39.8 -0.1**
KIEV Kiev 71.00 323↓ *i*P **P 12 27 39.8 -0.1**
KIEV pmax pmax
comp=Z,65nm,0.9s
AK11 Malin Array Si 71.03 323 *e*P **P 12 27 39.6 -0.5**
SUW Suwalki 71.07 328 *e*P **P 12 27 41.4 +1.2**
SUW Suwalki 71.07 328 *e*P **P 12 27 41.4 +1.2**
R11A Troy Canyon, C 71.08 55 P **P 12 27 41.3 +0.5**
baz=310
MPMC Manual Prospec 71.39 58 P **P 12 27 43.6 +0.8**
baz=310
DUG Dugway, Tooele 71.51 52 *e*P **P 12 27 43.7 +0.3**
comp=Z,4.0nm,0.8s
DUG Dugway, Tooele 71.51 52 P **P 12 27 44.3 +0.9**
baz=311
FURC Furnace Creek, 71.52 57 P **P 12 27 44.6 +1.4**
baz=310
ASK Askoy 71.54 340 *e*P **P 12 27 43.8 +0.9**
TPNV Topopah Spring 71.58 56 *e*P **P 12 27 43.4 -0.5**
comp=Z,11nm,0.9s
TPNV Topopah Spring 71.58 56 *e*P **P 12 27 43.4 -0.5**
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV Topopah Spring 71.58 56 P **P 12 27 44.1 +0.2**
baz=310
BER Bergen 71.59 340 *e*P **P 12 27 44.2 +0.9**
BW06 Boulder Array 71.63 48 *e*P **P 12 27 44.0 -0.1**
comp=Z,6.0nm,0.6s
BW06 Boulder Array 71.63 48 P **P 12 27 44.7 +0.5**
baz=312
PD31 Pinedale Array 71.63 48 *e*P **P 12 27 43.8 -0.3**
comp=Z,5.4nm,0.6s
PDAR Pinedale Array 71.63 48 *e*P **P 12 27 43.8 -0.3**
PDAR Pinedale Array 71.63 48 P **P 12 27 44.4 +0.2**
comp=Z,4.1nm,0.4s,baz=349,slow=0.9,SNR=85
PDAR pP **pP 12 28 08.3 -1.0**
comp=Z,5.5nm,0.5s,baz=274,slow=2.4,SNR=7.2
ODD1 Odda 71.67 339 *e*P **P 12 27 44.5 +0.6**
TCUT Toone Canyon 71.70 51 *e*P **P 12 27 44.9 +0.3**
comp=Z,11nm,0.8s
WSAR Wadi Sarin 71.74 285 P **P 12 27 46.9 +2.1**
comp=Z,4.3nm,0.6s,baz=72,slow=2.7,SNR=3.2
EDW2 Edwards Air Fo 71.84 59 P **P 12 27 46.4 +1.1**
baz=310
PSUT Pine Spring 71.99 54 *e*P **P 12 27 46.7 +0.4**
comp=Z,4.6nm,0.9s
MPU Maple Canyon 72.30 52 *e*P **P 12 27 48.9 +0.7**
comp=Z,4.5nm,0.7s
SHPR Sheep Range 72.53 56 *e*P **P 12 27 49.7 +0.2**
comp=Z,5.1nm,0.9s
TUQ Turquoise Moun 72.77 58 P **P 12 27 52.0 +1.1**
baz=311
SNART Snartemo 72.87 338 *e*P **P 12 27 51.0 +0.1**
HEC Hector,Ludlow 72.91 58 P **P 12 27 52.8 +1.2**
baz=311
ULM Lac du Bonnet 73.02 36 P **P 12 27 51.8 -0.2**
comp=Z,4.2nm,0.6s,baz=310,slow=6.6,SNR=8.7
ULM pP **pP 12 28 16.6 -0.7**
comp=Z,9.5nm,0.9s,baz=311,slow=7.2,SNR=6.8
TMUT Trail Mountain 73.03 52 *e*P **P 12 27 52.6 0.0**
comp=Z,3.3nm,1.0s
SZCU Shurtz Canyon 73.06 54 *e*P **P 12 27 52.6 -0.1**
comp=Z,3.4nm,0.9s
P17A Butcher Ranch, 73.18 52 *e*P **P 12 27 53.8 +0.4**
comp=Z,5.4nm,0.9s
BSD Bornholm Skovb 73.21 333 *i* P **P 12 27 55.1 +2.1**
comp=Z,56nm,0.6s
BSD Bornholm Skovb 73.21 333 *i* P **P 12 27 55.1 +2.1**
BSD pmax pmax
comp=Z,56nm,0.6s
MTPU Mount Pierson 73.30 53 *e*P **P 12 27 54.8 +0.5**
comp=Z,2.5nm,0.7s
K22A Casper 73.35 47 P **P 12 27 54.7 +0.4**
baz=314
GMRC Granite Mounta 73.36 58 P **P 12 27 54.8 +0.4**
baz=311
LCMT Little Creek M 73.36 55 *e*P **P 12 27 54.1 -0.3**
comp=Z,5.8nm,1.0s
P18A Preston Nutter 73.36 51 *e*P **P 12 27 54.3 -0.3**
comp=Z,4.5nm,1.0s
SRU San Rafael Swe 73.55 52 *e*P **P 12 27 55.4 -0.1**
comp=Z,5.8nm,0.8s
SRU San Rafael Swe 73.55 52 *e*P **P 12 27 55.4 -0.1**
SRU pmax pmax
comp=Z,6.0nm,0.8s
RSSD Black Hills 73.62 44 *e*P **P 12 27 56.0 0.0**
comp=Z,9.7nm,1.1s
RSSD Black Hills 73.62 44 *e*P **P 12 27 56.0 0.0**
RSSD pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 73.62 44 P **P 12 27 55.8 -0.1**
baz=315
PFO Pinyon Flats O 73.62 59 P **P 12 27 56.3 +0.3**
baz=311
MHTO MHTO 73.65 284 P **P 12 27 57.1 +1.0**
SNR=7.3
BELC Belle Mtn. Jos 73.66 59 P **P 12 27 57.4 +1.2**
baz=311
BEL Belsk 73.67 328 *e*P **P 12 27 58.1 +2.3**
BEL Belsk 73.67 328 *e*P **P 12 27 58.1 +2.3**
KIS Kishinev 73.85 320 *e* **P 12 27 57.0 +0.1**
KIS Kishinev 73.85 320 *e*P **P 12 27 57.0 +0.1**
KIS *e* 12 28 22.0
LVV L'vov 73.89 325 *e*P **P 12 27 58.7 +1.6**
LVV *e* 12 28 23.4
MUD Monsted U'grnd 73.92 336 *i* P **P 12 27 59.7 +2.6**
comp=Z,16nm,0.4s
MUD Monsted U'grnd 73.92 336 *i* P **P 12 27 59.7 +2.6**
MUD pmax pmax
comp=Z,16nm,0.4s
IRM Iron Mountain 74.09 58 P **P 12 27 59.6 +1.0**
baz=312
O20A White River Ci 74.14 50 *e*P **P 12 27 58.7 -0.3**
comp=Z,12nm,1.4s
O20A White River Ci 74.14 50 P **P 12 27 59.6 +0.6**
baz=314
U15A North Rim 74.31 55 *e*P **P 12 28 00.0 -0.1**
comp=Z,6.1nm,1.0s
DIKM Dikhen 74.42 313↓ *i*P **P 12 28 02.1 +1.8**
IKP In-Ko-Pah, Jac 74.48 60 P **P 12 28 02.1 +1.2**
baz=312
AGMN Agassiz Nation 74.49 37 *e*P **P 12 28 00.0 -0.6**
comp=Z,4.9nm,0.8s
AGMN Agassiz Nation 74.49 37 P **P 12 28 00.8 +0.2**
baz=319
KWP Kalwaria Pacla 74.59 325 *e*P **P 12 28 02.7 +1.5**
KWP Kalwaria Pacla 74.59 325 *e*P **P 12 28 00.8 -0.4**
comp=Z,287nm,0.7s
KWP Kalwaria Pacla 74.59 325 *e*P **P 12 28 02.7 +1.5**
PDMCI Parker Dam,Lak 74.61 57 P **P 12 28 02.8 +1.3**
baz=312
STKA Stephens Creek 74.73 183 *e*P **P 12 28 01.5 -0.5**
comp=Z,3.8nm,0.9s
STKA Stephens Creek 74.73 183 P **P 12 28 02.9 +1.0**
comp=Z,14nm,0.9s,baz=346,slow=8.0,SNR=30
STKA pP **pP 12 28 27.9 +0.5**
comp=Z,3.9nm,0.8s,baz=337,slow=14,SNR=3.3
STKA LR LR 13 02 07.6
comp=Z,20nm,20.0s,baz=26,slow=36
Y12C Blythe 74.74 58 *e*P **P 12 28 02.1 -0.2**
comp=Z,12nm,0.9s
Y12C Blythe 74.74 58 P **P 12 28 03.5 +1.2**
baz=312
N23A Red Feather La 74.88 48 P **P 12 28 04.1 +0.8**
baz=314,SNR=6.4
BUR08 Bucovina Ar. S 75.03 322 *e*P **P 12 28 04.2 +0.3**
comp=Z,18nm,0.8s
BURAR Bucovina Array 75.04 322↓ *i*P **P 12 28 04.9 +1.0**
BURAR Bucovina Array 75.04 322↓ P **P 12 28 04.9 +1.0**
PV05 Paradox Valley 75.07 52 *e*P **P 12 28 04.4 0.0**
comp=Z,9.2nm,0.8s
BIZ Bicaz 75.15 322↓ *i*P **P 12 28 05.6 +1.2**
FORT Forrest 75.15 195 *e*P **P 12 28 04.6 +0.2**
comp=Z,61nm,0.9s
TLCR 75.17 319↓ *i*P **P 12 28 07.4 +2.8**
TLCR 75.17 319↓ P **P 12 28 07.4 +2.8**
TESR Tescani 75.22 321↑ *i*P **P 12 28 05.6 +0.8**
OJC Ojcow 75.33 327 *e*P **P 12 28 06.0 +0.7**
OJC Ojcow 75.33 327 *e*P **P 12 28 05.6 +0.3**
comp=Z,32nm,0.6s
OJC Ojcow 75.33 327 *e*P **P 12 28 06.1 +0.7**
WUAZ Wupatki 75.48 55 P **P 12 28 05.9 -0.8**
baz=313
CFR Carcaliu 75.50 319↓ *i*P **P 12 28 07.2 +0.8**
CFR Carcaliu 75.50 319↓ P **P 12 28 07.2 +0.8**
UZH Uzhgorod 75.54 325 *e*P **P 12 28 07.4 +0.8**
UZH *e* 12 28 24.5
UZH *e* 12 28 41.7
Y14A Wickenburg 75.56 57 *e*P **P 12 28 07.2 +0.2**
comp=Z,9.3nm,1.0s
ODBI Odobesti 75.58 320↓ *i*P **P 12 28 08.9 +2.0**
VRI Vrincioaia 75.66 320↓ *i*P **P 12 28 08.3 +0.9**
VRI Vrincioaia 75.66 320↓ P **P 12 28 08.3 +0.9**
PLOR Plostina 75.71 320↓ *i*P **P 12 28 10.4 +2.7**
PLOR Plostina 75.71 320↓ P **P 12 28 10.4 +2.7**
NIE Niedzica 75.75 326 *e*P **P 12 28 09.1 +1.2**
NIE Niedzica 75.75 326 *e*P **P 12 28 09.1 +1.2**
TRPA Tarpa 75.82 324↑ *i*P **P 12 28 09.6 +1.4**
TRPA Tarpa 75.82 324‖ *e*P **P 12 28 10.0 +1.8**
TRPA Tarpa 75.82 324‖ *e*P **P 12 28 09.0 +0.9**
ARCR ARCALIA 75.82 323↓ *i*P **P 12 28 10.2 +1.9**
ISCO Idaho Springs 75.83 48 *e*P **P 12 28 08.9 +0.1**
comp=Z,7.5nm,1.4s
ISCO Idaho Springs 75.83 48 *e*P **P 12 28 08.9 +0.1**
ISCO pmax pmax
comp=Z,8.0nm,1.4s
ISCO Idaho Springs 75.83 48 P **P 12 28 09.7 +0.8**
baz=315
OZUR 75.92 321↑ *i*P **P 12 28 10.9 +2.0**
SUSD Miller 75.92 41 P **P 12 28 09.0 +0.1**
baz=318
TLB Topalu 75.99 319↓ *i*P **P 12 28 12.0 +2.8**
TLB Topalu 75.99 319↓ P **P 12 28 12.0 +2.8**
MVCO Mesa Verde 76.01 52 P **P 12 28 10.2 +0.4**
baz=314
BBOO Buckleboo 76.02 188 *e*P **P 12 28 09.5 +0.1**
comp=Z,31nm,0.9s
KSP Ksiaz 76.18 329 *e*P **P 12 28 11.1 +0.9**
KSP Ksiaz 76.18 329 *e*P **P 12 28 11.1 +0.9**
X16A Lo Mia Camp, P 76.18 56 *e*P **P 12 28 11.1 +0.3**
comp=Z,5.2nm,0.8s
OKC Ostrava-Krasne 76.28 328 *e*P **P 12 28 11.7 +0.9**
OKC Ostrava-Krasne 76.28 328 *e*P **P 12 28 11.7 +0.9**
LANS Liptovska Anna 76.30 327 *e*P **P 12 28 12.9 +1.9**
LANS Liptovska Anna 76.30 327 *e*P **P 12 28 12.9 +1.9**
MLR Muntele Rosu 76.31 321 *e*P **P 12 28 11.7 +0.5**
comp=Z,35nm,1.5s
MLR Muntele Rosu 76.31 321↑ *i*P **P 12 28 13.4 +2.2**
MLR Muntele Rosu 76.31 321 *e*P **P 12 28 11.7 +0.5**
MLR pmax pmax
comp=Z,35nm,1.5s
CJR Cluj-Napoca 76.44 323↑ *i*P **P 12 28 14.4 +2.5**
CJR Cluj-Napoca 76.44 323↑ P **P 12 28 14.4 +2.5**
MORW Morawa 76.56 206 *e*P **P 12 28 12.9 +0.5**
comp=Z,37nm,1.2s
UPC Upice 76.56 329 *e*P **P 12 28 13.4 +1.0**
UPC Upice 76.56 329 *e*P **P 12 28 13.4 +1.0**
MORC Moravsky Berou 76.56 328 *e*P **P 12 28 12.8 +0.3**
comp=Z,24nm,0.7s
MORC Moravsky Berou 76.56 328↓ *i*P **P 12 28 13.8 +1.3**
MORC Moravsky Berou 76.56 328↓ P **P 12 28 13.8 +1.3**
MORC Moravsky Berou 76.56 328 *e*P **P 12 28 13.4 +0.9**
DPC Dobruska-Polom 76.57 329 *e*P **P 12 28 13.7 +1.2**
DPC Dobruska-Polom 76.57 329 *e*P **P 12 28 13.7 +1.2**
S22A 4UR Ranch, Cre 76.59 51 *e*P **P 12 28 12.9 -0.2**
comp=Z,5.1nm,1.1s
S22A 4UR Ranch, Cre 76.59 51 P **P 12 28 13.8 +0.7**
baz=315
KRLC Kraliky 76.62 329 *e*P **P 12 28 13.7 +0.9**
KRLC *e*pP **pP 12 28 39.7 +1.4**
KRLC Kraliky 76.62 329 *e*P **P 12 28 13.7 +0.9**
KRLC *e* 12 28 39.7
EYMN Ely 76.64 35 *e*P **P 12 28 12.7 -0.2**
comp=Z,8.0nm,0.7s
EYMN Ely 76.64 35 P **P 12 28 12.6 -0.3**
baz=321,SNR=7.9
BR101 Keskin Array S 76.65 312 *e*P **P 12 28 13.7 +0.4**
BR101 *e*pP **pP 12 28 38.2 -0.5**
BR131 Keskin Array S 76.65 312 *e*P **P 12 28 13.2 0.0**
comp=Z,5.9nm,0.9s
BRTR Keskin Array B 76.65 312 P **P 12 28 13.7 +0.4**
comp=Z,3.9nm,0.7s,baz=68,slow=3.3,SNR=12
BRTR pP **pP 12 28 38.2 -0.5**
comp=Z,1.2nm,0.8s,baz=93,slow=4.2,SNR=1.9
BRTR PP PP 12 30 50.4 -16
comp=Z,0.9nm,0.7s,baz=80,slow=7.3,SNR=3.6
BRTR LR LR 13 08 19.2
comp=Z,50nm,19.7s,baz=68,slow=41
VOIR 76.76 321↓ *i*P **P 12 28 15.3 +1.6**
VOIR 76.76 321↓ P **P 12 28 15.3 +1.6**
DRGR 76.77 323↓ *i*P **P 12 28 14.6 +0.9**
DRGR 76.77 323↓ P **P 12 28 14.6 +0.9**
OGNE Ogallala 76.93 46 P **P 12 28 15.3 +0.5**
baz=316
ANTO Ankara 77.00 313 *e*P **P 12 28 15.4 +0.3**
comp=Z,17nm,0.8s
ANTO Ankara 77.00 313 *e*P **P 12 28 15.5 +0.3**
ANTO pmax pmax
comp=Z,17nm,0.8s
ANTO Ankara 77.00 313 *e*P **P 12 28 17.4 +2.3**
ARR Arges 77.00 321↓ *i*P **P 12 28 16.9 +1.8**
RETH Rethem/Aller, 77.02 334 *e*P **P 12 28 15.4 +0.6**
comp=Z,32nm,1.1s,baz=32,slow=5.5
BRG Berggiesshubel 77.02 331 *e*P **P 12 28 14.7 -0.3**
comp=Z,8.7nm,0.9s
BRG *e*pP **pP 12 28 41.7 +1.2**
comp=Z,18nm,1.4s
BRG *e*PP PP 12 30 51.6 -17
comp=Z,32nm,1.9s
comp=N,2μm,17.8s
comp=E,3μm,16.0s
comp=Z,6μm,17.9s
BRG Berggiesshubel 77.02 331 *e*P **P 12 28 14.7 -0.3**
BRG Berggiesshubel 77.02 331 *e*P **P 12 28 14.7 -0.3**
BRG *e**PP **pP 12 28 41.7 +1.2**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG pmax pmax
comp=Z,18nm,1.5s
BRG pmax pmax
comp=Z,32nm,1.9s
BRG MLR MLR
comp=N,2μm,17.8s
BRG MLR MLR
comp=E,3μm,16.0s
BRG MLR MLR
comp=Z,6μm,17.9s
VYHS Vyhne 77.07 326 *e*P **P 12 28 16.3 +1.0**
VYHS *e* 12 28 42.7
VYHS pmax pmax
comp=Z,10.0nm,0.8s
VYHS Vyhne 77.07 326 *e*P **P 12 28 16.3 +1.0**
VYHS *e*pP **pP 12 28 42.7 +1.8**
PVCC Panska Ves 77.08 330 *e*P **P 12 28 16.2 +0.9**
PVCC *e*pP **pP 12 28 41.1 +0.2**
PVCC Panska Ves 77.08 330 *e*P **P 12 28 16.2 +0.9**
PVCC *e* 12 28 41.1
PSZ Piszkesteto 77.10 325 *e*P **P 12 28 16.1 +0.6**
comp=Z,14nm,0.9s
PSZ Piszkesteto 77.10 325↑ *i*P **P 12 28 17.1 +1.6**
PSZ Piszkesteto 77.10 325↑ P **P 12 28 17.1 +1.6**
PSZ Piszkesteto 77.10 325‖ *e*P **P 12 28 19.1 +3.5**
ASSE Asse, Remlinge 77.11 333 *e*P **P 12 28 16.6 +1.3**
comp=Z,23nm,1.1s,baz=32,slow=5.5
FBE Freiberg 77.19 331 *e*P **P 12 28 16.6 +0.7**
comp=Z,24nm,1.0s,baz=32,slow=5.5
JAVC Velka Javorina 77.25 327 *e*P **P 12 28 18.3 +1.9**
VRAC Vranov 77.31 328↓ *i*P **P 12 28 18.2 +1.6**
VRAC Vranov 77.31 328↓ P **P 12 28 18.2 +1.6**
VRAC Vranov 77.31 328 *e*P **P 12 28 17.6 +1.0**
LOT Lotru 77.33 322↑ *i*P **P 12 28 19.2 +2.2**
SDCO Great Sand Dun 77.34 50 *e*P **P 12 28 17.6 +0.2**
comp=Z,7.0nm,1.5s
SDCO Great Sand Dun 77.34 50 P **P 12 28 17.9 +0.6**
baz=315
CLZ Clausthal 77.45 333 *e*P **P 12 28 18.2 +0.8**
comp=Z,64nm,1.4s,baz=32,slow=5.5
GOPC GO Pecny, Ondr 77.50 329 *e*P **P 12 28 18.2 +0.5**
GOPC GO Pecny, Ondr 77.50 329 *e*P **P 12 28 18.2 +0.5**
NEUB Neuenburg 77.51 332 *e*P **P 12 28 17.8 +0.2**
comp=Z,35nm,0.9s,baz=32,slow=5.5
PRU Pruhonice 77.53 330 *e*P **P 12 28 18.7 +0.9**
PRU *e*pP **pP 12 28 44.1 +0.7**
PRU Pruhonice 77.53 330 *e*P **P 12 28 18.7 +0.9**
PRU *e* 12 28 44.1
ECSD EROS Data Cent 77.58 41 *e*P **P 12 28 17.8 -0.4**
comp=Z,4.9nm,0.6s
ECSD EROS Data Cent 77.58 41 P **P 12 28 18.5 +0.2**
baz=319
KRUC Moravsky 77.58 328 *e*P **P 12 28 19.0 +0.9**
E38A The Farm, Brul 77.67 36 *e*P **P 12 28 18.1 -0.5**
comp=Z,12nm,0.4s
E38A The Farm, Brul 77.67 36 P **P 12 28 18.2 -0.5**
baz=322,SNR=5.1
TREC Trest 77.74 329 *e*P **P 12 28 19.7 +0.6**
TREC Trest 77.74 329 *e*P **P 12 28 19.7 +0.6**
MODS Modra-Piesok 77.80 327 *e*P **P 12 28 21.1 +1.8**
MODS pmax pmax
comp=Z,20nm,1.0s
MODS Modra-Piesok 77.80 327 *e*P **P 12 28 21.1 +1.8**
GZR Gura Zlata 77.82 322↓ *i*P **P 12 28 20.1 +0.5**
GZR Gura Zlata 77.82 322↓ P **P 12 28 20.2 +0.6**
F37A Hinrichs Farm, 77.89 37 P **P 12 28 20.0 +0.1**
baz=321
IBBN Ibbenburen 77.90 335 *e*P **P 12 28 20.0 +0.2**
comp=Z,31nm,0.9s,baz=32,slow=5.5
PLN Plauen 77.98 331 *e*P **P 12 28 20.8 +0.5**
baz=32,slow=5.5
ZST Bratislava 78.01 327 *e*P **P 12 28 21.2 +0.7**
ZST Bratislava 78.01 327 *e*P **P 12 28 21.2 +0.7**
KSCO Kaye Shedlock' 78.01 47 P **P 12 28 20.7 -0.2**
baz=316
GUNZ Gunzen 78.02 331 *e*P **P 12 28 21.1 +0.5**
comp=Z,8.8nm,0.7s,baz=32,slow=5.5
TUC Tucson 78.03 57 *e*P **P 12 28 20.6 -0.4**
comp=Z,6.9nm,1.1s
TUC Tucson 78.03 57 *e*P **P 12 28 20.6 -0.4**
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC Tucson 78.03 57 P **P 12 28 21.7 +0.7**
baz=314
F38A Pierce - Schro 78.03 37 P **P 12 28 21.0 +0.3**

baz=322
MOX Moxa 78.03 332 *e*P P 12 28 20.8 +0.2
comp=Z,16nm,1.3s,baz=32,slow=5.5
NKC Novy Kostel 78.09 331 *e*P P 12 28 21.1 +0.2
NKC Novy Kostel 78.09 331 *e*P P 12 28 21.1 +0.2
BZS Buzias 78.17 323⇓*i*P P 12 28 22.0 +0.6
BZS Buzias 78.17 323 ⇓P P 12 28 22.0 +0.6
E39A Mellen 78.27 36 P P 12 28 22.0 0.0
baz=322
T25A Trinidad 78.38 50 P P 12 28 23.7 +0.7
baz=316
F39A Loretta 78.48 36 P P 12 28 23.0 -0.1
baz=322
E40A Wakefield 78.50 35 P P 12 28 23.1 -0.2
baz=323,SNR=11
D41A Chassel 78.56 34 P P 12 28 23.2 -0.4
baz=323
KHC Kasperske Hory 78.59 330 *e*P P 12 28 23.7 -0.1
comp=Z,6.5nm,0.7s
KHC Kasperske Hory 78.59 330 *e*P P 12 28 24.4 +0.6
KHC *e*pP pP 12 28 49.1 -0.3
KHC Kasperske Hory 78.59 330 *e*P P 12 28 24.4 +0.6
KHC Kasperske Hory 78.59 330 *e*P P 12 28 24.4 +0.6
KHC *e* 12 28 49.1
SOP Sopron 78.64 327⇓*e*P P 12 28 26.1 +2.1
G38A Ridgeland 78.66 37 P P 12 28 23.6 -0.6
baz=322
CONA Conrad Observa 78.71 328 *i* P P 12 28 26.0 +1.5
comp=Z,9.1nm,0.5s,SNR=7.9
SCHQ Schefferville 78.74 18 *e*P P 12 28 24.6 +0.2
comp=Z,10nm,0.6s
SCHQ Schefferville 78.74 18 P P 12 28 24.3 -0.1
comp=Z,7.5nm,0.5s,baz=284,slow=6.2,SNR=13
SCHQ pP pP 12 28 50.3 +0.2
comp=Z,8.6nm,0.7s,baz=14,slow=5.7,SNR=4.8
SCHQ LR LR 13 07 09.8
comp=Z,47nm,18.4s,baz=328,slow=39
ANMO Albuquerque 78.77 52 *e*P P 12 28 24.9 -0.3
comp=Z,3.0nm,1.0s
ANMO Albuquerque 78.77 52*ce*P P 12 28 25.5 +0.3
ANMO pmax pmax
comp=Z,4.0nm,1.7s
ANMO Albuquerque 78.77 52 P P 12 28 25.7 +0.5
baz=315
MDVR Moldovita 78.77 322⇑*i*P P 12 28 26.4 +1.6
F40A Park Falls 78.82 36 P P 12 28 25.1 +0.1
baz=322
WET Wettzell 78.84 330 *e*P P 12 28 25.7 +0.6
baz=32,slow=5.5
G39A Holcombe 78.87 37 P P 12 28 25.3 0.0
baz=322
E41A Kenton 78.87 35 P P 12 28 25.1 -0.1
baz=323
GRA1 Grafenberg Arr 78.97 331 *e*P P 12 28 25.2 -0.6
comp=Z,50nm,1.3s
GRF Grafenberg Arr 78.97 331 *e*P P 12 28 26.4 +0.6
comp=Z,22nm,0.8s,baz=32,slow=5.5
GRF *e*pP pP 12 28 53.2 +1.7
GRF Grafenberg Arr 78.97 331 *e*P P 12 28 25.2 -0.6
GRF pmax pmax
comp=Z,50nm,1.3s
GRFO Grafenberg 78.97 331 *e*P P 12 28 25.3 -0.5
comp=Z,37nm,1.2s
GRFO Grafenberg 78.97 331 *e*P P 12 28 25.3 -0.5
GRFO pmax pmax
comp=Z,37nm,1.2s
H39A Augusta 79.29 37 P P 12 28 27.4 -0.2
baz=322
G40A Rib Lake 79.30 36 P P 12 28 27.6 0.0
baz=323
E42A Champion 79.33 34 P P 12 28 27.4 -0.4
baz=324
F41A Three Lakes 79.39 35 *e*P P 12 28 28.0 -0.2
comp=Z,16nm,1.0s
F41A Three Lakes 79.39 35 P P 12 28 28.1 0.0
baz=323
MOA Molln 79.39 329 *i* P P 12 28 29.4 +1.3
comp=Z,7.5nm,0.7s
319A Douglas 79.59 57 *e*P P 12 28 29.6 -0.1
comp=Z,16nm,0.8s
121A Cookes Peak, D 79.69 55 P P 12 28 30.9 +0.7
baz=315
H40A Chili 79.73 37 P P 12 28 30.3 +0.3
baz=322
E43A Lone Tree Farm 79.75 34 P P 12 28 30.1 +0.1
baz=324
VTS Vitosha 79.76 320 *e*P P 12 28 30.7 +0.3
comp=Z,7.7nm,0.7s
VTS Vitosha 79.76 320⇓*i*P P 12 28 32.1 +1.7
VTS Vitosha 79.76 320 ⇓P P 12 28 32.1 +1.7
NWAO Narrogin (SRO) 79.80 203 *e*P P 12 28 30.3 +0.1
comp=Z,57nm,0.8s
NWAO Narrogin (SRO) 79.80 203 *e*P P 12 28 30.3 +0.1
NWAO pmax pmax
comp=Z,57nm,0.8s
I39A Houston 79.84 38 *e*P P 12 28 30.4 -0.2
comp=Z,15nm,0.6s
I39A Houston 79.84 38 P P 12 28 30.7 +0.1
baz=322
BEBN Eben Emael 79.86 335 ⇑P P 12 28 31.3 +0.8
MEM Membach 79.92 335 ⇑P P 12 28 31.5 +0.6
comp=Z,16nm,1.1s
GROS Grobnik 80.05 327 *i* P P 12 28 32.2 +0.4
H41A Junction City 80.05 36 P P 12 28 31.0 -0.7
baz=323
SOKA Soboth 80.06 327 *e*P P 12 28 32.8 +0.9
comp=Z,14nm,0.8s,SNR=10
DIVS Divibare 80.07 323 *e*P P 12 28 31.9 0.0
comp=Z,8.6nm,0.8s
J39A Decorah 80.16 38 P P 12 28 32.0 -0.3
baz=322
I40A Norwalk 80.21 37 P P 12 28 32.6 0.0
baz=322
BCLA Clavier 80.30 335 ⇑P P 12 28 35.7 +2.8
MATQ Matagami 80.32 26 P P 12 28 33.0 -0.1
baz=330
TOO Toolangi 80.36 179 *e*P P 12 28 33.5 +0.3
comp=Z,6.1nm,0.7s
TOO Toolangi 80.36 179 *e*P P 12 28 33.5 +0.3
TOO pmax pmax
comp=Z,6.0nm,0.7s
G43A Wallace 80.37 35 P P 12 28 33.5 +0.1
baz=324
KBA Koelnbreinsper 80.38 329 *e*P P 12 28 35.2 +1.5
comp=Z,22nm,0.6s,SNR=14
I41A Arkdale 80.40 37 P P 12 28 32.9 -0.7
baz=323
E45A Wooded Hills, 80.49 32 P P 12 28 32.9 -1.2
baz=326
D46A Sault St. Mari 80.49 32 P P 12 28 33.5 -0.5
baz=326
SNF Seneffe 80.53 336 ⇑P P 12 28 35.9 +1.7
LEGS Legarje 80.55 327 *i* P P 12 28 34.5 +0.2
J40A Soldiers Grove 80.55 37 P P 12 28 33.7 -0.7
baz=322
K39A Oelwein 80.57 39 P P 12 28 34.2 -0.3
baz=322
RAYN Ar Rayn 80.62 293 *e*P P 12 28 34.9 -0.3
comp=Z,19nm,1.5s
RAYN Ar Rayn 80.62 293 *e*P P 12 28 34.9 -0.3
RAYN pmax pmax
comp=Z,19nm,1.5s
MYKA Terra Mystica 80.64 328 *e*P P 12 28 35.2 +0.2
comp=Z,15nm,0.8s
D47A Chapleau 80.71 31 P P 12 28 34.1 -1.1
baz=327
BLY Banja Luka 80.76 325⇓*i*P P 12 28 35.8 +0.3
DOU Dourbes 80.80 335 ⇑P P 12 28 36.3 +0.7
WATA Walderalm 80.83 330 *i* P P 12 28 37.3 +1.3
comp=Z,11nm,0.6s
WTTA Wattenberg 80.87 330 *e*P P 12 28 36.9 +0.6
comp=Z,13nm,0.7s
J41A Loganville 80.89 37 P P 12 28 34.9 -1.4
baz=323
L39A Vinton 80.98 39 P P 12 28 36.2 -0.5
baz=322,SNR=5.6
MOTA Moosalm 81.00 330 *e*P P 12 28 37.4 +0.5
comp=Z,9.1nm,0.6s,SNR=12
RETA Reute 81.00 330 *i* P P 12 28 37.5 +0.7
comp=Z,8.4nm,1.2s
SQTA Sankt Quirin 81.06 330 *e*P P 12 28 38.4 +1.2
comp=Z,10nm,0.6s
KSU1 Kansas State U 81.08 44 P P 12 28 36.4 -0.9
baz=320
D48A Paudash Townsh 81.09 30 P P 12 28 36.2 -1.0
baz=328
BFO Black Forest 81.13 332 *e*P P 12 28 37.6 +0.1
comp=Z,7.3nm,0.9s
BFO Black Forest 81.13 332 *i* P P 12 28 38.4 +0.9
LSQQ Lebel-sur-Quev 81.14 26 P P 12 28 36.3 -1.1
baz=331
E47A Iron Bridge 81.14 31 P P 12 28 36.7 -0.8
baz=327
D49A Beulah Townshi 81.17 30 P P 12 28 37.1 -0.5
baz=328
CHGQ Chibougamau 81.21 24 P P 12 28 37.2 -0.6
baz=332
J42A Columbus 81.32 37 P P 12 28 37.7 -0.8
baz=323
K41A Shullsburg 81.37 38 P P 12 28 38.1 -0.7
baz=323
L40A Anamosa 81.38 39 P P 12 28 38.6 -0.3
baz=322
FETA Feichten 81.41 330 *e*PcP P 12 28 40.4 +1.3
comp=Z,7.2nm,0.8s
M39A Webster 81.41 40 P P 12 28 37.5 -1.4
baz=322,SNR=6.3
G46A Petoskey 81.47 33 P P 12 28 38.9 -0.4
baz=326
DAVA Damuels 81.49 331 *e*P P 12 28 40.4 +0.9
comp=Z,9.9nm,0.8s
AMTX Amarillo 81.53 50 *e*P P 12 28 39.9 0.0
comp=Z,20nm,1.4s
AMTX Amarillo 81.53 50 P P 12 28 40.2 +0.3
baz=318
E48A Lockeyer 81.54 31 P P 12 28 39.0 -0.6
baz=327
MSTX Muleshoe 81.59 51 *e*P P 12 28 40.1 -0.1
comp=Z,5.0nm,0.9s
MSTX Muleshoe 81.59 51 P P 12 28 40.3 0.0
baz=317
ECH Echery 81.63 333 *e*P P 12 28 39.4 -0.7
comp=Z,8.7nm,0.9s
ECH Echery 81.63 333 *e*P P 12 28 39.4 -0.7
ECH pmax pmax
comp=Z,9.0nm,0.9s
K42A Prairie Point, 81.66 37 P P 12 28 39.8 -0.4
baz=323
L41A Preston 81.70 38 P P 12 28 40.5 -0.1
baz=323
MNTX Cornudas Mount 81.71 54 *e*P P 12 28 41.0 +0.2
comp=Z,5.6nm,1.0s
MNTX Cornudas Mount 81.71 54 P P 12 28 41.3 +0.5
baz=316
PDG Podgorica 81.72 322⇓*i*P P 12 28 41.2 +0.6
M40A Post Highland 81.77 39 P P 12 28 40.1 -0.8
baz=322,SNR=5.8
D50A G1974 Best Tow 81.80 29 P P 12 28 40.6 -0.4
baz=329
VLDQ Val d'Or 81.81 27 *e*P P 12 28 39.9 -1.0
comp=Z,33nm,0.6s
FUORN Ofenpass-Fuorn 81.91 330 *e*P P 12 28 41.7 -0.2
comp=Z,12nm,0.8s
H46A Fife Lake 81.98 34 P P 12 28 41.7 -0.3
baz=326
N40A Mertquake, Sal 82.15 40 P P 12 28 42.6 -0.3
baz=322,SNR=6.4
H47A Mio 82.33 33 P P 12 28 43.5 -0.3
baz=326
TUE Stuetta 82.37 331 *e*P P 12 28 43.8 -0.5
comp=Z,8.7nm,0.7s
D52A ZEK Kipawa Sen 82.47 28 P P 12 28 43.8 -0.6
baz=330
E51A G1948 Merrick 82.47 29 P P 12 28 43.7 -0.7
baz=329
M42A Sheffield 82.53 38 P P 12 28 44.0 -0.9
baz=323
H48A Harrisville 82.59 32 P P 12 28 44.2 -0.9
baz=327
D53A Lac Vacive, Po 82.62 28 P P 12 28 44.8 -0.4
baz=330
L44A Lake County Fo 82.77 37 P P 12 28 44.5 -1.6
baz=324
M43A Waltham Townsh 82.91 38 P P 12 28 46.2 -0.6
baz=324
N42A Yates City 82.91 39 P P 12 28 46.1 -0.8
baz=323,SNR=5.6
D54A Lac Fusel, La 82.91 27 P P 12 28 46.0 -0.8
baz=331
O41A Paseleys Farm, 83.08 40 P P 12 28 47.5 -0.3
baz=323,SNR=5.1
F52A Sundridge 83.16 29 P P 12 28 47.5 -0.6
baz=329
SENIN Lac Senin/Sane 83.19 332 *e*P P 12 28 48.4 -0.1
comp=Z,12nm,1.0s
KLBO Killbear Provi 83.22 30 P P 12 28 48.0 -0.4
baz=329
WMOK Wichita Mounta 83.24 48 P P 12 28 48.5 -0.2
baz=319
E53A Dumoine, Ponti 83.24 28 P P 12 28 47.6 -0.9
baz=330
P41A Barry, Barry 83.35 40 P P 12 28 48.8 -0.3
baz=323
M44A Midewin, Midew 83.35 37 P P 12 28 49.1 0.0
baz=324
HDIL Hopedale 83.46 38 P P 12 28 50.0 +0.3
baz=324
BRCO Bruce Peninsul 83.70 31 P P 12 28 48.7 -2.2
baz=328
P42A Winchester 83.75 40 P P 12 28 50.0 -1.2
baz=323,SNR=5.2
Q41A Truxton 83.84 41 P P 12 28 51.5 -0.2
baz=323,SNR=5.7
K48A Perry 83.86 34 P P 12 28 51.9 +0.2
baz=326
TUL1 Leonard 83.94 45 *e*P P 12 28 52.2 0.0
comp=Z,10nm,0.8s
TUL1 Leonard 83.94 45 P P 12 28 52.0 -0.2
baz=320
G53A Haliburton 83.99 29 P P 12 28 51.6 -0.7
baz=330
PEMO Pembroke 84.00 28 P P 12 28 51.4 -0.9
baz=331
P43A Skaggs, Pawnee 84.09 39 P P 12 28 52.9 -0.1
baz=324
L47A Sherwood 84.09 35 P P 12 28 51.9 -1.0
baz=326
Q42A Golden Eagle 84.20 40 P P 12 28 53.9 +0.4
baz=323
I51A Listowel 84.23 31 P P 12 28 53.7 +0.1
baz=328
R41A Rosebud 84.28 41 P P 12 28 53.4 -0.5
baz=322
BANO Bancroft 84.33 29 P P 12 28 53.9 -0.2
baz=330
O45A Potomac 84.42 38 P P 12 28 54.6 0.0
baz=324
L48A N Adams 84.44 35 P P 12 28 54.4 -0.2
baz=326
TX31 Lajitas Ar. Si 84.44 55 *e*P P 12 28 53.9 -1.1
TXAR Lajitas Array 84.44 55 P P 12 28 56.0 +0.9
comp=Z,4.1nm,0.7s,baz=294,slow=3.5,SNR=48
TXAR pP pP 12 29 20.6 -0.4
comp=Z,6.7nm,0.8s,baz=289,slow=3.4,SNR=8.0
CCM Cathedral Cave 84.54 41 *e*P P 12 28 54.9 -0.3
comp=Z,6.5nm,0.8s
CCM Cathedral Cave 84.54 41 *e*P P 12 28 54.9 -0.3
CCM pmax pmax
comp=Z,6.0nm,0.8s
CCM Cathedral Cave 84.54 41 P P 12 28 55.5 +0.3
baz=323
G55A Calabogie 84.55 28 P P 12 28 54.4 -0.7
baz=331
L49A Milan 84.58 34 P P 12 28 55.4 +0.1
baz=327
R42A Luebbering 84.58 41 P P 12 28 55.7 +0.3
baz=323
SFIN Lafayette 84.59 37 P P 12 28 54.9 -0.5
baz=325
IDI Anoyia 84.59 315 *e*P P 12 28 54.5 -1.1
comp=Z,15nm,0.7s
IDI Anoyia 84.59 315⇑*i*P P 12 28 54.9 -0.7
PLVO Plevna 84.61 28 P P 12 28 54.9 -0.5
baz=331
ITM Ithomi 84.62 318 *e*P P 12 28 54.6 -1.1
comp=Z,20nm,0.7s
ELFO Elginfield 84.64 32 P P 12 28 55.4 -0.3
baz=328
P44A Sand Creek, Wi 84.64 39 P P 12 28 55.4 -0.3
baz=324,SNR=5.4
S41A Jillco Farms, 84.67 42 P P 12 28 55.7 -0.2
baz=322
ORIO Orleans, Innes 84.78 27 P P 12 28 55.7 -0.6
baz=332
N47A Urbana 84.79 36 P P 12 28 56.0 -0.4
baz=326
PKRO Pickering 84.83 30 P P 12 28 55.6 -0.9
baz=330
ALFO Alfred 84.83 27 P P 12 28 56.1 -0.4
baz=332
DELO Deloro Mine 84.87 29 P P 12 28 56.3 -0.5
baz=330
HPIG 84.96 58 *e*P P 12 28 57.5 -0.2
comp=Z,5.8nm,0.8s
S42A Caledonia 84.98 41 P P 12 28 57.5 +0.1
baz=323,SNR=5.2
R43A Red Bud 84.99 40 P P 12 28 57.5 +0.1
baz=323
M49A Liberty Center 85.02 35 P P 12 28 57.7 +0.1
baz=327
L50A Kingsville 85.02 33 P P 12 28 57.1 -0.4
baz=327
U40A Yellville 85.09 43 P P 12 28 57.5 -0.5
baz=322
WLVO Wesleyville 85.11 30 P P 12 28 57.6 -0.3
baz=330
P46A Rosedale 85.16 38 P P 12 28 58.4 +0.2
baz=325
K52A Tillsonburg 85.22 32 P P 12 28 58.4 -0.1
baz=329
PPT Papeete 85.26 119 LR LR 13 04 01.3
comp=Z,56nm,18.9s,baz=5.5,slow=33
TYNO Tyneside 85.28 31 P P 12 28 58.5 -0.4
baz=329
H56A Elgin 85.28 28 P P 12 29 00.1 +1.3
baz=331
T42A Van Buren 85.43 42 P P 12 28 56.7 -3.0
baz=323
TIP Timpagrande 85.47 322 *e*P P 12 28 59.2 -0.8
comp=Z,56nm,1.5s
S43A Fulton Ridge, 85.49 41 P P 12 28 59.0 -1.0
baz=323
W39A Magazine 85.53 44 P P 12 28 59.8 -0.4
baz=321
O48A Farmland 85.53 36 P P 12 28 59.8 -0.3
baz=326
U41A Viola 85.56 43 P P 12 28 59.9 -0.5
baz=322
P47A Martinsville 85.68 37 P P 12 29 00.2 -0.7
baz=325
T43A Greenville 85.78 41 P P 12 29 01.0 -0.4
baz=323
S44A Carbondale 85.78 40 P P 12 29 00.9 -0.5
baz=324
JCT Junction City 85.86 51 *e*P P 12 29 01.8 -0.2
comp=Z,8.9nm,0.9s
JCT Junction City 85.86 51 *e*P P 12 29 01.8 -0.2
JCT pmax pmax
comp=Z,9.0nm,0.9s
JCT Junction City 85.86 51 P P 12 29 01.9 -0.1
baz=319
J55A Hilton 85.89 30 P P 12 29 00.9 -0.9
baz=330
O49A Covington 85.94 35 P P 12 29 02.3 +0.1
baz=326
PBMO Poplar Bluff 85.95 41 *e*P P 12 29 02.1 -0.2
comp=Z,12nm,0.8s
N50A Nevada 85.95 34 P P 12 29 01.7 -0.5
baz=327
Q47A Bedord North L 86.06 38 P P 12 29 02.8 0.0
baz=325
L53A Girard 86.11 32 P P 12 29 02.8 -0.1
baz=329
MIAR Mount Ida 86.14 45 *e*P P 12 29 03.1 -0.1
comp=Z,8.3nm,0.8s
MIAR Mount Ida 86.14 45 *e*P P 12 29 03.2 -0.1
MIAR pmax pmax
comp=Z,8.0nm,0.8s
MIAR Mount Ida 86.14 45 P P 12 29 03.3 0.0
baz=322
WHAR Wooly Hollow 86.21 43 *e*P P 12 29 03.6 0.0
comp=Z,12nm,0.7s
K55A Perry 86.26 30 P P 12 29 03.7 -0.1
baz=330
O50A Cable 86.28 35 P P 12 29 03.8 0.0
baz=327
P49A Miami Univ. Ec 86.32 36 P P 12 29 03.7 -0.3
baz=326
W41B Gary Mavity, V 86.32 43 P P 12 29 03.9 -0.2
baz=322
ACSO Alum Creek Sta 86.47 35 P P 12 29 04.8 0.0
baz=327
S46A Don Dixon Farm 86.50 39 P P 12 29 04.6 -0.4
baz=325
R47A Wooly Knot Far 86.54 38 P P 12 29 04.5 -0.6
baz=325
X40A Basin Creek Fa 86.56 44 P P 12 29 05.6 +0.3
baz=322
P50A Jamestown 86.65 35 P P 12 29 04.5 -1.1
baz=327
Q49A Aurora 86.68 36 P P 12 29 05.5 -0.3
baz=326
N53A Lisbon 86.86 33 P P 12 29 07.0 +0.3
baz=329
T46A Princeton 86.94 40 P P 12 29 07.6 +0.5
baz=324
O52A Adamsville 87.04 34 P P 12 29 07.5 0.0
baz=328
P51A Williamsport 87.07 35 P P 12 29 07.5 -0.2
baz=327
O53A New Philadelph 87.18 33 P P 12 29 08.1 -0.1
baz=328
S48A Wiedeman Farm, 87.28 38 P P 12 29 08.6 -0.2
baz=326
Q51A Peebles 87.33 35 P P 12 29 08.8 -0.2
baz=327
T47A Sharon Grove 87.35 39 *e*P P 12 29 08.7 -0.3
comp=Z,11nm,0.8s
T47A Sharon Grove 87.35 39 P P 12 29 08.8 -0.3
baz=325
S49A Springfield 87.52 37 P P 12 29 09.0 -0.9
baz=326
O54A Avella 87.57 33 P P 12 29 10.4 +0.3
baz=329
N55A Marion Center 87.60 32 P P 12 29 10.3 +0.1
baz=330
U47A Clarksville 87.71 39 P P 12 29 10.6 -0.2
baz=325
WVT Waverly 87.71 40 P P 12 29 10.6 -0.2
baz=325
P53A Whipple 87.76 34 P P 12 29 11.3 +0.4
baz=328
V46A Holladay 87.84 40 P P 12 29 11.3 -0.1
baz=324
T49A Edmonton 87.97 38 P P 12 29 12.2 +0.2
baz=326
O55A Ligonier 87.97 32 P P 12 29 12.0 0.0
baz=330
S50A Richmond 88.00 37 P P 12 29 12.0 -0.2
baz=326
U48A Cassie Pea, Po 88.00 39 P P 12 29 11.9 -0.3
baz=325
P54A Burton 88.03 33 P P 12 29 12.1 -0.2
baz=329
V47A Nunnelly 88.10 40 P P 12 29 12.4 -0.3
baz=325
O56A Blue Knob Stat 88.21 32 P P 12 29 12.9 -0.3
baz=330
W46A Michie 88.26 41 P P 12 29 12.9 -0.6
baz=324
OXF Oxford 88.26 42 P P 12 29 13.6 +0.1
baz=324
SNZO South Karori 88.33 158 *e*P P 12 29 13.7 +0.5
U49A Red Boiling Sp 88.35 38 P P 12 29 13.8 0.0
baz=326
T50A Nancy 88.35 38 P P 12 29 13.7 -0.2
baz=326
P55A Reedsville 88.37 33 P P 12 29 13.8 -0.2
baz=329
Q54A Coxs Mills 88.41 34 P P 12 29 14.2 +0.1
baz=329
V48A Smith Brothers 88.50 40 P P 12 29 14.3 -0.3
baz=325
R53A Hurricane 88.50 35 P P 12 29 14.6 0.0
baz=328
W47A Westpoint 88.54 40 P P 12 29 14.4 -0.4
baz=325
Q55A Buckhannon 88.70 33 P P 12 29 15.4 -0.2
baz=329
T51A Gray 88.79 37 P P 12 29 15.1 -0.9
baz=327
U50A Jamestown 88.85 38 P P 12 29 15.8 -0.4
baz=326

V49A	**McMinnville**	**88.91**	**39**	P	**P**	**12 29 15.7**	**-0.7**	
	baz=326							
W48A	**Pulaski**	**88.94**	**40**	P	**P**	**12 29 16.4**	**-0.3**	
	baz=325							
X47A	**Russelville**	**89.01**	**41**	P	**P**	**12 29 16.6**	**-0.4**	
	baz=325							
U51A	**La Follette**	**89.25**	**37**	P	**P**	**12 29 18.4**	**+0.2**	
	baz=327							
W49A	**Belvidere**	**89.27**	**40**	P	**P**	**12 29 18.7**	**+0.5**	
	baz=326							
TZTN	**Tazewell**	**89.32**	**37**	P	**P**	**12 29 18.2**	**-0.2**	
	baz=327							
V50A	**Pikevile**	**89.35**	**38**	P	**P**	**12 29 18.6**	**+0.1**	
	baz=326							
T53A	**Wise**	**89.39**	**36**	P	**P**	**12 29 17.3**	**-1.5**	
	baz=328							
X48A	**Hartselle**	**89.45**	**40**	P	**P**	**12 29 18.1**	**-0.9**	
	baz=325							
OXZ	**Oxford**	**89.52**	**160**	*e*P	**P**	**12 29 18.9**	**+0.1**	
	comp=Z,28nm,0.9s							
U52A	**Thorn Hill**	**89.53**	**37**	P	**P**	**12 29 19.4**	**0.0**	
	baz=327							
W50A	**Signal Mountai**	**89.64**	**39**	P	**P**	**12 29 20.1**	**+0.1**	
	baz=326							
X49A	**Woodville**	**89.74**	**40**	P	**P**	**12 29 20.4**	**0.0**	
	baz=325							
V52A	**Sevierville**	**89.89**	**37**	P	**P**	**12 29 21.2**	**+0.1**	
	baz=327							
Y49A	**Blount Mountai**	**90.23**	**40**	P	**P**	**12 29 22.1**	**-0.6**	
	baz=325							
V54A	**Nebo**	**90.66**	**36**	P	**P**	**12 29 25.3**	**+0.6**	
	baz=328							
Z50A	**Ashland**	**90.96**	**40**	P	**P**	**12 29 26.1**	**-0.1**	
	baz=326							
149A	**Jones**	**91.08**	**41**	P	**P**	**12 29 26.8**	**+0.1**	
	baz=325							
150A	**Eclectic**	**91.45**	**41**	P	**P**	**12 29 28.1**	**-0.2**	
	baz=326							
Y54A	**Tignall**	**91.95**	**38**	P	**P**	**12 29 31.3**	**+0.6**	
	baz=328							
ES06	**SONSECA Array**	**92.80**	**336**	*e*P	**P**	**12 29 34.4**	**-0.1**	
ESDC	**Sonseca Array**	**92.81**	**336**	P	**P**	**12 29 34.5**	**-0.1**	
	comp=Z,0.5nm,0.4s,baz=14,slow=4.2,SNR=5.9							
ESDC				LR	LR	13 18 43.9		
	comp=Z,61nm,20.6s,baz=30,slow=40							
DWPF	**Disney Wildern**	**97.37**	**40**	*e*P	Pdif	12 29 56.4	+0.8	
TORD	**Torodi Ar. Bea**	**114.54**	**320**	PKP	**PKiKP**	**12 35 01.1**	**-0.9**	
	comp=Z,0.7nm,0.3s,baz=27,slow=2.5,SNR=12							
TORD				PP	PP	12 35 50.9	-8.4	
	comp=Z,1.7nm,1.0s,baz=48,slow=6.9,SNR=3.9							
SDV	**Santo Domingo**	**119.02**	**41**	*e*PKPdf	**PKPdf**	**12 35 09.8**	**-1.2**	
VNDA	**Vanda**	**120.88**	**176**	*e*PKPdf	**PKiKP**	**12 35 12.5**	**+0.1**	
VNDA	**Vanda**	**120.88**	**176**	*e*PKIKP	**PKiKP**	**12 35 12.5**	**+0.1**	
VNDA	**Vanda**	**120.88**	**176**	PKP	**PKiKP**	**12 35 13.2**	**+0.8**	
	comp=Z,3.8nm,0.7s,baz=322,slow=4.1,SNR=32							
DBIC	**Dmbokro**	**123.23**	**323**	PKP	**PKPdf**	**12 35 18.0**	**-0.8**	
	comp=Z,4.6nm,0.7s,baz=360,slow=4.7,SNR=4.5							
BOSA	**Boshof**	**129.88**	**266**	PKhKP	PKPpre	12 35 26.8		
	comp=Z,12nm,0.7s,baz=125,slow=1.7,SNR=24							
QSPA	**South Pole Qui**	**132.90**	**180**	*e*PKPdf	**PKPdf**	**12 35 35.8**	**+0.2**	
LPAZ	**La Paz**	**141.29**	**56**	*e*PKPdf	**PKPdf**	**12 35 51.6**	**-1.7**	
LPAZ	**La Paz**	**141.29**	**56**	*e*PKIKP	**PKPdf**	**12 35 51.6**	**-1.7**	
LPAZ	**La Paz**	**141.29**	**56**	PKP	**PKPdf**	**12 35 54.1**	**+0.8**	
	comp=Z,4.1nm,0.8s,baz=28,slow=2.0,SNR=13							
NVL	**N'lazarevskaya**	**143.91**	**204**	⇑*i*PKIKP	PKPbc	12 35 53.6	0.0	
NVL				pmax	pmax			
	comp=Z,33nm,1.1s							
PB01	**IPOC Station P**	**143.96**	**63**	*e*PKPdf	PKPbc	12 35 56.2	+0.8	
PB10	**IPOC Station P**	**144.96**	**67**	*e*PKPbc	**PKPdf**	**12 35 59.5**	**+0.7**	
LVC	**Limon Verde**	**145.44**	**64**	*e*PKPdf	**PKPab**	**12 36 01.3**	**+0.7**	
LVC	**Limon Verde**	**145.44**	**64**	*e*PKP2	**PKPab**	**12 36 01.3**	**+0.7**	
GO02	**Mina Guanaco**	**146.71**	**69**	*e*PKPdf	**PKPdf**	**12 36 02.1**	**0.0**	
SNAA	**Sanae**	**147.35**	**198**	PKP	**PKPbc**	**12 36 04.6**	**+0.5**	
SNAA	**Sanae**	**147.35**	**198**	*e*PKPdf	**PKPdf**	**12 36 02.4**	**+0.9**	
SNAA	**Sanae**	**147.35**	**198**	*e*PKP2	**PKPdf**	**12 36 02.4**	**+0.9**	
LCO	**Las Campanas**	**148.34**	**75**	*e*PKPdf	**PKPdf**	**12 36 05.7**	**+1.0**	
LCO	**Las Campanas**	**148.34**	**75**	*e*PKIKP	**PKPdf**	**12 36 05.7**	**+1.0**	
VNA2	**Neumayer--Watz**	**148.91**	**197**	PKP	**PKiKP**	**12 36 08.9**	**-0.4**	
GO04	**Tololo Observa**	**148.94**	**77**	*e*PKPbc	**PKPbc**	**12 36 09.9**	**+0.2**	
GO04				*e*PKPab	**PKPab**	**12 36 15.3**	**+1.3**	
VNA3	**Neumayer Olymp**	**149.14**	**196**	PKP	**PKPbc**	**12 36 09.2**	**+0.5**	
VNA1	**Neumayer--Stat**	**149.31**	**197**	PKP	**PKiKP**	**12 36 10.0**	**-0.1**	
ROC1	**El Roble**	**150.28**	**82**	*e*PKPbc	**PKPbc**	**12 36 13.0**	**+0.1**	
ROC1				*e*PKPab	**PKPab**	**12 36 19.7**	**+0.1**	
BDFB	**Brasilia**	**150.49**	**26**	*e*PKPbc	**PKiKP**	**12 36 14.2**	**-0.2**	
BDFB	**Brasilia**	**150.49**	**26**	PKPbc	**PKiKP**	**12 36 14.5**	**+0.1**	
	comp=Z,15nm,0.7s,baz=219,slow=1.6,SNR=22							
BDFB				pPKPbc	**pPKPbc**	**12 36 40.8**	**-0.1**	
	comp=Z,12nm,0.7s,baz=5.7,slow=2.1,SNR=5.1							
PEL	**Peldehue**	**150.61**	**82**	*e*PKPbc	**PKPbc**	**12 36 13.8**	**+0.3**	
PEL				*e*PKPab	**PKPab**	**12 36 21.3**	**+0.6**	
PEL	**Peldehue**	**150.61**	**82**	*e*PKIKP	**PKPbc**	**12 36 13.8**	**+0.3**	
MCl6	**Montes Claros**	**152.72**	**18**	*e*P	**PKPdf**	**12 36 12.6**	**+1.0**	
PLCA	**Paso Flores**	**153.77**	**97**	PKPbc	**PKiKP**	**12 36 20.9**	**+0.5**	
	comp=Z,4.1nm,0.9s,baz=265,slow=2.9,SNR=6.1							
CPUP	**Villa Florida**	**155.41**	**54**	PKPbc	PKPdf	12 36 24.2	+9.2	
	comp=Z,2.1nm,0.8s,baz=298,slow=4.0,SNR=3.5							
CPUP				PKPab	**PKPab**	**12 36 41.4**	**+0.4**	
	comp=Z,3.2nm,0.9s,baz=294,slow=4.3,SNR=5.0							
CNLB	**Canela**	**161.37**	**47**	*e*P	**PKPdf**	**12 36 24.5**	**+2.3**	

GUC 09 12:20:38.3±0.6, 24°12S×67°71W, h213km±10km, ML3.5, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB15	**IPOC Station P**	**1.85**	**299**	⇑*i*	*i*P	Pn	12 21 18.3	+1.6
PB15					*i*S	S	12 21 48.5	+2.3
GO02	**Mina Guanaco**	**2.01**	**238**	⇑*i*	*i*P	Pn	12 21 19.4	+1.2
GO02					*i*S	S	12 21 51.2	+2.2
GO02					IAML		12 21 54.8	
	comp=N,168nm,0.4s							
PB06	**IPOC Station P**	**2.22**	**309**	⇑*i*	*i*P	Pn	12 21 21.9	+1.6
PB06					*i*S	S	12 21 54.5	+1.9
PB06					IAML		12 21 56.9	
	comp=E,151nm,0.1s							
PB14	**IPOC Station P**	**2.51**	**258**	⇓*i*	*i*P	Pn	12 21 25.8	+2.3
PB14					*i*S	S	12 22 01.3	+2.9
PB05	**IPOC Station P**	**2.62**	**298**	⇑*i*	*i*P	Pn	12 21 26.4	+1.9
PB05					*i*S	S	12 22 02.1	+1.9
PB05					IAML		12 22 04.3	
	comp=E,50nm,0.3s							
PB09	**IPOC Station P**	**2.71**	**328**	⇑*i*	*i*P	Pn	12 21 27.2	+1.6
PB09					*i*S	S	12 22 04.6	+2.4
PB09					IAML		12 22 06.2	
	comp=N,54nm,0.4s							
PB03	**IPOC Station P**	**2.79**	**317**	⇓*i*	*i*P	Pn	12 21 28.2	+1.7
PB03					*i*S	S	12 22 05.0	+1.2
PB03					IAML		12 22 07.2	
	comp=E,95nm,0.3s							
PB04	**IPOC Station P**	**2.87**	**308**	*i*	P	Pn	12 21 29.4	+2.0
PB04					*i*S	S	12 22 07.9	+2.6
PB04					IAML		12 22 09.2	
	comp=N,95nm,0.7s							
PB07	**IPOC Station P**	**3.12**	**319**	⇑*i*	*i*P	Pn	12 21 31.8	+1.6

*IDC **09** 12:23:55.0±0.6, 31°.38N×103°.80E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.0/42, mbtmp4.1/17, ML3.7/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=28.5km s-min=13.2km az=61.0*

*ISCJB **09** 12:23:55.4±0.2, 31°.34N±0°.02×103°.76E±0°.04, h14km, mb4.4/45, MS3.5/2, Error ellipse: s-maj=4.5km s-min=3.0km az=165.4*

*NEIC **09** 12:23:56.4±0.2, 31°.34N×103°.74E, h10km, mb4.5/33, Error ellipse: s-maj=4.4km s-min=3.0km az=67.0*

NEIC Felt at Chengdu.

*BJI **09** 12:23:57.5, 31°.35N×103°.50E, h20km, mb4.4/22, mB4.6/11, ML4.4/23, Ms4.2/28, Ms7 3.9/25*

ISC 09 12:23:57.9±0.3, 31°.33N±0°.03×103°.80E±0°.04, h14km, n97, σ2s12/119, mb4.4/45, 2C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**0.42**	**185**	⇑*i*	*i*Pg	**Pg**	**12 24 04.6**	**-1.7**
CD2					Sg	**Sg**	**12 24 11.3**	**-0.7**
CD2					smax	smax		
	comp=N,108μm,0.7s							
CD2					smax	smax		
	comp=E,117μm,0.5s							
LZH	**Lanzhou**	**4.75**	**0**	*e*Pn		**Pn**	**12 25 10.4**	**+1.1**
LZH				Pg		**Pb**	**12 25 21.5**	**+0.5**
LZH				Sn		**Sn**	**12 26 02.5**	**-1.7**
LZH				Sg		**Sb**	**12 26 20.6**	**+2.5**
LZH				smax	smax			
	comp=N,360nm,1.1s							
LZH				smax	smax			
	comp=E,300nm,0.9s							
LZH				LR	LR			
	comp=N,4μm,5.4s							
LZH				LR	LR			
	comp=E,1μm,5.2s							
LZH				LR	LR			
	comp=Z,3μm,6.0s							
ENH	**Enshi**	**5.00**	**101**	*e*Pn		**Pn**	**12 25 13.5**	**+0.9**
ENH				*e*Sn		**Sn**	**12 26 10.8**	**+0.5**
XAN	**Xi'an**	**5.09**	**57**	Pn		**Pn**	**12 25 15.6**	**+1.7**
XAN				Pg		**Pg**	**12 25 33.6**	**-1.9**
XAN				Sn		**Sn**	**12 26 09.9**	**-2.7**
XAN				Sg		**Sg**	**12 26 38.6**	**-2.9**
XAN				smax	smax			
	comp=N,410nm,1.0s							
XAN				smax	smax			
	comp=E,550nm,0.7s							
XAN				LR	LR			
	comp=N,2μm,6.4s							
XAN				LR	LR			
	comp=E,700nm,2.6s							
XAN	**Xi'an**	**5.09**	**57**	*e*Pn		**Pn**	**12 25 14.3**	**+0.4**
XAN				*e*Sn		**Sn**	**12 26 12.7**	**+0.2**
GYA	**Guiyang**	**5.46**	**152**	⇓*i*	Pn	**Pn**	**12 25 20.5**	**+1.4**
GYA					Pg	**Pb**	**12 25 33.5**	**+0.3**
GYA					Sn	**Sn**	**12 26 25.2**	**+3.4**
GYA					Sg	**Sb**	**12 26 45.2**	**+6.5**
GYA					smax	smax		
	comp=N,510nm,0.8s							
GYA					smax	smax		
	comp=E,480nm,0.8s							
GYA					LR	LR		
	comp=N,930nm,9.3s							
GYA					LR	LR		
	comp=E,630nm,8.0s							
GYA					LR	LR		
	comp=Z,950nm,8.2s							
KMI	**Kunming**	**6.25**	**189**	⇑*i*	Pn	**Pn**	**12 25 29.4**	**-0.6**
KMI					Sn	**Sn**	**12 26 46.5**	**+5.1**
KMI					smax	smax		
	comp=N,110nm,1.3s							
KMI					smax	smax		
	comp=E,67nm,1.2s							
KMI					LR	LR		
	comp=N,940nm,10.0s							
KMI					LR	LR		
	comp=E,500nm,9.7s							
KMI					LR	LR		
	comp=Z,900nm,11.4s							
KMI	**Kunming**	**6.25**	**189**	*e*Pn		**Pn**	**12 25 29.1**	**-0.9**
KMI				*e*Sn		**Sn**	**12 26 41.0**	**-0.4**
GTA	**Gaotai**	**8.70**	**339**	*e*P		**Pn**	**12 26 07.4**	**+4.0**
GTA				pP		pP	12 26 12.7	
GTA				sP		sP	12 26 16.8	
GTA				S		**Sn**	**12 27 48.4**	**+7.1**
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,86nm,7.6s							
WHN	**Wuhan**	**9.09**	**92**	⇓P		**Pn**	**12 26 13.5**	**+4.7**
HHC	**Hu-ho-hao-te**	**11.38**	**31**	*e*P		**Pn**	**12 26 42.4**	**+2.2**
HHC				PP		**PnPn**	**12 26 52.5**	**+4.5**
HHC				S		**Sn**	**12 28 52.8**	**+5.6**
HHC				SS		**SnSn**	**12 29 07.5**	**+8.2**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,120nm,6.8s							
HHC				LR	LR			
	comp=N,520nm,10.4s							
HHC				LR	LR			
	comp=E,840nm,8.8s							
HHC				LR	LR			
	comp=Z,420nm,10.8s							
GZH	**Guangzhou**	**11.80**	**132**	P		**Pn**	**12 26 45.0**	**-0.9**
NJ2	**Nanjing**	**12.84**	**83**	*e*P		**Pn**	**12 27 01.8**	**+1.7**
NJ2				pmax	pmax			
	comp=Z,16nm,0.5s							
NJ2				LR	LR			
	comp=N,600nm,9.2s							
NJ2				LR	LR			
	comp=E,420nm,8.1s							
NJ2				LR	LR			
	comp=Z,470nm,15.2s							
CHTO	**Chiang Mai**	**13.21**	**201**	*e*Pn		**Pn**	**12 27 05.7**	**+0.5**
QIZ	**Qiongzhong**	**13.41**	**155**	P		**Pn**	**12 27 07.4**	**-0.5**
QIZ				S		**Sn**	**12 29 39.4**	**+2.6**
QIZ				pmax	pmax			
	comp=Z,6.0nm,0.6s							
QIZ				LR	LR			
	comp=N,550nm,8.4s							
QIZ				LR	LR			
	comp=E,310nm,7.7s							
QIZ				LR	LR			
	comp=Z,570nm,9.8s							
QIZ	**Qiongzhong**	**13.41**	**155**	*e*Pn		**Pn**	**12 27 06.9**	**-0.9**
CM31	**Chiang Mai Arr**	**13.55**	**200**	*e*Pn		**Pn**	**12 27 08.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**13.55**	**200**	Pn		**Pn**	**12 27 09.6**	**-0.3**
	0.1nm,0.3s,baz=9.2,slow=12,SNR=4.2							
CM01	**Chiang Mai Arr**	**13.58**	**200**	*e*Pn		**Pn**	**12 27 10.1**	**-0.2**
SKNT	**Sakolnakorn**	**14.29**	**179**	P		**P**	**12 27 27.7**	**+0.5**
	8.7nm,0.8s							
PBKT	**Sadao Pong**	**14.92**	**191**	*e*Pn		**Pn**	**12 27 27.7**	**-0.8**
PBKT	**Sadao Pong**	**14.92**	**191**	P		**P**	**12 27 34.2**	**+0.1**
	16nm,0.9s							
CHAI	**Chaiyaphum**	**15.45**	**187**	P		**P**	**12 27 38.6**	**-1.4**
	14nm,0.7s,106nm							
UMPA	**Umpang Tak**	**15.71**	**198**	P		**P**	**12 27 44.4**	**+1.4**
	11nm,0.8s,1μm							
UTHA	**Uthaitani**	**16.20**	**195**	P		**P**	**12 27 48.0**	**-0.3**
	11nm,0.8s,86nm							
SONA0	**Songino Array**	**16.61**	**6**	*e*Pn		**Pn**	**12 27 49.9**	**-0.5**
SONM	**Songino Array**	**16.61**	**6**	Pn		**Pn**	**12 27 49.9**	**-0.5**
	baz=193,slow=13,SNR=4.7							
YHNB	**Yeheng**	**16.87**	**109**	*e*Pn		**Pn**	**12 27 53.6**	**-0.2**
	9.8nm,0.8s							
SSLB	**Suanglung**	**16.95**	**112**	*e*Pn		**Pn**	**12 27 54.9**	**+0.1**
	10nm,0.7s							
SRAK	**Srakaew**	**17.31**	**186**	P		**Pn**	**12 27 58.3**	**-1.0**
	58nm,0.8s,525nm							
WMQ	**Urumqi**	**17.81**	**319**	*e*P		**P**	**12 28 05.8**	**-0.3**
WMQ				sP		sP	12 28 14.8	+1.6
WMQ				PP		**PnPn**	**12 28 21.1**	**+5.0**
WMQ				S		**Sn**	**12 31 18.2**	**-5.5**
WMQ				PcP		**PcP**	**12 32 42.4**	**+0.2**
WMQ				pmax	pmax			
	comp=Z,19nm,1.7s							
WMQ				pmax	pmax			
	comp=Z,220nm,5.9s							
WMQ				LR	LR			
	comp=N,810nm,16.5s							
WMQ				LR	LR			
	comp=E,490nm,10.9s							
WMQ				LR	LR			
	comp=Z,350nm,15.7s							
WMQ	**Urumqi**	**17.81**	**319**	*e*Pn		**Pn**	**12 28 02.8**	**-2.6**
	14nm,1.3s							
PHET	**Kaeng Krachan**	**18.73**	**193**	P		**Pn**	**12 28 18.0**	**+1.3**
	11nm,0.8s							
KS15	**Wonju Array Si**	**20.76**	**66**	*e*P		**P**	**12 28 37.9**	**-0.5**
	27nm,1.1s							
KS01	**Wonju Array Si**	**20.78**	**66**	*e*P		**P**	**12 28 38.8**	**+0.3**
KSRS	**Korea Array**	**20.80**	**66**	P		Pn	12 28 40.8	-0.4
	7.7nm,0.7s,baz=249,slow=10,SNR=30							
KSRS				LR		LR	12 38 09.5	
	comp=Z,52nm,18.7s,baz=255,slow=41							
CN2	**Changchun**	**21.13**	**48**	*e*P		**P**	**12 28 44.4**	**+2.1**
MK01	**Makanchi Array**	**22.62**	**319**	*e*P		**P**	**12 28 57.3**	**-1.1**
MK31	**Makanchi Array**	**22.64**	**319**	*e*P		**P**	**12 28 57.3**	**-1.2**
	12nm,1.1s							
MK32	**Makanchi Array**	**22.64**	**319**	*e*P		**P**	**12 28 57.8**	**-0.7**
MKAR	**Makanchi Array**	**22.64**	**319**	P		**P**	**12 28 57.8**	**-0.7**
	5.8nm,0.8s,baz=123,slow=13,SNR=9.8							
MAKZ	**Makanchi**	**22.82**	**319**	*e*P		**P**	**12 28 59.4**	**-1.1**
	20nm,1.4s							
KSH	**Kashi**	**24.04**	**298**	P		**P**	**12 29 15.1**	**+2.4**
KSH				pP		sP	12 29 20.7	+0.7
KSH				S		**S**	**12 33 31.4**	**+1.9**
KSH				sS		sS	12 33 39.9	+1.8
KSH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,56nm,6.1s							
KSH				LR	LR			
	comp=N,540nm,10.1s							
KSH				LR	LR			
	comp=E,320nm,13.1s							
KSH				LR	LR			
	comp=Z,170nm,12.9s							
NRN	**Naryn**	**24.46**	**302**	*e*P		**P**	**12 29 16.2**	**-0.6**
	10nm,1.1s							
AAK	**Ala-Archa**	**25.86**	**304**	*e*P		**P**	**12 29 28.0**	**-1.3**
	3.6nm,0.9s							
ZAA0	**Zalesovo Array**	**26.41**	**334**	*e*P		**P**	**12 29 33.6**	**-0.3**
	6.6nm,0.8s							
ZALV	**Zalesovo Beam**	**26.41**	**334**	*e*P		**P**	**12 29 33.2**	**-0.7**
ZALV	**Zalesovo Beam**	**26.41**	**334**	P		**P**	**12 29 33.6**	**-0.3**
	1.3nm,0.4s,baz=137,slow=10,SNR=5.2							
ZAA1	**Zalesovo Array**	**26.41**	**334**	*e*P		**P**	**12 29 33.6**	**-0.3**
KURBB	**Kurchatov Arra**	**26.90**	**323**	P		**P**	**12 29 38.1**	**-0.3**
	6.3nm,0.8s,baz=130,slow=9.6,SNR=20							
KURK	**Kurchatov**	**26.91**	**323**	*e*P		**P**	**12 29 37.0**	**-1.4**
	18nm,1.5s							
SBUM	**Sibu**	**29.80**	**163**	*e*P		**P**	**12 30 03.8**	**-0.8**
	6.6nm,0.8s							
BRVK	**Borovoye**	**32.53**	**322**	*e*P		**P**	**12 30 26.6**	**-1.6**
	2.9nm,0.6s							
ABKAR	**Akbulak array**	**37.33**	**312**	*e*P		**P**	**12 31 08.2**	**-1.5**
	1.6nm,0.8s							
GEYT	**Alibeck**	**37.87**	**293**	P		**P**	**12 31 14.7**	**+0.2**
	3.1nm,0.6s,baz=76,slow=6.3,SNR=4.1							
GYA0B	**ALIBECK ARRAY**	**37.87**	**293**	*e*P		**P**	**12 31 13.4**	**-1.1**
	11nm,1.1s							
ARU	**Arti**	**40.10**	**322**	*e*P		**P**	**12 31 31.8**	**-1.0**
	5.4nm,0.8s							
TIXI	**Tiksi**	**42.59**	**11**	*e*P		**P**	**12 31 52.3**	**-0.7**
	5.7nm,1.4s							
TIXI	**Tiksi**	**42.59**	**11**	P		**P**	**12 31 52.2**	**-0.9**
	0.9nm,0.3s,baz=228,slow=3.7,SNR=3.4							
MTN	**Manton Dam**	**51.16**	**145**	*e*P		**P**	**12 32 59.2**	**-1.5**
	9.9nm,0.9s							
BR101	**Keskin Array S**	**56.41**	**299**	*e*P		**P**	**12 33 41.6**	**+2.4**
BRTR	**Keskin Array B**	**56.41**	**299**	P		**P**	**12 33 41.6**	**+2.4**
	0.6nm,0.7s,baz=106,slow=11,SNR=2.4							
ARA0	**ARCESS Array S**	**56.95**	**336**	*e*P		**P**	**12 33 41.1**	**-1.2**
ARCES	**ARCESS Array B**	**56.95**	**336**	P		**P**	**12 33 41.1**	**-1.2**
	8.7nm,1.1s,baz=86,slow=7.8,SNR=9.4							
AKASG	**Malin Array Be**	**57.04**	**313**	P		**P**	**12 33 41.1**	**-2.2**
	0.3nm,0.4s,baz=66,slow=7.0,SNR=3.1							
FIA1	**FINESS Array S**	**57.24**	**326**	*e*P		**P**	**12 33 42.8**	**-1.7**
FIA0	**FINESS Array S**	**57.24**	**326**	*e*P		**P**	**12 33 42.8**	**-1.7**
FINES	**FINESS Array B**	**57.24**	**326**	P		**P**	**12 33 42.8**	**-1.7**
	0.9nm,0.5s,baz=100,slow=6.6,SNR=6.0							
COEN	**Coen**	**58.79**	**134**	*e*P		**P**	**12 33 54.9**	**-1.1**
	7.2nm,0.7s							
WRAB	**Tennant Creek**	**58.80**	**146**	*e*P		**P**	**12 33 55.5**	**-0.5**
	17nm,0.6s							
WR1	**Warramunga Arr**	**58.80**	**146**	*e*P		**P**	**12 33 55.6**	**-0.3**
	17nm,0.6s							
WRA	**Warramunga Arr**	**58.80**	**146**	P		**P**	**12 33 55.6**	**-0.3**
	10nm,0.5s,baz=338,slow=7.5,SNR=155							
WB2	**Warramunga Arr**	**58.81**	**146**	*e*P		**P**	**12 33 55.8**	**-0.2**
	20nm,0.6s							
SPITS	**Spitsbergen Ar**	**59.06**	**346**	P		**P**	**12 33 55.2**	**-1.8**
	6.1nm,0.9s,baz=90,slow=10							
AS31	**Alice Springs**	**61.82**	**149**	*e*P		**P**	**12 34 15.2**	**-1.4**
	1.2nm,0.8s							
ASAR	**Alice Springs**	**61.82**	**149**	P		**P**	**12 34 16.4**	**-0.2**
	2.2nm,0.5s,baz=345,slow=6.7,SNR=35							
AS01	**Alice Springs**	**61.84**	**149**	*e*P		**P**	**12 34 14.8**	**-1.9**
NB200	**NORSAR Array S**	**64.33**	**327**	*e*P		**P**	**12 34 30.7**	**-2.2**
NOA	**NORSAR Array B**	**64.33**	**327**	P		**P**	**12 34 30.7**	**-2.2**
	0.5nm,0.7s,baz=72,slow=5.6,SNR=2.7							
NC204	**NORSAR Array S**	**64.46**	**328**	*e*P		**P**	**12 34 31.2**	**-2.5**
	22nm,1.4s							
NWAO	**Narrogin (SRO)**	**65.16**	**168**	*e*P		**P**	**12 34 37.4**	**-1.0**
	16nm,1.1s							
IM3	**Indian Mountai**	**66.64**	**26**	*e*P		**P**	**12 34 46.4**	**-1.3**
TOLK	**Toolik Lake Re**	**66.94**	**22**	*e*P		**P**	**12 34 48.4**	**-1.3**
	4.1nm,0.9s							
MLY	**Manley**	**68.18**	**26**	*e*P		**P**	**12 34 56.8**	**-0.8**
	1.8nm,0.8s							
MDM	**Murphy Dome**	**69.16**	**26**	*e*P		**P**	**12 35 03.0**	**-0.5**
	4.6nm,1.0s							
IL1	**Eielson Array**	**69.75**	**26**	*e*P		**P**	**12 35 05.9**	**-1.3**
ILAR	**Eielson Array**	**69.75**	**26**	P		**P**	**12 35 06.1**	**-1.1**
	0.3nm,0.4s,baz=288,slow=4.3,SNR=8.0							
SML	**Sawmill**	**70.69**	**29**	*e*P		**P**	**12 35 12.0**	**-1.1**
	18nm,1.2s							
BBOO	**Buckleboo**	**70.71**	**152**	*e*P		**P**	**12 35 11.9**	**-1.4**
	7.1nm,1.1s							
KDAK	**Kodiak Island**	**70.79**	**33**	*e*P		**P**	**12 35 13.0**	**-0.7**
	55nm,1.4s							
SCRK	**Sand Creek**	**71.24**	**26**	*e*P		**P**	**12 35 15.

	0.0nm,0.3s,baz=37,slow=5.1,SNR=1.8						
ZFI2	**Zemlya Franca-**	**11.03**	**307**	*e*P	**Pn**	**12 38 20.2**	**-2.3**
ZFI2				*e*S	Sn	12 40 15.5	-10
NRIK	**Noril'sk**	**13.87**	**234**	Pn	**Pn**	**12 39 00.1**	**-1.2**
	0.4nm,0.3s,baz=22,slow=10.0,SNR=4.2						
NRIK				LR	LR	12 44 48.5	
	comp=Z,197nm,19.7s,baz=37,slow=39						
SPA0	**Spitsbergen Ar**	**16.81**	**316**	*e*Pn	**Pn**	**12 39 39.9**	**-0.2**
	4.1nm,1.4s						
SPITS	**Spitsbergen Ar**	**16.81**	**316**	Pn	**Pn**	**12 39 38.6**	**-1.5**
	baz=41,slow=12,SNR=6.5						
BILL	**Bilibino**	**16.87**	**112**	*e*Pn	**Pn**	**12 39 40.1**	**-0.7**
	12nm,0.9s						
SEY	**Seymchan**	**19.84**	**135**	Pn	**Pn**	**12 40 17.5**	**+0.3**
	0.1nm,0.3s,baz=260,slow=22,SNR=4.0						
RDOG	**Red Dog Mine**	**21.78**	**80**	*e*P	**P**	**12 40 37.5**	**+1.0**
	6.6nm,0.8s						
MA2	**Magadan**	**22.94**	**139**	LR	LR	12 49 02.0	
	comp=Z,47nm,18.9s,baz=126,slow=35						
ARCES	**ARCESS Array B**	**23.28**	**298**	*e*P	**P**	**12 40 52.4**	**+0.1**
ARCES	**ARCESS Array B**	**23.28**	**298**	P	**P**	**12 40 51.5**	**-0.8**
	4.6nm,0.8s,baz=24,slow=8.9,SNR=5.8						
TOLK	**Toolik Lake Re**	**23.33**	**68**	*e*P	**P**	**12 40 54.7**	**+1.9**
	13nm,1.2s						
LVZ	**Lovozero**	**23.41**	**288**	*e*P	**P**	**12 40 54.6**	**+0.9**
	59nm,1.3s						
RES	**Resolute Bay**	**23.65**	**23**	*e*P	**P**	**12 40 56.4**	**+0.5**
	7.0nm,1.2s						
RES	**Resolute Bay**	**23.65**	**23**	P	**P**	**12 40 55.0**	**-0.9**
	0.6nm,0.9s,baz=198,slow=13,SNR=2.6						
COLD	**Coldfoot**	**24.53**	**70**	*e*P	**P**	**12 41 04.8**	**+0.6**
	5.6nm,0.8s						
IM3	**Indian Mountai**	**25.14**	**74**	*e*P	**P**	**12 41 10.5**	**+0.8**
FYU	**Fort Yukon**	**25.90**	**66**	*e*P	**P**	**12 41 17.5**	**+1.0**
INK	**Inuvik**	**25.92**	**55**	*e*P	**P**	**12 41 17.7**	**+1.0**
	6.6nm,0.9s						
INK	**Inuvik**	**25.92**	**55**	P	**P**	**12 41 16.1**	**-0.6**
	1.4nm,0.8s,baz=355,slow=10,SNR=3.1						
MLY	**Manley**	**26.49**	**72**	*e*P	**P**	**12 41 23.4**	**+1.4**
	11nm,0.9s						
PRP	**Porcupine Dome**	**26.83**	**67**	*e*P	**P**	**12 41 26.5**	**+1.3**
	5.4nm,0.9s						
MDM	**Murphy Dome**	**26.95**	**70**	*e*P	**P**	**12 41 27.2**	**+1.1**
	18nm,1.6s						
EPYK	**Eagle Plains**	**27.31**	**59**	*e*P	**P**	**12 41 31.0**	**+1.7**
	14nm,1.0s						
ILAR	**Eielson Array**	**27.33**	**69**	LR	LR	12 52 56.7	
	comp=Z,100nm,18.4s,baz=330,slow=38						
ZALV	**Zalesovo Beam**	**29.09**	**225**	LR	LR	12 53 50.1	
	comp=Z,101nm,21.9s,baz=58,slow=37						
FIA1	**FINESS Array S**	**30.77**	**291**	*e*P	**P**	**12 41 59.8**	**-0.2**
FIA0	**FINESS Array S**	**30.78**	**291**	*e*P	**P**	**12 42 00.2**	**+0.1**
FINES	**FINESS Array B**	**30.78**	**291**	P	**P**	**12 42 00.2**	**+0.1**
	2.2nm,0.9s,baz=32,slow=7.5,SNR=3.8						
BRVK	**Borovoye**	**31.86**	**242**	*e*P	**P**	**12 42 09.8**	**+0.2**
	2.5nm,0.8s						
BVAR	**Borovoye Array**	**31.87**	**242**	P	**P**	**12 42 12.3**	**+2.5**
	1.0nm,1.0s,baz=21,slow=12,SNR=5.2						
KURK	**Kurchatov**	**33.02**	**231**	*e*P	**P**	**12 42 20.1**	**+0.3**
KURBB	**Kurchatov Arra**	**33.12**	**231**	P	**P**	**12 42 20.1**	**-0.6**
	0.4nm,0.7s,baz=20,slow=8.3,SNR=2.3						
NB201	**NORSAR Array S**	**33.29**	**303**	*e*P	**P**	**12 42 22.2**	**0.0**
	40nm,1.6s						
NB200	**NORSAR Array S**	**33.31**	**303**	*e*P	**P**	**12 42 22.6**	**+0.2**
NOA	**NORSAR Array B**	**33.31**	**303**	P	**P**	**12 42 22.6**	**+0.2**
	0.9nm,0.6s,baz=12,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**33.35**	**197**	LR	LR	12 57 20.6	
	comp=Z,74nm,18.7s,baz=356,slow=39						
YKA	**Yellowknife Ar**	**33.82**	**43**	P	**P**	**12 42 24.5**	**-2.2**
	0.2nm,0.7s,baz=344,slow=7.7,SNR=3.9						
YKA				PcP	**PcP**	**12 45 04.1**	**-1.1**
	0.3nm,0.6s,baz=332,slow=3.6,SNR=4.3						
YKA				LR	LR	12 56 04.6	
	comp=Z,8.7nm,18.7s,baz=320,slow=36						
AKTO	**Aktyubinsk**	**36.25**	**254**	P	**P**	**12 42 49.1**	**+1.3**
	0.8nm,0.8s,baz=50,slow=7.9,SNR=3.1						
MK32	**Makanchi Array**	**36.43**	**226**	*e*P	**P**	**12 42 50.5**	**+1.1**
MKAR	**Makanchi Array**	**36.43**	**226**	P	**P**	**12 42 50.5**	**+1.1**
	0.3nm,0.9s,baz=333,slow=8.8,SNR=2.6						
MKAR				LR	LR	12 58 49.4	
	comp=Z,76nm,21.4s,baz=342,slow=38						
MAKZ	**Makanchi**	**36.45**	**226**	*e*P	**P**	**12 42 50.0**	**+0.5**
	4.1nm,0.9s						
MK01	**Makanchi Array**	**36.45**	**226**	*e*P	**P**	**12 42 49.5**	**0.0**
ABKAR	**Akbulak array**	**37.09**	**251**	*e*P	**P**	**12 42 55.3**	**+0.3**
	6.2nm,1.4s						
AKASG	**Malin Array Be**	**40.62**	**282**	P	**P**	**12 43 25.1**	**+0.6**
	0.8nm,0.5s,baz=13,slow=8.5,SNR=4.7						
KK31	**Karatay Array**	**41.56**	**238**	*e*P	P	12 43 39.2	+6.9
	1.9nm,0.8s						
KKAR	**Karatay Array**	**41.56**	**238**	*e*P	**P**	**12 43 33.2**	**+0.9**
	1.9nm,0.8s						
KSRS	**Korea Array**	**43.46**	**172**	LR	LR	13 01 59.7	
	comp=Z,27nm,18.1s,baz=5.0,slow=36						
PSZ	**Piszkesteto**	**44.78**	**290**	*e*P	**P**	**12 43 59.2**	**+0.8**
	9.8nm,1.2s						
KIV	**Kislovodsk**	**45.00**	**267**	*e*P	**P**	**12 44 01.0**	**+0.8**
	16nm,1.2s						
G08A	**Pilot Rock**	**50.16**	**52**	*e*P	**P**	**12 44 41.5**	**+1.2**
	4.5nm,1.0s						
ANTO	**Ankara**	**50.59**	**276**	*e*P	**P**	**12 44 44.6**	**+1.1**
	11nm,0.9s						
BR101	**Keskin Array S**	**50.60**	**275**	*e*P	**P**	**12 44 45.5**	**+1.8**
BR131	**Keskin Array S**	**50.60**	**275**	*e*P	**P**	**12 44 44.3**	**+0.7**
	8.2nm,1.4s						
BRTR	**Keskin Array B**	**50.60**	**275**	P	**P**	**12 44 45.5**	**+1.8**
	1.3nm,0.6s,baz=20,slow=4.1,SNR=8.8						
GCMT	**Greycliff**	**50.79**	**44**	*e*P	**P**	**12 44 46.0**	**+1.0**
BMO	**Blue Mountains**	**50.80**	**51**	*e*P	**P**	**12 44 46.5**	**+1.4**
MCMT	**McKenzie Canyo**	**51.37**	**47**	*e*P	**P**	**12 44 51.0**	**+1.5**
FXWY	**Fox Creek**	**52.76**	**46**	*e*P	**P**	**12 45 01.9**	**+2.0**
	1.6nm,1.0s						
PDAR	**Pinedale Array**	**53.79**	**44**	P	**P**	**12 45 07.4**	**-0.1**
	0.3nm,0.8s,baz=1.7,slow=3.0,SNR=3.2						
PV03	**Paradox Valley**	**58.32**	**45**	*e*P	**P**	**12 45 42.0**	**+2.1**
	3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**63.00**	**203**	LR	LR	13 14 27.9	
	comp=Z,20nm,18.2s,baz=320,slow=37						
RAYN	**Ar Rayn**	**64.53**	**259**	*e*P	**P**	**12 46 22.0**	**+0.2**
	4.2nm,0.8s						
TX31	**Lajitas Ar. Si**	**67.72**	**41**	*e*P	**P**	**12 46 42.9**	**+0.6**
	3.6nm,1.0s						
TXAR	**Lajitas Array**	**67.72**	**41**	P	**P**	**12 46 40.7**	**-1.6**
	0.6nm,0.8s,baz=13,slow=4.8,SNR=5.4						
TOA1	**Torodi Ar. Sit**	**81.57**	**300**	*e*P	**P**	**12 48 01.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**81.58**	**300**	P	**P**	**12 48 01.4**	**-1.3**
	1.7nm,0.9s,baz=0.2,slow=5.2,SNR=7.1						
DBIC	**Dimbokro**	**88.84**	**306**	LR	LR	13 31 50.1	
	comp=Z,22nm,18.3s,baz=342,slow=38						

IDC 09 13:02:15.7±10.0, 21.98N×142.82E, h318km±85km, mb3.0/7, mb1 3.1/7, mb1mx2.9/32, mbtmp3.7/7, Error ellipse: s-maj=131.5km s-min=13.6km az=78.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.09**	**323**	P	P	13 06 26.6	+0.3
	2.6nm,0.5s,baz=146,slow=9.0,SNR=13						
SONM	**Songino Array**	**38.91**	**320**	P	P	13 09 10.5	-1.1
	0.3nm,0.4s,baz=130,slow=8.6,SNR=5.4						
WRA	**Warramunga Arr**	**42.48**	**192**	P	P	13 09 40.6	-0.1
	0.3nm,0.4s,baz=10.0,slow=8.3,SNR=24						
ASAR	**Alice Springs**	**46.19**	**191**	P	P	13 10 09.4	-0.3
	0.5nm,1.0s,baz=21,slow=11,SNR=5.7						
ZALV	**Zalesovo Beam**	**53.78**	**322**	P	P	13 11 06.3	+0.3
	0.6nm,0.3s,baz=107,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**54.26**	**313**	P	P	13 11 09.7	+0.1
	0.2nm,0.3s,baz=85,slow=9.0,SNR=6.4						
ARCES	**ARCESS Array B**	**78.55**	**341**	P	P	13 13 46.9	+4.9
	5.1nm,1.0s,baz=77,slow=7.8,SNR=5.1						
FINES	**FINESS Array B**	**82.78**	**334**	P	P	13 14 04.3	0.0
	0.9nm,0.3s,baz=64,slow=4.0,SNR=15						

*DDA **09** 13:07:16.2, 41.48N×41.64E, h7km±2km, ML2.7*

ISC 09 13:07:12.5±4.7, 41.5N±0.1×41.1E±0.2, h10km, n5, σ2.256/6, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.49**	**80**	P	**Pg**	**13 07 23.0**	**+1.0**
BATM				S	**Sg**	**13 07 27.1**	**-1.3**
DBOC	**Borcka**	**0.49**	**111**	*i* P	Pg	13 07 19.5	-2.6
DBAD	**Bademkaya**	**0.70**	**136**	*i* P	**Pb**	**13 07 26.1**	**-0.7**
DBAD				*i* S	**Sb**	**13 07 39.4**	**+2.9**
DAGI	**Agillar**	**0.78**	**124**	*i* P	Sn	13 07 41.9	+0.4
DDEM	**Demirkent**	**0.82**	**140**	*i* P	**Pb**	**13 07 28.9**	**0.0**
DDEM				*i* S	**Sn**	**13 07 39.6**	**-2.8**
DDEM				IAML_P			
	comp=Z,2μm,0.1s						

RSNC 09 13:08:45.0±0.9, 5.01N×76.28W, h100km±6km, ML3.2, Mw3.6,3C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RREF	**El Recreo**	**0.94**	**97**	*e*P	Pn	13 09 05.1	-0.4
RREF				*e*S	Sn	13 09 20.8	+0.1
RREF				*i*		13 09 22.9	
	comp=Z,158nm,0.3s						
ANIL	**Santa Ana**	**1.02**	**121** ⇑	*i* P	Pn	13 09 05.4	-0.5
ANIL				*e*S	Sn	13 09 21.6	-0.1
ANIL				*i*		13 09 25.2	
	comp=E,892nm,0.4s						
YOTC	**Yotoco, Valle**	**1.03**	**184**	*e*P	Pn	13 09 04.7	-1.2
YOTC				*e*S	Sn	13 09 20.9	-0.6
YOTC				*i*		13 09 23.3	
	comp=N,811nm,0.3s						
HELC	**Santa Helena**	**1.39**	**33**	*e*P	Pn	13 09 09.7	-0.6
HELC				*e*S	Sn	13 09 29.3	-0.1
HELC				*i*		13 09 31.7	
	comp=E,165nm,0.3s						
MALC	**Bahia Malaga**	**1.45**	**227**	*e*P	Pn	13 09 11.1	+0.4
NORC	**Norcasia**	**1.51**	**69** ⇑	*i* P	Pn	13 09 11.4	0.0
NORC				*e*S	Sn	13 09 31.3	-0.2
NORC				*i*		13 09 32.6	
	comp=N,339nm,0.5s						
PRAC	**Prado**	**1.90**	**133** ⇓	*i* P	Pn	13 09 16.1	-0.2
PRAC				*e*S	Sn	13 09 40.2	-0.1
PRAC				*i*		13 09 41.2	
	comp=E,172nm,0.4s						
DBBC	**Dabeiba**	**1.99**	**2**	*e*P	Pn	13 09 17.9	+0.3
DBBC				*i*		13 09 52.9	
	comp=Z,125nm,0.6s						
MARP	**Paez Belalcaza**	**2.18**	**171**	*e*P	Pn	13 09 20.1	-0.2
MARP				*e*S	Sn	13 09 47.0	-0.1
MARP				*i*		13 09 47.3	
	comp=Z,102nm,0.3s						
PTBC	**PUERTO BERRIO,**	**2.37**	**50** ⇑	*i* P	Pn	13 09 22.2	-0.2
PTBC				*e*S	Sn	13 09 49.9	-1.2
PTBC				*i*		13 09 51.2	
	comp=E,150nm,0.5s						
BETC	**Betania**	**2.46**	**160**	*e*P	Pn	13 09 23.0	-0.8
BETC				*e*S	Sn	13 09 52.4	-1.1
POPC	**Popayan, Colom**	**2.49**	**189**	*e*P	Pn	13 09 23.6	-0.7
POPC				*e*S	Sn	13 09 53.6	-0.7
POPC				*i*		13 10 00.9	
	comp=N,61nm,0.4s						
CHIC	**Chingaza**	**2.57**	**98** ⇓	*i* P	Pn	13 09 27.2	+1.7
CHIC				*e*S	Sn	13 09 58.8	+2.3
CHIC				*i*		13 10 00.0	
	comp=N,95nm,0.6s						
PCON	**Cinco Dias**	**2.67**	**182**	*e*P	Pn	13 09 27.7	+0.8
PCON				*e*S	Sn	13 09 59.5	+0.4
VILC	**Villavicencio,**	**2.73**	**109**	*e*P	Pn	13 09 29.5	+2.1
ZARC	**Zaragoza, Cauc**	**2.84**	**30**	*e*P	Pn	13 09 28.7	0.0
ZARC				*e*S	Sn	13 10 01.6	-0.7
ZARC				*i*		13 10 05.8	
	comp=N,92nm,0.4s						
SOTA	**Rioblanco**	**2.88**	**187**	*e*P	Pn	13 09 29.9	+0.2
BRRC	**Barranca, Sant**	**3.29**	**51**	*e*P	Pn	13 09 33.9	-0.8
BRRC				*e*S	Sn	13 10 11.3	-1.9
BRRC				*i*		13 10 14.5	
	comp=N,64nm,0.4s						
RUSC	**La Rusia**	**3.30**	**75**	*e*P	Pn	13 09 36.1	+0.9
RUSC				*e*S	Sn	13 10 12.3	-1.7
FLOC	**Florencia**	**3.47**	**170**	*e*P	Pn	13 09 36.6	-0.4
CRUC	**La Cruz**	**3.49**	**191**	*e*P	Pn	13 09 37.5	-0.2
CRUC				*e*S	Sn	13 10 18.9	+0.6
PAMC	**Pamplona, Colo**	**4.25**	**57**	*e*P	Pn	13 09 48.1	+0.1
PAMC				*e*S	Sn	13 10 35.2	-1.5
OCAC	**Ocana**	**4.35**	**42**	*e*P	Pn	13 09 49.1	0.0
OCAC				*e*S	Sn	13 10 38.0	-0.9
SMLC	**San Martn de**	**4.36**	**30**	*e*P	Pn	13 09 49.3	+0.3

SJA 09 13:20:00.9±0.8, 31.74S×64.72W, h64km±55km, ML2.7, MW3.5, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRA	**San Martin**	**1.08**	**231**	*e*P	Pn	13 20 21.7	+1.5
MRA				*e*S	Sn	13 20 36.6	+1.9
MRA				IAML		13 20 40.4	
	comp=Z,191nm,0.3s						
ACAN	**Cantantal**	**2.16**	**255**	*e*P	Pn	13 20 35.9	+1.2
ACAN				*e*S	Sn	13 21 02.8	+2.3
ACLC	**CERRO LA CRUZ**	**3.01**	**320**	*e*P	Pn	13 20 42.0	-4.3
AMOG	**MOGNA**	**3.33**	**283**	*e*P	Pn	13 20 53.3	+2.8
CYA	**Choya**	**3.42**	**344**	*e*P	Pn	13 20 54.1	+2.3
CYA				IAML		13 21 36.7	
	comp=Z,15nm,0.2s						

TAP 09 13:25:15.0, 24.12N×121.58E, h12km, ML0.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.04**	**155**	P	Pg	13 25 17.8	+0.6
	baz=145						
TWD				*i* S	Sg	13 25 19.6	+0.7
	baz=145						
NACB	**Ninganchiao**	**0.06**	**16**	*e*P	Pg	13 25 18.0	+0.5
	baz=16						
NACB				*e*S	Sg	13 25 19.8	+0.7
	baz=16						
WHF	**Hehuan Shan**	**0.29**	**275**	*e*P	Pb	13 25 21.9	-0.4
	baz=275						
WHF				S	Sg	13 25 26.2	+1.0
	baz=275						
ENA	**Nanau**	**0.34**	**26**	P	Pb	13 25 22.8	-0.3
	baz=27						
ENA				*e*S	Sb	13 25 28.5	0.0
	baz=27						
NANB	**Nanao**	**0.35**	**27**	*e*P	Pg	13 25 22.6	+0.6
	baz=27						
NANB				*e*S	Sb	13 25 28.4	-0.3
	baz=27						

*IDC **09** 13:37:02.6±1.2, 15.66S×167.38E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.8/48, mbtmp3.8/9, ML4.1/1, MS3.3/3, Ms1 3.3/3, ms1mx3.0/45, Error ellipse: s-maj=42.1km s-min=24.2km az=139.0*

*ISCJB **09** 13:37:15.1±0.8, 16.21S±0.07×167.4E±0.2, h124km, mb3.6/8, Error ellipse: s-maj=24.3km s-min=9.9km az=7.4*

ISC 09 13:37:16.4±0.8, 16.24S±0.10×167.5E±0.2, h124km, n12, σ1.845/11, mb3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.88**	**189**	Pn	**Pn**	**13 38 40.6**	**-0.8**
	3.7nm,0.3s,baz=128,slow=20,SNR=50						
DZM				Sn	**Sn**	**13 39 48.7**	**+1.0**
	baz=319,slow=19,SNR=2.4						
DZM				LR	LR	13 41 01.3	
	comp=Z,253nm,18.1s,baz=218,slow=37						
HNR	**Honiara**	**9.99**	**312**	LR	LR	13 42 25.7	
	comp=Z,154nm,21.8s,baz=279,slow=34						
WRA	**Warramunga Arr**	**31.69**	**258**	P	**P**	**13 43 27.1**	**-1.4**
	0.4nm,0.8s,baz=84,slow=9.3,SNR=3.8						
ASAR	**Alice Springs**	**32.36**	**251**	P	**P**	**13 43 33.8**	**-0.6**
	2.2nm,0.8s,baz=75,slow=9.1,SNR=14						
CMAR	**Chiang Mai Arr**	**75.75**	**294**	P	**P**	**13 48 50.8**	**+1.7**
	0.2nm,0.3s,baz=98,slow=5.6,SNR=3.6						
SONM	**Songino Array**	**83.83**	**324**	P	**P**	**13 49 32.0**	**-0.1**
	0.4nm,0.6s,baz=134,slow=6.2,SNR=4.2						
ILAR	**Eielson Array**	**87.89**	**18**	P	**P**	**13 49 50.0**	**-1.6**
	0.4nm,0.8s,baz=236,slow=5.0,SNR=7.7						
PALK	**Pallekele**	**88.94**	**278**	LR	LR	14 28 56.2	
	comp=Z,24nm,21.5s,baz=295,slow=35						
PDAR	**Pinedale Array**	**95.81**	**47**	P	**P**	**13 50 28.8**	**-0.2**
	0.2nm,0.6s,baz=231,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**98.43**	**316**	P	**P**	**13 50 40.2**	**-0.3**
	0.4nm,0.7s,baz=94,slow=5.7,SNR=4.9						
YKA	**Yellowknife Ar**	**98.78**	**27**	P	**P**	**13 50 41.9**	**+0.3**
	0.2nm,0.6s,baz=255,slow=4.5,SNR=4.6						
ARCES	**ARCESS Array B**	**121.76**	**345**	PKP	**PKiKP**	**13 55 58.0**	**+2.7**
	4.0nm,0.9s,baz=48,slow=1.8,SNR=5.9						

*NIED **09** 13:44:00, 46.60N×153.00E, h5km, Mw4.1 Best double couple: M0.148000×10^15 NP1:φ=229.00000°, δ47.00000°, λ163.00000°. NP2:φ=331.00000°, δ78.00000°, λ44.00000°.*

*IDC **09** 13:44:35.2±0.6, 46.28N×152.90E, h0km, mb4.1/23, mb1 4.3/28, mb1mx4.1/47, mbtmp4.1/28, ML3.0/4, MS3.5/14, Ms1 3.6/14, ms1mx3.2/60, Error ellipse: s-maj=17.1km s-min=11.9km az=141.0*

*JMA **09** 13:44:36.9±0.7, 46.61N×152.97E, h30km, M4.4*

*ISCJB **09** 13:44:37.9±0.4, 46.12N±0.05×153.03E±0.05, h31km, mb4.2/42, MS3.7/13, Error ellipse: s-maj=7.7km s-min=3.0km az=143.9*

*SKHL **09** 13:44:38.8±0.4, 45.98N×153.29E, h55km±1km, mb4.9/11, Ms4.0/2*

*MOS **09** 13:44:39.4±1.3, 46.20N×153.02E, h50km, mb4.5/25, MS3.6/12, Error ellipse: s-maj=7.3km s-min=6.2km az=89.2*

*NEIC **09** 13:44:40.3±0.5, 46.23N×152.99E, h35km, mb4.5/3, Error ellipse: s-maj=12.1km s-min=6.6km az=141.0*

ISC 09 13:44:39.2±0.6, 46.09N±0.07×153.04E±0.06, h31km, n180, σ1.987/194, mb4.4/46, MS3.8/13, 21C-8D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.72**	**259**	*i* P	**Pn**	**13 45 36.8**	**+2.3**
KUR				AMB	AMB	13 45 37.0	
	150nm,0.4s						
KUR				AMB	AMB	13 45 37.0	
	31nm,0.4s						
KUR				AMB	AMB	13 45 37.0	
	576nm,0.4s						
KUR				*i* S	**Sn**	**13 46 19.0**	**+1.8**
KUR				A	A	13 46 22.0	
	350nm,0.6s						
KUR				A	A	13 46 22.0	
	240nm,0.6s						
KUR	**Kuril'sk**	**3.72**	**259**	*c* iPN	**Pn**	**13 45 36.8**	**+2.3**
KUR				*i* S	**Sn**	**13 46 20.4**	**+3.2**
KUR				pmax	pmax		
	comp=Z,580nm,0.4s						
KUR				pmax	pmax		
	comp=N,145nm,0.3s						
KUR				pmax	pmax		
	comp=E,31nm,0.3s						
KUR				smax	smax		
	comp=N,348nm,0.6s						
KUR				smax	smax		
	comp=E,238nm,0.6s						
SHO	**Shikotan**	**4.93**	**245**	*e*P	**Pn**	**13 45 52.8**	**+1.8**
SHO				AMB	AMB	13 45 57.0	
	comp=E,19nm,0.4s						
SHO				AMB	AMB	13 45 57.0	
	comp=E,45nm,0.4s						
SHO				AMB	AMB	13 45 57.0	
	comp=E,80nm,0.4s						
SHO				*e*S	**Sn**	**13 46 47.3**	**+0.3**
SHO				A	A	13 46 56.0	
	comp=E,128nm,0.4s						
SHO				A	A	13 46 56.0	
	comp=E,116nm,0.4s						
SKR	**Severo-Kuril's**	**5.03**	**23**	*e*P	**Pn**	**13 45 52.7**	**+0.3**
SKR				AMB	AMB	13 45 55.0	
	comp=E,219nm,0.7s						
SKR				*e*S	**Sn**	**13 46 45.5**	**-4.0**
SKR				A	A	13 46 58.0	
	comp=E,303nm,0.8s						
SKR				A	A	13 46 58.0	
	comp=E,256nm,0.8s						
SKR	**Severo-Kuril's**	**5.03**	**23**	*e*PN	**Pn**	**13 45 52.1**	**-0.3**
SKR				pmax	pmax		
	comp=Z,219nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**251**	*e*P	**Pn**	**13 46 01.6**	**+3.0**
YUK				AMB	AMB	13 46 03.0	
	comp=Z,25nm,0.3s						
YUK				AMB	AMB	13 46 03.0	
	comp=Z,14nm,0.3s						
YUK				AMB	AMB	13 46 03.0	
	comp=Z,100nm,0.3s						
YUK				*e*S	**Sn**	**13 47 02.3**	**+1.7**
YUK				A	A	13 47 09.0	
	comp=Z,195nm,0.4s						
YUK				A	A	13 47 09.0	
	comp=Z,79nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**251**	*e*PN	**Pn**	**13 46 00.6**	**+2.0**
YUK				*e*S	**Sn**	**13 47 03.4**	**+2.8**
YUK				pmax	pmax		
	comp=N,25nm,0.2s						
YUK				pmax	pmax		
	comp=Z,100nm,0.2s						
YUK				pmax	pmax		
	comp=E,14nm,0.1s						
YUK				smax	smax		
	comp=N,195nm,0.5s						
YUK				smax	smax		
	comp=E,79nm,0.4s						
LAGR	**Lagunnoye**	**5.52**	**251**	*e*P	**Pn**	**13 46 01.0**	**+1.9**
LAGR				AMB	AMB	13 46 13.0	
	comp=E,284nm,0.4s						
LAGR				AMB	AMB	13 46 13.0	
	comp=E,109nm,0.4s						
LAGR				AMB	AMB	13 46 13.0	
	comp=E,175nm,0.4s						
LAGR				*e*S	**Sn**	**13 47 03.0**	**+1.4**
LAGR				A	A	13 47 05.0	
	comp=E,225nm,0.5s						
LAGR				A	A	13 47 05.0	
	comp=E,82nm,0.5s						
LAGR	**Lagunnoye**	**5.52**	**251**	PN	**Pn**	**13 46 01.1**	**+1.9**
LAGR				*e*S	**Sn**	**13 47 03.8**	**+2.2**
LAGR				pmax	pmax		
	comp=N,284nm,0.4s						
LAGR				pmax	pmax		
	comp=Z,175nm,0.4s						
LAGR				pmax	pmax		
	comp=E,109nm,0.3s						
LAGR				smax	smax		
	comp=E,82nm,0.4s						
LAGR				smax	smax		
	comp=N,225nm,0.6s						
GRPR	**Tuman**	**5.56**	**250**	*e*P	**Pn**	**13 46 01.0**	**+1.3**
GRPR				AMB	AMB	13 46 02.0

YSS eS Sn 13 47 44.8 +3.3
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS smax smax
comp=N,10.0nm,1.0s
YSS MLR MLR
comp=Z,500nm,12.3s
YSS MLR MLR
comp=E,400nm,15.0s
JMP Maruseppu 7.16 257 P Pn 13 46 23.9 +2.2
JAR Ashorobuto 7.17 250 P Pn 13 46 23.1 +1.3
JAR eS Sn 13 47 42.6 +0.5
JKK2 Kamakawa 2 7.62 257 P Pn 13 46 30.4 +2.3
ASAJ Asahikawa 7.64 259 Pn Pn 13 46 29.9 +1.5
comp=E,2.0nm,0.3s,baz=75,slow=18,SNR=24
ASAJ LR LR 13 49 02.3
comp=E,139nm,21.2s,baz=22,slow=35
PETK Petropavlovsk- 7.65 22 Pn Pn 13 46 27.0 -1.4
comp=E,0.7nm,0.3s,baz=184,slow=14,SNR=20
PETK Sn Sn 13 48 00.3 +6.5
comp=E,0.2nm,0.3s,baz=250,slow=25,SNR=2.0
JCH Churui 7.75 247 P Pn 13 46 29.9 +0.1
JCH eS Sn 13 47 53.8 -2.7
PET Petropavlovsk 7.84 26 eP Pn 13 46 32.3 +1.3
PET Petropavlovsk 7.84 26 ePN Pn 13 46 31.5 +0.5
PET MLR MLR
comp=Z,100nm,16.0s
MYR Moyori 7.97 245 eP Pn 13 46 32.8 0.0
UGL Uglegorsk 8.00 296 eP Pn 13 46 36.0 +2.9
UGL AMB AMB 13 46 37.0
comp=Z,36nm,1.0s
UGL Uglegorsk 8.00 296 ePN Pn 13 46 36.9 +3.8
UGL e 13 48 06.6
UGL pmax pmax
comp=Z,36nm,1.0s
JEM Erimo 8.20 244 eS Sn 13 48 05.3 -2.1
ERM Erimo 8.20 244 eP Pn 13 46 38.2 +2.3
ERM Erimo 8.20 244 *i* PN Pn 13 46 38.2 +2.3
JNBK Urakawa-nobuka 8.31 246 P Pn 13 46 36.9 -0.6
JNBK eS Sn 13 48 05.5 -4.7
JBT2 Biratori 2 8.32 250 P Pn 13 46 39.1 +1.5
TYV Tymovskoe 8.39 308 eP Pn 13 46 41.4 +3.0
TYV AMB AMB 13 46 42.5
comp=Z,13nm,0.7s
TYV Tymovskoe 8.39 308 ePN Pn 13 46 41.5 +3.0
TYV pmax pmax
comp=Z,13nm,0.7s
JKB Kayabe 9.62 248 P Pn 13 46 54.9 -0.4
JKB eS Sn 13 48 36.6 -5.6
JTM Tenmabayashi 10.19 243 eS Sn 13 48 49.8 -6.4
NKL Nikolayevsk 10.68 316 eP Pn 13 47 12.0 +2.2
NKL AMB AMB 13 47 14.4
comp=Z,47nm,1.0s
NKL AMS AMS 13 52 17.0
comp=Z,700nm,15.0s
NKL AMS AMS 13 52 17.0
comp=Z,1µm,15.0s
NKL Nikolayevsk 10.68 316 ePN Pn 13 47 12.0 +2.2
NKL pmax pmax
comp=Z,47nm,1.3s
NKL MLR MLR
comp=N,700nm,15.0s
NKL MLR MLR
comp=Z,1µm,15.0s
GRNR Gornyy 11.98 299 eP Pn 13 47 28.9 +1.2
GRNR Gornyy 11.98 299 ePN Pn 13 47 29.9 +2.2
MA2 Magadan 13.58 355 eP Pn 13 47 49.9 +0.5
MA2 Magadan 13.58 355 *ce*PN Pn 13 47 49.9 +0.5
MA2 pmax pmax
comp=Z,14nm,2.5s
MA2 Magadan 13.58 355 Pn Pn 13 47 48.9 -0.5
comp=Z,1.1nm,0.3s,baz=166,slow=7.3,SNR=8.1
MA2 LR LR 13 53 34.5
comp=Z,126nm,18.5s,baz=285,slow=40
MAJO Matsushiro 14.64 235 P Pn 13 48 04.3 +0.2
MAJO Matsushiro 14.64 235 P Pn 13 48 04.3 +0.2
MJAR Matsushiro Arr 14.64 235 Pn Pn 13 48 02.1 -2.0
comp=Z,0.0nm,0.3s,baz=34,slow=11,SNR=6.0
KLR Kul'dur 14.68 290 Pn Pn 13 48 06.4 +2.0
comp=Z,0.1nm,0.3s,baz=89,slow=15,SNR=3.4
KLR LR LR 13 53 55.1
comp=Z,198nm,19.0s,baz=94,slow=38
EKMR Ekimchan 14.75 306 eP Pn 13 48 05.0 -0.5
EKMR AMB AMB 13 48 13.9
comp=Z,10.0nm,0.8s
USRK Ussuriysk Ar. 14.97 270 Pn Pn 13 48 07.7 -0.7
comp=Z,0.9nm,0.3s,baz=64,slow=13,SNR=13
USRK LR LR 13 53 38.7
comp=Z,124nm,21.0s,baz=49,slow=36
SEY Seymchan 16.88 359 eP Pn 13 48 30.6 -2.2
SEY Seymchan 16.88 359 *i* P Pn 13 48 30.6 -2.2
SEY Seymchan 16.88 359 Pn Pn 13 48 30.9 -1.9
comp=Z,0.1nm,0.3s,baz=49,slow=23,SNR=5.5
BMKR Bomnak 17.60 308 eP Pn 13 48 40.4 -1.4
ZEA Zeya 18.21 304 eP P 13 48 51.7 +2.3
ZEA AMS AMS 13 56 12.0
comp=Z,300nm,16.0s
ZEA Zeya 18.21 304 eP Pn 13 48 43.8 -5.5
ZEA pmax pmax
comp=Z,32nm,1.8s
ZEA MLR MLR
comp=Z,300nm,16.0s
KROS Kirovskiy 18.55 306 eP P 13 48 51.5 -1.6
KROS AMB AMB 13 48 55.7
comp=Z,5.0nm,0.5s
KSRS Korea Array 20.56 254 P P 13 49 15.9 +0.8
comp=Z,3.1nm,0.7s,baz=57,slow=11,SNR=9.8
KSAR Wonju Array Be 20.59 254 P P 13 49 15.9 +0.5
KSAR Wonju Array Be 20.59 254 P P 13 49 15.9 +0.5
YAK Yakutsk 20.85 328 eP P 13 49 16.4 -1.7
YAK Yakutsk 20.85 328 eP P 13 49 16.4 -1.7
YAK *e* 13 49 29.7
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,15nm,1.5s
JNU Nakatsue 21.34 240 P P 13 49 25.8 +2.2
comp=E,4.5nm,0.7s,baz=111,slow=7.2,SNR=3.5
JNU LR LR 13 59 36.9
comp=E,58nm,18.1s,baz=353,slow=42
BILL Bilibino 23.05 13 eP P 13 49 40.3 -1.2
BILL Bilibino 23.05 13 eP P 13 49 40.3 -1.2
BILL *e* 13 49 59.2
BILL *e* 13 50 06.4
BILL pmax pmax
comp=Z,2.0nm,0.5s
BILL MLR MLR
comp=Z,88nm,15.0s
BOD Bodaibo 26.37 311 eP P 13 50 04.3 -8.0
BOD pmax pmax
comp=Z,5.0nm,2.0s
H11N2 WAKE ISLAND Hy 28.66 152 T T 14 20 32.7
baz=340,slow=76,SNR=12
H11N1 WAKE ISLAND Hy 28.67 152 T T 14 20 33.4
baz=340,slow=76,SNR=12
H11N3 WAKE ISLAND Hy 28.68 152 T T 14 20 36.7
baz=340,slow=76,SNR=10
H11S1 WAKE ISLAND Hy 29.74 153 T T 14 21 52.9
baz=341,slow=76,SNR=15
H11S3 WAKE ISLAND Hy 29.75 153 T T 14 21 51.9
baz=341,slow=76,SNR=16
H11S2 WAKE ISLAND Hy 29.76 153 T T 14 21 55.8
baz=341,slow=76,SNR=16
SONM Songino Array 31.51 290 P P 13 50 57.0 -1.3
SONM MLR MLR
comp=Z,102nm,18.5s
SONM Songino Array 31.51 290 P P 13 50 57.0 -1.3
comp=Z,0.4nm,0.4s,baz=67,slow=8.5,SNR=3.1
SONM LR LR 14 04 40.7
comp=Z,102nm,18.5s,baz=60,slow=38
TLY Talaya 32.44 298 eP P 13 51 06.2 0.0
TLY Talaya 32.44 298 eP P 13 51 06.0 -0.2
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,305nm,17.0s
ZAK Zakamensk 32.91 296 eP P 13 51 07.7 -2.8
ZAK pmax pmax
comp=Z,4.0nm,1.1s
XAN Xi'an 35.41 266 P P 13 51 33.0 +0.7
XAN pP sP 13 51 43.3 +0.7
XAN pmax pmax
comp=Z,6.0nm,0.7s

ILAR Eielson Array 37.10 38 P P 13 51 45.9 -0.4
comp=Z,1.1nm,0.9s,baz=265,slow=7.2,SNR=8.5
GTA Gaotai 39.02 280 eP P 13 52 04.3 +1.3
GTA pP pP 13 52 11.9 +1.0
GTA sP sP 13 52 15.1 +0.9
GTA pmax pmax
comp=Z,8.0nm,1.1s
NRIK Noril'sk 39.30 329 P P 13 52 01.6 -3.1
comp=Z,2.1nm,0.4s,baz=0.0,slow=1.0,SNR=2.3
NRIK LR LR 14 08 34.4
comp=Z,32nm,18.5s,baz=88,slow=37
INK Inuvik 42.24 32 P P 13 52 29.4 +0.5
comp=Z,2.3nm,0.8s,baz=296,slow=6.7,SNR=10
ZALV Zalesovo Beam 42.96 306 P P 13 52 31.9 -3.0
comp=Z,1.0nm,0.5s,baz=65,slow=8.1,SNR=6.1
ZALV PcP PcP 13 54 25.3 +0.3
comp=Z,0.5nm,0.3s,baz=66,slow=3.6,SNR=2.8
ZALV LR LR 14 11 41.9
comp=Z,195nm,18.1s,baz=68,slow=38
MKAR Makanchi Array 47.20 298 P P 13 53 08.2 -0.7
comp=Z,4.7nm,0.8s,baz=67,slow=7.9,SNR=38
MKAR PcP PcP 13 54 40.2 +0.3
comp=Z,0.8nm,0.8s,baz=72,slow=4.0,SNR=3.7
MKAR LR LR 14 14 06.5
comp=Z,144nm,18.7s,baz=63,slow=38
KURK Kurchatov 47.69 304 eP P 13 53 10.3 -2.2
KURK Kurchatov 47.69 304 *ce*P P 13 53 10.3 -2.2
KURK pmax pmax
comp=Z,5.0nm,0.7s
LSA Lhasa 50.26 274 eP P 13 53 35.1 +2.1
comp=Z,1.7nm,0.3s
LSA Lhasa 50.26 274 eP P 13 53 35.1 +2.1
LSA pmax pmax
comp=Z,2.0nm,0.3s
BVAR Borovoye Array 51.24 310 LR LR 14 17 11.8
comp=Z,69nm,18.1s,baz=44,slow=38
BRVK Borovoye 51.28 310 eP P 13 53 39.4 -0.4
BRVK Borovoye 51.28 310 *ce*P P 13 53 39.4 -0.4
BRVK pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 51.48 18 P P 13 53 41.1 +0.1
comp=Z,2.2nm,0.8s,baz=325,slow=8.2,SNR=12
YKA Yellowknife Ar 51.49 36 P P 13 53 41.4 +0.2
comp=Z,0.9nm,0.8s,baz=297,slow=7.0,SNR=13
CMMT Chiang Mai 51.91 257 P P 13 53 47.4 +2.4
comp=Z,6.4nm,1.0s
CHTO Chiang Mai 51.92 257 P P 13 53 45.8 +0.8
comp=Z,1.6nm,0.6s
CHTO Chiang Mai 51.92 257 eP P 13 53 45.8 +0.8
CHTO Chiang Mai 51.92 257 P P 13 53 45.8 +0.8
CHTO pmax pmax
comp=Z,2.0nm,0.6s
CHTO Chiang Mai 51.92 257 P P 13 53 47.5 +2.5
comp=Z,28nm,1.0s
CMAR Chiang Mai Arr 52.16 257 P P 13 53 48.9 +2.0
comp=Z,1.4nm,0.7s,baz=35,slow=7.8,SNR=15
AAK Ala-Archa 54.08 297 eP P 13 54 00.2 -0.7
comp=Z,4.3nm,0.8s
AAK Ala-Archa 54.08 297 eP P 13 54 00.6 -0.3
AAK Ala-Archa 54.08 297 *ce*P P 13 54 00.6 -0.3
AAK pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 54.08 297 LR LR 14 20 14.8
comp=Z,77nm,18.3s,baz=34,slow=40
KSH Kashi 54.86 293 P P 13 54 11.7 +5.1
KSH S S 14 01 48.4 +2.7
KSH ScS ScS 14 03 52.7 -0.8
KSH pmax pmax
comp=Z,43nm,5.1s
JIRN Jiri 54.95 275 eP P 13 54 09.1 +1.5
comp=Z,17nm,0.5s
GUN Gumba 55.01 275 eP P 13 54 09.7 +1.7
comp=Z,9.3nm,0.6s
RAMN Ramite 55.11 274 eP P 13 54 09.9 +1.3
comp=Z,22nm,0.7s
ARU Arti 55.46 318 eP P 13 54 09.4 -1.1
ARU Arti 55.46 318 *c* *i*P P 13 54 09.1 -1.4
ARU 13 56 11.3
ARU S S 14 01 50.8 -2.3
ARU SS SS 14 05 33.1 -4.2
ARU pmax pmax
comp=Z,12nm,1.4s
KKN Kakani 55.50 276 eP P 13 54 13.4 +2.0
PKI Pulchoki 55.54 275 eP P 13 54 13.1 +1.2
PKIN Phulchoki 55.55 275 eP P 13 54 13.0 +1.1
DMN Daman 55.73 276 eP P 13 54 14.3 +1.2
comp=Z,17nm,0.7s
GKN Gorkha 55.81 276 eP P 13 54 15.0 +1.4
comp=Z,22nm,0.8s
DANN Dangsing 56.20 277 eP P 13 54 18.4 +1.8
comp=Z,32nm,0.6s
KOLN Koldanda 56.67 277 eP P 13 54 21.3 +1.5
comp=Z,18nm,0.7s
PYUN Piuthan 56.89 278 eP P 13 54 22.9 +1.6
comp=Z,24nm,1.0s
ARCES ARCESS Array B 58.46 341 P P 13 54 31.0 -0.5
comp=Z,5.0nm,1.0s,baz=17,slow=4.6,SNR=6.7
SUMG Summit 61.36 4 *i* P P 13 54 51.8 -0.1
SUMG Summit 61.36 4 eP P 13 54 51.8 -0.1
NVAR Mina Array Bea 62.79 62 P P 13 55 02.8 +1.0
comp=Z,0.8nm,0.7s,baz=316,slow=5.0,SNR=3.3
FINES FINESS Array B 64.61 335 P P 13 55 12.4 -0.7
comp=Z,4.0nm,0.6s,baz=30,slow=7.3,SNR=33
PDAR Pinedale Array 65.18 54 P P 13 55 17.9 +0.5
comp=Z,1.6nm,0.9s,baz=286,slow=3.5,SNR=8.8
OBN Obninsk 65.82 326 eP P 13 55 20.4 -0.6
OBN Obninsk 65.82 326 eP P 13 55 20.4 -0.6
OBN *e* 13 55 54.2
OBN pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 66.90 301 P P 13 55 29.8 +1.5
comp=Z,1.7nm,0.6s,baz=345,slow=5.2,SNR=4.3
WRA Warramunga Arr 67.87 199 P P 13 55 34.6 +0.2
comp=Z,0.5nm,0.6s,baz=17,slow=6.8,SNR=4.6
NB2 NORSAR Subarra 68.84 341 P P 13 55 39.1 -1.0
comp=Z,0.8nm,0.5s,baz=28,slow=6.5
NOA NORSAR Array B 68.84 341 P P 13 55 39.5 -0.7
comp=Z,0.9nm,0.5s,baz=29,slow=6.6,SNR=10.0
NOA LR LR 14 30 12.6
comp=Z,48nm,18.4s,baz=240,slow=40
KIV Kislovodsk 71.22 314 *i*P P 13 55 55.9 +0.8
KIV Kislovodsk 71.22 314 eP P 13 55 52.5 -2.6
KIV pmax pmax
comp=Z,9.0nm,1.1s
KIV MLR MLR
comp=Z,75nm,18.0s
KBZ Khabaz 71.28 314 P P 13 55 55.4 +0.1
comp=Z,4.8nm,0.7s,baz=95,slow=4.6,SNR=10
ASAR Alice Springs 71.56 198 P P 13 55 58.5 +1.3
comp=Z,0.4nm,0.6s,baz=10.0,slow=5.8,SNR=9.4
AKASG Malin Array Be 72.07 326 P P 13 55 59.4 -0.5
comp=Z,6.0nm,0.4s,baz=34,slow=6.2,SNR=32
AKASG LR LR 14 30 23.1
comp=Z,54nm,18.2s,baz=330,slow=38
KIEV Kiev 72.08 326 *i*P P 13 55 59.5 -0.5
BURAR Bucovina Array 76.11 327 *i*P P 13 56 23.8 +0.1
BIZ Bicaz 76.32 326 *i*P P 13 56 25.2 +0.4
TESR Tescani 76.46 325 *i*P P 13 56 25.7 +0.1
DIKM Dikmen 76.56 317 *i*P P 13 56 28.1 +1.8
TLCR 76.65 323 *i*P P 13 56 27.3 +0.6
GIUM Giurgiulesti 76.66 324 *i*P P 13 56 26.5 -0.2
TRPA Tarpa 76.68 328 *i*P P 13 56 27.5 +0.7
DPC Dobruska-Polom 76.89 333 eP P 13 56 28.6 +0.6
DPC Dobruska-Polom 76.89 333 eP P 13 56 28.6 +0.6
LANS Liptovska Anna 76.90 331 eP P 13 56 29.8 +1.7
LANS Liptovska Anna 76.90 331 eP P 13 56 29.8 +1.7
CFR Carcaliu 76.94 323 *i*P P 13 56 29.6 +1.3
VRI Vrincioaia 76.95 325 *i*P P 13 56 28.4 0.0
MORC Moravsky Berou 77.00 332 *i*P P 13 56 29.1 +0.4
OZUR 77.14 325 *i*P P 13 56 30.7 +1.2
TIRR Tirgusor 77.41 323 *i*P P 13 56 31.3 +0.4
MLR Muntele Rosu 77.57 325 *i*P P 13 56 33.0 +0.9
VYHS Vyhne 77.68 331 eP P 13 56 33.0 +0.6
VYHS Vyhne 77.68 331 eP P 13 56 33.0 +0.6
DRGR 77.74 328 *i*P P 13 56 33.3 +0.4
TXAR Lajitas Array 77.86 60 P P 13 56 34.2 +0.3
comp=Z,0.9nm,0.6s,baz=306,slow=4.6,SNR=6.4
VOIR 77.97 325 *i*P P 13 56 35.3 +1.1
ARR Arges 78.20 326 *i*P P 13 56 36.4 +1.0
KHC Kasperske Hory 78.81 334 eP P 13 56 39.0 +0.3
KHC Kasperske Hory 78.81 334 eP P 13 56 39.0 +0.3
KHC Kasperske Hory 78.81 334 eP P 13 56 39.0 +0.3
BRTR Keskin Array B 78.83 317 *ce*P P 13 56 40.0 +0.8
BRTR pmax pmax
comp=Z,2.0nm,1.0s

BRTR Keskin Array B 78.83 317 P P 13 56 38.3 -0.9
comp=Z,1.8nm,1.0s,baz=46,slow=3.6,SNR=7.0
BRTR LR LR 14 36 54.2
comp=Z,18nm,18.4s,baz=287,slow=40
GZR Gura Zlata 78.89 327 *i*P P 13 56 39.0 -0.3
BZS Buzias 79.14 328 *i*P P 13 56 40.9 +0.4
CONA Conrad Observa 79.16 332 eP P 13 56 41.7 +1.0
comp=Z,2.8nm,0.7s
MDVR Moldovita 79.81 327 *i*P P 13 56 44.5 +0.2
ARSA Arzberg 79.86 332 eP P 13 56 45.4 +1.0
comp=Z,4.0nm,1.2s
SOKA Soboth 80.52 332 eP P 13 56 49.1 +0.9
comp=Z,6.5nm,1.3s
KBA Koelnbreinsper 80.71 333 eP P 13 56 50.5 +1.2
comp=Z,6.4nm,0.7s
WATA Walderalm 81.02 335 *e*PcP P 13 56 52.7 +1.9
comp=Z,4.3nm,0.5s
BFO Black Forest 81.04 337 *i* P P 13 56 53.5 +2.7
VTS Vitosha 81.05 325 *i*P P 13 56 52.2 +1.1
WTTA Wattenberg 81.06 335 *i* PcP P 13 56 53.6 +2.5
comp=Z,20nm,0.8s
RETA Reutte 81.12 335 *e*PcP P 13 56 53.3 +2.0
comp=Z,3.5nm,0.8s
MOTA Moosalm 81.15 335 *i* P P 13 56 52.0 +0.5
comp=Z,3.7nm,0.6s
SQTA Sankt Quirin 81.23 335 *i* PcP P 13 56 53.4 +1.5
comp=Z,7.2nm,1.1s

*TRN **09** 13:48:08.4, 17°.50N×63°.00W, h177km, MD4.5*
*NEIC **09** 13:48:08.7±0.0, 17°.49N×63°.01W, h175km, mb4.7/159, MD4.5(TRN), After TRN.*
*ISCJB **09** 13:48:09.2±0.1, 17°.31N±0°.02×63°.17W±0°.02, h171km±2km, mb4.7/177, Error ellipse: s-maj=4.2km s-min=2.5km az=141.0*
*IDC **09** 13:48:09.8±0.7, 17°.20N×63°.25W, h162km±6km, mb4.0/22, mb1 4.2/25, mb1mx4.1/36, mbtmp4.5/25, MS2.7/1, Ms1 2.7/1, ms1mx2.4/36, Error ellipse: s-maj=10.9km s-min=6.4km az=39.0*

ISC 09 13:48:10.0±0.5, 17°.31N±0°.03×63°.17W±0°.04, h165km±4km, n796, σ0.94/849, mb4.6/177, 3D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEUS	**St. Eustatius**	**0.25**	**45**	*e*Pn	**Pn**	**13 48 32.9**	**+0.7**
SEUS				*e*Sn	**Sn**	**13 48 49.4**	**+0.1**
SEUS	**St. Eustatius**	**0.25**	**45**	*i*P	**Pn**	**13 48 32.9**	**+0.7**
SEUS				*e*S	**Sn**	**13 48 49.6**	**+0.4**
NEV	**Hard Times**	**0.60**	**107**	*e*Pn	**Pn**	**13 48 35.2**	**+1.6**
NEV	**Hard Times**	**0.60**	**107**	*e*P	**Pn**	**13 48 35.2**	**+1.6**
SMRT	**St. Maarten**	**0.74**	**7**	*e*Pn	**Pn**	**13 48 34.6**	**+0.2**
SMRT				*e*Sn	**Sn**	**13 48 52.5**	**-0.7**
SMRT	**St. Maarten**	**0.74**	**7**	*e*P	**Pn**	**13 48 34.6**	**+0.2**
SMRT				*e*S	**Sn**	**13 48 53.0**	**-0.2**
MLYT	**Lee's Yard**	**1.10**	**122**	*e*P	**Pn**	**13 48 37.5**	**+0.4**
MLYT				*e*S	**Sn**	**13 48 58.0**	**+1.0**
BPA	**Boggy Peak**	**1.28**	**102**	*e*Pn	**Pn**	**13 48 39.2**	**+0.5**
BPA				*e*Sn	**Sn**	**13 48 60.0**	**-0.7**
BPA	**Boggy Peak**	**1.28**	**102**	*e*P	**Pn**	**13 48 39.2**	**+0.5**
BPA				*e*S	**Sn**	**13 48 60.0**	**-0.7**
ANWB	**Willy Bob**	**1.36**	**75**	*e*Pn	**Pn**	**13 48 38.9**	**-0.5**
ANWB				*e*Sn	**Sn**	**13 48 58.6**	**-3.4**
ANWB	**Willy Bob**	**1.36**	**75**	*e*P	**Pn**	**13 48 39.1**	**-0.3**
ANWB				*e*S	**Sn**	**13 48 59.6**	**-2.4**
CDVI	**St. Croix**	**1.59**	**286**	*e*Pn	**Pn**	**13 48 42.3**	**+0.7**
ABVI	**Anegada Island**	**1.79**	**322**	*e*Pn	**Pn**	**13 48 44.3**	**+0.5**
ABD	**La Joyeuse, An**	**1.81**	**117**	*i*eP	**Pn**	**13 48 43.5**	**-0.5**
CBE	**Ff, Capester**	**1.94**	**129**	*e*P	**Pn**	**13 48 45.7**	**+0.3**
TBG	**Guadaloupe-3**	**2.06**	**135**	*e*P	**Pn**	**13 48 46.6**	**-0.1**
TBG				*e*S	**Sn**	**13 49 15.9**	**+0.7**
TDBA	**Terre de Bas,**	**2.07**	**135**	*e*P	**Pn**	**13 48 46.8**	**-0.1**
CUPR	**Culebra, Puert**	**2.24**	**296**	*e*Pn	**Pn**	**13 48 49.3**	**+0.4**
DEG	**La Desirade**	**2.25**	**116**	*e*Pn	**Pn**	**13 48 48.0**	**-1.0**
DEG				*e*Sn	**Sn**	**13 49 17.6**	**-1.6**
DEG	**La Desirade**	**2.25**	**116**	*e*P	**Pn**	**13 48 48.0**	**-1.0**
DEG				*e*S	**Sn**	**13 49 17.6**	**-1.6**
H05N1	**Guadeloupe/Mar**	**2.25**	**116**	P	**Pn**	**13 48 47.7**	**-1.3**
H05N1				S	**Sn**	**13 49 15.5**	**-3.6**
MAGL	**Barre de l'ile**	**2.26**	**127**	*i*eP	**Pn**	**13 48 48.9**	**-0.2**
MDPV	**Dominica, Penn**	**2.37**	**135**	*e*P	**Pn**	**13 48 51.0**	**+0.6**
MDPV				*e*S	**Sn**	**13 49 22.6**	**+1.0**
MDPO	**Dominica; Chan**	**2.39**	**136**	*e*P	**Pn**	**13 48 50.7**	**+0.2**
MDPO				*e*S	**Sn**	**13 49 22.5**	**+0.6**
MTP	**Monte Pirata**	**2.40**	**289**	*e*Pn	**Pn**	**13 48 51.1**	**+0.3**
BBL	**Barber's Block**	**2.41**	**137**	*e*Pn	**Pn**	**13 48 50.8**	**-0.1**
BBL				*e*Sn	**Sn**	**13 49 22.7**	**+0.2**
BBL	**Barber's Block**	**2.41**	**137**	*e*P	**Pn**	**13 48 50.8**	**-0.1**
BBL				*e*S	**Sn**	**13 49 22.7**	**+0.2**
DWS	**Wesley**	**2.49**	**134**	*e*Pn	**Pn**	**13 48 51.5**	**-0.3**
DWS				*e*Sn	**Sn**	**13 49 24.0**	**-0.1**
DWS	**Wesley**	**2.49**	**134**	*e*P	**Pn**	**13 48 51.5**	**-0.3**
DWS				*e*S	**Sn**	**13 49 24.0**	**-0.1**
MDN	**Morne-Daniel**	**2.62**	**139**	*e*Pn	**Pn**	**13 48 53.5**	**+0.1**
MDN				*e*Sn	**Sn**	**13 49 27.1**	**+0.2**
MDN	**Morne-Daniel**	**2.62**	**139**	*e*P	**Pn**	**13 48 53.5**	**+0.1**
MDN				*e*S	**Sn**	**13 49 27.1**	**+0.2**
DPMT	**Pointe Michel**	**2.67**	**140**	*e*Pn	**Pn**	**13 48 55.2**	**+1.3**
DPMT	**Pointe Michel**	**2.67**	**140**	*e*P	**Pn**	**13 48 55.2**	**+1.3**
DBCT	**Belle View Cho**	**2.68**	**139**	*e*Pn	**Pn**	**13 48 54.7**	**+0.6**
DBCT				*e*Sn	**Sn**	**13 49 29.0**	**+0.6**
DBCT	**Belle View Cho**	**2.68**	**139**	*e*P	**Pn**	**13 48 54.7**	**+0.6**
DBCT				*e*S	**Sn**	**13 49 29.0**	**+0.6**
HUMP	**Col San Antoni**	**2.69**	**288**	*e*Pn	**Pn**	**13 48 54.5**	**+0.4**
DLPL	**La Plaine**	**2.70**	**137**	*e*P	**Pn**	**13 48 54.9**	**+0.5**
DLPL	**La Plaine**	**2.70**	**137**	*e*P	**Pn**	**13 48 54.9**	**+0.5**
DLPL				*e*S	**Sn**	**13 49 28.7**	**0.0**
DSHT	**Scott's Head**	**2.71**	**140**	*e*Pn	**Pn**	**13 48 55.5**	**+1.1**
DSHT	**Scott's Head**	**2.71**	**140**	*e*P	**Pn**	**13 48 55.5**	**+1.1**
DSTT	**Stowe**	**2.73**	**139**	*e*Pn	**Pn**	**13 48 55.2**	**+0.5**
DSTT	**Stowe**	**2.73**	**139**	*e*P	**Pn**	**13 48 55.2**	**+0.5**
CBYP	**Canovanas**	**2.73**	**291**	*e*Pn	**Pn**	**13 48 55.3**	**+0.5**
SJG	**San Juan**	**2.95**	**286**	*e*Pn	**Pn**	**13 48 57.7**	**+0.3**
SJG				*e*Sn	**Sn**	**13 49 32.9**	**-1.2**
SJG	**San Juan**	**2.95**	**286**	P	**Pn**	**13 48 58.1**	**+0.7**
	124nm,0.3s,baz=104,slow=10,SNR=165						
SJG				S	**Sn**	**13 49 32.9**	**-1.2**
	109nm,0.3s,baz=276,slow=21,SNR=13						
SJG				LR	LR	13 50 32.4	
	comp=Z,124nm,19.9s,baz=79,slow=49						
PCM	**Pelee Case Pet**	**3.12**	**143**	*e*P	**Pn**	**13 48 59.4**	**-0.1**
CXM	**Morne La Croix**	**3.14**	**142**	*e*P	**Pn**	**13 49 00.0**	**0.0**
BAMF	**Morne Balai**	**3.15**	**142**	*e*P	**Pn**	**13 48 59.9**	**-0.1**
GBMF	**Grand Be**	**3.16**	**142**	*e*P	**Pn**	**13 49 00.1**	**0.0**
FDF	**Fort de France**	**3.22**	**143**	*e*Pn	**Pn**	**13 49 00.2**	**-0.6**
FDF				*e*Sn	**Sn**	**13 49 39.3**	**-1.0**
FDF	**Fort de France**	**3.22**	**143**	*e*P	**Pn**	**13 49 00.9**	**+0.1**
FDF				*e*S	**Sn**	**13 49 39.3**	**-1.0**
ILAM	**Ilet Lapin Mar**	**3.35**	**139**	*e*P	**Pn**	**13 49 02.3**	**-0.2**
OBIP	**Obispado Ponce**	**3.36**	**283**	*e*Pn	**Pn**	**13 49 01.8**	**-0.7**
ZAM	**Aeronautique**	**3.42**	**143**	*e*P	**Pn**	**13 49 03.0**	**-0.2**
TRMF	**Trois Ilets**	**3.43**	**143**	*e*P	**Pn**	**13 49 03.7**	**+0.3**
BIM	**Bigot**	**3.44**	**144**	*e*P	**Pn**	**13 49 03.6**	**0.0**
H05S1	**Guadeloupe/Mar**	**3.64**	**142**	P	**Pn**	**13 49 06.2**	**+0.1**
H05S1				S	**Sn**	**13 49 49.1**	**-0.8**
CRPR	**Cabo Rojo, PR**	**3.82**	**281**	*e*Pn	**Pn**	**13 49 08.3**	**-0.1**
MPR	**Mayaguez**	**3.89**	**284**	*e*Pn	**Pn**	**13 49 09.4**	**+0.2**
AGP	**Aguadilla**	**3.94**	**287**	*e*Pn	**Pn**	**13 49 09.5**	**-0.4**
SLB	**Belfond**	**4.03**	**149**	*e*Pn	**Pn**	**13 49 12.6**	**+1.4**
SLB				*e*Sn	**Sn**	**13 49 57.7**	**-1.1**
SLB	**Belfond**	**4.03**	**149**	*e*P	**Pn**	**13 49 12.6**	**+1.4**
SLB	**Belfond**	**4.03**	**149**	*e*S	**Sn**	**13 49 57.7**	**-1.1**
MCLT	**Moule a Chique**	**4.18**	**149**	*e*Pn	**Pn**	**13 49 14.4**	**+1.4**
MCLT				*e*Sn	**Sn**	**13 50 01.6**	**-0.6**
MCLT	**Moule a Chique**	**4.18**	**149**	*e*P	**Pn**	**13 49 14.4**	**+1.4**
MCLT	**Moule a Chique**	**4.18**	**149**	*e*S	**Sn**	**13 50 01.6**	**-0.6**
SFAN	**Fancy Village**	**4.36**	**154**	*e*Pn	**Pn**	**13 49 16.0**	**+0.6**
SFAN	**Fancy Village**	**4.36**	**154**	*e*P	**Pn**	**13 49 16.0**	**+0.6**
SVV	**Soufriere Volc**	**4.40**	**154**	*e*Pn	**Pn**	**13 49 17.4**	**+1.5**
SVV				*e*Sn	**Sn**	**13 50 07.2**	**-0.2**
SVV	**Soufriere Volc**	**4.40**	**154**	*e*P	**Pn**	**13 49 17.4**	**+1.5**
SVV	**Soufriere Volc**	**4.40**	**154**	*e*S	**Sn**	**13 50 07.2**	**-0.2**
SSV	**Crater Summit**	**4.40**	**154**	*e*Pn	**Pn**	**13 49 17.1**	**+1.1**
SSV				*e*Sn	**Sn**	**13 50 07.7**	**+0.3**
SSV	**Crater Summit**	**4.40**	**154**	*e*P	**Pn**	**13 49 17.1**	**+1.1**
SSV	**Crater Summit**	**4.40**	**154**	*e*S	**Sn**	**13 50 07.7**	**+0.3**
SVB	**Belmont**	**4.42**	**155**	*e*Pn	**Pn**	**13 49 16.9**	**+0.6**
SVB				*e*Sn	**Sn**	**13 50 08.0**	**+0.1**
SVB	**Belmont**	**4.42**	**155**	*e*P	**Pn**	**13 49 16.9**	**+0.6**
SVB	**Belmont**	**4.42**	**155**	*e*S	**Sn**	**13 50 08.0**	**+0.1**
SVCV	**St. Vincent, C**	**4.47**	**154**	*e*P	**Pn**	**13 49 17.8**	**+1.0**

FCV	Fort Charlotte	4.53 156	ePn	Pn	13 49 18.5	+0.9		
FCV			eSn	Sn	13 50 09.2	-1.3		
FCV	Fort Charlotte	4.53 156	eP	Pn	13 49 18.5	+0.9		
FCV	Fort Charlotte	4.53 156	eS	Sn	13 50 09.2	-1.3		
GRSS	Sisters	5.21 163	ePn	Pn	13 49 27.3	+0.8		
GRSS	Sisters	5.21 163	eP	Pn	13 49 27.3	+0.8		
GRHS	Sauteurs	5.27 164	ePn	Pn	13 49 28.9	+1.6		
GRHS	Sauteurs	5.27 164	eP	Pn	13 49 28.9	+1.6		
GRGR	Grenville	5.36 164	eP	Pn	13 49 28.9	+0.4		
GRGR	Grenville	5.36 164	eP	Pn	13 49 28.9	+0.4		
BBGH	Gun Hill	5.42 139	eP	Pn	13 49 29.5	+0.3		
BBGH			eS	Sn	13 50 28.6	-2.7		
BBGH	Gun Hill	5.42 139	eP	Pn	13 49 29.5	+0.3		
BBSP	Saint Philip	5.51 139	ePn	Pn	13 49 30.8	+0.4		
BBSP			eSn	Sn	13 50 30.0	-3.5		
BBSP	Saint Philip	5.51 139	eP	Pn	13 49 30.8	+0.4		
BBSP	Saint Philip	5.51 139	eS	Sn	13 50 30.0	-3.5		
TOSP	Speyside	6.50 157	eP	Pn	13 49 43.5	-0.1		
TOSP	Speyside	6.50 157	eP	Pn	13 49 43.5	-0.1		
TRN	Trinidad (W)	6.84 165	ePn	Pn	13 49 49.5	+1.4		
TRN	Trinidad (W)	6.84 165	eP	Pn	13 49 49.5	+1.4		
BANI	BANI	6.93 280	ePn	Pn	13 49 51.3	+1.9		
TPP	Pointe-a-Pierr	7.15 166	ePn	Pn	13 49 52.1	-0.1		
TPP	Pointe-a-Pierr	7.15 166	eP	Pn	13 49 52.1	-0.1		
SDDR	Presa de Saban	7.90 283	ePn	Pn	13 50 01.8	-0.3		
SDV	Santo Domingo	11.09 222	P	Pn	13 50 44.7	+0.3		
	0.0nm,0.3s,baz=52,slow=12,SNR=2.7							
OCAC	Ocana	13.39 229	eP	P	13 51 16.4	-1.2		
OCAC	Ocana	13.39 229	eP	P	13 51 16.4	-1.2		
SMLC	San Martn de	13.57 233	eP	Pn	13 51 13.8	-2.4		
SMLC	San Martn de	13.57 233	eP	Pn	13 51 13.8	-2.4		
PAMC	Pamplona, Colo	13.60 224	eP	Pn	13 51 17.8	+0.9		
PAMC	Pamplona, Colo	13.60 224	eP	Pn	13 51 17.8	+0.9		
RUSC	La Rusia	14.93 222	eP	P	13 51 33.7	-1.4		
RUSC	La Rusia	14.93 222	eP	P	13 51 33.7	-1.4		
UREC	San Jos de Ur	15.35 233	eP	Pn	13 51 37.7	-0.6		
UREC	San Jos de Ur	15.35 233	eP	Pn	13 51 37.7	-0.6		
PTBC	PUERTO BERRIO,	15.37 227	eP	Pn	13 51 37.7	-0.8		
PTBC	PUERTO BERRIO,	15.37 227	eP	Pn	13 51 37.7	-0.8		
MDP	Montagnes des	15.92 138	P	P	13 51 45.7	+0.1		
	2.6nm,0.3s,baz=318,slow=12,SNR=13							
MDP			S	S	13 54 28.0	-14		
	2.6nm,0.3s,baz=234,slow=22,SNR=13							
CHIC	Chingaza	16.31 221	eP	Pn	13 51 49.6	-0.7		
CHIC	Chingaza	16.31 221	eP	Pn	13 51 49.6	-0.7		
DBBC	Dabeiba	16.34 233	eP	Pn	13 51 49.6	-0.7		
DBBC	Dabeiba	16.34 233	eP	Pn	13 51 49.6	-0.7		
HELC	Santa Helena	16.38 229	eP	Pn	13 51 52.3	+1.2		
HELC	Santa Helena	16.38 229	eP	Pn	13 51 52.3	+1.2		
PRAC	Prado	17.74 222	eP	P	13 52 05.6	0.0		
PRAC	Prado	17.74 222	eP	P	13 52 05.6	0.0		
PTGA	Pitinga	18.21 170	P	P	13 52 10.4	-0.3		
	0.4nm,0.3s,baz=345,slow=14,SNR=10.0							
060Z	West Palm Beac	18.48 302	P	P	13 52 12.0	-1.5		
	baz=115							
YOTC	Yotoco, Valle	18.51 226	eP	Pn	13 52 15.6	-0.6		
YOTC	Yotoco, Valle	18.51 226	eP	Pn	13 52 15.6	-0.6		
061Z	Ochoppi	18.55 300	P	P	13 52 13.3	-0.9		
	baz=113							
MARP	Paez Belalcaza	19.09 223	eP	P	13 52 19.6	-1.0		
MARP	Paez Belalcaza	19.09 223	eP	P	13 52 19.6	-1.0		
859A	Kempfer Cattle	19.52 306	P	P	13 52 23.7	-1.1		
	baz=119							
DWPF	Disney Wildern	19.96 306	P	P	13 52 28.7	-0.7		
	baz=118							
958A	Wauchula	19.96 304	P	P	13 52 29.8	+0.2		
	baz=116							
957A	Wimauma	20.39 304	P	P	13 52 33.8	-0.3		
	baz=116							
658A	Bunnell	20.49 309	P	P	13 52 35.3	+0.2		
	baz=122							
757A	Oxford	20.85 307	P	P	13 52 39.9	+0.9		
	baz=119							
Y60A	Bolivia	21.41 324	P	P	13 52 43.9	-1.0		
	baz=137							
656A	Willston	21.41 308	P	P	13 52 45.2	+0.2		
	baz=119							
Z59A	Georgetown, SC	21.49 321	P	P	13 52 44.7	-1.1		
	baz=133							
556A	Lake Butler	21.64 309	P	P	13 52 46.8	-0.6		
	baz=121							
158A	Hollywood	21.72 318	P	P	13 52 47.1	-1.1		
	baz=130							
357A	Townsend	21.77 314	P	P	13 52 47.8	-0.9		
	baz=126							
257A	Skidaway Islan	21.78 315	P	P	13 52 47.0	-1.9		
	baz=127							
Z58A	St. Stephen	21.88 320	P	P	13 52 48.5	-1.3		
	baz=132							
NHSC	New Hope	21.95 319	P	P	13 52 47.8	-2.8		
	baz=131							
655A	Horseshoe Beac	22.03 307	P	P	13 52 49.6	-1.9		
	baz=118							
X59A	McDuffie Farm,	22.04 324	P	P	13 52 48.4	-3.1		
	baz=137							
555A	McAlpin	22.12 309	P	P	13 52 51.4	-0.9		
	baz=120							
CNNC	Cliffs of the	22.15 327	P	P	13 52 49.6	-2.9		
	baz=140							
Y58A	Scranton	22.18 321	P	P	13 52 49.7	-3.1		
	baz=134							
157A	Early Branch	22.20 317	P	P	13 52 50.3	-2.8		
	baz=129							
256A	Glennville	22.37 314	P	P	13 52 53.2	-1.5		
	baz=126							
X58A	Rowland	22.45 323	P	P	13 52 52.1	-3.2		
	baz=135							
455A	Stateville	22.48 310	P	P	13 52 54.8	-0.9		
	baz=122							
554A	Perry	22.64 308	P	P	13 52 56.6	-0.6		
	baz=119							
OTAV	Otavalo	22.68 223	eP	P	13 52 59.0	+0.8		
	14nm,1.1s							
355A	Pearson	22.68 312	P	P	13 52 56.1	-1.4		
	baz=123							
Y57A	Sumter	22.70 320	P	P	13 52 56.5	-1.1		
	baz=132							
255A	Hazlehurst	22.74 313	P	P	13 52 57.9	-0.2		
	baz=125							
454A	Quitman	22.91 309	P	P	13 52 59.3	-0.3		
	baz=120							
155A	Kite	23.14 315	P	P	13 53 01.5	-0.3		
	baz=126							
553A	Crawfordville	23.25 307	P	P	13 53 02.4	-0.4		
	baz=118							
TIGA	Tifton	23.26 311	P	P	13 53 03.0	+0.2		
	baz=122							
254A	Abbeville	23.32 312	P	P	13 53 01.4	-2.0		
	baz=123							
X56A	White Oak	23.41 320	P	P	13 53 01.1	-3.0		
	baz=132,SNR=5.5							
453A	Whigham	23.49 309	P	P	13 53 03.2	-1.8		
	baz=120							
Y55A	Saluda	23.56 318	P	P	13 53 04.8	-0.8		
	baz=130,SNR=8.2							
154A	Montrose	23.57 314	P	P	13 53 03.5	-2.2		
	baz=125							
353A	Camilla	23.67 310	P	P	13 53 06.8	+0.3		
	baz=121							
X55A	Gracelyn & Ava	23.76 319	P	P	13 53 08.1	+0.8		
	baz=131							
Z54A	Sparta	23.76 316	P	P	13 53 07.8	+0.4		
	baz=127,SNR=5.4							
552A	Lynn Haven	23.89 306	P	P	13 53 08.8	+0.3		
	baz=117							
253A	Americus	23.98 312	P	P	13 53 09.9	+0.4		
	baz=122							
KMSC	Kings Mountain	24.03 321	P	P	13 53 10.3	+0.5		
	baz=133,SNR=5.5							
Y54A	Tignall	24.04 317	P	P	13 53 10.1	+0.1		
	baz=128							
153A	Fort Valley	24.10 313	P	P	13 53 11.4	+0.9		
	baz=124							
452A	Marianna	24.14 308	P	P	13 53 11.8	+0.9		
	baz=118							
CBN	Corbin Frederi	24.25 332	P	P	13 53 13.3	+1.5		
	baz=145							
352A	Blakely	24.26 310	P	P	13 53 12.2	+0.2		
	baz=120							
X54A	Belton	24.27 319	P	P	13 53 12.5	+0.4		
	baz=130							
Z53A	Monticello	24.28 315	P	P	13 53 13.2	+1.0		
	baz=126							
GOGA	Godfrey	24.29 315	P	P	13 53 12.9	+0.8		
	baz=126,SNR=5.5							
R58B	Mineral	24.29 331	P	P	13 53 13.0	+0.9		
	baz=143							
252A	Lumpkin	24.38 311	P	P	13 53 13.5	+0.4		
	baz=121							
V55A	Taylorsville	24.45 323	P	P	13 53 14.6	+1.0		
	baz=134,SNR=5.2							
451A	Vernon	24.45 307	P	P	13 53 14.7	+1.0		
	baz=117							
W54A	Cherokee Point	24.51 320	P	P	13 53 14.9	+0.7		
	baz=131							
Y53A	Monroe	24.63 316	P	P	13 53 15.2	-0.1		
	baz=126,SNR=7.2							
351A	Pinckard	24.66 308	P	P	13 53 16.2	+0.6		
	baz=119							
152A	Waverly Hall	24.73 312	P	P	13 53 17.0	+0.8		
	baz=123,SNR=8.9							
Z52A	Williamson	24.81 314	P	P	13 53 17.9	+1.0		
	baz=124,SNR=5.6							
U55A	TA2, Sparta	24.81 324	P	P	13 53 16.1	-0.9		
	baz=135							
V54A	Nebo	24.83 321	P	P	13 53 17.9	+0.7		
	baz=132							
X53A	Estanollee	24.84 317	P	P	13 53 17.9	+0.7		
	baz=128,SNR=5.1							
251A	Midway	24.92 310	P	P	13 53 17.8	-0.2		
	baz=120,SNR=6.3							
Y52A	Lilburn	24.95 315	P	P	13 53 19.1	+0.9		
	baz=126,SNR=6.1							
BLA	Blacksburg	24.98 326	P	P	13 53 18.7	+0.2		
	baz=138							
151A	Opelika	25.09 311	P	P	13 53 20.6	+1.1		
	baz=121							
T55A	Pulaski	25.11 325	P	P	13 53 19.6	0.0		
	baz=137							
W53A	Cullowhee	25.17 319	P	P	13 53 21.4	+1.0		
	baz=129							
V53A	Saluda	25.28 320	P	P	13 53 21.6	+0.3		
	baz=131							
X52A	Dahlonega	25.29 317	P	P	13 53 21.8	+0.6		
	baz=127							
Z51A	Franklin	25.41 313	P	P	13 53 23.1	+0.7		
	baz=123							
250A	Grady	25.50 309	P	P	13 53 23.3	+0.1		
	baz=119							
T54A	Tazewell	25.51 324	P	P	13 53 23.4	+0.1		
	baz=135							
U53A	Fall Branch	25.60 322	P	P	13 53 24.3	+0.2		
	baz=132							
W52A	Murphy	25.61 318	P	P	13 53 24.9	+0.7		
	baz=128							
150A	Eclectic	25.63 311	P	P	13 53 25.1	+0.8		
	baz=120							
R55A	Marlinton	25.63 328	P	P	13 53 25.6	+1.3		
	baz=140							
Y51A	Rockmart	25.66 314	P	P	13 53 25.3	+0.7		
	baz=124							
TKL	Tuckaleechee C	25.87 319	eP	P	13 53 25.2	-1.3		
TKL	Tuckaleechee C	25.87 319	P	P	13 53 26.6	+0.1		
	6.2nm,0.6s,baz=144,slow=10,SNR=12							
V52A	Sevierville	25.87 319	P	P	13 53 26.4	-0.1		
	baz=130							
349A	Repton	25.89 307	P	P	13 53 27.4	+0.6		
	baz=117							
Z50A	Ashland	25.90 312	P	P	13 53 27.5	+0.7		
	baz=122							
X51A	Calhoun	25.90 316	P	P	13 53 27.2	+0.4		
	baz=126							
N59A	State Game Lan	25.91 338	P	P	13 53 27.8	+0.9		
	baz=151							
T53A	Wise	26.00 323	P	P	13 53 28.6	+0.9		
	baz=133							
R54A	Victor	26.00 327	P	P	13 53 27.6	-0.1		
	baz=138							
U52A	Thorn Hill	26.09 321	P	P	13 53 29.1	+0.6		
	baz=131							
Y50A	Piedmont	26.11 314	P	P	13 53 29.4	+0.7		
	baz=123							
249A	Camden	26.13 308	P	P	13 53 28.5	-0.4		
	baz=118							
Q55A	Buckhannon	26.16 329	P	P	13 53 29.3	+0.2		
	baz=140							
W51A	Cleveland	26.19 317	P	P	13 53 29.1	-0.3		
	baz=127							
CPCT	Cooper Cave	26.21 318	eP	P	13 53 29.7	+0.1		
	24nm,0.7s							
TZTN	Tazewell	26.30 321	P	P	13 53 30.9	+0.5		
	baz=131							
APG	El Apazote	26.31 269	P	P	13 53 32.1	+1.2		
	11nm,1.0s,baz=152,slow=5.9,SNR=5.4							
V51A	Loudon	26.32 319	P	P	13 53 31.4	+0.8		
	baz=128							
X50B	Fort Payne	26.37 315	P	P	13 53 31.8	+0.7		
	baz=124,SNR=5.5							
P55A	Reedsville	26.44 330	P	P	13 53 32.0	+0.4		
	baz=142							
O56A	Blue Knob Stat	26.48 333	eP	P	13 53 30.3	-1.6		
	19nm,0.8s							
O56A	Blue Knob Stat	26.48 333	P	P	13 53 32.8	+0.8		
	baz=145							
U51A	La Follette	26.48 320	P	P	13 53 33.0	+1.0		
	baz=130							
SSPA	Standing Stone	26.49 334	P	P	13 53 33.1	+1.1		
	baz=147							
Q54A	Coxs Mills	26.53 328	P	P	13 53 33.4	+1.1		
	baz=139							
LRAL	Lakeview Retre	26.56 311	P	P	13 53 32.1	-0.6		
	baz=120							
Y49A	Blount Mountai	26.57 313	P	P	13 53 32.5	-0.3		
	baz=122							
W50A	Signal Mountai	26.57 316	eP	P	13 53 34.0	+1.0		
	26nm,0.6s							
W50A	Signal Mountai	26.57 316	P	P	13 53 33.9	+1.0		
	baz=126,SNR=9.4							
R53A	Hurricane	26.63 326	P	P	13 53 34.2	+0.9		
	baz=136							
V50A	Pikevile	26.72 317	P	P	13 53 35.0	+0.8		
	baz=127,SNR=7.0							
T51A	Gray	26.82 321	P	P	13 53 34.6	-0.4		
	baz=131							
P54A	Burton	26.83 329	P	P	13 53 36.3	+1.2		
	baz=141							
X49A	Woodville	26.86 314	P	P	13 53 35.8	+0.4		
	baz=123							
SWET	Sewanee	27.00 316	eP	P	13 53 37.3	+0.7		
	18nm,1.0s							
R52A	Catlettsburg	27.01 325	P	P	13 53 37.2	+0.6		
	baz=135							
U50A	Jamestown	27.02 319	P	P	13 53 37.6	+0.9		
	baz=129,SNR=6.1							
S51A	Beattyville	27.06 322	eP	P	13 53 36.8	-0.4		
	18nm,0.6s							
N55A	Marion Center	27.08 333	P	P	13 53 36.9	-0.4		
	baz=145							
Y48A	Jasper	27.13 312	P	P	13 53 38.0	+0.2		
	baz=121							
W49A	Belvidere	27.16 315	P	P	13 53 38.6	+0.5		
	baz=124							
P53A	Whipple	27.19 328	P	P	13 53 37.3	-0.9		
	baz=139							
O54A	Avella	27.23 330	P	P	13 53 38.2	-0.4		
	baz=142							
Q52A	Bidwell	27.25 326	P	P	13 53 39.5	+0.6		
	baz=137							
V49A	McMinnville	27.30 317	P	P	13 53 40.0	+0.7		
	baz=126							
147A	Livingston	27.32 309	eP	P	13 53 39.4	-0.1		
	52nm,0.6s							
147A	Livingston	27.32 309	P	P	13 53 40.1	+0.7		
	baz=118,SNR=9.9							
X48A	Hartselle	27.33 313	P	P	13 53 39.8	+0.3		
	baz=122							
T50A	Nancy	27.40 320	P	P	13 53 40.9	+0.7		
	baz=130,SNR=6.2							
R51A	Hillsboro	27.51 324	P	P	13 53 42.0	+0.9		
	baz=133							
M55A	Ridgway	27.55 334	P	P	13 53 42.7	+1.2		
	baz=146							
S50A	Richmond	27.56 322	P	P	13 53 42.2	+0.6		
	baz=131,SNR=5.1							
W48A	Pulaski	27.63 315	P	P	13 53 43.4	+1.2		
	baz=124							
U49A	Red Boiling Sp	27.67 318	P	P	13 53 43.2	+0.6		
	baz=127,SNR=7.0							
N54A	Moraine State	27.67 332	P	P	13 53 43.5	+1.0		
	baz=143							
P52A	Corning	27.68 327	P	P	13 53 43.6	+1.0		
	baz=138							
O53A	New Philadelph	27.68 329	P	P	13 53 43.8	+1.2		
	baz=140							
T49A	Edmonton	27.88 319	P	P	13 53 45.2	+0.7		
	baz=129							
Q51A	Peebles	27.88 325	P	P	13 53 45.7	+1.3		
	baz=135							
O52A	Adamsville	27.89 328	P	P	13 53 44.3	-0.2		
	baz=139							
V48A	Smith Brothers	27.89 316	P	P	13 53 45.4	+0.8		
	baz=125							
R50A	Paris	27.92 323	P	P	13 53 44.8	0.0		
	baz=132							
X47A	Russelville	27.93 313	P	P	13 53 45.7	+0.8		
	baz=121,SNR=20							
N53A	Lisbon	27.94 331	P	P	13 53 46.3	+1.4		
	baz=141							
M54A	Oil Creek Stat	27.97 333	P	P	13 53 46.2	+1.1		
	baz=144							
L55A	Hinsdale	28.02 335	P	P	13 53 46.7	+1.1		
	baz=147							
P51A	Williamsport	28.05 326	P	P	13 53 46.7	+0.7		
	baz=136							
Q50A	Georgetown	28.11 324	P	P	13 53 47.0	+0.6		
	baz=134							
W47A	Westpoint	28.14 314	P	P	13 53 47.3	+0.6		
	baz=123							
U48A	Cassie Pea, Po	28.16 317	P	P	13 53 47.4	+0.5		
	baz=126							
S49A	Springfield	28.16 321	P	P	13 53 47.4	+0.5		
	baz=130							
O51A	Pataskala	28.30 327	P	P	13 53 47.8	-0.3		
	baz=138							
PLAL	Pickwick Lake	28.33 313	eP	P	13 53 48.9	+0.4		
	24nm,0.8s							
K55A	Perry	28.34 336	P	P	13 53 49.6	+1.1		
	baz=148							
N52A	McGinn's Farm,	28.35 329	P	P	13 53 48.8	+0.2		
	baz=140							
M53A	WI Miller and	28.36 332	P	P	13 53 49.5	+0.9		
	baz=142							
V47A	Nunnelly	28.41 315	P	P	13 53 49.7	+0.5		
	baz=124,SNR=9.7							
T48A	Bowling Green	28.42 319	P	P	13 53 49.5	+0.3		
	baz=127							
S48A	Wiedeman Farm,	28.55 320	P	P	13 53 51.1	+0.8		
	baz=129							
ACSO	Alum Creek Sta	28.56 327	P	P	13 53 51.2	+0.8		
	baz=137							
L53A	Girard	28.59 333	P	P	13 53 51.6	+1.0		
	baz=144,SNR=5.4							
U47A	Clarksville	28.60 316	P	P	13 53 51.6	+0.7		
	baz=125,SNR=7.0							
W46A	Michie	28.62 313	P	P	13 53 51.6	+0.6		
	baz=122							
J55A	Hilton	28.70 337	P	P	13 53 52.5	+0.8		
	baz=150							
Q49A	Aurora	28.74 323	P	P	13 53 52.7	+0.6		
	baz=132							
M52A	Chesterland	28.75 331	P	P	13 53 53.0	+0.9		
	baz=141							
N51A	Ashland	28.77 329	P	P	13 53 52.7	+0.5		
	baz=139							
WVT	Waverly	28.79 315	eP	P	13 53 52.7	+0.2		
	30nm,0.6s							
WVT	Waverly	28.79 315	P	P	13 53 53.1	+0.7		
	baz=124							
V46A	Holladay	28.80 315	P	P	13 53 53.0	+0.4		
	baz=123,SNR=5.3							
T47A	Sharon Grove	28.80 318	P	P	13 53 53.4	+0.8		
	baz=126,SNR=5.1							
O50A	Cable	28.83 326	P	P	13 53 54.1	+1.2		
	baz=136							
MEDO	Medina	28.86 336	P	P	13 53 54.2	+1.3		
	baz=148							
R48A	Northridge Ran	28.91 321	P	P	13 53 54.8	+1.2		
	baz=130							
PECO	Prince Edward	29.00 339	P	P	13 53 55.1	+0.9		
	baz=152							
P49A	Miami Univ. Ec	29.00 324	P	P	13 53 55.3	+1.0		
	baz=133,SNR=11							
S47A	Hartford	29.02 319	P	P	13 53 56.1	+1.5		
	baz=127							
OXF	Oxford	29.03 311	P	P	13 53 55.4	+0.8		
	baz=119							
N50A	Nevada	29.04 328	P	P	13 53 55.4	+0.7		
	baz=137							
WCI	Wyandotte Cave	29.06 320	P	P	13 53 53.8	-1.1		
	76nm,0.8s							
WCI	Wyandotte Cave	29.06 320	P	P	13 53 56.0	+1.1		
	baz=129							
U46A	Springville	29.15 316	P	P	13 53 56.1	+0.5		
	baz=124,SNR=9.6							
Q48A	North Vernon	29.17 322	P	P	13 53 56.9	+1.0		
	baz=131,SNR=6.3							
R47A	Wooly Knot Far	29.24 320	P	P	13 53 57.2	+0.7		
	baz=129,SNR=5.1							
O49A	Covington	29.25 326	eP	P	13 53 56.8	+0.3		
	19nm,0.7s							
O49A	Covington	29.25 326	P	P	13 53 57.2	+0.7		
	baz=135,SNR=5.7							
H56A	Elgin	29.34 341	P	P	13 53 58.8	+1.5		
	baz=154							
T46A	Princeton	29.35 317	P	P	13 53 58.3	+0.9		
	baz=125,SNR=16							
P48A	Milroy	29.35 323	P	P	13 53 58.2	+0.7		
	baz=132							
TYNO	Tyneside	29.36 335	P	P	13 53 58.6	+1.1		
	baz=146,SNR=5.1							
K52A	Tillsonburg	29.46 333	P	P	13 53 59.6	+1.3		
	baz=144							
M50A	Fremont	29.46 329	P	P	13 53 59.2	+0.9		
	baz=138							
I55A	Frankford	29.48 339	P	P	13 53 59.4	+0.9		
	baz=151							
WLVO	Wesleyville	29.48 337	P	P	13 53 59.2	+0.7		
	baz=149							
PLIO	Pelee Island,	29.52 330	P	P	13 53 59.9	+1.0		
	baz=139,SNR=8.3							
U45A	Rockin P Farm,	29.53 315	P	P	13 54 00.0	+0.9		
	baz=123							
DRCO	St. Marys Ceme	29.56 337	P	P	13 54 00.3	+1.1		
	baz=148							
Q47A	Bedord North L	29.59 321	P	P	13 54 00.5	+1.0		
	baz=130							
H55A	Tweed	29.60 339	P	P	13 54 00.6	+1.0		
	baz=152							
S46A	Don Dixon Farm	29.61 318	P	P	13 54 00.5	+0.8		
	baz=126							
DELO	Deloro Mine	29.72 339	P	P	13 54 01.7	+1.0		
	baz=151							
J52A	Paris	29.73 334	P	P	13 54 01.8	+1.1		
	baz=145,SNR=5.3							
O48A	Farmland	29.74 325	P	P	13 54 01.6	+0.7		
	baz=134							
K51A	Iona Station	29.76 332	P	P	13 54 01.9	+0.9		
	baz=142							
PKRO	Pickering	29.77 337	P	P	13 54 02.1	+1.0		
	baz=148							
R46A	Gibon Southern	29.80 319	P	P	13 54 02.3	+0.9		
	baz=127							
T45A	Paducah	29.83 316	P	P	13 54 02.8	+1.1		
	baz=124							
L50A	Kingsville	29.83 330	P	P	13 54 03.5	+1.8		
	baz=140							
P47A	Martinsville	29.85 322	P	P	13 54 02.3	+0.5		
	baz=131							
ACTO	Acton	29.86 335	P	P	13 54 03.2	+1.3		
	baz=146							
ALFO	Alfred	29.88 343	P	P	13 54 03.6	+1.7		
	baz=157							
ORIO	Orleans, Innes	29.89 342	P	P	13 54 02.9	+0.8		
	baz=156							
U44B	Burton Farm, H	29.93 314	P	P	13 54 03.2	+0.7		
	baz=122							
M49A	Liberty Center	29.98 328	P	P	13 54 03.6	+0.7		
	baz=137							
PLVO	Plevna	30.00 340	P	P	13 54 04.0	+0.9		
	baz=152							
ELFO	Elginfield	30.05 333	P	P	13 54 04.2	+0.7		
	baz=143,SNR=5.2							
G55A	Calabogie	30.08 341	P	P	13 54 04.5	+0.7		
	baz=153							
N48A	Decatur	30.09 326	P	P	13 54 04.6	+0.6		
	baz=134							
S45A	Carrier Mills	30.16 317	P	P	13 54 05.4	+0.8		
	baz=125,SNR=6.0							
BANO	Bancroft	30.27 339	P

R45A	Skylar, Fairfi baz=126,SNR=17	30.33 319	P	P	13 54 06.9	+0.9
PARMO	Parma 63nm,0.8s	30.37 315	eP	P	13 54 05.8	-0.7
I51A	Listowel baz=144	30.42 334	P	P	13 54 07.9	+1.1
N47A	Urbana baz=134,SNR=11	30.47 325	P	P	13 54 08.0	+0.7
V43A	Jonesboro baz=120	30.47 312	P	P	13 54 08.0	+0.7
OLIL	Olney 33nm,0.6s	30.48 319	eP	P	13 54 07.6	+0.2
P46A	Rosedale baz=130	30.49 322	P	P	13 54 08.7	+1.2
L48A	N Adams baz=137	30.56 328	P	P	13 54 09.0	+0.9
SIUC	Southern Illin 54nm,0.8s	30.59 317	eP	P	13 54 09.7	+1.2
G53A	Haliburton baz=150	30.60 338	P	P	13 54 09.5	+1.1
S44A	Carbondale baz=124,SNR=20	30.61 317	P	P	13 54 09.6	+1.1
Q45A	Warren Harvey, baz=127,SNR=8.0	30.61 320	P	P	13 54 09.4	+0.8
PEMO	Pembroke baz=152	30.62 340	P	P	13 54 09.7	+1.1
U43A	Rector baz=121	30.67 314	P	P	13 54 09.4	+0.4
BWLO	Walkerton baz=144	30.72 334	P	P	13 54 10.4	+0.9
P45A	Graceland, Par baz=129,SNR=6.3	30.75 321	P	P	13 54 10.7	+1.0
M47A	Cromwell baz=134	30.76 326	P	P	13 54 10.8	+0.9
R44A	Waltonville baz=125,SNR=9.4	30.81 318	P	P	13 54 11.2	+0.9
BASO	Ashfield baz=144	30.86 333	P	P	13 54 11.5	+0.8
SFIN	Lafayette baz=131	30.92 323	P	P	13 54 12.1	+0.9
BRCO	Bruce Peninsul baz=144,SNR=5.4	30.95 334	P	P	13 54 12.1	+0.7
T43A	Greenville baz=122,SNR=6.6	30.96 315	P	P	13 54 11.7	+0.1
L47A	Sherwood baz=136	30.98 327	P	P	13 54 12.7	+1.0
J49A	Marlette baz=140	31.00 331	P	P	13 54 12.6	+0.7
LATQ	La Tuque baz=162	31.02 347	P	P	13 54 13.3	+1.3
K48A	Perry baz=138,SNR=5.6	31.04 329	P	P	13 54 13.2	+1.0
N46A	Monticello baz=132,SNR=8.1	31.06 324	P	P	13 54 13.5	+1.1
S43A	Fulton Ridge, baz=123,SNR=17	31.08 316	P	P	13 54 13.0	+0.3
ALGO	Algonquin Park baz=151	31.13 340	P	P	13 54 14.5	+1.5
BUKO	Buck Lake baz=149	31.16 338	P	P	13 54 14.4	+1.2
Q44A	Meyer Farm, Va 47nm,0.5s	31.16 319	eP	P	13 54 14.3	+1.0
Q44A	Meyer Farm, Va baz=126,SNR=12	31.16 319	P	P	13 54 14.3	+1.0
M46A	Old House Fiel baz=133	31.19 325	P	P	13 54 15.1	+1.5
U42A	Revenden baz=120,SNR=10	31.24 313	P	P	13 54 14.5	+0.4
P44A	Sand Creek, Wi baz=127,SNR=11	31.25 320	P	P	13 54 15.4	+1.2
E54A	Lac Daplat, Po baz=153	31.28 341	P	P	13 54 15.6	+1.3
I49A	Point Hope baz=142	31.31 332	P	P	13 54 15.3	+0.7
R43A	Red Bud baz=124,SNR=7.1	31.38 317	P	P	13 54 15.7	+0.4
K47A	Vermontville baz=137,SNR=5.4	31.38 328	P	P	13 54 16.1	+0.9
E53A	Dumoine, Ponti baz=152	31.38 341	P	P	13 54 16.2	+1.0
KLBO	Killbear Provi baz=147	31.38 337	P	P	13 54 16.0	+0.7
W41B	Gary Mavity, V 13nm,1.0s	31.40 310	eP	P	13 54 15.7	+0.1
W41B	Gary Mavity, V baz=117	31.40 310	P	P	13 54 16.2	+0.6
F52A	Sundridge baz=149	31.43 338	P	P	13 54 16.6	+1.0
N45A	Kentland baz=131,SNR=6.6	31.46 323	P	P	13 54 17.1	+1.1
T42A	Van Buren baz=121	31.48 314	P	P	13 54 16.2	0.0
X40A	Basin Creek Fa 12nm,0.8s	31.53 309	eP	P	13 54 15.6	-1.1
X40A	Basin Creek Fa baz=115	31.53 309	P	P	13 54 17.7	+1.0
FVM	French Village 29nm,0.6s	31.54 316	eP	P	13 54 17.4	+0.6
O44A	Mansfield baz=128,SNR=14	31.58 321	P	P	13 54 17.9	+0.8
L46A	Eue Claire baz=134	31.58 326	P	P	13 54 17.7	+0.7
Q43A	New Douglas baz=125	31.61 318	P	P	13 54 17.9	+0.6
E52A	Mattawa baz=151	31.62 339	P	P	13 54 18.3	+0.9
S42A	Caledonia baz=122,SNR=12	31.67 316	P	P	13 54 17.8	0.0
M45A	Boilermakers S baz=132	31.68 324	P	P	13 54 19.2	+1.3
J47A	Sunmer baz=138	31.71 329	P	P	13 54 19.3	+1.2
U41A	Viola baz=119,SNR=14	31.71 312	P	P	13 54 18.8	+0.5
F51A	Arnstein baz=148	31.76 338	P	P	13 54 19.4	+0.9
D54A	Lac Fusel, La baz=155	31.77 342	P	P	13 54 19.3	+0.7
TOBO	Tobermory, Bru baz=145	31.79 335	P	P	13 54 19.6	+0.9
K46A	Dorr baz=136	31.79 327	P	P	13 54 19.4	+0.6
N44A	Piper City baz=130	31.79 323	P	P	13 54 19.6	+0.8
I48A	Sherman Twp baz=140	31.90 331	P	P	13 54 20.8	+1.1
P43A	Skaggs, Pawnee baz=126,SNR=14	31.91 320	P	P	13 54 21.0	+1.1
NATX	Nacogdoches 76nm,1.1s	31.92 303	P	P	13 54 19.8	-0.4
NATX	Nacogdoches baz=109	31.92 303	P	P	13 54 21.5	+1.3
R42A	Luebbering baz=123,SNR=21	31.94 316	P	P	13 54 20.8	+0.6
T41A	Mountain View baz=120,SNR=18	31.95 314	P	P	13 54 20.5	+0.2
D53A	Lac Vacive, Po baz=153	32.02 341	P	P	13 54 22.0	+1.3
MIAR	Mount Ida baz=114	32.11 308	P	P	13 54 22.4	+0.6
CCM	Cathedral Cave 35nm,0.6s	32.12 316	eP	P	13 54 22.2	+0.4
CCM	Cathedral Cave baz=122	32.12 316	P	P	13 54 22.4	+0.6
M44A	Midewin, Midew baz=131	32.12 323	P	P	13 54 22.4	+0.6
Q42A	Golden Eagle baz=124,SNR=9.0	32.12 318	P	P	13 54 22.2	+0.4
E51A	G1948 Merrick baz=149	32.13 339	P	P	13 54 22.5	+0.8
H48A	Harrisville baz=141	32.13 332	P	P	13 54 22.9	+1.1
I47A	Gladwin baz=139	32.14 330	P	P	13 54 23.2	+1.3
D52A	ZEK Kipawa Sen baz=152	32.15 340	P	P	13 54 23.3	+1.3
O43A	Sugar Creek Fa baz=127	32.17 321	P	P	13 54 23.0	+0.8
S41A	Jillco Farms, baz=121,SNR=18	32.22 315	P	P	13 54 22.8	+0.2
HDIL	Hopedale 28nm,0.7s	32.32 321	eP	P	13 54 22.2	-1.3
HDIL	Hopedale baz=128	32.32 321	P	P	13 54 24.2	+0.6
R41A	Rosebud baz=122,SNR=10	32.34 316	P	P	13 54 24.0	+0.2
U40A	Yellville baz=118,SNR=6.6	32.38 312	P	P	13 54 24.5	+0.3
P42A	Winchester 76nm,0.6s	32.39 319	eP	P	13 54 24.4	+0.2
P42A	Winchester baz=125,SNR=17	32.39 319	P	P	13 54 24.7	+0.6
F49A	Sandfield baz=144	32.44 335	P	P	13 54 25.0	+0.6
E50A	Wahnapitae baz=147	32.48 337	P	P	13 54 25.5	+0.7
N43A	Stutzman Famil baz=128	32.49 322	P	P	13 54 25.5	+0.5
I46A	Reed City baz=137	32.53 329	P	P	13 54 26.0	+0.6
W39A	Magazine baz=115,SNR=6.9	32.54 309	P	P	13 54 26.7	+1.2
D51A	Lot 18 Range I baz=150,SNR=5.2	32.57 339	P	P	13 54 26.5	+0.9
L44A	Lake County Fo baz=132	32.57 325	P	P	13 54 26.3	+0.6
O42A	Bath baz=126,SNR=5.1	32.58 320	P	P	13 54 26.3	+0.5
Q41A	Truxton baz=123,SNR=11	32.60 317	P	P	13 54 26.2	+0.3
M43A	Waltham Townsh baz=129,SNR=6.1	32.68 323	P	P	13 54 27.3	+0.7
F48A	Evansville baz=144	32.73 334	P	P	13 54 28.0	+1.1
G47A	Hillman baz=141	32.73 332	P	P	13 54 28.3	+1.3
D50A	G1974 Best Tow baz=149	32.79 339	P	P	13 54 28.7	+1.1
GLMI	Grayling baz=140,SNR=6.3	32.81 331	P	P	13 54 29.1	+1.4
H46A	Fife Lake baz=138	32.86 330	P	P	13 54 29.0	+0.8
VLDQ	Val d'Or 11nm,0.0s	32.87 342	eP	P	13 54 28.7	+0.5
P41A	Barry, Barry baz=124,SNR=6.1	32.89 318	P	P	13 54 28.8	+0.2
N42A	Yates City baz=127,SNR=9.0	32.94 321	P	P	13 54 29.4	+0.5
I45A	Fountain baz=136	32.99 329	P	P	13 54 29.8	+0.5
O41A	Passleys Farm, baz=125,SNR=23	33.03 319	P	P	13 54 29.9	+0.2
L43A	Garden Prairie baz=130	33.04 324	P	P	13 54 30.5	+0.8
E48A	Lockeyer baz=145,SNR=12	33.08 336	P	P	13 54 30.9	+0.9
HHAR	Hobbs 16nm,0.6s	33.13 311	eP	P	13 54 29.7	-0.9
K43A	Burlington baz=132	33.16 325	P	P	13 54 31.4	+0.6
G46A	Petoskey baz=140	33.29 332	P	P	13 54 32.5	+0.6
N41A	Harden Midland 50nm,0.8s	33.36 320	eP	P	13 54 30.8	-1.8
N41A	Harden Midland baz=126,SNR=9.4	33.36 320	P	P	13 54 32.7	+0.1
D49A	Beulah Townshi baz=147	33.42 337	P	P	13 54 34.1	+1.1
L42A	Oliver, Polo 43nm,0.8s	33.45 323	eP	P	13 54 32.0	-1.2
L42A	Oliver, Polo baz=129,SNR=7.5	33.45 323	P	P	13 54 34.1	+0.8
X37A	Clayton 15nm,0.7s	33.49 307	eP	P	13 54 34.0	+0.3
E47A	Iron Bridge baz=143	33.50 334	P	P	13 54 34.7	+1.0
D48A	Paudash Townsh baz=146	33.51 337	P	P	13 54 34.7	+0.9
M41A	Milan baz=127	33.57 321	P	P	13 54 34.8	+0.4
LSQQ	Lebel-sur-Quev baz=155	33.59 344	P	P	13 54 35.7	+1.3
F46A	Macinaw City C baz=140	33.60 332	P	P	13 54 35.6	+1.1
LPAZ	La Paz 3.9nm,0.9s	33.75 189	eP	P	13 54 35.5	-1.3
LPAZ	La Paz 3.5nm,0.8s,baz=25,slow=6.7,SNR=9.1	33.75 189	P	P	13 54 35.4	-1.4
CHGQ	Chibougamau baz=160,SNR=5.3	33.75 347	P	P	13 54 37.1	+1.3
K42A	Prairie Point, baz=130,SNR=8.7	33.77 324	P	P	13 54 36.5	+0.5
I43A	Langenfeld Bro baz=133	33.86 327	P	P	13 54 37.4	+0.6
E46A	Sault Ste Mari baz=142,SNR=6.8	33.86 333	P	P	13 54 38.0	+1.2
F45A	CMU Biological baz=139	33.87 331	P	P	13 54 37.7	+0.8
N40A	Mertzake, Sal baz=125,SNR=8.0	33.91 320	P	P	13 54 37.4	+0.1
D47A	Chapleau baz=144,SNR=5.4	33.92 335	P	P	13 54 38.0	+0.7
L41A	Preston baz=128,SNR=14	33.98 322	P	P	13 54 38.1	+0.3
J42A	Columbus baz=131	34.00 325	P	P	13 54 38.6	+0.6
435B	Jarrell 30nm,1.0s	34.02 300	eP	P	13 54 38.9	+0.5
435B	Jarrell baz=105	34.02 300	P	P	13 54 38.5	+0.1
H43A	Windswept, Lux baz=134	34.07 328	P	P	13 54 39.6	+0.9
D46A	Sault St. Mari baz=142	34.16 334	P	P	13 54 40.2	+0.8
M40A	Post Highland baz=126	34.17 321	P	P	13 54 39.7	+0.2
K41A	Shullsburg baz=129,SNR=10	34.20 323	P	P	13 54 40.3	+0.6
E45A	Wooded Hills, baz=140	34.23 333	P	P	13 54 41.2	+1.2
WHTX	Lake Whitney, 34nm,0.6s	34.25 302	eP	P	13 54 40.8	+0.5
WHTX	Lake Whitney, baz=107,SNR=9.7	34.25 302	P	P	13 54 40.6	+0.3
I42A	Draeger Farm, 41nm,1.2s	34.27 326	eP	P	13 54 40.7	+0.4
I42A	Draeger Farm, baz=132	34.27 326	P	P	13 54 41.4	+1.1
TUL1	Leonard 25nm,0.8s	34.33 309	eP	P	13 54 41.6	+0.7
TUL1	Leonard baz=114,SNR=6.8	34.33 309	P	P	13 54 41.4	+0.4
JFWS	Jewell Farm 14nm,0.6s	34.36 324	eP	P	13 54 39.5	-1.6
JFWS	Jewell Farm baz=129	34.36 324	P	P	13 54 42.0	+0.8
L40A	Anamosa baz=127,SNR=5.3	34.39 322	P	P	13 54 41.6	+0.1
MATQ	Matagami baz=155,SNR=6.8	34.41 343	P	P	13 54 42.5	+1.0
H42A	Shiocton baz=133	34.49 327	P	P	13 54 43.2	+1.0
F44A	Big Bay de Noc baz=136	34.51 331	P	P	13 54 43.3	+1.0
J41A	Loganville baz=130,SNR=11	34.52 324	P	P	13 54 43.1	+0.5
LNIG	Linares 9.4nm,0.8s	34.61 289	eP	P	13 54 42.2	-1.4
M39A	Webster baz=125	34.62 320	P	P	13 54 43.5	+0.1
K40A	Colesburg baz=128,SNR=16	34.73 323	P	P	13 54 44.6	+0.2
F43A	Flat Rock, Esc baz=137	34.75 330	P	P	13 54 45.2	+0.7
E44A	Grand Marais A baz=139	34.77 332	P	P	13 54 45.9	+1.4
I41A	Arkdale baz=131,SNR=5.5	34.89 326	P	P	13 54 46.2	+0.5
L39A	Vinton baz=126,SNR=12	34.89 321	P	P	13 54 45.8	+0.1
J40A	Soldiers Grove baz=129,SNR=6.8	34.94 324	P	P	13 54 46.4	+0.3
G42A	Mountain baz=134	34.95 328	P	P	13 54 47.2	+1.0
833A	Chaparral WMA, baz=100	35.02 295	P	P	13 54 46.9	-0.1
E43A	Lone Tree Farm baz=138	35.07 331	P	P	13 54 48.2	+1.0
H41A	Junction City 12nm,0.8s	35.15 326	eP	P	13 54 47.5	-0.5
H41A	Junction City baz=132	35.15 326	P	P	13 54 48.6	+0.7
F42A	Maple Grove Fa baz=135	35.17 329	P	P	13 54 48.7	+0.7
K39A	Oelwein baz=127,SNR=8.9	35.17 322	P	P	13 54 48.0	-0.2
I40A	Norwalk baz=130,SNR=8.8	35.19 325	P	P	13 54 48.8	+0.5
G41A	Antigo baz=133	35.31 328	P	P	13 54 50.0	+0.7
J39A	Decorah baz=128,SNR=6.5	35.45 323	P	P	13 54 50.6	0.0
SCIA	State Center baz=124	35.51 320	P	P	13 54 51.5	+0.6
E42A	Champion baz=136	35.54 330	P	P	13 54 51.9	+0.7
H40A	Chili baz=131,SNR=8.6	35.55 326	P	P	13 54 52.1	+0.8
F41A	Three Lakes 11nm,0.8s	35.63 328	eP	P	13 54 52.3	+0.3
F41A	Three Lakes baz=134,SNR=6.0	35.63 328	P	P	13 54 52.8	+0.8
I39A	Houston 33nm,0.6s	35.67 324	eP	P	13 54 52.7	+0.3
I39A	Houston baz=129,SNR=13	35.67 324	P	P	13 54 52.7	+0.3
JCT	Junction City 33nm,0.8s	35.80 298	eP	P	13 54 53.7	-0.1
JCT	Junction City baz=103,SNR=13	35.80 298	P	P	13 54 53.5	-0.2
G40A	Rib Lake 15nm,0.8s	35.88 327	eP	P	13 54 54.3	+0.2
G40A	Rib Lake baz=132,SNR=8.0	35.88 327	P	P	13 54 55.0	+0.9
COWI	Conover 14nm,0.9s	35.90 329	eP	P	13 54 54.9	+0.5
BDFB	Brasilia 8.8nm,0.9s,baz=334,slow=10,SNR=9.5	35.99 155	P	P	13 54 55.8	+0.2
H39A	Augusta baz=130,SNR=9.1	36.07 325	P	P	13 54 56.3	+0.6
E41A	Kenton baz=135	36.08 329	P	P	13 54 56.5	+0.7
WMOK	Wichita Mounta 18nm,0.7s	36.16 306	eP	P	13 54 56.3	-0.4
WMOK	Wichita Mounta baz=109,SNR=20	36.16 306	P	P	13 54 56.3	-0.4
ABTX	Abilene, Hawle 41nm,0.6s	36.20 302	eP	P	13 54 57.3	+0.1
ABTX	Abilene, Hawle baz=106,SNR=12	36.20 302	P	P	13 54 57.0	-0.1
F40A	Park Falls baz=133,SNR=8.5	36.27 328	P	P	13 54 58.4	+0.9
KSU1	Kansas State U 17nm,0.5s	36.29 314	eP	P	13 54 57.4	-0.3
KSU1	Kansas State U baz=117,SNR=8.0	36.29 314	P	P	13 54 57.1	-0.6
D41A	Chassel 31nm,0.7s	36.31 330	eP	P	13 54 58.6	+0.8
D41A	Chassel baz=136,SNR=5.3	36.31 330	P	P	13 54 59.0	+1.3
G39A	Holcombe baz=131,SNR=19	36.40 326	P	P	13 54 59.4	+0.8
E40A	Wakefield baz=134,SNR=13	36.52 328	P	P	13 55 00.6	+1.1
H38A	Maiden Rock baz=128	36.61 324	P	P	13 55 00.9	+0.5
F39A	Loretta baz=132,SNR=14	36.68 327	P	P	13 55 01.9	+0.9
G38A	Ridgeland baz=130	36.69 325	P	P	13 55 01.6	+0.6
E39A	Mellen baz=132,SNR=16	36.81 328	P	P	13 55 03.1	+1.2
C40A	Isle Royale Na 37nm,0.7s	37.20 331	eP	P	13 55 07.0	+1.7
C40A	Isle Royale Na baz=136,SNR=8.0	37.20 331	P	P	13 55 06.6	+1.4
F38A	Pierce - Schro baz=130,SNR=22	37.21 326	P	P	13 55 06.3	+0.9
SPMN	Marine on St. 17nm,0.8s	37.25 325	eP	P	13 55 05.8	+0.1
SPMN	Marine on St. baz=128,SNR=7.3	37.25 325	P	P	13 55 05.9	+0.1
F37A	Hinrichs Farm, baz=129	37.46 326	P	P	13 55 08.3	+0.7
E38A	The Farm, Brul baz=131	37.47 327	P	P	13 55 08.1	+0.5
SCHQ	Schefferville 14nm,0.7s	37.55 357	eP	P	13 55 09.6	+1.5
SCHQ			eP cP	PcP	13 57 22.4	-0.2
SCHQ	Schefferville 13nm,0.6s,baz=175,slow=6.8,SNR=38	37.55 357	P	P	13 55 09.7	+1.5
SCHQ	1.6nm,0.6s,baz=189,slow=4.4,SNR=3.7		PcP	PcP	13 57 22.4	-0.2
EYMN	Ely baz=133	38.35 329	P	P	13 55 15.3	+0.4
CBKS	Cedar Bluff baz=113	38.37 311	P	P	13 55 15.2	-0.1
BGNE	Belgrade 67nm,0.8s	38.41 316	eP	P	13 55 14.9	-0.6
BGNE	Belgrade baz=118,SNR=6.6	38.41 316	P	P	13 55 15.6	+0.1
AMTX	Amarillo 16nm,0.8s	38.47 305	eP	P	13 55 15.3	-0.9
AMTX	Amarillo baz=107	38.47 305	P	P	13 55 16.1	-0.2
ECSD	EROS Data Cent 23nm,0.8s	38.60 320	eP	P	13 55 17.2	+0.1
ECSD	EROS Data Cent baz=122,SNR=19	38.60 320	P	P	13 55 17.3	+0.2
TXAR	Lajitas Array 2.1nm,0.7s,baz=124,slow=8.4,SNR=28	38.88 295	P	P	13 55 19.6	-0.1
TXAR	1.4nm,0.6s,baz=108,slow=4.7,SNR=7.5		PcP	PcP	13 57 28.4	+1.0
TXAR	0.7nm,1.0s,baz=118,slow=7.7,SNR=4.5		ScP	S	14 01 00.5	-5.2
TX31	Lajitas Ar. Si	38.88 295	eP	P	13 55 19.7	0.0
MSTX	Muleshoe 22nm,0.8s	39.09 303	eP	P	13 55 20.4	-1.1
MSTX			eP cP	PcP	13 57 29.1	+1.2
MSTX	Muleshoe baz=105,SNR=13	39.09 303	P	P	13 55 21.1	-0.3
LVC	Limon Verde 3.3nm,0.5s,baz=34,slow=4.7,SNR=4.1	40.08 188	P	P	13 55 27.3	-2.5
SUSD	Miller baz=120	40.41 320	P	P	13 55 32.5	+0.5
KSCO	Kaye Shedlock' baz=111,SNR=5.9	40.53 310	P	P	13 55 33.5	+0.2
MNTX	Cornudas Mount 13nm,0.6s	40.74 299	eP	P	13 55 35.0	+0.1
MNTX	Cornudas Mount baz=100,SNR=34	40.74 299	P	P	13 55 35.0	+0.1
AGMN	Agassiz Nation 28nm,0.6s	40.80 326	eP	P	13 55 35.2	0.0
AGMN	Agassiz Nation baz=128,SNR=25	40.80 326	P	P	13 55 35.2	0.0
OGNE	Ogallala baz=113	40.84 313	P	P	13 55 35.9	+0.1
T25A	Trinidad 19nm,1.0s	41.25 307	eP	P	13 55 39.7	+0.4
T25A	Trinidad baz=107,SNR=7.3	41.25 307	P	P	13 55 39.8	+0.4
ULM	Lac du Bonnet 28nm,0.5s	42.03 329	eP	P	13 55 44.9	-0.2
ULM			PcP	PcP	13 57 36.8	-0.1
ULM	Lac du Bonnet 25nm,0.4s,baz=131,slow=8.2,SNR=76	42.03 329	P	P	13 55 44.8	-0.3
ULM	1.8nm,0.6s,baz=101,slow=6.2,SNR=2.6		PcP	PcP	13 57 36.8	-0.1
BNM	Barren Site	42.24 302	eP	P	13 55 48.2	+0.8
SDCO	Great Sand Dun 12nm,0.7s	42.26 307	eP	P	13 55 47.9	+0.3
SDCO	Great Sand Dun baz=107,SNR=18	42.26 307	P	P	13 55 47.9	+0.3
ANMO	Albuquerque 11nm,0.8s	42.28 303	eP	P	13 55 48.4	+0.7
ANMO	Albuquerque baz=103	42.28 303	P	P	13 55 48.6	+0.9
Q24A	Divide 7.2nm,0.9s	42.37 309	eP	P	13 55 49.2	+0.8
Q24A	Divide baz=108,SNR=6.6	42.37 309	P	P	13 55 48.9	+0.5
Y22D	IRIS PASSCAL I baz=102	42.47 302	P	P	13 55 50.1	+1.0
LENM	Lemitar	42.53 302	eP	P	13 55 50.4	+0.7
121A	Cookes Peak, D baz=99,SNR=9.3	42.89 299	P	P	13 55 53.8	+1.3
ISCO	Idaho Springs 10nm,0.8s	42.98 310	eP	P	13 55 53.2	-0.1
ISCO	Idaho Springs baz=109,SNR=12	42.98 310	P	P	13 55 53.9	+0.6
S22A	4UR Ranch, Cre 8.4nm,1.0s	43.27 307	eP	P	13 55 56.1	+0.4
S22A	4UR Ranch, Cre baz=106,SNR=7.7	43.27 307	P	P	13 55 56.0	+0.4

PHWY	Pilot Hill 15nm,0.6s	43.37	312	*e*P	P	13 55 56.9	+0.5
RSSD	Black Hills 4.0nm,0.8s	43.49	317	*e*P	P	13 55 55.2	-2.1
RSSD	Black Hills baz=114	43.49	317	P	P	13 55 57.6	+0.3
N23A	Red Feather La 29nm,1.8s	43.58	312	*e*P	P	13 55 58.5	+0.4
N23A	Red Feather La baz=110	43.58	312	P	P	13 55 58.5	+0.4
CPUP	Villa Florida 9.7nm,1.5s	43.75	172	*e*P	P	13 55 56.6	-2.6
CPUP	Villa Florida 1.2nm,0.5s,baz=338,slow=9.3,SNR=3.7	43.75	172	P	P	13 55 56.9	-2.3
SMCO	Snowmass 6.5nm,0.8s	43.78	309	*e*P	P	13 56 00.1	+0.2
MVCO	Mesa Verde baz=104	44.42	306	P	P	13 56 05.5	+0.7
K22A	Casper baz=111,SNR=8.0	44.59	314	P	P	13 56 06.4	+0.3
PV15	Paradox Valley 20nm,1.0s	44.69	307	*e*P	P	13 56 08.1	+1.2
PV01	Paradox Valley 7.8nm,0.8s	44.70	307	*e*P	P	13 56 08.3	+1.2
PV07	Paradox Valley 16nm,0.7s	44.84	307	*e*P	P	13 56 08.3	+0.2
PV02	Paradox Valley 17nm,0.7s	44.85	307	*e*P	P	13 56 08.4	+0.2
PV13	Radium Mtn., P 19nm,0.7s	44.90	307	*e*P	P	13 56 09.5	+0.9
PV12	Saucer Basin, 21nm,0.7s	44.92	307	*e*P	P	13 56 08.4	-0.3
PV03	Paradox Valley 15nm,0.8s	44.94	307	*e*P	P	13 56 08.2	-0.8
W18A	Petrified Fore baz=101	44.95	303	P	P	13 56 09.3	+0.3
PV11	David Mesa, Pa 20nm,0.7s	44.97	307	*e*P	P	13 56 09.0	-0.2
O20A	White River Ci baz=107	45.00	310	P	P	13 56 10.2	+0.8
PV16	Nyswonger Mesa 13nm,0.7s	45.01	307	*e*P	P	13 56 09.3	-0.2
X18A	Snowflake 17nm,0.7s	45.01	302	*e*P	P	13 56 10.7	+1.2
PV17	East Wray Mesa 14nm,0.9s	45.03	307	*e*P	P	13 56 09.7	0.0
PV20	West Nyswonger 11nm,0.9s	45.06	307	*e*P	P	13 56 10.0	+0.2
PV19	Morning Glory 14nm,0.8s	45.06	307	*e*P	P	13 56 09.3	-0.5
PV14	Lion Creek, Pa 12nm,0.8s	45.11	307	*e*P	P	13 56 10.3	+0.1
PV09	Paradox Valley	45.22	307	*e*P	P	13 56 09.3	-1.9
TUC	Tucson 9.5nm,0.9s	45.36	298	*e*P	P	13 56 12.1	-0.1
TUC	Tucson baz=97	45.36	298	P	P	13 56 12.9	+0.7
DGMT	Dagmar 14nm,0.6s	45.54	322	*e*P	P	13 56 13.7	+0.4
DGMT	Dagmar baz=118,SNR=5.5	45.54	322	P	P	13 56 13.9	+0.6
LAO	LASA Array 21nm,0.7s	45.97	319	*e*P	P	13 56 17.6	+1.0
LAO	LASA Array baz=115,SNR=9.1	45.97	319	P	P	13 56 17.4	+0.8
WUAZ	Wupatki 29nm,0.8s	46.34	303	*e*P	P	13 56 21.1	+1.3
WUAZ	Wupatki baz=100,SNR=21	46.34	303	P	P	13 56 20.9	+1.1
P18A	Preston Nutter 9.8nm,0.6s	46.35	309	*e*P	P	13 56 20.9	+0.9
SRU	San Rafael Swe 9.9nm,0.6s	46.43	308	*e*P	P	13 56 21.3	+0.8
P17A	Butcher Ranch, 11nm,0.7s	46.68	308	*e*P	P	13 56 23.5	+1.1
BW06	Boulder Array 19nm,0.7s	46.74	313	*e*P	P	13 56 23.3	+0.4
BW06	Boulder Array baz=108,SNR=28	46.74	313	P	P	13 56 23.4	+0.4
PD31	Pinedale Array 18nm,0.7s	46.74	313	*e*P	P	13 56 23.3	+0.3
PDAR	Pinedale Array 15nm,0.5s,baz=112,slow=9.2,SNR=134	46.74	313	P	P	13 56 23.2	+0.3
PDAR				PcP	PcP	13 57 53.6	-0.1
PDAR	1.3nm,0.5s,baz=110,slow=5.0,SNR=5.5			ScP	ScP	14 01 31.5	-0.4
Q16A	0.4nm,0.8s,baz=97,slow=4.6,SNR=3.2 Castle Valley 7.1nm,0.8s	46.87	307	*e*P	P	13 56 24.1	+0.1
TMUT	Trail Mountain 11nm,0.8s	46.99	308	*e*P	P	13 56 25.3	+0.3
214A	Organ Pipe Nat baz=96	47.03	298	P	P	13 56 26.0	+0.8
FCC	Fort Churchill 11nm,0.7s	47.19	339	*e*P	P	13 56 26.0	+0.1
U15A	North Rim 11nm,0.8s	47.23	304	*e*P	P	13 56 27.8	+0.8
RLMT	Red Lodge 42nm,1.3s	47.33	316	*e*P	P	13 56 28.0	+0.6
RLMT	Red Lodge baz=110,SNR=28	47.33	316	P	P	13 56 28.1	+0.7
Y14A	Wickenburg 11nm,0.8s	47.42	300	*e*P	P	13 56 29.5	+1.4
MTPU	Mount Pierson 13nm,1.1s	47.45	306	*e*P	P	13 56 29.8	+1.1
JLU	Jordanelle 15nm,0.8s	47.49	310	*e*P	P	13 56 30.0	+1.2
TCUT	Toone Canyon 30nm,0.7s	47.59	310	*e*P	P	13 56 30.2	+0.7
FFC	Flin Flon 4.5nm,0.9s	47.72	331	*e*P	P	13 56 29.9	-0.1
LOHW	Long Hollow 11nm,0.8s	47.73	314	*e*P	P	13 56 30.7	+0.2
KNB	Kanab 7.2nm,0.8s	47.76	305	*e*P	P	13 56 30.8	0.0
SNOW	Snow King Moun 31nm,1.4s	47.79	313	*e*P	P	13 56 31.4	+0.3
REDW	Red Top Meadow 17nm,1.1s	47.83	313	*e*P	P	13 56 31.7	+0.4
HWUT	Hardware Ranch 14nm,0.8s	47.83	311	*e*P	P	13 56 30.7	-0.7
MOOW	Moose Ponds 4.9nm,0.6s	47.87	314	*e*P	P	13 56 31.9	+0.2
LKWY	Lake 3.9nm,0.6s	47.89	315	P	P	13 56 30.4	-1.4
TPAW	Teton Pass 16nm,0.6s	47.93	313	*e*P	P	13 56 31.7	-0.5
FXWY	Fox Creek 6.7nm,0.9s	48.03	314	*e*P	P	13 56 33.0	+0.1
IMW	Indian Meadow 6.6nm,0.7s	48.05	314	*e*P	P	13 56 33.4	+0.3
SZCU	Shurtz Canyon 9.4nm,0.7s	48.07	305	*e*P	P	13 56 33.8	+0.6
LCMT	Little Creek M 6.5nm,0.7s	48.09	304	*e*P	P	13 56 34.1	+0.8
YFT	Old Faithful 6.8nm,0.6s	48.15	315	*e*P	P	13 56 36.7	+2.9
YHH	Holmes Hill 9.3nm,1.0s	48.27	315	*e*P	P	13 56 36.0	+1.2
DUG	Dugway, Tooele 19nm,1.2s	48.40	309	*e*P	P	13 56 32.6	-3.1
DUG	Dugway, Tooele baz=103,SNR=10	48.40	309	P	P	13 56 36.3	+0.6
PDMCI	Parker Dam,Lak baz=97	48.41	301	P	P	13 56 36.5	+0.9
YHB	Horse Butte 36nm,0.8s	48.49	315	*e*P	P	13 56 38.0	+1.6
Y12C	Blythe baz=96	48.66	300	P	P	13 56 38.3	+0.7
QLMT	Earthquake Lak	48.67	315	*e*P	P	13 56 39.4	+1.6
EGMT	Eagleton 20nm,0.9s	48.70	320	*e*P	P	13 56 37.5	-0.3
EGMT	Eagleton baz=112,SNR=11	48.70	320	P	P	13 56 38.6	+0.8
BGU	Big Grassy Mou 28nm,0.7s	48.73	310	*e*P	P	13 56 38.9	+0.7
HVU	Hansel Valley 17nm,0.7s	48.75	311	*e*P	P	13 56 38.7	+0.3
GLA	Glamis baz=95	48.84	299	P	P	13 56 39.8	+0.8
PSUT	Pine Spring 16nm,0.7s	48.84	306	*e*P	P	13 56 40.6	+1.5
BOZ	Bozeman (W) 9.8nm,1.0s	49.05	316	*e*P	P	13 56 41.0	+0.4
BOZ	Bozeman (W) baz=109,SNR=11	49.05	316	P	P	13 56 41.3	+0.7
IRM	Iron Mountain baz=96,SNR=8.5	49.21	300	P	P	13 56 43.1	+1.3
BC3	Big Chuckawall baz=95	49.42	300	P	P	13 56 43.9	+0.4
HRY	Holter Researc	49.55	317	*e*P	P	13 56 45.3	+1.0
GMRC	Granite Mounta baz=96	49.71	301	P	P	13 56 46.1	+0.4
BELC	Belle Mtn. Jos baz=95	49.90	300	P	P	13 56 48.0	+0.8
TUQ	Turquoise Moun baz=97	50.00	302	P	P	13 56 48.4	+0.5
R11A	Troy Canyon, C baz=99	50.15	306	P	P	13 56 49.7	+0.7
MONP2	Monument Peak baz=94	50.16	299	P	P	13 56 50.1	+0.9
HLID	Hailey 8.9nm,0.6s	50.37	313	*e*P	P	13 56 50.7	+0.1
HLID	Hailey baz=104,SNR=17	50.37	313	P	P	13 56 51.2	+0.6
TPNV	Topopah Spring baz=98	50.45	304	P	P	13 56 52.7	+1.4
GSC	Goldstone, Bar baz=96	50.70	302	P	P	13 56 54.0	+1.0
MSO	Missoula baz=108	50.96	317	P	P	13 56 55.2	+0.3
MPMC	Manual Prospec baz=96	51.33	303	P	P	13 56 58.4	+0.4
GRAC	Grapevine Rang baz=97	51.35	304	P	P	13 56 58.7	+0.9
DAC	Darwin (Calif) 9.5nm,0.9s	51.44	303	*e*P	P	13 56 59.2	+0.5
EDW2	Edwards Air Fo baz=95	51.63	301	P	P	13 57 00.8	+0.8
CWC	Cottonwood Cre baz=96	51.85	303	P	P	13 57 02.3	+0.5
NV11	Mina Array Sit 1.2nm,1.0s	52.15	305	*e*P	P	13 57 02.5	-1.4
KVN	Kaiserville 3.2nm,0.8s	52.20	306	*e*P	P	13 57 03.0	-1.3
NV01	Mina Array Sit	52.27	305	*e*P	P	13 57 04.2	-0.6
NVAR	Mina Array Bea 6.9nm,0.7s,baz=97,slow=7.2,SNR=28	52.27	305	P	P	13 57 05.5	+0.7
NVAR				PcP	PcP	13 58 14.3	+0.3
NVAR	1.1nm,0.7s,baz=117,slow=5.2,SNR=2.2			ScP	ScP	14 01 56.8	+1.3
ARVC	0.5nm,0.6s,baz=52,slow=5.1,SNR=3.3 Arvin baz=94	52.33	301	P	P	13 57 06.0	+0.9
VES	Vestal, Richgr baz=95	52.60	302	P	P	13 57 08.1	+1.0
BMO	Blue Mountains 5.9nm,1.0s	52.70	314	*e*P	P	13 57 07.0	-0.8
MDPB	Devils Postpil 8.4nm,0.7s	52.78	304	*e*P	P	13 57 08.8	+0.2
F10A	Beach Ranch, E 3.8nm,0.6s	52.91	315	*e*P	P	13 57 09.0	-0.3
YERR	Yerington 4.1nm,0.7s	53.07	306	*e*P	P	13 57 09.3	-1.3
WAKR	Walker 7.4nm,0.9s	53.16	305	*e*P	P	13 57 11.1	-0.2
J08A	Circle Bar Ran 15nm,1.1s	53.21	312	*e*P	P	13 57 10.1	-1.5
SMMC	Simmler baz=94	53.30	301	P	P	13 57 13.2	+1.0
NEW	Newport 18nm,0.8s	53.44	318	*e*P	P	13 57 13.2	+0.1
NEW	Newport baz=106,SNR=20	53.44	318	P	P	13 57 13.0	-0.1
G08A	Pilot Rock 6.9nm,1.3s	53.94	314	*e*P	P	13 57 16.7	-0.1
BEKR	Beckworth 3.9nm,0.8s	54.04	307	*e*P	P	13 57 17.7	0.0
I07A	Izee 11nm,0.8s	54.08	312	*e*P	P	13 57 18.1	+0.3
MOD	Modoc Plateau 3.9nm,0.7s	54.28	309	*e*P	P	13 57 18.8	-0.6
ORV	Oroville 11nm,0.9s	54.88	306	*e*P	P	13 57 22.8	-0.8
B08A	Colville Reser 11nm,1.4s	54.89	317	*e*P	P	13 57 23.3	-0.2
PINE	Pine Mountain 3.3nm,0.8s	55.05	312	*e*P	P	13 57 23.6	-1.4
J05D	Fort Rock, OR baz=99,SNR=6.8	55.18	311	P	P	13 57 26.1	+0.3
O03E	Paynes Creek baz=96	55.19	307	P	P	13 57 26.0	+0.1
M04C	Macdoel baz=97	55.40	309	P	P	13 57 28.2	+0.8
I05D	Terrebonne, OR baz=99	55.42	312	P	P	13 57 28.7	+1.3
K04D	Chiloquin, OR baz=98	55.45	310	P	P	13 57 28.7	+1.0
ESDC	Sonseca Array 0.5nm,0.6s,baz=268,slow=7.0,SNR=3.8	55.56	54	P	P	13 57 30.5	+2.0
F05D	White Salmon baz=100,SNR=5.4	55.78	314	P	P	13 57 30.5	+0.6
J04D	Umpqua Nationa baz=98,SNR=9.2	55.80	311	P	P	13 57 30.8	+0.4
L04D	Klamath Falls baz=97,SNR=6.4	55.80	310	P	P	13 57 30.3	0.0
N02D	Trinity Center baz=96	55.95	308	P	P	13 57 30.3	-1.0
YBH	Yreka Blue Hor 8.2nm,0.8s	56.04	309	*e*P	P	13 57 29.3	-2.6
M02C	Callahan baz=96	56.11	309	P	P	13 57 31.9	-0.5
H04D	Lebanon baz=98	56.44	312	P	P	13 57 34.4	-0.2
E04D	Cinebar baz=100	56.66	315	P	P	13 57 35.4	-0.6
B05A	Bryant baz=101	56.67	317	P	P	13 57 34.6	-1.5
I03D	Drain, OR baz=98	56.76	311	P	P	13 57 36.7	-0.2
K02D	Willamette Mer baz=97	56.86	310	P	P	13 57 37.8	+0.1
G03D	McMinnville, O baz=98	56.92	313	P	P	13 57 38.0	+0.1
LLLB	Lillooet 28nm,1.2s	57.04	320	*e*P	P	13 57 39.1	+0.3
SUMG	Summit 16nm,0.9s	57.08	9	*e*P	P	13 57 40.6	+1.5
SUMG	Summit 31nm,0.7s	57.08	9	*i* P	P	13 57 40.4	+1.3
J01E	Myrtle Point baz=97	57.11	311	P	P	13 57 39.8	+0.4
I02D	Swisshome baz=97	57.17	312	P	P	13 57 40.1	+0.4
D03D	Eldon baz=100	57.18	316	P	P	13 57 39.5	-0.3
KULLO	Kullorsuaq 14nm,0.7s	57.37	2	*i* P	P	13 57 39.4	-1.2
YKA	Yellowknife Ar 8.4nm,0.7s,baz=110,slow=7.5,SNR=96	57.42	334	P	P	13 57 41.1	0.0
YKA				pP	pP	13 58 19.5	+0.5
YKB5	1.0nm,0.7s,baz=110,slow=7.7,SNR=4.0 Yellowknife Ar	57.42	334	*e*P	P	13 57 40.4	-0.7
NLWA	Neilton Lookou 6.1nm,0.8s	57.68	315	*e*P	P	13 57 43.4	+0.1
DBIC	Dinokro 33nm,1.6s	57.82	93	*e*P	P	13 57 44.9	+0.2
DBIC	Dimbokro 4.3nm,0.5s,baz=277,slow=7.2,SNR=9.1	57.82	93	P	P	13 57 45.6	+0.9
RES	Resolute Bay 2.7nm,0.7s,baz=164,slow=9.3,SNR=12	59.93	351	P	P	13 57 58.8	+0.5
TOA1	Torodi Ar. Sit	62.47	84	*e*P	P	13 58 16.2	-0.2
TORD	Torodi Ar. Bea 1.6nm,0.7s,baz=293,slow=6.0,SNR=8.9	62.47	84	P	P	13 58 16.2	-0.2
TORD				pP	pP	13 58 53.9	-1.1
DLBC	1.3nm,0.8s,baz=286,slow=5.2,SNR=4.7 Dease Lake 8.6nm,0.7s	63.32	327	*e*P	P	13 58 22.4	+1.1
DAG	Danmarks Havn 9.1nm,0.8s	63.59	10	*i* P	P	13 58 23.3	+0.6
INK	Inuvik 18nm,1.0s	66.80	338	*e*P	P	13 58 43.0	-0.4
NB2	NORSAR Subarra comp=Z,4.3nm,0.8s,baz=267,slow=6.9	67.44	30	P	P	13 58 48.8	+1.0
NB200	NORSAR Array S	67.44	30	*e*P	P	13 58 48.8	+1.0
NOA	NORSAR Array B comp=Z,1.0nm,0.6s,baz=268,slow=6.5,SNR=4.5	67.44	30	P	P	13 58 48.8	+1.0
EPYK	Eagle Plains baz=98	67.68	335	P	P	13 58 49.2	0.0
DAWY	Dawson comp=Z,12nm,0.8s	68.55	333	*e*P	P	13 58 55.5	+0.9
EGAK	Eagle comp=Z,12nm,0.8s	69.36	333	*e*P	P	13 59 00.3	+0.8
DOT	Dot Lake comp=Z,6.0nm,0.8s	70.60	332	*e*P	P	13 59 07.9	+0.7
RIDG	Independ'e Rid	70.95	332	*e*P	P	13 59 09.5	+0.2
PRP	Porcupine Dome comp=Z,9.8nm,1.0s	71.22	334	*e*P	P	13 59 10.8	-0.2
IL1	Eielson Array comp=Z,14nm,1.1s	71.82	333	*e*P	P	13 59 14.2	-0.2
ILAR	Eielson Array comp=Z,2.3nm,0.5s,baz=90,slow=4.4,SNR=80	71.82	333	P	P	13 59 14.3	-0.2
ILB	Eielson Array comp=Z,12nm,1.3s	71.82	333	*e*P	P	13 59 14.2	-0.2
HDA	Harding Lake baz=88	71.86	333	P	P	13 59 14.7	0.0
POKR	Poker Plat Res baz=87,SNR=5.9	72.04	334	P	P	13 59 16.1	+0.3
CCB	Clear Creek Bu comp=Z,22nm,1.9s	72.22	333	*e*P	P	13 59 16.8	0.0
TCOL	CIGO, UAF Yank baz=87	72.23	333	P	P	13 59 16.9	+0.1
WRH	Wood River Hil comp=Z,4.6nm,0.7s	72.35	333	*e*P	P	13 59 18.1	+0.6
MDM	Murphy Dome comp=Z,14nm,0.8s	72.38	334	*e*P	P	13 59 18.3	+0.5
TOLK	Toolik Lake Re comp=Z,4.6nm,0.8s	72.71	337	*e*P	P	13 59 19.9	+0.3
TOLK	Toolik Lake Re baz=87	72.71	337	P	P	13 59 20.0	+0.3
RND	Reindeer comp=Z,12nm,0.9s	72.75	332	*e*P	P	13 59 20.4	+0.4
COLD	Coldfoot comp=Z,5.5nm,1.1s	73.04	336	*e*P	P	13 59 21.6	0.0
TRF	Thorofare Moun comp=Z,20nm,0.7s	73.39	332	*e*P	P	13 59 24.3	+0.4
MLY	Manley comp=Z,9.3nm,1.1s	73.44	334	*e*P	P	13 59 23.6	-0.4
ARA0	ARCESS Array S	73.46	22	*e*P	P	13 59 25.0	+1.0
ARCES	ARCESS Array B comp=Z,6.8nm,0.8s,baz=281,slow=6.1,SNR=19	73.46	22	P	P	13 59 25.0	+1.0
BPAW	Bear Paw Mtn. comp=Z,18nm,0.9s	73.64	333	*e*P	P	13 59 25.2	0.0
CAST	Castle Rocks comp=Z,5.5nm,0.8s	74.20	332	*e*P	P	13 59 28.4	-0.1
IM3	Indian Mountai	74.58	335	*e*P	P	13 59 30.7	+0.1
FIA0	FINESS Array S	74.61	30	*e*P	P	13 59 31.9	+1.2
FINES	FINESS Array B comp=Z,2.0nm,0.4s,baz=270,slow=4.6,SNR=27	74.61	30	P	P	13 59 31.9	+1.2
BR101	Keskin Array S	84.20	50	*e*P	P	14 00 23.9	+0.6
BRTR	Keskin Array B comp=Z,0.6nm,0.4s,baz=207,slow=1.4,SNR=4.0	84.20	50	P	P	14 00 23.9	+0.6
TIXI	Tiksi comp=Z,1.3nm,0.7s,baz=10,slow=3.4,SNR=4.2	90.88	356	P	P	14 00 55.0	+0.5
MAJO	Matsushiro	122.75	340	*e*PKPdf	PKPdf	14 06 46.2	-0.6
MJAR	Matsushiro Arr comp=Z,1.4nm,0.5s,baz=50,slow=0.8,SNR=8.9	122.75	340	PKP	PKPdf	14 06 46.2	-0.6
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.8s,baz=312,slow=2.4,SNR=5.3	140.34	27	PKP	PKPdf	14 07 20.8	+0.5
ASAR	Alice Springs comp=Z,0.5nm,0.6s,baz=100,slow=1.6,SNR=11	162.81	246	PKP	PKPdf	14 07 52.4	-0.8
ASAR				PKPab	PKPab	14 08 42.2	-0.9
WR1	Warramunga Arr comp=Z,0.6nm,0.7s,baz=106,slow=4.6,SNR=7.6	163.20	258	*e*PKPdf	PKPdf	14 07 52.7	-1.0
WR1				*e*PKPab	PKPab	14 08 44.4	-0.5
WRA	Warramunga Arr comp=Z,1.2nm,0.7s,baz=67,slow=0.7,SNR=13	163.20	258	PKP	PKPdf	14 07 52.7	-1.0
WRA				PKPab	PKPab	14 08 44.4	-0.5
CAST	Castle Rocks comp=Z,5.5nm,0.8s	74.20	332	*e*P	P	13 59 28.4	-0.1
IM3	Indian Mountai	74.58	335	*e*P	P	13 59 30.7	+0.1
FIA0	FINESS Array S	74.61	30	*e*P	P	13 59 31.9	+1.2
FINES	FINESS Array B comp=Z,2.0nm,0.4s,baz=270,slow=4.6,SNR=27	74.61	30	P	P	13 59 31.9	+1.2
BR101	Keskin Array S	84.20	50	*e*P	P	14 00 23.9	+0.6
BRTR	Keskin Array B comp=Z,0.6nm,0.4s,baz=207,slow=1.4,SNR=4.0	84.20	50	P	P	14 00 23.9	+0.6
TIXI	Tiksi comp=Z,1.3nm,0.7s,baz=10,slow=3.4,SNR=4.2	90.88	356	P	P	14 00 55.0	+0.5
MAJO	Matsushiro	122.75	340	*e*PKPdf	PKPdf	14 06 46.2	-0.6
MJAR	Matsushiro Arr comp=Z,1.4nm,0.5s,baz=50,slow=0.8,SNR=8.9	122.75	340	PKP	PKPdf	14 06 46.2	-0.6
CMAR	Chiang Mai Arr comp=Z,0.7nm,0.8s,baz=312,slow=2.4,SNR=5.3	140.34	27	PKP	PKPdf	14 07 20.8	+0.5
ASAR	Alice Springs comp=Z,0.5nm,0.6s,baz=100,slow=1.6,SNR=11	162.81	246	PKP	PKPdf	14 07 52.4	-0.8
ASAR				PKPab	PKPab	14 08 42.2	-0.9
WR1	Warramunga Arr comp=Z,0.6nm,0.7s,baz=106,slow=4.6,SNR=7.6	163.20	258	*e*PKPdf	PKPdf	14 07 52.7	-1.0
WR1				*e*PKPab	PKPab	14 08 44.4	-0.5
WRA	Warramunga Arr comp=Z,1.2nm,0.7s,baz=67,slow=0.7,SNR=13	163.20	258	PKP	PKPdf	14 07 52.7	-1.0
WRA				PKPab	PKPab	14 08 44.4	-0.5

*JMA **09** 14:01:32.3,23°.94N×121°.64E,h48km±1km,M2.8*
*ISCJB **09** 14:01:33.2±0.2,23°.98N±0°.01×121°.71E±0°.01,h46km±3km,*
Error ellipse: s-maj=2.6km s-min=1.7km az=43.0
*TAP **09** 14:01:33.0,24°.00N×121°.69E,h44km,MLS.4,B*
ISC 09 14:01:33.5±1.2,23°.98N±0°.02×121°.70E±0°.02,h43km±5km,
n90,σ0°83/177,1C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	Hwalien baz=248	0.08	267	P		Pn		14 01 40.2	-0.2
HWA				S	*e*	Sn		14 01 45.8	+0.5
ENLB	Shoufeng baz=218	0.12	228	P	*e*	Pn		14 01 41.3	+0.8
ENLB				S	*e*	Sn		14 01 46.3	+0.8
TWD	Chiawan baz=316	0.13	317	P	*i*	Pn		14 01 40.8	+0.1
TWD				S	*i*	Sn		14 01 46.3	+0.6
NACB	Ninganchiao baz=333	0.21	334	P	*e*	Pn		14 01 41.0	-0.2
NACB				S	*e*	Sn		14 01 46.9	+0.2
ESL	Shilin baz=229	0.29	235	P	*i*	Pn		14 01 41.5	-0.5
ESL				S	*i*	Sn		14 01 47.6	-0.3
ETLH	Xiulin Townshi baz=317	0.30	319	P		Pn		14 01 41.8	-0.4
ETLH				S		Sn		14 01 48.1	-0.1
EGFH	Guangfu baz=215	0.40	218	P		Pn		14 01 42.6	-0.6
EGFH				S		Sn		14 01 49.8	-0.1
WHF	Hehuan Shan baz=290	0.43	293	P	*i*	Pn		14 01 43.4	-0.5
WHF				S	*i*	Sn		14 01 50.9	-0.3
ENA	Nanau baz=7.0	0.45	5	P		Pn		14 01 43.7	-0.1
ENA				S		Sn		14 01 51.4	+0.4
NANB	Nanao baz=7.0	0.45	6	P	*e*	Pn		14 01 43.7	-0.1
NANB				S	*e*	Sn		14 01 51.0	0.0
OWD	Renai baz=264	0.48	267	P		Pn		14 01 44.1	-0.2
OWD				S		Sn		14 01 51.6	-0.2
CHGB	Renai baz=276	0.48	279	P	*e*	Pn		14 01 44.2	-0.2
CHGB				S	*e*	Sn		14 01 52.2	+0.1
NNSB	Datong baz=326	0.53	327	P	*e*	Pn		14 01 44.5	-0.4
NNSB				S	*e*	Sn		14 01 52.3	-0.7
NNS	Nan Shan baz=327	0.54	327	P		Pn		14 01 44.7	-0.4
NNS				S		Sn		14 01 52.6	-0.7
HGSD	Ruisui baz=205	0.55	207	P	*e*	Pn		14 01 45.4	+0.4
HGSD				S	*e*	Sn		14 01 54.5	+1.4
VWDT	VWDT baz=243	0.56	246	P	*e*	Pn		14 01 45.0	-0.1
VWDT				S	*e*	Sn		14 01 53.5	+0.2
TDCB	Techi baz=297	0.56	299	P	*e*	Pn		14 01 45.1	-0.2
TDCB				S	*e*	Sn		14 01 53.2	-0.6
EHY	Hungye baz=213	0.58	216	P		Pn		14 01 46.1	+0.6
EHY				S		Sn		14 01 55.1	+1.0
NDT	Datong Townshi baz=345	0.64	345	P		Pn		14 01 45.9	-0.4
NDT				S	*e*	Sn		14 01 54.8	-0.6
TWC	Suao baz=14	0.64	13	P	*e*	Pn		14 01 46.5	+0.3
TWC				S		Sn		14 01 55.9	+0.6
ENTT	Nioudou baz=350	0.67	350	P		Pn		14 01 46.2	-0.4
ENTT				S		Sn		14 01 55.8	-0.2
EOS1	EOS1 baz=36	0.69	35	P	*e*	Pn		14 01 47.9	+1.0
EOS1				S	*e*	Sn		14 01 58.4	+1.9
YULB	Yu-li baz=210	0.69	212	P	*e*	Pn		14 01 45.6	-1.4
YULB				S	*e*	Sn		14 01 55.4	-1.2
SSLB	Suanglung baz=252	0.71	254	P	*e*	Pn		14 01 46.8	-0.4

SSLB				*e*S	**Sn**	**14 01 56.7**	**-0.3**
	baz=252								
TWF1	**Yuli**	**0.72**	**210**	P	**Pn**	**14 01 45.9**	**-1.5**
	baz=208								
TWF1				*e*S	**Sn**	**14 01 56.5**	**-0.9**
	baz=208								
SMLT	**Sun Moon Lake**	**0.73**	**263**	P	**Pn**	**14 01 47.6**	**-0.1**
	baz=260								
SMLT				*e*S	**Sn**	**14 01 58.4**	**+0.6**
	baz=260								
TWE	**Neicheng**	**0.74**	**358**	P	**Pn**	**14 01 47.2**	**-0.3**
	baz=359								
TWE				S	**Sn**	**14 01 57.0**	**-0.6**
	baz=359								
YHNB	**Yeheng**	**0.74**	**337**	*e*P	**Pn**	**14 01 47.3**	**-0.5**
	baz=336								
YHNB				*e*S	**Sn**	**14 01 56.9**	**-1.1**
	baz=336								
WHP	**Taichung City**	**0.75**	**293**	P	**Pn**	**14 01 47.8**	**0.0**
	baz=292								
WHP				S	**Sn**	**14 01 58.1**	**0.0**
	baz=292								
NSK	**Sanguang**	**0.76**	**336**	*e*P	**Pn**	**14 01 47.7**	**-0.2**
	baz=336								
NSK				S	**Sn**	**14 01 57.4**	**-0.9**
	baz=336								
SLBB	**Yuanshan**	**0.77**	**356**	*e*P	**Pn**	**14 01 47.9**	**-0.2**
	baz=356								
SLBB				*e*S	**Sn**	**14 01 58.7**	**+0.2**
	baz=356								
TYC	**Yuchr**	**0.77**	**264**	*e*P	**Pn**	**14 01 48.1**	**+0.1**
	baz=262								
TYC				*e*S	**Sn**	**14 01 58.7**	**+0.2**
	baz=262								
ILA	**Ilan**	**0.78**	**3**	*e*P	**Pn**	**14 01 47.8**	**-0.4**
	baz=4.0								
ILA				S	**Sn**	**14 01 58.9**	**+0.1**
	baz=4.0								
NWLT	**Wulai**	**0.81**	**347**	*e*P	**Pn**	**14 01 48.1**	**-0.5**
	baz=347								
NWLT				*e*S	**Sn**	**14 01 58.7**	**-0.9**
	baz=347								
WHYT	**Xinyi Township**	**0.82**	**250**	*e*P	**Pn**	**14 01 49.3**	**+0.6**
	baz=248								
WHYT				*e*S	**Sn**	**14 02 00.1**	**+0.3**
	baz=248								
YUS	**Yu-Shan**	**0.84**	**234**	P	**Pn**	**14 01 49.1**	**-0.3**
	baz=232								
YUS				S	**Sn**	**14 02 00.8**	**0.0**
	baz=232								
FULB	**Fuli**	**0.86**	**205**	*e*P	**Pn**	**14 01 48.5**	**-0.8**
	baz=204								
FULB				*e*S	**Sn**	**14 02 01.0**	**+0.3**
	baz=204								
NTC	**Toucheng**	**0.88**	**8**	*e*P	**Pn**	**14 01 49.5**	**+0.1**
	baz=8.0								
NTC				*e*S	**Sn**	**14 02 01.8**	**+0.7**
	baz=8.0								
EGS		**0.89**	**14**	*e*P	**Pn**	**14 01 49.9**	**+0.3**
	baz=15								
EGS				*e*S	**Sn**	**14 02 02.1**	**+0.8**
	baz=15								
WJS	**Zhushan**	**0.90**	**260**	P	**Pn**	**14 01 50.4**	**+0.7**
	baz=258								
WJS				S	**Sn**	**14 02 03.2**	**+1.5**
	baz=258								
NSTT	**Nanjuang**	**0.91**	**316**	P	**Pn**	**14 01 50.3**	**+0.5**
	baz=315								
NSTT				S	**Sn**	**14 02 02.2**	**+0.5**
	baz=315								
LIOB	**Emei**	**0.91**	**317**	*e*P	**Pn**	**14 01 48.5**	**-1.4**
	baz=316								
LIOB				*e*S	**Sn**	**14 02 01.1**	**-0.8**
	baz=316								
TWQ1	**Liyutan**	**0.92**	**294**	P	**Pn**	**14 01 49.9**	**-0.1**
	baz=292								
TWQ1				S	**Sn**	**14 02 02.5**	**+0.4**
	baz=292								
CHKT	**Chengkung**	**0.93**	**199**	*e*P	**Pn**	**14 01 49.7**	**-0.4**
	baz=197								
CHKT				*e*S	**Sn**	**14 02 02.3**	**0.0**
	baz=197								
WNT	**Mingjian**	**0.93**	**264**	P	**Pn**	**14 01 50.8**	**+0.6**
	baz=262								
WNT				S	**Sn**	**14 02 03.3**	**+0.9**
	baz=262								
ALS	**Alishan**	**0.94**	**240**	P	**Pn**	**14 01 51.0**	**+0.4**
	baz=238								
ALS				S	**Sn**	**14 02 03.4**	**+0.4**
	baz=238								
TCU	**Taichung**	**0.95**	**280**	*e*P	**Pn**	**14 01 50.3**	**-0.1**
	baz=278								
TCU				*e*S	**Sn**	**14 02 03.6**	**+0.9**
	baz=278								
NSY	**Sanyi**	**0.96**	**297**	*e*P	**Pn**	**14 01 50.9**	**+0.3**
	baz=296								
NSY				*e*S	**Sn**	**14 02 03.7**	**+0.6**
	baz=296								
NHDH	**Xindian Distri**	**0.99**	**351**	*e*S	**Sn**	**14 02 03.9**	**+0.1**
	baz=351								
TIPB	**Shuangxi**	**0.99**	**7**	*e*P	**Pn**	**14 01 51.3**	**+0.2**
	baz=7.0								
TIPB				*e*S	**Sn**	**14 02 04.8**	**+0.8**
	baz=7.0								
NMLH	**Miaoli**	**0.99**	**304**	*e*P	**Pn**	**14 01 51.1**	**+0.1**
	baz=303								
NMLH				*e*S	**Sn**	**14 02 04.9**	**+1.0**
	baz=303								
TWA	**Mucha**	**1.00**	**354**	P	**Pn**	**14 01 50.6**	**-0.6**
	baz=354								
TWA				S	**Sn**	**14 02 03.9**	**-0.2**
	baz=354								
ELDTW	**Lidau**	**1.00**	**218**	*e*P	**Pn**	**14 01 50.2**	**-1.2**
	baz=216								
CHN5	**Tsauling**	**1.01**	**248**	*e*P	**Pn**	**14 01 51.6**	**+0.3**
	baz=246								
CHN5				*e*S	**Sn**	**14 02 05.6**	**+1.2**
	baz=246								
TATO	**Taipei**	**1.01**	**349**	*e*P	**Pn**	**14 01 50.4**	**-0.8**
	baz=349								
TATO				*e*S	**Sn**	**14 02 04.2**	**0.0**
	baz=349								
PTSB	**Yuanli**	**1.02**	**297**	*e*P	**Pn**	**14 01 51.2**	**-0.2**
	baz=296								
PTSB				*e*S	**Sn**	**14 02 04.9**	**+0.4**
	baz=296								
WDJ	**Dajia District**	**1.03**	**291**	*e*P	**Pn**	**14 01 51.6**	**+0.1**
	baz=289								
WDJ				*e*S	**Sn**	**14 02 04.9**	**+0.1**
	baz=289								
WCHH	**Zhanghua**	**1.04**	**276**	*e*P	**Pn**	**14 01 51.8**	**0.0**
	baz=274								
WCHH				*e*S	**Sn**	**14 02 06.4**	**+1.3**
	baz=274								
WGK	**Gukeng**	**1.08**	**254**	*e*P	**Pn**	**14 01 52.1**	**-0.1**
	baz=252								
WGK				*e*S	**Sn**	**14 02 07.6**	**+1.6**
	baz=252								
NCU	**National Centr**	**1.09**	**335**	*e*S	**Sn**	**14 02 06.5**	**+0.3**
	baz=334								
NWF	**Wu-fen Shan**	**1.09**	**4**	*e*P	**Pn**	**14 01 52.5**	**+0.1**
	baz=4.0								
NWF				*e*S	**Sn**	**14 02 07.5**	**+1.1**
	baz=4.0								
WFSB	**Wu-fen Shan**	**1.09**	**4**	*e*P	**Pn**	**14 01 52.3**	**0.0**
	baz=4.0								
WFSB				*e*S	**Sn**	**14 02 06.9**	**+0.7**
	baz=4.0								
WDLH	**Douliu**	**1.10**	**255**	*e*P	**Pn**	**14 01 53.1**	**+0.6**
	baz=253								
WDLH				*e*S	**Sn**	**14 02 08.2**	**+1.7**
	baz=253								
TWS1	**Kuangyinshan**	**1.14**	**347**	*e*P	**Pn**	**14 01 52.1**	**-1.0**
	baz=347								
TWS1				*e*S	**Sn**	**14 02 07.5**	**-0.1**
	baz=347								
STYT	**Tauyuan**	**1.19**	**227**	*e*P	**Pn**	**14 01 54.3**	**+0.6**
	baz=225								
STYT				*e*S	**Sn**	**14 02 09.8**	**+1.1**
	baz=225								
CHN4	**Tsaushan**	**1.19**	**238**	P	**Pn**	**14 01 54.3**	**+0.5**
	baz=237								
CHN4				S	**Sn**	**14 02 11.1**	**+2.3**
	baz=237								
TPUB	**Ta-pu**	**1.19**	**235**	*e*P	**Pn**	**14 01 53.9**	**+0.2**
	baz=234								
TPUB				*e*S	**Sn**	**14 02 10.0**	**+1.2**
	baz=234								
CHN2	**Minshiung**	**1.21**	**248**	*e*P	**Pn**	**14 01 54.7**	**+0.8**
	baz=247								
CHN2				*e*S	**Sn**	**14 02 10.6**	**+1.5**
	baz=247								
RLNB	**Erlin**	**1.23**	**266**	*e*P	**Pn**	**14 01 53.8**	**-0.4**
	baz=264								
RLNB				*e*S	**Sn**	**14 02 10.7**	**+1.1**
	baz=264								
JYNG	**Yonagunijimaku**	**1.23**	**67**	P	**Pn**	**14 01 54.6**	**+0.3**
JYNG				*e*S	**Sn**	**14 02 10.7**	**+0.9**
WTP	**Ta-pu**	**1.23**	**234**	P	**Pn**	**14 01 54.7**	**+0.3**
	baz=232								
WTP				S	**Sn**	**14 02 11.6**	**+1.7**
	baz=232								
CHY	**Chiayi**	**1.26**	**248**	*e*P	**Pn**	**14 01 55.1**	**+0.4**
	baz=246								
CHY				*e*S	**Sn**	**14 02 12.0**	**+1.6**
	baz=246								
TWGBT	**Beinan**	**1.29**	**206**	*e*P	**Pn**	**14 01 53.4**	**-1.7**
	baz=205								
TWGBT				*e*S	**Sn**	**14 02 08.8**	**-2.4**
	baz=205								
TWG	**Pinlang**	**1.29**	**207**	*e*P	**Pn**	**14 01 52.9**	**-2.2**
	baz=205								
TWG				*e*S	**Sn**	**14 02 08.7**	**-2.4**
	baz=205								
YOJ	**Yonaguni jima**	**1.29**	**68**	*e*P	**Pn**	**14 01 55.1**	**0.0**
	baz=68								
YOJ				*e*S	**Sn**	**14 02 11.8**	**+0.6**
	baz=68								
YOJ	**Yonaguni jima**	**1.29**	**68**	P	**Pn**	**14 01 55.4**	**+0.3**
YOJ				*e*S	**Sn**	**14 02 11.4**	**+0.2**
WTCT	**Ta-ch'eng**	**1.30**	**265**	*e*P	**Pn**	**14 01 55.3**	**+0.1**
	baz=263								
WTCT				*e*S	**Sn**	**14 02 12.2**	**+0.8**
	baz=263								
TWK	**Hsinying**	**1.32**	**238**	*e*P	**Pn**	**14 01 55.7**	**+0.2**
	baz=236								
TWK				*e*S	**Sn**	**14 02 13.0**	**+1.0**
	baz=236								
CHN1	**Nanshi**	**1.33**	**234**	*e*P	**Pn**	**14 01 56.3**	**+0.6**
	baz=232								
CHN1				*e*S	**Sn**	**14 02 13.2**	**+0.9**
	baz=232								
SNST	**Tainan City**	**1.33**	**236**	*e*P	**Pn**	**14 01 55.9**	**+0.2**
	baz=234								
SNST				*e*S	**Sn**	**14 02 13.7**	**+1.4**
	baz=234								
SLGT	**Liugui**	**1.38**	**225**	*e*P	**Pn**	**14 01 57.0**	**+0.7**
	baz=223								
SLGT				*e*S	**Sn**	**14 02 14.5**	**+1.2**
	baz=223								
WSF	**Szhu**	**1.39**	**256**	*e*P	**Pn**	**14 01 56.1**	**-0.4**
	baz=254								
WSF				*e*S	**Sn**	**14 02 15.1**	**+1.4**
	baz=254								
IRIF	**Iriomote-Funau**	**1.89**	**79**	P	**Pn**	**14 02 03.6**	**+0.3**
IRIF				S	**Sn**	**14 02 26.8**	**+0.8**
HATJ	**Hateruma jima**	**1.93**	**87**	P	**Pn**	**14 02 04.6**	**+0.7**
HATJ				*e*S	**Sn**	**14 02 27.4**	**+0.5**
PNG	**Penghu**	**2.00**	**259**	*e*P	**Pn**	**14 02 03.7**	**-1.2**
	baz=257								
PNG				*e*S	**Sn**	**14 02 27.6**	**-1.2**
	baz=257								
JKRS	**Kuro-shima**	**2.13**	**83**	P	**Pn**	**14 02 07.8**	**+1.2**
JKRS				*e*S	**Sn**	**14 02 33.1**	**+1.3**
JIJ	**Ishigaki jima**	**2.27**	**80**	P	**Pn**	**14 02 08.7**	**+0.2**
JIJ				S	**Sn**	**14 02 34.6**	**-0.6**
JISG	**Ishigakijimahi**	**2.46**	**75**	P	**Pn**	**14 02 11.1**	**-0.1**
JISG				*e*S	**Sn**	**14 02 39.4**	**-0.6**
JTJ	**Tarama**	**2.82**	**76**	P	**Pn**	**14 02 16.8**	**+0.7**
JTJ				*e*S	**Sn**	**14 02 48.8**	**-0.1**
JIRB	**Irabujima**	**3.28**	**74**	P	**Pn**	**14 02 19.6**	**-2.8**
JIRB				*e*S	**Sn**	**14 02 59.4**	**-0.8**

*ISCJB **09** 14:08:40.7±0.6,31.˚41N±0.˚05×103.˚96E±0.˚07,h13km, mb3.4/5,Error ellipse: s-maj=10.5km s-min=5.5km az=34.7*
*IDC **09** 14:08:41.0±1.1,31.˚73N×104.˚51E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.3/67,mbtmp3.5/6,ML3.6/1,Error ellipse: s-maj=69.9km s-min=18.3km az=59.0*
*BJI **09** 14:08:43.6,31.˚36N×103.˚48E,h17km,ML3.4/13*
ISC 09 14:08:42.3±0.8,31.˚43N±0.˚04×103.˚73E±0.˚07,h13km,n11, σ1°88/15,mb3.4/5,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.52**	**177**	⇑*i*	Pg	**Pg**		**14 08 51.5**	**-1.0**
CD2					Sg	**Sg**		**14 08 58.3**	**-1.0**
CD2					smax	smax			
	comp=N,11μm,0.6s								
CD2					smax	smax			
	comp=E,10μm,0.5s								
XAN	**Xi'an**	**5.09**	**58**		Pg	**Pg**		**14 10 19.2**	**-0.7**
XAN					Sg	**Sg**		**14 11 24.8**	**-1.1**
XAN					smax	smax			
	comp=N,46nm,0.8s								
XAN					smax	smax			
	comp=E,51nm,0.8s								
GYA	**Guiyang**	**5.58**	**152**		Pn	**Pn**		**14 10 08.1**	**+2.9**
GYA					Sn	**Sn**		**14 11 11.1**	**+1.9**
GYA					Sg	**Sg**		**14 11 38.1**	**-3.4**
GYA					smax	smax			
	comp=N,50nm,1.0s								
GYA					smax	smax			
	comp=E,40nm,0.8s								
GTA	**Gaotai**	**8.58**	**339**	*e*P		**Pg**		**14 11 25.0**	**-1.5**
GTA				pP		pP		14 11 32.9	
GTA				sP		sP		14 11 36.8	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**13.62**	**200**	Pn		**P**		**14 12 03.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=14,slow=8.5,SNR=3.6								
WMQ	**Urumqi**	**17.69**	**319**	*e*P		**Pn**		**14 12 47.6**	**-0.8**
MKAR	**Makanchi Array**	**22.52**	**319**	P		**P**		**14 13 43.2**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=118,slow=12,SNR=18								
ZALV	**Zalesovo Beam**	**26.29**	**334**	P		**P**		**14 14 19.5**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=151,slow=6.3,SNR=2.8								
KURBB	**Kurchatov Arra**	**26.79**	**323**	P		**P**		**14 14 24.0**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=128,slow=9.4,SNR=5.9								
WRA	**Warramunga Arr**	**58.92**	**146**	P		**P**		**14 18 41.4**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=338,slow=7.7,SNR=13								
ASAR	**Alice Springs**	**61.94**	**149**	P		**P**		**14 19 01.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=356,slow=7.2,SNR=5.2								

*SOME **09** 14:11:22.2,39.˚95N×75.˚68E,h20km*
*KRNET **09** 14:11:24.2±0.1,39.˚99N×75.˚63E,mb3.3*
*NNC **09** 14:11:26.8±1.3,40.˚10N×75.˚55E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=9.0km s-min=6.1km az=168.0*
ISC 09 14:11:19.1±2.7,39.8N±0.˚1×75.˚73E±0.˚04,h9km±16km,n38, σ1°22/53,23C-11D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.62**	**7**	⇑*i*	P	**Pg**		**14 11 51.9**	**+1.8**
	baz=10.0								
NRN				⇑*i*	S	**Sg**		**14 12 12.1**	**+1.0**
	baz=10.0								
KZA	**Kyzart**	**2.28**	**351**	P		**Pg**		**14 12 04.4**	**+1.7**
	SNR=39								
KZA	**Kyzart**	**2.28**	**351**	⇑*i*	P	**Pg**		**14 12 03.0**	**+0.2**
	baz=52								
KZA				⇑*i*	S	**Sg**		**14 12 31.4**	**-0.9**
	baz=52								
ARLS	**Aral**	**2.30**	**333**	⇑*i*	P	**Pg**		**14 12 03.2**	**+0.1**
	baz=33								
ARLS				⇑*i*	S	**Sg**		**14 12 31.6**	**-1.3**
	baz=33								
ULHL	**Ulahol**	**2.45**	**9**	P		**Pg**		**14 12 07.0**	**+1.0**
	SNR=27								
ULHL	**Ulahol**	**2.45**	**9**	⇓*i*	P	**Pg**		**14 12 05.9**	**-0.1**
	baz=11								
ULHL				⇓*i*	S	**Sg**		**14 12 35.8**	**-1.9**
	baz=11								
TARG	**Taragay, Kyrgy**	**2.47**	**39**	⇓*i*	P	**Pg**		**14 12 07.0**	**+0.6**
	baz=43								
TARG				⇓*i*	S	**Sg**		**14 12 38.5**	**+0.1**
	baz=43								
KDJ	**Kajisay**	**2.55**	**25**	⇑*i*	P	**Pg**		**14 12 07.4**	**-0.5**
	baz=28								
KDJ				⇑*i*	S	**Sg**		**14 12 39.4**	**-1.6**
	baz=28								
UCH	**Uchtor**	**2.57**	**339**	P		**Pg**		**14 12 09.5**	**+1.1**
	SNR=32								
UCH	**Uchtor**	**2.57**	**339**	⇑*i*	P	**Pg**		**14 12 07.0**	**-1.4**
	baz=40								
UCH				⇑*i*	S	**Sb**		**14 12 38.5**	**+1.0**
	baz=40								
BOOM	**Boomskoye usch**	**2.67**	**3**	⇓*i*	P	**Pb**		**14 12 08.2**	**+1.1**
	baz=5.0								
BOOM				⇓*i*	S	**Sb**		**14 12 40.8**	**+0.8**
	baz=5.0								
AML	**Almayashu**	**2.77**	**327**	P		**Pg**		**14 12 13.4**	**+1.2**
	SNR=5.3								
AML	**Almayashu**	**2.77**	**327**	⇑*i*	P	**Pb**		**14 12 09.8**	**+0.8**
	baz=26								
AML				⇑*i*	S	**Sb**		**14 12 43.2**	**-0.1**
	baz=26								
KBK	**Karagaybulak**	**2.89**	**348**	P		**Pg**		**14 12 15.7**	**+1.2**
	SNR=7.0								
KBK	**Karagaybulak**	**2.89**	**348**	⇑*i*	P	**Pb**		**14 12 11.5**	**+0.6**
	baz=49								
KBK				⇑*i*	S	**Sb**		**14 12 46.1**	**-0.3**
	baz=49								
AAK	**Ala-Archa**	**2.96**	**342**	P		**Pb**		**14 12 13.2**	**+1.1**
	SNR=20								
AAK	**Ala-Archa**	**2.96**	**342**	⇓Pg		**Pg**		**14 12 14.9**	**-0.9**
	13nm,0.8s								
AAK				⇓Lg		Lg		14 12 49.0	
	16nm,0.6s								
AAK	**Ala-Archa**	**2.96**	**342**	⇑*i*	P	**Pb**		**14 12 12.5**	**+0.4**
	baz=42								
AAK				⇑*i*	S	**Sb**		**14 12 47.5**	**-1.0**
	baz=42								
TKM2	**Tokmak 2**	**3.09**	**358**	P		**Pg**		**14 12 18.4**	**+0.1**
	SNR=19								
TKM2	**Tokmak 2**	**3.09**	**358**	⇑Pg		**Pg**		**14 12 18.2**	**-0.1**
	10.0nm,0.8s								
TKM2				⇓Lg		Lg		14 12 57.0	
	16nm,0.5s								
TKM2	**Tokmak 2**	**3.09**	**358**	⇑*i*	P	**Pb**		**14 12 14.7**	**+0.3**
	baz=59								
TKM2				⇑*i*	S	**Sb**		**14 12 51.3**	**-1.0**
	baz=59								
KST	**Kastek**	**3.22**	**3**	Pg		**Pg**		**14 12 20.8**	**+0.1**
	8.4nm,0.3s								
KST				Lg		Lg		14 13 02.8	
	13nm,0.5s								
KST	**Kastek**	**3.22**	**3**	*e*P		**Pb**		**14 12 16.9**	**+0.4**
	6.3nm,0.7s								
KST				*e*S		**Sb**		**14 12 58.4**	**+2.5**
	19nm,0.5s								
CHMS	**Chumysh**	**3.25**	**347**	P		**Pg**		**14 12 21.6**	**+0.2**
	SNR=5.1								
IZV	**Izvestkoviy**	**3.27**	**11**	Pg		**Pg**		**14 12 22.4**	**+0.6**
	12nm,0.4s								
IZV				Lg		Lg		14 13 05.1	
	14nm,0.7s								
TNSS	**Tian-Shan**	**3.33**	**15**	Pg		**Pg**		**14 12 23.0**	**+0.1**
	4.6nm,0.4s								
TNSS				Lg		Lg		14 13 06.4	
	8.8nm,0.6s								
MRKS	**Merke**	**3.47**	**328**	Pg		**Pg**		**14 12 24.5**	**-1.1**
	9.1nm,0.4s								
MRKS				Lg		Lg		14 13 09.5	
	9.4nm,0.7s								
MRKS	**Merke**	**3.47**	**328**	*e*P		**Pb**		**14 12 21.1**	**+0.2**
	2.5nm,0.5s								
MRKS				*e*S		**Sb**		**14 13 05.2**	**+2.0**
	9.5nm,0.8s								
MDOK	**Medeo**	**3.48**	**16**	⇑Pg		**Pg**		**14 12 27.1**	**+1.4**
	3.8nm,0.6s								
MDOK				Lg		Lg		14 13 11.0	
	35nm,1.2s								
MDOK	**Medeo**	**3.48**	**16**	Pg		**Pg**		**14 12 25.2**	**-0.5**
	3.6nm,0.4s								
MDOK				Lg		Lg		14 13 10.6	
	15nm,0.6s								
KOTS	**Kotyrbulak**	**3.56**	**16**	Pg		**Pg**		**14 12 27.2**	**-0.1**
	2.9nm,0.5s								
KOTS				Lg		Lg		14 13 13.6	
	64nm,0.8s								
USP	**Ospenovka**	**3.56**	**345**	P		**Pb**		**14 12 22.7**	**+0.5**
	SNR=12								
KTBS	**Karatobe**	**3.95**	**10**	Pg		**Pg**		**14 12 34.6**	**-0.1**
	8.7nm,0.4s								
KTBS				Lg		Lg		14 13 25.2	
	19nm,0.5s								
KURS	**Kuram**	**4.09**	**26**	Pg		**Pg**		**14 12 37.1**	**-0.3**
	2.1nm,0.5s								
KURS				Lg		Lg		14 13 29.4	
	5.9nm,0.8s								
KUU	**Kurty**	**4.09**	**6**	Pg		**Pg**		**14 12 36.9**	**-0.5**
	2.8nm,0.3s								
KUU				Lg		Lg		14 13 29.4	
	11nm,0.5s								
PDGK	**Podgornoye**	**4.49**	**38**	⇑Pg		**Pg**		**14 12 47.3**	**+2.1**
	3.3nm,1.0s								
PDGK				⇓Sn		**Sb**		**14 13 27.9**	**-4.6**
	5.3nm,1.0s								
PDGK				⇑Lg		Lg		14 13 44.5	
	8.9nm,0.8s								
ARXS	**Arharly**	**4.65**	**19**	Pg		**Pg**		**14 12 47.7**	**-0.5**
	2.9nm,0.5s								
ARXS				Lg		Lg		14 13 47.9	
	4.7nm,0.6s								
KK31	**Karatay Array**	**5.11**	**312**	⇓Pg		**Pg**		**14 12 55.9**	**-1.0**
	0.6nm,0.3s,baz=128,slow=17,SNR=9.4								
KK31				⇑Lg		Lg		14 14 00.0	
	1.5nm,0.8s,baz=124,slow=28,SNR=4.0								

*ISCJB **09** 14:16:40.9±0.8,22.˚33S±0.˚04×68.˚70W±0.˚06,h121km±9km, Error ellipse: s-maj=9.7km s-min=6.1km az=175.2*
*SJA **09** 14:16:40.6±0.6,22.˚37S×68.˚65W,h111km±3km,ML3.0, MW3.6*
*GUC **09** 14:16:41.1±0.6,22.˚33S×68.˚74W,h118km±4km,ML3.7*
ISC 09 14:16:41.7±1.6,22.˚34S±0.˚04×68.˚69W±0.˚06, h114km±12km,n25,σ0°49/39,11C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.34**	**216**	*i*	P	**Pn**		**14 16 57.9**	**-0.7**
LVC				*i*	S	**Sn**		**14 17 10.2**	**-1.0**
PB09	**IPOC Station P**	**0.74**	**316**	*i*	P	**Pn**		**14 17 01.1**	**+0.1**
PB09				*i*	S	**Sn**		**14 17 16.0**	**+0.5**
PB09	**IPOC Station P**	**0.74**	**316**	⇑*i*	P	**Pn**		**14 17 01.1**	**+0.1**
PB09				*i*	S	**Sn**		**14 17 16.2**	**+0.7**
PB09					IAML			14 17 17.3	
	comp=N,2μm,0.5s								
PB06	**IPOC Station P**	**0.89**	**245**	*i*	P	**Pn**		**14 17 01.8**	**-0.6**
PB06	**IPOC Station P**	**0.89**	**245**	⇑*i*	P	**Pn**		**14 17 02.2**	**-0.1**
PB06				*i*	S	**Sn**		**14 17 18.1**	**+0.1**
PB06					IAML			14 17 19.0	
	comp=N,2μm,0.5s								
PB03	**IPOC Station P**	**1.02**	**286**	*i*	P	**Pn**		**14 17 03.6**	**0.0**
PB03	**IPOC Station P**	**1.02**	**286**	⇑*i*	P	**Pn**		**14 17 03.6**	**0.0**
PB03				*i*	S	**Sn**		**14 17 20.7**	**+0.5**
PB03					IAML			14 17 21.4	
	comp=N,2μm,0.1s								
PB15	**IPOC Station P**	**1.13**	**219**	*i*	P	**Pn**		**14 17 04.9**	**+0.1**
PB15	**IPOC Station P**	**1.13**	**219**	⇑*i*	P	**Pn**		**14 17 04.9**	**+0.

PB08	**IPOC Station P**	**2.23**	**349**	⇑	*i* P		**Pn**	**14 17 18.6**	**+0.4**
PB08					*i* S		**Sn**	**14 17 47.0**	**+1.0**
PB08					IAML			14 17 51.0	
	comp=E,348nm,0.2s								
PB11	**IPOC Station P**	**2.71**	**340**		*i* P		**Pn**	**14 17 23.3**	**-1.0**
PB11					*i* S		**Sn**	**14 17 56.3**	**-0.6**
YJA	**Yavi**	**2.95**	**88**		*i* P		**Pn**	**14 17 27.8**	**+0.2**
YJA					IAML			14 17 28.8	
	comp=Z,18nm,0.7s								
HJA	**Humahuaca**	**3.15**	**107**		*i* P		**Pn**	**14 17 30.3**	**0.0**
HJA					IAML			14 17 31.3	
	comp=Z,97nm,0.4s								
MNMC	**Minye Minye**	**3.30**	**345**	⇑	*i* P		**Pn**	**14 17 31.1**	**-1.0**
MNMC					*i* S		**Sn**	**14 18 10.7**	**-0.2**

BJI **09** *14:16:46.7, 49.˚35N× 156.˚56E, h20km, mb4.7/43, mB5.0/31, Ms4.5/19, Ms7 4.3/19*
KRSC **09** *14:16:49.8± 10.0, 49.˚13N× 157.˚52E, h36km± 10km, ML5.1*
ISCJB **09** *14:16:50.4± 0.5, 49.˚16N± 0.˚03× 156.˚38E± 0.˚06, h35km± 3km, mb4.6/106, MS3.9/14, Error ellipse: s-maj=7.8km s-min=3.1km az=40.3*
MOS **09** *14:16:51.2± 1.2, 49.˚22N× 156.˚30E, h44km, mb4.7/36, MS3.7/10, Error ellipse: s-maj=7.2km s-min=3.0km az=81.0*
NEIC **09** *14:16:53.3± 0.6, 49.˚24N× 156.˚28E, h47km± 4km, mb4.7/30, Error ellipse: s-maj=6.5km s-min=3.6km az=138.0*
IDC **09** *14:16:54.1± 2.0, 49.˚29N× 156.˚18E, h49km± 18km, mb4.1/32, mb1 4.2/39, mb1mx4.1/63, mbtmp4.3/39, ML3.8/6, MS3.7/14, Ms1 3.7/14, ms1mx3.4/54, Error ellipse: s-maj=14.8km s-min=9.8km az=143.0*
ISC 09 14:16:50.9± 1.1, 49.˚18N± 0.˚05× 156.˚38E± 0.˚05, h29km± 6km, n339, σ1s 38/360, mb4.7/106, MS3.9/14, 32C-15D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.51**	**354**		*e*P		**Pb**	**14 17 16.9**	**-1.4**
SKR					*e*S		**Sb**	**14 17 36.8**	**-0.3**
SKR	**Severo-Kuril's**	**1.51**	**354**	⇑	*i*PN		**Pb**	**14 17 17.0**	**-1.4**
SKR					*e*S		**Sb**	**14 17 37.4**	**+0.3**
SKR					pmax	pmax			
	comp=Z,2μm,0.6s								
SKR					smax	smax			
	comp=E,9μm,0.6s								
SKR					smax	smax			
	comp=N,7μm,0.5s								
ALID	**Alaid**	**1.77**	**343**		*e*P		**Pb**	**14 17 22.2**	**-0.6**
ALID	**Alaid**	**1.77**	**343**		PN		**Pb**	**14 17 22.2**	**-0.6**
PAU	**Pauzhetka**	**2.31**	**7**		*e*P		**Pn**	**14 17 28.4**	**+1.5**
PAU					*e*S		**Sn**	**14 17 55.5**	**+1.2**
PAU	**Pauzhetka**	**2.31**	**7**		PN		**Pn**	**14 17 28.4**	**+1.5**
PAU					S		**Sn**	**14 17 55.5**	**+1.2**
KDTR	**Khodutka, Kamc**	**2.85**	**22**		*e*P		**Pn**	**14 17 34.4**	**0.0**
KDTR					*e*S		**Sn**	**14 18 06.9**	**-0.7**
KDTR	**Khodutka, Kamc**	**2.85**	**22**		PN		**Pn**	**14 17 34.4**	**0.0**
KDTR					S		**Sn**	**14 18 06.9**	**-0.7**
ASAK	**Asacha**	**3.35**	**16**		*e*P		**Pn**	**14 17 42.4**	**+1.0**
ASAK	**Asacha**	**3.35**	**16**		PN		**Pn**	**14 17 42.4**	**+1.0**
MTVR	**Mutnovka**	**3.50**	**18**		*e*P		**Pn**	**14 17 44.5**	**+1.0**
MTVR					*e*S		**Sn**	**14 18 24.2**	**+0.2**
MTVR	**Mutnovka**	**3.50**	**18**		PN		**Pn**	**14 17 44.5**	**+1.0**
MTVR					S		**Sn**	**14 18 24.2**	**+0.2**
RUS	**Russkaya**	**3.53**	**22**		*e*P		**Pn**	**14 17 43.8**	**+0.1**
RUS					*e*S		**Sn**	**14 18 22.4**	**-2.0**
RUS	**Russkaya**	**3.53**	**22**		PN		**Pn**	**14 17 43.8**	**+0.1**
RUS					S		**Sn**	**14 18 22.4**	**-2.0**
GRL	**Gorelyy**	**3.54**	**17**		*e*P		**Pn**	**14 17 46.0**	**+1.9**
GRL	**Gorelyy**	**3.54**	**17**		PN		**Pn**	**14 17 46.0**	**+1.9**
APC	**Apacha**	**3.78**	**7**		P		**Pn**	**14 17 49.1**	**+1.9**
APC	**Apacha**	**3.78**	**7**		PN		**Pn**	**14 17 49.1**	**+1.9**
KRMR	**Karymshinskiy**	**3.82**	**16**		*e*P		**Pn**	**14 17 49.5**	**+1.8**
KRMR	**Karymshinskiy**	**3.82**	**16**		PN		**Pn**	**14 17 49.5**	**+1.8**
PEA0B	**Petropavlovsk-**	**4.02**	**11**		*e*Pn		**Pn**	**14 17 52.6**	**+2.0**
PETK	**Petropavlovsk-**	**4.02**	**11**		P		**Pn**	**14 17 52.4**	**+1.9**
	comp=N,10nm,0.3s,baz=284,slow=12,SNR=229								
PETK					LR		LR	14 19 36.7	
	comp=N,676nm,21.7s,baz=189,slow=41								
PEA1	**Petropavlovsk-**	**4.03**	**11**		*e*Pn		**Pn**	**14 17 52.4**	**+1.8**
PET	**Petropavlovsk**	**4.11**	**20**		*e*Pn		**Pn**	**14 17 52.2**	**+0.6**
PET	**Petropavlovsk**	**4.11**	**20**	⇓	*i*PN		**Pn**	**14 17 52.5**	**+0.8**
PET					*e*S		**Sn**	**14 18 40.8**	**+2.1**
PET					pmax	pmax			
	comp=Z,144nm,0.4s								
PET					smax	smax			
	comp=E,1μm,0.6s								
PET					smax	smax			
	comp=N,844nm,0.5s								
PET					MLR	MLR			
	comp=Z,1μm,13.0s								
PET					MLR	MLR			
	comp=Z,700nm,14.0s								
DALK	**Dalny**	**4.14**	**20**		*e*P		**Pn**	**14 17 52.8**	**+0.7**
DALK					*e*S		**Sn**	**14 18 39.6**	**+0.2**
DALK	**Dalny**	**4.14**	**20**		PN		**Pn**	**14 17 52.8**	**+0.7**
DALK					S		**Sn**	**14 18 39.6**	**+0.2**
UGLR	**Uglovaya**	**4.32**	**20**		*i* P		**Pn**	**14 17 56.2**	**+1.5**
UGLR	**Uglovaya**	**4.32**	**20**		PN		**Pn**	**14 17 56.2**	**+1.5**
AVH	**Avacha**	**4.35**	**19**		P		**Pn**	**14 17 57.2**	**+2.1**
AVH	**Avacha**	**4.35**	**19**		PN		**Pn**	**14 17 57.2**	**+2.1**
KOK	**Koryaka**	**4.36**	**18**		*i* P		**Pn**	**14 17 57.6**	**+2.4**
KOK	**Koryaka**	**4.36**	**18**		PN		**Pn**	**14 17 57.6**	**+2.4**
SMAR	**Somma**	**4.36**	**20**		*e*P		**Pn**	**14 17 57.9**	**+2.5**
SMAR	**Somma**	**4.36**	**20**		PN		**Pn**	**14 17 57.9**	**+2.5**
KRER	**Koryakskii**	**4.39**	**19**		*e*P		**Pn**	**14 17 57.5**	**+1.7**
KRER					S		**Sn**	**14 18 47.5**	**+1.5**
KRER	**Koryakskii**	**4.39**	**19**		PN		**Pn**	**14 17 57.5**	**+1.7**
KRER					S		**Sn**	**14 18 47.5**	**+1.5**
SDLR	**Sedlovina**	**4.39**	**20**		*e*P		**Pn**	**14 17 56.5**	**+0.7**
SDLR					*e*S		**Sn**	**14 18 46.5**	**+0.5**
SDLR	**Sedlovina**	**4.39**	**20**		PN		**Pn**	**14 17 56.5**	**+0.7**
SDLR					S		**Sn**	**14 18 46.5**	**+0.5**
NLC	**Nalytchevo**	**4.41**	**24**		*e*P		**Pn**	**14 17 55.3**	**-0.5**
NLC					*e*S		**Sn**	**14 18 42.5**	**-3.7**
NLC	**Nalytchevo**	**4.41**	**24**		PN		**Pn**	**14 17 55.3**	**-0.5**
KRX	**Arik**	**4.42**	**18**		*e*P		**Pn**	**14 17 58.2**	**+2.1**
KRX	**Arik**	**4.42**	**18**		PN		**Pn**	**14 17 58.2**	**+2.1**
SPN	**Mys Shipunski**	**4.54**	**29**		*e*P		**Pn**	**14 17 57.8**	**+0.1**
SPN					*e*S		**Sn**	**14 18 47.9**	**-1.6**
SPN	**Mys Shipunski**	**4.54**	**29**		PN		**Pn**	**14 17 57.8**	**+0.1**
GNL	**Ganaly**	**4.63**	**12**		*e*P		**Pn**	**14 18 01.2**	**+2.3**
GNL	**Ganaly**	**4.63**	**12**		PN		**Pn**	**14 18 01.2**	**+2.3**
KII	**Karymskiy**	**5.22**	**20**		*e*P		**Pn**	**14 18 09.3**	**+2.2**
KII	**Karymskiy**	**5.22**	**20**		PN		**Pn**	**14 18 09.3**	**+2.2**
MKZ	**Mys Kozlova**	**6.32**	**30**		*e*P		**Pn**	**14 18 21.3**	**-0.8**
MKZ					*e*S		**Sn**	**14 19 28.7**	**-4.5**
MKZ	**Mys Kozlova**	**6.32**	**30**		PN		**Pn**	**14 18 21.3**	**-0.8**
KZV	**Kizimen**	**6.41**	**21**		*e*P		**Pn**	**14 18 24.7**	**+1.2**
KZV	**Kizimen**	**6.41**	**21**		PN		**Pn**	**14 18 24.7**	**+1.2**
TUMD	**Tumrok D**	**6.52**	**21**		*e*P		**Pn**	**14 18 25.9**	**+1.1**
TUMD					*e*S		**Sn**	**14 19 37.1**	**-1.0**
TUMR	**Tumrok**	**6.54**	**19**		*e*P		**Pn**	**14 18 27.8**	**+2.7**
TUMR	**Tumrok**	**6.54**	**19**		PN		**Pn**	**14 18 25.9**	**+0.8**
ESO	**Esso**	**6.90**	**11**		P		**Pn**	**14 18 34.3**	**+4.2**
ESO	**Esso**	**6.90**	**11**		PN		**Pn**	**14 18 34.3**	**+4.2**
KUR	**Kuril'sk**	**7.01**	**239**		*ce*PN		**Pn**	**14 18 34.3**	**+2.7**
SRDR	**Sredinnyy**	**7.43**	**15**		*e*P		**Pn**	**14 18 40.9**	**+3.6**
SRDR	**Sredinnyy**	**7.43**	**15**		PN		**Pn**	**14 18 40.9**	**+3.6**
BDR	**Baidarnaya**	**7.95**	**20**		P		**Pn**	**14 18 45.7**	**+1.1**
BDR	**Baidarnaya**	**7.95**	**20**		PN		**Pn**	**14 18 45.7**	**+1.1**
SRKR	**Sorokina**	**8.02**	**19**		*e*P		**Pn**	**14 18 46.5**	**+1.0**
SRKR	**Sorokina**	**8.02**	**19**		PN		**Pn**	**14 18 46.5**	**+1.0**
SMKR	**Semkarok**	**8.03**	**21**		*e*P		**Pn**	**14 18 47.4**	**+1.9**
SMKR	**Semkarok**	**8.03**	**21**		PN		**Pn**	**14 18 47.4**	**+1.9**
KBTR	**Krutoberegovo**	**8.05**	**27**		*e*P		**Pn**	**14 18 45.4**	**-0.4**
KBTR					*e*S		**Sn**	**14 20 11.4**	**-4.3**
KBTR	**Krutoberegovo**	**8.05**	**27**		PN		**Pn**	**14 18 45.4**	**-0.4**
KBG	**Krutoberegovo**	**8.06**	**26**		P		**Pn**	**14 18 46.8**	**+0.9**
KBG	**Krutoberegovo**	**8.06**	**26**		PN		**Pn**	**14 18 46.8**	**+0.9**
BKI	**Bering**	**8.43**	**41**		*e*P		Pn	14 18 45.7	-5.3
BKI					*e*S		Sn	14 20 14.4	-11
BKI	**Bering**	**8.43**	**41**		PN		Pn	14 18 45.7	-5.3
YUK	**Yuzh-Kuril'sk**	**8.88**	**239**		*e*PN		**Pn**	**14 18 57.6**	**+0.4**
YUK					pmax	pmax			
	comp=N,164nm,0.5s								
YUK					pmax	pmax			
	comp=Z,196nm,0.5s								
YUK					pmax	pmax			
	comp=E,187nm,0.4s								
LAGR	**Lagunnoye**	**8.91**	**239**		*e*PN		**Pn**	**14 18 59.4**	**+1.8**
LAGR					pmax	pmax			
	comp=N,108nm,0.5s								
LAGR					pmax	pmax			
	comp=Z,331nm,0.5s								
LAGR					pmax	pmax			
	comp=E,229nm,0.4s								
GRPR	**Tuman**	**8.95**	**239**		*e*PN		**Pn**	**14 18 59.1**	**+0.9**
GRPR					pmax	pmax			
	comp=Z,133nm,0.6s								
GRPR					pmax	pmax			
	comp=N,53nm,0.3s								
GRPR					pmax	pmax			
	comp=E,98nm,0.3s								
TYV	**Tymovskoe**	**8.99**	**286**		*e*PN		Pn	14 19 03.5	+4.7
TYV					pmax	pmax			
	comp=Z,16nm,1.1s								
GLVR	**Golovnino**	**9.26**	**238**		*e*PN		**Pn**	**14 19 02.6**	**+0.2**
UGL	**Uglegorsk**	**9.39**	**275**		*e*PN		Pn	14 19 09.9	+5.8
UGL					pmax	pmax			
	comp=Z,83nm,0.8s								
UGL					MLR	MLR			
	comp=Z,2μm,15.0s								
UGL					MLR	MLR			
	comp=N,600nm,14.0s								
UGL					MLR	MLR			
	comp=E,2μm,14.0s								
YSS	**Yuzh-Sakhalins**	**9.39**	**261**	⇓	*i*PN		**Pn**	**14 19 08.9**	**+4.7**
YSS					pmax	pmax			
	comp=N,10.0nm,0.5s								
YSS					pmax	pmax			
	comp=Z,20nm,0.5s								
YSS					pmax	pmax			
	comp=E,20nm,0.6s								
YSS					MLR	MLR			
	comp=Z,100nm,11.4s								
YSS					MLR	MLR			
	comp=E,100nm,9.8s								
NKL	**Nikolayevsk**	**10.62**	**298**		*e*PN		**Pn**	**14 19 24.0**	**+3.0**
NKL					pmax	pmax			
	comp=E,21nm,0.8s								
NKL					pmax	pmax			
	comp=Z,50nm,0.8s								
NKL					MLR	MLR			
	comp=E,800nm,15.0s								
NKL					MLR	MLR			
	comp=E,800nm,15.0s								
ASAJ	**Asahikawa**	**10.74**	**247**		P		**Pn**	**14 19 25.3**	**+2.7**
	comp=Z,7.7nm,0.3s,baz=62,slow=13,SNR=97								
ASAJ					LR		LR	14 23 22.5	
	comp=Z,427nm,18.5s,baz=104,slow=36								
MA2	**Magadan**	**10.91**	**345**		*e*Pn		**Pn**	**14 19 26.5**	**+1.5**
MA2	**Magadan**	**10.91**	**345**		*ce*PN		**Pn**	**14 19 26.5**	**+1.5**
MA2					pmax	pmax			
	comp=Z,33nm,1.0s								
MA2	**Magadan**	**10.91**	**345**		P		**Pn**	**14 19 27.0**	**+2.0**
	comp=Z,3.5nm,0.3s,baz=155,slow=8.7,SNR=64								
MA2					LR		LR	14 24 18.5	
	comp=Z,399nm,18.0s,baz=163,slow=41								
ERM	**Erimo**	**11.70**	**237**		*e*Pn		**Pn**	**14 19 35.8**	**0.0**
ERM	**Erimo**	**11.70**	**237**		*i* PN		**Pn**	**14 19 35.4**	**-0.4**
SMY	**Shemya**	**11.72**	**66**		*e*Pn		**Pn**	**14 19 35.2**	**-0.9**
SMY	**Shemya**	**11.72**	**66**		*e*PN		**Pn**	**14 19 35.2**	**-0.9**
SEY	**Seymchan**	**13.96**	**352**		*ce*P		**Pn**	**14 20 07.0**	**+0.5**
SEY	**Seymchan**	**13.96**	**352**		P		**Pn**	**14 20 07.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=162,slow=12,SNR=7.9								
TEY	**Ternei**	**14.08**	**260**	⇓	*e*P		**P**	**14 20 15.9**	**+0.2**
TEY					*e*			14 22 44.9	
TEY					pmax	pmax			
	comp=Z,20nm,1.0s								
KMSK	**Kamenskaya**	**14.39**	**19**		P		**Pn**	**14 20 11.8**	**-0.6**
KMSK	**Kamenskaya**	**14.39**	**19**		P		**Pn**	**14 20 11.8**	**-0.6**
KLR	**Kul'dur**	**16.08**	**280**	⇑	*e*P		**Pn**	**14 20 34.7**	**-0.1**
KLR	**Kul'dur**	**16.08**	**280**		P		**P**	**14 20 36.5**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=75,slow=12,SNR=25								
KLR					LR		LR	14 27 24.8	
	comp=Z,575nm,18.3s,baz=82,slow=40								
USRK	**Ussuriysk Ar.**	**17.43**	**263**		P		**Pn**	**14 20 51.9**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=65,slow=11,SNR=15								
USRK					LR		LR	14 27 41.8	
	comp=Z,127nm,18.2s,baz=54,slow=37								
MJAR	**Matsushiro Arr**	**18.30**	**233**		P		**P**	**14 21 02.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=30,slow=7.4,SNR=17								
MJAR					LR		LR	14 28 60.0	
	comp=Z,207nm,19.6s,baz=55,slow=40								
MJB9	**Matsu-Tunnel**	**18.30**	**233**		*e*P		**Pn**	**14 21 03.7**	**+1.2**
	comp=Z,13nm,0.7s								
MAJO	**Matsushiro**	**18.30**	**233**		*e*P		**Pn**	**14 21 03.6**	**+1.1**
	comp=Z,13nm,0.7s								
MAJO	**Matsushiro**	**18.30**	**233**		*i* P		**Pn**	**14 21 04.0**	**+1.5**
MAT	**Matsushiro**	**18.30**	**233**		P		**Pn**	**14 21 03.8**	**+1.3**
MAT					*e*S		**Sn**	**14 24 18.6**	**-7.3**
ZEA	**Zeya**	**18.64**	**295**		*e*P		**Pn**	**14 21 06.8**	**+0.2**
ZEA					pmax	pmax			
	comp=Z,10.0nm,0.6s								
ZEA					MLR	MLR			
	comp=E,400nm,14.0s								
ZEA					MLR	MLR			
	comp=Z,600nm,14.0s								
MDJ	**Mudanjiang**	**18.82**	**266**		P		**P**	**14 21 08.0**	**-0.1**
MDJ					pP		pP	14 21 13.9	-1.4
MDJ					sP		sP	14 21 16.4	-2.4
MDJ					pmax	pmax			
	comp=Z,13nm,1.0s								
MDJ					pmax	pmax			
	comp=Z,100nm,4.2s								
BILL	**Bilibino**	**19.55**	**11**		*e*P		**P**	**14 21 15.0**	**-1.0**
BILL					pmax	pmax			
	comp=Z,14nm,1.1s								
YAK	**Yakutsk**	**19.63**	**321**		*e*P		**P**	**14 21 15.5**	**-1.4**
YAK					*e*S		**Sn**	**14 24 56.7**	**-1.0**
YAK					pmax	pmax			
	comp=Z,107nm,0.9s								
YAK					pmax	pmax			
	comp=E,56nm,1.1s								
YAK					pmax	pmax			
	comp=N,24nm,1.3s								
YAK					pmax	pmax			
	comp=Z,104nm,0.9s								
YAK					smax	smax			
	comp=E,533nm,4.1s								
YAK					smax	smax			
	comp=N,571nm,4.0s								
YAK					MLR	MLR			
	comp=Z,830nm,15.0s								
YAK					MLR	MLR			
	comp=N,771nm,16.0s								
YAK					MLR	MLR			
	comp=E,810nm,16.0s								
INU	**Inuyama**	**19.83**	**233**		*e*P		**P**	**14 21 19.3**	**+0.1**
	comp=E,26nm,0.9s								
CN2	**Changchun**	**21.87**	**268**		*e*P		**P**	**14 21 38.3**	**-2.9**
CN2					*e*S		**S**	**14 25 38.2**	**-3.0**
CN2					pmax	pmax			
	comp=E,10.0nm,0.5s								
CN2					LR	LR			
	comp=E,260nm,13.0s								
CN2					LR	LR			
	comp=E,280nm,13.0s								
CN2					LR	LR			
	comp=E,290nm,16.0s								
KSRS	**Korea Array**	**23.64**	**251**		P		**P**	**14 21 59.8**	**+0.2**
	comp=E,6.5nm,0.8s,baz=50,slow=10,SNR=13								
KSRS					LR		LR	14 30 45.0	
	comp=E,168nm,18.6s,baz=60,slow=35								
KS01	**Wonju Array Si**	**23.65**	**251**		*e*P		**P**	**14 22 00.0**	**+0.4**
KS15	**Wonju Array Si**	**23.67**	**251**		*e*P		**P**	**14 21 59.8**	**-0.1**
	comp=E,24nm,1.1s								
KSAR	**Wonju Array Be**	**23.67**	**251**		P		**P**	**14 21 59.8**	**-0.1**
KSAR	**Wonju Array Be**	**23.67**	**251**		P		**P**	**14 21 59.8**	**-0.1**
JNU	**Nakatsue**	**24.85**	**239**		P		**P**	**14 22 11.6**	**+0.8**
	comp=E,20nm,0.9s,baz=2.3,slow=8.2,SNR=6.5								
TIXI	**Tiksi**	**25.83**	**340**		*e*P		**P**	**14 22 17.4**	**-1.9**
	comp=E,15nm,0.6s								
TIXI	**Tiksi**	**25.83**	**340**		*ce*P		**P**	**14 22 16.8**	**-2.5**
TIXI					pmax	pmax			
	comp=Z,14nm,0.7s								
TIXI	**Tiksi**	**25.83**	**340**		P		**P**	**14 22 17.5**	**-1.8**
	comp=Z,15nm,0.7s,baz=129,slow=9.6,SNR=48								
TIXI					LR		LR	14 31 41.6	
	comp=Z,84nm,21.5s,baz=154,slow=35								
BOD	**Bodaibo**	**26.25**	**305**		*e*P		**P**	**14 22 20.3**	**-2.9**
BOD					pmax	pmax			
	comp=Z,6.0nm,1.9s								
H11N2	**WAKE ISLAND Hy**	**30.57**	**160**		T		T	14 56 45.6	
	baz=348,slow=76,SNR=10								
H11N1	**WAKE ISLAND Hy**	**30.59**	**160**		T		T	14 56 16.6	
	baz=348,slow=76,SNR=18								
H11N3	**WAKE ISLAND Hy**	**30.59**	**160**		T		T	14 56 19.4	
	baz=348,slow=76,SNR=23								
H11S1	**WAKE ISLAND Hy**	**31.71**	**161**		T		T	14 57 31.1	
	baz=347,slow=76,SNR=117								
H11S3	**WAKE ISLAND Hy**	**31.72**	**161**		T		T	14 57 37.4	
	baz=347,slow=76,SNR=290								
H11S2	**WAKE ISLAND Hy**	**31.73**	**161**		T		T	14 57 31.4	
	baz=347,slow=76,SNR=172								
HHC	**Hu-ho-hao-te**	**32.35**	**272**		*e*P		**P**	**14 23 17.0**	**-0.7**
HHC					sP		pP	14 23 24.4	-1.2
HHC					S		**S**	**14 28 30.3**	**+0.5**
HHC					pmax	pmax			
	comp=Z,15nm,1.0s								
HHC					pmax	pmax			
	comp=Z,120nm,7.3s								
HHC					LR	LR			
	comp=Z,280nm,15.5s								
HHC					LR	LR			
	comp=Z,300nm,12.6s								
HHC					LR	LR			
	comp=Z,590nm,14.2s								
TOLK	**Toolik Lake Re**	**32.51**	**33**		*e*P		**P**	**14 23 19.6**	**+0.8**
	comp=Z,3.8nm,0.6s								
SONA0	**Songino Array**	**32.66**	**287**		*e*P		**P**	**14 23 19.1**	**-1.3**
SONA0					*e*PcP		**PcP**	**14 26 05.3**	**-0.3**
SONM	**Songino Array**	**32.66**	**287**		P		**P**	**14 23 19.1**	**-1.3**
SONM								14 26 05.3	
SONM					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SONM					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SONM					MLR	MLR			
	comp=Z,225nm,18.8s								
SONM	**Songino Array**	**32.66**	**287**		P		**P**	**14 23 19.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=76,slow=8.3,SNR=5.2								
SONM					PcP		**PcP**	**14 26 05.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=126,slow=2.6,SNR=3.5								
SONM					LR		LR	14 37 52.9	
	comp=Z,225nm,18.8s,baz=84,slow=39								
NJ2	**Nanjing**	**32.81**	**253**		*e*P		**P**	**14 23 22.9**	**+1.2**
NJ2					pmax	pmax			
	comp=Z,13nm,0.5s								
TLY	**Talaya**	**33.08**	**295**		*e*P		**P**	**14 23 23.4**	**-0.5**
	comp=Z,12nm,1.0s								
TLY	**Talaya**	**33.08**	**295**		*e*P		**P**	**14 23 23.9**	**0.0**
TLY					pmax	pmax			
	comp=Z,21nm,0.8s								
TLY					MLR	MLR			
	comp=Z,248nm,11.0s								
ILAR	**Eielson Array**	**33.28**	**41**		P		**P**	**14 23 25.8**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=260,slow=7.4,SNR=13								
ILB	**Eielson Array**	**33.28**	**41**		*e*P		**P**	**14 23 25.8**	**+0.3**
	comp=Z,5.5nm,1.2s								
WHN	**Wuhan**	**36.67**	**255**	⇓	P		**P**	**14 23 55.3**	**+0.3**
NRIK	**Noril'sk**	**37.85**	**327**		LR		LR	14 40 48.1	
	comp=Z,91nm,18.8s,baz=38,slow=38								
INK	**Inuvik**	**38.41**	**34**		*e*P		**P**	**14 24 10.8**	**+1.4**
	comp=Z,4.7nm,0.8s								
INK	**Inuvik**	**38.41**	**34**		P		**P**	**14 24 10.4**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=307,slow=7.6,SNR=16								
LZH	**Lanzhou**	**40.02**	**271**		*e*P		**P**	**14 24 24.1**	**+0.8**
LZH					pP		pP	14 24 30.4	-0.8
LZH					sP		pwP	14 24 33.3	-0.9
LZH					pmax	pmax			
	comp=Z,29nm,1.1s								
LZH					pmax	pmax			
	comp=Z,110nm,4.3s								
LZH					LR	LR			
	comp=Z,460nm,13.3s								
LZH					LR	LR			
	comp=Z,370nm,13.0s								
LZH					LR	LR			
	comp=Z,550nm,14.6s								
GTA	**Gaotai**	**40.78**	**278**		*e*P		**P**	**14 24 29.6**	**+0.1**
GTA					pP		pP	14 24 37.3	-0.1
GTA					sP		pwP	14 24 40.5	-0.1
GTA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
GTA					pmax	pmax			
	comp=Z,110nm,6.2s								
GTA					LR	LR			
	comp=Z,200nm,14.8s								
GTA					LR	LR			
	comp=Z,330nm,16.5s								
GTA					LR	LR			
	comp=Z,480nm,17.2s								
ZAA1	**Zalesovo Array**	**43.00**	**305**		*e*P		**P**	**14 24 46.1**	**-1.2**
ZAA1					*e*PcP		**PcP**	**14 26 38.0**	**+0.8**
ZAA0	**Zalesovo Array**	**43.00**	**305**		*e*P		**P**	**14 24 46.5**	**-0.8**
	comp=Z,3.0nm,0.7s								
ZALV	**Zalesovo Beam**	**43.00**	**305**		P		**P**

BVA0 pmax pmax
comp=Z,9.0nm,0.8s
BVAR Borovoye Array 51.02 309 P **P** **14 25 49.4 -0.5**
comp=Z,3.2nm,0.3s,baz=57,slow=7.7,SNR=38
BRVK Borovoye 51.05 309 *eP* **P** **14 25 49.3 -0.9**
comp=Z,12nm,0.8s
BRVK Borovoye 51.05 309⇑ *iP* **P** **14 25 49.3 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.0s
SKNT Sakolnakorn 52.98 252 P **P** **14 26 06.7 +1.8**
comp=Z,5.4nm,0.9s,comp=Z,488nm
JAY Jayapura 53.25 200 LR LR 14 46 57.0
comp=Z,27nm,19.4s,baz=339,slow=34
SVE Sverdlovsk 53.54 317 *eP* **P** **14 26 08.8 +0.3**
SVE pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 54.28 359 *i* P **P** **14 26 13.0 -0.7**
DAG Danmarks Havn 54.28 359 *i* P **P** **14 26 13.0 -0.7**
UTTA Uttaradit 54.56 255 P **P** **14 26 18.9 +2.5**
comp=Z,3.3nm,0.9s
ARU Arti 54.70 318 *eP* **P** **14 26 15.9 -1.1**
comp=Z,16nm,0.9s
ARU Arti 54.70 318 *c iP* **P** **14 26 16.2 -0.8**
ARU *PP **pwP** **14 26 27.7 -0.2**
ARU 14 27 13.7
ARU 14 28 17.1
ARU S **S** **14 33 55.5 +0.5**
ARU SS **SS** **14 37 35.8 -1.6**
ARU pmax pmax
comp=Z,15nm,0.8s
AAK Ala-Archa 54.72 296 *eP* **P** **14 26 16.3 -1.3**
comp=Z,1.8nm,0.7s
AAK Ala-Archa 54.72 296 *c eP* **P** **14 26 16.9 -0.6**
AAK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 54.72 296 P **P** **14 26 17.5 0.0**
comp=Z,1.4nm,0.6s,baz=80,slow=6.9,SNR=7.7
CMMT Chiang Mai 54.80 258 P **P** **14 26 19.9 +1.7**
comp=Z,10nm,1.4s
CHTO Chiang Mai 54.80 258 *eP* **P** **14 26 18.9 +0.7**
comp=Z,12nm,1.2s
CHTO Chiang Mai 54.80 258 *eP* **P** **14 26 18.9 +0.7**
CHTO pmax pmax
comp=Z,12nm,1.2s
CHTO Chiang Mai 54.80 258 P **P** **14 26 20.0 +1.8**
comp=Z,46nm,1.4s
CHAI Chaiyaphum 55.03 253 P **P** **14 26 21.6 +1.7**
comp=Z,4.5nm,0.8s
CMAR Chiang Mai Arr 55.06 257 P **P** **14 26 20.4 +0.3**
comp=Z,4.7nm,0.8s,baz=31,slow=7.1,SNR=26
PBKT Sadao Pong 55.17 254 P **P** **14 26 23.9 +3.0**
comp=Z,9.4nm,0.7s
ARA0 ARCESS Array S 56.26 341 *eP* **P** **14 26 26.5 -1.6**
ARCES ARCESS Array B 56.26 341 P **P** **14 26 26.5 -1.6**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 56.26 341 P **P** **14 26 26.5 -1.6**
comp=Z,4.8nm,0.9s,baz=44,slow=8.0,SNR=8.9
SRAK Srakaew 56.43 251 P **P** **14 26 30.5 +0.6**
comp=Z,26nm,0.9s
KK31 Karatay Array 56.74 299 *i* P **P** **14 26 31.0 -0.9**
KK31 pmax pmax
comp=Z,1.0nm,0.7s
BRDH Bariadhala 56.77 267 LR LR 14 53 52.2
comp=Z,59nm,18.9s,baz=49,slow=39
UMPA Umpang Tak 56.78 256 P P 14 26 37.6 +5.2
comp=Z,6.0nm,0.9s
UTHA Uthaitani 56.89 255 P **P** **14 26 37.4 +4.2**
comp=Z,3.0nm,0.8s
JIRN Jiri 56.92 275 *eP* **P** **14 26 34.4 +0.6**
comp=Z,11nm,0.4s
GUN Gumba 56.96 276 *eP* **P** **14 26 34.4 +0.4**
comp=Z,7.9nm,0.4s
RAMN Ramite 57.14 274 *eP* **P** **14 26 35.6 +0.4**
comp=Z,26nm,0.7s
KKN Kakani 57.43 276 *eP* **P** **14 26 38.2 +1.0**
comp=Z,12nm,0.5s
FFC Flin Flon 57.46 42 *i* P **P** **14 26 39.0 +2.2**
PKI Pulchoki 57.49 276 *eP* **P** **14 26 38.2 +0.4**
comp=Z,11nm,0.8s
PKIN Phulchoki 57.50 276 *eP* **P** **14 26 38.2 +0.5**
DMN Daman 57.67 276 *eP* **P** **14 26 39.7 +0.8**
comp=Z,27nm,0.9s
GKN Gorkha 57.71 277 *eP* **P** **14 26 39.7 +0.6**
DANN Dangsing 58.04 278 *eP* **P** **14 26 42.5 +0.9**
comp=Z,19nm,0.6s
SUMG Summit 58.10 5 *i* P **P** **14 26 41.5 0.0**
comp=Z,26nm,0.9s
SUMG Summit 58.10 5 *i* P **P** **14 26 41.5 0.0**
SUMG pmax pmax
comp=Z,26nm,0.9s
KOLN Koldanda 58.54 277 *eP* **P** **14 26 45.2 +0.2**
comp=Z,18nm,0.9s
AB31 Akbulak array 58.54 310 *i* P **P** **14 26 43.7 -0.7**
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR Akbulak array 58.54 310 *eP* **P** **14 26 44.0 -0.4**
comp=Z,6.8nm,0.6s
PYUN Piuthan 58.71 278 *eP* **P** **14 26 46.7 +0.5**
comp=Z,33nm,0.9s
AKTO Aktyubinsk 58.73 312 P **P** **14 26 44.3 -1.4**
AKTO pmax pmax
comp=Z,5.0nm,0.7s
PHET Kaeng Krachan 58.78 252 P P 14 26 52.8 +6.3
NV01 Mina Array Sit 59.39 65 *eP* **P** **14 26 50.6 -0.2**
NVAR Mina Array Bea 59.39 65 P **P** **14 26 52.1 +1.3**
comp=Z,0.5nm,0.5s,baz=296,slow=6.9,SNR=3.5
GAR Garm 59.46 296 *eP* **P** **14 26 51.2 +0.1**
comp=Z,8.5nm,0.8s
GAR Garm 59.46 296 *eP* **P** **14 26 51.2 +0.1**
GAR pmax pmax
comp=Z,9.0nm,0.8s
CHGR Chuyangaron 60.37 296 *eP* **P** **14 26 56.8 -0.5**
comp=Z,16nm,0.8s
PDAR Pinedale Array 61.56 57 *eP* **P** **14 27 06.2 +0.7**
PDAR Pinedale Array 61.56 57 P **P** **14 27 06.0 +0.5**
comp=Z,1.4nm,0.9s,baz=318,slow=2.0,SNR=9.2
FRB Frobisher Bay 62.02 21 P **P** **14 27 07.9 0.0**
comp=Z,1.3nm,0.4s,baz=331,slow=5.0,SNR=4.2
FIA0 FINESS Array S 62.75 336 *eP* **P** **14 27 11.8 -1.1**
FIA0 FINESS Array S 62.75 336 *eP* **P** **14 27 11.8 -1.1**
FINES FINESS Array B 62.75 336 *i* P **P** **14 27 12.5 -0.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 62.75 336 P **P** **14 27 11.8 -1.1**
comp=Z,1.9nm,0.5s,baz=30,slow=7.4,SNR=18
OBN Obninsk 64.52 326 *eP* **P** **14 27 22.4 -2.2**
OBN *e* 14 27 56.5
OBN *e* 14 29 46.7
OBN pmax pmax
comp=Z,4.0nm,1.1s
NB2 NORSAR Subarra 66.61 342 P **P** **14 27 37.2 -0.9**
comp=Z,0.9nm,0.6s,baz=24,slow=6.5
NB200 NORSAR Array S 66.61 342 *eP* **P** **14 27 37.8 -0.3**
NOA NORSAR Array B 66.61 342 P **P** **14 27 37.8 -0.3**
comp=Z,1.7nm,0.8s,baz=28,slow=6.0,SNR=8.1
GEYT Alibeck 67.21 302 P **P** **14 27 42.5 +0.1**
comp=Z,3.2nm,0.5s,baz=44,slow=3.6,SNR=9.6
KIV Kislovodsk 70.64 315 *eP* **P** **14 28 01.5 -2.1**
KIV pmax pmax
comp=Z,11nm,1.0s
AKASG Malin Array Be 70.71 328 P **P** **14 28 03.1 -0.6**
comp=Z,1.9nm,0.5s,baz=33,slow=6.0,SNR=2.6
KBZ Khabaz 70.72 315 P **P** **14 28 04.0 +0.1**
comp=Z,3.9nm,0.6s,baz=111,slow=3.0,SNR=14
WRAB Tennant Creek 71.55 202 *c eP* **P** **14 28 09.5 +0.4**
WRAB pmax pmax
comp=Z,14nm,2.5s
WB2 Warramunga Arr 71.55 202 *eP* **P** **14 28 09.2 +0.1**
WR1 Warramunga Arr 71.56 202 *eP* **P** **14 28 09.1 -0.1**
comp=Z,9.3nm,1.2s
WRA Warramunga Arr 71.56 202 *i* P **P** **14 28 09.1 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 71.56 202 P **P** **14 28 09.1 -0.1**
comp=Z,2.4nm,0.9s,baz=19,slow=6.6,SNR=11
KWP Kalwaria Pacla 73.82 331 *eP* **P** **14 28 24.1 +1.7**
KWP Kalwaria Pacla 73.82 331 *eP* **P** **14 28 24.1 +1.7**
OJC Ojcow 74.21 333 *eP* **P** **14 28 25.4 +0.8**
OJC Ojcow 74.21 333 *eP* **P** **14 28 25.4 +0.8**
TX31 Lajitas Ar. Si 74.41 63 *eP* **P** **14 28 25.6 -0.7**
TXAR Lajitas Array 74.41 63 P **P** **14 28 27.3 +1.0**
comp=Z,0.6nm,0.5s,baz=303,slow=4.9,SNR=13
EKA Eskdalemuir Ar 74.45 348 P **P** **14 28 25.8 -0.1**
comp=Z,2.7nm,0.4s,baz=259,slow=8.1,SNR=5.2
KSP Ksiaz 74.66 335 *eP* **P** **14 28 25.5 +1.2**

KSP Ksiaz 74.66 335 *eP* **P** **14 28 28.5 +1.2**
BUR08 Bucovina Ar. S 74.70 328 *eP* **P** **14 28 26.9 -0.8**
comp=Z,3.4nm,0.5s
BURAR Bucovina Array 74.72 328⇑ *iP* **P** **14 28 27.7 -0.1**
NIE Niedzica 74.76 332 *eP* **P** **14 28 28.9 +1.0**
NIE Niedzica 74.76 332 *eP* **P** **14 28 28.9 +1.0**
BIZ Bicaz 74.99 327⇓ *iP* **P** **14 28 29.1 -0.2**
DPC Dobruska-Polom 75.10 335 *eP* **P** **14 28 31.0 +1.1**
DPC Dobruska-Polom 75.10 335 *eP* **P** **14 28 31.0 +1.1**
TESR Tescani 75.16 327⇑ *iP* **P** **14 28 30.4 +0.2**
TRPA Tarpa 75.18 330⇑ *iP* **P** **14 28 31.0 +0.7**
KRLC Kraliky 75.22 334 *eP* **P** **14 28 31.3 +0.8**
KRLC Kraliky 75.22 334 *eP* **P** **14 28 31.3 +0.8**
ASAR Alice Springs 75.24 201 P **P** **14 28 32.0 +1.2**
comp=Z,0.8nm,0.8s,baz=18,slow=5.3,SNR=14
LANS Liptovska Anna 75.25 332 *eP* **P** **14 28 32.6 +1.8**
LANS Liptovska Anna 75.25 332 *eP* **P** **14 28 32.5 +1.8**
CLZ Clausthal 75.27 339 *eP* **P** **14 28 31.8 +1.0**
comp=Z,8.2nm,0.9s,baz=23,slow=5.8
MORC Moravsky Berou 75.27 334⇓ *iP* **P** **14 28 31.6 +0.8**
MORC Moravsky Berou 75.27 334 *eP* **P** **14 28 32.0 +1.2**
TLCR 75.48 325⇓ *iP* **P** **14 28 32.7 +0.6**
VRI Vrincioaia 75.68 326⇑ *iP* **P** **14 28 34.0 +0.7**
CFR Carcaliu 75.75 325⇓ *iP* **P** **14 28 33.8 +0.2**
DIKM Dikmen 75.79 319⇑ *iP* **P** **14 28 35.1 +1.2**
OZUR 75.83 327⇓ *iP* **P** **14 28 34.8 +0.7**
PRU Pruhonice 75.92 336 *eP* **P** **14 28 35.4 +0.9**
PRU Pruhonice 75.92 336 *eP* **P** **14 28 35.4 +0.9**
GOPC GO Pecny, Ondr 75.92 336 *eP* **P** **14 28 35.4 +0.9**
GOPC GO Pecny, Ondr 75.92 336 *eP* **P** **14 28 35.4 +0.9**
VRAC Vranov 75.96 334⇑ *iP* **P** **14 28 36.0 +1.3**
VRAC Vranov 75.96 334 *eP* **P** **14 28 36.1 +1.3**
VYHS Vyhne 76.03 332 *eP* **P** **14 28 36.1 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 76.03 332 *eP* **P** **14 28 36.1 +0.9**
CJR Cluj-Napoca 76.06 329⇓ *iP* **P** **14 28 36.4 +1.0**
PLN Plauen 76.08 337 *eP* **P** **14 28 36.1 +0.7**
comp=Z,4.8nm,0.9s,baz=23,slow=5.8
GUNZ Gunzen 76.15 337 *eP* **P** **14 28 36.7 +0.8**
comp=Z,5.6nm,0.9s,baz=23,slow=5.8
WERN Wernitzgruen 76.21 337 *eP* **P** **14 28 37.0 +0.8**
comp=Z,8.0nm,0.9s,baz=23,slow=5.8
KRUC Moravsky 76.24 334 *eP* **P** **14 28 37.5 +1.2**
TIRR Tirgusor 76.25 324⇑ *iP* **P** **14 28 37.2 +0.7**
TLB Topalu 76.29 325⇑ *iP* **P** **14 28 37.1 +0.5**
MLR Muntele Rosu 76.29 327 *eP* **P** **14 28 36.8 -0.1**
comp=Z,8.1nm,0.7s
MLR Muntele Rosu 76.29 327⇑ *iP* **P** **14 28 37.7 +0.8**
MLR Muntele Rosu 76.29 327 *eP* **P** **14 28 36.8 -0.1**
MLR pmax pmax
comp=Z,8.0nm,0.7s
DRGR 76.29 329⇑ *iP* **P** **14 28 37.0 +0.2**
MODS Modra-Piesok 76.60 333 *eP* **P** **14 28 40.3 +1.9**
MODS pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 76.60 333 *eP* **P** **14 28 40.3 +1.9**
VOIR 76.66 327⇑ *iP* **P** **14 28 39.6 +0.7**
ROTZ Rotzenmuhle 76.73 337 *eP* **P** **14 28 39.9 +0.8**
comp=Z,9.1nm,1.1s,baz=23,slow=5.8
ARR Arges 76.87 327⇓ *iP* **P** **14 28 41.5 +1.5**
SULR 76.87 326⇑ *iP* **P** **14 28 40.6 +0.6**
KHC Kasperske Hory 76.96 336 *eP* **P** **14 28 40.8 +0.3**
comp=Z,4.1nm,0.8s
KHC Kasperske Hory 76.96 336 *eP* **P** **14 28 41.1 +0.6**
KHC Kasperske Hory 76.96 336 *eP* **P** **14 28 41.1 +0.6**
GRA3 Grafenberg Arr 76.96 338 *eP* **P** **14 28 41.8 +1.4**
comp=Z,15nm,1.0s,baz=23,slow=5.8
GRF Grafenberg Arr 77.05 338 *eP* **P** **14 28 42.1 +1.1**
comp=Z,14nm,0.9s,baz=23,slow=5.8
WET Wettzell 77.13 336 *eP* **P** **14 28 42.5 +1.1**
comp=Z,11nm,0.9s,baz=23,slow=5.8
TNS Taunus Mts 77.22 340 *eP* **P** **14 28 42.6 +0.7**
comp=Z,13nm,0.7s,baz=23,slow=5.8
BEBN Eben Emael 77.29 341⇓ *iP* **P** **14 28 43.0 +0.8**
MEM Membach 77.40 341⇑ *iP* **P** **14 28 43.5 +0.7**
comp=Z,18nm,1.0s
CONA Conrad Observa 77.42 334 *i* P **P** **14 28 44.4 +1.3**
comp=Z,7.2nm,0.7s,SNR=5.3
GZR Gura Zlata 77.49 328⇑ *iP* **P** **14 28 43.9 +0.4**
BZS Buzias 77.69 329⇓ *iP* **P** **14 28 44.8 +0.3**
BCLA Clavier 77.72 342⇑ *iP* **P** **14 28 45.2 +0.6**
SNF Seneffe 77.85 342⇑ *iP* **P** **14 28 45.4 +0.1**
comp=Z,19nm,0.9s
MOA Molln 77.94 335 *i* P **P** **14 28 46.7 +0.8**
comp=Z,4.3nm,0.8s
HERR Herculane 78.06 328⇓ *iP* **P** **14 28 46.5 -0.1**
BR101 Keskin Array S 78.07 318 *eP* **P** **14 28 47.5 +0.5**
BRTR Keskin Array B 78.07 318 P **P** **14 28 47.5 +0.5**
comp=Z,5.8nm,0.8s,baz=57,slow=3.4,SNR=26
DOU Dourbes 78.18 342⇑ *iP* **P** **14 28 47.7 +0.5**
MDVR Moldovita 78.39 329⇑ *iP* **P** **14 28 48.4 -0.1**
PUNG Punghina 78.41 328⇓ *iP* **P** **14 28 48.8 +0.2**
SOKA Soboth 78.79 334 *i* P **P** **14 28 51.7 +0.9**
comp=Z,14nm,0.8s,SNR=8.5
KBA Koelnbreinsper 78.90 335 *i* P **P** **14 28 52.1 +0.6**
comp=Z,23nm,0.6s,SNR=17
PHSR Pinarhisar 79.00 324⇑ *iP* **P** **14 28 52.7 +0.8**
BFO Black Forest 79.02 339 *eP* **P** **14 28 51.4 -0.5**
comp=Z,5.9nm,0.7s
BFO Black Forest 79.02 339 *eP* **P** **14 28 52.5 +0.5**
comp=Z,6.6nm,0.8s,baz=23,slow=5.8
BFO Black Forest 79.02 339 *iP* **P** **14 28 53.0 +1.1**
OBKA Obir 79.08 334 *i* P **P** **14 28 53.1 +0.7**
comp=Z,7.0nm,0.6s
WATA Walderalm 79.14 336 *i* P **P** **14 28 54.4 +1.7**
comp=Z,6.8nm,0.5s,SNR=6.0
RETA Reute 79.21 337 *i* P **P** **14 28 53.7 +0.6**
comp=Z,9.8nm,0.9s
MYKA Terra Mystica 79.23 335 *i* P **P** **14 28 53.9 +0.8**
comp=Z,4.4nm,0.6s
MOTA Moosalm 79.25 337 *i* P **P** **14 28 54.3 +1.0**
comp=Z,12nm,0.7s,SNR=10
SQTA Sankt Quirin 79.34 337 *i* P **P** **14 28 55.0 +1.2**
comp=Z,12nm,0.8s,SNR=5.4
ABTA Abfaltersbach 79.43 336 *i* P **P** **14 28 55.6 +1.4**
comp=Z,14nm,1.1s
DIVS Divibare 79.57 330 *eP* **P** **14 28 54.5 -0.5**
comp=Z,12nm,0.8s
DAVA Damuels 79.62 338 *i* P **P** **14 28 56.9 +1.5**
comp=Z,14nm,1.0s
FETA Feichten 79.65 337 *i* P **P** **14 28 56.7 +1.2**
comp=Z,11nm,0.9s
VTS Vitosha 79.75 327 *eP* **P** **14 28 56.6 +0.4**
comp=Z,14nm,0.8s
VTS Vitosha 79.75 327⇑ *iP* **P** **14 28 55.9 -0.3**
VTS Vitosha 79.75 327 *eP* **P** **14 28 56.6 +0.4**
VTS pmax pmax
comp=Z,14nm,0.8s
DAVOX Davos/Dischmat 80.09 337 P **P** **14 28 58.7 +0.7**
comp=Z,11nm,0.6s,baz=12,slow=3.2,SNR=18
FUORN Ofenpass-Fuorn 80.14 337 *eP* **P** **14 28 59.1 +0.8**
comp=Z,12nm,0.8s
TUE Stuetta 80.51 338 *eP* **P** **14 29 00.6 +0.4**
EZN Ezine 81.01 323⇑ *iP* **P** **14 29 03.0 +0.3**
PDG Podgorica 81.30 329⇑ *iP* **P** **14 29 03.9 -0.3**
RAYN Ar Rayn 85.13 301 *eP* **P** **14 29 24.5 +0.1**
comp=Z,12nm,0.7s
RAYN Ar Rayn 85.13 301 *eP* **P** **14 29 24.5 +0.1**
RAYN pmax pmax
comp=Z,12nm,0.7s
ESDC Sonseca Array 89.83 345 P **P** **14 29 46.9 0.0**
comp=Z,0.4nm,0.5s,baz=7.0,slow=4.0,SNR=5.0
KEST Kesra 90.53 334 P **P** **14 29 51.3 +1.2**
comp=Z,2.2nm,0.6s,baz=155,slow=14,SNR=3.9
CPUP Villa Florida 145.37 61 PKPbc **PKPab** **14 36 26.1 +0.2**
comp=Z,1.4nm,0.6s,baz=347,slow=6.2,SNR=3.1

*ISCJB **09** 14:25:29.9±1.0,10.18°S±0.06°×108.26°E±0.06,h22km, mb3.2/3, Error ellipse: s-maj=10.2km s-min=7.0km az=137.5*
*IDC **09** 14:25:32.5±3.4,9.44°S×109.25E, h0km, mb3.3/3, mb1 3.6/4,mb1mx3.4/42, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=169.6km s-min=25.1km az=47.0*
*DJA **09** 14:25:35.7±0.9, 10°S±10°×10°E±°, h59km±83km, M4.2/6, MLv4.2/6*
ISC 09 14:25:32.1±1.4, 10°1S±0.1°×108°24E±0.08, h22km, n9, σ1°53/14, mb3.5/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**2.35**	**5**	P	**Pn**			**14 26 09.0**	**-0.4**
CMJI				S	**Sn**			**14 26 37.8**	**+0.3**

CISI Cisompet, Garu 2.60 351 P **Pn** **14 26 12.0 -0.9**
CISI S **Sn** **14 26 43.1 -0.7**
WOJI Wonogiri, Jawa 3.50 49 P **Pn** **14 26 26.1 +0.9**
WOJI S **Sn** **14 27 05.8 -0.2**
SKJI Sukabumi 3.53 332 P **Pn** **14 26 26.9 +1.3**
SKJI S **Sn** **14 27 05.6 -1.1**
PWJI Pagerwojo 4.10 59 P **Pn** **14 26 34.8 +1.3**
PWJI S **Sn** **14 27 19.9 -0.9**
FITZ Fitzroy Crossi 18.63 117 P **P** **14 29 46.0 -2.3**
0.1nm,0.3s,baz=311,slow=9.3,SNR=2.0
FITZ S Sn 14 32 54.8 -22
0.1nm,0.3s,baz=304,slow=7.3,SNR=3.1
WRA Warramunga Arr 26.99 114 P **P** **14 31 09.5 -3.0**
0.9nm,0.8s,baz=286,slow=11,SNR=4.6
ASAR Alice Springs 27.93 122 P **P** **14 31 21.6 +0.5**
0.2nm,1.0s,baz=296,slow=8.8,SNR=4.3
MKAR Makanchi Array 61.24 340 P **P** **14 35 47.2 +1.9**
0.3nm,0.8s,baz=145,slow=5.3,SNR=3.2

*SJA **09** 14:27:31.0±0.7,21°.89S×68°.51W,h127km±7km, ML2.3, MW4.1*
*ISCJB **09** 14:27:32.2±0.9,21°.95S±0°.04×68°.65W±0°.08, h134km±9km, Error ellipse: s-maj=12.0km s-min=5.9km az=178.6*
*GUC **09** 14:27:32.7±0.6,21°.94S×68°.72W, h129km±4km, ML3.0*
ISC 09 14:27:32.8±1.7, 21°.94S±0°.04×68°.61W±0°.07, h127km±13km, n21, σ0°59/37, 6C-6D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.61**	**284**	*i* P	**Pn**			**14 27 51.5**	**-0.9**
PB09	**IPOC Station P**	**0.61**	**284**⇑	*i* P	**Pn**			**14 27 52.7**	**+0.3**
PB09				*i* S	**Sn**			**14 28 07.2**	**0.0**
PB09				IAML				14 28 09.7	
comp=N,342nm,0.2s									
LVC	**Limon Verde**	**0.72**	**203**	*i* P	**Pn**			**14 27 53.0**	**-0.4**
LVC				*i* S	**Sn**			**14 28 09.3**	**+0.2**
PB03	**IPOC Station P**	**1.07**	**264**	*i* P	**Pn**			**14 27 56.3**	**+0.1**
PB03				*i* S	**Sn**			**14 28 15.3**	**+1.3**
PB03	**IPOC Station P**	**1.07**	**264**⇑	*i* P	**Pn**			**14 27 56.1**	**-0.2**
PB03				*i* S	**Sn**			**14 28 13.6**	**-0.5**
PB03				IAML				14 28 15.1	
comp=N,280nm,0.1s									
PB06	**IPOC Station P**	**1.17**	**229**	*i* P	**Pn**			**14 27 57.0**	**-0.2**
PB06				*i* S	**Sn**			**14 28 17.0**	**+1.1**
PB06	**IPOC Station P**	**1.17**	**229**⇑	*i* P	**Pn**			**14 27 57.2**	**0.0**
PB06				*i* S	**Sn**			**14 28 15.7**	**-0.2**
PB06				IAML				14 28 16.4	
comp=N,382nm,0.3s									
PB07	**IPOC Station P**	**1.21**	**280**⇑	*i* P	**Pn**			**14 27 57.8**	**+0.1**
PB07				*i* S	**Sn**			**14 28 16.2**	**-0.4**
PB07				IAML				14 28 17.5	
comp=N,359nm,0.2s									
PB01	**IPOC Station P**	**1.21**	**317**⇓	*i* P	**Pn**			**14 27 57.4**	**-0.2**
PB01				*i* S	**Sn**			**14 28 16.5**	**-0.1**
PB01				IAML				14 28 18.3	
comp=E,497nm,0.5s									
PB02	**IPOC Station P**	**1.35**	**297**	*i* P	**Pn**			**14 27 59.1**	**0.0**
PB02	**IPOC Station P**	**1.35**	**297**⇓	*i* P	**Pn**			**14 27 59.0**	**-0.1**
PB02				*i* S	**Sn**			**14 28 18.5**	**-0.6**
PB02				IAML				14 28 19.1	
comp=N,457nm,0.5s									
PB04	**IPOC Station P**	**1.48**	**255**	*i* P	**Pn**			**14 28 00.6**	**-0.1**
PB04	**IPOC Station P**	**1.48**	**255**⇓	*i* P	**Pn**			**14 28 00.3**	**-0.3**
PB04				*i* S	**Sn**			**14 28 21.2**	**-0.6**
PB04				IAML				14 28 25.6	
comp=E,207nm,0.3s									
PB15	**IPOC Station P**	**1.49**	**212**	*i* P	**Pn**			**14 28 01.1**	**+0.3**
PB15				*i* S	**Sn**			**14 28 23.5**	**+1.4**
PB15	**IPOC Station P**	**1.49**	**212**⇓	*i* P	**Pn**			**14 28 00.8**	**0.0**
PB15				*i* S	**Sn**			**14 28 22.6**	**+0.4**
PB05	**IPOC Station P**	**1.73**	**238**⇑	*i* P	**Pn**			**14 28 03.2**	**-0.3**
PB05				*i* S	**Sn**			**14 28 26.1**	**-0.8**
PB05				IAML				14 28 29.0	
comp=N,122nm,0.3s									
PB08	**IPOC Station P**	**1.86**	**344**⇓	*i* P	**Pn**			**14 28 06.0**	**+0.7**
PB08				*i* S	**Sn**			**14 28 31.1**	**+0.9**
PB08				IAML				14 28 32.7	
comp=E,172nm,0.5s									
PB10	**IPOC Station P**	**2.38**	**229**	*e* P	**Pn**			**14 28 11.3**	**0.0**
PB10				IAML				14 28 47.5	
comp=N,50nm,0.2s									
PB11	**IPOC Station P**	**2.38**	**336**⇓	*i* P	**Pn**			**14 28 11.0**	**-0.5**
PB11				*i* S	**Sn**			**14 28 40.6**	**-0.7**
MNMC	**Minye Minye**	**2.95**	**342**⇑	*i* P	**Pn**			**14 28 18.9**	**0.0**
MNMC				*i* S	**Sn**			**14 28 55.3**	**+0.9**
MNMC				IAML				14 28 57.7	
comp=N,133nm,0.1s									
HJA	**Humahuaca**	**3.21**	**114**	*i* P	**Pn**			**14 28 21.8**	**-0.6**
HJA				IAML				14 29 04.9	
comp=Z,6.8nm,0.2s									

*ISCJB **09** 14:32:20.7±1.0,54°.1N±0°.3×35°.2W±0°.3, h14km, mb3.3/6, Error ellipse: s-maj=44.4km s-min=16.9km az=32.6*
*IDC **09** 14:32:20.3±1.0,54°.12N×35°.21W, h0km, mb3.2/6, mb1 3.5/6, mb1mx3.3/48, mbtmp3.2/6, Error ellipse: s-maj=46.6km s-min=20.0km az=31.0*
ISC 09 14:32:22.3±1.0, 54°.1N±0°.3×35°.2W±0°.2, h14km, n7, σ0°77/9, mb3.3/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.52**	**112**	P	**P**			**14 37 50.4**	**+0.1**
0.1nm,0.3s,baz=312,slow=9.2,SNR=3.6									
YKA	**Yellowknife Ar**	**39.98**	**315**	P	**P**			**14 39 54.8**	**-1.1**
0.2nm,0.6s,baz=62,slow=9.1,SNR=4.2									
YKA				PcP	**PcP**			**14 41 59.9**	**-0.9**
0.1nm,0.6s,baz=64,slow=3.4,SNR=5.6									
PDAR	**Pinedale Array**	**48.40**	**289**	P	**P**			**14 41 04.4**	**+0.5**
0.3nm,0.6s,baz=65,slow=9.3,SNR=3.3									
TORD	**Torodi Ar. Bea**	**50.11**	**130**	P	**P**			**14 41 17.0**	**+0.1**
0.7nm,0.9s,baz=323,slow=9.3,SNR=2.9									
ILAR	**Eielson Array**	**50.42**	**329**	P	**P**			**14 41 19.9**	**+1.1**
0.2nm,0.6s,baz=43,slow=5.8,SNR=4.1									
ILAR				PcP	**PcP**			**14 42 36.9**	**+0.1**
0.4nm,0.8s,baz=11,slow=3.1,SNR=5.0									
MKAR	**Makanchi Array**	**66.41**	**42**	P	**P**			**14 43 10.5**	**-0.1**
0.2nm,0.6s,baz=320,slow=4.9,SNR=3.1									
ASAR	**Alice Springs**	**148.53**	**19**	PKPbc	**PKPbc**			**14 52 08.4**	**-0.1**
1.0nm,0.7s,baz=353,slow=2.2,SNR=17									

IDC 09 14:37:25.5±2.0, 10°.60S×164°.42E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/39, mbtmp3.9/4, Error ellipse: s-maj=98.2km s-min=29.6km az=136.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.42**	**249**	P	P			14 43 40.1	+0.2
3.8nm,0.9s,baz=80,slow=9.2,SNR=22									
WRA				PcP	PcP			14 46 39.6	-0.3
0.4nm,1.0s,baz=72,slow=3.5,SNR=4.6									
ASAR	**Alice Springs**	**31.84**	**242**	P	P			14 43 52.4	0.0
2.1nm,0.7s,baz=62,slow=10.0,SNR=26									
ASAR				PcP	PcP			14 46 43.0	-0.6
0.2nm,0.6s,baz=72,slow=2.8,SNR=5.9									
ILAR	**Eielson Array**	**83.51**	**19**	P	P			14 49 55.4	+0.4
0.3nm,0.8s,baz=229,slow=6.9,SNR=3.5									
MKAR	**Makanchi Array**	**92.31**	**317**	P	P			14 50 37.1	-0.7
0.2nm,0.6s,baz=108,slow=6.6,SNR=3.9									

IDC 09 14:41:39.0±8.0, 30°.59S×177°.50W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/31, mbtmp3.3/2, Error ellipse: s-maj=337.3km s-min=60.9km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.53**	**267**	P	P			14 49 44.6	-0.1
0.4nm,0.9s,baz=98,slow=6.8,SNR=4.4									
WRA	**Warramunga Arr**	**44.54**	**272**	P	P			14 49 52.4	-0.4

FELT [IV-V] at Severo-Kurilsk; [III-IV] at Paujetka, Zaporojye, Ozernovskiy; [III] at lighthouse Krugliy, RNS Podgornay, Viluchinsk, Ribachiy, Paratunka, Petropavlovsk, Institute; [II] at cape Lopatka, lighthouse Kurbatova.

NEIC ***09*** *14:56:28.8±0.1, 50°.89N×157°.22E, h39km, mb5.7/299, MS5.3/117, MW5.9, MW5.8, Error ellipse: s-maj=3.3km s-min=1.7km az=160.0, Moment Tensor Solution. s103 Moment tensor: Scale 10¹⁷Nm; Mrr7.15; Mθθ-5.15; Mφφ-2.00; Mrθ1.83; Mθφ-3.20; Mφr1.20; Best double couple: Mo7.50000×10¹⁷ NP1:φs238.00000°, δ37.00000°, λ91.00000°. NP2:φs58.00000°, δ54.00000°, λ90.00000°. Principal axes: T 7.4800, Plg81.0000°, Azm325.0000°; N 0.0000, Plg0.0000°, Azm58.0000°; P -7.4700, Plg8.0000°, Azm148.0000°;*

NEIC Broadband depth 39 km.

NEIC ***09*** *14:56:29.0±0.0, 50°.71N×157°.37E, h50km, Moment Tensor Solution. s160 Moment tensor: Scale 10¹⁷Nm; Mrr4.70; Mθθ-2.21; Mφφ-2.48; Mrθ3.14; Mθφ-1.61; Mφr2.61; Best double couple: Mo6.00000×10¹⁷ NP1:φs48.00000°, δ67.00000°, λ93.00000°. NP2:φs220.00000°, δ23.00000°, λ83.00000°. Principal axes: T 6.3300, Plg68.0000°, Azm323.0000°; N -0.7600, Plg2.0000°, Azm226.0000°; P -5.5700, Plg21.0000°, Azm135.0000°;*

IDC ***09*** *14:56:29.5±0.4, 50°.89N×157°.28E, h46km±4km, mb5.1/39, mb1 5.1/44, mb1mx5.1/49, mbtmp5.3/44, MS5.2/49, Ms1 5.2/49, ms1mx5.1/55 Error ellipse: s-maj=10.1km s-min=7.4km az=143.0*

ISCJB ***09*** *14:56:30.7±0.2, 50°.85N±0°.02×157°.34E±0°.02, h72km±1km, mb5.5/573, Error ellipse: s-maj=2.8km s-min=1.4km az=157.7*

MOS ***09*** *14:56:30.5±1.1, 50°.84N×157°.24E, h76km, mb5.7/128, MS5.5/71, Error ellipse: s-maj=5.4km s-min=2.5km az=79.7*

MOS Felt (IV-V) at Severo-Kuril'sk, (III-IV) at Pauzhetka, Zaporozh'e, Ozernovskiy, (III) at Vilyuchinsk, Rybachiy, Paratunka, Petropavlovsk-Kamchatskiy.

GCMT ***09*** *14:56:31.8±0.1, 50°.64N±0°.01×157°.64E±0°.01, h46km, MW5.8/126, Moment Tensor Solution. s119,c249; s126,c340; Duration: 1s9 Moment tensor: Scale 10¹⁷ Nm; Mrr5.71±.06; Mθθ-2.49±.04; Mφφ-3.22±.04; Mrθ1.82±.04; Mθφ-2.91±.03; Mφr1.47±.04; Best double couple: Mo6.20700×10¹⁷ NP1:φs45.00000°, δ56.00000°, λ94.00000°. NP2:φs218.00000°, δ34.00000°, λ84.00000°. Principal axes: T 6.1800, Plg79.0000°, Azm330.0000°; N 0.0540, Plg3.0000°, Azm223.0000°; P -6.2340, Plg11.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BGR ***09*** *14:56:34.7±0.0, 51°.49N×155°.97E, h33km, mb5.6, Ms5.6*

ISC 09 14:56:29.4±0.3, 50°.81N±0°.03×157°.36E±0°.03, h46km±2km, h46km:pP-P, n2239, σ1♀40/2314, mb5.7/606, MS5.3/221, 123C-46D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.74**	**332**	*e*P		**Pn**	**14 56 46.8**	**+3.3**
PAU				*e*S		**Sn**	**14 56 59.8**	**+6.1**
PAU	**Pauzhetka**	**0.74**	**332**	PN		**Pn**	**14 56 46.8**	**+3.3**
PAU				S		**Sn**	**14 56 59.8**	**+6.1**
SKR	**Severo-Kuril's**	**0.80**	**261**	*e*P		**Pn**	**14 56 45.9**	**+1.7**
SKR				*e*S		**Sn**	**14 56 58.7**	**+3.6**
SKR	**Severo-Kuril's**	**0.80**	**261**	ǁ*i*PN		**Pn**	**14 56 46.0**	**+1.7**
SKR				*e*S		**Sn**	**14 56 58.6**	**+3.5**
SKR	comp=Z,121μm,1.0s			pmax	pmax			
	comp=E,400μm,0.9s			smax	smax			
KDTR	**Khodutka, Kamc**	**1.09**	**24**	*e*P		**Pn**	**14 56 49.3**	**+1.1**
KDTR				*e*S		**Sn**	**14 57 03.4**	**+1.2**
KDTR	**Khodutka, Kamc**	**1.09**	**24**	PN		**Pn**	**14 56 49.3**	**+1.1**
KDTR				S		**Sn**	**14 57 03.4**	**+1.2**
ALID	**Alaid**	**1.15**	**274**	*i* P		**Pn**	**14 56 52.0**	**+2.9**
ALID	**Alaid**	**1.15**	**274**	PN		**Pn**	**14 56 52.0**	**+2.9**
ASAK	**Asacha**	**1.61**	**12**	*e*P		**Pn**	**14 56 57.0**	**+1.6**
ASAK	**Asacha**	**1.61**	**12**	PN		**Pn**	**14 56 57.0**	**+1.6**
MTVR	**Mutnovka**	**1.75**	**17**	*e*P		**Pn**	**14 56 59.1**	**+1.7**
MTVR	**Mutnovka**	**1.75**	**17**	PN		**Pn**	**14 56 59.1**	**+1.7**
RUS	**Russkaya**	**1.77**	**23**	*e*P		**Pn**	**14 56 58.3**	**+0.8**
RUS				*e*S		**Sn**	**14 57 20.1**	**+1.2**
RUS	**Russkaya**	**1.77**	**23**	PN		**Pn**	**14 56 58.3**	**+0.8**
RUS				S		**Sn**	**14 57 20.1**	**+1.2**
GRL	**Gorelyy**	**1.80**	**14**	*i* P		**Pn**	**14 57 00.4**	**+2.4**
GRL	**Gorelyy**	**1.80**	**14**	PN		**Pn**	**14 57 00.4**	**+2.4**
KRMR	**Karymshinskiy**	**2.08**	**13**	*e*P		**Pn**	**14 57 04.3**	**+2.6**
KRMR				*e*S		**Sn**	**14 57 32.5**	**+6.2**
KRMR	**Karymshinskiy**	**2.08**	**13**	PN		**Pn**	**14 57 04.3**	**+2.6**
KRMR				S		**Sn**	**14 57 32.5**	**+6.2**
APC	**Apacha**	**2.12**	**357**	*e*P		**Pn**	**14 57 05.7**	**+3.4**
APC	**Apacha**	**2.12**	**357**	PN		**Pn**	**14 57 05.7**	**+3.4**
I44RU	**PETROPAVLOVSK-** baz=197,slow=321,SNR=0.6	**2.31**	**5**	*i*			15 11 10.0	
PEA0B	**Petropavlovsk-**	**2.31**	**5**	*e*Pn		**Pn**	**14 57 08.1**	**+3.2**
PEA0B	**Petropavlovsk-**	**2.31**	**5**	*e*PN		**Pn**	**14 57 08.1**	**+3.2**
PETK	**Petropavlovsk-**	**2.31**	**5**	*e*Pn		**Pn**	**14 57 08.0**	**+3.1**
PETK	**Petropavlovsk-** comp=E,252nm,0.3s,baz=195,slow=15,SNR=825	**2.31**	**5**	P		**Pn**	**14 57 07.8**	**+2.9**
PETK				S		**Sn**	**14 57 33.6**	**+1.6**
	comp=E,300nm,0.3s,baz=148,slow=14,SNR=6.4							
PETK				LR		LR	14 58 23.7	
	comp=E,103μm,20.8s,baz=257,slow=51							
PEA1	**Petropavlovsk-**	**2.31**	**5**	*e*Pn		**Pn**	**14 57 07.8**	**+2.9**
PEA1				*e*Sn		**Sn**	**14 57 33.6**	**+1.5**
PET	**Petropavlovsk**	**2.35**	**19**	*e*Pn		**Pn**	**14 57 07.3**	**+1.8**
PET	**Petropavlovsk**	**2.35**	**19**	PN		**Pn**	**14 57 07.5**	**+2.0**
PET				S		**Sn**	**14 57 35.9**	**+2.8**
DALK	**Dalny**	**2.38**	**21**	*e*P		**Pn**	**14 57 07.8**	**+1.9**
DALK				*e*S		**Sn**	**14 57 35.9**	**+2.1**
DALK	**Dalny**	**2.38**	**21**	PN		**Pn**	**14 57 07.8**	**+1.9**
DALK				S		**Sn**	**14 57 35.9**	**+2.1**
UGLR	**Uglovaya**	**2.56**	**20**	*e*P		**Pn**	**14 57 10.9**	**+2.4**
UGLR	**Uglovaya**	**2.56**	**20**	PN		**Pn**	**14 57 10.9**	**+2.4**
AVH	**Avacha**	**2.60**	**19**	*i* P		**Pn**	**14 57 12.0**	**+3.1**
AVH	**Avacha**	**2.60**	**19**	PN		**Pn**	**14 57 12.0**	**+3.1**
KOK	**Koryaka**	**2.61**	**17**	*i* P		**Pn**	**14 57 12.4**	**+3.4**
KOK	**Koryaka**	**2.61**	**17**	PN		**Pn**	**14 57 12.4**	**+3.4**
SMAR	**Somma**	**2.61**	**19**	*i* P		**Pn**	**14 57 11.5**	**+2.3**
SMAR	**Somma**	**2.61**	**19**	PN		**Pn**	**14 57 11.5**	**+2.3**
KRER	**Koryakskii**	**2.64**	**18**	*e*P		**Pn**	**14 57 12.3**	**+2.7**
KRER	**Koryakskii**	**2.64**	**18**	PN		**Pn**	**14 57 12.3**	**+2.7**
SDLR	**Sedlovina**	**2.64**	**20**	*i* P		**Pn**	**14 57 11.4**	**+1.8**
SDLR	**Sedlovina**	**2.64**	**20**	PN		**Pn**	**14 57 11.4**	**+1.8**
NLC	**Nalytchevo**	**2.66**	**27**	*e*P		**Pn**	**14 57 10.8**	**+1.1**
NLC				*e*S		**Sn**	**14 57 41.0**	**+0.3**
NLC	**Nalytchevo**	**2.66**	**27**	PN		**Pn**	**14 57 10.8**	**+1.1**
NLC				S		**Sn**	**14 57 41.0**	**+0.3**
KRX	**Arik**	**2.67**	**17**	*i* P		**Pn**	**14 57 14.1**	**+4.1**
KRX	**Arik**	**2.67**	**17**	PN		**Pn**	**14 57 14.1**	**+4.1**
SPN	**Mys Shipunski**	**2.82**	**35**	*e*P		**Pn**	**14 57 13.4**	**+1.5**
SPN				*e*S		**Sn**	**14 57 45.3**	**+0.7**
SPN	**Mys Shipunski**	**2.82**	**35**	PN		**Pn**	**14 57 13.4**	**+1.5**
SPN				S		**Sn**	**14 57 45.3**	**+0.7**
GNL	**Ganaly**	**2.91**	**7**	*i* P		**Pn**	**14 57 16.4**	**+3.2**
GNL	**Ganaly**	**2.91**	**7**	PN		**Pn**	**14 57 16.4**	**+3.2**
KII	**Karymskiy**	**3.47**	**21**	*e*P		**Pn**	**14 57 24.1**	**+3.2**
KII	**Karymskiy**	**3.47**	**21**	PN		**Pn**	**14 57 24.1**	**+3.2**
MKZ	**Mys Kozlova**	**4.60**	**34**	*e*P		**Pn**	**14 57 36.9**	**+0.7**
MKZ				*e*S		**Sn**	**14 58 28.7**	**+0.5**
MKZ	**Mys Kozlova**	**4.60**	**34**	PN		**Pn**	**14 57 36.9**	**+0.7**
MKZ				S		**Sn**	**14 58 28.7**	**+0.5**
KZV	**Kizimen**	**4.66**	**21**	*e*P		**Pn**	**14 57 40.4**	**+3.2**
KZV	**Kizimen**	**4.66**	**21**	PN		**Pn**	**14 57 40.4**	**+3.2**
TUMD	**Tumrok D**	**4.77**	**21**	*e*P		**Pn**	**14 57 41.8**	**+3.2**
TUMD				S		**Sn**	**14 58 35.9**	**+3.4**
TUMR	**Tumrok**	**4.78**	**19**	*i* P		**Pn**	**14 57 43.1**	**+4.2**
TUMR	**Tumrok**	**4.78**	**19**	PN		**Pn**	**14 57 41.8**	**+2.9**
TUMR				S		**Sn**	**14 58 35.9**	**+2.8**
ESO	**Esso**	**5.18**	**8**	*e*P		**Pn**	**14 57 48.5**	**+4.2**
ESO	**Esso**	**5.18**	**8**	PN		**Pn**	**14 57 48.5**	**+4.2**
KPT	**Kopyto**	**5.44**	**17**	*e*P		**Pn**	**14 57 52.4**	**+4.5**
KPT	**Kopyto**	**5.44**	**17**	PN		**Pn**	**14 57 52.4**	**+4.5**
KIRR	**Kirishev**	**5.45**	**18**	*e*P		**Pn**	**14 57 52.6**	**+4.5**
KIRR	**Kirishev**	**5.45**	**18**	PN		**Pn**	**14 57 52.6**	**+4.5**
BZMR	**Bezymyannaya**	**5.46**	**19**	*e*P		**Pn**	**14 57 51.6**	**+3.3**
BZMR	**Bezymyannaya**	**5.46**	**19**	PN		**Pn**	**14 57 51.6**	**+3.3**
KOZ	**Kozyrevsk**	**5.47**	**15**	*e*P		**Pn**	**14 57 52.7**	**+4.5**
KOZ	**Kozyrevsk**	**5.47**	**15**	PN		**Pn**	**14 57 52.7**	**+4.5**
BZWR	**Bezymyannyi-We**	**5.49**	**19**	*e*P		Pn	14 57 53.6	+4.9
BZWR	**Bezymyannyi-We**	**5.49**	**19**	PN		Pn	14 57 53.6	+4.9
BZGR	**Bezymyannyi-Gr**	**5.51**	**20**	*e*P		**Pn**	**14 57 53.6**	**+4.7**
BZGR	**Bezymyannyi-Gr**	**5.51**	**20**	PN		**Pn**	**14 57 53.6**	**+4.7**
ZLN	**Zelenaya**	**5.61**	**20**	*e*P		Pn	14 57 55.1	+4.9
ZLN	**Zelenaya**	**5.61**	**20**	PN		Pn	14 57 55.1	+4.9
LGNR	**Loginova**	**5.64**	**19**	*e*P		**Pn**	**14 57 55.5**	**+4.7**
LGNR	**Loginova**	**5.64**	**19**	PN		**Pn**	**14 57 55.5**	**+4.7**
CIRR	**Tsirk**	**5.69**	**20**	*e*P		**Pn**	**14 57 55.1**	**+3.8**
CIRR	**Tsirk**	**5.69**	**20**	PN		**Pn**	**14 57 55.1**	**+3.8**
SRDR	**Sredinnyy**	**5.69**	**13**	*e*P		**Pn**	**14 57 55.4**	**+4.1**
SRDR	**Sredinnyy**	**5.69**	**13**	PN		**Pn**	**14 57 55.4**	**+4.1**
KLY	**Klyuchi**	**5.85**	**18**	*e*P		**Pn**	**14 57 57.6**	**+4.2**
KLY	**Klyuchi**	**5.85**	**18**	PN		**Pn**	**14 57 57.6**	**+4.2**
BDR	**Baidarnaya**	**6.20**	**20**	*e*P		**Pn**	**14 58 02.3**	**+4.0**
BDR	**Baidarnaya**	**6.20**	**20**	PN		**Pn**	**14 58 02.3**	**+4.0**
SMKR	**Semkarok**	**6.27**	**21**	*e*P		**Pn**	**14 58 02.5**	**+3.2**
SMKR	**Semkarok**	**6.27**	**21**	PN		**Pn**	**14 58 02.5**	**+3.2**
SRKR	**Sorokina**	**6.27**	**20**	*e*P		**Pn**	**14 58 03.1**	**+3.8**
SRKR	**Sorokina**	**6.27**	**20**	PN		**Pn**	**14 58 03.1**	**+3.8**
KBTR	**Krutoberegovo**	**6.31**	**29**	*e*P		**Pn**	**14 58 01.4**	**+1.7**
KBTR	**Krutoberegovo**	**6.31**	**29**	PN		**Pn**	**14 58 01.4**	**+1.7**
KBG	**Krutoberegovo**	**6.31**	**28**	*e*P		**Pn**	**14 58 02.1**	**+2.4**
KBG	**Krutoberegovo**	**6.31**	**28**	PN		**Pn**	**14 58 02.1**	**+2.4**
BKI	**Bering**	**6.81**	**46**	*e*P		**Pn**	**14 58 06.1**	**-0.4**
BKI	**Bering**	**6.81**	**46**	PN		**Pn**	**14 58 06.1**	**-0.4**
PALN	**Palana**	**8.43**	**9**	*e*P		**Pn**	**14 58 32.0**	**+3.3**
PALN	**Palana**	**8.43**	**9**	PN		**Pn**	**14 58 32.0**	**+3.3**
KUR	**Kuril'sk**	**8.46**	**232**	ǁ*i*PN		**Pn**	**14 58 31.3**	**+2.1**
KUR				S		**Sn**	**15 00 06.4**	**+3.2**
KUR	comp=Z,984nm,1.0s			pmax	pmax			
KUR	comp=N,178nm,0.9s			pmax	pmax			
KUR	comp=E,254nm,0.9s			pmax	pmax			
KUR	comp=Z,5μm,1.2s			smax	smax			
KUR	comp=N,12μm,1.9s			smax	smax			
KUR	comp=E,6μm,1.9s			smax	smax			
KUR	comp=N,1μm,0.8s			smax	smax			
KUR	comp=E,277nm,0.4s			MLR	MLR			
KUR	comp=Z,10μm,12.0s			MLR	MLR			
KUR	comp=N,10μm,14.0s			MLR	MLR			
KUR	comp=E,7μm,9.0s							
OSSR	**Ossora**	**9.06**	**19**	*e*P		**Pn**	**14 58 38.6**	**+1.2**
OSSR	**Ossora**	**9.06**	**19**	PN		**Pn**	**14 58 38.6**	**+1.2**
TYV	**Tymovskoe**	**9.31**	**276**	*e*PN		**Pn**	**14 58 45.1**	**+4.3**
TYV				*e*S		**Sn**	**15 00 27.7**	**+3.7**
TYV	comp=Z,5μm,2.4s			pmax	pmax			
TYV	comp=Z,502nm,1.7s			pmax	pmax			
TYV	comp=E,119nm,0.8s			smax	smax			
MA2	**Magadan**	**9.55**	**339**	*ce*PN		**Pn**	**14 58 46.5**	**+2.4**
MA2	comp=Z,435nm,1.3s			pmax	pmax			
MA2	**Magadan**	**9.55**	**339**	P		**Pn**	**14 58 46.4**	**+2.4**
MA2	comp=Z,9.6nm,0.3s,baz=151,slow=9.6,SNR=87			LR	LR		15 03 10.5	
	comp=Z,14μm,19.2s,baz=204,slow=42							
SHO	**Shikotan**	**9.96**	**230**	ǁ*i*PN		**Pn**	**14 58 50.1**	**+0.4**
UGL	**Uglegorsk**	**10.01**	**266**	ǁ*i*PN		Pn	14 58 56.1	+5.7
UGL				*e*S		**Sn**	**15 00 48.8**	**+7.6**
UGL	comp=Z,2μm,0.8s			pmax	pmax			
UGL	comp=E,284nm,0.9s			smax	smax			
UGL	comp=E,7μm,7.7s			smax	smax			
YUK	**Yuzh-Kuril'sk**	**10.32**	**233**	*i* PN		**Pn**	**14 58 58.4**	**+3.7**
YUK				*i* S		**Sn**	**15 00 56.2**	**+7.4**
YUK	comp=Z,1μm,0.6s			pmax	pmax			
YUK	comp=N,553nm,0.4s			pmax	pmax			
YUK	comp=E,563nm,0.5s			pmax	pmax			
LAGR	**Lagunnoye**	**10.34**	**234**	*e*PN		**Pn**	**14 58 59.0**	**+4.0**
LAGR				*e*S		**Sn**	**15 00 57.1**	**+7.7**
LAGR	comp=Z,678nm,0.8s			pmax	pmax			
LAGR	comp=E,224nm,0.6s			pmax	pmax			
YSS	**Yuzh-Sakhalins**	**10.36**	**254**	α *i*PN		**Pn**	**14 58 59.9**	**+4.7**
YSS				*e*S		**Sn**	**15 00 55.1**	**+5.2**
YSS	comp=Z,380nm,1.1s			pmax	pmax			
YSS	comp=N,300nm,7.0s			pmax	pmax			
YSS	comp=Z,400nm,7.0s			pmax	pmax			
YSS	comp=N,180nm,0.9s			smax	smax			
GRPR	**Tuman**	**10.39**	**233**	PN		**Pn**	**14 58 58.2**	**+2.5**
GRPR				*e*S		**Sn**	**15 00 56.7**	**+6.0**
GRPR	comp=Z,680nm,0.4s			pmax	pmax			
GRPR	comp=N,145nm,0.2s			pmax	pmax			
GRPR	comp=E,383nm,0.5s			pmax	pmax			
NKL	**Nikolayevsk**	**10.55**	**289**	*i* PN		Pn	14 59 03.0	+5.2
NKL				*e*S		Sn	15 01 06.0	+12
NKL	comp=E,380nm,1.0s			pmax	pmax			
NKL	comp=Z,650nm,1.0s			pmax	pmax			
NKL	comp=E,4μm,8.0s			pmax	pmax			
NKL	comp=Z,4μm,8.0s			pmax	pmax			
NKL	comp=E,5μm,9.0s			smax	smax			
SMY	**Shemya**	**10.55**	**73**	*e*Pn		**Pn**	**14 58 56.2**	**-1.6**
SMY	**Shemya**	**10.55**	**73**	*e*PN		**Pn**	**14 58 56.2**	**-1.6**
GLVR	**Golovnino**	**10.70**	**233**	*e*PN		**Pn**	**14 59 02.9**	**+3.0**
GLVR				*e*S		**Sn**	**15 01 04.8**	**+6.6**
GLVR	comp=Z,449nm,0.5s			pmax	pmax			
GLVR	comp=N,52nm,0.4s			pmax	pmax			
GLVR	comp=Z,1μm,1.6s			pmax	pmax			
TILK	**Tilichiki**	**10.85**	**24**	*e*P		**Pn**	**14 59 04.0**	**+2.3**
TILK	**Tilichiki**	**10.85**	**24**	PN		**Pn**	**14 59 04.0**	**+2.3**
ASAJ	**Asahikawa**	**12.02**	**242**	P		**Pn**	**14 59 19.6**	**+1.8**
ASAJ	comp=Z,11nm,0.3s,baz=65,slow=13,SNR=102			LR	LR		15 03 27.0	
	comp=Z,10μm,19.6s,baz=50,slow=35							
SEY	**Seymchan**	**12.45**	**349**	*ce*PN		**Pn**	**14 59 25.9**	**+2.3**
SEY	**Seymchan**	**12.45**	**349**	P		**Pn**	**14 59 24.4**	**+0.8**
KMSK	**Kamenskaya**	**12.64**	**19**	*e*P		**Pn**	**14 59 27.2**	**+1.0**
KMSK	**Kamenskaya**	**12.64**	**19**	PN		**Pn**	**14 59 27.2**	**+1.0**
ERM	**Erimo**	**13.15**	**233**	*e*Pn		**Pn**	**14 59 31.7**	**-1.6**
ERM	**Erimo**	**13.15**	**233**	*ce*PN		**Pn**	**14 59 31.9**	**-1.4**
ERM	comp=Z,99nm,0.6s			pmax	pmax			
GRNR	**Gornyy**	**13.24**	**278**	*e*PN		**P**	**14 59 39.0**	**-4.3**
GRNR	comp=E,28nm,1.0s			pmax	pmax			
GRNR	comp=Z,130nm,1.0s			pmax	pmax			
TEY	**Ternei**	**15.04**	**255**	ǁ*e*P		**P**	**15 00 01.3**	**-2.0**
TEY				*e*S		**Sn**	**15 02 46.8**	**+2.8**
TEY	comp=E,70nm,1.0s			pmax	pmax			
TEY	comp=Z,80nm,1.0s			pmax	pmax			
TEY	comp=N,30nm,1.1s			pmax	pmax			
TEY	comp=E,2μm,8.7s			smax	smax			
TEY	comp=N,5μm,6.8s			MLR	MLR			
TEY	comp=E,4μm,15.0s			MLR	MLR			
TEY	comp=N,4μm,17.0s			MLR	MLR			
ADK	**Adak**	**16.23**	**76**	*e*Pn		**P**	**15 00 15.7**	**-0.6**
ADK	**Adak**	**16.23**	**76**	*e*P		**P**	**15 00 15.7**	**-0.6**
ADK	comp=Z,107nm,1.1s			pmax	pmax			
KLR	**Kul'dur**	**16.51**	**274**	*c i*P		**P**	**15 00 20.6**	**+1.1**
KLR	**Kul'dur**	**16.51**	**274**	P		**Pn**	**15 00 16.7**	**-0.8**
KLR	comp=Z,107nm,1.1s			LR	LR		15 07 16.0	
	comp=Z,0.1nm,0.3s,baz=54,slow=19,SNR=3.4							
	comp=Z,15μm,19.8s,baz=76,slow=39							
BILL	**Bilibino**	**17.83**	**11**	*e*Pn		**Pn**	**15 00 33.1**	**-0.6**
BILL	comp=Z,128nm,1.0s			*e*S		**Sn**	**15 03 51.0**	**-0.2**
BILL	**Bilibino**	**17.83**	**11**	*ce*P		**Pn**	**15 00 33.5**	**-0.2**
BILL				pmax	pmax			
BILL	comp=Z,130nm,1.0s			MLR	MLR			
BILL	comp=Z,22μm,20.0s							
USA0B	**Ussuriysk Arra**	**18.32**	**259**	*e*P		**P**	**15 00 38.3**	**-1.2**
USA0B	comp=Z,121nm,1.1s **Ussuriysk Arra**	**18.32**	**259**	*e*P		**P**	**15 00 38.3**	**-1.2**
USRK	**Ussuriysk Ar.**	**18.32**	**259**	P		**P**	**15 00 38.8**	**-0.6**
USRK	comp=Z,1.6nm,0.3s,baz=63,slow=12,SNR=27			LR	LR		15 07 35.8	
	comp=Z,10μm,21.8s,baz=54,slow=36							
ZEA	**Zeya**	**18.59**	**291**	*ce*P		**Pn**	**15 00 43.6**	**+0.6**
ZEA				*e*S		**S**	**15 04 12.0**	**+0.4**
ZEA	comp=E,190nm,1.0s			pmax	pmax			
ZEA	comp=N,140nm,1.2s			pmax	pmax			
ZEA	comp=Z,620nm,1.8s			pmax	pmax			
ZEA	comp=E,2μm,9.0s			pmax	pmax			
ZEA	comp=Z,3μm,9.0s			smax	smax			
ZEA	comp=N,5μm,7.0s			smax	smax			
ZEA	comp=E,4μm,7.0s			MLR	MLR			
ZEA	comp=E,14μm,15.0s			MLR	MLR			
ZEA	comp=Z,21μm,15.0s			MLR	MLR			
ZEA	comp=N,5μm,13.0s			MLR	MLR			
YAK	**Yakutsk**	**18.81**	**317**	*c i*P		**Pn**	**15 00 45.3**	**-0.3**
YAK				*e*S		**S**	**15 04 17.6**	**+1.5**
YAK	comp=Z,3μm,0.9s			pmax	pmax			
YAK	comp=N,497nm,1.1s			pmax	pmax			
YAK	comp=E,699nm,0.9s			pmax	pmax			
YAK	comp=Z,6μm,1.4s			pmax	pmax			
YAK	comp=N,2μm,1.5s			pmax	pmax			
YAK	comp=E,5μm,1.3s			smax	smax			
YAK	comp=N,2μm,1.8s			smax	smax			
YAK	comp=E,4μm,2.0s			MLR	MLR			
YAK	comp=Z,128μm,21.0s			MLR	MLR			
YAK	comp=E,86μm,19.0s			MLR	MLR			
YAK	comp=N,39μm,18.0s							
VLA	**Vladivostok**	**18.94**	**256**	*i* P		**Pn**	**15 00 46.9**	**-0.5**
VLA	comp=Z,117nm,1.6s			pmax	pmax			
MDJ	**Mudanjiang**	**19.61**	**262**	P		**P**	**15 00 52.6**	**-1.1**
MDJ				sP		sP	15 01 08.1	-2.2
MDJ				S		**S**	**15 04 30.7**	**-1.7**
MDJ				sS		sS	15 04 45.5	-4.2
MDJ	comp=Z,63nm,1.2s			pmax	pmax			
MDJ	comp=Z,880nm,5.8s			pmax	pmax			
MDJ	comp=Z,11μm,21.1s			LR	LR			
MDJ	comp=Z,9μm,21.6s			LR	LR			
MDJ	comp=Z,10μm,19.0s			LR	LR			
MDJ	**Mudanjiang**	**19.61**	**262**	*e*P		**P**	**15 00 52.8**	**-0.9**
MAJO	comp=Z,166nm,0.9s **Matsushiro**	**19.80**	**231**	*e*P		**P**	**15 00 55.8**	**0.0**
MAJO	comp=Z,213nm,0.8s **Matsushiro**	**19.80**	**231**	*c i*P		**P**	**15 00 56.4**	**+0.6**
MAJO	comp=Z,255nm,0.9s			pmax	pmax			
MAJO	**Matsushiro**	**19.80**	**231**	*e*P		**P**	**15 00 55.8**	**0.0**
MAT	**Matsushiro**	**19.80**	**231**	P		**P**	**15 00 55.9**	**+0.1**
MAT				S		**S**	**15 04 33.2**	**-3.0**
MJAR	**Matsushiro Arr**	**19.80**	**231**	P		**P**	**15 00 56.1**	**+0.4**
MJAR	comp=Z,0.9nm,0.3s,baz=22,slow=9.0,SNR=197			LR	LR		15 08 58.6	
	comp=Z,7μm,21.6s,baz=55,slow=38							
MJB9	**Matsu-Tunnel**	**19.80**	**231**	*e*P		**P**	**15 00 55.8**	**0.0**
SPIA	comp=Z,222nm,0.8s **Saint Paul Isl**	**19.94**	**59**	*e*P		**P**	**15 00 56.8**	**-0.3**
GAMB	comp=Z,154nm,0.9s **Gambell**	**20.89**	**40**	*e*P		**P**	**15 01 07.9**	**+0.6**
INU	comp=Z,195nm,1.3s **Inuyama**	**21.33**	**231**	*e*P		**P**	**15 01 12.3**	**0.0**
JHJ2	comp=Z,419nm,0.9s **Mitsune**	**21.88**	**223**	*e*P		**P**	**15 01 18.0**	**-0.2**
JHJ	comp=Z,644nm,1.0s **Hachijo jima 2**	**21.89**	**223**	P		**P**	**15 01 19.0**	**+0.7**
AKUT	comp=Z,494nm,0.9s,baz=230,slow=5.0,SNR=9.2 **Akutan**	**22.54**	**67**	*e*P		**P**	**15 01 22.6**	**-2.4**
CN2	comp=Z,172nm,1.4s **Changchun**	**22.62**	**264**	*e*P		**P**	**15 01 22.9**	**-3.1**
CN2				*ep*P		pP	15 01 36.9	-0.1
CN2				*e*S		**S**	**15 05 21.6**	**-8.9**
CN2	comp=Z,30nm,1.2s			pmax	pmax			
CN2	comp=Z,600nm,4.0s			pmax	pmax			
CN2	comp=Z,10μm,19.0s			LR	LR			
CN2	comp=Z,8μm,19.0s			LR	LR			
CN2	comp=Z,9μm,19.0s			LR	LR			
ANM	**Nome**	**23.76**	**40**	*e*P		**P**	**15 01 37.9**	**+0.7**
ANM	comp=Z,127nm,0.8s **Nome**	**23.76**	**40**	*e*P		**P**	**15 01 37.9**	**+0.7**
ANM	comp=Z,127nm,0.8s			pmax	pmax			
HIA	**Hailar**	**24.04**	**281**	*e*P		**P**	**15 01 39.9**	**0.0**
HIA	comp=Z,84nm,0.8s			LR	LR			
HIA	comp=Z,7μm,20.0s			LR	LR			
HIA	**Hailar**	**24.04**	**281**	*e*P		**P**	**15 01 39.9**	**0.0**
HIA	comp=Z,84nm,0.8s			pmax	pmax			
HIA	comp=Z,7μm,20.0s			MLR	MLR			
TIXI	**Tiksi**	**24.52**	**339**	*e*P		**P**	**15 01 43.2**	**-0.8**
TIXI	comp=

SNY pmax pmax
comp=Z,59nm,2.3s
SNY pmax pmax
comp=Z,1μm,12.0s
SNY LR LR
comp=Z,8μm,24.0s
SNY LR LR
comp=Z,7μm,24.4s
SNY LR LR
comp=Z,9μm,21.1s
KS15 Wonju Array Si 24.83 249 eP P 15 01 48.2 +1.1
comp=Z,70nm,0.8s
KSAR Wonju Array Be 24.83 249 P **P 15 01 47.5 +0.4**
KSAR PcP **PcP 15 05 23.1 +0.9**
KSAR Wonju Array Be 24.83 249 P **P 15 01 47.5 +0.4**
KSAR 15 05 23.1
TJN Taejon 25.86 248 *c*eP **P 15 01 54.8 -1.6**
BOD Bodaibo 25.86 303 *e*P **P 15 01 55.5 -0.8**
BOD pmax pmax
comp=Z,160nm,1.4s
RDOG Red Dog Mine 25.88 33 *e*P **P 15 01 56.7 +0.3**
comp=Z,249nm,1.2s
JNU Nakatsue 26.24 238 *e*P **P 15 02 01.0 +1.0**
comp=Z,616nm,1.1s
JNU Nakatsue 26.24 238 P **P 15 02 01.1 +1.1**
comp=Z,392nm,0.9s,baz=28,slow=6.8,SNR=54
CIT Chita 27.04 290 *e*P **P 15 02 07.7 +0.6**
CIT *e* 15 02 20.4
CIT *e* 15 02 33.8
CIT pmax pmax
comp=Z,139nm,1.2s
SVW2 Sparrevohn 27.67 50 *e*P **P 15 02 13.1 +0.5**
comp=Z,84nm,1.1s
DL2 Dalian 27.71 258 P **P 15 02 12.9 -0.2**
DL2 S **S 15 06 51.3 -0.7**
DL2 sS **sS 15 07 07.5 -4.8**
DL2 pmax pmax
comp=Z,88nm,1.1s
DL2 pmax pmax
comp=Z,670nm,3.7s
DL2 LR LR
comp=Z,6μm,18.4s
DL2 LR LR
comp=Z,5μm,17.0s
DL2 LR LR
comp=Z,6μm,24.7s
IM3 Indian Mountai 28.84 40 *e*P **P 15 02 22.9 +0.1**
RSO Redoubt South 29.08 51 *e*P **P 15 02 25.9 +0.7**
PPLA Purkeypile 29.29 46 *e*P **P 15 02 28.0 +0.9**
comp=Z,96nm,1.5s
CAST Castle Rocks 29.35 45 *e*P **P 15 02 27.9 +0.5**
comp=Z,57nm,1.4s
SPU Mount Spurr 29.38 50 *e*P **P 15 02 28.2 +0.4**
KDAK Kodiak Island 29.43 57 *e*P **P 15 02 27.5 -0.7**
comp=Z,72nm,1.1s
KDAK LR LR
comp=Z,3μm,21.0s
KDAK Kodiak Island 29.43 57 *i* P **P 15 02 27.1 -1.1**
KDAK Kodiak Island 29.43 57 P **P 15 02 27.5 -0.7**
comp=Z,52nm,1.1s,baz=34,slow=1.2,SNR=9.5
MIDW Midway 29.56 130 PFAKE 15 02 40.0 +10
MIDW LR LR
comp=Z,6μm,20.0s
BPAW Bear Paw Mtn. 29.85 44 *e*P **P 15 02 32.6 +0.7**
comp=Z,68nm,1.3s
MLY Manley 30.00 42 *e*P **P 15 02 34.0 +0.8**
comp=Z,68nm,1.3s
BRLK Bradley Lake 30.07 52 *e*P **P 15 02 33.7 -0.2**
comp=Z,44nm,0.8s
TRF Thorofare Moun 30.15 45 *e*P **P 15 02 35.1 +0.4**
comp=Z,35nm,0.8s
COLD Coldfoot 30.39 38 *e*P **P 15 02 36.9 +0.3**
comp=Z,24nm,0.9s
BJI Beijing 30.47 265 P **P 15 02 36.8 -0.8**
BJI S **S 15 07 31.5 -3.9**
BJI LR LR
comp=Z,8μm,23.6s
BJI LR LR
comp=Z,6μm,21.7s
BJI LR LR
comp=Z,6μm,24.2s
BJT Baijiatuau 30.49 265 PFAKE 15 02 50.0 +12
BJT LR LR
comp=Z,5μm,20.0s
BWN Browne 30.52 44 *e*P **P 15 02 39.4 +1.6**
comp=Z,366nm,1.3s
SEW Seward 30.75 52 *e*P **P 15 02 39.3 -0.4**
comp=Z,97nm,1.0s
MCK McKinley 30.76 45 *e*P **P 15 02 40.2 +0.3**
comp=Z,82nm,1.3s
PMR Palmer 30.76 49 *e*P **P 15 02 39.8 -0.1**
comp=Z,25nm,1.0s
PMR Palmer 30.76 49 *e*P **P 15 02 39.8 -0.1**
PMR pmax pmax
comp=Z,25nm,1.0s
RND Reindeer 30.80 45 *e*P **P 15 02 40.0 -0.3**
comp=Z,51nm,0.8s
RND Reindeer 30.80 45 *e*P **P 15 02 40.0 -0.3**
RND pmax pmax
comp=Z,51nm,0.8s
TOLK Toolik Lake Re 30.81 35 *e*P **P 15 02 41.0 +0.6**
comp=Z,70nm,1.0s
TOLK Toolik Lake Re 30.81 35 P **P 15 02 40.6 +0.3**
baz=262,SNR=40
TOLK S **S 15 07 40.9 +0.7**
baz=262
MDM Murphy Dome 31.06 42 *e*P **P 15 02 42.9 +0.3**
comp=Z,58nm,1.1s
KNK Knik Glacier 31.10 49 *e*P **P 15 02 43.0 0.0**
comp=Z,196nm,1.0s
WRH Wood River Hil 31.12 43 *e*P **P 15 02 43.0 -0.1**
comp=Z,160nm,1.2s
SML Sawmill 31.12 48 *e*P **P 15 02 43.3 +0.1**
comp=Z,207nm,1.0s
SML Sawmill 31.12 48 *e*P **P 15 02 43.3 +0.1**
SML pmax pmax
comp=Z,207nm,1.0s
TCOL CIGO, UAF Yank 31.22 42 P **P 15 02 44.1 +0.3**
baz=270,SNR=29
COLA College 31.22 42 *e*P **P 15 02 44.1 +0.2**
comp=Z,91nm,0.8s
COLA LR LR
comp=Z,3μm,21.0s
COLA College 31.22 42 *c i*P **P 15 02 44.3 +0.4**
COLA pmax pmax
comp=Z,122nm,1.2s
COLA College 31.22 42 *e*P **P 15 02 44.3 +0.4**
CCB Clear Creek Bu 31.24 43 *e*P **P 15 02 44.3 +0.2**
comp=Z,134nm,1.4s
POKR Poker Plat Res 31.40 42 P **P 15 02 45.9 +0.4**
baz=270,SNR=32
DHY Denali Highway 31.48 46 *e*P **P 15 02 46.2 -0.3**
comp=Z,66nm,1.2s
SCM Sheep Creek Mo 31.60 48 *e*P **P 15 02 47.7 +0.3**
comp=Z,104nm,0.8s
HDA Harding Lake 31.62 43 *e*P **P 15 02 47.4 0.0**
comp=Z,35nm,0.6s
HDA Harding Lake 31.62 43 P **P 15 02 46.5 -0.9**
baz=272,SNR=17
ILAR Eielson Array 31.63 42 P **P 15 02 47.0 -0.6**
comp=Z,24nm,0.9s,baz=262,slow=8.4,SNR=112
ILAR LR LR 15 16 48.4
comp=Z,3μm,19.9s,baz=276,slow=39
ILB Eielson Array 31.63 42 *e*P **P 15 02 47.8 +0.3**
comp=Z,34nm,0.8s
IL1 Eielson Array 31.64 42 *e*P **P 15 02 47.5 0.0**
H11N2 WAKE ISLAND Hy 31.92 163 T T 15 36 40.7
baz=349,slow=76,SNR=1818
H11N3 WAKE ISLAND Hy 31.94 163 T T 15 36 35.6
baz=349,slow=76,SNR=2204
H11N1 WAKE ISLAND Hy 31.94 163 T T 15 36 35.9
baz=349,slow=76,SNR=4310
TIA Tai'an 32.18 259 P **P 15 02 51.6 -1.1**
TIA S **S 15 07 55.1 -7.2**
TIA pmax pmax
comp=Z,15nm,0.8s
TIA pmax pmax
comp=Z,220nm,8.3s
TIA LR LR
comp=Z,950nm,17.2s
TIA LR LR
comp=Z,2μm,20.6s
TIA LR LR
comp=Z,3μm,24.5s
PRP Porcupine Dome 32.20 41 *e*P **P 15 02 53.1 +0.4**
comp=Z,157nm,1.2s
KLU Klutina 32.30 49 *e*P **P 15 02 53.5 0.0**
comp=Z,74nm,1.1s
FYU Fort Yukon 32.31 39 *e*P **P 15 02 54.4 +0.9**
comp=Z,341nm,1.3s
WAKE Wake Island 32.31 163 PFAKE 15 03 10.0 +16
WAKE LR LR
comp=Z,7μm,19.0s
PAX Paxson 32.36 46 *e*P **P 15 02 55.1 +1.1**
comp=Z,18nm,0.8s
PAX Paxson 32.36 46 *e*P **P 15 02 55.1 +1.1**
PAX pmax pmax
comp=Z,18nm,0.8s
DIV Divide 32.42 49 *e*P **P 15 02 54.3 -0.3**
comp=Z,40nm,0.8s
IRK Irkutsk 32.45 294 *e*P **P 15 02 54.5 -0.4**
IRK *e* 15 03 13.4
IRK pmax pmax
comp=Z,111nm,2.5s
HARP HAARP 32.56 47 *e*P **P 15 02 56.0 +0.3**
comp=Z,57nm,1.0s
JOW Kunigami 32.60 234 *e*P **P 15 02 56.3 -0.1**
comp=Z,47nm,0.9s
JOW Kunigami 32.60 234 P **P 15 02 57.2 +0.8**
comp=Z,10nm,0.9s,baz=113,slow=14,SNR=19
SONA0 Songino Array 32.81 285 *e*P **P 15 02 58.7 +0.4**
SONA0 *e*PcP **PcP 15 05 42.7 +0.4**
SONM Songino Array 32.81 285 P **P 15 02 58.7 +0.4**
comp=Z,11nm,0.6s,baz=68,slow=7.7,SNR=63
SONM PcP **PcP 15 05 42.7 +0.4**
comp=Z,23nm,0.9s,baz=81,slow=1.4,SNR=11
SONM pScP 15 09 45.4
comp=Z,20nm,1.2s,baz=52,slow=2.2,SNR=11
SONM LR LR 15 17 27.6
comp=Z,9μm,20.1s,baz=66,slow=38
DOT Dot Lake 32.93 44 *e*P **P 15 02 58.2 -0.8**
comp=Z,26nm,0.7s
SCRK Sand Creek 32.93 44 *e*P **P 15 02 58.7 -0.4**
comp=Z,121nm,1.3s
HHC Hu-ho-hao-te 32.94 270 *e*P **P 15 02 59.1 -0.3**
HHC sP sP 15 03 16.7 -0.4
HHC S **S 15 08 16.9 +2.7**
HHC sS sS 15 08 37.7 +3.1
HHC SS **SnSn 15 10 16.8 +2.3**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,380nm,8.4s
HHC LR LR
comp=Z,5μm,17.3s
HHC LR LR
comp=Z,6μm,17.3s
HHC LR LR
comp=Z,8μm,16.4s
TLY Talaya 33.00 293 *e*P **P 15 02 58.3 -1.4**
comp=Z,53nm,1.0s
TLY LR LR
comp=Z,6μm,20.0s
TLY Talaya 33.00 293 *c i*P **P 15 02 59.7 0.0**
TLY *e* 15 04 18.8
TLY *e* 15 05 43.4
TLY *e*S **S 15 08 16.4 +1.7**
TLY pmax pmax
comp=Z,118nm,0.9s
TLY MLR MLR
comp=Z,23μm,19.0s
TLY Talaya 33.00 293 P **P 15 03 01.1 +1.4**
SNR=28
TLY P **P 15 03 01.1 +1.4**
SNR=28
H11S1 WAKE ISLAND Hy 33.08 164 T T 15 37 53.9
baz=349,slow=76,SNR=4435
H11S3 WAKE ISLAND Hy 33.09 164 T T 15 37 57.6
baz=349,slow=76,SNR=4378
H11S2 WAKE ISLAND Hy 33.10 164 T T 15 37 42.1
baz=349,slow=76,SNR=3794
SSE Sheshan 33.22 248 P **P 15 03 02.3 +0.6**
SSE S **S 15 08 15.0 -3.4**
SSE pmax pmax
comp=Z,59nm,1.0s
SSE pmax pmax
comp=Z,540nm,6.3s
SSE LR LR
comp=Z,810nm,19.2s
SSE LR LR
comp=Z,1μm,16.8s
SSE Sheshan 33.22 248 PFAKE 15 03 10.0 +8.3
SSE LR LR
comp=Z,2μm,20.0s
ZAK Zakamensk 33.68 291 *e*P **P 15 03 06.4 +0.6**
ZAK *e* 15 05 43.2
ZAK pmax pmax
comp=Z,53nm,1.2s
NJ2 Nanjing 33.92 251 *e*P **P 15 03 08.6 +0.8**
NJ2 sP **sP 15 03 24.2 -1.3**
NJ2 S **S 15 08 30.4 +1.2**
NJ2 pmax pmax
comp=Z,53nm,1.2s
NJ2 pmax pmax
comp=Z,1μm,5.4s
NJ2 LR LR
comp=Z,4μm,22.2s
NJ2 LR LR
comp=Z,3μm,20.6s
NJ2 LR LR
comp=Z,6μm,22.8s
BTO Baotou 34.06 271 *e*P P 15 03 04.1 -5.0
EGAK Eagle 34.08 42 *e*P **P 15 03 08.2 -0.8**
comp=Z,155nm,1.4s
EGAK LR LR
comp=Z,3μm,20.0s
TIY Taiyuan 34.20 265 *e*P **P 15 03 09.7 -0.6**
TIY S **S 15 08 31.9 -1.7**
TIY pmax pmax
comp=Z,75nm,0.9s
TIY LR LR
comp=Z,8μm,23.4s
TIY LR LR
comp=Z,830nm,11.3s
TIY LR LR
comp=Z,3μm,25.4s
MOY Mondy 34.55 294 *e*P **P 15 03 13.1 -0.2**
MOY pmax pmax
comp=Z,95nm,1.5s
DAWY Dawson 34.93 43 *e*P **P 15 03 16.4 +0.1**
comp=Z,35nm,1.1s
EPYK Eagle Plains 35.73 39 *e*P **P 15 03 23.8 +0.6**
comp=Z,130nm,1.1s
EPYK Eagle Plains 35.73 39 P **P 15 03 23.7 +0.6**
baz=278,SNR=48
HYT Haines Junctio 36.43 48 *e*P **P 15 03 30.5 +1.2**
comp=Z,58nm,1.0s
INK Inuvik 36.71 36 *e*P **P 15 03 32.4 +1.0**
comp=Z,110nm,1.1s
INK Inuvik 36.71 36 *e*P **P 15 03 32.4 +1.0**
INK pmax pmax
comp=Z,110nm,1.1s
NRIK Noril'sk 36.83 326 P **P 15 03 31.2 -1.2**
comp=Z,4.8nm,0.4s,baz=88,slow=8.2,SNR=12
NRIK PcP **PcP 15 05 53.4 +0.1**
comp=Z,36nm,0.9s,baz=161,slow=3.7,SNR=4.7
NRIK LR LR 15 20 00.6
comp=Z,7μm,18.0s,baz=65,slow=38
TATO Taipei 37.71 240 *e*P **P 15 03 41.5 +1.2**
comp=Z,81nm,1.0s
TATO LR LR
comp=Z,3μm,19.0s
WHY Whitehorse 37.72 48 *e*P **P 15 03 41.5 +1.3**
comp=Z,123nm,1.4s
SKAG Skagway 37.85 50 *e*P **P 15 03 43.2 +2.0**
comp=Z,138nm,1.3s
YHNB Yeheng 38.01 240 *e*P **P 15 03 43.1 +0.1**
comp=Z,48nm,1.1s
BESE Bessie Mountai 38.36 51 *e*P **P 15 03 47.4 +1.7**
comp=Z,139nm,1.4s
GUMO Guam 38.49 200 LR LR 15 22 57.8
comp=Z,926nm,18.1s,baz=44,slow=41
XAN Xi'an 38.72 263 P **P 15 03 48.0 -0.9**
XAN pP pP 15 03 59.4 -1.8
XAN sP sP 15 04 05.1 -1.5
XAN PP **PnPn 15 05 21.4 +0.9**
XAN S **S 15 09 46.0 +3.4**
XAN pmax pmax
comp=Z,39nm,1.2s
XAN pmax pmax
comp=Z,470nm,8.6s
XAN LR LR
comp=Z,5μm,21.7s
XAN LR LR
comp=Z,5μm,19.5s
XAN Xi'an 38.72 263 *e*P **P 15 03 48.5 -0.4**
comp=Z,50nm,1.1s
XAN Xi'an 38.72 263 *e*P **P 15 03 48.5 -0.4**
XAN pmax pmax
comp=Z,50nm,1.1s
SSLB Suanglung 38.94 240 *e*P **P 15 03 50.7 -0.1**
comp=Z,46nm,1.0s
QZH Quanzhou 39.35 244 ⇑ *i*P **P 15 03 55.0 +0.9**
QZH S **S 15 09 52.0 -0.1**
QZH pmax pmax
comp=Z,88nm,1.0s
QZH pmax pmax
comp=Z,1μm,5.1s
QZH LR LR
comp=Z,1μm,18.2s
QZH LR LR
comp=Z,1μm,18.0s
QZH LR LR
comp=Z,1μm,18.5s
WRAK Wrangell Islan 40.40 54 *e*P **P 15 04 03.1 +0.6**
comp=Z,91nm,1.2s
WRAK LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 40.64 270 *e*P **P 15 04 05.2 +0.3**
LZH pP pP 15 04 17.6 +0.3
LZH sP sP 15 04 22.0 -0.7
LZH PP **PnPn 15 05 42.6 -0.6**
LZH *e*S S 15 10 00.2 -11
LZH pmax pmax
comp=Z,240nm,1.1s
LZH pmax pmax
comp=Z,1μm,5.7s
LZH LR LR
comp=Z,12μm,19.8s
LZH LR LR
comp=Z,9μm,17.3s
LZH LR LR
comp=Z,13μm,19.9s
DLBC Dease Lake 40.79 50 *e*P **P 15 04 07.9 +2.1**
comp=Z,104nm,1.4s
ENH Enshi 40.90 259 *e*P **P 15 04 06.8 -0.2**
comp=Z,86nm,0.9s
ENH LR LR
comp=Z,5μm,19.0s
GTA Gaotai 41.19 277 P **P 15 04 09.3 -0.1**
GTA pP pP 15 04 21.4 -0.4
GTA sP sP 15 04 26.5 -0.7
GTA PcS **PcS 15 09 59.8 +0.8**
GTA S **S 15 10 20.0 +0.4**
GTA sS sS 15 10 38.9 -1.4
GTA ScS **ScS 15 14 08.3 -1.1**
GTA pmax pmax
comp=Z,35nm,1.3s
GTA pmax pmax
comp=Z,500nm,8.9s
GTA LR LR
comp=Z,4μm,20.3s
GTA LR LR
comp=Z,4μm,20.3s
GTA LR LR
comp=Z,5μm,22.0s
ZAA1 Zalesovo Array 42.60 304 *e*P **P 15 04 20.0 -0.6**
ZAA1 *e*PcP **PcP 15 06 11.4 -0.6**
ZAA0 Zalesovo Array 42.61 304 *e*P **P 15 04 20.8 +0.2**
comp=Z,28nm,0.9s
ZALV Zalesovo Beam 42.61 304 *e*P **P 15 04 19.4 -1.2**
ZALV PcP **PcP 15 06 11.4 -0.6**
ZALV Zalesovo Beam 42.61 304 P **P 15 04 20.0 -0.6**
comp=Z,22nm,0.8s,baz=63,slow=6.8,SNR=56
ZALV PcP **PcP 15 06 11.4 -0.6**
comp=Z,51nm,1.0s,baz=50,slow=2.3,SNR=11
ZALV pScP 15 10 18.7
comp=Z,3.7nm,0.7s,baz=45,slow=4.8,SNR=3.7
ZALV LR LR 15 22 43.4
comp=Z,4μm,20.9s,baz=76,slow=37
NVS Novosibirsk 43.03 305 ⇓ *i*P **P 15 04 23.9 -0.1**
NVS *e* 15 04 41.9
NVS *e* 15 06 05.3
NVS *e*S **S 15 10 45.2 -0.9**
NVS pmax pmax
comp=E,106nm,1.1s
NVS pmax pmax
comp=Z,180nm,1.1s
NVS pmax pmax
comp=N,69nm,1.6s
NVS pmax pmax
comp=Z,127nm,1.4s
NVS pmax pmax
comp=N,77nm,1.6s
NVS pmax pmax
comp=E,91nm,1.5s
NVS smax smax
comp=E,61nm,1.8s
JOHN Johnston Islan 43.09 130 PFAKE 15 04 40.0 +15
JOHN LR LR
comp=Z,423nm,20.0s
GZH Guangzhou 43.82 248 P **P 15 04 26.5 -4.2**
GZH PcS **PcS 15 10 10.1 +0.5**
GZH S S 15 10 48.5 -10
GZH SS SS 15 14 01.8 -13
GZH pmax pmax
comp=Z,910nm,5.3s
GZH LR LR
comp=Z,2μm,18.2s
GZH LR LR
comp=Z,2μm,18.2s
CD2 Chengdu 44.05 264 ⇑ P **P 15 04 32.4 -0.2**
CD2 PP **PP 15 06 14.6 -1.1**
CD2 S **S 15 11 00.6 -1.1**
CD2 SS **SS 15 14 10.9 -8.9**
CD2 pmax pmax
comp=Z,200nm,1.1s
CD2 pmax pmax
comp=Z,2μm,5.5s
CD2 LR LR
comp=Z,6μm,17.0s
CD2 LR LR
comp=Z,7μm,17.5s
CD2 LR LR
comp=Z,9μm,17.4s
MCO Taipa Grande 44.44 246 P **P 15 04 37.0 +1.3**
BBB Bella Bella 44.49 58 *e*P **P 15 04 37.5 +1.7**
comp=Z,158nm,1.4s
GYA Guiyang 45.35 257 ⇑ *i*P **P 15 04 44.1 +1.1**
GYA pP pP 15 04 55.2 -0.4
GYA sP sP 15 05 00.8 -0.1
GYA PP **PP 15 06 31.0 +1.4**
GYA ScP **ScP 15 10 11.5 +0.9**
GYA S **S 15 11 20.7 +0.1**
GYA sS sS 15 11 40.4 -1.2
GYA SS **ScS 15 14 34.2 -1.5**
GYA pmax pmax
comp=Z,160nm,0.9s
GYA pmax pmax
comp=Z,630nm,7.1s
GYA LR LR
comp=Z,1μm,19.6s
GYA LR LR
comp=Z,2μm,17.2s
GYA LR LR
comp=Z,3μm,18.2s
ZSN Zaisan 45.79 295 *d i*P **P 15 04 44.4 -1.8**
ZSN pmax pmax
comp=Z,91nm,1.4s
ZSN MLR MLR
comp=Z,904nm,18.0s
ZSN Zaisan 45.79 295 ⇓ *i*P **P 15 04 44.4 -1.8**
comp=Z,91nm,1.4s
ZSN *e*LR LR 15 24 00.3
comp=Z,904nm,17.8s
YKW3 Yellowknife Ar 45.96 40 *e*P **P 15 04 47.8 +0.5**
comp=Z,111nm,1.4s
YKA Yellowknife Ar 45.99 40 P **P 15 04 47.9 +0.4**
comp=Z,22nm,0.6s,baz=298,slow=7.7,SNR=260
YKA PcP **PcP 15 06 23.9 +0.5**
comp=Z,18nm,1.0s,baz=308,slow=2.9,SNR=11
YKA LR LR 15 27 35.3
comp=Z,163nm,18.6s,baz=298,slow=41
YKA PKPPKP 15 35 52.4
comp=Z,0.4nm,0.8s,baz=139,slow=2.1,SNR=4.5
YKB5 Yellowknife Ar 45.99 40 *e*P **P 15 04 47.3 -0.2**
RES Resolute Bay 46.07 21 *e*P **P 15 04 48.6 +0.7**
comp=Z,106nm,1.4s
RES *e*PcP **PcP 15 06 23.4 0.0**
RES Resolute Bay 46.07 21 P **P 15 04 48.6 +0.7**

	comp=Z,26nm,0.5s,baz=316,slow=8.4,SNR=86										
RES					PcP	**PcP**	**15 06 24.1**	**+0.7**			
	comp=Z,33nm,1.0s,baz=332,slow=1.2,SNR=4.8										
WMQ	**Urumqi**	**46.14**	**290**	⇑	*i*P	**P**	**15 04 49.5**	**+0.5**			
WMQ					pP	pP	15 05 00.6	-1.0			
WMQ					PP	**PP**	**15 06 39.9**	**+2.3**			
WMQ					PcS	**PcS**	**15 10 22.2**	**+3.4**			
WMQ					S	**S**	**15 11 32.3**	**+0.7**			
WMQ					pmax	pmax					
	comp=Z,200nm,1.5s										
WMQ					pmax	pmax					
	comp=Z,2μm,5.9s										
WMQ					LR	LR					
	comp=Z,10μm,17.9s										
WMQ					LR	LR					
	comp=Z,9μm,20.1s										
WMQ					LR	LR					
	comp=Z,13μm,20.1s										
WMQ	**Urumqi**	**46.14**	**290**	*e*P		**P**	**15 04 48.0**	**-1.0**			
	comp=Z,143nm,1.1s										
WMQ	**Urumqi**	**46.14**	**290**	*e*P		**P**	**15 04 48.0**	**-1.0**			
WMQ					pmax	pmax					
	comp=Z,143nm,1.1s										
SEM	**Semipalatinsk**	**46.80**	**301**	*d i*P		**P**	**15 04 50.7**	**-3.5**			
SEM					pmax	pmax					
	comp=Z,714nm,1.4s										
SEM					MLR	MLR					
	comp=Z,2μm,19.0s										
SEM	**Semipalatinsk**	**46.80**	**301**	⇓ *i*P		**P**	**15 04 50.8**	**-3.5**			
	comp=Z,714nm,1.4s										
SEM					*e*LR	LR	15 25 03.9				
	comp=Z,2μm,18.7s										
TGY	**Tagaytay City**	**46.96**	**232**		P	**P**	**15 04 56.8**	**+1.0**			
	comp=Z,391nm,0.5s,baz=358,slow=1.9,SNR=23										
TGY					LR	LR	15 26 07.7				
	comp=Z,571nm,21.0s,baz=0.5,slow=38										
KURK	**Kurchatov**	**47.51**	**302**	*e*P		**P**	**15 04 59.5**	**0.0**			
	comp=Z,233nm,1.1s										
KURK					LR	LR					
	comp=Z,6μm,19.0s										
KURK	**Kurchatov**	**47.51**	**302**		P	**P**	**15 04 59.6**	**0.0**			
KURK							15 06 29.1				
KURK					pmax	pmax					
	comp=Z,149nm,1.2s										
KURK	**Kurchatov**	**47.51**	**302**		P	**P**	**15 04 59.1**	**-0.5**			
	SNR=96										
KURK					P	**P**	**15 04 59.1**	**-0.5**			
	SNR=96										
KURBB	**Kurchatov Arra**	**47.61**	**302**		P	**P**	**15 04 59.6**	**-0.7**			
	comp=Z,149nm,1.2s,baz=63,slow=7.3,SNR=190										
KURBB					PcP	**PcP**	**15 06 29.1**	**-0.3**			
	comp=Z,34nm,1.0s,baz=68,slow=3.5,SNR=6.7										
MK31	**Makanchi Array**	**47.63**	**296**	*e*P		**P**	**15 05 00.2**	**-0.3**			
	comp=Z,98nm,1.4s										
MK31	**Makanchi Array**	**47.63**	**296**	*e*P		**P**	**15 05 00.2**	**-0.3**			
MK31					pmax	pmax					
	comp=Z,99nm,1.4s										
MK32	**Makanchi Array**	**47.63**	**296**	*e*P		**P**	**15 04 59.9**	**-0.7**			
MK32				*e*ScP		**ScP**	**15 10 19.6**	**0.0**			
MKAR	**Makanchi Array**	**47.63**	**296**		P	**P**	**15 04 59.9**	**-0.7**			
	comp=Z,83nm,1.1s,baz=64,slow=7.1,SNR=167										
MKAR					ScP	**ScP**	**15 10 19.6**	**0.0**			
	comp=Z,1.9nm,0.9s,baz=134,slow=4.2,SNR=2.6										
MKAR					pPcP		15 10 41.6				
	comp=Z,3.8nm,0.9s,baz=34,slow=3.2,SNR=3.7										
MKAR					LR	LR	15 25 48.3				
	comp=Z,10μm,21.4s,baz=46,slow=37										
MK01	**Makanchi Array**	**47.63**	**296**	*e*P		**P**	**15 05 00.4**	**-0.2**			
MAKZ	**Makanchi**	**47.80**	**296**	*e*P		**P**	**15 05 01.5**	**-0.4**			
	comp=Z,47nm,1.1s										
MAKZ	**Makanchi**	**47.80**	**296**	*e*P		**P**	**15 05 01.5**	**-0.4**			
MAKZ					pmax	pmax					
	comp=Z,47nm,1.1s										
POHA	**Pohakuloa**	**48.21**	**112**		PFAKE		15 05 20.0	+14			
POHA					LR	LR					
	comp=Z,4μm,21.0s										
RCP	**Roxas**	**48.27**	**228**	⇑ *e*P		**P**	**15 05 06.4**	**+0.6**			
LLLB	**Lillooet**	**48.65**	**57**	*e*P		**P**	**15 05 09.2**	**+0.8**			
	comp=Z,72nm,1.0s										
KMI	**Kunming**	**48.75**	**259**		P	**P**	**15 05 10.3**	**+0.6**			
KMI					pP	pP	15 05 18.0	-4.4			
KMI					sP	sP	15 05 23.7	-4.0			
KMI					PP	**PP**	**15 07 03.3**	**+0.3**			
KMI					S	**S**	**15 12 04.3**	**-5.0**			
KMI					pmax	pmax					
	comp=Z,150nm,1.2s										
KMI					pmax	pmax					
	comp=Z,1μm,4.6s										
KMI					LR	LR					
	comp=Z,2μm,18.1s										
KMI					LR	LR					
	comp=Z,1μm,17.2s										
KMI					LR	LR					
	comp=Z,3μm,18.7s										
KMI	**Kunming**	**48.75**	**259**	*e*P		**P**	**15 05 10.2**	**+0.5**			
	comp=Z,191nm,1.1s										
LLP	**Lapu-Lapu**	**48.79**	**226**	*e*P		**P**	**15 05 09.5**	**-0.3**			
PGC	**Sidney**	**48.89**	**60**	*e*P		**P**	**15 05 10.8**	**+0.6**			
	comp=Z,83nm,1.5s										
KBS	**Kingsbay**	**48.90**	**352**	*e*P		**P**	**15 05 09.8**	**-0.1**			
	comp=Z,23nm,0.7s										
KBS					LR	LR					
	comp=Z,3μm,21.0s										
KBS	**Kingsbay**	**48.90**	**352**	*e*P		**P**	**15 05 09.8**	**-0.1**			
KBS					pmax	pmax					
	comp=Z,23nm,0.7s										
KBS					MLR	MLR					
	comp=Z,3μm,21.0s										
KBS	**Kingsbay**	**48.90**	**352**	*e*P		**P**	**15 05 10.4**	**+0.5**			
QIZ	**Qiongzhong**	**49.01**	**248**	P		**P**	**15 05 13.3**	**+1.8**			
QIZ					PP	**PP**	**15 07 06.4**	**+1.2**			
QIZ					S	**S**	**15 12 15.5**	**+2.8**			
QIZ					pmax	pmax					
	comp=Z,96nm,1.1s										
QIZ					pmax	pmax					
	comp=Z,1μm,4.3s										
QIZ					LR	LR					
	comp=Z,1μm,18.1s										
QIZ					LR	LR					
	comp=Z,2μm,19.6s										
QIZ					LR	LR					
	comp=Z,2μm,17.7s										
QIZ	**Qiongzhong**	**49.01**	**248**	*e*P		**P**	**15 05 11.6**	**0.0**			
	comp=Z,90nm,0.9s										
QIZ					LR	LR					
	comp=Z,281nm,20.0s										
SPA0	**Spitsbergen Ar**	**49.10**	**350**	*e*P		**P**	**15 05 11.3**	**-0.2**			
SPITS	**Spitsbergen Ar**	**49.10**	**350**	P		**P**	**15 05 11.0**	**-0.5**			
SPITS					pmax	pmax					
	comp=Z,25nm,0.5s										
SPITS	**Spitsbergen Ar**	**49.10**	**350**	P		**P**	**15 05 11.0**	**-0.5**			
	comp=Z,25nm,0.5s,baz=54,slow=8.5,SNR=130										
A04D	**Lummi Island**	**49.26**	**59**	P		**P**	**15 05 13.9**	**+0.9**			
	baz=305										
NLWA	**Neilton Lookou**	**49.38**	**61**	*e*P		**P**	**15 05 15.0**	**+1.0**			
	comp=Z,130nm,1.3s										
NLWA					LR	LR					
	comp=Z,1μm,20.0s										
HOPEN	**Hopen**	**49.38**	**347**	*e*P		**P**	**15 05 13.0**	**-0.5**			
TULEG	**Thule**	**49.57**	**13**	*e*P		**P**	**15 05 14.6**	**-0.4**			
	comp=Z,60nm,1.1s										
D03D	**Eldon**	**49.73**	**61**	P		**P**	**15 05 17.6**	**+1.0**			
	baz=305,SNR=34										
B05A	**Bryant**	**49.85**	**60**	P		**P**	**15 05 18.3**	**+0.7**			
	baz=305,SNR=28										
B06A	**Marblemount**	**50.04**	**59**	*e*P		**P**	**15 05 19.4**	**+0.5**			
	comp=Z,112nm,1.3s										
D04E	**Lakebay**	**50.11**	**61**	P		**P**	**15 05 20.9**	**+1.4**			
	baz=306,SNR=8.1										
HSPB	**Hornsund (broa**	**50.20**	**350**	*e*P		**P**	**15 05 20.6**	**+0.8**			
HSPB	**Hornsund (broa**	**50.20**	**350**	*e*P		**P**	**15 05 20.1**	**+0.3**			
BVA0	**Borovoye Array**	**50.48**	**309**	P		**P**	**15 05 20.6**	**-1.7**			
BVA0					pmax	pmax					
	comp=Z,58nm,1.2s										
BVAR	**Borovoye Array**	**50.48**	**309**	LR		LR	15 28 02.8				
	comp=Z,6μm,21.4s,baz=54,slow=38										
BRVK	**Borovoye**	**50.52**	**309**	*e*P		**P**	**15 05 21.7**	**-0.8**			
	comp=Z,48nm,1.0s										
BRVK					LR	LR					
	comp=Z,4μm,21.0s										
BRVK	**Borovoye**	**50.52**	**309**	*c i*P		**P**	**15 05 21.5**	**-1.0**			
BRVK					pmax	pmax					
	comp=Z,58nm,1.1s										
BRVK	**Borovoye**	**50.52**	**309**	P		**P**	**15 05 21.7**	**-0.8**			
	SNR=20										
BRVK					P	**P**	**15 05 21.7**	**-0.8**			
	SNR=20										
D05A	**Enumclaw**	**50.54**	**61**	*e*P		**P**	**15 05 23.9**	**+1.1**			
	comp=Z,145nm,1.4s										
E04D	**Cinebar**	**50.59**	**62**	P		**P**	**15 05 24.0**	**+0.9**			
	baz=306,SNR=26										
F04D	**Rainier, OR**	**50.62**	**62**	P		**P**	**15 05 24.0**	**+0.6**			
	baz=306										
C06D	**Leavenworth**	**50.71**	**59**	P		**P**	**15 05 24.7**	**+0.6**			
	baz=306										
TDK	**Taldyqorghan**	**50.87**	**296**	*e*P		**P**	**15 05 22.7**	**-2.6**			
TDK				*i* S		**S**	**15 12 35.3**	**-2.9**			
TDK					smax	smax					
	comp=N,1μm,4.6s										
TDK					MLR	MLR					
	comp=Z,8μm,20.0s										
TDK	**Taldyqorghan**	**50.87**	**296**	*e*P		**P**	**15 05 22.8**	**-2.6**			
	comp=Z,3μm,1.4s										
TDK				*i* S		**S**	**15 12 35.4**	**-2.9**			
	comp=Z,1μm,4.6s										
TDK				*e*LR		LR	15 26 16.7				
	comp=Z,8μm,20.2s										
DAV	**Davao City (W)**	**50.97**	**222**	⇑ *i*P		**P**	**15 05 26.2**	**-0.1**			
DAV	**Davao City (W)**	**50.97**	**222**	P		**P**	**15 05 27.3**	**+1.0**			
	SNR=5.6										
DAV	**Davao City (W)**	**50.97**	**222**	LR		LR	15 24 15.8				
	comp=Z,637nm,21.5s,baz=42,slow=33										
DAV	**Davao City (W)**	**50.97**	**222**	*e*P		**P**	**15 05 27.0**	**+0.7**			
G03D	**McMinnville, O**	**50.99**	**63**	P		**P**	**15 05 27.0**	**+0.8**			
	baz=307										
TARA	**Tarawa**	**51.01**	**160**		PFAKE		15 05 40.0	+13			
TARA					LR	LR					
	comp=Z,267nm,21.0s										
KCP	**Kidapawan**	**51.23**	**223**	⇑ *i*P		**P**	**15 05 29.2**	**+0.8**			
PDGK	**Podgornoye**	**51.26**	**294**	P		**P**	**15 05 27.7**	**-0.7**			
PDGK					pmax	pmax					
	comp=Z,111nm,1.3s										
B08A	**Colville Reser**	**51.30**	**58**	*e*P		**P**	**15 05 28.9**	**+0.3**			
	comp=Z,106nm,1.1s										
I02D	**Swisshome**	**51.32**	**65**	P		**P**	**15 05 29.7**	**+1.0**			
	baz=307										
COR	**Corvallis**	**51.34**	**64**	*e*P		**P**	**15 05 27.2**	**-1.6**			
	comp=Z,94nm,1.1s										
COR	**Corvallis**	**51.34**	**64**	*e*P		**P**	**15 05 27.2**	**-1.6**			
COR					pmax	pmax					
	comp=Z,95nm,1.1s										
F05D	**White Salmon**	**51.60**	**62**	P		**P**	**15 05 31.4**	**+0.6**			
	baz=307,SNR=5.1										
UZB	**Uzynbulak**	**51.64**	**294**	*c i*P		**P**	**15 05 27.8**	**-3.5**			
UZB					pmax	pmax					
	comp=Z,356nm,1.3s										
UZB					MLR	MLR					
	comp=Z,681nm,13.0s										
UZB	**Uzynbulak**	**51.64**	**294**	⇑ *i*P		**P**	**15 05 27.8**	**-3.5**			
	comp=Z,356nm,1.3s										
UZB					*e*LR	LR	15 27 44.9				
	comp=Z,680nm,13.0s										
H04D	**Lebanon**	**51.70**	**64**	P		**P**	**15 05 32.6**	**+1.0**			
	baz=308,SNR=5.9										
J01E	**Myrtle Point**	**51.85**	**66**	P		**P**	**15 05 34.0**	**+1.4**			
	baz=308,SNR=5.2										
I03D	**Drain, OR**	**51.86**	**65**	P		**P**	**15 05 34.0**	**+1.3**			
	baz=308,SNR=9.3										
BJO	**Bjornoya**	**51.87**	**347**	*e*P		**P**	**15 05 31.9**	**-0.4**			
ZHN	**Zhinishke**	**51.97**	**294**	*d i*P		**P**	**15 05 31.3**	**-2.4**			
ZHN					pmax	pmax					
	comp=Z,342nm,1.4s										
ZHN					MLR	MLR					
	comp=Z,1μm,20.0s										
ZHN	**Zhinishke**	**51.97**	**294**	⇓ *i*P		**P**	**15 05 31.3**	**-2.4**			
	comp=Z,342nm,1.4s										
ZHN					*e*LR	LR	15 27 41.5				
	comp=Z,1μm,20.1s										
SATY	**Saty**	**52.05**	**294**	*d i*P		**P**	**15 05 31.8**	**-2.5**			
SATY					MLR	MLR					
	comp=Z,1μm,15.0s										
SATY	**Saty**	**52.05**	**294**	⇓ *i*P		**P**	**15 05 31.8**	**-2.5**			
	comp=Z,943nm,1.4s										
SATY					*e*LR	LR	15 27 43.8				
	comp=Z,1μm,15.1s										
G05D	**Wamic, OR**	**52.07**	**62**	P		**P**	**15 05 35.1**	**+0.8**			
	baz=308,SNR=14										
OTUK	**Ortayu**	**52.28**	**303**	P		**P**	**15 05 34.8**	**-1.1**			
OTUK					pmax	pmax					
	comp=Z,90nm,1.2s										
K02D	**Willamette Mer**	**52.29**	**66**	P		**P**	**15 05 37.3**	**+1.2**			
	baz=308,SNR=6.8										
D08A	**Wollman Farm,**	**52.30**	**59**	*e*P		**P**	**15 05 36.0**	**+0.1**			
	comp=Z,63nm,1.4s										
I04A	**Tendick Farm,**	**52.34**	**64**	P		**P**	**15 05 37.0**	**+0.6**			
	baz=308,SNR=20										
HAWA	**Hanford**	**52.37**	**60**	*e*P		**P**	**15 05 36.8**	**+0.4**			
	comp=Z,138nm,1.5s										
HAWA					LR	LR					
	comp=Z,1μm,20.0s										
F07A	**Phinny Hill Vi**	**52.45**	**61**	*e*P		**P**	**15 05 38.0**	**+0.9**			
	comp=Z,198nm,1.5s										
NEW	**Newport**	**52.54**	**57**	*e*P		**P**	**15 05 37.9**	**+0.1**			
	comp=Z,60nm,1.1s										
NEW	**Newport**	**52.54**	**57**	P		**P**	**15 05 37.9**	**+0.1**			
	baz=307,SNR=46										
NEW	**Newport**	**52.54**	**57**	P		**P**	**15 05 37.9**	**+0.1**			
	comp=Z,31nm,1.0s,baz=307,slow=7.0,SNR=44										
NEW					LR	LR	15 27 24.1				
	comp=Z,556nm,18.6s,baz=312,slow=35										
E08A	**Dider Farm, El**	**52.57**	**60**	*e*P		**P**	**15 05 38.3**	**+0.3**			
	comp=Z,59nm,1.3s										
I05D	**Terrebonne, OR**	**52.61**	**63**	P		**P**	**15 05 39.0**	**+0.7**			
	baz=308,SNR=12										
L02E	**Cave Junction**	**52.66**	**67**	P		**P**	**15 05 39.8**	**+1.2**			
	baz=309,SNR=7.8										
DAG	**Danmarks Havn**	**52.66**	**359**	⇑ *i*P		**P**	**15 05 38.1**	**-0.1**			
DAG	**Danmarks Havn**	**52.66**	**359**	⇑ *i*P		**P**	**15 05 38.1**	**-0.1**			
KUU	**Kurty**	**52.72**	**296**	*de*P		**P**	**15 05 35.9**	**-3.2**			
KUU				*e*S		**S**	**15 13 03.6**	**0.0**			
KUU					pmax	pmax					
	comp=Z,224nm,1.4s										
KUU					smax	smax					
	comp=E,300nm,5.5s										
KUU					MLR	MLR					
	comp=Z,2μm,20.0s										
KUU	**Kurty**	**52.72**	**296**	⇓ *e*P		**P**	**15 05 36.0**	**-3.2**			
	comp=Z,224nm,1.4s										
KUU				*e*S		**S**	**15 13 03.7**	**0.0**			
	comp=Z,300nm,5.5s										
KUU				*e*LR		LR	15 28 11.4				
	comp=Z,2μm,20.2s										
HUMO	**Hull Mountain**	**52.75**	**66**	*e*P		**P**	**15 05 40.6**	**+1.2**			
	comp=Z,64nm,1.4s										
KULLO	**Kullorsuaq**	**52.77**	**11**	⇑ *i*P		**P**	**15 05 38.9**	**-0.1**			
	comp=Z,106nm,1.0s										
KULLO	**Kullorsuaq**	**52.77**	**11**	⇑ *i*P		**P**	**15 05 38.9**	**-0.1**			
KULLO					pmax	pmax					
	comp=Z,110nm,1.0s										
MDOK	**Medeo**	**52.77**	**295**	*c i*P		**P**	**15 05 36.9**	**-2.7**			
MDOK					pmax	pmax					
	comp=Z,315nm,1.5s										
MDOK					MLR	MLR					
	comp=Z,4μm,23.0s										
MDOK	**Medeo**	**52.77**	**295**	⇑ *i*P		**P**	**15 05 37.0**	**-2.7**			
	comp=Z,315nm,1.5s										
MDOK					*e*LR	LR	15 26 51.6				
	comp=Z,4μm,23.0s										
SVE	**Sverdlovsk**	**52.78**	**317**	*d i*P		**P**	**15 05 38.7**	**-0.6**			
SVE				*e*			15 07 43.0				
SVE				*e*S		**S**	**15 13 03.6**	**-0.3**			
SVE					pmax	pmax					
	comp=Z,113nm,1.0s										
SVE					MLR	MLR					
	comp=Z,6μm,17.0s										
AAA	**Alma-Ata**	**52.82**	**295**	*e*P		**P**	**15 05 38.5**	**-1.4**			
AAA				*e*S		**S**	**15 13 02.9**	**-2.1**			
AAA					pmax	pmax					
	comp=Z,300nm,4.4s										
AAA					smax	smax					
	comp=E,1μm,13.5s										
AAA					MLR	MLR					
	comp=Z,2μm,15.0s										
AAA	**Alma-Ata**	**52.82**	**295**	⇓ *i*P		**P**	**15 05 37.7**	**-2.2**			
	comp=Z,251nm,1.5s										
AAA					*e*LR	LR	15 27 31.9				
	comp=Z,2μm,22.0s										
J04D	**Umpqua Nationa**	**52.85**	**65**	P		**P**	**15 05 41.4**	**+1.1**			
	baz=308,SNR=14										
LSA	**Lhasa**	**52.86**	**273**	P		**P**	**15 05 41.4**	**+0.5**			
LSA					pmax	pmax					
	comp=Z,25nm,1.4s										
LSA	**Lhasa**	**52.86**	**273**	*e*P		**P**	**15 05 40.0**	**-0.9**			
	comp=Z,26nm,0.9s										
LSA					LR	LR					
	comp=Z,5μm,19.0s										
LSA	**Lhasa**	**52.86**	**273**	*i*P		**P**	**15 05 42.2**	**+1.3**			
	SNR=11										
LSA	**Lhasa**	**52.86**	**273**	*e*P		**P**	**15 05 40.0**	**-0.9**			
LSA					pmax	pmax					
	comp=Z,26nm,0.9s										
LSA					MLR	MLR					
	comp=Z,5μm,19.0s										
TNSS	**Tian-Shan**	**52.91**	**295**	*e*P		**P**	**15 05 38.5**	**-2.5**			
TNSS					pmax	pmax					
	comp=Z,220nm,1.4s										
TNSS	**Tian-Shan**	**52.91**	**295**	*e*P		**P**	**15 05 38.5**	**-2.5**			
	comp=Z,220nm,1.4s										
E09A	**Wood Farm, Sta**	**53.05**	**59**	*e*P		**P**	**15 05 41.8**	**+0.3**			
	comp=Z,128nm,1.3s										
MTBS	**Maitube**	**53.15**	**295**	*e*P		**P**	**15 05 41.1**	**-1.2**			
MTBS					pmax	pmax					
	comp=Z,239nm,1.0s										
MTBS	**Maitube**	**53.15**	**295**	*e*P		**P**	**15 05 41.2**	**-1.2**			
	comp=Z,239nm,1.0s										
PINE	**Pine Mountain**	**53.17**	**64**	*e*P		**P**	**15 05 43.9**	**+1.2**			
	comp=Z,69nm,1.3s										
TARG	**Taragay, Kyrgy**	**53.22**	**293**	*e*P		**P**	**15 05 43.5**	**+0.1**			
	comp=Z,41nm,1.3s										
BTLS	**Baital**	**53.31**	**299**	*d i*P		**P**	**15 05 40.3**	**-3.1**			
BTLS				*e*S		**S**	**15 13 10.5**	**-0.9**			
BTLS					pmax	pmax					
	comp=Z,254nm,1.3s										
BTLS					MLR	MLR					
	comp=Z,1μm,17.0s										
BTLS	**Baital**	**53.31**	**299**	⇓ *i*P		**P**	**15 05 40.3**	**-3.1**			
	comp=Z,254nm,1.3s										
BTLS				*e*S		**S**	**15 13 10.6**	**-0.9**			
BTLS				*e*LR		LR	15 29 00.1				
	comp=Z,1μm,16.5s										
J05D	**Fort Rock, OR**	**53.32**	**64**	P		**P**	**15 05 45.2**	**+1.5**			
	baz=309,SNR=44										
G08A	**Pilot Rock**	**53.36**	**61**	*e*P		**P**	**15 05 44.2**	**+0.3**			
	comp=Z,36nm,1.3s										
L04D	**Klamath Falls**	**53.37**	**66**	P		**P**	**15 05 45.2**	**+1.1**			
	baz=309,SNR=23										
KHMM	**Horse Mountain**	**53.38**	**68**	*e*P		**P**	**15 05 46.6**	**+2.4**			
	comp=Z,121nm,1.3s										
K04D	**Chiloquin, OR**	**53.44**	**65**	P		**P**	**15 05 45.6**	**+1.0**			
	baz=309										
YBH	**Yreka Blue Hor**	**53.44**	**67**	*e*P		**P**	**15 05 46.0**	**+1.4**			
	comp=Z,110nm,1.4s										
YBH	**Yreka Blue Hor**	**53.44**	**67**	P		**P**	**15 05 45.4**	**+0.8**			
	comp=Z,23nm,1.1s,baz=333,slow=1.0,SNR=23										
YBH					LR	LR	15 24 33.4				
	comp=Z,1μm,21.8s,baz=310,slow=32										
M02C	**Callahan**	**53.57**	**67**	P		**P**	**15 05 47.1**	**+1.6**			
	baz=309,SNR=13										
WALA	**Waterton Lakes**	**53.74**	**55**	*e*P		**P**	**15 05 47.2**	**+0.6**			
	comp=Z,155nm,1.3s										
TKM2	**Tokmak 2**	**53.75**	**296**	P		**P**	**15 05 46.8**	**-0.2**			
	SNR=49										
TKM2	**Tokmak 2**	**53.75**	**296**	P		**P**	**15 05 46.4**	**-0.6**			
TKM2					pmax	pmax					
	comp=Z,39nm,1.2s										
I07A	**Izee**	**53.80**	**62**	*e*P		**P**	**15 05 47.9**	**+0.6**			
	comp=Z,38nm,1.4s										
ULHL	**Ulahol**	**53.81**	**295**	P		**P**	**15 05 47.9**	**+0.5**			
	SNR=8.4										
F10A	**Beach Ranch, E**	**53.89**	**59**	*e*P		**P**	**15 05 48.1**	**+0.4**			
	comp=Z,35nm,1.1s										
M04C	**Macdoel**	**53.92**	**66**	P		**P**	**15 05 49.3**	**+1.2**			
	baz=309,SNR=19										
N02D	**Trinity Center**	**53.92**	**67**	P		**P**	**15 05 49.6**	**+1.5**			
	baz=310,SNR=12										
ARU	**Arti**	**53.92**	**317**	*e*P		**P**	**15 05 46.8**	**-0.9**			
	comp=Z,155nm,1.1s										
ARU					LR	LR					
	comp=Z,4μm,19.0s										
ARU	**Arti**	**53.92**	**317**	*c i*P		**P**	**15 05 46.4**	**-1.3**			
ARU							15 06 51.6				
ARU							15 07 49.5				
ARU					PPP	PPP	15 08 58.8				
ARU					S	**S**	**15 13 20.4**	**+0.9**			
ARU					*SS	**sS**	**15 13 37.7**	**-3.2**			
ARU							15 15 25.1				
ARU					SS	**SS**	**15 17 01.0**	**+0.7**			
ARU					pmax	pmax					
	comp=Z,180nm,1.2s										
ARU					MLR	MLR					
	comp=Z,7μm,19.0s										
SKNT	**Sakolnakorn**	**54.09**	**251**	P		**P**	**15 05 50.5**	**+1.0**			
	comp=Z,101nm,0.9s,comp=Z,1μm										
LVZ	**Lovozero**	**54.14**	**337**		PFAKE		15 06 00.0	+11			
LVZ	

JAY **Jayapura** 55.00 200 LR LR 15 25 39.3
comp=Z,1µm,21.9s,baz=11,slow=32
MSO **Missoula** 55.12 57 eP P 15 05 57.0 +0.3
comp=Z,127nm,1.3s
MSO **Missoula** 55.12 57 P P 15 05 57.2 +0.4
baz=310,SNR=86
KDM **Kudat** 55.16 232 P P 15 06 01.1 +3.9
SHL **Shillong** 55.28 269 eP P 15 05 58.7 +0.5
comp=Z,121nm,1.2s
SHL **Shillong** 55.28 269 eP P 15 05 58.7 +0.5
SHL pmax pmax
comp=Z,121nm,1.2s
SHL **Shillong** 55.28 269 eP P 15 05 58.0 -0.2
SHL IAmb IAmb 15 06 00.3
comp=Z,116nm,1.3s
SHL eS S 15 13 38.0 -0.8
WVOR **Wild Horse Val** 55.34 64 eP P 15 05 59.5 +1.1
comp=Z,200nm,1.3s
WVOR LR LR
comp=Z,1µm,20.0s
AML **Almayashu** 55.34 296 P P 15 05 58.9 +0.2
SNR=32
ORV **Oroville** 55.54 68 eP P 15 05 58.9 -0.8
comp=Z,51nm,1.0s
ORV **Oroville** 55.54 68 eP P 15 05 58.9 -0.8
ORV pmax pmax
comp=Z,51nm,1.0s
LAMP **Lampang** 55.56 257 P P 15 06 01.8 +1.7
comp=Z,190nm,1.0s,comp=Z,975nm
UTTA **Uttaradit** 55.59 255 P P 15 06 01.7 +1.5
comp=Z,103nm,1.0s,comp=Z,782nm
KSH **Kashi** 55.71 292 P P 15 06 04.6 +3.5
KSH sP sP 15 06 22.8 +3.6
KSH PP PP 15 08 11.8 +6.4
KSH S S 15 13 46.0 +1.8
KSH sS sS 15 14 06.7 +1.2
KSH SS SS 15 17 31.0 +1.6
KSH pmax pmax
comp=Z,120nm,1.4s
KSH pmax pmax
comp=Z,540nm,3.8s
KSH LR LR
comp=Z,4µm,16.0s
KSH LR LR
comp=Z,2µm,13.9s
KSH LR LR
comp=Z,3µm,16.3s
CMMT **Chiang Mai** 55.77 257 P P 15 06 02.5 +0.9
comp=Z,490nm,1.1s,comp=Z,5µm
CHTO **Chiang Mai** 55.77 257 eP P 15 06 03.5 +2.0
comp=Z,443nm,0.9s
CHTO LR LR
comp=Z,2µm,20.0s
CHTO **Chiang Mai** 55.77 257 P P 15 06 03.2 +1.6
SNR=242
CHTO P P 15 06 03.2 +1.6
SNR=242
CHTO **Chiang Mai** 55.77 257 P P 15 06 02.6 +1.0
comp=Z,2µm,1.1s,comp=Z,21µmcomp=Z,11µm
CHTO **Chiang Mai** 55.77 257 eP P 15 06 02.9 +1.3
KTK1 **Kautokeino** 55.81 342 eP P 15 06 00.9 -0.3
KTK1 epP pP 15 06 12.7 -1.4
FFC **Flin Flon** 55.84 44 eP P 15 06 02.2 +0.6
comp=Z,89nm,1.2s
FFC LR LR
comp=Z,3µm,20.0s
FFC **Flin Flon** 55.84 44 *i* P P 15 06 02.0 +0.4
TNTI **Ternate** 55.96 217 P P 15 06 04.3 +1.4
comp=Z,32nm,1.6s
BEKR **Beckworth** 56.01 67 eP P 15 06 04.1 +0.8
comp=Z,117nm,1.2s
TMCR **Tamitsa** 56.03 333 eP P 15 06 01.2 -1.6
TMCR pmax pmax
comp=Z,23nm,0.8s
CM31 **Chiang Mai Arr** 56.04 257 eP P 15 06 05.4 +1.9
comp=Z,288nm,0.9s
CMAR **Chiang Mai Arr** 56.04 257 P P 15 06 05.0 +1.5
comp=Z,203nm,0.9s,baz=26,slow=7.1,SNR=708
CMAR ScP ScP 15 10 56.9 +0.5
comp=Z,0.3nm,0.3s,baz=10,slow=5.5,SNR=2.7
CMAR pPcP 15 11 20.3
comp=Z,7.8nm,1.1s,baz=12,slow=4.7,SNR=7.1
CMAR LR LR 15 33 01.8
comp=Z,2µm,18.9s,baz=40,slow=39
CM01 **Chiang Mai Arr** 56.06 257 eP P 15 06 05.6 +1.9
SDKM **Sandakan** 56.08 231 P P 15 06 05.0 +1.1
TRO **Tromso** 56.09 344 eP P 15 06 02.9 -0.2
CHAI **Chaiyaphum** 56.13 252 P P 15 06 05.2 +1.1
comp=Z,51nm,0.8s,comp=Z,446nm
DZA **Taraz** 56.18 298 eP P 15 06 02.4 -1.9
DZA pmax pmax
comp=Z,295nm,1.4s
DZA **Taraz** 56.18 298 eP P 15 06 02.5 -1.9
comp=Z,295nm,1.4s
KKM **Kota Kinabalu** 56.22 232 eP P 15 06 05.8 +0.9
comp=Z,80nm,1.0s
KKM **Kota Kinabalu** 56.22 232 P P 15 06 06.5 +1.6
PBKT **Sadao Pong** 56.23 254 eP P 15 06 06.3 +1.5
PBKT **Sadao Pong** 56.23 254 P P 15 06 06.0 +1.2
comp=Z,148nm,0.9s,comp=Z,2µm
AFDM **Forest Hills D** 56.25 68 eP P 15 06 05.8 +1.0
comp=Z,80nm,1.3s
ARSB **Arslanbob** 56.27 296 eP P 15 06 05.1 0.0
comp=Z,61nm,1.1s
HRY **Holter Researc** 56.31 56 eP P 15 06 06.0 +0.8
FCC **Fort Churchill** 56.32 36 eP P 15 06 05.2 +0.2
comp=Z,58nm,0.7s
FCC **Fort Churchill** 56.32 36 eP P 15 06 05.2 +0.2
FCC pmax pmax
comp=Z,58nm,0.7s
SUKH **Sukhothai** 56.35 256 P P 15 06 07.4 +1.7
comp=Z,53nm,1.0s,comp=Z,497nm
SUMG **Summit** 56.41 6 eP P 15 06 06.1 +0.2
comp=Z,139nm,1.0s
SUMG **Summit** 56.41 6 *i* P P 15 06 06.5 +0.6
SUMG **Summit** 56.41 6 *i* P P 15 06 06.5 +0.6
KK31 **Karatay Array** 56.51 299 eP P 15 06 05.9 -0.7
comp=Z,32nm,0.9s
KK31 **Karatay Array** 56.51 299 eP P 15 06 05.9 -0.7
KK31 pmax pmax
comp=Z,32nm,0.9s
KKAR **Karatay Array** 56.51 299 eP P 15 06 05.9 -0.7
comp=Z,32nm,0.9s
KKAR **Karatay Array** 56.51 299 eP P 15 06 05.9 -0.7
KKAR pmax pmax
comp=Z,32nm,0.9s
EGMT **Eagleton** 56.53 53 eP P 15 06 07.0 +0.2
comp=Z,115nm,1.2s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT **Eagleton** 56.53 53 P P 15 06 07.1 +0.3
baz=311,SNR=40
PAHR **Pah Rah Range** 56.68 66 eP P 15 06 08.8 +0.8
comp=Z,124nm,1.3s
DLMT **Dillon** 56.78 57 eP P 15 06 09.7 +1.0
comp=Z,75nm,1.4s
VCNR **Virginia City** 56.79 67 eP P 15 06 10.5 +1.6
comp=Z,78nm,1.1s
TSM **Tawau** 56.92 229 P P 15 06 10.7 +0.9
PNTR **Pine Nut** 56.96 67 eP P 15 06 11.7 +1.6
comp=Z,186nm,1.5s
HLID **Hailey** 56.97 60 eP P 15 06 10.9 +0.8
comp=Z,91nm,1.4s
HLID LR LR
comp=Z,1µm,19.0s
HLID **Hailey** 56.97 60 P P 15 06 11.1 +1.1
baz=311,SNR=64
MCMT **McKenzie Canyo** 56.99 58 eP P 15 06 10.6 +0.3
BOZ **Bozeman (W)** 57.14 57 eP P 15 06 12.0 +0.8
comp=Z,58nm,0.9s
BOZ LR LR
comp=Z,2µm,22.0s
BOZ **Bozeman (W)** 57.14 57 eP P 15 06 12.0 +0.8
BOZ pmax pmax
comp=Z,58nm,0.9s
BOZ MLR MLR
comp=Z,2µm,22.0s
BOZ **Bozeman (W)** 57.14 57 P P 15 06 12.0 +0.8
baz=311,SNR=69
CMB **Columbia Colle** 57.19 69 eP P 15 06 12.3 +0.7
comp=Z,79nm,1.4s
CMB **Columbia Colle** 57.19 69 eP P 15 06 12.3 +0.7
CMB pmax pmax
comp=Z,79nm,1.4s
YERR **Yerington** 57.24 67 eP P 15 06 13.1 +1.0
comp=Z,190nm,1.5s
IUG **luzhnay** 57.40 298 eP P 15 06 11.1 -1.9

IUG MLR MLR
comp=Z,1µm,19.0s
IUG **luzhnay** 57.40 298 eP P 15 06 11.1 -1.9
comp=Z,750nm,1.2s
IUG eLR LR 15 31 36.4
comp=Z,1µm,18.8s
JIRN **Jiri** 57.41 275 eP P 15 06 13.7 +0.1
comp=Z,213nm,0.8s
GUN **Gumba** 57.43 275 eP P 15 06 13.8 +0.1
comp=Z,210nm,0.8s
WAKR **Walker** 57.44 68 eP P 15 06 14.7 +1.2
comp=Z,89nm,1.2s
KMSI **Cibinong** 57.49 221 P P 15 06 12.5 -1.3
comp=Z,159nm,1.1s,comp=Z,2µm
BRDH **Bariadhala** 57.50 267 LR LR 15 33 27.8
comp=Z,2µm,18.9s,baz=53,slow=39
CHM **Chimkent** 57.52 299 eP P 15 06 12.1 -1.7
CHM pmax pmax
comp=Z,485nm,1.2s
CHM MLR MLR
comp=Z,755nm,16.0s
CHM **Chimkent** 57.52 299 eP P 15 06 12.2 -1.7
comp=Z,485nm,1.2s
CHM eLR LR 15 31 31.7
comp=Z,755nm,15.9s
SRAK **Srakaew** 57.56 251 P P 15 06 13.3 -1.0
comp=Z,462nm,1.0s,comp=Z,4µm
RAMN **Ramite** 57.65 274 eP P 15 06 15.1 -0.1
comp=Z,429nm,0.9s
FAKI **Fak Fak** 57.68 210 eP P 15 06 14.8 -0.3
comp=Z,160nm,1.1s
QLMT **Earthquake Lak** 57.75 57 eP P 15 06 16.6 +1.0
UMPA **Umpang Tak** 57.80 255 P P 15 06 18.9 +2.9
comp=Z,90nm,1.0s,comp=Z,742nm
KVN **Kaiserville** 57.86 66 eP P 15 06 17.4 +1.0
comp=Z,101nm,1.2s
KVN **Kaiserville** 57.86 66 eP P 15 06 17.4 +1.0
KVN pmax pmax
comp=Z,101nm,1.2s
RYN **Ryan** 57.89 67 eP P 15 06 17.6 +1.0
comp=Z,77nm,1.2s
KKN **Kakani** 57.90 276 eP P 15 06 17.1 +0.3
comp=Z,123nm,0.6s
YHB **Horse Butte** 57.93 57 eP P 15 06 17.5 +0.6
comp=Z,164nm,1.2s
UTHA **Uthaitani** 57.94 254 P P 15 06 18.8 +1.9
comp=Z,42nm,1.0s,comp=Z,404nm
PKI **Pulchoki** 57.97 275 eP P 15 06 17.3 -0.2
comp=Z,102nm,0.7s
PKIN **Phulchoki** 57.97 275 eP P 15 06 17.3 -0.1
AB31 **Akbulak array** 57.97 310 *i* P P 15 06 15.2 -1.6
AB31 pmax pmax
comp=Z,44nm,1.0s
ABKAR **Akbulak array** 57.97 310 eP P 15 06 15.7 -1.1
comp=Z,64nm,1.2s
GCMT **Greycliff** 58.05 55 eP P 15 06 16.8 -0.8
KLMR **Klimovskoe** 58.06 329 eP P 15 06 13.1 -4.1
KLMR pmax pmax
comp=Z,23nm,0.9s
KLMR **Klimovskoe** 58.06 329 eP P 15 06 13.1 -4.1
KLMR AMP 15 06 16.8
comp=Z,23nm,0.9s
JMIC **Jan Mayen** 58.08 355 eP P 15 06 17.5 +0.3
YHH **Holmes Hill** 58.09 57 eP P 15 06 19.6 +1.5
comp=Z,99nm,1.3s
AKTO **Aktyubinsk** 58.10 312 P P 15 06 15.9 -1.8
AKTO pmax pmax
comp=Z,41nm,1.4s
YMR **Madison River** 58.11 57 eP P 15 06 19.3 +1.2
comp=Z,152nm,1.3s
DMN **Daman** 58.13 276 eP P 15 06 18.9 +0.4
comp=Z,257nm,0.8s
GKN **Gorkha** 58.15 276 eP P 15 06 18.8 +0.2
comp=Z,307nm,0.8s
NV01 **Mina Array Sit** 58.15 67 eP P 15 06 19.8 +1.3
NVAR **Mina Array Bea** 58.15 67 P P 15 06 19.4 +0.9
comp=Z,8.2nm,0.7s,baz=295,slow=7.1,SNR=43
NVAR pP pP 15 06 32.4 +0.9
comp=Z,27nm,0.9s,baz=297,slow=6.5,SNR=13
NVAR LR LR 15 27 23.6
comp=Z,591nm,21.6s,baz=294,slow=32
NVAR PKPPKP P'P'df 15 36 03.9 +0.9
comp=Z,2.2nm,1.0s,baz=197,slow=4.6,SNR=5.2
YNR **Norris Junctio** 58.23 57 eP P 15 06 20.8 +1.8
comp=Z,128nm,1.4s
MDPB **Devils Postpil** 58.23 68 eP P 15 06 20.6 +1.4
comp=Z,70nm,1.4s
STEI **Steigen** 58.23 344 eP P 15 06 18.1 -0.2
STEI epP pP 15 06 30.0 -1.2
NV11 **Mina Array Sit** 58.24 67 eP P 15 06 17.4 -1.6
comp=Z,8.2nm,1.4s
YFT **Old Faithful** 58.32 57 eP P 15 06 22.1 +2.4
comp=Z,75nm,0.9s
LOF **Lofoten** 58.34 345 eP P 15 06 18.5 -0.5
ELK **Elko** 58.37 63 eP P 15 06 21.1 +1.1
comp=Z,21nm,0.9s
ELK **Elko** 58.37 63 eP P 15 06 21.1 +1.1
ELK pmax pmax
comp=Z,21nm,0.9s
ELK **Elko** 58.37 63 LR LR 15 28 06.3
comp=Z,813nm,21.9s,baz=324,slow=32
MLAC **Mammoth, Mammo** 58.38 68 P P 15 06 21.3 +1.1
baz=312
MRSI **Marisa** 58.44 223 P P 15 06 19.9 -0.5
comp=Z,57nm,1.2s,comp=Z,1µm
YPP **Pitchstone Pla** 58.46 57 eP P 15 06 21.3 +0.6
comp=Z,63nm,1.3s
DANN **Dangsing** 58.46 277 eP P 15 06 21.3 +0.4
comp=Z,358nm,0.7s
ILULI **Ilulissat** 58.47 12 eP P 15 06 19.1 -0.8
comp=Z,114nm,1.2s
ILULI **Ilulissat** 58.47 12 eP P 15 06 19.1 -0.8
ILULI pmax pmax
comp=Z,114nm,1.2s
LKWY **Lake** 58.48 57 eP P 15 06 23.2 +2.5
comp=Z,59nm,0.8s
LKWY LR LR
comp=Z,2µm,20.0s
LKWY **Lake** 58.48 57 eP P 15 06 23.2 +2.5
LKWY pmax pmax
comp=Z,59nm,0.8s
LKWY MLR MLR
comp=Z,2µm,20.0s
H17A **Grant Village** 58.50 57 eP P 15 06 22.5 +1.6
comp=Z,154nm,1.1s
IMW **Indian Meadow** 58.64 58 eP P 15 06 23.4 +1.5
comp=Z,111nm,1.3s
FLWY **Flagg Ranch** 58.64 58 eP P 15 06 23.7 +1.9
comp=Z,149nm,1.3s
RLMT **Red Lodge** 58.70 56 eP P 15 06 23.6 +1.3
comp=Z,170nm,1.1s
RLMT LR LR
comp=Z,3µm,22.0s
RLMT **Red Lodge** 58.70 56 P P 15 06 23.6 +1.3
baz=312,SNR=82
FXWY **Fox Creek** 58.76 58 eP P 15 06 24.0 +1.3
comp=Z,47nm,1.1s
PAGB **Antelope Grade** 58.82 71 eP P 15 06 24.4 +1.5
MOOW **Moose Ponds** 58.84 58 eP P 15 06 24.6 +1.4
comp=Z,56nm,1.1s
TPAW **Teton Pass** 58.90 58 eP P 15 06 24.9 +1.2
comp=Z,122nm,1.1s
VOG **Valley Oaks Go** 58.94 69 P P 15 06 23.9 +0.2
baz=313
KOLN **Koldanda** 58.97 277 eP P 15 06 24.5 +0.2
comp=Z,424nm,1.0s
DGMT **Dagmar** 59.01 50 eP P 15 06 24.7 +0.6
comp=Z,154nm,1.3s
DGMT LR LR
comp=Z,3µm,21.0s
DGMT **Dagmar** 59.01 50 P P 15 06 24.5 +0.5
baz=313,SNR=19
LOHW **Long Hollow** 59.01 58 eP P 15 06 25.6 +1.2
comp=Z,106nm,1.1s
SCO **Scoresbysund** 59.01 360 eP P 15 06 24.2 +0.5
comp=Z,103nm,1.3s
SCO **Scoresbysund** 59.01 360 *i* P P 15 06 24.5 +0.8
comp=Z,106nm,1.3s
SCO **Scoresbysund** 59.01 360 *i* P P 15 06 24.5 +0.8
SCO pmax pmax
comp=Z,110nm,1.3s
SNOW **Snow King Moun** 59.03 58 eP P 15 06 26.4 +1.9
comp=Z,120nm,1.2s
REDW **Red Top Meadow** 59.04 58 eP P 15 06 26.2 +1.5
comp=Z,174nm,1.3s
HVU **Hansel Valley** 59.06 61 eP P 15 06 26.4 +1.7
comp=Z,46nm,1.2s

HVU **Hansel Valley** 59.06 61 eP P 15 06 26.4 +1.7
HVU pmax pmax
comp=Z,46nm,1.2s
PATY **Pattaya** 59.12 251 P P 15 06 27.4 +2.2
comp=Z,25nm,0.9s
PYUN **Piuthan** 59.12 278 eP P 15 06 25.6 +0.2
comp=Z,837nm,0.9s
TIN **Tinemaha, Big** 59.12 68 P P 15 06 26.1 +1.0
baz=313
LAO **LASA Array** 59.21 53 eP P 15 06 26.9 +1.4
comp=Z,189nm,1.1s
LAO LR LR
comp=Z,3µm,21.0s
LAO **LASA Array** 59.21 53 P P 15 06 26.7 +1.2
baz=313,SNR=31
SMMC **Simmler** 59.25 71 P P 15 06 26.8 +0.9
baz=313
AHID **Auburn Hatcher** 59.31 59 eP P 15 06 27.7 +1.2
comp=Z,95nm,1.1s
AHID LR LR
comp=Z,1µm,21.0s
GAR **Garm** 59.34 295 eP P 15 06 26.7 +0.1
comp=Z,117nm,0.7s
GAR **Garm** 59.34 295 eP P 15 06 26.7 +0.1
GAR pmax pmax
comp=Z,117nm,0.7s
VES **Vestal, Richgr** 59.44 70 P P 15 06 27.0 -0.1
baz=313,SNR=6.7
LUWI **Luwuk** 59.45 221 eP P 15 06 26.0 -1.4
comp=Z,100nm,1.2s
LUWI **Luwuk** 59.45 221 P P 15 06 25.9 -1.5
MPSI **Mapaga** 59.46 225 P P 15 06 29.1 +1.6
comp=Z,31nm,1.3s,comp=Z,716nm
CWC **Cottonwood Cre** 59.63 69 P P 15 06 29.3 +0.6
baz=313
PKM **Mcpherson Peak** 59.65 71 P P 15 06 29.6 +0.6
baz=313
GRAC **Grapevine Rang** 59.67 68 P P 15 06 29.9 +1.1
baz=313,SNR=14
R11A **Troy Canyon, C** 59.78 65 eP P 15 06 30.6 +0.8
comp=Z,60nm,1.1s
R11A **Troy Canyon, C** 59.78 65 P P 15 06 30.2 +0.4
baz=313
R11A S S 15 14 39.7 +2.1
baz=313
APSI **Ampana** 59.81 222 P P 15 06 29.1 -0.8
comp=Z,73nm,1.0s,comp=Z,975nm
HWUT **Hardware Ranch** 59.84 60 eP P 15 06 31.2 +1.1
comp=Z,88nm,1.5s
HWUT LR LR
comp=Z,1µm,21.0s
PHET **Kaeng Krachan** 59.88 252 P P 15 06 32.5 +2.1
comp=Z,165nm,0.9s,comp=Z,1µm
KONS **Konsvik** 59.89 344 eP P 15 06 29.7 -0.1
ISA **Isabella, Lake** 59.92 69 eP P 15 06 30.8 +0.2
comp=Z,47nm,1.4s
ISA **Isabella, Lake** 59.92 69 eP P 15 06 30.8 +0.2
ISA pmax pmax
comp=Z,47nm,1.4s
ISA **Isabella, Lake** 59.92 69 P P 15 06 30.3 -0.3
baz=313
MOR8 **Moi Rana** 59.95 344 eP P 15 06 28.4 -1.9
MOR8 esP pP 15 06 45.6 +2.3
DAC **Darwin (Calif)** 60.02 68 eP P 15 06 31.9 +0.4
comp=Z,67nm,1.5s
DAC **Darwin (Calif)** 60.02 68 eP P 15 06 31.9 +0.4
DAC pmax pmax
comp=Z,67nm,1.5s
HNR **Honiara** 60.04 177 LR LR 15 28 14.7
comp=Z,3µm,21.5s,baz=0.0,slow=32
ARVC **Arvin** 60.08 70 P P 15 06 31.7 +0.1
baz=314
DUG **Dugway, Tooele** 60.11 62 eP P 15 06 33.5 +1.6
comp=Z,132nm,1.4s
DUG LR LR
comp=Z,918nm,19.0s
DUG **Dugway, Tooele** 60.11 62 eP P 15 06 33.5 +1.6
DUG pmax pmax
comp=Z,132nm,1.4s
DUG MLR MLR
comp=Z,918nm,19.0s
DUG **Dugway, Tooele** 60.11 62 P P 15 06 32.9 +1.0
baz=313,SNR=24
BW06 **Boulder Array** 60.14 58 eP P 15 06 33.0 +0.8
comp=Z,122nm,1.1s
BW06 LR LR
comp=Z,1µm,21.0s
BW06 **Boulder Array** 60.14 58 P P 15 06 33.0 +0.8
baz=313,SNR=122
PD31 **Pinedale Array** 60.14 58 eP P 15 06 33.0 +0.8
comp=Z,113nm,1.1s
PDAR **Pinedale Array** 60.14 58 eP P 15 06 33.2 +0.9
PDAR **Pinedale Array** 60.14 58 P P 15 06 33.0 +0.8
comp=Z,57nm,0.9s,baz=301,slow=3.1,SNR=238
PDAR pP pP 15 06 45.6 +0.4
comp=Z,31nm,0.9s,baz=298,slow=4.2,SNR=7.3
PDAR PKPPKP P'P'df 15 36 03.0 +2.6
comp=Z,0.5nm,0.9s,baz=204,slow=3.3,SNR=3.6
CHGR **Chuyangaron** 60.23 296 eP P 15 06 32.5 -0.2
comp=Z,195nm,0.8s
MPMC **Manual Prospec** 60.24 68 P P 15 06 33.5 +0.5
baz=314,SNR=12
BTM **Bintulu** 60.24 233 P P 15 06 34.2 +1.3
TCUT **Toone Canyon** 60.26 60 eP P 15 06 34.3 +1.2
comp=Z,138nm,1.3s
FRB **Frobisher Bay** 60.26 22 PKPPKP P'P'df 15 35 58.0 -3.2
comp=Z,3.7nm,0.9s,baz=103,slow=3.0,SNR=7.6
FRB LR LR 15 37 35.9
comp=Z,2µm,18.0s,baz=339,slow=41
FURC **Furnace Creek,** 60.32 68 P P 15 06 34.2 +1.0
baz=314,SNR=15
BOK **Bokaro** 60.34 272 eP P 15 06 33.4 -0.2
TPNV **Topopah Spring** 60.35 67 eP P 15 06 34.1 +0.4
comp=Z,208nm,1.4s
TPNV **Topopah Spring** 60.35 67 eP P 15 06 34.1 +0.4
TPNV pmax pmax
comp=Z,208nm,1.4s
TPNV **Topopah Spring** 60.35 67 P P 15 06 34.4 +0.7
baz=314
CTU **Camp Tracy** 60.36 61 eP P 15 06 34.5 +0.8
comp=Z,69nm,1.3s
SCZ2 **Santa Cruz Isl** 60.37 72 P P 15 06 34.0 +0.4
baz=314
DHRM **DHARAMSHALA** 60.39 286 eP P 15 06 32.3 -1.7
OSI **Osito Canadit: C** 60.49 70 P P 15 06 35.0 +0.5
baz=314
LRMC **Laurel Mtn Rad** 60.52 69 P P 15 06 34.8 +0.1
baz=314
JLU **Jordanelle** 60.59 61 eP P 15 06 36.6 +1.2
comp=Z,75nm,1.3s
PCI **Palu** 60.60 224 P P 15 06 34.2 -1.1
SFJD **Kangerlussuaq** 60.62 12 eP P 15 06 34.6 -0.2
comp=Z,97nm,1.3s
SFJD **Kangerlussuaq** 60.62 12 *i* P P 15 06 34.7 -0.1
comp=Z,36nm,0.8s
SFJD **Kangerlussuaq** 60.62 12 *i* P P 15 06 34.7 -0.1
SFJD pmax pmax
comp=Z,36nm,0.8s
SFJD **Kangerlussuaq** 60.62 12 LR LR 15 34 24.9
comp=Z,1µm,19.5s,baz=346,slow=38
SFJD **Kangerlussuaq** 60.62 12 eP P 15 06 34.5 -0.3
BLG **Laguna Peak, P** 60.63 71 P P 15 06 35.7 +0.3
baz=314
SMLA **Simla** 60.64 284 eP P 15 06 34.6 -0.8
DDI **Dehra Dun** 60.65 283 eP P 15 06 34.5 -1.2
PSUT **Pine Spring** 60.65 64 eP P 15 06 36.5 +0.8
comp=Z,32nm,1.0s
NLU **North Lily Min** 60.68 62 eP P 15 06 37.0 +1.0
comp=Z,56nm,1.1s
EDW2 **Edwards Air Fo** 60.74 70 P P 15 06 36.7 +0.5
baz=314,SNR=7.9
MPU **Maple Canyon** 60.89 62 eP P 15 06 38.4 +1.0
comp=Z,120nm,1.4s
BHK **Bhakra** 60.90 285 eP P 15 06 37.5 +0.2
SNCC **San Nicolas Is** 60.95 72 P P 15 06 37.7 +0.1
baz=314
DECC **Green Verdugo** 60.97 70 P P 15 06 38.0 +0.2
baz=314
SHOC **Shoshone, Teco** 61.06 68 P P 15 06 38.8 +0.5
baz=314,SNR=6.2
GSC **Goldstone, Bar** 61.16 69 eP P 15 06 38.4 -0.7
comp=Z,79nm,1.4s
GSC **Goldstone, Bar** 61.16 69 eP P 15 06 38.4 -0.7
GSC pmax pmax
comp=Z,79nm,1.4s
GSC **Goldstone, Bar** 61.16 69 P P 15 06 39.5 +0.4
baz=314

MWC Mount Wilson 61.16 70 eP P 15 06 40.0 +0.8
SGKI Sangatta, Kali 61.27 227 P P 15 06 35.4 -4.5
SHPR Sheep Range 61.29 67 eP P 15 06 40.9 +0.8
comp=Z,60nm,1.4s
SBUM Sibu 61.32 234 eP P 15 06 41.0 +0.8
comp=Z,55nm,1.0s
SBUM Sibu 61.32 234 P P 15 06 42.3 +2.1
BFSC Mount Baldy Ra 61.39 70 P P 15 06 40.9 +0.2
baz=314
CIS Catalina Islan 61.52 71 P P 15 06 41.6 +0.2
baz=314
FIA1 FINESS Array S 61.52 336 eP P 15 06 39.7 -1.2
comp=Z,22nm,1.1s
FIA0 FINESS Array S 61.52 336 eP P 15 06 39.6 -1.4
FIA0 FINESS Array S 61.52 336 eP P 15 06 39.6 -1.4
FINES FINESS Array B 61.52 336 P P 15 06 39.6 -1.4
comp=Z,6.1nm,0.5s,baz=32,slow=7.5,SNR=61
FINES LR LR 15 36 53.5
comp=Z,5µm,20.6s,baz=24,slow=40
TUQ Turquoise Moun 61.59 68 P P 15 06 42.5 +0.5
baz=314,SNR=9.9
CCUT Cedar City 61.61 65 eP P 15 06 43.1 +0.9
comp=Z,49nm,1.1s
MSU Marysvale 61.62 63 eP P 15 06 43.5 +1.2
MSU Marysvale 61.62 63 eP P 15 06 43.5 +1.2
TMUT Trail Mountain 61.62 62 eP P 15 06 43.3 +0.9
comp=Z,48nm,1.0s
ULM Lac du Bonnet 61.63 44 eP P 15 06 41.9 0.0
comp=Z,53nm,1.3s
ULM Lac du Bonnet 61.63 44 P P 15 06 41.9 0.0
ULM pmax pmax
comp=Z,53nm,1.3s
ULM Lac du Bonnet 61.63 44 P P 15 06 41.7 -0.2
comp=Z,18nm,1.0s,baz=308,slow=6.4,SNR=20
ULM LR LR 15 34 29.6
comp=Z,2µm,21.5s,baz=326,slow=37
MDND Maddock 61.65 48 eP P 15 06 43.5 +1.4
comp=Z,243nm,1.3s
MDND Maddock 61.65 48 P P 15 06 42.7 +0.6
baz=316,SNR=5.6
SZCU Shurtz Canyon 61.74 64 eP P 15 06 43.9 +0.8
comp=Z,77nm,1.4s
P17A Butcher Ranch, 61.76 61 eP P 15 06 44.1 +0.9
comp=Z,127nm,1.4s
HEC Hector,Ludlow 61.76 69 P P 15 06 43.6 +0.5
baz=314,SNR=6.5
BBRC Big Bear Solar 61.81 70 P P 15 06 44.0 +0.3
baz=314
K22A Casper 61.84 56 eP P 15 06 44.1 +0.5
comp=Z,92nm,1.4s
K22A Casper 61.84 56 P P 15 06 44.0 +0.4
baz=315,SNR=16
NSS Namsos 61.89 344 eP P 15 06 43.4 0.0
NSS epP pP 15 06 54.8 -1.6
NSS esP sP 15 06 59.5 -2.2
Q16A Castle Valley 61.91 62 eP P 15 06 45.3 +1.1
comp=Z,105nm,1.4s
P18A Preston Nutter 61.93 61 eP P 15 06 45.5 +1.1
comp=Z,119nm,1.5s
MTPU Mount Pierson 61.94 63 eP P 15 06 45.9 +1.3
comp=Z,49nm,1.1s
LCMT Little Creek M 62.05 65 eP P 15 06 46.2 +1.1
comp=Z,106nm,1.2s
RSSD Black Hills 62.10 54 eP P 15 06 46.3 +0.8
comp=Z,202nm,1.3s
RSSD Black Hills 62.10 54 P P 15 06 46.1 +0.7
baz=315
MURC Murrieta 62.11 70 P P 15 06 45.6 +0.1
baz=315,SNR=5.4
SRU San Rafael Swe 62.13 62 eP P 15 06 46.2 +0.5
comp=Z,113nm,1.1s
SRU San Rafael Swe 62.13 62 eP P 15 06 46.2 +0.5
SRU pmax pmax
comp=Z,113nm,1.1s
RWWY Rawlins 62.15 57 eP P 15 06 46.8 +0.9
comp=Z,52nm,0.9s
KDI Kendari 62.15 220 P P 15 06 44.7 -1.1
comp=Z,69nm,1.2s,comp=Z,2µm
GMRC Granite Mounta 62.19 68 P P 15 06 46.7 +0.6
baz=314,SNR=13
BKB Balikpapan 62.25 227 P P 15 06 44.7 -1.7
comp=Z,366nm,1.2s,comp=Z,5µm
KNB Kanab 62.29 65 eP P 15 06 47.7 +0.9
comp=Z,115nm,1.2s
KNB Kanab 62.29 65 eP P 15 06 47.7 +0.9
KNB pmax pmax
comp=Z,115nm,1.2s
LDFC Landfair 62.31 68 eP P 15 06 47.8 +0.9
comp=Z,172nm,1.2s
TTSI Tana Toraja 62.51 223 P P 15 06 47.6 -0.6
PFO Pinyon Flats O 62.54 70 P P 15 06 48.5 +0.1
baz=315
PFO Pinyon Flats O 62.54 70 LR LR 15 29 54.6
comp=Z,996nm,20.8s,baz=303,slow=32
BELC Belle Mtn. Jos 62.54 69 P P 15 06 48.2 -0.3
baz=315
MOS Moscow 62.64 326 eP P 15 06 45.9 -2.6
MOS e 15 07 25.8
MOS e 15 09 05.9
MOS pmax pmax
comp=Z,30nm,0.7s
MOS MLR MLR
comp=N,2µm,16.0s
MOS MLR MLR
comp=Z,2µm,16.0s
109C Camp Elliot, M 62.66 71 P P 15 06 49.2 +0.2
baz=315
O20A White River Ci 62.68 59 eP P 15 06 49.5 +0.1
comp=Z,106nm,1.3s
O20A White River Ci 62.68 59 P P 15 06 49.9 +0.5
baz=315,SNR=33
NEE2 Needles Airpor 62.82 68 P P 15 06 50.4 +0.3
baz=315
MTKI Muara Teweh, K 62.91 229 P P 15 06 52.9 +2.0
comp=Z,128nm,1.2s,comp=Z,5µm
IRM Iron Mountain 62.94 68 P P 15 06 51.5 +0.6
baz=315,SNR=20
BWNR Bhubaneshwar 62.94 269 ex P 15 06 44.6 -6.4
U15A North Rim 63.01 65 eP P 15 06 52.6 +0.9
comp=Z,88nm,1.4s
AGMN Agassiz Nation 63.06 46 eP P 15 06 51.3 -0.2
comp=Z,75nm,1.3s
AGMN LR LR
comp=Z,2µm,22.0s
AGMN Agassiz Nation 63.06 46 P P 15 06 51.3 -0.2
baz=317,SNR=24
MONP2 Monument Peak 63.06 70 P P 15 06 52.2 +0.2
baz=315
BC3 Big Chuckawall 63.10 69 P P 15 06 52.2 +0.1
baz=315,SNR=7.7
KSM Kuching 63.14 235 eP P 15 06 53.7 +1.3
comp=Z,120nm,1.1s
KSM Kuching 63.14 235 P P 15 06 54.6 +2.2
KBL Kabul 63.15 292 eP P 15 06 51.1 -1.4
comp=Z,24nm,0.8s
KBL Kabul 63.15 292 eP P 15 06 51.1 -1.4
KBL pmax pmax
comp=Z,24nm,0.8s
PV09 Paradox Valley 63.34 61 eP P 15 06 54.5 +0.6
PHWY Pilot Hill 63.35 57 eP P 15 06 54.2 +0.3
comp=Z,47nm,1.4s
SPSI Sidrap Palu 63.36 223 P P 15 06 52.9 -0.9
comp=Z,47nm,1.1s,comp=Z,906nm
PV21 Cone Mtn., Par 63.38 61 eP P 15 06 55.0 +0.9
comp=Z,75nm,1.1s
N23A Red Feather La 63.38 57 eP P 15 06 55.2 +1.1
comp=Z,59nm,0.8s
N23A Red Feather La 63.38 57 P P 15 06 55.1 +1.0
baz=315,SNR=25
SWSC Sam W. Stewart 63.40 70 P P 15 06 54.0 +0.1
baz=315
IKP In-Ko-Pah, Jac 63.42 70 P P 15 06 54.5 +0.3
baz=315
PDMCI Parker Dam,Lak 63.42 68 P P 15 06 54.6 +0.5
baz=315,SNR=12
PV23 Carpenter Ridg 63.44 61 eP P 15 06 55.5 +1.0
comp=Z,131nm,1.1s
PV10 Paradox Valley 63.48 61 eP P 15 06 56.1 +1.4
comp=Z,173nm,1.1s
PV14 Lion Creek, Pa 63.49 61 eP P 15 06 55.2 +0.4
comp=Z,128nm,1.2s
OBN Obninsk 63.51 327 PFAKE 15 07 10.0 +16
OBN LR LR
comp=Z,3µm,22.0s
OBN Obninsk 63.51 327 ceP P 15 06 52.4 -1.9
OBN e 15 07 29.0
OBN e 15 09 12.7
OBN ePPP PPP 15 10 47.0
OBN eS S 15 15 17.8 -6.0
OBN eSS SS 15 19 26.0 -4.4
OBN pmax pmax
comp=Z,32nm,1.3s
OBN MLR MLR
comp=Z,6µm,23.0s
PV04 Paradox Valley 63.54 61 eP P 15 06 55.8 +0.7
comp=Z,139nm,1.2s
PV20 West Nyswonger 63.54 61 eP P 15 06 56.0 +1.0
comp=Z,189nm,1.3s
PV19 Morning Glory 63.55 61 eP P 15 06 55.8 +0.6
comp=Z,112nm,1.1s
PV17 East Wray Mesa 63.59 61 eP P 15 06 56.2 +0.8
comp=Z,271nm,1.3s
Y12C Blythe 63.59 68 eP P 15 06 56.0 +0.8
comp=Z,92nm,1.2s
Y12C Blythe 63.59 68 P P 15 06 55.8 +0.6
baz=315,SNR=7.4
PV16 Nyswonger Mesa 63.59 61 eP P 15 06 56.1 +0.6
comp=Z,243nm,1.5s
BNSI Bone 63.60 222 P P 15 06 56.6 +1.2
comp=Z,54nm,1.1s,comp=Z,1µm
PV11 David Mesa, Pa 63.62 61 eP P 15 06 56.5 +0.9
comp=Z,227nm,1.2s
PV12 Saucer Basin, 63.65 61 eP P 15 06 56.5 +0.7
comp=Z,259nm,1.4s
PV07 Paradox Valley 63.65 61 eP P 15 06 56.5 +0.7
comp=Z,95nm,1.2s
PV05 Paradox Valley 63.65 62 eP P 15 06 56.8 +0.9
comp=Z,164nm,1.1s
PV03 Paradox Valley 63.67 61 eP P 15 06 56.6 +0.6
comp=Z,137nm,1.2s
PV13 Radium Mtn., P 63.75 61 eP P 15 06 56.9 +0.4
comp=Z,192nm,1.2s
PV02 Paradox Valley 63.76 61 eP P 15 06 57.3 +0.7
comp=Z,105nm,1.2s
PV15 Paradox Valley 63.81 61 eP P 15 06 57.6 +0.7
comp=Z,70nm,1.0s
SKLT Songkhla 63.83 248 P P 15 06 59.1 +2.2
comp=Z,166nm,1.4s,comp=Z,3µm
TRTT Trang 63.84 249 P P 15 06 58.7 +1.7
comp=Z,44nm,1.3s,comp=Z,824nm
KTGM Kuala Trenggan 63.86 244 P P 15 06 59.9 +2.7
VSU Vasula 63.86 334 ceP P 15 06 54.9 -1.7
VSU pmax pmax
comp=Z,100nm,1.3s
VSU Vasula 63.86 334 eP P 15 06 54.3 -2.3
VSU IAmb IAmb 15 07 01.6
comp=Z,55nm,0.9s
GLA Glamis 63.90 69 eP P 15 06 58.3 +1.0
comp=Z,118nm,1.3s
GLA Glamis 63.90 69 eP P 15 06 58.3 +1.0
GLA pmax pmax
comp=Z,118nm,1.3s
GLA Glamis 63.90 69 P P 15 06 57.9 +0.6
baz=315,SNR=5.1
PV01 Paradox Valley 63.91 61 eP P 15 06 58.1 +0.6
comp=Z,36nm,1.0s
SMCO Snowmass 64.05 59 eP P 15 06 59.4 +0.7
comp=Z,77nm,1.1s
WUAZ Wupatki 64.17 65 eP P 15 07 00.3 +1.0
comp=Z,147nm,1.4s
WUAZ LR LR
comp=Z,2µm,21.0s
WUAZ Wupatki 64.17 65 P P 15 07 00.2 +0.9
baz=315,SNR=27
KAPI Kappang 64.31 222 PFAKE 15 07 10.0 +10
KAPI LR LR
comp=Z,473nm,22.0s
ISCO Idaho Springs 64.34 58 eP P 15 07 02.0 +1.6
comp=Z,144nm,1.2s
ISCO LR LR
comp=Z,2µm,21.0s
ISCO Idaho Springs 64.34 58 eP P 15 07 02.0 +1.6
ISCO pmax pmax
comp=Z,144nm,1.2s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 64.34 58 P P 15 07 01.7 +1.2
baz=316,SNR=105
SUSD Miller 64.41 50 P P 15 07 00.3 -0.2
baz=317
JBP Jabalpur 64.53 276 eP P 15 07 01.8 +0.3
PKDT Phuket 64.60 250 P P 15 07 03.8 +1.8
comp=Z,83nm,1.1s,comp=Z,1µm
MVCO Mesa Verde 64.60 62 eP P 15 07 03.3 +1.2
comp=Z,111nm,1.4s
MVCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 64.60 62 P P 15 07 02.9 +0.8
baz=316,SNR=26
LPSR Galich'ya Gora 64.64 324 eP P 15 06 59.9 -1.9
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR MLR MLR
comp=Z,7µm,20.0s
VRH Novokhopyorsk 64.65 321 eP P 15 07 00.0 -1.8
VRH pmax pmax
comp=Z,70nm,1.0s
VRH MLR MLR
comp=Z,5µm,19.0s
DOMB Dombas 64.70 344 eP P 15 07 02.3 +0.2
BORG Borgarnes 64.77 359 eP P 15 07 05.0 +2.6
comp=Z,246nm,1.1s
BORG Borgarnes 64.77 359 iP P 15 07 05.5 +3.1
AKN Aaknes 64.92 345 eP P 15 07 03.9 +0.4
X16A Lo Mia Camp, P 64.92 66 eP P 15 07 04.6 +0.4
comp=Z,54nm,1.1s
NC303 NORSAR Array S 65.04 343 eP P 15 07 03.7 -0.5
comp=Z,48nm,1.1s
PBA Port Blair 65.06 257 eP P 15 07 05.4 +0.4
NC405 NORSAR Array S 65.07 342 eP P 15 07 04.0 -0.5
comp=Z,71nm,1.0s
NC204 NORSAR Array S 65.10 343 eP P 15 07 04.2 -0.6
comp=Z,55nm,0.9s
S22A 4UR Ranch, Cre 65.15 60 eP P 15 07 07.0 +1.2
comp=Z,111nm,1.2s
S22A 4UR Ranch, Cre 65.15 60 P P 15 07 07.1 +1.3
baz=316,SNR=87
Q24A Divide 65.19 58 eP P 15 07 06.7 +0.7
comp=Z,43nm,1.1s
Q24A Divide 65.19 58 P P 15 07 06.7 +0.7
baz=316,SNR=15
NB201 NORSAR Array S 65.21 343 eP P 15 07 04.7 -0.7
comp=Z,96nm,1.3s
NB2 NORSAR Subarra 65.24 343 P P 15 07 04.6 -1.0
comp=Z,14nm,0.8s,baz=23,slow=6.9
NB2 NORSAR Subarra 65.24 343 P P 15 07 04.6 -1.0
baz=23,slow=6.9
NB200 NORSAR Array S 65.24 343 eP P 15 07 04.4 -1.2
NOA NORSAR Array B 65.24 343 P P 15 07 04.4 -1.2
comp=Z,46nm,1.0s,baz=24,slow=6.5,SNR=58
NOA LR LR 15 40 50.4
comp=Z,3µm,19.2s,baz=25,slow=41
EYMN Ely 65.27 44 eP P 15 07 05.6 -0.4
comp=Z,86nm,1.2s
EYMN LR LR
comp=Z,2µm,21.0s
EYMN Ely 65.27 44 P P 15 07 05.7 -0.4
baz=320,SNR=23
KULM Kulim 65.32 246 eP P 15 07 08.2 +1.5
comp=Z,123nm,1.1s
KULM Kulim 65.32 246 P P 15 07 08.8 +2.2
W18A Petrified Fore 65.40 64 P P 15 07 08.3 +1.0
baz=316,SNR=7.5
OGNE Ogallala 65.41 55 eP P 15 07 07.9 +0.8
comp=Z,324nm,1.1s
OGNE LR LR
comp=Z,1µm,20.0s
OGNE Ogallala 65.41 55 P P 15 07 07.7 +0.6
baz=317,SNR=25
NC602 NORSAR Array S 65.46 342 eP P 15 07 06.8 -0.2
VSR Storozhevoye 65.64 323 eP P 15 07 06.6 -1.7
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=Z,8µm,22.0s
X18A Snowflake 65.70 65 eP P 15 07 09.2 +0.1
comp=Z,99nm,1.2s
IPM Ipoh 65.76 246 eP P 15 07 09.4 -0.2
comp=Z,76nm,1.1s
IPM Ipoh 65.76 246 P P 15 07 11.0 +1.4
SLIT Slitere, Latvi 65.80 335 eP P 15 07 06.1 -3.1
SLIT IAmb IAmb 15 07 10.0
comp=Z,271nm,1.0s
214A Organ Pipe Nat 65.87 69 P P 15 07 10.6 +0.5
baz=316,SNR=8.2
SDCO Great Sand Dun 65.88 60 eP P 15 07 10.8 +0.3
comp=Z,86nm,1.4s
SDCO LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 65.88 60 P P 15 07 11.3 +0.9
baz=317,SNR=59
HYA Hoyanger 66.00 345 eP P 15 07 10.5 +0.1
ECSD EROS Data Cent 66.08 50 eP P 15 07 11.3 +0.1
comp=Z,99nm,1.1s
ECSD LR LR
comp=Z,3µm,22.0s
ECSD EROS Data Cent 66.08 50 P P 15 07 11.1 -0.2
baz=318,SNR=62
BHPL Bhopal 66.09 278 eP P 15 07 10.9 -0.8
E38A The Farm, Brul 66.26 45 eP P 15 07 12.0 -0.4
comp=Z,75nm,1.1s
E38A The Farm, Brul 66.26 45 P P 15 07 11.8 -0.6
baz=320,SNR=11
C40A Isle Royale Na 66.31 42 P P 15 07 11.9 -0.7
baz=321
IZAR Zarasai 66.31 332 eP P 15 07 10.7 -1.8
IZAR IAmb IAmb 15 07 12.8
comp=Z,8.2nm,0.7s
MYKOM Kota Tinggi 66.35 241 eP P 15 07 14.8 +1.5
comp=Z,47nm,1.0s
MYKOM Kota Tinggi 66.35 241 P P 15 07 15.6 +2.2
FRIM Kepong 66.42 244 P P 15 07 15.8 +2.0
F37A Hinrichs Farm, 66.45 46 P P 15 07 13.3 -0.3
baz=320,SNR=5.4
KGM Kluang 66.46 242 P P 15 07 16.2 +2.2
IVI Ivigtut 66.47 13 eP P 15 07 13.5 +0.1
comp=Z,106nm,1.0s
ISAL Salakas 66.50 332 eP P 15 07 12.7 -1.0
ISAL IAmb IAmb 15 07 14.0
comp=Z,7.3nm,0.8s
KSCO Kaye Shedlock' 66.51 57 P P 15 07 14.7 +0.4
baz=317,SNR=8.4
NGP Nagpur 66.59 275 eP P 15 07 14.4 -0.5
NGP ex x 15 15 59.0
F38A Pierce - Schro 66.61 45 P P 15 07 14.7 +0.1
baz=320,SNR=28
SPMN Marine on St. 66.75 46 eP P 15 07 15.4 -0.2
comp=Z,85nm,1.3s
SPMN Marine on St. 66.75 46 P P 15 07 15.3 -0.2
baz=320,SNR=13
SOEI Soe 66.81 216 eP P 15 07 15.6 -0.7
comp=Z,160nm,1.4s
TUC Tucson 66.81 67 eP P 15 07 16.7 +0.5
comp=Z,63nm,1.4s
TUC LR LR
comp=Z,1µm,22.0s
TUC Tucson 66.81 67 eP P 15 07 16.7 +0.5
TUC pmax pmax
comp=Z,63nm,1.4s
TUC MLR MLR
comp=Z,1µm,22.0s
TUC Tucson 66.81 67 P P 15 07 16.8 +0.6
baz=317
ASK Askoy 66.81 345 eP P 15 07 16.1 +0.5
KONO Kongsberg 66.83 343 eP P 15 07 15.7 -0.1
MICGM Minsk 66.88 331 eP P 15 07 16.0 -0.2
MICGM eLR LR 15 34 35.0
MICGM LRM MLR 15 40 28.0
comp=Z,10nm,18.0s
MNK Minsk 66.88 331 eP P 15 07 06.0 -10
E39A Mellen 66.88 44 P P 15 07 15.7 -0.7
baz=320,SNR=13
BER Bergen 66.88 345 eP P 15 07 17.6 +1.5
GEYT Alibeck 66.88 302 P P 15 07 16.4 -0.1
comp=Z,21nm,0.9s,baz=11,slow=3.2,SNR=26
GEYT LR LR 15 39 38.1
comp=Z,3µm,18.8s,baz=60,slow=39
GYA0B ALIBECK ARRAY 66.88 302 eP P 15 07 16.5 -0.1
comp=Z,45nm,0.9s
NRS Narsarsuaq 66.89 12 eP P 15 07 16.1 0.0
comp=Z,125nm,1.3s
NRS Narsarsuaq 66.89 12 iP P 15 07 16.1 0.0
comp=Z,161nm,1.4s
NRS Narsarsuaq 66.89 12 iP P 15 07 16.1 0.0
NRS pmax pmax
comp=Z,160nm,1.4s
T25A Trinidad 66.91 59 P P 15 07 17.5 +0.5
baz=317,SNR=37
BGNE Belgrade 67.05 52 eP P 15 07 17.4 -0.2
comp=Z,211nm,1.0s
BGNE Belgrade 67.05 52 P P 15 07 17.3 -0.2
baz=318,SNR=16
F39A Loretta 67.08 45 P P 15 07 17.3 -0.3
baz=320,SNR=15
ODD1 Odda 67.12 344 eP P 15 07 17.8 +0.1
E40A Wakefield 67.12 44 P P 15 07 18.0 +0.1
baz=321,SNR=37
D41A Chassel 67.22 43 eP P 15 07 18.3 -0.2
comp=Z,106nm,1.2s
D41A Chassel 67.22 43 P P 15 07 18.2 -0.2
baz=321,SNR=8.0
G38A Ridgeland 67.22 46 P P 15 07 17.7 -0.8
baz=320,SNR=19
PBUR Paburg 67.30 335 IAmb IAmb 15 07 17.9
comp=Z,75nm,1.1s
ANMO Albuquerque 67.38 62 eP P 15 07 20.6 +0.7
comp=Z,36nm,1.1s
ANMO LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 67.38 62 ceP P 15 07 19.0 -0.9
ANMO pmax pmax
comp=Z,43nm,1.3s
ANMO Albuquerque 67.38 62 P P 15 07 20.6 +0.7
baz=317
LAZ Ladron 67.39 63 eP P 15 07 21.2 +1.2
MTN Manton Dam 67.40 208 eP P 15 07 19.7 -0.1
comp=Z,106nm,1.0s
H38A Maiden Rock 67.41 46 P P 15 07 19.6 -0.1
baz=320,SNR=12
F40A Park Falls 67.43 44 P P 15 07 19.3 -0.5
baz=321,SNR=7.1
G39A Holcombe 67.45 45 P P 15 07 19.1 -0.8
baz=320,SNR=15
E41A Kenton 67.51 43 P P 15 07 19.8 -0.5
baz=321,SNR=13
LHMI Lhok Sumawe 67.55 250 P P 15 07 23.2 +2.3
comp=Z,556nm,0.9s,comp=Z,6µm
BLS5 Blasjo 67.61 344 eP P 15 07 21.1 +0.3
LENM Lemitar 67.66 63 eP P 15 07 22.8 +1.1
COWI Conover 67.72 44 eP P 15 07 21.8 +0.1
comp=Z,60nm,1.3s
COWI LR LR
comp=Z,3µm,22.0s
LPM Los Pinos Moun 67.74 63 eP P 15 07 23.4 +1.2
Y22D IRIS PASSCAL I 67.75 63 P P 15 07 23.7 +1.5
baz=317
DSRI Dabo 67.83 239 P P 15 07 24.4 +1.7
H39A Augusta 67.86 46 P P 15 07 21.9 -0.7
baz=321,SNR=6.5
BNM Barren Site 67.86 63 eP P 15 07 23.9 +0.9
G40A Rib Lake 67.89 45 eP P 15 07 22.3 -0.4
comp=Z,42nm,1.1s
G40A Rib Lake 67.89 45 P P 15 07 22.4 -0.4
baz=321,SNR=11
CMBY CAMPBELL BAY 67.95 253 eP P 15 07 23.1 -0.4
E42A Champion 67.99 43 P P 15 07 23.0 -0.3
baz=322,SNR=16
F41A Three Lakes 68.02 44 eP P 15 07 23.3 -0.2
comp=Z,77nm,1.3s
F41A Three Lakes 68.02 44 P P 15 07 23.3 -0.2
baz=321,SNR=16
CBKS Cedar Bluff 68.17 55 eP P 15 07 25.4 +0.7
comp=Z,133nm,1.1s
CBKS LR LR
comp=Z,989nm,19.0s
CBKS Cedar Bluff 68.17 55 eP P 15 07 25.4 +0.7
CBKS pmax pmax
comp=Z,133nm,1.1s
CBKS MLR MLR
comp=Z,989nm,19.0s
CBKS Cedar Bluff 68.17 55 P P 15 07 24.0 -0.6
baz=318,SNR=14
H40A Chili 68.31 45 P P 15 07 24.9 -0.5
baz=321,SNR=12
PSI Prapat 68.33 246 P P 15 07 26.2 +0.2
comp=Z,18nm,0.8s,baz=0.1,slow=5.6,SNR=16
319A Douglas 68.37 67 eP P 15 07 26.9 +0.8
comp=Z,123nm,1.1s
121A Cookes Peak, D 68.39 65 P P 15 07 27.3 +1.0
baz=317,SNR=12
I39A Houston 68.39 47 eP P 15 07 25.2 -0.7

comp=Z,80nm,1.0s
I39A Houston 68.39 47 P P 15 07 25.1 -0.7
baz=321,SNR=16
G41A Antigo 68.39 44 P P 15 07 25.4 -0.5
baz=322
PPBI Pangkal Pinang 68.40 237 P P 15 07 28.1 +1.8
comp=Z,53nm,1.3s,comp=Z,1µm
F42A Maple Grove Fa 68.42 43 P P 15 07 25.7 -0.4
baz=322
KCSI Kotacane, Aceh 68.42 248 P P 15 07 26.0 -0.5
comp=Z,25nm,0.9s,comp=Z,607nm
E43A Lone Tree Farm 68.43 42 P P 15 07 25.5 -0.6
baz=322
SCHQ Schefferville 68.45 26 eP P 15 07 26.1 +0.1
comp=Z,127nm,1.2s
SCHQ Schefferville 68.45 26 P P 15 07 26.2 +0.1
comp=Z,35nm,0.6s,baz=340,slow=5.2,SNR=52
SCHQ LR LR 15 39 23.3
comp=Z,1µm,21.9s,baz=330,slow=38
MAK Makhachkala 68.48 312 eP P 15 07 25.3 -1.2
MAK e*SP sP 15 07 44.4 -0.5
MAK e 15 09 57.3
MAK eS S 15 16 24.2 -0.5
MAK e*SS sS 15 16 48.3 +1.5
MAK eSS SS 15 20 49.6 +1.4
MAK pmax pmax
comp=Z,196nm,1.0s
SNART Snartemo 68.50 344 eP P 15 07 26.1 -0.2
PLAI Plampang 68.57 223 P P 15 07 26.1 -1.1
comp=Z,119nm,1.1s,comp=Z,2µm
MLSI Meulaboh, Aceh 68.64 249 P P 15 07 27.5 -0.3
comp=Z,332nm,0.9s,comp=Z,4µm
H41A Junction City 68.65 45 eP P 15 07 27.0 -0.5
comp=Z,50nm,1.1s
H41A Junction City 68.65 45 P P 15 07 26.9 -0.6
baz=321,SNR=12
E44A Grand Marais A 68.69 41 P P 15 07 27.4 -0.3
baz=323
G42A Mountain 68.70 44 P P 15 07 27.5 -0.3
baz=322
J39A Decorah 68.70 47 P P 15 07 26.9 -0.9
baz=321,SNR=18
SUW Suwalki 68.71 333 eP P 15 07 26.2 -1.5
SUW LMZ LR 15 40 41.7
comp=Z,10µm,19.2s
SUW Suwalki 68.71 333 eP P 15 07 26.2 -1.5
SUW MLR MLR
comp=Z,10µm,19.2s
I40A Norwalk 68.77 46 P P 15 07 27.7 -0.6
baz=321,SNR=9.7
F43A Flat Rock, Esc 68.78 43 P P 15 07 27.8 -0.5
baz=322,SNR=8.0
GOF Gofitskoye 68.89 316⇑ iP P 15 07 28.2 -0.8
GOF pmax pmax
comp=Z,80nm,1.0s
TPTI 68.98 248 P P 15 07 30.7 +0.8
comp=Z,26nm,1.0s,comp=Z,627nm
I41A Arkdale 68.98 45 P P 15 07 29.0 -0.6
baz=321,SNR=7.0
F44A Big Bay de Noc 68.99 42 P P 15 07 29.0 -0.6
baz=323,SNR=5.1
G43A Wallace 69.01 43 eP P 15 07 29.5 -0.2
comp=Z,79nm,1.1s
G43A Wallace 69.01 43 P P 15 07 29.4 -0.4
baz=322,SNR=9.1
SRBI Singaraja 69.04 225 P P 15 07 31.0 +0.9
comp=Z,57nm,1.1s,comp=Z,1µm
SCIA State Center 69.09 49 eP P 15 07 30.5 +0.2
comp=Z,432nm,1.3s
SCIA LR LR
comp=Z,4µm,22.0s
SCIA State Center 69.09 49 P P 15 07 30.3 0.0
baz=320,SNR=27
GROC Groznyy 69.10 313 eP P 15 07 28.9 -1.4
GROC eS S 15 16 26.4 -5.6
GROC e 15 16 48.1
GROC pmax pmax
comp=Z,40nm,1.1s
J40A Soldiers Grove 69.10 46 P P 15 07 29.4 -0.9
baz=321,SNR=6.5
K39A Oelwein 69.11 48 P P 15 07 29.3 -1.1
baz=321,SNR=13
BKNI Bangkinang 69.13 243 P P 15 07 32.8 +2.0
comp=Z,182nm,1.0s,comp=Z,4µm
E45A Wooded Hills, 69.21 41 P P 15 07 30.1 -0.8
baz=323
H42A Shiocton 69.23 44 P P 15 07 30.5 -0.6
baz=322
D46A Sault St. Mari 69.25 40 P P 15 07 30.0 -1.2
baz=324,SNR=11
MATQ Matagami 69.37 35 P P 15 07 30.9 -0.9
baz=326,SNR=13
J41A Loganville 69.46 46 P P 15 07 31.8 -0.7
baz=322,SNR=11
K40A Colesburg 69.46 47 P P 15 07 31.8 -0.8
baz=321,SNR=14
D47A Chapleau 69.50 39 P P 15 07 31.5 -1.2
baz=324,SNR=13
L39A Vinton 69.50 48 P P 15 07 32.3 -0.5
baz=321,SNR=24
I42A Draeger Farm, 69.55 45 eP P 15 07 32.7 -0.3
comp=Z,49nm,1.0s
I42A Draeger Farm, 69.55 45 P P 15 07 32.5 -0.6
baz=322,SNR=6.2
KSU1 Kansas State U 69.56 53 eP P 15 07 32.2 -1.0
comp=Z,81nm,1.0s
KSU1 LR LR
comp=Z,3µm,20.0s
KSU1 Kansas State U 69.56 53 P P 15 07 32.0 -1.2
baz=320,SNR=16
E46A Sault Ste Mari 69.56 41 P P 15 07 32.2 -0.9
baz=324,SNR=9.8
H43A Windswept, Lux 69.60 44 P P 15 07 32.8 -0.6
baz=322
F45A CMU Biological 69.61 42 P P 15 07 32.8 -0.6
baz=323
HYB Hyderabad 69.66 273 iP P 15 07 34.0 -0.2
comp=Z,320nm,1.0s
HYB ePcP PcP 15 07 57.0 +0.2
HYB eS S 15 16 38.0 -1.4
HYB Hyderabad 69.66 273 eP P 15 07 34.3 +0.1
HYB IAMs_20 IAMs_20 15 40 55.1
comp=Z,2µm,17.1s
AKASG Malin Array Be 69.67 328 P P 15 07 31.9 -1.8
comp=Z,4.2nm,0.4s,baz=31,slow=6.9,SNR=17
AKASG LR LR 15 41 19.4
comp=Z,5µm,19.9s,baz=40,slow=39
AKBB Malin Array Si 69.67 328 eP P 15 07 32.0 -1.7
comp=Z,21nm,1.3s
AKBB Malin Array Si 69.67 328 eP P 15 07 32.0 -1.7
AKBB pmax pmax
comp=Z,21nm,1.3s
KIEV Kiev 69.68 328 eP P 15 07 32.0 -1.7
comp=Z,21nm,1.3s
KIEV LR LR
comp=Z,5µm,21.0s
KIEV Kiev 69.68 328⇓ iP P 15 07 34.1 +0.4
KIEV Kiev 69.68 328 eP P 15 07 32.0 -1.7
KIEV pmax pmax
comp=Z,21nm,1.3s
KIEV MLR MLR
comp=Z,5µm,21.0s
JFWS Jewell Farm 69.70 46 eP P 15 07 32.9 -1.1
comp=Z,35nm,1.1s
JFWS LR LR
comp=Z,3µm,21.0s
JFWS Jewell Farm 69.70 46 eP P 15 07 32.9 -1.1
JFWS pmax pmax
comp=Z,35nm,1.1s
JFWS MLR MLR
comp=Z,3µm,21.0s
JFWS Jewell Farm 69.70 46 P P 15 07 33.0 -1.1
baz=322,SNR=5.5
AK11 Malin Array Si 69.71 328 eP P 15 07 33.2 -0.7
F46A Macinaw City C 69.85 41 P P 15 07 34.4 -0.5
baz=324,SNR=20
AFI Afiamalu 69.87 148 LR LR 15 32 47.6
comp=Z,707nm,20.4s,baz=349,slow=31
I43A Langenfeld Bro 69.89 44 P P 15 07 34.3 -0.9
baz=322
BSD Bornholm Skovb 69.89 338 iP P 15 07 36.6 +1.6
comp=Z,4µm,20.0s
BSD Bornholm Skovb 69.89 338 eP P 15 07 36.6 +1.6
BSD MLR MLR
comp=Z,4µm,20.0s
J42A Columbus 69.90 45 P P 15 07 34.5 -0.8
baz=322,SNR=14

E47A Iron Bridge 69.91 40 P P 15 07 34.0 -1.3
baz=324,SNR=15
L40A Anamosa 69.91 48 eP P 15 07 34.5 -0.8
comp=Z,53nm,1.0s
L40A Anamosa 69.91 48 P P 15 07 34.5 -0.8
baz=321,SNR=14
KIV Kislovodsk 69.92 316 PFAKE 15 07 50.0 +15
KIV LR LR
comp=Z,3µm,22.0s
KIV Kislovodsk 69.92 316⇓ iP P 15 07 34.9 -0.6
KIV Kislovodsk 69.92 316 i P P 15 07 35.4 -0.1
SNR=5.7
KIV Kislovodsk 69.92 316 eP P 15 07 34.2 -1.3
KIV e 15 07 56.8
KIV e 15 10 09.5
KIV eS S 15 16 41.6 -0.2
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,3µm,18.0s
K41A Shullsburg 69.92 47 P P 15 07 34.5 -0.8
baz=322,SNR=9.5
M39A Webster 69.92 49 P P 15 07 35.0 -0.4
baz=321,SNR=32
D48A Paudash Townsh 69.92 39 P P 15 07 33.9 -1.4
baz=325,SNR=10
KBZ Khabaz 70.00 315 P P 15 07 34.5 -1.4
comp=Z,16nm,0.8s,baz=45,slow=2.0,SNR=29
KBZ LR LR 15 41 41.9
comp=Z,4µm,21.5s,baz=33,slow=39
D49A Beulah Townshi 70.02 38 P P 15 07 34.7 -1.2
baz=325,SNR=11
G45A Suttons Bay 70.06 42 P P 15 07 35.6 -0.6
baz=323,SNR=5.3
AMTX Amarillo 70.07 59 eP P 15 07 37.0 +0.4
comp=Z,77nm,1.0s
AMTX Amarillo 70.07 59 P P 15 07 36.9 +0.4
baz=319
MSTX Muleshoe 70.15 61 eP P 15 07 37.3 +0.2
comp=Z,112nm,1.0s
MSTX Muleshoe 70.15 61 P P 15 07 37.1 0.0
baz=319,SNR=38
NGJI Ngawi 70.16 229 P P 15 07 39.8 +2.7
J43A Natural Harves 70.17 45 P P 15 07 36.1 -0.8
baz=322
SNSI Sinabang, Aceh 70.17 248 P P 15 07 38.6 +1.4
comp=Z,571nm,1.1s,comp=Z,6µm
G46A Petoskey 70.17 42 P P 15 07 36.4 -0.5
baz=324,SNR=11
LSQQ Lebel-sur-Quev 70.19 35 P P 15 07 36.1 -0.8
baz=327
K42A Prairie Point, 70.22 46 P P 15 07 36.3 -0.9
baz=322,SNR=13
H45A Beulah 70.23 43 P P 15 07 36.9 -0.4
baz=323
CPRX Cap Rock 70.24 62 eP P 15 07 38.7 +1.0
L41A Preston 70.24 47 P P 15 07 36.5 -0.9
baz=322,SNR=20
M40A Post Highland 70.29 48 P P 15 07 37.0 -0.7
baz=321,SNR=22
ZEI Tsey 70.29 314 eP P 15 07 35.5 -2.4
ZEI pmax pmax
comp=Z,16nm,1.0s
GSI Gunungsitoli 70.33 247 eP P 15 07 39.1 +1.0
comp=Z,79nm,1.1s
GSI Gunungsitoli 70.33 247 P P 15 07 39.2 +1.0
comp=Z,95nm,1.1s,comp=Z,3µm
E48A Loveyer 70.34 39 P P 15 07 36.8 -1.1
baz=325,SNR=9.6
MNTX Cornudas Mount 70.38 64 eP P 15 07 38.1 -0.3
comp=Z,88nm,1.3s
MNTX LR LR
comp=Z,1µm,22.0s
MNTX Cornudas Mount 70.38 64 P P 15 07 39.1 +0.7
baz=318,SNR=35
U32A Winter Ranch, 70.38 56 eP P 15 07 38.2 -0.2
comp=Z,109nm,1.0s
CHGQ Chibougamau 70.38 33 P P 15 07 37.4 -0.7
baz=328,SNR=22
PDSI Padang 70.47 243 P P 15 07 41.3 +2.2
comp=Z,39nm,1.1s,comp=Z,1µm
I45A Fountain 70.61 43 P P 15 07 39.2 -0.3
baz=323
MSVF Nonsavu 70.63 159 PFAKE 15 07 50.0 +10
MSVF LR LR
comp=Z,1µm,22.0s
H46A Fife Lake 70.65 42 P P 15 07 39.5 -0.4
baz=324,SNR=13
N40A Mertquake, Sal 70.66 49 P P 15 07 39.4 -0.5
baz=321,SNR=35
GLMI Grayling 70.67 42 PFAKE 15 07 50.0 +10
GLMI LR LR
comp=Z,2µm,21.0s
GLMI Grayling 70.67 42 P P 15 07 39.7 -0.3
baz=324
L42A Oliver, Polo 70.68 47 eP P 15 07 39.1 -0.9
comp=Z,73nm,1.1s
L42A Oliver, Polo 70.68 47 P P 15 07 38.8 -1.2
baz=322,SNR=8.9
F48A Evansville 70.69 40 P P 15 07 38.9 -1.2
baz=325,SNR=5.8
D50A G1974 Best Tow 70.69 37 P P 15 07 38.7 -1.3
baz=326,SNR=8.2
G47A Hillman 70.71 41 P P 15 07 39.2 -0.9
baz=324
TBLG Delisi 70.73 313 eP P 15 07 40.0 -0.4
K43A Burlington 70.74 45 P P 15 07 39.3 -1.1
baz=322,SNR=6.1
M41A Milan 70.77 48 P P 15 07 39.8 -0.8
baz=322,SNR=12
MCD Coleburn Disti 70.80 349 eP P 15 07 40.3 -0.1
VLDQ Val d'Or 70.81 35 eP P 15 07 38.9 -1.8
comp=Z,76nm,1.0s
WOJI Wonogiri, Jawa 70.82 229 P P 15 07 43.2 +2.1
comp=Z,43nm,1.4s
KRJI Kerinci 70.89 241 P P 15 07 42.5 +0.8
BHJ Bhuj 70.92 283 eP P 15 07 40.5 -1.2
E50A Wahnapitae 70.96 38 P P 15 07 40.4 -1.2
baz=326
L43A Garden Prairie 70.97 46 P P 15 07 40.5 -1.2
baz=322
F49A Sandfield 70.98 40 P P 15 07 40.7 -1.1
baz=325
GKP Gorka Klasztor 71.00 336 eP P 15 07 42.2 +0.5
GKP LMZ LR 15 43 15.1
comp=Z,8µm,17.4s
GKP Gorka Klasztor 71.00 336 eP P 15 07 42.2 +0.5
GKP MLR MLR
comp=Z,8µm,17.4s
PBSI Pulau Batu 71.02 245 P P 15 07 44.0 +1.6
J45A Montague 71.03 44 P P 15 07 41.3 -0.8
baz=323
H47A Mio 71.03 42 P P 15 07 41.5 -0.6
baz=324
I46A Reed City 71.03 43 P P 15 07 41.9 -0.2
baz=324,SNR=9.1
MDO Dochfour 71.06 350⇑ eP P 15 07 41.9 -0.2
M42A Sheffield 71.07 47 P P 15 07 41.3 -1.1
baz=322
UGM Wanagama 71.08 230 P P 15 07 42.8 +0.1
KAC Achnashellach 71.11 350⇑ eP P 15 07 42.4 0.0
N41A Harden Midland 71.14 48 eP P 15 07 42.5 -0.3
comp=Z,215nm,1.0s
N41A Harden Midland 71.14 48 P P 15 07 42.4 -0.4
baz=322,SNR=53
LHSI Lahat 71.20 238 P P 15 07 44.2 +0.8
CTA Charters Tower 71.27 191 LR LR 15 34 41.0
comp=Z,856nm,21.9s,baz=17,slow=32
CTAO Charters Tower 71.27 191 PFAKE 15 08 00.0 +16
CTAO LR LR
comp=Z,2µm,20.0s
KPL Plockton 71.31 350 eP P 15 07 43.3 -0.2
KPL IAmb IAmb 15 07 44.5
comp=Z,124nm,1.1s
H48A Harrisville 71.32 41 P P 15 07 43.2 -0.7
baz=324,SNR=5.9
BEL Belsk 71.32 333 eP P 15 07 43.3 -0.4
BEL LMZ LR 15 41 02.0
comp=Z,6µm,22.9s
BEL Belsk 71.32 333 eP P 15 07 43.3 -0.4
BEL MLR MLR
comp=Z,6µm,22.9s
L44A Lake County Fo 71.35 45 P P 15 07 43.5 -0.5
baz=323
E51A G1948 Merrick 71.35 38 P P 15 07 42.6 -1.4
baz=326,SNR=9.4
KPJI Karang Pucung 71.36 232 P P 15 07 43.5 -0.9

I47A Gladwin 71.37 42 P P 15 07 43.8 -0.4
baz=324
D52A ZEK Kipawa Sen 71.40 37 P P 15 07 43.2 -1.1
baz=327,SNR=7.7
MDSI Maura Dua 71.40 237 P P 15 07 44.0 -0.6
J46A Howard City 71.42 43 P P 15 07 44.2 -0.2
baz=324
N42A Yates City 71.44 48 P P 15 07 43.9 -0.7
baz=322,SNR=18
M43A Waltham Townsh 71.46 47 P P 15 07 43.7 -1.0
baz=322,SNR=7.1
ANN Anapa 71.49 319 eP P 15 07 43.2 -1.6
ANN e*PP pP 15 07 57.4 -0.7
ANN e 15 17 42.2
ANN pmax pmax
comp=Z,105nm,1.3s
ANN MLR MLR
comp=N,7µm,24.0s
ANN MLR MLR
comp=E,534nm,24.0s
ANN MLR MLR
comp=Z,4µm,24.0s
SOC Sochi 71.51 317 eP P 15 07 43.5 -1.5
SOC e 15 10 18.9
SOC ePPP PPP 15 12 03.5
SOC eS S 15 16 59.5 -0.6
SOC eSS SS 15 21 36.6 +2.0
SOC pmax pmax
comp=Z,12nm,0.4s
SOC MLR MLR
comp=Z,2µm,22.0s
I48A Sherman Twp 71.57 42 P P 15 07 44.9 -0.5
baz=324
D53A Lac Vacive, Po 71.58 36 P P 15 07 44.5 -0.9
baz=327,SNR=11
SISI Saibi 71.59 244 P P 15 07 46.3 +0.5
O41A Passleys Farm, 71.59 49 P P 15 07 45.2 -0.4
baz=322,SNR=58
TOBO Tobermory, Bru 71.63 40 P P 15 07 44.7 -0.9
baz=325
F51A Arnstein 71.69 38 P P 15 07 44.9 -1.2
baz=326
WMOK Wichita Mounta 71.74 57 eP P 15 07 46.6 +0.1
comp=Z,89nm,1.0s
WMOK LR LR
comp=Z,1µm,22.0s
WMOK Wichita Mounta 71.74 57 P P 15 07 46.7 +0.1
baz=320,SNR=45
N43A Stutzman Famil 71.75 47 P P 15 07 45.9 -0.6
baz=322,SNR=10
POO Poona 71.81 277 eP P 15 07 47.4 +0.2
MDRS Chennai 71.85 268 eP P 15 07 46.7 -0.7
MDRS IAmb IAmb 15 07 50.2
comp=Z,102nm,1.0s
P41A Barry, Barry 71.85 49 P P 15 07 47.0 -0.2
baz=322,SNR=52
J47A Sunmer 71.86 43 P P 15 07 46.9 -0.3
baz=324,SNR=13
E52A Mattawa 71.88 37 P P 15 07 45.8 -1.4
baz=327,SNR=5.8
K46A Dorr 71.89 44 P P 15 07 46.8 -0.5
baz=324,SNR=7.8
D54A Lac Fusel, La 71.91 36 P P 15 07 46.5 -0.9
baz=328,SNR=10
LWLI Liwa 71.91 237 P P 15 07 50.8 +2.9
O42A Bath 71.91 48 P P 15 07 47.0 -0.5
baz=322
M44A Midewin, Midew 71.91 46 P P 15 07 46.8 -0.7
baz=323,SNR=6.2
GNI Garni 71.97 312 eP P 15 07 48.8 +0.7
GNI Garni 71.97 312 eP P 15 07 45.0 -3.1
comp=Z,977nm,1.4s
GNI LR LR
comp=Z,6µm,19.0s
GNI Garni 71.97 312 P P 15 07 48.7 +0.7
GNI Garni 71.97 312 eP P 15 07 45.0 -3.1
GNI MLR MLR
comp=Z,6µm,19.0s
HDIL Hopedale 72.00 47 eP P 15 07 47.6 -0.4
comp=Z,246nm,1.3s
HDIL LR LR
comp=Z,3µm,20.0s
HDIL Hopedale 72.00 47 P P 15 07 47.6 -0.4
baz=322,SNR=16
INVG Invergeldie, C 72.02 349 eP P 15 07 47.3 -0.6
INVG IAmb IAmb 15 07 49.0
comp=Z,57nm,0.9s
BSEG Bad Segeberg 72.02 340 eP P 15 07 48.0 +0.1
comp=Z,117nm,1.8s,baz=22,slow=5.8
F52A Sundridge 72.03 38 P P 15 07 47.1 -1.0
baz=326,SNR=7.9
KLBO Killbear Provi 72.04 39 P P 15 07 47.2 -1.0
baz=326,SNR=8.8
KASI Kota Agung 72.10 236 P P 15 07 49.8 +1.0
comp=Z,53nm,1.0s
LVV L'vov 72.12 330 eP P 15 07 48.0 -0.6
LVV eS S 15 17 03.5 -3.5
LVV e 15 17 41.2
LVV e 15 21 43.6
LVV MLR MLR
comp=E,2µm,21.0s
LVV MLR MLR
comp=N,4µm,20.0s
LVV MLR MLR
comp=Z,6µm,20.0s
I49A Point Hope 72.14 41 P P 15 07 48.4 -0.4
baz=325,SNR=6.6
E53A Dumoine, Ponti 72.18 37 P P 15 07 47.9 -1.1
baz=327,SNR=9.2
O43A Sugar Creek Fa 72.20 48 P P 15 07 48.8 -0.4
baz=322,SNR=6.5
L46A Eue Claire 72.20 45 P P 15 07 48.6 -0.7
baz=324
BATM Batumi 72.23 315⇑ iP P 15 07 48.7 -0.7
K47A Vermontville 72.25 43 P P 15 07 49.2 -0.3
baz=324,SNR=10
PPSI Pulau Pagai 72.25 242 P P 15 07 51.7 +1.9
comp=Z,173nm,1.2s,comp=Z,3µm
J48A Bridge Port 72.26 42 P P 15 07 49.4 -0.1
baz=325,SNR=6.4
P42A Winchester 72.27 49 eP P 15 07 49.1 -0.5
comp=Z,92nm,1.0s
P42A Winchester 72.27 49 P P 15 07 49.3 -0.3
baz=322,SNR=32
BMRO Meriville Lake 72.27 40 P P 15 07 49.0 -0.6
baz=326,SNR=6.6
M45A Boilermakers S 72.28 46 P P 15 07 48.7 -1.0
baz=323
EAB Aberfoyle 72.29 349⇑ eP P 15 07 49.5 0.0
BUKO Buck Lake 72.29 38 P P 15 07 48.6 -1.1
baz=326,SNR=8.8
E54A Lac Daplat, Po 72.31 36 P P 15 07 48.6 -1.2
baz=327,SNR=9.4
Q41A Truxton 72.34 50 P P 15 07 49.9 -0.1
baz=322,SNR=64
LAWE Loch Awe, Argy 72.34 350⇑ eP P 15 07 49.8 +0.1
LAWE IAmb IAmb 15 07 50.8
comp=Z,112nm,0.8s
ESY Stoneypath 72.34 348 eP P 15 07 49.6 -0.2
N44A Piper City 72.34 46 P P 15 07 49.4 -0.7
baz=323,SNR=7.6
BCA Borcka 72.39 315⇑ iP P 15 07 50.4 +0.1
ALGO Algonquin Park 72.39 37 P P 15 07 49.1 -1.2
baz=327,SNR=7.9
TUL1 Leonard 72.42 55 eP P 15 07 50.5 -0.1
comp=Z,158nm,1.2s
TUL1 Leonard 72.42 55 P P 15 07 50.4 -0.2
baz=321,SNR=22
BRCO Bruce Peninsul 72.47 40 P P 15 07 50.3 -0.5
baz=326,SNR=8.1
J49A Marlette 72.48 42 P P 15 07 50.5 -0.3
baz=325,SNR=5.8
EAU Auchinoon 72.52 349⇑ eP P 15 07 50.8 -0.1
K48A Perry 72.52 43 P P 15 07 51.1 0.0
baz=324,SNR=21
BASO Ashfield 72.56 40 P P 15 07 51.2 -0.2
baz=326,SNR=14
RUE Ruedersdorf 72.58 338 eP P 15 07 48.8 -2.4
RUE IAmb IAmb 15 07 52.8
comp=Z,34nm,1.0s
N45A Kentland 72.59 46 P P 15 07 51.0 -0.5
baz=323
P43A Skaggs, Pawnee 72.61 48 P P 15 07 51.2 -0.5
baz=322,SNR=9.6
M46A Old House Fiel 72.66 45 P P 15 07 51.4 -0.6
baz=324,SNR=5.7
PGBU Glenifferbraes 72.68 349⇑ eP P 15 07 52.0 +0.2

PGBU IAmb IAmb 15 07 53.0
comp=Z,300nm,1.0s
BWLO Walkerton 72.69 40 P **P 15 07 51.7 -0.4**
baz=326,SNR=7.6
KWP Kalwaria Pacla 72.70 331 *eP* **P 15 07 51.5 -0.6**
KWP LMZ LR 15 42 03.0
comp=Z,10µm,21.4s
KWP Kalwaria Pacla 72.70 331 *eP* **P 15 07 51.6 -0.5**
comp=Z,607nm,1.1s
KWP Kalwaria Pacla 72.70 331 *eP* **P 15 07 51.6 -0.5**
O44A Mansfield 72.70 47 P **P 15 07 51.6 -0.6**
baz=323,SNR=6.4
Q42A Golden Eagle 72.70 49 P **P 15 07 52.3 0.0**
baz=322,SNR=21
L47A Sherwood 72.72 44 P **P 15 07 51.7 -0.5**
baz=324,SNR=12
SENK Senkaya-Erzuru 72.76 314 *eP* **P 15 07 52.8 0.0**
R41A Rosebud 72.78 50 P **P 15 07 52.3 -0.4**
baz=322,SNR=45
K49A Clarkson 72.82 42 P **P 15 07 53.0 +0.2**
baz=325,SNR=15
G53A Haliburton 72.86 38 P **P 15 07 52.2 -0.8**
baz=327,SNR=11
ABTX Abilene, Hawle 72.88 59 *eP* **P 15 07 53.8 +0.4**
comp=Z,160nm,1.1s
ABTX Abilene, Hawle 72.88 59 P **P 15 07 53.7 +0.2**
baz=320,SNR=23
PEMO Pembroke 72.93 37 P **P 15 07 52.3 -1.1**
baz=328,SNR=7.0
KIS Kishinev 72.96 326 *eP* **P 15 07 51.0 -2.6**
comp=Z,600nm,12.0s
KIS *epP* **pP 15 08 03.0 -3.9**
KIS Kishinev 72.96 326 *ePP* PP 15 10 36.0 +0.2
KIS Kishinev 72.96 326 *eP* **P 15 07 51.0 -2.6**
KIS *e* 15 08 11.0
KIS *e* 15 10 36.0
KIS *ePPP* PPP 15 12 16.0
KIS *eS* **S 15 17 11.0 -5.7**
KIS *ePS* **PnS 15 17 45.0 -7.5**
KIS pmax pmax
comp=Z,600nm,12.0s
KIS MLR MLR
comp=Z,5µm,20.0s
O45A Potomac 72.97 47 P **P 15 07 53.4 -0.4**
baz=323,SNR=11
I51A Listowel 73.00 40 P **P 15 07 53.6 -0.3**
baz=326,SNR=10
DZM Mont Dzumac 73.00 171 P **P 15 07 54.7 +0.6**
comp=Z,40nm,1.1s,baz=79,slow=3.7,SNR=5.7
DZM LR LR 15 36 21.1
comp=Z,898nm,19.2s,baz=9.0,slow=33
ESK Eskdalemuir 73.00 349 PFAKE
ESK LR LR 15 08 10.0 +16
comp=Z,2µm,20.0s
ESK Eskdalemuir 73.00 349 *eP* **P 15 07 53.6 -0.1**
ESK IAmb IAmb 15 07 54.8
comp=Z,103nm,0.9s
ESK Eskdalemuir 73.00 349 *i* P **P 15 07 54.1 +0.4**
M47A Cromwell 73.03 45 P **P 15 07 53.4 -0.8**
baz=324
CCM Cathedral Cave 73.03 50 *eP* **P 15 07 53.6 -0.6**
comp=Z,107nm,1.1s
CCM Cathedral Cave 73.03 50 *eP* **P 15 07 53.6 -0.6**
CCM pmax pmax
comp=Z,107nm,1.1s
CCM Cathedral Cave 73.03 50 P **P 15 07 53.5 -0.6**
baz=322
OJC Ojcow 73.04 333 *eP* **P 15 07 53.3 -0.8**
OJC *eS* ScS 15 18 15.1 +17
OJC LMZ LR 15 41 03.0
comp=Z,4µm,23.9s
OJC Ojcow 73.04 333 *eP* **P 15 07 53.1 -1.0**
comp=Z,34nm,1.1s
OJC Ojcow 73.04 333 *eP* **P 15 07 53.3 -0.8**
OJC *eS* ScS 15 18 15.1 +17
OJC MLR MLR
comp=Z,4µm,23.9s
SLM Saint Louis 73.06 49 *eP* **P 15 07 54.2 -0.2**
comp=Z,146nm,1.1s
SLM Saint Louis 73.06 49 *eP* **P 15 07 54.2 -0.2**
SLM pmax pmax
comp=Z,146nm,1.1s
R42A Luebbering 73.08 50 P **P 15 07 54.1 -0.3**
baz=322,SNR=27
HHAR Hobbs 73.08 53 *eP* **P 15 07 53.8 -0.7**
comp=Z,151nm,1.3s
L48A N Adams 73.08 43 P **P 15 07 54.1 -0.3**
baz=324,SNR=12
Q43A New Douglas 73.08 49 P **P 15 07 54.2 -0.3**
baz=323,SNR=5.4
LATQ La Tuque 73.09 33 P **P 15 07 54.2 -0.1**
baz=330,SNR=9.8
TX31 Lajitas Ar. Si 73.12 64 *eP* **P 15 07 55.7 +0.7**
TXAR Lajitas Array 73.12 64 P **P 15 07 55.4 +0.4**
comp=Z,43nm,1.0s,baz=298,slow=4.2,SNR=207
TXAR *pP* **pP 15 08 08.8 +0.5**
comp=Z,46nm,0.8s,baz=298,slow=3.8,SNR=17
I52A Shelburne 73.12 39 P **P 15 07 54.0 -0.7**
baz=326
LPIG La Paz 73.12 73 LR LR 15 33 54.1
comp=Z,690nm,22.0s,baz=299,slow=31
AAM Ann Arbor 73.13 43 *eP* **P 15 07 54.7 0.0**
comp=Z,88nm,1.0s
AAM LR LR
comp=Z,2µm,20.0s
AAM Ann Arbor 73.13 43 *eP* **P 15 07 54.7 0.0**
AAM pmax pmax
comp=Z,88nm,1.0s
AAM MLR MLR
comp=Z,2µm,20.0s
AAM Ann Arbor 73.13 43 P **P 15 07 54.6 0.0**
baz=325,SNR=9.7
F55A Otter Lake 73.13 36 P **P 15 07 53.6 -1.1**
baz=328,SNR=6.7
SFIN Lafayette 73.15 46 *eP* **P 15 07 54.3 -0.5**
comp=Z,69nm,1.3s
SFIN Lafayette 73.15 46 P **P 15 07 54.3 -0.5**
baz=324,SNR=13
S41A Jilco Farms, 73.16 51 P **P 15 07 54.3 -0.7**
baz=322,SNR=49
CLDR Caldiran 73.16 312 *eP* **P 15 07 55.7 +0.5**
P44A Sand Creek, Wi 73.17 48 P **P 15 07 54.7 -0.3**
baz=323,SNR=25
BANO Bancroft 73.22 38 P **P 15 07 54.4 -0.9**
baz=327,SNR=11
BHH Howats Hill 73.23 348⇑ *eP* **P 15 07 55.1 +0.1**
L49A Milan 73.23 43 P **P 15 07 55.5 +0.1**
baz=325,SNR=16
AGRB Hanur-Agry 73.25 313 *eP* **P 15 07 56.3 +0.6**
WRAB Tennant Creek 73.30 203 *eP* **P 15 07 54.8 -1.0**
comp=Z,121nm,1.0s
WRAB LR LR
comp=Z,1µm,22.0s
WRAB Tennant Creek 73.30 203 *eP* **P 15 07 54.8 -1.0**
WRAB pmax pmax
comp=Z,121nm,1.0s
WRAB MLR MLR
comp=Z,1µm,22.0s
WB2 Warramunga Arr 73.31 203 *eP* **P 15 07 55.3 -0.5**
WR1 Warramunga Arr 73.31 203 *eP* **P 15 07 55.3 -0.6**
comp=Z,129nm,1.1s
WR1 *epP* **pP 15 08 09.0 -0.2**
WRA Warramunga Arr 73.31 203 P **P 15 07 55.3 -0.6**
comp=Z,72nm,0.9s,baz=19,slow=6.4,SNR=133
WRA *pP* **pP 15 08 09.0 -0.2**
comp=Z,55nm,0.9s,baz=18,slow=6.3,SNR=9.9
WRA LR LR 15 37 09.0
comp=Z,851nm,21.6s,baz=5.0,slow=33
M48A Edgerton 73.33 44 *eP* **P 15 07 55.5 -0.4**
comp=Z,94nm,1.0s
M48A Edgerton 73.33 44 P **P 15 07 55.4 -0.5**
baz=324,SNR=11
RETH Rethem/Aller, 73.35 340 *eP* **P 15 07 55.8 0.0**
comp=Z,79nm,1.4s,baz=22,slow=5.8
ELFO Elginfield 73.38 41 P **P 15 07 55.9 -0.3**
baz=326,SNR=8.8
N47A Urbana 73.38 45 P **P 15 07 55.2 -1.0**
baz=324
NRDL Niedersach Rie 73.41 340 *eP* **P 15 07 55.9 -0.2**
comp=Z,60nm,1.5s,baz=22,slow=5.8
Q44A Meyer Farm, Va 73.44 48 *eP* **P 15 07 56.2 -0.3**
comp=Z,142nm,1.3s
Q44A Meyer Farm, Va 73.44 48 P **P 15 07 56.0 -0.5**
baz=323,SNR=16
KOPR Koprukoy-ERZUR 73.44 314 *eP* **P 15 07 56.9 +0.1**
KSP Ksiaz 73.45 335 *eP* **P 15 07 55.7 -0.7**
KSP *eS* SKSac 15 18 22.7 +24
KSP LMZ LR 15 44 47.9
comp=Z,5µm,18.3s
KSP Ksiaz 73.45 335 *eP* **P 15 07 55.7 -0.7**
KSP *eS* SKSac 15 18 22.7 +24
KSP MLR MLR
comp=Z,5µm,18.3s
TRQ Mont Tremblant 73.46 35 *eP* **P 15 07 55.9 -0.8**
S42A Caledonia 73.48 50 P **P 15 07 56.4 -0.5**
baz=322,SNR=56
G55A Calabogie 73.48 37 P **P 15 07 55.8 -0.9**
baz=326,SNR=13
FVM French Village 73.49 50 *eP* **P 15 07 56.5 -0.3**
comp=Z,96nm,1.1s
FVM French Village 73.49 50 *eP* **P 15 07 56.6 -0.3**
FVM pmax pmax
comp=Z,96nm,1.1s
R43A Red Bud 73.50 49 P **P 15 07 56.4 -0.5**
baz=323,SNR=20
PLVO Plevna 73.53 37 *eP* **P 15 07 56.5 -0.5**
comp=Z,46nm,1.1s
PLVO Plevna 73.53 37 P **P 15 07 56.2 -0.8**
baz=328,SNR=7.4
P45A Graceland, Par 73.53 47 *eP* **P 15 07 56.8 -0.4**
comp=Z,45nm,1.0s
P45A Graceland, Par 73.53 47 P **P 15 07 56.6 -0.6**
baz=323,SNR=7.1
PRAR RASCA 73.55 328⇓ *iP* **P 15 07 58.6 +1.5**
ACTO Acton 73.55 40 P **P 15 07 56.6 -0.6**
baz=326
I53A Kortright Cn E 73.56 39 P **P 15 07 56.3 -0.9**
baz=327
U40A Yellville 73.57 52 P **P 15 07 56.7 -0.7**
baz=322,SNR=85
T41A Mountain View 73.57 51 P **P 15 07 56.5 -1.0**
baz=322,SNR=43
CLGH Cloghs, Cushen 73.58 350 *eP* **P 15 07 57.3 +0.2**
CLGH IAmb IAmb 15 07 58.7
comp=Z,220nm,1.2s
BBO1 Bothel 73.58 348⇑ *eP* **P 15 07 57.3 +0.2**
KTUT Trabzon 73.58 316 *eP* **P 15 07 55.8 -1.6**
NIE Niedzica 73.61 332 *eP* **P 15 07 57.5 0.0**
NIE *eS* SKSac 15 18 28.1 +28
NIE LMZ LR 15 41 21.7
comp=Z,3µm,24.6s
NIE Niedzica 73.61 332 *eP* **P 15 07 57.5 0.0**
NIE MLR MLR
comp=Z,3µm,24.6s
ASSE Asse, Remlinge 73.63 339 *eP* **P 15 07 56.9 -0.4**
comp=Z,91nm,1.6s,baz=22,slow=5.8
GAL1 Galloway 73.63 349 *eP* **P 15 07 57.2 -0.2**
GAL1 IAmb IAmb 15 07 58.4
comp=Z,62nm,0.9s
PKRO Pickering 73.65 39 P **P 15 07 57.1 -0.6**
baz=327,SNR=9.7
X37A Clayton 73.65 55 *eP* **P 15 07 56.3 -1.6**
comp=Z,47nm,1.1s
M49A Liberty Center 73.66 43 P **P 15 07 57.4 -0.5**
baz=325,SNR=9.6
BURAR Bucovina Array 73.67 328⇓ *iP* **P 15 07 57.9 0.0**
O47A Sheridan 73.69 46 P **P 15 07 56.7 -1.3**
baz=324,SNR=8.2
J52A Paris 73.69 40 P **P 15 07 57.6 -0.4**
baz=326,SNR=9.6
K51A Iona Station 73.69 41 P **P 15 07 57.9 -0.1**
baz=326
N48A Decatur 73.70 44 P **P 15 07 57.6 -0.5**
baz=324,SNR=28
L50A Kingsville 73.70 42 P **P 15 07 57.9 -0.2**
baz=325,SNR=18
KESW Keswick, Cumbr 73.70 348⇑ *eP* **P 15 07 58.2 +0.3**
KESW IAmb IAmb 15 07 59.2
comp=Z,341nm,1.0s
P46A Rosedale 73.71 47 P **P 15 07 57.6 -0.5**
baz=324,SNR=18
UZH Uzhgorod 73.71 331 *c iP* **P 15 07 58.0 0.0**
UZH *e* 15 08 17.4
UZH *e* 15 10 38.1
UZH *ePPP* PPP 15 12 27.7
UZH *eS* **SKiKP 15 17 22.0 -1.1**
UZH *i* 15 18 00.0
UZH *eSS* **SS 15 22 13.0 +5.1**
UZH *eSSS* SSS 15 25 18.0
IDGL Inch Island, C 73.73 351 *iP* **P 15 07 58.0 0.0**
DELO Deloro Mine 73.76 38 P **P 15 07 57.5 -0.8**
baz=327,SNR=9.3
HPIG 73.77 67 *eP* **P 15 07 59.2 +0.3**
comp=Z,46nm,1.1s
ORIO Orleans, Innes 73.77 36 P **P 15 07 57.2 -1.2**
baz=328,SNR=7.0
MLAZ Malazgirt-MUS 73.80 313 *eP* **P 15 07 59.6 +0.7**
UPC Upice 73.83 335 *eP* **P 15 07 58.6 -0.1**
UPC *ex* x 15 08 07.3
UPC *eS* **SKiKP 15 17 23.0 -0.2**
UPC AMS AMS 15 45 10.0
comp=Z,6µm,17.9s
UPC Upice 73.83 335 *eP* **P 15 07 58.6 -0.1**
UPC *e* 15 08 07.3
UPC *eS* **SKiKP 15 17 23.0 -0.2**
UPC MLR MLR
comp=Z,6µm,17.9s
TORO Toronto--Lesli 73.84 39 P **P 15 07 57.9 -0.9**
baz=327
VANB Van 73.84 312 *eP* **P 15 07 58.5 -0.6**
Q45A Warren Harvey, 73.85 48 P **P 15 07 58.6 -0.4**
baz=323,SNR=23
ALFO Alfred 73.85 35 P **P 15 07 57.9 -0.9**
baz=329,SNR=9.7
OKC Ostrava-Krasne 73.85 334 *eP* **P 15 07 58.8 0.0**
OKC *eS* **S 15 17 25.8 -0.9**
OKC AMS AMS 15 46 20.0
comp=Z,4µm,17.2s
OKC Ostrava-Krasne 73.85 334 *eP* **P 15 07 58.8 0.0**
OKC *eS* **S 15 17 25.8 -0.9**
OKC MLR MLR
comp=Z,4µm,17.2s
DRWO Darlington Wes 73.87 39 P **P 15 07 58.7 -0.2**
baz=327,SNR=5.7
DRCO St. Marys Ceme 73.87 39 P **P 15 07 58.3 -0.7**
baz=327
DPC Dobruska-Polom 73.89 335 *eP* **P 15 07 58.9 -0.2**
DPC AMS AMS 15 45 00.0
comp=Z,5µm,19.0s
DPC Dobruska-Polom 73.89 335 *eP* **P 15 07 58.9 -0.2**
DPC MLR MLR
comp=Z,5µm,19.0s
H55A Tweed 73.90 37 P **P 15 07 58.3 -0.9**
baz=328,SNR=8.6
T42A Van Buren 73.92 51 *eP* **P 15 07 58.7 -0.7**
comp=Z,52nm,1.0s
T42A Van Buren 73.92 51 P **P 15 07 58.7 -0.7**
baz=322,SNR=28
R44A Waltonville 73.93 49 P **P 15 07 59.1 -0.3**
baz=323,SNR=36
BAYB BAYBURT 73.95 315 *i* P **P 15 08 00.8 +1.0**
BAYB IAML_P
comp=Z,237nm,0.5s
WLVO Wesleyville 73.95 38 P **P 15 07 59.2 -0.3**
baz=327,SNR=13
BIZ Bicaz 73.96 328⇓ *iP* **P 15 08 00.0 +0.5**
CLZ Clausthal 73.97 339 *eP* **P 15 07 59.6 +0.1**
comp=Z,90nm,1.3s,baz=22,slow=5.8
K52A Tillsonburg 73.97 41 P **P 15 07 59.3 -0.4**
baz=326
S43A Fulton Ridge, 73.98 50 P **P 15 07 59.3 -0.5**
baz=323,SNR=29
I55A Frankford 73.99 38 P **P 15 07 58.9 -0.8**
baz=328,SNR=6.6
W39A Magazine 74.00 54 *eP* **P 15 07 59.6 -0.4**
comp=Z,78nm,1.1s
W39A Magazine 74.00 54 P **P 15 07 59.6 -0.4**
baz=322,SNR=21
OLIL Olney 74.00 48 *eP* **P 15 07 59.7 -0.2**
comp=Z,127nm,1.3s
KRLC Kraliky 74.01 335 *eP* **P 15 07 59.7 -0.1**
KRLC Kraliky 74.01 335 *eP* **P 15 07 59.7 -0.1**
PLIO Pelee Island, 74.02 42 P **P 15 07 59.5 -0.4**
baz=325,SNR=16
N49A Columbus Grove 74.02 44 *eP* **P 15 07 59.6 -0.4**
comp=Z,56nm,1.1s
N49A Columbus Grove 74.02 44 P **P 15 07 59.5 -0.4**
baz=325,SNR=11
BRG Berggiesshubel 74.02 337 *i* P **P 15 07 58.9 -0.8**
comp=Z,43nm,1.6s
BRG *i* 15 08 05.7
comp=Z,40nm,1.2s
BRG S **S 15 17 29.0 +0.5**
BRG SS **SS 15 22 19.0 +6.5**
BRG Berggiesshubel 74.02 337 *eP* **P 15 07 59.0 -0.8**
comp=Z,42nm,1.6s,baz=22,slow=5.8
BRG Berggiesshubel 74.02 337 *i* P **P 15 07 58.9 -0.8**
BRG S **S 15 17 29.0 +0.5**
BRG SS **SS 15 22 19.0 +6.5**
BRG pmax pmax
comp=Z,43nm,1.6s
TYNO Tyneside 74.06 40 P **P 15 07 59.7 -0.4**
baz=326,SNR=9.9
FITZ Fitzroy Crossi 74.06 211 *eP* **P 15 08 00.6 +0.4**
comp=Z,80nm,1.1s
MORC Moravsky Berou 74.08 334 *eP* **P 15 07 58.6 -1.6**
comp=Z,25nm,1.0s
MORC Moravsky Berou 74.08 334⇓ *iP* **P 15 08 00.4 +0.2**
MORC Moravsky Berou 74.08 334 *eP* **P 15 07 58.6 -1.6**
MORC pmax pmax
comp=Z,25nm,1.0s
MORC Moravsky Berou 74.08 334 *eP* **P 15 07 59.9 -0.3**
TRPA Tarpa 74.08 330⇑ *iP* **P 15 08 00.0 -0.1**
TRPA Tarpa 74.08 330⇑ *eP* **P 15 07 59.1 -1.1**
IBBN Ibbenburen 74.09 341 *eP* **P 15 07 59.9 -0.2**
comp=Z,71nm,1.4s,baz=22,slow=5.8
GOA Goa 74.09 275 *eP* **P 15 08 01.0 +0.3**
LANS Liptovska Anna 74.10 333 *eP* **P 15 08 00.8 +0.5**
LANS Liptovska Anna 74.10 333 *eP* **P 15 08 00.8 +0.5**
Q46A CEJHS Indians, 74.12 47 P **P 15 07 60.0 -0.6**
baz=324
FBE Freiberg 74.12 337 *eP* **P 15 07 59.8 -0.6**
comp=Z,53nm,1.3s,baz=22,slow=5.8
M50A Fremont 74.12 43 P **P 15 07 59.9 -0.6**
baz=325,SNR=7.9
O48A Farmland 74.13 45 P **P 15 07 59.7 -0.9**
baz=324,SNR=21
TESR Tescani 74.14 327⇑ *iP* **P 15 08 01.0 +0.4**
PVCC Panska Ves 74.18 336 *eP* **P 15 08 00.5 -0.2**
PVCC AMS AMS 15 46 10.0
comp=Z,5µm,15.6s
PVCC Panska Ves 74.18 336 *eP* **P 15 08 00.5 -0.2**
PVCC MLR MLR
comp=Z,5µm,15.6s
IOMK Kirk Michael 74.21 349 *eP* **P 15 08 00.8 0.0**
IOMK IAmb IAmb 15 08 01.9
comp=Z,483nm,0.8s
H56A Elgin 74.22 37 P **P 15 08 00.2 -0.9**
baz=328,SNR=5.7
NEUB Neuenburg 74.23 338 *eP* **P 15 08 00.7 -0.3**
comp=Z,121nm,1.8s,baz=22,slow=5.8
STCO Saint Catharin 74.24 39 P **P 15 08 00.9 -0.3**
baz=327
P47A Martinsville 74.25 46 P **P 15 08 00.7 -0.6**
baz=324,SNR=23
AKDM Akdamar-Van 74.25 312 *eP* **P 15 08 00.9 -0.7**
T43A Greenville 74.27 50 P **P 15 08 01.1 -0.4**
baz=323,SNR=24
R45A Skylar, Fairfi 74.27 48 P **P 15 08 01.1 -0.3**
baz=323,SNR=11
S44A Carbondale 74.28 49 P **P 15 08 01.3 -0.2**
baz=323,SNR=19
SIUC Southern Illin 74.28 49 *eP* **P 15 08 01.3 -0.3**
comp=Z,154nm,1.2s
VRTB Varto-Mus 74.29 313 *eP* **P 15 08 01.9 +0.1**
WIM Isle of Man 74.33 349⇑ *eP* **P 15 08 01.7 +0.2**
GTTG Gvttingen 74.33 340 *eP* **P 15 08 01.7 +0.1**
comp=Z,117nm,1.7s,baz=22,slow=5.8
U42A Revenden 74.38 51 P **P 15 08 01.2 -0.9**
baz=322,SNR=7.9
GMM Mts of Mourne 74.39 350⇑ *eP* **P 15 08 01.6 -0.3**
ARCR ARCALIA 74.42 329⇑ *iP* **P 15 08 03.7 +1.5**
JCT Junction City 74.43 61 *eP* **P 15 08 02.8 +0.2**
comp=Z,150nm,1.3s
JCT LR LR
comp=Z,1µm,21.0s
JCT Junction City 74.43 61 *eP* **P 15 08 02.8 +0.2**
JCT pmax pmax
comp=Z,150nm,1.3s
JCT MLR MLR
comp=Z,1µm,21.0s
JCT Junction City 74.43 61 P **P 15 08 02.6 +0.1**
baz=320,SNR=27
PBMO Poplar Bluff 74.44 50 *eP* **P 15 08 02.3 -0.2**
comp=Z,179nm,1.3s
KELT Kelkit 74.49 315 *i* P **P 15 08 03.5 +0.5**
KELT IAML_P
comp=Z,234nm,0.8s
PECO Prince Edward 74.49 38 P **P 15 08 01.8 -0.8**
baz=328,SNR=9.7
TLCR 74.52 325⇑ *iP* **P 15 08 03.7 +1.0**
GURO Guroymak-BITLI 74.52 313 *eP* **P 15 08 03.3 +0.2**
O49A Covington 74.55 44 P **P 15 08 02.6 -0.5**
baz=325,SNR=12
M51A Elyria 74.55 42 P **P 15 08 02.6 -0.4**
baz=326,SNR=9.8
WHTX Lake Whitney, 74.55 58 *eP* **P 15 08 02.4 -0.8**
comp=Z,161nm,1.3s
WHTX Lake Whitney, 74.55 58 P **P 15 08 03.2 0.0**
baz=321,SNR=20
MEDO Medina 74.57 39 P **P 15 08 02.7 -0.4**
baz=327,SNR=15
N50A Nevada 74.59 43 P **P 15 08 03.1 -0.2**
baz=325,SNR=20
T44A Benton 74.60 50 P **P 15 08 03.2 -0.2**
baz=323,SNR=38
WTSB Winterswijk 74.60 342 *eP* **P 15 08 03.1 -0.1**
MIAR Mount Ida 74.62 54 *eP* **P 15 08 03.3 -0.2**
comp=Z,107nm,1.1s
MIAR LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 74.62 54 *eP* **P 15 08 03.3 -0.2**
MIAR pmax pmax
comp=Z,107nm,1.1s
MIAR MLR MLR
comp=Z,2µm,20.0s
MIAR Mount Ida 74.62 54 P **P 15 08 03.5 -0.1**
baz=322,SNR=45
Q47A Bedord North L 74.62 47 P **P 15 08 03.2 -0.3**
baz=324,SNR=12
S45A Carrier Mills 74.62 49 P **P 15 08 03.2 -0.2**
baz=323,SNR=10
P48A Milroy 74.65 46 P **P 15 08 03.0 -0.7**
baz=324,SNR=20
VRI Vrincioaia 74.67 327 *eP* **P 15 08 02.1 -1.6**
VRI Vrincioaia 74.67 327⇓ *iP* **P 15 08 04.9 +1.2**
LBWR Ladybower, Pea 74.68 347 *eP* **P 15 08 03.9 +0.3**
LBWR IAmb IAmb 15 08 04.8
comp=Z,347nm,1.1s
PRU Pruhonice 74.68 336 *eP* **P 15 08 03.6 -0.1**
PRU *ex* x 15 08 11.7
PRU *eS* **S 15 17 30.4 -5.5**
PRU AMS AMS 15 46 20.0
comp=Z,7µm,16.2s
PRU Pruhonice 74.68 336 *eP* **P 15 08 03.6 -0.1**
PRU *e* 15 08 11.7
PRU *eS* **S 15 17 30.4 -5.5**
PRU MLR MLR
comp=Z,7µm,16.2s
GOPC GO Pecny, Ondr 74.69 336 *eP* **P 15 08 03.5 -0.2**
GOPC AMS AMS 15 46 10.0
comp=Z,6µm,16.4s
GOPC GO Pecny, Ondr 74.69 336 *eP* **P 15 08 03.5 -0.2**
GOPC MLR MLR
comp=Z,6µm,16.4s
WHAR Wooly Hollow 74.69 53 *eP* **P 15 08 03.5 -0.5**
comp=Z,181nm,1.2s
R46A Gibon Southern 74.70 48 P **P 15 08 03.8 -0.1**
baz=324,SNR=11
PLOR Plostina 74.71 327⇑ *iP* **P 15 08 04.5 +0.5**
M52A Chesterland 74.73 42 P **P 15 08 04.0 -0.1**
baz=326,SNR=26
J55A Hilton 74.74 38 P **P 15 08 03.4 -0.7**
baz=328,SNR=16
ERZN Erzincan 74.74 315 *eP* **P 15 08 04.8 +0.5**
VRAC Vranov 74.76 335⇓ *iP* **P 15 08 04.7 +0.5**
VRAC Vranov 74.76 335 *eP* **P 15 08 04.2 0.0**
CFR Carcaliu 74.77 325⇑ *iP* **P 15 08 04.4 +0.2**
U43A Rector 74.78 51 P **P 15 08 04.2 -0.2**
baz=323
BNGB Bingl 74.79 314 *eP* **P 15 08 04.9 +0.3**
MOX Moxa 74.80 338 *eL* L 15 44 27.7
comp=Z,3µm,21.5s
OZUR 74.80 327⇑ *iP* **P 15 08 05.3 +0.8**
W41B Gary Mavity, V 74.80 53 *eP* **P 15 08 04.0 -0.5**
comp=Z,136nm,1.1s
W41B Gary Mavity, V 74.80 53 P **P 15 08 04.1 -0.5**
baz=322,SNR=40
TANN Tannenbergstha 74.81 338 *eP* **P 15 08 04.3 -0.2**

comp=Z,189nm,1.8s,baz=22,slow=5.8
N51A Ashland 74.81 43 *e*P P 15 08 04.2 -0.4
comp=Z,234nm,1.2s
N51A Ashland 74.81 43 P P 15 08 04.1 -0.4
baz=326,SNR=22
CUKT Cukurca 74.81 311 *e*P P 15 08 04.6 -0.2
PLN Plauen 74.82 338 *e*P P 15 08 04.2 -0.2
comp=Z,56nm,1.6s,baz=22,slow=5.8
ERPA Erie 74.82 40 *e*P P 15 08 04.5 -0.1
ERPA Erie 74.82 40 P P 15 08 04.4 -0.2
baz=327,SNR=19
USIN University of 74.82 48 *e*P P 15 08 04.8 +0.1
comp=Z,240nm,1.1s
LONY Lake Ozonia 74.82 36 PFAKE 15 08 20.0 +15
LONY LR LR
comp=Z,2µm,20.0s
LONY Lake Ozonia 74.82 36 P P 15 08 03.6 -1.0
baz=329,SNR=6.0
L53A Girard 74.85 41 P P 15 08 04.6 -0.2
baz=326,SNR=36
PARMO Parma 74.86 50 *e*P P 15 08 05.6 +0.7
comp=Z,365nm,1.0s
VYHS Vyhne 74.87 333 *e*P P 15 08 04.9 +0.1
VYHS pmax pmax
comp=Z,38nm,1.8s
VYHS Vyhne 74.87 333 *e*P P 15 08 04.8 0.0
JAVC Velka Javorina 74.87 334 *e*P P 15 08 05.6 +0.7
GUNZ Gunzen 74.89 338 *e*P P 15 08 04.6 -0.3
comp=Z,68nm,1.6s,baz=22,slow=5.8
O50A Cable 74.90 44 P P 15 08 04.6 -0.5
baz=325,SNR=12
P49A Miami Univ. Ec 74.91 45 P P 15 08 04.4 -0.7
baz=325,SNR=21
LTVH Ltavrtes, Hu 74.94 330⇑ *e*P P 15 08 05.0 -0.1
Q48A North Vernon 74.94 46 P P 15 08 04.7 -0.6
baz=324,SNR=6.3
WERN Wernitzgruen 74.95 338 *e*P P 15 08 04.9 -0.3
comp=Z,78nm,1.6s,baz=22,slow=5.8
NKC Novy Kostel 74.98 338 *e*P P 15 08 05.7 +0.3
NKC *ex* **SKiKP** 15 17 30.4 +5.4
NKC AMS AMS 15 46 20.0
comp=Z,4µm,17.0s
NKC Novy Kostel 74.98 338 *e*P P 15 08 05.7 +0.3
NKC *eS* **SKiKP** 15 17 30.4 +5.4
NKC MLR MLR
comp=Z,4µm,17.0s
DIKM Dikmen 74.98 319 *e*P P 15 08 05.4 -0.1
DIKM Dikmen 74.98 319⇑ *i*P P 15 08 05.7 +0.2
WACR West Acre 74.98 346 *e*P P 15 08 05.7 +0.4
WACR IAmb IAmb 15 08 07.0
comp=Z,199nm,0.9s
CJR Cluj-Napoca 74.99 329⇑ *i*P P 15 08 05.6 0.0
UBBA Unterbreizbach 75.01 339 *e*P P 15 08 05.1 -0.2
comp=Z,110nm,1.8s,baz=22,slow=5.8
U44A Portageville 75.02 50 P P 15 08 05.9 +0.1
baz=323,SNR=8.9
WME Myndd Eilian 75.02 349⇑ *e*P P 15 08 05.4 -0.1
S46A Don Dixon Farm 75.02 48 P P 15 08 05.6 -0.2
baz=324,SNR=11
KRUC Moravsky 75.04 335 *e*P P 15 08 05.6 -0.1
X40A Basin Creek Fa 75.04 54 *e*P P 15 08 05.7 -0.3
comp=Z,70nm,1.1s
X40A Basin Creek Fa 75.04 54 P P 15 08 05.6 -0.4
baz=322,SNR=23
WPS Cemaes, Angles 75.04 349⇑ *e*P P 15 08 05.3 -0.3
WPS IAmb IAmb 15 08 06.9
comp=Z,97nm,1.0s
DOPR Dopca 75.05 328⇑ *i*P P 15 08 07.4 +1.5
TREC Trest 75.07 335 *e*P P 15 08 06.0 0.0
TREC *ex* x 15 08 12.7
TREC AMS AMS 15 46 40.0
comp=Z,5µm,16.4s
TREC Trest 75.07 335 *e*P P 15 08 06.0 0.0
TREC *e* 15 08 12.7
TREC MLR MLR
comp=Z,5µm,16.4s
PSZ Piszkesteto 75.08 332 *e*P P 15 08 06.1 0.0
comp=Z,71nm,1.2s
PSZ Piszkesteto 75.08 332⇑ *i*P P 15 08 07.6 +1.5
PSZ Piszkesteto 75.08 332 *e*P P 15 08 06.1 0.0
PSZ pmax pmax
comp=Z,71nm,1.2s
PSZ Piszkesteto 75.08 332⇑ *e*P P 15 08 05.1 -1.0
K55A Perry 75.09 39 P P 15 08 05.5 -0.7
baz=328,SNR=23
R47A Wooly Knot Far 75.09 47 P P 15 08 06.0 -0.2
baz=324,SNR=13
M53A WI Miller and 75.10 41 P P 15 08 06.1 -0.1
baz=326,SNR=26
ACSO Alum Creek Sta 75.11 44 *e*P P 15 08 06.0 -0.3
comp=Z,94nm,1.2s
ACSO LR LR
comp=Z,2µm,21.0s
ACSO Alum Creek Sta 75.11 44 P P 15 08 06.0 -0.3
baz=325,SNR=13
T45A Paducah 75.11 49 P P 15 08 05.9 -0.4
baz=323
KVT Kavak 75.12 318 *e*P P 15 08 06.6 +0.2
RSDY Resadiye-TOKAT 75.14 317 *e*P P 15 08 06.4 -0.1
WLF1 Llynfaes 75.14 349⇑ *e*P P 15 08 06.0 -0.2
WLF1 IAmb IAmb 15 08 06.5
comp=Z,211nm,1.1s
MMNY Mt. Morris Dam 75.15 39 *e*P P 15 08 06.0 -0.5
comp=Z,227nm,1.2s
SIRT Sirnak 75.17 312 *e*P P 15 08 06.5 -0.3
V43A Jonesboro 75.17 51 P P 15 08 06.6 0.0
baz=323
N52A McGinn's Farm, 75.19 42 P P 15 08 06.3 -0.5
baz=326,SNR=9.2
DRGR 75.21 330⇑ *i*P P 15 08 07.8 +1.0
SVAN Silvan-Diyarba 75.22 313 *e*P P 15 08 07.4 +0.3
WCI Wyandotte Cave 75.25 47 *e*P P 15 08 07.0 -0.1
comp=Z,133nm,1.1s
WCI Wyandotte Cave 75.25 47 *e*P P 15 08 07.0 -0.1
WCI pmax pmax
comp=Z,133nm,1.1s
YLL Llanberis 75.26 349⇑ *e*P P 15 08 06.9 +0.1
P50A Jamestown 75.26 44 P P 15 08 06.6 -0.6
baz=325,SNR=13
Q49A Aurora 75.26 45 P P 15 08 06.7 -0.4
baz=325,SNR=5.3
CWF Charnwood Fore 75.26 347⇑ *e*P P 15 08 07.0 0.0
CWF IAmb IAmb 15 08 08.8
comp=Z,227nm,1.1s
MLR Muntele Rosu 75.27 327 *e*P P 15 08 07.3 0.0
comp=Z,14nm,0.7s
MLR Muntele Rosu 75.27 327⇑ *i*P P 15 08 07.9 +0.6
TIRR Tirgusor 75.29 325 *e*P P 15 08 06.7 -0.5
comp=Z,10nm,0.9s
TIRR Tirgusor 75.29 325⇑ *i*P P 15 08 08.4 +1.2
TIRR Tirgusor 75.29 325 *e*P P 15 08 06.7 -0.5
TIRR pmax pmax
comp=Z,10.0nm,0.9s
MANZ Manzenberg 75.29 338 *e*P P 15 08 06.7 -0.5
comp=Z,47nm,1.5s,baz=22,slow=5.8
R48A Northridge Ran 75.31 46 P P 15 08 07.2 -0.3
baz=324,SNR=10.0
TLB Topalu 75.31 325⇑ *i*P P 15 08 07.7 +0.4
U44B Burton Farm, H 75.31 50 P P 15 08 07.2 -0.3
baz=323
O51A Pataskala 75.34 43 P P 15 08 07.4 -0.3
baz=326,SNR=17
CUZAR Zara_SIVAS 75.36 316 *i*P P 15 08 10.3 +2.4
FOEL Foel Wylfa 75.38 348⇑ *e*P P 15 08 07.8 +0.2
FOEL IAmb IAmb 15 08 08.9
comp=Z,242nm,1.0s
BATG Bathurst New B 75.38 29 *e*P P 15 08 08.1 +0.4
comp=Z,115nm,1.0s
ISR Istrita 75.39 326⇑ *i*P P 15 08 08.6 +0.7
L55A Hinsdale 75.40 39 P P 15 08 07.5 -0.5
baz=327,SNR=8.2
DSB Dublin 75.41 350 *i*P P 15 08 08.0 +0.2
DSB Dublin 75.41 350 *e*P P 15 08 08.1 +0.4
comp=Z,189nm,0.8s
435B Jarrell 75.42 59 P P 15 08 08.2 0.0
baz=321
MODS Modra-Piesok 75.42 334 *e*P P 15 08 08.6 +0.6
MODS pmax pmax
comp=Z,86nm,1.9s
MODS Modra-Piesok 75.42 334 *e*P P 15 08 08.6 +0.6
T46A Princeton 75.45 49 P P 15 08 08.7 +0.4
baz=324,SNR=59
V44A Blytheville 75.45 51 P P 15 08 08.6 +0.3
baz=323
M54A Oil Creek Stat 75.46 41 *e*P P 15 08 08.1 -0.2
comp=Z,126nm,1.1s
M54A Oil Creek Stat 75.46 41 P P 15 08 08.1 -0.2
baz=327,SNR=17
ROTZ Rotzenmuhle 75.47 337 *e*P P 15 08 08.1 -0.1
comp=Z,83nm,1.7s,baz=22,slow=5.8
LLW Llanuwchllyn 75.48 348 *e*P P 15 08 08.5 +0.3
S47A Hartford 75.49 48 P P 15 08 08.2 -0.3
baz=324,SNR=12
TOKT Tokat 75.54 317 *e*P P 15 08 08.6 -0.2
IGLA Glengowla, Co 75.54 352 *i*P P 15 08 08.6 +0.1
N53A Lisbon 75.56 42 P P 15 08 08.5 -0.4
baz=326,SNR=13
U45A Rockin P Farm, 75.59 50 P P 15 08 09.2 +0.1
baz=323
VOIR 75.63 327⇓ *i*P P 15 08 09.7 +0.4
ZST Bratislava 75.63 334 *e*P P 15 08 08.7 -0.4
ZST Bratislava 75.63 334 *e*P P 15 08 08.7 -0.4
SRO Srobarova 75.64 333 *e*P P 15 08 11.0 +1.9
SRO Srobarova 75.64 333 *e*P P 15 08 11.0 +1.9
SVSK Karacayir 75.67 317 *e*P P 15 08 09.9 +0.4
P51A Williamsport 75.69 44 P P 15 08 08.9 -0.7
baz=326
HLM1 Long Mynd 75.70 348⇑ *e*P P 15 08 09.6 +0.2
HLM1 IAmb IAmb 15 08 10.7
comp=Z,132nm,1.0s
O52A Adamsville 75.70 43 *e*P P 15 08 09.3 -0.5
comp=Z,126nm,1.1s
O52A Adamsville 75.70 43 P P 15 08 09.2 -0.5
baz=326,SNR=23
R49A Shelbyville 75.72 46 P P 15 08 09.8 0.0
baz=325,SNR=12
KHC Kasperske Hory 75.72 336 *e*P P 15 08 09.8 +0.2
comp=Z,22nm,1.2s
KHC Kasperske Hory 75.72 336 *e*P P 15 08 09.9 +0.2
KHC *ex* x 15 08 34.0
KHC *eS* **S** 15 17 46.2 -1.4
KHC AMS AMS 15 45 50.0
comp=Z,7µm,17.9s
KHC Kasperske Hory 75.72 336 *e*P P 15 08 09.9 +0.2
KHC *e* 15 08 34.0
KHC *eS* **S** 15 17 46.2 -1.4
KHC MLR MLR
comp=Z,7µm,17.9s
BUD Budapest 75.72 332⇑ *e*P P 15 08 09.1 -0.6
GRA1 Grafenberg Arr 75.78 338 *e*P P 15 08 10.7 +0.7
comp=Z,115nm,1.2s
GRF Grafenberg Arr 75.78 338 *e*P P 15 08 10.2 +0.2
comp=Z,133nm,1.3s,baz=22,slow=5.8
GRF *eL* L 15 45 07.8
comp=Z,3µm,20.3s
GRF Grafenberg Arr 75.78 338 *e*P P 15 08 10.7 +0.7
GRF pmax pmax
comp=Z,115nm,1.2s
GRFO Grafenberg 75.78 338 *e*P P 15 08 09.3 -0.7
comp=Z,101nm,1.3s
GRFO pmax pmax
comp=Z,101nm,1.3s
N54A Moraine State 75.78 41 P P 15 08 09.9 -0.3
baz=327,SNR=16
ICOR Ion Corvin 75.80 325⇑ *i*P P 15 08 11.1 +0.9
Q50A Georgetown 75.81 45 P P 15 08 10.0 -0.3
baz=325,SNR=18
S48A Wiedeman Farm, 75.82 47 P P 15 08 10.3 -0.1
baz=324,SNR=23
ARR Arges 75.83 328⇑ *i*P P 15 08 10.8 +0.4
KURC Kurucasile-Bar 75.85 321 *e*P P 15 08 09.3 -1.2
O53A New Philadelph 75.86 42 P P 15 08 10.3 -0.3
baz=326,SNR=10
M55A Ridgway 75.86 40 P P 15 08 10.5 -0.2
baz=327,SNR=16
U46A Springville 75.87 49 P P 15 08 10.5 -0.2
baz=324
T47A Sharon Grove 75.87 48 *e*P P 15 08 10.9 +0.2
comp=Z,142nm,1.1s
T47A Sharon Grove 75.87 48 P P 15 08 10.8 +0.1
baz=324,SNR=31
WET Wettzell 75.88 337 *e*P P 15 08 10.7 +0.1
comp=Z,102nm,1.6s,baz=22,slow=5.8
AHRW Bad Neuenahr-A 75.90 341 *e*P P 15 08 10.6 0.0
comp=Z,100nm,1.2s,baz=22,slow=5.8
TNS Taunus Mts 75.91 340 *e*P P 15 08 10.5 -0.3
comp=Z,87nm,1.4s,baz=22,slow=5.8
HGN Heimansgroeve 75.92 342 *e*P P 15 08 10.6 -0.1
HGN *eS* **SKiKP** 15 17 22.4 -4.0
HGN *eSS* **SS** 15 22 51.3 +10
BEBN Eben Emael 75.94 342 ⇑P P 15 08 10.7 -0.1
Q51A Peebles 75.94 44 *e*P P 15 08 10.9 -0.2
comp=Z,51nm,0.6s
Q51A Peebles 75.94 44 P P 15 08 10.8 -0.2
baz=326,SNR=18
ELZG Elazig 75.96 315 *i*P P 15 08 12.3 +0.9
ELZG IAML_P
comp=Z,249nm,0.2s
CUKAN kangal_SIVAS 75.96 316 *i*P P 15 08 11.9 +0.5
PALK Pallekele 75.97 264 *e*P P 15 08 12.2 +0.6
comp=Z,100nm,0.8s
PALK Pallekele 75.97 264 *i*P P 15 08 12.2 +0.6
SNR=32
PALK Pallekele 75.97 264 *e*P P 15 08 12.2 +0.6
PALK pmax pmax
comp=Z,100nm,0.8s
P52A Corning 75.97 43 P P 15 08 10.5 -0.8
baz=326,SNR=7.4
V45A Humboldt 75.98 50 P P 15 08 11.1 -0.3
baz=324,SNR=6.2
X43A Marvell 76.00 52 P P 15 08 11.5 0.0
baz=323
SIRR Siria 76.01 330⇓ *i*P P 15 08 11.9 +0.5
Z41A Richland Creek 76.02 54 P P 15 08 11.4 -0.2
baz=322
W44A Shelby Farms P 76.04 51 P P 15 08 11.9 +0.2
baz=323
MEM Membach 76.05 342 ⇑P P 15 08 11.5 0.0
comp=Z,106nm,1.3s
CSKK Cakako 76.06 333 *e*P P 15 08 11.1 -0.5
S49A Springfield 76.07 46 P P 15 08 11.8 0.0
baz=325,SNR=32
HEKM Malatya_Hekimh 76.11 316 *i*P P 15 08 13.4 +1.1
HEKM IAML_P
comp=Z,274nm,0.5s
R50A Paris 76.11 46 P P 15 08 11.8 -0.2
baz=325,SNR=15
T48A Bowling Green 76.11 48 P P 15 08 11.8 -0.3
baz=324,SNR=13
LBNH Lisbon 76.11 34 *e*P P 15 08 12.7 +0.7
comp=Z,103nm,1.2s
ILGA Ilgaz 76.12 320 *e*P P 15 08 12.9 +0.6
comp=Z,38nm,1.0s
ILGA Ilgaz 76.12 320 *i*P P 15 08 13.4 +1.0
ILGA IAML_P
comp=Z,55nm,0.1s
PKME Peaks-Kenny Pk 76.13 32 *e*P P 15 08 12.7 +0.7
comp=Z,121nm,1.3s
PKME LR LR
comp=Z,4µm,22.0s
PKME Peaks-Kenny Pk 76.13 32 P P 15 08 12.0 0.0
baz=332,SNR=6.5
MAZI Mazidag 76.13 313 *e*P P 15 08 12.1 -0.3
UCC Uccle 76.19 343 ⇑P P 15 08 12.1 -0.1
WVT Waverly 76.22 49 *e*P P 15 08 12.6 -0.1
comp=Z,57nm,1.1s
WVT Waverly 76.22 49 *e*P P 15 08 12.6 -0.1
WVT pmax pmax
comp=Z,57nm,1.1s
WVT Waverly 76.22 49 P P 15 08 12.5 -0.2
baz=324
CONA Conrad Observa 76.22 334 *i*P P 15 08 13.2 +0.5
comp=Z,33nm,1.4s,SNR=17
MCH1 Michaelchurch 76.22 348⇑ *e*P P 15 08 12.3 -0.1
MCH1 IAmb IAmb 15 08 13.0
comp=Z,151nm,1.2s
U47A Clarksville 76.22 49 P P 15 08 12.6 -0.1
baz=324,SNR=16
NATX Nacogdoches 76.23 57 *e*P P 15 08 13.5 +0.7
comp=Z,239nm,1.2s
NATX LR LR
comp=Z,2µm,22.0s
NATX Nacogdoches 76.23 57 P P 15 08 13.3 +0.5
baz=322,SNR=11
LPW Lampeter 76.25 348 *e*P P 15 08 12.3 -0.2
SOP Sopron 76.25 334⇑ *e*P P 15 08 13.0 +0.3
COAL Corum-Alaca 76.26 318 *i*P P 15 08 13.7 +0.7
COAL IAML_P
comp=Z,15nm,0.4s
O54A Avella 76.27 42 P P 15 08 12.8 -0.2
baz=327,SNR=8.7
833A Chaparral WMA, 76.31 62 *e*P P 15 08 14.1 +0.8
comp=Z,89nm,1.3s
833A Chaparral WMA, 76.31 62 P P 15 08 13.9 +0.6
baz=321,SNR=11
IWEX Carrickbyrne, 76.32 350 *i*P P 15 08 13.4 +0.5
STRD Stroud 76.32 347⇑ *e*P P 15 08 13.3 +0.3
STRD IAmb IAmb 15 08 14.3
comp=Z,314nm,1.0s
V46A Holladay 76.34 50 P P 15 08 13.1 -0.3
baz=324,SNR=22
MONM Monmouth 76.35 347 *e*P P 15 08 13.6 +0.4
MONM IAmb IAmb 15 08 14.4
comp=Z,169nm,1.0s
N55A Marion Center 76.35 41 P P 15 08 13.2 -0.2
baz=327,SNR=10
BINY Binghamton 76.36 38 *e*P P 15 08 12.4 -1.0
comp=Z,54nm,1.1s
BINY LR LR
comp=Z,1µm,20.0s
BINY Binghamton 76.36 38 P P 15 08 12.8 -0.6
baz=329,SNR=6.0
BCLA Clavier 76.37 342 ⇑P P 15 08 13.2 -0.1
comp=Z,85nm,1.4s
CUSAR Sarkisla-SIVAS 76.41 317 *i*P P 15 08 14.1 +0.1
P53A Whipple 76.42 43 P P 15 08 13.4 -0.4
baz=326,SNR=5.2
GZR Gura Zlata 76.42 329⇑ *i*P P 15 08 14.2 +0.4
ELSH Elham, Standar 76.42 345⇑ *e*P P 15 08 14.1 +0.5
ELSH IAmb IAmb 15 08 15.1
comp=Z,452nm,1.0s
R51A Hillsboro 76.43 45 P P 15 08 13.8 0.0
baz=325,SNR=18
Q52A Bidwell 76.47 44 P P 15 08 13.4 -0.6
baz=326,SNR=8.1
SNF Seneffe 76.48 343 ⇑P P 15 08 13.9 0.0
RSBS Rosebush, Pemb 76.49 349 *e*P P 15 08 13.9 -0.1
RSBS IAmb IAmb 15 08 15.0
comp=Z,66nm,1.2s
T49A Edmonton 76.51 47 *e*P P 15 08 14.3 0.0
comp=Z,63nm,1.0s
T49A Edmonton 76.51 47 P P 15 08 14.2 -0.2
baz=325,SNR=18
U48A Cassie Pea, Po 76.52 48 P P 15 08 14.3 -0.1
baz=324,SNR=15
SWN1 Swindon 76.53 347 *e*P P 15 08 14.5 +0.3
SWN1 IAmb IAmb 15 08 15.7
comp=Z,702nm,1.0s
S50A Richmond 76.57 46 P P 15 08 14.5 -0.2
baz=325,SNR=11
DARE Darende-Malaty 76.57 316 *e*P P 15 08 15.2 +0.4
TIH Tihany 76.58 333⇑ *e*P P 15 08 14.0 -0.6
BZS Buzias 76.60 330⇓ *i*P P 15 08 14.9 +0.2
V47A Nunnelly 76.61 49 P P 15 08 14.7 -0.2
baz=324,SNR=20
WVL Waterville 76.62 33 *e*P P 15 08 15.4 +0.6
comp=Z,124nm,1.1s
YOZ Yozgat 76.63 318 *e*P P 15 08 14.7 -0.4
WOL Wolverton 76.64 346 *e*P P 15 08 14.5 -0.3
WOL IAmb IAmb 15 08 15.8
comp=Z,322nm,1.1s
O55A Ligonier 76.70 41 P P 15 08 15.0 -0.4
baz=327,SNR=5.8
P54A Burton 76.71 42 P P 15 08 15.5 +0.1
baz=327,SNR=15
MOA Molln 76.72 335 *i*P P 15 08 15.8 +0.4
comp=Z,23nm,1.4s,SNR=8.4
OXF Oxford 76.74 51 *e*P P 15 08 15.6 -0.1
comp=Z,191nm,1.1s
OXF Oxford 76.74 51 *e*P P 15 08 15.6 -0.1
OXF pmax pmax
comp=Z,191nm,1.1s
OXF Oxford 76.74 51 P P 15 08 15.5 -0.2
baz=323,SNR=18
PRD Provadia 76.74 325 *e*P P 15 08 15.0 -0.5
W46A Michie 76.75 50 P P 15 08 15.2 -0.5
baz=324,SNR=6.3
DOU Dourbes 76.82 342 ⇑P P 15 08 15.7 -0.1
comp=Z,55nm,1.2s
R52A Catlettsburg 76.82 44 P P 15 08 15.6 -0.5
baz=326,SNR=10
HMNX Herstmonceux 76.83 345 *e*P P 15 08 16.8 +0.9
HMNX IAmb IAmb 15 08 17.7
comp=Z,217nm,0.9s
U49A Red Boiling Sp 76.88 48 P P 15 08 16.3 -0.2
baz=325,SNR=24
URFA Urfa 76.90 314 *e*P P 15 08 17.2 +0.6
SHME Shamm 76.90 295 *i*P P 15 08 16.5 -0.2
SNR=21
T50A Nancy 76.90 47 P P 15 08 16.4 -0.2
baz=325,SNR=25
BANOM Banah 76.91 295 *i*P P 15 08 16.8 0.0
SNR=60
BANOM Banah 76.91 295 P P 15 08 17.7 +0.9
SNR=18
BANOM P P 15 08 17.7 +0.9
SNR=18
DELI KIRIKKALE 76.92 319 *i*P P 15 08 16.4 -0.3
DELI IAML_P
comp=Z,395nm,0.5s
WLF Walferdange 76.92 341 *e*P P 15 08 17.4 +1.0
comp=Z,336nm,1.2s
WLF Walferdange 76.92 341 *e*P P 15 08 16.5 +0.1
baz=22,slow=5.8
WLF Walferdange 76.92 341 ⇑P P 15 08 17.2 +0.8
SSPA Standing Stone 76.92 40 P P 15 08 16.2 -0.5
baz=328
MCWV Mont Chateau 76.93 42 P P 15 08 16.7 0.0
baz=327,SNR=5.1
ARSA Arzberg 76.93 334 *i*P P 15 08 16.9 +0.4
comp=Z,31nm,1.4s,SNR=6.1
O56A Blue Knob Stat 76.95 41 *e*P P 15 08 17.0 +0.1
comp=Z,137nm,1.4s
O56A Blue Knob Stat 76.95 41 P P 15 08 16.5 -0.3
baz=328,SNR=9.8
AS01 Alice Springs 76.98 202 *e*P P 15 08 17.8 +0.9
BCAM Yenicaga 76.99 321 *i*P P 15 08 17.4 +0.2
BCAM IAML_P
comp=Z,103nm,0.3s
AS31 Alice Springs 76.99 202 *e*P P 15 08 18.1 +1.1
comp=Z,10.0nm,0.8s
ASAR Alice Springs 76.99 202 P P 15 08 17.4 +0.3
comp=Z,32nm,0.8s,baz=14,slow=5.1,SNR=218
ASAR PKKPbc **PKKPbc** 15 27 25.9 +1.5
comp=Z,0.3nm,0.5s,baz=190,slow=2.3,SNR=7.1
ASAR PKPPKP **P'P'df** 15 35 26.1 +3.3
comp=Z,1.6nm,1.0s,baz=175,slow=2.6,SNR=6.0
ASAR LR LR 15 39 34.6
comp=Z,1µm,21.9s,baz=24,slow=34
HERR Herculane 77.00 329⇑ *i*P P 15 08 16.5 -0.4
HKT Hockley 77.01 58 *e*P P 15 08 17.6 +0.4
comp=Z,83nm,1.5s
HKT Hockley 77.01 58 *e*P P 15 08 17.6 +0.4
HKT pmax pmax
comp=Z,83nm,1.5s
V48A Smith Brothers 77.01 49 *e*P P 15 08 17.0 -0.3
comp=Z,71nm,1.1s
V48A Smith Brothers 77.01 49 P P 15 08 16.9 -0.3
baz=324,SNR=14
PLAL Pickwick Lake 77.02 50 *e*P P 15 08 16.7 -0.5
comp=Z,55nm,1.0s
W47A Westpoint 77.04 50 P P 15 08 17.0 -0.3
baz=324,SNR=16
CDAG Cicekdag 77.04 318 *i*P P 15 08 17.4 -0.1
CDAG IAML_P
comp=Z,112nm,0.2s
BNN Bunyan 77.06 317 *e*P P 15 08 17.2 -0.4
P55A Reedsville 77.07 42 P P 15 08 17.6 +0.1
baz=327,SNR=17
Q54A Coxs Mills 77.07 43 P P 15 08 17.4 -0.1
baz=327,SNR=7.5
VAL Valentia 77.09 352 *i*P P 15 08 17.8 +0.5
STU Stuttgart 77.11 339 *e*P P 15 08 17.2 -0.3
comp=Z,65nm,1.1s,baz=22,slow=5.8
VLAD Vladila 77.11 327⇑ *i*P P 15 08 18.2 +0.6
X46A Booneville 77.11 51 P P 15 08 17.2 -0.5
baz=324,SNR=7.1
R53A Hurricane 77.13 44 P P 15 08 17.5 -0.3
baz=326,SNR=6.4
FUR Furstenfeldbru 77.19 337 *e*P P 15 08 17.9 -0.1
comp=Z,203nm,1.7s,baz=22,slow=5.8
SZH Strazhica 77.21 326 *i*P P 15 08 16.9 -1.3
BR101 Keskin Array S 77.26 319 *e*P P 15 08 18.2 -0.5
BR131 Keskin Array S 77.26 319 *e*P P 15 08 18.6 -0.1
comp=Z,28nm,1.2s
BRTR Keskin Array B 77.26 319 P P 15 08 18.2 -0.5
comp=Z,7.4nm,0.7s,baz=64,slow=2.9,SNR=37
BRTR LR LR 15 48 08.6

comp=Z,1µm,19.9s,baz=14,slow=40
BEHE Becsehely 77.30 333⇑ eP P 15 08 18.1 -0.5
MDVR Moldovita 77.31 329⇓ iP P 15 08 19.0 +0.2
T51A Gray 77.36 46 P P 15 08 18.9 -0.2
baz=326,SNR=9.5
Q55A Buckhannon 77.39 42 P P 15 08 19.3 0.0
baz=327,SNR=8.0
MDH Madha 77.39 294 i P P 15 08 19.0 -0.5
SNR=8.6
MDH Madha 77.39 294 P P 15 08 20.0 +0.6
SNR=7.3
MDH P P 15 08 20.0 +0.6
SNR=7.3
TRD Trivandrum 77.39 268 eP P 15 08 18.5 -1.1
U50A Jamestown 77.39 47 P P 15 08 19.1 -0.3
baz=325,SNR=20
HTL Hartland 77.40 348 eP P 15 08 19.6 +0.6
HTL IAmb IAmb 15 08 20.4
comp=Z,174nm,1.0s
KIBS BOLU 77.41 320 i P P 15 08 20.1 +0.6
KIBS IAML_P
comp=Z,75nm,0.2s
MSFE Esma-Masafi 77.42 295 i P P 15 08 19.6 -0.1
SNR=14
V49A McMinnville 77.43 48 P P 15 08 19.1 -0.5
baz=325,SNR=14
SAHE Sakarya_HENDEK 77.44 321 i P P 15 08 19.7 +0.2
SAHE IAML_P
comp=Z,4.4nm,0.3s
W48A Pulaski 77.45 49 P P 15 08 19.4 -0.3
baz=324,SNR=31
KOGS Kog 77.47 334⇑ iP P 15 08 19.1 -0.4
LOD Lodumlu 77.49 320 eP P 15 08 19.8 -0.1
ANTO Ankara 77.49 320 eP P 15 08 19.8 -0.1
ANTO Ankara 77.49 320 PFAKE 15 08 30.0 +10
ANTO LR LR
comp=Z,1µm,19.0s
ANTO Ankara 77.49 320⇑ iP P 15 08 19.9 0.0
ANTO Ankara 77.49 320 eP P 15 08 20.3 +0.4
KAND Kocaeli-Kandir 77.50 322 i P P 15 08 19.0 -0.8
KAND IAML_P
comp=Z,5.6nm,0.3s
X47A Russelville 77.50 50 P P 15 08 19.2 -0.7
baz=324,SNR=11
N59A State Game Lan 77.53 38 P P 15 08 19.6 -0.4
baz=329,SNR=7.2
FRGS Fruska Gora 77.58 331⇑ iP P 15 08 19.7 -0.5
UMQ Umm Al-Quwin 77.58 295 i P P 15 08 21.4 +0.9
SNR=8.9
UMQ Umm Al-Quwin 77.58 295 P P 15 08 21.5 +1.1
SNR=6.1
UMQ P P 15 08 21.5 +1.1
SNR=6.1
SOKA Soboth 77.59 334 i P P 15 08 20.6 +0.2
comp=Z,76nm,1.7s,SNR=28
PERS Pernice 77.61 334⇑ iP P 15 08 20.5 +0.1
MDUB Mudurnu 77.63 321 eP P 15 08 20.3 -0.4
KIRS Kırehir-Merke 77.64 318 i P P 15 08 20.5 -0.2
KIRS IAML_P
comp=Z,377nm,0.5s
SILT Sile 77.66 322 eP P 15 08 20.2 -0.5
SILT Sile 77.66 322⇑ iP P 15 08 21.0 +0.3
R54A Victor 77.67 43 P P 15 08 20.6 -0.3
baz=327,SNR=11
KBA Koelnbreinsper 77.67 336 i P P 15 08 21.8 +0.8
comp=Z,146nm,1.2s,SNR=79
SAIM ADANA 77.68 316 i P P 15 08 22.9 +1.9
SAIM IAML_P
comp=Z,72nm,0.1s
KMRS Kahramanmaras 77.71 315 eP P 15 08 21.4 +0.3
BFO Black Forest 77.72 339 eP P 15 08 20.9 -0.1
comp=Z,71nm,1.2s
BFO LR LR
comp=Z,112nm,22.0s
BFO Black Forest 77.72 339 eP P 15 08 20.7 -0.3
comp=Z,83nm,1.3s,baz=22,slow=5.8
BFO Black Forest 77.72 339 i P P 15 08 21.2 +0.2
AFSR Afar-Bala (An 77.73 319 eP P 15 08 21.2 -0.1
KVTX Kingsville 77.75 61 PFAKE 15 08 30.0 +8.6
KVTX LR LR
comp=Z,1µm,21.0s
HRV Adam Dziewonsk 77.75 35 P P 15 08 21.2 0.0
baz=331
W49A Belvidere 77.78 49 P P 15 08 21.1 -0.4
baz=325,SNR=11
KLYT Kilyos 77.81 323 eP P 15 08 21.0 -0.5
U51A La Follette 77.81 46 P P 15 08 21.5 -0.2
baz=326,SNR=12
HCB Kahramanmara 77.84 315 i P P 15 08 22.9 +1.1
HCB IAML_P
comp=Z,30nm,0.1s
GAZ Gaziantep 77.84 315 eP P 15 08 22.2 +0.3
HATD Hatta, Dubai 77.85 294 i P P 15 08 21.9 -0.1
SNR=64
YAYX Yaylak 77.85 318 eP P 15 08 21.6 -0.4
SWET Sewanee 77.86 48 eP P 15 08 21.6 -0.4
comp=Z,113nm,1.2s
OBKA Obir 77.88 335 i P P 15 08 22.2 +0.2
comp=Z,76nm,1.7s,SNR=20
V50A Pikevile 77.88 48 P P 15 08 21.7 -0.3
baz=325,SNR=19
TZTN Tazewell 77.89 46 eP P 15 08 22.1 0.0
comp=Z,51nm,1.0s
TZTN Tazewell 77.89 46 P P 15 08 22.0 0.0
baz=326,SNR=9.4
WATA Walderalm 77.89 337 i P P 15 08 22.9 +0.9
comp=Z,24nm,0.7s,SNR=30
ANDN Andirin 77.89 316 i P P 15 08 22.5 +0.2
ANDN IAML_P
comp=Z,599nm,0.7s
YAHY KAYSERI_Yahyal 77.89 317 i P P 15 08 22.9 +0.7
YAHY IAML_P
comp=Z,52nm,0.2s
MPEP Malo Peshtene 77.90 327 i P P 15 08 21.4 -0.6
CTYL Yalikoy Yolu 77.90 323 eP P 15 08 20.9 -1.1
UBR Ueberruh 77.92 338 eP P 15 08 22.0 -0.2
comp=Z,115nm,1.5s,baz=22,slow=5.8
GULT Gulveren 77.94 321 eP P 15 08 21.9 -0.5
WTTA Wattenberg 77.94 337 i P P 15 08 23.0 +0.6
comp=Z,145nm,1.3s,SNR=8.7
RETA Reutte 77.94 338 i P P 15 08 23.1 +0.8
comp=Z,43nm,1.1s,SNR=13
X48A Hartselle 77.95 50 eP P 15 08 21.7 -0.7
comp=Z,39nm,1.0s
X48A Hartselle 77.95 50 P P 15 08 21.7 -0.7
baz=324,SNR=6.1
SERE Sereflikochisa 77.95 318 eP P 15 08 22.3 -0.2
ISK Istanbul-Kandi 77.96 323 eP P 15 08 21.0 -1.4
LUPA Lehigh Univers 77.96 38 eP P 15 08 22.4 0.0
comp=Z,6.3nm,1.2s
KAVV Kandilli-Istan 77.96 323 eP P 15 08 21.4 -1.0
R55A Marlinton 77.97 43 P P 15 08 22.6 0.0
baz=327,SNR=12
BGKT Bogazkoy 77.97 323 eP P 15 08 21.8 -0.6
GEYV SAKARYA_Geyve 77.98 322 i P P 15 08 23.9 +1.4
GEYV IAML_P
comp=Z,210nm,0.4s
T53A Wise 77.98 45 P P 15 08 22.8 +0.1
baz=326,SNR=10
NAZ Nazwa, Dubai 77.99 295 i P P 15 08 22.7 -0.1
SNR=38
MOTA Moosalm 77.99 337 i P P 15 08 22.9 +0.2
comp=Z,120nm,1.1s,SNR=52
ASHO Ashiyiah 78.00 294 i P P 15 08 22.7 -0.2
SNR=63
ASHO Ashiyiah 78.00 294 P P 15 08 22.8 -0.1
SNR=26
ASHO P P 15 08 22.8 -0.1
SNR=26
145A Houston Renfro 78.01 53 P P 15 08 22.9 +0.1
baz=324
MYKA Terra Mystica 78.01 335 i P P 15 08 22.4 -0.2
comp=Z,62nm,1.5s,SNR=17
VBMS Vicksburg 78.02 53 P P 15 08 23.1 +0.3
baz=323
CTKS Kestanelik-??a 78.03 323 eP P 15 08 21.9 -0.8
AUMIH MIHALICIK 78.03 320 i P P 15 08 22.5 -0.5
KKUL Konya-Kulu 78.03 319 i P P 15 08 24.3 +1.3
KKUL IAML_P
comp=Z,90nm,0.4s
PHSR Pinarhisar 78.06 324 eP P 15 08 22.4 -0.5
PHSR Pinarhisar 78.06 324⇓ iP P 15 08 23.6 +0.7
ECH Echery 78.08 340 eP P 15 08 22.9 -0.1
comp=Z,97nm,1.1s
ECH Echery 78.08 340 eP P 15 08 22.9 -0.1
ECH pmax pmax
comp=Z,97nm,1.1s
KIRK Kırklareli 78.08 324 i P P 15 08 22.5 -0.6
KIRK IAML_P
comp=Z,56nm,0.4s
SQTA Sankt Quirin 78.08 337 i P P 15 08 23.7 +0.6
comp=Z,143nm,1.3s,SNR=37
U52A Thorn Hill 78.09 46 P P 15 08 23.3 +0.1
baz=326,SNR=24
KULU Kulu 78.10 319 eP P 15 08 23.1 -0.3
HOQ Hoqain 78.11 293 P P 15 08 26.0 +2.4
SNR=11
BUY Buyukada 78.12 322 eP P 15 08 22.7 -0.6
V51A Loudon 78.12 47 eP P 15 08 23.2 -0.2
comp=Z,88nm,1.1s
V51A Loudon 78.12 47 P P 15 08 23.1 -0.2
baz=325,SNR=13
SLVT Silivri 78.14 323 eP P 15 08 23.2 -0.2
EDRB Edirne 78.16 325 eP P 15 08 23.2 -0.3
W50A Signal Mountai 78.17 48 eP P 15 08 23.3 -0.4
comp=Z,73nm,1.1s
W50A Signal Mountai 78.17 48 P P 15 08 23.3 -0.4
baz=325,SNR=14
PAL Palisades 78.18 37 P P 15 08 23.4 -0.2
baz=330
ABTA Abfaltersbach 78.20 336 i P P 15 08 23.8 +0.1
comp=Z,88nm,1.2s,SNR=35
KOZT Kozan 78.20 316 eP P 15 08 23.7 -0.1
FAQ Al Faqa, Dubai 78.22 295 i P P 15 08 23.7 -0.4
SNR=10
S55A Lewisburg 78.23 43 P P 15 08 23.7 -0.3
baz=327,SNR=6.0
X49A Woodville 78.25 49 P P 15 08 23.7 -0.4
baz=325,SNR=18
CRES Cresnjev 78.26 334⇑ iP P 15 08 23.6 -0.4
YLV Yalova 78.27 322 eP P 15 08 23.6 -0.6
YLV Yalova 78.27 322⇓ iP P 15 08 24.2 0.0
CCA1 Carnmenellis 78.29 349 eP P 15 08 23.8 -0.2
CCA1 IAmb IAmb 15 08 25.3
comp=Z,251nm,1.1s
LJU Ljubljana 78.31 335⇑ iP P 15 08 23.9 -0.4
LJU Ljubljana 78.31 335⇑ iP P 15 08 23.5 -0.8
Y48A Jasper 78.32 50 P P 15 08 23.6 -0.9
baz=324,SNR=7.1
CPCT Cooper Cave 78.33 47 eP P 15 08 24.3 -0.3
comp=Z,76nm,1.2s
DAVA Damuels 78.34 338 i P P 15 08 25.0 +0.4
comp=Z,80nm,1.1s,SNR=22
T54A Tazewell 78.35 44 P P 15 08 24.6 -0.1
baz=326,SNR=12
CADS Cadrg 78.36 335⇑ iP P 15 08 23.3 -1.2
CADS e 15 08 51.8
SVRH Sivrihisar-ESK 78.37 320 eP P 15 08 23.7 -1.1
AKO Adana 78.39 316 i P P 15 08 26.0 +1.2
AKO IAML_P
comp=Z,106nm,0.1s
FETA Feichten 78.39 337 i P P 15 08 25.4 +0.6
comp=Z,88nm,1.2s,SNR=26
CAVI Cavuskoy 78.40 322 eP P 15 08 24.5 -0.4
DIM Dimitrovgrad 78.42 325 i P P 15 08 25.7 +0.8
BORA Eskisehir 78.43 321 i P P 15 08 24.4 -0.7
BORA IAML_P
comp=Z,15nm,0.1s
V52A Sevierville 78.44 46 eP P 15 08 25.2 0.0
comp=Z,91nm,1.2s
V52A Sevierville 78.44 46 P P 15 08 24.9 -0.2
baz=326,SNR=13
GEMT Gemlik 78.45 322 eP P 15 08 24.6 -0.5
W51A Cleveland 78.46 48 P P 15 08 24.8 -0.4
baz=325,SNR=7.2
ASUD Al Ashush, Dub 78.46 295 i P P 15 08 25.5 +0.1
SNR=24
ARMT Armutlu 78.47 323 eP P 15 08 24.2 -1.0
U53A Fall Branch 78.47 45 P P 15 08 25.2 -0.2
baz=326,SNR=18
DIVS Divibare 78.48 330 eP P 15 08 24.2 -1.0
comp=Z,27nm,1.0s
DIVS Divibare 78.48 330⇑ iP P 15 08 24.3 -1.0
SULT Sultanhani-AKS 78.60 318 eP P 15 08 25.8 -0.3
BOJS Bojanci 78.61 334⇑ iP P 15 08 25.6 -0.3
X50B Fort Payne 78.61 49 P P 15 08 25.5 -0.6
baz=325,SNR=15
CEY Cerknica 78.62 334⇑ iP P 15 08 25.4 -0.6
MDNY Mudanya-Bursa 78.63 322 eP P 15 08 25.5 -0.6
CEYT Ceyhan 78.63 316 eP P 15 08 26.7 +0.6
T55A Pulaski 78.65 44 P P 15 08 26.2 -0.2
baz=327,SNR=8.7
ALNE Al Ain 78.66 294 i P P 15 08 26.3 -0.2
SNR=37
PLD Plovdiv 78.67 326 eP P 15 08 25.5 -0.8
PLD Plovdiv 78.67 326 i P P 15 08 25.8 -0.5
AJN Ajban 78.71 295 i P P 15 08 26.4 -0.4
SNR=8.0
KARA Karaisali 78.72 317 eP P 15 08 26.8 +0.1
VTS Vitosha 78.73 327 eP P 15 08 25.9 -0.9
comp=Z,44nm,1.0s
VTS Vitosha 78.73 327⇓ iP P 15 08 27.0 +0.2
VTS Vitosha 78.73 327 P P 15 08 26.4 -0.4
VTS Vitosha 78.73 327 eP P 15 08 25.9 -0.9
VTS pmax pmax
comp=Z,44nm,1.0s
VTS Vitosha 78.73 327 i P P 15 08 26.3 -0.5
BLA Blacksburg 78.73 44 eP P 15 08 27.4 +0.6
comp=Z,95nm,1.1s
BLA LR LR
comp=Z,2µm,22.0s
BLA Blacksburg 78.73 44 eP P 15 08 27.4 +0.6
BLA pmax pmax
comp=Z,95nm,1.1s
BLA MLR MLR
comp=Z,2µm,22.0s
BLA Blacksburg 78.73 44 P P 15 08 26.5 -0.2
baz=327,SNR=9.7
Y49A Blount Mountai 78.73 50 eP P 15 08 26.2 -0.6
comp=Z,38nm,1.0s
Y49A Blount Mountai 78.73 50 P P 15 08 26.0 -0.8
baz=325,SNR=9.6
BLY Banja Luka 78.75 332⇑ iP P 15 08 27.3 +0.6
147A Livingston 78.78 52 eP P 15 08 27.2 +0.1
comp=Z,199nm,1.3s
147A Livingston 78.78 52 P P 15 08 27.1 +0.1
baz=324,SNR=13
HAPS Han Pijesak,Bl 78.81 331 eP P 15 08 26.3 -0.9
KDZ Kurdzhali 78.81 325 eP P 15 08 30.9 +3.8
KDZ Kurdzhali 78.81 325 i P P 15 08 31.0 +3.8
GULE Gulek 78.83 317 i P P 15 08 29.0 +1.5
GULE IAML_P
comp=Z,594nm,0.4s
JRS Jersey 78.83 346 eP P 15 08 27.1 +0.1
JSA Saint Aubin 78.85 346 eP P 15 08 27.1 0.0
JSA IAmb IAmb 15 08 28.4
comp=Z,283nm,1.0s
BBLS Lazići 78.87 330⇑ iP P 15 08 27.1 -0.4
FUORN Ofenpass-Fuorn 78.88 338 eP P 15 08 28.3 +0.6
comp=Z,100nm,1.0s
X51A Calhoun 78.90 48 P P 15 08 27.2 -0.4
baz=325,SNR=7.7
W52A Murphy 78.90 47 eP P 15 08 27.5 -0.3
comp=Z,89nm,1.3s
W52A Murphy 78.90 47 P P 15 08 27.4 -0.3
baz=326,SNR=8.6
M65A Busby, Falmout 78.91 35 P P 15 08 27.4 -0.1
baz=332
LNIG Linares 78.91 64 eP P 15 08 27.0 -0.9
comp=Z,31nm,1.2s
KCTX Karacabey (Bur 78.92 323 eP P 15 08 27.4 -0.3
V53A Saluda 78.94 46 eP P 15 08 27.9 -0.1
comp=Z,92nm,1.4s
V53A Saluda 78.94 46 P P 15 08 27.8 -0.1
baz=326,SNR=14
MBWA Marble Bar 78.95 215 eP P 15 08 27.4 -0.5
comp=Z,292nm,1.1s
MBWA LR LR
comp=Z,551nm,19.0s
MBWA Marble Bar 78.95 215 eP P 15 08 27.7 -0.2
KERG Konya-Eregli 79.00 317 i P P 15 08 28.1 -0.2
KERG IAML_P
comp=Z,304nm,0.8s
RKY Sarkoy-Tekirda 79.00 324 eP P 15 08 27.3 -0.9
RZN Rozhen 79.03 326 i P P 15 08 27.9 -0.6
Y50A Piedmont 79.03 49 P P 15 08 28.0 -0.5
baz=325,SNR=17
EDC Edincik 79.04 323 eP P 15 08 28.0 -0.4
U55A TA2, Sparta 79.05 44 P P 15 08 27.7 -0.9
baz=327,SNR=11
KESN Edirne-Kesan 79.07 324 i P P 15 08 28.8 -0.2
KESN IAML_P
comp=Z,418nm,0.8s
LADK Ladik-KONYA 79.08 319 eP P 15 08 28.1 -0.7
LRAL Lakeview Retre 79.12 50 P P 15 08 28.0 -0.8
baz=325,SNR=8.9
R58B Mineral 79.19 41 eP P 15 08 29.1 -0.1
comp=Z,62nm,1.2s
R58B Mineral 79.19 41 P P 15 08 28.6 -0.6
baz=328,SNR=8.3
CBN Corbin Frederi 79.19 41 PFAKE 15 08 40.0 +11
CBN LR LR
comp=Z,1µm,22.0s
CBN Corbin Frederi 79.19 41 P P 15 08 29.3 +0.1
baz=328
TVSB Tavsanli 79.19 322 eP P 15 08 28.9 -0.4
W53A Cullowhee 79.19 47 P P 15 08 29.2 -0.2
baz=326,SNR=9.9
RDO Rodhopi 79.21 325 eP P 15 08 28.9 -0.3
RDO Rodhopi 79.21 325 eP P 15 08 29.0 -0.3
RDO Rodhopi 79.21 325 P P 15 08 29.0 -0.3
KRBG Karabiga-Canak 79.22 323 eP P 15 08 28.9 -0.4
Z49A Columbiana 79.22 50 P P 15 08 28.8 -0.6
baz=325,SNR=14
TUE Stuetta 79.23 338 eP P 15 08 29.5 -0.1
comp=Z,162nm,1.2s
CLF Chambon-Foret 79.24 343 eP P 15 08 30.2 +0.9
comp=Z,320nm,1.1s
ALN Alexandroupoli 79.24 325 eP P 15 08 28.9 -0.5
ALN Alexandroupoli 79.24 325 eP P 15 08 28.6 -0.8
ALN Alexandroupoli 79.24 325 P P 15 08 28.6 -0.8
ALN Alexandroupoli 79.24 325 eP P 15 08 28.6 -0.8
V54A Nebo 79.25 45 P P 15 08 29.4 -0.2
baz=326,SNR=11
ERIK Erikli-Kesan 79.27 324 eP P 15 08 29.1 -0.5
MERS Mersin 79.29 317 eP P 15 08 29.3 -0.5
KONT Konya--Tatoy 79.30 319 eP P 15 08 29.5 -0.4
X52A Dahlonega 79.32 47 P P 15 08 29.9 -0.1
baz=326,SNR=11
ENEZ Enez 79.34 324 eP P 15 08 29.6 -0.4
Y51A Rockmart 79.35 49 P P 15 08 29.7 -0.5
baz=325,SNR=18
PLE Pljevlja 79.36 330⇓ iP P 15 08 29.8 -0.4
UDBI Udbina 79.36 333 P P 15 08 29.2 -0.9
LPK Lapseki 79.44 324 eP P 15 08 30.2 -0.3
KKB Krupnik 79.44 327 i P P 15 08 30.5 -0.1
BG3 Lake Jocassee 79.45 46 eP P 15 08 30.9 +0.2
comp=Z,102nm,1.1s
DURS Dursunbey 79.45 322 i P P 15 08 30.5 -0.2
DURS IAML_P
comp=Z,1µm,1.0s
DOGA KONYA_Doganhis 79.45 319 i P P 15 08 31.3 +0.5
DOGA IAML_P
comp=Z,485nm,0.6s
Z50A Ashland 79.46 50 eP P 15 08 30.4 -0.5
comp=Z,111nm,1.1s
Z50A Ashland 79.46 50 P P 15 08 30.3 -0.5
baz=325,SNR=27
MMB Musomiste 79.47 326 i P P 15 08 30.3 -0.4
GDZ Gediz 79.50 321 i P P 15 08 32.0 +0.9
GDZ IAML_P
comp=Z,92nm,0.1s
V55A Taylorsville 79.51 45 P P 15 08 30.6 -0.5
baz=327
GELI Tayfur-Gelibol 79.52 324 eP P 15 08 30.5 -0.4
SHUT Suhut-Afyon 79.53 320 eP P 15 08 31.1 -0.1
149A Jones 79.57 51 P P 15 08 31.0 -0.3
baz=325,SNR=6.2
NVLJ Novalja 79.58 334 P P 15 08 30.1 -1.1
IVA Berane 79.61 330⇓ iP P 15 08 30.8 -0.7
NVR Nevrokopi 79.63 326 eP P 15 08 31.0 -0.6
NVR Nevrokopi 79.63 326 P P 15 08 31.0 -0.6
BALB Balikesir 79.65 323 eP P 15 08 30.9 -0.7
X53A Estanollee 79.68 47 P P 15 08 32.0 0.0
baz=326,SNR=17
KAVA Kavala 79.71 326 eP P 15 08 31.3 -0.7
KAVA Kavala 79.71 326 P P 15 08 31.3 -0.7
W54A Cherokee Point 79.71 46 P P 15 08 31.9 -0.2
baz=326,SNR=5.6
KOME Kolasin 79.75 330⇓ iP P 15 08 31.5 -0.8
Z51A Franklin 79.77 49 P P 15 08 31.9 -0.5
baz=325,SNR=9.1
KIZK Mersin 79.78 317 eP P 15 08 31.7 -0.7
SENIN Lac Senin/Sane 79.81 339 eP P 15 08 32.5 -0.3
comp=Z,71nm,1.4s
PVY Plav 79.84 329⇓ iP P 15 08 31.8 -1.0
Y52A Lilburn 79.85 48 P P 15 08 32.7 -0.2
baz=326,SNR=8.6
STIP Stip 79.91 328 i P P 15 08 31.6 -1.4
249A Camden 79.92 51 P P 15 08 33.6 +0.3
baz=325,SNR=10
SRS Serrai 79.93 326 eP P 15 08 32.1 -1.1
SRS Serrai 79.93 326 P P 15 08 32.1 -1.1
SRS Serrai 79.93 326 eP P 15 08 32.1 -1.1
STEP BALIKESIR_Sava 79.94 323 i P P 15 08 34.0 +0.7
STEP IAML_P
comp=Z,909nm,0.9s
150A Eclectic 79.94 50 P P 15 08 32.9 -0.5
baz=325,SNR=13
KZIL AFYON_Kizioren 79.95 320 i P P 15 08 33.2 -0.3
KZIL IAML_P
comp=Z,43nm,0.4s
NKY Niksic 79.95 330⇓ iP P 15 08 32.2 -1.2
KEBE Keben-Mersin 79.99 317 eP P 15 08 32.7 -1.0
USAK Uak-Merkez 80.00 321 i P P 15 08 34.2 +0.5
USAK IAML_P
comp=Z,773nm,1.0s
NKME Niksic 80.00 330⇓ iP P 15 08 32.3 -1.3
BRY Bratogost 80.01 331⇓ iP P 15 08 32.0 -1.8
BRY Bratogost 80.01 331 eP P 15 08 32.5 -1.3
KMSC Kings Mountain 80.05 45 P P 15 08 33.4 -0.5
baz=327,SNR=8.2
BAYC CANAKKALE_Bayr 80.06 324 i P P 15 08 34.2 +0.2
BAYC IAML_P
comp=Z,391nm,0.9s
MNCY Minicoy 80.07 271 eP P 15 08 33.8 -0.4
X54A Belton 80.07 46 P P 15 08 33.9 -0.1
baz=326,SNR=7.9
EZN Ezine 80.07 324 eP P 15 08 33.3 -0.6
EZN Ezine 80.07 324⇑ iP P 15 08 34.2 +0.3
Y53A Monroe 80.08 48 P P 15 08 34.0 -0.1
baz=326,SNR=8.5
VAY Valandovo 80.11 327 i P P 15 08 34.0 -0.1
KHAL Karahalli 80.11 321 i P P 15 08 34.1 -0.2
KHAL IAML_P
comp=Z,721nm,1.0s
TEVE Tevekalti-Mers 80.12 317 eP P 15 08 33.2 -1.2
KNT Kendrikon 80.13 327 eP P 15 08 34.0 -0.4
KNT Kendrikon 80.13 327 eP P 15 08 33.9 -0.4
KNT Kendrikon 80.13 327 P P 15 08 33.9 -0.4
KNT Kendrikon 80.13 327 eP P 15 08 33.9 -0.4
TAOE Nuku Hiva Isla 80.13 117 eS S 15 18 36.8 +0.8
comp=Z,594nm,26.4s
TAOE Nuku Hiva Isla 80.13 117 eLR LR 15 33 28.3
comp=Z,4µm,25.8s,baz=325
BOZC Bozcaada 80.16 324 eP P 15 08 33.4 -1.0
ISP Isparta 80.16 320 eP P 15 08 33.8 -0.8
IKL Isikli 80.18 317 eP P 15 08 33.5 -1.1
PDG Podgorica 80.21 330⇓ iP P 15 08 34.1 -0.5
PDG Podgorica 80.21 330⇑ iP P 15 08 33.9 -0.7
TTG Podgorica 80.21 330⇑ iP P 15 08 33.7 -0.9
CEME Cevo 80.21 330⇓ iP P 15 08 33.5 -1.3
Z52A Williamson 80.24 49 P P 15 08 34.8 -0.2
baz=326,SNR=16
BERE Bereket-Mersin 80.29 317 eP P 15 08 34.4 -1.0
STON Ston 80.30 331 P P 15 08 33.9 -1.2
STON Ston 80.30 331⇑ iP P 15 08 33.1 -2.0
AKKU Akkuyu-Mersin 80.30 317 eP P 15 08 34.2 -1.1
KULA Kula-Manisa 80.32 322 eP P 15 08 34.7 -0.7
KULA Kula-Manisa 80.32 322 eP P 15 08 34.2 -1.2
KULA Kula-Manisa 80.32 322 P P 15 08 34.2 -1.2
250A Grady 80.33 51 P P 15 08 35.4 -0.1
baz=325,SNR=9.3
151A Opelika 80.34 50 P P 15 08 34.9 -0.7
baz=325,SNR=5.7
MANT Manisa 80.38 322 i P P 15 08 35.3 -0.6
MANT IAML_P
comp=Z,1µm,0.4s
349A Repton 80.39 52 P P 15 08 36.5 +0.7
baz=325,SNR=5.4
448A Bay Minette 80.39 52 P P 15 08 36.8 +1.0
baz=324
LIA Limnos Island 80.43 325 eP P 15 08 34.8 -1.1
LIA Limnos Island 80.43 325 P P 15 08 34.8 -1.1
HCY Herceg Novi 80.44 330⇓ iP P 15 08 34.6 -1.3
HCY Herceg Novi 80.44 330 eP P 15 08 34.4 -1.5

BUM	Brajici-Budva	80.44	330	⇓iP	P	15 08 34.6	-1.4
BCK	Bucak	80.45	320	eP	P	15 08 34.9	-1.2
DRME	Dracevica, Mon	80.45	330	⇓iP	P	15 08 34.6	-1.4
DRME	Dracevica, Mon	80.45	330	⇑iP	P	15 08 35.3	-0.7
BRDR	BURDUR-Merkez	80.46	320	iP	P	15 08 36.4	+0.2
BRDR				IAML_P			
	comp=Z,149nm,0.1s						
X55A	Gracelyn & Ava	80.47	46	P	P	15 08 35.9	-0.3
	baz=327,SNR=6.4						
OUR	Ouranopolis	80.48	326	eP	P	15 08 35.3	-0.8
OUR	Ouranopolis	80.48	326	eP	P	15 08 35.3	-0.8
OUR	Ouranopolis	80.48	326	P	P	15 08 35.3	-0.8
OUR	Ouranopolis	80.48	326	eP	P	15 08 35.3	-0.8
Y54A	Tignall	80.50	47	P	P	15 08 36.5	+0.2
	baz=326,SNR=28						
PHP	Peshkopia	80.50	329	eP	P	15 08 35.3	-1.0
PHP	Peshkopia	80.50	329	P	P	15 08 35.3	-1.0
PHP	Peshkopia	80.50	329	eP	P	15 08 35.3	-1.0
GOGA	Godfrey	80.50	48	eP	P	15 08 36.0	-0.4
	comp=Z,26nm,1.1s						
GOGA				LR	LR		
	comp=Z,2µm,22.0s						
GOGA	Godfrey	80.50	48	eP	P	15 08 36.0	-0.4
GOGA				pmax	pmax		
	comp=Z,26nm,1.1s						
GOGA				MLR	MLR		
	comp=Z,2µm,22.0s						
GOGA	Godfrey	80.50	48	P	P	15 08 36.1	-0.2
	baz=326,SNR=5.8						
TEKE	Tekeli-Mersin	80.50	317	eP	P	15 08 35.1	-1.3
KRUS	Krusevo	80.51	328	iP	P	15 08 35.4	-1.1
152A	Waverly Hall	80.52	49	P	P	15 08 36.0	-0.5
	baz=326,SNR=12						
ZEDA	zmir-Bergama	80.54	323	iP	P	15 08 36.7	+0.2
ZEDA				IAML_P			
	comp=Z,692nm,0.7s						
EREN	Erenkoy	80.56	316	eP	P	15 08 36.5	-0.2
EREN	Erenkoy	80.56	316	iP	P	15 08 37.1	+0.4
EREN				IAML_P			
	comp=Z,2µm,0.8s						
Z53A	Monticello	80.56	48	P	P	15 08 36.5	-0.2
	baz=326,SNR=14						
HORT	Hortiatis	80.56	326	eP	P	15 08 35.4	-1.3
BRAL	Brewton	80.61	52	PFAKE		15 08 50.0	+13
BRAL				LR	LR		
	comp=Z,2µm,22.0s						
BRAL	Brewton	80.61	52	P	P	15 08 37.7	+0.7
	baz=325						
PLG	Polygyros	80.64	326	eP	P	15 08 36.2	-0.9
PLG	Polygyros	80.64	326	P	P	15 08 36.2	-0.9
PLG	Polygyros	80.64	326	eP	P	15 08 36.2	-0.9
251A	Midway	80.66	50	P	P	15 08 37.0	-0.3
	baz=325,SNR=22						
X56A	White Oak	80.73	45	P	P	15 08 37.2	-0.4
	baz=327,SNR=6.9						
350A	Dozier	80.75	51	P	P	15 08 38.2	+0.5
	baz=325,SNR=8.3						
MZR	Muzera	80.78	295	iP	P	15 08 37.9	-0.2
	SNR=42						
SIGR	SIGRI	80.79	324	eP	P	15 08 36.3	-1.5
Y55A	Saluda	80.81	46	P	P	15 08 37.9	-0.1
	baz=327,SNR=8.7						
449A	Pace	80.86	52	P	P	15 08 39.4	+1.1
	baz=325,SNR=6.4						
OHR	Ohrid	80.89	328	iP	P	15 08 37.8	-0.7
KORT	Korkueli	80.94	320	eP	P	15 08 37.0	-1.8
KORT	Korkueli	80.94	320	iP	P	15 08 38.6	-0.2
KORT				IAML_P			
	comp=Z,158nm,0.1s						
Z54A	Sparta	80.94	47	P	P	15 08 38.7	0.0
	baz=326,SNR=14						
PAIG	Paliouri	80.95	326	eP	P	15 08 37.6	-1.1
PAIG	Paliouri	80.95	326	P	P	15 08 37.6	-1.1
PAIG	Paliouri	80.95	326	eP	P	15 08 37.6	-1.1
153A	Fort Valley	80.96	48	P	P	15 08 38.5	-0.4
	baz=326						
TIR	Tirane	80.99	329	⇑iP	P	15 08 38.9	0.0
FNA	Florina	80.99	328	eP	P	15 08 38.1	-0.9
BLCB	Balcova	81.06	323	eP	P	15 08 38.0	-1.3
252A	Lumpkin	81.06	49	P	P	15 08 39.0	-0.4
	baz=326,SNR=12						
PHNC	Paralimni	81.07	316	P	P	15 08 37.9	-1.5
PMOR	Pomariorio Ree	81.08	127	eT	T	16 37 43.6	
	comp=Z,6.3nm,0.2s						
AYDB	Zeytinkoy-Aydi	81.11	322	eP	P	15 08 39.0	-0.7
TAVA	DENIZLI_Tavas	81.12	321	iP	P	15 08 40.8	+1.1
TAVA				IAML_P			
	comp=Z,701nm,0.9s						
450A	Crestview	81.13	51	P	P	15 08 40.5	+0.7
	baz=325						
X57A	Johnson Farm,	81.17	45	P	P	15 08 39.7	-0.2
	baz=328						
BNI	Bardonecchia	81.19	339	eP	P	15 08 40.9	+0.9
	comp=Z,126nm,1.2s						
BNI	Bardonecchia	81.19	339	eP	P	15 08 40.9	+0.9
BNI				pmax	pmax		
	comp=Z,126nm,1.2s						
Y56A	Pelion	81.19	46	P	P	15 08 40.1	0.0
	baz=327						
351A	Pinckard	81.23	51	P	P	15 08 40.5	+0.2
	baz=325,SNR=8.1						
URLA	Izmir	81.25	323	eP	P	15 08 39.3	-1.0
URLA	Izmir	81.25	323	iP	P	15 08 39.1	-1.2
URLA				IAML_P			
	comp=Z,3µm,0.8s						
MAMC	Mammari	81.28	317	P	P	15 08 39.9	-0.6
Z55A	Blythe	81.28	47	P	P	15 08 40.3	-0.3
	baz=327						
253A	Americus	81.30	49	P	P	15 08 40.4	-0.3
	baz=326,SNR=6.5						
154A	Montrose	81.33	48	P	P	15 08 40.8	0.0
	baz=326,SNR=8.1						
ELL	Elmali	81.33	320	eP	P	15 08 39.9	-1.0
AYDN	Tasoluk	81.36	322	iP	P	15 08 41.0	+0.1
AYDN				IAML_P			
	comp=Z,3µm,0.3s						
352A	Blakely	81.40	50	P	P	15 08 41.2	0.0
	baz=326						
CSS	Mathiatis	81.41	316	eP	P	15 08 40.9	-0.3
CSS	Mathiatis	81.41	316	eP	P	15 08 40.9	-0.3
	comp=Z,89nm,1.0s						
CSS	Mathiatis	81.41	316	P	P	15 08 40.0	-1.2
Y57A	Sumter	81.42	45	P	P	15 08 40.9	-0.3
	baz=327						
VAH	Vaihoa	81.42	127	eP	P	15 08 41.6	+0.3
	comp=Z,177nm,1.5s						
SSB	Saint Sauveur	81.43	341	eP	P	15 08 41.5	+0.3
	comp=Z,98nm,0.9s						
SSB	Saint Sauveur	81.43	341	eP	P	15 08 41.5	+0.3
SSB				pmax	pmax		
	comp=Z,99nm,0.9s						
CHOS	Chios island	81.43	323	eP	P	15 08 40.5	-0.9
X58A	Rowland	81.43	44	P	P	15 08 41.3	0.0
	baz=328						
LEF	Lefka	81.47	317	⇑iP	P	15 08 40.7	-0.8
LEF	Lefka	81.47	317	iP	P	15 08 41.2	-0.2
LEF				IAML_P			
	comp=Z,2µm,0.4s						
CNNC	Cliffs of the	81.49	43	PFAKE		15 08 50.0	+8.4
CNNC				LR	LR		
	comp=Z,2µm,20.0s						
CNNC	Cliffs of the	81.49	43	P	P	15 08 41.8	+0.2
	baz=328						
AKUM	Antalya-Kumluc	81.52	319	iP	P	15 08 41.4	-0.3
AKUM				IAML_P			
	comp=Z,35nm,0.4s						
Z56A	Williston	81.55	46	P	P	15 08 41.8	-0.2
	baz=327						
AOS	Alonnisos	81.55	325	eP	P	15 08 40.8	-1.1
AOS	Alonnisos	81.55	325	eP	P	15 08 40.6	-1.3
AOS	Alonnisos	81.55	325	P	P	15 08 40.6	-1.3
XOR	Xorichti	81.62	326	eP	P	15 08 40.5	-1.8
XOR	Xorichti	81.62	326	P	P	15 08 40.5	-1.8
155A	Kite	81.63	48	P	P	15 08 42.4	+0.1
	baz=327,SNR=12						
YER	Yerkesik	81.66	321	eP	P	15 08 42.5	-0.1
YER	Yerkesik	81.66	321	eP	P	15 08 42.0	-0.6
YER	Yerkesik	81.66	321	P	P	15 08 42.0	-0.6
YER	Yerkesik	81.66	321	eP	P	15 08 42.0	-0.6
FYTO	Fytoko, Volos	81.68	326	eP	P	15 08 41.1	-1.4
FYTO	Fytoko, Volos	81.68	326	P	P	15 08 41.1	-1.4
451A	Vernon	81.70	51	P	P	15 08 43.7	+0.9
	baz=325,SNR=6.4						
SKIA	Skiathos	81.70	326	P	P	15 08 41.4	-1.3
X59A	McDuffie Farm,	81.74	44	P	P	15 08 43.0	0.0
	baz=328						
TURN	Turunc	81.76	321	eP	P	15 08 43.9	+0.9
TURN	Turunc	81.76	321	iP	P	15 08 44.1	+1.2
TURN				IAML_P			
	comp=Z,3µm,0.8s						
FETY	Fethiye	81.77	320	eP	P	15 08 42.4	-0.7
FETY	Fethiye	81.77	320	eP	P	15 08 42.0	-1.1
FETY	Fethiye	81.77	320	P	P	15 08 42.0	-1.1
FETY	Fethiye	81.77	320	iP	P	15 08 43.2	+0.1
FETY				IAML_P			
	comp=Z,2µm,1.2s						
COCO	West Island	81.78	239	iP	P	15 08 45.3	+2.1
DALY	Dalyan (Mula)	81.78	321	eP	P	15 08 42.5	-0.6
DALY	Dalyan (Mula)	81.78	321	iP	P	15 08 43.6	+0.5
DALY				IAML_P			
	comp=Z,917nm,0.8s						
452A	Marianna	81.79	50	P	P	15 08 43.7	+0.5
	baz=326						
254A	Abbeville	81.80	48	P	P	15 08 43.5	+0.2
	baz=326,SNR=12						
Y58A	Scranton	81.83	45	P	P	15 08 43.1	-0.3
	baz=328						
353A	Camilla	81.85	49	P	P	15 08 44.0	+0.5
	baz=326,SNR=13						
KSDI	Kefar Szold	81.86	314	P	P	15 08 44.4	+0.8
Z57A	Bowman	81.88	46	P	P	15 08 43.7	0.0
	baz=327,SNR=8.1						
AKAS	Kas	81.90	320	eP	P	15 08 42.6	-1.4
AKAS	Kas	81.90	320	iP	P	15 08 44.4	+0.5
AKAS				IAML_P			
	comp=Z,1µm,0.9s						
PPCY	Paphos	81.90	317	P	P	15 08 42.9	-0.9
AQU	L'Aquila	82.03	334	eP	P	15 08 45.3	+0.9
	comp=Z,153nm,1.2s						
AQU	L'Aquila	82.03	334	⇑iP	P	15 08 44.6	+0.2
SMIA	Simia	82.05	326	P	P	15 08 43.4	-1.1
BDRM	Kayabasi	82.05	322	iP	P	15 08 44.1	-0.4
BDRM				IAML_P			
	comp=Z,1µm,0.6s						
156A	Sylvania	82.05	47	P	P	15 08 45.2	+0.7
	baz=327,SNR=8.2						
TIGA	Tifton	82.07	49	eP	P	15 08 45.3	+0.6
	comp=Z,241nm,1.1s						
TIGA	Tifton	82.07	49	P	P	15 08 45.2	+0.4
	baz=326,SNR=12						
BODT	Bodrum	82.11	322	eP	P	15 08 43.6	-1.2
ASF	Jabal al Asfar	82.13	312	P	P	15 08 44.9	-0.3
ASF	Jabal al Asfar	82.13	312	P	P	15 08 45.2	0.0
JAN	Janina	82.18	328	eP	P	15 08 44.9	-0.3
JAN	Janina	82.18	328	P	P	15 08 44.9	-0.3
EREA	Eretria	82.19	325	P	P	15 08 43.7	-1.6
SHMJ	Saham	82.20	314	P	P	15 08 46.2	+0.8
255A	Hazlehurst	82.20	48	eP	P	15 08 46.2	+0.9
	comp=Z,171nm,1.3s						
255A	Hazlehurst	82.20	48	P	P	15 08 45.8	+0.4
	baz=327,SNR=9.1						
453A	Whigham	82.20	50	P	P	15 08 45.8	+0.4
	baz=326						
AGG	Agios Georgios	82.23	326	eP	P	15 08 43.5	-2.0
AGG	Agios Georgios	82.23	326	eP	P	15 08 43.8	-1.7
AGG	Agios Georgios	82.23	326	P	P	15 08 43.8	-1.7
AGG	Agios Georgios	82.23	326	eP	P	15 08 43.8	-1.7
Z58A	St. Stephen	82.25	45	P	P	15 08 45.6	0.0
	baz=328,SNR=6.4						
157A	Early Branch	82.26	46	P	P	15 08 46.3	+0.6
	baz=327,SNR=5.4						
SRN	Sarande	82.27	328	eP	P	15 08 44.6	-1.0
SRN	Sarande	82.27	328	P	P	15 08 44.6	-1.0
NHSC	New Hope	82.28	46	PFAKE		15 09 00.0	+14
NHSC				LR	LR		
	comp=Z,3µm,21.0s						
NHSC	New Hope	82.28	46	P	P	15 08 46.1	+0.3
	baz=328,SNR=5.2						
ATAL	Atalanti	82.28	326	eP	P	15 08 43.3	-2.4
ATAL	Atalanti	82.28	326	P	P	15 08 43.3	-2.4
DAT	Datca	82.29	321	eP	P	15 08 44.4	-1.5
DAT	Datca	82.29	321	iP	P	15 08 44.5	-1.4
DAT				IAML_P			
	comp=Z,568nm,0.8s						
552A	Lynn Haven	82.32	51	P	P	15 08 47.0	+1.0
	baz=326						
LKR	Lokris	82.33	326	eP	P	15 08 42.0	-3.9
LKR	Lokris	82.33	326	P	P	15 08 42.0	-3.9
Y60A	Bolivia	82.39	44	P	P	15 08 46.0	-0.3
	baz=328						
PPT	Papeete	82.43	130	P	P	15 08 46.6	0.0
	comp=Z,17nm,0.7s,baz=78,slow=14,SNR=3.5						
PPT				LR	LR	15 38 35.4	
	comp=Z,1µm,20.2s,baz=307,slow=31						
256A	Glennville	82.43	47	P	P	15 08 47.0	+0.4
	baz=327						
PPT2	Papeete2	82.45	130	eP	P	15 08 47.7	+1.0
	comp=Z,93nm,1.6s						
PPT2	Papeete2	82.45	130	eS	S	15 19 00.2	+0.5
	comp=Z,3µm,30.5s						
PPT2	Papeete2	82.45	130	eLR	LR	15 34 23.3	
	comp=Z,2µm,21.5s,baz=312						
PPT2	Papeete2	82.45	130	eT	T	16 39 28.5	
	comp=Z,3.1nm,0.3s						
IGT	Igoumenitsa	82.47	328	eP	P	15 08 45.5	-1.2
IGT	Igoumenitsa	82.47	328	P	P	15 08 45.5	-1.2
IGT	Igoumenitsa	82.47	328	eP	P	15 08 45.5	-1.2
355A	Pearson	82.50	48	P	P	15 08 47.4	+0.4
	baz=326,SNR=8.1						
PAE	Paea	82.51	130	eP	P	15 08 47.8	+0.9
	comp=Z,11nm,1.2s						
HSUJ	Al Zarqa	82.52	313	P	P	15 08 47.1	0.0
TIAR	Tiarei	82.53	130	eP	P	15 08 48.0	+0.9
	comp=Z,16nm,1.0s						
Z59A	Georgetown, SC	82.57	45	P	P	15 08 47.2	-0.1
	baz=328						
158A	Hollywood	82.58	46	P	P	15 08 47.9	+0.5
	baz=328						
MMLI	Mount Malkishu	82.60	314	eP	P	15 08 47.9	+0.4
MATE	Matera	82.63	331	⇑iP	P	15 08 47.5	+0.1
VILL	Villia	82.65	325	P	P	15 08 45.8	-1.9
454A	Quitman	82.65	49	P	P	15 08 48.2	+0.5
	baz=326						
553A	Crawfordville	82.70	50	P	P	15 08 48.5	+0.5
	baz=326						
TVO	Taravao	82.77	130	eP	P	15 08 49.5	+1.1
	comp=Z,27nm,1.4s						
APE	Apeiranthos	82.79	323	eP	P	15 08 45.5	-2.9
356A	Blackshear	82.86	48	P	P	15 08 48.8	0.0
	baz=327						
SERG	Sergoula	82.87	326	P	P	15 08 47.5	-1.3
LTK	Loutraki	82.90	325	eP	P	15 08 46.6	-2.4
LTK	Loutraki	82.90	325	P	P	15 08 46.6	-2.4
EFP	Efpalio	82.92	326	P	P	15 08 47.8	-1.2
455A	Stateville	82.92	49	P	P	15 08 49.7	+0.6
	baz=326,SNR=7.7						
LKD2	Lefkada island	83.03	327	eP	P	15 08 47.5	-2.1
LKD2	Lefkada island	83.03	327	P	P	15 08 47.5	-2.1
LAKA	Lakka	83.06	326	eP	P	15 08 48.1	-1.7
LAKA	Lakka	83.06	326	P	P	15 08 48.1	-1.7
357A	Townsend	83.08	47	P	P	15 08 49.8	-0.1
	baz=327						
554A	Perry	83.15	50	P	P	15 08 50.8	+0.5
	baz=326						
WALJ	Wala	83.15	313	P	P	15 08 51.2	+0.9
KLV	Kalavryta, Ach	83.17	326	eP	P	15 08 48.9	-1.5
KLV	Kalavryta, Ach	83.17	326	P	P	15 08 48.9	-1.5
GUR	Goura	83.20	326	eP	P	15 08 48.4	-2.2
GUR	Goura	83.20	326	P	P	15 08 48.4	-2.2
SWQJ	Swaqa	83.30	313	P	P	15 08 50.5	-0.7
SWQJ	Swaqa	83.30	313	P	P	15 08 50.3	-0.9
RLS	Riolos of Patr	83.40	326	eP	P	15 08 50.4	-1.1
RLS	Riolos of Patr	83.40	326	P	P	15 08 50.4	-1.1
DRO	Drossia	83.41	326	P	P	15 08 50.5	-1.1
456A	Hilliard	83.41	48	P	P	15 08 52.3	+0.6
	baz=327						
555A	McAlpin	83.46	49	P	P	15 08 52.7	+0.7
	baz=327						
GHAJ	Ghor Haditha	83.48	313	P	P	15 08 52.4	+0.4
GHAJ	Ghor Haditha	83.48	313	P	P	15 08 51.6	-0.4
KARP	Karpathos	83.48	321	eP	P	15 08 50.9	-1.1
	comp=Z,98nm,0.8s						
STKA	Stephens Creek	83.50	193	eP	P	15 08 51.9	+0.1
	comp=Z,9.9nm,1.0s						
STKA	Stephens Creek	83.50	193	P	P	15 08 51.9	+0.1
	comp=Z,32nm,1.0s,baz=345,slow=7.1,SNR=45						
STKA				LR	LR	15 42 44.2	
	comp=Z,821nm,21.6s,baz=14,slow=33						
LISJ	El Lisan	83.57	313	P	P	15 08 52.9	+0.5
LISJ	El Lisan	83.57	313	P	P	15 08 52.8	+0.4
AMAZ	Amatzia	83.59	314	P	P	15 08 53.0	+0.4
VLS	Valsamata	83.60	327	eP	P	15 08 51.0	-1.6
VLS	Valsamata	83.60	327	P	P	15 08 51.0	-1.6
VLS	Valsamata	83.60	327	eP	P	15 08 51.0	-1.6
457A	Yulee	83.72	48	P	P	15 08 54.2	+0.9
	baz=327						
655A	Horseshoe Beac	83.83	50	P	P	15 08 54.1	+0.3
	baz=326						
556A	Lake Butler	83.83	49	P	P	15 08 54.7	+0.8
	baz=327,SNR=6.6						
JDRJ	Daraweish	83.91	313	P	P	15 08 54.1	-0.4
JDRJ	Daraweish	83.91	313	P	P	15 08 54.3	-0.2
TIP	Timpagrande	83.95	330	eP	P	15 08 54.1	-0.3
TIP	Timpagrande	83.95	330	P	P	15 08 54.1	-0.3
ITM	Ithomi	84.02	326	eP	P	15 08 52.3	-2.4
ITM	Ithomi	84.02	326	eP	P	15 08 53.0	-1.7
ITM	Ithomi	84.02	326	P	P	15 08 53.0	-1.7
557A	Orange Park	84.14	48	P	P	15 08 56.4	+1.0
	baz=327,SNR=5.9						
ZKR	Zakros	84.23	322	eP	P	15 08 55.0	-0.8
656A	Willston	84.30	49	P	P	15 08 57.1	+0.9
	baz=327,SNR=6.5						
HSNJ	Maan	84.30	312	P	P	15 08 56.9	+0.5
KZIT	Kziot	84.35	314	eP	P	15 08 56.5	0.0
KZIT	Kziot	84.35	314	P	P	15 08 56.2	-0.3
657A	Interlachen	84.44	49	P	P	15 08 57.9	+0.9
	baz=327						
LAST	Lasithi	84.48	322	eP	P	15 08 56.2	-1.0
LAST	Lasithi	84.48	322	P	P	15 08 56.2	-1.0
IDI	Anoyia	84.60	323	eP	P	15 08 54.2	-3.6
IDI	Anoyia	84.60	323	⇑iP	P	15 08 56.3	-1.5
HRFI	Mount Harif	84.79	313	eP	P	15 08 58.7	-0.1
HRFI	Mount Harif	84.79	313	P	P	15 08 59.0	+0.2
IMMV	Iera Moni Meta	84.79	323	eP	P	15 08 57.7	-1.0
IMMV	Iera Moni Meta	84.79	323	P	P	15 08 57.0	-1.7
RAYN	Ar Rayn	84.84	301	eP	P	15 08 58.9	-0.2
	comp=Z,237nm,1.0s						
RAYN				LR	LR		
	comp=Z,3µm,20.0s						
RAYN	Ar Rayn	84.84	301	iP	P	15 08 58.9	-0.2
	SNR=269						
RAYN	Ar Rayn	84.84	301	eP	P	15 08 58.9	-0.2
RAYN				pmax	pmax		
	comp=Z,237nm,1.0s						
RAYN				MLR	MLR		
	comp=Z,3µm,20.0s						
658A	Bunnell	84.86	48	P	P	15 08 60.0	+0.9
	baz=327						
757A	Oxford	84.88	49	P	P	15 08 59.6	+0.5
	baz=327						
AQBJ	Aqaba	85.04	312	P	P	15 09 00.4	+0.4
EIL	Elat	85.14	312	eP	P	15 09 00.5	0.0
FORT	Forrest	85.27	205	eP	P	15 09 01.0	+0.2
	comp=Z,187nm,0.9s						
758A	Lake Helen	85.27	49	P	P	15 09 02.2	+1.1
	baz=327						
GVD	Gavdhos	85.30	323	eP	P	15 08 59.9	-1.3
857A	Zephyrhills	85.36	50	P	P	15 09 02.8	+1.2
	baz=327						
BBOO	Buckleboo	85.36	198	eP	P	15 09 01.1	-0.1
	comp=Z,117nm,1.2s						
858A	St. Cloud	85.82	49	P	P	15 09 04.7	+0.8
	baz=327						
957A	Wimauma	85.85	50	P	P	15 09 04.9	+0.9
	baz=327						
DWPF	Disney Wildern	85.88	49	P	P	15 09 05.0	+0.8
	baz=327						
DWPF	Disney Wildern	85.88	49	eP	P	15 09 04.3	+0.2
958A	Wauchula	86.16	50	P	P	15 09 06.1	+0.5
	baz=327						
859A	Kempfer Cattle	86.17	49	P	P	15 09 05.9	+0.3
	baz=328						
058A	Arcadia	86.58	50	P	P	15 09 08.1	+0.5
	baz=327						
959A	Okeechobee	86.63	49	P	P	15 09 08.7	+0.8
	baz=328						
059A	Moore Haven	86.97	50	P	P	15 09 10.4	+0.9
	baz=328						
POLO	Lamas de Olo	87.28	349	eP	P	15 09 10.7	-0.3
	comp=Z,54nm,1.6s						
060A	Indiantown	87.29	49	P	P	15 09 11.9	+0.9
	baz=328						
059Z	Ave Maria	87.35	50	P	P	15 09 12.3	+0.9
	baz=327						
PVRL	Vila Real	87.37	349	eP	P	15 09 11.1	-0.2
	comp=Z,106nm,1.7s						
MVO	Moncorvo	87.39	348	eP	P	15 09 11.0	-0.5
	comp=Z,99nm,1.5s						
TBI	Tubuai	87.43	133	eS	S	15 19 49.6	+0.9
	comp=Z,802nm,25.2s						
TBI	Tubuai	87.43	133	eLR	LR	15 36 41.0	
	comp=Z,3µm,33.2s,baz=330						
TBI	Tubuai	87.43	133	eT	T	16 45 43.2	
	comp=Z,5.6nm,0.3s						
MORW	Morawa	87.51	215	eP	P	15 09 11.5	-0.3
	comp=Z,130nm,1.1s						
WDD	Wied Dalam	87.72	331	eP	P	15 09 13.3	+0.3
	comp=Z,375nm,1.2s						
060Z	West Palm Beac	87.72	50	P	P	15 09 14.0	+0.9
	baz=328						
PVIS	Viseu	87.94	349	eP	P	15 09 13.7	-0.4
	comp=Z,87nm,2.1s						
061Z	Ochoppi	88.01	50	P	P	15 09 15.4	+0.9
	baz=328						
MTE	Manteigas	88.21	349	eP	P	15 09 15.2	-0.2
	comp=Z,58nm,1.5s						
ES06	SONSECA Array	88.41	346	eP	P	15 09 15.6	-0.7
ESDC	Sonseca Array	88.41	346	P	P	15 09 15.7	-0.6
	comp=Z,30nm,0.9s,baz=6.8,slow=4.4,SNR=80						
ESDC				LR	LR	15 55 21.7	
	comp=Z,2µm,20.1s,baz=50,slow=40						
COI	Coimbra	88.50	349	eP	P	15 09 16.7	0.0
PAB	San Pablo	88.60	346	eP	P	15 09 16.4	-0.9
	comp=Z,40nm,1.0s						
PAB				LR	LR		
	comp=Z,3µm,21.0s						
PAB	San Pablo	88.60	346	eP	P	15 09 16.4	-0.9
PAB				pmax	pmax		
	comp=Z,41nm,1.0s						
PAB				MLR	MLR		
	comp=Z,3µm,21.0s						
TOO	Toolangi	88.63	189	eP	P	15 09 17.9	+1.0
	comp=Z,88nm,1.1s						
TOO	Toolangi	88.63	189	eP	P	15 09 17.9	+1.0
TOO				pmax	pmax		
	comp=Z,88nm,1.1s						
PCAS	Casmilo, Conde	88.67	349	eP	P	15 09 17.2	-0.3
	comp=Z,119nm,2.2s						
PCBR	Castelo Branco	88.75	348	eP	P	15 09 17.6	-0.2
	comp=Z,46nm,2.1s						
KEST	Kesra	89.33	334	eP	P	15 09 21.1	+0.3
	comp=Z,117nm,1.0s						
KEST	Kesra	89.33	334	P	P	15 09 20.6	-0.1
	comp=Z,77nm,0.9s,baz=275,slow=1.2,SNR=63						
KEST				LR	LR	15 53 16.1	
	comp=Z,3µm,21.2s,baz=334,slow=38						
PMTG	Montargil	89.60	349	eP	P	15 09 22.1	+0.2
PESTR	Estremoz	89.72	348	eP	P	15 09 22.4	0.0
	comp=Z,64nm,1.9s						
URZ	Urewera	90.38	165	P	P	15 09 24.0	-1.1
	comp=Z,11nm,0.8s,baz=281,slow=2.3,SNR=6.0						
URZ				LR	LR	15 43 01.3	
	comp=Z,2µm,21.2s,baz=13,slow=31						
NWAO	Narrogin (SRO)	90.58	213	eP	P	15 09 25.8	-0.4
	comp=Z,153nm,1.0s						
NWAO				LR	LR		
	comp=Z,842nm,20.0s						
NWAO	Narrogin (SRO)	90.58	213	eP	P	15 09 25.8	-0.4
NWAO				pmax	pmax		
	comp=Z,153nm,1.0s						
NWAO				MLR	MLR		
	comp=Z,842nm,20.0s						
DGAR	Diego Garcia	92.48	261	PFAKE		15 09 50.0	+15
DGAR				LR	LR		
	comp=Z,493nm,19.0s						
SNZO	South Karori	92.99	167	PFAKE		15 09 50.0	+13
SNZO				LR	LR		
	comp=Z,3µm,19.0s						
SNZO	South Karori	92.99	167	eP	P	15 09 37.2	+0.2
TAU	Tasmania Unive	93.75	187	PFAKE		15 09 50.0	+9.5
TAU				LR	LR		
	comp=Z,1µm,20.0s						
RPZ	Rata Peaks	94.90	170	LR	LR	15 46 13.1	
	comp=Z,4µm,21.8s,baz=10,slow=31						
GTBY	Guantanamo Bay	95.84	49	PFAKE		15 10 00.0	+9.1
GTBY				LR	LR		

comp=Z,2µm,21.0s
MTDJ Mount Denham 96.11 51 PFAKE 15 10 00.0 +7.7
MTDJ LR LR
comp=Z,1µm,20.0s
GRTK Grand Turk 96.30 45 PFAKE 15 10 00.0 +7.0
GRTK LR LR
comp=Z,3µm,20.0s
SDDR Presa de Saban 98.44 46 PFAKE 15 10 10.0 +7.3
SDDR LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 98.80 62 PFAKE 15 10 20.0 +16
JTS LR LR
comp=Z,724nm,19.0s
PTCN Pitcairn Islan 98.81 119 PFAKE 15 10 20.0 +16
PTCN LR LR
comp=Z,3µm,19.0s
SJG San Juan 101.46 42 PFAKE 15 10 30.0 +14
SJG LR LR
comp=Z,1µm,22.0s
BCIP Isla Barro Col 102.53 58 PFAKE 15 10 30.0 +9.1
BCIP LR LR
comp=Z,694nm,20.0s
SDV Santo Domingo 107.51 50 PFAKE 15 15 00.0 +8.6
SDV LR LR
comp=Z,1µm,21.0s
BBGH Gun Hill 108.63 38 PFAKE 15 15 10.0 +17
BBGH LR LR
comp=Z,1µm,22.0s
GRGR Grenville 108.70 41 PFAKE 15 15 10.0 +17
GRGR LR LR
comp=Z,689nm,20.0s
KMBO Kilima Mbogo 109.47 293 PFAKE 15 15 10.0 +15
KMBO LR LR
comp=Z,915nm,22.0s
OTAV Otavalo 110.69 62 PFAKE 15 15 10.0 +12
OTAV LR LR
comp=Z,438nm,22.0s
TOA1 Torodi Ar. Sit 112.85 334 *e*Pdif **Pdif 15 11 05.6 -1.2**
TOA1 *e*PKiKP **PKiKP 15 15 00.5 -0.8**
TOA1 *e*PKKPbc **PKKPbc 15 25 47.4 +0.8**
TORD Torodi Ar. Bea 112.85 334 Pdiff **Pdif 15 11 05.6 -1.3**
comp=Z,0.6nm,1.0s,baz=288,slow=1.4,SNR=2.7
TORD PKiKP **PKiKP 15 15 00.5 -0.8**
comp=Z,3.9nm,1.0s,baz=3.3,slow=2.6,SNR=11
TORD PKKPbc **PKKPbc 15 25 47.4 +0.8**
comp=Z,1.1nm,1.0s,baz=291,slow=1.2,SNR=4.2
SACV Santiago Islan 114.50 1 PFAKE 15 15 20.0 +16
SACV LR LR
comp=Z,516nm,19.0s
ABPO Ambohimpanom 117.19 273 PFAKE 15 15 20.0 +10
ABPO LR LR
comp=Z,474nm,19.0s
DBIC Dimbokro 120.72 339 PKP **PKPdf 15 15 16.2 -0.2**
comp=Z,22nm,1.0s,baz=299,slow=1.2,SNR=12
DBIC Dimbokro 120.72 339 *e*P **PKPdf 15 15 16.5 +0.1**
TIC Toumodi 120.78 340 *e*PKP1 **PKPdf 15 15 16.3 -0.3**
PTGA Pitinga 120.95 45 *e*P **PKiKP 15 15 17.2 +0.3**
KIC Kosan Boka 121.00 339 *e*PKP1 **PKPdf 15 15 16.4 -0.6**
comp=Z,75nm,1.2s
LIC Lamto 121.19 339 *e*PKP1 **PKPdf 15 15 17.0 -0.3**
comp=Z,81nm,1.1s
NNA Nana 121.51 69 PFAKE 15 15 30.0 +12
NNA LR LR
comp=Z,388nm,19.0s
CASY Casey 122.09 200 PFAKE 15 15 30.0 +13
CASY LR LR
comp=Z,179nm,21.0s
LSZ Lusaka 126.09 292 PFAKE 15 15 40.0 +13
LSZ LR LR
comp=Z,718nm,19.0s
VNDA Vanda 128.09 179 PKP **PKPdf 15 15 28.4 -0.2**
comp=Z,3.2nm,0.9s,baz=310,slow=3.5,SNR=12
SBA Scott Base 128.53 177 PFAKE 15 15 40.0 +10
SBA LR LR
comp=Z,1µm,19.0s
LPAZ La Paz 129.99 63 PKP **PKPdf 15 15 34.5 -0.3**
comp=Z,11nm,0.9s,baz=27,slow=4.2,SNR=32
LPAZ La Paz 129.99 63 *e*P **PKPdf 15 15 34.8 +0.1**
PB11 IPOC Station P 131.85 68 *e*PKPdf **PKiKP 15 15 38.4 -0.2**
RCBR Riachuelo 133.81 18 *e*P **PKiKP 15 15 44.6 +1.9**
LVC Limon Verde 134.49 69 PFAKE 15 15 50.0 +5.8
LVC LR LR
comp=Z,808nm,21.0s
LVC Limon Verde 134.49 69 *e*P **PKPdf 15 15 43.1 +0.4**
TSUM Tsumeb 135.27 300 PFAKE 15 16 00.0 +14
TSUM LR LR
comp=Z,1µm,21.0s
BOSA Boshof 137.92 283 PKP **PKPdf 15 15 48.0 -0.6**
comp=Z,7.9nm,0.8s,baz=326,slow=2.3,SNR=6.1
LCO Las Campanas 138.10 77 PFAKE 15 16 00.0 +8.8
LCO LR LR
comp=Z,1µm,21.0s
BDFB Brasilia 139.41 39 PKIKP **PKPdf 15 15 51.0 -0.7**
BDFB pmax pmax
comp=Z,3.0nm,0.5s
BDFB Brasilia 139.41 39 PKP **PKPdf 15 15 51.0 -0.7**
comp=Z,17nm,1.0s,baz=213,slow=2.0,SNR=4.3
AQDB Aquidauana 140.12 53 *e*P **PKiKP 15 15 54.1 -1.1**
JANB Januaria 140.28 34 *e*P **PKPdf 15 15 52.5 -0.7**
QSPA South Pole Qui 140.55 180 *e*PKPpre PKPpre 15 15 43.7
QSPA LR LR
comp=Z,1µm,22.0s
QSPA South Pole Qui 140.55 180 PKhKP PKPpre 15 15 43.7
comp=Z,21nm,0.9s,baz=13,slow=2.0,SNR=7.7
MCI9 Montes Claros 141.94 34 *e*P **PKiKP 15 15 58.0 -1.1**
SHEL Horse Pasture 142.67 333 PFAKE 15 16 10.0 +9.4
SHEL LR LR
comp=Z,695nm,21.0s
SUR Sutherland 143.29 283 PFAKE 15 16 10.0 +8.4
SUR LR LR
comp=Z,2µm,19.0s
TRCB Terra Rica 143.59 51 *e*P **PKiKP 15 16 01.0 -1.4**
CPUP Villa Florida 144.01 60 *e*PKPdf PKPbc 15 15 57.7 +0.2
CPUP Villa Florida 144.01 60 *e*PKIKP PKPbc 15 15 57.7 +0.2
CPUP Villa Florida 144.01 60 PKP PKPbc 15 15 57.3 -0.2
comp=Z,40nm,1.1s,baz=318,slow=3.0,SNR=34
CPUP Villa Florida 144.01 60 *e*P **PKPdf 15 16 00.2 +0.7**
BB19B Bebedouro 144.03 44 *e*P **PKPdf 15 16 00.8 +1.1**
SJMB Sao Joao De Ma 144.73 31 *e*P PKPbc 15 16 00.2 +0.3
PTGB Pitanga 145.48 52 *e*P **PKPdf 15 16 01.7 -0.5**
FRTB Fartura 145.53 47 *e*P **PKPdf 15 16 02.3 0.0**
BSCB Bom Sucesso 145.54 38 *e*P **PKPdf 15 16 02.0 -0.4**
RIB01 Linhares ES 145.56 31 *e*P **PKPbc 15 16 02.6 0.0**
PLCA Paso Flores 145.65 92 PKPbc **PKPdf 15 16 02.0 0.0**
comp=Z,58nm,0.9s,baz=319,slow=3.6,SNR=49
PLCA pPKPbc **pPKPdf 15 16 15.5 -0.6**
comp=Z,68nm,0.9s,baz=307,slow=5.0,SNR=14
PLCA Paso Flores 145.65 92 *e*P **PKPdf 15 16 01.9 -0.2**
ALF01 Guarapari-ES 146.67 32 *e*P **PKPbc 15 16 06.0 +0.2**
SPB Sao Paulo 146.72 45 *e*P **PKPab 15 16 06.9 -0.3**
DUB01 Friburgo-RJ 147.44 36 *e*P **PKPbc 15 16 07.5 -0.6**
ESAR Angra dos Reis 147.49 40 *e*P **PKPbc 15 16 07.1 -1.0**
CPSB Cacapava Do Su 149.32 60 *e*P **PKPdf 15 16 09.9 +1.6**
TRQA Tornquist 149.53 81 *e*P **PKPbc 15 16 10.8 -2.2**
CNLB Canela 149.86 55 *e*P **PKPdf 15 16 10.9 +1.6**
PLTB Pedras Altas 150.26 62 *e*P **PKPdf 15 16 11.4 +1.6**
PMSA Palmer Station 154.47 139 PFAKE 15 16 30.0 +6.7
PMSA LR LR
comp=Z,738nm,21.0s
PMSA Palmer Station 154.47 139 *e*P **PKPdf 15 16 16.5 +1.6**
NVL N'lazarevskaya 154.51 206 *e*PKIKP **PKPbc 15 16 22.1 -1.1**
SNAA Sanae 157.24 196 P PKPab 15 16 35.6 -14
SNAA Sanae 157.24 196 PKP **PKPdf 15 16 16.0 -2.5**
comp=Z,3.7nm,1.1s,baz=296,slow=2.7,SNR=3.1
SNAA PKPab **PKPab 15 16 49.3 -0.6**
comp=Z,34nm,1.0s,baz=175,slow=4.3,SNR=19
EFI East Falkland 157.94 106 PFAKE 15 16 30.0 +10
EFI LR LR
comp=Z,2µm,21.0s
VNA2 Neumayer--Watz 158.63 194 P **PKPab 15 16 55.2 -0.6**
baz=136,slow=3.3
VNA3 Neumayer Olymp 158.66 192 P **PKPab 15 16 55.3 -0.6**
VNA1 Neumayer--Stat 159.01 193 P **PKPab 15 16 57.1 -0.3**

*IDC **09** 14:56:55.7±1.8, 31°.16S×177°.24W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/22, mbtmp3.9/4, ML3.2/1, MS3.9/1, Ms1 3.9/1, ms1mx3.1/35, Error ellipse: s-maj=48.3km s-min=24.7km az=116.0*

ISC 09 14:57:00.2±1.8, 31°.07S±0°.08×177°.3W±0°.3, h35km, n8, σ1$45/11, mb4.0/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DDMP	**Don Marcelino,**	**0.89**	**322**	*e*P		**Pn**	**15 17 53.0**	**+0.3**
DDMP				*e*S		**Sn**	**15 18 05.3**	**+0.9**
MATI	**Mati**	**1.54**	**360**	*e*P		**Pn**	**15 18 02.3**	**+0.7**
SGSI	**Sangihe**	**1.85**	**203**	P		**Pn**	**15 18 06.3**	**+0.4**
SGSI				S		**Sn**	**15 18 31.0**	**+2.9**
KCP	**Kidapawan**	**1.98**	**324**	*e*P		**Pn**	**15 18 08.0**	**+0.3**
KCP				*i* S		**Sn**	**15 18 31.0**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.04**	**303**	*e*P		**Pn**	**15 18 08.2**	**-0.3**
SKMP				*e*S		**Sn**	**15 18 32.6**	**-0.2**
BUKP	**Musuan**	**2.74**	**334**	*e*P		**Pn**	**15 18 18.4**	**+0.3**
SANI	**Sanana**	**7.40**	**182**	P		**Pn**	**15 19 17.7**	**-4.5**
	12nm,0.5s,876nm							

*IDC **09** 15:18:33.3±1.2, 2°.89S×129°.38E, h0km, mb3.4/3, mb1 3.6/6, mb1mx3.3/51, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=33.9km s-min=21.0km az=91.0*
*ISCJB **09** 15:18:35.6±0.7, 2°.95S±0°.08×129°.39E±0°.09, h28km, mb3.4/3, Error ellipse: s-maj=15.5km s-min=8.1km az=35.3*

ISC 09 15:18:37.3±1.0, 2°.9S±0°.1×129°.40E±0°.10, h28km, n8, σ0$95/9, mb3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NLAI	**Namlea**	**2.32**	**262**	P		**Pn**	**15 19 13.1**	**-0.5**
SIJI	**Sorong**	**2.77**	**42**	Pn		**Pn**	**15 19 18.7**	**-1.2**
	6.1nm,0.3s,baz=92,slow=10,SNR=40							
SIJI						**Sn**	**15 19 53.6**	**+1.1**
	5.7nm,0.3s,baz=189,slow=23,SNR=11							
SWI	**Sorong**	**2.77**	**42**	P		**Pn**	**15 19 19.8**	**-0.1**
	62nm,0.8s,2µm							
FITZ	**Fitzroy Crossi**	**15.51**	**193**	Pn		**Pn**	**15 22 15.2**	**+0.9**
	0.1nm,0.3s,baz=39,slow=6.5,SNR=2.6							
WRA	**Warramunga Arr**	**17.58**	**164**	P		**Pn**	**15 22 39.4**	**-1.1**
	0.1nm,0.3s,baz=344,slow=12,SNR=4.2							
ASAR	**Alice Springs**	**21.07**	**168**	P		**P**	**15 23 20.1**	**+0.6**
	1.6nm,0.7s,baz=351,slow=11,SNR=20							
MKAR	**Makanchi Array**	**64.53**	**326**	P		**P**	**15 29 11.9**	**+0.1**
	0.3nm,0.8s,baz=123,slow=5.3,SNR=2.6							
KURBB	**Kurchatov Arra**	**68.76**	**328**	P		**P**	**15 29 38.6**	**-0.1**
	0.2nm,0.4s,baz=130,slow=5.4,SNR=3.1							

IDC 09 15:24:27.0±1.7, 10°.98S×165°.43E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.5/51, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=53.8km s-min=31.1km az=127.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**11.07**	**175**	Pn		Pn	15 27 06.6	-0.3
	0.5nm,0.3s,baz=319,slow=8.3,SNR=10							
WRA	**Warramunga Arr**	**31.21**	**250**	P		P	15 30 48.3	-0.1
	0.8nm,0.8s,baz=81,slow=8.8,SNR=5.1							
ASAR	**Alice Springs**	**32.54**	**243**	P		P	15 31 00.2	+0.1
	0.3nm,0.6s,baz=64,slow=10,SNR=6.6							
ILAR	**Eielson Array**	**83.55**	**19**	P		P	15 36 56.7	0.0
	0.4nm,0.9s,baz=219,slow=7.0,SNR=2.9							

*ISCJB **09** 15:51:38.0±0.8, 40°.98N±0°.04×41°.75E±0°.06, h7km±11km, Error ellipse: s-maj=8.1km s-min=5.7km az=136.7*
*DDA **09** 15:51:37.3, 40°.95N×41°.74E, h7km±1km, ML2.5*
*TIF **09** 15:51:37.5, 41°.03N×41°.72E, h0km±1km*
*ISK **09** 15:51:37.6, 40°.98N×41°.76E, h5km, ML2.0/3*

ISC 09 15:51:37.6±1.1, 40°.96N±0°.04×41°.74E±0°.04, h9km±9km, n10, σ0$39/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DBAD	**Bademkaya**	**0.07**	**328**	*i* P		**Pg**	**15 51 40.2**	**+0.5**
DDEM	**Demirkent**	**0.07**	**175**	*i* P		**Pg**	**15 51 39.5**	**-0.3**
DDEM				IAML_P				
	comp=Z,20µm,0.2s							
DAGI	**Agillar**	**0.17**	**48**	*i* P		**Pg**	**15 51 41.5**	**+0.2**
DAGI				IAML_P				
	comp=Z,6µm,0.1s							
ARTV	**Artvin**	**0.26**	**32**	*i* P		**Pg**	**15 51 43.1**	**+0.1**
DBOC	**Borcka**	**0.39**	**352**	*i* P		**Pb**	**15 51 45.9**	**-0.7**
BCA	**Borcka**	**0.49**	**349**	PG		**Pg**	**15 51 47.3**	**+0.1**
SENK	**Senkaya-Erzuru**	**0.61**	**131**	PG		**Pg**	**15 51 49.9**	**+0.4**
SENK				SG		**Sb**	**15 51 59.1**	**-0.2**
BATM	**Batumi**	**0.64**	**357**	P		**Pg**	**15 51 50.1**	**0.0**
BATM				S		**Sg**	**15 51 58.4**	**0.0**
CHOM	**Cayeli-Rize**	**0.75**	**281**	PG		**Pb**	**15 51 52.8**	**-0.1**
CHOM				SG		**Sb**	**15 52 03.7**	**+0.4**
EPOS	**Posof**	**0.92**	**54**	*i* P		**Pb**	**15 51 55.9**	**+0.1**

*IDC **09** 16:13:29.4±2.3, 6°.29S×150°.24E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/41, mbtmp3.9/5, MS3.4/2, Ms1 3.4/2, ms1mx2.9/30, Error ellipse: s-maj=65.3km s-min=28.2km az=103.0*
*ISCJB **09** 16:13:34.6±2.6, 6°.5S±0°.2×150°.2E±0°.4, h43km, mb3.5/4, MS3.3/2, Error ellipse: s-maj=62.4km s-min=28.6km az=8.3*

ISC 09 16:13:35.4±2.6, 6°.4S±0°.2×150°.3E±0°.5, h43km, n7, σ0$75/6, mb3.7/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WRA	**Warramunga Arr**	**20.50**	**228**	P		**P**	**16 18 10.4**	**+0.4**
	6.5nm,0.5s,baz=51,slow=10,SNR=50							
WRA				LR		LR	16 26 28.0	
	comp=Z,108nm,20.6s,baz=40,slow=38							
ASAR	**Alice Springs**	**23.27**	**221**	P		**P**	**16 18 39.8**	**+0.3**
	1.4nm,0.8s,baz=55,slow=8.9,SNR=31							
STKA	**Stephens Creek**	**26.58**	**197**	P		**P**	**16 19 09.8**	**+0.2**
	1.6nm,0.6s,baz=360,slow=13,SNR=5.8							
FITZ	**Fitzroy Crossi**	**26.69**	**242**	P		**P**	**16 19 10.2**	**-0.6**
	2.0nm,0.5s,baz=52,slow=10,SNR=8.8							
DAV	**Davao City (W)**	**28.07**	**298**	LR		LR	16 29 08.7	
	comp=Z,94nm,20.0s,baz=351,slow=34							
MKAR	**Makanchi Array**	**79.93**	**320**	P		**P**	**16 25 40.6**	**+0.5**
	0.1nm,0.5s,baz=92,slow=7.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**148.37**	**285**	PKPbc		**PKPbc**	**16 33 17.4**	**-0.9**
	0.5nm,0.7s,baz=79,slow=2.4,SNR=4.3							

*IDC **09** 16:14:46.7±1.1, 20°.61S×174°.17W, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.8/39, mbtmp3.9/7, ML3.9/1, Error ellipse: s-maj=39.7km s-min=23.1km az=132.0*
*ISCJB **09** 16:14:48.3±1.1, 20°.5S±0°.2×174°.2W±0°.2, h27km, mb3.9/6, Error ellipse: s-maj=35.2km s-min=14.9km az=34.2*

ISC 09 16:14:50.5±1.0, 20°.4S±0°.1×174°.1W±0°.2, h27km, n9, σ1$58/11, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**6.83**	**20**	Pn		**Pn**	**16 16 29.4**	**+0.4**
	2.1nm,0.3s,baz=142,slow=17,SNR=2.8							
AFI				Sn		**Sn**	**16 17 43.4**	**-2.6**
	2.2nm,0.3s,baz=92,slow=20,SNR=3.5							
STKA	**Stephens Creek**	**41.10**	**245**	P		**P**	**16 22 31.8**	**-0.4**
	1.3nm,0.7s,baz=112,slow=15,SNR=3.3							
ASAR	**Alice Springs**	**48.06**	**256**	P		**P**	**16 23 27.0**	**-1.0**
	2.0nm,0.8s,baz=100,slow=7.9,SNR=13							
WRA	**Warramunga Arr**	**48.20**	**261**	P		**P**	**16 23 27.7**	**-1.3**
	1.0nm,0.9s,baz=96,slow=7.8,SNR=9.3							
WRA				PcP		**PcP**	**16 24 57.3**	**+1.1**
	0.3nm,0.6s,baz=94,slow=3.7,SNR=3.2							
VNDA	**Vanda**	**58.36**	**186**	P		**P**	**16 24 41.8**	**-1.1**
	1.3nm,1.0s,baz=38,slow=5.6,SNR=4.0							
MJAR	**Matsushiro Arr**	**72.33**	**321**	P		**P**	**16 26 16.2**	**+2.3**
	1.1nm,0.7s,baz=177,slow=5.6,SNR=6.0							
NVAR	**Mina Array Bea**	**78.50**	**42**	P		**P**	**16 26 51.0**	**+1.4**
	1.2nm,0.7s,baz=224,slow=8.3,SNR=5.3							
AKASG	**Malin Array Be**	**144.58**	**334**	PKP		**PKPdf**	**16 34 23.7**	**-0.6**
	0.1nm,0.3s,baz=41,slow=4.4,SNR=5.1							
BRTR	**Keskin Array B**	**149.38**	**315**	PKPbc		**PKiKP**	**16 34 38.8**	**+0.2**
	0.6nm,0.9s,baz=98,slow=2.9,SNR=3.1							

*ISCJB **09** 16:18:36.9±0.5, 19°.93S±0°.09×176°.5W±0°.1, h200km, mb3.7/15, Error ellipse: s-maj=18.3km s-min=9.2km az=31.7*
*IDC **09** 16:18:39.7±2.5, 19°.90S×176°.38W, h215km±24km, mb3.6/15, mb1 3.8/17, mb1mx3.6/37, mbtmp4.2/17, Error ellipse: s-maj=23.5km s-min=11.8km az=144.0*

ISC 09 16:18:37.8±0.7, 20°.0S±0°.1×176°.3W±0°.1, h200km, n21, σ1$22/21, mb3.8/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**7.49**	**36**	P		**Pn**	**16 20 25.3**	**+0.7**
	3.7nm,0.3s,baz=140,slow=2.1,SNR=7.5							
AFI				S		Sn	16 21 38.6	-11
	5.6nm,0.3s,baz=53,slow=20,SNR=3.7							
URZ	**Urewera**	**19.03**	**196**	P		**P**	**16 22 46.3**	**+1.6**
	0.9nm,0.3s,baz=290,slow=4.2,SNR=9.9							
URZ				S		**S**	**16 26 07.4**	**-2.5**
	0.6nm,0.3s,baz=279,slow=22,SNR=9.9							
CTA	**Charters Tower**	**35.09**	**263**	P		**P**	**16 25 12.9**	**+0.7**
	2.2nm,0.4s,baz=83,slow=10,SNR=10							
ASAR	**Alice Springs**	**46.14**	**256**	P		**P**	**16 26 43.5**	**+0.9**
	1.0nm,0.6s,baz=95,slow=8.2,SNR=15							
WRA	**Warramunga Arr**	**46.21**	**261**	P		**P**	**16 26 42.9**	**-0.3**
	1.0nm,0.6s,baz=94,slow=5.8,SNR=14							
SIJI	**Sorong**	**54.63**	**284**	P		**P**	**16 27 46.5**	**+0.2**
	3.5nm,0.8s,baz=95,slow=11,SNR=4.4							
PETK	**Petropavlovsk-**	**75.23**	**344**	P		**P**	**16 30 02.6**	**-1.2**
	6.7nm,0.9s,baz=154,slow=11,SNR=3.9							
YBH	**Yreka Blue Hor**	**78.96**	**38**	P		**P**	**16 30 20.0**	**+0.6**
	2.7nm,1.0s,baz=54,slow=5.4,SNR=4.2							
NVAR	**Mina Array Bea**	**79.62**	**43**	P		**P**	**16 30 23.9**	**+0.7**
	2.4nm,0.8s,baz=220,slow=8.4,SNR=8.5							
ELK	**Elko**	**82.88**	**42**	P		**P**	**16 30 40.3**	**-0.1**
	1.4nm,0.8s,baz=256,slow=4.4,SNR=6.0							
MA2	**Magadan**	**83.76**	**344**	P		**P**	**16 30 42.6**	**-1.4**
	1.5nm,0.6s,baz=118,slow=11,SNR=3.9							
TXAR	**Lajitas Array**	**85.49**	**57**	P		**P**	**16 30 54.6**	**+1.0**
	0.6nm,0.6s,baz=238,slow=9.5,SNR=4.8							
SEY	**Seymchan**	**86.28**	**346**	P		**P**	**16 30 55.6**	**-0.9**
	5.4nm,1.0s,baz=141,slow=6.1,SNR=14							
ILAR	**Eielson Array**	**87.52**	**12**	P		**P**	**16 31 01.3**	**-1.1**
	0.5nm,0.7s,baz=228,slow=5.2,SNR=7.5							
PDAR	**Pinedale Array**	**87.56**	**43**	P		**P**	**16 31 03.6**	**+0.1**
	0.2nm,0.5s,baz=211,slow=5.1,SNR=2.9							
CMAR	**Chiang Mai Arr**	**91.43**	**289**	P		**P**	**16 31 22.9**	**+1.2**
	0.7nm,0.9s,baz=122,slow=3.8,SNR=5.9							
YKA	**Yellowknife Ar**	**95.44**	**24**	P		**P**	**16 31 38.1**	**-1.0**
	0.1nm,0.4s,baz=233,slow=4.0,SNR=5.2							
MKAR	**Makanchi Array**	**112.01**	**313**	PKiKP		**PKiKP**	**16 36 47.9**	**-1.3**
	0.2nm,0.5s,baz=154,slow=1.1,SNR=4.4							
ARCES	**ARCESS Array B**	**128.73**	**350**	PKP		**PKPdf**	**16 37 19.3**	**-1.3**
	5.6nm,1.0s,baz=40,slow=1.5,SNR=3.8							
AKASG	**Malin Array Be**	**143.34**	**333**	PKhKP		PKPpre	16 37 43.8	
BRTR	**Keskin Array B**	**147.66**	**314**	PKPbc		**PKPdf**	**16 37 57.8**	**+1.7**
	2.9nm,1.2s,baz=155,slow=4.1,SNR=6.5							

*IDC **09** 16:29:33.9±1.4, 21°.98S×68°.85E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/44, mbtmp3.8/8, MS3.6/4, Ms1 3.7/4, ms1mx3.2/44, Error ellipse: s-maj=45.4km s-min=23.8km az=33.0*
*ISCJB **09** 16:29:34.9±1.3, 22°.0S±0°.3×68°.9E±0°.2, h19km, mb3.8/8, MS3.7/4, Error ellipse: s-maj=39.6km s-min=22.9km az=28.5*

ISC 09 16:29:37.0±1.5, 22°.0S±0°.3×68°.9E±0°.2, h19km, n14, σ0$55/8, mb3.8/8, MS3.7/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
H08S1	**Diego Carcia H**	**14.70**	**14**	T		T	16 47 45.2	
	baz=194,slow=76,SNR=119							
H08S2	**Diego Garcia H**	**14.70**	**14**	T		T	16 47 50.0	
	baz=194,slow=76,SNR=150							
H08S3	**Diego Garcia H**	**14.71**	**14**	T		T	16 47 48.1	
	baz=194,slow=76,SNR=98							
BRDH	**Bariadhala**	**49.65**	**28**	LR		LR	16 56 22.9	
	comp=Z,87nm,21.4s,baz=180,slow=32							
CMAR	**Chiang Mai Arr**	**49.84**	**39**	P		**P**	**16 38 29.2**	**+0.1**
	0.7nm,1.0s,baz=224,slow=5.0,SNR=4.0							
CMAR				LR		LR	16 55 32.4	
	comp=Z,50nm,21.7s,baz=180,slow=31							
FITZ	**Fitzroy Crossi**	**53.23**	**97**	LR		LR	16 57 16.2	
	comp=Z,67nm,21.2s,baz=262,slow=31							
ASAR	**Alice Springs**	**59.49**	**105**	P		**P**	**16 39 38.9**	**-0.4**
	1.3nm,0.7s,baz=264,slow=6.2,SNR=19							
WRA	**Warramunga Arr**	**60.75**	**101**	P		**P**	**16 39 48.4**	**+0.4**
	1.7nm,0.8s,baz=258,slow=6.7,SNR=11							
MKAR	**Makanchi Array**	**69.54**	**10**	P		**P**	**16 40 44.0**	**-0.3**
	0.4nm,0.7s,baz=191,slow=5.9,SNR=5.1							
BRTR	**Keskin Array B**	**69.66**	**332**	P		**P**	**16 40 45.5**	**+0.1**
	0.5nm,0.7s,baz=161,slow=6.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**74.53**	**291**	P		**P**	**16 41 15.1**	**+0.1**
	0.8nm,0.9s,baz=104,slow=6.3,SNR=3.9							
ZALV	**Zalesovo Beam**	**76.88**	**10**	P		**P**	**16 41 26.6**	**-0.9**
	0.4nm,0.3s,baz=234,slow=5.0,SNR=2.7							
SONM	**Songino Array**	**77.26**	**25**	P		**P**	**16 41 30.5**	**+0.5**
	1.2nm,1.1s,baz=251,slow=4.5,SNR=4.1							
NOA	**NORSAR Array B**	**94.80**	**336**	LR		LR	17 26 29.3	
	comp=Z,31nm,19.2s,baz=205,slow=36							

*ISCJB **09** 16:41:22.6±0.6, 56°.01S±0°.08×143°.9W±0°.2, h10km, mb4.0/7, MS4.3/15, Error ellipse: s-maj=17.8km s-min=11.2km az=165.4*
*IDC **09** 16:41:22.7±0.8, 55°.80S×143°.91W, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/31, mbtmp4.0/7, MS4.3/15, Ms1 4.3/15, ms1mx4.2/24, Error ellipse: s-maj=42.7km s-min=20.4km az=180.0*

ISC 09 16:41:24.5±0.7, 56°.0S±0°.1×143°.8W±0°.2, h10km, n41, σ0$97/17, mb4.2/7, MS4.3/15, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
VNDA	**Vanda**	**28.55**	**202**	LR		LR	16 54 47.4	
	comp=Z,394nm,21.4s,baz=198,slow=28							
RPZ	**Rata Peaks**	**31.02**	**274**	LR		LR	16 57 30.5	
	comp=Z,910nm,20.6s,baz=124,slow=31							
URZ	**Urewera**	**31.41**	**288**	LR		LR	16 57 34.4	
	comp=Z,745nm,21.4s,baz=136,slow=31							
TBI	**Tubuai**	**32.84**	**350**	*e*S		**S**	**16 53 16.7**	**+1.4**
	245nm,33.8s							
TBI				*e*LR		LR	16 56 30.7	
	comp=Z,2µm,29.0s,baz=173							
TBI	**Tubuai**	**32.84**	**350**	*e*T		T	17 22 27.6	
	58nm,0.3s							
RKT	**Rikitea**	**33.45**	**15**	*e*T		T	17 23 03.8	
	8.8nm,0.3s							
QSPA	**South Pole Qui**	**34.19**	**180**	P		**P**	**16 48 11.1**	**+1.4**
	4.9nm,1.0s,baz=121,slow=2.4,SNR=7.2							
RAR	**Rarotonga**	**36.69**	**335**	LR		LR	16 59 32.4	
	comp=Z,484nm,21.0s,baz=118,slow=30							
TVO	**Taravao**	**38.34**	**352**	*e*T		T	17 29 18.6	
	1.8nm,0.4s							
PAE	**Paea**	**38.49**	**351**	*e*T		T	17 29 29.9	
	2.4nm,0.2s							
PPT2	**Papeete2**

	334nm,26.0s							
PPT2					*e*LQ	LQ	16 57 30.0	
	452nm,23.0s							
PPT2					*e*LR	LR	16 59 06.4	
	comp=Z,2µm,28.5s,baz=181							
PPT2	**Papeete2**	**38.56**	**351**		*e*T	T	17 29 35.2	
	4.0nm,0.3s							
PPT	**Papeete**	**38.58**	**351**		LR	LR	17 00 11.7	
	comp=Z,302nm,19.1s,baz=158,slow=29							
VAH	**Vaihoa**	**40.75**	**354**		*e*T	T	17 32 18.5	
	34nm,0.2s							
TAOE	**Nuku Hiva Isla**	**47.08**	**5**		*e*S	**S**	**16 56 49.0**	**+0.6**
	362nm,31.0s							
TAOE					*e*LR	LR	17 03 00.6	
	comp=Z,1µm,29.0s							
PLCA	**Paso Flores**	**48.65**	**104**		LR	LR	17 05 09.0	
	comp=Z,378nm,19.8s,baz=214,slow=29							
VNA3	**Neumayer Olymp**	**49.02**	**162**		P	**P**	**16 50 10.6**	**-0.2**
VNA2	**Neumayer--Watz**	**49.68**	**163**		P	**P**	**16 50 15.8**	**+0.1**
	baz=221,slow=8.5							
SNAA	**Sanae**	**49.74**	**165**		P	**P**	**16 50 15.6**	**-0.7**
VNA1	**Neumayer--Stat**	**49.77**	**162**		P	**P**	**16 50 16.5**	**+0.1**
DZM	**Mont Dzumac**	**49.77**	**292**		*e*LR	LR	17 04 02.8	
	comp=Z,852nm,24.3s							
MAW	**Mawson**	**55.16**	**192**		LR	LR	17 13 40.4	
	comp=Z,246nm,19.0s,baz=167,slow=35							
STKA	**Stephens Creek**	**55.84**	**262**		P	**P**	**16 51 02.8**	**+1.0**
	1.3nm,0.9s,baz=236,slow=7.3,SNR=2.2							
STKA					LR	LR	17 11 09.6	
	comp=Z,386nm,20.6s,baz=176,slow=32							
ASAR	**Alice Springs**	**66.47**	**262**		P	**P**	**16 52 13.2**	**-0.9**
	0.6nm,0.8s,baz=142,slow=6.5,SNR=7.7							
ASAR					LR	LR	17 17 12.9	
	comp=Z,358nm,21.3s,baz=162,slow=32							
CPUP	**Villa Florida**	**66.68**	**103**		P	**P**	**16 52 15.7**	**+0.4**
	1.4nm,0.7s,baz=170,slow=7.5,SNR=3.1							
CPUP					LR	LR	17 15 56.2	
	comp=Z,169nm,20.5s,baz=214,slow=31							
LPAZ	**La Paz**	**68.64**	**88**		P	**P**	**16 52 27.6**	**-1.0**
	2.1nm,0.9s,baz=208,slow=2.3,SNR=8.0							
LPAZ					LR	LR	17 15 50.3	
	comp=Z,198nm,19.9s,baz=106,slow=30							
WRA	**Warramunga Arr**	**69.19**	**265**		P	**P**	**16 52 30.3**	**-0.9**
	0.4nm,0.9s,baz=144,slow=5.4,SNR=4.0							
FITZ	**Fitzroy Crossi**	**75.52**	**259**		P	**P**	**16 53 07.1**	**-1.9**
	2.6nm,1.0s,baz=165,slow=20,SNR=2.0							
JAY	**Jayapura**	**79.82**	**281**		LR	LR	17 28 03.2	
	comp=Z,121nm,18.1s,baz=202,slow=35							
BDFB	**Brasilia**	**80.39**	**104**		LR	LR	17 25 23.7	
	comp=Z,332nm,19.1s,baz=224,slow=33							
ROSC	**El Rosal**	**82.70**	**70**		LR	LR	17 24 06.5	
	comp=Z,169nm,19.2s,baz=162,slow=31							
BOSA	**Boshof**	**95.24**	**170**		LR	LR	17 33 16.4	
	comp=Z,139nm,19.0s,baz=198,slow=33							
H10S3	**ASCENSION HYDR**	**02.87**	**128**		T	T	18 50 15.9	
	baz=207,slow=75,SNR=4.9							
H10S2	**ASCENSION HYDR**	**02.87**	**128**		T	T	18 50 16.3	
	baz=207,slow=75,SNR=5.4							
H10S1	**ASCENSION HYDR**	**02.89**	**128**		T	T	18 50 19.6	
	baz=207,slow=75,SNR=5.6							
H10N3	**ASCENSION HYDR**	**03.93**	**128**		T	T	18 51 38.9	
	baz=206,slow=75,SNR=8.3							
H10N1	**ASCENSION HYDR**	**03.94**	**128**		T	T	18 51 38.1	
	baz=206,slow=75,SNR=11							
H10N2	**ASCENSION HYDR**	**03.95**	**128**		T	T	18 51 45.3	
	baz=206,slow=75,SNR=7.8							
ILAR	**Eielson Array**	**120.43**	**358**		PKP	**PKiKP**	**17 00 15.2**	**+0.6**
	0.6nm,0.8s,baz=250,slow=1.5,SNR=6.3							
TORD	**Torodi Ar. Bea**	**129.66**	**134**		PKP	**PKiKP**	**17 00 34.2**	**-0.2**
	0.3nm,0.6s,baz=191,slow=1.5,SNR=2.8							
ESDC	**Sonseca Array**	**149.03**	**105**		PKPbc	**PKiKP**	**17 01 13.1**	**-0.3**
	2.2nm,1.0s,baz=231,slow=1.3,SNR=4.0							

*IDC **09** 16:51:36.5±0.9,4˚.03S×101˚.00E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.1/46, mbtmp4.2/16, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.1/39, Error ellipse: s-maj=33.2km s-min=13.7km az=52.0*

*NEIC **09** 16:51:37.9±0.7, 4˚.01S×101˚.03E, h10km, mb4.0/3, Error ellipse: s-maj=23.6km s-min=8.5km az=54.0*

*ISCJB **09** 16:51:38.6±0.6, 4˚.16S±0˚.06×100˚.88E±0˚.05, h29km, mb4.2/25, MS4.2/1, Error ellipse: s-maj=10.5km s-min=4.0km az=38.1*

*DJA **09** 16:51:42.3±0.6, 4˚S±4˚×101˚E±˚, h37km±12km, M4.3/13, mb4.3/5, mB4.8/1, MLv4.3/13, Mw(mB)4.1/1*

ISC 09 16:51:41.0±0.8,**4˚.10S**±0˚.09×**100˚.94E**±0˚.07,**h29**km,**n56,** σ1§**43**/52,**mb4.1**/25,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**1.62**	**325**	P	**Pn**	**16 52 07.4**	**-0.2**
PPSI				S	**Sn**	**16 52 27.7**	**+0.2**
MNAI	**Manna**	**2.02**	**97**	P	**Pn**	**16 52 12.9**	**-0.3**
MNAI				S	**Sn**	**16 52 37.7**	**+0.1**
KRJI	**Kerinci**	**2.06**	**15**	P	**Pn**	**16 52 13.7**	**-0.1**
LHSI	**Lahat**	**2.59**	**84**	P	**Pn**	**16 52 21.9**	**+1.0**
PDSI	**Padang**	**3.20**	**351**	P	**Pn**	**16 52 28.5**	**-0.9**
PDSI				S	**Sn**	**16 53 05.3**	**-1.3**
LWLI	**Liwa**	**3.24**	**107**	P	**Pn**	**16 52 29.6**	**-0.4**
MDSI	**Maura Dua**	**3.25**	**97**	P	**Pn**	**16 52 30.8**	**+0.8**
MDSI				S	**Sn**	**16 53 07.7**	**-0.1**
SISI	**Saibi**	**3.32**	**326**	P	**Pn**	**16 52 30.5**	**-0.5**
KASI	**Kota Agung**	**3.81**	**112**	P	**Pn**	**16 52 37.3**	**-0.5**
PMBI	**Palembang**	**4.00**	**73**	P	**Pn**	**16 52 40.0**	**-0.3**
MNSI	**Mandailing Nat**	**5.05**	**344**	P	**Pn**	**16 52 56.9**	**+2.1**
	28nm,0.6s,0.3nm						
GSI	**Gunungsitoli**	**6.33**	**328**	P	**Pn**	**16 53 13.0**	**+0.5**
	31nm,0.8s,0.1nm						
PSI	**Prapat**	**7.14**	**344**	Pn	**Pn**	**16 53 21.5**	**-2.2**
	2.4nm,0.3s,baz=2.0,slow=1.5,SNR=8.4						
TPTI		**8.22**	**333**	P	**Pn**	**16 53 39.6**	**+1.2**
MLSI	**Meulaboh, Aceh**	**9.46**	**331**	P	**Pn**	**16 53 57.7**	**+2.2**
	73nm,0.7s						
SRAK	**Srakaew**	**18.02**	**3**	P	**Pn**	**16 55 49.3**	**-0.2**
	38nm,0.5s,581nm						
PCI	**Palu**	**19.14**	**81**	P	**Pn**	**16 56 05.3**	**+2.2**
MPSI	**Mapaga**	**19.45**	**77**	P	**Pn**	**16 56 09.5**	**+2.7**
CHAI	**Chaiyaphum**	**19.90**	**3**	P	**P**	**16 56 11.2**	**+0.9**
	3.3nm,0.9s						
PBKT	**Sadao Pong**	**20.54**	**0**	P	Pn	16 56 25.4	+5.9
SKNT	**Sakolnakorn**	**21.15**	**8**	P	**P**	**16 56 26.1**	**+2.2**
	5.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**22.50**	**355**	P	**P**	**16 56 35.9**	**-2.5**
	3.8nm,0.7s,baz=185,slow=8.4,SNR=26						
LAMP	**Lampang**	**22.51**	**357**	P	**P**	**16 56 40.9**	**+2.4**
	4.1nm,0.9s						
CMMT	**Chiang Mai**	**22.85**	**355**	P	**P**	**16 56 42.1**	**0.0**
	5.5nm,1.0s						
CHTO	**Chiang Mai**	**22.85**	**355**	*e*P	**P**	**16 56 39.8**	**-2.3**
	4.2nm,0.9s						
CHTO	**Chiang Mai**	**22.85**	**355**	P	**P**	**16 56 42.2**	**+0.1**
	24nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.89**	**122**	P	**P**	**16 57 27.2**	**-1.4**
	4.1nm,0.9s,baz=216,slow=3.5,SNR=4.7						
FITZ				LR	LR	17 10 46.2	
	comp=Z,77nm,18.9s,baz=262,slow=41						
H08S2	**Diego Garcia H**	**28.51**	**262**	T	T	17 27 19.4	
	baz=84,slow=75,SNR=1701						
H08S3	**Diego Garcia H**	**28.52**	**262**	T	T	17 27 19.8	
	baz=84,slow=75,SNR=1647						
H08S1	**Diego Carcia H**	**28.53**	**262**	T	T	17 27 20.7	
	baz=84,slow=75,SNR=1605						
H01W3	**Cape Leeuwin H**	**32.99**	**160**	T	T	17 32 52.9	
	baz=337,slow=76,SNR=51						
H01W2	**Cape Leeuwin H**	**33.00**	**160**	T	T	17 32 54.0	
	baz=337,slow=76,SNR=59						
H01W1	**Cape Leeuwin H**	**33.00**	**160**	T	T	17 32 54.0	
	baz=337,slow=76,SNR=45						
WRA	**Warramunga Arr**	**36.15**	**119**	P	**P**	**16 58 39.6**	**-1.4**
	1.4nm,0.6s,baz=308,slow=9.1,SNR=22						
WRAB	**Tennant Creek**	**36.15**	**119**	*e*P	**P**	**16 58 40.0**	**-1.1**
	1.3nm,0.6s						
ASAR	**Alice Springs**	**37.28**	**125**	P	**P**	**16 58 50.4**	**-0.3**
	1.2nm,0.4s,baz=298,slow=7.5,SNR=36						
XAN	**Xi'an**	**38.67**	**11**	P	**P**	**16 59 01.5**	**-0.8**
XAN				pP	pP	16 59 08.6	-2.3
XAN				sP	sP	16 59 11.8	-2.6
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				LR	LR		
	comp=E,99nm,18.4s						
LZH	**Lanzhou**	**40.07**	**4**	*e*P	P	16 59 08.9	-5.1
LZH				pP	pP	16 59 19.9	-2.7
LZH				sP	sP	16 59 25.1	-1.1
LZH				pmax	pmax		
GTA	**Gaotai**	**43.30**	**359**	*e*P	**P**	**16 59 40.5**	**+0.1**
GTA				pP	pP	16 59 45.0	-4.1
GTA				sP	sP	16 59 47.8	-4.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STKA	**Stephens Creek**	**47.07**	**131**	P	**P**	**17 00 11.6**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=324,slow=14,SNR=2.8						
KSAR	**Wonju Array Be**	**48.33**	**29**	P	**P**	**17 00 20.0**	**0.0**
KSRS	**Korea Array**	**48.36**	**29**	P	**P**	**17 00 20.0**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=231,slow=7.9,SNR=4.2						
KSH	**Kashi**	**49.12**	**334**	P	P	17 00 33.0	+6.8
KSH				sP	sP	17 01 00.6	+22
KSH				S	**S**	**17 07 34.5**	**+4.8**
KSH				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,66nm,5.7s						
KSH				LR	LR		
	comp=N,180nm,9.2s						
KSH				LR	LR		
	comp=E,120nm,8.3s						
SONM	**Songino Array**	**51.94**	**5**	P	**P**	**17 00 47.9**	**+0.5**
	comp=E,6.4nm,0.9s,baz=185,slow=9.0,SNR=42						
SONM				PcP	**PcP**	**17 01 59.4**	**-0.3**
	comp=E,0.7nm,0.5s,baz=197,slow=4.6,SNR=2.8						
MKAR	**Makanchi Array**	**53.29**	**344**	P	**P**	**17 00 57.3**	**+0.1**
	comp=E,5.0nm,0.7s,baz=148,slow=8.2,SNR=51						
MJAR	**Matsushiro Arr**	**53.33**	**37**	P	**P**	**17 00 55.5**	**-2.2**
	comp=E,7nm,0.4s,baz=210,slow=7.3,SNR=7.1						
USRK	**Ussuriysk Ar.**	**55.57**	**27**	P	**P**	**17 01 13.6**	**-0.2**
	comp=E,6.3nm,0.8s,baz=213,slow=4.4,SNR=10						
GEYT	**Alibeck**	**57.65**	**320**	P	**P**	**17 01 28.6**	**-0.2**
	comp=E,0.6nm,0.2s,baz=167,slow=7.0,SNR=3.6						
KURK	**Kurchatov**	**57.87**	**343**	*e*P	**P**	**17 01 28.1**	**-2.0**
ZALV	**Zalesovo Beam**	**59.39**	**349**	P	**P**	**17 01 39.3**	**-1.3**
	comp=E,3.8nm,0.5s,baz=182,slow=4.5,SNR=16						
KBZ	**Khabaz**	**70.50**	**319**	P	**P**	**17 02 52.9**	**-0.1**
	comp=E,1.7nm,0.9s,baz=166,slow=8.8,SNR=3.7						
BRTR	**Keskin Array B**	**75.42**	**313**	P	**P**	**17 03 22.4**	**-0.2**
	comp=E,0.5nm,0.8s,baz=167,slow=6.9,SNR=3.0						
TIXI	**Tiksi**	**77.77**	**9**	*e*P	**P**	**17 03 33.4**	**-1.5**
	comp=E,1.4nm,0.5s						
FINES	**FINESS Array B**	**86.39**	**332**	P	**P**	**17 04 19.9**	**-0.5**
	comp=E,1.2nm,0.9s,baz=130,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**99.92**	**283**	LR	LR	17 49 15.6	
	comp=E,67nm,18.6s,baz=300,slow=35						
TXAR	**Lajitas Array**	**145.74**	**40**	PKPbc	**PKPab**	**17 11 18.9**	**+0.6**
	comp=E,4.1nm,1.0s,baz=245,slow=1.1,SNR=16						

*IDC **09** 17:05:56.5±0.8, 10˚.73S×164˚.60E, h0km, mb4.2/14, mb1 4.4/17, mb1mx4.2/38, mbtmp4.2/17, ML4.2/3, MS3.9/7, Ms1 4.0/7, ms1mx3.5/32, Error ellipse: s-maj=25.3km s-min=16.2km az=112.0*

*ISCJB **09** 17:05:57.9±0.2, 10˚.77S±0˚.03×164˚.70E±0˚.05, h24km, mb4.8/58, MS4.0/6, Error ellipse: s-maj=6.8km s-min=5.0km az=2.1*

*BJI **09** 17:05:58.2, 10˚.34S×164˚.69E, h10km, mb4.5/10, mB4.8/1, Ms4.7/3, Ms7 4.5/2*

*NEIC **09** 17:06:00.2±2.3, 10˚.69S×164˚.77E, h28km±16km, mb5.0/46, Error ellipse: s-maj=7.1km s-min=6.6km az=89.0*

ISC 09 17:05:59.8±0.4,**10˚.64S**±0˚.06×**164˚.65E**±0˚.07,**h24**km,**n98,** σ1§**34**/88,**mb4.8**/58,**MS4.1**/6,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.79**	**284**	*e*Pn	**Pn**	**17 07 09.3**	**-1.2**
HNR	**Honiara**	**4.79**	**284**	Pn	**Pn**	**17 07 09.6**	**-0.9**
	22nm,0.3s,baz=66,slow=5.7,SNR=2.1						
MARNC	**Mare, Loyalty**	**11.26**	**164**	*e*Pn	**Pn**	**17 08 38.3**	**-1.0**
DZM	**Mont Dzumac**	**11.50**	**172**	*e*Pn	**Pn**	**17 08 42.0**	**-0.7**
DZM	**Mont Dzumac**	**11.50**	**172**	Pn	**Pn**	**17 08 41.2**	**-1.5**
	2.5nm,0.3s,baz=322,slow=22,SNR=31						
DZM				LR	LR	17 12 23.6	
	comp=Z,496nm,18.9s,baz=7.5,slow=34						
ONTNC	**Ouen Toro**	**11.73**	**172**	*e*Pn	**Pn**	**17 08 45.5**	**-0.3**
OUENC	**Ouen Island, N**	**11.90**	**170**	*e*Pn	**Pn**	**17 08 47.5**	**-0.6**
PINNC	**Pines Island,**	**12.20**	**168**	*e*Pn	**Pn**	**17 08 51.6**	**-0.7**
RABL	**Rabaul**	**13.94**	**296**	*e*Pn	**P**	**17 09 20.5**	**-3.4**
TARA	**Tarawa**	**14.48**	**35**	*e*Pn	**Pn**	**17 09 21.7**	**-1.7**
MSVF	**Nonsavu**	**14.78**	**120**	*e*Pn	**P**	**17 09 37.0**	**+3.8**
MANU	**Manus Island**	**19.17**	**295**	*e*P	**Pn**	**17 10 25.6**	**+2.8**
	139nm,1.2s						
EIDS	**Eidsvold**	**19.50**	**219**	*e*P	**Pn**	**17 10 28.1**	**+1.4**
	32nm,1.0s						
KWAJ	**Kwajalein Atol**	**19.54**	**9**	*e*P	**Pn**	**17 10 29.4**	**+2.3**
	485nm,1.4s						
CTA	**Charters Tower**	**20.05**	**240**	P	**P**	**17 10 31.2**	**-0.3**
	0.2nm,0.3s,baz=64,slow=15,SNR=3.8						
CTAO	**Charters Tower**	**20.05**	**240**	*e*P	Pn	17 10 33.6	+0.3
	70nm,1.6s						
COEN	**Coen**	**21.24**	**259**	*e*P	**P**	**17 10 44.9**	**+0.5**
	27nm,1.4s						
ARMA	**Armidale**	**23.11**	**210**	*e*P	**P**	**17 11 04.9**	**+0.6**
	31nm,1.3s						
AFI	**Afiamalu**	**23.26**	**100**	LR	LR	17 17 30.7	
	comp=Z,140nm,20.7s,baz=191,slow=30						
CAN	**Canberra**	**28.40**	**208**	*e*P	**P**	**17 11 54.1**	**+1.5**
	37nm,1.6s						
H11S2	**WAKE ISLAND Hy**	**29.02**	**4**	T	T	17 42 13.2	
	baz=184,slow=76,SNR=115						
H11S3	**WAKE ISLAND Hy**	**29.02**	**4**	T	T	17 42 30.4	
	baz=184,slow=76,SNR=91						
H11S1	**WAKE ISLAND Hy**	**29.03**	**4**	T	T	17 42 16.8	
	baz=184,slow=76,SNR=115						
URZ	**Urewera**	**29.68**	**160**	*e*P	**P**	**17 12 02.4**	**-1.5**
	70nm,1.6s						
STKA	**Stephens Creek**	**30.01**	**222**	*e*P	**P**	**17 12 07.4**	**+0.5**
	3.8nm,1.4s						
STKA	**Stephens Creek**	**30.01**	**222**	P	**P**	**17 12 07.0**	**+0.1**
	7.1nm,0.9s,baz=31,slow=11,SNR=12						
H11N1	**WAKE ISLAND Hy**	**30.24**	**4**	T	T	17 43 49.0	
	baz=183,slow=76,SNR=103						
H11N3	**WAKE ISLAND Hy**	**30.25**	**4**	T	T	17 43 47.1	
	baz=183,slow=76,SNR=110						
H11N2	**WAKE ISLAND Hy**	**30.26**	**4**	T	T	17 43 45.9	
	baz=183,slow=76,SNR=78						
WRAB	**Tennant Creek**	**30.61**	**249**	*e*P	**P**	**17 12 11.0**	**-1.3**
	10.0nm,1.3s						
WB2	**Warramunga Arr**	**30.61**	**249**	*e*P	**P**	**17 12 11.2**	**-1.1**
WR1	**Warramunga Arr**	**30.62**	**249**	*e*P	**P**	**17 12 11.4**	**-0.9**
	15nm,1.4s						
WRA	**Warramunga Arr**	**30.62**	**249**	P	**P**	**17 12 11.4**	**-1.0**
	1.4nm,0.7s,baz=78,slow=9.1,SNR=11						
GUMO	**Guam**	**31.06**	**320**	*e*P	**P**	**17 12 16.3**	**+0.1**
	537nm,1.6s						
BFZ	**Birch Farm**	**31.63**	**163**	*e*P	**P**	**17 12 20.5**	**-0.6**
	148nm,1.5s						
THZ	**Tophouse**	**31.84**	**168**	*e*P	**P**	**17 12 21.4**	**-1.5**
	81nm,1.6s						
TOO	**Tootangi**	**31.88**	**210**	*e*P	**P**	**17 12 23.5**	**+0.2**
	12nm,1.1s						
AS01	**Alice Springs**	**31.98**	**242**	*e*P	**P**	**17 12 23.6**	**-0.8**
AS31	**Alice Springs**	**32.02**	**242**	*e*P	**P**	**17 12 23.7**	**-1.1**
	1.9nm,1.4s						
ASAR	**Alice Springs**	**32.02**	**242**	P	**P**	**17 12 23.4**	**-1.4**
	1.0nm,0.6s,baz=63,slow=10,SNR=25						
ASAR				PcP	**PcP**	**17 15 13.7**	**-0.7**
	0.7nm,0.8s,baz=80,slow=1.4,SNR=4.5						
KHZ	**Kahutara**	**32.60**	**168**	*e*P	**P**	**17 12 27.9**	**-1.6**
OXZ	**Oxford**	**33.19**	**170**	*e*P	**P**	**17 12 33.7**	**-1.0**
	38nm,1.4s						
LBZ	**Lake Benmore**	**33.96**	**173**	*e*P	**P**	**17 12 40.6**	**-0.7**
	141nm,1.9s						
BBOO	**Buckleboo**	**34.33**	**226**	*e*P	**P**	**17 12 44.6**	**-0.1**
	50nm,1.8s						
FITZ	**Fitzroy Crossi**	**38.45**	**254**	*e*P	**P**	**17 13 18.8**	**-1.3**
	16nm,1.4s						
MLOA	**Mauna Loa Obse**	**49.34**	**53**	*e*P	**P**	**17 14 45.8**	**-2.2**
	233nm,1.6s						
OBL	**Observatory Le**	**49.50**	**53**	*e*P	**P**	**17 14 49.0**	**+0.1**
	258nm,1.7s						
UWB	**Uwekahuna B**	**49.51**	**53**	*e*P	**P**	**17 14 45.5**	**-3.5**
	100nm,1.5s						
HLK	**Haleakala**	**49.51**	**51**	*e*P	**P**	**17 14 45.7**	**-3.4**
	380nm,1.5s						
MJAR	**Matsushiro Arr**	**53.12**	**333**	P	**P**	**17 15 16.8**	**+1.1**
	1.6nm,0.9s,baz=180,slow=7.9,SNR=5.0						
MAJO	**Matsushiro**	**53.12**	**333**	*e*P	**P**	**17 15 16.8**	**+1.1**
ASAJ	**Asahikawa**	**58.06**	**341**	P	**P**	**17 15 52.6**	**+1.6**
	7.9nm,0.9s,baz=235,slow=2.8,SNR=4.7						
PETK	**Petropavlovsk-**	**63.77**	**355**	LR	LR	17 40 59.4	
	comp=Z,154nm,18.8s,baz=135,slow=33						
VNDA	**Vanda**	**66.88**	**181**	*e*P	**P**	**17 16 49.9**	**+0.4**
	8.8nm,1.3s						
VNDA	**Vanda**	**66.88**	**181**	P	**P**	**17 16 49.8**	**+0.3**
	3.0nm,1.1s,baz=335,slow=6.5,SNR=6.7						
PBKT	**Sadao Pong**	**68.53**	**293**	*e*P	**P**	**17 17 02.1**	**+1.2**
	4.6nm,1.0s						
MA2	**Magadan**	**70.86**	**353**	LR	LR	17 45 13.1	
	comp=Z,122nm,20.8s,baz=142,slow=33						
CM01	**Chiang Mai Arr**	**70.94**	**294**	*e*P	**P**	**17 17 16.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**70.97**	**294**	P	**P**	**17 17 16.9**	**+0.9**
	1.9nm,1.0s,baz=123,slow=4.5,SNR=11						
CMAR				LR	LR	17 46 18.7	
	comp=Z,63nm,21.6s,baz=170,slow=34						
CHTO	**Chiang Mai**	**71.08**	**294**	*e*P	**P**	**17 17 17.7**	**+1.1**
	3.7nm,1.0s						
SEY	**Seymchan**	**73.96**	**354**	P	**P**	**17 17 34.0**	**+1.2**
	1.1nm,0.7s,baz=135,slow=7.1,SNR=2.3						
SONA0	**Songino Array**	**77.71**	**324**	*e*P	**P**	**17 17 55.9**	**+1.1**
SONM	**Songino Array**	**77.71**	**324**	P	**P**	**17 17 55.9**	**+1.1**
	1.8nm,1.0s,baz=134,slow=6.3,SNR=9.0						
GTA	**Gaotai**	**78.00**	**314**	*e*P	**P**	**17 17 58.6**	**+2.0**
GTA				pP	pP	17 18 03.0	+0.1
GTA				sP	PcP	17 18 06.3	0.0
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BILL	**Bilibino**	**78.48**	**1**	*e*P	**P**	**17 17 57.8**	**-0.7**
	4.0nm,0.9s						
QSPA	**South Pole Qui**	**79.36**	**180**	*e*P	**P**	**17 18 04.0**	**+0.4**
	31nm,1.5s						
SHL	**Shillong**	**79.38**	**299**	*e*P	**P**	**17 18 04.8**	**+0.2**
	8.2nm,0.3s						
TLY	**Talaya**	**81.19**	**327**	*e*P	**P**	**17 18 14.2**	**+0.7**
	2.6nm,0.7s						
LSA	**Lhasa**	**81.23**	**302**	*e*P	**P**	**17 18 13.2**	**-1.6**
	2.8nm,0.9s						
DIV	**Divide**	**81.43**	**22**	*e*P	**P**	**17 18 14.3**	**-0.4**
	82nm,2.0s						
KLU	**Klutina**	**81.62**	**22**	*e*P	**P**	**17 18 13.2**	**-2.4**
	28nm,1.4s						
DHY	**Denali Highway**	**82.17**	**20**	*e*P	**P**	**17 18 18.9**	**+0.3**
	16nm,1.5s						
IM3	**Indian Mountai**	**82.33**	**16**	*e*P	**P**	**17 18 20.1**	**+0.9**
HDA	**Harding Lake**	**83.21**	**19**	*e*P	**P**	**17 18 25.2**	**+1.4**
	24nm,1.8s						
COLA	**College**	**83.24**	**18**	*e*P	**P**	**17 18 23.7**	**-0.2**
	13nm,0.4s						
MENT	**Mentasta**	**83.34**	**21**	*e*P	**P**	**17 18 26.5**	**+2.0**
	48nm,1.8s						
RIDG	**Independ'e Rid**	**83.46**	**20**	*e*P	**P**	**17 18 26.5**	**+1.3**
	34nm,1.9s						
IL1	**Eielson Array**	**83.47**	**19**	*e*P	**P**	**17 18 25.4**	**+0.2**
ILAR	**Eielson Array**	**83.47**	**19**	P	**P**	**17 18 26.6**	**+1.4**
	1.2nm,0.7s,baz=246,slow=5.1,SNR=12						
ILB	**Eielson Array**	**83.47**	**19**	*e*P	**P**	**17 18 26.2**	**+1.0**
	18nm,1.7s						
SCRK	**Sand Creek**	**83.91**	**20**	*e*P	**P**	**17 18 27.8**	**+0.3**
	4.1nm,0.9s						
SKAG	**Skagway**	**84.66**	**26**	*e*P	**P**	**17 18 32.6**	**+1.3**
	52nm,1.7s						
TIXI	**Tiksi**	**85.49**	**349**	P	**P**	**17 18 35.4**	**+0.2**
	1.5nm,0.9s,baz=343,slow=3.1,SNR=4.9						
TIXI				LR	LR	17 54 28.9	
	comp=Z,60nm,20.4s,baz=147,slow=34						
NV01	**Mina Array Sit**	**86.59**	**50**	*e*P	**P**	**17 18 39.5**	**-2.2**
NVAR	**Mina Array Bea**	**86.59**	**50**	P	**P**	**17 18 42.1**	**+0.4**
	0.5nm,0.5s,baz=224,slow=4.1,SNR=4.3						
NV11	**Mina Array Sit**	**86.70**	**50**	*e*P	**P**	**17 18 41.4**	**-0.7**
	0.7nm,1.4s						
WMQ	**Urumqi**	**88.05**	**315**	*e*P	**P**	**17 18 48.2**	**-0.2**
	11nm,1.3s						
ELK	**Elko**	**89.48**	**48**	*e*P	**P**	**17 18 54.7**	**-0.7**
	17nm,1.9s						
JLU	**Jordanelle**	**92.26**	**49**	*e*P	**P**	**17 19 06.9**	**-1.4**
	8.4nm,0.8s						
MK01	**Makanchi Array**	**92.48**	**317**	*e*P	**P**	**17 19 09.1**	**+0.1**
MK31	**Makanchi Array**	**92.49**	**317**	*e*P	**P**	**17 19 09.5**	**+0.5**
	3.1nm,0.8s						
**M

HMT	**Hamilton** 61nm,1.3s	17.03	50	*e*Pn	**Pn**	17 15 08.4	-1.1
WRH	**Wood River Hil** 9.6nm,1.4s	17.27	35	*e*Pn	**Pn**	17 15 10.6	-1.8
HARP	**HAARP** 72nm,1.9s	17.38	43	*e*Pn	**Pn**	17 15 11.3	-2.4
CCB	**Clear Creek Bu** 14nm,1.9s	17.48	35	*e*Pn	**Pn**	17 15 13.0	-1.9
PAX	**Paxson** 10nm,1.4s	17.49	41	*e*Pn	**P**	17 15 15.4	-0.6
MDM	**Murphy Dome** 6.5nm,1.4s	17.51	33	*e*Pn	**Pn**	17 15 14.4	-1.0
IL1	**Eielson Array**	17.87	35	*e*Pn	**P**	17 15 18.8	-1.2
ILAR	**Eielson Array** 0.1nm,0.3s,baz=233,slow=10.0,SNR=12	17.87	35	P	**Pn**	17 15 17.8	-2.0
ILB	**Eielson Array** 26nm,2.0s	17.87	35	*e*Pn	**P**	17 15 18.9	-1.1
RIDG	**Independ'e Rid** 20nm,1.8s	18.10	39	*e*P	**Pn**	17 15 21.4	-1.2
BALM	**Baldy** 35nm,1.6s	18.14	49	*e*Pn	**Pn**	17 15 21.1	-2.0
DOT	**Dot Lake** 9.6nm,1.6s	18.37	40	*e*P	**P**	17 15 24.6	-0.9
COLD	**Coldfoot** 8.9nm,1.7s	18.41	26	*e*P	**Pn**	17 15 26.3	0.0
SCRK	**Sand Creek** 14nm,1.8s	18.55	39	*e*P	**P**	17 15 25.2	-2.4
PETK	**Petropavlovsk-**	18.89	286	*e*P	**Pn**	17 15 31.4	-0.8
PETK	**Petropavlovsk-** 0.4nm,0.3s,baz=83,slow=15,SNR=12	18.89	286	P	**Pn**	17 15 31.4	-0.7
YKU2	**Yakutat** 1µm,1.0s	19.09	55	*e*P	**P**	17 15 32.1	-1.3
BCPM	**Bancas Point** 85nm,1.7s	19.19	53	*e*P	**P**	17 15 33.2	-1.3
BILL	**Bilibino** 3.7nm,0.8s	19.42	334	*e*P	**Pn**	17 15 37.5	-0.9
FYU	**Fort Yukon** 21nm,1.7s	19.47	32	*e*P	**Pn**	17 15 38.6	-0.4
TOLK	**Toolik Lake Re** 5.5nm,0.6s	19.61	24	*e*P	**Pn**	17 15 42.1	+1.5
HYT	**Haines Junctio** 9.7nm,0.6s	20.39	51	*e*P	Pn	17 15 49.9	-0.1
DAWY	**Dawson** 6.9nm,1.4s	20.43	42	*e*P	Pn	17 15 51.6	+1.2
SKAG	**Skagway** 10nm,0.6s	21.29	55	*e*P	**P**	17 15 59.3	+2.1
BESE	**Bessie Mountai** 76nm,1.9s	21.48	58	*e*P	**P**	17 16 01.8	+2.4
WHY	**Whitehorse** 43nm,2.0s	21.63	52	*e*P	**P**	17 16 03.1	+2.0
SEY	**Seymchan** 1.9nm,0.6s,baz=99,slow=10,SNR=7.5	22.11	314	P	**P**	17 16 05.8	-0.2
EPYK	**Eagle Plains** 5.2nm,0.9s	22.35	37	*e*P	**P**	17 16 07.3	-1.3
MA2	**Magadan** 2.9nm,0.6s,baz=86,slow=10,SNR=6.3	22.43	305	P	**P**	17 16 10.1	+0.7
DLBC	**Dease Lake** 31nm,1.6s	24.02	58	*e*P	**P**	17 16 28.9	+3.6
DLBC	**Dease Lake** 1.7nm,0.5s,baz=260,slow=8.0,SNR=9.1	24.02	58	P	**P**	17 16 26.1	+0.8
INK	**Inuvik** 3.4nm,1.1s	24.25	34	*e*P	**P**	17 16 26.0	-1.2
INK	**Inuvik** 1.9nm,0.5s,baz=254,slow=7.2,SNR=21	24.25	34	P	**P**	17 16 27.4	+0.2
NLWA	**Neilton Lookou** 16nm,1.8s	30.50	80	*e*P	**P**	17 17 23.1	-0.4
YKW3	**Yellowknife Ar** 11nm,1.9s	31.29	48	*e*P	**P**	17 17 31.3	+1.1
YKA	**Yellowknife Ar** 0.5nm,0.4s,baz=272,slow=8.1,SNR=13	31.30	48	P	**P**	17 17 31.4	+1.1
YKB5	**Yellowknife Ar**	31.30	48	*e*P	**P**	17 17 31.0	+0.7
ASAJ	**Asahikawa** 7.3nm,1.1s,baz=60,slow=32,SNR=6.6	31.43	274	P	**P**	17 17 32.6	+0.9
NEW	**Newport** 4.5nm,1.2s	34.17	74	*e*P	**P**	17 17 57.0	+1.4
KHLU	**Kahalu`u** 203nm,1.7s	34.50	154	*e*P	**P**	17 17 57.3	-1.4
MWH	**Moku'aweowe** 53nm,0.9s	34.68	154	*e*P	**P**	17 17 58.8	-2.0
H11N2	**WAKE ISLAND Hy** baz=21,slow=76,SNR=18	36.50	216	T	T	17 57 01.5	
H11N3	**WAKE ISLAND Hy** baz=21,slow=76,SNR=18	36.51	216	T	T	17 57 05.0	
H11N1	**WAKE ISLAND Hy** baz=21,slow=76,SNR=17	36.52	216	T	T	17 57 17.4	
H11S1	**WAKE ISLAND Hy** baz=22,slow=76,SNR=18	37.69	216	T	T	17 58 48.2	
H11S2	**WAKE ISLAND Hy** baz=22,slow=76,SNR=8.6	37.71	216	T	T	17 58 47.1	
H11S3	**WAKE ISLAND Hy** baz=22,slow=76,SNR=13	37.71	216	T	T	17 58 56.6	
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=40,slow=6.2,SNR=5.5	38.57	267	P	**P**	17 18 33.8	+0.5
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=282,slow=2.5,SNR=6.1	41.56	78	P	**P**	17 18 58.9	+0.6
FCC	**Fort Churchill** 7.5nm,0.8s	42.01	49	*e*P	**P**	17 19 02.6	+1.2
ULM	**Lac du Bonnet** 1.1nm,0.5s,baz=313,slow=8.1,SNR=3.8	45.29	61	P	**P**	17 19 27.8	-0.1
SONM	**Songino Array** 0.6nm,0.5s,baz=61,slow=6.7,SNR=13	50.52	300	P	**P**	17 20 09.1	+0.6
TXAR	**Lajitas Array** 0.7nm,0.5s,baz=305,slow=4.4,SNR=6.1	53.87	87	P	**P**	17 20 34.3	+0.8
SCHQ	**Schefferville** 2.9nm,0.8s,baz=311,slow=8.7,SNR=4.2	56.45	42	P	**P**	17 20 52.2	+0.5
ARCES	**ARCESS Array B** 2.7nm,0.7s,baz=12,slow=7.4,SNR=4.9	58.15	353	P	**P**	17 21 02.4	-1.1
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=52,slow=5.3,SNR=4.5	63.23	312	P	**P**	17 21 37.6	-0.9
FINES	**FINESS Array B** 1.3nm,0.6s,baz=14,slow=7.8,SNR=7.8	66.06	351	P	**P**	17 21 55.6	-0.9
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.5s,baz=1.8,slow=6.9	67.28	359	P	**P**	17 22 04.1	-0.3
NOA	**NORSAR Array B** comp=Z,0.6nm,0.5s,baz=2.8,slow=6.6,SNR=5.1	67.28	359	P	**P**	17 22 03.6	-0.8
ABKAR	**Akbulak array** comp=Z,4.9nm,1.5s	70.14	327	*e*P	**P**	17 22 21.4	-0.9
UTTA	**Uttaradit**	75.18	280	P	**P**	17 22 54.4	+1.7
CHGR	**Chuyangon** comp=Z,7.2nm,0.6s	75.55	315	*e*P	**P**	17 22 54.1	-0.7
CMAR	**Chiang Mai Arr** comp=Z,3.7nm,0.7s,baz=27,slow=6.6,SNR=30	75.61	281	P	**P**	17 22 56.4	+1.2
CM01	**Chiang Mai Arr**	75.63	281	*e*P	**P**	17 22 55.6	+0.3
AKASG	**Malin Array Be** comp=Z,0.8nm,0.6s,baz=16,slow=6.0,SNR=4.2	76.21	347	P	**P**	17 22 57.2	-1.0
AK11	**Malin Array Si**	76.24	347	*e*P	**P**	17 22 58.3	0.0
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,baz=32,slow=5.7,SNR=5.3	85.92	230	P	**P**	17 23 49.6	-0.5
ES06	**SONSECA Array**	88.01	10	*e*P	**P**	17 24 00.0	-0.2
ESDC	**Sonseca Array** comp=Z,0.9nm,0.6s,baz=348,slow=4.7,SNR=4.9	88.01	10	P	**P**	17 23 59.4	-0.8
AS01	**Alice Springs**	89.30	229	*e*P	**P**	17 24 06.4	+0.1
ASAR	**Alice Springs** comp=Z,1.8nm,0.7s,baz=34,slow=4.8,SNR=27	89.33	229	P	**P**	17 24 07.1	+0.8

IDC 09 17:15:44.3±1.7, 10°92S×166°10E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/33, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=55.5km s-min=30.4km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=93,slow=18,SNR=7.3	11.09	178	Pn	Pn	17 18 25.3	+1.0
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=84,slow=9.0,SNR=4.6	31.85	250	P	P	17 22 12.2	+0.9
ASAR	**Alice Springs** 0.7nm,0.6s,baz=69,slow=9.9,SNR=24	33.15	243	P	P	17 22 21.9	-0.8
ILAR	**Eielson Array** 0.3nm,0.7s,baz=235,slow=7.6,SNR=3.5	83.29	18	P	P	17 28 12.5	-0.1

*IDC **09** 17:30:15.4±1.5, 46°00N×107°13W, h0km, mb1 3.3/3, mb1mx3.1/47, mbtmp3.0/3, ML2.9/3, Error ellipse: s-maj=47.2km s-min=8.7km az=128.0*
*ISCJB **09** 17:30:16.2±0.7, 45°88N±0°06×106°7W±0°1, h0km, Error ellipse: s-maj=11.8km s-min=6.7km az=37.2*
*NEIC **09** 17:30:17.3±0.7, 45°86N×106°75W, h0km, ML2.8, Error ellipse: s-maj=14.0km s-min=8.6km az=134.0, Suspected Mining explosion.*
NEIC 11 km [7 miles] WSW of Colstrip.
ISC 09 17:30:15.5±1.0, 46°03N±0°05×106°83W±0°07, h0km, n13, σ1§10/13, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAO	**LASA Array**	0.78	32	*e*Pg	**Pn**	17 30 33.9	0.0
RLMT	**Red Lodge**	1.94	243	*e*Pn	**Pn**	17 30 49.0	-0.9
RSSD	**Black Hills**	2.74	133	*e*Pn	**Pn**	17 31 00.8	-0.2
EGMT	**Eagleton**	2.83	316	*e*Pn	**Pb**	17 31 06.5	-0.4
LKWY	**Lake**	2.91	241	*e*Pn	**Pb**	17 31 07.2	-1.2
DGMT	**Dagmar**	3.03	35	*e*Pn	**Pb**	17 31 09.2	-1.1
BOZ	**Bozeman (W)**	3.39	264	*e*Pn	**Pn**	17 31 11.3	+1.6
BW06	**Boulder Array**	3.80	212	*e*Pn	**Pn**	17 31 16.0	+0.5
PDAR	**Pinedale Array** 0.4nm,0.3s,baz=48,slow=12,SNR=12	3.80	212	Pn	**Pn**	17 31 15.1	-0.4
PDAR	2.7nm,0.3s,baz=45,slow=19,SNR=24			Pg	**Pb**	17 31 23.2	-0.3
PDAR	0.8nm,0.3s,baz=46,slow=29,SNR=5.8			Sn	**Sn**	17 32 02.5	+1.4
PDAR	3.0nm,0.3s,baz=40,slow=32,SNR=7.1			Lg	Lg	17 32 11.8	
NEW	**Newport** 0.1nm,0.3s,baz=27,slow=14,SNR=2.5	7.37	291	Lg	Lg	17 33 59.7	
I10CA	**LAC DU BONNET** baz=237,slow=305,SNR=3.7	8.35	56	*i*		18 17 40.0	
ULM	**Lac du Bonnet** 0.5nm,0.3s,baz=242,slow=12,SNR=5.6	8.45	56	Pn	**Pn**	17 32 20.8	+1.6
ULM	0.4nm,0.3s,baz=327,slow=18,SNR=4.1			Lg	Lg	17 34 41.2	
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=158,slow=13,SNR=3.3	17.09	348	P	**Pn**	17 34 14.9	-0.6

*ISCJB **09** 17:32:51.6±0.2, 61°.43N×150°.03W±0°.04, h74km±3km, mb3.8/12, Error ellipse: s-maj=3.5km s-min=2.7km az=144.7*
*IDC **09** 17:32:52.3±1.4, 61°.47N×150°.45W, h54km±17km, mb3.6/10, mb1 3.6/14, mb1mx3.4/51, mbtmp3.8/14, ML3.3/4, Error ellipse: s-maj=23.6km s-min=9.1km az=113.0*
*NEIC **09** 17:32:53.6±0.0, 61°.43N×150°.03W, h41km, mb3.9/2, ML3.8(AEIC), After AEIC.*
NEIC Felt [II] at Anchorage, Eagle River, Fort Richardson, Palmer and Wasilla. Also felt at Chugiak and Willow.
ISC 09 17:32:52.5±0.8, 61°.43N±0°.03×150°.06W±0°.03, h53km±8km, n110, σ1§29/130, mb3.9/12, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RC01	**Rabbit Creek A**	0.37	155	*e*Pn	**Pn**	17 33 02.1	-0.5
PMR	**Palmer**	0.47	69	*e*Pn	**Pn**	17 33 02.6	-1.0
PMR				*e*Sn	**Sn**	17 33 09.7	-1.9
KNK	**Knik Glacier**	0.77	90	*e*Pn	**Pn**	17 33 07.1	-0.2
KNK				*e*Sn	**Sn**	17 33 17.9	-0.1
SML	**Sawmill**	0.91	64	*e*Pn	**Pn**	17 33 08.8	-0.3
SML				*e*Sn	**Sn**	17 33 20.7	-0.6
SML				*e*Sn	Sn	17 33 21.2	-0.1
SLKM	**Skilak Lake**	0.93	185	P	**Pn**	17 33 09.2	-0.1
SPU	**Mount Spurr**	1.00	257	*e*Pn	**Pn**	17 33 10.5	+0.2
PWL	**Port Wells**	1.01	124	*e*Pn	**Pn**	17 33 10.6	+0.1
PWL				S	**Sn**	17 33 24.6	+0.9
SPCR	**Spurr Chakacha**	1.06	259	P	**Pn**	17 33 11.6	+0.3
SPCR				S	**Sn**	17 33 25.8	+0.8
CKL	**Chakachamna La**	1.13	259	P	**Pn**	17 33 12.5	+0.4
SPWE	**Spurr West**	1.22	264	P	**Pn**	17 33 13.9	+0.6
SEW	**Seward**	1.36	167	*e*Pn	**Pn**	17 33 14.8	-0.3
SEW				*e*Sn	**Sn**	17 33 34.3	+2.2
SCM	**Sheep Creek Mo**	1.36	71	*e*Pn	**Pn**	17 33 15.4	+0.2
SCM				*e*Sn	**Sn**	17 33 32.6	+0.3
SCM				*e*Sn	Sn	17 33 33.7	+1.4
HUR	**Hurricane**	1.57	7	*e*Pn	**Pn**	17 33 18.6	+0.6
RDJH	**Redoubt Jeurge**	1.58	239	P	**Pn**	17 33 18.9	+0.7
RDJH				S	**Sn**	17 33 38.2	+0.6
RDN	**Redoubt North**	1.61	236	*e*Pn	**Pn**	17 33 19.1	+0.4
RSO	**Redoubt South**	1.64	235	*e*Pn	**Pn**	17 33 19.5	+0.4
RDWB	**Redoubt West**	1.65	236	*e*Pn	**Pn**	17 33 19.9	+0.6
RDWB				*e*Sn	**Sn**	17 33 40.0	+0.5
JPK	**Jack Peak**	1.71	101	*e*Pn	**Pn**	17 33 20.0	0.0
BRLK	**Bradley Lake**	1.72	194	*e*Pn	**Pn**	17 33 20.2	+0.2
BRLK				*e*Sn	**Sn**	17 33 44.1	+3.2
PPLA	**Purkeypile**	1.78	327	*e*Pn	**Pn**	17 33 21.3	+0.3
HOM	**Homer**	1.94	205	*e*Pn	**Pn**	17 33 23.7	+0.7
HOM				*e*Sn	**Sn**	17 33 48.8	+2.6
KLU	**Klutina**	1.98	86	*e*Pn	**Pn**	17 33 23.4	-0.3
KLU				*e*Sn	**Sn**	17 33 46.3	-1.2
IVE	**Iliamna Volcan**	2.03	227	P	**Pn**	17 33 25.2	+0.8
TRF	**Thorofare Moun**	2.03	357	*e*Pn	**Pn**	17 33 24.8	+0.3
ILW	**Iliamna West**	2.04	229	P	**Pn**	17 33 25.4	+0.8
RND	**Reindeer**	2.06	15	*e*Pn	**Pn**	17 33 25.1	+0.3
DHY	**Denali Highway**	2.08	36	*e*Pn	**Pn**	17 33 25.6	+0.5
DHY				*e*Sn	**Sn**	17 33 52.6	+2.9
DIV	**Divide**	2.09	96	*e*Pn	**Pn**	17 33 24.7	-0.4
DIV				*e*Sn	**Sn**	17 33 52.6	+2.6
ILS	**Iliamna Low So**	2.09	226	P	**Pn**	17 33 26.0	+0.9
CAST	**Castle Rocks**	2.21	336	*e*Pn	**Pn**	17 33 27.4	+0.7
CAST				*e*Sn	**Sn**	17 33 54.5	+1.6
PS11	**TAPS Pump St11**	2.27	71	P	**Pn**	17 33 28.6	+1.0
EYAK	**Cordova Ski Ar**	2.28	111	*e*Pn	**Pn**	17 33 29.9	+2.4
MCK	**McKinley**	2.37	12	*e*Pn	**Pn**	17 33 29.9	+0.9
HARP	**HAARP**	2.52	65	*e*Pn	**Pn**	17 33 31.7	+0.8
PAX	**Paxson**	2.65	52	*e*Pn	**Pn**	17 33 34.5	+1.8
SVW2	**Sparrevohn**	2.69	265	*e*Pn	**Pn**	17 33 33.6	+0.3
BPAW	**Bear Paw Mtn.**	2.72	351	*e*Pn	**Pn**	17 33 33.3	-0.3
MID	**Middleton Isla**	2.72	136	*e*Pn	**Pn**	17 33 35.5	+1.8
BWN	**Browne**	2.77	5	*e*Pn	**Pn**	17 33 36.0	+1.6
HMT	**Hamilton**	3.04	109	*e*Pn	**Pn**	17 33 37.4	-0.7
TT01	**Tatalina**	3.17	301	*e*Pn	**Pn**	17 33 40.1	+0.3
WRH	**Wood River Hil**	3.19	16	P	**Pn**	17 33 40.8	+0.7
NEA	**Nenana**	3.19	8	P	**Pn**	17 33 40.5	+0.3
HDA	**Harding Lake**	3.31	24	*e*Pn	**Pn**	17 33 43.0	+1.2
MENT	**Mentasta**	3.33	60	*e*Pn	**Pn**	17 33 44.9	+2.8
RIDG	**Independ'e Rid**	3.35	44	*e*Pn	**Pn**	17 33 43.8	+1.4
CCB	**Clear Creek Bu**	3.39	17	*e*Pn	**Pn**	17 33 43.1	+0.3
PS08	**TAPS Pump Stn8**	3.46	24	*e*Pn	**Pn**	17 33 45.3	+1.5
KHIT	**Khitrov Hills**	3.46	104	*e*Pn	**Pn**	17 33 44.0	0.0
DOT	**Dot Lake**	3.56	49	*e*Pn	**Pn**	17 33 47.4	+2.1
COLA	**College**	3.60	15	*e*Pn	**Pn**	17 33 46.0	+0.4
MLY	**Manley**	3.63	355	*e*Pn	**Pn**	17 33 45.9	-0.3
MDM	**Murphy Dome**	3.64	12	*e*Pn	**Pn**	17 33 46.5	+0.2
IL1	**Eielson Array**	3.65	22	*e*Pn	**Pn**	17 33 47.0	+0.5
ILAR	**Eielson Array** 3.7nm,0.3s,baz=208,slow=14,SNR=89	3.65	22	P	**Pn**	17 33 47.0	+0.6
ILAR	12nm,0.3s,baz=209,slow=24,SNR=7.4			S	**Sn**	17 34 29.4	+1.3
ILB	**Eielson Array**	3.65	22	*e*Pn	**Pn**	17 33 47.0	+0.6
ILB				*e*Sn	**Sn**	17 34 29.4	+1.3
PTPK	**Patty Peak**	3.67	90	P	**Pn**	17 33 46.7	-0.1
BALM	**Baldy**	3.75	93	*e*Pn	**Pn**	17 33 47.2	-0.7
KIAG	**Kiagna River**	3.76	94	*e*Pn	**Pn**	17 33 47.3	-0.8
SCRK	**Sand Creek**	3.79	45	P	**Pn**	17 33 48.9	+0.5
KDAK	**Kodiak Island** 4.3nm,0.3s,baz=61,slow=6.9,SNR=54	3.88	200	P	**Pn**	17 33 48.4	-1.0
KDAK	7.2nm,0.3s,baz=304,slow=22,SNR=5.6			S	**Sn**	17 34 33.3	-0.3
BCA3	**Beaver Creek A**	4.20	63	P	**Pn**	17 33 54.7	+0.7
CTGM	**Chitina Glacie**	4.25	92	P	**Pn**	17 33 54.5	-0.2
GCSA	**Galena City Sc**	4.55	320	*e*Pn	**Pn**	17 33 59.6	+0.9
PRP	**Porcupine Dome**	4.58	24	*e*Pn	**Pn**	17 33 59.8	+0.5
YUK3	**Moose Creek**	4.60	81	P	**Pn**	17 33 59.5	-0.1
IM3	**Indian Mountai**	4.86	342	*e*Pn	**Pn**	17 34 03.1	+0.2
EGAK	**Eagle**	5.25	46	*e*Pn	**Pn**	17 34 09.4	+1.1
SII	**Sitkinak Islan**	5.33	205	*e*Pn	**Pn**	17 34 10.6	+1.1
DAWY	**Dawson**	5.57	57	*e*Pn	**Pn**	17 34 12.8	0.0
FYU	**Fort Yukon**	5.58	26	*e*Pn	**Pn**	17 34 14.0	+1.3
COLD	**Coldfoot**	5.82	359	*e*Pn	**Pn**	17 34 17.0	+0.8
HYT	**Haines Junctio**	6.11	90	*e*Pn	**Pn**	17 34 20.6	+0.3
CHGN	**Chignik**	6.72	224	*e*Pn	**Pn**	17 34 28.2	-0.3
TOLK	**Toolik Lake Re**	7.25	1	*e*Pn	**Pn**	17 34 37.0	+1.3
WHY	**Whitehorse**	7.41	89	*e*Pn	**Pn**	17 34 37.3	-0.7
SKAG	**Skagway**	7.54	99	*e*Pn	**Pn**	17 34 41.7	+2.0
ANM	**Nome**	7.64	301	*e*Pn	**Pn**	17 34 41.8	+0.7
EPYK	**Eagle Plains**	7.68	44	*e*Pn	**Pn**	17 34 41.4	-0.2
BESE	**Bessie Mountai**	8.13	104	*e*Pn	**Pn**	17 34 47.2	-0.7
JIS	**Juneau Island**	8.49	105	*e*Pn	**Pn**	17 34 51.0	-1.6
RDOG	**Red Dog Mine**	8.61	326	*e*Pn	**Pn**	17 34 53.7	-0.6
SIT	**Sitka**	8.72	114	*e*Pn	**Pn**	17 34 57.1	+1.3
FALS	**False Pass**	9.64	233	*e*Pn	**Pn**	17 35 09.3	+0.9
INK	**Inuvik**	9.82	38	*e*Pn	**Pn**	17 35 13.0	+2.2
INK				*e*Sn	**Sn**	17 36 59.4	+0.1
INK	**Inuvik** 0.4nm,0.3s,baz=233,slow=15,SNR=13	9.82	38	P	**Pn**	17 35 11.8	+1.1
INK	0.7nm,0.3s,baz=262,slow=9.6,SNR=5.7			S	**Sn**	17 37 03.2	+3.9
GAMB	**Gambell**	10.23	293	*e*Pn	**Pn**	17 35 16.4	-0.1
WRAK	**Wrangell Islan**	10.42	111	*e*Pn	**Pn**	17 35 20.9	+1.8
DLBC	**Dease Lake**	10.47	98	*e*Pn	**Pn**	17 35 17.7	-2.2
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=281,slow=10,SNR=5.4	16.57	71	P	**P**	17 36 43.8	+1.1
YKB5	**Yellowknife Ar**	16.57	71	*e*Pn	**P**	17 36 42.7	0.0
ADK	**Adak** 76nm,1.2s	17.35	249	*e*Pn	**Pn**	17 36 48.8	-1.9
RES	**Resolute Bay** 12nm,1.9s	23.32	33	*e*P	**P**	17 38 00.5	+5.1
WALA	**Waterton Lakes** 4.4nm,1.4s	23.68	105	*e*P	**P**	17 38 00.2	+1.1
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=307,slow=5.2,SNR=4.8	30.41	109	P	**P**	17 39 01.1	+1.4
ARA0	**ARCESS Array S**	49.29	2	*e*P	**P**	17 41 33.4	-1.9
ARCES	**ARCESS Array B** 6.0nm,0.9s,baz=26,slow=6.7,SNR=4.5	49.29	2	P	**P**	17 41 33.4	-1.9
KSRS	**Korea Array** 0.7nm,0.5s,baz=28,slow=6.5,SNR=4.4	54.26	284	P	**P**	17 42 12.5	-0.2
KSAR	**Wonju Array Be**	54.29	284	P	**P**	17 42 12.5	-0.5
SONA0	**Songino Array**	55.10	307	*e*P	**P**	17 42 18.1	-0.8
SONM	**Songino Array** 0.6nm,0.7s,baz=38,slow=6.6,SNR=5.6	55.10	307	P	**P**	17 42 18.1	-0.8
ZAA1	**Zalesovo Array**	57.06	325	*e*P	**P**	17 42 30.3	-2.3
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=31,slow=6.7,SNR=2.1	57.06	325	P	**P**	17 42 30.3	-2.3
FIA0	**FINESS Array S**	57.42	2	*e*P	**P**	17 42 34.5	-0.5
FINES	**FINESS Array B** 0.3nm,0.4s,baz=10,slow=14,SNR=4.7	57.42	2	P	**P**	17 42 34.5	-0.5
BVAR	**Borovoye Array** 0.6nm,0.5s,baz=52,slow=5.8,SNR=6.1	61.46	334	P	**P**	17 43 02.0	-1.0
MK32	**Makanchi Array**	64.19	323	*e*P	**P**	17 43 19.5	-1.8
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=42,slow=6.9,SNR=15	64.19	323	P	**P**	17 43 19.5	-1.8
AKTO	**Aktyubinsk** 0.8nm,0.3s,baz=24,slow=6.2,SNR=4.7	66.24	341	P	**P**	17 43 33.2	-1.3
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=1.3,slow=6.3,SNR=3.3	68.22	0	P	**P**	17 43 46.4	-0.5

*IDC **09** 17:41:16.2±1.5, 45°.16N×154°.24E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.4/42, mbtmp3.7/9, ML3.1/3, Error ellipse: s-maj=37.1km s-min=26.3km az=106.0*
*ISCJB **09** 17:41:19.5±1.4, 45°.3N±0°.2×154°.2E±0°.2, h33km, mb3.6/6, Error ellipse: s-maj=29.1km s-min=15.6km az=138.7*
ISC 09 17:41:21.6±1.6, 45°.3N±0°.2×154°.2E±0°.2, h35km, n9, σ1§06/9, mb3.6/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-** 0.3nm,0.3s,baz=189,slow=14,SNR=5.7	8.19	15	Pn	**Pn**	17 43 17.2	-0.7
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=73,slow=20,SNR=13	8.35	266	Pn	**Pn**	17 43 20.6	+0.5
USRK	**Ussuriysk Ar.** 0.3nm,0.3s,baz=65,slow=13,SNR=7.3	15.82	274	Pn	**Pn**	17 45 00.0	-1.5
SONM	**Songino Array** 0.1nm,0.5s,baz=79,slow=6.3,SNR=2.9	32.58	292	P	**P**	17 47 49.8	+0.3
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=71,slow=8.4,SNR=6.0	48.32	299	P	**P**	17 49 58.3	-1.1
FINES	**FINESS Array B** 1.2nm,0.6s,baz=32,slow=7.5,SNR=6.9	65.72	336	P	**P**	17 52 02.8	+0.7
NOA	**NORSAR Array B** 0.3nm,0.6s,baz=30,slow=6.4,SNR=2.8	69.89	342	P	**P**	17 52 29.7	+1.2
ASAR	**Alice Springs** 0.4nm,0.9s,baz=2.0,slow=7.9,SNR=3.9	71.04	200	P	**P**	17 52 35.4	-0.4
AKASG	**Malin Array Be** 0.8nm,0.4s,baz=31,slow=6.1,SNR=3.3	73.22	327	P	**P**	17 52 49.4	+0.8

*ISCJB **09** 17:58:39.2±0.4, 24°.86N±0°.02

TATO Taipei 0.83 279 *e*P Pg 17 58 55.5 +0.2
baz=277
TATO eS Sb 17 59 06.7 -0.5
baz=277
PCYT Pengchaiyu 0.83 340 P Pg 17 58 54.6 -0.7
baz=340
PCYT S Sb 17 59 07.4 +0.1
baz=340
YM04 YM04 0.83 292 *e*P Pb 17 58 55.8 -0.2
baz=290
YM04 eS Sb 17 59 07.2 -0.2
baz=290
NDT Datong Townshi 0.83 253 *e*P Pb 17 58 56.0 0.0
baz=251
NDT eS Sb 17 59 08.1 +0.7
baz=251
TWY Chenhua 0.83 301 P Pg 17 58 55.3 -0.1
baz=300
TWY S Sb 17 59 07.8 +0.4
baz=300
NTST Danshui 0.91 290 eS Sb 17 59 09.6 +0.1
baz=289
TWS1 Kuangyinshan 0.92 286 P Pg 17 58 56.7 -0.2
baz=285
TWS1 S Sb 17 59 10.4 +0.6
baz=285
YHNB Yeheng 0.94 259 *e*P Pg 17 58 57.4 0.0
baz=258
YHNB eS Sb 17 59 11.4 +0.9
baz=258
NSK Sanguang 0.95 260 P Pb 17 58 57.8 -0.3
baz=258
NSK S Sb 17 59 11.1 +0.2
baz=258
NACB Ninganchiao 0.99 227 *e*P Pg 17 58 58.0 -0.3
baz=226
NACB eS Sg 17 59 11.2 0.0
baz=226
NNSB Datong 1.01 246 *e*P Pg 17 58 58.7 0.0
baz=244
NNSB eS Sb 17 59 12.7 +0.2
baz=244
NNS Nan Shan 1.01 247 *e*P Pb 17 58 58.9 -0.2
baz=244
NNS eS Sb 17 59 12.7 +0.1
baz=244
ETLH Xiulin Townshi 1.04 233 *e*P Pg 17 58 59.3 -0.1
baz=231
ETLH eS Sb 17 59 13.6 0.0
baz=231
TWD Chiawan 1.05 224 P Pg 17 58 59.4 -0.2
baz=222
TWD S Sb 17 59 13.4 -0.2
baz=222
NCUH Zhongli 1.10 276 *e*P Pn 17 59 00.9 -0.1
baz=275
NCUH eS Sn 17 59 16.0 -0.4
baz=275
WHF Hehuan Shan 1.24 236 *e*P Pb 17 59 03.2 0.0
baz=234
WHF eS Sg 17 59 19.1 -0.2
baz=234
TWT Tachien 1.25 242 *e*P Pg 17 59 02.8 -0.6
baz=241
TWT eS Sn 17 59 20.8 +0.4
baz=241
LIOB Emei 1.27 261 *e*P Pn 17 59 01.0 -2.3
baz=260
LIOB eS Sn 17 59 21.1 +0.6
baz=260
TDCB Techi 1.27 242 *e*P Pg 17 59 03.0 -0.7
baz=241
TDCB eS Sn 17 59 21.6 +0.9
baz=241
NSTT Nanjuang 1.28 261 P Pn 17 59 02.9 -0.6
baz=259
NSTT S Sb 17 59 20.2 0.0
baz=259
IRIF Iriomote-Funau 1.32 112 P Pn 17 59 04.3 +0.3
IRIF S Sb 17 59 20.6 -0.8
ESL Shilin 1.35 220 *e*P Pn 17 59 04.1 -0.3
baz=219
ESL eS Sn 17 59 23.1 +0.6
baz=219
CHGB Renai 1.36 235 *e*P Pn 17 59 04.7 0.0
baz=233
CHGB eS Sn 17 59 23.9 +0.9
baz=233
OWD Renai 1.42 231 *e*P Pn 17 59 05.4 -0.1
baz=230
OWD eS Sg 17 59 24.8 -0.2
baz=230
WHP Taichung City 1.43 247 *e*P Pb 17 59 06.4 +0.1
baz=245
WHP eS Sg 17 59 25.3 -0.1
baz=245
EGFH Guangfu 1.47 217 *e*P Pn 17 59 06.2 +0.2
baz=216
HATJ Hateruma jima 1.51 121 P Pb 17 59 07.7 +0.1
TWQ1 Liyutan 1.55 252 *e*P Pn 17 59 07.8 +0.6
baz=250
TWQ1 eS Sb 17 59 28.1 0.0
baz=250
VWDT VWDT 1.58 227 *e*P Pn 17 59 08.1 +0.6
baz=225
VWDT eS Sb 17 59 28.8 0.0
baz=225
JKRS Kuro-shima 1.59 112 P Pn 17 59 07.3 -0.5
HGSD Ruisui 1.61 213 *e*P Pn 17 59 07.9 -0.1
baz=212
HGSD eS Sb 17 59 30.2 +0.4
baz=212
EHY Hungye 1.65 216 *e*P Pn 17 59 07.2 -1.4
baz=215
SMLT Sun Moon Lake 1.66 235 *e*P Pn 17 59 09.2 +0.3
baz=233
SMLT eS Sn 17 59 30.7 +0.3
baz=233
JIJ Ishigaki jima 1.67 106 P Pn 17 59 09.7 +0.9
SSLB Suanglung 1.68 231 *e*P Pb 17 59 10.0 -0.5
baz=230
SSLB eS Sb 17 59 31.6 -0.2
baz=230
TYC Yuchr 1.69 236 *e*P Pb 17 59 10.0 -0.5
baz=235
TYC eS Sn 17 59 30.6 -0.2
baz=235
YULB Yu-li 1.76 215 *e*P Pn 17 59 09.2 -0.8
baz=213
YULB eS Sb 17 59 33.6 -0.5
baz=213
JISG Ishigakijimahi 1.77 98 P Pn 17 59 10.8 +0.7
TWF1 Yuli 1.79 214 *e*P Pn 17 59 11.2 +0.6
baz=212
TWF1 eS Sn 17 59 33.5 +0.1
baz=212
WHYT Xinyi Township 1.81 231 *e*P Pb 17 59 12.4 -0.3
baz=230
WHYT eS Sg 17 59 37.9 +0.3
baz=230
WJS Zhushan 1.83 236 *e*P Pb 17 59 12.8 -0.1
baz=235
WJS eS Sn 17 59 34.2 -0.1
baz=235
CHN5 Tsauling 2.00 232 *e*P Pn 17 59 14.7 +1.3
baz=230
WGK Gukeng 2.03 236 *e*P Pn 17 59 14.7 +1.0
baz=234
WDLH Douliu 2.05 236 *e*P Pn 17 59 15.1 +1.1
baz=235
ELDTW Lidau 2.08 218 *e*P Pn 17 59 14.2 -0.3
baz=216
CHN4 Tsaushan 2.22 228 *e*P Pb 17 59 18.3 -1.3
baz=227
TPUB Ta-pu 2.23 227 *e*P Pn 17 59 17.4 +0.9
baz=225

IDC 09 18:18:16.8±4.7, 2°.79S×149°.22E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/32, mbtmp3.9/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/36, Error ellipse: s-maj=137.0km s-min=30.1km az=102.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.40**	**219**	P	P	P	18 23 15.8	-1.4
	1.3nm,0.6s,baz=46,slow=11,SNR=22							
ASAR	**Alice Springs**	**25.50**	**214**	P	P	P	18 23 48.1	+1.0
	0.6nm,0.5s,baz=47,slow=8.3,SNR=34							
BATI	**Baumata**	**26.43**	**253**	LR	LR		18 34 05.6	
	comp=Z,67nm,18.6s,baz=324,slow=36							
FITZ	**Fitzroy Crossi**	**27.67**	**235**	P	P		18 24 07.0	+0.2
	1.5nm,0.4s,baz=49,slow=9.3,SNR=2.7							
MKAR	**Makanchi Array**	**76.48**	**319**	P	P		18 30 08.6	-0.1
	0.7nm,0.6s,baz=109,slow=6.8,SNR=9.4							

*IDC **09** 18:22:39.7±10.0, 18°.92S×179°.06W, h632km±87km, mb3.1/4, mb1 3.3/5, mb1mx2.8/31, mbtmp4.2/5, Error ellipse: s-maj=163.7km s-min=36.0km az=22.0*
ISC 09 18:22:35.0±2.1, 18°.45S±0°.3×178°.8W±0°.2, h600km, n7, σ0°59/9, mb4.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**10.84**	**176**	P	P	P	18 25 02.1	+0.1
	170nm,0.3s,baz=12,slow=19,SNR=4.6							
DZM	**Mont Dzumac**	**14.34**	**253**	P	P	P	18 25 37.3	0.0
	0.3nm,0.3s,baz=106,slow=20,SNR=3.2							
CTA	**Charters Tower**	**33.02**	**261**	P	P	P	18 28 23.4	+0.8
	3.2nm,0.7s,baz=81,slow=8.8,SNR=4.1							
WRA	**Warramunga Arr**	**44.20**	**260**	P	P	P	18 29 52.5	0.0
	1.5nm,0.3s,baz=96,slow=7.6,SNR=98							
WRA				PcP	PcP	PcP	18 31 24.5	+0.6
	0.4nm,1.0s,baz=84,slow=3.3,SNR=2.7							
ASAR	**Alice Springs**	**44.32**	**255**	P	P	P	18 29 52.5	-1.0
	1.8nm,0.4s,baz=88,slow=8.5,SNR=67							
ASAR				PcP	PcP	PcP	18 31 24.2	0.0
	0.2nm,0.5s,baz=108,slow=3.6,SNR=5.1							
FITZ	**Fitzroy Crossi**	**52.60**	**261**	P	P	P	18 30 54.6	-0.1
	1.6nm,0.9s,baz=90,slow=7.1,SNR=3.1							
AKASG	**Malin Array Be**	**140.82**	**332**	PKP	PKPdf	PKPdf	18 40 57.2	-0.2
	0.6nm,0.6s,baz=44,slow=4.1,SNR=5.9							

*ISCJB **09** 18:25:18.2±0.3, 11°.60N±0°.04×86°.09W±0°.05, h154km±2km, mb4.5/43, Error ellipse: s-maj=9.9km s-min=3.7km az=141.0*
*IDC **09** 18:25:18.0±0.9, 11°.74N×85°.85W, h146km±12km, mb3.8/8, mb1 3.9/8, mb1mx3.5/32, mbtmp4.2/8, Error ellipse: s-maj=32.8km s-min=15.3km az=60.0*
*NEIC **09** 18:25:18.9±0.7, 11°.45N×86°.08W, h160km±7km, mb4.6/37, Error ellipse: s-maj=14.0km s-min=10.1km az=48.0*
*UCR **09** 18:25:19.2±1.7, 11°.58N×86°.13W, h143km±6km, MD3.8, ML3.6, mb4.6(NEIC)*
ISC 09 18:25:18.4±0.7, 11°.56N±0°.05×86°.13W±0°.06, h153km±5km, n94, σ1°17/114, mb4.5/43, 4C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.42**	**356**	*e*P	P	Pn	18 25 39.4	-0.5
CONN	**Concepcion**	**0.49**	**90**	*e*P	P	Pn	18 25 40.4	+0.3
MGAN	**Managua**	**0.59**	**348**	*e*P	P	Pn	18 25 41.0	+0.3
MGAN				*e*S	S	Sn	18 25 57.6	-0.1
COPN	**Copaltepe**	**0.77**	**323**	*e*P	P	Pn	18 25 41.5	-0.2
MOMN	**Momotombo**	**0.93**	**334**	*e*P	P	Pn	18 25 43.0	-0.1
GBS3	**Finca Las Img**	**1.02**	**140**	*i* P	P	Pn	18 25 44.0	+0.3
GBS3				*i* S	S	Sn	18 26 02.3	-0.7
GB1A	**Borinquen Arri**	**1.03**	**136**	*e*P	P	Pn	18 25 44.6	+0.8
GB1A				*e*S	S	Sn	18 26 03.9	+0.5
BUAI	**Buenos Aires**	**1.03**	**131**	*i* P	P	Pn	18 25 44.5	+0.6
BUAI				*i* S	S	Sn	18 26 02.8	-0.5
BUEV	**Buena Vista**	**1.04**	**137**	*e*P	P	Pn	18 25 44.5	+0.5
BUEV				*e*S	S	Sn	18 26 03.4	0.0
LAPC	**Finca la Perla**	**1.04**	**139**	*i* P	P	Pn	18 25 44.1	+0.1
LAPC				*i* S	S	Sn	18 26 02.5	-0.9
NY14	**Universidad de**	**1.08**	**147**	*i* P	P	Pn	18 25 45.2	+1.0
NY14				*i* S	S	Sn	18 26 03.8	-0.1
CNGN	**Cerro Negro**	**1.09**	**329**	*e*P	P	Pn	18 25 44.3	0.0
CNGN				*e*S	S	Sn	18 26 03.8	-0.4
GPS1	**Guardaparques**	**1.09**	**136**	*i* P	P	Pn	18 25 45.2	+0.8
GPS3	**Bodega del ICE**	**1.10**	**137**	*i* P	P	Pn	18 25 45.0	+0.5
GPS2	**Hotel Rincn d**	**1.11**	**137**	*e*P	P	Pn	18 25 44.6	0.0
LIM1	**Limonal**	**1.21**	**135**	*i* P	P	Pn	18 25 45.9	+0.4
GUAB	**Guayabo de Bag**	**1.22**	**134**	*i* P	P	Pn	18 25 46.1	+0.5
MESS	**Mesas**	**1.23**	**132**	*e*P	P	Pn	18 25 45.4	-0.2
MESS				*i* P	P	Pn	18 25 46.1	+0.5
MESS				*e*S	S	Sn	18 26 06.5	+0.1
TELN	**Telica**	**1.24**	**326**	*e*P	P	Pn	18 25 46.2	+0.4
HORNC	**Hornillas**	**1.26**	**132**	*i* P	P	Pn	18 25 46.0	0.0
CUI	**Cuipilapa**	**1.30**	**134**	*e*P	P	Pn	18 25 47.2	+0.9
MATN	**Matagalpa**	**1.37**	**8**	*e*P	P	Pn	18 25 47.5	+0.4
MATN				*e*S	S	Sn	18 26 08.8	-0.3
PTEN	**Parque Tenorio**	**1.40**	**127**	*i* P	P	Pn	18 25 48.0	+0.7
PTEN				*i* S	S	Sn	18 26 08.0	-1.5
PLVR	**Palo Verde**	**1.43**	**148**	*e*P	P	Pn	18 25 47.8	0.0
CRIN	**San Cristobal**	**1.45**	**321**	*e*P	P	Pn	18 25 48.2	+0.4
CRIN				*e*S	S	Sn	18 26 11.0	+0.7
JTS	**JuntasAbangare**	**1.71**	**138**	*e*Pn	P	Pn	18 25 50.8	+0.2
JTS				*e*Sn	S	Sn	18 26 13.5	-1.7
JTS	**JuntasAbangare**	**1.71**	**138**	P	P	Pn	18 25 51.0	+0.4
	58nm,0.3s,baz=51,slow=5.3,SNR=56							
JTS				S	S	Sn	18 26 13.3	-1.9
	135nm,0.3s,baz=347,slow=19,SNR=16							
JTS	**JuntasAbangare**	**1.71**	**138**	*e*P	P	Pn	18 25 51.0	+0.4
CEDE	**Laguna Cedeo**	**1.76**	**127**	*e*P	P	Pn	18 25 52.0	+0.9
ARE1	**Arenal 1**	**1.76**	**128**	*e*P	P	Pn	18 25 51.9	+0.8
ARE1				*e*S	S	Sn	18 26 16.5	+0.3
ESPN	**Las Esperanzas**	**1.89**	**70**	*e*Pn	P	Pn	18 25 52.9	+0.3
ESPN	**Las Esperanzas**	**1.89**	**70**	*e*P	P	Pn	18 25 52.8	+0.3
ESPN				*e*S	S	Sn	18 26 18.0	-0.7
CNCH	**Conchagua**	**2.38**	**316**	*e*P	P	Pn	18 25 59.3	+0.8
CNCH				*e*S	S	Sn	18 26 28.4	-1.0
LCND	**La Caada**	**2.45**	**315**	*e*P	P	Pn	18 25 59.7	+0.6
LCND				*e*S	S	Sn	18 26 29.1	-1.4
LCND				IAML			18 26 34.5	
	comp=Z,391nm,0.2s							
HDC	**Heredia**	**2.51**	**128**	*e*Pn	P	Pn	18 25 59.1	-1.0
TGUH	**Tegucigalpa,Un**	**2.72**	**336**	*e*Pn	P	Pn	18 26 03.5	+1.1
LCR2	**La Lucha 2**	**2.76**	**131**	*e*P	P	Pn	18 26 04.4	+1.2
MYIG	**Mrida**	**9.96**	**340**	*e*Pn	P	Pn	18 27 36.2	-1.7
MTDJ	**Mount Denham**	**10.62**	**50**	*e*Pn	P	Pn	18 27 41.5	-5.2
LNIG	**Linares**	**18.32**	**318**	*e*P	P	P	18 29 21.7	+0.7
	comp=Z,20nm,1.5s							
152A	**Waverly Hall**	**21.05**	**3**	*e*P	P	P	18 29 53.5	+3.2
	comp=Z,7.8nm,0.6s							
LRAL	**Lakeview Retre**	**21.39**	**358**	*e*P	P	P	18 29 55.9	+1.9
	comp=Z,12nm,1.2s							
Z50A	**Ashland**	**21.59**	**0**	*e*P	P	P	18 29 58.1	+2.0
	comp=Z,6.9nm,0.8s							
435B	**Jarrell**	**21.88**	**333**	*e*P	P	P	18 30 02.0	+2.9
	comp=Z,8.0nm,0.6s							
GOGA	**Godfrey**	**21.88**	**6**	*e*P	P	P	18 30 01.8	+2.6
	comp=Z,6.6nm,0.7s							
Y49A	**Blount Mountai**	**22.19**	**359**	*e*P	P	P	18 30 03.3	+0.9
	comp=Z,41nm,1.8s							
Y52A	**Lilburn**	**22.28**	**5**	*e*P	P	P	18 30 05.2	+2.1
	comp=Z,42nm,1.7s							
HODGE	**Hodges**	**22.84**	**8**	*e*P	P	P	18 30 09.9	+1.5
	comp=Z,11nm,1.1s							
WHTX	**Lake Whitney,**	**22.86**	**335**	*e*P	P	P	18 30 11.1	+2.5
	comp=Z,6.5nm,0.6s							
JSC	**Jenkinsville**	**23.05**	**10**	*e*P	P	P	18 30 11.9	+1.6
	comp=Z,16nm,1.2s							
PAULI	**Pauline**	**23.48**	**9**	*e*P	P	P	18 30 15.9	+1.6
	comp=Z,59nm,2.0s							
BG3	**Lake Jocassee**	**23.50**	**7**	*e*P	P	P	18 30 16.2	+1.7
	comp=Z,29nm,1.6s							
W50A	**Signal Mountai**	**23.54**	**2**	*e*P	P	P	18 30 16.7	+1.8
MIAR	**Mount Ida**	**23.86**	**345**	*e*P	P	P	18 30 17.5	-0.3
	comp=Z,11nm,1.0s							
TXAR	**Lajitas Array**	**24.08**	**320**	P	P	P	18 30 21.0	+1.1
	comp=Z,4.2nm,0.6s,baz=142,slow=9.3,SNR=44							
TX31	**Lajitas Ar. Si**	**24.08**	**320**	*e*P	P	P	18 30 21.4	+1.4
WHAR	**Wooly Hollow**	**24.27**	**348**	*e*P	P	P	18 30 23.0	+1.5
	comp=Z,27nm,1.7s							
WVT	**Waverly**	**24.51**	**357**	*e*P	P	P	18 30 24.7	+1.1
	comp=Z,6.3nm,1.1s							
N49A	**Columbus Grove**	**29.29**	**3**	*e*P	P	P	18 31 07.1	+0.8
	comp=Z,10nm,0.8s							
O56A	**Blue Knob Stat**	**29.36**	**12**	*e*P	P	P	18 31 08.1	+1.1
	comp=Z,47nm,1.6s							
SSPA	**Standing Stone**	**29.86**	**13**	*e*P	P	P	18 31 12.5	+1.2
	comp=Z,86nm,1.9s							
M54A	**Oil Creek Stat**	**30.36**	**10**	*e*P	P	P	18 31 16.6	+0.8
	comp=Z,55nm,1.5s							
L42A	**Oliver, Polo**	**30.48**	**355**	*e*P	P	P	18 31 16.8	-0.1
	comp=Z,16nm,0.8s							
N59A	**State Game Lan**	**30.63**	**16**	*e*P	P	P	18 31 19.5	+1.3
	comp=Z,61nm,1.6s							
ERPA	**Erie**	**30.91**	**9**	*e*P	P	P	18 31 22.0	+1.4
	comp=Z,72nm,1.8s							
BINY	**Binghamton**	**31.78**	**14**	*e*P	P	P	18 31 29.2	+0.9
	comp=Z,96nm,1.9s							
MMNY	**Mt. Morris Dam**	**31.87**	**12**	*e*P	P	P	18 31 29.3	+0.3
	comp=Z,49nm,1.5s							
I42A	**Draeger Farm,**	**32.30**	**356**	*e*P	P	P	18 31 33.1	+0.4
	comp=Z,28nm,1.3s							
I39A	**Houston**	**32.51**	**353**	*e*P	P	P	18 31 34.0	-0.6
	comp=Z,7.3nm,0.7s							
ECSD	**EROS Data Cent**	**33.31**	**346**	*e*P	P	P	18 31 40.5	-1.1
	comp=Z,14nm,1.8s							
SADO	**Sadowa**	**33.63**	**9**	*e*P	P	P	18 31 44.2	-0.1
	comp=Z,82nm,2.0s							
SADO	**Sadowa**	**33.63**	**9**	P	P	P	18 31 43.6	-0.6
	comp=Z,4.7nm,0.5s,baz=242,slow=5.3,SNR=11							
SPMN	**Marine on St.**	**34.03**	**352**	*e*P	P	P	18 31 47.0	-0.8
	comp=Z,37nm,1.9s							
LONY	**Lake Ozonia**	**34.40**	**15**	*e*P	P	P	18 31 51.6	+0.6
	comp=Z,63nm,1.9s							
E43A	**Lone Tree Farm**	**34.70**	**359**	*e*P	P	P	18 31 54.5	+1.0
	comp=Z,20nm,1.3s							
MSU	**Marysvale**	**35.49**	**324**	*e*P	P	P	18 31 58.2	-2.5
EMMW	**East Machias**	**36.71**	**22**	*e*P	P	P	18 32 10.2	-0.4
	comp=Z,64nm,1.3s							
SIV	**San Ignacio**	**36.93**	**137**	P	P	P	18 32 13.4	+0.4
	comp=Z,8.6nm,0.6s,baz=320,slow=8.2,SNR=40							
MOOW	**Moose Ponds**	**38.48**	**331**	*e*P	P	P	18 32 27.1	+1.3
	comp=Z,7.4nm,1.8s							
LMN	**Caledonia Moun**	**38.69**	**24**	*e*P	P	P	18 32 27.4	+0.1
	comp=Z,180nm,1.9s							
NV01	**Mina Array Sit**	**39.22**	**319**	*e*P	P	P	18 32 34.5	+2.5
NV01				*e*PcP	PcP	PcP	18 34 38.9	+0.7
NVAR	**Mina Array Bea**	**39.22**	**319**	P	P	P	18 32 34.4	+2.3
	comp=Z,2.3nm,0.7s,baz=128,slow=7.3,SNR=11							
NVAR				PcP	PcP	PcP	18 34 38.9	+0.7
	comp=Z,0.6nm,0.6s,baz=116,slow=2.1,SNR=2.7							
ULM	**Lac du Bonnet**	**39.40**	**350**	P	P	P	18 32 31.2	-1.8
	comp=Z,1.0nm,0.4s,baz=159,slow=10,SNR=4.1							
KVN	**Kaiserville**	**39.44**	**320**	*e*P	P	P	18 32 35.0	+1.0
	comp=Z,2.6nm,0.9s							
GCMT	**Greycliff**	**39.57**	**334**	*e*P	P	P	18 32 36.0	+1.3
BOZ	**Bozeman (W)**	**40.29**	**332**	*e*P	P	P	18 32 42.0	+1.2
	comp=Z,9.1nm,2.0s							
SCHQ	**Schefferville**	**45.77**	**15**	P	P	P	18 33 23.2	-1.2
	comp=Z,5.0nm,0.6s,baz=208,slow=6.4,SNR=16							
YKA	**Yellowknife Ar**	**54.81**	**344**	P	P	P	18 34 30.3	-1.9
	comp=Z,0.2nm,0.3s,baz=137,slow=7.4,SNR=8.4							
YKA				PcP	PcP	PcP	18 35 30.7	-1.9
	comp=Z,0.2nm,0.6s,baz=145,slow=3.8,SNR=4.1							
ILAR	**Eielson Array**	**67.35**	**336**	P	P	P	18 35 54.9	-1.8
	comp=Z,0.3nm,0.6s,baz=124,slow=4.0,SNR=6.9							
SPU	**Mount Spurr**	**68.42**	**332**	*e*P	P		18 36 08.9	+5.4
ASAR	**Alice Springs**	**140.13**	**247**	PKhKP	PKPpre		18 44 22.9	
	comp=Z,0.2nm,0.3s,baz=109,slow=3.7,SNR=7.8							
ASAR				PKP	PKPdf	PKPdf	18 44 30.6	+0.8
	comp=Z,0.7nm,0.7s,baz=82,slow=1.5,SNR=11							
WR1	**Warramunga Arr**	**140.26**	**253**	*e*PKPpre	PKPpre		18 44 23.6	
WR1				*e*PKPdf	PKPdf	PKPdf	18 44 31.1	+1.1
WRA	**Warramunga Arr**	**140.26**	**253**	PKhKP	PKPpre		18 44 23.6	
	comp=Z,0.5nm,1.0s,baz=91,slow=2.7,SNR=7.2							
WRA				PKP	PKPdf	PKPdf	18 44 31.1	+1.1
	comp=Z,0.8nm,0.6s,baz=92,slow=2.5,SNR=16							
CMAR	**Chiang Mai Arr**	**149.75**	**350**	PKPbc	PKPbc	PKPbc	18 44 50.3	-0.8
	comp=Z,0.3nm,0.7s,baz=358,slow=4.7,SNR=2.8							

*ISCJB **09** 18:28:38.6±0.8, 42°.47N±0°.04×79°.78E±0°.05, h10km, Error ellipse: s-maj=7.2km s-min=3.6km az=138.9*
*KRNET **09** 18:28:38.2±0.1, 42°.55N×79°.67E, h20km, mb2.6*
*SOME **09** 18:28:39.2, 42°.63N×79°.60E, h15km*
*NNC **09** 18:28:39.5±1.7, 42°.62N×79°.69E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=10.7km s-min=6.2km az=130.0*
ISC 09 18:28:38.4±1.3, 42°.52N±0°.05×79°.69E±0°.05, h10km, n44, σ1°38/71, 19C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**0.82**	**350**	P	P	Pg	18 28 53.2	-1.0
	10nm,0.2s							
PDGK				S	S	Sg	18 29 03.7	-1.3
	8.9nm,0.2s							
PDGK	**Podgornoye**	**0.82**	**350**	⇓P	P	Pg	18 28 53.2	-1.0
	3.6nm,0.3s							
PDGK				⇑S	S	Sg	18 29 03.6	-1.3
	3.9nm,0.3s							
PDGK	**Podgornoye**	**0.82**	**350**	⇑*i*P	P	Pg	18 28 52.9	-1.3
	baz=50							
PDGK				⇑*i*S	S	Sg	18 29 03.8	-1.1
	baz=50							
PRZ	**Przheval'sk**	**0.95**	**268**	⇑*i*P	P	Pg	18 28 55.8	-0.9
	baz=67							
PRZ				⇑*i*S	S	Sg	18 29 08.8	-0.3
	baz=67							
SATY	**Saty**	**1.08**	**300**	P	P	Pn	18 29 04.8	+5.1
	1.6nm,0.1s							
SATY				S	S	Sn	18 29 18.4	+3.5
	87nm,0.1s							
SATY	**Saty**	**1.08**	**300**	*e*P	P	Pn	18 29 04.7	+5.0
	1.6nm,0.1s							
SATY				*e*S	S	Sn	18 29 18.4	+3.5
	87nm,0.1s							
KURS	**Kuram**	**1.47**	**312**	P	P	Pb	18 29 05.1	-0.8
	2.1nm,0.3s							
KURS				S	S	Sb	18 29 23.9	-0.8
	8.8nm,0.4s							
KURS	**Kuram**	**1.47**	**312**	*e*P	P	Pb	18 29 05.1	-0.8
	baz=11							
KURS				*e*S	S	Sb	18 29 23.9	-0.8
	baz=11							
KURS	**Kuram**	**1.47**	**312**	*e*P	P	Pb	18 29 05.1	-0.8
	2.1nm,0.3s							
KURS				*e*S	S	Sb	18 29 23.9	-0.8
	8.8nm,0.4s							
TARG	**Taragay, Kyrgy**	**1.61**	**241**	⇓*i*P	P	Pb	18 29 07.5	-0.9
	baz=40							
TARG				⇓*i*S	S	Sb	18 29 28.6	-0.3
	baz=40							
DJR	**Jarkent**	**1.81**	**2**	P	P	Pb	18 29 11.0	-0.7
	4.9nm,0.2s							
DJR				S	S	Sg	18 29 34.7	-2.0
	11nm,0.2s							
DJR	**Jarkent**	**1.81**	**2**	⇓*i*P	P	Pb	18 29 11.0	-0.7
	4.9nm,0.2s							
DJR				*e*S	S	Sg	18 29 34.5	-2.1
	11nm,0.2s							
MNBS	**Baschi**	**1.82**	**329**	P	P	Pb	18 29 11.1	-0.7
	10nm,0.2s							
MNBS				S	S	Sb	18 29 34.5	-0.2
	17nm,0.1s							
MNBS	**Baschi**	**1.82**	**329**	*e*P	P	Pb	18 29 11.1	-0.7
	10nm,0.2s							
MNBS				*e*S	S	Sb	18 29 34.3	-0.4
	17nm,0.1s							
KDJ	**Kajisay**	**1.90**	**259**	⇑*e*P	P	Pb	18 29 12.2	-1.0
	baz=58							
KDJ				⇑*i*S	S	Sb	18 29 36.7	-0.3
	baz=58							
KOTS	**Kotyrbulak**	**2.02**	**292**	Pg	Pb	Pb	18 29 15.3	0.0
	4.0nm,0.3s							
KOTS				Lg	Lg	Lg	18 29 41.8	
	44nm,0.3s							
KOTS	**Kotyrbulak**	**2.02**	**292**	*e*P	P	Pb	18 29 15.3	0.0
	4.0nm,0.3s							
KOTS				*e*S	S	Sg	18 29 41.4	-1.9
	44nm,0.3s							
MDOK	**Medeo**	**2.04**	**289**	Pg	Pg	Pg	18 29 15.9	-1.7
	4.1nm,0.6s							
MDOK				⇓Lg	Lg	Lg	18 29 41.3	
	11nm,0.6s							
MDOK	**Medeo**	**2.04**	**289**	Pg	Pb	Pb	18 29 15.7	0.0
	4.8nm,0.4s							
MDOK				Lg	Lg	Lg	18 29 42.7	
	10nm,0.4s							
MDOK	**Medeo**	**2.04**	**289**	*e*P	Pg	Pg	18 29 15.8	-1.7
	4.8nm,0.4s							
MDOK				*e*S	Sg	Sg	18 29 42.3	-1.7
	10nm,0.4s							
TNSS	**Tian-Shan**	**2

ARXS					Lg	Lg	18 29 44.6		
	36nm,0.4s								
ARXS	**Arharly**	**2.17**	**322**	*eP*	**Pb**	**18 29 16.7**	**-1.0**		
	4.6nm,0.3s								
ARXS				*eS*	**Sb**	**18 29 44.1**	**-0.6**		
	36nm,0.4s								
IZV	**Izvestkoviy**	**2.32**	**284**	Pg	**Pb**	**18 29 20.4**	**0.0**		
	117nm,0.2s								
IZV				Lg	Lg	18 29 50.2			
	27nm,0.4s								
IZV	**Izvestkoviy**	**2.32**	**284**	*eP*	**Pb**	**18 29 20.4**	**0.0**		
	117nm,0.2s								
IZV				*eS*	**Sb**	**18 29 50.2**	**+1.0**		
	27nm,0.4s								
MTBS	**Maitube**	**2.47**	**285**	Pg	**Pb**	**18 29 23.0**	**+0.1**		
	6.1nm,0.2s								
MTBS				Lg	Lg	18 29 54.8			
	17nm,0.2s								
MTBS	**Maitube**	**2.47**	**285**	*eP*	**Pb**	**18 29 23.0**	**+0.1**		
	6.1nm,0.2s								
MTBS				⇓*iS*	**Sb**	**18 29 54.8**	**+1.4**		
	17nm,0.2s								
KTBS	**Karatobe**	**2.50**	**299**	Pg	**Pb**	**18 29 22.9**	**-0.4**		
	1.6nm,0.2s								
KTBS				Lg	Lg	18 29 54.7			
	19nm,0.2s								
KTBS	**Karatobe**	**2.50**	**299**	*eP*	**Pb**	**18 29 23.0**	**-0.4**		
	baz=98								
KTBS				*eS*	**Sb**	**18 29 54.8**	**+0.5**		
	baz=98								
KTBS	**Karatobe**	**2.50**	**299**	*eP*	**Pb**	**18 29 22.9**	**-0.4**		
	1.6nm,0.2s								
KTBS				*eS*	**Sb**	**18 29 54.7**	**+0.5**		
	19nm,0.2s								
ULHL	**Ulahol**	**2.57**	**265**	⇓*iP*	**Pb**	**18 29 21.8**	**-2.8**		
	baz=64								
ULHL				⇓*iS*	**Sb**	**18 29 53.4**	**-2.9**		
	baz=64								
BOOM	**Boomskoye usch**	**2.77**	**271**	⇑*iP*	**Pn**	**18 29 24.5**	**+1.5**		
	baz=70								
BOOM				⇑*iS*	**Sn**	**18 29 58.1**	**+1.6**		
	baz=70								
KAPS	**Kapalarasan**	**2.77**	**355**	Pg	**Pb**	**18 29 25.7**	**-2.4**		
	1.6nm,0.2s								
KAPS				Lg	Lg	18 29 59.2			
	5.3nm,0.3s								
KAPS	**Kapalarasan**	**2.77**	**355**	*eP*	**Pb**	**18 29 27.1**	**-0.9**		
	1.6nm,0.2s								
KAPS				*eS*	**Sb**	**18 30 01.2**	**-0.9**		
	5.3nm,0.3s								
KUU	**Kurty**	**2.80**	**300**	Pg	**Pb**	**18 29 28.2**	**-0.4**		
	0.8nm,0.2s								
KUU				Lg	Lg	18 30 03.7			
	10.0nm,0.4s								
KUU	**Kurty**	**2.80**	**300**	*eP*	**Pb**	**18 29 28.2**	**-0.4**		
	0.8nm,0.2s								
KUU				*eS*	**Sb**	**18 30 03.7**	**+0.7**		
	10.0nm,0.4s								
TKM2	**Tokmak 2**	**3.04**	**279**	⇓Pg	**Pb**	**18 29 33.2**	**+0.6**		
	1.7nm,0.6s								
TKM2				⇑Lg	Lg	18 30 14.2			
	3.7nm,0.3s								
TKM2	**Tokmak 2**	**3.04**	**279**	⇑*iP*	**Pn**	**18 29 28.6**	**+1.9**		
	baz=78								
TKM2				⇑*iS*	**Sn**	**18 30 04.8**	**+1.6**		
	baz=78								
AAK	**Ala-Archa**	**3.83**	**273**	⇓Lg	Lg	18 30 39.9			
	4.1nm,0.8s								
ARLS	**Aral**	**4.04**	**262**	⇑*iP*	**Pn**	**18 29 41.9**	**+1.5**		
	baz=62								
ARLS				⇑*iS*	**Sn**	**18 30 27.9**	**+0.1**		
	baz=62								
MAKZ	**Makanchi**	**4.59**	**20**	⇑Pn	**Pn**	**18 29 50.7**	**+2.9**		
	0.2nm,0.3s								
MAKZ				⇓Sn	**Sn**	**18 30 43.3**	**+2.2**		
	0.3nm,0.3s								
MAKZ				⇑Lg	Lg	18 31 02.7			
	1.7nm,1.0s								
MK31	**Makanchi Array**	**4.66**	**23**	⇑Pn	**Pn**	**18 29 51.0**	**+2.2**		
	0.1nm,0.2s,baz=225,slow=64,SNR=12								
MK31				⇑Sn	**Sn**	**18 30 44.2**	**+1.3**		
	0.1nm,0.2s,baz=111,slow=7.7,SNR=6.2								
MK31				⇑Lg	Lg	18 31 03.9			
	0.7nm,0.6s,baz=204,slow=23,SNR=7.8								
KK31	**Karatay Array**	**6.77**	**278**	Lg	Lg	18 32 12.2			
	1.2nm,0.8s,baz=92,slow=28,SNR=3.7								

IDC 09 18:52:41.9±2.6, 45°23N×149°58E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.3/54, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=72.8km s-min=32.3km az=3.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEY	**Seymchan**	**17.81**	**4**	P	P	18 56 52.6	+0.9
	0.1nm,0.3s,baz=163,slow=19,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**29.20**	**145**	T	T	19 30 04.4	
	baz=335,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.21**	**145**	T	T	19 30 05.5	
	baz=335,slow=76,SNR=9.3						
H11N3	**WAKE ISLAND Hy**	**29.22**	**145**	T	T	19 30 06.7	
	baz=335,slow=76,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**30.22**	**146**	T	T	19 31 28.4	
	baz=336,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**30.23**	**146**	T	T	19 31 28.6	
	baz=336,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**30.24**	**146**	T	T	19 31 24.5	
	baz=336,slow=76,SNR=10						
MKAR	**Makanchi Array**	**45.45**	**297**	P	P	19 01 02.8	+0.3
	0.3nm,0.6s,baz=72,slow=9.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**46.24**	**303**	P	P	19 01 08.8	+0.3
	0.6nm,0.2s,baz=69,slow=8.7,SNR=5.0						
BVAR	**Borovoye Array**	**49.91**	**309**	P	P	19 01 37.3	+0.3
	0.2nm,0.3s,baz=81,slow=8.9,SNR=3.4						
FINES	**FINESS Array B**	**64.33**	**334**	P	P	19 03 16.9	-1.9
	1.5nm,0.9s,baz=35,slow=5.1,SNR=4.2						
TXAR	**Lajitas Array**	**80.39**	**58**	P	P	19 04 55.7	+0.3
	0.2nm,0.4s,baz=315,slow=5.5,SNR=3.1						

*IDC **09** 18:56:40.0±0.5, 53°.28S×21°.53E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.2/43, mbtmp4.3/14, ML3.8/14, Ms1 3.8/14, ms1mx3.6/23, Error ellipse: s-maj=23.6km s-min=14.0km az=90.0*
*ISCJB **09** 18:56:40.3±0.3, 53°.22S±0°.05×21°.5E±0°.1, h10km, mb4.6/25, MS3.8/15, Error ellipse: s-maj=11.5km s-min=7.8km az=3.4*
*NEIC **09** 18:56:41.9±0.2, 53°.25S×21°.54E, h10km, mb5.0/16, Error ellipse: s-maj=10.5km s-min=8.2km az=75.0*
*BJI **09** 18:56:42.0, 53°.20S×21°.50E, h15km, mB4.8/1, Ms4.8/2, Ms7 4.4/2*

ISC 09 18:56:41.7±0.4, 53°26S±0°.07×21°.55E±0°.10, h10km, n99, σ1°03/90, mb4.7/25, MS3.8/15, 2D, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**17.91**	**159**	⇓*eP*n	**Pn**	**19 00 47.0**	**-3.5**
SYO	**Syowa Base**	**17.91**	**159**	⇓*ep*P	pP	19 00 53.2	+0.2
CRZF	**Crozet Islands**	**20.60**	**83**	*eP*	**P**	**19 01 20.6**	**-0.1**
	167nm,1.3s						
SUR	**Sutherland**	**20.88**	**358**	*eP*	**P**	**19 01 24.6**	**+0.6**
	137nm,1.8s						
SUR	**Sutherland**	**20.88**	**358**	P	Pn	19 01 25.4	-1.1
	16nm,0.9s,baz=149,slow=10,SNR=8.3						
SUR					LR	LR	19 08 03.3
	comp=Z,208nm,18.9s,baz=180,slow=33						
SNAA	**Sanae**	**21.33**	**201**	P	**P**	**19 01 29.4**	**+0.8**
SNAA	**Sanae**	**21.33**	**201**	*eP*	**P**	**19 01 27.9**	**-0.6**
	52nm,1.0s						
SNAA	**Sanae**	**21.33**	**201**	P	**P**	**19 01 28.8**	**+0.3**
	21nm,1.0s,baz=52,slow=11,SNR=27						
SNAA					LR	LR	19 08 00.6
	comp=Z,328nm,19.1s,baz=35,slow=32						
VNA2	**Neumayer--Watz**	**21.90**	**205**	P	**P**	**19 01 34.7**	**+0.1**
	baz=39,slow=8.8						
VNA1	**Neumayer--Stat**	**21.96**	**206**	P	**P**	**19 01 35.9**	**+0.7**
VNA3	**Neumayer Olymp**	**22.68**	**206**	P	**P**	**19 01 44.2**	**+1.2**
MAW	**Mawson**	**24.32**	**142**	*eP*	**P**	**19 01 59.8**	**+0.8**
	45nm,1.6s						
MAW	**Mawson**	**24.32**	**142**	LR	LR	19 10 36.3	
	comp=Z,88nm,18.9s,baz=299,slow=34						
BOSA	**Boshof**	**24.77**	**8**	P	**P**	**19 02 04.6**	**+0.9**
	8.5nm,1.0s,baz=174,slow=10,SNR=7.4						
BOSA					LR	LR	19 09 47.8
	comp=Z,255nm,21.5s,baz=188,slow=32						

LBTB	**Lobatse**	**28.37**	**8**	*eP*		**P**	**19 02 35.7**	**-0.4**	
LBTB	**Lobatse**	**28.37**	**8**	P		**P**	**19 02 35.9**	**-0.2**	
	3.0nm,0.8s,baz=195,slow=12,SNR=3.1								
LBTB					LR	LR	19 12 06.2		
	comp=Z,226nm,19.4s,baz=179,slow=33								
QSPA	**South Pole Qui**	**36.97**	**180**	*eP*		**P**	**19 03 51.0**	**+0.1**	
	25nm,0.8s								
QSPA	**South Pole Qui**	**36.97**	**180**	P		**P**	**19 03 51.1**	**+0.3**	
	15nm,0.7s,baz=265,slow=2.0,SNR=36								
LSZ	**Lusaka**	**38.26**	**10**	*eP*		**P**	**19 04 03.1**	**+1.0**	
	12nm,1.2s								
LSZ	**Lusaka**	**38.26**	**10**	P		**P**	**19 04 02.2**	**+0.1**	
	5.7nm,0.9s,baz=188,slow=10.0,SNR=7.8								
RER	**Riviere de l'E**	**41.35**	**53**	*eP*		**P**	**19 04 27.9**	**+0.1**	
	339nm,1.7s								
CASY	**Casey**	**42.66**	**143**	*eP*		**P**	**19 04 37.9**	**0.0**	
	52nm,1.5s								
VNDA	**Vanda**	**47.18**	**169**	*eP*		**P**	**19 05 13.9**	**+0.2**	
	22nm,1.5s								
VNDA	**Vanda**	**47.18**	**169**	P		**P**	**19 05 13.6**	**-0.1**	
	2.1nm,0.7s,baz=226,slow=8.3,SNR=13								
VNDA					LR	LR	19 24 27.8		
	comp=Z,114nm,18.7s,baz=207,slow=35								
SBA	**Scott Base**	**47.41**	**171**	*eP*		**P**	**19 05 17.6**	**+2.1**	
	28nm,1.3s								
H10S2	**ASCENSION HYDR**	**52.94**	**313**	T		T	20 03 10.3		
	baz=154,slow=75,SNR=20								
H10S3	**ASCENSION HYDR**	**52.95**	**313**	T		T	20 03 04.7		
	baz=154,slow=75,SNR=22								
H10S1	**ASCENSION HYDR**	**52.95**	**313**	T		T	20 03 08.1		
	baz=154,slow=75,SNR=24								
TRQA	**Tornquist**	**57.03**	**249**	*eP*		**P**	**19 06 27.7**	**+0.2**	
	53nm,1.8s								
CPUP	**Villa Florida**	**62.83**	**262**	*eP*		**P**	**19 07 06.6**	**-0.8**	
	4.4nm,1.0s								
CPUP	**Villa Florida**	**62.83**	**262**	P		**P**	**19 07 06.5**	**-1.0**	
	2.2nm,0.8s,baz=130,slow=8.7,SNR=5.3								
CPUP					LR	LR	19 29 39.5		
	comp=Z,47nm,21.6s,baz=204,slow=32								
DBIC	**Dimbokro**	**63.75**	**330**	LR		LR	19 28 42.3		
	comp=Z,54nm,21.9s,baz=145,slow=30								
H01W2	**Cape Leeuwin H**	**64.34**	**114**	T		T	20 17 54.0		
	baz=222,slow=75,SNR=3.7								
H01W3	**Cape Leeuwin H**	**64.35**	**114**	T		T	20 17 56.2		
	baz=222,slow=75,SNR=3.7								
H01W1	**Cape Leeuwin H**	**64.36**	**114**	T		T	20 17 53.4		
	baz=222,slow=75,SNR=4.6								
BDFB	**Brasilia**	**65.40**	**277**	LR		LR	19 30 43.8		
	comp=Z,101nm,18.8s,baz=258,slow=31								
TOA0	**Torodi Ar. Sit**	**68.30**	**339**	*eP*		**P**	**19 07 42.3**	**-0.5**	
TORD	**Torodi Ar. Bea**	**68.30**	**339**	P		**P**	**19 07 42.5**	**-0.3**	
	1.2nm,1.1s,baz=164,slow=5.7,SNR=3.4								
TOA1	**Torodi Ar. Sit**	**68.31**	**339**	*eP*		**P**	**19 07 42.5**	**-0.4**	
TAU	**Tasmania Unive**	**73.48**	**142**	*eP*		**P**	**19 08 15.3**	**+1.2**	
	185nm,2.0s								
FORT	**Forrest**	**74.92**	**121**	*eP*		**P**	**19 08 23.1**	**+0.4**	
	18nm,1.0s								
LPAZ	**La Paz**	**76.93**	**260**	*eP*		**P**	**19 08 34.6**	**-0.5**	
LPAZ	**La Paz**	**76.93**	**260**	P		**P**	**19 08 35.2**	**+0.1**	
	1.7nm,0.8s,baz=151,slow=2.3,SNR=5.3								
LPAZ					LR	LR	19 37 55.3		
	comp=Z,65nm,21.8s,baz=132,slow=32								
BBOO	**Buckleboo**	**77.22**	**128**	*eP*		**P**	**19 08 36.4**	**+0.6**	
	29nm,1.7s								
STKA	**Stephens Creek**	**80.55**	**132**	*eP*		**P**	**19 08 54.7**	**+0.7**	
	0.9nm,0.9s								
STKA	**Stephens Creek**	**80.55**	**132**	P		**P**	**19 08 53.7**	**-0.4**	
	3.3nm,0.8s,baz=168,slow=2.9,SNR=7.6								
STKA					LR	LR	19 37 51.7		
	comp=Z,42nm,18.6s,baz=204,slow=31								
THZ	**Tophouse**	**82.18**	**159**	*eP*		**P**	**19 09 04.0**	**+1.4**	
	116nm,2.0s								
ASAR	**Alice Springs**	**83.71**	**121**	P		**P**	**19 09 11.4**	**+0.5**	
	1.9nm,1.0s,baz=207,slow=5.5,SNR=11								
ASAR					LR	LR	19 39 29.6		
	comp=Z,93nm,21.0s,baz=208,slow=31								
AS31	**Alice Springs**	**83.71**	**121**	*eP*		**P**	**19 09 10.6**	**-0.2**	
	0.9nm,0.9s								
AS01	**Alice Springs**	**83.73**	**121**	*eP*		**P**	**19 09 10.6**	**-0.3**	
WRA	**Warramunga Arr**	**87.01**	**120**	P		**P**	**19 09 26.4**	**-1.0**	
	0.3nm,0.8s,baz=213,slow=4.4,SNR=5.6								
WR1	**Warramunga Arr**	**87.01**	**120**	*eP*		**P**	**19 09 26.4**	**-1.0**	
	12nm,1.3s								
WB2	**Warramunga Arr**	**87.02**	**120**	*eP*		**P**	**19 09 27.6**	**+0.2**	
	12nm,1.2s								
BR101	**Keskin Array S**	**93.20**	**9**	*eP*		**P**	**19 09 56.6**	**+0.8**	
BRTR	**Keskin Array B**	**93.20**	**9**	P		**P**	**19 09 56.6**	**+0.8**	
	0.7nm,1.0s,baz=240,slow=2.4,SNR=3.6								
CMAR	**Chiang Mai Arr**	**97.31**	**69**	LR		LR	19 49 45.5		
	comp=Z,14nm,18.1s,baz=195,slow=33								
ROSC	**El Rosal**	**97.36**	**268**	LR		LR	19 51 07.2		
	comp=Z,88nm,19.2s,baz=92,slow=34								
CD2	**Chengdu**	**109.80**	**65**	PKP		**PKiKP**	**19 15 10.7**	**-1.9**	
WMQ	**Urumqi**	**112.07**	**46**	*e*PKP		**PKiKP**	**19 15 18.0**	**+1.5**	
WMQ					LR	LR			
	comp=N,120nm,18.5s								
WMQ					LR	LR			
	comp=E,82nm,24.7s								
WMQ					LR	LR			
	comp=Z,70nm,16.5s								
MK32	**Makanchi Array**	**112.28**	**40**	*e*PKiKP		**PKiKP**	**19 15 15.2**	**-1.5**	
MKAR	**Makanchi Array**	**112.28**	**40**	PKiKP		**PKiKP**	**19 15 15.2**	**-1.5**	
	0.4nm,0.9s,baz=232,slow=1.6,SNR=3.5								
BVAR	**Borovoye Array**	**113.47**	**30**	PKiKP		**PKiKP**	**19 15 19.0**	**+0.2**	
	0.5nm,0.7s,baz=236,slow=1.6,SNR=4.8								
KIRV	**Kirov**	**113.75**	**16**	PKiKP		**PKiKP**	**19 15 17.1**	**-2.0**	
	6.9nm,0.5s,baz=245,slow=23,SNR=3.6								
LZH	**Lanzhou**	**113.80**	**61**	*e*PKP		**PKiKP**	**19 15 18.1**	**-2.1**	
LZH				sPKP			19 15 31.4		
NJ2	**Nanjing**	**119.15**	**75**	*e*PKP		**PKiKP**	**19 15 31.3**	**+0.9**	
HHC	**Hu-ho-hao-te**	**121.40**	**63**	*e*PKP		**PKPdf**	**19 15 32.4**	**-2.2**	
SONA0	**Songino Array**	**123.67**	**54**	*e*PKPdf		**PKPdf**	**19 15 37.2**	**-1.5**	
SONM	**Songino Array**	**123.67**	**54**	PKP		**PKPdf**	**19 15 37.2**	**-1.5**	
	0.7nm,0.9s,baz=212,slow=3.3,SNR=6.0								
TIXI	**Tiksi**	**144.58**	**31**	*e*PKPdf		**PKPab**	**19 16 15.3**	**0.0**	
TIXI				*e*PKPbc		PKPbc	19 16 15.6	+0.1	
TIXI	**Tiksi**	**144.58**	**31**	PKP		**PKPab**	**19 16 15.3**	**0.0**	
	15nm,0.9s,baz=289,slow=2.2,SNR=40								
SRU	**San Rafael Swe**	**144.63**	**266**	*e*PKPdf		**PKPab**	**19 16 14.6**	**-0.4**	
P18A	**Preston Nutter**	**144.79**	**267**	*e*PKPdf		**PKPab**	**19 16 17.3**	**-0.2**	
FCC	**Fort Churchill**	**144.86**	**305**	*e*PKPdf		**PKPab**	**19 16 16.2**	**-0.5**	
TMUT	**Trail Mountain**	**145.16**	**266**	*e*PKPbc		**PKPbc**	**19 16 18.3**	**-0.5**	
MSU	**Marysvale**	**145.24**	**264**	*e*PKPbc		**PKPbc**	**19 16 18.7**	**-0.2**	
CCUT	**Cedar City**	**145.31**	**262**	*e*PKPbc		**PKPbc**	**19 16 18.7**	**-0.5**	
SHPR	**Sheep Range**	**145.67**	**258**	*e*PKPdf		**PKPdf**	**19 16 20.2**	**+0.2**	
MPU	**Maple Canyon**	**145.87**	**266**	*e*PKPdf		**PKPbc**	**19 16 20.7**	**-0.2**	
NLU	**North Lily Min**	**146.09**	**266**	*e*PKPdf		**PKPbc**	**19 16 21.3**	**-0.2**	
BW06	**Boulder Array**	**146.27**	**272**	*e*PKPdf		**PKPdf**	**19 16 20.5**	**-0.3**	
PD31	**Pinedale Array**	**146.27**	**272**	*e*PKPdf		**PKPdf**	**19 16 20.7**	**-0.2**	
PDAR	**Pinedale Array**	**146.27**	**272**	*e*PKPdf		**PKPdf**	**19 16 20.3**	**-0.6**	
PDAR	**Pinedale Array**	**146.27**	**272**	PKPbc		**PKPdf**	**19 16 21.0**	**+0.1**	
	1.6nm,0.8s,baz=115,slow=4.9,SNR=12								
RES	**Resolute Bay**	**147.33**	**334**	*e*PKPdf		**PKPbc**	**19 16 23.9**	**+0.2**	
FFC	**Flin Flon**	**147.53**	**296**	*e*PKPbc		**PKPab**	**19 16 27.1**	**+0.1**	
FXWY	**Fox Creek**	**147.65**	**272**	*e*PKPdf		**PKPbc**	**19 16 24.8**	**-1.2**	
YHH	**Holmes Hill**	**148.18**	**274**	*e*PKPdf		**PKPbc**	**19 16 26.6**	**-0.8**	
YHH				*e*PKPbc		**pPKPbc**	**19 16 30.0**	**+0.3**	
ELK	**Elko**	**148.48**	**264**	*e*PKPdf		**PKPdf**	**19 16 26.2**	**+1.6**	
ELK				*e*PKPbc		**sPKPbc**	**19 16 31.0**	**-0.2**	
NV11	**Mina Array Sit**	**148.73**	**258**	*e*PKPbc		**PKPbc**	**19 16 28.9**	**0.0**	
NV01	**Mina Array Sit**	**148.81**	**258**	*e*PKPbc		**PKPbc**	**19 16 29.4**	**+0.3**	
NVAR	**Mina Array Bea**	**148.81**	**258**	PKPbc		**PKPbc**	**19 16 27.9**	**-1.2**	
	4.0nm,0.9s,baz=158,slow=4.3,SNR=6.2								
HLID	**Hailey**	**149.65**	**269**	*e*PKPbc		**PKiKP**	**19 16 32.2**	**+0.2**	
MA2	**Magadan**	**151.82**	**57**	*e*PKPbc		**PKPbc**	**19 16 35.5**	**+0.2**	
MA2	**Magadan**	**151.82**	**57**	PKPbc		**PKPbc**	**19 16 34.6**	**-0.7**	
	6.0nm,0.8s,baz=330,slow=7.3,SNR=12								
BMO	**Blue Mountains**	**152.09**	**269**	*e*PKPdf		**PKPdf**	**19 16 33.1**	**+3.2**	
BMO				*e*PKPbc		**PKPbc**	**19 16 36.5**	**0.0**	
SEY	**Seymchan**	**152.95**	**50**	PKPbc		**PKiKP**	**19 16 38.4**	**+0.5**	
	3.5nm,0.8s,baz=187,slow=0.6,SNR=17								
G08A	**Pilot Rock**	**153.32**	**269**	*e*PKPdf		**PKPdf**	**19 16 34.2**	**+2.5**	
YKA	**Yellowknife Ar**	**155.39**	**309**	PKPab		**PKPab**	**19 16 59.5**	**0.0**	
	1.1nm,0.6s,baz=94,slow=4.9,SNR=22								
YKB5	**Yellowknife Ar**	**155.39**	**309**	*e*PKPdf		**PKPdf**	**19 16 35.9**	**+2.0**	
YKB5				*e*PKPbc		pPKPbc	19 16 42.7	-2.5	
YKB5				*e*PKPab		**PKPab**	**19 16 59.4**	**-0.2**	

IDC 09 19:19:40.1±4.2, 7°33S×144°59E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.4/30, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=104.0km s-min=30.5km az=103.0, Near south coast of New Guinea

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

WRA	**Warramunga Arr**	**16.00**	**217**	Pn		Pn	19 23 24.8	-1.9	
	0.1nm,0.3s,baz=44,slow=13,SNR=5.2								
WRA				Lg		Lg	19 28 01.4		
	0.0nm,0.3s,baz=37,slow=26,SNR=2.8								
ASAR	**Alice Springs**	**19.21**	**211**	P		Pn	19 24 06.6	-0.1	
	0.2nm,0.3s,baz=43,slow=9.3,SNR=21								
FITZ	**Fitzroy Crossi**	**21.34**	**238**	P		P	19 24 29.1	+0.2	
	1.0nm,0.4s,baz=56,slow=11,SNR=7.7								
CMAR	**Chiang Mai Arr**	**51.80**	**300**	P		P	19 28 49.2	-0.9	
	0.5nm,0.8s,baz=114,slow=6.5,SNR=4.9								
MKAR	**Makanchi Array**	**77.01**	**321**	P		P	19 31 35.4	+0.5	
	0.4nm,0.9s,baz=111,slow=6.3,SNR=3.0								

IDC 09 19:23:57.1±0.8, 20°45N×145°22E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/36, mbtmp3.6/9, Error ellipse: s-maj=37.4km s-min=17.0km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**41.50**	**320**	P	P	19 31 46.8	+0.7
	0.2nm,0.4s,baz=136,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**41.54**	**196**	P	P	19 31 46.9	+0.4
	0.3nm,0.6s,baz=12,slow=8.6,SNR=6.4						
FITZ	**Fitzroy Crossi**	**42.85**	**208**	P	P	19 31 58.1	+0.9
	1.8nm,0.9s,baz=29,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**45.22**	**195**	P	P	19 32 16.9	+0.7
	0.2nm,0.7s,baz=15,slow=6.6,SNR=6.7						
STKA	**Stephens Creek**	**52.15**	**184**	P	P	19 33 07.3	-2.1
	1.1nm,0.7s,baz=349,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**56.93**	**313**	P	P	19 33 43.7	-0.5
	0.2nm,0.5s,baz=87,slow=8.8,SNR=3.9						
ILAR	**Eielson Array**	**62.28**	**27**	P	P	19 34 21.0	+0.2
	0.4nm,0.9s,baz=274,slow=4.4,SNR=3.6						
YKA	**Yellowknife Ar**	**76.66**	**28**	P	P	19 35 50.4	+0.8
	0.4nm,0.6s,baz=294,slow=5.7,SNR=6.9						
FINES	**FINESS Array B**	**85.11**	**335**	P	P	19 36 33.2	-1.6
	3.6nm,1.1s,baz=57,slow=5.0,SNR=7.6						

*SOME **09** 19:49:20.0, 39°.95N×77°.17E, h5km*
*KRNET **09** 19:49:22.1±0.1, 40°.06N×77°.23E, mb3.2*
*NNC **09** 19:49:22.5±1.6, 40°.04N×77°.16E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=12.2km s-min=9.6km az=154.0*

ISC 09 19:49:26.0±2.3, 40°22N±0°09×77°18E±0°.03, h1km±12km, n63, σ1°42/100, 25C-24D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.51**	**324**	⇑*iP*	**Pn**	**19 49 52.8**	**-1.7**
	baz=25						
NRN				⇑*iS*	**Sg**	**19 50 15.6**	**+1.1**
	baz=25						
TARG	**Taragay, Kyrgy**	**1.58**	**17**	⇑*iP*	**Pn**	**19 49 54.4**	**-1.2**
	baz=14						
TARG				⇑*iS*	**Sg**	**19 50 18.1**	**+1.2**
	baz=14						
KDJ	**Kajisay**	**1.91**	**0**	⇓*iP*	**Pb**	**19 50 00.1**	**-1.7**
	baz=59						
KDJ				⇓*iS*	**Sg**	**19 50 27.7**	**+0.3**
	baz=59						
ULHL	**Ulahol**	**2.15**	**341**	P	**Pb**	**19 50 05.0**	**-0.8**
	SNR=24						
ULHL	**Ulahol**	**2.15**	**341**	⇑*iP*	**Pn**	**19 50 03.1**	**0.0**
	baz=41						
ULHL				⇑*iS*	**Sb**	**19 50 33.7**	**+0.7**
	baz=41						
KZA	**Kyzart**	**2.36**	**323**	P	**Pb**	**19 50 08.

KOTS	**Kotyrbulak**	**3.02**	**359**	*e*P		**Pb**	**19 50 20.8**	**+0.2**
	11nm,0.4s							
KOTS				*e*S		**Sg**	**19 51 03.8**	**+0.9**
	51nm,0.4s							
AAK	**Ala-Archa**	**3.15**	**321**	⇓Pn		**Pn**	**19 50 17.3**	**+0.4**
AAK				⇑Pg		**Pb**	**19 50 21.8**	**-1.0**
	5.9nm,0.8s							
AAK				⇑Lg		Lg	19 51 06.8	
	32nm,0.9s							
AAK	**Ala-Archa**	**3.15**	**321**	⇓*e*P		**Pn**	**19 50 17.0**	**+0.1**
	baz=22							
AAK				⇓*i*S		**Sn**	**19 50 56.8**	**+1.6**
	baz=22							
DGS	**Degeres**	**3.20**	**341**	*e*P		**Pb**	**19 50 20.0**	**-3.7**
	7.0nm,0.6s							
DGS				*e*S		**Sb**	**19 51 02.6**	**-0.6**
	33nm,0.7s							
AML	**Almayashu**	**3.25**	**307**	P		**Pn**	**19 50 18.9**	**+0.5**
	SNR=11							
AML	**Almayashu**	**3.25**	**307**	⇓*i*P		**Pn**	**19 50 18.4**	**-0.1**
	baz=9.0							
AML				⇓*i*S		**Sn**	**19 50 59.4**	**+1.4**
	baz=9.0							
CHMS	**Chumysh**	**3.32**	**328**	⇑*e*P		**Pn**	**19 50 19.1**	**0.0**
	baz=28							
CHMS				⇑*i*S		**Sn**	**19 51 01.0**	**+1.8**
	baz=28							
KURS	**Kuram**	**3.35**	**12**	Pg		**Pb**	**19 50 26.3**	**0.0**
	11nm,0.6s							
KURS				Lg		Lg	19 51 13.5	
	15nm,1.0s							
KURS	**Kuram**	**3.35**	**12**	*e*P		**Pb**	**19 50 26.3**	**0.0**
	11nm,0.6s							
KURS				⇑*i*S		**Sg**	**19 51 13.5**	**-0.2**
	15nm,1.0s							
KTBS	**Karatobe**	**3.51**	**354**	Pg		**Pb**	**19 50 29.1**	**+0.2**
	5.9nm,0.5s							
KTBS				Lg		Lg	19 51 18.8	
	17nm,0.5s							
KTBS	**Karatobe**	**3.51**	**354**	*e*P		**Pb**	**19 50 29.1**	**+0.2**
	5.9nm,0.5s							
KTBS				*e*S		**Sg**	**19 51 18.8**	**0.0**
	17nm,0.5s							
EKS2	**Erkin-Say**	**3.54**	**315**	⇓*i*P		**Pn**	**19 50 22.4**	**+0.3**
	baz=16							
EKS2				⇓*i*S		**Sn**	**19 51 06.3**	**+1.7**
	baz=16							
PDGK	**Podgornoye**	**3.56**	**28**	Pg		**Pb**	**19 50 29.1**	**-0.7**
	3.4nm,0.5s							
PDGK				Lg		Lg	19 51 18.8	
	15nm,0.6s							
PDGK	**Podgornoye**	**3.56**	**28**	⇑Pn		**Pn**	**19 50 21.6**	**-0.9**
PDGK				⇓Pg		**Pb**	**19 50 28.8**	**-1.0**
	5.3nm,0.6s							
PDGK				⇑Lg		Lg	19 51 20.8	
	28nm,0.6s							
PDGK	**Podgornoye**	**3.56**	**28**	⇑*e*P		**Pn**	**19 50 22.0**	**-0.5**
	baz=27							
PDGK				⇑*i*S		**Sn**	**19 51 06.2**	**+1.0**
	baz=27							
USP	**Ospenovka**	**3.65**	**328**	P		**Sg**	**19 51 21.9**	**-1.2**
	SNR=6.7							
KUU	**Kurty**	**3.73**	**351**	Pg		**Pb**	**19 50 32.4**	**-0.2**
	5.3nm,0.6s							
KUU				Lg		Lg	19 51 24.6	
	32nm,0.7s							
KUU	**Kurty**	**3.73**	**351**	*e*P		**Pb**	**19 50 32.7**	**+0.1**
	1.7nm,0.4s							
KUU				*e*S		**Sg**	**19 51 24.6**	**-1.0**
	32nm,0.7s							
MRKS	**Merke**	**3.90**	**312**	Pg		**Pb**	**19 50 35.6**	**+0.1**
	3.0nm,0.3s							
MRKS				Lg		Lg	19 51 29.3	
	4.9nm,0.7s							
MRKS	**Merke**	**3.90**	**312**	*e*P		**Pb**	**19 50 35.6**	**+0.1**
	3.0nm,0.3s							
MRKS				*e*S		**Sg**	**19 51 29.3**	**-1.9**
	4.9nm,0.7s							
MNBS	**Baschi**	**3.96**	**13**	Pg		**Pb**	**19 50 36.8**	**+0.1**
	5.8nm,0.5s							
MNBS				Lg		Lg	19 51 31.6	
	21nm,0.6s							
MNBS	**Baschi**	**3.96**	**13**	*e*P		**Pb**	**19 50 36.8**	**+0.1**
	5.8nm,0.5s							
MNBS				*e*S		**Sg**	**19 51 31.6**	**-1.7**
	21nm,0.6s							
KTMS	**Ketmen**	**4.00**	**35**	Pg		**Pb**	**19 50 37.3**	**-0.2**
	0.4nm,0.1s							
KTMS				Lg		Lg	19 51 32.2	
	17nm,0.4s							
KTMS	**Ketmen**	**4.00**	**35**	*e*P		**Pb**	**19 50 37.3**	**-0.2**
	0.4nm,0.1s							
KTMS				*e*S		**Sg**	**19 51 32.2**	**-2.4**
	17nm,0.4s							
ARXS	**Arharly**	**4.02**	**7**	Pg		**Pb**	**19 50 38.6**	**+0.9**
	6.3nm,0.6s							
ARXS				Lg		Lg	19 51 34.4	
	17nm,0.5s							
ARXS	**Arharly**	**4.02**	**7**	*e*P		**Pb**	**19 50 38.6**	**+0.9**
	6.3nm,0.6s							
ARXS				*e*S		**Sg**	**19 51 34.4**	**-0.8**
	17nm,0.5s							
DJR	**Jarkent**	**4.55**	**24**	Pg		**Pb**	**19 50 47.2**	**+0.6**
	0.4nm,0.1s							
DJR				Lg		Lg	19 51 49.7	
	4.7nm,0.4s							
DJR	**Jarkent**	**4.55**	**24**	*e*P		**Pb**	**19 50 47.2**	**+0.6**
	0.4nm,0.1s							
DJR				*e*S		**Sg**	**19 51 49.7**	**-2.3**
	4.7nm,0.4s							
KAPS	**Kapalarasan**	**5.31**	**17**	Pg		**Pb**	**19 51 02.8**	**+3.2**
	1.4nm,0.4s							
KAPS				Lg		Lg	19 52 16.6	
	4.9nm,0.7s							
KAPS	**Kapalarasan**	**5.31**	**17**	*e*P		**Pb**	**19 51 02.8**	**+3.2**
	1.4nm,0.4s							
KAPS				*e*S		**Sg**	**19 52 16.6**	**-0.1**
	4.9nm,0.7s							
KK31	**Karatay Array**	**5.76**	**302**	⇓Pg		**Pb**	**19 51 09.3**	**+2.0**
	0.4nm,0.4s,baz=127,slow=15,SNR=2.6							
KK31				Lg		Lg	19 52 29.1	
	1.0nm,0.5s,baz=127,slow=29,SNR=3.0							
MK31	**Makanchi Array**	**7.55**	**28**	⇑Lg		Lg	19 53 27.4	
	1.0nm,0.6s,baz=211,slow=29,SNR=3.8							

*ISCJB **09** 19:51:32.5±0.8, 6.75S±0.07×130.29E±0.09, h90km, mb3.5/3, Error ellipse: s-maj=12.9km s-min=9.7km az=25.9*
*IDC **09** 19:51:33.3±2.5, 6.71S×130.35E, h72km±26km, mb3.4/3, mb1 3.9/8, mb1mx3.6/33, mbtmp4.1/8, Error ellipse: s-maj=37.2km s-min=17.9km az=79.0*
ISC 09 19:51:33.6±0.9, **6.67S**±0.08×**130.4E**±0.1, **h90**km, **n8, σ2s56/10, mb3.4/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.83**	**9**	P	**Pn**	**19 52 58.0**	**+0.3**
	1.3nm,0.3s,baz=191,slow=22,SNR=16						
SIJI				S	**Sn**	**19 53 58.6**	**-4.5**
	3.7nm,0.3s,baz=234,slow=22,SNR=8.3						
BATI	**Baumata**	**7.51**	**242**	P	**Pn**	**19 53 21.3**	**+0.7**
	4.0nm,0.3s,baz=116,slow=3.4,SNR=8.4						
BATI				S	**Sn**	**19 54 42.0**	**-2.3**
	3.1nm,0.3s,baz=80,slow=12,SNR=2.9						
FITZ	**Fitzroy Crossi**	**12.27**	**202**	P	**Pn**	**19 54 22.7**	**-2.5**
	1.6nm,0.3s,baz=32,slow=11,SNR=26						
FITZ				S	Sn	19 56 26.9	-13
	1.1nm,0.3s,baz=18,slow=9.6,SNR=3.8						
WRA	**Warramunga Arr**	**13.75**	**164**	P	**Pn**	**19 54 42.6**	**-2.1**
	1.9nm,0.3s,baz=332,slow=14,SNR=91						
WRA				S	Sn	19 57 05.9	-10
	1.6nm,0.3s,baz=330,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.24**	**169**	P	**Pn**	**19 55 29.2**	**+0.4**
	0.9nm,0.3s,baz=356,slow=11,SNR=61						
ASAR				S	Sn	19 58 27.3	-13
	0.1nm,0.3s,baz=352,slow=27,SNR=3.2						
STKA	**Stephens Creek**	**27.18**	**159**	P	**P**	**19 57 10.6**	**+1.7**
	0.4nm,0.4s,baz=330,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**58.25**	**341**	P	**P**	**20 01 20.7**	**+1.9**
	0.2nm,0.6s,baz=159,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**68.16**	**327**	P	**P**	**20 02 25.8**	**+1.5**
	1.1nm,0.4s,baz=122,slow=8.0,SNR=32						

*IDC **09** 19:58:04.4±1.4, 37.72N×20.55E, h0km, mb3.5/4, mb1 3.4/6, mb1mx3.2/40, mbtmp3.3/6, ML3.1/2, Error ellipse: s-maj=46.1km s-min=22.2km az=129.0*
*ISCJB **09** 19:58:07.0±0.6, 37.45N±0.03×20.57E±0.03, h23km±4km, mb3.4/5, Error ellipse: s-maj=5.0km s-min=3.4km az=40.0*
*ATH **09** 19:58:07.7, 37.49N×20.69E, h32km±1km, ML3.4/22, Error ellipse: s-maj=2.2km s-min=1.1km az=246.0*
*THE **09** 19:58:08.1, 37.51N×20.70E, h8km±1km, ML3.2/5, Error ellipse: s-maj=1.5km s-min=0.8km az=234.0*
ISC 09 19:58:06.7±1.2, **37.49N**±0.03×**20.62E**±0.03, **h17**km±8km, **n88, σ1s31/127, mb3.4/5, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.61**	**46**	P	**Pb**	**19 58 19.6**	**+0.7**
VTN				S	**Sg**	**19 58 26.7**	**-0.3**
VTN	**Vitineika**	**0.61**	**46**	P	**Pb**	**19 58 19.7**	**+0.7**
VTN				S	**Sb**	**19 58 29.0**	**+1.6**
VLS	**Valsamata**	**0.68**	**358**	P	**Pb**	**19 58 21.5**	**+1.3**
VLS				S	**Sb**	**19 58 31.3**	**+1.9**
VLS	**Valsamata**	**0.68**	**358**	P	**Pb**	**19 58 21.6**	**+1.3**
VLS				S	**Sb**	**19 58 31.4**	**+2.1**
VLS				AML	AML	19 58 32.3	
	comp=E,9216μm,0.2s						
VLS				AML	AML	19 58 33.4	
	comp=N,6911μm,0.2s						
AMT	**Artemida-Makis**	**0.86**	**87**	P	**Pb**	**19 58 23.9**	**+0.6**
AMT				S	**Sb**	**19 58 35.6**	**+1.0**
AMT	**Artemida-Makis**	**0.86**	**87**	P	**Pb**	**19 58 24.0**	**+0.8**
AMT				S	**Sb**	**19 58 35.8**	**+1.2**
AMT				AML	AML	19 58 36.2	
	comp=N,8188μm,0.7s						
AMT				AML	AML	19 58 38.0	
	comp=E,9280μm,0.4s						
RLS	**Riolos of Patr**	**0.87**	**50**	P	**Pg**	**19 58 23.4**	**-0.3**
RLS				S	**Sg**	**19 58 34.7**	**-0.5**
RLS	**Riolos of Patr**	**0.87**	**50**	P	**Pg**	**19 58 23.6**	**0.0**
RLS				S	**Sb**	**19 58 35.0**	**+0.2**
RLS				AML	AML	19 58 35.5	
	comp=E,4778μm,0.6s						
RLS				AML	AML	19 58 36.0	
	comp=N,6560μm,0.5s						
DRO	**Drossia**	**0.98**	**62**	P	**Pg**	**19 58 25.2**	**-0.4**
DRO	**Drossia**	**0.98**	**62**	P	**Pg**	**19 58 25.2**	**-0.4**
DRO				S	**Sn**	**19 58 39.5**	**+0.3**
DRO				AML	AML	19 58 42.8	
	comp=E,7460μm,0.3s						
DRO				AML	AML	19 58 42.9	
	comp=N,6380μm,0.5s						
PYL	**PYLOS**	**1.07**	**123**	P	**Pg**	**19 58 27.3**	**-0.2**
PYL	**PYLOS**	**1.07**	**123**	P	**Pg**	**19 58 27.3**	**-0.2**
PYL				S	**Sb**	**19 58 41.8**	**+1.2**
PYL				AML	AML	19 58 48.4	
	comp=E,1540μm,0.5s						
PYL				AML	AML	19 58 53.3	
	comp=N,1157μm,0.5s						
ITM	**Ithomi**	**1.08**	**106**	P	**Pg**	**19 58 27.4**	**-0.2**
ITM				S	**Sb**	**19 58 42.0**	**+1.1**
ITM	**Ithomi**	**1.08**	**106**	P	**Pg**	**19 58 27.5**	**-0.2**
ITM				S	**Sb**	**19 58 42.2**	**+1.2**
ITM				AML	AML	19 58 45.7	
	comp=N,2218μm,0.2s						
ITM				AML	AML	19 58 54.4	
	comp=E,1508μm,1.0s						
EVGI	**Lefkada island**	**1.13**	**1**	P	**Pg**	**19 58 28.3**	**-0.2**
EVGI				S	**Sb**	**19 58 44.1**	**+2.0**
MGNA	**Meganis**	**1.17**	**6**	P	**Pn**	**19 58 30.3**	**+2.0**
MGNA				S	**Sg**	**19 58 44.0**	**-0.6**
MGNA				AML	AML	19 58 47.2	
	comp=E,1858μm,0.1s						
MGNA				AML	AML	19 58 49.2	
	comp=N,2020μm,0.2s						
UPR	**University Cam**	**1.21**	**49**	P	**Pn**	**19 58 30.5**	**+1.6**
UPR				S	**Sn**	**19 58 47.1**	**+2.1**
LKD2	**Lefkada island**	**1.29**	**1**	P	**Pn**	**19 58 31.5**	**+1.4**
LKD2				S	**Sn**	**19 58 49.2**	**+2.2**
LKD2	**Lefkada island**	**1.29**	**1**	P	**Pn**	**19 58 31.4**	**+1.4**
LKD2				S	**Sn**	**19 58 49.3**	**+2.2**
LKD2				AML	AML	19 58 50.1	
	comp=E,5842μm,0.2s						
LKD2				AML	AML	19 58 52.3	
	comp=N,2938μm,0.2s						
LAKA	**Lakka**	**1.31**	**55**	P	**Pn**	**19 58 30.5**	**+0.2**
LAKA				S	**Sb**	**19 58 47.5**	**+0.2**
LAKA	**Lakka**	**1.31**	**55**	P	**Pn**	**19 58 30.4**	**+0.2**
LAKA				S	**Sb**	**19 58 47.8**	**+0.4**
LAKA				AML	AML	19 58 53.3	
	comp=E,1115μm,0.7s						
LAKA				AML	AML	19 58 53.9	
	comp=N,1781μm,0.7s						
TRIP	**Tripoli**	**1.31**	**88**	P	**Pn**	**19 58 30.9**	**+0.6**
TRIP				S	**Sn**	**19 58 49.3**	**+1.8**
TRIP	**Tripoli**	**1.31**	**88**	P	**Pn**	**19 58 30.8**	**+0.6**
TRIP				S	**Sb**	**19 58 46.8**	**-0.7**
TRIP				AML	AML	19 58 52.3	
	comp=E,1377μm,0.5s						
TRIP				AML	AML	19 58 56.6	
	comp=N,950μm,0.8s						
PVO	**Paravola**	**1.33**	**32**	P	**Pg**	**19 58 32.3**	**0.0**
PVO				S	**Sn**	**19 58 49.5**	**+1.7**
PVO	**Paravola**	**1.33**	**32**	P	**Pn**	**19 58 31.9**	**+1.5**
PVO				S	**Sn**	**19 58 49.8**	**+2.0**
PVO				AML	AML	19 58 50.3	
	comp=N,6830μm,0.4s						
PVO				AML	AML	19 58 50.6	
	comp=E,3830μm,0.4s						
KLV	**Kalavryta, Ach**	**1.33**	**65**	P	**Pn**	**19 58 31.1**	**+0.6**
KLV				S	**Sn**	**19 58 48.9**	**+1.0**
KLV	**Kalavryta, Ach**	**1.33**	**65**	P	**Pn**	**19 58 31.2**	**+0.6**
KLV				S	**Sg**	**19 58 48.6**	**-1.0**
KLV				AML	AML	19 58 53.7	
	comp=N,1036μm,0.5s						
KLV				AML	AML	19 58 54.5	
	comp=E,803μm,0.7s						
EFP	**Efpalio**	**1.38**	**47**	P	**Pn**	**19 58 31.7**	**+0.6**
EFP				S	**Sb**	**19 58 49.9**	**+0.6**
EFP	**Efpalio**	**1.38**	**47**	P	**Pn**	**19 58 31.8**	**+0.6**
EFP				S	**Sb**	**19 58 49.4**	**+0.1**
EFP				AML	AML	19 58 54.7	
	comp=E,2162μm,0.4s						
EFP				AML	AML	19 58 55.2	
	comp=N,2212μm,0.6s						
VLX	**Vlachokerasia**	**1.40**	**94**	P	**Pn**	**19 58 32.1**	**+0.5**
VLX				S	**Sg**	**19 58 51.8**	**-0.2**
VLX	**Vlachokerasia**	**1.40**	**94**	P	**Pn**	**19 58 32.0**	**+0.4**
VLX				S	**Sb**	**19 58 49.3**	**-0.9**
VLX				AML	AML	19 58 55.5	
	comp=N,1684μm,0.6s						
VLX				AML	AML	19 58 59.8	
	comp=E,1585μm,0.4s						
ALIK	**Aliki, Aigiali**	**1.40**	**57**	P	**Pb**	**19 58 33.0**	**+0.6**
ALIK				S	**Sg**	**19 58 52.5**	**+0.5**
TRAZ	**Trapeza**	**1.43**	**61**	P	**Pn**	**19 58 33.0**	**+1.1**
TRAZ	**Trapeza**	**1.43**	**61**	P	**Pn**	**19 58 32.9**	**+1.0**
TRAZ				AML	AML	19 58 56.0	
	comp=E,1556μm,0.3s						
TRAZ				AML	AML	19 58 56.7	
	comp=N,2148μm,0.2s						
GUR	**Goura**	**1.43**	**72**	P	**Pn**	**19 58 32.5**	**+0.5**
GUR	**Goura**	**1.43**	**72**	P	**Pn**	**19 58 32.5**	**+0.5**
GUR				S	**Sb**	**19 58 50.2**	**-0.9**
GUR				AML	AML	19 58 57.5	
	comp=E,2487μm,0.4s						
GUR				AML	AML	19 59 02.7	
	comp=N,3487μm,0.4s						
SERG	**Sergoula**	**1.46**	**51**	P	**Pn**	**19 58 33.2**	**+0.9**
SERG				S	**Sg**	**19 58 53.7**	**-0.1**
SERG	**Sergoula**	**1.46**	**51**	P	**Pn**	**19 58 33.1**	**+0.9**
SERG				S	**Sg**	**19 58 52.9**	**-0.9**
SERG				AML	AML	19 58 55.5	
	comp=N,5701μm,0.3s						
SERG				AML	AML	19 58 55.6	
	comp=E,3021μm,0.3s						
KALE	**Kalithea**	**1.50**	**53**	P	**Pn**	**19 58 33.6**	**+0.8**
KALE	**Kalithea**	**1.50**	**53**	P	**Pn**	**19 58 33.7**	**+0.8**
KALE				AML	AML	19 58 57.8	
	comp=N,3202μm,0.4s						
KALE				AML	AML	19 58 57.9	
	comp=E,3188μm,0.5s						
DSL	**Palaion Diasel**	**1.68**	**13**	P	**Pn**	**19 58 37.2**	**+1.8**
DSL				S	**Sb**	**19 58 58.9**	**+0.9**
EVR	**Evrytania**	**1.70**	**33**	P	**Pb**	**19 58 38.1**	**+0.5**
EVR	**Evrytania**	**1.70**	**33**	P	**Pb**	**19 58 37.9**	**+0.4**
EVR				AML	AML	19 59 01.1	
	comp=E,3211μm,0.5s						
EVR				AML	AML	19 59 02.0	
	comp=N,1937μm,0.6s						
DSF	**Desfina**	**1.76**	**58**	P	**Pn**	**19 58 37.1**	**+0.6**
DSF				S	**Sn**	**19 59 00.0**	**+1.4**
DSF	**Desfina**	**1.76**	**58**	P	**Pn**	**19 58 37.2**	**+0.7**
DSF				S	**Sn**	**19 58 59.0**	**+0.4**
DSF				AML	AML	19 59 01.7	
	comp=N,3056μm,0.2s						
DSF				AML	AML	19 59 05.7	
	comp=E,1330μm,0.4s						
DLFA	**Delphi**	**1.78**	**56**	P	**Pn**	**19 58 38.4**	**+1.7**
LTK	**Loutraki**	**1.93**	**73**	P	**Pn**	**19 58 39.0**	**+0.2**
LTK	**Loutraki**	**1.93**	**73**	P	**Pn**	**19 58 39.0**	**+0.2**
PROD	**Prodromos**	**1.96**	**66**	P	**Pn**	**19 58 39.5**	**+0.4**
EPID	**Epidavros**	**1.99**	**86**	P	**Pn**	**19 58 39.6**	**+0.1**
VLI	**Veliai**	**2.00**	**112**	P	**Pn**	**19 58 41.7**	**+1.9**
VLI	**Veliai**	**2.00**	**112**	P	**Pn**	**19 58 41.8**	**+2.0**
KRND	**KRANIDI**	**2.01**	**92**	P	**Pn**	**19 58 39.8**	**-0.1**
KRND	**KRANIDI**	**2.01**	**92**	P	**Pn**	**19 58 39.7**	**-0.1**
AGG	**Agios Georgios**	**2.03**	**41**	P	**Pn**	**19 58 41.4**	**+1.2**
IGT	**Igoumenitsa**	**2.05**	**354**	P	**Pn**	**19 58 41.6**	**+1.2**
IGT	**Igoumenitsa**	**2.05**	**354**	P	**Pn**	**19 58 41.5**	**+1.1**
IGT				AML	AML	19 59 20.1	
	comp=E,535μm,0.4s						
IGT				AML	AML	19 59 26.8	
	comp=N,468μm,0.4s						
DID	**Didima**	**2.08**	**89**	P	**Pn**	**19 58 40.8**	**0.0**
DID				S	**Sb**	**19 59 09.5**	**0.0**
DID	**Didima**	**2.08**	**89**	P	**Pn**	**19 58 41.0**	**+0.1**
VILL	**Villia**	**2.23**	**72**	P	**Pn**	**19 58 42.6**	**-0.4**
KYTH	**Kithira**	**2.30**	**122**	P	**Pn**	**19 58 46.4**	**+2.6**
KEK	**Kerkira**	**2.31**	**344**	P	**Pn**	**19 58 45.8**	**+1.8**
KEK				AML	AML	19 59 30.2	
	comp=E,718μm,0.4s						
KEK				AML	AML	19 59 31.4	
	comp=N,564μm,0.5s						
THL	**Klokotos Trika**	**2.34**	**27**	P	**Pn**	**19 58 45.5**	**+1.1**
VLY	**Voula,Athens**	**2.54**	**81**	P	**Pn**	**19 58 46.7**	**-0.5**
PTL	**Penteli**	**2.63**	**77**	P	**Pn**	**19 58 47.9**	**-0.5**
MRKA	**Markates**	**2.63**	**62**	P	**Pn**	**19 58 48.5**	**+0.1**
ANKY	**Antikythira Is**	**2.70**	**126**	P	**Pn**	**19 58 50.8**	**+1.5**
XOR	**Xorichti**	**2.75**	**46**	P	**Pn**	**19 58 50.0**	**-0.1**
EREA	**Eretria**	**2.77**	**70**	P	**Pn**	**19 58 50.4**	**0.0**
LIT	**Litokhoron**	**2.98**	**29**	P	**Pn**	**19 58 53.7**	**+0.4**
KERA	**Keramoti**	**3.18**	**131**	P	**Pn**	**19 58 57.3**	**+1.3**
BIA	**Bitola**	**3.56**	**9**	*i* Pn	**Pn**	**19 59 02.4**	**+1.1**
CGL1	**Ceglie Messapi**	**4.00**	**323**	*e*Pn	**Pn**	**19 59 08.9**	**+1.7**
CGL1					Sn	**19 59 50.8**	**-2.8**
VAY	**Valandovo**	**4.11**	**21**	*i* Pn	Pn	19 59 05.1	-3.6
MASS	**Massafra**	**4.14**	**320**	*e*Pn	**Pn**	**19 59 10.9**	**+1.7**
FASA	**Fasano**	**4.18**	**324**	*e*Pn	**Pn**	**19 59 11.1**	**+1.4**
STIP	**Stip**	**4.37**	**16**	*i* Pn	**Pn**	**19 59 13.7**	**+1.4**
SG1	**Sgolgore (BA)**	**4.54**	**319**	*e*Pn	**Pn**	**19 59 16.3**	**+1.7**
SG1					Sn	**20 00 04.0**	**-3.0**
BAI	**Bari**	**4.63**	**322**	*e*Pn	**Pn**	**19 59 17.1**	**+1.2**
BAI					Sn	**20 00 07.2**	**-2.1**
STON	**Ston**	**5.82**	**338**	*e*Pn	**Pn**	**19 59 30.7**	**-1.5**
STON					Sn	**20 00 32.4**	**-6.1**
UDBI	**Udbina**	**7.93**	**334**	*e*Pn	**Pn**	**20 00 01.6**	**+0.4**
BRTR	**Keskin Array B**	**10.43**	**74**	Pn	Pn	20 00 40.5	+4.9
	comp=N,0.1nm,0.3s,baz=263,slow=15,SNR=2.6						
AKASG	**Malin Array Be**	**14.56**	**22**	Pn	**Pn**	**20 01 30.5**	**-1.4**
	comp=N,0.3nm,0.3s,baz=210,slow=9.7,SNR=4.0						
FINES	**FINESS Array B**	**24.22**	**6**	P	**P**	**20 03 19.8**	**-2.5**
	comp=N,0.5nm,0.4s,baz=185,slow=9.8,SNR=8.2						
NB2	**NORSAR Subarra**	**24.30**	**349**	P	**P**	**20 03 22.4**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=162,slow=10						
TORD	**Torodi Ar. Bea**	**29.55**	**220**	P	**P**	**20 04 12.6**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=34,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**45.59**	**58**	P	**P**	**20 06 23.6**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=266,slow=8.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**46.09**	**48**	P	**P**	**20 06 29.3**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=282,slow=7.2,SNR=2.8						

*ISCJB **09** 20:02:07.8±0.6, 49.67S±0.07×121.8E±0.1, h10km, mb4.3/14, MS3.6/5, Error ellipse: s-maj=14.0km s-min=10.3km az=7.3*
*IDC **09** 20:02:08.1±0.8, 49.73S×122.07E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.1/29, mbtmp4.2/7, MS3.7/6, Ms1 3.6/6, ms1mx3.5/16, Error ellipse: s-maj=44.9km s-min=16.8km az=101.0*
*NEIC **09** 20:02:09.8±0.4, 49.67S×121.77E, h10km, mb4.5/16, Error ellipse: s-maj=9.2km s-min=6.7km az=97.0*
ISC 09 20:02:09.6±0.7, **49.69S**±0.09×**121.8E**±0.1, **h10**km, **n32, σ0s58/29, mb4.5**/14, **MS3.6/5, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.83**	**336**	T	T	20 22 12.4	
	baz=160,slow=74,SNR=13						
H01W2	**Cape Leeuwin H**	**15.83**	**336**	T	T	20 22 10.2	
	baz=160,slow=74,SNR=16						
H01W3	**Cape Leeuwin H**	**15.84**	**336**	T	T	20 22 11.0	
	baz=160,slow=74,SNR=9.3						
NWAO	**Narrogin (SRO)**	**17.09**	**347**	*e*Pn	**Pn**	**20 06 09.3**	**+0.8**
	39nm,1.4s						
NWAO	**Narrogin (SRO)**	**17.09**	**347**	LR	LR	20 11 13.0	
	comp=Z,145nm,18.6s,baz=2.0,slow=32						
TAU	**Tasmania Unive**	**18.82**	**79**	*e*P	**Pn**	**20 06 30.4**	**+0.7**
	39nm,1.4s						
FORT	**Forrest**	**19.47**	**16**	*e*P	**P**	**20 06 36.8**	**+0.4**
	38nm,1.4s						
BBOO	**Buckleboo**	**19.92**	**37**	*e*P	**Pn**	**20 06 42.1**	**-0.8**
	11nm,0.9s						
TOO	**Toolangi**	**20.88**	**63**	*e*P	**P**	**20 06 52.2**	**+0.5**
	19nm,1.2s						
MORW	**Morawa**	**21.06**	**346**	*e*P	**P**	**20 06 53.5**	**-0.3**
	19nm,1.2s						
STKA	**Stephens Creek**	**23.14**	**47**	*e*P	**P**	**20 07 16.5**	**+0.7**
	2.7nm,

NIED ***09*** *20:08:00, 42.°60N× 145.°00E, h44km, Mw3.8 Best double couple: M◎4.76000×10¹⁴ NP1:φs56.00000°, δ37.00000°, λ-113.00000°. NP2:φs264.00000°, δ57.00000°, λ-74.00000°.*

SKHL ***09*** *20:08:51.7±0.1, 42.°42N× 145.°16E, h59km±8km, mb4.5/6*

MOS ***09*** *20:08:51.5±1.0, 42.°49N× 145.°02E, h56km, mb4.0/4, Error ellipse: s-maj=19.7km s-min=8.9km az=77.2*

JMA ***09*** *20:08:53.1±0.1, 42.°62N× 145.°00E, h48km±1km, M3.8*

IDC ***09*** *20:08:54.5±2.9, 42.°56N× 144.°92E, h60km±21km, mb3.4/8, mb1 3.5/11, mb1mx3.3/39, mbtmp3.7/11, ML3.1/3, Error ellipse: s-maj=23.6km s-min=20.2km az=10.0*

ISC 09 20:08:52.6±1.3, 42.°63N±0.°06× 144.°98E±0.°05, h32km±10km, n44, σ1§37/55, mb3.6/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.42**	**330**	P	**Pn**	**20 09 03.3**	**+0.9**
JKHN	**Kushirohamanak**	**0.47**	**16**	P	**Pn**	**20 09 04.1**	**+1.0**
JKHN				*e*S	**Sn**	**20 09 12.3**	**+2.0**
JOB	**Onbets**	**0.89**	**288**	P	**Pn**	**20 09 09.7**	**+0.9**
NEM2	**Nemuro 2**	**0.92**	**37**	P	**Pn**	**20 09 09.5**	**+0.2**
NEM2				*e*S	**Sb**	**20 09 21.4**	**-0.6**
JNK	**Nakash**	**0.97**	**349**	P	**Pn**	**20 09 10.4**	**+0.4**
JAR	**Ashorobuto**	**1.11**	**307**	P	**Pb**	**20 09 12.5**	**-0.7**
GLVR	**Golovnino**	**1.17**	**19**	*e*P	**Pn**	**20 09 13.0**	**+0.3**
GLVR				AMB	AMB	20 09 15.0	
	64nm,0.2s						
GLVR				*e*S	**Sn**	**20 09 29.0**	**+1.4**
GLVR				A	A	20 09 30.0	
	3μm,0.3s						
GLVR				A	A	20 09 30.0	
	430nm,0.3s						
GLVR	**Golovnino**	**1.17**	**19**	*e*PN	**Pn**	**20 09 13.6**	**+0.9**
GLVR				*e*S	**Sn**	**20 09 29.9**	**+2.3**
GLVR				pmax	pmax		
	comp=Z,636nm,0.1s						
GLVR				smax	smax		
	comp=N,3μm,0.3s						
GLVR				smax	smax		
	comp=E,4μm,0.3s						
JCH	**Churui**	**1.19**	**270**	P	**Pb**	**20 09 14.2**	**-0.4**
JCH				*e*S	**Sb**	**20 09 30.3**	**+0.6**
JTHR	**Tokachihiroo**	**1.29**	**255**	P	**Pb**	**20 09 16.0**	**-0.2**
JRA	**Rausu**	**1.31**	**4**	P	**Pn**	**20 09 15.2**	**+0.6**
JRA				*e*S	**Sn**	**20 09 32.7**	**+1.7**
GRPR	**Tuman**	**1.48**	**23**	*e*P	**Pn**	**20 09 17.0**	**+0.1**
GRPR				AMB	AMB	20 09 18.0	
	comp=E,78nm,0.3s						
GRPR				AMB	AMB	20 09 18.0	
	comp=E,273nm,0.3s						
GRPR				*e*S	**Sn**	**20 09 36.0**	**+0.9**
GRPR				A	A	20 09 37.0	
	comp=E,3μm,0.4s						
GRPR				A	A	20 09 37.0	
	comp=E,256nm,0.4s						
GRPR	**Tuman**	**1.48**	**23**	*e*PN	**Pn**	**20 09 17.9**	**+1.0**
GRPR				*e*S	**Sn**	**20 09 36.6**	**+1.5**
GRPR				pmax	pmax		
	comp=E,78nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,273nm,0.2s						
GRPR				pmax	pmax		
	comp=N,76nm,0.1s						
GRPR				smax	smax		
	comp=N,3μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
JEM	**Erimo**	**1.49**	**246**	P	**Pb**	**20 09 19.5**	**0.0**
LAGR	**Lagunnoye**	**1.54**	**22**	*e*P	**Pn**	**20 09 19.0**	**+1.3**
LAGR				AMB	AMB	20 09 20.0	
	comp=E,395nm,0.3s						
LAGR				*e*S	**Sn**	**20 09 38.0**	**+1.4**
LAGR				A	A	20 09 40.0	
	comp=E,2μm,0.3s						
LAGR				A	A	20 09 40.0	
	comp=E,247nm,0.3s						
LAGR	**Lagunnoye**	**1.54**	**22**	PN	**Pn**	**20 09 19.1**	**+1.3**
LAGR				S	**Sn**	**20 09 38.3**	**+1.7**
LAGR				pmax	pmax		
	comp=Z,395nm,0.2s						
LAGR				pmax	pmax		
	comp=N,55nm,0.1s						
LAGR				smax	smax		
	comp=N,2μm,0.2s						
LAGR				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**24**	*e*P	**Pn**	**20 09 18.0**	**+0.2**
YUK				AMB	AMB	20 09 21.0	
	comp=E,382nm,0.3s						
YUK				*e*S	**Sn**	**20 09 38.0**	**+1.3**
YUK				A	A	20 09 43.0	
	comp=E,1μm,0.3s						
YUK				A	A	20 09 43.0	
	comp=E,343nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.54**	**24**	*e*PN	**Pn**	**20 09 18.4**	**+0.6**
YUK				*e*S	**Sn**	**20 09 38.3**	**+1.6**
YUK				pmax	pmax		
	comp=Z,382nm,0.4s						
YUK				pmax	pmax		
	comp=E,146nm,0.1s						
YUK				pmax	pmax		
	comp=N,138nm,0.2s						
YUK				smax	smax		
	comp=N,1μm,0.3s						
YUK				smax	smax		
	comp=E,343nm,0.2s						
JTKR	**Abashiri--Toko**	**1.55**	**330**	P	**Pn**	**20 09 19.2**	**+1.3**
JTKR				*e*S	**Sn**	**20 09 39.1**	**+2.2**
SHO	**Shikotan**	**1.83**	**47**	*e*P	**Pn**	**20 09 22.0**	**+0.2**
SHO				AMB	AMB	20 09 25.0	
	comp=E,8.0nm,0.2s						
SHO				AMB	AMB	20 09 25.0	
	comp=E,16nm,0.2s						
SHO				AMB	AMB	20 09 25.0	
	comp=E,39nm,0.2s						
SHO				*e*S	**Sn**	**20 09 44.0**	**+0.1**
SHO				A	A	20 09 46.0	
	comp=E,364nm,0.4s						
SHO				A	A	20 09 46.0	
	comp=E,565nm,0.4s						
JKA	**Kamikawa-asahi**	**2.28**	**311**	*e*P	**Pb**	**20 09 30.8**	**-2.3**
ASAJ	**Asahikawa**	**2.28**	**311**	P	**Pb**	**20 09 30.8**	**-2.3**
	comp=E,12nm,0.3s,baz=125,slow=15,SNR=57						
ASAJ				S	**Sn**	**20 09 57.9**	**+2.9**
	comp=E,14nm,0.3s,baz=130,slow=33,SNR=14						
KUR	**Kuril'sk**	**3.33**	**38**	*e*P	**Pn**	**20 09 44.0**	**+1.6**
KUR				AMB	AMB	20 09 46.0	
	comp=E,11nm,0.3s						
KUR				AMB	AMB	20 09 46.0	
	comp=E,9.0nm,0.3s						
KUR				AMB	AMB	20 09 46.0	
	comp=E,27nm,0.3s						
KUR				*e*S	**Sn**	**20 10 23.0**	**+2.1**
KUR				A	A	20 10 32.0	
	comp=E,155nm,0.3s						
KUR				A	A	20 10 32.0	
	comp=E,92nm,0.3s						
KUR	**Kuril'sk**	**3.33**	**38**	*e*PN	**Pn**	**20 09 44.9**	**+2.5**
KUR				*e*S	**Sn**	**20 10 23.4**	**+2.5**
KUR				pmax	pmax		
	comp=Z,27nm,0.6s						
KUR				pmax	pmax		
	comp=N,11nm,0.3s						
KUR				pmax	pmax		
	comp=E,9.0nm,0.3s						
KUR				smax	smax		
	comp=E,92nm,0.4s						
KUR				smax	smax		
	comp=E,55nm,0.3s						
MJAR	**Matsushiro Arr**	**8.02**	**223**	P	**Pn**	**20 10 46.8**	**0.0**
	comp=E,0.1nm,0.3s,baz=29,slow=14,SNR=10						
PETK	**Petropavlovsk-**	**13.49**	**35**	P	**Pn**	**20 12 03.4**	**+1.8**
	comp=E,0.1nm,0.3s,baz=204,slow=14,SNR=3.3						
SONM	**Songino Array**	**27.46**	**294**	P	**P**	**20 14 35.9**	**+0.2**
	comp=E,1.1nm,0.8s,baz=80,slow=7.0,SNR=10						
H11N2	**WAKE ISLAND Hy**	**29.38**	**134**	T	T	20 46 00.3	
	baz=327,slow=75,SNR=32						
H11N1	**WAKE ISLAND Hy**	**29.39**	**134**	T	T	20 45 56.3	
	baz=327,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**29.40**	**134**	T	T	20 46 02.6	
	baz=327,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**30.29**	**136**	T	T	20 47 07.6	
	baz=328,slow=76,SNR=40						
H11S3	**WAKE ISLAND Hy**	**30.30**	**136**	T	T	20 47 07.5	
	baz=328,slow=76,SNR=32						
H11S2	**WAKE ISLAND Hy**	**30.31**	**136**	T	T	20 47 08.5	
	baz=328,slow=76,SNR=27						
ILAR	**Eielson Array**	**43.32**	**35**	P	**P**	**20 16 50.4**	**-0.7**
	comp=E,0.3nm,0.4s,baz=249,slow=6.0,SNR=5.7						
MKAR	**Makanchi Array**	**43.70**	**298**	P	**P**	**20 16 52.7**	**-1.7**
	comp=E,0.4nm,0.5s,baz=83,slow=10,SNR=8.0						
KURK	**Kurchatov**	**44.84**	**304**	*e*P	**P**	**20 17 03.3**	**-0.2**
KURK	**Kurchatov**	**44.84**	**304**	P	**P**	**20 17 03.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**44.92**	**304**	P	**P**	**20 17 03.3**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=77,slow=8.6,SNR=5.8						
INK	**Inuvik**	**48.16**	**30**	P	**P**	**20 17 29.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=280,slow=6.9,SNR=5.1						
FINES	**FINESS Array B**	**65.14**	**332**	*e*P	**P**	**20 19 29.0**	**-0.9**
FINES	**FINESS Array B**	**65.14**	**332**	P	**P**	**20 19 29.0**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**65.14**	**332**	P	**P**	**20 19 29.0**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=44,slow=5.8,SNR=7.0						
NOA	**NORSAR Array B**	**70.06**	**338**	P	**P**	**20 20 00.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=33,slow=6.4,SNR=3.2						
AKASG	**Malin Array Be**	**71.53**	**323**	P	**P**	**20 20 07.9**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=43,slow=6.4,SNR=3.0						

NIED ***09*** *20:11:00, 42.°70N× 145.°00E, h44km, Mw5.1 Best double couple: M◎4.50000×10¹⁶ NP1:φs77.00000°, δ29.00000°, λ-93.00000°. NP2:φs261.00000°, δ61.00000°, λ-88.00000°.*

ISCJB ***09*** *20:11:29.7±0.3, 42.°57N±0.°02× 144.°98E±0.°02, h42km±2km, mb4.9/325, MS4.5/62, Error ellipse: s-maj=3.4km s-min=1.9km az=148.8*

SKHL ***09*** *20:11:29.9±0.5, 42.°45N× 145.°18E, h54km±4km, mb5.5/8, mbh5.0/1, Ms4.7/5, msh5.4/4*

SKHL Felt (II) at Yushno-Kuril'sk.

BJI ***09*** *20:11:29.9, 42.°70N× 144.°98E, h49km, mb5.0/76, mB5.1/49, Ms4.5/64, Ms7 4.3/57*

JMA ***09*** *20:11:30.6±0.1, 42.°62N× 144.°99E, h49km±1km, M5.1*

JMA Felt III J1.

MOS ***09*** *20:11:30.4±1.0, 42.°63N× 144.°99E, h51km, mb5.2/92, MS4.5/21, Error ellipse: s-maj=5.3km s-min=3.7km az=95.1*

MOS Felt (II) at Yuzhno-Kuril'sk.

NEIC ***09*** *20:11:31.9±0.3, 42.°63N× 144.°94E, h48km±3km, mb4.9/233, Error ellipse: s-maj=3.0km s-min=1.7km az=145.0*

NEIC Felt at Misawa, Honshu. Recorded [3 JMA] in southeastern Hokkaido.

GCMT ***09*** *20:11:31.9±0.3, 42.°62N±0.°02× 144.°96E±0.°03, h36km, MW5.0/74, Moment Tensor Solution. s58,c78; s74,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.80±.18; Mθθ4.28±.11; Mφφ-0.48±.12; Mrθ1.73±.13; Mφθ0.62±.10; Mφr0.04±.13; Best double couple: M◎4.43300×10¹⁶ NP1:φs265.00000°, δ56.00000°, λ-87.00000°. NP2: φs80.00000°, δ34.00000°, λ-95.00000°. Principal axes: T 4.7080, Plg11.0000°, Azm353.0000°; N -0.5530, Plg3.0000°, Azm84.0000°; P -4.1570, Plg78.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***09*** *20:11:33.4±1.8, 42.°62N× 144.°95E, h61km±15km, mb4.3/27, mb1 4.5/33, mb1mx4.5/40, mbtmp4.6/33, MS4.4/38, Ms1 4.4/38, ms1mx4.3/44 Error ellipse: s-maj=12.4km s-min=10.3km az=105.0*

BGR ***09*** *20:11:43.6±0.0, 44.°64N× 143.°84E, h33km, mb5.0, Ms4.7*

ISC 09 20:11:30.8±0.3, 42.°61N±0.°03× 145.°00E±0.°03, h39km±2km, h40km:pP-P, n1028, σ1§22/1078, mb4.9/331, MS4.5/63, 55C-19D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.45**	**331**	⇑P	**Pn**	**20 11 40.8**	**0.0**
JAK				*e*S	**Sn**	**20 11 48.5**	**+0.7**
JKHN	**Kushirohamanak**	**0.49**	**14**	P	**Pn**	**20 11 41.7**	**+0.3**
JKHN				*e*S	**Sn**	**20 11 49.9**	**+1.1**
JOB	**Onbets**	**0.91**	**290**	⇑P	**Pn**	**20 11 47.3**	**+0.3**
JOB				*e*S	**Sn**	**20 12 00.0**	**+1.1**
NEM2	**Nemuro 2**	**0.94**	**36**	⇑P	**Pn**	**20 11 47.1**	**-0.4**
NEM2				*e*S	**Sn**	**20 11 59.5**	**-0.1**
JNK	**Nakash**	**1.00**	**348**	⇑P	**Pn**	**20 11 48.0**	**-0.3**
JNK				*e*S	**Sn**	**20 12 00.6**	**-0.6**
JAR	**Ashorobuto**	**1.14**	**308**	⇑P	**Pn**	**20 11 50.0**	**-0.2**
GLVR	**Golovnino**	**1.20**	**19**	*e*P	**Pn**	**20 11 51.0**	**0.0**
GLVR				AMB	AMB	20 11 52.0	
	2μm,0.3s						
GLVR				AMB	AMB	20 11 52.0	
	689nm,0.3s						
GLVR				AMB	AMB	20 11 52.0	
	11μm,0.3s						
GLVR				*e*S	**Sn**	**20 12 07.0**	**+1.0**
GLVR				A	A	20 12 08.0	
	48μm,0.3s						
GLVR				A	A	20 12 08.0	
	48μm,0.3s						
GLVR	**Golovnino**	**1.20**	**19**	*e*PN	**Pn**	**20 11 51.2**	**+0.2**
GLVR				*e*S	**Sn**	**20 12 07.3**	**+1.3**
GLVR				pmax	pmax		
	comp=Z,11μm,0.4s						
GLVR				pmax	pmax		
	comp=N,2μm,0.3s						
GLVR				pmax	pmax		
	comp=E,689nm,0.1s						
GLVR				smax	smax		
	comp=N,48μm,0.3s						
GLVR				smax	smax		
	comp=E,48μm,0.3s						
JCH	**Churui**	**1.21**	**271**	⇑P	**Pn**	**20 11 51.5**	**+0.4**
JCH				*e*S	**Sn**	**20 12 06.7**	**+0.5**
JRA	**Rausu**	**1.33**	**4**	⇑P	**Pn**	**20 11 52.8**	**-0.1**
JRA				*e*S	**Sn**	**20 12 09.7**	**+0.3**
ERM	**Erimo**	**1.48**	**247**	*e*Pn	**Pn**	**20 11 56.4**	**+1.5**
ERM				*e*Sn	**Sn**	**20 12 15.9**	**+2.8**
ERM	**Erimo**	**1.48**	**247**	*e*P	**Pn**	**20 11 57.3**	**+2.3**
ERM	**Erimo**	**1.48**	**247**	*ce*PN	**Pn**	**20 11 57.3**	**+2.3**
ERM				pmax	pmax		
	comp=Z,2μm,0.8s						
GRPR	**Tuman**	**1.50**	**22**	*e*P	**Pn**	**20 11 55.0**	**-0.2**
GRPR				AMB	AMB	20 11 56.0	
	comp=Z,1μm,0.2s						
GRPR				AMB	AMB	20 11 56.0	
	comp=Z,2μm,0.2s						
GRPR				AMB	AMB	20 11 56.0	
	comp=Z,7μm,0.2s						
GRPR				*e*S	**Sn**	**20 12 14.0**	**+0.5**
GRPR				A	A	20 12 16.0	
	comp=Z,26μm,0.4s						
GRPR				A	A	20 12 16.0	
	comp=Z,19μm,0.4s						
GRPR	**Tuman**	**1.50**	**22**	*e*PN	**Pn**	**20 11 55.4**	**+0.2**
GRPR				*e*S	**Sn**	**20 12 14.4**	**+0.9**
GRPR				pmax	pmax		
	comp=N,1μm,0.2s						
GRPR				pmax	pmax		
	comp=Z,7μm,0.2s						
GRPR				pmax	pmax		
	comp=E,2μm,0.1s						
GRPR				smax	smax		
	comp=E,19μm,0.2s						
GRPR				smax	smax		
	comp=N,26μm,0.4s						
LAGR	**Lagunnoye**	**1.56**	**21**	*e*P	**Pn**	**20 11 56.0**	**0.0**
LAGR				AMB	AMB	20 11 58.0	
	comp=N,1μm,0.2s						
LAGR				AMB	AMB	20 11 58.0	
	comp=N,9μm,0.2s						
LAGR				*e*S	**Sn**	**20 12 15.9**	**+0.9**
LAGR				A	A	20 12 18.0	
	comp=N,41μm,0.2s						
LAGR				A	A	20 12 18.0	
	comp=N,22μm,0.2s						
LAGR	**Lagunnoye**	**1.56**	**21**	*e*PN	**Pn**	**20 11 56.4**	**+0.4**
LAGR				*e*S	**Sn**	**20 12 15.5**	**+0.5**
LAGR				pmax	pmax		
	comp=E,1μm,0.1s						
LAGR				pmax	pmax		
	comp=Z,9μm,0.1s						
LAGR				smax	smax		
	comp=N,41μm,0.2s						
LAGR				smax	smax		
	comp=E,22μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**24**	*e*P	**Pn**	**20 11 56.2**	**+0.2**
YUK				AMB	AMB	20 11 57.0	
	comp=E,8μm,0.4s						
YUK				*e*S	**Sn**	**20 12 15.4**	**+0.4**
YUK				A	A	20 12 22.0	
	comp=E,16μm,0.4s						
YUK				A	A	20 12 22.0	
	comp=E,14μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.56**	**24**	*c i*PN	**Pn**	**20 11 56.1**	**+0.1**
JTKR	**Abashiri--Toko**	**1.58**	**330**	⇑P	**Pn**	**20 11 56.8**	**+0.5**
JMP	**Maruseppu**	**1.84**	**320**	⇑P	**Pn**	**20 12 01.0**	**+1.1**
JKK2	**Kamakawa 2**	**2.07**	**308**	⇑P	**Pn**	**20 12 04.4**	**+1.3**
ASAJ	**Asahikawa**	**2.31**	**312**	⇑P	**Pn**	**20 12 08.0**	**+1.7**
ASAJ	**Asahikawa**	**2.31**	**312**	P	**Pn**	**20 12 08.1**	**+1.7**
	comp=E,374nm,0.3s,baz=160,slow=11,SNR=155						
ASAJ				S	**Sn**	**20 12 36.8**	**+3.3**
	comp=E,369nm,0.3s,baz=41,slow=23,SNR=23						
ASAJ				LR	LR	20 13 17.1	
	comp=E,8μm,21.4s,baz=114,slow=45						
JAHD	**Aomorihigashid**	**3.04**	**245**	P	**Pn**	**20 12 17.2**	**+0.9**
KUR	**Kuril'sk**	**3.35**	**37**	*e*P	**Pn**	**20 12 22.1**	**+1.6**
KUR				AMB	AMB	20 12 23.0	
	comp=E,96nm,0.3s						
KUR				AMB	AMB	20 12 23.0	
	comp=E,86nm,0.3s						
KUR				AMB	AMB	20 12 23.0	
	comp=E,530nm,0.3s						
KUR				*e*S	**Sn**	**20 12 59.9**	**+0.9**
KUR				A	A	20 13 07.7	
	comp=E,670nm,0.4s						
KUR				A	A	20 13 07.7	
	comp=E,1μm,0.4s						
KUR				AMS	AMS	20 13 54.6	
	comp=E,11μm,9.0s						
KUR				AMS	AMS	20 13 54.6	
	comp=E,9μm,9.0s						
KUR				AMS	AMS	20 13 54.6	
	comp=E,6μm,9.0s						
KUR	**Kuril'sk**	**3.35**	**37**	*c i*PN	**Pn**	**20 12 22.5**	**+2.0**
KUR				*e*S	**Sn**	**20 13 00.5**	**+1.5**
KUR				pmax	pmax		
	comp=Z,535nm,0.6s						
KUR				pmax	pmax		
	comp=N,189nm,0.2s						
KUR				pmax	pmax		
	comp=E,97nm,0.4s						
KUR				smax	smax		
	comp=E,1μm,0.6s						
KUR				smax	smax		
	comp=N,668nm,0.3s						
KUR				smax	smax		
	comp=N,11μm,2.7s						
KUR				smax	smax		
	comp=E,8μm,2.3s						
YSS	**Yuzh-Sakhalins**	**4.63**	**341**	*e*P	**Pn**	**20 12 39.6**	**+1.4**
YSS				AMB	AMB	20 12 41.2	
	comp=E,600nm,7.0s						
YSS				AMB	AMB	20 12 41.2	
	comp=E,400nm,7.0s						
YSS				AMB	AMB	20 12 41.2	
	comp=E,600nm,7.0s						
YSS				AMB	AMB	20 12 41.4	
	comp=E,20nm,0.7s						
YSS				AMB	AMB	20 12 41.4	
	comp=E,30nm,0.7s						
YSS				AMB	AMB	20 12 41.4	
	comp=E,50nm,0.7s						
YSS				*e*S	**Sn**	**20 13 32.6**	**+2.0**
YSS				AMS	AMS	20 14 41.0	
	comp=E,6μm,18.0s						
YSS	**Yuzh-Sakhalins**	**4.63**	**341**	⇑*e*PN	**Pn**	**20 12 38.6**	**+0.4**
YSS				*e*S	**Sn**	**20 13 31.8**	**+1.2**
YSS				pmax	pmax		
	comp=Z,600nm,7.3s						
YSS				pmax	pmax		
	comp=N,600nm,9.3s						
YSS				pmax	pmax		
	comp=E,400nm,4.0s						
YSS				pmax	pmax		
	comp=N,20nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				pmax	pmax		
	comp=E,30nm,0.7s						
YSS				smax	smax		
	comp=N,100nm,0.7s						
YSS				smax	smax		
	comp=E,100nm,1.2s						
YSS				MLR	MLR		
	comp=Z,6μm,18.0s						
JFK	**Kawauchi**	**6.11**	**213**	P	**Pn**	**20 12 57.0**	**-1.6**
TEY	**Ternei**	**6.54**	**295**	*e*P	**Pn**	**20 13 08.9**	**+4.5**
TEY				AMB	AMB	20 13 09.9	
	comp=Z,80nm,0.9s						
TEY				AMB	AMB	20 13 09.9	
	comp=Z,20nm,0.9s						
TEY				AMS	AMS	20 15 28.4	
	comp=Z,3μm,19.0s						
TEY				AMS	AMS	20 15 28.4	
	comp=Z,3μm,19.0s						
TEY	**Ternei**	**6.54**	**295**	⇑*e*PN	**Pn**	**20 13 08.9**	**+4.5**
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY				pmax	pmax		
	comp=E,80nm,1.1s						
TEY				pmax	pmax		
	comp=N,20nm,1.4s						
TEY				MLR	MLR		
	comp=E,3μm,21.0s						
TEY				MLR	MLR		
	comp=Z,3μm,19.0s						
UGL	**Uglegorsk**	**6.79**	**343**	*e*P	**Pn**	**20 13 10.0**	**+2.2**
UGL				AMB	AMB	20 13 12.0	
	comp=Z,40nm,0.7s						
UGL				AMB	AMB	20 13 12.7	
	comp=Z,510nm,3.0s						
UGL				*e*S	**Sn**	**20 14 28.0**	**+4.3**
UGL				A	A	20 14 38.0	
	comp=Z,2μm,5.0s						
UGL				A	A	20 14 38.0	
	comp=Z,2μm,5.0s						
UGL				AMS	AMS	20 16 08.0	
	comp=Z,4μm,15.0s						
UGL				AMS	AMS	20 16 08.0	
	comp=Z,5μm,15.0s						
UGL	**Uglegorsk**	**6.79**	**343**	*e*PN	**Pn**	**20 13 10.6**	**+2.8**
UGL				*e*S	**Sn**	**20 14 28.0**	**+4.3**
UGL				pmax	pmax		
	comp=Z,42nm,0.7s						
UGL				smax	smax		
	comp=N,2μm,5.1s						
UGL				MLR	MLR		
	comp=Z,5μm,15.0s						
UGL				MLR	MLR		
	comp=N,4μm,6.0s						
UGL				MLR	MLR		
	comp=E,1μm,7.0s						
MJB9	**Matsu-Tunnel**	**8.01**	**223**	*e*Pn	**Pn**	**20 13 24.8**	**+0.2**
MAJO	**Matsushiro**	**8.01**	**223**	*e*Pn	**Pn**	**20 13 24.8**	**+0.2**
MAJO				*e*Sn	**Sn**	**20 14 47.8**	**-6.0**
MAJO	**Matsushiro**	**8.01**	**223**	*e*P	**Pn**	**20 13 24.2**	**-0.4**
MAJO	**Matsushiro**	**8.01**	**223**	*c i*PN	**Pn**	**20 13 24.2**	**-0.4**
MAT	**Matsushiro**	**8.01**	**223**	P	**Pn**	**20 13 24.7**	**+0.1**
MAT				S	**Sn**	**20 14 54.3**	**+0.5**
MJAR	**Matsushiro Arr**	**8.01**	**223**	P	**Pn**	**20 13 24.9**	**+0.3**
	comp=E,0.8nm,0.3s,baz=28,slow=13,SNR=82						
MJAR				S	**Sn**	**20 14 47.8**	**-6.0**
	comp=E,0.5nm,0.3s,baz=45,slow=38,SNR=2.5						
MJAR				LR	LR	20 17 15.2	
	comp=E,3μm,19.4s,baz=45,slow=43						
TYV	**Tymovskoe**	**8.41**	**350**	*e*P	**Pn**	**20 13 32.6**	**+2.5**
TYV				AMB	AMB	20 13 33.8	
	comp=E,500nm,4.0s						
TYV				AMB	AMB	20 13 33.9	
	comp=E,22nm,1.0s						
TYV				*e*S	**Sn**	**20 15 04.4**	**+0.7**
TYV				A	A	20 15 12.0	
	comp=E,200nm,3.0s						
TYV				AMS	AMS	20 17 58.3	
	comp=E,2μm,19.0s						
TYV	**Tymovskoe**	**8.41**	**350**	*e*PN	**Pn**	**20 13 32.5**	**+2.5**
TYV				pmax	pmax		
	comp=Z,500nm,3.7s						
TYV				pmax	pmax		
	comp=Z,22nm,1.0s						
TYV				MLR	MLR		

	comp=Z,2µm,19.0s								
INU	**Inuyama**	**9.54**	**223**	*e*Pn		**Pn**	**20 13 46.2**	**+0.7**
USA0B	**Ussuriysk Arra**	**9.60**	**284**	*e*Pn		**Pn**	**20 13 49.0**	**+2.6**
USA0B	**Ussuriysk Arra**	**9.60**	**284**	*e*PN		**Pn**	**20 13 48.9**	**+2.6**
USRK	**Ussuriysk Ar.**	**9.60**	**284**	P		**Pn**	**20 13 48.9**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=92,slow=13,SNR=16								
USRK				LR		LR	20 17 30.7		
	comp=Z,1µm,20.3s,baz=84,slow=37								
VLA	**Vladivostok**	**9.64**	**277**	*e*P		**Pn**	**20 13 49.4**	**+2.5**
VLA	**Vladivostok**	**9.64**	**277**	*i* PN		**Pn**	**20 13 49.4**	**+2.5**
GRNR	**Gornyy**	**10.06**	**327**	*e*P		**Pn**	**20 13 55.2**	**+2.5**
GRNR				AMB		AMB	20 13 58.7		
	comp=Z,70nm,1.0s								
GRNR	**Gornyy**	**10.06**	**327**	*e*PN		**Pn**	**20 13 55.2**	**+2.5**
GRNR				pmax		pmax			
	comp=Z,70nm,1.1s								
MSHR	**Mys Shultsa**	**10.21**	**275**	*i* PN		**Pn**	**20 13 56.5**	**+1.9**
JHJ2	**Mitsune**	**10.32**	**205**	*e*Pn		**Pn**	**20 13 56.3**	**0.0**
JHJ2				*e*Sn		Sn	20 15 40.4	-10	
JHJ	**Hachijo jima 2**	**10.32**	**205**	P		**Pn**	**20 13 53.6**	**-2.7**
	comp=Z,18nm,0.3s,baz=45,slow=11,SNR=3.9								
JHJ				S		Sn	20 15 38.2	-13	
	comp=Z,34nm,0.3s,baz=66,slow=20,SNR=6.7								
NKL	**Nikolayevsk**	**10.94**	**346**	*e*P		**Pn**	**20 14 07.0**	**+2.4**
NKL				AMB		AMB	20 14 11.6		
	comp=Z,155nm,2.0s								
NKL				AMB		AMB	20 14 13.0		
	comp=Z,700nm,10.0s								
NKL				AMS		AMS	20 22 06.0		
	comp=Z,1µm,16.0s								
NKL	**Nikolayevsk**	**10.94**	**346**	*e*PN		**Pn**	**20 14 07.0**	**+2.4**
NKL				pmax		pmax			
	comp=Z,155nm,1.6s								
NKL				pmax		pmax			
	comp=Z,700nm,10.0s								
OKH	**Okha**	**11.04**	**354**	*i* P		**Pn**	**20 14 09.0**	**+3.1**
OKH				AMB		AMB	20 14 13.7		
	comp=Z,230nm,3.0s								
OKH				*e*S		**Sn**	**20 16 11.1**	**+3.2**
OKH				A		A	20 16 14.1		
	comp=Z,790nm,3.0s								
OKH				A		A	20 16 14.1		
	comp=Z,330nm,3.0s								
OKH				AMS		AMS	20 19 39.1		
	comp=Z,2µm,16.0s								
SKR	**Severo-Kuril's**	**11.11**	**40**	*e*P		**Pn**	**20 14 06.2**	**-0.8**
SKR				AMB		AMB	20 14 09.4		
	comp=Z,1µm,3.0s								
SKR				*e*S		Sn	20 16 49.8	+40	
SKR				A		A	20 17 08.3		
	comp=Z,2µm,3.0s								
SKR				A		A	20 17 08.3		
	comp=Z,1µm,3.0s								
SKR				AMS		AMS	20 19 00.5		
	comp=Z,1µm,17.0s								
SKR	**Severo-Kuril's**	**11.11**	**40**	*i* PN		**Pn**	**20 14 06.2**	**-0.8**
KLR	**Kul'dur**	**11.35**	**310**	*e*P		**Pn**	**20 14 13.7**	**+3.5**
KLR	**Kul'dur**	**11.35**	**310**	*c i*PN		**Pn**	**20 14 13.7**	**+3.5**
KLR	**Kul'dur**	**11.35**	**310**	P		**Pn**	**20 14 13.3**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=117,slow=13,SNR=64								
KLR				LR		LR	20 19 03.6		
	comp=Z,3µm,19.8s,baz=126,slow=40								
MDJ	**Mudanjiang**	**11.35**	**285**	P		**Pn**	**20 14 12.9**	**+2.6**
MDJ				sP			20 14 27.8		
MDJ				pmax		pmax			
	comp=Z,20nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,250nm,3.6s								
MDJ	**Mudanjiang**	**11.35**	**285**	*e*Pn		**Pn**	**20 14 10.6**	**+0.4**
EKMR	**Ekimchan**	**13.21**	**327**	*e*P		**Pn**	**20 14 37.9**	**+2.2**
EKMR				AMB		AMB	20 14 42.0		
	comp=Z,49nm,1.0s								
PEA0B	**Petropavlovsk-**	**13.51**	**35**	*e*Pn		**Pn**	**20 14 39.0**	**-0.7**
PEA0B	**Petropavlovsk-**	**13.51**	**35**	*e*P		**Pn**	**20 14 39.0**	**-0.7**
PETK	**Petropavlovsk-**	**13.51**	**35**	*e*Pn		**Pn**	**20 14 38.8**	**-1.0**
PETK	**Petropavlovsk-**	**13.51**	**35**	P		**Pn**	**20 14 38.9**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=200,slow=9.8,SNR=11								
PETK				LR		LR	20 19 48.4		
	comp=Z,980nm,18.0s,baz=224,slow=37								
PEA1	**Petropavlovsk-**	**13.51**	**35**	*e*Pn		**Pn**	**20 14 38.9**	**-0.9**
PET	**Petropavlovsk**	**13.86**	**37**	*e*Pn		**Pn**	**20 14 45.2**	**+0.7**
PET	**Petropavlovsk**	**13.86**	**37**	*e*P		**Pn**	**20 14 43.5**	**-1.0**
PET	**Petropavlovsk**	**13.86**	**37**	*e*P		**P**	**20 14 49.9**	**-2.1**
PET				*e*S		**Sn**	**20 17 20.3**	**+3.4**
PET				MLR		MLR			
	comp=Z,3µm,21.0s								
PET				MLR		MLR			
	comp=Z,2µm,19.0s								
KSRS	**Korea Array**	**14.05**	**254**	P		**Pn**	**20 14 47.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=66,slow=12,SNR=14								
KSRS				S		**Sn**	**20 17 28.1**	**+6.4**
	comp=Z,0.7nm,0.3s,baz=68,slow=23,SNR=5.9								
KSRS				LR		LR	20 19 56.6		
	comp=Z,1µm,19.9s,baz=54,slow=36								
KS01	**Wonju Array Si**	**14.06**	**254**	*e*Pn		**Pn**	**20 14 47.7**	**+0.4**
KS15	**Wonju Array Si**	**14.08**	**254**	*e*Pn		**Pn**	**20 14 49.4**	**+1.8**
KS15				*e*Sn		**Sn**	**20 17 17.9**	**-4.6**
CN2	**Changchun**	**14.31**	**281**	*e*P		**Pn**	**20 14 50.2**	**-0.5**
CN2				*e*S		**Sn**	**20 17 21.4**	**-6.6**
CN2				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CN2				LR		LR			
	comp=Z,700nm,17.0s								
CN2				LR		LR			
	comp=Z,1µm,17.0s								
CN2				LR		LR			
	comp=Z,1µm,18.0s								
JNU	**Nakatsue**	**14.61**	**234**	*e*Pn		**Pn**	**20 14 53.1**	**-1.7**
JNU	**Nakatsue**	**14.61**	**234**	P		**Pn**	**20 14 53.8**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=37,slow=4.1,SNR=6.7								
JNU				LR		LR	20 20 55.7		
	comp=Z,2µm,20.7s,baz=46,slow=38								
TJN	**Taejon**	**14.96**	**251**	*i* P		**Pn**	**20 15 01.5**	**+2.2**
CBIJ	**Chichi jima**	**15.64**	**189**	*e*Pn		**Pn**	**20 15 03.8**	**-4.6**
JCJ	**Chichijima**	**15.64**	**189**	P		**Pn**	**20 15 03.8**	**-4.6**
	comp=Z,2.6nm,0.3s,baz=343,slow=20,SNR=2.6								
JCJ				S		Sn	20 17 45.2	-15	
	comp=Z,4.8nm,0.3s,baz=287,slow=19,SNR=3.3								
JCJ				LR		LR	20 21 04.3		
	comp=Z,640nm,22.0s,baz=349,slow=36								
SNY	**Shenyang**	**15.89**	**274**	⇓P		**P**	**20 15 15.0**	**+0.4**
SNY				S		**Sn**	**20 18 07.7**	**+1.4**
SNY				pmax		pmax			
	comp=Z,34nm,1.0s								
SNY				pmax		pmax			
	comp=Z,680nm,3.8s								
SNY				LR		LR			
	comp=Z,720nm,12.4s								
SNY				LR		LR			
	comp=Z,710nm,13.5s								
SNY				LR		LR			
	comp=Z,1µm,20.1s								
BMKR	**Bomnak**	**16.09**	**324**	*e*P		**Pn**	**20 15 14.5**	**+0.5**
BMKR				AMB		AMB	20 15 21.0		
	comp=Z,32nm,1.0s								
ZEA	**Zeya**	**16.20**	**320**	*e*P		**Pn**	**20 15 14.2**	**-1.1**
ZEA				AMB		AMB	20 15 19.6		
	comp=Z,24nm,1.0s								
ZEA				AMB		AMB	20 15 19.6		
	comp=Z,50nm,1.0s								
ZEA				AMB		AMB	20 15 38.0		
	comp=Z,400nm,7.0s								
ZEA				AMS		AMS	20 22 10.0		
	comp=Z,1µm,16.0s								
ZEA				AMS		AMS	20 22 10.0		
	comp=Z,2µm,16.0s								
ZEA				AMS		AMS	20 22 10.0		
	comp=Z,2µm,16.0s								
ZEA	**Zeya**	**16.20**	**320**	*e*P		**P**	**20 15 17.2**	**-0.8**
ZEA				*e*S		**Sn**	**20 18 16.0**	**+2.2**
ZEA				pmax		pmax			
	comp=N,24nm,1.0s								
ZEA				pmax		pmax			
	comp=E,24nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,50nm,1.2s								
ZEA				pmax		pmax			
	comp=Z,400nm,7.0s								
ZEA				smax		smax			
	comp=N,300nm,8.0s								
ZEA				MLR		MLR			
	comp=Z,2µm,15.0s								
ZEA				MLR		MLR			
	comp=E,2µm,16.0s								
ZEA				MLR		MLR			
	comp=N,1µm,15.0s								
KROS	**Kirovskiy**	**16.75**	**321**	*e*P		**Pn**	**20 15 19.8**	**-2.5**
KROS				AMB		AMB	20 15 37.0		
	comp=N,8.0nm,0.5s								
MA2	**Magadan**	**17.36**	**10**	*e*Pn		**Pn**	**20 15 28.8**	**-1.1**
	comp=N,30nm,1.3s								
MA2	**Magadan**	**17.36**	**10**	*e*P		**Pn**	**20 15 28.8**	**-1.1**
MA2	**Magadan**	**17.36**	**10**	*c e*P		**Pn**	**20 15 28.8**	**-1.1**
MA2				pmax		pmax			
	comp=Z,35nm,2.5s								
MA2	**Magadan**	**17.36**	**10**	P		**Pn**	**20 15 29.3**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=179,slow=9.9,SNR=12								
MA2				LR		LR	20 21 58.4		
	comp=Z,1µm,19.6s,baz=202,slow=36								
DL2	**Dalian**	**18.07**	**266**	P		**Pn**	**20 15 38.0**	**-0.7**
DL2				pP		**pP**	**20 15 46.0**	**-2.2**
DL2				*e*S		**Sn**	**20 18 58.9**	**-0.3**
DL2				pmax		pmax			
	comp=Z,62nm,1.1s								
DL2				LR		LR			
	comp=Z,910nm,16.5s								
DL2				LR		LR			
	comp=Z,1µm,16.9s								
DL2				LR		LR			
	comp=Z,730nm,18.3s								
HIA	**Hailar**	**18.73**	**300**	*e*P		**P**	**20 15 44.3**	**-1.7**
	comp=Z,61nm,1.2s								
HIA	**Hailar**	**18.73**	**300**	*e*P		**P**	**20 15 44.3**	**-1.7**
HIA				pmax		pmax			
	comp=Z,61nm,1.2s								
SEY	**Seymchan**	**20.82**	**10**	*c e*P		**P**	**20 16 07.4**	**-1.2**
SEY	**Seymchan**	**20.82**	**10**	P		**P**	**20 16 06.5**	**-2.1**
	comp=Z,6.6nm,0.8s,baz=187,slow=8.8,SNR=17								
SEY				LR		LR	20 24 19.6		
	comp=Z,1µm,21.2s,baz=180,slow=37								
JOW	**Kunigami**	**20.83**	**226**	*e*P		**P**	**20 16 08.5**	**-0.5**
	comp=Z,27nm,1.0s								
YAK	**Yakutsk**	**21.48**	**340**	*e*P		**P**	**20 16 14.5**	**-1.2**
YAK	**Yakutsk**	**21.48**	**340**	*e*P		**P**	**20 16 14.5**	**-1.2**
YAK				*e*			20 16 40.3		
YAK				*e*S		**S**	**20 20 02.3**	**-9.2**
YAK				*e*SS		Sn	20 20 16.4	-4.6	
YAK				*e*SSS		SSS	20 20 26.0		
YAK				pmax		pmax			
	comp=Z,37nm,1.0s								
YAK				pmax		pmax			
	comp=N,19nm,1.1s								
YAK				pmax		pmax			
	comp=E,12nm,1.5s								
YAK				pmax		pmax			
	comp=Z,641nm,1.5s								
YAK				pmax		pmax			
	comp=N,661nm,1.6s								
YAK				pmax		pmax			
	comp=E,511nm,1.6s								
YAK				smax		smax			
	comp=N,2µm,3.0s								
YAK				smax		smax			
	comp=E,317nm,1.1s								
YAK				MLR		MLR			
	comp=Z,6µm,16.0s								
YAK				MLR		MLR			
	comp=N,4µm,17.0s								
YAK				MLR		MLR			
	comp=E,3µm,18.0s								
BJI	**Beijing**	**21.75**	**273**	P		**P**	**20 16 17.9**	**-0.9**
BJI				S		**S**	**20 20 11.7**	**-5.5**
BJI				pmax		pmax			
	comp=E,44nm,1.5s								
BJI				LR		LR			
	comp=E,360nm,13.7s								
BJI				LR		LR			
	comp=E,470nm,16.7s								
BJT	**Baijiatuan**	**21.76**	**273**	*e*P		**P**	**20 16 17.8**	**-1.1**
	comp=E,97nm,1.1s								
BJT	**Baijiatuan**	**21.76**	**273**	*e*P		**P**	**20 16 17.8**	**-1.1**
BJT				pmax		pmax			
	comp=Z,97nm,1.1s								
TIA	**Tai'an**	**22.40**	**263**	P		**P**	**20 16 25.5**	**-0.3**
TIA				pmax		pmax			
	comp=Z,32nm,1.3s								
NJ2	**Nanjing**	**23.22**	**252**	*e*P		**P**	**20 16 34.9**	**+0.6**
NJ2				pmax		pmax			
	comp=Z,37nm,0.7s								
NJ2				LR		LR			
	comp=Z,1µm,21.7s								
NJ2				LR		LR			
	comp=Z,1µm,19.0s								
NJ2				LR		LR			
	comp=Z,1µm,17.9s								
BOD	**Bodaibo**	**24.70**	**319**	*e*P		**P**	**20 16 44.9**	**-3.0**
BOD				pmax		pmax			
	comp=Z,9.0nm,1.8s								
HHC	**Hu-ho-hao-te**	**24.92**	**277**	*e*P		**P**	**20 16 50.0**	**-0.2**
HHC				sP		sP	20 17 04.8	-0.6	
HHC				PP		**PnPn**	**20 17 28.2**	**+4.1**
HHC				S		**S**	**20 21 07.4**	**-3.6**
HHC				SS		**SnSn**	**20 22 07.5**	**+6.5**
HHC				pmax		pmax			
	comp=Z,56nm,1.2s								
HHC				pmax		pmax			
	comp=Z,160nm,4.8s								
HHC				LR		LR			
	comp=Z,290nm,9.6s								
HHC				LR		LR			
	comp=Z,490nm,15.7s								
HHC				LR		LR			
	comp=Z,400nm,17.3s								
TIY	**Taiyuan**	**25.27**	**270**	*e*P		**P**	**20 16 55.2**	**+1.9**
TIY				S		**S**	**20 21 10.9**	**-5.5**
TIY				pmax		pmax			
	comp=Z,76nm,1.5s								
TIY				pmax		pmax			
	comp=Z,290nm,4.7s								
TIY				LR		LR			
	comp=Z,180nm,5.2s								
TIY				LR		LR			
	comp=Z,190nm,5.9s								
YOJ	**Yonaguni jima**	**25.63**	**232**	*e*P		**P**	**20 16 57.5**	**+0.9**
	comp=Z,54nm,1.0s								
YOJ	**Yonaguni jima**	**25.63**	**232**	*e*P		**P**	**20 16 57.5**	**+0.9**
YOJ				pmax		pmax			
	comp=Z,54nm,1.0s								
SARN	**Sarigan**	**25.83**	**178**	*e*P		**P**	**20 16 59.2**	**+0.8**
	comp=Z,240nm,1.5s								
BTO	**Baotou**	**26.12**	**278**	*e*P		**P**	**20 17 01.6**	**+0.5**
BTO				S		**S**	**20 21 24.2**	**-5.7**
TATO	**Taipei**	**26.15**	**235**	*e*P		**P**	**20 17 02.3**	**+1.1**
	comp=Z,106nm,1.4s								
YHNB	**Yeheng**	**26.44**	**235**	*e*P		**P**	**20 17 04.6**	**+0.6**
	comp=Z,26nm,0.9s								
NACB	**Ninganchiao**	**26.68**	**234**	*e*P		**P**	**20 17 05.7**	**-0.4**
	comp=Z,18nm,0.9s								
WHN	**Wuhan**	**27.25**	**254**	⇑P		**P**	**20 17 12.5**	**+1.4**
WHN				S		**S**	**20 21 49.8**	**+2.2**
WHN				LR		LR			
	comp=Z,840nm,15.8s								
WHN				LR		LR			
	comp=Z,2µm,15.0s								
WHN				LR		LR			
	comp=Z,2µm,17.0s								
SSLB	**Suanglung**	**27.36**	**234**	*e*P		**P**	**20 17 12.6**	**+0.4**
	comp=Z,32nm,1.6s								
YULB	**Yu-li**	**27.45**	**233**	*e*P		**P**	**20 17 14.3**	**+1.2**
	comp=Z,21nm,1.2s								
SONA0	**Songino Array**	**27.48**	**294**	*e*P		**P**	**20 17 12.9**	**-0.4**
SONM	**Songino Array**	**27.48**	**294**	P		**P**	**20 17 12.9**	**-0.4**
	comp=Z,34nm,1.0s,baz=86,slow=8.5,SNR=75								
SONM				LR		LR	20 28 52.2		
	comp=Z,684nm,19.8s,baz=91,slow=38								
BILL	**Bilibino**	**27.91**	**17**	*e*P		**P**	**20 17 16.5**	**-0.2**
	comp=Z,5.6nm,1.1s								
BILL	**Bilibino**	**27.91**	**17**	*e*P		**P**	**20 17 15.9**	**-0.8**
BILL	**Bilibino**	**27.91**	**17**	*e*P		**P**	**20 17 15.9**	**-0.8**
BILL				*e*			20 18 06.5		
BILL				*e*			20 20 30.8		
BILL				pmax		pmax			
	comp=Z,10.0nm,1.7s								
BILL				MLR		MLR			
	comp=Z,758nm,17.0s								
TPUB	**Ta-pu**	**27.92**	**234**	*e*P		**P**	**20 17 19.0**	**+1.7**
	comp=Z,27nm,1.0s								
QZH	**Quanzhou**	**27.97**	**239**	P		**P**	**20 17 22.7**	**+5.0**
QZH				S		**S**	**20 22 03.4**	**+4.3**
QZH				LR		LR			
	comp=Z,480nm,17.2s								
QZH				LR		LR			
	comp=Z,340nm,13.1s								
QZH				LR		LR			
	comp=Z,520nm,17.1s								
TWG	**Pinlang**	**28.02**	**233**	*e*P		**P**	**20 17 17.8**	**-0.3**
	comp=Z,90nm,1.0s								
IRK	**Irkutsk**	**28.84**	**304**	*e*P		**P**	**20 17 23.0**	**-2.2**
IRK				pmax		pmax			
	comp=Z,34nm,1.7s								
GUMO	**Guam**	**28.91**	**180**	LR		LR	20 27 11.2		
	comp=Z,424nm,21.6s,baz=18,slow=32								
TLY	**Talaya**	**29.21**	**303**	*e*P		**P**	**20 17 29.2**	**+0.7**
	comp=Z,14nm,1.2s								
TLY	**Talaya**	**29.21**	**303**	*e*P		**P**	**20 17 29.4**	**+0.9**
TLY	**Talaya**	**29.21**	**303**	*c i*P		**P**	**20 17 29.4**	**+0.9**
TLY	**Talaya**	**29.21**	**303**	P		**P**	**20 17 29.9**	**+1.4**
	SNR=9.5								
H11N2	**WAKE ISLAND Hy**	**29.35**	**134**	T		T	20 48 36.6		
	baz=326,slow=75,SNR=2274								
H11N1	**WAKE ISLAND Hy**	**29.36**	**134**	T		T	20 48 37.3		
	baz=326,slow=75,SNR=1698								
H11N3	**WAKE ISLAND Hy**	**29.37**	**134**	T		T	20 48 37.2		
	baz=326,slow=75,SNR=2300								
XAN	**Xi'an**	**29.39**	**265**	P		**P**	**20 17 30.4**	**+0.2**
XAN				pP		pP	20 17 40.1	-0.9	
XAN				sP		sP	20 17 44.6	-0.7	
XAN				S		**S**	**20 22 20.8**	**-0.6**
XAN				SS		ScP	20 23 47.5	-27	
XAN				pmax		pmax			
	comp=Z,19nm,1.3s								
XAN				pmax		pmax			
	comp=Z,230nm,5.5s								
XAN				LR		LR			
	comp=Z,350nm,15.2s								
XAN				LR		LR			
	comp=Z,300nm,15.2s								
XAN	**Xi'an**	**29.39**	**265**	*e*P		**P**	**20 17 30.5**	**+0.2**
	comp=Z,27nm,1.1s								
XAN	**Xi'an**	**29.39**	**265**	*e*P		**P**	**20 17 30.5**	**+0.2**
XAN				pmax		pmax			
	comp=Z,27nm,1.1s								
ZAK	**Zakamensk**	**29.43**	**300**	*e*P		**P**	**20 17 30.8**	**+0.2**
ZAK	**Zakamensk**	**29.43**	**300**	*e*P		**P**	**20 17 30.8**	**+0.2**
ZAK				*e*			20 20 34.1		
ZAK				pmax		pmax			
	comp=Z,25nm,1.3s								
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.5s								
TIXI	**Tiksi**	**30.19**	**350**	*e*P		**P**	**20 17 37.1**	**+0.2**
	comp=Z,1.4nm,0.8s								
TIXI	**Tiksi**	**30.19**	**350**	*c e*P		**P**	**20 17 35.7**	**-1.2**
TIXI				pmax		pmax			
	comp=Z,6.0nm,2.5s								
TIXI	**Tiksi**	**30.19**	**350**	P		**P**	**20 17 35.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=144,slow=6.1,SNR=5.7								
H11S1	**WAKE ISLAND Hy**	**30.26**	**136**	T		T	20 49 45.4		
	baz=328,slow=76,SNR=3114								
H11S3	**WAKE ISLAND Hy**	**30.27**	**136**	T		T	20 49 45.7		
	baz=328,slow=76,SNR=1989								
H11S2	**WAKE ISLAND Hy**	**30.28**	**136**	T		T	20 49 46.2		
	baz=328,slow=76,SNR=1849								
MOY	**Mondy**	**30.86**	**302**	*e*P		**P**	**20 17 43.6**	**+0.4**
MOY				pmax		pmax			
	comp=Z,42nm,2.4s								
ENH	**Enshi**	**30.88**	**258**	*e*P		**P**	**20 17 43.5**	**0.0**
	comp=Z,38nm,1.3s								
LZH	**Lanzhou**	**32.24**	**272**	*e*P		**P**	**20 17 56.1**	**+0.5**
LZH				pP		pP	20 18 08.4	+2.1	
LZH				sP		sP	20 18 13.6	+2.8	
LZH				PP		**PP**	**20 19 06.5**	**-2.2**
LZH				*e*S		**S**	**20 23 10.7**	**+4.5**
LZH				sS		sS	20 23 26.2	+2.9	
LZH				SS		SS	20 25 04.0	-21	
LZH				pmax		pmax			
	comp=Z,110nm,1.0s								
LZH				pmax		pmax			
	comp=Z,350nm,4.8s								
LZH				LR		LR			
	comp=Z,3µm,12.2s								
LZH				LR		LR			
	comp=Z,3µm,11.7s								
LZH				LR		LR			
	comp=Z,3µm,13.3s								
GAMB	**Gambell**	**32.55**	**34**	*e*P		**P**	**20 17 57.6**	**-0.1**
	comp=Z,8.7nm,1.2s								
GZH	**Guangzhou**	**32.68**	**244**	*e*P		**P**	**20 17 57.4**	**-1.9**
GZH				S		**S**	**20 23 11.8**	**-1.0**
GZH				LR		LR			
	comp=Z,820nm,16.9s								
GZH				LR		LR			
	comp=Z,590nm,16.9s								
MIDW	**Midway**	**33.57**	**103**	*e*P		**P**	**20 18 08.3**	**+1.3**
	comp=Z,232nm,1.4s								
GTA	**Gaotai**	**33.94**	**280**	*e*P		**P**	**20 18 10.5**	**+0.2**
GTA				pP		pP	20 18 22.4	+1.4	
GTA				sP		sP	20 18 27.5	+1.6	
GTA				pmax		pmax			
	comp=Z,8.0nm,1.2s								
GTA				pmax		pmax			
	comp=Z,99nm,9.6s								
GTA				LR		LR			
	comp=Z,250nm,17.5s								
GTA				LR		LR			
	comp=Z,400nm,17.2s								
GTA				LR		LR			
	comp=Z,600nm,18.6s								
CD2	**Chengdu**	**34.72**	**264**	⇑P		**P**	**20 18 17.8**	**+0.7**
CD2				pmax		pmax			
	comp=Z,80nm,1.3s								
CD2				pmax		pmax			
	comp=Z,330nm,4.5s								
CD2				LR		LR			
	comp=Z,650nm,15.0s								
CD2				LR		LR			
	comp=Z,590nm,17.4s								
CD2				LR		LR			
	comp=Z,630nm,16.5s								
GYA	**Guiyang**	**35.11**	**255**	⇓*i*P		**P**	**20 18 20.5**	**0.0**
GYA				pP		sP	20 18 34.2	-1.5	
GYA				PP		**PP**	**20 19 41.0**	**+0.5**
GYA				S		**S**	**20 23 50.7**	**0.0**
GYA				sS		sS	20 24 11.0	+3.1	
GYA				SS		SS	20 26 06.6	-17	
GYA				pmax		pmax			
	comp=Z,20nm,1.1s								
GYA				pmax		pmax			
	comp=Z,120nm,4.8s								
GYA				LR		LR			
	comp=Z,470nm,17.0s								
GYA				LR		LR			
	comp=Z,440nm,17.2s								
GYA				LR		LR			
	comp=Z,450nm,17.2s								
TGY	**Tagaytay City**	**35.17**	**223**	P		**P**	**20 18 23.4**	**+2.3**
	comp=Z,216nm,0.3s,baz=279,slow=4.9,SNR=1.3								
ANM	**Nome**	**35.43**	**35**	*e*P		**P**	**20 18 23.8**	**+1.1**
	comp=Z,48nm,1.5s								
ANM	**Nome**	**35.43**	**35**	*e*P		**P**	**20 18 23.8**	**+1.1**
ANM				pmax		pmax			
	comp=Z,48nm,1.5s								
RDOG	**Red Dog Mine**	**37.30**	**29**	*e*P		**P**	**20 18 38.6**	**0.0**
	comp=Z,23nm,1.4s					

comp=Z,420nm,16.6s
KMI LR LR
comp=Z,470nm,16.0s
KMI Kunming 38.73 257 *e*P **P 20 18 50.9 -0.5**
comp=Z,49nm,1.0s
KMI Kunming 38.73 257 *e*P **P 20 18 50.9 -0.5**
KMI pmax pmax
comp=Z,49nm,1.0s
SVW2 Sparrevohn 39.47 41 *e*P **P 20 18 58.0 +1.0**
comp=Z,8.2nm,1.0s
NRIK Noril'sk 39.50 332 LR LR 20 36 41.8
comp=Z,603nm,18.8s,baz=87,slow=38
KCP Kidapawan 39.57 212 *i*P **P 20 19 00.4 +2.1**
ZAA1 Zalesovo Array 40.44 308 *e*P **P 20 19 04.9 -0.1**
ZAA1 *e*PcP **PcP 20 21 07.8 +0.5**
ZAA0 Zalesovo Array 40.44 308 *e*P **P 20 19 04.3 -0.8**
comp=Z,22nm,1.3s
ZALV Zalesovo Beam 40.44 308 *e*P **P 20 19 04.3 -0.8**
ZALV *e*PcP **PcP 20 21 07.8 +0.5**
ZALV Zalesovo Beam 40.44 308 P **P 20 19 04.9 -0.1**
comp=Z,4.5nm,0.6s,baz=83,slow=6.1,SNR=21
ZALV PcP **PcP 20 21 07.8 +0.5**
comp=Z,4.0nm,0.6s,baz=102,slow=2.5,SNR=3.6
ZALV LR LR 20 37 05.1
comp=Z,823nm,18.3s,baz=74,slow=38
IM3 Indian Mountai 40.47 34 *e*P **P 20 19 05.6 +0.4**
WMQ Urumqi 41.05 292 P **P 20 19 11.0 +0.6**
WMQ pP pP 20 19 19.5 -2.0
WMQ PP **PP 20 20 46.1 +0.7**
WMQ S **S 20 25 23.6 +3.4**
WMQ pmax pmax
comp=Z,64nm,1.5s
WMQ pmax pmax
comp=Z,370nm,3.8s
WMQ LR LR
comp=Z,720nm,21.5s
WMQ LR LR
comp=Z,990nm,15.1s
WMQ LR LR
comp=Z,660nm,20.5s
WMQ Urumqi 41.05 292 *e*P **P 20 19 10.8 +0.4**
comp=Z,62nm,1.4s
WMQ Urumqi 41.05 292 *e*P **P 20 19 10.8 +0.4**
WMQ pmax pmax
comp=Z,62nm,1.4s
PPLA Purkeypile 41.06 38 *e*P **P 20 19 10.9 +0.6**
comp=Z,62nm,1.3s
CAST Castle Rocks 41.10 38 *e*P **P 20 19 11.1 +0.6**
comp=Z,19nm,0.9s
SPU Mount Spurr 41.18 41 *e*P **P 20 19 12.1 +1.0**
NVS Novosibirsk 41.21 309 *e*P **P 20 19 11.4 0.0**
NVS Novosibirsk 41.21 309 *e*P **P 20 19 11.4 0.0**
NVS eS S 20 25 11.7 -10
NVS pmax pmax
comp=Z,38nm,1.9s
NVS pmax pmax
comp=E,19nm,1.6s
NVS smax smax
comp=N,5.0nm,1.2s
NVS smax smax
comp=E,8.0nm,1.4s
BPAW Bear Paw Mtn. 41.58 37 *e*P **P 20 19 14.9 +0.5**
comp=E,58nm,1.7s
MLY Manley 41.69 35 *e*P **P 20 19 16.3 +1.0**
comp=E,52nm,1.7s
SUA Susitna One 41.79 40 *e*P **P 20 19 16.5 +0.2**
comp=E,18nm,1.2s
BRLK Bradley Lake 41.86 43 *e*P **P 20 19 17.4 +0.7**
comp=E,44nm,1.4s
TRF Thorofare Moun 41.91 37 *e*P **P 20 19 17.4 +0.2**
comp=E,19nm,1.0s
COLD Coldfoot 41.96 32 *e*P **P 20 19 17.9 +0.5**
comp=E,5.8nm,1.1s
BWN Browne 42.25 36 *e*P **P 20 19 21.4 +1.6**
comp=E,194nm,1.4s
TOLK Toolik Lake Re 42.27 30 *e*P **P 20 19 20.1 +0.1**
comp=E,22nm,1.4s
TOLK Toolik Lake Re 42.27 30 P **P 20 19 20.7 +0.7**
baz=267,SNR=7.2
MCK McKinley 42.50 37 *e*P **P 20 19 22.0 +0.1**
comp=E,22nm,1.1s
MCK McKinley 42.50 37 *e*P **P 20 19 22.0 +0.1**
MCK McKinley 42.50 37 *e*P **P 20 19 22.0 +0.1**
MCK pmax pmax
comp=Z,22nm,1.1s
PMR Palmer 42.55 40 *e*P **P 20 19 22.3 +0.1**
comp=Z,38nm,1.7s
PMR Palmer 42.55 40 *e*P **P 20 19 22.3 +0.1**
PMR Palmer 42.55 40 *e*P **P 20 19 22.3 +0.1**
PMR pmax pmax
comp=Z,38nm,1.7s
RND Reindeer 42.55 37 *e*P **P 20 19 22.2 -0.1**
comp=Z,20nm,1.0s
RND Reindeer 42.55 37 *e*P **P 20 19 22.2 -0.1**
RND pmax pmax
comp=Z,21nm,1.0s
MDM Murphy Dome 42.76 35 *e*P **P 20 19 25.0 +1.0**
comp=Z,15nm,0.8s
WRH Wood River Hil 42.84 36 *e*P **P 20 19 24.9 +0.4**
comp=Z,30nm,1.4s
SML Sawmill 42.91 40 *e*P **P 20 19 25.7 +0.5**
comp=Z,23nm,0.6s
SML Sawmill 42.91 40 *e*P **P 20 19 25.7 +0.5**
SML pmax pmax
comp=Z,23nm,0.6s
TCOL CIGO, UAF Yank 42.92 35 P **P 20 19 25.9 +0.8**
baz=272
COLA College 42.92 35 *e*P **P 20 19 26.0 +0.8**
comp=Z,30nm,0.8s
COLA College 42.92 35 *e*P **P 20 19 23.8 -1.4**
COLA College 42.92 35 *d i*P **P 20 19 23.8 -1.4**
COLA pmax pmax
comp=Z,30nm,0.9s
CCB Clear Creek Bu 42.95 36 *e*P **P 20 19 25.6 +0.2**
comp=Z,12nm,1.0s
POKR Poker Plat Res 43.09 35 P **P 20 19 27.8 +1.2**
baz=273,SNR=11
SKNT Sakolnakorn 43.21 247 P **P 20 19 29.7 +1.6**
comp=Z,15nm,1.3s
DHY Denali Highway 43.24 38 *e*P **P 20 19 28.3 +0.2**
comp=Z,43nm,1.3s
HDA Harding Lake 43.33 36 *e*P **P 20 19 28.4 -0.1**
comp=Z,24nm,1.2s
HDA Harding Lake 43.33 36 P **P 20 19 29.1 +0.5**
baz=274
IL1 Eielson Array 43.34 35 *e*P **P 20 19 28.9 +0.3**
ILAR Eielson Array 43.34 35 *e*P **P 20 19 29.0 +0.4**
ILAR Eielson Array 43.34 35 P **P 20 19 29.0 +0.4**
ILAR pmax pmax
comp=Z,15nm,0.9s
ILAR MLR MLR
comp=Z,199nm,20.7s
ILAR Eielson Array 43.34 35 P **P 20 19 28.9 +0.4**
comp=Z,14nm,0.9s,baz=267,slow=5.2,SNR=77
ILAR LR LR 20 38 31.4
comp=Z,199nm,20.7s,baz=276,slow=37
ILB Eielson Array 43.34 35 *e*P **P 20 19 28.5 -0.1**
comp=Z,21nm,1.0s
MK31 Makanchi Array 43.72 298 *e*P **P 20 19 31.4 -0.5**
comp=Z,24nm,1.1s
MK31 Makanchi Array 43.72 298 *i*P **P 20 19 31.3 -0.7**
MK31 pmax pmax
comp=Z,39nm,1.2s
MK32 Makanchi Array 43.72 298 *e*P **P 20 19 31.8 -0.2**
MKAR Makanchi Array 43.72 298 P **P 20 19 31.8 -0.2**
comp=Z,16nm,0.9s,baz=80,slow=9.1,SNR=92
MKAR LR LR 20 38 49.1
comp=Z,347nm,20.1s,baz=68,slow=37
MK01 Makanchi Array 43.72 298 *e*P **P 20 19 31.2 -0.8**
PRP Porcupine Dome 43.87 34 *e*P **P 20 19 34.3 +1.3**
comp=Z,31nm,1.1s
FYU Fort Yukon 43.92 33 *e*P **P 20 19 34.5 +1.2**
comp=Z,181nm,1.7s
MAKZ Makanchi 43.92 298 *e*P **P 20 19 33.1 -0.5**
comp=Z,29nm,1.0s
MAKZ Makanchi 43.92 298 *e*P **P 20 19 33.1 -0.5**
MAKZ pmax pmax
comp=Z,29nm,1.0s
KLU Klutina 44.09 40 *e*P **P 20 19 35.6 +0.8**
comp=Z,25nm,1.2s
PAX Paxson 44.12 38 *e*P **P 20 19 36.0 +1.0**
comp=Z,22nm,1.6s
PAX Paxson 44.12 38 *e*P **P 20 19 36.0 +1.0**
PAX pmax pmax
comp=Z,22nm,1.6s
DIV Divide 44.21 41 *e*P **P 20 19 36.3 +0.6**
comp=Z,49nm,1.2s

SDKM Sandakan 44.29 222 P **P 20 19 38.4 +1.6**
EYAK Cordova Ski Ar 44.31 41 *e*P **P 20 19 37.4 +1.0**
comp=Z,60nm,1.4s
RIDG Independ'e Rid 44.31 37 *e*P **P 20 19 37.1 +0.6**
comp=Z,47nm,1.6s
HARP HAARP 44.33 39 *e*P **P 20 19 37.7 +1.1**
comp=Z,44nm,1.1s
PAYA Payao 44.43 253 P **P 20 19 40.1 +2.2**
comp=Z,5.9nm,0.9s
LSA Lhasa 44.65 271 P **P 20 19 41.1 +1.0**
LSA pmax pmax
comp=Z,13nm,1.6s
LSA Lhasa 44.65 271 *e*P **P 20 19 40.2 +0.1**
comp=Z,24nm,1.0s
LSA Lhasa 44.65 271 *e*P **P 20 19 40.2 +0.1**
LSA Lhasa 44.65 271 P **P 20 19 41.2 +1.0**
LSA Lhasa 44.65 271 *e*P **P 20 19 40.2 +0.1**
LSA pmax pmax
comp=Z,24nm,1.0s
SCRK Sand Creek 44.66 36 *e*P **P 20 19 38.8 -0.6**
comp=Z,18nm,0.8s
DOT Dot Lake 44.67 37 *e*P **P 20 19 39.1 -0.2**
comp=Z,7.4nm,0.8s
KURK Kurchatov 44.87 304 *e*P **P 20 19 40.6 -0.4**
comp=Z,56nm,1.1s
KURK Kurchatov 44.87 304 *e*P **P 20 19 40.4 -0.6**
KURK Kurchatov 44.87 304 *ce*P **P 20 19 40.4 -0.6**
KURK pmax pmax
comp=Z,64nm,1.3s
KURK Kurchatov 44.87 304 P **P 20 19 41.3 +0.3**
SNR=14
KURBB Kurchatov Arra 44.95 304 P **P 20 19 41.5 -0.2**
comp=Z,29nm,0.9s,baz=75,slow=8.8,SNR=91
SIJI Sorong 45.01 200 P **P 20 19 43.1 +0.6**
comp=Z,14nm,0.9s,baz=352,slow=8.3,SNR=5.6
SIJI LR LR 20 38 54.6
comp=Z,210nm,18.2s,baz=246,slow=36
UTTA Uttaradit 45.04 251 P **P 20 19 44.5 +1.8**
comp=Z,4.7nm,1.0s,comp=Z,46nm
JAY Jayapura 45.08 186 LR LR 20 35 10.6
comp=Z,236nm,21.5s,baz=8.0,slow=31
LAMP Lampang 45.16 252 P **P 20 19 45.8 +2.1**
comp=Z,7.1nm,0.9s,comp=Z,66nm
CHAI Chaiyaphum 45.32 247 P **P 20 19 46.4 +1.4**
comp=Z,4.8nm,1.1s,comp=Z,61nm
CMMT Chiang Mai 45.45 253 P **P 20 19 46.9 +0.9**
comp=Z,19nm,1.0s
CHTO Chiang Mai 45.45 253 *e*P **P 20 19 46.2 +0.2**
comp=Z,23nm,1.1s
CHTO Chiang Mai 45.45 253 *e*P **P 20 19 46.2 +0.2**
CHTO Chiang Mai 45.45 253 *e*P **P 20 19 46.2 +0.2**
CHTO pmax pmax
comp=Z,23nm,1.1s
CHTO Chiang Mai 45.45 253 P **P 20 19 47.8 +1.8**
SNR=8.0
CHTO Chiang Mai 45.45 253 P **P 20 19 47.0 +1.0**
comp=Z,86nm,1.0s
PBKT Sadao Pong 45.55 249 *e*P **P 20 19 47.6 +0.8**
comp=Z,13nm,1.1s
PBKT Sadao Pong 45.55 249 P **P 20 19 48.8 +2.0**
comp=Z,12nm,1.3s,comp=Z,769nm
CM31 Chiang Mai Arr 45.69 253 *e*P **P 20 19 48.0 +0.1**
comp=Z,9.3nm,0.9s
CMAR Chiang Mai Arr 45.69 253 *e*P **P 20 19 49.0 +1.1**
CMAR Chiang Mai Arr 45.69 253 P **P 20 19 49.0 +1.1**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 45.69 253 P **P 20 19 49.0 +1.1**
comp=Z,4.0nm,0.9s,baz=46,slow=7.0,SNR=27
CM01 Chiang Mai Arr 45.70 253 *e*P **P 20 19 47.9 -0.1**
EGAK Eagle 45.78 35 *e*P **P 20 19 47.9 -0.1**
comp=Z,28nm,1.1s
BALM Baldy 45.87 40 *e*P **P 20 19 49.7 +0.7**
comp=Z,26nm,1.3s
BALM Baldy 45.87 40 *e*P **P 20 19 49.7 +0.7**
BALM pmax pmax
comp=Z,26nm,1.3s
SHL Shillong 46.39 266 *e*P **P 20 19 53.4 -0.2**
comp=Z,14nm,0.4s
SHL Shillong 46.39 266 *e*P **P 20 19 53.4 -0.2**
SHL pmax pmax
comp=Z,14nm,0.4s
SHL Shillong 46.39 266 *e*P **P 20 19 52.1 -1.5**
SRAK Srakaew 46.62 245 P **P 20 19 53.9 -1.4**
comp=Z,61nm,1.1s,comp=Z,662nm
DAWY Dawson 46.65 36 *e*P **P 20 19 55.7 +0.7**
comp=Z,8.7nm,1.3s
FAKI Fak Fak 46.76 198 *e*P **P 20 19 56.6 +0.3**
PDGK Podgornoye 46.80 294 P **P 20 19 54.9 -1.7**
PDGK pmax pmax
comp=Z,11nm,1.4s
EPYK Eagle Plains 47.34 32 *e*P **P 20 20 01.1 +0.8**
comp=Z,38nm,1.1s
EPYK Eagle Plains 47.34 32 P **P 20 20 01.2 +0.9**
baz=281
INK Inuvik 48.18 30 *e*P **P 20 20 07.2 +0.5**
comp=Z,21nm,1.3s
INK Inuvik 48.18 30 *e*P **P 20 20 07.2 +0.5**
INK Inuvik 48.18 30 *e*P **P 20 20 07.2 +0.5**
INK pmax pmax
comp=Z,21nm,1.3s
INK Inuvik 48.18 30 P **P 20 20 07.6 +0.9**
comp=Z,4.4nm,0.4s,baz=299,slow=6.9,SNR=29
PHET Kaeng Krachan 49.04 247 P **P 20 20 16.9 +2.9**
comp=Z,12nm,1.1s,comp=Z,120nm
BRVK Borovoye 49.06 310 *e*P **P 20 20 13.8 0.0**
comp=Z,42nm,1.3s
BRVK Borovoye 49.06 310 *e*P **P 20 20 13.7 0.0**
BRVK Borovoye 49.06 310 *d i*P **P 20 20 13.7 0.0**
BRVK pmax pmax
comp=Z,34nm,1.2s
BRVK Borovoye 49.06 310 P **P 20 20 15.2 +1.5**
SNR=14
OTUK Ortayu 49.55 303 P **P 20 20 17.1 -0.5**
OTUK pmax pmax
comp=Z,34nm,1.3s
TKM2 Tokmak 2 49.57 295 P **P 20 20 17.1 -1.0**
TKM2 pmax pmax
comp=Z,24nm,1.2s
AAK Ala-Archa 50.43 296 *e*P **P 20 20 24.3 -0.2**
comp=Z,3.6nm,0.8s
AAK Ala-Archa 50.43 296 *e*P **P 20 24.1 -0.4**
AAK Ala-Archa 50.43 296 P **P 20 20 23.6 -0.9**
AAK Ala-Archa 50.43 296 *ce*P **P 20 20 24.1 -0.4**
AAK pmax pmax
comp=Z,12nm,1.7s
KSH Kashi 50.81 291 P **P 20 20 31.4 +4.1**
KSH pP sP 20 20 44.4 +1.2
KSH PcP **PcP 20 21 46.7 +2.9**
KSH S **S 20 27 41.2 +0.7**
KSH sS sS 20 28 02.3 +4.3
KSH SS **SS 20 31 14.5 -0.5**
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,76nm,4.8s
KSH LR LR
comp=Z,98nm,10.7s
KSH LR LR
comp=Z,210nm,9.3s
KSH LR LR
comp=Z,370nm,16.0s
BOK Bokaro 51.84 268 *e*P **P 20 20 34.9 -0.2**
BOK IAmb IAmb 20 20 36.5
comp=Z,8.1nm,0.7s
ARSB Arslanbob 52.02 295 *e*P **P 20 20 36.9 +0.4**
comp=Z,57nm,1.3s
KTGM Kuala Trenggan 52.43 237 P **P 20 20 41.9 +2.4**
TRTT Trang 52.71 242 P **P 20 20 44.1 +2.5**
comp=Z,7.7nm,1.2s
KK31 Karatay Array 52.85 298 *e*P **P 20 20 41.8 -0.6**
comp=Z,18nm,1.1s
KK31 Karatay Array 52.85 298 *e*P **P 20 20 41.8 -0.6**
KK31 pmax pmax
comp=Z,18nm,1.1s
KKAR Karatay Array 52.85 298 *e*P **P 20 20 41.8 -0.6**
comp=Z,18nm,1.1s
KKAR Karatay Array 52.85 298 *e*P **P 20 20 41.8 -0.6**
KKAR pmax pmax
comp=Z,18nm,1.1s
SVE Sverdlovsk 52.89 317 *e*P **P 20 20 42.8 +0.4**
SVE Sverdlovsk 52.89 317 *i*P **P 20 20 42.8 +0.4**
SVE pmax pmax
comp=Z,51nm,1.6s
SVE MLR MLR
comp=Z,694nm,18.0s

PKDT Phuket 53.56 244 P **P 20 20 50.5 +2.6**
comp=Z,13nm,2.0s
DDI Dehra Dun 53.92 280 *ex* P 20 20 45.4 -5.1
KULM Kulim 54.02 239 *e*P **P 20 20 50.9 -0.3**
comp=Z,27nm,1.0s
KULM Kulim 54.02 239 P **P 20 20 53.0 +1.8**
BWNR Bhubaneshwar 54.02 265 *ex* P 20 20 43.3 -7.8
BWNR IAmb IAmb 20 20 46.5
comp=Z,78nm,0.1s
ARU Arti 54.10 317 *e*P **P 20 20 50.8 -0.5**
comp=Z,64nm,1.4s
ARU Arti 54.10 317 *e*P **P 20 20 50.5 -0.8**
ARU Arti 54.10 317 *d i*P **P 20 20 50.6 -0.8**
ARU *PP **sP 20 21 06.5 -0.8**
ARU S **S 20 28 27.4 +2.6**
ARU SS **SS 20 32 10.7 +4.6**
ARU pmax pmax
comp=Z,52nm,1.5s
ARU MLR MLR
comp=Z,576nm,16.0s
SMLA Simla 54.13 281 *e*P **P 20 20 51.8 -0.1**
DHRM DHARAMSHALA 54.16 283 *e*P **P 20 20 52.1 -0.3**
IPM Ipoh 54.40 238 P **P 20 20 55.1 +1.0**
PBA Port Blair 54.68 252 *e*P **P 20 20 56.6 +0.6**
PBA IAmb IAmb 20 20 57.9
comp=Z,31nm,1.2s
SOEI Soe 55.45 205 *e*P **P 20 21 00.9 -0.7**
comp=Z,61nm,1.1s
BATI Baumata 56.07 206 LR LR 20 43 30.4
comp=Z,168nm,20.7s,baz=348,slow=34
COEN Coen 56.31 182 *e*P **P 20 21 08.6 +1.0**
comp=Z,42nm,1.4s
RES Resolute Bay 56.51 16 *e*P **P 20 21 08.2 -0.1**
comp=Z,53nm,1.3s
RES Resolute Bay 56.51 16 *e*P **P 20 21 08.2 -0.1**
RES Resolute Bay 56.51 16 *e*P **P 20 21 08.2 -0.1**
RES pmax pmax
comp=Z,53nm,1.3s
AB31 Akbulak array 56.55 309 *i*P **P 20 21 08.7 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 56.55 309 *e*P **P 20 21 08.8 -0.3**
comp=Z,44nm,1.3s
MTN Manton Dam 56.62 196 *e*P **P 20 21 09.9 +0.1**
comp=Z,74nm,1.1s
PSI Prapat 57.02 239 *e*P **P 20 21 13.1 +0.2**
comp=Z,28nm,1.1s
PSI Prapat 57.02 239 *e*P **P 20 21 13.1 +0.2**
PSI pmax pmax
comp=Z,28nm,1.1s
AKTO Aktyubinsk 57.08 310 P **P 20 21 12.0 -0.8**
AKTO pmax pmax
comp=Z,23nm,1.3s
CMBY CAMPBELL BAY 57.16 247 *e*P **P 20 21 12.2 -1.5**
YKW3 Yellowknife Ar 57.58 33 *e*P **P 20 21 16.1 0.0**
comp=Z,11nm,1.3s
YKA Yellowknife Ar 57.62 33 P **P 20 21 16.8 +0.4**
comp=Z,2.9nm,0.8s,baz=304,slow=6.8,SNR=25
YKA LR LR 20 48 22.4
comp=Z,17nm,18.3s,baz=292,slow=38
YKB5 Yellowknife Ar 57.62 33 *e*P **P 20 21 15.8 -0.6**
KBL Kabul 58.09 289 *e*P **P 20 21 19.5 -0.9**
comp=Z,28nm,1.2s
KBL Kabul 58.09 289 *e*P **P 20 21 19.5 -0.9**
KBL pmax pmax
comp=Z,28nm,1.2s
BHPL Bhopal 58.42 274 *e*P **P 20 21 21.7 -0.9**
NGP Nagpur 58.48 271 *e*P **P 20 21 22.1 -0.9**
GSI Gunungsitoli 59.02 239 *e*P **P 20 21 26.9 0.0**
comp=Z,79nm,1.5s
TULEG Thule 59.20 9 *e*P **P 20 21 24.5 -2.7**
comp=Z,40nm,1.2s
TMCR Tamitsa 59.21 331 *e*P **P 20 21 26.6 -0.8**
TMCR pmax pmax
comp=Z,38nm,1.5s
ARA0 ARCESS Array S 59.76 339 *e*P **P 20 21 31.2 0.0**
ARCES ARCESS Array B 59.76 339 P **P 20 21 31.2 0.0**
comp=Z,13nm,1.1s,baz=34,slow=7.0,SNR=10.0
ARCES LR LR 20 52 44.0
comp=Z,433nm,18.2s,baz=356,slow=41
DAG Danmarks Havn 60.45 356 *i*P **P 20 21 35.3 -0.5**
comp=Z,24nm,1.2s
DAG Danmarks Havn 60.45 356 *i*P **P 20 21 35.3 -0.5**
DAG pmax pmax
comp=Z,38nm,1.2s
KLMR Klimovskoe 60.55 327 *e*P **P 20 21 34.7 -1.9**
KLMR pmax pmax
comp=Z,29nm,1.3s
KLMR Klimovskoe 60.55 327 *e*P **P 20 21 34.8 -1.9**
KLMR AMP 20 21 39.4
comp=Z,29nm,1.3s
A04D Lummi Island 60.94 49 P **P 20 21 40.7 +1.2**
baz=303
NLWA Neilton Lookou 60.99 51 *e*P **P 20 21 40.4 +0.4**
comp=Z,11nm,1.1s
HYB Hyderabad 61.16 268 *e*P **P 20 21 41.2 -0.3**
HYB IAmb IAmb 20 21 41.9
comp=Z,29nm,1.3s
D03D Eldon 61.36 51 P **P 20 21 43.9 +1.5**
baz=303,SNR=6.2
B05A Bryant 61.52 49 P **P 20 21 44.5 +1.0**
baz=303
D04E Lakebay 61.73 51 P **P 20 21 46.7 +1.8**
baz=303
E04D Cinebar 62.19 51 P **P 20 21 49.4 +1.4**
baz=304
G03D McMinnville, O 62.53 53 P **P 20 21 50.9 +0.6**
baz=304
MDRS Chennai 62.71 263 *e*P **P 20 21 51.9 0.0**
I02D Swisshome 62.80 54 P **P 20 21 52.7 +0.6**
baz=304
LTY Liberty 62.88 50 *e*P **P 20 21 53.1 +0.4**
comp=Z,9.4nm,1.3s
FITZ Fitzroy Crossi 62.98 201 *e*P **P 20 21 54.0 +0.5**
comp=Z,28nm,1.3s
WRAB Tennant Creek 62.99 191 *e*P **P 20 21 53.0 -0.5**
comp=Z,39nm,1.4s
WRAB Tennant Creek 62.99 191 *e*P **P 20 21 53.0 -0.5**
WRAB pmax pmax
comp=Z,39nm,1.4s
WB2 Warramunga Arr 63.00 191 *e*P **P 20 21 53.1 -0.5**
WR1 Warramunga Arr 63.01 191 *e*P **P 20 21 53.2 -0.5**
comp=Z,34nm,1.3s
WRA Warramunga Arr 63.01 191 P **P 20 21 53.2 -0.5**
comp=Z,13nm,1.1s,baz=9.5,slow=6.9,SNR=32
WRA LR LR 20 46 41.8
comp=Z,160nm,21.7s,baz=175,slow=34
B08A Colville Reser 63.01 48 *e*P **P 20 21 53.5 -0.1**
comp=Z,17nm,1.5s
H04D Lebanon 63.23 53 P **P 20 21 56.1 +1.1**
baz=304
J01E Myrtle Point 63.28 55 P **P 20 21 56.6 +1.2**
baz=304
I03D Drain, OR 63.33 54 P **P 20 21 56.9 +1.2**
baz=304
GEYT Alibeck 63.60 298 P **P 20 21 57.6 0.0**
comp=Z,4.6nm,0.5s,baz=14,slow=3.1,SNR=18
GEYT LR LR 20 51 57.4
comp=Z,761nm,18.0s,baz=45,slow=38
GYA0B ALIBECK ARRAY 63.60 298 *e*P **P 20 21 57.2 -0.4**
comp=Z,24nm,1.3s
G05D Wamic, OR 63.65 52 P **P 20 21 59.2 +1.4**
baz=305
K02D Willamette Mer 63.71 55 P **P 20 21 59.3 +1.0**
baz=305
I04A Tendick Farm, 63.84 54 P **P 20 22 00.0 +1.0**
baz=305
C09A Chrisman Ranch 63.91 48 *e*P **P 20 22 00.1 +0.7**
comp=Z,25nm,1.5s
D08A Wollman Farm, 63.98 49 *e*P **P 20 22 00.7 +0.8**
comp=Z,6.9nm,0.9s
HAWA Hanford 64.02 50 *e*P **P 20 22 01.2 +1.1**
comp=Z,19nm,1.5s
L02E Cave Junction 64.05 56 P **P 20 22 01.4 +0.9**
baz=305
BHJ Bhuj 64.11 278 *e*P **P 20 22 00.0 -1.0**
I05D Terrebonne, OR 64.16 53 P **P 20 22 01.9 +0.7**
baz=305
E08A Dider Farm, El 64.23 50 *e*P **P 20 22 02.1 +0.6**
comp=Z,14nm,1.3s
NEW Newport 64.27 47 *e*P **P 20 22 02.2 +0.4**
comp=Z,19nm,1.4s
NEW Newport 64.27 47 *e*P **P 20 22 02.2 +0.4**
NEW Newport 64.27 47 *e*P **P 20 22 02.2 +0.4**
NEW pmax pmax
comp=Z,19nm,1.4s

NEW Newport 64.27 47 P P 20 22 02.4 +0.6
baz=306,SNR=6.7
J04D Umpqua Nationa 64.33 54 P P 20 22 03.7 +1.2
baz=305,SNR=5.2
MOS Moscow 64.43 323 eP P 20 22 02.1 -0.6
MOS pmax pmax
comp=Z,34nm,0.9s
MOS MLR MLR
comp=Z,500nm,18.0s
PINE Pine Mountain 64.71 53 eP P 20 22 05.2 +0.3
comp=Z,17nm,1.0s
E09A Wood Farm, Sta 64.73 49 eP P 20 22 05.3 +0.5
comp=Z,18nm,1.1s
L04D Klamath Falls 64.81 55 P P 20 22 06.8 +1.3
baz=306,SNR=6.0
J05D Fort Rock, OR 64.83 54 P P 20 22 06.8 +1.1
baz=306
YBH Yreka Blue Hor 64.84 56 eP P 20 22 07.1 +1.4
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 64.84 56 eP P 20 22 07.1 +1.4
YBH pmax pmax
comp=Z,11nm,1.0s
K04D Chiloquin, OR 64.90 54 P P 20 22 07.4 +1.3
baz=306
M02C Callahan 64.95 56 P P 20 22 07.8 +1.4
baz=306
G08A Pilot Rock 64.98 51 eP P 20 22 07.3 +0.7
comp=Z,4.4nm,1.1s
SUMG Summit 65.09 1 eP P 20 22 07.4 +0.2
comp=Z,60nm,1.5s
SUMG Summit 65.09 1 i P P 20 22 07.8 +0.6
comp=Z,62nm,1.1s
SUMG Summit 65.09 1 i P P 20 22 07.8 +0.6
SUMG pmax pmax
comp=Z,62nm,1.1s
FIA1 FINESS Array S 65.17 332 eP P 20 22 07.1 -0.3
FIA0 FINESS Array S 65.17 332 eP P 20 22 07.3 -0.1
FIA0 FINESS Array S 65.17 332 eP P 20 22 07.3 -0.1
FINES FINESS Array B 65.17 332 eP P 20 22 07.0 -0.4
FINES FINESS Array B 65.17 332 i P P 20 22 07.0 -0.4
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES FINESS Array B 65.17 332 P P 20 22 07.3 -0.1
comp=Z,9.0nm,0.8s,baz=47,slow=7.1,SNR=49
FINES LR LR 20 53 43.3
comp=Z,716nm,19.1s,baz=46,slow=39
N02D Trinity Center 65.28 56 P P 20 22 09.9 +1.3
baz=306
OBN Obninsk 65.29 323 eP P 20 22 08.0 -0.3
comp=Z,72nm,1.4s
OBN Obninsk 65.29 323 eP P 20 22 07.3 -1.0
OBN e 20 22 38.7
OBN e 20 24 31.7
OBN ePPP PPP 20 26 05.2
OBN pmax pmax
comp=Z,71nm,1.7s
OBN MLR MLR
comp=Z,438nm,15.0s
VRH Novokhopyorsk 65.31 318 eP P 20 22 07.8 -0.7
VRH pmax pmax
comp=Z,40nm,1.3s
M04C Macdoel 65.34 55 P P 20 22 10.6 +1.6
baz=306,SNR=5.2
WALA Waterton Lakes 65.51 45 eP P 20 22 10.4 +0.4
comp=Z,8.8nm,1.1s
F10A Beach Ranch, E 65.56 49 eP P 20 22 11.2 +0.8
comp=Z,5.8nm,1.1s
WDC Whiskeytown Da 65.61 57 eP P 20 22 11.1 +0.5
comp=Z,13nm,1.0s
WDC Whiskeytown Da 65.61 57 eP P 20 22 11.1 +0.5
WDC pmax pmax
comp=Z,13nm,1.0s
O02D Mt. Diablo Mer 65.70 57 P P 20 22 12.0 +0.7
baz=306
LPSR Galich'ya Gora 65.80 320 eP P 20 22 10.8 -0.8
LPSR pmax pmax
comp=Z,30nm,1.0s
GOA Goa 65.87 269 eP P 20 22 11.0 -1.6
GOA IAmb IAmb 20 22 13.5
comp=Z,21nm,0.9s
BMO Blue Mountains 66.19 50 eP P 20 22 14.5 +0.1
comp=Z,14nm,1.4s
BMO Blue Mountains 66.19 50 eP P 20 22 14.5 +0.1
BMO pmax pmax
comp=Z,15nm,1.4s
MOD Modoc Plateau 66.20 54 eP P 20 22 15.2 +0.7
comp=Z,14nm,1.4s
O03E Paynes Creek 66.24 57 P P 20 22 15.5 +0.7
baz=306,SNR=7.8
PALK Pallekele 66.26 258 eP P 20 22 15.0 -0.2
comp=Z,23nm,1.1s
PALK Pallekele 66.26 258 i P P 20 22 14.8 -0.4
SNR=8.5
PALK Pallekele 66.26 258 eP P 20 22 15.0 -0.2
PALK pmax pmax
comp=Z,23nm,1.1s
J08A Circle Bar Ran 66.41 52 eP P 20 22 16.2 +0.3
comp=Z,13nm,1.2s
VSR Storozhevoye 66.56 319 d i P P 20 22 15.7 -0.8
VSR pmax pmax
comp=Z,26nm,1.0s
AS01 Alice Springs 66.72 191 eP P 20 22 17.6 -0.1
AS31 Alice Springs 66.73 191 eP P 20 22 17.6 -0.2
comp=Z,3.4nm,1.1s
ASAR Alice Springs 66.73 191 P P 20 22 18.1 +0.3
comp=Z,12nm,1.1s,baz=3.8,slow=5.2,SNR=39
ASAR LR LR 20 48 57.4
comp=Z,138nm,21.5s,baz=16,slow=34
MSO Missoula 66.85 47 eP P 20 22 19.0 +0.4
comp=Z,22nm,1.4s
MSO Missoula 66.85 47 P P 20 22 19.1 +0.5
baz=308,SNR=8.4
ORV Oroville 66.86 57 eP P 20 22 18.8 +0.1
comp=Z,10nm,1.0s
ORV Oroville 66.86 57 eP P 20 22 18.8 +0.1
ORV pmax pmax
comp=Z,10.0nm,1.0s
VSU Vasula 67.04 330 i P P 20 22 18.0 -1.4
VSU pmax pmax
comp=Z,98nm,1.3s
MAK Makhachkala 67.21 308 eP P 20 22 18.7 -2.1
MAK e 20 24 47.7
MAK eS S 20 31 10.3 -2.2
MAK eSS SS 20 35 33.3 +1.7
MAK pmax pmax
comp=Z,322nm,1.2s
DZM Mont Dzumac 67.33 158 eLR LR 20 42 46.1
comp=Z,447nm,23.4s
BEKR Beckworth 67.38 56 eP P 20 22 22.4 +0.2
comp=Z,15nm,1.0s
FFC Flin Flon 67.55 35 eP P 20 22 22.5 -0.3
comp=Z,17nm,1.3s
FFC Flin Flon 67.55 35 eP P 20 22 22.5 -0.3
FFC Flin Flon 67.55 35 eP P 20 22 22.5 -0.3
FFC pmax pmax
comp=Z,17nm,1.3s
AFDM Forest Hills D 67.56 57 eP P 20 22 23.2 +0.1
comp=Z,13nm,1.3s
FCC Fort Churchill 67.79 29 eP P 20 22 24.2 +0.1
comp=Z,39nm,1.6s
FCC Fort Churchill 67.79 29 eP P 20 22 24.3 +0.1
FCC pmax pmax
comp=Z,39nm,1.6s
HRY Holter Researc 68.06 46 eP P 20 22 27.2 +0.9
PAHR Pah Rah Range 68.08 56 eP P 20 22 27.1 +0.6
comp=Z,14nm,1.0s
TRD Trivandrum 68.14 261 eP P 20 22 27.4 +0.3
EGMT Eagleton 68.31 44 eP P 20 22 28.6 +0.8
comp=Z,22nm,0.9s
EGMT Eagleton 68.31 44 P P 20 22 28.5 +0.8
baz=310
PNTR Pine Nut 68.32 56 eP P 20 22 29.2 +1.1
comp=Z,12nm,0.9s
GOF Gofitskoye 68.44 312 eP P 20 22 28.5 0.0
GOF pmax pmax
comp=Z,40nm,1.0s
CMB Columbia Colle 68.48 58 eP P 20 22 29.6 +0.7
comp=Z,19nm,1.5s
CMB Columbia Colle 68.48 58 eP P 20 22 29.6 +0.7
CMB pmax pmax
comp=Z,19nm,1.5s
DLMT Dillon 68.50 48 eP P 20 22 29.6 +0.6
comp=Z,11nm,0.9s
YERR Yerington 68.60 56 eP P 20 22 30.5 +0.6
comp=Z,18nm,1.0s
HLID Hailey 68.62 50 eP P 20 22 30.1 +0.2
comp=Z,6.8nm,1.1s
HLID Hailey 68.62 50 P P 20 22 30.9 +1.0
baz=309,SNR=7.1
WAKR Walker 68.78 57 eP P 20 22 31.6 +0.6
comp=Z,17nm,1.4s
BOZ Bozeman (W) 68.88 47 eP P 20 22 31.6 +0.2
comp=Z,12nm,0.8s
BOZ Bozeman (W) 68.88 47 eP P 20 22 31.6 +0.2
BOZ Bozeman (W) 68.88 47 eP P 20 22 31.6 +0.2
BOZ pmax pmax
comp=Z,13nm,0.8s
BOZ Bozeman (W) 68.88 47 P P 20 22 32.4 +1.0
baz=310,SNR=16
BMN Battle Mountai 68.94 54 eP P 20 22 32.3 +0.4
comp=Z,7.6nm,0.9s
BMN Battle Mountai 68.94 54 eP P 20 22 32.3 +0.4
BMN pmax pmax
comp=Z,8.0nm,0.9s
NCK Nalchik 69.12 310 i P P 20 22 32.4 -0.4
NCK pmax pmax
comp=Z,15nm,1.3s
KVN Kaiserville 69.26 56 eP P 20 22 34.3 +0.3
comp=Z,17nm,1.0s
KIV Kislovodsk 69.34 311 eP P 20 22 34.2 0.0
comp=Z,54nm,1.3s
KIV Kislovodsk 69.34 311 ǁ i P P 20 22 36.0 +1.8
KIV Kislovodsk 69.34 311 eP P 20 22 34.2 0.0
KIV Kislovodsk 69.34 311 i P P 20 22 34.8 +0.5
SNR=11
KIV Kislovodsk 69.34 311 eP P 20 22 34.2 0.0
KIV pmax pmax
comp=Z,36nm,1.1s
KIV MLR MLR
comp=Z,839nm,17.0s
KIV Kislovodsk 69.34 311 P P 20 22 35.2 +1.0
SNR=6.1
KBZ Khabaz 69.36 311 P P 20 22 34.9 +0.6
comp=Z,9.1nm,0.9s,baz=47,slow=4.3,SNR=13
KBZ LR LR 20 58 31.6
comp=Z,597nm,18.6s,baz=30,slow=41
ZEI Tsey 69.39 309 eP P 20 22 33.2 -1.5
ZEI pmax pmax
comp=Z,7.0nm,0.9s
QLMT Earthquake Lak 69.48 48 eP P 20 22 36.0 +0.8
NV01 Mina Array Sit 69.52 56 eP P 20 22 36.0 +0.4
NVAR Mina Array Bea 69.52 56 P P 20 22 37.0 +1.4
comp=Z,6.7nm,0.7s,baz=288,slow=6.4,SNR=27
NVAR LR LR 20 50 47.4
comp=Z,72nm,20.7s,baz=272,slow=34
TBLG Delisi 69.58 308 eP P 20 22 35.8 +0.1
comp=Z,37nm,1.2s
TBLG Delisi 69.58 308 eP P 20 22 35.8 +0.1
TBLG pmax pmax
comp=Z,37nm,1.2s
NV11 Mina Array Sit 69.61 56 eP P 20 22 34.7 -1.4
comp=Z,1.2nm,1.3s
YHB Horse Butte 69.66 48 eP P 20 22 36.5 +0.1
comp=Z,12nm,0.9s
NEY Neytrino 69.77 310 i P P 20 22 35.8 -1.2
NEY pmax pmax
comp=Z,2.0nm,1.1s
GCMT Greycliff 69.80 46 eP P 20 22 37.5 +0.4
YHH Holmes Hill 69.82 47 eP P 20 22 38.2 +0.7
comp=Z,9.9nm,1.0s
YMR Madison River 69.83 48 eP P 20 22 37.7 +0.3
comp=Z,7.9nm,0.8s
NC405 NORSAR Array S 69.89 338 eP P 20 22 36.4 -0.8
comp=Z,32nm,1.3s
ELK Elko 69.92 53 eP P 20 22 38.3 +0.2
comp=Z,3.1nm,0.9s
ELK Elko 69.92 53 eP P 20 22 38.3 +0.2
ELK pmax pmax
comp=Z,3.0nm,0.9s
YNR Norris Junctio 69.96 47 eP P 20 22 39.0 +0.7
comp=Z,31nm,1.6s
NC204 NORSAR Array S 70.02 338 eP P 20 22 37.9 -0.1
comp=Z,39nm,1.3s
YFT Old Faithful 70.05 48 eP P 20 22 39.3 +0.6
comp=Z,8.8nm,0.9s
NB2 NORSAR Subarra 70.09 338 P P 20 22 38.0 -0.5
comp=Z,1.8nm,0.5s,baz=33,slow=6.5
NB200 NORSAR Array S 70.09 338 eP P 20 22 38.0 -0.5
NOA NORSAR Array B 70.09 338 P P 20 22 38.0 -0.5
NOA pmax pmax
comp=Z,10.0nm,0.9s
NOA MLR MLR
comp=Z,615nm,21.4s
NOA NORSAR Array B 70.09 338 P P 20 22 38.0 -0.5
comp=Z,10.0nm,0.9s,baz=35,slow=6.1,SNR=24
NOA LR LR 20 57 02.5
comp=Z,615nm,21.4s,baz=25,slow=39
YPP Pitchstone Pla 70.18 48 eP P 20 22 39.5 -0.2
comp=Z,16nm,1.6s
LKWY Lake 70.21 47 eP P 20 22 39.6 -0.2
comp=Z,14nm,1.3s
LKWY Lake 70.21 47 eP P 20 22 39.6 -0.2
LKWY pmax pmax
comp=Z,14nm,1.3s
IMW Indian Meadow 70.35 48 eP P 20 22 40.5 -0.2
comp=Z,10.0nm,0.8s
FLWY Flagg Ranch 70.36 48 eP P 20 22 40.7 0.0
comp=Z,19nm,1.2s
RLMT Red Lodge 70.45 46 eP P 20 22 41.4 +0.1
comp=Z,16nm,1.4s
RLMT Red Lodge 70.45 46 P P 20 22 42.3 +1.1
baz=311
FXWY Fox Creek 70.47 48 eP P 20 22 41.8 +0.4
comp=Z,12nm,1.0s
MOOW Moose Ponds 70.55 48 eP P 20 22 41.7 -0.2
comp=Z,16nm,1.1s
GNI Garni 70.58 307 eP P 20 22 42.3 +0.3
comp=Z,40nm,1.4s
GNI Garni 70.58 307 i P P 20 22 41.7 -0.3
GNI pmax pmax
comp=Z,64nm,1.3s
TPAW Teton Pass 70.61 48 eP P 20 22 42.0 -0.2
comp=Z,17nm,1.1s
VES Vestal, Richgr 70.65 59 P P 20 22 43.5 +1.2
baz=309
LOHW Long Hollow 70.72 48 eP P 20 22 42.9 0.0
comp=Z,12nm,1.2s
SNOW Snow King Moun 70.73 48 eP P 20 22 43.2 +0.2
comp=Z,8.7nm,0.9s
REDW Red Top Meadow 70.74 49 eP P 20 22 43.1 +0.1
comp=Z,25nm,1.4s
DGMT Dagmar 70.80 41 eP P 20 22 43.3 +0.3
comp=Z,13nm,0.8s
DGMT Dagmar 70.80 41 P P 20 22 43.7 +0.6
baz=313
R11A Troy Canyon, C 71.23 55 eP P 20 22 46.5 +0.5
comp=Z,9.5nm,1.1s
R11A Troy Canyon, C 71.23 55 P P 20 22 46.7 +0.6
baz=310,SNR=11
ARVC Arvin 71.26 59 P P 20 22 46.7 +0.7
baz=309
DAC Darwin (Calif) 71.31 58 eP P 20 22 46.9 +0.3
comp=Z,12nm,1.4s
DAC Darwin (Calif) 71.31 58 eP P 20 22 46.9 +0.3
DAC pmax pmax
comp=Z,13nm,1.4s
HWUT Hardware Ranch 71.49 50 eP P 20 22 47.9 +0.4
comp=Z,18nm,1.4s
MPMC Manual Prospec 71.52 58 P P 20 22 48.5 +0.7
baz=310,SNR=5.3
AKASG Malin Array Be 71.55 323 P P 20 22 47.2 -0.3
comp=Z,2.8nm,0.4s,baz=41,slow=6.4,SNR=38
AKASG LR LR 20 56 05.9
comp=Z,242nm,21.6s,baz=25,slow=37
AKBB Malin Array Si 71.55 323 eP P 20 22 46.9 -0.6
comp=Z,29nm,1.3s
AKBB Malin Array Si 71.55 323 eP P 20 22 46.9 -0.6
AKBB pmax pmax
comp=Z,29nm,1.3s
BCA Borcka 71.56 310 ǁ i P P 20 22 48.4 +0.7
AK11 Malin Array Si 71.59 323 eP P 20 22 46.9 -0.9
DBOC Borcka 71.60 309 i P P 20 22 48.8 +0.8
DBOC IAML_P
comp=Z,146nm,0.4s
DAGI Agillar 71.63 309 i P P 20 22 49.7 +1.4
DAGI IAML_P
comp=Z,119nm,0.5s
FURC Furnace Creek, 71.65 57 P P 20 22 49.4 +1.1
baz=310
DUG Dugway, Tooele 71.69 52 eP P 20 22 49.4 +0.7
comp=Z,19nm,1.3s
DUG Dugway, Tooele 71.69 52 P P 20 22 49.7 +1.0
baz=311,SNR=7.5
TPNV Topopah Spring 71.72 56 eP P 20 22 48.8 -0.2
comp=Z,13nm,0.8s
TPNV Topopah Spring 71.72 56 eP P 20 22 48.8 -0.2
TPNV pmax pmax
comp=Z,13nm,0.8s
LRMC Laurel Mtn Rad 71.76 58 P P 20 22 49.7 +0.4
baz=310
DBAD Bademkaya 71.79 309 i P P 20 22 50.1 +0.8
DBAD IAML_P
comp=Z,17nm,0.1s
BW06 Boulder Array 71.85 48 eP P 20 22 49.5 -0.2
comp=Z,11nm,1.1s
BW06 Boulder Array 71.85 48 P P 20 22 50.3 +0.6
baz=312,SNR=9.4
PD31 Pinedale Array 71.85 48 eP P 20 22 49.5 -0.2
comp=Z,10nm,1.1s
PDAR Pinedale Array 71.85 48 eP P 20 22 49.0 -0.8
PDAR Pinedale Array 71.85 48 P P 20 22 50.4 +0.6
comp=Z,3.8nm,0.6s,baz=268,slow=2.3,SNR=35
TCUT Toone Canyon 71.90 51 eP P 20 22 49.8 -0.2
comp=Z,54nm,1.6s
EDW2 Edwards Air Fo 71.95 59 P P 20 22 51.1 +0.9
baz=310
SHME Shamm 72.07 289 P P 20 22 50.8 -0.3
EATA Eleskirt 72.09 308 i P P 20 22 53.5 +2.2
EATA IAML_P
comp=Z,37nm,0.1s
PSUT Pine Spring 72.15 54 eP P 20 22 51.1 -0.5
comp=Z,8.2nm,1.2s
TUTA Tutak 72.20 307 i P P 20 22 53.8 +1.9
TUTA IAML_P
comp=Z,28nm,0.2s
JLU Jordanelle 72.21 51 eP P 20 22 52.1 +0.2
comp=Z,23nm,1.6s
NLU North Lily Min 72.28 52 eP P 20 22 52.1 -0.2
comp=Z,11nm,1.1s
SHOC Shoshone, Teco 72.38 57 P P 20 22 53.5 +0.8
baz=310
GSC Goldstone, Bar 72.43 58 P P 20 22 54.0 +0.8
baz=310
MPU Maple Canyon 72.49 52 eP P 20 22 54.0 +0.4
comp=Z,27nm,1.6s
BFSC Mount Baldy Ra 72.57 59 P P 20 22 55.3 +1.3
baz=310
SHPR Sheep Range 72.67 56 eP P 20 22 55.5 +0.8
comp=Z,12nm,1.0s
HATD Hatta, Dubai 72.85 288 i P P 20 22 55.9 +0.3
SNR=9.2
ASHO Ashiyiah 72.99 288 i P P 20 22 56.8 +0.2
SNR=10
ASHO Ashiyiah 72.99 288 P P 20 22 58.7 +2.1
SNR=6.8
HEC Hector,Ludlow 73.03 58 P P 20 22 57.8 +1.1
baz=310
CCUT Cedar City 73.09 54 eP P 20 22 56.4 -0.8
comp=Z,24nm,1.6s
BAYB BAYBURT 73.12 309 i P P 20 22 59.0 +1.7
BAYB IAML_P
comp=Z,9.3nm,0.3s
MSU Marysvale 73.16 53 eP P 20 22 57.5 -0.1
MSU Marysvale 73.16 53 eP P 20 22 57.5 -0.1
TMUT Trail Mountain 73.21 52 eP P 20 22 57.8 -0.2
comp=Z,19nm,1.4s
ULM Lac du Bonnet 73.36 36 P P 20 22 57.8 -0.5
comp=Z,2.9nm,0.8s,baz=312,slow=7.6,SNR=6.1
ULM LR LR 20 59 32.5
comp=Z,84nm,18.2s,baz=306,slow=39
P17A Butcher Ranch, 73.37 52 eP P 20 22 58.6 -0.2
comp=Z,30nm,1.4s
MDND Maddock 73.43 39 eP P 20 22 59.2 +0.4
comp=Z,28nm,1.0s
MDND Maddock 73.43 39 P P 20 22 59.4 +0.6
baz=316
MTPU Mount Pierson 73.47 53 eP P 20 23 00.1 +0.6
comp=Z,9.8nm,1.1s
GMRC Granite Mounta 73.48 58 P P 20 23 00.5 +1.1
baz=311
Q16A Castle Valley 73.48 52 eP P 20 22 60.0 +0.5
LCMT Little Creek M 73.51 55 eP P 20 22 60.0 +0.4
comp=Z,11nm,1.0s
ASUD Al Ashush, Dub 73.54 288 P P 20 23 00.2 +0.4
P18A Preston Nutter 73.55 51 eP P 20 23 00.2 +0.2
comp=Z,22nm,1.5s
K22A Casper 73.58 47 eP P 20 22 59.8 -0.1
comp=Z,31nm,1.5s
K22A Casper 73.58 47 P P 20 23 00.2 +0.3
baz=313
SIRT Sirnak 73.67 306 eP P 20 23 00.0 -0.4
comp=Z,79nm,1.1s
SRU San Rafael Swe 73.73 52 eP P 20 23 00.7 -0.2
comp=Z,12nm,1.0s
SRU San Rafael Swe 73.73 52 eP P 20 23 00.7 -0.2
SRU pmax pmax
comp=Z,12nm,1.0s
PFO Pinyon Flats O 73.73 59 P P 20 23 01.0 0.0
baz=311
KELT Kelkit 73.76 310 i P P 20 23 00.3 -0.7
KELT IAML_P
comp=Z,69nm,0.7s
KNB Kanab 73.76 55 eP P 20 23 01.0 -0.1
comp=Z,24nm,1.3s
KNB Kanab 73.76 55 eP P 20 23 01.0 -0.1
KNB pmax pmax
comp=Z,24nm,1.3s
RWWY Rawlins 73.86 48 eP P 20 23 01.5 -0.3
comp=Z,16nm,1.0s
RSSD Black Hills 73.88 44 P P 20 23 02.3 +0.6
baz=314
MHTO MHTO 73.98 284 P P 20 23 04.0 +1.6
SNR=12
STKA Stephens Creek 74.18 183 eP P 20 23 03.2 +0.1
comp=Z,4.3nm,1.6s
STKA Stephens Creek 74.18 183 eP P 20 23 03.2 +0.1
STKA pmax pmax
comp=Z,4.0nm,1.6s
STKA Stephens Creek 74.18 183 P P 20 23 03.3 +0.2
comp=Z,21nm,0.7s,baz=349,slow=7.2,SNR=5.8
IRM Iron Mountain 74.21 58 P P 20 23 04.6 +1.0
baz=311
MONP2 Monument Peak 74.23 60 P P 20 23 04.3 +0.4
baz=311
BEL Belsk 74.25 328 eP P 20 23 04.5 +1.1
BEL Belsk 74.25 328 eP P 20 23 04.5 +1.1
BC3 Big Chuckawall 74.34 59 P P 20 23 05.4 +0.9
baz=311
W13A Hualapai Mount 74.38 57 eP P 20 23 04.8 0.0
comp=Z,13nm,1.4s
KIS Kishinev 74.41 320 eP P 20 23 03.0 -1.4
KIS eL L 20 53 14.0
KIS LRM MLR 20 59 46.0
comp=Z,500nm,18.0s
KIS Kishinev 74.41 320 eP P 20 23 03.0 -1.4
KIS e 20 23 12.0
KIS MLR MLR
comp=Z,500nm,18.0s
LVV L'vov 74.47 325 eP P 20 23 05.0 +0.3
LVV MLR MLR
comp=N,200nm,18.0s
LVV MLR MLR
comp=E,300nm,18.0s
LVV MLR MLR
comp=Z,300nm,18.0s
U15A North Rim 74.47 55 eP P 20 23 05.5 +0.1
comp=Z,15nm,1.0s
PDMCI Parker Dam,Lak 74.74 57 P P 20 23 07.6 +1.0
baz=311
AGMN Agassiz Nation 74.81 37 eP P 20 23 06.5 -0.3
comp=Z,8.0nm,0.9s
AGMN Agassiz Nation 74.81 37 P P 20 23 07.3 +0.5
baz=318,SNR=5.8
Y12C Blythe 74.87 58 eP P 20 23 07.6 +0.3
comp=Z,15nm,1.2s
Y12C Blythe 74.87 58 P P 20 23 08.5 +1.1
baz=311
PV09 Paradox Valley 74.95 51 eP P 20 23 07.6 -0.5
PV10 Paradox Valley 75.08 51 eP P 20 23 08.9 0.0
comp=Z,24nm,0.9s
N23A Red Feather La 75.10 48 eP P 20 23 08.8 -0.2
comp=Z,15nm,1.1s
N23A Red Feather La 75.10 48 P P 20 23 09.8 +0.9
baz=314,SNR=5.5
KWP Kalwaria Pacla 75.17 325 eP P 20 23 09.3 +0.5
KWP Kalwaria Pacla 75.17 325 eP P 20 23 08.8 0.0
comp=Z,588nm,1.3s
KWP Kalwaria Pacla 75.17 325 eP P 20 23 08.8 0.0
KWP pmax pmax
comp=Z,588nm,1.3s
PV17 East Wray Mesa 75.20 51 eP P 20 23 09.3 -0.1

comp=Z,23nm,1.0s
PV01 Paradox Valley 75.52 51 *e*P **P** 20 23 11.0 -0.4
comp=Z,23nm,1.6s
BUR08 Bucovina Ar. S 75.59 323 *e*P **P** 20 23 10.8 -0.6
comp=Z,18nm,1.3s
BURAR Bucovina Array 75.61 323⇑*i*P **P** 20 23 12.4 +0.9
WUAZ Wupatki 75.63 55 *e*P **P** 20 23 11.9 0.0
comp=Z,21nm,1.1s
WUAZ Wupatki 75.63 55 P **P** 20 23 13.4 +1.5
baz=312
Y14A Wickenburg 75.69 57 *e*P **P** 20 23 12.0 -0.1
comp=Z,13nm,1.1s
BIZ Bicaz 75.71 322⇑*i*P **P** 20 23 12.7 +0.7
SMCO Snowmass 75.72 50 *e*P **P** 20 23 12.0 -0.6
comp=Z,11nm,1.3s
TESR Tescani 75.78 321⇑*i*P **P** 20 23 12.7 +0.3
OJC Ojcow 75.90 327 *e*P **P** 20 23 13.8 +0.8
OJC Ojcow 75.90 327 *e*P **P** 20 23 12.4 -0.6
comp=Z,35nm,1.1s
OJC Ojcow 75.90 327 *e*P **P** 20 23 12.4 -0.6
OJC Ojcow 75.90 327 *e*P **P** 20 23 12.4 -0.6
OJC pmax pmax
comp=Z,35nm,1.1s
ISCO Idaho Springs 76.04 48 *e*P **P** 20 23 14.0 -0.4
comp=Z,9.4nm,1.2s
ISCO Idaho Springs 76.04 48 *e*P **P** 20 23 14.0 -0.4
ISCO pmax pmax
comp=Z,9.0nm,1.2s
ISCO Idaho Springs 76.04 48 P **P** 20 23 15.3 +0.9
baz=314,SNR=6.1
CFR Carcaliu 76.06 319⇓*i*P **P** 20 23 14.4 +0.4
CFR Carcaliu 76.06 319 ⇓P **P** 20 23 14.4 +0.4
UZH Uzhgorod 76.11 325 *e*P **P** 20 23 13.8 -0.4
UZH *e* 20 23 26.2
UZH *e* 20 23 31.4
ODBI Odobesti 76.14 320⇑*i*P **P** 20 23 15.3 +0.9
MVCO Mesa Verde 76.19 52 *e*P **P** 20 23 15.2 -0.1
comp=Z,6.5nm,0.9s
MVCO Mesa Verde 76.19 52 P **P** 20 23 15.9 +0.7
baz=313
ILGA Ilgaz 76.19 313 *e*P **P** 20 23 14.8 -0.4
comp=Z,23nm,1.2s
SUSD Miller 76.21 42 P **P** 20 23 15.8 +0.9
baz=317
VRI Vrincioaia 76.22 321⇑*i*P **P** 20 23 15.5 +0.6
VRI Vrincioaia 76.22 321 ⇑P **P** 20 23 15.5 +0.6
PLOR Plostina 76.27 321⇓*i*P **P** 20 23 16.8 +1.6
PLOR Plostina 76.27 321 ⇓P **P** 20 23 16.8 +1.6
NIE Niedzica 76.33 326 *e*P **P** 20 23 16.5 +1.0
NIE Niedzica 76.33 326 *e*P **P** 20 23 16.5 +1.0
X16A Lo Mia Camp, P 76.33 56 *e*P **P** 20 23 15.9 0.0
comp=Z,13nm,0.9s
TRPA Tarpa 76.39 324⇑*i*P **P** 20 23 16.9 +1.1
TRPA Tarpa 76.39 324⇑*e*P **P** 20 23 16.1 +0.3
OZUR 76.49 321⇑*i*P **P** 20 23 17.7 +1.2
TLB Topalu 76.54 319⇑*i*P **P** 20 23 17.1 +0.4
TLB Topalu 76.54 319 ⇑P **P** 20 23 17.1 +0.4
DOPR Dopca 76.77 321⇑*i*P **P** 20 23 19.5 +1.5
KSP Ksiaz 76.77 329 *e*P **P** 20 23 18.7 +0.8
KSP Ksiaz 76.77 329 *e*P **P** 20 23 18.7 +0.8
S22A 4UR Ranch, Cre 76.79 51 *e*P **P** 20 23 18.2 -0.4
comp=Z,6.9nm,1.1s
S22A 4UR Ranch, Cre 76.79 51 P **P** 20 23 19.7 +1.1
baz=314,SNR=6.6
OKC Ostrava-Krasne 76.86 328 *e*P **P** 20 23 19.3 +0.9
OKC AMS AMS 20 59 50.0
comp=Z,600nm,21.4s
OKC Ostrava-Krasne 76.86 328 *e*P **P** 20 23 19.3 +0.9
OKC MLR MLR
comp=Z,600nm,21.4s
MLR Muntele Rosu 76.87 321 *e*P **P** 20 23 18.7 0.0
comp=Z,32nm,1.6s
MLR Muntele Rosu 76.87 321⇓*i*P **P** 20 23 20.3 +1.6
MLR Muntele Rosu 76.87 321 ⇓P **P** 20 23 20.3 +1.6
LANS Liptovska Anna 76.88 327 *e*P **P** 20 23 19.9 +1.3
LANS Liptovska Anna 76.88 327 *e*P **P** 20 23 19.9 +1.3
EYMN Ely 76.98 35 P **P** 20 23 19.6 +0.4
baz=321
ICOR Ion Corvin 77.00 319⇑*i*P **P** 20 23 19.9 +0.6
UPC Upice 77.14 329 *e*P **P** 20 23 20.7 +0.7
UPC AMS AMS 20 59 30.0
comp=Z,800nm,19.4s
UPC Upice 77.14 329 *e*P **P** 20 23 20.7 +0.7
UPC MLR MLR
comp=Z,800nm,19.4s
MORC Moravsky Berou 77.14 328 *e*P **P** 20 23 19.7 -0.4
comp=Z,30nm,1.3s
MORC Moravsky Berou 77.14 328⇑*i*P **P** 20 23 21.2 +1.1
MORC Moravsky Berou 77.14 328 ⇑P **P** 20 23 21.2 +1.1
MORC Moravsky Berou 77.14 328 *e*P **P** 20 23 21.0 +0.9
DPC Dobruska-Polom 77.15 329 *e*P **P** 20 23 21.0 +0.9
DPC *ep*P **sP** 20 23 35.5 -1.0
DPC AMS AMS 20 58 50.0
comp=Z,800nm,24.4s
DPC Dobruska-Polom 77.15 329 *e*P **P** 20 23 21.0 +0.9
DPC *e* 20 23 35.5
DPC MLR MLR
comp=Z,800nm,24.4s
X18A Snowflake 77.16 55 *e*P **P** 20 23 20.7 0.0
comp=Z,9.2nm,1.1s
BR101 Keskin Array S 77.17 313 *e*P **P** 20 23 20.6 0.0
BR131 Keskin Array S 77.17 313 *e*P **P** 20 23 19.7 -0.9
comp=Z,3.7nm,1.0s
BRTR Keskin Array B 77.17 313 P **P** 20 23 20.6 0.0
comp=Z,2.1nm,0.9s,baz=80,slow=2.9,SNR=15
BRTR LR LR 21 03 40.4
comp=Z,203nm,18.7s,baz=43,slow=40
KRLC Kraliky 77.20 329 *e*P **P** 20 23 21.2 +0.8
KRLC Kraliky 77.20 329 *e*P **P** 20 23 21.2 +0.8
VOIR 77.32 321⇑*i*P **P** 20 23 22.0 +0.8
VOIR 77.32 321 ⇑P **P** 20 23 22.0 +0.8
SDCO Great Sand Dun 77.54 50 *e*P **P** 20 23 22.4 -0.4
comp=Z,3.4nm,1.0s
SDCO Great Sand Dun 77.54 50 P **P** 20 23 23.7 +0.9
baz=315,SNR=5.1
ARR Arges 77.57 321⇑*i*P **P** 20 23 24.1 +1.5
BRG Berggiesshubel 77.61 331 *e*P **P** 20 23 22.9 +0.3
comp=Z,10nm,1.3s
comp=N,635nm,19.0s
comp=E,181nm,15.3s
comp=Z,1μm,21.2s
BRG Berggiesshubel 77.61 331 *e*P **P** 20 23 22.6 0.0
comp=Z,10nm,1.3s,baz=32,slow=5.6
BRG Berggiesshubel 77.61 331 *e*P **P** 20 23 22.9 +0.3
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG MLR MLR
comp=N,635nm,19.0s
BRG MLR MLR
comp=E,181nm,15.3s
BRG MLR MLR
comp=Z,1μm,21.2s
VYHS Vyhne 77.65 327 *e*P **P** 20 23 23.6 +0.6
VYHS pmax pmax
comp=Z,13nm,1.5s
VYHS Vyhne 77.65 327 *e*P **P** 20 23 23.5 +0.6
PVCC Panska Ves 77.66 330 *e*P **P** 20 23 24.0 +1.1
PVCC *ep*P **sP** 20 23 39.5 +0.2
PVCC AMS AMS 21 01 00.0
comp=Z,700nm,16.5s
PVCC Panska Ves 77.66 330 *e*P **P** 20 23 24.0 +1.1
PVCC *e* 20 23 39.5
PVCC MLR MLR
comp=Z,700nm,16.5s
PSZ Piszkesteto 77.67 326 *e*P **P** 20 23 23.0 -0.1
comp=Z,22nm,1.2s
PSZ Piszkesteto 77.67 326 *e*P **P** 20 23 23.0 -0.1
PSZ pmax pmax
comp=Z,23nm,1.2s
PSZ Piszkesteto 77.67 326 *e*P **P** 20 23 23.1 -0.1
JAVC Velka Javorina 77.83 328 *e*P **P** 20 23 26.0 +2.0
ECSD EROS Data Cent 77.87 41 *e*P **P** 20 23 23.9 -0.3
comp=Z,14nm,1.1s
ECSD EROS Data Cent 77.87 41 P **P** 20 23 24.3 +0.1
baz=318,SNR=8.0
VRAC Vranov 77.89 328⇓*i*P **P** 20 23 25.6 +1.3
VRAC Vranov 77.89 328 ⇓P **P** 20 23 25.6 +1.3
VRAC Vranov 77.89 328 *e*P **P** 20 23 25.5 +1.3
E38A The Farm, Brul 78.00 36 P **P** 20 23 24.7 -0.2
baz=321
CLZ Clausthal 78.04 333 *e*P **P** 20 23 25.5 +0.5
comp=Z,30nm,1.5s,baz=32,slow=5.6
GOPC GO Pecny, Ondr 78.08 330 *e*P **P** 20 23 25.3 0.0
GOPC *ep*P **pP** 20 23 39.3 +2.1
GOPC AMS AMS 21 00 30.0
comp=Z,700nm,16.7s
GOPC GO Pecny, Ondr 78.08 330 *e*P **P** 20 23 25.3 0.0
GOPC *e* 20 23 39.3
GOPC MLR MLR
comp=Z,700nm,16.7s
PRU Pruhonice 78.11 330 *e*P **P** 20 23 26.0 +0.6
PRU *ep*P **pP** 20 23 40.2 +2.9
PRU AMS AMS 21 01 00.0
comp=Z,600nm,18.1s
PRU Pruhonice 78.11 330 *e*P **P** 20 23 26.0 +0.6
PRU Pruhonice 78.11 330 *e*P **P** 20 23 26.0 +0.6
PRU *e* 20 23 40.2
PRU MLR MLR
comp=Z,600nm,18.1s
TUC Tucson 78.16 57 *e*P **P** 20 23 26.3 +0.2
comp=Z,10nm,1.1s
TUC Tucson 78.16 57 *e*P **P** 20 23 26.3 +0.2
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 78.16 57 P **P** 20 23 27.0 +0.9
baz=313
KRUC Moravsky 78.17 328 *e*P **P** 20 23 26.8 +1.1
SIRR Siria 78.21 324⇑*i*P **P** 20 23 27.1 +1.0
KSCO Kaye Shedlock' 78.24 47 P **P** 20 23 27.0 +0.5
baz=316
TREC Trest 78.33 329 *e*P **P** 20 23 27.5 +0.8
TREC AMS AMS 20 59 40.0
comp=Z,700nm,19.5s
TREC Trest 78.33 329 *e*P **P** 20 23 27.5 +0.8
TREC MLR MLR
comp=Z,700nm,19.5s
F38A Pierce - Schro 78.36 37 P **P** 20 23 27.1 +0.2
baz=321,SNR=6.4
MODS Modra-Piesok 78.38 327 *e*P **P** 20 23 28.2 +1.3
MODS pmax pmax
comp=Z,25nm,1.3s
MODS Modra-Piesok 78.38 327 *e*P **P** 20 23 28.2 +1.3
GZR Gura Zlata 78.39 323⇑*i*P **P** 20 23 27.5 +0.4
GZR Gura Zlata 78.39 323 ⇑P **P** 20 23 27.5 +0.4
SRO Srobarova 78.41 327 *e*P **P** 20 23 28.8 +1.7
SRO Srobarova 78.41 327 *e*P **P** 20 23 28.8 +1.7
SPMN Marine on St. 78.51 38 P **P** 20 23 27.4 -0.4
baz=320
PLN Plauen 78.57 331 *e*P **P** 20 23 28.0 +0.1
comp=Z,9.5nm,1.3s,baz=32,slow=5.6
T25A Trinidad 78.58 50 *e*P **P** 20 23 28.1 -0.5
comp=Z,7.6nm,0.9s
T25A Trinidad 78.58 50 P **P** 20 23 29.2 +0.7
baz=315,SNR=5.3
ZST Bratislava 78.59 327 *e*P **P** 20 23 28.7 +0.6
ZST Bratislava 78.59 327 *e*P **P** 20 23 28.7 +0.6
E39A Mellen 78.61 36 P **P** 20 23 28.2 0.0
baz=322
GUNZ Gunzen 78.61 331 *e*P **P** 20 23 28.1 -0.1
comp=Z,11nm,1.3s,baz=32,slow=5.6
MOX Moxa 78.62 332 *e*P **P** 20 23 28.2 -0.1
comp=Z,28nm,1.7s,baz=32,slow=5.6
MOX *e*L L 21 01 22.6
comp=Z,404nm,21.0s
WERN Wernitzgruen 78.65 331 *e*P **P** 20 23 28.5 0.0
comp=Z,63nm,2.3s,baz=32,slow=5.6
NKC Novy Kostel 78.67 331 *e*P **P** 20 23 29.6 +1.0
NKC Novy Kostel 78.67 331 *e*P **P** 20 23 29.6 +1.0
BZS Buzias 78.73 323⇑*i*P **P** 20 23 29.2 +0.3
BZS Buzias 78.73 323 ⇑P **P** 20 23 29.2 +0.3
F39A Loretta 78.81 36 P **P** 20 23 29.2 -0.2
baz=322
E40A Wakefield 78.83 35 P **P** 20 23 29.6 +0.1
baz=322,SNR=6.8
D41A Chassel 78.91 34 P **P** 20 23 29.9 0.0
baz=323
ANMO Albuquerque 78.95 53 *e*P **P** 20 23 30.7 +0.1
comp=Z,13nm,1.3s
ANMO Albuquerque 78.95 53 *i* P **P** 20 23 28.7 -1.9
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 78.95 53 P **P** 20 23 31.6 +1.0
baz=315
G38A Ridgeland 78.98 37 P **P** 20 23 30.7 +0.4
baz=321
PHSR Pinarhisar 78.98 317⇓*i*P **P** 20 23 30.8 +0.4
MANZ Manzenberg 79.00 331 *e*P **P** 20 23 30.3 0.0
comp=Z,13nm,1.4s,baz=32,slow=5.6
UBBA Unterbreizbach 79.03 333 *e*P **P** 20 23 30.1 -0.2
comp=Z,13nm,1.5s,baz=32,slow=5.6
F40A Park Falls 79.15 36 P **P** 20 23 31.3 +0.1
baz=322
KHC Kasperske Hory 79.18 330 *e*P **P** 20 23 30.6 -0.8
comp=Z,7.6nm,1.2s
KHC Kasperske Hory 79.18 330 *e*P **P** 20 23 31.8 +0.4
KHC *ep*P **pP** 20 23 43.9 +0.7
KHC *ex* x 20 23 54.5
KHC AMS AMS 21 01 20.0
comp=Z,800nm,20.0s
KHC Kasperske Hory 79.18 330 *e*P **P** 20 23 31.8 +0.4
KHC Kasperske Hory 79.18 330 *e*P **P** 20 23 31.8 +0.4
KHC *e* 20 23 43.9
KHC *e* 20 23 54.5
KHC MLR MLR
comp=Z,800nm,20.0s
G39A Holcombe 79.19 37 P **P** 20 23 31.3 -0.1
baz=322
SCHQ Schefferville 79.21 18 *e*P **P** 20 23 30.7 -0.7
SCHQ Schefferville 79.21 18 P **P** 20 23 31.3 -0.1
comp=Z,1.9nm,0.5s,baz=272,slow=12,SNR=3.6
SCHQ LR LR 21 00 08.5
comp=Z,283nm,21.2s,baz=328,slow=37
E41A Kenton 79.22 35 P **P** 20 23 31.2 -0.4
baz=323
SOP Sopron 79.22 327⇑*e*P **P** 20 23 33.0 +1.5
CONA Conrad Observa 79.29 328 *e*P **P** 20 23 33.5 +1.4
comp=Z,18nm,1.4s,SNR=7.0
MDVR Moldovita 79.34 323⇓*i*P **P** 20 23 32.0 -0.3
NWAO Narrogin (SRO) 79.36 203 LR LR 20 56 22.5
comp=Z,68nm,21.8s,baz=252,slow=34
BNM Barren Site 79.41 53 *e*P **P** 20 23 32.9 -0.3
MORH Mrgy, Hungar 79.54 325⇓*e*P **P** 20 23 33.0 -0.3
GRA1 Grafenberg Arr 79.56 332 *e*P **P** 20 23 33.0 -0.3
comp=Z,20nm,1.1s
GRF Grafenberg Arr 79.56 332 *e*P **P** 20 23 33.8 +0.4
comp=Z,27nm,1.3s,baz=32,slow=5.6
GRF *e*L L 21 01 50.7
comp=Z,419nm,20.9s
GRF Grafenberg Arr 79.56 332 *e*P **P** 20 23 33.1 -0.3
GRF pmax pmax
comp=Z,20nm,1.1s
GRFO Grafenberg 79.56 332 *e*P **P** 20 23 33.0 -0.4
comp=Z,22nm,1.2s
GRFO Grafenberg 79.56 332 *e*P **P** 20 23 33.0 -0.4
GRFO pmax pmax
comp=Z,22nm,1.2s
E42A Champion 79.68 34 P **P** 20 23 34.2 0.0
baz=323
319A Douglas 79.73 57 *e*P **P** 20 23 34.6 -0.1
comp=Z,20nm,0.9s
F41A Three Lakes 79.73 35 *e*P **P** 20 23 34.3 -0.1
comp=Z,18nm,1.1s
F41A Three Lakes 79.73 35 P **P** 20 23 34.5 +0.1
baz=323
121A Cookes Peak, D 79.84 55 P **P** 20 23 36.7 +1.2
baz=314,SNR=5.1
MOA Molln 79.98 329 *e*P **P** 20 23 35.9 +0.2
comp=Z,10nm,1.9s
ARSA Arzberg 79.98 328 *e*P **P** 20 23 35.8 +0.1
comp=Z,10nm,1.4s
ALN Alexandroupoli 80.27 318 *e*P **P** 20 23 36.2 -1.2
comp=Z,20nm,1.4s
ALN Alexandroupoli 80.27 318 *e*P **P** 20 23 36.2 -1.2
ALN pmax pmax
comp=Z,20nm,1.4s
VTS Vitosha 80.32 320⇑*i*P **P** 20 23 38.7 +0.9
VTS Vitosha 80.32 320 ⇑P **P** 20 23 38.7 +0.9
F43A Flat Rock, Esc 80.47 34 P **P** 20 23 38.1 -0.2
baz=324
J39A Decorah 80.47 38 P **P** 20 23 38.1 -0.4
baz=321
I40A Norwalk 80.53 37 P **P** 20 23 38.3 -0.5
baz=322
RJOB Jochberg 80.62 330 *e*P **P** 20 23 39.6 +0.3
comp=Z,63nm,2.3s,baz=32,slow=5.6
SOKA Soboth 80.64 328 *e*P **P** 20 23 40.1 +0.8
comp=Z,30nm,1.4s,SNR=16
DIVS Divibare 80.64 323 *e*P **P** 20 23 37.9 -1.5
comp=Z,26nm,1.5s
PERS Pernice 80.64 328 *i* P **P** 20 23 39.6 +0.2
MATQ Matagami 80.73 26 P **P** 20 23 39.6 -0.1
baz=330
I41A Arkdale 80.73 37 P **P** 20 23 39.6 -0.1
baz=322
D46A Sault St. Mari 80.86 32 P **P** 20 23 40.0 -0.5
baz=326
J40A Soldiers Grove 80.86 38 P **P** 20 23 39.7 -0.8
baz=322
DOBS Dobrina 80.90 327 *i* P **P** 20 23 40.5 -0.2
KBA Koelnbreinsper 80.97 329 *e*P **P** 20 23 42.1 +0.9
comp=Z,17nm,1.3s,SNR=7.1
OBKA Obir 80.97 328 *e*P **P** 20 23 41.4 +0.3
comp=Z,4.2nm,0.9s
RAYN Ar Rayn 81.03 294 *e*P **P** 20 23 40.5 -1.3
comp=Z,26nm,1.4s
RAYN Ar Rayn 81.03 294 *i* P **P** 20 23 41.9 +0.1
SNR=21
RAYN Ar Rayn 81.03 294 *e*P **P** 20 23 40.5 -1.3
RAYN pmax pmax
comp=Z,26nm,1.4s
MYKA Terra Mystica 81.22 328 *e*P **P** 20 23 42.7 +0.2
comp=Z,12nm,1.1s
K40A Colesburg 81.23 38 P **P** 20 23 42.2 -0.3
baz=322
L39A Vinton 81.28 39 P **P** 20 23 42.7 -0.1
baz=321
KSU1 Kansas State U 81.35 44 P **P** 20 23 43.2 0.0
baz=319
RAR Rarotonga 81.36 129 LR LR 20 54 26.6
comp=Z,216nm,19.3s,baz=320,slow=32
WATA Walderalm 81.41 330 *e*PcP **P** 20 23 44.9 +1.3
comp=Z,30nm,1.4s
WTTA Wattenberg 81.45 330 *e*P **P** 20 23 44.7 +0.8
comp=Z,13nm,1.1s,SNR=5.5
JFWS Jewell Farm 81.47 38 P **P** 20 23 43.5 -0.2
baz=322
E47A Iron Bridge 81.51 31 P **P** 20 23 43.4 -0.5
baz=326
STIP Stip 81.53 320 *i* P **P** 20 23 43.6 -0.5
LSQQ Lebel-sur-Quev 81.55 26 P **P** 20 23 44.3 +0.2
baz=330
D49A Beulah Townshi 81.55 30 P **P** 20 23 43.8 -0.3
baz=327
ABTA Abfaltersbach 81.56 329 *e*P **P** 20 23 44.9 +0.6
comp=Z,8.6nm,1.4s
MOTA Moosalm 81.58 330 *e*P **P** 20 23 44.2 -0.2
comp=Z,12nm,1.0s,SNR=9.6
RETA Reute 81.58 331 *e*P **P** 20 23 44.9 +0.6
comp=Z,11nm,1.2s
CHGQ Chibougamau 81.63 24 P **P** 20 23 44.4 -0.1
baz=332
VAY Valandovo 81.64 320 *i* P **P** 20 23 45.6 +0.9
SQTA Sankt Quirin 81.65 330 *e*P **P** 20 23 45.5 +0.8
comp=Z,10nm,1.1s
J42A Columbus 81.65 37 P **P** 20 23 44.8 +0.1
baz=323
K41A Shullsburg 81.68 38 P **P** 20 23 45.0 +0.1
baz=322
L40A Anamosa 81.69 39 P **P** 20 23 45.0 0.0
baz=322
M39A Webster 81.70 40 P **P** 20 23 45.1 0.0
baz=321
BFO Black Forest 81.72 332 *e*P **P** 20 23 44.4 -0.6
comp=Z,14nm,1.2s
BFO Black Forest 81.72 332 *e*P **P** 20 23 44.4 -0.6
BFO pmax pmax
comp=Z,14nm,1.2s
G46A Petoskey 81.83 33 P **P** 20 23 45.7 +0.1
baz=325
MNTX Cornudas Mount 81.88 54 *e*P **P** 20 23 45.7 -0.5
comp=Z,19nm,1.5s
MNTX Cornudas Mount 81.88 54 P **P** 20 23 47.2 +1.1
baz=316
K42A Prairie Point, 81.98 37 P **P** 20 23 46.0 -0.4
baz=323
FETA Feichten 81.99 330 *e*P **P** 20 23 46.8 +0.1
comp=Z,9.2nm,1.2s
L41A Preston 82.02 38 P **P** 20 23 46.1 -0.5
baz=322
DAVA Damuels 82.07 331 *e*P **P** 20 23 47.5 +0.5
comp=Z,8.9nm,1.1s,SNR=6.2
M40A Post Highland 82.07 39 P **P** 20 23 46.6 -0.3
baz=322
VLDQ Val d'Or 82.21 27 *e*P **P** 20 23 46.1 -1.4
comp=Z,24nm,1.0s
KRUS Krusevo 82.22 321 *i* P **P** 20 23 48.3 +0.5
N40A Mertquake, Sal 82.45 40 P **P** 20 23 48.8 -0.1
baz=322
LIT Litokhoron 82.62 319 *e*P **P** 20 23 49.2 -0.6
comp=Z,11nm,1.2s
LIT Litokhoron 82.62 319 *e*P **P** 20 23 49.3 -0.6
LIT pmax pmax
comp=Z,11nm,1.2s
J45A Montague 82.74 35 P **P** 20 23 49.9 -0.5
baz=325
D52A ZEK Kipawa Sen 82.86 28 P **P** 20 23 50.4 -0.6
baz=329
D53A Lac Vacive, Po 83.02 28 P **P** 20 23 51.5 -0.3
baz=330
N42A Yates City 83.21 39 P **P** 20 23 52.8 -0.1
baz=323
F51A Arnstein 83.22 30 P **P** 20 23 52.1 -0.7
baz=328
M43A Waltham Townsh 83.22 38 P **P** 20 23 53.1 +0.1
baz=323
D54A Lac Fusel, La 83.31 27 P **P** 20 23 53.0 -0.3
baz=330
E52A Mattawa 83.37 29 P **P** 20 23 53.2 -0.4
baz=329
O41A Passleys Farm, 83.38 40 P **P** 20 23 53.9 +0.2
baz=322
WMOK Wichita Mounta 83.46 48 *e*P **P** 20 23 54.0 -0.3
comp=Z,7.4nm,1.1s
WMOK Wichita Mounta 83.46 48 *e*P **P** 20 23 54.0 -0.3
WMOK pmax pmax
comp=Z,7.0nm,1.1s
WMOK Wichita Mounta 83.46 48 P **P** 20 23 54.6 +0.2
baz=318
N43A Stutzman Famil 83.52 38 P **P** 20 23 54.5 0.0
baz=323
F52A Sundridge 83.55 29 P **P** 20 23 54.6 0.0
baz=329
J47A Sumner 83.56 34 P **P** 20 23 54.4 -0.2
baz=326
KLBO Killbear Provi 83.60 30 P **P** 20 23 54.5 -0.2
baz=328
P41A Barry, Barry 83.64 40 P **P** 20 23 55.3 +0.2
baz=322
M44A Midewin, Midew 83.67 37 P **P** 20 23 55.4 +0.2
baz=324
E54A Lac Daplat, Po 83.75 28 P **P** 20 23 55.3 -0.3
baz=330
HDIL Hopedale 83.77 38 P **P** 20 23 56.2 +0.4
baz=323
ALGO Algonquin Park 83.87 29 P **P** 20 23 56.2 0.0
baz=330
J48A Bridge Port 83.93 34 P **P** 20 23 57.1 +0.5
baz=327
PMOR Pomariorio Ree 84.03 116 *e*T T 21 56 31.6
comp=Z,65nm,0.2s
P42A Winchester 84.05 40 P **P** 20 23 58.0 +0.7
baz=322
Q41A Truxton 84.13 41 P **P** 20 23 58.0 +0.4
baz=322,SNR=6.4
J49A Marlette 84.14 33 P **P** 20 23 58.2 +0.6
baz=327
TUL1 Leonard 84.18 45 *e*P **P** 20 23 58.0 0.0
comp=Z,18nm,0.9s
TUL1 Leonard 84.18 45 P **P** 20 23 58.6 +0.7
baz=320
K48A Perry 84.20 34 P **P** 20 23 58.3 +0.4
baz=326
BWLO Walkerton 84.30 31 P **P** 20 23 58.8 +0.5
baz=328
G53A Haliburton 84.38 29 P **P** 20 23 58.8 0.0
baz=329
ABTX Abilene, Hawle 84.55 50 *e*P **P** 20 23 59.7 -0.2
comp=Z,26nm,1.3s
ABTX Abilene, Hawle 84.55 50 P **P** 20 24 00.5 +0.6
baz=318
F55A Otter Lake 84.56 28 P **P** 20 23 59.6 -0.1
baz=331
R41A Rosebud 84.57 41 P **P** 20 23 59.9 0.0
baz=322
TX31 Lajitas Ar. Si 84.60 55 *e*P **P** 20 23 59.7 -0.6
TXAR Lajitas Array 84.60 55 P **P** 20 24 00.3 0.0
comp=Z,3.5nm,0.8s,baz=294,slow=4.0,SNR=19
I51A Listowel 84.61 32 P **P** 20 24 00.3 +0.3
baz=328

BANO	Bancroft	84.72	29	P		P	20 24 00.2	-0.3	
	baz=330								
O45A	Potomac	84.73	38	P		P	20 24 01.4	+0.7	
	baz=324								
M47A	Cromwell	84.76	36	P		P	20 24 01.1	+0.4	
	baz=325								
L48A	N Adams	84.78	35	P		P	20 24 01.4	+0.5	
	baz=326								
PPT	Papeete	84.81	119	LR		LR	20 53 35.5		
	comp=Z,238nm,21.4s,baz=332,slow=30								
PPT2	Papeete2	84.82	119	eLR		LR	20 50 48.1		
	comp=Z,463nm,22.8s,baz=329								
TRQ	Mont Tremblant	84.83	26	eP		P	20 24 00.8	-0.3	
CCM	Cathedral Cave	84.83	41	eP		P	20 24 00.4	-0.8	
	comp=Z,14nm,0.8s								
CCM	Cathedral Cave	84.83	41	eP		P	20 24 00.4	-0.8	
CCM					pmax	pmax			
	comp=Z,14nm,0.8s								
CCM	Cathedral Cave	84.83	41	P		P	20 24 01.5	+0.3	
	baz=322								
Q43A	New Douglas	84.87	40	P		P	20 24 02.3	+0.9	
	baz=323								
R42A	Luebbering	84.87	41	P		P	20 24 01.8	+0.5	
	baz=322								
SFIN	Lafayette	84.91	37	P		P	20 24 01.8	+0.3	
	baz=324								
L49A	Milan	84.92	34	P		P	20 24 02.2	+0.7	
	baz=326								
G55A	Calabogie	84.94	28	P		P	20 24 01.8	+0.2	
	baz=331								
TIAR	Tiarei	84.95	119	eT		T	21 57 41.4		
	comp=Z,1.9nm,0.2s								
S41A	Jillco Farms,	84.95	42	P		P	20 24 01.7	-0.1	
	baz=322								
P44A	Sand Creek, Wi	84.95	39	P		P	20 24 02.0	+0.3	
	baz=324								
PLVO	Pievna	85.00	28	P		P	20 24 01.8	-0.1	
	baz=330								
ELFO	Elginfield	85.01	32	P		P	20 24 01.9	-0.1	
	baz=328								
M48A	Edgerton	85.04	35	P		P	20 24 02.4	+0.2	
	baz=326								
N47A	Urbana	85.12	36	P		P	20 24 02.4	-0.2	
	baz=325								
ITM	Ithomi	85.17	318	eP		P	20 24 01.9	-1.0	
	comp=Z,104nm,1.5s								
ORIO	Orleans, Innes	85.19	27	P		P	20 24 02.5	-0.3	
	baz=331								
PKRO	Pickering	85.21	30	P		P	20 24 03.1	+0.2	
	baz=329								
Q44A	Meyer Farm, Va	85.22	39	P		P	20 24 03.4	+0.3	
	baz=323								
ALFO	Alfred	85.24	27	P		P	20 24 03.1	0.0	
	baz=332								
DELO	Deloro Mine	85.26	29	P		P	20 24 03.4	+0.2	
	baz=330								
S42A	Caledonia	85.27	41	P		P	20 24 03.7	+0.3	
	baz=322								
R43A	Red Bud	85.29	40	P		P	20 24 03.8	+0.3	
	baz=323								
J52A	Paris	85.29	32	P		P	20 24 03.5	+0.1	
	baz=328								
P45A	Graceland, Par	85.31	38	P		P	20 24 03.7	+0.1	
	baz=324								
U40A	Yellville	85.36	43	P		P	20 24 03.9	0.0	
	baz=321,SNR=7.0								
M49A	Liberty Center	85.36	35	P		P	20 24 03.7	-0.1	
	baz=326								
T41A	Mountain View	85.37	42	P		P	20 24 04.1	+0.2	
	baz=322								
L50A	Kingsville	85.38	34	P		P	20 24 04.0	+0.2	
	baz=327								
H55A	Tweed	85.39	29	P		P	20 24 03.7	-0.1	
	baz=330								
N48A	Decatur	85.42	36	P		P	20 24 04.2	+0.1	
	baz=326								
O47A	Sheridan	85.44	37	P		P	20 24 04.0	-0.2	
	baz=325								
P46A	Rosedale	85.48	38	P		P	20 24 04.5	+0.1	
	baz=324								
WLVO	Wesleyville	85.49	30	P		P	20 24 04.0	-0.4	
	baz=330								
I55A	Frankford	85.50	29	P		P	20 24 03.7	-0.7	
	baz=330								
K52A	Tillsonburg	85.59	32	P		P	20 24 05.1	+0.2	
	baz=328								
URZ	Urewera	85.62	155	LR		LR	20 56 53.2		
	comp=Z,266nm,19.2s,baz=325,slow=32								
Q45A	Warren Harvey,	85.63	39	P		P	20 24 05.4	+0.3	
	baz=324								
TYNO	Tyneside	85.65	31	P		P	20 24 05.4	+0.2	
	baz=329								
H56A	Elgin	85.68	28	P		P	20 24 05.4	+0.2	
	baz=331								
PLIO	Pelee Island,	85.69	34	P		P	20 24 05.6	+0.2	
	baz=327								
T42A	Van Buren	85.71	42	eP		P	20 24 04.9	-0.7	
	comp=Z,14nm,1.2s								
T42A	Van Buren	85.71	42	P		P	20 24 05.8	+0.2	
	baz=322								
R44A	Waltonville	85.71	40	P		P	20 24 05.7	+0.2	
	baz=323								
N49A	Columbus Grove	85.73	35	P		P	20 24 05.9	+0.2	
	baz=326								
S43A	Fulton Ridge,	85.78	41	P		P	20 24 05.9	0.0	
	baz=323								
W39A	Magazine	85.78	45	P		P	20 24 06.5	+0.5	
	baz=321								
U41A	Viola	85.84	43	P		P	20 24 06.4	+0.2	
	baz=322								
O48A	Farmland	85.86	36	P		P	20 24 06.7	+0.4	
	baz=326								
PECO	Prince Edward	85.99	29	P		P	20 24 06.4	-0.4	
	baz=330								
JCT	Junction City	86.04	52	eP		P	20 24 07.5	+0.1	
	comp=Z,18nm,1.4s								
JCT	Junction City	86.04	52	eP		P	20 24 07.5	+0.1	
JCT					pmax	pmax			
	comp=Z,18nm,1.4s								
T43A	Greenville	86.06	41	P		P	20 24 07.6	+0.3	
	baz=323								
S44A	Carbondale	86.07	40	P		P	20 24 08.0	+0.6	
	baz=323								
SIUC	Southern Illin	86.07	40	eP		P	20 24 07.6	+0.2	
	comp=Z,25nm,0.8s								
J55A	Hilton	86.27	30	P		P	20 24 08.0	-0.2	
	baz=330								
O49A	Covington	86.28	36	P		P	20 24 09.0	+0.7	
	baz=326								
Q47A	Bedord North L	86.38	38	P		P	20 24 09.3	+0.4	
	baz=325								
M52A	Chesterland	86.39	33	P		P	20 24 09.2	+0.3	
	baz=328								
MIAR	Mount Ida	86.39	45	eP		P	20 24 09.0	0.0	
	comp=Z,11nm,0.9s								
MIAR	Mount Ida	86.39	45	eP		P	20 24 09.0	0.0	
MIAR					pmax	pmax			
	comp=Z,11nm,0.9s								
MIAR	Mount Ida	86.39	45	P		P	20 24 09.5	+0.5	
	baz=321,SNR=6.8								
P48A	Milroy	86.40	37	P		P	20 24 09.5	+0.5	
	baz=325								
S45A	Carrier Mills	86.41	40	P		P	20 24 09.7	+0.7	
	baz=324								
L53A	Girard	86.47	32	P		P	20 24 09.6	+0.3	
	baz=328								
WHAR	Wooly Hollow	86.47	44	eP		P	20 24 09.4	0.0	
	comp=Z,14nm,0.9s								
N51A	Ashland	86.49	34	P		P	20 24 09.7	+0.3	
	baz=327								
U43A	Rector	86.57	42	P		P	20 24 10.6	+0.8	
	baz=323								
W41B	Gary Mavity, V	86.59	44	P		P	20 24 09.9	-0.1	
	baz=322								
O50A	Cable	86.62	35	P		P	20 24 09.9	-0.1	
	baz=326								
K55A	Perry	86.64	30	P		P	20 24 10.0	-0.2	
	baz=330								
P49A	Miami Univ. Ec	86.65	36	P		P	20 24 10.0	-0.2	
	baz=326								
Q48A	North Vernon	86.70	37	P		P	20 24 10.5	+0.1	
	baz=325								
M53A	WI Miller and	86.74	33	P		P	20 24 10.9	+0.3	
	baz=328								
S46A	Don Dixon Farm	86.81	39	P		P	20 24 11.1	+0.2	
	baz=324								
ACSO	Alum Creek Sta	86.81	35	P		P	20 24 10.9	-0.1	
	baz=327								
X40A	Basin Creek Fa	86.82	44	eP		P	20 24 11.4	+0.3	
	comp=Z,30nm,1.6s								
X40A	Basin Creek Fa	86.82	44	P		P	20 24 12.2	+1.1	
	baz=321								
R47A	Wooly Knot Far	86.86	38	P		P	20 24 11.6	+0.4	
	baz=325								
P50A	Jamestown	86.99	36	P		P	20 24 12.3	+0.5	
	baz=326								
WCI	Wyandotte Cave	87.02	38	P		P	20 24 12.3	+0.3	
	baz=325								
O51A	Pataskala	87.04	35	P		P	20 24 12.6	+0.5	
	baz=327								
R48A	Northridge Ran	87.07	38	P		P	20 24 12.9	+0.7	
	baz=325								
M54A	Oil Creek Stat	87.08	32	P		P	20 24 12.7	+0.4	
	baz=329								
N53A	Lisbon	87.22	33	P		P	20 24 13.4	+0.5	
	baz=328								
T46A	Princeton	87.24	40	P		P	20 24 13.7	+0.6	
	baz=324								
O52A	Adamsville	87.39	34	P		P	20 24 14.0	+0.2	
	baz=328								
P51A	Williamsport	87.41	35	P		P	20 24 13.9	+0.1	
	baz=327								
N54A	Moraine State	87.42	32	P		P	20 24 14.1	+0.2	
	baz=329								
M55A	Ridgway	87.47	31	P		P	20 24 14.0	-0.2	
	baz=329								
R49A	Shelbyville	87.47	37	P		P	20 24 14.5	+0.3	
	baz=326								
O53A	New Philadelph	87.53	34	P		P	20 24 14.5	+0.1	
	baz=328								
Q50A	Georgetown	87.54	36	P		P	20 24 14.6	+0.1	
	baz=326								
S48A	Wiedeman Farm,	87.59	38	P		P	20 24 14.8	0.0	
	baz=325								
T47A	Sharon Grove	87.65	39	eP		P	20 24 15.2	+0.1	
	comp=Z,18nm,0.8s								
T47A	Sharon Grove	87.65	39	P		P	20 24 15.7	+0.6	
	baz=324,SNR=5.6								
Q51A	Peebles	87.67	36	eP		P	20 24 14.6	-0.5	
	comp=Z,19nm,1.0s								
Q51A	Peebles	87.67	36	P		P	20 24 15.3	+0.2	
	baz=327								
P52A	Corning	87.67	35	P		P	20 24 15.1	-0.1	
	baz=327								
S49A	Springfield	87.84	38	P		P	20 24 16.4	+0.4	
	baz=326								
R50A	Paris	87.86	37	P		P	20 24 16.4	+0.4	
	baz=326								
T48A	Bowling Green	87.89	39	P		P	20 24 16.5	+0.3	
	baz=325								
O54A	Avella	87.93	33	P		P	20 24 16.7	+0.3	
	baz=328								
WVT	Waverly	88.01	40	P		P	20 24 17.2	+0.4	
	baz=324								
V46A	Holladay	88.13	41	P		P	20 24 17.1	-0.3	
	baz=324								
T49A	Edmonton	88.28	38	P		P	20 24 18.3	+0.2	
	baz=325								
U48A	Cassie Pea, Po	88.31	39	P		P	20 24 18.6	+0.4	
	baz=325								
S50A	Richmond	88.32	37	P		P	20 24 18.2	-0.1	
	baz=326								
O55A	Ligonier	88.34	32	P		P	20 24 18.5	+0.1	
	baz=329								
P54A	Burton	88.38	33	P		P	20 24 19.1	+0.6	
	baz=328								
V47A	Nunnelly	88.40	40	P		P	20 24 19.1	+0.4	
	baz=324								
SSPA	Standing Stone	88.52	31	P		P	20 24 19.7	+0.6	
	baz=330								
OXF	Oxford	88.54	42	P		P	20 24 19.7	+0.4	
	baz=323								
R52A	Catlettsburg	88.54	36	P		P	20 24 19.8	+0.5	
	baz=327								
O56A	Blue Knob Stat	88.57	32	P		P	20 24 19.9	+0.4	
	baz=330								
MCWV	Mont Chateau	88.59	33	P		P	20 24 19.4	-0.1	
	baz=329								
U49A	Red Boiling Sp	88.66	39	P		P	20 24 20.1	+0.3	
	baz=325,SNR=5.2								
T50A	Nancy	88.67	38	P		P	20 24 20.2	+0.2	
	baz=326								
P55A	Reedsville	88.73	33	P		P	20 24 20.5	+0.3	
	baz=329								
Q54A	Coxs Mills	88.76	34	P		P	20 24 20.8	+0.5	
	baz=328								
V48A	Smith Brothers	88.80	40	P		P	20 24 21.1	+0.6	
	baz=325								
W47A	Westpoint	88.83	41	P		P	20 24 21.6	+0.9	
	baz=324								
R53A	Hurricane	88.84	35	P		P	20 24 21.3	+0.6	
	baz=328								
RPZ	Rata Peaks	89.06	161	LR		LR	20 57 40.1		
	comp=Z,210nm,20.6s,baz=336,slow=31								
N59A	State Game Lan	89.07	30	P		P	20 24 22.0	+0.2	
	baz=331								
TBI	Tubuai	89.13	123	eLR		LR	20 52 46.5		
	comp=Z,212nm,23.0s								
TBI	Tubuai	89.13	123	eT		T	22 02 58.0		
	comp=Z,17nm,0.3s								
U50A	Jamestown	89.17	38	P		P	20 24 22.2	-0.1	
	baz=326								
W48A	Pulaski	89.24	40	P		P	20 24 22.9	+0.3	
	baz=325								
R54A	Victor	89.38	35	P		P	20 24 23.5	+0.3	
	baz=328								
W49A	Belvidere	89.57	40	P		P	20 24 24.7	+0.6	
	baz=325								
U52A	Thorn Hill	89.85	37	P		P	20 24 25.7	+0.2	
	baz=327								
V52A	Sevierville	90.20	38	P		P	20 24 27.9	+0.8	
	baz=326								
W51A	Cleveland	90.24	39	P		P	20 24 27.5	+0.2	
	baz=326								
T55A	Pulaski	90.36	35	P		P	20 24 28.2	+0.3	
	baz=328								
LRAL	Lakeview Retre	90.91	41	P		P	20 24 30.6	+0.1	
	baz=325								
W53A	Cullowhee	90.96	38	P		P	20 24 30.9	+0.1	
	baz=327								
Z49A	Columbiana	91.01	41	P		P	20 24 30.9	0.0	
	baz=325								
Y51A	Rockmart	91.13	40	P		P	20 24 31.6	+0.1	
	baz=326								
Z50A	Ashland	91.25	41	P		P	20 24 32.0	-0.1	
	baz=325								
KMSC	Kings Mountain	91.80	36	P		P	20 24 34.7	+0.2	
	baz=328								
KEST	Kesra	92.14	325	P		P	20 24 36.0	-0.2	
	comp=Z,3.9nm,0.8s,baz=310,slow=4.6,SNR=4.5								
KEST				LR		LR	21 12 07.7		
	comp=Z,286nm,18.3s,baz=327,slow=40								
Y54A	Tignall	92.27	38	P		P	20 24 36.6	-0.1	
	baz=327								
251A	Tuldway	92.45	41	P		P	20 24 37.6	0.0	
	baz=326								
ESDC	Sonseca Array	93.40	337	P		P	20 24 42.0	0.0	
	comp=Z,0.8nm,0.7s,baz=9.1,slow=4.7,SNR=4.1								
ESDC				LR		LR	21 12 44.0		
	comp=Z,198nm,18.5s,baz=325,slow=39								
TOA1	Torodi Ar. Sit	115.10	320	ePKiKP		PKiKP	20 30 06.7	-1.4	
TORD	Torodi Ar. Bea	115.10	320	PKP		PKiKP	20 30 06.7	-1.4	
	comp=Z,0.6nm,0.9s,baz=7.8,slow=2.7,SNR=3.9								
VNDA	Vanda	120.31	176	PKP		PKiKP	20 30 16.3	0.0	
	comp=Z,0.5nm,0.7s,baz=317,slow=6.0,SNR=4.5								
DBIC	Dimbokro	123.80	323	PKP		PKPdf	20 30 24.6	-0.3	
	comp=Z,4.0nm,0.9s,baz=315,slow=1.4,SNR=3.1								
SYO	Syowa Base	134.41	209	ePdiff		Pdif	20 27 40.0	-3.7	
LPAZ	La Paz	141.43	57	ePKPdf		PKPdf	20 30 57.5	-1.0	
LPAZ	La Paz	141.43	57	ePKIKP		PKPdf	20 30 57.5	-1.0	
LPAZ	La Paz	141.43	57	PKP		PKPdf	20 30 58.2	-0.3	
	comp=Z,2.3nm,1.0s,baz=356,slow=3.3,SNR=7.0								
PB04	IPOC Station P	144.47	67	ePKPdf		PKPdf	20 31 02.9	-0.3	
LVC	Limon Verde	145.49	65	ePKPdf		PKPab	20 31 06.0	+0.4	
GO02	Mina Guanaco	146.72	70	ePKPdf		PKPdf	20 31 06.0	-1.2	
SNAA	Sanae	146.88	198	ePKPdf		PKPdf	20 31 05.1	-0.6	
SNAA	Sanae	146.88	198	ePKIKP		PKPdf	20 31 05.1	-0.6	
LCO	Las Campanas	148.28	76	ePKPdf		PKPdf	20 31 09.5	-0.1	
LCO				ePKPbc		PKiKP	20 31 13.9	-0.8	
LCO	Las Campanas	148.28	76	ePKIKP		PKPdf	20 31 09.5	-0.1	
LCO				e			20 31 13.9		
GO04	Tololo Observa	148.86	78	ePKPdf		PKPdf	20 31 10.0	-0.4	
BDFB	Brasilia	150.90	26	ePKPdf		PKPdf	20 31 14.2	+0.3	
BDFB	Brasilia	150.90	26	ePKIKP		PKPdf	20 31 14.2	+0.3	
BDFB	Brasilia	150.90	26	PKPbc		PKPbc	20 31 18.9	-0.7	
	comp=Z,6.6nm,0.7s,baz=70,slow=1.9,SNR=9.5								
PLCA	Paso Flores	153.50	98	PKPbc		PKiKP	20 31 25.7	+0.9	
	comp=Z,2.9nm,0.7s,baz=94,slow=2.2,SNR=4.7								
PLCA				PKPab		PKPab	20 31 37.4	+0.1	
	comp=Z,2.4nm,0.8s,baz=350,slow=18,SNR=3.5								
CPUP	Villa Florida	155.57	56	PKPab		PKPab	20 31 46.6	+0.3	
	comp=Z,2.5nm,0.9s,baz=222,slow=7.7,SNR=4.1								

IDC 09 20:35:42.3±2.0, 6.44S×129.54E, h0km, mb3.1/1, mb1 3.5/4, mb1mx3.3/27, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=82.1km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.20	198	Pn	Pn	20 38 38.9	+1.4
	0.1nm,0.3s,baz=25,slow=14,SNR=3.6						
FITZ				Sn	Sn	20 40 40.5	-14
	0.1nm,0.3s,baz=342,slow=19,SNR=2.3						
WRA	Warramunga Arr	14.21	161	Pn	Pn	20 39 03.6	-1.4
	0.1nm,0.3s,baz=339,slow=13,SNR=12						
WRA				Sn	Sn	20 41 26.6	-17
	0.1nm,0.3s,baz=336,slow=23,SNR=3.7						
ASAR	Alice Springs	17.64	167	P	Pn	20 39 49.4	-0.2
	0.1nm,0.3s,baz=351,slow=11,SNR=7.1						
MKAR	Makanchi Array	67.51	327	P	P	20 46 40.4	0.0
	0.1nm,0.3s,baz=109,slow=7.8,SNR=3.5						

ISCJB 09 20:45:10.8±0.5, 33.33N±0.02×35.39E±0.04, h5km±5km, Error ellipse: s-maj=5.7km s-min=3.0km az=30.3
GRAL 09 20:45:11.7±0.2, 33.31N×35.41E, h0km±59km, MD3.0
GII 09 20:45:11.1±0.0, 33.28N×35.42E, h1km, MD1.6/5

ISC 09 20:45:11.3±1.1, 33.32N±0.03×35.40E±0.04, h8km±10km, n20, σ0°45/35, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEM	Giv'at Ha'Em	0.25	117	Pg	Pg	20 45 15.9	-0.3
GEM				Sg	Sg	20 45 20.0	+0.5
KSDI	Kefar Szold	0.25	121	Pg	Pg	20 45 16.1	-0.2
KSDI				Sg	Sg	20 45 20.0	+0.4
NATI	Neve Ativ	0.29	102	Pg	Pg	20 45 16.5	-0.4
NATI				Sg	Sg	20 45 21.2	+0.5
SHBL	Chebaa	0.29	85	eP	Pg	20 45 16.8	-0.2
SHBL				eS	Sg	20 45 20.6	-0.2
HNTI	Hanita	0.31	219	Pg	Pg	20 45 17.2	-0.1
HNTI				Sg	Sg	20 45 22.1	+0.7
MMA0B	Mount Meron ar	0.31	180	Pg	Pg	20 45 16.9	-0.5
MMA0B				Sg	Sg	20 45 21.6	+0.1
QRWL	Qaraoun	0.32	46	eP	Pg	20 45 17.6	0.0
QRWL				eS	Sg	20 45 22.0	+0.1
RCY	Rachaya	0.40	65	eP	Pg	20 45 19.0	-0.1
RCY				eS	Sg	20 45 24.3	-0.1
DQRL	Deir Qamar	0.41	20	eP	Pg	20 45 19.1	-0.1
DQRL				eS	Sg	20 45 24.8	+0.2
KSHT	Keshet	0.48	135	Pg	Pg	20 45 21.2	+0.6
BHL	Bhannes	0.61	20	eP	Pg	20 45 23.0	-0.1
BLGI	Bet Lehem HaGe	0.62	197	Pg	Pg	20 45 22.9	-0.2
BLGI				Sg	Sg	20 45 31.7	+0.5
OFRI	`Ofer	0.78	207	Pg	Pg	20 45 26.1	-0.2
OFRI				Sg	Sb	20 45 37.8	-0.2
MMLI	Mount Malkishu	0.88	179	Pg	Pg	20 45 27.5	-0.7
MMLI				Sg	Sg	20 45 39.5	-0.2
HWQ	Hawqa	1.05	25	eP	Pg	20 45 30.8	-0.7
HMDT	Nahal Hemdat	1.07	174	Pg	Pg	20 45 30.9	-1.0
HMDT				Sg	Sb	20 45 46.0	-0.3
DSI	Dead Sea	1.75	181	Pn	Pn	20 45 41.8	-0.1
DSI				Sn	Sn	20 46 05.5	+1.0
YTIR	Yattir	1.97	187	Pn	Pn	20 45 45.3	+0.2
YTIR				Sn	Sb	20 46 11.9	-0.3
GHAJ	Ghor Haditha	2.02	176	Pn	Pn	20 45 45.1	-0.5
PRNI	Paran	2.98	187	Pn	Pn	20 45 59.2	+0.3

SJA 09 20:49:15.2±0.7, 31.35S×64.78W, h68km±7km, ML3.2, MW3.7, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TCA	Tanti	0.16	87	iP	Pn	20 49 26.5	+0.9
TCA				IAML		20 49 34.1	
	comp=Z,547nm,0.3s						
TCA				iS	Sn	20 49 34.2	+1.1
MRA	San Martin	1.33	216	iP	Pn	20 49 38.7	+0.7
MRA				iS	Sn	20 49 57.2	+2.1
MRA				IAML		20 49 57.7	
	comp=Z,778nm,0.3s						
APLL	PUNTA DE LOS L	1.77	302	iP	Pn	20 49 45.4	+1.5
APLL				iS	Sn	20 50 07.5	+2.0
APLL				IAML		20 50 08.7	
	comp=Z,179nm,0.2s						
ACAN	Cantantal	2.25	245	iP	Pn	20 49 52.3	+2.1
ACAN				iS	Sn	20 50 19.3	+2.4

IDC 09 20:50:22.4±4.2, 20.68S×177.79W, h636km±36km, mb3.2/4, mb1 3.3/6, mb1mx3.0/27, mbtmp4.3/6, Error ellipse: s-maj=50.1km s-min=34.5km az=42.0

ISC 09 20:50:23.5±2.4, 20.8S±0.3×177.8W±0.3, h650km, n7, σ1°12/9, mb3.9/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.70	262	P	P	20 53 26.9	-0.3
	0.3nm,0.3s,baz=80,slow=18,SNR=3.2						
URZ	Urewera	17.99	193	P	P	20 53 56.3	-0.5
	0.8nm,0.3s,baz=63,slow=2.3,SNR=5.1						
CTA	Charters Tower	33.62	265	P	P	20 56 12.9	-0.5
	3.2nm,0.4s,baz=78,slow=10,SNR=9.6						
STKA	Stephens Creek	37.82	244	P	P	20 56 47.9	+0.2
	0.6nm,0.3s,baz=68,slow=16,SNR=2.6						
ASAR	Alice Springs	44.61	257	P	P	20 57 42.0	+0.9
	2.6nm,0.6s,baz=93,slow=7.5,SNR=46						
ASAR				PcP	PcP	20 59 11.2	+2.1
	0.3nm,0.5s,baz=98,slow=3.6,SNR=3.7						
WRA	Warramunga Arr	44.72	262	P	P	20 57 41.9	0.0
	1.4nm,0.3s,baz=97,slow=7.0,SNR=122						
WRA				ScP	ScP	21 02 00.3	-0.9
	0.2nm,0.6s,baz=90,slow=4.5,SNR=2.4						
BRTR	Keskin Array B	147.12	312	PKPbc	PKPbc	21 08 54.9	-0.9
	0.3nm,0.6s,baz=94,slow=2.2,SNR=2.6						

MEX 09 21:00:39.4±0.7, 16.01N×97.16W, h27km±4km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	1.00	292	eP	Pn	21 00 55.0	-2.8
PNIG				eS	Sn	21 01 07.6	-3.4
HUIG	Huatulco	1.04	103	eP	Pn	21 00 55.9	-2.4
HUIG				iS	Sn	21 01 07.6	-4.3
VHO	Vista Hermosa	1.13	21	eP	Pn	21 00 57.1	-2.6
VHO				iS	Sn	21 01 11.0

PB03	**IPOC Station P**	**1.55**	**323**	*i* P	**Pn**	**21 12 56.1**	**-1.4**
PB03	**IPOC Station P**	**1.55**	**323**	*e*P	**Pn**	**21 12 56.2**	**-1.2**
PB03				*i* S	**Sn**	**21 13 18.6**	**+1.2**
PB03				IAML		21 13 22.6	
	comp=E,158nm,0.4s						
PB09	**IPOC Station P**	**1.56**	**343**	*e*P	**Pn**	**21 12 57.3**	**-0.3**
PB09				IAML		21 13 24.8	
	comp=N,143nm,0.3s						
PB04	**IPOC Station P**	**1.60**	**307**	*e*P	**Pn**	**21 12 57.0**	**-1.2**
PB04				*i* S	**Sn**	**21 13 20.2**	**+1.6**
PB10	**IPOC Station P**	**1.66**	**262**	*e*P	**Pn**	**21 12 57.9**	**-0.9**
PB10				*i* S	**Sn**	**21 11 21.5**	**+1.7**
PB10				IAML		21 13 25.3	
	comp=N,98nm,0.2s						
PB07	**IPOC Station P**	**1.88**	**326**	*e*P	**Pn**	**21 13 00.6**	**-1.2**
PB07				*i* S	**Sn**	**21 13 26.4**	**+1.3**
PB02	**IPOC Station P**	**2.23**	**332**	*i* P	**Pn**	**21 13 04.8**	**-1.5**
PB02	**IPOC Station P**	**2.23**	**332**	*e*P	**Pn**	**21 13 04.9**	**-1.5**
PB02				*i* S	**Sn**	**21 13 35.9**	**+2.5**
PB01	**IPOC Station P**	**2.34**	**343**	*e*P	**Pn**	**21 13 06.0**	**-1.9**
HJA	**Humahuaca**	**3.08**	**89**	*i* P	**Pn**	**21 13 17.4**	**-0.6**
HJA				IAML		21 13 29.2	
	comp=Z,2.4nm,0.4s						

IDC 09 21:12:47.6±6.4, 8°91S×129°55E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.2/26, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=99.2km s-min=71.9km az=80.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**11.90**	**158**	Pn	Pn	21 15 37.4	-1.4
	0.1nm,0.3s,baz=342,slow=13,SNR=10						
WRA				Sn	Sn	21 17 55.1	+2.6
	0.1nm,0.3s,baz=335,slow=24,SNR=3.4						
ASAR	**Alice Springs**	**15.25**	**165**	Pn	Pn	21 16 22.9	-1.5
	0.1nm,0.3s,baz=336,slow=11,SNR=4.1						
ASAR				Sn	Sn	21 19 17.4	+3.1
	0.1nm,0.3s,baz=341,slow=26,SNR=3.3						
STKA	**Stephens Creek**	**25.44**	**156**	P	P	21 18 17.9	+0.6
	0.5nm,0.4s,baz=338,slow=10,SNR=3.3						

*ATH **09** 21:22:05.8, 40°81N×21°36E, h16km±1km, ML2.7/17, Error ellipse: s-maj=1.6km s-min=0.8km az=316.0*
*SKO **09** 21:22:05.7, 40°73N×21°37E, h15km, M2.6, ML3.0*
*ISCJB **09** 21:22:06.7±0.3, 40°80N±0°02×21°40E±0°03, h7km±2km, Error ellipse: s-maj=3.5km s-min=2.5km az=13.8*
*SOF **09** 21:22:06.3, 40°78N×21°36E, h2km, MD2.7*
*THE **09** 21:22:07.1, 40°79N×21°42E, h0km±2km, ML2.8/7, Error ellipse: s-maj=2.6km s-min=0.9km az=332.0*

ISC 09 21:22:07.1±0.8, 40°76N±0°02×21°39E±0°02, h5km±5km, n97, σ0°82/120, 10C, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.03**	**332**	P	**Pg**	**21 22 08.1**	**0.0**
FNA				S	**Sg**	**21 22 08.8**	**-0.1**
FNA	**Florina**	**0.03**	**332**	⇑*i* P	**Pg**	**21 22 08.1**	**0.0**
FNA				*i* Sg	**Sg**	**21 22 08.9**	**0.0**
FNA	**Florina**	**0.03**	**332**	P	**Pg**	**21 22 08.1**	**0.0**
FNA				AML	AML	21 22 09.1	
FNA				AML	AML	21 22 09.4	
	comp=N,89877µm,0.3s						
BIA	**Bitola**	**0.26**	**349**	*i* Pg	**Pg**	**21 22 12.2**	**0.0**
BIA				*i* Sg	**Sg**	**21 22 17.4**	**+1.7**
BIA				*e*Lg	Lg	21 22 18.6	
	comp=N,1µm,0.3s						
BIA				*e*Lg	Lg	21 22 19.6	
	comp=E,1µm,0.3s						
NEST	**Nestorio**	**0.43**	**217**	P	**Pg**	**21 22 15.0**	**-0.4**
NEST				S	**Sb**	**21 22 22.7**	**-1.5**
NEST	**Nestorio**	**0.43**	**217**	P	**Pg**	**21 22 15.1**	**-0.4**
NEST				S	**Sg**	**21 22 22.4**	**+1.2**
NEST				AML	AML	21 22 24.9	
	comp=E,5108µm,0.2s						
NEST				AML	AML	21 22 24.9	
	comp=N,3474µm,0.4s						
KZN	**Kozani**	**0.54**	**147**	P	**Pg**	**21 22 17.3**	**-0.2**
KZN				S	**Sg**	**21 22 25.6**	**+1.1**
KZN	**Kozani**	**0.54**	**147**	P	**Pg**	**21 22 17.5**	**+0.1**
KZN				S	**Sg**	**21 22 25.4**	**+1.0**
KZN				AML	AML	21 22 28.1	
	comp=N,3605µm,0.2s						
KZN				AML	AML	21 22 29.2	
	comp=E,4686µm,0.3s						
OHR	**Ohrid**	**0.57**	**308**	*i* Pg	**Pg**	**21 22 17.6**	**-0.4**
OHR				*i* Sg	**Sg**	**21 22 26.1**	**+0.7**
OHR				*e*Lg	Lg	21 22 27.5	
	comp=N,889nm,0.6s						
OHR				*e*Lg	Lg	21 22 27.6	
	comp=E,936nm,0.6s						
PENT	**Pentalofos**	**0.60**	**199**	P	**Pg**	**21 22 18.3**	**-0.3**
PENT				S	**Sb**	**21 22 28.9**	**0.0**
PENT	**Pentalofos**	**0.60**	**199**	P	**Pg**	**21 22 18.2**	**-0.3**
PENT				S	**Sg**	**21 22 27.4**	**+1.1**
PENT				AML	AML	21 22 31.2	
	comp=E,2515µm,0.4s						
PENT				AML	AML	21 22 32.3	
	comp=N,1669µm,0.2s						
KRUS	**Krusevo**	**0.62**	**350**	*i* Pg	**Pg**	**21 22 18.6**	**-0.4**
KRUS				*i* Sg	**Sg**	**21 22 27.4**	**+0.5**
KRUS				*e*Lg	Lg	21 22 28.1	
	comp=E,170nm,0.2s						
KRUS				*e*Lg	Lg	21 22 28.7	
	comp=N,179nm,0.2s						
KTI	**Kastanea**	**0.66**	**123**	P	**Pg**	**21 22 20.1**	**+0.2**
KPRO	**Kipourio**	**0.81**	**182**	P	**Pg**	**21 22 22.5**	**-0.1**
KPRO				S	**Sb**	**21 22 35.7**	**+0.8**
KPRO	**Kipourio**	**0.81**	**182**	P	**Pg**	**21 22 21.7**	**-0.9**
KPRO				S	**Sg**	**21 22 33.5**	**+0.5**
KPRO				AML	AML	21 22 39.2	
	comp=N,1501µm,0.3s						
KPRO				AML	AML	21 22 39.5	
	comp=E,1905µm,0.4s						
MEV	**Metsovon**	**0.98**	**187**	P	**Pg**	**21 22 25.4**	**-0.6**
MEV	**Metsovon**	**0.98**	**187**	P	**Pg**	**21 22 25.7**	**-0.2**
VAY	**Valandovo**	**1.05**	**58**	*i* Pg	**Pg**	**21 22 26.8**	**-0.5**
VAY				*i* Sg	**Sb**	**21 22 41.4**	**-0.5**
VAY				*e*Lg	Lg	21 22 42.1	
	comp=E,325nm,0.6s						
VAY				*e*Lg	Lg	21 22 42.3	
	comp=N,129nm,0.5s						
LIT	**Litokhoron**	**1.07**	**128**	P	**Pg**	**21 22 27.3**	**-0.2**
LIT				S	**Sn**	**21 22 43.2**	**-0.8**
LIT	**Litokhoron**	**1.07**	**128**	*i* Pg	**Pg**	**21 22 27.4**	**-0.2**
LIT	**Litokhoron**	**1.07**	**128**	P	**Pg**	**21 22 27.3**	**-0.2**
LIT				S	**Sn**	**21 22 43.2**	**-0.8**
LIT				AML	AML	21 22 46.3	
	comp=E,1414µm,0.3s						
LIT				AML	AML	21 22 48.0	
	comp=N,1676µm,0.7s						
STIP	**Stip**	**1.11**	**33**	*i* Pg	**Pn**	**21 22 30.7**	**+1.4**
STIP				*i* Sg	**Sn**	**21 22 48.8**	**+3.8**
STIP				*e*Lg	Lg	21 22 49.3	
	comp=N,25nm,0.3s						
STIP				*e*Lg	Lg	21 22 49.3	
	comp=E,72nm,0.6s						
PHP	**Peshkopia**	**1.17**	**322**	P	**Pg**	**21 22 27.5**	**-2.0**
JAN	**Janina**	**1.18**	**201**	P	**Pg**	**21 22 29.2**	**-0.5**
JAN	**Janina**	**1.18**	**201**	P	**Pg**	**21 22 29.0**	**-0.7**
JAN				S	**Sb**	**21 22 45.7**	**+0.1**
JAN				AML	AML	21 22 54.9	
	comp=N,518µm,0.5s						
JAN				AML	AML	21 22 55.4	
	comp=E,451µm,0.4s						
THE	**Thessaloniki**	**1.20**	**96**	P	**Pg**	**21 22 29.9**	**-0.3**
THE	**Thessaloniki**	**1.20**	**96**	*i* Pg	**Pg**	**21 22 29.9**	**-0.3**
THE	**Thessaloniki**	**1.20**	**96**	P	**Pg**	**21 22 29.2**	**-1.0**
THE				AML	AML	21 22 50.7	
	comp=E,254µm,0.6s						
THE				AML	AML	21 22 51.2	
	comp=N,256µm,0.3s						
KNT	**Kendrikon**	**1.21**	**70**	P	**Pg**	**21 22 29.6**	**-0.7**
KNT	**Kendrikon**	**1.21**	**70**	*i* Pg	**Pg**	**21 22 29.6**	**-0.7**
KNT				*i* Sg	**Sb**	**21 22 46.7**	**+0.3**
KNT	**Kendrikon**	**1.21**	**70**	P	**Pg**	**21 22 29.6**	**-0.7**
KNT				AML	AML	21 22 52.1	
	comp=E,200µm,0.3s						
KNT				AML	AML	21 22 52.4	
	comp=N,413µm,0.6s						
THL	**Klokotos Trika**	**1.29**	**158**	P	**Pg**	**21 22 30.4**	**-1.4**
THL				S	**Sn**	**21 22 50.2**	**+0.8**
THL				AML	AML	21 22 54.0	
	comp=E,705µm,0.7s						
THL				AML	AML	21 22 55.3	
	comp=N,630µm,0.6s						
HORT	**Hortiatis**	**1.31**	**97**	P	**Pn**	**21 22 31.6**	**-0.5**
HORT	**Hortiatis**	**1.31**	**97**	P	**Pn**	**21 22 31.6**	**-0.5**
HORT				AML	AML	21 22 52.9	
	comp=N,267µm,0.5s						
HORT				AML	AML	21 22 54.6	
	comp=E,208µm,0.4s						
SRN	**Sarande**	**1.38**	**231**	P	**Pn**	**21 22 32.1**	**-0.9**
IGT	**Igoumenitsa**	**1.47**	**214**	P	**Pn**	**21 22 34.5**	**+0.2**
IGT				S	**Sg**	**21 22 57.7**	**+3.3**
IGT	**Igoumenitsa**	**1.47**	**214**	P	**Pn**	**21 22 34.4**	**+0.1**
SOH	**Sokhos**	**1.49**	**87**	P	**Pn**	**21 22 34.5**	**-0.1**
SOH	**Sokhos**	**1.49**	**87**	*i* Pn	**Pn**	**21 22 34.5**	**-0.1**
SOH	**Sokhos**	**1.49**	**87**	P	**Pn**	**21 22 34.1**	**-0.5**
SOH				AML	AML	21 22 58.5	
	comp=N,556µm,0.5s						
SOH				AML	AML	21 23 00.3	
	comp=E,458µm,0.7s						
KEK	**Kerkira**	**1.61**	**230**	P	**Pb**	**21 22 37.4**	**+0.1**
KEK	**Kerkira**	**1.61**	**230**	P	**Pn**	**21 22 36.4**	**+0.2**
KEK				AML	AML	21 23 07.1	
	comp=E,331µm,0.8s						
KEK				AML	AML	21 23 09.3	
	comp=N,355µm,0.7s						
PLG	**Polygyros**	**1.61**	**103**	P	**Pn**	**21 22 36.0**	**-0.3**
PLG	**Polygyros**	**1.61**	**103**	P	**Pn**	**21 22 36.0**	**-0.3**
PLG				AML	AML	21 23 00.5	
	comp=N,259µm,0.6s						
PLG				AML	AML	21 23 04.3	
	comp=E,179µm,0.8s						
KKB	**Krupnik**	**1.69**	**49**	*i* Pn	**Pn**	**21 22 37.6**	**+0.4**
KKB	**Krupnik**	**1.69**	**49**	P	**Pn**	**21 22 37.7**	**+0.4**
KKB	**Krupnik**	**1.69**	**49**	P	**Pn**	**21 22 37.8**	**+0.5**
SRS	**Serrai**	**1.71**	**77**	P	**Pn**	**21 22 36.9**	**-0.6**
SRS	**Serrai**	**1.71**	**77**	*i* Pn	**Pn**	**21 22 37.0**	**-0.6**
SRS	**Serrai**	**1.71**	**77**	P	**Pn**	**21 22 37.1**	**-0.5**
EVR	**Evrytania**	**1.87**	**170**	P	**Pb**	**21 22 40.8**	**-1.0**
EVR				S	**Sb**	**21 23 05.0**	**-0.6**
EVR	**Evrytania**	**1.87**	**170**	P	**Pn**	**21 22 40.7**	**+0.8**
EVR				AML	AML	21 23 12.3	
	comp=E,290µm,0.4s						
EVR				AML	AML	21 23 13.7	
	comp=N,353µm,0.6s						
AGG	**Agios Georgios**	**1.88**	**157**	P	**Pn**	**21 22 40.2**	**+0.2**
AGG				S	**Sb**	**21 23 05.1**	**-0.7**
AGG	**Agios Georgios**	**1.88**	**157**	P	**Pn**	**21 22 40.3**	**+0.2**
AGG				AML	AML	21 23 15.2	
	comp=E,260µm,0.3s						
AGG				AML	AML	21 23 15.8	
	comp=N,232µm,0.6s						
PAIG	**Paliouri**	**1.94**	**115**	P	**Pn**	**21 22 40.1**	**-0.6**
PAIG	**Paliouri**	**1.94**	**115**	P	**Pn**	**21 22 40.3**	**-0.4**
MMB	**Musomiste**	**1.95**	**64**	*i* Pn	**Pn**	**21 22 40.8**	**-0.2**
MMB	**Musomiste**	**1.95**	**64**	P	**Pn**	**21 22 40.7**	**-0.2**
MMB	**Musomiste**	**1.95**	**64**	P	**Pn**	**21 22 41.1**	**+0.2**
NVR	**Nevrokopi**	**1.96**	**72**	P	**Pn**	**21 22 41.0**	**0.0**
NVR	**Nevrokopi**	**1.96**	**72**	P	**Pn**	**21 22 41.1**	**+0.1**
XOR	**Xorichti**	**1.96**	**135**	P	**Pn**	**21 22 41.5**	**+0.4**
OUR	**Ouranopolis**	**2.02**	**101**	P	**Pn**	**21 22 41.9**	**+0.1**
OUR	**Ouranopolis**	**2.02**	**101**	P	**Pn**	**21 22 41.2**	**-0.7**
OUR				AML	AML	21 23 16.7	
	comp=N,192µm,0.4s						
OUR				AML	AML	21 23 18.1	
	comp=E,160µm,0.7s						
NEO	**Neokhori**	**2.02**	**135**	P	**Pn**	**21 22 41.9**	**0.0**
LKD2	**Lefkada island**	**2.05**	**196**	P	**Pn**	**21 22 42.2**	**-0.1**
EVGI	**Lefkada island**	**2.21**	**195**	P	**Pb**	**21 22 46.2**	**-1.4**
VTS	**Vitosha**	**2.31**	**36**	⇑*i* P	**Pn**	**21 22 46.5**	**+0.5**
VTS	**Vitosha**	**2.31**	**36**	S	**Sn**	**21 23 14.6**	**-0.3**
VTS	**Vitosha**	**2.31**	**36**	*i* Pn	**Pn**	**21 22 46.5**	**+0.5**
VTS	**Vitosha**	**2.31**	**36**	P	**Pn**	**21 22 46.2**	**+0.2**
VTS	**Vitosha**	**2.31**	**36**	P	**Pn**	**21 22 46.0**	**0.0**
EFP	**Efpalio**	**2.37**	**170**	P	**Pn**	**21 22 47.6**	**+1.0**
KAVA	**Kavala**	**2.38**	**83**	P	**Pn**	**21 22 46.5**	**-0.3**
SERG	**Sergoula**	**2.40**	**167**	P	**Pn**	**21 22 48.3**	**+1.2**
AOS	**Alonnisos**	**2.49**	**129**	P	**Pn**	**21 22 48.0**	**-0.3**
THAS	**Thassos island**	**2.54**	**92**	P	**Pn**	**21 22 48.3**	**-0.7**
VLS	**Valsamata**	**2.66**	**194**	P	**Pn**	**21 22 51.3**	**+0.7**
RZN	**Rozhen**	**2.67**	**69**	P	**Pn**	**21 22 50.8**	**-0.2**
KLV	**Kalavryta, Ach**	**2.78**	**168**	P	**Pn**	**21 22 53.3**	**+1.0**
LIA	**Limnos Island**	**3.02**	**105**	P	**Pn**	**21 22 55.7**	**0.0**
MPEP	**Malo Peshtene**	**3.13**	**33**	P	**Pg**	**21 23 07.9**	**+0.9**
RDO	**Rodhopi**	**3.16**	**82**	P	**Pn**	**21 22 56.8**	**-0.7**
SMTH	**Samothraki Isl**	**3.16**	**94**	P	**Pn**	**21 22 57.2**	**-0.4**
VLY	**Voula, Athens**	**3.45**	**147**	P	**Pn**	**21 23 02.5**	**+0.9**
ALN	**Alexandroupoli**	**3.53**	**86**	P	**Pn**	**21 23 02.6**	**-0.1**
KRND	**KRANIDI**	**3.64**	**157**	P	**Pn**	**21 23 05.0**	**+0.9**
MDVR	**Moldovita**	**4.02**	**3**	⇑*i* P	**Pn**	**21 23 08.7**	**-0.8**
SRE	**Strehaia**	**4.12**	**18**	⇑*i* P	**Pn**	**21 23 10.4**	**-0.3**
GZR	**Gura Zlata**	**4.74**	**12**	⇑*i* P	**Pn**	**21 23 18.2**	**-1.1**
BZS	**Buzias**	**4.86**	**2**	⇑*i* P	**Pn**	**21 23 19.2**	**-1.6**
ARR	**Arges**	**5.18**	**26**	⇑*i* P	**Pn**	**21 23 25.5**	**+0.2**
VOIR		**5.38**	**29**	⇑*i* P	**Pn**	**21 23 27.7**	**-0.5**
UDBI	**Udbina**	**5.60**	**314**	*e*Pn	**Pn**	**21 23 31.9**	**+0.8**
MLR	**Muntele Rosu**	**5.78**	**34**	⇑*i* P	**Pn**	**21 23 33.5**	**-0.2**
VRI	**Vrincioaia**	**6.42**	**36**	⇑*i* P	**Pn**	**21 23 42.7**	**+0.4**

IDC 09 21:30:00.6±2.3, 6°03S×130°14E, h0km, mb3.5/1, mb1 3.4/4, mb1mx3.2/43, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=97.2km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.77**	**200**	Pn	Pn	21 33 04.0	+0.4
	0.1nm,0.3s,baz=19,slow=11,SNR=3.5						
FITZ				Sn	Sn	21 35 08.7	-18
	0.1nm,0.3s,baz=75,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**14.42**	**164**	Pn	Pn	21 33 27.0	+0.9
	0.0nm,0.3s,baz=347,slow=13,SNR=2.7						
WRA				Sn	Sn	21 35 53.0	-14
	0.1nm,0.3s,baz=338,slow=24,SNR=5.4						
ASAR	**Alice Springs**	**17.90**	**169**	P	Pn	21 34 10.4	-0.8
	0.1nm,0.3s,baz=337,slow=9.1,SNR=4.4						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	21 40 58.6	0.0
	0.2nm,0.4s,baz=117,slow=6.6,SNR=6.9						

*ISCJB **09** 21:55:12.7±1.0, 31°85S±0°03×69°92W±0°05, h110km±9km, Error ellipse: s-maj=6.7km s-min=5.2km az=12.3*
*GUC **09** 21:55:12.4±0.7, 31°89S×70°20W, h125km±11km, ML3.0*
*SJA **09** 21:55:12.7±0.5, 31°83S×69°92W, h98km±3km, ML3.2, MW3.7*

ISC 09 21:55:13.9±1.8, 31°84S±0°04×69°93W±0°05, h99km±16km, n22, σ0°59/27, 1C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.54**	**86**	*i* P	**Pn**	**21 55 29.7**	**-0.6**
RTLS				*i* S	**Sn**	**21 55 42.9**	**+0.5**
RTLS				IAML		21 55 42.9	
	comp=Z,404nm,0.2s						
AUSP	**Uspallata**	**0.60**	**130**	*i* P	**Pn**	**21 55 30.4**	**-0.2**
AUSP				*i* S	**Sn**	**21 55 43.7**	**+0.5**
ZON	**Zonda**	**1.11**	**75**	IAML		21 55 52.0	
	comp=Z,87nm,0.5s						
CMCH	**Combarbala**	**1.13**	**306**	*e*P	**Pn**	**21 55 35.4**	**-0.3**
CMCH				*e*S	**Sn**	**21 55 53.1**	**+0.9**
RTCV	**Cerro Valdivia**	**1.19**	**91**	*i* P	**Pn**	**21 55 35.6**	**-0.7**
RTCV				*i* S	**Sn**	**21 55 53.2**	**-0.2**
ASAL	**Salagasta**	**1.20**	**129**	*i* P	**Pn**	**21 55 36.3**	**-0.3**
SJA	**San Juan**	**1.21**	**75**	IAML		21 55 44.2	
	comp=Z,170nm,0.3s						
ARCO	**CERRO ARCO**	**1.31**	**140**	*i* P	**Pn**	**21 55 38.0**	**+0.1**
ARCO				IAML		21 55 38.6	
	comp=Z,382nm,0.3s						
ARCO				*i* S	**Sn**	**21 55 56.3**	**+0.2**
RTLL	**Cerro Villicun**	**1.34**	**68**	IAML		21 55 57.1	
	comp=Z,325nm,0.8s						
PEL	**Peldehue**	**1.45**	**206**	⇓*i* P	**Pn**	**21 55 38.6**	**-0.8**
PEL				*i* S	**Sn**	**21 55 58.8**	**0.0**
PEL				IAML		21 56 00.8	
	comp=E,136nm,0.4s						
ROCH	**El Roble**	**1.45**	**219**	⇓*i* P	**Pn**	**21 55 38.7**	**-1.0**
ROCH				*i* S	**Sn**	**21 55 59.1**	**-0.1**
FCH	**Farellones**	**1.51**	**191**	*e*P	**Pn**	**21 55 40.8**	**+0.3**
FCH				*e*S	**Sn**	**21 56 02.2**	**+1.4**
AMOG	**MOGNA**	**1.52**	**54**	*i* P	**Pn**	**21 55 40.0**	**-0.4**
AMOG				*i* S	**Sn**	**21 56 00.4**	**-0.2**
AAGR	**Agrelo**	**1.55**	**143**	*i* P	**Pn**	**21 55 40.8**	**-0.1**
CLCH	**Cerro Calan**	**1.63**	**198**	*e*P	**Pn**	**21 55 41.6**	**-0.2**
CLCH				*e*S	**Sn**	**21 56 03.5**	**+0.5**
CLCH				IAML		21 56 07.0	
	comp=E,262nm,0.7s						
AROD	**Rodeo**	**1.71**	**13**	*i* P	**Pn**	**21 55 43.6**	**+0.5**
AROD				*i* S	**Sn**	**21 56 05.9**	**+0.7**
GO04	**Tololo Observa**	**1.82**	**336**	⇑*i* P	**Pn**	**21 55 43.7**	**-0.7**
GO04				*i* S	**Sn**	**21 56 07.8**	**+0.3**
LMEL	**Las Melosas**	**2.02**	**186**	*e*P	**Pn**	**21 55 46.6**	**-0.1**
LMEL				IAML		21 56 21.4	
	comp=N,151nm,0.2s						
APLL	**PUNTA DE LOS L**	**3.26**	**65**	IAML		21 56 42.3	
	comp=Z,11nm,0.7s						
VCA	**Vinchina**	**3.44**	**26**	IAML		21 56 50.3	
	comp=Z,17nm,0.4s						
MRA	**San Martin**	**3.62**	**100**	IAML		21 57 15.8	
	comp=Z,14nm,0.4s						
TCA	**Tanti**	**4.58**	**85**	IAML		21 56 19.7	
	comp=Z,13nm,0.3s						

IDC 09 22:47:20.6±2.1, 3°24S×128°93E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/43, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=137.5km s-min=27.2km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.42**	**163**	P	Pn	22 51 25.3	+0.1
	0.1nm,0.3s,baz=342,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**20.87**	**167**	P	P	22 52 03.8	-0.6
	0.6nm,0.3s,baz=348,slow=11,SNR=10						
MKAR	**Makanchi Array**	**64.52**	**326**	P	P	22 57 59.6	+0.2
	0.2nm,0.8s,baz=137,slow=7.1,SNR=3.0						

IDC 09 22:48:49.5±1.6, 10°83S×166°00E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/37, mbtmp3.8/6, ML3.9/1, MS2.4/1, Ms1 2.4/1, ms1mx2.3/22, Error ellipse: s-maj=51.2km s-min=27.8km az=129.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.12**	**283**	LR	LR	22 52 24.9	
	comp=Z,36nm,21.8s,baz=158,slow=35						
DZM	**Mont Dzumac**	**11.19**	**178**	Pn	Pn	22 51 31.1	+0.2
	0.8nm,0.3s,baz=3.4,slow=19,SNR=6.8						
WRA	**Warramunga Arr**	**31.79**	**250**	P	P	22 55 15.8	-0.2
	1.3nm,0.8s,baz=81,slow=8.8,SNR=8.1						
ASAR	**Alice Springs**	**33.11**	**243**	P	P	22 55 27.1	-0.5
	0.5nm,0.9s,baz=62,slow=9.8,SNR=3.9						
FITZ	**Fitzroy Crossi**	**39.68**	**255**	P	P	22 56 24.1	+0.3
	1.9nm,0.6s,baz=100,slow=6.5,SNR=5.7						
ILAR	**Eielson Array**	**83.23**	**18**	P	P	23 01 17.3	-0.2
	0.8nm,1.1s,baz=213,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**93.54**	**317**	P	P	23 02 07.9	+0.4
	0.2nm,0.7s,baz=121,slow=5.4,SNR=2.6						

*ISCJB **09** 22:54:46.0±0.5, 3°56S±0°05×128°79E±0°05, h37km, mb3.9/4, MS3.4/2, Error ellipse: s-maj=7.4km s-min=5.8km az=43.0*
*DJA **09** 22:54:45.7±0.4, 4°S±5°×12°9E±°, h10km, M3.9/6, MLv3.9/6*
*IDC **09** 22:54:49.0±3.4, 3°59S×128°94E, h53km±34km, mb3.7/5, mb1 3.9/8, mb1mx3.6/41, mbtmp4.0/8, ML3.7/3, MS3.3/3, Ms1 3.3/3, ms1mx2.7/35, Error ellipse: s-maj=28.0km s-min=11.8km az=77.0*

ISC 09 22:54:47.9±0.8, 3°58S±0°06×128°84E±0°05, h37km, n16, σ1°§10/18, mb4.0/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.42**	**131**	P	**Pn**	**22 55 10.1**	**-1.0**
BNDI				S	**Sn**	**22 55 29.9**	**+1.4**
NLAI	**Namlea**	**1.77**	**281**	P	**Pn**	**22 55 18.5**	**+2.6**
SANI	**Sanana**	**3.23**	**298**	P	**Pn**	**22 55 35.0**	**-1.0**
SANI				S	**Sn**	**22 56 11.9**	**-1.2**
FAKI	**Fak Fak**	**3.47**	**79**	P	**Pn**	**22 55 39.8**	**+0.4**
SIJI	**Sorong**	**3.53**	**42**	P	**Pn**	**22 55 41.6**	**+0.1**
	21nm,0.3s,baz=214,slow=15,SNR=58						
SIJI				S	**Sn**	**22 56 23.4**	**+0.2**
	8.5nm,0.3s,baz=229,slow=22,SNR=7.3						
TNTI	**Ternate**	**4.57**	**341**	P	**Pn**	**22 55 54.9**	**+0.5**
RKPI	**Ransiki, Papua**	**5.72**	**69**	P	**Pn**	**22 56 10.6**	**+0.3**
BATI	**Baumata**	**8.35**	**218**	LR	LR	23 00 18.9	
	comp=Z,163nm,19.5s,baz=46,slow=39						
FITZ	**Fitzroy Crossi**	**14.76**	**192**	P	**Pn**	**22 58 14.1**	**0.0**
	0.1nm,0.3s,baz=31,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**17.12**	**162**	P	**Pn**	**22 58 42.9**	**-1.6**
	0.3nm,0.3s,baz=343,slow=14,SNR=18						
ASAR	**Alice Springs**	**20.56**	**167**	P	**P**	**22 59 24.1**	**+0.6**
	4.2nm,0.6s,baz=350,slow=11,SNR=35						
ASAR				S	**S**	**23 03 10.3**	**-1.3**
	0.5nm,0.8s,baz=349,slow=24,SNR=3.3						
STKA	**Stephens Creek**	**30.60**	**158**	P	**P**	**23 00 58.7**	**+0.3**
	2.7nm,0.9s,baz=342,slow=11,SNR=4.4	

AAK	**Ala-Archa**	**2.92**	**15**	⇑Pn	**Pn**	**22 59 21.4**	**+3.0**
	3.8nm,0.6s							
AAK				⇑Lg	Lg	22 59 59.2		
	19nm,0.9s							
AAK	**Ala-Archa**	**2.92**	**15**	⇓*iP*	**Pn**	**22 59 19.1**	**+0.7**
	baz=13							
AAK				⇓*iS*	**Sn**	**22 59 55.3**	**+1.8**
	baz=13							
MRKS	**Merke**	**2.93**	**356**	Pg	**Pb**	**22 59 23.5**	**-0.7**
	9.7nm,0.3s							
MRKS				Lg	Lg	22 59 58.2		
	11nm,0.3s							
MRKS	**Merke**	**2.93**	**356**	*e*P	**Pb**	**22 59 23.5**	**-0.7**
	9.7nm,0.3s							
MRKS				*e*S	**Sb**	**22 59 58.2**	**-1.8**
	11nm,0.3s							
MRKS	**Merke**	**2.93**	**356**	*e*P	Pg	22 59 40.4	+12
	5.7nm,0.2s							
MRKS				*e*S	**Sb**	**22 59 57.9**	**-2.2**
	11nm,0.2s							
KBK	**Karagaybulak**	**3.04**	**21**	P	**Pb**	**22 59 27.8**	**+1.7**
	SNR=12							
KBK	**Karagaybulak**	**3.04**	**21**	⇑*iP*	**Pn**	**22 59 20.5**	**+0.4**
	baz=19							
KBK				⇑*iS*	**Sn**	**22 59 58.2**	**+1.6**
	baz=19							
FRU1	**Bishkek**	**3.11**	**16**	⇑*iP*	**Pn**	**22 59 21.6**	**+0.7**
	baz=14							
FRU1				⇑*iS*	**Sn**	**23 00 00.0**	**+1.8**
	baz=14							
ULHL	**Ulahol**	**3.19**	**40**	⇓*e*P	**Pn**	**22 59 22.5**	**+0.3**
	baz=38							
ULHL				⇓*iS*	**Sn**	**23 00 01.5**	**+1.0**
	baz=38							
BOOM	**Boomskoye usch**	**3.25**	**34**	⇓*iP*	**Pn**	**22 59 23.5**	**+0.6**
	baz=32							
BOOM				⇓*iS*	**Sn**	**23 00 02.8**	**+1.1**
	baz=32							
TKM2	**Tokmak 2**	**3.48**	**26**	P	**Pb**	**22 59 35.9**	**+2.3**
	SNR=5.8							
TKM2	**Tokmak 2**	**3.48**	**26**	⇑Pg	**Pb**	**22 59 35.5**	**+1.9**
	2.2nm,0.3s							
TKM2				⇑Lg	Lg	23 00 20.2		
	3.5nm,0.5s							
TKM2	**Tokmak 2**	**3.48**	**26**	⇑*iP*	**Pn**	**22 59 26.9**	**+0.7**
	baz=25							
TKM2				⇑*iS*	**Sn**	**23 00 08.8**	**+1.3**
	baz=25							
USP	**Ospenovka**	**3.53**	**12**	⇓*iP*	**Pn**	**22 59 27.0**	**+0.3**
	baz=11							
USP				⇓*iS*	**Sn**	**23 00 09.8**	**+1.4**
	baz=11							
KST	**Kastek**	**3.72**	**29**	Pg	**Pb**	**22 59 41.1**	**+3.5**
	4.0nm,0.4s							
KST				Lg	Lg	23 00 28.8		
	9.5nm,0.6s							
KST	**Kastek**	**3.72**	**29**	*e*P	**Pb**	**22 59 41.1**	**+3.5**
	4.0nm,0.4s							
KST				*e*S	**Sg**	**23 00 28.8**	**-2.4**
	9.5nm,0.6s							
KST	**Kastek**	**3.72**	**29**	*e*P	Pg	22 59 58.5	+16
	2.6nm,0.3s							
KST				*e*S	**Sg**	**23 00 29.2**	**-2.0**
	9.5nm,0.4s							
TARG	**Taragay, Kyrgy**	**3.79**	**58**	⇑*iP*	**Pn**	**22 59 30.4**	**-0.2**
	baz=57							
TARG				⇑*iS*	**Sn**	**23 00 15.2**	**-0.3**
	baz=57							
DGS	**Degeres**	**3.83**	**26**	Lg	Lg	23 00 27.5		
	12nm,0.5s							
DGS	**Degeres**	**3.83**	**26**	*e*P	Pg	22 59 57.4	+12
	3.0nm,0.6s							
DGS				*e*S	**Sb**	**23 00 27.5**	**+1.7**
	12nm,0.5s							
KK31	**Karatay Array**	**3.97**	**327**	Pn	**Pn**	**22 59 35.1**	**+2.4**
	0.2nm,0.3s,baz=126,slow=12,SNR=12							
KK31				⇑Pg	**Pb**	**22 59 44.1**	**+2.2**
	0.8nm,0.3s,baz=153,slow=16,SNR=9.1							
KK31				⇓Sn	**Sn**	**23 00 20.8**	**+1.5**
	1.1nm,0.3s,baz=19,slow=57,SNR=5.2							
KK31				⇑Lg	Lg	23 00 34.5		
	2.2nm,0.4s,baz=140,slow=17,SNR=4.2							
TNSS	**Tian-Shan**	**4.13**	**38**	*e*P	Pg	23 00 06.9	+16
	1.4nm,0.2s							
TNSS				*e*S	**Sg**	**23 00 43.4**	**-1.2**
	8.3nm,0.7s							
MDOK	**Medeo**	**4.28**	**38**	⇓Pg	**Pb**	**22 59 51.2**	**+4.1**
MDOK				⇑Lg	Lg	23 00 47.1		
KOTS	**Kotyrbulak**	**4.36**	**37**	Pg	**Pb**	**22 59 53.0**	**+4.4**
	2.9nm,0.3s							
KOTS				Lg	Lg	23 00 48.7		
	27nm,0.4s							
KOTS	**Kotyrbulak**	**4.36**	**37**	*e*P	**Pb**	**22 59 53.0**	**+4.4**
	2.9nm,0.3s							
KOTS				*e*S	**Sg**	**23 00 48.7**	**-3.1**
	27nm,0.4s							
KTBS	**Karatobe**	**4.56**	**30**	Pg	**Pg**	**22 59 56.7**	**-2.4**
	3.2nm,0.4s							
KTBS				Lg	Lg	23 00 55.2		
	9.5nm,0.3s							
KTBS	**Karatobe**	**4.56**	**30**	*e*P	**Pg**	**22 59 56.7**	**-2.4**
	3.2nm,0.4s							
KTBS				*e*S	**Sg**	**23 00 55.2**	**-3.1**
	9.5nm,0.3s							

*ISCJB **09** 23:01:52.6±0.2,51˚52N±0˚01×16˚12E±0˚02,h0km, mb3.8/11,Error ellipse: s-maj=1.8km s-min=1.4km az=28.1*

*LDG **09** 23:01:54.7±0.1,51˚51N×16˚16E,h1km,Ml4.3/19,Error ellipse: s-maj=3.4km s-min=1.9km az=9.0,Suspected Mining induced.*

*BNS **09** 23:01:55.7±0.8,51˚36N×16˚19E,h1km,ML3.6*

*IDC **09** 23:01:55.3±0.5,51˚54N×16˚08E,h0km,mb3.9/12, mb1 4.0/19,mb1mx3.8/43,mbtmp3.9/19,ML3.6/7,Error ellipse: s-maj=10.2km s-min=5.9km az=86.0*

*BGR **09** 23:01:56.3±0.2,51˚52N×16˚12E,h1km,ML4.0/5,Error ellipse: s-maj=3.3km s-min=2.2km az=24.0*

*VIE **09** 23:01:56.4±0.5,51˚42N×16˚13E,h0km,mb3.3/19, ml3.6/17,ms4.0/4,Error ellipse: s-maj=5.7km s-min=3.3km az=8.0,Suspected Mining induced.*

*PRU **09** 23:01:57.6±0.0,51˚48N×16˚13E,h0km,Felt In Harrachov*

*UPP **09** 23:01:57.8±2.7,51˚73N×15˚64E,h0km,ML3.0,Suspected explosion*

ISC 09 23:01:53.3±0.4,51˚59N±0˚02×16˚12E±0˚02,h0km,n169, σ2s22/284,mb3.7/11,8C-22D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KSP	**Ksiaz**	**0.75**	**171**	*i* Pg	**Pb**	**23 02 08.9**	**-0.3**
KSP				*i* Sg	**Sg**	**23 02 18.3**	**+0.9**
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg	**Pb**	**23 02 08.9**	**-0.3**
KSP				*e*Sg	**Sg**	**23 02 18.3**	**+0.9**
UPC	**Upice**	**1.08**	**184**	⇓*i*PG	**Pb**	**23 02 14.9**	**0.0**
UPC				*e*SG	**Sb**	**23 02 29.2**	**-0.4**
	comp=Z,960nm,0.6s						
DPC	**Dobruska-Polom**	**1.25**	**174**	⇓*i*PG	**Pb**	**23 02 17.7**	**0.0**
DPC				*e*SG	**Sg**	**23 02 33.3**	**+0.1**
	comp=Z,549nm,0.7s						
DPC				AMS	AMS	23 02 50.0	
	comp=Z,3μm,2.6s						
DPC	**Dobruska-Polom**	**1.25**	**174**	*e*Pg	**Pb**	**23 02 17.7**	**0.0**
DPC				*e*Sg	**Sg**	**23 02 33.5**	**+0.3**
PVCC	**Panska Ves**	**1.44**	**223**	⇓*i*PG	**Pb**	**23 02 21.5**	**+0.5**
PVCC				*e*SG	**Sn**	**23 02 41.1**	**+0.8**
	comp=Z,1μm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**243**	PN	**Pb**	**23 02 22.8**	**+0.1**
BRG				PG	**Pg**	**23 02 25.1**	**+2.3**
BRG				SG	**Sg**	**23 02 44.5**	**+1.7**
	542nm,0.6s						
BRG	**Berggiesshubel**	**1.54**	**243**	*e*Pg	**Pg**	**23 02 24.3**	**+1.5**
BRG				*e*Sg	**Sg**	**23 02 44.8**	**+2.0**
KRLC	**Kraliky**	**1.57**	**164**	⇓*i*PG	**Pn**	**23 02 23.1**	**+0.6**
KRLC				*e*SG	**Sg**	**23 02 44.0**	**+0.3**
RUE	**Ruedersdorf**	**1.70**	**303**	*e*Pn	**Pb**	**23 02 25.8**	**+0.5**
RUE				*e*Sg	**Sg**	**23 02 51.8**	**+4.0**
RUE	**Ruedersdorf**	**1.70**	**303**	*e*P	**Pb**	**23 02 25.2**	**-0.1**
RUE				*e*P	**Pb**	**23 02 25.2**	**-0.1**
FBE	**Freiberg**	**1.86**	**250**	*e*Pn	**Pn**	**23 02 27.4**	**+1.0**
FBE				*e*Pg	**Pg**	**23 02 30.3**	**+1.4**
FBE				*e*Sg	**Sg**	**23 02 55.4**	**+2.4**
GOPC	**GO Pecny, Ondr**	**1.88**	**207**	⇓*e*PG	**Pg**	**23 02 29.1**	**-0.1**
GOPC				*e*SG	**Sg**	**23 02 53.8**	**+0.3**
	comp=Z,399nm,0.8s						
PRU	**Pruhonice**	**1.89**	**213**	⇓*e*PN	**Pn**	**23 02 27.3**	**+0.5**
PRU				*e*PG	**Pb**	**23 02 29.2**	**+0.6**
PRU				*e*SG	**Sg**	**23 02 53.7**	**-0.2**
	comp=Z,416nm,0.4s						
PRU				AMS	AMS	23 03 00.0	
	comp=Z,2μm,5.3s						
MORC	**Moravsky Berou**	**2.03**	**153**	⇑*iP*	**Pn**	**23 02 28.9**	**+0.2**
MORC	**Moravsky Berou**	**2.03**	**153**	S	**Sn**	**23 02 54.1**	**-0.7**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN	**Pn**	**23 02 29.3**	**+0.6**
MORC				*e*SG	**Sb**	**23 02 57.5**	**+0.7**
MORC	**Moravsky Berou**	**2.03**	**153**	*e*Pn	**Pn**	**23 02 29.3**	**+0.6**
MORC				*e*Sg	**Sg**	**23 02 58.3**	**0.0**
OKC	**Ostrava-Krasne**	**2.17**	**143**	⇓*e*PN	**Pn**	**23 02 30.6**	**-0.1**
OKC				*e*PG	**Pg**	**23 02 35.3**	**+0.3**
OKC				*e*SG	**Sg**	**23 03 03.7**	**+0.6**
	comp=Z,799nm,0.9s						
OKC	**Ostrava-Krasne**	**2.17**	**143**	*e*Pn	**Pn**	**23 02 30.6**	**-0.1**
OKC				*e*Sg	**Sg**	**23 03 04.0**	**+0.9**
CHZP	**Chorzow**	**2.23**	**124**	*e*Pn	**Pn**	**23 02 31.6**	**+0.1**
CHZP				*e*Pg	**Pg**	**23 02 37.0**	**+0.9**
CHZP				*e*Sn	**Sn**	**23 02 59.4**	**-0.4**
CHZP				*e*Sg	**Sg**	**23 03 06.8**	**+1.8**
VRAC	**Vranov**	**2.30**	**172**	⇑*iP*	**Pn**	**23 02 33.6**	**+1.1**
VRAC	**Vranov**	**2.30**	**172**	S	**Sn**	**23 03 00.8**	**-0.7**
VRAC	**Vranov**	**2.30**	**172**	*e*Pn	**Pn**	**23 02 33.2**	**+0.8**
VRAC				*e*SG	**Sb**	**23 03 05.8**	**+1.2**
VRAC	**Vranov**	**2.30**	**172**	Pn	**Pn**	**23 02 33.3**	**+0.8**
	12nm,0.3s,baz=341,slow=12,SNR=157						
VRAC				Pg	**Pg**	**23 02 38.2**	**+0.9**
	30nm,0.3s,baz=349,slow=15,SNR=30						
VRAC				Lg	Lg	23 03 06.5	
	34nm,0.3s,baz=73,slow=19,SNR=9.7						
TREC	**Trest**	**2.33**	**190**	⇓*e*PN	**Pn**	**23 02 34.0**	**+1.1**
TREC				*e*PG	**Pg**	**23 02 38.0**	**+0.1**
KRUC	**Moravsky**	**2.53**	**176**	*e*PN	**Pn**	**23 02 36.5**	**+0.8**
KRUC				*e*SG	**Sb**	**23 03 13.1**	**+1.8**
TANN	**Tannenbergstha**	**2.59**	**244**	*e*Pn	**Pn**	**23 02 37.9**	**+1.4**
TANN				*e*Sg	**Sg**	**23 03 17.4**	**+0.9**
GUNZ	**Gunzen**	**2.69**	**244**	*e*Pn	**Pn**	**23 02 39.1**	**+1.5**
GUNZ				*e*Sg	**Sg**	**23 03 21.0**	**+1.4**
NKC	**Novy Kostel**	**2.69**	**241**	⇓*e*PN	**Pn**	**23 02 39.5**	**+1.7**
NKC				*e*PG	**Pg**	**23 02 46.0**	**+1.2**
NKC				*e*SG	**Sg**	**23 03 22.3**	**+2.7**
	comp=Z,1μm,1.1s						
WERN	**Wernitzgruen**	**2.70**	**243**	*e*Pn	**Pn**	**23 02 39.2**	**+1.3**
WERN				*e*Sg	**Sg**	**23 03 19.8**	**-0.2**
OJC	**Ojcow**	**2.70**	**119**	*e*Pn	**Pn**	**23 02 37.4**	**-0.6**
OJC				*e*Pg	**Pg**	**23 02 45.3**	**+0.2**
OJC				*e*Sg	**Sg**	**23 03 21.2**	**+1.1**
OJC	**Ojcow**	**2.70**	**119**	*e*Pn	**Pn**	**23 02 37.6**	**-0.4**
OJC				*e*Sg	**Sg**	**23 03 21.6**	**+1.5**
PLN	**Plauen**	**2.73**	**248**	*e*Pn	**Pn**	**23 02 39.7**	**+1.3**
PLN				*e*Sg	**Sg**	**23 03 22.7**	**+1.7**
NEUB	**Neuenburg**	**2.75**	**264**	*e*Pn	**Pn**	**23 02 40.4**	**+1.8**
NEUB				*e*Sg	**Sg**	**23 03 24.1**	**+2.6**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*PN	**Pn**	**23 02 43.1**	**+2.3**
JAVC				*e*SG	**Sg**	**23 03 26.3**	**-0.3**
KHC	**Kasperske Hory**	**2.95**	**214**	⇓*e*PN	**Pn**	**23 02 42.0**	**+0.6**
KHC				*e*PG	**Pg**	**23 02 48.8**	**-1.0**
KHC				*e*SN	**Sn**	**23 03 17.6**	**+0.1**
KHC				*e*SG	**Sg**	**23 03 28.3**	**+0.4**
	comp=Z,113nm,0.5s						
KHC				AMS	AMS	23 03 40.0	
	comp=Z,900nm,5.8s						
MOX	**Moxa**	**2.99**	**253**	*e*Pn	**Pn**	**23 02 43.4**	**+1.4**
MOX				*e*Sg	**Sg**	**23 03 31.5**	**+2.3**
MANZ	**Manzenberg**	**3.01**	**239**	*e*Pn	**Pn**	**23 02 43.4**	**+1.2**
ROTZ	**Rotzenmuhle**	**3.08**	**235**	*e*Pn	**Pn**	**23 02 44.5**	**+1.2**
ROTZ				*e*Sg	**Sg**	**23 03 31.6**	**-0.7**
SMOL	**Smolenice**	**3.19**	**164**	*e*PN	**Pn**	**23 02 46.9**	**+2.2**
SMOL				*e*PG	**Pg**	**23 02 54.8**	**+0.4**
SMOL				*e*SG	**Sg**	**23 03 35.8**	**+0.1**
WET	**Wettzell**	**3.21**	**222**	*e*Pn	**Pn**	**23 02 45.9**	**+0.9**
LANS	**Liptovska Anna**	**3.25**	**137**	*e*Pn	**Pn**	**23 02 47.0**	**+1.5**
LANS				*e*PG	**Pg**	**23 02 55.7**	**+0.2**
LANS				*e*SG	**Sg**	**23 03 37.6**	**0.0**
MODS	**Modra-Piesok**	**3.30**	**166**	*e*PN	**Pn**	**23 02 48.0**	**+1.8**
MODS				*e*PG	**Pg**	**23 02 56.8**	**+0.2**
MODS				*e*SG	**Sg**	**23 03 41.2**	**+1.9**
MODS				eLG	Lg	23 03 49.6	
ASSE	**Asse, Remlinge**	**3.42**	**281**	*e*Pn	**Pn**	**23 02 50.3**	**+2.6**
ASSE				*e*Sg	**Sg**	**23 03 45.2**	**+2.2**
NIE	**Niedzica**	**3.44**	**127**	*e*Pn	**Pn**	**23 02 49.9**	**+1.8**
NIE				*e*Pg	**Pg**	**23 02 59.8**	**+0.6**
NIE				*e*Sg	**Sg**	**23 03 45.2**	**+1.5**
ZST	**Bratislava**	**3.45**	**169**	*e*PN	**Pn**	**23 02 49.3**	**+1.0**
ZST				*e*PG	**Pg**	**23 02 58.4**	**-1.0**
ZST				*e*SG	**Sg**	**23 03 43.9**	**-0.3**
VYHS	**Vyhne**	**3.56**	**149**	*e*PN	**Pn**	**23 02 50.5**	**+0.8**
VYHS				*e*PG	**Pg**	**23 03 02.8**	**+1.4**
VYHS				*e*SG	**Sg**	**23 03 46.8**	**-0.7**
VYHS				eLG	Lg	23 03 59.1	
CLZ	**Clausthal**	**3.58**	**276**	*e*Pn	**Pn**	**23 02 52.7**	**+2.6**
CLZ				*e*Sg	**Sg**	**23 03 49.3**	**+1.0**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**23 02 51.9**	**+1.5**
GRF	**Grafenberg Arr**	**3.65**	**241**	*e*Pn	**Pn**	**23 02 52.6**	**+1.7**
CONA	**Conrad Observa**	**3.67**	**183**	*e*Pn	**Pn**	**23 02 52.5**	**+1.2**
	5.9nm,0.2s,SNR=19						
CONA				Pg	**Pg**	**23 03 02.9**	**-0.6**
	56nm,0.7s						
CONA				Sg	**Sg**	**23 03 50.4**	**-0.7**
	117nm,0.4s						
NRDL	**Niedersach Rie**	**3.82**	**286**	*e*Pn	**Pn**	**23 02 56.1**	**+2.8**
GTTG	**Gvttingen**	**3.84**	**272**	*e*Pn	**Pn**	**23 02 55.7**	**+2.1**
GTTG				*e*Sg	**Sg**	**23 03 56.9**	**+0.4**
SOP	**Sopron**	**3.92**	**176**	*e*Pn	**Pn**	**23 02 55.0**	**+0.4**
SOP				*e*Pg	**Pg**	**23 03 08.1**	**-0.3**
SOP				Sn	**Sb**	**23 03 47.1**	**-4.0**
UBBA	**Unterbreizbach**	**3.92**	**261**	*e*Pn	**Pn**	**23 02 56.4**	**+1.7**
UBBA				*e*Sg	**Sg**	**23 04 02.1**	**+2.9**
MOA	**Molln**	**3.93**	**199**	*i* Pn	**Pn**	**23 02 56.1**	**+1.2**
	9.5nm,0.2s,SNR=23						
MOA				Sg	**Sg**	**23 04 01.4**	**+1.9**
	156nm,0.6s						
SRO	**Srobarova**	**4.04**	**158**	*e*PN	**Pn**	**23 02 58.7**	**+2.4**
SRO				*e*PG	**Pg**	**23 03 12.1**	**+1.5**
SRO				*e*SG	**Sg**	**23 04 02.9**	**0.0**
BSEG	**Bad Segeberg**	**4.24**	**306**	*e*Pn	**Pn**	**23 02 59.9**	**+0.9**
LUNU	**Lund**	**4.35**	**340**	P	**Pn**	**23 03 01.6**	**+1.0**
LUNU				S	**Sn**	**23 03 50.7**	**-1.3**
ARSA	**Arzberg**	**4.36**	**185**	*e*Pn	**Pn**	**23 03 02.8**	**+2.1**
	4.9nm,0.2s,SNR=8.1						
ARSA				Pg	**Pg**	**23 03 16.3**	**-0.5**
	10nm,0.4s						
ARSA				Sg	**Sg**	**23 04 16.0**	**+2.8**
	63nm,0.4s						
PSZ	**Piszkesteto**	**4.41**	**145**	⇑*iP*	**Pn**	**23 03 02.7**	**+1.1**
PSZ	**Piszkesteto**	**4.41**	**145**	*e*Pn	**Pn**	**23 03 02.0**	**+0.5**
PSZ				*e*Pg	**Pg**	**23 03 19.1**	**+1.2**
PSZ				Sn	**Sn**	**23 03 55.1**	**+1.4**
PSZ				*e*Sg	**Sg**	**23 04 15.1**	**+0.1**
RJOB	**Jochberg**	**4.42**	**211**	*e*Pn	**Pn**	**23 03 03.5**	**+1.9**
CSKK	**Cskako**	**4.45**	**161**	*e*Pn	**Pn**	**23 03 02.0**	**0.0**
CSKK				*e*Pg	**Pg**	**23 03 20.0**	**+1.4**
CSKK				Sn	**Sn**	**23 03 53.1**	**-1.4**
FUR	**Furstenfeldbru**	**4.64**	**224**	*e*Pn	**Pn**	**23 03 06.1**	**+1.5**
COP	**Copenhagen**	**4.66**	**333**	*i* P	**Pn**	**23 03 06.9**	**+2.2**
BLEU	**Blekinge**	**4.73**	**358**	P	**Pn**	**23 03 07.2**	**+1.4**
BJUU	**Bjuv**	**4.86**	**339**	P	**Pn**	**23 03 07.9**	**+0.4**
BJUU				S	**Sn**	**23 04 01.5**	**-2.8**
KBA	**Koelnbreinsper**	**4.86**	**203**	*i* Pn	**Pn**	**23 03 09.4**	**+1.6**
	17nm,0.5s,SNR=20						
KBA				Sg	**Sg**	**23 04 31.7**	**+2.3**
	58nm,0.8s						
SOKA	**Soboth**	**4.96**	**189**	*e*Pn	**Pn**	**23 03 10.4**	**+1.2**
	1.9nm,0.2s,SNR=7.1						
SOKA				Sg	**Sg**	**23 04 33.8**	**+1.1**
	64nm,1.1s						
TNS	**Taunus Mts**	**5.04**	**257**	*e*Pn	**Pn**	**23 03 11.5**	**+1.3**
TNS				*e*Sg	**Sg**	**23 04 34.4**	**-0.7**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**23 03 11.4**	**+1.0**
DEL				S	**Sn**	**23 04 07.1**	**-2.5**
BEHE	**Becsehely**	**5.14**	**175**	*e*Pn	**Pn**	**23 03 12.1**	**+0.6**
BEHE				Sn	**Sn**	**23 04 07.1**	**-4.4**
BEHE				*e*Sg	**Sg**	**23 04 46.0**	**+7.7**
GROS	**Grobnik**	**5.15**	**185**	*i* Pn	**Pn**	**23 03 13.3**	**+1.7**
GROS				*e*Sn	**Sn**	**23 04 19.0**	**+7.3**
WATA	**Walderalm**	**5.18**	**217**	*e*Pn	**Pn**	**23 03 14.3**	**+2.1**
	12nm,0.4s,SNR=38						
OBKA	**Obir**	**5.19**	**192**	*e*Pn	**Pn**	**23 03 14.0**	**+1.8**
	1.3nm,0.4s						
OBKA				Pg	**Pg**	**23 03 32.7**	**0.0**
	11nm,0.4s						
OBKA				Sg	**Sg**	**23 04 40.9**	**+1.1**
	42nm,0.7s						
MYKA	**Terra Mystica**	**5.22**	**199**	*e*Pn	**Pn**	**23 03 14.3**	**+1.6**
	1.3nm,0.3s						
MYKA				Sg	**Sg**	**23 04 42.3**	**+1.4**
	54nm,0.7s						
WTTA	**Wattenberg**	**5.22**	**216**	*e*Pn	**Pn**	**23 03 15.1**	**+2.4**
	7.1nm,0.3s						
IBBN	**Ibbenburen**	**5.22**	**281**	*e*Pn	**Pn**	**23 03 14.9**	**+2.4**
STU	**Stuttgart**	**5.26**	**240**	*e*Sg	**Sg**	**23 04 41.0**	**-1.3**
MOTA	**Moosalm**	**5.36**	**220**	*e*Pn	**Pn**	**23 03 15.7**	**+1.1**
	10nm,0.7s,SNR=22						
RETA	**Reutte**	**5.38**	**222**	*e*Pn	**Pn**	**23 03 16.0**	**+1.1**
	2.7nm,0.2s,SNR=5.6						
RETA				Pg	**Pg**	**23 03 38.6**	**+2.2**
	6.5nm,0.4s						
ABTA	**Abfaltersbach**	**5.39**	**207**	*e*Pn	**Pn**	**23 03 16.5**	**+1.6**
	18nm,0.7s,SNR=21						
VXJU	**Vaexsjoe**	**5.39**	**353**	P	**Pn**	**23 03 16.5**	**+1.7**
VXJU				S	**Sn**	**23 04 15.1**	**-2.5**
TRPA	**Tarpa**	**5.41**	**127**	⇑*iP*	**Pn**	**23 03 15.4**	**+0.3**
TRPA	**Tarpa**	**5.41**	**127**	*e*Pn	**Sn**	**23 04 16.1**	**-1.9**
TRPA				Sn	**Sb**	**23 04 36.0**	**+2.2**
TRPA				*e*Sg	**Sg**	**23 04 49.1**	**+2.3**
TRPA	**Tarpa**	**5.41**	**127**	*e*Pn	**Pn**	**23 03 15.1**	**0.0**
TRPA				*e*Pg	**Pg**	**23 03 36.1**	**-0.7**
SQTA	**Sankt Quirin**	**5.42**	**218**	*e*Pn	**Pn**	**23 03 17.5**	**+2.1**
	4.4nm,0.2s,SNR=11						
UBR	**Ueberruh**	**5.52**	**227**	*e*Pn	**Pn**	**23 03 17.7**	**+0.8**
UBR				*e*Sg	**Sg**	**23 04 51.8**	**+1.1**
HOBG	**Hohbusch**	**5.55**	**267**	*e*Pn	**Pn**	**23 03 18.3**	**+1.3**
PDKS	**Podkum**	**5.58**	**188**	*e*Pn	**Pn**	**23 03 19.6**	**+2.1**
OSKU	**Oskarshamn**	**5.62**	**360**	P	**Pn**	**23 03 19.9**	**+1.9**
PBUR	**Paburg**	**5.62**	**35**	*e*P	**Pg**	**23 03 45.0**	**+4.0**
PBUR				*e*P	**Pg**	**23 03 45.0**	**+4.0**
MORH	**Mrgy, Hungar**	**5.63**	**162**	*e*Pn	**Pn**	**23 03 21.1**	**+2.9**
MORH				⇓*i*Pg	Pg	23 03 57.1	+16
MORH				Sn	**Sn**	**23 04 22.1**	**-1.4**
BGG	**Burgeitz**	**5.73**	**259**	*e*Pn	**Pn**	**23 03 20.4**	**+0.9**
BGG				*e*Sn	**Sn**	**23 04 24.9**	**-0.9**
	16nm,0.7s						
LAUG	**Laupendahl**	**5.74**	**271**	*e*Pn	**Pn**	**23 03 21.3**	**+1.6**
FETA	**Feichten**	**5.77**	**220**	*e*Pn	**Pn**	**23 03 21.8**	**+1.6**
	8.3nm,0.7s						
FETA				Pg	**Pg**	**23 03 44.6**	**+0.8**
	10.0nm,0.6s						
FABU	**Falkenberg**	**5.78**	**341**	P	**Pn**	**23 03 20.8**	**+0.6**
AHRW	**Bad Neuenahr-A**	**5.80**	**263**	*e*Pn	**Pn**	**23 03 22.1**	**+1.7**
DAVA	**Damuels**	**5.92**	**226**	*e*Pn	**Pn**	**23 03 22.9**	**+0.5**
	4.5nm,0.3s						
DAVA				Sg	**Sg**	**23 05 08.5**	**+5.1**
	52nm,0.6s						
STB	**Steinbach**	**5.93**	**264**	*e*Pn	**Pn**	**23 03 24.0**	**+1.7**
HILG	**Hillesheim**	**6.11**	**261**	*e*Pn	**Pn**	**23 03 26.7**	**+2.0**
BMR	**Baia Mare**	**6.19**	**126**	⇑*iP*	**Pn**	**23 03 26.7**	**+0.8**
KLL	**Kalltalsperre**	**6.25**	**265**	*e*Pn	**Pn**	**23 03 28.3**	**+1.6**
DREG	**Dreilaegerbach**	**6.29**	**265**	*e*Pn	**Pn**	**23 03 28.2**	**+0.9**
DREG				*e*Sn	**Sn**	**23 04 39.7**	**-0.1**
DAVOX	**Davos/Dischmat**	**6.31**	**223**	Pn	**Pn**	**23 03 28.9**	**+1.2**
	1.3nm,0.3s,baz=45,slow=11,SNR=25						
DAVOX				Sn	**Sn**	**23 04 38.1**	**-2.5**
	0.8nm,0.3s,baz=345,slow=17,SNR=2.0						
DAVOX				Lg	Lg	23 05 11.5	
	1.6nm,0.3s,baz=59,slow=5.9,SNR=3.3						
DRGR		**6.46**	**135**	⇓*iP*	**Pn**	**23 03 30.5**	**+0.9**
CDF	**Champ du Feu**	**6.53**	**244**	*e*Pn	**Pn**	**23 03 30.0**	**-0.6**
CDF				*e*Sg	**Sg**	**23 05 18.9**	**-3.8**
	172nm,1.0s						
CJR	**Cluj-Napoca**	**6.92**	**132**	⇓*iP*	**Pn**	**23 03 37.2**	**+1.3**
BZS	**Buzias**	**7.00**	**146**	⇓*iP*	**Pn

TCF				*e*Sg	Sn	23 07 24.0	+59
	108nm,1.4s						
LASF	**Ste Croix**	**11.14**	**232**	*e*Pn	**Pn**	**23 04 32.2**	**-1.6**
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**23 04 34.9**	**-0.7**
	1.0nm,0.3s,baz=206,slow=11,SNR=23						
FINES				Sn	**Sn**	**23 06 34.1**	**-8.3**
	1.1nm,0.3s,baz=207,slow=22,SNR=5.6						
FINES				Lg	Lg	23 07 48.7	
	0.2nm,0.3s,baz=216,slow=26,SNR=3.3						
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn	**Pn**	**23 04 43.8**	**-2.7**
	baz=104,slow=14,SNR=4.8						
EKA				Sn	Sn	23 06 50.2	-12
	baz=101,slow=25,SNR=3.5						
KLMR	**Klimovskoe**	**15.90**	**45**	*e*Pn	**Pn**	**23 05 31.8**	**-6.3**
KLMR				AMP		23 05 36.8	
	comp=Z,9.0nm,1.1s						
KLMR				*e*Sn	**Sn**	**23 08 26.0**	**-8.7**
KLMR				*e*Sn	**Sn**	**23 08 26.0**	**-8.7**
KLMR				⇓Lg	Lg	23 10 13.0	
ARCES	**ARCESS Array B**	**18.55**	**10**	Pn	**P**	**23 06 09.6**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=195,slow=12,SNR=22						
KIRV	**Kirov**	**20.14**	**57**	P	**P**	**23 06 29.2**	**+0.6**
	comp=Z,5.7nm,0.6s,baz=277,slow=6.2,SNR=5.6						
ASF	**Jabal al Asfar**	**24.66**	**134**	P	**P**	**23 07 16.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=304,slow=15,SNR=3.9						
AKTO	**Aktyubinsk**	**26.13**	**76**	P	**P**	**23 07 30.0**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=297,slow=8.2,SNR=7.1						
SPITS	**Spitsbergen Ar**	**26.70**	**0**	P	**P**	**23 07 35.5**	**+1.9**
	comp=Z,3.9nm,0.8s,baz=170,slow=2.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**40.07**	**202**	P	**P**	**23 09 31.5**	**+1.2**
	comp=Z,1.1nm,0.7s,baz=354,slow=14,SNR=5.4						
ZALV	**Zalesovo Beam**	**40.15**	**59**	P	**P**	**23 09 32.7**	**+2.0**
	comp=Z,0.7nm,0.3s,baz=294,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**42.18**	**69**	P	**P**	**23 09 49.5**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=308,slow=6.7,SNR=11						
SONM	**Songino Array**	**54.87**	**55**	P	**P**	**23 11 27.7**	**+2.5**
	comp=Z,1.1nm,0.9s,baz=289,slow=10,SNR=9.3						
YKA	**Yellowknife Ar**	**59.79**	**336**	P	**P**	**23 12 02.1**	**+2.5**
	comp=Z,1.0nm,0.6s,baz=30,slow=6.8,SNR=17						
CMAR	**Chiang Mai Arr**	**71.34**	**84**	P	**P**	**23 13 16.8**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=301,slow=6.0,SNR=6.4						
PDAR	**Pinedale Array**	**74.88**	**322**	P	**P**	**23 13 37.9**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=51,slow=6.5,SNR=4.1						
TXAR	**Lajitas Array**	**83.67**	**310**	P	**P**	**23 14 27.1**	**+3.3**
	comp=Z,0.3nm,0.7s,baz=45,slow=6.5,SNR=2.6						

*ISCJB **09** 23:02:05.4±0.3,23.92N±0.01×122.37E±0.02,h27km±2km, mb3.2/3,Error ellipse: s-maj=2.5km s-min=1.9km az=32.7*
*JMA **09** 23:02:05.3±0.2,23.93N×122.36E,h23km±4km,M3.4*
*TAP **09** 23:02:05.7,23.96N×122.37E,h31km,ML3.7,D*
*IDC **09** 23:02:18.5±9.0,24.50N×123.45E,h169km±105km, mb2.9/3,mb1 3.1/3,mb1mx2.8/50,mbtmp3.4/3,Error ellipse: s-maj=90.8km s-min=22.5km az=62.0*
ISC 09 23:02:05.3±1.0,23.94N±0.02×122.37E±0.02,h27km±10km, n126,σ0°76/206,mb3.2/3,22C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.65**	**340**	⇓P	**Pb**	**23 02 17.9**	**-0.2**
	baz=332						
EOS1				S	**Sn**	**23 02 27.6**	**-0.5**
	baz=332						
HWA	**Hwalien**	**0.70**	**273**	*e*P	**Pb**	**23 02 19.0**	**0.0**
	baz=260						
HWA				*e*S	**Sn**	**23 02 29.3**	**0.0**
	baz=260						
ENLB	**Shoufeng**	**0.70**	**267**	⇓P	**Pb**	**23 02 19.2**	**+0.3**
	baz=255						
ENLB				S	**Sb**	**23 02 29.2**	**+0.9**
	baz=255						
TWD	**Chiawan**	**0.72**	**282**	⇑*i*P	**Pn**	**23 02 19.0**	**-0.8**
	baz=279						
TWD				*e*S	**Sb**	**23 02 28.5**	**-0.3**
	baz=279						
JYNG	**Yonagunijimaku**	**0.73**	**46**	P	**Pn**	**23 02 19.4**	**-0.5**
JYNG				S	**Sb**	**23 02 28.5**	**-0.8**
NACB	**Ninganchiao**	**0.74**	**289**	⇑P	**Pn**	**23 02 19.3**	**-0.7**
	baz=274						
NACB				S	**Sb**	**23 02 30.0**	**+0.5**
	baz=274						
NANB	**Nanao**	**0.75**	**311**	⇓P	**Pn**	**23 02 19.2**	**-0.9**
	baz=316						
NANB				S	**Sn**	**23 02 31.0**	**+0.4**
	baz=316						
ENA	**Nanau**	**0.75**	**311**	*e*P	**Pn**	**23 02 19.4**	**-0.8**
	baz=316						
ENA				*e*S	**Sn**	**23 02 30.1**	**-0.6**
	baz=316						
YOJ	**Yonaguni jima**	**0.79**	**48**	⇑P	**Pb**	**23 02 20.5**	**+0.1**
	baz=49						
YOJ				*e*S	**Sb**	**23 02 29.8**	**-0.9**
	baz=49						
YOJ	**Yonaguni jima**	**0.79**	**48**	P	**Pn**	**23 02 20.4**	**-0.2**
YOJ				*e*S	**Sb**	**23 02 30.0**	**-0.7**
TWC	**Suao**	**0.82**	**325**	⇓P	**Pn**	**23 02 20.2**	**-0.9**
	baz=323						
TWC				*e*S	**Sb**	**23 02 30.2**	**-1.5**
	baz=323						
ETLH	**Xiulin Townshi**	**0.85**	**289**	P	**Pn**	**23 02 21.2**	**-0.4**
	baz=276						
ETLH				*e*S	**Sb**	**23 02 33.1**	**+0.4**
	baz=276						
ESL	**Shilin**	**0.86**	**262**	*e*P	**Pn**	**23 02 20.8**	**-0.9**
	baz=252						
ESL				*e*S	**Sn**	**23 02 32.2**	**-1.3**
	baz=252						
EGFH	**Guangfu**	**0.90**	**253**	*e*P	**Pn**	**23 02 21.8**	**-0.5**
	baz=251						
EGFH				*e*S	**Sb**	**23 02 34.6**	**+0.6**
	baz=251						
HGSD	**Ruisui**	**0.97**	**243**	⇑P	**Pn**	**23 02 22.7**	**-0.5**
	baz=242						
HGSD				*e*S	**Sn**	**23 02 34.7**	**-1.4**
	baz=242						
EGS		**0.99**	**336**	P	**Pb**	**23 02 23.7**	**-0.1**
	baz=335						
EGS				*e*S	**Sb**	**23 02 36.5**	**0.0**
	baz=335						
ILA	**Ilan**	**1.00**	**326**	P	**Pb**	**23 02 24.0**	**0.0**
	baz=324						
ILA				*e*S	**Sb**	**23 02 38.2**	**+1.4**
	baz=324						
TWE	**Neicheng**	**1.01**	**321**	P	**Pn**	**23 02 23.9**	**+0.2**
	baz=319						
TWE				*e*S	**Sb**	**23 02 36.8**	**-0.3**
	baz=319						
ENTT	**Nioudou**	**1.01**	**314**	*i* P	**Pb**	**23 02 24.1**	**-0.2**
	baz=299						
ENTT				*e*S	**Sb**	**23 02 37.6**	**+0.4**
	baz=299						
NDT	**Datong Townshi**	**1.02**	**311**	P	**Pb**	**23 02 24.2**	**-0.2**
	baz=308						
NDT				*e*S	**Sb**	**23 02 38.0**	**+0.4**
	baz=308						
NNSB	**Datong**	**1.02**	**299**	P	**Pn**	**23 02 24.1**	**+0.1**
	baz=296						
NNSB				*e*S	**Sb**	**23 02 38.2**	**+0.6**
	baz=296						
WHF	**Hehuan Shan**	**1.03**	**282**	P	**Pn**	**23 02 24.0**	**-0.4**
	baz=280						
WHF				*e*S	**Sn**	**23 02 38.0**	**-0.2**
	baz=280						
NTC	**Toucheng**	**1.04**	**332**	P	**Pb**	**23 02 24.5**	**-0.1**
	baz=330						
NTC				*e*S	**Sb**	**23 02 38.7**	**+0.8**
	baz=330						
NNS	**Nan Shan**	**1.04**	**299**	⇑P	**Pn**	**23 02 24.3**	**+0.1**
	baz=297						
NNS				*e*S	**Sb**	**23 02 38.4**	**+0.4**
	baz=297						
EHY	**Hungye**	**1.05**	**246**	P	**Pn**	**23 02 24.0**	**-0.3**
	baz=259						
EHY				*e*S	**Sn**	**23 02 37.7**	**-0.3**
	baz=259						
OWD	**Renai**	**1.09**	**271**	⇑P	**Pn**	**23 02 24.7**	**-0.3**
	baz=269						
OWD				*e*S	**Sn**	**23 02 37.9**	**-1.4**
	baz=269						
CHGB	**Renai**	**1.10**	**277**	⇑P	**Pn**	**23 02 25.1**	**0.0**
	baz=274						
CHGB				S	**Sn**	**23 02 38.5**	**-1.1**
	baz=274						
YULB	**Yu-li**	**1.12**	**241**	⇑P	**Pn**	**23 02 25.2**	**0.0**
	baz=230						
YULB				S	**Sn**	**23 02 39.4**	**-0.4**
	baz=230						
TWB1	**Santiao Chiao**	**1.12**	**342**	P	**Pn**	**23 02 25.4**	**+0.2**
	baz=341						
TWB1				*e*S	**Sn**	**23 02 39.1**	**-0.7**
	baz=341						
VWDT	**VWDT**	**1.14**	**261**	⇑P	**Pn**	**23 02 25.7**	**+0.2**
	baz=259						
VWDT				S	**Sn**	**23 02 40.0**	**-0.2**
	baz=259						
TWF1	**Yuli**	**1.14**	**240**	P	**Pn**	**23 02 25.6**	**+0.1**
	baz=238						
TWF1				*e*S	**Sn**	**23 02 40.0**	**-0.4**
	baz=238						
TIPB	**Shuangxi**	**1.14**	**335**	⇑*i*P	**Pn**	**23 02 25.9**	**+0.3**
	baz=333						
TIPB				S	**Sb**	**23 02 40.4**	**-0.6**
	baz=333						
TDCB	**Techi**	**1.15**	**286**	⇑P	**Pn**	**23 02 26.1**	**+0.3**
	baz=274						
TDCB				*e*S	**Sb**	**23 02 41.3**	**+0.1**
	baz=274						
NWLT	**Wulai**	**1.15**	**317**	P	**Pb**	**23 02 26.1**	**-0.5**
	baz=314						
NWLT				*e*S	**Sb**	**23 02 41.5**	**+0.4**
	baz=314						
YHNB	**Yeheng**	**1.16**	**309**	⇑P	**Pn**	**23 02 26.3**	**+0.4**
	baz=307						
YHNB				*e*S	**Sb**	**23 02 41.2**	**-0.4**
	baz=307						
NSK	**Sanguang**	**1.18**	**309**	P	**Pn**	**23 02 26.5**	**+0.3**
	baz=306						
NSK				*e*S	**Sb**	**23 02 42.0**	**0.0**
	baz=306						
FULB	**Fuli**	**1.23**	**234**	P	**Pn**	**23 02 26.2**	**-0.6**
	baz=222						
FULB				S	**Sn**	**23 02 41.8**	**-0.7**
	baz=222						
CHKT	**Chengkung**	**1.24**	**228**	*e*P	**Pn**	**23 02 26.2**	**-0.7**
	baz=216						
CHKT				*e*S	**Sn**	**23 02 41.5**	**-1.3**
	baz=216						
NWF	**Wu-fen Shan**	**1.25**	**335**	*e*P	**Pn**	**23 02 27.5**	**+0.4**
	baz=334						
NWF				*e*S	**Sb**	**23 02 43.9**	**-0.2**
	baz=334						
WFSB	**Wu-fen Shan**	**1.25**	**335**	P	**Pb**	**23 02 27.6**	**-0.6**
	baz=332						
WFSB				*e*S	**Sb**	**23 02 44.0**	**0.0**
	baz=332						
TWA	**Mucha**	**1.26**	**326**	⇑*e*P	**Pb**	**23 02 28.6**	**+0.2**
	baz=323						
TWA				*e*S	**Sb**	**23 02 44.5**	**+0.2**
	baz=323						
NHDH	**Xindian Distri**	**1.28**	**323**	*e*P	**Pb**	**23 02 28.7**	**-0.1**
	baz=321						
NHDH				*e*S	**Sb**	**23 02 44.7**	**-0.1**
	baz=321						
SSLB	**Suanglung**	**1.30**	**264**	⇑*e*P	**Pn**	**23 02 28.0**	**+0.2**
	baz=262						
SSLB				*e*S	**Sn**	**23 02 44.8**	**+0.4**
	baz=262						
IRIF	**Iriomote-Funau**	**1.31**	**72**	P	**Pb**	**23 02 28.9**	**-0.3**
TATO	**Taipei**	**1.31**	**322**	*e*P	**Pb**	**23 02 28.8**	**-0.4**
	baz=320						
TATO				*e*S	**Sb**	**23 02 45.3**	**-0.4**
	baz=320						
HATJ	**Hateruma jima**	**1.32**	**85**	P	**Pb**	**23 02 29.2**	**-0.2**
WHP	**Taichung City**	**1.34**	**285**	*e*P	**Pn**	**23 02 29.0**	**+0.6**
	baz=274						
SMLT	**Sun Moon Lake**	**1.34**	**268**	⇑P	**Pn**	**23 02 29.0**	**+0.6**
	baz=266						
SMLT				*e*S	**Sn**	**23 02 45.7**	**+0.2**
	baz=266						
TAP	**Taipei**	**1.35**	**325**	*e*P	**Pb**	**23 02 29.5**	**-0.5**
	baz=322						
TAP				*e*S	**Sb**	**23 02 46.5**	**-0.3**
	baz=322						
YUS	**Yu-Shan**	**1.37**	**251**	*e*P	**Pn**	**23 02 29.4**	**+0.2**
	baz=250						
YUS				*e*S	**Sn**	**23 02 46.4**	**-0.3**
	baz=250						
TYC	**Yuchr**	**1.38**	**269**	⇑P	**Pn**	**23 02 29.3**	**+0.4**
	baz=267						
TYC				*e*S	**Sn**	**23 02 46.6**	**+0.3**
	baz=267						
WHYT	**Xinyi Township**	**1.41**	**261**	*e*P	**Pn**	**23 02 29.9**	**+0.7**
	baz=248						
WHYT				*e*S	**Sn**	**23 02 47.3**	**+0.4**
	baz=248						
YM01	**YM01**	**1.41**	**329**	*e*P	**Pn**	**23 02 29.8**	**+0.6**
	baz=343						
YM01				*e*S	**Sb**	**23 02 48.2**	**-0.3**
	baz=343						
YM07	**YM07**	**1.41**	**331**	*e*P	**Pn**	**23 02 29.4**	**+0.1**
	baz=331						
YM11	**YM11**	**1.42**	**330**	*e*P	**Pb**	**23 02 30.6**	**-0.6**
	baz=344						
LIOB	**Emei**	**1.42**	**300**	⇑P	**Pn**	**23 02 29.6**	**+0.2**
	baz=286						
LIOB				*e*S	**Sn**	**23 02 47.7**	**+0.4**
	baz=286						
YM05	**YM05**	**1.42**	**329**	*e*P	**Pn**	**23 02 30.0**	**+0.5**
	baz=342						
YM05				*e*S	**Sn**	**23 02 47.7**	**+0.3**
	baz=342						
NSTT	**Nanjuang**	**1.43**	**299**	⇑*e*P	**Pb**	**23 02 30.7**	**-0.6**
	baz=286						
NSTT				*e*S	**Sb**	**23 02 48.6**	**-0.5**
	baz=286						
YM04	**YM04**	**1.43**	**328**	*e*P	**Pn**	**23 02 30.3**	**+0.7**
	baz=341						
YM04				*e*S	**Sb**	**23 02 48.2**	**-1.0**
	baz=341						
YM08	**YM08**	**1.43**	**331**	*e*P	**Pn**	**23 02 30.2**	**+0.6**
	baz=328						
YM08				*e*S	**Sb**	**23 02 48.5**	**-0.8**
	baz=328						
ELDTW	**Lidau**	**1.45**	**239**	⇑P	**Pn**	**23 02 29.7**	**-0.1**
	baz=238						
ELDTW				S	**Sn**	**23 02 47.3**	**-0.7**
	baz=238						
TWS1	**Kuangyinshan**	**1.45**	**323**	*e*P	**Pb**	**23 02 30.9**	**-0.7**
	baz=321						
TWS1				*e*S	**Sb**	**23 02 49.2**	**-0.4**
	baz=321						
ANP	**Anpu**	**1.47**	**328**	*e*P	**Pb**	**23 02 31.1**	**-0.9**
	baz=326						
ANP				*e*S	**Sb**	**23 02 49.3**	**-0.9**
	baz=326						
NTST	**Danshui**	**1.48**	**326**	*e*P	**Pb**	**23 02 31.1**	**-1.1**
	baz=339						
NTST				*e*S	**Sb**	**23 02 49.9**	**-0.7**
	baz=339						
NCU	**National Centr**	**1.49**	**314**	*e*P	**Pn**	**23 02 30.5**	**+0.2**
	baz=311						
NCU				*e*S	**Sb**	**23 02 49.7**	**-1.1**
	baz=311						
NCUH	**Zhongli**	**1.49**	**314**	*e*P	**Pb**	**23 02 31.4**	**-1.0**
	baz=311						
NCUH				*e*S	**Sb**	**23 02 49.8**	**-1.1**
	baz=311						
WJS	**Zhushan**	**1.50**	**266**	*e*P	**Pb**	**23 02 32.1**	**-0.5**
	baz=265						
TWY	**Chenhua**	**1.51**	**332**	*e*P	**Pb**	**23 02 31.9**	**-0.7**
	baz=330						
TWY				*e*S	**Sb**	**23 02 50.1**	**-1.2**
	baz=330						
TWQ1	**Liyutan**	**1.51**	**286**	*e*P	**Pb**	**23 02 32.1**	**-0.6**
	baz=284						
TWQ1				*e*S	**Sn**	**23 02 50.2**	**+0.7**
	baz=284						
SBCB	**Hsinchu**	**1.52**	**304**	*e*P	**Pb**	**23 02 32.0**	**-0.9**
	baz=304						
JKRS	**Kuro-shima**	**1.53**	**78**	P	**Pb**	**23 02 32.4**	**-0.6**
JKRS				*e*S	**Sn**	**23 02 50.1**	**+0.2**
WNT	**Mingjian**	**1.54**	**268**	*e*P	**Pb**	**23 02 32.4**	**-0.8**
	baz=268						
NSY	**Sanyi**	**1.54**	**288**	*e*P	**Pb**	**23 02 32.8**	**-0.5**
	baz=288						
NMLH	**Miaoli**	**1.56**	**293**	*e*P	**Pb**	**23 02 32.9**	**-0.7**
	baz=292						
TCU	**Taichung**	**1.56**	**278**	*e*P	**Pb**	**23 02 33.2**	**-0.3**
	baz=277						
CHN5	**Tsauling**	**1.58**	**258**	⇑P	**Pn**	**23 02 33.1**	**+1.4**
	baz=258						
PTSB	**Yuanli**	**1.60**	**289**	*e*P	**Pn**	**23 02 32.9**	**+1.0**
	baz=286						
PTSB				*e*S	**Sn**	**23 02 52.0**	**+0.3**
	baz=286						
TWGBT	**Beinan**	**1.62**	**227**	*e*P	**Pn**	**23 02 32.2**	**0.0**
	baz=239						
TWGBT				S	**Sn**	**23 02 51.8**	**-0.5**
	baz=239						
TWG	**Pinlang**	**1.63**	**227**	*e*P	**Pn**	**23 02 32.1**	**-0.1**
	baz=239						
TWG				*e*S	**Sn**	**23 02 52.1**	**-0.3**
	baz=239						
WDJ	**Dajia District**	**1.63**	**285**	*e*P	**Pn**	**23 02 33.1**	**+0.9**
	baz=284						
WCHH	**Zhanghua**	**1.66**	**275**	*e*P	**Pn**	**23 02 33.1**	**+0.4**
	baz=275						
STYT	**Tauyuan**	**1.67**	**243**	*e*P	**Pn**	**23 02 33.8**	**+0.9**
	baz=231						
WGK	**Gukeng**	**1.67**	**262**	*e*P	**Pn**	**23 02 33.9**	**+1.1**
	baz=262						
JIJ	**Ishigaki jima**	**1.68**	**75**	P	**Pn**	**23 02 33.7**	**+0.8**
WDLH	**Douliu**	**1.69**	**262**	*e*P	**Pn**	**23 02 34.7**	**+1.5**
	baz=262						
PCYT	**Pengchaiyu**	**1.71**	**351**	*e*P	**Pn**	**23 02 34.1**	**+0.7**
	baz=337						
TPUB	**Ta-pu**	**1.71**	**249**	*e*P	**Pn**	**23 02 34.8**	**+1.3**
	baz=248						
CHN4	**Tsaushan**	**1.73**	**251**	*e*P	**Pb**	**23 02 35.4**	**-1.0**
	baz=249						
CHN4				*e*S	**Sb**	**23 02 57.5**	**-0.2**
	baz=249						
WTP	**Ta-pu**	**1.75**	**247**	⇑*e*P	**Pn**	**23 02 35.5**	**+1.6**
	baz=237						
CHN2	**Minshiung**	**1.78**	**257**	*e*P	**Pn**	**23 02 35.0**	**+0.7**
	baz=257						
CHY	**Chiayi**	**1.83**	**257**	*e*P	**Pn**	**23 02 34.9**	**-0.2**
	baz=256						
RLNB	**Erlin**	**1.84**	**269**	*e*P	**Pb**	**23 02 37.0**	**-1.2**
	baz=269						
SLGT	**Liugui**	**1.84**	**240**	*e*P	**Pn**	**23 02 36.6**	**+1.5**
	baz=231						
CHN1	**Nanshi**	**1.85**	**246**	*e*P	**Pn**	**23 02 37.2**	**+1.9**
	baz=245						
CHN1				*e*S	**Sb**	**23 03 00.8**	**-0.4**
	baz=245						
TWK	**Hsinying**	**1.85**	**249**	*e*P	**Pb**	**23 02 37.3**	**-1.2**
	baz=248						
TWK				*e*S	**Sb**	**23 03 01.3**	**+0.1**
	baz=248						
SNST	**Tainan City**	**1.86**	**248**	*e*P	**Pb**	**23 02 37.6**	**-1.0**
	baz=247						
ECL	**Taimali**	**1.86**	**225**	*e*P	**Pn**	**23 02 35.4**	**-0.1**
	baz=224						
ECL				S	**Sn**	**23 02 58.1**	**0.0**
	baz=224						
JISG	**Ishigakijimahi**	**1.89**	**70**	P	**Pn**	**23 02 36.4**	**+0.6**
JISG				*e*S	**Sn**	**23 02 59.3**	**+0.6**
WTCT	**Ta-ch'eng**	**1.91**	**268**	*e*P	**Pn**	**23 02 37.0**	**+0.9**
	baz=268						
CHN8	**Yiju**	**2.06**	**254**	*e*P	**Pn**	**23 02 39.1**	**+0.9**
	baz=254						
MASBT	**Mashibuluo**	**2.07**	**231**	*e*P	**Pn**	**23 02 39.3**	**+1.0**
	baz=224						
EAST	**Anshuo**	**2.08**	**222**	*e*P	**Pn**	**23 02 38.8**	**+0.3**
	baz=221						
EAST				*e*S	**Sn**	**23 03 03.3**	**-0.3**
	baz=221						
TWM1	**Shoushan**	**2.10**	**239**	*e*P	**Pn**	**23 02 40.2**	**+1.4**
	baz=237						
SCLT	**Jiali**	**2.13**	**250**	*e*P	**Pn**	**23 02 39.7**	**+0.5**
	baz=250						
SSPT	**Xinbi**	**2.20**	**229**	*e*P	**Pb**	**23 02 43.2**	**-1.2**
	baz=223						
SNJT	**Kaohsiung City**	**2.21**	**238**	*e*P	**Pn**	**23 02 42.0**	**+1.8**
	baz=238						
SCZT	**Fangliau**	**2.24**	**226**	*e*P	**Pn**	**23 02 42.6**	**+1.9**
	baz=226						
JTJ	**Tarama**	**2.24**	**71**	P	**Pn**	**23 02 42.0**	**+1.3**
TWP	**Hsiaoliuchiu**	**2.43**	**230**	*e*P	**Pn**	**23 02 44.0**	**+0.8**
	baz=245						
TSEB	**Hengchuen, Pin**	**2.44**	**214**	*e*P	**Pn**	**23 02 43.3**	**0.0**
	baz=223						
TSEB				*e*S	**Sn**	**23 03 13.3**	**+1.0**
	baz=223						
HEN	**Hengchun**	**2.44**	**218**	*e*P	**Pn**	**23 02 43.5**	**+0.1**
	baz=218						
HEN				*e*S	**Sn**	**23 03 11.8**	**-0.5**
	baz=218						
TWKBT	**Hengchun**	**2.45**	**216**	*e*P	**Pn**	**23 02 43.7**	**+0.2**
	baz=216						
TWKBT				*e*S	**Sn**	**23 03 12.0**	**-0.6**
	baz=216						
WDGT	**Dungji**	**2.57**	**255**	*e*P	**Pn**	**23 02 45.5**	**+0.3**
	baz=254						
WDGT				*e*S	**Sn**	**23 03 16.0**	**+0.4**
	baz=254						
PHUB	**P'eng-hu**	**2.60**	**261**	*e*P	**Pn**	**23 02 46.4**	**+0.9**
	baz=260						
PHUB				*e*S	**Sn**	**23 03 16.8**	**+0.6**
	baz=260						
PNG	**Penghu**	**2.60**	**262**	*e*P	**Pn**	**23 02 46.4**	**+0.8**
	baz=261						
PNG				*e*S	**Sn**	**23 03 16.6**	**+0.2**
	baz=261						
JIRB	**Irabujima**	**2.71**	**70**	P	**Pb**	**23 02 50.2**	**-2.9**
VCHM	**Qimei**	**2.79**	**256**	*e*P	**Pn**	**23 02 49.6**	**+1.4**
	baz=255						
VCHM				*e*S	**Sn**	**23 03 21.4**	**+0.4**
	baz=255						
JIKM	**Ikemajima**	**2.80**	**69**	P	**Pn**	**23 02 51.1**	**+2.7**
VWUC	**VWUC**	**2.86**	**292**	⇑*e*P	**Pn**	**23 02 49.3**	**+0.1**
	baz=292						
MATB	**Ma-tsu**	**3.11**	**316**	*e*P	**Pn**	**23 02 52.3**	**-0.4**
	baz=315						
KNM	**Kinmen**	**3.62**	**278**	*e*P	**Pn**	**23 03 01.5**	**+1.8**
	baz=278						
KNMB	**Chin-men Tao**	**3.67**	**279**	*e*P	**Pn**	**23 03 00.5**	**+0.1**
	baz=279						
JOW	**Kunigami**	**6.07**	**60**	P	**Pn**	**23 03 33.2**	**-0.1**
	0.1nm,0.3s,baz=153,slow=9.6,SNR=5.5						
JOW				S	Sn	23 04 27.6	-14
	0.0nm,0.3s,baz=128,slow=13,SNR=3.1						
SONM	**Songino Array**	**27.02**	**336**	P	**P**	**23 07 44.9**	**-0.3**
	0.8nm,0.8s,baz=148,slow=9.0,SNR=7.6						
MKAR	**Makanchi Array**	**39.27**	**316**	P	**P**	**23 09 32.1**	**+0.4**
	0.2nm,0.4s,baz=113,slow=8.8,SNR=6.4						
WRA	**Warramunga Arr**	**45.15**	**164**	P	**P**	**23 10 20.5**	**+0.7**
	0.2nm,0.6s,baz=345,slow=8.6,SNR=4.0						

*ISCJB **09** 23:09:17.2±0.4,51.41N±0.02×16.07E±0.02,h0km,Error ellipse: s-maj=2.9km s-min=1.8km az=18.4*
*IDC **09** 23:09:18.6±0.9,51.47N×16.02E,h0km,mb1 3.4/7, mb1mx3.2/41,mbtmp3.3/7,ML2.8/7,Error ellipse: s-maj=13.7km s-min=8.2km az=91.0*
*BGR **09** 23:09:19.5±0.4,51.45N×16.10E,h1km,ML3.1/3,Error ellipse: s-maj=3.3km s-min=1.1km az=21.0*
*PRU **09** 23:09:19.4±0.0,51.46N×16.10E,h0km,Felt In Harrachov*
*VIE **09** 23:09:20.0±0.7,51.34N×16.04E,h0km,mb2.5/6,ml2.9/14, Error ellipse: s-maj=6.3km s-min=4.0km az=31.0, Suspected Mining induced.*
ISC 09 23:09:16.7±0.7,51.54N±0.03×16.14E±0.02,h0km,n72, σ1°29/126,4C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**172**	*i* Pg	**Pg**	**23 09 31.2**	**+1.1**
KSP				*i* Sg	**Sg

GOPC				*e*PG	**Pb**	**23 09 51.7**	**+0.5**
GOPC				*e*SG	**Sb**	**23 10 14.8**	**0.0**
	comp=Z,45nm,0.7s						
PRU	**Pruhonice**	**1.86**	**214**	*e*PN	**Pn**	**23 09 50.0**	**+0.2**
PRU				*e*PG	**Pb**	**23 09 52.0**	**+0.5**
PRU				*e*SG	**Sb**	**23 10 15.9**	**+0.7**
	comp=Z,50nm,0.4s						
FBE	**Freiberg**	**1.86**	**252**	*e*Pg	**Pg**	**23 09 53.1**	**+0.8**
FBE				*e*Sg	**Sg**	**23 10 17.3**	**+0.8**
MORC	**Moravsky Berou**	**1.98**	**153**	*i* P	**Pn**	**23 09 51.7**	**+0.3**
MORC	**Moravsky Berou**	**1.98**	**153**	S	**Sn**	**23 10 13.5**	**-3.5**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*PN	**Pn**	**23 09 51.8**	**+0.3**
MORC				*e*SG	**Sb**	**23 10 19.2**	**+0.4**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Sg	**Sg**	**23 10 20.2**	**0.0**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*PG	**Pg**	**23 09 57.7**	**+0.2**
OKC				*e*SG	**Sb**	**23 10 24.4**	**+1.4**
	comp=Z,56nm,0.6s						
CHZP	**Chorzow**	**2.19**	**124**	*e*Pg	**Pg**	**23 10 00.9**	**+2.2**
CHZP				*e*Sg	**Sg**	**23 10 28.9**	**+1.8**
VRAC	**Vranov**	**2.25**	**172**	⇑*i* P	**Pn**	**23 09 56.3**	**+1.1**
VRAC	**Vranov**	**2.25**	**172**	S	**Sn**	**23 10 22.8**	**-0.9**
VRAC	**Vranov**	**2.25**	**172**	*e*PN	**Pn**	**23 09 56.0**	**+0.8**
VRAC				*e*SG	**Sg**	**23 10 28.5**	**-0.5**
VRAC	**Vranov**	**2.25**	**172**	Pn	**Pn**	**23 09 56.0**	**+0.8**
	3.0nm,0.3s,baz=349,slow=17,SNR=13						
VRAC				Pg	**Pg**	**23 10 00.2**	**+0.3**
	3.6nm,0.3s,baz=347,slow=16,SNR=22						
VRAC				Lg	Lg	23 10 27.1	
	8.3nm,0.3s,baz=61,slow=19,SNR=18						
TREC	**Trest**	**2.29**	**191**	*e*PG	**Pb**	**23 10 00.1**	**+1.3**
TREC				*e*SG	**Sb**	**23 10 28.7**	**+1.1**
	comp=Z,55nm,0.3s						
KRUC	**Moravsky**	**2.49**	**176**	*e*PN	**Pn**	**23 10 00.1**	**+1.7**
KRUC				*e*SG	**Sg**	**23 10 36.4**	**-0.1**
TANN	**Tannenbergstha**	**2.59**	**246**	*e*Pn	**Pn**	**23 10 00.4**	**+0.5**
TANN				*e*Pg	**Pg**	**23 10 06.9**	**+0.7**
TANN				*e*Sg	**Sg**	**23 10 39.4**	**-0.4**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn	**Pn**	**23 10 00.3**	**-0.6**
OJC				*e*Pg	**Pg**	**23 10 09.1**	**+1.3**
OJC				*e*Sg	**Sg**	**23 10 44.0**	**+1.8**
OJC	**Ojcow**	**2.67**	**118**	*e*Pg	**Pg**	**23 10 09.2**	**+1.5**
OJC				*e*Sg	**Sg**	**23 10 43.5**	**+1.2**
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**23 10 02.2**	**+1.1**
NKC				*e*PG	**Pg**	**23 10 08.5**	**+0.4**
NKC				*e*SG	**Sg**	**23 10 43.3**	**+0.5**
	comp=Z,126nm,0.4s						
GUNZ	**Gunzen**	**2.68**	**245**	*e*Pg	**Pg**	**23 10 08.8**	**+0.7**
GUNZ				*e*Sg	**Sg**	**23 10 41.9**	**-0.9**
WERN	**Wernitzgruen**	**2.69**	**244**	*e*Pg	**Pg**	**23 10 09.7**	**+1.4**
WERN				*e*Sg	**Sg**	**23 10 41.8**	**-1.4**
PLN	**Plauen**	**2.73**	**249**	*e*Sg	**Sg**	**23 10 44.0**	**-0.4**
NEUB	**Neuenburg**	**2.76**	**265**	*e*Pg	**Pg**	**23 10 10.3**	**+0.8**
NEUB				*e*Sg	**Sg**	**23 10 47.2**	**+1.9**
JAVC	**Velka Javorina**	**2.86**	**159**	*e*PN	**Pn**	**23 10 06.2**	**+2.6**
JAVC				*e*SG	**Sg**	**23 10 49.6**	**+1.1**
KHC	**Kasperske Hory**	**2.92**	**215**	*e*PN	**Pn**	**23 10 04.9**	**+0.5**
KHC				*e*PG	**Pb**	**23 10 11.0**	**+1.4**
KHC				*e*SN	**Sn**	**23 10 38.5**	**-1.7**
KHC				*e*SG	**Sg**	**23 10 48.7**	**-1.7**
	comp=Z,33nm,0.7s						
MOX	**Moxa**	**2.99**	**254**	*e*Sg	**Sg**	**23 10 53.0**	**+0.2**
MANZ	**Manzenberg**	**3.00**	**240**	*e*Sg	**Sg**	**23 10 53.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**23 10 07.5**	**+1.1**
ROTZ				*e*Sg	**Sg**	**23 10 53.8**	**-1.5**
SMOL	**Smolenice**	**3.14**	**164**	*e*PG	**Pg**	**23 10 18.7**	**+1.8**
SMOL				*e*SG	**Sg**	**23 10 57.5**	**0.0**
WET	**Wettzell**	**3.18**	**222**	*e*Pn	**Pn**	**23 10 09.0**	**+1.0**
LANS	**Liptovska Anna**	**3.20**	**137**	*e*PN	**Pn**	**23 10 09.5**	**+1.2**
LANS				*e*PG	**Pg**	**23 10 18.5**	**+0.5**
LANS				*e*SG	**Sg**	**23 10 59.4**	**-0.1**
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PN	**Pn**	**23 10 11.8**	**+2.8**
MODS				*e*PG	**Pg**	**23 10 19.6**	**+0.6**
MODS				*e*SG	**Sg**	**23 11 01.9**	**+0.7**
MODS				*e*LG	Lg	23 11 06.3	
ZST	**Bratislava**	**3.41**	**169**	*e*SG	**Sg**	**23 11 05.2**	**-0.8**
VYHS	**Vyhne**	**3.51**	**149**	*e*PN	**Pn**	**23 10 13.2**	**+0.7**
VYHS				*e*PG	**Pg**	**23 10 25.2**	**+1.3**
VYHS				*e*SG	**Sg**	**23 11 09.7**	**+0.3**
VYHS				*e*LG	Lg	23 11 23.2	
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**23 10 16.2**	**+2.4**
CONA	**Conrad Observa**	**3.62**	**183**	*e*Pn	**Pn**	**23 10 15.7**	**+1.6**
	0.7nm,0.3s						
CONA				Pg	**Pg**	**23 10 25.2**	**-0.9**
	2.9nm,0.3s						
CONA				Sg	**Sg**	**23 11 12.2**	**-0.8**
	33nm,0.6s						
GRF	**Grafenberg Arr**	**3.64**	**241**	*e*Sg	**Sg**	**23 11 13.1**	**-0.5**
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**23 10 15.6**	**+1.2**
BSD				*i* S	**Sn**	**23 10 55.6**	**-2.6**
GTTG	**Gvttingen**	**3.86**	**272**	*e*Sg	**Sg**	**23 11 20.9**	**+0.4**
MOA	**Molln**	**3.89**	**199**	*e*Pn	**Pn**	**23 10 18.9**	**+1.2**
	1.5nm,0.2s,SNR=8.5						
MOA				Sg	**Sg**	**23 11 21.6**	**0.0**
	24nm,0.5s						
UBBA	**Unterbreizbach**	**3.93**	**262**	*e*Sg	**Sg**	**23 11 22.5**	**-0.4**
ARSA	**Arzberg**	**4.31**	**186**	*e*Pn	**Pn**	**23 10 24.7**	**+1.1**
	0.3nm,0.2s						
ARSA				Sg	**Sg**	**23 11 33.4**	**-1.8**
	19nm,0.6s						
PSZ	**Piszkesteto**	**4.37**	**145**	⇑*i* P	**Pn**	**23 10 25.6**	**+1.3**
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn	**Pn**	**23 10 32.5**	**+1.8**
	0.9nm,0.2s						
KBA				Sg	**Sg**	**23 11 52.3**	**+0.7**
	9.7nm,0.5s						
SOKA	**Soboth**	**4.92**	**189**	Sg	**Sg**	**23 11 55.9**	**+1.2**
	6.3nm,0.5s						
TNS	**Taunus Mts**	**5.05**	**258**	*e*Sg	**Sg**	**23 11 58.1**	**-0.6**
OBKA	**Obir**	**5.14**	**192**	Sg	**Sg**	**23 12 02.6**	**+0.8**
	12nm,0.6s						
WATA	**Walderalm**	**5.16**	**217**	*e*Pn	**Pn**	**23 10 36.1**	**+0.9**
	0.6nm,0.2s						
MYKA	**Terra Mystica**	**5.18**	**199**	Sg	**Sg**	**23 12 02.8**	**-0.3**
	8.4nm,0.5s						
STU	**Stuttgart**	**5.26**	**241**	*e*Sg	**Sg**	**23 12 03.6**	**-1.8**
MOTA	**Moosalm**	**5.33**	**220**	*e*Pn	**Pn**	**23 10 38.5**	**+0.8**
	0.5nm,0.2s						
RETA	**Reutte**	**5.36**	**223**	*i* Pn	**Pn**	**23 10 38.4**	**+0.4**
	0.4nm,0.2s						
RETA				*e*Sn	**Sn**	**23 11 38.8**	**-1.6**
	1.7nm,0.4s						
SQTA	**Sankt Quirin**	**5.39**	**219**	*e*Pn	**Pn**	**23 10 40.0**	**+1.5**
	1.1nm,0.2s						
SQTA				Sn	**Sn**	**23 11 41.5**	**+0.3**
	2.2nm,0.3s						
SQTA				Sg	**Sg**	**23 12 11.8**	**+2.0**
	7.7nm,0.5s						
UBR	**Ueberruh**	**5.50**	**228**	*e*Sg	**Sg**	**23 12 11.1**	**-2.3**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**23 10 52.8**	**+2.0**
	0.2nm,0.3s,baz=35,slow=17,SNR=2.9						
DAVOX				Sn	**Sn**	**23 12 01.2**	**-2.2**
	0.3nm,0.3s,baz=203,slow=18,SNR=2.0						
DAVOX				Lg	Lg	23 12 35.7	
	0.5nm,0.3s,baz=165,slow=23,SNR=2.5						
DRGR		**6.41**	**135**	⇑*i* P	**Pn**	**23 10 53.0**	**+0.6**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i* P	**Pn**	**23 11 02.5**	**+0.8**
AKASG	**Malin Array Be**	**8.28**	**91**	Pn	**Pn**	**23 11 17.5**	**-0.3**
	1.0nm,0.3s,baz=280,slow=12,SNR=8.5						
AKASG				Sn	**Sn**	**23 12 46.7**	**-5.2**
	0.5nm,0.3s,baz=307,slow=19,SNR=3.0						
AKASG				Lg	Lg	23 13 46.1	
	0.1nm,0.3s,baz=274,slow=25,SNR=3.8						
HFS	**Hagfors**	**8.72**	**352**	Pn	**Pn**	**23 11 24.1**	**+0.1**
	0.1nm,0.3s,baz=171,slow=13,SNR=3.0						
NOA	**NORSAR Array B**	**9.90**	**346**	Pn	**Pn**	**23 11 39.8**	**-0.4**
	0.0nm,0.3s,baz=169,slow=12,SNR=3.0						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**23 11 58.9**	**-0.7**
	0.1nm,0.3s,baz=213,slow=9.9,SNR=4.2						
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn	**P**	**23 13 32.8**	**-2.3**
	0.1nm,0.3s,baz=192,slow=12,SNR=5.0						

*ISK **09** 23:33:18.0, 38.71N×43.34E, h5km, ML2.2/9*
*ISCJB **09** 23:33:19.5±0.5, 38.70N±0.03×43.35E±0.04, h9km±5km, Error ellipse: s-maj=5.9km s-min=4.4km az=25.2*
*DDA **09** 23:33:19.1, 38.67N×43.39E, h7km±3km, ML2.5*
ISC 09 23:33:19.3±1.1, 38.70N±0.03×43.37E±0.03, h16km±9km, n18, σ0.972/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.11**	**171**	PG	**Pg**	**23 33 22.9**	**0.0**
TVAN	**Van**	**0.17**	**170**	*i* P	**Pg**	**23 33 23.9**	**0.0**
ERCV	**ERCIS-VAN**	**0.32**	**356**	PG	**Pg**	**23 33 25.5**	**-0.7**
ERCV				SG	**Sb**	**23 33 31.8**	**0.0**
VMUR	**Van-Muradiye**	**0.33**	**29**	*i* P	**Pb**	**23 33 26.8**	**-0.2**
VMUR				IAML_P			
	comp=Z,836nm,0.1s						
GEVA	**Gevas**	**0.46**	**212**	*i* P	**Pb**	**23 33 28.3**	**-0.8**
GEVA				IAML_P			
	comp=Z,1μm,0.2s						
AKDM	**Akdamar-Van**	**0.48**	**219**	PG	**Pg**	**23 33 28.5**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.51**	**282**	*i* P	**Pb**	**23 33 29.6**	**-0.6**
ADCV				*i* S	**Sb**	**23 33 38.9**	**+1.5**
ADCV				IAML_P			
	comp=Z,232nm,0.1s						
CLDR	**Caldiran**	**0.62**	**44**	PG	**Pg**	**23 33 31.1**	**-0.5**
CLDR				SG	**Sb**	**23 33 40.9**	**+0.5**
CLDR	**Caldiran**	**0.62**	**44**	*i* P	**Pb**	**23 33 31.9**	**+0.1**
CLDR				*i* S	**Sb**	**23 33 41.6**	**+1.2**
CLDR				IAML_P			
	comp=Z,2μm,0.1s						
MLAZ	**Malazgirt-MUS**	**0.78**	**305**	PG	**Pg**	**23 33 33.8**	**-0.7**
BASK	**Baskale_VAN**	**0.82**	**142**	*i* P	**Pg**	**23 33 34.5**	**-0.8**
BASK				IAML_P			
	comp=Z,786nm,0.1s						
TUTA	**Tutak**	**0.82**	**329**	*i* P	**Pb**	**23 33 35.1**	**-0.3**
AGRB	**Hanur-Agry**	**0.92**	**342**	PG	**Pg**	**23 33 36.3**	**-1.0**
AGRB				SG	**Sb**	**23 33 49.8**	**+0.6**
GURO	**Guroymak-BITLI**	**1.06**	**262**	PG	**Pb**	**23 33 39.1**	**-0.2**
SRTM	**Siirt_Merkez**	**1.34**	**238**	*i* P	**Pg**	**23 33 45.5**	**+0.3**
SRTM				IAML_P			
	comp=Z,255nm,0.2s						
SIRT	**Sirnak**	**1.40**	**212**	PN	**Pg**	**23 33 45.6**	**-0.8**
CUKT	**Cukurca**	**1.46**	**172**	PN	**Pg**	**23 33 46.8**	**-0.7**
VRTB	**Varto-Mus**	**1.56**	**288**	PN	**Pn**	**23 33 47.0**	**+0.4**

IDC 09 23:40:40.1±2.1, 8.59S×127.69E, h0km, mb3.4/1, mb1 3.6/5, mb1mx3.4/41, mbtmpb3.5/5, ML3.5/4, Error ellipse: s-maj=38.1km s-min=29.7km az=70.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.29**	**248**	Pn	**Pn**	**23 41 48.0**	**+1.3**
	4.6nm,0.3s,baz=106,slow=18,SNR=4.7						
BATI				Sn	**Sn**	**23 42 36.1**	**-1.4**
	15nm,0.3s,baz=68,slow=19,SNR=14						
FITZ	**Fitzroy Crossi**	**9.66**	**192**	Pn	**Pn**	**23 43 00.8**	**+0.3**
	0.4nm,0.3s,baz=14,slow=14,SNR=12						
FITZ				Sn	**Sn**	**23 44 40.2**	**-10**
	0.5nm,0.3s,baz=48,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**12.99**	**151**	Pn	**Pn**	**23 43 46.0**	**-0.2**
	0.2nm,0.3s,baz=325,slow=13,SNR=13						
WRA				Sn	**Sn**	**23 46 04.9**	**-6.7**
	0.3nm,0.3s,baz=330,slow=22,SNR=4.8						
ASAR	**Alice Springs**	**16.13**	**159**	Pn	**Pn**	**23 44 28.1**	**-0.4**
	0.1nm,0.3s,baz=336,slow=11,SNR=6.5						
ASAR				Sn	**Sn**	**23 47 20.2**	**-8.0**
	0.1nm,0.3s,baz=320,slow=18,SNR=7.1						
MKAR	**Makanchi Array**	**68.33**	**328**	P	**P**	**23 51 43.2**	**-0.1**
	0.4nm,0.9s,baz=126,slow=7.3,SNR=3.1						

*IDC **09** 23:45:50.8±2.0, 1.22S×134.08E, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.4/43, mbtmpb3.5/4, ML3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/21, Error ellipse: s-maj=35.3km s-min=18.2km az=29.0*
*ISCJB **09** 23:45:53.0±1.5, 1.3S±0.1×134.1E±0.1, h27km, mb3.3/2, MS3.4/1, Error ellipse: s-maj=21.4km s-min=8.0km az=41.9*
*DJA **09** 23:45:52.3±2.7, 1.1S±13.3×13.4E±2.2, h26km±7km, M4.0/4, MLv4.0/4*
ISC 09 23:45:54.2±1.5, 1.3S±0.1×134.0E±0.1, h27km, n8, σ2.924/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.27**	**144**	P	**Pb**	**23 45 59.4**	**-1.6**
RKPI				S	**Sb**	**23 46 04.7**	**-0.9**
FAKI	**Fak Fak**	**2.40**	**228**	P	**Pn**	**23 46 32.0**	**+0.3**
SIJI	**Sorong**	**2.78**	**279**	Pn	**Pn**	**23 46 37.2**	**+0.1**
	6.5nm,0.3s,baz=94,slow=19,SNR=26						
SIJI				Pg	**Pb**	**23 46 44.4**	**+1.1**
	16nm,0.3s,baz=216,slow=22,SNR=9.1						
SIJI				Sn	**Sn**	**23 47 12.0**	**+2.2**
	21nm,0.3s,baz=148,slow=23,SNR=6.6						
SIJI				Lg	Lg	23 47 19.4	
	68nm,0.3s,baz=163,slow=19,SNR=15						
SWI	**Sorong**	**2.79**	**279**	P	**Pb**	**23 46 39.6**	**-3.8**
SWI				S	**Pb**	**23 46 39.6**	**-3.8**
WRA	**Warramunga Arr**	**18.54**	**179**	P	**Pn**	**23 50 09.7**	**+0.5**
	0.2nm,0.3s,baz=0.2,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**22.24**	**180**	P	**P**	**23 50 50.1**	**+1.0**
	0.7nm,0.6s,baz=7.9,slow=12,SNR=9.9						
RPZ	**Rata Peaks**	**53.55**	**147**	LR	LR	00 14 34.8	
	comp=Z,40nm,21.2s,baz=192,slow=32						
MKAR	**Makanchi Array**	**65.84**	**324**	P	**P**	**23 56 38.3**	**+0.9**
	0.2nm,0.6s,baz=107,slow=8.3,SNR=2.6						

IDC 09 23:47:40.4±3.2, 1.91S×136.69E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/37, mbtmpb3.3/3, ML3.0/1, Error ellipse: s-maj=127.9km s-min=30.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.07**	**187**	P	Pn	**23 51 51.8**	**-1.3**
	0.1nm,0.3s,baz=9.2,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**21.80**	**187**	P	P	**23 52 35.2**	**+0.9**
	0.6nm,0.6s,baz=9.2,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**67.93**	**323**	P	P	**23 58 41.0**	**-0.1**
	0.2nm,0.6s,baz=115,slow=8.1,SNR=3.5						

*IDC **09** 23:50:07.7±3.0, 2.37S×100.62E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/53, mbtmpb3.7/6, Error ellipse: s-maj=140.0km s-min=19.6km az=54.0*
*ISCJB **09** 23:50:16.0±0.6, 2.22S±0.06×100.80E±0.05, h78km±5km, mb3.7/6, Error ellipse: s-maj=10.1km s-min=8.4km az=2.6*
*DJA **09** 23:50:16.0±0.6, 2.2S±5×10.1E±*, h22km±9km, M3.5/6, MLv3.5/6*
ISC 09 23:50:16.8±0.9, 2.18S±0.06×100.78E±0.05, h65km±9km, n16, σ2.914/18, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.69**	**83**	P	**Pn**	**23 50 30.9**	**-0.4**
KRJI				S	**Sn**	**23 50 42.4**	**+0.4**
PPSI	**Pulau Pagai**	**0.96**	**233**	P	**Pn**	**23 50 33.2**	**-1.4**
PPSI				S	**Sn**	**23 50 50.1**	**+2.3**
PDSI	**Padang**	**1.30**	**346**	P	**Pn**	**23 50 39.4**	**+0.4**
PDSI				S	**Sn**	**23 50 56.7**	**+1.1**
SDSI	**Sungai Dareh**	**1.40**	**28**	P	**Pn**	**23 50 41.8**	**+1.5**
PPI	**Padang Panjang**	**1.75**	**347**	P	**Pn**	**23 50 46.8**	**+1.8**
PPI				S	**Sn**	**23 50 59.6**	**-6.8**
SISI	**Saibi**	**1.89**	**297**	P	**Pn**	**23 50 47.3**	**+0.4**
SISI				S	**Sn**	**23 51 09.9**	**+0.1**
H08S2	**Diego Garcia H**	**28.69**	**258**	T	T	00 25 16.9	
	baz=82						
H08S3	**Diego Garcia H**	**28.70**	**258**	T	T	00 25 21.2	
	baz=82						
H08S1	**Diego Carcia H**	**28.71**	**258**	T	T	00 25 18.2	
	baz=82						
WRA	**Warramunga Arr**	**37.23**	**121**	P	**P**	**23 57 21.3**	**-1.0**
	0.4nm,0.4s,baz=308,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**38.52**	**126**	P	**P**	**23 57 32.6**	**-0.5**
	0.9nm,0.6s,baz=301,slow=8.0,SNR=13						
SONM	**Songino Array**	**50.05**	**5**	P	**P**	**23 59 05.6**	**+0.7**
	0.1nm,0.3s,baz=180,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**	**51.41**	**344**	P	**P**	**23 59 16.0**	**+0.9**
	1.5nm,0.6s,baz=158,slow=9.0,SNR=19						
ZALV	**Zalesovo Beam**	**57.49**	**349**	P	**P**	**23 59 59.3**	**+0.3**
	0.5nm,0.3s,baz=152,slow=6.7,SNR=4.3						
BVAR	**Borovoye Array**	**60.62**	**339**	P	**P**	**00 00 20.7**	**-0.1**
	0.2nm,0.4s,baz=143,slow=6.6,SNR=3.9						
TXAR	**Lajitas Array**	**144.36**	**38**	PKP	**PKPdf**	**00 09 46.0**	**-0.4**
	0.2nm,0.5s,baz=318,slow=1.7,SNR=3.8						

SJA 10 00:05:03.3±0.4, 31.20S×68.48W, h109km±5km, ML2.3, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.13**	**178**	*i* P	Pn	00 05 18.9	+0.4
AMOG	**MOGNA**	**0.26**	**357**	*i* P	Pn	00 05 19.5	+0.6
RTLS	**Leoncito**	**0.92**	**229**	*i* P	Pn	00 05 25.0	+1.1
RTLS				*i* S	Sn	00 05 41.3	+1.8
RTLS				IAML		00 05 43.5	
	comp=Z,44nm,0.3s						
ACDV	**Cuesta del Vie**	**1.16**	**331**	*i* P	Pn	00 05 27.4	+1.1
ASAL	**Salagasta**	**1.42**	**192**	*i* P	Pn	00 05 30.2	+1.0
ASAL				*i* S	Sn	00 05 50.3	+1.4

IDC 10 00:12:08.2±4.7, 15.30S×173.41W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/41, mbtmpb3.8/3, ML4.1/1, Error ellipse: s-maj=275.0km s-min=26.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.10**	**49**	Pn	**Pn**	**00 12 44.0**	**-0.8**
	64nm,0.3s,baz=278,slow=7.1,SNR=2.3						
AFI				Sn	**Sn**	**00 13 03.7**	**-8.0**
	165nm,0.3s,baz=68,slow=19,SNR=6.1						
WRA	**Warramunga Arr**	**49.85**	**257**	P	P	**00 21 03.5**	**-0.2**
	0.3nm,0.5s,baz=91,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	**00 21 05.2**	**-0.5**
	1.0nm,0.6s,baz=89,slow=7.8,SNR=14						
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPbc	**00 31 51.0**	**+0.3**
	0.6nm,0.9s,baz=36,slow=2.4,SNR=4.7						

*AZER **10** 00:16:29.2±0.9, 38.80N×42.85E, h19km±8km, ml3.4/13, Error ellipse: s-maj=9.2km s-min=1.7km az=65.0*
*NSSP **10** 00:16:29.4, 38.67N×43.57E, h8km, Ms3.6*
*ISK **10** 00:16:31.9, 38.73N×43.49E, h4km, ML3.3/19*
*DDA **10** 00:16:32.0, 38.73N×43.53E, h3km±3km, ML3.5*
*TEH **10** 00:16:32.4, 38.74N×43.49E, h7km, ML3.3*
ISC 10 00:16:34.0±0.9, 38.73N±0.02×43.48E±0.02, h11km±7km, n99, σ1.950/116, 16C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.15**	**207**	PG	**Pg**	**00 16 37.6**	**-0.1**
VANB				SG	**Sg**	**00 16 41.1**	**+0.9**
VANB	**Van**	**0.15**	**207**	*e*Pg	**Pg**	**00 16 37.8**	**+0.1**
TVAN	**Van**	**0.21**	**196**	*i* P	**Pg**	**00 16 37.9**	**-0.8**
TVAN				IAML_P			
	comp=Z,122μm,0.3s						
TVAN	**Van**	**0.21**	**196**	*e*Pg	**Pg**	**00 16 37.4**	**-1.3**
VMUR	**Van-Muradiye**	**0.27**	**16**	*i* P	**Pg**	**00 16 38.3**	**-1.3**
VMUR				IAML_P			
	comp=Z,29μm,0.2s						
VMUR	**Van-Muradiye**	**0.27**	**16**	*e*Pg	**Pg**	**00 16 38.1**	**-1.5**
ERCV	**ERCIS-VAN**	**0.31**	**339**	PG	**Pg**	**00 16 38.6**	**-1.7**
ERCV	**ERCIS-VAN**	**0.31**	**339**	*e*Pg	**Pg**	**00 16 38.6**	**-1.7**
CLDR	**Caldiran**	**0.53**	**40**	PG	**Pg**	**00 16 42.6**	**-1.9**
CLDR	**Caldiran**	**0.53**	**40**	*i* P	**Pg**	**00 16 43.2**	**-1.3**
CLDR				*i* S	**Sb**	**00 16 53.3**	**0.0**
CLDR				IAML_P			
	comp=Z,35μm,0.2s						
CLDR	**Caldiran**	**0.53**	**40**	*e*Pg	**Pg**	**00 16 42.7**	**-1.8**
GEVA	**Gevas**	**0.54**	**218**	*i* P	**Pg**	**00 16 43.7**	**-0.8**
GEVA				IAML_P			
	comp=Z,15μm,0.2s						
GEVA	**Gevas**	**0.54**	**218**	*e*Pg	**Pg**	**00 16 42.8**	**-1.7**
AKDM	**Akdamar-Van**	**0.56**	**224**	PG	**Pg**	**00 16 43.5**	**-1.5**
ADCV	**BITLIS_Adilcev**	**0.59**	**277**	*i* P	**Pg**	**00 16 45.6**	**-0.1**
ADCV				IAML_P			
	comp=Z,7μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.59**	**277**	*e*Pg	**Pg**	**00 16 44.7**	**-1.0**
BASK	**Baskale_VAN**	**0.80**	**149**	*i* P	**Pg**	**00 16 47.6**	**-1.9**
BASK				IAML_P			
	comp=Z,6μm,0.2s						
BASK	**Baskale_VAN**	**0.80**	**149**	*e*Pg	**Pg**	**00 16 47.2**	**-2.2**
DYDN	**Diyadin**	**0.82**	**11**	*i* P	**Pb**	**00 16 48.6**	**-1.9**
DYDN				*i* S	**Sb**	**00 17 03.0**	**+1.3**
DYDN				IAML_P			
	comp=Z,3μm,0.1s						
DYDN	**Diyadin**	**0.82**	**11**	*e*Pg	**Pb**	**00 16 48.3**	**-2.2**
MLAZ	**Malazgirt-MUS**	**0.83**	**300**	PG	**Pb**	**00 16 48.7**	**-1.9**
TUTA	**Tutak**	**0.84**	**322**	*i* P	**Pb**	**00 16 48.6**	**-2.3**
TUTA	**Tutak**	**0.84**	**322**	*e*Pg	**Pb**	**00 16 48.3**	**-2.6**
AGRB	**Hanur-Agry**	**0.92**	**336**	PG	**Pb**	**00 16 50.3**	**-1.9**
AGRB				SG	**Sb**	**00

	SNR=7.2									
GDB					⇓S		Sn	00 17 51.2	+2.1	
MAZI	**Mazidag**	**2.71**	**243**		PN		**Pn**	**00 17 17.8**	**+0.2**	
MAZI	**Mazidag**	**2.71**	**243**		*e*Pn		**Pn**	**00 17 17.5**	**-0.1**	
QZX	**Qazax, Azerbai**	**2.74**	**31**		⇑P		**Pn**	**00 17 15.4**	**-2.6**	
	SNR=19									
QZX					⇑S		**Sn**	**00 17 51.3**	**+0.3**	
IHRS	**Heris**	**2.83**	**97**		*e*Pn		**Pn**	**00 17 20.1**	**+0.8**	
IHRS					IAMB		IAmb	00 17 31.0		
	comp=Z,1μm,0.6s									
IBST	**Bostanabad**	**2.88**	**110**		*e*Pn		**Pn**	**00 17 20.3**	**+0.2**	
IBST					IAMB		IAmb	00 17 28.1		
	comp=Z,270nm,0.5s									
GANJ	**Ganja**	**2.91**	**48**		⇓P		**Pn**	**00 17 19.2**	**-1.0**	
	SNR=11									
GANJ					⇑S		**Sn**	**00 17 58.2**	**+3.0**	
BAYB	**BAYBURT**	**2.92**	**302**		*i* P		**Pb**	**00 17 26.5**	**+0.3**	
BCA	**Borcka**	**3.06**	**333**		PN		**Pn**	**00 17 22.9**	**+0.5**	
BCA	**Borcka**	**3.06**	**333**		*e*Pn		**Pn**	**00 17 22.8**	**+0.4**	
BAYT	**Aydıntepe-Bayb**	**3.07**	**304**		PN		**Pn**	**00 17 23.3**	**+0.7**	
BAYT	**Aydıntepe-Bayb**	**3.07**	**304**		*e*Pn		**Pn**	**00 17 23.1**	**+0.5**	
TBLG	**Delisi**	**3.15**	**17**		PN		**Pn**	**00 17 23.7**	**+0.2**	
CHOM	**Cayeli-Rize**	**3.15**	**319**		PN		**Pn**	**00 17 24.4**	**+0.8**	
CHOM	**Cayeli-Rize**	**3.15**	**319**		*e*Pn		**Pn**	**00 17 24.2**	**+0.6**	
BRDA	**Brd**	**3.24**	**61**		⇓P		**Pn**	**00 17 24.9**	**0.0**	
	SNR=9.9									
DDFL	**Dedoflistskaro**	**3.38**	**36**		P		**Pb**	**00 17 35.9**	**+1.9**	
ISRB	**Sarab**	**3.42**	**104**		*e*Pn		**Pn**	**00 17 29.1**	**+1.6**	
ISRB					IAMB		IAmb	00 17 44.2		
	comp=Z,445nm,0.5s									
ZRD	**Zardab**	**3.60**	**63**		⇑S		**Sb**	**00 18 17.1**	**-4.2**	
LGD	**Lagodekhi**	**3.75**	**33**		P		**Pb**	**00 17 42.0**	**+1.8**	
ZKTA	**Zakatala**	**3.77**	**39**		⇑P		**Pn**	**00 17 30.2**	**-1.9**	
	SNR=4.5									
ZKTA					⇓S		**Sn**	**00 18 18.1**	**+1.6**	
SEKA	**Sheki**	**3.78**	**48**		⇑P		**Pn**	**00 17 31.9**	**-0.4**	
	SNR=6.4									
SEKA					⇓S		**Sn**	**00 18 21.2**	**+4.5**	
LRK	**Lerik**	**3.81**	**90**		⇑P		**Pn**	**00 17 33.8**	**+1.1**	
	SNR=6.9									
LRK					⇓S		**Sb**	**00 18 24.1**	**-3.4**	
GLBA	**Clilabad**	**3.86**	**81**		⇑P		**Pn**	**00 17 34.0**	**+0.7**	
	SNR=5.1									
GLBA					⇑S		**Sb**	**00 18 24.9**	**-4.0**	
URFA	**Urfa**	**3.90**	**252**		PN		**Pn**	**00 17 34.7**	**+0.8**	

*ISCJB **10** 00:18:09.6±0.6, 22°.26S±0°.04×68°.74W±0°.07, h127km±6km, mb3.8/1, Error ellipse: s-maj=10.4km s-min=6.1km az=6.7*
*IDC **10** 00:18:09.4±0.9, 22°.48S×68°.28W, h98km±15km, mb3.6/2, mb1 3.4/4, mb1mx3.2/32, mbtmp3.8/4, Error ellipse: s-maj=50.0km s-min=28.0km az=135.0*
*SJA **10** 00:18:09.8±0.5, 22°.28S×68°.70W, h115km±4km, ML1.9, MW3.1*
*GUC **10** 00:18:10.3±0.7, 22°.24S×68°.76W, h117km±4km, ML3.4*

ISC 10 00:18:09.5±0.9, 22°.24S±0°.04×68°.64W±0°.06, h119km±7km, n28, σ1s54/43, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.45**	**214**	*i* P	**Pn**	**00 18 27.4**	**-0.1**
LVC				*i* S	**Sn**	**00 18 40.8**	**-0.3**
LVC	**Limon Verde**	**0.45**	**214**	⇑*i* P	**Pn**	**00 18 27.6**	**+0.1**
LVC	**Limon Verde**	**0.45**	**214**	P	**Pn**	**00 18 27.6**	**+0.1**
	273nm,0.3s,baz=11,slow=5.5,SNR=1109						
LVC				LR	LR	00 18 32.9	
	comp=Z,74nm,19.1s,baz=256,slow=39						
LVC				S	**Sn**	**00 18 40.1**	**-0.9**
	322nm,0.3s,baz=220,slow=19,SNR=27						
PB09	**IPOC Station P**	**0.71**	**308**	*i* P	**Pn**	**00 18 29.8**	**+0.7**
PB09	**IPOC Station P**	**0.71**	**308**	⇑*i* P	**Pn**	**00 18 29.9**	**+0.9**
PB09				*i* S	**Sn**	**00 18 44.1**	**+0.3**
PB09				IAML		00 18 46.4	
	comp=N,2μm,0.6s						
PB06	**IPOC Station P**	**0.98**	**241**	*i* P	**Pn**	**00 18 31.7**	**+0.3**
PB06	**IPOC Station P**	**0.98**	**241**	⇑*i* P	**Pn**	**00 18 31.7**	**+0.3**
PB06				*i* S	**Sn**	**00 18 47.8**	**-0.2**
PB06				IAML		00 18 49.8	
	comp=E,757nm,0.3s						
PB03	**IPOC Station P**	**1.05**	**280**	*i* P	**Pn**	**00 18 32.3**	**+0.2**
PB03	**IPOC Station P**	**1.05**	**280**	⇑*i* P	**Pn**	**00 18 32.5**	**+0.4**
PB03				*i* S	**Sn**	**00 18 49.0**	**-0.2**
PB03				IAML		00 18 50.8	
	comp=N,2μm,0.1s						
PB15	**IPOC Station P**	**1.23**	**218**	*i* P	**Pn**	**00 18 34.5**	**+0.4**
PB15	**IPOC Station P**	**1.23**	**218**	⇑*i* P	**Pn**	**00 18 34.7**	**+0.6**
PB15				*i* S	**Sn**	**00 18 53.2**	**+0.5**
PB07	**IPOC Station P**	**1.26**	**294**	*i* P	**Pn**	**00 18 34.8**	**+0.4**
PB07	**IPOC Station P**	**1.26**	**294**	*e*P	**Pn**	**00 18 35.0**	**+0.6**
PB07				*i* S	**Sn**	**00 18 53.1**	**-0.2**
PB07				IAML		00 18 53.8	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**1.40**	**266**	*i* P	**Pn**	**00 18 36.1**	**+0.2**
PB04	**IPOC Station P**	**1.40**	**266**	⇑*i* P	**Pn**	**00 18 36.2**	**+0.3**
PB04				*i* S	**Sn**	**00 18 55.4**	**-0.6**
PB04				IAML		00 18 57.8	
	comp=N,557nm,0.3s						
PB01	**IPOC Station P**	**1.43**	**326**	*e*P	**Pn**	**00 18 36.9**	**+0.8**
PB01				*i* S	**Sn**	**00 18 56.6**	**+0.2**
PB01				IAML		00 18 59.0	
	comp=E,607nm,0.3s						
PB02	**IPOC Station P**	**1.48**	**308**	*e*P	**Pn**	**00 18 37.3**	**+0.6**
PB02				*i* S	**Sn**	**00 18 57.2**	**-0.3**
PB02				IAML		00 18 58.6	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**1.57**	**247**	*i* P	**Pn**	**00 18 37.8**	**0.0**
PB05	**IPOC Station P**	**1.57**	**247**	*e*P	**Pn**	**00 18 37.8**	**0.0**
PB05				*i* S	**Sn**	**00 18 58.8**	**-0.6**
PB05				IAML		00 19 05.3	
	comp=E,264nm,0.4s						
PB08	**IPOC Station P**	**2.14**	**347**	*e*P	**Pn**	**00 18 46.6**	**+1.5**
PB08				*i* S	**Sn**	**00 19 14.2**	**+2.0**
PB08				IAML		00 19 15.8	
	comp=E,168nm,0.3s						
PB10	**IPOC Station P**	**2.17**	**234**	*e*P	**Pn**	**00 18 45.1**	**0.0**
PB10				*e*S	**Sn**	**00 19 11.4**	**-1.0**
PB10				IAML		00 19 13.7	
	comp=E,146nm,0.2s						
PB11	**IPOC Station P**	**2.64**	**339**	*e*P	**Pn**	**00 18 51.5**	**+0.2**
PB11				*i* S	**Sn**	**00 19 23.5**	**+0.2**
PB11				IAML		00 19 30.2	
	comp=N,230nm,0.5s						
YJA	**Yavi**	**2.90**	**89**	*i* P	**Pn**	**00 18 57.6**	**+2.8**
YJA				IAML		00 19 02.8	
	comp=Z,3.5nm,0.6s						
LPAZ	**La Paz**	**5.94**	**5**	P	**Pn**	**00 19 38.8**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=189,slow=6.5,SNR=16						
SIV	**San Ignacio**	**9.47**	**50**	P	**Pn**	**00 20 21.1**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=249,slow=14,SNR=13						
SIV				S	**Sn**	**00 22 00.2**	**-7.5**
	comp=Z,0.3nm,0.3s,baz=132,slow=22,SNR=7.2						
BDFB	**Brasilia**	**20.57**	**75**	P	**P**	**00 22 38.3**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=256,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**77.37**	**70**	P	**P**	**00 29 52.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=260,slow=5.2,SNR=15						
MKAR	**Makanchi Array**	**146.08**	**37**	PKPbc	**PKPab**	**00 37 37.3**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=327,slow=3.9,SNR=2.9						

*HEL **10** 00:22:21.7, 67°.79N×20°.16E, h0km, ML1.8, Explosion*

UPP 10 00:22:22.5±0.3, 67°.83N×20°.19E, h1km±3km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**23**	P	Pg	00 22 25.3	+0.1
KUA				S	Sg	00 22 27.1	+0.2
KUA	**Kurravaara**	**0.14**	**23**	*i* P	Pg	00 22 25.3	+0.1
KUA				*i* S	Sg	00 22 27.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**269**	P	Pg	00 22 27.0	+0.1
RATU				S	Sg	00 22 30.2	+0.4
RATU	**Laukkuluspa**	**0.23**	**269**	*i* P	Pg	00 22 27.0	+0.1
RATU				*i* S	Sg	00 22 30.2	+0.4
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	00 22 30.9	0.0
NIKU	**Nikkaluokta**	**0.44**	**276**	*i* P	Pg	00 22 30.9	0.0
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	00 22 35.8	-0.3
LANU				S	Sg	00 22 46.1	+0.7
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 22 33.6	-2.5
LANU				*e*S	Sg	00 22 46.0	+0.7
DUNU	**Dundret**	**0.73**	**168**	P	Pg	00 22 35.9	-0.4
DUNU	**Dundret**	**0.73**	**168**	*i* P	Pg	00 22 35.9	-0.4
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 22 37.3	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 22 37.3	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 22 37.3	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 22 37.3	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*P	Pg	00 22 45.2	-0.3
KIF	**Kilpisjarvi**	**1.20**	**11**	*e*PB	Pg	00 22 45.4	-0.1
	baz=188						
KIF				MSG		00 23 00.3	
	comp=Z,16nm,0.2s						
KIF				*e*SB	Sb	00 23 01.9	-0.2
PAJU	**Pajala**	**1.39**	**124**	P	Pn	00 22 47.8	-1.2
PAJU				S	Sg	00 23 06.5	-0.5
PAJU	**Pajala**	**1.39**	**124**	*e*P	Pn	00 22 47.8	-1.2
PAJU				*e*S	Sg	00 23 06.5	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 22 48.6	-0.9
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 22 48.5	-1.0
HEF				MSG		00 23 05.2	
	comp=Z,4.5nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PG	Pn	00 22 49.8	-0.7
ERTU				*e*SN	Sn	00 23 11.0	+0.3
HARU	**Harads**	**1.70**	**169**	P	Pn	00 22 53.3	0.0
HARU	**Harads**	**1.70**	**169**	*e*P	Pn	00 22 53.3	0.0
KALU	**Kalix**	**2.34**	**146**	P	Pn	00 23 03.2	+1.1
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	00 23 03.2	+1.1
	baz=331						
KALU				*e*SG	Sb	00 23 35.0	+0.3
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	00 23 04.1	+1.4
TOF				MSG		00 23 31.9	
	comp=Z,4.9nm,0.2s						
TOF				*e*SG	Sb	00 23 36.4	+0.1
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pn	00 23 04.6	+1.0
	baz=281						
SGF				*e*SB	Sb	00 23 37.0	-1.0
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	00 23 07.4	-2.0
RNF				*e*SG	Sb	00 23 41.1	-0.4
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	00 23 06.8	+1.3
	baz=232						
ARE0				*e*SB	Sb	00 23 40.4	-1.6
KEV	**Kevo**	**3.14**	**49**	*e*P	Pn	00 23 14.6	+1.5
KEV				MSG		00 23 55.0	
	comp=Z,2.4nm,0.2s						
BURU	**Burvik**	**3.29**	**171**	*e*P	Pn	00 23 17.2	+2.1
	baz=347						
UMAU	**Umeaa**	**3.97**	**177**	*e*P	Pn	00 23 27.2	+2.8
MSF	**Maaselka**	**3.99**	**115**	*e*P	Pn	00 23 26.0	+1.3
	baz=301						
KU6	**Riekki**	**4.22**	**111**	*e*P	Pn	00 23 30.2	+2.3

UPP 10 00:23:06.8±0.2, 67°.84N×20°.24E, h0km, ML1.8, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.12**	**18**	P	Pg	00 23 09.3	+0.3
KUA				S	Sg	00 23 11.0	+0.4
RATU	**Laukkuluspa**	**0.25**	**266**	P	Pg	00 23 11.7	+0.2
NIKU	**Nikkaluokta**	**0.46**	**274**	P	Pg	00 23 15.7	+0.1
PAJU	**Pajala**	**1.38**	**125**	P	Pg	00 23 32.5	-0.7

*NNC **10** 00:26:22.9±3.2, 38°.78N×70°.92E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=32.3km s-min=15.0km az=164.0*
*IDC **10** 00:26:34.3±2.1, 39°.72N×71°.52E, h0km, mb3.0/1, mb1 3.6/8, mb1mx3.4/41, mbtmp3.6/8, ML3.1/7, Error ellipse: s-maj=25.0km s-min=15.9km az=179.0*

ISC 10 00:26:35.2±1.4, 39°.79N±0°.10×71°.48E±0°.07, h10km, n22, σ3s28/24, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.88**	**35**	P	**Pb**	**00 27 26.5**	**-0.5**
	SNR=19						
UCH	**Uchtor**	**3.35**	**42**	P	**Pb**	**00 27 32.0**	**-2.9**
	SNR=21						
EKS2	**Erkin-Say**	**3.35**	**30**	P	**Pb**	**00 27 31.5**	**-3.4**
	SNR=16						
KK31	**Karatay Array**	**3.39**	**348**	Pn	**Pn**	**00 27 29.2**	**+0.9**
	2.0nm,0.3s,baz=172,slow=13,SNR=84						
KK31				⇓Sn	**Sb**	**00 28 21.5**	**+4.7**
	6.3nm,0.5s,baz=175,slow=21,SNR=4.8						
AAK	**Ala-Archa**	**3.64**	**38**	P	**Pb**	**00 27 36.4**	**-3.4**
	SNR=19						
AAK	**Ala-Archa**	**3.64**	**38**	⇑Pn	**Pb**	**00 27 36.2**	**-3.6**
	17nm,0.6s						
AAK				⇓Sn	**Sg**	**00 28 32.7**	**+0.4**
	22nm,0.8s						
AAK	**Ala-Archa**	**3.64**	**38**	Pn	**Pb**	**00 27 36.5**	**-3.3**
	3.3nm,0.3s,baz=202,slow=13,SNR=72						
AAK				Lg	Lg	00 28 30.6	
	2.5nm,0.3s,baz=305,slow=22,SNR=8.0						
KZA	**Kyzart**	**3.66**	**50**	P	**Pb**	**00 27 36.2**	**-4.0**
	SNR=27						
KBK	**Karagaybulak**	**3.88**	**41**	P	**Pb**	**00 27 39.7**	**-4.1**
	SNR=38						
CHMS	**Chumysh**	**4.04**	**36**	P	Pb	00 27 41.7	-4.9
	SNR=18						
USP	**Ospenovka**	**4.15**	**32**	P	**Pn**	**00 27 42.6**	**+3.9**
	SNR=16						
TKM2	**Tokmak 2**	**4.40**	**43**	P	Pn	00 27 46.9	+4.6
	SNR=9.9						
TKM2	**Tokmak 2**	**4.40**	**43**	⇑Pn	**Pn**	**00 27 45.2**	**+2.9**
	18nm,0.6s						
TKM2				⇑Sn	**Sb**	**00 28 50.1**	**+4.0**
	15nm,1.0s						
MKAR	**Makanchi Array**	**10.54**	**45**	Pn	**Pn**	**00 29 08.9**	**+2.7**
	0.1nm,0.3s,baz=226,slow=13,SNR=12						
GEYT	**Alibeck**	**10.59**	**264**	Pn	**Pn**	**00 29 09.7**	**+2.7**
	0.3nm,0.3s,baz=82,slow=12,SNR=3.8						
KURBB	**Kurchatov Arra**	**11.91**	**22**	Pn	**Pn**	**00 29 24.0**	**-1.0**
	0.0nm,0.3s,baz=212,slow=12,SNR=3.2						
KURBB				Lg	Lg	00 32 55.5	
	0.0nm,0.3s,baz=194,slow=31,SNR=3.1						
BVA0	**Borovoye Array**	**13.26**	**357**	P	**Pn**	**00 29 46.7**	**+3.3**
	baz=165,slow=7.8,SNR=3.6						
BVAR	**Borovoye Array**	**13.26**	**357**	Pn	**Pn**	**00 29 42.4**	**-1.1**
	0.1nm,0.3s,baz=168,slow=7.4,SNR=4.5						
BVAR				Lg	Lg	00 33 38.2	
	0.1nm,0.3s,baz=172,slow=25,SNR=2.7						
AKTO	**Aktyubinsk**	**14.25**	**323**	⇑P	**Pn**	**00 29 53.4**	**-3.6**
	2.0nm,0.6s						
AKTO	**Aktyubinsk**	**14.25**	**323**	Pn	**Pn**	**00 29 55.5**	**-1.5**
	0.2nm,0.3s,baz=336,slow=20,SNR=5.3						
AKTO				Sn	**Sn**	**00 32 29.4**	**-5.6**
	0.1nm,0.3s,baz=147,slow=8.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**16.80**	**28**	Pn	**Pn**	**00 30 29.6**	**-0.8**
	0.2nm,0.3s,baz=217,slow=12,SNR=4.2						
SONM	**Songino Array**	**26.27**	**61**	P	**P**	**00 32 10.2**	**-0.5**
	0.1nm,0.3s,baz=280,slow=8.3,SNR=1.9						

IDC 10 00:45:38.8±1.9, 8°.87S×126°.66E, h0km, mb3.4/1, mb1 3.7/5, mb1mx3.5/32, mbtmp3.5/5, ML3.5/4, Error ellipse: s-maj=35.4km s-min=26.2km az=65.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.25**	**246**	Pn	Pn	00 46 31.5	+0.4
	6.1nm,0.3s,baz=65,slow=8.2,SNR=5.9						
BATI				Sn	Sn	00 47 10.6	+0.1
	5.9nm,0.3s,baz=168,slow=21,SNR=6.0						
FITZ	**Fitzroy Crossi**	**9.23**	**186**	Pn	Pn	00 47 53.0	-0.4
	0.4nm,0.3s,baz=3.6,slow=14,SNR=8.8						
FITZ				Sn	Sn	00 49 30.9	-7.1
	0.5nm,0.3s,baz=209,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**13.28**	**147**	Pn	Pn	00 48 48.2	-0.6
	0.2nm,0.3s,baz=323,slow=13,SNR=15						
WRA				Sn	Sn	00 51 12.5	-4.9
	0.1nm,0.3s,baz=326,slow=23,SNR=3.8						
ASAR	**Alice Springs**	**16.27**	**156**	Pn	Pn	00 49 29.8	+0.9
	0.1nm,0.3s,baz=323,slow=11,SNR=10.0						
ASAR				Sn	Sn	00 52 31.4	+1.2
	0.1nm,0.3s,baz=318,slow=21,SNR=3.7						
MKAR	**Makanchi Array**	**68.03**	**329**	P	P	00 56 40.1	0.0
	0.1nm,0.5s,baz=114,slow=8.1,SNR=4.2						

*STR **10** 00:49:19.7±0.3, 48°.N±2°.×±°, h10km, M1.9/7, MLv1.9/7*
*ZUR **10** 00:49:20.2, 48°.27N×8°.37E, h13km±4km, MLh1.9/5, Error ellipse: s-maj=10.3km s-min=1.6km az=288.0*
*VIE **10** 00:49:23.0±2.0, 48°.20N×8°.63E, h6km, mb1.8/1, ml1.7/6, Error ellipse: s-maj=14.7km s-min=8.0km az=1.0*

LDG 10 00:49:19.3±0.0, 48°.28N×8°.37E, h18km, Md2.0/1, Ml2.0/10, 2C-4D, Error ellipse: s-maj=1.0km s-min=0.8km az=162.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BFO	**Black Forest**	**0.06**	**335**	⇓Pg	Pg	00 49 22.8	+0.1
BFO				Sg	Sg	00 49 24.9	-0.1
OPP	**Oppenau**	**0.25**	**332**	Pg	Pg	00 49 25.0	0.0
OPP				Sg	Sg	00 49 28.8	-0.1
BERGE	**Lenzkirch (DE)**	**0.42**	**197**	⇑Pg	Pb	00 49 28.2	-0.1
KIZ	**Kirchzarten**	**0.44**	**223**	Pg	Pg	00 49 28.4	+0.1
KIZ	**Kirchzarten**	**0.44**	**223**	⇑Pg	Pb	00 49 28.5	-0.1
KIZ				Sg	Sg	00 49 34.4	+0.1
SLE	**Schleitheim**	**0.52**	**171**	⇓Pg	Pg	00 49 29.8	-0.1
GUT	**Gutenstein**	**0.54**	**112**	⇓Pg	Pg	00 49 30.2	0.0
TRULL	**Truellikon**	**0.66**	**161**	⇓Pg	Pg	00 49 32.6	+0.2
WLS	**Welschbruch**	**0.69**	**282**	Pg	Pb	00 49 32.8	0.0
WLS				Sg	Sg	00 49 42.2	+0.2
STEIN	**Stein am Rhein**	**0.69**	**151**	Pg	Pg	00 49 33.2	+0.2
SUBF	**Surbourg**	**0.73**	**332**	Pg	Pb	00 49 33.0	-0.4
CDF	**Champ du Feu**	**0.74**	**281**	*e*Pg	Pb	00 49 33.5	-0.2
CDF				*e*Sg	Sb	00 49 43.3	-0.2
	19nm,0.2s						
ECH	**Echery**	**0.81**	**266**	Pg	Pb	00 49 34.6	-0.2
ECH				Sg	Sb	00 49 45.5	+0.1
HINF	**Hinteralfeld**	**1.11**	**246**	*e*Pn	Pn	00 49 38.1	-2.0
HINF	**Hinteralfeld**	**1.11**	**246**	*e*Pg	Pb	00 49 40.1	0.0
HINF				*e*Sn	Sb	00 49 52.2	-2.0
HINF				*e*Sg	Sn	00 49 54.9	-0.1
	2.2nm,0.2s						
HAU	**Haudompre**	**1.38**	**259**	*e*Pn	Pn	00 49 42.5	-1.2
HAU	**Haudompre**	**1.38**	**259**	*e*Pg	Pb	00 49 45.0	+0.5
HAU				*e*Sn	Sn	00 49 59.6	-1.8
HAU				*e*Sg	Sb	00 50 02.6	+0.8
	7.3nm,0.2s						
DAVA	**Damuels**	**1.42**	**134**	Pg	Pg	00 49 46.5	-0.3
	0.2nm,0.1s						
DAVA				Sg	Sg	00 50 04.6	-0.7
	2.9nm,0.3s						
ABH	**Alteburg**	**1.69**	**342**	Pn	Pn	00 49 48.2	+0.2
PAGF	**Fort de Pagny**	**1.78**	**280**	*e*Pn	Pn	00 49 48.3	-0.9
	baz=101						
PAGF	**Fort de Pagny**	**1.78**	**280**	*e*Pg	Pg	00 49 52.5	-1.0
	baz=102						
PAGF				*e*Sn	Sn	00 50 08.3	-3.0
	baz=113						
PAGF				*e*Sg	Sg	00 50 15.6	-1.1
	3.0nm,0.2s,baz=112						
RETA	**Reute**	**1.80**	**115**	Sg	Sg	00 50 16.7	-0.5
	0.7nm,0.1s						
FETA	**Feichten**	**2.03**	**127**	Pg	Pg	00 49 59.2	+0.9
	0.1nm,0.2s						
MOTA	**Moosalm**	**2.07**	**116**	Sg	Sg	00 50 24.5	-1.4
	1.2nm,0.2s						
SQTA	**Sankt Quirin**	**2.19**	**118**	Pg	Pg	00 50 01.5	+0.2
	0.3nm,0.2s						
SQTA				Sg	Sg	00 50 29.2	-0.6
	1.0nm,0.2s						
SFTF	**Sexfontaines**	**2.23**	**269**	*e*Pn	Pn	00 49 53.8	-1.5
	baz=91						
SFTF	**Sexfontaines**	**2.23**	**269**	*e*Pg	Pg	00 50 00.8	-1.2
	baz=90						
SFTF				*e*Sn	Sn	00 50 19.3	-3.0
SFTF				*e*Sg	Sg	00 50 29.3	-1.6
	2.2nm,0.2s,baz=91						
CABF	**La Chapelle**	**2.27**	**224**	*e*Pn	Pn	00 49 54.9	-1.1
CABF	**La Chapelle**	**2.27**	**224**	*e*Pg	Pb	00 50 00.9	+1.1
CABF				*e*Sn	Sn	00 50 20.2	-3.4
CABF				*e*Sg	Sg	00 50 30.8	-1.6
	0.6nm,0.2s						
LOR	**Lormes**	**3.20**	**253**	*e*Pn	Pn	00 50 07.4	-1.3
	baz=78						
LOR	**Lormes**	**3.20**	**253**	*e*Pg	Pg	00 50 18.7	-2.0
LOR				*e*Sn	Sn	00 50 42.9	-3.5
LOR				*e*Sg	Sg	00 51 00.3	-1.8
	0.8nm,0.2s						
SMF	**Signal de Mont**	**3.48**	**244**	*e*Pn	Pn	00 50 10.9	-1.6
SMF	**Signal de Mont**	**3.48**	**244**	*e*Pg	Pg	00 50 24.0	-1.9
SMF				*e*Sg	Sg	00 51 07.9	-3.0
	0.6nm,0.2s						
SSF	**Saint Saulge**	**3.50**	**251**	*e*Pn	Pn	00 50 10.8	-2.0
SSF	**Saint Saulge**	**3.50**	**251**	*e*Pg	Pg	00 50 23.6	-2.8
SSF				*e*Sn	Sn	00 50 49.4	-4.4
SSF				*e*Sg	Sg	00 51 08.6	-3.1
	0.4nm,0.2s						
AVF	**Avril sur Loir**	**3.71**	**248**	*e*Pn	Pn	00 50 13.8	-1.8
AVF				*e*Sn	Sn	00 50 53.6	-5.2
AVF				*e*Sg	Sg	00 51 15.8	-2.5
	0.1nm,0.2s						

JANG eS Sn 01 20 28.8 -1.0
JBT2 Biratori 2 1.92 330 P Pn 01 20 09.7 +0.1
JIAM Iburiatsuma 1.99 320 P Pn 01 20 11.1 +0.6
JOT Ohata 1.99 278 ⇑P Pn 01 20 10.3 -0.3
JOT eS Sn 01 20 32.9 -1.7
JTM Tenmabayashi 2.00 261 ⇑P Pn 01 20 10.6 0.0
JTM eS Sn 01 20 33.0 -1.7
JAK Akkeshi 2.03 22 ⇑P Pn 01 20 09.9 -1.2
JAK eS Sn 01 20 33.2 -2.3
JKB Kayabe 2.12 292 P Pn 01 20 12.1 -0.3
JKB eS Sn 01 20 36.6 -1.3
JAR Ashorobuto 2.18 2 ⇑P Pn 01 20 11.9 -1.3
JAR eS Sn 01 20 37.0 -2.3
JFR Furan 2.19 339 P Pn 01 20 12.5 -0.9
JKHN Kushirohamanak 2.26 29 P Pn 01 20 13.9 -0.3
JKHN eS Sn 01 20 38.4 -2.8
JNB Noboribetsu 2.38 305 P Pn 01 20 15.6 -0.4
JNB eS Sn 01 20 42.4 -1.9
JEW Eniwo 2.39 317 P Pn 01 20 16.5 +0.5
JOM Ohasama 2.45 229 ⇑P Pn 01 20 17.5 +0.6
JOM eS Sn 01 20 46.3 +0.4
NEM2 Nemuro 2 2.73 34 ⇑P Pn 01 20 19.5 -1.1
NEM2 eS Sn 01 20 48.2 -4.5
ASAJ Asahikawa 3.10 346 Pn Pn 01 20 26.3 +0.5
comp=Z,15nm,0.3s,baz=183,slow=8.6,SNR=40
ASAJ Sn Sn 01 21 03.3 +1.3
comp=Z,28nm,0.3s,baz=203,slow=12,SNR=6.5
YUK Yuzh-Kuril'sk 3.34 28⇓ *i*P Pn 01 20 28.3 -0.7
YUK *i*S Sn 01 21 03.8 -4.0
YUK pmax pmax
comp=Z,862nm,0.3s
YUK pmax pmax
comp=E,312nm,0.2s
YUK pmax pmax
comp=N,994nm,0.4s
YUK smax smax
comp=E,2μm,0.5s
YUK smax smax
comp=N,2.0nm,0.6s
SHO Shikotan 3.61 39⇑ *i*P Pn 01 20 31.5 -1.3
SHO *i*S Sn 01 21 09.9 -4.7
SHO pmax pmax
comp=N,79nm,0.3s
SHO pmax pmax
comp=E,193nm,0.3s
SHO pmax pmax
comp=Z,226nm,0.3s
SHO smax smax
comp=E,1μm,0.3s
SHO smax smax
comp=N,366nm,0.1s
KUR Kuril'sk 5.13 35*c* *i*P Pn 01 20 54.1 +0.4
KUR *i*S Sn 01 21 49.5 -2.6
KUR pmax pmax
comp=N,162nm,0.5s
KUR pmax pmax
comp=E,104nm,0.5s
KUR pmax pmax
comp=Z,768nm,0.5s
KUR smax smax
comp=N,616nm,0.4s
KUR smax smax
comp=E,507nm,0.4s
YSS Yuzh-Sakhalins 5.87 354⇓ *e*P Pn 01 21 04.5 +0.6
YSS *e*S Sn 01 22 09.1 -1.2
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=N,500nm,14.0s
MJAR Matsushiro Arr 6.25 225 Pn Pn 01 21 10.4 +1.3
comp=N,1.8nm,0.3s,baz=28,slow=14,SNR=102
MJAR Sn Sb 01 22 34.3 -6.6
comp=N,0.0nm,0.3s,baz=19,slow=12,SNR=2.2
MJAR LR LR 01 23 24.0
comp=N,199nm,21.7s,baz=35,slow=37
MJB9 Matsu-Tunnel 6.25 225 *e*Pn Pn 01 21 09.6 +0.5
MAJO Matsushiro 6.25 225 *e*Pn Pn 01 21 09.7 +0.6
MAJO Matsushiro 6.25 225*c* *i*P Pn 01 21 10.2 +1.1
MAT Matsushiro 6.25 225 P Pn 01 21 10.5 +1.4
MAT eS Sn 01 22 15.8 -3.8
TEY Ternei 6.49 309⇓ *e*P Pn 01 21 12.2 -0.1
TEY *e* 01 22 16.8
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY MLR MLR
comp=Z,100nm,23.0s
INU Inuyama 7.78 224 *e*Pn Pn 01 21 30.9 +0.8
JHJ Hachijo jima 2 8.56 202 Pn Pn 01 21 40.1 -0.7
comp=Z,22nm,0.3s,baz=241,slow=19,SNR=3.9
JHJ Sn Sn 01 23 10.6 -6.0
comp=Z,57nm,0.3s,baz=81,slow=21,SNR=6.7
USRK Ussuriysk Ar. 9.14 294 Pn Pn 01 21 49.9 +1.2
comp=Z,0.5nm,0.3s,baz=94,slow=15,SNR=6.5
USRK LR LR 01 25 50.3
comp=Z,299nm,18.9s,baz=102,slow=41
MDJ Mudanjiang 10.91 293 P Pn 01 22 07.0 -5.9
MDJ pmax pmax
comp=Z,12nm,2.2s
MDJ pmax pmax
comp=Z,390nm,4.8s
MDJ Mudanjiang 10.91 293 *e*Pn Pn 01 22 08.6 -4.3
comp=Z,40nm,1.1s
KLR Kul'dur 11.67 318 *i*P Pn 01 22 22.5 -0.9
KLR Kul'dur 11.67 318 Pn Pn 01 22 23.8 +0.4
comp=Z,0.2nm,0.3s,baz=132,slow=14,SNR=6.7
KLR LR LR 01 27 18.1
comp=Z,636nm,19.1s,baz=116,slow=40
NKL Nikolayevsk 12.21 351 *e*P Pn 01 22 29.2 -1.4
NKL MLR MLR
comp=Z,900nm,14.0s
KSRS Korea Array 12.73 258 Pn Pn 01 22 39.2 +1.3
comp=Z,0.2nm,0.3s,baz=60,slow=16,SNR=3.4
KSRS LR LR 01 27 16.4
comp=Z,501nm,19.1s,baz=60,slow=36
KSAR Wonju Array Be 12.77 258 Pn Pn 01 22 39.2 +0.8
KSAR Wonju Array Be 12.77 258 P Pn 01 22 39.2 +0.8
JNU Nakatsue 12.94 236 Pn Pn 01 22 42.2 +1.4
comp=Z,0.5nm,0.3s,baz=137,slow=6.0,SNR=5.4
JNU LR LR 01 27 35.9
comp=Z,309nm,19.0s,baz=356,slow=37
CN2 Changchun 13.72 287 *e*P Pn 01 22 54.2 +2.9
CN2 *es*P P 01 23 11.0 +11
CN2 *e*S Sn 01 25 24.7 +2.0
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,400nm,11.0s
CN2 LR LR
comp=Z,600nm,13.0s
CBIJ Chichi jima 14.04 185 Pn Pn 01 22 55.1 -0.7
CBIJ Sn Sn 01 25 20.8 -10
JCJ Chichijima 14.04 185 Pn Pn 01 22 55.1 -0.7
comp=Z,5.9nm,0.3s,baz=299,slow=19,SNR=3.3
JCJ Sn Sn 01 25 20.8 -10
comp=Z,6.6nm,0.3s,baz=233,slow=20,SNR=4.1
PETK Petropavlovsk- 15.30 34 Pn Pn 01 23 08.5 -4.2
comp=Z,0.8nm,0.3s,baz=189,slow=12,SNR=12
ZEA Zeya 16.76 324 *e*P Pn 01 23 29.7 -1.7
ZEA pmax pmax
comp=Z,25nm,1.2s
ZEA MLR MLR
comp=Z,500nm,16.0s
ZEA MLR MLR
comp=N,500nm,15.0s
HIA Hailar 18.67 304 *i*P P 01 23 51.4 -3.1
HIA pmax pmax
comp=Z,5.0nm,0.9s
MA2 Magadan 19.01 11 *e*P P 01 23 55.9 -2.3
comp=Z,26nm,1.4s
MA2 Magadan 19.01 11 P P 01 23 56.3 -1.8
comp=Z,0.5nm,0.3s,baz=182,slow=7.8,SNR=5.4
BJT Baijiatuau 20.89 276 *e*P P 01 24 17.9 -0.9
comp=Z,14nm,0.7s
BJT Baijiatuau 20.89 276 *e*P P 01 24 17.9 -0.9
BJT pmax pmax
comp=Z,15nm,0.7s
TIA Tai'an 21.26 265 P P 01 24 23.8 +1.0
TIA pmax pmax
comp=Z,5.0nm,0.5s

NJ2 Nanjing 21.82 253 *e*P P 01 24 28.2 -0.6
NJ2 pmax pmax
comp=Z,13nm,0.5s
SEY Seymchan 22.46 10 *i*P P 01 24 30.8 -4.6
SEY Seymchan 22.46 10 P P 01 24 32.1 -3.3
comp=Z,3.2nm,0.4s,baz=187,slow=7.8,SNR=27
YAK Yakutsk 22.58 343 *e*P P 01 24 31.5 -5.1
YAK *e**PP pP 01 24 44.1 +1.0
YAK *e*S S 01 28 36.5 -5.8
YAK *e**SS Sn 01 28 48.8 -7.7
YAK pmax pmax
comp=Z,32nm,0.7s
YAK pmax pmax
comp=N,27nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK pmax pmax
comp=Z,552nm,2.7s
YAK pmax pmax
comp=N,317nm,3.0s
YAK pmax pmax
comp=E,341nm,2.8s
YAK smax smax
comp=N,307nm,1.5s
YAK smax smax
comp=E,167nm,2.0s
HHC Hu-ho-hao-te 24.17 280 *e*P P 01 24 53.4 +0.6
HHC sP sP 01 25 13.9 +11
HHC S S 01 29 05.4 -3.9
HHC SS SnSn 01 29 56.7 +5.0
HHC pmax pmax
comp=E,15nm,0.9s
HHC pmax pmax
comp=E,150nm,6.2s
HHC LR LR
comp=E,210nm,13.6s
HHC LR LR
comp=E,350nm,12.0s
HHC LR LR
comp=E,460nm,14.7s
BOD Bodaibo 25.21 322 *e*P P 01 25 00.0 -1.9
BOD pmax pmax
comp=Z,9.0nm,1.2s
SSLB Suanglung 25.68 235 *e*P P 01 25 05.8 -0.7
comp=Z,9.1nm,0.9s
YULB Yu-li 25.77 234 *e*P P 01 25 07.2 0.0
comp=Z,7.6nm,0.8s
SONM Songino Array 27.23 297 P P 01 25 20.5 +0.1
comp=Z,2.3nm,0.5s,baz=82,slow=7.8,SNR=17
SONM LR LR 01 36 16.2
comp=Z,131nm,20.5s,baz=91,slow=37
GUMO Guam 27.45 177 LR LR 01 33 57.1
comp=Z,70nm,21.9s,baz=98,slow=31
H11N2 WAKE ISLAND Hy 29.09 130 T T 01 56 46.4
baz=323,slow=75,SNR=190
H11N1 WAKE ISLAND Hy 29.10 130 T T 01 56 40.6
baz=323,slow=75,SNR=292
H11N3 WAKE ISLAND Hy 29.11 130 T T 01 56 14.4
baz=323,slow=75,SNR=292
TLY Talaya 29.21 305 *e*P P 01 25 41.0 +3.1
TLY pmax pmax
comp=Z,6.0nm,0.6s
TLY MLR MLR
comp=Z,293nm,17.0s
ZAK Zakamensk 29.34 302 *e*P P 01 25 36.2 -3.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 29.62 17 *e*P P 01 25 41.6 +0.4
comp=Z,3.5nm,0.9s
BILL Bilibino 29.62 17*ce*P P 01 25 41.0 -0.3
BILL *e* 01 26 35.9
BILL pmax pmax
comp=Z,3.0nm,1.0s
H11S1 WAKE ISLAND Hy 29.95 132 T T 01 58 12.7
baz=325,slow=76,SNR=437
H11S3 WAKE ISLAND Hy 29.95 132 T T 01 57 58.0
baz=325,slow=76,SNR=250
H11S2 WAKE ISLAND Hy 29.96 132 T T 01 57 59.1
baz=325,slow=76,SNR=280
LZH Lanzhou 31.33 274 *e*P P 01 25 58.8 +1.8
LZH pP sP 01 26 09.0 +2.0
LZH sP pwP 01 26 14.0 +7.2
LZH pmax pmax
comp=Z,28nm,1.1s
TIXI Tiksi 31.49 351 *i*P P 01 26 00.0 +2.3
TIXI pmax pmax
comp=Z,1.0nm,1.5s
CD2 Chengdu 33.59 265 P P 01 26 17.0 +0.3
CD2 pmax pmax
comp=Z,20nm,1.3s
CD2 pmax pmax
comp=Z,220nm,3.1s
GYA Guiyang 33.78 256 P P 01 26 18.2 -0.2
GYA pmax pmax
comp=Z,10.0nm,0.8s
ANM Nome 37.22 34 *e*P P 01 26 49.5 +2.1
comp=Z,26nm,1.5s
ANM Nome 37.22 34 *e*P P 01 26 49.5 +2.1
ANM pmax pmax
comp=Z,26nm,1.5s
KMI Kunming 37.43 258 P P 01 26 50.0 +0.1
KMI pmax pmax
comp=Z,18nm,0.5s
NRIK Noril'sk 40.36 333 P P 01 27 17.1 +3.4
comp=Z,1.4nm,0.3s,baz=132,slow=14,SNR=2.9
NRIK LR LR 01 45 11.3
comp=Z,253nm,20.6s,baz=83,slow=38
ZAA0 Zalesovo Array 40.59 309 *e*P P 01 27 15.7 0.0
comp=Z,9.7nm,0.6s
ZALV Zalesovo Beam 40.59 309 *e*P P 01 27 15.3 -0.4
ZALV Zalesovo Beam 40.59 309 P P 01 27 15.8 +0.1
comp=Z,2.6nm,0.4s,baz=90,slow=8.3,SNR=9.8
ZALV LR LR 01 45 33.4
comp=Z,152nm,19.1s,baz=60,slow=38
WMQ Urumqi 40.71 293 *e*P P 01 27 17.3 +0.3
WMQ pP sP 01 27 28.2 +1.1
WMQ sP pwP 01 27 35.7 +8.7
WMQ LR LR
comp=Z,140nm,18.1s
WMQ LR LR
comp=Z,220nm,18.1s
WMQ LR LR
comp=Z,280nm,18.1s
WMQ Urumqi 40.71 293 *e*P P 01 27 17.2 +0.3
comp=Z,16nm,0.8s
WMQ Urumqi 40.71 293 *e*P P 01 27 17.2 +0.3
WMQ pmax pmax
comp=Z,16nm,0.8s
IM3 Indian Mountai 42.26 33 *e*P P 01 27 30.3 +1.0
RSO Redoubt South 42.64 41 *e*P P 01 27 35.0 +2.2
PPLA Purkeypile 42.84 37 *e*P P 01 27 36.8 +2.6
comp=Z,36nm,1.5s
CAST Castle Rocks 42.88 37 *e*P P 01 27 36.9 +2.4
comp=Z,8.7nm,0.7s
KDAK Kodiak Island 42.93 45 P P 01 27 35.7 +0.9
comp=Z,8.6nm,0.9s,baz=288,slow=20,SNR=3.6
KDAK LR LR 01 43 14.6
comp=Z,81nm,21.6s,baz=246,slow=33
BPAW Bear Paw Mtn. 43.37 36 *e*P P 01 27 40.8 +2.4
comp=Z,7.7nm,1.0s
MLY Manley 43.48 34 *e*P P 01 27 41.6 +2.4
comp=Z,8.2nm,0.8s
MK01 Makanchi Array 43.56 299 *e*P P 01 27 39.5 -0.7
MK31 Makanchi Array 43.56 299 *e*P P 01 27 39.8 -0.4
comp=Z,6.6nm,0.9s
MK31 Makanchi Array 43.56 299 *i*P P 01 27 38.6 -1.5
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 43.56 299*ce*P P 01 27 39.4 -0.7
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 43.56 299 P P 01 27 39.8 -0.4
comp=Z,2.3nm,0.9s,baz=82,slow=9.1,SNR=17
SUA Susitna One 43.57 39 *e*P P 01 27 41.6 +1.5
comp=Z,59nm,2.0s
MAKZ Makanchi 43.76 299 *e*P P 01 27 41.6 -0.2
comp=Z,11nm,0.9s
MAKZ Makanchi 43.76 299 P P 01 27 40.6 -1.2
MAKZ pmax pmax
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 44.05 29 *e*P P 01 27 45.5 +1.7
comp=Z,5.9nm,0.6s
CMMT Chiang Mai 44.07 253 P P 01 27 50.6 +6.1
comp=Z,13nm,0.7s
CHTO Chiang Mai 44.07 253 *e*P P 01 27 43.6 -0.9
comp=Z,8.8nm,0.8s

CHTO Chiang Mai 44.07 253 *e*P P 01 27 43.6 -0.9
CHTO pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 44.29 36 *e*P P 01 27 47.9 +2.2
comp=Z,41nm,1.8s
MCK McKinley 44.29 36 *e*P P 01 27 47.9 +2.2
MCK pmax pmax
comp=Z,41nm,1.8s
CMAR Chiang Mai Arr 44.30 253 P P 01 27 47.1 +0.7
comp=Z,1.1nm,0.3s,baz=46,slow=6.4,SNR=4.1
CMAR LR LR 01 46 50.7
comp=Z,78nm,18.9s,baz=54,slow=37
RND Reindeer 44.34 37 *e*P P 01 27 49.2 +3.0
comp=Z,9.2nm,0.8s
RND Reindeer 44.34 37 *e*P P 01 27 49.2 +3.0
RND pmax pmax
comp=Z,9.0nm,0.8s
MDM Murphy Dome 44.54 34 *e*P P 01 27 50.3 +2.5
comp=Z,11nm,0.7s
WRH Wood River Hil 44.62 35 *e*P P 01 27 51.2 +2.9
comp=Z,20nm,1.5s
COLA College 44.71 34 *e*P P 01 27 51.4 +2.4
comp=Z,6.7nm,0.8s
COLA College 44.71 34 *i*P P 01 27 48.4 -0.6
COLA pmax pmax
comp=Z,5.0nm,0.9s
CCB Clear Creek Bu 44.74 35 *e*P P 01 27 51.9 +2.6
comp=Z,6.4nm,1.0s
KURK Kurchatov 44.90 305 *e*P P 01 27 50.4 -0.4
KURK Kurchatov 44.90 305*ce*P P 01 27 49.9 -0.9
KURK pmax pmax
comp=Z,6.0nm,1.3s
DHY Denali Highway 45.03 37 *e*P P 01 27 54.3 +2.5
comp=Z,6.3nm,0.8s
HDA Harding Lake 45.12 35 *e*P P 01 27 55.1 +2.7
comp=Z,10nm,0.7s
ILAR Eielson Array 45.12 34 P P 01 27 53.4 +1.0
ILAR pmax pmax
comp=Z,4.0nm,0.7s
ILAR Eielson Array 45.12 34 P P 01 27 53.4 +1.0
comp=Z,3.4nm,0.7s,baz=258,slow=5.4,SNR=28
ILB Eielson Array 45.12 34 *e*P P 01 27 53.9 +1.5
comp=Z,9.6nm,0.7s
IL1 Eielson Array 45.13 34 *e*P P 01 27 53.3 +0.9
KLU Klutina 45.87 39 *e*P P 01 28 00.9 +2.5
comp=Z,16nm,0.9s
RIDG Independ'e Rid 46.10 36 *e*P P 01 28 03.1 +2.9
comp=Z,37nm,1.8s
HARP HAARP 46.11 38 *e*P P 01 28 03.2 +2.9
comp=Z,40nm,1.2s
SCRK Sand Creek 46.45 35 *e*P P 01 28 04.2 +1.2
comp=Z,9.3nm,0.8s
DOT Dot Lake 46.46 36 *e*P P 01 28 04.8 +1.8
comp=Z,5.5nm,0.6s
EGAK Eagle 47.57 34 *e*P P 01 28 12.9 +1.4
comp=Z,33nm,1.6s
JIRN Jiri 48.48 273 *e*P P 01 28 21.0 +1.4
comp=Z,14nm,0.5s
RAMN Ramite 48.55 272 *e*P P 01 28 20.8 +0.9
RAMN Ramite 48.55 272 *e*P P 01 28 20.8 +0.9
comp=Z,17nm,0.6s
GUN Gumba 48.59 273 *e*P P 01 28 20.4 +0.1
KKN Kakani 49.10 274 *e*P P 01 28 25.6 +1.5
comp=Z,5.6nm,0.4s
EPYK Eagle Plains 49.12 32 *e*P P 01 28 25.7 +2.1
comp=Z,20nm,0.9s
BVAR Borovoye Array 49.20 310 LR LR 01 50 50.4
comp=Z,149nm,18.2s,baz=70,slow=38
BRVK Borovoye 49.25 310 *e*P P 01 28 24.7 0.0
BRVK Borovoye 49.25 310 *i*P P 01 28 23.9 -0.8
BRVK pmax pmax
comp=Z,3.0nm,1.1s
TKM2 Tokmak 2 49.32 296 P P 01 28 24.9 -0.8
TKM2 pmax pmax
comp=Z,18nm,1.0s
DMN Daman 49.33 273 *e*P P 01 28 26.4 +0.5
DMN Daman 49.33 273 *e*P P 01 28 26.7 +0.8
comp=Z,3.9nm,0.3s
OTUK Ortayu 49.54 304 P P 01 28 26.0 -1.0
OTUK pmax pmax
comp=Z,6.0nm,1.0s
DANN Dangsing 49.96 275 *e*P P 01 28 31.8 +1.1
DANN Dangsing 49.96 275 *e*P P 01 28 32.2 +1.5
comp=Z,22nm,0.5s
INK Inuvik 49.96 29 *e*P P 01 28 31.6 +1.7
comp=Z,14nm,0.8s
INK Inuvik 49.96 29 *e*P P 01 28 31.6 +1.7
INK pmax pmax
comp=Z,14nm,0.8s
INK Inuvik 49.96 29 P P 01 28 31.5 +1.7
comp=Z,4.7nm,0.4s,baz=288,slow=6.2,SNR=49
INK LR LR 01 50 04.8
comp=Z,66nm,20.3s,baz=260,slow=37
HYT Haines Junctio 50.00 39 *e*P P 01 28 32.9 +2.5
comp=Z,25nm,0.8s
AAK Ala-Archa 50.18 296 *e*P P 01 28 32.1 0.0
comp=Z,4.1nm,0.8s
AAK Ala-Archa 50.18 296 *i*P P 01 28 31.7 -0.4
AAK pmax pmax
comp=Z,2.0nm,1.3s
KOLN Koldanda 50.38 275 *e*P P 01 28 34.0 +0.1
KOLN Koldanda 50.38 275 *e*P P 01 28 35.5 +1.6
KSH Kashi 50.43 292 P P 01 28 39.6 +5.6
KSH sP sP 01 28 53.2 +8.9
KSH S S 01 35 50.0 +4.0
KSH sS sS 01 36 11.7 +14
KSH pmax pmax
comp=Z,76nm,4.5s
PYUN Piuthan 50.67 275 *e*P P 01 28 36.4 +0.4
PYUN Piuthan 50.67 275 *e*P P 01 28 37.6 +1.6
ARSB Arslanbob 51.74 295 *e*P P 01 28 43.9 0.0
comp=Z,36nm,1.2s
KK31 Karatay Array 52.67 298 *e*P P 01 28 50.0 -0.5
comp=Z,5.6nm,0.7s
KK31 Karatay Array 52.67 298 *i*P P 01 28 49.6 -1.0
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 52.67 298 *e*P P 01 28 50.0 -0.5
comp=Z,5.6nm,0.7s
KKAR Karatay Array 52.67 298 *e*P P 01 28 50.1 -0.5
KKAR pmax pmax
comp=Z,6.0nm,0.7s
SVE Sverdlovsk 53.30 317 *e*P P 01 28 55.6 +0.6
DLBC Dease Lake 54.36 40 *e*P P 01 29 04.4 +1.7
comp=Z,2.5nm,0.7s
DLBC Dease Lake 54.36 40 P P 01 29 04.3 +1.5
comp=Z,1.3nm,0.8s,baz=45,slow=17,SNR=2.7
ARU Arti 54.51 317 *e*P P 01 29 02.9 -0.9
comp=Z,17nm,1.3s
ARU Arti 54.51 317*d* *i*P P 01 29 02.7 -1.1
ARU S S 01 36 40.7 -0.3
ARU pmax pmax
comp=Z,6.0nm,1.2s
ARU MLR MLR
comp=Z,240nm,17.0s
PSI Prapat 55.40 239 LR LR 01 57 43.8
comp=Z,50nm,18.8s,baz=278,slow=41
AB31 Akbulak array 56.70 309 *i*P P 01 29 18.9 -0.7
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 56.70 309 *e*P P 01 29 19.4 -0.2
comp=Z,6.3nm,0.6s
KBS Kingsbay 56.94 350 *i*P P 01 29 20.6 -0.3
KBS pmax pmax
comp=Z,62nm,0.9s
AKTO Aktyubinsk 57.30 311 P P 01 29 22.3 -1.6
AKTO pmax pmax
comp=Z,4.0nm,1.1s
AKTO Aktyubinsk 57.30 311 LR LR 01 55 49.0
comp=Z,135nm,19.5s,baz=60,slow=38
KBL Kabul 57.65 290 *e*P P 01 29 26.3 -0.5
comp=Z,9.5nm,0.9s
KBL Kabul 57.65 290 *e*P P 01 29 26.3 -0.5
KBL pmax pmax
comp=Z,10.0nm,0.9s
KIRV Kirov 58.08 322 LR LR 01 57 20.6
comp=Z,160nm,18.4s,baz=173,slow=39
RES Resolute Bay 58.21 15 *e*P P 01 29 30.8 +0.9
comp=Z,9.7nm,0.8s
RES Resolute Bay 58.21 15 *e*P P 01 29 30.8 +0.9
RES pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 59.41 32 *e*P P 01 29 38.9 +0.6
comp=Z,0.8nm,0.8s,baz=298,slow=6.4,SNR=11
YKB5 Yellowknife Ar 59.41 32 *e*P P 01 29 39.3 +0.9
ARCES ARCESS Array B 60.80 339 P P 01 29 50.0 +2.1

ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES ARCESS Array B 60.80 339 P **P** **01 29 50.0 +2.1**
comp=Z,5.6nm,1.0s,baz=49,slow=8.2,SNR=4.6
TULEG Thule 60.82 8 *eP* **P** **01 29 49.3 +1.4**
comp=Z,11nm,1.2s
KLMR Klimovskoe 61.26 327 *eP* **P** **01 29 49.1 -2.0**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 61.26 327 *eP* **P** **01 29 49.1 -2.0**
KLMR AMP 01 30 05.8
comp=Z,11nm,1.1s
WRAB Tennant Creek 61.35 190 *eP* **P** **01 29 52.2 +0.1**
comp=Z,2.8nm,0.6s
WRAB Tennant Creek 61.35 190 *i P* **P** **01 29 50.4 -1.7**
WRAB pmax pmax
comp=Z,5.0nm,1.0s
WB2 Warramunga Arr 61.36 190 *eP* **P** **01 29 51.5 -0.7**
WRA Warramunga Arr 61.36 190 P **P** **01 29 52.1 -0.1**
comp=Z,2.1nm,0.5s,baz=7.0,slow=6.8,SNR=60
DAG Danmarks Havn 61.86 355 *i P* **P** **01 29 53.9 -0.9**
DAG Danmarks Havn 61.86 355 *eP* **P** **01 29 53.9 -0.9**
LLLB Lillooet 62.13 46 *eP* **P** **01 29 59.7 +2.5**
comp=Z,14nm,1.4s
GEYT Alibeck 63.43 298 P **P** **01 30 07.3 +1.3**
comp=Z,3.5nm,0.8s,baz=350,slow=4.5,SNR=6.1
GEYT LR LR 02 00 11.8
comp=Z,96nm,18.1s,baz=80,slow=38
GYA0B ALIBECK ARRAY 63.43 298 *eP* **P** **01 30 05.5 -0.5**
OBN *i* 01 30 33.8
OBN *e* 01 32 47.2
OBN pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 66.01 46 *eP* **P** **01 30 23.6 +1.0**
comp=Z,7.7nm,1.2s
NEW Newport 66.01 46 *eP* **P** **01 30 23.7 +1.0**
NEW pmax pmax
comp=Z,8.0nm,1.2s
FIA1 FINESS Array S 66.02 332 *eP* **P** **01 30 23.3 +0.9**
FINES FINESS Array B 66.02 332 *i P* **P** **01 30 21.7 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 66.02 332 P **P** **01 30 21.8 -0.6**
comp=Z,2.4nm,0.5s,baz=48,slow=7.6,SNR=14
FINES LR LR 02 01 50.3
comp=Z,206nm,19.6s,baz=46,slow=38
PINE Pine Mountain 66.40 52 *eP* **P** **01 30 27.4 +2.0**
comp=Z,7.0nm,0.8s
E09A Wood Farm, Sta 66.46 48 *eP* **P** **01 30 27.2 +1.7**
comp=Z,35nm,1.8s
SUMG Summit 66.60 1 *eP* **P** **01 30 27.8 +1.4**
comp=Z,61nm,2.0s
SUMG Summit 66.60 1 *i P* **P** **01 30 26.4 -0.1**
SUMG Summit 66.60 1 *eP* **P** **01 30 26.4 -0.1**
VSR Storozhevoye 67.03 319 *i P* **P** **01 30 27.5 -1.5**
VSR pmax pmax
comp=Z,4.0nm,0.7s
MOD Modoc Plateau 67.88 53 *eP* **P** **01 30 36.5 +1.6**
comp=Z,1.5nm,0.6s
BMO Blue Mountains 67.91 49 *eP* **P** **01 30 35.9 +1.0**
comp=Z,2.0nm,0.7s
BMO Blue Mountains 67.91 49 *eP* **P** **01 30 35.9 +1.0**
BMO pmax pmax
comp=Z,2.0nm,0.7s
BEKR Beckworth 69.04 55 *eP* **P** **01 30 43.2 +1.1**
comp=Z,3.0nm,0.8s
FFC Flin Flon 69.34 34 *eP* **P** **01 30 43.7 +0.2**
comp=Z,7.4nm,0.8s
FFC Flin Flon 69.34 34 *eP* **P** **01 30 43.7 +0.2**
FFC pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 69.56 311 *eP* **P** **01 30 45.0 -0.2**
comp=Z,12nm,0.8s
KIV Kislovodsk 69.56 311 ⇓*iP* **P** **01 30 46.9 +1.7**
KIV Kislovodsk 69.56 311 *eP* **P** **01 30 45.2 0.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
ZEI Tsey 69.57 309 *eP* **P** **01 30 49.9 +4.5**
ZEI pmax pmax
comp=Z,4.0nm,0.6s
FCC Fort Churchill 69.57 28 *eP* **P** **01 30 45.4 +0.5**
comp=Z,10nm,1.1s
FCC Fort Churchill 69.57 28 *eP* **P** **01 30 45.4 +0.5**
FCC pmax pmax
comp=Z,10.0nm,1.1s
KBZ Khabaz 69.58 311 P **P** **01 30 45.7 +0.6**
comp=Z,2.1nm,0.9s,baz=75,slow=3.0,SNR=3.7
KBZ LR LR 02 03 15.7
comp=Z,57nm,18.7s,baz=12,slow=38
TBLG Delisi 69.72 308 *eP* **P** **01 30 46.3 +0.2**
comp=Z,12nm,1.1s
NEY Neytrino 69.97 310 *i P* **P** **01 30 45.6 -2.3**
NEY pmax pmax
comp=Z,1.0nm,1.0s
LRM Limekiln Ridge 70.03 46 *eP* **P** **01 30 46.0 -2.2**
EGMT Eagleton 70.07 43 *eP* **P** **01 30 48.8 +0.5**
comp=Z,4.3nm,0.7s
DLMT Dillon 70.24 47 *eP* **P** **01 30 51.4 +2.0**
comp=Z,14nm,1.5s
YERR Yerington 70.26 55 *eP* **P** **01 30 51.6 +1.9**
comp=Z,24nm,1.9s
BOZ Bozeman (W) 70.62 46 *eP* **P** **01 30 53.2 +1.5**
comp=Z,3.3nm,0.6s
BOZ Bozeman (W) 70.62 46 *eP* **P** **01 30 53.2 +1.5**
BOZ pmax pmax
comp=Z,3.0nm,0.6s
KVN Kaiserville 70.93 55 *eP* **P** **01 30 55.6 +1.8**
comp=Z,5.0nm,0.9s
KVN Kaiserville 70.93 55 *eP* **P** **01 30 55.6 +1.8**
KVN pmax pmax
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 71.09 338 P **P** **01 30 53.6 -0.6**
comp=Z,8.9nm,1.0s,baz=36,slow=6.5
NOA NORSAR Array B 71.09 338 P **P** **01 30 54.0 -0.1**
comp=Z,0.2nm,0.5s,baz=28,slow=3.6,SNR=4.8
NOA LR LR 02 06 19.8
comp=Z,52nm,18.6s,baz=50,slow=40
NV01 Mina Array Sit 71.18 55 *eP* **P** **01 30 56.8 +1.5**
NVAR Mina Array Bea 71.18 55 P **P** **01 30 56.1 +0.7**
comp=Z,1.0nm,0.4s,baz=292,slow=5.9,SNR=8.0
YHH Holmes Hill 71.56 46 *eP* **P** **01 30 59.6 +2.0**
comp=Z,3.5nm,1.0s
IMW Indian Meadow 72.08 47 *eP* **P** **01 31 03.1 +2.3**
comp=Z,4.6nm,0.9s
AKASG Malin Array Be 72.14 323 *ceP* **P** **01 31 00.0 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 72.14 323 P **P** **01 30 60.0 -0.6**
comp=Z,1.1nm,0.5s,baz=46,slow=6.1,SNR=8.0
AKASG LR LR 02 05 31.3
comp=Z,101nm,20.1s,baz=270,slow=38
AKBB Malin Array Si 72.14 323 *eP* **P** **01 31 00.3 -0.3**
comp=Z,8.2nm,0.9s
AKBB Malin Array Si 72.14 323 *eP* **P** **01 31 00.3 -0.3**
AKBB pmax pmax
comp=Z,8.0nm,0.9s
FXWY Fox Creek 72.20 47 *eP* **P** **01 31 03.2 +1.7**
comp=Z,3.1nm,0.9s
MOOW Moose Ponds 72.29 47 *eP* **P** **01 31 03.3 +1.4**
comp=Z,4.2nm,0.9s
R11A Troy Canyon, C 72.90 54 *eP* **P** **01 31 07.0 +1.3**
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 73.38 55 *eP* **P** **01 31 10.4 +2.0**
comp=Z,5.2nm,0.8s
DUG Dugway, Tooele 73.39 51 *eP* **P** **01 31 09.6 +1.1**
comp=Z,9.2nm,1.3s
DUG Dugway, Tooele 73.39 51 *eP* **P** **01 31 09.6 +1.1**
DUG pmax pmax
comp=Z,9.0nm,1.3s
BW06 Boulder Array 73.58 47 *eP* **P** **01 31 10.8 +1.1**
comp=Z,3.7nm,1.0s
PD31 Pinedale Array 73.58 47 *eP* **P** **01 31 11.1 +1.4**
comp=Z,3.2nm,1.0s
PDAR Pinedale Array 73.58 47 *eP* **P** **01 31 08.9 -0.8**
PDAR Pinedale Array 73.58 47 P **P** **01 31 10.4 +0.8**
comp=Z,1.2nm,0.6s,baz=259,slow=1.4,SNR=20
SIRT Sirnak 73.73 306 *eP* **P** **01 31 10.3 -0.2**
comp=Z,23nm,0.9s
P17A Butcher Ranch, 75.07 50 *eP* **P** **01 31 19.9 +1.6**
comp=Z,7.7nm,0.9s

ULM Lac du Bonnet 75.14 35 P **P** **01 31 18.6 +0.3**
comp=Z,1.2nm,0.7s,baz=1.0,slow=6.8,SNR=3.2
PFO Pinyon Flats O 75.36 58 *i P* **P** **01 31 19.0 -1.0**
SRU San Rafael Swe 75.44 51 *eP* **P** **01 31 22.0 +1.6**
comp=Z,6.9nm,0.8s
SRU San Rafael Swe 75.44 51 *eP* **P** **01 31 22.0 +1.6**
SRU pmax pmax
comp=Z,7.0nm,0.8s
U15A North Rim 76.15 54 *eP* **P** **01 31 26.0 +1.4**
comp=Z,5.8nm,0.9s
BUR08 Bucovina Ar. S 76.17 322 *eP* **P** **01 31 24.6 +0.3**
comp=Z,28nm,1.9s
BURAR Bucovina Array 76.18 322 ⇓*iP* **P** **01 31 25.0 +0.6**
BURAR Bucovina Array 76.18 322 ⇓P **P** **01 31 25.0 +0.6**
VRI Vrincioaia 76.73 320 ⇑*iP* P 01 31 37.9 +10
VRI Vrincioaia 76.73 320 ⇑P P 01 31 37.9 +10
PV10 Paradox Valley 76.79 50 *eP* **P** **01 31 28.4 +0.2**
comp=Z,12nm,0.8s
PV14 Lion Creek, Pa 76.81 50 *eP* **P** **01 31 29.9 +1.6**
comp=Z,7.8nm,0.9s
TRPA Tarpa 77.01 324 ⇓*iP* **P** **01 31 29.4 +0.5**
PV13 Radium Mtn., P 77.07 50 *eP* **P** **01 31 30.8 +1.1**
comp=Z,4.8nm,0.9s
MLR Muntele Rosu 77.39 320 ⇑*iP* P 01 31 39.2 +7.9
MLR Muntele Rosu 77.39 320 ⇑P P 01 31 39.2 +7.9
SMCO Snowmass 77.44 49 *eP* **P** **01 31 32.8 +0.8**
comp=Z,8.2nm,1.5s
BRTR Keskin Array B 77.44 312 P **P** **01 31 31.5 -0.2**
comp=Z,0.3nm,0.7s,baz=95,slow=4.9,SNR=3.9
BRTR LR LR 02 12 40.4
comp=Z,36nm,18.2s,baz=36,slow=41
VOIR 77.85 321 ⇑*iP* **P** **01 31 34.6 +0.8**
VOIR 77.85 321 ⇑P **P** **01 31 34.6 +0.8**
MORC Moravsky Berou 77.88 328 *eP* **P** **01 31 33.4 -0.4**
comp=Z,11nm,1.3s
MORC Moravsky Berou 77.88 328 ⇓*iP* **P** **01 31 34.1 +0.3**
MORC Moravsky Berou 77.88 328 ⇓P **P** **01 31 34.1 +0.3**
MORC Moravsky Berou 77.88 328 *eP* P 01 31 26.3 -7.5
DPC Dobruska-Polom 77.91 329 *eP* **P** **01 31 37.5 +3.5**
DPC *epP* **sP** **01 31 46.2 +1.7**
DPC Dobruska-Polom 77.91 329 *eP* **P** **01 31 37.5 +3.5**
DPC *e* 01 31 46.2
X16A Lo Mia Camp, P 77.99 55 *eP* **P** **01 31 36.2 +1.3**
comp=Z,3.6nm,1.0s
ARR Arges 78.10 321 ⇑*iP* **P** **01 31 36.5 +1.3**
VYHS Vyhne 78.34 326 *eP* P 01 31 42.9 +6.5
VYHS Vyhne 78.34 326 *eP* P 01 31 42.9 +6.5
VRAC Vranov 78.63 328 *eP* **P** **01 31 34.7 -3.2**
PRU Pruhonice 78.89 329 *eP* **P** **01 31 40.2 +0.8**
PRU *epP* **sP** **01 31 51.2 +1.3**
PRU Pruhonice 78.89 329 *eP* **P** **01 31 40.2 +0.8**
PRU *e* 01 31 51.2
ECSD EROS Data Cent 79.64 40 *eP* **P** **01 31 44.1 +0.5**
comp=Z,34nm,2.0s
KHC Kasperske Hory 79.96 329 *eP* **P** **01 31 45.7 +0.4**
comp=Z,2.5nm,1.1s
KHC Kasperske Hory 79.96 329 *eP* **P** **01 31 43.6 -1.6**
KHC *ex* x 01 31 53.9
KHC Kasperske Hory 79.96 329 *eP* **P** **01 31 43.6 -1.6**
KHC *e* 01 31 53.9
GRFO Grafenberg 80.39 331 *eP* **P** **01 31 48.2 +0.7**
comp=Z,3.5nm,0.4s
GRFO Grafenberg 80.39 331 *eP* **P** **01 31 48.2 +0.7**
GRFO pmax pmax
comp=Z,4.0nm,0.4s
RAYN Ar Rayn 80.71 293 *eP* **P** **01 31 49.1 -0.6**
comp=Z,4.2nm,1.0s
RAYN Ar Rayn 80.71 293 *eP* **P** **01 31 49.1 -0.6**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
VTS Vitosha 80.82 320 ⇑*iP* **P** **01 31 51.1 +0.9**
VTS Vitosha 80.82 320 ⇑P **P** **01 31 51.1 +0.9**
SCHQ Schefferville 80.93 17 P **P** **01 31 50.8 +0.5**
comp=Z,3.1nm,1.1s,baz=0.0,slow=10,SNR=2.9
SOKA Soboth 81.36 327 *eP* **P** **01 31 53.8 +0.9**
comp=Z,5.3nm,1.3s
KBA Koelnbreinsper 81.72 328 P **P** **01 31 55.9 +1.1**
comp=Z,5.4nm,1.2s
WATA Walderalm 82.20 329 *eP* **P** **01 31 58.3 +1.0**
comp=Z,1.8nm,0.6s
MOTA Moosalm 82.37 330 *eP* **P** **01 31 59.0 +0.7**
comp=Z,3.2nm,0.9s
SQTA Sankt Quirin 82.43 330 P **P** **01 31 59.5 +0.9**
comp=Z,2.3nm,0.8s
DAVA Damuels 82.88 330 *eP* **P** **01 31 59.6 -1.4**
comp=Z,8.2nm,1.4s
PPT Papeete 84.96 118 LR LR 02 09 38.3
comp=Z,53nm,18.8s,baz=18,slow=35
TX31 Lajitas Ar. Si 86.27 54 *eP* **P** **01 32 19.2 +0.9**
TXAR Lajitas Array 86.27 54 P **P** **01 32 19.6 +1.3**
comp=Z,3.7nm,0.7s,baz=297,slow=3.6,SNR=36
WCI Wyandotte Cave 88.80 37 *eP* **P** **01 32 30.8 +0.6**
WCI Wyandotte Cave 88.80 37 *eP* **P** **01 32 30.8 +0.6**
SDV Santo Domingo 121.08 41 *ePKPdf* **PKiKP** **01 38 30.1 +0.4**
SNAA Sanae 145.16 198 *ePKPbc* **PKPab** **01 39 12.1 -0.2**
SNAA Sanae 145.16 198 *ePKIKP* **PKPab** **01 39 12.1 -0.2**

*ISCJB **10** 01:30:51.5±0.3, 40.39N±0.02×25.99E±0.03, h9km±3km, Error ellipse: s-maj=3.6km s-min=2.9km az=0.2*
*THE **10** 01:30:51.9, 40.37N×25.94E, h8km±1km, ML1.8/7, Error ellipse: s-maj=1.9km s-min=0.8km az=290.0*
*DDA **10** 01:30:51.2, 40.39N×26.03E, h7km±3km, ML2.6*
*ISK **10** 01:30:51.4, 40.38N×26.03E, h8km, ML2.2/20*
ISC 10 01:30:51.6±0.9, 40.39N±0.02×26.00E±0.02, h14km±8km, n42, σ0.965/56, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOKC	**Gokceada-Canak**	**0.20**	**198**	PG	**Pg**	**01 30 56.1**	**+0.1**
GOKC				SG	**Sg**	**01 30 59.6**	**+0.6**
SMTH	**Samothraki Isl**	**0.36**	**284**	P	**Pg**	**01 30 58.9**	**-0.1**
SMTH				S	**Sg**	**01 31 04.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.37**	**88**	PG	**Pb**	**01 30 59.0**	**-0.9**
ENEZ	**Enez**	**0.37**	**19**	PG	**Pg**	**01 30 59.3**	**+0.2**
ENEZ				SG	**Sb**	**01 31 05.0**	**-0.7**
ERIK	**Erikli-Kesan**	**0.49**	**54**	PG	**Pg**	**01 31 00.9**	**-0.3**
ALN	**Alexandroupoli**	**0.51**	**4**	PG	**Pg**	**01 31 01.7**	**0.0**
ALN	**Alexandroupoli**	**0.51**	**4**	P	**Pg**	**01 31 01.7**	**0.0**
ALN				S	**Sg**	**01 31 09.0**	**+0.4**
BOZC	**Bozcaada**	**0.55**	**175**	PG	**Pg**	**01 31 02.3**	**0.0**
BOZC				SG	**Sb**	**01 31 09.9**	**-0.8**
BOZC	**Bozcaada**	**0.55**	**175**	*i* P	**Pb**	**01 31 03.0**	**0.0**
BOZC				*i* S	**Sb**	**01 31 10.4**	**-0.2**
BOZC				IAML_P			
	comp=Z,1μm,0.1s						
LPK	**Lapseki**	**0.58**	**91**	PG	**Pb**	**01 31 03.1**	**-0.5**
EZN	**Ezine**	**0.61**	**156**	PG	**Pg**	**01 31 03.3**	**-0.3**
EZN	**Ezine**	**0.61**	**156**	⇑*iP*	**Pn**	**01 31 06.2**	**+0.3**
EZN	**Ezine**	**0.61**	**156**	P	**Pb**	**01 31 03.6**	**-0.5**
EZN				S	**Sb**	**01 31 12.4**	**-0.2**
KESN	**Edirne-Kesan**	**0.68**	**50**	*i* P	**Pg**	**01 31 04.2**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**0.77**	**147**	*i* P	**Pb**	**01 31 06.9**	**+0.1**
BAYC				*i* S	**Sb**	**01 31 18.2**	**+1.0**
LIA	**Limnos Island**	**0.79**	**232**	P	**Pg**	**01 31 06.6**	**-0.3**
LIA				S	**Sg**	**01 31 16.2**	**-1.1**
RDO	**Rodhopi**	**0.84**	**336**	PG	**Pg**	**01 31 08.1**	**+0.3**
RDO	**Rodhopi**	**0.84**	**336**	P	**Pg**	**01 31 07.5**	**-0.3**
RDO				S	**Sb**	**01 31 19.9**	**+0.8**
RKY	**Sarkoy-Tekirda**	**0.95**	**71**	PG	**Pg**	**01 31 09.4**	**-0.6**
KRBG	**Karabiga-Canak**	**0.99**	**89**	PG	**Pg**	**01 31 09.8**	**-1.0**
THAS	**Thassos island**	**1.00**	**283**	P	**Pg**	**01 31 10.3**	**-0.6**
THAS				S	**Sg**	**01 31 23.6**	**-0.3**
PRK	**Paraskevi**	**1.16**	**169**	P	**Pn**	**01 31 14.3**	**+0.9**
PRK				S	**Sn**	**01 31 30.4**	**+1.3**
SIGR	**SIGRI**	**1.18**	**185**	PN	**Pn**	**01 31 14.0**	**+0.3**
SIGR	**SIGRI**	**1.18**	**185**	P	**Pb**	**01 31 12.5**	**-1.3**
SIGR				S	**Sb**	**01 31 29.4**	**+0.5**
AYVA	**Ayvalik**	**1.20**	**153**	*i* P	**Pn**	**01 31 14.3**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.25**	**69**	PN	**Pg**	**01 31 14.9**	**-0.8**
KAVA	**Kavala**	**1.28**	**299**	P	**Pn**	**01 31 14.8**	**-0.3**
TKR	**Tekirdag**	**1.32**	**62**	PN	**Pb**	**01 31 16.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.34**	**104**	PN	**Pb**	**01 31 16.2**	**-0.3**
EDC	**Edincik**	**1.43**	**91**	PN	**Pn**	**01 31 17.4**	**+0.2**
CRLT	**Corlu**	**1.52**	**60**	PN	**Pn**	**01 31 18.9**	**+0.5**
OUR	**Ouranopolis**	**1.54**	**269**	P	**Pn**	**01 31 17.4**	**-1.3**
EDRB	**Edirne**	**1.57**	**21**	PN	**Pb**	**01 31 20.3**	**-0.1**
EDRB	**Edirne**	**1.57**	**21**	P	**Pb**	**01 31 20.2**	**-0.1**
EDRB				S	**Sg**	**01 31 41.1**	**-0.9**
KIRK	**Kırklareli**	**1.62**	**30**	*i* P	**Pn**	**01 31 20.1**	**+0.2**
KIRK				IAML_P			
	comp=Z,213nm,0.1s						

BALB Balikesir 1.63 117 PN **Pn** **01 31 20.4 +0.5**
STEP BALIKESIR_Sava 1.67 127 *i* P **Pb** **01 31 21.7 -0.4**
STEP IAML_P
comp=Z,191nm,0.1s
KCTX Karacabey (Bur 1.81 93 PN **Pn** **01 31 23.2 +0.8**
SLVT Silivri 1.88 63 PN **Pn** **01 31 23.6 +0.2**
CTYL Yalikoy Yolu 2.05 57 PN **Pn** **01 31 26.5 +0.8**
CTKS Kestanelik-??a 2.09 65 PN **Pn** **01 31 27.3 +1.1**
HORT Hortiatis 2.22 276 PN **Pn** **01 31 29.5 +1.4**

*IDC **10** 01:44:01.4±1.8, 39.85N×77.14E, h0km, mb3.3/3, mb1 3.4/9, mb1mx3.3/48, mbtmp3.4/9, ML3.0/6, MS3.4/3, Ms1 3.4/3, ms1mx2.7/33, Error ellipse: s-maj=24.8km s-min=21.5km az=24.0*
*SOME **10** 01:44:01.8, 40.02N×76.95E, h5km*
*KRNET **10** 01:44:04.0±0.1, 40.04N×77.23E, mb4.0*
*BJI **10** 01:44:04.2, 40.05N×77.27E, h11km, mb3.9/1, ML3.7/7*
*NNC **10** 01:44:06.5±1.5, 40.16N×77.26E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=12.1km s-min=9.3km az=166.0*
ISC 10 01:44:04.9±2.8, 39.89N±0.05×77.25E±0.04, h17km±19km, n72, σ1.937/96, mb3.2/3, MS3.2/3, 30C-21D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.05**	**250**	Pg	Pn	01 44 31.3	+6.3
KSH				Sg	Sn	01 44 53.8	+14
KSH				smax	smax		
	comp=N,1μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,0.6s						
NRN	**Naryn**	**1.81**	**329**	⇑*iP*	**Pn**	**01 44 34.6**	**-1.0**
	baz=26						
NRN				⇑*iS*	**Sn**	**01 44 57.7**	**-0.6**
	baz=26						
TARG	**Taragay, Kyrgy**	**1.88**	**13**	⇓*iP*	**Pn**	**01 44 36.3**	**-0.3**
	baz=14						
TARG				⇓*iS*	**Sn**	**01 44 59.8**	**-0.4**
	baz=14						
KDJ	**Kajisay**	**2.24**	**359**	⇓*iP*	**Pn**	**01 44 42.1**	**+0.8**
	baz=59						
KDJ				⇓*iS*	**Sn**	**01 45 09.0**	**+0.4**
	baz=59						
ULHL	**Ulahol**	**2.47**	**342**	P	**Pn**	**01 44 46.2**	**+1.6**
	SNR=110						
ULHL	**Ulahol**	**2.47**	**342**	⇑*iP*	**Pn**	**01 44 45.0**	**+0.4**
	baz=42						
ULHL				⇑*iS*	**Sn**	**01 45 14.7**	**+0.2**
	baz=42						
KZA	**Kyzart**	**2.66**	**326**	P	**Pn**	**01 44 48.8**	**+1.5**
	SNR=56						
KZA	**Kyzart**	**2.66**	**326**	⇑*iP*	**Pn**	**01 44 47.7**	**+0.4**
	baz=24						
KZA				⇑*iS*	**Sn**	**01 45 19.8**	**+0.5**
	baz=24						
PRZ	**Przheval'sk**	**2.73**	**18**	⇑*iP*	**Pn**	**01 44 48.6**	**+0.5**
	baz=20						
PRZ				⇑*iS*	**Sn**	**01 45 20.8**	**0.0**
	baz=20						
UCH	**Uchtor**	**3.12**	**319**	P	**Pn**	**01 44 55.2**	**+1.5**
	SNR=55						
UCH	**Uchtor**	**3.12**	**319**	⇓*iP*	**Pn**	**01 44 54.0**	**+0.3**
	baz=18						
UCH				⇓*iS*	**Sn**	**01 45 31.0**	**+0.3**
	baz=18						
TNSS	**Tian-Shan**	**3.15**	**356**	*eP*	**Pb**	**01 44 59.1**	**-1.5**
	72nm,0.7s						
TNSS				*eS*	**Sb**	**01 45 39.4**	**+0.5**
	160nm,0.5s						
KBK	**Karagaybulak**	**3.26**	**329**	P	**Pn**	**01 44 57.3**	**+1.9**
	SNR=15						
KBK	**Karagaybulak**	**3.26**	**329**	⇑*iP*	**Pn**	**01 44 56.1**	**+0.7**
	baz=28						
KBK				⇑*iS*	**Sn**	**01 45 33.8**	**-0.1**
	baz=28						
MDOK	**Medeo**	**3.27**	**357**	⇑Pn	**Pn**	**01 44 56.1**	**+0.6**
	4.2nm,0.4s						
MDOK				⇑Pg	**Pb**	**01 45 00.4**	**-2.1**
	62nm,0.9s						
MDOK				⇓Lg	Lg	01 45 43.1	
	205nm,0.6s						
MDOK	**Medeo**	**3.27**	**357**	*eP*	**Pb**	**01 45 00.7**	**-1.9**
	45nm,0.6s						
MDOK				*eS*	**Sb**	**01 45 42.5**	**+0.4**
	247nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**338**	P	**Pn**	**01 44 57.0**	**+1.5**
	SNR=44						
TKM2	**Tokmak 2**	**3.27**	**338**	⇓Pn	**Pn**	**01 44 56.8**	**+1.2**
	20nm,0.6s						
TKM2				⇑Lg	Lg	01 45 42.3	
	76nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**338**	⇓*iP*	**Pn**	**01 44 56.1**	**+0.6**
	baz=38						
TKM2				⇓*iS*	**Sn**	**01 45 33.8**	**-0.4**
	baz=38						
MTBS	**Maitube**	**3.29**	**349**	*eP*	**Pb**	**01 45 01.1**	**-1.8**
	14nm,0.4s						
MTBS				*eS*	**Sb**	**01 45 43.3**	**+0.6**
	124nm,0.4s						
KST	**Kastek**	**3.29**	**343**	*eP*	**Pb**	**01 45 01.3**	**-1.6**
	39nm,0.5s						
KST				*eS*	**Sb**	**01 45 43.3**	**+0.6**
	133nm,0.5s						
AAA	**Alma-Ata**	**3.32**	**356**	Pg	**Pb**	**01 45 02.9**	**-0.5**
	58nm,0.6s						
AAA				Lg	Lg	01 45 43.7	
	233nm,0.5s						
AAA	**Alma-Ata**	**3.32**	**356**	*eP*	**Pb**	**01 45 02.3**	**-1.0**
	27nm,0.3s						
AAA				*eS*	**Sb**	**01 45 45.0**	**+1.4**
	233nm,0.5s						
KOTS	**Kotyrbulak**	**3.34**	**358**	Pg	**Pb**	**01 45 04.0**	**+0.3**
	38nm,0.4s						
KOTS				Lg	Lg	01 45 45.5	
	764nm,0.5s						
KOTS	**Kotyrbulak**	**3.34**	**358**	*eP*	**Pb**	**01 45 02.8**	**-0.9**
	43nm,0.8s						
KOTS				*eS*	**Sb**	**01 45 45.5**	**+1.4**
	764nm,0.5s						
AAK	**Ala-Archa**	**3.44**	**324**	P	**Pn**	**01 44 59.6**	**+1.8**
	SNR=16						
AAK	**Ala-Archa**	**3.44**	**324**	⇑Pn	**Pn**	**01 44 59.1**	**+1.3**
	25nm,0.5s						
AAK				⇑Lg	Lg	01 45 48.6	
	210nm,0.9s						
AAK	**Ala-Archa**	**3.44**	**324**	⇑*iP*	**Pn**	**01 44 58.5**	**+0.7**
	baz=23						
AAK				⇑*iS*	**Sn**	**01 45 38.5**	**+0.2**
	baz=23						
AAK	**Ala-Archa**	**3.44**	**324**	Pn	**Pn**	**01 44 59.6**	**+1.8**
	2.6nm,0.3s,baz=136,slow=8.4,SNR=44						
AAK				Lg	Lg	01 45 48.4	
	12nm,0.3s,baz=350,slow=19,SNR=17						
AML	**Almayashu**	**3.50**	**311**	P	**Pn**	**01 45 00.7**	**+1.9**
	SNR=64						
AML	**Almayashu**	**3.50**	**311**	⇑*iP*	**Pn**	**01 44 59.7**	**+0.9**
	baz=9.0						
AML				⇑*iS*	**Sn**	**01 45 40.5**	**+0.5**
	baz=9.0						
FRU1	**Bishkek**	**3.52**	**327**	⇑*iP*	**Pn**	**01 44 59.5**	**+0.7**
	baz=26						
FRU1				⇑*iS*	**Sn**	**01 45 40.2**	**+0.1**
	baz=26						
ARSB	**Arslanbob**	**3.55**	**295**	⇑*eP*	**Pn**	**01 45 00.9**	**+1.6**
	baz=93						
ARSB				⇑*iS*	**Sn**	**01 45 42.1**	**+1.1**
	baz=93						
CHMS	**Chumysh**	**3.63**	**330**	P	**Pn**	**01 45 02.3**	**+2.0**
	SNR=6.3						
CHMS	**Chumysh**	**3.63**	**330**	⇓*iP*	**Pn**	**01 45 00.7**	**+0.4**
	baz=29						
CHMS				⇓*iS*	**Sn**	**01 45 42.7**	**0.0**
	baz=29						
EKS2	**Erkin-Say**	**3.81**	**318**	P	**Pn**	**01 45 05.5**	**+2.6**
	SNR=54						
EKS2	**Erkin-Say**	**3.81**	**318**	⇓*iP*	**Pn**	**01 45 03.6**	**+0.8**
	baz=16						
EKS2				⇓*iS*	**Sn**	**01 45 47.2**	**-0.1**
	baz=16						
PDGK	**Podgornoye**	**3.82**	**25**	⇑Pn	**Pn**	**01 45 03.5**	**+0.4**
	3.6nm,0.4s						
PDGK				⇑Pg	**Pb**	**01 45 10.8**	**-1.1**
	27nm,0.5s						
PDGK				⇑Lg	Lg	01 45 59.3	
	112nm,0.6s						

PDGK	**Podgornoye** baz=26	**3.82**	**25**	⇓*e*P		**Pn**	**01 45 03.8**	**+0.8**
PDGK				⇓*i*S		**Sn**	**01 45 47.8**	**+0.2**
KTBS	**Karatobe** 31nm,0.9s	**3.84**	**354**	Pg		**Pb**	**01 45 12.2**	**0.0**
KTBS	149nm,0.8s			Lg	Lg		01 45 59.4	
KTBS	**Karatobe** 31nm,0.9s	**3.84**	**354**	*e*P		**Pb**	**01 45 10.8**	**-1.3**
KTBS	149nm,0.8s			*e*S		**Sb**	**01 45 59.4**	**+1.0**
USP	**Ospenovka** SNR=7.6	**3.95**	**329**	P		**Pn**	**01 45 06.7**	**+2.0**
KUU	**Kurty** 8.1nm,0.5s	**4.05**	**351**	*e*P		**Pb**	**01 45 14.5**	**-1.3**
KUU	171nm,0.6s			*e*S		**Sb**	**01 46 06.3**	**+1.8**
MRKS	**Merke** 19nm,0.8s	**4.16**	**315**	Pg		**Pb**	**01 45 18.8**	**+1.2**
MRKS	44nm,0.4s			Lg	Lg		01 46 10.7	
MRKS	**Merke** 22nm,0.5s	**4.16**	**315**	*e*P		**Pb**	**01 45 14.2**	**-3.5**
MRKS	44nm,0.4s			*e*S		**Sb**	**01 46 06.0**	**-1.6**
KTMS	**Ketmen** 1.7nm,0.2s	**4.24**	**32**	Pg		**Pb**	**01 45 19.9**	**+0.8**
KTMS	67nm,0.7s			Lg	Lg		01 46 12.7	
KTMS	**Ketmen** 1.0nm,0.4s	**4.24**	**32**	*e*P		**Pb**	**01 45 18.7**	**-0.4**
KTMS	67nm,0.7s			*e*S		**Sb**	**01 46 12.7**	**+2.7**
MNBS	**Baschi** 25nm,0.5s	**4.27**	**11**	Pg		**Pb**	**01 45 20.3**	**+0.8**
MNBS	99nm,0.7s			Lg	Lg		01 46 13.4	
MNBS	**Baschi** 16nm,0.7s	**4.27**	**11**	*e*P		**Pb**	**01 45 19.1**	**-0.4**
MNBS	99nm,0.7s			*e*S		**Sb**	**01 46 13.4**	**+2.6**
ARXS	**Arharly** 36nm,0.7s	**4.34**	**5**	Pg		**Pb**	**01 45 21.2**	**+0.5**
ARXS	145nm,0.5s			Lg	Lg		01 46 14.7	
ARXS	**Arharly** 8.5nm,0.7s	**4.34**	**5**	*e*P		**Pb**	**01 45 19.9**	**-0.8**
ARXS	145nm,0.5s			*e*S		**Sb**	**01 46 14.8**	**+2.0**
BTLS	**Baital** 2.0nm,0.4s	**5.67**	**336**	*e*P		**Pb**	**01 45 43.2**	**0.0**
BTLS	24nm,0.5s			*e*S		**Sb**	**01 46 54.7**	**+3.9**
KK31	**Karatay Array** 4.0nm,0.7s,baz=113,slow=14,SNR=11	**5.99**	**305**	⇑Pg		**Pb**	**01 45 50.7**	**+1.9**
KK31	5.8nm,0.5s,baz=116,slow=27,SNR=7.4			⇑Lg	Lg		01 47 08.7	
CHCP	**Chirah Chowk**	**7.00**	**208**	P		**Pn**	**01 45 49.6**	**+3.1**
CEP	**Cherat**	**7.42**	**217**	P		**Pn**	**01 45 54.0**	**+1.6**
CEP				S		**Sn**	**01 47 16.0**	**-0.2**
MAKZ	**Makanchi** 3.8nm,1.4s	**7.72**	**25**	⇓Pg			01 46 26.7	
MAKZ	13nm,1.4s			⇑Lg	Lg		01 48 00.9	
MK31	**Makanchi Array** 2.4nm,0.6s,baz=196,slow=14,SNR=12	**7.81**	**26**	⇓Pn		Pn	01 45 52.7	-5.1
MK31	4.5nm,0.7s,baz=211,slow=28,SNR=3.9			⇓Lg	Lg		01 48 04.4	
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=196,slow=14,SNR=14	**7.81**	**26**	Pn		**Pn**	**01 45 57.2**	**-0.5**
MKAR	0.4nm,0.3s,baz=213,slow=28,SNR=3.9			Lg	Lg		01 48 04.2	
THW	**Thamme Wali**	**8.36**	**214**	P		**Pn**	**01 46 05.8**	**+0.5**
WMQ	**Urumqi**	**8.72**	**60**	*e*P		**Pn**	**01 46 09.6**	**-0.7**
WMQ	comp=N,21nm,1.8s			smax	smax			
WMQ	comp=E,16nm,1.8s			smax	smax			
OTUK	**Ortayu** 26nm,1.1s	**9.07**	**339**	⇓Lg		Lg	01 48 42.7	
KURBB	**Kurchatov Arra** 16nm,0.7s	**10.77**	**4**	⇑Lg		Lg	01 49 39.4	
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=188,slow=12,SNR=3.8	**10.77**	**4**	Pn		**Pn**	**01 46 36.1**	**-2.0**
KURBB	0.1nm,0.3s,baz=189,slow=30,SNR=6.8			Lg		Lg	01 49 38.3	
KURK	**Kurchatov** 14nm,1.1s	**10.87**	**5**	⇓Lg		Lg	01 49 40.3	
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=163,slow=12,SNR=4.2	**13.95**	**343**	Pn		**Pn**	**01 47 19.3**	**-2.3**
BVAR	0.1nm,0.3s,baz=161,slow=27,SNR=2.9			Lg		Lg	01 51 14.5	
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=208,slow=12,SNR=5.0	**14.97**	**18**	Pn		**Pn**	**01 47 35.3**	**-0.1**
AKTO	**Aktyubinsk** 0.1nm,0.3s,baz=111,slow=13,SNR=4.3	**17.13**	**314**	P		**Pn**	**01 48 01.7**	**-1.5**
SONM	**Songino Array** 0.7nm,0.9s,baz=259,slow=12,SNR=4.1	**22.36**	**60**	P		**P**	**01 49 02.1**	**0.0**
GNI	**Garni** comp=Z,36nm,18.7s,baz=222,slow=38	**24.83**	**281**	LR		LR	01 59 47.7	
JNU	**Nakatsue** comp=Z,32nm,20.5s,baz=122,slow=40	**43.09**	**82**	LR		LR	02 12 52.7	
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=50,slow=4.8,SNR=4.6	**70.65**	**271**	P		**P**	**01 55 17.4**	**-2.4**
TORD	comp=Z,82nm,18.7s,baz=330,slow=42			LR		LR	02 32 53.5	
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=342,slow=5.4,SNR=4.0	**77.52**	**6**	P		**P**	**01 56 00.3**	**+1.2**

JMA ***10*** *02:26:05.5±0.1,24.°33N×122.°07E,h14km±4km,M2.3*
ISCJB ***10*** *02:26:06.2±0.3,24.°38N±0.°02×122.°10E±0.°02,h19km±3km, Error ellipse: s-maj=3.0km s-min=2.3km az=142.2*
TAP ***10*** *02:26:06.0,24.°38N×122.°01E,h21km,ML2.9,C*

ISC 10 02:26:05.5±0.9,24.°35N±0.°02×122.°07E±0.°02,h16km±7km, n61,σ0°82/117,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1** baz=38	**0.21**	**15**	P	**Pb**	**02 26 11.6**	**+0.7**
EOS1				S	**Sb**	**02 26 16.0**	**+1.4**
NANB	**Nanao** baz=288	**0.30**	**286**	⇓*i*P	**Pg**	**02 26 11.9**	**+0.1**
NANB				S	**Sg**	**02 26 16.1**	**-0.1**
ENA	**Nanau** baz=288	**0.31**	**285**	P	**Pg**	**02 26 12.0**	**0.0**
ENA				S	**Sb**	**02 26 16.5**	**-1.0**
TWC	**Suao** baz=335	**0.33**	**323**	*i* P	**Pg**	**02 26 12.5**	**+0.1**
TWC				S	**Sg**	**02 26 16.7**	**-0.3**
NACB	**Ninganchiao** baz=238	**0.47**	**248**	P	**Pg**	**02 26 14.5**	**-0.2**
NACB				*e*S	**Sb**	**02 26 21.9**	**-0.1**
TWD	**Chiawan** baz=233	**0.51**	**238**	*e*P	**Pg**	**02 26 15.7**	**+0.2**
TWD				*e*S	**Sn**	**02 26 25.6**	**-0.9**
EGS	baz=355	**0.51**	**346**	*e*P	**Pb**	**02 26 16.1**	**0.0**
EGS				*e*S	**Sg**	**02 26 22.7**	**+0.2**
TWE	**Neicheng** baz=321	**0.52**	**316**	*e*P	**Pb**	**02 26 15.9**	**-0.4**
TWE				*e*S	**Sb**	**02 26 23.0**	**-0.7**
ENTT	**Nioudou** baz=305	**0.54**	**303**	P	**Pb**	**02 26 16.5**	**-0.2**
ENTT				*e*S	**Sb**	**02 26 23.6**	**-0.7**
ETLH	**Xiulin Townshi** baz=256	**0.55**	**256**	*e*P	**Pg**	**02 26 16.4**	**0.0**
ETLH				*e*S	**Sb**	**02 26 24.0**	**-0.6**
SLBB	**Yuanshan** baz=323	**0.56**	**316**	*e*P	**Pb**	**02 26 17.2**	**+0.1**
SLBB				*e*S	**Sb**	**02 26 25.0**	**+0.1**
NDT	**Datong Townshi** baz=298	**0.57**	**297**	P	**Pb**	**02 26 16.9**	**-0.2**
NDT				S	**Sg**	**02 26 23.8**	**-0.5**
ENLB	**Shoufeng** baz=217	**0.61**	**224**	*e*P	**Pn**	**02 26 19.0**	**-0.6**
ENLB				*e*S	**Sn**	**02 26 30.6**	**+1.5**
NNSB	**Datong** baz=281	**0.63**	**278**	*e*P	**Pg**	**02 26 17.8**	**-0.1**
NNSB				*e*S	**Sb**	**02 26 26.1**	**-0.8**
NNS	**Nan Shan** baz=282	**0.64**	**278**	*e*P	**Pb**	**02 26 18.2**	**-0.2**
NNS				*e*S	**Sg**	**02 26 25.8**	**-0.9**
TIPB	**Shuangxi** baz=346	**0.66**	**341**	*e*P	**Pb**	**02 26 18.8**	**+0.1**
TIPB				*e*S	**Sg**	**02 26 26.6**	**-0.7**
NWLT	**Wulai** baz=307	**0.67**	**310**	*e*P	**Pb**	**02 26 19.1**	**+0.2**
NWLT				*e*S	**Sg**	**02 26 27.1**	**-0.5**
YHNB	**Yeheng** baz=300	**0.71**	**297**	*e*P	**Pg**	**02 26 19.3**	**-0.1**
YHNB				*e*S	**Sg**	**02 26 27.7**	**-1.0**
NSK	**Sanguang** baz=300	**0.72**	**297**	*e*P	**Pg**	**02 26 19.6**	**-0.1**
NSK				*e*S	**Sb**	**02 26 28.5**	**-1.1**
WHF	**Hehuan Shan** baz=257	**0.76**	**255**	*e*P	**Pg**	**02 26 20.3**	**-0.1**
WHF				*e*S	**Sb**	**02 26 31.4**	**+0.4**
NWF	**Wu-fen Shan** baz=337	**0.77**	**340**	*e*P	**Pn**	**02 26 21.4**	**-0.4**
NWF				*e*S	**Sg**	**02 26 31.1**	**+0.4**
WFSB	**Wu-fen Shan** baz=337	**0.77**	**340**	*e*P	**Pn**	**02 26 21.4**	**-0.3**
WFSB				*e*S	**Sg**	**02 26 31.0**	**+0.4**
TWA	**Mucha** baz=335	**0.77**	**325**	*e*P	**Pn**	**02 26 21.7**	**-0.1**
TWA				*e*S	**Sg**	**02 26 31.4**	**+0.7**
ESL	**Shilin** baz=221	**0.79**	**228**	*e*P	**Pb**	**02 26 20.8**	**0.0**
ESL				*e*S	**Sn**	**02 26 34.6**	**+1.1**
JYNG	**Yonagunijimaku**	**0.81**	**82**	P	**Pb**	**02 26 20.8**	**-0.3**
TATO	**Taipei** baz=315	**0.82**	**320**	*e*P	**Pg**	**02 26 21.6**	**+0.2**
TATO				*e*S	**Sb**	**02 26 31.7**	**-0.5**
TWT	**Tachien** baz=265	**0.82**	**264**	*e*P	**Pn**	**02 26 22.2**	**-0.4**
TWT				*e*S	**Sn**	**02 26 34.9**	**+0.4**
TDCB	**Techi** baz=265	**0.83**	**264**	*e*P	**Pg**	**02 26 21.8**	**0.0**
TDCB				*e*S	**Sn**	**02 26 33.4**	**-1.4**
CHGB	**Renai** baz=236	**0.86**	**251**	*e*P	**Pn**	**02 26 22.7**	**-0.6**
CHGB				*e*S	**Sn**	**02 26 35.9**	**+0.2**
YOJ	**Yonaguni jima** baz=75	**0.87**	**82**	*e*P	**Pb**	**02 26 22.0**	**-0.2**
YOJ				*e*S	**Sb**	**02 26 34.1**	**+0.5**
YOJ	**Yonaguni jima**	**0.87**	**82**	P	**Pb**	**02 26 22.0**	**-0.2**
YM01	**YM01** baz=334	**0.92**	**330**	*e*P	**Pn**	**02 26 24.0**	**+0.2**
YM01				*e*S	**Sn**	**02 26 36.1**	**-0.6**
YM04	**YM04** baz=332	**0.94**	**329**	*e*P	**Pn**	**02 26 24.4**	**+0.3**
YM04				*e*S	**Sn**	**02 26 37.9**	**+0.7**
LIOB	**Emei** baz=292	**1.00**	**287**	*e*P	**Pb**	**02 26 24.2**	**-0.3**
LIOB				*e*S	**Sn**	**02 26 39.3**	**+0.4**
NSTT	**Nanjuang** baz=291	**1.01**	**286**	*e*P	**Pg**	**02 26 26.1**	**+1.1**
NSTT				*e*S	**Sn**	**02 26 39.9**	**+0.9**
WHP	**Taichung City** baz=272	**1.03**	**266**	*e*P	**Pg**	**02 26 26.0**	**+0.6**
WHP				*e*S	**Sn**	**02 26 40.2**	**+0.7**
VWDT	**VWDT** baz=231	**1.03**	**235**	*e*P	**Pn**	**02 26 25.1**	**-0.2**
VWDT				*e*S	**Sn**	**02 26 39.7**	**+0.2**
HGSD	**Ruisui** baz=196	**1.03**	**215**	*e*P	**Pg**	**02 26 25.8**	**+0.3**
HGSD				*e*S	**Sn**	**02 26 41.1**	**+1.5**
EHY	**Hungye** baz=214	**1.08**	**219**	*e*P	**Pb**	**02 26 24.8**	**-1.1**
EHY				*e*S	**Sg**	**02 26 41.8**	**+1.3**
SSLB	**Suanglung** baz=238	**1.16**	**242**	*e*P	**Pn**	**02 26 26.8**	**-0.3**
SSLB				*e*S	**Sg**	**02 26 43.8**	**+0.7**
SMLT	**Sun Moon Lake** baz=230	**1.16**	**247**	*e*P	**Pg**	**02 26 27.9**	**-0.1**
SMLT				*e*S	**Sg**	**02 26 44.3**	**+1.1**
TWQ1	**Liyutan** baz=269	**1.18**	**270**	*e*P	**Pg**	**02 26 28.1**	**-0.1**
TWQ1				*e*S	**Sg**	**02 26 45.8**	**+2.1**
YULB	**Yu-li** baz=228	**1.18**	**217**	*e*P	**Pb**	**02 26 27.6**	**-0.1**
YULB				*e*S	**Sg**	**02 26 44.4**	**+0.6**
TYC	**Yuchr** baz=232	**1.19**	**249**	*e*P	**Pg**	**02 26 27.9**	**-0.5**
TYC				*e*S	**Sg**	**02 26 45.8**	**+1.8**
NSY	**Sanyi** baz=273	**1.19**	**274**	*e*P	**Pg**	**02 26 29.9**	**+1.4**
NSY				*e*S	**Sg**	**02 26 46.4**	**+2.3**
TWF1	**Yuli** baz=227	**1.22**	**216**	*e*P	**Pn**	**02 26 26.7**	**-1.2**
TWF1				*e*S	**Sg**	**02 26 44.7**	**-0.1**
WJS	**Zhushan** baz=245	**1.33**	**247**	*e*P	**Pg**	**02 26 32.2**	**+1.1**
WJS				*e*S	**Sg**	**02 26 51.6**	**+3.1**
ALS	**Alishan** baz=217	**1.42**	**234**	*e*P	**Pb**	**02 26 32.3**	**+0.4**
ALS				*e*S	**Sg**	**02 26 52.0**	**+0.5**
CHN5	**Tsauling** baz=222	**1.47**	**240**	*e*P	**Pb**	**02 26 32.9**	**+0.3**
CHN5				*e*S	**Sg**	**02 26 54.7**	**+1.6**
ELDTW	**Lidau** baz=204	**1.50**	**220**	*e*P	**Pn**	**02 26 31.2**	**-0.7**
IRIF	**Iriomote-Funau**	**1.52**	**90**	P	**Pn**	**02 26 31.4**	**-0.6**
HATJ	**Hateruma jima**	**1.61**	**100**	*e*S	**Sb**	**02 26 55.2**	**+0.2**
CHN4	**Tsaushan** baz=231	**1.68**	**234**	*e*P	**Pb**	**02 26 36.4**	**+0.4**
CHN4				*e*S	**Sg**	**02 26 59.1**	**-0.4**
JKRS	**Kuro-shima**	**1.77**	**93**	P	**Pn**	**02 26 35.8**	**+0.2**
JKRS				S	**Sn**	**02 26 57.5**	**-0.3**
TWK	**Hsinying** baz=217	**1.80**	**234**	*e*P	**Pb**	**02 26 37.7**	**-0.5**
TWK				*e*S	**Sg**	**02 27 03.7**	**+0.2**
CHN1	**Nanshi** baz=228	**1.82**	**231**	*e*P	**Pb**	**02 26 38.4**	**-0.1**
CHN1				*e*S	**Sg**	**02 27 03.1**	**-1.1**
JIJ	**Ishigaki jima**	**1.89**	**89**	P	**Pn**	**02 26 37.2**	**0.0**
JIJ				*e*S	**Sn**	**02 26 59.4**	**-1.3**
JISG	**Ishigakijimahi**	**2.06**	**83**	P	**Pn**	**02 26 39.1**	**-0.3**
JISG				*e*S	**Sn**	**02 27 04.1**	**-0.7**
PHUB	**P'eng-hu** baz=250	**2.43**	**251**	*e*P	**Pn**	**02 26 45.1**	**+0.5**
PHUB				*e*S	**Sn**	**02 27 13.6**	**-0.4**
WDGT	**Dungji** baz=243	**2.46**	**244**	*e*P	**Pn**	**02 26 45.9**	**+1.0**
WDGT				*e*S	**Sb**	**02 27 16.6**	**-2.7**
VWUC	**VWUC** baz=287	**2.47**	**286**	*e*P	**Pn**	**02 26 44.8**	**-0.3**
VWUC				*e*S	**Sn**	**02 27 14.1**	**-0.8**

IDC 10 02:38:50.8±5.3,15.°51S×173.°73W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.6/42,mbtmp3.9/3,ML3.7/1,Error ellipse: s-maj=322.2km s-min=27.2km az=148.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu** 16nm,0.3s,baz=218,slow=2.5,SNR=13	**2.47**	**50**	P	Pn	02 39 31.6	-0.8
AFI	36nm,0.3s,baz=74,slow=23,SNR=11			Sn	Sn	02 39 57.9	-5.4
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=89,slow=7.2,SNR=3.1	**49.51**	**257**	P	P	02 47 42.4	-1.2
ASAR	**Alice Springs** 3.5nm,0.6s,baz=85,slow=8.1,SNR=65	**49.77**	**252**	P	P	02 47 45.9	+0.3
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=67,slow=4.8,SNR=4.0	**146.04**	**321**	PKPbc	PKPab	02 58 33.5	-0.2

IDC 10 02:39:55.9±2.8,19.°97N×94.°54E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.2/41,mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=50.1km s-min=20.9km az=38.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=290,slow=14,SNR=5.8	**4.42**	**109**	Pn	Pn	02 41 05.8	+1.5
CMAR	0.8nm,0.3s,baz=293,slow=17,SNR=4.4			Sn	Sn	02 41 56.7	+0.1
CMAR	0.6nm,0.3s,baz=286,slow=33,SNR=4.2			Lg	Lg	02 42 16.4	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=163,slow=8.7,SNR=4.2	**28.57**	**342**	P	P	02 45 54.5	+0.9
SONM	**Songino Array** 0.3nm,0.5s,baz=203,slow=6.3,SNR=2.8	**29.41**	**16**	P	P	02 46 00.1	-1.1

SJA 10 02:51:17.9±0.3,28.°83S×69.°01W,h117km±9km,ML3.1, MW4.1,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VCA	**Vinchina**	**0.71**	**83**	*i* P	Pn	02 51 38.0	+0.7
VCA				*i* S	Sn	02 51 52.7	+0.9
VCA	comp=Z,369nm,0.2s			IAML		02 51 53.1	
AGUA	**GUANDACOL**	**0.80**	**145**	*i* P	Pn	02 51 38.7	+0.7
ACDV	**Cuesta del Vie**	**1.34**	**184**	*i* P	Pn	02 51 44.6	+1.1
AROD	**Rodeo**	**1.39**	**197**	*i* P	Pn	02 51 45.6	+1.3
ACCO	**Cerro Coronel**	**1.75**	**181**	*i* P	Pn	02 51 49.9	+1.4

MEX 10 02:52:28.4±0.4,14.°86N×93.°04W,h58km±7km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.75**	**86**	*i* P	Pn	02 52 41.3	-1.8
THIG				*i* S	Sn	02 52 52.1	-1.8
PCIG		**0.86**	**348**	*e*P	Pn	02 52 43.1	-1.5
PCIG				*i* S	Sn	02 52 54.7	-1.7
CCIG	**Comitan**	**1.66**	**31**	*e*P	Pn	02 52 53.9	-1.5
CCIG				*i* S	Sn	02 53 13.5	-2.2
CMIG	**Matias Romero**	**2.84**	**322**	*e*P	Pn	02 53 10.4	-1.0
CMIG				*i* S	Sn	02 53 42.4	-2.0
HUIG	**Huatulco**	**3.10**	**287**	*i* S	Sn	02 53 48.3	-2.4

NEIC ***10*** *02:55:01.6±0.4,31.°60S×67.°12W,h116km±3km,mb4.5/26, Error ellipse: s-maj=6.1km s-min=3.7km az=86.0*
ISCJB ***10*** *02:55:02.2±0.2,31.°61S±0.°03×67.°17W±0.°03,h135km±2km, mb4.3/41,Error ellipse: s-maj=4.9km s-min=4.5km az=152.9*
SJA ***10*** *02:55:02.5±0.5,31.°65S×67.°20W,h131km±3km,ML4.4, MW4.5*
IDC ***10*** *02:55:03.7±0.6,31.°57S×67.°12W,h131km±4km,mb4.0/15, mb1 4.0/19,mb1mx3.9/36,mbtmp4.4/19,Error ellipse: s-maj=18.1km s-min=11.9km az=77.0*
GUC ***10*** *02:55:12.7±0.7,31.°86S×68.°13W,h119km±72km,ML4.0*

ISC 10 02:55:02.8±0.5,31.°62S±0.°05×67.°25W±0.°04,h129km±4km, n100,σ1°42/118,mb4.4/40,1C-2D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACAN	**Cantantal**	**0.66**	**175**	*i* P	**Pn**	**02 55 23.6**	**+0.7**
ACAN				*i* S	**Sn**	**02 55 38.4**	**+0.3**
RTLL	**Cerro Villicun**	**1.08**	**285**	*i* P	**Pn**	**02 55 27.6**	**+1.2**
RTLL				*i* S	**Sn**	**02 55 46.1**	**+1.8**
RTLL	comp=Z,5μm,0.4s			IAML		02 55 46.1	
RTCV	**Cerro Valdivia**	**1.12**	**257**	*i* P	**Pn**	**02 55 27.9**	**+1.0**
AMOG	**MOGNA**	**1.26**	**302**	*i* P	**Pn**	**02 55 29.8**	**+1.5**
APLL	**PUNTA DE LOS L**	**1.37**	**27**	*i* P	**Pn**	**02 55 30.2**	**+0.7**
APLL	comp=Z,4μm,0.1s			IAML		02 55 30.4	
APLL				*i* S	**Sn**	**02 55 50.2**	**+0.6**
MRA	**San Martin**	**1.53**	**122**	*i* P	**Pn**	**02 55 31.5**	**+0.2**
MRA				*i* S	**Sn**	**02 55 52.4**	**-0.6**
MRA	comp=Z,4μm,0.2s			IAML		02 55 52.7	
ASAL	**Salagasta**	**1.66**	**234**	*i* P	**Pn**	**02 55 33.8**	**+1.1**
RTLS	**Leoncito**	**1.75**	**263**	*i* P	**Pn**	**02 55 35.6**	**+1.6**
RTLS				*i* S	**Sn**	**02 56 00.4**	**+2.6**
RTLS	comp=Z,1μm,0.3s			IAML		02 56 01.4	
ACCO	**Cerro Coronel**	**1.86**	**303**	*i* P	**Pn**	**02 55 37.1**	**+1.8**
ARCO	**CERRO ARCO**	**1.88**	**229**	*i* P	**Pn**	**02 55 36.3**	**+1.0**
ARCO	comp=Z,3μm,0.3s			IAML		02 56 04.7	
AUSP	**Uspallata**	**1.91**	**251**	*i* P	**Pn**	**02 55 37.3**	**+1.4**
ACDV	**Cuesta del Vie**	**2.15**	**311**	*i* P	**Pn**	**02 55 40.5**	**+1.7**
ACDV	comp=Z,760nm,0.1s			IAML		02 56 09.7	
TCA	**Tanti**	**2.29**	**84**	*i* P	**Pn**	**02 55 40.4**	**0.0**
TCA	comp=Z,729nm,0.3s			IAML		02 56 08.7	
TCA				*i* S	**Sn**	**02 56 08.8**	**-0.4**
AROD	**Rodeo**	**2.39**	**307**	*i* P	**Pn**	**02 55 43.7**	**+1.8**
VCA	**Vinchina**	**2.98**	**344**	*i* P	**Pn**	**02 55 51.0**	**+1.6**
VCA				*i* S	**Sn**	**02 56 26.6**	**+1.4**
FCH	**Farellones**	**3.08**	**236**	⇓*i*P	**Pn**	**02 55 52.1**	**+1.4**
FCH				*i* S	Sn	02 56 20.2	-7.6
FCH	comp=N,459nm,0.3s			IAML		02 56 36.9	
CMCH	**Combarbala**	**3.23**	**277**	⇓*i*P	**Pn**	**02 55 53.9**	**+1.4**
CMCH				*i* S	Sn	02 56 25.3	-5.6
PEL	**Peldehue**	**3.28**	**241**	*e*Pn	**Pn**	**02 55 53.9**	**+0.8**
PEL	**Peldehue**	**3.28**	**241**	*e*P	**Pn**	**02 55 53.8**	**+0.7**
PEL				*i* S	Sn	02 56 22.9	-9.0
CLCH	**Cerro Calan**	**3.29**	**237**	*e*P	**Pn**	**02 55 54.4**	**+1.1**
CLCH				*e*S	Sn	02 56 24.2	-8.0
CLCH	comp=N,1μm,0.4s			IAML		02 56 36.3	
LMEL	**Las Melosas**	**3.34**	**227**	*e*P	**Pn**	**02 55 55.2**	**+1.3**
LMEL				*i* S	**Sn**	**02 56 27.9**	**-5.5**
LMEL	comp=N,312nm,0.1s			IAML		02 56 49.4	
GO04	**Tololo Observa**	**3.37**	**294**	*e*Pn	**Pn**	**02 55 56.2**	**+1.8**
GO04	**Tololo Observa**	**3.37**	**294**	⇑*i*P	**Pn**	**02 55 56.1**	**+1.6**
GO04				*i* S	**Sn**	**02 56 30.7**	**-3.6**
ROCH	**El Roble**	**3.46**	**246**	*e*P	**Pn**	**02 55 56.0**	**+0.4**
ROCH				*e*S	Sn	02 56 29.5	-6.8
ROC1	**El Roble**	**3.46**	**246**	*e*Pn	**Pn**	**02 55 55.9**	**+0.3**
LCO	**Las Campanas**	**3.95**	**310**	*e*Pn	**Pn**	**02 56 03.3**	**+1.1**
LCO				*e*Sn	**Sn**	**02 56 48.2**	**+0.1**
GO05	**Huala**	**5.17**	**228**	*e*Pn	**Pn**	**02 56 16.0**	**-2.2**
GO02	**Mina Guanaco**	**6.75**	**342**	*e*Pn	**Pn**	**02 56 40.0**	**+0.3**
TRQA	**Tornquist**	**7.75**	**147**	*e*Pn	**Pn**	**02 56 51.3**	**-1.6**
PB10	**IPOC Station P**	**8.59**	**339**	*e*Pn	**Pn**	**02 57 02.6**	**-1.5**
GO06	**Curarrehue**	**8.66**	**202**	*e*Pn	**Pn**	**02 57 03.8**	**-1.3**
LVC	**Limon Verde** comp=N,6.0nm,0.3s,baz=155,slow=12,SNR=47	**9.09**	**350**	P	**Pn**	**02 57 10.7**	**-0.6**
LVC				S	**Sn**	**02 58 46.1**	**-6.0**

comp=N,0.9nm,0.3s,baz=223,slow=18,SNR=2.6
PLCA Paso Flores 9.48 195 P **Pn** 02 57 14.9 -1.3
comp=N,1.0nm,0.3s,baz=18,slow=11,SNR=29
PB04 IPOC Station P 9.60 344 *e*Pn **Pn** 02 57 15.7 -2.3
CPUP Villa Florida 10.16 61 P **Pn** 02 57 22.8 -2.5
comp=N,0.6nm,0.3s,baz=241,slow=13,SNR=8.8
PB01 IPOC Station P 10.72 349 *e*Pn **Pn** 02 57 30.8 -2.1
PB11 IPOC Station P 12.00 349 *e*Pn **Pn** 02 57 47.0 -3.0
MNMC Minye Minye 12.61 350 *e*Pn **Pn** 02 57 57.4 -0.5
LPAZ La Paz 15.28 357 *e*Pn **Pn** 02 58 32.2 -0.1
comp=N,10nm,0.5s
LPAZ La Paz 15.28 357 P **Pn** 02 58 32.8 +0.4
comp=N,0.5nm,0.3s,baz=170,slow=11,SNR=18
SIV San Ignacio 16.54 21 P **Pn** 02 58 47.1 -0.2
comp=N,0.7nm,0.3s,baz=215,slow=13,SNR=15
EFI East Falkland 21.16 164 *e*P **P** 02 59 36.4 -1.1
comp=N,28nm,0.6s
GO10 Punta Arenas 21.70 186 *e*P **P** 02 59 44.0 +0.7
comp=N,46nm,0.9s
USHA Ushuaia 23.22 182 P **P** 02 59 59.7 +1.5
comp=N,12nm,0.6s,baz=5.1,slow=8.8,SNR=18
BDFB Brasilia 23.68 52 P **P** 03 00 01.9 -1.0
comp=N,2.2nm,0.4s,baz=237,slow=5.5,SNR=7.0
PTGA Pitinga 31.48 14 P **P** 03 01 13.1 +0.6
comp=N,1.1nm,0.3s,baz=309,slow=20,SNR=3.6
MDP Montagnes des 39.08 23 P **P** 03 02 16.4 -1.0
comp=N,12nm,0.9s,baz=147,slow=6.4,SNR=2.8
BANI BANI 49.81 356 *e*P **P** 03 03 42.7 0.0
VNA3 Neumayer Olymp 50.09 159 P **P** 03 03 45.4 +1.2
VNA2 Neumayer--Watz 50.69 158 P **P** 03 03 49.9 +1.2
baz=283,slow=10.0
APG El Apazote 51.43 331 P **P** 03 03 55.7 +0.7
comp=N,4.0nm,0.8s,baz=347,slow=19,SNR=3.7
SNAA Sanae 52.31 159 P **P** 03 04 01.5 +0.8
SNAA Sanae 52.31 159 P **P** 03 04 01.5 +0.8
comp=N,1.4nm,0.3s,baz=244,slow=2.9,SNR=69
JCT Junction City 69.05 330 *e*P **P** 03 05 55.5 +0.9
comp=N,5.1nm,0.5s
TXAR Lajitas Array 69.80 326 P **P** 03 06 00.5 +1.1
comp=N,1.5nm,0.7s,baz=159,slow=8.2,SNR=11
TX31 Lajitas Ar. Si 69.80 326 *e*P **P** 03 05 59.6 +0.2
WVT Waverly 70.10 342 *e*P **P** 03 06 01.0 +0.2
comp=N,16nm,0.7s
DBIC Dimbokro 70.58 69 P **P** 03 06 04.5 +0.2
comp=N,5.9nm,0.7s,baz=207,slow=7.6,SNR=7.9
PBMO Poplar Bluff 71.42 341 *e*P **P** 03 06 09.2 +0.4
comp=N,12nm,0.5s
WCI Wyandotte Cave 71.72 344 *e*P **P** 03 06 09.9 -0.7
comp=N,25nm,0.8s
SUR Sutherland 72.40 117 P **P** 03 06 16.2 +0.9
comp=N,6.6nm,0.9s,baz=237,slow=5.2,SNR=5.8
CCM Cathedral Cave 72.84 340 *e*P **P** 03 06 17.6 +0.3
comp=N,5.5nm,0.7s
MSTX Muleshoe 73.32 330 *e*P **P** 03 06 21.0 +0.6
comp=N,8.2nm,0.8s
AMTX Amarillo 73.65 331 *e*P **P** 03 06 22.4 +0.2
comp=N,6.3nm,0.6s
N49A Columbus Grove 73.85 347 *e*P **P** 03 06 22.8 -0.3
comp=N,18nm,1.3s
BNM Barren Site 75.20 327 *e*P **P** 03 06 32.3 +0.9
CBKS Cedar Bluff 76.31 334 *e*P **P** 03 06 37.5 +0.1
comp=N,12nm,0.6s
L40A Anamosa 76.57 342 *e*P **P** 03 06 39.0 +0.3
comp=N,12nm,0.8s
BOSA Boshof 77.54 116 P **P** 03 06 44.8 0.0
comp=N,1.1nm,0.3s,baz=2.2,slow=14,SNR=4.1
SDCO Great Sand Dun 77.69 330 *e*P **P** 03 06 45.4 -0.1
comp=N,1.8nm,0.6s
X16A Lo Mia Camp, P 77.75 324 *e*P **P** 03 06 46.1 +0.4
comp=N,8.3nm,1.3s
TRQ Mont Tremblant 77.75 355 *e*P **P** 03 06 45.2 -0.1
ISCO Idaho Springs 79.47 331 *e*P **P** 03 06 55.9 +0.7
comp=N,2.7nm,0.8s
SMCO Snowmass 79.52 330 *e*P **P** 03 06 56.2 +0.6
comp=N,4.3nm,0.8s
ECSD EROS Data Cent 79.65 339 *e*P **P** 03 06 56.2 +0.5
comp=N,3.5nm,0.8s
KNB Kanab 80.48 325 *e*P **P** 03 07 01.0 +0.5
comp=N,3.7nm,0.9s
PHWY Pilot Hill 80.67 332 *e*P **P** 03 07 01.9 +0.3
comp=N,4.0nm,0.7s
SRU San Rafael Swe 81.05 327 *e*P **P** 03 07 03.8 +0.3
comp=N,4.1nm,0.9s
RWWY Rawlins 81.71 331 *e*P **P** 03 07 07.1 +0.1
comp=N,9.1nm,0.9s
PDAR Pinedale Array 83.59 330 P **P** 03 07 17.4 +0.8
comp=N,0.8nm,0.6s,baz=139,slow=5.0,SNR=8.2
NVAR Mina Array Bea 84.36 322 P **P** 03 07 22.3 +1.6
comp=N,0.5nm,0.5s,baz=163,slow=9.4,SNR=4.9
ELK Elko 84.57 325 *e*P **P** 03 07 22.6 +0.9
comp=N,2.2nm,0.8s
ULM Lac du Bonnet 85.36 342 P **P** 03 07 24.8 -0.3
comp=N,2.9nm,0.8s,baz=61,slow=2.7,SNR=6.6
SCHQ Schefferville 86.09 0 P **P** 03 07 28.4 -0.3
comp=N,2.5nm,1.0s,baz=179,slow=9.8,SNR=3.2
HLID Hailey 86.36 328 *e*P **P** 03 07 30.7 +0.3
comp=N,2.9nm,0.9s
LSZ Lusaka 86.65 106 P **P** 03 07 31.2 -1.3
comp=N,110nm,0.7s,baz=76,slow=8.3,SNR=2.3
J08A Circle Bar Ran 88.12 325 *e*P **P** 03 07 39.4 +0.6
comp=N,6.0nm,0.7s
PINE Pine Mountain 89.65 324 *e*P **P** 03 07 46.3 +0.3
comp=N,5.7nm,0.9s
KEST Kesra 98.19 53 P Pdif 03 08 26.0 +0.6
comp=N,5.1nm,0.9s,baz=316,slow=4.9,SNR=6.1
YKA Yellowknife Ar 101.17 340 P **Pdif** 03 08 38.3 +0.6
comp=N,0.4nm,0.6s,baz=141,slow=4.1,SNR=11
FINES FINESS Array B 118.77 33 PKP **PKPdf** 03 13 34.9 0.0
comp=N,3.4nm,1.1s,baz=239,slow=0.8,SNR=2.7
ARCES ARCESS Array B 120.18 24 PKP **PKPdf** 03 13 37.5 0.0
comp=N,2.6nm,0.9s,baz=232,slow=4.1,SNR=2.8
ASAR Alice Springs 121.42 203 PKP **PKPdf** 03 13 40.9 -0.6
comp=N,0.5nm,0.5s,baz=149,slow=1.9,SNR=8.7
ASAR pPKP **pPKPdf** 03 14 15.1 -1.1
comp=N,0.4nm,0.8s,baz=136,slow=1.4,SNR=2.5
WRA Warramunga Arr 124.71 205 PKP **PKPdf** 03 13 47.5 -0.3
comp=N,1.4nm,0.5s,baz=158,slow=1.6,SNR=32
WRA pPKP **pPKPdf** 03 14 21.5 -1.1
comp=N,0.8nm,0.7s,baz=168,slow=1.5,SNR=3.8
AAK Ala-Archa 147.83 59 *e*PKPbc **PKPbc** 03 14 32.6 -0.1
AAK pPKPbc **pPKPbc** 03 15 08.0 +0.9
AAK Ala-Archa 147.83 59 PKPbc **PKPbc** 03 14 33.3 +0.6
comp=N,2.3nm,0.5s,baz=216,slow=5.0,SNR=7.5
AAK pPKPbc **pPKPbc** 03 15 08.0 +0.9
comp=N,2.6nm,0.9s,baz=264,slow=5.3,SNR=3.3
KURBB Kurchatov Arra 148.38 43 PKPbc **PKPbc** 03 14 34.4 +0.8
comp=N,6.6nm,0.6s,baz=298,slow=3.3,SNR=43
KURBB pPKPbc **pPKPbc** 03 15 08.8 +0.8
comp=N,2.1nm,0.7s,baz=295,slow=3.3,SNR=5.8
KSH Kashi 149.23 65 *e*PKPbc **PKPdf** 03 14 30.7 -1.2
KSH PP **PP** 03 18 14.9 +5.2
KSH AMB AMB
comp=Z,76nm,6.4s
ZALV Zalesovo Beam 150.04 34 PKPbc **PKPbc** 03 14 38.4 +0.8
comp=Z,5.3nm,0.4s,baz=293,slow=3.1,SNR=19
ZALV pPKPbc **pPKPbc** 03 15 13.1 +0.9
comp=Z,1.5nm,0.4s,baz=291,slow=4.6,SNR=2.7
MKAR Makanchi Array 152.17 48 PKPbc **PKPbc** 03 14 43.2 +0.4
comp=Z,3.0nm,0.6s,baz=256,slow=1.5,SNR=18
MKAR pPKPbc **pPKPbc** 03 15 17.9 +0.4
comp=Z,2.5nm,0.6s,baz=291,slow=1.8,SNR=9.1

*ISCJB **10** 03:00:15.2±0.3, 4°.42S±0°.04×29°.23E±0°.05, h10km, mb4.3/27, MS3.8/15, Error ellipse: s-maj=7.3km s-min=5.6km az=173.4*
*IDC **10** 03:00:15.8±0.7, 4°.37S×28°.96E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/49, mbtmp4.1/18, ML1.9/1, MS3.7/17, Ms1 3.7/17, ms1mx3.6/33, Error ellipse: s-maj=25.0km s-min=15.3km az=105.0*
*NEIC **10** 03:00:17.6±0.3, 4°.35S×29°.12E, h10km, mb4.5/6, Error ellipse: s-maj=10.1km s-min=6.8km az=108.0*
NEIC Felt at Kagarama and Kigali, Rwanda. Also felt at Bujumbura, Burundi.
ISC 10 03:00:16.6±0.4, 4°.54S±0°.04×29°.29E±0°.05, h10km, n85, σ2s09/87, mb4.3/27, MS3.9/15, 14C-6D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBAT	**Babati**	**6.46**	**87**	*i* P		**Pn**	**03 01 53.6**	**+1.5**
BBAT				*i* S		**Sn**	**03 03 06.0**	**0.0**
KIBA	**Kibaya**	**7.30**	**96**	*i* P		**Pn**	**03 02 05.1**	**+1.5**
KIBA				*i* S		**Sn**	**03 03 26.5**	**-0.2**
VWZMW	**Thunduwike**	**7.84**	**147**	*i* P		Pn	03 02 16.6	+5.6
VWZMW S **Sg** 03 04 26.6 -1.9
VWZMW Thunduwike 7.84 147 *i* P Pn 03 02 16.6 +5.6
VWZMW S **Sg** 03 04 26.6 -1.9
KMBO Kilima Mbogo 8.65 67 *e*Pn **Pn** 03 02 22.2 0.0
KMBO *e*Sn **Sn** 03 03 55.5 -4.3
KMBO Lg Lg 03 04 46.4
KMBO Kilima Mbogo 8.65 67 Pn **Pn** 03 02 22.1 0.0
6.6nm,0.3s,baz=234,slow=17,SNR=110
KMBO Sn **Sn** 03 03 53.6 -6.3
38nm,0.3s,baz=225,slow=19,SNR=9.3
KMBO Lg Lg 03 04 46.4
66nm,0.3s,baz=345,slow=20,SNR=12
LSZ Lusaka 10.73 186 *i* P **Pn** 03 02 53.2 +2.7
LSZ Lusaka 10.73 186 *e*Pn **Pn** 03 02 54.4 +3.8
LSZ Sn **Sn** 03 04 46.2 -4.7
LSZ Lg Lg 03 05 50.5
LSZ Lusaka 10.73 186 *i* P **Pn** 03 02 53.2 +2.7
LSZ Lusaka 10.73 186 Pn **Pn** 03 02 52.7 +2.2
0.6nm,0.3s,baz=343,slow=10.0,SNR=16
LSZ Sn **Sn** 03 04 46.2 -4.7
1.1nm,0.3s,baz=26,slow=16,SNR=2.7
LSZ Lg Lg 03 05 50.5
3.0nm,0.3s,baz=24,slow=10.0,SNR=5.3
LSZ LR LR 03 07 08.2
comp=Z,368nm,20.7s,baz=5.5,slow=38
BLWY Bulawayo 15.52 182 *i* P **Pn** 03 03 57.8 +1.9
BLWY Bulawayo 15.52 182 *i* P **Pn** 03 03 57.8 +1.9
MATP Matopo 15.81 183 *i* P **Pn** 03 04 01.9 +2.3
MATP Matopo 15.81 183 *i* P **Pn** 03 04 01.9 +2.3
MATP Matopo 15.81 183 Pn **Pn** 03 03 58.7 -0.9
0.1nm,0.3s,baz=24,slow=12,SNR=2.6
MATP Sn **Sn** 03 06 47.9 -7.2
0.3nm,0.3s,baz=335,slow=17,SNR=2.1
MATP Lg Lg 03 08 33.4
0.9nm,0.3s,baz=273,slow=18,SNR=2.7
MATP LR LR 03 10 43.2
comp=Z,150nm,20.5s,baz=5.5,slow=39
TSUM Tsumeb 18.52 217 *e*P **Pn** 03 04 35.9 +2.4
26nm,1.0s
TSUM S Sn 03 07 50.2 -11
TSUM *e*Sn **S** 03 08 03.3 -1.6
TSUM Lg Lg 03 09 52.8
TSUM Tsumeb 18.52 217 P **P** 03 04 32.8 -0.6
0.2nm,0.3s,baz=30,slow=15,SNR=7.0
TSUM S Sn 03 07 50.2 -11
0.4nm,0.3s,baz=207,slow=6.8,SNR=2.2
TSUM Lg Lg 03 09 52.8
baz=128,slow=20,SNR=2.8
TSUM LR LR 03 11 26.8
comp=Z,52nm,18.0s,baz=82,slow=36
LBTB Lobatse 20.67 190 *i* P **P** 03 04 58.4 +1.6
LBTB Lobatse 20.67 190 *i* P **P** 03 04 58.4 +1.6
LBTB Lobatse 20.67 190 P **P** 03 04 58.6 +1.8
4.8nm,0.8s,baz=21,slow=14,SNR=2.2
LBTB S **S** 03 08 44.0 -3.9
3.2nm,0.8s,baz=16,slow=18,SNR=1.6
LBTB Lg Lg 03 11 02.7
22nm,1.2s,baz=292,slow=19,SNR=5.2
LBTB LR LR 03 12 21.3
comp=Z,159nm,21.6s,baz=13,slow=35
BOSA Boshof 24.25 189 *i* P **P** 03 05 37.3 +3.2
BOSA Boshof 24.25 189 *i* P **P** 03 05 37.3 +3.2
BOSA Boshof 24.25 189 P **P** 03 05 36.3 +2.2
3.4nm,0.8s,baz=9.2,slow=6.1,SNR=6.1
BOSA Lg Lg 03 12 58.5
8.8nm,1.0s,baz=311,slow=20,SNR=2.4
BOSA LR LR 03 15 13.3
comp=Z,226nm,18.3s,baz=11,slow=37
SUR Sutherland 28.81 195 Lg Lg 03 15 21.4
6.1nm,0.9s,baz=120,slow=16,SNR=3.1
SUR LR LR 03 17 54.0
comp=Z,304nm,18.8s,baz=18,slow=37
RAYN Ar Rayn 32.06 29 *e*P **P** 03 06 44.0 +0.1
8.5nm,1.1s
TOA0 Torodi Ar. Sit 32.55 303 *e*P **P** 03 06 47.0 -1.2
12nm,0.8s
TORD Torodi Ar. Bea 32.55 303 P **P** 03 06 44.8 -3.5
7.7nm,0.8s,baz=64,slow=3.4,SNR=52
TORD Lg Lg 03 17 03.1
1.4nm,1.1s,baz=127,slow=17,SNR=3.1
TAM Tamanrasset 35.74 320 *e*P **P** 03 07 14.7 -1.3
5.7nm,1.5s
DBIC Dimbokro 35.86 288 P **P** 03 07 15.4 -1.6
1.8nm,0.5s,baz=89,slow=9.0,SNR=4.2
DBIC LR LR 03 21 46.4
comp=Z,156nm,20.0s,baz=90,slow=36
ASF Jabal al Asfar 37.22 11 P **P** 03 07 29.2 +0.8
0.6nm,0.3s,baz=180,slow=1.0,SNR=3.9
KEST Kesra 44.21 337 LR LR 03 28 22.9
comp=Z,146nm,19.1s,baz=298,slow=38
BR131 Keskin Array S 44.23 5 *e*P **P** 03 08 25.8 -0.5
5.5nm,0.8s
BRTR Keskin Array B 44.23 5 P **P** 03 08 26.4 +0.1
3.6nm,0.8s,baz=183,slow=9.4,SNR=33
BRTR LR LR 03 28 02.8
comp=Z,22nm,19.2s,baz=186,slow=38
CFR Carcaliu 49.50 359 ⇓ *i*P **P** 03 09 07.1 -0.2
MDVR Moldovita 49.56 353 ⇓ *i*P **P** 03 09 07.6 -0.2
ARR Arges 49.86 356 ⇓ *i*P **P** 03 09 09.7 -0.4
MLR Muntele Rosu 49.90 357 *e*P **P** 03 09 09.9 -0.6
4.9nm,0.9s
MLR Muntele Rosu 49.90 357 ⇑ *i*P **P** 03 09 10.6 +0.2
MLR Muntele Rosu 49.90 357 P **P** 03 09 10.2 -0.3
3.4nm,0.7s,baz=177,slow=4.9,SNR=13
VOIR 49.90 356 ⇑ *i*P **P** 03 09 10.1 -0.3
LOT Lotru 50.01 355 ⇓ *i*P **P** 03 09 11.0 -0.3
GZR Gura Zlata 50.05 354 ⇓ *i*P **P** 03 09 11.2 -0.3
PLOR Plostina 50.22 358 ⇑ *i*P **P** 03 09 12.7 -0.1
VRI Vrincioaia 50.23 358 ⇑ *i*P **P** 03 09 12.9 0.0
BZS Buzias 50.40 353 ⇑ *i*P **P** 03 09 14.3 +0.2
DOPR Dopca 50.40 356 ⇑ *i*P **P** 03 09 13.3 -0.9
OZUR 50.51 357 ⇓ *i*P **P** 03 09 14.1 -0.9
LEOM Leova 50.80 359 ⇑ *i*P **P** 03 09 16.8 -0.2
TESR Tescani 50.88 358 ⇑ *i*P **P** 03 09 16.5 -1.2
SIRR Siria 51.03 353 ⇑ *i*P **P** 03 09 19.5 +0.6
BIZ Bicaz 51.33 357 ⇓ *i*P **P** 03 09 20.9 -0.2
DRGR 51.44 354 ⇓ *i*P **P** 03 09 22.5 +0.5
PRAR RASCA 51.75 357 ⇑ *i*P **P** 03 09 23.9 -0.3
BURAR Bucovina Array 52.05 357 ⇑ *i*P **P** 03 09 28.0 +1.4
BUR08 Bucovina Ar. S 52.09 356 *e*P **P** 03 09 27.2 +0.3
24nm,1.8s
TRPA Tarpa 52.78 354 ⇑ *i*P **P** 03 09 33.4 +1.6
ES06 SONSECA Array 53.59 328 *e*P **P** 03 09 38.1 0.0
ESDC Sonseca Array 53.60 328 P **P** 03 09 37.2 -0.9
0.7nm,0.7s,baz=142,slow=7.5,SNR=4.6
ESDC LR LR 03 35 06.9
comp=Z,176nm,18.0s,baz=170,slow=39
VYHS Vyhne 53.60 351 *e*P **P** 03 09 40.4 +2.5
SQTA Sankt Quirin 53.95 345 *e*P **P** 03 09 40.1 -0.6
3.6nm,0.7s
WATA Walderalm 53.96 345 *e*P **P** 03 09 41.8 +1.1
1.2nm,0.5s
MOTA Moosalm 54.09 345 *e*P **P** 03 09 40.7 -1.1
1.3nm,0.6s
RETA Reutte 54.31 345 *e*P **P** 03 09 41.9 -1.4
3.5nm,0.8s
DAVA Damuels 54.37 344 *e*P **P** 03 09 42.7 -1.1
4.8nm,0.6s
AKASG Malin Array Be 55.02 360 P **P** 03 09 47.0 -1.2
2.2nm,0.7s,baz=186,slow=6.8,SNR=14
AKBB Malin Array Si 55.02 360 *e*P **P** 03 09 47.6 -0.6
5.9nm,0.9s
KHC Kasperske Hory 55.17 347 *e*P **P** 03 09 48.7 -0.7
KHC *ex* x 03 10 00.6
DPC Dobruska-Polom 55.80 350 *e*P P 03 09 43.1 -11
KSH Kashi 61.37 40 *e*P **P** 03 10 29.3 -3.8
KSH pmax pmax
comp=Z,65nm,3.8s
ARU Arti 65.31 17 *e*P **P** 03 10 58.8 +0.1
FINES FINESS Array B 65.84 358 P **P** 03 11 01.6 -0.3
comp=Z,3.5nm,0.9s,baz=158,slow=2.1,SNR=5.7
FINES LR LR 03 41 21.6
comp=Z,79nm,18.3s,baz=220,slow=38
NOA NORSAR Array B 66.88 351 P **P** 03 11 08.5 -0.3
comp=Z,1.4nm,0.8s,baz=162,slow=6.0,SNR=3.9
NOA LR LR 03 42 52.7
comp=Z,30nm,20.6s,baz=225,slow=38
BVAR Borovoye Array 66.97 26 P **P** 03 11 09.6 +0.1
comp=Z,1.5nm,0.6s,baz=164,slow=22,SNR=4.7
MAW Mawson 66.99 167 LR LR 03 39 55.6
comp=Z,86nm,18.0s,baz=250,slow=35
MK01 Makanchi Array 69.19 36 *e*P **P** 03 11 24.4 +0.9
MKAR Makanchi Array 69.20 36 P **P** 03 11 24.6 +1.0
comp=Z,0.8nm,0.5s,baz=240,slow=7.4,SNR=5.8
KURBB Kurchatov Arra 69.27 31 P **P** 03 11 25.1 +1.2
comp=Z,1.1nm,0.9s,baz=240,slow=7.9,SNR=2.7
WMQ Urumqi 71.11 41 *e*P **P** 03 11 37.9 +2.5
WMQ LR LR
comp=N,220nm,25.5s
WMQ LR LR
comp=E,94nm,24.3s
WMQ LR LR
comp=Z,100nm,21.1s
CMAR Chiang Mai Arr 72.29 69 LR LR 03 42 23.5
comp=Z,17nm,19.8s,baz=220,slow=35
ZALV Zalesovo Beam 74.33 30 P **P** 03 11 54.7 +0.5
comp=Z,0.6nm,0.4s,baz=232,slow=7.1,SNR=3.2
KMI Kunming 77.05 63 P **P** 03 12 14.7 +4.0
KMI pmax pmax
comp=Z,27nm,0.5s
NRIK Noril'sk 83.53 18 LR LR 03 56 47.1
comp=Z,60nm,18.1s,baz=210,slow=41
SONM Songino Array 84.73 41 P **P** 03 12 53.5 +2.3
comp=Z,0.5nm,0.8s,baz=274,slow=4.0,SNR=2.4
SONM LR LR 03 55 00.4
comp=Z,70nm,18.8s,baz=344,slow=39
HHC Hu-ho-hao-te 87.11 49 *e*P **P** 03 13 04.7 +1.6
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.2s
VNDA Vanda 94.01 171 LR LR 03 55 46.9
comp=Z,78nm,18.4s,baz=196,slow=35

*IDC **10** 03:03:08.5±2.8, 37°.20N×72°.28E, h165km±24km, mb3.5/12, mb1 3.7/16, mb1mx3.4/54, mbtmp4.1/16, Error ellipse: s-maj=23.5km s-min=15.1km az=169.0*
*ISCJB **10** 03:03:10.6±0.3, 37°.41N±0°.02×72°.39E±0°.05, h200km, mb3.7/17, Error ellipse: s-maj=5.7km s-min=3.0km az=160.0*
*MOS **10** 03:03:11.5±1.1, 37°.52N×72°.22E, h193km, mb4.1/10, Error ellipse: s-maj=12.6km s-min=7.2km az=99.8*
*BJI **10** 03:03:11.6, 37°.39N×72°.33E, h181km, mb4.2/4, mB4.4/2*
*NNC **10** 03:03:16.7±4.2, 37°.93N×72°.20E, h197km±56km, mb3.0, mpv4.2, Error ellipse: s-maj=44.1km s-min=23.7km az=10.0*
ISC 10 03:03:10.5±0.5, 37°.42N±0°.04×72°.59E±0°.06, h200km, n92, σ2s61/101, mb3.8/17, 8C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**3.38**	**51**	P		**Pn**	**03 04 02.7**	**-2.0**
KSH				S		**Sn**	**03 04 41.1**	**-6.2**
KSH				smax		smax		
	comp=N,880nm,0.5s							
KSH				smax		smax		
	comp=E,580nm,0.5s							
CEP	**Cherat**	**3.63**	**189**	P		**Pn**	**03 04 09.0**	**+1.1**
CEP				S		**Sn**	**03 04 52.0**	**-0.9**
CHCP	**Chirah Chowk**	**3.79**	**171**	P		**Pn**	**03 04 12.8**	**+3.0**
THW	**Thamme Wali**	**4.67**	**189**	P		**Pn**	**03 04 21.4**	**+0.7**
AML	**Almayashu**	**4.78**	**10**	P		**Pn**	**03 04 23.0**	**+0.6**
	SNR=278							
UCH	**Uchtor**	**5.02**	**17**	P		**Pn**	**03 04 26.8**	**+1.3**
	SNR=95							
KZA	**Kyzart**	**5.08**	**23**	P		**Pn**	**03 04 27.4**	**+1.2**
	SNR=13							
EKS2	**Erkin-Say**	**5.31**	**10**	P		**Pn**	**03 04 29.9**	**+1.0**
	SNR=20							
AAK	**Ala-Archa**	**5.41**	**15**	P		**Pn**	**03 04 31.8**	**+1.6**
	SNR=59							
AAK	**Ala-Archa**	**5.41**	**15**	⇓P		**Pn**	**03 04 31.5**	**+1.3**
	39nm,0.5s							
AAK				⇑S		**Sn**	**03 05 32.4**	**-0.8**
	70nm,0.7s							
AAK	**Ala-Archa**	**5.41**	**15**	P		**Pn**	**03 04 31.8**	**+1.6**
	19nm,0.3s,baz=169,slow=6.1,SNR=250							
AAK				S		**Sn**	**03 05 27.2**	**-6.0**
	4.8nm,0.3s,baz=185,slow=12,SNR=3.6							
KBK	**Karagaybulak**	**5.53**	**18**	P		**Pn**	**03 04 33.7**	**+1.9**
	SNR=16							
ULHL	**Ulahol**	**5.58**	**29**	P		**Pn**	**03 04 34.4**	**+2.0**
	SNR=9.5							
CHMS	**Chumysh**	**5.81**	**16**	P		**Pn**	**03 04 36.5**	**+1.3**
	SNR=24							
KK31	**Karatay Array**	**5.89**	**345**	P		**Pn**	**03 04 35.0**	**-1.3**
	10nm,0.3s,baz=164,slow=16,SNR=254							
KK31				S		**Sn**	**03 05 37.1**	**-7.1**
	49nm,0.3s,baz=165,slow=22,SNR=31							
KK31	**Karatay Array**	**5.89**	**345**	*i* PN		**Pn**	**03 04 34.9**	**-1.3**
KK31				pmax		pmax		
	comp=Z,8.0nm,0.3s							
TKM2	**Tokmak 2**	**5.96**	**22**	P		**Pn**	**03 04 39.0**	**+1.7**
	SNR=12							
TKM2	**Tokmak 2**	**5.96**	**22**	⇑P		**Pn**	**03 04 38.8**	**+1.5**
	comp=Z,4.1nm,0.4s							
TKM2				⇑S		**Sn**	**03 05 42.9**	**-3.1**
	comp=Z,18nm,0.8s							
TKM2	**Tokmak 2**	**5.96**	**22**	PN		**Pn**	**03 04 38.7**	**+1.5**
TKM2				pmax		pmax		
	comp=Z,9.0nm,0.8s							
DHRM	**DHARAMSHALA**	**6.00**	**148**	*e*P		**Pn**	**03 04 37.7**	**-0.2**
DHRM				*e*S		**Sn**	**03 05 47.5**	**+0.5**
DHRM				IAML			03 05 51.9	
	comp=N,568nm,0.5s							
DHRM				IAML			03 05 52.1	
	comp=E,1μm,0.6s							
USP	**Ospenovka**	**6.02**	**13**	P		**Pn**	**03 04 38.5**	**+0.6**
	SNR=28							
SMLA	**Simla**	**7.33**	**148**	*e*P		**Pn**	**03 04 55.6**	**+0.6**
SMLA				*e*S		**Sn**	**03 06 17.4**	**-0.7**
SMLA				IAML			03 06 20.9	
	comp=N,387nm,0.7s							
SMLA				IAML			03 06 21.4	
	comp=E,303nm,0.6s							
DDI	**Dehra Dun**	**8.41**	**146**	*e*S		**Sn**	**03 06 43.5**	**-0.3**
DDI				IAML			03 06 49.5	
	comp=E,254nm,0.1s							
DDI				IAML			03 06 50.2	
	comp=N,196nm,0.1s							
KALG	**Kalgarh**	**9.42**	**145**	*e*S		**Sn**	**03 07 05.2**	**-2.6**
NDI	**New Delhi**	**9.54**	**155**	*e*P		Pn	03 05 18.0	-5.8
NDI				*e*S		Sn	03 06 59.5	-11
KHET	**Khetri**	**9.71**	**163**	*e*P		Pn	03 05 15.6	-10
KHET				*e*S		Sn	03 06 56.1	-18
KHET				IAML			03 07 11.8	
	comp=E,22nm,0.7s							
KHET				IAML			03 07 12.4	
	comp=N,14nm,0.4s							
GEYT	**Alibeck**	**11.48**	**277**	P		Pn	03 05 43.5	-5.2
	comp=N,1.4nm,0.3s,baz=80,slow=12,SNR=18							
GEYT				S		Sn	03 07 42.1	-15
	comp=N,2.8nm,0.3s,baz=122,slow=46,SNR=9.1							
MK31	**Makanchi Array**	**11.81**	**34**	*i* P		**P**	**03 05 56.6**	**-1.2**
MKAR	**Makanchi Array**	**11.81**	**34**	*ce*P		**P**	**03 05 56.4**	**-1.4**
MKAR	**Makanchi Array**	**11.81**	**34**	P		**P**	**03 05 56.0**	**-1.7**
	comp=N,0.1nm,0.3s,baz=231,slow=15,SNR=4.1							
PYUN	**Piuthan**	**12.76**	**134**	*e*P		**P**	**03 06 07.6**	**-1.1**
	comp=N,26nm,0.4s							
PYUN	**Piuthan**	**12.76**	**134**	*e*P		**P**	**03 06 08.7**	**0.0**
	comp=N,26nm,0.4s							
PYUN				*e*S		**Sn**	**03 08 21.5**	**-6.2**
DANN	**Dangsing**	**13.03**	**131**	*e*P		**P**	**03 06 11.1**	**-0.7**
	comp=N,38nm,0.4s							
DANN	**Dangsing**	**13.03**	**131**	*e*P		**P**	**03 06 11.5**	**-0.3**
DANN				*e*S		**S**	**03 08 27.5**	**-6.6**
KOLN	**Koldanda**	**13.36**	**133**	*e*P		**P**	**03 06 15.6**	**+0.2**
	comp=N,16nm,0.4s							
KOLN	**Koldanda**	**13.36**	**133**	*e*P		**P**	**03 06 16.9**	**+1.5**
	comp=N,16nm,0.4s							
GKN	**Gorkha**	**13.81**	**129**	*e*P		**P**	**03 06 21.2**	**+0.8**
	comp=N,98nm,0.6s							
GKN	**Gorkha**	**13.81**	**129**	*e*P		**P**	**03 06 22.0**	**+1.6**
	comp=N,98nm,0.6s							
KURBB	**Kurchatov Arra**	**13.87**	**16**	P		**Pn**	**03 06 18.3**	**-0.2**
	comp=N,0.0nm,0.3s,baz=200,slow=11,SNR=3.7							
KURK	**Kurchatov**	**13.97**	**16**	*i* P		**P**	**03 06 23.5**	**+1.8**
KKN	**Kakani**	**14.36**	**128**	*e*P		**P**	**03 06 28.8**	**+2.3**
	comp=N,24nm,0.4s							
KKN	**Kakani**	**14.36**	**128**	*e*P		**P**	**03 06 29.0**	**+2.5**
	comp=N,24nm,0.4s							
DMN	**Daman**	**14.38**	**129**	*e*P		**P**	**03 06 29.3**	**+2.5**
	comp=N,16nm,0.3s							
DMN	**Daman**	**14.38**	**129**	*e*P		**P**	**03 06 30.5**	**+3.7**
PKIN	**Phulchoki**	**14.59**	**129**	*e*P		**P**	**03 06 30.9**	**+1.8**
	comp=N,22nm,0.4s							
PKIN	**Phulchoki**	**14.59**	**129**	*e*P		**P**	**03 06 32.4**	**+3.3**
	comp=N,22nm,0.4s							
PKI	**Pulchoki**	**14

PKI	**Pulchoki**	**14.60**	**129**	*e*P	**P**	**03 06 32.7**	**+3.4**
	comp=N,18nm,0.4s							
GUN	**Gumba**	**14.66**	**126**	*e*P	**P**	**03 06 32.1**	**+2.1**
	comp=N,27nm,0.3s							
GUN	**Gumba**	**14.66**	**126**	*e*P	**P**	**03 06 33.1**	**+3.1**
	comp=N,27nm,0.3s							
BHPL	**Bhopal**	**14.73**	**162**	*e*P	Pn	03 06 21.8	-7.7
BHPL				*e*S	**S**	**03 09 06.9**	**-6.4**
AB31	**Akbulak array**	**14.96**	**326**	‖P	**P**	**03 06 31.0**	**-1.7**
	comp=N,4.7nm,0.6s,baz=138,slow=12,SNR=97							
AB31	**Akbulak array**	**14.96**	**326**	P	**P**	**03 06 30.9**	**-1.7**
AB31				*e*S	S	03 09 06.4	-12
AB31				pmax	pmax			
	comp=Z,5.0nm,0.6s							
AB31				smax	smax			
	comp=N,6.0nm,0.5s							
JIRN	**Jiri**	**15.03**	**126**	*e*P	**P**	**03 06 37.1**	**+3.0**
	comp=N,107nm,0.5s							
JIRN	**Jiri**	**15.03**	**126**	*e*P	**P**	**03 06 38.3**	**+4.2**
	comp=N,107nm,0.5s							
BVA0	**Borovoye Array**	**15.68**	**355**	P	**Pn**	**03 06 40.6**	**-0.1**
	comp=N,0.1nm,0.5s,baz=161,slow=12,SNR=9.9							
BVAR	**Borovoye Array**	**15.68**	**355**	P	**Pn**	**03 06 39.4**	**-1.3**
	comp=N,0.3nm,0.3s,baz=170,slow=12,SNR=14							
BVAR				S	**S**	**03 09 28.5**	**-6.0**
	comp=N,0.2nm,0.3s,baz=170,slow=13,SNR=4.3							
BRVK	**Borovoye**	**15.72**	**355**	*i* P	**Pn**	**03 06 41.7**	**+0.5**
RAMN	**Ramite**	**15.79**	**127**	*e*P	**Pn**	**03 06 46.1**	**+3.6**
	comp=N,50nm,0.5s							
RAMN	**Ramite**	**15.79**	**127**	*e*P	**Pn**	**03 06 47.4**	**+4.9**
	comp=N,36nm,0.4s							
ODAN	**Odare**	**16.35**	**126**	*e*P	**Pn**	**03 06 55.0**	**+5.7**
AKTO	**Aktyubinsk**	**16.67**	**326**	⇑P	**Pn**	**03 06 52.3**	**-0.3**
	comp=N,4.6nm,0.3s							
AKTO	**Aktyubinsk**	**16.67**	**326**	P	**Pn**	**03 06 52.3**	**-0.3**
AKTO				pmax	pmax			
	comp=Z,5.0nm,0.4s							
AKTO	**Aktyubinsk**	**16.67**	**326**	P	**Pn**	**03 06 51.9**	**-0.7**
	comp=Z,2.3nm,0.3s,baz=124,slow=9.0,SNR=15							
AKTO				S	S	03 09 41.7	-14	
	comp=Z,0.2nm,0.3s,baz=181,slow=6.4,SNR=2.6							
BOK	**Bokaro**	**17.74**	**136**	*ex*	**Pn**	**03 07 09.6**	**+4.2**
ZALV	**Zalesovo Beam**	**18.56**	**23**	*i* P	**Pn**	**03 07 15.6**	**+0.8**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**18.56**	**23**	P	**Pn**	**03 07 15.1**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=225,slow=10,SNR=9.1							
AKT	**Akhty**	**19.59**	**290**	*i* P	**Pn**	**03 07 23.7**	**-3.6**
BWNR	**Bhubaneshwar**	**20.58**	**142**	*ex*	**P**	**03 07 33.8**	**-0.2**
HYB	**Hyderabad**	**20.61**	**164**	*e*P	**P**	**03 07 28.3**	**-6.2**
ARU	**Arti**	**21.21**	**338***c*	*i*P	**P**	**03 07 41.7**	**+1.3**
ARU						03 08 16.2		
ARU				S	**S**	**03 11 26.6**	**+3.0**
ARU				pmax	pmax			
	comp=Z,14nm,1.6s							
GNI	**Garni**	**21.84**	**286**	*i* P	**P**	**03 07 47.2**	**0.0**
GNI				pmax	pmax			
	comp=Z,13nm,1.0s							
GNI	**Garni**	**21.84**	**286**	P	**P**	**03 07 46.1**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=114,slow=10.0,SNR=3.3							
NCK	**Nalchik**	**22.81**	**295**	*i* P	**P**	**03 07 56.5**	**+0.5**
NCK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
KBZ	**Khabaz**	**23.34**	**295**	P	**P**	**03 08 01.0**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=190,slow=4.9,SNR=6.5							
NEY	**Neytrino**	**23.42**	**294**	*i* P	**P**	**03 08 01.2**	**-0.5**
NEY				pmax	pmax			
	comp=Z,1.0nm,1.0s							
KIV	**Kislovodsk**	**23.51**	**296**	*e*P	**P**	**03 08 01.8**	**-0.6**
KIV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
VSR	**Storozhevoye**	**27.33**	**311**	*i* P	**P**	**03 08 36.9**	**+0.4**
VSR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**30.38**	**287***ce*	P	**P**	**03 09 05.4**	**+1.6**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BRTR	**Keskin Array B**	**30.38**	**287**	P	**P**	**03 09 05.1**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=101,slow=6.7,SNR=19							
AKASG	**Malin Array Be**	**33.38**	**307***ce*	P	**P**	**03 09 31.2**	**+1.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.38**	**307**	P	**P**	**03 09 30.8**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=113,slow=8.0,SNR=5.5							
FINES	**FINESS Array B**	**37.44**	**325**	P	**P**	**03 10 05.5**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=120,slow=10.0,SNR=12							
ARCES	**ARCESS Array B**	**40.79**	**337**	P	**P**	**03 10 33.9**	**+2.1**
	comp=Z,2.5nm,0.4s,baz=118,slow=8.8,SNR=21							
NB2	**NORSAR Subarra**	**44.42**	**322**	P	**P**	**03 11 01.9**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=93,slow=7.9							
NOA	**NORSAR Array B**	**44.42**	**322**	P	**P**	**03 11 02.1**	**+1.1**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**44.42**	**322**	P	**P**	**03 11 02.1**	**+1.1**
	comp=Z,1.5nm,0.6s,baz=106,slow=7.2,SNR=10							
KEST	**Kesra**	**49.95**	**288**	P	**P**	**03 11 45.7**	**+1.6**
	comp=Z,3.5nm,0.9s,baz=34,slow=7.3,SNR=3.2							
ESDC	**Sonseca Array**	**58.15**	**298**	P	**P**	**03 12 44.4**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=55,slow=7.1,SNR=6.5							
TORD	**Torodi Ar. Bea**	**67.00**	**269**	P	**P**	**03 13 40.8**	**-1.3**
	comp=Z,0.9nm,0.4s,baz=45,slow=5.7,SNR=19							
YKA	**Yellowknife Ar**	**80.26**	**3**	P	**P**	**03 15 01.5**	**+3.1**
	comp=Z,0.4nm,0.5s,baz=350,slow=5.7,SNR=9.7							
WRA	**Warramunga Arr**	**81.41**	**123**	P	**P**	**03 15 08.2**	**+3.0**
	comp=Z,0.4nm,0.9s,baz=329,slow=5.2,SNR=3.3							

IDC 10 03:24:35.3±4.0, 4.°10S×153.°75E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=131.7km s-min=29.0km az=105.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.61**	**229**	P	P	P	03 29 57.7	+0.1
	1.9nm,0.4s,baz=53,slow=9.7,SNR=30							
ASAR	**Alice Springs**	**27.30**	**223**	P	P	P	03 30 22.1	+0.1
	0.1nm,0.3s,baz=56,slow=8.8,SNR=4.4							
SONM	**Songino Array**	**66.25**	**327**	P	P	P	03 35 25.9	+0.5
	0.2nm,0.5s,baz=122,slow=5.2,SNR=2.9							
MKAR	**Makanchi Array**	**80.43**	**319**	P	P	P	03 36 48.8	-0.3
	0.1nm,0.4s,baz=107,slow=6.2,SNR=2.4							
TORD	**Torodi Ar. Bea**	**150.98**	**290**	PKPbc	PKPbc	PKPbc	03 44 30.5	-0.8
	0.3nm,0.5s,baz=90,slow=3.0,SNR=6.5							

*ISCJB **10** 03:56:42.8±0.7, 24.°04N±0.°07×108.°88W±0.°04, h22km, mb2.8/2, MS3.4/3, Error ellipse: s-maj=9.8km s-min=5.3km az=7.1*

*IDC **10** 03:56:42.7±4.4, 24.°03N×109.°06W, h0km, mb2.9/2, mb1 3.5/5, mb1mx3.4/40, mbtmp3.1/5, ML3.5/3, MS3.6/7, Ms1 3.6/7, ms1mx3.5/11, Error ellipse: s-maj=65.9km s-min=12.8km az=160.0*

*MEX **10** 03:56:44.9±0.5, 24.°09N×108.°91W, h10km±7km, MD4.1*

ISC 10 03:56:44.5±1.0, 24.°01N±0.°08×108.°96W±0.°04, h22km, n14, σ1§79/15, MS3.5/3, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.24**	**275**	*i* P	**Pn**	**Pn**	**03 57 04.8**	**-1.6**
LPIG				*i* S	**Sn**	**Sn**	**03 57 21.2**	**-1.3**
LPIG	**La Paz**	**1.24**	**275**	Pg	**Pn**	**Pn**	**03 57 04.7**	**-1.8**
	93nm,0.3s,baz=92,slow=6.1,SNR=42							
LPIG				Lg	Lg	Lg	03 57 19.9	
	96nm,0.3s,baz=307,slow=10,SNR=13							
MAIG	**Mazatlaan**	**2.46**	**109**	*e*P	**Pn**	**Pn**	**03 57 22.4**	**-0.9**
MAIG				*e*S	**Sn**	**Sn**	**03 57 50.8**	**-1.8**
HPIG		**4.17**	**45**	*e*P	**Pn**	**Pn**	**03 57 45.5**	**-1.4**
HPIG				*i* S	**Sn**	**Sn**	**03 58 32.2**	**-2.9**
ZAIG	**Zacatecas**	**6.00**	**101**	*i* P	**Pn**	**Pn**	**03 58 12.2**	**0.0**
ZAIG				*e*S	**Sn**	**Sn**	**03 59 19.0**	**-1.4**
TXAR	**Lajitas Array**	**7.11**	**41**	Pn	**Pn**	**Pn**	**03 58 27.8**	**+0.6**
	0.2nm,0.3s,baz=212,slow=13,SNR=3.6							
TXAR				Sn	**Sn**	**Sn**	**03 59 44.6**	**-2.9**
	0.6nm,0.3s,baz=199,slow=25,SNR=9.5							
TXAR				Lg	Lg	Lg	04 00 27.6	
	0.1nm,0.3s,baz=246,slow=26,SNR=2.6							
TXAR				LR	LR	LR	04 00 57.0	
	comp=Z,294nm,18.9s,baz=0.0,slow=36							
NVAR	**Mina Array Bea**	**16.43**	**333**	Pn	**P**	**P**	**04 00 36.9**	**+0.3**
	0.1nm,0.3s,baz=155,slow=11,SNR=2.4							
NVAR				LR	LR	LR	04 06 49.8	
	comp=Z,174nm,18.5s,baz=250,slow=37							
ELK	**Elko**	**17.50**	**344**	LR	LR	LR	04 07 55.6	
	comp=Z,265nm,18.8s,baz=178,slow=39							
PDAR	**Pinedale Array**	**18.72**	**359**	P	**Pn**	**P**	**04 01 02.5**	**+0.3**
	0.0nm,0.3s,baz=170,slow=11,SNR=4.1							
PDAR				LR	LR	LR	04 08 29.9	
	comp=Z,179nm,20.3s,baz=203,slow=38							
YBH	**Yreka Blue Hor**	**21.07**	**330**	LR	LR	LR	04 08 35.4	
	comp=Z,91nm,20.9s,baz=160,slow=34							
NEW	**Newport**	**25.06**	**347**	LR	LR	LR	04 13 04.6	
	comp=Z,150nm,20.6s,baz=169,slow=39							
JTS	**JuntasAbangare**	**26.62**	**117**	LR	LR	LR	04 11 51.1	
	comp=Z,148nm,20.0s,baz=352,slow=34							
YKA	**Yellowknife Ar**	**38.66**	**356**	P	**P**	**P**	**04 04 08.0**	**+1.9**
	0.1nm,0.7s,baz=173,slow=8.5,SNR=1.1							
ILAR	**Eielson Array**	**47.57**	**339**	P	**P**	**P**	**04 05 19.8**	**+1.7**
	0.1nm,0.8s,baz=154,slow=7.1,SNR=1.3							

*IDC **10** 04:07:59.6±0.4, 0.°02N×125.°53E, h0km, mb4.7/31, mb1 4.8/34, mb1mx4.7/42, mbtmp4.7/34, ML4.5/3, MS3.7/22, Ms1 3.7/22, ms1mx3.6/42, Error ellipse: s-maj=15.7km s-min=10.1km az=76.0*

*BJI **10** 04:08:02.3, 0.°18S×125.°72E, h32km, mb5.0/53, mB5.1/38, Ms4.5/27, Ms7 4.3/26*

*MOS **10** 04:08:03.3±0.9, 0.°09N×125.°53E, h33km, mb5.2/63, Error ellipse: s-maj=10.6km s-min=5.3km az=111.6*

*NEIC **10** 04:08:03.7±1.3, 0.°02N×125.°59E, h28km±9km, mb5.0/76, Error ellipse: s-maj=5.1km s-min=3.1km az=78.0*

*ISCJB **10** 04:08:05.3±0.4, 0.°01S±0.°02×125.°70E±0.°03, h55km±3km, mb4.9/144, MS3.9/33, Error ellipse: s-maj=4.3km s-min=3.4km az=171.0*

*DJA **10** 04:08:07.1±0.3, 0.°N±2.°×12.°6E±.°, h48km±3km, M4.9/24, mB5.4/6, mb4.8/24, MLv5.0/9, Mw(mB)4.9/6*

*GCMT **10** 04:08:08.7±0.2, 0.°21S±0.°02×125.°77E±0.°03, h40km±1km, MW5.0/62, Moment Tensor Solution. s43,c59; s62,c80; Duration: 1s3 Moment tensor: Scale 1016Nm; Mrr2.11±.23; Mθθ-2.14±.17; Mϕϕ0.02±.21; Mrθ1.31±.17; Mθϕ-3.86±.14; Mϕr1.85±.22; Best double couple: M=4.58700×1016 NP1=ϕs18.00000°, δ76.00000°, λ40.00000°. NP2=ϕs276.00000°, δ51.00000°, λ161.00000°. Principal axes: T 3.5030, Plg38.0000°, Azm244.0000°; N 2.1640, Plg48.0000°, Azm34.0000°; P -5.6700, Plg16.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **10** 04:08:13.3, 0.°03S×125.°69E, h120km, mb4.8*

ISC 10 04:08:04.0±0.7, 0.°04S±0.°03×125.°71E±0.°03, h29km±4km, n373, σ1§57/405, mb4.9/144, MS3.9/33, 18C-14D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.84**	**289**	P	**Pb**	**Pb**	**04 08 36.3**	**-0.7**
KMSI				S	**Sb**	**Sb**	**04 08 58.0**	**-1.6**
TNTI	**Ternate**	**1.84**	**64**	*e*Pn	**Pb**	**Pb**	**04 08 35.8**	**-1.2**
TNTI	**Ternate**	**1.84**	**64**	P	**Pb**	**Pb**	**04 08 36.5**	**-0.5**
SANI	**Sanana**	**2.02**	**172**	P	**Pn**	**Pn**	**04 08 36.7**	**+0.5**
SANI				S	**Sn**	**Sn**	**04 08 59.6**	**-0.8**
LUWI	**Luwuk**	**3.11**	**251**	P	**Pb**	**Pb**	**04 08 57.5**	**-1.1**
NLAI	**Namlea**	**3.47**	**156**	P	**Pn**	**Pn**	**04 08 58.0**	**+1.9**
SGSI	**Sangihe**	**3.70**	**357**	P	**Pn**	**Pn**	**04 09 01.3**	**+2.0**
MRSI	**Marisa**	**3.81**	**278**	P	**Pn**	**Pn**	**04 09 01.8**	**+1.0**
APSI	**Ampana**	**4.16**	**258**	P	**Pn**	**Pn**	**04 09 07.8**	**+2.2**
SIJI	**Sorong**	**5.61**	**98**	Pn	**Pn**	**Pn**	**04 09 28.5**	**+2.9**
	4.1nm,0.3s,baz=266,slow=10,SNR=9.6							
SIJI				Sn	**Sn**	**Sn**	**04 10 32.4**	**+3.1**
	2.4nm,0.3s,baz=270,slow=20,SNR=3.0							
MPSI	**Mapaga**	**5.83**	**274**	P	**Pn**	**Pn**	**04 09 32.9**	**+4.3**
	64nm,0.8s,828nm0.4nm							
PCI	**Palu**	**5.94**	**262**	P	Pn	Pn	04 09 35.8	+5.7
	206nm,0.9s,2μm1.9nm							
TTSI	**Tana Toraja**	**6.61**	**243**	P	**Pn**	**Pn**	**04 09 41.9**	**+2.6**
	158nm,0.7s,1μm0.5nm							
SKMP	**Bagumbayan, Su**	**6.62**	**350**	*e*P	**Pn**	**Pn**	**04 09 42.4**	**+3.0**
SKMP				*e*S	**Sn**	**Sn**	**04 10 54.5**	**+0.6**
MATI	**Mati**	**6.96**	**4**	*e*P	**Pn**	**Pn**	**04 09 48.7**	**+4.6**
MATI				*e*S	**Sb**	**Sb**	**04 11 18.1**	**-8.8**
KCP	**Kidapawan**	**7.03**	**355**	‖P	Pn	Pn	04 09 50.4	+5.3
KCP				*i* S	Pn	Pn	04 09 52.6	+7.5
DAV	**Davao City (W)**	**7.06**	**359**	Pn	**Pn**	**Pn**	**04 09 45.0**	**-0.5**
	94nm,0.3s,baz=177,slow=3.0,SNR=2.9							
DAV				Sn	**Sn**	**Sn**	**04 11 06.5**	**+1.6**
	132nm,0.3s,baz=45,slow=11,SNR=2.5							
BNSI	**Bone**	**7.08**	**232**	P	**Pn**	**Pn**	**04 09 49.2**	**+3.4**
	70nm,0.6s,0.3nm							
SPSI	**Sidrap Palu**	**7.11**	**237**	P	**Pn**	**Pn**	**04 09 48.5**	**+2.4**
	45nm,0.6s,645nm							
CTBH	**Cotabato--PC H**	**7.36**	**349**	‖*i*P	**Pn**	**Pn**	**04 09 54.3**	**+4.7**
BKSI	**Bulukumba**	**7.67**	**227**	P	**Pn**	**Pn**	**04 09 57.5**	**+3.7**
	20nm,0.8s							
BUKP	**Musuan**	**7.89**	**355**	*e*P	**Pn**	**Pn**	**04 10 01.0**	**+4.0**
BUKP				*e*S	**Sn**	**Sn**	**04 11 32.7**	**+7.3**
PAGZ	**Pagadian**	**8.17**	**344**	*e*P	**Pn**	**Pn**	**04 10 03.4**	**+2.6**
BUTP	**Butuan**	**8.95**	**359**	*e*P	Pn	Pn	04 10 16.5	+5.1
EDFI	**Ende, Flores**	**9.54**	**205**	P	**Pn**	**Pn**	**04 10 23.9**	**+4.3**
SOEI	**Soe**	**9.76**	**188**	*e*Pn	**Pn**	**Pn**	**04 10 24.4**	**+1.7**
MTN	**Manton Dam**	**13.81**	**157**	*e*Pn	**Pn**	**Pn**	**04 11 18.9**	**+0.9**
TGY	**Tagaytay City**	**14.82**	**342**	LR	LR	LR	04 18 02.6	
	comp=Z,230nm,20.6s,baz=182,slow=41							
KSM	**Kuching**	**15.48**	**276**	P	**P**	**P**	**04 11 45.8**	**+1.1**
NGJI	**Ngawi**	**15.97**	**243**	P	**Pn**	**Pn**	**04 11 45.1**	**-1.7**
PWJI	**Pagerwojo**	**15.97**	**240**	P	**P**	**P**	**04 11 49.8**	**-0.3**
	40nm,1.0s							
PCJI	**Pacitan**	**16.60**	**240**	P	**P**	**P**	**04 11 57.6**	**+0.5**
	52nm,1.3s							
WOJI	**Wonogiri, Jawa**	**16.66**	**242**	P	**P**	**P**	**04 11 59.6**	**+1.9**
	35nm,1.4s							
SMRI	**Semarang**	**16.75**	**245**	P	**P**	**P**	**04 12 02.9**	**+4.1**
FITZ	**Fitzroy Crossi**	**17.95**	**180**	*e*Pn	**P**	**P**	**04 12 12.2**	**+0.2**
	17nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.95**	**180**	P	**P**	**P**	**04 12 12.4**	**+0.5**
	0.7nm,0.3s,baz=23,slow=9.0,SNR=24							
KPJI	**Karang Pucung**	**18.24**	**246**	P	**P**	**P**	**04 12 17.7**	**+2.5**
	119nm,0.8s							
JCJI	**Jatiwangi**	**18.55**	**249**	P	**Pn**	**Pn**	**04 12 24.3**	**+5.3**
PPBI	**Pangkal Pinang**	**19.69**	**264**	P	**P**	**P**	**04 12 31.8**	**+0.7**
	26nm,0.9s							
CBJI	**Citeko**	**19.86**	**251**	P	**Pn**	**Pn**	**04 12 34.3**	**-0.5**
WRAB	**Tennant Creek**	**21.51**	**157**	*e*P	**P**	**P**	**04 12 50.4**	**-0.5**
	45nm,1.1s							
WRAB	**Tennant Creek**	**21.51**	**157***ce*	P	**P**	**P**	**04 12 50.1**	**-0.7**
WRAB				pmax	pmax			
	comp=Z,45nm,1.3s							
WRA	**Warramunga Arr**	**21.51**	**157**	*i* P	**P**	**P**	**04 12 50.5**	**-0.4**
WRA				pmax	pmax			
	comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**21.51**	**157**	P	**P**		**04 12 50.9**	**+0.1**
	comp=Z,16nm,0.8s,baz=339,slow=10,SNR=60							
WRA				S	**S**		**04 16 47.3**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=331,slow=16,SNR=4.8							
WB2	**Warramunga Arr**	**21.52**	**157**	*e*P	**P**		**04 12 51.1**	**+0.2**
	comp=Z,241nm,2.0s							
WC3	**Warramunga Arr**	**21.54**	**157**	*e*P	**P**		**04 12 50.6**	**-0.6**
	comp=Z,40nm,0.9s							
MBWA	**Marble Bar**	**21.79**	**195**	*e*P	**P**		**04 12 54.0**	**+0.1**
MDSI	**Maura Dua**	**21.96**	**258**	P	**P**		**04 12 55.6**	**-0.1**
	comp=Z,15nm,1.1s							
COEN	**Coen**	**22.14**	**129**	*e*P	**P**		**04 12 59.0**	**+1.3**
	comp=Z,38nm,0.9s							
XMIS	**Christmas Isla**	**22.49**	**242**	*e*P	**P**		**04 13 00.1**	**-1.3**
	comp=Z,50nm,0.6s							
TWG	**Pinlang**	**23.16**	**349**	*e*P	**P**		**04 13 06.4**	**-2.0**
	comp=Z,55nm,0.7s							
GUMO	**Guam**	**23.31**	**54**	P	**P**		**04 13 10.2**	**+0.4**
	comp=Z,120nm,0.8s,baz=175,slow=21,SNR=5.7							
YULB	**Yu-li**	**23.68**	**350**	*e*P	**P**		**04 13 11.2**	**-2.2**
	comp=Z,78nm,2.0s							
TPUB	**Ta-pu**	**23.72**	**348**	*e*P	**P**		**04 13 11.3**	**-2.4**
	comp=Z,89nm,1.4s							
SSLB	**Suanglung**	**24.13**	**349**	*e*P	**P**		**04 13 16.0**	**-1.7**
	comp=Z,18nm,0.8s							
FRIM	**Kepong**	**24.30**	**278**	P	**P**		**04 13 20.2**	**+0.9**
NACB	**Ninganchiao**	**24.39**	**351**	*e*P	**P**		**04 13 19.0**	**-1.1**
	comp=Z,24nm,0.9s							
QIZ	**Qiongzhong**	**24.53**	**321**	P	**P**		**04 13 21.7**	**+0.4**
QIZ				S	**S**		**04 17 46.4**	**+6.1**
QIZ				LR	LR			
	comp=Z,230nm,15.2s							
QIZ				LR	LR			
	comp=Z,180nm,13.7s							
QIZ				LR	LR			
	comp=Z,450nm,26.1s							
AS31	**Alice Springs**	**24.80**	**162**	*e*P	**P**		**04 13 24.8**	**+1.0**
	comp=Z,9.9nm,0.6s							
ASAR	**Alice Springs**	**24.80**	**162**	P	**P**		**04 13 24.9**	**+1.1**
	comp=Z,14nm,0.7s,baz=344,slow=7.4,SNR=165							
ASAR				PcP	**PcP**		**04 17 00.4**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=342,slow=2.1,SNR=9.0							
ASAR				S	**S**		**04 17 41.8**	**-2.9**
	comp=Z,1.5nm,0.8s,baz=347,slow=22,SNR=5.2							
ASAR				LR	LR		04 23 49.5	
	comp=Z,143nm,20.1s,baz=335,slow=38							
AS01	**Alice Springs**	**24.81**	**162**	*e*P	**P**		**04 13 23.9**	**0.0**
YHNB	**Yeheng**	**24.92**	**351**	*e*P	**P**		**04 13 23.4**	**-1.4**
	comp=Z,70nm,1.5s							
IPM	**Ipoh**	**25.07**	**281**	P	**P**		**04 13 25.8**	**-0.5**
PDSI	**Padang**	**25.27**	**268**	P	**P**		**04 13 29.0**	**+0.9**
	comp=Z,31nm,1.1s,comp=Z,2μm							
MNSI	**Mandailing Nat**	**26.15**	**272**	P	**P**		**04 13 38.6**	**+2.5**
JOW	**Kunigami**	**26.83**	**5**	P	**P**		**04 13 41.9**	**-0.1**
	comp=Z,4.1nm,0.6s,baz=184,slow=14,SNR=10							
PSI	**Prapat**	**26.93**	**276**	*e*P	**P**		**04 13 42.0**	**-1.3**
	comp=Z,12nm,1.2s							
PSI	**Prapat**	**26.93**	**276**	P	**P**		**04 13 41.0**	**-2.2**
	comp=Z,4.1nm,0.7s,baz=2.2,slow=3.9,SNR=5.0							
PSI				LR	LR		04 26 33.7	
	comp=Z,222nm,19.4s,baz=90,slow=42							
TRTT	**Trang**	**27.09**	**287**	P	**P**		**04 13 46.5**	**+1.9**
	comp=Z,4.5nm,0.9s,comp=Z,380nm							
SKNT	**Sakolnakorn**	**27.28**	**309**	P	**P**		**04 13 47.6**	**+1.4**
	comp=Z,3.5nm,0.9s							
CHAI	**Chaiyaphum**	**28.27**	**305**	P	**P**		**04 13 55.5**	**+0.4**
	comp=Z,3.2nm,0.7s							
UTHA	**Uthaitani**	**30.22**	**302**	P	**P**		**04 14 11.9**	**-0.5**
	comp=Z,9.3nm,0.8s,comp=Z,136nm							
UTTA	**Uttaradit**	**30.41**	**307**	P	**P**		**04 14 13.9**	**-0.2**
	comp=Z,2.7nm,0.8s							
FORT	**Forrest**	**30.66**	**176**	*e*P	**P**		**04 14 16.3**	**+0.2**
	comp=Z,15nm,0.8s							
SUKH	**Sukhothai**	**31.02**	**305**	P	**P**		**04 14 19.5**	**+0.1**
	comp=Z,4.9nm,1.0s							
UMPA	**Umpang Tak**	**31.02**	**303**	P	**P**		**04 14 19.3**	**-0.2**
	comp=Z,5.3nm,0.9s,comp=Z,1μm							
JCJ	**Chichijima**	**31.28**	**29**	LR	LR		04 28 03.4	
	comp=Z,22nm,18.6s,baz=278,slow=38							
CMAR	**Chiang Mai Arr**	**32.09**	**306**	P	**P**		**04 14 27.5**	**-1.4**
	comp=Z,1.3nm,0.3s,baz=132,slow=7.1,SNR=15							
CMAR				PcP	**PcP**		**04 17 19.5**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=154,slow=2.6,SNR=8.7							
CMAR				LR	LR		04 29 21.0	
	comp=Z,89nm,19.1s,baz=122,slow=40							
GYA	**Guiyang**	**32.10**	**327**	P	**P**		**04 14 29.7**	**+0.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
CMMT	**Chiang Mai**	**32.27**	**307**	P	**P**		**04 14 30.0**	**-0.5**
	comp=Z,14nm,1.2s							
CHTO	**Chiang Mai**	**32.27**	**307**	*e*P	**P**		**04 14 29.0**	**-1.5**
	comp=Z,36nm,1.7s							
CHTO	**Chiang Mai**	**32.27**	**307**	*e*P	**P**		**04 14 29.0**	**-1.5**
CHTO				pmax	pmax			
	comp=Z,36nm,1.7s							
CHTO	**Chiang Mai**	**32.27**	**307**	P	**P**		**04 14 30.1**	**-0.4**
	comp=Z,64nm,1.2s							
NJ2	**Nanjing**	**32.57**	**349**	*e*P	**P**		**04 14 32.5**	**-0.4**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
JNU	**Nakatsue**	**33.34**	**8**	LR	LR		04 30 07.8	
	comp=Z,33nm,18.6s,baz=178,slow=40							
KMI	**Kunming**	**33.45**	**320**	P	**P**		**04 14 44.5**	**+3.5**
KMI				pmax	pmax			
	comp=Z,5.0nm,0.9s				

LZH LR LR
comp=Z,430nm,15.1s
LZH LR LR
comp=Z,580nm,17.0s
SHL Shillong 41.41 311 *e*P **P 04 15 49.9 +1.6**
comp=Z,9.4nm,0.6s
TOO Toolangi 41.58 156 *e*P **P 04 15 50.7 +1.3**
comp=Z,43nm,1.6s
TOO Toolangi 41.58 156 *e*P **P 04 15 50.7 +1.3**
TOO pmax pmax
comp=Z,43nm,1.6s
HHC Hu-ho-hao-te 42.68 344 *e*P **P 04 16 00.1 +1.7**
HHC sP pwP 04 16 13.7 +4.1
HHC S **S 04 22 21.3 +1.2**
HHC pmax pmax
comp=Z,16nm,1.1s
HHC pmax pmax
comp=Z,200nm,5.2s
HHC LR LR
comp=Z,270nm,17.3s
HHC LR LR
comp=Z,130nm,16.7s
HHC LR LR
comp=Z,120nm,15.5s
CN2 Changchun 43.65 360 *e*P **P 04 16 09.0 +3.0**
CN2 *e*pP sP 04 16 18.5 +1.3
CN2 *e*S **S 04 22 36.3 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 44.26 315 *e*P **P 04 16 11.9 +0.1**
comp=Z,7.8nm,0.7s
LSA Lhasa 44.26 315 *e*P **P 04 16 11.9 +0.1**
LSA pmax pmax
comp=Z,8.0nm,0.7s
USA0B Ussuriysk Arra 44.40 6 *e*P **P 04 16 11.5 -0.5**
comp=Z,16nm,0.9s
USA0B Ussuriysk Arra 44.40 6 *e*P **P 04 16 11.5 -0.5**
USRK Ussuriysk Ar. 44.40 6 P **P 04 16 11.3 -0.7**
comp=Z,12nm,0.8s,baz=188,slow=6.3,SNR=15
MDJ Mudanjiang 44.59 4 *e*P **P 04 16 14.1 +0.5**
comp=Z,24nm,1.1s
DZM Mont Dzumac 45.32 122 *e*LR LR 04 28 55.9
comp=Z,522nm,32.6s
GTA Gaotai 45.85 332 *e*P **P 04 16 22.6 -1.3**
GTA pP pP 04 16 31.9 0.0
GTA sP sP 04 16 35.6 +0.4
GTA PcP **PcP 04 18 01.4 +0.5**
GTA ScP **ScP 04 21 51.5 -0.7**
GTA PcS **PcS 04 21 55.7 +0.4**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,80nm,4.9s
GTA LR LR
comp=Z,220nm,19.6s
GTA LR LR
comp=Z,270nm,18.2s
GTA LR LR
comp=Z,420nm,18.0s
TEY Ternei 45.91 11⇑ *i*P **P 04 16 24.5 +0.5**
TEY pmax pmax
comp=N,60nm,0.7s
TEY pmax pmax
comp=Z,80nm,0.8s
RAMN Ramite 46.19 309 *e*P **P 04 16 25.6 -1.3**
comp=Z,20nm,0.6s
JIRN Jiri 46.85 309 *e*P **P 04 16 30.6 -1.6**
comp=Z,21nm,0.6s
GUN Gumba 47.21 309 *e*P **P 04 16 33.5 -1.5**
comp=Z,29nm,0.6s
DMN Daman 47.67 309 *e*P **P 04 16 36.6 -1.9**
comp=Z,14nm,0.7s
KOLN Koldanda 48.93 308 *e*P **P 04 16 46.6 -1.5**
comp=Z,34nm,0.6s
DANN Dangsing 49.07 309 *e*P **P 04 16 47.5 -1.8**
comp=Z,46nm,0.7s
KLR Kul'dur 49.35 5 *i*P **P 04 16 49.5 -1.2**
HIA Hailar 49.38 355 *e*P **P 04 16 51.8 +0.8**
HIA Hailar 49.38 355 *e*P **P 04 16 51.8 +0.8**
HYB Hyderabad 49.54 293 *i*P **P 04 16 52.0 -0.7**
PYUN Piuthan 49.56 308 *e*P **P 04 16 51.5 -1.4**
comp=Z,48nm,0.6s
SONM Songino Array 50.55 343 P **P 04 16 59.5 -0.6**
comp=Z,4.5nm,0.5s,baz=158,slow=8.1,SNR=37
SONM PcP **PcP 04 18 17.4 -0.2**
comp=Z,2.8nm,0.7s,baz=164,slow=3.0,SNR=4.6
SONM LR LR 04 41 39.0
comp=Z,59nm,18.2s,baz=172,slow=40
GRNR Gornyy 51.43 9 *e*P **P 04 17 07.1 +0.7**
GRNR pmax pmax
comp=Z,28nm,0.8s
ZEA Zeya 53.60 1 *e*P **P 04 17 22.7 +0.2**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZAK Zakamensk 53.75 342 *e*P **P 04 17 24.2 +0.4**
ZAK *e* 04 18 28.0
ZAK pmax pmax
comp=Z,8.0nm,1.4s
ZAK pmax pmax
comp=Z,25nm,1.2s
NKL Nikolayevsk 54.45 11 *i*P **P 04 17 29.0 +0.4**
NKL pmax pmax
comp=N,9.0nm,0.9s
NKL pmax pmax
comp=Z,77nm,0.9s
TLY Talaya 54.80 343 *e*P **P 04 17 33.1 +1.8**
comp=Z,20nm,0.4s
TLY Talaya 54.80 343 *e*P **P 04 17 33.0 +1.8**
TLY pmax pmax
comp=Z,36nm,1.0s
TLY MLR MLR
comp=Z,156nm,15.0s
WMQ Urumqi 55.26 327⇑ *i*P **P 04 17 36.8 +2.0**
WMQ pP pP 04 17 43.5 +0.5
WMQ sP sP 04 17 52.6 +6.4
WMQ pmax pmax
comp=Z,58nm,1.1s
WMQ pmax pmax
comp=Z,200nm,4.7s
WMQ LR LR
comp=Z,440nm,31.5s
WMQ LR LR
comp=Z,580nm,26.7s
WMQ LR LR
comp=Z,770nm,30.3s
WMQ Urumqi 55.26 327 *e*P **P 04 17 35.9 +1.0**
comp=Z,32nm,0.9s
WMQ Urumqi 55.26 327 *e*P **P 04 17 35.9 +1.0**
WMQ pmax pmax
comp=Z,32nm,0.9s
MOY Mondy 55.58 342 *e*P **P 04 17 39.5 +2.5**
MOY pmax pmax
comp=Z,27nm,1.5s
BOD Bodaibo 58.43 353 *e*P **P 04 17 57.1 +0.2**
BOD pmax pmax
comp=Z,22nm,1.9s
PETK Petropavlovsk- 59.28 22 *e*P **P 04 18 02.3 -0.6**
PETK PcP **PcP 04 18 51.2 +0.3**
PETK Petropavlovsk- 59.28 22 *e*P **P 04 18 02.3 -0.6**
PETK 04 18 51.2
PETK Petropavlovsk- 59.28 22 P **P 04 18 04.1 +1.2**
comp=Z,17nm,0.8s,baz=190,slow=5.7,SNR=24
PETK PcP **PcP 04 18 51.2 +0.3**
comp=Z,6.0nm,0.9s,baz=242,slow=2.8,SNR=2.3
PETK LR LR 04 47 46.2
comp=Z,16nm,18.4s,baz=222,slow=40
PDGK Podgornoye 59.71 322 P **P 04 18 05.5 -0.7**
PDGK pmax pmax
comp=Z,15nm,0.9s
KSH Kashi 60.03 317 P **P 04 18 11.9 +3.3**
KSH PP **PP 04 20 26.4 +5.2**
KSH S **S 04 26 21.2 +1.5**
KSH sS sS 04 26 39.5 +6.2
KSH SS **SS 04 30 19.2 +2.3**
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,99nm,4.8s
KSH LR LR
comp=Z,280nm,9.8s
KSH LR LR
comp=Z,210nm,10.2s
KSH LR LR
comp=Z,93nm,12.6s
MK01 Makanchi Array 60.08 327 *e*P **P 04 18 07.1 -1.5**
MK31 Makanchi Array 60.09 327 *e*P **P 04 18 07.5 -1.2**
comp=Z,32nm,1.4s
MK31 Makanchi Array 60.09 327 P **P 04 18 07.4 -1.3**
MK31 pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 60.09 327 P **P 04 18 07.6 -1.1**
comp=Z,19nm,0.4s,baz=121,slow=8.8,SNR=126
MKAR LR LR 04 44 27.1
comp=Z,188nm,21.4s,baz=116,slow=36
MAKZ Makanchi 60.27 327 *e*P **P 04 18 08.5 -1.4**
comp=Z,22nm,0.5s
MAKZ Makanchi 60.27 327 *e*P **P 04 18 08.5 -1.4**
MAKZ pmax pmax
comp=Z,22nm,0.5s
KDJ Kajisay 60.52 320 *e*P **P 04 18 10.8 -1.1**
comp=Z,13nm,1.1s
KDJ Kajisay 60.52 320 *e*P **P 04 18 10.8 -1.1**
KDJ pmax pmax
comp=Z,13nm,1.1s
NRN Naryn 60.94 319 *e*P **P 04 18 13.9 -1.0**
comp=Z,6.5nm,0.9s
NRN Naryn 60.94 319 *e*P **P 04 18 13.9 -1.0**
NRN pmax pmax
comp=Z,7.0nm,0.9s
KZA Kyzart 61.74 319 P **P 04 18 20.3 -0.2**
SNR=11
TKM2 Tokmak 2 61.93 320 P **P 04 18 20.5 -0.9**
SNR=10
TKM2 Tokmak 2 61.93 320 P **P 04 18 20.8 -0.7**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
YAK Yakutsk 61.98 2 *e*P **P 04 18 21.0 -0.1**
YAK *e**PP **pwP 04 18 31.8 -0.6**
YAK *e* 04 19 01.0
YAK *e* 04 20 40.5
YAK *e*S **S 04 26 43.7 +0.3**
YAK *e**SS **sS 04 26 57.3 +0.3**
YAK *e* 04 28 07.5
YAK *e*SS **SS 04 30 51.1 +4.9**
YAK pmax pmax
comp=Z,114nm,0.6s
YAK pmax pmax
comp=N,35nm,0.7s
YAK pmax pmax
comp=E,5.0nm,0.6s
YAK pmax pmax
comp=Z,624nm,4.3s
YAK pmax pmax
comp=N,910nm,4.2s
YAK pmax pmax
comp=E,335nm,4.0s
YAK smax smax
comp=N,223nm,2.7s
YAK smax smax
comp=E,183nm,2.5s
UCH Uchtor 62.29 319 P **P 04 18 23.8 -0.4**
SNR=12
AAK Ala-Archa 62.50 320 P **P 04 18 25.9 +0.7**
SNR=7.8
AAK Ala-Archa 62.50 320 *e*P **P 04 18 24.9 -0.4**
comp=E,6.8nm,0.8s
AAK Ala-Archa 62.50 320 P **P 04 18 24.1 -1.1**
comp=E,4.0nm,0.7s,baz=182,slow=3.7,SNR=11
MA2 Magadan 62.58 14 *e*P **P 04 18 25.6 +0.3**
comp=E,47nm,0.8s
MA2 Magadan 62.58 14*ce*P **P 04 18 24.4 -0.8**
MA2 pmax pmax
comp=Z,47nm,0.7s
AML Almayashu 62.78 319 P **P 04 18 26.8 -0.7**
SNR=11
USP Ospenovka 62.80 320 P **P 04 18 26.2 -0.8**
SNR=9.9
ARSB Arslanbob 62.89 318 *e*P **P 04 18 26.8 -1.1**
comp=Z,52nm,1.6s
EKS2 Erkin-Say 62.98 319 P **P 04 18 28.1 -0.3**
SNR=7.6
KBL Kabul 63.05 309 *e*P **P 04 18 28.1 -1.0**
comp=Z,22nm,0.7s
KBL Kabul 63.05 309 *e*P **P 04 18 28.1 -1.0**
KBL pmax pmax
comp=Z,22nm,0.7s
ZAA0 Zalesovo Array 63.49 334 *e*P **P 04 18 30.2 -1.1**
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 63.49 334 *e*P **P 04 18 29.4 -2.0**
ZALV Zalesovo Beam 63.49 334 *e*P **P 04 18 29.4 -2.0**
ZALV Zalesovo Beam 63.49 334 P **P 04 18 29.6 -1.7**
comp=Z,9.1nm,0.6s,baz=120,slow=6.0,SNR=20
ZALV LR LR 04 46 48.4
comp=Z,120nm,20.5s,baz=80,slow=37
GAR Garm 63.76 314 *e*P **P 04 18 32.3 -1.3**
comp=Z,26nm,0.7s
GAR Garm 63.76 314 *e*P **P 04 18 32.3 -1.3**
GAR pmax pmax
comp=Z,27nm,0.7s
KURK Kurchatov 64.39 329 *e*P **P 04 18 36.0 -1.3**
KURK Kurchatov 64.39 329*ce*P **P 04 18 35.6 -1.7**
KURK pmax pmax
comp=Z,41nm,0.8s
CHGR Chuyangaron 64.46 314 *e*P **P 04 18 37.5 -0.7**
comp=Z,32nm,1.1s
KK31 Karatay Array 65.32 319 *e*P **P 04 18 42.2 -1.4**
comp=Z,4.9nm,0.8s
KK31 Karatay Array 65.32 319 *i*P **P 04 18 42.1 -1.5**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 65.32 319 *e*P **P 04 18 42.2 -1.4**
comp=Z,4.9nm,0.8s
KKAR Karatay Array 65.32 319 *e*P **P 04 18 42.2 -1.4**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
SEY Seymchan 65.91 13*ce*P **P 04 18 47.3 +0.4**
OTUK Ortayu 66.53 324 P **P 04 18 50.3 -1.0**
OTUK pmax pmax
comp=Z,8.0nm,0.8s
BVA0 Borovoye Array 69.93 328 P **P 04 19 11.4 -1.1**
BVA0 pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 70.00 328 *e*P **P 04 19 11.9 -1.0**
BRVK Borovoye 70.00 328 *e*P **P 04 19 11.9 -1.0**
TIXI Tiksi 71.60 1 *e*P **P 04 19 21.2 -1.0**
comp=Z,20nm,1.1s
TIXI Tiksi 71.60 1*ce*P **P 04 19 20.5 -1.7**
TIXI pmax pmax
comp=Z,32nm,1.7s
GEYT Alibeck 72.48 310 P **P 04 19 28.2 -0.1**
comp=Z,5.0nm,0.7s,baz=152,slow=6.7,SNR=7.6
GEYT LR LR 04 55 33.3
comp=Z,55nm,20.4s,baz=50,slow=40
GYA0B ALIBECK ARRAY 72.48 310 *e*P **P 04 19 27.7 -0.6**
comp=Z,6.9nm,0.8s
BILL Bilibino 73.43 15 *e*P **P 04 19 32.6 -0.7**
comp=Z,4.9nm,0.9s
BILL Bilibino 73.43 15⇑ *e*P **P 04 19 32.6 -0.7**
BILL *e* 04 19 48.4
BILL *e*S **S 04 28 58.9 -1.5**
BILL *e*SS **SS 04 33 47.6 +4.4**
BILL pmax pmax
comp=Z,17nm,2.5s
BILL MLR MLR
comp=Z,52nm,19.0s
NRIK Noril'sk 73.83 347 P **P 04 19 35.4 -0.2**
comp=Z,8.3nm,0.6s,baz=140,slow=5.9,SNR=7.1
NRIK LR LR 04 54 55.9
comp=Z,45nm,21.1s,baz=137,slow=38
AB31 Akbulak array 74.43 322 *i*P **P 04 19 38.6 -0.9**
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 74.43 322 *e*P **P 04 19 38.4 -1.1**
comp=Z,12nm,0.7s
AKTO Aktyubinsk 75.98 322 P **P 04 19 47.3 -1.1**
AKTO pmax pmax
comp=Z,19nm,0.9s
SVE Sverdlovsk 76.64 329⇓ *e*P **P 04 19 51.1 -0.9**
SVE pmax pmax
comp=Z,63nm,1.2s
ARU Arti 77.57 328 *e*P **P 04 19 56.0 -1.2**
ARU Arti 77.57 328*c* *i*P **P 04 19 55.8 -1.4**
ARU S **S 04 29 45.7 -1.0**
ARU SS **SS 04 34 41.8 -4.6**
ARU pmax pmax
comp=Z,39nm,0.9s
GAMB Gambell 78.23 24 *e*P **P 04 20 01.0 +0.3**
comp=Z,13nm,1.0s
OPO Ambohidratompo 79.11 251 P **P 04 20 06.2 -0.5**
comp=Z,2.1nm,0.5s,baz=104,slow=12,SNR=3.5
VNDA Vanda 79.85 173 *e*P **P 04 20 10.2 +0.8**
comp=Z,9.5nm,1.4s
VNDA Vanda 79.85 173 P **P 04 20 10.0 +0.7**
comp=Z,2.9nm,0.8s,baz=311,slow=6.9,SNR=16
VNDA LR LR 04 56 17.4
comp=Z,64nm,18.1s,baz=334,slow=36
SDPT Sand Point 80.87 34 *e*P **P 04 20 15.6 +0.3**
comp=Z,93nm,0.6s
RAYN Ar Rayn 81.04 294 *e*P **P 04 20 15.4 -1.5**
comp=Z,7.7nm,0.8s
RAYN Ar Rayn 81.04 294 *e*P **P 04 20 15.4 -1.5**
RAYN pmax pmax
comp=Z,8.0nm,0.8s
ANM Nome 81.09 24 *e*P **P 04 20 17.1 +0.8**
comp=Z,4.3nm,0.6s
ANM Nome 81.09 24 *e*P **P 04 20 17.1 +0.8**
ANM pmax pmax
comp=Z,4.0nm,0.6s
ATD Arta Tunnel 83.02 282 *e*P **P 04 20 26.3 -1.2**
comp=Z,22nm,0.9s
GNI Garni 83.12 310 *e*P **P 04 20 26.6 -1.0**
comp=Z,13nm,0.8s
GNI Garni 83.12 310 *e*P **P 04 20 26.7 -1.0**
GNI pmax pmax
comp=Z,13nm,0.8s
GNI Garni 83.12 310 P **P 04 20 27.0 -0.7**
comp=Z,3.3nm,0.6s,baz=56,slow=7.3,SNR=2.7
RDOG Red Dog Mine 83.14 21 *e*P **P 04 20 27.7 +0.7**
comp=Z,12nm,0.7s
TBLG Delisi 83.28 312 *e*P **P 04 20 27.5 -0.8**
comp=Z,28nm,0.7s
TBLG Delisi 83.28 312 *e*P **P 04 20 27.5 -0.8**
TBLG pmax pmax
comp=Z,28nm,0.7s
DYDN Diyadin 83.86 310 *i*P **P 04 20 32.7 +1.1**
DYDN IAML_P
comp=Z,116nm,0.3s
ZEI Tsey 84.01 313 *e*P **P 04 20 31.2 -1.0**
ZEI pmax pmax
comp=Z,21nm,0.6s
EAK Akyaka 84.03 311 *i*P **P 04 20 33.5 +1.1**
EAK IAML_P
comp=Z,621nm,0.6s
DIGO Kars 84.18 310 *i*P **P 04 20 34.2 +1.0**
DIGO IAML_P
comp=Z,72nm,0.3s
GEVA Gevas 84.25 308 *i*P **P 04 20 34.8 +1.3**
GEVA IAML_P
comp=Z,2μm,0.6s
TUTA Tutak 84.53 309 *i*P **P 04 20 35.3 +0.3**
TUTA IAML_P
comp=Z,669nm,0.5s
SIRT Sirnak 84.68 308 *e*P **P 04 20 35.1 -0.5**
comp=Z,147nm,0.8s
EPOS Posof 84.76 312 *i*P **P 04 20 36.8 +0.8**
EATA Eleskirt 84.81 310 *i*P **P 04 20 37.0 +0.5**
EATA IAML_P
comp=Z,428nm,0.7s
KBZ Khabaz 84.82 314 P **P 04 20 35.7 -0.3**
comp=Z,13nm,1.0s,baz=96,slow=2.6,SNR=20
KBZ LR LR 05 02 35.7
comp=Z,46nm,20.6s,baz=76,slow=39
GOF Gofitskoye 84.84 315 *e*P **P 04 20 35.5 -0.6**
NEY Neytrino 84.91 313 *i*P **P 04 20 36.0 -0.7**
NEY pmax pmax
comp=Z,3.0nm,0.7s
PPT Papeete 84.94 108 LR LR 04 59 02.4
comp=Z,71nm,18.1s,baz=291,slow=36
PPT2 Papeete2 84.94 108 *e*LR LR 04 47 23.5
comp=Z,289nm,34.2s
KVAR Kislovodsk Arr 84.99 314 P **P 04 20 36.5 -0.6**
comp=Z,3.2nm,0.6s,baz=268,slow=23,SNR=3.9
KIV Kislovodsk 85.00 314 *e*P **P 04 20 36.6 -0.5**
comp=Z,11nm,0.8s
KIV Kislovodsk 85.00 314 *e*P **P 04 20 36.4 -0.7**
KIV pmax pmax
comp=Z,12nm,0.9s
KIV MLR MLR
comp=Z,63nm,19.0s
SRTM Siirt_Merkez 85.12 308 *i*P **P 04 20 38.3 +0.4**
SRTM IAML_P
comp=Z,763nm,0.6s
HOMI Horasan 85.27 310 *i*P **P 04 20 39.9 +1.2**
HOMI IAML_P
comp=Z,18nm,0.2s
ARTV Artvin 85.34 311 *i*P **P 04 20 39.3 +0.3**
ARTV IAML_P
comp=Z,32nm,0.3s
DAGI Agillar 85.34 311 *i*P **P 04 20 39.6 +0.8**
DAGI IAML_P
comp=Z,626nm,0.5s
DDEM Demirkent 85.45 311 *i*P **P 04 20 40.8 +1.3**
DDEM IAML_P
comp=Z,5.0nm,0.3s
DBAD Bademkaya 85.50 311 *i*P **P 04 20 40.8 +1.1**
DBAD IAML_P
comp=Z,1μm,0.6s
DBOC Borcka 85.55 311 *i*P **P 04 20 39.4 -0.4**
DBOC IAML_P
comp=Z,509nm,0.6s
KDAK Kodiak Island 85.60 32 *i*P **P 04 20 40.8 +1.2**
IM3 Indian Mountai 86.17 24 *e*P **P 04 20 42.4 +0.1**
VRH Novokhopyorsk 86.25 321 *e*P **P 04 20 42.1 -0.9**
VRH pmax pmax
comp=Z,140nm,1.7s
HANI Diyarbakir_Han 86.34 308 *i*P **P 04 20 44.6 +0.8**
HANI IAML_P
comp=Z,1μm,0.7s
BAYB BAYBURT 86.55 310 *i*P **P 04 20 45.7 +0.7**
BAYB IAML_P
comp=Z,538nm,0.9s
MLY Manley 87.30 25 *e*P **P 04 20 47.6 -0.3**
comp=Z,4.1nm,0.8s
COLD Coldfoot 87.73 23 *e*P **P 04 20 50.1 +0.2**
comp=Z,3.0nm,0.9s
VSR Storozhevoye 87.86 321*c* *i*P **P 04 20 49.4 -1.4**
VSR pmax pmax
comp=Z,28nm,1.0s
LPSR Galich'ya Gora 88.07 322 *e*P **P 04 20 50.4 -1.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
TOLK Toolik Lake Re 88.10 21 P **P 04 20 52.3 +0.6**
baz=265
SUSE Susehri 88.12 310 *i*P **P 04 20 53.0 +0.5**
SUSE IAML_P
comp=Z,12nm,0.3s
KLMR Klimovskoe 88.17 331 *e*P **P 04 20 49.4 -2.6**
KLMR pmax pmax
comp=Z,16nm,1.2s
KLMR Klimovskoe 88.17 331 *e*P **P 04 20 49.4 -2.6**
KLMR AMP 04 20 58.1
comp=Z,16nm,1.2s
WRH Wood River Hil 88.39 26 *e*P **P 04 20 52.4 -0.6**
comp=Z,11nm,1.5s
KMBO Kilima Mbogo 88.46 269 *e*P **P 04 20 54.9 +0.1**
comp=Z,9.3nm,1.1s
KMBO Kilima Mbogo 88.46 269 P **P 04 20 55.1 +0.3**
comp=Z,5.9nm,0.9s,baz=64,slow=8.2,SNR=15
COLA College 88.51 25 *e*P **P 04 20 53.6 0.0**
comp=Z,2.3nm,0.7s
COLA College 88.51 25 *e*P **P 04 20 53.6 0.0**
COLA pmax pmax
comp=Z,2.0nm,0.7s
CCB Clear Creek Bu 88.52 25 *e*P **P 04 20 53.2 -0.5**
comp=Z,17nm,1.6s
ANN Anapa 88.80 315 *e*P P 04 20 50.5 -4.9
ANN *e**PP pP 04 21 01.6 -2.4
ANN *e* 04 24 21.8
ANN *e*S **SKSac 04 31 15.8 -7.2**
ANN pmax pmax
comp=Z,106nm,1.6s
HDA Harding Lake 88.88 26 P **P 04 20 54.1 -1.3**
baz=268
ILAR Eielson Array 88.92 25 P **P 04 20 54.1 -1.5**
comp=Z,1.1nm,0.6s,baz=240,slow=5.3,SNR=37
ILAR LR LR 04 55 14.7
comp=Z,41nm,21.0s,baz=238,slow=32
ILB Eielson Array 88.92 25 *e*P **P 04 20 54.2 -1.3**
comp=Z,12nm,1.6s
TMCR Tamitsa 89.02 334 *e*P **P 04 20 53.9 -2.0**
TMCR pmax pmax
comp=Z,13nm,0.8s
ASF Jabal al Asfar 89.02 302 P **P 04 20 57.2 +0.4**
comp=Z,6.4nm,0.8s,baz=65,slow=4.8,SNR=6.1
PAX Paxson 89.49 27 *e*P **P 04 20 58.1 -0.3**
comp=Z,19nm,1.6s
PAX Paxson 89.49 27 *e*P **P 04 20 58.1 -0.3**
PAX pmax pmax

	comp=Z,19nm,1.6s						
OBN	**Obninsk**	**89.54**	**325**	⇓eP	**P**	**04 20 56.5**	**-2.1**
OBN				i		04 24 27.3	
OBN				i S	**SKSac**	**04 31 26.9**	**0.0**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
RIDG	**Independ'e Rid**	**89.78**	**26**	eP	**P**	**04 20 59.7**	**0.0**
	comp=Z,8.2nm,0.8s						
QSPA	**South Pole Qui**	**89.90**	**180**	P	**P**	**04 21 00.8**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=328,slow=1.4,SNR=35						
DOT	**Dot Lake**	**90.13**	**27**	eP	**P**	**04 21 01.4**	**+0.1**
	comp=Z,4.4nm,0.7s						
MMAI	**Mount Meron Ar**	**90.28**	**303**	P	**P**	**04 21 01.9**	**-0.8**
	comp=Z,0.9nm,0.3s,baz=55,slow=5.5,SNR=3.7						
MENT	**Mentasta**	**90.29**	**27**	eP	**P**	**04 21 01.7**	**-0.3**
	comp=Z,4.6nm,0.6s						
BR131	**Keskin Array S**	**91.62**	**310**	eP	**P**	**04 21 07.6**	**-1.3**
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**91.62**	**310**	P	**P**	**04 21 07.2**	**-1.7**
	comp=Z,1.6nm,0.7s,baz=129,slow=5.0,SNR=16						
BRTR				LR	LR	05 07 40.0	
	comp=Z,21nm,21.4s,baz=92,slow=39						
EPYK	**Eagle Plains**	**93.08**	**24**	P	**P**	**04 21 13.9**	**-1.0**
	baz=277						
ARCES	**ARCESS Array B**	**93.61**	**340**	P	**P**	**04 21 15.6**	**-1.6**
	comp=Z,3.7nm,0.7s,baz=74,slow=5.2,SNR=10.0						
INK	**Inuvik**	**94.02**	**21**	eP	**P**	**04 21 19.1**	**0.0**
	comp=Z,6.3nm,1.3s						
TAOE	**Nuku Hiva Isla**	**94.08**	**99**	eLR	LR	04 51 46.2	
	comp=Z,137nm,32.8s						
AKASG	**Malin Array Be**	**94.15**	**321**	P	**P**	**04 21 18.0**	**-2.1**
	comp=Z,1.4nm,0.6s,baz=70,slow=4.9,SNR=10						
AKASG				LR	LR	05 07 25.5	
	comp=Z,63nm,21.7s,baz=275,slow=38						
FINES	**FINESS Array B**	**94.64**	**332**	P	**P**	**04 21 20.2**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=34,slow=4.8,SNR=7.9						
CFR	**Carcaliu**	**95.38**	**315**	⇑iP	**P**	**04 21 24.8**	**-1.0**
CFR	**Carcaliu**	**95.38**	**315**	⇑P	**P**	**04 21 24.8**	**-1.0**
MANT	**Manisa**	**95.63**	**309**	eP	**P**	**04 21 26.1**	**-1.4**
	comp=Z,102nm,0.4s						
TESR	**Tescani**	**96.27**	**317**	⇓iP	**P**	**04 21 29.0**	**-0.9**
VRI	**Vrincioaia**	**96.29**	**316**	⇑iP	**P**	**04 21 29.8**	**-0.2**
VRI	**Vrincioaia**	**96.29**	**316**	⇑P	**P**	**04 21 29.8**	**-0.2**
PLOR	**Plostina**	**96.35**	**316**	⇓iP	**P**	**04 21 30.5**	**+0.2**
PLOR	**Plostina**	**96.35**	**316**	⇓P	**P**	**04 21 30.5**	**+0.2**
WRAK	**Wrangell Islan**	**96.63**	**33**	eP	**P**	**04 21 31.1**	**-0.1**
	comp=Z,7.8nm,0.5s						
MLR	**Muntele Rosu**	**96.88**	**316**	eP	**P**	**04 21 32.4**	**-0.4**
	comp=Z,24nm,1.8s						
MLR	**Muntele Rosu**	**96.88**	**316**	⇓iP	**P**	**04 21 31.8**	**-1.1**
MLR	**Muntele Rosu**	**96.88**	**316**	⇓P	**P**	**04 21 31.8**	**-1.1**
BURAR	**Bucovina Array**	**97.11**	**318**	⇓iP	**P**	**04 21 33.6**	**-0.2**
BURAR	**Bucovina Array**	**97.11**	**318**	⇓P	**P**	**04 21 33.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**97.11**	**318**	eP	**P**	**04 21 33.2**	**-0.7**
	comp=Z,5.7nm,0.8s						
LSZ	**Lusaka**	**97.25**	**255**	eP	**P**	**04 21 34.4**	**-0.7**
	comp=Z,1.3nm,0.3s						
LSZ	**Lusaka**	**97.25**	**255**	eP	**P**	**04 21 34.4**	**-0.7**
LSZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VOIR		**97.51**	**316**	⇑iP	**P**	**04 21 34.4**	**-1.3**
VOIR		**97.51**	**316**	⇑P	**P**	**04 21 34.4**	**-1.3**
TRPA	**Tarpa**	**98.81**	**319**	⇓iP	**P**	**04 21 40.9**	**-0.4**
DRGR		**98.92**	**317**	⇓iP	**P**	**04 21 40.2**	**-1.7**
DRGR		**98.92**	**317**	⇓P	**P**	**04 21 40.2**	**-1.7**
BOSA	**Boshof**	**99.17**	**241**	LR	LR	05 01 01.7	
	comp=Z,67nm,21.4s,baz=76,slow=32						
VTS	**Vitosha**	**99.20**	**313**	⇑iP	**Pdif**	**04 21 42.6**	**-0.8**
VTS	**Vitosha**	**99.20**	**313**	⇑P	**Pdif**	**04 21 42.6**	**-0.8**
BBB	**Bella Bella**	**99.90**	**37**	LR	LR	05 07 27.0	
	comp=Z,34nm,18.9s,baz=147,slow=36						
VYHS	**Vyhne**	**101.16**	**320**	eP	**Pdif**	**04 21 51.9**	**+0.1**
VYHS	**Vyhne**	**101.16**	**320**	ePDIF	**Pdif**	**04 21 51.9**	**+0.1**
RES	**Resolute Bay**	**101.67**	**10**	eP	**Pdif**	**04 21 53.3**	**-0.2**
	comp=Z,1.1nm,0.7s						
RES	**Resolute Bay**	**101.67**	**10**	eP	**Pdif**	**04 21 53.3**	**-0.2**
RES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**103.32**	**24**	Pdiff	**Pdif**	**04 22 00.9**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.3,SNR=6.7						
YKA				PKiKP	**PKiKP**	**04 26 19.8**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=306,slow=1.7,SNR=6.0						
YKA				PKKPbc	**PKKPbc**	**04 37 54.7**	**-3.3**
	comp=Z,0.3nm,0.8s,baz=119,slow=3.5,SNR=4.9						
NVAR	**Mina Array Bea**	**110.15**	**49**	Pdiff	**Pdif**	**04 22 32.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=222,slow=1.2,SNR=2.9						
NVAR				PKiKP	**PKiKP**	**04 26 34.9**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=290,slow=2.6,SNR=3.3						
KEST	**Kesra**	**111.21**	**309**	PKiKP	**PKiKP**	**04 26 35.7**	**0.0**
	comp=Z,1.6nm,0.8s,baz=0.0,slow=4.0,SNR=4.9						
PDAR	**Pinedale Array**	**114.83**	**42**	PKP	PKPdf	04 26 43.8	+1.2
	comp=Z,0.3nm,0.6s,baz=158,slow=1.0,SNR=3.3						
PDAR				PKKPab	**PKKPab**	**04 37 25.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=104,slow=7.5,SNR=4.3						
LAO	**LASA Array**	**115.14**	**37**	P	**PKPdf**	**04 26 43.9**	**+1.0**
	baz=300						
ULM	**Lac du Bonnet**	**118.73**	**29**	PKP	**PKPdf**	**04 26 48.8**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=336,slow=5.0,SNR=4.6						
ESDC	**Sonseca Array**	**119.55**	**317**	PKP	**PKiKP**	**04 26 51.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=50,slow=1.4,SNR=3.5						
TASM	**ASL Pad, Albuq**	**120.28**	**49**	P	**PKiKP**	**04 26 54.3**	**+1.0**
	baz=294						
TASM	**ASL Pad, Albuq**	**120.28**	**49**	P	**PKiKP**	**04 26 54.4**	**+1.0**
	baz=294						
ANMO	**Albuquerque**	**120.28**	**49**	P	**PKiKP**	**04 26 54.6**	**+1.2**
	baz=294						
MNTX	**Cornudas Mount**	**122.39**	**52**	ePKPdf	**PKiKP**	**04 26 57.8**	**+0.4**
MNTX	**Cornudas Mount**	**122.39**	**52**	P	**PKiKP**	**04 26 58.4**	**+1.0**
	baz=293						
ECSD	**EROS Data Cent**	**122.43**	**35**	P	**PKPdf**	**04 26 56.9**	**0.0**
	baz=307						
TOA0	**Torodi Ar. Sit**	**123.03**	**286**	ePKPdf	**PKPdf**	**04 26 57.5**	**-1.3**
TORD	**Torodi Ar. Bea**	**123.03**	**286**	PKP	**PKPdf**	**04 26 57.4**	**-1.4**
	comp=Z,4.1nm,0.8s,baz=87,slow=1.8,SNR=24						
F37A	**Hinrichs Farm,**	**123.36**	**31**	P	**PKiKP**	**04 26 59.2**	**+0.3**
	baz=312						
E39A	**Mellen**	**123.96**	**30**	P	**PKPdf**	**04 26 59.8**	**0.0**
	baz=315						
F39A	**Loretta**	**124.10**	**30**	P	**PKPdf**	**04 27 00.1**	**+0.1**
	baz=314						
F40A	**Park Falls**	**124.50**	**30**	P	**PKiKP**	**04 27 01.2**	**+0.1**
	baz=315						
TXAR	**Lajitas Array**	**124.66**	**54**	PKP	**PKiKP**	**04 27 02.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=257,slow=1.0,SNR=6.9						
H39A	**Augusta**	**124.77**	**32**	P	**PKiKP**	**04 27 01.5**	**-0.1**
	baz=313						
G40A	**Rib Lake**	**124.92**	**30**	P	**PKiKP**	**04 27 02.0**	**+0.1**
	baz=315						
J39A	**Decorah**	**125.44**	**33**	P	**PKPdf**	**04 27 01.7**	**-1.0**
	baz=312						
JCT	**Junction City**	**127.25**	**51**	ePKPdf	**PKiKP**	**04 27 07.3**	**+0.2**
JCT	**Junction City**	**127.25**	**51**	ePKIKP	**PKiKP**	**04 27 07.3**	**+0.2**
R41A	**Rosebud**	**128.90**	**38**	P	**PKiKP**	**04 27 10.3**	**+0.2**
	baz=310						
L48A	**N Adams**	**130.21**	**29**	P	**PKPdf**	**04 27 12.2**	**+0.3**
	baz=319						
DBIC	**Dimbokro**	**130.25**	**279**	PKP	**PKiKP**	**04 27 13.3**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=13,slow=3.6,SNR=5.1						
N50A	**Nevada**	**131.72**	**29**	P	**PKiKP**	**04 27 15.5**	**-0.2**
	baz=320						
WCI	**Wyandotte Cave**	**131.93**	**34**	ePKPdf	**PKiKP**	**04 27 15.7**	**-0.5**
WCI	**Wyandotte Cave**	**131.93**	**34**	ePKIKP	**PKiKP**	**04 27 15.7**	**-0.5**
M53A	**WI Miller and**	**132.37**	**27**	P	**PKiKP**	**04 27 16.6**	**-0.4**
	baz=323						
S48A	**Wiedeman Farm,**	**132.46**	**35**	P	**PKPdf**	**04 27 16.3**	**+0.1**
	baz=315						
L55A	**Hinsdale**	**132.74**	**24**	P	**PKPdf**	**04 27 17.0**	**+0.3**
	baz=326						
S50A	**Richmond**	**133.37**	**33**	P	**PKiKP**	**04 27 18.6**	**-0.5**
	baz=317						
O54A	**Avella**	**133.51**	**28**	P	**PKiKP**	**04 27 19.5**	**+0.2**
	baz=323						
P53A	**Whipple**	**133.57**	**29**	P	**PKiKP**	**04 27 19.0**	**-0.5**
	baz=321						
T50A	**Nancy**	**133.60**	**34**	P	**PKPdf**	**04 27 18.3**	**-0.1**
	baz=316						
U50A	**Jamestown**	**134.03**	**35**	P	**PKiKP**	**04 27 19.9**	**-0.6**
	baz=315						
W49A	**Belvidere**	**134.09**	**37**	P	**PKPdf**	**04 27 19.0**	**-0.3**
	baz=313						
Q54A	**Coxs Mills**	**134.24**	**29**	P	**PKiKP**	**04 27 20.2**	**-0.7**
	baz=322						
PLCA	**Paso Flores**	**136.81**	**162**	PKP	**PKPdf**	**04 27 25.1**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=158,slow=5.4,SNR=3.7						
LCO	**Las Campanas**	**147.13**	**153**	ePKPbc	**PKPbc**	**04 27 45.8**	**+0.4**
LCO	**Las Campanas**	**147.13**	**153**	ePKP2	**PKPbc**	**04 27 45.8**	**+0.4**
JTS	**JuntasAbangare**	**147.84**	**71**	ePKPbc	**PKPbc**	**04 27 48.3**	**+0.9**
JTS	**JuntasAbangare**	**147.84**	**71**	ePKP2	**PKPbc**	**04 27 48.3**	**+0.9**
CPUP	**Villa Florida**	**153.62**	**174**	ePKPbc	**PKiKP**	**04 28 01.5**	**+0.5**
CPUP	**Villa Florida**	**153.62**	**174**	PKPbc	**PKPbc**	**04 28 00.1**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=166,slow=0.2,SNR=6.3						
MNMC	**Minye Minye**	**155.74**	**143**	ePKPdf	**PKPdf**	**04 27 55.6**	**-1.0**
MNMC				ePKPab	**PKPab**	**04 28 24.7**	**+1.8**
LPAZ	**La Paz**	**158.79**	**141**	PKP	**PKPdf**	**04 28 01.8**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=146,slow=7.5,SNR=3.8						
SIV	**San Ignacio**	**162.72**	**158**	PKP	**PKPdf**	**04 28 04.8**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=280,slow=4.9,SNR=5.6						
SIV				PKPab	**PKPab**	**04 28 53.3**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=214,slow=7.4,SNR=9.9						

*ATH **10** 04:13:43.5, 36°.82N×26°.94E, h172km±12km, ML3.2/2, Error ellipse: s-maj=13.3km s-min=1.7km az=149.0*
*ISCJB **10** 04:13:45.3±0.5, 36°.72N±0°.04×26°.91E±0°.04, h146km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=166.8*
*ISK **10** 04:13:48.4, 36°.82N×26°.91E, h110km±3km, ML3.0/10*
*THE **10** 04:13:50.8, 36°.79N×26°.72E, h82km±13km, ML3.0/3, Error ellipse: s-maj=13.6km s-min=1.4km az=101.0*
*DDA **10** 04:13:56.3, 37°.07N×27°.65E, h67km±5km, ML2.6*
*HLW **10** 04:14:02.6, 35°.23N×27°.07E, h10km±10km, Md3.7, Ml3.5*
ISC 10 04:13:44.4±1.5**, 36°.81N**±0°.06**×26°.90E**±0°.04**, h148**km±10km**, n59, σ1s.73**/66**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.41**	**53**	PG	**Pn**	**04 14 06.4**	**+1.3**
BDRM	**Kayabasi**	**0.50**	**60**	i P	**Pn**	**04 14 07.2**	**+1.7**
BDRM				IAML_P			
	comp=Z,947nm,0.2s						
DAT	**Datca**	**0.55**	**98**	PG	**Pn**	**04 14 06.9**	**+1.1**
DAT	**Datca**	**0.55**	**98**	i P	**Pn**	**04 14 08.0**	**+2.1**
DAT				IAML_P			
	comp=Z,340nm,0.2s						
SMG	**Samos**	**0.90**	**357**	P	**Pn**	**04 14 08.6**	**+0.5**
APE	**Apeiranthos**	**1.13**	**284**	PN	**Pn**	**04 14 11.6**	**+1.5**
ARG	**Arkhangelos**	**1.15**	**121**	PN	**Pn**	**04 14 12.1**	**+1.8**
ARG	**Arkhangelos**	**1.15**	**121**	P	**Pn**	**04 14 12.3**	**+2.0**
ARG				S	**Sn**	**04 14 28.8**	**-1.2**
ARG	**Arkhangelos**	**1.15**	**121**	P	**Pn**	**04 14 12.1**	**+1.8**
ARG				AML	AML	04 14 32.6	
	comp=N,490μm,0.3s						
ARG				AML	AML	04 14 33.1	
	comp=E,600μm,0.1s						
AYDN	**Tasoluk**	**1.15**	**42**	i P	**Pn**	**04 14 12.7**	**+2.4**
YER	**Yerkesik**	**1.15**	**73**	PN	**Pn**	**04 14 11.8**	**+1.5**
SANT	**Santorini**	**1.24**	**250**	PN	**Pn**	**04 14 12.9**	**+1.7**
KARP	**Karpathos**	**1.28**	**170**	PN	**Pn**	**04 14 13.2**	**+1.6**
KARP				SN	**Sn**	**04 14 32.1**	**-0.2**
KARP	**Karpathos**	**1.28**	**170**	P	**Pn**	**04 14 13.4**	**+1.8**
KARP	**Karpathos**	**1.28**	**170**	P	**Pn**	**04 14 13.2**	**+1.6**
TURN	**Turunc**	**1.37**	**87**	PG	**Pn**	**04 14 10.9**	**-1.4**
TURN	**Turunc**	**1.37**	**87**	i P	**Pn**	**04 14 11.9**	**-0.4**
TURN				i S	**Sn**	**04 14 30.2**	**-3.5**
AYDB	**Zeytinkoy-Aydi**	**1.38**	**35**	PN	**Pn**	**04 14 13.9**	**+1.3**
DALY	**Dalyan (Mula)**	**1.41**	**89**	PN	**Pn**	**04 14 14.8**	**+2.1**
DALY	**Dalyan (Mula)**	**1.41**	**89**	i P	**Pn**	**04 14 15.1**	**+2.4**
DALY				IAML_P			
	comp=Z,1μm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.73**	**67**	i P	**Pn**	**04 14 18.2**	**+1.8**
TAVA				IAML_P			
	comp=Z,2μm,0.3s						
FETY	**Fethiye**	**1.76**	**95**	PN	**Pn**	**04 14 17.9**	**+1.3**
FETY	**Fethiye**	**1.76**	**95**	i P	**Pn**	**04 14 18.2**	**+1.6**
ZKR	**Zakros**	**1.78**	**198**	PN	**Pn**	**04 14 19.3**	**+2.4**
ZKR	**Zakros**	**1.78**	**198**	P	**Pn**	**04 14 19.2**	**+2.4**
ZKR				S	**Sn**	**04 14 40.4**	**-1.4**
ZKR	**Zakros**	**1.78**	**198**	P	**Pn**	**04 14 19.4**	**+2.4**
NPS	**Neapolis**	**1.87**	**214**	P	**Pn**	**04 14 19.2**	**+1.4**
NPS				S	**Sn**	**04 14 40.9**	**-2.6**
NPS	**Neapolis**	**1.87**	**214**	P	**Pn**	**04 14 19.4**	**+1.6**
NPS				AML	AML	04 14 45.5	
	comp=E,789μm,0.1s						
NPS				AML	AML	04 14 47.3	
	comp=N,498μm,0.4s						
LAST	**Lasithi**	**2.01**	**215**	P	**Pn**	**04 14 21.1**	**+1.6**
LAST	**Lasithi**	**2.01**	**215**	P	**Pn**	**04 14 21.2**	**+1.6**
KSTL	**Kastelli Herak**	**2.11**	**225**	P	**Pn**	**04 14 21.2**	**+0.5**
AKAS	**Kas**	**2.25**	**104**	PN	**Pn**	**04 14 23.9**	**+1.4**
AKAS				SN	**Sn**	**04 14 52.2**	**+0.4**
AKAS	**Kas**	**2.25**	**104**	i P	**Pn**	**04 14 23.8**	**+1.4**
KSL	**Kastellorizon**	**2.26**	**106**	P	**Pn**	**04 14 23.5**	**+1.1**
ELL	**Elmali**	**2.42**	**91**	PN	**Pn**	**04 14 26.1**	**+1.7**
KHAL	**Karahalli**	**2.58**	**52**	i P	**Pn**	**04 14 27.6**	**+1.1**
KHAL				IAML_P			
	comp=Z,389nm,0.4s						
VAM	**Vamos**	**2.60**	**238**	P	**Pn**	**04 14 28.0**	**+1.4**
VAM				S	**Sn**	**04 14 56.4**	**-2.7**
VAM	**Vamos**	**2.60**	**238**	P	**Pn**	**04 14 28.1**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.67**	**70**	i P	**Pn**	**04 14 28.1**	**+0.5**
BRDR				IAML_P			
	comp=Z,372nm,0.3s						
IMMV	**Iera Moni Meta**	**2.72**	**241**	P	**Pn**	**04 14 29.5**	**+1.4**
IMMV	**Iera Moni Meta**	**2.72**	**241**	P	**Pn**	**04 14 30.1**	**+2.0**
KORT	**Korkueli**	**2.77**	**85**	PN	**Pn**	**04 14 30.5**	**+1.7**
KORT	**Korkueli**	**2.77**	**85**	i P	**Pn**	**04 14 31.0**	**+2.2**
KRND	**KRANIDI**	**3.05**	**282**	P	**Pn**	**04 14 34.0**	**+1.8**
ANKY	**Antikythira Is**	**3.06**	**253**	P	**Pn**	**04 14 33.5**	**+1.2**
KERA	**Keramoti**	**3.07**	**243**	P	**Pn**	**04 14 34.5**	**+2.1**
MNVA	**Monemvasia**	**3.11**	**269**	P	**Pn**	**04 14 34.7**	**+1.8**
KYTH	**Kithira**	**3.15**	**261**	P	**Pn**	**04 14 34.9**	**+1.3**
VLI	**Veliai**	**3.19**	**269**	P	**Pn**	**04 14 35.4**	**+1.5**
KTHR	**Kythira**	**3.19**	**261**	P	**Pn**	**04 14 35.8**	**+1.8**
TRAZ	**Trapeza**	**3.97**	**291**	P	**Pn**	**04 14 46.0**	**+1.9**
KLV	**Kalavryta, Ach**	**3.98**	**289**	P	**Pn**	**04 14 46.0**	**+1.8**
ITM	**Ithomi**	**4.00**	**277**	P	**Pn**	**04 14 46.1**	**+1.6**
LAKA	**Lakka**	**4.17**	**291**	P	**Pn**	**04 14 49.3**	**+2.6**
AGG	**Agios Georgios**	**4.24**	**303**	P	**Pn**	**04 14 49.1**	**+1.5**
SLUM	**Salum**	**5.49**	**195**	P	**Pn**	**04 15 04.1**	**-0.1**
	baz=204						
SLUM				S	Sn	04 15 49.0	-18
	baz=204						
SLUM				AMP		04 16 00.0	
	baz=204						
SWA2		**7.64**	**190**	P	**Pn**	**04 15 32.8**	**-0.2**
	baz=194						
SWA2				AMP		04 17 00.0	
	baz=194						
HNAT	**Natroun**	**7.81**	**155**	P	**Pn**	**04 15 36.1**	**+0.9**
	baz=150						
HFRF	**Wahat Farafira**	**9.71**	**173**	P	**Pn**	**04 15 60.0**	**-0.6**
	baz=172						

*NEIC **10** 04:21:27.2±0.0, 17°.19N×94°.67W, h165km, MD4.3(MEX), After MEX.*
MEX 10 04:21:27.2±0.7**, 17°.19N×94°.67W, h165**km±5km**, MD4.3, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**244**	i P	Pn	04 21 47.6	-1.8
CMIG				i S	Sn	04 22 04.3	-2.0
CMIG	**Matias Romero**	**0.23**	**244**	i P	Pn	04 21 47.6	-1.8
CMIG				i S	Sn	04 22 04.3	-2.0
HUIG	**Huatulco**	**1.98**	**225**	i P	Pn	04 22 01.7	-1.3
HUIG				i S	Sn	04 22 28.8	-1.9
HUIG	**Huatulco**	**1.98**	**225**	i P	Pn	04 22 01.7	-1.3
HUIG				i S	Sn	04 22 28.8	-1.9
VHO	**Vista Hermosa**	**1.98**	**267**	eP	Pn	04 22 02.7	-0.5
VHO				i S	Sn	04 22 29.1	-1.8
VHO	**Vista Hermosa**	**1.98**	**267**	eP	Pn	04 22 02.7	-0.5
VHO				i S	Sn	04 22 29.1	-1.8
PCIG		**2.03**	**136**	eP	Pn	04 22 02.4	-1.2
PCIG				i S	Sn	04 22 29.1	-2.6
PCIG		**2.03**	**136**	eP	Pn	04 22 02.4	-1.2
PCIG				i S	Sn	04 22 29.1	-2.6
PNIG	**Pinotepa**	**3.41**	**257**	eP	Pn	04 22 18.3	-2.0
PNIG				i S	Sn	04 22 59.3	-2.3
PNIG	**Pinotepa**	**3.41**	**257**	eP	Pn	04 22 18.3	-2.0
PNIG				i S	Sn	04 22 59.3	-2.3
TLIG	**Tlapa**	**3.74**	**276**	eP	Pn	04 22 23.7	-1.0
TLIG				i S	Sn	04 23 06.5	-2.9
TLIG	**Tlapa**	**3.74**	**276**	eP	Pn	04 22 23.7	-1.0
TLIG				i S	Sn	04 23 06.5	-2.9

IDC 10 04:21:57.2±1.9**, 0°.21S×125°.04E, h0**km**, mb3.2**/3**, mb1 3.4**/3**, mb1mx3.2**/42**, mbtmp3.3**/3**, Error ellipse: s-maj=176.8km s-min=26.9km az=63.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**156**	P	P	04 26 48.3	-0.8
	0.3nm,0.3s,baz=333,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**24.85**	**160**	P	P	04 27 22.3	+0.7
	0.3nm,0.4s,baz=343,slow=7.2,SNR=4.8						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	04 32 04.8	-0.1
	0.2nm,0.4s,baz=124,slow=7.1,SNR=5.0						

IDC 10 04:28:20.4±1.9**, 0°.10N×125°.79E, h0**km**, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.3**/39**, mbtmp3.3**/3**, Error ellipse: s-maj=180.1km s-min=25.9km az=64.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.60**	**158**	P	P	04 33 11.6	-0.5
	0.3nm,0.3s,baz=336,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.90**	**162**	P	P	04 33 45.7	+0.5
	0.3nm,0.5s,baz=347,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**60.03**	**327**	P	P	04 38 29.0	-0.1
	0.3nm,0.4s,baz=120,slow=8.2,SNR=6.6						

SJA 10 04:47:28.1±0.4**, 21°.82S×68°.81W, h100**km±4km**, ML1.6, MW3.7, 1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.40**	**274**	i P	Pn	04 47 44.3	+0.9
LVC	**Limon Verde**	**0.79**	**187**	i P	Pn	04 47 47.5	+0.7
LVC				⇓iS	Sn	04 48 01.8	+1.1
PB03	**IPOC Station P**	**0.91**	**255**	i P	Pn	04 47 48.5	+0.8
PB03				i S	Sn	04 48 03.6	+1.2
PB07	**IPOC Station P**	**1.01**	**275**	i P	Pn	04 47 49.6	+0.9
PB06	**IPOC Station P**	**1.13**	**219**	i P	Pn	04 47 51.1	+1.0
PB02	**IPOC Station P**	**1.13**	**296**	i P	Pn	04 47 50.7	+0.7
PB04	**IPOC Station P**	**1.34**	**248**	i P	Pn	04 47 53.4	+0.8
PB15	**IPOC Station P**	**1.51**	**204**	i P	Pn	04 47 55.9	+1.2
YJA	**Yavi**	**3.08**	**97**	i P	Pn	04 48 17.2	+1.9
YJA				IAML		04 48 21.5	
	comp=Z,1.4nm,0.7s						
HJA	**Humahuaca**	**3.43**	**114**	i P	Pn	04 48 22.1	+2.1
HJA				IAML		04 48 23.2	
	comp=Z,1.5nm,0.5s						

IDC 10 05:04:23.0±1.9**, 0°.04N×125°.98E, h0**km**, mb3.1**/3**, mb1 3.4**/3**, mb1mx3.2**/34**, mbtmp3.2**/3**, Error ellipse: s-maj=165.6km s-min=25.8km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.48**	**158**	P	P	05 09 13.4	0.0
	0.3nm,0.3s,baz=336,slow=10,SNR=9.4						
ASAR	**Alice Springs**	**24.79**	**162**	P	P	05 09 46.8	0.0
	0.2nm,0.4s,baz=345,slow=7.4,SNR=4.2						
MKAR	**Makanchi Array**	**60.18**	**327**	P	P	05 14 32.7	0.0
	0.1nm,0.4s,baz=125,slow=8.6,SNR=3.0						

*ISCJB **10** 05:06:28.5±0.8, 15°.59S±0°.08×72°.47W±0°.08, h108km, mb3.7/4, Error ellipse: s-maj=13.7km s-min=7.6km az=44.1*
*IDC **10** 05:06:29.9±1.8, 15°.46S×72°.39W, h97km±15km, mb3.6/4, mb1 3.6/9, mb1mx3.4/29, mbtmp4.0/9, Error ellipse: s-maj=34.6km s-min=14.7km az=27.0*
ISC 10 05:06:29.6±0.8**, 15°.53S**±0°.09**×72°.50W**±0°.09**, h108**km**, n10, σ1s.70**/13**, mb3.6**/4**, Southern Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.27**	**101**	P	**Pn**	**05 07 31.4**	**-1.8**
	0.0nm,0.3s,baz=270,slow=15,SNR=3.0						
LPAZ				S	**Sn**	**05 08 21.2**	**-1.2**
	0.3nm,0.3s,baz=310,slow=7.9,SNR=2.3						
NNA	**Nana**	**5.50**	**309**	P	**Pn**	**05 07 49.2**	**0.0**
	5.8nm,0.3s,baz=116,slow=13,SNR=13						
NNA				S	**Sn**	**05 08 48.0**	**-3.2**
	14nm,0.3s,baz=176,slow=16,SNR=13						
LVC	**Limon Verde**	**7.81**	**155**	P	**Pn**	**05 08 21.4**	**+0.4**
	2.5nm,0.3s,baz=359,slow=12,SNR=31						
LVC				S	**Sn**	**05 09 45.8**	**-2.2**
	0.9nm,0.3s,baz=126,slow=19,SNR=3.5						
ATAH	**Atahualpa**	**10.15**	**325**	P	**Pn**	**05 08 53.9**	**+1.2**
	0.4nm,0.3s,baz=112,slow=19,SNR=3.5						
SIV	**San Ignacio**	**11.02**	**94**	P	**Pn**	**05 09 03.5**	**-0.7**
	0.3nm,0.3s,baz=282,slow=13,SNR=8.1						
PTGA	**Pitinga**	**19.22**	**41**	P	**P**	**05 10 44.8**	**-0.7**
	0.5nm,0.3s,baz=311,slow=17,SNR=4.6						
BDFB	**Brasilia**	**23.59**	**94**	P	**P**	**05 11 31.3**	**+0.3**
	2.2nm,1.0s,baz=292,slow=9.9,SNR=3.7						
DBIC	**Dimbokro**	**70.52**	**77**	P	**P**	**05 17 33.8**	**+0.4**
	2.1nm,0.7s,baz=230,slow=7.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**78.72**	**73**	P	**P**	**05 18 21.0**	**+0.3**
	0.7nm,0.6s,baz=250,slow=6.0,SNR=10						
ESDC	**Sonseca Array**	**84.09**	**46**	P	**P**	**05 18 51.1**	**+2.4**
	0.5nm,0.6s,baz=258,slow=4.9,SNR=4.0						

IDC 10 05:07:48.9±1.9**, 0°.06S×125°.78E, h0**km**, mb3.2**/3**, mb1 3.5**/3**, mb1mx3.2**/33**, mbtmp3.3**/3**, Error ellipse: s-maj=174.1km s-min=27.0km az=64.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.47**	**158**	P	P	05 12 38.8	-0.4
	0.3nm,0.4s,baz=335,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**24.76**	**162**	P	P	05 13 12.8	+0.3
	0.2nm,0.4s,baz=349,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**60.15**	**327**	P	P	05 17 58.4	-0.1
	0.2nm,0.4s,baz=120,slow=7.2,SNR=5.0						

*ISCJB **10** 05:23:09.4±0.6, 31°.89S±0°.03×69°.80W±0°.04, h114km±6km, Error ellipse: s-maj=6.2km s-min=4.4km az=40.0*
*SJA **10** 05:23:09.8±0.9, 31°.89S×69°.84W, h98km±5km, ML3.0, MW3.5*
*GUC **10** 05:23:10.1±0.5, 31°.97S×70°.19W, h126km±7km, ML3.1*
ISC 10 05:23:10.1±1.5**, 31°.89S**±0°.04**×69°.81W**±0°.04**, h108**km±10km**, n35, σ0s.72**/47**, 5D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.45**	**78**	eP	**Pn**	**05 23 26.5**	**-0.3**
RTLS				eS	**Sn**	**05 23 39.2**	**-0.1**
RTLS				IAML		05 23 39.5	
	comp=Z,379nm,0.2s						
AUSP	**Uspallata**	**0.49**	**133**	eP	**Pn**	**05 23 26.9**	**-0.2**
AUSP				eS	**Sn**	**05 23 39.5**	**-0.3**
ZON	**Zonda**	**1.02**	**70**	eP	**Pn**	**05 23 31.4**	**-0.1**
ZON				eS	**Sn**	**05 23 47.2**	**-0.4**
ZON				IAML		05 23 49.0	
	comp=Z,121nm,0.4s						
ASAL	**Salagasta**	**1.08**	**130**	eP	**Pn**	**05 23 32.4**	**+0.2**
ASAL				eS	**Sn**	**05 23 48.4**	**-0.3**
RTCV	**Cerro Valdivia**	**1.08**	**89**	eP	**Pn**	**05 23 32.1**	**+0.1**
RTCV				eS	**Sn**	**05 23 48.8**	**+0.1**
SJA	**San Juan**	**1.12**	**71**	eP	**Pn**	**05 23 32.8**	**+0.2**
SJA				eS	**Sn**	**05 23 50.0**	**+0.5**
ARCO	**CERRO ARCO**	**1.20**	**142**	eP	**Pn**	**05 23 34.0**	**+0.5**
ARCO				IAML		05 23 34.8	
	comp=Z,476nm,0.2s						
ARCO				eS	**Sn**	**05 23 52.4**	**+1.1**
CMCH	**Combarbala**	**1.25**	**305**	⇓iP	**Pn**	**05 23 33.7**	**-0.2**
CMCH				eS	**Sn**	**05 23 52.0**	**+0.1**
CMCH				IAML		05 23 53.4	
	comp=N,904nm,0.5s						
RTLL	**Cerro Villicun**	**1.27**	**64**	eP	**Pn**	**05 23 34.0**	**-0.2**
RTLL				IAML		05 23 53.6	
	comp=Z,391nm,0.3s						
CFA	**Coronel Fontan**	**1.37**	**78**	eP	**Pn**	**05 23 35.1**	**-0.2**
AAGR	**Agrelo**	**1.45**	**145**	eP	**Pn**	**05 23 37.1**	**+0.7**
ACCO	**Cerro Coronel**	**1.45**	**26**	eP	**Pn**	**05 23 37.0**	**+0.4**
PEL	**Peldehue**	**1.45**	**210**	⇓eP	**Pn**	**05 23 36.1**	**-0.2**
PEL	**Peldehue**	**1.45**	**210**	eP	**Pn**	**05 23 35.9**	**-0.4**
PEL				eS	**Sn**	**05 23 55.5**	**-0.7**
PEL				IAML		05 23 57.0	
	comp=E,227nm,0.4s						

AMOG	**MOGNA**	**1.47**	**50**	*eP*		**Pn**	**05 23 37.0**	**+0.3**
ROCH	**El Roble**	**1.48**	**223**	⇓*iP*		**Pn**	**05 23 36.0**	**-0.8**
ROCH				*iS*		**Sn**	**05 23 55.9**	**-1.1**
ROCH				IAML			05 24 00.5	
	comp=N,444nm,0.6s							
ROC1	**El Roble**	**1.48**	**223**	*eP*		**Pn**	**05 23 36.6**	**-0.3**
FCH	**Farellones**	**1.49**	**196**	⇓*iP*		**Pn**	**05 23 37.6**	**+0.6**
FCH				*iS*		**Sn**	**05 23 58.8**	**+1.4**
FCH				IAML			05 24 04.3	
	comp=E,258nm,0.3s							
CLCH	**Cerro Calan**	**1.62**	**202**	⇓*iP*		**Pn**	**05 23 38.5**	**+0.2**
CLCH				*eS*		**Sn**	**05 23 59.6**	**-0.2**
CLCH				IAML			05 24 04.5	
	comp=E,272nm,0.4s							
AROD	**Rodeo**	**1.75**	**10**	*eP*		**Pn**	**05 23 41.3**	**+1.1**
ANTU	**Antumapu**	**1.81**	**202**	*eP*		**Pn**	**05 23 40.4**	**-0.3**
ACDV	**Cuesta del Vie**	**1.82**	**19**	*eP*		**Pn**	**05 23 41.9**	**+0.9**
AVIZ	**Vizcacheras**	**1.92**	**146**	*eP*		**Pn**	**05 23 42.5**	**+0.4**
GO04	**Tololo Observa**	**1.92**	**333**	*eP*		**Pn**	**05 23 42.2**	**0.0**
LMEL	**Las Melosas**	**1.98**	**190**	*eP*		**Pn**	**05 23 43.6**	**+0.7**
LMEL				*eS*		**Sn**	**05 24 09.4**	**+1.5**
LMEL				IAML			05 24 16.7	
	comp=N,154nm,0.3s							
ACAN	**Cantantal**	**2.26**	**100**	*eP*		**Pn**	**05 23 46.2**	**-0.2**
AGUA	**GUANDACOL**	**2.65**	**26**	*eP*		**Pn**	**05 23 52.8**	**+1.1**
LCO	**Las Campanas**	**2.98**	**345**	*eP*		**Pn**	**05 23 55.6**	**-0.4**
RFA	**San Rafael**	**3.08**	**159**	IAML			05 23 56.7	
	comp=Z,22nm,0.2s							
APLL	**PUNTA DE LOS L**	**3.19**	**63**	*eP*		**Pn**	**05 23 57.4**	**-1.2**
APLL				IAML			05 24 37.8	
	comp=Z,14nm,0.3s							
VCA	**Vinchina**	**3.44**	**24**	*eP*		**Pn**	**05 24 03.5**	**+1.3**
VCA				IAML			05 24 51.3	
	comp=Z,28nm,0.4s							
ACLC	**CERRO LA CRUZ**	**3.48**	**46**	*eP*		**Pn**	**05 24 03.1**	**+0.4**
MRA	**San Martin**	**3.51**	**100**	*eP*		**Pn**	**05 24 02.1**	**-0.9**
MRA				IAML			05 24 44.9	
	comp=Z,25nm,0.4s							
TCA	**Tanti**	**4.48**	**84**	*eP*		**Pn**	**05 24 15.2**	**-0.9**
TCA				IAML			05 24 15.9	
	comp=Z,34nm,0.4s							
CYA	**Choya**	**4.89**	**46**	*eP*		**Pn**	**05 24 19.9**	**-1.6**
CYA				IAML			05 24 22.6	
	comp=Z,4.1nm,0.4s							

IDC 10 05:27:40.8±4.2, 16°36.86S×178°38.17W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/31, mbtmp3.9/4, MS4.3/1, Ms1 4.3/1, ms1mx3.0/33, Error ellipse: s-maj=187.4km s-min=33.5km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.34**	**240**	P	P	05 35 12.6	+0.5
	0.5nm,0.3s,baz=66,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**45.05**	**258**	P	P	05 35 58.3	-0.6
	0.3nm,0.4s,baz=95,slow=6.9,SNR=2.5						
ASAR	**Alice Springs**	**45.30**	**253**	P	P	05 36 00.5	-0.3
	6.1nm,0.6s,baz=89,slow=8.2,SNR=86						
BATI	**Baumata**	**56.77**	**269**	LR	LR	06 02 33.4	
	comp=Z,219nm,18.4s,baz=64,slow=37						
ILAR	**Eielson Array**	**84.82**	**13**	P	P	05 40 16.9	+0.1
	0.2nm,0.3s,baz=222,slow=5.2,SNR=6.2						

IDC 10 05:29:16.1±1.8, 40°.79N×51°.89E, h0km, mb3.3/2, mb1 3.7/9, mb1mx3.4/50, mbtmp3.7/9, ML3.8/7, Error ellipse: s-maj=24.5km s-min=13.7km az=164.0
THR 10 05:29:19.3, 40°.47N×51°.99E, h15km, ML3.6
AZER 10 05:29:21.8±0.1, 40°.48N×51°.89E, h60km, ml3.5/25, Error ellipse: s-maj=9.7km s-min=7.5km az=356.0
TEH 10 05:29:21.4, 40°.62N×52°.02E, h50km, ML3.6
NNC 10 05:29:25.0±5.2, 41°.39N×52°.56E, h0km, mb3.8, Error ellipse: s-maj=63.0km s-min=41.7km az=102.0

ISC 10 05:29:21.3±0.9, 40°.67N±0°.05×52°.04E±0°.05, h78km±16km, n77, σ1§88/92, 22C-22D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOBA	**Gobu**	**1.78**	**262**	⇑S	**Sn**	**05 30 11.6**	**-0.5**
GBS	**Qobustan**	**2.36**	**268**	⇑P	**Pn**	**05 29 58.8**	**+0.8**
GBS				⇓S	**Sn**	**05 30 26.0**	**-0.2**
ATGJ	**Altiaghaj**	**2.36**	**276**	⇓P	**Pn**	**05 29 59.7**	**+1.7**
ATGJ				⇑S	**Sn**	**05 30 28.8**	**+2.6**
SIZA	**Siyzn**	**2.42**	**281**	⇓P	**Pn**	**05 29 59.9**	**+1.1**
SIZA				⇓S	**Sn**	**05 30 31.2**	**+3.8**
ALIB	**Äli-Bayra**	**2.42**	**254**	⇓S	**Sn**	**05 30 35.1**	**+7.6**
PQL	**Pirkuli**	**2.62**	**274**	*e*Pn	**Pn**	**05 30 03.1**	**+1.5**
PQL	**Pirkuli**	**2.62**	**274**	⇑P	**Pn**	**05 30 03.3**	**+1.7**
PQL				⇓S	**Sn**	**05 30 34.5**	**+2.0**
QUBA	**Quba, Azerbaij**	**2.77**	**285**	⇓S	**Sn**	**05 30 38.0**	**+2.1**
IML	**Ismayilli**	**2.93**	**274**	⇓S	**Sn**	**05 30 41.0**	**+1.1**
KDMR	**Kurdemir**	**2.95**	**266**	⇓S	**Sn**	**05 30 42.0**	**+1.7**
QSAR	**Qusar**	**2.98**	**288**	⇑P	**Pn**	**05 30 08.1**	**+1.9**
QSAR				⇑S	**Sn**	**05 30 42.3**	**+1.4**
XNQ	**Khinaliq**	**3.00**	**281**	*e*Pn	**Pn**	**05 30 08.4**	**+1.7**
XNQ	**Khinaliq**	**3.00**	**281**	⇑P	**Pn**	**05 30 08.0**	**+1.3**
	SNR=23						
XNQ				⇓S	**Sn**	**05 30 42.7**	**+1.1**
GLBA	**Clilabad**	**3.14**	**244**	*e*Pn	**Pn**	**05 30 09.0**	**+0.5**
GLBA	**Clilabad**	**3.14**	**244**	⇓P	**Pn**	**05 30 09.3**	**+0.8**
	SNR=5.1						
GLBA				⇓S	**Sn**	**05 30 45.0**	**0.0**
LKRN	**Lenkeran, Azer**	**3.19**	**233**	*e*Pn	**Pn**	**05 30 09.8**	**+0.7**
LKRN	**Lenkeran, Azer**	**3.19**	**233**	⇓P	**Pn**	**05 30 09.8**	**+0.7**
	SNR=4.2						
LKRN				⇑S	**Sn**	**05 30 45.0**	**-0.9**
QBL	**Gabala**	**3.20**	**276**	⇓P	**Pn**	**05 30 10.1**	**+0.8**
QBL				⇑S	**Sn**	**05 30 47.4**	**+1.0**
ASTR	**Astara**	**3.28**	**231**	*e*Pn	**Pn**	**05 30 10.7**	**+0.4**
ASTR	**Astara**	**3.28**	**231**	⇓P	**Pn**	**05 30 10.4**	**+0.1**
	SNR=12						
ASTR				⇓S	**Sn**	**05 30 46.7**	**-1.5**
ZRD	**Zardab**	**3.34**	**265**	⇓S	**Sn**	**05 30 51.1**	**+1.4**
LRK	**Lerik**	**3.50**	**236**	*e*Pn	**Pn**	**05 30 13.8**	**+0.3**
LRK	**Lerik**	**3.50**	**236**	⇑P	**Pn**	**05 30 13.6**	**+0.1**
	SNR=18						
LRK				⇑S	**Sn**	**05 30 52.2**	**-1.7**
GRMI	**Germi**	**3.70**	**241**	*e*Pn	**Pn**	**05 30 16.4**	**+0.2**
GRMI	**Germi**	**3.70**	**241**	*e*AML	AML	05 30 59.9	
	comp=N,86nm,0.2s						
GRMI	**Germi**	**3.70**	**241**	*e*Pn	**Pn**	**05 30 16.4**	**+0.2**
SEKA	**Sheki**	**3.71**	**280**	*e*Pn	**Pn**	**05 30 17.5**	**+1.3**
SEKA	**Sheki**	**3.71**	**280**	P	**Pn**	**05 30 17.6**	**+1.3**
	SNR=3.5						
SEKA				⇑S	**Sn**	**05 31 00.2**	**+1.4**
BRDA	**Brd**	**3.73**	**265**	⇑S	**Sn**	**05 30 59.7**	**+0.5**
ZKTA	**Zakatala**	**4.20**	**285**	⇓S	**Sn**	**05 31 13.5**	**+2.7**
GANJ	**Ganja**	**4.35**	**272**	*e*Pn	**Pn**	**05 30 25.8**	**+0.9**
GANJ	**Ganja**	**4.35**	**272**	⇑P	**Pn**	**05 30 25.4**	**+0.4**
	SNR=3.9						
GANJ				⇓S	**Sn**	**05 31 11.9**	**-2.5**
MRVT	**Maraveh tapeh**	**4.35**	**132**	*e*Pn	**Pn**	**05 30 25.6**	**+0.6**
MRVT	**Maraveh tapeh**	**4.35**	**132**	*e*AML	AML	05 31 17.9	
	comp=E,55nm,0.2s						
MRVT	**Maraveh tapeh**	**4.35**	**132**	*e*Pn	**Pn**	**05 30 25.6**	**+0.6**
ISRB	**Sarab**	**4.43**	**231**	*e*Pn	**Pn**	**05 30 27.3**	**+1.1**
IPRN	**Peran**	**4.43**	**177**	*e*Pn	**Pn**	**05 30 26.7**	**+0.6**
IPRN				IAMB	IAmb	05 31 19.3	
	comp=Z,2μm,0.2s						
IHRS	**Heris**	**4.52**	**240**	*e*Pn	**Pn**	**05 30 28.6**	**+1.1**
IHRS				IAMB	IAmb	05 31 22.2	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**4.62**	**172**	*e*Pn	**Pn**	**05 30 29.7**	**+0.8**
IALA				IAMB	IAmb	05 31 23.6	
	comp=E,9μm,0.2s						
IALA				IAMB	IAmb	05 31 23.6	
	comp=Z,4μm,0.2s						
IKIA	**Kiasar**	**4.64**	**163**	*e*Pn	**Pn**	**05 30 30.7**	**+1.6**
IKIA				IAMB	IAmb	05 31 26.7	
	comp=Z,662nm,0.3s						
GDB	**GEDABAY**	**4.78**	**273**	*e*Pn	**Pn**	**05 30 31.6**	**+0.7**
GDB	**GEDABAY**	**4.78**	**273**	⇓P	**Pn**	**05 30 31.6**	**+0.7**
	SNR=5.7						
GDB				⇑S	**Sn**	**05 31 23.0**	**-2.1**
ZNJK	**Zanjan**	**4.78**	**214**	*e*Pn	**Pn**	**05 30 30.7**	**-0.3**
ZNJK	**Zanjan**	**4.78**	**214**	*e*Pn	**Pn**	**05 30 30.6**	**-0.3**
THKV	**Tehran--Karaj**	**4.83**	**191**	*e*Pn	**Pn**	**05 30 31.2**	**-0.6**
THKV	**Tehran--Karaj**	**4.83**	**191**	*e*AML	AML	05 31 27.3	
	comp=E,71nm,0.3s						
THKV	**Tehran--Karaj**	**4.83**	**191**	*e*Pn	**Pn**	**05 30 31.2**	**-0.6**
ISHM	**Shahmirzad**	**4.96**	**168**	*e*Pn	**Pn**	**05 30 34.7**	**+1.2**
ISHM				IAMB	IAmb	05 31 34.2	
	comp=Z,3μm,0.2s						
ORD	**Ordubad**	**4.97**	**251**	*e*Pn	**Pn**	**05 30 34.2**	**+0.8**
ORD	**Ordubad**	**4.97**	**251**	⇑P	**Pn**	**05 30 34.3**	**+0.8**
ORD				⇑S	**Sn**	**05 31 27.5**	**-2.1**
IFIR	**Firoozkooh**	**5.05**	**173**	*e*Pn	**Pn**	**05 30 36.2**	**+1.4**
IFIR				IAMB	IAmb	05 31 35.6	
	comp=Z,2μm,0.2s						
QZX	**Qazax, Azerbai**	**5.07**	**277**	*e*Pn	**Pn**	**05 30 35.6**	**+0.9**
QZX	**Qazax, Azerbai**	**5.07**	**277**	⇑P	**Pn**	**05 30 35.0**	**+0.3**
	SNR=6.4						
QZX				⇓S	**Sn**	**05 31 31.7**	**-0.3**
IDMV	**Damavand**	**5.08**	**180**	*e*Pn	**Pn**	**05 30 36.6**	**+1.4**
IDMV				IAMB	IAmb	05 31 36.1	
	comp=Z,543nm,0.2s						
IMHD	**Mahdasht**	**5.09**	**193**	*e*Pn	**Pn**	**05 30 36.8**	**+1.6**
IMHD				IAMB	IAmb	05 30 37.6	
	comp=Z,559nm,0.2s						
SBZ	**Shahbuz**	**5.14**	**258**	⇑S	**Sn**	**05 31 34.1**	**+0.3**
ILAS	**Lasjerd**	**5.33**	**172**	*e*Pn	**Pn**	**05 30 41.9**	**+3.4**
ILAS				IAMB	IAmb	05 31 42.2	
	comp=N,1μm,0.3s						
IANJ	**Anjilo**	**5.40**	**164**	*e*Pn	**Pn**	**05 30 41.7**	**+2.2**
IANJ				IAMB	IAmb	05 31 45.5	
	comp=Z,528nm,0.4s						
GEYT	**Alibeck**	**5.45**	**118**	Pn	**Pn**	**05 30 41.1**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=309,slow=16,SNR=9.7						
GEYT				Sn	**Sn**	**05 31 39.5**	**-1.8**
	comp=Z,2.1nm,0.3s,baz=343,slow=11,SNR=5.7						
SHRO	**Shahrood**	**5.62**	**145**	*e*Pn	**Pn**	**05 30 42.6**	**+0.2**
SHRO	**Shahrood**	**5.62**	**145**	*e*Pn	**Pn**	**05 30 42.6**	**+0.2**
IVRN	**Varamin**	**5.67**	**183**	*e*Pn	**Pn**	**05 30 44.8**	**+1.8**
ISFR	**Sfrayin**	**5.89**	**126**	*e*Pn	**Pn**	**05 30 48.0**	**+1.8**
ISFR				IAMB	IAmb	05 31 56.8	
	comp=Z,585nm,0.8s						
ISFB	**Sefidab**	**6.31**	**178**	*e*Pn	**Pn**	**05 30 53.0**	**+1.2**
ISFB				IAMB	IAmb	05 32 12.2	
	comp=Z,89nm,0.2s						
SNGE	**Sanandaj**	**6.69**	**215**	*e*Pn	**Pn**	**05 30 56.5**	**-0.6**
SNGE	**Sanandaj**	**6.69**	**215**	*e*Pn	**Pn**	**05 30 56.5**	**-0.6**
KBZ	**Khabaz**	**7.44**	**297**	Pn	**Pn**	**05 31 05.3**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=116,slow=4.0,SNR=7.3						
KBZ				Sn	Sn	05 32 21.5	-8.4
	comp=Z,0.4nm,0.3s,baz=342,slow=6.4,SNR=2.4						
KVAR	**Kislovodsk Arr**	**7.66**	**298**	Pn	**Pn**	**05 31 07.5**	**-2.7**
	baz=286,slow=20,SNR=1.4						
KVAR				Sn	**Sn**	**05 32 27.3**	**-8.2**
	baz=108,slow=3.2,SNR=4.1						
AB31	**Akbulak array**	**10.24**	**30**	⇑Pn	**Pn**	**05 31 42.4**	**-2.9**
	comp=Z,0.3nm,0.2s,baz=208,slow=12,SNR=35						
AB31				⇑Sn	Sn	05 33 29.6	-8.6
	comp=Z,1.3nm,0.4s,baz=217,slow=23,SNR=9.4						
AKTO	**Aktyubinsk**	**10.62**	**21**	⇓Pn	**Pn**	**05 31 46.9**	**-3.5**
	comp=Z,4.4nm,1.0s						
AKTO				⇑Sn	Sn	05 33 39.6	-7.9
	comp=Z,3.0nm,0.6s						
AKTO	**Aktyubinsk**	**10.62**	**21**	Pn	**Pn**	**05 31 47.6**	**-2.7**
	comp=Z,0.9nm,0.3s,baz=204,slow=8.7,SNR=18						
AKTO				Sn	Sn	05 33 38.8	-8.7
	comp=Z,0.6nm,0.3s,baz=55,slow=22,SNR=6.3						
BVA0	**Borovoye Array**	**17.55**	**39**	P	**Pn**	**05 33 20.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=225,slow=46,SNR=11						
BVAR	**Borovoye Array**	**17.55**	**39**	P	**Pn**	**05 33 20.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=228,slow=13,SNR=13						
KIRV	**Kirov**	**18.01**	**356**	P	**P**	**05 33 25.4**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=156,slow=20,SNR=2.6						
AKASG	**Malin Array Be**	**18.76**	**310**	P	**P**	**05 33 33.5**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=98,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**22.61**	**64**	P	**P**	**05 34 17.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=265,slow=5.9,SNR=3.2						
FINES	**FINESS Array B**	**26.11**	**331**	P	**P**	**05 34 48.8**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=133,slow=10,SNR=8.9						

DRS 10 05:38:00.8±0.0, 42°.94N×46°.01E, h14km, ML3.7/4
TIF 10 05:38:02.2, 42°.96N×46°.46E, h18km±4km
MOS 10 05:38:03.9±1.2, 42°.96N×46°.34E, h6km, mb4.0/6, Error ellipse: s-maj=5.7km s-min=4.1km az=32.2
IDC 10 05:38:03.1±0.6, 42°.92N×46°.07E, h0km, mb3.7/10, mb1 3.8/17, mb1mx3.7/39, mbtmp3.7/17, ML3.3/5, MS2.8/7, Ms1 2.8/7, ms1mx2.5/52, Error ellipse: s-maj=10.0km s-min=8.3km az=2.0
NORS 10 05:38:04.0±0.0, 42°.81N×46°.27E, h1km, MPVA4.5
ISCJB 10 05:38:04.0±0.3, 42°.97N±0°.02×46°.30E±0°.02, h0km±2km, mb3.8/10, MS2.8/4, Error ellipse: s-maj=2.9km s-min=1.6km az=27.1
AZER 10 05:38:05.1±19.0, 42°.71N×46°.22E, h2km, ml3.9/20, Error ellipse: s-maj=10.1km s-min=6.8km az=338.0
NNC 10 05:38:17.0±5.9, 43°.25N×47°.67E, h0km, mb4.2, Error ellipse: s-maj=79.5km s-min=48.0km az=130.0

ISC 10 05:38:04.3±0.8, 42°.90N±0°.02×46°.30E±0°.01, h9km±6km, n166, σ1§84/251, mb3.9/10, MS2.8/4, 40C-45D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.14**	**294**	*e*/*i*PG	**Pg**	**05 38 07.0**	**-0.5**
DVE				pmax	pmax		
	comp=Z,921nm,0.1s						
DVE	**Vedeno**	**0.14**	**294**	*i* Pg	**Pg**	**05 38 07.1**	**-0.5**
DVE				*i* Sg	**Sg**	**05 38 09.9**	**+0.2**
BTLR	**Botlikh**	**0.24**	**194**	⇓*e*PG	**Pg**	**05 38 08.2**	**-1.0**
BTLR				pmax	pmax		
	comp=Z,3μm,0.4s						
BTLR	**Botlikh**	**0.24**	**194**	⇓*e*Pg	**Pg**	**05 38 08.3**	**-1.0**
	comp=Z,3μm,0.4s						
BTLR				⇓*e*Sg	**Sg**	**05 38 11.7**	**-0.9**
	comp=Z,5μm,1.0s						
DLMR	**Dylym**	**0.30**	**55**	*e*PG	**Pb**	**05 38 11.5**	**-0.3**
DLMR	**Dylym**	**0.30**	**55**	*e*Pg	**Pb**	**05 38 11.5**	**-0.3**
DBC	**Dubki**	**0.41**	**73**	⇓*e*PG	**Pg**	**05 38 12.6**	**+0.2**
DBC				*e*		05 38 20.0	
DBC	**Dubki**	**0.41**	**73**	*e*Pg	**Pg**	**05 38 12.4**	**+0.1**
DBC				*e*Sg	**Sb**	**05 38 19.8**	**-0.2**
UNCR	**Uncukul**	**0.41**	**117**	⇓*i*PG	**Pg**	**05 38 12.5**	**+0.2**
UNCR				*e*S	**Sb**	**05 38 19.5**	**-0.5**
UNCR	**Uncukul**	**0.41**	**117**	*i* Pg	**Pg**	**05 38 12.5**	**+0.2**
UNCR				*e*Sg	**Sb**	**05 38 19.5**	**-0.5**
KRNR	**Karanay**	**0.45**	**99**	⇑*i*PG	**Pg**	**05 38 13.0**	**-0.2**
KRNR				*e*S	**Sb**	**05 38 23.0**	**+1.6**
KRNR				pmax	pmax		
	comp=Z,782nm,0.5s						
KRNR	**Karanay**	**0.45**	**99**	*i* Pg	**Pg**	**05 38 13.0**	**-0.2**
KRNR				*e*Sg	**Sb**	**05 38 23.0**	**+1.6**
GROC	**Groznyy**	**0.48**	**310**	*i* PG	**Pb**	**05 38 15.0**	**+0.1**
GROC				pmax	pmax		
	comp=Z,166nm,0.2s						
GROC	**Groznyy**	**0.48**	**310**	*i* Pg	**Pb**	**05 38 15.1**	**+0.1**
GROC				*i* Sg	**Sb**	**05 38 24.0**	**+1.9**
ARKR	**Arakani**	**0.59**	**120**	*i* PG	**Pg**	**05 38 15.5**	**-0.3**
ARKR				*e*S	**Sn**	**05 38 27.5**	**-1.2**
ARKR	**Arakani**	**0.59**	**120**	*i* Pg	**Pg**	**05 38 15.5**	**-0.3**
ARKR				*e*Sg	**Sn**	**05 38 27.5**	**-1.2**
BUJR	**Buynaksk**	**0.60**	**97**	⇓*i*PG	**Pg**	**05 38 16.5**	**+0.6**
BUJR				*e*S	**Sn**	**05 38 28.0**	**-0.8**
BUJR				pmax	pmax		
	comp=Z,1μm,0.2s						
BUJR	**Buynaksk**	**0.60**	**97**	*i* Pg	**Pg**	**05 38 16.5**	**+0.6**
BUJR				*e*Sg	**Sn**	**05 38 28.0**	**-0.8**
GNBR	**Gunib**	**0.71**	**136**	⇑*e*PG	**Pg**	**05 38 17.8**	**-0.2**
GNBR				*e*		05 38 29.4	
GNBR				pmax	pmax		
	comp=Z,1μm,0.8s						
GNBR				smax	smax		
	comp=N,5μm,2.2s						
GNBR	**Gunib**	**0.71**	**136**	⇑*e*Pg	**Pg**	**05 38 17.8**	**-0.2**
	comp=N,1μm,0.8s						
GNBR				⇓*e*Sg	**Sb**	**05 38 28.2**	**-0.5**
	comp=N,5μm,2.2s						
MAK	**Makhachkala**	**0.89**	**86**	⇓*i*PG	**Pn**	**05 38 23.2**	**+0.3**
MAK				*e*		05 38 38.2	
MAK				pmax	pmax		
	comp=Z,559nm,0.6s						
MAK				smax	smax		
	comp=N,4μm,0.6s						
MAK				smax	smax		
	comp=N,4μm,0.5s						
MAK	**Makhachkala**	**0.89**	**86**	*e*Pg	**Pn**	**05 38 23.5**	**+0.6**
MAK				*e*Sg	**Sn**	**05 38 37.3**	**+1.4**
KMKR	**Kumukh**	**0.97**	**142**	⇑*i*PG	**Pg**	**05 38 22.5**	**-0.5**
KMKR				*e*S	**Sb**	**05 38 36.5**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,705nm,0.2s						
KMKR	**Kumukh**	**0.97**	**142**	*i* Pg	**Pg**	**05 38 22.5**	**-0.5**
KMKR				*e*Sg	**Sb**	**05 38 36.5**	**+0.2**
LGD	**Lagodekhi**	**1.06**	**182**	P	**Pg**	**05 38 23.8**	**-1.0**
LGD				S	**Sg**	**05 38 37.8**	**-0.8**
LGD	**Lagodekhi**	**1.06**	**182**	*e*PG	**Pg**	**05 38 23.8**	**-1.0**
LGD				*e*S	**Sg**	**05 38 37.8**	**-0.8**
LGD	**Lagodekhi**	**1.06**	**182**	*e*Pg	**Pg**	**05 38 23.9**	**-0.8**
LGD				*e*Sg	**Sg**	**05 38 37.8**	**-0.8**
SGKR	**Sergokala**	**1.09**	**113**	*e*PG	**Pn**	**05 38 26.3**	**+0.5**
SGKR				*e*S	**Sn**	**05 38 46.3**	**+5.3**
SGKR	**Sergokala**	**1.09**	**113**	*e*Pg	**Pn**	**05 38 26.3**	**+0.5**
SGKR				*e*Sg	**Sn**	**05 38 46.3**	**+5.3**
VLKR	**Vladikavkaz**	**1.20**	**278**	*e*PG	**Pg**	**05 38 28.5**	**+1.1**
VLKR				*e*S	**Sn**	**05 38 46.5**	**+2.8**
VLKR	**Vladikavkaz**	**1.20**	**278**	*e*Pg	**Pg**	**05 38 27.9**	**+0.5**
VLKR				*e*Pg	**Pn**	**05 38 28.8**	**+1.5**
VLKR				*e*Sg	**Sn**	**05 38 45.0**	**+1.2**
VLKR				*e*Sg	**Sg**	**05 38 46.8**	**+3.8**
URKR	**Urkarakh**	**1.23**	**126**	⇓*e*PG	**Pg**	**05 38 28.4**	**+0.5**
URKR				*e*		05 38 46.4	
URKR	**Urkarakh**	**1.23**	**126**	*i* Pg	**Pg**	**05 38 28.6**	**+0.7**
URKR				*e*Sg	**Sn**	**05 38 46.9**	**+2.4**
ZKTA	**Zakatala**	**1.28**	**169**	⇓P	**Pg**	**05 38 29.3**	**+0.4**
	SNR=40						
ZKTA				⇓S	**Sg**	**05 38 45.9**	**+0.3**
BTKR	**Batakoyurt**	**1.37**	**291**	*e*PG	**Pg**	**05 38 31.5**	**+0.8**
BTKR				*e*S	**Sg**	**05 38 52.4**	**+4.0**
BTKR	**Batakoyurt**	**1.37**	**291**	*e*Pg	**Pg**	**05 38 31.4**	**+0.8**
BTKR				*e*Sg	**Sg**	**05 38 52.4**	**+4.0**
TRKR	**Terskaya**	**1.41**	**306**	*e*PG	**Pg**	**05 38 32.4**	**+1.0**
TRKR				*e*S	**Sg**	**05 38 52.5**	**+2.8**
TRKR	**Terskaya**	**1.41**	**306**	*e*Pg	**Pg**	**05 38 32.4**	**+1.0**
TRKR				*e*Sg	**Sg**	**05 38 52.5**	**+2.8**
GUDG	**Gudauri**	**1.41**	**253**	P	**Pb**	**05 38 31.0**	**0.0**
GUDG				S	**Sb**	**05 38 49.3**	**+0.2**
DDFL	**Dedoflistskaro**	**1.46**	**185**	P	**Pg**	**05 38 33.6**	**+1.3**
LACR	**Lac**	**1.48**	**268**	*ce*PG	**Pn**	**05 38 31.0**	**-0.1**
LACR				pmax	pmax		
	comp=Z,1μm,0.4s						
LACR	**Lac**	**1.48**	**268**	*e*Pg	**Pn**	**05 38 31.1**	**-0.1**
LACR				*e*Sg	**Sg**	**05 38 52.3**	**+0.6**
ARNR	**Ardon**	**1.50**	**281**	*e*PG	**Pg**	**05 38 33.9**	**+0.7**
ARNR				*e*S	**Sg**	**05 38 55.0**	**+2.3**
ARNR	**Ardon**	**1.50**	**281**	*e*Pg	**Pg**	**05 38 33.5**	**+0.3**
ARNR				*e*Sg	**Sg**	**05 38 54.8**	**+2.1**
SEAG	**Tbilisi Sea**	**1.59**	**225**	P	**Pg**	**05 38 35.1**	**+0.4**
TBLG	**Delisi**	**1.65**	**225**	P	**Pn**	**05 38 34.3**	**+0.9**
TBLG				S	**Sb**	**05 38 56.0**	**+0.3**
TBLG	**Delisi**	**1.65**	**225**	*e*PN	**Pn**	**05 38 34.3**	**+0.9**
TBLG	**Delisi**	**1.65**	**225**	*e*Pg	**Pn**	**05 38 34.3**	**+0.9**
TBLG				*e*Sg	**Sb**	**05 38 56.0**	**+0.3**
BTNK	**Botanikuri**	**1.65**	**223**	P	**Pb**	**05 38 34.6**	**-0.3**
BTNK				S	**Sg**	**05 38 56.9**	**-0.4**
KORR	**Kora**	**1.65**	**277**	*ce*PN	**Pb**	**05 38 35.0**	**+0.2**
KORR	**Kora**	**1.65**	**277**	*e*Pg	**Pb**	**05 38 35.1**	**+0.2**
KORR				*e*Sg	**Sg**	**05 38 58.8**	**+1.4**
PRTR	**Priterechnaya**	**1.70**	**301**	⇑*e*PN	**Pb**	**05 38 36.6**	**+0.9**
PRTR				pmax	pmax		
	comp=Z,473nm,0.6s						
PRTR	**Priterechnaya**	**1.70**	**301**	*e*Pg	**Pg**	**05 38 36.8**	**-0.1**
PRTR				*e*Sg	**Sg**	**05 39 00.9**	**+1.9**
STDR	**Stavd-Durt**	**1.70**	**287**	*e*PN	**Pg**	**05

SIZA	**Siyzn**	**2.66**	**132**	⇓P		**Pb**	**05 38 52.7**	**+0.5**
	SNR=8.6								
BRDA	**Brd**	**2.71**	**166**	⇑P		**Pb**	**05 38 51.9**	**-1.1**
	SNR=6.9								
BRDA				⇓S		**Sb**	**05 39 26.6**	**+0.3**
PQL	**Pirkuli**	**2.72**	**140**	⇓P		**Pb**	**05 38 52.7**	**-0.5**
	SNR=31								
SHA1	**Shidzhatmaz**	**2.79**	**289**	*e*PN		**Pn**	**05 38 49.5**	**+0.2**
SHA1				*e*S		**Sb**	**05 39 26.4**	**-2.3**
SHA1	**Shidzhatmaz**	**2.79**	**289**	*e*Pn		**Pn**	**05 38 49.5**	**+0.2**
SHA1				*e*Sn		**Sb**	**05 39 26.4**	**-2.3**
KIV0	**Kislovodsk Arr**	**2.83**	**293**	*e*Pn		**Pn**	**05 38 50.6**	**+0.9**
KIV0				*e*Sn		**Sn**	**05 39 22.9**	**-1.2**
KVAR	**Kislovodsk Arr**	**2.83**	**293**	Pn		**Pn**	**05 38 50.7**	**+0.9**
	baz=288,slow=19,SNR=18								
KVAR				Sn		**Sn**	**05 39 23.0**	**-1.1**
	baz=330,slow=8.1,SNR=12								
ATGJ	**Altiaghaj**	**2.83**	**135**	⇑P		**Pb**	**05 38 54.3**	**-0.8**
	SNR=7.4								
ATGJ				⇓S		**Sb**	**05 39 31.9**	**+2.0**
KIV	**Kislovodsk**	**2.84**	**293**	⇑*i*P		**Sb**	**05 39 31.7**	**+1.7**
KIV	**Kislovodsk**	**2.84**	**293**	*e*PN		**Pn**	**05 38 50.0**	**+0.2**
KIV	**Kislovodsk**	**2.84**	**293**	*e*Pn		**Pn**	**05 38 50.2**	**+0.4**
KIV				*e*Sn		**Sn**	**05 39 23.4**	**-0.7**
GNI	**Garni**	**2.99**	**204**	⇓*e*PN		**Pb**	**05 38 55.1**	**-2.6**
GNI	**Garni**	**2.99**	**204**	Pn		**Pn**	**05 38 54.8**	**+2.9**
	comp=Z,9.3nm,0.3s,baz=341,slow=1.5,SNR=26								
GNI				Sn		**Sn**	**05 39 30.0**	**+2.1**
	comp=Z,7.8nm,0.3s,baz=242,slow=15,SNR=3.7								
GNI	**Garni**	**2.99**	**204**	*e*Pn		**Pb**	**05 38 55.1**	**-2.6**
GBS	**Qobustan**	**3.08**	**139**	⇓P		**Pb**	**05 38 57.9**	**-1.4**
	SNR=10								
GOF	**Gofitskoye**	**3.19**	**314**	*e*PN		**Pn**	**05 38 56.1**	**+1.5**
GOF				*e*S		**Sn**	**05 39 35.5**	**+2.7**
GOF				pmax	pmax				
	comp=Z,20nm,0.6s								
GOF				smax	smax				
	comp=E,110nm,0.6s								
GOF	**Gofitskoye**	**3.19**	**314**	*e*Pn		**Pn**	**05 38 57.1**	**+2.5**
GOF				*e*Sn		**Sn**	**05 39 35.9**	**+3.2**
DOMR	**Dombai**	**3.45**	**278**	⇑*e*PN		**Pn**	**05 39 01.2**	**+2.9**
DOMR	**Dombai**	**3.45**	**278**	*e*Pn		**Pn**	**05 38 58.4**	**+0.1**
DOMR				*e*Sn		**Sb**	**05 39 45.0**	**-2.6**
NVNR	**Nevinnomyssk**	**3.58**	**300**	*e*Pn		**Pb**	**05 39 04.3**	**-3.4**
NVNR				*e*Sn		**Sb**	**05 39 48.4**	**-2.8**
ARXR	**Arkhyz**	**3.73**	**282**	*e*Pn		**Pn**	**05 39 04.3**	**+2.1**
ARXR				*e*Sn		**Sn**	**05 39 50.0**	**+3.7**
NAX	**Nakhchivan**	**3.77**	**190**	⇑P		**Pn**	**05 39 05.1**	**+2.4**
	SNR=8.8								
NAX				⇓S		**Sn**	**05 39 49.9**	**+2.7**
GLBA	**Clilabad**	**3.98**	**156**	P		**Pn**	**05 39 08.2**	**+2.7**
	SNR=14								
LRK	**Lerik**	**4.53**	**159**	P		**Pn**	**05 39 15.3**	**+2.1**
	SNR=25								
LRK				⇑S		**Sn**	**05 40 10.2**	**+4.3**
GUZR	**Guzeripl'**	**4.63**	**286**	*e*Pn		**Pn**	**05 39 14.9**	**+0.4**
GUZR				*e*Sn		**Sn**	**05 40 07.4**	**-1.0**
ASTR	**Astara**	**4.73**	**156**	P		**Pn**	**05 39 18.5**	**+2.8**
	SNR=4.4								
SOC	**Sochi**	**4.86**	**280**	*e*PN		**Pn**	**05 39 15.0**	**-2.5**
SOC				*e*			05 40 11.1		
SOC				MLR	MLR				
	comp=Z,131nm,10.0s								
SOC	**Sochi**	**4.86**	**280**	*e*Pn		**Pn**	**05 39 15.3**	**-2.2**
SOC				*e*Sn		**Sn**	**05 40 15.5**	**+1.6**
ERBR	**Yeremizino-Bor**	**5.03**	**306**	*e*Pn		**Pn**	**05 39 23.5**	**+3.5**
ERBR				*e*Sn		**Sn**	**05 40 17.7**	**-0.5**
VRH	**Novokhopyorsk**	**8.87**	**341**	*e*P		**Pn**	**05 40 11.8**	**-0.8**
VRH				pmax	pmax				
	comp=Z,10.0nm,0.5s								
VSR	**Storozhevoye**	**9.63**	**332**	*e*P		Pn	05 40 29.5	+6.5
VSR				pmax	pmax				
	comp=Z,10.0nm,1.8s								
GEYT	**Alibeck**	**10.28**	**115**	Pn		**Pn**	**05 40 32.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=292,slow=16,SNR=5.3								
GEYT				LR	LR		05 44 47.7		
	comp=Z,31nm,18.5s,baz=30,slow=39								
LPSR	**Galich'ya Gora**	**10.89**	**336**	*e*P		**Pn**	**05 40 38.2**	**-2.1**
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
AKTO	**Aktyubinsk**	**11.02**	**43**	⇑Pn		**Pn**	**05 40 42.9**	**+0.9**
	comp=Z,4.3nm,0.7s								
AKTO				⇓Sn		**Sn**	**05 42 36.9**	**-8.3**
	comp=Z,5.2nm,0.8s								
AKTO	**Aktyubinsk**	**11.02**	**43**	Pn		**Pn**	**05 40 42.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=227,slow=2.5,SNR=7.1								
AKTO				Sn		**Sn**	**05 42 37.0**	**-8.2**
	comp=Z,0.3nm,0.3s,baz=66,slow=20,SNR=3.7								
AB31	**Akbulak array**	**11.40**	**51**	⇓Pn		**Pn**	**05 40 47.8**	**+0.6**
	comp=Z,3.3nm,0.7s,baz=234,slow=12,SNR=4.5								
AB31				⇑Sn		**Sn**	**05 42 48.1**	**-6.5**
	comp=Z,5.8nm,0.7s,baz=239,slow=22,SNR=7.8								
AKASG	**Malin Array Be**	**14.04**	**310**	Pn		**Pn**	**05 41 20.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=112,slow=13,SNR=2.9								
AKASG				Sn		Sn	05 43 47.2	-12	
	comp=Z,0.3nm,0.3s,baz=111,slow=24,SNR=3.3								
VRI	**Vrincioaia**	**14.31**	**289**	⇑*i*P		**P**	**05 41 33.9**	**-0.3**
VRI	**Vrincioaia**	**14.31**	**289**	⇑P		**P**	**05 41 33.9**	**-0.3**
PLOR	**Plostina**	**14.36**	**289**	⇓*i*P		**P**	**05 41 34.7**	**-0.1**
PLOR	**Plostina**	**14.36**	**289**	⇓P		**P**	**05 41 34.7**	**-0.1**
TESR	**Tescani**	**14.43**	**291**	⇑*i*P		**P**	**05 41 34.2**	**-1.3**
MLR	**Muntele Rosu**	**14.83**	**287**	⇑*i*P		**P**	**05 41 41.0**	**+0.9**
MLK	**Muntele Rosu**	**14.83**	**287**	⇑P		**P**	**05 41 41.0**	**+0.9**
MLR	**Muntele Rosu**	**14.83**	**287**	Pn		**Pn**	**05 41 33.2**	**-1.0**
	baz=127,slow=5.1								
MLR				LR	LR		05 48 18.4		
	comp=Z,79nm,20.6s,baz=96,slow=42								
DOPR	**Dopca**	**15.25**	**289**	⇓*i*P		**P**	**05 41 46.1**	**+1.5**
VOIR		**15.46**	**287**	⇑*i*P		**P**	**05 41 49.8**	**+2.8**
VOIR		**15.46**	**287**	⇑P		**P**	**05 41 49.8**	**+2.8**
BURAR	**Bucovina Array**	**15.56**	**295**	⇑*i*P		**P**	**05 41 49.3**	**+1.1**
BURAR	**Bucovina Array**	**15.56**	**295**	⇑P		**P**	**05 41 49.3**	**+1.1**
ARU	**Arti**	**15.66**	**26**	P		**Pn**	**05 41 43.9**	**-1.1**
ARU				S		**Sn**	**05 44 38.2**	**-0.2**
ARR	**Arges**	**15.75**	**286**	⇓*i*P		**P**	**05 41 53.7**	**+3.5**
SVE	**Sverdlovsk**	**16.67**	**28**	*e*P		**Pn**	**05 41 56.8**	**-1.2**
SVE				pmax	pmax				
	comp=Z,15nm,1.0s								
DRGR		**17.16**	**291**	⇑*i*P		**P**	**05 42 10.6**	**+4.8**
DRGR		**17.16**	**291**	⇑P		**P**	**05 42 10.6**	**+4.8**
KKAR	**Karatay Array**	**17.70**	**81**	⇑*e*P		**P**	**05 42 11.7**	**-0.1**
KLMR	**Klimovskoe**	**18.44**	**349**	*e*P		**P**	**05 42 15.6**	**-4.2**
KLMR				pmax	pmax				
	comp=Z,15nm,1.3s								
KLMR	**Klimovskoe**	**18.44**	**349**	*e*Pn		**P**	**05 42 15.6**	**-4.2**
KLMR				AMP			05 42 32.0		
	comp=Z,15nm,1.2s								
BRVK	**Borovoye**	**18.91**	**49**	*i* P		**Pn**	**05 42 26.3**	**+0.6**
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BVA0	**Borovoye Array**	**18.96**	**49**	⇓P		**Pn**	**05 42 28.3**	**+2.0**
	comp=Z,5.1nm,0.8s,baz=238,slow=11,SNR=7.3								
BVAR	**Borovoye Array**	**18.96**	**49**	P		**P**	**05 42 25.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=264,slow=14,SNR=7.0								
BVAR				S		Sn	05 45 45.3	-13	
	comp=Z,0.1nm,0.3s,baz=267,slow=24,SNR=2.8								
PUL	**Pulkovo**	**19.53**	**335**	⇓*e*P		**P**	**05 42 32.2**	**+0.5**
AAK	**Ala-Archa**	**20.67**	**81**	⇑*e*P		Pn	05 42 46.4	-0.4
AAK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**20.67**	**81**	P		Pn	05 42 46.3	-0.5
	comp=Z,2.5nm,0.7s,baz=231,slow=6.2,SNR=10								
AAK				LR	LR		05 51 03.5		
	comp=Z,33nm,19.7s,baz=290,slow=38								
VRAC	**Vranov**	**21.48**	**298**	LR	LR		05 52 56.6		
	comp=Z,76nm,19.0s,baz=85,slow=42								
WSAR	**Wadi Sarin**	**22.12**	**149**	P		**P**	**05 43 02.5**	**+2.5**
	comp=Z,4.0nm,0.7s,baz=352,slow=11,SNR=4.6								
FINES	**FINESS Array B**	**22.16**	**334**	P		**P**	**05 43 00.0**	**-0.1**
FINES				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FINES	**FINESS Array B**	**22.16**	**334**	P		**P**	**05 42 60.0**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=139,slow=12,SNR=18								
KURBB	**Kurchatov Arra**	**23.25**	**59**	P		**P**	**05 43 13.3**	**+1.6**
	comp=Z,1.2nm,0.2s,baz=268,slow=12,SNR=8.7								
KURK	**Kurchatov**	**23.32**	**59**	⇑*e*P		**P**	**05 43 15.3**	**+2.9**
KURK				pmax	pmax				
	comp=Z,7.0nm,1.6s								
MKAR	**Makanchi Array**	**25.67**	**69**	P		**P**	**05 43 35.5**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=269,slow=9.5,SNR=7.4								
MKAR				LR	LR		05 54 11.7		
	comp=Z,39nm,21.2s,baz=232,slow=38								
HFS	**Hagfors**	**26.23**	**322**	P		**P**	**05 43 38.9**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=92,slow=10,SNR=2.9								
NOA	**NORSAR Array B**	**27.73**	**323**	LR	LR		05 54 59.4		
	comp=Z,9.7nm,20.9s,baz=230,slow=37								
SONM	**Songino Array**	**41.58**	**62**	P		**P**	**05 45 53.9**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=274,slow=6.5,SNR=2.8								
TORD	**Torodi Ar. Bea**	**48.48**	**246**	P		**P**	**05 46 47.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=24,slow=8.9,SNR=3.7								
DBIC	**Dimbokro**	**57.58**	**246**	P		**P**	**05 47 53.4**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=27,slow=8.3,SNR=5.0								
YKA	**Yellowknife Ar**	**73.84**	**351**	P		**P**	**05 49 37.9**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=17,slow=6.0,SNR=5.1								

*ISCJB **10** 05:40:42.0±1.1, 12.˚50N±0.˚03×142.˚03E±0.˚02, h29km±8km, mb5.0/205, MS4.2/41, Error ellipse: s-maj=4.9km s-min=4.0km az=164.4*

*DJA **10** 05:40:41.4±0.3, 12.˚5N±5.˚5×14.˚2E±.˚, h10km, M4.8/16, mB5.3/6, mb4.9/16, Mw(mB)4.8/6*

*MOS **10** 05:40:41.9±1.0, 12.˚47N×141.˚98E, h33km, mb5.4/54, MS4.3/5, Error ellipse: s-maj=9.0km s-min=5.4km az=111.7*

*BJI **10** 05:40:41.5, 12.˚28N×141.˚90E, h24km, mb4.9/52, mB5.2/38, Ms4.6/37, Ms7 4.3/37*

*GCMT **10** 05:40:44.4±0.2, 12.˚55N±0.˚01×141.˚91E±0.˚02, h12km, MW5.1/100, Moment Tensor Solution. s52,c63; s100,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.52±.10; $M_{\theta\theta}$3.34±.09; $M_{\phi\phi}$1.17±.10; $M_{r\theta}$2.72±.29; $M_{\theta\phi}$-2.54±.07; $M_{\phi r}$-0.35±.32; Best double couple: M_o5.51400×10^{16} NP1:ϕ_s290.00000°,δ60.00000°, λ-104.00000°. NP2:ϕ_s137.00000°,δ33.00000°, λ-67.00000°. Principal axes: T 5.6280, Plg14.0000°, Azm31.0000°; N -0.2380, Plg12.0000°, Azm297.0000°; P -5.4000, Plg71.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 05:40:44.4±0.1, 12.˚51N×141.˚99E, h35km, mb5.0/125 Error ellipse: s-maj=4.2km s-min=3.9km az=100.0*

*IDC **10** 05:40:45.9±1.9, 12.˚63N×142.˚10E, h52km±17km, mb4.4/26, mb1 4.5/29, mb1mx4.5/40, mbtmp4.7/29, ML4.2/3, MS4.1/27, Ms1 4.1/27, ms1mx4.0/37, Error ellipse: s-maj=12.1km s-min=10.9km az=72.0*

ISC 10 05:40:42.5±0.6, 12.˚48N±0.˚04×142.˚03E±0.˚04, h23km±3km, n365, σ1=56/386, mb5.1/205, MS4.2/42, 15C-13D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
GUMO	**Guam**	**2.98**	**68**	*e*Pn		**Pn**	**05 41 29.3**	**+1.0**	
GUMO				S		**Sn**	**05 42 02.9**	**-0.5**	
GUMO	**Guam**	**2.98**	**68**	*e*P		**Pn**	**05 41 29.3**	**+1.0**	
GUMO				S		**Sn**	**05 42 02.9**	**-0.5**	
GUMO	**Guam**	**2.98**	**68**	P		**Pn**	**05 41 28.8**	**+0.4**	
	35nm,0.3s,baz=189,slow=11,SNR=12								
GUMO				S		**Sn**	**05 42 02.9**	**-0.5**	
	29nm,0.3s,baz=281,slow=14,SNR=4.3								
ANA2	**Anatahan**	**5.24**	**42**	*e*Pn		Pb	05 42 08.9	-4.6	
SARN	**Sarigan**	**5.55**	**40**	*e*Pn		Pb	05 42 13.5	-5.2	
CBIJ	**Chichi jima**	**14.54**	**1**	P		**Pn**	**05 44 06.5**	**-0.6**	
JCJ	**Chichijima**	**14.54**	**1**	P		**Pn**	**05 44 06.5**	**-0.6**	
	1.6nm,0.3s,baz=323,slow=5.1,SNR=2.7								
JCJ				LR		LR	05 48 56.2		
	comp=Z,481nm,20.4s,baz=165,slow=34								
JAY	**Jayapura**	**14.95**	**185**	LR		LR	05 48 55.9		
	comp=Z,1μm,21.3s,baz=358,slow=32								
GENI	**Genyem**	**15.09**	**187**	P		**Pn**	**05 44 12.0**	**-2.4**	
MATI	**Mati**	**16.49**	**252**	*e*P		**Pn**	**05 44 32.6**	**+0.1**	
BUTP	**Butuan**	**16.50**	**259**	*e*P		**P**	**05 44 38.8**	**+3.6**	
MSLP	**Maasin**	**17.00**	**264**	*e*P		**P**	**05 44 44.5**	**+3.8**	
SIJI	**Sorong**	**17.03**	**220**	P		**P**	**05 44 42.8**	**+1.7**	
	0.6nm,0.3s,baz=24,slow=15,SNR=7.3								
BUKP	**Musuan**	**17.32**	**256**	*e*P		**P**	**05 44 45.4**	**+1.1**	
KCP	**Kidapawan**	**17.56**	**254**	⇓*e*P		**P**	**05 44 48.2**	**+1.3**	
GUIM	**Jordan**	**19.14**	**266**	*e*P		**Pn**	**05 45 07.6**	**+2.4**	
JOW	**Kunigami**	**19.26**	**320**	*e*P		**Pn**	**05 45 06.8**	**+0.3**	
	40nm,1.1s								
OTRP	**Odiongan**	**19.55**	**272**	*e*P		**Pn**	**05 45 10.3**	**+0.1**	
BOAC	**Boac**	**19.70**	**275**	*e*P		**Pn**	**05 45 11.3**	**-0.6**	
IPIL	**Ipil**	**19.71**	**258**	*e*P		**P**	**05 45 06.9**	**-3.7**	
CAUP	**Cauayan**	**20.04**	**285**	*e*P		Pn	05 45 22.9	+6.9	
BALP	**Baler**	**20.10**	**282**	*e*P		Pn	05 45 17.0	+0.3	
TGY	**Tagaytay City**	**20.59**	**277**	P		Pn	05 45 21.9	-0.7	
	193nm,0.5s,baz=35,slow=1.0,SNR=10								
APYP	**Conner**	**20.76**	**288**	*e*P		Pn	05 45 25.6	+1.2	
ABRA	**Dolores**	**21.21**	**287**	*e*P		**P**	**05 45 27.8**	**+1.0**	
SANI	**Sanana**	**21.50**	**229**	P		**P**	**05 45 27.5**	**-2.4**	
	22nm,0.8s								
YOJ	**Yonaguni jima**	**21.59**	**306**	*e*P		**P**	**05 45 31.9**	**+1.1**	
	50nm,1.0s								
YOJ	**Yonaguni jima**	**21.59**	**306**	*e*P		**P**	**05 45 31.9**	**+1.1**	
YOJ				pmax	pmax				
	comp=Z,53nm,1.0s								
BOLP	**Bolinao**	**21.77**	**283**	*e*P		**P**	**05 45 34.8**	**+1.9**	
ENPP	**El Nido**	**22.16**	**269**	*e*P		**P**	**05 45 38.4**	**+1.3**	
TWG	**Pinlang**	**22.44**	**300**	*e*P		**P**	**05 45 40.1**	**+0.1**	
	comp=Z,81nm,1.0s								
YULB	**Yu-li**	**22.49**	**302**	*e*P		**P**	**05 45 40.2**	**-0.4**	
	comp=Z,30nm,1.1s								
NACB	**Hinganchiao**	**22.59**	**304**	*e*P		**P**	**05 45 40.8**	**-0.8**	
	comp=Z,17nm,0.9s								
SSLB	**Suanglung**	**22.94**	**302**	*e*P		**P**	**05 45 45.0**	**-0.4**	
	comp=Z,42nm,1.0s								
JNU	**Nakatsue**	**22.94**	**335**	*e*P		**P**	**05 45 46.0**	**+0.7**	
	comp=Z,86nm,1.1s								
JNU	**Nakatsue**	**22.94**	**335**	P		**P**	**05 45 44.9**	**-0.3**	
	comp=Z,47nm,0.9s,baz=137,slow=6.1,SNR=10								
TPUB	**Ta-pu**	**23.00**	**301**	*e*P		**P**	**05 45 46.3**	**+0.3**	
	comp=Z,63nm,1.4s								
INU	**Inuma**	**23.22**	**350**	*e*P		**P**	**05 45 53.0**	**+5.0**	
	comp=Z,52nm,1.2s								
MRSI	**Marisa**	**23.22**	**241**	P		**P**	**05 45 48.4**	**+0.2**	
	comp=Z,90nm,1.1s,comp=Z,883nm								
LUWI	**Luwuk**	**23.37**	**236**	P		**P**	**05 45 50.7**	**+1.0**	
BATP	**Bataraza**	**24.09**	**264**	*e*P		**P**	**05 45 57.4**	**+0.8**	
MJAR	**Matsushiro Arr**	**24.21**	**352**	P		**P**	**05 45 56.4**	**-1.1**	
	comp=Z,4.7nm,1.0s,baz=172,slow=10,SNR=4.1								
MJAR				LR		LR	05 54 17.0		
	comp=Z,481nm,21.6s,baz=145,slow=34								
MAJO	**Matsushiro**	**24.21**	**352**	⇓*e*P		**P**	**05 45 58.3**	**+0.8**	
MAJO				pmax	pmax				
	comp=Z,30nm,1.1s								
MAT	**Matsushiro**	**24.21**	**352**	P		**P**	**05 45 58.3**	**+0.8**	
MJB9	**Matsu-Tunnel**	**24.21**	**352**	*e*P		**P**	**05 45 57.9**	**+0.3**	
	comp=Z,113nm,1.7s								
H11S3	**WAKE ISLAND Hy**	**24.49**	**73**	T		T	06 11 31.0		
	baz=259,slow=75,SNR=24								
H11S1	**WAKE ISLAND Hy**	**24.50**	**73**	T		T	06 11 30.0		
	baz=259,slow=75,SNR=19								
H11S2	**WAKE ISLAND Hy**	**24.50**	**73**	T		T	06 11 34.4		
	baz=259,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**24.92**	**70**	T		T	06 12 05.5		
	baz=255,slow=75,SNR=36								
H11N2	**WAKE ISLAND Hy**	**24.93**	**70**	T		T	06 12 05.2		
	baz=255,slow=75,SNR=17								
H11N3	**WAKE ISLAND Hy**	**24.94**	**70**	T		T	06 12 05.6		
	baz=255,slow=75,SNR=32								
MPSI	**Mapaga**	**25.05**	**243**	P		**P**	**05 46 05.9**	**+0.6**	
	comp=Z,7.3nm,0.8s								
COEN	**Coen**	**26.29**	**177**	*e*P		**P**	**05 46 17.0**	**+0.5**	
	comp=Z,17nm,1.0s								
TJN	**Taejon**	**27.22**	**333**	⇑*e*P		**P**	**05 46 24.9**	**+0.2**	
KSRS	**Korea Array**	**27.90**	**336**	P		**P**	**05 46 33.0**	**+2.3**	
	comp=Z,3.2nm,0.8s,baz=149,slow=9.9,SNR=5.6								
KSRS				LR		LR	05 56 55.7		
	comp=Z,118nm,19.4s,baz=148,slow=35								
KSAR	**Wonju Array Be**	**27.90**	**335**	P		**P**	**05 46 33.0**	**+2.2**	
KSAR	**Wonju Array Be**	**27.90**	**335**	P		**P**	**05 46 33.0**	**+2.2**	
SOEI	**Soe**	**28.27**	**219**	*e*P		**P**	**05 46 30.2**	**-4.3**	
	comp=Z,18nm,0.5s								
MMRI	**Maumere**	**28.76**	**224**	*e*P		**P**	**05 46 36.1**	**-2.6**	
	comp=Z,49nm,0.8s								
NJ2	**Nanjing**	**28.86**	**316**	*e*P		**P**	**05 46 38.8**	**-0.7**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NJ2				LR		LR			
	comp=Z,2μm,17.4s								
NJ2				LR		LR			
	comp=Z,2μm,17.4s								
NJ2				LR		LR			
	comp=Z,2μm,18.4s								
WHN	**Wuhan**	**31.27**	**309**	⇓P		**P**	**05 47 01.4**	**+0.6**	
ASAJ	**Asahikawa**	**31.53**	**1**	LR		LR	05 58 31.3		
	comp=Z,180nm,21.3s,baz=175,slow=34								
QIZ	**Qiongzhong**	**31.62**	**286**	P		**P**	**05 47 05.0**	**+0.9**	
QIZ				S		**S**	**05 52 16.0**	**+3.9**	
QIZ				pmax	pmax				
	comp=Z,8.0nm,1.0s								
QIZ				LR	LR				
	comp=Z,260nm,19.1s								
QIZ				LR	LR				
	comp=Z,280nm,16.7s								
CTAO	**Charters Tower**	**32.63**	**173**	*e*P		**P**	**05 47 11.9**	**-0.9**	
	comp=Z,66nm,1.6s								
CTAO	**Charters Tower**	**32.63**	**173**	*e*P		**P**	**05 47 11.9**	**-0.9**	
CTAO				pmax	pmax				
	comp=Z,66nm,1.6s								
USRK	**Ussuriysk Ar.**	**32.77**	**347**	P		**P**	**05 47 13.8**	**0.0**	
	comp=Z,8.3nm,0.9s,baz=160,slow=6.1,SNR=6.1								
WRAB	**Tennant Creek**	**33.08**	**193**	*e*P		**P**	**05 47 16.6**	**-0.2**	
	comp=Z,35nm,1.1s								
WRAB	**Tennant Creek**	**33.08**	**193**	*d i*P		**P**	**05 47 17.2**	**+0.4**	
WRAB				pmax	pmax				
	comp=Z,58nm,1.7s								
WB2	**Warramunga Arr**	**33.09**	**193**	*e*P		**P**	**05 47 17.0**	**+0.1**	
	comp=Z,34nm,1.0s								
WRA	**Warramunga Arr**	**33.09**	**193**	P		**P**	**05 47 17.4**	**+0.5**	
	comp=Z,20nm,1.0s,baz=14,slow=9.6,SNR=56								
WRA				PcP		**PcP**	**05 49 59.6**	**-0.5**	
	comp=Z,1.2nm,0.8s,baz=354,slow=3.0,SNR=4.7								
WRA				LR		LR	06 00 13.9		
	comp=Z,1μm,21.9s,baz=20,slow=35								
CN2	**Changchun**	**34.33**	**338**	*e*P		**P**	**05 47 29.3**	**+1.9**	
CN2				*e*pP		pwP	05 47 39.0	+1.4	
CN2				*e*S		**S**	**05 52 53.4**	**-0.2**	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=Z,700nm,15.0s								
CN2				LR	LR				
	comp=Z,700nm,15.0s								
CN2				LR	LR				
	comp=Z,800nm,16.0s								
YSS	**Yuzh-Sakhalins**	**34.37**	**1**	*e*P		P	05 47 32.9	+5.2	
YSS				MLR		MLR			
	comp=Z,300nm,15.0s								
FITZ	**Fitzroy Crossi**	**34.42**	**208**	*e*P		**P**	**05 47 27.6**	**-0.8**	
	comp=Z,11nm,0.9s								
ENH	**Enshi**	**34.92**	**306**	*e*P		**P**	**05 47 33.0**	**+0.3**	
BJT	**Baijiatuau**	**35.67**	**325**	*e*P		**P**	**05 47 38.9**	**-0.1**	
	comp=Z,59nm,1.0s								
BJT	**Baijiatuau**	**35.67**	**325**	*e*P		**P**	**05 47 38.9**	**-0.1**	
BJT				pmax	pmax				
	comp=Z,59nm,1.0s								
BJI	**Beijing**	**35.68**	**325**	P		**P**	**05 47 38.9**	**-0.2**	
BJI				S		**S**	**05 53 14.9**	**+0.5**	
BJI				pmax	pmax				
	comp=Z,34nm,1.1s								
BJI				LR	LR				
	comp=Z,200nm,21.6s								
BJI				LR	LR				
	comp=Z,310nm,52.0s								
GYA	**Guiyang**	**35.99**	**298**	⇑*i*P		**P**	**05 47 43.2**	**+1.1**	
GYA				pP		pwP	05 47 52.5	+0.6	
GYA				PP		**PP**	**

comp=Z,21nm,1.3s
UTTA Uttaradit 40.33 283 P **P** **05 48 21.0 +2.4**
comp=Z,3.6nm,0.9s
NKL Nikolayevsk 40.58 359 *e*P **P** **05 48 18.8 -1.4**
SKLT Songkhla 41.11 267 P **P** **05 48 27.1 +2.0**
comp=Z,32nm,1.1s,comp=Z,519nm
IPM Ipoh 41.28 263 *e*P **P** **05 48 26.7 +0.1**
comp=Z,13nm,0.9s
UTHA Uthaitani 41.39 279 P **P** **05 48 29.4 +2.0**
comp=Z,9.5nm,1.1s
KULM Kulim 41.46 264 *e*P **P** **05 48 28.6 +0.6**
comp=Z,31nm,1.0s
LZH Lanzhou 41.61 311 *e*P **P** **05 48 29.9 +0.7**
LZH pP sP 05 48 37.1 -0.6
LZH sP pwP 05 48 40.5 +1.3
LZH *e*S **S** **05 54 44.3 -0.2**
LZH sS sS 05 55 03.6 +9.2
LZH pmax pmax
comp=Z,60nm,1.0s
LZH pmax pmax
comp=Z,330nm,5.2s
LZH LR LR
comp=Z,690nm,13.3s
LZH LR LR
comp=Z,610nm,14.1s
LZH LR LR
comp=Z,750nm,16.5s
DZM Mont Dzumac 41.86 145 *e*LR LR 06 00 12.8
comp=Z,301nm,24.9s
CM01 Chiang Mai Arr 41.86 284 *e*P **P** **05 48 32.3 +1.0**
CM31 Chiang Mai Arr 41.88 284 P **P** **05 48 32.2 +0.8**
SNR=7.2
CMAR Chiang Mai Arr 41.88 284 P **P** **05 48 32.6 +1.2**
comp=Z,15nm,1.1s,baz=85,slow=6.3,SNR=30
CMAR LR LR 06 05 59.8
comp=Z,124nm,18.7s,baz=125,slow=36
TRTT Trang 41.90 268 P **P** **05 48 32.8 +1.2**
comp=Z,12nm,1.1s
KRAB Krabi 42.32 269 P **P** **05 48 36.4 +1.4**
comp=Z,43nm,0.8s,comp=Z,376nm
PETK Petropavlovsk- 42.42 14 LR LR 06 04 57.9
comp=Z,261nm,20.3s,baz=190,slow=34
PET Petropavlovsk 42.57 15 *e*P **P** **05 48 37.7 +1.2**
PET *e*S **S** **05 54 59.2 +1.4**
ZEA Zeya 42.80 347 *e*P **P** **05 48 38.3 -0.1**
ZEA pmax pmax
comp=Z,49nm,1.0s
ZEA MLR MLR
comp=Z,500nm,15.0s
ZEA MLR MLR
comp=E,400nm,14.0s
PSI Prapat 43.73 261 *e*P **P** **05 48 46.3 -0.3**
comp=E,27nm,1.2s
PSI Prapat 43.73 261 *e*P **P** **05 48 46.3 -0.3**
PSI pmax pmax
comp=Z,27nm,1.2s
STKA Stephens Creek 44.10 181 *e*P **P** **05 48 49.3 +0.2**
comp=Z,9nm,1.0s
STKA Stephens Creek 44.10 181 *e*P **P** **05 48 49.3 +0.2**
STKA pmax pmax
comp=Z,3.0nm,1.0s
STKA Stephens Creek 44.10 181 P **P** **05 48 49.8 +0.7**
comp=Z,6.4nm,0.7s,baz=343,slow=9.8,SNR=19
STKA LR LR 06 08 12.5
comp=Z,495nm,19.6s,baz=354,slow=37
KCSI Kotacane, Aceh 44.66 262 P **P** **05 48 53.7 -0.3**
FORT Forrest 45.06 197 *e*P **P** **05 48 57.2 +0.4**
comp=Z,67nm,0.9s
BBOO Buckleboo 45.39 187 *e*P **P** **05 49 00.1 +0.7**
comp=Z,20nm,0.8s
GTA Gaotai 45.88 314 ⇑P **P** **05 49 03.8 +0.3**
GTA pP sP 05 49 12.0 0.0
GTA PcP **PcP** **05 50 39.9 -0.6**
GTA S **S** **05 55 49.1 +2.3**
GTA sS sS 05 56 04.7 +7.9
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,51nm,4.4s
GTA LR LR
comp=Z,220nm,16.5s
GTA LR LR
comp=Z,250nm,17.9s
GTA LR LR
comp=Z,290nm,16.2s
SONM Songino Array 46.10 327 P **P** **05 49 05.3 +0.3**
comp=Z,4.9nm,0.8s,baz=137,slow=6.4,SNR=17
SONM PcP **PcP** **05 50 39.5 -1.5**
comp=Z,2.3nm,1.0s,baz=127,slow=4.3,SNR=2.9
SONM LR LR 06 11 25.8
comp=Z,136nm,18.1s,baz=144,slow=40
MSVF Nonsavu 46.53 129 *e*P **P** **05 49 10.5 +1.8**
comp=Z,48nm,0.8s
MSVF Nonsavu 46.53 129 *e*P **P** **05 49 10.5 +1.8**
MSVF pmax pmax
comp=Z,48nm,0.8s
MA2 Magadan 47.46 6⇓*e*P **P** **05 49 15.2 -0.1**
MA2 pmax pmax
comp=Z,9.0nm,1.4s
MA2 Magadan 47.46 6 LR LR 06 05 30.8
comp=Z,151nm,20.7s,baz=210,slow=31
MORW Morawa 48.34 211 *e*P **P** **05 49 22.5 0.0**
comp=Z,50nm,1.0s
SHL Shillong 48.90 293 *e*P **P** **05 49 26.8 -0.4**
comp=Z,23nm,1.1s
SHL Shillong 48.90 293 *e*P **P** **05 49 26.8 -0.4**
SHL pmax pmax
comp=Z,23nm,1.1s
ZAK Zakamensk 49.27 328 *e*P **P** **05 49 29.1 -0.5**
ZAK pmax pmax
comp=Z,31nm,1.4s
TLY Talaya 49.86 330 *e*P **P** **05 49 34.7 +0.7**
TLY *e* 05 51 23.1
TLY *e*S **S** **05 56 46.9 +4.3**
TLY pmax pmax
comp=Z,54nm,1.5s
TLY MLR MLR
comp=Z,401nm,19.0s
TOO Toolangi 49.89 176 *e*P **P** **05 49 33.5 -0.8**
comp=Z,39nm,1.2s
TOO Toolangi 49.89 176 *e*P **P** **05 49 33.5 -0.8**
TOO pmax pmax
comp=Z,39nm,1.2s
IRK Irkutsk 49.90 331 *e*P **P** **05 49 34.3 0.0**
IRK pmax pmax
comp=Z,40nm,3.4s
BOD Bodaibo 50.00 341 *e*P **P** **05 49 33.9 -1.0**
BOD pmax pmax
comp=Z,29nm,1.3s
YAK Yakutsk 50.27 352 *e*P **P** **05 49 35.9 -0.9**
YAK *e**PP **pP** **05 49 43.0 +0.1**
YAK *e* 05 50 53.7
YAK *e* 05 51 31.8
YAK *e*PPP PPP 05 52 28.4
YAK *e*S **S** **05 56 46.2 -1.7**
YAK *e* 05 59 23.6
YAK *e*SS **SS** **06 00 22.8 +1.3**
YAK *e*SSS SSS 06 01 53.9
YAK pmax pmax
comp=Z,134nm,1.0s
YAK pmax pmax
comp=N,50nm,1.1s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,244nm,1.7s
YAK pmax pmax
comp=N,177nm,2.5s
YAK pmax pmax
comp=E,391nm,2.3s
YAK smax smax
comp=N,265nm,3.4s
YAK smax smax
comp=E,262nm,3.0s
SEY Seymchan 50.92 6⇓*e*P **P** **05 49 41.6 -0.1**
NWAO Narrogin (SRO) 50.98 207 *e*P **P** **05 49 42.8 +0.2**
comp=E,29nm,0.9s
NWAO Narrogin (SRO) 50.98 207 *e*P **P** **05 49 42.8 +0.2**
NWAO pmax pmax
comp=Z,29nm,0.9s
MOY Mondy 51.19 328 *e*P **P** **05 49 44.3 +0.2**
MOY pmax pmax
comp=Z,48nm,2.1s
WMQ Urumqi 55.92 315⇑*i*P **P** **05 50 19.8 +0.8**
WMQ pP sP 05 50 27.4 -0.2
WMQ sP pwP 05 50 33.9 +4.8
WMQ S **S** **05 58 11.5 +5.8**
WMQ ScS **ScS** **06 00 09.1 +2.0**
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ pmax pmax
comp=Z,130nm,3.7s
WMQ LR LR
comp=Z,340nm,21.9s
WMQ LR LR
comp=Z,380nm,23.5s
WMQ LR LR
comp=Z,370nm,18.7s
WMQ Urumqi 55.92 315 *e*P **P** **05 50 19.7 +0.8**
comp=Z,58nm,1.3s
WMQ Urumqi 55.92 315 *e*P **P** **05 50 19.7 +0.8**
WMQ pmax pmax
comp=Z,58nm,1.3s
BILL Bilibino 57.73 11 *e*P **P** **05 50 31.7 +0.5**
comp=Z,16nm,1.1s
BILL Bilibino 57.73 11⇑*e*P **P** **05 50 32.4 +1.2**
BILL *e*S **S** **05 58 34.6 +6.0**
BILL *e*SS **SS** **06 02 19.4 +0.4**
BILL pmax pmax
comp=Z,13nm,2.1s
BILL MLR MLR
comp=Z,146nm,17.0s
TIXI Tiksi 59.68 355 *e*P **P** **05 50 43.8 -0.9**
comp=Z,7.1nm,1.1s
TIXI Tiksi 59.68 355⇑*e*P **P** **05 50 44.4 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.4s
MK01 Makanchi Array 60.38 317 *e*P **P** **05 50 49.8 -0.3**
MK31 Makanchi Array 60.39 317 *e*P **P** **05 50 50.0 -0.1**
comp=Z,21nm,1.0s
MK31 Makanchi Array 60.39 317 *i* P **P** **05 50 50.3 +0.2**
MK31 pmax pmax
comp=Z,26nm,1.0s
MKAR Makanchi Array 60.39 317 *i* P **P** **05 50 50.5 +0.4**
MKAR pmax pmax
comp=Z,21nm,1.0s
MKAR Makanchi Array 60.39 317 P **P** **05 50 50.0 -0.1**
comp=Z,20nm,1.0s,baz=96,slow=8.1,SNR=88
MKAR LR LR 06 17 03.4
comp=Z,92nm,19.6s,baz=94,slow=36
GAMB Gambell 60.51 22 *e*P **P** **05 50 51.3 +0.8**
comp=Z,7.8nm,1.2s
PALK Pallekele 60.54 271 *e*P **P** **05 50 50.2 -1.5**
PALK *e*pP **pP** **05 50 58.8 +1.0**
PALK Pallekele 60.54 271 *e*P **P** **05 50 50.2 -1.5**
PALK *e**PP **pP** **05 50 58.8 +1.0**
MAKZ Makanchi 60.60 317 *e*P **P** **05 50 51.5 0.0**
comp=Z,22nm,0.8s
MAKZ Makanchi 60.60 317 *e*P **P** **05 50 51.6 0.0**
MAKZ pmax pmax
comp=Z,23nm,0.8s
ZAA0 Zalesovo Array 60.94 325 *e*P **P** **05 50 53.0 -0.6**
comp=Z,7.1nm,0.8s
ZALV Zalesovo Beam 60.94 325 *i* P **P** **05 50 53.2 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 60.94 325 P **P** **05 50 52.6 -1.0**
comp=Z,3.4nm,0.5s,baz=116,slow=6.9,SNR=10
ZALV PcP **PcP** **05 51 35.6 -1.3**
comp=Z,4.8nm,0.9s,baz=93,slow=2.9,SNR=2.8
HYB Hyderabad 61.30 283 *i* P **P** **05 50 57.0 +0.2**
LTZ Lake Taylor 61.58 155 *e*P **P** **05 50 58.7 +0.6**
comp=Z,32nm,1.2s
PDGK Podgornoye 61.62 313 P **P** **05 50 57.7 -0.9**
PDGK pmax pmax
comp=Z,21nm,1.7s
RPZ Rata Peaks 61.87 156 *e*P **P** **05 51 00.9 +0.8**
comp=Z,46nm,1.1s
OXZ Oxford 61.94 156 *e*P **P** **05 51 00.9 +0.5**
comp=Z,15nm,1.1s
PRZ Przheval'sk 62.27 312 *e*P **P** **05 51 04.5 +1.5**
comp=Z,27nm,0.9s
PRZ Przheval'sk 62.27 312 *e*P **P** **05 51 04.6 +1.5**
PRZ pmax pmax
comp=Z,27nm,0.9s
KDJ Kajisay 63.12 311 *e*P **P** **05 51 10.4 +1.7**
comp=Z,17nm,0.8s
ANM Nome 63.27 23 *e*P **P** **05 51 09.0 -0.1**
comp=Z,11nm,1.2s
ANM Nome 63.27 23 *e*P **P** **05 51 09.0 -0.1**
ANM pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 63.67 321 *e*P **P** **05 51 11.3 -0.7**
comp=Z,35nm,0.8s
KURK Kurchatov 63.67 321 *d i*P **P** **05 51 11.6 -0.3**
KURK pmax pmax
comp=Z,42nm,1.1s
KURK Kurchatov 63.67 321 P **P** **05 51 11.7 -0.3**
SNR=16
KURBB Kurchatov Arra 63.70 321 P **P** **05 51 11.7 -0.6**
comp=Z,23nm,0.8s,baz=103,slow=6.9,SNR=88
KSH Kashi 63.73 308 P **P** **05 51 15.5 +2.7**
KSH pP pwP 05 51 25.7 +2.7
KSH PcP **PcP** **05 51 50.4 +1.6**
KSH S **S** **05 59 44.7 -1.7**
KSH sS sS 06 00 01.9 +5.1
KSH pmax pmax
comp=Z,120nm,5.6s
KSH LR LR
comp=Z,70nm,9.7s
KSH LR LR
comp=Z,85nm,7.6s
KSH LR LR
comp=Z,56nm,12.1s
TKM2 Tokmak 2 64.38 312 P **P** **05 51 16.4 -0.7**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s
FRU Bishkek 65.08 312 *e*P **P** **05 51 25.0 +3.5**
AAK Ala-Archa 65.15 311 *e*P **P** **05 51 22.2 +0.2**
comp=Z,4.5nm,0.9s
AAK Ala-Archa 65.15 311 *de*P **P** **05 51 21.6 -0.5**
AAK pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 65.15 311 P **P** **05 51 21.9 -0.1**
comp=Z,1.6nm,0.5s,baz=89,slow=8.1,SNR=5.7
RDOG Red Dog Mine 65.84 20 *e*P **P** **05 51 29.7 +3.8**
comp=Z,13nm,0.9s
NRIK Noril'sk 66.29 342 P **P** **05 51 27.1 -1.7**
comp=Z,9.2nm,1.0s,baz=117,slow=8.3,SNR=9.7
NRIK LR LR 06 19 41.1
comp=Z,178nm,21.5s,baz=100,slow=35
RSO Redoubt South 67.08 29 *e*P **P** **05 51 35.2 +1.0**
GAR Garm 68.08 307 *e*P **P** **05 51 40.9 +0.1**
comp=Z,44nm,1.2s
KK31 Karatay Array 68.11 312 *e*P **P** **05 51 40.7 -0.1**
comp=Z,31nm,1.5s
KK31 Karatay Array 68.11 312 *e*P **P** **05 51 40.7 -0.1**
KK31 pmax pmax
comp=Z,31nm,1.5s
KKAR Karatay Array 68.11 312 *e*P **P** **05 51 40.7 -0.1**
comp=Z,31nm,1.5s
KKAR Karatay Array 68.11 312 *e*P **P** **05 51 40.7 -0.1**
KKAR pmax pmax
comp=Z,31nm,1.5s
CAST Castle Rocks 68.21 26 *e*P **P** **05 51 41.2 +0.2**
comp=Z,26nm,1.4s
IM3 Indian Mountai 68.30 23 *e*P **P** **05 51 39.5 -2.0**
RC01 Rabbit Creek A 68.67 29 *e*P **P** **05 51 43.9 0.0**
comp=Z,41nm,1.4s
BPAW Bear Paw Mtn. 68.86 26 *e*P **P** **05 51 45.2 +0.1**
comp=Z,20nm,1.1s
CHGR Chuyangaron 68.98 307 *e*P **P** **05 51 46.5 +0.1**
comp=Z,43nm,1.1s
TRF Thorofare Moun 68.99 26 *e*P **P** **05 51 46.0 -0.2**
comp=Z,11nm,0.9s
KBL Kabul 69.08 302 *e*P **P** **05 51 47.8 +0.5**
comp=Z,20nm,1.1s
BVAR Borovoye Array 69.09 322 P **P** **05 51 46.0 -0.7**
comp=Z,20nm,0.7s,baz=102,slow=7.9,SNR=86
BRVK Borovoye 69.16 322 *e*P **P** **05 51 46.6 -0.5**
comp=Z,26nm,0.7s
BRVK Borovoye 69.16 322 *d i*P **P** **05 51 46.9 -0.2**
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 69.16 322 P **P** **05 51 47.0 -0.2**
SNR=12
BRVK P **P** **05 51 47.0 -0.2**
SNR=12
MLY Manley 69.22 25 *e*P **P** **05 51 47.2 -0.1**
comp=Z,17nm,1.0s
RND Reindeer 69.61 27 *e*P **P** **05 51 49.4 -0.4**
comp=Z,21nm,1.2s
RND Reindeer 69.61 27 *e*P **P** **05 51 49.4 -0.4**
RND pmax pmax
comp=Z,21nm,1.2s
MCK McKinley 69.65 26 *e*P **P** **05 51 49.8 -0.2**
comp=Z,24nm,1.3s
MCK McKinley 69.65 26 *e*P **P** **05 51 49.8 -0.2**
MCK pmax pmax
comp=Z,24nm,1.3s
SCM Sheep Creek Mo 69.96 28 *e*P **P** **05 51 52.6 +0.6**
comp=Z,55nm,1.2s
SCM Sheep Creek Mo 69.96 28 *e*P **P** **05 51 52.6 +0.6**
SCM pmax pmax
comp=Z,55nm,1.2s
COLD Coldfoot 70.02 23 *e*P **P** **05 51 53.2 +1.0**
comp=Z,7.2nm,1.1s
WRH Wood River Hil 70.18 26 *e*P **P** **05 51 52.4 -0.8**
comp=Z,24nm,1.2s
MDM Murphy Dome 70.23 25 *e*P **P** **05 51 53.6 +0.1**
comp=Z,6.2nm,0.8s
CCB Clear Creek Bu 70.34 25 *e*P **P** **05 51 53.2 -0.9**
comp=Z,19nm,1.2s
TCOL CIGO, UAF Yank 70.36 25 P **P** **05 51 53.7 -0.6**
baz=257
COLA College 70.37 25 *e*P **P** **05 51 52.9 -1.4**
comp=Z,12nm,1.3s
COLA College 70.37 25⇑*i*P **P** **05 51 53.3 -1.0**
COLA pmax pmax
comp=Z,19nm,2.3s
KLU Klutina 70.56 29 *e*P **P** **05 51 56.0 +0.3**
comp=Z,12nm,0.9s
POKR Poker Plat Res 70.60 25 P **P** **05 51 55.7 -0.1**
baz=258
TOLK Toolik Lake Re 70.64 21 *e*P **P** **05 51 56.1 +0.1**
comp=Z,25nm,1.3s
TOLK Toolik Lake Re 70.64 21 P **P** **05 51 56.2 +0.1**
baz=254
HDA Harding Lake 70.65 26 *e*P **P** **05 51 54.9 -1.2**
comp=Z,9.7nm,1.0s
HDA Harding Lake 70.65 26 P **P** **05 51 55.1 -1.0**
baz=258
IL1 Eielson Array 70.75 25 *e*P **P** **05 51 54.0 -2.6**
ILAR Eielson Array 70.75 25 P **P** **05 51 54.5 -2.2**
comp=Z,4.7nm,0.8s,baz=247,slow=5.7,SNR=42
ILAR LR LR 06 20 55.1
comp=Z,159nm,20.3s,baz=268,slow=34
ILB Eielson Array 70.75 25 *e*P **P** **05 51 54.8 -1.9**
comp=Z,37nm,1.6s
PAX Paxson 71.02 27 *e*P **P** **05 51 58.5 0.0**
comp=Z,12nm,0.9s
PAX Paxson 71.02 27 *e*P **P** **05 51 58.5 0.0**
PAX pmax pmax
comp=Z,12nm,0.9s
HARP HAARP 71.07 28 *e*P **P** **05 51 59.5 +0.8**
comp=Z,31nm,0.9s
RIDG Independ'e Rid 71.43 27 *e*P **P** **05 52 00.6 -0.3**
comp=Z,33nm,1.2s
DOT Dot Lake 71.76 27 *e*P **P** **05 52 02.2 -0.6**
comp=Z,17nm,0.9s
FYU Fort Yukon 71.78 24 *e*P **P** **05 52 03.6 +0.8**
comp=Z,54nm,1.3s
MENT Mentasta 71.81 28 *e*P **P** **05 52 03.4 +0.3**
comp=Z,10nm,1.1s
SCRK Sand Creek 71.85 26 *e*P **P** **05 52 02.8 -0.6**
comp=Z,46nm,1.7s
EGAK Eagle 73.17 26 *e*P **P** **05 52 11.6 +0.4**
comp=Z,14nm,1.1s
PPT2 Papeete2 73.82 113 *e*LR LR 06 15 00.3
comp=Z,123nm,22.2s
DAWY Dawson 73.87 27 *e*P **P** **05 52 15.2 -0.2**
comp=Z,26nm,1.2s
HYT Haines Junctio 74.55 30 *e*P **P** **05 52 20.5 +1.0**
comp=Z,26nm,1.1s
SVE Sverdlovsk 74.95 326⇓*e*P **P** **05 52 21.9 +0.2**
SVE pmax pmax
comp=Z,46nm,1.9s
EPYK Eagle Plains 75.14 24 *e*P **P** **05 52 23.0 +0.3**
comp=Z,55nm,1.6s
EPYK Eagle Plains 75.14 24 P **P** **05 52 23.1 +0.3**
baz=267
AB31 Akbulak array 75.51 318 P **P** **05 52 23.7 -1.4**
AB31 pmax pmax
comp=Z,24nm,1.2s
ABKAR Akbulak array 75.51 318 *e*P **P** **05 52 24.4 -0.7**
comp=Z,20nm,1.1s
SKAG Skagway 75.61 32 *e*P **P** **05 52 26.4 +0.9**
comp=Z,55nm,1.4s
WHY Whitehorse 75.83 30 *e*P **P** **05 52 27.8 +0.9**
comp=Z,28nm,1.2s
BESE Bessie Mountai 75.86 32 *e*P **P** **05 52 27.8 +0.8**
comp=Z,42nm,1.3s
ARU Arti 76.10 325 *e*P **P** **05 52 27.4 -0.9**
comp=Z,14nm,0.7s
ARU Arti 76.10 325 *d i*P **P** **05 52 27.2 -1.1**
ARU S **S** **06 02 10.0 -0.7**
ARU SS **SS** **06 06 59.2 -4.5**
ARU pmax pmax
comp=Z,30nm,1.6s
ARU MLR MLR
comp=Z,189nm,18.0s
INK Inuvik 76.44 22 *e*P **P** **05 52 29.5 -0.5**
comp=Z,15nm,1.0s
INK Inuvik 76.44 22 *e*P **P** **05 52 29.5 -0.5**
INK pmax pmax
comp=Z,15nm,1.0s
GEYT Alibeck 77.69 306 P **P** **05 52 37.5 -0.2**
comp=Z,10nm,0.9s,baz=52,slow=2.6,SNR=16
GEYT LR LR 06 28 49.1
comp=Z,120nm,21.8s,baz=90,slow=37
GYA0B ALIBECK ARRAY 77.69 306 *e*P **P** **05 52 38.3 +0.6**
comp=Z,17nm,0.9s
DLBC Dease Lake 78.40 32 *e*P **P** **05 52 42.0 +0.6**
comp=Z,33nm,1.3s
MHTO MHTO 80.17 289 P **P** **05 52 52.0 +0.4**
SNR=7.1
D03D Eldon 84.17 43 P **P** **05 53 12.8 +0.8**
baz=282
B05A Bryant 84.67 42 P **P** **05 53 15.2 +0.6**
baz=283
I03D Drain, OR 84.79 47 P **P** **05 53 15.8 +0.5**
baz=282
TMCR Tamitsa 84.87 335 *e*P **P** **05 53 13.5 -1.7**
TMCR pmax pmax
comp=Z,31nm,1.3s
LVZ Lovozero 84.93 339⇑*e*P **P** **05 53 17.8 +2.2**
LVZ pmax pmax
comp=Z,62nm,1.5s
D05A Enumclaw 84.97 43 *e*P **P** **05 53 17.0 +0.9**
comp=Z,41nm,1.6s
YKW3 Yellowknife Ar 85.08 27 *e*P **P** **05 53 15.0 -1.3**
comp=Z,10nm,1.1s
YKA Yellowknife Ar 85.10 27 P **P** **05 53 15.5 -0.9**
comp=Z,3.1nm,0.6s,baz=291,slow=5.2,SNR=57
YKA LR LR 06 30 35.2
comp=Z,14nm,20.0s,baz=288,slow=35
YKB5 Yellowknife Ar 85.10 27 *e*P **P** **05 53 15.1 -1.4**
KLMR Klimovskoe 85.20 331 *e*P **P** **05 53 14.7 -2.2**
KLMR *e* 05 56 34.5
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 85.20 331 *e*P **P** **05 53 14.8 -2.2**
KLMR AMP 05 53 21.2
comp=Z,23nm,1.2s
KLMR *e*PP **PP** **05 56 34.6 +0.4**
HUMO Hull Mountain 85.31 48 *e*P **P** **05 53 18.6 +0.7**
comp=Z,14nm,1.4s
I04A Tendick Farm, 85.44 46 P **P** **05 53 18.9 +0.4**
baz=283
APA Apatity 85.50 339⇑*i*P **P** **05 53 14.8 -3.5**
APA pmax pmax
comp=Z,8.0nm,1.4s
M02C Callahan 85.65 49 P **P** **05 53 20.6 +0.8**
baz=283
J04D Umpqua Nationa 85.77 47 P **P** **05 53 21.0 +0.5**
baz=283
LTY Liberty 85.83 43 *e*P **P** **05 53 20.4 -0.1**
comp=Z,22nm,1.4s
L04D Klamath Falls 85.86 48 P **P** **05 53 21.3 +0.4**
baz=283
G05D Wamic, OR 85.87 45 P **P** **05 53 21.0 +0.3**
baz=284
I05D Terrebonne, OR 86.06 46 P **P** **05 53 22.5 +0.8**
baz=284
RES Resolute Bay 86.25 13 *e*P **P** **05 53 21.7 -0.2**
comp=Z,41nm,1.4s
RES Resolute Bay 86.25 13 *e*P **P** **05 53 21.7 -0.2**
RES pmax pmax
comp=Z,41nm,1.4s

M04C	**Macdoel**	**86.30**	**48**	P		**P**	**05 53 23.4**	**+0.4**
	baz=283								
J05D	**Fort Rock, OR**	**86.39**	**47**	P		**P**	**05 53 24.0**	**+0.6**
	baz=284								
B08A	**Colville Reser**	**86.44**	**41**	*eP*		**P**	**05 53 23.2**	**-0.2**
	comp=Z,17nm,1.0s								
PINE	**Pine Mountain**	**86.47**	**46**	*eP*		**P**	**05 53 24.5**	**+0.5**
	comp=Z,10nm,0.8s								
VRH	**Novokhopyorsk**	**86.74**	**322**	*eP*		**P**	**05 53 22.3**	**-2.5**
VRH				pmax	pmax				
	comp=Z,30nm,1.0s								
HAWA	**Hanford**	**86.80**	**43**	*eP*		**P**	**05 53 25.5**	**+0.2**
	comp=Z,5.5nm,0.8s								
D08A	**Wollman Farm,**	**87.04**	**43**	*eP*		**P**	**05 53 26.5**	**+0.2**
E08A	**Dider Farm, El**	**87.09**	**43**	*eP*		**P**	**05 53 27.0**	**+0.4**
	comp=Z,11nm,1.0s								
C09A	**Chrisman Ranch**	**87.27**	**42**	*eP*		**P**	**05 53 27.5**	**0.0**
	comp=Z,6.6nm,0.6s								
ARCES	**ARCESS Array B**	**87.28**	**342**	P		**P**	**05 53 25.6**	**-1.5**
	comp=Z,7.3nm,1.0s,baz=66,slow=7.1,SNR=22								
I07A	**Izee**	**87.41**	**46**	*eP*		**P**	**05 53 28.4**	**+0.1**
	comp=Z,8.2nm,1.4s								
G08A	**Pilot Rock**	**87.47**	**44**	*eP*		**P**	**05 53 28.7**	**0.0**
	comp=Z,14nm,1.5s								
ZEI	**Tsey**	**87.50**	**313**	*eP*		**P**	**05 53 25.1**	**-3.9**
ZEI				pmax	pmax				
	comp=Z,10.0nm,0.9s								
NCK	**Nalchik**	**87.54**	**314↓**	*eP*		**P**	**05 53 28.5**	**-0.4**
NCK				pmax	pmax				
	comp=Z,9.0nm,0.4s								
GNI	**Garni**	**87.54**	**310↓**	*eP*		**P**	**05 53 30.6**	**+1.4**
GNI				pmax	pmax				
	comp=Z,55nm,1.4s								
GNI	**Garni**	**87.54**	**310**	LR		LR	06 36 36.9		
	comp=Z,78nm,19.3s,baz=48,slow=38								
E09A	**Wood Farm, Sta**	**87.69**	**43**	*eP*		**P**	**05 53 29.9**	**+0.3**
	comp=Z,17nm,1.3s								
MOS	**Moscow**	**87.73**	**327**	*eP*		**P**	**05 53 26.5**	**-3.0**
BEKR	**Beckworth**	**87.85**	**50**	*eP*		**P**	**05 53 30.7**	**+0.1**
	comp=Z,8.9nm,1.1s								
NEW	**Newport**	**87.88**	**41**	*eP*		**P**	**05 53 30.4**	**0.0**
	comp=Z,11nm,1.3s								
NEW	**Newport**	**87.88**	**41**	P		**P**	**05 53 30.5**	**0.0**
	baz=286								
KBZ	**Khabaz**	**87.97**	**314**	P		**P**	**05 53 29.6**	**-1.2**
	comp=Z,4.6nm,0.9s,baz=108,slow=1.4,SNR=7.6								
KBZ				LR		LR	06 36 57.0		
	comp=Z,94nm,19.0s,baz=48,slow=38								
LPSR	**Galich'ya Gora**	**87.99**	**324**	*eP*		**P**	**05 53 28.4**	**-2.4**
LPSR				pmax	pmax				
	comp=Z,40nm,1.0s								
KIV	**Kislovodsk**	**88.06**	**315**	*eP*		**P**	**05 53 30.7**	**-0.7**
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
NEY	**Neytrino**	**88.22**	**314↓**	*eP*		**P**	**05 53 31.5**	**-0.8**
NEY				pmax	pmax				
	comp=Z,1.0nm,0.8s								
VSR	**Storozhevoye**	**88.27**	**322**	*ceP*		**P**	**05 53 30.1**	**-2.1**
VSR				pmax	pmax				
	comp=Z,34nm,0.7s								
J08A	**Circle Bar Ran**	**88.32**	**46**	*eP*		**P**	**05 53 33.0**	**+0.3**
	comp=Z,5.8nm,0.8s								
WVOR	**Wild Horse Val**	**88.45**	**47**	*eP*		**P**	**05 53 33.5**	**+0.1**
	comp=Z,24nm,1.6s								
WVOR	**Wild Horse Val**	**88.45**	**47**	*eP*		**P**	**05 53 33.5**	**+0.1**
WVOR				pmax	pmax				
	comp=Z,24nm,1.6s								
F10A	**Beach Ranch, E**	**88.46**	**43**	*eP*		**P**	**05 53 33.3**	**0.0**
	comp=Z,4.7nm,1.0s								
OBN	**Obninsk**	**88.50**	**326↑**	*eP*		**P**	**05 53 31.5**	**-1.6**
OBN				pmax	pmax				
	comp=Z,51nm,1.7s								
PNTR	**Pine Nut**	**88.61**	**50**	*eP*		**P**	**05 53 34.9**	**+0.6**
	comp=Z,20nm,1.5s								
PAHR	**Pah Rah Range**	**88.61**	**50**	*eP*		**P**	**05 53 34.9**	**+0.6**
	comp=Z,7.1nm,1.1s								
BMO	**Blue Mountains**	**88.72**	**44**	*eP*		**P**	**05 53 34.5**	**-0.1**
	comp=Z,19nm,1.4s								
BMO	**Blue Mountains**	**88.72**	**44**	*eP*		**P**	**05 53 34.5**	**-0.1**
BMO				pmax	pmax				
	comp=Z,19nm,1.4s								
YERR	**Yerington**	**88.91**	**50**	*eP*		**P**	**05 53 36.5**	**+0.8**
	comp=Z,7.3nm,1.1s								
YERR				*ep*	P	**sP**	**05 53 44.2**	**-0.2**
TULEG	**Thule**	**89.30**	**7**	*eP*		**P**	**05 53 35.5**	**-1.0**
	comp=Z,11nm,1.0s								
TULEG				*ep*	P	**PcP**	**05 53 39.8**	**+1.9**
RYN	**Ryan**	**89.54**	**51**	*eP*		**P**	**05 53 39.5**	**+0.8**
	comp=Z,6.3nm,1.2s								
KVN	**Kaiserville**	**89.75**	**50**	*eP*		**P**	**05 53 40.0**	**+0.3**
	comp=Z,5.3nm,1.0s								
KVN	**Kaiserville**	**89.75**	**50**	*eP*		**P**	**05 53 40.0**	**+0.3**
KVN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
NV01	**Mina Array Sit**	**89.76**	**51**	*eP*		**P**	**05 53 39.9**	**+0.1**
NVAR	**Mina Array Bea**	**89.76**	**51**	P		**P**	**05 53 39.8**	**+0.1**
	comp=Z,3.2nm,0.6s,baz=264,slow=5.8,SNR=24								
NV11	**Mina Array Sit**	**89.88**	**51**	*eP*		**P**	**05 53 37.7**	**-2.5**
	comp=Z,0.8nm,1.4s								
DAG	**Danmarks Havn**	**90.19**	**356**	*i* P		**P**	**05 53 38.8**	**-1.9**
	comp=Z,5.7nm,0.7s								
DAG	**Danmarks Havn**	**90.19**	**356**	*i* P		**P**	**05 53 38.8**	**-1.9**
DAG				pmax	pmax				
	comp=Z,4.0nm,0.7s								
VNDA	**Vanda**	**90.55**	**176**	*eP*		**P**	**05 53 43.1**	**+0.9**
	comp=Z,11nm,1.3s								
VNDA	**Vanda**	**90.55**	**176**	P		**P**	**05 53 42.0**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=322,slow=5.9,SNR=9.6								
VNDA				LR		LR	06 33 59.7		
	comp=Z,170nm,19.6s,baz=346,slow=35								
FIA1	**FINESS Array S**	**90.98**	**334**	*eP*		**P**	**05 53 42.9**	**-1.7**
FINES	**FINESS Array B**	**90.98**	**334**	P		**P**	**05 53 42.3**	**-2.3**
	comp=Z,12nm,0.7s,baz=73,slow=5.0,SNR=56								
FINES				LR		LR	06 37 15.5		
	comp=Z,96nm,19.5s,baz=62,slow=37								
HLID	**Hailey**	**91.09**	**45**	P		**P**	**05 53 45.8**	**+0.1**
	baz=288								
ELK	**Elko**	**91.37**	**48**	*eP*		**P**	**05 53 47.6**	**+0.4**
	comp=Z,5.3nm,1.3s								
ELK	**Elko**	**91.37**	**48**	*eP*		**P**	**05 53 47.6**	**+0.4**
ELK				pmax	pmax				
	comp=Z,5.0nm,1.3s								
ANN	**Anapa**	**91.41**	**316**	*e**PP		P	05 53 41.0	-5.9
ANN				*e*			05 57 22.9		
ANN				pmax	pmax				
	comp=Z,81nm,1.3s								
R11A	**Troy Canyon, C**	**91.83**	**50**	*eP*		**P**	**05 53 51.4**	**+2.0**
	comp=Z,5.2nm,1.4s								
VSU	**Vasula**	**92.11**	**332↑**	*eP*		**P**	**05 53 48.3**	**-1.6**
VSU				pmax	pmax				
	comp=Z,40nm,1.0s								
YHB	**Horse Butte**	**92.88**	**43**	*eP*		**P**	**05 53 55.7**	**+1.6**
	comp=Z,11nm,1.4s								
YMR	**Madison River**	**93.06**	**43**	*eP*		**P**	**05 53 56.4**	**+1.4**
	comp=Z,13nm,1.4s								
YHH	**Holmes Hill**	**93.09**	**43**	*eP*		P	05 54 00.7	+5.5
	comp=Z,13nm,1.5s								
YNR	**Norris Junctio**	**93.23**	**43**	*eP*		**P**	**05 53 57.9**	**+2.1**
	comp=Z,21nm,1.5s								
IMW	**Indian Meadow**	**93.35**	**44**	*eP*		**P**	**05 53 56.8**	**+0.4**
	comp=Z,5.6nm,1.2s								
FXWY	**Fox Creek**	**93.38**	**44**	*eP*		**P**	**05 53 56.7**	**+0.3**
	comp=Z,8.1nm,1.5s								
H17A	**Grant Village**	**93.42**	**43**	*eP*		**P**	**05 53 58.6**	**+2.0**
	comp=Z,3.8nm,0.8s								
H17A	**Grant Village**	**93.42**	**43**	P		**P**	**05 53 58.6**	**+2.0**
	baz=291								
FLWY	**Flagg Ranch**	**93.44**	**44**	*eP*		**P**	**05 53 58.0**	**+1.2**
	comp=Z,19nm,1.4s								
LKWY	**Lake**	**93.47**	**43**	*eP*		**P**	**05 53 59.6**	**+2.7**
	comp=Z,4.9nm,1.0s								
MOOW	**Moose Ponds**	**93.53**	**44**	*eP*		**P**	**05 53 58.1**	**+1.0**
	comp=Z,7.7nm,1.6s								
LCMT	**Little Creek M**	**94.01**	**51**	*eP*		**P**	**05 54 02.9**	**+3.5**
	comp=Z,11nm,1.7s								
RLMT	**Red Lodge**	**94.02**	**42**	P		**P**	**05 54 00.1**	**+0.8**
	baz=292								
FFC	**Flin Flon**	**94.21**	**32**	*eP*		**P**	**05 53 59.7**	**+0.1**
	comp=Z,6.6nm,1.4s								
FFC	**Flin Flon**	**94.21**	**32**	*i* P		**P**	**05 53 59.6**	**-0.1**
AKASG	**Malin Array Be**	**94.31**	**324**	P		**P**	**05 53 57.5**	**-2.7**
	comp=Z,0.2nm,0.2s,baz=59,slow=3.9,SNR=6.0								
AKASG				LR		LR	06 39 20.5		
	comp=Z,147nm,18.9s,baz=55,slow=37								
PDAR	**Pinedale Array**	**94.70**	**45**	P		**P**	**05 54 00.6**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=255,slow=3.5,SNR=3.1								
PDAR				LR		LR	06 29 06.2		
	comp=Z,98nm,21.2s,baz=304,slow=31								
LAO	**LASA Array**	**95.36**	**40**	*eP*		**P**	**05 54 06.3**	**+1.0**
	comp=Z,30nm,1.6s								
LAO	**LASA Array**	**95.36**	**40**	P		**P**	**05 54 05.4**	**+0.1**
	baz=294								
FCC	**Fort Churchill**	**95.77**	**26**	*eP*		**P**	**05 54 06.0**	**-0.6**
	comp=Z,10nm,1.3s								
FCC	**Fort Churchill**	**95.77**	**26**	*eP*		**P**	**05 54 06.1**	**-0.6**
FCC				pmax	pmax				
	comp=Z,10.0nm,1.3s								
BRTR	**Keskin Array B**	**95.80**	**313**	P		**P**	**05 54 05.4**	**-2.1**
	comp=Z,2.1nm,1.0s,baz=104,slow=4.0,SNR=7.6								
BRTR				PP		**PP**	**05 58 00.8**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=345,slow=8.1,SNR=4.1								
BRTR				LR		LR	06 40 52.6		
	comp=Z,38nm,21.3s,baz=61,slow=38								
214A	**Organ Pipe Nat**	**95.97**	**56**	P		**P**	**05 54 08.8**	**+0.5**
	baz=289								
PV17	**East Wray Mesa**	**96.77**	**49**	*eP*		**P**	**05 54 16.2**	**+4.2**
	comp=Z,14nm,0.5s								
NOA	**NORSAR Array B**	**97.08**	**338**	P		**P**	**05 54 10.1**	**-2.6**
	comp=Z,1.7nm,1.0s,baz=53,slow=4.7,SNR=3.3								
NOA				LR		LR	06 40 45.9		
	comp=Z,51nm,19.6s,baz=45,slow=37								
MAW	**Mawson**	**97.35**	**202**	LR		LR	06 34 10.3		
	comp=Z,92nm,20.6s,baz=60,slow=33								
BUR08	**Bucovina Ar. S**	**98.05**	**322**	*eP*		**P**	**05 54 16.2**	**-1.2**
	comp=Z,4.7nm,1.2s								
ULM	**Lac du Bonnet**	**99.70**	**33**	LR		LR	06 35 54.7		
	comp=Z,161nm,21.7s,baz=306,slow=33								
VYHS	**Vyhne**	**101.27**	**325**	*eP*		**Pdif**	**05 54 28.0**	**-3.7**
VYHS	**Vyhne**	**101.27**	**325**	*e*PDIF		**Pdif**	**05 54 28.0**	**-3.7**
VRAC	**Vranov**	**102.03**	**327**	P		**Pdif**	**05 54 33.8**	**-1.2**
	comp=Z,3.4nm,0.8s,baz=43,slow=3.3,SNR=4.2								
QSPA	**South Pole Qui**	**102.32**	**180**	Pdiff		**Pdif**	**05 54 36.7**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=351,slow=2.7,SNR=4.3								
TORD	**Torodi Ar. Bea**	**133.15**	**302**	PKP		**PKPdf**	**05 59 54.3**	**-3.1**
	comp=Z,2.0nm,1.1s,baz=18,slow=1.8,SNR=4.7								
DBIC	**Dimbokro**	**141.99**	**298**	PKP		**PKPdf**	**06 00 12.1**	**-1.6**
	comp=Z,4.2nm,1.1s,baz=206,slow=9.2,SNR=3.1								
LVC	**Limon Verde**	**148.88**	**113**	*e*PKPbc		**PKiKP**	**06 00 30.6**	**-0.5**
LVC				*e*PKPab		**sPKPdf**	**06 00 34.8**	**+0.2**
LVC	**Limon Verde**	**148.88**	**113**	PKPbc		**PKPbc**	**06 00 29.6**	**-0.1**
	baz=287,slow=4.4								
LPAZ	**La Paz**	**150.55**	**101**	PKP		**PKPdf**	**06 00 29.5**	**+0.6**
	comp=Z,4.2nm,1.1s,baz=196,slow=7.4,SNR=4.0								
LPAZ				PKPbc		**PKPbc**	**06 00 34.5**	**+0.3**
	comp=Z,6.5nm,0.6s,baz=28,slow=7.5,SNR=31								
CPUP	**Villa Florida**	**157.17**	**130**	PKPab		**PKPab**	**06 01 09.1**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=278,slow=6.2,SNR=4.6								

DDA ***10*** *05:47:32.5,37.27N×37.26E,h7km±2km,ML3.0*
ISK ***10*** *05:47:32.3,37.28N×37.25E,h5km,ML1.8/6*
ISCJB ***10*** *05:47:33.1±0.5,37.26N±0.04×37.24E±0.03,h6km±5km,*
Error ellipse: s-maj=6.3km s-min=4.3km az=12.8

ISC 10 05:47:32.9±0.9, 37.26N±0.04×37.25E±0.03, h8km±8km, n14, σ0892/47/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.10**	**196**		PG	**Pg**	**05 47 34.9**	**-0.3**
GAZ					SG	**Sg**	**05 47 37.6**	**+0.7**
GZT	**Gaziantep**	**0.27**	**70**	*i* P		**Pg**	**05 47 38.2**	**-0.1**
GZT				*i* S		**Sg**	**05 47 42.7**	**+0.7**
GZT				IAML_P				
	comp=Z,5μm,0.1s							
HCB	**Kahramanmara**	**0.28**	**287**	*i* P		**Pg**	**05 47 38.0**	**-0.4**
HCB				IAML_P				
	comp=Z,3μm,0.1s							
KMRS	**Kahramanmaras**	**0.37**	**311**	PG		**Pg**	**05 47 40.2**	**+0.1**
KMRS				SG		**Sg**	**05 47 45.1**	**+0.2**
KUZU	**Kuzuini**	**0.51**	**196**	*i* P		**Pb**	**05 47 43.8**	**-0.3**
KUZU				IAML_P				
	comp=Z,3μm,0.2s							
ANDN	**Andirin**	**0.78**	**294**	*i* P		**Pb**	**05 47 48.1**	**-0.7**
ANDN				IAML_P				
	comp=Z,2μm,0.1s							
ATAB	**Bozova**	**0.86**	**76**	*i* P		**Pb**	**05 47 49.6**	**-0.5**
ATAB				*i* S		**Sb**	**05 48 01.9**	**+0.1**
ATAB				IAML_P				
	comp=Z,4μm,0.1s							
KOZT	**Kozan**	**1.15**	**281**	PN		**Pb**	**05 47 54.8**	**-0.2**
SURC	**SANLIURFA_SURC**	**1.16**	**109**	*i* P		**Pn**	**05 47 55.1**	**-0.2**
SURC				*i* S		**Sb**	**05 48 10.7**	**+0.3**
SURC				IAML_P				
	comp=Z,457nm,0.1s							
AKCD	**Akcadag**	**1.16**	**27**	*i* P		**Pn**	**05 47 55.6**	**0.0**
AKCD				*i* S		**Sn**	**05 48 12.0**	**+0.3**
AKCD				IAML_P				
	comp=Z,2μm,0.2s							
SAIM	**ADANA**	**1.17**	**308**	*i* P		**Pn**	**05 47 55.5**	**-0.1**
SAIM				*i* S		**Sn**	**05 48 12.6**	**+0.9**
SAIM				IAML_P				
	comp=Z,529nm,0.1s							
CEYT	**Ceyhan**	**1.22**	**259**	PN		**Pn**	**05 47 56.1**	**-0.1**
URFA	**Urfa**	**1.27**	**81**	PN		**Pb**	**05 47 56.6**	**-0.4**
DARE	**Darende-Malaty**	**1.32**	**8**	PN		**Pg**	**05 47 57.7**	**-0.5**

IDC ***10*** *05:58:05.7±2.9,0.76S×98.62E,h0km,mb3.5/4,mb1 3.6/6,*
mb1mx3.5/35,mbtmp3.5/6,ML3.7/2,Error ellipse:
s-maj=99.3km s-min=20.6km az=63.0
ISCJB ***10*** *05:58:07.8±0.8,0.80S±0.05×98.48E±0.07,h26km,*
mb3.5/4,Error ellipse: s-maj=10.9km s-min=5.1km
az=150.2
DJA ***10*** *05:58:08.8±0.5,1°S±4″×9°9E±°,h14km±6km,M3.2/2,*
MLv3.2/2

ISC 10 05:58:08.4±1.0, 0.75S±0.06×98.45E±0.09, h26km, n16, σ0892/17, mb3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.71**	**346**	P		**Pn**	**05 58 22.5**	**-0.4**
PBSI				S		**Sn**	**05 58 33.7**	**+0.7**
SISI	**Saibi**	**0.85**	**132**	P		**Pn**	**05 58 25.2**	**+0.4**
MNSI	**Mandailing Nat**	**1.91**	**36**	P		**Pn**	**05 58 39.1**	**-0.2**
MNSI				S		**Sn**	**05 59 03.2**	**+0.7**
PPI	**Padang Panjang**	**1.97**	**81**	P		**Pn**	**05 58 40.0**	**-0.1**
PDSI	**Padang**	**2.02**	**94**	P		**Pn**	**05 58 40.6**	**-0.2**
PDSI				S		**Sn**	**05 59 04.8**	**-0.4**
GSI	**Gunungsitoli**	**2.22**	**337**	P		**Pb**	**05 58 46.2**	**-1.8**
PPSI	**Pulau Pagai**	**2.53**	**142**	P		**Pn**	**05 58 48.3**	**+0.4**
PPSI				S		**Sn**	**05 59 16.6**	**-1.3**
PSI	**Prapat**	**3.56**	**8**	Pn		**Pn**	**05 59 02.4**	**+0.1**
	1.0nm,0.3s,baz=180,slow=19,SNR=4.4							
CMAR	**Chiang Mai Arr**	**19.10**	**1**	P		**Pn**	**06 02 29.6**	**-0.8**
	0.3nm,0.3s,baz=191,slow=11,SNR=2.8							
H08S2	**Diego Garcia H**	**26.76**	**254**	T		T	06 31 46.5	
	baz=76,slow=75,SNR=78							
H08S3	**Diego Garcia H**	**26.77**	**255**	T		T	06 31 45.9	
	baz=76,slow=75,SNR=97							
H08S1	**Diego Carcia H**	**26.78**	**254**	T		T	06 31 47.6	
	baz=76,slow=75,SNR=45							
WRA	**Warramunga Arr**	**39.96**	**121**	P		**P**	**06 05 40.5**	**-0.6**
	0.4nm,0.7s,baz=305,slow=8.8,SNR=3.7							
ASAR	**Alice Springs**	**41.23**	**126**	P		**P**	**06 05 51.9**	**+0.3**
	0.2nm,0.5s,baz=300,slow=7.4,SNR=3.3							
SONM	**Songino Array**	**48.89**	**7**	P		**P**	**06 06 54.1**	**+1.9**
	0.6nm,0.6s,baz=188,slow=9.1,SNR=3.6							
MKAR	**Makanchi Array**	**49.43**	**345**	P		**P**	**06 06 57.0**	**+0.7**
	0.8nm,0.5s,baz=152,slow=8.8,SNR=8.8							

ISCJB ***10*** *06:00:17.8±0.4,41.14N±0.03×143.68E±0.04,h31km,*
mb3.7/14,Error ellipse: s-maj=4.8km s-min=3.2km
az=28.9
JMA ***10*** *06:00:18.8±0.1,41.17N×143.63E,h64km±3km,M3.6*
IDC ***10*** *06:00:21.6±2.2,41.16N×143.47E,h46km±20km,mb3.5/13,*
mb1 3.7/15,mb1mx3.6/34,mbtmp3.7/15,ML2.9/2,MS3.3/1,
Ms1 3.3/1,ms1mx2.6/42,Error ellipse: s-maj=21.7km
s-min=13.2km az=104.0

ISC 10 06:00:19.4±0.6, 41.19N±0.04×143.63E±0.04, h31km, n42, σ1921/55, mb3.7/14, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JEM	**Erimo**	**0.90**	**337**	P		**Pb**	**06 00 35.9**	**-0.5**
JEM				*e*S		**Sb**	**06 00 48.3**	**+0.3**
JTHR	**Tokachihiroo**	**1.13**	**348**	P		**Pn**	**06 00 39.1**	**+0.1**
JTHR				*e*S		**Sb**	**06 00 53.7**	**-0.9**
JNBK	**Urakawa-nobuka**	**1.27**	**329**	P		**Pb**	**06 00 41.5**	**-1.2**
JNBK				S		**Sb**	**06 00 57.9**	**-0.8**
JCH	**Churui**	**1.44**	**352**	P		**Pn**	**06 00 43.3**	**0.0**
JCH				*e*S		**Sn**	**06 01 01.2**	**+0.1**
JOB	**Onbets**	**1.72**	**5**	P		**Pn**	**06 00 47.2**	**+0.1**
JOB				S		**Sn**	**06 01 08.1**	**+0.1**
JANG	**Nango**	**1.80**	**244**	P		**Pn**	**06 00 47.6**	**-0.7**
JANG				S		**Sn**	**06 01 09.4**	**-0.7**
JBT2	**Biratori 2**	**1.84**	**330**	P		**Pb**	**06 00 50.1**	**-2.3**
JBT2				*e*S		**Sn**	**06 01 11.7**	**+0.6**
JIAM	**Iburiatsuma**	**1.92**	**319**	*e*S		**Sb**	**06 01 15.1**	**-2.0**
JOT	**Ohata**	**1.95**	**276**	P		**Pn**	**06 00 50.5**	**+0.2**
JOT				*e*S		**Sn**	**06 01 13.3**	**-0.5**
JAK	**Akkeshi**	**1.97**	**23**	P		**Pn**	**06 00 50.2**	**-0.4**
JAK				S		**Sn**	**06 01 13.4**	**-0.8**
JTM	**Tenmabayashi**	**1.98**	**259**	P		**Pn**	**06 00 50.9**	**+0.2**
JTM				S		**Sn**	**06 01 13.7**	**-0.7**
JKB	**Kayabe**	**2.07**	**291**	P		**Pn**	**06 00 52.6**	**+0.7**
JKB				*e*S		**Sn**	**06 01 16.6**	**0.0**
JAR	**Ashorobuto**	**2.11**	**3**	P		**Pn**	**06 00 52.2**	**-0.3**
JAR				*e*S		**Sn**	**06 01 16.5**	**-1.1**
JFR	**Furan**	**2.12**	**339**	P		**Pn**	**06 00 52.7**	**+0.1**
JFR				*e*S		**Sn**	**06 01 19.0**	**+1.1**
JKHN	**Kushirohamanak**	**2.21**	**31**	P		**Pn**	**06 00 54.2**	**+0.3**
JKHN				S		**Sn**	**06 01 19.5**	**-0.6**
JEW	**Eniwo**	**2.31**	**316**	P		**Pn**	**06 00 56.2**	**+0.9**
JEW				*e*S		**Sb**	**06 01 24.4**	**-4.1**
JOM	**Ohasama**	**2.48**	**227**	↑P		**Pn**	**06 00 57.6**	**0.0**
JOM				*e*S		**Sn**	**06 01 26.4**	**-0.3**
NEM2	**Nemuro 2**	**2.68**	**35**	P		**Pn**	**06 00 59.6**	**-0.7**
NEM2				*e*S		**Sn**	**06 01 28.6**	**-3.1**
JKK2	**Kamakawa 2**	**2.76**	**347**	P		**Pn**	**06 01 02.4**	**+1.0**
JKK2				*e*S		**Sn**	**06 01 35.0**	**+1.3**
ASAJ	**Asahikawa**	**3.02**	**346**	P		**Pn**	**06 01 07.3**	**+2.3**
	1.5nm,0.3s,baz=120,slow=12,SNR=2.8							
ASAJ				S		**Sn**	**06 01 42.0**	**+1.8**
	2.2nm,0.3s,baz=20,slow=28,SNR=4.1							
MJAR	**Matsushiro Arr**	**6.28**	**224**	P		**Pn**	**06 01 50.5**	**+0.6**
	0.1nm,0.3s,baz=31,slow=14,SNR=10							
KSRS	**Korea Array**	**12.72**	**258**	LR		LR	06 07 56.9	
	comp=Z,122nm,18.9s,baz=140,slow=36							
SEY	**Seymchan**	**22.39**	**11**	P		**P**	**06 05 12.2**	**-2.7**
	0.4nm,0.3s,baz=194,slow=8.3,SNR=2.6							
SONM	**Songino Array**	**27.17**	**297**	P		**P**	**06 06 00.9**	**+0.9**
	0.5nm,0.5s,baz=86,slow=8.8,SNR=4.1							
H11N2	**WAKE ISLAND Hy 29.16**	**130**		T		T	06 37 36.5	
	baz=323,slow=75,SNR=30							
H11N1	**WAKE ISLAND Hy 29.17**	**130**		T		T	06 37 27.8	
	baz=323,slow=75,SNR=29							
H11N3	**WAKE ISLAND Hy 29.18**	**130**		T		T	06 37 38.8	
	baz=323,slow=75,SNR=24							
H11S1	**WAKE ISLAND Hy 30.02**	**132**		T		T	06 38 41.2	
	baz=325,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy 30.02**	**132**		T		T	06 38 44.4	
	baz=325,slow=76,SNR=32							
H11S2	**WAKE ISLAND Hy 30.04**	**132**		T		T	06 38 39.2	
	baz=325,slow=76,SNR=24							
MKAR	**Makanchi Array**	**43.50**	**299**	P		**P**	**06 08 19.9**	**+0.2**
	0.5nm,0.8s,baz=76,slow=10,SNR=4.0							
ILAR	**Eielson Array**	**45.08**	**35**	P		**P**	**06 08 32.9**	**+0.7**
	0.7nm,0.7s,baz=261,slow=6.1,SNR=12							
INK	**Inuvik**	**49.91**	**29**	P		**P**	**06 09 11.4**	**+1.9**
	2.7nm,0.7s,baz=298,slow=6.6,SNR=16							
YKA	**Yellowknife Ar**	**59.36**	**32**	P		**P**	**06 10 18.9**	**+0.8**
	0.3nm,0.6s,baz=302,slow=6.5,SNR=5.7							
YKA				PcP		**PcP**	**06 11 05.6**	**-0.1**
	0.3nm,1.0s,baz=295,slow=3.6,SNR=4.2							
WRA	**Warramunga Arr**	**61.43**	**190**	P		**P**	**06 10 32.1**	**-0.6**
	0.5nm,0.5s,baz=6.7,slow=6.9,SNR=15							
ASAR	**Alice Springs**	**65.16**	**190**	P		**P**	**06 10 57.7**

n11, σ1^{s}52/21, **15C-6D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit** baz=33	**1.20**	**36**	⇑*i*P	**Pg**	**06 50 17.8**	**+0.5**
ARK	baz=33			⇑*i*S	**Sg**	**06 50 33.4**	**+0.5**
DRK	**Karamyk** baz=58	**1.47**	**156**	⇑*i*P	**Pn**	**06 50 21.0**	**+0.4**
DRK	baz=58			⇑*i*S	**Sn**	**06 50 40.1**	**+0.2**
ARSB	**Arslanbob** baz=69	**1.56**	**71**	⇓*i*P	**Pn**	**06 50 22.3**	**+0.6**
ARSB	baz=69			⇓*e*S	**Sg**	**06 50 42.3**	**-2.1**
KK31	**Karatay Array** 5.0nm,0.4s,baz=161,slow=15,SNR=73	**2.31**	**351**	⇓Pn	Pn	06 50 29.1	-2.7
KK31	8.8nm,0.6s,baz=164,slow=26,SNR=15			Sn	**Sn**	**06 50 57.5**	**-2.5**
AML	**Almayashu** baz=54	**2.39**	**56**	⇑*i*P	**Pn**	**06 50 33.8**	**+0.5**
AML	baz=54			⇑*i*S	**Sn**	**06 51 03.3**	**+0.7**
ARLS	**Aral** baz=65	**2.69**	**66**	⇑*i*P	**Pn**	**06 50 38.2**	**+1.0**
ARLS	baz=65			⇑*i*S	**Sn**	**06 51 09.7**	**0.0**
EKS2	**Erkin-Say** baz=46	**2.75**	**47**	⇑*e*P	**Pn**	**06 50 39.6**	**+1.5**
EKS2	baz=46			⇑*i*S	**Sn**	**06 51 12.2**	**+0.9**
UCH	**Uchtor** baz=59	**2.97**	**61**	⇓*i*P	**Pn**	**06 50 41.8**	**+0.5**
UCH	baz=59			⇓*i*S	**Sn**	**06 51 17.1**	**+0.1**
AAK	**Ala-Archa** 2.1nm,0.6s	**3.16**	**54**	⇑Pn	**Pn**	**06 50 47.5**	**+3.7**
AAK	1.6nm,0.6s			⇓Sn	**Sb**	**06 51 26.2**	**-2.5**
AAK	**Ala-Archa** baz=53	**3.16**	**54**	⇑*i*P	**Pn**	**06 50 44.7**	**+1.0**
AAK	baz=53			⇑*i*S	**Sn**	**06 51 22.0**	**+0.6**
KZA	**Kyzart** baz=66	**3.41**	**67**	⇑*i*P	**Pn**	**06 50 48.1**	**+0.7**
KZA	baz=66			⇑*i*S	**Sn**	**06 51 27.2**	**-0.6**

*ISCJB **10** 06:57:09.5±0.3,23°.96N±0°.02×122°.84E±0°.02, h39km±16km, Error ellipse: s-maj=3.5km s-min=2.3km az=172.5*
*JMA **10** 06:57:09.4±0.1,24°.01N×122°.81E, h50km±3km, M3.1*
*TAP **10** 06:57:09.8,24°.02N×122°.82E, h39km, ML4.0,D*
ISC 10 06:57:09.7±1.3, 23°.96N±0°.03×122°.85E±0°.02, h33km±5km, n87, σ0^{s}89/146, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.50**	**10**	P	**Pb**	**06 57 20.1**	**-0.2**
JYNG				S	**Sb**	**06 57 27.7**	**+0.1**
YOJ	**Yonaguni jima** baz=20	**0.53**	**16**	P	**Pn**	**06 57 20.4**	**-0.4**
YOJ	baz=20			S	**Sb**	**06 57 28.2**	**0.0**
YOJ	**Yonaguni jima**	**0.53**	**16**	P	**Pn**	**06 57 20.5**	**-0.4**
YOJ				S	**Sb**	**06 57 28.2**	**0.0**
HATJ	**Hateruma jima**	**0.88**	**83**	P	**Pn**	**06 57 26.2**	**+0.4**
HATJ				S	**Sn**	**06 57 38.5**	**+1.1**
EOS1	**EOS1** baz=309	**0.88**	**312**	*e*P	**Pn**	**06 57 26.2**	**+0.4**
EOS1	baz=309			*e*S	**Sn**	**06 57 38.5**	**+1.0**
IRIF	**Iriomote-Funau**	**0.89**	**65**	P	**Pn**	**06 57 26.0**	**+0.1**
IRIF				S	**Sn**	**06 57 38.3**	**+0.6**
JKRS	**Kuro-shima**	**1.10**	**75**	P	**Pn**	**06 57 29.2**	**+0.4**
JKRS				*e*S	**Sn**	**06 57 44.1**	**+1.3**
NANB	**Nanao** baz=292	**1.11**	**295**	*e*P	**Pn**	**06 57 28.7**	**-0.2**
TWC	**Suao** baz=303	**1.12**	**306**	P	**Pn**	**06 57 28.7**	**-0.3**
TWC	baz=303			S	**Sn**	**06 57 42.3**	**-1.0**
HWA	**Hwalien** baz=256	**1.14**	**271**	*e*P	**Pn**	**06 57 29.1**	**-0.2**
HWA	baz=256			*e*S	**Sn**	**06 57 44.6**	**+0.8**
ENLB	**Shoufeng** baz=254	**1.14**	**268**	*e*P	**Pn**	**06 57 29.1**	**-0.2**
ENLB	baz=254			*e*S	**Sn**	**06 57 43.4**	**-0.5**
TWD	**Chiawan** baz=271	**1.15**	**276**	P	**Pn**	**06 57 28.8**	**-0.7**
TWD	baz=271			*e*S	**Sn**	**06 57 42.9**	**-1.2**
NACB	**Ninganchiao** baz=264	**1.17**	**281**	*e*P	**Pn**	**06 57 29.2**	**-0.5**
NACB	baz=264			*e*S	**Sn**	**06 57 43.4**	**-1.1**
EGS	baz=314	**1.22**	**317**	*e*P	**Pn**	**06 57 30.4**	**-0.1**
JIJ	**Ishigaki jima**	**1.25**	**71**	P	**Pn**	**06 57 30.6**	**-0.3**
JIJ				S	**Sn**	**06 57 45.9**	**-0.7**
ETLH	**Xiulin Townshi** baz=277	**1.27**	**282**	P	**Pn**	**06 57 30.9**	**-0.3**
ETLH	baz=277			S	**Sn**	**06 57 46.7**	**-0.6**
NTC	**Toucheng** baz=324	**1.29**	**314**	*e*P	**Pn**	**06 57 31.3**	**-0.1**
NTC	baz=324			*e*S	**Sn**	**06 57 47.6**	**0.0**
ESL	**Shilin** baz=260	**1.30**	**264**	P	**Pn**	**06 57 31.0**	**-0.6**
ESL	baz=260			*e*S	**Sn**	**06 57 46.1**	**-1.8**
TWB1	**Santiao Chiao** baz=320	**1.31**	**323**	P	**Pn**	**06 57 31.4**	**-0.2**
TWB1	baz=320			S	**Sn**	**06 57 47.3**	**-0.7**
TWE	**Neicheng** baz=302	**1.32**	**306**	*e*P	**Pn**	**06 57 32.1**	**+0.2**
TWE	baz=302			*e*S	**Sn**	**06 57 47.6**	**-0.7**
EGFH	**Guangfu** baz=244	**1.33**	**258**	*e*P	**Pn**	**06 57 31.9**	**-0.1**
EGFH	baz=244			*e*S	**Sn**	**06 57 48.1**	**-0.5**
ENTT	**Nioudou** baz=296	**1.35**	**300**	*e*P	**Pn**	**06 57 32.8**	**+0.4**
ENTT	baz=296			*e*S	**Sn**	**06 57 48.8**	**-0.3**
TIPB	**Shuangxi** baz=314	**1.38**	**318**	P	**Pn**	**06 57 32.3**	**-0.3**
TIPB	baz=314			*e*S	**Sn**	**06 57 48.6**	**-1.1**
NDT	**Datong Townshi** baz=281	**1.38**	**298**	*e*P	**Pn**	**06 57 33.1**	**+0.4**
NDT	baz=281			*e*S	**Sn**	**06 57 49.6**	**-0.2**
HGSD	**Ruisui** baz=247	**1.38**	**251**	*e*P	**Pn**	**06 57 32.0**	**-0.7**
HGSD	baz=247			*e*S	**Sn**	**06 57 48.8**	**-1.1**
NNSB	**Datong** baz=285	**1.42**	**290**	*e*P	**Pn**	**06 57 33.2**	**-0.1**
NNSB	baz=285			*e*S	**Sn**	**06 57 50.7**	**-0.2**
NNS	**Nan Shan** baz=286	**1.43**	**290**	P	**Pn**	**06 57 33.7**	**+0.2**
NNS	baz=286			S	**Sn**	**06 57 51.0**	**-0.2**
WHF	**Hehuan Shan** baz=273	**1.46**	**278**	P	**Pn**	**06 57 33.7**	**-0.4**
WHF	baz=273			S	**Sn**	**06 57 51.4**	**-1.0**
EHY	**Hungye** baz=249	**1.47**	**253**	P	**Pn**	**06 57 33.6**	**-0.3**
EHY	baz=249			S	**Sn**	**06 57 51.2**	**-0.8**
NWLT	**Wulai** baz=312	**1.47**	**304**	*e*P	**Pn**	**06 57 34.4**	**+0.5**
NWLT	baz=312			*e*S	**Sn**	**06 57 52.0**	**-0.2**
NWF	**Wu-fen Shan** baz=315	**1.48**	**319**	P	**Pn**	**06 57 33.9**	**-0.2**
NWF	baz=315			S	**Sn**	**06 57 51.9**	**-0.4**
WFSB	**Wu-fen Shan** baz=315	**1.48**	**319**	*e*P	**Pn**	**06 57 33.9**	**-0.1**
WFSB	baz=315			*e*S	**Sn**	**06 57 51.4**	**-0.8**
JISG	**Ishigakijimahi**	**1.48**	**64**	P	**Pn**	**06 57 33.5**	**-0.5**
JISG				*e*S	**Sn**	**06 57 51.1**	**-1.0**
YHNB	**Yeheng** baz=282	**1.52**	**298**	*e*P	**Pn**	**06 57 34.9**	**+0.3**
YULB	**Yu-li** baz=237	**1.53**	**249**	*e*P	**Pn**	**06 57 34.7**	**0.0**
YULB	baz=237			*e*S	**Sn**	**06 57 53.3**	**-0.1**
OWD	**Renai** baz=266	**1.53**	**270**	*e*P	**Pn**	**06 57 34.7**	**-0.1**
OWD	baz=266			*e*S	**Sn**	**06 57 52.5**	**-1.2**
CHGB	**Renai** baz=270	**1.53**	**274**	*e*P	**Pn**	**06 57 35.0**	**0.0**
CHGB	baz=270			*e*S	**Sn**	**06 57 53.3**	**-0.6**
NSK	**Sanguang** baz=294	**1.54**	**298**	P	**Pn**	**06 57 35.1**	**+0.2**
NSK	baz=294			S	**Sn**	**06 57 52.9**	**-0.9**
TWA	**Mucha** baz=308	**1.54**	**312**	P	**Pn**	**06 57 35.0**	**+0.1**
TWA	baz=308			S	**Sn**	**06 57 53.6**	**-0.1**
TWF1	**Yuli** baz=235	**1.54**	**247**	P	**Pn**	**06 57 34.8**	**-0.1**
TWF1	baz=235			S	**Sn**	**06 57 53.6**	**-0.3**
TWT	**Tachien** baz=266	**1.56**	**281**	*e*P	**Pn**	**06 57 35.9**	**+0.6**
TWT	baz=266			*e*S	**Sn**	**06 57 54.4**	**0.0**
NHDH	**Xindian Distri** baz=320	**1.57**	**310**	*e*S	**Sn**	**06 57 55.3**	**+0.8**
TDCB	**Techi** baz=266	**1.57**	**281**	*e*P	**Pn**	**06 57 35.9**	**+0.5**
TDCB	baz=266			*e*S	**Sn**	**06 57 54.2**	**-0.5**
VWDT	**VWDT** baz=259	**1.57**	**263**	*e*P	**Pn**	**06 57 35.5**	**+0.2**
VWDT	baz=259			*e*S	**Sn**	**06 57 54.3**	**-0.3**
TATO	**Taipei** baz=319	**1.60**	**310**	*e*P	**Pn**	**06 57 35.7**	**0.0**
TATO	baz=319			*e*S	**Sn**	**06 57 55.1**	**-0.1**
CHKT	**Chengkung** baz=227	**1.60**	**238**	*e*P	**Pn**	**06 57 35.5**	**-0.3**
CHKT	baz=227			*e*S	**Sn**	**06 57 53.1**	**-2.2**
FULB	**Fuli** baz=231	**1.61**	**242**	*e*P	**Pn**	**06 57 35.3**	**-0.6**
FULB	baz=231			*e*S	**Sn**	**06 57 54.6**	**-0.9**
YM07	**YM07** baz=314	**1.65**	**318**	*e*P	**Pn**	**06 57 36.0**	**-0.4**
YM07	baz=314			*e*S	**Sn**	**06 57 55.7**	**-0.8**
YM01	**YM01** baz=312	**1.66**	**316**	*e*P	**Pn**	**06 57 36.2**	**-0.3**
YM01	baz=312			*e*S	**Sn**	**06 57 55.4**	**-1.4**
YM11	**YM11** baz=312	**1.67**	**316**	*e*S	**Sn**	**06 57 57.5**	**+0.4**
YM04	**YM04** baz=311	**1.69**	**315**	*e*P	**Pn**	**06 57 36.6**	**-0.3**
TWS1	**Kuangyinshan** baz=308	**1.73**	**311**	*e*P	**Pn**	**06 57 37.5**	**+0.1**
TWS1	baz=308			*e*S	**Sn**	**06 57 59.7**	**+1.2**
SSLB	**Suanglung** baz=262	**1.74**	**265**	*e*P	**Pn**	**06 57 37.8**	**+0.2**
WHP	**Taichung City** baz=268	**1.77**	**281**	*e*P	**Pn**	**06 57 39.1**	**+1.0**
SMLT	**Sun Moon Lake** baz=265	**1.78**	**268**	*e*P	**Pn**	**06 57 38.8**	**+0.5**
LIOB	**Emei** baz=288	**1.81**	**293**	P	**Pn**	**06 57 38.1**	**-0.5**
LIOB	baz=288			S	**Sn**	**06 58 00.1**	**-0.3**
NSTT	**Nanjuang** baz=287	**1.81**	**292**	*e*P	**Pn**	**06 57 39.8**	**+1.2**
NSTT	baz=287			*e*S	**Sn**	**06 58 01.2**	**+0.7**
TYC	**Yuchr** baz=265	**1.82**	**269**	*e*P	**Pn**	**06 57 39.3**	**+0.5**
JTJ	**Tarama**	**1.82**	**68**	P	**Pn**	**06 57 38.7**	**-0.1**
JTJ				S	**Sn**	**06 58 00.7**	**0.0**
ELDTW	**Lidau** baz=243	**1.84**	**246**	P	**Pn**	**06 57 38.9**	**-0.3**
ELDTW	baz=243			*e*S	**Sn**	**06 57 59.7**	**-1.8**
WHYT	**Xinyi Township** baz=259	**1.84**	**262**	*e*P	**Pn**	**06 57 40.7**	**+1.6**
ALS	**Alishan** baz=246	**1.92**	**257**	*e*P	**Pn**	**06 57 41.3**	**+0.9**
TWQ1	**Liyutan** baz=277	**1.94**	**282**	*e*P	**Pn**	**06 57 41.9**	**+1.6**
WJS	**Zhushan** baz=263	**1.94**	**266**	*e*S	**Sn**	**06 58 05.7**	**+1.9**
NSY	**Sanyi** baz=279	**1.96**	**284**	*e*P	**Pn**	**06 57 42.5**	**+1.9**
NSY	baz=279			*e*S	**Sn**	**06 58 05.8**	**+1.7**
NMLH	**Miaoli** baz=283	**1.96**	**288**	*e*P	**Pn**	**06 57 42.2**	**+1.5**
TTN	**Taitung** baz=223	**1.97**	**233**	*e*S	**Sn**	**06 58 03.6**	**-0.7**
TWGBT	**Beinan** baz=226	**1.98**	**235**	*e*P	**Pn**	**06 57 40.8**	**-0.1**
TWGBT	baz=226			*e*S	**Sn**	**06 58 03.9**	**-0.8**
TWG	**Pinlang** baz=226	**1.98**	**236**	*e*P	**Pn**	**06 57 40.8**	**-0.2**
TWG	baz=226			*e*S	**Sn**	**06 58 03.8**	**-0.9**
CHN5	**Tsauling** baz=250	**2.02**	**260**	*e*P	**Pn**	**06 57 42.9**	**+1.4**
STYT	**Tauyuan** baz=237	**2.07**	**248**	*e*P	**Pn**	**06 57 43.3**	**+1.1**
TPUB	**Ta-pu** baz=241	**2.14**	**253**	*e*P	**Pn**	**06 57 44.9**	**+1.8**
CHN4	**Tsaushan** baz=244	**2.15**	**254**	*e*P	**Pn**	**06 57 45.2**	**+1.9**
WTP	**Ta-pu** baz=240	**2.17**	**251**	*e*P	**Pn**	**06 57 45.2**	**+1.7**
LAY	**Lan-yu** baz=221	**2.25**	**212**	P	**Pn**	**06 57 43.6**	**-1.1**
TWK	**Hsinying** baz=250	**2.27**	**253**	*e*P	**Pn**	**06 57 47.1**	**+2.1**
TWK	baz=250			*e*S	**Sn**	**06 58 14.4**	**+2.5**
RLNB	**Erlin** baz=276	**2.28**	**269**	*e*P	**Pn**	**06 57 47.2**	**+2.2**
JIRB	**Irabujima**	**2.29**	**67**	P	**Pn**	**06 57 45.0**	**-0.2**
JIRB				S	**Sn**	**06 58 11.6**	**-0.7**
EAST	**Anshuo** baz=237	**2.42**	**230**	*e*P	**Pn**	**06 57 46.7**	**-0.2**
MASBT	**Mashibuluo** baz=230	**2.44**	**237**	*e*P	**Pn**	**06 57 47.8**	**+0.6**
SSPT	**Xinbi** baz=230	**2.56**	**236**	*e*P	**Pn**	**06 57 50.8**	**+2.0**
SCZT	**Fangliau** baz=226	**2.59**	**233**	*e*P	**Pn**	**06 57 51.7**	**+2.5**
TWKBT	**Hengchun** baz=223	**2.75**	**223**	*e*S	**Sn**	**06 58 24.1**	**+0.5**
WDGT	**Dungji** baz=255	**3.00**	**257**	*e*P	**Pn**	**06 57 56.2**	**+1.2**
WDGT	baz=255			*e*S	**Sn**	**06 58 29.2**	**-0.7**
PHUB	**P'eng-hu** baz=272	**3.03**	**262**	*e*P	**Pn**	**06 57 56.1**	**+0.7**
PHUB	baz=272			*e*S	**Sn**	**06 58 30.5**	**-0.1**
PNG	**Penghu** baz=274	**3.04**	**263**	*e*P	**Pn**	**06 57 56.4**	**+0.9**
PNG	baz=274			*e*S	**Sn**	**06 58 30.9**	**+0.1**
VCHM	**Qimei** baz=255	**3.22**	**257**	*e*P	**Pn**	**06 57 59.0**	**+1.0**
VCHM	baz=255			*e*S	**Sn**	**06 58 34.9**	**-0.4**

IDC 10 07:16:07.9±4.3, 25°.29N×139°.95E, h55km±41km, mb3.8/2, mb1 3.8/3, mb1mx3.1/40, mbtmp3.9/3, ML3.3/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=46.5km s-min=28.6km az=84.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 5.8nm,0.3s,baz=212,slow=9.5,SNR=7.4	**2.70**	**48**	P	Pn	07 16 48.9	0.0
JCJ	14nm,0.3s,baz=263,slow=24,SNR=12			S	Sn	07 17 15.1	-5.2
CMAR	**Chiang Mai Arr** comp=Z,10nm,19.3s,baz=225,slow=35	**38.55**	**268**	LR	LR	07 38 52.6	
WRA	**Warramunga Arr** 1.0nm,0.3s,baz=8.4,slow=8.5,SNR=49	**45.29**	**187**	P	P	07 24 20.2	-0.1
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=100,slow=7.9,SNR=2.8	**49.57**	**320**	P	P	07 24 53.1	-0.1
AFI	**Afiamalu** comp=Z,31nm,18.1s,baz=38,slow=32	**61.08**	**124**	LR	LR	07 48 26.0	
RPZ	**Rata Peaks** comp=Z,96nm,20.6s,baz=145,slow=30	**74.36**	**157**	LR	LR	07 53 57.8	
LPAZ	**La Paz** 0.9nm,0.3s,baz=304,slow=4.8,SNR=30	**152.31**	**77**	PKPbc	PKPbc	07 35 59.0	-0.1

*IDC **10** 07:19:37.6±10.0, 22°.71S×68°.82W, h64km±73km, mb3.3/2, mb1 3.5/3, mb1mx3.2/17, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=81.4km s-min=59.4km az=52.0*
*GUC **10** 07:19:45.7±0.6,21°.90S×68°.60W, h121km±4km, ML3.4*
*SJA **10** 07:19:45.0±0.6,21°.90S×68°.55W, h124km±4km, ML2.5, MW3.1*
*ISCJB **10** 07:19:46.1±0.6,21°.90S±0°.04×68°.61W±0°.07, h125km±6km, mb3.5/2, Error ellipse: s-maj=11.0km s-min=6.2km az=1.8*
ISC 10 07:19:46.9±1.0, 21°.90S±0°.04×68°.60W±0°.06, h117km±8km, n26, σ0^{s}73/41, 11C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.61**	**279**	*i*P	**Pn**	**07 20 05.5**	**0.0**
PB09				*i*S	**Sn**	**07 20 20.2**	**+0.7**
PB09	**IPOC Station P**	**0.61**	**279**	⇑*i*P	**Pn**	**07 20 05.5**	**0.0**
PB09				*i*S	**Sn**	**07 20 19.9**	**+0.4**
PB09	comp=N,929nm,0.4s			IAML		07 20 22.4	
LVC	**Limon Verde**	**0.77**	**202**	*i*P	**Pn**	**07 20 06.7**	**-0.3**
LVC				*i*S	**Sn**	**07 20 22.2**	**+0.1**
LVC	**Limon Verde**	**0.77**	**202**	*e*P	**Pn**	**07 20 06.3**	**-0.7**
PB03	**IPOC Station P**	**1.08**	**262**	*i*P	**Pn**	**07 20 09.4**	**-0.3**
PB03				*i*S	**Sn**	**07 20 28.1**	**+1.1**
PB03	**IPOC Station P**	**1.08**	**262**	⇑*i*P	**Pn**	**07 20 09.4**	**-0.3**
PB03				*i*S	**Sn**	**07 20 27.3**	**+0.3**
PB03	comp=E,704nm,0.3s			IAML		07 20 28.8	
PB01	**IPOC Station P**	**1.19**	**315**	*i*P	**Pn**	**07 20 07.8**	**-2.9**
PB01	**IPOC Station P**	**1.19**	**315**	⇑*i*P	**Pn**	**07 20 10.2**	**-0.5**
PB01				*i*S	**Sn**	**07 20 28.9**	**+0.1**
PB01	comp=E,1μm,0.8s			IAML		07 20 30.9	
PB06	**IPOC Station P**	**1.21**	**228**	*i*P	**Pn**	**07 20 10.9**	**-0.1**
PB06				*i*S	**Sn**	**07 20 29.8**	**+0.4**
PB06	**IPOC Station P**	**1.21**	**228**	⇑*i*P	**Pn**	**07 20 11.0**	**-0.1**
PB06				*i*S	**Sn**	**07 20 29.7**	**+0.4**
PB06	comp=N,752nm,0.5s			IAML		07 20 30.9	
PB07	**IPOC Station P**	**1.21**	**278**	*i*P	**Pn**	**07 20 10.9**	**-0.2**
PB07	**IPOC Station P**	**1.21**	**278**	⇑*i*P	**Pn**	**07 20 10.9**	**-0.2**
PB07				*i*S	**Sn**	**07 20 29.9**	**+0.5**
PB07	comp=N,1μm,0.3s			IAML		07 20 31.4	
PB02	**IPOC Station P**	**1.34**	**295**	*i*P	**Pn**	**07 20 12.2**	**-0.2**
PB02	**IPOC Station P**	**1.34**	**295**	⇑*i*P	**Pn**	**07 20 12.0**	**-0.4**
PB02				*i*S	**Sn**	**07 20 32.5**	**+0.7**
PB02	comp=E,940nm,0.1s			IAML		07 20 33.4	
PB04	**IPOC Station P**	**1.50**	**253**	*i*P	**Pn**	**07 20 14.0**	**-0.4**
PB04	**IPOC Station P**	**1.50**	**253**	⇑*i*P	**Pn**	**07 20 14.0**	**-0.4**
PB04				*i*S	**Sn**	**07 20 35.8**	**+0.6**
PB04	comp=E,489nm,0.5s			IAML		07 20 46.5	
PB15	**IPOC Station P**	**1.54**	**212**	*i*P	**Pn**	**07 20 14.8**	**0.0**
PB15	**IPOC Station P**	**1.54**	**212**	⇑*i*P	**Pn**	**07 20 14.5**	**-0.2**
PB15				*e*S	**Sn**	**07 20 36.8**	**+0.8**
PB05	**IPOC Station P**	**1.77**	**237**	⇑*i*P	**Pn**	**07 20 17.0**	**-0.5**
PB05				*i*S	**Sn**	**07 20 40.9**	**+0.2**
PB05	comp=N,296nm,0.4s			IAML		07 20 47.4	
PB08	**IPOC Station P**	**1.82**	**343**	⇑*i*P	**Pn**	**07 20 18.8**	**+0.4**
PB08				*i*S	**Sn**	**07 20 43.3**	**+0.9**
PB08	comp=E,381nm,0.4s			IAML		07 20 44.7	
PB11	**IPOC Station P**	**2.34**	**335**	⇑*i*P	**Pn**	**07 20 23.8**	**-1.0**
PB11				*e*S	**Sn**	**07 20 53.3**	**-0.5**
PB11	comp=E,410nm,0.3s			IAML		07 20 54.6	
PB10	**IPOC Station P**	**2.42**	**228**	*e*P	**Pn**	**07 20 25.7**	**+0.1**
PB10	comp=E,100nm,0.3s			IAML		07 21 05.1	
YJA	**Yavi**	**2.87**	**96**	*i*P	**Pn**	**07 20 31.3**	**-0.5**
YJA	comp=Z,16nm,0.4s			IAML		07 20 34.7	
LPAZ	**La Paz** comp=Z,0.3nm,0.3s,baz=180,slow=6.1,SNR=8.5	**5.60**	**5**	P	**Pn**	**07 21 10.1**	**+1.6**
LPAZ	comp=Z,0.1nm,0.3s,baz=168,slow=22,SNR=2.7			S	Sn	07 22 23.4	+11
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.3s,baz=255,slow=5.5,SNR=2.1	**77.21**	**70**	P	**P**	**07 31 28.2**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=132,slow=4.3,SNR=6.3	**91.66**	**340**	P	**P**	**07 32 40.1**	**-0.2**

*ISCJB **10** 07:27:39.2±1.5, 37°.37N±0°.05×142°.46E±0°.07, h16km±9km, mb3.6/4, Error ellipse: s-maj=9.5km s-min=8.2km az=14.1*
*JMA **10** 07:27:39.8±0.2, 37°.39N×142°.44E, h22km±4km, M3.8*
*IDC **10** 07:27:58.9±1.1, 34°.79N×136°.77E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/31, mbtmp3.5/5, ML1.9/1, Error ellipse: s-maj=33.3km s-min=21.6km az=94.0*
ISC 10 07:27:38.2±2.2, 37°.39N±0°.05×142°.33E±0°.08, h2km±11km, n19, σ1^{s}39/27, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.15**	**324**	P	**Pn**	**07 28 01.0**	**-0.3**
JIKH				*e*S	**Sn**	**07 28 16.6**	**-1.0**
JFK	**Kawauchi**	**1.16**	**270**	P	**Pg**	**07 28 01.8**	**+1.3**
JFK				*e*S	**Sn**	**07 28 17.2**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.26**	**257**	*e*S	**Sn**	**07 28 19.5**	**-0.9**
JMM	**Marumori**	**1.31**	**292**	P	**Pg**	**07 28 04.3**	**+0.9**
JMM				*e*S	**Sg**	**07 28 21.5**	**+1.0**
JIO	**Ouri**	**1.32**	**324**	P	**Pg**	**07 28 03.8**	**+0.2**
JIO				*e*S	**Sg**	**07 28 21.1**	**+0.4**
JFT	**Otama**	**1.59**	**275**	P	**Pg**	**07 28 09.2**	**+0.4**
JFT				*e*S	**Sg**	**07 28 30.0**	**+0.5**
JOU	**Okura**	**1.65**	**307**	P	**Pg**	**07 28 09.7**	**-0.1**
JMK	**Ichinoseki**	**1.79**	**331**	P	**Pb**	**07 28 11.1**	**-0.7**
JMK				*e*S	**Sb**	**07 28 33.6**	**-1.1**
JYS	**Shirataka**	**1.98**	**296**	P	**Pb**	**07 28 14.6**	**-0.4**
JYS				*e*S	**Sb**	**07 28 40.4**	**+0.3**
JFY	**Yanaizu**	**2.09**	**271**	*e*S	**Sb**	**07 28 42.7**	**-0.7**
JYK	**Kaneyama**	**2.18**	**315**	P	**Pb**	**07 28 16.8**	**-1.6**
JOM	**Ohasama**	**2.24**	**339**	P	**Pb**	**07 28 17.1**	**-2.3**
JRG	**Rokugo**	**2.41**	**327**	P	**Pb**	**07 28 20.2**	**-2.1**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=204,slow=29,SNR=13	**3.41**	**257**	Pn	**Pb**	**07 28 36.0**	**-3.3**
MJAR	0.3nm,0.3s,baz=121,slow=22,SNR=4.5			Lg	Lg	07 29 18.8	
MAT	**Matsushiro**	**3.41**	**257**	P	**Pb**	**07 28 37.3**	**-2.1**
MAT				S	**Sb**	**07 29 20.8**	**-0.5**
SONM	**Songino Array** 0.5nm,0.7s,baz=96,slow=9.3,SNR=4.7	**28.20**	**303**	P	**P**	**07 33 33.9**	**+1.6**
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=91,slow=7.2,SNR=3.2	**44.56**	**302**	P	**P**	**07 35 53.6**	**+2.2**
WRA	**Warramunga Arr** 1.1nm,0.8s,baz=7.3,slow=6.9,SNR=10	**57.52**	**189**	P	**P**	**07 37 28.6**	**-0.4**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=15,slow=8.9,SNR=6.9	**61.24**	**189**	P	**P**	**07 37 54.5**	**-0.2**

JMA 10 07:28:15.9, 34°.17N×135°.09E, h8km±1km, M0.7, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.42**	**83**	P	Pg	07 28 24.1	0.0

*ISCJB **10** 07:59:20.6±1.0,20°.5N±0°.1×101°.93E±0°.08,h10km, mb3.4/3,Error ellipse: s-maj=17.1km s-min=6.7km az=149.7*
*PLV **10** 07:59:20.7±0.4,20°.56N×101°.85E,h6km±5km,ML3.1*
*IDC **10** 07:59:20.5±2.2,20°.40N×101°.92E,h0km,mb3.5/3, mb1 3.4/4,mb1mx3.1/43,mbtmp3.4/4,ML3.6/1,Error ellipse: s-maj=40.1km s-min=17.0km az=126.0*
ISC 10 07:59:22.5±1.1,20°.5N±0°.1×101°.9E±0°.1,h10km,n7, σ1§88/10,mb3.4/3,Laos

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGV	**Tuan Giao**	**1.82**	**53**	*e*Pn		**Pn**		**07 59 51.7**	**-2.2**
TGV				IAML				08 00 23.0	
	comp=N,161nm,0.4s								
TGV				IAML				08 00 25.4	
	comp=E,157nm,0.4s								
MLAV	**Muong La stati**	**1.96**	**38**	*e*Pn		Pn		07 59 53.3	-2.5
MLAV				*e*Pg		**Pb**		**07 59 56.8**	**-1.4**
MLAV				*e*Sg		**Sn**		**08 00 22.5**	**+2.1**
MLAV				IAML				08 00 27.3	
	comp=E,143nm,0.4s								
MLAV				IAML				08 00 30.7	
	comp=N,127nm,0.5s								
TTVN	**Tram Tau**	**2.53**	**67**	*e*Pn		**Pn**		**08 00 02.1**	**-1.5**
TTVN				*e*Sg		**Sb**		**08 00 42.1**	**+2.8**
TTVN				IAML				08 00 46.9	
	comp=N,114nm,0.6s								
TTVN				IAML				08 00 48.9	
	comp=E,73nm,0.4s								
CMAR	**Chiang Mai Arr**	**3.41**	**234**	Pn		**Pn**		**08 00 14.9**	**-0.9**
	comp=E,1.4nm,0.3s,baz=55,slow=14,SNR=5.8								
CMAR				Pg		**Pb**		**08 00 22.6**	**-0.5**
	comp=E,2.6nm,0.3s,baz=52,slow=16,SNR=23								
CMAR				Lg		Lg		08 01 08.9	
	comp=E,1.7nm,0.3s,baz=50,slow=28,SNR=9.0								
SONM	**Songino Array**	**27.52**	**7**	P		**P**		**08 05 10.2**	**+0.9**
	comp=E,0.3nm,0.8s,baz=180,slow=6.5,SNR=2.5								
MKAR	**Makanchi Array**	**30.70**	**333**	P		**P**		**08 05 38.7**	**+1.2**
	comp=E,0.4nm,0.7s,baz=136,slow=9.0,SNR=4.5								
ZALV	**Zalesovo Beam**	**35.85**	**343**	P		**P**		**08 06 21.5**	**-0.7**
	comp=E,0.5nm,0.3s,baz=157,slow=6.7,SNR=2.8								

*JMA **10** 08:02:04.9±0.1,24°.30N×121°.42E,h0km,M3.3*
*IDC **10** 08:02:05.1±1.8,24°.27N×121°.63E,h0km,mb3.4/6, mb1 3.5/6,mb1mx3.3/44,mbtmp3.4/6,Error ellipse: s-maj=146.3km s-min=18.7km az=64.0*
*TAP **10** 08:02:05.4,24°.32N×121°.45E,h6km,ML3.8,C*
*ISCJB **10** 08:02:06.0±0.2,24°.326N±0°.010×121°.48E±0°.01, h3km±2km,mb3.4/6,Error ellipse: s-maj=2.0km s-min=1.5km az=35.5*
ISC 10 08:02:05.8±0.9,24°.34N±0°.01×121°.47E±0°.01,h6km±6km, n116,σ0§87/164,mb3.4/6,35C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.12**	**319**	⇓P		**Pg**		**08 02 08.6**	**+0.2**
	baz=330								
NNSB				S		**Sg**		**08 02 10.4**	**+0.3**
	baz=330								
ETLH	**Xiulin Townshi**	**0.13**	**175**	⇑P		**Pg**		**08 02 08.8**	**+0.3**
	baz=165								
ETLH				S		**Sg**		**08 02 10.6**	**+0.2**
	baz=165								
NNS	**Nan Shan**	**0.13**	**319**	⇓*i*P		**Pg**		**08 02 08.8**	**+0.2**
	baz=332								
NNS				*i* S		**Sg**		**08 02 10.8**	**+0.3**
	baz=332								
NACB	**Ninganchiao**	**0.20**	**145**	⇑P		**Pg**		**08 02 10.2**	**+0.5**
	baz=138								
NACB				S		**Sg**		**08 02 12.9**	**+0.5**
	baz=138								
ENA	**Nanau**	**0.26**	**70**	⇑*i*P		**Pg**		**08 02 11.4**	**+0.5**
	baz=70								
ENA				*e*S		**Sg**		**08 02 15.2**	**+0.7**
	baz=70								
NDT	**Datong Townshi**	**0.27**	**9**	⇑*i*P		**Pb**		**08 02 11.7**	**-1.3**
	baz=12								
NDT				*i* S		**Sb**		**08 02 15.8**	**-2.1**
	baz=12								
WHF	**Hehuan Shan**	**0.27**	**224**	⇑*i*P		**Pg**		**08 02 10.8**	**-0.3**
	baz=222								
WHF				S		**Sg**		**08 02 14.5**	**-0.3**
	baz=222								
NANB	**Nanao**	**0.27**	**71**	⇑P		**Pg**		**08 02 11.4**	**+0.3**
	baz=69								
NANB				*e*S		**Sg**		**08 02 15.0**	**+0.3**
	baz=69								
TWT	**Tachien**	**0.28**	**252**	⇑*i*P		**Pg**		**08 02 11.6**	**+0.2**
	baz=244								
TWT				*i* S		**Sg**		**08 02 15.4**	**+0.3**
	baz=244								
TWD	**Chiawan**	**0.28**	**156**	⇑*i*P		**Pg**		**08 02 11.7**	**+0.4**
	baz=150								
TWD				S		**Sg**		**08 02 15.7**	**+0.6**
	baz=150								
TDCB	**Techi**	**0.30**	**253**	⇑P		**Pg**		**08 02 11.6**	**0.0**
	baz=245								
TDCB				S		**Sg**		**08 02 15.4**	**-0.1**
	baz=245								
ENTT	**Nioudou**	**0.31**	**16**	⇑*i*P		**Pb**		**08 02 12.6**	**-1.3**
	baz=12								
ENTT				S		**Sb**		**08 02 17.2**	**-2.1**
	baz=12								
YHNB	**Yeheng**	**0.34**	**346**	⇑P		**Pb**		**08 02 13.3**	**-1.0**
	baz=349								
YHNB				S		**Sg**		**08 02 17.6**	**+0.7**
	baz=349								
NSK	**Sanguang**	**0.35**	**343**	⇑*i*P		**Pb**		**08 02 13.5**	**-1.0**
	baz=348								
NSK				S		**Sg**		**08 02 17.9**	**+0.6**
	baz=348								
HWA	**Hwalien**	**0.38**	**161**	*e*P		**Pg**		**08 02 13.9**	**+0.7**
	baz=157								
HWA				*e*S		**Sg**		**08 02 19.2**	**+1.0**
	baz=157								
CHGB	**Renai**	**0.39**	**224**	⇑P		**Pg**		**08 02 13.0**	**-0.3**
	baz=223								
TWE	**Neicheng**	**0.42**	**25**	⇑*i*P		**Pb**		**08 02 14.8**	**-0.9**
	baz=41								
TWE				S		**Sb**		**08 02 20.7**	**-1.6**
	baz=41								
NWLT	**Wulai**	**0.44**	**4**	*e*P		**Pb**		**08 02 15.1**	**-0.9**
	baz=7.0								
NWLT				*e*S		**Sg**		**08 02 20.8**	**+0.8**
	baz=7.0								
ENLB	**Shoufeng**	**0.45**	**164**	⇓P		**Pg**		**08 02 15.0**	**+0.5**
	baz=162								
ENLB				S		**Sg**		**08 02 21.0**	**+0.6**
	baz=162								
OWD	**Renai**	**0.47**	**215**	⇑P		**Pg**		**08 02 14.4**	**-0.5**
	baz=213								
WHP	**Taichung City**	**0.48**	**263**	⇑*i*P		**Pb**		**08 02 15.8**	**-1.0**
	baz=263								
WHP				S		**Sg**		**08 02 21.8**	**+0.4**
	baz=263								
ILA	**Ilan**	**0.49**	**31**	*e*P		**Pb**		**08 02 15.8**	**-1.1**
	baz=34								
LIOB	**Emei**	**0.51**	**307**	⇑*i*P		**Pg**		**08 02 15.3**	**-0.4**
	baz=309								
LIOB				*e*S		**Sg**		**08 02 22.5**	**0.0**
	baz=309								
NSTT	**Nanjuang**	**0.52**	**304**	⇑*i*P		**Pb**		**08 02 16.8**	**-0.5**
	baz=306								
NSTT				*i* S		**Sb**		**08 02 23.9**	**-1.2**
	baz=306								
ESL	**Shilin**	**0.52**	**184**	P		**Pg**		**08 02 15.7**	**-0.2**
	baz=170								
NTC	**Toucheng**	**0.61**	**33**	⇑*e*P		**Pb**		**08 02 17.9**	**-1.0**
	baz=47								
NHDH	**Xindian Distri**	**0.62**	**5**	*e*P		**Pb**		**08 02 19.3**	**+0.2**
	baz=20								
NHDH				*e*S		**Sb**		**08 02 27.6**	**-0.6**
	baz=20								
SBCB	**Hsinchu**	**0.63**	**316**	⇑P		**Pn**		**08 02 20.0**	**-1.4**
	baz=316								
TATO	**Taipei**	**0.63**	**2**	*e*P		**Pn**		**08 02 19.7**	**-1.7**
	baz=17								
TATO				*e*S		**Sb**		**08 02 27.0**	**-1.4**
	baz=17								
TWQ1	**Liyutan**	**0.64**	**271**	⇑*i*P		**Pb**		**08 02 19.2**	**-0.2**
	baz=271								
TWQ1				S		**Sb**		**08 02 27.5**	**-1.0**
	baz=271								
EOS1	**EOS1**	**0.64**	**71**	⇑P		**Pb**		**08 02 18.9**	**-0.4**
	baz=59								
EOS1				*e*S		**Sb**		**08 02 29.1**	**+0.6**
	baz=59								
TWA	**Mucha**	**0.65**	**9**	*e*P		**Pb**		**08 02 19.4**	**-0.1**
	baz=11								
TWA				S		**Sb**		**08 02 28.1**	**-0.8**
	baz=11								
NMLH	**Miaoli**	**0.65**	**288**	⇑P		**Pb**		**08 02 19.9**	**+0.3**
	baz=288								
NMLH				*e*S		**Sb**		**08 02 29.0**	**+0.1**
	baz=288								
NSY	**Sanyi**	**0.65**	**277**	⇑*i*P		**Pb**		**08 02 19.9**	**+0.3**
	baz=276								
VWDT	**VWDT**	**0.66**	**207**	⇑P		**Pg**		**08 02 17.8**	**-0.6**
	baz=211								
VWDT				*e*S		**Sg**		**08 02 25.8**	**-1.1**
	baz=211								
EGS		**0.66**	**40**	*e*P		**Pb**		**08 02 19.0**	**-0.7**
	baz=43								
EGFH	**Guangfu**	**0.67**	**183**	*e*P		**Pg**		**08 02 18.2**	**-0.4**
	baz=182								
EGFH				*e*S		**Sg**		**08 02 27.7**	**+0.4**
	baz=182								
NCUH	**Zhongli**	**0.68**	**338**	*e*P		**Pn**		**08 02 20.7**	**-1.3**
	baz=339								
NCU	**National Centr**	**0.68**	**338**	*e*P		**Pn**		**08 02 21.2**	**-0.8**
	baz=340								
SMLT	**Sun Moon Lake**	**0.69**	**229**	⇑*i*P		**Pg**		**08 02 19.0**	**-0.1**
	baz=228								
SMLT				*e*S		**Sb**		**08 02 29.0**	**-1.2**
	baz=228								
TAP	**Taipei**	**0.70**	**3**	*e*P		**Pn**		**08 02 20.8**	**-1.4**
	baz=6.0								
PTSB	**Yuanli**	**0.70**	**279**	⇑*e*P		**Pn**		**08 02 21.3**	**-1.1**
	baz=279								
PTSB				S		**Sb**		**08 02 31.1**	**+0.6**
	baz=279								
TYC	**Yuchr**	**0.71**	**232**	⇑*i*P		**Pg**		**08 02 19.3**	**-0.1**
	baz=222								
TYC				S		**Sg**		**08 02 27.6**	**-1.0**
	baz=222								
TIPB	**Shuangxi**	**0.71**	**27**	⇑*i*P		**Pb**		**08 02 19.9**	**-0.8**
	baz=16								
TIPB				S		**Sg**		**08 02 29.1**	**+0.4**
	baz=16								
SSLB	**Suanglung**	**0.72**	**221**	⇑P		**Pg**		**08 02 19.0**	**-0.7**
	baz=220								
SSLB				*e*S		**Sg**		**08 02 28.3**	**-0.8**
	baz=220								
TCU	**Taichung**	**0.75**	**255**	⇑*e*P		**Pn**		**08 02 21.7**	**-1.3**
	baz=254								
WDJ	**Dajia District**	**0.76**	**271**	*e*P		**Pn**		**08 02 22.2**	**-0.8**
	baz=270								
TWS1	**Kuangyinshan**	**0.76**	**356**	*e*P		**Pn**		**08 02 22.3**	**-0.8**
	baz=14								
NWF	**Wu-fen Shan**	**0.78**	**21**	*e*P		**Pb**		**08 02 21.7**	**-0.2**
	baz=24								
WFSB	**Wu-fen Shan**	**0.78**	**21**	⇑*e*P		**Pb**		**08 02 21.6**	**-0.2**
	baz=24								
YM01	**YM01**	**0.81**	**6**	*e*P		**Pn**		**08 02 22.8**	**-1.0**
	baz=9.0								
YM04	**YM04**	**0.81**	**4**	*e*P		**Pn**		**08 02 23.1**	**-0.8**
	baz=22								
TWB1	**Santiao Chiao**	**0.82**	**35**	*e*P		**Pg**		**08 02 21.5**	**0.0**
	baz=38								
NTST	**Danshui**	**0.82**	**359**	*e*P		**Pn**		**08 02 23.4**	**-0.5**
	baz=16								
YM05	**YM05**	**0.83**	**6**	*e*P		**Pn**		**08 02 22.9**	**-1.2**
	baz=9.0								
YM11	**YM11**	**0.83**	**7**	*e*P		**Pn**		**08 02 23.0**	**-1.1**
	baz=9.0								
EHY	**Hungye**	**0.84**	**189**	*e*P		**Pg**		**08 02 21.8**	**-0.2**
	baz=171								
HGSD	**Ruisui**	**0.84**	**183**	⇓*e*P		**Pg**		**08 02 22.1**	**+0.1**
	baz=189								
ANP	**Anpu**	**0.84**	**3**	*e*P		**Pn**		**08 02 23.2**	**-1.2**
	baz=21								
WJS	**Zhushan**	**0.85**	**233**	*e*P		**Pb**		**08 02 22.6**	**-0.4**
	baz=224								
WNT	**Mingjian**	**0.85**	**238**	⇑*e*P		**Pn**		**08 02 23.2**	**-1.1**
	baz=228								
WNT				*e*S		**Sn**		**08 02 36.0**	**-1.1**
	baz=228								
WHYT	**Xinyi Township**	**0.85**	**221**	*e*P		**Pg**		**08 02 21.6**	**-0.6**
	baz=220								
YM08	**YM08**	**0.85**	**7**	*e*P		**Pn**		**08 02 22.7**	**-0.3**
	baz=10.0								
WCHH	**Zhanghua**	**0.87**	**253**	*e*P		**Pn**		**08 02 24.0**	**-0.7**
	baz=251								
TWY	**Chunhua**	**0.94**	**7**	*e*P		**Pn**		**08 02 26.4**	**+0.8**
	baz=10.0								
YULB	**Yu-li**	**0.95**	**190**	*e*P		**Pg**		**08 02 23.3**	**-0.8**
	baz=170								
TWF1	**Yuli**	**0.99**	**189**	*e*P		**Pg**		**08 02 24.0**	**-0.8**
	baz=175								
CHN5	**Tsauling**	**1.03**	**225**	*e*P		**Pn**		**08 02 26.1**	**-0.9**
	baz=223								
WGK	**Gukeng**	**1.05**	**232**	*e*P		**Pn**		**08 02 26.4**	**-0.7**
	baz=231								
WDLH	**Douliu**	**1.07**	**233**	*e*P		**Pn**		**08 02 27.0**	**-0.3**
	baz=232								
RLNB	**Erlin**	**1.11**	**247**	*e*P		**Pn**		**08 02 27.8**	**0.0**
	baz=258								
RLNB				*e*S		**Sn**		**08 02 43.8**	**+0.4**
	baz=258								
FULB	**Fuli**	**1.15**	**188**	*e*P		**Pg**		**08 02 27.8**	**0.0**
	baz=171								
WTCT	**Ta-ch'eng**	**1.18**	**247**	*e*P		**Pg**		**08 02 28.7**	**+0.2**
	baz=245								
CHN2	**Minshiung**	**1.21**	**229**	*e*P		**Pg**		**08 02 29.7**	**+0.7**
	baz=226								
CHN2				*e*S		**Sn**		**08 02 47.2**	**+1.1**
	baz=226								
ELDTW	**Lidau**	**1.22**	**200**	*e*P		**Pn**		**08 02 28.2**	**-1.3**
	baz=188								
CHKT	**Chengkung**	**1.24**	**184**	*e*P		**Pn**		**08 02 28.3**	**-1.4**
	baz=169								
CHN4	**Tsaushan**	**1.27**	**219**	⇑*i*P		**Pg**		**08 02 30.3**	**+0.1**
	baz=218								
CHN4				*e*S		**Sg**		**08 02 49.0**	**+2.4**
	baz=218								
CHY	**Chiayi**	**1.27**	**229**	*e*P		**Pg**		**08 02 30.4**	**+0.2**
	baz=243								
TPUB	**Ta-pu**	**1.29**	**217**	⇑P		**Pb**		**08 02 30.1**	**-0.3**
	baz=215								
TPUB				*e*S		**Sg**		**08 02 48.3**	**+1.1**
	baz=215								
WSF	**Szhu**	**1.34**	**239**	*e*P		**Pb**		**08 02 31.0**	**-0.3**
	baz=236								
WSF				*e*S		**Sg**		**08 02 49.9**	**+1.1**
	baz=236								
STYT	**Tauyuan**	**1.34**	**209**	*e*P		**Pg**		**08 02 31.7**	**+0.2**
	baz=195								
WTP	**Ta-pu**	**1.34**	**216**	*e*P		**Pb**		**08 02 31.0**	**-0.4**
	baz=214								
JYNG	**Yonaguni jima**	**1.35**	**85**	P		**Pg**		**08 02 31.5**	**-0.2**
JYNG				S		**Sg**		**08 02 49.3**	**+0.1**
TWK	**Hsinying**	**1.40**	**220**	P		**Pg**		**08 02 32.4**	**-0.2**
	baz=218								
TWK				*e*S		**Sg**		**08 02 52.3**	**+1.7**
	baz=218								
PCYT	**Pengchaiyu**	**1.40**	**23**	*e*P		**Pb**		**08 02 31.8**	**-0.5**
	baz=6.0								
YOJ	**Yonaguni jima**	**1.41**	**85**	*e*P		**Pb**		**08 02 32.3**	**-0.3**
	baz=74								
YOJ				*e*S		**Sg**		**08 02 51.0**	**-0.1**
	baz=74								
YOJ	**Yonaguni jima**	**1.41**	**85**	P		**Pb**		**08 02 32.3**	**-0.3**
YOJ				*e*S		**Sg**		**08 02 51.1**	**-0.1**
SNST	**Tainan City**	**1.43**	**219**	*e*P		**Pg**		**08 02 33.3**	**+0.2**
	baz=217								
CHN1	**Nanshi**	**1.44**	**217**	⇓P		**Pg**		**08 02 33.4**	**+0.1**
	baz=216								
SLGT	**Liugui**	**1.54**	**210**	*e*P		**Pg**		**08 02 35.7**	**+0.4**
	baz=198								
TWG	**Pinlang**	**1.55**	**194**	*e*P		**Pn**		**08 02 34.0**	**-0.1**
	baz=173								
TWGBT	**Beinan**	**1.56**	**193**	*e*P		**Pn**		**08 02 33.7**	**-0.4**
	baz=173								
TWM1	**Shoushan**	**1.79**	**213**	*e*P		**Pg**		**08 02 39.9**	**-0.2**
	baz=210								
MASBT	**Mashibuluo**	**1.88**	**204**	*e*P		**Pb**		**08 02 40.5**	**-0.1**
	baz=206								
MASBT				*e*S		**Sg**		**08 03 05.2**	**-1.1**
	baz=206								
PNG	**Penghu**	**1.91**	**247**	*e*P		**Pb**		**08 02 40.5**	**-0.7**
	baz=247								
PHUB	**P'eng-hu**	**1.92**	**245**	*e*P		**Pn**		**08 02 38.1**	**-0.9**
	baz=246								
VWUC	**VWUC**	**1.95**	**290**	*e*P		**Pn**		**08 02 38.8**	**-0.7**
	baz=290								
WDGT	**Dungji**	**1.97**	**237**	*e*P		**Pb**		**08 02 40.7**	**-1.5**
	baz=237								
SSPT	**Xinbi**	**2.02**	**204**	*e*P		**Pb**		**08 02 43.4**	**+0.4**
	baz=204								
EAST	**Anshuo**	**2.03**	**196**	*e*P		**Pb**		**08 02 42.5**	**-0.6**
	baz=177								
IRIF	**Iriomote-Funau**	**2.06**	**90**	P		**Pn**		**08 02 41.6**	**+0.6**
IRIF				S		**Sb**		**08 03 08.4**	**-1.2**
SCZT	**Fangliau**	**2.11**	**202**	*e*P		**Pb**		**08 02 44.1**	**-0.4**
	baz=218								
HATJ	**Hateruma jima**	**2.15**	**97**	P		**Pb**		**08 02 43.3**	**-1.9**
HATJ				*e*S		**Sb**		**08 03 11.7**	**-0.5**
VCHM	**Qimei**	**2.18**	**239**	*e*P		**Pb**		**08 02 43.7**	**-2.0**
	baz=239								
MATB	**Ma-tsu**	**2.27**	**323**	*e*P		**Pn**		**08 02 44.5**	**+0.6**
	baz=319								
JKRS	**Kuro-shima**	**2.32**	**92**	P		**Pb**		**08 02 45.8**	**-2.3**
JKRS				S		**Sb**		**08 03 15.3**	**-1.7**
JIJ	**Ishigaki jima**	**2.44**	**89**	*e*S		**Sn**		**08 03 16.2**	**-0.2**
JISG	**Ishigakijimahi**	**2.60**	**84**	*e*S		**Sn**		**08 03 21.5**	**+1.1**
KNMB	**Chin-men Tao**	**2.81**	**273**	*e*P		**Pn**		**08 02 50.7**	**-0.7**
	baz=275								
JTJ	**Tarama**	**2.96**	**84**	*e*S		**Sn**		**08 03 30.0**	**+0.7**
SONM	**Songino Array**	**26.33**	**337**	P		**P**		**08 07 43.8**	**+1.3**
	1.5nm,1.0s,baz=145,slow=10,SNR=6.4								
MKAR	**Makanchi Array**	**38.41**	**316**	P		**P**		**08 09 29.6**	**+1.5**
	0.6nm,0.8s,baz=104,slow=8.6,SNR=5.8								
KURBB	**Kurchatov Arra**	**42.16**	**320**	P		**P**		**08 10 00.0**	**+1.0**
	0.4nm,0.8s,baz=113,slow=7.2,SNR=3.4								
WRA	**Warramunga Arr**	**45.76**	**163**	P		**P**		**08 10 27.3**	**-1.0**
	0.4nm,0.8s,baz=344,slow=8.8,SNR=4.3								
BVAR	**Borovoye Array**	**47.72**	**321**	P		**P**		**08 10 44.8**	**+1.4**
	0.4nm,0.7s,baz=114,slow=6.5,SNR=2.6								
ASAR	**Alice Springs**	**49.22**	**165**	P		**P**		**08 10 54.9**	**-0.3**
	0.2nm,0.8s,baz=338,slow=7.3,SNR=3.4								

IDC 10 08:11:34.6±1.0,12°.52N×143°.43E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.6/41,mbtmp3.7/8,MS2.9/1,Ms1 2.9/1, ms1mx2.4/28,Error ellipse: s-maj=38.6km s-min=19.5km az=87.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**23.17**	**72**	T		T	T	08 41 01.2	
	baz=259								
H11S1	**WAKE ISLAND Hy**	**23.19**	**72**	T		T	T	08 40 56.0	
	baz=258								
H11S2	**WAKE ISLAND Hy**	**23.19**	**72**	T		T	T	08 40 59.8	
	baz=258								
H11N1	**WAKE ISLAND Hy**	**23.63**	**69**	T		T	T	08 41 27.4	
	baz=255,slow=75,SNR=6.6								
H11N2	**WAKE ISLAND Hy**	**23.64**	**69**	T		T	T	08 41 23.3	
	baz=255,slow=75,SNR=3.9								
H11N3	**WAKE ISLAND Hy**	**23.65**	**69**	T		T	T	08 41 27.2	
	baz=255,slow=75,SNR=3.7								
WRA	**Warramunga Arr**	**33.48**	**196**	P		P		08 18 15.5	-0.3
	1.5nm,0.6s,baz=21,slow=9.7,SNR=31								
ASAR	**Alice Springs**	**37.15**	**195**	P		P		08 18 47.5	+0.1
	0.6nm,0.5s,baz=21,slow=12,SNR=22								
SONM	**Songino Array**	**46.81**	**326**	P		P		08 20 07.2	+0.9
	0.3nm,0.4s,baz=141,slow=7.1,SNR=2.4								
MA2	**Magadan**	**47.28**	**5**	LR		LR		08 39 02.5	
	comp=Z,14nm,21.4s,baz=82,slow=35								
MKAR	**Makanchi Array**	**61.29**	**317**	P		P		08 21 52.1	+0.1
	0.2nm,0.6s,baz=96,slow=8.4,SNR=2.9								
ZALV	**Zalesovo Beam**	**61.68**	**325**	P		P		08 21 53.6	-0.8
	0.7nm,0.4s,baz=90,slow=8.6,SNR=2.6								
BVAR	**Borovoye Array**	**69.90**	**322**	P		P		08 22 47.3	-0.2
	0.8nm,0.5s,baz=111,slow=8.0,SNR=7.0								
YKA	**Yellowknife Ar**	**84.44**	**27**	P		P		08 24 08.4	-0.6
	0.1nm,0.3s,baz=292,slow=5.0,SNR=2.9								
NVAR	**Mina Array Bea**	**88.68**	**51**	P		P		08 24 31.1	+0.5
	0.3nm,0.6s,baz=240,slow=5.0,SNR=3.2								

*IDC **10** 08:23:12.6±1.5,30°.49S×177°.60W,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.8/23,mbtmp3.8/5,ML3.1/1,Error ellipse: s-maj=39.5km s-min=22.5km az=96.0*
*ISCJB **10** 08:23:15.3±1.7,30°.52S±0°.07×177°.7W±0°.3,h33km, mb3.7/4,Error ellipse: s-maj=37.2km s-min=7.9km az=8.8*
ISC 10 08:23:17.0±1.5,30°.45S±0°.08×177°.7W±0°.3,h33km,n8, σ1§33/10,mb3.8/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.21**	**350**	Pn		**Pn**		**08 23 37.6**	**-0.1**
	48nm,0.3s,baz=180,slow=20,SNR=2.6								
RAO				Sn		**Sn**		**08 23 50.8**	**-2.1**
	500nm,0.3s,baz=30,slow=22,SNR=11								
URZ	**Urewera**	**8.91**	**208**	Pn		**Pn**		**08 25 22.0**	**-1.4**
	0.2nm,0.3s,baz=38,slow=19,SNR=2.9								
URZ				Sn		**Sn**		**08 27 01.3**	**-1.3**
	0.6nm,0.3s,baz=132,slow=22,SNR=1.6								
STKA	**Stephens Creek**	**34.75**	**257**	P		**P**		**08 30 06.2**	**+1.9**
	0.6nm,0.4s,baz=90,slow=11,SNR=4.3								
ASAR	**Alice Springs**	**43.39**	**267**	P		**P**		**08 31 17.4**	**+0.7**
	0.3nm,0.5s,baz=105,slow=7.6,SNR=7.1								
WRA	**Warramunga Arr**	**44.39**	**272**	P		**P**		**08 31 24.9**	**+0.2**
	0.8nm,0.4s,baz=111,slow=8.1,SNR=18								
VNDA	**Vanda**	**48.08**	**186**	P		**P**		**08 31 53.1**	**+0.2**
	0.4nm,0.5s,baz=96,slow=10,SNR=5.4								
FINES	**FINESS Array B**	**145.28**	**340**	PKPbc		**PKPbc**		**08 42 50.8**	**+0.4**
	1.0nm,0.4s,baz=58,slow=3.6,SNR=13								
AKASG	**Malin Array Be**

1.2nm,0.8s,baz=59,slow=3.7,SNR=4.2

DJA 10 08:43:01.9±0.4, 2°S±3°×12°2E±°, h10km, M3.9/7, MLv3.9/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.22**	**27**	P	Pn	08 43 24.0	-1.0
LUWI				S	Sn	08 43 42.3	+0.7
APSI	**Ampana**	**1.33**	**335**	P	Pn	08 43 24.9	-1.7
APSI				S	Sb	08 43 44.0	-0.2
KDI	**Kendari**	**1.86**	**167**	P	Pn	08 43 33.5	-0.4
TTSI	**Tana Toraja**	**2.56**	**249**	P	Pn	08 43 42.0	-1.4
MRSI	**Marisa**	**2.60**	**354**	P	Pn	08 43 43.2	-0.9
SPSI	**Sidrap Palu**	**3.04**	**233**	P	Pn	08 43 49.3	-0.8
BNSI	**Bone**	**3.08**	**223**	P	Pn	08 43 51.3	+0.6

SJA 10 09:00:30.6±0.8, 31°.89S×72°.22W, h26km±23km, ML3.0, MW3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**1.49**	**137**	*i* P	Pb	09 00 57.5	-0.2
ROC1				*e*S	Sb	09 01 18.5	+2.2
AUSP	**Uspallata**	**2.43**	**99**	*i* P	Pb	09 01 11.5	-2.2
RTLS	**Leoncito**	**2.49**	**89**	*i* P	Pb	09 01 13.0	-1.8
RTLS				*e*S	Sb	09 01 43.5	-1.6
RTLS				IAML		09 01 47.1	
	comp=Z,72nm,0.5s						
AROD	**Rodeo**	**2.91**	**55**	*i* P	Pn	09 01 18.7	+3.2
ACCO	**Cerro Coronel**	**2.99**	**65**	*i* P	Pn	09 01 19.9	+3.2
RTCV	**Cerro Valdivia**	**3.13**	**91**	*i* P	Pn	09 01 21.6	+3.4
ACDV	**Cuesta del Vie**	**3.16**	**58**	*i* P	Pn	09 01 22.2	+3.3

MEX 10 09:30:41.9±0.7, 16°.28N×98°.53W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.40**	**74**	*i* P	Pg	09 30 48.6	-1.0
PNIG				*e*S	Sg	09 30 54.8	0.0
TLIG	**Tlapa**	**1.27**	**358**	*e*P	Pg	09 31 02.0	-4.3
TLIG				*i* S	Sg	09 31 18.6	-4.2
CAIG	**El Cayaco**	**1.83**	**295**	*i* P	Pn	09 31 10.1	-4.0
CAIG				*i* S	Sn	09 31 32.7	-5.0
VHO	**Vista Hermosa**	**1.89**	**65**	*i* P	Pn	09 31 11.7	-3.4
VHO				*i* S	Sn	09 31 35.2	-4.2
HUIG	**Huatulco**	**2.38**	**102**	*e*P	Pn	09 31 18.4	-3.2
HUIG				*i* S	Sn	09 31 47.0	-4.2
YAIG	**Yautepec**	**2.62**	**349**	*i* P	Pn	09 31 22.7	-2.3
YAIG				*i* S	Sn	09 31 53.0	-4.2
ARIG	**Puente Sto Nin**	**2.64**	**319**	*e*P	Pn	09 31 21.7	-3.5
ARIG				*i* S	Sn	09 31 52.9	-4.8
CMIG	**Matias Romero**	**3.58**	**77**	*e*P	Pn	09 31 36.3	-1.9
CMIG				*i* S	Sn	09 32 17.6	-3.3

IDC 10 09:33:04.9±1.5, 0°.37S×125°.13E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/39, mbtmp3.2/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/16, Error ellipse: s-maj=176.9km s-min=23.0km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.44**	**156**	P	P	09 37 55.8	+0.9
	0.3nm,0.3s,baz=334,slow=11,SNR=11						
ASAR	**Alice Springs**	**24.67**	**160**	P	P	09 38 26.9	-0.8
	0.2nm,0.4s,baz=344,slow=7.6,SNR=6.0						
KLR	**Kul'dur**	**49.74**	**6**	LR	LR	10 05 16.1	
	comp=Z,18nm,18.4s,baz=53,slow=39						
MKAR	**Makanchi Array**	**60.06**	**327**	P	P	09 43 13.7	-0.1
	0.1nm,0.3s,baz=122,slow=8.2,SNR=5.7						
KURBB	**Kurchatov Arra**	**64.36**	**329**	P	P	09 43 42.7	+0.2
	0.2nm,0.5s,baz=134,slow=6.7,SNR=2.4						

WEL 10 10:00:57.0±1.6, 47°S±12°×166°E±°, h5km, ML3.6/8, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.95**	**43**	P	Pg	10 01 15.1	-0.1
DCZ	**Deep Cove**	**1.71**	**35**	P	Pn	10 01 25.2	-2.2
WHZ	**Wether Hill Ro**	**1.81**	**58**	P	Pn	10 01 27.7	-1.0
WHZ				S	Sn	10 01 51.8	-0.2
MLZ	**Mavora Lakes**	**2.23**	**49**	P	Pn	10 01 34.3	-0.3
MLZ				S	Sb	10 02 04.7	-1.0
SYZ	**Scrubby Hill**	**2.36**	**83**	P	Pn	10 01 37.0	+0.7
SYZ				S	Sn	10 02 06.6	+1.0
MSZ	**Milford Sound**	**2.67**	**36**	P	Pn	10 01 41.6	+1.0
TUZ	**Tuapeka**	**2.84**	**73**	P	Pn	10 01 42.6	-0.3
TUZ				S	Sn	10 02 18.2	+0.8
EAZ	**Earnscleugh**	**2.97**	**58**	P	Pn	10 01 44.4	-0.3
WKZ	**Wanaka**	**3.06**	**49**	P	Pn	10 01 46.5	+0.5
JCZ	**Jackson Bay**	**3.52**	**39**	P	Pn	10 01 52.9	+0.6

AZER ***10*** *10:04:07.8±3.5, 38°.30N×42°.79E, h5km, ml3.9/14, ms2.7/1, Error ellipse: s-maj=33.4km s-min=28.7km az=112.0*
MOS ***10*** *10:04:13.9±1.3, 38°.63N×43°.44E, h10km, mb4.1/5, Error ellipse: s-maj=9.1km s-min=5.1km az=94.1*
NSSP ***10*** *10:04:13.8, 38°.58N×43°.48E, h10km, Ms3.8*
ISK ***10*** *10:04:14.5, 38°.69N×43°.37E, h4km, ML4.0/14*
IDC ***10*** *10:04:14.2±0.7, 38°.70N×43°.50E, h0km, mb3.9/16, mb1 3.9/23, mb1mx3.8/56, mbtmp3.8/23, ML3.7/5, MS2.9/6, Ms1 2.9/6, ms1mx2.6/50, Error ellipse: s-maj=12.5km s-min=9.4km az=163.0*
DDA ***10*** *10:04:14.7, 38°.67N×43°.39E, h22km, ML4.0*
NEIC ***10*** *10:04:14.0±0.0, 38°.69N×43°.34E, h4km, mb4.0/12, ML4.0(ISK), After ISK.*
ISCJB ***10*** *10:04:16.2±0.3, 38°.67N±0°.02×43°.45E±0°.02, h20km±2km, mb4.1/24, MS2.8/3, Error ellipse: s-maj=3.5km s-min=2.9km az=138.8*

ISC 10 10:04:16.8±0.8, 38°.67N±0°.02×43°.35E±0°.02, h15km±5km, n172, σ1°.78/204, mb4.0/24, MS2.7/3, 39C-33D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.08**	**161**	PG	**Pg**	**10 04 19.4**	**-0.7**
TVAN	**Van**	**0.15**	**164**	⇓*i* P	**Pg**	**10 04 19.5**	**-1.5**
TVAN				*i* S	**Sb**	**10 04 24.2**	**-0.3**
TVAN				IAML_P			
ERCV	**ERCIS-VAN**	**0.34**	**358**	PG	**Pg**	**10 04 21.9**	**-2.1**
VMUR	**Van-Muradiye**	**0.36**	**28**	⇓*i* P	**Pg**	**10 04 22.2**	**-2.0**
VMUR				*i* S	**Sg**	**10 04 29.2**	**-0.1**
VMUR				IAML_P			
	comp=Z,43μm,0.1s						
GEVA	**Gevas**	**0.43**	**213**	⇓*i* P	**Pg**	**10 04 24.7**	**-0.8**
GEVA				*i* S	**Sb**	**10 04 32.8**	**+0.3**
GEVA				IAML_P			
	comp=Z,44μm,0.2s						
AKDM	**Akdamar-Van**	**0.45**	**221**	PG	**Pg**	**10 04 24.5**	**-1.4**
ADCV	**BITLIS_Adilcev**	**0.51**	**285**	⇑*i* P	**Pg**	**10 04 26.4**	**-0.6**
ADCV				*i* S	**Sb**	**10 04 35.2**	**+0.4**
CLDR	**Caldiran**	**0.64**	**43**	PG	**Pg**	**10 04 27.1**	**-2.3**
CLDR				SG	**Sg**	**10 04 37.5**	**-0.5**
CLDR	**Caldiran**	**0.64**	**43**	⇑*i* P	**Pg**	**10 04 27.2**	**-2.3**
CLDR				*i* S	**Sg**	**10 04 37.1**	**-0.9**
MLAZ	**Malazgirt-MUS**	**0.78**	**307**	PG	**Pg**	**10 04 30.6**	**-1.5**
BASK	**Baskale_VAN**	**0.80**	**140**	⇓*i* P	**Pg**	**10 04 30.0**	**-2.4**
BASK				*i* S	**Sb**	**10 04 43.7**	**+0.4**
BASK				IAML_P			
	comp=Z,46μm,0.2s						
TUTA	**Tutak**	**0.84**	**330**	⇑*i* P	**Pb**	**10 04 31.4**	**-1.9**
TUTA				*i* S	**Sg**	**10 04 42.4**	**-1.9**
TUTA				IAML_P			
	comp=Z,133μm,0.2s						
DYDN	**Diyadin**	**0.91**	**17**	⇑*i* P	**Pb**	**10 04 32.1**	**-2.2**
DYDN				*i* S	**Sb**	**10 04 45.1**	**-1.2**
DYDN				IAML_P			
	comp=Z,11μm,0.1s						
AGRB	**Hanur-Agry**	**0.94**	**343**	PG	**Pb**	**10 04 32.6**	**-2.3**
GURO	**Guroymak-BITLI**	**1.04**	**264**	PG	**Pb**	**10 04 35.1**	**-1.5**
YOVA	**Hakkari_Yksek**	**1.31**	**146**	⇓*i* P	**Pn**	**10 04 39.5**	**-1.2**
YOVA				*i* S	**Sg**	**10 05 03.0**	**+3.7**
YOVA				IAML_P			
	comp=Z,7μm,0.4s						
SRTM	**Siirt_Merkez**	**1.32**	**239**	⇓*i* P	**Pn**	**10 04 40.2**	**-0.5**
SRTM				*i* S	**Sg**	**10 05 00.7**	**+1.4**
SRTM				IAML_P			
	comp=Z,18μm,0.2s						
IGDI	**IGDIR**	**1.32**	**25**	⇑*i* P	**Pn**	**10 04 39.5**	**-1.2**
IGDI				*i* S	**Sg**	**10 05 00.8**	**+1.4**
IGDI				IAML_P			
	comp=Z,10μm,0.5s						
EATA	**Eleskirt**	**1.36**	**331**	⇑*i* P	**Pn**	**10 04 40.8**	**-0.8**
EATA				*i* S	**Sg**	**10 05 00.4**	**-0.5**
EATA				IAML_P			
	comp=Z,12μm,0.4s						
SIRT	**Sirnak**	**1.38**	**212**	PN	**Pn**	**10 04 41.8**	**+0.3**
SIRT	**Sirnak**	**1.38**	**212**	*e*Pn	**Pn**	**10 04 41.1**	**-0.4**
SIRN	**Sirnak**	**1.39**	**213**	⇓*i* P	**Pn**	**10 04 41.7**	**0.0**
SIRN				*i* S	**Sg**	**10 05 04.3**	**+2.6**
SIRN				IAML_P			
	comp=Z,14μm,0.5s						
CUKT	**Cukurca**	**1.44**	**172**	PN	**Pn**	**10 04 41.9**	**-0.5**
CUKT	**Cukurca**	**1.44**	**172**	⇓*i* P	**Pn**	**10 04 42.2**	**-0.2**
CUKT				*i* S	**Sg**	**10 05 07.3**	**+4.1**
CUKT				IAML_P			
	comp=Z,6μm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.48**	**27**	PN	**Pn**	**10 04 42.7**	**-0.2**
VRTB	**Varto-Mus**	**1.56**	**289**	PN	**Pn**	**10 04 44.7**	**+0.6**
VRTB	**Varto-Mus**	**1.56**	**289**	⇑*i* P	**Pb**	**10 04 44.9**	**-0.5**
VRTB				*i* S	**Sg**	**10 05 12.5**	**+5.5**
VRTB				IAML_P			
	comp=Z,19μm,0.6s						
HYR	**Heyderabad**	**1.56**	**48**	⇓P	**Pn**	**10 04 43.3**	**-0.8**
HYR				⇑S	**Sg**	**10 05 10.4**	**+3.2**
DIGO	**Kars**	**1.74**	**0**	⇑*i* P	**Pn**	**10 04 47.4**	**+0.8**
DIGO				*i* S	**Sg**	**10 05 15.5**	**+2.7**
DIGO				IAML_P			
	comp=Z,11μm,0.2s						
NAX	**Nakhchivan**	**1.74**	**73**	⇓P	**Pn**	**10 04 46.5**	**0.0**
NAX				⇓S	**Sg**	**10 05 14.6**	**+1.7**
KOPR	**Koprukoy-ERZUR**	**1.76**	**319**	PN	**Pn**	**10 04 47.8**	**+1.0**
HOMI	**Horasan**	**1.77**	**321**	⇑*i* P	**Pn**	**10 04 48.0**	**+0.9**
HOMI				*i* S	**Sg**	**10 05 16.2**	**+2.3**
HOMI				IAML_P			
	comp=Z,4μm,0.2s						
SVAN	**Silvan-Diyarba**	**1.77**	**254**	PN	**Pn**	**10 04 47.7**	**+0.8**
SVAN	**Silvan-Diyarba**	**1.77**	**254**	⇓*i* P	**Pb**	**10 04 48.3**	**-0.7**
SVAN				*i* S	**Sg**	**10 05 13.0**	**-0.9**
BTMN	**Batman**	**1.82**	**245**	⇓*i* P	**Pb**	**10 04 48.7**	**-1.0**
BTMN				*i* S	**Sg**	**10 05 14.7**	**-0.6**
BTMN				IAML_P			
	comp=Z,5μm,0.5s						
GNI	**Garni**	**1.82**	**36**	PN	**Pn**	**10 04 48.1**	**+0.4**
GNI	**Garni**	**1.82**	**36**	*e*P	**Pn**	**10 04 47.4**	**-0.3**
GNI	**Garni**	**1.82**	**36**	⇑*i* P	**Pn**	**10 04 47.7**	**0.0**
GNI				⇓*i* S	**Sb**	**10 05 13.2**	**+0.6**
GNI	**Garni**	**1.82**	**36**	Pg	**Pn**	**10 04 47.8**	**+0.1**
	comp=Z,42nm,0.3s,baz=233,slow=3.6,SNR=103						
GNI				Lg	Lg	10 05 14.4	
	comp=Z,50nm,0.3s,baz=332,slow=23,SNR=10						
SBZ	**Shahbuz**	**1.86**	**66**	⇑P	**Pn**	**10 04 48.3**	**+0.1**
SBZ				⇑S	**Sg**	**10 05 17.8**	**+1.2**
EAK	**Akyaka**	**2.02**	**5**	⇑*i* P	**Pn**	**10 04 51.9**	**+1.4**
EAK				*i* S	**Sg**	**10 05 23.9**	**+2.2**
SENK	**Senkaya-Erzuru**	**2.04**	**338**	PN	**Pn**	**10 04 50.7**	**0.0**
ECAT	**Cat-ERZURUM**	**2.07**	**297**	⇑*i* P	**Pn**	**10 04 52.4**	**+1.3**
ECAT				*i* S	**Sg**	**10 05 23.4**	**0.0**
ORD	**Ordubad**	**2.08**	**82**	⇓P	**Pn**	**10 04 50.9**	**-0.3**
ORD				⇓S	**Sg**	**10 05 24.1**	**+0.4**
BNGB	**Bingl**	**2.11**	**279**	PN	**Pn**	**10 04 52.4**	**+0.7**
BINT	**Bingol**	**2.25**	**276**	P	**Pn**	**10 04 53.5**	**0.0**
HANI	**Diyarbakir_Han**	**2.33**	**265**	⇑*i* P	**Pb**	**10 04 56.8**	**-1.8**
HANI				*i* S	**Sg**	**10 05 29.8**	**-1.9**
STEZ	**Stepenevan**	**2.46**	**19**	⇑*e*P	**Pn**	**10 04 56.0**	**-0.4**
STEZ				⇑*e*S	**Sb**	**10 05 32.0**	**+1.1**
DDEM	**Demirkent**	**2.54**	**331**	*i* P	**Pn**	**10 04 58.9**	**+1.5**
DDEM				*i* S	**Sg**	**10 05 39.0**	**+0.6**
KOPT	**Kop Dagi**	**2.59**	**302**	*i* P	**Pn**	**10 05 00.4**	**+2.0**
KOPT				*i* S	**Sg**	**10 05 44.5**	**+4.5**
BGD	**Bogdanovka**	**2.59**	**4**	P	**Pb**	**10 05 02.6**	**-0.5**
DAGI	**Agillar**	**2.64**	**336**	*i* P	**Pn**	**10 04 59.1**	**+0.1**
DAGI				*i* S	**Sb**	**10 05 36.4**	**+0.2**
DBAD	**Bademkaya**	**2.67**	**332**	*e*P	**Pn**	**10 05 00.2**	**+0.9**
DBAD				*i* S	**Sg**	**10 05 48.9**	**+6.4**
GDB	**GEDABAY**	**2.76**	**41**	⇓P	**Pn**	**10 05 01.1**	**+0.6**
GDB				⇑S	**Sb**	**10 05 41.5**	**+2.0**
KZRT	**Kazreti**	**2.83**	**16**	P	**Pb**	**10 05 08.3**	**+1.3**
QZX	**Qazax, Azerbai**	**2.84**	**32**	⇑P	**Pn**	**10 05 02.1**	**+0.5**
QZX				⇓S	**Sb**	**10 05 44.5**	**+2.7**
TRLG	**Trialeti**	**2.92**	**11**	P	**Pb**	**10 05 07.6**	**-1.0**
GANJ	**Ganja**	**3.02**	**48**	⇓P	**Pn**	**10 05 05.0**	**+0.9**
GANJ				⇓S	**Sb**	**10 05 48.7**	**+1.8**
BTNK	**Botanikuri**	**3.20**	**20**	P	**Pb**	**10 05 12.6**	**-0.7**
TBLG	**Delisi**	**3.23**	**19**	P	**Pb**	**10 05 13.7**	**-0.2**
TBLG	**Delisi**	**3.23**	**19**	*e*Pn	**Pn**	**10 05 05.3**	**-1.7**
TBLG	**Delisi**	**3.23**	**19**	*e*P	**Pn**	**10 05 05.3**	**-1.7**
DDFL	**Dedoflistskaro**	**3.49**	**37**	P	**Pb**	**10 05 19.9**	**+1.6**
LGD	**Lagodekhi**	**3.85**	**34**	P	**Pb**	**10 05 25.8**	**+1.4**
LGD	**Lagodekhi**	**3.85**	**34**	*e*P	**Pb**	**10 05 25.8**	**+1.4**
SEKA	**Sheki**	**3.89**	**48**	⇓P	**Pn**	**10 05 17.5**	**+1.4**
LRK	**Lerik**	**3.90**	**89**	⇑P	**Pn**	**10 05 15.4**	**-0.9**
GLBA	**Clilabad**	**3.97**	**80**	⇑P	**Pn**	**10 05 16.5**	**-0.5**
ZEI	**Tsey**	**4.13**	**6**	*e*P	**Pn**	**10 05 22.8**	**+3.3**
ZEI				pmax	pmax		
	comp=Z,28nm,0.9s						
LKRN	**Lenkeran, Azer**	**4.25**	**88**	⇑P	**Pn**	**10 05 19.8**	**-1.0**
XNQ	**Khinaliq**	**4.45**	**54**	⇓P	**Pn**	**10 05 23.9**	**+0.1**
PQL	**Pirkuli**	**4.56**	**61**	⇑P	**Pn**	**10 05 25.3**	**0.0**
PQL				⇑P	**Pn**	**10 05 25.3**	**0.0**
NEY	**Neytrino**	**4.59**	**354**	⇑*i* P	**Pn**	**10 05 28.3**	**+2.5**
GBS	**Qobustan**	**4.70**	**65**	⇑P	**Pn**	**10 05 26.4**	**-0.7**
KBZ	**Khabaz**	**5.06**	**356**	Pn	**Pn**	**10 05 33.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=188,slow=15,SNR=2.0						
KBZ				Pg	**Pg**	**10 05 50.6**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=185,slow=15,SNR=12						
KBZ				Lg	Lg	10 07 01.2	
	baz=93,slow=13,SNR=1.0						
KIV	**Kislovodsk**	**5.30**	**355**	*e*Pn	Pn	10 05 41.0	+5.6
KIV				*e*		10 05 59.2	
KIV	**Kislovodsk**	**5.30**	**355**	*e*P	**Pn**	**10 05 34.3**	**-1.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,40nm,8.0s						
KVAR	**Kislovodsk Arr**	**5.30**	**355**	Pn	**Pn**	**10 05 36.9**	**+1.4**
	baz=159,slow=14,SNR=2.1						
DIKM	**Dikmen**	**6.88**	**298**	⇑*i* P	**Sg**	**10 07 51.6**	**-5.8**
ANN	**Anapa**	**7.55**	**326**	*e*P	**Pn**	**10 06 01.7**	**-4.5**
ANN				pmax	pmax		
	comp=Z,73nm,1.0s						
BR101	**Keskin Array S**	**7.62**	**281**	*e*Pn	**Pn**	**10 06 11.6**	**+4.2**
BR101				*e*Lg	Lg	10 08 40.6	
BRTR	**Keskin Array B**	**7.62**	**281**	Pn	**Pn**	**10 06 11.6**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=101,slow=13,SNR=3.2						
BRTR				Lg	Lg	10 08 40.6	
	comp=Z,0.0nm,0.3s,baz=106,slow=15,SNR=2.3						
ASF	**Jabal al Asfar**	**8.36**	**221**	Pn	**Pn**	**10 06 15.8**	**-1.6**
	baz=188,slow=2.8,SNR=3.2						
ASF				Lg	Lg	10 08 54.1	
	baz=311,slow=17,SNR=1.8						
MMAI	**Mount Meron Ar**	**8.57**	**231**	Pn	**Pn**	**10 06 24.0**	**+3.6**
	comp=Z,0.9nm,0.3s,baz=58,slow=11,SNR=2.7						
MMAI				Lg	Lg	10 08 56.1	
	baz=50,slow=51,SNR=2.1						
MMAI				LR	LR	10 10 15.4	
	comp=Z,136nm,18.6s,baz=20,slow=42						
GEYT	**Alibeck**	**11.63**	**89**	LR	LR	10 12 42.0	
	comp=Z,34nm,18.2s,baz=245,slow=44						
VRH	**Novokhopyorsk**	**12.58**	**355**	*e*P	**Pn**	**10 07 17.3**	**+2.3**
VRH				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VSR	**Storozhevoye**	**12.88**	**348**	⇓*e*P	**Pn**	**10 07 20.1**	**+0.9**
VSR				pmax	pmax		
	comp=Z,12nm,1.2s						
VRI	**Vrincioaia**	**14.24**	**306**	⇓*i* P	**P**	**10 07 46.6**	**+1.5**
VRI	**Vrincioaia**	**14.24**	**306**	⇓P	**P**	**10 07 46.6**	**+1.5**
LPSR	**Galich'ya Gora**	**14.26**	**349**	*e*P	**Pn**	**10 07 37.7**	**-0.3**
LPSR				pmax	pmax		
	comp=Z,20nm,1.3s						
MLR	**Muntele Rosu**	**14.60**	**303**	⇓*i* P	**P**	**10 07 51.4**	**+2.2**
MLR	**Muntele Rosu**	**14.60**	**303**	Pn	**Pn**	**10 07 44.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=131,slow=20,SNR=2.1						
DOPR	**Dopca**	**15.14**	**305**	⇑*i* P	**P**	**10 07 58.0**	**+2.9**
VOIR		**15.17**	**302**	⇑*i* P	**P**	**10 07 59.0**	**+3.5**
VOIR		**15.17**	**302**	⇑P	**P**	**10 07 59.0**	**+3.5**
RAYN	**Ar Rayn**	**15.21**	**172**	*e*Pn	**Pn**	**10 07 50.5**	**-0.6**
	comp=Z,4.7nm,0.9s						
RAYN	**Ar Rayn**	**15.21**	**172**	*e*P	**Pn**	**10 07 50.5**	**-0.6**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARR	**Arges**	**15.42**	**302**	⇑*i* P	**P**	**10 08 01.4**	**+3.2**
AKASG	**Malin Array Be**	**15.64**	**325**	Pn	**Pn**	**10 07 55.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=129,slow=12,SNR=11						
AKBB	**Malin Array Si**	**15.64**	**325**	*e*Pn	**Pn**	**10 07 54.0**	**-2.4**
	comp=Z,5.4nm,1.1s						
AK11	**Malin Array Si**	**15.64**	**325**	*e*Pn	**Pn**	**10 07 56.0**	**-0.5**
AKTO	**Aktyubinsk**	**15.70**	**37**	Pn	**Pn**	**10 07 53.1**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=243,slow=11,SNR=2.8						
AKTO				LR	LR	10 15 33.5	
	comp=Z,31nm,18.1s,baz=229,slow=44						
BURAR	**Bucovina Array**	**15.94**	**310**	⇑*i* P	**P**	**10 08 06.1**	**+2.1**
BURAR	**Bucovina Array**	**15.94**	**310**	⇑P	**P**	**10 08 06.1**	**+2.1**
BUR08	**Bucovina Ar. S**	**15.96**	**310**	*e*Pn	**P**	**10 08 05.2**	**+0.8**
	comp=Z,3.7nm,0.9s						
LIT	**Litokhoron**	**16.20**	**282**	*e*Pn	**P**	**10 08 06.8**	**0.0**
	comp=Z,1.7nm,0.7s						
LIT	**Litokhoron**	**16.20**	**282**	*e*P	**P**	**10 08 06.8**	**0.0**
LIT				pmax	pmax		
	comp=Z,2.0nm,0.7s						
OBN	**Obninsk**	**17.07**	**347**	*e*Pn	**P**	**10 08 16.4**	**+0.1**
	comp=Z,22nm,0.4s						
OBN	**Obninsk**	**17.07**	**347**	⇓*e*P	**P**	**10 08 15.6**	**-0.8**
OBN				pmax	pmax		
	comp=Z,33nm,1.1s						
OBN				MLR	MLR		
	comp=Z,40nm,13.0s						
OBN	**Obninsk**	**17.07**	**347**	P	**Pn**	**10 08 14.9**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=168,slow=20,SNR=4.4						
DRGR		**17.16**	**305**	⇓*i* P	**P**	**10 08 21.3**	**+3.7**
DRGR		**17.16**	**305**	⇓P	**P**	**10 08 21.3**	**+3.7**
MDVR	**Moldovita**	**17.25**	**298**	⇑*i* P	**P**	**10 08 22.9**	**+4.4**
MOS	**Moscow**	**17.50**	**349**	*e*P	**Pn**	**10 08 18.2**	**-1.8**
MOS				pmax	pmax		
	comp=Z,30nm,0.7s						
WSAR	**Wadi Sarin**	**20.16**	**135**	P	**P**	**10 08 49.3**	**-1.3**
	comp=Z,3.4nm,0.9s,baz=315,slow=10.0,SNR=1.7						
VYHS	**Vyhne**	**20.21**	**307**	*e*P	Pn	10 08 53.0	+0.1
VYHS	**Vyhne**	**20.21**	**307**	*e*P	Pn	10 08 53.0	+0.1
KIRV	**Kirov**	**20.31**	**9**	LR	LR	10 17 29.2	
	comp=Z,39nm,21.5s,baz=146,slow=39						
ARU	**Arti**	**20.43**	**25**	*e*P	**P**	**10 08 53.8**	**+0.5**
	comp=Z,9.7nm,0.8s						
ARU	**Arti**	**20.43**	**25**	*d*iP	**P**	**10 08 53.7**	**+0.5**
ARU						10 09 09.4	
ARU				S	Sn	10 12 46.4	+1.2
ARU				SS	**SnSn**	**10 13 03.7**	**+4.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SUW	**Suwalki**	**20.61**	**325**	*e*P	Pn	10 08 57.4	0.0
	comp=Z,66nm,0.9s						
SUW	**Suwalki**	**20.61**	**325**	*e*P	Pn	10 08 57.4	0.0
SUW				pmax	pmax		
	comp=Z,66nm,0.9s						
KK31	**Karatay Array**	**20.96**	**69**	*e*P	**P**	**10 08 59.5**	**+0.3**
	comp=Z,4.9nm,0.9s						
KK31	**Karatay Array**	**20.96**	**69**	*e*P	**P**	**10 08 59.5**	**+0.3**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**20.96**	**69**	*e*P	**P**	**10 08 59.1**	**0.0**
	comp=Z,4.9nm,0.9s						
KKAR	**Karatay Array**	**20.96**	**69**	*e*P	**P**	**10 08 59.1**	**0.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLMR	**Klimovskoe**	**22.33**	**355**	*e*P	**P**	**10 09 13.6**	**0.0**
KLMR				pmax	pmax		
	comp=Z,54nm,1.5s						
KLMR	**Klimovskoe**	**22.33**	**355**	*e*P	**P**	**10 09 13.6**	**0.0**
KLMR				AMP		10 09 19.3	
	comp=Z,54nm,1.4s						
VSU	**Vasula**	**22.53**	**337**	⇑*e*P	**P**	**10 09 15.5**	**-0.3**
VSU				pmax	pmax		
	comp=Z,137nm,2.4s						
BRVK	**Borovoye**	**23.45**	**43**	⇓*e*P	**P**	**10 09 23.9**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BVAR	**Borovoye Array**	**23.49**	**44**	P	**P**	**10 09 23.0**	**-2.8**
BVAR	**Borovoye Array**	**23.49**	**44**	P	**P**	**10 09 22.9**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=251,slow=9.0,SNR=2.1						
AAK	**Ala-Archa**	**23.88**	**70**	⇓*e*P	**P**	**10 09 29.4**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
AAK	**Ala-Archa**	**23.88**	**70**	P	**P**	**10 09 28.8**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=284,slow=8.3,SNR=2.2						
AAK				LR	LR	10 19 15.9	
	comp=Z,27nm,20.1s,baz=266,slow=38						
FIA0	**FINESS Array S**	**25.19

*ISCJB **10** 10:12:58.5±0.6, 3.56N±0.08×93.08E±0.07, h33km, mb3.8/9, MS2.9/1, Error ellipse: s-maj=13.5km s-min=6.6km az=35.6*

*NEIC **10** 10:13:01.3±0.9, 3.64N×93.05E, h37km±9km, mb4.4/4, Error ellipse: s-maj=11.0km s-min=7.6km az=50.0*

ISC 10 10:13:00.7±0.8,**3.60N**±0.09×**93.11E**±0.07,**h35**km,**n31,** σ1§**34**/**32**,**mb3.8/9**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**4.15**	**67**	*e*Pn		**Pn**	**10 14 02.3**	**+0.7**
GSI	**Gunungsitoli**	**5.01**	**117**	*e*Pn		**Pn**	**10 14 13.3**	**-0.1**
GSI				*e*Sn		**Sn**	**10 15 09.4**	**-0.8**
PSI	**Prapat**	**5.86**	**98**	*e*Pn		**Pn**	**10 14 27.8**	**+2.6**
PSI				Sn		**Sn**	**10 15 29.0**	**-2.3**
PSI	**Prapat**	**5.86**	**98**	Pn		**Pn**	**10 14 27.5**	**+2.3**
	2.5nm,0.3s,baz=360,slow=7.1,SNR=6.3							
PSI				Sn		**Sn**	**10 15 29.0**	**-2.3**
	2.7nm,0.3s,baz=360,slow=20,SNR=9.9							
KULM	**Kulim**	**7.70**	**77**	*e*Pn		**Pn**	**10 14 51.9**	**+1.4**
KULM				*e*Sn		**Sn**	**10 16 13.2**	**-3.2**
IPM	**Ipoh**	**7.94**	**83**	*e*Pn		**Pn**	**10 14 55.6**	**+1.9**
IPM				*e*Sn		**Sn**	**10 16 20.8**	**-1.7**
PALK	**Pallekele**	**12.88**	**287**	Pn		**Pn**	**10 16 00.6**	**-0.9**
	0.4nm,0.3s,baz=114,slow=14,SNR=2.0							
PALK				Sn		Sn	10 18 07.6	-16
	0.7nm,0.3s,baz=311,slow=0.7,SNR=4.1							
CMAR	**Chiang Mai Arr**	**15.83**	**21**	Pn		**Pn**	**10 16 40.5**	**-0.5**
	0.3nm,0.3s,baz=216,slow=13,SNR=8.6							
CMAR				LR		LR	10 22 45.9	
	comp=Z,18nm,18.2s,baz=199,slow=37							
COCO	**West Island**	**16.12**	**167**	*e*Pn		**P**	**10 16 48.0**	**+0.3**
	50nm,1.0s							
H08S2	**Diego Garcia H**	**23.41**	**241**	T		T	10 43 23.7	
	baz=61,slow=76,SNR=16							
H08S3	**Diego Garcia H**	**23.41**	**242**	T		T	10 43 19.1	
	baz=61,slow=76,SNR=17							
H08S1	**Diego Carcia H**	**23.43**	**241**	T		T	10 43 20.2	
	baz=61,slow=76,SNR=8.9							
DAV	**Davao City (W)**	**32.50**	**83**	LR		LR	10 34 17.7	
	comp=Z,26nm,20.2s,baz=342,slow=39							
TPUB	**Ta-pu**	**33.03**	**51**	*e*P		**P**	**10 19 35.2**	**+2.1**
	9.0nm,1.0s							
MK01	**Makanchi Array**	**44.02**	**349**	*e*P		**P**	**10 21 05.3**	**+0.4**
MK32	**Makanchi Array**	**44.04**	**349**	*e*P		**P**	**10 21 05.2**	**+0.1**
MKAR	**Makanchi Array**	**44.04**	**349**	P		**P**	**10 21 05.2**	**+0.1**
	0.7nm,0.7s,baz=179,slow=8.8,SNR=5.6							
SONA0	**Songino Array**	**45.53**	**13**	*e*P		**P**	**10 21 17.4**	**+0.3**
SONM	**Songino Array**	**45.53**	**13**	P		**P**	**10 21 17.4**	**+0.3**
	0.7nm,0.8s,baz=188,slow=8.4,SNR=3.9							
WR1	**Warramunga Arr**	**46.76**	**122**	*e*P		**P**	**10 21 26.9**	**-0.2**
	2.4nm,0.9s							
WRA	**Warramunga Arr**	**46.76**	**122**	P		**P**	**10 21 26.9**	**-0.2**
	0.6nm,0.6s,baz=299,slow=8.7,SNR=7.6							
WRAB	**Tennant Creek**	**46.77**	**122**	*e*P		**P**	**10 21 27.4**	**+0.3**
	2.2nm,0.9s							
WB2	**Warramunga Arr**	**46.77**	**122**	*e*P		**P**	**10 21 27.9**	**+0.8**
ASAR	**Alice Springs**	**48.09**	**126**	P		**P**	**10 21 37.7**	**+0.2**
	0.2nm,0.7s,baz=320,slow=8.5,SNR=4.1							
KURBB	**Kurchatov Arra**	**48.45**	**348**	P		**P**	**10 21 40.0**	**+0.4**
	0.4nm,0.7s,baz=171,slow=6.3,SNR=3.0							
ZALV	**Zalesovo Beam**	**50.65**	**354**	P		**P**	**10 21 56.1**	**-0.3**
	0.6nm,0.4s,baz=159,slow=7.8,SNR=2.5							
ZAA1	**Zalesovo Array**	**50.65**	**354**	*e*P		**P**	**10 21 56.1**	**-0.3**
CCM	**Cathedral Cave**	**138.36**	**5**	*e*PKPdf		**PKiKP**	**10 32 24.4**	**-0.7**
U32A	**Winter Ranch,**	**138.65**	**15**	*e*PKPdf		**PKiKP**	**10 32 25.4**	**-0.4**
CUPR	**Culebra, Puert**	**149.55**	**316**	*e*PKPdf		**PKPdf**	**10 32 42.3**	**-0.6**
CDVI	**St. Croix**	**149.57**	**315**	*e*PKPdf		**PKPdf**	**10 32 41.6**	**-1.4**

*NEIC **10** 10:18:15.3±0.1, 12.81N×90.64W, h8km, mb5.7/298, ME5.9, MS4.9/103, MW5.5, MW5.5, MD4.9(SNET), Error ellipse: s-maj=2.7km s-min=2.3km az=43.0, Moment Tensor Solution. s27 Moment tensor: Scale 10¹⁷Nm; Mrr-1.36; Mθθ1.13; Mφφ0.24; Mrθ1.08; Mθφ-0.47; Mφr-1.55; Best double couple: M₀2.30000×10¹⁷ NP1:φ318.00000°, δ73.00000°, λ-77.00000°. NP2:φ98.00000°, δ21.00000°, λ-128.00000°. Principal axes: T 2.1700, Plg27.0000°, Azm37.0000°; N 0.2800, Plg13.0000°, Azm134.0000°; P -2.4400, Plg60.0000°, Azm247.0000°; Broadband fault plane solution: P waves. NP1:φ135.00000°, δ15.00000°, λ-90.00000°. NP2:φ315.00000°, δ75.00000°, λ-90.00000°. Principal axes: T Plg30.0000°, Azm45.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm225.0000°; Apparent Stress 1.32 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Amatitlan, Antigua Guatemala, Coatepeque and Quetzaltenango. Felt [I] at Ahuachapan, El Salvador.

*MOS **10** 10:18:15.0±1.1, 12.93N×90.72W, h11km, mb5.9/92, MS4.8/37 Error ellipse: s-maj=6.4km s-min=3.8km az=100.8*

*BJI **10** 10:18:15.7, 12.48N×91.23W, h20km, mB5.8/28, Ms5.5/32, Ms7 5.3/30*

*UCR **10** 10:18:16.9±2.0, 12.77N×90.74W, h3km±10km, MD4.6, ML4.7*

*GCMT **10** 10:18:17.3±0.1, 12.75N±0.01×91.21W±0.01, h12km, MW5.5/122, Moment Tensor Solution. s103, c177; s122, c350; Duration: 1§5 Moment tensor: Scale 10¹⁷ Nm; Mrr-2.66±.02; Mθθ1.76±.02; Mφφ0.90±.02; Mrθ-0.11±.06; Mθφ-1.27±.02; Mφr0.42±.07; Best double couple: M₀2.70100×10¹⁷ NP1:φ132.00000°, δ49.00000°, λ-82.00000°. NP2:φ300.00000°, δ42.00000°, λ-99.00000°. Principal axes: T 2.6920, Plg4.0000°, Azm216.0000°; N 0.0190, Plg6.0000°, Azm306.0000°; P -2.7090, Plg83.0000°, Azm95.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 10:18:17.0±0.0, 12.80N×90.78W, h11km, Moment Tensor Solution. s180 Moment tensor: Scale 10¹⁷Nm; Mrr-2.65; Mθθ1.83; Mφφ0.82; Mrθ-0.34; Mθφ-0.88; Mφr-0.14; Best double couple: M₀2.50000×10¹⁷ NP1:φ114.00000°, δ48.00000°, λ-97.00000°. NP2:φ305.00000°, δ43.00000°, λ-81.00000°. Principal axes: T 2.3500, Plg2.0000°, Azm209.0000°; N 0.3400, Plg5.0000°, Azm119.0000°; P -2.6900, Plg83.0000°, Azm325.0000°;*

*IDC **10** 10:18:19.2±3.0, 12.85N×90.65W, h33km±22km, mb5.1/50, mb1 5.2/52, mb1mx5.1/60, mbtmp5.3/52, ML4.9/2, MS4.7/32, Ms1 4.7/32, ms1mx4.6/46 Error ellipse: s-maj=12.7km s-min=7.3km az=56.0*

*ISCJB **10** 10:18:20.3±0.3, 12.93N±0.01×90.64W±0.01, h58km±2km, mb5.7/559, MS4.9/153, Error ellipse: s-maj=2.7km s-min=1.6km az=145.1*

*BGR **10** 10:18:22.5±0.0, 13.44N×90.58W, h33km, mb5.7, mB_BB6.1, Ms5.0*

ISC 10 10:18:15.1±0.5,**12.81N**±0.03×**90.79W**±0.03,**h7**km±3km,**h7km**:**pP-P**,**n1955,** σ1§**49**/**2068**,**mb5.8**/575,**MS4.9**/158,**46C-75D**,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**1.40**	**14**	⇓*i*P		**Pg**	**10 18 42.7**	**+0.7**
CEVE	**Cerro Verde**	**1.52**	**48**	*e*P		**Pg**	**10 18 44.4**	**+0.1**
CEVE				IAML			10 19 10.7	
	comp=Z,19μm,0.3s							
SBLS	**San Blas**	**1.53**	**48**	⇑*i*P		**Pg**	**10 18 44.5**	**0.0**
RTR	**El Retiro**	**1.56**	**46**	*e*P		**Pg**	**10 18 45.0**	**0.0**
SNJE	**San Jose**	**1.56**	**48**	⇑*i*P		**Pg**	**10 18 45.0**	**-0.2**
PCG	**Pacaya**	**1.58**	**7**	⇑*i*P		**Pg**	**10 18 45.4**	**-0.1**
FUG	**Fuego 3**	**1.63**	**358**	*e*P		**Pg**	**10 18 46.1**	**-0.3**
UNIC	**Santa Ana**	**1.68**	**46**	*e*P		**Pb**	**10 18 46.5**	**+0.1**
UNIC				*e*S		**Sg**	**10 19 10.3**	**+1.2**
BOQS	**Boqueron**	**1.74**	**58**	⇓*i*P		**Pb**	**10 18 47.5**	**+0.1**
SNET	**Serv Nac Est T**	**1.75**	**60**	*e*P		**Pb**	**10 18 47.3**	**-0.3**
SNET				*e*S		**Sg**	**10 19 12.8**	**+1.3**
SNET				IAML			10 19 21.2	
	comp=Z,9μm,0.5s							
UESS	**San Salvador**	**1.79**	**60**	*e*P		**Pb**	**10 18 48.4**	**+0.1**
OPAM	**San Salvador**	**1.79**	**60**	*e*P		**Pb**	**10 18 48.1**	**-0.2**
NBG	**Las Nubes**	**1.82**	**14**	*e*P		**Pg**	**10 18 50.3**	**+0.3**
UDBS	**Soyapango**	**1.83**	**60**	*e*P		**Pb**	**10 18 48.9**	**-0.1**
LFRS	**El Faro**	**1.87**	**64**	⇑*i*P		**Pb**	**10 18 48.9**	**-0.7**
LFU	**La Fuente**	**1.88**	**60**	⇑*i*P		**Pb**	**10 18 49.5**	**-0.3**
LBRS	**Las Brisas**	**1.94**	**61**	⇑*i*P		**Pb**	**10 18 50.3**	**-0.5**
PAVA	**Las Pavas**	**2.02**	**63**	*e*P		**Pb**	**10 18 51.5**	**-0.7**
PAVA				IAML			10 18 53.2	
	comp=Z,11μm,0.2s							
UESV	**Ojushtada**	**2.03**	**74**	*e*P		**Pb**	**10 18 52.5**	**+0.1**
SNVI	**San Vicente**	**2.06**	**67**	*e*P		**Pb**	**10 18 51.9**	**-1.1**
APG	**El Apazote**	**2.21**	**8**	Pn		**Pb**	**10 18 54.7**	**-0.7**
	comp=Z,453nm,0.3s,baz=186,slow=9.7,SNR=4984							
APG				Sn		**Sb**	**10 19 24.5**	**+1.5**
	comp=Z,2μm,0.3s,baz=336,slow=7.4,SNR=40							
APG				LR		LR	10 19 43.1	
	comp=Z,28μm,18.1s,baz=256,slow=39							
LLGN	**La Laguna**	**2.25**	**53**	*e*P		**Pb**	**10 18 54.6**	**-1.4**
TECA	**Tecapa**	**2.33**	**73**	*i*P		**Pb**	**10 18 55.0**	**+1.0**
VICT	**Victoria**	**2.39**	**61**	*e*P		**Pb**	**10 18 56.5**	**-1.9**
VICT				*e*S		**Sb**	**10 19 28.5**	**+0.3**
VICT				IAML			10 19 34.5	
	comp=Z,2μm,0.5s							
MRL	**Marmol**	**2.50**	**25**	⇓*i*P		**Pb**	**10 18 59.8**	**-0.7**
LCY	**Lacayo**	**2.51**	**76**	*e*P		**Pn**	**10 18 58.2**	**+1.8**
VSM	**San Miguel**	**2.53**	**76**	*e*P		**Pb**	**10 18 58.7**	**-2.3**
CAHU	**Cacacuatique**	**2.69**	**69**	*e*P		**Pn**	**10 19 00.7**	**+1.7**
LCND	**La Caada**	**2.87**	**80**	*e*P		**Pn**	**10 19 02.6**	**+1.3**
LCND				*e*S		**Sn**	**10 19 38.0**	**+1.9**
LCND				IAML			10 19 40.4	
	comp=Z,10μm,0.5s							
CNCH	**Conchagua**	**2.92**	**81**	*e*P		**Pn**	**10 19 03.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**3.64**	**70**	*e*Pn		**Pn**	**10 19 12.7**	**+0.8**
CRIN	**San Cristobal**	**3.66**	**91**	*e*P		**Pn**	**10 19 13.2**	**+1.1**
CRIN				*e*S		**Sn**	**10 19 55.5**	**0.0**
CCIG	**Comitan**	**3.69**	**340**	*e*Pn		**Pn**	**10 19 15.3**	**+2.7**
CNGN	**Cerro Negro**	**4.01**	**94**	*e*P		**Pn**	**10 19 17.2**	**+0.2**
MOMN	**Momotombo**	**4.17**	**95**	*e*P		**Pn**	**10 19 19.4**	**+0.2**
MGAN	**Managua**	**4.49**	**98**	*e*P		**Pn**	**10 19 23.7**	**+0.2**
MASN	**Masaya**	**4.61**	**100**	*e*P		Pn	10 19 19.9	-5.3
MASN				*e*S		**Sn**	**10 20 14.6**	**-4.4**
MATN	**Matagalpa**	**4.75**	**88**	*e*P		**Pn**	**10 19 27.4**	**+0.2**
BUEV	**Buena Vista**	**5.64**	**110**	⇓*e*P		**Pn**	**10 19 41.7**	**+2.2**
BUEV				*e*S		**Sn**	**10 20 44.5**	**0.0**
GB1A	**Boringuen Arri**	**5.64**	**110**	*e*P		**Pn**	**10 19 41.9**	**+2.4**
GPS2	**Hotel Rincn d**	**5.71**	**110**	*e*P		**Pn**	**10 19 42.8**	**+2.5**
CMIG	**Matias Romero**	**5.81**	**318**	Pn		**Pn**	**10 19 41.8**	**+0.2**
	comp=Z,26nm,0.3s,baz=133,slow=12,SNR=146							
CMIG				Sn		**Sn**	**10 20 46.8**	**-1.8**
	comp=Z,97nm,0.3s,baz=274,slow=13,SNR=8.2							
CMIG				LR		LR	10 21 57.6	
	comp=Z,8μm,20.7s,baz=210,slow=37							
MESS	**Mesas**	**5.86**	**110**	*e*P		**Pn**	**10 19 44.2**	**+1.8**
PLVR	**Palo Verde**	**5.87**	**114**	⇓*e*P		**Pn**	**10 19 44.2**	**+1.5**
PLVR				*e*S		**Sn**	**10 20 51.6**	**+1.3**
CUI	**Cuipilapa**	**5.91**	**111**	*e*P		**Pn**	**10 19 45.9**	**+2.7**
JTS	**JuntasAbangare**	**6.25**	**113**	*c i*P		**Pn**	**10 19 49.8**	**+2.1**
JTS	**JuntasAbangare**	**6.25**	**113**	Pn		**Pn**	**10 19 49.9**	**+2.2**
	comp=Z,20nm,0.3s,baz=161,slow=11,SNR=115							
JTS				Sn		**Sn**	**10 21 00.7**	**+1.3**
	comp=Z,27nm,0.3s,baz=224,slow=21,SNR=6.6							
JTS	**JuntasAbangare**	**6.25**	**113**	*e*P		**Pn**	**10 19 50.0**	**+2.3**
ESPN	**Las Esperanzas**	**6.37**	**95**	*e*Pn		**Pn**	**10 19 49.7**	**+0.4**
ESPN	**Las Esperanzas**	**6.37**	**95**	*e*P		**Pn**	**10 19 49.8**	**+0.4**
ARE1	**Arenal 1**	**6.39**	**111**	⇑*i*P		**Pn**	**10 19 52.3**	**+2.6**
CEDE	**Laguna Cedeo**	**6.40**	**111**	⇑*i*P		**Pn**	**10 19 52.3**	**+2.5**
HDC	**Heredia**	**7.12**	**112**	*e*Pn		**Pn**	**10 20 02.5**	**+2.8**
HDC	**Heredia**	**7.12**	**112**	*e*P		**Pn**	**10 20 02.6**	**+2.8**
SJS	**Escuela Geolog**	**7.20**	**113**	*e*P		**Pn**	**10 20 04.9**	**+4.0**
TRT1	**Tortuguero**	**7.29**	**107**	*e*P		**Pn**	**10 20 02.2**	**+0.2**
LCR2	**La Lucha 2**	**7.33**	**114**	*e*P		**Pn**	**10 20 04.3**	**+1.6**
CVTR	**Volcan Turrial**	**7.43**	**111**	*e*P		**Pn**	**10 20 06.2**	**+1.8**
TEIG	**Tepich**	**7.76**	**18**	*e*Pn		**Pn**	**10 20 13.7**	**+5.3**
EDLM	**Las Mercedes**	**7.89**	**116**	*e*P		**Pn**	**10 20 14.3**	**+3.9**
MYIG	**Mrida**	**8.17**	**7**	*e*Pn		**Pn**	**10 20 15.9**	**+1.9**
EDBA	**Buenos Aires**	**8.22**	**115**	*e*P		**Pn**	**10 20 18.9**	**+4.1**
PTJ1	**Puerto Jimnez**	**8.50**	**119**	*e*P		**Pn**	**10 20 22.9**	**+4.3**
EDSV	**San Vito**	**8.65**	**117**	*e*P		**Pn**	**10 20 24.6**	**+3.8**
LVIG	**Laguna Verde**	**8.74**	**323**	*e*Pn		**Pn**	**10 20 19.4**	**-2.5**
TLIG	**Tlapa**	**8.87**	**303**	*e*Pn		**Pn**	**10 20 25.5**	**+1.7**
BRU2	**Volcan**	**8.90**	**116**	*e*P		**Pn**	**10 20 27.3**	**+3.0**
PRVC	**Isla de Provid**	**9.21**	**85**	*e*P		**Pn**	**10 20 26.7**	**-1.6**
PRVC	**Isla de Provid**	**9.21**	**85**	*e*P		**Pn**	**10 20 26.7**	**-1.6**
UNM	**Universidad Na**	**10.34**	**310**	*e*Pn		**Pn**	**10 20 47.8**	**+3.7**
UNM	**Universidad Na**	**10.34**	**310**	*e*P		**Pn**	**10 20 47.8**	**+3.7**
PNME	**Penonome**	**11.15**	**112**	*e*P		**Pn**	**10 20 53.3**	**-1.6**
PNME	**Penonome**	**11.15**	**112**	*e*P		**Pn**	**10 20 53.3**	**-1.6**
FSCY	**Frank Sound, G**	**11.27**	**54**	*e*Pn		**Pn**	**10 20 59.0**	**+2.4**
BCIP	**Isla Barro Col**	**11.35**	**107**	*e*Pn		**Pn**	**10 20 59.6**	**+1.9**
BCIP	**Isla Barro Col**	**11.35**	**107**	*e*P		**Pn**	**10 21 00.8**	**+3.1**
BCIP	**Isla Barro Col**	**11.35**	**107**	*e*P		**Pn**	**10 21 00.8**	**+3.1**
AZU	**Azuero**	**11.49**	**115**	*e*P		Pn	10 21 04.5	+4.9
AZU	**Azuero**	**11.49**	**115**	*e*P		Pn	10 21 04.5	+4.9
MOIG	**Morelia**	**12.09**	**306**	*e*Pn		**Pn**	**10 21 11.2**	**+3.1**
UPD2	**Meteti**	**13.25**	**107**	*e*P		**Pn**	**10 21 26.7**	**+2.9**
UPD2	**Meteti**	**13.25**	**107**	*e*P		**Pn**	**10 21 26.7**	**+2.9**
MTDJ	**Mount Denham**	**13.86**	**65**	*e*Pn		**Pn**	**10 21 34.2**	**+2.1**
LNIG	**Linares**	**14.55**	**327**	*e*Pn		**Pn**	**10 21 43.2**	**+1.7**
SOLC	**Bahia Solano**	**14.73**	**115**	*e*P		**Pn**	**10 21 44.3**	**+0.4**
SOLC	**Bahia Solano**	**14.73**	**115**	*e*P		**Pn**	**10 21 44.3**	**+0.4**
ZAIG	**Zacatecas**	**14.95**	**313**	*e*Pn		**Pn**	**10 21 49.3**	**+2.1**
062Z	**Marathon**	**15.01**	**36**	P		**Pn**	**10 21 47.4**	**-0.3**
	baz=219							
062Z				S		**S**	**10 24 52.4**	**+0.3**
	baz=219							
DBBC	**Dabeiba**	**15.47**	**110**	*e*P		**Pn**	**10 21 54.9**	**+1.0**
DBBC	**Dabeiba**	**15.47**	**110**	*e*P		**Pn**	**10 21 54.9**	**+1.0**
SJCC	**San Jacinto, C**	**15.58**	**99**	*e*P		**P**	**10 21 59.6**	**-0.1**
SJCC	**San Jacinto, C**	**15.58**	**99**	*e*P		**P**	**10 21 59.6**	**-0.1**
URCC	**San Jos de Ur**	**15.83**	**107**	*e*P		**Pn**	**10 21 57.8**	**-0.8**
URCC	**San Jos de Ur**	**15.83**	**107**	*e*P		**Pn**	**10 21 57.8**	**-0.8**
GRGC	**Isla de Gorgon**	**15.84**	**127**	*e*P		**Pn**	**10 21 58.5**	**-0.2**
GRGC	**Isla de Gorgon**	**15.84**	**127**	*e*P		**Pn**	**10 21 58.5**	**-0.2**
061Z	**Ochoppi**	**15.98**	**34**	*e*Pn		**Pn**	**10 22 00.2**	**-0.2**
	comp=Z,473nm,0.9s							
061Z	**Ochoppi**	**15.98**	**34**	P		**Pn**	**10 22 00.9**	**+0.5**
	baz=217,SNR=7.3							
059Z	**Ave Maria**	**16.07**	**32**	P		**Pn**	**10 22 02.3**	**+0.7**
	baz=214,SNR=26							
KVTX	**Kingsville**	**16.10**	**337**	*e*Pn		**P**	**10 22 06.8**	**+1.5**
	comp=Z,367nm,0.9s							
TUMC	**Tumaco**	**16.18**	**131**	*e*P		**Pn**	**10 22 04.1**	**+1.0**
TUMC	**Tumaco**	**16.18**	**131**	*e*P		**Pn**	**10 22 04.1**	**+1.0**
HELC	**Santa Helena**	**16.42**	**112**	*e*P		**P**	**10 22 09.1**	**-0.3**
HELC	**Santa Helena**	**16.42**	**112**	*e*P		**P**	**10 22 09.1**	**-0.3**
058A	**Arcadia**	**16.49**	**29**	P		**Pn**	**10 22 06.8**	**-0.1**
	baz=212,SNR=16							
ZARC	**Zaragoza, Cauc**	**16.55**	**107**	*e*P		**P**	**10 22 10.3**	**-0.1**
ZARC	**Zaragoza, Cauc**	**16.55**	**107**	*e*P		**P**	**10 22 10.3**	**-0.1**
060Z	**West Palm Beac**	**16.60**	**34**	P		**Pn**	**10 22 08.5**	**+0.2**
	baz=217,SNR=11							
GTBY	**Guantanamo Bay**	**16.62**	**63**	*e*Pn		**Pn**	**10 22 08.4**	**-0.3**
	comp=Z,216nm,1.1s							
059A	**Moore Haven**	**16.74**	**31**	*e*Pn		**Pn**	**10 22 10.4**	**+0.3**
	comp=Z,582nm,1.0s							
059A	**Moore Haven**	**16.74**	**31**	P		**Pn**	**10 22 10.4**	**+0.3**
	baz=214,SNR=20							
YOTC	**Yotoco, Valle**	**16.76**	**120**	*e*P		**P**	**10 22 11.9**	**-1.0**
YOTC	**Yotoco, Valle**	**16.76**	**120**	*e*P		**P**	**10 22 11.9**	**-1.0**
957A	**Wimauma**	**16.81**	**27**	*e*Pn		**P**	**10 22 14.6**	**+1.3**
	comp=Z,1μm,0.9s							
957A	**Wimauma**	**16.81**	**27**	P		**Pn**	**10 22 11.5**	**+0.4**
	baz=210,SNR=8.1							
SMLC	**San Martn de**	**16.90**	**102**	⇓*e*P		**Pn**	**10 22 11.2**	**-1.1**
SMLC	**San Martn de**	**16.90**	**102**	⇓*e*P		**Pn**	**10 22 11.2**	**-1.1**
958A	**Wauchula**	**16.96**	**29**	P		**Pn**	**10 22 13.3**	**+0.4**
	baz=211,SNR=38							
RREF	**El Recreo**	**17.16**	**116**	*e*P		**P**	**10 22 19.0**	**+1.2**
RREF	**El Recreo**	**17.16**	**116**	*e*P		**P**	**10 22 19.0**	**+1.2**
060A	**Indiantown**	**17.20**	**33**	*e*Pn		**Pn**	**10 22 16.4**	**+0.4**
	comp=Z,834nm,0.9s							
060A	**Indiantown**	**17.20**	**33**	P		**Pn**	**10 22 16.6**	**+0.6**
	baz=216,SNR=7.5							
CODC	**Agustn Codazz**	**17.25**	**98**	*e*P		**Pn**	**10 22 11.9**	**-4.7**
CODC	**Agustn Codazz**	**17.25**	**98**	*e*P		**Pn**	**10 22 11.9**	**-4.7**
PTBC	**PUERTO BERRIO,**	**17.26**	**110**	*e*P		**P**	**10 22 18.4**	**+0.1**
PTBC	**PUERTO BERRIO,**	**17.26**	**110**	*e*P		**P**	**10 22 18.4**	**+0.1**
POPC	**Popayan, Colom**	**17.30**	**125**	*e*P		**P**	**10 22 18.9**	**-0.1**
POPC	**Popayan, Colom**	**17.30**	**125**	*e*P		**P**	**10 22 18.9**	**-0.1**
ANIL	**Santa Ana**	**17.30**	**117**	*e*P		**P**	**10 22 22.6**	**+3.5**
ANIL	**Santa Ana**	**17.30**	**117**	*e*P		**P**	**10 22 22.6**	**+3.5**
857A	**Zephyrhills**	**17.33**	**26**	P		**Pn**	**10 22 17.9**	**+0.4**
	baz=209,SNR=26							
959A	**Okeechobee**	**17.33**	**31**	P		**Pn**	**10 22 17.7**	**+0.2**
	baz=214							
833A	**Chaparral WMA,**	**17.40**	**334**	*e*Pn		**Pn**	**10 22 19.0**	**+0.7**
	comp=Z,218nm,1.0s							
833A	**Chaparral WMA,**	**17.40**	**334**	P		**Pn**	**10 22 18.1**	**-0.3**
	baz=150,SNR=49							
CMBC	**Cumbal**	**17.44**	**132**	*e*P		**P**	**10 22 21.7**	**+1.0**
CMBC	**Cumbal**	**17.44**	**132**	*e*P		**P**	**10 22 21.7**	**+1.0**
OTAV	**Otavalo**	**17.49**	**135**	*e*P		**P**	**10 22 22.1**	**+0.9**
	comp=Z,64nm,1.1s							
OTAV	**Otavalo**	**17.49**	**135**	*e*P		**P**	**10 22 22.2**	**+0.9**
OTAV				pmax	pmax			
	comp=Z,64nm,1.1s							
OTAV	**Otavalo**	**17.49**	**135**	*e*P		**Pn**	**10 22 18.2**	**-1.8**
DWPF	**Disney Wildern**	**17.55**	**28**	*e*P		**P**	**10 22 23.3**	**+0.9**
	comp=Z,393nm,1.1s							
DWPF	**Disney Wildern**	**17.55**	**28**	P		**Pn**	**10 22 20.0**	**-0.3**
	baz=211							
DWPF	**Disney Wildern**	**17.55**	**28**	*e*P		**P**	**10 22 21.9**	**+0.5**
SOTA	**Rioblanco**	**17.60**	**126**	*e*P		**P**	**10 22 23.6**	**+1.0**
SOTA	**Rioblanco**	**17.60**	**126**	*e*P		**P**	**10 22 23.6**	**+1.0**
CCUFI	**Cufio, Nario**	**17.61**	**130**	*e*P		**Pn**	**10 22 21.2**	**-0.4**
CCUFI	**Cufio, Nario**	**17.61**	**130**	*e*P		**Pn**	**10 22 21.2**	**-0.4**
GCUF	**Volcan Galeras**	**17.61**	**130**	*e*P		**P**	**10 22 22.6**	**0.0**
GCUF	**Volcan Galeras**	**17.61**	**130**	*e*P		**P**	**10 22 22.6**	**0.0**
PCON	**Cinco Dias**	**17.65**	**125**	*e*P		**P**	**10 22 26.0**	**+2.8**
PCON	**Cinco Dias**	**17.65**	**125**	*e*P		**P**	**10 22 26.0**	**+2.8**
858A	**St. Cloud**	**17.68**	**28**	P		**Pn**	**10 22 22.3**	**+0.5**
	baz=211,SNR=20							
CRUC	**La Cruz**	**17.68**	**128**	*e*P		**P**	**10 22 25.3**	**+1.9**
CRUC	**La Cruz**	**17.68**	**128**	*e*P		**P**	**10 22 25.3**	**+1.9**
HKT	**Hockley**	**17.69**	**345**	*e*Pn		**P**	**10 22 23.0**	**+0.2**
	comp=Z,314nm,1.4s							
HKT	**Hockley**	**17.69**	**345**	*e*P		**P**	**10 22 23.0**	**+0.2**
HKT				pmax	pmax			
	comp=Z,314nm,1.4s							
MARP	**Paez Belalcaza**	**17.71**	**123**	*e*P		**P**	**10 22 26.9**	**+3.4**
MARP	**Paez Belalcaza**	**17.71**	**123**	*e*P		**P**	**10 22 26.9**	**+3.4**
BRRC	**Barranca, Sant**	**17.75**	**107**	*e*P		**P**	**10 22 24.4**	**+0.7**
BRRC	**Barranca, Sant**	**17.75**	**107**	*e*P		**P**	**10 22 24.4**	**+0.7**
859A	**Kempfer Cattle**	**17.77**	**30**	P		**Pn**	**10 22 23.3**	**+0.3**
	baz=213,SNR=15							
OCAC	**Ocana**	**17.77**	**103**	*e*P		**P**	**10 22 24.5**	**+0.5**
OCAC	**Ocana**	**17.77**	**103**	*e*P		**P**	**10 22 24.5**	**+0.5**
552A	**Lynn Haven**	**17.98**	**16**	P		**P**	**10 22 26.6**

TIGA **Tifton** 19.69 19 eP P 10 22 45.5 +0.6
comp=Z,312nm,0.8s
TIGA **Tifton** 19.69 19 P Pn 10 22 45.8 -0.5
baz=201,SNR=27
145A **Houston Renfro** 19.72 2 P Pn 10 22 46.7 0.0
baz=182,SNR=27
SDDR **Presa de Saban** 19.73 69 eP P 10 22 44.1 -1.4
comp=Z,212nm,1.5s
TAMC **Tame, Arauca** 19.77 107 eP Pn 10 22 48.1 +0.6
TAMC **Tame, Arauca** 19.77 107 eP Pn 10 22 48.1 +0.6
HPIG 19.80 317 eP P 10 22 47.2 +0.9
comp=Z,532nm,1.4s
DABV **Dabajuro** 19.82 93 eP P 10 22 44.8 -1.6
DABV **Dabajuro** 19.82 93 eP P 10 22 44.8 -1.6
251A **Midway** 19.82 14 P Pn 10 22 47.6 -0.3
baz=195,SNR=59
355A **Pearson** 19.85 20 P P 10 22 47.1 +0.5
baz=203
252A **Lumpkin** 19.89 15 P Pn 10 22 48.4 -0.3
baz=197,SNR=74
147A **Livingston** 19.91 6 eP Pn 10 22 48.6 -0.3
comp=Z,653nm,1.0s
147A **Livingston** 19.91 6 P Pn 10 22 49.1 +0.2
baz=187,SNR=112
149A **Jones** 20.04 10 P Pn 10 22 50.0 -0.4
baz=191,SNR=301
WHTX **Lake Whitney,** 20.05 343 eP P 10 22 48.5 -0.3
comp=Z,379nm,1.1s
WHTX **Lake Whitney,** 20.05 343 P P 10 22 48.9 0.0
baz=160,SNR=28
356A **Blackshear** 20.08 22 P P 10 22 49.9 +0.8
baz=205,SNR=12
SOCV **Socops** 20.11 101 eP P 10 22 49.2 -0.4
SOCV **Socops** 20.11 101 eP P 10 22 49.2 -0.4
253A **Americus** 20.12 17 eP P 10 22 50.4 +0.9
comp=Z,285nm,0.8s
253A **Americus** 20.12 17 P P 10 22 49.9 +0.4
baz=199,SNR=28
SDV **Santo Domingo** 20.18 99 eP P 10 22 51.1 +0.5
comp=Z,197nm,0.9s
SDV S S 10 26 32.2 -5.4
SDV ScP ScP 10 30 46.0 +3.6
SDV LR LR
comp=Z,2µm,19.0s
SDV **Santo Domingo** 20.18 99 eP Pn 10 22 51.6 -0.8
SDV **Santo Domingo** 20.18 99 eP Pn 10 22 51.6 -0.8
SDV **Santo Domingo** 20.18 99 P Pn 10 22 51.6 -0.8
comp=Z,153nm,0.8s,baz=270,slow=5.4,SNR=147
SDV S S 10 26 32.2 -5.4
comp=Z,10nm,1.1s,baz=52,slow=19,SNR=2.0
SDV ScP ScP 10 30 46.0 +3.6
comp=Z,8.7nm,0.9s,baz=17,slow=10.0,SNR=7.8
SDV **Santo Domingo** 20.18 99 eP Pn 10 22 51.6 -0.8
150A **Eclectic** 20.19 12 P Pn 10 22 52.1 -0.1
baz=193,SNR=240
PTLC **Puerto Leguiza** 20.23 127 eP Pn 10 22 54.9 +2.0
PTLC **Puerto Leguiza** 20.23 127 eP Pn 10 22 54.9 +2.0
H06E1 **SOCORRO T-PHAS** 20.25 290 T T 10 43 50.1
151A **Opelika** 20.26 13 P Pn 10 22 52.4 -0.6
baz=195,SNR=283
254A **Abbeville** 20.26 19 P P 10 22 51.5 +0.4
baz=201,SNR=18
TX31 **Lajitas Ar. Si** 20.33 326 eP Pn 10 22 54.1 0.0
TXAR **Lajitas Array** 20.33 326 P Pn 10 22 54.4 +0.4
comp=Z,154nm,0.8s,baz=152,slow=10.0,SNR=283
TXAR S Sn 10 26 44.9 +1.5
comp=Z,3.1nm,1.0s,baz=145,slow=22,SNR=2.7
TXAR PcP PcP 10 27 05.9 +0.5
comp=Z,7.9nm,0.9s,baz=210,slow=4.2,SNR=3.6
TXAR ScP ScP 10 30 48.9 +6.5
comp=Z,5.0nm,1.1s,baz=145,slow=3.3,SNR=3.6
357A **Townsend** 20.41 23 P P 10 22 53.3 +0.5
baz=206,SNR=7.6
LRAL **Lakeview Retre** 20.43 9 eP Pn 10 22 54.5 -0.5
comp=Z,364nm,0.8s
LRAL **Lakeview Retre** 20.43 9 P Pn 10 22 54.3 -0.7
baz=190,SNR=157
Z41A **Richland Creek** 20.44 355 eP P 10 22 53.9 +0.9
comp=Z,1µm,1.3s
Z41A **Richland Creek** 20.44 355 P P 10 22 54.0 +0.9
baz=174,SNR=101
BANI **BANI** 20.44 72 eP P 10 22 54.3 +1.0
255A **Hazlehurst** 20.51 21 eP P 10 22 54.0 +0.2
comp=Z,646nm,1.5s
255A **Hazlehurst** 20.51 21 P P 10 22 54.1 +0.4
baz=203,SNR=13
152A **Waverly Hall** 20.54 15 eP P 10 22 55.1 +1.0
comp=Z,337nm,0.9s
152A **Waverly Hall** 20.54 15 P P 10 22 55.1 +1.0
baz=197,SNR=108
Z49A **Columbiana** 20.66 10 P Pn 10 22 57.1 -0.7
baz=191,SNR=450
GRTK **Grand Turk** 20.67 63 eP Pn 10 22 56.8 -1.1
comp=Z,717nm,1.3s
GRTK LR LR
comp=Z,3µm,20.0s
GUVC **San Jose del G** 20.67 118 eP Pn 10 22 57.0 -1.0
GUVC **San Jose del G** 20.67 118 eP Pn 10 22 57.0 -1.0
153A **Fort Valley** 20.75 17 P P 10 22 56.5 0.0
baz=193,SNR=11
256A **Glennville** 20.76 22 P P 10 22 57.3 +0.8
baz=205,SNR=41
Z50A **Ashland** 20.83 12 P P 10 22 58.5 +1.2
comp=Z,669nm,1.1s
Z50A **Ashland** 20.83 12 P P 10 22 58.6 +1.3
baz=193,SNR=138
WLAR **White Oak Lake** 20.89 355 eP P 10 22 58.9 +1.0
comp=Z,2µm,1.0s
154A **Montrose** 20.93 18 eP P 10 22 59.2 +0.8
comp=Z,456nm,0.9s
154A **Montrose** 20.93 18 P P 10 22 58.6 +0.2
baz=201,SNR=80
CCAR **Cane Creek** 21.03 358 eP P 10 23 01.0 +1.6
comp=Z,367nm,0.8s
Z51A **Franklin** 21.05 13 P P 10 23 00.6 +0.9
baz=195,SNR=156
257A **Skidaway Islan** 21.08 24 eP P 10 23 01.1 +1.1
comp=Z,680nm,1.4s
257A **Skidaway Islan** 21.08 24 P P 10 23 00.9 +1.0
baz=207,SNR=5.4
Z52A **Williamson** 21.11 15 P P 10 23 00.8 +0.6
baz=197,SNR=72
155A **Kite** 21.15 20 P P 10 23 01.2 +0.5
baz=203,SNR=58
Y48A **Jasper** 21.27 8 P P 10 23 03.1 +1.1
baz=189,SNR=159
ABTX **Abilene, Hawle** 21.32 339 eP P 10 23 02.4 -0.2
comp=Z,521nm,0.9s
ABTX **Abilene, Hawle** 21.32 339 P P 10 23 02.6 -0.1
baz=155,SNR=145
Y49A **Blount Mountai** 21.33 10 eP P 10 23 03.5 +0.8
comp=Z,509nm,0.8s
Y49A **Blount Mountai** 21.33 10 P P 10 23 03.7 +1.0
baz=191,SNR=155
Z53A **Monticello** 21.42 17 P P 10 23 03.9 +0.3
baz=199,SNR=73
Y50A **Piedmont** 21.49 12 P P 10 23 04.3 0.0
baz=193,SNR=196
156A **Sylvania** 21.51 22 P P 10 23 04.7 +0.1
baz=205,SNR=32
GOGA **Godfrey** 21.57 17 eP P 10 23 04.9 -0.3
comp=Z,224nm,0.8s
GOGA LR LR
comp=Z,5µm,22.0s
GOGA **Godfrey** 21.57 17 eP P 10 23 04.9 -0.3
GOGA pmax pmax
comp=Z,223nm,0.8s
GOGA MLR MLR
comp=Z,5µm,22.0s
GOGA **Godfrey** 21.57 17 P P 10 23 05.4 +0.2
baz=199,SNR=80
Z54A **Sparta** 21.59 18 P P 10 23 05.3 -0.2
baz=201,SNR=49
X43A **Marvell** 21.61 360 eP P 10 23 06.0 +0.4
comp=Z,304nm,0.8s
X43A **Marvell** 21.61 360 P P 10 23 06.3 +0.7
baz=179,SNR=12
LPIG **La Paz** 21.62 304 P P 10 23 07.4 +1.5
comp=Z,174nm,1.1s,baz=212,slow=1.5,SNR=20
LPIG LR LR 10 30 20.2
comp=Z,1µm,20.9s,baz=118,slow=33
Y51A **Rockmart** 21.64 13 P P 10 23 06.6 +0.6
baz=195,SNR=213
OXF **Oxford** 21.64 3 eP P 10 23 05.6 -0.4
comp=Z,764nm,1.1s
OXF **Oxford** 21.64 3 eP P 10 23 05.6 -0.4
OXF pmax pmax
comp=Z,764nm,1.1s
OXF **Oxford** 21.64 3 P P 10 23 05.8 -0.2
baz=183,SNR=70
X40A **Basin Creek Fa** 21.66 355 eP P 10 23 05.4 -0.8
comp=Z,589nm,1.6s
X40A **Basin Creek Fa** 21.66 355 P P 10 23 06.0 -0.2
baz=174,SNR=72
157A **Early Branch** 21.72 23 P P 10 23 07.0 +0.2
baz=206,SNR=17
X46A **Booneville** 21.74 5 P P 10 23 08.3 +1.2
baz=185,SNR=287
ELOV **Elorza** 21.76 103 eP P 10 23 08.4 +0.9
ELOV **Elorza** 21.76 103 eP P 10 23 08.4 +0.9
X47A **Russelville** 21.78 7 P P 10 23 07.8 +0.4
baz=187,SNR=270
MIAR **Mount Ida** 21.79 354 eP P 10 23 06.5 -1.1
comp=Z,443nm,0.9s
MIAR LR LR
comp=Z,1µm,19.0s
MIAR **Mount Ida** 21.79 354 eP P 10 23 06.5 -1.1
MIAR pmax pmax
comp=Z,443nm,0.9s
MIAR MLR MLR
comp=Z,1µm,19.0s
MIAR **Mount Ida** 21.79 354 P P 10 23 07.5 0.0
baz=172,SNR=322
Z55A **Blythe** 21.80 20 P P 10 23 07.7 0.0
baz=203,SNR=24
X48A **Hartselle** 21.81 8 eP P 10 23 08.2 +0.4
comp=Z,372nm,0.9s
X48A **Hartselle** 21.81 8 P P 10 23 08.2 +0.4
baz=189,SNR=163
Y52A **Lilburn** 21.84 15 eP P 10 23 07.8 -0.3
comp=Z,327nm,0.8s
Y52A **Lilburn** 21.84 15 P P 10 23 08.6 +0.4
baz=197,SNR=94
UALR **University of** 21.91 357 eP P 10 23 08.6 -0.4
comp=Z,635nm,1.4s
Y53A **Monroe** 21.96 16 P P 10 23 09.5 +0.1
baz=199,SNR=177
X49A **Woodville** 21.98 10 P P 10 23 10.4 +0.7
baz=191,SNR=282
X50B **Fort Payne** 22.06 11 P P 10 23 11.0 +0.5
baz=193,SNR=203
158A **Hollywood** 22.08 24 P P 10 23 11.1 +0.4
baz=208,SNR=25
Z56A **Williston** 22.16 21 P P 10 23 11.5 -0.1
baz=205,SNR=43
PLAL **Pickwick Lake** 22.21 6 eP P 10 23 11.8 -0.3
comp=Z,155nm,0.9s
PLAL ePcP PcP 10 27 09.2 +0.5
Y54A **Tignall** 22.22 18 P P 10 23 11.9 -0.3
baz=201,SNR=41
MET **Memphis--Engin** 22.23 2 eP P 10 23 15.0 +2.7
comp=Z,2µm,1.9s
RGRS **Roger Stewart** 22.23 24 eP P 10 23 13.0 +0.6
comp=Z,3µm,0.9s
W44A **Shelby Farms P** 22.25 2 P P 10 23 12.5 0.0
baz=182
W41B **Gary Mavity, V** 22.31 357 eP P 10 23 12.7 -0.5
comp=Z,156nm,0.8s
W41B **Gary Mavity, V** 22.31 357 P P 10 23 12.7 -0.5
baz=176,SNR=68
X51A **Calhoun** 22.32 13 eP P 10 23 13.6 +0.3
comp=Z,437nm,1.1s
X51A **Calhoun** 22.32 13 P P 10 23 13.5 +0.2
baz=195,SNR=78
W46A **Michie** 22.33 5 P P 10 23 13.9 +0.5
baz=186,SNR=149
CSU **Charleston Sou** 22.35 24 eP P 10 23 13.5 -0.1
Z57A **Bowman** 22.38 23 P P 10 23 14.0 +0.1
baz=206,SNR=47
NHSC **New Hope** 22.41 24 eP P 10 23 14.6 +0.3
comp=Z,868nm,0.9s
NHSC LR LR
comp=Z,3µm,21.0s
NHSC **New Hope** 22.41 24 P P 10 23 14.8 +0.5
baz=208,SNR=73
WHAR **Wooly Hollow** 22.42 357 eP P 10 23 13.7 -0.7
comp=Z,311nm,1.1s
W39A **Magazine** 22.45 354 eP P 10 23 14.4 -0.2
comp=Z,365nm,0.9s
W39A **Magazine** 22.45 354 P P 10 23 14.5 -0.2
baz=172,SNR=159
W48A **Pulaski** 22.50 8 P P 10 23 15.6 +0.3
baz=189,SNR=259
W47A **Westpoint** 22.53 7 P P 10 23 15.4 -0.1
baz=188,SNR=161
Y55A **Saluda** 22.55 20 P P 10 23 15.0 -0.8
baz=203,SNR=26
X52A **Dahlonega** 22.58 15 P P 10 23 16.1 -0.1
baz=197,SNR=157
W49A **Belvidere** 22.59 10 P P 10 23 16.5 +0.4
baz=191,SNR=184
Y56A **Pelion** 22.61 21 P P 10 23 15.7 -0.7
baz=204,SNR=31
X53A **Estanollee** 22.64 16 P P 10 23 16.5 -0.3
baz=199,SNR=113
HODGE **Hodges** 22.70 19 eP P 10 23 16.4 -0.9
comp=Z,141nm,0.9s
SWET **Sewanee** 22.74 10 eP P 10 23 17.4 -0.4
comp=Z,511nm,0.8s
Z58A **St. Stephen** 22.76 24 P P 10 23 17.8 -0.2
baz=208,SNR=90
CLNB **Carlsbad** 22.78 330 eP P 10 23 19.8 +1.4
W50A **Signal Mountai** 22.84 12 eP P 10 23 18.5 -0.4
comp=Z,212nm,0.9s
W50A **Signal Mountai** 22.84 12 P P 10 23 18.7 -0.2
baz=193,SNR=74
V43A **Jonesboro** 22.88 1 P P 10 23 18.6 -0.6
baz=180
V45A **Humboldt** 22.89 4 P P 10 23 18.6 -0.7
baz=184,SNR=50
Z59A **Georgetown, SC** 22.90 25 P P 10 23 19.8 +0.3
baz=210,SNR=34
W51A **Cleveland** 22.91 13 P P 10 23 19.7 +0.1
baz=195,SNR=97
V44A **Blytheville** 22.93 2 P P 10 23 19.6 -0.2
baz=182,SNR=11
X54A **Belton** 22.95 18 P P 10 23 19.6 -0.4
baz=201,SNR=68
GDL2 **Guadalupe Moun** 22.97 329 eP P 10 23 20.8 +0.4
WMOK **Wichita Mounta** 23.00 343 eP P 10 23 18.4 -2.2
comp=Z,120nm,1.1s
WMOK LR LR
comp=Z,2µm,21.0s
WMOK **Wichita Mounta** 23.00 343 eP P 10 23 18.4 -2.2
WMOK pmax pmax
comp=Z,120nm,1.1s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK **Wichita Mounta** 23.00 343 P P 10 23 18.8 -1.8
baz=159,SNR=97
V46A **Holladay** 23.02 6 P P 10 23 19.8 -0.8
baz=186,SNR=145
W52A **Murphy** 23.04 15 eP P 10 23 20.7 -0.2
comp=Z,309nm,0.8s
W52A **Murphy** 23.04 15 P P 10 23 20.7 -0.2
baz=197,SNR=87
GNAR **Gosnell** 23.07 2 eP P 10 23 21.8 +0.6
comp=Z,897nm,1.4s
JSC **Jenkinsville** 23.07 20 eP P 10 23 20.0 -1.2
comp=Z,125nm,0.9s
MNTX **Cornudas Mount** 23.10 327 eP P 10 23 21.7 +0.1
comp=Z,296nm,0.9s
MNTX LR LR
comp=Z,2µm,20.0s
MNTX **Cornudas Mount** 23.10 327 P P 10 23 21.7 +0.1
baz=141,SNR=456
V47A **Nunnelly** 23.11 7 P P 10 23 21.2 -0.4
baz=188,SNR=99
V48A **Smith Brothers** 23.11 8 eP P 10 23 21.1 -0.6
comp=Z,2µm,1.7s
V48A **Smith Brothers** 23.11 8 P P 10 23 21.6 0.0
baz=190,SNR=186
X55A **Gracelyn & Ava** 23.11 20 P P 10 23 21.3 -0.3
baz=203,SNR=66
Y57A **Sumter** 23.14 22 P P 10 23 21.6 -0.3
baz=206,SNR=71
BG3 **Lake Jocassee** 23.21 17 eP P 10 23 22.3 -0.3
comp=Z,334nm,0.9s
CPCT **Cooper Cave** 23.25 13 eP P 10 23 22.6 -0.4
comp=Z,357nm,1.0s
V49A **McMinnville** 23.28 10 P P 10 23 23.4 0.0
baz=192,SNR=465
W53A **Cullowhee** 23.31 16 P P 10 23 23.6 -0.2
baz=199,SNR=39
Y58A **Scranton** 23.32 24 P P 10 23 23.0 -0.7
baz=208,SNR=27
ATAH **Atahualpa** 23.33 147 P P 10 23 24.9 +0.4
comp=Z,117nm,1.1s,baz=332,slow=9.3,SNR=53
ATAH PcP PcP 10 27 12.0 +0.1
comp=Z,23nm,0.8s,baz=30,slow=1.7,SNR=6.6
V50A **Pikevile** 23.34 12 P P 10 23 23.8 -0.1
baz=194,SNR=188
X56A **White Oak** 23.34 21 P P 10 23 23.6 -0.3
baz=204,SNR=53
WVT **Waverly** 23.37 6 eP P 10 23 23.4 -0.9
comp=Z,294nm,0.9s
WVT **Waverly** 23.37 6 eP P 10 23 23.4 -0.9
WVT pmax pmax
comp=Z,294nm,0.9s
WVT **Waverly** 23.37 6 P P 10 23 23.9 -0.4
baz=187
PAULI **Pauline** 23.38 19 eP P 10 23 23.9 -0.4
comp=Z,106nm,0.9s
CRPR **Cabo Rojo, PR** 23.40 74 eP P 10 23 25.6 +0.9
comp=Z,160nm,1.2s
TUL1 **Leonard** 23.44 350 eP P 10 23 22.5 -2.5
comp=Z,376nm,1.0s
TUL1 **Leonard** 23.44 350 P P 10 23 23.0 -2.0
baz=167,SNR=106
U42A **Revenden** 23.45 359 P P 10 23 24.6 -0.4
baz=178,SNR=161
U41A **Viola** 23.46 358 P P 10 23 24.2 -1.0
baz=177,SNR=65
U43A **Rector** 23.46 1 P P 10 23 24.3 -0.9
baz=181,SNR=13
UTMT **University of** 23.50 4 eP P 10 23 26.3 +0.8
comp=Z,813nm,1.0s
W54A **Cherokee Point** 23.51 18 P P 10 23 25.8 +0.1
baz=201,SNR=53
U45A **Rockin P Farm,** 23.51 4 P P 10 23 25.0 -0.6
baz=185,SNR=37
U40A **Yellville** 23.52 356 P P 10 23 25.3 -0.4
baz=175,SNR=332
HHAR **Hobbs** 23.54 354 eP P 10 23 24.4 -1.6
comp=Z,423nm,0.9s
U46A **Springville** 23.57 5 P P 10 23 25.7 -0.5
baz=186,SNR=262
U44A **Portageville** 23.62 2 P P 10 23 26.0 -0.7
baz=182,SNR=7.0
TKL **Tuckaleechee C** 23.62 14 eP P 10 23 26.4 -0.3
comp=Z,688nm,0.9s
TKL **Tuckaleechee C** 23.62 14 P P 10 23 26.8 +0.1
comp=Z,490nm,0.9s,baz=182,slow=11,SNR=205
TKL LR LR 10 33 02.5
comp=Z,5µm,21.9s,baz=211,slow=38
V51A **Loudon** 23.62 13 eP P 10 23 26.1 -0.6
comp=Z,473nm,1.1s
V51A **Loudon** 23.62 13 P P 10 23 26.8 +0.1
baz=195,SNR=85
X57A **Johnson Farm,** 23.65 22 P P 10 23 26.6 -0.4
baz=206,SNR=14
MSTX **Muleshoe** 23.72 335 eP P 10 23 26.8 -1.1
comp=Z,464nm,1.6s
MSTX ePcP PcP 10 27 10.4 -1.7
MSTX **Muleshoe** 23.72 335 P P 10 23 26.8 -1.1
baz=150,SNR=46
U47A **Clarksville** 23.74 7 P P 10 23 27.2 -0.7
baz=188,SNR=232
KMSC **Kings Mountain** 23.83 19 eP P 10 23 27.8 -1.0
comp=Z,185nm,1.0s
KMSC **Kings Mountain** 23.83 19 P P 10 23 28.2 -0.6
baz=203,SNR=43
V52A **Sevierville** 23.84 15 eP P 10 23 28.2 -0.6
comp=Z,396nm,1.0s
V52A **Sevierville** 23.84 15 P P 10 23 28.7 -0.1
baz=197,SNR=123
PBMO **Poplar Bluff** 23.87 1 eP P 10 23 27.5 -1.6
comp=Z,191nm,0.9s
V53A **Saluda** 23.88 16 eP P 10 23 28.7 -0.5
comp=Z,204nm,0.8s
V53A **Saluda** 23.88 16 P P 10 23 29.3 0.0
baz=199,SNR=94
OBIP **Obispado Ponce** 23.88 74 eP P 10 23 27.3 -2.1
comp=Z,69nm,1.1s
U48A **Cassie Pea, Po** 23.91 8 P P 10 23 29.3 -0.2
baz=190,SNR=50
Y60A **Bolivia** 24.01 26 P P 10 23 29.6 -0.8
baz=211,SNR=35
X58A **Rowland** 24.02 24 P P 10 23 29.8 -0.7
baz=208,SNR=37
U49A **Red Boiling Sp** 24.03 10 P P 10 23 30.8 +0.1
baz=192,SNR=444
AMTX **Amarillo** 24.09 338 eP P 10 23 30.3 -1.0
comp=Z,208nm,0.9s
AMTX **Amarillo** 24.09 338 P P 10 23 30.4 -1.0
baz=153
U50A **Jamestown** 24.11 12 P P 10 23 31.2 -0.2
baz=194,SNR=183
T42A **Van Buren** 24.12 359 eP P 10 23 29.9 -1.6
comp=Z,166nm,1.0s
T42A **Van Buren** 24.12 359 P P 10 23 30.3 -1.2
baz=179,SNR=117
T41A **Mountain View** 24.15 358 P P 10 23 30.5 -1.3
baz=177,SNR=169
T43A **Greenville** 24.18 1 P P 10 23 31.0 -1.0
baz=181,SNR=60
T45A **Paducah** 24.19 4 eP P 10 23 31.7 -0.4
comp=Z,617nm,0.8s
T45A **Paducah** 24.19 4 P P 10 23 31.6 -0.4
baz=185,SNR=47
T44A **Benton** 24.20 2 P P 10 23 31.5 -0.8
baz=182,SNR=40
V54A **Nebo** 24.22 18 P P 10 23 31.1 -1.4
baz=201,SNR=109
U51A **La Follette** 24.25 13 P P 10 23 32.4 -0.3
baz=196,SNR=142
T46A **Princeton** 24.27 6 P P 10 23 32.4 -0.5
baz=186,SNR=161
T47A **Sharon Grove** 24.30 7 eP P 10 23 32.6 -0.6
comp=Z,916nm,0.9s
T47A **Sharon Grove** 24.30 7 P P 10 23 32.9 -0.3
baz=188,SNR=344
SJG **San Juan** 24.32 74 P P 10 23 31.5 -2.0
comp=Z,14nm,0.5s,baz=269,slow=8.1,SNR=7.1
SJG PcP PcP 10 27 13.5 0.0
comp=Z,15nm,0.8s,baz=298,slow=3.8,SNR=4.8
SJG LR LR 10 33 36.0
comp=Z,5µm,20.5s,baz=273,slow=38
X59A **McDuffie Farm,** 24.33 25 P P 10 23 32.6 -0.8
baz=210,SNR=89
U52A **Thorn Hill** 24.42 15 P P 10 23 33.9 -0.3
baz=197,SNR=62
TZTN **Tazewell** 24.52 14 eP P 10 23 34.3 -0.9
comp=Z,340nm,0.9s
TZTN **Tazewell** 24.52 14 P P 10 23 34.6 -0.5
baz=197,SNR=66
V55A **Taylorsville** 24.52 19 P P 10 23 34.7 -0.4
baz=203,SNR=65
T48A **Bowling Green** 24.52 8 P P 10 23 35.8 +0.7
baz=190,SNR=38
U53A **Fall Branch** 24.59 16 P P 10 23 35.4 -0.5
baz=199,SNR=171
U32A **Winter Ranch,** 24.60 344 eP P 10 23 34.8 -1.2
comp=Z,169nm,0.9s
HUMP **Col San Antoni** 24.61 74 eP P 10 23 33.9 -2.3
comp=Z,31nm,0.9s
HUMP ePcP PcP 10 27 15.3 +1.3
CBYP **Canovanas** 24.62 74 eP P 10 23 34.0 -2.4
comp=Z,49nm,1.1s
T49A **Edmonton** 24.65 10 eP P 10 23 35.7 -0.6
comp=Z,1µm,0.9s
T49A **Edmonton** 24.65 10 P P 10 23 36.1 -0.3
baz=192,SNR=460
S43A **Fulton Ridge,** 24.67 1 P P 10 23 35.2 -1.3
baz=181,SNR=45
S41A **Jillco Farms,** 24.69 358 P P 10 23 35.8 -0.9
baz=177,SNR=117
T50A **Nancy** 24.69 11 P P 10 23 36.1 -0.6
baz=194,SNR=187
SRIG **Santa Rosalia** 24.72 309 eP P 10 23 37.8 +0.7
comp=Z,293nm,1.1s
HSIG 24.73 314 eP P 10 23 37.6 +0.5
comp=Z,415nm,1.4s
S44A **Carbondale** 24.82 3 P P 10 23 37.6 -0.3
baz=183,SNR=105
T51A **Gray** 24.83 13 P P 10 23 37.7 -0.2
baz=196,SNR=162
SIUC **Southern Illin** 24.84 3 eP P 10 23 37.6 -0.5
comp=Z,695nm,1.1s
S45A **Carrier Mills** 24.84 4 P P 10 23 37.4 -0.7
baz=185,SNR=73
S42A **Caledonia** 24.86 0 P P 10 23 36.6 -1.6
baz=180,SNR=51

MTP	Monte Pirata	24.88	75	*e*P		P	10 23 35.3	-3.3
	comp=Z,68nm,0.6s								
S46A	Don Dixon Farm	24.93	6	P		P	10 23 38.3	-0.5
	baz=187,SNR=190								
S47A	Hartford	24.93	7	P		P	10 23 38.1	-0.7
	baz=189,SNR=62								
121A	Cookes Peak, D	25.05	324	P		P	10 23 43.1	+2.9
	baz=138,SNR=253								
FVM	French Village	25.07	1	*e*P		P	10 23 38.5	-1.7
	comp=Z,38nm,0.8s								
FVM	French Village	25.07	1	*e*P		P	10 23 38.5	-1.7
FVM				pmax		pmax			
	comp=Z,38nm,0.8s								
S48A	Wiedeman Farm,	25.11	9	P		P	10 23 40.6	+0.2
	baz=191,SNR=81								
319A	Douglas	25.12	320	*e*P		P	10 23 42.2	+1.3
	comp=Z,600nm,1.6s								
CCM	Cathedral Cave	25.15	359	*e*P		P	10 23 39.2	-1.6
	comp=Z,287nm,0.8s								
CCM				*e*PcP		PcP	10 27 15.6	+0.6
CCM	Cathedral Cave	25.15	359	*e*P		P	10 23 39.2	-1.6
CCM				*e*			10 27 15.6		
CCM				pmax		pmax			
	comp=Z,287nm,0.8s								
CCM	Cathedral Cave	25.15	359	P		P	10 23 39.8	-1.0
	baz=179								
U55A	TA2, Sparta	25.17	19	P		P	10 23 40.7	-0.4
	baz=202,SNR=63								
T53A	Wise	25.19	16	P		P	10 23 40.7	-0.6
	baz=199,SNR=39								
CNNC	Cliffs of the	25.20	25	*e*P		P	10 23 40.3	-1.0
	comp=Z,157nm,0.6s								
CNNC				LR		LR			
	comp=Z,3μm,21.0s								
CNNC	Cliffs of the	25.20	25	P		P	10 23 40.5	-0.8
	baz=210,SNR=23								
USIN	University of	25.21	6	*e*P		P	10 23 41.1	-0.3
	comp=Z,39nm,0.9s								
S49A	Springfield	25.35	10	P		P	10 23 42.3	-0.4
	baz=192,SNR=111								
R42A	Luebbering	25.37	0	P		P	10 23 41.8	-1.0
	baz=180,SNR=44								
R43A	Red Bud	25.38	2	P		P	10 23 42.1	-0.8
	baz=182,SNR=72								
R44A	Waltonville	25.38	3	P		P	10 23 42.0	-0.9
	baz=184,SNR=52								
R41A	Rosebud	25.39	359	P		P	10 23 41.9	-1.1
	baz=178,SNR=152								
S50A	Richmond	25.42	12	P		P	10 23 43.1	-0.1
	baz=194,SNR=84								
R46A	Gibon Southern	25.47	6	P		P	10 23 43.3	-0.4
	baz=187,SNR=59								
R45A	Skylar, Fairfi	25.48	5	P		P	10 23 43.3	-0.5
	baz=185,SNR=154								
STVI	Saint Thomas	25.48	74	*e*P		P	10 23 41.9	-2.2
	comp=Z,66nm,1.2s								
T54A	Tazewell	25.52	17	P		P	10 23 43.4	-1.0
	baz=201,SNR=29								
CDVI	St. Croix	25.57	76	*e*P		P	10 23 44.2	-0.6
	comp=Z,152nm,1.2s								
WCI	Wyandotte Cave	25.63	8	*e*P		P	10 23 44.6	-0.6
	comp=Z,543nm,0.8s								
WCI				*e*PcP		PcP	10 27 17.0	+1.0
WCI	Wyandotte Cave	25.63	8	*e*P		P	10 23 44.6	-0.6
WCI				*e*			10 27 17.0		
WCI				pmax		pmax			
	comp=Z,543nm,0.8s								
WCI	Wyandotte Cave	25.63	8	P		P	10 23 44.9	-0.3
	baz=190								
BNM	Barren Site	25.66	329	*e*P		P	10 23 47.5	+1.6
R47A	Wooly Knot Far	25.67	8	P		P	10 23 45.1	-0.4
	baz=189,SNR=142								
SLM	Saint Louis	25.73	1	*e*P		P	10 23 46.6	+0.5
	comp=Z,141nm,0.8s								
SLM	Saint Louis	25.73	1	*e*P		P	10 23 46.6	+0.5
SLM				pmax		pmax			
	comp=Z,141nm,0.8s								
Y22D	IRIS PASSCAL I	25.76	328	*e*P		P	10 23 48.6	+2.0
	comp=Z,625nm,1.1s								
Y22D	IRIS PASSCAL I	25.76	328	P		P	10 23 49.3	+2.7
	baz=141								
LPM	Los Pinos Moun	25.79	329	*e*P		P	10 23 48.4	+1.4
T55A	Pulaski	25.82	19	P		P	10 23 46.6	-0.4
	baz=202								
LENM	Lemitar	25.86	328	*e*P		P	10 23 49.1	+1.6
R48A	Northridge Ran	25.86	9	P		P	10 23 47.2	-0.1
	baz=191,SNR=61								
R49A	Shelbyville	25.87	10	P		P	10 23 46.7	-0.7
	baz=192,SNR=115								
OLIL	Olney	25.93	5	*e*P		P	10 23 47.4	-0.6
	comp=Z,251nm,0.8s								
S53A	Williamson	25.95	16	P		P	10 23 47.2	-1.0
	baz=199,SNR=31								
Q42A	Golden Eagle	26.00	0	P		P	10 23 47.6	-0.9
	baz=180,SNR=28								
R50A	Paris	26.01	12	P		P	10 23 48.2	-0.5
	baz=194,SNR=101								
BLA	Blacksburg	26.02	19	*e*P		P	10 23 48.9	+0.1
	comp=Z,112nm,0.8s								
BLA				LR		LR			
	comp=Z,4μm,21.0s								
BLA	Blacksburg	26.02	19	*e*P		P	10 23 48.9	+0.1
BLA				pmax		pmax			
	comp=Z,112nm,0.8s								
BLA				MLR		MLR			
	comp=Z,4μm,21.0s								
BLA	Blacksburg	26.02	19	P		P	10 23 47.6	-1.2
	baz=203,SNR=21								
Q44A	Meyer Farm, Va	26.04	3	*e*P		P	10 23 47.9	-1.0
	comp=Z,266nm,0.9s								
Q44A	Meyer Farm, Va	26.04	3	P		P	10 23 47.6	-1.3
	baz=184,SNR=35								
Q41A	Truxton	26.04	359	P		P	10 23 48.1	-0.9
	baz=179,SNR=53								
Q43A	New Douglas	26.05	2	P		P	10 23 47.9	-1.0
	baz=182,SNR=30								
Q45A	Warren Harvey,	26.09	5	P		P	10 23 49.1	-0.2
	baz=186,SNR=61								
LAZ	Ladron	26.12	328	*e*P		P	10 23 51.7	+1.7
R51A	Hillsboro	26.19	13	P		P	10 23 49.7	-0.5
	baz=196,SNR=82								
ANMO	Albuquerque	26.21	330	*e*P		P	10 23 51.8	+1.0
	comp=Z,31nm,0.9s								
ANMO				ScP		ScP	10 31 06.7	+8.7
ANMO	Albuquerque	26.21	330	*d*P		P	10 23 52.0	+1.2
ANMO				pmax		pmax			
	comp=Z,68nm,1.7s								
ANMO				MLR		MLR			
	comp=Z,2μm,17.0s								
ANMO	Albuquerque	26.21	330	P		P	10 23 52.2	+1.4
	baz=143								
ANMO	Albuquerque	26.21	330	P		P	10 23 52.3	+1.5
	comp=Z,31nm,0.9s,baz=144,slow=11,SNR=68								
ANMO				ScP		ScP	10 31 06.7	+8.7
	comp=Z,2.4nm,0.8s,baz=214,slow=7.0,SNR=3.3								
ANMO				LR		LR	10 35 19.4		
	comp=Z,1μm,19.3s,baz=157,slow=39								
Q46A	CEJHS Indians,	26.29	6	P		P	10 23 50.6	-0.6
	baz=187,SNR=34								
Q47A	Bedord North L	26.31	8	P		P	10 23 50.6	-0.7
	baz=189,SNR=66								
Q48A	North Vernon	26.40	9	P		P	10 23 50.8	-1.4
	baz=191,SNR=77								
R52A	Catlettsburg	26.44	15	P		P	10 23 51.1	-1.5
	baz=198,SNR=28								
S55A	Lewisburg	26.50	18	P		P	10 23 52.5	-0.7
	baz=203,SNR=10								
BLO	Bloomington	26.53	7	*e*P		P	10 23 52.7	-0.6
	comp=Z,218nm,0.8s								
BLO				*e*PcP		PcP	10 27 19.4	+1.3
BLO	Bloomington	26.53	7	*e*P		P	10 23 52.7	-0.6
BLO				*e*			10 27 19.4		
BLO				pmax		pmax			
	comp=Z,218nm,0.8s								
R53A	Hurricane	26.61	16	P		P	10 23 53.3	-0.8
	baz=199,SNR=28								
Q49A	Aurora	26.61	10	P		P	10 23 53.5	-0.6
	baz=193,SNR=81								
P44A	Sand Creek, Wi	26.62	4	P		P	10 23 53.6	-0.6
	baz=184,SNR=33								
Q50A	Georgetown	26.63	12	P		P	10 23 53.2	-1.1
	baz=195,SNR=61								
P42A	Winchester	26.67	1	*e*P		P	10 23 53.3	-1.3
	comp=Z,120nm,0.9s								
P42A	Winchester	26.67	1	P		P	10 23 53.2	-1.5
	baz=181,SNR=43								
KSU1	Kansas State U	26.69	350	*e*P		P	10 23 53.6	-1.1
	comp=Z,142nm,0.8s								
KSU1				LR		LR			
	comp=Z,2μm,21.0s								
KSU1	Kansas State U	26.69	350	P		P	10 23 53.7	-1.1
	baz=167,SNR=25								
TUC	Tucson	26.70	320	*e*P		P	10 23 56.1	+1.0
	comp=Z,156nm,1.2s								
TUC				*e*PcP		PcP	10 27 20.1	+1.4
TUC				LR		LR			
	comp=Z,4μm,19.0s								
TUC	Tucson	26.70	320	*e*P		P	10 23 56.1	+1.0
TUC				*e*			10 27 20.1		
TUC				pmax		pmax			
	comp=Z,156nm,1.2s								
TUC				MLR		MLR			
	comp=Z,4μm,19.0s								
TUC	Tucson	26.70	320	P		P	10 23 57.0	+1.9
	baz=132								
R54A	Victor	26.73	17	P		P	10 23 54.9	-0.3
	baz=201,SNR=10								
P45A	Graceland, Par	26.75	5	*e*P		P	10 23 54.4	-0.9
	comp=Z,187nm,0.8s								
P45A	Graceland, Par	26.75	5	P		P	10 23 53.6	-1.7
	baz=186,SNR=55								
P43A	Skaggs, Pawnee	26.75	2	P		P	10 23 54.3	-1.0
	baz=182,SNR=35								
P41A	Barry, Barry	26.76	360	P		P	10 23 54.2	-1.2
	baz=179,SNR=48								
P47A	Martinsville	26.87	8	P		P	10 23 55.8	-0.6
	baz=189,SNR=39								
P46A	Rosedale	26.89	6	P		P	10 23 56.4	-0.2
	baz=187,SNR=9.0								
Q51A	Peebles	26.93	13	*e*P		P	10 23 56.1	-1.0
	comp=Z,827nm,1.1s								
Q51A	Peebles	26.93	13	P		P	10 23 56.4	-0.6
	baz=196,SNR=169								
P48A	Milroy	26.97	9	P		P	10 23 56.0	-1.3
	baz=191,SNR=96								
CBKS	Cedar Bluff	27.09	345	*e*P		P	10 23 58.0	-0.5
	comp=Z,122nm,1.1s								
CBKS				*e*PcP		PcP	10 27 21.1	+1.6
CBKS				LR		LR			
	comp=Z,2μm,20.0s								
CBKS	Cedar Bluff	27.09	345	*e*P		P	10 23 58.0	-0.5
CBKS				*e*			10 27 21.1		
CBKS				pmax		pmax			
	comp=Z,122nm,1.1s								
CBKS				MLR		MLR			
	comp=Z,2μm,20.0s								
CBKS	Cedar Bluff	27.09	345	P		P	10 23 57.3	-1.1
	baz=160								
R55A	Marlinton	27.09	19	P		P	10 23 57.3	-1.2
	baz=203,SNR=21								
Q52A	Bidwell	27.12	15	P		P	10 23 57.9	-0.8
	baz=198,SNR=48								
T25A	Trinidad	27.12	336	*e*P		P	10 23 59.9	+0.9
	comp=Z,406nm,1.9s								
T25A	Trinidad	27.12	336	P		P	10 24 00.2	+1.2
	baz=150,SNR=50								
P49A	Miami Univ. Ec	27.16	10	P		P	10 23 58.1	-0.9
	baz=193,SNR=64								
O41A	Passleys Farm,	27.20	360	P		P	10 23 57.2	-2.1
	baz=180,SNR=18								
O42A	Bath	27.29	1	P		P	10 23 58.2	-1.9
	baz=181,SNR=11								
O44A	Mansfield	27.31	4	P		P	10 23 59.2	-1.2
	baz=185,SNR=53								
O43A	Sugar Creek Fa	27.40	2	P		P	10 24 00.5	-0.7
	baz=183,SNR=9.9								
P50A	Jamestown	27.40	12	P		P	10 24 00.5	-0.7
	baz=195,SNR=146								
P51A	Williamsport	27.43	13	*e*P		P	10 24 00.6	-0.9
	comp=Z,177nm,0.9s								
P51A	Williamsport	27.43	13	P		P	10 24 00.8	-0.7
	baz=196,SNR=48								
O45A	Potomac	27.47	5	P		P	10 24 00.8	-1.0
	baz=186,SNR=25								
Q54A	Coxs Mills	27.53	17	P		P	10 24 01.7	-0.6
	baz=201,SNR=54								
R58B	Mineral	27.57	22	*e*P		P	10 24 01.7	-1.0
	comp=Z,70nm,0.9s								
R58B	Mineral	27.57	22	P		P	10 24 01.7	-1.0
	baz=208,SNR=17								
O47A	Shan	27.62	8	P		P	10 24 02.0	-1.2
	baz=189,SNR=23								
SFIN	Lafayette	27.66	6	*e*P		P	10 24 02.0	-1.5
	comp=Z,166nm,0.8s								
SFIN	Lafayette	27.66	6	P		P	10 24 02.8	-0.7
	baz=187,SNR=77								
HDIL	Hopedale	27.67	2	*e*P		P	10 24 02.4	-1.2
	comp=Z,232nm,1.0s								
HDIL				*e*PcP		PcP	10 27 22.0	+1.2
HDIL				LR		LR			
	comp=Z,3μm,21.0s								
HDIL	Hopedale	27.67	2	P		P	10 24 02.1	-1.5
	baz=183,SNR=30								
X18A	Snowflake	27.75	324	*e*P		P	10 24 06.4	+1.8
	comp=Z,341nm,1.8s								
Q55A	Buckhannon	27.76	18	P		P	10 24 03.9	-0.6
	baz=202,SNR=6.5								
214A	Organ Pipe Nat	27.78	317	P		P	10 24 04.3	-0.5
	baz=128,SNR=46								
O48A	Farmland	27.79	9	P		P	10 24 03.7	-1.0
	baz=192,SNR=45								
N41A	Harden Midland	27.79	360	*e*P		P	10 24 03.2	-1.5
	comp=Z,72nm,0.9s								
N41A	Harden Midland	27.79	360	P		P	10 24 03.1	-1.6
	baz=180,SNR=7.1								
P52A	Corning	27.79	14	P		P	10 24 03.9	-0.8
	baz=198,SNR=27								
P53A	Whipple	27.84	16	*e*P		P	10 24 04.0	-1.1
	comp=Z,252nm,1.1s								
P53A	Whipple	27.84	16	P		P	10 24 04.3	-0.8
	baz=200,SNR=34								
O49A	Covington	27.86	11	*e*P		P	10 24 03.9	-1.4
	comp=Z,169nm,0.8s								
O49A	Covington	27.86	11	P		P	10 24 04.5	-0.8
	baz=193,SNR=43								
N42A	Yates City	27.92	1	P		P	10 24 04.8	-1.0
	baz=181,SNR=30								
O50A	Cable	27.96	12	P		P	10 24 05.2	-0.9
	baz=195,SNR=202								
CBN	Corbin Frederi	27.98	23	*e*P		P	10 24 05.5	-0.9
	comp=Z,319nm,1.3s								
CBN				LR		LR			
	comp=Z,2μm,20.0s								
CBN	Corbin Frederi	27.98	23	P		P	10 24 05.3	-1.0
	baz=208,SNR=8.4								
N40A	Mertquake, Sal	27.98	359	P		P	10 24 05.2	-1.1
	baz=178,SNR=38								
N44A	Piper City	27.98	4	P		P	10 24 04.7	-1.6
	baz=185,SNR=29								
W18A	Petrified Fore	28.05	326	*e*P		P	10 24 09.0	+1.7
	comp=Z,357nm,1.4s								
W18A	Petrified Fore	28.05	326	P		P	10 24 09.8	+2.5
	baz=138,SNR=14								
N43A	Stutzman Famil	28.06	3	P		P	10 24 06.4	-0.7
	baz=183,SNR=35								
N45A	Kentland	28.08	5	P		P	10 24 06.3	-1.0
	baz=186,SNR=11								
SDCO	Great Sand Dun	28.09	335	*e*P		P	10 24 08.1	+0.3
	comp=Z,104nm,1.6s								
SDCO				*e*PcP		PcP	10 27 23.6	+1.4
SDCO				LR		LR			
	comp=Z,2μm,19.0s								
SDCO	Great Sand Dun	28.09	335	P		P	10 24 08.5	+0.7
	baz=148,SNR=48								
KSCO	Kaye Shedlock'	28.13	340	*e*P		P	10 24 06.8	-1.1
	comp=Z,140nm,0.9s								
KSCO	Kaye Shedlock'	28.13	340	P		P	10 24 07.6	-0.3
	baz=155,SNR=21								
ACSO	Alum Creek Sta	28.17	13	*e*P		P	10 24 07.2	-0.8
	comp=Z,510nm,0.8s								
ACSO				LR		LR			
	comp=Z,3μm,21.0s								
ACSO	Alum Creek Sta	28.17	13	P		P	10 24 07.5	-0.6
	baz=196,SNR=182								
O51A	Pataskala	28.17	13	P		P	10 24 07.3	-0.8
	baz=197,SNR=52								
P54A	Burton	28.20	17	P		P	10 24 07.7	-0.7
	baz=201,SNR=41								
N46A	Monticello	28.20	7	P		P	10 24 06.9	-1.5
	baz=188,SNR=22								
NNA	Nana	28.26	150	*e*P		P	10 24 09.3	+0.2
	comp=Z,98nm,1.5s								
NNA				PcP		PcP	10 27 22.3	-0.3
NNA	Nana	28.26	150	*i*P		P	10 24 11.2	+2.1
NNA	Nana	28.26	150	P		P	10 24 09.1	0.0
	comp=Z,9.2nm,0.8s,baz=72,slow=6.5,SNR=4.5								
NNA				PcP		PcP	10 27 22.3	-0.3
	comp=Z,22nm,0.7s,baz=301,slow=6.2,SNR=9.3								
NNA				LR		LR	10 33 15.2		
	comp=Z,1μm,20.4s,baz=310,slow=32								
P55A	Reedsville	28.31	18	P		P	10 24 08.4	-0.9
	baz=203,SNR=9.4								
N47A	Urbana	28.32	8	P		P	10 24 07.8	-1.6
	baz=190,SNR=46								
O52A	Adamsville	28.32	15	*e*P		P	10 24 08.2	-1.3
	comp=Z,248nm,1.0s								
O52A	Adamsville	28.32	15	P		P	10 24 08.4	-1.0
	baz=198,SNR=56								
ANWB	Willy Bob	28.39	77	PFAKE			10 24 20.0	+10
ANWB				LR		LR			
	comp=Z,4μm,19.0s								
N48A	Decatur	28.40	9	P		P	10 24 09.0	-1.1
	baz=192,SNR=50								
MCWV	Mont Chateau	28.44	18	*e*P		P	10 24 09.5	-1.0
	comp=Z,55nm,1.4s								
MCWV	Mont Chateau	28.44	18	P		P	10 24 09.5	-1.0
	baz=202,SNR=9.4								
GRGR	Grenville	28.45	88	PFAKE			10 24 20.0	+9.1
GRGR				LR		LR			
	comp=Z,1μm,19.0s								
M41A	Milan	28.46	0	P		P	10 24 09.4	-1.2
	baz=180,SNR=42								
M40A	Post Highland	28.50	359	P		P	10 24 09.9	-1.1
	baz=178,SNR=16								
X16A	Lo Mia Camp, P	28.53	322	*e*P		P	10 24 13.5	+1.9
	comp=Z,109nm,0.8s								
X16A				*e*PcP		PcP	10 27 25.0	+1.7
M42A	Sheffield	28.55	2	P		P	10 24 10.5	-0.9
	baz=182								
M43A	Waltham Townsh	28.57	3	P		P	10 24 11.1	-0.5
	baz=183,SNR=33								
M44A	Midewin, Midew	28.57	4	*e*P		P	10 24 11.4	-0.2
	comp=Z,188nm,1.1s								
M44A	Midewin, Midew	28.57	4	P		P	10 24 10.8	-0.8
	baz=185,SNR=17								
M39A	Webster	28.59	358	P		P	10 24 10.1	-1.6
	baz=177,SNR=105								
N49A	Columbus Grove	28.60	11	*e*P		P	10 24 11.6	-0.3
	comp=Z,111nm,0.9s								
N49A	Columbus Grove	28.60	11	P		P	10 24 11.0	-0.9
	baz=193,SNR=35								
O53A	New Philadelph	28.61	15	P		P	10 24 11.0	-0.9
	baz=199,SNR=33								
M45A	Boilermakers S	28.64	6	P		P	10 24 11.5	-0.8
	baz=187,SNR=8.3								
N50A	Nevada	28.65	12	P		P	10 24 12.0	-0.4
	baz=195,SNR=59								
S22A	4UR Ranch, Cre	28.66	333	*e*P		P	10 24 14.0	+1.1
	comp=Z,62nm,1.0s								
S22A				*e*PcP		PcP	10 27 25.4	+1.7
S22A	4UR Ranch, Cre	28.66	333	P		P	10 24 14.2	+1.3
	baz=146,SNR=70								
M46A	Old House Fiel	28.75	7	*e*P		P	10 24 13.1	-0.2
	comp=Z,129nm,1.0s								
M46A	Old House Fiel	28.75	7	P		P	10 24 12.8	-0.5
	baz=189,SNR=9.4								
O54A	Avella	28.77	17	P		P	10 24 12.3	-1.1
	baz=201,SNR=34								
M47A	Cromwell	28.80	8	P		P	10 24 11.9	-1.7
	baz=190,SNR=34								
113A	Mohawk Valley,	28.92	317	*e*P		P	10 24 16.1	+1.3
	comp=Z,425nm,1.9s								
113A				*e*PcP		PcP	10 27 24.9	+0.9
N51A	Ashland	28.96	13	*e*P		P	10 24 13.9	-1.2
	comp=Z,332nm,1.0s								
N51A	Ashland	28.96	13	P		P	10 24 14.1	-1.0
	baz=197,SNR=48								
Q24A	Divide	28.99	336	*e*P		P	10 24 16.0	+0.2
	comp=Z,48nm,1.3s								
Q24A	Divide	28.99	336	P		P	10 24 16.3	+0.5
	baz=150,SNR=10								
MVCO	Mesa Verde	29.01	330	*e*P		P	10 24 16.1	+0.2
	comp=Z,62nm,0.8s								
MVCO				LR		LR			
	comp=Z,2μm,20.0s								
MVCO	Mesa Verde	29.01	330	P		P	10 24 17.6	+1.7
	baz=142,SNR=28								
N52A	McGinn's Farm,	29.02	14	P		P	10 24 14.7	-0.9
	baz=198,SNR=40								
M48A	Edgerton	29.06	9	*e*P		P	10 24 16.1	+0.2
	comp=Z,133nm,0.8s								
M48A	Edgerton	29.06	9	P		P	10 24 14.9	-1.1
	baz=192,SNR=19								
SCIA	State Center	29.07	356	*e*P		P	10 24 14.7	-1.3
	comp=Z,156nm,0.9s								
SCIA				LR		LR			
	comp=Z,2μm,22.0s								
SCIA	State Center	29.07	356	P		P	10 24 14.9	-1.2
	baz=175,SNR=26								
L42A	Oliver, Polo	29.10	2	*e*P		P	10 24 14.5	-1.8
	comp=Z,149nm,0.9s								
L42A	Oliver, Polo	29.10	2	P		P	10 24 15.1	-1.2
	baz=182,SNR=34								
O55A	Ligonier	29.11	18	P		P	10 24 14.7	-1.7
	baz=203,SNR=7.9								
L40A	Anamosa	29.15	359	*e*P		P	10 24 15.6	-1.2
	comp=Z,209nm,0.9s								
L40A	Anamosa	29.15	359	P		P	10 24 15.7	-1.1
	baz=179,SNR=55								
L41A	Preston	29.16	0	P		P	10 24 15.4	-1.4
	baz=180,SNR=49								
Y14A	Wickenburg	29.17	320	*e*P		P	10 24 18.3	+1.2
	comp=Z,150nm,1.3s								
Y14A				*e*PcP		PcP	10 27 26.0	+1.3
M49A	Liberty Center	29.17	11	P		P	10 24 16.2	-0.8
	baz=195,SNR=38								
L39A	Vinton	29.23	358	P		P	10 24 16.0	-1.4
	baz=177,SNR=33								
N53A	Lisbon	29.23	16	P		P	10 24 16.4	-1.0
	baz=200,SNR=41								
SDMD	Soldier's Deli	29.23	22	*e*P		P	10 24 16.5	-1.0
	comp=Z,57nm,0.8s								
WUAZ	Wupatki	29.27	324	*e*P		P	10 24 20.0	+1.9
	comp=Z,104nm,0.8s								
WUAZ				*e*PcP		PcP	10 27 26.7	+1.6
WUAZ				LR		LR			
	comp=Z,2μm,20.0s								
WUAZ	Wupatki	29.27	324	P		P	10 24 20.5	+2.4
	baz=135,SNR=91								
M50A	Fremont	29.28	12	*e*P		P	10 24 16.8	-1.1
	comp=Z,517nm,0.8s								
M50A	Fremont	29.28	12	P		P	10 24 17.1	-0.8
	baz=195,SNR=102								
L43A	Garden Prairie	29.32	3	P		P	10 24 17.2	-1.0
	baz=184,SNR=12								
L46A	Eue Claire	29.36	7	P		P	10 24 17.1	-1.5
	baz=189,SNR=18								
L44A	Lake County Fo	29.37	4	P		P	10 24 17.4	-1.3
	baz=185,SNR=22								
O56A	Blue Knob Stat	29.39	19	*e*P		P	10 24 17.6	-1.5
	comp=Z,79nm,0.9s								
O56A	Blue Knob Stat	29.39

comp=Z,335nm,1.4s
GLA ePcP PcP 10 27 27.6 +1.3
GLA Glamis 29.80 317 P P 10 24 24.7 +2.0
baz=127,SNR=56
K39A Oelwein 29.80 358 P P 10 24 21.2 -1.3
baz=178,SNR=77
L49A Milan 29.83 11 P P 10 24 22.5 -0.3
baz=194,SNR=18
K43A Burlington 29.86 4 eP P 10 24 23.1 0.0
comp=Z,190nm,0.9s
K43A Burlington 29.86 4 P P 10 24 22.1 -0.9
baz=184,SNR=19
M53A WI Miller and 29.86 15 P P 10 24 22.2 -0.9
baz=200,SNR=41
K42A Prairie Point, 29.89 2 P P 10 24 22.5 -0.8
baz=182,SNR=13
ISCO Idaho Springs 29.90 337 eP P 10 24 24.2 +0.4
comp=Z,21nn,0.9s
ISCO LR LR
comp=Z,2µm,22.0s
ISCO Idaho Springs 29.90 337 P P 10 24 24.4 +0.6
baz=150,SNR=26
PV15 Paradox Valley 29.90 331 eP P 10 24 25.9 +2.1
comp=Z,96nm,1.3s
PV02 Paradox Valley 29.92 331 eP P 10 24 25.8 +1.8
comp=Z,57nn,1.0s
PV13 Radium Mtn., P 29.92 331 eP P 10 24 25.3 +1.4
comp=Z,131nm,1.3s
SMCO Snowmass 29.92 334 eP P 10 24 25.3 +1.2
comp=Z,34nm,1.1s
MVL Millersville 29.93 23 eP P 10 24 23.1 -0.5
comp=Z,94nm,1.0s
L50A Kingsville 29.95 12 P P 10 24 23.4 -0.4
baz=195,SNR=158
SSPA Standing Stone 29.95 20 eP P 10 24 22.9 -1.0
comp=Z,61nn,0.8s
SSPA Standing Stone 29.95 20 P P 10 24 22.8 -1.0
baz=206
PV05 Paradox Valley 29.99 330 eP P 10 24 25.9 +1.3
PAGS Pennsylvania G 29.99 22 eP P 10 24 23.0 -1.3
comp=Z,44nm,0.8s
JFWS Jewell Farm 30.00 1 eP P 10 24 22.6 -1.7
comp=Z,120nm,0.9s
JFWS LR LR
comp=Z,2µm,20.0s
JFWS Jewell Farm 30.00 1 eP P 10 24 22.6 -1.7
JFWS pmax pmax
comp=Z,120nm,0.9s
JFWS MLR MLR
comp=Z,2µm,20.0s
JFWS Jewell Farm 30.00 1 P P 10 24 23.0 -1.4
baz=181,SNR=26
PV03 Paradox Valley 30.01 331 eP P 10 24 26.4 +1.7
comp=Z,92nm,1.0s
PV03 ePcP PcP 10 27 28.2 +1.2
Y12C Blythe 30.02 318 eP P 10 24 26.3 +1.7
comp=Z,105nm,1.3s
Y12C ePcP PcP 10 27 28.1 +1.3
Y12C Blythe 30.02 318 P P 10 24 26.6 +2.0
baz=128,SNR=26
AAM Ann Arbor 30.03 11 eP P 10 24 24.0 -0.6
comp=Z,98nm,0.8s
AAM LR LR
comp=Z,3µm,22.0s
AAM Ann Arbor 30.03 11 eP P 10 24 24.0 -0.6
AAM pmax pmax
comp=Z,98nm,0.8s
AAM MLR MLR
comp=Z,3µm,22.0s
AAM Ann Arbor 30.03 11 P P 10 24 24.6 0.0
baz=194,SNR=21
PV12 Saucer Basin, 30.04 331 eP P 10 24 26.7 +1.7
comp=Z,121nm,1.0s
PV12 ePcP PcP 10 27 28.4 +1.3
PV11 David Mesa, Pa 30.05 331 eP P 10 24 26.7 +1.6
comp=Z,99nm,0.9s
PV11 ePcP PcP 10 27 29.0 +1.9
PV07 Paradox Valley 30.06 331 eP P 10 24 26.7 +1.6
comp=Z,55nn,0.9s
PV17 East Wray Mesa 30.08 331 eP P 10 24 26.5 +1.1
comp=Z,96nn,0.8s
K46A Dorr 30.09 7 P P 10 24 24.0 -1.0
baz=189,SNR=14
PV16 Nyswonger Mesa 30.09 331 eP P 10 24 26.9 +1.6
comp=Z,93nn,1.1s
PV16 ePcP PcP 10 27 28.2 +1.0
PV19 Morning Glory 30.11 331 eP P 10 24 27.1 +1.4
comp=Z,69nm,1.0s
PV19 ePcP PcP 10 27 28.6 +1.4
PDMCI Parker Dam,Lak 30.12 319 P P 10 24 27.4 +1.9
baz=130,SNR=69
PV20 West Nyswonger 30.13 331 eP P 10 24 27.2 +1.4
comp=Z,75nn,0.9s
PV04 Paradox Valley 30.14 331 eP P 10 24 27.6 +1.7
comp=Z,133nm,1.1s
K47A Vermontville 30.18 9 P P 10 24 24.4 -1.4
baz=191,SNR=34
PV14 Lion Creek, Pa 30.18 331 eP P 10 24 27.2 +0.9
comp=Z,87nm,1.0s
PV14 ePcP PcP 10 27 28.6 +1.1
PV10 Paradox Valley 30.20 331 eP P 10 24 27.5 +1.1
comp=Z,83nm,1.0s
M54A Oil Creek Stat 30.20 17 eP P 10 24 25.3 -0.8
comp=Z,78nm,1.0s
M54A Oil Creek Stat 30.20 17 P P 10 24 25.0 -1.1
baz=202,SNR=15
PV23 Carpenter Ridg 30.24 331 eP P 10 24 28.0 +1.2
comp=Z,93nn,0.9s
PV21 Cone Mtn., Par 30.31 331 eP P 10 24 29.2 +1.8
comp=Z,50nn,1.1s
PV21 ePcP PcP 10 27 28.7 +0.9
PV09 Paradox Valley 30.34 331 eP P 10 24 29.1 +1.4
SWSC Sam W. Stewart 30.40 315 P P 10 24 29.7 +1.8
baz=125,SNR=25
M55A Ridgway 30.43 18 P P 10 24 27.2 -0.9
baz=203,SNR=13
J39A Decorah 30.43 359 P P 10 24 26.6 -1.4
baz=178,SNR=37
BBGH Gun Hill 30.43 86 PFAKE 10 24 40.0 +12
BBGH LR LR
comp=Z,4µm,20.0s
J42A Columbus 30.43 2 P P 10 24 26.6 -1.5
baz=183,SNR=41
U15A North Rim 30.43 324 eP P 10 24 30.5 +1.9
comp=Z,128nm,1.1s
K48A Perry 30.44 10 P P 10 24 26.5 -1.6
baz=193,SNR=43
IKP In-Ko-Pah, Jac 30.44 315 P P 10 24 29.9 +1.5
baz=124,SNR=24
L53A Girard 30.45 16 P P 10 24 27.3 -1.0
baz=200,SNR=26
J41A Loganville 30.45 1 P P 10 24 27.0 -1.4
baz=181,SNR=33
W13A Hualapai Mount 30.48 321 eP P 10 24 30.9 +2.0
comp=Z,236nm,1.3s
W13A ePcP PcP 10 27 29.7 +1.5
J40A Soldiers Grove 30.48 0 P P 10 24 26.7 -1.8
baz=180,SNR=17
J43A Natural Harves 30.53 3 P P 10 24 27.8 -1.2
baz=184,SNR=30
K49A Clarkson 30.54 11 P P 10 24 27.6 -1.5
baz=194,SNR=63
BC3 Big Chuckawall 30.58 317 P P 10 24 31.5 +1.8
baz=127,SNR=85
ERPA Erie 30.68 16 eP P 10 24 28.8 -1.5
comp=Z,110nm,0.8s
ERPA Erie 30.68 16 P P 10 24 29.3 -1.0
baz=201,SNR=20
IRM Iron Mountain 30.68 318 P P 10 24 32.5 +2.0
baz=128,SNR=72
NEE2 Needles Airpor 30.72 319 P P 10 24 31.7 +0.9
baz=129,SNR=10
J46A Howard City 30.75 7 P P 10 24 28.8 -2.2
baz=190,SNR=13
J45A Montague 30.75 6 P P 10 24 29.7 -1.2
baz=188
J47A Sunmer 30.76 9 P P 10 24 29.5 -1.5
baz=191,SNR=19
MONP2 Monument Peak 30.79 315 P P 10 24 32.2 +0.5
baz=124,SNR=21
LUPA Lehigh Univers 30.82 23 eP P 10 24 31.1 -0.5
comp=Z,111nm,0.9s
BBSR BB Station 30.84 47 eP P 10 24 31.4 -0.4
comp=Z,191nm,1.0s
BAR Barrett 30.85 314 eP P 10 24 33.4 +1.4
comp=Z,64nm,1.1s
K51A Iona Station 30.87 13 P P 10 24 30.7 -1.3
baz=198,SNR=15

I39A Houston 30.94 359 eP P 10 24 30.9 -1.7
comp=Z,112nm,0.8s
I39A Houston 30.94 359 P P 10 24 31.2 -1.4
baz=178,SNR=30
N59A State Game Lan 30.94 22 eP P 10 24 32.0 -0.7
comp=Z,67nm,0.9s
N59A State Game Lan 30.94 22 P P 10 24 31.9 -0.8
baz=209,SNR=16
N23A Red Feather La 30.97 337 eP P 10 24 34.0 +0.7
comp=Z,20nm,0.8s
N23A Red Feather La 30.97 337 P P 10 24 33.7 +0.4
baz=150,SNR=16
I40A Norwalk 30.97 0 P P 10 24 30.9 -2.0
baz=180,SNR=12
J48A Bridge Port 30.98 10 P P 10 24 31.6 -1.3
baz=195,SNR=17
I42A Draeger Farm, 31.02 3 eP P 10 24 32.1 -1.1
comp=Z,225nm,0.8s
I42A Draeger Farm, 31.02 3 P P 10 24 32.3 -0.9
baz=183,SNR=44
I43A Langenfeld Bro 31.05 4 P P 10 24 32.5 -1.1
baz=185,SNR=56
K52A Tillsonburg 31.11 14 P P 10 24 33.0 -1.1
baz=199,SNR=29
PHWY Pilot Hill 31.15 338 eP P 10 24 35.1 +0.2
comp=Z,40nm,0.9s
PHWY ePcP PcP 10 27 31.1 +1.1
BELC Belle Mtn. Jos 31.15 317 P P 10 24 36.7 +2.0
baz=126,SNR=16
I41A Arkdale 31.15 1 eP P 10 24 33.2 -1.3
comp=Z,227nm,0.9s
I41A Arkdale 31.15 1 P P 10 24 33.1 -1.3
baz=181,SNR=93
J49A Marlette 31.15 11 P P 10 24 32.8 -1.7
baz=194,SNR=44
KNB Kanab 31.15 325 eP P 10 24 37.1 +2.3
comp=Z,348nm,1.3s
KNB ePcP PcP 10 27 31.5 +1.5
L55A Hinsdale 31.18 18 P P 10 24 33.3 -1.5
baz=203,SNR=20
BRNJ Basking Ridge 31.21 24 eP P 10 24 34.5 -0.5
comp=Z,104nm,0.9s
ECSD EROS Data Cent 31.22 352 eP P 10 24 33.7 -1.4
comp=Z,103nm,0.9s
ECSD LR LR
comp=Z,2µm,19.0s
ECSD EROS Data Cent 31.22 352 P P 10 24 33.6 -1.4
baz=169,SNR=94
XPFO Pion Flat 31.23 316 eP P 10 24 37.2 +1.8
comp=Z,71nm,1.1s
LDFC Landfair 31.23 319 eP P 10 24 38.4 +3.0
comp=Z,238nm,0.9s
PFO Pinyon Flats O 31.23 316 eP P 10 24 36.8 +1.3
comp=Z,66nm,1.1s
PFO ScP ScP 10 31 18.6 +4.8
PFO LR LR
comp=Z,878nm,21.0s
PFO Pinyon Flats O 31.23 316 P P 10 24 37.5 +2.1
baz=125,SNR=22
PFO Pinyon Flats O 31.23 316 P P 10 24 37.6 +2.1
comp=Z,34nm,1.0s,baz=117,slow=7.3,SNR=22
PFO ScP ScP 10 31 18.6 +4.8
comp=Z,0.9nm,0.3s,baz=79,slow=5.2,SNR=3.3
O20A White River Ci 31.26 334 eP P 10 24 37.2 +1.6
comp=Z,77nm,0.9s
O20A White River Ci 31.26 334 P P 10 24 37.0 +1.3
baz=146,SNR=59
109C Camp Elliot, M 31.27 314 P P 10 24 36.3 +0.6
baz=124,SNR=15
CPE Camp Elliot 31.27 314 eP P 10 24 37.1 +1.5
comp=Z,175nm,1.4s
I46A Reed City 31.36 7 P P 10 24 34.1 -2.2
baz=190,SNR=44
ELFO Elginfield 31.36 13 P P 10 24 34.9 -1.4
baz=198,SNR=36
I45A Fountain 31.36 6 P P 10 24 36.1 -0.2
baz=188,SNR=38
LCMT Little Creek M 31.39 324 eP P 10 24 39.1 +2.3
comp=Z,94nm,1.1s
GMRC Granite Mounta 31.40 318 P P 10 24 38.7 +1.8
baz=128,SNR=75
SRU San Rafael Swe 31.49 330 eP P 10 24 38.9 +1.2
comp=Z,148nm,1.5s
SRU ePcP PcP 10 27 31.3 +0.4
ODNJ Ogdensburg 31.53 24 eP P 10 24 36.6 -1.2
comp=Z,234nm,1.9s
MTPU Mount Pierson 31.54 327 eP P 10 24 39.9 +1.6
comp=Z,227nm,1.4s
CPNY Central Park 31.55 25 eP P 10 24 37.2 -0.8
comp=Z,44nn,0.8s
I47A Gladwin 31.57 9 P P 10 24 36.6 -1.5
baz=191,SNR=14
J52A Paris 31.61 14 P P 10 24 37.3 -1.2
baz=199,SNR=128
TYNO Tyneside 31.62 15 P P 10 24 37.5 -1.1
baz=200,SNR=27
H42A Shiocton 31.65 3 eP P 10 24 38.6 -0.2
comp=Z,202nm,1.1s
H42A Shiocton 31.65 3 P P 10 24 37.8 -1.0
baz=184,SNR=22
H43A Windswept, Lux 31.66 4 eP P 10 24 38.9 0.0
comp=Z,205nm,0.9s
H43A Windswept, Lux 31.66 4 P P 10 24 37.8 -1.1
baz=185,SNR=11
Q16A Castle Valley 31.66 329 eP P 10 24 41.2 +1.9
comp=Z,297nm,1.7s
H40A Chili 31.71 1 P P 10 24 37.6 -1.7
baz=180,SNR=23
SZCU Shurtz Canyon 31.71 325 eP P 10 24 41.5 +1.7
comp=Z,147nm,1.1s
SZCU ePcP PcP 10 27 33.2 +1.8
H41A Junction City 31.71 2 eP P 10 24 38.0 -1.4
comp=Z,130nm,0.9s
H41A Junction City 31.71 2 P P 10 24 37.7 -1.7
baz=182,SNR=29
MURC Murrieta 31.73 315 P P 10 24 41.7 +1.9
baz=124,SNR=32
PAL Palisades 31.75 25 eP P 10 24 38.3 -1.4
comp=Z,83nm,0.8s
PAL Palisades 31.75 25 eP P 10 24 38.3 -1.4
PAL pmax pmax
comp=Z,83nm,0.8s
PAL Palisades 31.75 25 P P 10 24 38.2 -1.5
baz=212,SNR=13
P18A Preston Nutter 31.76 331 eP P 10 24 40.7 +0.4
comp=Z,65nn,1.1s
H39A Augusta 31.76 359 P P 10 24 38.5 -1.3
baz=179,SNR=55
I49A Point Hope 31.77 11 P P 10 24 38.4 -1.5
baz=195,SNR=25
H38A Maiden Rock 31.78 358 P P 10 24 38.9 -1.1
baz=177,SNR=126
K55A Perry 31.79 18 P P 10 24 39.0 -1.1
baz=204,SNR=18
CCUT Cedar City 31.83 325 eP P 10 24 43.5 +2.6
comp=Z,155nm,1.0s
CCUT ePcP PcP 10 27 33.8 +1.9
MMNY Mt. Morris Dam 31.84 18 eP P 10 24 40.1 -0.4
comp=Z,103nm,1.0s
I48A Sherman Twp 31.86 10 P P 10 24 39.6 -1.1
baz=193,SNR=11
HEC Hector,Ludlow 31.87 318 P P 10 24 43.4 +2.4
baz=127,SNR=37
P17A Butcher Ranch, 31.88 330 eP P 10 24 42.8 +1.6
comp=Z,77nm,0.9s
MSU Marysvale 31.88 327 eP P 10 24 42.9 +1.7
MSU ePcP PcP 10 27 33.5 +1.6
MSU Marysvale 31.88 327 eP P 10 24 42.9 +1.7
MSU e 10 27 33.5
STCO Saint Catharin 31.91 16 P P 10 24 40.2 -0.9
baz=202,SNR=5.6
BBRC Big Bear Solar 31.92 316 P P 10 24 42.6 +0.9
baz=126
H45A Beulah 31.96 6 P P 10 24 40.0 -1.6
baz=188,SNR=19
TMUT Trail Mountain 31.97 329 eP P 10 24 43.3 +1.2
comp=Z,56nn,1.2s
TMUT ePcP PcP 10 27 33.7 +1.4
TUQ Turquoise Moun 31.97 319 P P 10 24 43.7 +1.8
baz=128,SNR=16
H46A Fife Lake 31.98 8 P P 10 24 39.7 -2.1
baz=190,SNR=56
BINY Binghamton 31.99 21 eP P 10 24 40.2 -1.7
comp=Z,511nm,1.8s
BINY ePcP PcP 10 27 33.2 +1.3
BINY LR LR
comp=Z,3µm,22.0s
BINY Binghamton 31.99 21 P P 10 24 40.5 -1.4
baz=208,SNR=21
I51A Listowel 32.01 13 P P 10 24 40.8 -1.2
baz=198,SNR=62
ACTO Acton 32.05 15 P P 10 24 41.3 -1.1
baz=200,SNR=48
BASO Ashfield 32.07 12 P P 10 24 41.6 -0.9
baz=197,SNR=46
MEDO Medina 32.07 17 P P 10 24 41.2 -1.4
baz=203,SNR=18
TCRU Three Creeks R 32.09 327 eP P 10 24 44.8 +1.7
comp=Z,87nm,1.1s
TCRU ePcP PcP 10 27 34.7 +2.1
RWWY Rawlins 32.14 337 eP P 10 24 44.3 +0.8
comp=Z,107nm,1.0s
RWWY ePcP PcP 10 27 33.8 +1.2
SHPR Sheep Range 32.18 321 eP P 10 24 45.6 +1.8
comp=Z,248nm,1.5s
SHPR ePcP PcP 10 27 34.6 +1.9
H47A Mio 32.18 9 P P 10 24 41.5 -2.0
baz=192,SNR=20
G38A Ridgeland 32.26 359 P P 10 24 41.9 -2.4
baz=178,SNR=66
BWLO Walkerton 32.28 13 P P 10 24 43.1 -1.3
baz=198,SNR=44
SUSD Miller 32.29 349 P P 10 24 43.6 -0.9
baz=165,SNR=22
G41A Antigo 32.32 2 P P 10 24 43.5 -1.3
baz=183,SNR=33
RRX Edison Barstow 32.33 317 P P 10 24 46.6 +1.6
baz=126,SNR=13
BRCO Bruce Peninsul 32.34 13 P P 10 24 44.3 -0.6
baz=197,SNR=31
SCI2 San Clemente I 32.34 313 P P 10 24 45.6 +0.6
baz=122
GLMI Grayling 32.34 8 eP P 10 24 44.4 -0.5
comp=Z,246nm,1.0s
GLMI LR LR
comp=Z,2µm,21.0s
GLMI Grayling 32.34 8 P P 10 24 43.3 -1.6
baz=191,SNR=16
J55A Hilton 32.35 18 P P 10 24 43.6 -1.4
baz=204,SNR=19
SPMN Marine on St. 32.35 357 eP P 10 24 43.3 -1.7
comp=Z,413nm,0.7s
SPMN Marine on St. 32.35 357 P P 10 24 43.6 -1.4
baz=176,SNR=195
G40A Rib Lake 32.35 1 eP P 10 24 43.2 -1.8
comp=Z,75nm,1.0s
G40A Rib Lake 32.35 1 P P 10 24 43.7 -1.4
baz=181,SNR=22
G39A Holcombe 32.37 360 P P 10 24 43.6 -1.6
baz=179,SNR=78
I53A Kortright Cn E 32.38 15 P P 10 24 44.2 -1.0
baz=200,SNR=17
G42A Mountain 32.39 3 eP P 10 24 44.5 -0.8
comp=Z,172nm,0.8s
G42A Mountain 32.39 3 P P 10 24 44.2 -1.1
baz=184,SNR=43
BFSC Mount Baldy Ra 32.41 316 P P 10 24 47.6 +1.8
baz=125,SNR=20
YLE Yale 32.41 26 eP P 10 24 45.1 -0.4
comp=Z,61nm,0.7s
H48A Harrisville 32.42 10 P P 10 24 44.5 -1.1
baz=193,SNR=12
G45A Suttons Bay 32.42 7 P P 10 24 44.7 -0.9
baz=189,SNR=68
G43A Wallace 32.45 4 eP P 10 24 44.9 -0.9
comp=Z,201nm,0.8s
G43A Wallace 32.45 4 P P 10 24 44.0 -1.9
baz=185,SNR=27
I52A Shelburne 32.46 14 P P 10 24 44.7 -1.3
baz=199,SNR=65
GSC Goldstone, Bar 32.46 318 eP P 10 24 48.1 +1.9
comp=Z,64nm,1.1s
GSC ePcP PcP 10 27 34.9 +1.5
GSC Goldstone, Bar 32.46 318 eP P 10 24 48.1 +1.9
GSC e 10 27 34.9
GSC pmax pmax
comp=Z,64nm,1.1s
GSC Goldstone, Bar 32.46 318 P P 10 24 48.2 +2.0
baz=127,SNR=30
CIS Catalina Islan 32.47 314 P P 10 24 47.9 +1.7
baz=122,SNR=11
SHOC Shoshone, Teco 32.48 319 P P 10 24 46.1 -0.3
baz=128,SNR=11
FMP Fort Macarthur 32.55 314 P P 10 24 47.3 +0.4
baz=123
PKRO Pickering 32.64 16 P P 10 24 46.3 -1.3
baz=201,SNR=27
DRWO Darlington Wes 32.65 16 P P 10 24 46.1 -1.5
baz=202,SNR=16
DRCO St. Marys Ceme 32.66 16 P P 10 24 44.8 -2.9
baz=202,SNR=8.1
MWC Mount Wilson 32.67 315 eP P 10 24 49.9 +1.7
comp=Z,168nm,1.3s
MWC Mount Wilson 32.67 315 eP P 10 24 49.9 +1.7
MWC pmax pmax
comp=Z,169nm,1.3s
K22A Casper 32.71 338 eP P 10 24 48.5 +0.1
comp=Z,78nm,0.9s
K22A Casper 32.71 338 P P 10 24 48.5 +0.1
baz=150,SNR=51
BMRO Merrille Lake 32.72 13 P P 10 24 46.8 -1.4
baz=197,SNR=40
PASC Pasadena Art C 32.73 315 eP P 10 24 50.3 +1.8
comp=Z,164nm,1.4s
PASC ePcP PcP 10 27 34.7 +0.6
MPU Maple Canyon 32.73 330 eP P 10 24 50.1 +1.4
comp=Z,241nm,1.8s
MPU ePcP PcP 10 27 35.6 +1.4
WLVO Wesleyville 32.79 17 P P 10 24 47.0 -1.8
baz=202,SNR=29
G46A Petoskey 32.79 8 P P 10 24 47.4 -1.4
baz=190,SNR=20
G47A Hillman 32.79 9 P P 10 24 46.3 -2.6
baz=192,SNR=13
PSUT Pine Spring 32.80 325 eP P 10 24 50.9 +1.6
comp=Z,116nm,1.0s
PSUT ePcP PcP 10 27 36.2 +1.7
F37A Hinrichs Farm, 32.84 358 P P 10 24 48.3 -1.0
baz=176,SNR=36
F41A Three Lakes 32.85 2 eP P 10 24 49.2 -0.2
comp=Z,111nm,0.9s
F41A ePcP PcP 10 27 35.4 +1.2
F41A Three Lakes 32.85 2 P P 10 24 48.1 -1.3
baz=183,SNR=30
DECC Green Verdugo 32.88 315 P P 10 24 51.8 +2.0
baz=124,SNR=34
NLU North Lily Min 32.91 329 eP P 10 24 51.8 +1.6
comp=Z,240nn,2.0s
NLU ePcP PcP 10 27 36.2 +1.4
F42A Maple Grove Fa 32.92 3 P P 10 24 47.2 -2.8
baz=184,SNR=15
F39A Loretta 33.00 360 P P 10 24 48.7 -1.9
baz=180,SNR=33
EDW2 Edwards Air Fo 33.00 316 P P 10 24 50.8 -0.2
baz=125,SNR=30
F40A Park Falls 33.01 1 P P 10 24 49.1 -1.6
baz=181,SNR=58
F38A Pierce - Schro 33.05 359 P P 10 24 49.3 -1.8
baz=178,SNR=158
F43A Flat Rock, Esc 33.06 5 P P 10 24 48.4 -2.8
baz=186,SNR=19
F45A CMU Biological 33.07 7 P P 10 24 49.0 -2.3
baz=189,SNR=14
JLU Jordanelle 33.09 331 eP P 10 24 53.4 +1.5
comp=Z,62nm,1.3s
TPNV Topopah Spring 33.13 321 eP P 10 24 54.6 +2.4
comp=Z,704nm,2.0s
TPNV ePcP PcP 10 27 37.2 +1.8
TPNV Topopah Spring 33.13 321 P P 10 24 54.9 +2.7
baz=130
LRMC Laurel Mtn Rad 33.14 318 P P 10 24 52.8 +0.6
baz=126,SNR=8.3
SNCC San Nicolas Is 33.18 313 P P 10 24 52.5 +0.1
baz=121
PECO Prince Edward 33.21 18 P P 10 24 51.1 -1.3
baz=205,SNR=14
FURC Furnace Creek, 33.21 320 P P 10 24 54.7 +2.1
baz=128,SNR=75
RSSD Black Hills 33.21 342 eP P 10 24 52.6 -0.2
comp=Z,23nm,0.8s
RSSD ePcP PcP 10 27 36.4 +0.9
RSSD Black Hills 33.21 342 eP P 10 24 52.6 -0.2
RSSD e 10 27 36.4
RSSD pmax pmax
comp=Z,23nm,0.8s
RSSD Black Hills 33.21 342 P P 10 24 52.6 -0.2

baz=156
COWI **Conover** 33.21 2 *e*P P 10 24 50.8 -1.7
comp=Z,268nm,0.8s
COWI *e*PcP PcP 10 27 36.5 +1.3
COWI LR LR
comp=Z,2µm,22.0s
F46A **Macinaw City C** 33.25 8 P P 10 24 51.7 -1.2
baz=190,SNR=63
I55A **Frankford** 33.26 17 P P 10 24 51.7 -1.2
baz=204,SNR=43
TOBO **Tobermory, Bru** 33.26 12 P P 10 24 51.5 -1.4
baz=196,SNR=40
F44A **Big Bay de Noc** 33.26 6 P P 10 24 51.8 -1.1
baz=188,SNR=31
TRY **Troy** 33.30 23 *e*P P 10 24 52.6 -0.7
comp=Z,143nm,0.9s
BLG **Laguna Peak, P** 33.30 314 P P 10 24 55.4 +1.9
baz=123,SNR=6.5
CTU **Camp Tracy** 33.31 330 *e*P P 10 24 55.1 +1.5
comp=Z,65nm,0.9s
OSI **Osito Audit: C** 33.34 315 *e*P P 10 24 55.6 +1.7
comp=Z,118nm,1.1s
OSI **Osito Audit: C** 33.34 315 P P 10 24 55.7 +1.8
baz=124,SNR=12
MPMC **Manual Prospec** 33.36 319 P P 10 24 56.2 +2.0
baz=127,SNR=139
SADO **Sadowa** 33.37 15 *e*P P 10 24 52.1 -1.8
comp=Z,997nm,1.8s
SADO **Sadowa** 33.37 15 P P 10 24 52.8 -1.1
comp=Z,177nm,1.0s,baz=250,slow=6.7,SNR=75
SADO LR LR 10 39 34.8
comp=Z,2µm,18.0s,baz=184,slow=38
PTGA **Pitinga** 33.41 111 *e*P P 10 24 54.8 +0.2
comp=Z,163nm,1.1s
PTGA LR LR
comp=Z,12µm,19.0s
PTGA **Pitinga** 33.41 111 P P 10 24 55.6 +1.0
comp=Z,77nm,0.9s,baz=300,slow=9.9,SNR=43
PTGA **Pitinga** 33.41 111 *e*P P 10 24 55.7 +1.0
QUA2 **Belchertown** 33.45 25 *e*P P 10 24 53.2 -1.5
comp=Z,113nm,1.0s
DUG **Dugway, Tooele** 33.46 329 *e*P P 10 24 56.8 +1.8
comp=Z,221nm,1.8s
DUG *e*PcP PcP 10 27 37.4 +1.3
DUG LR LR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 33.46 329 *e*P P 10 24 56.8 +1.8
DUG *e* 10 27 37.4
DUG pmax pmax
comp=Z,221nm,1.8s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 33.46 329 P P 10 24 57.1 +2.2
baz=138,SNR=34
E39A **Mellen** 33.46 0 P P 10 24 53.3 -1.4
baz=180,SNR=70
TCUT **Toone Canyon** 33.48 331 *e*P P 10 24 56.9 +1.7
comp=Z,105nm,0.8s
BRYW **Bryant College** 33.50 26 *e*P P 10 24 53.4 -1.7
comp=Z,167nm,1.5s
DELO **Deloro Mine** 33.55 17 P P 10 24 53.3 -2.2
baz=203,SNR=42
DAC **Darwin (Calif)** 33.56 319 *e*P P 10 24 57.5 +1.6
comp=Z,149nm,1.2s
DAC *e*PcP PcP 10 27 37.6 +1.0
DAC **Darwin (Calif)** 33.56 319 *e*P P 10 24 57.6 +1.6
DAC *e* 10 27 37.6
DAC pmax pmax
comp=Z,149nm,1.2s
E41A **Kenton** 33.58 2 P P 10 24 54.3 -1.4
baz=183,SNR=35
E42A **Champion** 33.60 4 P P 10 24 54.5 -1.5
baz=185,SNR=38
M65A **Busby, Falmout** 33.61 28 P P 10 24 53.2 -2.8
baz=217
E43A **Lone Tree Farm** 33.61 5 *e*P P 10 24 55.5 -0.5
comp=Z,291nm,0.9s
E43A **Lone Tree Farm** 33.61 5 P P 10 24 53.7 -2.3
baz=186,SNR=56
F48A **Evansville** 33.63 10 P P 10 24 53.7 -2.5
baz=194,SNR=18
SCZ2 **Santa Cruz Isl** 33.65 314 P P 10 24 56.0 -0.5
baz=122
R11A **Troy Canyon, C** 33.66 323 *e*P P 10 24 58.7 +1.9
comp=Z,227nm,1.5s
R11A *e*PcP PcP 10 27 37.7 +0.9
R11A **Troy Canyon, C** 33.66 323 P P 10 24 58.0 +1.3
baz=132,SNR=154
KLBO **Killbear Provi** 33.67 14 P P 10 24 54.8 -1.7
baz=198,SNR=35
F49A **Sandfield** 33.67 11 P P 10 24 54.8 -1.7
baz=195,SNR=26
E38A **The Farm, Brul** 33.69 359 *e*P P 10 24 54.6 -2.1
comp=Z,352nm,0.7s
E38A **The Farm, Brul** 33.69 359 P P 10 24 55.1 -1.6
baz=178,SNR=164
ARVC **Arvin** 33.70 316 P P 10 24 59.1 +2.2
baz=124,SNR=19
H55A **Tweed** 33.71 18 P P 10 24 55.3 -1.6
baz=204,SNR=27
ISA **Isabella, Lake** 33.77 317 *e*P P 10 24 59.3 +1.6
comp=Z,94nm,1.3s
ISA *e*PcP PcP 10 27 38.6 +1.6
ISA **Isabella, Lake** 33.77 317 P P 10 24 59.5 +1.9
baz=125,SNR=50
E45A **Wooded Hills,** 33.77 7 P P 10 24 56.8 -0.6
baz=190,SNR=18
G53A **Haliburton** 33.84 16 P P 10 24 56.7 -1.3
baz=201,SNR=66
GRAC **Grapevine Rang** 33.85 320 P P 10 25 00.9 +2.6
baz=128,SNR=69
ACCN **Adirondack Com** 33.86 23 *e*P P 10 24 56.6 -1.6
comp=Z,57nm,0.9s
E46A **Sault Ste Mari** 33.90 8 P P 10 24 57.0 -1.4
baz=191,SNR=25
BANO **Bancroft** 33.93 16 P P 10 24 57.2 -1.6
baz=203,SNR=39
BUKO **Buck Lake** 33.94 14 P P 10 24 56.9 -1.9
baz=200,SNR=131
E44A **Grand Marais A** 33.95 6 *e*P P 10 24 59.5 +0.5
comp=Z,1µm,2.0s
E44A **Grand Marais A** 33.95 6 P P 10 24 57.3 -1.6
baz=188,SNR=7.4
CWC **Cottonwood Cre** 33.97 319 P P 10 25 01.6 +2.1
baz=127
HRV **Adam Dziewonsk** 33.97 26 *e*P P 10 24 58.8 -0.4
comp=Z,209nm,1.5s
HRV **Adam Dziewonsk** 33.97 26 *e*P P 10 24 58.8 -0.4
HRV pmax pmax
comp=Z,209nm,1.5s
HRV **Adam Dziewonsk** 33.97 26 P P 10 24 57.6 -1.5
baz=215
WES **Weston** 33.97 26 *e*P P 10 24 59.2 0.0
comp=Z,91nm,1.3s
WES **Weston** 33.97 26 *e*P P 10 24 59.2 0.0
WES pmax pmax
comp=Z,91nm,1.3s
BW06 **Boulder Array** 33.99 335 *e*P P 10 24 59.6 0.0
comp=Z,24nm,0.9s
BW06 LR LR
comp=Z,1µm,19.0s
BW06 **Boulder Array** 33.99 335 P P 10 24 59.7 0.0
baz=146,SNR=34
PD31 **Pinedale Array** 33.99 335 *e*P P 10 24 59.8 +0.2
comp=Z,22nm,0.9s
PDAR **Pinedale Array** 33.99 335 *e*P P 10 24 59.3 -0.3
PDAR *e*PcP PcP 10 27 38.2 +0.5
PDAR ScP ScP 10 31 30.5 +7.4
PDAR PKiKP PKiKP 10 34 58.8 -3.2
PDAR **Pinedale Array** 33.99 335 P P 10 24 59.9 +0.2
comp=Z,12nm,0.8s,baz=124,slow=8.3,SNR=64
PDAR PcP PcP 10 27 37.5 -0.2
comp=Z,8.9nm,0.9s,baz=145,slow=4.9,SNR=5.8
PDAR ScP ScP 10 31 30.5 +7.4
comp=Z,2.1nm,1.0s,baz=123,slow=2.5,SNR=3.8
PDAR PKiKP PKiKP 10 34 58.8 -3.2
comp=Z,0.9nm,0.8s,baz=120,slow=3.2,SNR=3.7
PDAR LR LR 10 41 43.1
comp=Z,1µm,20.0s,baz=146,slow=41
BCX **Boston College** 34.00 26 *e*P P 10 24 59.0 -0.4
comp=Z,158nm,1.2s
H56A **Elgin** 34.03 19 P P 10 24 57.8 -1.8
baz=206,SNR=32
BGU **Big Grassy Mou** 34.12 329 *e*P P 10 25 01.8 +1.1
comp=Z,372nm,1.9s
BGU *e*PcP PcP 10 27 38.7 +0.6
SPUT **South Promonto** 34.12 330 *e*P P 10 25 02.4 +1.7
comp=Z,322nm,1.9s
E47A **Iron Bridge** 34.13 9 P P 10 24 59.7 -0.8
baz=193,SNR=26
NCB **Newcomb** 34.16 22 *e*P P 10 24 59.3 -1.6
comp=Z,310nm,2.0s
PLVO **Plevna** 34.19 17 *e*P P 10 24 59.2 -1.8
comp=Z,161nm,1.3s
PLVO **Plevna** 34.19 17 P P 10 24 59.4 -1.6
baz=204,SNR=30
D41A **Chassel** 34.19 3 *e*P P 10 25 00.7 -0.3
comp=Z,182nm,0.8s
D41A **Chassel** 34.19 3 P P 10 24 59.4 -1.7
baz=184,SNR=22
PKM **Mcpherson Peak** 34.25 315 P P 10 25 03.4 +1.4
baz=123,SNR=16
F51A **Arnstein** 34.28 14 P P 10 25 01.1 -0.7
baz=199,SNR=29
VES **Vestal, Richgr** 34.28 317 P P 10 25 04.2 +2.3
baz=125,SNR=105
F52A **Sundridge** 34.29 14 P P 10 25 00.3 -1.6
baz=200,SNR=104
E48A **Lockeyer** 34.35 11 P P 10 25 01.0 -1.4
baz=195,SNR=32
TIN **Tinemaha, Big** 34.44 319 P P 10 25 06.1 +2.6
baz=127,SNR=9.9
D46A **Sault St. Mari** 34.45 8 P P 10 25 01.9 -1.3
baz=191,SNR=88
G55A **Calabogie** 34.49 18 P P 10 25 02.2 -1.4
baz=204,SNR=36
E50A **Wahnapitae** 34.57 12 P P 10 25 02.8 -1.4
baz=197,SNR=38
SMMC **Simmler** 34.60 315 P P 10 25 06.2 +1.4
baz=123,SNR=24
LONY **Lake Ozonia** 34.60 21 *e*P P 10 25 02.9 -1.8
comp=Z,182nm,1.0s
LONY LR LR
comp=Z,3µm,22.0s
LONY **Lake Ozonia** 34.60 21 P P 10 25 03.2 -1.5
baz=208,SNR=40
HVU **Hansel Valley** 34.64 330 *e*P P 10 25 06.8 +1.6
comp=Z,233nm,1.3s
HVU **Hansel Valley** 34.64 330 *e*P P 10 25 06.8 +1.6
HVU pmax pmax
comp=Z,233nm,1.3s
AHID **Auburn Hatcher** 34.64 333 *e*P P 10 25 06.4 +1.1
comp=Z,64nm,0.8s
AHID LR LR
comp=Z,2µm,20.0s
PEMO **Pembroke** 34.72 17 P P 10 25 04.3 -1.3
baz=203,SNR=41
FFD **Franklin Falls** 34.72 25 *e*P P 10 25 05.5 -0.1
comp=Z,62nm,0.9s
D47A **Chapleau** 34.75 9 P P 10 25 04.8 -1.0
baz=193,SNR=11
VOG **Valley Oaks Go** 34.75 317 P P 10 25 06.4 +0.4
baz=125,SNR=5.6
ALGO **Algonquin Park** 34.76 16 P P 10 25 04.4 -1.5
baz=202,SNR=66
E52A **Mattawa** 34.91 15 P P 10 25 05.8 -1.5
baz=201,SNR=30
E51A **G1948 Merrick** 34.94 14 P P 10 25 06.4 -1.2
baz=199,SNR=194
PAGB **Antelope Grade** 35.00 316 *e*P P 10 25 09.9 +1.7
comp=Z,375nm,1.5s
VT1 **Waterbury** 35.01 23 *e*P P 10 25 07.7 -0.6
comp=Z,59nm,1.2s
REDW **Red Top Meadow** 35.02 334 *e*P P 10 25 09.2 +0.6
comp=Z,181nm,0.8s
C40A **Isle Royale Na** 35.02 2 *e*P P 10 25 07.9 -0.3
comp=Z,226nm,0.9s
C40A **Isle Royale Na** 35.02 2 P P 10 25 06.7 -1.5
baz=182,SNR=26
EYMN **Ely** 35.03 359 *e*P P 10 25 05.9 -2.4
comp=Z,152nm,0.8s
EYMN LR LR
comp=Z,2µm,20.0s
EYMN **Ely** 35.03 359 P P 10 25 05.9 -2.4
baz=179,SNR=57
ORIO **Orleans, Innes** 35.04 19 P P 10 25 06.9 -1.4
baz=206,SNR=38
SNOW **Snow King Moun** 35.06 334 *e*P P 10 25 09.5 +0.6
comp=Z,210nm,0.8s
D48A **Paudash Townsh** 35.08 11 P P 10 25 05.9 -2.8
baz=195,SNR=32
LOHW **Long Hollow** 35.12 335 *e*P P 10 25 09.9 +0.5
comp=Z,110nm,0.9s
ELK **Elko** 35.12 327 *e*P P 10 25 11.5 +2.0
comp=Z,64nm,0.9s
ELK *e*PcP PcP 10 27 42.5 +1.5
ELK ScP ScP 10 31 34.4 +7.2
ELK **Elko** 35.12 327 P P 10 25 11.9 +2.4
comp=Z,36nm,0.8s,baz=139,slow=6.6,SNR=143
ELK PcP PcP 10 27 41.9 +0.9
comp=Z,18nm,0.9s,baz=130,slow=2.7,SNR=6.9
ELK ScP ScP 10 31 34.4 +7.2
comp=Z,6.9nm,1.1s,baz=146,slow=4.9,SNR=6.4
F55A **Otter Lake** 35.12 18 P P 10 25 07.8 -1.3
baz=205,SNR=28
FRNY **Flat Rock** 35.14 21 *e*P P 10 25 07.8 -1.4
comp=Z,99nm,1.1s
TPAW **Teton Pass** 35.16 334 *e*P P 10 25 09.5 -0.3
comp=Z,186nm,1.2s
MLAC **Mammoth, Mammo** 35.17 320 P P 10 25 12.2 +2.2
baz=127,SNR=22
NV11 **Mina Array Sit** 35.24 321 *e*P P 10 25 09.8 -0.6
comp=Z,30nm,1.0s
NV11 *e*PcP PcP 10 27 39.8 -1.6
E53A **Dumoine, Ponti** 35.25 16 P P 10 25 09.0 -1.2
baz=202,SNR=54
LBNH **Lisbon** 35.26 24 *e*P P 10 25 08.8 -1.5
comp=Z,75nm,1.3s
LBNH **Lisbon** 35.26 24 *e*P P 10 25 08.8 -1.5
LBNH pmax pmax
comp=Z,75nm,1.3s
LBNH **Lisbon** 35.26 24 P P 10 25 10.0 -0.2
baz=213
D49A **Beulah Townshi** 35.26 11 P P 10 25 08.8 -1.4
baz=196,SNR=46
MOOW **Moose Ponds** 35.29 335 *e*P P 10 25 11.3 +0.5
comp=Z,50nm,0.9s
MOOW *e*PcP PcP 10 27 42.2 +0.8
FXWY **Fox Creek** 35.32 334 *e*P P 10 25 11.6 +0.5
comp=Z,42nm,1.0s
FXWY *e*PcP PcP 10 27 42.8 +1.3
MDPB **Devils Postpil** 35.32 319 *e*P P 10 25 13.3 +2.0
comp=Z,330nm,1.4s
NV01 **Mina Array Sit** 35.33 321 *e*P P 10 25 13.3 +2.0
NV01 *e*PcP PcP 10 27 42.7 +1.0
NVAR **Mina Array Bea** 35.33 321 P P 10 25 13.8 +2.5
comp=Z,242nm,0.9s,baz=138,slow=8.0,SNR=846
NVAR PcP PcP 10 27 42.7 +1.0
comp=Z,26nm,0.7s,baz=134,slow=4.0,SNR=10
NVAR ScP ScP 10 31 34.4 +6.3
comp=Z,6.6nm,0.9s,baz=120,slow=5.3,SNR=13
NVAR LR LR 10 42 21.6
comp=Z,2µm,18.5s,baz=132,slow=41
ALFO **Alfred** 35.39 19 P P 10 25 09.9 -1.5
baz=207,SNR=36
E54A **Lac Daplat, Po** 35.43 16 P P 10 25 10.4 -1.3
baz=203,SNR=62
IMW **Indian Meadow** 35.49 335 *e*P P 10 25 13.1 +0.4
comp=Z,287nm,1.9s
IMW *e*PcP PcP 10 27 43.3 +1.1
D51A **Lot 18 Range I** 35.50 13 P P 10 25 11.0 -1.3
baz=199,SNR=133
FLWY **Flagg Ranch** 35.54 335 *e*P P 10 25 13.8 +0.8
comp=Z,145nm,1.4s
FLWY *e*PcP PcP 10 27 43.9 +1.7
RYN **Ryan** 35.59 321 *e*P P 10 25 14.8 +1.4
comp=Z,164nm,1.2s
RYN *e*PcP PcP 10 27 44.1 +1.8
KVN **Kaiserville** 35.60 322 *e*P P 10 25 15.6 +2.1
comp=Z,252nm,1.1s
KVN *e*PcP PcP 10 27 43.7 +1.3
KVN **Kaiserville** 35.60 322 *e*P P 10 25 15.6 +2.1
KVN *e* 10 27 43.7
KVN pmax pmax
comp=Z,252nm,1.1s
D52A **ZEK Kipawa Sen** 35.62 15 P P 10 25 12.4 -1.0
baz=201,SNR=99
AGMN **Agassiz Nation** 35.63 354 *e*P P 10 25 11.8 -1.6
comp=Z,307nm,0.8s
AGMN LR LR
comp=Z,1µm,19.0s
AGMN **Agassiz Nation** 35.63 354 P P 10 25 12.1 -1.3
baz=171,SNR=188
MDND **Maddock** 35.70 350 *e*P P 10 25 13.5 -0.5
comp=Z,766nm,0.8s
MDND **Maddock** 35.70 350 P P 10 25 13.3 -0.7
baz=165,SNR=29
YPP **Pitchstone Pla** 35.74 335 *e*P P 10 25 16.0 +1.1
comp=Z,91nm,1.5s
H17A **Grant Village** 35.75 335 *e*P P 10 25 16.2 +1.3
comp=Z,74nm,1.1s
H17A **Grant Village** 35.75 335 P P 10 25 16.0 +1.1
baz=145,SNR=38
LKWY **Lake** 35.82 336 *e*P P 10 25 17.5 +2.1
comp=Z,66nm,1.1s
LKWY LR LR
comp=Z,2µm,19.0s
LKWY **Lake** 35.82 336 *e*P P 10 25 17.5 +2.1
LKWY pmax pmax
comp=Z,66nm,1.1s
LKWY MLR MLR
comp=Z,2µm,19.0s
RLMT **Red Lodge** 35.85 337 *e*P P 10 25 15.5 -0.2
comp=Z,89nm,1.0s
RLMT LR LR
comp=Z,1µm,21.0s
RLMT **Red Lodge** 35.85 337 P P 10 25 15.8 +0.1
baz=148,SNR=101
D53A **Lac Vacive, Po** 35.89 15 P P 10 25 15.1 -0.6
baz=202,SNR=124
YFT **Old Faithful** 35.90 335 *e*P P 10 25 17.6 +1.5
comp=Z,108nm,1.1s
YFT *e*PcP PcP 10 27 46.8 +3.6
BMN **Battle Mountai** 35.99 325 *e*P P 10 25 18.9 +2.0
BMN **Battle Mountai** 35.99 325 *e*P P 10 25 18.9 +2.0
TRQ **Mont Tremblant** 36.03 19 *e*P P 10 25 15.6 -1.4
MOQ **Mont Orford** 36.03 22 *e*P P 10 25 15.5 -1.5
YNR **Norris Junctio** 36.05 336 *e*P P 10 25 18.9 +1.4
comp=Z,62nm,1.2s
WAKR **Walker** 36.08 320 *e*P P 10 25 20.1 +2.5
comp=Z,402nm,1.6s
WAKR *e*PcP PcP 10 27 45.9 +2.1
YMR **Madison River** 36.13 335 *e*P P 10 25 19.2 +1.2
comp=Z,120nm,0.9s
YHH **Holmes Hill** 36.18 336 *e*P P 10 25 19.6 +1.0
comp=Z,101nm,1.3s
YHH *e*PcP PcP 10 27 46.1 +1.9
LAO **LASA Array** 36.19 342 *e*P P 10 25 18.0 -0.3
comp=Z,184nm,1.8s
LAO LR LR
comp=Z,1µm,19.0s
LAO **LASA Array** 36.19 342 P P 10 25 18.1 -0.3
baz=154,SNR=24
D54A **Lac Fusel, La** 36.24 16 P P 10 25 17.5 -1.1
baz=204,SNR=86
YERR **Yerington** 36.25 321 *e*P P 10 25 21.4 +2.2
comp=Z,440nm,1.4s
YERR *e*PcP PcP 10 27 46.3 +1.9
YHB **Horse Butte** 36.29 335 *e*P P 10 25 21.0 +1.5
comp=Z,55nm,1.0s
SAO **San Andreas Ge** 36.38 316 *e*P P 10 25 21.3 +1.3
comp=Z,44nm,0.9s
SAO **San Andreas Ge** 36.38 316 *e*P P 10 25 21.3 +1.3
SAO pmax pmax
comp=Z,44nm,0.9s
CMB **Columbia Colle** 36.40 319 *e*P P 10 25 21.4 +1.2
comp=Z,136nm,1.3s
CMB *e*PcP PcP 10 27 45.6 +1.0
CMB **Columbia Colle** 36.40 319 *e*P P 10 25 21.4 +1.2
CMB *e* 10 27 45.7
CMB pmax pmax
comp=Z,136nm,1.3s
WVL **Waterville** 36.45 26 *e*P P 10 25 19.8 -0.7
comp=Z,96nm,1.1s
QLMT **Earthquake Lak** 36.45 335 *e*P P 10 25 22.8 +2.0
PNTR **Pine Nut** 36.53 321 *e*P P 10 25 23.9 +2.4
comp=Z,165nm,0.8s
PNTR *e*PcP PcP 10 27 47.2 +1.9
GCMT **Greycliff** 36.56 338 *e*P P 10 25 22.1 +0.4
LPAZ **La Paz** 36.58 142 *e*P P 10 25 22.2 -0.4
comp=Z,52nm,1.2s
LPAZ **La Paz** 36.58 142 *i*P P 10 25 22.8 +0.2
LPAZ **La Paz** 36.58 142 P P 10 25 22.5 -0.1
comp=Z,28nm,1.1s,baz=332,slow=7.3,SNR=58
LPAZ LR LR 10 40 16.2
comp=Z,1µm,19.7s,baz=315,slow=36
LPAZ **La Paz** 36.58 142 *e*P P 10 25 22.4 -0.1
VCNR **Virginia City** 36.69 321 *e*P P 10 25 24.8 +1.9
comp=Z,176nm,1.3s
VCNR *e*PcP PcP 10 27 47.5 +1.9
HLID **Hailey** 36.78 331 *e*P P 10 25 24.7 +1.1
comp=Z,114nm,1.3s
HLID *e*PcP PcP 10 27 47.8 +2.0
HLID LR LR
comp=Z,2µm,20.0s
HLID **Hailey** 36.78 331 P P 10 25 25.1 +1.5
baz=139,SNR=124
PAHR **Pah Rah Range** 36.78 322 *e*P P 10 25 25.6 +2.0
comp=Z,166nm,1.1s
PAHR *e*PcP PcP 10 27 47.5 +1.6
RUBR **Rubicon Trail** 36.85 320 *e*P P 10 25 26.7 +2.3
comp=Z,270nm,1.1s
VLDQ **Val d'Or** 36.91 15 *e*P P 10 25 23.0 -1.3
comp=Z,164nm,0.9s
MCMT **McKenzie Canyo** 37.05 334 *e*P P 10 25 27.8 +1.8
BOZ **Bozeman (W)** 37.16 336 *e*P P 10 25 27.5 +0.7
comp=Z,53nm,0.9s
BOZ LR LR
comp=Z,2µm,19.0s
BOZ **Bozeman (W)** 37.16 336 *e*P P 10 25 27.5 +0.7
BOZ pmax pmax
comp=Z,53nm,0.9s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ **Bozeman (W)** 37.16 336 P P 10 25 28.0 +1.2
baz=145,SNR=70
PKME **Peaks-Kenny Pk** 37.17 25 *e*P P 10 25 25.1 -1.5
comp=Z,144nm,1.1s
PKME LR LR
comp=Z,2µm,22.0s
PKME **Peaks-Kenny Pk** 37.17 25 P P 10 25 25.3 -1.3
baz=216,SNR=13
PB12 **IPOC Station P** 37.18 147 *i*P P 10 25 27.5 +0.4
DGMT **Dagmar** 37.26 345 *e*P P 10 25 27.6 +0.2
comp=Z,185nm,0.8s
DGMT LR LR
comp=Z,1µm,22.0s
DGMT **Dagmar** 37.26 345 P P 10 25 27.1 -0.3
baz=158,SNR=50
AFDM **Forest Hills D** 37.30 320 *e*P P 10 25 29.1 +1.2
comp=Z,134nm,1.7s
AFDM *e*PcP PcP 10 27 48.5 +1.2
DLMT **Dillon** 37.37 334 *e*P P 10 25 29.7 +1.2
comp=Z,236nm,1.6s
DLMT *e*PcP PcP 10 27 49.7 +2.2
BEKR **Beckworth** 37.47 321 *e*P P 10 25 31.3 +1.8
comp=Z,224nm,1.2s
BEKR *e*PcP PcP 10 27 49.6 +1.5
EMMW **East Machias** 37.53 28 *e*P P 10 25 29.0 -0.6
comp=Z,180nm,1.3s
ULM **Lac du Bonnet** 37.57 355 *e*P P 10 25 28.1 -1.8
comp=Z,331nm,0.9s
ULM **Lac du Bonnet** 37.57 355 P P 10 25 28.5 -1.4
comp=Z,272nm,0.9s,baz=173,slow=8.8,SNR=148
ULM LR LR 10 43 32.4
comp=Z,535nm,19.0s,baz=172,slow=40
LATQ **La Tuque** 37.63 20 P P 10 25 29.0 -1.5
baz=209,SNR=58
LSQQ **Lebel-sur-Quev** 37.91 15 P P 10 25 31.6 -1.2
baz=202
ORV **Oroville** 37.99 320 *e*P P 10 25 35.3 +1.6
comp=Z,203nm,1.4s
ORV **Oroville** 37.99 320 *e*P P 10 25 35.3 +1.6
ORV pmax pmax
comp=Z,203nm,1.4s
MNMC **Minye Minye** 38.00 146 *e*P P 10 25 34.2 0.0
comp=Z,350nm,1.3s
MNMCX **Minye Minye** 38.00 146 *i*P P 10 25 35.4 +1.2
MCCM **Marconi Confer** 38.08 317 *e*P P 10 25 36.7 +2.2
comp=Z,300nm,1.4s
PSGCX **Pisagua** 38.10 147 *i*P P 10 25 35.1 +0.3
GGN **Saint George** 38.12 28 *e*P P 10 25 33.8 -0.9
comp=Z,122nm,1.3s
WVOR **Wild Horse Val** 38.13 326 *e*P P 10 25 36.1 +1.1
comp=Z,629nm,1.8s
WVOR *e*PcP PcP 10 27 52.0 +2.1
WVOR LR LR
comp=Z,740nm,22.0s
WVOR **Wild Horse Val** 38.13 326 *e*P P 10 25 36.1 +1.1
WVOR *e* 10 27 52.0
WVOR pmax pmax
comp=Z,629nm,1.8s
WVOR MLR MLR

comp=Z,740nm,22.0s
HRY Holter Researc 38.16 336 *e*P P **10 25 35.6 +0.4**
GDXM Geysers 38.39 318 *e*P P **10 25 39.4 +2.2**
comp=Z,156nm,1.7s
MATQ Matagami 38.40 14 P P **10 25 35.9 -1.1**
baz=201,SNR=294
PB11 IPOC Station P 38.48 147 *e*P P **10 25 38.2 0.0**
comp=Z,155nm,1.1s
PB11 IPOC Station P 38.48 147 ||*i*P P **10 25 38.7 +0.6**
EGMT Eagleton 38.51 339 *e*P P **10 25 38.6 +0.6**
EGMT LR LR
comp=Z,1µm,22.0s
EGMT Eagleton 38.51 339 P P **10 25 38.6 +0.6**
baz=149,SNR=147
O03E Paynes Creek 38.61 321 P P **10 25 40.1 +1.1**
baz=126,SNR=66
J08A Circle Bar Ran 38.67 327 *e*P P **10 25 40.8 +1.3**
comp=Z,829nm,1.6s
HOPS Hopland Field 38.67 318 *e*P P **10 25 41.8 +2.3**
comp=Z,239nm,1.5s
MOD Modoc Plateau 38.71 324 *e*P P **10 25 40.7 +0.8**
comp=Z,186nm,1.2s
PQI Presque Isle 38.83 25 *e*P P **10 25 39.6 -1.0**
comp=Z,180nm,1.5s
PB08 IPOC Station P 39.06 147 ||*i*P P **10 25 44.3 +1.1**
MSO Missoula 39.10 335 *e*P P **10 25 43.1 0.0**
comp=Z,133nm,1.3s
MSO Missoula 39.10 335 P P **10 25 43.8 +0.8**
baz=142,SNR=73
BMO Blue Mountains 39.13 330 *e*P P **10 25 43.2 -0.1**
comp=Z,225nm,1.5s
BMO LR LR
comp=Z,1µm,21.0s
BMO Blue Mountains 39.13 330 *e*P P **10 25 43.2 -0.1**
BMO pmax pmax
comp=Z,225nm,1.5s
BMO MLR MLR
comp=Z,1µm,21.0s
O02D Mt. Diablo Mer 39.16 320 P P **10 25 43.0 -0.6**
baz=125,SNR=29
WDC Whiskeytown Da 39.24 321 *e*P P **10 25 43.6 -0.5**
comp=Z,62nm,1.3s
WDC Whiskeytown Da 39.24 321 *e*P P **10 25 43.6 -0.5**
WDC pmax pmax
comp=Z,62nm,1.3s
CHGQ Chibougamau 39.38 17 P P **10 25 43.8 -1.4**
baz=206,SNR=80
KCPM Cahto Peak 39.39 319 *e*P P **10 25 48.4 +2.8**
comp=Z,123nm,1.1s
KCPM *e*PcP **PcP** **10 27 54.8 +0.9**
M04C Macdoel 39.53 323 P P **10 25 48.1 +1.4**
baz=128,SNR=96
N02D Trinity Center 39.57 321 P P **10 25 46.4 -0.6**
baz=126,SNR=10
LMN Caledonia Moun 39.61 29 *e*P P **10 25 45.5 -1.7**
comp=Z,169nm,1.1s
PB01 IPOC Station P 39.62 148 *e*P P **10 25 47.9 +0.3**
comp=Z,42nm,0.6s
PB01 IPOC Station P 39.62 148 ||*i*P P **10 25 48.2 +0.6**
PB02 IPOC Station P 39.64 149 ||*i*P P **10 25 48.4 +0.5**
I07A Izee 39.71 327 *e*P P **10 25 49.0 +0.8**
comp=Z,109nm,1.0s
I07A *e*PcP **PcP** **10 27 56.5 +1.6**
KMRM Mail Ridge 39.76 319 *e*P P **10 25 50.6 +2.0**
comp=Z,308nm,1.3s
M02C Callahan 39.91 321 P P **10 25 49.6 -0.2**
baz=126,SNR=13
F10A Beach Ranch, E 39.91 331 *e*P P **10 25 50.2 +0.4**
comp=Z,250nm,0.8s
K04D Chiloquin, OR 40.00 324 P P **10 25 51.6 +0.9**
baz=129,SNR=19
YBH Yreka Blue Hor 40.02 322 *e*P P **10 25 50.4 -0.4**
comp=Z,33nm,1.0s
YBH *e*PcP **PcP** **10 27 56.1 +0.3**
YBH Yreka Blue Hor 40.02 322 P P **10 25 50.7 -0.1**
comp=Z,14nm,0.8s,baz=117,slow=4.6,SNR=31
YBH PcP **PcP** **10 27 55.8 0.0**
comp=Z,13nm,0.9s,baz=162,slow=0.9,SNR=6.1
L04D Klamath Falls 40.07 323 P P **10 25 52.3 +1.0**
baz=128,SNR=53
J05D Fort Rock, OR 40.13 325 P P **10 25 52.5 +0.8**
baz=130,SNR=63
BATG Bathurst New B 40.13 26 *e*P P **10 25 51.8 +0.3**
comp=Z,96nm,1.0s
KHMM Horse Mountain 40.15 320 *e*P P **10 25 53.5 +1.5**
comp=Z,122nm,0.9s
KHMM *e*PcP **PcP** **10 27 58.0 +1.7**
G08A Pilot Rock 40.27 329 *e*P P **10 25 52.4 -0.4**
comp=Z,68nm,1.0s
G08A *e*PcP **PcP** **10 27 58.3 +1.7**
PINE Pine Mountain 40.29 326 *e*P P **10 25 53.7 +0.6**
comp=Z,115nm,0.8s
PINE *e*PcP **PcP** **10 27 58.9 +2.1**
JCC Jacoby Creek, 40.30 320 *e*P P **10 25 54.4 +1.5**
comp=Z,355nm,1.3s
PB03 IPOC Station P 40.32 149 ||*i*P P **10 25 53.5 0.0**
PB04 IPOC Station P 40.37 150 *e*P P **10 25 53.8 -0.1**
comp=Z,253nm,1.6s
PB09 IPOC Station P 40.37 148 ||*i*P P **10 25 55.2 +1.3**
J04D Umpqua Nationa 40.59 324 P P **10 25 56.8 +1.2**
baz=129,SNR=83
HUMO Hull Mountain 40.69 323 *e*P P **10 25 55.7 -0.6**
comp=Z,75nm,1.5s
HUMO *e*PcP **PcP** **10 27 58.6 +0.7**
E09A Wood Farm, Sta 40.74 331 *e*P P **10 25 56.9 +0.3**
comp=Z,70nm,0.9s
PB05 IPOC Station P 40.78 150 ||*i*P P **10 25 58.0 +0.7**
L02E Cave Junction 40.81 322 P P **10 25 57.7 +0.5**
baz=126,SNR=7.8
I05D Terrebonne, OR 40.87 326 P P **10 25 58.7 +1.0**
baz=131,SNR=30
WALA Waterton Lakes 40.88 337 *e*P P **10 25 58.9 +1.0**
comp=Z,71nm,1.0s
GBN Guysborough 40.91 32 *e*P P **10 25 58.0 +0.1**
comp=Z,99nm,1.0s
SIV San Ignacio 41.02 133 P P **10 25 59.4 +0.1**
comp=Z,169nm,1.0s,baz=317,slow=8.6,SNR=276
SIV PcP **PcP** **10 27 59.2 -0.2**
comp=Z,16nm,0.9s,baz=319,slow=13,SNR=3.0
I04A Tendick Farm, 41.11 325 P P **10 26 00.5 +0.8**
baz=129,SNR=42
E08A Dider Farm, El 41.16 330 *e*P P **10 26 00.1 +0.1**
comp=Z,70nm,1.0s
K02D Willamette Mer 41.16 323 P P **10 26 01.2 +0.9**
baz=126,SNR=16
PB10 IPOC Station P 41.17 151 *e*P P **10 26 00.9 +0.6**
comp=Z,133nm,1.4s
F07A Phinny Hill Vi 41.17 329 *e*P P **10 26 00.6 +0.5**
comp=Z,54nm,1.0s
LVC Limon Verde 41.22 148 *e*P P **10 26 01.9 +0.7**
comp=Z,108nm,1.4s
LVC LR LR
comp=Z,1µm,19.0s
LVC Limon Verde 41.22 148 ||*i*P P **10 26 02.4 +1.3**
LVC Limon Verde 41.22 148 *e*P P **10 26 01.9 +0.7**
LVC pmax pmax
comp=Z,108nm,1.4s
LVC MLR MLR
comp=Z,1µm,19.0s
LVC Limon Verde 41.22 148 P P **10 26 01.6 +0.4**
comp=Z,38nm,1.1s,baz=314,slow=5.2,SNR=20
LVC Limon Verde 41.22 148 *e*P P **10 26 02.1 +1.0**
HAWA Hanford 41.33 330 *e*P P **10 26 01.5 +0.1**
comp=Z,50nm,0.8s
HAWA LR LR
comp=Z,918nm,19.0s
G05D Wamic, OR 41.45 327 P P **10 26 04.3 +1.9**
baz=131,SNR=98
D08A Wollman Farm, 41.50 331 *e*P P **10 26 03.6 +0.7**
comp=Z,211nm,1.3s
NEW Newport 41.58 333 *e*P P **10 26 03.1 -0.4**
comp=Z,33nm,0.8s
NEW PcP **PcP** **10 28 00.5 -0.2**
NEW LR LR
comp=Z,1µm,22.0s
NEW Newport 41.58 333 P P **10 26 04.0 +0.5**
baz=139,SNR=47
NEW Newport 41.58 333 P P **10 26 03.9 +0.4**
comp=Z,26nm,0.8s,baz=127,slow=11,SNR=50
NEW PcP **PcP** **10 28 00.5 -0.2**
comp=Z,17nm,1.0s,baz=117,slow=13,SNR=3.2
I03D Drain, OR 41.58 324 P P **10 26 04.6 +1.1**
baz=128,SNR=36
J01E Myrtle Point 41.60 323 P P **10 26 05.4 +1.8**
baz=126,SNR=37
KEBM Edson Butte 41.67 322 *e*P P **10 26 06.7 +2.4**
comp=Z,744nm,1.2s
C09A Chrisman Ranch 41.74 332 *e*P P **10 26 06.1 +1.3**
comp=Z,138nm,0.8s
H04D Lebanon 41.75 325 P P **10 26 05.4 +0.5**
baz=129,SNR=40
F05D White Salmon 41.95 328 P P **10 26 08.5 +2.0**
baz=132,SNR=60
COR Corvallis 42.11 325 *e*P P **10 26 09.0 +1.2**
comp=Z,376nm,1.4s
COR Corvallis 42.11 325 *e*P P **10 26 09.0 +1.2**
COR pmax pmax
comp=Z,376nm,1.4s
I02D Swisshome 42.12 324 P P **10 26 09.6 +1.8**
baz=127,SNR=16
PB14 IPOC Station P 42.20 152 ||*i*P P **10 26 09.5 +0.4**
G03D McMinnville, O 42.48 326 P P **10 26 12.2 +1.4**
baz=129,SNR=30
LTY Liberty 42.49 330 *e*P P **10 26 11.9 +1.0**
comp=Z,583nm,2.0s
LTY *e*PcP **PcP** **10 28 04.7 +1.0**
B08A Colville Reser 42.64 332 *e*P P **10 26 12.2 +0.1**
comp=Z,49nm,0.8s
YJA Yavi 42.70 144 ||*i*P P **10 26 14.0 +0.6**
comp=Z,13nm,0.8s
LON Longmire 42.71 329 *e*P P **10 26 13.6 +0.8**
comp=Z,142nm,0.9s
LON *e*PcP **PcP** **10 28 04.8 +0.3**
LON Longmire 42.71 329 *e*P P **10 26 13.6 +0.8**
LON *e* 10 28 04.8
LON pmax pmax
comp=Z,142nm,0.9s
FFC Flin Flon 42.73 350 *e*P P **10 26 12.1 -0.6**
comp=Z,608nm,1.8s
FFC LR LR
comp=Z,1µm,22.0s
FFC Flin Flon 42.73 350 *i*P P **10 26 12.4 -0.3**
F04D Rainier, OR 42.90 327 P P **10 26 15.7 +1.5**
baz=130,SNR=20
E04D Cinebar 42.97 328 P P **10 26 15.7 +0.9**
baz=131,SNR=41
GO02 Mina Guanaco 43.03 151 *e*P P **10 26 16.1 +0.2**
comp=Z,145nm,1.3s
C06D Leavenworth 43.06 330 P P **10 26 16.9 +1.3**
baz=134,SNR=26
D05A Enumclaw 43.10 329 *e*P P **10 26 16.9 +1.1**
comp=Z,235nm,1.1s
D04E Lakebay 43.49 328 P P **10 26 20.1 +1.1**
baz=131,SNR=21
HJA Humahuaca 43.58 145 ||*i*P P **10 26 21.2 +0.9**
RPN Rapa Nui 43.59 204 LR LR 10 39 43.8
comp=Z,2µm,19.5s,baz=351,slow=29
B06A Marblemount 43.76 331 *e*P P **10 26 21.6 +0.5**
comp=Z,152nm,0.8s
B05A Bryant 43.88 330 P P **10 26 22.2 +0.1**
baz=133,SNR=38
D03D Eldon 43.89 329 P P **10 26 22.8 +0.6**
baz=131,SNR=47
NLWA Neilton Lookou 44.19 328 *e*P P **10 26 25.4 +0.7**
comp=Z,348nm,1.2s
NLWA LR LR
comp=Z,2µm,20.0s
A04D Lummi Island 44.49 330 P P **10 26 27.9 +1.0**
baz=132,SNR=26
SLA San Lorenzo 44.73 146 ||*i*P P **10 26 30.3 +0.9**
PGC Sidney 44.81 329 *e*P P **10 26 30.3 +0.8**
comp=Z,197nm,1.0s
GO03 Copiap 44.84 154 *e*P P **10 26 30.0 -0.1**
comp=Z,82nm,1.2s
SALV Santo Antonio 44.94 128 *e*P P **10 26 30.2 -0.8**
LLLB Lillooet 45.41 332 *e*P P **10 26 35.2 +0.9**
comp=Z,192nm,1.2s
DRLN Deer Lake 45.52 30 *e*P P **10 26 32.9 -2.3**
comp=Z,316nm,1.5s
FSA Cafayete 45.60 148 ||*i*P P **10 26 36.5 +0.1**
LCO Las Campanas 45.88 155 *e*P P **10 26 38.1 -0.5**
comp=Z,135nm,1.1s
LCO LR LR
comp=Z,978nm,20.0s
LCO Las Campanas 45.88 155 ||*i*P P **10 26 38.4 -0.2**
LCO Las Campanas 45.88 155 *e*P P **10 26 38.7 +0.1**
FCC Fort Churchill 45.93 358 *e*P P **10 26 36.4 -1.8**
comp=Z,323nm,2.0s
FCC Fort Churchill 45.93 358 *e*P P **10 26 36.4 -1.8**
FCC pmax pmax
comp=Z,323nm,2.0s
SCHQ Schefferville 45.94 19 *e*P P **10 26 36.8 -1.7**
comp=Z,375nm,0.9s
SCHQ PcP **PcP** **10 28 14.6 -0.7**
SCHQ Schefferville 45.94 19 P P **10 26 37.0 -1.5**
comp=Z,295nm,0.8s,baz=220,slow=6.9,SNR=312
SCHQ PcP **PcP** **10 28 14.6 -0.7**
comp=Z,32nm,0.7s,baz=199,slow=2.2,SNR=3.7
VCA Vinchina 46.72 152 ||*i*P P **10 26 46.3 +1.2**
GO04 Tololo Observa 46.87 156 *e*P P **10 26 46.5 +0.2**
comp=Z,132nm,1.3s
AGUA GUANDACOL 47.24 153 ||*i*P P **10 26 50.0 +1.0**
AROD Rodeo 47.41 155 ||*i*P P **10 26 51.9 +1.3**
ACDV Cuesta del Vie 47.56 154 ||*i*P P **10 26 52.2 +0.6**
CYA Choya 47.61 150 ||*i*P P **10 26 51.7 -0.2**
AQDB Aguidauana 47.80 133 *e*P P **10 26 52.6 -0.8**
ACLC CERRO LA CRUZ 47.88 152 ||*i*P P **10 26 54.3 +0.2**
ACCO Cerro Coronel 47.94 155 ||*i*P P **10 26 55.5 +0.7**
AMOG MOGNA 48.49 154 ||*i*P P **10 26 58.8 +0.1**
RTLL Cerro Villicun 48.84 154 ||*i*P P **10 27 01.7 +0.4**
APLL PUNTA DE LOS L 48.90 152 ||*i*P P **10 27 01.6 -0.2**
RTLS Leoncito 48.91 156 ||*i*P P **10 27 03.0 +0.8**
ZON Zonda 48.94 155 ||*i*P P **10 27 02.7 +0.6**
CFA Coronel Fontan 49.18 154 ||*i*P P **10 27 04.3 +0.4**
AUSP Uspallata 49.24 156 ||*i*P P **10 27 05.7 +1.0**
RTCV Cerro Valdivia 49.27 155 ||*i*P P **10 27 05.2 +0.5**
ROC1 El Roble 49.29 158 *e*P P **10 27 05.4 +0.4**
comp=Z,56nm,0.8s
BBB Bella Bella 49.37 331 P P **10 27 05.7 +0.7**
comp=Z,31nm,0.8s,baz=122,slow=6.5,SNR=5.7
PEL Peldehue 49.56 158 *e*P P **10 27 06.6 -0.2**
comp=Z,77nm,1.2s
PEL Peldehue 49.56 158 *e*P P **10 27 06.6 -0.2**
PEL pmax pmax
comp=Z,77nm,1.2s
ASAL Salagasta 49.79 156 ||*i*P P **10 27 09.1 +0.5**
ARCO CERRO ARCO 49.97 156 ||*i*P P **10 27 10.6 +0.5**
ACAN Cantantal 50.20 154 ||*i*P P **10 27 11.9 +0.2**
AAGR Agrelo 50.23 156 ||*i*P P **10 27 12.6 +0.6**
TCA Tanti 50.59 151 ||*i*P P **10 27 14.3 -0.4**
AVIZ Vizcacheras 50.69 156 ||*i*P P **10 27 16.2 +0.7**
CPUP Villa Florida 50.72 140 *e*P P **10 27 13.9 -1.8**
comp=Z,77nm,1.3s
CPUP PcP **PcP** **10 28 32.5 -0.5**
CPUP Villa Florida 50.72 140 P P **10 27 14.2 -1.4**
comp=Z,25nm,1.0s,baz=332,slow=8.2,SNR=22
CPUP PcP **PcP** **10 28 32.5 -0.5**
comp=Z,9.9nm,1.0s,baz=340,slow=3.9,SNR=3.4
CPUP LR LR 10 51 12.6
comp=Z,1µm,18.1s,baz=326,slow=39
CPUP Villa Florida 50.72 140 *e*P P **10 27 14.1 -1.5**
GO05 Huala 50.81 160 *e*P P **10 27 15.1 -1.1**
comp=Z,92nm,1.1s
BDFB Brasilia 50.90 123 *e*P P **10 27 16.7 -0.6**
comp=Z,111nm,1.2s
BDFB Brasilia 50.90 123 P P **10 27 16.9 -0.4**
comp=Z,12nm,1.0s,baz=303,slow=13,SNR=13
MRA San Martin 50.97 153 ||*i*P P **10 27 17.3 -0.3**
ITRB Iturama 51.27 128 *e*P P **10 27 19.1 -0.8**
TRCB Terra Rica 51.47 133 *e*P P **10 27 19.7 -1.8**
IPMB Ipameri, GO 51.98 125 *e*P P **10 27 24.2 -1.1**
DIB Dawson Inlet, 52.10 330 *e*P P **10 27 27.9 +2.2**
comp=Z,240nm,1.2s
YKA Yellowknife Ar 52.45 346 P P **10 27 27.7 -0.4**
comp=Z,26nm,0.9s,baz=146,slow=7.7,SNR=153
YKA PcP **PcP** **10 28 39.0 +0.3**
comp=Z,18nm,0.8s,baz=148,slow=3.9,SNR=18
YKA PKPPKP P'P'df 10 57 54.0 -8.1
comp=Z,0.5nm,0.8s,baz=350,slow=2.9,SNR=5.4
YKB5 Yellowknife Ar 52.45 346 *e*P P **10 27 26.7 -1.4**
YKB5 *e*PcP **PcP** **10 28 39.5 +0.8**
YKW3 Yellowknife Ar 52.51 346 *e*P P **10 27 27.3 -1.3**
comp=Z,89nm,1.1s
YKW3 *e*PcP **PcP** **10 28 40.0 +1.1**
PTGB Pitanga 53.10 135 *e*P P **10 27 31.6 -1.9**
BB19B Bebedouro 53.45 129 *e*P P **10 27 35.3 -0.9**
TAOE Nuku Hiva Isla 53.54 249 *e*S S **10 35 04.0 -6.9**
comp=Z,1µm,25.1s
TAOE *e*LR LR 10 42 35.6
comp=Z,3µm,27.3s,baz=64
PMNB Patos De Minas 53.70 125 *e*P P **10 27 37.2 -0.9**
JANB Januaria 53.70 120 *e*P P **10 27 36.5 -1.6**
CRAG Craig 53.72 332 *e*P P **10 27 39.8 +2.2**
comp=Z,317nm,1.3s
WRAK Wrangell Islan 53.93 333 *e*P P **10 27 41.0 +1.9**
comp=Z,57nm,1.0s
WRAK LR LR
comp=Z,2µm,19.0s
FRTB Fartura 54.02 132 *e*P P **10 27 40.0 -0.3**
DLBC Dease Lake 54.21 336 *e*P P **10 27 42.9 +1.6**
comp=Z,239nm,1.0s
ITAB Concordia 54.70 137 *e*P P **10 27 43.8 -1.3**
MCI9 Montes Claros 54.84 121 *e*P P **10 27 46.0 -0.5**
MCI6 Montes Claros 54.90 121 *e*P P **10 27 46.2 -0.7**
RCLB Rio Claro- Sao 54.99 129 *e*P P **10 27 46.5 -0.9**
GO06 Curarrehue 55.14 162 *e*P P **10 27 47.5 -0.7**
comp=Z,69nm,1.2s
SPB Sao Paulo 55.74 130 *e*P P **10 27 51.5 -1.2**
JIS Juneau Island 55.92 334 *e*P P **10 27 55.4 +1.9**
comp=Z,192nm,1.6s
CPSB Cacapava Do Su 56.02 141 *e*P P **10 27 52.7 -1.9**
RKT Rikitea 56.08 231 *e*P P **10 27 53.7 -1.5**
comp=Z,148nm,1.1s
RKT *e*pP **pwP** **10 28 02.7 +0.9**
comp=Z,165nm,1.1s
RKT Rikitea 56.08 231 *e*T T 11 28 28.1
comp=Z,4.7nm,0.3s
BESE Bessie Mountai 56.30 334 *e*P P **10 27 57.7 +1.4**
comp=Z,308nm,1.8s
BSCB Bom Sucesso 56.33 126 *e*P P **10 27 56.4 -0.7**
PLCA Paso Flores 56.48 162 *e*P P **10 27 57.0 -0.8**
comp=Z,149nm,1.4s
PLCA PcP **PcP** **10 28 54.3 -0.3**
PLCA Paso Flores 56.48 162 P P **10 27 57.2 -0.6**
comp=Z,92nm,1.3s,baz=7.3,slow=9.3,SNR=22
PLCA PcP **PcP** **10 28 54.3 -0.3**
comp=Z,7.7nm,1.0s,baz=346,slow=5.8,SNR=2.1
PLCA LR LR 10 46 27.2
comp=Z,949nm,22.0s,baz=6.0,slow=30
PLCA Paso Flores 56.48 162 *e*P P **10 27 57.0 -0.8**
PLTB Pedras Altas 56.87 142 *e*P P **10 27 57.3 -3.4**
CNLB Canela 56.92 138 *e*P P **10 27 59.4 -1.7**
SKAG Skagway 57.01 335 *e*P P **10 28 03.2 +1.9**
comp=Z,93nm,1.3s
IVI Ivigtut 57.30 23 *e*P P **10 28 03.8 +0.6**
comp=Z,98nm,1.1s
TRQA Tornquist 57.35 153 *e*P P **10 28 03.0 -1.0**
comp=Z,99nm,1.3s
TRQA Tornquist 57.35 153 *e*P P **10 28 03.0 -1.0**
TRQA pmax pmax
comp=Z,99nm,1.3s
TRQA Tornquist 57.35 153 *e*P P **10 28 03.2 -0.7**
WHY Whitehorse 57.53 336 *e*P P **10 28 06.0 +0.8**
comp=Z,526nm,0.9s
RCBR Riachuelo 57.59 105 *e*P P **10 28 06.9 +0.7**
comp=Z,209nm,1.2s
RCBR Riachuelo 57.59 105 *e*P P **10 28 06.9 +0.7**
RCBR pmax pmax
comp=Z,209nm,1.2s
RCBR Riachuelo 57.59 105 *e*P P **10 28 06.8 +0.7**
GO07 Milladeo Hill, 57.82 165 *e*P P **10 28 10.5 +3.4**
comp=Z,212nm,0.9s
SJMB Sao Joao De Ma 58.07 122 *e*P P **10 28 08.7 -0.6**
NRS Narsarsuaq 58.34 24 *e*P P **10 28 09.3 -1.2**
comp=Z,69nm,1.0s
NRS Narsarsuaq 58.34 24 *e*P P **10 28 09.3 -1.2**
NRS pmax pmax
comp=Z,69nm,1.0s
BSFB Barra de Sao F 58.41 122 *e*P P **10 28 11.3 -0.5**
HYT Haines Junctio 58.68 335 *e*P P **10 28 15.2 +2.0**
comp=Z,191nm,1.4s
DUB01 Friburgo-RJ 58.79 126 *e*P P **10 28 14.0 -0.4**
RIB01 Linhares ES 59.02 122 *e*P P **10 28 15.6 -0.4**
BCPM Bancas Point 59.11 334 *e*P P **10 28 17.4 +1.5**
comp=Z,168nm,1.2s
SFJD Kangerlussuaq 60.30 17 *e*P P **10 28 23.2 -0.7**
comp=Z,89nm,1.5s
SFJD PcP **PcP** **10 29 09.6 +0.4**
SFJD LR LR
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 60.30 17 *i*P P **10 28 23.1 -0.9**
SFJD Kangerlussuaq 60.30 17 *e*P P **10 28 23.3 -0.7**
SFJD 10 29 09.6
SFJD pmax pmax
comp=Z,89nm,1.5s
SFJD MLR MLR
comp=Z,3µm,19.0s
SFJD Kangerlussuaq 60.30 17 P P **10 28 23.1 -0.9**
comp=Z,20nm,1.0s,baz=232,slow=11,SNR=5.9
SFJD PcP **PcP** **10 29 09.6 +0.4**
comp=Z,14nm,0.8s,baz=270,slow=1.4,SNR=4.3
SFJD Kangerlussuaq 60.30 17 *e*P P **10 28 22.8 -1.2**
BALM Baldy 60.81 334 *e*P P **10 28 29.0 +1.2**
comp=Z,208nm,1.2s
BALM *e*PcP **PcP** **10 29 12.7 +1.2**
BALM Baldy 60.81 334 *e*P P **10 28 29.0 +1.2**
BALM *e* 10 29 12.7
BALM pmax pmax
comp=Z,208nm,1.2s
CRQM Cirque 61.02 334 *e*P P **10 28 30.7 +1.4**
DAWY Dawson 61.22 338 *e*P P **10 28 30.9 +0.5**
comp=Z,59nm,1.0s
HMT Hamilton 61.32 333 *e*P P **10 28 33.0 +1.9**
comp=Z,204nm,1.1s
EPYK Eagle Plains 61.63 341 *e*P P **10 28 34.2 +1.0**
comp=Z,93nm,1.1s
EPYK Eagle Plains 61.63 341 P P **10 28 34.3 +1.0**
baz=127,SNR=5.7
RES Resolute Bay 61.91 359 *e*P P **10 28 32.9 -1.9**
comp=Z,31nm,0.8s
RES Resolute Bay 61.91 359 P P **10 28 33.7 -1.1**
comp=Z,28nm,0.7s,baz=185,slow=9.0,SNR=81
INK Inuvik 61.91 343 *e*P P **10 28 34.4 -0.5**
comp=Z,126nm,1.0s
INK Inuvik 61.91 343 P P **10 28 34.9 0.0**
comp=Z,58nm,0.8s,baz=116,slow=7.2,SNR=110
INK LR LR 10 57 20.0
comp=Z,88nm,21.9s,baz=119,slow=38
PUH Pauahi 61.95 285 *e*P P **10 28 35.9 -0.3**
comp=Z,325nm,1.1s
BYL Byron's Ledge 61.99 285 *e*P P **10 28 36.6 +0.1**
comp=Z,318nm,1.0s
HATHI Halema'uma'u T 61.99 285 *e*P P **10 28 36.3 -0.2**
comp=Z,521nm,1.3s
KKO Keanakako'i 62.00 285 *e*P P **10 28 36.5 0.0**
comp=Z,403nm,1.0s
SBLHI Steaming Bluff 62.00 285 *e*P P **10 28 36.4 -0.2**
comp=Z,460nm,1.3s
RIM Rim 62.00 285 *e*P P **10 28 36.6 0.0**
comp=Z,359nm,1.0s
UWB Uwekahuna B 62.01 285 *e*P P **10 28 36.4 -0.2**
comp=Z,264nm,1.0s
NPH North Pit 62.01 285 *e*P P **10 28 36.8 +0.1**
comp=Z,98nm,0.9s
NPH North Pit 62.01 285 *e*P P **10 28 36.8 +0.1**
NPH pmax pmax
comp=Z,99nm,0.9s
OBL Observatory Le 62.01 285 *e*P P **10 28 36.6 0.0**
comp=Z,248nm,1.0s
UWE Uwekahuna 62.02 285 *e*P P **10 28 37.0 +0.2**
comp=Z,294nm,1.0s
SDHHI Sand Hill 62.02 285 *e*P P **10 28 36.4 -0.3**
comp=Z,330nm,1.1s
WRMHI West Rim 62.03 285 *e*P P **10 28 36.7 0.0**
comp=Z,188nm,0.9s
HLP Hilina Pali 62.04 285 *e*P P **10 28 37.1 +0.3**
comp=Z,331nm,1.0s
EYAK Cordova Ski Ar 62.08 333 *e*P P **10 28 37.8 +1.7**
comp=Z,409nm,1.2s
MLH Mauna Loa 62.10 285 *e*P P **10 28 37.8 +0.4**
comp=Z,222nm,1.0s
MLH Mauna Loa 62.10 285 *e*P P **10 28 37.8 +0.4**
MLH pmax pmax
comp=Z,222nm,1.0s
AIN Ainahou 62.18 285 *e*P P **10 28 38.3 +0.5**
comp=Z,332nm,1.3s
HMH Humu'ula Sheep 62.19 286 *e*P P **10 28 38.5 +0.5**
comp=Z,266nm,1.2s
POHA Pohakuloa 62.22 286 *e*P P **10 28 38.1 -0.1**
comp=Z,253nm,1.1s
EGAK Eagle 62.25 338 *e*P P **10 28 37.2 -0.1**
comp=Z,109nm,1.0s
EGAK LR LR
comp=Z,1µm,19.0s
MLOA Mauna Loa Obse 62.28 285 *e*P P **10 28 39.1 +0.3**
comp=Z,210nm,1.1s
MENT Mentasta 62.30 336 *e*P P **10 28 38.7 +0.9**
comp=Z,261nm,1.8s
DIV Divide 62.34 333 *e*P P **10 28 39.1 +1.1**

comp=Z,244nm,1.3s
HPAH Hawaii Prepara 62.35 286 *e*P P **10 28 38.7 -0.2**
comp=Z,213nm,0.9s
KLU Klutina 62.56 334 *e*P P **10 28 40.7 +1.2**
comp=Z,255nm,1.2s
HARP HAARP 62.64 335 *e*P P **10 28 41.7 +1.8**
comp=Z,300nm,1.1s
VAH Vaihoa 62.77 245 *e*P P **10 28 41.0 -0.5**
comp=Z,251nm,1.3s
VAH *e*pP **pwP 10 28 49.9 +1.6**
comp=Z,296nm,1.2s
DOT Dot Lake 62.77 336 *e*P P **10 28 42.5 +1.6**
comp=Z,162nm,1.2s
SCRK Sand Creek 62.90 337 *e*P P **10 28 43.1 +1.3**
comp=Z,197nm,1.5s
PMOR Pomariorio Ree 62.91 246 *e*P P **10 28 42.2 -0.3**
comp=Z,217nm,1.2s
PMOR *e*pP **pwP 10 28 51.2 +2.0**
comp=Z,284nm,1.3s
PAX Paxson 63.02 335 *e*P P **10 28 42.7 +0.1**
comp=Z,494nm,2.0s
PAX Paxson 63.02 335 *e*P P **10 28 42.7 +0.1**
PAX pmax pmax
comp=Z,494nm,2.0s
RIDG Independ'e Rid 63.12 336 *e*P P **10 28 44.3 +1.1**
comp=Z,257nm,1.3s
SCM Sheep Creek Mo 63.31 334 *e*P P **10 28 45.4 +0.9**
comp=Z,128nm,1.1s
SCM Sheep Creek Mo 63.31 334 *e*P P **10 28 45.4 +0.9**
SCM pmax pmax
comp=Z,128nm,1.1s
SEW Seward 63.59 331 *e*P P **10 28 47.0 +0.7**
comp=Z,113nm,1.1s
KNK Knik Glacier 63.64 333 *e*P P **10 28 47.3 +0.7**
comp=Z,207nm,1.1s
ANGG Ammassalik, Gr 63.69 22 *e*P P **10 28 45.2 -1.6**
comp=Z,70nm,0.8s
SML Sawmill 63.74 333 *e*P P **10 28 47.8 +0.5**
comp=Z,451nm,1.4s
SML Sawmill 63.74 333 *e*P P **10 28 47.8 +0.5**
SML pmax pmax
comp=Z,451nm,1.4s
DHY Denali Highway 63.85 335 *e*P P **10 28 48.4 +0.2**
comp=Z,56nm,1.2s
PMR Palmer 64.00 333 *e*P P **10 28 49.5 +0.6**
comp=Z,236nm,1.4s
PMR Palmer 64.00 333 *e*P P **10 28 49.6 +0.6**
PMR pmax pmax
comp=Z,236nm,1.4s
RC01 Rabbit Creek A 64.08 332 *e*P P **10 28 50.1 +0.6**
comp=Z,184nm,1.0s
BRLK Bradley Lake 64.14 331 *e*P P **10 28 51.1 +1.1**
comp=Z,225nm,1.0s
PRP Porcupine Dome 64.22 338 *e*P P **10 28 50.5 -0.1**
comp=Z,117nm,1.0s
HDA Harding Lake 64.25 336 *e*P P **10 28 50.7 +0.1**
comp=Z,274nm,1.4s
HDA Harding Lake 64.25 336 P P **10 28 50.8 +0.2**
baz=116,SNR=39
KDAK Kodiak Island 64.34 328 *e*P P **10 28 52.0 +0.7**
comp=Z,344nm,1.8s
KDAK LR LR
comp=Z,376nm,22.0s
KDAK Kodiak Island 64.34 328 P P **10 28 52.3 +1.0**
comp=Z,377nm,1.1s,baz=115,slow=1.9,SNR=9.5
IL1 Eielson Array 64.39 337 *e*P P **10 28 51.9 +0.4**
ILAR Eielson Array 64.39 337 P P **10 28 52.2 +0.7**
comp=Z,77nm,0.9s,baz=132,slow=4.3,SNR=77
ILAR PKP2bc 10 57 43.2
comp=Z,1.0nm,0.9s,baz=313,slow=4.7,SNR=6.0
ILAR LR LR 10 59 38.5
comp=Z,516nm,18.0s,baz=117,slow=38
ILB Eielson Array 64.39 337 *e*P P **10 28 52.4 +0.9**
comp=Z,230nm,1.1s
KIP Kipapa 64.41 288⇑ *e*P P **10 28 53.3 +0.9**
KIP pmax pmax
comp=Z,303nm,1.6s
KULLO Kullorsuaq 64.55 9 *i* P P **10 28 51.4 -1.0**
comp=Z,65nm,1.1s
KULLO Kullorsuaq 64.55 9 *i* P P **10 28 51.4 -1.0**
KULLO pmax pmax
comp=Z,65nm,1.1s
RND Reindeer 64.60 335 *e*P P **10 28 53.5 +0.5**
comp=Z,418nm,1.2s
RND Reindeer 64.60 335 *e*P P **10 28 53.5 +0.5**
RND pmax pmax
comp=Z,418nm,1.2s
FYU Fort Yukon 64.61 339 *e*P P **10 28 54.1 +1.3**
comp=Z,257nm,1.6s
CCB Clear Creek Bu 64.69 336 *e*P P **10 28 53.3 -0.1**
comp=Z,289nm,2.0s
WRH Wood River Hil 64.73 336 *e*P P **10 28 53.9 +0.2**
comp=Z,39nm,1.0s
POKR Poker Plat Res 64.75 337 P P **10 28 54.2 +0.3**
baz=116,SNR=24
MCK McKinley 64.76 335 *e*P P **10 28 54.5 +0.5**
comp=Z,237nm,1.2s
MCK McKinley 64.76 335 *e*P P **10 28 54.5 +0.5**
MCK pmax pmax
comp=Z,237nm,1.2s
TULEG Thule 64.78 6 *e*P P **10 28 53.7 -0.1**
comp=Z,70nm,1.2s
COLA College 64.81 337 *e*P P **10 28 54.7 +0.5**
comp=Z,88nm,0.9s
COLA LR LR
comp=Z,801nm,22.0s
COLA College 64.81 337 *e*P P **10 28 54.7 +0.5**
COLA pmax pmax
comp=Z,88nm,0.9s
COLA MLR MLR
comp=Z,801nm,22.0s
COLA College 64.81 337 *e*P P **10 28 54.5 +0.4**
TCOL CIGO, UAF Yank 64.81 337 P P **10 28 54.4 +0.2**
baz=115,SNR=19
SII Sitkinak Islan 64.83 327 *e*P P **10 28 56.1 +1.6**
comp=Z,263nm,1.1s
MDM Murphy Dome 64.99 337 *e*P P **10 28 55.5 +0.1**
comp=Z,346nm,1.9s
SACV Santiago Islan 65.03 79 PFAKE 10 29 10.0 +13
SACV LR LR
comp=Z,811nm,19.0s
BWN Browne 65.15 336 *e*P P **10 28 56.8 +0.3**
comp=Z,862nm,1.2s
TIAR Tiarei 65.20 244 *e*P P **10 28 56.9 -0.6**
comp=Z,61nm,1.1s
TIAR *e*pP **pwP 10 29 06.0 +1.7**
comp=Z,72nm,1.0s
TVO Taravao 65.21 243 *e*P P **10 28 57.0 -0.6**
comp=Z,34nm,1.2s
TVO *e*pP **pwP 10 29 06.0 +1.6**
comp=Z,35nm,1.0s
TRF Thorofare Moun *e*P P **10 28 57.3 +0.2**
comp=Z,1μm,2.0s **65.21 335**
RSO Redoubt South 65.26 331 *e*P P **10 28 58.2 +0.8**
PPT Papeete 65.41 244 P P **10 28 59.6 +0.7**
comp=Z,74nm,1.1s,baz=88,slow=15,SNR=3.8
PPT LR LR 10 49 18.3
comp=Z,937nm,21.6s,baz=64,slow=28
PPT2 Papeete2 65.41 244 *e*P P **10 28 58.3 -0.7**
comp=Z,91nm,1.3s
PPT2 *e*pP **pwP 10 29 05.2 -0.6**
comp=Z,110nm,1.4s
PPT2 *e*S **S 10 37 37.3 -6.9**
comp=Z,3μm,32.2s
PPT2 *e*LQ LQ 10 45 46.5
comp=Z,2μm,26.5s
PPT2 *e*LR LR 10 48 25.0
comp=Z,4μm,26.5s,baz=58
PAE Paea 65.45 244 *e*P P **10 28 58.4 -0.7**
comp=Z,24nm,1.1s
PAE *e*pP **pwP 10 29 07.5 +1.6**
comp=Z,28nm,1.0s
BPAW Bear Paw Mtn. 65.74 335 *e*P P **10 29 00.5 +0.2**
comp=Z,202nm,1.2s
GO09 Cerro Castillo 65.80 167 *e*P P **10 29 01.4 +0.7**
comp=Z,94nm,1.3s
PPLA Purkeypile 65.81 334 *e*P P **10 29 01.2 +0.3**
comp=Z,452nm,1.6s
CAST Castle Rocks 65.95 334 *e*P P **10 29 01.5 -0.1**
comp=Z,231nm,1.3s
MLY Manley 66.00 336 *e*P P **10 29 01.7 -0.2**
comp=Z,173nm,1.0s
COLD Coldfoot 66.66 339 *e*P P **10 29 07.7 +1.5**
comp=Z,141nm,1.3s
SVW2 Sparrevohn 66.77 331 *e*P P **10 29 07.2 +0.2**
comp=Z,532nm,2.0s
TOLK Toolik Lake Re 67.03 340 *e*P P **10 29 09.0 +0.4**
comp=Z,71nm,1.0s
TOLK Toolik Lake Re 67.03 340 P P **10 29 08.9 +0.4**
baz=115,SNR=25
CHGN Chignik 67.05 326 *e*P P **10 29 09.0 +0.2**
comp=Z,246nm,1.0s
SUMG Summit 67.07 15 *e*P P **10 29 09.3 +0.2**
comp=Z,135nm,1.2s
SUMG Summit 67.07 15 *i* P P **10 29 09.7 +0.6**
SUMG Summit 67.07 15 *i* P P **10 29 09.7 +0.6**
IM3 Indian Mountai 67.51 337 *e*P P **10 29 11.1 -0.5**
TBI Tubuai 67.70 238 *e*P P **10 29 12.5 -1.0**
comp=Z,166nm,1.2s
TBI *e*pP **pwP 10 29 21.6 +1.4**
comp=Z,196nm,1.2s
TBI *e*S S 10 38 03.0 -8.6
comp=Z,1μm,34.8s
TBI Tubuai 67.70 238 *e*LR LR 10 49 29.3
comp=Z,3μm,29.2s,baz=62
GO10 Punta Arenas 67.85 167 *e*P P **10 29 15.7 +1.9**
comp=Z,234nm,1.4s
SDPT Sand Point 68.02 325 *e*P P **10 29 15.4 +0.5**
comp=Z,188nm,1.0s
FALS False Pass 69.62 324 *e*P P **10 29 25.0 0.0**
comp=Z,233nm,0.8s
BORG Borgarnes 69.77 25 P P **10 29 25.0 -0.7**
BORG LR LR
comp=Z,1μm,21.0s
BORG Borgarnes 69.77 25 P P **10 29 25.0 -0.7**
BORG MLR MLR
comp=Z,1μm,21.0s
BORG Borgarnes 69.77 25 P P **10 29 25.0 -0.7**
comp=Z,50nm,1.2s,baz=43,slow=7.9,SNR=2.4
USHA Ushuaia 69.99 166 LR LR 10 53 02.7
comp=Z,453nm,21.7s,baz=343,slow=30
EFI East Falkland 70.21 159 PFAKE 10 29 40.0 +12
EFI LR LR
comp=Z,1μm,21.0s
MACI Morro de la Ar 70.32 64 *e*P P **10 29 30.7 +0.7**
comp=Z,327nm,1.5s
SCO Scebysund 70.99 19 *e*P P **10 29 32.6 -0.4**
comp=Z,120nm,1.9s
SCO Scoresbysund 70.99 19 *i* P P **10 29 33.2 +0.2**
comp=Z,27nm,1.2s
SCO Scoresbysund 70.99 19 *i* P P **10 29 33.2 +0.2**
SCO pmax pmax
comp=Z,27nm,1.2s
UNV Unalaska Valle 71.33 323 *e*P P **10 29 35.4 0.0**
comp=Z,250nm,1.2s
RDOG Red Dog Mine 71.53 338 *e*P P **10 29 37.1 +0.8**
comp=Z,186nm,1.4s
ANM Nome 71.90 334 *e*P P **10 29 39.2 +0.6**
comp=Z,50nm,1.0s
ANM Nome 71.90 334 *e*P P **10 29 39.2 +0.6**
ANM pmax pmax
comp=Z,51nm,1.0s
NIKH Nikolski High 72.69 322 *e*P P **10 29 44.0 +0.4**
comp=Z,138nm,0.9s
DAG Danmarks Havn 73.55 13⇑ *i*P P **10 29 47.0 -1.2**
comp=Z,31nm,0.8s
DAG Danmarks Havn 73.55 13⇑ *i*P P **10 29 47.0 -1.2**
DAG pmax pmax
comp=Z,23nm,0.8s
SPIA Saint Paul Isl 73.62 326 *e*P P **10 29 50.2 +1.2**
comp=Z,732nm,1.4s
GAMB Gambell 74.58 333 *e*P P **10 29 55.5 +1.1**
comp=Z,87nm,1.2s
RAR Rarotonga 75.69 244 P P **10 30 01.5 -0.1**
comp=Z,23nm,0.9s,baz=198,slow=7.8,SNR=3.1
PCAS Casmilo, Conde 76.02 52 *e*P P **10 30 02.3 -1.0**
comp=Z,201nm,1.4s
PCAS Casmilo, Conde 76.02 52 *e*PcP **PcP 10 30 14.0 -1.6**
COI Coimbra 76.07 51 *e*P P **10 30 03.0 -0.5**
PTOM Tomar 76.13 52 *e*P P **10 30 02.7 -1.2**
comp=Z,169nm,1.8s
PTOM Tomar 76.13 52 *e*PcP **PcP 10 30 14.2 -1.8**
PNCL Nicolau / Gran 76.18 54 *e*P P **10 30 02.0 -2.2**
comp=Z,116nm,1.7s
PMTG Montargil 76.32 53 *e*P P **10 30 05.4 +0.4**
comp=Z,117nm,1.5s
PVIS Viseu 76.42 51 *e*P P **10 30 04.2 -1.4**
POLO Lamas de Olo 76.44 50 *e*P P **10 30 05.8 +0.1**
MTE Manteigas 76.72 51 *e*P P **10 30 06.1 -1.2**
PBDV Barranco-do-Ve 76.73 54 *e*P P **10 30 06.0 -1.4**
PCBR Castelo Branco 76.82 52 *e*P P **10 30 06.7 -1.1**
comp=Z,73nm,1.9s
PCBR Castelo Branco 76.82 52 *e*PcP **PcP 10 30 18.1 -0.9**
PESTR Estremoz 76.83 53 *e*P P **10 30 06.7 -1.2**
comp=Z,64nm,1.5s
PMRV Marv??o 76.93 52 *e*P P **10 30 07.3 -1.2**
PMRV Marv??o 76.93 52 *e*PcP **PcP 10 30 18.2 -1.4**
MVO Moncorvo 77.03 50 *e*P P **10 30 07.8 -1.3**
comp=Z,85nm,1.3s
PBRG Braganca 77.18 50 *e*P P **10 30 08.8 -1.1**
comp=Z,86nm,1.5s
ADK Adak 77.51 321 *e*P P **10 30 11.6 +0.2**
comp=Z,286nm,0.9s
ADK Adak 77.51 321 *e*P P **10 30 11.6 +0.2**
ADK pmax pmax
comp=Z,286nm,0.9s
KIWB Kanaga Island 77.81 321 *e*P P **10 30 13.4 +0.3**
ESK Eskdalemuir 78.22 36 *i* P P **10 30 15.6 +0.3**
EKA Eskdalemuir Ar 78.24 36 P P **10 30 13.5 -1.9**
comp=Z,13nm,0.6s,baz=270,slow=5.4,SNR=22
PAB San Pablo 79.25 52 *e*P P **10 30 20.1 -1.3**
comp=Z,99nm,1.5s
PAB LR LR
comp=Z,791nm,19.0s
PAB San Pablo 79.25 52 *e*P P **10 30 20.2 -1.3**
PAB pmax pmax
comp=Z,99nm,1.5s
PAB MLR MLR
comp=Z,791nm,19.0s
ESDC Sonseca Array 79.53 52 P P **10 30 21.6 -1.3**
comp=Z,14nm,0.8s,baz=288,slow=5.3,SNR=35
ESDC LR LR 10 59 49.9
comp=Z,310nm,22.0s,baz=285,slow=31
ESLA Sonseca Array 79.53 52 *e*P P **10 30 21.4 -1.5**
comp=Z,123nm,1.7s
ES06 SONSECA Array 79.54 52 *e*P P **10 30 21.0 -2.0**
KBS Kingsbay 79.95 11 *e*P P **10 30 25.9 +1.5**
comp=Z,40nm,0.9s
KBS LR LR
comp=Z,1μm,22.0s
KBS Kingsbay 79.95 11 *e*P P **10 30 25.9 +1.5**
KBS pmax pmax
comp=Z,40nm,0.9s
KBS MLR MLR
comp=Z,1μm,22.0s
PMSA Palmer Station 79.97 169 LR LR 10 57 19.4
comp=Z,318nm,18.5s,baz=285,slow=29
PMSA Palmer Station 79.97 169 *e*P P **10 30 24.1 -0.4**
SPA0 Spitsbergen Ar 81.01 12 *e*P P **10 30 32.6 +2.5**
comp=Z,64nm,1.1s
CLF Chambon-Foret 82.62 43 *e*P P **10 30 37.8 -1.3**
comp=Z,82nm,1.2s
BILL Bilibino 82.99 338 *e*P P **10 30 41.3 +0.7**
comp=Z,187nm,1.0s
BILL LR LR
comp=Z,690nm,20.0s
BILL Bilibino 82.99 338 *d i*P P **10 30 41.6 +0.9**
BILL *i* 10 30 45.8
BILL *e* 10 33 53.1
BILL *e*S **S 10 41 05.0 +5.1**
BILL pmax pmax
comp=Z,313nm,1.7s
DOU Dourbes 83.71 40⇑P P **10 30 42.7 -2.0**
BCLA Clavier 84.09 40⇑P P **10 30 45.6 -1.0**
NC204 NORSAR Array S 84.35 28 *e*P P **10 30 50.3 +2.5**
comp=Z,114nm,1.8s
HGN Heimansgroeve 84.40 39 *e*P P **10 30 48.6 +0.4**
HGN *e*PP PP 10 34 19.2 +16
HGN *e*S S 10 41 31.2 +17
HGN *e*SSS SSS 10 50 38.1
NBO00 NORSAR Array S 84.42 29 *e*P P **10 30 50.4 +2.2**
comp=Z,48nm,1.1s
TIC Toumodi 84.45 84 *e*PKP2 P **10 30 49.3 +0.1**
MEM Membach 84.48 39⇓P P **10 30 47.4 -1.2**
AFI Afiamalu 84.50 254 LR LR 10 58 45.9
comp=Z,317nm,21.5s,baz=58,slow=29
NAO01 NORSAR Array S 84.53 29 *e*P P **10 30 49.5 +0.9**
comp=Z,78nm,1.1s
LIC Lamto 84.53 85 *e*PKP2 P **10 30 49.8 +0.2**
comp=Z,869nm,1.4s
DBIC Dimbokro 84.60 84 *e*P P **10 30 50.4 +0.4**
comp=Z,172nm,1.1s
DBIC Dimbokro 84.60 84 P P **10 30 50.6 +0.7**
comp=Z,47nm,1.1s,baz=265,slow=4.5,SNR=18
DBIC LR LR 11 04 59.6
comp=Z,447nm,21.9s,baz=270,slow=33
DBIC Dimbokro 84.60 84 *e*P P **10 30 50.2 +0.3**
NB2 NORSAR Subarra 84.63 29 P P **10 30 50.0 +0.8**
comp=Z,117nm,1.4s,baz=287,slow=5.1
NOA NORSAR Array B 84.63 29 P P **10 30 49.8 +0.6**
comp=Z,12nm,0.8s,baz=289,slow=4.8,SNR=39
NOA LR LR 11 08 49.7
comp=Z,260nm,19.4s,baz=290,slow=36
WTSB Winterswijk 84.64 38 *e*P P **10 30 50.0 +0.6**
NB201 NORSAR Array S 84.66 29 *e*P P **10 30 51.1 +1.7**
comp=Z,109nm,1.4s
KIC Kosan Boka 84.78 85 *e*PKP2 P **10 30 50.7 -0.2**
comp=Z,595nm,1.3s
WLF Walferdange 84.79 40 *e*P P **10 30 51.4 +1.2**
comp=Z,184nm,1.2s
WLF Walferdange 84.79 40 *e*P P **10 30 51.4 +1.2**
WLF pmax pmax
comp=Z,184nm,1.2s
WLF Walferdange 84.79 40⇓P P **10 30 51.0 +0.7**
comp=Z,26nm,1.4s
NC405 NORSAR Array S 84.84 28 *e*P P **10 30 51.7 +1.5**
comp=Z,76nm,1.3s
NC602 NORSAR Array S 84.87 29 *e*P P **10 30 50.9 +0.6**
comp=Z,49nm,1.0s
AHRW Bad Neuenahr-A 85.16 39 *e*P P **10 30 52.6 +0.6**
comp=Z,98nm,1.4s,baz=288,slow=4.8
ECH Echery 85.78 42 *e*P P **10 30 54.3 -1.0**
comp=Z,32nm,1.0s
ECH Echery 85.78 42 *e*P P **10 30 54.3 -1.0**
ECH pmax pmax
comp=Z,33nm,1.0s
HFS Hagfors 86.07 29 P P **10 30 55.9 -0.5**
comp=Z,8.8nm,0.6s,baz=207,slow=1.7,SNR=17
BSEG Bad Segeberg 86.19 36 *e*P P **10 30 57.0 0.0**
comp=Z,360nm,2.3s,baz=288,slow=4.8
BNI Bardonecchia 86.25 45 *e*P P **10 30 57.1 -0.6**
comp=Z,41nm,1.3s
BNI Bardonecchia 86.25 45 *e*P P **10 30 57.2 -0.6**
BNI pmax pmax
comp=Z,41nm,1.3s
SENIN Lac Senin/Sane 86.34 43 *e*P P **10 30 57.6 -0.7**
comp=Z,40nm,1.0s
NRDL Niedersach Rie 86.47 37 *e*P P **10 30 58.6 +0.2**
comp=Z,39nm,1.2s,baz=288,slow=4.8
BFO Black Forest 86.51 41 *e*P P **10 30 57.7 -1.2**
comp=Z,32nm,1.1s
BFO Black Forest 86.51 41 *i* P P **10 30 59.0 +0.1**
GTTG Gvttingen 86.66 38 *e*P P **10 30 59.3 -0.1**
comp=Z,67nm,1.0s,baz=288,slow=4.8
CLZ Clausthal 86.81 38 *e*P P **10 31 00.3 0.0**
comp=Z,32nm,1.0s,baz=288,slow=4.8
UBBA Unterbreizbach 86.88 39 *e*P P **10 31 00.3 -0.1**
comp=Z,38nm,1.5s,baz=288,slow=4.8
ARCES ARCESS Array B 86.89 18 *e*P P **10 31 00.7 +0.4**
ARCES PP **PP 10 34 22.1 -0.5**
ARCES ARCESS Array B 86.89 18 *e*P P **10 31 00.7 +0.4**
ARCES LR 10 34 22.1
ARCES ARCESS Array B 86.89 18 P P **10 31 00.2 -0.1**
comp=Z,19nm,0.8s,baz=288,slow=5.0,SNR=26
ARCES PP **PP 10 34 22.1 -0.5**
comp=Z,8.5nm,0.8s,baz=308,slow=6.6,SNR=5.7
ARCES LR LR 11 09 39.0
comp=Z,448nm,20.8s,baz=304,slow=36
STU Stuttgart 86.95 41 *e*P P **10 31 01.7 +0.7**
comp=Z,42nm,1.0s
STU Stuttgart 86.95 41 *e*P P **10 31 01.7 +0.7**
STU pmax pmax
comp=Z,42nm,1.0s
KEV Kevo 87.24 18 PFAKE 10 31 10.0 +8.1
KEV LR LR
comp=Z,2μm,21.0s
DAVA Damuels 87.80 42 *e*PcP P **10 31 05.5 +0.1**
comp=Z,36nm,1.1s,SNR=15
UBR Ueberruh 87.84 42 *e*P P **10 31 04.8 -0.6**
comp=Z,62nm,1.1s,baz=288,slow=4.8
NEUB Neuenburg 87.84 38 *e*P P **10 31 05.3 +0.1**
comp=Z,157nm,1.9s,baz=288,slow=4.8
MOX Moxa 87.91 38 *e*P P **10 31 05.5 -0.1**
comp=Z,123nm,2.0s,baz=288,slow=4.8
MOX *e*L L 11 14 52.8
comp=Z,562nm,19.1s
DAVOX Davos/Dischmat 87.94 43 P P **10 31 05.6 -0.5**
comp=Z,19nm,0.9s,baz=297,slow=8.3,SNR=13
GRFO Grafenberg 87.96 39 *e*P P **10 31 06.2 +0.4**
comp=Z,52nm,1.2s
GRFO Grafenberg 87.96 39 *e*P P **10 31 06.2 +0.4**
GRFO pmax pmax
comp=Z,52nm,1.2s
GRA1 Grafenberg Arr 87.96 39 *e*P P **10 31 06.5 +0.7**
comp=Z,58nm,1.2s
GRF Grafenberg Arr 87.96 39 *e*P P **10 31 05.9 +0.1**
comp=Z,248nm,2.4s,baz=288,slow=4.8
GRF *e*L L 11 10 28.6
comp=Z,612nm,20.1s
GRF Grafenberg Arr 87.96 39 *e*P P **10 31 06.5 +0.7**
GRF pmax pmax
comp=Z,58nm,1.2s
FUORN Ofenpass-Fuorn 88.24 43 *e*P P **10 31 06.1 -1.5**
comp=Z,51nm,1.1s
PLN Plauen 88.29 39 *e*P P **10 31 07.2 -0.1**
comp=Z,93nm,1.6s,baz=288,slow=4.8
RETA Reutte 88.32 42 *e*PcP P **10 31 07.4 -0.3**
comp=Z,42nm,1.3s,SNR=11
MANZ Manzenberg 88.42 39 *e*P P **10 31 08.0 0.0**
comp=Z,77nm,1.9s,baz=288,slow=4.8
FETA Feichten 88.43 42 *e*PcP P **10 31 08.1 -0.3**
comp=Z,21nm,1.3s,SNR=7.6
GUNZ Gunzen 88.44 39 *e*P P **10 31 08.0 -0.1**
comp=Z,91nm,1.6s,baz=288,slow=4.8
WERN Wernitzgruen 88.49 39 *e*P P **10 31 08.5 +0.1**
comp=Z,93nm,1.4s,baz=288,slow=4.8
TANN Tannenbergstha 88.50 39 *e*P P **10 31 08.4 0.0**
comp=Z,139nm,1.4s,baz=288,slow=4.8
ROTZ Rotzenmuhle 88.54 39 *e*P P **10 31 08.6 0.0**
comp=Z,73nm,1.6s,baz=288,slow=4.8
NKC Novy Kostel 88.55 39 *e*P P **10 31 08.9 +0.3**
NKC *ex* x 10 31 17.6
NKC AMS AMS 11 15 30.0
comp=Z,600nm,16.2s
NKC Novy Kostel 88.55 39 *e*P P **10 31 08.9 +0.3**
NKC *e* 10 31 17.6
NKC MLR MLR
comp=Z,600nm,16.2s
MOTA Moosalm 88.58 42 *e*P P **10 31 08.4 -0.6**
comp=Z,15nm,1.0s,SNR=10
SQTA Sankt Quirin 88.69 42 *e*PcP P **10 31 09.0 -0.4**
comp=Z,20nm,1.3s,SNR=6.3
FBE Freiberg 88.88 38 *e*P P **10 31 10.4 +0.3**
comp=Z,78nm,1.4s,baz=288,slow=4.8
WATA Walderalm 88.89 42 *e*PcP P **10 31 10.1 -0.4**
comp=Z,12nm,1.3s,SNR=6.4
WET Wettzell 89.16 40 *e*P P **10 31 11.7 +0.2**
comp=Z,103nm,1.5s,baz=288,slow=4.8
BRG Berggiesshubel 89.24 38 *i* P P **10 31 13.0 +1.2**
comp=Z,64nm,1.4s
BRG *e*PP PP 10 34 25.9 -16
comp=Z,21nm,1.6s
BRG S **S 10 42 00.0 -1.6**
BRG *e*PKKP **PKKPdf 10 48 47.3 +2.8**
comp=Z,30nm,2.0s
comp=N,673nm,19.1s
comp=E,509nm,23.4s
comp=Z,959nm,21.0s
BRG Berggiesshubel 89.24 38 *e*P P **10 31 11.8 0.0**
comp=Z,64nm,1.4s,baz=288,slow=4.8
BRG Berggiesshubel 89.24 38 *i* P P **10 31 13.0 +1.2**
BRG S **S 10 42 00.0 -1.6**
BRG pmax pmax
comp=Z,64nm,1.4s
BRG pmax pmax
comp=Z,21nm,1.6s
BRG pmax pmax
comp=Z,30nm,2.0s
BRG MLR MLR
comp=N,673nm,19.1s
BRG MLR MLR
comp=E,509nm,23.4s
BRG MLR MLR
comp=Z,959nm,21.0s
TOA0 Torodi Ar. Sit 89.51 77 *e*P P **10 31 12.6 -1.2**
comp=Z,16nm,0.9s
TORD Torodi Ar. Bea 89.51 77 P P **10 31 12.4 -1.4**
comp=Z,6.9nm,0.9s,baz=305,slow=6.6,SNR=29
TORD PKKPbc **PKKPdf 10 48 46.2 +2.4**
comp=Z,0.3nm,0.8s,baz=112,slow=1.6,SNR=4.1
TORD PKPPKP 10 56 55.1

comp=Z,1.0nm,1.0s,baz=117,slow=4.9,SNR=4.6
TORD LR LR 11 12 16.4
comp=Z,268nm,18.1s,baz=305,slow=36
KHC Kasperske Hory 89.59 40 *e*P **P 10 31 13.7 +0.1**
comp=Z,32nm,1.7s
KHC Kasperske Hory 89.59 40 *e*P **P 10 31 13.4 -0.2**
KHC *ex* x 10 31 21.7
KHC AMS AMS 11 15 30.0
comp=Z,700nm,19.0s
KHC Kasperske Hory 89.59 40 *e*P **P 10 31 13.7 +0.1**
KHC pmax pmax
comp=Z,33nm,1.7s
ABTA Abfaltersbach 89.68 42 *e*PcP **P 10 31 14.1 0.0**
comp=Z,36nm,1.3s,SNR=13
PVCC Panska Ves 89.73 38 *e*P **P 10 31 15.4 +1.3**
PVCC Panska Ves 89.73 38 *e*P **P 10 31 15.4 +1.3**
PRU Pruhonice 89.90 38 *e*P **P 10 31 15.1 +0.2**
PRU AMS AMS 11 11 40.0
comp=Z,600nm,17.3s
PRU Pruhonice 89.90 38 *e*P **P 10 31 15.1 +0.2**
PRU MLR MLR
comp=Z,600nm,17.3s
GOPC GO Pecny, Ondr 90.08 39 *e*P **P 10 31 16.1 +0.3**
GOPC AMS AMS 11 11 30.0
comp=Z,500nm,17.7s
GOPC GO Pecny, Ondr 90.08 39 *e*P **P 10 31 16.1 +0.3**
GOPC MLR MLR
comp=Z,500nm,17.7s
KBA Koelnbreinsper 90.12 42 *e*PcP **P 10 31 16.2 -0.1**
comp=Z,43nm,1.5s,SNR=14
SEY Seymchan 90.31 336 P **P 10 31 17.6 +1.0**
comp=Z,23nm,0.9s,baz=88,slow=4.5,SNR=65
SEY PP **PP 10 34 50.6 +0.6**
comp=Z,3.6nm,0.8s,baz=66,slow=10,SNR=7.0
SEY PKKP **PKKPdf 10 48 42.2 -0.6**
comp=Z,2.0nm,0.3s,baz=263,slow=1.0,SNR=11
SEY LR LR 11 18 16.3
comp=Z,324nm,18.9s,baz=75,slow=40
APA Apatity 90.40 19⇓*i*P **P 10 31 15.4 -1.5**
APA pmax pmax
comp=Z,13nm,0.9s
MOA Molln 90.45 41 *e*pP **P 10 31 18.7 +1.1**
comp=Z,25nm,1.4s
MYKA Terra Mystica 90.46 42 *e*PcP **P 10 31 17.8 +0.1**
comp=Z,44nm,1.7s,SNR=8.8
LVZ Lovozero 90.58 18 PFAKE 10 31 30.0 +12
LVZ LR LR
comp=Z,549nm,21.0s
UPC Upice 90.61 38 *e*P **P 10 31 18.8 +0.6**
UPC AMS AMS 11 11 10.0
comp=Z,700nm,15.6s
UPC Upice 90.61 38 *e*P **P 10 31 18.8 +0.6**
UPC MLR MLR
comp=Z,700nm,15.6s
KSP Ksiaz 90.65 37 *e*P **P 10 31 19.4 +1.0**
KSP Ksiaz 90.65 37 *e*P **P 10 31 19.4 +1.0**
KEST Kesra 90.67 53 *e*P **P 10 31 18.7 -0.2**
comp=Z,37nm,1.1s
KEST Kesra 90.67 53 P **P 10 31 19.1 +0.2**
comp=Z,14nm,1.0s,baz=248,slow=3.4,SNR=11
KEST LR LR 11 08 47.9
comp=Z,174nm,19.5s,baz=297,slow=34
TREC Trest 90.72 39 *e*P **P 10 31 19.2 +0.4**
TREC Trest 90.72 39 *e*P **P 10 31 19.2 +0.4**
TAM Tamanrasset 90.81 67 *e*P **P 10 31 20.9 +0.9**
comp=Z,20nm,1.0s
DPC Dobruska-Polom 90.85 38 *e*P **P 10 31 19.2 -0.2**
DPC *e*S **S 10 42 09.5 -7.1**
DPC AMS AMS 11 12 20.0
comp=Z,700nm,17.8s
DPC Dobruska-Polom 90.85 38 *e*P **P 10 31 19.2 -0.2**
DPC *e* 10 42 09.5
DPC MLR MLR
comp=Z,700nm,17.8s
JAVS Javornik 90.98 42 *i* P **P 10 31 21.5 +1.3**
FINES FINESS Array B 91.07 25 P **P 10 31 19.5 -0.6**
comp=Z,5.0nm,0.9s,baz=319,slow=5.5,SNR=9.6
FINES PP **PP 10 34 55.9 -0.2**
comp=Z,5.3nm,0.9s,baz=283,slow=6.6,SNR=5.8
FIA1 FINESS Array S 91.07 25 *e*P **P 10 31 20.6 +0.5**
comp=Z,103nm,1.7s
OBKA Obir 91.09 42 *e*pP **P 10 31 21.7 +1.0**
comp=Z,38nm,1.5s,SNR=7.5
KRLC Kraliky 91.22 38 *e*P **P 10 31 22.6 +1.4**
KRLC Kraliky 91.22 38 *e*P **P 10 31 22.6 +1.4**
SOKA Soboth 91.34 41 *e*pP **P 10 31 22.9 +1.0**
comp=Z,29nm,1.4s,SNR=14
KRUC Moravsky 91.36 39 *e*P **P 10 31 21.7 0.0**
KLNR Kaliningrad 91.39 33⇓*e*P **P 10 31 23.7 +2.0**
KLNR pmax pmax
comp=Z,215nm,1.3s
VRAC Vranov 91.39 39⇑*i*P **P 10 31 21.6 -0.3**
VRAC Vranov 91.39 39 ⇑P **P 10 31 21.6 -0.3**
VRAC Vranov 91.39 39 *e*P **P 10 31 22.4 +0.5**
VRAC Vranov 91.39 39 P **P 10 31 21.3 -0.6**
comp=Z,13nm,1.1s,baz=296,slow=7.0,SNR=15
PERS Pernice 91.41 42 *i* P **P 10 31 23.0 +0.8**
CONA Conrad Observa 91.43 40 *e*PcP **P 10 31 22.2 -0.1**
comp=Z,29nm,1.6s,SNR=9.9
ARSA Arzberg 91.46 41 *e*pP **P 10 31 22.8 +0.5**
comp=Z,13nm,1.2s,SNR=5.1
VISS Visnje 91.52 42 *i* P **P 10 31 23.2 +0.6**
TIXI Tiksi 91.66 348 *e*P **P 10 31 22.5 -0.1**
comp=Z,76nm,0.9s
TIXI LR LR
comp=Z,522nm,19.0s
TIXI Tiksi 91.66 348*d i*P **P 10 31 22.2 -0.4**
TIXI pmax pmax
comp=Z,169nm,1.7s
MORC Moravsky Berou 91.79 38 *e*P **P 10 31 24.4 +0.6**
comp=Z,42nm,1.4s
MORC Moravsky Berou 91.79 38⇓*i*P **P 10 31 24.2 +0.4**
MORC Moravsky Berou 91.79 38 ⇓P **P 10 31 24.2 +0.4**
MORC Moravsky Berou 91.79 38 *e*P **P 10 31 24.2 +0.4**
BOJS Bojanci 91.89 43 *i* P **P 10 31 25.6 +1.3**
SOP Sopron 91.96 40 *e*P P 10 31 30.1 +5.5
ZST Bratislava 92.11 40 *e*P **P 10 31 25.4 +0.2**
ZST Bratislava 92.11 40 *e*P **P 10 31 25.4 +0.2**
OKC Ostrava-Krasne 92.13 38 *e*P **P 10 31 26.0 +0.7**
OKC *ex* x 10 42 17.5
OKC AMS AMS 11 18 30.0
comp=Z,500nm,16.0s
OKC Ostrava-Krasne 92.13 38 *e*P **P 10 31 26.0 +0.7**
OKC *e* 10 42 17.5
OKC MLR MLR
comp=Z,500nm,16.0s
MODS Modra-Piesok 92.15 39 *e*P **P 10 31 26.3 +0.8**
MODS pmax pmax
comp=Z,88nm,1.5s
MODS Modra-Piesok 92.15 39 *e*P **P 10 31 26.3 +0.8**
PETK Petropavlovsk- 92.28 326 *e*P **P 10 31 26.8 +0.9**
PETK Petropavlovsk- 92.28 326 *e*P **P 10 31 26.8 +0.9**
PETK Petropavlovsk- 92.28 326 P **P 10 31 26.3 +0.3**
comp=Z,17nm,0.9s,baz=100,slow=7.8,SNR=17
BEHE Becsehely 92.54 41 *e*P **P 10 31 28.1 +0.8**
MA2 Magadan 92.68 333 *e*P **P 10 31 28.4 +0.8**
comp=Z,36nm,1.3s
MA2 LR LR
comp=Z,563nm,20.0s
MA2 Magadan 92.68 333 *e*P **P 10 31 28.4 +0.8**
MA2 pmax pmax
comp=Z,36nm,1.3s
MA2 MLR MLR
comp=Z,563nm,20.0s
MA2 Magadan 92.68 333 P **P 10 31 28.1 +0.5**
comp=Z,12nm,0.8s,baz=311,slow=0.3,SNR=8.9
VSU Vasula 92.84 28*c i*P **P 10 31 28.9 +0.6**
VSU pmax pmax
comp=Z,167nm,1.7s
VSU Vasula 92.84 28 *e*P **P 10 31 28.5 +0.2**
VSU IAmb IAmb 10 31 30.0
comp=Z,128nm,1.3s
BEL Belsk 92.86 35 *e*P **P 10 31 30.5 +1.9**
BEL Belsk 92.86 35 *e*P **P 10 31 30.5 +1.9**
OJC Ojcow 92.96 37 *e*P **P 10 31 29.8 +0.7**
OJC Ojcow 92.96 37 *e*P **P 10 31 30.0 +0.9**
comp=Z,48nm,1.4s
OJC Ojcow 92.96 37 *e*P **P 10 31 30.0 +0.9**
OJC pmax pmax
comp=Z,48nm,1.4s
VYHS Vyhne 93.07 39 *e*P **P 10 31 30.8 +1.1**
VYHS pmax pmax
comp=Z,27nm,1.5s
VYHS Vyhne 93.07 39 *e*P **P 10 31 30.8 +1.1**
TIH Tihany 93.09 41⇑*e*P **P 10 31 31.0 +1.2**

CSKK Cskako 93.15 40⇑*e*P **P 10 31 30.1 0.0**
LANS Liptovska Anna 93.19 38 *e*P **P 10 31 32.3 +2.0**
LANS Liptovska Anna 93.19 38 *e*P **P 10 31 32.3 +2.0**
SUW Suwalki 93.22 33 *e*P **P 10 31 31.2 +1.0**
SUW Suwalki 93.22 33 *e*P **P 10 31 31.5 +1.3**
comp=Z,78nm,1.2s
SUW Suwalki 93.22 33 *e*P **P 10 31 31.5 +1.3**
SUW pmax pmax
comp=Z,78nm,1.2s
BLY Banja Luka 93.44 43 *e*P **P 10 31 32.9 +1.4**
comp=Z,38nm,1.4s
BUD Budapest 93.58 40⇑*e*P **P 10 31 33.0 +1.0**
NIE Niedzica 93.58 38 *e*P **P 10 31 34.0 +2.0**
NIE Niedzica 93.58 38 *e*P **P 10 31 34.0 +2.0**
PUL Pulkovo 93.73 26⇑*e*P **P 10 31 32.0 -0.4**
PUL pmax pmax
comp=Z,29nm,0.7s
MORH Mrgy, Hungar 93.83 41⇓*e*P **P 10 31 33.0 -0.2**
PSZ Piszkesteto 93.95 39 *e*P **P 10 31 35.5 +1.7**
comp=Z,125nm,1.6s
PSZ Piszkesteto 93.95 39⇓*i*P **P 10 31 35.6 +1.8**
PSZ Piszkesteto 93.95 39 ⇓P **P 10 31 35.6 +1.8**
PSZ Piszkesteto 93.95 39⇓*e*P **P 10 31 34.0 +0.2**
IZAR Zarasai 93.96 30 *e*P **P 10 31 33.5 0.0**
IZAR IAmb IAmb 10 31 35.6
comp=Z,14nm,0.8s
ISAL Salakas 93.99 31 *e*P **P 10 31 33.6 0.0**
ISAL IAmb IAmb 10 31 36.8
comp=Z,46nm,1.5s
TMCR Tamitsa 94.01 20 *e*P **P 10 31 31.7 -1.9**
TMCR pmax pmax
comp=Z,37nm,1.3s
MATE Matera 94.60 47⇑*i*P **P 10 31 36.1 -0.7**
MSVF Nonsavu 94.90 253 *e*P **P 10 31 40.5 +1.7**
comp=Z,39nm,1.3s
MSVF Nonsavu 94.90 253⇓*e*P **P 10 31 41.1 +2.4**
MSVF pmax pmax
comp=Z,32nm,1.2s
KWP Kalwaria Pacla 94.91 37 *e*P **P 10 31 40.1 +2.0**
KWP Kalwaria Pacla 94.91 37 *e*P **P 10 31 39.6 +1.5**
comp=Z,441nm,1.2s
KWP Kalwaria Pacla 94.91 37 *e*P **P 10 31 40.1 +2.0**
UZH Uzhgorod 95.10 38*d i*P **P 10 31 40.1 +1.1**
UZH *i* 10 31 42.9
MICGM Minsk 95.40 31 *e*P **P 10 31 40.0 -0.2**
MNK Minsk 95.40 31 *e*P **P 10 31 40.0 -0.2**
LTVH Ltavrtes, Hu 95.40 39 *e*P P 10 31 30.0 -10
TRPA Tarpa 95.47 38⇑*i*P **P 10 31 41.2 +0.6**
TRPA Tarpa 95.47 38⇑*e*P **P 10 31 41.0 +0.4**
DIVS Divibare 95.55 43 *e*P **P 10 31 41.9 +0.7**
comp=Z,22nm,1.2s
LVV L'vov 95.59 36 *e*P **P 10 31 42.4 +1.2**
LVV MLR MLR
comp=E,300nm,20.0s
LVV MLR MLR
comp=N,200nm,19.0s
LVV MLR MLR
comp=Z,200nm,20.0s
BZS Buzias 95.97 41⇑*i*P **P 10 31 43.4 +0.4**
BZS Buzias 95.97 41 ⇑P **P 10 31 43.4 +0.4**
DRGR 96.16 39⇑*i*P **P 10 31 44.5 +0.6**
DRGR 96.16 39 ⇑P **P 10 31 44.5 +0.6**
MDVR Moldovita 96.39 41⇑*i*P **P 10 31 44.9 -0.1**
KLMR Klimovskoe 96.71 22 *e*P **P 10 31 44.5 -1.5**
KLMR *e* 10 35 38.2
KLMR pmax pmax
comp=Z,31nm,1.4s
KLMR Klimovskoe 96.71 22 *e*P **P 10 31 44.5 -1.5**
KLMR AMP 10 31 57.3
comp=Z,31nm,1.4s
KLMR *e*PP **PP 10 35 38.3 -1.7**
GZR Gura Zlata 96.81 41⇑*i*P **P 10 31 47.0 +0.1**
GZR Gura Zlata 96.81 41 ⇑P **P 10 31 47.1 +0.1**
BUR08 Bucovina Ar. S 97.28 38 *e*P Pdif 10 31 49.8 +0.6
comp=Z,12nm,1.3s
BURAR Bucovina Array 97.31 38⇓*i*P **P 10 31 49.2 0.0**
BURAR Bucovina Array 97.31 38 ⇓P **P 10 31 49.2 0.0**
WAKE Wake Island 97.35 292 PFAKE 10 32 00.0 +10
WAKE LR LR
comp=Z,1μm,21.0s
ARR Arges 97.99 40⇑*i*P Pdif 10 31 52.6 +0.3
AK11 Malin Array Si 98.05 34 *e*P **P 10 31 52.2 -0.1**
NRIK Noril'sk 98.05 1 P **P 10 31 52.0 +0.1**
comp=Z,5.7nm,0.8s,baz=19,slow=9.2,SNR=6.9
NRIK PP **PP 10 35 51.6 +1.6**
comp=Z,3.7nm,0.6s,baz=4.0,slow=7.3,SNR=4.8
NRIK LR LR 11 21 32.3
comp=Z,620nm,18.1s,baz=18,slow=39
KIEV Kiev 98.06 34 PFAKE 10 32 00.0 +7.6
KIEV LR LR
comp=Z,429nm,20.0s
AKASG Malin Array Be 98.07 34 *i* P Pdif 10 31 53.0 +0.6
AKASG Malin Array Be 98.07 34 P **P 10 31 51.6 -0.7**
comp=Z,1.4nm,0.7s,baz=286,slow=4.1,SNR=17
AKASG PP **PP 10 35 49.8 -1.1**
comp=Z,3.1nm,0.8s,baz=306,slow=7.0,SNR=7.9
AKASG LR LR 11 18 57.9
comp=Z,183nm,18.2s,baz=285,slow=37
AKBB Malin Array Si 98.07 34 *e*P Pdif 10 31 52.7 +0.3
comp=Z,29nm,1.6s
AKBB Malin Array Si 98.07 34 *e*P Pdif 10 31 52.7 +0.3
AKBB pmax pmax
comp=Z,29nm,1.6s
BIZ Bicaz 98.16 38⇓*i*P Pdif 10 31 53.7 +0.8
DOPR Dopca 98.18 39⇑*i*P Pdif 10 31 53.3 +0.2
VOIR 98.22 40⇑*i*P Pdif 10 31 54.2 +0.9
VOIR 98.22 40 ⇑P Pdif 10 31 54.2 +0.9
OZUR 98.37 39⇑*i*P **P 10 31 53.7 -0.2**
MLR Muntele Rosu 98.75 39 *e*P Pdif 10 31 56.1 +0.3
comp=Z,73nm,1.4s
MLR PP **PP 10 35 55.6 -0.8**
MLR Muntele Rosu 98.75 39⇑*i*P **P 10 31 55.9 +0.1**
MLR Muntele Rosu 98.75 39 ⇑P **P 10 31 55.9 +0.1**
MLR Muntele Rosu 98.75 39 P **P 10 31 55.0 -0.7**
comp=Z,39nm,1.3s,baz=328,slow=4.8,SNR=22
MLR PP **PP 10 35 55.6 -0.8**
comp=Z,6.6nm,1.0s,baz=335,slow=4.7,SNR=4.6
OBN Obninsk 99.19 28⇑*e*P **Pdif 10 31 58.0 +0.7**
OBN *i* 10 32 06.2
OBN *e*S **SKSac 10 42 40.8 +4.7**
OBN *e*PS PS 10 45 00.0 +4.2
OBN *e*SS **SS 10 50 09.1 -7.3**
OBN pmax pmax
comp=Z,86nm,1.8s
OBN MLR MLR
comp=Z,541nm,17.0s
OBN Obninsk 99.19 28 P **Pdif 10 31 57.2 -0.1**
comp=Z,1.9nm,0.4s,baz=294,slow=3.1,SNR=9.4
OBN PP **PP 10 35 58.0 -1.2**
comp=Z,3.6nm,0.4s,baz=287,slow=21,SNR=3.3
OBN LR LR 11 17 22.2
comp=Z,89nm,19.2s,baz=348,slow=36
AGG Agios Georgios 99.22 47 *e*P **Pdif 10 31 58.8 +0.9**
comp=Z,40nm,1.5s
AGG Agios Georgios 99.22 47 *e*P **Pdif 10 31 58.8 +0.9**
AGG pmax pmax
comp=Z,40nm,1.5s
MOS Moscow 99.27 27 *e*P **Pdif 10 31 57.4 -0.2**
MOS *e* 10 32 06.4
MOS *e* 10 36 05.4
MOS *e* 10 42 31.7
MOS *e*SSS SSS 10 54 10.0
MOS pmax pmax
comp=Z,94nm,1.6s
URZ Urewera 99.43 233 LR LR 11 06 22.0
comp=Z,465nm,21.8s,baz=93,slow=29
KIS Kishinev 99.75 37 *e*P **Pdif 10 32 09.0 +9.0**
KIS LRM MLR 11 17 48.0
comp=Z,300nm,20.0s
KIS Kishinev 99.75 37 *e*P **Pdif 10 32 09.0 +9.0**
KIS *e* 10 42 35.0
KIS MLR MLR
comp=Z,300nm,20.0s
KIS MLR MLR
comp=N,400nm,19.0s
CFR Carcaliu 100.25 39⇓*i*P **Pdif 10 32 02.8 +0.6**
CFR Carcaliu 100.25 39 ⇓P **Pdif 10 32 02.8 +0.6**
TIRR Tirgusor 100.78 40 *e*Pdif **Pdif 10 32 05.9 +1.3**
TIRR Tirgusor 100.78 40 *e*P **Pdif 10 32 05.9 +1.3**
SNAA Sanae 101.42 161⇓*e*P **Pdif 10 32 06.3 -0.5**
SNZO South Karori 101.69 230 PFAKE 10 32 20.0 +11
SNZO LR LR
comp=Z,814nm,20.0s
KIRV Kirov 101.83 20 P **Pdif 10 32 07.5 -1.4**

comp=Z,7.1nm,0.6s,baz=45,slow=2.9,SNR=3.8
LPSR Galich'ya Gora 101.87 29 *e*P **Pdif 10 32 09.5 +0.2**
LPSR pmax pmax
comp=Z,20nm,1.5s
QSPA South Pole Qui 102.77 180 P **Pdif 10 32 12.6 -0.4**
QSPA LR LR
comp=Z,1μm,20.0s
QSPA South Pole Qui 102.77 180 P **Pdif 10 32 12.6 -0.4**
comp=Z,7.7nm,1.0s,baz=97,slow=3.0,SNR=3.4
VSR Storozhevoye 102.87 30⇓*e*P **Pdif 10 32 13.6 -0.2**
VSR pmax pmax
comp=Z,17nm,1.4s
SBA Scott Base 105.06 192 PFAKE 10 36 50.0 +13
SBA LR LR
comp=Z,1μm,22.0s
ANTO Ankara 105.94 42 PFAKE 10 36 50.0 +10
ANTO LR LR
comp=Z,323nm,21.0s
ANN Anapa 105.96 36 *i* P **Pdif 10 32 22.7 -4.9**
ANN *i* 10 36 45.2
ANN pmax pmax
comp=Z,112nm,1.5s
ANN pmax pmax
comp=Z,80nm,1.5s
ARU Arti 106.44 17 PFAKE 10 36 50.0 +9.5
ARU LR LR
comp=Z,217nm,20.0s
BRTR Keskin Array B 106.57 42 Pdiff **Pdif 10 32 31.0 +0.3**
comp=Z,0.2nm,0.4s,baz=329,slow=1.7,SNR=3.6
BRTR PKIKP **PKiKP 10 36 41.4 -0.1**
comp=Z,0.9nm,0.8s,baz=314,slow=0.7,SNR=4.4
BRTR PP **PP 10 36 54.1 -1.0**
comp=Z,2.5nm,1.1s,baz=313,slow=4.1,SNR=5.4
BRTR PKKPbc **PKKPbc 10 48 00.1 -1.8**
comp=Z,1.0nm,0.8s,baz=116,slow=2.9,SNR=4.4
KLR Kul'dur 107.74 332 PP **PP 10 37 02.6 -0.5**
comp=Z,2.0nm,0.8s,baz=50,slow=9.8,SNR=4.2
KLR PKKPbc **PKKPbc 10 47 55.8 -2.5**
comp=Z,0.9nm,0.9s,baz=236,slow=5.1,SNR=3.9
KIV Kislovodsk 109.41 34 PFAKE 10 37 00.0 +13
KIV LR LR
comp=Z,332nm,22.0s
KBZ Khabaz 109.68 34 PP **PP 10 37 17.4 0.0**
comp=Z,2.6nm,0.9s,baz=317,slow=9.4,SNR=4.6
TSUM Tsumeb 111.26 106 PFAKE 10 37 00.0 +9.3
TSUM LR LR
comp=Z,656nm,19.0s
MMAI Mount Meron Ar 111.38 47 PKKPbc PKKPbc 10 47 45.8 -0.5
comp=Z,4.5nm,0.6s,baz=133,slow=8.9,SNR=6.1
MDJ Mudanjiang 112.11 330 PFAKE 10 37 00.0 +8.4
MDJ LR LR
comp=Z,469nm,20.0s
BRVK Borovoye 112.41 12 PFAKE 10 37 00.0 +8.1
BRVK LR LR
comp=Z,354nm,22.0s
BRVK Borovoye 112.41 12⇓*i*PKIKP **PKiKP 10 36 50.5 -1.4**
HIA Hailar 112.58 339 PFAKE 10 37 00.0 +7.7
HIA LR LR
comp=Z,580nm,22.0s
MAK Makhachkala 112.65 32 *i* P **Pdif 10 32 55.9 -1.5**
MAK *i* 10 36 51.1
MAK *e* 10 37 38.2
MAK *e*PPP PPP 10 40 00.1
MAK *e* 10 43 31.1
MAK *e*SS SS 10 53 20.0 -0.1
MAK pmax pmax
comp=Z,257nm,1.5s
GNI Garni 113.09 36 PFAKE 10 37 10.0 +16
GNI LR LR
comp=Z,383nm,22.0s
ZALV Zalesovo Beam 113.40 3 PKiKP **PKiKP 10 36 53.0 -0.7**
comp=Z,2.5nm,0.7s,baz=328,slow=2.2,SNR=6.7
ZALV PP **PP 10 37 43.6 +0.1**
comp=Z,3.1nm,0.8s,baz=350,slow=7.5,SNR=8.1
TLY Talaya 114.57 350 PFAKE 10 37 10.0 +14
TLY LR LR
comp=Z,275nm,20.0s
TLY Talaya 114.57 350 *i* PKIKP PKPdf 10 37 14.2 +18
TLY *e*PPS PPS 10 48 52.7
TLY *e*SS SS 10 53 45.0 +0.4
TLY pmax pmax
comp=Z,11nm,1.4s
CN2 Changchun 114.69 332 Pdif **Pdif 10 33 12.6 +6.1**
CN2 PP PP 10 38 05.0 +12
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,400nm,20.0s
ZAK Zakamensk 115.88 350 *e*PKIKP **PKiKP 10 36 58.0 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
KURK Kurchatov 116.07 7 *e*PKPdf **PKiKP 10 36 58.6 -0.3**
KURK LR LR
comp=Z,2μm,22.0s
KURK Kurchatov 116.07 7 *e*PKIKP **PKiKP 10 36 58.6 -0.3**
KURK MLR MLR
comp=Z,2μm,22.0s
KURBB Kurchatov Arra 116.15 8 PKKPbc PKKPbc 10 47 27.1 -3.4
comp=Z,2.6nm,0.9s,baz=184,slow=3.7,SNR=5.8
SONM Songino Array 117.71 347 PKP **PKPdf 10 37 01.9 -0.5**
comp=Z,4.7nm,0.9s,baz=359,slow=0.4,SNR=22
SONM PP **PP 10 38 13.8 -0.3**
comp=Z,2.1nm,1.0s,baz=4.6,slow=3.7,SNR=3.9
SONM PKKPbc **PKKPbc 10 47 22.5 -2.7**
comp=Z,2.8nm,0.9s,baz=215,slow=3.7,SNR=12
KS01 Wonju Array Si 118.18 326 *e*PKPdf **PKPdf 10 37 02.6 -0.8**
KSRS Korea Array 118.18 326 PKP **PKPdf 10 37 03.4 0.0**
comp=Z,8.7nm,0.9s,baz=51,slow=0.9,SNR=18
KSAR Wonju Array Be 118.21 326 PKP **PKPdf 10 37 03.4 -0.1**
KSAR Wonju Array Be 118.21 326 PKIKP **PKPdf 10 37 03.4 -0.1**
BOSA Boshof 118.79 116 *e*PKPdf **PKPdf 10 37 04.1 -0.8**
BOSA Boshof 118.79 116 PKP **PKPdf 10 37 04.4 -0.5**
comp=Z,15nm,0.8s,baz=248,slow=1.4,SNR=16
ZSN Zaisan 119.89 3*c i*PKIKP **PKPdf 10 37 04.9 -1.5**
ZSN pmax pmax
comp=Z,20nm,1.3s
ZSN Zaisan 119.89 3⇑*i*PKP **PKPdf 10 37 05.0 -1.5**
comp=Z,20nm,1.2s
MAKZ Makanchi 120.30 6 *e*PKPdf **PKPdf 10 37 05.9 -1.4**
MAKZ Makanchi 120.30 6 *e*PKIKP **PKPdf 10 37 05.9 -1.4**
MK31 Makanchi Array 120.35 6 *e*PKPdf **PKPdf 10 37 06.0 -1.4**
MK31 Makanchi Array 120.35 6 *e*PKIKP **PKPdf 10 37 06.0 -1.4**
MKAR Makanchi Array 120.35 6 PKP **PKPdf 10 37 06.4 -1.0**
comp=Z,4.6nm,0.8s,baz=2.9,slow=2.3,SNR=37
MKAR PKPbc **PKKPbc 10 47 11.7 -3.8**
comp=Z,1.3nm,0.7s,baz=191,slow=2.9,SNR=4.1
MK01 Makanchi Array 120.37 5 PKPdf **PKPdf 10 37 06.0 -1.4**
MBAR Mbarara 120.82 83 PFAKE 10 37 20.0 +11
MBAR LR LR
comp=Z,990nm,22.0s
LSZ Lusaka 120.92 100 *e*PKPdf **PKiKP 10 37 09.9 +0.5**
LSZ LR LR
comp=Z,449nm,19.0s
GEYT Alibeck 121.72 29 PKP **PKPdf 10 37 09.7 -0.6**
comp=Z,9.8nm,0.8s,baz=276,slow=2.8,SNR=14
GYA0B ALIBECK ARRAY 121.72 29 *e*PKPdf **PKPdf 10 37 10.2 -0.1**
BJI Beijing 121.75 336 PKP **PKPdf 10 37 08.4 -1.8**
BJT Baijiatuau 121.78 336 PFAKE 10 37 20.0 +10
BJT LR LR
comp=Z,553nm,19.0s
KKAR Karatay Array 121.78 16 *e*PKPdf **PKPdf 10 37 09.8 -0.5**
KKAR Karatay Array 121.78 16 *e*PKIKP **PKPdf 10 37 09.8 -0.5**
TAU Tasmania Unive 121.87 227 PFAKE 10 37 20.0 +10
TAU LR LR
comp=Z,1μm,21.0s
KUU Kurty 122.36 11*d i*PKIKP **PKPdf 10 37 09.1 -2.2**
KUU *e* 10 38 43.8
KUU pmax pmax
comp=Z,68nm,1.2s
KUU Kurty 122.36 11⇓*i*PKP **PKPdf 10 37 09.2 -2.2**
comp=Z,68nm,1.2s
KUU *e*PP **PP 10 38 43.8 -2.0**
KUU *e*LR LR 11 36 56.9
comp=Z,191nm,19.6s
JBG Jabagly 122.43 16 *e*PKIKP **PKPdf 10 37 10.0 -1.6**
JBG pmax pmax
comp=Z,182nm,1.1s
JBG MLR MLR
comp=Z,175nm,19.0s
IUG luzhnay 122.54 17 *e*PKIKP **PKPdf 10 37 09.6 -2.2**
IUG pmax pmax
comp=Z,209nm,1.6s
IUG luzhnay 122.54 17 *e*PKP **PKPdf 10 37 09.6 -2.2**

comp=Z,209nm,1.6s
USP Ospenovka 122.60 13 P **PKPdf 10 37 12.1 +0.3**
SNR=23
HHC Hu-ho-hao-te 122.74 340 *e*PKP **PKPdf 10 37 12.5 +0.3**
HHC PP **PP 10 38 49.6 +0.9**
HHC SS SS 10 55 36.9 +6.1
HHC AMB AMB
comp=Z,310nm,8.2s
HHC LR LR
comp=Z,360nm,16.4s
HHC LR LR
comp=Z,300nm,16.4s
HHC LR LR
comp=Z,930nm,16.4s
EKS2 Erkin-Say 123.01 14 P **PKiKP 10 37 13.3 +0.4**
SNR=14
FRU Bishkek 123.04 13 *e*PKIKP **PKPdf 10 37 13.0 +0.3**
TKM2 Tokmak 2 123.16 12 P **PKPdf 10 37 13.3 +0.2**
SNR=13
AAK Ala-Archa 123.20 13 P **PKiKP 10 37 13.7 +0.3**
SNR=10.0
AAK Ala-Archa 123.20 13 *e*PKPdf **PKiKP 10 37 13.5 +0.1**
AAK PKKPbc **PKKPbc 10 47 01.9 -2.8**
AAK LR LR
comp=Z,480nm,21.0s
AAK Ala-Archa 123.20 13 *i* P **PKiKP 10 37 13.8 +0.4**
SNR=14
AAK Ala-Archa 123.20 13 *d i*PKIKP **PKiKP 10 37 13.6 +0.3**
AAK Ala-Archa 123.20 13 PKKPbc PKKPbc 10 47 01.9 -2.8
comp=Z,1.3nm,0.6s,baz=198,slow=4.0,SNR=4.4
MDOK Medeo 123.20 11 *d i*PKIKP **PKPdf 10 37 10.7 -2.4**
MDOK *e* 10 38 49.4
MDOK pmax pmax
comp=Z,149nm,1.4s
MDOK MLR MLR
comp=Z,221nm,23.0s
MDOK Medeo 123.20 11 ⇓ *i*PKP **PKPdf 10 37 10.8 -2.4**
comp=Z,149nm,1.4s
MDOK *e*PP **PP 10 38 49.5 -2.2**
MDOK *e*LR LR 11 29 29.2
comp=Z,221nm,23.5s
KBK Karagaybulak 123.28 13 P **PKiKP 10 37 14.2 +0.7**
SNR=12
TNSS Tian-Shan 123.30 11 *e*PKIKP **PKPdf 10 37 12.1 -1.5**
TNSS pmax pmax
comp=Z,126nm,1.0s
TNSS Tian-Shan 123.30 11 *e*PKP **PKPdf 10 37 12.2 -1.5**
comp=Z,126nm,1.0s
ZHN Zhinishke 123.43 9 *d i*PKIKP **PKPdf 10 37 11.2 -2.3**
ZHN *e* 10 38 53.9
ZHN pmax pmax
comp=Z,77nm,1.6s
ZHN Zhinishke 123.43 9 ⇓ *i*PKP **PKPdf 10 37 11.3 -2.3**
comp=Z,77nm,1.6s
ZHN *e*PP **PP 10 38 54.0 +0.8**
AML Almayashu 123.50 14 P **PKiKP 10 37 14.8 +0.5**
SNR=18
UCH Uchtor 123.59 13 P **PKiKP 10 37 15.3 +0.7**
SNR=22
WMQ Urumqi 123.63 1 PKP **PKPdf 10 37 13.9 +0.1**
WMQ sPKP 10 37 25.6
WMQ PP PP 10 39 02.8 +8.4
WMQ PKS **PKSdf 10 40 44.4 -6.1**
WMQ SS SS 10 55 40.8 -0.8
WMQ AMB AMB
comp=Z,99nm,11.7s
WMQ LR LR
comp=Z,2μm,34.5s
WMQ LR LR
comp=Z,2μm,30.9s
WMQ LR LR
comp=Z,2μm,30.9s
KZA Kyzart 123.89 12 P **PKiKP 10 37 15.7 +0.6**
SNR=10
ULHL Ulahol 123.94 12 P **PKiKP 10 37 15.6 +0.6**
SNR=15
RAYN Ar Rayn 124.05 50 *e*PKPdf **PKPdf 10 37 15.2 +0.1**
RAYN LR LR
comp=Z,309nm,20.0s
RAYN Ar Rayn 124.05 50 *i* P **PKPdf 10 37 15.2 +0.1**
SNR=6.8
ARSB Arslanbob 124.09 15 *e*PKPdf **PKiKP 10 37 16.2 +1.1**
PRZ Przheval'sk 124.09 10 *e*PKPdf **PKiKP 10 37 16.4 +1.3**
KDJ Kajisay 124.22 11 *e*PKPdf **PKiKP 10 37 16.5 +1.0**
TOO Toolangi 124.33 233 *e*PKPdf **PKPdf 10 37 14.7 -0.5**
TOO Toolangi 124.33 233 *e*PKIKP **PKPdf 10 37 14.7 -0.5**
TIA Tai'an 124.58 333 PKP **PKPdf 10 37 15.5 -0.3**
NRN Naryn 124.67 12 *e*PKPdf **PKPdf 10 37 16.1 -0.1**
NRN Naryn 124.67 12 *e*PKIKP **PKPdf 10 37 16.1 -0.1**
CASY Casey 124.68 190 *e*PKPdf **PKiKP 10 37 15.5 +0.2**
CASY LR LR
comp=Z,134nm,21.0s
TARG Taragay, Kyrgy 124.73 10 *e*PKPdf **PKPdf 10 37 16.8 +0.4**
CTA Charters Tower 125.02 254 PKP **PKPdf 10 37 16.5 -0.5**
comp=Z,13nm,0.9s,baz=354,slow=3.0,SNR=7.6
CTAO Charters Tower 125.02 254 PFAKE 10 37 30.0 +13
CTAO LR LR
comp=Z,1μm,21.0s
GAR Garm 125.53 18 *e*PKPdf **PKPdf 10 37 17.9 +0.2**
GAR Garm 125.53 18 *e*PKIKP **PKPdf 10 37 17.9 +0.2**
KSH Kashi 126.50 13 PKP **PKiKP 10 37 21.1 +1.1**
KSH PP **PP 10 39 21.2 +7.4**
KSH AMB AMB
comp=Z,67nm,5.6s
KSH LR LR
comp=Z,220nm,11.5s
KSH LR LR
comp=Z,130nm,8.3s
SSE Sheshan 126.62 326 PFAKE 10 37 30.0 +10
SSE LR LR
comp=Z,494nm,19.0s
GTA Gaotai 127.12 350 ⇓PKP **PKPdf 10 37 20.6 -0.1**
GTA sPKP 10 37 28.4
GTA PP **PP 10 39 22.0 +4.2**
GTA AMB AMB
comp=Z,120nm,5.5s
GTA LR LR
comp=Z,410nm,18.9s
GTA LR LR
comp=Z,370nm,18.6s
GTA LR LR
comp=Z,740nm,18.2s
NJ2 Nanjing 127.12 328 ⇑PKP **PKPdf 10 37 20.6 -0.1**
KMBO Kilima Mbogo 127.25 82 PKP **PKPdf 10 37 21.4 -0.4**
KMBO *e*PKPdf **PKiKP 10 37 24.3 +2.1**
KMBO LR LR
comp=Z,394nm,19.0s
KMBO Kilima Mbogo 127.25 82 PKIKP **PKPdf 10 37 21.4 -0.4**
KMBO *e* 10 37 24.3
KMBO MLR MLR
comp=Z,394nm,19.0s
KMBO Kilima Mbogo 127.25 82 PKP **PKPdf 10 37 21.4 -0.4**
comp=Z,0.7nm,0.2s,baz=292,slow=5.0,SNR=6.3
COEN Coen 127.58 262 *e*PKPdf **PKPdf 10 37 22.0 0.0**
DAMY Dhamar 127.95 60 *e*PKPdf **PKiKP 10 37 25.1 +1.4**
ATD Arta Tunnel 128.03 64 *e*PKPdf **PKiKP 10 37 24.7 +1.2**
STKA Stephens Creek 128.48 239 *e*PKPdf **PKPdf 10 37 22.4 -0.9**
STKA Stephens Creek 128.48 239 PKP **PKPdf 10 37 22.6 -0.6**
comp=Z,28nm,0.9s,baz=205,slow=23,SNR=2.9
KBL Kabul 129.16 22 *e*PKPdf **PKPdf 10 37 25.4 +0.5**
LZH Lanzhou 129.44 345 *e*PKP **PKiKP 10 37 26.4 +0.4**
LZH sPKP 10 37 34.3
LZH LR LR
comp=Z,360nm,16.8s
LZH LR LR
comp=Z,410nm,17.9s
LZH LR LR
comp=Z,470nm,20.6s
SHME Shamm 129.73 40 *i* P **PKPdf 10 37 25.6 -0.3**
SNR=8.0
XAN Xi'an 129.78 339 PKP **PKPdf 10 37 25.7 -0.1**
XAN LR LR
comp=Z,380nm,23.9s
XAN LR LR
comp=Z,340nm,20.6s
XAN LR LR
comp=Z,520nm,23.9s
XAN Xi'an 129.78 339 *e*PKPdf **PKPdf 10 37 25.6 -0.2**
AJN Ajban 130.04 42 P **PKPdf 10 37 26.5 +0.1**
SNR=5.9
MZR Muzera 130.09 45 *i* P **PKiKP 10 37 27.5 +0.1**
SNR=7.8
NAZ Nazwa, Dubai 130.18 41 *i* P **PKiKP 10 37 27.7 +0.2**
SNR=5.8
NAZ Nazwa, Dubai 130.18 41 P **PKPdf 10 37 26.5 -0.3**
SNR=9.1
ASUD Al Ashush, Dub 130.22 42 *i* P **PKiKP 10 37 27.5 -0.1**
SNR=7.7
ASUD Al Ashush, Dub 130.22 42 P **PKPdf 10 37 27.0 +0.2**
SNR=11
MSFE Esma-Masafi 130.24 40 *i* P **PKPdf 10 37 27.0 +0.1**
SNR=17
FAQ Al Faqa, Dubai 130.31 41 P **PKPdf 10 37 26.6 -0.4**
FAQ Al Faqa, Dubai 130.31 41 P **PKPdf 10 37 26.9 -0.1**
SNR=6.6
WHN Wuhan 130.57 331 PKP **PKPdf 10 37 27.2 -0.1**
WHN PP **PP 10 39 41.5 +0.8**
WHN LR LR
comp=Z,3μm,29.9s
HATD Hatta, Dubai 130.60 41 *i* P **PKPdf 10 37 27.4 -0.2**
SNR=11
HATD Hatta, Dubai 130.60 41 P **PKPdf 10 37 26.5 -1.1**
SNR=14
ASHO Ashiyiah 130.65 41 *i* P **PKPdf 10 37 27.4 -0.3**
SNR=11
ASHO Ashiyiah 130.65 41 P **PKPdf 10 37 26.8 -0.9**
SNR=8.5
ALNE Al Ain 130.90 42 *i* P **PKPdf 10 37 28.5 +0.4**
SNR=6.0
BIDO Bidbid 132.80 40 P **PKPdf 10 37 31.3 -0.4**
SNR=5.9
BBOO Buckleboo 132.89 237 *e*PKPdf **PKPdf 10 37 30.5 -1.1**
ENH Enshi 132.93 336 *e*PKPdf **PKPdf 10 37 31.7 -0.2**
ENH LR LR
comp=Z,463nm,20.0s
DHRM DHARAMSHALA 133.52 15 *e*P **PKPdf 10 37 32.1 -1.0**
CD2 Chengdu 134.34 342 PKP **PKPdf 10 37 33.7 -0.8**
CD2 PP **PP 10 40 05.0 +0.4**
CD2 SKS **SKSdf 10 44 43.6 -2.9**
CD2 AMB AMB
comp=Z,670nm,4.8s
CD2 LR LR
comp=Z,720nm,13.3s
CD2 LR LR
comp=Z,1μm,28.4s
CD2 LR LR
comp=Z,1μm,30.6s
MHTO MHTO 134.50 43 P **PKPdf 10 37 34.1 -0.9**
SNR=7.4
DMTO DMTO 134.57 49 P **PKPdf 10 37 34.4 -0.8**
SNR=7.8
SMLA Simla 134.81 15 *e*P **PKPdf 10 37 34.4 -0.9**
SMLA IAMs_20 IAMs_20 11 30 55.8
comp=Z,2μm,24.4s
DQM DQM 134.95 44 P **PKPdf 10 37 35.3 -0.5**
SNR=6.9
DDI Dehra Dun 135.79 14 *e*P **PKPdf 10 37 36.1 -1.2**
WB2 Warramunga Arr 136.21 255 *e*PKPpre PKPpre 10 37 23.5
WB2 *e*PKPdf **PKPdf 10 37 37.1 -1.1**
WB2 *e*PKPdf pPKPdf 10 37 37.8 -1.4
WRAB Tennant Creek 136.22 255 *e*PKPdf **PKPdf 10 37 37.8 -0.4**
WRAB LR LR
comp=Z,476nm,19.0s
WRAB Tennant Creek 136.22 255 *d i*PKIKP **PKPdf 10 37 37.6 -0.6**
WRA Warramunga Arr 136.22 255 PKhKP PKPpre 10 37 27.1
comp=Z,4.6nm,1.0s,baz=95,slow=3.4,SNR=14
WRA PKP **PKPdf 10 37 37.7 -0.5**
comp=Z,14nm,0.8s,baz=93,slow=1.8,SNR=34
WRA PP **PP 10 40 17.4 -1.2**
comp=Z,3.9nm,1.2s,baz=92,slow=6.4,SNR=4.5
WRA SKPab SKiKP 10 41 27.9 +11
comp=Z,8.4nm,1.2s,baz=85,slow=3.0,SNR=8.5
AS01 Alice Springs 136.31 249 *e*PKPpre PKPpre 10 37 23.2
AS01 *e*PKPdf **PKPdf 10 37 37.5 -0.8**
AS31 Alice Springs 136.36 249 *e*PKPdf **PKPdf 10 37 37.6 -0.8**
ASAR Alice Springs 136.36 249 PKhKP PKPpre 10 37 22.8
comp=Z,1.3nm,0.7s,baz=106,slow=3.7,SNR=17
ASAR PKP **PKPdf 10 37 38.2 -0.2**
comp=Z,11nm,0.9s,baz=110,slow=2.0,SNR=29
ASAR PP **PP 10 40 17.6 -1.8**
comp=Z,0.5nm,0.9s,baz=104,slow=4.2,SNR=4.4
ASAR SKPab SKPab 10 41 29.8 +13
comp=Z,7.2nm,1.1s,baz=108,slow=3.0,SNR=9.6
GYA Guiyang 137.44 337 Pdif **Pdif 10 34 47.0 -1.2**
GYA PKP **PKPdf 10 37 40.2 -0.3**
GYA PP **PP 10 40 28.5 +4.1**
GYA AMB AMB
comp=Z,150nm,7.9s
LSA Lhasa 137.70 357 PFAKE 10 37 50.0 +6.7
LSA LR LR
comp=Z,298nm,20.0s
LSA Lhasa 137.70 357 *i* P **PKiKP 10 37 42.9 -0.4**
SNR=5.4
DANN Dangsing 138.75 7 *e*P PKPpre 10 37 35.8
PYUN Piuthan 138.89 8 *e*P PKPpre 10 37 36.2
MTN Manton Dam 139.15 265 *e*PKPdf **PKPdf 10 37 43.4 -0.3**
ABPO Ambohimpanom 139.24 104 PFAKE 10 38 00.0 +14
ABPO LR LR
comp=Z,189nm,19.0s
KOLN Koldanda 139.30 8 *e*P PKPpre 10 37 36.8
BHJ Bhuj 139.37 28 *e*P **PKPdf 10 37 43.5 -0.5**
GUN Gumba 139.39 5 *e*P PKPpre 10 37 35.5
DMN Daman 139.63 6 *e*P PKPpre 10 37 36.5
JIRN Jiri 139.67 4 *e*P PKPpre 10 37 36.1
PKIN Phulchoki 139.69 5 *e*P PKPpre 10 37 35.5
PKI Pulchoki 139.69 5 *e*P PKPdf 10 37 35.8 -9.1
KMI Kunming 140.05 341 PKP **PKPdf 10 37 46.3 +0.8**
KMI pPKP PKiKP 10 37 53.3 +5.4
KMI PP **PP 10 40 42.3 +1.7**
KMI PKS **PKSdf 10 41 21.8 -0.1**
KMI SS SS 10 59 02.6 -0.1
KMI AMB AMB
comp=Z,370nm,4.3s
KMI LR LR
comp=Z,400nm,23.9s
KMI LR LR
comp=Z,370nm,16.9s
KMI LR LR
comp=Z,610nm,26.7s
RAMN Ramite 140.40 4 *e*P PKPpre 10 37 36.6
SHL Shillong 141.77 356 *e*PKPpre PKPpre 10 37 41.6
SHL Shillong 141.77 356 *e*PKHKP PKPpre 10 37 41.6
SHL Shillong 141.77 356 *e*P **PKPdf 10 37 46.6 -1.8**
BHPL Bhopal 142.36 18 *e*P **PKPdf 10 37 46.5 -3.0**
QIZ Qiongzhong 142.39 327 PKP **PKPdf 10 37 45.4 -4.1**
QIZ SS SS 10 59 34.7 +4.3
QIZ LR LR
comp=Z,170nm,17.7s
QIZ LR LR
comp=Z,200nm,25.0s
QIZ LR LR
comp=Z,230nm,19.6s
QIZ Qiongzhong 142.39 327 *e*PKPdf **PKPdf 10 37 48.5 -1.0**
QIZ LR LR
comp=Z,36nm,19.0s
BOK Bokaro 143.48 5 *e*P PKPbc 10 37 48.2 -0.2
FITZ Fitzroy Crossi 144.53 257 *e*PKPdf **PKPab 10 37 50.9 -0.7**
FITZ Fitzroy Crossi 144.53 257 PKP **PKPab 10 37 51.3 -0.3**
comp=Z,50nm,1.0s,baz=184,slow=4.1,SNR=37
LUWI Luwuk 144.75 287 *e*PKPdf **PKPab 10 37 51.9 -0.7**
NGP Nagpur 144.81 17 *e*P **PKPab 10 37 52.6 +0.1**
MRSI Marisa 144.95 290 PKP **PKPab 10 37 50.8 -2.5**
POO Poona 145.37 26 *e*P **PKPbc 10 37 53.5 -1.0**
POO IAMs_20 IAMs_20 11 31 26.1
comp=Z,2μm,36.9s
SOEI Soe 145.50 271 *e*PKPdf **PKPdf 10 37 55.1 -0.1**
SOEI Soe 145.50 271 PKP **PKPab 10 37 57.0 +1.6**
APSI Ampana 145.75 288 PKP **PKPdf 10 37 54.7 -0.8**
KDJ Kendari 145.83 282 PKP **PKPdf 10 37 55.1 -0.5**
BATI Baumata 146.15 271 PKP **PKiKP 10 37 59.5 -0.9**
BATI Baumata 146.15 271 PKPbc **PKPdf 10 37 56.0 -0.2**
comp=Z,66nm,0.7s,baz=123,slow=0.4,SNR=11
BBSI Bau Bau 146.30 279 PKP **PKPdf 10 37 54.5 -1.9**
MPSI Mapaga 146.88 291 PKP **PKPbc 10 37 58.8 -0.4**
CMMT Chiang Mai 147.14 343 PKP **PKPdf 10 37 58.1 +0.4**
CHTO Chiang Mai 147.14 343 *e*PKPdf **PKPdf 10 37 57.7 0.0**
CHTO LR LR
comp=Z,314nm,20.0s
CHTO Chiang Mai 147.14 343 *e*PKIKP **PKPdf 10 37 57.7 0.0**
CHTO MLR MLR
comp=Z,314nm,20.0s
CHTO Chiang Mai 147.14 343 P **PKPdf 10 37 57.9 +0.1**
SNR=6.3
CHTO Chiang Mai 147.14 343 PKP **PKPdf 10 37 58.1 +0.4**
CHTO Chiang Mai 147.14 343 *e*P **PKPdf 10 37 58.3 +0.6**
KKM Kota Kinabalu 147.27 303 *e*PKPbc **PKPbc 10 38 00.5 +0.1**
MMRI Maumere 147.30 274 *e*PKPdf **PKPdf 10 37 58.6 +0.5**
MMRI Maumere 147.30 274 PKP **PKPbc 10 37 59.6 -0.8**
PCI Palu 147.43 289 PKP **PKPdf 10 37 59.2 +0.9**
CM31 Chiang Mai Arr 147.48 343 *e*PKPbc **PKPbc 10 38 00.6 -0.2**
CMAR Chiang Mai Arr 147.48 343 PKPbc **PKPdf 10 37 59.0 +0.7**
comp=Z,89nm,0.8s,baz=322,slow=2.2,SNR=80
CMAR SKPbc **SKiKP 10 41 48.2 +8.4**
comp=Z,3.8nm,0.9s,baz=343,slow=2.5,SNR=8.0
NWAO Narrogin (SRO) 147.49 227 *e*PKPdf **PKPdf 10 37 59.0 +1.1**
NWAO LR LR
comp=Z,305nm,21.0s
NWAO Narrogin (SRO) 147.49 227 *e*PKIKP **PKPdf 10 37 59.0 +1.1**
NWAO MLR MLR
comp=Z,305nm,21.0s
NWAO Narrogin (SRO) 147.49 227 PKP **PKPdf 10 37 57.2 -0.7**
comp=Z,94nm,0.9s,baz=359,slow=5.7,SNR=33
NWAO PKPbc **sPKPdf 10 37 59.4 +0.1**
comp=Z,94nm,0.9s,baz=353,slow=3.5,SNR=34
CM01 Chiang Mai Arr 147.51 343 *e*PKPdf **PKPdf 10 37 59.0 +0.6**
UTTA Uttaradit 147.64 339 PKP **PKPdf 10 37 59.2 +0.7**
EDFI Ende, Flores 147.85 274 PKP **PKPdf 10 37 59.8 +0.7**
GOA Goa 148.03 29 *e*P **PKPdf 10 37 57.5 -1.8**
HYB Hyderabad 148.18 20 *i* PKP **PKPdf 10 37 59.0 -0.5**
HYB eSKKS 10 48 20.0
HYB Hyderabad 148.18 20 *e*P **PKPdf 10 37 57.7 -1.8**
BNSI Bone 148.36 283 PKP **PKPbc 10 38 02.0 -1.3**
SPSI Sidrap Palu 148.55 284 PKP **PKPbc 10 38 03.3 -0.5**
PBKT Sadao Pong 148.58 338 PKP **PKPdf 10 38 00.6 +0.5**
KAPI Kappang 148.87 282 PFAKE 10 38 10.0 +1.5
KAPI LR LR
comp=Z,213nm,21.0s
BASI Baing, Sumba 149.16 271 PKP **PKPab 10 38 09.5 -0.2**
UMPA Umpang Tak 149.63 341 PKP **PKPdf 10 38 03.5 +1.6**
MBWA Marble Bar 149.69 250 *e*PKPdf **PKPdf 10 38 01.0 -0.8**
MBWA *e*PKPbc **PKPbc 10 38 05.2 -1.2**
MBWA LR LR
comp=Z,648nm,22.0s
UTHA Uthaitani 150.05 340 PKP **PKPdf 10 38 03.7 +1.2**
MORW Morawa 150.28 233 *ep*PKPdf **PKPbc 10 38 05.8 -1.8**
SRAK Srakaew 150.47 334 PKP **PKPdf 10 38 04.8 +1.6**
PATY Pattaya 151.94 335 PKP **PKiKP 10 38 13.0 +0.7**
MTKI Muara Teweh, K 151.94 293 PKP **PKPdf 10 38 05.2 -0.3**
PHET Kaeng Krachan 152.44 338 PKP **PKiKP 10 38 13.6 +0.3**
SBUM Sibu 152.58 302 *e*PKPdf **PKPdf 10 38 06.5 +0.1**
SBUM *e*PKPbc **PKPbc 10 38 13.5 +0.1**
MDRS Chennai 152.80 19 *e*P **PKPdf 10 38 05.5 -1.2**
MNCY Minicoy 153.61 38 *e*P **PKPdf 10 38 06.5 -1.4**
KSM Kuching 154.70 303 *e*PKPdf **PKPdf 10 38 08.8 -0.7**
KSM *e*PKPbc **PKPbc 10 38 17.9 -0.2**
KSM *e*PKPab **PKPab 10 38 32.5 -0.3**
PBA Port Blair 155.44 352 *e*P PKPdf 10 38 10.1 -0.3
PBA IAMs_20 IAMs_20 11 16 00.1
comp=Z,173nm,7.7s
TRD Trivandrum 155.57 30 *e*P **PKPdf 10 38 07.8 -2.8**
TRD IAMs_20 IAMs_20 11 27 05.0
comp=Z,142nm,11.1s
TRTT Trang 157.00 333 PKP **PKPdf 10 38 13.5 +1.0**
PWJI Pagerwojo 157.28 280 PKP **PKPdf 10 38 14.9 +2.1**
PALK Pallekele 158.33 23 *e*PKPdf **PKPdf 10 38 13.9 -0.3**
PALK Pallekele 158.33 23 P **PKPdf 10 38 14.6 +0.3**
PALK Pallekele 158.33 23 *e*PKIKP **PKPdf 10 38 13.9 -0.3**
UGM Wanagama 158.48 281 *e*PKPdf **PKPdf 10 38 13.5 -0.8**
KULM Kulim 158.72 327 *e*PKPdf **PKPdf 10 38 14.3 -0.4**
KULM *e*PKPab **PKPab 10 38 50.2 +0.3**
IPM Ipoh 159.19 325 *e*PKPdf **PKPdf 10 38 14.6 -0.7**
IPM *e*PKPab **PKPab 10 38 51.6 -0.3**
CMBY CAMPBELL BAY 159.76 346 *e*P **PKPdf 10 38 14.5 -1.3**
CISI Cisompet, Garu 160.96 284 *e*PKPdf **PKPdf 10 38 16.2 -1.0**
PSI Prapat 161.73 327 *e*PKPdf **PKPdf 10 38 16.7 -1.5**
PSI *e*PKPab **PKPab 10 39 03.0 -0.2**
PSI Prapat 161.73 327 *e*PKIKP **PKPdf 10 38 16.7 -1.5**
PSI *e* 10 39 03.0
DGAR Diego Garcia 162.66 74 PFAKE 10 38 30.0 +11
DGAR LR LR
comp=Z,213nm,20.0s
PPI Padang Panjang 163.46 317 PKP **PKPdf 10 38 19.2 -0.5**
GSI Gunungsitoli 163.70 329 *e*PKPdf **PKPdf 10 38 19.4 -0.6**
KRJI Kerinci 163.85 310 PKP **PKPdf 10 38 22.1 +1.9**
SISI Saibi 164.97 319 PKP **PKPdf 10 38 22.9 +1.8**

IDC ***10*** *10:18:32.9±1.1, 28°.35N×142°.56E, h0km, mb3.7/9, mb1 3.9/10, mb1mx3.7/66, mbtmp3.7/10, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/61, Error ellipse: s-maj=35.9km s-min=14.0km az=83.0*

ISCJB ***10*** *10:18:34.7±1.4, 28°.42N±0°.06×142°.7E±0°.3, h25km, mb3.8/9, Error ellipse: s-maj=38.5km s-min=8.0km az=0.6*

ISC 10 10:18:36.8±1.2, 28°.35N±0°.07×142°.5E±0°.3, h25km, n16, σ0§43/14, mb3.8/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.29**	**194**	Pn	**Pn**	**Pn**	**10 18 59.6**	**+0.4**
	6.1nm,0.3s,baz=307,slow=15,SNR=4.7							
JCJ				Sn	**Sb**	**Sb**	**10 19 16.6**	**0.0**
	34nm,0.3s,baz=287,slow=22,SNR=7.6							
MJAR	**Matsushiro Arr**	**8.94**	**337**	Pn	**Pn**	**Pn**	**10 20 44.1**	**-0.3**
	0.2nm,0.3s,baz=150,slow=14,SNR=14							
MJAR				Sn	Sn	Sn	10 22 13.6	-11
	0.0nm,0.3s,baz=278,slow=23,SNR=4.4							
JNU	**Nakatsue**	**11.09**	**298**	LR	LR	LR	10 25 34.6	
	comp=Z,40nm,18.0s,baz=32,slow=38							
KLR	**Kul'dur**	**22.43**	**341**	P	**P**	**P**	**10 23 34.0**	**+0.4**
	0.9nm,0.7s,baz=153,slow=14,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**23.82**	**106**	T	T	T	10 48 33.5	
	baz=297							
H11N1	**WAKE ISLAND Hy**	**23.82**	**106**	T	T	T	10 48 47.4	
	baz=297							
H11N3	**WAKE ISLAND Hy**	**23.83**	**106**	T	T	T	10 48 38.7	
	baz=297							
SONM	**Songino Array**	**34.04**	**315**	P	**P**	**P**	**10 25 18.5**	**-0.4**
	0.2nm,0.3s,baz=117,slow=8.3,SNR=2.7							
CMAR	**Chiang Mai Arr**	**41.01**	**266**	P	**P**	**P**	**10 26 18.1**	**0.0**
	0.7nm,0.3s,baz=51,slow=7.1,SNR=2.7							
WRA	**Warramunga Arr**	**48.66**	**190**	P	**P**	**P**	**10 27 18.2**	**-0.7**
	2.5nm,0.7s,baz=14,slow=8.5,SNR=13							
WRA				PcP	**PcP**	**PcP**	**10 28 44.1**	**0.0**
	0.2nm,0.6s,baz=357,slow=3.3,SNR=2.4							
ZALV	**Zalesovo Beam**	**48.75**	**318**	P	**P**	**P**	**10 27 19.6**	**+0.4**
	0.4nm,0.3s,baz=97,slow=7.4,SNR=2.5							
MKAR	**Makanchi Array**	**49.92**	**309**	P	**P**	**P**	**10 27 28.1**	**-0.3**
	0.5nm,0.7s,baz=92,slow=9.7,SNR=7.3							
ASAR	**Alice Springs**	**52.38**	**190**	P	**P**	**P**	**10 27 46.5**	**-0.5**
	0.2nm,0.6s,baz=17,slow=8.7,SNR=4.1							
FINES	**FINESS Array B**	**76.96**	**334**	P	**P**	**P**	**10 30 27.0**	**+0.2**
	4.1nm,1.2s,baz=76,slow=5.9,SNR=3.0							
BRTR	**Keskin Array B**	**85.38**	**313**	P	**P**	**P**	**10 31 12.9**	**+0.7**
	0.5nm,0.7s,baz=74,slow=4.0,SNR=4.2							
LPAZ	**La Paz**	**149.29**	**74**	PKPbc	**PKPbc**	**PKPbc**	**10 38 24.6**	**-0.2**
	1.2nm,1.0s,baz=301,slow=7.5,SNR=3.0							

IDC 10 10:19:31.5±10.0, 16°.74S×175°.26W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/49, mbtmp3.8/3, Error ellipse: s-maj=446.7km s-min=35.6km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.80**	**258**	P	**P**	**P**	**10 28 10.8**	**-0.4**
	0.3nm,0.6s,baz=94,slow=7.4,SNR=4.0							
ASAR	**Alice Springs**	**48.00**	**253**	P	**P**	**P**	**10 28 12.7**	**0.0**
	1.4nm,0.5s,baz=87,slow=8.1,SNR=26							
ILAR	**Eielson Array**	**84.11**	**12**	P	**P**	**P**	**10 32 03.9**	**0.0**
	1.0nm,1.0s,baz=217,slow=6.0,SNR=3.4							

ISCJB ***10*** *10:20:07.7±0.8, 10°.98S±0°.10×166°.0E±0°.1, h10km, mb3.9/13, MS4.4/1, Error ellipse: s-maj=18.4km s-min=13.8km az=170.4*

IDC ***10*** *10:20:08.3±1.6, 10°.82S×166°.00E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/51, mbtmp3.8/9, ML4.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/34, Error ellipse: s-maj=46.5km s-min=23.7km az=124.0*

NEIC ***10*** *10:20:09.8±0.7, 10°.84S×165°.98E, h10km, mb4.5/5, Error ellipse: s-maj=16.2km s-min=12.0km az=89.0*

ISC 10 10:20:09.3±1.0, 10°.9S±0°.1×166°.1E±0°.2, h10km, n24, σ1§33/17, mb3.9/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.14**	**178**	*e*Pn	**Pn**	**Pn**	**10 22 50.6**	**+1.7**
DZM				Sn	Sn	Sn	10 24 38.4	-15
DZM	**Mont Dzumac**	**11.14**	**178**	Pn	**Pn**	**Pn**	**10 22 50.0**	**+1.1**
	1.3nm,0.3s,baz=143,slow=23,SNR=9.5							
DZM				Sn	Sn	Sn	10 24 38.4	-15
	0.2nm,0.3s,baz=61,slow=14,SNR=1.7							

DZM					LR	LR	10 26 22.4			
	comp=Z,82nm,20.1s,baz=38,slow=33									
CTA	**Charters Tower**	**21.17**	**242**	P	**P**	**10 24 56.2**	**+1.2**			
	2.1nm,0.7s,baz=60,slow=14,SNR=2.1									
H11S2	**WAKE ISLAND Hy**	**29.18**	**1**	T	T	10 56 33.5				
	baz=181,slow=76,SNR=24									
H11S3	**WAKE ISLAND Hy**	**29.18**	**1**	T	T	10 56 34.1				
	baz=181,slow=76,SNR=17									
H11S1	**WAKE ISLAND Hy**	**29.20**	**1**	T	T	10 56 33.8				
	baz=181,slow=76,SNR=17									
BKZ	**Black Stump Fm**	**29.67**	**164**	*e*P	**P**	**10 26 15.5**	**+0.1**			
	0.8nm,0.3s									
H11N1	**WAKE ISLAND Hy**	**30.40**	**2**	T	T	10 58 04.2				
	baz=182,slow=76,SNR=14									
H11N3	**WAKE ISLAND Hy**	**30.41**	**2**	T	T	10 58 04.4				
	baz=182,slow=76,SNR=17									
H11N2	**WAKE ISLAND Hy**	**30.42**	**2**	T	T	10 58 05.6				
	baz=182,slow=76,SNR=16									
BFZ	**Birch Farm**	**31.02**	**165**	*e*P	**P**	**10 26 23.9**	**-3.3**			
	26nm,1.2s									
WRAB	**Tennant Creek**	**31.84**	**250**	*e*P	**P**	**10 26 32.4**	**-2.3**			
	2.5nm,0.8s									
WR1	**Warramunga Arr**	**31.85**	**250**	*e*P	**P**	**10 26 34.5**	**-0.3**			
	3.8nm,1.0s									
WRA	**Warramunga Arr**	**31.85**	**250**	P	**P**	**10 26 34.5**	**-0.3**			
	1.1nm,0.9s,baz=80,slow=8.9,SNR=3.2									
ASAR	**Alice Springs**	**33.16**	**243**	P	**P**	**10 26 45.3**	**-1.0**			
	0.3nm,0.9s,baz=68,slow=9.6,SNR=4.1									
FITZ	**Fitzroy Crossi**	**39.74**	**255**	P	**P**	**10 27 42.8**	**+0.3**			
	1.7nm,0.8s,baz=90,slow=12,SNR=2.9									
JAGI	**Jajag, Banyuwa**	**51.20**	**268**	*e*P	**P**	**10 29 13.2**	**-0.2**			
	22nm,0.7s									
MA2	**Magadan**	**71.28**	**352**	LR	LR	11 01 18.5				
	comp=Z,213nm,18.5s,baz=64,slow=35									
CMAR	**Chiang Mai Arr**	**72.34**	**293**	P	**P**	**10 31 35.9**	**0.0**			
	0.4nm,0.4s,baz=98,slow=5.5,SNR=2.7									
SONA0	**Songino Array**	**78.72**	**324**	*e*P	**P**	**10 32 12.7**	**+0.6**			
SONM	**Songino Array**	**78.72**	**324**	P	**P**	**10 32 12.7**	**+0.6**			
	0.2nm,0.5s,baz=108,slow=4.7,SNR=2.8									
ILAR	**Eielson Array**	**83.24**	**18**	P	**P**	**10 32 36.3**	**+0.6**			
	0.6nm,0.9s,baz=234,slow=4.8,SNR=3.4									
MK32	**Makanchi Array**	**93.62**	**317**	*e*P	**P**	**10 33 25.6**	**-0.3**			
MKAR	**Makanchi Array**	**93.62**	**317**	P	**P**	**10 33 25.6**	**-0.3**			
	0.4nm,0.7s,baz=94,slow=4.3,SNR=3.3									

ISCJB ***10*** *10:36:27.7±0.3,24˚.43N±0˚.01×122˚.00E±0˚.02,h9km±2km, Error ellipse: s-maj=2.6km s-min=2.2km az=145.8*
JMA ***10*** *10:36:27.9±0.1,24˚.40N×121˚.98E,h14km,M2.4*
TAP ***10*** *10:36:28.0,24˚.45N×121˚.93E,h12km,ML2.9,C*

ISC 10 10:36:27.5±0.9,24˚.42N±0˚.02×122˚.01E±0˚.02,h13km±7km, n62,σ0s52/104,11C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**41**	⇓*i*P	**Pb**	**10 36 32.5**	**0.0**
	baz=60						
EOS1				S	**Sb**	**10 36 35.9**	**+0.1**
	baz=60						
NANB	**Nanao**	**0.24**	**271**	⇓*i*P	**Pg**	**10 36 32.8**	**+0.3**
	baz=262						
NANB				S	**Sg**	**10 36 35.8**	**-0.1**
	baz=262						
TWC	**Suao**	**0.24**	**322**	⇑*i*P	**Pg**	**10 36 32.6**	**+0.1**
	baz=336						
TWC				S	**Sg**	**10 36 35.1**	**-0.8**
	baz=336						
ENA	**Nanau**	**0.24**	**271**	⇓*i*P	**Pg**	**10 36 32.8**	**+0.2**
	baz=262						
ENA				S	**Sg**	**10 36 35.8**	**-0.3**
	baz=262						
ILA	**Ilan**	**0.42**	**325**	*e*P	**Pg**	**10 36 36.2**	**+0.5**
	baz=332						
ILA				*e*S	**Sg**	**10 36 41.6**	**+0.3**
	baz=332						
EGS		**0.43**	**351**	*e*P	**Pg**	**10 36 36.7**	**+0.7**
	baz=1.0						
TWE	**Neicheng**	**0.43**	**314**	⇑*i*P	**Pg**	**10 36 36.2**	**+0.2**
	baz=319						
TWE				*e*S	**Sg**	**10 36 40.4**	**-1.4**
	baz=319						
NACB	**Ninganchiao**	**0.45**	**237**	⇓*i*P	**Pg**	**10 36 36.6**	**+0.2**
	baz=228						
NACB				*e*S	**Sg**	**10 36 42.2**	**-0.2**
	baz=228						
ENTT	**Nioudou**	**0.46**	**298**	⇑*i*P	**Pg**	**10 36 36.7**	**+0.2**
	baz=299						
ENTT				*e*S	**Sg**	**10 36 41.7**	**-1.0**
	baz=299						
NTC	**Toucheng**	**0.46**	**339**	*e*P	**Pg**	**10 36 36.8**	**+0.3**
	baz=346						
NTC				*e*S	**Sg**	**10 36 43.5**	**+0.8**
	baz=346						
NDT	**Datong Townshi**	**0.49**	**292**	*i* P	**Pg**	**10 36 37.5**	**+0.4**
	baz=291						
NDT				S	**Sg**	**10 36 43.1**	**-0.4**
	baz=291						
TWD	**Chiawan**	**0.51**	**228**	P	**Pg**	**10 36 37.8**	**+0.3**
	baz=219						
TWD				S	**Sg**	**10 36 44.9**	**+0.7**
	baz=219						
ETLH	**Xiulin Townshi**	**0.53**	**246**	⇓*i*P	**Pg**	**10 36 37.9**	**+0.1**
	baz=239						
ETLH				*e*S	**Sg**	**10 36 45.2**	**+0.3**
	baz=239						
NNSB	**Datong**	**0.57**	**271**	⇓*i*P	**Pg**	**10 36 38.8**	**+0.1**
	baz=267						
NNSB				S	**Sg**	**10 36 45.9**	**-0.4**
	baz=267						
TIPB	**Shuangxi**	**0.57**	**343**	⇑*i*P	**Pg**	**10 36 39.0**	**+0.3**
	baz=349						
TIPB				*e*S	**Sg**	**10 36 46.6**	**+0.3**
	baz=349						
NNS	**Nan Shan**	**0.58**	**272**	⇓*i*P	**Pg**	**10 36 39.0**	**+0.1**
	baz=268						
NNS				S	**Sg**	**10 36 46.1**	**-0.5**
	baz=268						
NWLT	**Wulai**	**0.58**	**308**	⇑*i*P	**Pg**	**10 36 39.1**	**+0.3**
	baz=309						
NWLT				*e*S	**Sg**	**10 36 46.0**	**-0.5**
	baz=309						
TWB1	**Santiao Chiao**	**0.58**	**358**	*e*P	**Pg**	**10 36 39.3**	**+0.4**
	baz=5.0						
YHNB	**Yeheng**	**0.63**	**293**	⇑*i*P	**Pg**	**10 36 40.2**	**+0.4**
	baz=293						
YHNB				S	**Sg**	**10 36 47.4**	**-0.7**
	baz=293						
NSK	**Sanguang**	**0.64**	**293**	⇑*i*P	**Pg**	**10 36 40.4**	**+0.4**
	baz=293						
NSK				S	**Sg**	**10 36 47.9**	**-0.7**
	baz=293						
TWA	**Mucha**	**0.68**	**325**	*e*P	**Pg**	**10 36 41.3**	**+0.7**
	baz=329						
TWA				*e*S	**Sg**	**10 36 49.7**	**+0.1**
	baz=329						
NWF	**Wu-fen Shan**	**0.68**	**342**	*e*P	**Pb**	**10 36 41.6**	**+0.4**
	baz=347						
NWF				*e*S	**Sg**	**10 36 50.2**	**+0.5**
	baz=347						
WFSB	**Wu-fen Shan**	**0.68**	**342**	P	**Pg**	**10 36 41.2**	**+0.6**
	baz=347						
WFSB				*e*S	**Sg**	**10 36 50.2**	**+0.6**
	baz=347						
NHDH	**Xindian Distri**	**0.69**	**321**	P	**Pb**	**10 36 41.9**	**+0.4**
	baz=323						
NHDH				S	**Sg**	**10 36 50.0**	**-0.1**
	baz=323						
TATO	**Taipei**	**0.73**	**319**	*e*P	**Pb**	**10 36 42.4**	**+0.4**
	baz=322						
TATO				S	**Sg**	**10 36 50.8**	**-0.3**
	baz=322						
WHF	**Hehuan Shan**	**0.73**	**248**	⇓P	**Pg**	**10 36 41.9**	**+0.2**
	baz=243						
WHF				*e*S	**Sg**	**10 36 52.0**	**+0.5**
	baz=243						
TWT	**Tachien**	**0.78**	**258**	*e*P	**Pb**	**10 36 43.3**	**+0.3**
	baz=254						
TWT				*e*S	**Sg**	**10 36 53.0**	**+0.1**
	baz=254						
TDCB	**Techi**	**0.79**	**258**	P	**Pg**	**10 36 43.4**	**+0.5**
	baz=254						
TDCB				*e*S	**Sg**	**10 36 53.0**	**-0.3**
	baz=254						
ESL	**Shilin**	**0.80**	**221**	⇑*i*P	**Pg**	**10 36 43.1**	**+0.1**
	baz=215						
ESL				*e*S	**Sb**	**10 36 54.5**	**+0.4**
	baz=215						
YM01	**YM01**	**0.82**	**331**	*e*P	**Pb**	**10 36 44.5**	**+0.7**
	baz=334						
YM01				*e*S	**Sg**	**10 36 54.4**	**+0.2**
	baz=334						
YM11	**YM11**	**0.84**	**332**	*e*P	**Pb**	**10 36 44.8**	**+0.8**
	baz=335						
YM05	**YM05**	**0.84**	**331**	P	**Pb**	**10 36 44.8**	**+0.8**
	baz=334						
CHGB	**Renai**	**0.84**	**245**	*e*P	**Pg**	**10 36 44.2**	**+0.3**
	baz=240						
CHGB				*e*S	**Sg**	**10 36 55.5**	**+0.5**
	baz=240						
YM04	**YM04**	**0.84**	**330**	*e*P	**Pn**	**10 36 44.9**	**-0.3**
	baz=332						
YM08	**YM08**	**0.85**	**334**	*e*P	**Pb**	**10 36 44.7**	**+0.5**
	baz=336						
JYNG	**Yonaguni jima**	**0.85**	**88**	P	**Pn**	**10 36 44.6**	**-0.6**
JYNG				*e*S	**Sb**	**10 36 55.8**	**+0.2**
TWS1	**Kuangyinshan**	**0.86**	**322**	P	**Pn**	**10 36 45.4**	**0.0**
	baz=324						
TWS1				*e*S	**Sb**	**10 36 56.4**	**+0.6**
	baz=324						
ANP	**Anpu**	**0.88**	**330**	*e*P	**Pg**	**10 36 44.5**	**-0.1**
	baz=333						
OWD	**Renai**	**0.89**	**239**	*e*P	**Pg**	**10 36 44.8**	**+0.1**
	baz=234						
OWD				*e*S	**Sg**	**10 36 56.5**	**+0.1**
	baz=234						
NTST	**Danshui**	**0.90**	**326**	*e*S	**Sn**	**10 36 58.7**	**0.0**
	baz=328						
YOJ	**Yonaguni jima**	**0.91**	**87**	P	**Pn**	**10 36 45.6**	**-0.5**
YOJ				*e*S	**Sn**	**10 36 58.2**	**-0.9**
EGFH	**Guangfu**	**0.92**	**215**	*e*P	**Pg**	**10 36 45.9**	**+0.7**
	baz=210						
TWY	**Chenhua**	**0.93**	**336**	*e*P	**Pn**	**10 36 46.2**	**-0.1**
	baz=340						
LIOB	**Emei**	**0.93**	**284**	⇑*i*P	**Pb**	**10 36 44.9**	**-0.7**
	baz=283						
LIOB				*e*S	**Sb**	**10 36 56.3**	**-1.5**
	baz=283						
NSTT	**Nanjuang**	**0.94**	**283**	*e*P	**Pg**	**10 36 46.3**	**+0.7**
	baz=282						
NSTT				*e*S	**Sb**	**10 36 57.7**	**-0.4**
	baz=282						
WHP	**Taichung City**	**0.98**	**262**	⇑P	**Pn**	**10 36 47.3**	**+0.2**
	baz=259						
WHP				*e*S	**Sb**	**10 36 59.1**	**-0.2**
	baz=259						
VWDT	**VWDT**	**1.04**	**230**	*e*P	**Pb**	**10 36 47.5**	**+0.3**
	baz=226						
VWDT				*e*S	**Sn**	**10 37 02.3**	**+0.2**
	baz=226						
HGSD	**Ruisui**	**1.07**	**210**	*e*P	**Pg**	**10 36 49.0**	**+0.9**
	baz=206						
SMLT	**Sun Moon Lake**	**1.15**	**242**	*e*P	**Pg**	**10 36 50.0**	**+0.5**
	baz=238						
SSLB	**Suanglung**	**1.15**	**237**	⇑*i*P	**Pn**	**10 36 49.8**	**+0.5**
	baz=233						
SSLB				*e*S	**Sg**	**10 37 05.3**	**+0.6**
	baz=233						
TYC	**Yuchr**	**1.17**	**244**	*e*P	**Pb**	**10 36 50.0**	**+0.4**
	baz=240						
YULB	**Yu-li**	**1.22**	**213**	*e*P	**Pn**	**10 36 50.4**	**+0.2**
	baz=208						
TWF1	**Yuli**	**1.25**	**212**	*e*P	**Pn**	**10 36 50.7**	**0.0**
	baz=207						
WHYT	**Xinyi Township**	**1.28**	**236**	*e*P	**Pg**	**10 36 52.2**	**+0.1**
	baz=232						
ELDTW	**Lidau**	**1.53**	**217**	*e*P	**Pb**	**10 36 55.7**	**0.0**
	baz=213						
IRIF	**Iriomote-Funau**	**1.57**	**93**	P	**Pn**	**10 36 54.9**	**-0.2**
IRIF				S	**Sn**	**10 37 14.6**	**-0.7**
JKRS	**Kuro-shima**	**1.83**	**95**	P	**Pn**	**10 36 59.2**	**+0.5**
JKRS				S	**Sn**	**10 37 21.8**	**0.0**
SLGT	**Liugui**	**1.89**	**222**	*e*P	**Pb**	**10 37 02.2**	**+0.2**
	baz=219						
JIJ	**Ishigaki jima**	**1.95**	**91**	P	**Pn**	**10 37 00.0**	**-0.3**
JIJ				*e*S	**Sn**	**10 37 23.1**	**-1.5**
JISG	**Ishigakijimahi**	**2.10**	**85**	P	**Pn**	**10 37 02.2**	**-0.2**
JISG				S	**Sn**	**10 37 28.4**	**-0.1**
MASBT	**Mashibuluo**	**2.20**	**215**	*e*P	**Pb**	**10 37 06.2**	**-1.0**
	baz=213						
VWUC	**VWUC**	**2.40**	**284**	*e*S	**Sn**	**10 37 35.2**	**-0.5**
	baz=283						

IDC ***10*** *10:41:16.8±1.2,40˚.02N×51˚.34E,h0km,mb3.8/17, mb1 4.0/26,mb1mx3.9/48,mbtmp3.9/26,ML4.5/8,MS4.1/3, Ms1 4.1/3,ms1mx2.9/49,Error ellipse: s-maj=25.5km s-min=9.2km az=177.0*
THR ***10*** *10:41:21.0,40˚.20N×51˚.42E,h14km,ML4.3*
TEH ***10*** *10:41:22.1,40˚.49N×51˚.59E,h50km,ML4.2*
NEIC ***10*** *10:41:23.6±1.3,40˚.43N×51˚.49E,h27km±10km,mb4.1/37, Error ellipse: s-maj=9.0km s-min=3.7km az=180.0*
AZER ***10*** *10:41:24.0±0.0,40˚.12N×51˚.53E,h49km±2km,ml4.2/31, Error ellipse: s-maj=3.8km s-min=3.2km az=287.0*
MOS ***10*** *10:41:23.7±1.2,40˚.71N×51˚.47E,h31km,mb4.2/12,Error ellipse: s-maj=6.4km s-min=5.7km az=25.0*
ISCJB ***10*** *10:41:23.2±0.3,40˚.33N±0˚.03×51˚.51E±0˚.02,h45km±4km, mb4.0/49,Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
NNC ***10*** *10:41:30.6±6.6,40˚.87N×52˚.19E,h19km±70km,mb4.3, Error ellipse: s-maj=86.0km s-min=26.8km az=70.0*

ISC 10 10:41:24.3±1.1,40˚.41N±0˚.04×51˚.56E±0˚.03,h35km±9km, n239,σ1s90/291,mb4.1/49,56C-40D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.07**	**271**	⇑P	**Pb**	**10 41 48.0**	**+3.6**
GALA				⇑S	**Sb**	**10 41 59.5**	**+1.4**
NDR	**Nardaran**	**1.21**	**279**	⇓P	**Pb**	**10 41 47.8**	**+1.0**
NDR				⇓S	**Sb**	**10 42 05.6**	**+3.5**
GOBA	**Gobu**	**1.39**	**270**	⇓P	**Pb**	**10 41 48.7**	**-1.1**
GOBA				⇓S	**Sb**	**10 42 08.3**	**+1.0**
GBS	**Qobustan**	**2.00**	**275**	⇑Pn	**Pb**	**10 41 58.1**	**-2.0**
GBS				⇓Sn	**Sn**	**10 42 21.0**	**+1.5**
ALIB	**Äli-Bayra**	**2.00**	**258**	⇓Pn	**Pn**	**10 41 57.1**	**+1.5**
ALIB				⇓Sn	**Sn**	**10 42 18.5**	**-1.0**
ATGJ	**Altiaghaj**	**2.04**	**284**	⇑Pn	**Pb**	**10 41 58.5**	**-2.4**
ATGJ				⇓S	**Sb**	**10 42 24.8**	**-1.2**
SIZA	**Siyzn**	**2.13**	**289**	⇓Pn	**Pb**	**10 42 00.0**	**-2.3**
SIZA				⇓Sg	**Sb**	**10 42 34.7**	**+6.4**
PQL	**Pirkuli**	**2.29**	**281**	⇓Pn	**Pn**	**10 42 00.8**	**+1.1**
PQL				⇑Sn	**Sb**	**10 42 30.6**	**-2.4**
SAAT	**Saatly**	**2.46**	**258**	⇑Pn	**Pn**	**10 42 03.4**	**+1.5**
SAAT				⇓Sn	**Sn**	**10 42 34.0**	**+3.2**
QUBA	**Quba, Azerbaij**	**2.51**	**293**	⇓Pn	**Pn**	**10 42 04.9**	**+2.2**
QUBA				⇑Sg	Sb	10 42 48.5	+9.2
KDMR	**Kurdemir**	**2.58**	**270**	⇓Pn	**Pn**	**10 42 05.2**	**+1.7**
KDMR				⇓Sn	**Sn**	**10 42 35.6**	**+2.0**
IML	**Ismayilli**	**2.60**	**280**	⇑Pn	**Pn**	**10 42 05.0**	**+1.1**
IML				⇑Sn	**Sn**	**10 42 36.6**	**+2.3**
GLBA	**Clilabad**	**2.70**	**246**	⇓Pn	**Pn**	**10 42 04.6**	**-0.7**
GLBA				⇓Sn	**Sn**	**10 42 35.1**	**-1.6**
XNQ	**Khinaliq**	**2.71**	**288**	⇑Pn	**Pn**	**10 42 06.7**	**+1.2**
XNQ				⇑Sn	**Sb**	**10 42 43.5**	**-1.5**
QSAR	**Qusar**	**2.73**	**295**	⇓Pn	**Pn**	**10 42 07.9**	**+2.3**
QSAR				⇑Sg	Sb	10 42 55.2	+10
LKRN	**Lenkeran, Azer**	**2.73**	**233**	⇓Pn	**Pn**	**10 42 04.4**	**-1.3**
LKRN				⇑Sn	**Sn**	**10 42 34.6**	**-2.9**
ASTR	**Astara**	**2.83**	**230**	⇓Pn	**Pn**	**10 42 05.6**	**-1.3**
ASTR				⇓Sn	**Sn**	**10 42 36.3**	**-3.5**
QBL	**Gabala**	**2.88**	**282**	⇓Pn	**Pn**	**10 42 08.7**	**+0.9**
QBL				⇑Sn	**Sn**	**10 42 41.9**	**+0.7**
ZRD	**Zardab**	**2.96**	**269**	⇑Pn	**Pn**	**10 42 09.3**	**+0.5**
ZRD				⇓Sn	**Sn**	**10 42 43.9**	**+0.7**
LRK	**Lerik**	**3.05**	**236**	⇓Pn	**Pn**	**10 42 08.7**	**-1.4**
LRK				⇓Sn	**Sn**	**10 42 41.7**	**-3.8**
GRMI	**Germi**	**3.25**	**242**	*e*Pn	**Pn**	**10 42 11.1**	**-1.8**
GRMI	**Germi**	**3.25**	**242**	*e*AML	AML	10 42 47.5	
	comp=E,555nm,0.2s						
GRMI	**Germi**	**3.25**	**242**	*e*Pn	**Pn**	**10 42 11.1**	**-1.8**
BRDA	**Brd**	**3.35**	**269**	⇓Pn	**Pn**	**10 42 14.9**	**+0.8**
BRDA				⇑Sn	**Sn**	**10 42 54.0**	**+1.4**
SEKA	**Sheki**	**3.41**	**285**	⇑Pn	**Pn**	**10 42 15.8**	**+0.8**
SEKA				⇑Sn	**Sn**	**10 42 55.9**	**+1.7**
MNGR	**Mingechevir, A**	**3.42**	**278**	⇓Pn	**Pn**	**10 42 15.7**	**+0.5**
MNGR				⇓Sn	**Sn**	**10 42 54.7**	**+0.1**
ZKTA	**Zakatala**	**3.93**	**290**	⇑Pn	**Pn**	**10 42 23.6**	**+1.4**
ZKTA				⇑Sn	**Sn**	**10 43 08.4**	**+1.3**
MAK	**Makhachkala**	**3.97**	**311**	⇓*i*PN	Pn	10 42 17.9	-4.7
MAK				*e*		10 43 12.2	
MAK				*e*		10 43 22.6	
MAK				pmax	pmax		
	comp=Z,249nm,0.3s						
ISRB	**Sarab**	**3.98**	**231**	*e*Pn	**Pn**	**10 42 22.5**	**-0.5**
ISRB				IAMB	IAmb	10 43 07.7	
	comp=N,14μm,0.2s						
GANJ	**Ganja**	**4.00**	**275**	⇑Pn	**Pn**	**10 42 22.5**	**-0.6**
GANJ				⇑Sn	**Sn**	**10 43 06.0**	**-2.8**
IHRS	**Heris**	**4.07**	**241**	*e*Pn	**Pn**	**10 42 23.9**	**-0.4**
IHRS				IAMB	IAmb	10 43 10.9	
	comp=Z,11μm,0.3s						
IPRN	**Peran**	**4.20**	**171**	*e*Pn	**Pn**	**10 42 24.7**	**-1.3**
IPRN				IAMB	IAmb	10 43 11.4	
	comp=N,42μm,0.4s						
DDFL	**Dedoflistskaro**	**4.25**	**286**	P	**Pn**	**10 42 28.7**	**+2.1**
LGD	**Lagodekhi**	**4.26**	**291**	P	**Pn**	**10 42 27.8**	**+1.1**
LGD				S	**Sn**	**10 43 16.3**	**+1.1**
LGD	**Lagodekhi**	**4.26**	**291**	*e*PN	**Pn**	**10 42 27.8**	**+1.1**
LGD				*e*S	**Sn**	**10 43 16.3**	**+1.1**
IMND	**Minoodasht**	**4.35**	**135**	*e*Pn	**Pn**	**10 42 27.8**	**-0.1**
IMND				IAMB	IAmb	10 42 29.2	
	comp=Z,0.0nm,0.1s						
ZNJK	**Zanjan**	**4.36**	**212**	*e*Pn	**Pn**	**10 42 25.9**	**-2.4**
ZNJK	**Zanjan**	**4.36**	**212**	*e*Pn	**Pn**	**10 42 25.9**	**-2.4**
IALA	**Alasht**	**4.43**	**167**	*e*Pn	**Pn**	**10 42 28.8**	**-0.5**
IALA				IAMB	IAmb	10 43 17.4	
	comp=Z,16μm,0.3s						
GDB	**GEDABAY**	**4.43**	**276**	⇓Pn	**Pn**	**10 42 28.1**	**-1.1**
GDB				⇓Sn	**Sn**	**10 43 17.2**	**-2.4**
MRVT	**Maraveh tapeh**	**4.47**	**126**	*e*Pn	**Pn**	**10 42 30.1**	**+0.4**
MRVT	**Maraveh tapeh**	**4.47**	**126**	*e*Pn	**Pn**	**10 42 30.1**	**+0.4**
CHTH	**Charan**	**4.50**	**184**	*e*Pn	**Pn**	**10 42 28.4**	**-1.9**
CHTH	**Charan**	**4.50**	**184**	*e*Pn	**Pn**	**10 42 28.4**	**-1.9**
IKIA	**Kiasar**	**4.51**	**158**	*e*Pn	**Pn**	**10 42 30.0**	**-0.4**
IKIA				IAMB	IAmb	10 42 31.1	
	comp=Z,2μm,0.1s						
THKV	**Tehran--Karaj**	**4.51**	**187**	*e*Pn	**Pn**	**10 42 28.1**	**-2.3**
THKV	**Tehran--Karaj**	**4.51**	**187**	*e*AML	AML	10 43 19.1	
	comp=N,461nm,0.4s						
THKV	**Tehran--Karaj**	**4.51**	**187**	*e*Pn	**Pn**	**10 42 28.1**	**-2.3**
IBST	**Bostanabad**	**4.53**	**235**	*e*Pn	**Pn**	**10 42 28.6**	**-2.0**
IBST				IAMB	IAmb	10 43 27.3	
	comp=Z,680nm,0.3s						
ORD	**Ordubad**	**4.54**	**253**	⇑Pn	**Pn**	**10 42 30.8**	**+0.2**
ORD				⇑Sn	**Sn**	**10 43 19.3**	**-2.9**
SBZ	**Shahbuz**	**4.73**	**260**	⇑Pn	**Pn**	**10 42 33.8**	**+0.6**
SBZ				⇓Sn	**Sn**	**10 43 25.9**	**-0.9**
QZX	**Qazax, Azerbai**	**4.75**	**280**	⇑Pn	**Pn**	**10 42 32.9**	**-0.4**
QZX				⇓Sn	**Sn**	**10 43 25.9**	**-1.3**
IMHD	**Mahdasht**	**4.76**	**189**	*e*Pn	**Pn**	**10 42 34.3**	**+0.6**
IMHD				IAMB	IAmb	10 43 29.0	
	comp=Z,1μm,0.3s						
NAX	**Nakhchivan**	**4.83**	**257**	⇓Pn	**Pn**	**10 42 35.1**	**+0.6**
NAX				⇑Sn	**Sn**	**10 43 29.4**	**0.0**
IMRD	**Marand**	**4.83**	**251**	*e*Pn	**Pn**	**10 42 34.7**	**0.0**
IMRD				IAMB	IAmb	10 43 29.7	
	comp=Z,5μm,0.4s						
IDMV	**Damavand**	**4.83**	**175**	*e*Pn	**Pn**	**10 42 35.4**	**+0.5**
IDMV				IAMB	IAmb	10 43 30.6	
	comp=Z,2μm,0.4s						
IFIR	**Firoozkooh**	**4.85**	**168**	*e*Pn	**Pn**	**10 42 35.5**	**+0.5**
IFIR				IAMB	IAmb	10 43 32.5	
	comp=Z,4μm,0.3s						
IHSB	**Hasanabad**	**4.96**	**183**	*e*Pn	**Pn**	**10 42 37.4**	**+0.9**
IHSB				IAMB	IAmb	10 43 34.6	
	comp=Z,0.0nm,0.4s						
IAZR	**Azarshahr**	**5.12**	**240**	*e*Pn	**Pn**	**10 42 38.7**	**-0.1**
IAZR				IAMB	IAmb	10 43 39.3	
	comp=Z,2μm,0.3s						
GROC	**Groznyy**	**5.13**	**305**	*e*PN	**Pn**	**10 42 36.2**	**-2.4**
GROC				*e*S	**Sn**	**10 43 34.3**	**-2.3**
GROC				pmax	pmax		
	comp=Z,47nm,0.4s						
GROC				smax	smax		
	comp=N,128nm,0.6s						
GROC				smax	smax		
	comp=N,83nm,0.6s						
ILAS	**Lasjerd**	**5.14**	**167**	*e*Pn	**Pn**	**10 42 39.8**	**+0.8**
ILAS				IAMB	IAmb	10 43 40.0	
	comp=N,4μm,0.2s						
IRAZ	**Razeghan**	**5.16**	**195**	*e*Pn	**Pn**	**10 42 38.0**	**-1.2**
IRAZ				IAMB	IAmb	10 43 37.5	
	comp=Z,3μm,0.4s						
HYR	**Heyderabad**	**5.19**	**265**	⇑Pn	**Pn**	**10 42 39.7**	**+0.2**
HYR				⇓Sn	**Sn**	**10 43 36.9**	**-1.3**
GNI	**Garni**	**5.22**	**269**	*e*Pn	**Pn**	**10 42 40.7**	**+0.7**
GNI				Sn	**Sn**	**10 43 42.9**	**+3.9**
GNI	**Garni**	**5.22**	**269**	⇑*e*PN	**Pn**	**10 42 40.8**	**+0.7**
GNI	**Garni**	**5.22**	**269**	*e*Pn	**Pn**	**10 42 40.7**	**+0.7**
GNI	**Garni**	**5.22**	**269**	Pn	**Pn**	**10 42 37.5**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=344,slow=2.5,SNR=4.4						
GNI				Sn	**Sn**	**10 43 42.9**	**+3.9**
	comp=Z,5.4nm,0.3s,baz=341,slow=20,SNR=2.2						
BTNK	**Botanikuri**	**5.27**	**286**	P	**Pn**	**10 42 40.6**	**+0.1**
BTNK				S	**Sn**	**

ITEG					IAMB	IAmb	10 43 40.2		
	comp=Z,1μm,0.2s								
AB31	**Akbulak array**	**10.66**	**31**	*e*P	**Pn**	**Pn**	**10 43 53.7**	**-0.7**	
	comp=Z,6.5nm,0.5s,baz=212,slow=13,SNR=170								
AB31				⇑S	**Sn**	**Sn**	**10 45 48.4**	**-4.0**	
	comp=Z,5.8nm,0.5s,baz=209,slow=26,SNR=4.9								
AB31	**Akbulak array**	**10.66**	**31**	*e*P	**Pn**	**Pn**	**10 43 53.7**	**-0.7**	
AB31				S	**Sn**	**Sn**	**10 45 51.5**	**-0.9**	
AB31				pmax	pmax				
	comp=Z,7.0nm,0.5s								
AB31				smax	smax				
	comp=N,10.0nm,0.5s								
AB31	**Akbulak array**	**10.66**	**31**	*e*Pn	**Pn**	**Pn**	**10 43 53.0**	**-1.4**	
ABKAR	**Akbulak array**	**10.66**	**31**	*e*Pn	**Pn**	**Pn**	**10 43 53.7**	**-0.7**	
AKTK	**Aktyubinsk**	**11.00**	**22**	*e*Pn	**Pn**	**Pn**	**10 43 58.1**	**-1.0**	
AKTO	**Aktyubinsk**	**11.00**	**22**	⇓P	**Pn**	**Pn**	**10 43 58.1**	**-1.0**	
	comp=N,12nm,0.3s								
AKTO				⇑S	**Sn**	**Sn**	**10 45 54.3**	**-6.6**	
	comp=N,45nm,0.7s								
AKTO	**Aktyubinsk**	**11.00**	**22**	Pn	**Pn**	**Pn**	**10 43 58.8**	**-0.3**	
	comp=N,7.7nm,0.3s,baz=206,slow=12,SNR=76								
AKTO				Sn	**Sn**	**Sn**	**10 45 55.4**	**-5.5**	
	comp=N,5.0nm,0.3s,baz=230,slow=20,SNR=7.4								
BR131	**Keskin Array S**	**13.74**	**273**	*e*Pn	**P**	**P**	**10 44 45.4**	**+0.5**	
BRTR	**Keskin Array B**	**13.74**	**273**	*i* P	**Pn**	**Pn**	**10 44 37.5**	**+0.7**	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**13.74**	**273**	Pn	**Pn**	**Pn**	**10 44 35.3**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=104,slow=9.0,SNR=4.8								
BRTR				Sn	**Sn**	**Sn**	**10 47 09.1**	**+0.9**	
	comp=Z,0.1nm,0.3s,baz=94,slow=39,SNR=1.8								
KK31	**Karatay Array**	**14.40**	**73**	*e*Pn	**Pn**	**Pn**	**10 44 44.8**	**-0.8**	
KK31	**Karatay Array**	**14.40**	**73**	⇑P	**Pn**	**Pn**	**10 44 45.1**	**-0.5**	
	comp=Z,4.6nm,0.7s,baz=254,slow=17,SNR=33								
KK31	**Karatay Array**	**14.40**	**73**	*e*P	**Pn**	**Pn**	**10 44 44.8**	**-0.8**	
KK31	**Karatay Array**	**14.40**	**73**	*e*Pn	**Pn**	**Pn**	**10 44 44.9**	**-0.8**	
KKAR	**Karatay Array**	**14.40**	**73**	*e*Pn	**Pn**	**Pn**	**10 44 44.5**	**-1.1**	
KKAR	**Karatay Array**	**14.40**	**73**	*e*P	**Pn**	**Pn**	**10 44 44.5**	**-1.1**	
ARSB	**Arslanbob**	**16.23**	**80**	*e*Pn	**P**	**P**	**10 45 11.8**	**-0.7**	
	comp=Z,4.7nm,0.8s								
ARU	**Arti**	**16.68**	**14**	*e*Pn	**Pn**	**Pn**	**10 45 13.5**	**-1.6**	
	comp=Z,11nm,0.8s								
ARU	**Arti**	**16.68**	**14**	*d* iP	**Pn**	**Pn**	**10 45 11.1**	**-4.0**	
ARU				S	**Sn**	**Sn**	**10 48 13.8**	**-5.3**	
ARU				pmax	pmax				
	comp=Z,14nm,1.4s								
OTUK	**Ortayu**	**16.77**	**55**	P	**Pn**	**Pn**	**10 45 15.4**	**-1.0**	
OTUK				pmax	pmax				
	comp=Z,7.0nm,0.5s								
AAK	**Ala-Archa**	**17.31**	**75**	*e*Pn	**P**	**P**	**10 45 26.5**	**+2.0**	
	comp=Z,3.3nm,0.5s								
AAK				S	**Sn**	**Sn**	**10 48 35.3**	**+0.4**	
AAK				Lg	Lg	Lg	10 50 49.0		
AAK	**Ala-Archa**	**17.31**	**75**	⇑P	**P**	**P**	**10 45 25.2**	**+0.7**	
	comp=Z,2.2nm,0.5s								
AAK	**Ala-Archa**	**17.31**	**75**	⇓*e*P	**P**	**P**	**10 45 26.5**	**+2.0**	
AAK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AAK	**Ala-Archa**	**17.31**	**75**	P	**P**	**P**	**10 45 24.3**	**-0.2**	
	comp=Z,0.8nm,0.3s,baz=220,slow=4.0,SNR=14								
AAK				S	**Sn**	**Sn**	**10 48 35.3**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=196,slow=22,SNR=2.6								
AAK				Lg	Lg	Lg	10 50 49.0		
	comp=Z,0.1nm,0.3s,baz=122,slow=22,SNR=1.2								
TLCR		**17.34**	**293**	⇑*i*P	**Pn**	**Pn**	**10 45 22.9**	**-0.6**	
TLCR		**17.34**	**293**	⇑P	**Pn**	**Pn**	**10 45 22.9**	**-0.6**	
SVE	**Sverdlovsk**	**17.47**	**17**	*e*P	**Pn**	**Pn**	**10 45 24.9**	**0.0**	
SVE				*e*S	**Sn**	**Sn**	**10 48 30.1**	**-8.1**	
SVE				pmax	pmax				
	comp=Z,11nm,0.8s								
TIRR	**Tirgusor**	**17.54**	**291**	*e*Pn	**Pn**	**Pn**	**10 45 26.2**	**+0.3**	
	comp=Z,2.2nm,0.8s								
TIRR	**Tirgusor**	**17.54**	**291**	*e*P	**Pn**	**Pn**	**10 45 26.2**	**+0.3**	
TIRR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
CFR	**Carcaliu**	**17.82**	**293**	⇑*i*P	**Pn**	**Pn**	**10 45 27.9**	**-1.4**	
CFR	**Carcaliu**	**17.82**	**293**	⇑P	**Pn**	**Pn**	**10 45 27.9**	**-1.4**	
BRVK	**Borovoye**	**17.95**	**39**	*e*P	**P**	**P**	**10 45 31.9**	**+0.6**	
	comp=Z,10nm,0.6s								
BRVK	**Borovoye**	**17.95**	**39**	⇓P	**Pn**	**Pn**	**10 45 29.6**	**-1.3**	
	comp=Z,8.6nm,0.7s								
BRVK	**Borovoye**	**17.95**	**39**	*e*P	**P**	**P**	**10 45 31.9**	**+0.6**	
BRVK				pmax	pmax				
	comp=Z,11nm,0.6s								
BRVK	**Borovoye**	**17.95**	**39**	*e*Pn	**P**	**P**	**10 45 31.9**	**+0.6**	
BVA0	**Borovoye Array**	**17.98**	**39**	⇓P	**Pn**	**Pn**	**10 45 31.0**	**-0.4**	
	comp=Z,10nm,0.7s								
BVAR	**Borovoye Array**	**17.98**	**39**	P	**P**	**P**	**10 45 31.9**	**+0.3**	
	comp=Z,2.6nm,0.3s,baz=231,slow=10,SNR=72								
BVAR				S	**Sn**	**Sn**	**10 48 44.0**	**-6.8**	
	comp=Z,0.6nm,0.3s,baz=232,slow=24,SNR=5.3								
WSAR	**Wadi Sarin**	**18.13**	**159**	LR	LR	LR	10 54 26.8		
	comp=Z,94nm,18.1s,baz=83,slow=44								
KIRV	**Kirov**	**18.25**	**356**	P	**P**	**P**	**10 45 34.4**	**0.0**	
	comp=Z,2.6nm,0.3s,baz=335,slow=2.3,SNR=3.9								
BOOM	**Boomskoye usch**	**18.38**	**76**	P	**Pn**	**Pn**	**10 45 38.3**	**+1.8**	
AKASG	**Malin Array Be**	**18.65**	**311**	P	**P**	**P**	**10 45 36.7**	**-2.2**	
	comp=Z,5.1nm,0.3s,baz=115,slow=12,SNR=19								
AKASG				S	**Sn**	**Sn**	**10 49 02.2**	**-4.7**	
	comp=Z,0.5nm,0.3s,baz=117,slow=24,SNR=4.3								
AKBB	**Malin Array Si**	**18.65**	**311**	*e*P	**P**	**P**	**10 45 37.5**	**-1.5**	
	comp=Z,18nm,1.0s								
AKBB	**Malin Array Si**	**18.65**	**311**	*e*P	**P**	**P**	**10 45 37.5**	**-1.5**	
AKBB				pmax	pmax				
	comp=Z,18nm,1.0s								
AK11	**Malin Array Si**	**18.68**	**311**	*e*P	**P**	**P**	**10 45 38.4**	**-0.8**	
KSH	**Kashi**	**18.73**	**85**	*e*P	**Pn**	**Pn**	**10 45 42.4**	**+1.8**	
VRI	**Vrincioaia**	**18.89**	**295**	⇑*i*P	**Pn**	**Pn**	**10 45 42.6**	**+0.2**	
VRI	**Vrincioaia**	**18.89**	**295**	⇑P	**Pn**	**Pn**	**10 45 42.6**	**+0.2**	
PLOR	**Plostina**	**18.94**	**295**	⇑*i*P	**P**	**P**	**10 45 41.8**	**-0.4**	
PLOR	**Plostina**	**18.94**	**295**	⇑P	**P**	**P**	**10 45 41.8**	**-0.4**	
TESR	**Tescani**	**19.04**	**297**	⇑*i*P	**P**	**P**	**10 45 42.2**	**-1.1**	
KDJ	**Kajisay**	**19.32**	**76**	*e*P	**Pn**	**Pn**	**10 45 50.5**	**+2.7**	
	comp=Z,3.7nm,0.6s								
KDJ	**Kajisay**	**19.32**	**76**	*e*P	**Pn**	**Pn**	**10 45 50.5**	**+2.7**	
KDJ				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ALN	**Alexandroupoli**	**19.35**	**280**	*e*P	**Pn**	**Pn**	**10 45 48.1**	**+0.2**	
	comp=Z,5.5nm,1.2s								
MLR	**Muntele Rosu**	**19.39**	**294**	⇑*i*P	**Pn**	**Pn**	**10 45 49.2**	**+0.7**	
MLR	**Muntele Rosu**	**19.39**	**294**	⇑P	**Pn**	**Pn**	**10 45 49.2**	**+0.7**	
MLR	**Muntele Rosu**	**19.39**	**294**	P	**P**	**P**	**10 45 44.1**	**-3.1**	
	comp=Z,0.3nm,0.3s,baz=105,slow=2.4,SNR=3.4								
BIZ	**Bicaz**	**19.49**	**298**	⇑*i*P	**P**	**P**	**10 45 47.5**	**-0.7**	
KARP	**Karpathos**	**19.81**	**264**	*e*P	**P**	**P**	**10 45 52.5**	**+0.7**	
	comp=Z,31nm,1.1s								
DOPR	**Dopca**	**19.83**	**295**	⇑*i*P	**P**	**P**	**10 45 51.8**	**-0.1**	
VOIR		**20.01**	**293**	⇑*i*P	**P**	**P**	**10 45 54.0**	**0.0**	
VOIR		**20.01**	**293**	⇑P	**P**	**P**	**10 45 54.0**	**0.0**	
BURAR	**Bucovina Array**	**20.21**	**300**	⇑*i*P	**P**	**P**	**10 45 55.4**	**-0.7**	
BURAR	**Bucovina Array**	**20.21**	**300**	⇑P	**P**	**P**	**10 45 55.4**	**-0.7**	
BUR08	**Bucovina Ar. S**	**20.22**	**300**	*e*P	**P**	**P**	**10 45 55.4**	**-0.9**	
	comp=Z,3.0nm,0.6s								
ARR	**Arges**	**20.30**	**293**	⇑*i*P	**P**	**P**	**10 45 57.0**	**-0.1**	
KURBB	**Kurchatov Arra**	**21.37**	**52**	P	**P**	**P**	**10 46 09.4**	**+0.9**	
	comp=Z,3.0nm,0.7s,baz=255,slow=11,SNR=14								
KURBB				S	**S**	**S**	**10 50 06.1**	**+2.3**	
	comp=Z,0.8nm,0.8s,baz=187,slow=10,SNR=4.4								
KURK	**Kurchatov**	**21.46**	**52**	*e*P	**P**	**P**	**10 46 11.0**	**+1.6**	
	comp=Z,8.1nm,0.8s								
KURK	**Kurchatov**	**21.46**	**52**	⇓P	**P**	**P**	**10 46 11.1**	**+1.7**	
	comp=Z,14nm,1.1s								
KURK	**Kurchatov**	**21.46**	**52**	P	**P**	**P**	**10 46 09.4**	**0.0**	
KURK				S	**S**	**S**	**10 50 06.1**	**+0.7**	
KURK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KURK				smax	smax				
	comp=N,1.0nm,0.8s								
GZR	**Gura Zlata**	**21.60**	**293**	⇑*i*P	**P**	**P**	**10 46 10.8**	**-0.3**	
KLMR	**Klimovskoe**	**21.78**	**344**	*e*P	**P**	**P**	**10 46 10.5**	**-2.3**	
KLMR				*e*S	**S**	**S**	**10 50 05.4**	**-6.1**	
KLMR				pmax	pmax				
	comp=Z,8.0nm,1.0s								
KLMR	**Klimovskoe**	**21.78**	**344**	*e*P	**P**	**P**	**10 46 10.5**	**-2.3**	
KLMR				AMP			10 46 23.5		
	comp=Z,8.0nm,1.1s								
KLMR				*e*S	**S**	**S**	**10 50 05.4**	**-6.1**	
KLMR				*e*S	**S**	**S**	**10 50 05.4**	**-6.1**	
AGG	**Agios Georgios**	**22.48**	**276**	*e*P	**P**	**P**	**10 46 21.2**	**+0.7**	
	comp=Z,7.1nm,1.1s								
AGG	**Agios Georgios**	**22.48**	**276**	*e*P	**P**	**P**	**10 46 21.3**	**+0.7**	
AGG				pmax	pmax				
	comp=Z,7.0nm,1.1s								
MAKZ	**Makanchi**	**22.84**	**64**	*e*P	**P**	**P**	**10 46 25.8**	**+1.5**	
	comp=Z,5.8nm,0.6s								
MAKZ	**Makanchi**	**22.84**	**64**	⇑P	**P**	**P**	**10 46 25.2**	**+0.8**	
	comp=Z,4.6nm,0.6s								
MAKZ	**Makanchi**	**22.84**	**64**	P	**P**	**P**	**10 46 25.1**	**+0.8**	
MAKZ				pmax	pmax				
	comp=Z,5.0nm,0.6s								
MK31	**Makanchi Array**	**23.06**	**64**	*e*P	**P**	**P**	**10 46 27.7**	**+1.2**	
	comp=Z,3.3nm,0.6s								
MK31	**Makanchi Array**	**23.06**	**64**	*e*P	**P**	**P**	**10 46 27.3**	**+0.8**	
MK31				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**23.06**	**64**	*ce*P	**P**	**P**	**10 46 27.6**	**+1.1**	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**23.06**	**64**	P	**P**	**P**	**10 46 27.3**	**+0.8**	
	comp=Z,3.3nm,0.6s,baz=261,slow=9.3,SNR=34								
MKAR				S	**S**	**S**	**10 50 40.2**	**+5.2**	
	comp=Z,0.3nm,0.6s,baz=244,slow=13,SNR=2.8								
MK01	**Makanchi Array**	**23.06**	**64**	*e*P	**P**	**P**	**10 46 27.9**	**+1.3**	
ITM	**Ithomi**	**23.27**	**272**	*e*P	**P**	**P**	**10 46 26.9**	**-1.8**	
	comp=Z,9.9nm,1.0s								
DIVS	**Divibare**	**23.58**	**289**	*e*P	**P**	**P**	**10 46 29.6**	**-2.1**	
	comp=Z,5.4nm,0.6s								
VYHS	**Vyhne**	**24.57**	**300**	*e*P	**P**	**P**	**10 46 45.9**	**+5.1**	
VYHS	**Vyhne**	**24.57**	**300**	*e*P	**P**	**P**	**10 46 45.9**	**+5.1**	
MORC	**Moravsky Berou**	**25.59**	**303**	*e*P	**P**	**P**	**10 46 51.3**	**+1.3**	
	comp=Z,3.2nm,1.0s								
MORC	**Moravsky Berou**	**25.59**	**303**	*e*P	**P**	**P**	**10 46 51.3**	**+1.3**	
MORC				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ZAA0	**Zalesovo Array**	**26.07**	**48**	*e*P	**P**	**P**	**10 46 56.0**	**+1.6**	
	comp=Z,4.6nm,0.6s								
ZALV	**Zalesovo Beam**	**26.07**	**48**	*e*P	**P**	**P**	**10 46 54.8**	**+0.5**	
ZALV	**Zalesovo Beam**	**26.07**	**48**	*e*P	**P**	**P**	**10 46 54.8**	**+0.5**	
ZALV	**Zalesovo Beam**	**26.07**	**48**	P	**P**	**P**	**10 46 55.0**	**+0.7**	
	comp=Z,4.5nm,0.6s,baz=263,slow=12,SNR=15								
FIA1	**FINESS Array S**	**26.17**	**332**	*e*P	**P**	**P**	**10 46 55.5**	**+0.3**	
	comp=Z,3.7nm,0.7s								
FINES	**FINESS Array B**	**26.17**	**332**	P	**P**	**P**	**10 46 55.1**	**0.0**	
	comp=Z,1.5nm,0.5s,baz=137,slow=11,SNR=19								
WMQ	**Urumqi**	**26.89**	**71**	*e*P	**P**		**10 47 03.9**	**+2.0**	
WMQ				pP	sP		10 47 16.4	+0.4	
WMQ				sP	pP		10 47 24.0	+12	
WMQ				PP	**PnPn**		**10 47 43.9**	**-0.6**	
WMQ				PcP	PcP		10 50 12.6	-11	
WMQ				pmax	pmax				
	comp=Z,15nm,2.1s								
WMQ				LR	LR				
	comp=N,680nm,29.7s								
WMQ				LR	LR				
	comp=E,180nm,23.5s								
WMQ				LR	LR				
	comp=Z,280nm,28.1s								
HFS	**Hagfors**	**30.60**	**323**	P	**P**		**10 47 33.4**	**-1.2**	
	comp=Z,1.6nm,0.7s,baz=122,slow=11,SNR=3.6								
NC405	**NORSAR Array S**	**31.88**	**324**	*e*P	**P**		**10 47 45.9**	**0.0**	
	comp=Z,8.6nm,1.0s								
NOA	**NORSAR Array B**	**32.08**	**324**	P	**P**		**10 47 46.5**	**-1.1**	
	comp=Z,0.3nm,0.7s,baz=45,slow=27,SNR=5.7								
ARCES	**ARCESS Array B**	**32.25**	**343**	*e*P	**P**		**10 47 49.6**	**+0.5**	
ARCES	**ARCESS Array B**	**32.25**	**343**	P	**P**		**10 47 49.7**	**+0.6**	
	comp=Z,4.9nm,1.1s,baz=146,slow=8.3,SNR=2.6								
NBO00	**NORSAR Array S**	**32.27**	**323**	*e*P	**P**		**10 47 51.2**	**+1.8**	
	comp=Z,5.7nm,1.0s								
SENIN	**Lac Senin/Sane**	**32.38**	**296**	*e*P	**P**		**10 47 49.8**	**-0.9**	
	comp=Z,3.6nm,0.9s								
SSB	**Saint Sauveur**	**34.43**	**294**	*e*P	**P**		**10 48 08.1**	**-0.3**	
	comp=Z,2.6nm,0.8s								
SSB	**Saint Sauveur**	**34.43**	**294**	*e*P	**P**		**10 48 08.1**	**-0.3**	
SSB				pmax	pmax				
	comp=Z,3.0nm,0.8s								
GTA	**Gaotai**	**36.66**	**75**	*e*P	**P**		**10 48 25.9**	**-1.8**	
GTA				pP	pP		10 48 30.6	-7.2	
GTA				sP	sP		10 48 33.0	-9.0	
GTA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TLY	**Talaya**	**37.12**	**54**	⇑*e*P	**P**		**10 48 33.2**	**+1.9**	
SONM	**Songino Array**	**39.34**	**60**	P	**P**		**10 48 51.0**	**+0.8**	
SONM	**Songino Array**	**39.34**	**60**	P	**P**		**10 48 51.0**	**+0.8**	
	comp=Z,0.4nm,0.6s,baz=272,slow=11,SNR=2.8								
ESDC	**Sonseca Array**	**41.91**	**288**	P	**P**		**10 49 09.1**	**-2.4**	
	comp=Z,0.5nm,0.5s,baz=59,slow=8.4,SNR=4.3								
BOD	**Bodaibo**	**42.74**	**44**	*e*P	**P**		**10 49 18.2**	**+0.4**	
BOD				pmax	pmax				
	comp=Z,5.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**44.74**	**69**	*e*P	**P**		**10 49 35.2**	**+0.9**	
HHC				pmax	pmax				
	comp=Z,15nm,1.0s								
HHC				pmax	pmax				
	comp=Z,190nm,5.3s								
KMI	**Kunming**	**45.05**	**94**	P	**P**		**10 49 36.8**	**-0.2**	
KMI				pmax	pmax				
	comp=Z,15nm,0.5s								
TIXI	**Tiksi**	**48.27**	**24**	P	**P**		**10 50 02.6**	**+1.2**	
	comp=Z,1.0nm,0.5s,baz=338,slow=7.1,SNR=3.6								
KLR	**Kul'dur**	**55.05**	**52**	P	**P**		**10 50 52.6**	**+0.3**	
	comp=Z,0.9nm,0.7s,baz=291,slow=7.1,SNR=3.8								
USRK	**Ussuriysk Ar.**	**57.33**	**57**	P	**P**		**10 51 08.3**	**-0.3**	
	comp=Z,1.2nm,0.6s,baz=298,slow=9.3,SNR=3.7								
KSAR	**Wonju Array Be**	**57.69**	**66**	P	**P**		**10 51 11.4**	**+0.1**	
KSAR	**Wonju Array Be**	**57.69**	**66**	P	**P**		**10 51 11.4**	**+0.1**	
KSRS	**Korea Array**	**57.71**	**66**	P	**P**		**10 51 11.4**	**0.0**	
	comp=Z,0.6nm,0.4s,baz=300,slow=7.1,SNR=4.4								
SEY	**Seymchan**	**59.43**	**31**	P	**P**		**10 51 23.9**	**+0.9**	
	comp=Z,0.9nm,0.2s,baz=65,slow=22,SNR=5.4								
MJB9	**Matsu-Tunnel**	**65.24**	**62**	*e*P	**P**		**10 52 02.3**	**-0.1**	
	comp=Z,4.4nm,0.8s								
MAJO	**Matsushiro**	**65.25**	**62**	*e*P	**P**		**10 52 02.3**	**-0.1**	
	comp=Z,4.4nm,0.8s								
MAJO	**Matsushiro**	**65.25**	**62**	*e*P	**P**		**10 52 02.3**	**-0.1**	
MAJO				pmax	pmax				
	comp=Z,4.0nm,0.8s								
TOLK	**Toolik Lake Re**	**70.13**	**8**	*e*P	**P**		**10 52 33.7**	**+1.0**	
	comp=Z,0.3nm,0.6s								
INK	**Inuvik**	**71.54**	**2**	*e*P	**P**		**10 52 40.9**	**-0.2**	
	comp=Z,0.3nm,0.8s								
INK	**Inuvik**	**71.54**	**2**	P	**P**		**10 52 40.6**	**-0.5**	
	comp=Z,0.5nm,0.9s,baz=0.0,slow=1.0,SNR=3.0								
SCHQ	**Schefferville**	**71.55**	**328**	*e*P	**P**		**10 52 42.8**	**+1.3**	
	comp=Z,2.5nm,1.0s								
IM3	**Indian Mountai**	**72.15**	**11**	*e*P	**P**		**10 52 45.3**	**+0.5**	
BOSA	**Boshof**	**72.89**	**204**	LR	LR		11 25 50.5		
	comp=Z,420nm,19.7s,baz=247,slow=37								
MLY	**Manley**	**73.46**	**10**	*e*P	**P**		**10 52 53.7**	**+1.0**	
	comp=Z,1.4nm,1.1s								
ILAR	**Eielson Array**	**74.16**	**8**	P	**P**		**10 52 56.6**	**-0.2**	
	comp=Z,0.1nm,0.7s,baz=320,slow=4.5,SNR=2.9								
PPLA	**Purkeypile**	**75.30**	**11**	*e*P	**P**		**10 53 04.2**	**+0.7**	
	comp=Z,2.9nm,1.0s								
RIDG	**Independ'e Rid**	**75.38**	**7**	*e*P	**P**		**10 53 04.8**	**+0.9**	
	comp=Z,2.7nm,1.2s								
DAWY	**Dawson**	**75.51**	**5**	*e*P	**P**		**10 53 04.9**	**+0.3**	
	comp=Z,0.8nm,0.9s								
DOT	**Dot Lake**	**75.55**	**7**	*e*P	**P**		**10 53 04.6**	**-0.3**	
	comp=Z,0.4nm,0.7s								
YKA	**Yellowknife Ar**	**76.84**	**353**	P	**P**		**10 53 11.7**	**-0.5**	
	comp=Z,0.3nm,0.5s,baz=8.5,slow=5.6,SNR=9.7								
YKB5	**Yellowknife Ar**	**76.84**	**353**	*e*P	**P**		**10 53 12.1**	**0.0**	
FCC	**Fort Churchill**	**77.14**	**342**	*e*P	**P**		**10 53 14.9**	**+1.0**	
	comp=Z,1.4nm,1.1s								
FCC	**Fort Churchill**	**77.14**	**342**	*e*P	**P**		**10 53 14.9**	**+1.0**	
FCC				pmax	pmax				
	comp=Z,1.0nm,1.1s								
KNK	**Knik Glacier**	**77.23**	**10**	*e*P	**P**		**10 53 15.5**	**+1.1**	
	comp=Z,4.1nm,0.8s								
RC01	**Rabbit Creek A**	**77.37**	**10**	*e*P	**P**		**10 53 15.9**	**+0.7**	
	comp=Z,1.6nm,0.7s								
KLU	**Klutina**	**77.46**	**8**	*e*P	**P**		**10 53 16.6**	**+0.8**	
	comp=Z,2.9nm,1.1s								
BATI	**Baumata**	**83.26**	**109**	LR	LR		11 35 28.5		
	comp=Z,188nm,21.2s,baz=134,slow=39								

IDC 10 10:58:14.8±1.7, 0°09N×125°82E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/57, mbtmp3.6/3, Error ellipse: s-maj=163.0km s-min=23.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.59**	**158**	P	P	11 03 06.0	-0.4
	0.6nm,0.3s,baz=335,slow=11,SNR=26						
ASAR	**Alice Springs**	**24.89**	**162**	P	P	11 03 39.9	+0.3
	0.5nm,0.4s,baz=344,slow=7.7,SNR=20						
MKAR	**Makanchi Array**	**60.05**	**327**	P	P	11 08 23.6	-0.1
	0.5nm,0.4s,baz=126,slow=7.9,SNR=16						

IDC 10 11:12:40.9±7.9, 15°42S×179°71W, h509km±94km, mb2.9/4, mb1 3.2/5, mb1mx2.9/27, mbtmp3.9/5, Error ellipse: s-maj=121.4km s-min=36.6km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.69**	**241**	P	P	11 15 47.9	+0.1
	0.6nm,0.3s,baz=68,slow=15,SNR=6.8						
STKA	**Stephens Creek**	**38.81**	**238**	P	P	11 19 21.8	+0.1
	1.3nm,0.7s,baz=86,slow=5.6,SNR=6.3						
WRA	**Warramunga Arr**	**43.91**	**257**	P	P	11 20 01.6	-0.8
	0.4nm,0.8s,baz=94,slow=8.5,SNR=7.9						
ASAR	**Alice Springs**	**44.32**	**252**	P	P	11 20 05.8	+0.2
	2.7nm,0.5s,baz=84,slow=8.5,SNR=84						
PDAR	**Pinedale Array**	**86.42**	**44**	P	P	11 24 29.4	-0.1
	0.2nm,0.5s,baz=232,slow=4.4,SNR=2.8						

*ISCJB **10** 11:13:55.6±0.9, 38°65N×0°04×43°4E±0°1, h26km±6km, Error ellipse: s-maj=14.9km s-min=6.5km az=12.3*
*DDA **10** 11:13:55.9, 38°69N×43°32E, h7km±2km, ML2.9*
*ISK **10** 11:13:55.0, 38°68N×43°41E, h19km, ML1.9/5*

ISC 10 11:13:56.0±1.2, 38°70N±0°03×43°36E±0°05, h15km±12km, n8, σ0°58/12, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.11**	**169**	PG	**Pb**	**11 13 59.9**	**0.0**
VANB				SG	**Sb**	**11 14 03.6**	**+1.1**
TVAN	**Van**	**0.18**	**169**	*i* P	**Pg**	**11 14 00.7**	**+0.2**
TVAN				*i* S	**Sb**	**11 14 04.1**	**-0.5**
TVAN				IAML_P			
	comp=Z,23μm,0.1s						
VMUR	**Van-Muradiye**	**0.33**	**29**	*i* P	**Pb**	**11 14 03.9**	**+0.2**
VMUR				*i* S	**Sb**	**11 14 09.2**	**+0.2**
VMUR				IAML_P			
	comp=Z,654nm,0.1s						
AKDM	**Akdamar-Van**	**0.48**	**219**	PG	**Pg**	**11 14 05.3**	**-0.3**
CLDR	**Caldiran**	**0.62**	**44**	PG	**Pg**	**11 14 07.5**	**-0.7**
TUTA	**Tutak**	**0.82**	**329**	*i* P	**Pg**	**11 14 12.0**	**0.0**
TUTA				*i* S	**Sb**	**11 14 23.7**	**+0.6**
TUTA				IAML_P			
	comp=Z,2μm,0.2s						
AGRB	**Hanur-Agry**	**0.92**	**342**	PG	**Pg**	**11 14 13.9

	6.0nm,0.8s								
WRA	**Warramunga Arr**	**44.24**	**259**	P	**P**	**11 22 17.3**	**-1.3**		
	1.7nm,0.3s,baz=86,slow=8.1,SNR=154								
WRA				S	**S**	**11 28 08.0**	**-5.2**		
	1.0nm,0.9s,baz=86,slow=13,SNR=3.8								
AS01	**Alice Springs**	**44.41**	**254**	*eP*	**P**	**11 22 19.2**	**-0.7**		
AS31	**Alice Springs**	**44.45**	**254**	*eP*	**P**	**11 22 20.0**	**-0.3**		
	9.7nm,0.7s								
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**11 22 19.9**	**-0.3**		
	19nm,0.3s,baz=88,slow=7.8,SNR=272								
ASAR				S	**S**	**11 28 13.1**	**-3.2**		
	5.4nm,1.0s,baz=87,slow=17,SNR=30								
GUMO	**Guam**	**47.17**	**308**	P	**P**	**11 22 40.0**	**-0.9**		
	180nm,1.1s,baz=168,slow=15,SNR=3.5								
MTN	**Manton Dam**	**48.32**	**268**	*eP*	**P**	**11 22 49.3**	**-0.3**		
	18nm,0.8s								
FORT	**Forrest**	**49.78**	**244**	*eP*	**P**	**11 22 59.7**	**-0.5**		
	24nm,0.7s								
FITZ	**Fitzroy Crossi**	**52.62**	**260**	*eP*	**P**	**11 23 21.3**	**+0.3**		
	4.9nm,0.8s								
SOEI	**Soe**	**55.57**	**270**	*eP*	**P**	**11 23 43.7**	**+1.7**		
	32nm,0.9s								
MBWA	**Marble Bar**	**57.72**	**256**	*eP*	**P**	**11 23 56.1**	**-0.4**		
	9.1nm,0.8s								
MORW	**Morawa**	**60.23**	**246**	*eP*	**P**	**11 24 12.7**	**-0.5**		
	6.5nm,0.8s								
SBA	**Scott Base**	**60.90**	**183**	*eP*	**P**	**11 24 18.6**	**+1.9**		
	15nm,1.0s								
VNDA	**Vanda**	**60.91**	**185**	*eP*	**P**	**11 24 17.9**	**+1.2**		
	4.3nm,0.9s								
VNDA	**Vanda**	**60.91**	**185**	P	**P**	**11 24 17.3**	**+0.5**		
	3.3nm,0.9s,baz=352,slow=6.7,SNR=14								
MJAR	**Matsushiro Arr**	**67.20**	**324**	P	**P**	**11 24 57.2**	**-0.3**		
	7.5nm,0.6s,baz=159,slow=6.3,SNR=23								
MAJO	**Matsushiro**	**67.20**	**324**	*eP*	**P**	**11 24 57.7**	**+0.3**		
	12nm,0.8s								
MAT	**Matsushiro**	**67.20**	**324**	P	**P**	**11 24 57.4**	**-0.1**		
MJB9	**Matsu-Tunnel**	**67.21**	**324**	*eP*	**P**	**11 24 57.8**	**+0.3**		
	13nm,0.8s								
NIKH	**Nikolski High**	**70.62**	**6**	*eP*	**P**	**11 25 16.3**	**-1.2**		
	59nm,0.9s								
SSLB	**Suanglung**	**71.54**	**303**	*eP*	**P**	**11 25 23.4**	**-0.3**		
	10nm,1.1s								
TPUB	**Ta-pu**	**71.57**	**303**	*eP*	**P**	**11 25 23.7**	**-0.2**		
	20nm,0.8s								
UNV	**Unalaska Valle**	**71.75**	**8**	*eP*	**P**	**11 25 23.6**	**-0.6**		
	22nm,1.1s								
QSPA	**South Pole Qui**	**72.65**	**180**	*eP*	**P**	**11 25 30.2**	**+0.6**		
	27nm,1.1s								
QSPA	**South Pole Qui**	**72.65**	**180**	P	**P**	**11 25 29.8**	**+0.3**		
	11nm,0.7s,baz=349,slow=0.6,SNR=48								
PEA0B	**Petropavlovsk-**	**73.06**	**346**	*eP*	**P**	**11 25 32.2**	**+0.4**		
	20nm,1.1s								
PETK	**Petropavlovsk-**	**73.06**	**346**	*eP*	**P**	**11 25 32.2**	**+0.4**		
PETK	**Petropavlovsk-**	**73.06**	**346**	P	**P**	**11 25 31.9**	**+0.1**		
	10nm,0.8s,baz=137,slow=10,SNR=13								
KSRS	**Korea Array**	**73.99**	**319**	P	**P**	**11 25 38.4**	**+1.0**		
	1.9nm,0.9s,baz=127,slow=8.2,SNR=3.8								
KSAR	**Wonju Array Be**	**74.01**	**318**	P	**P**	**11 25 38.4**	**+0.9**		
CHGN	**Chignik**	**75.42**	**12**	*eP*	**P**	**11 25 45.0**	**0.0**		
	31nm,1.1s								
USRK	**Ussuriysk Ar.**	**75.92**	**326**	P	**P**	**11 25 49.8**	**+1.8**		
	1.3nm,0.6s,baz=106,slow=5.7,SNR=3.2								
CMB	**Columbia Colle**	**77.81**	**44**	*eP*	**P**	**11 25 59.6**	**+1.0**		
	4.3nm,0.9s								
KDAK	**Kodiak Island**	**78.03**	**14**	*eP*	**P**	**11 25 59.8**	**+0.6**		
	26nm,1.1s								
YBH	**Yreka Blue Hor**	**78.45**	**39**	*eP*	**P**	**11 26 03.6**	**+1.6**		
	3.3nm,0.8s								
MDPB	**Devils Postpil**	**78.46**	**44**	*eP*	**P**	**11 26 04.0**	**+1.6**		
	4.3nm,0.8s								
WAKR	**Walker**	**78.69**	**44**	*eP*	**P**	**11 26 05.2**	**+1.6**		
	3.9nm,0.8s								
HUMO	**Hull Mountain**	**78.81**	**39**	*eP*	**P**	**11 26 05.7**	**+1.8**		
	3.2nm,1.0s								
PNTR	**Pine Nut**	**78.91**	**43**	*eP*	**P**	**11 26 05.9**	**+1.2**		
	9.4nm,0.7s								
VCNR	**Virginia City**	**78.99**	**43**	*eP*	**P**	**11 26 06.1**	**+1.0**		
	3.0nm,0.8s								
YERR	**Yerington**	**79.08**	**43**	*eP*	**P**	**11 26 06.7**	**+1.0**		
	6.3nm,0.7s								
NV01	**Mina Array Sit**	**79.40**	**44**	*eP*	**P**	**11 26 08.6**	**+1.2**		
NVAR	**Mina Array Bea**	**79.40**	**44**	P	**P**	**11 26 08.2**	**+0.8**		
	3.3nm,0.7s,baz=225,slow=9.2,SNR=26								
NV11	**Mina Array Sit**	**79.50**	**44**	*eP*	**P**	**11 26 05.8**	**-2.0**		
	0.3nm,0.9s								
KVN	**Kaiserville**	**79.87**	**44**	*eP*	**P**	**11 26 09.0**	**-0.8**		
	2.8nm,0.7s								
MOD	**Modoc Plateau**	**80.02**	**40**	*eP*	**P**	**11 26 11.4**	**+1.0**		
	4.5nm,0.8s								
BRLK	**Bradley Lake**	**80.20**	**14**	*eP*	**P**	**11 26 10.9**	**+0.1**		
	19nm,1.2s								
RSO	**Redoubt South**	**80.42**	**13**	*eP*	**P**	**11 26 11.9**	**-0.2**		
SVW2	**Sparrevohn**	**80.44**	**11**	*eP*	**P**	**11 26 11.5**	**-0.5**		
	3.7nm,0.8s								
PINE	**Pine Mountain**	**80.70**	**38**	*eP*	**P**	**11 26 15.4**	**+1.4**		
	7.6nm,0.9s								
SEW	**Seward**	**80.84**	**14**	*eP*	**P**	**11 26 13.7**	**-0.3**		
	16nm,1.1s								
GAMB	**Gambell**	**81.11**	**3**	*eP*	**P**	**11 26 14.8**	**-0.5**		
	5.8nm,0.8s								
NLWA	**Neilton Lookou**	**81.17**	**34**	*eP*	**P**	**11 26 17.3**	**+1.2**		
	5.2nm,1.1s								
BMN	**Battle Mountai**	**81.17**	**43**	*eP*	**P**	**11 26 17.1**	**+0.6**		
	4.3nm,0.9s								
WVOR	**Wild Horse Val**	**81.34**	**41**	*eP*	**P**	**11 26 18.2**	**+0.9**		
	6.3nm,1.0s								
I07A	**Izee**	**81.72**	**39**	*eP*	**P**	**11 26 20.2**	**+1.0**		
	4.3nm,0.8s								
SUA	**Susitna One**	**81.75**	**13**	*eP*	**P**	**11 26 18.6**	**-0.3**		
	14nm,1.0s								
LON	**Longmire**	**81.91**	**36**	*eP*	**P**	**11 26 20.3**	**+0.3**		
	2.2nm,1.0s								
J08A	**Circle Bar Ran**	**81.95**	**40**	*eP*	**P**	**11 26 21.3**	**+1.0**		
	5.8nm,0.9s								
EYAK	**Cordova Ski Ar**	**82.15**	**16**	*eP*	**P**	**11 26 21.2**	**+0.5**		
	16nm,1.2s								
PGC	**Sidney**	**82.16**	**33**	*eP*	**P**	**11 26 21.9**	**+0.9**		
	4.9nm,0.8s								
KNK	**Knik Glacier**	**82.23**	**14**	*eP*	**P**	**11 26 21.3**	**+0.2**		
	9.0nm,0.9s								
PMR	**Palmer**	**82.23**	**14**	*eP*	**P**	**11 26 20.9**	**-0.2**		
	4.3nm,1.1s								
PSUT	**Pine Spring**	**82.46**	**46**	*eP*	**P**	**11 26 24.2**	**+1.1**		
	3.3nm,0.7s								
U15A	**North Rim**	**82.55**	**48**	*eP*	**P**	**11 26 25.3**	**+1.6**		
	6.0nm,0.8s								
SML	**Sawmill**	**82.60**	**14**	*eP*	**P**	**11 26 23.2**	**+0.2**		
	6.8nm,1.0s								
ELK	**Elko**	**82.63**	**43**	*eP*	**P**	**11 26 25.2**	**+1.2**		
	2.6nm,0.8s								
DIV	**Divide**	**82.64**	**16**	*eP*	**P**	**11 26 23.4**	**+0.1**		
	9.4nm,0.7s								
G08A	**Pilot Rock**	**82.72**	**38**	*eP*	**P**	**11 26 25.4**	**+1.3**		
	4.9nm,0.9s								
PPLA	**Purkeypile**	**82.74**	**12**	*eP*	**P**	**11 26 23.6**	**-0.2**		
	3.2nm,0.8s								
LTY	**Liberty**	**82.84**	**36**	*eP*	**P**	**11 26 24.8**	**+0.1**		
	5.0nm,1.0s								
SCM	**Sheep Creek Mo**	**82.86**	**15**	*eP*	**P**	**11 26 24.4**	**0.0**		
	16nm,0.7s								
KLU	**Klutina**	**82.91**	**15**	*eP*	**P**	**11 26 24.6**	**-0.1**		
CRQM	**Cirque**	**83.03**	**17**	*eP*	**P**	**11 26 25.2**	**-0.1**		
	18nm,1.0s								
CAST	**Castle Rocks**	**83.23**	**12**	*eP*	**P**	**11 26 25.1**	**-1.0**		
	12nm,0.7s								
BCPM	**Bancas Point**	**83.39**	**19**	*eP*	**P**	**11 26 25.9**	**-1.1**		
	9.4nm,1.1s								
BMO	**Blue Mountains**	**83.46**	**39**	*eP*	**P**	**11 26 28.7**	**+0.8**		
	1.6nm,0.7s								
BALM	**Baldy**	**83.48**	**17**	*eP*	**P**	**11 26 27.6**	**0.0**		
	8.8nm,0.8s								
TRF	**Thorofare Moun**	**83.62**	**13**	*eP*	**P**	**11 26 27.6**	**-0.7**		
	14nm,0.8s								
HARP	**HAARP**	**83.88**	**15**	*eP*	**P**	**11 26 29.9**	**+0.4**		
	14nm,0.8s								
RND	**Reindeer**	**83.89**	**13**	*eP*	**P**	**11 26 29.5**	**+0.1**		
	13nm,0.8s								
BPAW	**Bear Paw Mtn.**	**84.06**	**12**	*eP*	**P**	**11 26 29.0**	**-1.2**		
	3.3nm,0.8s								
F10A	**Beach Ranch, E**	**84.11**	**38**	*eP*	**P**	**11 26 30.9**	**-0.1**		
	4.7nm,0.9s								
MCK	**McKinley**	**84.16**	**13**	*eP*	**P**	**11 26 30.6**	**-0.1**		
	7.9nm,0.8s								
B08A	**Colville Reser**	**84.21**	**35**	*eP*	**P**	**11 26 31.4**	**+0.1**		
	3.6nm,0.8s								
BWN	**Browne**	**84.43**	**13**	*eP*	**P**	**11 26 32.1**	**+0.1**		
	12nm,1.0s								
MENT	**Mentasta**	**84.69**	**15**	*eP*	**P**	**11 26 33.9**	**+0.5**		
	5.3nm,0.9s								
HYT	**Haines Junctio**	**84.74**	**19**	*eP*	**P**	**11 26 34.4**	**+0.6**		
	6.0nm,1.0s								
MLY	**Manley**	**84.94**	**12**	*eP*	**P**	**11 26 33.7**	**-0.9**		
	2.9nm,0.9s								
WRH	**Wood River Hil**	**84.99**	**13**	*eP*	**P**	**11 26 34.4**	**-0.4**		
	7.8nm,1.0s								
RIDG	**Independ'e Rid**	**85.09**	**14**	*eP*	**P**	**11 26 35.7**	**+0.4**		
	8.6nm,1.0s								
HDA	**Harding Lake**	**85.18**	**13**	*eP*	**P**	**11 26 35.4**	**-0.3**		
	5.3nm,0.8s								
CCB	**Clear Creek Bu**	**85.20**	**13**	*eP*	**P**	**11 26 35.0**	**-0.7**		
	3.9nm,0.9s								
DOT	**Dot Lake**	**85.20**	**15**	*eP*	**P**	**11 26 36.0**	**+0.2**		
	5.8nm,0.7s								
IM3	**Indian Mountai**	**85.27**	**10**	*eP*	**P**	**11 26 35.7**	**-0.3**		
MDM	**Murphy Dome**	**85.38**	**13**	*eP*	**P**	**11 26 35.5**	**-1.1**		
	5.5nm,1.1s								
WHY	**Whitehorse**	**85.45**	**20**	*eP*	**P**	**11 26 37.7**	**+0.5**		
	3.8nm,0.9s								
SCRK	**Sand Creek**	**85.50**	**15**	*eP*	**P**	**11 26 37.1**	**-0.3**		
	4.1nm,0.9s								
IL1	**Eielson Array**	**85.51**	**13**	*eP*	**P**	**11 26 36.2**	**-1.0**		
ILAR	**Eielson Array**	**85.51**	**13**	P	**P**	**11 26 36.3**	**-1.0**		
	1.7nm,0.4s,baz=223,slow=5.2,SNR=38								
ILB	**Eielson Array**	**85.51**	**13**	*eP*	**P**	**11 26 36.5**	**-0.8**		
	2.7nm,0.6s								
XAN	**Xi'an**	**85.56**	**308**	P	**P**	**11 26 39.7**	**+1.4**		
XAN				pmax	pmax				
	comp=Z,10.0nm,0.9s								
BILL	**Bilibino**	**85.88**	**354**	*eP*	**P**	**11 26 39.1**	**+0.2**		
	comp=Z,6.8nm,0.7s								
TX31	**Lajitas Ar. Si**	**86.14**	**58**	*eP*	**P**	**11 26 43.2**	**+2.0**		
	comp=Z,3.1nm,1.0s								
TXAR	**Lajitas Array**	**86.14**	**58**	P	**P**	**11 26 42.4**	**+1.1**		
	comp=Z,1.4nm,0.8s,baz=215,slow=6.2,SNR=14								
MCMT	**McKenzie Canyo**	**86.18**	**41**	*eP*	**P**	**11 26 43.0**	**+1.8**		
HHC	**Hu-ho-hao-te**	**86.56**	**315**	*eP*	**P**	**11 26 44.0**	**+1.0**		
HHC				pmax	pmax				
	comp=Z,15nm,0.9s								
HHC				pmax	pmax				
	comp=Z,200nm,8.2s								
DLMT	**Dillon**	**86.59**	**40**	*eP*	**P**	**11 26 44.3**	**+1.3**		
	comp=Z,4.5nm,0.9s								
DAWY	**Dawson**	**86.74**	**16**	*eP*	**P**	**11 26 43.9**	**+0.7**		
	comp=Z,1.9nm,0.8s								
REDW	**Red Top Meadow**	**86.75**	**43**	*eP*	**P**	**11 26 44.8**	**+0.8**		
	comp=Z,4.9nm,1.0s								
FXWY	**Fox Creek**	**86.77**	**42**	*eP*	**P**	**11 26 45.6**	**+1.6**		
	comp=Z,2.0nm,0.8s								
EGAK	**Eagle**	**86.86**	**15**	*eP*	**P**	**11 26 43.9**	**+0.3**		
	comp=Z,2.7nm,0.6s								
IMW	**Indian Meadow**	**86.94**	**42**	*eP*	**P**	**11 26 46.5**	**+1.6**		
	comp=Z,4.9nm,0.8s								
MOOW	**Moose Ponds**	**87.00**	**42**	*eP*	**P**	**11 26 46.5**	**+1.3**		
	comp=Z,2.8nm,1.0s								
LOHW	**Long Hollow**	**87.03**	**43**	*eP*	**P**	**11 26 46.5**	**+1.2**		
	comp=Z,2.2nm,0.8s								
KMI	**Kunming**	**87.16**	**297**	P	**P**	**11 26 45.5**	**-0.8**		
KMI				pmax	pmax				
	comp=Z,17nm,0.5s								
BW06	**Boulder Array**	**87.33**	**44**	*eP*	**P**	**11 26 47.4**	**+0.7**		
	comp=Z,2.2nm,0.9s								
PD31	**Pinedale Array**	**87.33**	**44**	*eP*	**P**	**11 26 47.5**	**+0.8**		
PDAR	**Pinedale Array**	**87.33**	**44**	*eP*	**P**	**11 26 47.5**	**+0.8**		
PDAR	**Pinedale Array**	**87.33**	**44**	P	**P**	**11 26 46.9**	**+0.2**		
	comp=Z,1.5nm,0.6s,baz=220,slow=3.3,SNR=16								
CMAR	**Chiang Mai Arr**	**88.25**	**290**	P	**P**	**11 26 51.6**	**+0.4**		
	comp=Z,0.8nm,0.4s,baz=124,slow=3.4,SNR=6.3								
CD2	**Chengdu**	**88.38**	**303**	*eP*	**P**	**11 26 52.3**	**+0.7**		
CD2				pmax	pmax				
	comp=Z,50nm,1.1s								
CD2				pmax	pmax				
	comp=Z,140nm,4.7s								
TOLK	**Toolik Lake Re**	**88.38**	**10**	*eP*	**P**	**11 26 50.9**	**+0.2**		
	comp=Z,1.8nm,0.9s								
RLMT	**Red Lodge**	**88.56**	**42**	*eP*	**P**	**11 26 54.5**	**+2.1**		
SYO	**Syowa Base**	**89.54**	**193**	⇑*eX*	P	**11 26 51.4**	**-4.8**		
SNAA	**Sanae**	**91.11**	**179**	P	**P**	**11 27 02.9**	**-0.7**		
SNAA	**Sanae**	**91.11**	**179**	*eP*	**P**	**11 27 03.4**	**-0.3**		
	comp=Z,4.8nm,0.8s								
VNA3	**Neumayer Olymp**	**91.28**	**177**	P	**P**	**11 27 04.1**	**-0.2**		
INK	**Inuvik**	**91.53**	**15**	*eP*	**P**	**11 27 04.5**	**-0.7**		
	comp=Z,3.4nm,1.0s								
VNA2	**Neumayer--Watz**	**91.71**	**177**	P	**P**	**11 27 06.2**	**-0.1**		
	baz=180,slow=2.8								
SONM	**Songshan Array**	**92.84**	**319**	P	**P**	**11 27 12.1**	**+0.1**		
	comp=Z,0.4nm,0.5s,baz=143,slow=5.0,SNR=2.6								
YKA	**Yellowknife Ar**	**94.08**	**25**	P	**P**	**11 27 16.6**	**-0.4**		
	comp=Z,1.4nm,0.7s,baz=247,slow=4.4,SNR=26								
YKB5	**Yellowknife Ar**	**94.08**	**25**	*eP*	**P**	**11 27 17.0**	**-0.1**		
EMPR	**Esperanza - Ma**	**116.04**	**78**	*e*PKPdf	**PKPdf**	**11 32 38.6**	**-0.7**		
ARU	**Arti**	**122.15**	**326**	*e*PKPdf	**PKPdf**	**11 32 49.9**	**-0.1**		
ARCES	**ARCESS Array B**	**125.73**	**350**	PKP	**PKPdf**	**11 32 56.1**	**-0.4**		
	comp=Z,7.1nm,1.1s,baz=5.2,slow=2.0,SNR=4.5								
FINES	**FINESS Array B**	**132.56**	**344**	PKP	**PKiKP**	**11 33 10.6**	**-0.3**		
	comp=Z,2.2nm,0.9s,baz=113,slow=3.2,SNR=3.8								
KWP	**Kolwaria Array**	**143.41**	**336**	*e*PKPdf	PKPbc	11 33 28.7	+0.4		
BUR08	**Bucovina Ar. S**	**143.92**	**332**	*e*PKPbc	PKPab	11 33 30.5	+0.2		
OJC	**Ojcow**	**143.96**	**339**	*e*PKPbc	PKPbc	11 33 30.2	+0.1		
BR131	**Keskin Array S**	**144.07**	**315**	*e*PKPbc	PKPbc	11 33 30.8	-0.1		
BRTR	**Keskin Array B**	**144.07**	**315**	PKP	PKPbc	11 33 30.8	-0.2		
	comp=Z,1.0nm,0.5s,baz=125,slow=4.2,SNR=10								
UPC	**Upice**	**144.86**	**343**	*e*PKP	**PKPab**	**11 33 33.7**	**+0.1**		
DPC	**Dobruska-Polom**	**144.92**	**343**	*e*PKP	**PKPdf**	**11 33 32.5**	**0.0**		
LANS	**Liptovska Anna**	**144.99**	**339**	*e*PKP	**PKPab**	**11 33 34.5**	**+0.3**		
KRLC	**Kraliky**	**145.03**	**342**	*e*PKP	**PKPbc**	**11 33 33.6**	**+0.2**		
MORC	**Moravsky Berou**	**145.07**	**341**	*e*PKPdf	**PKPbc**	**11 33 33.9**	**+0.4**		
MORC	**Moravsky Berou**	**145.07**	**341**	*e*PKP	**PKPbc**	**11 33 34.0**	**+0.4**		
MLR	**Muntele Rosu**	**145.14**	**329**	*e*PKPdf	**PKPab**	**11 33 34.7**	**-0.4**		
PVCC	**Panska Ves**	**145.22**	**345**	*e*PKP	**PKPab**	**11 33 34.7**	**-0.3**		
PRU	**Pruhonice**	**145.72**	**345**	*e*PKP	**PKPbc**	**11 33 35.9**	**+0.5**		
GOPC	**GO Pecny, Ondr**	**145.73**	**344**	*e*PKP	**PKiKP**	**11 33 38.0**	**-0.2**		
VYHS	**Vyhne**	**145.77**	**339**	*e*PKP	**PKPbc**	**11 33 36.1**	**+0.5**		
VRAC	**Vranov**	**145.77**	**342**	*e*PKP	**PKPbc**	**11 33 36.4**	**+0.8**		
JAVC	**Velka Javorina**	**145.84**	**340**	*e*PKP	**PKPab**	**11 33 37.2**	**-0.3**		
NKC	**Novy Kostel**	**145.99**	**347**	*e*PKP	**PKPbc**	**11 33 36.8**	**+0.6**		
KRUC	**Moravsky**	**146.05**	**342**	*e*PKP	**PKPbc**	**11 33 36.6**	**+0.3**		
CSS	**Mathiatis**	**146.38**	**308**	*e*PKPbc	**PKPbc**	**11 33 37.3**	**-0.4**		
MODS	**Modra-Piesok**	**146.39**	**340**	*e*PKP	**PKPbc**	**11 33 38.3**	**+1.0**		
KHC	**Kasperske Hory**	**146.76**	**345**	*e*PKPbc	**PKPbc**	**11 33 38.7**	**+0.3**		
KHC	**Kasperske Hory**	**146.76**	**345**	*e*PKP	**PKPbc**	**11 33 38.8**	**+0.5**		
SNF	**Seneffe**	**146.87**	**356**	⇓PKPbc	**PKPbc**	**11 33 38.8**	**+0.3**		
SNF				⇑PKPab	**PKPab**	**11 33 41.1**	**-0.3**		
BCLA	**Clavier**	**146.88**	**355**	⇓PKP	**PKPab**	**11 33 41.1**	**-0.5**		
CONA	**Conrad Observa**	**147.23**	**342**	*e*PKiKP	**PKPbc**	**11 33 40.2**	**+0.5**		
	comp=Z,5.0nm,0.7s								
DOU	**Dourbes**	**147.26**	**356**	⇑PKP	**PKPbc**	**11 33 39.8**	**+0.2**		
WLF	**Walferdange**	**147.55**	**354**	*e*PKPbc	**PKiKP**	**11 33 41.8**	**-0.1**		
WLF	**Walferdange**	**147.55**	**354**	⇑PKiKP	**PKiKP**	**11 33 41.5**	**-0.4**		
MOA	**Molln**	**147.76**	**343**	*e*PKPbc	**PKPbc**	**11 33 41.2**	**+0.3**		
	comp=Z,3.9nm,1.1s								
ARSA	**Arzberg**	**147.93**	**341**	*e*PKPbc	**PKPbc**	**11 33 40.8**	**-0.6**		
	comp=Z,1.0nm,0.5s								
BFO	**Black Forest**	**148.58**	**351**	*e*PKPbc	**PKPbc**	**11 33 43.4**	**+0.4**		
PERS	**Pernice**	**148.61**	**341**	*i* PKPbc	**PKPbc**	**11 33 43.1**	**-0.1**		
KBA	**Koelnbreinsper**	**148.72**	**344**	*e*PKPbc	**PKPbc**	**11 33 43.2**	**-0.4**		
	comp=Z,1.1nm,0.4s								
WATA	**Walderalm**	**148.91**	**346**	*e*PKPbc	**PKPbc**	**11 33 43.9**	**-0.2**		
	comp=Z,1.6nm,0.4s								
DIVS	**Divibare**	**148.96**	**333**	*e*PKPbc	**PKPbc**	**11 33 44.5**	**+0.3**		
MOTA	**Moosalm**	**149.01**	**347**	*e*PKiKP	**PKPbc**	**11 33 44.4**	**+0.2**		
	comp=Z,2.7nm,0.4s								
MYKA	**Terra Mystica**	**149.05**	**343**	*e*PKPbc	**PKPbc**	**11 33 44.0**	**-0.3**		
	comp=Z,2.4nm,0.4s								
SQTA	**Sankt Quirin**	**149.11**	**346**	*e*PKiKP	**PKPbc**	**11 33 44.7**	**+0.3**		
	comp=Z,2.6nm,0.5s,SNR=5.2								
ABTA	**Abfaltersbach**	**149.24**	**345**	*e*PKPbc	**PKPbc**	**11 33 44.4**	**-0.4**		
	comp=Z,5.6nm,0.6s,SNR=8.8								
FETA	**Feichten**	**149.40**	**347**	*e*PKiKP	**PKPbc**	**11 33 45.2**	**0.0**		
	comp=Z,4.0nm,0.9s,SNR=4.8								
VISS	**Visnje**	**149.44**	**341**	*i* PKPbc	**PKPbc**	**11 33 45.3**	**+0.1**		
BOJS	**Bojanci**	**149.57**	**340**	*i* PKPbc	**PKiKP**	**11 33 46.4**	**+0.1**		
JAVS	**Javornik**	**149.59**	**342**	*i* PKPbc	**PKPbc**	**11 33 45.4**	**-0.2**		
FUORN	**Ofenpass-Fuorn**	**149.88**	**347**	*e*PKPbc	**PKiKP**	**11 33 46.9**	**-0.2**		
KARP	**Karpathos**	**150.61**	**313**	*e*PKPbc	**PKPbc**	**11 33 48.3**	**0.0**		
LIT	**Litokhoron**	**150.75**	**325**	*e*PKPbc	**PKPbc**	**11 33 47.8**	**-0.6**		
FNA	**Florina**	**150.85**	**327**	*e*PKPbc	**PKPbc**	**11 33 48.1**	**-0.6**		
AGG	**Agios Georgios**	**151.58**	**324**	*e*PKPbc	**PKPbc**	**11 33 49.8**	**-0.5**		
BNI	**Bardonecchia**	**152.03**	**352**	*e*PKPbc	**PKiKP**	**11 33 52.2**	**+0.8**		
BNI				*e*PKPab	**PKPab**	**11 34 04.1**	**+0.9**		
ITM	**Ithomi**	**153.06**	**321**	*e*PKPab	**PKPab**	**11 34 08.3**	**+0.5**		
TOA0	**Torodi Ar. Sit**	**175.73**	**188**	*e*PKPab	**PKPab**	**11 35 48.8**	**+1.2**		
TORD	**Torodi Ar. Bea**	**175.73**	**188**	PKPab	**PKPab**	**11 35 47.1**	**-0.5**		

comp=Z,0.5nm,0.6s,baz=182,slow=6.1,SNR=2.7

ISK 10 11:21:18.8, 37.15N×27.89E, h24km, ML1.7/5, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.32**	**93**	PG	Pb	11 21 26.6	+0.6
YER				SG	Sb	11 21 32.0	+1.0
BDRM	**Kayabasi**	**0.36**	**256**	*i* P	Pb	11 21 27.3	+0.5
BDRM				*i* S	Sn	11 21 34.6	-0.5
BDRM				IAML_P			
	comp=Z,79nm,0.1s						
BODT	**Bodrum**	**0.47**	**259**	PG	Pb	11 21 28.9	+0.4
BODT				SG	Sn	11 21 36.5	-1.1
DAT	**Datca**	**0.49**	**210**	PG	Pn	11 21 29.7	-0.7
AYDN	**Tasoluk**	**0.51**	**359**	*i* P	Pn	11 21 30.2	-0.5
AYDN				*i* S	Sn	11 21 37.5	-1.1
AYDN				IAML_P			
	comp=Z,835nm,0.1s						
TURN	**Turunc**	**0.64**	**116**	PG	Pb	11 21 28.8	-2.5
AYDB	**Zeytinkoy-Aydi**	**0.79**	**0**	PG	Pn	11 21 34.9	+0.3

MEX 10 11:27:34.6±0.5, 16.58N×98.92W, h23km±6km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.78**	**104**	*eP*	Pb	11 27 47.0	-2.6
PNIG				*i* S	Sb	11 27 56.9	-3.0
TLIG	**Tlapa**	**1.03**	**19**	*eP*	Pn	11 27 50.5	-3.3
TLIG				*i* S	Sb	11 28 03.1	-3.9
CAIG	**El Cayaco**	**1.37**	**290**	*eP*	Pn	11 27 55.7	-2.6
MEIG	**

JAR	Ashorobuto	1.32	285	P	Pn	11 43 21.6	+0.2
JTKR	Abashiri--Toko	1.54	311	P	Pn	11 43 25.0	+0.6
KUR	Kuril'sk	2.83	36	*e*P	Pn	11 43 43.0	+1.0
KUR	18nm,0.3s			AMB	AMB	11 43 44.0	
KUR	20nm,0.3s			AMB	AMB	11 43 44.0	
KUR	37nm,0.3s			AMB	AMB	11 43 44.0	
KUR				*e*S	Sn	11 44 14.4	-0.4
KUR	98nm,0.3s			A	A	11 44 20.0	
KUR	185nm,0.3s			A	A	11 44 20.0	

IDC 10 11:47:54.8±2.2, 45.10N×151.70E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.3/55, mbtmp3.6/4, ML3.0/2, MS3.7/2, Ms1 3.7/2, ms1mx2.8/43, Error ellipse: s-maj=71.9km s-min=34.6km az=157.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	6.58	265	Pn	Pn	11 49 33.0	+0.3
ASAJ	0.5nm,0.3s,baz=76,slow=18,SNR=5.2			Sn	Sb	11 51 01.8	-7.3
PETK	0.2nm,0.3s,baz=83,slow=11,SNR=2.2 Petropavlovsk-	8.93	24	Pn	Pn	11 50 07.0	+2.0
H11N2	0.4nm,0.3s,baz=209,slow=41,SNR=12 WAKE ISLAND Hy 28.26	149		T	T	12 24 39.4	
H11N1	baz=337,slow=76,SNR=51 WAKE ISLAND Hy 28.27	149		T	T	12 24 39.4	
H11N3	baz=337,slow=76,SNR=42 WAKE ISLAND Hy 28.28	149		T	T	12 24 39.4	
H11S1	baz=337,slow=76,SNR=38 WAKE ISLAND Hy 29.31	150		T	T	12 25 58.4	
H11S3	baz=338,slow=76,SNR=48 WAKE ISLAND Hy 29.32	150		T	T	12 25 59.0	
H11S2	baz=338,slow=76,SNR=38 WAKE ISLAND Hy 29.33	150		T	T	12 25 58.4	
YKA	baz=338,slow=76,SNR=38 Yellowknife Ar	52.84	36	P	P	11 57 10.2	-1.4
AKTO	0.1nm,0.5s,baz=296,slow=7.4,SNR=3.0 Aktyubinsk	59.10	312	LR	LR	12 24 45.9	
AKASG	comp=Z,78nm,20.2s,baz=156,slow=37 Malin Array Be	72.37	326	LR	LR	12 35 37.4	
TXAR	comp=Z,43nm,18.0s,baz=280,slow=40 Lajitas Array	79.17	59	P	P	12 00 02.2	+0.6
	0.4nm,0.4s,baz=297,slow=4.2,SNR=14						

*NIED **10** 12:09:00.24˚10N×122˚80E,h44km,Mw3.8 Best double couple: M0 6.24000×10^14 NP1:φs311.00000°,δ61.00000°, λ11.00000°. NP2:φs215.00000°,δ80.00000°,λ151.00000°.*
*TAP **10** 12:09:40.5,24˚05N×122˚95E,h48km,ML4.1,C*
*ISCJB **10** 12:09:41.1±0.2,24˚04N±0˚03×122˚92E±0˚02,h49km±5km, mb3.5/5, Error ellipse: s-maj=4.4km s-min=2.4km az=160.1*
*JMA **10** 12:09:41.0±0.1,24˚06N×122˚85E,h46km±4km,M3.6*
*IDC **10** 12:09:43.7±4.5,24˚13N×123˚18E,h60km±40km,mb3.3/5, mb1 3.5/7,mb1mx3.1/47,mbtmp3.5/7,ML2.6/2, Error ellipse: s-maj=35.0km s-min=18.1km az=88.0*

ISC 10 12:09:41.1±1.0, 24˚02N±0˚04×122˚92E±0˚02, h39km±4km, n137, σ1§49/171, mb3.7/5, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.43	3	P	Pn	12 09 50.7	-0.1
JYNG				S	Sn	12 09 57.5	-0.2
YOJ	Yonaguni jima	0.45	11	*e*P	Pn	12 09 51.2	+0.1
YOJ	baz=2.0			*e*S	Sn	12 09 58.1	0.0
YOJ	baz=2.0 Yonaguni jima	0.45	11	P	Pn	12 09 51.1	+0.1
YOJ				S	Sn	12 09 58.0	0.0
IRIF	Iriomote-Funau	0.80	67	P	Pn	12 09 56.7	+0.8
IRIF				S	Sn	12 10 08.6	+2.0
HATJ	Hateruma jima	0.81	87	P	Pn	12 09 57.1	+1.1
HATJ				S	Sn	12 10 09.5	+2.7
EOS1	EOS1	0.90	306	*e*P	Pn	12 09 57.5	+0.4
JKRS	baz=302 Kuro-shima	1.02	78	P	Pn	12 10 00.3	+1.5
JKRS				S	Sn	12 10 15.0	+3.1
TWC	Suao	1.14	301	*i* P	Pn	12 10 00.4	-0.1
TWC	baz=287			S	Sn	12 10 15.2	+0.3
NANB	baz=287 Nanao	1.14	291	*e*P	Pn	12 10 00.5	-0.1
ENA	baz=288 Nanau	1.15	291	*e*P	Pn	12 10 00.6	-0.1
JIJ	baz=288 Ishigaki jima	1.17	73	P	Pn	12 10 01.7	+0.8
JIJ				S	Sn	12 10 17.1	+1.5
HWA	Hwalien	1.21	268	*e*P	Pn	12 10 01.1	-0.3
ENLB	baz=266 Shoufeng	1.21	265	*e*P	Pn	12 10 01.0	-0.5
TWD	baz=263 Chiawan	1.21	273	*e*P	Pn	12 10 00.8	-0.7
EGS	baz=271	1.22	313	*e*P	Pn	12 10 01.6	0.0
NACB	baz=310 Ninganchiao	1.22	277	*e*P	Pn	12 10 01.1	-0.5
NTC	baz=275 Toucheng	1.30	310	P	Pn	12 10 02.8	+0.2
TWB1	baz=307 Santiao Chiao	1.30	319	*e*P	Pn	12 10 02.6	-0.2
ILA	baz=316 Ilan	1.30	305	P	Pn	12 10 03.8	+1.1
ETLH	baz=302 Xiulin Townshi	1.33	278	*e*P	Pn	12 10 02.9	-0.3
TWE	baz=276 Neicheng	1.34	302	*i* P	Pn	12 10 03.8	+0.6
TIPB	baz=299 Shuangxi	1.38	314	P	Pn	12 10 03.8	0.0
ESL	baz=311 Shilin	1.38	262	*e*P	Pn	12 10 02.8	-1.0
ENTT	baz=260 Nioudou	1.38	297	P	Pn	12 10 04.5	+0.6
JISG	baz=294 Ishigakijimahi	1.39	66	P	Pn	12 10 04.5	+0.6
JISG				S	Sn	12 10 21.9	+0.9
NDT	Datong Townshi	1.41	295	P	Pn	12 10 04.8	+0.5
EGFH	baz=281 Guangfu	1.41	256	*e*P	Pn	12 10 03.8	-0.5
NNSB	baz=254 Datong	1.46	286	*e*P	Pn	12 10 05.1	0.0
HGSD	baz=284 Ruisui	1.47	249	*e*P	Pn	12 10 04.2	-0.9
NNS	baz=248 Nan Shan	1.47	287	P	Pn	12 10 05.3	0.0
NWF	baz=284 Wu-fen Shan	1.47	315	*e*P	Pn	12 10 05.2	0.0
WFSB	baz=312 Wu-fen Shan	1.47	315	*e*P	Pn	12 10 05.2	+0.1
NWLT	baz=312 Wulai	1.50	301	P	Pn	12 10 06.4	+0.9
WHF	baz=308 Hehuan Shan	1.52	275	*e*P	Pn	12 10 05.8	-0.3
TWA	baz=273 Mucha	1.55	308	P	Pn	12 10 06.6	+0.4
YHNB	baz=305 Yeheng	1.55	295	*e*P	Pn	12 10 06.8	+0.6
EHY	baz=282 Hungye	1.55	251	P	Pn	12 10 05.8	-0.4
NSK	baz=250 Sanguang	1.57	295	*i* P	Pn	12 10 07.0	+0.5
NHDH	baz=282 Xindian Distri	1.58	307	*e*P	Pn	12 10 06.9	+0.3
CHGB	baz=303 Renai	1.60	272	*e*P	Pn	12 10 07.1	0.0
OWD	baz=270 Renai	1.60	268	*e*P	Pn	12 10 06.9	0.0
TWT	baz=266 Tachien	1.61	279	*e*P	Pn	12 10 07.8	+0.7
YULB	baz=276 Yu-li	1.61	248	*e*P	Pn	12 10 06.6	-0.4
TATO	baz=239 Taipei	1.61	306	*e*P	Pn	12 10 07.1	0.0
TDCB	baz=303 Techi	1.63	279	*e*P	Pn	12 10 07.7	+0.3
TWF1	baz=268 Yuli	1.63	246	*e*P	Pn	12 10 06.9	-0.4
TWF1	baz=237			*e*S	Sn	12 10 25.9	-1.2
	baz=237						
TAP	Taipei	1.64	308	*e*P	Pn	12 10 07.5	+0.2
VWDT	baz=305 VWDT	1.65	261	*e*P	Pn	12 10 07.5	0.0
YM01	baz=260 YM01	1.66	313	*e*P	Pn	12 10 07.7	-0.1
YM11	baz=309 YM11	1.67	313	*e*P	Pn	12 10 08.0	0.0
YM05	baz=298 YM05	1.68	313	*e*P	Pn	12 10 07.8	-0.2
YM08	baz=297 YM08	1.68	314	*e*P	Pn	12 10 07.6	-0.4
YM04	baz=298 YM04	1.69	312	*e*P	Pn	12 10 08.1	0.0
CHKT	baz=309 Chengkung	1.70	238	P	Pn	12 10 07.2	-0.9
CHKT	baz=229			S	Sn	12 10 25.9	-2.7
FULB	baz=229 Fuli	1.70	242	*e*P	Pn	12 10 07.3	-0.9
FULB	baz=233			*e*S	Sn	12 10 27.4	-1.5
ANP	baz=233 Anpu	1.73	313	*e*P	Pn	12 10 09.3	+0.6
TWY	baz=297 Chenhua	1.73	316	*e*P	Pn	12 10 10.8	+2.2
JTJ	baz=313 Tarama	1.74	69	P	Pn	12 10 09.9	+1.2
JTJ				S	Sn	12 10 31.2	+1.5
TWS1	Kuangyinshan	1.74	308	*e*P	Pn	12 10 09.0	+0.2
NTST	baz=305 Danshui	1.76	311	*e*P	Pn	12 10 09.2	+0.1
PCYT	baz=307 Pengchaiyu	1.78	334	*e*P	Pn	12 10 09.9	+0.6
SSLB	baz=322 Suanglung	1.81	263	*e*P	Pn	12 10 09.9	+0.1
WHP	baz=261 Tahung City	1.82	278	*e*P	Pn	12 10 11.7	+1.6
NCU	baz=268 National Centr	1.84	301	*e*P	Pn	12 10 10.8	+0.6
NCUH	baz=298 Zhongli	1.84	301	*e*P	Pn	12 10 10.9	+0.7
LIOB	baz=298 Emei	1.85	290	*e*P	Pn	12 10 09.8	-0.4
NSTT	baz=287 Nanjuang	1.85	290	P	Pn	12 10 11.5	+1.1
SMLT	baz=287 Sun Moon Lake	1.85	266	*e*P	Pn	12 10 11.0	+0.5
YUS	baz=264 Yu-Shan	1.88	254	P	Pn	12 10 11.3	+0.2
YUS	baz=252			*e*S	Sn	12 10 32.3	-1.6
TYC	baz=252 Yuchr	1.89	267	*e*P	Pn	12 10 11.5	+0.6
TYC	baz=264			*e*S	Sn	12 10 34.6	+1.1
WHYT	baz=264 Xinyi Township	1.92	261	*e*P	Pn	12 10 12.0	+0.7
SBCB	baz=259 Hsinchu	1.93	294	*e*P	Pn	12 10 12.4	+1.1
ELDTW	baz=291 Lidau	1.93	245	P	Pn	12 10 11.0	-0.6
TWQ1	baz=244 Liyutan	1.99	280	*e*P	Pn	12 10 13.7	+1.5
NMLH	baz=277 Miaoli	2.01	285	P	Pn	12 10 14.0	+1.5
NSY	baz=283 Sanyi	2.01	282	P	Pn	12 10 14.1	+1.6
WJS	baz=279 Zhushan	2.02	265	*e*P	Pn	12 10 14.7	+2.1
WNT	baz=263 Mingjian	2.05	266	*e*P	Pn	12 10 14.9	+1.8
WNT	baz=264			*e*S	Sn	12 10 39.0	+1.6
TCU	baz=264 Taichung	2.06	274	*e*P	Pn	12 10 14.9	+1.8
TTN	baz=272 Taitung	2.06	233	*e*P	Pn	12 10 14.1	+0.9
TWGBT	baz=232 Beinan	2.07	235	*e*P	Pn	12 10 12.8	-0.6
TWGBT	baz=228			*e*S	Sn	12 10 36.5	-1.4
TWG	baz=228 Pinlang	2.08	235	*e*P	Pn	12 10 12.9	-0.5
TWG	baz=228			*e*S	Sn	12 10 36.6	-1.4
CHN5	baz=228 Tsauling	2.10	259	P	Pn	12 10 15.3	+1.5
CHN5	baz=249			*e*S	Sn	12 10 40.5	+1.8
WDJ	baz=249 Dajia District	2.11	279	*e*P	Pn	12 10 15.4	+1.5
STYT	baz=277 Tauyuan	2.16	247	*e*P	Pn	12 10 15.3	+0.7
WCHH	baz=238 Zhanghua	2.16	272	*e*P	Pn	12 10 16.5	+2.0
WCHH	baz=269			*e*S	Sn	12 10 42.7	+2.6
WGK	baz=269 Gukeng	2.19	262	P	Pn	12 10 16.9	+1.9
WGK	baz=259			*e*S	Sn	12 10 43.4	+2.7
WDLH	baz=259 Douliu	2.21	262	*e*P	Pn	12 10 17.1	+1.9
WDLH	baz=259			*e*S	Sn	12 10 44.6	+3.3
TPUB	baz=259 Ta-pu	2.22	252	*e*P	Pn	12 10 17.0	+1.6
TPUB	baz=243			*e*S	Sn	12 10 42.9	+1.3
CHN4	baz=243 Tsaushan	2.24	253	*e*P	Pn	12 10 17.5	+1.8
CHN4	baz=251			*e*S	Sn	12 10 44.3	+2.3
WTP	baz=251 Ta-pu	2.25	250	*e*P	Pn	12 10 17.3	+1.4
CHN2	baz=241 Minshiung	2.29	258	*e*P	Pn	12 10 18.7	+2.3
CHN2	baz=256			*e*S	Sn	12 10 46.1	+2.7
ECL	baz=256 Taimali	2.30	232	*e*P	Pn	12 10 15.7	-0.7
ECL	baz=241			*e*S	Sn	12 10 41.1	-2.4
JMJ	baz=241 Miyako jima 2	2.30	69	*e*S	Sn	12 10 44.3	+0.6
SLGT	baz=68 Liugui	2.33	244	*e*P	Pn	12 10 18.1	+1.3
LAY	baz=237 Lan-yu	2.34	213	*e*S	Sn	12 10 41.5	-3.1
CHY	baz=222 Chiayi	2.35	258	*e*P	Pn	12 10 19.0	+1.9
RLNB	baz=265 Erlin	2.35	267	*e*P	Pn	12 10 18.8	+1.7
RLNB	baz=274			*e*S	Sn	12 10 47.0	+2.3
CHN1	baz=274 Nanshi	2.35	250	*e*P	Pn	12 10 19.1	+1.9
CHN1	baz=242			*e*S	Sn	12 10 47.2	+2.4
TWK	baz=242 Hsinying	2.35	252	*e*P	Pn	12 10 19.1	+1.9
TWK	baz=250			*e*S	Sn	12 10 47.2	+2.3
SNST	baz=250 Tainan City	2.36	251	*e*P	Pn	12 10 19.4	+2.1
SNST	baz=249			*e*S	Sn	12 10 47.7	+2.6
WTCT	baz=249 Ta-ch'eng	2.42	267	*e*P	Pn	12 10 20.0	+1.9
WTCT	baz=263			*e*S	Sn	12 10 49.0	+2.5
WMLT	baz=263 Mailiao	2.48	266	*e*S	Sn	12 10 51.4	+3.4
TAW	baz=275 Tawu	2.49	229	*e*P	Pn	12 10 18.9	-0.2
WSF	baz=236 Szhu	2.50	262	*e*P	Pn	12 10 20.8	+1.6
EAST	baz=272 Anshuo	2.51	230	*e*P	Pn	12 10 19.1	-0.3
CHN3	baz=237 Shinhua	2.53	249	*e*P	Pn	12 10 22.3	+2.7
CHN3	baz=247			*e*S	Sn	12 10 53.6	+4.5
MASBT	baz=247 Mashibuluo	2.53	237	*e*P	Pn	12 10 20.2	+0.6
CHN8	baz=232 Yiju	2.57	255	*e*P	Pn	12 10 21.8	+1.6
CHN8	baz=253			*e*S	Sn	12 10 52.1	+1.8
TWM1	Shoushan	2.59	243	*e*P	Pn	12 10 23.7	+3.3
SCLT	baz=242 Jiali	2.64	252	*e*P	Pn	12 10 23.0	+1.9
SCLT	baz=260			*e*S	Sn	12 10 55.3	+3.4
SSPT	baz=260 Xinbi	2.65	235	*e*P	Pn	12 10 22.8	+1.5
TAI1	baz=230 Yung-k'ang	2.66	249	*e*P	Pn	12 10 23.5	+2.1
SCZT	baz=248 Fangliau	2.68	233	*e*P	Pn	12 10 22.2	+0.6
SNJT	baz=228 Kaohsiung City	2.69	243	*e*P	Pn	12 10 24.8	+3.0
TSEB	baz=241 Hengchuen, Pin	2.81	222	*e*S	Sn	12 10 57.6	+1.4
TWKBT	baz=215 Hengchun	2.84	224	*e*P	Pn	12 10 24.2	+0.3
HEN	baz=223 Hengchun	2.84	226	*e*S	Sn	12 10 57.8	+0.9
TWK1	baz=226 Hengchun	2.84	224	*e*P	Pn	12 10 24.5	+0.5
WLCH	baz=223 Liuqiu	2.87	235	*e*P	Pn	12 10 28.3	+4.0
TWP	baz=232 Hsiaoliuchiu	2.88	235	*e*P	Pn	12 10 29.3	+4.7
WDGT	baz=232 Dungji	3.08	256	*e*P	Pn	12 10 28.4	+1.2
PHUB	baz=255 P'eng-hu	3.11	261	*e*P	Pn	12 10 28.2	+0.6
PNG	baz=272 Penghu	3.12	262	*e*P	Pn	12 10 28.5	+0.8
VCHM	baz=273 Qimei	3.30	257	*e*P	Pn	12 10 31.1	+0.8
VWUC	baz=255 VWUC	3.31	288	*e*P	Pn	12 10 29.9	-0.5
MATB	baz=285 Ma-tsu	3.43	309	*e*P	Pn	12 10 31.7	-0.4
KNM	baz=295 Kinmen	4.12	276	*e*P	Pn	12 10 42.7	+1.2
KNMB	baz=274 Chin-men Tao	4.16	277	*e*P	Pn	12 10 41.5	-0.6
JOW	baz=275 Kunigami	5.59	59	*e*P	Pn	12 11 01.1	-0.7
JOW	baz=59 Kunigami	5.59	59	P	Pn	12 11 00.9	-0.8
JOW	0.3nm,0.3s,baz=180,slow=11,SNR=13			S	Sn	12 12 01.9	-2.9
KSRS	0.2nm,0.3s,baz=113,slow=13,SNR=2.5 Korea Array	14.06	17	P	Pn	12 12 55.3	-2.3
SONM	0.1nm,0.3s,baz=197,slow=11,SNR=3.2 Songino Array	27.16	335	P	P	12 15 21.9	+1.1
WRA	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.9 Warramunga Arr	45.09	165	P	P	12 17 54.2	+0.6
ASAR	1.7nm,0.7s,baz=346,slow=8.9,SNR=14 Alice Springs	48.59	167	P	P	12 18 21.8	+0.9
ILAR	0.4nm,0.4s,baz=348,slow=7.4,SNR=20 Eielson Array	68.63	27	P	P	12 20 38.8	-1.1
YKA	0.1nm,0.4s,baz=276,slow=5.5,SNR=2.8 Yellowknife Ar	82.50	23	P	P	12 21 58.4	-0.9
	0.4nm,0.6s,baz=307,slow=5.0,SNR=11						

TAP 10 12:56:13.8, 24˚45N×121˚93E, h12km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANB	Nanao	0.16	261	*e*P	Pb	12 56 18.5	-0.3
NANB	baz=260			*e*S	Sg	12 56 21.3	+1.1
TWC	baz=260 Suao	0.17	336	*i* P	Pb	12 56 18.3	-0.6
TWC	baz=338			S	Sg	12 56 21.6	+1.2
ENA	baz=338 Nanau	0.17	261	*e*P	Pb	12 56 18.5	-0.4
ENA	baz=260			*e*S	Sg	12 56 21.4	+1.1
EOS1	baz=260 EOS1	0.21	63	*e*P	Pg	12 56 18.3	+0.1
ILA	baz=62 Ilan	0.35	332	*e*P	Pg	12 56 19.9	-0.9
ILA	baz=333			*e*S	Sb	12 56 28.3	+0.9
TWE	baz=333 Neicheng	0.35	318	*e*P	Pg	12 56 20.2	-0.8
NDT	baz=319 Datong Townshi	0.40	292	*e*S	Sb	12 56 29.0	0.0
NACB	baz=291 Ninganchiao	0.41	227	*e*S	Sb	12 56 28.8	-0.4
ETLH	baz=227 Xiulin Townshi	0.47	239	*e*S	Sb	12 56 31.5	+0.3
NNSB	baz=238 Datong	0.50	267	*e*S	Sb	12 56 31.2	-0.5
NNS	baz=266 Nan Shan	0.50	269	*e*S	Sb	12 56 31.4	-0.6
TIPB	baz=268 Shuangxi	0.52	350	*e*P	Pb	12 56 25.2	+0.2
TIPB	baz=349			*e*S	Sb	12 56 32.2	-0.3
YHNB	baz=349 Yeheng	0.55	293	*e*S	Sb	12 56 33.0	-0.2
NSK	baz=293 Sanguang	0.56	293	*e*S	Sb	12 56 33.4	-0.3
TDCB	baz=293 Techi	0.73	254	*e*S	Sb	12 56 38.6	+0.1
CHGB	baz=254 Renai	0.79	240	*e*S	Sb	12 56 41.4	+1.0
WHP	baz=240 Taichung City	0.91	259	*e*S	Sb	12 56 44.5	+0.7
	baz=258						

*ISCJB **10** 13:08:05.2±0.5,23˚97N±0˚03×122˚86E±0˚02,h26km±6km, Error ellipse: s-maj=5.2km s-min=3.4km az=163.6*
*JMA **10** 13:08:05.7±0.1,24˚13N×122˚85E,h49km,M1.8*
*TAP **10** 13:08:06.1,24˚04N×122˚85E,h58km±1km,ML2.7,C*

ISC 10 13:08:05.8±1.3, 24˚01N±0˚04×122˚89E±0˚03, h34km±3km, n65, σ1§25/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.44	7	P	Pb	13 08 15.2	-0.4
JYNG				S	Sb	13 08 21.4	-0.9
YOJ	Yonaguni jima	0.46	14	*e*P	Pb	13 08 16.4	+0.5
YOJ	baz=14 Yonaguni jima	0.46	14	P	Pb	13 08 15.3	-0.6
YOJ				*e*S	Sb	13 08 22.2	-0.6
IRIF	Iriomote-Funau	0.83	67	P	Pb	13 08 21.2	-0.7
IRIF				S	Sb	13 08 33.2	+0.4
HATJ	Hateruma jima	0.84	87	*e*S	Sb	13 08 34.5	+1.5
EOS1	EOS1	0.88	308	*e*P	Pb	13 08 22.1	-0.5
EOS1	baz=306			*e*S	Sb	13 08 34.6	+0.6
JKRS	baz=306 Kuro-shima	1.05	77	P	Pn	13 08 24.9	+0.8
JKRS				S	Sb	13 08 39.1	+0.2
NANB	Nanao	1.12	292	*e*P	Pn	13 08 24.9	-0.2
ENA	baz=291 Nanau	1.13	292	*e*P	Pn	13 08 25.2	-0.1
NACB	baz=291 Ninganchiao	1.20	278	*e*P	Pn	13 08 25.3	-0.8
JIJ	baz=276 Ishigaki jima	1.20	73	P	Pn	13 08 26.1	-0.1
JIJ				S	Sn	13 08 41.1	-0.1
NTC	Toucheng	1.28	311	*e*P	Pn	13 08 27.1	-0.1
ETLH	baz=310 Xiulin Townshi	1.30	279	*e*P	Pn	13 08 26.9	-0.8
TWE	baz=277 Neicheng	1.32	303	*e*P	Pn	13 08 28.9	+1.1
ESL	baz=302 Shilin	1.35	262	*e*P	Pn	13 08 27.3	-0.9
ENTT	baz=260 Nioudou	1.36	298	*e*P	Pn	13 08 28.9	+0.4
SLBB	baz=296 Yuanshan	1.36	303	*e*P	Pn	13 08 29.3	+0.8
TIPB	baz=302 Shuangxi	1.36	315	*e*P	Pn	13 08 28.1	-0.4
EGFH	baz=314 Guangfu	1.38	256	*e*S	Sn	13 08 45.0	-0.8
NDT	baz=246 Datong Townshi	1.39	295	*e*P	Pn	13 08 29.5	+0.7
JISG	baz=286 Ishigakijimahi	1.42	66	P	Pn	13 08 28.9	-0.3
JISG				*e*S	Sn	13 08 46.6	-0.1
NNSB	Datong	1.44	287	*e*P	Pn	13 08 29.8	+0.2
	baz=276						

HGSD	**Ruisui** baz=247	**1.44 249**	*eP*	**Pn**	**13 08 28.3**	**-1.2**
HGSD	baz=247		*eS*	**Sn**	**13 08 45.7**	**-1.5**
NNS	**Nan Shan** baz=286	**1.45 287**	*eP*	**Pn**	**13 08 29.0**	**-0.7**
NWLT	**Wulai** baz=309	**1.48 301**	*eP*	**Pn**	**13 08 31.1**	**+1.1**
NWLT	baz=309		*eS*	**Sn**	**13 08 48.4**	**+0.2**
WHF	**Hehuan Shan** baz=273	**1.49 275**	*eP*	**Pn**	**13 08 29.9**	**-0.7**
EHY	**Hungye** baz=241	**1.52 251**	P	**Pn**	**13 08 30.0**	**-0.7**
EHY	baz=241		S	**Sn**	**13 08 48.1**	**-1.2**
YHNB	**Yeheng** baz=285	**1.53 296**	*eP*	**Pn**	**13 08 31.0**	**+0.2**
NSK	**Sanguang** baz=284	**1.55 296**	*eP*	**Pn**	**13 08 31.3**	**+0.3**
NSK	baz=284		*eS*	**Sn**	**13 08 49.6**	**-0.4**
OWD	**Renai** baz=276	**1.57 268**	*eP*	**Pn**	**13 08 31.1**	**-0.3**
OWD	baz=276		*eS*	**Sn**	**13 08 49.0**	**-1.6**
CHGB	**Renai** baz=270	**1.57 272**	*eP*	**Pn**	**13 08 31.4**	**-0.1**
CHGB	baz=270		*eS*	**Sn**	**13 08 49.9**	**-0.9**
TWT	**Tachien** baz=270	**1.58 279**	*eP*	**Pn**	**13 08 32.0**	**+0.4**
YULB	**Yu-li** baz=238	**1.58 247**	*eP*	**Pn**	**13 08 30.7**	**-0.8**
YULB	baz=238		*eS*	**Sn**	**13 08 50.0**	**-0.8**
TDCB	**Techi** baz=270	**1.60 279**	*eP*	**Pn**	**13 08 32.0**	**+0.1**
TWF1	**Yuli** baz=237	**1.60 246**	P	**Pn**	**13 08 31.5**	**-0.2**
TWF1	baz=237		S	**Sn**	**13 08 50.9**	**-0.4**
VWDT	**VWDT** baz=259	**1.62 261**	*eP*	**Pn**	**13 08 31.9**	**-0.1**
VWDT	baz=259		*eS*	**Sn**	**13 08 50.5**	**-1.2**
CHKT	**Chengkung** baz=228	**1.67 237**	*eS*	**Sn**	**13 08 50.1**	**-2.8**
FULB	**Fuli** baz=231	**1.67 241**	*eS*	**Sn**	**13 08 51.4**	**-1.7**
YM04	**YM04** baz=311	**1.68 313**	*eS*	**Sn**	**13 08 51.6**	**-1.5**
SSLB	**Suanglung** baz=261	**1.79 263**	*eP*	**Pn**	**13 08 34.7**	**+0.4**
WHP	**Taichung City** baz=270	**1.80 279**	*eP*	**Pn**	**13 08 36.3**	**+1.8**
LIOB	**Emei** baz=288	**1.82 291**	*eP*	**Pn**	**13 08 34.0**	**-0.8**
LIOB	baz=288		*eS*	**Sn**	**13 08 55.9**	**-0.9**
SMLT	**Sun Moon Lake** baz=256	**1.83 266**	*eP*	**Pn**	**13 08 35.3**	**+0.4**
NSTT	**Nanjuang** baz=288	**1.83 290**	*eP*	**Pn**	**13 08 35.6**	**+0.7**
YUS	**Yu-Shan** baz=244	**1.85 254**	*eP*	**Pn**	**13 08 35.9**	**+0.2**
TYC	**Yuchr** baz=265	**1.86 267**	*eP*	**Pn**	**13 08 35.8**	**+0.5**
WHYT	**Xinyi Township** baz=259	**1.89 261**	*eP*	**Pn**	**13 08 36.4**	**+0.7**
ELDTW	**Lidau** baz=243	**1.90 245**	*eP*	**Pn**	**13 08 35.3**	**-0.8**
ELDTW	baz=243		*eS*	**Sn**	**13 08 57.1**	**-1.8**
TWQ1	**Liyutan** baz=278	**1.96 280**	*eP*	**Pn**	**13 08 38.2**	**+1.5**
WJS	**Zhushan** baz=263	**1.99 265**	*eP*	**Pn**	**13 08 38.6**	**+1.6**
WNT	**Mingjian** baz=264	**2.02 267**	*eP*	**Pn**	**13 08 39.5**	**+2.0**
TWGBT	**Beinan** baz=227	**2.04 235**	*eS*	**Sn**	**13 09 01.2**	**-1.0**
CHN5	**Tsauling** baz=257	**2.07 259**	*eP*	**Pn**	**13 08 39.9**	**+1.7**
STYT	**Tauyuan** baz=238	**2.13 247**	*eP*	**Pn**	**13 08 40.1**	**+1.0**
WDLH	**Douliu** baz=259	**2.18 262**	*eP*	**Pn**	**13 08 41.4**	**+1.8**
WDLH	baz=259		*eS*	**Sn**	**13 09 09.1**	**+3.6**
TPUB	**Ta-pu** baz=243	**2.19 252**	*eP*	**Pn**	**13 08 41.3**	**+1.4**
CHN4	**Tsaushan** baz=251	**2.21 253**	*eP*	**Pn**	**13 08 42.1**	**+2.0**
CHN4	baz=251		*eS*	**Sn**	**13 09 09.6**	**+3.4**
WTP	**Ta-pu** baz=242	**2.22 250**	*eP*	**Pn**	**13 08 41.6**	**+1.2**
WTP	baz=242		*eS*	**Sn**	**13 09 09.0**	**+2.3**
ECL	**Taimali** baz=239	**2.27 232**	*eS*	**Sn**	**13 09 05.8**	**-1.9**
SLGT	**Liugui** baz=237	**2.30 244**	*eP*	**Pn**	**13 08 42.7**	**+1.3**
RLNB	**Erlin** baz=276	**2.32 268**	*eS*	**Sn**	**13 09 11.5**	**+2.6**
SNST	**Tainan City** baz=249	**2.33 251**	*eP*	**Pn**	**13 08 43.8**	**+2.0**
SNST	baz=249		*eS*	**Sn**	**13 09 11.6**	**+2.2**
EAST	**Anshuo** baz=234	**2.48 230**	*eP*	**Pn**	**13 08 43.5**	**-0.4**
MASBT	**Mashibuluo** baz=229	**2.50 237**	*eP*	**Pn**	**13 08 44.8**	**+0.7**
SGLT	**Jiouru** baz=236	**2.55 240**	*eP*	**Pn**	**13 08 47.0**	**+2.2**

IDC 10 13:21:27.3±5.0, 15°42S×172°76W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/43, mbtmp3.4/3, Error ellipse: s-maj=375.5km s-min=33.9km az=150.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=91,slow=7.0,SNR=4.0	**50.44**	**257**	P	P	13 30 27.4	+0.2
ASAR	**Alice Springs** 0.7nm,0.7s,baz=89,slow=8.2,SNR=14	**50.69**	**252**	P	P	13 30 28.8	-0.3
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=249,slow=6.2,SNR=2.0	**73.93**	**42**	P	P	13 33 04.9	0.0

*IDC **10** 13:24:27.1±1.0, 10°.70N×125°.39E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/44, mbtmp3.7/10, Error ellipse: s-maj=56.4km s-min=17.7km az=83.0*
*MAN **10** 13:24:30.9, 10°.87N×125°.20E, h3km, MS3.3*
*ISCJB **10** 13:24:31.4±0.9, 10°.92N±0°.03×125°.30E±0°.05, h27km±7km, mb3.7/10, Error ellipse: s-maj=8.8km s-min=5.6km az=11.9*

ISC 10 13:24:30.1±1.4, 10°.86N±0°.03×125°.28E±0°.05, h10km±9km, n34, σ1°99/36, mb3.7/10, 4C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.42**	**316**	⇑*iP*	**Pb**	**13 24 39.4**	**-0.3**
OCLP	**Ormoc**	**0.69**	**287**	*eP*	**Pg**	**13 24 43.4**	**+0.1**
OCLP				*eS*	**Sb**	**13 24 53.8**	**+0.1**
BESP	**Borongan**	**0.76**	**12**	*eP*	**Pg**	**13 24 44.9**	**+0.2**
BESP				*eS*	**Sb**	**13 24 57.4**	**+1.7**
MSLP	**Maasin**	**0.83**	**210**	*eP*	**Pg**	**13 24 44.6**	**-1.5**
LLP	**Lapu-Lapu**	**1.40**	**248**	⇑*eP*	**Pn**	**13 24 55.4**	**-0.2**
LLP				*eS*	**Sg**	**13 25 14.1**	**-1.0**
CNP	**Catarman**	**1.75**	**340**	*eP*	**Pn**	**13 25 01.7**	**+1.2**
CNP				*eS*	**Sg**	**13 25 26.6**	**+0.1**
CGP	**Cagayan de Oro**	**2.45**	**194**	⇓*eP*	**Pn**	**13 25 10.9**	**+0.8**
CGP				*eS*	**Sn**	**13 25 40.4**	**+0.1**
SNPH	**Sibulan**	**2.51**	**233**	*eP*	**Pb**	**13 25 16.9**	**+1.6**
RCP	**Roxas**	**2.58**	**286**	⇓*eP*	**Pn**	**13 25 13.5**	**+1.5**
GUIM	**Jordan**	**2.65**	**265**	*eP*	**Pn**	**13 25 13.6**	**+0.7**
PVCP	**Virac**	**2.94**	**338**	*eP*	**Pn**	**13 25 19.7**	**+2.9**
BUKP	**Musuan**	**2.96**	**184**	*eP*	**Pn**	**13 25 20.6**	**+3.4**
BUKP				*eS*	**Sn**	**13 25 56.8**	**+3.8**
PAGZ	**Pagadian**	**3.53**	**212**	*eP*	**Pn**	**13 25 27.1**	**+2.1**
PAGZ				*eS*	**Sb**	**13 26 16.4**	**+0.9**
CTBH	**Cotabato--PC H**	**3.75**	**196**	⇑*iP*	**Pn**	**13 25 31.9**	**+3.8**
KCP	**Kidapawan**	**3.83**	**183**	⇑*eP*	**Pn**	**13 25 33.3**	**+4.2**
KCP				*i* S	Sg	13 26 53.0	+20
MATI	**Mati**	**4.00**	**166**	*eP*	**Pn**	**13 25 31.6**	**+0.1**
IPIL	**Ipil**	**4.05**	**221**	*eP*	**Pn**	**13 25 36.9**	**+4.7**
CUYO	**Cuyo Island**	**4.18**	**270**	*eP*	Pn	13 25 28.3	-5.7
SKMP	**Bagumbayan, Su**	**4.37**	**190**	*eP*	**Pb**	**13 25 45.8**	**-1.1**
SJMP	**San Jose**	**4.38**	**292**	*eP*	**Pn**	**13 25 38.2**	**+1.6**
BUSP	**Coron**	**5.11**	**283**	*eP*	**Pn**	**13 25 48.8**	**+2.1**
KSRS	**Korea Array** 2.0nm,0.9s,baz=180,slow=9.4,SNR=5.3	**26.59**	**5**	P	**P**	**13 30 09.1**	**+0.7**
WRA	**Warramunga Arr** 0.2nm,0.0s,baz=344,slow=9.4,SNR=2.7	**31.88**	**164**	P	P	13 30 52.4	-3.3
USRK	**Ussuriysk Ar.** 3.5nm,0.8s,baz=183,slow=8.5,SNR=4.6	**33.73**	**9**	P	**P**	**13 31 12.1**	**+0.5**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=349,slow=6.8,SNR=9.7	**35.33**	**166**	P	**P**	**13 31 23.6**	**-2.2**
KLR	**Kul'dur** 0.4nm,0.4s,baz=214,slow=11,SNR=4.4	**38.63**	**7**	P	**P**	**13 31 53.4**	**-0.1**
H11N1	**WAKE ISLAND Hy** baz=265,slow=74	**41.00**	**72**	T	T	14 15 41.2	
H11N2	**WAKE ISLAND Hy** baz=265,slow=74	**41.01**	**72**	T	T	14 15 41.6	
H11N3	**WAKE ISLAND Hy** baz=265,slow=74	**41.02**	**72**	T	T	14 15 39.8	
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=117,slow=8.3,SNR=9.4	**50.97**	**323**	P	**P**	**13 33 31.9**	**-0.1**
SEY	**Seymchan** 0.3nm,0.3s,baz=143,slow=20,SNR=4.2	**55.50**	**15**	P	**P**	**13 34 05.0**	**0.0**
TIXI	**Tiksi** 1.0nm,0.3s,baz=158,slow=5.5,SNR=4.3	**60.79**	**1**	P	**P**	**13 34 40.6**	**-1.2**
ILAR	**Eielson Array** 0.6nm,0.8s,baz=244,slow=6.0,SNR=5.0	**79.34**	**26**	P	**P**	**13 36 34.3**	**-1.5**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=302,slow=4.7,SNR=4.4	**93.62**	**24**	P	**P**	**13 37 45.2**	**-1.2**

IDC 10 13:33:30.3±2.0, 0°.09N×125°.84E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/36, mbtmp3.0/3, Error ellipse: s-maj=217.9km s-min=25.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=336,slow=10,SNR=9.0	**21.58**	**158**	P	P	13 38 21.7	-0.1
ASAR	**Alice Springs** 0.1nm,0.4s,baz=344,slow=7.9,SNR=6.5	**24.88**	**162**	P	P	13 38 55.0	+0.1
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=116,slow=6.6,SNR=3.7	**60.06**	**327**	P	P	13 43 39.1	0.0

*IDC **10** 13:39:49.9±1.3, 36°.85N×138°.74E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/48, mbtmp3.4/4, ML3.2/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/30, Error ellipse: s-maj=11.2km s-min=10.9km az=38.0*
*ISCJB **10** 13:39:50.5±0.6, 36°.83N±0°.03×138°.69E±0°.04, h13km±4km, mb3.4/3, MS2.7/1, Error ellipse: s-maj=6.2km s-min=4.0km az=139.2*
*JMA **10** 13:39:51.2, 36°.82N×138°.71E, h5km±2km, M3.3 Broadband fault plane solution: P waves. NP1: φs89.00000°, δ77.00000°, λ140.00000°. NP2: φs190.00000°, δ51.00000°, λ16.00000°. Principal axes: T Plg37.0000°, Azm42.0000°; N Plg48.0000°, Azm255.0000°; P Plg17.0000°, Azm145.0000°;*
JMA Felt I J1.

ISC 10 13:39:51.1±1.0, 36°.83N±0°.04×138°.71E±0°.03, h7km±9km, n17, σ0°76/24, mb3.5/3, 2C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGK	**Kuni**	**0.27**	**191**	P	**Pg**	**13 39 56.6**	**+0.2**
JGK				*eS*	**Sg**	**13 40 00.5**	**+0.5**
JKT	**Katashina**	**0.44**	**98**	P	**Pg**	**13 39 59.7**	**0.0**
JKT				*eS*	**Sg**	**13 40 05.5**	**0.0**
JHK	**Hiroka**	**0.49**	**31**	⇑P	**Pg**	**13 40 00.6**	**0.0**
JHK				*eS*	**Sg**	**13 40 07.2**	**+0.2**
MJAR	**Matsushiro Arr** 11nm,0.3s,baz=53,slow=21,SNR=409	**0.49**	**235**	Pg	**Pg**	**13 40 00.1**	**-0.5**
MJAR	18nm,0.3s,baz=50,slow=19,SNR=82			Lg	Lg	13 40 06.5	
MAT	**Matsushiro**	**0.49**	**235**	P	**Pg**	**13 40 00.3**	**-0.3**
MAT				S	**Sg**	**13 40 06.6**	**-0.4**
MAT	**Matsushiro**	**0.49**	**235**	P	**Pg**	**13 40 00.4**	**-0.2**
MAT				*eS*	**Sg**	**13 40 06.6**	**-0.4**
JNG	**Nsakai**	**0.64**	**229**	⇑P	**Pg**	**13 40 03.3**	**-0.2**
JNG				*eS*	**Sg**	**13 40 11.5**	**-0.4**
JIZZ	**Izumozaki**	**0.70**	**0**	P	**Pb**	**13 40 06.0**	**+0.3**
JAG	**Ashikaga**	**0.72**	**123**	⇓P	**Pg**	**13 40 04.9**	**-0.1**
JAG				S	**Sg**	**13 40 14.2**	**-0.2**
JRY	**Ryogami san**	**0.82**	**169**	S	**Sg**	**13 40 17.6**	**0.0**
JFY	**Yanaizu**	**0.99**	**54**	P	**Pb**	**13 40 09.8**	**-0.7**
JFY				S	**Sg**	**13 40 22.3**	**-0.6**
KSRS	**Korea Array** 0.3nm,0.3s,baz=95,slow=15,SNR=4.3	**8.63**	**277**	Pn	**Pn**	**13 41 58.0**	**+1.7**
KSRS	comp=Z,52nm,18.6s,baz=65,slow=37			LR	LR	13 45 08.5	
USRK	**Ussuriysk Ar.** comp=Z,66nm,21.7s,baz=278,slow=35	**8.96**	**327**	LR	LR	13 45 05.2	
SONM	**Songino Array** 0.2nm,0.4s,baz=107,slow=9.2,SNR=3.4	**26.11**	**305**	P	**P**	**13 45 23.7**	**-1.9**
SONM	0.1nm,0.3s,baz=108,slow=4.7,SNR=2.6			PcP	**PcP**	**13 48 52.3**	**-0.6**
CMAR	**Chiang Mai Arr** comp=Z,10nm,18.5s,baz=220,slow=37	**39.35**	**253**	LR	LR	14 04 00.7	
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=1.6,slow=7.5,SNR=9.0	**56.61**	**185**	P	**P**	**13 49 34.0**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=359,slow=6.6,SNR=3.8	**60.34**	**185**	P	**P**	**13 50 02.1**	**+1.5**

MEX 10 13:44:06.2±0.6, 14°73N×93°28W, h21km±31km, MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.97**	**4**	*eP*	Pb	13 44 21.5	-2.8
PCIG				*eS*	Sb	13 44 33.0	-3.7
THIG		**1.00**	**80**	*eP*	Pb	13 44 21.2	-3.6
THIG				*i* S	Sb	13 44 34.5	-3.0
CCIG	**Comitan**	**1.90**	**35**	*eP*	Pn	13 44 35.3	-2.2
CCIG				*i* S	Sn	13 44 58.0	-2.9
CMIG	**Matias Romero**	**2.81**	**327**	*i* P	Pn	13 44 47.4	-2.5
CMIG				*i* S	Sn	13 45 19.8	-3.3

IDC 10 13:48:40.0±3.1, 19°.78S×174°.06W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/33, mbtmp3.5/4, Error ellipse: s-maj=156.6km s-min=35.5km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.3nm,0.5s,baz=90,slow=7.5,SNR=10	**48.29**	**256**	P	P	13 57 23.9	+0.5
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=97,slow=7.3,SNR=8.1	**48.37**	**261**	P	P	13 57 22.8	-1.3
PDAR	**Pinedale Array** 0.1nm,0.4s,baz=224,slow=3.8,SNR=3.6	**85.93**	**42**	P	P	14 01 21.9	-0.5
SONM	**Songino Array** 0.3nm,0.7s,baz=109,slow=3.5,SNR=3.0	**97.67**	**318**	P	Pdif	14 02 17.7	+0.8

IDC 10 13:49:44.7±6.9, 19°.22S×176°.61W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/34, mbtmp3.8/3, Error ellipse: s-maj=228.4km s-min=56.7km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=96,slow=7.4,SNR=23	**46.09**	**261**	P	P	13 58 10.9	-0.1
ASAR	**Alice Springs** 0.3nm,0.4s,baz=92,slow=8.0,SNR=14	**46.10**	**255**	P	P	13 58 10.8	-0.2
SONM	**Songino Array** 0.3nm,0.3s,baz=113,slow=3.3,SNR=5.2	**95.66**	**319**	P	P	14 03 12.5	+0.1
AKASG	**Malin Array Be** 0.7nm,0.4s,baz=38,slow=3.7,SNR=5.1	**142.51**	**333**	PKP	PKPdf	14 09 17.7	-1.8

IDC 10 13:51:21.2±10.0, 13°.99S×172°.75E, h0km, mb4.2/5, mb1 4.3/5, mb1mx3.8/31, mbtmp4.2/5, MS3.7/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=222.2km s-min=39.5km az=35.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera** 6.0nm,0.9s,baz=325,slow=19,SNR=3.6	**24.48**	**172**	P	P	13 56 41.9	-0.1
URZ	comp=Z,89nm,21.6s,baz=340,slow=32			LR	LR	14 04 18.4	
CTA	**Charters Tower** 3.9nm,0.8s,baz=86,slow=14,SNR=3.2	**26.03**	**253**	P	P	13 56 57.3	+1.0
STKA	**Stephens Creek** 0.8nm,0.3s,baz=75,slow=12,SNR=5.8	**33.59**	**233**	P	P	13 58 04.2	+0.9
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=90,slow=8.7,SNR=24	**37.15**	**255**	P	P	13 58 33.2	-0.9
ASAR	**Alice Springs** 5.0nm,0.4s,baz=76,slow=9.3,SNR=173	**37.90**	**249**	P	P	13 58 39.8	-0.7
SNAA	**Sanae** comp=Z,81nm,18.5s,baz=103,slow=37	**94.49**	**181**	LR	LR	14 49 45.4	

*ISK **10** 13:54:18.9, 39°.42N×28°.23E, h5km, ML3.0/29*
*ISCJB **10** 13:54:19.7±0.3, 39°.40N±0°.02×28°.25E±0°.02, h1km±4km, Error ellipse: s-maj=3.0km s-min=2.8km az=23.5*
*DDA **10** 13:54:19.4, 39°.40N×28°.24E, h7km±2km, ML3.5*

ISC 10 13:54:19.6±1.1, 39°.41N±0°.02×28°.23E±0°.02, h8km±10km, n42, σ0°75/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.27**	**43**	*i* P	**Pb**	**13 54 25.7**	**-1.1**
DURS				*i* S	**Sb**	**13 54 30.0**	**-1.6**
DURS	comp=Z,31μm,0.1s			IAML_P			
DST	**Dursunbey**	**0.36**	**56**	PG	**Pg**	**13 54 26.8**	**+0.1**
DST				SG	**Sg**	**13 54 32.1**	**+0.7**
BALB	**Balikesir**	**0.36**	**311**	PG	**Pb**	**13 54 27.3**	**-1.0**
BALB				SG	**Sb**	**13 54 33.5**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.40**	**266**	*i* P	**Pb**	**13 54 28.0**	**-1.0**
STEP				*i* S	**Sb**	**13 54 34.3**	**-0.9**
STEP	comp=Z,24μm,0.2s			IAML_P			
DEMI	**Demirci**	**0.52**	**134**	*i* P	**Pb**	**13 54 30.8**	**-0.2**
DEMI				*i* S	**Sg**	**13 54 37.1**	**+0.6**
DEMI	comp=Z,11μm,0.1s			IAML_P			
BALY	**Balya**	**0.58**	**305**	*i* P	**Pg**	**13 54 30.9**	**+0.1**
BALY				*i* S	**Sb**	**13 54 39.6**	**-0.9**
BALY	comp=Z,3μm,0.2s			IAML_P			
AKHS	**Akhisar**	**0.62**	**212**	*i* P	**Pb**	**13 54 31.9**	**-0.7**
AKHS				*i* S	**Sb**	**13 54 40.9**	**-0.6**
AKHS	comp=Z,5μm,0.1s			IAML_P			
GOMA	**Golmarmara-Man**	**0.74**	**200**	PG	**Pb**	**13 54 34.0**	**-0.7**
GONE	**Gonen-Balikesi**	**0.77**	**327**	PG	**Pb**	**13 54 34.8**	**-0.4**
ORLT	**Orhaneli**	**0.82**	**38**	PG	**Pb**	**13 54 35.5**	**-0.6**
SHAP	**Saphane-Kutahy**	**0.86**	**116**	PG	**Pn**	**13 54 37.3**	**-0.7**
KCTX	**Karacabey (Bur**	**0.86**	**6**	PG	**Pg**	**13 54 36.1**	**-0.1**
USAK	**Uak-Merkez**	**0.92**	**138**	*i* P	**Pb**	**13 54 37.5**	**-0.4**
USAK				*i* S	**Sb**	**13 54 50.2**	**0.0**
USAK	comp=Z,3μm,0.2s			IAML_P			
MANT	**Manisa**	**0.95**	**164**	*i* P	**Pb**	**13 54 38.3**	**-0.1**
MANT				*i* S	**Sb**	**13 54 50.6**	**-0.5**
MANT	comp=Z,4μm,0.1s			IAML_P			
KULA	**Kula-Manisa**	**0.95**	**159**	PG	**Pb**	**13 54 38.0**	**-0.3**
TVSB	**Tavsanli**	**0.95**	**87**	PG	**Pb**	**13 54 38.2**	**-0.2**
GEDZ	**Gediz**	**0.98**	**111**	PG	**Pn**	**13 54 39.6**	**-0.1**
EDC	**Edincik**	**0.98**	**343**	PG	**Pg**	**13 54 38.2**	**-0.3**
ZEDA	**zmir-Bergama**	**1.00**	**244**	*i* P	**Pn**	**13 54 39.4**	**-0.6**
ZEDA				*i* S	**Sb**	**13 54 52.5**	**+0.1**
ZEDA	comp=Z,4μm,0.1s			IAML_P			
GDZ	**Gediz**	**1.02**	**108**	*i* P	**Pb**	**13 54 39.2**	**-0.3**
GDZ				*i* S	**Sb**	**13 54 53.6**	**+0.5**
GDZ	comp=Z,7μm,0.1s			IAML_P			
MDNY	**Mudanya-Bursa**	**1.08**	**27**	PG	**Pb**	**13 54 40.2**	**-0.4**
AYVA	**Ayvalik**	**1.20**	**266**	*i* P	**Pn**	**13 54 43.4**	**+0.8**
AYVA				*i* S	**Sn**	**13 55 00.8**	**+1.7**
AYVA	comp=Z,3μm,0.1s			IAML_P			
KRBG	**Karabiga-Canak**	**1.22**	**324**	PN	**Pn**	**13 54 42.9**	**-0.1**
ARMT	**Armutlu**	**1.25**	**22**	PN	**Pn**	**13 54 43.4**	**-0.1**
GEMT	**Gemlik**	**1.26**	**35**	PN	**Pg**	**13 54 43.5**	**-0.4**
IZI	**Iznik**	**1.33**	**45**	PN	**Pg**	**13 54 45.1**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.35**	**285**	*i* P	**Pb**	**13 54 44.9**	**-0.2**
BAYC				*i* S	**Sn**	**13 55 04.0**	**+1.2**
BAYC	comp=Z,2μm,0.1s			IAML_P			
BLCB	**Balcova**	**1.38**	**223**	PN	**Pg**	**13 54 45.6**	**-0.4**
KHAL	**Karahalli**	**1.43**	**136**	*i* P	**Pg**	**13 54 46.6**	**-0.3**
KHAL				*i* S	**Sg**	**13 55 05.7**	**+0.3**
YLV	**Yalova**	**1.45**	**37**	PN	**Pg**	**13 54 47.2**	**-0.3**
CAVI	**Cavuskoy**	**1.47**	**57**	PN	**Pg**	**13 54 47.7**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**191**	PN	**Pg**	**13 54 47.5**	**-0.5**
SBT4	**Kumbag-Tekirda**	**1.52**	**340**	PN	**Pg**	**13 54 48.5**	**-0.2**
BUY	**Buyukada**	**1.60**	**25**	PN	**Pg**	**13 54 49.6**	**-0.6**
BUY	**Buyukada**	**1.60**	**25**	*i* P	**Pg**	**13 54 50.7**	**+0.4**
BUY				*i* S	**Sg**	**13 55 13.0**	**+2.0**
BUY	comp=Z,2μm,0.2s			IAML_P			
KAVV	**Kandilli-Istan**	**1.77**	**21**	PN	**Pb**	**13 54 51.6**	**-0.7**
ISK	**Istanbul-Kandi**	**1.77**	**21**	PN	**Pb**	**13 54 51.9**	**-0.5**
SLVT	**Silivri**	**1.82**	**359**	PN	**Pb**	**13 54 52.2**	**-1.0**
KLYT	**Kilyos**	**1.95**	**18**	PN	**Pb**	**13 54 54.6**	**-0.7**
GULT	**Gulveren**	**2.03**	**59**	PN	**Pb**	**13 54 55.6**	**-1.2**
SILT	**Sile**	**2.05**	**31**	PN	**Pb**	**13 54 55.6**	**-1.5**
CTYL	**Yalikoy Yolu**	**2.07**	**1**	PN	**Pn**	**13 54 55.4**	**+0.8**

SJA 10 13:57:31.3±0.3, 25°.20S×65°.59W, h21km±5km, ML2.0, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**0.48**	**9**	*i* P	Pb	13 57 41.8	+0.6
SLA	comp=Z,57nm,0.5s			IAML		13 57 52.6	
FSA	**Cafayete**	**0.97**	**201**	*i* P	Pn	13 57 50.5	+0.5
FSA	comp=Z,22nm,0.2s			IAML		13 57 54.7	
HJA	**Humahuaca**	**1.99**	**5**	*i* P	Pb	13 58 07.1	0.0
HJA				*i* S	Sb	13 58 33.5	+1.9
HJA	comp=Z,34nm,0.4s			IAML		13 58 42.6	
YJA	**Yavi**	**3.01**	**1**	*i* P	Pb	13 58 21.9	-2.6
YJA	comp=Z,4.2nm,0.6s			IAML		13 59 12.2	

MEX 10 13:59:11.1±0.6, 15°.19N×92°.96W, h99km±5km, MD3.5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.57**	**334**	*eP*	Pn	13 59 26.4	-0.9
PCIG				*eS*	Sn	13 59 37.4	-2.0
THIG		**0.73**	**113**	*eP*	Pn	13 59 28.1	-0.6
THIG				*i* S	Sn	13 59 39.5	-2.4
CCIG	**Comitan**	**1.34**	**36**	*eP*	Pn	13 59 34.6	-1.1
CCIG				*i* S	Sn	13 59 52.3	-1.8
CMIG	**Matias Romero**	**2.64**	**316**	*i* P	Pn	13 59 51.4	-0.7
CMIG				*i* S	Sn	14 00 21.7	-1.8

*ISK **10** 14:00:22.2, 39°.37N×28°.25E, h17km, ML2.1/10*
*ISCJB **10** 14:00:23.3±0.5, 39°.42N±0°.04×28°.23E±0°.04, h12km±6km, Error ellipse: s-maj=7.0km s-min=4.9km az=174.2*
*DDA **10** 14:00:23.0, 39°.39N×28°.24E, h7km±2km, ML2.6*

**ISC 10 14:00:20.9±1.3, 39°.36N±0°.04×28°.09E±0°.04, h13km±10km,

	comp=Z,2µm,0.1s							
DST	**Dursunbey**	**0.48**	**59**	PG		**Pg**	**14 00 30.6**	**+0.3**
DST				SG		**Sg**	**14 00 35.5**	**-1.2**
DEMI	**Demirci**	**0.58**	**123**	*i* P		**Pn**	**14 00 34.3**	**-0.7**
DEMI				*i* S		**Sb**	**14 00 41.3**	**+0.1**
DEMI				IAML_P				
	comp=Z,2µm,0.1s							
KCTX	**Karacabey (Bur**	**0.93**	**13**	PG		**Pn**	**14 00 39.9**	**+0.2**
SHAP	**Saphane-Kutahy**	**0.94**	**111**	PG		**Pn**	**14 00 39.4**	**-0.6**
KULA	**Kula-Manisa**	**0.96**	**152**	PG		**Pn**	**14 00 39.6**	**-0.6**
USAK	**Uak-Merkez**	**0.97**	**131**	*i* P		**Pn**	**14 00 42.4**	**+2.0**
USAK				*i* S		**Sn**	**14 00 53.6**	**-0.4**
USAK				IAML_P				
	comp=Z,283nm,0.1s							
TVSB	**Tavsanli**	**1.07**	**85**	PG		**Pg**	**14 00 41.7**	**+0.2**
GDZ	**Gediz**	**1.12**	**104**	*i* P		**Pg**	**14 00 43.7**	**+1.3**
GDZ				*i* S		**Sn**	**14 00 57.6**	**-0.2**
GDZ				IAML_P				
	comp=Z,1µm,0.1s							
ARMT	**Armutlu**	**1.34**	**26**	PN		**Pb**	**14 00 46.3**	**+0.4**
AYDB	**Zeytinkoy-Aydi**	**1.42**	**186**	PN		**Pg**	**14 00 47.7**	**-0.5**
YLV	**Yalova**	**1.56**	**39**	PN		**Pn**	**14 00 48.0**	**-0.4**
CAVI	**Cavuskoy**	**1.59**	**58**	PN		**Pn**	**14 00 48.6**	**-0.2**

***BUC* 10 14:01:28.2±0.6, 45°71N×26°42E, h160km±5km, MD3.1/4, 24C-8D, Error ellipse: s-maj=5.2km s-min=4.4km az=354.0, Romania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.22**	**48**	*i* P	Pn	14 01 50.0	+0.2
PLOR				*i* S	Sn	14 02 06.1	-0.2
PLOR	**Plostina**	**0.22**	**48**	*i* P	Pn	14 01 50.0	+0.2
VRI	**Vrincioaia**	**0.27**	**53**	*i* P	Pn	14 01 49.7	-0.1
VRI				*i* S	Sn	14 02 05.0	-1.4
VRI	**Vrincioaia**	**0.27**	**53**	*i* P	Pn	14 01 49.7	-0.1
MLR	**Muntele Rosu**	**0.40**	**238**	*i* P	Pn	14 01 50.1	-0.3
MLR				*i* S	Sn	14 02 06.7	-0.6
MLR	**Muntele Rosu**	**0.40**	**238**	*i* P	Pn	14 01 50.1	-0.3
ODBI	**Odobesti**	**0.45**	**82**	*i* P	Pn	14 01 50.9	+0.5
ODBI				*i* S	Sn	14 02 06.6	-0.8
ODBI	**Odobesti**	**0.45**	**82**	*i* P	Pn	14 01 50.9	+0.5
PETR	**Petresti**	**0.57**	**88**	*i* P	Pn	14 01 51.5	+0.5
PETR				*i* S	Sn	14 02 07.8	-0.5
PETR	**Petresti**	**0.57**	**88**	*i* P	Pn	14 01 51.5	+0.5
DOPR	**Dopca**	**0.77**	**290**	*i* P	Pn	14 01 51.9	-0.3
DOPR	**Dopca**	**0.77**	**290**	*i* P	Pn	14 01 51.9	-0.3
TESR	**Tescani**	**0.82**	**11**	*i* P	Pn	14 01 52.7	+0.2
TESR				*i* S	Sn	14 02 09.9	-1.4
TESR	**Tescani**	**0.82**	**11**	*i* P	Pn	14 01 52.7	+0.2
PLAR	**PLOIESTI**	**0.84**	**199**	*i* P	Pn	14 01 52.9	+0.2
PLAR				*i* S	Sn	14 02 11.7	+0.3
PLAR	**PLOIESTI**	**0.84**	**199**	*i* P	Pn	14 01 52.9	+0.2
PLAR				S	Sn	14 02 11.7	+0.3
PGOR	**Pogoanele**	**0.89**	**153**	*i* S	Sn	14 02 09.8	-2.2
PGOR	**Pogoanele**	**0.89**	**153**	S	Sn	14 02 09.8	-2.2
VOIR		**1.00**	**255**	*i* P	Pn	14 01 53.5	-0.5
VOIR				*i* S	Sn	14 02 13.1	-0.6
VOIR		**1.00**	**255**	*i* P	Pn	14 01 53.5	-0.5
SULR		**1.03**	**187**	*i* P	Pn	14 01 54.2	0.0
SULR				*i* S	Sn	14 02 13.1	-0.9
SULR		**1.03**	**187**	*i* P	Pn	14 01 54.2	0.0
ARR	**Arges**	**1.30**	**256**	*i* P	Pn	14 01 57.2	+0.6
ARR				*i* S	Sn	14 02 16.7	-1.7
ARR	**Arges**	**1.30**	**256**	*i* P	Pn	14 01 57.2	+0.6
CFR	**Carcaliu**	**1.32**	**113**	*i* P	Pn	14 01 56.5	-0.2
CFR				*i* S	Sn	14 02 16.6	-1.9
CFR	**Carcaliu**	**1.32**	**113**	*i* P	Pn	14 01 56.5	-0.2
HARR	**Harsova**	**1.47**	**133**	*i* P	Pn	14 01 58.0	-0.2
HARR	**Harsova**	**1.47**	**133**	*i* P	Pn	14 01 58.0	-0.2
TLB	**Topalu**	**1.60**	**134**	*i* P	Pn	14 01 59.2	-0.3
TLB				*i* S	Sn	14 02 21.1	-2.5
TLB	**Topalu**	**1.60**	**134**	*i* P	Pn	14 01 59.2	-0.3
TLCR		**1.76**	**106**	*i* P	Pn	14 02 01.5	+0.3
TLCR				*i* S	Sn	14 02 25.8	-0.9
TLCR		**1.76**	**106**	*i* P	Pn	14 02 01.5	+0.3
TIRR	**Tirgusor**	**1.88**	**131**	*i* P	Pn	14 02 02.4	-0.2
TIRR				*i* S	Sn	14 02 26.5	-2.5
TIRR	**Tirgusor**	**1.88**	**131**	*i* P	Pn	14 02 02.4	-0.2

ISCJB ***10*** *14:02:54.9±0.3, 50°19N±0°02×18°94E±0°02, h0km, Error ellipse: s-maj=3.3km s-min=2.1km az=13.2*
IPEC ***10*** *14:02:55.8±0.1, 50°22N×19°04E, h1km, ML2.5/3, Error ellipse: s-maj=1.1km s-min=0.6km az=8.0*
VIE ***10*** *14:02:55.4±0.6, 50°12N×19°09E, h0km, mb2.6/5, ml2.7/6, ms3.7/1, Error ellipse: s-maj=9.4km s-min=4.5km az=156.0, Suspected Mining induced.*
BGR ***10*** *14:02:56.4±0.4, 50°27N×19°08E, h1km, ML3.4/5, Error ellipse: s-maj=7.8km s-min=3.3km az=3.0*
PRU ***10*** *14:02:56.1±0.0, 50°20N×19°03E, h0km*
ISC 10 14:02:56.0±0.8, 50°19N±0°03×19°03E±0°02, h0km, n53, σ1s20/93, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.10**	**348**	*e*Pg	**Pg**	**14 02 58.5**	**+0.6**
CHZP				*e*Sg	**Sg**	**14 03 00.5**	**+1.2**
OJC	**Ojcow**	**0.50**	**86**	*e*Pg	**Pg**	**14 03 05.0**	**-0.5**
OJC				*e*Sg	**Sg**	**14 03 11.6**	**-0.3**
OJC	**Ojcow**	**0.50**	**86**	*e*Pg	**Pg**	**14 03 05.0**	**-0.5**
OJC				*e*Sg	**Sg**	**14 03 11.8**	**-0.1**
OKC	**Ostrava-Krasne**	**0.67**	**238**	*e*PG	**Pb**	**14 03 09.5**	**-1.0**
OKC				*e*SG	**Sg**	**14 03 16.5**	**-0.9**
	comp=Z,74nm,0.4s						
OKC	**Ostrava-Krasne**	**0.67**	**238**	*e*Pg	**Pb**	**14 03 09.7**	**-0.8**
OKC				*e*Sg	**Sb**	**14 03 20.2**	**-0.1**
MORC	**Moravsky Berou**	**1.04**	**247**	*i* P	**Pg**	**14 03 16.0**	**+0.1**
MORC	**Moravsky Berou**	**1.04**	**247**	S	**Sb**	**14 03 30.9**	**-0.2**
MORC	**Moravsky Berou**	**1.04**	**247**	*e*PG	**Pg**	**14 03 16.1**	**+0.1**
MORC				*e*SG	**Sg**	**14 03 29.8**	**+0.4**
MORC	**Moravsky Berou**	**1.04**	**247**	*e*Pg	**Pg**	**14 03 16.0**	**+0.1**
	baz=65						
MORC				*e*Sg	**Sg**	**14 03 29.8**	**+0.4**
	98nm,0.3s,baz=65						
MORC	**Moravsky Berou**	**1.04**	**247**	*e*Pg	**Pg**	**14 03 16.1**	**+0.1**
MORC				*e*Sg	**Sb**	**14 03 31.1**	**0.0**
ANAC	**Anensky vrch**	**1.07**	**264**	*e*Pg	**Pg**	**14 03 16.7**	**+0.3**
	baz=81						
LANS	**Liptovska Anna**	**1.08**	**164**	*e*PG	**Pb**	**14 03 17.2**	**-0.4**
LANS				*e*SG	**Sb**	**14 03 32.0**	**-0.2**
NIE	**Niedzica**	**1.13**	**133**	*e*Pg	**Pb**	**14 03 18.0**	**-0.5**
NIE				*e*Sg	**Sb**	**14 03 33.3**	**-0.3**
KRLC	**Kraliky**	**1.45**	**266**	*e*PG	**Pn**	**14 03 22.3**	**-1.2**
KRLC				*e*SG	**Sg**	**14 03 42.3**	**-0.2**
	comp=Z,17nm,0.3s						
JAVC	**Velka Javorina**	**1.60**	**214**	*e*PN	**Pn**	**14 03 25.7**	**+0.2**
JAVC	**Velka Javorina**	**1.60**	**214**	*e*Pn	**Pn**	**14 03 25.6**	**+0.1**
	baz=33						
VYHS	**Vyhne**	**1.70**	**184**	*e*PN	**Pn**	**14 03 26.4**	**-0.5**
VYHS				*e*SN	**Sn**	**14 03 49.3**	**-0.1**
VYHS				eLG	Lg	14 03 51.9	
DPC	**Dobruska-Polom**	**1.74**	**276**	*e*PG	**Pn**	**14 03 27.0**	**-0.5**
DPC				*e*SG	**Sn**	**14 03 50.4**	**0.0**
	comp=Z,70nm,0.5s						
DPC	**Dobruska-Polom**	**1.74**	**276**	*e*Pn	**Pn**	**14 03 27.3**	**-0.2**
DPC				*e*Sg	**Sg**	**14 03 52.1**	**+0.2**
VRAC	**Vranov**	**1.81**	**242**	*i* P	**Pn**	**14 03 28.3**	**-0.1**
VRAC	**Vranov**	**1.81**	**242**	S	**Sb**	**14 03 52.8**	**-0.4**
VRAC	**Vranov**	**1.81**	**242**	*e*PN	**Pn**	**14 03 28.2**	**-0.1**
VRAC				*e*SG	**Sb**	**14 03 52.7**	**-0.4**
VRAC	**Vranov**	**1.81**	**242**	*e*Pn	**Pn**	**14 03 28.1**	**-0.3**
	baz=59						
VRAC				*e*Sg	**Sb**	**14 03 52.6**	**-0.5**
	43nm,0.3s,baz=59						
KSP	**Ksiaz**	**1.86**	**292**	*e*Pb	**Pn**	**14 03 28.6**	**-0.5**
KSP				*i* Pg	**Pg**	**14 03 31.2**	**-0.4**
KSP				*e*Sg	**Sg**	**14 03 55.7**	**-0.1**
KSP	**Ksiaz**	**1.86**	**292**	*e*Pn	**Pn**	**14 03 28.6**	**-0.5**
KSP				*e*Sg	**Sb**	**14 03 55.0**	**+0.3**
UPC	**Upice**	**1.96**	**280**	*e*SG	**Sg**	**14 03 59.1**	**+0.3**
KRUC	**Moravsky**	**2.05**	**238**	*e*PN	**Pn**	**14 03 31.1**	**-0.6**
KRUC				*e*SG	**Sb**	**14 04 00.4**	**+0.3**
KRUC	**Moravsky**	**2.05**	**238**	*e*Pn	**Pn**	**14 03 31.1**	**-0.6**
	baz=55						
KRUC				*e*Sg	**Sb**	**14 04 00.3**	**+0.2**
	17nm,0.2s,baz=55						
MODS	**Modra-Piesok**	**2.15**	**213**	*e*PN	**Pn**	**14 03 33.0**	**-0.1**
MODS				*e*SN	**Sn**	**14 04 00.5**	**+0.1**
MODS				eLG	Lg	14 04 10.2	
PSZ	**Piszkesteto**	**2.35**	**166**	*i* P	**Pn**	**14 03 37.3**	**+1.5**
PSZ	**Piszkesteto**	**2.35**	**166**	*e*Pn	**Pn**	**14 03 35.1**	**-0.7**
PSZ				*e*Pg	**Pg**	**14 03 40.0**	**-0.8**
PSZ				Sn	**Sn**	**14 04 05.0**	**-0.3**
TREC	**Trest**	**2.46**	**250**	*e*SG	**Sg**	**14 04 14.4**	**-0.7**
	comp=Z,35nm,0.4s						
GOPC	**GO Pecny, Ondr**	**2.75**	**266**	*e*PN	**Pn**	**14 03 40.2**	**-1.1**
GOPC				*e*PG	**Pb**	**14 03 44.8**	**-1.1**
GOPC				*e*SG	**Sg**	**14 04 22.1**	**-2.0**
	comp=Z,24nm,0.8s						
PVCC	**Panska Ves**	**2.87**	**278**	*e*PN	**Pn**	**14 03 42.1**	**-0.9**
PVCC				*e*PG	**Pb**	**14 03 48.8**	**+0.7**
PVCC				*e*SG	**Sg**	**14 04 27.9**	**-0.3**
	comp=Z,43nm,0.3s						
PRU	**Pruhonice**	**2.90**	**268**	*e*PN	**Pn**	**14 03 42.3**	**-1.0**
PRU				*e*PG	**Pb**	**14 03 48.2**	**-0.2**
PRU				*e*SG	**Sg**	**14 04 27.7**	**-1.2**
	comp=Z,16nm,0.6s						
CONA	**Conrad Observa**	**3.08**	**224**	*e*Pn	**Pn**	**14 03 45.2**	**-0.6**
	1.5nm,0.3s,SNR=5.1						
CONA				Pg	**Pg**	**14 03 54.5**	**-0.3**
	1.9nm,0.3s						
CONA				*e*Sn	**Sn**	**14 04 23.2**	**-0.1**
	5.4nm,0.3s						
TRPA	**Tarpa**	**3.09**	**130**	*i* P	**Pn**	**14 03 46.6**	**+0.6**
BRG	**Berggiesshubel**	**3.31**	**284**	PG	**Pb**	**14 03 57.3**	**+1.7**
BRG				SG	**Sg**	**14 04 43.5**	**+1.1**
	21nm,0.5s						
FBE	**Freiberg**	**3.69**	**284**	*e*Sg	**Sg**	**14 04 53.9**	**-0.5**
KHC	**Kasperske Hory**	**3.69**	**255**	*e*PN	**Pn**	**14 03 53.8**	**-0.5**
KHC				*e*PG	**Pb**	**14 04 00.9**	**-1.2**
KHC				*e*SG	**Sg**	**14 04 54.4**	**-0.2**
	comp=Z,22nm,0.5s						
ARSA	**Arzberg**	**3.75**	**220**	*e*Pn	**Pn**	**14 03 55.2**	**+0.1**
	0.4nm,0.3s						
MOA	**Molln**	**3.91**	**235**	*e*Pn	**Pn**	**14 03 56.7**	**-0.6**
	0.5nm,0.2s						
MOA				Pg	**Pg**	**14 04 08.8**	**-2.1**
	1.4nm,0.3s						
MOA				Sn	**Sn**	**14 04 45.8**	**+1.9**
	8.3nm,0.6s						
WET	**Wettzell**	**4.13**	**258**	*e*Pn	**Pn**	**14 03 59.8**	**-0.5**
WET				*e*Pg	**Pb**	**14 04 12.0**	**+2.5**
DRGR		**4.19**	**143**	*i* P	**Pn**	**14 04 01.6**	**+0.4**
TANN	**Tannenbergstha**	**4.21**	**276**	*e*Pn	**Pn**	**14 04 00.8**	**-0.7**
NKC	**Novy Kostel**	**4.22**	**273**	*e*PN	**Pn**	**14 04 01.9**	**+0.3**
NKC				*e*PG	**Pg**	**14 04 13.9**	**-3.0**
BURAR	**Bucovina Array**	**4.83**	**120**	*i* P	**Pn**	**14 04 10.2**	**+0.2**
KBA	**Koelnbreinsper**	**4.89**	**233**	*e*Pn	**Pn**	**14 04 10.7**	**-0.1**
	0.1nm,0.2s						
KBA				*e*Sn	**Sn**	**14 05 08.3**	**+0.2**
	1.8nm,0.4s						
BZS	**Buzias**	**4.90**	**158**	*i* P	**Pn**	**14 04 10.9**	**+0.1**
GZR	**Gura Zlata**	**5.42**	**151**	*i* P	**Pn**	**14 04 19.2**	**+1.1**
ABTA	**Abfaltersbach**	**5.53**	**234**	Sg	**Sg**	**14 05 55.6**	**+1.9**
	3.6nm,0.6s						
RETA	**Reutte**	**6.09**	**247**	Sg	**Sg**	**14 06 16.9**	**+5.5**
	5.2nm,0.5s						
FETA	**Feichten**	**6.35**	**243**	Sg	**Sg**	**14 06 25.9**	**+6.1**
	3.0nm,0.5s						

ISCJB ***10*** *14:04:02.8±0.4, 39°41N±0°03×28°25E±0°03, h5km±5km, Error ellipse: s-maj=4.7km s-min=3.4km az=8.6*
DDA ***10*** *14:04:02.8, 39°40N×28°25E, h7km±4km, ML2.9*
ISK ***10*** *14:04:02.2, 39°41N×28°25E, h8km, ML2.3/10*
ISC 10 14:04:02.9±1.0, 39°41N±0°03×28°25E±0°03, h12km±9km, n20, σ0s61/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.26**	**42**	*i* P	**Pg**	**14 04 08.5**	**+0.2**
DURS				*i* S	**Sg**	**14 04 12.6**	**+0.7**
DURS				IAML_P			
	comp=Z,8µm,0.1s						
DST	**Dursunbey**	**0.34**	**56**	PG	**Pg**	**14 04 09.4**	**-0.4**
DST				SG	**Sg**	**14 04 14.9**	**+0.4**
BALB	**Balikesir**	**0.37**	**309**	PG	**Pg**	**14 04 10.4**	**+0.2**
BALB				SG	**Sb**	**14 04 16.0**	**-1.0**
STEP	**BALIKESIR_Sava**	**0.41**	**266**	*i* P	**Pg**	**14 04 11.0**	**-0.1**
STEP				*i* S	**Sb**	**14 04 17.2**	**-1.1**
STEP				IAML_P			
	comp=Z,6µm,0.2s						
DEMI	**Demirci**	**0.52**	**135**	*i* P	**Pb**	**14 04 13.8**	**-0.1**
DEMI				*i* S	**Sb**	**14 04 21.0**	**-0.4**
DEMI				IAML_P			
	comp=Z,3µm,0.1s						
AKS	**Akhisar**	**0.63**	**213**	PG	**Pg**	**14 04 14.7**	**-0.4**
GONE	**Gonen-Balikesi**	**0.77**	**326**	PG	**Pg**	**14 04 17.1**	**-0.7**
SHAP	**Saphane-Kutahy**	**0.85**	**117**	PG	**Pb**	**14 04 19.6**	**0.0**
KCTX	**Karacabey (Bur**	**0.86**	**5**	PG	**Pb**	**14 04 19.6**	**-0.1**
USAK	**Uak-Merkez**	**0.92**	**139**	*i* P	**Pn**	**14 04 21.9**	**+0.3**
USAK				*i* S	**Sb**	**14 04 33.0**	**+0.1**
USAK				IAML_P			
	comp=Z,754nm,0.2s						
TVSB	**Tavsanli**	**0.94**	**87**	PG	**Pg**	**14 04 20.5**	**-0.5**
MANT	**Manisa**	**0.95**	**165**	*i* P	**Pn**	**14 04 21.9**	**-0.3**
MANT				*i* S	**Sg**	**14 04 33.2**	**-0.3**
MANT				IAML_P			
	comp=Z,759nm,0.1s						
KULA	**Kula-Manisa**	**0.95**	**160**	PG	**Pg**	**14 04 20.3**	**-0.9**
EDC	**Edincik**	**0.98**	**342**	PG	**Pg**	**14 04 20.7**	**-1.1**
GDZ	**Gediz**	**1.01**	**108**	*i* P	**Pb**	**14 04 22.3**	**-0.1**
GDZ				*i* S	**Sb**	**14 04 36.3**	**+0.7**
GDZ				IAML_P			
	comp=Z,2µm,0.1s						
ZEDA	**zmir-Bergama**	**1.01**	**244**	*i* P	**Pn**	**14 04 23.6**	**+0.7**
ZEDA				*i* S	**Sb**	**14 04 35.6**	**0.0**
ZEDA				IAML_P			
	comp=Z,826nm,0.2s						
AYVA	**Ayvalik**	**1.21**	**266**	*i* P	**Pn**	**14 04 26.1**	**+0.4**
AYVA				*i* S	**Sn**	**14 04 43.4**	**+1.4**
AYVA				IAML_P			
	comp=Z,670nm,0.2s						
ARMT	**Armutlu**	**1.25**	**22**	PN	**Pn**	**14 04 25.9**	**-0.2**
YLV	**Yalova**	**1.44**	**36**	PN	**Pn**	**14 04 28.9**	**0.0**
CAVI	**Cavuskoy**	**1.46**	**57**	PN	**Pb**	**14 04 29.9**	**-0.1**

ISCJB ***10*** *14:05:27.8±0.4, 39°41N±0°03×28°24E±0°03, h9km±5km, Error ellipse: s-maj=5.0km s-min=4.3km az=33.4*
DDA ***10*** *14:05:27.5, 39°39N×28°24E, h7km±4km, ML2.6*
ISK ***10*** *14:05:27.2, 39°40N×28°24E, h8km, ML2.2/11*
ISC 10 14:05:27.6±1.1, 39°39N±0°03×28°22E±0°03, h14km±10km, n18, σ0s35/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DURS	**Dursunbey**	**0.29**	**43**	*i* P	**Pg**	**14 05 33.7**	**+0.1**
DURS				*i* S	**Sg**	**14 05 37.9**	**+0.2**
DURS				IAML_P			
	comp=Z,3µm,0.1s						
BALB	**Balikesir**	**0.36**	**313**	PG	**Pb**	**14 05 35.5**	**-0.3**
BALB				SG	**Sb**	**14 05 41.1**	**-0.3**
DST	**Dursunbey**	**0.37**	**56**	PG	**Pg**	**14 05 34.9**	**-0.3**
DST				SG	**Sg**	**14 05 40.1**	**-0.2**
STEP	**BALIKESIR_Sava**	**0.39**	**268**	*i* P	**Pg**	**14 05 35.9**	**+0.4**
STEP				*i* S	**Sb**	**14 05 42.4**	**+0.2**
STEP				IAML_P			
	comp=Z,4µm,0.1s						
DEMI	**Demirci**	**0.52**	**132**	*i* P	**Pb**	**14 05 38.0**	**-0.6**
DEMI				*i* S	**Sb**	**14 05 46.0**	**-0.1**
DEMI				IAML_P			
	comp=Z,2µm,0.1s						
GONE	**Gonen-Balikesi**	**0.77**	**328**	PG	**Pg**	**14 05 42.2**	**-0.4**
SHAP	**Saphane-Kutahy**	**0.86**	**115**	PG	**Pg**	**14 05 43.9**	**-0.4**
KCTX	**Karacabey (Bur**	**0.88**	**7**	PG	**Pb**	**14 05 44.9**	**+0.2**
USAK	**Uak-Merkez**	**0.92**	**137**	*i* P	**Pn**	**14 05 46.1**	**-0.1**
USAK				*i* S	**Sb**	**14 05 58.1**	**+0.6**
USAK				IAML_P			
	comp=Z,320nm,0.2s						
MANT	**Manisa**	**0.94**	**164**	*i* P	**Pn**	**14 05 46.9**	**+0.2**
MANT				*i* S	**Sb**	**14 05 58.5**	**+0.3**
MANT				IAML_P			
	comp=Z,737nm,0.1s						
KULA	**Kula-Manisa**	**0.94**	**158**	PG	**Pg**	**14 05 45.4**	**-0.4**
TVSB	**Tavsanli**	**0.96**	**86**	PG	**Pb**	**14 05 46.4**	**+0.2**
EDC	**Edincik**	**0.99**	**344**	PG	**Pg**	**14 05 46.3**	**-0.5**
GDZ	**Gediz**	**1.02**	**107**	*i* P	**Pb**	**14 05 47.5**	**+0.2**
GDZ				*i* S	**Sb**	**14 06 01.1**	**+0.5**
GDZ				IAML_P			
	comp=Z,1µm,0.1s						
MDNY	**Mudanya-Bursa**	**1.10**	**27**	PN	**Pb**	**14 05 48.5**	**+0.1**
ARMT	**Armutlu**	**1.27**	**23**	PN	**Pn**	**14 05 51.3**	**+0.3**
YLV	**Yalova**	**1.47**	**37**	PN	**Pn**	**14 05 53.9**	**+0.1**
CAVI	**Cavuskoy**	**1.49**	**57**	PN	**Pb**	**14 05 54.8**	**-0.3**

ISCJB ***10*** *14:11:14.6±0.6, 67°58N±0°04×142°9E±0°1, h10km, mb3.2/3, Error ellipse: s-maj=8.0km s-min=6.2km az=8.0*
IDC ***10*** *14:11:14.3±1.4, 67°56N×142°73E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.3/55, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=29.9km s-min=19.0km az=24.0*
YARS ***10*** *14:11:15.3±0.1, 67°600N±0°008×142°92E±0°02, h3km±2km*
ISC 10 14:11:15.3±0.8, 67°60N±0°04×143°02E±0°05, h10km, n9, σ1s50/16, mb3.4/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.14**	**176**	*e*P	**Pb**	**14 11 35.5**	**-1.6**
MOMR				Pmax		14 11 35.5	
	comp=Z,50nm,0.3s						
MOMR				*e*S	**Sb**	**14 11 51.1**	**-0.9**
MOMR				Smax		14 11 51.1	
	comp=E,844nm,0.8s						
YBGR	**Belaya Gora**	**1.52**	**50**	*e*P	**Pn**	**14 11 42.9**	**+0.5**
YBGR				Pmax		14 11 42.9	
	comp=Z,28nm,0.2s						
YBGR				*e*S	**Sg**	**14 12 03.5**	**-0.5**
YBGR				Smax		14 12 03.5	
	comp=E,275nm,0.3s						
DEPR	**Deputatskiy**	**2.13**	**329**	*e*P	**Pn**	**14 11 51.2**	**+0.2**
DEPR				*e*P	**Pb**	**14 11 52.9**	**-1.1**
DEPR				Pmax		14 11 52.9	
	comp=Z,10.0nm,0.3s						
DEPR				*e*S	**Sb**	**14 12 21.3**	**+0.8**
DEPR				Smax		14 12 21.3	
	comp=E,483nm,0.3s						
BTGS	**Batagay**	**3.20**	**275**	*e*P	**Pn**	**14 12 06.8**	**+1.2**
BTGS				*e*P	**Pb**	**14 12 12.1**	**-0.1**
BTGS				Pmax		14 12 12.1	
	comp=Z,51nm,0.8s						
BTGS				*e*S	**Sb**	**14 12 52.9**	**+1.7**
BTGS				Smax		14 12 52.9	
	comp=N,268nm,0.5s						
SEY	**Seymchan**	**6.11**	**136**	Pn	**Pn**	**14 12 47.1**	**+1.5**
	comp=N,0.1nm,0.3s,baz=249,slow=16,SNR=1.6						
SEY				Lg	Lg	14 14 28.2	
	comp=N,0.4nm,0.3s,baz=228,slow=23,SNR=3.5						
TIXI	**Tiksi**	**6.38**	**316**	Pn	**Pn**	**14 12 49.2**	**-0.1**
	comp=N,0.6nm,0.3s,baz=129,slow=15,SNR=32						
TIXI				Sn	**Sn**	**14 13 58.5**	**-3.6**
	comp=N,1.8nm,0.3s,baz=319,slow=18,SNR=6.2						
TIXI				Lg	Lg	14 14 27.8	
	comp=N,3.9nm,0.3s,baz=44,slow=15,SNR=8.8						
ILAR	**Eielson Array**	**27.07**	**62**	P	**P**	**14 16 58.6**	**+1.1**
	comp=N,0.7nm,0.8s,baz=294,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**36.88**	**267**	P	**P**	**14 18 22.9**	**-0.6**
	comp=N,0.6nm,0.7s,baz=43,slow=6.6,SNR=7.5						
YKA	**Yellowknife Ar**	**38.75**	**46**	P	**P**	**14 18 40.6**	**+1.5**
	comp=N,0.2nm,0.7s,baz=322,slow=8.0,SNR=6.8						

SJA ***10*** *14:12:39.2±0.7, 20°55S×69°19W, h99km±4km, ML1.4, MW3.7*
ISCJB ***10*** *14:12:40.8±1.0, 20°34S±0°04×69°12W±0°09, h110km±10km, Error ellipse: s-maj=14.4km s-min=5.1km az=167.9*
GUC ***10*** *14:12:41.1±0.4, 20°34S×69°10W, h99km±2km, ML3.0*
ISC 10 14:12:41.7±1.6, 20°34S±0°04×69°09W±0°08, h100km±10km, n19, σ0s71/28, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.20**	**344**	*i* P	**Pn**	**14 12 55.7**	**-0.8**
PB08				*i* S	**Sn**	**14 13 07.6**	**+0.2**
PB08	**IPOC Station P**	**0.20**	**344**	*e*P	**Pn**	**14 12 56.3**	**-0.2**
PB08				*e*S	**Sn**	**14 13 07.6**	**+0.2**
PB08				IAML		14 13 09.9	
	comp=E,1µm,0.1s						
PB11	**IPOC Station P**	**0.78**	**317**	*i* P	**Pn**	**14 12 59.8**	**-0.3**
PB11				*i* S	**Sn**	**14 13 14.2**	**+0.4**
PB11	**IPOC Station P**	**0.78**	**317**	*e*P	**Pn**	**14 12 59.8**	**-0.3**
PB11				*e*S	**Sn**	**14 13 13.7**	**-0.1**
PB01	**IPOC Station P**	**0.79**	**208**	*i* P	**Pn**	**14 12 59.9**	**-0.2**
PB01				*i* S	**Sn**	**14 13 14.4**	**+0.4**
PB01	**IPOC Station P**	**0.79**	**208**	*e*P	**Pn**	**14 12 59.7**	**-0.4**
PB01				*e*S	**Sn**	**14 13 13.6**

comp=Z,160nm,18.6s,baz=70,slow=34
H11S3 WAKE ISLAND Hy 24.32 73 T T 14 47 24.1
baz=262,slow=72,SNR=9.0
H11S1 WAKE ISLAND Hy 24.34 73 T T 14 47 21.1
baz=262,slow=72,SNR=8.0
H11S2 WAKE ISLAND Hy 24.34 73 T T 14 47 21.2
baz=262,slow=72,SNR=8.2
H11N1 WAKE ISLAND Hy 24.76 70 T T 14 47 48.8
baz=256,slow=75,SNR=10
H11N2 WAKE ISLAND Hy 24.77 70 T T 14 47 55.6
baz=256,slow=75,SNR=6.8
H11N3 WAKE ISLAND Hy 24.78 70 T T 14 47 54.3
baz=256,slow=75,SNR=9.6
KSRS Korea Array 27.84 335 LR LR 14 33 32.8
comp=Z,47nm,18.6s,baz=159,slow=37
BATI Baumata 29.18 220 LR LR 14 33 28.9
comp=Z,90nm,21.4s,baz=62,slow=35
WRAB Tennant Creek 33.23 194 *eP* **P 14 23 06.5 -1.1**
11nm,1.0s
WB2 Warramunga Arr 33.24 193 *eP* **P 14 23 06.4 -1.3**
WR1 Warramunga Arr 33.24 194 *eP* **P 14 23 06.6 -1.1**
11nm,0.9s
WRA Warramunga Arr 33.24 194 P **P 14 23 06.6 -1.1**
7.3nm,0.9s,baz=14,slow=9.7,SNR=21
WRA LR LR 14 35 51.3
comp=Z,150nm,20.8s,baz=200,slow=35
FITZ Fitzroy Crossi 34.59 208 *eP* **P 14 23 18.1 -1.3**
20nm,1.7s
FITZ Fitzroy Crossi 34.59 208 LR LR 14 37 31.2
comp=Z,46nm,19.1s,baz=34,slow=37
AS01 Alice Springs 36.93 193 *eP* **P 14 23 37.8 -1.6**
AS31 Alice Springs 36.94 193 *eP* **P 14 23 38.8 -0.8**
3.8nm,1.6s
ASAR Alice Springs 36.94 193 P **P 14 23 39.8 +0.2**
1.7nm,0.9s,baz=20,slow=12,SNR=27
ASAR LR LR 14 38 18.5
comp=Z,144nm,21.4s,baz=60,slow=36
SKNT Sakolnakorn 37.14 281 P **P 14 23 43.7 +2.3**
1.8nm,1.7s,795nm
KLR Kul'dur 37.52 349 P **P 14 23 44.7 +0.5**
3.4nm,0.7s,baz=209,slow=3.9,SNR=6.8
CHAI Chaiyaphum 39.04 280 P **P 14 23 58.9 +1.5**
3.1nm,1.3s
UTTA Uttaradit 40.43 283 P **P 14 24 10.4 +1.5**
1.9nm,1.2s
UTHA Uthaitani 41.49 279 P **P 14 24 19.2 +1.4**
3.5nm,1.2s
DZM Mont Dzumac 41.88 145 P **P 14 24 21.4 +0.4**
4.7nm,0.5s,baz=220,slow=5.4,SNR=6.1
DZM LR LR 14 40 27.5
comp=Z,179nm,18.7s,baz=38,slow=34
CM01 Chiang Mai Arr 41.96 284 *eP* **P 14 24 20.6 -1.0**
CM31 Chiang Mai Arr 41.98 284 *eP* **P 14 24 21.0 -0.7**
11nm,1.0s
CMAR Chiang Mai Arr 41.98 284 P **P 14 24 21.9 +0.1**
5.4nm,1.0s,baz=85,slow=6.2,SNR=37
CMAR PcP **PcP 14 26 16.4 -0.5**
0.6nm,0.7s,baz=117,slow=1.8,SNR=4.4
CMAR LR LR 14 39 36.2
comp=Z,26nm,20.5s,baz=122,slow=33
CMMT Chiang Mai 41.98 284 P **P 14 24 24.0 +2.2**
2.2nm,2.2s
CHTO Chiang Mai 41.99 284 P **P 14 24 24.1 +2.3**
9.9nm,2.5s
TRTT Trang 42.03 268 P **P 14 24 22.6 +0.4**
5.3nm,1.2s
PETK Petropavlovsk- 42.27 14 LR LR 14 38 50.9
comp=Z,89nm,21.8s,baz=191,slow=32
PKDT Phuket 43.35 268 P **P 14 24 33.2 +0.3**
STKA Stephens Creek 44.23 181 P **P 14 24 38.2 -1.4**
2.7nm,0.7s,baz=12,slow=9.0,SNR=6.4
GTA Gaotai 45.90 313 P **P 14 24 53.0 -0.1**
GTA pP pP 14 24 58.9 -0.8
GTA sP sP 14 25 02.2 +0.2
GTA PcP **PcP 14 26 30.1 +0.1**
GTA pmax pmax
comp=Z,5.0nm,1.3s
SONA0 Songino Array 46.07 327 *eP* **P 14 24 54.6 +0.3**
SONA0 *e*PcP **PcP 14 26 30.0 -0.4**
SONM Songino Array 46.07 327 P **P 14 24 54.6 +0.3**
1.0nm,0.5s,baz=135,slow=7.3,SNR=8.8
SONM PcP **PcP 14 26 30.0 -0.4**
0.7nm,0.8s,baz=127,slow=4.0,SNR=3.5
SONM LR LR 14 45 09.5
comp=Z,45nm,18.6s,baz=106,slow=37
MA2 Magadan 47.33 6 P **P 14 25 04.0 +0.3**
1.4nm,0.5s,baz=190,slow=18,SNR=2.5
TOO Toolangi 50.00 177 *eP* **P 14 25 25.5 +0.9**
17nm,1.1s
SEY Seymchan 50.78 6 P **P 14 25 31.0 +0.8**
0.7nm,0.3s,baz=8.2,slow=21,SNR=5.7
NWAO Narrogin (SRO) 51.15 207 LR LR 14 46 34.5
comp=Z,196nm,20.8s,baz=329,slow=35
TIXI Tiksi 59.57 355 P **P 14 26 32.9 -0.5**
1.3nm,0.4s,baz=208,slow=1.5,SNR=4.3
MK01 Makanchi Array 60.38 317 *eP* **P 14 26 39.2 -0.3**
MK31 Makanchi Array 60.39 317 *eP* **P 14 26 38.9 -0.7**
3.7nm,0.8s
MK32 Makanchi Array 60.39 317 *eP* **P 14 26 39.9 +0.3**
MKAR Makanchi Array 60.39 317 P **P 14 26 39.9 +0.3**
5.7nm,0.8s,baz=97,slow=8.4,SNR=41
MAKZ Makanchi 60.60 317 *eP* **P 14 26 40.9 -0.1**
7.0nm,0.8s
ZALV Zalesovo Beam 60.91 325 P **P 14 26 42.1 -0.9**
1.4nm,0.5s,baz=107,slow=6.9,SNR=7.4
ZAA1 Zalesovo Array 60.91 325 *eP* **P 14 26 42.1 -0.9**
RPZ Rata Peaks 61.93 157 P **P 14 26 49.3 -0.6**
14nm,0.9s,baz=293,slow=1.4,SNR=4.9
PRZ Przheval'sk 62.29 311 *eP* **P 14 26 52.8 +0.1**
7.0nm,0.7s
KDJ Kajisay 63.13 311 *eP* **P 14 26 58.8 +0.5**
4.6nm,0.8s
KURK Kurchatov 63.66 321 *eP* **P 14 27 01.1 -0.3**
11nm,0.6s
KSH Kashi 63.76 308 *eP* **P 14 27 05.9 +3.4**
KSH PcP **PcP 14 27 41.5 +3.1**
KSH S **S 14 35 34.9 -1.2**
KSH pmax pmax
comp=Z,69nm,7.4s
KSH LR LR
comp=N,82nm,8.6s
NRIK Noril'sk 66.22 342 P **P 14 27 17.0 -0.7**
1.0nm,0.3s,baz=137,slow=11,SNR=3.7
CAST Castle Rocks 68.04 26 *eP* **P 14 27 30.2 +0.7**
8.8nm,1.1s
BPAW Bear Paw Mtn. 68.70 26 *eP* **P 14 27 34.2 +0.7**
22nm,1.6s
MLY Manley 69.05 25 *eP* **P 14 27 36.6 +0.8**
11nm,1.3s
WRH Wood River Hil 70.01 26 *eP* **P 14 27 41.5 -0.2**
25nm,1.9s
DHY Denali Highway 70.02 27 *eP* **P 14 27 41.7 -0.2**
13nm,1.4s
MDM Murphy Dome 70.06 25 *eP* **P 14 27 42.5 +0.5**
7.7nm,1.3s
CCB Clear Creek Bu 70.17 25 *eP* **P 14 27 43.1 +0.5**
4.3nm,1.0s
TOLK Toolik Lake Re 70.48 21 *eP* **P 14 27 45.4 +0.9**
12nm,1.4s
HDA Harding Lake 70.48 26 *eP* **P 14 27 44.0 -0.5**
8.6nm,1.4s
IL1 Eielson Array 70.58 25 *eP* **P 14 27 44.2 -1.0**
ILAR Eielson Array 70.58 25 P **P 14 27 44.5 -0.6**
1.4nm,0.7s,baz=246,slow=6.0,SNR=22
ILAR LR LR 14 57 33.0
comp=Z,32nm,19.5s,baz=261,slow=35
ILB Eielson Array 70.58 25 *eP* **P 14 27 44.3 -0.8**
4.1nm,0.8s
RIDG Independ'e Rid 71.27 27 *eP* **P 14 27 49.5 +0.1**
12nm,1.2s
DOT Dot Lake 71.59 27 *eP* **P 14 27 51.6 +0.2**
8.5nm,1.1s
SCRK Sand Creek 71.68 27 *eP* **P 14 27 52.3 +0.3**
11nm,1.3s
DAWY Dawson 73.70 27 *eP* **P 14 28 05.1 +1.2**
12nm,1.2s
HYT Haines Junctio 74.38 30 *eP* **P 14 28 09.6 +1.6**
12nm,1.1s
ABKAR Akbulak array 75.51 318 *eP* **P 14 28 13.7 -0.9**
17nm,1.4s
ARU Arti 76.08 325 *eP* **P 14 28 16.9 -0.8**
6.8nm,0.6s
INK Inuvik 76.28 22 *eP* **P 14 28 18.8 +0.2**
5.4nm,1.0s
GEYT Alibeck 77.72 306 P **P 14 28 25.3 -2.1**
3.7nm,0.9s,baz=158,slow=1.6,SNR=7.9
YKA Yellowknife Ar 84.94 27 P **P 14 29 05.7 +0.6**
1.9nm,0.6s,baz=288,slow=5.2,SNR=30
YKB5 Yellowknife Ar 84.94 27 *eP* **P 14 29 04.8 -0.2**
KLMR Klimovskoe 85.16 331 *eP* **P 14 29 04.1 -2.1**
KLMR AMP 14 29 13.2
comp=Z,25nm,2.2s
RES Resolute Bay 86.11 13 *eP* **P 14 29 10.9 +0.2**
comp=Z,6.0nm,0.8s
B08A Colville Reser 86.26 41 *eP* **P 14 29 12.4 +0.4**
comp=Z,17nm,1.4s
PINE Pine Mountain 86.29 46 *eP* **P 14 29 13.3 +0.7**
comp=Z,36nm,1.8s
ARA0 ARCESS Array S 87.20 342 *eP* **P 14 29 15.9 -0.3**
ARCES ARCESS Array B 87.20 342 P **P 14 29 15.9 -0.3**
comp=Z,3.3nm,0.9s,baz=60,slow=7.2,SNR=9.3
BEKR Beckworth 87.67 50 *eP* **P 14 29 19.8 +0.5**
comp=Z,2.7nm,0.7s
KBZ Khabaz 87.98 314 P **P 14 29 21.0 +0.6**
comp=Z,2.2nm,0.9s,baz=179,slow=4.5,SNR=5.7
CMB Columbia Colle 88.10 52 *eP* **P 14 29 21.1 -0.1**
comp=Z,15nm,1.8s
WVOR Wild Horse Val 88.27 47 *eP* **P 14 29 22.5 +0.5**
comp=Z,10nm,1.6s
NV01 Mina Array Sit 89.58 51 *eP* **P 14 29 29.2 +0.8**
NVAR Mina Array Bea 89.58 51 P **P 14 29 29.8 +1.3**
comp=Z,2.4nm,0.7s,baz=262,slow=5.4,SNR=21
FIA0 FINESS Array S 90.93 334 *eP* **P 14 29 32.1 -1.7**
FINES FINESS Array B 90.93 334 P **P 14 29 32.1 -1.7**
comp=Z,5.3nm,0.6s,baz=69,slow=4.9,SNR=29
FINES LR LR 15 13 04.5
comp=Z,62nm,19.0s,baz=238,slow=37
PD31 Pinedale Array 94.52 45 *eP* **P 14 29 52.0 +0.9**
comp=Z,6.0nm,1.8s
PDAR Pinedale Array 94.52 45 P **P 14 29 53.4 +2.2**
comp=Z,0.2nm,0.6s,baz=304,slow=6.4,SNR=2.7
PDAR LR LR 15 13 05.9
comp=Z,37nm,19.2s,baz=106,slow=36
BR101 Keskin Array S 95.81 313 *eP* **P 14 29 56.1 -0.9**
BRTR Keskin Array B 95.81 313 P **P 14 29 56.1 -0.9**
comp=Z,0.3nm,0.4s,baz=95,slow=5.6,SNR=2.5
NOA NORSAR Array B 97.01 338 LR LR 15 16 34.8
comp=Z,15nm,18.4s,baz=30,slow=37
LPAZ La Paz 150.45 101 *e*PKPbc **PKPbc 14 36 23.8 +0.3**
LPAZ La Paz 150.45 101 PKPbc **PKiKP 14 36 24.1 -0.1**
comp=Z,3.1nm,0.7s,baz=283,slow=2.0,SNR=16

*SOME **10** 14:17:28.2, 39.˚90N×69.˚47E, h0km*
*KRNET **10** 14:17:29.6±0.1, 39.˚99N×69.˚38E, mb3.1*
*NNC **10** 14:17:31.4±3.3, 40.˚06N×69.˚39E, h0km, mb3.5, mpv3.3,*
Error ellipse: s-maj=23.5km s-min=14.6km az=27.0
ISC 10 14:17:28.8±3.2, 39.˚9N±0.˚1×68.˚9E±0.˚1, h25km, n25,
σt 1.2s, σ77/39, 11C-11D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**1.44**	**12**	**↑*e*P**			**Pb**	**14 17 55.2**	**+0.2**
	baz=58								
TAS				↑*e*S			**Sb**	**14 18 13.6**	**+0.7**
	baz=58								
IUG	**Iuzhnay**	**2.38**	**21**	Pg			**Pb**	**14 18 10.3**	**-0.8**
	22nm,0.2s								
IUG				Lg			Lg	14 18 40.2	
	94nm,0.2s								
IUG	**Iuzhnay**	**2.38**	**21**	*e*P			**Pb**	**14 18 10.3**	**-0.8**
	22nm,0.2s								
IUG				*e*S			**Sb**	**14 18 40.2**	**0.0**
	94nm,0.2s								
ARK	**Arkit**	**2.99**	**50**	**↑*i*P**			**Pn**	**14 18 16.0**	**+1.3**
	baz=47								
ARK				↑*i*S			**Sn**	**14 18 50.1**	**+0.3**
	baz=47								
KK31	**Karatay Array**	**3.40**	**20**	**↑**Pg			**Pb**	**14 18 29.2**	**+0.7**
	0.8nm,0.3s,baz=201,slow=17,SNR=20								
KK31				Lg			Lg	14 19 10.9	
	5.1nm,0.3s,baz=195,slow=29,SNR=13								
ARSB	**Arslanbob**	**3.41**	**64**	**↓*i*P**			**Pn**	**14 18 20.9**	**+0.4**
	baz=63								
ARSB				↓*i*S			**Sn**	**14 18 58.7**	**-1.5**
	baz=63								
AML	**Almayashu**	**4.25**	**57**	P			**Pn**	**14 18 32.5**	**+0.2**
	SNR=30								
AML	**Almayashu**	**4.25**	**57**	**↓*e*P**			**Pn**	**14 18 32.5**	**+0.2**
	baz=55								
AML				↓*i*S			**Sn**	**14 19 19.3**	**-1.9**
	baz=55								
MRKS	**Merke**	**4.31**	**48**	Pg			**Pb**	**14 18 43.6**	**-0.4**
	2.5nm,0.3s								
MRKS				Lg			Lg	14 19 36.9	
	9.3nm,0.3s								
MRKS	**Merke**	**4.31**	**48**	*e*P			**Pb**	**14 18 41.1**	**-2.8**
	1.4nm,0.4s								
MRKS				*e*S			**Sb**	**14 19 36.0**	**+0.5**
	7.9nm,0.3s								
EKS2	**Erkin-Say**	**4.58**	**52**	**↓*i*P**			**Pn**	**14 18 37.7**	**+1.1**
	baz=50								
EKS2				↓*i*S			**Sn**	**14 19 27.5**	**-1.6**
	baz=50								
UCH	**Uchtor**	**4.83**	**60**	P			**Pn**	**14 18 40.5**	**+0.1**
	SNR=8.1								
UCH	**Uchtor**	**4.83**	**60**	**↑*i*P**			**Pn**	**14 18 40.3**	**0.0**
	baz=58								
UCH				↑*i*S			**Sn**	**14 19 32.8**	**-2.9**
	baz=58								
AAK	**Ala-Archa**	**5.01**	**55**	P			**Pn**	**14 18 45.1**	**+2.5**
	SNR=9.4								
AAK	**Ala-Archa**	**5.01**	**55**	**↓**Pn			**Pn**	**14 18 43.6**	**+1.0**
	0.8nm,0.2s								
AAK				Sn			**Sn**	**14 19 40.4**	**+0.6**
	1.5nm,0.3s								
AAK	**Ala-Archa**	**5.01**	**55**	**↑*i*P**			**Pn**	**14 18 43.4**	**+0.8**
	baz=54								
AAK				↑*e*S			**Sn**	**14 19 37.4**	**-2.4**
	baz=54								
KZA	**Kyzart**	**5.26**	**64**	P			**Pn**	**14 18 46.6**	**+0.3**
	SNR=17								
KZA	**Kyzart**	**5.26**	**64**	**↓*i*P**			**Pn**	**14 18 46.6**	**+0.3**
	baz=63								
KZA				↓*i*S			**Sn**	**14 19 43.1**	**-3.3**
	baz=63								
KBK	**Karagaybulak**	**5.31**	**57**	P			**Pn**	**14 18 47.8**	**+1.1**
	SNR=7.3								
KBK	**Karagaybulak**	**5.31**	**57**	**↓*e*P**			**Pn**	**14 18 47.6**	**+0.9**
	baz=56								
KBK				↓*i*S			**Sn**	**14 19 44.5**	**-2.7**
	baz=56								
TKM2	**Tokmak 2**	**5.86**	**57**	P			**Pn**	**14 18 54.6**	**+0.4**
	SNR=6.9								
TKM2	**Tokmak 2**	**5.86**	**57**	**↑**Pn			**Pn**	**14 18 53.8**	**-0.4**
	2.1nm,0.7s								
TKM2				↑Sn			**Sn**	**14 19 56.7**	**-4.0**
	1.1nm,0.5s								
KST	**Kastek**	**6.15**	**57**	Pg			**Pb**	**14 19 15.9**	**+0.6**
	0.9nm,0.2s								
KST				Lg			Lg	14 20 33.6	
	4.6nm,0.5s								
KST	**Kastek**	**6.15**	**57**	*e*P			**Pb**	**14 19 16.1**	**+0.8**
	1.2nm,0.6s								
KST				*e*S			**Sb**	**14 20 34.0**	**+5.5**
	5.0nm,0.5s								
KUU	**Kurty**	**6.82**	**52**	Pg			**Pb**	**14 19 27.1**	**+0.5**
	0.4nm,0.2s								
KUU				Lg			Lg	14 20 51.3	
	3.4nm,0.5s								

*ISCJB **10** 14:29:30.3±0.5, 19.˚4S±0.˚1×177.˚6W±0.˚1, h550km,*
mb3.4/10, Error ellipse: s-maj=19.3km s-min=9.4km
az=136.3
*IDC **10** 14:29:30.8±1.5, 19.˚33S×177.˚54W, h545km±18km,*
mb3.0/10, mb1 3.3/12, mb1mx3.1/45, mbtmp4.0/12, Error
ellipse: s-maj=18.4km s-min=12.2km az=139.0
ISC 10 14:29:31.0±0.6, 19.˚3S±0.˚1×177.˚5W±0.˚1, h550km, n18,
σt 0.8s, σ84/20, mb3.5/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.70**	**47**	P			**P**	**14 31 26.9**	**+1.0**
	4.7nm,0.3s,baz=71,slow=5.2,SNR=5.2								
AFI				S			**S**	**14 32 58.8**	**-1.3**
	2.3nm,0.3s,baz=29,slow=19,SNR=3.2								
URZ	**Urewera**	**19.45**	**193**	P			**P**	**14 33 20.6**	**-1.2**
	1.5nm,0.3s,baz=248,slow=3.3,SNR=13								
CTA	**Charters Tower**	**34.06**	**262**	P			**P**	**14 35 31.1**	**+0.9**
	3.7nm,0.8s,baz=73,slow=11,SNR=4.6								
WRA	**Warramunga Arr**	**45.21**	**261**	P			**P**	**14 36 59.2**	**-0.4**
	0.7nm,0.5s,baz=98,slow=7.5,SNR=33								
WRA				PcP			**PcP**	**14 38 28.1**	**0.0**
	0.4nm,0.4s,baz=93,slow=3.6,SNR=6.1								
ASAR	**Alice Springs**	**45.23**	**256**	P			**P**	**14 36 59.8**	**+0.1**
	1.8nm,0.6s,baz=85,slow=8.2,SNR=55								
ASAR				PcP			**PcP**	**14 38 28.0**	**-0.1**
	0.9nm,0.6s,baz=101,slow=4.0,SNR=9.3								
FITZ	**Fitzroy Crossi**	**53.63**	**261**	P			**P**	**14 38 01.6**	**0.0**
	2.3nm,0.9s,baz=100,slow=5.8,SNR=6.1								
QSPA	**South Pole Qui**	**70.75**	**180**	P			**P**	**14 39 52.9**	**+1.1**
	2.8nm,0.8s,baz=316,slow=1.0,SNR=14								
NVAR	**Mina Array Bea**	**79.86**	**43**	P			**P**	**14 40 44.2**	**+1.2**
	0.2nm,0.6s,baz=211,slow=6.2,SNR=2.6								
SEY	**Seymchan**	**85.33**	**347**	P			**P**	**14 41 09.8**	**+0.1**
	0.5nm,0.7s,baz=139,slow=6.6,SNR=4.4								
ILAR	**Eielson Array**	**87.07**	**13**	P			**P**	**14 41 16.9**	**-1.0**
	0.2nm,0.6s,baz=228,slow=5.4,SNR=7.0								
PDAR	**Pinedale Array**	**87.80**	**43**	P			**P**	**14 41 23.2**	**+1.0**
	0.2nm,0.6s,baz=228,slow=4.5,SNR=2.6								
SNAA	**Sanae**	**89.18**	**178**	P			**P**	**14 41 27.4**	**-0.6**
	0.7nm,0.6s,baz=203,slow=15,SNR=4.6								
VNA3	**Neumayer Olymp**	**89.29**	**176**	P			**P**	**14 41 28.0**	**-0.3**
VNA2	**Neumayer--Watz**	**89.74**	**177**	P			**P**	**14 41 30.4**	**-0.1**
	baz=166,slow=2.2								
MKAR	**Makanchi Array**	**110.71**	**314**	PKiKP			**PKiKP**	**14 47 00.6**	**-0.9**
	0.3nm,0.5s,baz=134,slow=1.4,SNR=5.4								
ARCES	**ARCESS Array B**	**127.84**	**350**	PKP			**PKPdf**	**14 47 33.0**	**-0.6**
	1.6nm,0.7s,baz=346,slow=2.5,SNR=4.9								
AKASG	**Malin Array Be**	**142.19**	**332**	PKhKP			PKPpre	14 47 56.0	
	0.5nm,0.4s,baz=42,slow=4.4,SNR=5.8								
BRTR	**Keskin Array B**	**146.36**	**314**	PKPbc			**PKPbc**	**14 48 10.2**	**-0.7**
	1.0nm,0.6s,baz=121,slow=5.2,SNR=6.3								

*ISCJB **10** 14:34:45.7±0.4, 24.˚02N±0.˚02×122.˚47E±0.˚02, h25km±3km,*
Error ellipse: s-maj=3.6km s-min=2.6km az=172.4
*JMA **10** 14:34:45.5±0.1, 24.˚00N×122.˚47E, h28km±3km, M2.3*
*TAP **10** 14:34:45.7, 24.˚00N×122.˚48E, h25km, ML2.6, D*
ISC 10 14:34:45.4±1.1, 23.˚99N±0.˚03×122.˚47E±0.˚02, h27km±11km,
n73, σ0.65/106, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.63**	**44**	P			**Pb**	**14 34 57.7**	**-0.2**
JYNG				S			**Sb**	**14 35 06.5**	**+0.1**
EOS1	**EOS1**	**0.63**	**331**	*e*P			**Pb**	**14 34 58.1**	**+0.2**
	baz=329								
EOS1				*e*S			**Sb**	**14 35 06.9**	**+0.5**
	baz=329								
YOJ	**Yonaguni jima**	**0.68**	**47**	*e*P			**Pb**	**14 34 58.3**	**-0.4**
	baz=46								
YOJ				*e*S			**Sb**	**14 35 07.6**	**-0.2**
	baz=46								
YOJ	**Yonaguni jima**	**0.68**	**47**	P			**Pb**	**14 34 58.4**	**-0.4**
YOJ				S			**Sb**	**14 35 07.5**	**-0.3**
NANB	**Nanao**	**0.78**	**304**	*e*P			**Pb**	**14 35 00.4**	**-0.1**
	baz=302								
NANB				*e*S			**Sb**	**14 35 11.0**	**+0.2**
	baz=302								
ENA	**Nanau**	**0.79**	**303**	*e*P			**Pb**	**14 35 00.7**	**+0.1**
	baz=302								
ENA				*e*S			**Sb**	**14 35 11.0**	**+0.1**
	baz=302								
TWD	**Chiawan**	**0.80**	**276**	*e*P			**Pb**	**14 35 00.7**	**-0.1**
	baz=275								
TWD				*e*S			**Sb**	**14 35 11.7**	**+0.5**
	baz=275								
NACB	**Ninganchiao**	**0.82**	**283**	*e*P			**Pb**	**14 35 00.7**	**-0.3**
	baz=281								
NACB				*e*S			**Sb**	**14 35 11.6**	**0.0**
	baz=281								
TWC	**Suao**	**0.83**	**318**	P			**Pb**	**14 35 00.8**	**-0.5**
	baz=317								
TWC				S			**Sb**	**14 35 11.2**	**-0.9**
	baz=317								
ETLH	**Xiulin Townshi**	**0.93**	**283**	*e*P			**Pn**	**14 35 02.5**	**-0.2**
	baz=282								
ETLH				*e*S			**Sb**	**14 35 14.1**	**-0.8**
	baz=282								
ESL	**Shilin**	**0.96**	**260**	*e*P			**Pn**	**14 35 02.7**	**-0.4**
	baz=258								
EGS		**0.98**	**330**	*e*P			**Pb**	**14 35 03.9**	**+0.2**
	baz=329								
EGFH	**Guangfu**	**1.00**	**251**	*e*P			**Pn**	**14 35 04.2**	**+0.5**
	baz=250								
ILA	**Ilan**	**1.01**	**320**	*e*S			**Sb**	**14 35 17.0**	**-0.2**
	baz=319								
TWE	**Neicheng**	**1.03**	**315**	*e*P			**Pn**	**14 35 04.4**	**+0.3**
	baz=314								
TWE				*e*S			**Sb**	**14 35 17.8**	**+0.1**
	baz=314								
NTC	**Toucheng**	**1.03**	**326**	P			**Pn**	**14 35 04.4**	**+0.3**
	baz=325								
NTC				S			**Sn**	**14 35 17.1**	**-0.6**
	baz=325								
ENTT	**Nioudou**	**1.04**	**308**	*e*P			**Pb**	**14 35 05.3**	**+0.5**
	baz=307								
ENTT				*e*S			**Sn**	**14 35 18.1**	**+0.1**
	baz=307								
NDT	**Datong Townshi**	**1.06**	**305**	*e*P			**Pb**	**14 35 06.3**	**+1.2**
	baz=304								
NDT				*e*S			**Sb**	**14 35 18.9**	**+0.2**
	baz=304								
SLBB	**Yuanshan**	**1.07**	**315**	*e*P			**Pb**	**14 35 05.4**	**+0.1**
	baz=314								
SLBB				*e*S			**Sb**	**14 35 19.3**	**+0.3**
	baz=314								
HGSD	**Ruisui**	**1.08**	**243**	*e*P			**Pn**	**14 35 05.0**	**+0.3**
	baz=242								
NNSB	**Datong**	**1.08**	**294**	*e*P			**Pn**	**14 35 05.0**	**+0.1**
	baz=293								
NNSB				*e*S			**Sn**	**14 35 18.0**	**-1.0**
	baz=293								
NNS	**Nan Shan**	**1.09**	**294**	*e*P			**Pn**	**14 35 05.1**	**+0.1**
	baz=293								
NNS				*e*S			**Sn**	**14 35 19.5**	**+0.2**
	baz=293								
TIPB	**Shuangxi**	**1.14**	**329**	*e*P			**Pn**	**14 35 05.1**	**-0.4**
	baz=328								
TIPB				*e*S			**Sn**	**14 35 19.3**	**-1.0**
	baz=328								
EHY	**Hungye**	**1.16**	**245**	*e*P			**Pn**	**14 35 05.9**	**+0.1**
	baz=244								
NWLT	**Wulai**	**1.18**	**312**	*e*P			**Pn**	**14 35 07.5**	**+0.4**
	baz=311								
NWLT				*e*S			**Sn**	**14 35 21.6**	**+0.3**
	baz=311								
OWD	**Renai**	**1.18**	**268**	*e*P			**Pn**	**14 35 06.5**	**+0.2**
	baz=267								
OWD				*e*S			**Sn**	**14 35 21.1**	**-0.4**
	baz=267								
CHGB	**Renai**	**1.18**	**273**	*e*P			**Pn**	**14 35 06.7**	**+0.3**
	baz=272								
CHGB				*e*S			**Sn**	**14 35 21.3**	**-0.4**
	baz=272								
YHNB	**Yeheng**	**1.20**	**304**	*e*P			**Pn**	**14 35 07.1**	**+0.6**
	baz=303								
YHNB				*e*S			**Sn**	**14 35 21.8**	**-0.1**
	baz=303								
IRIF	**Iriomote-Funau**	**1.20**	**73**	P			**Pn**	**14 35 06.7**	**+0.3**
IRIF				*e*S			**Sb**	**14 35 22.8**	**+0.1**
TWT	**Tachien**	**1.21**	**283**	*e*P			**Pb**	**14 35 07.6**	**-0.2**
	baz=281								
NSK	**Sanguang**	**1.22**	**304**	*e*P			**Pb**	**14 35 08.6**	**+0.8**
	baz=303								
NSK				*e*S			**Sn**	**14 35 22.3**	**-0.1**
	baz=303								
TDCB	**Techi**	**1.22**	**282**	*e*P			**Pn**	**14 35 07.5**	**+0.7**
	baz=281								
HATJ	**Hateruma jima**	**1.23**	**87**	*e*S			**Sn**	**14 35 22.9**	**+0.5**
YULB	**Yu-li**	**1.23**	**241**	*e*P			**Pn**	**14 35 07.3**	**+0.5**
	baz=240								
VWDT	**VWDT**	**1.24**	**259**	*e*P			**Pn**	**14 35 07.7**	**+0.8**
	baz=258								
NWF	**Wu-fen Shan**	**1.24**	**330**	*e*P			**Pn**	**14 35 06.7**	**-0.3**
	baz=329								
WFSB	**Wu-fen Shan**	**1.24**	**330**	*e*P			**Pn**	**14 35 06.8**	**-0.2**
	baz=329								
WFSB				*e*S			**Sn**	**14 35 21.8**	**-1.0**
	baz=329								
TWF1	**Yuli**	**1.25**	**239**	*e*P			**

FULB Fuli 1.33 234 *e*P Pn 14 35 08.6 +0.3
baz=233
CHKT Chengkung 1.35 229 *e*P Pn 14 35 08.5 +0.1
baz=228
CHKT *e*S Sn 14 35 25.6 +0.2
baz=228
SSLB Suanglung 1.40 262 *e*P Pn 14 35 10.1 +0.9
baz=261
JKRS Kuro-shima 1.43 80 P Pb 14 35 11.0 -0.4
JKRS *e*S Sb 14 35 29.2 0.0
YM04 YM04 1.43 324 *e*P Pn 14 35 09.5 -0.1
baz=323
TWS1 Kuangyinshan 1.46 319 *e*S Sb 14 35 29.4 -0.6
baz=318
LIOB Emei 1.47 296 *e*P Pn 14 35 10.3 +0.2
baz=295
TYC Yuchr 1.48 267 *e*P Pn 14 35 11.2 +1.0
baz=266
YUS Yu-Shan 1.48 250 *e*P Pn 14 35 10.5 -0.1
baz=249
NSTT Nanjuang 1.48 296 *e*P Pb 14 35 12.4 +0.2
baz=295
NSTT *e*S Sn 14 35 29.8 +1.1
baz=295
WHYT Xinyi Township 1.51 259 *e*P Pb 14 35 12.1 -0.6
baz=258
ELDTW Lidau 1.55 239 *e*P Pn 14 35 11.7 +0.3
baz=238
JIJ Ishigaki jima 1.57 76 P Pn 14 35 12.1 +0.6
JIJ S Sn 14 35 31.5 +0.5
TWQ1 Liyutan 1.59 283 *e*P Pb 14 35 13.7 -0.3
baz=282
TWQ1 *e*S Sb 14 35 33.6 -0.1
baz=282
ALS Alishan 1.60 253 *e*P Pb 14 35 13.7 -0.7
baz=252
WJS Zhushan 1.60 264 *e*P Pb 14 35 14.2 -0.1
baz=263
WNT Mingjian 1.64 266 *e*P Pb 14 35 14.9 0.0
baz=265
CHN5 Tsauling 1.69 257 *e*P Pb 14 35 15.5 -0.3
baz=256
TWGBT Beinan 1.73 228 *e*P Pn 14 35 14.7 +1.0
baz=227
TWG Pinlang 1.73 228 *e*P Pn 14 35 14.1 +0.3
baz=227
STYT Tauyuan 1.77 243 *e*P Pn 14 35 16.1 +1.8
baz=241
JISG Ishigakijimahi 1.78 70 P Pn 14 35 15.0 +0.6
JISG *e*S Sn 14 35 35.3 -0.9
WDLH Douliu 1.79 261 *e*P Pb 14 35 16.8 -0.8
baz=259
TPUB Ta-pu 1.82 248 *e*P Pb 14 35 17.2 -0.9
baz=247
CHN4 Tsaushan 1.83 250 *e*P Pb 14 35 17.6 -0.6
baz=249
WTP Ta-pu 1.85 247 *e*P Pb 14 35 17.8 -0.8
baz=246
SLGT Liugui 1.94 240 *e*P Pb 14 35 19.4 -0.8
baz=239
TWK Hsinying 1.95 249 *e*P Pb 14 35 19.2 -1.1
baz=247
ECL Taimali 1.97 225 *e*S Sn 14 35 40.5 -0.2
baz=224
MASBT Mashibuluo 2.18 231 *e*P Pn 14 35 21.6 +1.8
baz=230
EAST Anshuo 2.19 223 *e*P Pn 14 35 21.2 +1.2
baz=222
SSPT Xinbi 2.30 230 *e*P Pb 14 35 24.4 -1.9
baz=229
SNJT Kaohsiung City 2.31 238 *e*P Pn 14 35 24.3 +2.6
baz=237

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*ISCJB **10** 14:35:35.7±0.6, 3.7N±0.1×126.4E±0.2, h45km, mb3.8/7, Error ellipse: s-maj=27.7km s-min=6.1km az=147.3*
*MAN **10** 14:35:39.7, 3.50N×124.89E, h17km, MS3.4*
*IDC **10** 14:35:39.5±3.8, 4.10N×126.93E, h87km±42km, mb3.5/7, mb1 3.7/8, mb1mx3.4/48, mbtmp3.9/8, MS2.6/1, Ms1 2.6/1, ms1mx2.3/28, Error ellipse: s-maj=50.2km s-min=15.4km az=66.0*
ISC 10 14:35:37.0±0.7, 3.9N±0.1×126.6E±0.2, h45km, n14, σ1s72/14, mb3.8/7, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKMP	**Bagumbayan, Su**	**3.29**	**322**	*e*P		**Pn**	**14 36 26.8**	**+0.8**
SKMP				*e*S		**Sn**	**14 37 04.4**	**+0.4**
KCP	**Kidapawan**	**3.42**	**335**	*e*P		**Pn**	**14 36 30.0**	**+2.1**
CTBH	**Cotabato--PC H**	**4.03**	**325**	*i*P		**Pn**	**14 36 38.6**	**+2.5**
BUKP	**Musuan**	**4.23**	**339**	*e*P		**Pn**	**14 36 40.8**	**+1.9**
BUKP				*e*S		Sn	14 37 36.4	+9.3
BUTP	**Butuan**	**5.12**	**350**	*e*P		Pn	14 37 02.7	+11
BUTP				*e*S		Sn	14 38 14.5	+25
SIJI	**Sorong**	**6.67**	**135**	P		**Pn**	**14 37 14.4**	**+1.9**
	2.0nm,0.3s,baz=341,slow=22,SNR=8.2							
SIJI				S		**Sn**	**14 38 27.1**	**-0.3**
	baz=233,slow=20,SNR=5.0							
TGY	**Tagaytay City**	**11.56**	**332**	LR		LR	14 44 11.8	
	comp=Z,29nm,18.3s,baz=176,slow=44							
FITZ	**Fitzroy Crossi**	**21.88**	**182**	P		**P**	**14 40 27.6**	**+1.5**
	2.3nm,0.7s,baz=11,slow=8.4,SNR=5.7							
WRA	**Warramunga Arr**	**24.89**	**162**	P		**P**	**14 40 55.0**	**-0.8**
	2.3nm,0.7s,baz=342,slow=10,SNR=16							
ASAR	**Alice Springs**	**28.32**	**166**	P		**P**	**14 41 25.8**	**-0.9**
	0.6nm,0.6s,baz=346,slow=6.7,SNR=15							
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		**P**	**14 41 47.9**	**+0.5**
	0.8nm,0.5s,baz=101,slow=9.3,SNR=4.1							
STKA	**Stephens Creek**	**38.35**	**159**	P		**P**	**14 42 53.4**	**-0.3**
	4.2nm,0.8s,baz=320,slow=12,SNR=6.4							
SONM	**Songino Array**	**47.09**	**342**	P		**P**	**14 44 02.0**	**-2.5**
	0.3nm,0.3s,baz=153,slow=8.8,SNR=5.7							
MKAR	**Makanchi Array**	**57.32**	**325**	P		**P**	**14 45 18.6**	**-1.9**
	0.3nm,0.3s,baz=124,slow=7.6,SNR=13							

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*ISCJB **10** 14:37:29.5±0.6, 49.65S±0.09×121.8E±0.2, h10km, mb4.2/10, MS3.4/9, Error ellipse: s-maj=22.1km s-min=11.1km az=17.1*
*IDC **10** 14:37:30.1±0.8, 49.68S×121.88E, h0km, mb4.2/7, mb1 4.4/7, mb1mx4.1/37, mbtmp4.3/7, MS3.4/9, Ms1 3.4/9, ms1mx3.2/31, Error ellipse: s-maj=43.5km s-min=16.6km az=101.0*
*NEIC **10** 14:37:31.3±0.4, 49.68S×121.77E, h10km, mb4.4/9, Error ellipse: s-maj=14.6km s-min=7.3km az=108.0*
ISC 10 14:37:31.4±0.8, 49.7S±0.1×121.7E±0.2, h10km, n33, σ0s48/26, mb4.3/10, MS3.4/9, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.78**	**336**	T		T	14 57 31.4	
	baz=160,slow=74,SNR=9.0							
H01W2	**Cape Leeuwin H**	**15.78**	**336**	T		T	14 57 31.0	
	baz=160,slow=74,SNR=9.6							
H01W3	**Cape Leeuwin H**	**15.79**	**336**	T		T	14 57 37.2	
	baz=160,slow=74,SNR=8.8							
BBOO	**Buckleboo**	**19.93**	**38**	*e*P		**P**	**14 42 03.4**	**+0.2**
	13nm,1.0s							
TOO	**Toolangi**	**20.92**	**64**	*e*P		**P**	**14 42 14.6**	**+0.6**
	12nm,1.0s							
STKA	**Stephens Creek**	**23.16**	**47**	*e*P		**P**	**14 42 38.2**	**+0.3**
	3.0nm,1.4s							
STKA	**Stephens Creek**	**23.16**	**47**	P		**P**	**14 42 37.6**	**-0.3**
	3.3nm,1.0s,baz=193,slow=15,SNR=5.1							
STKA				LR		LR	14 50 19.0	
	comp=Z,87nm,19.5s,baz=207,slow=33							
ASAR	**Alice Springs**	**27.65**	**25**	P		**P**	**14 43 19.4**	**+0.2**
	5.5nm,1.1s,baz=193,slow=8.9,SNR=22							
ASAR				LR		LR	14 52 59.5	
	comp=Z,230nm,21.1s,baz=222,slow=34							
AS31	**Alice Springs**	**27.65**	**25**	*e*P		**P**	**14 43 19.3**	**0.0**
	2.6nm,1.3s							
AS01	**Alice Springs**	**27.66**	**25**	*e*P		**P**	**14 43 19.1**	**-0.2**
WR1	**Warramunga Arr**	**31.32**	**23**	*e*P		**P**	**14 43 50.9**	**-0.9**
	38nm,2.0s							
WR1				*e*PcP		**PcP**	**14 46 45.1**	**-0.6**
WRA	**Warramunga Arr**	**31.32**	**23**	P		**P**	**14 43 50.9**	**-0.9**
	3.2nm,1.0s,baz=195,slow=8.8,SNR=6.1							
WRA				PcP		**PcP**	**14 46 45.1**	**-0.7**
	1.2nm,0.9s,baz=210,slow=2.1,SNR=4.8							
WB2	**Warramunga Arr**	**31.32**	**23**	*e*P		**P**	**14 43 51.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**31.64**	**7**	LR		LR	14 56 08.3	
	comp=Z,56nm,19.5s,baz=162,slow=35							
VNDA	**Vanda**	**31.79**	**165**	*e*P		**P**	**14 43 55.3**	**-0.1**
	7.5nm,1.2s							
VNDA	**Vanda**	**31.79**	**165**	P		**P**	**14 43 55.6**	**+0.2**
	3.1nm,0.9s,baz=301,slow=9.4,SNR=10							
VNDA				LR		LR	14 55 33.0	
	comp=Z,80nm,21.2s,baz=315,slow=34							
BATI	**Baumata**	**39.37**	**3**	LR		LR	15 00 01.7	
	comp=Z,92nm,21.1s,baz=204,slow=34							
QSPA	**South Pole Qui**	**40.46**	**180**	*e*P		**P**	**14 45 09.9**	**+0.1**
	11nm,1.2s							
QSPA	**South Pole Qui**	**40.46**	**180**	P		**P**	**14 45 09.9**	**+0.1**
	13nm,1.1s,baz=328,slow=4.8,SNR=12							
JAY	**Jayapura**	**49.68**	**25**	LR		LR	15 06 32.7	
	comp=Z,95nm,21.0s,baz=198,slow=35							
SNAA	**Sanae**	**52.81**	**199**	*e*P		**P**	**14 46 46.2**	**-0.2**
	12nm,1.2s							
SNAA	**Sanae**	**52.81**	**199**	P		**P**	**14 46 46.2**	**-0.2**
	4.9nm,0.9s,baz=158,slow=6.5,SNR=8.6							
GUMO	**Guam**	**66.20**	**25**	LR		LR	15 17 26.8	
	comp=Z,12nm,19.6s,baz=156,slow=36							
CM01	**Chiang Mai Arr**	**70.73**	**337**	*e*P		**P**	**14 48 47.6**	**+0.2**
CM31	**Chiang Mai Arr**	**70.77**	**337**	*e*P		**P**	**14 48 48.3**	**+0.6**
	6.0nm,1.1s							
CMAR	**Chiang Mai Arr**	**70.77**	**337**	P		**P**	**14 48 48.8**	**+1.1**
	1.4nm,0.7s,baz=191,slow=5.6,SNR=11							
CMAR				LR		LR	15 17 38.0	
	comp=Z,7.3nm,20.4s,baz=150,slow=34							
ASAJ	**Asahikawa**	**95.16**	**15**	LR		LR	15 30 53.8	
	comp=Z,22nm,19.5s,baz=66,slow=34							
IMW	**Indian Meadow**	**144.10**	**79**	*e*PKPdf		PKPbc	14 57 05.3	+0.3
YHH	**Holmes Hill**	**144.57**	**77**	*e*PKPdf		**PKPdf**	**14 57 07.9**	**+0.1**
YKW3	**Yellowknife Ar**	**147.18**	**45**	*e*PKPbc		**PKPbc**	**14 57 13.3**	**-0.1**
YKA	**Yellowknife Ar**	**147.19**	**45**	PKPbc		**PKPbc**	**14 57 13.7**	**+0.2**
	3.0nm,0.8s,baz=273,slow=2.6,SNR=48							
YKB5	**Yellowknife Ar**	**147.19**	**45**	*e*PKPbc		**PKPbc**	**14 57 12.9**	**-0.6**
RES	**Resolute Bay**	**150.62**	**19**	*e*PKPbc		**PKPbc**	**14 57 21.9**	**+0.1**

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*NEIC **10** 14:46:25.8±0.0, 19.36N×65.62W, h78km±9km, MD3.6(RSPR), After RSPR.*
RSPR 10 14:46:25.8, 19.36N×65.62W, h78km±9km, MD3.6/12, 26C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CUPR	**Culebra, Puert**	**1.09**	**163**	*e*P		Pn	14 46 45.0	-0.9
CUPR	**Culebra, Puert**	**1.09**	**163**	*e*S		Sn	14 47 00.5	-0.3
CUPR	**Culebra, Puert**	**1.09**	**163**	*e*P		Pn	14 46 45.0	-0.9
CUPR				*e*S		Sn	14 47 00.5	-0.3
CBYP	**Canovanas**	**1.11**	**192**	*e*P		Pn	14 46 44.2	-1.9
CBYP	**Canovanas**	**1.11**	**192**	*e*S		Sn	14 47 00.4	-0.8
CBYP	**Canovanas**	**1.11**	**192**	*e*P		Pn	14 46 44.2	-1.9
CBYP				*e*S		Sn	14 47 00.4	-0.8
STVI	**Saint Thomas**	**1.18**	**148**	*e*P		Pn	14 46 46.1	-0.9
STVI	**Saint Thomas**	**1.18**	**148**	*e*P		Pn	14 46 46.1	-0.9
HUMP	**Col San Antoni**	**1.23**	**190**	*e*P		Pn	14 46 47.0	-0.6
HUMP	**Col San Antoni**	**1.23**	**190**	*e*S		Sn	14 47 03.2	-0.8
HUMP	**Col San Antoni**	**1.23**	**190**	*e*P		Pn	14 46 47.0	-0.6
HUMP				*e*S		Sn	14 47 03.2	-0.8
MTP	**Monte Pirata**	**1.26**	**177**	*e*P		Pn	14 46 46.8	-1.2
MTP	**Monte Pirata**	**1.26**	**177**	*e*S		Sn	14 47 04.3	-0.2
MTP	**Monte Pirata**	**1.26**	**177**	*e*P		Pn	14 46 46.8	-1.2
MTP				*e*S		Sn	14 47 04.3	-0.2
TBVI	**Tortola**	**1.33**	**135**	*e*P		Pn	14 46 48.5	-0.4
TBVI	**Tortola**	**1.33**	**135**	*e*P		Pn	14 46 48.5	-0.4
SJG	**San Juan**	**1.34**	**202**	*e*P		Pn	14 46 48.6	-0.4
SJG	**San Juan**	**1.34**	**202**	*e*S		Sn	14 47 06.2	-0.1
SJG	**San Juan**	**1.34**	**202**	*e*P		Pn	14 46 48.6	-0.4
SJG				*e*S		Sn	14 47 06.2	-0.1
ABVI	**Anegada Island**	**1.37**	**117**	*e*P		Pn	14 46 48.9	-0.4
ABV	**Anegada**	**1.37**	**117**	*e*P		Pn	14 46 48.9	-0.4
CELP	**Cerrillos**	**1.57**	**216**	*e*P		Pn	14 46 51.1	-0.9
CELP	**Cerrillos**	**1.57**	**216**	*e*P		Pn	14 46 51.1	-0.9
OBIP	**Obispado Ponce**	**1.61**	**216**	*e*P		Pn	14 46 51.2	-1.3
OBIP	**Obispado Ponce**	**1.61**	**216**	*e*S		Sn	14 47 12.2	-0.4
OBIP	**Obispado Ponce**	**1.61**	**216**	*e*P		Pn	14 46 51.2	-1.3
OBIP				*e*S		Sn	14 47 12.2	-0.4
AGPR	**Aguadilla, PR**	**1.67**	**238**	*e*P		Pn	14 46 50.2	-3.1
AGPR	**Aguadilla, PR**	**1.67**	**238**	*e*P		Pn	14 46 50.2	-3.1
LSP	**Las Mesas**	**1.82**	**230**	*e*P		Pn	14 46 55.0	-0.3
LSP	**Las Mesas**	**1.82**	**230**	*e*P		Pn	14 46 55.0	-0.3
CRPR	**Cabo Rojo, PR**	**1.95**	**227**	*e*P		Pn	14 46 56.7	-0.3
CRPR	**Cabo Rojo, PR**	**1.95**	**227**	*e*S		Sn	14 47 20.4	-0.4
CRPR	**Cabo Rojo, PR**	**1.95**	**227**	*e*P		Pn	14 46 56.7	-0.3
CRPR				*e*S		Sn	14 47 20.4	-0.4
SDDR	**Presa de Saban**	**5.37**	**267**	*e*Pn		Pn	14 47 43.5	-0.1
	28nm,0.4s							
SDDR				*e*Sn		Sn	14 48 44.3	+0.2

RSNC 10 14:46:58.3±0.9, 8.53N×76.92W, h32km±20km, ML3.1, Mw3.5,1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UPD2	**Meteti**	**1.09**	**271**	*i*P		Pn	14 47 16.1	-1.2
UPD2				*i*			14 47 19.0	
	comp=Z,670nm,0.1s							
UPD2				*e*S		Sn	14 47 30.0	-1.2
UREC	**San Jos de Ur**	**1.57**	**119**	*e*P		Pn	14 47 23.4	-0.6
UREC				*e*S		Sn	14 47 42.3	-1.1
DBBC	**Dabeiba**	**1.66**	**155**	*e*P		Pn	14 47 24.4	-0.9
DBBC				*i*			14 47 58.4	
	comp=Z,49nm,0.6s							
ZARC	**Zaragoza, Cauc**	**2.29**	**117**	*e*P		Pn	14 47 33.5	-0.3
ZARC				*e*S		Sn	14 47 59.0	-1.9
HELC	**Santa Helena**	**2.70**	**149**	*e*P		Pn	14 47 38.9	-1.0
HELC				*e*S		Sn	14 48 11.0	-0.7
HELC				*i*			14 48 16.1	
	comp=N,17nm,0.3s							
SMLC	**San Martn de**	**2.83**	**84**	*e*P		Pn	14 47 40.4	-0.8
SMLC				*e*S		Sn	14 48 11.1	-3.1
BCIP	**Isla Barro Col**	**2.95**	**283**	*e*P		Pn	14 47 42.0	-1.0
PTBC	**PUERTO BERRIO,**	**3.14**	**129**	*e*P		Pn	14 47 44.8	-0.9
PTBC				*e*S		Sn	14 48 20.9	-1.2
PTBC				*i*			14 48 22.9	
	comp=N,73nm,0.2s							
AZU	**Azuero**	**3.40**	**258**	*e*P		Pn	14 47 48.9	-0.3
BRRC	**Barranca, Sant**	**3.48**	**114**	*e*P		Pn	14 47 50.2	0.0
BRRC				*e*S		Sn	14 48 29.3	-1.0
BRRC				*i*			14 48 34.6	
	comp=N,81nm,0.2s							
OCAC	**Ocana**	**3.57**	**94**	*e*P		Pn	14 47 51.4	-0.2
OCAC				*i*			14 47 51.6	
	comp=Z,67nm,0.2s							
OCAC				*e*S		Sn	14 48 30.6	-2.3
CODC	**Agustn Codazz**	**3.70**	**68**	*e*P		Pn	14 47 52.9	-0.4
CODC				*i*			14 48 36.1	
	comp=N,44nm,0.4s							

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*ISCJB **10** 14:58:07.4±0.6, 46.81N±0.07×153.37E±0.10, h31km, mb3.6/10, Error ellipse: s-maj=13.5km s-min=4.3km az=137.0*
*MOS **10** 14:58:09.9±2.5, 46.75N×153.47E, h58km, mb4.0/6, Error ellipse: s-maj=19.9km s-min=10.4km az=57.1*
*SKHL **10** 14:58:09.9±0.4, 46.74N×153.45E, h60km±2km, mb4.4/5*
*IDC **10** 14:58:12.4±0.9, 47.18N×152.77E, h65km±8km, mb3.3/10, mb1 3.6/12, mb1mx3.4/47, mbtmp3.7/12, MS2.3/2, Ms1 2.3/2, ms1mx2.1/21, Error ellipse: s-maj=22.7km s-min=15.4km az=131.0*
ISC 10 14:58:09.5±0.7, 46.78N±0.10×153.38E±0.09, h31km, n32, σ1s70/32, mb3.6/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**4.14**	**250**	*i*P		**Pn**	**14 59 12.0**	**+1.4**
KUR				AMB		AMB	14 59 16.0	
	19nm,0.4s							
KUR				AMB		AMB	14 59 16.0	
	20nm,0.4s							
KUR				AMB		AMB	14 59 16.0	
	22nm,0.4s							
KUR				*i* S		**Sn**	**14 59 58.3**	**+0.4**
KUR				A		A	15 00 11.0	
	144nm,0.4s							
KUR				A		A	15 00 11.0	
	107nm,0.4s							
KUR	**Kuril'sk**	**4.14**	**250**	*i*PN		**Pn**	**14 59 12.6**	**+2.0**
KUR				*e*S		**Sn**	**14 59 58.6**	**+0.7**
KUR				pmax		pmax		
	comp=Z,45nm,0.5s							
KUR				pmax		pmax		
	comp=N,19nm,0.2s							
KUR				pmax		pmax		
	comp=E,20nm,0.2s							
KUR				smax		smax		
	comp=N,144nm,0.6s							
KUR				smax		smax		
	comp=E,107nm,0.3s							
SKR	**Severo-Kuril's**	**4.30**	**24**	*e*P		**Pn**	**14 59 13.3**	**+0.5**
SKR				AMB		AMB	14 59 14.2	
	comp=E,30nm,1.0s							
SKR				*e*S		**Sn**	**15 00 00.5**	**-1.4**
PAU	**Pauzhetka**	**5.20**	**24**	*e*P		**Pn**	**14 59 26.5**	**+1.4**
PAU				AMB		AMB	14 59 30.3	
	comp=E,30nm,0.5s							
PAU				*e*S		**Sn**	**15 00 24.2**	**+0.2**
PAU				A		A	15 00 26.3	
	comp=E,190nm,0.7s							
PAU				A		A	15 00 26.3	
	comp=E,235nm,0.7s							
SHO	**Shikotan**	**5.46**	**240**	*e*P		**Pn**	**14 59 28.9**	**+0.2**
SHO				AMB		AMB	14 59 32.8	
	comp=E,25nm,0.3s							
SHO				*i* S		**Sn**	**15 00 28.4**	**-2.0**
SHO				A		A	15 00 49.0	
	comp=E,69nm,0.3s							
SHO				A		A	15 00 49.0	
	comp=E,86nm,0.3s							
SHO	**Shikotan**	**5.46**	**240**	*e*PN		**Pn**	**14 59 28.2**	**-0.5**
SHO				pmax		pmax		
	comp=E,8.0nm,0.3s							
SHO				pmax		pmax		
	comp=Z,25nm,0.3s							
SHO				pmax		pmax		
	comp=N,12nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.96**	**245**	*e*P		**Pn**	**14 59 37.0**	**+1.4**
YUK				AMB		AMB	14 59 39.0	
	comp=N,25nm,0.3s							
YUK				*e*S		**Sn**	**15 00 42.0**	**-0.8**
YUK				A		A	15 00 49.0	
	comp=N,58nm,0.3s							
YUK				A		A	15 00 49.0	
	comp=N,78nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**5.96**	**245**	*e*PN		**Pn**	**14 59 37.0**	**+1.4**
YUK				pmax		pmax		
	comp=Z,50nm,0.3s							
PETK	**Petropavlovsk-**	**6.92**	**22**	P		**Pn**	**14 59 49.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=184,slow=12,SNR=5.8							
PETK				S		Sn	15 01 15.8	+10
	baz=238,slow=25,SNR=2.4							
PETK				LR		LR	15 02 29.0	
	comp=Z,36nm,21.6s,baz=85,slow=38							
JKA	**Kamikawa-asahi**	**8.04**	**255**	*e*P		**Pn**	**15 00 06.1**	**+2.0**
ASAJ	**Asahikawa**	**8.04**	**255**	P		**Pn**	**15 00 06.1**	**+2.0**
	comp=Z,0.6nm,0.3s,baz=86,slow=15,SNR=6.9							
ASAJ				LR		LR	15 02 22.6	
	comp=Z,20nm,21.0s,baz=76,slow=32							
TYV	**Tymovskoe**	**8.17**	**304**	*e*P		**Pn**	**15 00 07.9**	**+2.1**
MA2	**Magadan**	**12.91**	**354**	P		**Pn**	**15 01 08.1**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=157,slow=11,SNR=6.9							
MJAR	**Matsushiro Arr**	**15.25**	**233**	P		**P**	**15 01 45.9**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=46,slow=8.7,SNR=5.3							
KSRS	**Korea Array**	**20.98**	**253**	P		**P**	**15 02 48.7**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=51,slow=11,SNR=4.5							
H11N2	**WAKE ISLAND Hy 29.16**	**153**		T		T	15 35 51.7	
	baz=340,slow=76,SNR=340							
H11N1	**WAKE ISLAND Hy 29.18**	**153**		T		T	15 36 01.7	
	baz=340,slow=76,SNR=316							
H11N3	**WAKE ISLAND Hy 29.18**	**153**		T		T	15 36 01.8	
	baz=340,slow=76,SNR=238							
H11S1	**WAKE ISLAND Hy 30.25**	**154**		T		T	15 37 12.2	
	baz=341,slow=76,SNR=280							
H11S3	**WAKE ISLAND Hy 30.26**	**154**		T		T	15 37 09.5	
	baz=341,slow=76,SNR=168							
H11S2	**WAKE ISLAND Hy 30.27**	**154**		T		T	15 37 10.2	
	baz=341,slow=76,SNR=272							
ILAR	**Eielson Array**	**36.41**	**39**	P		**P**	**15 05 09.8**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=258,slow=7.1,SNR=7.3							
ILAR				pP		**pwP**	**15 05 25.6**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=264,slow=6.0,SNR=3.3							
INK	**Inuvik**	**41.53**	**32**	P		**P**	**15 05 52.3**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=287,slow=8.7,SNR=5.3							
MKAR	**Makanchi Array**	**47.09**	**297**	P		**P**	**15 06 32.8**	**-5.5**
	comp=Z,0.1nm,0.3s,baz=71,slow=9.4,SNR=2.3							
MKAR				PcP		**PcP**	**15 08 06.8**	**-3.0**
	comp=Z,0.3nm,0.4s,baz=62,slow=3.3,SNR=7.8							
YKA	**Yellowknife Ar**	**50.79**	**37**	P		**P**	**15 07 05.7**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=299,slow=7.1,SNR=7.5							
YKA				pP		**pwP**	**15 07 21.9**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=296,slow=7.1,SNR=9.0							
FINES	**FINESS Array B**	**64.09**	**335**	P		P	15 08 34.7	-5.3
FINES				pmax		pmax		
	comp=Z,2.0nm,0.9s							
FINES	**FINESS Array B**	**64.09**	**335**	P		P	15 08 34.7	-5.3
	comp=Z,3.3nm,1.0s,baz=20,slow=6.1,SNR=6.8							
PDAR	**Pinedale Array**	**64.58**	**54**	P		**P**	**15 08 43.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=339,slow=2.2,SNR=3.2							
PDAR				pP		**pwP**	**15 09 00.3**	**+3.6**
	comp=Z,0.6nm,0.8s,baz=321,slow=1.9,SNR=4.7							
WRA	**Warramunga Arr**	**68.60**	**199**	P		**P**	**15 09 09.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=15,slow=6.7,SNR=4.5							
AKASG	**Malin Array Be**	**71.62**	**326**	P		P	15 09 22.5	-5.1
	comp=Z,0.2nm,0.3s,baz=34,slow=6.2,SNR=3.1							
ASAR	**Alice Springs**	**72.30**	**199**	P		**P**	**15 09 32.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=14,slow=6.3,SNR=8.1							
TXAR	**Lajitas Array**	**77.31**	**61**	P		**P**	**15 10 00.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=315,slow=5.1,SNR=5.4							

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*IDC **10** 15:00:04.8±1.0, 0.42N×122.94E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/37, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=103.3km s-min=17.2km az=67.0*
*ISCJB **10** 15:00:07.7±1.0, 0.4N±0.2×123.0E±0.6, h33km, mb3.9/5, Error ellipse: s-maj=89.1km s-min=15.7km az=159.7*
ISC 10 15:00:09.9±1.1, 0.4N±0.3×123.1E±0.7, h35km, n6, σ0s80/6, mb4.1/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.59**	**172**	P		**P**	**15 04 25.3**	**+0.7**

DBAD *i* S **Sb** **15 15 54.0 +0.6**
DBAD IAML_P
comp=Z,3μm,0.1s
CHOM Cayeli-Rize 0.60 320 PG **Pb** **15 15 47.6 -0.3**
CHOM SG **Sb** **15 15 56.2 -0.3**
DAGI Agillar 0.65 47 *i* P **Pn** **15 15 49.9 -0.8**
DAGI *i* S **Sn** **15 15 59.8 -1.3**
DAGI IAML_P
comp=Z,1μm,0.2s
ARTV Artvin 0.73 42 *i* P **Pn** **15 15 51.8 -0.1**
ARTV IAML_P
comp=Z,2μm,0.2s
DBOC Borcka 0.77 22 *i* P **Pn** **15 15 51.7 -0.4**
DBOC *i* S **Sb** **15 16 01.5 +0.3**
DBOC IAML_P
comp=Z,2μm,0.2s
KOPR Koprukoy-ERZUR 0.78 146 PG **Pb** **15 15 50.7 -0.2**
SENK Senkaya-Erzuru 0.82 95 PG **Pb** **15 15 51.7 +0.1**
BCA Borcka 0.85 18 PG **Pb** **15 15 52.1 +0.1**
BCA SG **Sb** **15 16 03.9 +0.4**
KOPT Kop Dagi 0.86 224 *i* P **Pn** **15 15 53.7 +0.1**
KOPT *i* S **Sn** **15 16 08.2 +1.7**
KOPT IAML_P
comp=Z,581nm,0.2s
BAYB BAYBURT 0.87 244 *i* P **Pb** **15 15 52.3 -0.2**
BAYB *i* S **Sb** **15 16 04.6 +0.4**
BAYB IAML_P
comp=Z,5μm,0.2s
BAYT Aydıntepe-Bayb 0.90 255 PG **Pb** **15 15 52.8 -0.2**
BATM Batumi 1.01 18 P **Pn** **15 15 55.3 -0.2**
BATM S **Sg** **15 16 08.7 +0.8**
KTUT Trabzon 1.20 287 PN **Pg** **15 15 58.2 0.0**
KELT Kelkit 1.62 253 *i* P **Pb** **15 16 05.6 +0.3**
KELT *i* S **Sg** **15 16 26.4 -0.9**
KELT IAML_P
comp=Z,338nm,0.2s

IDC 10 15:28:16.9±1.4, 26°42S×71.71E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/46, mbtmp3.5/6, MS3.4/6, Ms1 3.4/6, ms1mx3.1/28, Error ellipse: s-maj=49.8km s-min=25.5km az=23.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.69**	**2**	T	T	15 51 47.9	
	baz=183,slow=76,SNR=12						
H08S2	**Diego Garcia H**	**18.69**	**2**	T	T	15 51 48.3	
	baz=183,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**18.70**	**2**	T	T	15 51 47.6	
	baz=183,slow=76,SNR=12						
PALK	**Pallekele**	**34.61**	**16**	LR	LR	15 47 07.9	
	comp=Z,53nm,18.1s,baz=116,slow=33						
H01W2	**Cape Leeuwin H**	**37.24**	**114**	T	T	16 14 44.4	
H01W3	**Cape Leeuwin H**	**37.24**	**114**	T	T	16 14 44.4	
H01W1	**Cape Leeuwin H**	**37.25**	**114**	T	T	16 14 44.4	
MATP	**Matopo**	**39.95**	**269**	LR	LR	15 50 53.5	
	comp=Z,83nm,18.7s,baz=148,slow=34						
LBTB	**Lobatse**	**41.40**	**261**	LR	LR	15 50 09.6	
	comp=Z,65nm,19.2s,baz=108,slow=32						
FITZ	**Fitzroy Crossi**	**50.30**	**92**	LR	LR	15 54 36.0	
	comp=Z,38nm,19.0s,baz=214,slow=31						
CMAR	**Chiang Mai Arr**	**51.86**	**34**	P	P	15 37 28.9	+1.7
	0.8nm,0.9s,baz=208,slow=7.6,SNR=6.8						
CMAR				LR	LR	15 54 14.3	
	comp=Z,22nm,21.8s,baz=195,slow=30						
ASAR	**Alice Springs**	**55.93**	**102**	P	P	15 37 57.0	-0.2
	0.3nm,0.7s,baz=253,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**57.46**	**98**	P	P	15 38 07.7	-0.3
	0.4nm,0.7s,baz=258,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**73.50**	**8**	P	P	15 39 49.7	-1.5
	0.3nm,0.6s,baz=185,slow=6.9,SNR=4.7						
BRTR	**Keskin Array B**	**74.77**	**330**	P	P	15 39 58.8	-0.1
	0.4nm,0.7s,baz=138,slow=6.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**78.55**	**291**	P	P	15 40 21.3	+0.6
	0.5nm,0.9s,baz=134,slow=4.2,SNR=2.7						
KSRS	**Korea Array**	**82.60**	**42**	LR	LR	16 14 57.7	
	comp=Z,12nm,20.4s,baz=145,slow=34						

IDC 10 15:32:41.4±31.0, 21°08S×177°84W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/36, mbtmp3.9/4, Error ellipse: s-maj=587.1km s-min=146.6km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.68**	**245**	P	P	15 39 57.6	-0.9
	1.2nm,0.6s,baz=101,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**44.53**	**257**	P	P	15 40 55.3	0.0
	1.4nm,0.8s,baz=96,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**44.67**	**263**	P	P	15 40 56.5	+0.1
	1.2nm,0.8s,baz=94,slow=8.0,SNR=11						
FITZ	**Fitzroy Crossi**	**53.10**	**263**	P	P	15 42 01.3	+0.2
	1.9nm,0.8s,baz=78,slow=9.3,SNR=3.0						

*SJA **10** 16:10:24.2±0.8, 21°91S×67°89W, h120km±27km, ML2.0, MW3.8*
*GUC **10** 16:10:30.4±0.7, 21°86S×68°65W, h140km±5km, ML2.7*
ISC 10 16:10:24.9±2.1, 21°93S±0°05×68°05W±0°08, h137km±21km, n19, σ2s11/31, 8C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.05**	**230**	*e*P	**Pn**	**16 10 52.1**	**+2.8**
LVC				*e*S	**Sn**	**16 11 07.3**	**-0.6**
PB09	**IPOC Station P**	**1.12**	**277**	*i*P	**Pn**	**16 10 50.4**	**+0.7**
PB09	**IPOC Station P**	**1.12**	**277**	⇓*e*P	**Pn**	**16 10 51.7**	**+2.0**
PB09				*e*S	**Sn**	**16 11 07.9**	**-0.7**
PB09				IAML		16 11 08.5	
	comp=N,111nm,0.2s						
PB03	**IPOC Station P**	**1.59**	**265**	*i*P	**Pn**	**16 10 55.5**	**+0.8**
PB03	**IPOC Station P**	**1.59**	**265**	⇑*i*P	**Pn**	**16 10 55.1**	**+0.5**
PB03				*e*S	**Sn**	**16 11 14.0**	**-3.3**
PB03				*i*S		16 11 14.2	
PB03				IAML		16 11 15.4	
	comp=E,117nm,0.3s						
PB01	**IPOC Station P**	**1.61**	**303**	⇑*i*P	**Pn**	**16 10 55.6**	**+0.8**
PB01				*i*S	**Sn**	**16 11 14.2**	**-3.3**
PB01				IAML		16 11 15.6	
	comp=E,206nm,0.2s						
PB06	**IPOC Station P**	**1.61**	**241**	*i*P	**Pn**	**16 10 55.8**	**+0.9**
PB06				*i*S	**Sn**	**16 11 18.6**	**+0.8**
PB06	**IPOC Station P**	**1.61**	**241**	⇑*e*P	**Pn**	**16 10 56.8**	**+1.9**
PB06				*e*S	**Sn**	**16 11 16.5**	**-1.3**
PB06				IAML		16 11 17.3	
	comp=N,158nm,0.6s						
PB07	**IPOC Station P**	**1.72**	**276**	*i*P	**Pn**	**16 10 57.0**	**+0.8**
PB07	**IPOC Station P**	**1.72**	**276**	⇑*e*P	**Pn**	**16 10 56.9**	**+0.8**
PB07				*e*S	**Sn**	**16 11 16.4**	**-3.6**
PB07				IAML		16 11 17.7	
	comp=N,116nm,0.1s						
PB02	**IPOC Station P**	**1.82**	**289**	*i*P	**Pn**	**16 10 57.9**	**+0.7**
PB02	**IPOC Station P**	**1.82**	**289**	⇓*e*P	**Pn**	**16 10 57.8**	**+0.5**
PB02				*e*S	**Sn**	**16 11 18.2**	**-3.8**
PB02				IAML		16 11 21.5	
	comp=E,224nm,0.1s						
PB15	**IPOC Station P**	**1.83**	**226**	*i*P	**Pn**	**16 10 58.7**	**+1.3**
PB15	**IPOC Station P**	**1.83**	**226**	⇑*e*P	**Pn**	**16 11 00.7**	**+3.2**
PB15				*e*S	**Sn**	**16 11 23.7**	**+1.3**
PB04	**IPOC Station P**	**1.99**	**258**	⇑*i*P	**Pn**	**16 10 59.9**	**+0.6**
PB04				*i*S	**Sn**	**16 11 22.2**	**-3.4**
PB04				IAML		16 11 26.7	
	comp=E,65nm,0.2s						
PB08	**IPOC Station P**	**2.06**	**330**	⇑*i*P	**Pn**	**16 11 03.7**	**+3.3**
PB08				*i*S	**Sn**	**16 11 27.8**	**+0.3**
PB08				IAML		16 11 30.9	
	comp=E,50nm,0.3s						
PB05	**IPOC Station P**	**2.20**	**245**	*e*P	**Pn**	**16 11 03.0**	**+1.3**
PB05				IAML		16 11 31.4	
	comp=N,39nm,0.4s						
PB11	**IPOC Station P**	**2.63**	**325**	⇑*e*P	**Pn**	**16 11 09.7**	**+2.4**
PB11				⇓*e*S	**Sn**	**16 11 39.4**	**-0.4**
PB11				IAML		16 11 39.5	
	comp=E,102nm,0.2s						
HJA	**Humahuaca**	**2.75**	**118**	*i*P	**Pn**	**16 11 07.7**	**-1.3**
HJA				IAML		16 11 22.5	
	comp=Z,5.8nm,0.4s						

*IDC **10** 16:41:13.0±1.2, 55°84N×110°00E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.4/56, mbtmp3.5/11, ML3.2/5, Error ellipse: s-maj=26.0km s-min=17.8km az=128.0*
*MOS **10** 16:41:12.3±1.4, 55°82N×110°07E, h10km, mb4.1/3, Error ellipse: s-maj=12.1km s-min=7.7km az=68.4*
*BYKL **10** 16:41:14.0±0.2, 55°74N×110°21E, h6km±3km*
ISC 10 16:41:12.8±1.1, 55.74N±0°03×110.20E±0°02, h3km±8km, n59, σ2s61/107, mb3.6/5, 12C-4D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.38**	**276**	⇑*i*Pg	**Pg**	**16 41 21.1**	**+1.0**
NIZ				*e*Sg	**Sg**	**16 41 26.6**	**+1.7**
NIZ				Pmax			
	278nm,0.4s						
NIZ				Smax			
	2μm,0.5s						
NIZ	**Nizh Angarsk**	**0.38**	**276**	⇑*i*PG	**Pg**	**16 41 21.0**	**+1.0**
NIZ				*e*		16 41 26.6	
NIZ				pmax	pmax		
	comp=Z,319nm,0.3s						
NIZ				smax	smax		
	comp=E,2μm,0.5s						
KMO	**Kumora**	**0.58**	**75**	⇑*i*Pg	**Pg**	**16 41 24.2**	**+0.2**
KMO				*e*Sg	**Sg**	**16 41 32.1**	**+0.5**
KMO				Pmax			
	comp=E,166nm,0.4s						
KMO				Smax			
	comp=E,984nm,1.0s						
KMO	**Kumora**	**0.58**	**75**	⇑*i*PG	**Pg**	**16 41 24.2**	**+0.2**
KMO				*e*		16 41 31.6	
KMO				pmax	pmax		
	comp=Z,73nm,0.2s						
KMO				smax	smax		
	comp=N,992nm,1.0s						
YOA	**Uoyan**	**0.94**	**64**	*e*	**Pg**	**16 41 31.8**	**+0.9**
YOA				*e*Sg	**Sg**	**16 41 44.0**	**+0.8**
YOA				max			
	comp=N,383nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.2s						
YOA	**Uoyan**	**0.94**	**64**	*e*PG	**Pb**	**16 41 32.4**	**+0.5**
YOA				*e*		16 41 44.5	
YOA				pmax	pmax		
	comp=Z,226nm,0.2s						
YOA				smax	smax		
	comp=N,1μm,0.3s						
YLYR	**Ulyunkhan**	**1.02**	**147**	⇑*i*Pg	**Pg**	**16 41 32.5**	**+0.1**
YLYR				*e*Sg	**Sg**	**16 41 47.2**	**+1.6**
YLYR				Pmax			
	comp=N,221nm,0.5s						
YLYR				Smax			
	comp=N,754nm,0.2s						
YLYR	**Ulyunkhan**	**1.02**	**147**	⇑*i*PG	**Pg**	**16 41 32.5**	**+0.1**
YLYR				*e*		16 41 46.5	
YLYR				pmax	pmax		
	comp=Z,221nm,0.3s						
YLYR				smax	smax		
	comp=N,754nm,0.3s						
SVKR	**Severomuysk**	**1.93**	**77**	*e*Pg	**Pn**	**16 41 48.0**	**+1.4**
SVKR				*e*Sg	**Sb**	**16 42 14.1**	**+1.0**
SVKR				*e*		16 42 16.7	
SVKR				Pmax			
	comp=N,270nm,0.2s						
SVKR				max			
	comp=N,2μm,0.6s						
UKT	**Uakit**	**1.96**	**96**	⇓*i*Pg	**Pn**	**16 41 48.6**	**+1.6**
UKT				*e*Sg	**Sb**	**16 42 15.1**	**+1.1**
UKT				Pmax			
	comp=N,110nm,0.6s						
UKT				Smax			
	comp=N,528nm,0.4s						
UKT	**Uakit**	**1.96**	**96**	⇑*i*PN	**Pn**	**16 41 48.7**	**+1.7**
UKT				*e*		16 42 14.2	
UKT				pmax	pmax		
	comp=Z,96nm,0.2s						
UKT				smax	smax		
	comp=N,536nm,0.4s						
SYVR	**Suvo**	**2.08**	**183**	*e*Pn	**Pn**	**16 41 50.2**	**+1.5**
SYVR				⇑*i*Pg	**Pb**	**16 41 51.4**	**+0.1**
SYVR				*e*Sg	**Sg**	**16 42 20.3**	**+0.5**
SYVR				Pmax			
	comp=N,167nm,0.6s						
SYVR				Smax			
	comp=N,2μm,0.7s						
SYVR	**Suvo**	**2.08**	**183**	⇑*i*PN	**Pb**	**16 41 51.4**	**+0.1**
SYVR				*e*		16 42 19.9	
SYVR				pmax	pmax		
	comp=Z,170nm,0.6s						
SYVR				smax	smax		
	comp=E,2μm,0.7s						
OGRR	**Ongureny**	**2.59**	**217**	⇓*i*Pn	**Pn**	**16 41 58.2**	**+2.6**
OGRR				*e*Pg	**Pb**	**16 42 00.5**	**+0.7**
OGRR				*e*		16 42 30.0	
OGRR				*e*Sg	**Sb**	**16 42 34.8**	**+2.8**
OGRR				Pmax			
	comp=E,23nm,0.3s						
OGRR				Smax			
	comp=E,247nm,0.2s						
OGRR	**Ongureny**	**2.59**	**217**	*e*PN	**Pn**	**16 41 58.2**	**+2.6**
OGRR				*e*		16 42 01.1	
OGRR				*e*		16 42 34.2	
OGRR				pmax	pmax		
	comp=Z,28nm,0.5s						
OGRR				smax	smax		
	comp=E,314nm,0.8s						
MXMB	**Maximikha**	**2.62**	**200**	*e*Pn	**Pn**	**16 41 57.3**	**+1.3**
MXMB				*e*Pg	**Pb**	**16 42 00.9**	**+0.5**
MXMB				*e*Sg	**Sg**	**16 42 36.3**	**-0.6**
BOD	**Bodaibo**	**2.96**	**43**	*e*Pn	**Pn**	**16 42 02.1**	**+1.5**
BOD				*e*Pg	**Pb**	**16 42 06.0**	**-0.1**
BOD				*e*Sn	**Sn**	**16 42 36.1**	**-0.5**
BOD				*e*Sg	**Sb**	**16 42 44.3**	**+1.7**
BOD				Pmax			
	comp=E,31nm,0.3s						
BOD				Smax			
	comp=E,218nm,0.5s						
BOD	**Bodaibo**	**2.96**	**43**	*e*PN	**Pn**	**16 42 01.6**	**+1.0**
BOD				*e*		16 42 06.8	
BOD				*e*		16 42 44.2	
BOD				smax	smax		
	comp=N,217nm,0.4s						
NLYR	**Nelyaty**	**3.17**	**74**	*e*Pn	**Pn**	**16 42 04.6**	**+1.0**
NLYR				*e*		16 42 07.1	
NLYR				*e*Pg	**Pb**	**16 42 10.2**	**+0.4**
NLYR				*e*Sg	**Sb**	**16 42 51.2**	**+2.3**
NLYR				*e*		16 43 06.9	
NLYR				Pmax			
	comp=N,57nm,0.8s						
NLYR				max			
	comp=N,249nm,1.1s						
KELR	**Kotokel**	**3.23**	**204**	*e*Pn	**Pn**	**16 42 05.8**	**+1.4**
KELR				*e*		16 42 10.1	
KELR				*e*Sg	**Sb**	**16 42 53.9**	**+3.4**
ZRHB	**Zarechye**	**3.66**	**211**	*e*	**Pb**	**16 42 15.4**	**-2.7**
ZRHB				*e*		16 42 57.1	
ZRHB				*e*Sg	**Sb**	**16 43 07.5**	**+4.7**
ZRHB				*e*		16 43 09.8	
ZRHB				max			
	comp=N,52nm,0.7s						
ZRHB				max			
	comp=N,415nm,0.8s						
TRG	**Tyrgan**	**3.74**	**219**	⇓*i*Pn	**Pn**	**16 42 13.0**	**+1.5**
TRG				*e*Sn	**Sn**	**16 42 57.5**	**+1.5**
TRG				*e*Sg	**Sb**	**16 43 09.2**	**+3.9**
TRG				max			
	comp=N,32nm,0.3s						
TRG				Smax			
	comp=N,163nm,0.9s						
TRG	**Tyrgan**	**3.74**	**219**	*e*PN	**Pn**	**16 42 13.0**	**+1.5**
TRG				*e*		16 42 21.2	
TRG				*e*S	**Sn**	**16 42 55.3**	**-0.7**
TRG				*e*		16 43 08.2	
TRG				pmax	pmax		
	comp=Z,17nm,0.2s						
TRG				smax	smax		
	comp=E,157nm,0.7s						
TRTB	**Turuntaevo**	**3.83**	**204**	*e*Pn	**Pn**	**16 42 13.9**	**+1.3**
TRTB				*e*Pg	**Pb**	**16 42 22.9**	**+1.9**
TRTB				*e*		16 42 24.9	
TRTB				*e*		16 42 55.9	
TRTB				*e*Sg	**Sb**	**16 43 12.3**	**+4.6**
CIT	**Chita**	**4.22**	**151**	*e*	**Pb**	**16 42 29.5**	**+1.9**
CIT				*e*Sg	**Sb**	**16 43 23.9**	**+5.0**
CIT				max			
	comp=E,36nm,0.3s						
CIT				Smax			
	comp=E,117nm,0.5s						
STDB	**Stepnoy Dvoret**	**4.23**	**214**	*e*Pn	**Pn**	**16 42 19.3**	**+1.1**
STDB				*e*Sg	**Sg**	**16 43 26.5**	**-2.1**
KAB	**Kabansk**	**4.25**	**211**	*e*	**Sn**	**16 43 09.6**	**+1.1**
KAB				*e*Sg	**Sg**	**16 43 26.8**	**-2.3**
KAB				Smax			
	comp=E,421nm,0.8s						
HRMR	**Khuramsha**	**4.54**	**206**	⇑*i*Pn	**Pn**	**16 42 24.3**	**+1.8**
HRMR				*e*Pg	**Pb**	**16 42 34.8**	**+1.6**
HRMR				*e*		16 43 33.1	
HRMR				*e*Sg	**Sg**	**16 43 34.9**	**-3.8**
HRMR				Pmax			
	comp=E,40nm,0.6s						
HRMR				Smax			
	comp=E,348nm,0.6s						
CRS	**Chara**	**4.64**	**72**	*e*Pn	**Pn**	**16 42 25.3**	**+1.5**
CRS				*e*Pg	**Pb**	**16 42 37.6**	**+2.8**
CRS				*e*Sg	**Sg**	**16 43 38.1**	**-3.7**
CRS				*e*		16 43 43.8	
CRS				Pmax			
	comp=E,36nm,0.9s						
CRS				max			
	comp=E,68nm,0.9s						
BGT	**Bolshoye Golou**	**4.66**	**219**	*e*Pn	**Pn**	**16 42 25.3**	**+1.2**
BGT				*e*		16 42 28.9	
BGT				*e*Sn	**Sn**	**16 43 19.4**	**+0.8**
BGT				*e*		16 43 22.0	
BGT				*e*Sg	**Sb**	**16 43 37.6**	**+6.0**
BGT				*e*		16 43 40.7	
BGT				max			
	comp=E,22nm,0.6s						
BGT				max			
	comp=E,107nm,0.7s						
IRK	**Irkutsk**	**4.95**	**227**	*e*Sn	**Sn**	**16 43 26.0**	**+0.3**
IRK				*e*Sg	**Sb**	**16 43 46.3**	**+6.4**
IRK				Smax			
	comp=E,179nm,0.4s						
IRK	**Irkutsk**	**4.95**	**227**	*e*PN	**Pn**	**16 42 26.9**	**-1.1**
IRK				*e*		16 42 42.2	
IRK				*e*S	**Sn**	**16 43 25.0**	**-0.7**
IRK				*e*		16 43 47.0	
IRK				pmax	pmax		
	comp=Z,33nm,0.1s						
IRK				smax	smax		
	comp=E,190nm,0.4s						
LSTR	**Listvyanka**	**5.01**	**222**	*e*Pn	**Pn**	**16 42 29.6**	**+0.7**
LSTR				*e*		16 43 23.0	
LSTR				*e*Sg	**Sg**	**16 43 49.2**	**-4.5**
LSTR				max			
	comp=E,9.0nm,0.5s						
LSTR				Smax			
	comp=E,65nm,0.7s						
TLY	**Talaya**	**5.63**	**226**	*e*Pn	**Pn**	**16 42 37.1**	**-0.3**
TLY				*e*		16 42 57.2	
TLY				*e*Sn	**Sn**	**16 43 39.7**	**-2.8**
TLY				*e*Sg	**Sb**	**16 44 07.3**	**+7.9**
TLY				max			
	comp=E,8.0nm,0.6s						
TLY				Smax			
	comp=E,68nm,0.8s						
TLY	**Talaya**	**5.63**	**226**	*e*PG	**Pg**	**16 42 57.8**	**-2.8**
TLY				*e*		16 44 08.1	
TLY				pmax	pmax		
	comp=Z,17nm,0.3s						
TUP	**Tupik**	**5.75**	**99**	*e*Pn	**Pn**	**16 42 39.5**	**+0.4**
TUP				*e*Pg	**Pb**	**16 42 56.6**	**+2.8**
TUP				*e*Sn	**Sn**	**16 43 42.8**	**-2.8**
TUP				*e*Sg	**Sg**	**16 44 11.3**	**-6.2**
TUP				*e*		16 44 15.3	
TUP				Pmax			
	comp=Z,11nm,0.6s						
TUP				max			
	comp=Z,148nm,0.8s						
TUP	**Tupik**	**5.75**	**99**	*e*PN	**Pn**	**16 42 39.6**	**+0.4**
TUP				*e*		16 42 57.1	
TUP				*e*S	**Sn**	**16 43 43.7**	**-1.9**
TUP				*e*		16 44 11.6	
TUP				pmax	pmax		
	comp=Z,17nm,0.7s						
TUP				smax	smax		
	comp=N,148nm,0.9s						
ARS	**Arshan**	**5.98**	**234**	⇓*i*Pn	**Pn**	**16 42 43.3**	**+1.0**
ARS				*e*Sn	**Sn**	**16 43 48.5**	**-2.8**
ARS				*e*Sg	**Sg**	**16 44 18.7**	**-6.2**
ARS				max			
	comp=N,21nm,0.4s						
ARS				Smax			
	comp=N,320nm,0.9s						
KPC	**Khapcheranga**	**6.18**	**167**	*e*Pn	**Pn**	**16 42 46.0**	**+0.9**
KPC				*e*		16 43 06.4	
KPC				*e*Sg	**Sg**	**16 44 25.1**	**-6.2**
KPC				max			
	comp=N,9.0nm,0.6s						
KPC				Smax			
	comp=N,75nm,1.2s						
ZAK	**Zakamensk**	**6.79**	**221**	*e*	**Pn**	**16 42 51.2**	**-2.2**
ZAK				*e*		16 42 55.7	
ZAK				*e*		16 44 15.5	
ZAK				*e*Sg	Sb	16 44 42.8	+10
ZAK				max			
	comp=N,4.0nm,0.5s						
ZAK				Smax			
	comp=N,47nm,1.3s						
ZAK	**Zakamensk**	**6.79**	**221**	*e*PN	**Pn**	**16 42 54.8**	**+1.4**
ZAK				*e*		16 44 42.2	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ZAK				smax	smax		
	comp=E,48nm,1.3s						
MOY	**Mondy**	**6.82**	**237**	⇑*i*Pn	**Pn**	**16 42 56.2**	**+2.4**
MOY				*e*Sn	**Sn**	**16 44 10.4**	**-1.5**
MOY				*e*Sg	**Sg**	**16 44 46.1**	**-5.5**
MOY				max			
	comp=E,29nm,0.8s						
MOY				Smax			
	comp=E,77nm,1.4s						
MOY	**Mondy**	**6.82**	**237**	*e*PN	**Pn**	**16 42 55.8**	**+2.0**
MOY				*e*		16 43 17.5	
MOY				*e*S	**Sn**	**16 44 09.9**	**-2.0**
MOY				*e*		16 44 44.6	
MOY				pmax	pmax		
	comp=Z,12nm,0.7s						
MOY				smax	smax		
	comp=E,77nm,0.9s						
ORL	**Orlik**	**6.89**	**247**	⇑*i*Pn	**Pn**	**16 42 56.9**	**+2.1**
ORL				*e*		16 43 00.5	
ORL				*e*		16 43 04.6	
ORL				*e*Sn	**Sn**	**16 44 11.3**	**-2.5**
ORL				*e*Sg	**Sg**	**16 44 47.3**	**-6.7**
ORL				max			
	comp=E,11nm,0.6s						
ORL				Smax			
	comp=E,47nm,1.2s						
SONM	**Songino Array**	**8.26**	**198**	Pn	**Pn**	**16 43 15.4**	**+1.9**
	comp=E,0.3nm,0.3s,baz=12,slow=13,SNR=6.0						
SONM				Pg	Pg	16 43 46.8	-4.0
	comp=E,0.3nm,0.3s,baz=8.6,slow=16,SNR=5.6						
SONM				Lg	Lg	16 45 34.8	
	comp=E,1.7nm,0.3s,baz=13,slow=27,SNR=15						
TDJR	**Todzha**	**8.94**	**254**	*e*Pn	**Pn**	**16 43 26.4**	**+3.6**
TDJR				*e*		16 43 32.0	
TDJR				*e*		16 43 40.0	
TDJR				*e*		16 45 07.1	
TDJR				*e*Sg	Sg	16 45 51.6	-7.9
KNGR	**Kungurtug, Tuv**	**9.18**	**241**	*e*		16 45 14.5	
KNGR				*e*Sg	Sn	16 45 58.0	+48
ERNS	**Erzin**	**10.59**	**245**	*e*	Pn	16 44 44.3	+59
ERNS				Sg	Sn	16 46 43.7	+59
KLR	**Kul'dur**	**14.62**	**107**	Pn	**Pn**	**16 44 42.4**	**+2.0**
	comp=E,0.1nm,0.3s,baz=332,slow=16,SNR=3.3						
KLR				Lg	Lg	16 48 52.6	
	comp=E,0.1nm,0.3s,baz=53,slow=10,SNR=3.3						
ZALV	**Zalesovo Beam**	**14.71**	**274**	Pn	**Pn**	**16 44 38.7**	**-2.9**
	comp=E,0.2nm,0.3s,baz=66,slow=13,SNR=2.4						
ZALV				Lg	Lg	16 48 51.1	
	comp=E,0.1nm,0.3s,baz=71,slow=30,SNR=3.4						
TIXI	**Tiksi**	**17.83**	**19**	P	**P**	**16 45 22.7**	**+0.3**
	comp=E,0.5nm,0.3s,baz=220,slow=7.7,SNR=8.4						
KURK	**Kurchatov**	**19.46**	**268**	P	**P**	**16 45 40.9**	**+0.5**
MKAR	**Makanchi Array**	**19.51**	**254**	P	**P**	**16 45 41.2**	**+0.3**
	comp=E,0.2nm,0.3s,baz=61,slow=10,SNR=20						
KURBB	**Kurchatov Arra**	**19.55**	**268**	P	**P**	**16 45 40.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=66,slow=11,SNR=7.9						

BVAR Borovoye Array 23.12 280 P **P** **16 46 19.8 0.0**
comp=E,0.6nm,0.4s,baz=75,slow=12,SNR=7.2

ARCES ARCESS Array B 37.78 325 P **P** **16 48 28.5 -1.2**
comp=E,3.3nm,0.8s,baz=68,slow=8.6,SNR=2.7

FINES FINESS Array B 41.32 314 P **P** **16 48 57.9 -1.3**
comp=E,1.0nm,0.6s,baz=45,slow=7.8,SNR=5.4

ILAR Eielson Array 46.30 35 P **P** **16 49 39.8 +0.6**
comp=E,0.6nm,1.1s,baz=276,slow=6.2,SNR=4.1

YKA Yellowknife Ar 57.04 23 P **P** **16 50 58.7 -0.7**
comp=E,0.1nm,0.3s,baz=329,slow=9.1,SNR=3.1

MEX 10 16:41:28.5±0.3, 15°.03N×93°.62W, h16km±999km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.78**	**30**	*e*P	Pb	16 41 40.8	-2.8
PCIG				*e*S	Sb	16 41 50.6	-3.3
THIG		**1.31**	**95**	*i* P	Pn	16 41 48.0	-4.1
THIG				*i* S	Sn	16 42 04.5	-4.8
CCIG	**Comitan**	**1.89**	**49**	*i* P	Pn	16 41 57.3	-3.0
CCIG				*i* S	Sn	16 42 20.0	-4.0

BJI ***10*** *16:49:14.7, 5°.47S×152°.27E, h62km, mb5.4/74, mB5.5/58, Ms5.2/80, Ms7.5.1/72*

DJA ***10*** *16:49:15.6±0.3, 5°.3S×15°.2E±°, h10km, M5.5/57, mB5.9/38, mb5.6/57, Mw(mB)5.5/38, Mwp5.7/2*

MOS ***10*** *16:49:18.6±1.1, 5°.18S×151°.43E, h55km, mb5.8/59, MS5.2/16, Error ellipse: s-maj=7.0km s-min=4.7km az=103.5*

ISCJB ***10*** *16:49:19.7±0.6, 5°.29S±0°.02×151°.46E±0°.02, h67km±5km, mb5.4/345, Error ellipse: s-maj=3.1km s-min=2.9km az=175.0*

NEIC ***10*** *16:49:19.8±0.1, 5°.30S×151°.52E, mb5.5/234, MW5.7, MW5.7, Error ellipse: s-maj=3.1km s-min=2.6km az=138.0, Moment Tensor Solution. s46 Moment tensor: Scale 10¹⁷Nm; Mrr4.86; Mθθ-4.00; Mϕϕ-0.86; Mrθ1.03; Mθϕ-0.79; Mϕr-0.29; Best double couple: Mo4.70000×10¹⁷ NP1: ϕs82.00000°, δ51.00000°, λ97.00000°. NP2:ϕs252.00000°, δ39.00000°, λ82.00000°. Principal axes: T 5.0100, Plg82.0000°, Azm29.0000°; N -0.7200, Plg5.0000°, Azm258.0000°; P -4.2900, Plg6.0000°, Azm167.0000°;*

NEIC ***10*** *16:49:21.0±0.0, 5°.30S×151°.64E, h50km, Moment Tensor Solution. s40 Moment tensor: Scale 10¹⁷Nm; Mrr3.79; Mθθ-3.47; Mϕϕ-0.32; Mrθ2.96; Mθϕ-1.36; Mϕr0.11; Best double couple: Mo4.90000×10¹⁷ NP1:ϕs81.00000°, δ64.00000°, λ100.00000°. NP2:ϕs238.00000°, δ28.00000°, λ70.00000°. Principal axes: T 4.8700, Plg69.0000°, Azm11.0000°; N 0.0400, Plg9.0000°, Azm256.0000°; P -4.9100, Plg18.0000°, Azm163.0000°;*

GCMT ***10*** *16:49:21.8±0.1, 5°.53S±0°.01×151°.65E±0°.01, h54km, MW5.7/120, Moment Tensor Solution. s118,c216; s120,c299; Duration: 1s7 Moment tensor: Scale 10¹⁷ Nm; Mrr3.76±.05; Mθθ-4.15±.03; Mϕϕ0.38±.04; Mrθ0.59±.04; Mθϕ-1.21±.04; Mϕr-1.14±.03; Best double couple: Mo4.33900×10¹⁷ NP1:ϕs94.00000°, δ50.00000°, λ116.00000°. NP2:ϕs237.00000°, δ46.00000°, λ62.00000°. Principal axes: T 4.2140, Plg70.0000°, Azm70.0000°; N 0.2490, Plg19.0000°, Azm257.0000°; P -4.4640, Plg2.0000°, Azm166.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC ***10*** *16:49:22.9±1.2, 5°.30S×151°.53E, h84km±10km, mb4.9/34, mb1 4.9/37, mb1mx4.8/44, mbtmp5.2/37, MS4.9/38, Ms1 4.9/38, ms1mx4.9/43 Error ellipse: s-maj=9.9km s-min=7.2km az=95.0*

ISC 10 16:49:20.2±0.3, 5°.33S±0°.03×151°.58E±0°.03, h64km±2km, h64km:pP-P,n1571,σ1926/1641, mb5.5/322, 66C-40D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.27**	**27**	*e*Pn	**Pn**	**16 49 43.1**	**+1.2**
RABL				*e*Sn	**Sn**	**16 49 59.7**	**+1.5**
MANU	**Manus Island**	**5.32**	**308**	*e*Pn	**Pn**	**16 50 40.0**	**+2.8**
HNR	**Honiara**	**9.24**	**117**	*e*P	**Pn**	**16 51 34.0**	**+3.1**
HNR				*e*S	Sn	16 52 50.0	-23
HNR	**Honiara**	**9.24**	**117**	*e*Pn	**Pn**	**16 51 32.4**	**+1.5**
HNR				S	**Sn**	**16 53 13.9**	**+0.5**
HNR	**Honiara**	**9.24**	**117**	P	**Pn**	**16 51 34.1**	**+3.2**
	26nm,0.3s,baz=225,slow=2.9,SNR=3.4						
HNR				S	**Sn**	**16 53 13.9**	**+0.5**
	9.3nm,0.3s,baz=173,slow=19,SNR=2.1						
HNR				LR	LR	16 55 04.9	
	comp=Z,7μm,20.0s,baz=284,slow=37						
JAY	**Jayapura**	**11.20**	**284**	P	Pn	16 52 10.4	+13
JAY	**Jayapura**	**11.20**	**284**	P	**Pn**	**16 52 00.6**	**+2.8**
	1.8nm,0.3s,baz=165,slow=16,SNR=5.3						
JAY				LR	LR	16 55 52.2	
	comp=Z,7μm,19.2s,baz=84,slow=35						
GENI	**Genyem**	**11.71**	**283**	P	**Pn**	**16 52 09.1**	**+4.6**
COEN	**Coen**	**11.92**	**223**	P	**Pn**	**16 52 07.6**	**+0.1**
	baz=12,SNR=20						
COEN	**Coen**	**11.92**	**223**	*e*Pn	**Pn**	**16 52 08.1**	**+0.6**
PATS	**Pohnpei**	**13.82**	**29**	*e*Pn	**Pn**	**16 52 33.5**	**+0.2**
MTSU	**Mount Surprise**	**14.57**	**209**	P	**Pn**	**16 52 43.2**	**+0.1**
	baz=15,SNR=38						
CTA	**Charters Tower**	**15.56**	**199**	P	**Pn**	**16 52 56.7**	**+0.8**
	2.1nm,0.3s,baz=28,slow=13,SNR=27						
CTA				S	**Sn**	**16 55 50.0**	**+2.5**
	baz=350,slow=17,SNR=1.2						
CTA				LR	LR	16 58 50.6	
	comp=Z,5μm,18.7s,baz=28,slow=36						
CTAO	**Charters Tower**	**15.56**	**199**	*e*Pn	**Pn**	**16 52 55.5**	**-0.4**
	65nm,0.8s						
CTAO	**Charters Tower**	**15.56**	**199**	*e*P	**Pn**	**16 52 55.5**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,65nm,0.8s						
SRPI	**Serui, Papua**	**15.69**	**282**	P	**P**	**16 53 01.0**	**+0.6**
	comp=Z,171nm,0.7s						
RKPI	**Ransiki, Papua**	**17.78**	**282**	P	P	16 53 34.1	+11
QIS	**Mount Isa**	**19.09**	**216**	P	**Pn**	**16 53 39.2**	**-0.1**
	baz=19,SNR=62						
FAKI	**Fak Fak**	**19.43**	**276**	*e*P	**P**	**16 53 42.5**	**+0.8**
	comp=Z,91nm,1.0s						
EIDS	**Eidsvold**	**19.94**	**181**	P	**P**	**16 53 47.7**	**+0.6**
	baz=20,SNR=43						
EIDS	**Eidsvold**	**19.94**	**181**	*e*P	**P**	**16 53 47.6**	**+0.6**
	comp=Z,207nm,0.8s						
GUMO	**Guam**	**19.94**	**341**	*e*P	**P**	**16 53 48.0**	**+0.8**
	comp=Z,2μm,1.1s						
GUMO	**Guam**	**19.94**	**341**	P	**Pn**	**16 53 49.7**	**+0.4**
	comp=Z,15nm,0.3s,baz=177,slow=7.8,SNR=27						
KDU	**Kakadu**	**20.23**	**248**	P	**P**	**16 53 50.3**	**0.0**
	baz=20,SNR=247						
SIJI	**Sorong**	**20.76**	**282**	P	**P**	**16 53 57.2**	**+1.2**
	comp=Z,21nm,0.4s,baz=123,slow=4.6,SNR=40						
SIJI				ScP	**ScP**	**17 01 34.7**	**-0.2**
	comp=Z,9.2nm,1.1s,baz=85,slow=4.9,SNR=3.9						
SWI	**Sorong**	**20.77**	**282**	P	Pn	16 54 02.8	+3.7
PALU	**Palau**	**21.21**	**306**	P	**P**	**16 54 03.6**	**+2.7**
	baz=21,SNR=12						
RMQ	**Roma**	**21.21**	**187**	P	**P**	**16 54 01.6**	**+0.7**
	baz=21,SNR=163						
MTN	**Manton Dam**	**21.52**	**248**	P	**P**	**16 54 04.5**	**+0.3**
	baz=22,SNR=102						
MTN	**Manton Dam**	**21.52**	**248**	*e*P	**P**	**16 54 04.3**	**+0.2**
MTN				*e*pP	**pP**	**16 54 18.0**	**-0.1**
DZM	**Mont Dzumac**	**22.00**	**141**	*e*P	**P**	**16 54 10.4**	**+1.0**
	comp=Z,260nm,1.2s						
DZM				*e*S	**S**	**16 58 05.2**	**-3.6**
	comp=Z,11μm,26.2s						
DZM				*e*LR	LR	16 59 36.0	
	comp=Z,19μm,23.1s						
DZM	**Mont Dzumac**	**22.00**	**141**	*e*P	**P**	**16 54 09.9**	**+0.5**
	comp=Z,86nm,0.9s						
DZM	**Mont Dzumac**	**22.00**	**141**	P	**P**	**16 54 10.9**	**+1.5**
	comp=Z,45nm,0.7s,baz=266,slow=9.3,SNR=58						
DZM				LR	LR	17 01 35.0	
	comp=Z,13μm,21.1s,baz=318,slow=33						
WRAB	**Tennant Creek**	**22.18**	**228**	*e*P	**P**	**16 54 11.7**	**+0.4**
	comp=Z,499nm,1.1s						
WRAB	**Tennant Creek**	**22.18**	**228**	*ce*P	**P**	**16 54 10.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,246nm,0.6s						
WB2	**Warramunga Arr**	**22.18**	**228**	*e*P	**P**	**16 54 10.5**	**-0.9**
WRA	**Warramunga Arr**	**22.19**	**228**	P	**P**	**16 54 12.1**	**+0.7**
	comp=Z,176nm,0.6s,baz=52,slow=9.8,SNR=270						
WRA				S	**S**	**16 58 09.4**	**-2.8**
	comp=Z,43nm,1.2s,baz=52,slow=15,SNR=6.4						
WRA				ScP	**ScP**	**17 01 38.2**	**-0.2**
	comp=Z,14nm,0.9s,baz=44,slow=2.6,SNR=15						
WRA				LR	LR	17 03 28.3	
	comp=Z,3μm,18.7s,baz=50,slow=38						
WRA				PKiKP	**PKiKP**	**17 05 50.7**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=321,slow=1.1,SNR=18						
ANA2	**Anatahan**	**22.30**	**345**	*e*P	**P**	**16 54 11.6**	**-0.9**
	comp=Z,421nm,0.6s						
TARA	**Tarawa**	**22.33**	**73**	*e*P	**P**	**16 54 12.1**	**-0.8**
	comp=Z,270nm,0.9s						
SARN	**Sarigan**	**22.62**	**345**	*e*P	**P**	**16 54 16.7**	**+0.7**
	comp=Z,372nm,0.9s						
NLAI	**Namlea**	**24.50**	**274**	P	P	16 54 53.0	+19
KNRA	**Kununurra**	**24.65**	**244**	P	**P**	**16 54 35.5**	**+0.4**
	baz=25,SNR=176						
AS01	**Alice Springs**	**24.92**	**221**	*e*P	**P**	**16 54 37.9**	**+0.2**
TNTI	**Ternate**	**24.93**	**283**	*e*P	**P**	**16 54 38.4**	**+0.7**
	comp=Z,77nm,1.1s						
TNTI	**Ternate**	**24.93**	**283**	P	**P**	**16 54 41.5**	**+3.7**
	comp=Z,81nm,1.2s,comp=Z,2μm						
AS31	**Alice Springs**	**24.95**	**221**	*e*P	**P**	**16 54 38.1**	**+0.3**
	comp=Z,70nm,0.5s						
ASAR	**Alice Springs**	**24.95**	**221**	P	**P**	**16 54 37.9**	**0.0**
	comp=Z,136nm,0.5s,baz=56,slow=6.6,SNR=307						
ASAR				PcP	**PcP**	**16 58 13.2**	**+1.2**
	comp=Z,4.2nm,0.7s,baz=356,slow=2.2,SNR=3.2						
ASAR				S	**S**	**16 58 55.5**	**-1.7**
	comp=Z,2.9nm,0.6s,baz=40,slow=17,SNR=3.4						
ASAR				ScP	**ScP**	**17 01 46.0**	**+0.2**
	comp=Z,15nm,1.1s,baz=46,slow=3.1,SNR=11						
ASAR				LR	LR	17 04 20.4	
	comp=Z,3μm,21.6s,baz=48,slow=36						
ASAR				PKiKP	**PKiKP**	**17 05 52.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=69,slow=0.6,SNR=9.1						
ARMA	**Armidale**	**24.96**	**180**	P	**P**	**16 54 39.7**	**+1.8**
	baz=25,SNR=37						
ARMA	**Armidale**	**24.96**	**180**	*e*P	**P**	**16 54 38.5**	**+0.6**
	comp=Z,183nm,1.5s						
SANI	**Sanana**	**25.74**	**276**	P	**P**	**16 54 48.9**	**+3.8**
	comp=Z,62nm,0.8s,comp=Z,2μm						
CMSA	**Cobar Meteorol**	**26.66**	**191**	P	**P**	**16 54 53.4**	**+0.2**
	baz=27,SNR=52						
SOEI	**Soe**	**27.43**	**259**	*e*P	**P**	**16 55 00.7**	**+0.3**
	comp=Z,249nm,1.1s						
SOEI	**Soe**	**27.43**	**259**	P	**P**	**16 55 06.2**	**+5.8**
	comp=Z,146nm,1.3s,comp=Z,4μm						
MGCD	**Mangrove Creek**	**27.75**	**181**	P	**P**	**16 55 05.0**	**+2.1**
	baz=28,SNR=7.7						
STKA	**Stephens Creek**	**28.02**	**198**	P	**P**	**16 55 05.4**	**0.0**
	baz=28,SNR=21						
STKA	**Stephens Creek**	**28.02**	**198**	*e*P	**P**	**16 55 05.1**	**-0.4**
	comp=Z,9.7nm,0.9s						
STKA				ScP	**ScP**	**17 01 54.5**	**-0.2**
STKA	**Stephens Creek**	**28.02**	**198**	P	**P**	**16 55 06.0**	**+0.6**
STKA				pmax	pmax		
	comp=Z,11nm,0.7s						
STKA				pmax	pmax		
	comp=N,17nm,1.1s						
STKA				MLR	MLR		
	comp=Z,3μm,18.5s						
STKA	**Stephens Creek**	**28.02**	**198**	P	**P**	**16 55 06.0**	**+0.6**
	comp=Z,11nm,0.7s,baz=0.7,slow=8.6,SNR=22						
STKA				ScP	**ScP**	**17 01 54.5**	**-0.2**
	comp=Z,17nm,1.1s,baz=72,slow=4.1,SNR=7.8						
STKA				LR	LR	17 07 02.0	
	comp=Z,3μm,18.5s,baz=17,slow=38						
BATI	**Baumata**	**28.07**	**258**	P	**P**	**16 55 07.9**	**+1.8**
	comp=Z,90nm,0.9s,comp=Z,1μm						
BATI	**Baumata**	**28.07**	**258**	P	**P**	**16 55 07.7**	**+1.6**
	comp=Z,90nm,0.6s,baz=156,slow=1.9,SNR=29						
KMSI	**Cibinong**	**28.18**	**281**	P	**P**	**16 55 09.7**	**+2.7**
	comp=Z,36nm,0.7s,comp=Z,4μm						
FITZ	**Fitoy Crossi**	**28.34**	**241**	P	**P**	**16 55 07.8**	**-0.6**
	baz=28,SNR=331						
FITZ	**Fitzroy Crossi**	**28.34**	**241**	*e*P	**P**	**16 55 08.1**	**-0.3**
	comp=Z,158nm,0.5s						
FITZ				S	**S**	**16 59 48.1**	**-2.7**
FITZ	**Fitzroy Crossi**	**28.34**	**241**	P	**P**	**16 55 08.3**	**-0.1**
	comp=Z,136nm,0.5s,baz=69,slow=8.2,SNR=407						
FITZ				S	**S**	**16 59 48.1**	**-2.7**
	comp=Z,26nm,1.2s,baz=101,slow=17,SNR=3.7						
MSVF	**Nonsavu**	**28.66**	**118**	*e*P	**P**	**16 55 12.8**	**+1.4**
	comp=Z,68nm,1.1s						
MSVF	**Nonsavu**	**28.66**	**118**	*i*P	**P**	**16 55 15.3**	**+3.9**
DAV	**Davao City (W)**	**28.72**	**295**	P	**P**	**16 55 11.6**	**-0.3**
DAV	**Davao City (W)**	**28.72**	**295**	LR	LR	17 06 05.2	
	comp=Z,2μm,20.1s,baz=110,slow=35						
YNG	**Young**	**28.98**	**185**	P	**P**	**16 55 15.4**	**+1.5**
	baz=29,SNR=7.3						
LUWI	**Luwuk**	**29.07**	**277**	*e*P	**P**	**16 55 14.9**	**-0.1**
	comp=Z,84nm,1.0s						
LUWI	**Luwuk**	**29.07**	**277**	P	**P**	**16 55 18.3**	**+3.3**
	comp=Z,74nm,1.6s,comp=Z,2μm						
KCP	**Kidapawan**	**29.14**	**295**	*i*eP	**P**	**16 55 15.6**	**0.0**
MMRI	**Maumere**	**29.31**	**262**	*e*P	**P**	**16 55 16.7**	**-0.3**
	comp=Z,106nm,1.0s						
MMRI	**Maumere**	**29.31**	**262**	P	**P**	**16 55 20.1**	**+3.1**
	comp=Z,118nm,1.1s,comp=Z,1μm						
WRKA	**Warakurna**	**29.72**	**226**	P	**P**	**16 55 19.8**	**-0.8**
	baz=30,SNR=604						
EDFI	**Ende, Flores**	**29.85**	**262**	P	**P**	**16 55 22.3**	**+0.3**
	comp=Z,70nm,0.9s,comp=Z,820nm						
CTBH	**Cotabato--PC H**	**29.99**	**294**	*i*P	**P**	**16 55 24.4**	**+1.3**
MRSI	**Marisa**	**30.16**	**280**	P	P	16 55 38.2	+14
APSI	**Ampana**	**30.20**	**277**	P	**P**	**16 55 26.9**	**+1.9**
	comp=Z,34nm,0.8s,comp=Z,703nm						
HTT	**Hallett**	**30.34**	**201**	P	**P**	**16 55 26.2**	**+0.1**
	baz=30,SNR=76						
BBOO	**Buckleboo**	**30.94**	**206**	P	**P**	**16 55 30.8**	**-0.5**
	baz=31,SNR=55						
BBOO	**Buckleboo**	**30.94**	**206**	*e*P	**P**	**16 55 30.3**	**-1.0**
	comp=Z,64nm,1.1s						
BASI	**Baing, Sumba**	**31.09**	**259**	P	**P**	**16 55 36.1**	**+3.3**
	comp=Z,319nm,1.4s,comp=Z,6μm						
WSI	**Waingapu**	**31.30**	**260**	P	**P**	**16 55 35.8**	**+1.1**
	comp=Z,336nm,0.6s,comp=Z,8μm						
MILA	**Mila**	**31.66**	**184**	P	**P**	**16 55 39.1**	**+1.5**
	baz=32,SNR=3.9						
PCI	**Palu**	**31.99**	**277**	P	**P**	**16 55 42.9**	**+2.1**
	comp=Z,115nm,1.1s,comp=Z,976nm						
MPSI	**Mapaga**	**32.14**	**279**	P	**P**	**16 55 42.0**	**0.0**
	comp=Z,15nm,1.0s						
ARPS	**Mount Arapiles**	**32.55**	**195**	P	**P**	**16 55 45.8**	**+0.5**
	baz=33,SNR=29						
TOO	**Toolangi**	**32.57**	**189**	P	**P**	**16 55 46.9**	**+1.3**
	baz=33,SNR=6.1						
TOO	**Toolangi**	**32.57**	**189**	*e*P	**P**	**16 55 45.7**	**+0.1**
TOO				*e*pP	**pP**	**16 56 00.3**	**-0.5**
TOO	**Toolangi**	**32.57**	**189**	*e*P	**P**	**16 55 45.7**	**+0.1**
TOO				*e*PP	**pP**	**16 56 00.3**	**-0.5**
RCP	**Roxas**	**33.23**	**300**	*i*eP	**P**	**16 55 54.2**	**+2.6**
CBIJ	**Chichi jima**	**33.49**	**345**	P	**P**	**16 55 52.6**	**-1.0**
JCJ	**Chichijima**	**33.49**	**345**	P	**P**	**16 55 52.6**	**-1.0**
	comp=Z,68nm,0.5s,baz=266,slow=9.9,SNR=6.1						
JCJ				LR	LR	17 09 41.3	
	comp=Z,1μm,19.4s,baz=130,slow=36						
FORT	**Forrest**	**33.62**	**218**	P	**P**	**16 55 54.7**	**0.0**
	baz=34,SNR=32						
FORT	**Forrest**	**33.62**	**218**	*e*P	**P**	**16 55 54.4**	**-0.4**
	comp=Z,130nm,0.8s						
PLAI	**Plampang**	**33.72**	**262**	P	**P**	**16 55 56.4**	**+0.6**
	comp=Z,98nm,0.8s,comp=Z,917nm						
MBWA	**Marble Bar**	**34.66**	**240**	*e*P	**P**	**16 56 03.4**	**-0.5**
	comp=Z,513nm,1.8s						
MBWA	**Marble Bar**	**34.66**	**240**	P	**P**	**16 56 03.7**	**-0.2**
	SNR=12						
TSM	**Tawau**	**35.00**	**285**	P	**P**	**16 56 09.3**	**+2.4**
SDKM	**Sandakan**	**36.02**	**287**	P	**P**	**16 56 15.0**	**-0.8**
OUZ	**Omahuta**	**36.02**	**149**	P	**P**	**16 56 17.7**	**+2.3**
KKM	**Kota Kinabalu**	**37.07**	**287**	P	**P**	**16 56 26.9**	**+2.1**
AFI	**Afiamalu**	**37.07**	**106**	LR	LR	17 10 13.8	
	comp=Z,1μm,20.6s,baz=288,slow=34						
MOO	**Moorlands**	**37.16**	**185**	P	**P**	**16 56 26.8**	**+1.8**
	baz=37,SNR=6.1						
JAGI	**Jajag, Banyuwa**	**37.28**	**263**	P	**P**	**16 56 25.6**	**-0.8**
	comp=Z,142nm,0.9s,comp=Z,1μm						
RAO	**Raoul Island**	**37.38**	**133**	LR	LR	17 09 38.4	
	comp=Z,2μm,18.4s,baz=299,slow=32						
TAU	**Tasmania Unive**	**37.62**	**185**	*e*P	**P**	**16 56 30.1**	**+1.3**
	comp=Z,125nm,1.4s						
TAU	**Tasmania Unive**	**37.62**	**185**	*e*P	**P**	**16 56 30.1**	**+1.3**
TAU				pmax	pmax		
	comp=Z,125nm,1.4s						
MEEK	**Meekatharra**	**37.92**	**232**	P	**P**	**16 56 31.6**	**-0.2**
	baz=38,SNR=119						
KUZ	**Kuaotunu**	**38.30**	**148**	P	**P**	**16 56 36.8**	**+2.1**
TOZ	**Tahuroa Road**	**38.93**	**149**	P	**P**	**16 56 42.1**	**+2.2**
JOW	**Kunigami**	**39.13**	**326**	*e*P	**P**	**16 56 42.1**	**+0.4**
	comp=Z,126nm,1.1s						
JOW	**Kunigami**	**39.13**	**326**	P	**P**	**16 56 43.5**	**+1.7**
	comp=Z,12nm,0.9s,baz=148,slow=13,SNR=16						
HIZ	**Hauiti**	**39.22**	**151**	P	**P**	**16 56 44.6**	**+2.2**
BTM	**Bintulu**	**39.38**	**282**	P	**P**	**16 56 46.3**	**+2.2**
PWJI	**Pagerwojo**	**39.59**	**264**	P	**P**	**16 56 43.4**	**-2.4**
VRZ	**Vera Road**	**39.65**	**151**	P	**P**	**16 56 48.1**	**+2.1**
JHJ	**Hachijo jima 2**	**39.84**	**344**	LR	LR	17 10 27.5	
	comp=Z,2μm,20.2s,baz=176,slow=32						
GIRL	**Giralia**	**39.95**	**241**	P	**P**	**16 56 49.6**	**+0.9**
	baz=40,SNR=24						
GIRL	**Giralia**	**39.95**	**241**	*e*P	**P**	**16 56 49.1**	**+0.4**
GIRL				*e*pP	**pP**	**16 57 03.6**	**-1.3**
PKVZ	**Pokaka**	**40.06**	**151**	P	**P**	**16 56 52.2**	**+2.8**
SBUM	**Sibu**	**40.07**	**280**	*e*P	**P**	**16 56 47.5**	**-2.3**
	comp=Z,37nm,1.3s						
SBUM	**Sibu**	**40.07**	**280**	P	**P**	**16 56 51.6**	**+1.8**
FWVZ	**Far West T-bar**	**40.13**	**151**	P	**P**	**16 56 52.8**	**+2.5**
HAZ	**Te Kaha**	**40.15**	**147**	P	**P**	**16 56 52.0**	**+1.9**
URZ	**Urewera**	**40.16**	**148**	P	**P**	**16 56 51.1**	**+0.9**
	comp=Z,14nm,0.6s,baz=281,slow=3.3,SNR=11						
URZ				PcP	**PcP**	**16 58 52.3**	**-1.2**
	comp=Z,23nm,0.6s,baz=17,slow=2.5,SNR=7.0						
URZ				LR	LR	17 11 21.3	
	comp=Z,3μm,20.5s,baz=336,slow=33						
URZ	**Urewera**	**40.16**	**148**	P	**P**	**16 56 51.8**	**+1.6**
WNVZ	**Wahianoa**	**40.21**	**151**	P	**P**	**16 56 53.6**	**+2.8**
RUGZ	**Raukumara Rang**	**40.25**	**147**	P	**P**	**16 56 52.7**	**+1.6**
RTZ	**Ruatahuna**	**40.36**	**149**	P	**P**	**16 56 53.0**	**+1.0**
MWZ	**Matawai**	**40.44**	**148**	P	**P**	**16 56 54.3**	**+1.7**
BKZ	**Black Stump Fm**	**40.53**	**150**	*e*P	**P**	**16 56 53.8**	**+0.5**
	comp=Z,31nm,1.2s						
BKZ	**Black Stump Fm**	**40.53**	**150**	P	**P**	**16 56 54.4**	**+1.1**
BHHZ	**Black Hill Sta**	**40.56**	**150**	P	**P**	**16 56 55.4**	**+1.8**
RAHZ	**Arahi**	**40.64**	**149**	P	**P**	**16 56 56.4**	**+2.2**
SNGZ	**Shannon Statio**	**40.67**	**149**	P	**P**	**16 56 56.5**	**+2.0**
TKGZ	**Te Karaka**	**40.69**	**148**	P	**P**	**16 56 55.8**	**+1.3**
KRHZ	**Kereru**	**40.84**	**150**	P	**P**	**16 56 57.1**	**+1.3**
RIGZ	**Rimuhau**	**40.84**	**148**	P	**P**	**16 56 56.4**	**+0.6**
PNHZ	**Pukenui**	**40.96**	**151**	P	**P**	**16 56 58.3**	**+1.5**
THZ	**Tophouse**	**40.96**	**155**	*e*P	**P**	**16 56 56.6**	**-0.2**
	comp=Z,30nm,0.9s						
KLBR	**Kellerberrin**	**41.06**	**226**	P	**P**	**16 56 57.4**	**-0.4**
	baz=41,SNR=30						
MORW	**Morawa**	**41.07**	**231**	P	**P**	**16 56 57.4**	**-0.5**
	baz=41,SNR=29						
MORW	**Morawa**	**41.07**	**231**	*e*P	**P**	**16 56 57.4**	**-0.5**
MORW				*e*pP	**pP**	**16 57 11.8**	**-2.6**
MHGZ	**Mahia Peninsul**	**41.24**	**148**	P	**P**	**16 56 59.7**	**+0.5**
MRZ	**Mangatainoka R**	**41.25**	**152**	P	**P**	**16 56 59.8**	**+0.7**
BLDU	**Ballidu**	**41.32**	**228**	P	**P**	**16 56 59.5**	**-0.4**
	baz=41,SNR=17						
NACB	**Ninganchiao**	**41.40**	**316**	*e*P	**P**	**16 57 00.9**	**+0.3**
NACB				*e*pP	**pP**	**16 57 15.8**	**-0.8**
LTZ	**Lake Taylor**	**41.56**	**157**	*e*P	**P**	**16 57 02.3**	**+0.5**
	comp=Z,49nm,1.2s						
KSM	**Kuching**	**41.77**	**278**	*e*P	**P**	**16 57 02.4**	**-1.5**
	comp=Z,44nm,1.2s						
KSM	**Kuching**	**41.77**	**278**	P	**P**	**16 57 04.9**	**+1.0**
YHNB	**Yeheng**	**41.87**	**317**	*e*P	**P**	**16 57 04.9**	**+0.4**
	comp=Z,136nm,1.0s						
RPZ	**Rata Peaks**	**41.91**	**159**	*e*P	**P**	**16 57 05.0**	**+0.5**
	comp=Z,48nm,1.1s						
RPZ	**Rata Peaks**	**41.91**	**159**	P	**P**	**16 57 06.1**	**+1.6**
	comp=Z,19nm,0.7s,baz=266,slow=5.4,SNR=10						
RPZ				LR	LR	17 12 17.3	
	comp=Z,5μm,21.3s,baz=314,slow=33						
OXZ	**Oxford**	**41.94**	**158**	*e*P	**P**	**16 57 04.9**	**+0.2**
OXZ				*e*pP	**pP**	**16 57 21.6**	**+1.1**
NWAO	**Narrogin (SRO)**	**42.16**	**225**	P	**P**	**16 57 06.5**	**-0.3**
	baz=42,SNR=11						
NWAO	**Narrogin (SRO)**	**42.16**	**225**	*e*P	**P**	**16 57 05.7**	**-1.0**
	comp=Z,59nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.16**	**225**	P	**P**	**16 57 07.0**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,16nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.16**	**225**	P	**P**	**16 57 07.0**	**+0.3**
	comp=Z,16nm,0.7s,baz=289,slow=7.9,SNR=14						
CRLZ	**Canterbury Las**	**42.37**	**157**	*e*P	**P**	**16

QIZ pP **pP** **16 58 07.9 +0.5**
QIZ S **S** **17 04 45.9 +3.2**
QIZ pmax pmax
comp=Z,270nm,4.8s
QIZ LR LR
comp=Z,930nm,23.0s
QIZ LR LR
comp=Z,1μm,22.6s
QIZ LR LR
comp=Z,3μm,27.9s
QIZ Qiongzhong 47.70 302 *e*P **P** **16 57 52.4 +1.5**
comp=Z,132nm,1.5s
LHSI Lahat 47.92 270 P **P** **16 57 55.2 +2.5**
comp=Z,24nm,1.5s
KSRS Korea Array 47.93 335 P **P** **16 57 53.1 +0.8**
comp=Z,17nm,1.0s,baz=151,slow=9.2,SNR=32
KSRS PcP **PcP** **16 59 20.9 +0.9**
comp=Z,5.4nm,0.5s,baz=145,slow=4.3,SNR=12
KSRS ScP **ScP** **17 03 06.0 -3.0**
comp=Z,2.3nm,0.8s,baz=145,slow=6.1,SNR=2.9
KSRS LR LR 17 18 57.8
comp=Z,502nm,18.4s,baz=162,slow=37
KSAR Wonju Array Be 47.94 334 P **P** **16 57 53.1 +0.7**
KSAR PcP **PcP** **16 59 20.9 +0.9**
KSAR ScP **ScP** **17 03 06.0 -3.1**
KSAR Wonju Array Be 47.94 334 P **P** **16 57 53.2 +0.7**
KSAR 16 59 20.9
KS01 Wonju Array Si 47.97 335 *e*P **P** **16 57 52.6 0.0**
MYKOM Kota Tinggi 48.20 277 *e*P **P** **16 57 53.8 -1.1**
comp=Z,42nm,1.3s
NJ2 Nanjing 48.50 322 ⇑P **P** **16 57 58.8 +1.9**
NJ2 pP **pP** **16 58 12.5 -0.8**
NJ2 sP **sP** **16 58 21.5 +0.9**
NJ2 S **S** **17 04 56.9 +3.3**
NJ2 sS **sS** **17 05 23.9 +2.2**
NJ2 pmax pmax
comp=Z,50nm,2.2s
NJ2 pmax pmax
comp=Z,810nm,3.7s
NJ2 LR LR
comp=Z,2μm,24.9s
NJ2 LR LR
comp=Z,1μm,23.8s
NJ2 LR LR
comp=Z,3μm,24.6s
KGM Kluang 48.76 277 P **P** **16 58 00.0 +0.8**
YUK Yuzh-Kuril'sk 49.40 355*c i*P **P** **16 58 02.1 -1.4**
YUK *e**PP **pP** **16 58 21.2 +1.2**
YUK *e* 16 59 26.8
YUK *e* 17 00 01.7
YUK *i* S **S** **17 05 02.1 -3.7**
YUK pmax pmax
comp=Z,147nm,1.3s
YUK pmax pmax
comp=N,133nm,1.0s
YUK pmax pmax
comp=E,96nm,1.0s
YUK pmax pmax
comp=Z,291nm,2.5s
KTGM Kuala Trenggan 49.52 282 P **P** **16 58 06.2 +1.2**
RAR Rarotonga 49.68 113 *e*P **P** **16 58 07.1 +1.0**
comp=Z,252nm,1.6s
RAR epP **pP** **16 58 22.5 -0.2**
RAR Rarotonga 49.68 113 P **P** **16 58 08.9 +2.8**
comp=Z,38nm,1.1s,baz=241,slow=4.3,SNR=4.5
RAR LR LR 17 16 44.7
comp=Z,559nm,21.0s,baz=282,slow=33
KRJI Kerinci 50.10 272 P **P** **16 58 10.1 +0.5**
comp=Z,45nm,0.9s
WHN Wuhan 50.41 317 ⇑P **P** **16 58 13.3 +1.9**
WHN S **S** **17 05 22.7 +2.4**
WHN LR LR
comp=Z,12μm,22.4s
WHN LR LR
comp=Z,13μm,29.7s
FRIM Kepong 50.62 279 P **P** **16 58 13.8 +0.5**
PDSI Padang 51.22 273 P **P** **16 58 16.3 -1.6**
VLA Vladivostok 51.42 342⇓*e*P **P** **16 58 20.1 +1.3**
VLA pmax pmax
comp=Z,120nm,3.6s
IPM Ipoh 51.42 280 P **P** **16 58 19.7 +0.3**
KULM Kulim 51.94 281 *e*P **P** **16 58 21.6 -1.6**
comp=Z,24nm,1.1s
KULM Kulim 51.94 281 P **P** **16 58 23.8 +0.6**
SKNT Sakolnakorn 51.99 296 P **P** **16 58 25.0 +1.5**
comp=Z,24nm,1.7s,comp=Z,548nm
DL2 Dalian 52.01 330⇑*i*P **P** **16 58 24.5 +1.2**
DL2 pP **pP** **16 58 41.8 +2.0**
DL2 sP **sP** **16 58 48.6 +1.5**
DL2 PcP **PcP** **16 59 36.8 +1.9**
DL2 PP **PP** **17 00 25.8 +3.7**
DL2 S **S** **17 05 44.0 +1.8**
DL2 SS **SS** **17 09 20.9 +0.7**
DL2 pmax pmax
comp=Z,79nm,1.1s
DL2 pmax pmax
comp=Z,510nm,4.7s
DL2 LR LR
comp=Z,870nm,24.3s
DL2 LR LR
comp=Z,760nm,23.5s
DL2 LR LR
comp=Z,2μm,26.7s
MNSI Mandailing Nat 52.29 275 P **P** **16 58 25.4 -0.4**
comp=Z,68nm,0.8s
USA0B Ussuriysk Arra 52.36 342 *e*P **P** **16 58 26.4 +0.6**
comp=Z,120nm,1.5s
USA0B Ussuriysk Arra 52.36 342 *e*P **P** **16 58 26.4 +0.6**
USRK Ussuriysk Ar. 52.36 342 P **P** **16 58 26.3 +0.5**
comp=Z,9.2nm,0.7s,baz=175,slow=6.4,SNR=12
USRK LR LR 17 19 15.7
comp=Z,898nm,21.2s,baz=175,slow=34
TIA Tai'an 52.43 325 P **P** **16 58 27.1 +0.6**
TIA S **S** **17 05 50.9 +2.9**
TIA pmax pmax
comp=Z,18nm,1.1s
TIA LR LR
comp=Z,450nm,24.5s
TIA LR LR
comp=Z,410nm,28.4s
TIA LR LR
comp=Z,950nm,20.0s
SISI Saibi 52.54 272 P **P** **16 58 27.6 -0.1**
comp=Z,25nm,0.8s
YSS Yuzh-Sakhalins 52.64 352⇓*e*P **P** **16 58 29.6 +1.9**
YSS *e* 17 00 32.0
YSS *e*S **S** **17 05 47.4 -3.0**
YSS pmax pmax
comp=Z,20nm,1.3s
YSS pmax pmax
comp=Z,200nm,7.3s
YSS MLR MLR
comp=Z,500nm,18.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,500nm,18.0s
SRAK Srakaew 52.77 292 P **P** **16 58 30.1 +0.8**
comp=E,20nm,0.8s,comp=E,454nm
PSI Prapat 53.22 277 *e*P **P** **16 58 31.8 -1.0**
comp=E,11nm,0.6s
PSI Prapat 53.22 277 *e*P **P** **16 58 31.8 -1.0**
PSI pmax pmax
comp=Z,11nm,0.6s
TRTT Trang 53.39 284 P **P** **16 58 34.9 +1.0**
comp=Z,7.4nm,1.1s,comp=Z,217nm
CHAI Chaiyaphum 53.42 294 P **P** **16 58 35.1 +1.0**
comp=Z,8.8nm,1.0s,comp=Z,91nm
SNY Shenyang 53.43 334 ⇑P **P** **16 58 33.9 +0.2**
SNY S **S** **17 06 03.1 +1.7**
SNY pmax pmax
comp=Z,24nm,2.3s
SNY pmax pmax
comp=Z,550nm,4.0s
SNY LR LR
comp=Z,1μm,21.6s
SNY LR LR
comp=Z,980nm,26.5s
SNY LR LR
comp=Z,3μm,28.4s
PBSI Pulau Batu 53.48 274 P P 16 58 40.6 +6.0
comp=Z,21nm,0.5s
MDJ Mudanjiang 53.50 341 P **P** **16 58 34.5 +0.3**
MDJ pP pP 16 58 50.3 -0.5
MDJ sP sP 16 58 57.3 -0.7
MDJ ScP **ScP** **17 03 25.9 -6.9**
MDJ pmax pmax
comp=Z,20nm,1.8s
MDJ pmax pmax
comp=Z,400nm,8.8s
MDJ LR LR
comp=Z,760nm,29.1s
MDJ LR LR
comp=Z,570nm,27.9s
MDJ LR LR
comp=Z,2μm,24.8s
MDJ Mudanjiang 53.50 341 *e*P **P** **16 58 34.1 0.0**
comp=Z,94nm,1.5s
ENH Enshi 53.63 314 *e*P **P** **16 58 36.0 +0.6**
comp=Z,206nm,1.3s
ENH *e*pP **pP** **16 58 52.5 +0.3**
GYA Guiyang 53.76 308⇑*i*P **P** **16 58 37.7 +1.1**
GYA pP pP 16 58 54.2 +1.0
GYA sP sP 16 59 01.3 +0.8
GYA PP **PP** **17 00 41.0 +2.8**
GYA S **S** **17 06 07.8 +1.2**
GYA sS sS 17 06 34.0 +0.5
GYA SS **SS** **17 09 48.4 -0.1**
GYA pmax pmax
comp=Z,40nm,1.1s
GYA pmax pmax
comp=Z,160nm,6.2s
GYA LR LR
comp=Z,870nm,18.7s
GYA LR LR
comp=Z,940nm,18.5s
GYA LR LR
comp=Z,850nm,18.2s
CN2 Changchun 54.29 337⇓P **P** **16 58 40.7 +0.7**
CN2 *e*sP sP 16 59 03.6 -0.2
CN2 *e*S **S** **17 06 12.2 -0.8**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,500nm,6.0s
CN2 LR LR
comp=Z,1μm,16.0s
CN2 LR LR
comp=Z,800nm,16.0s
CN2 LR LR
comp=Z,1μm,18.0s
GSI Gunungsitoli 54.34 275 *e*P **P** **16 58 39.3 -1.6**
comp=Z,59nm,1.2s
GSI Gunungsitoli 54.34 275 P **P** **16 58 39.5 -1.4**
KCSI Kotacane, Aceh 54.46 278 P **P** **16 58 40.7 -1.1**
PBKT Sadao Pong 54.56 295 P **P** **16 58 44.2 +1.8**
comp=Z,24nm,2.2s
PHET Kaeng Krachan 54.70 290 P **P** **16 58 47.1 +3.7**
comp=Z,6.6nm,0.9s
PKDT Phuket 54.71 283 P **P** **16 58 43.6 0.0**
comp=Z,11nm,0.7s
UTTA Uttaradit 55.33 296 P **P** **16 58 49.5 +1.6**
comp=Z,12nm,1.1s,comp=Z,107nm
NANT Nan 55.56 297 P **P** **16 58 50.8 +1.2**
comp=Z,30nm,0.9s,comp=Z,265nm
UTHA Uthaitani 55.63 293 P **P** **16 58 51.7 +1.5**
comp=Z,13nm,0.8s,comp=Z,116nm
BJT Baijiatuao 55.66 327 *e*P **P** **16 58 49.5 -0.4**
comp=Z,49nm,1.2s
BJT *e*pP **pP** **16 59 07.1 +0.5**
BJT Baijiatuao 55.66 327 *e*P **P** **16 58 49.5 -0.4**
BJT *e**PP **pP** **16 59 07.1 +0.5**
BJT pmax pmax
comp=Z,49nm,1.2s
SKR Severo-Kuril's 55.92 3⇓*e*P **P** **16 58 53.0 +1.5**
MLSI Meulaboh, Aceh 55.93 279 P **P** **16 58 51.6 -0.7**
comp=Z,69nm,1.4s
SUKH Sukhothai 56.07 295 P **P** **16 58 55.6 +2.4**
comp=Z,11nm,1.2s
XAN Xi'an 56.17 317 P **P** **16 58 54.4 +0.6**
XAN pP pP 16 59 10.0 -0.6
XAN sP sP 16 59 16.8 -1.0
XAN S **S** **17 06 33.0 -5.7**
XAN pmax pmax
comp=Z,76nm,0.7s
XAN pmax pmax
comp=Z,380nm,3.5s
XAN LR LR
comp=Z,970nm,26.0s
XAN LR LR
comp=Z,730nm,22.8s
XAN LR LR
comp=Z,1μm,23.9s
XAN Xi'an 56.17 317 *e*P **P** **16 58 53.8 0.0**
comp=Z,172nm,1.4s
XAN *e*pP **pP** **16 59 10.2 -0.4**
XAN Xi'an 56.17 317 *e*P **P** **16 58 53.8 0.0**
XAN *e**PP **pP** **16 59 10.2 -0.4**
XAN pmax pmax
comp=Z,172nm,1.4s
TIY Taiyuan 56.20 323 *e*P **P** **16 58 55.5 +1.5**
TIY S **S** **17 06 39.6 +0.6**
TIY SS **SS** **17 10 34.2 +7.6**
TIY pmax pmax
comp=Z,36nm,1.0s
TIY pmax pmax
comp=Z,340nm,3.9s
TIY LR LR
comp=Z,540nm,13.5s
TIY LR LR
comp=Z,1μm,17.4s
TIY LR LR
comp=Z,2μm,23.7s
KMI Kunming 56.28 305 P **P** **16 58 56.9 +2.0**
KMI pP pP 16 59 12.8 +1.1
KMI sP sP 16 59 20.6 +1.7
KMI PP **PP** **17 01 02.6 +1.6**
KMI S **S** **17 06 42.7 +2.0**
KMI sS sS 17 07 10.8 +3.0
KMI SS **SS** **17 10 28.0 -0.5**
KMI pmax pmax
comp=Z,50nm,1.1s
KMI pmax pmax
comp=Z,380nm,3.1s
KMI LR LR
comp=Z,510nm,20.7s
KMI LR LR
comp=Z,770nm,18.3s
KMI LR LR
comp=Z,2μm,31.0s
KMI Kunming 56.28 305 *e*P **P** **16 58 55.6 +0.7**
KMI *e*pP **pP** **16 59 12.1 +0.4**
KMI Kunming 56.28 305 *e*P **P** **16 58 55.7 +0.7**
KMI *e**PP **pP** **16 59 12.1 +0.4**
UMPA Umpang Tak 56.37 293 P **P** **16 58 57.4 +2.0**
comp=Z,11nm,1.1s,comp=Z,96nm
LAMP Lampang 56.41 296 P **P** **16 58 57.6 +1.9**
comp=Z,18nm,1.1s,comp=Z,158nm
TYV Tymovskoe 56.49 353 *e*P **P** **16 58 54.9 -0.7**
TYV pmax pmax
comp=Z,14nm,1.6s
CM01 Chiang Mai Arr 56.98 296 *e*P **P** **16 59 00.9 +1.2**
CM01 *e*pP **pP** **16 59 16.4 -0.3**
CM31 Chiang Mai Arr 57.01 296 *e*P **P** **16 59 01.0 +1.0**
comp=Z,122nm,1.4s
CM31 *e*pP **pP** **16 59 16.5 -0.4**
CM31 Chiang Mai Arr 57.01 296 P **P** **16 59 01.5 +1.6**
SNR=38
CMAR Chiang Mai Arr 57.01 296 P **P** **16 59 01.4 +1.5**
comp=Z,18nm,0.8s,baz=113,slow=5.3,SNR=114
CMAR LR LR 17 23 22.2
comp=Z,517nm,19.9s,baz=114,slow=36
CMAR PKP2bc 17 29 04.8
comp=Z,8.1nm,1.1s,baz=286,slow=3.6,SNR=16
CMAR PKP2ab 17 29 20.8
comp=Z,3.8nm,1.0s,baz=286,slow=4.4,SNR=6.2
KLR Kul'dur 57.02 345*c i*P **P** **16 58 59.7 +0.3**
KLR Kul'dur 57.02 345 P **P** **16 58 59.5 +0.2**
comp=Z,11nm,0.6s,baz=150,slow=5.2,SNR=28
CMMT Chiang Mai 57.12 296 P **P** **16 59 01.9 +1.2**
comp=Z,59nm,1.4s,comp=Z,970nm
CHTO Chiang Mai 57.12 296 *e*P **P** **16 59 01.7 +0.9**
comp=Z,91nm,1.3s
CHTO Chiang Mai 57.12 296 *e*P **P** **16 59 01.7 +0.9**
CHTO pmax pmax
comp=Z,91nm,1.3s
CHTO Chiang Mai 57.12 296 P **P** **16 59 01.7 +0.9**
SNR=37
CHTO Chiang Mai 57.12 296 P **P** **16 59 01.9 +1.1**
comp=Z,265nm,1.5s,comp=Z,4μm
GRNR Gornyy 57.38 349 *e*P **P** **16 59 04.0 +2.0**
KHU Kahuku 57.42 63 *e*P **P** **16 59 02.8 -0.3**
comp=Z,415nm,1.4s
KHU Kahuku 57.42 63 *e*P **P** **16 59 02.8 -0.3**
KHU pmax pmax
comp=Z,415nm,1.4s
CD2 Chengdu 58.16 311 ⇑P **P** **16 59 08.0 +0.1**
CD2 pP pP 16 59 24.4 -0.4
CD2 S **S** **17 07 05.6 +0.6**
CD2 SS **SS** **17 10 59.4 +1.7**
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,980nm,4.3s
CD2 LR LR
comp=Z,4μm,30.4s
CD2 LR LR
comp=Z,3μm,23.3s
CD2 LR LR
comp=Z,4μm,23.7s
PET Petropavlovsk 58.44 5 *e*P **P** **16 59 11.0 +1.7**
PET *e**SP **sP** **16 59 34.5 +1.0**
PET *e*S **S** **17 07 06.8 -0.7**
PET *e*SSS SSS 17 13 20.6
PET pmax pmax
comp=Z,27nm,1.7s
PEA0B Petropavlovsk- 58.44 4 *e*P **P** **16 59 10.3 +1.0**
comp=Z,145nm,1.4s
PEA0B Petropavlovsk- 58.44 4 *e*P **P** **16 59 10.3 +1.0**
PETK Petropavlovsk- 58.44 4 *e*P **P** **16 59 10.5 +1.1**
PETK Petropavlovsk- 58.44 4 *e*P **P** **16 59 10.5 +1.1**
PETK Petropavlovsk- 58.44 4 P **P** **16 59 09.2 -0.1**
comp=Z,11nm,0.6s,baz=174,slow=7.3,SNR=34
PETK LR LR 17 20 54.4
comp=Z,1μm,21.3s,baz=176,slow=32
PPT Papeete 58.73 107 LR LR 17 19 10.4
comp=Z,316nm,21.5s,baz=275,slow=30
PPT2 Papeete2 58.73 107 *e*P **P** **16 59 14.7 +2.6**
comp=Z,132nm,1.4s
PPT2 *e*S **S** **17 07 13.1 +0.3**
comp=Z,979nm,23.5s
PPT2 *e*LQ LQ 17 14 01.2
comp=Z,1μm,27.5s
PPT2 *e*LR LR 17 16 31.4
comp=Z,2μm,24.8s,baz=281
PAE Paea 58.73 107 *e*P **P** **16 59 14.3 +2.3**
comp=Z,15nm,1.3s
HHC Hu-ho-hao-te 58.77 325 *e*P **P** **16 59 13.3 +1.3**
HHC pP pP 16 59 28.7 -0.3
HHC sP sP 16 59 37.8 +1.6
HHC S **S** **17 07 16.0 +3.3**
HHC sS sS 17 07 44.9 +5.0
HHC SS **SS** **17 11 09.5 +2.5**
HHC pmax pmax
comp=Z,81nm,1.1s
HHC pmax pmax
comp=Z,330nm,5.2s
HHC LR LR
comp=Z,1μm,19.0s
HHC LR LR
comp=Z,860nm,19.2s
HHC LR LR
comp=Z,2μm,20.7s
CMBY CAMPBELL BAY 58.83 281 *e*P **P** **16 59 13.7 +1.0**
CMBY IAmb IAmb 16 59 15.9
comp=Z,51nm,1.0s
TIAR Tiarei 58.95 107 *e*P **P** **16 59 15.8 +2.3**
comp=Z,73nm,1.4s
NKL Nikolayevsk 58.98 352 *e*P **P** **16 59 12.0 -1.0**
NKL *e* 17 13 42.0
NKL pmax pmax
comp=Z,22nm,1.0s
NKL pmax pmax
comp=Z,800nm,6.0s
TVO Taravao 59.05 107 *e*P **P** **16 59 16.4 +2.1**
comp=Z,60nm,1.4s
TBI Tubuai 59.45 114 *e*P **P** **16 59 19.0 +2.1**
comp=Z,112nm,1.2s
TBI *e*pP **pP** **16 59 32.9 -1.0**
comp=Z,134nm,1.0s
TBI *e*S **S** **17 07 21.9 +0.1**
comp=Z,844nm,25.2s
TBI *e*LR LR 17 17 00.7
comp=Z,4μm,32.5s
BTO Baotou 59.50 324 *e*P **P** **16 59 18.0 +0.9**
PMOR Pomariorio Ree 60.19 104 *e*P **P** **16 59 24.4 +2.3**
comp=Z,746nm,1.4s
VAH Vaihoa 60.45 104 *e*P **P** **16 59 25.8 +1.9**
comp=Z,272nm,1.4s
VAH *e*pP **pP** **16 59 39.0 -2.1**
comp=Z,108nm,1.0s
LZH Lanzhou 60.77 317 *e*P **P** **16 59 28.0 +2.1**
LZH pP pP 16 59 44.0 +1.1
LZH sP sP 16 59 50.5 +0.4
LZH *e*S **S** **17 07 39.2 +0.6**
LZH sS sS 17 08 11.7 +5.5
LZH SS **SS** **17 11 37.4 -1.2**
LZH pmax pmax
comp=Z,180nm,1.0s
LZH pmax pmax
comp=Z,670nm,4.6s
LZH LR LR
comp=Z,2μm,13.0s
LZH LR LR
comp=Z,4μm,14.6s
LZH LR LR
comp=Z,2μm,15.2s
PBA Port Blair 60.91 286 *e*P P 16 59 25.2 -1.8
HIA Hailar 61.02 337 *e*P **P** **16 59 27.5 +0.3**
comp=Z,49nm,0.8s
HIA Hailar 61.02 337 *e*P **P** **16 59 27.5 +0.3**
HIA pmax pmax
comp=Z,49nm,0.8s
ZEA Zeya 62.30 344 *e*P **P** **16 59 35.7 +0.1**
ZEA *e* 17 08 20.0
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,74nm,1.4s
ADK Adak 63.09 21 *e*P **P** **16 59 43.0 +2.1**
ADK Adak 63.09 21 *e*P **P** **16 59 43.0 +2.1**
MA2 Magadan 64.70 360 *e*P **P** **16 59 50.3 -1.1**
comp=Z,36nm,0.8s
MA2 Magadan 64.70 360*c e*P **P** **16 59 50.4 -1.0**
MA2 pmax pmax
comp=Z,48nm,1.0s
MA2 Magadan 64.70 360 P **P** **16 59 51.0 -0.4**
comp=Z,26nm,0.6s,baz=164,slow=8.3,SNR=31
MA2 LR LR 17 28 02.7
comp=Z,782nm,19.0s,baz=175,slow=36
GTA Gaotai 65.22 318 ⇑P **P** **16 59 56.5 +1.1**
GTA pP pP 17 00 11.9 -0.7
GTA sP sP 17 00 19.6 -0.2
GTA PP **PP** **17 02 21.7 +2.0**
GTA S **S** **17 08 35.0 +0.9**
GTA sS sS 17 09 06.3 +4.1
GTA SS **SS** **17 12 51.4 +3.3**
GTA pmax pmax
comp=Z,28nm,1.3s
GTA pmax pmax
comp=Z,420nm,8.2s
GTA LR LR
comp=Z,530nm,21.3s
GTA LR LR
comp=Z,730nm,21.6s
GTA LR LR
comp=Z,1μm,22.7s
SHL Shillong 65.53 301 *e*P **P** **16 59 57.0 -0.7**
comp=Z,201nm,1.3s
SHL *e*pP **pP** **17 00 14.0 -0.9**
SHL Shillong 65.53 301 *e*P **P** **16 59 57.0 -0.7**
SHL *e**PP **pP** **17 00 14.0 -0.9**
SHL pmax pmax
comp=Z,201nm,1.3s
SHL Shillong 65.53 301 *e*P **P** **16 59 57.2 -0.5**
SONM Songino Array 66.13 328 P **P** **17 00 02.2 +1.2**
comp=Z,49nm,0.6s,baz=146,slow=5.3,SNR=305
SONM PKP2bc 17 28 38.5
comp=Z,1.2nm,0.8s,baz=309,slow=3.3,SNR=6.3
SONM LR LR 17 28 52.1
comp=Z,1μm,20.7s,baz=107,slow=36
CASY Casey 67.16 197 *e*P **P** **17 00 07.1 0.0**
comp=Z,46nm,1.1s
LSA Lhasa 67.54 305 P **P** **17 00 11.8 +1.0**
LSA pmax pmax
comp=Z,31nm,1.1s
LSA Lhasa 67.54 305 *e*P **P** **17 00 10.4 -0.4**
comp=Z,25nm,0.8s

LSA Lhasa 67.54 305 *e*P **P** 17 00 10.4 -0.4
LSA pmax pmax
comp=Z,25nm,0.8s
TAOE Nuku Hiva Isla 67.76 97 *e*S **S** 17 09 06.3 +0.6
comp=Z,251nm,33.9s
TAOE Nuku Hiva Isla 67.76 97 *e*LR LR 17 20 45.4
comp=Z,1µm,25.9s
SEY Seymchan 68.07 0⇓*i*P **P** 17 00 12.6 -0.2
SEY Seymchan 68.07 0 P **P** 17 00 13.0 +0.2
comp=Z,6.7nm,0.6s,baz=169,slow=4.4,SNR=14
SEY LR LR 17 29 13.2
comp=Z,760nm,19.0s,baz=135,slow=35
YAK Yakutsk 69.25 349 *e*P **P** 17 00 19.7 -0.5
YAK *e**PP **pP** 17 00 33.8 -3.6
YAK *e* 17 00 41.2
YAK *e*S **S** 17 09 21.6 +0.3
YAK *e**SS **sS** 17 09 50.8 +0.8
YAK *e* 17 10 09.0
YAK pmax pmax
comp=Z,315nm,1.3s
YAK pmax pmax
comp=N,113nm,1.3s
YAK pmax pmax
comp=E,47nm,1.1s
YAK pmax pmax
comp=Z,368nm,3.2s
YAK pmax pmax
comp=N,329nm,3.0s
YAK pmax pmax
comp=E,190nm,3.3s
YAK smax smax
comp=N,386nm,3.2s
YAK smax smax
comp=E,558nm,2.8s
ZAK Zakamensk 69.31 329 *e*P **P** 17 00 21.3 +0.3
ZAK pmax pmax
comp=Z,112nm,1.1s
SPIA Saint Paul Isl 69.57 21 *e*P **P** 17 00 25.2 +2.9
comp=Z,115nm,0.5s
BOD Bodaibo 69.85 340 *e*P **P** 17 00 23.5 -0.5
BOD pmax pmax
comp=Z,49nm,1.3s
TLY Talaya 69.93 331 *e*P **P** 17 00 25.2 +0.5
comp=Z,45nm,1.0s
TLY Talaya 69.93 331 *e*P **P** 17 00 25.6 +1.0
TLY *e*S **S** 17 09 30.6 +0.8
TLY *e*SS **SS** 17 13 51.7 -8.5
TLY pmax pmax
comp=Z,113nm,1.1s
TLY MLR MLR
comp=Z,1µm,20.0s
TLY Talaya 69.93 331 P **P** 17 00 25.6 +1.0
SNR=24
IRK Irkutsk 69.98 331 *e*P **P** 17 00 24.5 -0.4
IRK *e* 17 00 51.2
IRK pmax pmax
comp=Z,109nm,1.1s
BOK Bokaro 70.22 297 *e*P **P** 17 00 27.4 +0.4
BOK IAmb IAmb 17 00 29.0
comp=Z,59nm,1.1s
RAMN Ramite 70.47 301 *e*P **P** 17 00 29.1 +0.3
comp=Z,43nm,0.8s
JIRN Jiri 71.02 301 *e*P **P** 17 00 32.7 +0.4
comp=Z,110nm,0.9s
MOY Mondy 71.24 329 *e*P **P** 17 00 33.9 +1.1
MOY pmax pmax
comp=Z,137nm,1.6s
GUN Gumba 71.36 302 *e*P **P** 17 00 34.7 +0.4
comp=Z,107nm,0.7s
PKI Pulchoki 71.66 301 *e*P **P** 17 00 36.0 -0.1
comp=Z,263nm,1.5s
PKIN Phulchoki 71.67 301 *e*P **P** 17 00 36.1 0.0
comp=Z,229nm,1.6s
PALK Pallekele 71.82 279 *e*P **P** 17 00 36.4 -0.6
comp=Z,19nm,0.7s
PALK Pallekele 71.82 279 *e*P **P** 17 00 36.4 -0.6
PALK pmax pmax
comp=Z,19nm,0.7s
KKN Kakani 71.83 301 *e*P **P** 17 00 37.1 +0.1
comp=Z,145nm,1.2s
DMN Daman 71.93 301 *e*P **P** 17 00 38.0 +0.4
comp=Z,256nm,1.2s
VNDA Vanda 72.35 178 *e*P **P** 17 00 39.6 +0.7
comp=Z,220nm,2.0s
VNDA Vanda 72.35 178 P **P** 17 00 40.0 +1.2
comp=Z,22nm,0.8s,baz=330,slow=6.8,SNR=76
GKN Gorkha 72.44 301 *e*P **P** 17 00 40.5 0.0
comp=Z,285nm,1.2s
RKT Rikitea 72.71 112 *e*P **P** 17 00 43.6 +1.6
comp=Z,97nm,1.1s
SBA Scott Base 72.92 177 *e*P **P** 17 00 44.1 +1.9
comp=Z,119nm,1.4s
SBA Scott Base 72.92 177 *e*P **P** 17 00 44.1 +1.9
SBA pmax pmax
comp=Z,119nm,1.4s
MDRS Chennai 73.15 285 *e*P **P** 17 00 42.5 -2.2
KOLN Koldanda 73.26 301 *e*P **P** 17 00 45.4 0.0
comp=Z,81nm,0.7s
DANN Dangsing 73.28 302 *e*P **P** 17 00 45.4 -0.2
comp=Z,67nm,0.6s
PYUN Piuthan 73.87 301 *e*P **P** 17 00 48.7 -0.3
comp=Z,146nm,0.9s
BILL Bilibino 73.93 6 *e*P **P** 17 00 47.3 -0.9
comp=Z,34nm,1.1s
BILL Bilibino 73.93 6⇑*e*P **P** 17 00 47.8 -0.4
BILL *e*S **S** 17 10 18.8 +3.8
BILL pmax pmax
comp=Z,36nm,1.2s
BILL MLR MLR
comp=Z,483nm,17.0s
GAMB Gambell 74.22 16 *e*P **P** 17 00 50.3 +0.3
comp=Z,20nm,1.1s
WMQ Urumqi 75.31 318⇑*i*P **P** 17 00 57.6 +0.8
WMQ PcP **PcP** 17 01 10.0 +0.1
WMQ pP pP 17 01 13.5 -0.8
WMQ sP sP 17 01 21.5 +0.1
WMQ S **S** 17 10 30.0 -1.6
WMQ pmax pmax
comp=Z,110nm,1.5s
WMQ LR LR
comp=Z,1µm,27.1s
WMQ LR LR
comp=Z,1µm,27.1s
WMQ LR LR
comp=Z,2µm,27.1s
WMQ Urumqi 75.31 318 *e*P **P** 17 00 56.5 -0.4
comp=Z,121nm,1.4s
WMQ Urumqi 75.31 318 *e*P **P** 17 00 56.5 -0.4
WMQ pmax pmax
comp=Z,121nm,1.4s
HYB Hyderabad 75.52 289 *i*P **P** 17 00 58.0 -0.5
comp=Z,70nm,1.0s
HYB Hyderabad 75.52 289 *e*P **P** 17 00 57.3 -1.2
TRD Trivandrum 75.66 280 *e*P **P** 17 01 00.2 +0.8
TRD IAmb IAmb 17 01 01.8
comp=Z,34nm,1.4s
NGP Nagpur 75.76 293 *e*P **P** 17 00 58.9 -0.9
NGP IAmb IAmb 17 01 00.7
comp=Z,29nm,0.7s
ANM Nome 76.64 18 *e*P **P** 17 01 04.0 +0.1
comp=Z,15nm,0.8s
ANM Nome 76.64 18 *e*P **P** 17 01 04.0 +0.1
ANM pmax pmax
comp=Z,15nm,0.8s
KDAK Kodiak Island 77.19 27 P **P** 17 01 07.4 +0.3
comp=Z,19nm,1.0s,baz=261,slow=6.5,SNR=5.2
KDAK LR LR 17 34 00.9
comp=Z,360nm,18.5s,baz=239,slow=35
BHPL Bhopal 77.65 295 *e*P **P** 17 01 09.7 -0.8
BHPL IAmb IAmb 17 01 11.3
comp=Z,46nm,0.4s
SVW2 Sparrevohn 77.78 23 *e*P **P** 17 01 10.8 +0.4
comp=Z,28nm,0.7s
TIXI Tiksi 78.26 353 *e*P **P** 17 01 11.2 -1.5
comp=Z,33nm,1.3s
TIXI Tiksi 78.26 353 P **P** 17 01 12.1 -0.7
comp=Z,9.1nm,0.5s,baz=140,slow=8.3,SNR=17
ZSN Zaisan 78.50 320*c i*P **P** 17 01 13.8 -0.8
ZSN pmax pmax
comp=Z,121nm,1.4s
ZSN Zaisan 78.50 320⇑*i*P **P** 17 01 13.8 -0.8
comp=Z,121nm,1.4s
DDI Dehra Dun 78.59 302 *e*P **P** 17 01 15.0 -0.5
DDI IAmb IAmb 17 01 17.1
BRLK Bradley Lake 78.99 26 *e*P **P** 17 01 17.3 +0.3
comp=Z,112nm,1.8s

MNCI Minicoy 79.46 279 *e*P **P** 17 01 21.0 +0.5
comp=Z,330nm,1.6s
MNCY Minicoy 79.48 279 *e*P **P** 17 01 20.2 -0.4
SMLA Simla 79.52 303 *e*P **P** 17 01 20.1 -0.4
SMLA IAmb IAmb 17 01 22.5
comp=Z,29nm,1.4s
GOA Goa 79.68 287 *e*P **P** 17 01 20.6 -1.1
GOA IAmb IAmb 17 01 23.9
comp=Z,41nm,1.9s
SEW Seward 79.78 26 *e*P **P** 17 01 21.5 +0.2
comp=Z,30nm,0.9s
RDOG Red Dog Mine 79.81 16 *e*P **P** 17 01 20.9 -0.4
comp=Z,26nm,0.9s
MK01 Makanchi Array 79.91 319 *e*P **P** 17 01 21.6 -0.8
MK31 Makanchi Array 79.93 319 *e*P **P** 17 01 21.9 -0.5
comp=Z,40nm,1.1s
MK31 Makanchi Array 79.93 319 *i*P **P** 17 01 22.4 -0.1
MK31 pmax pmax
comp=Z,41nm,1.0s
MKAR Makanchi Array 79.93 319 P **P** 17 01 22.6 +0.2
comp=Z,21nm,0.9s,baz=99,slow=7.5,SNR=115
MKAR PKiKP **PKiKP** 17 06 50.7 -1.9
comp=Z,0.6nm,0.8s,baz=270,slow=0.2,SNR=3.1
MKAR PKKPbc **PKKPbc** 17 20 08.1 -1.7
comp=Z,1.1nm,0.8s,baz=310,slow=2.1,SNR=8.2
MKAR LR LR 17 35 25.7
comp=Z,853nm,21.8s,baz=68,slow=35
SUA Susitna One 79.93 24 *e*P **P** 17 01 22.0 -0.3
comp=Z,20nm,1.0s
POO Poona 80.12 290 *e*P **P** 17 01 22.9 -1.2
POO IAmb IAmb 17 01 25.9
comp=Z,30nm,5.6s
PPLA Purkeypile 80.12 23 *e*P **P** 17 01 23.0 -0.3
comp=Z,57nm,1.6s
MAKZ Makanchi 80.13 319 *e*P **P** 17 01 23.2 -0.3
comp=Z,52nm,1.0s
MAKZ Makanchi 80.13 319 P **P** 17 01 23.6 0.0
MAKZ pmax pmax
comp=Z,69nm,1.2s
RC01 Rabbit Creek A 80.16 25 *e*P **P** 17 01 23.1 -0.2
comp=Z,26nm,0.9s
CAST Castle Rocks 80.45 22 *e*P **P** 17 01 23.9 -0.9
comp=Z,23nm,0.9s
DHRM DHARAMSHALA 80.48 304 *e*P **P** 17 01 25.2 -0.8
DHRM IAmb IAmb 17 01 27.7
comp=Z,64nm,0.5s
PMR Palmer 80.66 25 *e*P **P** 17 01 25.5 -0.5
comp=Z,13nm,0.7s
PMR Palmer 80.66 25 *e*P **P** 17 01 25.5 -0.5
PMR pmax pmax
comp=Z,13nm,0.7s
PDGK Podgornoye 80.77 315 P **P** 17 01 27.2 0.0
PDGK pmax pmax
comp=Z,30nm,0.7s
KNK Knik Glacier 80.86 25 *e*P **P** 17 01 26.9 -0.3
comp=Z,44nm,1.4s
ZAA0 Zalesovo Array 80.92 327 *e*P **P** 17 01 26.3 -1.3
comp=Z,32nm,0.8s
ZALV Zalesovo Beam 80.92 327 *e*P **P** 17 01 26.5 -1.1
ZALV PKKPbc **PKKPbc** 17 20 06.0 -1.8
ZALV Zalesovo Beam 80.92 327 P **P** 17 01 26.8 -0.8
comp=Z,35nm,0.8s,baz=112,slow=5.5,SNR=102
ZALV PKKPbc **PKKPbc** 17 20 06.0 -1.8
comp=Z,1.1nm,0.5s,baz=324,slow=2.8,SNR=6.4
ZALV LR LR 17 36 38.0
comp=Z,771nm,20.8s,baz=72,slow=35
UZB Uzynbulak 81.05 315*d i*P **P** 17 01 26.4 -2.3
UZB pmax pmax
comp=Z,418nm,1.2s
UZB Uzynbulak 81.05 315⇓*i*P **P** 17 01 26.5 -2.3
comp=Z,418nm,1.2s
SML Sawmill 81.10 25 *e*P **P** 17 01 27.9 -0.5
comp=Z,33nm,0.7s
SML Sawmill 81.10 25 *e*P **P** 17 01 27.9 -0.5
SML pmax pmax
comp=Z,33nm,0.7s
TRF Thorofare Moun 81.15 23 *e*P **P** 17 01 28.9 +0.1
comp=Z,40nm,1.5s
BPAW Bear Paw Mtn. 81.22 22 *e*P **P** 17 01 27.8 -1.2
comp=Z,16nm,1.1s
IM3 Indian Mountai 81.28 20 *e*P **P** 17 01 28.9 -0.3
PRZ Przheval'sk 81.31 314 *e*P **P** 17 01 31.0 +0.8
SATY Saty 81.46 315*d i*P **P** 17 01 28.9 -1.9
SATY pmax pmax
comp=Z,454nm,1.4s
SATY Saty 81.46 315⇓*i*P **P** 17 01 28.9 -1.9
comp=Z,454nm,1.4s
ZHN Zhinishke 81.47 315*d i*P **P** 17 01 28.8 -2.1
ZHN pmax pmax
comp=Z,169nm,1.3s
ZHN Zhinishke 81.47 315⇓*i*P **P** 17 01 28.8 -2.1
comp=Z,169nm,1.3s
SCM Sheep Creek Mo 81.53 25 *e*P **P** 17 01 30.5 -0.3
comp=Z,46nm,1.2s
RND Reindeer 81.68 23 *e*P **P** 17 01 30.3 -1.2
comp=Z,27nm,1.0s
RND Reindeer 81.68 23 *e*P **P** 17 01 30.3 -1.2
RND pmax pmax
comp=Z,27nm,1.0s
MLY Manley 81.81 21 *e*P **P** 17 01 31.3 -0.8
comp=Z,24nm,0.6s
MCK McKinley 81.81 23 *e*P **P** 17 01 30.9 -1.2
comp=Z,40nm,0.8s
MCK McKinley 81.81 23 *e*P **P** 17 01 30.9 -1.2
MCK pmax pmax
comp=Z,40nm,0.8s
BWN Browne 81.83 22 *e*P **P** 17 02 32.1 -0.1
comp=Z,79nm,1.3s
DIV Divide 81.87 26 *e*P **P** 17 01 31.5 -1.0
comp=Z,32nm,1.2s
KLU Klutina 81.97 25 *e*P **P** 17 01 33.0 -0.1
comp=Z,34nm,1.0s
TDK Taldyqorghan 81.98 317 *e*P **P** 17 01 32.1 -1.3
TDK pmax pmax
comp=Z,1µm,1.3s
TDK Taldyqorghan 81.98 317 *e*P **P** 17 01 32.2 -1.3
comp=Z,1µm,1.3s
KDJ Kajisay 82.09 314 *e*P **P** 17 01 35.3 +1.0
comp=Z,63nm,0.9s
KDJ Kajisay 82.09 314 *e*P **P** 17 01 35.3 +1.0
KDJ pmax pmax
comp=Z,63nm,0.9s
HMT Hamilton 82.19 27 *e*P **P** 17 01 35.1 +0.9
comp=Z,58nm,1.4s
SEM Semipalatinsk 82.35 322*c i*P **P** 17 01 32.9 -2.6
SEM pmax pmax
comp=Z,282nm,1.2s
SEM Semipalatinsk 82.35 322⇑*i*P **P** 17 01 32.9 -2.6
comp=Z,282nm,1.2s
KSH Kashi 82.36 311 P **P** 17 01 37.3 +1.6
KSH pP pP 17 01 53.7 +0.2
KSH sP sP 17 02 01.1 +0.5
KSH PP **PP** 17 04 50.1 +4.8
KSH S **S** 17 11 43.7 -3.3
KSH pmax pmax
comp=Z,20nm,1.1s
KSH pmax pmax
comp=Z,330nm,7.3s
KSH LR LR
comp=Z,140nm,10.3s
KSH LR LR
comp=Z,160nm,9.4s
KSH LR LR
comp=Z,350nm,18.9s
MDOK Medeo 82.45 315 *e*P **P** 17 01 33.9 -2.2
MDOK *e*S **S** 17 11 48.9 +1.1
MDOK pmax pmax
comp=Z,337nm,1.3s
MDOK Medeo 82.45 315 *e*P **P** 17 01 33.9 -2.2
comp=Z,337nm,1.3s
MDOK *e*S **S** 17 11 49.0 +1.1
TNSS Tian-Shan 82.49 315⇓*e*P **P** 17 01 35.1 -1.5
TNSS pmax pmax
comp=Z,418nm,1.3s
TNSS Tian-Shan 82.49 315⇓*e*P **P** 17 01 35.2 -1.5
comp=Z,418nm,1.3s
WRH Wood River Hil 82.50 22 *e*P **P** 17 01 34.2 -1.5
comp=Z,15nm,0.9s
MDM Murphy Dome 82.69 22 *e*P **P** 17 01 35.4 -1.3
comp=Z,27nm,1.4s
CCB Clear Creek Bu 82.69 22 *e*P **P** 17 01 35.1 -1.6
comp=Z,32nm,1.3s
HARP HAARP 82.70 25 *e*P **P** 17 01 37.1 +0.3
comp=Z,18nm,0.8s
NRN Naryn 82.78 313 *e*P **P** 17 01 37.4 -0.7
comp=Z,26nm,1.2s
TCOL CIGO, UAF Yank 82.78 22 P **P** 17 01 35.8 -1.3
baz=241
COLA College 82.79 22 *e*P **P** 17 01 35.7 -1.4
comp=Z,25nm,0.7s
COLA College 82.79 22⇓*e*P **P** 17 01 36.3 -0.8
COLA pmax pmax
comp=Z,20nm,0.7s
ULHL Ulahol 82.80 314 P **P** 17 01 38.8 +0.8
SNR=37
PAX Paxson 82.83 24 *e*P **P** 17 01 37.0 -0.5
comp=Z,17nm,1.3s
PAX Paxson 82.83 24 *e*P **P** 17 01 37.0 -0.5
PAX pmax pmax
comp=Z,17nm,1.3s
HDA Harding Lake 82.91 23 *e*P **P** 17 01 36.5 -1.2
comp=Z,11nm,0.6s
HDA Harding Lake 82.91 23 P **P** 17 01 36.6 -1.2
baz=242
POKR Poker Plat Res 83.06 22 P **P** 17 01 36.7 -1.9
baz=241
ILAR Eielson Array 83.10 22 P **P** 17 01 37.9 -0.9
comp=Z,14nm,0.6s,baz=250,slow=5.2,SNR=66
ILAR LR LR 17 36 36.6
comp=Z,881nm,18.6s,baz=248,slow=34
ILB Eielson Array 83.10 22 *e*P **P** 17 01 36.9 -1.9
comp=Z,16nm,0.7s
IL1 Eielson Array 83.10 22 *e*P **P** 17 01 37.0 -1.8
KUU Kurty 83.13 315*d i*P **P** 17 01 37.2 -2.2
KUU *e*S **S** 17 11 46.8 -7.6
KUU pmax pmax
comp=Z,431nm,1.3s
KUU Kurty 83.13 315⇓*i*P **P** 17 01 37.2 -2.2
comp=Z,431nm,1.3s
KUU *e*S **S** 17 11 46.9 -7.6
COLD Coldfoot 83.15 19 *e*P **P** 17 01 39.0 0.0
comp=Z,12nm,1.2s
BALM Baldy 83.34 27 *e*P **P** 17 01 40.2 0.0
comp=Z,29nm,1.3s
BALM Baldy 83.34 27 *e*P **P** 17 01 40.2 0.0
BALM pmax pmax
comp=Z,29nm,1.3s
TKM2 Tokmak 2 83.42 314 P **P** 17 01 41.6 +0.4
SNR=50
TKM2 Tokmak 2 83.42 314 P **P** 17 01 41.6 +0.4
TKM2 pmax pmax
comp=Z,28nm,0.7s
RIDG Independ'e Rid 83.42 24 *e*P **P** 17 01 40.1 -0.5
comp=Z,27nm,1.1s
KURK Kurchatov 83.44 322 *e*P **P** 17 01 40.3 -0.4
comp=Z,123nm,1.2s
KURK Kurchatov 83.44 322*c i*P **P** 17 01 40.4 -0.4
KURK pmax pmax
comp=Z,128nm,1.3s
KURK Kurchatov 83.44 322 P **P** 17 01 40.6 -0.2
SNR=32
KURBB Kurchatov Arra 83.47 322 PKiKP **PKiKP** 17 06 57.0 -1.0
comp=Z,0.9nm,0.4s,baz=122,slow=1.2,SNR=3.6
KURBB PKKPbc **PKKPbc** 17 20 00.7 -1.1
comp=Z,1.2nm,0.5s,baz=297,slow=3.1,SNR=7.2
KZA Kyzart 83.48 313 P **P** 17 01 43.2 +1.5
SNR=82
MENT Mentasta 83.53 25 *e*P **P** 17 01 40.5 -0.6
comp=Z,12nm,0.7s
DOT Dot Lake 83.70 24 *e*P **P** 17 01 41.5 -0.4
comp=Z,22nm,1.0s
KBK Karagaybulak 83.83 314 P **P** 17 01 43.9 +0.7
SNR=30
SCRK Sand Creek 83.87 24 *e*P **P** 17 01 42.2 -0.7
comp=Z,11nm,0.9s
CHMS Chumysh 84.04 314 P **P** 17 01 44.7 +0.5
SNR=44
UCH Uchtor 84.04 313 P **P** 17 01 46.0 +1.3
SNR=68
FRU1 Bishkek 84.09 314 *e*P **P** 17 01 44.0 -0.4
comp=Z,54nm,1.0s
FRU1 Bishkek 84.09 314 *e*P **P** 17 01 44.0 -0.4
FRU1 pmax pmax
comp=Z,55nm,1.0s
TOLK Toolik Lake Re 84.09 18 *e*P **P** 17 01 43.8 -0.1
comp=Z,38nm,1.4s
TOLK Toolik Lake Re 84.09 18 P **P** 17 01 42.6 -1.2
baz=239
FRU Bishkek 84.10 314⇑*i*P **P** 17 01 45.0 +0.5
FRU *e* 17 01 58.0
FRU *e* 17 02 07.0
FRU pmax pmax
comp=Z,160nm,2.0s
AAK Ala-Archa 84.15 314 P **P** 17 01 45.7 +0.8
SNR=40
AAK Ala-Archa 84.15 314 *e*P **P** 17 01 44.9 0.0
comp=Z,79nm,1.4s
AAK Ala-Archa 84.15 314*c i*P **P** 17 01 45.4 +0.5
AAK pmax pmax
comp=Z,77nm,1.7s
AAK Ala-Archa 84.15 314 P **P** 17 01 45.5 +0.7
SNR=23
USP Ospenovka 84.28 314 P **P** 17 01 46.0 +0.7
SNR=94
FYU Fort Yukon 84.54 21 *e*P **P** 17 01 45.4 -0.7
comp=Z,14nm,0.6s
AML Almayashu 84.62 313 P **P** 17 01 48.7 +1.2
SNR=136
MAW Mawson 84.62 203 LR LR 17 36 22.2
comp=Z,1µm,21.7s,baz=88,slow=33
QSPA South Pole Qui 84.64 180 P **P** 17 01 47.3 +0.5
comp=Z,28nm,0.6s,baz=342,slow=1.1,SNR=219
EKS2 Erkin-Say 84.67 314 P **P** 17 01 48.5 +1.0
SNR=100
BHJ Bhuj 84.70 294 *e*P **P** 17 01 46.5 -1.4
BHJ IAmb IAmb 17 01 48.3
comp=Z,289nm,1.8s
BTLS Baital 84.99 316 *e*P **P** 17 01 46.3 -2.5
BTLS pmax pmax
comp=Z,916nm,1.3s
BTLS Baital 84.99 316 *e*P **P** 17 01 46.3 -2.5
comp=Z,916nm,1.3s
EGAK Eagle 85.32 23 *e*P **P** 17 01 49.6 -0.4
comp=Z,18nm,0.8s
HYT Haines Junctio 85.46 28 *e*P **P** 17 01 51.0 0.0
comp=Z,30nm,0.8s
DAWY Dawson 85.76 24 *e*P **P** 17 01 52.2 -0.1
comp=Z,49nm,1.4s
NRIK Noril'sk 86.07 341 P **P** 17 01 52.3 -1.4
comp=Z,38nm,0.9s,baz=118,slow=5.5,SNR=32
GAR Garm 86.56 310 *e*P **P** 17 01 56.1 -0.8
comp=Z,61nm,1.4s
GAR Garm 86.56 310 *e*P **P** 17 01 56.1 -0.8
GAR pmax pmax
comp=Z,61nm,1.4s
WHY Whitehorse 86.63 28 *e*P **P** 17 01 56.4 -0.3
comp=Z,62nm,1.8s
OTUK Ortayu 86.81 319 P **P** 17 01 57.0 -0.8
OTUK pmax pmax
comp=Z,55nm,1.4s
KBL Kabul 86.86 305 *e*P **P** 17 01 56.4 -2.2
comp=Z,10.0nm,0.9s
KBL *e*pP **pP** 17 02 14.0 -2.6
KBL Kabul 86.86 305 *e*P **P** 17 01 56.4 -2.2
KBL *e**PP **pP** 17 02 14.0 -2.6
KBL pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 87.11 314 *e*P **P** 17 01 59.0 -0.4
comp=Z,98nm,1.5s
KK31 Karatay Array 87.11 314 *i*P **P** 17 01 59.2 -0.2
KK31 pmax pmax
comp=Z,82nm,1.6s
KKAR Karatay Array 87.11 314 *e*P **P** 17 01 58.8 -0.6
comp=Z,98nm,1.5s
KKAR Karatay Array 87.11 314 *e*P **P** 17 01 58.8 -0.6
KKAR pmax pmax
comp=Z,98nm,1.5s
IUG luzhnay 87.30 313*d i*P **P** 17 01 58.3 -2.1
IUG pmax pmax
comp=Z,378nm,1.4s
IUG luzhnay 87.30 313⇓*i*P **P** 17 01 58.4 -2.1
comp=Z,378nm,1.4s
CHGR Chuyangaron 87.40 309 *e*P **P** 17 02 00.1 -0.9
comp=Z,43nm,0.9s
EPYK Eagle Plains 87.61 23 *e*P **P** 17 02 01.1 -0.2
comp=Z,30nm,1.0s
EPYK Eagle Plains 87.61 23 P **P** 17 02 00.2 -1.1
baz=251
BBB Bella Bella 88.25 37 LR LR 17 34 19.7
comp=Z,671nm,21.7s,baz=258,slow=31
DLBC Dease Lake 88.45 31 *e*P **P** 17 02 05.8 +0.4
comp=Z,28nm,1.4s
DLBC Dease Lake 88.45 31 P **P** 17 02 06.3 +0.8
comp=Z,4.8nm,0.6s,baz=275,slow=4.4,SNR=7.6

DLBC LR LR 17 34 42.9
comp=Z,2µm,21.6s,baz=276,slow=31
BVA0 Borovoye Array 88.93 323 *i* P P 17 02 06.6 -1.2
BVA0 pmax pmax
comp=Z,35nm,0.8s
BVAR Borovoye Array 88.93 323 PKKPbc PKKPbc 17 19 48.1 -0.7
comp=Z,0.4nm,0.5s,baz=298,slow=4.1,SNR=5.4
BRVK Borovoye 89.00 323 *eP* P 17 02 06.7 -1.4
comp=Z,33nm,1.5s
BRVK Borovoye 89.00 323 *c i*P P 17 02 07.0 -1.1
BRVK pmax pmax
comp=Z,35nm,0.9s
BRVK Borovoye 89.00 323 P P 17 02 06.9 -1.1
SNR=16
KMRM Mail Ridge 89.37 50 *eP* P 17 02 12.8 +2.6
comp=Z,49nm,1.1s
INK Inuvik 89.38 21 *eP* P 17 02 08.3 -1.2
comp=Z,32nm,1.4s
INK Inuvik 89.38 21 P P 17 02 08.9 -0.6
comp=Z,4.5nm,0.5s,baz=274,slow=4.4,SNR=35
INK LR LR 17 36 57.7
comp=Z,502nm,21.9s,baz=269,slow=32
KCPM Cahto Peak 89.40 50 *eP* P 17 02 11.1 +0.7
comp=Z,75nm,1.2s
KHMM Horse Mountain 89.44 49 *eP* P 17 02 11.6 +0.9
comp=Z,63nm,1.3s
J01E Myrtle Point 89.59 47 P P 17 02 11.4 +0.4
baz=262,SNR=9.3
L02E Cave Junction 89.70 48 P P 17 02 12.9 +1.3
baz=263,SNR=7.1
K02D Willamette Mer 89.72 47 P P 17 02 12.8 +1.0
baz=263,SNR=21
I02D Swisshome 89.78 46 P P 17 02 13.4 +1.5
baz=262,SNR=5.6
GDXM Geysers 89.90 51 *eP* P 17 02 15.3 +2.5
comp=Z,16nm,1.1s
O02D Mt. Diablo Mer 90.06 50 P P 17 02 15.3 +1.8
baz=263,SNR=13
I03D Drain, OR 90.08 46 P P 17 02 14.5 +1.1
baz=263,SNR=18
M02C Callahan 90.16 49 P P 17 02 15.6 +1.7
baz=263,SNR=26
NLWA Neilton Lookou 90.19 43 *eP* P 17 02 14.2 +0.4
comp=Z,36nm,1.1s
F03A Seaside 90.22 44 *eP* P 17 02 14.4 +0.5
comp=Z,67nm,1.1s
N02D Trinity Center 90.22 49 P P 17 02 15.9 +1.7
baz=263,SNR=17
COR Corvallis 90.22 45 *eP* P 17 02 14.9 +0.9
comp=Z,106nm,1.4s
COR Corvallis 90.22 45 *eP* P 17 02 14.9 +0.9
COR pmax pmax
comp=Z,106nm,1.4s
HUMO Hull Mountain 90.23 47 *eP* P 17 02 14.3 +0.2
comp=Z,92nm,1.1s
WDC Whiskeytown Da 90.30 49 *eP* P 17 02 15.1 +0.7
comp=Z,102nm,1.6s
WDC Whiskeytown Da 90.30 49 *eP* P 17 02 15.1 +0.7
WDC pmax pmax
comp=Z,102nm,1.6s
YBH Yreka Blue Hor 90.31 48 *eP* P 17 02 15.3 +0.7
comp=Z,75nm,1.1s
YBH Yreka Blue Hor 90.31 48 *eP* P 17 02 15.3 +0.7
YBH pmax pmax
comp=Z,75nm,1.1s
YBH Yreka Blue Hor 90.31 48 LR LR 17 35 57.2
comp=Z,1µm,20.9s,baz=297,slow=31
G03D McMinnville, O 90.33 45 P P 17 02 15.4 +1.0
baz=263,SNR=5.6
F04D Rainier, OR 90.61 44 P P 17 02 16.4 +0.6
baz=263
H04D Lebanon 90.62 46 P P 17 02 16.9 +1.1
baz=263,SNR=23
L04D Klamath Falls 90.66 48 P P 17 02 17.4 +1.1
baz=264,SNR=22
D03D Eldon 90.74 42 P P 17 02 17.3 +1.0
baz=263
I04A Tendick Farm, 90.77 46 P P 17 02 17.2 +0.6
baz=264,SNR=29
O03E Paynes Creek 90.83 50 P P 17 02 17.8 +0.8
baz=264,SNR=16
D04E Lakebay 90.91 43 P P 17 02 17.8 +0.7
baz=263
J04D Umpqua Nationa 90.92 47 P P 17 02 18.7 +1.1
baz=264,SNR=34
M04C Macdoel 90.96 48 P P 17 02 18.7 +1.0
baz=264,SNR=38
E04D Cinebar 90.97 44 P P 17 02 18.2 +0.8
baz=263,SNR=10
ORV Oroville 90.98 51 *eP* P 17 02 17.8 +0.2
comp=Z,35nm,1.1s
ORV Oroville 90.98 51 *eP* P 17 02 17.8 +0.2
ORV pmax pmax
comp=Z,35nm,1.1s
K04D Chiloquin, OR 91.11 47 P P 17 02 19.4 +1.0
baz=264,SNR=15
A04D Lummi Island 91.13 41 P P 17 02 18.9 +0.8
baz=263
AFDM Forest Hills D 91.33 51 *eP* P 17 02 20.1 +0.8
comp=Z,106nm,1.4s
D05A Enumclaw 91.44 43 *eP* P 17 02 20.4 +0.8
comp=Z,61nm,1.2s
B05A Bryant 91.48 42 P P 17 02 20.6 +0.8
baz=264
LON Longmire 91.52 43 *eP* P 17 02 20.1 0.0
comp=Z,8.4nm,1.0s
LON Longmire 91.52 43 *eP* P 17 02 20.1 0.0
LON pmax pmax
comp=Z,8.0nm,1.0s
J05D Fort Rock, OR 91.56 47 P P 17 02 21.8 +1.3
baz=264,SNR=74
PAGB Antelope Grade 91.59 54 *eP* P 17 02 21.6 +1.0
comp=Z,62nm,1.3s
I05D Terrebonne, OR 91.59 46 P P 17 02 21.3 +0.8
baz=264,SNR=19
F05D White Salmon 91.67 44 P P 17 02 21.6 +0.9
baz=264
CMB Columbia Colle 91.69 52 *eP* P 17 02 21.7 +0.6
comp=Z,75nm,1.4s
CMB Columbia Colle 91.69 52 *eP* P 17 02 21.7 +0.6
CMB pmax pmax
comp=Z,75nm,1.4s
G05D Wamic, OR 91.70 45 P P 17 02 21.8 +0.9
baz=264,SNR=9.7
SMMC Simmler 91.76 55 P P 17 02 22.8 +1.4
baz=265
PINE Pine Mountain 91.83 46 *eP* P 17 02 22.6 +0.8
comp=Z,135nm,1.3s
PKM Mcpherson Peak 91.87 55 P P 17 02 22.8 +0.7
baz=265
LLLB Lillooet 91.88 40 *eP* P 17 02 21.8 +0.2
comp=Z,28nm,1.4s
BEKR Beckworth 91.89 50 *eP* P 17 02 22.4 +0.3
comp=Z,64nm,1.2s
SBC Santa Barbara 91.91 56 P P 17 02 24.0 +2.0
baz=265
B06A Marblemount 91.92 42 *eP* P 17 02 21.2 -0.5
comp=Z,34nm,1.4s
SCZ2 Santa Cruz Isl 91.93 56 P P 17 02 23.8 +1.5
baz=265
SNCC San Nicolas Is 91.96 57 P P 17 02 24.0 +1.7
baz=265
MOD Modoc Plateau 92.11 48 *eP* P 17 02 23.5 +0.4
comp=Z,86nm,1.1s
C06D Leavenworth 92.25 42 P P 17 02 23.8 +0.4
baz=265
VOG Valley Oaks Go 92.34 54 P P 17 02 24.7 +0.7
baz=265
LTY Liberty 92.34 43 *eP* P 17 02 23.8 0.0
comp=Z,34nm,1.4s
VCNR Virginia City 92.38 51 *eP* P 17 02 25.1 +0.6
comp=Z,65nm,1.2s
PNTR Pine Nut 92.40 51 *eP* P 17 02 25.6 +1.0
comp=Z,116nm,1.2s
BLG Laguna Peak, P 92.42 56 P P 17 02 25.7 +1.2
baz=265
WAKR Walker 92.48 52 *eP* P 17 02 26.0 +1.1
comp=Z,64nm,1.3s
VES Vestal, Richgr 92.54 54 P P 17 02 25.9 +0.9
baz=265,SNR=14
PAHR Pah Rah Range 92.62 51 *eP* P 17 02 26.1 +0.6
comp=Z,58nm,1.1s
YERR Yerington 92.67 51 *eP* P 17 02 26.5 +0.7
comp=Z,70nm,1.2s
ARVC Arvin 92.69 55 P P 17 02 27.2 +1.6
baz=266,SNR=6.7
MDPB Devils Postpil 92.69 53 *eP* P 17 02 26.9 +0.9
comp=Z,85nm,1.2s

F07A Phinny Hill Vi 92.73 44 *eP* P 17 02 26.0 +0.4
comp=Z,69nm,1.5s
OSI Osito Audit: C 92.74 56 *eP* P 17 02 26.5 +0.5
comp=Z,109nm,1.5s
OSI Osito Audit: C 92.74 56 P P 17 02 27.8 +1.8
baz=266
OMMB Old Mammoth Mi 92.75 53 *eP* P 17 02 26.9 +0.6
comp=Z,64nm,1.3s
SCI2 San Clemente I 92.76 57 P P 17 02 27.5 +1.5
baz=266
SYO Syowa Base 92.77 200 *eP* P 17 02 24.2 -1.1
SYO Syowa Base 92.77 200 *i*/PcP PcP 17 02 26.0 +0.1
MLAC Mammoth, Mammo 92.88 53 P P 17 02 28.1 +1.3
baz=266
I07A Izee 92.89 46 *eP* P 17 02 27.0 +0.5
comp=Z,85nm,1.3s
CIS Catalina Islan 92.90 57 P P 17 02 28.3 +1.6
baz=266,SNR=13
FMP Fort Macarthur 93.02 57 P P 17 02 28.4 +1.2
baz=266
ISA Isabella, Lake 93.02 55 *eP* P 17 02 27.9 +0.6
comp=Z,32nm,1.0s
ISA Isabella, Lake 93.02 55 *eP* P 17 02 27.9 +0.6
ISA pmax pmax
comp=Z,32nm,1.0s
ISA Isabella, Lake 93.02 55 P P 17 02 28.5 +1.2
baz=266,SNR=24
DECC Green Verdugo 93.03 56 P P 17 02 28.5 +1.2
baz=266
HAWA Hanford 93.05 44 *eP* P 17 02 26.9 -0.1
comp=Z,38nm,1.3s
PASC Pasadena Art C 93.15 56 *eP* P 17 02 28.5 +0.7
comp=Z,104nm,1.2s
RYN Ryan 93.20 52 *eP* P 17 02 29.0 +0.9
comp=Z,62nm,1.1s
MWC Mount Wilson 93.26 56 *eP* P 17 02 29.5 +0.9
comp=Z,164nm,1.2s
TIN Timaha, Big 93.32 53 P P 17 02 29.9 +1.2
baz=266
EDW2 Edwards Air Fo 93.36 55 P P 17 02 30.4 +1.6
baz=266,SNR=31
NV01 Mina Array Sit 93.36 52 *eP* P 17 02 29.5 +0.5
NVAR Mina Array Bea 93.36 52 P P 17 02 30.3 +1.3
comp=Z,66nm,1.0s,baz=258,slow=5.6,SNR=167
NVAR LR LR 17 36 36.2
comp=Z,1µm,21.9s,baz=284,slow=30
G08A Pilot Rock 93.36 45 *eP* P 17 02 29.1 +0.4
comp=Z,68nm,1.4s
E08A Dider Farm, El 93.38 44 *eP* P 17 02 28.8 +0.2
comp=Z,56nm,1.4s
WVOR Wild Horse Val 93.39 48 *eP* P 17 02 29.4 +0.5
comp=Z,85nm,1.3s
WVOR Wild Horse Val 93.39 48 *eP* P 17 02 29.4 +0.5
WVOR pmax pmax
comp=Z,85nm,1.3s
CWC Cottonwood Cre 93.40 54 P P 17 02 30.3 +1.2
baz=266
NV11 Mina Array Sit 93.48 52 *eP* P 17 02 27.3 -2.1
comp=Z,6.6nm,1.1s
D08A Wollman Farm, 93.52 43 *eP* P 17 02 28.6 -0.6
comp=Z,26nm,1.3s
KVN Kaiserville 93.56 51 *eP* P 17 02 30.4 +0.5
comp=Z,95nm,1.3s
KVN Kaiserville 93.56 51 *eP* P 17 02 30.4 +0.5
KVN pmax pmax
comp=Z,95nm,1.3s
J08A Circle Bar Ran 93.58 47 *eP* P 17 02 30.1 +0.4
comp=Z,55nm,1.1s
BFSC Mount Baldy Ra 93.59 56 P P 17 02 31.4 +1.4
baz=266,SNR=7.5
LRMC Laurel Mtn Rad 93.65 55 P P 17 02 31.7 +1.5
baz=266,SNR=28
DAC Darwin (Calif) 93.78 54 *eP* P 17 02 31.6 +0.7
comp=Z,86nm,1.1s
DAC Darwin (Calif) 93.78 54 *eP* P 17 02 31.6 +0.7
DAC pmax pmax
comp=Z,86nm,1.1s
MPMC Manual Prospec 93.85 54 P P 17 02 32.7 +1.4
baz=266,SNR=47
MURC Murrieta 93.93 57 P P 17 02 33.1 +1.6
baz=266,SNR=7.8
109C Camp Elliot, M 93.96 57 P P 17 02 33.5 +2.0
baz=266,SNR=9.3
CPE Camp Elliot 93.96 57 *eP* P 17 02 32.1 +0.6
comp=Z,114nm,1.4s
GRAC Grapevine Rang 94.01 53 P P 17 02 33.3 +1.5
baz=266,SNR=20
E09A Wood Farm, Sta 94.01 44 *eP* P 17 02 31.7 +0.2
comp=Z,61nm,1.3s
E09A *ep*P pP 17 02 46.7 -3.0
RRX Edison Barstow 94.17 56 P P 17 02 34.1 +1.6
baz=266
BBRC Big Bear Solar 94.20 56 P P 17 02 34.1 +1.2
baz=266
BAR Barrett 94.31 58 *eP* P 17 02 33.5 +0.3
comp=Z,54nm,1.4s
GSC Goldstone, Bar 94.36 55 *eP* P 17 02 34.0 +0.6
comp=Z,44nm,1.1s
GSC Goldstone, Bar 94.36 55 P P 17 02 34.9 +1.4
baz=267,SNR=21
FURC Furnace Creek, 94.38 54 P P 17 02 34.9 +1.5
baz=267,SNR=16
BMO Blue Mountains 94.51 46 *eP* P 17 02 33.2 -0.7
comp=Z,71nm,1.4s
BMO Blue Mountains 94.51 46 *eP* P 17 02 33.2 -0.7
BMO pmax pmax
comp=Z,71nm,1.4s
MONP2 Monument Peak 94.53 58 P P 17 02 36.4 +1.9
baz=267,SNR=21
PFO Pinyon Flats O 94.54 57 *eP* P 17 02 35.3 +0.9
comp=Z,57nm,1.3s
PFO Pinyon Flats O 94.54 57 *eP* P 17 02 35.3 +0.9
PFO pmax pmax
comp=Z,57nm,1.3s
PFO Pinyon Flats O 94.54 57 P P 17 02 36.0 +1.6
baz=267,SNR=27
PFO Pinyon Flats O 94.54 57 LR LR 17 37 44.2
comp=Z,1µm,21.2s,baz=284,slow=31
XPFO Pion Flat 94.55 57 *eP* P 17 02 35.4 +1.0
comp=Z,61nm,1.3s
F10A Beach Ranch, E 94.62 44 *eP* P 17 02 34.6 +0.2
comp=Z,45nm,1.4s
HEC Hector,Ludlow 94.72 56 P P 17 02 36.5 +1.4
baz=267,SNR=22
WSAR Wadi Sarin 94.78 293 P P 17 02 34.4 -1.2
IKP In-Ko-Pah, Jac 94.78 58 P P 17 02 37.5 +2.0
baz=267,SNR=5.4
NEW Newport 94.80 42 *eP* P 17 02 35.3 +0.2
comp=Z,31nm,1.3s
NEW Newport 94.80 42 *eP* P 17 02 35.3 +0.2
NEW pmax pmax
comp=Z,31nm,1.3s
NEW Newport 94.80 42 P P 17 02 35.7 +0.6
baz=268
SHOC Shoshone, Teco 94.82 55 P P 17 02 37.0 +1.5
baz=267,SNR=6.2
TPNV Topopah Spring 94.90 53 *eP* P 17 02 36.6 +0.6
comp=Z,92nm,1.2s
TPNV Topopah Spring 94.90 53 *eP* P 17 02 36.6 +0.6
TPNV pmax pmax
comp=Z,92nm,1.2s
TPNV Topopah Spring 94.90 53 P P 17 02 37.4 +1.4
baz=267,SNR=57
SVE Sverdlovsk 94.94 327 *eP* P 17 02 34.2 -1.3
SVE pmax pmax
comp=Z,36nm,1.9s
BELC Belle Mtn. Jos 94.95 56 P P 17 02 38.0 +1.7
baz=267,SNR=16
SWSC Sam W. Stewart 95.06 57 P P 17 02 38.5 +1.9
baz=267,SNR=6.5
AB31 Akbulak array 95.07 319 *i* P P 17 02 34.2 -2.0
AB31 pmax pmax
comp=Z,6.0nm,0.8s
ABKAR Akbulak array 95.07 319 *eP* P 17 02 34.0 -2.2
comp=Z,26nm,1.5s
TUQ Turquoise Moun 95.08 55 P P 17 02 38.3 +1.4
baz=267,SNR=30
GMRC Granite Mounta 95.27 56 P P 17 02 39.3 +1.6
baz=267,SNR=32
BC3 Big Chuckawall 95.38 57 P P 17 02 39.9 +1.7
baz=267,SNR=6.5
R11A Troy Canyon, C 95.49 52 *eP* P 17 02 39.3 +0.6
comp=Z,44nm,1.3s
R11A Troy Canyon, C 95.49 52 P P 17 02 40.0 +1.3
baz=268,SNR=53
DQM DQM 95.58 289 P P 17 02 36.9 -2.3
IRM Iron Mountain 95.66 56 P P 17 02 41.2 +1.8
baz=268,SNR=38

LDFC Landfair 95.73 55 *eP* P 17 02 41.1 +1.3
comp=Z,176nm,1.3s
SHPR Sheep Range 95.75 54 *eP* P 17 02 41.3 +1.3
comp=Z,57nm,1.2s
ELK Elko 95.85 50 *eP* P 17 02 41.0 +0.7
comp=Z,23nm,1.3s
GLA Glamis 95.88 57 *eP* P 17 02 43.3 +2.9
comp=Z,56nm,1.3s
GLA Glamis 95.88 57 P P 17 02 42.7 +2.3
baz=268,SNR=7.7
GEYT Alibeck 95.97 307 P P 17 02 39.0 -1.7
comp=Z,1.7nm,0.6s,baz=38,slow=2.6,SNR=5.4
ARU Arti 96.07 326 *eP* P 17 02 38.1 -2.5
comp=Z,14nm,0.7s
ARU Arti 96.07 326 P P 17 02 38.5 -2.2
ARU 17 06 30.1
ARU S SKSac 17 13 06.9 -4.6
ARU SS SS 17 20 23.0 -3.7
NEE2 Needles Airpor 96.12 56 P P 17 02 43.2 +1.8
baz=268,SNR=8.4
Y12C Blythe 96.16 57 *eP* P 17 02 42.9 +1.3
comp=Z,89nm,1.6s
Y12C Blythe 96.16 57 P P 17 02 43.4 +1.8
baz=268,SNR=8.7
AKTO Aktyubinsk 96.34 320 P P 17 02 39.8 -2.2
AKTO pmax pmax
comp=Z,11nm,1.1s
YKW3 Yellowknife Ar 96.45 28 *eP* P 17 02 41.8 -0.4
comp=Z,15nm,1.5s
YKA Yellowknife Ar 96.45 28 P P 17 02 42.1 -0.1
comp=Z,1.5nm,0.6s,baz=270,slow=4.8,SNR=30
YKA PKiKP PKiKP 17 07 19.6 +0.1
comp=Z,0.5nm,0.6s,baz=259,slow=1.4,SNR=5.6
YKA LR LR 17 40 35.2
comp=Z,64nm,21.4s,baz=286,slow=32
YKB5 Yellowknife Ar 96.45 28 *eP* P 17 02 41.5 -0.7
PDMCI Parker Dam,Lak 96.50 56 P P 17 02 44.7 +1.6
baz=268,SNR=8.1
HLID Hailey 96.54 47 *eP* P 17 02 43.5 +0.2
HLID Hailey 96.54 47 P P 17 02 44.1 +0.7
baz=269
W13A Hualapai Mount 96.74 55 *eP* P 17 02 45.1 +0.7
comp=Z,54nm,1.3s
SOHO SOHO 96.75 294 P P 17 02 42.5 -2.0
113A Mohawk Valley, 96.76 58 *eP* P 17 02 44.9 +0.6
comp=Z,27nm,1.6s
PSUT Pine Spring 96.85 52 *eP* P 17 02 45.7 +0.7
comp=Z,28nm,1.2s
MSO Missoula 96.92 44 P P 17 02 45.0 +0.1
baz=270
HATD Hatta, Dubai 97.15 294 P P 17 02 45.0 -1.3
CCUT Cedar City 97.22 53 *eP* Pdif 17 02 47.9 +1.2
comp=Z,30nm,1.1s
LCMT Little Creek M 97.31 53 *eP* Pdif 17 02 48.2 +1.2
comp=Z,40nm,1.2s
Y14A Wickenburg 97.43 57 *eP* Pdif 17 02 48.7 +1.2
comp=Z,40nm,1.6s
SZCU Shurtz Canyon 97.44 53 *eP* Pdif 17 02 48.9 +1.2
comp=Z,28nm,1.2s
BGU Big Grassy Mou 97.53 50 *eP* Pdif 17 02 48.0 +0.1
comp=Z,8.7nm,1.1s
214A Organ Pipe Nat 97.54 59 P Pdif 17 02 50.1 +2.1
baz=268
KNB Kanab 97.64 53 *eP* Pdif 17 02 49.9 +1.4
comp=Z,81nm,1.3s
MCMT McKenzie Canyo 97.67 46 *eP* Pdif 17 02 48.8 +0.2
DUG Dugway, Tooele 97.69 50 *eP* P 17 02 48.5 -0.1
comp=Z,17nm,1.4s
DUG Dugway, Tooele 97.69 50 *eP* P 17 02 48.5 -0.1
DUG pmax pmax
comp=Z,17nm,1.4s
DUG Dugway, Tooele 97.69 50 P Pdif 17 02 49.4 +0.8
baz=270
HVU Hansel Valley 97.73 49 *eP* Pdif 17 02 49.1 +0.3
comp=Z,28nm,1.0s
HVU Hansel Valley 97.73 49 *eP* Pdif 17 02 49.1 +0.3
HVU pmax pmax
comp=Z,28nm,1.0s
DLMT Dillon 97.85 45 *eP* P 17 02 48.9 -0.3
comp=Z,27nm,1.6s
ASUD Al Ashush, Dub 97.87 294 P P 17 02 48.3 -1.2
DMTO DMTO 97.91 287 P P 17 02 48.1 -1.7
LRM Limekiln Ridge 97.95 45 *eP* P 17 02 49.6 -0.1
TCRU Three Creeks R 97.96 52 *eP* Pdif 17 02 52.1 +2.1
comp=Z,11nm,0.5s
PKCU Pink Cliffs 98.06 53 *eP* Pdif 17 02 52.2 +1.7
comp=Z,79nm,1.3s
U15A North Rim 98.06 54 *eP* Pdif 17 02 52.0 +1.5
comp=Z,17nm,0.9s
MTPU Mount Pierson 98.16 52 *eP* Pdif 17 02 52.7 +1.6
comp=Z,22nm,1.0s
MSU Marysvale 98.17 52 *eP* Pdif 17 02 52.3 +1.4
MSU Marysvale 98.17 52 *eP* Pdif 17 02 52.3 +1.4
NLU North Lily Min 98.25 51 *eP* Pdif 17 02 51.8 +0.5
comp=Z,17nm,1.2s
CTU Camp Tracy 98.50 50 *eP* Pdif 17 02 52.5 +0.3
comp=Z,13nm,1.3s
BOZ Bozeman (W) 98.53 45 *eP* Pdif 17 02 52.9 +0.6
comp=Z,13nm,1.3s
BOZ Bozeman (W) 98.53 45 *eP* Pdif 17 02 52.9 +0.7
BOZ pmax pmax
comp=Z,13nm,1.3s
BOZ Bozeman (W) 98.53 45 P Pdif 17 02 52.9 +0.7
baz=271
HWUT Hardware Ranch 98.63 49 *eP* Pdif 17 02 52.9 0.0
comp=Z,8.2nm,1.1s
QLMT Earthquake Lak 98.68 46 *eP* Pdif 17 02 53.9 +0.8
JLU Jordanelle 98.73 50 *eP* P 17 02 52.7 -0.6
comp=Z,19nm,1.1s
X16A Lo Mia Camp, P 98.74 56 *eP* Pdif 17 02 55.6 +2.1
TCUT Toone Canyon 98.75 49 *eP* P 17 02 52.9 -0.6
comp=Z,16nm,1.0s
WUAZ Wupatki 98.80 55 *eP* Pdif 17 02 55.1 +1.4
comp=Z,40nm,1.3s
WUAZ Wupatki 98.80 55 P Pdif 17 02 55.9 +2.2
baz=270
YHB Horse Butte 98.85 46 *eP* Pdif 17 02 55.6 +1.8
comp=Z,17nm,1.4s
TMUT Trail Mountain 98.92 51 *eP* Pdif 17 02 55.0 +0.7
comp=Z,28nm,1.1s
Q16A Castle Valley 98.96 52 *eP* Pdif 17 02 55.1 +0.7
comp=Z,24nm,1.3s
AHID Auburn Hatcher 98.96 48 *eP* P 17 02 54.1 -0.2
comp=Z,25nm,1.3s
FXWY Fox Creek 99.00 47 *eP* Pdif 17 02 54.8 +0.3
comp=Z,14nm,1.2s
YMR Madison River 99.02 46 *eP* **Pdif** **17 02 54.8 +0.2**
comp=Z,18nm,1.2s
IMW Indian Meadow 99.06 47 *eP* **Pdif** **17 02 55.3 +0.5**
comp=Z,13nm,1.3s
TPAW Teton Pass 99.06 47 *eP* **Pdif** **17 02 54.3 -0.5**
comp=Z,16nm,1.1s
YHH Holmes Hill 99.10 46 *eP* **Pdif** **17 02 55.6 +0.6**
comp=Z,9.4nm,1.3s
YFT Old Faithful 99.12 46 *eP* **Pdif** **17 02 56.3 +1.3**
comp=Z,18nm,1.1s
REDW Red Top Meadow 99.13 47 *eP* **Pdif** **17 02 55.5 +0.4**
comp=Z,19nm,1.2s
YPP Pitchstone Pla 99.14 46 *ep*P pP 17 03 13.0 -0.4
MOOW Moose Ponds 99.20 47 *eP* **Pdif** **17 02 55.5 +0.1**
comp=Z,12nm,1.2s
SNOW Snow King Moun 99.20 47 *eP* **Pdif** **17 02 55.8 +0.3**
comp=Z,15nm,1.1s
YNR Norris Junctio 99.22 46 *eP* **Pdif** **17 02 55.2 -0.3**
comp=Z,19nm,1.3s
FLWY Flagg Ranch 99.22 46 *eP* **Pdif** **17 02 55.9 +0.4**
comp=Z,13nm,1.1s
TUC Tucson 99.27 58 *eP* **Pdif** **17 02 55.5 -0.2**
comp=Z,6.4nm,1.1s
TUC Tucson 99.27 58 *eP* **Pdif** **17 02 55.5 -0.2**
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC Tucson 99.27 58 P **Pdif** **17 02 57.3 +1.6**
baz=270
P17A Butcher Ranch, 99.29 51 *eP* **Pdif** **17 02 54.4 -1.4**
comp=Z,17nm,1.1s
H17A Grant Village, 99.31 46 *eP* **Pdif** **17 02 54.0 -1.9**
comp=Z,12nm,1.1s
H17A *ep*P pP 17 03 12.2 -1.9
H17A Grant Village 99.31 46 P **Pdif** **17 02 57.6 +1.7**
baz=272
LOHW Long Hollow 99.31 47 *eP* **Pdif** **17 02 54.5 -1.4**
comp=Z,8.2nm,1.3s
SRU San Rafael Swe 99.46 51 *eP*dif **Pdif** **17 02 56.0 -0.6**
comp=Z,15nm,1.1s
SRU San Rafael Swe 99.46 51 *eP* **Pdif** **17 02 56.0 -0.6**
SRU pmax pmax

comp=Z,15nm,1.1s
NVL **N'lazarevskaya** 99.49 193 *e*P Pdif 17 03 08.4 +13
NVL pmax pmax
comp=Z,6.0nm,1.1s
NVL MLR MLR
comp=Z,550nm,19.0s
LPIG **La Paz** 99.55 67 LR LR 17 39 26.2
comp=Z,838nm,21.4s,baz=244,slow=30
EGMT **Eagleton** 99.73 42 *e*Pdif Pdif 17 02 57.4 0.0
comp=Z,51nm,1.6s
EGMT **Eagleton** 99.73 42 P Pdif 17 02 57.9 +0.5
baz=273
BW06 **Boulder Array** 100.10 48 *e*Pdif Pdif 17 02 59.0 -0.4
BW06 **Boulder Array** 100.10 48 P Pdif 17 02 59.7 +0.3
baz=272
PD31 **Pinedale Array** 100.10 48 *e*Pdif Pdif 17 02 59.1 -0.3
PDAR **Pinedale Array** 100.10 48 *e*Pdif Pdif 17 02 58.9 -0.5
PDAR PKiKP **PKiKP** 17 07 26.3 -0.6
PDAR **Pinedale Array** 100.10 48 P Pdif 17 02 59.3 -0.1
comp=Z,16nm,1.1s,baz=249,slow=2.9,SNR=48
PDAR PKiKP **PKiKP** 17 07 26.3 -0.6
comp=Z,0.5nm,0.7s,baz=233,slow=4.2,SNR=3.4
W18A **Petrified Fore** 100.14 55 P Pdif 17 03 01.6 +1.9
baz=271
RLMT **Red Lodge** 100.21 45 *e*Pdif Pdif 17 03 00.5 +0.7
RLMT **Red Lodge** 100.21 45 P Pdif 17 03 00.8 +1.0
baz=273
PV09 **Paradox Valley** 100.56 52 *e*Pdif Pdif 17 03 02.2 +0.6
PV10 **Paradox Valley** 100.64 52 *e*Pdif Pdif 17 03 02.0 +0.1
PV23 **Carpenter Ridg** 100.66 52 *e*Pdif Pdif 17 03 02.0 -0.1
PV19 **Morning Glory** 100.68 52 *e*Pdif Pdif 17 03 02.6 +0.5
PV16 **Nyswonger Mesa** 100.73 52 *e*Pdif Pdif 17 03 02.8 +0.5
PV11 **David Mesa, Pa** 100.77 52 *e*Pdif Pdif 17 03 01.7 -0.7
PV03 **Paradox Valley** 100.79 52 *e*Pdif Pdif 17 03 04.0 +1.5
PV13 **Radium Mtn., P** 100.81 52 *e*Pdif Pdif 17 03 02.5 -0.2
PV02 **Paradox Valley** 100.88 52 *e*Pdif Pdif 17 03 02.9 -0.1
PV07 **Paradox Valley** 100.94 52 *e*Pdif Pdif 17 03 03.7 +0.5
PV01 **Paradox Valley** 101.01 52 *e*Pdif Pdif 17 03 03.8 +0.2
PV15 **Paradox Valley** 101.08 52 *e*Pdif Pdif 17 03 03.3 -0.6
MVCO **Mesa Verde** 101.10 53 *e*Pdif Pdif 17 03 04.9 +0.9
MVCO **Mesa Verde** 101.10 53 P Pdif 17 03 05.6 +1.6
baz=272
O20A **White River Ci** 101.19 50 *e*Pdif Pdif 17 03 02.9 -1.4
O20A **White River Ci** 101.19 50 P Pdif 17 03 04.6 +0.3
baz=272
RES **Resolute Bay** 101.22 14 *e*P Pdif 17 03 02.2 -1.1
RES **Resolute Bay** 101.22 14 P Pdif 17 03 02.0 -1.3
comp=Z,1.5nm,0.9s,baz=309,slow=7.2,SNR=7.9
RES PKiKP **PKiKP** 17 07 26.9 -0.7
comp=Z,1.2nm,0.9s,baz=301,slow=4.2,SNR=6.6
SNAA **Sanae** 101.34 188 P Pdif 17 03 03.5 -0.6
SNAA **Sanae** 101.34 188 *e*P Pdif 17 03 04.5 +0.4
121A **Cookes Peak, D** 101.80 58 P Pdif 17 03 09.4 +2.3
baz=271
RWWY **Rawlins** 101.89 49 *e*Pdif Pdif 17 03 06.9 -0.5
SMCO **Snowmass** 102.22 51 *e*Pdif Pdif 17 03 08.9 -0.2
LAO **LASA Array** 102.22 44 P Pdif 17 03 09.8 +1.3
baz=275
K22A **Casper** 102.34 48 *e*Pdif Pdif 17 03 09.0 -0.3
K22A **Casper** 102.34 48 P Pdif 17 03 09.6 +0.4
baz=274
S22A **4UR Ranch, Cre** 102.40 53 *e*Pdif Pdif 17 03 10.7 +0.8
S22A **4UR Ranch, Cre** 102.40 53 P Pdif 17 03 11.5 +1.6
baz=273
VNA2 **Neumayer--Watz** 102.62 187 P Pdif 17 03 09.5 -0.3
baz=171,slow=3.8
ANMO **Albuquerque** 102.83 56 *e*Pdif Pdif 17 03 14.3 +2.6
ANMO **Albuquerque** 102.83 56 *e*P Pdif 17 03 14.2 +2.6
ANMO pmax pmax
comp=Z,10.0nm,1.4s
ANMO **Albuquerque** 102.83 56 P Pdif 17 03 14.1 +2.4
baz=272
N23A **Red Feather La** 102.90 49 *e*Pdif Pdif 17 03 12.5 +0.6
N23A **Red Feather La** 102.90 49 P Pdif 17 03 13.0 +1.1
baz=274
ISCO **Idaho Springs** 103.23 51 *e*Pdif Pdif 17 03 15.2 +1.7
ISCO **Idaho Springs** 103.23 51 *e*P Pdif 17 03 15.2 +1.7
ISCO **Idaho Springs** 103.23 51 P Pdif 17 03 14.4 +0.9
baz=274
SDCO **Great Sand Dun** 103.45 53 *e*Pdif Pdif 17 03 15.4 +0.9
SDCO **Great Sand Dun** 103.45 53 P Pdif 17 03 15.7 +1.2
baz=274
Q24A **Divide** 103.65 51 P Pdif 17 03 16.5 +1.1
baz=274
MNTX **Cornudas Mount** 103.87 59 P Pdif 17 03 17.9 +1.8
baz=272
RSSD **Black Hills** 104.01 46 *e*Pdif Pdif 17 03 16.6 -0.1
RSSD **Black Hills** 104.01 46 *e*P Pdif 17 03 16.6 -0.1
RSSD **Black Hills** 104.01 46 P Pdif 17 03 17.2 +0.4
baz=276
T25A **Trinidad** 104.36 53 P Pdif 17 03 20.0 +1.5
baz=274
KLMR **Klimovskoe** 105.28 332 *e*P Pdif 17 03 19.6 -2.1
KLMR *e* 17 07 42.9
KLMR pmax pmax
comp=Z,9.0nm,1.4s
KLMR **Klimovskoe** 105.28 332 *e*Pdif Pdif 17 03 19.7 -2.0
KLMR AMP 17 03 26.9
comp=Z,9.0nm,1.4s
KLMR *e*PP PP 17 07 43.0 -0.3
KLMR *e*PKKP **PKKPab** 17 19 18.2 -1.1
ARCES **ARCESS Array B** 107.01 343 PKiKP **PKiKP** 17 07 36.9 -1.6
comp=Z,3.4nm,0.5s,baz=115,slow=1.5,SNR=21
ULM **Lac du Bonnet** 108.41 39 PKiKP **PKiKP** 17 07 39.7 -1.9
comp=Z,1.2nm,0.4s,baz=304,slow=3.7,SNR=3.8
JCT **Junction City** 108.72 60 P PKiKP 17 07 42.8 0.0
baz=275
WMOK **Wichita Mounta** 109.14 55 P PKiKP 17 07 43.6 +0.1
baz=277
ECSD **EROS Data Cent** 109.37 46 *e*Pdif Pdif 17 03 40.3 0.0
ECSD *e*PKiKP PKiKP 17 07 43.3 -0.3
ECSD **EROS Data Cent** 109.37 46 P PKiKP 17 07 43.6 0.0
baz=282
KSU1 **Kansas State U** 110.23 50 P PKiKP 17 07 45.4 +0.1
baz=280
WHTX **Lake Whitney,** 110.57 58 P PKiKP 17 07 46.3 +0.1
baz=277
FINES **FINESS Array B** 111.02 335 Pdiff **Pdif** 17 03 44.5 -2.7
comp=Z,0.5nm,0.5s,baz=61,slow=5.2,SNR=6.9
FINES PKiKP PKiKP 17 07 45.4 -0.8
comp=Z,3.7nm,0.6s,baz=84,slow=3.1,SNR=19
TUL1 **Leonard** 111.40 54 P PKiKP 17 07 47.7 0.0
baz=279
SPMN **Marine on St.** 111.68 43 P PKiKP 17 07 48.2 +0.3
baz=285
EYMN **Ely** 111.80 40 *e*PKiKP PKiKP 17 07 48.0 -0.1
EYMN **Ely** 111.80 40 P PKiKP 17 07 47.8 -0.3
baz=287
F38A **Pierce - Schro** 112.11 42 P PKiKP 17 07 48.4 -0.3
baz=286
E38A **The Farm, Brul** 112.15 42 P PKiKP 17 07 48.7 -0.1
baz=287
G38A **Ridgeland** 112.34 43 P PKiKP 17 07 48.7 -0.5
baz=286
F39A **Loretta** 112.77 42 P PKiKP 17 07 49.5 -0.5
baz=287
G39A **Holcombe** 112.78 43 P PKiKP 17 07 49.7 -0.3
baz=286
H39A **Augusta** 112.87 44 P PKiKP 17 07 50.2 0.0
baz=286
E39A **Mellen** 112.88 42 P PKiKP 17 07 50.0 -0.1
baz=287
I39A **Houston** 112.92 44 P PKiKP 17 07 50.0 -0.4
baz=286
J39A **Decorah** 112.93 45 P PKiKP 17 07 49.6 -0.7
baz=285
K39A **Oelwein** 112.96 46 P PKiKP 17 07 49.9 -0.6
baz=285
L39A **Vinton** 113.03 46 P PKiKP 17 07 50.7 +0.2
baz=284
M39A **Webster** 113.06 47 P PKiKP 17 07 50.3 -0.4
baz=284
W39A **Magazine** 113.13 54 P PKiKP 17 07 50.7 -0.3
baz=280
E40A **Wakefield** 113.29 41 P PKiKP 17 07 50.9 -0.1
baz=288
F40A **Park Falls** 113.30 42 P PKiKP 17 07 50.6 -0.4
baz=287
C40A **Isle Royale Na** 113.31 40 P PKiKP 17 07 50.0 -0.9
baz=289
MIAR **Mount Ida** 113.41 55 *e*PKiKP PKiKP 17 07 52.5 +1.0
MIAR **Mount Ida** 113.41 55 P PKiKP 17 07 50.5 -1.0
baz=280
G40A **Rib Lake** 113.44 43 P PKiKP 17 07 51.0 -0.3
baz=287
H40A **Chili** 113.50 43 P PKiKP 17 07 50.6 -0.8
baz=287
K40A **Colesburg** 113.50 46 P PKiKP 17 07 51.0 -0.5
baz=285
I40A **Norwalk** 113.54 44 P PKiKP 17 07 50.7 -0.8
baz=286
M40A **Post Highland** 113.56 47 P PKiKP 17 07 51.4 -0.2
baz=284
J40A **Soldiers Grove** 113.59 45 P PKiKP 17 07 51.4 -0.2
baz=286
L40A **Anamosa** 113.61 46 P PKiKP 17 07 51.5 -0.2
baz=285
N40A **Mertquake, Sal** 113.64 48 P PKiKP 17 07 50.8 -1.0
baz=284
U40A **Yellville** 113.66 53 P PKiKP 17 07 51.4 -0.5
baz=281
E41A **Kenton** 113.90 41 P PKiKP 17 07 51.5 -0.6
baz=289
H41A **Junction City** 114.00 43 P PKPdf 17 07 52.2 -0.1
baz=287
I41A **Arkdale** 114.02 44 P PKPdf 17 07 51.8 -0.5
baz=287
F41A **Three Lakes** 114.03 42 P PKPdf 17 07 52.1 -0.3
baz=288
JFWS **Jewell Farm** 114.07 45 P PKPdf 17 07 51.8 -0.7
baz=286
J41A **Loganville** 114.11 45 P PKPdf 17 07 51.9 -0.7
baz=286
K41A **Shullsburg** 114.12 46 P PKPdf 17 07 51.9 -0.7
baz=286
L41A **Preston** 114.12 46 P PKPdf 17 07 52.5 -0.2
baz=286
AKASG **Malin Array Be** 114.21 324 PKP PKPdf 17 07 51.9 -0.6
comp=Z,3.0nm,0.5s,baz=65,slow=2.4,SNR=21
AKASG PKKPbc **PKKPbc** 17 18 33.2 -1.6
comp=Z,0.9nm,0.5s,baz=266,slow=3.7,SNR=7.4
N41A **Harden Midland** 114.22 48 P PKPdf 17 07 52.6 -0.2
baz=285
Z41A **Richland Creek** 114.27 56 P PKPdf 17 07 52.6 -0.6
baz=280
S41A **Jillco Farms,** 114.27 51 P PKPdf 17 07 52.8 -0.3
baz=283
M41A **Milan** 114.27 47 P PKPdf 17 07 52.6 -0.4
baz=285
P41A **Barry, Barry** 114.32 49 P PKPdf 17 07 52.2 -0.9
baz=284
O41A **Passleys Farm,** 114.34 48 P PKPdf 17 07 53.0 -0.2
baz=284
Q41A **Truxton** 114.36 50 P PKiKP 17 07 53.5 +0.3
baz=284
W41B **Gary Mavity, V** 114.37 54 P PKiKP 17 07 53.9 +0.6
baz=281
T41A **Mountain View** 114.38 52 P PKiKP 17 07 53.5 +0.2
baz=282
R41A **Rosebud** 114.40 50 P PKPdf 17 07 53.2 -0.1
baz=283
U41A **Viola** 114.40 53 P PKPdf 17 07 53.2 -0.2
baz=282
CCM **Cathedral Cave** 114.56 51 P PKiKP 17 07 53.9 +0.2
baz=283
E42A **Champion** 114.59 41 P PKiKP 17 07 53.1 -0.3
baz=290
G42A **Mountain** 114.64 42 P PKiKP 17 07 52.9 -0.6
baz=288
I42A **Draeger Farm,** 114.72 44 P PKiKP 17 07 53.1 -0.7
baz=288
L42A **Oliver, Polo** 114.74 46 P PKiKP 17 07 53.4 -0.5
baz=286
BRTR **Keskin Array B** 114.74 311 PKP PKiKP 17 07 53.2 -0.9
comp=Z,3.5nm,0.7s,baz=136,slow=2.8,SNR=21
BRTR PKKPbc **PKKPbc** 17 18 33.5 +0.6
comp=Z,0.8nm,0.6s,baz=223,slow=4.0,SNR=5.8
J42A **Columbus** 114.75 44 P PKiKP 17 07 53.5 -0.4
baz=287
K42A **Prairie Point,** 114.75 45 P PKiKP 17 07 53.5 -0.4
baz=287
N42A **Yates City** 114.79 47 P PKiKP 17 07 53.3 -0.6
baz=285
M42A **Sheffield** 114.82 47 P PKiKP 17 07 53.5 -0.5
baz=286
R42A **Luebbering** 114.85 50 P PKPdf 17 07 54.2 +0.1
baz=284
P42A **Winchester** 114.88 49 P PKiKP 17 07 54.0 -0.2
baz=285
Q42A **Golden Eagle** 114.90 49 P PKiKP 17 07 54.0 -0.3
baz=284
T42A **Van Buren** 114.90 52 P PKiKP 17 07 53.9 -0.4
baz=283
O42A **Bath** 114.92 48 P PKiKP 17 07 54.0 -0.2
baz=285
U42A **Revenden** 114.94 52 P PKiKP 17 07 54.2 -0.2
baz=282
S42A **Caledonia** 114.97 51 P PKPdf 17 07 54.5 0.0
baz=283
G43A **Wallace** 115.13 42 P PKiKP 17 07 54.4 -0.1
baz=289
F43A **Flat Rock, Esc** 115.28 41 P PKiKP 17 07 54.6 -0.2
baz=290
ANTO **Ankara** 115.34 312 *e*PKiKP PKiKP 17 07 53.4 -1.7
ANTO **Ankara** 115.34 312 *i*P PKPdf 17 07 55.9 +0.7
ANTO **Ankara** 115.34 312 ⇑PKIKP PKPdf 17 07 55.9 +0.7
ANTO **Ankara** 115.34 312 P PKiKP 17 07 54.6 -0.5
L43A **Garden Prairie** 115.35 46 P PKiKP 17 07 54.6 -0.4
baz=287
HDIL **Hopedale** 115.40 47 P PKiKP 17 07 54.6 -0.5
baz=286
M43A **Waltham Townsh** 115.41 46 P PKiKP 17 07 54.7 -0.4
baz=286
O43A **Sugar Creek Fa** 115.46 48 P PKPdf 17 07 55.4 +0.1
baz=286
P43A **Skaggs, Pawnee** 115.48 48 P PKiKP 17 07 54.9 -0.4
baz=285
PBMO **Poplar Bluff** 115.48 52 *e*PKPdf PKiKP 17 07 54.2 -1.2
K43A **Burlington** 115.48 45 P PKiKP 17 07 55.0 -0.2
baz=288
R43A **Red Bud** 115.51 50 P PKiKP 17 07 55.1 -0.4
baz=284
T43A **Greenville** 115.52 51 P PKiKP 17 07 54.8 -0.7
baz=284
S43A **Fulton Ridge,** 115.57 51 P PKPdf 17 07 55.6 0.0
baz=284
F44A **Big Bay de Noc** 115.72 41 P PKPdf 17 07 55.7 +0.1
baz=290
KIS **Kishinev** 115.85 320 *e*PP PP 17 09 04.0 +4.1
KIS *e*SKS SKSdf 17 15 20.0 +17
KIS LRM MLR 17 52 10.0
comp=Z,400nm,22.0s
SUW **Suwalki** 116.07 329 *e*PKP PKPdf 17 07 56.2 +0.2
SUW **Suwalki** 116.07 329 *e*PKPdf PKiKP 17 07 54.8 -1.2
SUW **Suwalki** 116.07 329 *e*PKiKP PKPdf 17 07 56.2 +0.2
M44A **Midewin, Midew** 116.08 46 *e*PKPdf PKPdf 17 07 54.5 -1.9
M44A **Midewin, Midew** 116.08 46 P PKPdf 17 07 56.1 -0.3
baz=287
O44A **Mansfield** 116.12 48 P PKPdf 17 07 56.0 -0.6
baz=286
R44A **Waltonville** 116.17 50 P PKPdf 17 07 55.8 -0.9
baz=285
S44A **Carbondale** 116.17 51 P PKPdf 17 07 56.2 -0.5
baz=284
N44A **Piper City** 116.18 47 P PKPdf 17 07 56.3 -0.3
baz=287
P44A **Sand Creek, Wi** 116.19 48 P PKPdf 17 07 56.1 -0.6
baz=286
G45A **Suttons Bay** 116.55 42 P PKPdf 17 07 56.9 -0.4
baz=291
O45A **Potomac** 116.64 47 P PKPdf 17 07 57.1 -0.4
baz=287
S45A **Carrier Mills** 116.69 50 P PKPdf 17 07 57.6 -0.2
baz=285
Q45A **Warren Harvey,** 116.69 49 P PKiKP 17 07 57.9 +0.2
baz=286
R45A **Taylor, Fairfi** 116.76 50 P PKiKP 17 07 57.9 0.0
baz=285
OLIL **Olney** 116.78 49 *e*PKPdf PKPdf 17 07 56.8 -1.1
T45A **Paducah** 116.81 51 P PKPdf 17 07 57.8 -0.2
baz=285
P45A **Graceland, Par** 116.83 48 *e*PKPdf PKPdf 17 07 57.2 -0.7
P45A **Graceland, Par** 116.83 48 P PKiKP 17 07 58.2 +0.2
baz=286
V45A **Humboldt** 116.87 53 P PKPdf 17 07 57.4 -0.8
baz=284
F46A **Macinaw City C** 116.88 41 P PKPdf 17 07 57.5 -0.3
baz=292
U45A **Rockin P Farm,** 116.88 52 P PKPdf 17 07 58.1 0.0
baz=284
D46A **Sault St. Mari** 116.92 39 P PKPdf 17 07 57.7 -0.2
baz=293
E46A **Sault Ste Mari** 116.95 40 P PKiKP 17 07 58.0 0.0
baz=292
CFR **Carcaliu** 116.96 319 *i*P PKiKP 17 07 58.0 0.0
CFR **Carcaliu** 116.96 319 ⇓PKIKP PKiKP 17 07 58.0 0.0
G46A **Petoskey** 116.98 41 P PKPdf 17 07 57.8 -0.2
baz=292
NB2 **NORSAR Subarra** 116.99 340 PKPdf PKPdf 17 07 57.1 -0.5
comp=Z,2.9nm,0.7s,baz=45,slow=1.9
NOA **NORSAR Array B** 116.99 340 PKP PKPdf 17 07 57.1 -0.5
comp=Z,4.3nm,0.7s,baz=48,slow=1.9,SNR=19
TIRR **Tirgusor** 117.03 318 *e*PKPdf PKPdf 17 07 57.6 -0.5
TIRR **Tirgusor** 117.03 318 *i*P PKiKP 17 07 58.4 +0.2
TIRR **Tirgusor** 117.03 318 ⇓PKIKP PKiKP 17 07 58.4 +0.2
SFIN **Lafayette** 117.06 47 *e*PKPdf PKPdf 17 07 58.2 -0.1
SFIN **Lafayette** 117.06 47 P PKiKP 17 07 58.6 +0.2
baz=287
I46A **Reed City** 117.08 43 P PKiKP 17 07 58.5 +0.2
baz=290
L46A **Eue Claire** 117.13 45 P PKPdf 17 07 58.0 -0.4
baz=289
J46A **Howard City** 117.15 44 P PKPdf 17 07 58.1 -0.4
baz=290
N46A **Monticello** 117.17 46 P PKPdf 17 07 58.2 -0.3
baz=288
P46A **Rosedale** 117.20 48 P PKPdf 17 07 58.6 0.0
baz=287
TLB **Topalu** 117.23 318 *i*P PKiKP 17 07 59.0 +0.5
TLB **Topalu** 117.23 318 ⇓PKIKP PKiKP 17 07 59.0 +0.5
Q46A **CEJHS Indians,** 117.26 49 P PKPdf 17 07 58.3 -0.5
baz=286
HARR **Harsova** 117.27 318 ⇑*i*P PKPdf 17 07 57.9 -0.7
HARR **Harsova** 117.27 318 ⇑PKIKP PKPdf 17 07 57.9 -0.7
K46A **Dorr** 117.27 44 P PKPdf 17 07 58.3 -0.4
baz=290
M46A **Old House Fiel** 117.28 46 *e*PKPdf PKPdf 17 07 58.6 -0.1
M46A **Old House Fiel** 117.28 46 P PKPdf 17 07 58.7 -0.1
baz=288
GLMI **Grayling** 117.32 42 P PKPdf 17 07 58.1 -0.6
baz=292
U46A **Springville** 117.34 52 P PKPdf 17 07 58.5 -0.5
baz=285
R46A **Gibon Southern** 117.37 50 P PKPdf 17 07 58.6 -0.4
baz=286
T46A **Princeton** 117.39 51 P PKiKP 17 07 59.4 +0.3
baz=285
D47A **Chapleau** 117.44 39 P PKPdf 17 07 58.8 -0.1
baz=294
X46A **Booneville** 117.45 54 P PKPdf 17 07 58.6 -0.7
baz=283
V46A **Holladay** 117.52 52 P PKPdf 17 07 58.7 -0.7
baz=284
E47A **Iron Bridge** 117.57 40 P PKPdf 17 07 58.8 -0.3
baz=293
ISP **Isparta** 117.59 310 *e*PKPdf PKPdf 17 07 57.8 -1.8
ISP **Isparta** 117.59 310 *e*PKiKP PKPdf 17 07 57.8 -1.8
BIZ **Bicaz** 117.59 321 ⇑*i*P PKPdf 17 07 59.7 +0.5
LVV **L'vov** 117.60 325 *e*PKiKP PKiKP 17 07 59.7 +0.6
LVV *e* 17 18 44.3
LVV MLR MLR
comp=E,600nm,26.0s
LVV MLR MLR
comp=N,300nm,24.0s
LVV MLR MLR
comp=Z,800nm,24.0s
VRI **Vrincioaia** 117.62 320 ⇓*i*P PKiKP 17 07 59.9 +0.6
VRI **Vrincioaia** 117.62 320 ⇓PKIKP PKiKP 17 07 59.9 +0.6
WVT **Waverly** 117.67 52 P PKPdf 17 07 59.0 -0.7
baz=285
H47A **Mio** 117.68 42 P PKPdf 17 07 58.8 -0.6
baz=292
G47A **Hillman** 117.69 41 P PKPdf 17 07 59.2 -0.2
baz=292
J47A **Sunmer** 117.75 43 P PKPdf 17 07 59.2 -0.4
baz=291
O47A **Sheridan** 117.78 47 P PKPdf 17 07 59.2 -0.6
baz=288
M47A **Cromwell** 117.82 46 P PKPdf 17 07 59.2 -0.6
baz=289
K47A **Vermontville** 117.82 44 P PKPdf 17 07 59.1 -0.6
baz=290
BLO **Bloomington** 117.84 48 *e*PKPdf PKPdf 17 07 59.8 -0.1
BLO **Bloomington** 117.84 48 *e*PKiKP PKPdf 17 07 59.8 -0.1
BUR08 **Bucovina Ar. S** 117.86 322 *e*PKPdf PKiKP 17 07 59.9 0.0
BURAR **Bucovina Array** 117.86 322 ⇑*i*P PKiKP 17 08 00.9 +1.0
BURAR **Bucovina Array** 117.86 322 ⇑PKIKP PKiKP 17 08 00.9 +1.0
L47A **Sherwood** 117.92 45 P PKPdf 17 07 59.7 -0.3
baz=290
N47A **Urbana** 117.92 46 P PKPdf 17 07 59.4 -0.6
baz=289
P47A **Martinsville** 117.93 48 P PKPdf 17 07 59.4 -0.7
baz=288
Q47A **Bedord North L** 117.98 49 P PKPdf 17 07 59.6 -0.6
baz=287
V47A **Nunnelly** 117.99 52 P PKPdf 17 07 59.4 -0.9
baz=285
T47A **Sharon Grove** 118.01 51 *e*PKPdf PKPdf 17 07 59.9 -0.4
T47A **Sharon Grove** 118.01 51 P PKPdf 17 07 59.9 -0.4
baz=286
U47A **Clarksville** 118.01 51 P PKPdf 17 07 59.6 -0.7
baz=285
S47A **Hartford** 118.02 50 P PKPdf 17 07 59.8 -0.5
baz=286
X47A **Russelville** 118.04 54 P PKPdf 17 07 59.5 -0.9
baz=284
W47A **Westpoint** 118.07 53 P PKPdf 17 07 59.4 -1.1
baz=284
R47A **Wooly Knot Far** 118.09 49 P PKPdf 17 07 59.9 -0.5
baz=287
D48A **Paudash Townsh** 118.20 38 P PKPdf 17 08 00.2 -0.2
baz=295
H48A **Harrisville** 118.22 41 P PKPdf 17 08 00.3 -0.2
baz=292
F48A **Evansville** 118.24 40 P PKPdf 17 08 00.0 -0.4
baz=294
E48A **Lockeyer** 118.27 39 P PKPdf 17 08 00.2 -0.3
baz=294
MLR **Muntele Rosu** 118.27 320 *e*PKPdf PKPdf 17 07 59.9 -0.8
MLR PKKPbc **PKKPbc** 17 18 19.3 -1.3
MLR **Muntele Rosu** 118.27 320 ⇑*i*P PKPdf 17 08 00.5 -0.2
MLR **Muntele Rosu** 118.27 320 ⇑PKIKP PKPdf 17 08 00.5 -0.2
MLR **Muntele Rosu** 118.27 320 PKKPbc PKKPbc 17 18 19.3 -1.3
comp=Z,1.9nm,0.6s,baz=301,slow=3.5,SNR=10
WCI **Wyandotte Cave** 118.28 49 *e*PKPdf PKPdf 17 08 00.1 -0.7
WCI **Wyandotte Cave** 118.28 49 *e*PKiKP PKPdf 17 08 00.1 -0.7
WCI **Wyandotte Cave** 118.28 49 P PKPdf 17 08 00.5 -0.3
baz=287
BOSA **Boshof** 118.34 234 PKP PKiKP 17 08 02.0 +0.6
comp=Z,3.9nm,0.7s,baz=99,slow=1.4,SNR=11
BOSA PKKPbc **PKKPbc** 17 18 19.8 -0.1
comp=Z,3.1nm,0.7s,baz=222,slow=3.1,SNR=5.6
K48A **Perry** 118.38 44 P PKPdf 17 08 00.4 -0.4
baz=291
N48A **Decatur** 118.41 46 P PKPdf 17 08 00.7 -0.2
baz=289
BEL **Belsk** 118.42 328 *e*PKP PKiKP 17 08 01.0 +0.4
BEL **Belsk** 118.42 328 *e*PKiKP PKiKP 17 08 01.0 +0.4
M48A **Edgerton** 118.42 45 *e*PKPdf PKPdf 17 08 00.7 -0.3
M48A **Edgerton** 118.42 45 P PKPdf 17 08 00.3 -0.7
baz=290
J48A **Bridge Port** 118.44 43 P PKiKP 17 08 01.6 +0.7
baz=292
D49A **Beulah Townshi** 118.44 38 P PKPdf 17 08 00.5 -0.3
baz=296
DOPR **Dopca** 118.44 320 ⇑*i*P PKiKP 17 08 01.4 +0.5
KWP **Kalwaria Pacla** 118.45 325 *e*PKP PKiKP 17 08 00.9 +0.1
KWP **Kalwaria Pacla** 118.45 325 *e*PKPdf PKPdf 17 08 00.9 -0.3
KWP **Kalwaria Pacla** 118.45 325 *e*PKiKP PKiKP 17 08 00.9 +0.1
L48A **N Adams** 118.47 45 P PKPdf 17 08 00.9 -0.1
baz=290
Q48A **North Vernon** 118.50 48 P PKPdf 17 08 00.9 -0.3
baz=288
O48A **Farmland** 118.51 47 P PKPdf 17 08 00.8 -0.4
baz=289
T48A **Bowling Green** 118.52 50 P PKPdf 17 08 00.7 -0.6
baz=286
R48A **Northridge Ran** 118.55 49 P PKPdf 17 08 00.9 -0.4
baz=287
V48A **Smith Brothers** 118.56 52 *e*PKPdf PKPdf 17 08 00.8 -0.6
V48A **Smith Brothers** 118.56 52 P PKPdf 17 08 00.6 -0.8
baz=285
P48A **Milroy** 118.56 48 P PKPdf 17 08 01.0 -0.3
baz=288
U48A **Cassie Pea, Po** 118.57 51 P PKPdf 17 08 01.2 -0.2
baz=286
W48A **Pulaski** 118.62 53 P PKPdf 17 08 01.0 -0.5
baz=285
S48A **Wiedeman Farm,** 118.63 50 P PKPdf 17 08 01.3 -0.2
baz=287

F49A	Sandfield	118.64	40	P		PKPdf	17 08 01.0	-0.2	
	baz=294								
X48A	Hartselle	118.70	54	*e*PKPdf		PKPdf	17 08 00.6	-1.2	
X48A	Hartselle	118.70	54	P		PKPdf	17 08 01.2	-0.5	
	baz=284								
Y48A	Jasper	118.74	54	P		PKPdf	17 08 00.4	-1.4	
	baz=284								
I49A	Point Hope	118.84	42	P		PKPdf	17 08 01.1	-0.6	
	baz=293								
J49A	Marlette	118.85	43	P		PKPdf	17 08 01.1	-0.6	
	baz=292								
VOIR		118.87	320	⇑*i*P		PKPdf	17 08 01.4	-0.4	
VOIR		118.87	320	⇑PKIKP		PKPdf	17 08 01.4	-0.4	
L49A	Milan	118.87	44	P		PKPdf	17 08 01.4	-0.4	
	baz=291								
AAM	Ann Arbor	118.88	44	P		PKPdf	17 08 01.1	-0.7	
	baz=291								
MANT	Manisa	118.88	311	*e*PKPdf		PKPdf	17 08 00.7	-1.5	
M49A	Liberty Center	118.95	45	P		PKPdf	17 08 01.5	-0.5	
	baz=290								
N49A	Columbus Grove	118.99	46	*e*PKPdf		PKPdf	17 08 02.0	-0.1	
N49A	Columbus Grove	118.99	46	P		PKPdf	17 08 01.6	-0.5	
	baz=290								
P49A	Miami Univ. Ec	119.06	47	P		PKPdf	17 08 01.8	-0.4	
	baz=289								
LRAL	Lakeview Retre	119.08	55	*e*PKPdf		PKPdf	17 08 02.2	-0.3	
LRAL	Lakeview Retre	119.08	55	P		PKPdf	17 08 02.2	-0.3	
	baz=284								
Q49A	Aurora	119.09	48	P		PKPdf	17 08 01.6	-0.8	
	baz=288								
R49A	Shelbyville	119.11	49	P		PKPdf	17 08 02.2	-0.2	
	baz=288								
O49A	Covington	119.13	47	*e*PKPdf		PKPdf	17 08 01.8	-0.6	
O49A	Covington	119.13	47	P		PKPdf	17 08 02.1	-0.3	
	baz=289								
W49A	Belvidere	119.16	53	P		PKPdf	17 08 02.2	-0.4	
	baz=285								
U49A	Red Boiling Sp	119.16	51	P		PKPdf	17 08 02.2	-0.4	
	baz=286								
UZH	Uzhgorod	119.16	324	*e*PKIKP		PKPdf	17 08 01.9	-0.2	
UZH				*e*			17 08 14.0		
UZH				*i*			17 08 26.4		
ARR	Arges	119.17	320	⇑*i*P		PKiKP	17 08 02.8	+0.4	
S49A	Springfield	119.17	49	P		PKPdf	17 08 02.3	-0.2	
	baz=287								
E50A	Wahnapitae	119.18	39	P		PKPdf	17 08 02.3	0.0	
	baz=296								
T49A	Edmonton	119.18	50	*e*PKPdf		PKPdf	17 08 02.3	-0.3	
T49A	Edmonton	119.18	50	P		PKPdf	17 08 02.3	-0.3	
	baz=287								
TOBO	Tobermory, Bru	119.19	40	P		PKPdf	17 08 01.5	-0.7	
	baz=294								
249A	Camden	119.22	56	P		PKPdf	17 08 02.4	-0.3	
	baz=283								
TRPA	Tarpa	119.25	323	⇑*i*P		PKPdf	17 08 01.5	-0.8	
X49A	Woodville	119.27	53	P		PKPdf	17 08 02.3	-0.5	
	baz=285								
V49A	McMinnville	119.27	52	P		PKPdf	17 08 02.0	-0.7	
	baz=286								
349A	Repton	119.30	57	P		PKPdf	17 08 02.0	-0.9	
	baz=283								
149A	Jones	119.35	56	P		PKPdf	17 08 02.3	-0.7	
	baz=284,SNR=5.5								
Y49A	Blount Mountai	119.36	54	P		PKPdf	17 08 02.7	-0.3	
	baz=284								
SWET	Sewanee	119.40	52	*e*PKPdf		PKPdf	17 08 02.2	-0.9	
D50A	G1974 Best Tow	119.41	38	P		PKPdf	17 08 02.3	-0.3	
	baz=297								
GKP	Gorka Klasztor	119.46	330	*e*PKP		PKiKP	17 08 03.8	+1.1	
GKP	Gorka Klasztor	119.46	330	*e*PKIKP		PKiKP	17 08 03.7	+1.1	
MATQ	Matagami	119.47	34	P		PKiKP	17 08 02.8	0.0	
	baz=300,SNR=5.3								
LBTB	Lobatse	119.47	237	PKKPbc	PKKPbc		17 18 16.4	+0.8	
	comp=Z,4.2nm,0.7s,baz=294,slow=6.0,SNR=6.0								
L50A	Kingsville	119.56	44	P		PKPdf	17 08 02.8	-0.3	
	baz=292								
BASO	Ashfield	119.59	42	P		PKPdf	17 08 02.9	-0.2	
	baz=294								
M50A	Fremont	119.63	45	P		PKPdf	17 08 02.6	-0.7	
	baz=291								
BMRO	Merlville Lake	119.65	41	P		PKPdf	17 08 02.4	-0.8	
	baz=294								
O50A	Cable	119.66	46	P		PKPdf	17 08 02.7	-0.6	
	baz=290								
P50A	Jamestown	119.71	47	P		PKPdf	17 08 02.8	-0.6	
	baz=290								
D51A	Lot 18 Range I	119.73	38	P		PKPdf	17 08 02.7	-0.6	
	baz=297								
T50A	Nancy	119.74	50	P		PKPdf	17 08 02.9	-0.7	
	baz=287								
R50A	Paris	119.74	49	P		PKPdf	17 08 03.0	-0.6	
	baz=288								
N50A	Nevada	119.78	46	P		PKPdf	17 08 02.6	-1.0	
	baz=291								
OJC	Ojcow	119.79	326	*e*PKP		PKiKP	17 08 03.5	+0.1	
OJC	Ojcow	119.79	326	*e*PKPdf		PKPdf	17 08 02.8	-0.5	
OJC	Ojcow	119.79	326	*e*PKIKP		PKiKP	17 08 03.5	+0.1	
X50B	Fort Payne	119.82	53	P		PKPdf	17 08 03.4	-0.5	
	baz=285								
Q50A	Georgetown	119.83	48	P		PKPdf	17 08 03.5	-0.2	
	baz=289								
S50A	Richmond	119.88	49	P		PKiKP	17 08 04.0	+0.1	
	baz=288								
W50A	Signal Mountai	119.89	52	*e*PKPdf		PKPdf	17 08 03.5	-0.6	
W50A	Signal Mountai	119.89	52	P		PKPdf	17 08 03.3	-0.7	
	baz=286								
BWLO	Walkerton	119.89	41	P		PKPdf	17 08 03.6	-0.1	
	baz=294								
Z50A	Ashland	119.91	55	*e*PKPdf		PKPdf	17 08 03.8	-0.3	
Z50A	Ashland	119.91	55	P		PKPdf	17 08 03.8	-0.3	
	baz=284,SNR=6.0								
E51A	G1948 Merrick	119.91	38	P		PKPdf	17 08 03.4	-0.3	
	baz=297								
U50A	Jamestown	119.91	51	P		PKPdf	17 08 03.6	-0.4	
	baz=287								
F51A	Arnstein	119.91	39	P		PKPdf	17 08 03.5	-0.2	
	baz=296								
NIE	Niedzica	119.92	326	*e*PKP		PKiKP	17 08 04.5	+0.8	
NIE	Niedzica	119.92	326	*e*PKIKP		PKiKP	17 08 04.5	+0.8	
450A	Crestview	119.92	58	P		PKPdf	17 08 03.6	-0.6	
	baz=283								
V50A	Pikevile	119.92	52	P		PKPdf	17 08 03.5	-0.5	
	baz=286								
250A	Grady	119.93	56	P		PKPdf	17 08 04.0	-0.1	
	baz=284								
KLBO	Killbear Provi	119.97	40	P		PKPdf	17 08 03.5	-0.3	
	baz=296								
150A	Eclectic	119.98	55	P		PKiKP	17 08 04.2	0.0	
	baz=284								
350A	Dozier	120.00	57	P		PKPdf	17 08 03.7	-0.6	
	baz=283								
PLCA	Paso Flores	120.08	144	PKP		PKiKP	17 08 05.3	+0.9	
	comp=Z,4.4nm,0.6s,baz=290,slow=1.9,SNR=25								
PLCA				PKKPbc		PKKPbc	17 18 12.8	-1.1	
	comp=Z,1.9nm,0.6s,baz=63,slow=2.8,SNR=8.8								
ACSO	Alum Creek Sta	120.09	46	*e*PKPdf		PKPdf	17 08 03.8	-0.4	
ACSO	Alum Creek Sta	120.09	46	P		PKiKP	17 08 04.4	+0.1	
	baz=290								
EZN	Ezine	120.10	313	⇑*i*P		PKPdf	17 08 03.4	-0.8	
EZN	Ezine	120.10	313	⇑PKIKP		PKPdf	17 08 03.4	-0.8	
ELFO	Elginfield	120.14	42	P		PKiKP	17 08 04.3	0.0	
	baz=294								
LSQQ	Lebel-sur-Quev	120.19	35	P		PKPdf	17 08 03.5	-0.7	
	baz=300								
K51A	Iona Station	120.20	43	P		PKPdf	17 08 03.5	-0.8	
	baz=293								
Q51A	Peebles	120.23	48	*e*PKPdf		PKPdf	17 08 04.2	-0.3	
M51A	Elyria	120.26	45	P		PKPdf	17 08 04.3	-0.1	
	baz=292								
N51A	Ashland	120.28	45	*e*PKPdf		PKPdf	17 08 04.4	-0.2	
N51A	Ashland	120.28	45	P		PKPdf	17 08 04.1	-0.4	
	baz=291								
P51A	Williamsport	120.29	47	*e*PKPdf		PKPdf	17 08 04.2	-0.4	
P51A	Williamsport	120.29	47	P		PKPdf	17 08 04.3	-0.3	
	baz=290								
R51A	Hillsboro	120.29	48	P		PKPdf	17 08 04.7	0.0	
	baz=289								
LSZ	Lusaka	120.32	249	*e*PKPdf		PKPdf	17 08 05.5	0.0	
LSZ				PKKPbc		PKKPab	17 18 13.9	-0.3	
LSZ	Lusaka	120.32	249	PKIKP		PKiKP	17 08 06.0	+0.4	
LSZ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
LSZ	Lusaka	120.32	249	PKP		PKiKP	17 08 06.0	+0.4	
	baz=119,slow=2.5								
LSZ				PKKPbc		PKKPab	17 18 13.9	-0.3	
	comp=Z,5.6nm,0.9s,baz=270,slow=1.4,SNR=9.1								
W51A	Cleveland	120.33	52	P		PKPdf	17 08 04.1	-0.8	
	baz=286								
GZR	Gura Zlata	120.34	320	⇑*i*P		PKPdf	17 08 04.1	-0.5	
GZR	Gura Zlata	120.34	320	⇑PKIKP		PKPdf	17 08 04.1	-0.5	
F52A	Sundridge	120.34	39	P		PKPdf	17 08 04.1	-0.4	
	baz=297								
D52A	ZEK Kipawa Sen	120.37	37	P		PKPdf	17 08 04.2	-0.3	
	baz=298,SNR=6.1								
O51A	Pataskala	120.39	46	P		PKPdf	17 08 04.4	-0.4	
	baz=291								
X51A	Calhoun	120.42	53	P		PKPdf	17 08 04.7	-0.3	
	baz=286								
Y51A	Rockmart	120.43	54	P		PKPdf	17 08 04.2	-0.9	
	baz=285								
T51A	Gray	120.44	50	P		PKPdf	17 08 04.4	-0.6	
	baz=288								
CPCT	Cooper Cave	120.44	52	*e*PKPdf		PKPdf	17 08 04.6	-0.4	
BUKO	Buck Lake	120.45	39	P		PKPdf	17 08 04.5	-0.2	
	baz=296								
V51A	Loudon	120.47	51	P		PKPdf	17 08 04.4	-0.6	
	baz=287								
Z51A	Franklin	120.50	54	P		PKPdf	17 08 05.0	-0.2	
	baz=285,SNR=9.2								
LANS	Liptovska Anna	120.53	326	*e*PKIKP		PKiKP	17 08 05.8	+0.9	
LANS				*e*			17 08 20.9		
LANS	Liptovska Anna	120.53	326	*e*PKP		PKiKP	17 08 05.8	+0.9	
LANS				*e*			17 08 20.9		
E52A	Mattawa	120.54	38	P		PKPdf	17 08 04.3	-0.6	
	baz=297								
I52A	Shelburne	120.54	41	P		PKPdf	17 08 05.0	0.0	
	baz=295								
U51A	La Follette	120.56	51	P		PKPdf	17 08 05.2	-0.1	
	baz=288								
151A	Opelika	120.57	55	P		PKPdf	17 08 05.4	0.0	
	baz=284								
251A	Midway	120.61	56	P		PKPdf	17 08 05.4	0.0	
	baz=284								
351A	Pinckard	120.64	57	P		PKPdf	17 08 05.1	-0.4	
	baz=284								
SIRR	Sirta	120.64	322	⇑*i*P		PKiKP	17 08 05.7	+0.5	
K52A	Tillsonburg	120.71	43	P		PKPdf	17 08 05.0	-0.3	
	baz=294								
D53A	Lac Vacive, Po	120.75	37	P		PKPdf	17 08 05.1	-0.2	
	baz=299,SNR=7.3								
M52A	Chesterland	120.76	44	P		PKPdf	17 08 05.3	-0.2	
	baz=292								
HERR	Herculane	120.79	320	⇑*i*P		PKPdf	17 08 05.1	-0.3	
N52A	McGinn's Farm,	120.80	45	P		PKPdf	17 08 05.4	-0.2	
	baz=292								
ACTO	Acton	120.81	42	P		PKPdf	17 08 05.3	-0.2	
	baz=295								
KARP	Karpathos	120.82	308	*e*PKPdf		PKPdf	17 08 05.3	-0.5	
TZTN	Tazewell	120.87	50	*e*PKPdf		PKPdf	17 08 05.9	0.0	
TZTN	Tazewell	120.87	50	P		PKiKP	17 08 06.0	0.0	
	baz=288								
OKC	Ostrava-Krasne	120.90	327	*e*PKP		PKiKP	17 08 06.0	+0.4	
OKC				*ep*PKP		pPKPdf	17 08 20.4	-3.9	
OKC				AMS		AMS	17 59 40.0		
	comp=Z,700nm,18.8s								
OKC	Ostrava-Krasne	120.90	327	*e*PKIKP		PKiKP	17 08 06.0	+0.4	
OKC				*e*			17 08 20.4		
OKC				MLR		MLR			
	comp=Z,700nm,18.8s								
P52A	Corning	120.91	47	P		PKPdf	17 08 05.4	-0.4	
	baz=291,SNR=7.5								
PSZ	Piszkesteto	120.91	324	*e*PKPdf		PKPdf	17 08 05.4	-0.3	
PSZ	Piszkesteto	120.91	324	⇑*i*P		PKiKP	17 08 06.5	+0.7	
PSZ	Piszkesteto	120.91	324	⇑PKIKP		PKiKP	17 08 06.5	+0.7	
SADO	Sadowa	120.91	40	*e*PKPdf		PKPdf	17 08 05.2	-0.4	
O52A	Adamsville	120.95	46	*e*PKPdf		PKPdf	17 08 05.4	-0.5	
O52A	Adamsville	120.95	46	P		PKPdf	17 08 05.5	-0.3	
	baz=291,SNR=5.4								
TKL	Tuckaleechee C	120.96	51	*e*PKPdf		PKiKP	17 08 06.2	0.0	
TKL	Tuckaleechee C	120.96	51	*e*PKIKP		PKiKP	17 08 06.2	0.0	
BZS	Buzias	120.97	321	⇑*i*P		PKPdf	17 08 05.7	0.0	
BZS	Buzias	120.97	321	⇑PKIKP		PKPdf	17 08 05.7	0.0	
R52A	Catlettsburg	120.98	48	P		PKPdf	17 08 05.8	-0.2	
	baz=290,SNR=5.1								
W52A	Murphy	121.01	52	*e*PKPdf		PKPdf	17 08 06.1	0.0	
W52A	Murphy	121.01	52	P		PKiKP	17 08 06.7	+0.4	
	baz=287								
152A	Waverly Hall	121.03	55	*e*PKPdf		PKPdf	17 08 06.1	-0.1	
152A	Waverly Hall	121.03	55	P		PKPdf	17 08 05.7	-0.6	
	baz=285								
Q52A	Bidwell	121.04	47	P		PKPdf	17 08 05.7	-0.3	
	baz=290,SNR=6.3								
V52A	Sevierville	121.05	51	*e*PKPdf		PKiKP	17 08 06.5	+0.2	
V52A	Sevierville	121.05	51	P		PKiKP	17 08 06.3	0.0	
	baz=288,SNR=8.1								
ALGO	Algonquin Park	121.06	38	P		PKiKP	17 08 05.9	-0.1	
	baz=298,SNR=8.1								
G53A	Haliburton	121.09	39	P		PKPdf	17 08 05.9	-0.1	
	baz=297,SNR=7.5								
452A	Marianna	121.09	57	P		PKiKP	17 08 06.9	+0.4	
	baz=284								
E53A	Dumoine, Ponti	121.10	38	P		PKPdf	17 08 05.7	-0.2	
	baz=298,SNR=5.8								
Z52A	Williamson	121.14	54	P		PKPdf	17 08 06.1	-0.4	
	baz=285,SNR=6.5								
TYNO	Tyneside	121.15	42	P		PKPdf	17 08 05.0	-1.1	
	baz=295								
352A	Blakely	121.16	56	P		PKPdf	17 08 05.3	-1.2	
	baz=284								
X52A	Dahlonega	121.17	53	P		PKPdf	17 08 06.2	-0.3	
	baz=287,SNR=11								
252A	Lumpkin	121.19	56	P		PKPdf	17 08 05.8	-0.7	
	baz=284								
CHGQ	Chibougamau	121.19	33	P		PKPdf	17 08 05.6	-0.4	
	baz=303								
VTS	Vitosha	121.21	317	⇑*i*P		PKiKP	17 08 06.6	0.0	
VTS	Vitosha	121.21	317	⇑PKIKP		PKiKP	17 08 06.6	0.0	
VYHS	Vyhne	121.23	325	*e*PKIKP		PKPdf	17 08 06.1	-0.1	
VYHS				*e*			17 08 21.4		
VYHS	Vyhne	121.23	325	*e*PKP		PKPdf	17 08 06.1	-0.1	
VYHS				*e*			17 08 21.4		
Y52A	Lilburn	121.25	53	*e*PKPdf		PKPdf	17 08 06.5	-0.1	
Y52A	Lilburn	121.25	53	P		PKPdf	17 08 06.4	-0.2	
	baz=286,SNR=7.4								
MORC	Moravsky Berou	121.26	327	*e*PKPdf		PKiKP	17 08 06.5	+0.1	
MORC	Moravsky Berou	121.26	327	⇓*i*P		PKiKP	17 08 06.7	+0.3	
MORC	Moravsky Berou	121.26	327	⇓PKIKP		PKiKP	17 08 06.7	+0.3	
MORC	Moravsky Berou	121.26	327	*e*PKP		PKiKP	17 08 06.4	+0.1	
MORC				*e*			17 08 21.3		
M53A	WI Miller and	121.27	44	P		PKPdf	17 08 06.0	-0.4	
	baz=293,SNR=5.0								
MDVR	Moldovita	121.28	320	⇑*i*P		PKPdf	17 08 06.2	-0.2	
PKRO	Pickering	121.31	41	P		PKPdf	17 08 05.7	-0.7	
	baz=296								
KSP	Ksiaz	121.33	329	*e*PKP		PKPdf	17 08 05.0	-1.3	
KSP	Ksiaz	121.33	329	*e*PKIKP		PKPdf	17 08 05.0	-1.3	
D54A	Lac Fusel, La	121.33	37	P		PKPdf	17 08 05.8	-0.6	
	baz=300,SNR=7.0								
O53A	New Philadelph	121.34	46	P		PKPdf	17 08 06.2	-0.4	
	baz=292,SNR=6.9								
L53A	Girard	121.35	43	P		PKPdf	17 08 06.4	-0.2	
	baz=294								
E54A	Lac Daplat, Po	121.37	38	P		PKPdf	17 08 05.9	-0.6	
	baz=299,SNR=7.2								
N53A	Lisbon	121.40	45	P		PKPdf	17 08 06.5	-0.2	
	baz=293,SNR=17								
ERPA	Erie	121.47	43	*e*PKPdf		PKPdf	17 08 06.4	-0.4	
ERPA	Erie	121.47	43	P		PKPdf	17 08 06.3	-0.5	
	baz=294								
R53A	Hurricane	121.49	48	P		PKPdf	17 08 06.6	-0.4	
	baz=290								
P53A	Whipple	121.50	46	*e*PKPdf		PKPdf	17 08 07.0	0.0	
P53A	Whipple	121.50	46	P		PKPdf	17 08 06.7	-0.2	
	baz=291,SNR=14								
KRLC	Kraliky	121.51	328	*e*PKP		PKPdf	17 08 06.4	-0.3	
KRLC				*ep*PKP		pPKPdf	17 08 21.9	-3.7	
KRLC	Kraliky	121.51	328	*e*PKIKP		PKPdf	17 08 06.4	-0.3	
KRLC				*e*			17 08 21.9		
T53A	Wise	121.51	50	P		PKPdf	17 08 06.9	-0.3	
	baz=289,SNR=6.7								
STCO	Saint Catharin	121.57	42	P		PKPdf	17 08 06.5	-0.4	
	baz=295								
BANO	Bancroft	121.57	39	P		PKPdf	17 08 06.8	-0.1	
	baz=297,SNR=8.0								
DRWO	Darlington Wes	121.57	41	P		PKPdf	17 08 06.6	-0.3	
	baz=296								
S53A	Williamson	121.58	49	P		PKPdf	17 08 07.1	-0.1	
	baz=290								
W53A	Cullowhee	121.58	52	P		PKiKP	17 08 07.7	+0.2	
	baz=288,SNR=6.5								
DRCO	St. Marys Ceme	121.59	41	P		PKPdf	17 08 06.8	-0.1	
	baz=296								
DPC	Dobruska-Polom	121.59	328	*e*PKP		PKiKP	17 08 07.1	+0.1	
DPC				*ep*PKP		pPKPdf	17 08 19.3	-6.4	
DPC				AMS		AMS	18 01 10.0		
	comp=Z,800nm,18.4s								
DPC	Dobruska-Polom	121.59	328	*e*PKIKP		PKiKP	17 08 07.1	+0.1	
DPC				*e*			17 08 19.3		
DPC				MLR		MLR			
	comp=Z,800nm,18.4s								
Y53A	Monroe	121.63	53	P		PKPdf	17 08 07.0	-0.3	
	baz=286,SNR=6.4								
BUD	Budapest	121.64	324	*e*PKIKP		PKPdf	17 08 06.1	-0.8	
UPC	Upice	121.67	328	*e*PKP		PKiKP	17 08 07.1	0.0	
UPC				AMS		AMS	17 59 50.0		
	comp=Z,1μm,19.4s								
UPC	Upice	121.67	328	*e*PKIKP		PKiKP	17 08 07.1	0.0	
UPC				MLR		MLR			
	comp=Z,1μm,19.4s								
X53A	Estanollee	121.67	53	P		PKPdf	17 08 07.3	-0.1	
	baz=287								
U53A	Fall Branch	121.67	50	P		PKPdf	17 08 07.0	-0.5	
	baz=289,SNR=15								
JAVC	Velka Javorina	121.69	326	*e*PKP		PKiKP	17 08 08.3	+1.1	
PEMO	Pembroke	121.69	38	P		PKPdf	17 08 06.6	-0.5	
	baz=298,SNR=7.7								
V53A	Saluda	121.71	51	*e*PKPdf		PKiKP	17 08 07.8	+0.1	
V53A	Saluda	121.71	51	P		PKPdf	17 08 07.1	-0.4	
	baz=288,SNR=6.5								
WLVO	Wesleyville	121.77	41	P		PKPdf	17 08 07.0	-0.3	
	baz=296,SNR=5.7								
353A	Camilla	121.78	56	P		PKPdf	17 08 07.3	-0.4	
	baz=284								
SCHQ	Schefferville	121.78	25	*e*PKPdf		PKiKP	17 08 07.6	+0.4	
SCHQ	Schefferville	121.78	25	PKP		PKPdf	17 08 06.1	-0.9	
	comp=Z,7.5nm,0.9s,baz=348,slow=2.0,SNR=7.4								
Z53A	Monticello	121.80	54	P		PKiKP	17 08 07.8	0.0	
	baz=286,SNR=5.2								
BG3	Lake Jocassee	121.82	52	*e*PKPdf		PKiKP	17 08 08.1	+0.2	
GOGA	Godfrey	121.85	54	*e*PKPdf		PKiKP	17 08 07.9	0.0	
GOGA	Godfrey	121.85	54	P		PKPdf	17 08 07.8	0.0	
	baz=286,SNR=5.7								
SRO	Srobarova	121.88	325	*e*PKIKP		PKiKP	17 08 07.9	+0.4	
SRO	Srobarova	121.88	325	*e*PKP		PKiKP	17 08 07.8	+0.3	
N54A	Moraine State	121.93	44	*e*PKPdf		PKPdf	17 08 07.7	-0.1	
N54A	Moraine State	121.93	44	P		PKPdf	17 08 07.6	-0.1	
	baz=293,SNR=6.3								
M54A	Oil Creek Stat	121.94	44	*e*PKPdf		PKPdf	17 08 07.4	-0.4	
M54A	Oil Creek Stat	121.94	44	P		PKPdf	17 08 07.8	0.0	
	baz=294,SNR=7.0								
O54A	Avella	121.96	45	P		PKiKP	17 08 08.2	+0.2	
	baz=293,SNR=11								
DELO	Deloro Mine	122.00	40	P		PKPdf	17 08 07.4	-0.3	
	baz=297								
VRAC	Vranov	122.04	327	⇓*i*P		PKiKP	17 08 08.3	+0.4	
VRAC	Vranov	122.04	327	⇓PKIKP		PKiKP	17 08 08.3	+0.4	
VRAC	Vranov	122.04	327	*e*PKP		PKiKP	17 08 07.8	-0.1	
MEDO	Medina	122.06	41	P		PKPdf	17 08 07.8	-0.1	
	baz=296								
Q54A	Coxs Mills	122.08	47	P		PKPdf	17 08 07.8	-0.2	
	baz=292,SNR=17								
I55A	Frankford	122.09	40	P		PKPdf	17 08 07.1	-0.8	
	baz=297								
PLVO	Plevna	122.10	39	*e*PKPdf		PKPdf	17 08 07.7	-0.3	
PLVO	Plevna	122.10	39	P		PKPdf	17 08 07.5	-0.4	
	baz=298,SNR=5.9								
P54A	Burton	122.11	46	P		PKPdf	17 08 07.9	-0.3	
	baz=292,SNR=8.4								
F55A	Otter Lake	122.17	38	P		PKPdf	17 08 07.2	-0.8	
	baz=299								
MODS	Modra-Piesok	122.17	326	*e*PKIKP		PKiKP	17 08 08.4	+0.2	
MODS				*e*			17 08 23.0		
MODS	Modra-Piesok	122.17	326	*e*PKP		PKiKP	17 08 08.4	+0.2	
MODS				*e*			17 08 23.0		
VAY	Valandovo	122.19	316	*i* P		PKPdf	17 08 07.5	-0.7	
T54A	Tazewell	122.20	49	P		PKPdf	17 08 08.1	-0.4	
	baz=290,SNR=5.6								
G55A	Calabogie	122.22	39	P		PKPdf	17 08 07.7	-0.4	
	baz=299,SNR=7.6								
BSEG	Bad Segeberg	122.25	334	*e*PKPdf		PKiKP	17 08 08.8	+0.8	
	baz=51,slow=1.9								
R54A	Victor	122.25	48	P		P

N55A	Marion Center	122.70	44	P	PKPdf	17 08 08.8	-0.5	
	baz=294							
O55A	Ligonier	122.71	45	P	PKPdf	17 08 08.7	-0.6	
	baz=294,SNR=5.8							
LIT	Litokhoron	122.74	315	*e*PKPdf	PKPdf	17 08 07.8	-1.5	
LIT	Litokhoron	122.74	315	*e*PKIKP	PKPdf	17 08 07.8	-1.5	
PRU	Pruhonice	122.74	328	*e*PKP	PKPdf	17 08 08.8	-0.2	
PRU				*ep*PKP	pPKPdf	17 08 23.9	-4.0	
PRU				AMS	AMS	18 01 40.0		
	comp=Z,1μm,22.4s							
PRU	Pruhonice	122.74	328	*e*PKIKP	PKPdf	17 08 08.8	-0.2	
PRU				*e*		17 08 23.9		
PRU				MLR	MLR			
	comp=Z,1μm,22.4s							
PAULI	Pauline	122.75	52	*e*PKPdf	PKPdf	17 08 09.5	+0.1	
S55A	Lewisburg	122.76	48	P	PKPdf	17 08 08.9	-0.6	
	baz=291							
U55A	TA2, Sparta	122.79	50	P	PKPdf	17 08 09.2	-0.4	
	baz=290,SNR=5.5							
H56A	Elgin	122.82	39	P	PKPdf	17 08 09.0	-0.3	
	baz=299							
R55A	Marlinton	122.86	47	P	PKPdf	17 08 09.1	-0.6	
	baz=292,SNR=12							
ORIO	Orleans, Innes	122.87	38	P	PKPdf	17 08 08.8	-0.5	
	baz=300							
155A	Kite	122.88	54	P	PKPdf	17 08 09.5	-0.3	
	baz=286,SNR=7.9							
V55A	Taylorsville	122.88	50	P	PKPdf	17 08 09.6	-0.1	
	baz=289,SNR=6.0							
355A	Pearson	122.91	56	P	PKPdf	17 08 09.5	-0.4	
	baz=285							
455A	Stateville	122.92	57	P	PKPdf	17 08 09.5	-0.4	
	baz=285							
SOP	Sopron	122.95	325	*e*PKiKP	PKPdf	17 08 08.1	-1.4	
Y55A	Saluda	122.98	53	P	PKPdf	17 08 09.7	-0.2	
	baz=288,SNR=5.6							
X55A	Gracelyn & Ava	123.00	52	P	PKPdf	17 08 09.7	-0.2	
	baz=288,SNR=11							
KMSC	Kings Mountain	123.02	51	*e*PKPdf	PKiKP	17 08 10.2	0.0	
KMSC	Kings Mountain	123.02	51	P	PKPdf	17 08 08.4	-1.6	
	baz=289,SNR=8.2							
BLA	Blacksburg	123.02	49	*e*PKPdf	PKPdf	17 08 09.8	-0.2	
BLA	Blacksburg	123.02	49	P	PKPdf	17 08 09.7	-0.2	
	baz=291,SNR=7.4							
TRQ	Mont Tremblant	123.05	37	*e*PKPdf	PKPdf	17 08 09.8	0.0	
KRUS	Krusevo	123.08	317	*i* P	PKPdf	17 08 09.6	-0.4	
555A	McAlpin	123.12	57	P	PKPdf	17 08 09.5	-0.8	
	baz=285							
ALFO	Alfred	123.16	37	P	PKPdf	17 08 08.9	-1.0	
	baz=301							
BIA	Bitola	123.17	316	*i* P	PKPdf	17 08 10.2	0.0	
BBLS	Lazići	123.18	320	⇑*i*P	PKiKP	17 08 10.3	-0.1	
O56A	Blue Knob Stat	123.20	45	*e*PKPdf	PKPdf	17 08 10.2	-0.1	
O56A	Blue Knob Stat	123.20	45	P	PKPdf	17 08 09.5	-0.8	
	baz=294,SNR=6.4							
CONA	Conrad Observa	123.21	326	*e*PKiKP	PKiKP	17 08 10.3	0.0	
	comp=Z,15nm,0.7s,SNR=6.5							
FNA	Florina	123.24	316	*e*PKPdf	PKPdf	17 08 09.4	-0.9	
AGG	Agios Georgios	123.27	314	*e*PKPdf	PKPdf	17 08 09.2	-1.2	
AGG	Agios Georgios	123.27	314	*e*PKIKP	PKPdf	17 08 09.2	-1.2	
ASSE	Asse, Remlinge	123.30	332	*e*PKPdf	PKiKP	17 08 10.6	+0.5	
	baz=51,slow=1.9							
NRDL	Niedersach Ri	123.32	333	*e*PKPdf	PKiKP	17 08 11.0	+0.9	
	baz=51,slow=1.9							
JSC	Jenkinsville	123.35	52	*e*PKPdf	PKPdf	17 08 10.5	-0.1	
JSC	Jenkinsville	123.35	52	*e*PKIKP	PKPdf	17 08 10.5	-0.1	
HAPS	Han Pijesak,BI	123.36	321	⇑*i*P	PKPdf	17 08 09.9	-0.6	
NEUB	Neuenburg	123.38	331	*e*PKPdf	PKiKP	17 08 10.7	+0.3	
	baz=51,slow=1.9							
X56A	White Oak	123.46	52	P	PKPdf	17 08 09.6	-1.3	
	baz=289,SNR=6.4							
LATQ	La Tuque	123.46	35	P	PKPdf	17 08 09.6	-0.9	
	baz=304							
Y56A	Pelion	123.46	53	P	PKPdf	17 08 09.9	-0.9	
	baz=288							
BEHE	Becsehely	123.48	324	*e*P	PKPdf	17 08 10.6	+0.1	
OHR	Ohrid	123.49	317	*i* P	PKiKP	17 08 11.1	0.0	
SSPA	Standing Stone	123.52	44	*e*PKPdf	PKPdf	17 08 10.6	-0.2	
SSPA	Standing Stone	123.52	44	P	PKPdf	17 08 10.1	-0.7	
	baz=295							
256A	Glennville	123.53	55	P	PKPdf	17 08 10.5	-0.5	
	baz=286							
TANN	Tannenbergstha	123.54	330	*e*PKPdf	PKiKP	17 08 11.1	+0.3	
	baz=51,slow=1.9							
Z56A	Williston	123.55	53	P	PKPdf	17 08 10.2	-0.8	
	baz=288							
CLZ	Clausthal	123.63	332	*e*PKPdf	PKiKP	17 08 11.7	+0.7	
	baz=51,slow=1.9							
GUNZ	Gunzen	123.64	330	*e*PKPdf	PKiKP	17 08 11.5	+0.5	
	baz=51,slow=1.9							
PLN	Plauen	123.65	330	*e*PKPdf	PKiKP	17 08 11.3	+0.4	
	baz=51,slow=1.9							
156A	Sylvania	123.65	54	P	PKPdf	17 08 10.4	-0.8	
	baz=287							
NKC	Novy Kostel	123.66	330	*e*PKP	PKiKP	17 08 11.0	0.0	
NKC				*ep*PKP	pPKPdf	17 08 25.9	-3.8	
NKC				AMS	AMS	17 59 40.0		
	comp=Z,1μm,19.7s							
NKC	Novy Kostel	123.66	330	*e*PKIKP	PKiKP	17 08 11.0	0.0	
NKC				*e*		17 08 25.9		
NKC				MLR	MLR			
	comp=Z,1μm,19.7s							
WERN	Wernitzgruen	123.66	330	*e*PKPdf	PKiKP	17 08 11.6	+0.6	
	baz=51,slow=1.9							
656A	Williston	123.67	58	P	PKPdf	17 08 11.0	-0.3	
	baz=284							
KHC	Kasperske Hory	123.75	328	*e*PKPdf	PKPdf	17 08 10.7	-0.3	
KHC	Kasperske Hory	123.75	328	*e*PKP	PKiKP	17 08 11.2	-0.1	
KHC				*ep*PKP	pPKPdf	17 08 25.4	-4.5	
KHC				AMS	AMS	18 02 30.0		
	comp=Z,1μm,23.4s							
KHC	Kasperske Hory	123.75	328	*e*PKIKP	PKiKP	17 08 11.2	-0.1	
KHC				*e*		17 08 25.4		
KHC				MLR	MLR			
	comp=Z,1μm,23.4s							
ARSA	Arzberg	123.78	325	*e*PKiKP	PKPdf	17 08 11.1	0.0	
	comp=Z,15nm,1.3s,SNR=5.7							
MOX	Moxa	123.81	330	*e*PKPdf	PKiKP	17 08 11.6	+0.3	
	baz=51,slow=1.9							
JTS	JuntasAbangare	123.83	81	*e*PKPdf	PKPdf	17 08 11.4	-0.7	
JTS	JuntasAbangare	123.83	81	*e*PKIKP	PKPdf	17 08 11.4	-0.7	
LONY	Lake Ozonia	123.85	38	*e*PKPdf	PKPdf	17 08 10.7	-0.7	
LONY	Lake Ozonia	123.85	38	P	PKPdf	17 08 11.0	-0.3	
	baz=300							
PDG	Podgorica	123.94	319	*e*P	PKPdf	17 08 11.6	+0.1	
MANZ	Manzenberg	123.98	330	*e*PKPdf	PKiKP	17 08 12.1	+0.4	
	baz=51,slow=1.9							
GTTG	Gvttingen	124.02	332	*e*PKPdf	PKiKP	17 08 12.2	+0.6	
	baz=51,slow=1.9							
157A	Early Branch	124.05	54	P	PKiKP	17 08 12.3	0.0	
	baz=288							
ROTZ	Rotzenmuhle	124.07	329	*e*PKPdf	PKiKP	17 08 12.0	+0.1	
	baz=51,slow=1.9							
Z57A	Bowman	124.09	53	P	PKiKP	17 08 12.4	+0.1	
	baz=288							
DRME	Dracevica, Mon	124.10	318	*e*P	PKPdf	17 08 10.9	-1.0	
WET	Wettzell	124.11	328	*e*PKPdf	PKiKP	17 08 12.4	+0.4	
	baz=51,slow=1.9							
BINY	Binghamton	124.12	41	*e*PKPdf	PKPdf	17 08 11.6	-0.3	
BINY	Binghamton	124.12	41	P	PKiKP	17 08 12.2	0.0	
	baz=298							
BLY	Banja Luka	124.13	322	*e*PKPdf	PKPdf	17 08 11.6	-0.3	
BLY	Banja Luka	124.13	322	⇑*i*P	PKPdf	17 08 11.7	-0.1	
MOA	Molln	124.14	327	*e*PKiKP	PKPdf	17 08 11.3	-0.5	
	comp=Z,11nm,1.0s							
457A	Yulee	124.17	56	P	PKPdf	17 08 11.7	-0.6	
	baz=286							
757A	Oxford	124.17	59	P	PKPdf	17 08 12.0	-0.3	
	baz=284							
657A	Interlachen	124.18	58	P	PKPdf	17 08 12.1	-0.2	
	baz=285							
BRY	Bratogost	124.19	320	*e*P	PKPdf	17 08 12.1	-0.1	
857A	Zephyrhills	124.20	59	P	PKPdf	17 08 11.7	-0.7	
	baz=284							
ITM	Ithomi	124.26	312	*e*PKPdf	PKPdf	17 08 11.8	-0.6	
957A	Wimauma	124.33	60	P	PKPdf	17 08 12.4	-0.3	
	baz=283							
PERS	Pernice	124.35	325	*i* PKPdf	PKPdf	17 08 12.1	-0.2	
PERS				*i*		17 08 27.7		
FRNY	Flat Rock	124.35	38	*e*PKPdf	PKPdf	17 08 11.8	-0.5	
SOKA	Soboth	124.37	325	*e*PKiKP	PKPdf	17 08 12.0	-0.4	
	comp=Z,28nm,1.2s,SNR=11							
SOKA				*ep*PKPdf	pPKPdf	17 08 26.9	-4.4	
	comp=Z,8.3nm,0.8s							
NCB	Newcomb	124.40	39	*e*PKPdf	PKPdf	17 08 12.3	-0.1	
IBBN	Ibbenburen	124.49	334	*e*PKPdf	PKiKP	17 08 13.1	+0.5	
	baz=51,slow=1.9							
PAGS	Pennsylvania G	124.50	44	*e*PKPdf	PKPdf	17 08 12.3	-0.3	
KSPA	Keystone Colle	124.56	42	*e*PKPdf	PKPdf	17 08 12.3	-0.5	
NHSC	New Hope	124.57	53	P	PKPdf	17 08 11.5	-1.5	
	baz=288							
CRES	Cresnjev	124.60	324	⇑*i*P	PKPdf	17 08 12.6	-0.1	
R58B	Mineral	124.61	47	*e*PKPdf	PKPdf	17 08 12.8	-0.1	
R58B	Mineral	124.61	47	P	PKPdf	17 08 12.0	-1.0	
	baz=293							
GRA1	Grafenberg Arr	124.62	330	*e*PKPdf	PKiKP	17 08 13.0	0.0	
GRF	Grafenberg Arr	124.62	330	*e*PKIKP	PKiKP	17 08 13.0	0.0	
OBKA	Obir	124.75	325	*e*PKPdf	PKPdf	17 08 12.3	-0.8	
	comp=Z,15nm,1.1s							
STON	Ston	124.75	320	⇑*i*P	PKPdf	17 08 11.9	-1.1	
X58A	Rowland	124.76	51	P	PKPdf	17 08 13.3	0.0	
	baz=290							
958A	Wauchula	124.77	60	P	PKPdf	17 08 13.1	-0.4	
	baz=284							
SDMD	Soldier's Deli	124.77	45	*e*PKPdf	PKPdf	17 08 13.0	-0.2	
Z58A	St. Stephen	124.79	53	P	PKPdf	17 08 13.5	+0.1	
	baz=288							
058A	Arcadia	124.84	61	P	PKPdf	17 08 13.6	-0.1	
	baz=283							
N59A	State Game Lan	124.85	43	*e*PKPdf	PKPdf	17 08 13.3	0.0	
N59A	State Game Lan	124.85	43	P	PKPdf	17 08 13.1	-0.3	
	baz=297							
MVL	Millersville	124.86	44	*e*PKPdf	PKPdf	17 08 13.3	0.0	
CBN	Corbin Frederi	124.88	46	*e*PKPdf	PKPdf	17 08 13.2	-0.3	
CBN	Corbin Frederi	124.88	46	P	PKPdf	17 08 13.2	-0.3	
	baz=294							
BOJS	Bojanci	124.89	324	*i* PKPdf	PKiKP	17 08 13.5	-0.1	
BOJS				*i*		17 08 28.8		
MOQ	Mont Orford	124.90	37	*e*PKPdf	PKPdf	17 08 13.3	-0.1	
758A	Lake Helen	124.90	58	P	PKPdf	17 08 13.4	-0.4	
	baz=285							
DWPF	Disney Wildern	124.92	59	P	PKPdf	17 08 13.3	-0.5	
	baz=284							
VISS	Visnje	124.97	324	*i* PKPdf	PKPdf	17 08 13.5	0.0	
VISS				*i*		17 08 28.2		
RJOB	Jochberg	125.00	327	*e*PKPdf	PKPdf	17 08 13.4	-0.1	
	baz=51,slow=1.9							
LJU	Ljubljana	125.02	325	⇑*i*P	PKPdf	17 08 13.6	+0.1	
KBA	Koelnbreinsper	125.09	326	*e*PKPdf	PKPdf	17 08 12.9	-0.9	
	comp=Z,11nm,1.2s,SNR=9.9							
VT1	Waterbury	125.12	38	*e*PKPdf	PKPdf	17 08 13.6	-0.1	
MYKA	Terra Mystica	125.19	326	*e*PKiKP	PKPdf	17 08 13.4	-0.5	
	comp=Z,3.6nm,0.6s							
CEY	Cerknica	125.25	324	⇑*i*P	PKPdf	17 08 13.7	-0.3	
059Z	Ave Maria	125.32	61	P	PKPdf	17 08 14.2	-0.4	
	baz=283							
X59A	McDuffie Farm,	125.33	51	P	PKPdf	17 08 14.4	0.0	
	baz=290							
JAVS	Javornik	125.37	325	*i* PKPdf	PKPdf	17 08 14.2	-0.1	
JAVS				*i*		17 08 29.2		
TRY	Troy	125.37	40	*e*PKPdf	PKPdf	17 08 14.3	0.0	
859A	Kempfer Cattle	125.39	59	P	PKPdf	17 08 14.3	-0.4	
	baz=284							
FUR	Furstenfeldbru	125.55	328	*e*PKPdf	PKiKP	17 08 14.9	0.0	
	baz=51,slow=1.9							
ODNJ	Ogdensburg	125.55	42	*e*PKPdf	PKPdf	17 08 14.4	-0.2	
TNS	Taunus Mts	125.62	332	*e*PKPdf	PKiKP	17 08 15.3	+0.4	
	baz=51,slow=1.9							
CNNC	Cliffs of the	125.64	50	*e*PKPdf	PKPdf	17 08 15.1	+0.2	
CNNC	Cliffs of the	125.64	50	P	PKPdf	17 08 14.7	-0.2	
	baz=292							
LBNH	Lisbon	125.67	38	*e*PKPdf	PKPdf	17 08 14.9	+0.1	
LBNH	Lisbon	125.67	38	*e*PKIKP	PKPdf	17 08 14.9	+0.1	
LBNH	Lisbon	125.67	38	P	PKPdf	17 08 14.6	-0.2	
	baz=303							
HNH	Hanover	125.74	38	*e*PKPdf	PKPdf	17 08 14.8	-0.1	
ABTA	Abfaltersbach	125.75	326	*e*PKPdf	PKPdf	17 08 13.9	-1.1	
	comp=Z,30nm,0.9s,SNR=14							
ABTA				*ep*PKPdf	pPKPdf	17 08 29.3	-4.6	
	comp=Z,14nm,1.1s							
BRNJ	Basking Ridge	125.77	43	*e*PKPdf	PKPdf	17 08 15.1	0.0	
Y60A	Bolivia	125.82	51	P	PKPdf	17 08 14.7	-0.6	
	baz=290							
WATA	Walderalm	125.91	327	*i* PKiKP	PKPdf	17 08 15.3	-0.1	
	comp=Z,7.1nm,0.6s,SNR=13							
WTTA	Wattenberg	125.92	327	*i* PKiKP	PKPdf	17 08 15.6	+0.2	
	comp=Z,97nm,1.6s,SNR=13							
AHRW	Bad Neuenahr-A	126.03	333	*e*PKPdf	PKiKP	17 08 16.2	+0.5	
	baz=51,slow=1.9							
PAL	Palisades	126.06	42	*e*PKPdf	PKPdf	17 08 15.5	-0.1	
PAL	Palisades	126.06	42	*e*PKIKP	PKPdf	17 08 15.5	-0.1	
PAL	Palisades	126.06	42	P	PKPdf	17 08 15.3	-0.2	
	baz=299							
CPNY	Central Park	126.12	42	*e*PKPdf	PKPdf	17 08 15.8	0.0	
MOTA	Moosalm	126.15	328	*e*PKiKP	PKPdf	17 08 15.9	0.0	
	comp=Z,28nm,0.8s,SNR=19							
MOTA				*i* pPKPdf	pPKPdf	17 08 31.0	-3.8	
	comp=Z,19nm,1.0s							
SQTA	Sankt Quirin	126.17	327	*e*PKiKP	PKPdf	17 08 15.8	0.0	
	comp=Z,34nm,0.9s,SNR=12							
SQTA				*ep*PKPdf	pPKPdf	17 08 30.4	-4.3	
	comp=Z,21nm,1.2s							
STU	Stuttgart	126.22	330	*e*PKPdf	PKPdf	17 08 15.8	+0.1	
STU	Stuttgart	126.22	330	*e*PKPdf	PKiKP	17 08 16.3	+0.2	
	baz=51,slow=1.9							
STU	Stuttgart	126.22	330	*e*PKIKP	PKPdf	17 08 15.8	+0.1	
RETA	Reutte	126.25	328	*e*PKiKP	PKiKP	17 08 16.6	+0.2	
	comp=Z,5.5nm,0.5s,SNR=5.5							
QUA2	Belchertown	126.44	40	*e*PKPdf	PKiKP	17 08 16.5	-0.2	
UBR	Ueberruh	126.47	328	*e*PKPdf	PKiKP	17 08 16.5	-0.2	
	baz=51,slow=1.9							
MEM	Membach	126.47	333	‖PKiKP	PKiKP	17 08 16.6	+0.1	
MEM				⇑x	x	17 08 30.9		
MATE	Matera	126.47	318	⇑*i*P	PKPdf	17 08 16.0	-0.4	
PQI	Presque Isle	126.53	33	*e*PKPdf	PKPdf	17 08 16.0	-0.3	
FETA	Feichten	126.55	327	*e*PKiKP	PKPdf	17 08 16.5	-0.2	
	comp=Z,35nm,0.9s,SNR=14							
FETA				*ep*PKPdf	pPKPdf	17 08 32.1	-3.4	
	comp=Z,15nm,1.0s							
PKME	Peaks-Kenny Pk	126.66	35	P	PKPdf	17 08 16.8	+0.2	
	baz=306							
HRV	Adam Dziewonsk	126.82	39	P	PKiKP	17 08 17.9	+0.4	
	baz=302							
DAVA	Damuls	126.84	328	*i* PKiKP	PKiKP	17 08 17.4	-0.2	
	comp=Z,24nm,0.8s,SNR=5.8							
WVL	Waterville	126.85	36	*e*PKPdf	PKPdf	17 08 17.2	+0.2	
BCLA	Clavier	126.92	334	‖PKiKP	PKiKP	17 08 17.4	-0.1	
BFO	Black Forest	126.95	330	*e*PKPdf	PKPdf	17 08 16.8	-0.4	
BFO	Black Forest	126.95	330	*e*PKPdf	PKPdf	17 08 17.2	+0.1	
	baz=51,slow=1.9							
BFO	Black Forest	126.95	330	*i* PKIKP	PKiKP	17 08 17.9	+0.2	
FUORN	Ofenpass-Fuorn	127.05	327	*e*PKPdf	PKPdf	17 08 17.1	-0.6	
WLF	Walferdange	127.08	332	*e*PKPdf	PKiKP	17 08 17.9	+0.1	
WLF	Walferdange	127.08	332	*e*PKPdf	PKiKP	17 08 18.7	+0.9	
	baz=51,slow=1.9							
WLF	Walferdange	127.08	332	⇑PKiKP	PKiKP	17 08 18.6	+0.8	
DAVOX	Davos/Dischmat	127.16	328	PKP	PKiKP	17 08 18.3	0.0	
BATG	Bathurst New B	127.19	31	*e*PKPdf	PKPdf	17 08 17.7	+0.1	
SNF	Seneffe	127.30	334	‖PKiKP	PKiKP	17 08 18.5	+0.3	
DOU	Dourbes	127.47	334	‖PKiKP	PKiKP	17 08 18.9	+0.3	
ECH	Echery	127.60	331	*e*PKPdf	PKPdf	17 08 17.5	-0.9	
ECH	Echery	127.60	331	*e*PKIKP	PKPdf	17 08 17.5	-0.9	
AQU	L'Aquila	127.73	321	*e*PKPdf	PKPdf	17 08 19.0	+0.2	
AQU	L'Aquila	127.73	321	*e*PKIKP	PKPdf	17 08 19.0	+0.2	
AQU	L'Aquila	127.73	321	*e*P	PKiKP	17 08 19.6	+0.2	
TSUM	Tsumeb	128.57	240	*e*PKPdf	PKPdf	17 08 21.1	-0.1	
TSUM	Tsumeb	128.57	240	PKP	PKiKP	17 08 22.3	+0.4	
	comp=Z,8.8nm,0.8s,baz=128,slow=3.2,SNR=19							
LMN	Caledonia Moun	128.77	32	*e*PKPdf	PKiKP	17 08 21.1	-0.3	
SENIN	Lac Senin/Sane	128.78	329	*e*PKPdf	PKiKP	17 08 21.4	-0.2	
NNA	Nana	128.87	110	*i* PKiKP	PKiKP	17 08 23.9	+1.4	
NNA	Nana	128.87	110	PKP	PKiKP	17 08 23.2	+0.8	
	comp=Z,20nm,1.1s,baz=199,slow=8.8,SNR=4.2							
BNI	Bardonecchia	129.98	328	*e*PKPdf	PKPdf	17 08 22.9	-0.3	
CLF	Chambon-Foret	130.03	333	*e*PKPdf	PKiKP	17 08 23.4	-0.3	
CLTB	Caltabellotta	130.34	316	*e*PKPdf	PKiKP	17 08 24.5	-0.3	
SSB	Saint Sauveur	130.93	329	*e*PKPdf	PKPdf	17 08 25.1	+0.2	
LVC	Limon Verde	131.64	127	*e*PKPdf	PKPdf	17 08 26.5	-0.8	
LVC	Limon Verde	131.64	127	PKP	PKiKP	17 08 28.6	+0.3	
	comp=Z,10.0nm,1.1s,baz=284,slow=3.0,SNR=5.7							
POPC	Popayan, Colom	131.79	91	*e*P	PKPdf	17 08 26.7	-0.9	
POPC	Popayan, Colom	131.79	91	*e*P	PKPdf	17 08 26.7	-0.9	
PB01	IPOC Station P	131.94	124	*e*PKPdf	PKPdf	17 08 27.4	-0.1	
YOTC	Yotoco, Valle	132.22	89	*e*P	PKPdf	17 08 27.5	-0.8	
YOTC	Yotoco, Valle	132.22	89	*e*P	PKPdf	17 08 27.5	-0.8	
PB11	IPOC Station P	132.40	123	*e*PKPdf	PKPdf	17 08 27.9	-0.6	
MARP	Paez Belalcaza	132.53	91	*e*P	PKPdf	17 08 29.2	+0.1	
MARP	Paez Belalcaza	132.53	91	*e*P	PKPdf	17 08 29.2	+0.1	
FLOC	Florencia	132.72	93	*e*P	PKPdf	17 08 28.3	-0.8	
FLOC	Florencia	132.72	93	*e*P	PKPdf	17 08 28.3	-0.8	
MNMC	Minye Minye	132.73	122	*e*PKPdf	PKPdf	17 08 28.2	-1.1	
PTLC	Puerto Leguiza	133.41	95	*e*P	PKPdf	17 08 30.0	-0.4	
PTLC	Puerto Leguiza	133.41	95	*e*P	PKPdf	17 08 30.0	-0.4	
PRAC	Prado	133.66	90	*e*P	PKiKP	17 08 32.5	+0.3	
PRAC	Prado	133.66	90	*e*P	PKiKP	17 08 32.5	+0.3	
NORC	Norcasia	133.77	87	*e*P	PKiKP	17 08 32.5	+0.1	
NORC	Norcasia	133.77	87	*e*P	PKiKP	17 08 32.5	+0.1	
ZARC	Zaragoza, Cauc	133.82	85	*e*P	PKPpre	17 08 27.5		
ZARC	Zaragoza, Cauc	133.82	85	*e*P	PKPpre	17 08 27.5		
KEST	Kesra	133.95	316	PKP	PKPdf	17 08 31.4	+0.5	
	comp=Z,29nm,1.1s,baz=288,slow=0.9,SNR=14							
PTBC	PUERTO BERRIO	134.20	86	*e*P	PKPpre	17 08 27.5		
PTBC	PUERTO BERRIO	134.20	86	*e*P	PKPpre	17 08 27.5		
ROSC	El Rosal	134.28	88	*e*PKPdf	PKPdf	17 08 32.0	-0.5	
ROSC	El Rosal	134.28	88	PKP	PKiKP	17 08 33.3	-0.5	
	comp=Z,12nm,0.6s,baz=327,slow=0.9,SNR=8.8							
CHIC	Chingaza	134.86	89	*e*P	PKPdf	17 08 32.5	-1.2	
CHIC	Chingaza	134.86	89	*e*P	PKPdf	17 08 32.5	-1.2	
CODC	Agustn Codazz	135.17	81	*e*P	PKiKP	17 08 35.7	+0.6	
CODC	Agustn Codazz	135.17	81	*e*P	PKiKP	17 08 35.7	+0.6	
LPAZ	La Paz	135.23	119	PKhKP	PKPpre	17 08 21.8		
	comp=Z,1.0nm,0.5s,baz=320,slow=2.8,SNR=4.3							
LPAZ				PKP	PKPdf	17 08 34.6	+0.1	
	comp=Z,6.1nm,0.7s,baz=301,slow=1.2,SNR=16							
BARC	Barichara	135.47	86	*e*P	PKPdf	17 08 33.3	-1.2	
BARC	Barichara	135.47	86	*e*P	PKPdf	17 08 33.3	-1.2	
RUSC	La Rusia	135.55	87	*e*P	PKPdf	17 08 32.5	-2.5	
RUSC	La Rusia	135.55	87	*e*P	PKPdf	17 08 32.5	-2.5	
CPUP	Villa Florida	137.87	140	*e*PKPdf	PKPdf	17 08 38.4	+0.1	
CPUP	Villa Florida	137.87	140	PKP	PKPdf	17 08 38.8	+0.5	
	comp=Z,7.1nm,0.7s,baz=148,slow=5.0,SNR=3.2							
SDV	Santo Domingo	137.98	83	*e*PKPpre	PKPpre	17 08 28.1		
SDV				*e*PKPdf	PKPdf	17 08 39.3	+0.2	
ES06	SONSECA Array	139.30	331	*e*PKPpre	PKPpre	17 08 31.0		
ESDC	Sonseca Array	139.31	331	PKhKP	PKPpre	17 08 30.1		
	comp=Z,0.7nm,0.6s,baz=12,slow=3.6,SNR=3.2							
ESDC				PKP	PKPdf	17 08 37.9	-2.8	
	comp=Z,0.6nm,0.6s,baz=7.8,slow=6.2,SNR=4.2							
ESDC				PP	PP	17 11 32.5	-1.4	
	comp=Z,8.6nm,1.0s,baz=32,slow=6.5,SNR=13							
POLO	Lamas de Olo	139.65	336	*e*PKP	PKiKP	17 08 43.3	-0.4	
CRPR	Cabo Rojo, PR	140.17	68	*e*PKPpre	PKPpre	17 08 33.6		
CRPR				*e*PKPdf	PKPdf	17 08

SHO				A	A	16 56 00.0	
	comp=N,267nm,0.4s						
SHO				A	A	16 56 00.0	
	comp=N,699nm,0.4s						
SHO	**Shikotan**	**1.67**	**253**	*d* iPN	**Pn**	**16 55 35.7**	**+0.9**
SHO				*i* S	**Sn**	**16 55 54.8**	**-0.4**
SHO				pmax	pmax		
	comp=Z,184nm,0.1s						
SHO				pmax	pmax		
	comp=N,118nm,0.2s						
SHO				pmax	pmax		
	comp=E,82nm,0.1s						
SHO				smax	smax		
	comp=N,267nm,0.2s						
SHO				smax	smax		
	comp=E,699nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**263**	*i* P	**Pn**	**16 55 45.0**	**+1.4**
YUK				AMB	AMB	16 55 47.2	
	comp=E,68nm,0.3s						
YUK				*e*S	**Sn**	**16 56 12.0**	**+1.0**
YUK				A	A	16 56 13.0	
	comp=E,170nm,0.4s						
YUK				A	A	16 56 13.0	
	comp=E,180nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.31**	**263** ⇑	iPN	**Pn**	**16 55 45.6**	**+2.0**
YUK				*e*S	**Sn**	**16 56 12.2**	**+1.2**
YUK				pmax	pmax		
	comp=Z,680nm,0.2s						
YUK				pmax	pmax		
	comp=N,258nm,0.1s						
YUK				smax	smax		
	comp=N,355nm,0.2s						
YUK				smax	smax		
	comp=E,345nm,0.2s						
LAGR	**Lagunnoye**	**2.36**	**263**	*i* P	**Pn**	**16 55 46.0**	**+1.7**
LAGR				*i* S	**Sn**	**16 56 13.0**	**+0.7**
LAGR				A	A	16 56 16.0	
	comp=E,391nm,0.4s						
LAGR				A	A	16 56 16.0	
	comp=E,608nm,0.4s						
LAGR	**Lagunnoye**	**2.36**	**263** ⇓	iPN	**Pn**	**16 55 46.4**	**+2.1**
LAGR				*i* S	**Sn**	**16 56 13.6**	**+1.3**
LAGR				smax	smax		
	comp=E,608nm,0.4s						
LAGR				smax	smax		
	comp=N,391nm,0.3s						
GRPR	**Tuman**	**2.38**	**262**	*e*P	**Pn**	**16 55 46.0**	**+1.4**
GRPR				AMB	AMB	16 55 48.0	
	comp=N,65nm,0.4s						
GRPR				*e*S	**Sn**	**16 56 13.0**	**+0.2**
GRPR				A	A	16 56 17.0	
	comp=N,563nm,0.5s						
GRPR				A	A	16 56 17.0	
	comp=N,387nm,0.5s						
GRPR	**Tuman**	**2.38**	**262**	*e*PN	**Pn**	**16 55 46.2**	**+1.6**
GRPR				*e*S	**Sn**	**16 56 13.2**	**+0.4**
GRPR				pmax	pmax		
	comp=Z,638nm,0.4s						
GRPR				smax	smax		
	comp=N,563nm,0.5s						
GRPR				smax	smax		
	comp=E,387nm,0.6s						
NEM2	**Nemuro 2**	**2.59**	**248**	P	**Pn**	**16 55 48.6**	**+1.2**
NEM2				*e*S	**Sn**	**16 56 18.7**	**+0.8**
GLVR	**Golovnino**	**2.62**	**257**	*i* P	**Pn**	**16 55 50.0**	**+2.2**
GLVR				AMB	AMB	16 55 51.0	
	comp=E,45nm,0.4s						
GLVR				*e*S	**Sn**	**16 56 20.0**	**+1.5**
GLVR				A	A	16 56 22.0	
	comp=E,53nm,0.3s						
GLVR				A	A	16 56 22.0	
	comp=E,182nm,0.3s						
GLVR	**Golovnino**	**2.62**	**257** ⇓	iPN	**Pn**	**16 55 50.0**	**+2.2**
GLVR				*e*S	**Sn**	**16 56 20.1**	**+1.5**
GLVR				pmax	pmax		
	comp=Z,434nm,0.5s						
GLVR				smax	smax		
	comp=N,528nm,0.2s						
GLVR				smax	smax		
	comp=E,182nm,0.2s						
JRA	**Rausu**	**2.86**	**263**	P	**Pn**	**16 55 53.5**	**+2.5**
JRA				*e*S	**Sn**	**16 56 26.3**	**+1.9**
JNK	**Nakash**	**3.22**	**257**	P	**Pn**	**16 55 58.2**	**+2.1**
JNK				*e*S	**Sn**	**16 56 33.3**	**-0.1**
JAK	**Akkeshi**	**3.44**	**248**	P	**Pn**	**16 56 00.6**	**+1.5**
JTKR	**Abashiri--Toko**	**3.72**	**266**	P	**Pn**	**16 56 05.4**	**+2.5**
JAR	**Ashorobuto**	**3.97**	**256**	P	**Pn**	**16 56 09.2**	**+2.9**
JAR				*e*S	**Sn**	**16 56 53.4**	**+1.6**
HRK	**Horoka**	**4.37**	**260**	*i* P	**Pn**	**16 56 15.4**	**+3.5**
JCH	**Churui**	**4.49**	**249**	P	**Pn**	**16 56 15.4**	**+1.9**
JCH				*e*S	**Sn**	**16 57 05.2**	**+0.4**
JKA	**Kamikawa-asahi**	**4.64**	**269**	*e*P	**Pn**	**16 56 19.3**	**+3.8**
ASAJ	**Asahikawa**	**4.64**	**269**	P	**Pn**	**16 56 19.3**	**+3.7**
	comp=E,2.0nm,0.3s,baz=60,slow=5.0,SNR=33						
MYR	**Moyori**	**4.69**	**246**	*i* P	**Pn**	**16 56 18.7**	**+2.5**
JFR	**Furan**	**4.83**	**258**	P	**Pn**	**16 56 22.0**	**+3.9**
JNBK	**Urakawa-nobuka**	**5.04**	**248**	P	**Pn**	**16 56 22.9**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.11**	**303**	*e*P	**Pn**	**16 56 23.2**	**+1.3**
YSS				AMB	AMB	16 56 24.7	
	comp=E,10.0nm,0.2s						
JBT2	**Biratori 2**	**5.11**	**254**	P	**Pn**	**16 56 24.9**	**+2.9**
JNB	**Noboribetsu**	**6.13**	**255**	P	**Pn**	**16 56 38.6**	**+2.5**
JNB				*e*S	**Sn**	**16 57 45.8**	**+0.6**
JKB	**Kayabe**	**6.37**	**250**	P	**Pn**	**16 56 41.0**	**+1.7**
JKB				*e*S	**Sn**	**16 57 48.2**	**-2.7**
JYM2	**Yakumo 2**	**6.72**	**253**	P	**Pn**	**16 56 46.3**	**+2.1**
JANG	**Nango**	**6.86**	**237**	P	**Pn**	**16 56 46.7**	**+0.6**
PETK	**Petropavlovsk-**	**10.43**	**30**	P	**Pn**	**16 57 37.2**	**+2.3**
	comp=E,0.2nm,0.3s,baz=202,slow=13,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.73**	**143**	T	T	17 31 52.4	
	baz=333,slow=76,SNR=226						
H11N1	**WAKE ISLAND Hy**	**28.75**	**143**	T	T	17 31 53.6	
	baz=333,slow=76,SNR=184						
H11N3	**WAKE ISLAND Hy**	**28.75**	**143**	T	T	17 31 53.9	
	baz=333,slow=76,SNR=267						
H11S1	**WAKE ISLAND Hy**	**29.74**	**145**	T	T	17 33 08.8	
	baz=334,slow=76,SNR=246						
H11S3	**WAKE ISLAND Hy**	**29.74**	**145**	T	T	17 33 10.4	
	baz=334,slow=76,SNR=103						
H11S2	**WAKE ISLAND Hy**	**29.75**	**145**	T	T	17 33 14.8	
	baz=334,slow=76,SNR=104						
CMAR	**Chiang Mai Arr**	**49.01**	**255**	P	**P**	**17 03 50.1**	**-1.5**
CMAR				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**49.01**	**255**	P	**P**	**17 03 50.1**	**-1.5**
	comp=Z,1.7nm,0.9s,baz=49,slow=7.1,SNR=4.1						
RES	**Resolute Bay**	**53.97**	**17**	P	**P**	**17 04 26.9**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=358,slow=11,SNR=6.8						
YKA	**Yellowknife Ar**	**54.52**	**35**	P	**P**	**17 04 32.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=302,slow=7.3,SNR=2.6						
FINES	**FINESS Array B**	**64.93**	**334**	P	**P**	**17 05 41.4**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=20,slow=9.3,SNR=2.7						
NVAR	**Mina Array Bea**	**66.09**	**59**	P	**P**	**17 05 53.2**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=307,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**68.46**	**51**	P	**P**	**17 06 07.2**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=314,slow=5.7,SNR=2.4						
NOA	**NORSAR Array B**	**69.50**	**340**	P	**P**	**17 06 11.3**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=31,slow=6.6,SNR=6.1						
ULM	**Lac du Bonnet**	**70.17**	**39**	P	**P**	**17 06 17.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=314,slow=3.4,SNR=4.0						
AKASG	**Malin Array Be**	**71.87**	**325**	P	**P**	**17 06 26.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=35,slow=5.9,SNR=3.4						
TXAR	**Lajitas Array**	**81.16**	**58**	P	**P**	**17 07 21.2**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=296,slow=4.0,SNR=5.8						
VNDA	**Vanda**	**121.88**	**177**	PKP	**PKPdf**	**17 13 55.9**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=14,slow=8.6,SNR=15						
PMSA	**Palmer Station**	**152.52**	**150**	PKPbc	**PKPbc**	**17 15 01.3**	**+1.6**
	comp=Z,5.1nm,0.5s,baz=141,slow=17,SNR=6.2						

SJA 10 17:09:04.5±0.7, 31°.22S×68°.75W, h104km±5km, ML3.1, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.26**	**115**	*i* P	Pn	17 09 19.8	+0.4
RTLL				IAML		17 09 32.6	
	comp=Z,427nm,0.3s						
SJA	**San Juan**	**0.34**	**153**	*i* P	Pn	17 09 20.7	+0.9
SJA				IAML		17 09 21.2	
	comp=Z,794nm,0.1s						
AMOG	**MOGNA**	**0.35**	**38**	*i* P	Pn	17 09 20.9	+0.9
RTCV	**Cerro Valdivia**	**0.66**	**165**	*i* P	Pn	17 09 22.6	+0.5
ACCO	**Cerro Coronel**	**0.69**	**336**	*i* P	Pn	17 09 23.8	+1.2
RTLS	**Leoncito**	**0.74**	**219**	*i* P	Pn	17 09 24.3	+1.2
RTLS				*i* S	Sn	17 09 39.0	+2.0
RTLS				IAML		17 09 39.2	
	comp=Z,406nm,0.2s						
AUSP	**Uspallata**	**1.14**	**209**	*i* P	Pn	17 09 28.6	+1.5
AUSP				*i* S	Sn	17 09 45.8	+1.7
AROD	**Rodeo**	**1.22**	**329**	*i* P	Pn	17 09 29.6	+1.5
AROD				*i* S	Sn	17 09 47.5	+1.7
ASAL	**Salagasta**	**1.37**	**183**	*i* P	Pn	17 09 30.6	+1.1
ASAL				*i* S	Sn	17 09 49.9	+1.5
ARCO	**CERRO ARCO**	**1.62**	**186**	*i* P	Pn	17 09 33.6	+0.9
ARCO				IAML		17 09 57.6	
	comp=Z,200nm,0.3s						
AGUA	**GUANDACOL**	**1.74**	**7**	*i* P	Pn	17 09 35.6	+1.5
APLL	**PUNTA DE LOS L**	**2.08**	**67**	*i* P	Pn	17 09 39.4	+1.1
APLL				IAML		17 10 07.3	
	comp=Z,64nm,0.2s						
MRA	**San Martin**	**2.84**	**116**	*i* P	Pn	17 09 49.4	+1.1
MRA				IAML		17 10 23.6	
	comp=Z,110nm,0.6s						

BJI ***10*** *17:11:03.0,59°.30N×154°.10W,h10km,mb4.9/45, mB5.3/31,Ms5.3/30,Ms7 5.0/35*

MOS ***10*** *17:11:03.7±1.1,59°.24N×154°.21W,h9km,mb5.2/65, MS4.7/12,Error ellipse: s-maj=8.1km s-min=4.3km az=94.4*

IDC ***10*** *17:11:03.3±0.4,59°.15N×154°.17W,h0km,mb4.7/46, mb1 4.7/49,mb1mx4.7/68,mbtmp4.7/49,ML4.7/2,MS4.2/16, Ms1 4.3/16,ms1mx4.1/47,Error ellipse: s-maj=12.1km s-min=7.0km az=42.0*

NEIC ***10*** *17:11:05.0±0.0,59°.32N×154°.22W,h8km,mb5.0/168, MW5.0,ML5.2(AEIC),Moment Tensor Solution. s17 Moment tensor: Scale 10^16Nm; Mrr=0.57; Mθθ=2.68; Mφφ3.26; Mrθ1.24; Mrφ-0.46; Mθφ1.15; Best double couple: M☼3.50000×10^16 NP1:φ☼312.00000°,δ60.00000°, λ-171.00000°. NP2:φ☼218.00000°,δ83.00000°, λ-30.00000°. Principal axes: T 3.5800, Plg15.0000°, Azm269.0000°; N -0.2000, Plg59.0000°, Azm26.0000°; P -3.3800, Plg27.0000°, Azm171.0000°; After AEIC.*

NEIC Felt [III] at King Salmon and [II] at Homer. Also felt at Anchorage, Anchor Point, Dillingham, Iliamna, New Stuyahok, Palmer and Pedro Bay.

AEIC ***10*** *17:11:05.0,59°.32N×154°.22W,h8km,ML5.2,MB5.0(NEIC), MW5.0(USGS)*

ISCJB ***10*** *17:11:05.4±0.3,59°.31N±0°.01×154°.11W±0°.02,h21km±2km, mb5.0/267,MS4.6/30,Error ellipse: s-maj=2.1km s-min=1.8km az=155.1*

BGR ***10*** *17:11:07.3±0.0,58°.70N×154°.02W,h10km,mb4.9,Ms4.9*

GCMT ***10*** *17:11:07.0±0.2,59°.27N±0°.02×154°.13W±0°.02,h26km±1km, MW5.2/98,Moment Tensor Solution. s34,c45; s98,c150; Duration: 1s0 Moment tensor: Scale 10^17Nm; Mrr=0.12±.03; Mθθ-0.64±.02; Mφφ0.76±.02; Mrθ0.22±.04; Mrφ-0.05±.02; Mθφ0.11±.04; Best double couple: M☼0.75400×10^17 NP1:φ☼221.00000°,δ81.00000°, λ-20.00000°. NP2:φ☼315.00000°,δ71.00000°, λ-170.00000°. Principal axes: T 0.7790, Plg7.0000°, Azm269.0000°; N -0.0500, Plg68.0000°, Azm171.0000°; P -0.7290, Plg20.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:11:05.2±0.6, 59°.26N±0°.02×154°.09W±0°.02, h7km±3km, n1087,σ1ᵒ50/1125, mb5.0/270, MS4.6/31, 20C-17D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUW	**Augustine West**	**0.34**	**71**	P	**Pg**	**17 11 12.7**	**+0.9**
AUI	**Augustine Isla**	**0.35**	**77**	P	**Pg**	**17 11 12.7**	**+0.7**
AUL	**Augustine Lava**	**0.36**	**70**	P	**Pg**	**17 11 13.0**	**+0.8**
AUL				S	**Sb**	**17 11 18.9**	**-0.8**
FONW	**Fourpeaked Sta**	**0.44**	**168**	P	**Pg**	**17 11 14.3**	**+0.6**
PDB	**Pedro Bay**	**0.53**	**354**	P	**Pg**	**17 11 14.9**	**-0.5**
PDB	**Pedro Bay**	**0.53**	**354**	P	**Pg**	**17 11 14.9**	**-0.5**
KAHG	**Katmai Hook Gl**	**0.81**	**197**	P	**Pg**	**17 11 20.7**	**0.0**
ILS	**Iliamna Low So**	**0.87**	**36**	P	**Pg**	**17 11 21.0**	**-0.9**
IVE	**Iliamna Volcan**	**0.93**	**35**	P	**Pg**	**17 11 22.1**	**-1.1**
ILW	**Iliamna West**	**0.94**	**31**	P	**Pg**	**17 11 22.1**	**-1.1**
ILIM	**Iliamna**	**1.00**	**34**	P	**Pg**	**17 11 23.4**	**-1.1**
KABU	**Katmai Buttres**	**1.17**	**212**	P	**Pg**	**17 11 27.1**	**-0.6**
KABU				S	**Sg**	**17 11 42.6**	**-0.3**
KELA	**Mount Kelaz**	**1.19**	**227**	P	**Pg**	**17 11 27.1**	**-0.9**
ANCK	**Angle Creek**	**1.29**	**215**	P	**Pn**	**17 11 28.8**	**-0.9**
HOM	**Homer**	**1.31**	**71**	*e*Pg	**Pn**	**17 11 28.7**	**-1.2**
HOM				*e*Sn	**Sg**	**17 11 47.8**	**+0.4**
RDSO	**Redoubt South**	**1.38**	**29**	P	**Pn**	**17 11 29.9**	**-1.1**
RDSO				S	**Sb**	**17 11 48.4**	**-0.8**
RSO	**Redoubt South**	**1.38**	**29**	*e*Pn	**Pn**	**17 11 29.6**	**-1.4**
RDWB	**Redoubt West**	**1.38**	**27**	P	**Pn**	**17 11 29.8**	**-1.2**
RDN	**Redoubt North**	**1.42**	**27**	P	**Pn**	**17 11 30.6**	**-1.0**
RDJH	**Redoubt Jeurge**	**1.48**	**25**	P	**Pn**	**17 11 31.3**	**-1.1**
RDJH				S	**Sn**	**17 11 51.0**	**-1.1**
KDAK	**Kodiak Island**	**1.68**	**151**	*e*Pn	**Pn**	**17 11 34.3**	**-0.6**
KDAK				*e*Sn	**Sn**	**17 11 56.8**	**+0.1**
KDAK	**Kodiak Island**	**1.68**	**151**	*i* P	**Pn**	**17 11 34.0**	**-1.0**
KDAK	**Kodiak Island**	**1.68**	**151**	Pg	**Pn**	**17 11 34.4**	**-0.6**
	3μm,0.3s,baz=350,slow=11,SNR=9753						
KDAK				Lg	Lg	17 11 52.8	
	863nm,0.3s,baz=314,slow=22,SNR=8.7						
BRLK	**Bradley Lake**	**1.71**	**71**	*e*Pn	**Pn**	**17 11 34.3**	**-1.2**
BRLK				*e*Sn	**Sn**	**17 11 56.5**	**-1.0**
PLK5	**Peulik 5**	**1.93**	**230**	P	**Pn**	**17 11 38.4**	**0.0**
PLK3	**Peulik 3**	**1.95**	**217**	P	**Pn**	**17 11 38.4**	**-0.3**
PLK1	**Peulik 1**	**1.97**	**223**	P	**Pn**	**17 11 38.6**	**-0.3**
SVW2	**Sparrevohn**	**1.99**	**339**	*e*Pn	**Pn**	**17 11 38.4**	**-0.8**
SVW2				*e*Sn	**Sb**	**17 12 05.6**	**-1.0**
PLK4	**Peulik 4**	**2.02**	**217**	P	**Pn**	**17 11 39.6**	**-0.2**
CKL	**Chakachamna La**	**2.13**	**23**	P	**Pn**	**17 11 41.2**	**-0.1**
SPWE	**Spurr West**	**2.16**	**20**	P	**Pn**	**17 11 41.7**	**+0.1**
SPCR	**Spurr Chakacha**	**2.16**	**25**	P	**Pn**	**17 11 42.0**	**+0.3**
CKN	**Chakachatna No**	**2.19**	**25**	P	**Pn**	**17 11 42.2**	**+0.2**
CRP	**Crater Peak**	**2.23**	**25**	P	**Pn**	**17 11 42.8**	**+0.1**
SLKM	**Skilak Lake**	**2.32**	**56**	P	**Pn**	**17 11 43.0**	**-0.8**
SLKM	**Skilak Lake**	**2.32**	**56**	P	**Pn**	**17 11 43.0**	**-0.8**
SEW	**Seward**	**2.50**	**68**	*e*Pn	**Pn**	**17 11 46.4**	**+0.2**
SII	**Sitkinak Islan**	**2.71**	**181**	*e*Pn	**Pn**	**17 11 50.0**	**+0.8**
SII				*e*Sn	**Sn**	**17 12 21.0**	**-1.2**
SUA	**Susitna One**	**2.77**	**36**	*e*Pn	**Pn**	**17 11 50.4**	**+0.4**
SUA				*e*Sn	**Sn**	**17 12 22.6**	**-1.0**
RC01	**Rabbit Creek A**	**2.84**	**48**	*e*Pn	**Pn**	**17 11 51.1**	**+0.1**
RC01				*e*Sn	**Sn**	**17 12 25.0**	**-0.4**
ANNW	**Aniakchak Nort**	**3.17**	**225**	P	**Pn**	**17 11 56.0**	**+0.4**
AZAC	**Aniakchak**	**3.23**	**225**	P	**Pn**	**17 11 56.8**	**+0.4**
PWL	**Port Wells**	**3.30**	**58**	P	**Pn**	**17 11 57.1**	**-0.2**
PMR	**Palmer**	**3.39**	**44**	*e*Pn	**Pn**	**17 11 58.9**	**+0.4**
PMR	**Palmer**	**3.39**	**44**	*e*P	**Pn**	**17 11 58.9**	**+0.4**
KNK	**Knik Glacier**	**3.54**	**50**	*e*Pn	**Pn**	**17 12 00.8**	**+0.3**
PPLA	**Purkeypile**	**3.76**	**13**	*e*Pn	**Pn**	**17 12 05.9**	**+2.2**
CHGN	**Chignik**	**3.76**	**220**	*e*Pn	**Pn**	**17 12 03.8**	**+0.2**
TT01	**Tatalina**	**3.78**	**346**	P	**Pn**	**17 12 02.8**	**-1.0**
SML	**Sawmill**	**3.82**	**46**	*e*Pn	**Pn**	**17 12 05.0**	**+0.5**
SML	**Sawmill**	**3.82**	**46**	*e*P	**Pn**	**17 12 05.0**	**+0.5**
MID	**Middleton Isla**	**3.97**	**84**	*e*Pn	**Pn**	**17 12 07.1**	**+0.7**
MID	**Middleton Isla**	**3.97**	**84**	*e*P	**Pn**	**17 12 07.1**	**+0.7**
HIN	**Hinchinbrook I**	**4.00**	**70**	P	**Pn**	**17 12 07.2**	**+0.4**
VNHG	**Veniaminof 1**	**4.08**	**224**	P	**Pn**	**17 12 08.5**	**+0.5**
JPK	**Jack Peak**	**4.15**	**61**	P	**Pn**	**17 12 08.5**	**-0.5**
VNFG	**Veniaminof 2**	**4.18**	**227**	P	**Pn**	**17 12 10.2**	**+0.8**
VNSS	**Veniaminof 8**	**4.18**	**226**	P	**Pn**	**17 12 09.8**	**+0.2**
SCM	**Sheep Creek Mo**	**4.22**	**49**	*e*Pn	**Pn**	**17 12 10.0**	**0.0**
SCM	**Sheep Creek Mo**	**4.22**	**49**	*e*P	**Pn**	**17 12 10.0**	**0.0**
CAST	**Castle Rocks**	**4.28**	**12**	*e*Pn	**Pn**	**17 12 11.0**	**+0.3**
HUR	**Hurricane**	**4.31**	**28**	P	**Pn**	**17 12 12.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**4.39**	**69**	*e*Pn	**Pn**	**17 12 11.8**	**-0.5**
DIV	**Divide**	**4.55**	**62**	*e*Pn	**Pn**	**17 12 13.7**	**-0.8**
TRF	**Thorofare Moun**	**4.58**	**22**	*e*Pn	**Pn**	**17 12 15.9**	**+0.9**
KLU	**Klutina**	**4.63**	**58**	*e*Pn	**Pn**	**17 12 15.1**	**-0.4**
KLU				*e*Sn	**Sn**	**17 13 10.6**	**+1.0**
CHUM	**Lake Minchumin**	**4.71**	**10**	P	**Pn**	**17 12 17.1**	**+0.5**
RND	**Reindeer**	**4.86**	**29**	*e*Pn	**Pn**	**17 12 19.7**	**+0.9**
RND				*e*Sn	**Sn**	**17 13 14.6**	**-0.7**
RND	**Reindeer**	**4.86**	**29**	*e*P	**Pn**	**17 12 19.7**	**+0.9**
RND				*e*		17 13 14.6	
PS12	**TAPS Pump St12**	**4.96**	**60**	P	**Pn**	**17 12 20.4**	**+0.3**
DHY	**Denali Highway**	**5.02**	**37**	P	**Pn**	**17 12 22.1**	**+1.1**
BPAW	**Bear Paw Mtn.**	**5.08**	**16**	*e*Pn	**Pn**	**17 12 21.6**	**0.0**
HMT	**Hamilton**	**5.08**	**74**	*e*Pn	**Pn**	**17 12 21.4**	**-0.3**
HMT				*e*Sn	**Sn**	**17 13 21.0**	**+0.4**
PS11	**TAPS Pump St11**	**5.09**	**53**	P	**Pn**	**17 12 22.3**	**+0.4**
MCK	**McKinley**	**5.12**	**27**	*e*Pn	**Pn**	**17 12 24.3**	**+2.0**
MCK	**McKinley**	**5.12**	**27**	*e*P	**Pn**	**17 12 24.3**	**+2.0**
NICHA	**Nichawak Mount**	**5.21**	**75**	P	**Pn**	**17 12 23.8**	**+0.3**
SDPT	**Sand Point**	**5.23**	**224**	*e*Pn	**Pn**	**17 12 24.4**	**+0.7**
SUCK	**Suckling Hills**	**5.29**	**77**	P	**Pn**	**17 12 25.3**	**+0.7**
HARP	**HAARP**	**5.39**	**50**	*e*Pn	**Pn**	**17 12 26.3**	**+0.4**
HARP				*e*Sn	**Sn**	**17 13 27.9**	**-0.2**
BWN	**Browne**	**5.39**	**22**	*e*Pn	**Pn**	**17 12 27.7**	**+1.7**
BGLC	**Bering Glacier**	**5.54**	**76**	P	**Pn**	**17 12 29.0**	**+1.0**
KHIT	**Khitrov Hills**	**5.59**	**73**	P	**Pn**	**17 12 28.9**	**+0.1**
PAX	**Paxson**	**5.59**	**45**	*e*Pn	**Pn**	**17 12 29.4**	**+0.6**
PAX				*e*Sn	**Sn**	**17 13 33.8**	**+0.5**
PAX	**Paxson**	**5.59**	**45**	*e*P	**Pn**	**17 12 29.4**	**+0.6**
PAX				*e*		17 13 33.8	
GCSA	**Galena City Sc**	**5.66**	**348**	P	**Pn**	**17 12 29.4**	**-0.1**
PVV	**Pavlof Volcano**	**5.71**	**230**	P	**Pn**	**17 12 31.2**	**+0.9**
PS4A	**Pavlof South-4**	**5.75**	**230**	P	**Pn**	**17 12 31.5**	**+0.6**
PS10	**TAPS Pump St10**	**5.78**	**40**	P	**Pn**	**17 12 33.1**	**+1.7**
KULT	**Kultieth River**	**5.83**	**75**	P	**Pn**	**17 12 32.6**	**+0.6**
NEA	**Nenana**	**5.83**	**22**	P	**Pn**	**17 12 32.2**	**+0.2**
MCARA	**McCarthy VSAT**	**5.90**	**64**	P	**Pn**	**17 12 33.5**	**+0.6**
DOL	**Dolgoi Island**	**5.90**	**229**	P	**Pn**	**17 12 33.5**	**+0.6**
WRH	**Wood River Hil**	**5.95**	**26**	*e*Pn	**Pn**	**17 12 34.1**	**+0.6**
MLY	**Manley**	**6.00**	**14**	*e*Pn	**Pn**	**17 12 34.4**	**+0.1**
MLY				*e*Sn	**Sn**	**17 13 43.6**	**+0.4**
DT1	**Dutton Round H**	**6.09**	**230**	P	**Pn**	**17 12 36.1**	**+0.6**
KIAG	**Kiagna River**	**6.10**	**69**	P	**Pn**	**17 12 36.6**	**+0.8**
BALM	**Baldy**	**6.13**	**68**	*e*Pn	**Pn**	**17 12 36.0**	**-0.2**
BALM				*e*Sn	**Sn**	**17 13 45.4**	**-1.1**
BALM	**Baldy**	**6.13**	**68**	*e*P	**Pn**	**17 12 36.0**	**-0.2**
BALM				*e*		17 13 45.4	
CCB	**Clear Creek Bu**	**6.16**	**26**	*e*Pn	**Pn**	**17 12 37.3**	**+0.8**
HDA	**Harding Lake**	**6.17**	**30**	*e*Pn	**Pn**	**17 12 37.3**	**+0.7**
HDA	**Harding Lake**	**6.17**	**30**	P	**Pn**	**17 12 37.9**	**+1.3**
	baz=217,SNR=119						
DRIA	**Deer Island**	**6.19**	**229**	P	**Pn**	**17 12 37.6**	**+0.7**
MESA	**MESA**	**6.21**	**76**	P	**Pn**	**17 12 38.0**	**+0.6**
MENT	**Mentasta**	**6.23**	**49**	*e*Pn	**Pn**	**17 12 38.0**	**+0.5**
RIDG	**Independ'e Rid**	**6.30**	**41**	*e*Pn	**Pn**	**17 12 39.3**	**+0.8**
MDM	**Murphy Dome**	**6.34**	**23**	*e*Pn	**Pn**	**17 12 39.7**	**+0.7**
TCOL	**CIGO, UAF Yank**	**6.34**	**25**	P	**Pn**	**17 12 40.7**	**+1.7**
	baz=211,SNR=158						
COLA	**College**	**6.35**	**25**	*e*Pn	**Pn**	**17 12 40.3**	**+1.3**
COLA	**College**	**6.35**	**25**	*e*P	**Pn**	**17 12 39.8**	**+0.8**
GRNC	**Granite Creek**	**6.36**	**71**	P	**Pn**	**17 12 40.3**	**+0.8**
IL1	**Eielson Array**	**6.48**	**28**	*e*Pn	**Pn**	**17 12 41.8**	**+0.9**
ILAR	**Eielson Array**	**6.48**	**28**	Pn	**Pn**	**17 12 41.9**	**+0.9**
	15nm,0.3s,baz=216,slow=13,SNR=486						
ILAR				Lg	Lg	17 14 32.7	
	7.8nm,0.3s,baz=250,slow=17,SNR=5.8						
ILAR				LR	LR	17 15 40.2	
	comp=Z,2μm,19.2s,baz=232,slow=42						
ILB	**Eielson Array**	**6.48**	**28**	*e*Pn	**Pn**	**17 12 41.4**	**+0.5**
DOT	**Dot Lake**	**6.51**	**43**	*e*Pn	**Pn**	**17 12 41.7**	**+0.3**
RKAV	**Rock Avalanche**	**6.52**	**75**	P	**Pn**	**17 12 42.7**	**+1.1**
POKR	**Poker Plat Res**	**6.65**	**25**	P	**Pn**	**17 12 45.1**	**+1.9**
	baz=212,SNR=126						
FALS	**False Pass**	**6.73**	**233**	P	**Pn**	**17 12 44.0**	**-0.4**
SCRK	**Sand Creek**	**6.75**	**41**	*e*Pn	**Pn**	**17 12 44.4**	**-0.3**
IM3	**Indian Mountai**	**6.75**	**1**	*e*Pn	**Pn**	**17 12 44.0**	**-0.6**
SAMH	**Samovar Hills**	**6.79**	**77**	P	**Pn**	**17 12 46.0**	**+0.8**
PS06	**TAPS Pump Stn6**	**6.92**	**15**	P	**Pn**	**17 12 47.3**	**

	comp=Z,34nm,1.2s									
LTY	**Liberty**	23.05	107	*e*P		P		17 16 12.3	+1.5
	comp=Z,98nm,1.5s									
G03D	**McMinnville, O**	23.27	113	P		P		17 16 14.6	+1.6
	baz=318									
F05D	**White Salmon**	23.63	110	P		P		17 16 18.2	+1.5
	baz=316									
COR	**Corvallis**	23.72	115	*e*P		P		17 16 18.7	+1.2
	comp=Z,129nm,1.6s									
COR	**Corvallis**	23.72	115	*e*P		P		17 16 18.7	+1.2
COR				pmax		pmax				
	comp=Z,129nm,1.6s									
I02D	**Swisshome**	23.83	116	P		P		17 16 19.2	+0.7
	baz=320									
H04D	**Lebanon**	24.03	114	P		P		17 16 21.9	+1.4
	baz=319,SNR=7.3									
D08A	**Wollman Farm,**	24.05	105	*e*P		P		17 16 22.0	+1.3
	comp=Z,35nm,1.0s									
NEW	**Newport**	24.14	101	*e*P		P		17 16 22.6	+1.1
NEW				*e*PcP		PcP		17 19 56.9	-5.3
NEW	**Newport**	24.14	101	*e*P		P		17 16 22.6	+1.1
NEW				*e*				17 19 56.9		
NEW				pmax		pmax				
	comp=Z,35nm,1.0s									
NEW	**Newport**	24.14	101	P		P		17 16 22.2	+0.6
	baz=311,SNR=23									
NEW	**Newport**	24.14	101	P		P		17 16 18.4	-3.2
	comp=Z,8.5nm,0.8s,baz=270,slow=20,SNR=4.2									
G05D	**Wamic, OR**	24.17	111	P		P		17 16 23.1	+1.3
	baz=317									
HAWA	**Hanford**	24.21	107	*e*P		P		17 16 23.8	+1.6
	comp=Z,24nm,0.8s									
F07A	**Phinny Hill Vi**	24.37	108	*e*P		P		17 16 25.6	+2.0
	comp=Z,34nm,0.9s									
E08A	**Dider Farm, El**	24.37	106	*e*P		P		17 16 24.5	+0.9
	comp=Z,69nm,1.4s									
I03D	**Drain, OR**	24.37	116	P		P		17 16 24.1	+0.4
	baz=321									
J01E	**Myrtle Point**	24.52	118	P		P		17 16 25.9	+0.9
	baz=322									
I04A	**Tendick Farm,**	24.73	115	P		P		17 16 28.1	+1.1
	baz=320,SNR=15									
E09A	**Wood Farm, Sta**	24.81	105	*e*P		P		17 16 29.0	+1.4
	comp=Z,87nm,1.2s									
I05D	**Terrebonne, OR**	24.83	112	P		P		17 16 28.8	+1.0
	baz=319,SNR=7.1									
K02D	**Willamette Mer**	25.01	118	P		P		17 16 30.8	+1.3
	baz=322,SNR=12									
WALA	**Waterton Lakes**	25.26	96	*e*P		P		17 16 33.0	+1.2
	comp=Z,35nm,1.0s									
G08A	**Pilot Rock**	25.27	108	*e*P		P		17 16 33.0	+1.1
	comp=Z,20nm,0.9s									
J04D	**Umpqua Nationa**	25.30	115	P		P		17 16 32.9	+0.6
	baz=321,SNR=12									
HUMO	**Hull Mountain**	25.40	117	*e*P		P		17 16 35.0	+2.0
	comp=Z,24nm,0.9s									
HUMO				*e*PcP		PcP		17 20 04.0	-1.0
PINE	**Pine Mountain**	25.43	113	*e*P		P		17 16 35.1	+1.7
	comp=Z,36nm,1.0s									
PINE				*e*PcP		PcP		17 20 03.4	-1.8
L02E	**Cave Junction**	25.46	119	P		P		17 16 34.3	+0.7
	baz=323									
SEY	**Seymchan**	25.49	301	ǁ *i*P		P		17 16 33.5	-0.1
SEY	**Seymchan**	25.49	301	P		P		17 16 32.9	-0.8
	comp=Z,23nm,0.9s,baz=90,slow=9.6,SNR=42									
J05D	**Fort Rock, OR**	25.68	114	P		P		17 16 36.4	+0.8
	baz=320,SNR=12									
I07A	**Izee**	25.90	110	*e*P		P		17 16 39.4	+1.8
	comp=Z,31nm,1.0s									
K04D	**Chiloquin, OR**	25.94	116	P		P		17 16 38.9	+0.8
	baz=321									
L04D	**Klamath Falls**	26.01	117	P		P		17 16 39.8	+1.2
	baz=322,SNR=7.2									
YBH	**Yreka Blue Hor**	26.21	118	P		P		17 16 41.0	+0.6
	comp=Z,4.7nm,0.6s,baz=349,slow=5.0,SNR=15									
RES	**Resolute Bay**	26.23	31	*e*P		P		17 16 38.8	-1.3
	comp=Z,25nm,0.9s									
RES	**Resolute Bay**	26.23	31	P		P		17 16 40.6	+0.5
	comp=Z,10nm,1.0s,baz=248,slow=11,SNR=16									
RES				LR		LR		17 29 39.6		
	comp=Z,472nm,20.8s,baz=265,slow=42									
BMO	**Blue Mountains**	26.40	107	*e*P		P		17 16 43.7	+1.6
	comp=Z,18nm,0.9s									
M02C	**Callahan**	26.41	119	P		P		17 16 43.4	+1.2
	baz=323									
M04C	**Macdoel**	26.56	117	P		P		17 16 44.4	+0.7
	baz=322									
PET	**Petropavlovsk**	26.57	277	*e*P		P		17 16 41.9	-1.5
	comp=Z,107nm,1.3s									
PET	**Petropavlovsk**	26.57	277	*e*P		P		17 16 43.3	-0.2
PET				pmax		pmax				
	comp=Z,82nm,1.3s									
MSO	**Missoula**	26.70	100	*e*P		P		17 16 48.4	+3.5
	comp=Z,28nm,1.1s									
MSO	**Missoula**	26.70	100	P		P		17 16 45.3	+0.4
	baz=313									
N02D	**Trinity Center**	26.82	119	P		P		17 16 46.0	+0.1
	baz=324									
J08A	**Circle Bar Ran**	26.93	110	*e*P		P		17 16 48.9	+1.9
	comp=Z,38nm,1.3s									
PEA0B	**Petropavlovsk-**	27.01	278	*e*P		P		17 16 52.5	+5.0
	comp=Z,249nm,1.6s									
PEA0B	**Petropavlovsk-**	27.01	278	*e*P		P		17 16 52.5	+5.0
PETK	**Petropavlovsk-**	27.01	278	*e*P		P		17 16 47.0	-0.5
PETK	**Petropavlovsk-**	27.01	278	P		P		17 16 46.8	-0.7
PETK				pmax		pmax				
	comp=Z,8.0nm,0.7s									
PETK	**Petropavlovsk-**	27.01	278	P		P		17 16 46.8	-0.7
	comp=Z,8.9nm,0.7s,baz=94,slow=8.5,SNR=16									
MOD	**Modoc Plateau**	27.18	115	*e*P		P		17 16 51.2	+2.0
	comp=Z,14nm,0.9s									
WDC	**Whiskeytown Da**	27.21	119	*e*P		P		17 16 51.8	+2.5
	comp=Z,16nm,1.0s									
MA2	**Magadan**	27.38	295	*e*P		P		17 16 50.8	+0.1
	comp=Z,44nm,1.1s									
MA2	**Magadan**	27.38	295	*c i*P		P		17 16 50.9	+0.3
MA2				pmax		pmax				
	comp=Z,55nm,1.3s									
MA2	**Magadan**	27.38	295	P		P		17 16 51.0	+0.3
	comp=Z,25nm,0.8s,baz=78,slow=8.9,SNR=17									
O02D	**Mt. Diablo Mer**	27.42	120	P		P		17 16 51.5	+0.2
	baz=325									
WVOR	**Wild Horse Val**	27.56	112	*e*P		P		17 16 51.0	-1.6
	comp=Z,45nm,1.5s									
WVOR	**Wild Horse Val**	27.56	112	*e*P		P		17 16 51.0	-1.6
WVOR				pmax		pmax				
	comp=Z,45nm,1.5s									
O03E	**Paynes Creek**	27.77	119	P		P		17 16 54.9	+0.5
	baz=324,SNR=8.4									
EGMT	**Eagleton**	28.05	94	*e*P		P		17 16 56.5	-0.3
	comp=Z,40nm,0.9s									
EGMT	**Eagleton**	28.05	94	P		P		17 16 56.9	0.0
	baz=310									
FFC	**Flin Flon**	28.13	76	*e*P		P		17 16 57.6	+0.1
	comp=Z,16nm,1.0s									
FFC	**Flin Flon**	28.13	76	*i* P		P		17 16 58.0	+0.5
DLMT	**Dillon**	28.39	101	*e*P		P		17 17 02.1	+2.1
	comp=Z,11nm,0.9s									
MCMT	**McKenzie Canyo**	28.64	102	*e*P		P		17 17 03.6	+1.3
BOZ	**Bozeman (W)**	28.71	99	*e*P		P		17 17 03.8	+0.9
	comp=Z,12nm,1.0s									
BOZ	**Bozeman (W)**	28.71	99	*e*P		P		17 17 03.8	+0.9
BOZ				pmax		pmax				
	comp=Z,12nm,1.0s									
BOZ	**Bozeman (W)**	28.71	99	P		P		17 17 03.2	+0.3
	baz=314									
BEKR	**Beckworth**	28.77	117	*e*P		P		17 17 04.5	+1.0
	comp=Z,12nm,1.2s									
HLID	**Hailey**	28.77	105	*e*P		P		17 17 04.6	+1.2
	comp=Z,11nm,0.9s									
HLID	**Hailey**	28.77	105	P		P		17 17 04.6	+1.2
	baz=317,SNR=15									
SKR	**Severo-Kuril's**	29.20	275	ǁ *e*P		P		17 17 08.5	+1.6
PAHR	**Pah Rah Range**	29.34	116	*e*P		P		17 17 10.2	+1.6
	comp=Z,17nm,1.0s									
QLMT	**Earthquake Lak**	29.35	100	*e*P		P		17 17 10.5	+1.8
YHB	**Horse Butte**	29.53	100	*e*P		P		17 17 11.5	+1.3
	comp=Z,32nm,1.1s									
YHB				*e*PcP		PcP		17 20 14.2	-0.9
VCNR	**Virginia City**	29.55	117	*e*P		P		17 17 12.4	+1.9
	comp=Z,18nm,1.0s									
GCMT	**Greycliff**	29.58	97	*e*P		P		17 17 12.1	+1.5
YHH	**Holmes Hill**	29.67	100	*e*P		P		17 17 13.3	+1.7
	comp=Z,22nm,0.8s									
YMR	**Madison River**	29.70	100	*e*P		P		17 17 13.7	+1.9
	comp=Z,44nm,1.2s									
PNTR	**Pine Nut**	29.74	117	*e*P		P		17 17 13.8	+1.7
	comp=Z,18nm,0.8s									
YNR	**Norris Junctio**	29.81	100	*e*P		P		17 17 15.5	+2.7
	comp=Z,16nm,0.8s									
FCC	**Fort Churchill**	29.99	65	*e*P		P		17 17 13.8	-0.1
	comp=Z,29nm,1.1s									
FCC	**Fort Churchill**	29.99	65	*e*P		P		17 17 13.8	-0.1
FCC				pmax		pmax				
	comp=Z,29nm,1.1s									
LKWY	**Lake**	30.06	100	*e*P		P		17 17 17.8	+2.8
	comp=Z,15nm,0.8s									
YPP	**Pitchstone Pla**	30.06	101	*e*P		P		17 17 17.9	+2.8
	comp=Z,8.6nm,0.7s									
H17A	**Grant Village**	30.09	100	*e*P		P		17 17 18.3	+3.1
	comp=Z,18nm,0.9s									
H17A	**Grant Village**	30.09	100	P		P		17 17 17.7	+2.5
	baz=315,SNR=14									
RLMT	**Red Lodge**	30.25	98	*e*P		P		17 17 18.9	+2.3
	comp=Z,18nm,0.9s									
RLMT	**Red Lodge**	30.25	98	P		P		17 17 18.7	+2.2
	baz=314,SNR=17									
CMB	**Columbia Colle**	30.25	120	P		P		17 17 15.2	-1.2
	comp=Z,59nm,1.2s									
CMB	**Columbia Colle**	30.25	120	P		P		17 17 15.2	-1.2
CMB				pmax		pmax				
	comp=Z,59nm,1.2s									
FLWY	**Flagg Ranch**	30.25	101	*e*P		P		17 17 19.0	+2.4
	comp=Z,49nm,0.8s									
IMW	**Indian Meadow**	30.26	101	*e*P		P		17 17 18.8	+2.0
	comp=Z,46nm,0.8s									
WAKR	**Walker**	30.29	118	*e*P		P		17 17 18.1	+1.1
	comp=Z,40nm,1.8s									
FXWY	**Fox Creek**	30.40	102	*e*P		P		17 17 19.7	+1.7
	comp=Z,10nm,0.8s									
KVN	**Kaiserville**	30.46	116	*e*P		P		17 17 19.3	+0.8
	comp=Z,7.2nm,0.9s									
KVN	**Kaiserville**	30.46	116	*e*P		P		17 17 19.3	+0.8
KVN				pmax		pmax				
	comp=Z,7.0nm,0.9s									
MOOW	**Moose Ponds**	30.47	101	*e*P		P		17 17 20.5	+1.9
	comp=Z,8.8nm,0.8s									
ELK	**Elko**	30.48	110	*e*P		P		17 17 20.0	+1.2
	comp=Z,13nm,1.0s									
ELK				*e*PcP		PcP		17 20 13.7	-4.0
ELK	**Elko**	30.48	110	*e*P		P		17 17 20.0	+1.2
ELK				*e*				17 20 13.7		
ELK				pmax		pmax				
	comp=Z,13nm,1.0s									
TPAW	**Teton Pass**	30.55	102	*e*P		P		17 17 20.5	+1.2
	comp=Z,34nm,0.9s									
RYN	**Ryan**	30.61	117	*e*P		P		17 17 20.4	+0.7
	comp=Z,8.9nm,1.0s									
DGMT	**Dagmar**	30.61	88	P		P		17 17 21.0	+1.4
	baz=310									
LOHW	**Long Hollow**	30.64	101	*e*P		P		17 17 21.9	+1.9
	comp=Z,30nm,0.8s									
SNOW	**Smoking Moun**	30.67	102	*e*P		P		17 17 20.6	+0.3
	comp=Z,37nm,0.9s									
REDW	**Red Top Meadow**	30.69	102	*e*P		P		17 17 22.6	+2.1
	comp=Z,28nm,1.0s									
LAO	**LASA Array**	30.73	93	*e*P		P		17 17 19.9	-0.8
	comp=Z,30nm,1.3s									
LAO	**LASA Array**	30.73	93	P		P		17 17 22.3	+1.6
	baz=312									
NV01	**Mina Array Sit**	30.87	116	*e*P		P		17 17 23.3	+1.2
NVAR	**Mina Array Bea**	30.87	116	P		P		17 17 22.6	+0.5
	comp=Z,7.0nm,0.8s,baz=312,slow=9.4,SNR=43									
NVAR				PcP		PcP		17 20 17.1	-1.7
	comp=Z,2.9nm,1.0s,baz=309,slow=3.3,SNR=2.4									
NVAR				ScP		ScP		17 23 58.8	-2.6
	comp=Z,1.3nm,0.9s,baz=294,slow=1.2,SNR=3.7									
HVU	**Hansel Valley**	30.90	106	*e*P		P		17 17 24.0	+1.7
	comp=Z,17nm,0.9s									
HVU	**Hansel Valley**	30.90	106	*e*P		P		17 17 24.0	+1.7
HVU				pmax		pmax				
	comp=Z,17nm,0.9s									
OMMB	**Old Mammoth Mi**	31.22	118	*e*P		P		17 17 27.5	+2.2
	comp=Z,15nm,1.0s									
MLAC	**Mammoth, Mammo**	31.28	118	P		P		17 17 27.6	+1.9
	baz=325									
BGU	**Big Grassy Mou**	31.42	107	*e*P		P		17 17 28.6	+1.7
	comp=Z,12nm,1.2s									
HWUT	**Hardware Ranch**	31.63	105	*e*P		P		17 17 30.9	+2.1
	comp=Z,32nm,0.9s									
TIXI	**Tiksi**	31.76	324	*ce*P		P		17 17 29.5	+0.2
TIXI				pmax		pmax				
	comp=Z,18nm,1.3s									
TIXI	**Tiksi**	31.76	324	P		P		17 17 28.8	-0.5
	comp=Z,6.8nm,0.9s,baz=78,slow=8.4,SNR=15									
BW06	**Boulder Array**	31.77	101	*e*P		P		17 17 31.2	+1.1
	comp=Z,13nm,0.9s									
BW06	**Boulder Array**	31.77	101	P		P		17 17 31.0	+0.9
	baz=317,SNR=21									
PD31	**Pinedale Array**	31.78	101	*e*P		P		17 17 31.2	+1.1
	comp=Z,13nm,1.0s									
PDAR	**Pinedale Array**	31.78	101	*e*P		P		17 17 31.2	+1.1
PDAR				*e*PcP		PcP		17 20 19.4	-1.7
PDAR	**Pinedale Array**	31.78	101	P		P		17 17 31.2	+1.1
	comp=Z,7.3nm,0.8s,baz=304,slow=4.5,SNR=65									
TCUT	**Toone Canyon**	32.07	105	*e*P		P		17 17 35.2	+2.4
	comp=Z,61nm,0.8s									
DUG	**Dugway, Tooele**	32.09	108	*e*P		P		17 17 34.3	+1.6
	comp=Z,22nm,1.1s									
DUG	**Dugway, Tooele**	32.09	108	*e*P		P		17 17 34.3	+1.6
DUG				pmax		pmax				
	comp=Z,22nm,1.1s									
DUG	**Dugway, Tooele**	32.09	108	P		P		17 17 34.1	+1.3
	baz=320,SNR=23									
R11A	**Troy Canyon, C**	32.20	113	*e*P		P		17 17 35.0	+1.2
	comp=Z,12nm,0.9s									
R11A				*e*PcP		PcP		17 20 21.4	-0.8
R11A	**Troy Canyon, C**	32.20	113	P		P		17 17 34.6	+0.8
	baz=323,SNR=24									
CTU	**Camp Tracy**	32.23	106	*e*P		P		17 17 36.0	+1.9
	comp=Z,24nm,1.1s									
GRAC	**Grapevine Rang**	32.47	117	P		P		17 17 37.4	+1.4
	baz=325									
CWC	**Cottonwood Cre**	32.60	118	P		P		17 17 38.5	+1.3
	baz=326									
NLU	**North Lily Min**	32.63	107	*e*P		P		17 17 39.0	+1.4
	comp=Z,15nm,0.9s									
VES	**Vestal, Richgr**	32.65	120	P		P		17 17 38.8	+1.3
	baz=327									
SMMC	**Simmler**	32.69	122	P		P		17 17 38.6	+0.7
	baz=328									
MPU	**Maple Canyon**	32.80	107	*e*P		P		17 17 40.7	+1.6
	comp=Z,15nm,1.1s									
PSUT	**Pine Spring**	32.88	111	*e*P		P		17 17 41.6	+1.9
	comp=Z,16nm,0.9s									
DAC	**Darwin (Calif)**	32.95	118	P		P		17 17 37.1	-3.3
	comp=Z,18nm,1.3s									
DAC	**Darwin (Calif)**	32.95	118	P		P		17 17 37.1	-3.3
DAC				pmax		pmax				
	comp=Z,18nm,1.3s									
TPNV	**Topopah Spring**	33.02	116	*e*P		P		17 17 42.4	+1.4
	comp=Z,17nm,0.7s									
TPNV	**Topopah Spring**	33.02	116	*e*P		P		17 17 42.4	+1.4
TPNV				pmax		pmax				
	comp=Z,17nm,0.7s									
TPNV	**Topopah Spring**	33.02	116	P		P		17 17 41.7	+0.8
	baz=325,SNR=16									
ISA	**Isabella, Lake**	33.07	120	P		P		17 17 42.0	+0.7
	baz=327,SNR=8.4									
PKM	**Merchorson Peak**	33.13	122	P		P		17 17 43.6	+1.6
	baz=328,SNR=9.3									
FURC	**Furnace Creek,**	33.13	117	P		P		17 17 42.6	+0.9
	baz=326									
MPMC	**Manual Prospec**	33.18	118	P		P		17 17 43.6	+1.2
	baz=326,SNR=11									
ARVC	**Arvin**	33.36	121	P		P		17 17 44.4	+0.7
	baz=328									
MDND	**Maddock**	33.37	85	P		P		17 17 44.0	+0.2
	baz=311									
K22A	**Casper**	33.40	98	P		P		17 17 45.3	+1.1
	baz=317									
TCRU	**Three Creeks R**	33.49	109	*e*P		P		17 17 41.4	-3.8
	comp=Z,17nm,0.9s									
TMUT	**Trail Mountain**	33.56	107	*e*P		P		17 17 47.8	+2.0
	comp=Z,23nm,1.0s									
LRMC	**Laurel Mtn Rad**	33.57	119	P		P		17 17 46.4	+0.6
	baz=327,SNR=7.6									
RSSD	**Black Hills**	33.62	94	*e*P		P		17 17 47.7	+1.5
	comp=Z,22nm,0.6s									
RSSD	**Black Hills**	33.62	94	P		P		17 17 45.8	-0.4
	baz=315									
P17A	**Butcher Ranch,**	33.66	107	*e*P		P		17 17 48.2	+1.7
	comp=Z,17nm,1.1s									
ULM	**Lac du Bonnet**	33.74	79	P		P		17 17 46.8	-0.1
	comp=Z,8.3nm,0.7s,baz=308,slow=10.0,SNR=10									
RWWY	**Rawlins**	33.75	100	*e*P		P		17 17 48.1	+0.7
	comp=Z,51nm,1.0s									
Q16A	**Castle Valley**	33.88	108	*e*P		P		17 17 50.5	+2.1
	comp=Z,67nm,1.1s									
SHPR	**Sheep Range**	33.89	115	*e*P		P		17 17 49.6	+1.1
	comp=Z,22nm,1.6s									
CCUT	**Cedar City**	33.89	112	*e*P		P		17 17 50.1	+1.5
	comp=Z,49nm,1.9s									
EDW2	**Edwards Air Fo**	33.94	120	P		P		17 17 49.2	+0.4
	baz=327									
SCZ2	**Santa Cruz Isl**	33.96	123	P		P		17 17 50.1	+1.0
	baz=329									
SRU	**San Rafael Swe**	34.04	107	*e*P		P		17 17 51.6	+1.7
	comp=Z,94nm,1.0s									
SRU	**San Rafael Swe**	34.04	107	*e*P		P		17 17 51.6	+1.7
SRU				pmax		pmax				
	comp=Z,94nm,1.0s									
MTPU	**Mount Pierson**	34.07	110	*e*P		P		17 17 52.6	+2.3
	comp=Z,14nm,1.1s									
GSC	**Goldstone, Bar**	34.12	118	P		P		17 17 51.4	+1.0
	baz=326,SNR=9.1									
DECC	**Green Verdugo**	34.31	121	P		P		17 17 53.3	+1.2
	baz=328									
RRX	**Edison Barstow**	34.39	119	P		P		17 17 53.9	+1.2
	baz=327									
O20A	**White River Ci**	34.39	103	*e*P		P		17 17 54.4	+1.4
	comp=Z,45nm,0.8s									
O20A	**White River Ci**	34.39	103	P		P		17 17 53.4	+0.5
	baz=319,SNR=17									
TUQ	**Turquoise Moun**	34.41	117	P		P		17 17 53.9	+0.9
	baz=326,SNR=8.2									
PASC	**Pasadena Art C**	34.45	121	*e*P		P		17 17 55.2	+2.0
	comp=Z,21nm,1.1s									
KNB	**Kanab**	34.58	112	*e*P		P		17 17 56.5	+2.0
	comp=Z,15nm,1.0s									
KNB	**Kanab**	34.58	112	*e*P		P		17 17 56.5	+2.0
KNB				pmax		pmax				
	comp=Z,15nm,1.0s									
BFSC	**Mount Baldy Ra**	34.62	120	P		P		17 17 55.4	+0.5
	baz=328									
HEC	**Hector,Ludlow**	34.73	118	P		P		17 17 56.5	+0.8
	baz=327									
N23A	**Red Feather La**	34.98	100	*e*P		P		17 17 59.6	+1.5
	comp=Z,22nm,1.1s									
N23A	**Red Feather La**	34.98	100	P		P		17 17 58.8	+0.8
	baz=318									
AGMN	**Agassiz Nation**	34.99	82	*e*P		P		17 17 58.0	+0.2
	comp=Z,25nm,1.0s									
AGMN	**Agassiz Nation**	34.99	82	P		P		17 17 57.4	-0.3
	baz=311,SNR=15									
GMRC	**Granite Mounta**	35.07	117	P		P		17 17 58.7	0.0
	baz=326,SNR=14									
PV21	**Cone Mtn., Par**	35.23	106	*e*P		P		17 18 01.7	+1.5
	comp=Z,39nm,0.8s									
SCI2	**San Clemente I**	35.30	122	P		P		17 18 01.9	+1.3
	baz=329									
U15A	**North Rim**	35.30	112	*e*P		P		17 18 02.3	+1.4
	comp=Z,22nm,1.3s									
NKL	**Nikolayevsk**	35.46	289	*e*P		P		17 18 00.5	-1.2
NKL				pmax		pmax				
	comp=Z,43nm,1.0s									
YAK	**Yakutsk**	35.48	308	*e*P		P		17 18 01.2	-0.6
YAK				*e*				17 19 21.0		
YAK				*e*PPP		PPP		17 19 34.5		
YAK				*e*				17 20 29.0		
YAK				*e*S		S		17 23 35.1	-1.7
YAK				*e*SS		SnSn		17 25 51.6	-4.1
YAK				*e*SSS		SSS		17 26 21.1		
YAK				*e*				17 28 15.3		
YAK				pmax		pmax				
	comp=Z,107nm,1.0s									
YAK				pmax		pmax				
	comp=N,40nm,1.2s									
YAK				pmax		pmax				
	comp=E,59nm,1.4s									
YAK				pmax		pmax				
	comp=Z,506nm,2.8s									
YAK				pmax		pmax				
	comp=N,305nm,2.7s									
YAK				pmax		pmax				
	comp=E,681nm,2.8s									
YAK				smax		smax				
	comp=N,386nm,3.5s									
YAK				smax		smax				
	comp=E,1μm,4.0s									
YAK				MLR		MLR				
	comp=Z,2μm,14.0s									
YAK				MLR		MLR				
	comp=N,4μm,14.0s									
YAK				MLR		MLR				
	comp=E,2μm,15.0s									
PV05	**Paradox Valley**	35.55	106	*e*P		P		17 18 04.4	+1.5
	comp=E,32nm,0.9s									
W13A	**Hualapai Mount**	35.63	115	*e*P		P		17 18 05.3	+1.6
	comp=E,8.4nm,0.9s									
PFO	**Pinyon Flats O**	35.69	119	P		P		17 18 03.6	-0.4
	comp=E,18nm,1.2s									
PFO	**Piny

YSS eS S 17 24 24.5 +3.3
YSS pmax pmax
comp=N,10.0nm,0.9s
YSS pmax pmax
comp=Z,20nm,0.9s
YSS MLR MLR
comp=Z,700nm,15.0s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=E,500nm,18.0s
F38A Pierce - Schro 38.58 82 P P 17 18 28.5 +0.2
baz=313,SNR=30
SPMN Marine on St. 38.61 83 P P 17 18 28.8 +0.2
baz=314,SNR=15
T25A Trinidad 38.61 102 eP P 17 18 30.6 +1.7
comp=E,25nm,1.1s
T25A Trinidad 38.61 102 P P 17 18 29.5 +0.5
baz=321,SNR=9.4
214A Organ Pipe Nat 38.73 116 P P 17 18 30.4 +0.6
baz=327
GRNR Gornyy 39.00 289 eP P 17 18 30.9 -0.9
GRNR pmax pmax
comp=Z,12nm,0.3s
GRNR pmax pmax
comp=Z,21nm,1.0s
F39A Loretta 39.09 81 P P 17 18 33.0 +0.4
baz=314,SNR=5.9
G38A Ridgeland 39.13 83 P P 17 18 32.8 -0.2
baz=314
H38A Maiden Rock 39.26 84 P P 17 18 34.3 +0.3
baz=314,SNR=20
ANMO Albuquerque 39.32 107 eP P 17 18 36.3 +1.4
comp=Z,10nm,1.0s
ANMO Albuquerque 39.32 107 eP P 17 18 36.3 +1.4
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 39.32 107 P P 17 18 35.9 +1.0
baz=323
TUC Tucson 39.38 114 P P 17 18 36.3 +1.0
baz=326
G39A Holcombe 39.40 82 P P 17 18 35.5 +0.3
baz=314
LAZ Ladron 39.42 108 eP P 17 18 37.6 +1.8
F40A Park Falls 39.49 81 P P 17 18 36.9 +0.9
baz=314,SNR=5.3
LENM Lemitar 39.70 108 eP P 17 18 39.6 +1.6
E41A Kenton 39.70 79 P P 17 18 37.5 -0.2
baz=313
H39A Augusta 39.76 83 P P 17 18 37.7 -0.5
baz=315,SNR=14
BNM Barren Site 39.88 108 eP P 17 18 41.0 +1.5
G40A Rib Lake 39.90 81 eP P 17 18 39.6 +0.1
comp=Z,32nm,0.8s
G40A Rib Lake 39.90 81 P P 17 18 39.1 -0.3
baz=314
I39A Houston 40.22 84 eP P 17 18 42.3 +0.2
comp=Z,60nm,0.9s
I39A Houston 40.22 84 P P 17 18 41.3 -0.7
baz=315,SNR=17
E42A Champion 40.26 78 P P 17 18 41.3 -1.1
baz=314
H40A Chili 40.26 82 P P 17 18 41.4 -1.0
baz=315,SNR=5.1
J39A Decorah 40.50 85 P P 17 18 43.7 -0.6
baz=316,SNR=19
121A Cookes Peak, D 40.63 110 P P 17 18 45.8 +0.1
baz=325,SNR=8.6
H41A Junction City 40.64 82 P P 17 18 44.6 -0.9
baz=315
I40A Norwalk 40.66 83 P P 17 18 44.8 -0.9
baz=315
E43A Lone Tree Farm 40.76 78 P P 17 18 45.7 -0.7
baz=314
K39A Oelwein 40.85 85 P P 17 18 46.2 -1.1
baz=316,SNR=25
I41A Arkdale 40.92 82 P P 17 18 47.8 -0.1
baz=315
J40A Soldiers Grove 40.95 84 P P 17 18 47.4 -0.6
baz=316
KSU1 Kansas State U 41.08 93 eP P 17 18 47.4 -1.8
comp=Z,40nm,0.8s
KSU1 Kansas State U 41.08 93 P P 17 18 48.1 -1.1
baz=319
G43A Wallace 41.18 79 P P 17 18 47.8 -2.1
baz=315
L39A Vinton 41.22 86 P P 17 18 48.5 -1.8
baz=317
K40A Colesburg 41.24 85 P P 17 18 48.5 -1.9
baz=316,SNR=18
H42A Shiocton 41.28 81 P P 17 18 49.5 -1.3
baz=315
SUMG Summit 41.31 24 iP P 17 18 53.2 +2.0
comp=Z,50nm,1.1s
SUMG Summit 41.31 24 iP P 17 18 53.2 +2.0
SUMG pmax pmax
comp=Z,50nm,1.1s
F44A Big Bay de Noc 41.32 78 P P 17 18 49.8 -1.3
baz=314
J41A Loganville 41.34 83 P P 17 18 50.2 -1.1
baz=316,SNR=12
DAG Danmarks Havn 41.35 14 iP P 17 18 51.6 +0.6
comp=Z,25nm,0.9s
DAG Danmarks Havn 41.35 14 iP P 17 18 51.6 +0.6
DAG pmax pmax
comp=Z,21nm,0.9s
I42A Draeger Farm, 41.52 82 P P 17 18 51.3 -1.6
baz=316
JFWS Jewell Farm 41.54 84 eP P 17 18 52.5 -0.5
comp=Z,52nm,0.8s
JFWS Jewell Farm 41.54 84 eP P 17 18 52.5 -0.5
JFWS pmax pmax
comp=Z,52nm,0.8s
JFWS Jewell Farm 41.54 84 P P 17 18 52.1 -0.8
baz=316
M39A Webster 41.60 87 P P 17 18 53.3 -0.1
baz=317,SNR=14
L40A Anamosa 41.66 86 eP P 17 18 53.6 -0.3
comp=Z,80nm,0.8s
L40A Anamosa 41.66 86 P P 17 18 53.6 -0.3
baz=317,SNR=21
E45A Wooded Hills, 41.68 76 P P 17 18 53.0 -1.1
baz=314
H43A Windswept, Lux 41.70 80 P P 17 18 52.4 -1.8
baz=315
K41A Shullsburg 41.73 84 P P 17 18 53.5 -1.1
baz=316,SNR=25
AMTX Amarillo 41.75 102 eP P 17 18 54.4 -0.4
comp=Z,62nm,1.1s
AMTX Amarillo 41.75 102 P P 17 18 53.9 -0.9
baz=322
J42A Columbus 41.83 83 P P 17 18 54.1 -1.2
baz=316
D46A Sault St. Mari 41.88 75 P P 17 18 54.8 -0.9
baz=314
I43A Langenfeld Bro 41.92 81 P P 17 18 55.4 -0.7
baz=316
MSTX Muleshoe 41.93 104 P P 17 18 56.6 +0.2
baz=323
F45A CMU Biological 41.98 77 P P 17 18 55.2 -1.3
baz=315
M40A Post Highland 41.99 86 P P 17 18 55.5 -1.1
baz=317
L41A Preston 42.02 85 P P 17 18 56.0 -0.9
baz=317,SNR=29
K42A Prairie Point, 42.10 83 P P 17 18 56.9 -0.6
baz=316,SNR=12
SFJD Kangerlussuaq 42.10 35 iP P 17 18 56.5 -0.7
comp=Z,23nm,1.1s
SFJD Kangerlussuaq 42.10 35 iP P 17 18 56.5 -0.7
SFJD pmax pmax
comp=Z,23nm,1.1s
E46A Sault Ste Mari 42.11 76 P P 17 18 56.0 -1.5
baz=314
J43A Natural Harves 42.14 82 P P 17 18 56.7 -1.1
baz=316
D47A Chapleau 42.22 74 P P 17 18 57.7 -0.8
baz=314,SNR=7.8
KLR Kul'dur 42.28 290 iP P 17 18 58.5 -0.4
F46A Macinaw City C 42.29 77 P P 17 18 58.8 -0.3
baz=315
N40A Mertquake, Sal 42.34 87 P P 17 18 58.3 -1.1
baz=318
MNTX Cornudas Mount 42.48 108 eP P 17 19 01.8 +1.1
comp=Z,18nm,0.9s
MNTX Cornudas Mount 42.48 108 P P 17 19 01.2 +0.4
baz=325,SNR=27
L42A Oliver, Polo 42.50 84 eP P 17 19 00.9 +0.1
comp=Z,66nm,0.9s
L42A Oliver, Polo 42.50 84 P P 17 18 59.8 -0.9
baz=317,SNR=15
E47A Iron Bridge 42.55 75 P P 17 18 59.9 -1.3
baz=314
G46A Petoskey 42.56 77 P P 17 19 01.0 -0.3
baz=315
GDL2 Guadalupe Moun 42.56 107 eP P 17 19 03.2 +1.7
K43A Burlington 42.67 83 eP P 17 19 02.5 +0.3
comp=Z,51nm,0.8s
K43A Burlington 42.67 83 P P 17 19 01.2 -1.0
baz=316
SPITS Spitsbergen Ar 42.68 3 P P 17 19 03.2 +1.3
comp=Z,47nm,1.1s,baz=16,slow=6.5,SNR=7.9
D48A Paudash Townsh 42.78 73 P P 17 18 59.9 -3.1
baz=314,SNR=8.4
N41A Harden Midland 42.84 87 eP P 17 19 03.9 +0.4
comp=Z,100nm,0.9s
N41A Harden Midland 42.84 87 P P 17 19 03.0 -0.6
baz=318,SNR=18
L43A Garden Prairie 42.84 83 P P 17 19 02.1 -1.4
baz=317
D49A Beulah Townshi 42.93 73 P P 17 19 03.3 -0.9
baz=314,SNR=5.2
H46A Fife Lake 42.94 78 P P 17 19 03.4 -0.9
baz=316
MATQ Matagami 43.02 68 P P 17 19 04.6 -0.3
baz=313
E48A Lockeyer 43.09 74 P P 17 19 05.1 -0.4
baz=315
G47A Hillman 43.17 77 P P 17 19 06.0 -0.2
baz=315
N42A Yates City 43.17 86 P P 17 19 06.2 0.0
baz=318
I46A Reed City 43.24 79 P P 17 19 06.3 -0.5
baz=316
O41A Passleys Farm, 43.26 87 P P 17 19 06.1 -0.9
baz=318,SNR=20
L44A Lake County Fo 43.27 83 P P 17 19 06.2 -0.7
baz=317
M43A Waltham Townsh 43.27 84 P P 17 19 06.5 -0.6
baz=317
F48A Evansville 43.32 75 P P 17 19 06.7 -0.6
baz=315
WMOK Wichita Mounta 43.33 99 eP P 17 19 08.5 +0.9
comp=Z,28nm,0.9s
WMOK Wichita Mounta 43.33 99 eP P 17 19 08.5 +0.9
WMOK pmax pmax
comp=Z,28nm,0.9s
WMOK Wichita Mounta 43.33 99 P P 17 19 07.6 0.0
baz=322,SNR=16
P41A Barry, Barry 43.50 88 P P 17 19 08.1 -0.8
baz=318,SNR=12
N43A Stutzman Famil 43.53 85 P P 17 19 08.4 -0.7
baz=318
J46A Howard City 43.57 80 P P 17 19 08.9 -0.6
baz=316
O42A Bath 43.62 86 P P 17 19 09.4 -0.4
baz=318
F49A Sandfield 43.65 75 P P 17 19 09.3 -0.8
baz=315
I47A Gladwin 43.66 78 P P 17 19 09.1 -1.0
baz=316
D50A G174 Best Tow 43.75 72 P P 17 19 09.9 -0.9
baz=315
HDIL Hopedale 43.75 85 eP P 17 19 11.0 +0.1
comp=Z,101nm,0.8s
HDIL Hopedale 43.75 85 P P 17 19 10.6 -0.3
baz=318,SNR=14
M44A Midewin, Midew 43.78 84 eP P 17 19 11.6 +0.5
comp=Z,64nm,0.9s
M44A Midewin, Midew 43.78 84 P P 17 19 10.2 -0.9
baz=318,SNR=10
LSQQ Lebel-sur-Quev 43.81 68 P P 17 19 10.1 -1.2
baz=314
E50A Wahnapitae 43.83 73 P P 17 19 10.0 -1.5
baz=315
P42A Winchester 43.93 87 eP P 17 19 12.1 -0.3
comp=Z,42nm,0.9s
P42A Winchester 43.93 87 P P 17 19 11.6 -0.8
baz=319,SNR=6.1
TUL1 Leonard 43.93 95 P P 17 19 12.4 0.0
baz=321,SNR=5.5
O43A Sugar Creek Fa 43.94 86 P P 17 19 11.8 -0.7
baz=318
I48A Sherman Twp 43.95 78 P P 17 19 11.3 -1.2
baz=316
Q41A Truxton 43.95 89 P P 17 19 11.9 -0.6
baz=319
D51A Lot 18 Range I 44.03 72 P P 17 19 12.3 -0.8
baz=315
J47A Sumner 44.07 79 P P 17 19 13.2 -0.2
baz=316
N44A Piper City 44.17 84 P P 17 19 14.0 -0.2
baz=318
M45A Boilermakers S 44.18 83 P P 17 19 14.0 -0.4
baz=318
L46A Eue Claire 44.21 82 P P 17 19 14.3 -0.3
baz=317
TOBO Tobermory, Bru 44.29 75 P P 17 19 13.7 -1.4
baz=316
BOD Bodaibo 44.30 310 eP P 17 19 14.1 -1.0
BOD pmax pmax
comp=Z,27nm,0.9s
NRIK Noril'sk 44.31 333 P P 17 19 15.5 +0.4
comp=Z,54nm,0.8s,baz=52,slow=7.0,SNR=27
P43A Skaggs, Pawnee 44.31 87 P P 17 19 14.5 -0.9
baz=319,SNR=22
Q42A Golden Eagle 44.34 88 P P 17 19 15.0 -0.6
baz=319,SNR=5.3
E51A G1948 Merrick 44.37 72 P P 17 19 15.0 -0.8
baz=315,SNR=7.2
R41A Rosebud 44.37 89 P P 17 19 14.6 -1.3
baz=319
K47A Vermontville 44.39 80 P P 17 19 14.4 -1.6
baz=317
SCHQ Schefferville 44.44 56 eP P 17 19 15.6 -0.7
comp=Z,36nm,1.3s
SCHQ Schefferville 44.44 56 P P 17 19 15.5 -0.7
comp=Z,8.2nm,0.5s,baz=318,slow=6.8,SNR=18
N45A Kentland 44.45 84 P P 17 19 15.9 -0.6
baz=318
CHGQ Chibougamau 44.45 65 P P 17 19 15.1 -1.4
baz=314,SNR=13
O44A Mansfield 44.47 85 P P 17 19 16.0 -0.7
baz=318
J48A Bridge Port 44.55 78 P P 17 19 20.4 +3.2
baz=317
I49A Point Hope 44.56 77 P P 17 19 17.2 -0.1
baz=316
ABTX Abilene, Hawle 44.57 102 P P 17 19 17.7 +0.1
baz=324
D52A ZEK Kipawa Sen 44.58 71 P P 17 19 16.9 -0.6
baz=315,SNR=10.0
F51A Arnstein 44.59 73 P P 17 19 17.1 -0.4
baz=315
CCM Cathedral Cave 44.62 89 P P 17 19 17.7 -0.3
baz=320
M46A Old House Fiel 44.62 82 P P 17 19 17.5 -0.4
baz=318
R42A Luebbering 44.68 89 P P 17 19 17.8 -0.6
baz=320
S41A Jillco Farms, 44.72 90 P P 17 19 17.9 -0.8
baz=320,SNR=24
K48A Perry 44.74 79 P P 17 19 18.6 -0.1
baz=317,SNR=5.4
Q43A New Douglas 44.75 87 P P 17 19 18.7 -0.2
baz=319,SNR=46
O45A Potomac 44.78 85 P P 17 19 18.6 -0.6
baz=318
L47A Sherwood 44.79 81 P P 17 19 18.7 -0.6
baz=317
N46A Monticello 44.81 83 P P 17 19 18.6 -0.7
baz=318
J49A Marlette 44.83 78 P P 17 19 18.7 -0.8
baz=317,SNR=5.6
KLBO Killbear Provi 44.85 74 P P 17 19 19.2 -0.4
baz=316
D53A Lac Vacive, Po 44.85 70 P P 17 19 18.7 -1.0
baz=315,SNR=9.9
BMRO Meriville Lake 44.90 75 P P 17 19 19.0 -1.0
baz=316
P44A Sand Creek, Wi 44.91 86 P P 17 19 19.4 -0.8
baz=319
E52A Mattawa 44.95 72 P P 17 19 19.6 -0.8
baz=316,SNR=12
F52A Sundridge 44.97 73 P P 17 19 19.9 -0.7
baz=316
SFIN Lafayette 45.01 84 P P 17 19 20.3 -0.6
baz=318,SNR=14
S42A Caledonia 45.07 89 P P 17 19 20.9 -0.6
baz=320
BASO Ashfield 45.09 76 P P 17 19 21.1 -0.5
baz=316
U40A Yellville 45.09 92 P P 17 19 20.8 -0.9
baz=321
Q44A Meyer Farm, Va 45.13 87 eP P 17 19 21.4 -0.5
comp=Z,82nm,0.9s
Q44A Meyer Farm, Va 45.13 87 P P 17 19 21.4 -0.5
baz=319,SNR=19
T41A Mountain View 45.13 91 P P 17 19 21.3 -0.7
baz=320
R43A Red Bud 45.13 88 P P 17 19 21.2 -0.7
baz=320,SNR=18
BUKO Buck Lake 45.19 73 P P 17 19 21.8 -0.6
baz=316
L48A N Adams 45.21 80 P P 17 19 22.1 -0.5
baz=318
TXAR Lajitas Array 45.26 109 P P 17 19 22.5 -0.7
comp=Z,12nm,0.8s,baz=116,slow=5.7,SNR=12
D54A Lac Fusel, La 45.30 70 P P 17 19 22.6 -0.6
baz=315,SNR=11
P45A Graceland, Par 45.31 85 P P 17 19 22.7 -0.7
baz=319,SNR=13
N47A Urbana 45.35 82 P P 17 19 22.6 -1.1
baz=318,SNR=23
E53A Dumoine, Ponti 45.37 71 P P 17 19 22.9 -0.8
baz=316,SNR=16
M48A Edgerton 45.40 81 P P 17 19 22.9 -1.1
baz=318
L49A Milan 45.42 80 P P 17 19 24.0 -0.2
baz=317,SNR=15
ALGO Algonquin Park 45.48 72 P P 17 19 23.9 -0.7
baz=316
T42A Van Buren 45.48 90 P P 17 19 22.9 -1.8
baz=320,SNR=11
P46A Rosedale 45.52 85 P P 17 19 24.4 -0.6
baz=319,SNR=14
W39A Magazine 45.52 94 P P 17 19 24.1 -0.9
baz=322
E54A Lac Daplat, Po 45.56 71 P P 17 19 24.5 -0.7
baz=316,SNR=20
I51A Listowel 45.56 76 P P 17 19 24.5 -0.9
baz=317
Q45A Warren Harvey, 45.57 86 P P 17 19 24.8 -0.7
baz=319,SNR=31
O47A Sheridan 45.58 83 P P 17 19 24.2 -1.3
baz=318,SNR=16
U41A Viola 45.58 92 P P 17 19 24.5 -1.1
baz=321
R44A Waltonville 45.59 87 P P 17 19 24.5 -1.1
baz=320
S43A Fulton Ridge, 45.59 89 P P 17 19 24.6 -1.1
baz=320,SNR=25
USRK Ussuriysk Ar. 45.70 285 P P 17 19 27.0 +0.6
comp=Z,3.9nm,0.8s,baz=42,slow=7.8,SNR=6.1
USRK LR LR 17 39 57.3
comp=Z,301nm,19.8s,baz=34,slow=38
N48A Decatur 45.70 82 P P 17 19 25.5 -1.0
baz=318,SNR=14
OLIL Olney 45.73 86 eP P 17 19 26.5 -0.1
comp=Z,121nm,0.8s
M49A Liberty Center 45.78 80 P P 17 19 27.0 -0.1
baz=318
I52A Shelburne 45.79 75 P P 17 19 26.1 -1.0
baz=317
SADO Sadowa 45.80 74 eP P 17 19 26.2 -1.0
comp=Z,15nm,0.9s
SADO Sadowa 45.80 74 LR LR 17 39 36.1
comp=Z,732nm,21.1s,baz=349,slow=37
G53A Halibut 45.80 73 P P 17 19 26.8 -0.3
baz=316
T43A Greenville 45.85 90 P P 17 19 27.2 -0.5
baz=320,SNR=23
ELFO Elginfield 45.86 77 P P 17 19 27.6 -0.1
baz=317
S44A Carbondale 45.92 88 P P 17 19 27.7 -0.5
baz=320
U42A Revenden 45.93 91 P P 17 19 27.1 -1.2
baz=321
L50A Kingsville 45.95 79 P P 17 19 28.1 -0.3
baz=318
R45A Skylar, Fairfi 45.97 87 P P 17 19 27.9 -0.6
baz=320,SNR=17
PEMO Pembroke 46.07 71 P P 17 19 28.3 -1.0
baz=316
N49A Columbus Grove 46.09 81 eP P 17 19 28.1 -1.4
comp=Z,59nm,0.9s
N49A Columbus Grove 46.09 81 P P 17 19 28.6 -0.9
baz=318,SNR=16
O48A Farmland 46.09 82 P P 17 19 28.3 -1.2
baz=318,SNR=23
P47A Martinsville 46.09 84 P P 17 19 28.9 -0.7
baz=319,SNR=29
MIAR Mount Ida 46.13 95 eP P 17 19 29.7 -0.2
comp=Z,30nm,0.9s
MIAR Mount Ida 46.13 95 eP P 17 19 29.7 -0.2
MIAR pmax pmax
comp=Z,31nm,0.9s
MIAR Mount Ida 46.13 95 P P 17 19 29.4 -0.5
baz=322,SNR=21
WHTX Lake Whitney, 46.18 100 P P 17 19 29.9 -0.5
baz=324
ACTO Acton 46.18 75 P P 17 19 28.6 -1.7
baz=317
SCO Scoresbysund 46.19 20 iP P 17 19 32.2 +2.3
SCO Scoresbysund 46.19 20 eP P 17 19 32.2 +2.3
BLO Bloomington 46.20 85 eP P 17 19 30.3 -0.1
comp=Z,65nm,0.8s
BLO Bloomington 46.20 85 eP P 17 19 30.3 -0.1
BLO pmax pmax
comp=Z,65nm,0.8s
BANO Bancroft 46.21 73 P P 17 19 30.4 0.0
baz=316
T44A Benton 46.21 89 P P 17 19 30.0 -0.5
baz=320
JCT Junction City 46.22 104 P P 17 19 31.2 +0.5
baz=325,SNR=19
J52A Paris 46.24 76 P P 17 19 30.9 +0.2
baz=317
PLIO Pelee Island, 46.26 79 P P 17 19 30.0 -0.8
baz=318
S45A Carrier Mills 46.28 88 P P 17 19 30.1 -1.0
baz=320,SNR=16
M50A Fremont 46.31 80 P P 17 19 31.6 +0.4
baz=318
W41B Gary Mavity, V 46.32 93 P P 17 19 32.5 +1.1
baz=321
F55A Otter Lake 46.39 71 P P 17 19 32.2 +0.3
baz=316
PKRO Pickering 46.41 74 P P 17 19 32.3 +0.3
baz=317
R46A Gibon Southern 46.42 86 P P 17 19 31.6 -0.5
baz=320
Q47A Bedord North L 46.43 85 P P 17 19 31.5 -0.7
baz=319,SNR=52
P48A Milroy 46.55 83 P P 17 19 31.5 -1.6
baz=319,SNR=15
O49A Covington 46.56 82 P P 17 19 32.8 -0.4
baz=319
X40A Basin Creek Fa 46.56 94 P P 17 19 33.1 -0.1
baz=322
PLVO Plevna 46.62 72 P P 17 19 32.9 -0.7
baz=317
G55A Calabogie 46.63 71 P P 17 19 33.4 -0.4
baz=317
DRWO Darlington Wes 46.65 74 P P 17 19 33.6 -0.3
baz=317
DRCO St. Marys Ceme 46.66 74 P P 17 19 33.5 -0.4
baz=317
S46A Don Dixon Farm 46.72 87 P P 17 19 32.7 -1.8
baz=320,SNR=6.2
N50A Nevada 46.72 80 P P 17 19 33.3 -1.2
baz=318
WLVO Wesleyville 46.78 74 P P 17 19 34.1 -0.7
baz=317
Q48A North Vernon 46.79 84 P P 17 19 33.6 -1.4
baz=319,SNR=13
M51A Elyria 46.79 79 P P 17 19 34.7 -0.3
baz=318
P49A Miami Univ. Ec 46.85 83 P P 17 19 34.2 -1.3
baz=319
R47A Wooly Knot Far 46.86 85 P P 17 19 34.7 -0.9
baz=320,SNR=18
I55A Frankford 46.92 73 P P 17 19 34.9 -1.0
baz=317

H55A	**Tweed** baz=317	46.92	72	P		P		17 19 35.2	-0.8
O50A	**Cable** baz=319,SNR=18	46.95	81	P		P		17 19 35.3	-1.0
TRQ	**Mont Tremblant**	46.98	69	*e*P		P		17 19 35.9	-0.6
LATQ	**La Tuque** baz=316	46.98	67	P		P		17 19 35.5	-1.0
N51A	**Ashland** baz=318	47.01	80	P		P		17 19 35.6	-1.1
WCI	**Wyandotte Cave** comp=Z,68nm,1.0s	47.03	85	*e*P		P		17 19 37.0	+0.1
WCI	**Wyandotte Cave** comp=Z,68nm,1.0s	47.03	85	*e*P		P		17 19 37.0	+0.1
WCI					pmax		pmax			
WCI	**Wyandotte Cave** baz=320	47.03	85	P		P		17 19 36.1	-0.8
M52A	**Chesterland** baz=318	47.06	78	P		P		17 19 36.6	-0.5
ORIO	**Orleans, Innes** baz=317	47.08	70	P		P		17 19 36.1	-1.0
435B	**Jarrell** baz=324	47.09	101	P		P		17 19 37.1	-0.3
T46A	**Princeton** baz=320,SNR=7.6	47.12	88	P		P		17 19 37.4	-0.2
R48A	**Northridge Ran** baz=320	47.12	85	P		P		17 19 37.4	-0.2
Q49A	**Aurora** baz=319	47.16	83	P		P		17 19 36.9	-1.1
U45A	**Rockin P Farm,** baz=321	47.20	89	P		P		17 19 37.9	-0.4
ACSO	**Alum Creek Sta** comp=Z,20nm,0.8s	47.21	81	P		P		17 19 37.6	-0.7
ACSO	**Alum Creek Sta** baz=319	47.21	81	P		P		17 19 37.5	-0.7
S47A	**Hartford** baz=320	47.22	86	P		P		17 19 37.7	-0.7
ALFO	**Alfred** baz=317	47.25	70	P		P		17 19 37.8	-0.7
P50A	**Jamestown** baz=319,SNR=9.5	47.26	82	P		P		17 19 38.1	-0.6
L53A	**Girard** baz=318	47.30	77	P		P		17 19 38.5	-0.5
MEDO	**Medina** baz=318	47.31	75	P		P		17 19 38.6	-0.4
ERPA	**Erie** baz=318	47.31	77	P		P		17 19 38.7	-0.4
H56A	**Elgin** baz=317	47.34	72	P		P		17 19 38.7	-0.6
N52A	**McGinn's Farm,** baz=318	47.43	79	P		P		17 19 39.2	-0.8
O51A	**Pataskala** baz=319	47.46	81	P		P		17 19 39.4	-0.9
M53A	**WI Miller and** baz=318,SNR=16	47.47	78	P		P		17 19 39.8	-0.6
U46A	**Springville** baz=321	47.49	88	P		P		17 19 40.0	-0.6
Z41A	**Richland Creek** baz=323	47.54	95	P		P		17 19 40.0	-0.9
J55A	**Hilton** baz=318	47.55	74	P		P		17 19 40.2	-0.6
R49A	**Shelbyville** baz=320,SNR=12	47.56	84	P		P		17 19 40.3	-0.7
T47A	**Sharon Grove** comp=Z,33nm,0.9s	47.56	87	*e*P		P		17 19 41.0	-0.1
T47A	**Sharon Grove** baz=320	47.56	87	P		P		17 19 40.2	-0.9
S48A	**Wiedeman Farm,** baz=320,SNR=37	47.59	86	P		P		17 19 41.1	-0.2
P51A	**Williamsport** baz=319	47.73	81	P		P		17 19 41.5	-0.9
Q50A	**Georgetown** baz=320	47.75	83	P		P		17 19 41.8	-0.7
NATX	**Nacogdoches** comp=Z,79nm,1.0s	47.78	98	*e*P		P		17 19 43.4	+0.6
NATX	**Nacogdoches** baz=324	47.78	98	P		P		17 19 42.9	+0.1
K55A	**Perry** baz=318	47.82	75	P		P		17 19 42.6	-0.5
T48A	**Bowling Green** baz=320	47.83	86	P		P		17 19 42.6	-0.5
WVT	**Waverly** comp=Z,32nm,0.9s	47.85	88	*e*P		P		17 19 43.0	-0.3
WVT	**Waverly** comp=Z,32nm,0.9s	47.85	88	*e*P		P		17 19 43.0	-0.3
WVT					pmax		pmax			
WVT	**Waverly** baz=321	47.85	88	P		P		17 19 42.4	-0.9
N53A	**Lisbon** baz=319	47.86	79	P		P		17 19 42.7	-0.7
HIA	**Hailar** comp=Z,6.0nm,0.7s	47.87	298⇓	*e*P		P		17 19 43.2	-0.2
HIA					pmax		pmax			
O52A	**Adamsville** baz=319,SNR=12	47.88	80	P		P		17 19 42.8	-0.7
S49A	**Springfield** baz=320	47.88	85	P		P		17 19 42.9	-0.7
U47A	**Clarksville** baz=321,SNR=15	47.89	88	P		P		17 19 43.2	-0.4
M54A	**Oil Creek Stat** baz=318	47.93	77	P		P		17 19 42.8	-1.1
Q51A	**Peebles** comp=Z,64nm,0.9s	47.93	82	*e*P		P		17 19 43.5	-0.4
Q51A	**Peebles** baz=319,SNR=16	47.93	82	P		P		17 19 43.2	-0.8
V46A	**Holladay** baz=321,SNR=38	47.96	89	P		P		17 19 43.6	-0.6
R50A	**Paris** baz=320,SNR=30	48.00	84	P		P		17 19 43.6	-0.8
L55A	**Hinsdale** baz=318,SNR=11	48.04	76	P		P		17 19 44.4	-0.4
P52A	**Corning** baz=319	48.09	81	P		P		17 19 44.5	-0.7
O53A	**New Philadelph** baz=319	48.09	79	P		P		17 19 44.4	-0.8
LONY	**Lake Ozonia** comp=Z,14nm,0.8s	48.13	71	*e*P		P		17 19 44.4	-1.0
LONY	**Lake Ozonia** baz=318	48.13	71	P		P		17 19 44.2	-1.2
N54A	**Moraine State** baz=319	48.17	78	P		P		17 19 44.8	-1.0
833A	**Chaparral WMA,** baz=326	48.19	105	P		P		17 19 46.0	-0.1
U48A	**Cassie Pea, Po** baz=321	48.22	87	P		P		17 19 45.5	-0.6
V47A	**Nunnelly** baz=321,SNR=20	48.24	88	P		P		17 19 45.6	-0.7
MAJO	**Matsushiro** comp=Z,28nm,0.9s	48.27	273	*e*P		P		17 19 45.6	-1.0
MAJO	**Matsushiro** comp=Z,16nm,1.2s	48.27	273⇓	*e*P		P		17 19 47.1	+0.5
MAJO					pmax		pmax			
MAT	**Matsushiro**	48.27	273	P		P		17 19 51.5	+4.9
MJAR	**Matsushiro Arr** comp=Z,3.6nm,0.9s,baz=9.8,slow=3.2,SNR=8.1	48.27	273	P		P		17 19 46.7	+0.1
MJAR					LR		LR	17 40 18.8		
T49A	**Edmonton** baz=320,SNR=16	48.28	86	P		P		17 19 46.1	-0.6
OXF	**Oxford** comp=Z,282nm,0.9s	48.30	91	*e*P		P		17 19 47.1	+0.3
OXF	**Oxford** comp=Z,282nm,0.9s	48.30	91	*e*P		P		17 19 47.1	+0.3
OXF					pmax		pmax			
OXF	**Oxford** baz=322,SNR=23	48.30	91	P		P		17 19 46.1	-0.6
W46A	**Michie** baz=321,SNR=23	48.34	90	P		P		17 19 46.9	-0.2
R51A	**Hillsboro** baz=320,SNR=19	48.36	83	P		P		17 19 46.1	-1.2
M55A	**Ridgway** baz=319,SNR=13	48.41	76	P		P		17 19 47.1	-0.5
S50A	**Richmond** baz=320,SNR=20	48.42	84	P		P		17 19 46.8	-0.9
Q52A	**Bidwell** baz=320,SNR=13	48.53	81	P		P		17 19 47.5	-1.1
O54A	**Avella** baz=319,SNR=12	48.56	79	P		P		17 19 48.3	-0.5
P53A	**Whipple** baz=319	48.58	80	P		P		17 19 47.8	-1.1
U49A	**Red Boiling Sp** baz=321,SNR=19	48.61	86	P		P		17 19 49.1	-0.1
PLAL	**Pickwick Lake** comp=Z,170nm,0.9s	48.61	89	*e*P		P		17 19 49.4	+0.2
HKT	**Hockley** comp=Z,31nm,2.0s	48.64	100⇓	*e*P		P		17 19 50.2	+0.8
HKT					pmax		pmax			
W47A	**Westpoint** baz=321,SNR=18	48.65	89	P		P		17 19 48.7	-0.8
V48A	**Smith Brothers** baz=321,SNR=26	48.67	88	P		P		17 19 49.8	+0.2
X46A	**Booneville** baz=322,SNR=38	48.68	90	P		P		17 19 49.6	-0.2
T50A	**Nancy** baz=320,SNR=14	48.70	85	P		P		17 19 50.0	+0.1
N55A	**Marion Center** baz=319,SNR=5.6	48.81	77	P		P		17 19 49.6	-1.1
P54A	**Burton** baz=319,SNR=12	48.95	79	P		P		17 19 51.2	-0.6
W48A	**Pulaski** baz=321,SNR=5.4	49.08	88	P		P		17 19 52.2	-0.6
O55A	**Ligonier** baz=319	49.09	78	P		P		17 19 52.4	-0.4
X47A	**Russelville** baz=322,SNR=12	49.09	90	P		P		17 19 52.1	-0.8
V49A	**McMinnville** baz=321	49.12	87	P		P		17 19 52.3	-0.9
U50A	**Jamestown** baz=321,SNR=15	49.16	86	P		P		17 19 52.5	-0.9
R53A	**Hurricane** baz=320	49.17	82	P		P		17 19 52.6	-0.9
T51A	**Gray** baz=320,SNR=16	49.20	84	P		P		17 19 52.7	-1.0
CN2	**Changchun** comp=Z,10.0nm,0.6s	49.20	289	*e*P		P		17 19 57.2	+3.6
CN2					pmax		pmax			
MCWV	**Mont Chateau** baz=319,SNR=5.5	49.23	79	P		P		17 19 53.1	-0.8
Q54A	**Coxs Mills** baz=320	49.24	80	P		P		17 19 53.0	-1.0
BINY	**Binghamton** comp=Z,56nm,1.0s	49.24	74	*e*P		P		17 19 54.1	+0.1
BINY	**Binghamton** baz=319,SNR=18	49.24	74	P		P		17 19 53.3	-0.7
P55A	**Reedsville** baz=320,SNR=10	49.35	79	P		P		17 19 54.4	-0.5
O56A	**Blue Knob Stat** baz=319	49.41	77	P		P		17 19 54.6	-0.8
W49A	**Belvidere** baz=321,SNR=5.8	49.44	88	P		P		17 19 55.4	-0.1
SSPA	**Standing Stone** comp=Z,179nm,1.2s	49.47	76	P		P		17 19 56.0	+0.3
SSPA	**Standing Stone** baz=319	49.47	76	P		P		17 19 55.3	-0.5
145A	**Houston Renfro** baz=323	49.53	93	P		P		17 19 56.1	-0.1
SWET	**Sewanee** comp=Z,36nm,0.9s	49.53	87	*e*P		P		17 19 55.5	-0.9
VBMS	**Vicksburg** baz=323	49.53	94	P		P		17 19 55.6	-0.7
X48A	**Hartselle** baz=322,SNR=14	49.56	89	P		P		17 19 55.9	-0.6
S53A	**Williamson** baz=320	49.58	82	P		P		17 19 55.7	-0.9
V50A	**Pikeville** baz=321	49.60	86	P		P		17 19 56.2	-0.6
Q55A	**Buckhannon** baz=320	49.61	80	P		P		17 19 55.9	-1.0
U51A	**La Follette** baz=321,SNR=5.6	49.61	85	P		P		17 19 56.3	-0.6
LBNH	**Lisbon** baz=318	49.70	69	P		P		17 19 56.3	-1.1
TZTN	**Tazewell** baz=321	49.73	84	P		P		17 19 57.0	-0.7
R54A	**Victor** baz=320	49.77	81	P		P		17 19 57.3	-0.8
W50A	**Signal Mountai** baz=321	49.86	87	P		P		17 19 58.5	-0.3
X49A	**Woodville** baz=322	49.88	88	P		P		17 19 58.2	-0.7
V51A	**Loudon** baz=321	49.89	86	P		P		17 19 58.5	-0.4
T53A	**Wise** baz=321	49.91	83	P		P		17 19 59.0	-0.2
Y48A	**Jasper** baz=322	49.91	90	P		P		17 19 58.9	-0.3
R55A	**Marlinton** baz=320	50.13	80	P		P		17 20 00.5	-0.4
W51A	**Cleveland** baz=322	50.18	87	P		P		17 20 00.9	-0.3
PKME	**Peaks-Kenny Pk** comp=Z,51nm,1.3s	50.18	66	*e*P		P		17 20 00.2	-0.9
PKME	**Peaks-Kenny Pk** baz=318	50.18	66	P		P		17 20 00.4	-0.6
V52A	**Sevierville** baz=321	50.24	85	P		P		17 20 01.2	-0.4
X50B	**Fort Payne** baz=322,SNR=16	50.27	88	P		P		17 20 01.6	-0.3
TKL	**Tuckaleechee C** comp=Z,700nm,21.5s,baz=330,slow=37	50.30	85	LR		LR		17 41 45.4		
N59A	**State Game Lan** baz=319	50.31	75	P		P		17 20 01.5	-0.7
147A	**Livingston** baz=323	50.33	92	P		P		17 20 01.8	-0.5
S55A	**Lewisburg** baz=320,SNR=13	50.33	81	P		P		17 20 01.9	-0.5
T54A	**Tazewell** baz=321	50.33	82	P		P		17 20 02.0	-0.5
Y49A	**Blount Mountai** comp=Z,28nm,0.7s	50.35	89	*e*P		P		17 20 02.1	-0.4
Y49A	**Blount Mountai** baz=322	50.35	89	P		P		17 20 01.5	-1.0
U53A	**Fall Branch** baz=321	50.36	84	P		P		17 20 02.0	-0.6
Y50A	**Piedmont** baz=322,SNR=7.3	50.67	88	P		P		17 20 04.3	-0.6
LRAL	**Lakeview Retre** baz=322	50.69	90	P		P		17 20 04.2	-0.9
ODNJ	**Oggdsburg** comp=Z,41nm,1.0s	50.76	74	*e*P		P		17 20 05.6	+0.1
V53A	**Saluda** comp=Z,24nm,0.9s	50.78	85	*e*P		P		17 20 06.0	+0.2
V53A	**Saluda** baz=321,SNR=5.5	50.78	85	P		P		17 20 05.3	-0.5
BLA	**Blacksburg** comp=Z,19nm,0.8s	50.80	81	*e*P		P		17 20 02.5	-3.5
BLA	**Blacksburg** comp=Z,19nm,0.8s	50.80	81	*e*P		P		17 20 02.5	-3.5
BLA					pmax		pmax			
BLA	**Blacksburg** baz=321	50.80	81	P		P		17 20 04.4	-1.6
Z49A	**Columbiana** baz=322	50.81	90	P		P		17 20 05.0	-1.0
W53A	**Cullowhee** baz=322	50.99	85	P		P		17 20 07.0	-0.4
LNIG	**Linares** comp=Z,27nm,0.9s	51.00	108	*e*P		P		17 20 07.5	0.0
Y51A	**Rockmart** baz=322	51.01	88	P		P		17 20 06.8	-0.7
U55A	**TA2, Sparta** baz=321,SNR=11	51.03	82	P		P		17 20 07.0	-0.7
X52A	**Dahlonega** baz=322,SNR=18	51.05	86	P		P		17 20 06.5	-1.3
Z50A	**Ashland** comp=Z,46nm,0.9s	51.07	89	*e*P		P		17 20 07.5	-0.5
Z50A	**Ashland** baz=322,SNR=19	51.07	89	P		P		17 20 06.3	-1.7
V54A	**Nebo** baz=321	51.14	84	P		P		17 20 07.4	-1.0
149A	**Jones** baz=323,SNR=11	51.14	90	P		P		17 20 07.3	-1.2
PAL	**Palisades** baz=320	51.16	73	P		P		17 20 07.3	-1.2
Z51A	**Franklin** baz=322	51.41	88	P		P		17 20 09.8	-0.7
X53A	**Estanollee** baz=322	51.44	86	P		P		17 20 09.9	-0.7
V55A	**Taylorsville** baz=321	51.45	83	P		P		17 20 10.2	-0.6
249A	**Camden** baz=323	51.47	91	P		P		17 20 10.3	-0.6
ARCES	**ARCESS Array B** comp=Z,3.2nm,0.7s,baz=359,slow=8.5,SNR=6.8	51.50	0	P		P		17 20 11.8	+1.1
R58B	**Mineral** baz=321	51.51	79	P		P		17 20 11.1	-0.1
150A	**Eclectic** baz=323	51.53	90	P		P		17 20 10.4	-1.0
Y52A	**Lilburn** baz=322,SNR=6.4	51.55	87	P		P		17 20 10.7	-0.8
W54A	**Cherokee Point** baz=322	51.55	84	P		P		17 20 10.7	-0.9
Y53A	**Monroe** baz=322	51.80	87	P		P		17 20 12.7	-0.7
LMN	**Caledonia Moun** comp=Z,92nm,1.5s	51.82	63	*e*P		P		17 20 12.9	-0.5
X54A	**Belton** baz=322	51.88	85	P		P		17 20 13.1	-0.9
Z52A	**Williamson** baz=322	51.90	88	P		P		17 20 13.2	-0.9
250A	**Grady** baz=323	51.91	90	P		P		17 20 13.4	-0.8
KMSC	**Kings Mountain** baz=322	51.94	84	P		P		17 20 13.2	-1.2
151A	**Opelika** baz=323	51.95	89	P		P		17 20 12.8	-1.8
BRAL	**Brewton** baz=323	52.15	92	P		P		17 20 15.5	-0.4
152A	**Waverly Hall** baz=323	52.15	88	P		P		17 20 14.7	-1.3
GOGA	**Godfrey** comp=Z,21nm,1.0s	52.21	87	*e*P		P		17 20 13.5	-2.9
GOGA	**Godfrey** comp=Z,21nm,1.0s	52.21	87	*e*P		P		17 20 13.5	-2.9
GOGA					pmax		pmax			
GOGA	**Godfrey** baz=322	52.21	87	P		P		17 20 15.4	-1.0
Y54A	**Tignall** baz=322	52.25	86	P		P		17 20 15.9	-0.8
251A	**Midway** baz=323	52.26	90	P		P		17 20 16.2	-0.6
Z53A	**Monticello** baz=322	52.26	87	P		P		17 20 15.8	-1.0
X55A	**Gracelyn & Ava** baz=322	52.32	85	P		P		17 20 16.8	-0.4
X56A	**White Oak** baz=322	52.61	84	P		P		17 20 17.8	-1.5
Y55A	**Saluda** baz=322	52.62	85	P		P		17 20 18.1	-1.4
153A	**Fort Valley** baz=323	52.62	88	P		P		17 20 18.0	-1.6
Z54A	**Sparta** baz=322	52.67	86	P		P		17 20 18.0	-1.8
252A	**Lumpkin** baz=323	52.68	89	P		P		17 20 18.4	-1.5
KS01	**Wonju Array Si**	52.79	282	*e*P		P		17 20 20.2	-0.5
KSRS	**Korea Array** comp=Z,6.0nm,0.8s	52.80	282	P		P		17 20 21.1	+0.4
KSRS					pmax		pmax			
KSRS	**Korea Array** comp=Z,211nm,21.6s	52.80	282	P		P		17 20 21.1	+0.4
KSRS	**Korea Array** comp=Z,16nm,0.8s,baz=37,slow=6.8,SNR=14				LR		LR	17 41 34.0		
KSAR	**Wonju Array Be** comp=Z,211nm,21.6s,baz=29,slow=35	52.83	282	P		P		17 20 21.1	+0.1
TLY	**Talaya** comp=Z,14nm,0.8s	52.88	310	*e*P		P		17 20 19.3	-1.9
TLY	**Talaya** comp=Z,10.0nm,0.6s	52.88	310	*e*P		P		17 20 20.3	-0.9
TLY					pmax		pmax			
TLY	comp=Z,2μm,16.0s				MLR		MLR			
LVZ	**Lovozero** comp=Z,38nm,1.2s	52.98	356⇓	*e*P		P		17 20 23.0	+1.2
LVZ					pmax		pmax			
154A	**Montrose** baz=323	53.02	87	P		P		17 20 21.3	-1.2
X57A	**Johnson Farm,** baz=322	53.11	83	P		P		17 20 22.7	-0.4
155A	**Kite** baz=323	53.35	87	P		P		17 20 25.0	+0.1
APA	**Apatity** comp=Z,11nm,1.0s	53.35	356⇓	*i*P		P		17 20 26.6	+2.2
APA					pmax		pmax			
APA	comp=Z,900nm,23.0s				MLR		MLR			
X58A	**Rowland** baz=322	53.42	83	P		P		17 20 24.7	-0.6
254A	**Abbeville** baz=323	53.46	88	P		P		17 20 24.8	-0.9
353A	**Camilla** baz=323	53.46	89	P		P		17 20 24.3	-1.4
CNNC	**Cliffs of the** baz=322	53.62	81	P		P		17 20 26.5	-0.3
Z57A	**Bowman** baz=323	53.72	85	P		P		17 20 27.0	-0.6
Y58A	**Scranton** baz=322	53.76	83	P		P		17 20 27.7	-0.2
ZAK	**Zakamensk** comp=Z,4.0nm,0.9s	54.04	309	*e*P		P		17 20 27.9	-2.0
ZAK					pmax		pmax			
NHSC	**New Hope** baz=323	54.13	84	P		P		17 20 30.4	-0.2
Z58A	**St. Stephen** baz=323	54.14	84	P		P		17 20 30.6	0.0
SONM	**Songino Array** comp=Z,20nm,0.8s,baz=43,slow=6.9,SNR=44	54.77	306	P		P		17 20 35.7	+0.4
SONM					LR		LR	17 45 43.1		
TMCR	**Tamitsa** comp=Z,610nm,19.3s,baz=36,slow=38	56.55	354	*e*P		P		17 20 48.2	+0.6
TMCR					pmax		pmax			
ZAA0	**Zalesovo Array** comp=Z,30nm,1.0s	57.64	323	*e*P		P		17 20 55.5	+0.1
ZALV	**Zalesovo Beam** comp=Z,29nm,0.8s	57.64	323	*e*P		P		17 20 55.5	+0.1
ZALV	**Zalesovo Beam**	57.64	323	*e*P		P		17 20 55.5	+0.1
ZALV	**Zalesovo Beam** comp=Z,28nm,0.7s,baz=26,slow=6.5,SNR=15	57.64	323	P		P		17 20 55.0	-0.4
HHC	**Hu-ho-hao-te**	58.03	297	*e*P		P		17 20 59.3	+0.8
HHC					S		S	17 29 00.7	+1.5
HHC	comp=Z,21nm,1.1s				pmax		pmax			
HHC	comp=Z,170nm,6.6s				pmax		pmax			
HHC	comp=Z,990nm,16.1s				LR		LR			
HHC	comp=Z,1μm,16.5s				LR		LR			
HHC					LR		LR			
NB2	**NORSAR Subarra** comp=Z,1.2nm,0.7s,baz=351,slow=7.4	59.49	8	P		P		17 21 10.2	+1.9
NOA	**NORSAR Array B** comp=Z,9.0nm,1.2s	59.49	8	P		P		17 21 08.9	+0.6
NOA					pmax		pmax			
NOA	**NORSAR Array B** comp=Z,6.9nm,1.1s,baz=352,slow=6.9,SNR=6.4	59.49	8	P		P		17 21 08.9	+0.6
FIA1	**FINESS Array S**	59.62	360	*e*P		P		17 21 09.1	-0.1
FINES	**FINESS Array B** comp=Z,9.1nm,0.7s,baz=358,slow=5.7,SNR=13	59.63	360	P		P		17 21 08.4	-0.8
KLMR	**Klimovskoe** comp=Z,42nm,0.9s	59.75	352	*e*P		P		17 21 09.9	-0.1
KLMR					pmax		pmax			
KLMR	**Klimovskoe** comp=Z,42nm,0.9s	59.75	352	*e*P		P		17 21 09.9	-0.1
KLMR					AMP			17 21 15.2		
CMIG	**Matias Romero** comp=Z,22nm,1.0s,baz=329,slow=6.1,SNR=16	59.86	108	P		P		17 21 11.2	-0.2
HFS	**Hagfors** comp=Z,4.4nm,0.8s,baz=2.9,slow=5.9,SNR=5.1	60.56	7	P		P		17 21 15.9	+0.3
SVE	**Sverdlovsk** comp=Z,31nm,1.4s	61.01	339	*e*P		P		17 21 20.6	+1.9
SVE					pmax		pmax			
KIRV	**Kirov** comp=Z,15nm,0.7s,baz=60,slow=2.1,SNR=7.0	61.04	346	P		P		17 21 19.1	+0.2
NJ2	**Nanjing** comp=Z,6.0nm,0.5s	61.61	285	*e*P		P		17 21 23.5	+0.4
NJ2					pmax		pmax			
ARU	**Arti** comp=Z,43nm,1.0s	61.76	340	*e*P		P		17 21 22.4	-1.4
ARU	**Arti**	61.76	340	*c i*P		P		17 21 25.8	+2.0
ARU								17 22 03.8		
ARU								17 23 41.9		
ARU					S		S	17 29 52.0	+5.4
ARU					SS		SS	17 33 50.3	+3.2
ARU	comp=Z,31nm,1.4s				pmax		pmax			
SEM	**Semipalatinsk** comp=Z,40nm,1.5s	62.11	324	*e*P		P		17 21 25.5	-1.0
SEM					pmax		pmax			
SEM	comp=Z,346nm,13.0s				MLR		MLR			
SEM	**Semipalatinsk** comp=Z,40nm,1.5s	62.11	324	*e*P		P		17 21 25.5	-1.0
SEM	comp=Z,346nm,13.5s			*e*	LR		LR	17 47 52.4		
KURK	**Kurchatov** comp=Z,10nm,0.9s	62.32	325	*e*P		P		17 21 26.7	-0.9
KURK	**Kurchatov** comp=Z,13nm,1.3s	62.32	325	*d i*P		P		17 21 27.0	-0.6
KURK					pmax		pmax			
BRVK	**Borovoye** comp=Z,11nm,0.8s	62.45	332	*e*P		P		17 21 27.4	-1.1
BRVK	**Borovoye**	62.45	332	*de*P		P		17 21 27.5	-1.0

BVAR	**Borovoye Array**	62.46	331	P		**P**		17 21 27.0	-1.5
	comp=Z,10nm,0.6s,baz=31,slow=6.9,SNR=24								
VSU	**Vasala**	62.62	360	⇓*e*P		**P**		17 21 27.9	-1.5
VSU				pmax	pmax				
	comp=Z,48nm,1.3s								
VSU	**Vasala**	62.62	360	*e*P		**P**		17 21 31.8	+2.4
VSU				IAmb	IAmb	17 21 34.7			
	comp=Z,122nm,1.1s								
ZSN	**Zaisan**	63.23	319	*e*P		**P**		17 21 33.2	-0.6
ZSN				pmax	pmax				
	comp=Z,34nm,1.2s								
ZSN				MLR	MLR				
	comp=Z,128nm,13.0s								
ZSN	**Zaisan**	63.23	319	*e*P		**P**		17 21 33.2	-0.6
	comp=Z,34nm,1.2s								
ZSN				*e*LR	LR	17 49 31.5			
	comp=Z,128nm,13.2s								
EKA	**Eskdalemuir Ar**	63.41	18	P		**P**		17 21 34.8	0.0
	comp=Z,2.5nm,0.7s,baz=186,slow=25,SNR=4.6								
APG	**El Apazote**	63.82	105	P		**P**		17 21 37.8	-0.5
	comp=Z,17nm,0.9s,baz=329,slow=9.9,SNR=11								
GTA	**Gaotai**	64.39	304	P		**P**		17 21 41.0	-0.7
GTA				pP	sP	17 21 45.1	+0.2		
GTA				sP	pP	17 21 48.3	+4.3		
GTA				pmax	pmax				
	comp=Z,200nm,5.7s								
GTA				LR	LR				
	comp=Z,1μm,15.1s								
MK31	**Makanchi Array**	64.66	321	*i* P		**P**		17 21 41.9	-1.3
MK31				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MKAR	**Makanchi Array**	64.66	321	*i* P		**P**		17 21 44.5	+1.3
MKAR				pmax	pmax				
	comp=Z,6.0nm,0.9s								
MKAR	**Makanchi Array**	64.66	321	P		**P**		17 21 41.4	-1.8
	comp=Z,5.6nm,0.9s,baz=41,slow=5.8,SNR=21								
MK01	**Makanchi Array**	64.68	321	*e*P		**P**		17 21 41.9	-1.4
XAN	**Xi'an**	64.78	294	P		**P**		17 21 45.9	+1.7
XAN				pP	sP	17 21 54.9	+7.5		
XAN				pmax	pmax				
	comp=Z,11nm,1.5s								
XAN				LR	LR				
	comp=Z,800nm,15.2s								
XAN				LR	LR				
	comp=Z,870nm,14.1s								
XAN				LR	LR				
	comp=Z,770nm,16.3s								
IZAR	**Zarasai**	65.34	360	*e*P		**P**		17 21 50.0	+2.6
IZAR				IAmb	IAmb	17 21 52.5			
	comp=Z,7.5nm,0.8s								
WMQ	**Urumqi**	65.40	315	*e*P		**P**		17 21 51.4	+3.3
WMQ				pP	sP	17 21 56.1	+4.7		
WMQ				sP	pP	17 21 59.0	+8.5		
WMQ				pmax	pmax				
	comp=Z,34nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,410nm,3.7s								
WMQ				LR	LR				
	comp=Z,1μm,20.1s								
LZH	**Lanzhou**	65.41	299	*e*P		**P**		17 21 52.1	+3.7
LZH				pP	sP	17 21 56.1	+4.5		
LZH				sP	pP	17 21 58.7	+8.0		
LZH				*e*S	S	**17 30 33.2**	**+0.3**		
LZH				sS	sS	17 30 42.7	+5.9		
LZH				pmax	pmax				
	comp=Z,81nm,1.0s								
LZH				pmax	pmax				
	comp=Z,560nm,4.6s								
LZH				LR	LR				
	comp=Z,2μm,15.2s								
ISAL	**Salakas**	65.52	360	*e*P		**P**		17 21 50.8	+2.2
ISAL				IAmb	IAmb	17 21 53.8			
	comp=Z,30nm,1.3s								
OBN	**Obninsk**	65.66	353	⇓*e*P		**P**		17 21 51.2	+1.8
OBN				*e*		17 22 21.2			
OBN				pmax	pmax				
	comp=Z,42nm,1.3s								
OBN				MLR	MLR				
	comp=Z,1μm,21.0s								
OBN	**Obninsk**	65.66	353	P		**P**		17 21 50.3	+0.8
	comp=Z,4.3nm,0.4s,baz=149,slow=3.0,SNR=6.0								
OTUK	**Ortayu**	66.33	328	P		**P**		17 21 52.4	-1.6
OTUK				pmax	pmax				
	comp=Z,8.0nm,0.7s								
KLNR	**Kaliningrad**	66.39	4	⇑*e*P		**P**		17 21 56.3	+2.1
KLNR				pmax	pmax				
	comp=Z,170nm,1.1s								
SUW	**Suwalki**	67.06	2	*e*P		**P**		17 22 01.4	+3.0
SUW	**Suwalki**	67.06	2	*e*P		**P**		17 22 01.4	+3.0
AKTO	**Aktyubinsk**	67.58	338	P		**P**		17 22 01.2	-0.7
	comp=Z,4.6nm,0.8s,baz=347,slow=6.1,SNR=12								
LPSR	**Galich'ya Gora**	68.00	351	*e*P		**P**		17 22 04.5	+0.1
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
RUE	**Ruedersdorf**	68.18	8	*e*P		**P**		17 22 08.0	+2.4
RUE				IAmb	IAmb	17 22 11.1			
	comp=Z,25nm,0.9s								
AB31	**Akbulak array**	68.33	337	*i* P		**P**		17 22 04.9	-1.7
AB31				pmax	pmax				
	comp=Z,6.0nm,0.7s								
ABKAR	**Akbulak array**	68.33	337	*e*P		**P**		17 22 05.6	-1.0
	comp=Z,8.1nm,0.8s								
PDGK	**Podgornoye**	68.65	321	P		**P**		17 22 08.5	-0.4
PDGK				pmax	pmax				
	comp=Z,11nm,1.0s								
BTLS	**Baital**	68.77	325	*e*P		**P**		17 22 08.3	-1.1
BTLS				pmax	pmax				
	comp=Z,45nm,0.7s								
BTLS	**Baital**	68.77	325	*e*P		**P**		17 22 08.3	-1.1
	comp=Z,45nm,0.7s								
BTLS				*e*LR	LR	17 53 45.2			
UZB	**Uzynbulak**	68.96	321	*e*P		**P**		17 22 08.9	-1.9
UZB				pmax	pmax				
	comp=Z,16nm,0.8s								
UZB				MLR	MLR				
	comp=Z,240nm,13.0s								
UZB	**Uzynbulak**	68.96	321	*e*P		**P**		17 22 09.0	-1.9
	comp=Z,16nm,0.8s								
UZB				*e*LR	LR	17 51 35.7			
	comp=Z,240nm,13.5s								
KUU	**Kurty**	69.13	323	*e*P		**P**		17 22 10.9	-0.8
KUU				pmax	pmax				
	comp=Z,11nm,1.8s								
KUU				MLR	MLR				
	comp=Z,262nm,15.0s								
KUU	**Kurty**	69.13	323	*e*P		**P**		17 22 10.9	-0.8
	comp=Z,11nm,1.8s								
KUU				*e*LR	LR	17 52 58.7			
	comp=Z,262nm,14.8s								
VRH	**Novokhopyorsk**	69.14	349	*e*P		**P**		17 22 12.0	+0.4
VRH				pmax	pmax				
	comp=Z,10.0nm,1.3s								
SATY	**Saty**	69.24	322	*e*P		**P**		17 22 14.5	+2.0
SATY				pmax	pmax				
	comp=Z,72nm,0.8s								
SATY				MLR	MLR				
	comp=Z,357nm,15.0s								
SATY	**Saty**	69.24	322	*e*P		**P**		17 22 14.6	+2.0
	comp=Z,72nm,0.8s								
SATY				*e*LR	LR	17 51 02.4			
	comp=Z,357nm,14.9s								
VSR	**Storozhevoye**	69.35	351	⇓*i* P		**P**		17 22 14.7	+1.8
VSR				pmax	pmax				
	comp=Z,23nm,1.0s								
MDOK	**Medeo**	69.57	323	*e*P		**P**		17 22 12.7	-1.9
MDOK				pmax	pmax				
	comp=Z,35nm,1.8s								
MDOK				MLR	MLR				
	comp=Z,278nm,17.0s								
MDOK	**Medeo**	69.57	323	*e*P		**P**		17 22 12.7	-1.9
	comp=Z,35nm,1.8s								
MDOK				*e*LR	LR	17 52 17.9			
	comp=Z,278nm,16.9s								
CD2	**Chengdu**	69.78	296	*e*P		**P**		17 22 18.5	+2.6
MOX	**Moxa**	69.83	10	*e*L		L		18 02 48.4	
	comp=Z,711nm,21.3s								
KSP	**Ksiaz**	69.97	6	*e*P		**P**		17 22 20.4	+3.6
KSP	**Ksiaz**	69.97	6	*e*P		**P**		17 22 20.4	+3.6
PVCC	**Panska Ves**	70.18	8	*e*P		**P**		17 22 21.4	+3.4
PVCC	**Panska Ves**	70.18	8	*e*P		**P**		17 22 21.4	+3.4
UPC	**Upice**	70.29	7	*e*P		**P**		17 22 18.6	-0.1
UPC				*e*pP		**sP**		17 22 22.1	+0.1
UPC	**Upice**	70.29	7	*e*P		**P**		17 22 18.6	-0.1
UPC				*e*		17 22 22.1			
NKC	**Novy Kostel**	70.31	9	*e*P		**P**		17 22 22.2	+3.3
NKC	**Novy Kostel**	70.31	9	*e*P		**P**		17 22 22.2	+3.3

AKASG	**Malin Array Be**	70.36	358	*i* P		**P**		17 22 21.1	+2.0
AKASG				pmax	pmax				
	comp=Z,12nm,0.7s								
AKASG	**Malin Array Be**	70.36	358	P		**P**		17 22 17.2	-1.9
	comp=Z,8.4nm,0.7s,baz=4.3,slow=6.1,SNR=30								
AKBB	**Malin Array Si**	70.36	358	*e*P		**P**		17 22 20.1	+1.1
	comp=Z,24nm,1.0s								
AKBB	**Malin Array Si**	70.36	358	*e*P		**P**		17 22 20.2	+1.1
AKBB				pmax	pmax				
	comp=Z,24nm,1.0s								
AK11	**Malin Array Si**	70.39	358	*e*P		**P**		17 22 19.8	+0.5
KDJ	**Kajisay**	70.47	322	*e*P		**P**		17 22 21.9	+1.8
	comp=Z,10nm,0.9s								
DPC	**Dobruska-Polom**	70.47	6	*e*P		**P**		17 22 20.3	+0.4
DPC				*e*pP		**sP**		17 22 23.5	+0.4
DPC	**Dobruska-Polom**	70.47	6	*e*P		**P**		17 22 20.3	+0.4
DPC				*e*		17 22 23.5			
FRU	**Bishkek**	70.62	324	*e*P		**P**		17 22 22.0	+1.1
PRU	**Pruhonice**	70.72	8	*e*P		**P**		17 22 24.6	+3.3
PRU	**Pruhonice**	70.72	8	*e*P		**P**		17 22 24.6	+3.3
GRF	**Grafenberg Arr**	70.75	10	*e*P		**P**		17 22 25.0	+3.5
	comp=Z,12nm,1.2s,baz=348,slow=5.5								
GRF				*e*L		L		18 03 12.1	
	comp=Z,726nm,21.8s								
OJC	**Ojcow**	70.76	4	*e*P		**P**		17 22 26.1	+4.5
OJC	**Ojcow**	70.76	4	*e*P		**P**		17 22 26.1	+4.5
KRLC	**Kraliky**	70.77	6	*e*P		**P**		17 22 25.2	+3.5
KRLC	**Kraliky**	70.77	6	*e*P		**P**		17 22 25.2	+3.5
GOPC	**GO Pecny, Ondr**	70.81	8	*e*P		**P**		17 22 25.6	+3.7
GOPC	**GO Pecny, Ondr**	70.81	8	*e*P		**P**		17 22 25.6	+3.7
AAK	**Ala-Archa**	70.83	324	*e*P		**P**		17 22 21.4	-1.0
	comp=Z,5.3nm,0.8s								
AAK	**Ala-Archa**	70.83	324	⇓*e*P		**P**		17 22 22.9	+0.5
AAK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
OKC	**Ostrava-Krasne**	71.08	5	*e*P		**P**		17 22 26.9	+3.4
OKC	**Ostrava-Krasne**	71.08	5	*e*P		**P**		17 22 26.9	+3.4
MORC	**Moravsky Berou**	71.11	6	⇑*i*P		**P**		17 22 27.1	+3.3
MORC	**Moravsky Berou**	71.11	6	*e*P		**P**		17 22 26.5	+2.7
KWP	**Kalwaria Pacla**	71.44	2	*e*P		**P**		17 22 28.1	+2.4
KWP	**Kalwaria Pacla**	71.44	2	*e*P		**P**		17 22 28.1	+2.4
TREC	**Trest**	71.47	7	*e*P		**P**		17 22 29.2	+3.3
TREC	**Trest**	71.47	7	*e*P		**P**		17 22 29.2	+3.3
KHC	**Kasperske Hory**	71.50	9	*e*P		**P**		17 22 27.0	+0.9
KHC				*e*pP		**sP**		17 22 29.8	+0.4
KHC	**Kasperske Hory**	71.50	9	*e*P		**P**		17 22 27.0	+0.9
KHC				*e*		17 22 29.8			
VRAC	**Vranov**	71.52	6	⇑*i*P		**P**		17 22 29.4	+3.2
VRAC	**Vranov**	71.52	6	*e*P		**P**		17 22 29.2	+3.0
VRAC	**Vranov**	71.52	6	P		**P**		17 22 26.3	+0.1
	comp=Z,5.3nm,0.8s,baz=12,slow=7.5,SNR=4.8								
KK31	**Karatay Array**	71.56	327	*e*P		**P**		17 22 25.4	-1.2
KK31				pmax	pmax				
	comp=Z,3.0nm,0.8s								
NIE	**Niedzica**	71.58	4	*e*P		**P**		17 22 30.4	+3.8
NIE	**Niedzica**	71.58	4	*e*P		**P**		17 22 30.4	+3.8
KRUC	**Moravsky**	71.76	7	*e*P		**P**		17 22 30.5	+2.9
LANS	**Liptovska Anna**	71.82	4	*e*P		**P**		17 22 31.9	+3.8
LANS	**Liptovska Anna**	71.82	4	*e*P		**P**		17 22 31.8	+3.7
JAVC	**Velka Javorina**	72.03	6	*e*P		**P**		17 22 32.9	+3.6
GYA	**Guiyang**	72.17	292	P		**P**		17 22 32.0	+1.4
GYA				PP		**PP**		17 25 13.3	+2.8
GYA				S		S		17 31 53.2	0.0
GYA				SKS		**SKSac**		17 32 32.4	-2.9
GYA				pmax	pmax				
	comp=Z,20nm,1.0s								
GYA				pmax	pmax				
	comp=Z,120nm,5.3s								
UZH	**Uzhgorod**	72.43	3	*d i*P		**P**		17 22 35.2	+3.6
UZH				*e*		17 22 43.0			
VYHS	**Vyhne**	72.45	5	*e*P		**P**		17 22 35.1	+3.3
VYHS	**Vyhne**	72.45	5	*e*P		**P**		17 22 35.1	+3.3
MODS	**Modra-Piesok**	72.49	6	*e*P		**P**		17 22 36.0	+3.9
MODS	**Modra-Piesok**	72.49	6	*e*P		**P**		17 22 36.0	+3.9
IUG	**Iuzhnay**	72.58	327	*e*P		**P**		17 22 32.4	-0.4
IUG				pmax	pmax				
	comp=Z,109nm,0.9s								
IUG				MLR	MLR				
	comp=Z,313nm,15.0s								
IUG	**Iuzhnay**	72.58	327	*e*P		**P**		17 22 32.4	-0.4
	comp=Z,109nm,0.9s								
IUG				*e*LR	LR	17 54 34.8			
	comp=Z,313nm,15.2s								
MOA	**Molln**	72.82	8	*e*P		**P**		17 22 37.6	+3.5
	comp=Z,9.5nm,1.1s								
CONA	**Conrad Observa**	72.85	7	*e*P		**P**		17 22 38.0	+3.7
	comp=Z,11nm,1.0s,SNR=6.5								
TRPA	**Tarpa**	72.93	2	⇑*i*P		**P**		17 22 38.2	+3.6
MOTA	**Moosalm**	73.06	10	*e*P		**P**		17 22 40.0	+4.3
	comp=Z,14nm,1.4s								
PSZ	**Piszkesteto**	73.07	4	⇓*i*P		**P**		17 22 38.8	+3.2
WATA	**Walderalm**	73.11	10	*e*P		**P**		17 22 40.3	+4.4
	comp=Z,17nm,1.2s								
SQTA	**Sankt Quirin**	73.19	10	*e*P		**P**		17 22 39.9	+3.5
	comp=Z,24nm,1.5s								
KSH	**Kashi**	73.22	322	P		P		17 22 42.5	+5.8
KSH				PcP		**PcP**		17 22 59.5	+6.3
KSH				S		**SKiKP**		17 32 12.9	+4.6
KSH				pmax	pmax				
	comp=Z,12nm,1.0s								
KSH				pmax	pmax				
	comp=Z,63nm,4.2s								
KSH				LR	LR				
	comp=Z,710nm,16.1s								
FETA	**Feichten**	73.35	11	*e*P		**P**		17 22 40.7	+3.4
	comp=Z,11nm,1.2s								
BURAR	**Bucovina Array**	73.48	0	⇑*i*P		**P**		17 22 40.8	+2.7
DAVOX	**Davos/Dischmat**	73.50	11	P		**P**		17 22 40.1	+1.8
	comp=Z,3.8nm,0.9s,baz=348,slow=7.6,SNR=3.6								
ARSA	**Arzberg**	73.51	7	*e*P		**P**		17 22 41.9	+3.8
	comp=Z,8.1nm,1.1s,SNR=4.9								
KBA	**Koelnbreinsper**	73.52	9	*e*P		**P**		17 22 41.9	+3.5
	comp=Z,17nm,0.9s								
ABTA	**Abfaltersbach**	73.78	10	*e*P		**P**		17 22 43.1	+3.3
	comp=Z,7.2nm,1.2s								
SOKA	**Soboth**	74.04	8	*e*P		**P**		17 22 44.7	+3.3
	comp=Z,13nm,1.2s,SNR=5.4								
PERS	**Pernice**	74.09	8	*i* P		**P**		17 22 43.4	+1.8
BIZ	**Bicaz**	74.16	360	⇑*i*P		**P**		17 22 44.5	+2.6
OBKA	**Obir**	74.18	8	*e*P		**P**		17 22 45.3	+3.1
	comp=Z,12nm,0.8s,SNR=7.1								
JAVS	**Javornik**	74.75	9	*i* P		**P**		17 22 47.9	+2.4
VISS	**Visnje**	74.90	8	*i* P		**P**		17 22 50.7	+4.4
KMI	**Kunming**	75.16	294	P		**P**		17 22 48.8	+0.5
KMI				pmax	pmax				
	comp=Z,11nm,0.5s								
BOJS	**Bojanci**	75.23	8	*i* P		**P**		17 22 50.8	+2.7
VRI	**Vrincioaia**	75.23	359	⇓*i*P		**P**		17 22 50.7	+2.5
PLOR	**Plostina**	75.25	359	⇑*i*P		**P**		17 22 49.9	+1.6
GAR	**Garm**	75.41	326	*e*P		**P**		17 22 50.0	+0.5
	comp=Z,25nm,1.1s								
GAR	**Garm**	75.41	326	*e*P		**P**		17 22 50.0	+0.5
GAR				pmax	pmax				
	comp=Z,25nm,1.1s								
BZS	**Buzias**	75.42	3	⇑*i*P		**P**		17 22 50.7	+1.5
MLR	**Muntele Rosu**	75.61	360	P		**P**		17 22 51.1	+0.6
	comp=Z,2.6nm,0.9s,baz=323,slow=20,SNR=3.3								
VOIR		75.66	1	⇑*i*P		**P**		17 22 53.6	+2.9
GZR	**Gura Zlata**	75.67	2	⇑*i*P		**P**		17 22 52.2	+1.4
ANN	**Anapa**	75.86	352	*e*P		P		17 22 45.5	-6.2
ANN				*e*PP		pP		17 22 52.8	-1.3
ANN				*e*S		S		17 32 23.8	-10
ANN				*e*SSS		SSS		17 40 42.7	
ANN				pmax	pmax				
	comp=Z,85nm,1.5s								
CFR	**Carcaliu**	75.91	358	⇓*i*P		**P**		17 22 53.6	+1.6
CHGR	**Chuyangaron**	76.06	326	*e*P		**P**		17 22 52.1	-1.1
	comp=Z,31nm,0.7s								
KIV	**Kislovodsk**	76.22	348	*e*P		**P**		17 22 56.2	+2.3
KIV				pmax	pmax				
	comp=Z,10.0nm,1.1s								
MDVR	**Moldovita**	76.26	3	⇓*i*P		**P**		17 22 55.3	+1.2
LSA	**Lhasa**	76.36	306	P		**P**		17 22 55.2	-0.2
LSA	**Lhasa**	76.36	306	*e*P		**P**		17 22 54.4	-1.0
	comp=Z,9.6nm,0.9s								
LSA	**Lhasa**	76.36	306	*e*P		**P**		17 22 54.4	-1.0
LSA				pmax	pmax				
	comp=Z,10.0nm,0.9s								
KBZ	**Khabaz**	76.42	347	P		**P**		17 22 55.0	+0.1
KBZ	**Khabaz**	76.42	347	P		**P**		17 22 55.0	+0.1
	comp=Z,2.5nm,0.8s,baz=82,slow=7.1,SNR=4.8								
NCK	**Nalchik**	76.57	347	⇑*e*P		**P**		17 22 56.6	+0.8
PPT	**Papeete**	76.64	176	LR		LR		17 50 19.6	
	comp=Z,267nm,18.5s,baz=332,slow=31								

ZEI	**Tsey**	77.23	347	*e*P		**P**		17 22 58.0	-1.8
ZEI				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ESDC	**Sonseca Array**	78.36	23	P		**P**		17 23 05.6	-0.3
	comp=Z,1.0nm,0.7s,baz=296,slow=16,SNR=2.7								
SDV	**Santo Domingo**	79.08	91	*e*P		**P**		17 23 09.8	-0.6
	comp=Z,13nm,0.9s								
SDV	**Santo Domingo**	79.08	91	*e*P		**P**		17 23 07.5	-2.9
SDV	**Santo Domingo**	79.08	91	*e*P		**P**		17 23 07.5	-2.9
CAPV	**Capacho**	79.08	93	*e*P		**P**		17 23 07.5	-2.9
CAPV	**Capacho**	79.08	93	*e*P		**P**		17 23 07.5	-2.9
PTBC	**PUERTO BERRIO,**	79.11	96	*e*P		**P**		17 23 06.7	-3.7
PTBC	**PUERTO BERRIO,**	79.11	96	*e*P		**P**		17 23 06.7	-3.7
SOCV	**Socops**	79.47	92	*e*P		**P**		17 23 10.8	-1.6
SOCV	**Socops**	79.47	92	*e*P		**P**		17 23 10.8	-1.6
GEYT	**Alibeck**	79.54	335	P		**P**		17 23 12.2	-0.3
	comp=Z,4.7nm,0.9s,baz=318,slow=2.0,SNR=5.9								
BARC	**Barichara**	79.72	94	*e*P		**P**		17 23 12.4	-1.5
BARC	**Barichara**	79.72	94	*e*P		**P**		17 23 12.4	-1.5
NORC	**Norcasia**	79.73	96	*e*P		**P**		17 23 11.6	-2.2
NORC	**Norcasia**	79.73	96	*e*P		**P**		17 23 11.6	-2.2
JAY	**Jayapura**	79.76	247	LR		LR		17 55 30.3	
	comp=Z,176nm,19.4s,baz=34,slow=34								
JIRN	**Jiri**	80.19	309	*e*P		**P**		17 23 15.2	-1.4
	comp=Z,71nm,0.8s								
YOTC	**Yotoco, Valle**	80.33	99	*e*P		**P**		17 23 13.2	-3.9
YOTC	**Yotoco, Valle**	80.33	99	*e*P		**P**		17 23 13.2	-3.9
RUSC	**La Rusia**	80.36	95	*e*P		**P**		17 23 14.1	-3.7
RUSC	**La Rusia**	80.36	95	*e*P		**P**		17 23 14.1	-3.7
KKN	**Kakani**	80.44	309	*e*P		**P**		17 23 16.6	-1.1
	comp=Z,46nm,1.3s								
DANN	**Dangsing**	80.54	311	*e*P		**P**		17 23 17.5	-0.8
	comp=Z,87nm,0.8s								
TAMC	**Tame, Arauca**	80.56	93	*e*P		**P**		17 23 17.3	-0.9
TAMC	**Tame, Arauca**	80.56	93	*e*P		**P**		17 23 17.3	-0.9
PKI	**Pulchoki**	80.58	309	*e*P		**P**		17 23 17.8	-0.8
PKIN	**Phulchoki**	80.58	309	*e*P		**P**		17 23 17.5	-1.0
	comp=Z,12nm,0.7s								
DMN	**Daman**	80.67	309	*e*P		**P**		17 23 18.5	-0.5
	comp=Z,25nm,0.9s								
PYUN	**Piuthan**	81.06	311	*e*P		**P**		17 23 19.8	-1.2
	comp=Z,50nm,0.9s								
CHIC	**Chingaza**	81.11	96	*e*P		**P**		17 23 19.8	-1.8
CHIC	**Chingaza**	81.11	96	*e*P		**P**		17 23 19.8	-1.8
KOLN	**Koldanda**	81.12	311	*e*P		**P**		17 23 20.0	-1.3
	comp=Z,26nm,0.9s								
BRTR	**Keskin Array B**	81.16	354	P		**P**		17 23 21.3	0.0
	comp=Z,1.5nm,0.8s,baz=5.7,slow=3.7,SNR=7.8								
BRTR				PKKPbc		**PKKPbc**		**17 41 53.8**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=157,slow=3.8,SNR=4.7								
BRTR				LR	LR			18 02 19.6	
	comp=Z,110nm,21.9s,baz=58,slow=38								
PRAC	**Prado**	81.30	97	*e*P		**P**		17 23 20.6	-1.6
PRAC	**Prado**	81.30	97	*e*P		**P**		17 23 20.6	-1.6
POPC	**Popayan, Colom**	81.40	100	*e*P		**P**		17 23 22.3	-0.7
POPC	**Popayan, Colom**	81.40	100	*e*P		**P**		17 23 22.3	-0.7
SOTA	**Rioblanco**	81.78	100	*e*P		**P**		17 23 23.1	-2.2
SOTA	**Rioblanco**	81.78	100	*e*P		**P**		17 23 23.1	-2.2
CMMT	**Chiang Mai**	82.35	294	P		**P**		17 23 31.9	+4.2
CHTO	**Chiang Mai**	82.35	294	P		**P**		17 23 23.2	-4.5
	comp=Z,3.1nm,0.8s								
CHTO	**Chiang Mai**	82.35	294	P		**P**		17 23 23.2	-4.5
CHTO				pmax	pmax				
	comp=Z,3.0nm,0.8s								
CHTO	**Chiang Mai**	82.35	294	P		**P**		17 23 31.9	+4.2
OTAV	**Otavalo**	82.48	102	*e*P		**P**		17 23 27.5	-1.3
	comp=Z,8.5nm,0.8s								
OTAV	**Otavalo**	82.48	102	*e*P		**P**		17 23 27.5	-1.3
OTAV				pmax	pmax				
	comp=Z,8.0nm,0.8s								
CMAR	**Chiang Mai Arr**	82.66	294	*i* P		**P**		17 23 27.8	-1.5
CMAR				pmax	pmax				
	comp=Z,2.0n

GRRZ	**Galatos Road**	**2.45**	**251**	P	Pn	17 26 15.0	+1.1
KMRZ	**Kaimai**	**2.48**	**263**	P	Pn	17 26 14.6	+0.2
BKZ	**Black Stump Fm**	**2.56**	**231**	P	Pn	17 26 16.2	+0.8
CKHZ	**Cape Kidnapper**	**2.59**	**216**	P	Pn	17 26 16.1	+0.3
MCHZ	**McNeill Hill**	**2.62**	**224**	P	Pn	17 26 17.0	+0.7
HATZ	**Hinemaiaia**	**2.68**	**240**	P	Pn	17 26 17.5	+0.5
KUTZ	**Kaahu Road**	**2.71**	**249**	P	Pn	17 26 18.3	+0.8
KWHZ	**Kaweka Forest**	**2.77**	**227**	P	Pn	17 26 18.6	+0.3
KUZ	**Kuaotunu**	**2.79**	**286**	P	Pn	17 26 18.2	-0.4
KAHZ	**Kahuranaki**	**2.79**	**217**	P	Pn	17 26 18.6	0.0
TOZ	**Tahuroa Road**	**2.82**	**266**	P	Pn	17 26 19.1	+0.1
WATZ	**Wairara**	**2.85**	**246**	P	Pn	17 26 20.3	+0.9
RITZ	**Rihia Road**	**2.88**	**240**	P	Pn	17 26 20.6	+0.9
TLZ	**Tolley Road**	**2.88**	**254**	P	Pn	17 26 20.4	+0.6
RATZ	**Rangitukua**	**2.89**	**243**	P	Pn	17 26 21.0	+1.0
KRHZ	**Kereru**	**2.94**	**225**	P	Pn	17 26 20.7	0.0
PXZ	**Pawanui**	**2.99**	**214**	P	Pn	17 26 20.7	-0.6
KATZ	**Kakaramea**	**2.99**	**241**	P	Pn	17 26 22.3	+0.8
BHHZ	**Black Hill Sta**	**3.02**	**230**	P	Pn	17 26 22.2	+0.4
KRVZ	**Karewarewa**	**3.08**	**240**	P	Pn	17 26 23.2	+0.5
WTVZ	**West Tongariro**	**3.13**	**240**	P	Pn	17 26 24.0	+0.7
MKAZ	**Moumakai**	**3.14**	**277**	P	Pn	17 26 23.7	+0.4
NGZ	**Ngauruhoe**	**3.15**	**238**	P	Pn	17 26 24.1	+0.5
TUVZ	**Tukino**	**3.16**	**237**	P	Pn	17 26 24.3	+0.5
MOVZ	**Moawhango**	**3.17**	**234**	P	Pn	17 26 24.0	+0.2
GRZ	**Great Barrier**	**3.17**	**294**	P	Pn	17 26 24.3	+0.5
WHVZ	**Whangaehu Hut**	**3.21**	**237**	P	Pn	17 26 25.0	+0.4
TWVZ	**Taurewa**	**3.21**	**241**	P	Pn	17 26 25.2	+0.8
WPHZ	**Waipukurau**	**3.21**	**219**	P	Pn	17 26 23.9	-0.5
FWVZ	**Far West T-bar**	**3.22**	**238**	P	Pn	17 26 25.0	+0.4
DRZ	**Dome Shelter**	**3.22**	**237**	P	Pn	17 26 25.5	+0.7
WIAZ	**Waiheke Island**	**3.23**	**283**	P	Pn	17 26 25.1	+0.5
PNHZ	**Pukenui**	**3.23**	**223**	P	Pn	17 26 23.8	-0.8
PRHZ	**Porangahau**	**3.28**	**214**	P	Pn	17 26 24.3	-1.0
MTVZ	**Mangateitei**	**3.34**	**236**	P	Pn	17 26 26.6	+0.4
ETAZ	**East Tamaki Re**	**3.35**	**279**	P	Pn	17 26 27.0	+0.8
KBAZ	**Karaka Road Bo**	**3.35**	**277**	P	Pn	17 26 27.6	+1.3
PKVZ	**Pokaka**	**3.38**	**238**	P	Pn	17 26 27.2	+0.5
MBAZ	**Motutapu North**	**3.42**	**282**	P	Pn	17 26 27.9	+0.8
HIZ	**Hauiti**	**3.44**	**253**	P	Pn	17 26 29.1	+1.6
TSZ	**Takapari Road**	**3.46**	**223**	P	Pn	17 26 26.6	-1.2
ANWZ	**Angora Road**	**3.51**	**214**	P	Pn	17 26 28.1	-0.3
EPAZ	**Eden Park BICE**	**3.51**	**280**	P	Pn	17 26 29.7	+1.3
ABAZ	**Army Bay**	**3.51**	**285**	P	Pn	17 26 29.5	+1.0
HBAZ	**Herne Bay Bore**	**3.53**	**281**	P	Pn	17 26 29.9	+1.3
DVHZ	**Dannevirke**	**3.53**	**219**	P	Pn	17 26 27.5	-1.2
AWAZ	**Awhitu Peninsu**	**3.55**	**277**	P	Pn	17 26 30.2	+1.2
WTAZ	**Waiatarua**	**3.63**	**279**	P	Pn	17 26 31.5	+1.4
RVAZ	**Riverhead Bore**	**3.66**	**281**	P	Pn	17 26 31.7	+1.2
VRZ	**Vera Road**	**3.71**	**244**	P	Pn	17 26 32.5	+1.3

IDC 10 17:26:44.6±2.2, 6°34S×129°39E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.4/23, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=147.6km s-min=30.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.35**	**161**	Pn	Pn	17 30 09.2	0.0
	0.4nm,0.3s,baz=343,slow=13,SNR=32						
WRA				Sn	Sn	17 32 34.9	-14
	0.8nm,0.3s,baz=334,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**17.77**	**166**	P	Pn	17 30 53.5	-0.1
	0.2nm,0.3s,baz=347,slow=11,SNR=29						
ASAR				S	Sn	17 33 59.5	-13
	0.1nm,0.3s,baz=354,slow=26,SNR=3.9						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	17 37 41.7	0.0
	0.1nm,0.4s,baz=114,slow=7.7,SNR=4.1						

*IDC **10** 18:00:01.1±2.2, 43°30N×105°02W, h0km, mb3.4/1, mb1 3.8/3, mb1mx3.3/34, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=50.0km s-min=9.0km az=155.0*
*NEIC **10** 18:00:04.3±0.7, 43°80N×105°18W, h0km, ML2.9, Error ellipse: s-maj=12.1km s-min=7.6km az=168.0, Suspected Mining explosion.*
NEIC 61 km [38 miles] SSE of Gillette.

ISC 10 18:00:02.4±1.0, 43°57N±0°07×104°90W±0°06, h0km, n11, σ1§36/12, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.84**	**48**	*e*Pg	**Pn**	**18 00 22.3**	**+0.6**
RSSD				*e*Sg	**Sb**	**18 00 32.0**	**+0.2**
LAO	**LASA Array**	**3.26**	**344**	*e*Pn	**Pn**	**18 00 53.1**	**-1.7**
LAO				*e*Sg	**Sn**	**18 01 35.7**	**+1.4**
OGNE	**Ogallala**	**3.38**	**140**	*e*Pn	**Pb**	**18 01 02.2**	**-0.9**
PDAR	**Pinedale Array**	**3.50**	**258**	Pn	**Pn**	**18 00 58.1**	**-0.1**
	8.0nm,0.3s,baz=75,slow=14,SNR=100						
PDAR				Lg	Lg	18 01 46.0	
	11nm,0.3s,baz=84,slow=32,SNR=17						
LKWY	**Lake**	**4.08**	**286**	Pn	**Pn**	**18 01 05.8**	**-0.5**
LKWY				*e*Sg	**Sg**	**18 02 15.3**	**+1.7**
BOZ	**Bozeman (W)**	**5.21**	**295**	Pn	**Pn**	**18 01 19.1**	**-2.7**
HWUT	**Hardware Ranch**	**5.29**	**251**	*e*Pn	**Pn**	**18 01 23.2**	**+0.4**
	4.0nm,0.4s						
EGMT	**Eagleton**	**5.60**	**324**	Pn	Pn	18 01 21.4	-5.6
	7.1nm,0.3s						
I10CA	**LAC DU BONNET**	**8.99**	**39**	*i*		18 57 00.0	
	baz=221,slow=314,SNR=1.0						
ULM	**Lac du Bonnet**	**9.10**	**40**	Pn	**Pn**	**18 02 14.9**	**+0.1**
	1.4nm,0.3s,baz=226,slow=12,SNR=14						
ULM				Lg	Lg	18 04 46.7	
	0.3nm,0.3s,baz=177,slow=1.5,SNR=3.5						
MKAR	**Makanchi Array**	**89.80**	**355**	P	**P**	**18 13 02.8**	**+0.1**
	0.1nm,0.6s,baz=15,slow=6.1,SNR=2.5						

MEX 10 18:07:48.9±0.4, 14°18N×92°75W, h15km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.86**	**33**	*i* P	Pb	18 08 02.8	-2.7
THIG				*i* S	Sb	18 08 12.4	-4.5
PCIG		**1.58**	**343**	*e*P	Pn	18 08 13.1	-3.4
PCIG				*i* S	Sn	18 08 31.6	-5.0
CCIG	**Comitan**	**2.17**	**16**	*i* P	Pn	18 08 21.9	-2.8
CCIG				*i* S	Sn	18 08 46.8	-4.6

PGC 10 18:21:02.1±1.2, 59°05N×138°94W, h15km, ML2.4/11, 41km Ese of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.66**	**340**	P	Pg	18 21 14.2	-0.9
PNL				S	Sn	18 21 26.3	-0.9
SAMH	**Samovar Hills**	**1.43**	**320**	Pn	Pn	18 21 26.9	-0.7
SAMH				Sg	Sg	18 21 47.5	-0.8
YUK7	**Dusty Glacier**	**1.54**	**15**	Pn	Pn	18 21 29.1	-0.1
YUK7				Sg	Sn	18 21 49.2	+0.2
RKAV	**Rock Avalanche**	**1.75**	**317**	Pn	Pn	18 21 32.2	+0.2
MESA	**MESA**	**1.90**	**308**	Pn	Pn	18 21 33.0	-1.2
MESA				Sg	Sb	18 22 00.5	+0.2
YUK6	**Outpost Mounta**	**1.92**	**8**	Pn	Pn	18 21 34.5	+0.1
YUK6				Sg	Sg	18 22 02.4	-1.5
HYT	**Haines Junctio**	**1.92**	**21**	Pn	Pn	18 21 34.0	-0.4
HYT				Sg	Sb	18 22 00.8	0.0
YUK5	**Granite Creek**	**2.16**	**14**	Pn	Pn	18 21 37.9	+0.2
YUK5				Sg	Sb	18 22 07.6	+0.1
BESE	**Bessie Mountai**	**2.18**	**101**	Pn	Pn	18 21 37.2	-0.6
BESE				Sg	Sn	18 22 05.8	+1.3
GRNC	**Granite Creek**	**2.20**	**321**	Pn	Pn	18 21 37.3	-1.1
GRNC				Sg	Sn	18 22 05.8	+0.3
CTGM	**Chitina Glacie**	**2.27**	**329**	Pn	Pn	18 21 38.4	-0.7
CTGM				Sg	Sn	18 22 05.8	-1.1
YUK4	**Talbot Arm**	**2.31**	**4**	Pn	Pn	18 21 41.6	+1.8
YUK4				Sg	Sg	18 22 15.2	-1.0
KIAG	**Kiagna River**	**2.55**	**319**	Pn	Pn	18 21 43.1	+0.1
KIAG				Sg	Sn	18 22 12.4	-1.3
WHY	**Whitehorse**	**2.61**	**50**	Pn	Pn	18 21 43.5	-0.3
WHY				Pg	Pb	18 21 49.2	+0.6
WHY				Sg	Sb	18 22 21.7	+1.3
BALM	**Baldy**	**2.62**	**321**	Pn	Pn	18 21 43.7	-0.3
BALM				Sg	Sb	18 22 19.6	-1.3
PTPK	**Patty Peak**	**2.78**	**322**	Pn	Pn	18 21 46.4	+0.3
YUK3	**Moose Creek**	**2.84**	**345**	Pn	Pn	18 21 47.1	+0.1
YUK2	**White River**	**2.90**	**342**	Pn	Pn	18 21 48.9	+1.0
YUK2				Sg	Sb	18 22 29.1	+0.2
BVCY	**Beaver Creek**	**3.50**	**345**	Pg	Pb	18 22 02.7	-1.1
DLBC	**Dease Lake**	**4.69**	**94**	Sg	Sb	18 23 22.7	+2.6
DAWY	**Dawson**	**5.04**	**358**	Pn	Pn	18 22 16.5	-0.6

*IDC **10** 18:28:25.4±6.3, 37°17N×142°22E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/45, mbtmp3.4/3, ML2.2/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/48, Error ellipse: s-maj=129.2km s-min=35.7km az=15.0*
*JMA **10** 18:28:25.9±0.1, 37°76N×141°97E, h33km±2km, M3.6*

ISC 10 18:28:25.4±2.4, 37°76N±0°05×141°96E±0°10, h24km±15km, n26, σ1§15/32, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.68**	**325**	P	**Pn**	**18 28 39.0**	**-0.5**
JIKH				S	**Sb**	**18 28 47.7**	**+0.1**
JIO	**Ouri**	**0.85**	**325**	P	**Pn**	**18 28 41.6**	**-0.2**
JIO				S	**Sn**	**18 28 52.3**	**-1.2**
JMM	**Marumori**	**0.93**	**277**	P	**Pn**	**18 28 43.1**	**+0.2**
JMM				S	**Sn**	**18 28 55.0**	**-0.5**
JFK	**Kawauchi**	**0.95**	**246**	P	**Pn**	**18 28 43.1**	**-0.1**
JFK				*e*S	**Sn**	**18 28 55.0**	**-1.0**
JKMT	**Kesennumamotoy**	**1.12**	**340**	P	**Pn**	**18 28 45.3**	**-0.2**
JKMT				*e*S	**Sn**	**18 28 58.7**	**-1.5**
ONAJ	**Iwakimizuishiy**	**1.13**	**235**	P	**Pn**	**18 28 45.6**	**-0.1**
ONAJ				S	**Sn**	**18 28 59.5**	**-1.1**
JOU	**Okura**	**1.19**	**301**	P	**Pb**	**18 28 47.3**	**0.0**
JOU				*e*S	**Sb**	**18 29 02.6**	**+0.3**
JFT	**Otama**	**1.31**	**260**	P	**Pb**	**18 28 49.4**	**+0.1**
JFT				*e*S	**Sb**	**18 29 06.1**	**+0.3**
JMK	**Ichinoseki**	**1.33**	**334**	P	**Pn**	**18 28 48.6**	**+0.2**
JMK				*e*S	**Sn**	**18 29 05.0**	**-0.3**
JYS	**Shirataka**	**1.57**	**288**	P	**Pn**	**18 28 52.5**	**+0.8**
JYS				S	**Sb**	**18 29 13.7**	**+0.5**
JYK	**Kaneyama**	**1.71**	**313**	P	**Pn**	**18 28 55.0**	**+1.3**
JOM	**Ohasama**	**1.79**	**343**	P	**Pn**	**18 28 55.4**	**+0.6**
JOM				*e*S	**Sn**	**18 29 17.3**	**+0.5**
JFY	**Yanaizu**	**1.83**	**260**	P	**Pn**	**18 28 56.9**	**+1.6**
JFY				*e*S	**Sb**	**18 29 19.3**	**-1.3**
JRG	**Rokugo**	**1.94**	**328**	P	**Pn**	**18 28 58.3**	**+1.5**
MJAR	**Matsushiro Arr**	**3.23**	**249**	Pn	**Pn**	**18 29 17.1**	**+2.5**
	0.3nm,0.3s,baz=79,slow=15,SNR=16						
MJAR				Sn	**Sb**	**18 29 59.6**	**-1.4**
	0.4nm,0.3s,baz=43,slow=18,SNR=4.7						
MAT	**Matsushiro**	**3.24**	**249**	P	**Pn**	**18 29 17.3**	**+2.7**
MAT				S	**Sb**	**18 29 58.9**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**28.15**	**123**	T	T	19 03 40.1	
	baz=315,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**28.16**	**123**	T	T	19 03 48.9	
	baz=315,slow=75,SNR=20						
H11N3	**WAKE ISLAND Hy**	**28.17**	**123**	T	T	19 03 41.2	
	baz=315,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	19 04 44.8	
	baz=317,slow=76,SNR=22						
H11S3	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	19 04 43.2	
	baz=317,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.91**	**125**	T	T	19 04 43.4	
	baz=317,slow=76,SNR=22						
KDAK	**Kodiak Island**	**46.27**	**42**	LR	LR	18 55 46.5	
	comp=Z,125nm,20.1s,baz=138,slow=35						
WRA	**Warramunga Arr**	**57.84**	**188**	P	**P**	**18 38 15.0**	**0.0**
	0.7nm,0.5s,baz=6.2,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**61.56**	**188**	P	**P**	**18 38 40.7**	**+0.1**
	0.3nm,0.9s,baz=14,slow=8.7,SNR=4.5						
PMOR	**Pomariorio Ree**	**84.07**	**114**	*e*T	T	18 40 50.5	
	5.2nm,0.3s						

*IDC **10** 18:46:16.3±1.4, 11°86S×165°68E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.7/41, mbtmp3.9/8, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/34, Error ellipse: s-maj=45.0km s-min=22.4km az=123.0*
*ISCJB **10** 18:46:19.3±1.1, 12°17S±0°08×165°7E±0°2, h33km, mb3.7/6, MS3.6/2, Error ellipse: s-maj=24.5km s-min=11.0km az=170.9*

ISC 10 18:46:21.2±1.1, 12°05S±0°10×165°8E±0°2, h35km, n11, σ1§10/10, mb3.8/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.99**	**176**	Pn	**Pn**	**18 48 43.7**	**+1.3**
	1.0nm,0.3s,baz=352,slow=12,SNR=7.9						
DZM				Sn	**Sn**	**18 50 31.4**	**-2.0**
	0.1nm,0.3s,baz=270,slow=20,SNR=3.1						
CTA	**Charters Tower**	**20.36**	**244**	P	**P**	**18 50 53.8**	**-1.1**
	5.4nm,0.9s,baz=58,slow=9.5,SNR=1.9						
AFI	**Afiamalu**	**21.97**	**97**	LR	LR	18 57 50.4	
	comp=Z,79nm,18.9s,baz=27,slow=31						
STKA	**Stephens Creek**	**29.73**	**225**	P	**P**	**18 52 25.2**	**+0.9**
	1.3nm,0.7s,baz=25,slow=8.2,SNR=3.0						
WRA	**Warramunga Arr**	**31.16**	**251**	P	**P**	**18 52 37.6**	**+0.5**
	0.8nm,0.6s,baz=84,slow=9.1,SNR=8.6						
ASAR	**Alice Springs**	**32.36**	**245**	P	**P**	**18 52 48.0**	**+0.3**
	1.1nm,0.6s,baz=70,slow=9.3,SNR=22						
JHJ	**Hachijo jima 2**	**51.30**	**332**	LR	LR	19 12 36.7	
	comp=Z,182nm,20.7s,baz=116,slow=31						
SONM	**Songino Array**	**79.48**	**324**	P	**P**	**18 58 23.7**	**-0.7**
	0.3nm,0.5s,baz=122,slow=5.2,SNR=2.6						
ILAR	**Eielson Array**	**84.46**	**18**	P	**P**	**18 58 50.0**	**+0.1**
	0.3nm,0.9s,baz=226,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**94.26**	**317**	P	**P**	**18 59 36.8**	**-0.2**
	0.5nm,0.6s,baz=83,slow=6.5,SNR=6.8						
ARCES	**ARCESS Array B**	**117.30**	**345**	PKP	**PKPdf**	**19 05 02.2**	**-0.3**
	4.9nm,0.9s,baz=46,slow=2.6,SNR=3.4						

IDC 10 19:00:01.1±587.0, 30°77N×131°37E, h0km, Error ellipse: s-maj=263.1km s-min=147.6km az=25.0, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I30JP	**ISUMI INFRASON**	**8.76**	**57**	*i*		19 54 15.0	
	baz=242,slow=318,SNR=5.9						
I45RU	**USSURIYSK INFR**	**13.41**	**2**	*i*		20 25 10.0	
	baz=182,slow=340,SNR=2.5						
I34MN	**SONGINO INFRAS**	**25.57**	**319**	*i*		21 36 30.0	
	baz=124,slow=338,SNR=1.3						

*ISCJB **10** 19:01:49.8±0.3, 43°41S±0°07×39°6E±0°1, h10km, MS4.3/32, MS4.0/16, Error ellipse: s-maj=12.7km s-min=8.6km az=151.0*
*IDC **10** 19:01:49.9±0.4, 43°44S×39°62E, h0km, mb4.3/27, mb1 4.4/29, mb1mx4.3/50, mbtmp4.3/29, ML3.8/2, MS3.9/17, Ms1 3.9/17, ms1mx3.8/36, Error ellipse: s-maj=17.1km s-min=12.3km az=71.0*
*NEIC **10** 19:01:51.3±0.3, 43°38S±0°09×39°56E, h10km, mb4.5/10, Error ellipse: s-maj=10.3km s-min=7.1km az=62.0*

ISC 10 19:01:51.3±0.4, 43°38S±0°09×39°6E±0°1, h10km, n59, σ0§88/52, mb4.4/32, MS3.9/16, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**18.39**	**300**	*e*Pn	**Pn**	**19 06 06.9**	**+0.4**
	1.9nm,0.4s						
SUR				S	Sn	19 09 15.4	-17
SUR	**Sutherland**	**18.39**	**300**	P	**P**	**19 06 05.7**	**-0.9**
	0.3nm,0.3s,baz=97,slow=6.8,SNR=9.5						
SUR				S	Sn	19 09 15.4	-17
	0.2nm,0.3s,baz=127,slow=5.1,SNR=3.6						
SUR				LR	LR	19 11 58.8	
	comp=Z,370nm,19.2s,baz=147,slow=33						
BOSA	**Boshof**	**18.70**	**317**	*e*P	**P**	**19 06 10.1**	**+0.2**
	5.7nm,1.0s						
BOSA	**Boshof**	**18.70**	**317**	P	**P**	**19 06 09.9**	**-0.1**
	0.2nm,0.3s,baz=144,slow=15,SNR=3.4						
BOSA				LR	LR	19 11 54.7	
	comp=Z,505nm,20.7s,baz=150,slow=32						
LBTB	**Lobatse**	**21.61**	**324**	*e*P	**P**	**19 06 39.1**	**-2.4**
	20nm,1.0s						
LBTB	**Lobatse**	**21.61**	**324**	P	**P**	**19 06 42.1**	**+0.5**
	11nm,0.8s,baz=146,slow=14,SNR=7.3						
LBTB				LR	LR	19 13 31.9	
	comp=Z,616nm,21.3s,baz=153,slow=32						
MATP	**Matopo**	**24.70**	**334**	P	**P**	**19 07 13.1**	**+0.4**
	7.1nm,1.0s,baz=178,slow=8.7,SNR=5.0						
MATP				LR	LR	19 15 52.9	
	comp=Z,438nm,18.8s,baz=174,slow=34						
MAW	**Mawson**	**27.28**	**161**	LR	LR	19 15 24.0	
	comp=Z,352nm,21.5s,baz=338,slow=30						
LSZ	**Lusaka**	**29.66**	**337**	*e*P	**P**	**19 07 55.3**	**-2.0**
	9.8nm,1.1s						
LSZ	**Lusaka**	**29.66**	**337**	P	**P**	**19 07 57.6**	**+0.3**
	3.8nm,0.9s,baz=165,slow=10,SNR=5.2						
LSZ				LR	LR	19 17 51.1	
	comp=Z,312nm,20.9s,baz=194,slow=32						
TSUM	**Tsumeb**	**30.38**	**316**	*e*P	**P**	**19 08 01.8**	**-1.8**
	11nm,1.1s						
SNAA	**Sanae**	**34.95**	**202**	P	**P**	**19 08 42.9**	**-0.2**
	2.3nm,0.9s,baz=127,slow=10,SNR=3.6						
KMBO	**Kilima Mbogo**	**42.12**	**357**	P	**P**	**19 09 46.0**	**+1.9**
	0.5nm,0.3s,baz=156,slow=7.2,SNR=3.6						
KMBO				LR	LR	19 25 00.9	
	comp=Z,402nm,20.6s,baz=100,slow=33						
QSPA	**South Pole Qui**	**46.83**	**180**	P	**P**	**19 10 21.0**	**-0.1**
	2.4nm,0.8s,baz=245,slow=3.1,SNR=8.7						
VNDA	**Vanda**	**54.31**	**167**	P	**P**	**19 11 17.4**	**+0.2**
	0.9nm,1.0s,baz=245,slow=5.1,SNR=1.9						
SBA	**Scott Base**	**54.86**	**168**	P	**P**	**19 11 22.1**	**+1.0**
H01W2	**Cape Leeuwin H**	**56.68**	**109**	T	T	20 12 56.0	
	baz=237						
H01W3	**Cape Leeuwin H**	**56.69**	**109**	T	T	20 12 57.9	
	baz=237						
H01W1	**Cape Leeuwin H**	**56.70**	**109**	T	T	20 12 58.5	
	baz=237						
DBIC	**Dimbokro**	**64.01**	**309**	P	**P**	**19 12 25.2**	**+0.1**
	4.5nm,0.8s,baz=157,slow=5.8,SNR=6.0						
DBIC				LR	LR	19 36 13.6	
	comp=Z,116nm,21.5s,baz=162,slow=32						
TOA0	**Torodi Ar. Sit**	**66.05**	**319**	*e*P	**P**	**19 12 38.5**	**+0.1**
	6.9nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.05**	**319**	P	**P**	**19 12 38.9**	**+0.6**
	3.1nm,0.8s,baz=127,slow=1.6,SNR=17						
TORD				LR	LR	19 40 13.7	
	comp=Z,98nm,19.1s,baz=300,slow=35						
WSAR	**Wadi Sarin**	**68.57**	**19**	P	**P**	**19 12 54.5**	**+0.4**
	8.6nm,0.9s,baz=190,slow=6.6,SNR=4.7						
EIL	**Elat**	**72.82**	**356**	P	**P**	**19 13 20.7**	**+0.8**
	1.3nm,0.5s,baz=243,slow=3.4,SNR=5.2						
ASF	**Jabal al Asfar**	**75.23**	**358**	P	**P**	**19 13 35.8**	**+1.7**
	1.9nm,0.8s,baz=142,slow=3.5,SNR=7.1						
PLCA	**Paso Flores**	**75.27**	**228**	P	**P**	**19 13 34.7**	**+0.2**
	4.3nm,1.1s,baz=174,slow=3.3,SNR=3.9						
STKA	**Stephens Creek**	**76.68**	**121**	*e*P	**P**	**19 13 42.4**	**-0.2**
	2.0nm,0.9s						
STKA	**Stephens Creek**	**76.68**	**121**	P	**P**	**19 13 42.4**	**-0.2**
	4.8nm,0.7s,baz=230,slow=3.6,SNR=12						
CPUP	**Villa Florida**	**77.09**	**246**	P	**P**	**19 13 45.6**	**+0.6**
	2.7nm,1.0s,baz=91,slow=6.8,SNR=3.2						
ASAR	**Alice Springs**	**77.14**	**110**	P	**P**	**19 13 44.9**	**-0.5**
	3.0nm,1.0s,baz=221,slow=5.4,SNR=16						
AS01	**Alice Springs**	**77.17**	**110**	*e*P	**P**	**19 13 44.7**	**-0.8**
BDFB	**Brasilia**	**77.70**	**260**	P	**P**	**19 13 49.2**	**+0.5**
	2.5nm,0.8s,baz=105,slow=4.4,SNR=4.2						
WRA	**Warramunga Arr**	**79.92**	**108**	P	**P**	**19 14 00.1**	**-0.6**
	4.2nm,1.0s,baz=224,slow=4.2,SNR=12						
WB2	**Warramunga Arr**	**79.93**	**108**	*e*P	**P**	**19 14 00.3**	**-0.4**
CMAR	**Chiang Mai Arr**	**82.12**	**56**	P	**P**	**19 14 11.8**	**-0.4**
	3.0nm,1.1s,baz=233,slow=5.1,SNR=12						
CMAR				LR	LR	19 46 57.7	
	comp=Z,42nm,18.4s,baz=248,slow=33						
GEYT	**Alibeck**	**82.67**	**15**	P	**P**	**19 14 15.2**	**+0.6**
	2.8nm,0.9s,baz=289,slow=14,SNR=7.4						
GEYT				LR	LR	19 47 24.4	
	comp=Z,37nm,21.5s,baz=210,slow=33						
BRTR	**Keskin Array B**	**82.90**	**355**	P	**P**	**19 14 16.7**	**+0.8**
	0.9nm,0.9s,baz=123,slow=4.6,SNR=6.4						
BRTR				LR	LR	19 52 03.0	
	comp=Z,32nm,18.2s,baz=130,slow=36						
GNI	**Garni**	**83.28**	**4**	*e*P	**P**	**19 14 18.0**	**+0.1**
GNI	**Garni**	**83.28**	**4**	P	**P**	**19 14 18.8**	**+0.9**
	2.4nm,0.5s,baz=194,slow=3.2,SNR=6.9						
KEST	**Kesra**	**83.42**	**336**	LR	LR	19 53 34.8	
	comp=Z,203nm,18.9s,baz=273,slow=37						
GAR	**Garm**	**86.60**	**24**	*e*P	**P**	**19 14 33.9**	**-0.8**
	11nm,1.1s						
LSA	**Lhasa**	**86.75**	**43**	*e*P	**P**	**19 14 35.5**	**-0.5**
	0.8nm,0.4s						
KBZ	**Khabaz**	**86.78**	**2**	P	**P**	**19 14 35.9**	**+0.7**
	3.6nm,1.0s,baz=238,slow=6.5,SNR=5.5						
KBZ				LR	LR	19 53 20.6	
	comp=Z,31nm,18.7s,baz=158,slow=36						
KIV	**Kislovodsk**	**87.00**	**2**	*e*P	**P**	**19 14 35.4**	**-1.0**
	1.6nm,0.5s						
KVAR	**Kislovodsk Arr**	**87.00**	**

PETK	**Petropavlovsk-**	**59.92**	**7**	P		**P**	**19 40 10.7**	**+0.6**
	1.0nm,0.4s,baz=172,slow=8.5,SNR=6.5							
SONM	**Songino Array**	**65.07**	**331**	P		**P**	**19 40 46.0**	**+1.3**
	0.4nm,0.5s,baz=144,slow=5.5,SNR=4.1							
MKAR	**Makanchi Array**	**78.21**	**320**	P		**P**	**19 42 03.5**	**+0.1**
	0.2nm,0.3s,baz=97,slow=8.5,SNR=7.5							
ZALV	**Zalesovo Beam**	**79.69**	**328**	P		**P**	**19 42 09.8**	**-1.4**
	0.7nm,0.4s,baz=106,slow=4.8,SNR=4.3							
ILAR	**Eielson Array**	**85.63**	**23**	P		**P**	**19 42 40.2**	**-1.6**
	0.4nm,0.7s,baz=245,slow=4.6,SNR=7.5							
TORD	**Torodi Ar. Bea**	**145.78**	**284**	PKPbc		**PKPab**	**19 49 43.6**	**-0.2**
	2.4nm,0.6s,baz=79,slow=4.1,SNR=15							

*IDC **10** 19:35:41.4±0.9, 19°.47S×167°.79E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.1/34, mbtmp4.1/13, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx2.9/39, Error ellipse: s-maj=25.2km s-min=17.9km az=128.0*

*ISCJB **10** 19:35:43.6±0.7, 19°.47S±0°.07×167°.8E±0°.1, h26km, mb4.0/11, MS4.4/1, Error ellipse: s-maj=16.9km s-min=9.4km az=19.6*

ISC 10 19:35:45.2±0.7, 19°.50S±0°.1×167°.8E±0°.1, h26km, n28, σ0s68/28, mb4.0/11, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.86**	**206**	Pn		**Pn**	**19 36 28.7**	**-0.6**
	18nm,0.3s,baz=69,slow=9.8,SNR=304							
DZM				Sn		**Sn**	**19 37 03.8**	**+0.8**
	42nm,0.3s,baz=150,slow=20,SNR=6.8							
DZM				LR		LR	19 37 32.7	
	comp=Z,339nm,20.2s,baz=102,slow=39							
CTA	**Charters Tower**	**20.29**	**265**	P		**P**	**19 40 19.3**	**+0.1**
	6.1nm,0.8s,baz=64,slow=13,SNR=4.0							
STKA	**Stephens Creek**	**26.57**	**237**	P		**P**	**19 41 21.6**	**+0.4**
	1.9nm,0.8s,baz=55,slow=11,SNR=4.3							
WRA	**Warramunga Arr**	**31.48**	**263**	P		**P**	**19 42 03.9**	**-1.3**
	1.3nm,0.5s,baz=86,slow=8.2,SNR=35							
ASAR	**Alice Springs**	**31.75**	**256**	P		**P**	**19 42 07.0**	**-0.6**
	4.3nm,0.7s,baz=81,slow=8.2,SNR=103							
FITZ	**Fitzroy Crossi**	**39.87**	**265**	P		**P**	**19 43 17.4**	**+0.3**
BATI	**Baumata**	**43.55**	**276**	P		**P**	**19 43 48.6**	**+1.3**
	10.0nm,0.7s,baz=117,slow=4.5,SNR=4.2							
VNDA	**Vanda**	**58.13**	**182**	P		**P**	**19 45 37.0**	**+0.8**
	1.1nm,1.0s,baz=41,slow=8.4,SNR=3.3							
QSPA	**South Pole Qui**	**70.56**	**180**	P		**P**	**19 46 58.3**	**+0.4**
	2.9nm,0.9s,baz=327,slow=2.6,SNR=3.7							
PETK	**Petropavlovsk-**	**72.83**	**354**	P		**P**	**19 47 11.5**	**+0.1**
	2.4nm,0.8s,baz=146,slow=8.2,SNR=4.3							
CMAR	**Chiang Mai Arr**	**77.38**	**295**	P		**P**	**19 47 38.9**	**+0.5**
	0.5nm,0.8s,baz=146,slow=4.1,SNR=5.7							
SONM	**Songino Array**	**86.62**	**324**	P		**P**	**19 48 26.3**	**-0.2**
	0.9nm,0.9s,baz=141,slow=5.2,SNR=4.7							
SNAA	**Sanae**	**88.84**	**183**	P		**P**	**19 48 35.2**	**-1.5**
VNA2	**Neumayer--Watz**	**89.76**	**182**	P		**P**	**19 48 39.9**	**-1.1**
	baz=167,slow=3.0							
NVAR	**Mina Array Bea**	**89.99**	**49**	P		**P**	**19 48 43.8**	**+0.9**
	0.4nm,0.6s,baz=220,slow=7.7,SNR=4.1							
ILAR	**Eielson Array**	**90.88**	**18**	P		**P**	**19 48 45.7**	**-0.4**
	0.3nm,0.4s,baz=233,slow=5.2,SNR=15							
PDAR	**Pinedale Array**	**97.78**	**47**	LR		LR	20 28 46.8	
	comp=Z,116nm,18.8s,baz=186,slow=33							
YKA	**Yellowknife Ar**	**101.52**	**28**	P		**Pdif**	**19 49 34.4**	**0.0**
	0.1nm,0.5s,baz=259,slow=3.7							
MOA	**Molln**	**144.50**	**329**	*e*PKPdf		**PKPab**	**19 55 17.6**	**0.0**
	2.4nm,0.6s							
SOKA	**Soboth**	**144.90**	**327**	*e*PKPdf		**PKPab**	**19 55 19.3**	**+0.1**
	1.9nm,0.7s							
OBKA	**Obir**	**145.26**	**327**	*e*PKPab		**PKPbc**	**19 55 19.8**	**-0.7**
	4.3nm,1.0s							
KBA	**Koelnbreinsper**	**145.48**	**329**	*e*PKPab		**PKPdf**	**19 55 20.8**	**-0.4**
	3.6nm,1.2s							
MYKA	**Terra Mystica**	**145.64**	**328**	*e*PKPab		**PKPdf**	**19 55 21.0**	**-0.4**
	4.3nm,0.9s							
ABTA	**Abfaltersbach**	**146.12**	**329**	*e*PKPbc		**PKPdf**	**19 55 22.4**	**+0.2**
	1.9nm,0.6s							
MOTA	**Moosalm**	**146.35**	**331**	*e*PKPab		**PKPbc**	**19 55 23.7**	**-0.2**
	4.0nm,1.1s							
SQTA	**Sankt Quirin**	**146.40**	**331**	*e*PKPab		**PKPbc**	**19 55 24.1**	**+0.1**
	1.9nm,0.6s							
FETA	**Feichten**	**146.76**	**331**	*e*PKPab		**PKPbc**	**19 55 25.1**	**0.0**
	1.5nm,0.6s							
DAVA	**Damuels**	**146.95**	**332**	*e*PKPab		**PKPbc**	**19 55 25.5**	**-0.1**
	4.0nm,0.8s							

*ISCJB **10** 19:36:01.0±0.7, 57°.7S±0°.2×143°.6W±0°.2, h10km, mb4.2/10, MS4.3/21, Error ellipse: s-maj=27.5km s-min=14.1km az=4.8*

*IDC **10** 19:36:01.0±0.7, 57°.49S×143°.63W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/28, mbtmp4.3/9, MS4.3/21, Ms1 4.3/21, ms1mx4.2/26, Error ellipse: s-maj=33.5km s-min=16.3km az=5.0*

*NEIC **10** 19:36:02.3±0.5, 57.53S×143.57W, h10km, mb4.1/1, Error ellipse: s-maj=24.4km s-min=13.8km az=191.0*

ISC 10 19:36:02.6±0.7, 57.6S±0°.2×143.6W±0°.1, h10km, n57, σ0s88/18, mb4.3/10, MS4.4/21, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
VNDA	**Vanda**	**27.06**	**203**	LR		LR	19 50 26.9	
	comp=Z,500nm,18.2s,baz=75,slow=32							
RPZ	**Rata Peaks**	**31.29**	**276**	LR		LR	19 52 04.7	
	comp=Z,873nm,20.3s,baz=127,slow=31							
QSPA	**South Pole Qui**	**32.54**	**180**	*e*P		**P**	**19 42 33.8**	**+0.3**
QSPA	**South Pole Qui**	**32.54**	**180**	P		**P**	**19 42 34.1**	**+0.6**
	0.7nm,0.6s,baz=144,slow=0.7,SNR=7.5							
TBI	**Tubuai**	**34.50**	**350**	*e*S		S	19 47 57.5	-22
	137nm,25.2s							
TBI				*e*LR		LR	19 51 09.0	
	comp=Z,2μm,28.2s,baz=175							
TBI	**Tubuai**	**34.50**	**350**	*e*T		T	20 17 13.0	
	147nm,0.3s							
RKT	**Rikitea**	**35.02**	**14**	*e*T		T	20 17 48.9	
	22nm,0.3s							
USHA	**Ushuaia**	**39.89**	**119**	P		**P**	**19 43 36.5**	**+0.3**
	6.4nm,0.8s,baz=218,slow=6.9,SNR=2.5							
TVO	**Taravao**	**39.99**	**352**	*e*T		T	20 24 09.5	
	3.3nm,0.3s							
PAE	**Paea**	**40.14**	**351**	*e*T		T	20 24 21.1	
	6.4nm,0.2s							
PPT2	**Papeete2**	**40.21**	**351**	*e*S		S	19 49 24.6	-21
	158nm,25.0s							
PPT2				*e*LR		LR	19 53 44.5	
	comp=Z,2μm,27.5s,baz=180							
PPT2	**Papeete2**	**40.21**	**351**	*e*T		T	20 24 17.9	
	11nm,0.3s							
TIAR	**Tiarei**	**40.23**	**351**	*e*T		T	20 24 16.0	
	5.5nm,0.3s							
PPT	**Papeete**	**40.23**	**351**	LR		LR	19 55 12.2	
	comp=Z,614nm,19.8s,baz=176,slow=29							
VAH	**Vaihoa**	**42.41**	**354**	*e*T		T	20 27 08.0	
	117nm,0.3s							
PMOR	**Pomariorio Ree**	**42.66**	**354**	*e*T		T	20 27 27.6	
	13nm,0.2s							
VNA3	**Neumayer Olymp**	**47.41**	**162**	P		P	19 44 46.3	+10
VNA2	**Neumayer--Watz**	**48.06**	**162**	P		P	19 44 51.1	+10
	baz=215,slow=7.4							
SNAA	**Sanae**	**48.11**	**164**	P		P	19 44 50.8	+8.9
PLCA	**Paso Flores**	**48.14**	**103**	P		**P**	**19 44 43.4**	**+0.8**
	9.2nm,1.1s,baz=219,slow=5.0,SNR=5.7							
PLCA				LR		LR	20 00 27.8	
	comp=Z,140nm,19.4s,baz=245,slow=30							
VNA1	**Neumayer--Stat**	**48.16**	**162**	P		P	19 44 50.9	+8.7
AFI	**Afiamalu**	**48.56**	**322**	LR		LR	19 58 48.8	
	comp=Z,389nm,21.7s,baz=130,slow=28							
MAW	**Mawson**	**53.57**	**192**	LR		LR	20 05 45.9	
	comp=Z,648nm,21.3s,baz=160,slow=33							
HOPE	**Hope Point**	**53.84**	**136**	P		**P**	**19 45 22.9**	**-2.2**
STKA	**Stephens Creek**	**55.75**	**263**	P		**P**	**19 45 39.5**	**+0.1**
	2.4nm,0.8s,baz=118,slow=10.0,SNR=2.1							
STKA				LR		LR	20 05 34.7	
	comp=Z,528nm,20.2s,baz=145,slow=32							
HNR	**Honiara**	**64.50**	**294**	LR		LR	20 10 03.2	
	comp=Z,87nm,18.4s,baz=131,slow=32							
CPUP	**Villa Florida**	**66.21**	**102**	P		**P**	**19 46 50.6**	**+0.2**
	4.0nm,0.9s,baz=242,slow=8.2,SNR=6.0							
CPUP				LR		LR	20 11 33.5	
	comp=Z,242nm,19.1s,baz=222,slow=32							
ASAR	**Alice Springs**	**66.38**	**263**	P		**P**	**19 46 51.9**	**+0.3**
	2.7nm,0.8s,baz=140,slow=6.1,SNR=29							
ASAR				LR		LR	20 11 57.8	
	comp=Z,524nm,20.5s,baz=139,slow=32							
H01W1	**Cape Leeuwin H**	**67.30**	**241**	T		T	21 01 59.5	
	baz=144,slow=76,SNR=116							
H01W2	**Cape Leeuwin H**	**67.30**	**241**	T		T	21 02 20.1	
	baz=144,slow=76,SNR=80							
H01W3	**Cape Leeuwin H**	**67.31**	**241**	T		T	21 02 20.9	
	baz=144,slow=76,SNR=118							
LPAZ	**La Paz**	**68.60**	**87**	P		**P**	**19 47 06.4**	**0.0**
	4.5nm,1.0s,baz=208,slow=3.7,SNR=10							
LPAZ				LR		LR	20 10 10.2	
	comp=Z,188nm,21.9s,baz=190,slow=30							
WRA	**Warramunga Arr**	**69.18**	**266**	P		**P**	**19 47 09.3**	**+0.1**
	1.1nm,0.6s,baz=147,slow=5.5,SNR=19							
WRA				LR		LR	20 15 05.1	
	comp=Z,176nm,19.0s,baz=165,slow=34							
WRAB	**Tennant Creek**	**69.18**	**266**	*e*P		**P**	**19 47 09.3**	**+0.1**
	0.8nm,0.5s							
BDFB	**Brasilia**	**79.89**	**103**	LR		LR	20 21 28.7	
	comp=Z,156nm,18.0s,baz=272,slow=34							
JAY	**Jayapura**	**80.25**	**281**	LR		LR	20 19 57.2	
	comp=Z,106nm,21.0s,baz=160,slow=33							
BATI	**Baumata**	**82.94**	**262**	LR		LR	20 22 24.3	
	comp=Z,467nm,20.6s,baz=162,slow=34							
ROSC	**El Rosal**	**83.15**	**70**	LR		LR	20 18 12.8	
	comp=Z,173nm,18.7s,baz=65,slow=30							
CMIG	**Matias Romero**	**84.63**	**46**	LR		LR	20 17 23.8	
	comp=Z,76nm,21.9s,baz=183,slow=29							
LPIG	**La Paz**	**86.05**	**30**	LR		LR	20 16 43.7	
	comp=Z,111nm,19.9s,baz=216,slow=28							
GUMO	**Guam**	**91.79**	**293**	LR		LR	20 24 48.0	
	comp=Z,36nm,19.5s,baz=134,slow=32							
TXAR	**Lajitas Array**	**92.89**	**34**	P		**P**	**19 49 15.5**	**+0.2**
	0.6nm,0.8s,baz=188,slow=6.0,SNR=2.9							
BOSA	**Boshof**	**93.59**	**170**	LR		LR	20 29 16.9	
	comp=Z,190nm,19.3s,baz=200,slow=34							
NVAR	**Mina Array Bea**	**98.02**	**20**	LR		LR	20 22 35.2	
	comp=Z,149nm,22.0s,baz=190,slow=28							
H10S3	**ASCENSION HYDR**	**101.75**	**128**	T		T	21 44 59.5	
	baz=207,slow=74,SNR=14							
H10S2	**ASCENSION HYDR**	**101.75**	**128**	T		T	21 45 05.2	
	baz=207,slow=74,SNR=16							
H10S1	**ASCENSION HYDR**	**101.77**	**128**	T		T	21 45 06.3	
	baz=207,slow=74,SNR=12							
H10N3	**ASCENSION HYDR**	**102.82**	**128**	T		T	21 46 27.1	
	baz=206,slow=75,SNR=21							
H10N1	**ASCENSION HYDR**	**102.82**	**128**	T		T	21 46 18.8	
	baz=206,slow=75,SNR=34							
H10N2	**ASCENSION HYDR**	**102.84**	**128**	T		T	21 46 19.7	
	baz=206,slow=75,SNR=30							
ILAR	**Eielson Array**	**122.09**	**358**	PKhKP		PKPpre	19 54 52.3	
	0.6nm,0.9s,baz=247,slow=1.8,SNR=4.3							
SONM	**Songino Array**	**138.33**	**288**	PKP		**PKPdf**	**19 55 27.6**	**+0.4**
	0.1nm,0.4s,baz=132,slow=2.1,SNR=2.7							
ESDC	**Sonseca Array**	**148.46**	**107**	PKPbc		**PKPbc**	**19 55 48.3**	**-0.4**
	1.6nm,0.8s,baz=269,slow=1.7,SNR=6.1							
MKAR	**Makanchi Array**	**150.44**	**269**	PKPbc		**PKPbc**	**19 55 52.2**	**-1.1**
	2.7nm,0.8s,baz=82,slow=2.6,SNR=16							
ZALV	**Zalesovo Beam**	**153.01**	**283**	PKPbc		**PKPbc**	**19 55 57.4**	**-1.5**
	0.3nm,0.3s,baz=79,slow=2.1,SNR=2.6							
BRTR	**Keskin Array B**	**162.00**	**173**	PKPab		**PKPab**	**19 56 50.5**	**+0.8**
	1.2nm,1.2s,baz=172,slow=6.6,SNR=2.4							
AKASG	**Malin Array Be**	**171.89**	**146**	PKPab		**PKPab**	**19 57 33.8**	**+0.9**
	0.1nm,0.2s,baz=223,slow=4.4,SNR=4.2							

*ISCJB **10** 19:46:60.0±0.3, 24°.44N±0°.01×122°.00E±0°.02, h6km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=38.3*

*JMA **10** 19:47:00.3±0.1, 24°.43N×121°.96E, h18km, M2.5*

*TAP **10** 19:47:00.5, 24°.47N×121°.95E, h13km, ML3.0, C*

ISC 10 19:46:59.9±0.9, 24°.44N±0°.02×121°.98E±0°.02, h13km±6km, n79, σ0s67/119, 4C-13D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.17**	**51**	⇑P		**Pg**	**19 47 04.9**	**+1.0**
	baz=56							
EOS1				S		**Sb**	**19 47 08.5**	**+0.3**
	baz=56							
TWC	**Suao**	**0.21**	**323**	⇓*i*P		**Pg**	**19 47 04.6**	**+0.1**
	baz=337							
TWC				S		**Sg**	**19 47 06.9**	**-0.7**
	baz=337							
NANB	**Nanao**	**0.21**	**266**	⇓P		**Pg**	**19 47 04.8**	**+0.2**
	baz=265							
NANB				S		**Sg**	**19 47 07.6**	**-0.2**
	baz=265							
ENA	**Nanau**	**0.22**	**266**	⇓*i*P		**Pg**	**19 47 04.9**	**+0.1**
	baz=265							
ENA				S		**Sg**	**19 47 07.7**	**-0.4**
	baz=265							
ILA	**Ilan**	**0.39**	**326**	*e*P		**Pb**	**19 47 08.4**	**-0.2**
	baz=328							
ILA				*e*S		**Sb**	**19 47 13.7**	**-0.8**
	baz=328							
TWE	**Neicheng**	**0.40**	**314**	⇓*i*P		**Pg**	**19 47 08.2**	**+0.2**
	baz=319							
TWE				*i* S		**Sg**	**19 47 12.7**	**-0.7**
	baz=319							
EGS		**0.40**	**353**	*e*P		**Pb**	**19 47 09.4**	**+0.5**
	baz=358							
ENTT	**Nioudou**	**0.43**	**297**	⇓*i*P		**Pg**	**19 47 08.8**	**+0.3**
	baz=296							
ENTT				S		**Sg**	**19 47 14.0**	**-0.2**
	baz=296							
NTC	**Toucheng**	**0.43**	**341**	*e*P		**Pg**	**19 47 08.9**	**+0.3**
	baz=350							
NACB	**Ninganchiao**	**0.45**	**233**	⇑P		**Pg**	**19 47 08.8**	**+0.1**
	baz=229							
NACB				S		**Sg**	**19 47 14.6**	**-0.2**
	baz=229							
NDT	**Datong Townshi**	**0.46**	**290**	⇓*i*P		**Pb**	**19 47 09.5**	**-0.4**
	baz=289							
NDT				S		**Sg**	**19 47 15.1**	**0.0**
	baz=289							
TWD	**Chiawan**	**0.51**	**224**	⇑*e*P		**Pg**	**19 47 10.0**	**+0.1**
	baz=220							
TWD				*e*S		**Sg**	**19 47 17.1**	**+0.5**
	baz=220							
ETLH	**Xiulin Townshi**	**0.52**	**243**	*e*P		**Pg**	**19 47 09.9**	**-0.2**
	baz=240							
ETLH				*e*S		**Sb**	**19 47 17.6**	**-0.7**
	baz=240							
TIPB	**Shuangxi**	**0.55**	**345**	*e*P		**Pg**	**19 47 11.0**	**+0.3**
	baz=353							
TIPB				*e*S		**Sg**	**19 47 18.3**	**+0.4**
	baz=353							
NNSB	**Datong**	**0.55**	**269**	⇓P		**Pg**	**19 47 10.9**	**+0.1**
	baz=266							
NNSB				*e*S		**Sg**	**19 47 18.0**	**0.0**
	baz=266							
NWLT	**Wulai**	**0.55**	**307**	*e*P		**Pb**	**19 47 11.2**	**-0.2**
	baz=299							
NWLT				*e*S		**Sg**	**19 47 18.2**	**+0.1**
	baz=299							
NNS	**Nan Shan**	**0.56**	**270**	⇓*i*P		**Pg**	**19 47 11.0**	**+0.1**
	baz=267							
NNS				S		**Sg**	**19 47 18.0**	**-0.4**
	baz=267							
TWB1	**Santiao Chiao**	**0.56**	**0**	*e*P		**Pg**	**19 47 11.0**	**+0.1**
	baz=354							
HWA	**Hwalien**	**0.58**	**217**	*e*P		**Pb**	**19 47 12.7**	**+0.8**
	baz=220							
YHNB	**Yeheng**	**0.60**	**292**	⇓P		**Pb**	**19 47 12.2**	**-0.1**
	baz=296							
YHNB				S		**Sg**	**19 47 19.2**	**-0.4**
	baz=296							
NSK	**Sanguang**	**0.61**	**292**	⇓*i*P		**Pb**	**19 47 12.4**	**-0.2**
	baz=297							
NSK				S		**Sg**	**19 47 19.7**	**-0.4**
	baz=297							
TWA	**Mucha**	**0.65**	**326**	*e*P		**Pn**	**19 47 13.9**	**-0.9**
	baz=327							
TWA				*e*S		**Sg**	**19 47 21.1**	**0.0**
	baz=327							
NWF	**Wu-fen Shan**	**0.65**	**344**	P		**Pb**	**19 47 13.7**	**+0.5**
	baz=333							
NWF				S		**Sb**	**19 47 22.0**	**-0.2**
	baz=333							
WFSB	**Wu-fen Shan**	**0.65**	**344**	⇑P		**Pb**	**19 47 13.8**	**+0.7**
	baz=333							
WFSB				S		**Sb**	**19 47 21.8**	**-0.3**
	baz=333							
NHDH	**Xindian Distri**	**0.67**	**321**	*e*P		**Pb**	**19 47 14.0**	**+0.6**
	baz=314							
TATO	**Taipei**	**0.70**	**320**	*e*P		**Pb**	**19 47 14.3**	**+0.4**
	baz=309							
TATO				S		**Sg**	**19 47 22.8**	**+0.1**
	baz=309							
WHF	**Hehuan Shan**	**0.72**	**246**	P		**Pg**	**19 47 14.1**	**+0.1**
	baz=243							
WHF				S		**Sb**	**19 47 24.0**	**-0.5**
	baz=243							
TWT	**Tachien**	**0.76**	**256**	*e*P		**Pb**	**19 47 15.4**	**+0.3**
	baz=248							
TDCB	**Techi**	**0.78**	**256**	*e*P		**Pb**	**19 47 15.4**	**0.0**
	baz=254							
TDCB				*e*S		**Sg**	**19 47 24.7**	**-0.5**
	baz=254							
YM01	**YM01**	**0.80**	**332**	*e*P		**Pn**	**19 47 16.5**	**-0.4**
	baz=332							
YM01				*e*S		**Sb**	**19 47 26.0**	**-0.3**
	baz=332							
YM11	**YM11**	**0.81**	**333**	*e*P		**Pn**	**19 47 16.8**	**-0.3**
	baz=333							
YM11				*e*S		**Sb**	**19 47 26.8**	**0.0**
	baz=333							
YM05	**YM05**	**0.81**	**332**	*e*P		**Pn**	**19 47 16.9**	**-0.2**
	baz=342							
YM04	**YM04**	**0.82**	**330**	*e*P		**Pn**	**19 47 17.1**	**0.0**
	baz=340							
YM08	**YM08**	**0.82**	**334**	*e*P		**Pb**	**19 47 16.6**	**+0.5**
	baz=335							
CHGB	**Renai**	**0.83**	**243**	P		**Pb**	**19 47 16.4**	**+0.1**
	baz=241							
CHGB				*e*S		**Sb**	**19 47 27.1**	**-0.4**
	baz=241							
TWS1	**Kuangyinshan**	**0.83**	**322**	*e*P		**Pn**	**19 47 17.6**	**+0.2**
	baz=322							
ANP	**Anpu**	**0.85**	**330**	*e*P		**Pn**	**19 47 17.3**	**-0.4**
	baz=331							
NTST	**Danshui**	**0.87**	**326**	*e*P		**Pn**	**19 47 18.8**	**+1.0**
	baz=326							
OWD	**Renai**	**0.88**	**237**	*e*P		**Pb**	**19 47 17.0**	**-0.2**
	baz=235							
OWD				*e*S		**Sg**	**19 47 28.7**	**0.0**
	baz=235							
NCU	**National Centr**	**0.89**	**306**	*e*P		**Pn**	**19 47 19.0**	**+0.8**
	baz=309							
NCUH	**Zhongli**	**0.90**	**306**	*e*P		**Pn**	**19 47 19.0**	**+0.8**
	baz=295							
TWY	**Chenhua**	**0.90**	**337**	*e*P		**Pn**	**19 47 19.3**	**+1.0**
	baz=337							
TWY				*e*S		**Sb**	**19 47 29.0**	**-0.3**
	baz=337							
LIOB	**Emei**	**0.90**	**283**	⇓*e*P		**Pb**	**19 47 16.8**	**-0.7**
	baz=282							
NSTT	**Nanjuang**	**0.91**	**282**	⇓P		**Pn**	**19 47 18.3**	**-0.2**
	baz=281							
NSTT				*e*S		**Sg**	**19 47 29.9**	**+0.3**
	baz=281							
EGFH	**Guangfu**	**0.92**	**214**	*e*P		**Pb**	**19 47 17.9**	**+0.1**
	baz=225							
YOJ	**Yonaguni jima**	**0.94**	**89**	P		**Pb**	**19 47 18.1**	**+0.1**
WHP	**Taichung City**	**0.96**	**260**	⇓P		**Pn**	**19 47 19.1**	**-0.1**
	baz=259							
WHP				*e*S		**Sg**	**19 47 31.4**	**+0.3**
	baz=259							
SBCB	**Hsinchu**	**0.97**	**291**	*e*P		**Pn**	**19 47 20.6**	**+1.3**
	baz=290							
VWDT	**VWDT**	**1.03**	**228**	*e*P		**Pn**	**19 47 20.1**	**+0.1**
	baz=227							
VWDT				*e*S		**Sg**	**19 47 33.3**	**0.0**
	baz=227							
HGSD	**Ruisui**	**1.08**	**209**	*e*P		**Pg**	**19 47 21.6**	**+0.9**
	baz=208							
NMLH	**Miaoli**	**1.09**	**275**	*e*P		**Pg**	**19 47 22.7**	**+1.7**
	baz=274							
TWQ1	**Liyutan**	**1.11**	**265**	*e*P		**Pg**	**19 47 22.5**	**+1.2**
	baz=264							
EHY	**Hungye**	**1.11**	**213**	*e*P		**Pg**	**19 47 21.8**	**+0.4**
	baz=224							
SMLT	**Sun Moon Lake**	**1.14**	**241**	*e*P		**Pg**	**19 47 22.2**	**+0.4**
	baz=239							
SMLT				*e*S		**Sb**	**19 47 35.7**	**-0.5**
	baz=239							
SSLB	**Suanglung**	**1.15**	**235**	*e*P		**Pg**	**19 47 21.9**	**-0.1**
	baz=243							
SSLB				*e*S		**Sb**	**19 47 36.4**	**0.0**
	baz=243							
TYC	**Yuchr**	**1.16**	**243**	*e*P		**Pg**	**19 47 22.5**	**+0.2**
	baz=241							
YULB	**Yu-li**	**1.22**	**211**	*e*P		**Pn**	**19 47 22.0**	**-0.7**
	baz=222							
WDJ	**Dajia District**	**1.23**	**266**	*e*P		**Pg**	**19 47 25.8**	**+2.2**
	baz=264							
TWF1	**Yuli**	**1.25**	**210**	*e*P		**Pn**	**19 47 23.1**	**-0.1**
	baz=225							
WHYT	**Xinyi Township**	**1.27**	**234**	*e*P		**Pg**	**19 47 24.9**	**+0.4**
	baz=233							
WJS	**Zhushan**	**1.30**	**242**	*e*P		**Pg**	**19 47 26.5**	**+1.5**
	baz=234							
FULB	**Fuli**	**1.39**	**207**	*e*P		**Pn**	**19 47 25.0**	**-0.1**
	baz=222							
ALS	**Alishan**	**1.42**	**229**	*e*P		**Pg**	**19 47 28.0**	**+0.7**
	baz=215							
CHN5	**Tsauling**	**1.46**	**235**	*e*P		**Pg**	**19 47 28.6**	**+0.5**
	baz=246							
CHN5				*e*S		**Sg**	**19 47 49.5**	**+2.4**
	baz=246							
WGK	**Gukeng**	**1.50**	**240**	*e*P		**Pg**	**19 47 30.7**	**+1.9**
	baz=240							
ELDTW	**Lidau**	**1.53**	**216**	*e*P		**Pb**	**19 47 28.7**	**+0.5**
	baz=203							
IRIF	**Iriomote-Funau**	**1.60**	**94**	P		**Pn**	**

TUMD				*e*S	Sn	20 12 03.0	+2.6
TUMR	**Tumrok**	**3.14**	**343**	*e*P	Pn	20 11 31.0	+3.9
KBTR	**Krutoberegovo**	**3.97**	**9**	*e*P	Pn	20 11 40.1	+1.9

*ISK **10** 20:12:32.8, 38˚.64N×43˚.19E, h4km, ML1.8/5*
*ISCJB **10** 20:12:33.6±1.2, 38˚.57N±0˚.05×43˚.24E±0˚.05, h24km±11km, Error ellipse: s-maj=9.7km s-min=5.6km az=145.4*
*DDA **10** 20:12:33.7, 38˚.62N×43˚.22E, h7km±4km, ML2.5*
ISC 10 20:12:33.7±1.2**, 38˚.61N**±0˚.04×**43˚.21E**±0˚.03**, h16**km±13km**, n11, σ0°64/19, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.14**	**97**	PG	**Pb**	**20 12 37.6**	**-0.4**
VANB				SG	**Sb**	**20 12 41.6**	**+0.7**
TVAN	**Van**	**0.17**	**119**	*i* P	**Pb**	**20 12 38.2**	**-0.4**
TVAN				*i* S	**Sb**	**20 12 41.3**	**-0.7**
TVAN				IAML_P			
	comp=Z,5μm,0.1s						
GEVA	**Gevas**	**0.32**	**202**	*i* P	**Pg**	**20 12 41.0**	**+0.5**
GEVA				IAML_P			
	comp=Z,1μm,0.1s						
AKDM	**Akdamar-Van**	**0.34**	**213**	PG	**Pg**	**20 12 40.7**	**-0.1**
ADCV	**BITLIS_Adilcev**	**0.43**	**297**	*i* P	**Pg**	**20 12 42.2**	**-0.2**
ADCV				*i* S	**Sb**	**20 12 50.2**	**+0.9**
ADCV				IAML_P			
	comp=Z,558nm,0.1s						
VMUR	**Van-Muradiye**	**0.47**	**37**	*i* P	**Pg**	**20 12 43.5**	**+0.4**
VMUR				*i* S	**Sb**	**20 12 51.2**	**+0.7**
VMUR				IAML_P			
	comp=Z,544nm,0.1s						
CLDR	**Caldiran**	**0.76**	**46**	PG	**Pb**	**20 12 48.1**	**-0.6**
CLDR				SG	**Sb**	**20 12 59.8**	**+0.8**
CLDR	**Caldiran**	**0.76**	**46**	*i* P	**Pb**	**20 12 48.2**	**-0.5**
CLDR				*i* S	**Sb**	**20 12 59.8**	**+0.8**
CLDR				IAML_P			
	comp=Z,676nm,0.1s						
TUTA	**Tutak**	**0.85**	**339**	*i* P	**Pb**	**20 12 49.7**	**-0.5**
TUTA				IAML_P			
	comp=Z,1μm,0.2s						
GURO	**Guroymak-BITLI**	**0.93**	**267**	PG	**Pb**	**20 12 51.2**	**-0.2**
GURO				SG	**Sb**	**20 13 04.1**	**+0.5**
AGRB	**Hanur-Agry**	**0.98**	**350**	PG	**Pb**	**20 12 51.5**	**-0.8**
AGRB				SG	**Sb**	**20 13 05.0**	**-0.1**

IDC 10 20:16:27.3±8.0**, 15˚.01S**×**166˚.04E, h0**km**, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.6**/34**, mbtmp3.8**/4**, ML4.7**/2**, Error ellipse: s-maj=141.0km s-min=29.6km az=65.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.03**	**177**	Pn	Pn	20 18 12.0	+0.4
	1.6nm,0.3s,baz=26,slow=6.2,SNR=11						
DZM				Sn	Sn	20 19 31.2	-1.2
	2.1nm,0.3s,baz=114,slow=22,SNR=6.6						
HNR	**Honiara**	**8.14**	**312**	Pn	Pn	20 18 26.7	-0.1
	76nm,0.3s,baz=139,slow=12,SNR=4.4						
STKA	**Stephens Creek**	**27.91**	**229**	P	P	20 22 19.1	-0.1
	1.7nm,0.5s,baz=51,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**30.61**	**256**	P	P	20 22 43.4	+0.1
	0.2nm,0.6s,baz=84,slow=8.7,SNR=2.6						
ASAR	**Alice Springs**	**31.46**	**249**	P	P	20 22 51.0	+0.1
	0.7nm,0.5s,baz=75,slow=9.2,SNR=14						

*ISCJB **10** 20:39:48.6±1.0, 43˚.45S±0˚.3×39˚.5E±0˚.3, h10km, mb3.7/8, MS3.3/3, Error ellipse: s-maj=53.0km s-min=13.0km az=33.6*
*IDC **10** 20:39:48.8±0.9, 43˚.38S×39˚.58E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.8/36, mbtmp3.9/10, ML3.5/2, MS3.3/5, Ms1 3.3/5, ms1mx3.1/41, Error ellipse: s-maj=52.7km s-min=18.3km az=35.0*
ISC 10 20:39:50.2±1.0**, 43˚.45S**±0˚.3×**39˚.5E**±0˚.2**, h10**km**, n17, σ0°19/12, mb3.8/8, MS3.3/3, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**18.37**	**301**	P	**P**	**20 44 05.3**	**0.0**
	0.2nm,0.3s,baz=138,slow=15,SNR=4.5						
SUR				LR	LR	20 50 04.6	
	comp=Z,64nm,18.1s,baz=150,slow=34						
BOSA	**Boshof**	**18.70**	**318**	P	**Pn**	**20 44 08.8**	**-0.4**
	0.1nm,0.3s,baz=152,slow=15,SNR=2.8						
BOSA				LR	LR	20 49 15.7	
	comp=Z,80nm,18.8s,baz=196,slow=30						
LBTB	**Lobatse**	**21.61**	**324**	P	**P**	**20 44 40.5**	**+0.1**
	3.3nm,0.8s,baz=153,slow=12,SNR=2.9						
LBTB				LR	LR	20 51 03.6	
	comp=Z,98nm,20.2s,baz=150,slow=31						
MATP	**Matopo**	**24.71**	**335**	LR	LR	20 53 32.1	
	comp=Z,86nm,18.8s,baz=180,slow=33						
H01W2	**Cape Leeuwin H**	**56.72**	**109**	T	T	21 50 51.1	
	baz=238						
H01W3	**Cape Leeuwin H**	**56.73**	**109**	T	T	21 50 57.0	
	baz=238						
H01W1	**Cape Leeuwin H**	**56.74**	**109**	T	T	21 50 50.5	
	baz=238						
PALK	**Pallekele**	**62.76**	**47**	LR	LR	21 11 26.9	
	comp=Z,36nm,20.9s,baz=299,slow=30						
DBIC	**Dimbokro**	**63.99**	**309**	P	**P**	**20 50 24.2**	**+0.3**
	1.8nm,0.6s,baz=156,slow=7.7,SNR=5.8						
TORD	**Torodi Ar. Bea**	**66.05**	**319**	P	**P**	**20 50 37.2**	**-0.1**
	0.8nm,0.7s,baz=152,slow=6.7,SNR=5.6						
STKA	**Stephens Creek**	**76.70**	**121**	P	**P**	**20 51 41.6**	**+0.1**
	1.2nm,0.5s,baz=155,slow=3.7,SNR=4.5						
ASAR	**Alice Springs**	**77.17**	**110**	P	**P**	**20 51 44.3**	**-0.1**
	0.7nm,1.1s,baz=227,slow=5.3,SNR=4.2						
WRA	**Warramunga Arr**	**79.96**	**108**	P	**P**	**20 51 59.7**	**-0.1**
	0.6nm,0.9s,baz=216,slow=5.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**82.18**	**56**	P	**P**	**20 52 11.4**	**0.0**
	0.7nm,0.9s,baz=233,slow=6.3,SNR=4.8						
BRTR	**Keskin Array B**	**82.94**	**355**	P	**P**	**20 52 15.3**	**+0.2**
	0.1nm,0.4s,baz=211,slow=5.0,SNR=2.3						
TXAR	**Lajitas Array**	**147.46**	**257**	PKPbc	**PKPbc**	**20 59 34.5**	**0.0**
	0.9nm,0.8s,baz=142,slow=6.2,SNR=8.3						
ULM	**Lac du Bonnet**	**149.10**	**299**	PKPbc	**PKPbc**	**20 59 37.9**	**-0.1**
	1.5nm,0.6s,baz=112,slow=5.3,SNR=4.5						

*BER **10** 21:02:56.1±2.7, 80˚.44N×1˚.37E, h25km±202km, Confirmed Earthquake*
*IEPN **10** 21:03:00.0, 80˚.17N×2˚.08E, h15km*
ISC 10 21:02:59.6±3.2**, 80˚.17N**±0˚.08×**3˚.6E**±0˚.2**, h10**km**, n14, σ0°94/23, 1D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.97**	**125**	Pg	**Pn**	**21 03 32.4**	**-0.5**
KBS				Lg	Lg	21 03 59.4	
KBS	**Kingsbay**	**1.97**	**125**	ǁ *i* P	**Pn**	**21 03 32.2**	**-0.7**
KBS				*e*S	**Sn**	**21 03 59.0**	**+1.5**
KBS	**Kingsbay**	**1.97**	**125**	*e*P	**Pn**	**21 03 32.3**	**-0.5**
KBS				*e*S	**Sb**	**21 03 59.4**	**-0.5**
BRBA	**Barentsburg A**	**2.92**	**131**	Pn	**Pn**	**21 03 46.3**	**+0.3**
BRBA				Sn	**Sn**	**21 04 22.9**	**+1.9**
BRBA	**Barentsburg A**	**2.92**	**131**	Pn	**Pn**	**21 03 46.3**	**+0.3**
BRBA				Sn	**Sn**	**21 04 22.9**	**+1.9**
SPA0	**Spitsbergen Ar**	**3.12**	**123**	Pn	**Pn**	**21 03 49.0**	**+0.2**
	baz=324,slow=10						
SPA0	**Spitsbergen Ar**	**3.12**	**123**	Pn	**Pn**	**21 03 49.0**	**+0.2**
	baz=324,slow=10						
HSP	**Hornsund**	**3.95**	**137**	Pn	**Pn**	**21 03 59.5**	**-0.7**
HSP				Sn	**Sn**	**21 04 47.0**	**+0.6**
HSPB	**Hornsund (broa**	**3.96**	**137**	*e*P	**Pn**	**21 03 59.7**	**-0.5**
HSPB				*e*S	**Sn**	**21 04 46.9**	**+0.3**
HOPEN	**Hopen**	**5.64**	**119**	Pn	**Pn**	**21 04 22.3**	**-1.0**
HOPEN				Sn	**Sn**	**21 05 28.6**	**+0.5**
HOPEN	**Hopen**	**5.64**	**119**	*e*P	**Pn**	**21 04 23.1**	**-0.2**
HOPEN				*e*S	**Sn**	**21 05 26.6**	**-1.4**
ZFI2	**Zemlya Franca-**	**7.18**	**63**	*e*P	**Pn**	**21 04 45.6**	**+1.3**
ZFI2				*e*S	**Sn**	**21 06 05.1**	**-0.7**
ARA0	**ARCESS Array S**	**11.97**	**141**	Pn	**Pn**	**21 05 49.7**	**-0.2**
	baz=322,slow=11						
ARA0	**ARCESS Array S**	**11.97**	**141**	Pn	**Pn**	**21 05 49.7**	**-0.2**
	baz=322,slow=11						

*ISCJB **10** 21:05:17.8±0.2, 61˚.55N±0˚.02×150˚.44W±0˚.03, h72km±2km, mb4.0/36, Error ellipse: s-maj=3.2km s-min=2.6km az=154.5*
*IDC **10** 21:05:19.4±2.3, 61˚.73N×150˚.61W, h68km±20km, mb3.7/28, mb1 3.9/32, mb1mx3.8/55, mbtmp4.0/32, Error ellipse: s-maj=16.2km s-min=10.0km az=49.0*
*NEIC **10** 21:05:19.7±0.0, 61˚.54N×150˚.47W, h60km, ML4.1(AEIC), MW4.2(SLM), After AEIC.*
NEIC Felt [III] at Anchorage and Chugiak and [II] at Eagle River, Palmer and Wasilla. Also felt at Cooper Landing, Talkeetna, Trapper Creek and Willow.
ISC 10 21:05:18.7±0.7**, 61˚.54N**±0˚.03×**150˚.47W**±0˚.03**, h65**km±6km**, n170, σ0°96/185, mb4.0/43, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	**0.15**	**239**	P	**Pn**	**21 05 28.5**	**-0.2**
SUA				S	**Sn**	**21 05 36.1**	**+0.1**
RC01	**Rabbit Creek A**	**0.58**	**142**	P	**Pn**	**21 05 31.5**	**-0.4**
RC01				S	**Sn**	**21 05 42.3**	**+0.7**
PMR	**Palmer**	**0.64**	**85**	P	**Pn**	**21 05 32.1**	**-0.4**
SPCR	**Spurr Chakacha**	**0.90**	**248**	P	**Pn**	**21 05 35.7**	**-0.1**
SPCR				S	**Sn**	**21 05 48.4**	**-0.1**
SPBG	**Spurr Blockage**	**0.96**	**253**	P	**Pn**	**21 05 36.8**	**+0.3**
CKL	**Chakachamna La**	**0.96**	**250**	P	**Pn**	**21 05 36.6**	**0.0**
KNK	**Knik Glacier**	**0.98**	**97**	P	**Pn**	**21 05 37.1**	**+0.4**
SPWE	**Spurr West**	**1.04**	**256**	P	**Pn**	**21 05 37.8**	**+0.2**
SLKM	**Skilak Lake**	**1.05**	**173**	P	**Pn**	**21 05 37.3**	**-0.3**
SML	**Sawmill**	**1.05**	**74**	P	**Pn**	**21 05 37.9**	**+0.2**
PWL	**Port Wells**	**1.24**	**123**	P	**Pn**	**21 05 40.2**	**+0.1**
PWL				S	**Sn**	**21 05 56.8**	**+0.7**
RDJH	**Redoubt Jeurge**	**1.48**	**231**	P	**Pn**	**21 05 43.8**	**+0.4**
RDJH				S	**Sn**	**21 06 01.2**	**-0.8**
HUR	**Hurricane**	**1.49**	**15**	P	**Pn**	**21 05 43.9**	**+0.5**
RDN	**Redoubt North**	**1.52**	**228**	P	**Pn**	**21 05 44.1**	**+0.2**
SCM	**Sheep Creek Mo**	**1.53**	**78**	P	**Pn**	**21 05 44.3**	**+0.4**
SCM				S	**Sn**	**21 06 04.0**	**+1.0**
SEW	**Seward**	**1.53**	**160**	P	**Pn**	**21 05 43.5**	**-0.4**
RDSO	**Redoubt South**	**1.56**	**226**	P	**Pn**	**21 05 44.6**	**+0.2**
RDSO				S	**Sn**	**21 06 04.8**	**+1.0**
RDWB	**Redoubt West**	**1.57**	**228**	P	**Pn**	**21 05 44.9**	**+0.4**
RDWB				S	**Sn**	**21 06 04.8**	**+0.8**
PPLA	**Purkeypile**	**1.58**	**330**	P	**Pn**	**21 05 44.7**	**0.0**
PPLA				S	**Sn**	**21 06 05.8**	**+1.5**
BRLK	**Bradley Lake**	**1.80**	**187**	P	**Pn**	**21 05 47.3**	**-0.2**
TRF	**Thorofare Moun**	**1.92**	**2**	P	**Pn**	**21 05 49.3**	**0.0**
JPK	**Jack Peak**	**1.93**	**103**	P	**Pn**	**21 05 49.0**	**-0.3**
IVE	**Iliamna Volcan**	**1.98**	**220**	P	**Pn**	**21 05 50.5**	**+0.5**
HOM	**Homer**	**1.98**	**198**	P	**Pn**	**21 05 50.1**	**+0.2**
ILW	**Iliamna West**	**1.98**	**222**	P	**Pn**	**21 05 50.7**	**+0.6**
RND	**Reindeer**	**2.02**	**21**	P	**Pn**	**21 05 50.9**	**+0.4**
CAST	**Castle Rocks**	**2.03**	**339**	P	**Pn**	**21 05 50.5**	**-0.1**
VMT	**TAPS Tl Valdez**	**2.03**	**101**	P	**Pn**	**21 05 50.3**	**-0.3**
ILS	**Iliamna Low So**	**2.04**	**220**	P	**Pn**	**21 05 51.6**	**+0.7**
DHY	**Denali Highway**	**2.11**	**42**	P	**Pn**	**21 05 52.2**	**+0.4**
KLU	**Klutina**	**2.18**	**89**	P	**Pn**	**21 05 52.3**	**-0.4**
HIN	**Hinchinbrook I**	**2.25**	**119**	P	**Pn**	**21 05 53.1**	**-0.5**
DIV	**Divide**	**2.30**	**98**	P	**Pn**	**21 05 53.7**	**-0.6**
MCK	**McKinley**	**2.31**	**17**	P	**Pn**	**21 05 54.9**	**+0.4**
PS11	**TAPS Pump St11**	**2.43**	**75**	P	**Pn**	**21 05 57.2**	**+1.2**
CHUM	**Lake Minchumin**	**2.50**	**341**	P	**Pn**	**21 05 57.1**	**+0.3**
EYAK	**Cordova Ski Ar**	**2.50**	**111**	P	**Pn**	**21 05 56.1**	**-0.9**
SVW2	**Sparrevohn**	**2.50**	**262**	P	**Pn**	**21 05 56.9**	**-0.2**
PS12	**TAPS Pump St12**	**2.55**	**89**	P	**Pn**	**21 05 57.4**	**-0.3**
BPAW	**Bear Paw Mtn.**	**2.58**	**355**	P	**Pn**	**21 05 57.6**	**-0.5**
AUL	**Augustine Lava**	**2.62**	**215**	P	**Pn**	**21 05 59.7**	**+1.1**
AUW	**Augustine West**	**2.64**	**216**	P	**Pn**	**21 05 60.0**	**+1.1**
HARP	**HAARP**	**2.66**	**69**	P	**Pn**	**21 06 00.2**	**+1.1**
BWN	**Browne**	**2.68**	**9**	P	**Pn**	**21 05 59.8**	**+0.4**
PAX	**Paxson**	**2.74**	**56**	P	**Pn**	**21 06 01.5**	**+1.1**
PS10	**TAPS Pump St10**	**2.88**	**47**	P	**Pn**	**21 06 03.8**	**+1.5**
TT01	**Tatalina**	**2.94**	**300**	P	**Pn**	**21 06 03.0**	**0.0**
NEA	**Nenana**	**3.11**	**11**	P	**Pn**	**21 06 05.3**	**0.0**
WRH	**Wood River Hil**	**3.13**	**19**	P	**Pn**	**21 06 06.1**	**+0.5**
FONW	**Fourpeaked Sta**	**3.22**	**214**	P	**Pn**	**21 06 07.2**	**+0.4**
HMT	**Hamilton**	**3.26**	**109**	P	**Pn**	**21 06 06.3**	**-1.1**
HDA	**Harding Lake**	**3.29**	**28**	P	**Pn**	**21 06 08.2**	**+0.4**
CCB	**Clear Creek Bu**	**3.34**	**20**	P	**Pn**	**21 06 08.2**	**-0.2**
RIDG	**Independ'e Rid**	**3.41**	**47**	P	**Pn**	**21 06 10.6**	**+1.2**
NICHA	**Nichawak Mount**	**3.44**	**110**	P	**Pn**	**21 06 08.3**	**-1.5**
PS08	**TAPS Pump Stn8**	**3.44**	**27**	P	**Pn**	**21 06 09.9**	**+0.1**
MENT	**Mentasta**	**3.46**	**63**	P	**Pn**	**21 06 10.5**	**+0.5**
MLY	**Manley**	**3.50**	**358**	P	**Pn**	**21 06 10.5**	**-0.2**
COLA	**College**	**3.55**	**18**	P	**Pn**	**21 06 11.4**	**+0.2**
MDM	**Murphy Dome**	**3.58**	**15**	P	**Pn**	**21 06 11.6**	**-0.1**
MCARA	**McCarthy VSAT**	**3.58**	**89**	P	**Pn**	**21 06 12.4**	**+0.7**
SUCK	**Suckling Hills**	**3.60**	**111**	P	**Pn**	**21 06 12.5**	**+0.6**
ILAR	**Eielson Array**	**3.62**	**25**	P	**Pn**	**21 06 12.0**	**-0.3**
	38nm,0.3s,baz=210,slow=14,SNR=452						
ILAR				S	**Sn**	**21 06 51.7**	**-2.1**
	16nm,0.3s,baz=187,slow=18,SNR=6.5						
IL1	**Eielson Array**	**3.62**	**25**	P	**Pn**	**21 06 12.6**	**+0.3**
DOT	**Dot Lake**	**3.64**	**52**	P	**Pn**	**21 06 13.2**	**+0.6**
KAHG	**Katmai Hook Gl**	**3.68**	**216**	P	**Pn**	**21 06 13.6**	**+0.5**
KHIT	**Khitrov Hills**	**3.69**	**104**	P	**Pn**	**21 06 11.9**	**-1.3**
SCRK	**Sand Creek**	**3.85**	**48**	P	**Pn**	**21 06 15.9**	**+0.4**
PTPK	**Patty Peak**	**3.87**	**92**	P	**Pn**	**21 06 15.5**	**-0.3**
PS07	**TAPS Pump Stn7**	**3.91**	**14**	P	**Pn**	**21 06 16.6**	**+0.4**
KDAK	**Kodiak Island**	**3.92**	**197**	P	**Pn**	**21 06 14.7**	**-1.7**
	3.9nm,0.3s,baz=65,slow=15,SNR=58						
KDAK				S	**Sn**	**21 06 58.0**	**-3.0**
	26nm,0.3s,baz=6.0,slow=5.8,SNR=4.7						
BALM	**Baldy**	**3.95**	**94**	P	**Pn**	**21 06 16.4**	**-0.5**
KIAG	**Kiagna River**	**3.97**	**95**	P	**Pn**	**21 06 17.4**	**+0.2**
KULT	**Kultieth River**	**4.00**	**106**	P	**Pn**	**21 06 16.6**	**-0.9**
KELA	**Mount Kelaz**	**4.09**	**223**	P	**Pn**	**21 06 19.1**	**+0.4**
ACHA	**Angle Creek He**	**4.14**	**218**	P	**Pn**	**21 06 19.8**	**+0.3**
ANCK	**Angle Creek**	**4.20**	**219**	P	**Pn**	**21 06 21.0**	**+0.7**
BCA3	**Beaver Creek A**	**4.33**	**66**	P	**Pn**	**21 06 22.7**	**+0.7**
GCSA	**Galena City Sc**	**4.33**	**321**	P	**Pn**	**21 06 22.7**	**+0.8**
PS06	**TAPS Pump Stn6**	**4.34**	**4**	P	**Pn**	**21 06 22.6**	**+0.5**
MESA	**MESA**	**4.39**	**104**	P	**Pn**	**21 06 21.8**	**-1.1**
PRP	**Porcupine Dome**	**4.56**	**27**	P	**Pn**	**21 06 25.7**	**+0.5**
YUK2	**White River**	**4.60**	**83**	P	**Pn**	**21 06 25.7**	**+0.1**
BVCY	**Beaver Creek**	**4.62**	**75**	P	**Pn**	**21 06 26.4**	**+0.5**
RKAV	**Rock Avalanche**	**4.62**	**102**	P	**Pn**	**21 06 26.4**	**+0.3**
IM3	**Indian Mountai**	**4.69**	**343**	P	**Pn**	**21 06 26.7**	**-0.1**
YUK3	**Moose Creek**	**4.78**	**83**	P	**Pn**	**21 06 28.2**	**-0.1**
SAMH	**Samovar Hills**	**4.95**	**102**	P	**Pn**	**21 06 30.6**	**+0.1**
PS05	**TAPS Pump Stn5**	**5.29**	**359**	P	**Pn**	**21 06 35.7**	**+0.7**
EGAK	**Eagle**	**5.32**	**48**	P	**Pn**	**21 06 36.0**	**+0.5**
FYU	**Fort Yukon**	**5.54**	**22**	P	**Pn**	**21 06 39.9**	**+1.5**
BCPM	**Bancas Point**	**5.55**	**102**	P	**Pn**	**21 06 38.0**	**-0.6**
DAWY	**Dawson**	**5.67**	**59**	P	**Pn**	**21 06 41.0**	**+0.6**
YUK4	**Talbot Arm**	**5.68**	**87**	P	**Pn**	**21 06 40.9**	**+0.4**
COLD	**Coldfoot**	**5.71**	**1**	P	**Pn**	**21 06 41.4**	**+0.6**
YUK6	**Outpost Mounta**	**5.88**	**91**	P	**Pn**	**21 06 43.5**	**+0.2**
ANNE	**Aniakchak Nort**	**6.06**	**223**	P	**Pn**	**21 06 45.9**	**+0.2**
YUK7	**Dusty Glacier**	**6.08**	**94**	P	**Pn**	**21 06 45.8**	**-0.2**
YUK5	**Granite Creek**	**6.08**	**88**	P	**Pn**	**21 06 46.2**	**+0.1**
HYT	**Haines Junctio**	**6.31**	**91**	P	**Pn**	**21 06 49.1**	**-0.1**
BM3	**Burnt Mountain**	**6.42**	**21**	P	**Pn**	**21 06 51.0**	**+0.5**
TOLK	**Toolik Lake Re**	**7.14**	**3**	P	**Pn**	**21 07 01.2**	**+0.9**
ANM	**Nome**	**7.41**	**301**	P	**Pn**	**21 07 03.6**	**-0.4**
WHY	**Whitehorse**	**7.61**	**90**	P	**Pn**	**21 07 06.3**	**-0.5**
INK	**Inuvik**	**9.85**	**39**	P	**Pn**	**21 07 37.0**	**-0.3**
	1.8nm,0.3s,baz=228,slow=16,SNR=66						
INK				S	**Sn**	**21 09 22.9**	**-3.2**
	baz=201,slow=18,SNR=1.5						
DLBC	**Dease Lake**	**10.69**	**98**	P	**Pn**	**21 07 49.5**	**+0.6**
	0.6nm,0.3s,baz=275,slow=14,SNR=7.9						
BBB	**Bella Bella**	**15.32**	**118**	P	**Pn**	**21 08 51.1**	**+0.4**
	0.1nm,0.3s,baz=172,slow=3.1,SNR=3.2						
BBB				S	**Sn**	**21 11 36.6**	**-2.7**
	0.2nm,0.3s,baz=245,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**16.73**	**71**	P	**Pn**	**21 09 08.9**	**+0.5**
	0.2nm,0.3s,baz=278,slow=13,SNR=17						
NEW	**Newport**	**23.01**	**110**	P	**P**	**21 10 19.4**	**+1.6**
	1.9nm,0.8s,baz=328,slow=8.5,SNR=4.8						
RES	**Resolute Bay**	**23.33**	**34**	P	**P**	**21 10 20.2**	**-0.5**
	2.8nm,0.5s,baz=239,slow=14,SNR=22						
SEY	**Seymchan**	**25.91**	**298**	P	**P**	**21 10 43.9**	**-0.3**
	1.1nm,0.6s,baz=135,slow=9.2,SNR=3.7						
YBH	**Yreka Blue Hor**	**25.92**	**127**	P	**P**	**21 10 46.8**	**+2.2**
	0.3nm,0.4s,baz=301,slow=10,SNR=2.1						
ELK	**Elko**	**29.77**	**118**	P	**P**	**21 11 20.8**	**+1.7**
	0.4nm,0.3s,baz=310,slow=11,SNR=5.2						
NVAR	**Mina Array Bea**	**30.48**	**124**	P	**P**	**21 11 27.4**	**+2.1**
	0.7nm,0.5s,baz=319,slow=9.8,SNR=5.7						
PDAR	**Pinedale Array**	**30.63**	**109**	P	**P**	**21 11 28.1**	**+1.4**
	0.2nm,0.5s,baz=308,slow=4.1,SNR=4.9						
TIXI	**Tiksi**	**30.99**	**323**	P	**P**	**21 11 28.1**	**-1.1**
	0.8nm,0.2s,baz=71,slow=4.0,SNR=2.1						
TIXI				PcP	**PcP**	**21 14 22.7**	**-0.8**
	1.3nm,0.3s,baz=41,slow=3.1,SNR=5.7						
SUMG	**Summit**	**38.47**	**27**	*i* P	**P**	**21 12 34.7**	**+0.6**
	17nm,0.7s						
DAG	**Danmarks Havn**	**38.68**	**16**	*i* P	**P**	**21 12 35.0**	**-0.3**
	3.9nm,0.6s						
SFJD	**Kangerlussuaq**	**39.20**	**38**	*i* P	**P**	**21 12 40.9**	**+1.2**
SPITS	**Spitsbergen Ar**	**40.29**	**4**	P	**P**	**21 12 47.4**	**-1.3**
	10nm,0.9s,baz=20,slow=7.4,SNR=22						
KLR	**Kul'dur**	**43.17**	**291**	P	**P**	**21 13 10.6**	**-1.9**
	0.6nm,0.4s,baz=10,slow=11,SNR=3.9						
TXAR	**Lajitas Array**	**44.43**	**115**	P	**P**	**21 13 24.6**	**+1.7**
	0.4nm,0.6s,baz=319,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	**49.18**	**2**	P	**P**	**21 13 58.5**	**-0.9**
	5.4nm,0.9s,baz=11,slow=6.8,SNR=8.8						
KSRS	**Korea Array**	**54.04**	**283**	P	**P**	**21 14 35.8**	**-0.3**
	1.4nm,0.8s,baz=33,slow=7.2,SNR=5.5						
KSAR	**Wonju Array Be**	**54.07**	**283**	P	**P**	**21 14 35.8**	**-0.5**
SONM	**Songino Array**	**54.88**	**307**	P	**P**	**21 14 42.1**	**0.0**
	4.5nm,0.6s,baz=40,slow=7.2,SNR=37						
ZALV	**Zalesovo Beam**	**56.85**	**325**	P	**P**	**21 14 54.6**	**-1.4**
	1.3nm,0.5s,baz=21,slow=7.0,SNR=5.6						
NOA	**NORSAR Array B**	**56.94**	**11**	P	**P**	**21 14 55.6**	**-1.0**
	0.9nm,0.8s,baz=349,slow=7.3,SNR=3.6						
FINES	**FINESS Array B**	**57.31**	**2**	P	**P**	**21 14 58.2**	**-0.9**
	1.7nm,0.5s,baz=4.4,slow=8.0,SNR=20						
HHC	**Hu-ho-hao-te**	**58.56**	**298**	*e*P	**P**	**21 15 10.7**	**+2.4**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,210nm,7.2s						
BVAR	**Borovoye Array**	**61.26**	**333**	P	**P**	**21 15 25.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=62,slow=6.6,SNR=7.2						
KURBB	**Kurchatov Arra**	**61.54**	**327**	P	**P**	**21 15 27.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=30,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**63.98**	**323**	P	**P**	**21 15 43.2**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=22,slow=4.8,SNR=7.6						
WMQ	**Urumqi**	**64.99**	**317**	*e*P	**P**	**21 15 55.6**	**+4.2**
WMQ				pP	pP	21 16 09.8	+1.1
WMQ				PcP	**PcP**	**21 16 26.6**	**+2.7**
WMQ				LR	LR		
	comp=N,71nm,17.3s						
WMQ				LR	LR		
	comp=E,65nm,18.7s						
WMQ				LR	LR		
	comp=Z,58nm,17.3s						
AKTO	**Aktyubinsk**	**66.07**	**341**	P	**P**	**21 15 57.2**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=5.7,slow=10,SNR=3.7						
NKC	**Novy Kostel**	**67.74**	**12**	*e*P	**P**	**21 16 09.4**	**+0.6**
UPC	**Upice**	**67.78**	**9**	*e*P	**P**	**21 16 09.6**	**+0.6**
DPC	**Dobruska-Polom**	**67.96**	**9**	*e*P	**P**	**21 16 11.1**	**+0.9**
AKASG	**Malin Array Be**	**68.11**	**0**	P	**P**	**21 16 10.3**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=4.2,

TVAN	**Van**	**1.78**	**196**	*i* P		**Pb**	**21 16 31.4**	**+0.5**
TVAN				IAML_P					
	comp=Z,169nm,0.4s								
DAGI	**Agillar**	**1.81**	**298**	*i* P		**Pb**	**21 16 31.8**	**+0.6**
DAGI				*i* S		**Sb**	**21 16 56.9**	**+3.3**
DAGI				IAML_P					
	comp=Z,158nm,0.2s								
ARTV	**Artvin**	**1.85**	**301**	*i* P		**Pb**	**21 16 32.9**	**+0.9**
DDEM	**Demirkent**	**1.85**	**291**	*i* P		**Pb**	**21 16 32.7**	**+0.8**
DDEM				IAML_P					
	comp=Z,631nm,0.2s								
DBAD	**Bademkaya**	**1.94**	**294**	*i* P		**Pb**	**21 16 33.6**	**+0.1**
DBAD				IAML_P					
	comp=Z,210nm,0.2s								
DBOC	**Borcka**	**2.10**	**302**	*i* P		**Pb**	**21 16 35.6**	**-0.6**
DBOC				IAML_P					
	comp=Z,77nm,0.1s								
BCA	**Borcka**	**2.18**	**304**	PN		**Pb**	**21 16 36.0**	**-1.6**
GURO	**Guroymak-BITLI**	**2.29**	**223**	PN		**Pb**	**21 16 38.1**	**-1.4**
LGD	**Lagodekhi**	**2.31**	**46**	P		**Pb**	**21 16 41.2**	**+1.4**
LGD				S		**Sb**	**21 17 10.1**	**+2.3**

BJI ***10*** *21:17:10.0, 59.°10N×154.°10W, h90km, mb4.7/20, mB5.1/11*

ISCJB ***10*** *21:17:12.5±0.2, 59.°06N±0.°02×153.°91W±0.°04, h114km±2km, mb4.2/35, Error ellipse: s-maj=4.5km s-min=2.6km az=140.9*

MOS ***10*** *21:17:12.2±0.8, 59.°16N×154.°11W, h104km, mb4.4/8, Error ellipse: s-maj=12.5km s-min=6.7km az=82.3*

IDC ***10*** *21:17:14.2±0.8, 59.°24N×154.°06W, h103km±7km, mb3.9/25, mb1 3.9/29, mb1mx3.8/62, mbtmp4.2/29, MS3.3/2, Ms1 3.3/2, ms1mx2.6/51, Error ellipse: s-maj=13.7km s-min=8.3km az=14.0*

NEIC ***10*** *21:17:14.8±0.0, 58.°99N×153.°87W, h104km, MW4.3, ML4.3(AEIC), Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁵Nm; Mrr=0.52; Mθθ=2.50; Mϕϕ=1.99; Mrθ=0.98; Mθϕ=1.61; Mϕr=1.62; Best double couple: Mo=3.40000×10¹⁵ NP1:ϕ=328.00000°, δ=62.00000°, λ=163.00000°. NP2:ϕ=66.00000°, δ=75.00000°, λ=29.00000°. Principal axes: T 3.6100, Plg31.0000°, Azm290.0000°; N -0.5300, Plg58.0000°, Azm92.0000°; P -3.0900, Plg8.0000°, Azm195.0000°; After AEIC.*

NEIC Felt [III] at Homer and Iliamna. Also felt at Egegik.

ISC 10 21:17:13.5±0.5, 59°06N±0.°04×153°90W±0.°03, h106km±4km, n188, σ1=907/213, mb4.2/41, 5C-5D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FONW	**Fourpeaked Sta**	**0.23**	**182**	P	**Pn**	**21 17 28.6**	**0.0**
AUW	**Augustine West**	**0.38**	**35**	P	**Pn**	**21 17 30.2**	**+1.0**
AUP	**Augustine Pinn**	**0.39**	**39**	P	**Pn**	**21 17 30.3**	**+1.0**
AUP	**Augustine Pinn**	**0.39**	**39**	P	**Pn**	**21 17 30.3**	**+1.0**
AUL	**Augustine Lava**	**0.40**	**37**	P	**Pn**	**21 17 30.3**	**+1.0**
AUL				S	**Sn**	**21 17 41.1**	**0.0**
KAHG	**Katmai Hook Gl**	**0.66**	**211**	P	**Pn**	**21 17 31.1**	**-0.1**
KAHG				S	**Sn**	**21 17 44.1**	**-0.3**
ILS	**Iliamna Low So**	**1.00**	**25**	P	**Pn**	**21 17 35.4**	**+1.0**
IVE	**Iliamna Volcan**	**1.06**	**25**	P	**Pn**	**21 17 36.1**	**+1.0**
KABU	**Katmai Buttres**	**1.07**	**223**	P	**Pn**	**21 17 35.1**	**-0.1**
KABU				S	**Sn**	**21 17 51.2**	**-0.3**
ILW	**Iliamna West**	**1.08**	**21**	P	**Pn**	**21 17 36.4**	**+1.0**
ACHA	**Angle Creek He**	**1.13**	**222**	P	**Pn**	**21 17 35.5**	**-0.3**
ILIM	**Iliamna**	**1.13**	**25**	P	**Pn**	**21 17 36.8**	**+1.0**
KELA	**Mount Kelaz**	**1.14**	**238**	P	**Pn**	**21 17 35.6**	**-0.3**
ANCK	**Angle Creek**	**1.20**	**225**	P	**Pn**	**21 17 36.4**	**-0.2**
KDAK	**Kodiak Island**	**1.46**	**151**	P	**Pn**	**21 17 39.0**	**-0.5**
KDAK				S	**Sn**	**21 17 57.0**	**-2.2**
KDAK	**Kodiak Island**	**1.46**	**151**	P	**Pn**	**21 17 39.0**	**-0.5**
	763nm,0.3s,baz=46,slow=5.5,SNR=1669						
KDAK				S	**Sn**	**21 17 57.0**	**-2.2**
	704nm,0.3s,baz=180,slow=20,SNR=26						
KDAK				LR	LR	21 18 15.6	
	comp=Z,399nm,19.4s,baz=300,slow=37						
RDSO	**Redoubt South**	**1.52**	**22**	P	**Pn**	**21 17 41.5**	**+1.1**
RDWB	**Redoubt West**	**1.53**	**20**	P	**Pn**	**21 17 41.7**	**+1.1**
RDWB				S	**Sn**	**21 18 03.0**	**+1.9**
RDN	**Redoubt North**	**1.57**	**21**	P	**Pn**	**21 17 42.3**	**+1.3**
RDJH	**Redoubt Jeurge**	**1.63**	**19**	P	**Pn**	**21 17 43.0**	**+1.2**
RDJH				S	**Sn**	**21 18 04.9**	**+1.6**
BRLK	**Bradley Lake**	**1.70**	**64**	P	**Pn**	**21 17 42.7**	**+0.3**
BRLK				S	**Sn**	**21 18 04.6**	**+0.1**
PLK3	**Peulik 3**	**1.85**	**223**	P	**Pn**	**21 17 44.6**	**+0.2**
PLK3				S	**Sn**	**21 18 08.2**	**+0.2**
PLK1	**Peulik 1**	**1.90**	**230**	P	**Pn**	**21 17 45.0**	**0.0**
PLK4	**Peulik 4**	**1.93**	**223**	P	**Pn**	**21 17 45.5**	**+0.1**
PLBL	**Peulik Blue Cr**	**2.05**	**230**	P	**Pn**	**21 17 47.1**	**+0.1**
SVW2	**Sparrevohn**	**2.21**	**338**	P	**Pn**	**21 17 49.7**	**+0.8**
CKL	**Chakachamna La**	**2.28**	**19**	P	**Pn**	**21 17 51.3**	**+1.3**
SPCR	**Spurr Chakacha**	**2.31**	**21**	P	**Pn**	**21 17 51.5**	**+1.2**
SPWE	**Spurr West**	**2.32**	**16**	P	**Pn**	**21 17 52.2**	**+1.7**
SLKM	**Skilak Lake**	**2.36**	**50**	P	**Pn**	**21 17 51.4**	**+0.4**
SLKM	**Skilak Lake**	**2.36**	**50**	P	**Pn**	**21 17 51.4**	**+0.4**
SEW	**Seward**	**2.50**	**63**	P	**Pn**	**21 17 52.7**	**+0.1**
SII	**Sitkinak Islan**	**2.51**	**184**	P	**Pn**	**21 17 52.0**	**-0.9**
SUA	**Susitna One**	**2.88**	**32**	P	**Pn**	**21 17 58.7**	**+0.9**
SUA				S	**Sn**	**21 18 34.0**	**+2.0**
RC01	**Rabbit Creek A**	**2.92**	**44**	P	**Pn**	**21 17 58.6**	**+0.4**
PTE	**Portage**	**3.05**	**52**	P	**Pn**	**21 18 00.3**	**+0.4**
ANNW	**Aniakchak Nort**	**3.11**	**229**	P	**Pn**	**21 18 01.1**	**+0.3**
AZAC	**Aniakchak**	**3.17**	**229**	P	**Pn**	**21 18 01.9**	**+0.3**
PWL	**Port Wells**	**3.33**	**55**	P	**Pn**	**21 18 03.6**	**-0.1**
PMR	**Palmer**	**3.48**	**41**	P	**Pn**	**21 18 05.6**	**0.0**
PMR				S	**Sn**	**21 18 44.4**	**-1.5**
PMR	**Palmer**	**3.48**	**41**	P	**Pn**	**21 18 05.6**	**0.0**
PMR				S	**Sn**	**21 18 44.4**	**-1.5**
KNK	**Knik Glacier**	**3.60**	**47**	P	**Pn**	**21 18 07.2**	**-0.1**
CHGN	**Chignik**	**3.68**	**223**	P	**Pn**	**21 18 08.3**	**0.0**
SML	**Sawmill**	**3.90**	**43**	P	**Pn**	**21 18 11.2**	**-0.2**
SML	**Sawmill**	**3.90**	**43**	P	**Pn**	**21 18 11.2**	**-0.2**
MID	**Middleton Isla**	**3.90**	**81**	P	**Pn**	**21 18 11.5**	**+0.2**
PPLA	**Purkeypile**	**3.94**	**12**	P	**Pn**	**21 18 13.8**	**+1.8**
HIN	**Hinchinbrook I**	**3.98**	**67**	P	**Pn**	**21 18 12.5**	**+0.1**
TT01	**Tatalina**	**4.00**	**346**	P	**Pn**	**21 18 13.7**	**+1.1**
VNHG	**Veniaminof 1**	**4.01**	**227**	P	**Pn**	**21 18 13.1**	**+0.1**
JPK	**Jack Peak**	**4.17**	**58**	P	**Pn**	**21 18 14.5**	**-0.5**
SCM	**Sheep Creek Mo**	**4.28**	**47**	P	**Pn**	**21 18 16.5**	**0.0**
SCM	**Sheep Creek Mo**	**4.28**	**47**	P	**Pn**	**21 18 16.5**	**0.0**
VMT	**TAPS Ti Valdez**	**4.29**	**59**	P	**Pn**	**21 18 16.5**	**0.0**
EYAK	**Cordova Ski Ar**	**4.38**	**67**	P	**Pn**	**21 18 17.5**	**-0.3**
HUR	**Hurricane**	**4.45**	**26**	P	**Pn**	**21 18 19.5**	**+0.8**
CAST	**Castle Rocks**	**4.46**	**11**	P	**Pn**	**21 18 20.1**	**+1.2**
DIV	**Divide**	**4.57**	**60**	P	**Pn**	**21 18 20.1**	**-0.3**
KLU	**Klutina**	**4.66**	**55**	P	**Pn**	**21 18 21.5**	**-0.2**
TRF	**Thorofare Moun**	**4.74**	**20**	P	**Pn**	**21 18 22.8**	**+0.1**
CHUM	**Lake Minchumin**	**4.90**	**8**	P	**Pn**	**21 18 26.1**	**+1.4**
RND	**Reindeer**	**5.00**	**27**	P	**Pn**	**21 18 26.0**	**-0.2**
RND	**Reindeer**	**5.00**	**27**	P	**Pn**	**21 18 26.0**	**-0.2**
HMT	**Hamilton**	**5.05**	**71**	P	**Pn**	**21 18 26.9**	**+0.1**
DHY	**Denali Highway**	**5.13**	**35**	P	**Pn**	**21 18 28.1**	**+0.1**
PS11	**TAPS Pump St11**	**5.14**	**50**	P	**Pn**	**21 18 28.7**	**+0.7**
SDPT	**Sand Point**	**5.16**	**227**	P	**Pn**	**21 18 27.3**	**-1.0**
NICHA	**Nichawak Mount**	**5.18**	**73**	P	**Pn**	**21 18 29.1**	**+0.5**
BPAW	**Bear Paw Mtn.**	**5.25**	**14**	P	**Pn**	**21 18 29.5**	**0.0**
SUCK	**Suckling Hills**	**5.25**	**75**	P	**Pn**	**21 18 30.1**	**+0.5**
MCK	**McKinley**	**5.26**	**25**	P	**Pn**	**21 18 30.2**	**+0.5**
MCK	**McKinley**	**5.26**	**25**	P	**Pn**	**21 18 30.2**	**+0.5**
HARP	**HAARP**	**5.45**	**48**	P	**Pn**	**21 18 32.5**	**+0.2**
BGLC	**Bering Glacier**	**5.50**	**74**	P	**Pn**	**21 18 32.7**	**-0.1**
BWN	**Browne**	**5.55**	**21**	P	**Pn**	**21 18 34.2**	**+0.7**
KHIT	**Khitrov Hills**	**5.56**	**71**	P	**Pn**	**21 18 33.9**	**+0.1**
PAX	**Paxson**	**5.67**	**43**	P	**Pn**	**21 18 35.5**	**+0.2**
PAX	**Paxson**	**5.67**	**43**	P	**Pn**	**21 18 35.5**	**+0.2**
KULT	**Kultieth River**	**5.79**	**73**	P	**Pn**	**21 18 37.5**	**+0.5**
GCSA	**Galena City Sc**	**5.88**	**347**	P	**Pn**	**21 18 39.2**	**+1.3**
PS10	**TAPS Pump St10**	**5.88**	**38**	P	**Pn**	**21 18 39.0**	**+0.9**
MCARA	**McCarthy VSAT**	**5.90**	**62**	P	**Pn**	**21 18 38.9**	**+0.5**
NEA	**Nenana**	**5.99**	**20**	P	**Pn**	**21 18 39.1**	**-0.4**
KIAG	**Kiagna River**	**6.09**	**67**	P	**Pn**	**21 18 41.5**	**+0.5**
WRH	**Wood River Hil**	**6.09**	**24**	P	**Pn**	**21 18 40.6**	**-0.2**
BALM	**Baldy**	**6.12**	**66**	P	**Pn**	**21 18 41.5**	**+0.1**
BALM	**Baldy**	**6.12**	**66**	P	**Pn**	**21 18 41.5**	**+0.1**
MESA	**MESA**	**6.17**	**74**	P	**Pn**	**21 18 42.4**	**+0.2**
MLY	**Manley**	**6.17**	**13**	P	**Pn**	**21 18 41.8**	**-0.3**
MENT	**Mentasta**	**6.29**	**48**	P	**Pn**	**21 18 43.3**	**-0.4**
CCB	**Clear Creek Bu**	**6.30**	**25**	P	**Pn**	**21 18 43.0**	**-0.8**
RIDG	**Independ'e Rid**	**6.40**	**39**	P	**Pn**	**21 18 45.2**	**+0.1**
PS08	**TAPS Pump Stn8**	**6.44**	**28**	P	**Pn**	**21 18 45.0**	**-0.7**
RKAV	**Rock Avalanche**	**6.48**	**74**	P	**Pn**	**21 18 47.3**	**+1.0**
COLA	**College**	**6.49**	**23**	P	**Pn**	**21 18 45.9**	**-0.4**
COLA	**College**	**6.49**	**23**	P	**Pn**	**21 18 45.9**	**-0.4**
MDM	**Murphy Dome**	**6.49**	**22**	P	**Pn**	**21 18 45.5**	**-0.8**
DOT	**Dot Lake**	**6.60**	**42**	P	**Pn**	**21 18 47.7**	**-0.1**
IL1	**Eielson Array**	**6.62**	**27**	P	**Pn**	**21 18 47.5**	**-0.5**
ILAR	**Eielson Array**	**6.62**	**27**	P	**Pn**	**21 18 47.3**	**-0.7**
	25nm,0.3s,baz=214,slow=14,SNR=555						
ILAR				S	**Sn**	**21 20 00.0**	**-1.8**
	15nm,0.3s,baz=218,slow=20,SNR=9.2						
SAMH	**Samovar Hills**	**6.75**	**75**	P	**Pn**	**21 18 50.8**	**+0.9**
SCRK	**Sand Creek**	**6.84**	**40**	P	**Pn**	**21 18 50.5**	**-0.6**
IM3	**Indian Mountai**	**6.95**	**1**	P	**Pn**	**21 18 53.4**	**+0.8**
YUK2	**White River**	**7.02**	**62**	P	**Pn**	**21 18 54.2**	**+0.6**
PS06	**TAPS Pump Stn6**	**7.09**	**14**	P	**Pn**	**21 18 54.8**	**+0.4**
BCA3	**Beaver Creek A**	**7.12**	**51**	P	**Pn**	**21 18 54.8**	**-0.1**
YUK3	**Moose Creek**	**7.19**	**62**	P	**Pn**	**21 18 56.7**	**+0.7**
BVCY	**Beaver Creek**	**7.22**	**57**	P	**Pn**	**21 18 57.3**	**+1.0**
BCPM	**Bancas Point**	**7.32**	**77**	P	**Pn**	**21 18 57.3**	**-0.2**
PNL	**Peninsula**	**7.44**	**79**	P	**Pn**	**21 18 59.3**	**+0.1**
PRP	**Porcupine Dome**	**7.56**	**27**	P	**Pn**	**21 19 00.6**	**-0.4**
PS05	**TAPS Pump Stn5**	**7.92**	**9**	P	**Pn**	**21 19 06.2**	**+0.5**
YUK4	**Talbot Arm**	**7.94**	**67**	P	**Pn**	**21 19 07.5**	**+1.3**
YUK6	**Outpost Mounta**	**8.01**	**70**	P	**Pn**	**21 19 08.0**	**+0.8**
YUK7	**Dusty Glacier**	**8.09**	**73**	P	**Pn**	**21 19 08.9**	**+0.8**
YUK5	**Granite Creek**	**8.28**	**69**	P	**Pn**	**21 19 11.4**	**+0.7**
EGAK	**Eagle**	**8.30**	**41**	P	**Pn**	**21 19 10.3**	**-0.5**
COLD	**Coldfoot**	**8.37**	**10**	P	**Pn**	**21 19 11.1**	**-0.6**
FYU	**Fort Yukon**	**8.51**	**24**	P	**Pn**	**21 19 13.5**	**-0.1**
DAWY	**Dawson**	**8.54**	**48**	P	**Pn**	**21 19 14.0**	**-0.2**
UNV	**Unalaska Valle**	**8.71**	**239**	P	**Pn**	**21 19 15.4**	**-1.0**
BM3	**Burnt Mountain**	**9.37**	**23**	P	**Pn**	**21 19 23.8**	**-1.5**
DLBC	**Dease Lake**	**12.40**	**83**	*e*Pn	**Pn**	**21 20 07.2**	**+1.1**
DLBC				S	**Sn**	**21 22 19.6**	**-2.7**
DLBC	**Dease Lake**	**12.40**	**83**	P	**Pn**	**21 20 07.6**	**+1.5**
	5.1nm,0.3s,baz=286,slow=10,SNR=49						
DLBC				S	**Sn**	**21 22 19.6**	**-2.7**
	1.9nm,0.3s,baz=107,slow=24,SNR=6.7						
INK	**Inuvik**	**12.87**	**36**	P	**Pn**	**21 20 11.5**	**-0.6**
	0.8nm,0.3s,baz=227,slow=14,SNR=46						
INK				S	**Sn**	**21 22 28.3**	**-5.2**
	baz=230,slow=17,SNR=1.7						
BBB	**Bella Bella**	**16.04**	**104**	P	**P**	**21 20 55.5**	**+1.5**
	0.4nm,0.3s,baz=320,slow=7.9,SNR=3.4						
BBB				S	**Sn**	**21 23 47.9**	**-2.2**
	0.3nm,0.3s,baz=218,slow=17,SNR=2.9						
YKA	**Yellowknife Ar**	**19.28**	**63**	P	**P**	**21 21 30.3**	**+0.8**
	0.6nm,0.3s,baz=276,slow=10.0,SNR=37						
YKA				PcP	**PcP**	**21 25 47.8**	**+0.5**
	0.1nm,0.3s,baz=275,slow=1.4,SNR=5.6						
YKA				ScP	**ScP**	**21 29 14.0**	**+0.9**
	0.1nm,0.3s,baz=291,slow=2.3,SNR=3.9						
BILL	**Bilibino**	**19.51**	**314**	*ie*P	**P**	**21 21 31.7**	**-0.3**
BILL				*e*S	**Sn**	**21 25 08.8**	**-4.5**
BILL				pmax	pmax		
	comp=Z,26nm,1.7s						
SEY	**Seymchan**	**25.68**	**302**	*ie*P	**P**	**21 22 33.2**	**+0.1**
SEY	**Seymchan**	**25.68**	**302**	P	**P**	**21 22 32.9**	**-0.3**
	comp=Z,4.9nm,0.6s,baz=97,slow=7.8,SNR=20						
SEY				PcP	**PcP**	**21 26 00.5**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=233,slow=6.0,SNR=3.9						
YBH	**Yreka Blue Hor**	**26.03**	**118**	P	**P**	**21 22 39.6**	**+3.0**
	comp=Z,0.9nm,0.7s,baz=318,slow=7.9,SNR=2.2						
RES	**Resolute Bay**	**26.35**	**31**	P	**P**	**21 22 39.8**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=237,slow=6.8,SNR=4.0						
RES				PcP	**PcP**	**21 26 02.1**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=252,slow=3.2,SNR=3.0						
PETK	**Petropavlovsk-**	**27.14**	**279**	P	**P**	**21 22 46.4**	**+0.1**
	comp=Z,3.4nm,0.6s,baz=74,slow=11,SNR=14						
PETK				PcP	**PcP**	**21 26 04.6**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=168,slow=0.7,SNR=2.8						
MA2	**Magadan**	**27.55**	**295**	*d*P	**P**	**21 22 50.8**	**+0.9**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MA2	**Magadan**	**27.55**	**295**	P	**P**	**21 22 49.8**	**-0.1**
	comp=Z,4.7nm,0.4s,baz=80,slow=9.7,SNR=6.9						
ELK	**Elko**	**30.32**	**110**	LR	LR	21 33 57.7	
	comp=Z,74nm,21.3s,baz=79,slow=33						
NVAR	**Mina Array Bea**	**30.69**	**116**	P	**P**	**21 23 21.0**	**+2.7**
	comp=Z,0.4nm,0.6s,baz=316,slow=10,SNR=2.3						
NVAR				pP	**pP**	**21 23 42.6**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=308,slow=7.3,SNR=2.7						
PDAR	**Pinedale Array**	**31.64**	**101**	P	**P**	**21 23 28.8**	**+2.2**
	comp=Z,0.4nm,0.7s,baz=346,slow=3.1,SNR=4.6						
PDAR				pP	**pP**	**21 23 50.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=304,slow=4.4,SNR=7.3						
TIXI	**Tiksi**	**31.98**	**324**	*ie*P	**P**	**21 23 28.4**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TIXI	**Tiksi**	**31.98**	**324**	P	**P**	**21 23 28.2**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=168,slow=0.7,SNR=14						
ULM	**Lac du Bonnet**	**33.69**	**79**	P	**P**	**21 23 45.9**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=280,slow=6.1,SNR=2.4						
ULM				pP	**pP**	**21 24 08.4**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=317,slow=8.1,SNR=2.9						
NKL	**Nikolayevsk**	**35.62**	**290**	*e*P	**P**	**21 24 00.5**	**0.0**
YAK	**Yakutsk**	**35.68**	**308**	*e*P	**P**	**21 24 00.5**	**-0.5**
YAK				pmax	pmax		
	comp=Z,138nm,0.9s						
YSS	**Yuzh-Sakhalins**	**38.51**	**280**	*e*P	**P**	**21 24 22.2**	**-2.8**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ANMO	**Albuquerque**	**39.17**	**107**	P	**P**	**21 24 32.8**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=322,slow=7.6,SNR=3.7						
ASAJ	**Asahikawa**	**40.54**	**277**	P	**P**	**21 24 42.0**	**+0.1**
	comp=Z,5.8nm,0.7s,baz=65,slow=14,SNR=3.7						
KLR	**Kul'dur**	**42.44**	**291**	*c*P	**P**	**21 24 57.2**	**-0.2**
KLR	**Kul'dur**	**42.44**	**291**	P	**P**	**21 24 57.5**	**+0.1**
	comp=Z,19nm,0.7s,baz=58,slow=7.4,SNR=91						
BOD	**Bodaibo**	**44.51**	**310**	*e*P	**P**	**21 25 13.3**	**-0.5**
BOD				pmax	pmax		
	comp=Z,24nm,0.7s						
NRIK	**Noril'sk**	**44.53**	**334**	P	**P**	**21 25 13.2**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=56,slow=5.0,SNR=5.3						
TXAR	**Lajitas Array**	**45.10**	**109**	P	**P**	**21 25 21.0**	**+2.0**
TXAR	**Lajitas Array**	**45.10**	**109**	P	**P**	**21 25 21.0**	**+2.0**
	comp=Z,0.7nm,0.8s,baz=324,slow=5.9,SNR=6.4						
USRK	**Ussuriysk Ar.**	**45.84**	**285**	P	**P**	**21 25 23.5**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=64,slow=13,SNR=4.4						
HIA	**Hailar**	**48.05**	**298**	*ie*P	**P**	**21 25 40.7**	**-1.0**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
MJAR	**Matsushiro Arr**	**48.38**	**274**	P	**P**	**21 25 45.0**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=37,slow=5.0,SNR=4.7						
ARCES	**ARCESS Array B**	**51.70**	**0**	P	**P**	**21 26 08.8**	**-0.2**
	comp=Z,3.0nm,0.8s,baz=7.0,slow=8.2,SNR=3.7						
KSRS	**Korea Array**	**52.93**	**283**	P	**P**	**21 26 18.8**	**+0.3**
	comp=Z,4.2nm,0.6s,baz=38,slow=7.4,SNR=14						
KSAR	**Wonju Array Be**	**52.96**	**283**	P	**P**	**21 26 18.8**	**+0.1**
KSAR	**Wonju Array Be**	**52.96**	**283**	P	**P**	**21 26 18.8**	**+0.1**
TLY	**Talaya**	**53.09**	**310**	*e*P	**P**	**21 26 19.5**	**0.0**
TLY				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SONM	**Songino Array**	**54.97**	**306**	P	**P**	**21 26 34.0**	**+0.7**
	comp=Z,12nm,0.7s,baz=41,slow=7.5,SNR=93						
ZALV	**Zalesovo Beam**	**57.86**	**323**	P	**P**	**21 26 53.2**	**-0.3**
	comp=Z,3.8nm,0.6s,baz=33,slow=6.7,SNR=18						
ZALV				pP	**pP**	**21 27 19.5**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=31,slow=7.4,SNR=3.6						
HHC	**Hu-ho-hao-te**	**58.20**	**297**	*e*P	**P**	**21 26 56.9**	**+0.6**
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,130nm,7.7s						
FINES	**FINESS Array B**	**59.83**	**0**	P	**P**	**21 27 06.0**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=8.9,slow=9.8,SNR=5.5						
KURK	**Kurchatov**	**62.54**	**325**	*de*P	**P**	**21 27 24.9**	**-0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
BRVK	**Borovoye**	**62.68**	**332**	*i*P	**P**	**21 27 25.6**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**64.88**	**321**	P	**P**	**21 27 40.0**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=31,slow=6.2,SNR=12						
WMQ	**Urumqi**	**65.61**	**316**	*e*P	**P**	**21 27 48.2**	**+2.4**
WMQ				pP	pP	21 28 13.2	+1.1
WMQ				sP	sP	21 28 25.2	+1.6
AKTO	**Aktyubinsk**	**67.80**	**339**	LR	LR	22 04 12.6	
	comp=Z,16nm,19.4s,baz=336,slow=42						
VSR	**Storozhevoye**	**69.57**	**351**	*e*P	**P**	**21 28 07.8**	**-2.6**
AKASG	**Malin Array Be**	**70.57**	**358**	P	**P**	**21 28 14.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=2.7,slow=5.8,SNR=3.8						
AAK	**Ala-Archa**	**71.05**	**324**	*ie*P	**P**	**21 28 19.6**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KMI	**Kunming**	**75.33**	**294**	P	**P**	**21 28 47.8**	**+2.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GUN	**Gumba**	**80.30**	**309**	*e*P	**P**	**21 29 12.2**	**-0.8**
JIRN	**Jiri**	**80.39**	**309**	*e*P	**P**	**21 29 13.4**	**-0.1**
	comp=Z,20nm,0.5s						
KKN	**Kakani**	**80.64**	**310**	*e*P	**P**	**21 29 14.1**	**-0.6**
	comp=Z,4.4nm,0.4s						
GKN	**Gorkha**	**80.71**	**310**	*e*P	**P**	**21 29 14.6**	**-0.3**
DANN	**Dangsing**	**80.74**	**311**	*e*P	**P**	**21 29 15.2**	**-0.1**
	comp=Z,24nm,0.7s						
PKI	**Pulchoki**	**80.79**	**309**	*e*P	**P**	**21 29 15.0**	**-0.6**
RAMN	**Ramite**	**80.86**	**308**	*e*P	**P**	**21 29 15.2**	**-0.6**
	comp=Z,9.2nm,0.6s						
DMN	**Daman**	**80.87**	**310**	*e*P	**P**	**21 29 15.6**	**-0.3**
	comp=Z,3.2nm,0.5s						
PYUN	**Piuthan**	**81.27**	**312**	*e*P	**P**	**21 29 17.4**	**-0.6**
	comp=Z,18nm,0.9s						
KOLN	**Koldanda**	**81.32**	**311**	*e*P	**P**	**21 29 17.7**	**-0.6**
BRTR	**Keskin Array B**	**81.37**	**354**	P	**P**	**21 29 17.9**	**-0.4**
	comp=Z,1.0nm,1.1s,baz=357,slow=5.2,SNR=3.2						
CMAR	**Chiang Mai Arr**	**82.83**	**294**	*ce*P	**P**	**21 29 26.6**	**+0.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**82.83**	**294**	P	**P**	**21 29 26.2**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=7.6,slow=5.0,SNR=9.7						
SIJI	**Sorong**	**82.98**	**256**	P	**P**	**21 29 26.9**	**+0.2**
	comp=Z,11nm,0.8s,baz=73,slow=1.9,SNR=4.3						
BOSA	**Boshof**	**149.56**	**1**	PKPbc	**PKPbc**	**21 36 49.7**	**-0.4**
	comp=Z,3.3nm,0.6s,baz=6.4,slow=2.3,SNR=10						

IDC 10 21:20:28.1±2.8, 28°30S×177°01W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/40, mbtmp3.7/2, Error ellipse: s-maj=75.2km s-min=26.7km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.24**	**220**	Pn	Pn	21 20 52.8	+0.1
	312nm,0.3s,baz=114,slow=6.8,SNR=8.6						
RAO				Sn	Sn	21 21 10.1	0.0
	584n

KURBB **Kurchatov Arra** 29.56 332 P P 22 01 41.1 +1.3
0.2nm,0.4s,baz=142,slow=8.0,SNR=3.3
ZALV **Zalesovo Beam** 30.16 343 P P 22 01 46.2 +1.1
0.5nm,0.7s,baz=156,slow=11,SNR=4.1
WRA **Warramunga Arr** 56.67 140 P P 22 05 18.0 -0.8
0.8nm,0.7s,baz=329,slow=7.6,SNR=10

NEIC ***10*** *22:11:03.8±0.3,6.72S×148.35E,h10km,mb4.9/40, Error ellipse: s-maj=7.9km s-min=6.2km az=88.0*
IDC ***10*** *22:11:06.8±3.5,6.70S×148.37E,h33km±26km, mb4.4/21, mb1 4.5/25,mb1mx4.4/38,mbtmp4.5/25,ML4.2/4,MS5.0/14, Ms1 5.0/14,ms1mx4.8/29,Error ellipse: s-maj=14.0km s-min=9.7km az=97.0*
ISCJB ***10*** *22:11:07.9±0.3,6.88S±0.03×148.30E±0.05,h47km, mb4.8/74,MS5.0/17,Error ellipse: s-maj=6.5km s-min=4.2km az=171.9*
GCMT ***10*** *22:11:07.8±0.1,6.74S±0.01×148.38E±0.01,h18km, MW5.4/97,Moment Tensor Solution. s81,c135; s97,c195; Duration: 1s2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.04±.02; Mθθ-0.28±.02; Mφφ0.31±.02; Mrθ-0.68±.06; Mθφ1.21±.02; Mφr-0.07±.05; Best double couple: M₀1.42300×10¹⁷ NP1:φs83.00000°,δ89.00000°, λ-29.00000°. NP2:φs173.00000°,δ61.00000°, λ-179.00000°. Principal axes: T 1.4280, Plg19.0000°, Azm132.0000°; N -0.0110, Plg61.0000°, Azm260.0000°; P -1.4180, Plg21.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BJI ***10*** *22:11:08.6,6.90S×148.30E,h60km,mb4.7/25,mB5.2/26, Ms5.2/28,Ms7 5.0/27*
DJA ***10*** *22:11:29.0±1.3,7.3S±9.1×14.9E±1.3,h277km±10km, M4.7/23,mB5.3/9,mb4.8/23,Mw(mB)4.7/9*

ISC 10 22:11:09.7±0.3,6.83S±0.05×148.29E±0.06,h47km,n211,
σ1§80/204,mb4.8/78,MS5.0/17,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
COEN	**Coen**			**P**		**Pn**	**22 13 12.3**	**-0.5**
	baz=8.7,SNR=8.3							
COEN	**Coen**			***e*Pn**		**Pn**	**22 13 12.4**	**-0.4**
COEN				***e*Sn**		**Sn**	**22 14 49.6**	**+0.2**
JAY	**Jayapura**			**8.69 299**	Pn	**Pn**	**22 13 11.1**	**-1.9**
	0.8nm,0.3s,baz=180,slow=20,SNR=2.2							
JAY				LR		LR	22 17 12.8	
	comp=Z,18μm,20.5s,baz=85,slow=42							
HNR	**Honiara**			**11.83 103**	LR	LR	22 17 54.5	
	comp=Z,4μm,20.7s,baz=279,slow=35							
MTSU	**Mount Surprise**			**11.88 199**	P	**Pn**	**22 13 56.5**	**0.0**
	baz=12,SNR=13							
CTA	**Charters Tower**			**13.32 188**	Pn	**Pn**	**22 14 17.5**	**+1.2**
	0.5nm,0.3s,baz=13,slow=14,SNR=6.5							
CTA				LR		LR	22 19 13.0	
	comp=Z,3μm,19.3s,baz=7.0,slow=36							
QIS	**Mount Isa**			**16.03 211**	P	**Pn**	**22 14 52.7**	**+0.6**
	baz=16,SNR=32							
FAKI	**Fak Fak**			**16.45 283**	***e*Pn**	**P**	**22 15 00.3**	**+0.8**
	37nm,0.9s							
KDU	**Kakadu**			**16.63 248**	P	**Pn**	**22 14 59.3**	**-0.4**
	baz=17,SNR=9.5							
MTN	**Manton Dam**			**17.92 249**	P	**P**	**22 15 17.0**	**+1.2**
	baz=18,SNR=7.0							
MTN	**Manton Dam**			**17.92 249**	***e*P**	**Pn**	**22 15 14.5**	**-1.1**
	33nm,1.1s							
SIJI	**Sorong**			**17.98 289**	P	**Pn**	**22 15 16.1**	**-0.4**
	0.4nm,0.3s,baz=90,slow=11,SNR=8.4							
SIJI				LR		LR	22 24 08.8	
	comp=Z,10μm,19.3s,baz=103,slow=43							
SWI	**Sorong**			**17.99 289**	P	**Pn**	**22 15 15.1**	**-1.4**
	57nm,1.0s							
EIDS	**Eidsvold**			**18.62 172**	***e*P**	**Pn**	**22 15 23.8**	**-0.3**
	45nm,1.3s							
WRAB	**Tennant Creek**			**18.78 225**	***e*P**	**P**	**22 15 24.8**	**-0.4**
	39nm,0.9s							
WB2	**Warramunga Arr**			**18.78 225**	***e*P**	**P**	**22 15 25.4**	**+0.1**
WR1	**Warramunga Arr**			**18.79 225**	***e*P**	**P**	**22 15 24.9**	**-0.4**
	39nm,0.9s							
WRA	**Warramunga Arr**			**18.79 225**	P	**P**	**22 15 24.9**	**-0.4**
	2.0nm,0.3s,baz=49,slow=11,SNR=51							
WRA				S		**S**	**22 19 00.2**	**+3.3**
	baz=47,slow=22,SNR=11							
WRA				LR		LR	22 23 30.0	
	comp=Z,7μm,18.3s,baz=45,slow=39							
RMQ	**Roma**			**19.55 179**	P	**Pn**	**22 15 35.1**	**-0.1**
	baz=20,SNR=27							
GUMO	**Guam**			**20.57 350**	LR	LR	22 21 56.6	
	comp=Z,3μm,21.2s,baz=176,slow=32							
KNRA	**Kununurra**			**21.05 244**	P	**P**	**22 15 48.1**	**-1.8**
	baz=21,SNR=19							
NLAI	**Namlea**			**21.40 279**	P	**P**	**22 15 56.5**	**+2.7**
AS01	**Alice Springs**			**21.68 218**	***e*P**	**P**	**22 15 55.0**	**-1.6**
AS31	**Alice Springs**			**21.70 218**	***e*P**	**P**	**22 15 56.5**	**-0.5**
	23nm,0.5s							
AS31				***e*PcP**		**PcP**	**22 19 57.5**	**+0.7**
ASAR	**Alice Springs**			**21.70 218**	P	**P**	**22 15 55.9**	**-1.0**
	21nm,0.5s,baz=53,slow=9.3,SNR=221							
ASAR				S		**S**	**22 19 57.5**	**+2.7**
	15nm,1.0s,baz=32,slow=21,SNR=9.9							
ASAR				LR		LR	22 24 50.5	
	comp=Z,4μm,18.2s,baz=45,slow=38							
SANI	**Sanana**			**22.73 281**	P	**P**	**22 16 06.6**	**-1.4**
DZM	**Mont Dzumac**			**23.16 133**	***e*P**	**P**	**22 16 14.8**	**+2.4**
	84nm,1.2s							
DZM				***e*LR**		LR	22 22 01.9	
	comp=Z,17μm,23.4s							
DZM	**Mont Dzumac**			**23.16 133**	***e*P**	**P**	**22 16 12.4**	**0.0**
	32nm,1.0s							
DZM	**Mont Dzumac**			**23.16 133**	P	**P**	**22 16 10.2**	**-2.2**
	18nm,0.7s,baz=154,slow=22,SNR=9.2							
DZM				LR		LR	22 23 10.5	
	comp=Z,9μm,21.5s,baz=328,slow=31							
ARMA	**Armidale**			**23.67 173**	P	**P**	**22 16 16.1**	**-1.0**
	baz=24,SNR=5.6							
ARMA	**Armidale**			**23.67 173**	***e*P**	**P**	**22 16 15.9**	**-1.3**
	19nm,0.9s							
SOEI	**Soe**			**23.94 261**	***e*P**	**P**	**22 16 18.8**	**-1.1**
	62nm,1.0s							
SOEI	**Soe**			**23.94 261**	P	**P**	**22 16 21.9**	**+2.0**
	125nm,1.4s,3μm							
BATI	**Baumata**			**24.58 260**	P	**P**	**22 16 25.9**	**+0.3**
	44nm,0.7s,905nm							
BATI	**Baumata**			**24.58 260**	P	**P**	**22 16 25.7**	**+0.1**
	53nm,0.8s,baz=96,slow=0.3,SNR=11							
BATI				LR		LR	22 28 44.6	
	comp=Z,8μm,19.6s,baz=104,slow=43							
CMSA	**Cobar Meteorol**			**24.70 185**	P	**P**	**22 16 27.2**	**+0.8**
	baz=25,SNR=28							
FITZ	**Fitzroy Crossi**			**24.75 241**	P	**P**	**22 16 26.0**	**-1.1**
	baz=25,SNR=55							
FITZ	**Fitzroy Crossi**			**24.75 241**	***e*P**	**P**	**22 16 26.2**	**-0.9**
	72nm,0.9s							
FITZ	**Fitzroy Crossi**			**24.75 241**	P	**P**	**22 16 25.9**	**-1.2**
	39nm,0.5s,baz=83,slow=8.0,SNR=52							
FITZ				LR		LR	22 26 40.9	
	comp=Z,4μm,21.8s,baz=58,slow=38							
KMSI	**Cibinong**			**25.35 286**	P	**P**	**22 16 36.6**	**+4.1**
	224nm,0.8s,4μm							
STKA	**Stephens Creek**			**25.69 193**	P	**P**	**22 16 36.0**	**+0.6**
	baz=26,SNR=9.7							
STKA	**Stephens Creek**			**25.69 193**	***e*P**	**P**	**22 16 35.2**	**-0.2**
	7.7nm,1.1s							
STKA	**Stephens Creek**			**25.69 193**	P	**P**	**22 16 35.2**	**-0.2**
	24nm,1.0s,baz=350,slow=9.1,SNR=22							
STKA				LR		LR	22 27 25.1	
	comp=Z,2μm,19.3s,baz=8.2,slow=38							
MMRI	**Maumere**			**25.87 264**	***e*P**	**P**	**22 16 36.8**	**-0.6**
	67nm,0.8s							
MMRI	**Maumere**			**25.87 264**	P	**P**	**22 16 41.3**	**+3.9**
LUWI	**Luwuk**			**26.09 282**	***e*P**	**P**	**22 16 40.2**	**+0.9**
	245nm,1.2s							
LUWI	**Luwuk**			**26.09 282**	P	**P**	**22 16 38.5**	**-0.8**
WRKA	**Warakurna**			**26.33 224**	P	**P**	**22 16 40.6**	**-0.8**
	baz=26,SNR=26							
EDFI	**Ende, Flores**			**26.42 264**	P	**P**	**22 16 40.4**	**-2.0**
APSI	**Ampana**			**27.21 281**	P	**P**	**22 16 49.7**	**+0.3**
MRSI	**Marisa**			**27.27 284**	P	**P**	**22 16 52.5**	**+2.5**
YNG	**Young**			**27.33 180**	P	**P**	**22 16 50.7**	**+0.4**
	baz=27,SNR=6.8							
BASI	**Baing, Sumba**			**27.60 261**	P	**P**	**22 16 54.1**	**+1.2**
HTT	**Hallett**			**27.86 197**	P	**P**	**22 16 55.6**	**+0.6**
	baz=28,SNR=22							
BBOO	**Buckleboo**			**28.24 202**	***e*P**	**P**	**22 16 56.8**	**-1.5**
	16nm,0.9s							
TTSI	**Tana Toraja**			**28.61 276**	P	**P**	**22 17 04.9**	**+3.0**
PCI	**Palu**			**28.98 281**	P	**P**	**22 17 06.4**	**+1.2**
	66nm,1.6s,1μm							
MPSI	**Mapaga**			**29.21 283**	P	**P**	**22 17 03.3**	**-3.9**
FORT	**Forrest**			**30.45 216**	***e*P**	**P**	**22 17 16.4**	**-1.6**
	32nm,0.8s							
TOO	**Toolangi**			**30.70 184**	P	**P**	**22 17 22.4**	**+2.2**
	baz=31,SNR=4.9							
TOO	**Toolangi**			**30.70 184**	***e*P**	**P**	**22 17 20.6**	**+0.4**
	26nm,1.3s							
MBWA	**Marble Bar**			**31.07 240**	***e*P**	**P**	**22 17 23.4**	**-0.2**
	20nm,0.9s							
JAGI	**Jajag, Banyuwa**			**33.87 265**	***e*P**	**P**	**22 17 45.2**	**-3.0**
	33nm,0.7s							
JAGI	**Jajag, Banyuwa**			**33.87 265**	P	**P**	**22 17 50.4**	**+2.2**
	48nm,0.8s							
MEEK	**Meekatharra**			**34.42 232**	P	**P**	**22 17 51.8**	**-1.1**
	baz=34,SNR=30							
MOO	**Moorlands**			**35.47 181**	P	**P**	**22 18 03.5**	**+1.8**
	baz=36,SNR=3.2							
TAU	**Tasmania Unive**			**35.94 181**	***e*P**	**P**	**22 18 05.7**	**+0.1**
	54nm,1.3s							
PWJI	**Pagerwojo**			**36.19 266**	P	**P**	**22 18 10.8**	**+2.6**
	19nm,1.0s							
BTM	**Bintulu**			**36.53 285**	P	**P**	**22 18 13.5**	**+2.4**
PCJI	**Pacitan**			**36.81 265**	P	P	22 18 21.6	+8.1
WOJI	**Wonogiri, Jawa**			**37.06 266**	P	**P**	**22 18 16.3**	**+0.6**
	36nm,1.1s							
SBUM	**Sibu**			**37.16 283**	***e*P**	**P**	**22 18 16.3**	**-0.3**
	11nm,0.9s							
UGM	**Wanagama**			**37.46 266**	***e*P**	**P**	**22 18 17.9**	**-1.1**
	115nm,1.3s							
MORW	**Morawa**			**37.60 230**	P	**P**	**22 18 20.2**	**+0.2**
	baz=38,SNR=3.7							
MORW	**Morawa**			**37.60 230**	***e*P**	**P**	**22 18 17.3**	**-2.8**
	12nm,0.9s							
KLBR	**Kellerberrin**			**37.67 225**	P	**P**	**22 18 20.2**	**-0.4**
	baz=38,SNR=22							
BLDU	**Ballidu**			**37.89 227**	P	**P**	**22 18 22.2**	**-0.2**
	baz=38,SNR=5.0							
KSM	**Kuching**			**38.79 281**	***e*P**	**P**	**22 18 31.8**	**+1.5**
	28nm,1.1s							
KSM	**Kuching**			**38.79 281**	P	**P**	**22 18 31.8**	**+1.5**
NWAO	**Narrogin (SRO)**			**38.80 224**	P	**P**	**22 18 29.5**	**-0.6**
	10nm,0.9s,baz=12,slow=7.0,SNR=3.7							
MUN	**Mundaring**			**38.98 226**	P	**P**	**22 18 31.8**	**+0.2**
	baz=39,SNR=5.4							
KPJI	**Karang Pucung**			**39.05 267**	P	P	22 18 41.8	+9.4
HIZ	**Hauiti**			**39.64 147**	***e*P**	P	22 18 44.8	+7.8
	88nm,1.5s							
CISI	**Cisompet, Garu**			**40.15 266**	***e*P**	**P**	**22 18 40.4**	**-1.3**
	78nm,0.8s							
CISI	**Cisompet, Garu**			**40.15 266**	P	**P**	**22 18 43.9**	**+2.2**
	99nm,0.7s,1μm							
URZ	**Urewera**			**40.73 144**	P	**P**	**22 18 45.6**	**-0.5**
	9.5nm,0.9s,baz=294,slow=10.0,SNR=3.9							
CBJI	**Cibeko**			**41.16 268**	P	P	22 19 00.0	+10
SKJI	**Sukabumi**			**41.42 267**	P	P	22 18 59.8	+7.7
RPZ	**Rata Peaks**			**41.81 155**	P	**P**	**22 18 54.9**	**0.0**
	8.0nm,0.6s,baz=123,slow=5.2,SNR=3.1							
DCZ	**Deep Cove**			**41.82 160**	***e*P**	**P**	**22 18 53.9**	**-0.9**
	30nm,1.0s							
PPBI	**Pangkal Pinang**			**42.26 274**	P	**P**	**22 18 59.5**	**+0.5**
	14nm,0.8s,2μm							
JNU	**Nakatsue**			**43.04 338**	P	**P**	**22 19 03.2**	**-1.8**
	5.6nm,0.8s,baz=156,slow=6.2,SNR=2.7							
KASI	**Kota Agung**			**43.55 269**	P	**P**	**22 19 10.4**	**+1.1**
	38nm,0.9s							
MDSI	**Maura Dua**			**43.95 271**	P	**P**	**22 19 14.1**	**+1.5**
	22nm,1.2s,322nm							
LWLI	**Liwa**			**44.02 270**	P	P	22 19 22.4	+9.1
MJAR	**Matsushiro Arr**			**44.17 348**	P	**P**	**22 19 10.2**	**-3.8**
	5.3nm,1.0s,baz=195,slow=14,SNR=5.1							
MJAR				LR		LR	22 35 09.6	
	comp=Z,1μm,20.9s,baz=165,slow=33							
LHSI	**Lahat**			**44.66 271**	P	P	22 19 27.7	+9.4
MYKOM	**Kota Tinggi**			**45.17 279**	***e*P**	**P**	**22 19 23.7**	**+1.4**
	29nm,1.1s							
MYKOM	**Kota Tinggi**			**45.17 279**	P	**P**	**22 19 23.8**	**+1.4**
KGM	**Kluang**			**45.74 280**	P	**P**	**22 19 28.7**	**+1.8**
QIZ	**Qiongzhong**			**45.78 305**	SS	SS	22 29 44.5	+12
QIZ				LR		LR		
	comp=N,840nm,20.6s							
QIZ				LR		LR		
	comp=E,450nm,16.7s							
QIZ				LR		LR		
	comp=Z,1μm,18.6s							
KTGM	**Kuala Trenggan**			**46.66 284**	P	**P**	**22 19 35.4**	**+1.4**
NJ2	**Nanjing**			**47.78 326**	***e*P**	**P**	**22 19 43.3**	**+0.8**
NJ2				S		**S**	**22 26 38.8**	**+2.9**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NJ2				LR		LR		
	comp=Z,2μm,20.1s							
NJ2				LR		LR		
	comp=Z,1μm,20.1s							
NJ2				LR		LR		
	comp=Z,2μm,22.2s							
KSRS	**Korea Array**			**47.99 338**	P	**P**	**22 19 42.1**	**-1.9**
	comp=Z,0.6nm,0.7s,baz=172,slow=27,SNR=3.2							
KSRS				LR		LR	22 37 50.7	
	comp=Z,2μm,22.0s,baz=141,slow=34							
KSAR	**Wonju Array Be**			**47.99 338**	P	**P**	**22 19 42.1**	**-1.9**
KS01	**Wonju Array Si**			**48.02 338**	***e*P**	**P**	**22 19 45.3**	**+1.0**
KS01					***e*pP**	**pwP**	**22 19 59.9**	**-0.7**
IPM	**Ipoh**			**48.50 282**	***e*P**	**P**	**22 19 48.1**	**-0.3**
	comp=Z,27nm,1.0s							
IPM	**Ipoh**			**48.50 282**	P	**P**	**22 19 48.8**	**+0.4**
KULM	**Kulim**			**49.05 283**	***e*P**	**P**	**22 19 52.1**	**-0.5**
	comp=Z,12nm,0.8s							
KULM	**Kulim**			**49.05 283**	P	**P**	**22 19 52.7**	**+0.1**
MNSI	**Mandailing Nat**			**49.19 277**	P	**P**	**22 19 55.5**	**+1.8**
SISI	**Saibi**			**49.35 274**	P	**P**	**22 19 58.2**	**+3.3**
	comp=Z,15nm,0.9s							
PSI	**Prapat**			**50.20 279**	***e*P**	**P**	**22 20 01.0**	**-0.5**
	comp=Z,33nm,1.3s							
TRTT	**Trang**			**50.61 286**	P	**P**	**22 20 06.5**	**+2.1**
KRAB	**Krabi**			**51.18 286**	P	P	22 20 01.3	-7.4
	comp=Z,241nm,0.6s,comp=Z,19μm							
GSI	**Gunungsitoli**			**51.25 277**	***e*P**	**P**	**22 20 07.6**	**-1.7**
	comp=Z,26nm,1.0s							
GSI	**Gunungsitoli**			**51.25 277**	P	**P**	**22 20 09.3**	**0.0**
	comp=Z,29nm,2.0s							
KCSI	**Kotacane, Aceh**			**51.47 280**	P	**P**	**22 20 10.1**	**-0.8**
	comp=Z,32nm,1.1s							
PKDT	**Phuket**			**51.92 286**	P	**P**	**22 20 14.8**	**+0.6**
	comp=Z,14nm,1.0s,comp=Z,1μm							
GYA	**Guiyang**			**52.19 311**	***e*P**	**P**	**22 20 18.0**	**+1.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PBKT	**Sadao Pong**			**52.26 297**	***e*P**	**P**	**22 20 19.7**	**+3.0**
USRK	**Ussuriysk Ar.**			**52.89 345**	P	**P**	**22 20 18.0**	**-2.9**
	comp=Z,3.5nm,0.6s,baz=171,slow=6.8,SNR=7.6							
USRK				LR		LR	22 40 29.5	
	comp=Z,920nm,20.3s,baz=148,slow=33							
MLSI	**Meulaboh, Aceh**			**52.95 281**	P	**P**	**22 20 22.2**	**+0.3**
UTTA	**Uttaradit**			**53.08 298**	P	**P**	**22 20 26.4**	**+3.6**
	comp=Z,2.8nm,0.9s,comp=Z,41nm							
NANT	**Nan**			**53.38 299**	P	**P**	**22 20 28.8**	**+3.8**
	comp=Z,3.7nm,1.0s							
CN2	**Changchun**			**54.47 340**	***e*P**	**P**	**22 20 35.5**	**+3.0**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
KMI	**Kunming**			**54.52 307**	P	**P**	**22 20 35.5**	**+2.0**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
CM01	**Chiang Mai Arr**			**54.74 298**	***e*P**	**P**	**22 20 36.3**	**+1.4**
CM31	**Chiang Mai Arr**			**54.77 298**	***e*P**	**P**	**22 20 34.2**	**-1.0**
	comp=Z,20nm,1.4s							
CMAR	**Chiang Mai Arr**			**54.77 298**	P	**P**	**22 20 34.2**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=113,slow=4.3,SNR=4.5							
CMMT	**Chiang Mai**			**54.90 299**	P	P	22 20 45.2	+9.1
CHTO	**Chiang Mai**			**54.91 299**	***e*P**	**P**	**22 20 35.2**	**-0.9**
	comp=Z,3.8nm,1.0s							
CHTO					***e*pP**	**sP**	**22 20 55.3**	**+1.6**
CHTO	**Chiang Mai**			**54.91 299**	P	P	22 20 45.2	+9.1
	comp=Z,26nm,1.2s							
CMBY	**CAMPBELL BAY**			**55.95 283**	***e*P**	**P**	**22 20 45.1**	**+1.4**
CD2	**Chengdu**			**56.77 314**	***e*P**	**P**	**22 20 52.1**	**+2.8**
CD2				pmax		pmax		
	comp=Z,20nm,0.6s							
CD2				pmax		pmax		
	comp=Z,300nm,6.9s							
CD2				LR		LR		
	comp=Z,2μm,14.7s							
CD2				LR		LR		
	comp=Z,3μm,19.6s							
CD2				LR		LR		
	comp=Z,3μm,18.8s							
HHC	**Hu-ho-hao-te**			**58.21 328**	***e*P**	**P**	**22 21 02.2**	**+2.8**
HHC				sP		pwP	22 21 26.2	+9.5
HHC				S		**S**	**22 29 01.7**	**+3.7**
HHC				SS		**SS**	**22 32 50.4**	**-0.1**
HHC				pmax		pmax		
	comp=Z,6.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,230nm,5.9s							
HHC				LR		LR		
	comp=Z,1μm,17.3s							
HHC				LR		LR		
	comp=Z,1μm,16.4s							
HHC				LR		LR		
	comp=Z,2μm,18.2s							
PBA	**Port Blair**			**58.22 288**	***e*P**	P	22 20 59.0	-0.8
LZH	**Lanzhou**			**59.67 319**	***e*P**	**P**	**22 21 12.5**	**+2.8**
LZH				pP		sP	22 21 26.8	-1.0
LZH				sP		pwP	22 21 32.5	+10
LZH				pmax		pmax		
	comp=Z,35nm,1.0s							
LZH				pmax		pmax		
	comp=Z,150nm,4.9s							
LZH				LR		LR		
	comp=Z,1μm,14.6s							
LZH				LR		LR		
	comp=Z,2μm,14.9s							
LZH				LR		LR		
	comp=Z,2μm,16.5s							
PETK	**Petropavlovsk-**			**60.24 7**	P	**P**	**22 21 11.3**	**-1.7**
	comp=Z,4.5nm,1.0s,baz=176,slow=12,SNR=4.1							
PPT2	**Papeete2**			**61.43 106**	***e*S**	**S**	**22 29 42.8**	**+2.7**
	comp=Z,180nm,24.0s							
PPT2	**Papeete2**			**61.43 106**	***e*LR**	LR	22 39 48.8	
	comp=Z,1μm,25.0s							
TBI	**Tubuai**			**61.87 113**	***e*S**	**S**	**22 29 47.7**	**+2.4**
	comp=Z,249nm,29.0s							
TBI	**Tubuai**			**61.87 113**	***e*LR**	LR	22 40 00.6	
	comp=Z,756nm,24.0s							
SHL	**Shillong**			**63.54 303**	***e*P**	**P**	**22 21 35.0**	**-1.0**
SHL				IAmb		IAmb	22 21 38.8	
	comp=Z,17nm,1.6s							
GTA	**Gaotai**			**64.20 320**	P	**P**	**22 21 41.0**	**+1.0**
GTA				pP		sP	22 21 58.4	+0.7
GTA				sP		PcP	22 22 06.3	-8.3
GTA				S		**S**	**22 30 13.9**	**-0.3**
GTA				sS		sS	22 30 39.4	+4.1
GTA				pmax		pmax		
	comp=Z,63nm,4.4s							
GTA				LR		LR		
	comp=Z,530nm,17.9s							
GTA				LR		LR		
	comp=Z,450nm,19.6s							
GTA				LR		LR		
	comp=Z,850nm,19.6s							
SONM	**Songino Array**			**65.75 330**	P	**P**	**22 21 48.8**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=157,slow=4.5,SNR=8.1							
BOK	**Bokaro**			**68.04 299**	***e*P**	**P**	**22 22 03.0**	**-1.8**
PALK	**Pallekele**			**68.85 280**	***e*P**	**P**	**22 22 10.8**	**+0.7**
	comp=Z,12nm,1.0s							
GUN	**Gumba**			**69.39 303**	***e*P**	**P**	**22 22 13.1**	**-0.5**
	comp=Z,9.0nm,0.6s							
PKI	**Pulchoki**			**69.67 303**	***e*P**	**P**	**22 22 14.8**	**-0.5**
PKIN	**Phulchoki**			**69.68 303**	***e*P**	**P**	**22 22 15.0**	**-0.3**
KKN	**Kakani**			**69.85 303**	***e*P**	**P**	**22 22 16.2**	**0.0**
DMN	**Daman**			**69.94 303**	***e*P**	**P**	**22 22 15.8**	**-1.0**
	comp=Z,33nm,1.2s							
GKN	**Gorkha**			**70.46 303**	***e*P**	**P**	**22 22 18.6**	**-1.3**
	comp=Z,19nm,1.0s							
TAOE	**Nuku Hiva Isla**			**70.83 97**	***e*S**	**S**	**22 31 37.0**	**+2.5**
	comp=Z,256nm,23.7s							
TAOE	**Nuku Hiva Isla**			**70.83 97**	***e*LR**	LR	22 44 15.0	
	comp=Z,1μm,25.6s							
VNDA	**Vanda**			**71.01 177**	***e*P**	**P**	**22 22 22.0**	**-0.2**
	comp=Z,5.2nm,0.8s							
VNDA	**Vanda**			**71.01 177**	P	**P**	**22 22 21.1**	**-1.0**
	comp=Z,4.1nm,0.8s,baz=336,slow=5.8,SNR=14							
KOLN	**Koldanda**			**71.25 302**	***e*P**	**P**	**22 22 22.5**	**-2.3**
	comp=Z,18nm,0.9s							
DANN	**Dangsing**			**71.30 303**	***e*P**	**P**	**22 22 23.5**	**-1.7**
	comp=Z,15nm,0.8s							
PYUN	**Piuthan**			**71.87 302**	***e*P**	**P**	**22 22 26.0**	**-2.5**
	comp=Z,19nm,1.0s							
TRD	**Trivandrum**			**72.72 281**	***e*P**	**P**	**22 22 32.6**	**-0.9**
TRD				IAmb		IAmb	22 22 37.2	
	comp=Z,14nm,0.8s							
HYB	**Hyderabad**			**72.95 290**	*i* P	**P**	**22 22 35.0**	**+0.1**
NGP	**Nagpur**			**73.37 294**	***e*P**	**P**	**22 22 36.8**	**-0.5**
WMQ	**Urumqi**			**74.26 319**	***e*P**	**P**	**22 22 42.2**	**+0.1**
WMQ				pP		sP	22 23 00.2	+0.3
WMQ				sP		pwP	22 23 09.4	+11
WMQ				pmax		pmax		
	comp=Z,14nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,200nm,4.3s							
WMQ				LR		LR		
	comp=Z,1μm,23.9s							
WMQ				LR		LR		
	comp=Z,780nm,19.3s							
WMQ				LR		LR		
	comp=Z,950nm

MOTA	**Moosalm**	**125.59**	**325**	*e*PKPdf		**PKPdf**	**22 30 03.9**	**-2.3**
	comp=Z,3.1nm,0.7s								
SQTA	**Sankt Quirin**	**125.60**	**325**	PKPdf		**PKPdf**	**22 30 05.0**	**-1.3**
	comp=Z,3.7nm,1.2s								
FETA	**Feichten**	**125.99**	**325**	PKPdf		**PKPdf**	**22 30 05.0**	**-2.0**
	comp=Z,8.4nm,2.0s								
LPAZ	**La Paz**	**137.26**	**123**	PKP		**PKPdf**	**22 30 28.7**	**-1.0**
LPAZ				*e*PKPdf		**PKiKP**	**22 30 34.1**	**+2.5**
LPAZ	**La Paz**	**137.26**	**123**	PKP		**PKPdf**	**22 30 28.7**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=177,slow=1.6,SNR=5.2								
ROSC	**El Rosal**	**137.58**	**90**	PKP		**PKPdf**	**22 30 29.0**	**-1.2**
	comp=Z,5.4nm,0.8s,baz=279,slow=21,SNR=3.9								
CPUP	**Villa Florida**	**138.71**	**144**	PKP		**PKPdf**	**22 30 30.8**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=222,slow=8.7,SNR=2.2								
SDV	**Santo Domingo**	**141.40**	**84**	*e*PKPpre		PKPpre	22 30 36.4		
TOA0	**Torodi Ar. Sit**	**146.53**	**283**	*e*PKPdf		**PKPbc**	**22 30 46.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**146.53**	**283**	PKPbc		**PKPbc**	**22 30 46.5**	**-0.5**
	comp=Z,7.7nm,0.9s,baz=60,slow=3.7,SNR=47								
TOA1	**Torodi Ar. Sit**	**146.53**	**283**	*e*PKPdf		**PKPbc**	**22 30 46.5**	**-0.5**
PTGA	**Pitinga**	**150.82**	**104**	*e*PKPdf		**PKPbc**	**22 30 57.5**	**-0.7**
BDFB	**Brasília**	**152.44**	**144**	*e*PKPdf		**PKPdf**	**22 30 58.3**	**+3.3**
BDFB				PKPbc		**PKPbc**	**22 31 01.8**	**-0.1**
BDFB				PKPab		**pPKPdf**	**22 31 08.3**	**-0.3**
BDFB	**Brasilia**	**152.44**	**144**	PKPbc		**PKPbc**	**22 31 01.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=207,slow=2.3,SNR=3.3								
BDFB				PKPab		**pPKPdf**	**22 31 08.3**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=104,slow=3.1,SNR=7.5								
DBIC	**Dimbokro**	**153.33**	**271**	PKPbc		**PKPbc**	**22 31 02.5**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=61,slow=3.8,SNR=5.5								
DBIC				PKPab		**pPKPbc**	**22 31 17.0**	**-0.6**
	comp=Z,10nm,0.8s,baz=62,slow=3.3,SNR=10								

IDC ***10*** *22:15:57.1±0.5, 11°.92N×143°.96E, h0km, mb4.4/27, mb1 4.5/29, mb1mx4.4/39, mbtmp4.4/29, ML3.9/2, MS3.7/1, Ms1 3.7/1, ms1mx3.5/38, Error ellipse: s-maj=17.9km s-min=10.4km az=92.0*

ISCJB ***10*** *22:15:59.8±0.2, 11°.87N±0°.03×143°.79E±0°.04, h26km, mb4.5/89, Error ellipse: s-maj=6.1km s-min=4.1km az=21.4*

NEIC ***10*** *22:16:00.8±3.4, 11°.89N×143°.80E, h19km±21km, mb4.7/61, Error ellipse: s-maj=8.5km s-min=5.7km az=101.0*

BJI ***10*** *22:16:00.9, 11°.80N×144°.25E, h56km, mb4.7/29, mB5.1/22, Ms5.0/14, Ms7 4.7/14*

ISC 10 22:16:01.3±0.4, 11°.83N±0°.05×143°.92E±0°.07, h26km, n152, σ1°59/147, mb4.7/87, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**1.98**	**28**	Pn		**Pn**	**22 16 31.1**	**-2.1**
	399nm,0.3s,baz=198,slow=2.5,SNR=95							
GUMO				Sn		**Sn**	**22 16 56.6**	**-0.6**
	679nm,0.3s,baz=25,slow=22,SNR=9.2							
ANA2	**Anatahan**	**4.81**	**21**	*e*Pn		**Pn**	**22 17 12.1**	**-0.1**
ANA2				*e*Sn		**Sn**	**22 18 05.5**	**-1.6**
SARN	**Sarigan**	**5.17**	**20**	*e*Pn		**Pn**	**22 17 20.0**	**+2.9**
SARN				*e*Sn		**Sn**	**22 18 18.6**	**+2.7**
JAY	**Jayapura**	**14.60**	**193**	Pn		**Pn**	**22 19 28.0**	**+1.7**
	0.4nm,0.3s,baz=290,slow=4.1,SNR=3.5							
PATS	**Pohnpei**	**15.04**	**108**	*e*Pn		**Pn**	**22 19 31.0**	**-1.1**
JCJ	**Chichijima**	**15.28**	**354**	LR		LR	22 24 28.4	
	comp=Z,310nm,21.0s,baz=170,slow=34							
SIJI	**Sorong**	**17.81**	**226**	P		**Pn**	**22 20 05.8**	**-1.7**
	0.4nm,0.3s,baz=46,slow=18,SNR=2.3							
RABL	**Rabaul**	**17.90**	**152**	*e*Pn		**Pn**	**22 20 05.8**	**-2.8**
	124nm,0.4s							
PLP	**Palo**	**18.58**	**270**	*i*ePP		**P**	**22 20 12.6**	**-3.9**
JOW	**Kunigami**	**20.96**	**318**	*e*P		**P**	**22 20 42.0**	**-0.5**
	92nm,1.5s							
JOW	**Kunigami**	**20.96**	**318**	P		**P**	**22 20 42.0**	**-0.5**
	1.6nm,0.5s,baz=131,slow=13,SNR=4.2							
H11S3	**WAKE ISLAND Hy**	**22.94**	**70**	T		T	22 45 00.1	
	baz=252,slow=76,SNR=7.5							
H11S1	**WAKE ISLAND Hy**	**22.95**	**70**	T		T	22 45 11.9	
	baz=252,slow=76,SNR=7.7							
H11S2	**WAKE ISLAND Hy**	**22.95**	**70**	T		T	22 45 06.2	
	baz=252,slow=76,SNR=10							
H11N1	**WAKE ISLAND Hy**	**23.43**	**68**	T		T	22 45 41.0	
	baz=255,slow=75,SNR=11							
H11N2	**WAKE ISLAND Hy**	**23.44**	**68**	T		T	22 45 42.6	
	baz=255,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy**	**23.45**	**68**	T		T	22 45 41.9	
	baz=255,slow=75,SNR=12							
JNU	**Nakatsue**	**24.34**	**333**	*e*P		**P**	**22 21 16.1**	**-1.1**
	26nm,1.1s							
JNU	**Nakatsue**	**24.34**	**333**	P		**P**	**22 21 16.0**	**-1.1**
	9.3nm,0.9s,baz=212,slow=9.1,SNR=2.3							
TWG	**Pinlang**	**24.36**	**300**	*e*P		**P**	**22 21 17.5**	**+0.1**
	65nm,1.0s							
YULB	**Yu-li**	**24.40**	**301**	*e*P		**P**	**22 21 16.1**	**-1.7**
	34nm,1.3s							
LUWI	**Luwuk**	**24.60**	**240**	*e*P		**P**	**22 21 21.6**	**+2.0**
	53nm,0.8s							
MJAR	**Matsushiro Arr**	**25.14**	**349**	P		**P**	**22 21 23.8**	**-0.5**
	2.0nm,0.5s,baz=164,slow=11,SNR=4.3							
MAJO	**Matsushiro**	**25.14**	**349**	*e*P		**P**	**22 21 23.8**	**-0.5**
KSRS	**Korea Array**	**29.28**	**333**	P		**P**	**22 21 59.6**	**-1.8**
	1.4nm,0.7s,baz=145,slow=9.8,SNR=3.3							
KS15	**Wonju Array Si**	**29.29**	**333**	*e*P		**P**	**22 21 59.6**	**-1.9**
	15nm,1.1s							
KSAR	**Wonju Array Be**	**29.29**	**333**	P		**P**	**22 21 59.6**	**-1.9**
NJ2	**Nanjing**	**30.62**	**315**	*e*P		**P**	**22 22 14.4**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
CTA	**Charters Tower**	**31.80**	**176**	P		**P**	**22 22 23.3**	**-0.5**
	4.9nm,0.8s,baz=0.0,slow=16,SNR=2.0							
ASAJ	**Asahikawa**	**32.20**	**358**	P		**P**	**22 22 24.9**	**-2.2**
	12nm,0.9s,baz=143,slow=24,SNR=2.5							
WRAB	**Tennant Creek**	**32.94**	**197**	*e*P		**P**	**22 22 33.3**	**-0.6**
	8.2nm,0.8s							
WB2	**Warramunga Arr**	**32.95**	**197**	*e*P		**P**	**22 22 34.3**	**+0.3**
WR1	**Warramunga Arr**	**32.95**	**197**	*e*P		**P**	**22 22 34.2**	**+0.3**
	9.9nm,0.8s							
WRA	**Warramunga Arr**	**32.95**	**197**	P		**P**	**22 22 34.2**	**+0.2**
	4.6nm,0.8s,baz=20,slow=9.8,SNR=20							
WC3	**Warramunga Arr**	**32.95**	**197**	*e*P		**P**	**22 22 34.8**	**+0.8**
	12nm,1.1s							
FITZ	**Fitzroy Crossi**	**34.78**	**212**	*e*P		**P**	**22 22 51.1**	**+1.2**
	9.8nm,1.1s							
FITZ	**Fitzroy Crossi**	**34.78**	**212**	P		**P**	**22 22 51.1**	**+1.2**
	3.7nm,0.9s,baz=17,slow=11,SNR=1.7							
CN2	**Changchun**	**35.63**	**337**	*e*P		**P**	**22 22 58.5**	**+1.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
AS01	**Alice Springs**	**36.60**	**195**	*e*P		**P**	**22 23 06.1**	**+0.6**
AS31	**Alice Springs**	**36.61**	**196**	*e*P		**P**	**22 23 07.0**	**+1.4**
	1.6nm,0.5s							
ASAR	**Alice Springs**	**36.61**	**196**	P		**P**	**22 23 07.0**	**+1.4**
	2.2nm,0.9s,baz=16,slow=11,SNR=7.6							
BJT	**Baijiatuan**	**37.27**	**324**	*e*P		**P**	**22 23 12.0**	**+0.9**
	9.1nm,0.7s							
EIDS	**Eidsvold**	**37.62**	**169**	*e*P		**P**	**22 23 15.0**	**+0.8**
	8.4nm,0.8s							
TIY	**Taiyuan**	**38.17**	**318**	ScS		ScS	22 33 22.4	-6.7
TIY				pmax		pmax		
	comp=Z,300nm,4.6s							
TIY				LR		LR		
	comp=N,510nm,13.2s							
TIY				LR		LR		
	comp=E,940nm,17.6s							
TIY				LR		LR		
	comp=Z,350nm,13.2s							
XAN	**Xi'an**	**38.79**	**311**	P		P	22 23 19.1	-5.0
XAN				pP		pP	22 23 28.7	-1.0
XAN				S		S	22 28 58.0	-22
XAN				pmax		pmax		
	comp=Z,5.0nm,1.2s							
XAN				pmax		pmax		
	comp=Z,180nm,6.7s							
XAN				LR		LR		
	comp=N,780nm,18.4s							
XAN				LR		LR		
	comp=Z,870nm,20.6s							
DZM	**Mont Dzumac**	**40.28**	**147**	P		**P**	**22 23 37.2**	**+0.6**
	comp=Z,12nm,0.8s,baz=334,slow=7.9,SNR=7.2							
HHC	**Hu-ho-hao-te**	**40.53**	**321**	*e*P		**P**	**22 23 40.8**	**+2.3**
HHC				sP		pwP	22 24 03.1	+10
HHC				S		**S**	**22 29 48.6**	**+2.4**
HHC				sS		sS	22 30 06.1	+10
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,110nm,5.5s							
HHC				LR		LR		
	comp=Z,1μm,15.9s							
HHC				LR		LR		
	comp=Z,1μm,15.7s							
HHC				LR		LR		
	comp=Z,1μm,17.3s							
KMI	**Kunming**	**41.07**	**295**	P		**P**	**22 23 44.1**	**+0.8**
KMI				pmax		pmax		
	comp=Z,12nm,0.5s							
CD2	**Chengdu**	**41.66**	**303**	*e*P		**P**	**22 23 49.6**	**+1.8**
PBKT	**Sadao Pong**	**41.85**	**282**	*e*P		**P**	**22 23 49.9**	**+0.4**
	comp=Z,2.4nm,0.6s							
PETK	**Petropavlovsk-**	**42.63**	**12**	P		**P**	**22 23 54.4**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=57,slow=16,SNR=2.6							
PEA1	**Petropavlovsk-**	**42.63**	**12**	*e*P		**P**	**22 23 54.4**	**-1.0**
ARMA	**Armidale**	**42.65**	**170**	*e*P		**P**	**22 23 55.0**	**-0.9**
	comp=Z,9.1nm,0.9s							
LZH	**Lanzhou**	**43.43**	**311**	*e*P		**P**	**22 24 04.4**	**+2.1**
LZH				pP		pwP	22 24 18.0	-0.3
LZH				sP		sP	22 24 24.2	+14
LZH				*e*S		**S**	**22 30 31.5**	**+2.1**
LZH				sS		sS	22 30 55.3	+15
LZH				pmax		pmax		
	comp=Z,25nm,1.0s							
LZH				pmax		pmax		
	comp=Z,250nm,6.2s							
LZH				LR		LR		
	comp=Z,1μm,14.6s							
LZH				LR		LR		
	comp=Z,2μm,14.9s							
LZH				LR		LR		
	comp=Z,2μm,16.5s							
STKA	**Stephens Creek**	**43.51**	**183**	P		**P**	**22 24 02.5**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=358,slow=7.8,SNR=7.6							
CM01	**Chiang Mai Arr**	**43.81**	**284**	*e*P		**P**	**22 24 08.8**	**+3.3**
CM31	**Chiang Mai Arr**	**43.83**	**284**	*e*P		**P**	**22 24 05.2**	**-0.3**
	comp=Z,4.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**43.83**	**284**	P		**P**	**22 24 05.2**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=98,slow=6.8,SNR=5.6							
BBOO	**Buckleboo**	**45.02**	**189**	*e*P		**P**	**22 24 15.2**	**+0.5**
	comp=Z,13nm,0.6s							
SONA0	**Songino Array**	**47.66**	**326**	*e*P		**P**	**22 24 34.6**	**-0.9**
SONM	**Songino Array**	**47.66**	**326**	P		**P**	**22 24 34.6**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=147,slow=7.8,SNR=11							
GTA	**Gaotai**	**47.67**	**313**	P		**P**	**22 24 34.7**	**-1.1**
GTA				pP		sP	22 24 45.6	+2.0
GTA				sP		pwP	22 24 51.4	-0.4
GTA				PcP		**PcP**	**22 26 07.6**	**+2.5**
GTA				pmax		pmax		
	comp=Z,110nm,6.3s							
GTA				LR		LR		
	comp=Z,540nm,20.3s							
GTA				LR		LR		
	comp=Z,450nm,19.9s							
GTA				LR		LR		
	comp=Z,850nm,19.2s							
RAMN	**Ramite**	**55.69**	**295**	*e*P		**P**	**22 25 34.7**	**-1.4**
JIRN	**Jiri**	**56.11**	**295**	*e*P		**P**	**22 25 38.1**	**-1.1**
	comp=Z,9.0nm,0.5s							
GUN	**Gumba**	**56.40**	**296**	*e*P		**P**	**22 25 40.2**	**-1.1**
	comp=Z,21nm,0.7s							
PKI	**Pulchoki**	**56.79**	**295**	*e*P		**P**	**22 25 42.4**	**-1.7**
PKIN	**Phulchoki**	**56.80**	**295**	*e*P		**P**	**22 25 42.4**	**-1.7**
	comp=Z,2.4nm,0.4s							
KKN	**Kakani**	**56.92**	**295**	*e*P		**P**	**22 25 43.6**	**-1.2**
DMN	**Daman**	**57.06**	**295**	*e*P		**P**	**22 25 44.5**	**-1.4**
	comp=Z,7.0nm,0.6s							
GKN	**Gorkha**	**57.50**	**296**	*e*P		**P**	**22 25 47.2**	**-1.7**
WMQ	**Urumqi**	**57.70**	**315**	*e*P		**P**	**22 25 50.0**	**+0.2**
WMQ				pP		sP	22 26 00.9	+3.2
WMQ				pmax		pmax		
	comp=Z,19nm,1.3s							
WMQ				pmax		pmax		
	comp=Z,270nm,4.3s							
WMQ				LR		LR		
	comp=Z,2μm,26.9s							
WMQ				LR		LR		
	comp=Z,740nm,25.7s							
WMQ				LR		LR		
	comp=Z,710nm,24.3s							
DANN	**Dangsing**	**58.30**	**296**	*e*P		**P**	**22 25 53.1**	**-1.5**
	comp=Z,10nm,0.4s							
KOLN	**Koldanda**	**58.41**	**295**	*e*P		**P**	**22 25 53.0**	**-2.3**
	comp=Z,6.8nm,0.7s							
PYUN	**Piuthan**	**58.96**	**296**	*e*P		**P**	**22 25 57.2**	**-1.9**
	comp=Z,16nm,0.7s							
MK01	**Makanchi Array**	**62.11**	**317**	*e*P		**P**	**22 26 21.2**	**+1.1**
MK31	**Makanchi Array**	**62.12**	**317**	*e*P		**P**	**22 26 20.8**	**+0.6**
	comp=Z,4.2nm,1.3s							
MK32	**Makanchi Array**	**62.12**	**317**	*e*P		**P**	**22 26 20.4**	**+0.2**
MKAR	**Makanchi Array**	**62.12**	**317**	P		**P**	**22 26 20.4**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=94,slow=9.2,SNR=7.5							
MAKZ	**Makanchi**	**62.34**	**317**	*e*P		**P**	**22 26 22.4**	**+0.8**
	comp=Z,2.4nm,0.8s							
ZAA0	**Zalesovo Array**	**62.52**	**325**	*e*P		**P**	**22 26 22.4**	**-0.3**
	comp=Z,3.9nm,1.2s							
ZALV	**Zalesovo Beam**	**62.52**	**325**	*e*P		**P**	**22 26 20.6**	**-2.1**
ZALV				*e*PcP		**PcP**	**22 27 01.3**	**-0.3**
ZALV	**Zalesovo Beam**	**62.52**	**325**	P		**P**	**22 26 21.9**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=101,slow=7.3,SNR=7.5							
ZAA1	**Zalesovo Array**	**62.52**	**325**	*e*P		**P**	**22 26 21.9**	**-0.8**
KURK	**Kurchatov**	**65.34**	**321**	*e*P		**P**	**22 26 40.0**	**-1.2**
	comp=Z,10nm,0.8s							
KSH	**Kashi**	**65.58**	**308**	P		**P**	**22 26 46.8**	**+3.6**
KSH				pP		pwP	22 26 59.7	+0.6
KSH				PcP		**PcP**	**22 27 16.8**	**+2.1**
KSH				S		**S**	**22 35 27.1**	**-0.2**
KSH				ScS		**SKSac**	**22 36 34.6**	**-2.8**
KSH				pmax		pmax		
	comp=Z,130nm,6.0s							
KSH				LR		LR		
	comp=Z,320nm,14.3s							
KSH				LR		LR		
	comp=Z,210nm,10.2s							
KSH				LR		LR		
	comp=Z,530nm,21.3s							
NRIK	**Noril'sk**	**67.49**	**341**	P		**P**	**22 26 54.7**	**+0.1**
	comp=Z,2.5nm,0.5s,baz=91,slow=8.0,SNR=2.8							
CAST	**Castle Rocks**	**67.98**	**26**	*e*P		**P**	**22 26 58.5**	**+0.6**
	comp=Z,10nm,1.2s							
BPAW	**Bear Paw Mtn.**	**68.65**	**25**	*e*P		**P**	**22 27 01.9**	**-0.2**
	comp=Z,7.1nm,1.2s							
MLY	**Manley**	**69.04**	**24**	*e*P		**P**	**22 27 04.6**	**+0.1**
	comp=Z,7.7nm,1.1s							
SML	**Sawmill**	**69.19**	**28**	*e*P		**P**	**22 27 08.0**	**+2.5**
	comp=Z,33nm,1.3s							
SCM	**Sheep Creek Mo**	**69.66**	**28**	*e*P		**P**	**22 27 09.3**	**+0.8**
	comp=Z,23nm,1.1s							
GAR	**Garm**	**69.94**	**307**	*e*P		**P**	**22 27 11.3**	**+0.6**
	comp=Z,12nm,1.0s							
CCB	**Clear Creek Bu**	**70.13**	**25**	*e*P		**P**	**22 27 10.8**	**-0.4**
	comp=Z,8.9nm,1.4s							
IL1	**Eielson Array**	**70.55**	**25**	*e*P		**P**	**22 27 11.8**	**-1.9**
ILAR	**Eielson Array**	**70.55**	**25**	P		**P**	**22 27 12.5**	**-1.2**
	comp=Z,1.4nm,0.5s,baz=249,slow=5.8,SNR=14							
ILB	**Eielson Array**	**70.55**	**25**	*e*P		**P**	**22 27 12.6**	**-1.2**
	comp=Z,3.7nm,0.9s							
TOLK	**Toolik Lake Re**	**70.58**	**21**	*e*P		**P**	**22 27 14.2**	**+0.3**
	comp=Z,8.2nm,1.0s							
PAX	**Paxson**	**70.75**	**27**	*e*P		**P**	**22 27 15.5**	**+0.3**
	comp=Z,7.4nm,1.1s							
BRVK	**Borovoye**	**70.81**	**322**	*e*P		**P**	**22 27 14.7**	**-0.8**
	comp=Z,9.4nm,1.1s							
KBL	**Kabul**	**70.99**	**303**	*e*P		**P**	**22 27 18.2**	**+0.9**
	comp=Z,6.0nm,0.8s							
DOT	**Dot Lake**	**71.51**	**27**	*e*P		**P**	**22 27 19.6**	**-0.1**
	comp=Z,5.2nm,1.0s							
FYU	**Fort Yukon**	**71.63**	**23**	*e*P		**P**	**22 27 22.8**	**+2.6**
	comp=Z,19nm,1.1s							
DAWY	**Dawson**	**73.62**	**26**	*e*P		**P**	**22 27 34.6**	**+2.4**
	comp=Z,8.1nm,1.1s							
HYT	**Haines Junctio**	**74.18**	**30**	*e*P		**P**	**22 27 37.1**	**+1.4**
	comp=Z,6.9nm,0.9s							
EPYK	**Eagle Plains**	**74.97**	**24**	*e*P		**P**	**22 27 41.0**	**+0.9**
	comp=Z,12nm,1.1s							
INK	**Inuvik**	**76.34**	**22**	*e*P		**P**	**22 27 47.1**	**-0.6**
	comp=Z,22nm,1.3s							
H02S1	**DAWSON INLET T**	**76.80**	**38**	T		T	23 51 11.7	
	SNR=28							
ABKAR	**Akbulak array**	**77.23**	**318**	*e*P		**P**	**22 27 51.6**	**-1.5**
	comp=Z,3.0nm,0.8s							
ARU	**Arti**	**77.69**	**325**	*e*P		**P**	**22 27 56.0**	**+0.4**
	comp=Z,12nm,1.3s							
GEYT	**Alibeck**	**79.56**	**307**	P		**P**	**22 28 06.5**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=38,slow=2.6,SNR=8.1							
GYA0B	**ALIBECK ARRAY**	**79.56**	**307**	*e*P		**P**	**22 28 06.9**	**+0.6**
	comp=Z,9.1nm,1.0s							
YBH	**Yreka Blue Hor**	**84.72**	**49**	*e*P		**P**	**22 28 37.7**	**+4.3**
	comp=Z,2.9nm,0.8s							
YKW3	**Yellowknife Ar**	**84.82**	**27**	*e*P		**P**	**22 28 32.5**	**-0.8**
	comp=Z,4.3nm,1.3s							
YKA	**Yellowknife Ar**	**84.84**	**27**	P		**P**	**22 28 33.2**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=287,slow=5.1,SNR=18							
YKB5	**Yellowknife Ar**	**84.84**	**27**	*e*P		**P**	**22 28 32.9**	**-0.5**
PINE	**Pine Mountain**	**85.59**	**46**	*e*P		**P**	**22 28 39.0**	**+1.2**
	comp=Z,6.1nm,0.9s							
B08A	**Colville Reser**	**85.70**	**42**	*e*P		**P**	**22 28 40.5**	**+2.4**
	comp=Z,9.2nm,1.1s							
E08A	**Dider Farm, El**	**86.30**	**43**	*e*P		**P**	**22 28 42.1**	**+1.1**
	comp=Z,10nm,1.4s							
RES	**Resolute Bay**	**86.47**	**13**	*e*P		**P**	**22 28 41.6**	**+0.3**
	comp=Z,11nm,1.2s							
NEW	**Newport**	**87.15**	**41**	*e*P		**P**	**22 28 46.5**	**+1.2**
	comp=Z,11nm,1.3s							
BMO	**Blue Mountains**	**87.88**	**45**	*e*P		**P**	**22 28 51.5**	**+2.6**
ARA0	**ARCESS Array S**	**88.47**	**342**	*e*P		**P**	**22 28 49.8**	**-1.2**
ARCES	**ARCESS Array B**	**88.47**	**342**	P		**P**	**22 28 49.8**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=82,slow=7.7,SNR=12							
NV01	**Mina Array Sit**	**88.74**	**51**	*e*P		**P**	**22 28 54.2**	**+0.9**
NVAR	**Mina Array Bea**	**88.74**	**51**	P		**P**	**22 28 51.4**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=286,slow=3.4,SNR=4.4							
KVN	**Kaiserville**	**88.74**	**50**	*e*P		**P**	**22 28 56.1**	**+2.9**
	comp=Z,2.6nm,0.8s							
NV11	**Mina Array Sit**	**88.85**	**51**	*e*P		**P**	**22 28 53.3**	**-0.4**
	comp=Z,0.5nm,1.3s							
KBZ	**Khabaz**	**89.74**	**315**	P		**P**	**22 28 57.0**	**-0.5**
	comp=Z,1.4nm,1.0s,baz=144,slow=5.6,SNR=3.9							
HLID	**Hailey**	**90.23**	**45**	*e*P		**P**	**22 29 03.4**	**+3.3**
	comp=Z,4.7nm,1.1s							
ELK	**Elko**	**90.43**	**48**	*e*P		**P**	**22 29 04.1**	**+3.0**
	comp=Z,2.2nm,0.8s							
TPNV	**Topopah Spring**	**90.69**	**52**	*e*P		**P**	**22 29 05.4**	**+3.0**
	comp=Z,4.1nm,0.9s							
FIA0	**FINESS Array S**	**92.36**	**335**	*e*P		**P**	**22 29 08.0**	**-1.3**
FINES	**FINESS Array B**	**92.36**	**335**	P		**P**	**22 29 08.0**	**-1.3**
	comp=Z,4.2nm,0.8s,baz=66,slow=4.7,SNR=14							
YNR	**Norris Junctio**	**92.44**	**43**	*e*P		P	22 29 15.2	+4.8
	comp=Z,11nm,1.3s							
IMW	**Indian Meadow**	**92.53**	**44**	*e*P		**P**	**22 29 14.5**	**+3.6**
	comp=Z,2.3nm,0.6s							
MOOW	**Moose Ponds**	**92.71**	**44**	*e*P		**P**	**22 29 14.8**	**+3.2**
	comp=Z,2.2nm,1.1s							
LCMT	**Little Creek M**	**92.98**	**51**	*e*P		**P**	**22 29 15.1**	**+2.1**
	comp=Z,2.5nm,0.8s							
RLMT	**Red Lodge**	**93.25**	**43**	*e*P		**P**	**22 29 17.4**	**+3.3**
	comp=Z,2.6nm,0.7s							
PD31	**Pinedale Array**	**93.85**	**45**	*e*P		**P**	**22 29 17.9**	**+1.0**
	comp=Z,0.9nm,1.0s							
PDAR	**Pinedale Array**	**93.85**	**45**	P		**P**	**22 29 17.9**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=174,slow=3.0,SNR=5.3							
BR101	**Keskin Array S**	**97.59**	**313**	*e*P		Pdif	22 29 34.7	+0.7
BRTR	**Keskin Array B**	**97.59**	**313**	P		Pdif	22 29 34.7	+0.7
BRTR	**Keskin Array B**	**97.59**	**313**	P		Pdif	22 29 34.7	+0.7
	comp=Z,0.2nm,0.7s,baz=13,slow=16,SNR=3.7							
NB200	**NORSAR Array S**	**98.36**	**339**	*e*P		**P**	**22 29 36.5**	**-0.3**
NOA	**NORSAR Array B**	**98.36**	**339**	P		**P**	**22 29 36.5**	**-0.3**
NOA	**NORSAR Array B**	**98.36**	**339**	P		**P**	**22 29 36.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=49,slow=4.9,SNR=2.5							
ULM	**Lac du Bonnet**	**99.21**	**34**	P		**Pdif**	**22 29 40.0**	**-0.7**
ULM	**Lac du Bonnet**	**99.21**	**34**	P		**Pdif**	**22 29 40.0**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=284,slow=4.2,SNR=3.3							
TOA1	**Torodi Ar. Sit**	**135.06**	**302**	*e*PKPdf		**PKPdf**	**22 35 18.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**135.06**	**302**	PKP		**PKPdf**	**22 35 18.5**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=71,slow=2.1,SNR=3.3							
DBIC	**Dimbokro**	**143.92**	**

JAY	**Jayapura**	**8.59 299**	P	Pn	22 54 03.1 +9.5	**TARA**	**Tarawa**	**25.90 73**	*e*P	**P**	**22 57 19.8 -1.1**
JAY	**Jayapura**	**8.59 299**	P	**Pn**	**22 53 56.1 +2.5**		comp=Z,346nm,0.9s				
	0.6nm,0.3s,baz=140,slow=21,SNR=2.7					TARA			LR	LR	
JAY			S	Sn	22 55 39.7 +10		comp=Z,9μm,19.0s				
	baz=180,slow=19,SNR=1.2					**LUWI**	**Luwuk**	**26.02 281**	*e*P	**P**	**22 57 22.8 +0.8**
COEN	**Coen**	**8.77 214**	P	**Pn**	**22 53 57.3 +1.2**		comp=Z,3μm,1.4s				
	baz=8.7,SNR=22					**LUWI**	**Luwuk**	**26.02 281**	P	**P**	**22 57 22.8 +0.8**
COEN	**Coen**	**8.77 214**	*e*Pn	**Pn**	**22 53 58.3 +2.2**		comp=Z,1μm,1.0s,comp=Z,19μmcomp=Z,59μm				
COEN			*e*Sn	**Sn**	**22 55 33.0 -1.0**	**EDFI**	**Ende, Flores**	**26.39 264**	P	**P**	**22 57 21.2 -4.3**
GENI	**Genyem**	**9.02 296**	P	Pn	22 54 12.8 +13		comp=Z,317nm,1.2s,comp=Z,7μm				
HNR	**Honiara**	**11.90 104**	*e*P	**Pn**	**22 54 39.0 0.0**	**WRKA**	**Warakurna**	**26.40 224**	P	**P**	**22 57 23.7 -1.7**
HNR	**Honiara**	**11.90 104**	*e*Pn	**Pn**	**22 54 40.8 +1.8**		baz=26,SNR=58				
HNR			*e*Sn	**Sn**	**22 56 54.2 +3.2**	**DAV**	**Davao City (W)**	**26.42 301**	*e*P	**P**	**22 57 25.5 -0.1**
HNR	**Honiara**	**11.90 104**	P	**Pn**	**22 54 40.8 +1.8**		comp=Z,156nm,0.5s				
HNR			*e*		22 56 54.2	DAV			LR	LR	
HNR	**Honiara**	**11.90 104**	P	**Pn**	**22 54 42.0 +2.9**		comp=Z,63μm,22.0s				
	19nm,0.3s,baz=128,slow=10,SNR=6.1					**DAV**	**Davao City (W)**	**26.42 301**	P	**P**	**22 57 25.6 -0.1**
HNR			LR	LR	22 58 42.3	**DAV**	**Davao City (W)**	**26.42 301**	P	**P**	**22 57 25.5 -0.1**
	comp=Z,226μm,21.6s,baz=278,slow=34						comp=Z,102nm,0.4s,baz=227,slow=20,SNR=2.0				
MTSU	**Mount Surprise**	**12.00 198**	P	**Pn**	**22 54 41.6 +1.2**	**MGCD**	**Mangrove Creek**	**26.52 175**	P	**P**	**22 57 27.6 +1.4**
	baz=12,SNR=20						baz=26,SNR=20				
SRPI	**Serui, Papua**	**12.89 291**	P	**Pn**	**22 54 53.5 +0.9**	**KCP**	**Kidapawan**	**26.81 300**⇑	*e*P	**P**	**22 57 33.3 +4.0**
BAKI	**Biak**	**13.28 294**	P	P	22 55 19.3 +12	**SKMP**	**Bagumbayan, Su**	**27.05 299**	*e*P	P	22 57 42.2 +11
CTA	**Charters Tower**	**13.45 188**	P	**Pn**	**22 55 02.2 +2.0**	**APSI**	**Ampana**	**27.14 281**	P	**P**	**22 57 33.0 +0.9**
	1.2nm,0.3s,baz=353,slow=12,SNR=10						comp=Z,258nm,1.4s,comp=Z,7μmcomp=Z,32μm				
CTA			LR	LR	23 00 31.9	**MRSI**	**Marisa**	**27.20 284**	P	**P**	**22 57 34.3 +1.7**
	comp=Z,118μm,20.9s,baz=9.0,slow=39					**BUKP**	**Musuan**	**27.28 302**	*e*P	**P**	**22 57 28.9 -4.5**
CTAO	**Charters Tower**	**13.45 188**	*e*Pn	**Pn**	**22 55 03.3 +3.1**	**BUTP**	**Butuan**	**27.40 304**	*e*P	P	22 57 49.2 +15
CTAO			*e*Sn	**Sn**	**22 57 29.1 +0.3**	**YNG**	**Young**	**27.47 180**	P	**P**	**22 57 35.2 +0.4**
CTAO	**Charters Tower**	**13.45 188**	*e*P	**Pn**	**22 55 03.3 +3.1**		baz=28,SNR=20				
CTAO			*e*		22 57 29.1	**BASI**	**Baing, Sumba**	**27.58 261**	P	**P**	**22 57 40.2 +4.1**
RKPI	**Ransiki, Papua**	**14.94 290**	P	**P**	**22 55 26.6 +0.8**	**WSI**	**Waingapu**	**27.81 262**	P	**P**	**22 57 39.1 +0.9**
	634nm,1.6s,13μm279μm						comp=Z,2μm,1.4s,comp=Z,35μm				
QIS	**Mount Isa**	**16.12 210**	P	**Pn**	**22 55 35.6 -0.3**	**HTT**	**Hallett**	**27.97 197**	P	**P**	**22 57 38.3 -1.2**
	baz=16,SNR=32						baz=28,SNR=69				
FAKI	**Fak Fak**	**16.37 282**	*e*Pn	**P**	**22 55 42.0 +0.3**	**BKSI**	**Bulukumba**	**28.00 271**	P	**P**	**22 57 42.6 +2.8**
	1μm,1.4s					**BNSI**	**Bone**	**28.09 273**	P	**P**	**22 57 41.4 +0.7**
FAKI			*e*Sn	**Sn**	**22 58 36.9 -3.2**	**BBOO**	**Buckleboo**	**28.35 202**	P	**P**	**22 57 42.2 -0.5**
FAKI	**Fak Fak**	**16.37 282**	P	**P**	**22 55 44.5 +2.8**		baz=28,SNR=16				
	500nm,1.9s,18μm					**BBOO**	**Buckleboo**	**28.35 202**	*e*P	**P**	**22 57 42.4 -0.3**
KDU	**Kakadu**	**16.64 248**	P	**Pn**	**22 55 42.7 +0.3**		comp=Z,247nm,1.4s				
	baz=16,SNR=14					**KAPI**	**Kappang**	**28.39 272**	PFAKE		22 57 50.0 +6.7
PATS	**Pohnpei**	**16.78 37**	P	**P**	**22 55 48.8 +2.5**	KAPI			LR	LR	
	baz=17,SNR=3.4						comp=Z,95μm,22.0s				
PATS	**Pohnpei**	**16.78 37**	*e*Pn	**P**	**22 55 48.2 +2.0**	**SPSI**	**Sidrap Palu**	**28.48 274**	P	**P**	**22 57 45.2 +1.1**
	799nm,1.2s					**CAN**	**Canberra**	**28.50 179**	*e*P	**P**	**22 57 45.0 +0.9**
SAUI	**Saumlaki**	**16.85 265**	*e*Pn	**Pn**	**22 55 45.4 +0.2**		comp=Z,360nm,1.6s				
	3μm,1.2s					**CAN**	**Canberra**	**28.50 179**	*e*P	**P**	**22 57 45.0 +0.9**
SAUI	**Saumlaki**	**16.85 265**	P	**P**	**22 55 49.5 +2.5**	CAN			pmax	pmax	
	2μm,1.3s,50μm159μm						comp=Z,360nm,1.6s				
SIJI	**Sorong**	**17.89 288**	P	**P**	**22 55 58.8 +0.2**	**CNB**	**Canberra Magne**	**28.50 178**	P	**P**	**22 57 45.2 +1.0**
	1.7nm,0.3s,baz=94,slow=8.7,SNR=19						baz=28,SNR=13				
SWI	**Sorong**	**17.90 288**	P	**P**	**22 56 02.2 +3.6**	**TTSI**	**Tana Toraja**	**28.55 276**	P	**P**	**22 57 46.4 +1.7**
	252nm,1.0s,13μm132μm					**MSLP**	**Maasin**	**28.67 305**	*e*P	P	22 57 55.4 +10
MTN	**Manton Dam**	**17.93 249**	*e*Pn	**Pn**	**22 55 55.9 -2.6**	**PAGZ**	**Pagadian**	**28.70 300**	*e*P	P	22 57 57.2 +11
	735nm,1.5s					**PCI**	**Palu**	**28.91 280**	P	**P**	**22 57 49.9 +1.9**
BNDI	**Bandanaira**	**18.38 276**	P	**Pn**	**22 56 06.9 +2.9**		comp=Z,634nm,1.2s,comp=Z,14μm				
EIDS	**Eidsvold**	**18.77 172**	P	**Pn**	**22 56 09.2 +0.5**	**MPSI**	**Mapaga**	**29.13 283**	P	**P**	**22 57 49.4 -0.5**
	baz=19,SNR=10					**OCLP**	**Ormoc**	**29.40 307**	*e*P	P	22 58 02.9 +11
EIDS	**Eidsvold**	**18.77 172**	*e*P	**Pn**	**22 56 09.2 +0.5**	**PLAI**	**Plampang**	**30.26 264**	P	**P**	**22 57 59.7 -0.2**
	838nm,1.6s					**ARPS**	**Mount Arapiles**	**30.50 190**	P	**P**	**22 58 02.6 +0.8**
WRAB	**Tennant Creek**	**18.84 224**	*e*P	**P**	**22 56 08.6 -0.4**		baz=30,SNR=8.2				
	646nm,1.4s					**FORT**	**Forest**	**30.53 216**	P	**P**	**22 58 01.1 -1.0**
WRAB	**Tennant Creek**	**18.84 224**⇑	*e*P	**P**	**22 56 09.2 +0.2**		baz=30,SNR=17				
WRAB			pmax	pmax		**FORT**	**Forest**	**30.53 216**	*e*P	**P**	**22 58 01.3 -0.9**
	comp=Z,338nm,1.6s						comp=Z,490nm,1.5s				
WRAB			MLR	MLR		**TOO**	**Toolangi**	**30.84 184**	P	**P**	**22 58 05.8 +1.0**
	comp=Z,179μm,16.0s						baz=31,SNR=5.3				
WB2	**Warramunga Arr**	**18.85 224**	*e*P	**P**	**22 56 08.3 -0.7**	**TOO**	**Toolangi**	**30.84 184**	*e*P	**P**	**22 58 05.8 +1.0**
	comp=Z,805nm,1.5s						comp=Z,379nm,2.0s				
WR1	**Warramunga Arr**	**18.86 224**	*e*P	**P**	**22 56 06.8 -2.3**	**TOO**	**Toolangi**	**30.84 184**	*e*P	**P**	**22 58 05.8 +1.0**
	comp=Z,528nm,1.3s					TOO			pmax	pmax	
WRA	**Warramunga Arr**	**18.86 224**	P	**P**	**22 56 06.8 -2.4**		comp=Z,379nm,2.0s				
	comp=Z,3.4nm,0.3s,baz=48,slow=11,SNR=92					**MSVF**	**Nonsavu**	**31.07 113**	*e*P	**P**	**22 58 08.5 +1.4**
WRA			S	**S**	**22 59 43.8 +1.8**		comp=Z,278nm,1.4s				
	baz=48,slow=21,SNR=4.1					MSVF			LR	LR	
WRA			LR	LR	23 04 28.9		comp=Z,53μm,21.0s				
	comp=Z,198μm,19.5s,baz=45,slow=40					**MSVF**	**Nonsavu**	**31.07 113**⇓	*e*P	**P**	**22 58 09.0 +1.8**
PALU	**Palau**	**19.57 315**	P	**Pn**	**22 56 19.7 +1.3**	MSVF			pmax	pmax	
	baz=20,SNR=6.4						comp=Z,174nm,3.6s				
RMQ	**Roma**	**19.69 179**	P	**P**	**22 56 17.4 -0.8**	MSVF			MLR	MLR	
	baz=20,SNR=44						comp=Z,59μm,16.0s				
GUMO	**Guam**	**20.43 351**	*e*P	**P**	**22 56 25.5 -0.8**	**MBWA**	**Marble Bar**	**31.10 240**	*e*P	**P**	**22 58 06.6 -0.7**
GUMO			LR	LR			comp=Z,316nm,1.1s				
	comp=Z,133μm,21.0s					MBWA			LR	LR	
GUMO	**Guam**	**20.43 351**	*e*P	**P**	**22 56 25.5 -0.8**		comp=Z,111μm,19.0s				
GUMO			MLR	MLR		**MBWA**	**Marble Bar**	**31.10 240**	P	**P**	**22 58 09.8 +2.5**
	comp=Z,133μm,21.0s						SNR=18				
GUMO	**Guam**	**20.43 351**	P	**P**	**22 56 25.5 -0.8**	**SGKI**	**Sangatta, Kali**	**31.17 280**	P	P	22 58 13.0 +5.0
	comp=Z,33nm,0.6s,baz=183,slow=18,SNR=2.9					**WAKE**	**Wake Island**	**31.55 35**	PFAKE		22 58 20.0 +8.8
GUMO			LR	LR	23 02 47.5	WAKE			LR	LR	
	comp=Z,142μm,21.8s,baz=172,slow=32						comp=Z,89μm,20.0s				
KNRA	**Kununurra**	**21.07 243**	P	**P**	**22 56 31.6 -1.7**	**SMKI**	**Samarinda**	**31.57 280**	P	**P**	**22 58 13.6 +2.1**
	baz=21,SNR=38					**BKB**	**Balikpapan**	**31.72 278**	P	P	22 58 18.4 +5.6
NLAI	**Namlea**	**21.34 278**	P	**P**	**22 56 40.2 +4.0**	**OTRP**	**Odiongan**	**32.22 306**	*e*P	P	22 58 28.7 +12
	comp=Z,450nm,1.3s,comp=Z,17μmcomp=Z,190μm					**SRBI**	**Singaraja**	**32.78 265**	P	P	22 58 27.7 +5.6
AS01	**Alice Springs**	**21.76 218**	*e*P	**P**	**22 56 40.1 -0.5**	**DNP**	**Denpasar**	**32.79 264**	P	**P**	**22 58 25.4 +3.2**
AS31	**Alice Springs**	**21.78 218**	*e*P	**P**	**22 56 38.3 -2.6**	**SJMP**	**San Jose**	**33.00 305**	*e*P	P	22 58 31.6 +7.6
	comp=Z,138nm,0.6s					**MTKI**	**Muara Teweh, K**	**33.75 278**	P	**P**	**22 58 33.3 +2.7**
AS31			*e*S	**S**	**23 00 40.9 +0.3**	**BATP**	**Bataraza**	**34.02 296**	*e*P	**P**	**22 58 33.3 +0.4**
ASAR	**Alice Springs**	**21.79 218**	P	**P**	**22 56 38.8 -2.2**	**KMMI**	**Kalianget**	**34.03 267**	P	**P**	**22 58 36.1 +3.1**
	comp=Z,72nm,0.7s,baz=52,slow=9.4,SNR=174					**CBIJ**	**Chichi jima**	**34.10 350**	*e*P	**P**	**22 58 34.0 +0.6**
ASAR			S	**S**	**23 00 40.9 +0.3**	**JCJ**	**Chichijima**	**34.10 350**	P	**P**	**22 58 34.0 +0.6**
	comp=Z,85nm,1.1s,baz=32,slow=21,SNR=7.3						comp=Z,39nm,0.7s,baz=264,slow=22,SNR=2.0				
ASAR			LR	LR	23 05 47.7	JCJ			LR	LR	23 10 35.2
	comp=Z,91μm,20.7s,baz=46,slow=38						comp=Z,73μm,21.2s,baz=168,slow=33				
TNTI	**Ternate**	**22.12 289**	*e*P	**P**	**22 56 45.7 +1.2**	**KKM**	**Kota Kinabalu**	**34.38 291**	*e*P	**P**	**22 58 40.0 +3.9**
	comp=Z,2μm,1.9s						comp=Z,60nm,1.0s				
TNTI	**Ternate**	**22.12 289**	P	P	22 56 51.9 +7.4	**BLJI**	**Banyuglugur**	**34.38 266**	P	P	22 58 42.0 +5.9
SANI	**Sanana**	**22.66 281**	P	**P**	**22 56 49.4 -0.9**	**MEEK**	**Meekatharra**	**34.47 231**	P	**P**	**22 58 35.1 -1.7**
	comp=Z,654nm,1.1s,comp=Z,19μmcomp=Z,94μm						baz=34,SNR=82				
DZM	**Mont Dzumac**	**23.29 133**	*e*P	**P**	**22 56 59.8 +3.0**	**SMPP**	**San Manuel, Pa**	**35.49 310**	*e*P	P	22 58 58.7 +13
	comp=Z,467nm,1.3s					**GRJI**	**Gresik**	**35.51 267**	P	**P**	**22 58 45.9 +0.1**
DZM			*e*S	**S**	**23 01 05.0 -2.6**	**MOO**	**Moorlands**	**35.61 181**	P	**P**	**22 58 47.6 +1.3**
	comp=Z,50μm,23.1s						baz=36,SNR=16				
DZM			*e*LR	LR	23 02 40.0	**TAU**	**Tasmania Unive**	**36.08 181**	*e*P	**P**	**22 58 51.7 +1.4**
	comp=Z,974μm,23.9s						comp=Z,174nm,1.1s				
DZM	**Mont Dzumac**	**23.29 133**	*e*P	**P**	**22 56 54.7 -2.1**	TAU			LR	LR	
	comp=Z,1μm,2.0s						comp=Z,104μm,20.0s				
DZM	**Mont Dzumac**	**23.29 133**	P	**P**	**22 56 56.5 -0.3**	**TAU**	**Tasmania Unive**	**36.08 181**	*e*P	**P**	**22 58 51.7 +1.4**
	comp=Z,108nm,1.1s,baz=308,slow=12,SNR=10					TAU			pmax	pmax	
SARN	**Sarigan**	**23.37 354**	*e*P	**P**	**22 57 00.0 +2.4**		comp=Z,174nm,1.1s				
	comp=Z,567nm,1.6s					TAU			MLR	MLR	
ARMA	**Armidale**	**23.81 173**	P	**P**	**22 57 01.5 -0.3**		comp=Z,104μm,20.0s				
	baz=24,SNR=12					**APYP**	**Conner**	**36.14 313**	*e*P	P	22 59 01.2 +10
ARMA	**Armidale**	**23.81 173**	*e*P	**P**	**22 57 01.5 -0.3**	**PWJI**	**Pagerwojo**	**36.16 266**	P	**P**	**22 58 50.2 -1.2**
	comp=Z,370nm,1.2s						comp=Z,210nm,1.0s,comp=Z,4μm				
SOEI	**Soe**	**23.92 261**	*e*P	**P**	**22 57 05.7 +2.6**	**GIRL**	**Giralia**	**36.39 241**	P	**P**	**22 58 53.2 0.0**
	comp=Z,2μm,1.4s						baz=36,SNR=7.5				
SOEI	**Soe**	**23.92 261**	P	**P**	**22 57 06.4 +3.4**	**GIRL**	**Giralia**	**36.39 241**	*e*P	**P**	**22 58 52.3 -0.9**
	comp=Z,829nm,1.2s,comp=Z,22μmcomp=Z,162μm						comp=Z,1μm,1.3s				
MARNC	**Mare, Loyalty**	**24.12 130**	*e*P	**P**	**22 57 06.3 +1.6**	**ABRA**	**Dolores**	**36.40 312**	*e*P	P	22 59 06.4 +13
	comp=Z,2μm,1.5s					**BTM**	**Bintulu**	**36.45 285**	P	**P**	**22 58 55.6 +1.7**
BATI	**Baumata**	**24.56 260**	P	**P**	**22 57 11.0 +2.2**	**NGJI**	**Ngawi**	**36.51 267**	P	**P**	**22 58 54.5 +0.2**
	comp=Z,414nm,1.0s,comp=Z,11μmcomp=Z,49μm					**PCJI**	**Pacitan**	**36.78 265**	P	**P**	**22 58 59.5 +2.9**
BATI	**Baumata**	**24.56 260**	P	**P**	**22 57 09.7 +0.9**		comp=Z,454nm,1.2s,comp=Z,7μm				
	comp=Z,129nm,0.7s,baz=89,slow=2.6,SNR=8.6					**WOJI**	**Wonogiri, Jawa**	**37.03 266**	P	**P**	**22 58 58.0 -0.8**
FITZ	**Fitzroy Crossi**	**24.78 241**	P	**P**	**22 57 08.8 -1.9**	**SBUM**	**Sibu**	**37.09 283**	*e*P	**P**	**22 59 00.1 +0.8**
	baz=25,SNR=292						comp=Z,397nm,1.8s				
FITZ	**Fitzroy Crossi**	**24.78 241**	*e*P	**P**	**22 57 09.6 -1.2**	**SBUM**	**Sibu**	**37.09 283**	P	**P**	**22 59 00.3 +1.0**
	comp=Z,2μm,1.2s					**SBUM**	**Sibu**	**37.09 283**	P	P	22 59 00.4 +1.0
FITZ			*e*S	**S**	**23 01 31.6 +0.1**	**UGM**	**Wanagama**	**37.43 266**	*e*P	**P**	**22 59 04.4 +2.1**
FITZ	**Fitzroy Crossi**	**24.78 241**	P	**P**	**22 57 09.6 -1.2**		comp=Z,993nm,1.4s				
	comp=Z,65nm,0.4s,baz=53,slow=9.0,SNR=115					**UGM**	**Wanagama**	**37.43 266**	P	**P**	**22 59 01.6 -0.6**
FITZ			S	**S**	**23 01 31.7 +0.1**	**SMRI**	**Semarang**	**37.53 267**	P	**P**	**22 59 07.5 +4.4**
	comp=Z,25nm,1.1s,baz=107,slow=19,SNR=1.9					**MORW**	**Morawa**	**37.65 230**	P	**P**	**22 59 02.6 -1.3**
FITZ			LR	LR	23 08 10.5		baz=38,SNR=10				
	comp=Z,125μm,21.0s,baz=60,slow=40					**MORW**	**Morawa**	**37.65 230**	*e*P	**P**	**22 59 02.9 -1.0**
CMSA	**Cobar Meteorol**	**24.83 185**	P	**P**	**22 57 10.6 -0.4**		comp=Z,603nm,1.4s				
	baz=25,SNR=26					**KLBR**	**Kellerberrin**	**37.74 225**	P	**P**	**22 59 02.5 -2.1**
KMSI	**Cibinong**	**25.27 286**	P	**P**	**22 57 15.5 +0.3**		baz=38,SNR=44				
BBSI	**Bau Bau**	**25.55 271**	P	**P**	**22 57 23.3 +5.5**	**BLDU**	**Ballidu**	**37.95 227**	P	**P**	**22 59 05.1 -1.3**
MATI	**Mati**	**25.78 301**	*e*P	**P**	**22 57 14.8 -5.1**		baz=38,SNR=12				
STKA	**Stephens Creek**	**25.81 193**	P	**P**	**22 57 20.0 +0.1**	**KSM**	**Kuching**	**38.72 281**	*e*P	**P**	**22 59 13.5 +0.3**
	baz=26,SNR=16						comp=Z,626nm,1.9s				
STKA	**Stephens Creek**	**25.81 193**	*e*P	**P**	**22 57 18.0 -1.9**	**KSM**	**Kuching**	**38.72 281**	P	**P**	**22 59 14.2 +1.1**
	comp=Z,77nm,1.3s					**NWAO**	**Narrogin (SRO)**	**38.86 224**	P	**P**	**22 59 14.6 +0.5**
STKA	**Stephens Creek**	**25.81 193**	*e*P	**P**	**22 57 18.0 -1.9**		baz=39,SNR=12				
STKA			pmax	pmax		**NWAO**	**Narrogin (SRO)**	**38.86 224**	*e*P	**P**	**22 59 14.6 +0.5**
	comp=Z,77nm,1.3s						comp=Z,208nm,1.1s				
STKA	**Stephens Creek**	**25.81 193**	P	**P**	**22 57 17.9 -1.9**	NWAO			LR	LR	
	comp=Z,39nm,0.9s,baz=358,slow=9.2,SNR=40						comp=Z,162μm,20.0s				
STKA			LR	LR	23 08 35.4	**NWAO**	**Narrogin (SRO)**	**38.86 224**	*e*P	**P**	**22 59 14.6 +0.5**
	comp=Z,127μm,18.8s,baz=11,slow=39					NWAO			pmax	pmax	
MMRI	**Maumere**	**25.84 264**	*e*P	**P**	**22 57 20.5 +0.1**		comp=Z,208nm,1.1s				
	comp=Z,978nm,1.2s					NWAO			MLR	MLR	
MMRI	**Maumere**	**25.84 264**	P	**P**	**22 57 19.6 -0.8**		comp=Z,162μm,20.0s				
RAO	**Raoul Island**	**38.99 129**	PFAKE		22 59 30.0 +15	**IPM**	**Ipoh**	**48.42 282**	*e*P	**P**	**23 00 30.8 -0.6**
RAO			LR	LR			comp=Z,135nm,1.0s				
	comp=Z,73μm,19.0s					**IPM**	**Ipoh**	**48.42 282**	P	**P**	**23 00 32.1 +0.7**
RAO	**Raoul Island**	**38.99 129**	LR	LR	23 12 37.9						
	comp=Z,37μm,20.4s,baz=295,slow=32										
KPJI	**Karang Pucung**	**39.02 267**	P	**P**	**22 59 16.3 +0.7**						
MUN	**Mundaring**	**39.05 226**	P	**P**	**22 59 15.6 0.0**						
	baz=39,SNR=12										
CMJI	**Cimerak**	**39.48 266**	P	**P**	**22 59 19.6 +0.1**						
JCJI	**Jatiwangi**	**39.70 268**	P	**P**	**22 59 23.5 +2.2**						
AFI	**Afiamalu**	**39.94 104**	P	**P**	**22 59 24.2 +0.9**						
	comp=Z,46nm,0.9s,baz=278,slow=19,SNR=2.6										
AFI			LR	LR	23 13 09.6						
	comp=Z,88μm,21.9s,baz=268,slow=32										
RKGY	**Rocky Gully**	**40.02 222**	P	**P**	**22 59 24.3 +0.6**						
	baz=40,SNR=7.2										
KNTN	**Kanton**	**40.08 86**	*e*pP	pP	22 59 32.7 +0.4						
CISI	**Cisompet, Garu**	**40.12 266**	*e*P	**P**	**22 59 23.8 -1.0**						
	comp=Z,1μm,1.2s										
CISI	**Cisompet, Garu**	**40.12 266**	P	**P**	**22 59 22.8 -2.0**						
NACB	**Ninganchiao**	**40.21 321**	*e*pP	pP	22 59 34.1 +0.6						
YHNB	**Yeheng**	**40.71 321**	*e*P	**P**	**22 59 31.4 +1.8**						
	comp=Z,192nm,1.3s										
TATO	**Taipei**	**40.86 321**	PFAKE		22 59 40.0 +9.3						
TATO			LR	LR							
	comp=Z,60μm,21.0s										
URZ	**Urewera**	**40.87 144**	P	**P**	**22 59 30.0 -0.6**						
	comp=Z,10nm,0.8s,baz=228,slow=13,SNR=2.5										
CBJI	**Cilteko**	**41.12 268**	P	**P**	**22 59 34.9 +1.9**						
BKZ	**Black Stump Fm**	**41.14 146**	*e*P	**P**	**22 59 36.0 +3.0**						
	comp=Z,55nm,1.2s										
THZ	**Tophouse**	**41.22 152**	*e*P	**P**	**22 59 33.8 +0.3**						
	comp=Z,203nm,1.6s										
SKJI	**Sukabumi**	**41.38 267**	P	**P**	**22 59 34.5 -0.7**						
LTZ	**Lake Taylor**	**41.73 153**	*e*P	**P**	**22 59 39.0 +1.3**						
	comp=Z,190nm,1.4s										
SNZO	**South Karori**	**41.75 150**	*e*P	P	22 59 43.0 +5.2						
	comp=Z,431nm,1.8s										
SNZO			LR	LR							
	comp=Z,159μm,20.0s										
RPZ	**Rata Peaks**	**41.95 155**	*e*P	**P**	**22 59 40.8 +1.3**						
RPZ	**Rata Peaks**	**41.95 155**	P	**P**	**22 59 38.2 -1.3**						
	comp=Z,6.8nm,0.3s,baz=212,slow=9.1,SNR=4.4										
DCZ	**Deep Cove**	**41.96 160**	*e*P	**P**	**22 59 39.5 0.0**						
	comp=Z,255nm,1.1s										
KHZ	**Kahutara**	**42.02 152**	*e*P	**P**	**22 59 39.6 -0.4**						
	comp=Z,225nm,1.5s										
WKZ	**Wanaka**	**42.08 158**	*e*P	**P**	**22 59 43.6 +3.1**						
	comp=Z,180nm,0.8s										
BFZ	**Birch Farm**	**42.08 148**	*e*P	**P**	**22 59 43.2 +2.6**						
	comp=Z,187nm,1.4s										
LBZ	**Lake Benmore**	**42.16 156**	*e*P	**P**	**22 59 41.2 +0.1**						
	comp=Z,496nm,1.9s										
PPBI	**Pangkal Pinang**	**42.21 274**	P	**P**	**22 59 42.8 +0.8**						
MLZ	**Mavora Lakes**	**42.21 159**	*e*P	**P**	**22 59 40.1 -1.5**						
	comp=Z,202nm,1.0s										
XMIS	**Christmas Isla**	**42.26 262**	*e*P	**P**	**22 59 44.3 +1.9**						
	comp=Z,255nm,1.0s										
PYZ	**Puysegur Point**	**42.42 161**	*e*P	**P**	**22 59 46.6 +3.4**						
	comp=Z,299nm,1.0s										
CRLZ	**Canterbury Las**	**42.52 154**	*e*P	**P**	**22 59 48.8 +4.8**						
	comp=Z,951nm,1.9s										
WHZ	**Wether Hill Ro**	**42.61 160**	*e*P	**P**	**22 59 45.3 +0.5**						
	comp=Z,386nm,1.5s										
MQZ	**McQueen's Vall**	**42.63 154**	*e*P	**P**	**22 59 46.3 +1.3**						
	comp=Z,294nm,1.5s										
QZH	**Quanzhou**	**42.69 319**	P	**P**	**22 59 46.2 +0.5**						
QZH			S	**S**	**23 06 09.1 +1.6**						
QZH			LR	LR							
	comp=Z,52μm,24.6s										
QZH			LR	LR							
	comp=Z,38μm,26.5s										
QZH			LR	LR							
	comp=Z,42μm,30.3s										
JNU	**Nakatsue**	**42.90 338**	*e*P	**P**	**22 59 49.1 +1.8**						
	comp=Z,138nm,1.2s										
JNU	**Nakatsue**	**42.90 338**	P	**P**	**22 59 45.5 -1.8**						
	comp=Z,15nm,0.9s,baz=127,slow=9.3,SNR=3.7										
KASI	**Kota Agung**	**43.50 269**	P	**P**	**22 59 53.4 +0.9**						
MDSI	**Maura Dua**	**43.90 270**	P	**P**	**22 59 54.9 -0.8**						
LWLI	**Liwa**	**43.98 270**	P	**P**	**22 59 56.1 -0.3**						
MJAR	**Matsushiro Arr**	**44.03 348**	P	**P**	**22 59 55.3 -1.0**						
	comp=Z,23nm,0.9s,baz=169,slow=8.5,SNR=16										
MJAR			LR	LR	23 18 05.8						
	comp=Z,39μm,18.7s,baz=190,slow=36										
MAJO	**Matsushiro**	**44.03 348**	*e*P	**P**	**22 59 55.6 -0.8**						
	comp=Z,171nm,1.3s										
MAJO			LR	LR							
	comp=Z,59μm,19.0s										
MAJO	**Matsushiro**	**44.03 348**⇓	*e*P	**P**	**22 59 55.3 -1.0**						
MAJO			pmax	pmax							
	comp=Z,53nm,1.0s										
MAJO			MLR	MLR							
	comp=Z,39μm,17.0s										
MAT	**Matsushiro**	**44.03 348**	P	**P**	**22 59 52.7 -3.6**						
MAT			S	**S**	**23 06 28.0 +1.2**						
MJB9	**Matsu-Tunnel**	**44.03 348**	*e*P	**P**	**22 59 55.6 -0.8**						
	comp=Z,175nm,1.3s										
TPRI	**Tanjung Pinang**	**44.28 278**	P	**P**	**23 00 00.2 +1.5**						
LHSI	**Lahat**	**44.61 271**	P	**P**	**23 00 01.8 +0.4**						
MYKOM	**Kota Tinggi**	**45.10 279**	*e*P	**P**	**23 00 05.2 -0.1**	

MCQ	**Macquarie Isla**	**48.44**	**172**	*e*P	**P**	**23 00 35.2**	**+4.4**
	comp=Z,477nm,1.5s						
MCQ	**Macquarie Isla**	**48.44**	**172**	*e*P	**P**	**23 00 35.2**	**+4.4**
MCQ				pmax	pmax		
	comp=Z,477nm,1.5s						
ERM	**Erimo**	**48.70**	**355**	PFAKE		23 00 40.0	+7.1
ERM				LR	LR		
	comp=Z,27µm,20.0s						
KULM	**Kulim**	**48.97**	**283**	*e*P	**P**	**23 00 35.7**	**+0.2**
	comp=Z,77nm,0.9s						
KULM	**Kulim**	**48.97**	**283**	P	**P**	**23 00 36.0**	**+0.4**
MNSI	**Mandailing Nat**	**49.13**	**277**	P	**P**	**23 00 35.5**	**-1.2**
WHN	**Wuhan**	**49.25**	**321**	⇓P	**P**	**23 00 36.5**	**-0.8**
WHN				LR	LR		
	comp=Z,56µm,13.8s						
WHN				LR	LR		
	comp=Z,309µm,43.5s						
SISI	**Saibi**	**49.30**	**274**	P	**P**	**23 00 39.2**	**+1.2**
	comp=Z,51nm,1.4s,comp=Z,3µm						
SKLT	**Songkhla**	**49.46**	**285**	P	P	23 00 45.9	+6.6
SKNT	**Sakolnakorn**	**49.67**	**299**	P	**P**	**23 00 42.2**	**+1.4**
	comp=Z,30nm,1.6s,comp=Z,2µm						
PSI	**Prapat**	**50.13**	**279**	*e*P	**P**	**23 00 42.8**	**-1.7**
	comp=Z,157nm,1.1s						
PSI	**Prapat**	**50.13**	**279**	*e*P	**P**	**23 00 42.8**	**-1.7**
PSI				pmax	pmax		
	comp=Z,157nm,1.1s						
SRAK	**Srakaew**	**50.25**	**294**	P	P	23 00 52.7	+7.5
PBSI	**Pulau Batu**	**50.28**	**275**	P	**P**	**23 00 46.0**	**+0.5**
	comp=Z,82nm,1.1s,comp=Z,4µm						
TRTT	**Trang**	**50.53**	**286**	P	**P**	**23 00 48.0**	**+0.7**
	comp=Z,32nm,2.0s,comp=Z,1µm						
YUK	**Yuzh-Kuril'sk**	**50.54**	**358**	*d i*P	**P**	**23 00 45.7**	**-1.2**
YUK				*e**PP	**pwP**	**23 01 01.2**	**+1.4**
YUK				*e*		23 01 59.2	
YUK				*e*		23 02 38.8	
YUK				*e*S	**S**	**23 07 58.9**	**-0.3**
YUK				pmax	pmax		
	comp=Z,252nm,1.5s						
YUK				pmax	pmax		
	comp=N,222nm,1.4s						
YUK				pmax	pmax		
	comp=E,378nm,1.4s						
YUK				pmax	pmax		
	comp=Z,465nm,2.3s						
ASAJ	**Asahikawa**	**50.83**	**355**	P	P	23 00 54.1	+5.0
	comp=Z,47nm,1.1s,baz=195,slow=7.5,SNR=5.3						
COCO	**West Island**	**50.94**	**260**	PFAKE		23 01 00.0	+10
COCO				LR	LR		
	comp=Z,20µm,20.0s						
CHAI	**Chaiyaphum**	**51.00**	**297**	P	**P**	**23 00 52.2**	**+1.3**
	comp=Z,17nm,0.9s,comp=Z,167nm						
GSI	**Gunungsitoli**	**51.19**	**277**	*e*P	**P**	**23 00 50.6**	**-1.8**
	comp=Z,687nm,1.8s						
GSI	**Gunungsitoli**	**51.19**	**277**	P	**P**	**23 00 51.7**	**-0.7**
KCSI	**Kotacane, Aceh**	**51.40**	**280**	P	**P**	**23 00 50.4**	**-3.5**
DL2	**Dalian**	**51.66**	**334**	P	P	23 01 04.5	+9.1
DL2				pP	pwP	23 01 24.8	+18
DL2				S	S	23 08 27.7	+13
DL2				pmax	pmax		
	comp=Z,32nm,1.1s						
DL2				pmax	pmax		
	comp=Z,2µm,6.0s						
DL2				LR	LR		
	comp=N,49µm,19.7s						
DL2				LR	LR		
	comp=E,32µm,23.5s						
DL2				LR	LR		
	comp=Z,77µm,22.9s						
KUR	**Kuril'sk**	**51.69**	**360**	*d i*P	P	23 01 11.3	+16
KUR				*e*		23 02 10.0	
KUR				*e*		23 02 54.8	
KUR				*e*PPP	PPP	23 03 58.5	
KUR				*e*S	S	23 08 33.2	+18
KUR				*e*SS	SS	23 11 40.8	-11
KUR				*e*SSS	SSS	23 13 31.1	
KUR				pmax	pmax		
	comp=Z,285nm,1.4s						
KUR				pmax	pmax		
	comp=Z,3µm,8.8s						
KUR				MLR	MLR		
	comp=N,11µm,16.0s						
KUR				MLR	MLR		
	comp=Z,11µm,16.0s						
TIA	**Tai'an**	**51.72**	**328**	P	**P**	**23 00 53.7**	**-2.2**
TIA				pP	**pwP**	**23 01 09.4**	**+1.5**
TIA				LR	LR		
	comp=Z,19µm,23.5s						
TIA				LR	LR		
	comp=Z,22µm,15.7s						
TIA				LR	LR		
	comp=Z,32µm,27.8s						
VLA	**Vladivostok**	**51.76**	**345**	⇓*e*P	**P**	**23 00 52.6**	**-3.5**
VLA				pmax	pmax		
	comp=Z,18nm,0.5s						
VLA				MLR	MLR		
	comp=Z,30µm,19.0s						
PKDT	**Phuket**	**51.84**	**285**	P	**P**	**23 00 57.5**	**+0.3**
	comp=Z,76nm,1.0s,comp=Z,2µm						
GYA	**Guiyang**	**52.07**	**311**	P	**P**	**23 01 01.2**	**+2.3**
GYA				pP	pwP	23 01 10.6	+0.5
GYA				PP	**PP**	**23 03 01.0**	**+3.7**
GYA				S	**S**	**23 08 22.8**	**+1.6**
GYA				pmax	pmax		
	comp=Z,50nm,1.0s						
GYA				LR	LR		
	comp=Z,77µm,24.6s						
GYA				LR	LR		
	comp=Z,46µm,23.8s						
GYA				LR	LR		
	comp=Z,27µm,26.8s						
PHET	**Kaeng Krachan**	**52.08**	**292**	P	**P**	**23 01 01.0**	**+2.0**
	comp=Z,18nm,0.8s,comp=Z,204nm						
PBKT	**Sadao Pong**	**52.16**	**297**	*e*P	**P**	**23 01 00.3**	**+0.8**
PBKT	**Sadao Pong**	**52.16**	**297**	P	**P**	**23 01 01.7**	**+2.2**
	comp=Z,40nm,1.5s,comp=Z,4µm						
RAR	**Rarotonga**	**52.23**	**112**	*e*P	**P**	**23 00 58.9**	**-1.2**
	comp=Z,306nm,1.8s						
RAR				LR	LR		
	comp=Z,35µm,21.0s						
RAR	**Rarotonga**	**52.23**	**112**	*e*P	**P**	**23 00 58.9**	**-1.2**
RAR				pmax	pmax		
	comp=Z,307nm,1.8s						
RAR				MLR	MLR		
	comp=Z,35µm,21.0s						
RAR	**Rarotonga**	**52.23**	**112**	P	**P**	**23 00 58.9**	**-1.2**
	comp=Z,14nm,0.8s,baz=24,slow=18,SNR=3.2						
RAR				LR	LR	23 20 12.1	
	comp=Z,32µm,21.7s,baz=276,slow=32						
ENH	**Enshi**	**52.27**	**317**	*e*P	**P**	**23 00 59.0**	**-1.2**
	comp=Z,344nm,2.0s						
ENH				LR	LR		
	comp=Z,35µm,22.0s						
TEY	**Ternei**	**52.55**	**350**	⇑*e*P	P	23 01 13.9	+12
TEY				*e*S	S	23 08 40.1	+13
TEY				pmax	pmax		
	comp=N,20nm,1.8s						
TEY				pmax	pmax		
	comp=Z,20nm,1.7s						
TEY				pmax	pmax		
	comp=E,20nm,1.1s						
TEY				smax	smax		
	comp=N,8µm,28.7s						
TEY				smax	smax		
	comp=E,10µm,26.7s						
LHMI	**Lhok Sumawe**	**52.55**	**282**	*e*P	**P**	**23 01 02.9**	**+0.4**
	comp=E,269nm,1.2s						
LHMI	**Lhok Sumawe**	**52.55**	**282**	P	**P**	**23 01 02.6**	**+0.1**
SNSI	**Sinabang, Aceh**	**52.61**	**278**	P	**P**	**23 01 02.7**	**-0.2**
USA0B	**Ussuriysk Arra**	**52.74**	**345**	*e*P	**P**	**23 01 02.0**	**-1.4**
	comp=E,169nm,1.9s						
USA0B	**Ussuriysk Arra**	**52.74**	**345**	*e*P	**P**	**23 01 01.9**	**-1.4**
USRK	**Ussuriysk Ar.**	**52.74**	**345**	P	**P**	**23 01 01.9**	**-1.5**
	comp=E,12nm,0.7s,baz=177,slow=6.6,SNR=14						
USRK				PKPPKP	**P'P'df**	**23 31 34.9**	**+5.7**
	comp=E,2.7nm,0.7s,baz=147,slow=42,SNR=2.9						
MLSI	**Meulaboh, Aceh**	**52.88**	**280**	P	**P**	**23 01 03.1**	**-1.9**
UTTA	**Uttaradit**	**52.98**	**298**	P	**P**	**23 01 07.6**	**+2.0**
	comp=E,15nm,0.9s,comp=E,239nm						
UTHA	**Uthaitani**	**53.15**	**295**	P	**P**	**23 01 08.6**	**+1.7**
	comp=E,16nm,1.4s,comp=E,207nm						
NANT	**Nan**	**53.27**	**299**	P	**P**	**23 01 10.2**	**+2.5**
	comp=E,24nm,0.9s,comp=E,219nm						
SNY	**Shenyang**	**53.30**	**337**	⇑P	**P**	**23 01 06.9**	**-0.6**
SNY				pmax	pmax		
	comp=E,3µm,10.8s						
SNY				LR	LR		
	comp=E,74µm,25.5s						
SNY				LR	LR		
	comp=E,116µm,26.5s						
SNY				LR	LR		
	comp=E,70µm,27.5s						
YSS	**Yuzh-Sakhalins**	**53.64**	**355**	*oe*P	**P**	**23 01 14.1**	**+4.2**
YSS				*e*		23 02 10.0	
YSS				*e*PPP	PPP	23 04 23.0	
YSS				*e*S	**S**	**23 08 44.6**	**+3.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
YSS				pmax	pmax		
	comp=Z,500nm,5.4s						
SUKH	**Sukhothai**	**53.69**	**297**	P	**P**	**23 01 13.5**	**+2.7**
	comp=Z,17nm,1.1s						
MDJ	**Mudanjiang**	**53.77**	**344**	P	**P**	**23 01 09.9**	**-1.0**
MDJ				pP	pP	23 01 18.6	-0.3
MDJ				sP	pwP	23 01 22.5	-0.1
MDJ				pmax	pmax		
	comp=Z,400nm,9.2s						
MDJ				LR	LR		
	comp=Z,41µm,30.7s						
MDJ				LR	LR		
	comp=Z,70µm,30.7s						
MDJ				LR	LR		
	comp=Z,51µm,26.3s						
MDJ	**Mudanjiang**	**53.77**	**344**	*e*P	**P**	**23 01 10.7**	**-0.2**
	comp=Z,59nm,1.1s						
MDJ				LR	LR		
	comp=Z,59µm,22.0s						
UMPA	**Umpang Tak**	**53.91**	**296**	P	**P**	**23 01 14.4**	**+1.9**
	comp=Z,27nm,0.9s,comp=Z,252nm						
LAMP	**Lampang**	**54.09**	**298**	P	P	23 01 20.3	+6.6
CN2	**Changchun**	**54.33**	**340**	*e*P	**P**	**23 01 16.2**	**+1.2**
CN2				*e*sP	sP	23 01 25.1	-0.8
CN2				*e*S	**S**	**23 08 53.8**	**+2.6**
CN2				pmax	pmax		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=Z,45µm,21.0s						
CN2				LR	LR		
	comp=Z,60µm,21.0s						
CN2				LR	LR		
	comp=Z,36µm,22.0s						
KMI	**Kunming**	**54.40**	**307**	P	**P**	**23 01 20.2**	**+4.0**
KMI				pP	pwP	23 01 28.2	+0.5
KMI				sP	sP	23 01 32.0	+5.2
KMI				S	**S**	**23 08 57.5**	**+4.3**
KMI				LR	LR		
	comp=Z,16µm,19.4s						
KMI				LR	LR		
	comp=Z,16µm,21.3s						
KMI				LR	LR		
	comp=Z,62µm,29.1s						
CM01	**Chiang Mai Arr**	**54.64**	**298**	*e*P	**P**	**23 01 18.9**	**+1.1**
CM31	**Chiang Mai Arr**	**54.67**	**298**	*e*P	**P**	**23 01 17.4**	**-0.5**
	comp=Z,113nm,1.3s						
CM31	**Chiang Mai Arr**	**54.67**	**298**	P	**P**	**23 01 20.4**	**+2.4**
	SNR=14						
CMAR	**Chiang Mai Arr**	**54.67**	**298**	P	**P**	**23 01 17.5**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=120,slow=5.7,SNR=22						
CMAR				LR	LR	23 24 53.0	
	comp=Z,20µm,21.7s,baz=126,slow=36						
CMAR				PKPPKP		23 31 30.9	
	comp=Z,0.9nm,0.3s,baz=305,slow=3.2,SNR=3.8						
CMMT	**Chiang Mai**	**54.80**	**299**	P	**P**	**23 01 20.5**	**+1.6**
	comp=Z,46nm,1.6s,comp=Z,3µm						
CHTO	**Chiang Mai**	**54.80**	**299**	*e*P	**P**	**23 01 19.7**	**+0.8**
	comp=Z,92nm,1.3s						
CHTO				LR	LR		
	comp=Z,20µm,22.0s						
CHTO	**Chiang Mai**	**54.80**	**299**	P	P	23 01 24.2	+5.3
	SNR=20						
CHTO	**Chiang Mai**	**54.80**	**299**	P	**P**	**23 01 20.6**	**+1.7**
	comp=Z,208nm,1.6s,comp=Z,12µm						
XMAS	**Kiritimati**	**54.90**	**83**	*e*P	**P**	**23 01 20.8**	**+1.1**
	comp=Z,344nm,1.1s						
XAN	**Xi'an**	**55.00**	**320**	P	**P**	**23 01 17.4**	**-2.8**
XAN				pP	pP	23 01 28.4	+0.4
XAN				sP	pwP	23 01 34.0	+1.6
XAN				S	**S**	**23 09 05.3**	**+4.6**
XAN				ScS	**ScS**	**23 11 04.9**	**-2.8**
XAN				pmax	pmax		
	comp=Z,1µm,7.4s						
XAN				LR	LR		
	comp=Z,29µm,24.9s						
XAN				LR	LR		
	comp=Z,28µm,27.1s						
XAN				LR	LR		
	comp=Z,32µm,29.3s						
XAN	**Xi'an**	**55.00**	**320**	*e*P	**P**	**23 01 18.7**	**-1.5**
	comp=Z,330nm,1.9s						
XAN	**Xi'an**	**55.00**	**320**	*e*P	**P**	**23 01 18.7**	**-1.5**
XAN				pmax	pmax		
	comp=Z,330nm,1.9s						
BJT	**Baijiatuau**	**55.10**	**330**	PFAKE		23 01 30.0	+9.3
BJT				LR	LR		
	comp=Z,139µm,22.0s						
BJI	**Beijing**	**55.11**	**330**	P	**P**	**23 01 23.5**	**+2.8**
BJI				S	**S**	**23 09 05.6**	**+3.8**
BJI				LR	LR		
	comp=Z,8µm,22.6s						
TIY	**Taiyuan**	**55.37**	**326**	*e*P	P	23 01 36.9	+14
TIY				PP	PP	23 03 38.6	+12
TIY				S	**S**	**23 08 57.7**	**-7.8**
TIY				sS	sS	23 10 10.3	+52
TIY	**Taiyuan**	**55.37**	**326**	SS	**SKiKP**	**23 12 30.2**	**+4.6**
TIY				pmax	pmax		
	comp=Z,600nm,4.7s						
TIY				LR	LR		
	comp=N,12µm,15.8s						
TIY				LR	LR		
	comp=E,43µm,21.6s						
TIY				LR	LR		
	comp=Z,54µm,18.9s						
CMBY	**CAMPBELL BAY**	**55.87**	**283**	*e*P	**P**	**23 01 26.8**	**+0.1**
CMBY				IAmb	IAmb	23 01 42.7	
	comp=Z,134nm,0.9s						
CD2	**Chengdu**	**56.64**	**314**	P	**P**	**23 01 35.1**	**+3.1**
CD2				PP	**PP**	**23 03 42.7**	**+4.4**
CD2				SS	**SS**	**23 13 08.7**	**-2.2**
CD2				pmax	pmax		
	comp=Z,4µm,14.5s						
CD2				LR	LR		
	comp=Z,83µm,22.7s						
CD2				LR	LR		
	comp=Z,48µm,19.0s						
CD2				LR	LR		
	comp=Z,60µm,19.6s						
KLR	**Kul'dur**	**57.53**	**347**	*d i*P	**P**	**23 01 37.3**	**-0.5**
KLR	**Kul'dur**	**57.53**	**347**	P	**P**	**23 01 36.5**	**-1.4**
	comp=Z,16nm,0.9s,baz=155,slow=6.8,SNR=8.1						
TYV	**Tymovskoe**	**57.53**	**356**	*e*P	**P**	**23 01 37.5**	**-0.3**
TYV				pmax	pmax		
	comp=Z,19nm,1.1s						
SKR	**Severo-Kuril's**	**57.55**	**6**	*e*P	**P**	**23 01 38.9**	**+1.0**
SKR				*e*PPP	PPP	23 05 04.8	
SKR				*e*S	**S**	**23 09 40.5**	**+6.8**
SKR				*e*SSS	SSS	23 15 38.5	
SKR				pmax	pmax		
	comp=Z,2µm,11.8s						
SKR				pmax	pmax		
	comp=Z,3µm,9.7s						
SKR				smax	smax		
	comp=E,11µm,17.4s						
SKR				smax	smax		
	comp=N,16µm,17.7s						
SKR				MLR	MLR		
	comp=Z,18µm,19.0s						
SKR				MLR	MLR		
	comp=Z,16µm,19.0s						
HHC	**Hu-ho-hao-te**	**58.07**	**328**	*e*P	P	23 01 54.2	+12
HHC				pP	pwP	23 02 06.1	+12
HHC				S	S	23 09 52.4	+11
HHC				sS	sS	23 10 23.3	+29
HHC	**Hu-ho-hao-te**	**58.07**	**328**	SS	SS	23 13 48.0	+15
HHC				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC				pmax	pmax		
	comp=Z,1µm,4.7s						
HHC				LR	LR		
	comp=N,55µm,18.1s						
HHC				LR	LR		
	comp=E,37µm,19.9s						
HHC				LR	LR		
	comp=Z,70µm,18.1s						
PBA	**Port Blair**	**58.14**	**288**	*e*P	P	23 01 43.4	+0.7
PBA				IAmb	IAmb	23 01 57.7	
	comp=Z,49nm,1.1s						
BTO	**Baotou**	**58.73**	**327**	*e*P	P	23 02 00.2	+14
BTO				S	S	23 10 02.0	+12
LZH	**Lanzhou**	**59.54**	**319**	*e*P	**P**	**23 01 51.8**	**-0.6**
LZH				pP	pP	23 01 58.2	-2.0
LZH				sP	sP	23 02 01.0	-2.2
LZH				*e*S	**S**	**23 10 02.3**	**+1.7**
LZH				sS	pS	23 10 09.6	-0.8
LZH				pmax	pmax		
	comp=Z,530nm,1.4s						
LZH				pmax	pmax		
	comp=Z,3µm,6.5s						
LZH				LR	LR		
	comp=Z,43µm,17.1s						
LZH				LR	LR		
	comp=Z,48µm,17.5s						
LZH				LR	LR		
	comp=Z,79µm,19.0s						
KIP	**Kipapa**	**59.65**	**61**	PFAKE		23 02 10.0	+17
KIP				LR	LR		
	comp=Z,43µm,20.0s						
NKL	**Nikolayevsk**	**59.96**	**355**	*e*P	**P**	**23 01 53.0**	**-1.6**
NKL				*e*		23 10 10.0	
NKL				pmax	pmax		
	comp=Z,290nm,2.0s						
NKL				pmax	pmax		
	comp=Z,3µm,14.0s						
NKL				MLR	MLR		
	comp=N,11µm,20.0s						
NKL				MLR	MLR		
	comp=Z,16µm,20.0s						
PETK	**Petropavlovsk-**	**60.12**	**7**	*e*P	**P**	**23 01 55.4**	**-0.3**
PETK	**Petropavlovsk-**	**60.12**	**7**	*e*P	**P**	**23 01 55.4**	**-0.3**
PETK	**Petropavlovsk-**	**60.12**	**7**	P	**P**	**23 01 55.0**	**-0.7**
	comp=Z,11nm,0.9s,baz=188,slow=10,SNR=8.0						
PEA1	**Petropavlovsk-**	**60.12**	**7**	*e*P	**P**	**23 01 55.0**	**-0.8**
PET	**Petropavlovsk**	**60.15**	**7**	PFAKE		23 02 10.0	+14
PET				LR	LR		
	comp=Z,38µm,21.0s						
PET	**Petropavlovsk**	**60.15**	**7**	*e*P	**P**	**23 01 56.4**	**+0.5**
PET				*e*S	**S**	**23 10 04.9**	**-2.4**
PET				*e*SS	**SS**	**23 14 07.0**	**+2.0**
PET				pmax	pmax		
	comp=Z,3µm,12.9s						
PET				pmax	pmax		
	comp=Z,3µm,12.3s						
PET				pmax	pmax		
	comp=Z,65nm,1.1s						
PET				smax	smax		
	comp=N,4µm,14.7s						
PET				smax	smax		
	comp=N,5µm,17.9s						
HIA	**Hailar**	**61.04**	**339**	*e*P	**P**	**23 02 00.8**	**-1.3**
	comp=N,89nm,1.3s						
HIA				LR	LR		
	comp=Z,29µm,19.0s						
HIA	**Hailar**	**61.04**	**339**	*de*P	**P**	**23 02 01.2**	**-0.9**
HIA				pmax	pmax		
	comp=Z,42nm,1.4s						
HIA				MLR	MLR		
	comp=Z,25µm,17.0s						
POHA	**Pohakuloa**	**61.24**	**63**	PFAKE		23 02 20.0	+16
POHA				LR	LR		
	comp=Z,60µm,19.0s						
PAE	**Paea**	**61.51**	**106**	*e*P	**P**	**23 02 09.6**	**+3.7**
	comp=Z,8.2nm,0.7s						
PPT	**Papeete**	**61.51**	**106**	*e*P	**P**	**23 02 04.9**	**-1.1**
PPT				*e*pP	**sP**	**23 02 17.5**	**+0.3**
PPT	**Papeete**	**61.51**	**106**	*e*P	**P**	**23 02 04.9**	**-1.1**
PPT				*e**PP	**sP**	**23 02 17.5**	**+0.3**
PPT	**Papeete**	**61.51**	**106**	P	**P**	**23 02 04.9**	**-1.1**
	comp=Z,20nm,0.7s,baz=308,slow=23,SNR=1.8						
PPT				LR	LR	23 24 08.4	
	comp=Z,12µm,21.5s,baz=271,slow=32						
PPT2	**Papeete2**	**61.51**	**106**	*e*P	**P**	**23 02 10.3**	**+4.2**
	comp=Z,104nm,1.4s						
PPT2				*e*S	**S**	**23 10 27.0**	**+0.7**
	comp=Z,29µm,27.5s						
PPT2				*e*LQ	LQ	23 17 44.7	
	comp=Z,193µm,30.8s						
PPT2				*e*LR	LR	23 20 17.7	
	comp=Z,70µm,25.5s,baz=282						
TIAR	**Tiarei**	**61.73**	**106**	*e*P	**P**	**23 02 11.5**	**+4.0**
	comp=Z,29nm,1.0s						
TVO	**Taravao**	**61.83**	**107**	*e*P	**P**	**23 02 12.0**	**+3.8**
	comp=Z,25nm,0.9s						
TBI	**Tubuai**	**61.96**	**113**	*e*P	**P**	**23 02 12.5**	**+3.6**
	comp=Z,361nm,1.2s						
TBI				*e*S	**S**	**23 10 33.2**	**+1.5**
	comp=Z,19µm,39.0s						
TBI				*e*LQ	LQ	23 17 58.1	
	comp=Z,74µm,32.5s						
TBI				*e*LR	LR	23 20 35.3	
	comp=Z,35µm,29.8s,baz=283						
ZEA	**Zeya**	**62.76**	**346**	*e*P	**P**	**23 02 11.8**	**-1.8**
ZEA				*e*S	**S**	**23 10 43.0**	**+2.4**
ZEA				*e*SSS	SSS	23 17 27.0	
ZEA				pmax	pmax		
	comp=N,65nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,89nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,3µm,13.0s						
ZEA				pmax	pmax		
	comp=N,900nm,12.0s						
ZEA				pmax	pmax		
	comp=Z,2µm,10.0s						
ZEA				pmax	pmax		
	comp=N,1µm,12.0s						
ZEA				smax	smax		
	comp=N,8µm,16.0s						
SHL	**Shillong**	**63.43**	**303**	*e*P	**P**	**23 02 18.7**	**-0.1**
	comp=N,234nm,1.4s						
SHL	**Shillong**	**63.43**	**303**	*e*P	**P**	**23 02 18.7**	**-0.1**
SHL				pmax	pmax		
	comp=Z,234nm,1.4s						
SHL	**Shillong**	**63.43**	**303**	*e*P	**P**	**23 02 18.2**	**-0.7**
SHL				*e*P	**P**	**23 02 20.0**	**+1.1**
SHL				IAmb	IAmb	23 02 27.2	
	comp=Z,45nm,1.2s						
SHL				*ex*	x	23 10 54.0	
GTA	**Gaotai**	**64.07**	**320**	⇑P	**P**	**23 02 20.5**	**-2.2**
GTA				S	S	23 10 46.5	-11
GTA				pmax	pmax		
	comp=Z,290nm,6.5s						
GTA				LR	LR		
	comp=Z,20µm,18.9s						
GTA				LR	LR		
	comp=Z,15µm,20.3s						
GTA				LR	LR		
	comp=Z,33µm,21.3s						
CASY	**Casey**	**64.92**	**196**	*e*P	**P**	**23 02 28.3**	**+0.7**
	comp=Z,68nm,1.1s						
CASY				LR	LR		
	comp=Z,7µm,22.0s						
ADK	**Adak**	**65.61**	**23**	PFAKE		23 02 40.0	+7.7
ADK				LR	LR		
	comp=Z,73µm,21.0s						
SONA0	**Songino Array**	**65.61**	**330**	*e*P	**P**	**23 02 31.6**	**-1.1**
SONM	**Songino Array**	**65.61**	**330**	P	**P**	**23 02 31.5**	**-1.1**
	comp=Z,12nm,1.0s,baz=149,slow=6.5,SNR=23						
SONM				PKP2ab		23 31 18.0	
	comp=Z,1.6nm,0.9s,baz=222,slow=1.9,SNR=8.0						
LSA	**Lhasa**	**65.64**	**307**	P	**P**	**23 02 33.5**	**-0.1**
LSA				S	**S**	**23 11 20.3**	**+2.1**
LSA				LR	LR		
	comp=Z,8µm,30.5s						
LSA				LR	LR		
	comp=Z,6µm,27.1s						
LSA				LR	LR		
	comp=Z,33µm,33.9s						
LSA	**Lhasa**	**65.64**	**307**	*e*P	**P**	**23 02 33.6**	**-0.1**
	comp=Z,87nm,1.3s						
LSA				LR	LR		
	comp=Z,14µm,21.0s						
LSA	**Lhasa**	**65.64**	**307**	*e*P	**P**	**23 02 33.6**	**-0.1**
LSA				pmax	pmax		
	comp=Z,87nm,1.3s						
LSA				MLR	MLR		
	comp=Z,14µm,21.0s						
MA2	**Magadan**	**66.09**	**1**	*e*P	**P**	**23 02 33.9**	**-1.3**
	comp=Z,72nm,1.3s						
MA2				LR	LR		

comp=Z,30µm,21.0s
MA2 Magadan 66.09 1⇓ *e*P P **23 02 34.0 -1.3**
MA2 pmax pmax
comp=Z,19nm,1.5s
MA2 MLR MLR
comp=Z,14µm,18.0s
MA2 Magadan 66.09 1 P P **23 02 36.1 +0.8**
comp=Z,8.7nm,0.7s,baz=164,slow=7.6,SNR=11
BOK Bokaro 67.94 299 *e*P P **23 02 47.1 -0.6**
BOK lAmb lAmb 23 03 09.9
comp=Z,101nm,1.6s
RAMN Ramite 68.35 302 *e*P P **23 02 49.4 -1.2**
comp=Z,29nm,0.6s
PALK Pallekele 68.78 280 *e*P P **23 02 54.1 +0.8**
comp=Z,101nm,1.4s
PALK Pallekele 68.78 280*ce*P P **23 02 51.7 -1.6**
ZAK Zakamensk 68.84 331 *e*P P **23 02 51.6 -1.4**
ZAK pmax pmax
comp=Z,31nm,1.1s
JIRN Jiri 68.94 303 *e*P P **23 02 53.0 -1.4**
SEY Seymchan 69.50 2⇑ *e*P P **23 02 56.0 -0.7**
SEY Seymchan 69.50 2 P P **23 02 55.5 -1.2**
comp=Z,1.0nm,0.3s,baz=213,slow=6.7,SNR=6.0
SEY LR LR 23 30 40.5
comp=Z,20µm,20.9s,baz=188,slow=34
TLY Talaya 69.53 332 PFAKE 23 03 10.0 +13
TLY LR LR
comp=Z,35µm,22.0s
TLY Talaya 69.53 332 *e*P P **23 02 56.9 -0.3**
TLY *e*S S **23 12 05.7 +2.6**
TLY *e* 23 12 52.6
TLY pmax pmax
comp=Z,88nm,2.0s
TLY MLR MLR
comp=Z,43µm,16.0s
PKI Pulchoki 69.56 303 *e*P P **23 02 56.7 -1.5**
comp=Z,98nm,1.4s
PKIN Phulchoki 69.57 303 *e*P P **23 02 56.5 -1.7**
comp=Z,77nm,1.4s
IRK Irkutsk 69.62 333 *e*P P **23 02 56.6 -1.1**
IRK *e* 23 07 10.8
IRK pmax pmax
comp=Z,193nm,4.0s
KKN Kakani 69.74 303 *e*P P **23 02 57.9 -1.3**
comp=Z,87nm,1.3s
DMN Daman 69.83 302 *e*P P **23 02 58.5 -1.3**
comp=Z,141nm,1.3s
YAK Yakutsk 70.02 351 *e*P P **23 02 57.8 -2.0**
YAK *e**PP **pP** **23 03 08.2 +0.2**
YAK *e* 23 03 18.0
YAK *e* 23 05 34.4
YAK *e*PPP PPP 23 07 20.5
YAK eS **S** **23 12 06.8 -1.5**
YAK *e**SS **SKiKP** **23 12 34.6 -10**
YAK *e* 23 13 00.8
YAK pmax pmax
comp=Z,82nm,1.3s
YAK pmax pmax
comp=N,39nm,1.3s
YAK pmax pmax
comp=E,21nm,1.2s
YAK pmax pmax
comp=Z,2µm,4.0s
YAK pmax pmax
comp=N,1µm,3.7s
YAK pmax pmax
comp=E,679nm,3.8s
YAK smax smax
comp=N,2µm,4.2s
YAK smax smax
comp=E,4µm,4.3s
YAK MLR MLR
comp=Z,46µm,17.0s
YAK MLR MLR
comp=N,25µm,19.0s
YAK MLR MLR
comp=E,33µm,19.0s
BOD Bodaibo 70.03 341 *e*P P **23 02 58.2 -1.8**
BOD pmax pmax
comp=Z,34nm,2.0s
MDRS Chennai 70.33 286 *e*P P **23 03 02.8 +0.1**
MDRS lAmb lAmb 23 03 13.2
comp=Z,27nm,0.9s
GKN Gorkha 70.35 303 *e*P P **23 03 01.1 -1.7**
comp=Z,153nm,1.4s
MOY Mondy 70.78 331 *e*P P **23 03 02.8 -2.1**
MOY pmax pmax
comp=Z,135nm,3.3s
TAOE Nuku Hiva Isla 70.89 97 *e*S S **23 12 21.2 +0.7**
comp=Z,22µm,29.1s
TAOE *e*LQ LQ 23 21 47.0
comp=Z,36µm,23.8s
TAOE *e*LR LR 23 24 44.3
comp=Z,57µm,22.1s,baz=269
KOLN Koldanda 71.14 302 *e*P P **23 03 05.7 -2.0**
comp=Z,97nm,1.1s
VNDA Vanda 71.15 177 *e*P P **23 03 05.3 -1.4**
comp=Z,68nm,1.3s
VNDA Vanda 71.15 177 *e*P P **23 03 05.3 -1.4**
VNDA pmax pmax
comp=Z,69nm,1.3s
VNDA Vanda 71.15 177 P P **23 03 05.2 -1.4**
comp=Z,7.7nm,0.8s,baz=332,slow=7.6,SNR=24
VNDA LR LR 23 32 19.4
comp=Z,32µm,18.8s,baz=358,slow=34
DANN Dangsing 71.19 303 *e*P P **23 03 05.8 -2.4**
comp=Z,153nm,1.6s
PYUN Piuthan 71.76 302 *e*P P **23 03 09.2 -2.3**
comp=Z,85nm,1.2s
SBA Scott Base 71.78 176 *e*P P **23 03 12.5 +2.1**
comp=Z,283nm,1.8s
SBA LR LR
comp=Z,29µm,20.0s
SBA Scott Base 71.78 176 *e*P P **23 03 12.5 +2.1**
SBA pmax pmax
comp=Z,283nm,1.8s
SBA MLR MLR
comp=Z,29µm,20.0s
TRD Trivandrum 72.65 281 *e*P P **23 03 16.7 -0.1**
TRD lAmb lAmb 23 03 27.4
comp=Z,116nm,1.2s
HYB Hyderabad 72.86 290 *i* P P **23 03 18.0 0.0**
HYB eS **S** **23 12 42.0 -0.9**
HYB Hyderabad 72.86 290 *e*P P **23 03 17.7 -0.3**
HYB lAmb lAmb 23 03 27.2
comp=Z,82nm,1.4s
JBP Jabalpur 72.95 297 *e*P P **23 03 18.6 +0.2**
JBP *ex* x 23 06 55.1
JBP AMS AMS 23 33 50.3
comp=Z,2µm,12.3s
NGP Nagpur 73.27 294 *e*P P **23 03 19.3 -1.1**
NGP *ex* x 23 13 01.1
NGP *ex* x 23 41 31.2
comp=Z,12µm,20.4s
WMQ Urumqi 74.12 319 P P **23 03 23.4 -1.6**
WMQ sP PcP 23 03 40.2 +0.2
WMQ S **S** **23 12 55.9 -0.5**
WMQ sS pS 23 13 07.1 +1.0
WMQ pmax pmax
comp=Z,400nm,6.9s
WMQ LR LR
comp=Z,53µm,24.3s
WMQ LR LR
comp=Z,49µm,32.9s
WMQ LR LR
comp=Z,31µm,38.8s
WMQ Urumqi 74.12 319 *e*P P **23 03 24.7 -0.3**
comp=Z,103nm,1.5s
WMQ Urumqi 74.12 319 *e*P P **23 03 24.7 -0.3**
WMQ pmax pmax
comp=Z,103nm,1.5s
DGAR Diego Garcia 75.13 264 PFAKE 23 03 40.0 +8.7
DGAR LR LR
comp=Z,9µm,22.0s
BHPL Bhopal 75.24 296 *e*P P **23 03 30.0 -1.8**
BHPL lAmb lAmb 23 03 44.4
comp=Z,124nm,1.8s
RKT Rikitea 75.27 112 *e*P P **23 03 35.1 +3.1**
comp=Z,122nm,1.1s
BILL Bilibino 75.64 7 *e*P P **23 03 32.8 -0.4**
comp=Z,126nm,1.9s
BILL LR LR
comp=Z,27µm,21.0s
BILL Bilibino 75.64 7⇑ *e*P P **23 03 32.7 -0.4**
BILL *e* 23 03 46.6
BILL *e* 23 06 23.6
BILL *i* S S **23 13 12.9 +0.7**
BILL *i* SS SS **23 18 05.7 +1.6**
BILL pmax pmax
comp=Z,23nm,3.5s
BILL MLR MLR
comp=Z,12µm,20.0s
MNCI Minicoy 76.42 280 *e*P P **23 03 40.1 +1.5**
comp=Z,746nm,1.5s
MNCY Minicoy 76.44 280 *e*P P **23 03 38.7 -0.2**
DDI Dehra Dun 76.53 303 *e*P P **23 03 38.9 -0.2**
DDI lAmb lAmb 23 03 40.6
comp=Z,19nm,0.5s
NDI New Delhi 76.80 301 *e*P P **23 03 38.3 -2.3**
NDI *ex* x 23 12 26.5
GOA Goa 76.91 288 *e*P P **23 03 42.1 +0.7**
GOA lAmb lAmb 23 03 54.9
comp=Z,74nm,1.2s
ZSN Zaisan 77.47 322 *e*P P **23 03 42.0 -1.9**
ZSN eS **S** **23 13 34.6 +1.6**
ZSN pmax pmax
comp=Z,17nm,1.7s
ZSN smax smax
comp=N,1µm,5.2s
ZSN MLR MLR
comp=Z,2µm,19.0s
ZSN Zaisan 77.47 322 *e*P P **23 03 42.0 -1.9**
comp=Z,17nm,1.7s
ZSN *e*S S **23 13 34.7 +1.6**
comp=Z,1µm,5.2s
ZSN *e*LR LR 23 39 10.8
comp=Z,2µm,18.7s
POO Poona 77.47 291 *e*P P **23 03 44.1 -0.5**
POO lAmb lAmb 23 03 58.2
comp=Z,50nm,0.9s
SMLA Simla 77.49 304 *e*P P **23 03 42.8 -1.5**
SMLA lAmb lAmb 23 03 52.7
comp=Z,49nm,0.3s
DHRM DHARAMSHALA 78.50 305 *e*P P **23 03 49.2 -1.1**
DHRM lAmb lAmb 23 04 02.4
comp=Z,73nm,1.2s
MK01 Makanchi Array 78.80 320 *e*P P **23 03 49.1 -2.3**
MK31 Makanchi Array 78.82 320 *e*P P **23 03 49.5 -2.0**
comp=Z,56nm,1.5s
MK31 Makanchi Array 78.82 320 *e*P P **23 03 49.5 -2.0**
MK31 pmax pmax
comp=Z,56nm,1.5s
MK32 Makanchi Array 78.82 320 *e*P P **23 03 48.6 -2.8**
MKAR Makanchi Array 78.82 320*ce*P P **23 03 50.5 -1.0**
MKAR Makanchi Array 78.82 320 P P **23 03 48.6 -2.8**
comp=Z,6.9nm,1.0s,baz=104,slow=7.9,SNR=26
MKAR PKPPKP **P'P'df** **23 30 45.7 -2.5**
comp=Z,0.5nm,0.8s,baz=228,slow=1.7,SNR=3.6
MKAR LR LR 23 38 06.7
comp=Z,17µm,21.3s,baz=111,slow=35
ANM Nome 78.97 19 *e*P P **23 03 51.7 -0.2**
comp=Z,38nm,1.3s
MAKZ Makanchi 79.02 320 *e*P P **23 03 49.9 -2.7**
comp=Z,36nm,1.0s
MAKZ Makanchi 79.02 320 *e*P P **23 03 49.9 -2.7**
MAKZ pmax pmax
comp=Z,36nm,1.0s
TIXI Tiksi 79.23 354 *e*P P **23 03 51.1 -2.0**
comp=Z,22nm,1.2s
TIXI LR LR
comp=Z,20µm,21.0s
TIXI Tiksi 79.23 354⇓ *e*P P **23 03 52.4 -0.7**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
TIXI MLR MLR
comp=Z,11µm,19.0s
TIXI Tiksi 79.23 354 P P **23 03 50.4 -2.7**
comp=Z,1.9nm,0.4s,baz=134,slow=1.8,SNR=7.4
TIXI LR LR 23 36 04.9
comp=Z,6µm,22.0s,baz=148,slow=34
PTCN Pitcairn Islan 79.66 114 PFAKE 23 04 10.0 +13
PTCN LR LR
comp=Z,22µm,21.0s
UZB Uzunbulak 79.69 316*c i*P P **23 03 52.6 -3.9**
UZB *e*S **S** **23 13 53.2 -4.1**
UZB pmax pmax
comp=Z,166nm,1.6s
UZB smax smax
comp=E,364nm,7.7s
UZB MLR MLR
comp=Z,4µm,21.0s
UZB Uzunbulak 79.69 316⇑ *i*P P **23 03 52.6 -3.9**
comp=Z,166nm,1.6s
UZB *e*S **S** **23 13 53.2 -4.1**
comp=Z,364nm,7.7s
UZB *e*LR LR 23 41 27.1
comp=Z,4µm,21.1s
PRZ Przheval'sk 79.91 315 *e*P P **23 03 58.2 +0.4**
comp=Z,458nm,1.7s
KDAK Kodiak Island 79.93 28 *e*P P **23 03 55.0 -2.2**
KDAK comp=Z,77nm,1.3s LR LR
comp=Z,21µm,22.0s
KDAK Kodiak Island 79.93 28 *e*P P **23 03 55.0 -2.2**
KDAK pmax pmax
comp=Z,77nm,1.3s
KDAK MLR MLR
comp=Z,21µm,22.0s
KDAK Kodiak Island 79.93 28 P P **23 03 55.0 -2.2**
comp=Z,5.5nm,0.8s,baz=104,slow=22,SNR=1.8
SATY Saty 80.09 316 *e*P P **23 03 55.2 -3.4**
SATY eS **S** **23 14 03.2 +1.8**
SATY pmax pmax
comp=Z,160nm,1.6s
SATY smax smax
comp=N,1µm,4.9s
SATY MLR MLR
comp=Z,4µm,17.0s
SATY Saty 80.09 316 *e*P P **23 03 55.3 -3.4**
comp=Z,160nm,1.6s
SATY *e*S **S** **23 14 03.3 +1.8**
comp=Z,1µm,4.9s
SATY *e*LR LR 23 40 39.7
comp=Z,4µm,16.9s
TARG Taragay, Kyrgy 80.09 314 *e*P P **23 03 58.4 -0.6**
comp=Z,59nm,1.2s
ZHN Zhinishke 80.10 316 *e*P P **23 03 53.9 -4.8**
ZHN pmax pmax
comp=Z,61nm,1.6s
ZHN MLR MLR
comp=Z,4µm,20.0s
ZHN Zhinishke 80.10 316 *e*P P **23 03 53.9 -4.8**
comp=Z,61nm,1.6s
ZHN *e*LR LR 23 41 22.4
comp=Z,4µm,20.4s
ZAA0 Zalesovo Array 80.26 328 *e*P P **23 03 57.1 -1.9**
comp=Z,26nm,1.1s
ZALV Zalesovo Beam 80.26 328 P P **23 03 56.9 -2.2**
ZALV *e*S **S** **23 14 06.5 +4.1**
ZALV Zalesovo Beam 80.26 328 P P **23 03 56.9 -2.2**
ZALV *e*S **S** **23 14 06.6 +4.1**
ZALV Zalesovo Beam 80.26 328 P P **23 03 56.9 -2.2**
comp=Z,6.2nm,0.8s,baz=108,slow=4.7,SNR=17
ZALV PKPPKP **P'P'df** **23 30 44.2 -0.8**
comp=Z,1.1nm,0.7s,baz=270,slow=2.9,SNR=3.1
ZAA1 Zalesovo Array 80.26 328 *e*P P **23 03 56.9 -2.2**
SVW2 Sparrevohn 80.37 24 *e*P P **23 03 59.0 -0.5**
comp=Z,35nm,1.0s
KDJ Kajisay 80.66 315 *e*P P **23 04 01.4 -0.4**
comp=Z,71nm,1.1s
KDJ Kajisay 80.66 315 *e*P P **23 04 01.4 -0.4**
KDJ pmax pmax
comp=Z,71nm,1.1s
TDK Taldyqorghan 80.72 318 *e*P P **23 03 58.5 -3.3**
TDK *e*S **S** **23 14 08.4 +0.6**
TDK pmax pmax
comp=Z,319nm,1.4s
TDK smax smax
comp=N,2µm,7.2s
TDK MLR MLR
comp=Z,9µm,21.0s
TDK Taldyqorghan 80.72 318 *e*P P **23 03 58.5 -3.3**
comp=Z,319nm,1.4s
TDK *e*S S **23 14 08.4 +0.6**
comp=Z,2µm,7.2s
TDK *e*LR LR 23 41 00.2
comp=Z,9µm,21.2s
KSH Kashi 80.76 312 P P **23 04 02.9 +0.6**
KSH pP pP 23 04 11.1 +0.8
KSH PP **PP** **23 07 10.0 +3.3**
KSH S **S** **23 14 02.6 -6.1**
KSH SS **SS** **23 19 23.1 +0.5**
KSH pmax pmax
comp=Z,130nm,7.7s
KSH LR LR
comp=Z,15µm,19.9s
KSH LR LR
comp=Z,6µm,14.4s
KSH LR LR
comp=Z,7µm,20.0s
MDOK Medeo 81.06 315 *e*P P **23 04 00.2 -3.7**
MDOK eS **S** **23 14 09.8 -1.9**
MDOK pmax pmax
comp=Z,117nm,1.4s
MDOK smax smax
comp=N,2µm,15.8s
MDOK MLR MLR
comp=Z,6µm,24.0s
MDOK Medeo 81.06 315 *e*P P **23 04 00.2 -3.7**
comp=Z,117nm,1.4s
MDOK eS **S** **23 14 09.9 -1.9**
comp=Z,2µm,15.8s
MDOK *e*LR LR 23 41 15.3
comp=Z,6µm,24.0s
AAA Alma-Ata 81.17 315 *e*P P **23 04 02.2 -2.1**
AAA eS **S** **23 14 13.7 +1.1**
AAA pmax pmax
comp=Z,72nm,1.6s
AAA MLR MLR
comp=Z,3µm,21.0s
AAA Alma-Ata 81.17 315 *e*P P **23 04 02.2 -2.1**
comp=Z,72nm,1.6s
AAA eS **S** **23 14 13.8 +1.1**
AAA *e*LR LR 23 41 35.1
comp=Z,3µm,20.5s
NRN Naryn 81.29 314 *e*P P **23 04 04.6 -0.7**
comp=Z,138nm,1.9s
NRN Naryn 81.29 314 *e*P P **23 04 04.6 -0.7**
NRN pmax pmax
comp=Z,138nm,1.9s
ULHL Ulahol 81.36 314 P P **23 04 05.2 -0.4**
SNR=8.8
SEM Semipalatinsk 81.42 323 *e*P P **23 04 02.2 -3.5**
SEM eS **S** **23 14 13.0 -2.3**
SEM pmax pmax
comp=Z,55nm,1.7s
SEM MLR MLR
comp=Z,7µm,19.0s
SEM Semipalatinsk 81.42 323 *e*P P **23 04 02.2 -3.5**
comp=Z,55nm,1.7s
SEM eS **S** **23 14 13.1 -2.3**
SEM *e*LR LR 23 40 23.1
comp=Z,7µm,19.4s
KUU Kurty 81.78 316*d i*P P **23 04 03.0 -4.4**
KUU eS **S** **23 14 16.7 -2.1**
KUU pmax pmax
comp=Z,118nm,1.5s
KUU smax smax
comp=N,684nm,5.5s
KUU MLR MLR
comp=Z,4µm,21.0s
KUU Kurty 81.78 316⇓ *i*P P **23 04 03.1 -4.4**
comp=Z,118nm,1.5s
KUU eS **S** **23 14 16.8 -2.1**
comp=Z,684nm,5.5s
KUU *e*LR LR 23 41 33.1
comp=Z,4µm,20.7s
TKM2 Tokmak 2 82.01 315 P P **23 04 07.8 -1.2**
SNR=7.9
TKM2 Tokmak 2 82.01 315 *i* P P **23 04 07.6 -1.4**
TKM2 pmax pmax
comp=Z,66nm,1.6s
KZA Kyzart 82.01 314 P P **23 04 09.4 +0.2**
SNR=19
RDOG Red Dog Mine 82.05 17 *e*P P **23 04 07.8 -0.5**
comp=Z,64nm,1.4s
MAW Mawson 82.08 203 LR LR 23 40 23.2
comp=Z,9µm,18.9s,baz=80,slow=36
BHJ Bhuj 82.23 295 *e*P P **23 04 11.0 +0.8**
BHJ lAmb lAmb 23 04 23.4
comp=Z,417nm,1.8s
KURK Kurchatov 82.50 323 *e*P P **23 04 09.2 -1.8**
comp=Z,70nm,1.3s
KURK LR LR
comp=Z,50µm,22.0s
KURK Kurchatov 82.50 323⇓ *e*P P **23 04 09.1 -2.0**
KURK pmax pmax
comp=Z,24nm,1.6s
KURK MLR MLR
comp=Z,31µm,22.0s
KURK Kurchatov 82.50 323 P P **23 04 08.5 -2.6**
SNR=16
KURBB Kurchatov Arra 82.53 323 P P **23 04 08.7 -2.5**
comp=Z,5.4nm,1.0s,baz=114,slow=4.2,SNR=22
KURBB PKPPKP 23 30 42.4
comp=Z,0.2nm,0.4s,baz=279,slow=1.8,SNR=4.4
UCH Uchtor 82.58 314 P P **23 04 12.2 0.0**
SNR=14
CHMS Chumysh 82.63 315 P P **23 04 11.1 -0.9**
SNR=10
FRU1 Bishkek 82.66 315 *e*P P **23 04 11.8 -0.4**
comp=Z,248nm,2.0s
FRU Bishkek 82.67 315 *e*P P **23 04 10.0 -2.2**
FRU *e* 23 04 18.0
FRU *e*S S **23 14 28.0 -0.1**
FRU pmax pmax
comp=Z,60nm,2.0s
FRU MLR MLR
comp=E,21µm,20.0s
AAK Ala-Archa 82.71 314 P P **23 04 12.2 -0.4**
SNR=8.1
AAK Ala-Archa 82.71 314 *e*P P **23 04 11.2 -1.4**
comp=E,65nm,1.3s
AAK LR LR
comp=Z,19µm,21.0s
AAK Ala-Archa 82.71 314*de*P P **23 04 11.5 -1.1**
AAK pmax pmax
comp=Z,17nm,1.6s
AAK MLR MLR
comp=Z,16µm,21.0s
AAK Ala-Archa 82.71 314 P P **23 04 11.5 -1.1**
SNR=17
AAK Ala-Archa 82.71 314 P P **23 04 10.6 -2.0**
comp=Z,4.2nm,0.8s,baz=94,slow=4.5,SNR=14
AAK LR LR 23 41 42.7
comp=Z,5µm,22.0s,baz=94,slow=36
RC01 Rabbit Creek A 82.81 26 *e*P P **23 04 10.7 -1.7**
comp=Z,56nm,1.3s
USP Ospenovka 82.88 315 P P **23 04 12.7 -0.6**
SNR=19
AML Almayashu 83.14 314 P P **23 04 15.0 -0.1**
SNR=22
EKS2 Erkin-Say 83.22 314 P P **23 04 15.0 -0.2**
SNR=13
QSPA South Pole Qui 83.28 180 *e*P P **23 04 13.0 -2.0**
comp=Z,102nm,1.0s
QSPA LR LR
comp=Z,32µm,20.0s
PMR Palmer 83.30 25 *e*P P **23 04 14.0 -0.9**
comp=Z,34nm,1.0s
PMR Palmer 83.30 25 *e*P P **23 04 14.0 -0.9**
PMR pmax pmax
comp=Z,34nm,1.0s
ARSB Arslanbob 83.45 313 *e*P P **23 04 15.8 -0.6**
comp=Z,284nm,1.5s
KNK Knik Glacier 83.51 26 *e*P P **23 04 15.5 -0.5**
comp=Z,52nm,1.1s
BTLS Baital 83.68 317 *e*P P **23 04 14.0 -3.3**
BTLS eS **S** **23 14 35.6 -2.5**
BTLS pmax pmax
comp=Z,153nm,1.8s
BTLS MLR MLR
comp=Z,4µm,19.0s
BTLS Baital 83.68 317 *e*P P **23 04 14.0 -3.3**
comp=Z,153nm,1.8s
BTLS eS **S** **23 14 35.6 -2.5**
BTLS *e*LR LR 23 42 51.7
comp=Z,4µm,19.5s
IM3 Indian Mountai 83.70 20 *e*P P **23 04 15.3 -1.6**
SML Sawmill 83.74 25 *e*P P **23 04 16.1 -1.2**
comp=Z,83nm,1.2s
SML Sawmill 83.74 25 *e*P P **23 04 16.1 -1.2**
SML pmax pmax
comp=Z,83nm,1.2s
BPAW Bear Paw Mtn. 83.75 23 *e*P P **23 04 16.0 -1.3**
comp=Z,84nm,2.0s
RND Reindeer 84.25 24 *e*P P **23 04 17.9 -2.0**
comp=Z,41nm,1.0s
RND Reindeer 84.25 24 *e*P P **23 04 17.9 -2.0**

RND pmax pmax
comp=Z,41nm,1.0s
MLY Manley 84.30 22 *e*P **P 23 04 18.8 -1.3**
comp=Z,31nm,1.0s
MCK McKinley 84.37 23 *e*P **P 23 04 18.4 -2.0**
comp=Z,52nm,1.0s
MCK McKinley 84.37 23 *e*P **P 23 04 18.4 -2.0**
MCK pmax pmax
comp=Z,52nm,1.0s
KLU Klutina 84.64 26 *e*P **P 23 04 21.7 -0.2**
comp=Z,56nm,1.1s
DHY Denali Highway 84.70 24 *e*P **P 23 04 21.0 -1.3**
comp=Z,32nm,0.9s
GAR Garm 84.88 310 *e*P **P 23 04 22.5 -1.2**
comp=Z,78nm,1.1s
GAR Garm 84.88 310 *e*P **P 23 04 22.5 -1.2**
GAR pmax pmax
comp=Z,78nm,1.1s
KBL Kabul 84.94 306 *e*P **P 23 04 22.8 -1.4**
comp=Z,22nm,1.0s
KBL Kabul 84.94 306 *e*P **P 23 04 22.8 -1.4**
KBL pmax pmax
comp=Z,23nm,1.0s
BMRM Bremner River 85.01 27 *e*P **P 23 04 25.1 +1.4**
comp=Z,34nm,1.8s
DZA Taraz 85.02 314 *d i*P **P 23 04 21.4 -2.8**
DZA *e*S **S 23 14 45.6 -6.1**
DZA pmax pmax
comp=Z,335nm,1.5s
DZA Taraz 85.02 314 ⇓ *i*P **P 23 04 21.4 -2.8**
comp=Z,335nm,1.5s
DZA *e*S **S 23 14 45.7 -6.1**
WRH Wood River Hil 85.04 23 *e*P **P 23 04 21.7 -2.0**
comp=Z,49nm,1.2s
MDM Murphy Dome 85.20 22 *e*P **P 23 04 23.1 -1.5**
comp=Z,46nm,1.5s
CCB Clear Creek Bu 85.22 23 *e*P **P 23 04 22.3 -2.4**
comp=Z,62nm,1.4s
COLA College 85.31 23 *e*P **P 23 04 27.9 +2.8**
comp=Z,50nm,1.2s
COLA LR LR
comp=Z,29μm,20.0s
COLA College 85.31 23 ⇑ *e*P **P 23 04 23.0 -2.0**
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA MLR MLR
comp=Z,18μm,19.0s
HARP HAARP 85.35 25 *e*P **P 23 04 29.2 +3.9**
comp=Z,116nm,1.5s
PAX Paxson 85.44 25 *e*P **P 23 04 24.7 -1.2**
comp=Z,79nm,1.7s
HDA Harding Lake 85.45 23 *e*P **P 23 04 23.5 -2.4**
comp=Z,124nm,1.9s
HDA Harding Lake 85.45 23 P **P 23 04 23.4 -2.4**
baz=244
JBG Jabagly 85.48 313 *e*P **P 23 04 23.3 -3.3**
JBG pmax pmax
comp=Z,340nm,1.4s
COLD Coldfoot 85.56 20 *e*P **P 23 04 26.5 +0.2**
comp=Z,15nm,1.0s
IL1 Eielson Array 85.64 23 *e*P **P 23 04 23.6 -3.1**
ILAR Eielson Array 85.64 23 P **P 23 04 23.8 -2.9**
comp=Z,4.6nm,1.0s,baz=257,slow=4.9,SNR=22
ILAR LR LR 23 40 05.8
comp=Z,13μm,20.4s,baz=244,slow=34
ILB Eielson Array 85.64 23 *e*P **P 23 04 24.0 -2.7**
comp=Z,32nm,1.1s
KK31 Karatay Array 85.66 314 *e*P **P 23 04 25.3 -2.0**
comp=Z,151nm,1.5s
KKAR Karatay Array 85.66 314 *e*P **P 23 04 25.3 -2.0**
comp=Z,151nm,1.5s
CHGR Chuyangaron 85.69 310 *e*P **P 23 04 26.6 -1.1**
comp=Z,130nm,1.1s
IUG luzhnay 85.79 313 *e*P **P 23 04 24.8 -3.3**
IUG *e*S **S 23 14 53.9 -5.6**
IUG pmax pmax
comp=Z,189nm,1.3s
IUG smax smax
comp=E,3μm,4.9s
IUG MLR MLR
comp=Z,4μm,21.0s
IUG luzhnay 85.79 313 *e*P **P 23 04 24.9 -3.3**
comp=Z,189nm,1.3s
IUG *e*S **S 23 14 53.9 -5.6**
comp=Z,3μm,4.9s
IUG *e*LR LR 23 42 57.2
comp=Z,4μm,20.6s
RIDG Independ'e Rid 86.02 24 *e*P **P 23 04 27.5 -1.3**
comp=Z,75nm,1.2s
BALM Baldy 86.05 27 *e*P **P 23 04 28.4 -0.6**
comp=Z,67nm,1.3s
BALM Baldy 86.05 27 *e*P **P 23 04 28.4 -0.6**
BALM pmax pmax
comp=Z,67nm,1.3s
CHM Chimkent 86.14 313 *e*P **P 23 04 27.2 -2.5**
CHM *e*S **S 23 15 02.0 -0.7**
CHM pmax pmax
comp=Z,344nm,1.4s
CHM smax smax
comp=N,6μm,5.0s
CHM Chimkent 86.14 313 *e*P **P 23 04 27.3 -2.5**
comp=N,344nm,1.4s
CHM *e*S **S 23 15 02.0 -0.7**
comp=N,6μm,5.0s
CHM *e*LR LR 23 46 03.2
comp=N,1μm,21.6s
MENT Mentasta 86.16 25 *e*P **P 23 04 28.1 -1.4**
comp=N,46nm,1.4s
DOT Dot Lake 86.30 24 *e*P **P 23 04 28.9 -1.2**
comp=N,48nm,1.1s
NRIK Noril'sk 86.31 342 P **P 23 04 27.3 -2.7**
comp=N,6.6nm,0.8s,baz=134,slow=3.7,SNR=8.7
NRIK LR LR 23 42 28.6
comp=N,16μm,21.4s,baz=124,slow=35
TOLK Toolik Lake Re 86.44 19 *e*P **P 23 04 30.1 -0.6**
comp=N,25nm,1.0s
TOLK Toolik Lake Re 86.44 19 P **P 23 04 30.1 -0.6**
baz=242
SCRK Sand Creek 86.46 24 *e*P **P 23 04 29.2 -1.8**
comp=N,31nm,1.2s
FYU Fort Yukon 87.02 22 *e*P **P 23 04 33.5 0.0**
comp=N,115nm,1.4s
EGAK Eagle 87.90 24 *e*P **P 23 04 36.0 -1.7**
EGAK comp=N,35nm,1.0s LR LR
comp=Z,55μm,21.0s
BVAR Borovoye Array 88.06 324 P **P 23 04 35.3 -3.5**
comp=Z,8.8nm,0.9s,baz=77,slow=6.4,SNR=19
BRVK Borovoye 88.13 324 *e*P **P 23 04 37.3 -1.8**
comp=Z,33nm,1.4s
BRVK LR LR
comp=Z,15μm,22.0s
BRVK Borovoye 88.13 324 *de*P **P 23 04 36.7 -2.4**
BRVK pmax pmax
comp=Z,17nm,1.4s
BRVK MLR MLR
comp=Z,14μm,20.0s
BRVK Borovoye 88.13 324 P **P 23 04 36.8 -2.4**
SNR=12
HYT Haines Junctio 88.22 28 *e*P **P 23 04 38.9 -0.6**
comp=Z,68nm,1.0s
DAWY Dawson 88.38 25 *e*P **P 23 04 39.6 -0.5**
comp=Z,62nm,1.3s
WHY Whitehorse 89.41 29 *e*P **P 23 04 45.3 +0.2**
comp=Z,119nm,1.8s
WRAK Wrangell Islan 89.71 33 PFAKE 23 05 00.0 +14
WRAK LR LR
comp=Z,64μm,22.0s
EPYK Eagle Plains 90.15 23 *e*P **P 23 04 47.0 -1.4**
comp=Z,74nm,1.4s
EPYK Eagle Plains 90.15 23 P **P 23 04 46.8 -1.6**
baz=254
SYO Syowa Base 90.37 200 ⇓ *i*P P 23 05 00.2 +11
DLBC Dease Lake 91.34 31 *e*P **P 23 04 50.9 -3.2**
comp=Z,42nm,1.6s
DLBC Dease Lake 91.34 31 P **P 23 04 50.9 -3.2**
comp=Z,0.5nm,0.4s,baz=70,slow=1.5,SNR=2.5
INK Inuvik 91.85 21 *e*P **P 23 04 54.5 -1.6**
comp=Z,29nm,1.2s
INK Inuvik 91.85 21 *e*P **P 23 04 54.5 -1.6**
INK pmax pmax
comp=Z,29nm,1.2s
INK Inuvik 91.85 21 P **P 23 04 54.0 -2.1**
comp=Z,5.7nm,1.1s,baz=234,slow=4.7,SNR=8.5
WSAR Wadi Sarin 92.25 293 P **P 23 04 57.7 -1.4**
comp=Z,5.0nm,1.0s,baz=126,slow=7.1,SNR=4.8
KRMB Red Mountain 92.78 49 *ep*P pP 23 05 20.8 +12

L02E Cave Junction 93.08 48 P **P 23 05 03.9 +1.4**
baz=264
K02D Willamette Mer 93.09 48 P **P 23 05 03.4 +0.8**
baz=264
NLWA Neilton Lookou 93.45 43 PFAKE 23 05 10.0 +5.9
NLWA LR LR
comp=Z,24μm,21.0s
M02C Callahan 93.55 49 P **P 23 05 05.2 +0.4**
baz=264
HUMO Hull Mountain 93.60 48 *e*P **P 23 05 03.6 -1.3**
comp=Z,29nm,1.0s
N02D Trinity Center 93.62 49 P **P 23 05 05.7 +0.6**
baz=264
YBH Yreka Blue Hor 93.69 49 *e*P **P 23 05 07.0 +1.6**
comp=Z,22nm,1.1s
YBH Yreka Blue Hor 93.69 49 P **P 23 05 05.1 -0.4**
comp=Z,6.0nm,1.0s,baz=190,slow=2.4,SNR=8.6
WDC Whiskeytown Da 93.71 50 *e*P **P 23 05 06.9 +1.5**
comp=Z,33nm,1.4s
WDC Whiskeytown Da 93.71 50 *e*P **P 23 05 06.9 +1.5**
WDC pmax pmax
comp=Z,33nm,1.4s
ABKAR Akbulak array 93.91 319 *e*P **P 23 05 02.7 -3.4**
comp=Z,21nm,1.1s
GEYT Alibeck 94.17 308 P **P 23 05 06.2 -1.4**
comp=Z,4.0nm,0.8s,baz=77,slow=3.2,SNR=8.9
GEYT LR LR 23 49 40.4
comp=Z,10μm,21.4s,baz=100,slow=37
GYA0B ALIBECK ARRAY 94.17 308 *e*P **P 23 05 05.0 -2.6**
comp=Z,39nm,1.2s
SVE Sverdlovsk 94.24 327 *e*P **P 23 05 05.4 -2.0**
SVE *e* 23 17 27.0
SVE pmax pmax
comp=Z,36nm,1.9s
SVE MLR MLR
comp=N,7μm,20.0s
SVE MLR MLR
comp=E,19μm,19.0s
SVE MLR MLR
comp=Z,25μm,20.0s
O03E Paynes Creek 94.25 50 P **P 23 05 08.4 +0.4**
baz=265
J04D Umpqua Nationa 94.28 47 P **P 23 05 09.0 +0.7**
baz=265
M04C Macdoel 94.35 49 P **P 23 05 09.0 +0.5**
baz=265
ORV Oroville 94.41 51 *e*P **P 23 05 09.8 +1.1**
comp=Z,17nm,1.1s
ORV Oroville 94.41 51 *e*P **P 23 05 09.8 +1.1**
ORV pmax pmax
comp=Z,17nm,1.1s
AFDM Forest Hills D 94.77 51 *e*P **P 23 05 11.1 +0.8**
comp=Z,18nm,1.0s
J05D Fort Rock, OR 94.92 47 P **P 23 05 12.2 +1.1**
baz=266
CMB Columbia Colle 95.15 52 *e*P **P 23 05 13.2 +1.0**
CMB *ep*P **pP 23 05 20.1 0.0**
PINE Pine Mountain 95.17 47 *e*P **P 23 05 13.8 +1.5**
comp=Z,15nm,0.9s
AKTO Aktyubinsk 95.25 320 P **P 23 05 10.6 -1.7**
comp=Z,3.2nm,1.1s,baz=84,slow=6.8,SNR=5.7
ARU Arti 95.35 326 *e*P **P 23 05 10.3 -2.3**
comp=Z,41nm,1.6s
ARU LR LR
comp=Z,11μm,19.0s
ARU Arti 95.35 326 *e*P **P 23 05 10.2 -2.3**
ARU 23 09 01.6
ARU S **SKSac 23 15 40.8 -5.6**
ARU PS **PS 23 17 36.5 -11**
ARU SS **SS 23 22 52.2 -1.9**
ARU MLR MLR
comp=Z,24μm,23.0s
MOD Modoc Plateau 95.50 49 *e*P **P 23 05 15.0 +1.2**
comp=Z,26nm,1.4s
VCNR Virginia City 95.82 51 *e*P **P 23 05 18.7 +3.3**
comp=Z,9.2nm,1.0s
PNTR Pine Nut 95.84 51 *e*P **P 23 05 19.9 +4.4**
comp=Z,82nm,1.9s
WAKR Walker 95.93 52 *e*P **P 23 05 17.3 +1.4**
comp=Z,26nm,1.5s
VES Vestal, Richgr 96.04 55 P **P 23 05 16.9 +0.7**
baz=266
PAHR Pah Rah Range 96.05 51 *e*P **P 23 05 19.6 +3.2**
comp=Z,17nm,1.2s
MDPB Devils Postpil 96.16 53 *e*P **P 23 05 18.3 +1.3**
comp=Z,18nm,1.1s
OMMB Old Mammoth Mi 96.22 53 *e*P **P 23 05 18.8 +1.4**
comp=Z,16nm,1.2s
I07A Izee 96.23 46 *e*P **P 23 05 18.2 +1.2**
comp=Z,11nm,1.0s
HAWA Hanford 96.33 44 *e*P **P 23 05 18.7 +1.5**
comp=Z,11nm,1.0s
HAWA LR LR
comp=Z,47μm,22.0s
ISA Isabella, Lake 96.52 55 *e*P **P 23 05 19.6 +1.1**
ISA *ep*P **pP 23 05 26.6 +0.1**
ISA Isabella, Lake 96.52 55 *e*P **P 23 05 19.6 +1.1**
ISA *e**PP **pP 23 05 26.6 +0.1**
ISA Isabella, Lake 96.52 55 P **P 23 05 19.2 +0.8**
baz=267
RYN Ryan 96.66 52 *e*P **P 23 05 20.1 +0.9**
comp=Z,13nm,1.1s
G08A Pilot Rock 96.68 45 *e*P **P 23 05 20.1 +1.1**
comp=Z,14nm,1.2s
WVOR Wild Horse Val 96.77 48 PFAKE 23 05 30.0 +10
WVOR LR LR
comp=Z,58μm,20.0s
MWC Mount Wilson 96.77 56 *e*P **P 23 05 21.3 +1.5**
comp=Z,39nm,1.2s
MWC Mount Wilson 96.77 56 *e*P **P 23 05 21.3 +1.5**
MWC pmax pmax
comp=Z,39nm,1.2s
NV01 Mina Array Sit 96.82 52 *e*P **P 23 05 19.1 -0.8**
NVAR Mina Array Bea 96.82 52 P **P 23 05 17.9 -2.0**
comp=Z,3.4nm,0.9s,baz=254,slow=6.2,SNR=15
CWC Cottonwood Cre 96.89 54 P **P 23 05 20.8 +0.5**
baz=267
NV11 Mina Array Sit 96.93 52 *e*P **P 23 05 18.4 -2.0**
comp=Z,2.6nm,1.5s
J08A Circle Bar Ran 96.93 47 *e*P **P 23 05 21.4 +1.2**
comp=Z,9.9nm,1.0s
BFSC Mount Baldy Ra 97.11 56 P Pdif 23 05 22.0 +0.6
baz=267
LRMC Laurel Mtn Rad 97.15 55 P Pdif 23 05 22.5 +1.0
baz=267
DAC Darwin (Calif) 97.27 54 *e*P Pdif 23 05 22.9 +0.8
comp=Z,24nm,1.0s
E09A Wood Farm, Sta 97.30 44 *e*P **P 23 05 21.4 -0.2**
comp=Z,18nm,1.1s
MPMC Manual Prospec 97.34 55 P Pdif 23 05 23.2 +0.8
baz=267
NVL N'lazarevskaya 97.42 193 *e*P Pdif 23 05 23.0 +1.3
NVL *e*S **SKSac 23 15 58.6 +1.8**
NVL pmax pmax
comp=Z,10.0nm,1.0s
NVL MLR MLR
comp=Z,47μm,17.0s
BMO Blue Mountains 97.83 46 *e*P Pdif 23 05 24.4 +0.2
comp=Z,9.1nm,1.0s
BMO LR LR
comp=Z,49μm,22.0s
RPN Rapa Nui 97.93 119 *e*P **P 23 05 22.4 -2.5**
comp=Z,935nm,1.8s
RPN LR LR
comp=Z,13μm,20.0s
RPN Rapa Nui 97.93 119 *e*P **P 23 05 22.5 -2.5**
RPN pmax pmax
comp=Z,935nm,1.8s
RPN MLR MLR
comp=Z,13μm,20.0s
RPN Rapa Nui 97.93 119 P **P 23 05 22.5 -2.5**
comp=Z,74nm,0.9s,baz=75,slow=4.0,SNR=3.6
NEW Newport 98.04 42 *e*P Pdif 23 05 25.4 +0.4
comp=Z,16nm,1.3s
NEW LR LR
comp=Z,34μm,21.0s
NEW Newport 98.04 42 P Pdif 23 05 25.4 +0.4
baz=269
NEW Newport 98.04 42 P **P 23 05 22.5 -2.5**
comp=Z,6.0nm,1.3s,baz=20,slow=3.1,SNR=3.4
PFO Pinyon Flats O 98.07 57 *e*P **P 23 05 24.4 -1.2**
PFO *ep*P **pP 23 05 34.2 +0.6**
PFO *e*PP **PP 23 09 24.3 -0.6**
PFO LR LR
comp=Z,52μm,20.0s
PFO Pinyon Flats O 98.07 57 *e*P **P 23 05 24.4 -1.2**
PFO *e**PP **pP 23 05 34.2 +0.6**

PFO *e* 23 09 24.3
PFO MLR MLR
comp=Z,52μm,20.0s
PFO Pinyon Flats O 98.07 57 P **P 23 05 24.4 -1.2**
comp=Z,1.9nm,0.8s,baz=335,slow=6.6,SNR=3.2
PFO PP **PP 23 09 24.3 -0.6**
comp=Z,2.4nm,0.4s,baz=115,slow=6.4,SNR=5.6
XPFO Pion Flat 98.07 57 *ep*P pP 23 05 34.2 +0.6
ABPO Ambohimpanom 98.17 250 PFAKE 23 05 40.0 +14
ABPO LR LR
comp=Z,8μm,20.0s
TPNV Topopah Spring 98.38 54 *e*P **P 23 05 26.6 -0.3**
comp=Z,12nm,1.0s
TPNV Topopah Spring 98.38 54 *e*P **P 23 05 26.7 -0.3**
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 98.38 54 P Pdif 23 05 27.0 0.0
baz=268
R11A Troy Canyon, C 98.95 52 *e*P Pdif 23 05 33.9 +4.4
comp=Z,7.8nm,1.3s
YKA Yellowknife Ar 99.21 28 P **Pdif 23 05 29.0 -0.8**
YKA Yellowknife Ar 99.21 28 P **Pdif 23 05 29.0 -0.8**
comp=Z,1.1nm,1.0s,baz=274,slow=4.8,SNR=13
YKA PKiKP **PKiKP 23 09 56.4 -3.3**
comp=Z,0.6nm,1.0s,baz=263,slow=0.9,SNR=3.6
YKA PKKPbc **PKKPbc 23 21 54.5 -2.6**
comp=Z,0.3nm,0.6s,baz=90,slow=2.8,SNR=4.3
YKA PKKP **PKKPdf 23 21 59.4 -1.4**
comp=Z,0.6nm,0.7s,baz=91,slow=3.2,SNR=7.5
YKA PKPPKP 23 30 11.6
comp=Z,0.1nm,0.6s,baz=69,slow=3.4,SNR=2.9
YKA LR LR 23 47 46.8
comp=Z,4μm,20.4s,baz=283,slow=34
YKB5 Yellowknife Ar 99.21 28 *e*P **Pdif 23 05 28.5 -1.3**
YKB5 *e*PKiKP **PKiKP 23 09 56.4 -3.3**
SHPR Sheep Range 99.24 54 *e*P **Pdif 23 05 32.9 +2.1**
comp=Z,15nm,1.3s
LDFC Landfair 99.24 56 *e*P **Pdif 23 05 33.4 +2.6**
comp=Z,47nm,0.4s
SNAA Sanae 99.51 189 *e*P **Pdif 23 05 33.5 +2.3**
comp=Z,20nm,1.2s
SNAA *e*PP **PP 23 09 34.8 +0.5**
SNAA *e*PKiKP **PKiKP 23 09 56.9 -3.3**
SNAA Sanae 99.51 189 ⇑ *e*P **Pdif 23 05 31.7 +0.5**
SNAA Sanae 99.51 189 P **Pdif 23 05 31.4 +0.2**
comp=Z,5.9nm,1.0s,baz=231,slow=10,SNR=4.1
SNAA PP **PP 23 09 34.8 +0.5**
comp=Z,5.4nm,1.0s,baz=156,slow=6.6,SNR=2.9
SNAA PKiKP **PKiKP 23 09 56.9 -3.3**
comp=Z,11nm,1.1s,baz=154,slow=11,SNR=3.0
HLID Hailey 99.89 47 *e*Pdif **Pdif 23 05 34.8 +1.2**
comp=Z,23nm,2.0s
HLID LR LR
comp=Z,54μm,21.0s
HLID Hailey 99.89 47 P **Pdif 23 05 34.0 +0.4**
baz=270
DUG Dugway, Tooele 101.11 50 PFAKE 23 05 50.0 +11
DUG LR LR
comp=Z,23μm,22.0s
HVU Hansel Valley 101.12 49 *e*Pdif **Pdif 23 05 40.3 +1.3**
HVU Hansel Valley 101.12 49 *e*P **Pdif 23 05 40.3 +1.3**
KNB Kanab 101.12 54 *e*Pdif **Pdif 23 05 41.8 +2.6**
KNB Kanab 101.12 54 *e*P **Pdif 23 05 41.8 +2.6**
BOZ Bozeman (W) 101.84 45 PFAKE 23 05 50.0 +7.9
BOZ LR LR
comp=Z,52μm,21.0s
HWUT Hardware Ranch 102.03 49 PFAKE 23 05 50.0 +6.9
HWUT LR LR
comp=Z,20μm,20.0s
WUAZ Wupatki 102.30 55 PFAKE 23 06 00.0 +16
WUAZ LR LR
comp=Z,60μm,22.0s
AHID Auburn Hatcher 102.33 48 PFAKE 23 06 00.0 +16
AHID LR LR
comp=Z,67μm,20.0s
FXWY Fox Creek 102.35 47 *e*Pdif **Pdif 23 05 45.2 +0.6**
MAK Makhachkala 102.39 312 *e*P **Pdif 23 05 43.7 -0.7**
MAK *e* 23 09 56.1
MAK *e* 23 16 19.3
MAK *e*SS SS 23 24 33.2 -0.1
MAK *e*SSS SSS 23 28 28.1
MAK pmax pmax
comp=Z,136nm,1.2s
MOOW Moose Ponds 102.55 47 *e*Pdif **Pdif 23 05 46.5 +1.0**
LKWY Lake 102.76 46 PFAKE 23 06 00.0 +14
LKWY LR LR
comp=Z,51μm,20.0s
TUC Tucson 102.81 58 PFAKE 23 06 00.0 +13
TUC LR LR
comp=Z,39μm,20.0s
EGMT Eagleton 102.97 42 PFAKE 23 06 00.0 +13
EGMT LR LR
comp=Z,21μm,22.0s
BW06 Boulder Array 103.47 48 PFAKE 23 06 00.0 +10
BW06 LR LR
comp=Z,63μm,21.0s
PD31 Pinedale Array 103.47 48 *e*Pdif **Pdif 23 05 49.8 +0.2**
PD31 *e*PP **PP 23 10 05.5 -0.2**
PDAR Pinedale Array 103.47 48 *e*Pdif **Pdif 23 05 47.7 -1.9**
PDAR Pinedale Array 103.47 48 Pdiff **Pdif 23 05 48.1 -1.5**
comp=Z,1.1nm,0.8s,baz=237,slow=4.2,SNR=8.1
PDAR PKiKP **PP 23 10 05.5 -0.2**
comp=Z,0.7nm,1.0s,baz=278,slow=2.6,SNR=2.4
RLMT Red Lodge 103.53 45 PFAKE 23 06 00.0 +10
RLMT LR LR
comp=Z,46μm,22.0s
RAYN Ar Rayn 104.30 292 PFAKE 23 06 00.0 +6.6
RAYN LR LR
comp=Z,11μm,21.0s
MVCO Mesa Verde 104.57 53 PFAKE 23 06 10.0 +15
MVCO LR LR
comp=Z,42μm,20.0s
GNI Garni 104.61 310 PFAKE 23 06 10.0 +15
GNI LR LR
comp=Z,8μm,22.0s
KBS Kingsbay 104.62 352 PFAKE 23 06 00.0 +6.4
KBS LR LR
comp=Z,15μm,21.0s
PMSA Palmer Station 104.78 166 PFAKE 23 06 10.0 +15
PMSA LR LR
comp=Z,18μm,20.0s
KLMR Klimovskoe 104.90 331 *e*P **Pdif 23 05 53.6 -1.5**
KLMR *e* 23 10 17.5
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR Klimovskoe 104.90 331 *e*Pdif **Pdif 23 05 53.7 -1.4**
KLMR AMP 23 06 12.6
comp=Z,24nm,1.6s
KLMR *e*PP **PP 23 10 17.6 +2.3**
LVZ Lovozero 104.93 339 PFAKE 23 06 10.0 +15
LVZ LR LR
comp=Z,8μm,21.0s
APA Apatity 105.49 339 ⇑ *i*P **Pdif 23 05 45.2 -12**
APA *i* 23 17 21.0
APA *i* PS PS 23 19 31.0 -4.7
APA *i* PPS PPS 23 20 37.0
APA *i* SS SS 23 25 05.0 -9.4
APA pmax pmax
comp=Z,11nm,1.2s
LAO LASA Array 105.49 43 PFAKE 23 10 20.0 +8.3
LAO LR LR
comp=Z,43μm,20.0s
KIV Kislovodsk 105.81 314 PFAKE 23 10 20.0 +7.6
KIV LR LR
comp=Z,13μm,21.0s
KIV Kislovodsk 105.81 314 *i* P **Pdif 23 05 55.4 -4.4**
KIV *e* 23 16 30.0
KIV *e*PS PS 23 19 36.0 -4.3
KIV *e*SS SS 23 25 14.1 -6.4
KIV pmax pmax
comp=Z,3.0nm,1.2s
KIV MLR MLR
comp=Z,12μm,21.0s
ANMO Albuquerque 106.34 56 PFAKE 23 10 30.0 +16
ANMO LR LR
comp=Z,29μm,22.0s
DGMT Dagmar 106.61 41 PFAKE 23 10 30.0 +16
DGMT LR LR
comp=Z,19μm,20.0s
ISCO Idaho Springs 106.66 51 PFAKE 23 10 30.0 +16
ISCO LR LR
comp=Z,26μm,19.0s
KEV Kevo 106.73 342 PFAKE 23 10 20.0 +6.8
KEV LR LR
comp=Z,34μm,22.0s

FFC Flin Flon 106.82 35 PFAKE 23 10 30.0 +16
FFC LR LR
comp=Z,34µm,21.0s
SDCO Great Sand Dun 106.92 53 PFAKE 23 10 30.0 +15
SDCO LR LR
comp=Z,56µm,21.0s
MOS Moscow 107.06 326 *i* P **Pdif 23 06 02.1 -2.8**
MOS *e* 23 10 27.4
MOS *e*PPP PPP 23 12 43.0
MOS *e*SS SS 23 25 36.9 +0.5
ARA0 ARCESS Array S 107.30 342 *e*Pdif **Pdif 23 06 13.3 +7.6**
ARA0 *e*PKiKP **PKiKP 23 10 13.1 -1.2**
ARCES ARCESS Array B 107.30 342 Pdiff **Pdif 23 06 13.3 +7.6**
comp=Z,6.9nm,1.0s,baz=61,slow=9.9,SNR=3.8
ARCES PKiKP **PKiKP 23 10 13.1 -1.2**
comp=Z,6.2nm,0.9s,baz=56,slow=26,SNR=2.5
MNTX Cornudas Mount 107.41 59 PFAKE 23 10 30.0 +14
MNTX LR LR
comp=Z,25µm,20.0s
OBN Obninsk 107.79 326 *e*PKiKP **PKiKP 23 10 15.6 0.0**
OBN LR LR
comp=Z,20µm,21.0s
OBN Obninsk 107.79 326 PKiKP **PKiKP 23 10 15.6 0.0**
comp=Z,1.6nm,0.3s,baz=32,slow=21,SNR=2.3
TXAR Lajitas Array 109.01 61 PKiKP **PKiKP 23 10 19.0 +0.2**
comp=Z,0.3nm,0.7s,baz=248,slow=1.0,SNR=2.6
OGNE Ogallala 109.24 49 PFAKE 23 10 30.0 +11
OGNE LR LR
comp=Z,30µm,20.0s
KMBO Kilima Mbogo 110.70 266 *e*PKiKP **PKiKP 23 10 21.2 -1.4**
KMBO LR LR
comp=Z,8µm,20.0s
KMBO Kilima Mbogo 110.70 266 PKiKP **PKiKP 23 10 21.2 -1.4**
comp=Z,1.2nm,0.9s,baz=88,slow=12,SNR=2.0
FIA0 FINESS Array S 110.83 334 *e*PKiKP **PKiKP 23 10 21.0 -0.1**
FIA0 FINESS Array S 110.83 334 *e*PKiKP **PKiKP 23 10 21.0 -0.1**
FINES FINESS Array B 110.83 334 PKiKP **PKiKP 23 10 21.0 -0.1**
FINES FINESS Array B 110.83 334 PKiKP **PKiKP 23 10 21.0 -0.1**
comp=Z,1.6nm,0.6s,baz=29,slow=4.4,SNR=6.4
CBKS Cedar Bluff 111.30 51 PFAKE 23 10 30.0 +7.2
CBKS LR LR
comp=Z,63µm,21.0s
ULM Lac du Bonnet 111.54 38 PKiKP **PKiKP 23 10 21.8 -1.0**
comp=Z,1.0nm,0.4s,baz=298,slow=5.7,SNR=3.3
VSU Vasula 111.80 331 *e*P PKiKP 23 10 41.1 +18
AGMN Agassiz Nation 112.08 40 PFAKE 23 10 40.0 +16
AGMN LR LR
comp=Z,34µm,21.0s
JCT Junction City 112.28 60 PFAKE 23 10 40.0 +15
JCT LR LR
comp=Z,38µm,22.0s
WMOK Wichita Mounta 112.64 55 PFAKE 23 10 40.0 +15
WMOK LR LR
comp=Z,24µm,22.0s
ECSD EROS Data Cent 112.69 45 PFAKE 23 10 40.0 +15
ECSD LR LR
comp=Z,29µm,20.0s
MMAI Mount Meron Ar 112.75 303 PKiKP **PKiKP 23 10 26.1 +0.3**
comp=Z,2.5nm,0.8s,baz=287,slow=8.6,SNR=3.3
MICGM Minsk 112.76 327 *e*PKP **PKiKP 23 10 25.0 0.0**
MICGM *e*PP PP 23 11 30.0 +17
MICGM *e*PPP PPP 23 14 02.0
MICGM *e*SKS **SKSac 23 17 10.0 +3.3**
MICGM *e*SKKS **SKKSac 23 18 18.0 +5.0**
MICGM *e*PS PKKPbc 23 21 02.0 -13
MICGM *e*SS SS 23 27 16.0 +23
MICGM *e*SSS SSS 23 32 10.0
MICGM *e*LQ LQ 23 43 10.0
MICGM LQM 23 49 50.0
comp=E,40nm,24.0s
MICGM LQM 23 49 51.0
comp=E,24nm,24.0s
MICGM LQM 23 49 53.0
comp=N,92nm,24.0s
MICGM LQM 23 49 56.0
comp=N,51nm,24.0s
MICGM *e*LR LR 23 55 52.0
MICGM LRM MLR 00 02 30.0
comp=Z,38nm,20.0s
MICGM LRM MLR 00 02 32.0
comp=E,25nm,20.0s
MICGM LRM MLR 00 02 34.0
comp=E,17nm,19.0s
MICGM LRM MLR 00 02 38.0
comp=Z,52nm,20.0s
MICGM LRM MLR 00 02 40.0
comp=N,24nm,20.0s
MICGM LRM MLR 00 02 46.0
comp=N,18nm,20.0s
MNK Minsk 112.76 327 *e*PKiKP **PKiKP 23 10 25.0 0.0**
MNK *e* 23 17 10.0
BR101 Keskin Array S 113.12 310 *e*PKiKP **PKiKP 23 10 25.6 -0.8**
BRTR Keskin Array B 113.12 310 PKiKP **PKiKP 23 10 25.6 -0.8**
comp=N,1.1nm,1.0s,baz=80,slow=2.9,SNR=5.0
BRTR PKKPab **PKKPab 23 21 17.8 -2.3**
comp=N,1.0nm,0.9s,baz=151,slow=2.8,SNR=4.6
BRTR PKKP **PKKPdf 23 21 30.1 -4.5**
comp=N,1.6nm,0.9s,baz=236,slow=1.6,SNR=5.8
IZAR Zarasai 113.15 329 *e*P PKiKP 23 10 35.1 +9.4
NACGM Naroch 113.20 328 *e*PKP **PP 23 11 16.0 +0.3**
NACGM *e*PP PP 23 12 38.0 +82
NACGM *e*SKP 23 14 16.0
NACGM *e*PPP PPP 23 15 30.0
NACGM *e*SKS SKSdf 23 18 02.0 +26
NACGM *e*SKKS SKKSac 23 19 08.0 +52
NACGM *e*SKKKS 23 20 18.0
NACGM *e*SKSP 23 22 20.0
NACGM *e*SS **SS 23 27 08.0 +9.4**
NACGM *e*SSS SSS 23 32 08.0
NACGM *e*LQ LQ 23 43 56.0
NACGM *e*LR LR 23 51 38.0
NACGM LRM MLR 00 04 36.0
comp=Z,43nm,18.0s
ISAL Salakas 113.28 328 *e*P PKiKP 23 10 41.3 +15
AKASG Malin Array Be 113.32 323 PKiKP **PKiKP 23 10 25.1 -1.1**
comp=Z,2.4nm,0.8s,baz=65,slow=2.1,SNR=8.0
AKASG PKKPab **PKKPbc 23 21 15.4 +2.4**
comp=Z,1.1nm,0.6s,baz=263,slow=4.0,SNR=4.2
AKBB Malin Array Si 113.32 323 *e*PKiKP **PKiKP 23 10 28.2 +2.0**
AKBB Malin Array Si 113.32 323 *e*PKIKP **PKiKP 23 10 28.2 +2.0**
KIEV Kiev 113.33 323 PFAKE 23 10 40.0 +14
KIEV LR LR
comp=Z,24µm,22.0s
EIL Elat 113.51 299 PKiKP **PKiKP 23 10 26.4 -0.8**
comp=Z,3.2nm,1.0s,baz=9.8,slow=9.1,SNR=3.7
KSU1 Kansas State U 113.65 50 PFAKE 23 10 40.0 +13
KSU1 LR LR
comp=Z,30µm,20.0s
ANTO Ankara 113.73 311 PFAKE 23 10 40.0 +13
ANTO LR LR
comp=Z,5µm,20.0s
JMIC Jan Mayen 114.11 352 PKP PKPdf 23 10 24.9 -2.3
comp=Z,21nm,0.5s,baz=221,slow=6.1,SNR=1.5
KVTX Kingsville 114.21 63 PFAKE 23 10 40.0 +11
KVTX LR LR
comp=Z,26µm,21.0s
KIS Kishinev 114.74 319 *e*P **Pdif 23 06 38.0 -1.2**
KIS Kishinev 114.74 319 *e*PKP PKPdf 23 10 32.0 +3.0
KIS Kishinev 114.74 319 *e*PP PP 23 11 36.0 +9.1
KIS Kishinev 114.74 319 *i* PPS PPS 23 20 30.0
KIS LRM MLR 00 20 00.0
comp=Z,24µm,24.0s
KIS Kishinev 114.74 319 *e*P **Pdif 23 06 38.0 -1.2**
BOSA Boshof 114.85 234 PKP **PKiKP 23 10 28.4 -1.6**
comp=Z,4.4nm,1.1s,baz=90,slow=4.0,SNR=2.2
EYMN Ely 114.98 40 PFAKE 23 10 40.0 +10
EYMN LR LR
comp=Z,48µm,21.0s
SUW Suwalki 115.48 328 *e*PKP PKPdf 23 10 38.5 +8.3
SUW Suwalki 115.48 328 *e*PKIKP PKPdf 23 10 38.5 +8.3
SCIA State Center 115.55 47 PFAKE 23 10 40.0 +9.2
SCIA LR LR
comp=Z,25µm,21.0s
TLB Topalu 115.98 317 ⇓ *i*P PKPpre 23 10 22.2
TLB Topalu 115.98 317 ⇓PKIKP PKPpre 23 10 22.2
HARR Harsova 116.03 317 ⇓ *i*P **PKiKP 23 10 38.3 +6.7**
HARR Harsova 116.03 317 ⇓PKIKP **PKiKP 23 10 38.3 +6.7**
NATX Nacogdoches 116.49 58 PFAKE 23 10 40.0 +7.1
NATX LR LR
comp=Z,26µm,20.0s
BIZ Bicaz 116.52 320 ⇓ *i*P PKPpre 23 10 28.9
SUR Sutherland 116.69 229 PFAKE 23 10 50.0 +16
SUR LR LR
comp=Z,29µm,21.0s
LSZ Lusaka 116.73 249 PFAKE 23 10 50.0 +16
LSZ LR LR
comp=Z,16µm,19.0s
LVV L'vov 116.74 323 *e*PKIKP **PKPdf 23 10 32.4 -0.4**
LVV *e* 23 21 13.4
LVV *e* 23 28 06.4
LVV MLR MLR
comp=E,11µm,22.0s
LVV MLR MLR
comp=N,6µm,23.0s
LVV MLR MLR
comp=Z,15µm,22.0s
KLNR Kaliningrad 116.76 329 ⇓ *i*PKIKP **PKPdf 23 10 30.1 -2.5**
KLNR MLR MLR
comp=Z,29µm,20.0s
BUR08 Bucovina Ar. S 116.84 321 *e*PKPdf **PKiKP 23 10 35.0 +1.8**
BURAR Bucovina Array 116.84 321 ⇑ *i*P **PKiKP 23 10 35.0 +1.8**
BURAR Bucovina Array 116.84 321 ⇑PKIKP **PKiKP 23 10 35.0 +1.8**
MIAR Mount Ida 116.91 55 PFAKE 23 10 50.0 +16
MIAR LR LR
comp=Z,61µm,21.0s
NB2 NORSAR Subarra 117.06 338 PKPdf **PKiKP 23 10 35.0 +1.8**
comp=Z,2.4nm,0.9s,baz=44,slow=1.9
NB200 NORSAR Array S 117.06 338 *e*PKPdf **PKPdf 23 10 31.8 -1.4**
NOA NORSAR Array B 117.06 338 PKP **PKPdf 23 10 31.8 -1.4**
comp=Z,1.3nm,0.9s,baz=46,slow=2.2,SNR=3.6
MLR Muntele Rosu 117.11 318 *e*PKPdf **PKPdf 23 10 31.8 -2.0**
MLR *e*PKPdf **PKiKP 23 10 32.9 -0.9**
MLR Muntele Rosu 117.11 318 ⇓ *i*P PKPpre 23 10 25.1
MLR Muntele Rosu 117.11 318 PKP **PKPdf 23 10 31.8 -2.0**
comp=Z,5.1nm,1.0s,baz=29,slow=3.6,SNR=9.8
COWI Conover 117.11 41 PFAKE 23 10 50.0 +16
COWI LR LR
comp=Z,46µm,22.0s
MBAR Mbarara 117.22 266 PFAKE 23 10 50.0 +15
MBAR LR LR
comp=Z,578nm,22.0s
JFWS Jewell Farm 117.38 45 PFAKE 23 10 50.0 +16
JFWS LR LR
comp=Z,29µm,20.0s
CMIG Matias Romero 117.59 74 PKP **PKPdf 23 10 34.1 -1.3**
comp=Z,2.7nm,0.9s,baz=332,slow=9.9,SNR=2.8
KWP Kalwaria Pacla 117.61 323 *e*PKPdf **PKPdf 23 10 34.0 -0.5**
KWP Kalwaria Pacla 117.61 323 *e*PKIKP **PKPdf 23 10 34.0 -0.5**
EFI East Falkland 117.63 162 PFAKE 23 10 50.0 +15
EFI LR LR
comp=Z,21µm,22.0s
VOIR 117.72 318 ⇓ *i*P **PKiKP 23 10 35.1 +0.1**
VOIR 117.72 318 ⇓PKIKP **PKiKP 23 10 35.1 +0.1**
O41A Passleys Farm, 117.72 48 P **PKPdf 23 10 34.9 -0.1**
baz=286
Q41A Truxton 117.77 49 P **PKiKP 23 10 35.2 +0.1**
baz=285
R41A Rosebud 117.82 50 P **PKPdf 23 10 35.2 0.0**
baz=284
CCM Cathedral Cave 117.98 50 P **PKPdf 23 10 35.3 -0.2**
baz=284
ARR Arges 118.02 318 ⇑ *i*P **PKPdf 23 10 35.3 -0.2**
L42A Oliver, Polo 118.07 46 *e*PKPdf **PKiKP 23 10 35.8 +0.2**
L42A Oliver, Polo 118.07 46 P **PKPdf 23 10 35.3 -0.3**
baz=288
HUMR Humele 118.08 317 ⇓ *i*P **PKPdf 23 10 33.0 -2.5**
UZH Uzhgorod 118.26 322 *i* PKIKP **PKPdf 23 10 35.6 -0.2**
UZH *i* 23 10 41.9
UZH *e* 23 10 51.0
UZH *i* 23 11 59.8
UZH *e*SS SS 23 28 25.0 +20
UZH MLR MLR
comp=N,2µm,21.0s
UZH MLR MLR
comp=E,3µm,21.0s
UZH MLR MLR
comp=Z,4µm,21.0s
P42A Winchester 118.27 48 *e*PKPdf **PKPdf 23 10 35.0 -1.1**
P42A Winchester 118.27 48 P **PKPdf 23 10 35.0 -1.1**
baz=286
T42A Van Buren 118.35 51 *e*PKPdf **PKiKP 23 10 36.4 +0.1**
SFJD Kangerlussuaq 118.42 8 PFAKE 23 10 50.0 +14
SFJD LR LR
comp=Z,15µm,22.0s
KDZ Kurdzhali 118.70 314 P PKiKP 23 10 46.2 +9.3
DRGR 118.74 320 ⇑ *i*P **PKPdf 23 10 34.7 -2.2**
DRGR 118.74 320 ⇑PKIKP **PKPdf 23 10 34.7 -2.2**
HDIL Hopedale 118.77 47 PFAKE 23 10 50.0 +13
HDIL LR LR
comp=Z,27µm,21.0s
P43A Skaggs, Pawnee 118.86 48 P **PKPdf 23 10 37.2 0.0**
baz=287
LTVH Ltavrtes, Hu 119.01 321 *e*PKPdf **PKiKP 23 10 43.0 +5.8**
OJC Ojcow 119.05 325 *e*PKP **PKiKP 23 10 37.5 +0.2**
OJC Ojcow 119.05 325 *e*PKIKP **PKiKP 23 10 37.5 +0.2**
NIE Niedzica 119.12 324 *e*PKP **PKiKP 23 10 38.1 +0.6**
NIE Niedzica 119.12 324 *e*PKIKP **PKiKP 23 10 38.1 +0.6**
HOPE Hope Point 119.12 177 PFAKE 23 10 50.0 +13
HOPE LR LR
comp=Z,20µm,20.0s
RZN Rozhen 119.19 314 P **PKPdf 23 10 35.6 -2.4**
GZR Gura Zlata 119.23 319 ⇓ *i*P **PKPdf 23 10 37.6 -0.2**
GZR Gura Zlata 119.23 319 ⇓PKIKP **PKPdf 23 10 37.6 -0.2**
LANS Liptovska Anna 119.72 324 *e*PKIKP **PKiKP 23 10 40.0 +1.3**
LANS Liptovska Anna 119.72 324 *e*PKP **PKiKP 23 10 40.0 +1.3**
BZS Buzias 119.90 319 ⇑ *i*P **PKPdf 23 10 38.8 -0.2**
BZS Buzias 119.90 319 ⇑PKIKP **PKPdf 23 10 38.8 -0.2**
VTS Vitosha 119.92 316 ⇑ *i*P **PKPdf 23 10 37.4 -1.9**
VTS Vitosha 119.92 316 ⇑PKIKP **PKPdf 23 10 37.4 -1.9**
VTS Vitosha 119.92 316 P **PKPdf 23 10 37.5 -1.9**
MMB Musomiste 119.92 315 P **PKPdf 23 10 37.5 -1.7**
PSZ Piszkesteto 120.02 322 *e*PKPdf **PKPdf 23 10 39.1 -0.2**
PSZ Piszkesteto 120.02 322 *e*PKIKP **PKPdf 23 10 39.1 -0.2**
PSZ Piszkesteto 120.02 322 *e*PKPdf **PKPdf 23 10 39.0 -0.2**
Q45A Warren Harvey, 120.09 49 P **PKiKP 23 10 40.0 +0.4**
baz=287
E46A Sault Ste Mari 120.12 39 P **PKPdf 23 10 39.0 -0.4**
baz=294
OKC Ostrava-Krasne 120.17 325 *e*PKPdf **PKPdf 23 10 39.3 -0.1**
OKC *e*pPKP **pPKPdf 23 10 45.8 -2.5**
OKC AMS AMS 00 09 30.0
comp=Z,11µm,17.6s
OKC Ostrava-Krasne 120.17 325 *e*PKIKP **PKPdf 23 10 39.3 -0.1**
OKC *e* 23 10 45.8
OKC MLR MLR
comp=Z,9µm,22.7s
OLIL Olney 120.18 49 *e*PKPdf **PKPdf 23 10 39.7 -0.1**
KKB Krupnik 120.28 315 P **PKPdf 23 10 39.9 0.0**
VYHS Vyhne 120.39 323 *e*PKIKP **PKPdf 23 10 39.4 -0.5**
VYHS Vyhne 120.39 323 *e*PKP **PKPdf 23 10 39.4 -0.5**
MORC Moravsky Berou 120.54 325 *e*PKPdf **PKPdf 23 10 40.1 -0.1**
MORC Moravsky Berou 120.54 325 *e*PKIKP **PKPdf 23 10 40.1 -0.1**
MORC Moravsky Berou 120.54 325 *e*PKP **PKPdf 23 10 40.1 -0.1**
GLMI Grayling 120.54 41 PFAKE 23 10 50.0 +10
GLMI LR LR
comp=Z,43µm,22.0s
D47A Chapleau 120.58 38 P **PKPdf 23 10 40.3 0.0**
baz=296
KSP Ksiaz 120.70 327 *e*PKP **PKiKP 23 10 41.3 +0.8**
KSP Ksiaz 120.70 327 *e*PKIKP **PKiKP 23 10 41.3 +0.8**
E47A Iron Bridge 120.73 39 P **PKPdf 23 10 39.2 -1.4**
baz=295
KRLC Kraliky 120.82 326 *e*PKPdf **PKiKP 23 10 41.1 +0.3**
KRLC *e*pPKP **pPKPdf 23 10 48.1 -1.6**
KRLC *ex* x 23 10 57.5
KRLC Kraliky 120.82 326 *e*PKIKP **PKiKP 23 10 41.1 +0.3**
KRLC *e* 23 10 48.1
KRLC *e* 23 10 57.5
KRLC MLR MLR
comp=Z,3µm,24.2s
VAY Valandovo 120.83 315 *i* P PKPpre 23 10 34.9
PLCA Paso Flores 120.86 146 PKP **PKPdf 23 10 40.4 -0.8**
comp=Z,3.6nm,1.1s,baz=2.5,slow=9.3,SNR=2.3
IDI Anoyia 120.89 307 PKP **PKPdf 23 10 40.1 -1.3**
comp=Z,16nm,1.0s,baz=358,slow=9.1,SNR=3.8
JAVC Velka Javorina 120.91 324 *e*PKP **PKiKP 23 10 41.9 +0.8**
DPC Dobruska-Polom 120.94 326 *e*PKPdf **PKPdf 23 10 40.7 -0.2**
DPC *e*pPKP **pPKPdf 23 10 48.4 -1.5**
DPC *ex* x 23 10 57.1
DPC *e*PP **PP 23 12 06.0 -3.7**
DPC *ex* x 23 20 18.6
DPC AMS AMS 00 03 30.0
comp=Z,18µm,21.5s
DPC Dobruska-Polom 120.94 326 *e*PKIKP **PKPdf 23 10 40.7 -0.2**
DPC *e* 23 10 48.4
DPC *e* 23 10 57.1
DPC *e* 23 12 06.0
DPC MLR MLR
comp=Z,18µm,30.1s
V46A Holladay 120.98 52 P **PKPdf 23 10 41.2 -0.2**
baz=286
SRO Srobarova 121.02 323 *e*PKIKP **PKiKP 23 10 41.2 0.0**
SRO Srobarova 121.02 323 *e*PKP **PKiKP 23 10 41.2 0.0**
UPC Upice 121.03 327 *e*PKPdf **PKPdf 23 10 40.8 -0.3**
UPC *e*pPKP **pPKPdf 23 10 48.2 -1.8**
UPC *ex* x 23 20 17.5
UPC AMS AMS 00 03 30.0
comp=Z,24µm,22.2s
UPC Upice 121.03 327 *e*PKIKP **PKPdf 23 10 40.8 -0.3**
UPC *e* 23 10 48.2
UPC MLR MLR
comp=Z,20µm,27.8s
O47A Sheridan 121.13 47 P **PKPdf 23 10 41.6 0.0**
baz=290
BLO Bloomington 121.22 48 *e*PKPdf **PKiKP 23 10 42.2 +0.3**
BLO Bloomington 121.22 48 *e*PKIKP **PKiKP 23 10 42.2 +0.3**
FRGS Fruska Gora 121.25 320 ⇑ *i*P **PKPdf 23 10 41.1 -0.6**
CSKK Cskako 121.25 322 *e*PKPdf **PKiKP 23 10 43.1 +1.4**
VRAC Vranov 121.31 325 *e*PKP **PKPdf 23 10 41.5 -0.1**
D48A Paudash Townsh 121.32 38 P **PKPdf 23 10 41.4 -0.3**
baz=297
Q47A Bedord North L 121.36 48 P **PKiKP 23 10 42.4 +0.2**
baz=289
MODS Modra-Piesok 121.37 324 *e*PKIKP **PKiKP 23 10 42.1 +0.2**
MODS Modra-Piesok 121.37 324 *e*PKP **PKiKP 23 10 42.1 +0.2**
E48A Lockeyer 121.41 39 P **PKiKP 23 10 42.1 0.0**
baz=296
T47A Sharon Grove 121.44 51 *e*PKPdf **PKPdf 23 10 42.1 -0.1**
T47A Sharon Grove 121.44 51 P **PKiKP 23 10 42.4 0.0**
baz=287
V47A Nunnelly 121.44 52 P **PKPdf 23 10 41.8 -0.5**
baz=286
R47A Wooly Knot Far 121.49 49 P **PKiKP 23 10 42.4 0.0**
baz=288
KRUC Moravsky 121.54 325 *e*PKP **PKPdf 23 10 41.9 -0.2**
D49A Beulah Townshi 121.55 37 P **PKiKP 23 10 42.3 0.0**
baz=298
DIVS Divibare 121.56 318 *e*PKPdf **PKPdf 23 10 42.2 -0.2**
DIVS Divibare 121.56 318 ⇑ *i*P **PKPdf 23 10 42.1 -0.2**
BORG Borgarnes 121.58 355 PFAKE 23 10 50.0 +8.2
BORG LR LR
comp=Z,3µm,22.0s
WCI Wyandotte Cave 121.68 49 *e*PKPdf **PKiKP 23 10 42.9 +0.1**
J48A Bridge Port 121.69 43 P **PKPdf 23 10 42.1 -0.4**
baz=293
KRUS Krusevo 121.74 315 *e*P **PKPdf 23 10 42.8 0.0**
AGG Agios Georgios 121.77 312 *e*PKPdf **PKPdf 23 10 42.2 -0.6**
AGG Agios Georgios 121.77 312 *e*PKIKP **PKPdf 23 10 42.3 -0.6**
PVCC Panska Ves 121.80 327 *e*PKPdf **PKiKP 23 10 43.2 +0.5**
PVCC *e*pPKP **pPKPdf 23 10 49.7 -1.8**
PVCC AMS AMS 00 04 30.0
comp=Z,19µm,22.6s
PVCC Panska Ves 121.80 327 *e*PKIKP **PKiKP 23 10 43.2 +0.5**
PVCC *e* 23 10 49.7
PVCC MLR MLR
comp=Z,26µm,27.4s
O48A Farmland 121.86 46 P **PKPdf 23 10 42.8 -0.2**
baz=290
FNA Florina 121.86 314 *e*PKPdf **PKPdf 23 10 42.5 -0.5**
FNA Florina 121.86 314 *e*PKIKP **PKPdf 23 10 42.6 -0.5**
APG El Apazote 121.89 77 PKP **PKPdf 23 10 42.8 -1.1**
comp=Z,4.2nm,0.8s,baz=72,slow=19,SNR=4.6
P48A Milroy 121.93 47 P **PKPdf 23 10 43.0 -0.1**
baz=290
TREC Trest 121.94 325 *e*PKPdf **PKPdf 23 10 42.7 -0.2**
TREC *e*pPKP **pPKPdf 23 10 49.0 -2.8**
TREC *ex* x 23 10 58.9
TREC *ex* x 23 20 25.8
TREC AMS AMS 00 04 00.0
comp=Z,18µm,24.0s
TREC Trest 121.94 325 *e*PKIKP **PKPdf 23 10 42.7 -0.2**
TREC *e* 23 10 49.0
TREC MLR MLR
comp=Z,13µm,24.5s
BRG Berggiesshubel 121.95 328 *e*PKP **PKPdf 23 10 42.3 -0.5**
comp=Z,24nm,1.5s
BRG *i* 23 10 50.8
comp=Z,24nm,1.1s
BRG SS SS 23 28 42.0 -10
comp=N,60µm,27.9s
comp=E,42µm,29.0s
comp=Z,30µm,28.2s
BRG Berggiesshubel 121.95 328 *e*PKIKP **PKPdf 23 10 42.3 -0.5**
BRG *i* 23 10 50.8
BRG SS SS 23 28 42.0 -10
BRG pmax pmax
comp=Z,24nm,1.5s
BRG MLR MLR
comp=N,60µm,27.9s
BRG MLR MLR
comp=E,42µm,29.0s
BRG MLR MLR
comp=Z,30µm,28.2s
GOPC GO Pecny, Ondr 122.01 326 *e*PKPdf **PKPdf 23 10 42.7 -0.3**
GOPC *e*pPKP **pPKPdf 23 10 50.1 -1.8**
GOPC *ex* x 23 10 58.8
GOPC *ex* x 23 20 25.7
GOPC AMS AMS 00 04 10.0
comp=Z,26µm,23.3s
GOPC GO Pecny, Ondr 122.01 326 *e*PKIKP **PKPdf 23 10 42.7 -0.3**
GOPC *e* 23 10 50.1
GOPC *e* 23 10 58.8
GOPC MLR MLR
comp=Z,21µm,28.4s
V48A Smith Brothers 122.01 52 *e*PKPdf **PKPdf 23 10 42.8 -0.6**
V48A Smith Brothers 122.01 52 P **PKPdf 23 10 43.1 -0.3**
baz=286
S48A Wiedeman Farm, 122.04 49 P **PKPdf 23 10 43.4 +0.1**
baz=288
BBLS Lazići 122.04 318 ⇑ *i*P **PKPdf 23 10 43.0 -0.3**
I49A Point Hope 122.07 42 P **PKPdf 23 10 41.8 -1.5**
baz=294
PRU Pruhonice 122.10 327 *e*PKPdf **PKPdf 23 10 42.7 -0.4**
PRU *e*pPKP **pPKPdf 23 10 50.0 -2.1**
PRU AMS AMS 00 04 10.0
comp=Z,24µm,24.1s
PRU Pruhonice 122.10 327 *e*PKIKP **PKPdf 23 10 42.7 -0.4**
PRU *e* 23 10 50.0
PRU MLR MLR
comp=Z,22µm,28.3s
AAM Ann Arbor 122.17 44 PFAKE 23 10 50.0 +6.4
AAM LR LR
comp=Z,29µm,22.0s
X48A Hartselle 122.18 53 P **PKPdf 23 10 43.7 -0.1**
baz=286
N49A Columbus Grove 122.31 45 *e*PKPdf **PKPdf 23 10 42.5 -1.3**
N49A Columbus Grove 122.31 45 P **PKPdf 23 10 42.8 -1.0**
baz=292
E50A Wahnapitae 122.32 38 P **PKiKP 23 10 43.9 +0.1**
baz=298
CONA Conrad Observa 122.41 324 *e*PKiKP **PKPdf 23 10 43.4 -0.5**
comp=Z,11nm,0.8s
P49A Miami Univ. Ec 122.42 47 P **PKPdf 23 10 43.9 -0.2**
baz=290
MATQ Matagami 122.45 33 P **PKPdf 23 10 43.5 -0.3**
baz=302
O49A Covington 122.47 46 *e*PKPdf **PKiKP 23 10 44.4 0.0**
D50A G1974 Best Tow 122.51 37 P **PKPdf 23 10 44.0 0.0**
baz=299
S49A Springfield 122.58 49 P **PKiKP 23 10 44.7 +0.1**
baz=289
LRAL Lakeview Retre 122.58 55 *e*PKPdf **PKiKP 23 10 45.0 +0.2**
LRAL Lakeview Retre 122.58 55 P **PKiKP 23 10 45.0 +0.2**
baz=285
U49A Red Boiling Sp 122.60 51 P **PKiKP 23 10 44.9 +0.2**
baz=288
T49A Edmonton 122.61 50 *e*PKPdf **PKPdf 23 10 44.5 0.0**
T49A Edmonton 122.61 50 P **PKPdf 23 10 44.5 0.0**
baz=288
PDG Podgorica 122.72 317 *e*P **PKiKP 23 10 51.7 +7.0**
D51A Lot 18 Range I 122.83 37 P **PKiKP 23 10 44.7 -0.1**
baz=299
DRME Dracevica, Mon 122.86 317 *e*P **PKiKP 23 10 46.8 +1.8**
Z49A Columbiana 122.92 55 P **PKiKP 23 10 46.2 +0.8**
baz=285
ARSA Arzberg 122.95 323 *e*PKPdf **PKPdf 23 10 43.9 -1.0**
comp=Z,3.6nm,0.8s
BRAL Brewton 122.98 57 PFAKE 23 11 00.0 +14
BRAL LR LR
comp=Z,27µm,21.0s
O50A Cable 123.00 46 P **PKPdf 23 10 45.1 0.0**
baz=292

E51A G1948 Merrick 123.02 38 P PKPdf 23 10 44.3 -0.7
baz=299
F51A Arnstein 123.05 38 P PKPdf 23 10 44.9 -0.2
baz=298
P50A Jamestown 123.06 47 P PKiKP 23 10 45.5 0.0
baz=291
KHC Kasperske Hory 123.09 326 *e*PKPdf PKPdf 23 10 45.2 0.0
KHC Kasperske Hory 123.09 326 *e*PKPdf PKPdf 23 10 42.9 -2.2
KHC *ep*PKP **pPKPdf** 23 10 52.2 -1.8
KHC *ex* 23 11 00.4
KHC *e*PKS **PKSdf** 23 14 22.3 +0.6
KHC Kasperske Hory 123.09 326 *e*PKiKP PKPdf 23 10 42.9 -2.2
KHC *e* 23 10 52.2
KHC MLR MLR
comp=Z,21µm,24.5s
NKC Novy Kostel 123.10 328 *e*PKPdf PKPdf 23 10 44.2 -0.9
NKC *ep*PKP **pPKPdf** 23 10 52.2 -1.8
NKC AMS AMS 00 09 10.0
comp=Z,27µm,19.2s
NKC Novy Kostel 123.10 328 *e*PKiKP PKPdf 23 10 44.2 -0.9
NKC *e* 23 10 52.2
NKC MLR MLR
comp=Z,24µm,29.8s
BLY Banja Luka 123.10 320 *e*PKPdf PKiKP 23 10 47.0 +1.5
BLY Banja Luka 123.10 320 *e*P PKPdf 23 10 43.6 -1.6
T50A Nancy 123.16 50 P PKPdf 23 10 45.5 -0.1
baz=289
GEC2 GERESS Array S 123.18 326 *e*PKPdf PKPdf 23 10 44.2 -1.2
GEC2 GERESS Array S 123.18 326 *e*PKiKP PKPdf 23 10 44.2 -1.2
GERES GERESS Array B 123.18 326 PKP PKPdf 23 10 44.2 -1.2
comp=Z,3.5nm,0.6s,baz=80,slow=1.2,SNR=13
LSQQ Lebel-sur-Quev 123.19 34 P PKPdf 23 10 44.8 -0.4
baz=303
S50A Richmond 123.28 49 P PKiKP 23 10 45.9 -0.1
baz=289
W50A Signal Mountai 123.35 52 *e*PKPdf PKPdf 23 10 46.0 0.0
W50A Signal Mountai 123.35 52 P PKiKP 23 10 46.3 0.0
baz=287
ZAG Zagreb 123.36 322 *e*P PKiKP 23 10 45.9 0.0
V50A Pikevile 123.37 51 P PKPdf 23 10 45.5 -0.5
baz=288
MOA Molln 123.38 325 *e*PKPdf PKPdf 23 10 43.8 -1.8
comp=Z,2.2nm,0.7s
ELFO Elginfield 123.38 42 P PKiKP 23 10 46.1 +0.1
baz=295
ACSO Alum Creek Sta 123.42 46 *e*PKPdf PKPdf 23 10 44.4 -1.6
ACSO LR LR
comp=Z,24µm,22.0s
ACSO Alum Creek Sta 123.42 46 P PKPdf 23 10 46.0 +0.1
baz=292
VLDQ Val d'Or 123.43 35 *e*PKPdf PKPdf 23 10 44.5 -1.2
F52A Sundridge 123.48 38 P PKPdf 23 10 45.9 0.0
baz=299
PERS Pernice 123.49 323 *i* PKPdf PKPdf 23 10 45.6 -0.4
PERS *i* 23 10 53.6
PERS *i* 23 10 59.8
SOKA Soboth 123.52 323 *e*PKiKP PKPdf 23 10 45.5 -0.6
comp=Z,8.5nm,1.1s
M51A Elyria 123.56 44 P PKPdf 23 10 46.3 +0.1
baz=294
N51A Ashland 123.58 45 *e*PKPdf PKPdf 23 10 45.4 -0.9
STON Ston 123.58 318 *e*P PKiKP 23 10 53.3 +6.9
P51A Williamsport 123.64 47 *e*PKPdf PKPdf 23 10 45.2 -1.1
E52A Mattawa 123.65 37 P PKPdf 23 10 46.1 -0.1
baz=300
CRES Cresnjev 123.68 322⇑ *i*P PKPdf 23 10 46.3 0.0
D53A Lac Vacive, Po 123.82 36 P PKPdf 23 10 46.2 -0.3
baz=301
OBKA Obir 123.90 323 *e*PKiKP PKiKP 23 10 47.3 +0.2
comp=Z,25nm,2.2s
BOJS Bojanci 123.96 322 *i* PKPdf PKPdf 23 10 46.9 +0.1
BOJS *i* 23 10 55.1
BOJS *i* 23 11 03.2
GRF Grafenberg Arr 124.06 328 *e*PKPdf PKPdf 23 10 46.8 -0.2
baz=55,slow=1.1
GRF *ep*PKPdf **pPKPdf** 23 10 55.0 -0.9
151A Opelika 124.08 55 P PKiKP 23 10 48.3 +0.5
baz=286
N52A McGinn's Farm, 124.11 45 P PKiKP 23 10 47.4 -0.1
baz=294
CHGQ Chibougamau 124.12 32 P PKPdf 23 10 47.0 -0.1
baz=306
LJU Ljubljana 124.14 323⇑ *i*P PKPdf 23 10 46.9 -0.3
ALGO Algonquin Park 124.18 38 P PKPdf 23 10 47.2 0.0
baz=300
E53A Dumoine, Ponti 124.20 37 P PKPdf 23 10 47.1 -0.2
baz=301
G53A Haliburton 124.23 39 P PKiKP 23 10 47.5 -0.1
baz=299
P52A Corning 124.25 46 P PKPdf 23 10 47.5 -0.1
baz=292
O52A Adamsville 124.27 45 *e*PKPdf PKiKP 23 10 50.1 +2.2
KBA Koelnbreinsper 124.31 324 PKiKP PKPdf 23 10 46.9 -0.8
comp=Z,10nm,1.2s,SNR=4.4
CEY Cerknica 124.35 322⇑ *i*P PKPdf 23 10 47.1 -0.5
MYKA Terra Mystica 124.37 324 *e*PKiKP PKPdf 23 10 47.3 -0.4
comp=Z,10nm,0.9s
TYNO Tyneside 124.38 41 P PKiKP 23 10 47.9 -0.1
baz=297
SCHQ Schefferville 124.39 24 *e*PKPdf PKiKP 23 10 47.6 -0.1
D54A Lac Fusel, La 124.39 36 P PKPdf 23 10 46.8 -0.8
baz=302
Q52A Bidwell 124.40 47 P PKPdf 23 10 47.7 -0.2
baz=292
TKL Tuckaleechee C 124.41 51 *e*PKPdf PKiKP 23 10 48.6 +0.4
TKL Tuckaleechee C 124.41 51 *e*PKiKP PKiKP 23 10 48.7 +0.4
E54A Lac Daplat, Po 124.45 37 P PKPdf 23 10 47.2 -0.5
baz=301
U52A Thorn Hill 124.48 50 P PKiKP 23 10 48.7 +0.2
baz=289
V52A Sevierville 124.48 51 *e*PKPdf PKiKP 23 10 48.5 +0.1
V52A Sevierville 124.48 51 P PKiKP 23 10 48.7 +0.3
baz=289
JAVS Javornik 124.50 323 *e*PKPdf PKiKP 23 10 48.2 -0.1
JAVS *i* 23 10 56.7
JAVS *i* 23 11 04.2
152A Waverly Hall 124.53 55 *e*PKPdf PKiKP 23 10 48.7 +0.1
152A Waverly Hall 124.53 55 P PKiKP 23 10 49.0 +0.4
baz=286
O53A New Philadelph 124.66 45 P PKPdf 23 10 48.2 -0.1
baz=294
BANO Bancroft 124.72 38 P PKPdf 23 10 48.4 +0.1
baz=300
Y52A Lilburn 124.72 53 *e*PKPdf PKiKP 23 10 49.0 0.0
Y52A Lilburn 124.72 53 P PKiKP 23 10 49.0 0.0
baz=287
ERPA Erie 124.73 42 *e*PKPdf PKiKP 23 10 50.3 +1.6
PEMO Pembroke 124.81 38 P PKPdf 23 10 48.5 +0.1
baz=301
P53A Whipple 124.83 46 *e*PKPdf PKPdf 23 10 48.1 -0.6
T53A Wise 124.91 49 P PKPdf 23 10 49.1 +0.1
baz=290
ABTA Abfaltersbach 124.97 324 *e*PKiKP PKPdf 23 10 47.9 -1.0
comp=Z,14nm,1.0s
TSUM Tsumeb 125.01 241 *e*PKPdf PKiKP 23 10 50.7 +0.5
TSUM LR LR
comp=Z,19µm,19.0s
W53A Cullowhee 125.03 51 P PKiKP 23 10 50.0 +0.2
baz=289
V53A Saluda 125.14 51 *e*PKPdf PKiKP 23 10 50.4 +0.5
V53A Saluda 125.14 51 P PKiKP 23 10 50.0 +0.1
baz=289
DELO Deloro Mine 125.15 39 P PKPdf 23 10 48.8 -0.4
baz=300
WATA Walderalm 125.19 325 *e*PKPdf PKPdf 23 10 47.9 -1.4
comp=Z,10nm,0.6s
WTTA Wattenberg 125.20 325 *e*PKiKP PKPdf 23 10 48.7 -0.7
comp=Z,77nm,1.4s
M54A Oil Creek Stat 125.21 43 *e*PKPdf PKPdf 23 10 49.5 +0.1
M54A Oil Creek Stat 125.21 43 P PKPdf 23 10 49.4 +0.1
baz=296
PLVO Plevna 125.23 38 *e*PKPdf PKPdf 23 10 48.9 -0.4
PLVO Plevna 125.23 38 P PKPdf 23 10 49.2 -0.1
baz=300
O54A Avella 125.27 45 P PKiKP 23 10 50.1 +0.2
baz=294
GOGA Godfrey 125.33 54 PFAKE 23 11 00.0 +10
GOGA LR LR
comp=Z,32µm,20.0s
G55A Calabogie 125.34 38 P PKPdf 23 10 49.4 0.0
baz=301
Q54A Coxs Mills 125.43 46 P PKPdf 23 10 48.9 -1.0
baz=293
MOTA Moosalm 125.45 325 *e*PKPdf PKPdf 23 10 48.5 -1.4
comp=Z,18nm,0.8s,SNR=13
SQTA Sankt Quirin 125.46 325 *e*PKiKP PKPdf 23 10 49.0 -0.9
comp=Z,16nm,1.0s,SNR=11
RETA Reutte 125.57 326 *e*PKPdf PKPdf 23 10 48.6 -1.3
comp=Z,21nm,1.2s
R54A Victor 125.62 47 P PKPdf 23 10 50.3 +0.1
baz=292
STU Stuttgart 125.67 328 *e*PKPdf PKiKP 23 10 50.5 +0.1
STU Stuttgart 125.67 328 *e*PKiKP PKiKP 23 10 50.5 +0.1
K55A Perry 125.72 41 P PKPdf 23 10 50.5 +0.1
baz=298
L55A Hinsdale 125.73 42 P PKPdf 23 10 50.4 0.0
baz=297
Y54A Tignall 125.81 53 P PKPdf 23 10 50.9 +0.1
baz=288
MMNY Mt. Morris Dam 125.83 41 *e*PKPdf PKPdf 23 10 50.5 0.0
M55A Ridgway 125.83 43 P PKPdf 23 10 50.6 0.0
baz=297
X54A Belton 125.84 52 P PKiKP 23 10 51.6 +0.4
baz=289
FETA Feichten 125.85 325 PKiKP PKPdf 23 10 50.0 -0.6
comp=Z,20nm,1.1s
H56A Elgin 125.96 38 P PKPdf 23 10 50.5 -0.2
baz=301
Q55A Buckhannon 125.96 46 P PKiKP 23 10 51.3 -0.1
baz=294
HODGE Hodges 126.04 52 *e*PKPdf PKiKP 23 10 52.1 +0.5
MEM Membach 126.13 331 ⇓PKiKP PKiKP 23 10 51.1 -0.1
S55A Lewisburg 126.14 48 P PKPdf 23 10 50.3 -1.0
baz=293
DAVA Damuels 126.17 326 PKPdf PKPdf 23 10 48.8 -2.5
comp=Z,17nm,1.0s
PAULI Pauline 126.19 51 *e*PKPdf PKiKP 23 10 52.4 +0.5
U55A TA2, Sparta 126.20 49 P PKPdf 23 10 51.6 0.0
baz=291
R55A Marlinton 126.22 47 P PKPdf 23 10 51.7 +0.2
baz=293
ALFO Alfred 126.24 36 P PKPdf 23 10 51.2 +0.1
baz=303
FUORN Ofenpass-Fuorn 126.34 325 *e*PKPdf PKPdf 23 10 51.5 -0.3
BFO Black Forest 126.40 328 *e*PKPdf PKPdf 23 10 51.4 -0.1
BFO LR LR
comp=Z,922nm,22.0s
BFO Black Forest 126.40 328 *c i*PKiKP PKiKP 23 10 52.1 +0.2
BFO pmax pmax
comp=Z,7.0nm,2.5s
BLA Blacksburg 126.41 48 *e*PKPdf PKiKP 23 10 52.3 0.0
BLA LR LR
comp=Z,47µm,22.0s
BLA Blacksburg 126.41 48 *e*PKiKP PKiKP 23 10 52.3 0.0
BLA MLR MLR
comp=Z,47µm,22.0s
ESK Eskdalemuir 126.42 340 PFAKE 23 11 00.0 +8.3
ESK LR LR
comp=Z,21µm,21.0s
KMSC Kings Mountain 126.46 51 *e*PKPdf PKiKP 23 10 52.3 -0.1
KMSC Kings Mountain 126.46 51 P PKiKP 23 10 52.4 -0.1
baz=290
BCLA Clavier 126.59 331 ⇓PKiKP PKiKP 23 10 59.1 +6.9
WLF Walferdange 126.67 330 ⇑PKiKP PKPdf 23 10 52.0 +0.1
SSPA Standing Stone 126.80 43 *e*PKPdf PKiKP 23 10 52.8 -0.1
SSPA Standing Stone 126.80 43 P PKiKP 23 10 52.7 -0.1
baz=297
JSC Jenkinsville 126.80 52 *e*PKPdf PKiKP 23 10 53.2 +0.1
JSC Jenkinsville 126.80 52 *e*PKiKP PKiKP 23 10 53.2 +0.1
X56A White Oak 126.91 52 P PKiKP 23 10 53.1 -0.2
baz=290
LONY Lake Ozonia 126.97 37 *e*PKPdf PKPdf 23 10 52.8 +0.1
LONY LR LR
comp=Z,25µm,20.0s
LONY Lake Ozonia 126.97 37 P PKiKP 23 10 52.9 -0.2
baz=303
DOU Dourbes 127.14 331 ⇑PKiKP PKPdf 23 10 52.7 0.0
JTS JuntasAbangare 127.31 82 *e*PKPdf PKiKP 23 10 54.8 +0.2
JTS LR LR
comp=Z,24µm,22.0s
JTS JuntasAbangare 127.31 82 *c i*PKiKP PKiKP 23 10 55.7 +1.0
JTS JuntasAbangare 127.31 82 PKP PKPdf 23 10 52.6 -1.5
comp=Z,28nm,1.0s,baz=305,slow=4.5,SNR=9.4
BINY Binghamton 127.33 41 *e*PKPdf PKiKP 23 10 53.8 -0.1
BINY LR LR
comp=Z,27µm,20.0s
BINY Binghamton 127.33 41 P PKiKP 23 10 53.8 -0.1
baz=300
FRNY Flat Rock 127.44 37 *e*PKPdf PKPdf 23 10 52.8 -0.7
W57A Gilead 127.48 50 P PKiKP 23 10 54.6 +0.2
baz=291
NCB Newcomb 127.53 38 *e*PKPdf PKiKP 23 10 54.3 0.0
NHSC New Hope 128.04 53 PFAKE 23 11 10.0 +14
NHSC LR LR
comp=Z,26µm,19.0s
MVL Millersville 128.13 43 *e*PKPdf PKiKP 23 10 55.8 +0.2
SENIN Lac Senin/Sane 128.15 326 *e*PKPdf PKiKP 23 10 55.5 -0.3
CBN Corbin Frederi 128.22 46 PFAKE 23 11 10.0 +14
CBN LR LR
comp=Z,47µm,20.0s
LCO Las Campanas 128.37 135 PFAKE 23 11 10.0 +13
LCO LR LR
comp=Z,14µm,22.0s
TRY Troy 128.53 39 *e*PKPdf PKiKP 23 10 56.2 -0.1
HNH Hanover 128.85 37 *e*PKPdf PKiKP 23 10 57.2 +0.3
CLTB Caltabellotta 128.95 314 *e*PKPdf PKiKP 23 10 58.5 +1.1
CNNC Cliffs of the 129.05 49 PFAKE 23 11 10.0 +12
CNNC LR LR
comp=Z,33µm,21.0s
BNI Bardonecchia 129.29 325 *e*PKPdf PKiKP 23 10 58.0 0.0
BNI Bardonecchia 129.29 325 *e*PKiKP PKiKP 23 10 58.0 0.0
PQI Presque Isle 129.46 32 *e*PKPdf PKPdf 23 10 57.3 0.0
PKME Peaks-Kenny Pk 129.66 34 PFAKE 23 11 10.0 +12
PKME LR LR
comp=Z,34µm,22.0s
BATG Bathurst New B 130.06 30 *e*PKPdf PKiKP 23 10 58.9 -0.3
SSB Saint Sauveur 130.33 327 *e*PKPdf PKiKP 23 11 02.0 +2.1
NNA Nana 131.47 112 *e*PKPdf PKPdf 23 11 00.8 -1.3
NNA LR LR
comp=Z,6µm,19.0s
NNA Nana 131.47 112 *e*PKiKP PKPdf 23 11 00.8 -1.3
NNA MLR MLR
comp=Z,6µm,19.0s
NNA Nana 131.47 112 PKP PKPdf 23 11 00.8 -1.3
comp=Z,6.7nm,0.9s,baz=257,slow=13,SNR=2.4
NNA SKP 23 14 31.5
comp=Z,5.2nm,0.7s,baz=292,slow=3.9,SNR=2.8
ATAH Atahualpa 131.49 106 PKP PKPdf 23 11 01.1 -1.6
comp=Z,9.1nm,0.9s,baz=262,slow=2.3,SNR=9.8
ATAH SKP 23 14 31.6
comp=Z,5.1nm,0.9s,baz=269,slow=9.8,SNR=2.8
LPA La Plata 131.81 151 PDIFF Pdif 23 07 56.3 +0.8
LPA PKiKP **pPKPdf** 23 11 10.0 -0.8
LPA PP **PP** 23 13 26.4 +4.9
LPA SKP 23 14 27.8
LPA SS SS 23 30 59.6 +4.9
BCIP Isla Barro Col 132.34 84 PFAKE 23 11 20.0 +15
BCIP LR LR
comp=Z,15µm,21.0s
BCIP Isla Barro Col 132.34 84 *e*P PKPdf 23 11 02.8 -0.9
BCIP Isla Barro Col 132.34 84 *e*P PKPdf 23 11 02.8 -0.9
KEST Kesra 132.56 313 *e*PKPdf PKPdf 23 11 03.6 0.0
KEST Kesra 132.56 313 PKP PKPdf 23 11 03.4 -0.2
comp=Z,7.4nm,0.9s,baz=345,slow=1.6,SNR=5.9
KEST SKP 23 14 31.9
comp=Z,10.0nm,1.0s,baz=0.0,slow=6.1,SNR=3.9
OTAV Otavalo 132.98 96 *e*PKPdf PKiKP 23 11 06.4 -0.2
OTAV LR LR
comp=Z,13µm,20.0s
OTAV Otavalo 132.98 96 *e*P PKiKP 23 11 06.6 -0.1
OTAV Otavalo 132.98 96 *c i*PKiKP PKiKP 23 11 06.5 -0.2
OTAV pmax pmax
comp=Z,41nm,1.7s
OTAV Otavalo 132.98 96 *e*P PKiKP 23 11 06.6 -0.1
LVC Limon Verde 133.41 130 *e*PKPdf PKiKP 23 11 06.9 -0.3
LVC LR LR
comp=Z,22µm,22.0s
LVC Limon Verde 133.41 130 PKP PKiKP 23 11 06.9 -0.3
comp=Z,2.1nm,0.6s,baz=93,slow=3.0,SNR=2.0
LVC SKP 23 14 33.5
comp=Z,2.4nm,0.9s,baz=24,slow=10,SNR=1.8
CMBC Cumbal 133.70 95 *e*P PKiKP 23 11 09.8 +1.7
CMBC Cumbal 133.70 95 *e*P PKiKP 23 11 09.8 +1.7
MAHO Mahon 133.79 321 *e*PKP PKiKP 23 11 15.3 +8.4
MAHO Mahon 133.79 321 *i* PKS 23 14 53.7
PB01 IPOC Station P 133.82 128 *e*PKPdf PKiKP 23 11 08.0 +0.2
MTDJ Mount Denham 133.98 71 PFAKE 23 11 20.0 +12
MTDJ LR LR
comp=Z,11µm,20.0s
GCUF Volcan Galeras 134.22 95 *e*P PKPpre 23 11 00.4
GCUF Volcan Galeras 134.22 95 *e*P PKPpre 23 11 00.4

SOLC Bahia Solano 134.65 88 *e*P PKiKP 23 11 09.8 +0.3
SOLC Bahia Solano 134.65 88 *e*P PKiKP 23 11 09.8 +0.3
CRUC La Cruz 134.66 94 *e*P PKiKP 23 11 09.5 -0.4
CRUC La Cruz 134.66 94 *e*P PKiKP 23 11 09.5 -0.4
POPC Popayan, Colom 135.05 93 *e*P PKPdf 23 11 08.0 -1.1
POPC Popayan, Colom 135.05 93 *e*P PKPdf 23 11 08.0 -1.1
SOTA Rioblanco 135.07 94 *e*P PKPdf 23 11 09.5 0.0
SOTA Rioblanco 135.07 94 *e*P PKPdf 23 11 09.5 0.0
PCON Cinco Dias 135.30 93 *e*P PKiKP 23 11 13.0 +1.5
PCON Cinco Dias 135.30 93 *e*P PKiKP 23 11 13.0 +1.5
YOTC Yotoco, Valle 135.53 91 *e*P PKPdf 23 11 08.9 -1.0
YOTC Yotoco, Valle 135.53 91 *e*P PKPdf 23 11 08.9 -1.0
MARP Paez Belalcaza 135.80 93 *e*P PKPdf 23 11 09.7 -0.9
MARP Paez Belalcaza 135.80 93 *e*P PKPdf 23 11 09.7 -0.9
DBBC Dabeiba 135.88 87 *e*P PKPdf 23 11 10.6 +0.1
DBBC Dabeiba 135.88 87 *e*P PKPdf 23 11 10.6 +0.1
GTBY Guantanamo Bay 135.95 68 PFAKE 23 11 20.0 +8.1
GTBY LR LR
comp=Z,12µm,22.0s
HELC Santa Helena 136.51 88 *e*P PKPdf 23 11 11.5 -0.5
HELC Santa Helena 136.51 88 *e*P PKPdf 23 11 11.5 -0.5
UREC San Jos de Ur 136.57 86 *e*P PKiKP 23 11 16.2 +2.8
UREC San Jos de Ur 136.57 86 *e*P PKiKP 23 11 16.2 +2.8
PTLC Puerto Leguiza 136.58 97 *e*P PKPdf 23 11 12.3 +0.6
PTLC Puerto Leguiza 136.58 97 *e*P PKPdf 23 11 12.3 +0.6
RREF El Recreo 136.61 90 *e*P PKiKP 23 11 19.2 +4.9
RREF El Recreo 136.61 90 *e*P PKiKP 23 11 19.2 +4.9
SJCC San Jacinto, C 136.94 83 *e*P PKiKP 23 11 21.9 +7.7
SJCC San Jacinto, C 136.94 83 *e*P PKiKP 23 11 21.9 +7.7
PRAC Prado 136.96 92 *e*P PKPdf 23 11 10.8 -1.7
PRAC Prado 136.96 92 *e*P PKPdf 23 11 10.8 -1.7
NORC Norcasia 137.13 89 *e*P PKPdf 23 11 08.1 -4.7
NORC Norcasia 137.13 89 *e*P PKPdf 23 11 08.1 -4.7
ZARC Zaragoza, Cauc 137.23 86 *e*P PKPdf 23 11 13.4 +0.5
ZARC Zaragoza, Cauc 137.23 86 *e*P PKPdf 23 11 13.4 +0.5
LPAZ La Paz 137.37 123 *e*PKPpre PKPpre 23 11 05.4
LPAZ *e*SKPbc **SKPbc** 23 14 45.2 -0.2
LPAZ La Paz 137.37 123 *e*PKHKP PKPpre 23 11 05.4
LPAZ La Paz 137.37 123 PKhKP PKPpre 23 11 09.6
comp=Z,4.6nm,0.9s,baz=256,slow=2.6,SNR=13
LPAZ SKPbc **SKPbc** 23 14 45.2 -0.2
comp=Z,2.4nm,0.9s,baz=347,slow=5.6,SNR=2.1
PTBC PUERTO BERRIO 137.59 88 *e*P PKPdf 23 11 09.5 -4.0
PTBC PUERTO BERRIO 137.59 88 *e*P PKPdf 23 11 09.5 -4.0
ROSC El Rosal 137.62 90 *e*PKPdf PKPdf 23 11 13.7 -0.4
ROSC El Rosal 137.62 90⇑ *e*P PKPdf 23 11 12.3 -1.8
ROSC El Rosal 137.62 90⇑ *e*P PKPdf 23 11 12.3 -1.8
ROSC El Rosal 137.62 90 PKP PKPdf 23 11 13.2 -0.8
comp=Z,11nm,0.7s,baz=180,slow=14,SNR=8.2
SMRC Santa Marta, M 137.84 81 *e*P PKiKP 23 11 17.9 +1.9
SMRC Santa Marta, M 137.84 81 *e*P PKiKP 23 11 17.9 +1.9
UCM Universidad Co 137.91 327 *e*PKP PKiKP 23 11 15.6 +0.2
UCM *i* SS SS 23 33 39.0 +90
VILC Villavicencio, 138.18 91 *e*P PKPdf 23 11 15.0 +0.2
VILC Villavicencio, 138.18 91 *e*P PKPdf 23 11 15.0 +0.2
CHIC Chingaza 138.19 91 *e*P PKPdf 23 11 13.7 -1.4
CHIC Chingaza 138.19 91 *e*P PKPdf 23 11 13.7 -1.4
BRRC Barranca, Sant 138.36 87 *e*P PKPdf 23 11 10.1 -4.8
BRRC Barranca, Sant 138.36 87 *e*P PKPdf 23 11 10.1 -4.8
CART Cartagena 138.46 322 *e*PKP PKiKP 23 11 15.7 -0.8
CART Cartagena 138.46 322 *i* PKS 23 15 05.6
PBRG Braganca 138.58 331 *e*SS SS 23 32 38.8 +23
CODC Agustn Codazz 138.65 83 *e*P PKPdf 23 11 16.3 +0.8
CODC Agustn Codazz 138.65 83 *e*P PKPdf 23 11 16.3 +0.8
ES06 SONSECA Array 138.74 327 *e*PKPdf PKPdf 23 11 14.7 -0.3
ESDC Sonseca Array 138.75 327 PKP PKPdf 23 11 12.1 -2.9
comp=Z,0.8nm,0.7s,baz=77,slow=3.0,SNR=5.0
ESDC SKPbc **SKPbc** 23 14 42.0 -6.0
comp=Z,1.4nm,0.9s,baz=34,slow=4.8,SNR=5.4
ESDC SKPab **SKiKP** 23 14 51.9 +0.4
comp=Z,1.2nm,0.8s,baz=6,slow=4.2,SNR=3.0
OCAC Ocana 138.77 85 *e*P PKPdf 23 11 10.3 -5.5
OCAC Ocana 138.77 85 *e*P PKPdf 23 11 10.3 -5.5
CPUP Villa Florida 138.85 144 *e*PKPdf PKiKP 23 11 16.8 -0.9
CPUP *e*SKPab **SKiKP** 23 14 51.0 -1.0
CPUP Villa Florida 138.85 144 *e*PKiKP PKiKP 23 11 16.8 -0.9
CPUP Villa Florida 138.85 144 PKP PKPdf 23 11 13.0 -2.5
comp=Z,1.8nm,0.8s,baz=32,slow=2.5,SNR=2.6
CPUP SKPab **SKiKP** 23 14 51.0 -1.0
comp=Z,2.1nm,0.9s,baz=225,slow=8.4,SNR=2.1
BARC Barichara 138.86 88 *e*P PKPdf 23 11 13.5 -2.6
BARC Barichara 138.86 88 *e*P PKPdf 23 11 13.5 -2.6
RUSC La Rusia 138.92 89⇓ *e*P PKPdf 23 11 16.1 -0.5
RUSC La Rusia 138.92 89⇓ *e*P PKPdf 23 11 16.1 -0.5
PAB San Pablo 139.05 327 PFAKE 23 11 30.0 +12
PAB LR LR
comp=Z,17µm,20.0s
PGAV Gavieira, Arco 139.16 333 *e*SS SS 23 32 22.1 -1.1
PGAV Gavieira, Arco 139.16 333 *e*LQ LQ 23 50 05.7
PGAV *e*LR LR 23 59 34.8
comp=Z,20µm,20.0s
MVO Moncorvo 139.21 331 *i* LQ LQ 23 11 24.9
MVO Moncorvo 139.21 331 *e*SS SS 23 33 06.7 +43
MVO Moncorvo 139.21 331 *e*LQ LQ 23 50 06.6
MVO *e*LR LR 23 59 25.8
comp=Z,41µm,22.0s
GRTK Grand Turk 139.22 65 PFAKE 23 11 30.0 +11
GRTK LR LR
comp=Z,21µm,22.0s
PAMC Pamplona, Colo 139.37 87 *e*P PKPdf 23 11 13.9 -3.4
PAMC Pamplona, Colo 139.37 87 *e*P PKPdf 23 11 13.9 -3.4
POLO Lamas de Olo 139.41 332 *i* LQ LQ 23 11 24.4
SDDR Presa de Saban 139.68 69 PFAKE 23 11 30.0 +10
SDDR LR LR
comp=Z,21µm,20.0s
URIC Uribia, Colomb 140.00 80 *e*P PKPdf 23 11 18.4 +0.5
URIC Uribia, Colomb 140.00 80 *e*P PKPdf 23 11 18.4 +0.5
MTE Manteigas 140.05 331 *e*SS SS 23 33 04.9 +31
MTE Manteigas 140.05 331 *e*LQ LQ 23 50 45.5
MTE *e*LR LR 23 57 00.3
comp=Z,41µm,22.0s
TAMC Tame, Arauca 140.24 88 *e*P PKPdf 23 11 18.9 +0.5
TAMC Tame, Arauca 140.24 88 *e*P PKPdf 23 11 18.9 +0.5
PCBR Castelo Branco 140.45 330 *i* LQ LQ 23 11 26.7
COI Coimbra 140.62 331 *e*SS SS 23 32 49.3 +9.2
PMRV Marv??o 140.72 330 *i* LQ LQ 23 11 27.2
PMRV Marv??o 140.72 330 *e*SS SS 23 33 16.5 +35
PMRV Marv??o 140.72 330 *e*LQ LQ 23 50 39.6
PMRV *e*LR LR 23 56 29.1
comp=Z,24µm,22.0s
PCAS Casmilo, Conde 140.78 331 *e*SS SS 23 33 26.9 +45
MELI Melilla 141.12 321 *e*PKP PKPdf 23 11 19.2 -0.1
MELI *i* SSS SSS 23 38 26.8
PESTR Estremoz 141.25 329 *e*SS SS 23 33 12.0 +24
PMTG Montargil 141.41 330 *e*SS SS 23 33 24.6 +35
SDV Santo Domingo 141.43 84 *e*PKPpre PKPpre 23 11 15.6
SDV *e*SKPbc **SKPbc** 23 14 54.8 -1.2
SDV *e*SKPab **SKiKP** 23 15 03.4 +5.4
SDV LR LR
comp=Z,15µm,22.0s
SDV Santo Domingo 141.43 84⇑ *e*P PKPdf 23 11 21.0 +0.3
SDV Santo Domingo 141.43 84⇑ *e*P PKPdf 23 11 21.0 +0.3
SDV Santo Domingo 141.43 84 PKhKP PKPpre 23 11 14.5
comp=Z,12nm,0.9s,baz=278,slow=4.6,SNR=9.8
SDV PKP **PKPdf** 23 11 17.8 -3.0
comp=Z,34nm,1.1s,baz=289,slow=4.1,SNR=9.8
SDV *e*SKPbc **SKPbc** 23 14 54.8 -1.2
comp=Z,7.3nm,1.0s,baz=11,slow=17,SNR=1.7
SDV SKPab **SKiKP** 23 15 03.4 +5.4
comp=Z,16nm,1.1s,baz=307,slow=4.3,SNR=3.3
PMAFR Mafra 142.01 331 *e*SS SS 23 33 00.7 +4.3
LIS Lisbon 142.14 331 *e*PKPdf PKPdf 23 11 21.0 0.0
LIS *e*SS SS 23 33 00.1 +2.3
LIS AMS AMS 00 18 11.2
comp=Z,36µm,21.9s
LIS Lisbon 142.14 331 *e*PKiKP PKPdf 23 11 21.0 0.0
LIS *e*SS SS 23 33 00.1 +2.3
CEU Ceuta 142.19 324 *i* SS SS 23 33 06.3 +7.3
SFS San Fernando 142.27 325 *e*PKP PKiKP 23 11 26.4 +2.0
SFS *e*SS SS 23 33 01.0 +1.2
PNCL Nicolau / Gran 142.30 329 *e*SS SS 23 33 01.3 +1.5
MESJ Messejana 142.35 329 *e*PKPdf PKPdf 23 11 21.3 -0.2
MESJ *e*SS SS 23 33 02.5 +2.1
MESJ AMS AMS 00 17 59.1
comp=Z,22µm,23.2s
MESJ Messejana 142.35 329 *i* LQ LQ 23 11 34.6
MESJ Messejana 142.35 329 *e*PKiKP PKPdf 23 11 21.3 -0.2
MESJ *e*SS SS 23 33 02.5 +2.1
PVAQ Vaqueiros 142.41 328 *e*SS SS 23 33 15.3 +14
PVAQ Vaqueiros 142.41 328 *e*LQ LQ 23 50 50.0
PBDV Barranco-do-Ve 142.65 328 *e*SS SS 23 33 38.5 +34
MORF Marmelete 142.97 329 *e*PKPdf PKPdf 23 11 22.6 -0.1

MORF				*e*SS	SS	23 33 09.9	+2.1	
MORF				AMS	AMS	00 06 23.3		
	comp=E,21µm,24.5s							
MORF	**Marmelete**	**142.97**	**329**	*i* LQ	LQ	23 11 29.3		
MORF	**Marmelete**	**142.97**	**329**	*e*SS	SS	23 33 38.5	+31	
MORF	**Marmelete**	**142.97**	**329**	*e*PKIKP	**PKPdf**	**23 11 22.6**	**-0.1**	
MORF				*e*SS	SS	23 33 09.9	+2.1	
PFVI	**Vila Bisbo**	**143.20**	**329**	*e*SS	SS	23 33 36.1	+26	
SIV	**San Ignacio**	**143.25**	**128**	PKhKP	PKPpre	23 11 17.9		
	comp=E,6.3nm,0.9s,baz=223,slow=3.8,SNR=8.9							
SIV				PKP	PKPbc	23 11 21.3	+0.6	
	comp=E,6.3nm,0.9s,baz=223,slow=3.4,SNR=16							
SIV				SKP		23 14 47.7		
	comp=E,4.4nm,0.9s,baz=239,slow=23,SNR=1.8							
SIV				SKPab	SKiKP	23 15 12.7	+11	
	comp=E,17nm,1.1s,baz=182,slow=5.8,SNR=3.9							
IFR	**Ifrane**	**143.65**	**321**	*i* PKP	PKiKP	23 11 36.3	+8.8	
IFR				*e*SS	SS	23 33 21.1	+4.6	
SJG	**San Juan**	**144.62**	**68**	*e*PKPdf	**PKPab**	**23 11 23.8**	**-0.8**	
SJG				*e*PKPdf	**PKPdf**	**23 11 27.0**	**+1.0**	
SJG				*e*SKPbc	**SKPbc**	**23 15 01.0**	**-2.4**	
SJG				LR	LR			
	comp=Z,16µm,22.0s							
SJG	**San Juan**	**144.62**	**68**	*e*PKIKP	**PKPab**	**23 11 23.8**	**-0.8**	
SJG				MLR	MLR			
	comp=Z,16µm,22.0s							
SJG	**San Juan**	**144.62**	**68**	PKP	**PKPab**	**23 11 23.8**	**-0.8**	
	comp=Z,13nm,0.8s,baz=318,slow=7.0,SNR=3.0							
SJG				SKPbc	**SKPbc**	**23 15 01.0**	**-2.4**	
	comp=Z,2.7nm,0.3s,baz=139,slow=10.0,SNR=1.7							
HUMP	**Col San Antoni**	**144.89**	**68**	*e*PKPdf	**PKPab**	**23 11 24.9**	**-0.6**	
MTP	**Monte Pirata**	**145.17**	**68**	*e*PKPbc	**PKPbc**	**23 11 24.4**	**-2.1**	
AVE	**Averroes**	**145.21**	**323**	*i* PKP	PKiKP	23 11 42.2	+12	
AVE				*e*SS	SS	23 33 30.7	-3.1	
STVI	**Saint Thomas**	**145.66**	**67**	*e*PKPdf	**PKPdf**	**23 11 27.0**	**-0.8**	
SHEL	**Horse Pasture**	**145.79**	**229**	PFAKE		23 11 40.0	+7.8	
SHEL				LR	LR			
	comp=Z,8µm,22.0s							
CDVI	**St. Croix**	**145.98**	**68**	*e*PKPdf	**PKPdf**	**23 11 28.2**	**-0.2**	
SPB	**Sao Paulo**	**146.23**	**154**	*e*PKPdf	**PKPbc**	**23 11 29.8**	**+0.1**	
TOA0	**Torodi Ar. Sit**	**146.46**	**284**	*e*PKPdf	**PKPdf**	**23 11 28.1**	**-1.2**	
TOA0				*e*PKPdf	**PKPbc**	**23 11 28.9**	**-1.7**	
TORD	**Torodi Ar. Bea**	**146.46**	**284**	PKPbc	**PKPdf**	**23 11 28.0**	**-1.3**	
	comp=Z,27nm,1.0s,baz=48,slow=2.1,SNR=72							
TORD				SKP		23 14 56.5		
	comp=Z,2.7nm,0.9s,baz=90,slow=4.4,SNR=2.1							
TORD				SKPab	SKPab	23 15 24.0		
	comp=Z,4.6nm,1.0s,baz=98,slow=3.0,SNR=2.9							
TOA1	**Torodi Ar. Sit**	**146.46**	**284**	*e*PKPdf	**PKPdf**	**23 11 28.0**	**-1.3**	
SMRT	**St. Maarten**	**147.46**	**67**	*e*PKPdf	**PKPbc**	**23 11 32.3**	**-1.0**	
SMRT	**St. Maarten**	**147.46**	**67**	*e*	**PKiKP**	**23 11 38.2**	**+2.6**	
H07S1	**FLORES T-PHASE**	**147.46**	**359**	*e*PKP	**PKPdf**	**23 11 29.9**	**-0.4**	
PGRA	**Graciosa**	**147.63**	**355**	*e*PKP	**PKPdf**	**23 11 28.7**	**-1.9**	
SEUS	**St. Eustatius**	**147.69**	**68**	*e*	**PKPab**	**23 11 37.4**	**+1.1**	
ROSA	**Rosais**	**147.96**	**355**	*e*PKP	**PKPdf**	**23 11 29.8**	**-1.3**	
PSET	**Sete Cidades**	**148.53**	**351**	*e*PKP	**PKPdf**	**23 11 31.0**	**-1.1**	
CMLA	**Cha da Macela**	**148.56**	**351**	*e*PKP	**PKPdf**	**23 11 30.5**	**-1.6**	
CMLA	**Cha da Macela**	**148.56**	**351**	PFAKE		23 11 40.0	+0.9	
CMLA				LR	LR			
	comp=Z,14µm,22.0s							
MLYT	**Lee's Yard**	**148.62**	**69**	*e*	**PKPab**	**23 11 45.6**	**+5.5**	
ANWB	**Willy Bob**	**148.74**	**67**	PFAKE		23 11 40.0	-0.5	
ANWB				LR	LR			
	comp=Z,16µm,21.0s							
ANWB	**Willy Bob**	**148.74**	**67**	*e*	**PKPab**	**23 11 42.2**	**+1.8**	
BBL	**Barber's Block**	**149.59**	**71**	*e*	**PKPbc**	**23 11 38.2**	**-0.7**	
DWS	**Wesley**	**149.73**	**71**	*e*	**PKPab**	**23 11 43.8**	**-0.8**	
DLPL	**La Plaine**	**149.84**	**71**	*e*	PKPab	23 11 53.6	+8.6	
GRGR	**Grenville**	**150.03**	**77**	PFAKE		23 11 50.0	+4.1	
GRGR				LR	LR			
	comp=Z,13µm,21.0s							
GRGR	**Grenville**	**150.03**	**77**	*e*	**PKiKP**	**23 11 41.6**	**+0.7**	
FDF	**Fort de France**	**150.06**	**72**	*e*PKPbc	**PKPbc**	**23 11 39.9**	**-0.2**	
FDF	**Fort de France**	**150.06**	**72**	*e*	**PKPab**	**23 11 45.4**	**-0.6**	
SVB	**Belmont**	**150.25**	**75**	*e*PKPbc	**PKPbc**	**23 11 39.0**	**-1.6**	
SVB	**Belmont**	**150.25**	**75**	*e*	**PKPab**	**23 11 45.6**	**-1.1**	
SVCV	**St. Vincent, C**	**150.35**	**75**	*e*	**PKPab**	**23 11 52.3**	**+5.1**	
PMAR	**Madeira**	**150.65**	**334**	*i* LQ	LQ	23 11 44.1		
PMOZ	**Porto Moniz, M**	**150.69**	**334**	*e*SS	SS	23 34 55.0	+20	
PMOZ	**Porto Moniz, M**	**150.69**	**334**	*e*LQ	LQ	23 54 23.8		
PMOZ	**Porto Moniz, M**	**150.69**	**334**	*e*LR	LR	00 05 29.6		
	comp=Z,15µm,20.0s							
PTGA	**Pitinga**	**150.90**	**104**	*e*PKPdf	**PKPdf**	**23 11 36.8**	**+0.2**	
PTGA				*e*PKPab	**sPKPdf**	**23 11 47.5**	**-0.7**	
PTGA				LR	LR			
	comp=Z,14µm,21.0s							
PTGA	**Pitinga**	**150.90**	**104**	PKP	**PKPdf**	**23 11 34.8**	**-1.7**	
	comp=Z,20nm,1.0s,baz=267,slow=4.5,SNR=19							
PTGA				PKPbc	**PKPbc**	**23 11 39.6**	**-2.6**	
	comp=Z,24nm,0.6s,baz=254,slow=4.0,SNR=18							
PTGA				PKPab	**sPKPdf**	**23 11 47.6**	**-0.7**	
	comp=Z,178nm,0.9s,baz=236,slow=3.6,SNR=31							
BBGH	**Gun Hill**	**151.89**	**75**	PFAKE		23 11 50.0	-3.6	
BBGH				LR	LR			
	comp=Z,29µm,21.0s							
BDFB	**Brasilia**	**152.58**	**144**	*e*PKPdf	**PKPdf**	**23 11 40.0**	**+0.8**	
BDFB				*e*PKPab	**pPKPbc**	**23 11 54.8**	**+0.1**	
BDFB	**Brasilia**	**152.58**	**144**	PKPbc	**PKPdf**	**23 11 42.3**	**+3.2**	
	comp=Z,16nm,1.2s,baz=146,slow=1.0,SNR=7.5							
BDFB				PKPab	**pPKPbc**	**23 11 54.8**	**+0.1**	
	comp=Z,84nm,0.9s,baz=216,slow=5.1,SNR=27							
KIC	**Kosan Boka**	**153.16**	**271**	*e*P	**PKPdf**	**23 11 39.5**	**-0.4**	
	comp=Z,357nm,1.5s							
DBIC	**Dimbokro**	**153.28**	**272**	*e*PKPdf	**PKPdf**	**23 11 38.9**	**-1.2**	
DBIC				*e*PKPbc	**PKiKP**	**23 11 47.8**	**+0.1**	
DBIC				*e*PKPab	**pPKPbc**	**23 11 57.2**	**+0.8**	
DBIC	**Dimbokro**	**153.28**	**272**	*e*PKIKP	**PKPdf**	**23 11 38.9**	**-1.2**	
DBIC				*e*		23 11 47.8		
DBIC				*e*		23 11 57.3		
DBIC	**Dimbokro**	**153.28**	**272**	PKP	**PKPdf**	**23 11 38.9**	**-1.2**	
	comp=Z,3.4nm,0.9s,baz=6.3,slow=4.8,SNR=2.8							
DBIC				PKPbc	**PKPbc**	**23 11 46.0**	**-1.6**	
	comp=Z,14nm,0.9s,baz=93,slow=2.9,SNR=13							
DBIC				PKPab	**pPKPbc**	**23 11 57.2**	**+0.8**	
	comp=Z,30nm,0.9s,baz=60,slow=2.4,SNR=12							
LIC	**Lamto**	**153.44**	**271**	*e*P	**PKPdf**	**23 11 41.8**	**+1.5**	
	comp=Z,256nm,1.4s							
TIC	**Toumodi**	**153.44**	**271**	*e*P	**PKPbc**	**23 11 44.4**	**-3.6**	
ASCN	**Ascension**	**157.37**	**230**	PFAKE		23 12 00.0	+14	
ASCN				LR	LR			
	comp=Z,23µm,22.0s							
MDP	**Montagnes des**	**159.17**	**93**	PKPab	**PKPab**	**23 12 22.9**	**-1.9**	
	comp=Z,7.9nm,0.6s,baz=268,slow=5.0,SNR=3.7							
RCBR	**Riachuelo**	**166.89**	**162**	PFAKE		23 12 10.0	+15	
RCBR				LR	LR			
	comp=Z,22µm,20.0s							
SACV	**Santiago Islan**	**168.53**	**316**	PFAKE		23 12 10.0	+14	
SACV				LR	LR			
	comp=Z,13µm,20.0s							

NEIC ***10*** *22:58:15.8±0.5, 7°.03S×148°.45E, h10km, mb4.8/11, Error ellipse: s-maj=14.7km s-min=8.8km az=113.0*
ISCJB ***10*** *22:58:19.5±0.5, 7°.07S±0°.06×148°.34E±0°.09, h47km, mb4.3/21, Error ellipse: s-maj=13.6km s-min=7.6km az=16.2*
IDC ***10*** *22:58:25.5±5.1, 7°.18S×148°.39E, h88km±45km, mb3.8/14, mb1 4.0/16, mb1mx3.9/50, mbtmp4.1/16, Error ellipse: s-maj=25.0km s-min=15.4km az=82.0*

ISC 10 22:58:21.0±0.6, 7°.07S±0°.08×148°.4E±0°.1, h47km, n40, σ1s06/40, mb4.4/21, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.10**	**189**	P			**Pn**	**23 01 25.8**	**+1.2**
	0.3nm,0.3s,baz=23,slow=15,SNR=2.1								
EIDS	**Eidsvold**	**18.38**	**172**	*e*P			**Pn**	**23 02 32.3**	**-0.1**
	66nm,1.4s								
WB2	**Warramunga Arr**	**18.68**	**225**	*e*P			**P**	**23 02 34.8**	**-0.6**
	122nm,1.3s								
WR1	**Warramunga Arr**	**18.69**	**225**	*e*P			**Pn**	**23 02 36.6**	**+0.3**
	72nm,1.1s								
WRA	**Warramunga Arr**	**18.69**	**225**	P			**Pn**	**23 02 36.6**	**+0.3**
	0.9nm,0.3s,baz=50,slow=11,SNR=4.2								
AS01	**Alice Springs**	**21.55**	**218**	*e*P			**P**	**23 03 07.3**	**+0.8**
AS31	**Alice Springs**	**21.57**	**219**	*e*P			**P**	**23 03 07.4**	**+0.6**
	11nm,0.7s								
ASAR	**Alice Springs**	**21.57**	**219**	P			**P**	**23 03 07.4**	**+0.6**
	13nm,0.7s,baz=55,slow=9.1,SNR=8.2								
SOEI	**Soe**	**24.00**	**262**	*e*P			**P**	**23 03 28.8**	**-2.8**
	26nm,0.8s								
BATI	**Baumata**	**24.63**	**261**	P			**P**	**23 03 38.2**	**+0.9**
	52nm,0.8s,baz=279,slow=2.9,SNR=4.1								
FITZ	**Fitzroy Crossi**	**24.71**	**242**	*e*P			**P**	**23 03 38.3**	**+0.3**
	73nm,0.8s								
FITZ	**Fitzroy Crossi**	**24.71**	**242**	P			**P**	**23 03 38.3**	**+0.3**
	57nm,0.7s,baz=84,slow=7.9,SNR=6.7								
STKA	**Stephens Creek**	**25.48**	**194**	*e*P			**P**	**23 03 44.1**	**-0.7**
	10nm,1.3s								
STKA	**Stephens Creek**	**25.48**	**194**	P			**P**	**23 03 44.1**	**-0.7**
	17nm,1.0s,baz=322,slow=12,SNR=3.3								
MMRI	**Maumere**	**25.94**	**265**	*e*P			**P**	**23 03 48.6**	**-0.6**
	50nm,0.8s								
MYKOM	**Kota Tinggi**	**45.30**	**280**	*e*P			**P**	**23 06 32.5**	**-2.2**
	18nm,1.0s								
USRK	**Ussuriysk Ar.**	**53.14**	**345**	P			**P**	**23 07 35.1**	**+1.1**
	1.4nm,0.8s,baz=161,slow=9.2,SNR=2.4								
CM31	**Chiang Mai Arr**	**54.96**	**298**	*e*P			**P**	**23 07 48.1**	**+0.3**
	9.1nm,1.3s								
CMAR	**Chiang Mai Arr**	**54.96**	**298**	P			**P**	**23 07 48.1**	**+0.3**
	0.4nm,0.3s,baz=110,slow=5.3,SNR=2.4								
KLR	**Kul'dur**	**57.92**	**347**	P			**P**	**23 08 10.8**	**+2.6**
	1.2nm,0.9s,baz=208,slow=11,SNR=1.9								
PETK	**Petropavlovsk-**	**60.47**	**6**	P			**P**	**23 08 25.8**	**0.0**
	2.6nm,0.8s,baz=183,slow=8.2,SNR=3.3								
PEA1	**Petropavlovsk-**	**60.47**	**6**	*e*P			**P**	**23 08 25.8**	**0.0**
SONA0	**Songino Array**	**66.00**	**330**	*e*P			**P**	**23 09 04.4**	**+1.6**
SONM	**Songino Array**	**66.00**	**330**	P			**P**	**23 09 04.4**	**+1.6**
	1.5nm,1.0s,baz=141,slow=5.5,SNR=2.5								
VNDA	**Vanda**	**70.77**	**177**	P			**P**	**23 09 32.4**	**+0.4**
	2.0nm,0.9s,baz=346,slow=5.7,SNR=3.9								
MK32	**Makanchi Array**	**79.19**	**320**	*e*P			**P**	**23 10 21.4**	**+0.3**
MKAR	**Makanchi Array**	**79.19**	**320**	P			**P**	**23 10 21.4**	**+0.3**
	1.0nm,0.8s,baz=106,slow=5.1,SNR=2.9								
KURBB	**Kurchatov Arra**	**82.90**	**323**	P			**P**	**23 10 41.2**	**+0.6**
	0.5nm,0.9s,baz=118,slow=36,SNR=2.4								
AAK	**Ala-Archa**	**83.06**	**314**	P			**P**	**23 10 41.5**	**-0.5**
	1.2nm,0.8s,baz=188,slow=10,SNR=2.1								
ILAR	**Eielson Array**	**85.93**	**23**	P			**P**	**23 10 55.1**	**-0.7**
	1.1nm,0.8s,baz=245,slow=4.6,SNR=4.5								
ILB	**Eielson Array**	**85.93**	**23**	*e*P			**P**	**23 10 55.0**	**-0.7**
	5.4nm,1.3s								
BVAR	**Borovoye Array**	**88.44**	**324**	P			**P**	**23 11 06.5**	**-1.6**
	0.9nm,0.6s,baz=98,slow=5.0,SNR=3.4								
NV01	**Mina Array Sit**	**96.94**	**52**	*e*P			**P**	**23 11 47.7**	**-0.3**
NVAR	**Mina Array Bea**	**96.94**	**52**	P			**P**	**23 11 47.7**	**-0.3**
	0.9nm,0.8s,baz=246,slow=3.6,SNR=2.5								
GEC2	**GERESS Array S**	**123.56**	**326**	*e*PKPdf			**PKPdf**	**23 17 12.0**	**-1.5**
GERES	**GERESS Array B**	**123.56**	**326**	PKP			**PKPdf**	**23 17 12.0**	**-1.5**
	0.4nm,0.5s,baz=64,slow=2.3,SNR=3.5								
TORD	**Torodi Ar. Bea**	**146.67**	**283**	PKPbc			**PKPdf**	**23 17 57.3**	**+0.2**
	3.7nm,0.9s,baz=83,slow=3.1,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**146.67**	**283**	*e*PKPdf			**PKPdf**	**23 17 57.2**	**+0.2**
PTGA	**Pitinga**	**150.68**	**104**	PKPbc			**PKPbc**	**23 18 08.3**	**-0.8**
	4.4nm,0.7s,baz=191,slow=5.2,SNR=3.9								
BDFB	**Brasilia**	**152.20**	**144**	PKPbc			**PKPbc**	**23 18 11.9**	**-0.7**
	4.1nm,0.8s,baz=202,slow=5.4,SNR=3.5								

IDC ***10*** *22:59:40.7±0.9, 6°.49S×147°.66E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/52, mbtmp4.2/14, Error ellipse: s-maj=32.9km s-min=20.0km az=100.0*
NEIC ***10*** *22:59:42.0±0.4, 6°.54S×147°.65E, h10km, mb4.7/6, Error ellipse: s-maj=12.7km s-min=7.8km az=101.0*
ISCJB ***10*** *22:59:44.1±0.5, 6°.58S±0°.06×147°.6E±0°.1, h35km, mb4.3/19, Error ellipse: s-maj=14.8km s-min=8.3km az=10.6*

ISC 10 22:59:44.6±0.6, 6°.52S±0°.09×147°.7E±0°.1, h35km, n35, σ1s88/31, mb4.2/19, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WR1	**Warramunga Arr**	**18.62**	**223**	*e*P			**Pn**	**23 04 00.4**	**+0.6**
	169nm,1.3s								
WRA	**Warramunga Arr**	**18.62**	**223**	P			**Pn**	**23 04 00.4**	**+0.6**
	baz=51,slow=12,SNR=3.0								
AS31	**Alice Springs**	**21.61**	**216**	*e*P			**P**	**23 04 31.9**	**+0.2**
	14nm,1.0s								
ASAR	**Alice Springs**	**21.61**	**216**	P			**P**	**23 04 31.9**	**+0.2**
	6.6nm,0.5s,baz=52,slow=9.2,SNR=1.7								
FITZ	**Fitzroy Crossi**	**24.41**	**240**	*e*P			**P**	**23 05 01.2**	**+1.2**
	144nm,1.4s								
FITZ	**Fitzroy Crossi**	**24.41**	**240**	P			**P**	**23 05 01.2**	**+1.2**
	34nm,0.8s,baz=76,slow=9.1,SNR=3.7								
STKA	**Stephens Creek**	**25.87**	**192**	*e*P			**P**	**23 05 12.9**	**-0.2**
	7.4nm,1.2s								
BBOO	**Buckleboo**	**28.32**	**201**	*e*P			**P**	**23 05 34.4**	**-0.7**
	28nm,1.2s								
SBUM	**Sibu**	**36.54**	**283**	*e*P			**P**	**23 06 45.3**	**-2.0**
	16nm,1.3s								
URZ	**Urewera**	**41.31**	**144**	*e*P			**P**	**23 07 28.4**	**+1.4**
	36nm,1.5s								
MJAR	**Matsushiro Arr**	**43.76**	**349**	P			**P**	**23 07 47.7**	**+0.9**
	3.8nm,0.8s,baz=140,slow=9.6,SNR=2.7								
MAJO	**Matsushiro**	**43.76**	**349**	*e*P			**P**	**23 07 47.7**	**+0.9**
KSRS	**Korea Array**	**47.49**	**339**	P			**P**	**23 08 18.7**	**+2.5**
	1.5nm,0.8s,baz=134,slow=7.0,SNR=3.3								
KS15	**Wonju Array S**	**47.50**	**339**	*e*P			P	23 08 18.8	+2.4
	27nm,1.4s								
KSAR	**Wonju Array Be**	**47.50**	**339**	P			P	23 08 18.8	+2.4
USRK	**Ussuriysk Ar.**	**52.45**	**346**	P			**P**	**23 08 53.8**	**0.0**
	1.8nm,0.6s,baz=169,slow=6.0,SNR=3.4								
PPT	**Papeete**	**62.06**	**106**	*e*P			**P**	**23 10 03.0**	**+0.7**
SONA0	**Songino Array**	**65.20**	**331**	*e*P			**P**	**23 10 23.8**	**+1.2**
SONM	**Songino Array**	**65.20**	**331**	P			**P**	**23 10 23.8**	**+1.2**
	1.8nm,0.9s,baz=142,slow=7.3,SNR=2.4								
VNDA	**Vanda**	**71.35**	**177**	P			**P**	**23 11 02.5**	**+2.1**
	2.3nm,0.9s,baz=327,slow=6.2,SNR=2.8								
MK32	**Makanchi Array**	**78.35**	**320**	*e*P			**P**	**23 11 43.5**	**+2.0**
MKAR	**Makanchi Array**	**78.35**	**320**	P			**P**	**23 11 43.5**	**+2.0**
	1.2nm,0.8s,baz=113,slow=6.8,SNR=2.7								
ZALV	**Zalesovo Beam**	**79.83**	**328**	P			**P**	**23 11 49.5**	**+0.1**
	1.0nm,0.8s,baz=131,slow=4.0,SNR=1.9								
ZAA1	**Zalesovo Array**	**79.83**	**328**	*e*P			**P**	**23 11 49.5**	**+0.1**
KURBB	**Kurchatov Arra**	**82.07**	**323**	P			**P**	**23 12 02.8**	**+1.4**
	0.5nm,0.7s,baz=113,slow=3.6,SNR=2.8								
ILAR	**Eielson Array**	**85.68**	**23**	P			**P**	**23 12 20.8**	**+1.2**
	1.2nm,0.9s,baz=257,slow=4.3,SNR=2.6								
ILB	**Eielson Array**	**85.68**	**23**	*e*P			**P**	**23 12 20.8**	**+1.2**
	8.2nm,1.4s								
BVAR	**Borovoye Array**	**87.61**	**324**	P			**P**	**23 12 30.1**	**+0.9**
	0.9nm,0.6s,baz=244,slow=39,SNR=3.3								
NV01	**Mina Array Sit**	**97.12**	**52**	*e*P			P	23 13 16.9	+3.0
NVAR	**Mina Array Bea**	**97.12**	**52**	P			P	23 13 16.9	+3.0
	0.9nm,0.8s,baz=243,slow=6.0,SNR=2.9								
LPAZ	**La Paz**	**137.90**	**123**	PKP			**PKiKP**	**23 19 07.4**	**-2.0**
	2.8nm,0.9s,baz=252,slow=3.2,SNR=2.1								
SDV	**Santo Domingo**	**141.93**	**84**	PKhKP			PKPpre	23 19 11.0	
	9.2nm,1.0s,baz=299,slow=6.6,SNR=2.1								
SDV				PKP			**PKiKP**	**23 19 16.3**	**-0.9**
	10nm,0.9s,baz=77,slow=5.1,SNR=4.0								
TORD	**Torodi Ar. Bea**	**145.91**	**284**	PKPbc			**PKiKP**	**23 19 21.4**	**-3.6**
	5.7nm,0.9s,baz=46,slow=3.2,SNR=3.0								
TOA1	**Torodi Ar. Sit**	**145.91**	**284**	*e*PKPdf			**PKiKP**	**23 19 21.4**	**-3.6**
PTGA	**Pitinga**	**151.45**	**104**	PKP			**PKPbc**	**23 19 32.1**	**-3.9**
	7.9nm,1.0s,baz=292,slow=11,SNR=1.8								
PTGA				PKPbc			**pPKPdf**	**23 19 37.1**	**-4.6**
	11nm,0.8s,baz=241,slow=3.8,SNR=4.1								

IDC ***10*** *23:02:33.2±0.6, 6°.61S×148°.53E, h0km, mb4.3/17, mb1 4.5/19, mb1mx4.3/50, mbtmp4.3/19, ML4.2/2, Error ellipse: s-maj=21.3km s-min=14.5km az=92.0*
ISCJB ***10*** *23:02:38.1±0.5, 6°.68S±0°.07×148°.48E±0°.10, h46km, mb4.3/18, Error ellipse: s-maj=14.2km s-min=9.8km az=179.9*

ISC 10 23:02:39.8±0.6, 6°.69S±0°.08×148°.5E±0°.1, h46km, n29, σ0s90/29, mb4.3/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.50**	**189**	Pn			**Pn**	**23 05 48.2**	**-0.6**
	0.3nm,0.3s,baz=16,slow=15,SNR=1.9								
SIJI	**Sorong**	**18.13**	**288**	P			**Pn**	**23 06 49.7**	**+1.3**
	0.4nm,0.3s,baz=130,slow=16,SNR=3.0								
WRA	**Warramunga Arr**	**19.04**	**225**	P			**P**	**23 06 57.6**	**-0.7**
	1.6nm,0.3s,baz=52,slow=11,SNR=13								
WRA				S			**S**	**23 10 31.6**	**-0.5**
	baz=37,slow=20,SNR=3.1								
ASAR	**Alice Springs**	**21.94**	**218**	P			**P**	**23 07 29.1**	**-0.6**
	15nm,0.5s,baz=56,slow=9.0,SNR=25								
ASAR				S			**S**	**23 11 29.8**	**+0.1**
	2.3nm,0.7s,baz=30,slow=23,SNR=3.5								
DZM	**Mont Dzumac**	**23.11**	**133**	P			**P**	**23 07 42.0**	**-0.1**
	16nm,0.9s,baz=15,slow=12,SNR=2.1								
BATI	**Baumata**	**24.80**	**260**	P			**P**	**23 07 59.0**	**+1.2**
	51nm,0.6s,baz=159,slow=0.6,SNR=8.4								
FITZ	**Fitzroy Crossi**	**25.00**	**241**	P			**P**	**23 07 59.6**	**+0.1**
	49nm,0.7s,baz=68,slow=6.2,SNR=33								
STKA	**Stephens Creek**	**25.88**	**194**	P			**P**	**23 08 07.3**	**0.0**
	10nm,0.7s,baz=6.7,slow=11,SNR=6.2								
MJAR	**Matsushiro Arr**	**44.07**	**348**	P			**P**	**23 10 43.2**	**-0.2**
	2.5nm,0.7s,baz=171,slow=8.4,SNR=3.0								
KSRS	**Korea Array**	**47.93**	**338**	P			**P**	**23 11 13.6**	**-0.2**
	1.4nm,0.7s,baz=155,slow=12,SNR=4.3								
USRK	**Ussuriysk Ar.**	**52.80**	**345**	P			**P**	**23 11 49.6**	**-0.9**
	2.0nm,0.6s,baz=134,slow=6.2,SNR=6.6								
SONM	**Songino Array**	**65.73**	**330**	P			**P**	**23 13 19.6**	**-0.4**
	1.4nm,1.0s,baz=116,slow=6.6,SNR=2.8								
VNDA	**Vanda**	**71.15**	**177**	P			**P**	**23 13 53.9**	**+0.7**
	1.8nm,1.0s,baz=340,slow=7.2,SNR=3.9								
MKAR	**Makanchi Array**	**78.97**	**320**	P			**P**	**23 14 37.8**	**-1.0**
	0.6nm,0.7s,baz=96,slow=8.4,SNR=8.8								
KURBB	**Kurchatov Arra**	**82.67**	**323**	P			**P**	**23 14 58.2**	**-0.2**
	0.8nm,0.8s,baz=112,slow=4.8,SNR=3.6								
AAK	**Ala-Archa**	**82.88**	**314**	P			**P**	**23 15 01.1**	**+1.1**
	0.7nm,0.7s,baz=135,slow=4.3,SNR=2.3								
QSPA	**South Pole Qui**	**83.28**	**180**	P			**P**	**23 15 01.3**	**-0.2**
	4.5nm,0.8s,baz=262,slow=2.7,SNR=9.5								
ILAR	**Eielson Array**	**85.53**	**23**	P			**P**	**23 15 11.0**	**-1.7**
	1.6nm,0.8s,baz=244,slow=5.1,SNR=5.7								
YBH	**Yreka Blue Hor**	**93.50**	**49**	P			**P**	**23 15 51.7**	**+0.7**
	1.5nm,0.8s,baz=270,slow=5.1,SNR=3.7								
GEYT	**Alibeck**	**94.36**	**308**	P			**P**	**23 15 53.7**	**-1.3**
	1.5nm,0.8s,baz=129,slow=11,SNR=3.1								
NVAR	**Mina Array Bea**	**96.62**	**52**	P			**P**	**23 16 07.7**	**+2.2**
	0.9nm,0.7s,baz=254,slow=6.5,SNR=5.6								
PLCA	**Paso Flores**	**120.73**	**146**	PKP			**PKiKP**	**23 21 28.8**	**+1.3**
	2.5nm,0.9s,baz=243,slow=2.3,SNR=3.1								
GERES	**GERESS Array B**	**123.31**	**326**	PKP			**PKiKP**	**23 21 32.9**	**+0.6**
	1.4nm,0.6s,baz=90,slow=2.0,SNR=6.5								
SDV	**Santo Domingo**	**141.19**	**84**	PKhKP

*IDC **10** 23:19:24.7±0.8, 6°.67S×148°.59E, h0km, mb3.9/10, mb1 4.1/12, mb1mx4.0/34, mbtmp4.0/12, ML4.1/2, Error ellipse: s-maj=26.4km s-min=16.9km az=97.0*
*ISCJB **10** 23:19:29.5±0.8, 6°.71S±0°.08×148°.5E±0°.1, h46km, mb4.1/12, Error ellipse: s-maj=19.2km s-min=10.0km az=24.4*

ISC 10 23:19:31.6±0.9, 6°.7S±0°.1×148°.4E±0°.2, h46km, n17, σ1°35/20, mb3.9/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**18.09**	**288**	P			**Pn**	**23 23 40.5**	**+0.7**
	0.8nm,0.3s,baz=89,slow=4.8,SNR=4.0								
WRA	**Warramunga Arr**	**18.97**	**225**	P			**P**	**23 23 49.3**	**+0.1**
	0.5nm,0.3s,baz=50,slow=11,SNR=16								
WRA				S			**Sn**	**23 27 18.1**	**-3.9**
	0.0nm,0.3s,baz=38,slow=23,SNR=3.2								
ASAR	**Alice Springs**	**21.88**	**218**	P			**P**	**23 24 21.1**	**+0.4**
	9.6nm,0.7s,baz=51,slow=9.5,SNR=41								
ASAR				S			**S**	**23 28 23.1**	**+3.0**
	2.0nm,1.0s,baz=36,slow=22,SNR=4.8								
BATI	**Baumata**	**24.74**	**260**	P			**P**	**23 24 48.9**	**-0.2**
	59nm,0.6s,baz=167,slow=2.0,SNR=11								
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P			**P**	**23 24 51.6**	**+0.9**
	53nm,0.8s,baz=65,slow=9.6,SNR=59								
STKA	**Stephens Creek**	**25.82**	**193**	P			**P**	**23 24 59.5**	**+0.9**
	2.6nm,0.6s,baz=360,slow=12,SNR=4.7								
KSRS	**Korea Array**	**47.95**	**338**	P			**P**	**23 28 05.1**	**-0.5**
	0.9nm,0.7s,baz=153,slow=6.7,SNR=3.7								
CMAR	**Chiang Mai Arr**	**54.85**	**298**	P			**P**	**23 28 57.8**	**+0.1**
	0.6nm,0.4s,baz=114,slow=4.4,SNR=3.3								
SONM	**Songino Array**	**65.74**	**330**	P			**P**	**23 30 12.3**	**+0.5**
	0.4nm,0.6s,baz=124,slow=7.8,SNR=3.7								
VNDA	**Vanda**	**71.11**	**177**	P			**P**	**23 30 43.8**	**-0.9**
	0.7nm,0.9s,baz=327,slow=8.0,SNR=3.4								
MKAR	**Makanchi Array**	**78.97**	**320**	P			**P**	**23 31 29.8**	**-0.8**
	0.3nm,0.5s,baz=98,slow=8.1,SNR=6.4								
ZALV	**Zalesovo Beam**	**80.39**	**328**	P			**P**	**23 31 38.2**	**+0.1**
	0.9nm,0.6s,baz=127,slow=3.8,SNR=2.6								
AAK	**Ala-Archa**	**82.87**	**314**	P			**P**	**23 31 52.3**	**+0.7**
	0.6nm,0.6s,baz=157,slow=12,SNR=3.2								
ILAR	**Eielson Array**	**85.59**	**23**	P			**P**	**23 32 03.8**	**-1.0**
	0.6nm,0.7s,baz=244,slow=4.5,SNR=6.8								
TORD	**Torodi Ar. Bea**	**146.66**	**284**	PKPbc			**PKPbc**	**23 39 09.0**	**-0.4**
	10nm,1.0s,baz=67,slow=3.6,SNR=38								
BDFB	**Brasilia**	**152.44**	**144**	PKPbc			**PKiKP**	**23 39 25.1**	**+0.9**
	1.6nm,0.5s,baz=167,slow=1.2,SNR=5.6								
DBIC	**Dimbokro**	**153.48**	**271**	PKPbc			**PKiKP**	**23 39 26.7**	**+0.4**
	1.4nm,0.6s,baz=58,slow=1.1,SNR=3.9								
DBIC				PKPab			**PKPab**	**23 39 38.7**	**+0.1**
	2.5nm,0.6s,baz=108,slow=0.5,SNR=4.1								

*IDC **10** 23:22:15.0±5.5, 2°.19N×95°.97E, h0km, mb3.9/4, mb1 3.8/5, mb1mx3.4/55, mbtmp3.8/5, ML4.0/1, Error ellipse: s-maj=156.6km s-min=47.3km az=123.0*
*ISCJB **10** 23:22:26.4±1.0, 3°.21N±0°.05×95°.87E±0°.09, h25km, mb3.9/4, Error ellipse: s-maj=12.7km s-min=6.7km az=173.1*
*DJA **10** 23:22:29.2±1.1, 3°N±6°×97°6E±1°.2, h23km±23km, M3.7/4, MLv3.7/4*

ISC 10 23:22:27.8±1.1, 3°.18N±0°.06×96°.0E±0°.1, h25km, n12, σ1°34/12, mb4.0/4, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.84**	**156**	P			**Pb**	**23 22 44.2**	**+0.4**
SNSI				S			**Sn**	**23 22 57.1**	**+1.5**
MLSI	**Meulaboh, Aceh**	**1.15**	**21**	P			**Pn**	**23 22 48.7**	**+0.3**
MLSI				S			**Sb**	**23 23 04.4**	**+0.8**
KCSI	**Kotacane, Aceh**	**1.81**	**79**	P			**Pn**	**23 22 57.2**	**-0.2**
KCSI				S			**Sn**	**23 23 18.7**	**-0.9**
LHMI	**Lhok Sumawe**	**2.25**	**25**	P			**Pn**	**23 23 04.6**	**+1.2**
LHMI				S			**Sn**	**23 23 31.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**15.45**	**11**	Pn			**Pn**	**23 26 06.2**	**+2.0**
	0.2nm,0.3s,baz=203,slow=12,SNR=3.1								
H08S2	**Diego Garcia H**	**25.79**	**245**	T			T	23 54 23.3	
	baz=73								
H08S3	**Diego Garcia H**	**25.80**	**245**	T			T	23 54 25.8	
	baz=73								
H08S1	**Diego Garcia H**	**25.81**	**245**	T			T	23 54 25.2	
	baz=73								
MKAR	**Makanchi Array**	**45.04**	**347**	P			**P**	**23 30 40.0**	**-1.5**
	0.5nm,0.3s,baz=158,slow=8.8,SNR=25								
SONM	**Songino Array**	**45.38**	**10**	P			**P**	**23 30 42.9**	**-1.4**
	1.1nm,0.7s,baz=177,slow=8.7,SNR=5.7								
KURBB	**Kurchatov Arra**	**49.52**	**345**	P			**P**	**23 31 14.8**	**-1.4**
	0.9nm,0.6s,baz=164,slow=7.2,SNR=9.1								
TORD	**Torodi Ar. Bea**	**93.46**	**283**	P			P	23 35 34.0	-8.0
	0.6nm,0.8s,baz=96,slow=4.8,SNR=2.2								

IDC 10 23:24:19.1±3.3, 6°.87S×148°.65E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.5/41, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=102.5km s-min=44.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.02**	**226**	P			P	23 28 42.8	-0.1
	0.2nm,0.3s,baz=50,slow=10,SNR=2.4								
ASAR	**Alice Springs**	**21.30**	**219**	P			P	23 29 14.2	+0.1
	2.4nm,0.7s,baz=57,slow=9.4,SNR=8.5								
FITZ	**Fitzroy Crossi**	**25.05**	**241**	P			P	23 29 44.8	-0.6
	10nm,0.7s,baz=71,slow=9.3,SNR=9.2								
TORD	**Torodi Ar. Bea**	**146.89**	**283**	PKPbc			PKPbc	23 44 04.3	-0.3
	0.8nm,0.6s,baz=72,slow=3.6,SNR=7.7								

KRSC 10 23:27:03.3±10.0, 50°.52N×157°.96E, h41km±10km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.19**	**279**	*e*P			Pn	23 27 24.0	+0.6
SKR				*e*S			Sn	23 27 39.5	+1.2
PAU	**Pauzhetka**	**1.20**	**323**	*e*P			Pn	23 27 25.2	+1.7
PAU				*e*S			Sn	23 27 41.4	+2.8
KDTR	**Khodutka, Kamc**	**1.30**	**3**	*e*P			Pn	23 27 26.0	+1.1
KDTR				*e*S			Sn	23 27 43.0	+2.0
ALID	**Alaid**	**1.57**	**284**	*e*P			Pn	23 27 30.4	+1.6
ASAK	**Asacha**	**1.87**	**359**	*e*P			Pn	23 27 34.9	+2.0
RUS	**Russkaya**	**1.95**	**10**	*e*P			Pn	23 27 35.5	+1.6
MTVR	**Mutnovka**	**1.97**	**4**	*e*P			Pn	23 27 36.4	+2.0
MTVR				*e*S			Sn	23 28 00.5	+2.6
KRMR	**Karymshinskiy**	**2.32**	**3**	*e*P			Pn	23 27 41.9	+3.0
KRMR				*e*S			Sn	23 28 09.8	+3.6
APC	**Apacha**	**2.46**	**349**	*e*P			Pn	23 27 44.3	+3.4
DALK	**Dalny**	**2.57**	**11**	*e*P			Pn	23 27 45.1	+2.8
DALK				*e*S			Sn	23 28 14.5	+2.2
UGLR	**Uglovaya**	**2.75**	**11**	*e*P			Pn	23 27 47.9	+2.9
AVH	**Avacha**	**2.79**	**10**	*e*P			Pn	23 27 49.3	+3.7
SMAR	**Somma**	**2.80**	**10**	*e*P			Pn	23 27 49.4	+3.7
KOK	**Koryaka**	**2.81**	**8**	*e*P			Pn	23 27 49.3	+3.5
SDLR	**Sedlovina**	**2.82**	**11**	*e*P			Pn	23 27 48.3	+2.3
KRX	**Arik**	**2.88**	**8**	*e*P			Pn	23 27 50.2	+3.4
GNL	**Ganaly**	**3.18**	**360**	*e*P			Pn	23 27 54.7	+3.8

IDC 10 23:29:45.4±4.2, 6°.67S×149°.75E, h0km, mb4.6/2, mb1 4.6/3, mb1mx3.7/36, mbtmp4.4/3, ML4.0/1, MS5.1/1, Ms1 5.1/1, ms1mx4.5/38, Error ellipse: s-maj=144.7km s-min=49.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.95**	**227**	P			P	23 34 18.6	-0.6
	0.5nm,0.3s,baz=61,slow=12,SNR=14								
GUMO	**Guam**	**20.70**	**346**	LR			LR	23 42 29.8	
	comp=Z,5μm,18.2s,baz=89,slow=37								
ASAR	**Alice Springs**	**22.75**	**220**	P			P	23 34 50.2	+0.8
	5.6nm,0.5s,baz=54,slow=9.5,SNR=28								
FITZ	**Fitzroy Crossi**	**26.10**	**242**	P			P	23 35 20.6	-0.6
	14nm,0.7s,baz=66,slow=9.6,SNR=23								
TORD	**Torodi Ar. Bea**	**147.90**	**284**	PKPbc			PKPbc	23 49 33.4	-0.3
	0.4nm,0.8s,baz=65,slow=3.6,SNR=4.1								

*DRS **10** 23:34:20.0±0.0, 40°.79N×48°.41E, h22km, ML2.6/2*

ISC 10 23:34:15.5±3.3, 40°.8N±0°.1×48°.4E±0°.1, h15km±14km, n6, σ0°25/11, 3C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.84**	**344**	*e*Pg			**Pn**	**23 34 33.0**	**+0.2**
KSMR				*e*Sg			**Sb**	**23 34 43.0**	**+0.1**
AKT	**Akhty**	**0.86**	**323**↑	*e*Pg			**Pn**	**23 34 32.8**	**-0.4**
	25nm,0.2s								
AKT				↓*e*Sg			**Sg**	**23 34 43.5**	**-0.1**
	230nm,0.4s								
DRN	**Derbent**	**1.23**	**357**↑	*e*Pg			**Pb**	**23 34 38.6**	**+0.2**
	34nm,0.9s								
DRN				↑*e*Sg			**Sb**	**23 34 53.9**	**-0.3**
	93nm,0.8s								
URKR	**Urkarakh**	**1.49**	**337**	*i* Pg			**Pb**	**23 34 42.9**	**-0.1**
URKR				*e*Sg			**Sn**	**23 35 01.2**	**0.0**
DDFL	**Dedoflistskaro**	**1.86**	**291**	P			**Pg**	**23 34 51.3**	**+0.1**
LGD	**Lagodekhi**	**1.95**	**303**	P			**Pb**	**23 34 50.6**	**0.0**
LGD				S			**Sb**	**23 35 15.1**	**+0.3**

IDC 10 23:35:33.0±1.8, 6°.88S×148°.26E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/32, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=60.2km s-min=30.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.74**	**225**	P			Pn	23 39 54.0	+0.1
	0.2nm,0.3s,baz=50,slow=11,SNR=12								
ASAR	**Alice Springs**	**21.65**	**218**	P			P	23 40 26.4	+1.1
	1.8nm,0.6s,baz=58,slow=9.5,SNR=14								
FITZ	**Fitzroy Crossi**	**24.70**	**241**	P			P	23 40 55.6	-0.5
	2.1nm,0.4s,baz=69,slow=8.6,SNR=11								
STKA	**Stephens Creek**	**25.64**	**193**	P			P	23 41 04.2	-0.2
	1.1nm,0.7s,baz=34,slow=11,SNR=3.1								
YKA	**Yellowknife Ar**	**99.36**	**28**	P			Pdif	23 49 16.8	-0.2
	0.2nm,0.9s,baz=259,slow=3.0,SNR=3.7								
TORD	**Torodi Ar. Bea**	**146.52**	**283**	PKPbc			PKPdf	23 55 16.1	+0.1
	0.9nm,0.8s,baz=48,slow=4.5,SNR=6.3								

IDC 10 23:38:46.4±3.6, 6°.98S×148°.05E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=107.2km s-min=48.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.53**	**225**	P			Pn	23 43 06.0	+1.3
	0.1nm,0.3s,baz=51,slow=12,SNR=2.2								
ASAR	**Alice Springs**	**21.45**	**218**	P			P	23 43 36.8	+0.3
	0.6nm,0.6s,baz=53,slow=8.9,SNR=2.4								
FITZ	**Fitzroy Crossi**	**24.48**	**241**	P			P	23 44 08.1	+0.6
	0.9nm,0.4s,baz=69,slow=9.0,SNR=7.1								
TORD	**Torodi Ar. Bea**	**146.34**	**283**	PKPbc			PKPdf	23 58 27.7	-1.4
	0.1nm,0.4s,baz=50,slow=4.0,SNR=1.6								

*IDC **10** 23:39:12.5±0.8, 6°.62S×148°.82E, h0km, mb4.0/7, mb1 4.2/8, mb1mx3.9/33, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=32.3km s-min=19.7km az=132.0*
*ISCJB **10** 23:39:18.0±1.0, 6°.7S±0°.2×148°.7E±0°.2, h53km, mb3.9/7, Error ellipse: s-maj=34.4km s-min=16.4km az=33.0*

ISC 10 23:39:19.5±0.9, 6°.7S±0°.2×148°.8E±0°.2, h53km, n11, σ0°90/12, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**225**	P			**P**	**23 43 39.4**	**-0.1**
	0.5nm,0.3s,baz=50,slow=11,SNR=14								
ASAR	**Alice Springs**	**22.11**	**219**	P			**P**	**23 44 10.8**	**+0.1**
	3.7nm,0.5s,baz=56,slow=9.1,SNR=14								
BATI	**Baumata**	**25.07**	**260**	P			**P**	**23 44 39.4**	**+0.1**
	7.9nm,0.4s,baz=135,slow=2.9,SNR=2.1								
FITZ	**Fitzroy Crossi**	**25.24**	**241**	P			**P**	**23 44 41.3**	**+0.5**
	4.9nm,0.4s,baz=64,slow=9.2,SNR=20								
STKA	**Stephens Creek**	**25.94**	**194**	P			**P**	**23 44 46.8**	**-0.2**
	1.4nm,0.7s,baz=352,slow=15,SNR=1.7								
MKAR	**Makanchi Array**	**79.15**	**320**	P			**P**	**23 51 17.7**	**-1.0**
	0.3nm,0.5s,baz=104,slow=6.1,SNR=4.1								
ILAR	**Eielson Array**	**85.42**	**23**	P			**P**	**23 51 52.0**	**+1.0**
	0.4nm,0.7s,baz=241,slow=4.7,SNR=4.4								
YKA	**Yellowknife Ar**	**98.96**	**28**	P			**P**	**23 52 53.4**	**-0.7**
	0.2nm,0.8s,baz=269,slow=7.8,SNR=2.9								
GERES	**GERESS Array B**	**123.46**	**326**	PKP			**PKiKP**	**23 58 13.3**	**+2.0**
	0.1nm,0.3s,baz=98,slow=2.7,SNR=4.0								
TORD	**Torodi Ar. Bea**	**146.36**	**284**	PKPbc			**PKPab**	**23 58 58.4**	**-0.4**
	1.8nm,0.8s,baz=48,slow=3.9,SNR=15								
PTGA	**Pitinga**	**150.39**	**103**	PKPbc			**PKiKP**	**23 59 07.0**	**0.0**
	4.8nm,0.7s,baz=215,slow=4.8,SNR=11								
PTGA				PKPab			**PKPab**	**23 59 11.9**	**-0.8**
	4.8nm,0.7s,baz=270,slow=4.0,SNR=11								

IDC 10 23:41:30.5±3.8, 6°.99S×148°.52E, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.7/34, mbtmp4.1/4, ML3.5/1, Error ellipse: s-maj=88.6km s-min=51.3km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.85**	**226**	P			P	23 45 52.5	+0.2
	0.2nm,0.3s,baz=50,slow=11,SNR=2.2								
ASAR	**Alice Springs**	**21.73**	**219**	P			P	23 46 23.9	+0.3
	1.1nm,0.5s,baz=53,slow=9.2,SNR=2.8								
BATI	**Baumata**	**24.78**	**261**	P			P	23 46 54.8	+0.5
	16nm,0.4s,baz=92,slow=4.1,SNR=4.1								
FITZ	**Fitzroy Crossi**	**24.88**	**242**	P			P	23 46 54.1	-1.1
	2.2nm,0.4s,baz=64,slow=8.3,SNR=2.9								
TORD	**Torodi Ar. Bea**	**146.79**	**283**	PKPbc			PKPbc	00 01 15.0	-0.7
	0.8nm,1.1s,baz=72,slow=4.7,SNR=3.1								

IDC 10 23:43:50.8±2.2, 6°.81S×148°.79E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/35, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=63.7km s-min=28.0km az=104.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**226**	P			P	23 48 16.2	+0.1
	0.5nm,0.3s,baz=51,slow=11,SNR=9.8								
ASAR	**Alice Springs**	**22.03**	**219**	P			P	23 48 47.8	+0.6
	2.8nm,0.4s,baz=55,slow=9.1,SNR=16								
FITZ	**Fitzroy Crossi**	**25.20**	**241**	P			P	23 49 18.2	-0.2
	13nm,0.6s,baz=50,slow=11,SNR=16								
STKA	**Stephens Creek**	**25.83**	**194**	P			P	23 49 23.0	-1.0
	1.3nm,0.7s,baz=358,slow=15,SNR=2.6								
MKAR	**Makanchi Array**	**79.25**	**320**	P			P	23 55 57.2	-0.9
	0.1nm,0.5s,baz=106,slow=4.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**147.00**	**284**	PKPbc			PKPab	00 03 37.6	-0.4
	1.7nm,0.8s,baz=84,slow=3.4,SNR=7.1								

*IDC **10** 23:46:19.2±0.7, 6°.76S×148°.57E, h0km, mb4.1/13, mb1 4.3/16, mb1mx4.2/36, mbtmp4.2/16, ML4.1/3, MS5.1/2, Ms1 5.1/2, ms1mx4.3/43, Error ellipse: s-maj=19.6km s-min=9.4km az=125.0*
*NEIC **10** 23:46:22.8±0.4, 6°.62S×148°.15E, h10km, mb4.6/9, Error ellipse: s-maj=17.4km s-min=6.0km az=129.0*
*ISCJB **10** 23:46:24.9±0.4, 6°.90S±0°.05×148°.42E±0°.06, h46km, mb4.6/27, MS5.3/2, Error ellipse: s-maj=9.5km s-min=6.4km az=34.6*
*BJI **10** 23:46:26.9, 6°.32S×148°.39E, h33km, mb4.7/13, mB5.3/2, Ms5.8/2, Ms7 5.5/2*
*DJA **10** 23:46:26.4±3.5, 7°S±16°×18°E±1°.8, h43km±32km, M4.7/6, mb4.7/6*

ISC 10 23:46:26.5±0.5, 6°.85S±0°.07×148°.51E±0°.08, h46km, n65, σ1°53/62, mb4.5/27, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.50**	**54**	*e*Pn			**Pn**	**23 47 34.1**	**+1.9**
COEN	**Coen**	**8.80**	**216**	*e*Pn			**Pn**	**23 48 31.5**	**+0.3**
CTA	**Charters Tower**	**13.34**	**189**	Pn			**Pn**	**23 49 32.3**	**-1.0**
	0.2nm,0.3s,baz=355,slow=12,SNR=1.9								
MTN	**Manton Dam**	**18.12**	**249**	*e*Pn			**Pn**	**23 50 35.6**	**+0.6**
	68nm,1.4s								
SIJI	**Sorong**	**18.19**	**288**	P			**Pn**	**23 50 35.5**	**-0.4**
	0.7nm,0.3s,baz=65,slow=14,SNR=4.0								
SIJI				LR			LR	23 59 52.5	
	comp=Z,5μm,18.2s,baz=101,slow=45								
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P			**Pn**	**23 50 43.7**	**-1.0**
	24nm,0.8s								
WC3	**Warramunga Arr**	**18.92**	**225**	*e*P			**Pn**	**23 50 43.8**	**-0.8**
	21nm,0.7s								
WB2	**Warramunga Arr**	**18.93**	**225**	*e*P			**P**	**23 50 43.2**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**225**	P			**P**	**23 50 42.4**	**-1.4**
	1.5nm,0.3s,baz=52,slow=12,SNR=23								
WRA				S			**S**	**23 54 19.3**	**+2.6**
	0.1nm,0.3s,baz=47,slow=21,SNR=15								
NLAI	**Namlea**	**21.62**	**278**	P			**P**	**23 51 12.0**	**-1.0**
AS01	**Alice Springs**	**21.80**	**218**	*e*P			**P**	**23 51 13.9**	**-0.9**
AS31	**Alice Springs**	**21.83**	**218**	*e*P			**P**	**23 51 14.4**	**-0.7**
	13nm,0.6s								
AS31				*e*S			Sn	23 55 21.3	-4.3
ASAR	**Alice Springs**	**21.83**	**218**	P			**P**	**23 51 14.2**	**-0.9**
	25nm,0.6s,baz=53,slow=9.4,SNR=67								
ASAR				S			**S**	**23 55 17.1**	**+3.0**
	4.8nm,0.9s,baz=37,slow=22,SNR=4.9								
SANI	**Sanana**	**22.95**	**281**	P			**P**	**23 51 27.4**	**+0.3**
DZM	**Mont Dzumac**	**22.99**	**133**	P			**P**	**23 51 25.9**	**-1.7**
	14nm,0.9s,baz=27,slow=22,SNR=3.7								
DZM				LR			LR	23 57 56.2	
	comp=Z,5μm,18.2s,baz=346,slow=30								
BATI	**Baumata**	**24.79**	**261**	P			**P**	**23 51 44.1**	**-0.3**
BATI	**Baumata**	**24.79**	**261**	P			**P**	**23 51 45.0**	**+0.6**
	74nm,0.6s,baz=178,slow=1.3,SNR=15								
FITZ	**Fitzroy Crossi**	**24.94**	**241**	*e*P			**P**	**23 51 44.6**	**-1.1**
	88nm,0.7s								
FITZ	**Fitzroy Crossi**	**24.94**	**241**	P			**P**	**23 51 44.6**	**-1.1**
	80nm,0.7s,baz=52,slow=8.5,SNR=56								
FITZ				S			**S**	**23 56 12.4**	**+6.2**
	7.2nm,0.9s,baz=263,slow=19,SNR=3.3								
STKA	**Stephens Creek**	**25.72**	**194**	*e*P			**P**	**23 51 54.0**	**+1.4**
	5.0nm,1.1s								
STKA	**Stephens Creek**	**25.72**	**194**	P			**P**	**23 51 52.7**	**0.0**
	12nm,0.8s,baz=6.1,slow=7.7,SNR=15								
MMRI	**Maumere**	**26.09**	**264**	P			**P**	**23 51 56.5**	**+0.3**
LUWI	**Luwuk**	**26.30**	**282**	P			**P**	**23 51 56.1**	**-2.0**
EDFI	**Ende, Flores**	**26.64**	**264**	P			**P**	**23 52 00.0**	**-1.2**
PLAI	**Plampang**	**30.50**	**264**	P			**P**	**23 52 33.5**	**-2.1**
FORT	**Forrest**	**30.57**	**216**	*e*P			**P**	**23 52 35.8**	**-0.2**
	18nm,0.8s								
MBWA	**Marble Bar**	**31.25**	**240**	*e*P			**P**	**23 52 41.4**	**-0.7**
	14nm,0.7s								
JAGI	**Jajag, Banyuwa**	**34.08**	**265**	*e*P			**P**	**23 53 04.8**	**-2.2**
	21nm,0.9s								
MORW	**Morawa**	**37.75**	**230**	*e*P			**P**	**23 53 38.8**	**+0.6**
	105nm,2.0s								
NWAO	**Narrogin (SRO)**	**38.94**	**224**	*e*P			**P**	**23 53 48.6**	**+0.5**
	99nm,1.9s								
NWAO	**Narrogin (SRO)**	**38.94**	**224**	P			**P**	**23 53 48.0**	**-0.1**
	7.9nm,0.8s,baz=43,slow=19,SNR=3.7								
KMI	**Kunming**	**54.70**	**307**	P			**P**	**23 55 53.1**	**+1.4**
KMI				pmax			pmax		
	comp=Z,8.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**54.97**	**298**	P			**P**	**23 55 52.5**	**-0.9**
	0.6nm,0.3s,baz=116,slow=6.1,SNR=2.4								
XAN	**Xi'an**	**55.29**	**320**	P			P	23 56 11.6	+16
XAN				pP			sP	23 56 18.6	+5.9
XAN				pmax			pmax		
	comp=Z,4.0nm,1.1s								
HHC	**Hu-ho-hao-te**	**58.34**	**328**	*e*P			**P**	**23 56 17.1**	**-0.1**
HHC				pmax			pmax		
	comp=Z,8.0nm,1.0s								
LZH	**Lanzhou**	**59.83**	**319**	*e*P			**P**	**23 56 30.8**	**+3.2**
LZH				pP			pP	23 56 40.9	+1.1
LZH				sP			sP	23 56 45.4	+0.6
LZH				pmax			pmax		
	comp=Z,23nm,1.1s								
PETK	**Petropavlovsk-**	**60.23**	**6**	P			**P**	**23 56 30.0**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=195,slow=15,SNR=4.2								
GTA	**Gaotai**	**64.35**	**320**	*e*P			P	23 57 13.6	+16
GTA				pP			sP	23 57 23.5	+8.5
GTA				sP			PcP	23 57 27.7	-4.4
GTA				pmax			pmax		
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**65.88**	**330**	P			**P**	**23 57 07.6**	**0.0**
	comp=Z,0.2nm,0.5s,baz=153,slow=9.7,SNR=2.3								
VNDA	**Vanda**	**70.99**	**177**	P			**P**	**23 57 39.9**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=347,slow=8.4,SNR=4.8								
WMQ	**Urumqi**	**74.41**	**319**	*e*P			**P**	**23 58 01.4**	**+1.5**
WMQ				LR			LR		
	comp=Z,4μm,20.1s								
WMQ				LR			LR		
	comp=Z,4μm,21.9s								
MK01	**Makanchi Array**

0.3nm,0.6s,baz=90,slow=2.7,SNR=3.2

IDC ***10*** *23:55:22.6±0.7, 6°.65S×148°.59E, h0km, mb4.1/9, mb1 4.3/11, mb1mx4.1/36, mbtmp4.1/11, ML4.1/2, Error ellipse: s-maj=27.2km s-min=16.9km az=103.0*

NEIC ***10*** *23:55:24.3±0.3, 6°.66S×148°.59E, h10km, mb4.7/13, Error ellipse: s-maj=9.3km s-min=5.9km az=116.0*

ISCJB ***10*** *23:55:27.3±0.4, 6°.79S±0°.05×148°.53E±0°.07, h46km, mb4.5/20, Error ellipse: s-maj=11.0km s-min=5.8km az=31.6*

ISC 10 23:55:29.2±0.5, **6°.82S**±0°.07×**148°.55E**±0°.09, **h46**km, **n48**, σ1§**68**/56, **mb4.5**/20, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.45**	**54**	*e*Pn	**Pn**	**23 56 33.0**	**-1.1**
COEN	**Coen**	**8.84**	**216**	*e*Pn	**Pn**	**23 57 35.7**	**+1.2**
COEN				*e*Sn	**Sn**	**23 59 13.1**	**+0.2**
CTA	**Charters Tower**	**13.38**	**189**	Pn	**Pn**	**23 58 37.2**	**+0.7**
	0.2nm,0.3s,baz=72,slow=13,SNR=3.6						
CTAO	**Charters Tower**	**13.38**	**189**	*e*Pn	**Pn**	**23 58 37.2**	**+0.7**
MTN	**Manton Dam**	**18.17**	**249**	*e*P	**Pn**	**23 59 39.0**	**+0.8**
	43nm,1.4s						
EIDS	**Eidsvold**	**18.60**	**173**	*e*P	**Pn**	**23 59 43.7**	**+0.3**
	64nm,1.6s						
WRAB	**Tennant Creek**	**18.97**	**225**	*e*P	**P**	**23 59 47.1**	**+0.3**
	15nm,0.8s						
WB2	**Warramunga Arr**	**18.98**	**225**	*e*P	**P**	**23 59 47.6**	**+0.7**
WR1	**Warramunga Arr**	**18.98**	**225**	*e*P	**P**	**23 59 47.0**	**+0.1**
	79nm,1.8s						
WR1				*e*S	**Sn**	**00 03 13.1**	**-6.9**
WRA	**Warramunga Arr**	**18.98**	**225**	P	**P**	**23 59 47.0**	**0.0**
	1.1nm,0.3s,baz=51,slow=11,SNR=26						
WRA				S	**Sn**	**00 03 13.1**	**-6.9**
	0.1nm,0.3s,baz=52,slow=22,SNR=3.4						
AS01	**Alice Springs**	**21.85**	**218**	*e*P	**P**	**00 00 19.2**	**+1.2**
AS31	**Alice Springs**	**21.88**	**218**	*e*P	**P**	**00 00 18.6**	**+0.3**
	8.9nm,0.9s						
AS31				*e*S	**S**	**00 04 16.3**	**-1.4**
ASAR	**Alice Springs**	**21.88**	**218**	P	**P**	**00 00 18.6**	**+0.3**
	14nm,0.7s,baz=54,slow=9.2,SNR=28						
ASAR				S	**S**	**00 04 16.3**	**-1.4**
	1.1nm,0.8s,baz=44,slow=13,SNR=2.6						
MARNC	**Mare, Loyalty**	**23.81**	**130**	*e*P	**P**	**00 00 37.6**	**-0.4**
	685nm,1.7s						
BATI	**Baumata**	**24.84**	**260**	P	**P**	**00 00 49.2**	**+1.7**
	40nm,0.7s,baz=115,slow=5.0,SNR=5.9						
FITZ	**Fitzroy Crossi**	**24.99**	**241**	*e*P	**P**	**00 00 49.4**	**+0.7**
	43nm,0.6s						
FITZ				*e*S	**S**	**00 05 12.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**24.99**	**241**	P	**P**	**00 00 49.0**	**+0.2**
	47nm,0.6s,baz=61,slow=9.8,SNR=33						
FITZ				S	**S**	**00 05 12.2**	**+2.5**
	2.8nm,0.9s,baz=260,slow=19,SNR=2.2						
STKA	**Stephens Creek**	**25.76**	**194**	*e*P	**P**	**00 00 56.2**	**+0.5**
	5.5nm,1.4s						
STKA	**Stephens Creek**	**25.76**	**194**	P	**P**	**00 00 56.2**	**+0.5**
	5.0nm,0.5s,baz=0.0,slow=11,SNR=6.2						
BBOO	**Buckleboo**	**28.35**	**203**	*e*P	**P**	**00 01 19.7**	**+0.8**
	14nm,1.1s						
FORT	**Forrest**	**30.61**	**216**	*e*P	**P**	**00 01 39.8**	**+0.8**
	14nm,0.8s						
MBWA	**Marble Bar**	**31.30**	**240**	*e*P	**P**	**00 01 45.7**	**+0.4**
	17nm,1.1s						
UGM	**Wanagama**	**37.72**	**266**	*e*P	**P**	**00 02 42.0**	**+1.2**
	279nm,1.6s						
MORW	**Morawa**	**37.80**	**230**	*e*P	**P**	**00 02 41.3**	**-0.1**
	84nm,1.9s						
NWAO	**Narrogin (SRO)**	**38.99**	**224**	*e*P	**P**	**00 02 52.8**	**+1.6**
	36nm,1.3s						
PSI	**Prapat**	**50.45**	**279**	*e*P	**P**	**00 04 24.1**	**+1.1**
	10nm,1.1s						
USRK	**Ussuriysk Ar.**	**52.94**	**345**	P	**P**	**00 04 40.8**	**0.0**
	2.1nm,0.7s,baz=196,slow=8.0,SNR=5.0						
SONA0	**Songino Array**	**65.87**	**330**	*e*P	**P**	**00 06 09.7**	**-0.5**
SONM	**Songino Array**	**65.87**	**330**	P	**P**	**00 06 09.7**	**-0.5**
	0.8nm,0.8s,baz=151,slow=3.3,SNR=3.0						
VNDA	**Vanda**	**71.01**	**177**	*e*P	**P**	**00 06 42.6**	**+0.9**
VNDA	**Vanda**	**71.01**	**177**	P	**P**	**00 06 43.2**	**+1.5**
	2.5nm,0.9s,baz=327,slow=5.4,SNR=8.7						
MK32	**Makanchi Array**	**79.11**	**320**	*e*P	**P**	**00 07 28.1**	**-0.9**
MKAR	**Makanchi Array**	**79.11**	**320**	P	**P**	**00 07 28.1**	**-0.9**
	0.4nm,0.6s,baz=98,slow=7.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**80.53**	**327**	P	**P**	**00 07 34.6**	**-1.8**
	0.5nm,0.5s,baz=103,slow=6.6,SNR=3.4						
ZAA1	**Zalesovo Array**	**80.53**	**327**	*e*P	**P**	**00 07 34.6**	**-1.8**
ILAR	**Eielson Array**	**85.63**	**23**	P	**P**	**00 08 01.3**	**-1.2**
	0.7nm,0.8s,baz=250,slow=5.0,SNR=6.7						
BVAR	**Borovoye Array**	**88.34**	**324**	P	**P**	**00 08 14.6**	**-1.3**
	0.4nm,0.5s,baz=90,slow=4.3,SNR=3.6						
GEC2	**GERESS Array S**	**123.45**	**326**	*e*PKPdf	**PKiKP**	**00 14 22.4**	**+0.5**
GERES	**GERESS Array B**	**123.45**	**326**	PKP	**PKiKP**	**00 14 22.4**	**+0.5**
	0.6nm,0.5s,baz=130,slow=4.0,SNR=5.8						
LPAZ	**La Paz**	**137.05**	**123**	PKP	**PKPdf**	**00 14 47.9**	**-1.1**
	1.4nm,1.0s,baz=247,slow=5.4,SNR=2.8						
EMPR	**Esperanza - Ma**	**143.94**	**68**	*e*PKPdf	**PKPdf**	**00 14 59.3**	**-1.2**
TOA0	**Torodi Ar. Sit**	**146.78**	**284**	*e*PKPdf	**PKPdf**	**00 15 06.0**	**+0.5**
TOA0				*e*PKPdf	**PKPab**	**00 15 08.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc	**PKPbc**	**00 15 06.4**	**-0.9**
	8.7nm,0.8s,baz=46,slow=2.7,SNR=20						
TOA1	**Torodi Ar. Sit**	**146.79**	**284**	*e*PKPdf	**PKPbc**	**00 15 06.4**	**-0.9**
PTGA	**Pitinga**	**150.57**	**104**	*e*PKPbc	**PKiKP**	**00 15 19.1**	**+1.2**
PTGA	**Pitinga**	**150.57**	**104**	PKPbc	**PKiKP**	**00 15 18.5**	**+0.6**
	6.6nm,0.8s,baz=156,slow=3.8,SNR=9.0						
BDFB	**Brasilia**	**152.30**	**144**	PKPbc	**PKiKP**	**00 15 21.4**	**-0.1**
	5.0nm,1.1s,baz=232,slow=2.1,SNR=3.9						
DBIC	**Dimbokro**	**153.59**	**271**	PKPbc	**PKiKP**	**00 15 24.9**	**+0.9**
	3.0nm,0.8s,baz=70,slow=2.7,SNR=5.2						

IDC 10 23:58:15.0±3.6, **6°.92S**×**148°.87E, h0**km, **mb4.0**/2, **mb1 4.1**/3, **mb1mx3.6**/37, **mbtmp3.9**/3, **ML3.6**/1, **Error ellipse: s-maj=123.0km s-min=47.7km az=120.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.14**	**226**	P	Pn	00 02 40.4	-0.3
	0.2nm,0.3s,baz=52,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**22.00**	**219**	P	P	00 03 11.7	+0.7
	2.0nm,0.5s,baz=55,slow=9.2,SNR=4.4						
FITZ	**Fitzroy Crossi**	**25.21**	**242**	P	P	00 03 42.0	-0.7
	6.4nm,0.7s,baz=73,slow=8.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**147.11**	**283**	PKPbc	PKPbc	00 18 00.2	-0.9
	1.6nm,0.9s,baz=94,slow=3.3,SNR=7.5						

ISCJB ***10*** *23:59:14.2±0.3, 18°.60S±0°.03×68°.81W±0°.03, h96km±3km, mb4.8/175, Error ellipse: s-maj=6.2km s-min=3.5km az=37.2*

VAO ***10*** *23:59:15.4±1.1, 18°.75S×69°.00W, h98km±10km, mb4.9*

NEIC ***10*** *23:59:16.6±0.4, 18°.83S×68°.85W, h106km±4km, mb4.7/162, Error ellipse: s-maj=5.5km s-min=4.0km az=68.0*

BJI ***10*** *23:59:16.5, 19°.00S×69°.00W, h100km*

GUC ***10*** *23:59:17.8±0.7, 18°.96S×69°.22W, h120km±5km, ML4.5*

IDC ***10*** *23:59:18.4±0.8, 18°.96S×68°.86W, h125km±7km, mb4.3/20, mb1 4.5/24, mb1mx4.4/40, mbtmp4.7/24, MS5.2/1, Ms1 5.2/1, ms1mx4.3/31, Error ellipse: s-maj=13.2km s-min=6.8km az=95.0*

ISC 10 23:59:17.1±0.6, **18°.93S**±0°.03×**69°.03W**±0°.05, **h114**km±5km, **n724**, σ1§**05**/739, **mb4.7**/176, **7C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minye Minye**	**0.57**	**249**	*e*Pn	**Pn**	**23 59 36.0**	**+0.9**
MNMC				*e*Sn	**Sn**	**23 59 50.5**	**+1.7**
MNMC	**Minye Minye**	**0.57**	**249**	⇑*i*P	**Pn**	**23 59 35.9**	**+0.7**
MNMC				*i* S	**Sn**	**23 59 49.4**	**+0.7**
MNMC				IAML		23 59 51.5	
	comp=E,31μm,0.8s						
PB11	**IPOC Station P**	**1.02**	**215**	*e*Pn	**Pn**	**23 59 39.7**	**+0.8**
PB11				*e*Sn	**Sn**	**23 59 56.0**	**+0.6**
PB11	**IPOC Station P**	**1.02**	**215**	⇑*i*P	**Pn**	**23 59 39.7**	**+0.8**
PB11				*i* S	**Sn**	**23 59 56.2**	**+0.7**
PB11				IAML		23 59 57.2	
	comp=N,10μm,0.4s						
PB08	**IPOC Station P**	**1.21**	**186**	⇓*i*P	**Pn**	**23 59 43.1**	**+1.9**
PSGC	**Pisagua**	**1.23**	**237**	⇑*i*P	**Pn**	**23 59 41.0**	**-0.2**
PSGC				*i* S	**Sn**	**23 59 58.6**	**-0.7**
PSGC				IAML		23 59 59.3	
	comp=N,4μm,0.3s						
PB12	**IPOC Station P**	**1.27**	**284**	⇑*i*P	**Pn**	**23 59 41.2**	**-0.4**
PB12				*i* S	**Sn**	**23 59 59.2**	**-0.9**
ARCH	**Arica**	**1.28**	**290**	⇑*i*P	**Pn**	**23 59 41.6**	**+0.1**
ARCH				*i* S	**Sn**	**23 59 59.5**	**-0.6**
ARCH				IAML		00 00 00.9	
	comp=E,31μm,0.4s						
PB01	**IPOC Station P**	**2.15**	**192**	*e*Pn	**Pn**	**23 59 53.1**	**+0.8**
PB01				*e*Sn	**Sn**	**00 00 19.7**	**+0.6**
PB01	**IPOC Station P**	**2.15**	**192**	⇓*e*P	**Pn**	**23 59 53.0**	**+0.8**
PB02	**IPOC Station P**	**2.52**	**199**	*e*P	**Pn**	**23 59 57.5**	**+0.6**
LPAZ	**La Paz**	**2.76**	**18**	P	**Pn**	**00 00 03.7**	**+3.0**
	comp=E,83nm,0.3s,baz=206,slow=5.5,SNR=182						
LPAZ				S	**Sn**	**00 00 37.8**	**+3.7**
	comp=E,30nm,0.3s,baz=24,slow=23,SNR=18						
PB04	**IPOC Station P**	**3.55**	**197**	*e*Pn	**Pn**	**00 00 11.4**	**+0.7**
LVC	**Limon Verde**	**3.67**	**178**	P	**Pn**	**00 00 14.5**	**+2.1**
	comp=E,19nm,0.3s,baz=20,slow=9.4,SNR=84						
LVC				S	**Sn**	**00 00 55.2**	**+0.1**
	comp=E,40nm,0.3s,baz=304,slow=23,SNR=11						
PB10	**IPOC Station P**	**4.78**	**197**	*e*Pn	**Pn**	**00 00 25.8**	**-1.2**
GO02	**Mina Guanaco**	**6.23**	**185**	*e*Pn	**Pn**	**00 00 46.4**	**-0.4**
SIV	**San Ignacio**	**8.13**	**70**	P	**Pn**	**00 01 11.8**	**-0.7**
	comp=E,40nm,0.3s,baz=263,slow=11,SNR=736						
SIV				S	**Sn**	**00 02 40.1**	**-2.7**
	comp=E,1.7nm,0.3s,baz=345,slow=20,SNR=5.1						
AQDB	**Aquidauana**	**12.65**	**99**	*e*P	**Pn**	**00 02 10.9**	**-2.1**
CPUP	**Villa Florida**	**13.07**	**126**	P	**Pn**	**00 02 17.7**	**-0.7**
	comp=E,0.5nm,0.3s,baz=310,slow=12,SNR=19						
CPUP	**Villa Florida**	**13.07**	**126**	*e*P	**Pn**	**00 02 18.1**	**-0.4**
C2SB	**Chapadao do Su**	**15.33**	**92**	*e*P	**Pn**	**00 02 47.3**	**-0.1**
TRCB	**Terra Rica**	**15.80**	**107**	*e*P	**Pn**	**00 02 53.4**	**+0.2**
PTGB	**Pitanga**	**16.77**	**113**	*e*P	**P**	**00 03 06.1**	**+0.5**
ITAB	**Concordia**	**17.59**	**121**	*e*P	**Pn**	**00 03 15.1**	**0.0**
ITRB	**Iturama**	**17.64**	**96**	*e*P	**Pn**	**00 03 16.0**	**+0.2**
CPSB	**Cacapava Do Su**	**18.18**	**132**	*e*P	**P**	**00 03 21.4**	**+0.4**
FRTB	**Fartura**	**18.68**	**107**	*e*P	**Pn**	**00 03 27.7**	**-0.5**
PLTB	**Pedras Altas**	**18.88**	**136**	*e*P	**P**	**00 03 29.0**	**+0.4**
BB19B	**Bebedouro**	**19.38**	**100**	*e*P	**P**	**00 03 33.9**	**-0.3**
CNLB	**Canela**	**19.52**	**125**	*e*P	**P**	**00 03 35.0**	**-0.7**
IPMB	**Ipameri, GO**	**19.77**	**91**	*e*P	**P**	**00 03 38.0**	**-0.5**
TRQA	**Tornquist**	**20.03**	**164**	*e*P	**P**	**00 03 42.0**	**+1.0**
	comp=E,22nm,0.8s						
TRQA	**Tornquist**	**20.03**	**164**	*e*P	**P**	**00 03 42.0**	**+1.0**
PTGA	**Pitinga**	**20.15**	**27**	*e*P	**P**	**00 03 40.5**	**-2.0**
	comp=E,42nm,1.2s						
PTGA	**Pitinga**	**20.15**	**27**	P	**P**	**00 03 40.6**	**-1.9**
	comp=E,18nm,0.3s,baz=214,slow=16,SNR=82						
PTGA	**Pitinga**	**20.15**	**27**	*e*P	**P**	**00 03 39.1**	**-3.4**
BDFB	**Brasilia**	**20.33**	**84**	P	**P**	**00 03 44.2**	**-0.3**
	comp=E,20nm,0.5s,baz=260,slow=8.9,SNR=24						
RCLB	**Rio Claro- Sao**	**20.41**	**103**	*e*P	**P**	**00 03 44.5**	**-0.8**
TER01	**Tubaro-SC**	**20.55**	**121**	*e*P	**P**	**00 03 45.5**	**-1.2**
SPB	**Sao Paulo**	**20.65**	**107**	*e*P	**P**	**00 03 46.9**	**-0.9**
OTAV	**Otavalo**	**21.18**	**333**	*e*P	**P**	**00 03 56.2**	**+2.2**
	comp=E,11nm,0.9s						
OTAV	**Otavalo**	**21.18**	**333**	*e*P	**P**	**00 03 51.5**	**-2.5**
PMNB	**Patos De Minas**	**21.40**	**93**	*e*P	**P**	**00 03 55.3**	**-0.7**
GCUF	**Volcan Galeras**	**21.63**	**337**	*e*P	**P**	**00 04 01.2**	**+2.3**
GCUF	**Volcan Galeras**	**21.63**	**337**	*e*P	**P**	**00 04 01.2**	**+2.3**
PLCA	**Paso Flores**	**21.77**	**183**	*e*P	**P**	**00 04 00.6**	**+0.9**
	comp=E,60nm,0.9s						
PLCA	**Paso Flores**	**21.77**	**183**	P	**P**	**00 04 00.1**	**+0.4**
	comp=E,44nm,0.9s,baz=25,slow=11,SNR=43						
PLCA	**Paso Flores**	**21.77**	**183**	*e*P	**P**	**00 04 00.6**	**+0.9**
PCON	**Cinco Dias**	**22.33**	**340**	*e*P	**P**	**00 04 08.5**	**+2.2**
PCON	**Cinco Dias**	**22.33**	**340**	*e*P	**P**	**00 04 08.5**	**+2.2**
POPC	**Popayan, Colom**	**22.62**	**340**	*e*P	**P**	**00 04 09.2**	**+0.3**
POPC	**Popayan, Colom**	**22.62**	**340**	*e*P	**P**	**00 04 09.2**	**+0.3**
BSCB	**Bom Sucesso**	**22.89**	**99**	*e*P	**P**	**00 04 10.2**	**-1.1**
ESAR	**Angra dos Reis**	**23.31**	**104**	*e*P	**P**	**00 04 14.3**	**-0.8**
CHIC	**Chingaza**	**23.86**	**348**	*e*P	**P**	**00 04 20.5**	**-0.2**
CHIC	**Chingaza**	**23.86**	**348**	*e*P	**P**	**00 04 20.5**	**-0.2**
YOTC	**Yotoco, Valle**	**23.88**	**342**	*e*P	**P**	**00 04 18.5**	**-2.0**
YOTC	**Yotoco, Valle**	**23.88**	**342**	*e*P	**P**	**00 04 18.5**	**-2.0**
JANB	**Januaria**	**23.94**	**85**	*e*P	**P**	**00 04 19.5**	**-1.5**
MCI8	**Montes Claros**	**24.01**	**89**	*e*P	**P**	**00 04 20.0**	**-1.5**
MCI6	**Montes Claros**	**24.01**	**89**	*e*P	**P**	**00 04 20.2**	**-1.4**
MCI9	**Montes Claros**	**24.03**	**89**	*e*P	**P**	**00 04 20.0**	**-1.7**
RUSC	**La Rusia**	**24.98**	**350**	*e*P	**P**	**00 04 30.5**	**-0.4**
RUSC	**La Rusia**	**24.98**	**350**	*e*P	**P**	**00 04 30.5**	**-0.4**
DUB01	**Friburgo-RJ**	**25.15**	**102**	*e*P	**P**	**00 04 32.6**	**+0.7**
BARC	**Barichara**	**25.69**	**350**	*e*P	**P**	**00 04 35.9**	**-1.1**
BARC	**Barichara**	**25.69**	**350**	*e*P	**P**	**00 04 35.9**	**-1.1**
SJMB	**Sao Joao De Ma**	**26.35**	**94**	*e*P	**P**	**00 04 42.6**	**-0.1**
PAMC	**Pamplona, Colo**	**26.35**	**352**	*e*P	**P**	**00 04 41.7**	**-1.5**
PAMC	**Pamplona, Colo**	**26.35**	**352**	*e*P	**P**	**00 04 41.7**	**-1.5**
ALF01	**Guarapari-ES**	**26.67**	**98**	*e*P	**P**	**00 04 46.3**	**+0.7**
ZARC	**Zaragoza, Cauc**	**26.88**	**347**	*e*P	**P**	**00 04 45.1**	**-2.3**
ZARC	**Zaragoza, Cauc**	**26.88**	**347**	*e*P	**P**	**00 04 45.1**	**-2.3**
RIB01	**Linhares ES**	**27.05**	**96**	*e*P	**P**	**00 04 48.5**	**-0.5**
SDV	**Santo Domingo**	**27.68**	**357**	P	**P**	**00 04 53.7**	**-1.1**
	comp=E,2.5nm,0.4s,baz=175,slow=13,SNR=7.2						
SMLC	**San Martn de**	**28.00**	**349**	*e*P	**P**	**00 04 55.1**	**-2.4**
SMLC	**San Martn de**	**28.00**	**349**	*e*P	**P**	**00 04 55.1**	**-2.4**
MDP	**Montagnes des**	**28.82**	**36**	P	**P**	**00 05 02.4**	**-2.3**
	comp=E,13nm,1.0s,baz=206,slow=7.2,SNR=5.5						
RCBR	**Riachuelo**	**34.79**	**72**	*e*P	**P**	**00 05 56.6**	**-0.6**
USHA	**Ushuaia**	**35.84**	**179**	P	**P**	**00 06 06.3**	**+0.7**
	comp=E,13nm,1.0s,baz=78,slow=15,SNR=3.0						
RPN	**Rapa Nui**	**37.85**	**250**	LR	LR	00 19 24.3	
	comp=E,3μm,18.2s,baz=190,slow=32						
PMSA	**Palmer Station**	**45.94**	**177**	*e*P	**P**	**00 07 29.3**	**+1.2**
557A	**Orange Park**	**50.18**	**346**	P	**P**	**00 08 00.9**	**-0.3**
	baz=164						
555A	**McAlpin**	**50.58**	**344**	P	**P**	**00 08 03.7**	**-0.5**
	baz=163						
457A	**Yulee**	**50.72**	**346**	P	**P**	**00 08 04.6**	**-0.6**
	baz=164						
554A	**Perry**	**50.73**	**344**	P	**P**	**00 08 05.4**	**+0.1**
	baz=162						
553A	**Crawfordville**	**51.04**	**343**	P	**P**	**00 08 08.0**	**+0.4**
	baz=161						
455A	**Stateville**	**51.19**	**344**	P	**P**	**00 08 08.9**	**+0.2**
	baz=163						
454A	**Quitman**	**51.32**	**344**	P	**P**	**00 08 09.8**	**+0.1**
	baz=162						
356A	**Blackshear**	**51.52**	**346**	P	**P**	**00 08 11.3**	**0.0**
	baz=164						
453A	**Whigham**	**51.63**	**343**	P	**P**	**00 08 12.3**	**+0.2**
	baz=161						
355A	**Pearson**	**51.72**	**345**	P	**P**	**00 08 13.0**	**+0.3**
	baz=163						
353A	**Camilla**	**52.07**	**343**	P	**P**	**00 08 14.8**	**-0.5**
	baz=162						
255A	**Hazlehurst**	**52.18**	**346**	P	**P**	**00 08 16.3**	**+0.1**
	baz=164						
352A	**Blakely**	**52.39**	**343**	*e*P	**P**	**00 08 17.5**	**-0.2**
	comp=E,89nm,1.0s						
352A	**Blakely**	**52.39**	**343**	P	**P**	**00 08 17.3**	**-0.4**
	baz=161,SNR=6.4						
351A	**Pinckard**	**52.39**	**342**	P	**P**	**00 08 17.6**	**-0.1**
	baz=160						
254A	**Abbeville**	**52.40**	**345**	P	**P**	**00 08 17.4**	**-0.4**
	baz=163						
BRAL	**Brewton**	**52.73**	**341**	P	**P**	**00 08 20.4**	**+0.1**
	baz=158						
252A	**Lumpkin**	**52.83**	**343**	P	**P**	**00 08 20.4**	**-0.5**
	baz=161						
NHSC	**New Hope**	**52.83**	**348**	P	**P**	**00 08 20.9**	**+0.1**
	baz=167						
155A	**Kite**	**52.85**	**346**	P	**P**	**00 08 20.9**	**-0.1**
	baz=164						
349A	**Repton**	**52.95**	**340**	P	**P**	**00 08 21.5**	**-0.3**
	baz=158						
154A	**Montrose**	**52.99**	**345**	P	**P**	**00 08 21.6**	**-0.5**
	baz=163						
251A	**Midway**	**53.10**	**343**	P	**P**	**00 08 22.3**	**-0.7**
	baz=160,SNR=8.9						
Z57A	**Bowman**	**53.12**	**348**	P	**P**	**00 08 22.2**	**-0.8**
	baz=166						
153A	**Fort Valley**	**53.21**	**344**	P	**P**	**00 08 23.2**	**-0.5**
	baz=162						
250A	**Grady**	**53.25**	**342**	P	**P**	**00 08 23.6**	**-0.4**
	baz=159						
Z55A	**Blythe**	**53.35**	**346**	P	**P**	**00 08 24.3**	**-0.4**
	baz=164						
152A	**Waverly Hall**	**53.46**	**344**	P	**P**	**00 08 24.6**	**-0.9**
	baz=161,SNR=6.2						
151A	**Opelika**	**53.49**	**343**	P	**P**	**00 08 25.0**	**-0.8**
	baz=161,SNR=5.8						
249A	**Camden**	**53.50**	**341**	P	**P**	**00 08 25.5**	**-0.3**
	baz=158,SNR=5.1						
Y58A	**Scranton**	**53.51**	**349**	P	**P**	**00 08 25.6**	**-0.3**
	baz=167						
Z54A	**Sparta**	**53.52**	**346**	P	**P**	**00 08 25.2**	**-0.8**
	baz=164						
Z53A	**Monticello**	**53.74**	**345**	P	**P**	**00 08 26.4**	**-1.1**
	baz=163						
150A	**Eclectic**	**53.76**	**342**	P	**P**	**00 08 27.0**	**-0.8**
	baz=160,SNR=6.4						
GOGA	**Godfrey**	**53.84**	**345**	P	**P**	**00 08 27.4**	**-0.9**
	baz=163						
Z52A	**Williamson**	**53.87**	**344**	P	**P**	**00 08 27.5**	**-1.1**
	baz=162						
Y55A	**Saluda**	**53.97**	**347**	P	**P**	**00 08 29.0**	**-0.3**
	baz=165						
149A	**Jones**	**53.98**	**341**	P	**P**	**00 08 28.4**	**-0.9**
	baz=159,SNR=5.2						
Y54A	**Tignall**	**54.09**	**346**	P	**P**	**00 08 29.8**	**-0.3**
	baz=164						
Z51A	**Franklin**	**54.19**	**343**	P	**P**	**00 08 30.0**	**-0.8**
	baz=161						
Y53A	**Monroe**	**54.29**	**345**	P	**P**	**00 08 30.4**	**-1.2**
	baz=163						
X56A	**White Oak**	**54.34**	**348**	P	**P**	**00 08 31.0**	**-0.9**
	baz=166						
Z50A	**Ashland**	**54.34**	**343**	*e*P	**P**	**00 08 31.1**	**-0.8**
	comp=E,26nm,0.7s						
Z50A	**Ashland**	**54.34**	**343**	P	**P**	**00 08 31.2**	**-0.8**
	baz=160,SNR=12						
Y52A	**Lilburn**	**54.42**	**345**	P	**P**	**00 08 31.5**	**-1.1**
	baz=162						
X55A	**Gracelyn & Ava**	**54.44**	**347**	P	**P**	**00 08 32.1**	**-0.5**
	baz=165						
LRAL	**Lakeview Retre**	**54.45**	**341**	*e*P	**P**	**00 08 31.9**	**-0.8**
	comp=E,15nm,1.0s						
LRAL	**Lakeview Retre**	**54.45**	**341**	P	**P**	**00 08 31.9**	**-0.8**
	baz=159,SNR=7.2						
Z49A	**Columbiana**	**54.46**	**342**	P	**P**	**00 08 31.9**	**-0.9**
	baz=159,SNR=5.4						
147A	**Livingston**	**54.51**	**340**	P	**P**	**00 08 32.2**	**-1.0**
	baz=157						
X54A	**Belton**	**54.67**	**346**	P	**P**	**00 08 34.0**	**-0.3**
	baz=164						
Y51A	**Rockmart**	**54.71**	**344**	P	**P**	**00 08 33.7**	**-0.9**
	baz=161,SNR=7.4						
X53A	**Estanollee**	**54.84**	**346**	P	**P**	**00 08 34.5**	**-1.0**
	baz=163						
Y50A	**Piedmont**	**54.89**	**343**	P	**P**	**00 08 35.4**	**-0.5**
	baz=160						
KMSC	**Kings Mountain**	**55.03**	**348**	*e*P	**P**	**00 08 36.8**	**-0.1**
	comp=E,7.7nm,0.8s						
KMSC	**Kings Mountain**	**55.03**	**348**	P	**P**	**00 08 36.2**	**-0.6**
	baz=166						
Y49A	**Blount Mountai**	**55.05**	**342**	*e*P	**P**	**00 08 36.2**	**-0.9**
	comp=E,13nm,0.6s						
Y49A	**Blount Mountai**	**55.05**	**342**	P	**P**	**00 08 36.0**	**-1.1**
	baz=160						
X52A	**Dahlonega**	**55.08**	**345**	P	**P**	**00 08 36.1**	**-1.2**
	baz=163						
W54A	**Cherokee Point**	**55.15**	**347**	P	**P**	**00 08 37.2**	**-0.5**
	baz=165						
X51A	**Calhoun**	**55.29**	**344**	P	**P**	**00 08 37.3**	**-1.5**
	baz=162						
Y48A	**Jasper**	**55.32**	**342**	P	**P**	**00 08 37.7**	**-1.2**
	baz=159,SNR=5.2						
833A	**Chaparral WMA,**	**55.40**	**327**	*e*P	**P**	**00 08 39.7**	**0.0**
	comp=E,37nm,1.1s						
833A	**Chaparral WMA,**	**55.40**	**327**	P	**P**	**00 08 39.7**	**0.0**
	baz=144,SNR=6.4						
X50B	**Fort Payne**	**55.40**	**343**	P	**P**	**00 08 38.6**	**-1.0**
	baz=161						
W53A	**Cullowhee**	**55.45**	**346**	P	**P**	**00 08 39.5**

T50A	Nancy baz=162,SNR=5.8	57.61 345	P	P	00 08 54.2	-1.0
S53A	Williamson baz=165	57.64 348	P	P	00 08 54.0	-1.5
U47A	Clarksville baz=159,SNR=10	57.71 343	P	P	00 08 54.8	-1.1
X40A	Basin Creek Fa baz=153	57.75 337	P	P	00 08 54.3	-1.9
R55A	Marlinton baz=167	57.85 350	P	P	00 08 56.7	-0.2
T49A	Edmonton comp=E,25nm,0.6s	57.87 344	eP	P	00 08 56.0	-1.0
T49A	Edmonton baz=161,SNR=18	57.87 344	P	P	00 08 56.0	-1.0
U46A	Springville baz=158,SNR=8.7	57.89 342	P	P	00 08 56.1	-1.1
R54A	Victor baz=166	57.91 349	P	P	00 08 56.3	-1.0
U45A	Rockin P Farm, baz=158	58.06 341	P	P	00 08 57.0	-1.3
MIAR	Mount Ida comp=E,7.7nm,0.6s	58.08 336	eP	P	00 08 57.9	-0.5
MIAR	Mount Ida baz=152,SNR=5.3	58.08 336	P	P	00 08 58.0	-0.5
T48A	Bowling Green baz=160,SNR=6.9	58.09 344	P	P	00 08 57.4	-1.1
S50A	Richmond baz=163	58.13 346	P	P	00 08 57.6	-1.2
W41B	Gary Mavity, V comp=E,45nm,1.9s	58.15 338	eP	P	00 08 58.7	-0.3
W41B	Gary Mavity, V baz=154	58.15 338	P	P	00 08 58.3	-0.7
T47A	Sharon Grove comp=E,34nm,0.8s	58.17 343	eP	P	00 08 58.1	-0.9
T47A	Sharon Grove baz=160,SNR=15	58.17 343	P	P	00 08 58.2	-0.9
R53A	Hurricane baz=165	58.23 348	P	P	00 08 58.7	-0.8
T46A	Princeton baz=159,SNR=10	58.45 342	P	P	00 09 00.1	-0.9
S49A	Springfield baz=162	58.45 345	P	P	00 08 59.7	-1.3
TXAR	Lajitas Array comp=E,1.7nm,0.7s,baz=150,slow=7.9,SNR=12	58.47 324	P	P	00 09 01.3	-0.2
TXAR	comp=E,1.0nm,0.8s,baz=151,slow=8.2,SNR=5.0	PcP		PcP	00 09 51.4	+0.5
TX31	Lajitas Ar. Si	58.48 324	eP	P	00 09 01.2	-0.3
U44A	Portageville baz=157	58.49 341	P	P	00 09 01.1	-0.1
S48A	Wiedeman Farm, baz=161,SNR=12	58.52 344	P	P	00 08 59.9	-1.6
Q55A	Buckhannon baz=168	58.54 350	P	P	00 09 01.9	+0.2
R51A	Hillsboro baz=164	58.54 347	P	P	00 09 00.8	-0.8
U43A	Rector baz=156	58.60 340	P	P	00 09 01.5	-0.5
T45A	Paducah comp=E,88nm,0.6s	58.65 342	eP	P	00 09 01.2	-1.2
T45A	Paducah baz=158	58.65 342	P	P	00 09 01.6	-0.8
Q54A	Coxs Mills baz=167	58.66 349	P	P	00 09 01.2	-1.3
S47A	Hartford baz=160,SNR=9.8	58.68 343	P	P	00 09 01.3	-1.3
R50A	Paris baz=163	58.69 346	P	P	00 09 01.8	-0.9
W39A	Magazine baz=152	58.73 336	P	P	00 09 03.3	+0.3
X37A	Clayton comp=E,23nm,1.2s	58.83 335	eP	P	00 09 04.0	+0.3
U42A	Revenden baz=155,SNR=6.9	58.86 339	P	P	00 09 02.7	-1.2
R49A	Shelbyville baz=162	58.90 345	P	P	00 09 03.2	-1.0
Q52A	Bidwell baz=165	58.91 348	P	P	00 09 03.4	-0.7
PBMO	Poplar Bluff comp=E,16nm,0.6s	58.98 340	eP	P	00 09 03.8	-0.9
T44A	Benton baz=157	58.99 341	P	P	00 09 03.8	-0.9
S46A	Don Dixon Farm baz=159	58.99 343	P	P	00 09 03.4	-1.3
P55A	Reedsville baz=168	59.00 350	P	P	00 09 04.8	0.0
ABTX	Abilene, Hawle comp=E,15nm,0.9s	59.04 330	eP	P	00 09 05.5	+0.2
ABTX	Abilene, Hawle baz=146	59.04 330	P	P	00 09 04.8	-0.4
U41A	Viola baz=154	59.08 339	P	P	00 09 04.6	-0.8
WCI	Wyandotte Cave comp=E,16nm,0.8s	59.12 344	eP	P	00 09 04.4	-1.2
WCI	Wyandotte Cave baz=161	59.12 344	P	P	00 09 04.2	-1.4
Q50A	Georgetown baz=163	59.15 346	P	P	00 09 04.7	-1.2
Q51A	Peebles baz=164	59.19 347	P	P	00 09 05.7	-0.4
P54A	Burton baz=167	59.20 350	P	P	00 09 05.9	-0.3
T43A	Greenville baz=156,SNR=10	59.21 340	P	P	00 09 05.6	-0.7
S45A	Carrier Mills baz=158,SNR=11	59.24 342	P	P	00 09 05.6	-0.8
R47A	Wooly Knot Far baz=160	59.25 344	P	P	00 09 04.6	-1.9
P53A	Whipple comp=E,24nm,1.1s	59.25 349	eP	P	00 09 06.2	-0.3
P53A	Whipple baz=166	59.25 349	P	P	00 09 06.0	-0.5
U40A	Yellville baz=154	59.42 338	P	P	00 09 06.7	-1.1
T42A	Van Buren comp=E,5.9nm,0.6s	59.42 340	eP	P	00 09 06.7	-1.2
T42A	Van Buren baz=156	59.42 340	P	P	00 09 06.6	-1.2
S44A	Carbondale baz=158,SNR=5.7	59.45 341	P	P	00 09 07.6	-0.3
SIUC	Southern Illin comp=E,41nm,0.7s	59.46 341	eP	P	00 09 07.4	-0.6
Q49A	Aurora baz=162	59.51 346	P	P	00 09 07.0	-1.3
P52A	Corning baz=165	59.53 348	P	P	00 09 07.5	-0.9
P51A	Williamsport baz=164	59.57 347	P	P	00 09 07.6	-1.0
S43A	Fulton Ridge, baz=157,SNR=8.3	59.59 341	P	P	00 09 07.7	-1.2
O55A	Ligonier baz=168	59.60 351	P	P	00 09 08.7	-0.2
Q48A	North Vernon baz=162,SNR=7.6	59.64 345	P	P	00 09 07.9	-1.3
T41A	Mountain View baz=155	59.66 339	P	P	00 09 08.1	-1.4
R45A	Skylar, Fairfi baz=159,SNR=6.5	59.72 343	P	P	00 09 08.5	-1.2
Q47A	Bedord North L baz=161	59.82 344	P	P	00 09 09.4	-1.1
P50A	Jamestown baz=164	59.84 347	P	P	00 09 09.4	-1.2
R44A	Waltonville baz=158	59.91 342	P	P	00 09 09.8	-1.2
O52A	Adamsville baz=166	59.94 349	P	P	00 09 10.4	-0.8
O53A	New Philadelph baz=166	59.96 349	P	P	00 09 10.6	-0.8
P49A	Miami Univ. Ec baz=163	59.98 346	P	P	00 09 10.0	-1.5
S42A	Caledonia baz=156,SNR=5.2	60.00 340	P	P	00 09 10.3	-1.4
BLO	Bloomington comp=E,14nm,0.6s	60.07 344	eP	P	00 09 11.2	-1.0
P48A	Milroy baz=162	60.07 345	P	P	00 09 10.5	-1.7
FVM	French Village comp=E,31nm,0.6s	60.08 341	eP	P	00 09 11.8	-0.4
O51A	Pataskala baz=165	60.12 348	P	P	00 09 11.6	-0.8
N55A	Marion Center baz=169	60.12 351	P	P	00 09 12.5	0.0
TUL1	Leonard baz=150	60.14 335	P	P	00 09 11.8	-0.9
S41A	Jilco Farms, baz=155,SNR=5.9	60.15 339	P	P	00 09 11.7	-1.0
R43A	Red Bud baz=157	60.19 341	P	P	00 09 12.0	-1.0
Q45A	Warren Harvey, baz=159	60.25 343	P	P	00 09 12.1	-1.2
ACSO	Alum Creek Sta comp=E,22nm,1.1s	60.27 348	eP	P	00 09 12.8	-0.7
ACSO	Alum Creek Sta baz=165	60.27 348	P	P	00 09 12.4	-1.2
P47A	Martinsville baz=161,SNR=11	60.30 345	P	P	00 09 12.6	-1.1
O50A	Cable baz=164	60.32 347	P	P	00 09 12.8	-1.1
CCM	Cathedral Cave comp=E,15nm,1.1s	60.41 340	eP	P	00 09 13.4	-1.0
CCM	Cathedral Cave baz=156	60.41 340	P	P	00 09 13.5	-1.0
N53A	Lisbon baz=167	60.43 350	P	P	00 09 13.6	-1.0
N54A	Moraine State baz=168	60.45 350	P	P	00 09 14.6	-0.1
R42A	Luebbering baz=156,SNR=12	60.47 340	P	P	00 09 14.0	-0.9
Q44A	Meyer Farm, Va comp=E,24nm,0.6s	60.50 342	eP	P	00 09 14.0	-1.1
Q44A	Meyer Farm, Va baz=158,SNR=7.4	60.50 342	P	P	00 09 13.8	-1.3
O49A	Covington comp=E,11nm,0.8s	60.52 347	eP	P	00 09 14.5	-0.6
O49A	Covington baz=163	60.52 347	P	P	00 09 13.9	-1.3
BRYW	Bryant College comp=E,49nm,1.3s	60.58 358	eP	P	00 09 15.9	+0.3
N52A	McGinn's Farm, baz=166	60.59 349	P	P	00 09 14.7	-0.9
P46A	Rosedale baz=160	60.67 344	P	P	00 09 14.8	-1.4
R41A	Rosebud baz=156,SNR=9.0	60.67 340	P	P	00 09 15.3	-1.0
P45A	Graceland, Par comp=E,28nm,0.9s	60.73 343	eP	P	00 09 15.1	-1.5
P45A	Graceland, Par baz=160,SNR=5.8	60.73 343	P	P	00 09 15.1	-1.5
M55A	Ridgway baz=169	60.76 352	P	P	00 09 15.8	-1.0
O48A	Farmland baz=162	60.77 346	P	P	00 09 15.1	-1.8
N51A	Ashland baz=165	60.82 348	P	P	00 09 15.9	-1.3
N50A	Nevada baz=164	60.83 348	P	P	00 09 16.2	-1.0
P44A	Sand Creek, Wi baz=159	60.91 343	P	P	00 09 16.5	-1.3
M54A	Oil Creek Stat baz=168	60.93 351	P	P	00 09 17.5	-0.5
Q42A	Golden Eagle baz=156,SNR=5.2	60.96 341	P	P	00 09 17.1	-1.1
O47A	Sheridan baz=161,SNR=12	60.99 345	P	P	00 09 16.9	-1.5
M53A	WI Miller and baz=167	61.02 350	P	P	00 09 18.1	-0.4
BINY	Binghamton baz=172	61.16 354	P	P	00 09 19.1	-0.4
HRV	Adam Dziewonsk baz=177	61.17 358	P	P	00 09 19.3	-0.3
M51A	Elyria baz=166	61.18 349	P	P	00 09 18.9	-0.8
N49A	Columbus Grove comp=E,27nm,0.7s	61.19 347	eP	P	00 09 18.6	-1.1
N49A	Columbus Grove baz=163,SNR=6.9	61.19 347	P	P	00 09 18.5	-1.2
Q41A	Truxton baz=156,SNR=9.1	61.22 340	P	P	00 09 19.1	-0.8
MNTX	Cornudas Mount baz=140,SNR=10	61.23 325	P	P	00 09 19.4	-0.8
M52A	Chesterland baz=166	61.24 349	P	P	00 09 19.7	-0.3
N48A	Decatur baz=163	61.31 346	P	P	00 09 19.5	-1.1
P43A	Skaggs, Pawnee baz=158,SNR=11	61.33 342	P	P	00 09 19.4	-1.3
SFIN	Lafayette comp=E,26nm,0.6s	61.35 344	eP	P	00 09 19.1	-1.7
SFIN	Lafayette baz=160,SNR=7.5	61.35 344	P	P	00 09 19.1	-1.7
O45A	Potomac baz=160,SNR=12	61.40 344	P	P	00 09 19.5	-1.6
M50A	Fremont baz=165	61.41 348	P	P	00 09 19.5	-1.7
L55A	Hinsdale baz=170	61.42 352	P	P	00 09 20.6	-0.7
L53A	Girard baz=168,SNR=5.4	61.46 350	P	P	00 09 21.0	-0.5
N47A	Urbana baz=162	61.48 346	P	P	00 09 20.4	-1.3
O44A	Mansfield baz=159,SNR=5.6	61.51 343	P	P	00 09 20.2	-1.6
P42A	Winchester comp=E,21nm,0.8s	61.52 341	eP	P	00 09 21.0	-1.0
P42A	Winchester baz=157,SNR=6.9	61.52 341	P	P	00 09 20.9	-1.0
ERPA	Erie comp=E,14nm,0.6s	61.58 351	eP	P	00 09 21.9	-0.4
ERPA	Erie baz=168,SNR=5.0	61.58 351	P	P	00 09 21.7	-0.6
MSTX	Muleshoe comp=E,20nm,0.9s	61.65 328	eP	P	00 09 23.0	-0.1
MSTX	Muleshoe baz=143,SNR=8.6	61.65 328	P	P	00 09 22.8	-0.3
PLIO	Pelee Island, baz=165	61.67 348	P	P	00 09 21.8	-1.1
M49A	Liberty Center baz=164	61.67 347	P	P	00 09 21.8	-1.1
N46A	Monticello baz=161,SNR=6.6	61.75 345	P	P	00 09 22.0	-1.4
P41A	Barry, Barry baz=156,SNR=8.2	61.83 341	P	P	00 09 22.8	-1.2
O43A	Sugar Creek Fa baz=158,SNR=5.0	61.87 342	P	P	00 09 22.8	-1.5
N45A	Kentland baz=160	61.90 344	P	P	00 09 22.6	-1.9
O42A	Bath baz=157	62.01 342	P	P	00 09 23.7	-1.5
N44A	Piper City baz=159	62.02 344	P	P	00 09 23.7	-1.5
HDIL	Hopedale comp=E,39nm,0.6s	62.11 343	eP	P	00 09 24.4	-1.5
HDIL	Hopedale baz=158,SNR=7.7	62.11 343	P	P	00 09 24.4	-1.5
O41A	Passleys Farm, baz=156,SNR=5.3	62.17 341	P	P	00 09 24.8	-1.5
L48A	N Adams baz=163,SNR=6.5	62.22 347	P	P	00 09 25.5	-1.1
L49A	Milan baz=164	62.24 348	P	P	00 09 25.5	-1.2
AAM	Ann Arbor baz=164	62.40 348	P	P	00 09 26.8	-1.0
K51A	Iona Station baz=166	62.41 350	P	P	00 09 27.1	-0.8
L47A	Sherwood baz=162	62.42 346	P	P	00 09 26.9	-1.0
N43A	Stutzman Famil baz=158,SNR=14	62.43 343	P	P	00 09 27.0	-1.1
TYNO	Tyneside baz=168	62.52 351	P	P	00 09 28.4	-0.2
VNA3	Neumayer Olymp	62.54 162	P	P	00 09 29.5	+1.1
M44A	Midewin, Midew baz=160	62.55 344	P	P	00 09 27.0	-1.8
N42A	Yates City baz=157,SNR=8.0	62.58 342	P	P	00 09 27.9	-1.1
L46A	Eue Claire baz=161	62.70 346	P	P	00 09 27.8	-2.0
N41A	Harden Midland comp=E,25nm,0.8s	62.71 341	eP	P	00 09 28.8	-1.0
N41A	Harden Midland baz=156,SNR=5.7	62.71 341	P	P	00 09 28.7	-1.2
VNA1	Neumayer--Stat	62.74 161	P	P	00 09 31.4	+1.7
J52A	Paris baz=168	62.75 351	P	P	00 09 29.5	-0.6
K49A	Clarkson baz=164	62.83 348	P	P	00 09 29.4	-1.2
M43A	Waltham Townsh baz=159,SNR=6.4	62.84 343	P	P	00 09 29.2	-1.5
K48A	Perry baz=164,SNR=6.9	62.98 348	P	P	00 09 30.4	-1.2
K47A	Vermontville baz=163	63.03 347	P	P	00 09 30.7	-1.3
N40A	Mertquake, Sal baz=156	63.09 341	P	P	00 09 31.3	-1.1
VNA2	Neumayer--Watz baz=299,slow=6.8	63.10 161	P	P	00 09 31.6	-0.5
319A	Douglas	63.20 322	eP	P	00 09 34.6	+1.1
K46A	Dorr comp=E,15nm,0.8s baz=162	63.22 346	P	P	00 09 31.4	-1.8
M41A	Milan baz=157	63.23 342	P	P	00 09 31.8	-1.5
KSU1	Kansas State U comp=E,10nm,0.8s	63.24 336	eP	P	00 09 32.5	-1.0
J49A	Marlette baz=165	63.32 349	P	P	00 09 32.5	-1.3
I55A	Frankford baz=171	63.33 353	P	P	00 09 33.2	-0.7
I51A	Listowel baz=167	63.38 350	P	P	00 09 33.5	-0.8
J48A	Bridge Port baz=165,SNR=7.6	63.39 348	P	P	00 09 33.0	-1.3
LONY	Lake Ozonia baz=174	63.44 356	P	P	00 09 33.9	-0.7
L43A	Garden Prairie baz=159,SNR=8.3	63.48 344	P	P	00 09 34.0	-0.9
I52A	Shelburne baz=168	63.51 351	P	P	00 09 34.6	-0.6
J47A	Sunmer baz=163	63.54 347	P	P	00 09 34.1	-1.2
M40A	Post Highland baz=156,SNR=5.2	63.55 341	P	P	00 09 34.2	-1.1
H56A	Elgin baz=172	63.56 354	P	P	00 09 34.7	-0.7
L42A	Oliver, Polo baz=158	63.56 343	P	P	00 09 34.0	-1.4
H55A	Tweed baz=171	63.61 353	P	P	00 09 35.1	-0.6
DELO	Deloro Mine baz=171	63.62 353	P	P	00 09 35.2	-0.6
BASO	Ashfield baz=166	63.69 350	P	P	00 09 35.8	-0.5
BWLO	Walkerton baz=167	63.71 350	P	P	00 09 35.8	-0.6
BNM	Barren Site	63.78 326	eP	P	00 09 38.2	+0.8
M39A	Webster baz=155	63.81 341	P	P	00 09 36.0	-1.1
J46A	Howard City baz=162	63.82 347	P	P	00 09 35.7	-1.5
I49A	Point Hope baz=165	63.83 349	P	P	00 09 36.1	-1.1
K43A	Burlington comp=E,32nm,0.6s	63.85 344	eP	P	00 09 36.4	-1.0
K43A	Burlington baz=160	63.85 344	P	P	00 09 36.3	-1.0
L41A	Preston baz=157	63.86 342	P	P	00 09 36.2	-1.2
BRCO	Bruce Peninsul baz=167	63.88 350	P	P	00 09 37.0	-0.5
LENM	Lemitar	63.98 325	eP	P	00 09 39.4	+0.8
L40A	Anamosa baz=156	64.06 342	P	P	00 09 38.0	-0.8
BMRO	Meriville Lake baz=167	64.19 350	P	P	00 09 38.7	-0.9
K42A	Prairie Point, baz=158,SNR=7.0	64.19 344	P	P	00 09 38.7	-0.9
I47A	Gladwin baz=164	64.22 348	P	P	00 09 39.0	-0.8
I48A	Sherman Twp baz=164,SNR=8.1	64.23 348	P	P	00 09 38.8	-1.0
LAZ	Ladron	64.25 325	eP	P	00 09 40.4	0.0
K41A	Shullsburg baz=158	64.30 343	P	P	00 09 39.6	-0.7
ANMO	Albuquerque comp=E,3.4nm,0.8s	64.30 326	eP	P	00 09 41.1	+0.3
ANMO	Albuquerque baz=140	64.30 326	P	P	00 09 40.3	-0.5
G53A	Haliburton baz=170	64.34 352	P	P	00 09 40.1	-0.4
ORIO	Orleans, Innes baz=173	64.34 355	P	P	00 09 39.7	-0.8
I46A	Reed City baz=163,SNR=8.4	64.34 347	P	P	00 09 39.3	-1.3
L39A	Vinton baz=156	64.35 341	P	P	00 09 39.7	-0.9
ALFO	Alfred baz=174	64.47 355	P	P	00 09 40.8	-0.4
J43A	Natural Harves baz=160,SNR=5.8	64.51 344	P	P	00 09 40.7	-1.0
SCIA	State Center baz=154	64.53 340	P	P	00 09 41.0	-0.8
JFWS	Jewell Farm comp=E,18nm,0.7s	64.56 343	eP	P	00 09 41.5	-0.5
JFWS	Jewell Farm baz=158	64.56 343	P	P	00 09 41.3	-0.8
K40A	Colesburg baz=157	64.62 342	P	P	00 09 41.4	-1.0
J42A	Columbus baz=159	64.63 344	P	P	00 09 41.4	-1.1
H48A	Harrisville baz=165	64.65 349	P	P	00 09 41.3	-1.2
H47A	Mio baz=164,SNR=5.1	64.72 348	P	P	00 09 41.7	-1.3
PEMO	Pembroke baz=171	64.73 354	P	P	00 09 42.3	-0.7
SNAA	Sanae	64.74 161	P	P	00 09 43.6	+0.7
BUKO	Buck Lake baz=169	64.75 352	P	P	00 09 42.7	-0.5
KLBO	Killbear Provi baz=168	64.78 351	P	P	00 09 42.7	-0.6
K39A	Oelwein baz=156	64.85 342	P	P	00 09 42.6	-1.3
TOBO	Tobermory, Bru baz=167	64.85 350	P	P	00 09 42.5	-1.3
H46A	Fife Lake baz=163,SNR=13	64.87 347	P	P	00 09 42.8	-1.2
I43A	Langenfeld Bro baz=160	64.92 345	P	P	00 09 43.2	-1.1
J41A	Loganville baz=158	64.92 343	P	P	00 09 43.2	-1.1
T25A	Trinidad comp=E,12nm,1.4s	64.98 329	eP	P	00 09 44.6	-0.6
GLMI	Grayling baz=164	65.02 348	P	P	00 09 44.4	-0.6
TRQ	Mont Tremblant	65.03 356	eP	P	00 09 44.6	-0.5
F52A	Sundridge baz=169	65.09 352	P	P	00 09 44.7	-0.6
ALGO	Algonquin Park baz=170	65.09 353	P	P	00 09 44.2	-1.2
I42A	Draeger Farm, comp=E,19nm,0.7s	65.11 344	eP	P	00 09 45.0	-0.6
I42A	Draeger Farm, baz=159	65.11 344	P	P	00 09 45.0	-0.6
J40A	Soldiers Grove baz=157	65.15 343	P	P	00 09 44.8	-1.0
G47A	Hillman baz=164	65.21 348	P	P	00 09 45.0	-1.1
J39A	Decorah baz=156,SNR=5.2	65.37 342	P	P	00 09 46.2	-1.0
H43A	Windswept, Lux baz=160	65.37 345	P	P	00 09 46.3	-0.9
G45A	Suttons Bay baz=162	65.44 347	P	P	00 09 46.4	-1.2
F49A	Sandfield baz=166	65.46 350	P	P	00 09 46.5	-1.2
E53A	Dumoine, Ponti baz=171	65.47 353	P	P	00 09 46.6	-1.2
E54A	Lac Daplat, Po baz=171	65.47 354	P	P	00 09 47.1	-0.7
I41A	Arkdale baz=158	65.52 344	P	P	00 09 47.1	-1.1
G46A	Petoskey baz=163,SNR=6.2	65.54 348	P	P	00 09 47.4	-0.9
I40A	Norwalk baz=157	65.57 343	P	P	00 09 47.6	-0.9
H42A	Shiocton baz=160	65.60 345	P	P	00 09 48.0	-0.7
F48A	Evansville baz=166	65.62 350	P	P	00 09 47.8	-1.0
KSCO	Kaye Shedlock' baz=145	65.66 332	P	P	00 09 49.6	+0.2
214A	Organ Pipe Nat baz=134,SNR=7.2	65.73 320	P	P	00 09 51.0	+1.2
I39A	Houston comp=E,24nm,0.9s	65.79 342	eP	P	00 09 49.1	-0.8
I39A	Houston baz=156,SNR=5.8	65.79 342	P	P	00 09 49.1	-0.8
BGNE	Belgrade baz=150	65.82 336	P	P	00 09 50.0	-0.3
E51A	G1948 Merrick baz=169	65.84 352	P	P	00 09 49.7	-0.5
F46A	Macinaw City C baz=164	65.96 348	P	P	00 09 50.3	-0.7
H41A	Junction City comp=E,22nm,1.0s	65.98 344	eP	P	00 09 50.6	-0.6

H41A **Junction City** 65.98 344 P P 00 09 50.4 -0.7
baz=158
SDCO **Great Sand Dun** 65.99 329 eP P 00 09 51.5 -0.2
comp=E,16nm,1.1s
SDCO **Great Sand Dun** 65.99 329 P P 00 09 52.1 +0.4
baz=142,SNR=22
F45A **CMU Biological** 66.02 347 P P 00 09 50.6 -0.8
baz=163
LATQ **La Tuque** 66.09 357 P P 00 09 51.4 -0.3
baz=176
G43A **Wallace** 66.10 346 P P 00 09 50.8 -1.0
baz=160
D54A **Lac Fusel, La** 66.13 354 P P 00 09 51.1 -1.0
baz=172
D52A **ZEK Kipawa Sen** 66.14 353 P P 00 09 51.1 -1.0
baz=170
D53A **Lac Vacive, Po** 66.16 354 P P 00 09 51.6 -0.6
baz=171,SNR=5.1
E48A **Lockeyer** 66.18 350 P P 00 09 51.4 -1.0
baz=166
H40A **Chili** 66.18 343 P P 00 09 51.4 -1.0
baz=158,SNR=5.4
G42A **Mountain** 66.26 345 P P 00 09 52.2 -0.7
baz=160
E47A **Iron Bridge** 66.34 349 P P 00 09 52.5 -0.9
baz=165
E46A **Sault Ste Mari** 66.44 349 P P 00 09 53.0 -1.0
baz=164,SNR=5.7
H39A **Augusta** 66.48 343 P P 00 09 53.3 -1.0
baz=157
F44A **Big Bay de Noc** 66.49 347 P P 00 09 53.3 -1.0
baz=162
F43A **Flat Rock, Esc** 66.52 346 P P 00 09 53.5 -1.0
baz=161
E45A **Wooded Hills,** 66.60 348 P P 00 09 54.1 -0.9
baz=163
S22A **4UR Ranch, Cre** 66.65 328 eP P 00 09 56.4 +0.4
comp=E,5.2nm,0.9s
S22A **4UR Ranch, Cre** 66.65 328 P P 00 09 56.3 +0.4
baz=141,SNR=6.6
X16A **Lo Mia Camp, P** 66.65 323 eP P 00 09 57.1 +1.2
comp=E,12nm,1.4s
F42A **Maple Grove Fa** 66.67 346 P P 00 09 55.2 -0.4
baz=160
G40A **Rib Lake** 66.73 344 P P 00 09 55.2 -0.8
baz=158
H38A **Maiden Rock** 66.76 342 P P 00 09 55.0 -1.1
baz=156
Q24A **Divide** 66.79 330 eP P 00 09 57.5 +0.7
comp=E,8.9nm,0.9s
Q24A **Divide** 66.79 330 P P 00 09 57.5 +0.7
baz=142,SNR=7.7
D48A **Paudash Townsh** 66.79 351 P P 00 09 55.3 -1.0
baz=167
D49A **Beulah Townshi** 66.82 351 P P 00 09 55.5 -1.0
baz=167
D47A **Chapleau** 66.89 350 P P 00 09 55.8 -1.1
baz=165
F41A **Three Lakes** 66.89 345 P P 00 09 56.5 -0.4
baz=159
D46A **Sault St. Mari** 66.90 349 P P 00 09 55.8 -1.1
baz=164
E43A **Lone Tree Farm** 67.00 347 P P 00 09 56.8 -0.8
baz=161
G39A **Holcombe** 67.01 343 P P 00 09 56.9 -0.8
baz=157
G38A **Ridgeland** 67.09 343 P P 00 09 57.3 -0.9
baz=156
MVCO **Mesa Verde** 67.09 327 eP P 00 09 59.6 +0.9
comp=E,10nm,0.9s
E42A **Champion** 67.26 346 P P 00 09 58.2 -1.1
baz=160
ECSD **EROS Data Cent** 67.29 339 eP P 00 09 59.2 -0.3
comp=E,17nm,1.6s
ECSD **EROS Data Cent** 67.29 339 P P 00 09 58.6 -0.9
baz=152
F40A **Park Falls** 67.32 344 P P 00 09 59.4 -0.3
baz=158,SNR=7.4
WUAZ **Wupatki** 67.40 323 eP P 00 10 01.7 +1.1
comp=E,10nm,0.9s
WUAZ **Wupatki** 67.40 323 P P 00 10 01.9 +1.3
baz=136,SNR=5.0
SPMN **Marine on St.** 67.41 342 eP P 00 09 59.4 -0.8
comp=E,33nm,1.4s
SPMN **Marine on St.** 67.41 342 P P 00 09 59.4 -0.8
baz=155,SNR=5.5
F39A **Loretta** 67.52 344 P P 00 10 00.4 -0.5
baz=157
ISCO **Idaho Springs** 67.67 330 eP P 00 10 03.2 +0.9
comp=E,8.3nm,1.0s
ISCO **Idaho Springs** 67.67 330 P P 00 10 03.0 +0.6
baz=142,SNR=8.1
GLA **Glamis** 67.71 319 P P 00 10 03.4 +0.9
baz=133
E40A **Wakefield** 67.75 345 P P 00 10 02.0 -0.3
baz=158
LIC **Lamto** 67.80 75 eP P 00 10 02.1 -1.3
comp=E,46nm,0.8s
F38A **Pierce - Schro** 67.82 343 P P 00 10 02.2 -0.5
baz=156
PV01 **Paradox Valley** 67.83 327 eP P 00 10 04.5 +1.2
comp=E,6.0nm,0.8s
SMCO **Snowmass** 67.83 329 eP P 00 10 04.4 +0.9
comp=E,7.3nm,0.8s
E39A **Mellen** 67.85 344 P P 00 10 02.6 -0.4
baz=158
PV15 **Paradox Valley** 67.94 327 eP P 00 10 05.4 +1.4
comp=E,16nm,1.0s
TIC **Toumodi** 67.97 74 eP P 00 10 03.4 -1.1
PV13 **Radium Mtn., P** 67.98 327 eP P 00 10 05.1 +0.9
comp=E,8.3nm,1.1s
Y12C **Blythe** 68.00 320 P P 00 10 05.0 +0.8
baz=133
LSQQ **Lebel-sur-Quev** 68.05 354 P P 00 10 03.5 -0.6
baz=172
PV03 **Paradox Valley** 68.06 327 eP P 00 10 05.3 +0.5
comp=E,4.3nm,0.9s
PV12 **Saucer Basin,** 68.09 327 eP P 00 10 05.4 +0.5
comp=E,5.6nm,0.9s
PV07 **Paradox Valley** 68.10 327 eP P 00 10 05.8 +0.8
comp=E,18nm,1.9s
KIC **Kosan Boka** 68.12 75 eP P 00 10 04.4 -0.9
comp=E,73nm,0.6s
DBIC **Dimbokro** 68.13 74 eP P 00 10 04.8 -0.6
comp=E,36nm,0.7s
DBIC **Dimbokro** 68.13 74 P P 00 10 04.7 -0.8
comp=E,32nm,0.7s,baz=225,slow=6.2,SNR=64
DBIC **Dimbokro** 68.13 74 eP P 00 10 04.8 -0.6
SWSC **Sam W. Stewart** 68.25 319 P P 00 10 06.7 +1.0
baz=132
BC3 **Big Chuckawall** 68.51 320 P P 00 10 08.1 +0.6
baz=132
U15A **North Rim** 68.57 324 eP P 00 10 10.1 +2.0
comp=E,15nm,1.1s
MONP2 **Monument Peak** 68.60 318 P P 00 10 08.9 +0.7
baz=132
IRM **Iron Mountain** 68.66 320 P P 00 10 09.6 +1.3
baz=133,SNR=8.6
N23A **Red Feather La** 68.69 331 eP P 00 10 08.4 -0.2
comp=E,9.4nm,1.0s
N23A **Red Feather La** 68.69 331 P P 00 10 08.4 -0.2
baz=142
CHGQ **Chibougamau** 68.69 356 P P 00 10 07.5 -0.6
baz=174
MATQ **Matagami** 68.81 354 P P 00 10 08.0 -0.8
baz=171
BELC **Belle Mtn. Jos** 69.08 319 P P 00 10 12.1 +1.0
baz=132
XPFO **Pion Flat** 69.10 319 eP P 00 10 11.5 +0.4
comp=E,10nm,1.3s
PFO **Pinyon Flats O** 69.10 319 eP P 00 10 12.4 +1.2
comp=E,9.5nm,1.3s
PFO **Pinyon Flats O** 69.10 319 P P 00 10 12.1 +0.9
baz=132
O20A **White River Ci** 69.19 329 eP P 00 10 12.5 +0.8
comp=E,8.5nm,0.9s
O20A **White River Ci** 69.19 329 P P 00 10 12.6 +0.9
baz=140
KNB **Kanab** 69.29 324 eP P 00 10 14.1 +1.7
comp=E,22nm,0.9s
PKCU **Pink Cliffs** 69.31 324 eP P 00 10 14.3 +1.6
comp=E,9.8nm,1.4s
GMRC **Granite Mounta** 69.40 320 P P 00 10 14.3 +1.3
baz=133,SNR=8.0
LCMT **Little Creek M** 69.53 323 eP P 00 10 14.8 +1.0
comp=E,6.4nm,0.9s
EYMN **Ely** 69.55 344 P P 00 10 12.6 -0.9
baz=157

SRU **San Rafael Swe** 69.57 327 eP P 00 10 15.0 +1.0
comp=E,8.4nm,0.8s
MTPU **Mount Pierson** 69.67 325 eP P 00 10 15.4 +0.4
comp=E,6.3nm,1.0s
Q16A **Castle Valley** 69.77 326 eP P 00 10 15.8 +0.5
comp=E,5.9nm,0.9s
P18A **Preston Nutter** 69.81 327 eP P 00 10 16.9 +1.2
comp=E,11nm,0.8s
HEC **Hector,Ludlow** 69.84 320 P P 00 10 17.2 +1.5
baz=132,SNR=5.9
RWWY **Rawlins** 69.90 330 eP P 00 10 16.7 +0.6
comp=E,7.4nm,0.8s
P17A **Butcher Ranch,** 69.95 327 eP P 00 10 17.1 +0.7
comp=E,13nm,0.9s
CCUT **Cedar City** 69.97 324 eP P 00 10 18.4 +1.8
comp=E,14nm,0.9s
TUQ **Turquoise Moun** 70.00 321 P P 00 10 17.8 +1.2
baz=133
MSU **Marysvale** 70.01 325 eP P 00 10 18.1 +1.2
MSU eP cP PcP 00 10 39.2 +0.9
TMUT **Trail Mountain** 70.07 326 eP P 00 10 18.4 +1.2
comp=E,3.9nm,0.7s
TCRU **Three Creeks R** 70.23 325 eP P 00 10 20.3 +2.1
comp=E,14nm,1.0s
BFSC **Mount Baldy Ra** 70.26 319 P P 00 10 19.4 +1.1
baz=131
SHPR **Sheep Range** 70.27 322 eP P 00 10 19.5 +1.1
comp=E,8.8nm,1.1s
K22A **Casper** 70.34 332 P P 00 10 19.4 +0.7
baz=142
GSC **Goldstone, Bar** 70.44 320 P P 00 10 20.4 +1.1
baz=132
RSSD **Black Hills** 70.45 334 eP P 00 10 19.1 -0.2
comp=E,6.9nm,1.0s
RSSD **Black Hills** 70.45 334 P P 00 10 20.1 +0.7
baz=145
SHOC **Shoshone, Teco** 70.52 321 P P 00 10 21.0 +1.3
baz=132
SNCC **San Nicolas Is** 70.81 317 P P 00 10 23.2 +1.6
baz=129
MPU **Maple Canyon** 70.82 327 eP P 00 10 22.9 +1.2
comp=E,7.3nm,0.9s
EDW2 **Edwards Air Fo** 70.89 319 P P 00 10 22.8 +0.7
baz=131
PSUT **Pine Spring** 70.94 324 eP P 00 10 24.2 +1.7
comp=E,8.9nm,0.8s
NLU **North Lily Min** 71.00 326 eP P 00 10 24.2 +1.4
comp=E,5.8nm,0.8s
LRMC **Laurel Mtn Rad** 71.09 320 P P 00 10 24.3 +1.0
baz=131
AGMN **Agassiz Nation** 71.09 341 eP P 00 10 22.3 -0.5
comp=E,8.0nm,0.9s
AGMN **Agassiz Nation** 71.09 341 P P 00 10 22.2 -0.7
baz=153,SNR=5.7
JLU **Jordanelle** 71.16 327 eP P 00 10 24.8 +1.0
comp=E,11nm,0.9s
TPNV **Topopah Spring** 71.21 322 eP P 00 10 25.7 +1.6
comp=E,8.2nm,0.7s
TPNV **Topopah Spring** 71.21 322 P P 00 10 25.7 +1.6
baz=133,SNR=12
QSPA **South Pole Qui** 71.25 180 eP P 00 10 25.1 +1.2
comp=E,14nm,1.1s
FURC **Furnace Creek,** 71.25 321 P P 00 10 25.7 +1.6
baz=132
MPMC **Manual Prospec** 71.36 320 P P 00 10 25.9 +1.0
baz=132
TCUT **Toone Canyon** 71.51 328 eP P 00 10 27.0 +1.1
comp=E,10nm,0.7s
DUG **Dugway, Tooele** 71.57 326 eP P 00 10 27.2 +1.1
comp=E,11nm,1.0s
DUG **Dugway, Tooele** 71.57 326 P P 00 10 27.1 +1.0
baz=136,SNR=12
ISA **Isabella, Lake** 71.70 319 eP P 00 10 28.3 +1.4
comp=E,6.2nm,0.9s
ISA **Isabella, Lake** 71.70 319 P P 00 10 28.1 +1.2
baz=131
R11A **Troy Canyon, C** 71.79 323 eP P 00 10 29.0 +1.5
comp=E,4.4nm,0.8s
R11A **Troy Canyon, C** 71.79 323 P P 00 10 28.9 +1.4
baz=134,SNR=10
BW06 **Boulder Array** 71.84 330 P P 00 10 28.6 +0.8
baz=140
PD31 **Pinedale Array** 71.84 330 eP P 00 10 28.0 +0.2
comp=E,3.9nm,1.1s
PDAR **Pinedale Array** 71.84 330 eP P 00 10 27.3 -0.4
PDAR eS S 00 19 41.5 +2.1
PDAR **Pinedale Array** 71.84 330 P P 00 10 27.7 -0.1
comp=E,2.4nm,0.9s,baz=123,slow=7.0,SNR=12
MDND **Maddock** 71.90 339 eP P 00 10 28.1 +0.3
comp=E,44nm,1.0s
MDND **Maddock** 71.90 339 P P 00 10 28.0 +0.3
baz=149,SNR=5.4
HWUT **Hardware Ranch** 71.95 328 eP P 00 10 29.2 +0.7
comp=E,5.2nm,0.8s
CWC **Cottonwood Cre** 71.97 320 P P 00 10 29.5 +0.9
baz=131
PKM **Mcpherson Peak** 72.04 318 P P 00 10 29.7 +0.6
baz=130
SPUT **South Promonto** 72.19 327 eP P 00 10 30.8 +1.0
comp=E,11nm,1.0s
VES **Vestal, Richgr** 72.19 319 P P 00 10 30.7 +1.0
baz=130
BGU **Big Grassy Mou** 72.21 326 eP P 00 10 30.6 +0.7
comp=E,7.9nm,0.9s
SMMC **Simmler** 72.42 318 P P 00 10 32.1 +1.0
baz=130
TIN **Tinemaha, Big** 72.46 321 P P 00 10 32.3 +0.8
baz=131
HVU **Hansel Valley** 72.70 327 eP P 00 10 33.3 +0.5
comp=E,7.1nm,0.7s
ULM **Lac du Bonnet** 72.84 342 eP P 00 10 32.4 -0.8
comp=E,8.6nm,0.6s
ULM **Lac du Bonnet** 72.84 342 P P 00 10 32.6 -0.7
comp=E,7.4nm,0.5s,baz=148,slow=5.5,SNR=23
REDW **Red Top Meadow** 72.91 329 eP P 00 10 35.0 +0.9
comp=E,10nm,1.3s
LOHW **Long Hollow** 72.98 330 eP P 00 10 35.2 +0.6
comp=E,8.1nm,1.3s
TPAW **Teton Pass** 73.05 329 eP P 00 10 35.1 +0.1
comp=E,7.4nm,0.9s
MOOW **Moose Ponds** 73.15 330 eP P 00 10 34.9 -0.6
comp=E,3.6nm,0.8s
FXWY **Fox Creek** 73.20 330 eP P 00 10 35.8 -0.1
comp=E,4.8nm,1.0s
ELK **Elko** 73.26 325 eP P 00 10 36.5 +0.2
comp=E,5.8nm,0.8s
OMMB **Old Mammoth Mi** 73.29 321 eP P 00 10 37.4 +0.8
comp=E,10nm,0.9s
MDPB **Devils Postpil** 73.35 321 eP P 00 10 37.7 +0.8
comp=E,5.2nm,0.9s
IMW **Indian Meadow** 73.35 330 eP P 00 10 37.0 +0.2
comp=E,12nm,1.2s
FLWY **Flagg Ranch** 73.38 330 eP P 00 10 38.1 +1.3
comp=E,16nm,0.8s
NV01 **Mina Array Sit** 73.41 322 eP P 00 10 38.0 +0.9
NVAR **Mina Array Bea** 73.41 322 P P 00 10 38.3 +1.1
comp=E,4.7nm,0.8s,baz=153,slow=6.7,SNR=25
LAO **LASA Array** 73.43 334 P P 00 10 38.0 +1.2
baz=143
SCHQ **Schefferville** 73.48 1 eP P 00 10 36.4 -0.6
comp=E,21nm,1.8s
SCHQ **Schefferville** 73.48 1 P P 00 10 36.2 -0.7
comp=E,2.3nm,0.5s,baz=211,slow=6.6,SNR=7.8
RLMT **Red Lodge** 73.51 332 P P 00 10 38.3 +0.7
baz=140,SNR=8.0
H17A **Grant Village** 73.56 330 P P 00 10 39.3 +1.3
baz=139
LKWY **Lake** 73.60 330 eP P 00 10 38.8 +0.6
comp=E,9.5nm,0.8s
RYN **Ryan** 73.67 322 eP P 00 10 39.1 +0.5
comp=E,7.3nm,1.0s
KVN **Kaiserville** 73.71 322 eP P 00 10 39.0 +0.2
comp=E,9.9nm,0.9s
YFT **Old Faithful** 73.72 330 eP P 00 10 40.6 +1.7
comp=E,8.9nm,1.1s
DGMT **Dagmar** 74.08 337 P P 00 10 41.3 +0.7
baz=145
YHB **Horse Butte** 74.12 330 eP P 00 10 42.0 +0.8
comp=E,13nm,0.9s
WAKR **Walker** 74.13 321 eP P 00 10 42.3 +0.9
comp=E,5.7nm,1.0s
GCMT **Greycliff** 74.20 332 eP P 00 10 42.2 +0.7
QLMT **Earthquake Lak** 74.29 330 eP P 00 10 43.0 +0.9
YERR **Yerington** 74.33 322 eP P 00 10 43.3 +0.8
comp=E,5.8nm,0.6s
PNTR **Pine Nut** 74.61 321 eP P 00 10 45.8 +1.7
comp=E,9.3nm,0.8s
VCNR **Virginia City** 74.78 322 eP P 00 10 46.9 +1.8
comp=E,11nm,1.4s
HLID **Hailey** 74.82 328 eP P 00 10 46.4 +1.2
comp=E,12nm,0.8s
HLID **Hailey** 74.82 328 P P 00 10 46.6 +1.4
baz=136,SNR=22
PAHR **Pah Rah Range** 74.89 322 eP P 00 10 47.2 +1.5
comp=E,26nm,0.8s
BOZ **Bozeman (W)** 74.95 331 eP P 00 10 46.9 +1.0
comp=E,7.3nm,0.6s
BOZ **Bozeman (W)** 74.95 331 P P 00 10 46.9 +1.0
baz=138
MCMT **McKenzie Canyo** 74.96 329 eP P 00 10 47.6 +1.6
DLMT **Dillon** 75.23 330 eP P 00 10 48.2 +0.7
comp=E,15nm,1.4s
AFDM **Forest Hills D** 75.34 321 eP P 00 10 49.2 +1.1
comp=E,6.5nm,1.0s
BEKR **Beckworth** 75.56 322 eP P 00 10 50.5 +1.0
comp=E,5.0nm,0.8s
HRY **Holter Researc** 75.88 331 eP P 00 10 52.4 +1.3
EGMT **Eagleton** 75.96 333 eP P 00 10 52.5 +1.0
comp=E,13nm,0.8s
EGMT **Eagleton** 75.96 333 P P 00 10 52.3 +0.8
baz=140
ORV **Oroville** 76.04 321 eP P 00 10 52.9 +0.9
comp=E,13nm,1.0s
TOA0 **Torodi Ar. Sit** 76.61 71 eP P 00 10 54.8 -1.0
TORD **Torodi Ar. Bea** 76.61 71 P P 00 10 53.6 -2.1
comp=E,9.2nm,0.5s,baz=256,slow=6.2,SNR=76
O03E **Paynes Creek** 76.69 321 P P 00 10 55.8 +0.1
baz=129
J08A **Circle Bar Ran** 76.80 325 eP P 00 10 57.8 +1.4
comp=E,4.9nm,0.6s
MOD **Modoc Plateau** 76.85 323 eP P 00 10 56.9 +0.2
comp=E,7.3nm,0.6s
MSO **Missoula** 76.95 330 eP P 00 10 58.1 +1.0
comp=E,7.4nm,1.1s
MSO **Missoula** 76.95 330 P P 00 10 58.3 +1.1
baz=137
O02D **Mt. Diablo Mer** 77.20 321 P P 00 10 59.2 +0.5
baz=128
BMO **Blue Mountains** 77.21 327 eP P 00 10 59.2 +0.6
comp=E,16nm,0.8s
WDC **Whiskeytown Da** 77.30 321 eP P 00 10 59.0 -0.1
comp=E,5.7nm,0.6s
N02D **Trinity Center** 77.65 321 P P 00 11 01.2 +0.1
baz=129,SNR=6.5
M04C **Macdoel** 77.65 322 P P 00 11 02.0 +0.8
baz=129,SNR=7.6
I07A **Izee** 77.84 325 eP P 00 11 03.0 +0.8
comp=E,12nm,1.0s
F10A **Beach Ranch, E** 77.94 328 eP P 00 11 04.0 +1.3
comp=E,7.7nm,0.8s
M02C **Callahan** 78.00 322 P P 00 11 03.3 +0.3
baz=128
L04D **Klamath Falls** 78.19 323 P P 00 11 04.3 +0.1
baz=129
J05D **Fort Rock, OR** 78.27 324 P P 00 11 05.5 +0.9
baz=130,SNR=5.6
PINE **Pine Mountain** 78.43 324 eP P 00 11 07.2 +1.6
comp=E,11nm,0.8s
WALA **Waterton Lakes** 78.56 332 eP P 00 11 05.8 -0.2
comp=E,8.0nm,1.0s
FFC **Flin Flon** 78.57 341 eP P 00 11 05.8 0.0
comp=E,16.6nm,0.9s
J04D **Umpqua Nationa** 78.73 323 P P 00 11 07.4 +0.2
baz=129
E09A **Wood Farm, Sta** 78.77 328 eP P 00 11 08.1 +1.0
comp=E,10nm,1.0s
L02E **Cave Junction** 78.91 322 P P 00 11 09.1 +1.2
baz=128
SYO **Syowa Base** 78.94 160 eP P 00 11 05.0 -2.7
SYO **Syowa Base** 78.94 160 eX pP 00 11 37.4 -0.6
I05D **Terrebonne, OR** 79.01 325 P P 00 11 10.0 +1.5
baz=130,SNR=9.5
I04A **Tendick Farm,** 79.25 324 P P 00 11 09.6 -0.3
baz=129
K02D **Willamette Mer** 79.28 322 P P 00 11 11.0 +1.0
baz=128
VNDA **Vanda** 79.35 190 P P 00 11 10.4 +0.5
comp=E,2.0nm,0.9s,baz=162,slow=2.9,SNR=7.9
HAWA **Hanford** 79.40 327 eP P 00 11 11.8 +1.2
comp=E,14nm,0.8s
NEW **Newport** 79.48 330 eP P 00 11 11.3 +0.3
comp=E,3.4nm,0.7s
NEW **Newport** 79.48 330 P P 00 11 11.5 +0.5
baz=134
D08A **Wollman Farm,** 79.53 328 eP P 00 11 11.6 +0.4
comp=E,5.4nm,0.8s
G05D **Wamic, OR** 79.58 325 P P 00 11 13.4 +1.8
baz=130
I03D **Drain, OR** 79.72 323 P P 00 11 13.8 +1.5
baz=128
J01E **Myrtle Point** 79.72 323 P P 00 11 13.9 +1.6
baz=128
F05D **White Salmon** 80.07 326 P P 00 11 15.4 +1.2
baz=130
FCC **Fort Churchill** 80.11 347 eP P 00 11 13.9 -0.1
comp=E,8.8nm,1.1s
I02D **Swisshome** 80.25 323 P P 00 11 16.3 +1.1
baz=128
LTY **Liberty** 80.56 327 eP P 00 11 17.5 +0.7
comp=E,22nm,1.3s
B08A **Colville Reser** 80.62 329 eP P 00 11 16.9 -0.2
comp=E,7.6nm,0.9s
LON **Longmire** 80.82 326 eP P 00 11 18.9 +0.7
comp=E,4.7nm,0.8s
TSUM **Tsumeb** 80.89 107 eP P 00 11 18.8 -0.6
comp=E,23nm,1.7s
F04D **Rainier, OR** 81.03 325 P P 00 11 20.4 +1.2
baz=129
D05A **Enumclaw** 81.19 327 eP P 00 11 20.6 +0.5
comp=E,30nm,0.8s
D04E **Lakebay** 81.60 326 P P 00 11 23.4 +1.2
baz=129
B06A **Marblemount** 81.80 328 eP P 00 11 23.5 +0.3
comp=E,26nm,0.7s
B05A **Bryant** 81.94 327 P P 00 11 24.2 +0.2
baz=130,SNR=14
D03D **Eldon** 81.99 326 P P 00 11 25.5 +1.2
baz=129
FRB **Frobisher Bay** 82.41 0 P P 00 11 25.2 -0.8
comp=E,1.1nm,0.5s,baz=181,slow=7.1,SNR=11
A04D **Lummi Island** 82.55 327 P P 00 11 28.0 +0.9
baz=130
LLLB **Lillooet** 83.36 329 eP P 00 11 32.1 +0.7
comp=E,8.3nm,1.0s
PAB **San Pablo** 83.77 45 eP P 00 11 34.1 +0.3
comp=E,26nm,1.3s
ESDC **Sonseca Array** 84.09 45 P P 00 11 35.4 0.0
comp=E,2.4nm,0.8s,baz=258,slow=5.6,SNR=10
ES06 **SONSECA Array** 84.10 45 eP P 00 11 36.2 +0.8
BOSA **Boshof** 84.75 118 P P 00 11 39.3 +0.1
comp=E,3.2nm,0.8s,baz=256,slow=6.7,SNR=5.2
YKA **Yellowknife Ar** 88.74 341 P P 00 11 57.4 +0.1
comp=E,20nm,0.7s,baz=134,slow=4.7,SNR=337
YKB5 **Yellowknife Ar** 88.74 341 eP P 00 11 57.2 -0.2
YKW3 **Yellowknife Ar** 88.79 341 eP P 00 11 57.6 0.0
comp=E,19nm,0.8s
DLBC **Dease Lake** 91.88 333 P P 00 12 13.0 +0.7
comp=E,6.1nm,0.8s,baz=127,slow=2.1,SNR=9.2
INK **Inuvik** 98.50 340 P P 00 12 41.4 -0.7
comp=E,1.1nm,0.8s,baz=106,slow=6.7,SNR=5.7
ILAR **Eielson Array** 101.89 335 PP PP 00 17 11.5 +1.6
comp=E,0.4nm,0.9s,baz=99,slow=5.6,SNR=4.8
KBZ **Khabaz** 118.58 50 PKP PKPdf 00 17 51.5 -0.1
comp=E,1.8nm,0.9s,baz=224,slow=2.8,SNR=5.1
STKA **Stephens Creek** 121.57 211 PKP PKiKP 00 17 58.2 +0.1
comp=E,1.1nm,0.6s,baz=30,slow=6.6,SNR=4.1
CTA **Charters Tower** 128.04 224 PKP PKiKP 00 18 11.2 +0.1
comp=E,4.3nm,0.6s,baz=301,slow=6.3,SNR=2.6
ABKAR **Akbulak array** 129.32 41 ePKPdf PKiKP 00 18 13.0 +0.2
PETK **Petropavlovsk-** 130.42 325 PKP PKiKP 00 18 14.6 -0.3
comp=E,1.7nm,0.7s,baz=134,slow=2.4,SNR=4.0
ASAR **Alice Springs** 132.12 209 PKP PKPdf 00 18 18.2 0.0
comp=E,2.0nm,0.6s,baz=129,slow=1.7,SNR=14
ASAR SKPbc SKPbc 00 21 33.5 -0.8
comp=E,2.2nm,1.0s,baz=134,slow=4.0,SNR=5.3
WRA **Warramunga Arr** 135.09 212 PKP PKPdf 00 18 24.2 +0.3
comp=E,4.4nm,0.7s,baz=146,slow=1.6,SNR=19
ZALV **Zalesovo Beam** 139.67 24 PKP PKPdf 00 18 31.4 +0.2
comp=E,2.0nm,0.5s,baz=295,slow=2.2,SNR=4.9
ZALV SKPbc SKPbc 00 21 56.6 0.0
comp=E,1.1nm,0.7s,baz=300,slow=4.4,SNR=4.2
KSH **Kashi** 143.53 48 ePKP PKPdf 00 18 40.1 +1.3
KSH PP PP 00 21 56.3 +4.5
MKAR **Makanchi Array** 143.60 34 PKhKP PKPpre 00 18 34.5
comp=E,1.4nm,0.8s,baz=336,slow=2.1,SNR=5.0
MKAR SKPbc SKPbc 00 22 06.7 -0.1

comp=E,0.6nm,0.5s,baz=324,slow=2.6,SNR=8.0
KLR Kulʲdur 145.45 336 PKPbc **PKPbc** **00 18 41.8 -0.1**
comp=E,9.4nm,0.9s,baz=42,slow=3.2,SNR=15
GUMO Guam 147.06 266 PKPbc **PKPbc** **00 18 47.3 -0.3**
comp=E,68nm,0.7s,baz=0.0,slow=20,SNR=2.5
WMQ Urumqi 148.42 33 *e*PKPbc **PKPdf** **00 18 46.5 -0.4**
WMQ LR LR
comp=E,3μm,26.3s
WMQ LR LR
comp=E,4μm,22.1s
WMQ LR LR
comp=E,3μm,27.3s
BATI Baumata 148.46 204 PKPbc **PKPbc** **00 18 50.4 -1.0**
comp=E,15nm,0.4s,baz=124,slow=3.6,SNR=2.9
USRK Ussuriysk Ar. 149.27 330 PKPbc **PKiKP** **00 18 53.2 -0.4**
comp=E,10.0nm,0.7s,baz=4.5,slow=1.6,SNR=17
MJAR Matsushiro Arr 150.34 312 PKPbc **PKiKP** **00 18 56.0 -0.2**
comp=E,8.6nm,0.7s,baz=165,slow=0.7,SNR=17
MAJO Matsushiro 150.34 312 *e*PKPbc **PKiKP** **00 18 56.0 -0.2**
MAJO Matsushiro 150.34 312 *e*PKP **PKPdf** **00 18 52.0 +1.9**
MAT Matsushiro 150.34 312 *e*PKP **PKiKP** **00 18 56.0 -0.2**
SONM Songino Array 150.93 6 PKPbc **PKiKP** **00 18 57.0 -0.1**
comp=E,12nm,0.8s,baz=301,slow=1.2,SNR=44
SIJI Sorong 151.99 228 PKPbc **PKiKP** **00 19 00.7 +0.4**
comp=E,16nm,0.7s,baz=39,slow=7.3,SNR=11
KSRS Korea Array 156.32 325 PKPab **PKPab** **00 19 27.7 +0.4**
comp=E,1.8nm,0.6s,baz=66,slow=2.8,SNR=6.0
HHC Hu-ho-hao-te 158.15 359 *e*PKP **PKPdf** **00 19 00.0 -1.0**
LZH Lanzhou 161.79 19 *e*PKP **PKPdf** **00 19 06.9 +1.6**
LZH pPKP pPKPdf 00 19 33.2 -4.7
LZH sPKP 00 19 43.3
NJ2 Nanjing 165.13 333 *e*PKP **PKPdf** **00 19 07.8 -0.5**

IDC ***11*** *00:05:38.5±0.4,6.78S×148.51E,h0km,mb4.6/22, mb1 4.7/26,mb1mx4.6/41,mbtmp4.6/26,ML4.3/4,MS4.9/8, Ms1 4.9/8,ms1mx4.5/41,Error ellipse: s-maj=13.5km s-min=7.7km az=120.0*
NEIC ***11*** *00:05:41.4±0.2,6.78S×148.37E,h10km,mb5.0/70,Error ellipse: s-maj=6.4km s-min=5.1km az=119.0*
MOS ***11*** *00:05:43.9±1.3,6.73S×148.16E,h35km,mb5.1/28,Error ellipse: s-maj=10.3km s-min=6.9km az=98.9*
ISCJB ***11*** *00:05:44.9±0.2,6.86S±0.03×148.37E±0.03,h47km, mb4.9/121,Error ellipse: s-maj=4.8km s-min=3.6km az=18.7*
BJI ***11*** *00:05:46.9,6.90S×148.40E,h68km,mb4.7/41,mB5.3/8, Ms5.3/7,Ms7 5.2/8*
DJA ***11*** *00:05:59.1±1.3,7.3S±8.4×14.8E±1.1,h157km±9km,M5.5/31, mb5.2/31,mB6.1/5,Mw(mB)5.7/5*
ISC 11 00:05:46.3±0.3,6.85S±0.04×148.46E±0.05,h47km,n355, σ1§46/356,mb4.9/120,25C-8D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.54**	**55**	*e*Pn	**Pn**	**00 06 54.6**	**+2.1**
COEN	**Coen**	**8.77**	**216**	P	**Pn**	**00 07 50.3**	**-0.3**
COEN	baz=8.6,SNR=14			S	**Sn**	**00 09 26.7**	**-1.4**
	baz=8.6						
COEN	**Coen**	**8.77**	**216**	*e*Pn	**Pn**	**00 07 51.1**	**+0.5**
JAY	**Jayapura**	**8.85**	**299**	P	Pn	00 08 05.4	+14
JAY	**Jayapura**	**8.85**	**299**	Pn	Pn	00 07 46.3	-5.4
	0.9nm,0.3s,baz=150,slow=14,SNR=2.3						
GENI	**Genyem**	**9.28**	**297**	P	Pn	00 08 11.2	+14
	139nm,1.3s						
HNR	**Honiara**	**11.66**	**103**	LR	LR	00 11 50.8	
	comp=Z,5μm,21.9s,baz=316,slow=32						
MTSU	**Mount Surprise**	**11.92**	**199**	P	**Pn**	**00 08 34.8**	**+1.0**
	baz=12,SNR=12						
CTA	**Charters Tower**	**13.33**	**189**	Pn	**Pn**	**00 08 48.8**	**-4.3**
	0.7nm,0.3s,baz=2.3,slow=17,SNR=2.1						
CTA				LR	LR	00 14 10.6	
	comp=Z,5μm,19.0s,baz=7.0,slow=38						
QIS	**Mount Isa**	**16.10**	**211**	P	**Pn**	**00 09 29.9**	**+0.2**
	baz=16,SNR=67						
FAKI	**Fak Fak**	**16.61**	**283**	*e*Pn	**P**	**00 09 37.6**	**-0.4**
	48nm,0.8s						
FAKI	**Fak Fak**	**16.61**	**283**	P	**P**	**00 09 41.4**	**+3.4**
	77nm,0.8s						
PATS	**Pohnpei**	**16.78**	**36**	*e*Pn	**P**	**00 09 40.8**	**+1.0**
	417nm,1.7s						
KDU	**Kakadu**	**16.78**	**249**	P	**Pn**	**00 09 37.7**	**-0.5**
	baz=17,SNR=9.6						
MTN	**Manton Dam**	**18.07**	**249**	P	**Pn**	**00 09 54.6**	**+0.5**
	baz=18,SNR=3.2						
MTN	**Manton Dam**	**18.07**	**249**	*e*P	**P**	**00 09 53.7**	**-0.4**
	48nm,1.0s						
SIJI	**Sorong**	**18.15**	**288**	P	**P**	**00 09 52.6**	**-2.3**
	1.8nm,0.3s,baz=82,slow=6.2,SNR=9.1						
SIJI				LR	LR	00 18 36.4	
	comp=Z,6μm,20.1s,baz=98,slow=43						
EIDS	**Eidsvold**	**18.59**	**173**	P	**Pn**	**00 10 00.9**	**+0.6**
	baz=18,SNR=4.0						
EIDS	**Eidsvold**	**18.59**	**173**	*e*P	**Pn**	**00 10 00.6**	**+0.3**
	66nm,1.1s						
WRAB	**Tennant Creek**	**18.89**	**225**	*e*P	**P**	**00 10 03.1**	**+0.1**
	60nm,0.8s						
WRAB	**Tennant Creek**	**18.89**	**225**	*e*P	**P**	**00 10 03.3**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,62nm,0.8s						
WB2	**Warramunga Arr**	**18.89**	**225**	*e*P	**P**	**00 10 02.9**	**-0.2**
WRA	**Warramunga Arr**	**18.90**	**225**	P	**P**	**00 10 01.4**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=51,slow=12,SNR=91						
WRA				S	**S**	**00 13 36.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=47,slow=22,SNR=14						
WRA				LR	LR	00 18 09.5	
	comp=Z,5μm,19.4s,baz=10.0,slow=40						
RMQ	**Roma**	**19.53**	**179**	P	**Pn**	**00 10 11.2**	**-0.4**
	baz=19,SNR=14						
GUMO	**Guam**	**20.62**	**350**	*e*P	**P**	**00 10 23.1**	**+1.2**
	comp=Z,343nm,1.4s						
GUMO	**Guam**	**20.62**	**350**	*e*P	**P**	**00 10 23.1**	**+1.2**
GUMO				pmax	pmax		
	comp=Z,343nm,1.4s						
KNRA	**Kununurra**	**21.20**	**244**	P	**P**	**00 10 28.4**	**+0.2**
	baz=21,SNR=27						
NLAI	**Namlea**	**21.57**	**279**	P	**P**	**00 10 33.6**	**+1.4**
	comp=Z,96nm,0.6s						
AS01	**Alice Springs**	**21.77**	**218**	*e*P	**P**	**00 10 32.5**	**-1.7**
AS31	**Alice Springs**	**21.80**	**218**	*e*P	**P**	**00 10 34.2**	**-0.3**
	comp=Z,50nm,0.7s						
ASAR	**Alice Springs**	**21.80**	**218**	P	**P**	**00 10 34.0**	**-0.6**
	comp=Z,64nm,0.7s,baz=53,slow=9.4,SNR=163						
ASAR				S	**S**	**00 14 36.9**	**+3.6**
	comp=Z,21nm,1.0s,baz=30,slow=22,SNR=9.8						
ASAR				LR	LR	00 18 29.5	
	comp=Z,4μm,20.0s,baz=53,slow=35						
SANI	**Sanana**	**22.90**	**281**	P	**P**	**00 10 45.0**	**-1.4**
DZM	**Mont Dzumac**	**23.03**	**133**	*e*P	**P**	**00 10 48.3**	**+0.6**
	comp=Z,99nm,1.3s						
DZM	**Mont Dzumac**	**23.03**	**133**	P	**P**	**00 10 44.5**	**-3.2**
	comp=Z,60nm,1.1s,baz=323,slow=20,SNR=5.8						
ARMA	**Armidale**	**23.63**	**173**	P	**P**	**00 10 53.5**	**0.0**
	baz=24,SNR=7.1						
ARMA	**Armidale**	**23.63**	**173**	*e*P	**P**	**00 10 53.7**	**+0.2**
	comp=Z,35nm,0.9s						
SOEI	**Soe**	**24.11**	**261**	*e*P	**P**	**00 10 56.0**	**-2.1**
	comp=Z,142nm,0.9s						
SOEI	**Soe**	**24.11**	**261**	P	**P**	**00 10 59.3**	**+1.2**
	comp=Z,214nm,0.9s						
CMSA	**Cobar Meteorol**	**24.70**	**186**	P	**P**	**00 11 03.4**	**+0.3**
	baz=25,SNR=10						
BATI	**Baumata**	**24.74**	**261**	P	**P**	**00 11 06.5**	**+2.7**
BATI	**Baumata**	**24.74**	**261**	P	**P**	**00 11 04.2**	**+0.5**
	comp=Z,247nm,0.7s,baz=171,slow=1.1,SNR=22						
FITZ	**Fitzroy Crossi**	**24.89**	**241**	P	**P**	**00 11 04.3**	**-0.7**
	baz=25,SNR=248						
FITZ	**Fitzroy Crossi**	**24.89**	**241**	*e*P	**P**	**00 11 04.9**	**-0.1**
	comp=Z,310nm,0.8s						
FITZ				S	**S**	**00 15 28.7**	**+3.5**
FITZ	**Fitzroy Crossi**	**24.89**	**241**	P	**P**	**00 11 05.3**	**+0.3**
	comp=Z,346nm,0.8s,baz=84,slow=7.4,SNR=159						
FITZ				S	**S**	**00 15 28.7**	**+3.5**
	comp=Z,6.4nm,0.7s,baz=150,slow=14,SNR=3.3						
FITZ				LR	LR	00 20 51.6	
	comp=Z,2μm,18.4s,baz=54,slow=37						
KMSI	**Cibinong**	**25.51**	**286**	P	P	00 11 18.4	+7.7
STKA	**Stephens Creek**	**25.71**	**194**	P	**P**	**00 11 11.8**	**-0.6**
	baz=26,SNR=16						
STKA	**Stephens Creek**	**25.71**	**194**	*e*P	**P**	**00 11 12.0**	**-0.3**
	comp=Z,7.8nm,0.9s						
STKA	**Stephens Creek**	**25.71**	**194**	*e*P	**P**	**00 11 12.0**	**-0.3**
STKA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
STKA	**Stephens Creek**	**25.71**	**194**	P	**P**	**00 11 11.6**	**-0.7**
	comp=Z,17nm,0.9s,baz=352,slow=8.9,SNR=32						
STKA				LR	LR	00 20 59.4	
	comp=Z,3μm,20.4s,baz=15,slow=36						
MMRI	**Maumere**	**26.04**	**264**	*e*P	**P**	**00 11 15.6**	**+0.1**
	comp=Z,231nm,0.7s						
MMRI	**Maumere**	**26.04**	**264**	P	**P**	**00 11 14.7**	**-0.8**
LUWI	**Luwuk**	**26.26**	**282**	P	**P**	**00 11 15.9**	**-1.6**
WRKA	**Warakurna**	**26.44**	**225**	P	**P**	**00 11 18.4**	**-0.7**
	baz=26,SNR=121						
EDFI	**Ende, Flores**	**26.59**	**264**	P	**P**	**00 11 18.5**	**-2.1**
YNG	**Young**	**27.31**	**180**	P	**P**	**00 11 27.5**	**+0.8**
	baz=27,SNR=9.7						
APSI	**Ampana**	**27.38**	**281**	P	**P**	**00 11 28.9**	**+1.3**
	comp=Z,76nm,1.0s						
HTT	**Hallett**	**27.89**	**197**	P	**P**	**00 11 32.0**	**+0.1**
	baz=28,SNR=31						
BBOO	**Buckleboo**	**28.29**	**202**	P	**P**	**00 11 34.7**	**-0.7**
	baz=28,SNR=9.1						
BBOO	**Buckleboo**	**28.29**	**202**	*e*P	**P**	**00 11 35.1**	**-0.3**
	comp=Z,24nm,0.9s						
CAN	**Canberra**	**28.34**	**179**	*e*P	**P**	**00 11 36.2**	**+0.2**
	comp=Z,63nm,1.7s						
CAN	**Canberra**	**28.34**	**179**	*e*P	**P**	**00 11 36.2**	**+0.2**
CAN				pmax	pmax		
	comp=Z,63nm,1.7s						
PCI	**Palu**	**29.15**	**280**	P	**P**	**00 11 46.0**	**+2.6**
	comp=Z,117nm,1.0s,comp=Z,2μm						
MPSI	**Mapaga**	**29.38**	**283**	P	**P**	**00 11 45.2**	**-0.2**
	comp=Z,16nm,0.9s						
ARPS	**Mount Arapiles**	**30.39**	**191**	P	**P**	**00 11 54.6**	**+0.6**
	baz=30,SNR=4.8						
PLAI	**Plampang**	**30.45**	**264**	P	**P**	**00 11 58.3**	**+3.4**
	comp=Z,70nm,0.8s						
FORT	**Forrest**	**30.53**	**216**	P	**P**	**00 11 55.6**	**+0.2**
	baz=30,SNR=6.3						
FORT	**Forrest**	**30.53**	**216**	*e*P	**P**	**00 11 55.4**	**0.0**
	comp=Z,51nm,0.8s						
TOO	**Toolangi**	**30.70**	**185**	P	**P**	**00 11 57.8**	**+1.0**
	baz=31						
TOO	**Toolangi**	**30.70**	**185**	*e*P	**P**	**00 11 58.0**	**+1.2**
	comp=Z,40nm,1.5s						
TOO	**Toolangi**	**30.70**	**185**	*e*P	**P**	**00 11 58.0**	**+1.2**
TOO				pmax	pmax		
	comp=Z,40nm,1.5s						
MSVF	**Nonsavu**	**30.82**	**113**	*e*P	**P**	**00 11 59.5**	**+1.4**
	comp=Z,114nm,1.8s						
MSVF	**Nonsavu**	**30.82**	**113**	*e*P	**P**	**00 12 00.6**	**+2.4**
MSVF				pmax	pmax		
	comp=Z,98nm,3.7s						
MBWA	**Marble Bar**	**31.21**	**240**	*e*P	**P**	**00 12 01.9**	**+0.4**
	comp=Z,57nm,0.9s						
TSM	**Tawau**	**32.48**	**289**	P	P	00 12 18.3	+5.6
JAGI	**Jajag, Banyuwa**	**34.03**	**265**	*e*P	**P**	**00 12 24.4**	**-1.9**
	comp=Z,119nm,1.3s						
JAGI	**Jajag, Banyuwa**	**34.03**	**265**	P	**P**	**00 12 25.8**	**-0.5**
	comp=Z,59nm,0.8s						
MEEK	**Meekatharra**	**34.54**	**232**	P	**P**	**00 12 30.2**	**-0.4**
	baz=34,SNR=31						
KKM	**Kota Kinabalu**	**34.63**	**291**	P	**P**	**00 12 33.0**	**+1.4**
MOO	**Moorlands**	**35.46**	**182**	P	**P**	**00 12 39.2**	**+1.0**
	baz=35,SNR=3.5						
PWJI	**Pagerwojo**	**36.36**	**266**	P	**P**	**00 12 47.0**	**+0.7**
	comp=Z,49nm,1.0s						
PCJI	**Pacitan**	**36.98**	**265**	P	**P**	**00 12 54.4**	**+2.8**
	comp=Z,60nm,0.7s						
WOJI	**Wonogiri, Jawa**	**37.23**	**266**	P	**P**	**00 12 53.3**	**-0.4**
	comp=Z,54nm,0.7s						
SBUM	**Sibu**	**37.33**	**283**	*e*P	**P**	**00 12 53.8**	**-0.8**
	comp=Z,18nm,0.8s						
MORW	**Morawa**	**37.72**	**230**	P	**P**	**00 12 57.8**	**+0.1**
	baz=38,SNR=16						
MORW	**Morawa**	**37.72**	**230**	*e*P	**P**	**00 12 56.9**	**-0.7**
	comp=Z,29nm,0.8s						
SMRI	**Semarang**	**37.73**	**267**	*e*P	**P**	**00 12 57.6**	**-0.4**
	comp=Z,132nm,1.2s						
KLBR	**Kerberrin**	**37.78**	**225**	P	**P**	**00 12 57.4**	**-0.8**
	baz=38,SNR=75						
BLDU	**Ballidu**	**38.00**	**227**	P	**P**	**00 12 59.5**	**-0.6**
	baz=38,SNR=8.6						
NWAO	**Narrogin (SRO)**	**38.90**	**224**	P	**P**	**00 13 06.7**	**-0.9**
	baz=39,SNR=13						
NWAO	**Narrogin (SRO)**	**38.90**	**224**	*e*P	**P**	**00 13 07.0**	**-0.6**
	comp=Z,27nm,0.9s						
NWAO	**Narrogin (SRO)**	**38.90**	**224**	*e*P	**P**	**00 13 07.0**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,27nm,0.9s						
KSM	**Kuching**	**38.96**	**281**	*e*P	**P**	**00 13 08.3**	**0.0**
	comp=Z,37nm,1.0s						
KSM	**Kuching**	**38.96**	**281**	P	**P**	**00 13 09.2**	**+0.9**
MUN	**Mundaring**	**39.09**	**226**	P	**P**	**00 13 09.5**	**+0.3**
	baz=39,SNR=11						
KPJI	**Karang Pucung**	**39.22**	**267**	P	**P**	**00 13 12.4**	**+1.9**
	comp=Z,70nm,0.7s						
CMJI	**Cimerak**	**39.69**	**266**	P	**P**	**00 13 14.3**	**-0.1**
	comp=Z,169nm,0.9s						
CISI	**Cisompet, Garu**	**40.32**	**266**	P	**P**	**00 13 18.4**	**-1.3**
	comp=Z,198nm,0.9s,comp=Z,6μm						
URZ	**Urewera**	**40.62**	**145**	P	**P**	**00 13 20.3**	**-1.4**
	comp=Z,3.1nm,0.7s,baz=338,slow=5.4,SNR=2.9						
THZ	**Tophouse**	**40.98**	**152**	*e*P	**P**	**00 13 25.5**	**+0.7**
	comp=Z,25nm,1.1s						
SKJI	**Sukabumi**	**41.59**	**267**	P	**P**	**00 13 32.1**	**+2.0**
	comp=Z,242nm,0.7s,comp=Z,3μm						
DCZ	**Deep Cove**	**41.75**	**160**	*e*P	**P**	**00 13 31.1**	**+0.2**
	comp=Z,46nm,1.1s						
MLZ	**Mavora Lakes**	**41.99**	**159**	*e*P	**P**	**00 13 33.5**	**+0.6**
	comp=Z,118nm,1.4s						
WHZ	**Wether Hill Ro**	**42.39**	**160**	*e*P	**P**	**00 13 36.2**	**0.0**
	comp=Z,56nm,1.2s						
XMIS	**Christmas Isla**	**42.45**	**262**	*e*P	**P**	**00 13 37.6**	**+0.5**
	comp=Z,39nm,1.0s						
LWLI	**Liwa**	**44.19**	**270**	P	P	00 14 06.3	+15
MJAR	**Matsushiro Arr**	**44.22**	**348**	P	**P**	**00 13 48.4**	**-2.7**
	comp=Z,8.1nm,0.9s,baz=171,slow=8.4,SNR=8.1						
MAJO	**Matsushiro**	**44.22**	**348**	*e*P	**P**	**00 13 49.3**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,41nm,2.0s						
MAT	**Matsushiro**	**44.22**	**348**	P	**P**	**00 13 49.1**	**-2.0**
MYKOM	**Kota Tinggi**	**45.34**	**279**	*e*P	**P**	**00 14 00.9**	**+0.6**
	comp=Z,36nm,1.0s						
MYKOM	**Kota Tinggi**	**45.34**	**279**	P	**P**	**00 14 01.3**	**+1.0**
KGM	**Kluang**	**45.91**	**279**	P	**P**	**00 14 06.1**	**+1.3**
KTGM	**Kuala Trenggan**	**46.83**	**284**	P	**P**	**00 14 12.4**	**+0.4**
NJ2	**Nanjing**	**47.89**	**326**	*e*P	**P**	**00 14 20.2**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
KSRS	**Korea Array**	**48.07**	**338**	P	**P**	**00 14 18.6**	**-2.6**
	comp=Z,2.9nm,0.8s,baz=152,slow=9.5,SNR=8.0						
KSAR	**Wonju Array Be**	**48.07**	**338**	P	**P**	**00 14 18.6**	**-2.7**
KSAR	**Wonju Array Be**	**48.07**	**338**	P	**P**	**00 14 18.6**	**-2.7**
PDSI	**Padang**	**48.22**	**275**	P	**P**	**00 14 26.9**	**+4.0**
IPM	**Ipoh**	**48.66**	**282**	*e*P	**P**	**00 14 26.2**	**-0.2**
	comp=Z,30nm,0.9s						
IPM	**Ipoh**	**48.66**	**282**	P	**P**	**00 14 27.0**	**+0.6**
KULM	**Kulim**	**49.22**	**283**	*e*P	**P**	**00 14 30.1**	**-0.4**
	comp=Z,19nm,0.8s						
KULM	**Kulim**	**49.22**	**283**	P	**P**	**00 14 30.4**	**-0.2**
MNSI	**Mandailing Nat**	**49.36**	**277**	P	**P**	**00 14 32.3**	**+0.7**
	comp=Z,18nm,0.9s						
SKNT	**Sakolnakorn**	**49.94**	**299**	P	**P**	**00 14 37.7**	**+1.8**
	comp=Z,4.3nm,0.7s						
PSI	**Prapat**	**50.37**	**279**	*e*P	**P**	**00 14 39.2**	**-0.2**
	comp=Z,60nm,1.4s						
PSI	**Prapat**	**50.37**	**279**	*e*P	**P**	**00 14 39.2**	**-0.2**
PSI				pmax	pmax		
	comp=Z,60nm,1.4s						
TRTT	**Trang**	**50.77**	**286**	P	**P**	**00 14 43.1**	**+0.8**
	comp=Z,6.1nm,0.9s						
CHAI	**Chaiyaphum**	**51.26**	**297**	P	**P**	**00 14 47.5**	**+1.5**
	comp=Z,3.4nm,0.8s,comp=Z,112nm						
GSI	**Gunungsitoli**	**51.42**	**277**	*e*P	**P**	**00 14 47.2**	**0.0**
	comp=Z,28nm,0.9s						
GSI	**Gunungsitoli**	**51.42**	**277**	P	**P**	**00 14 47.1**	**-0.1**
	comp=Z,34nm,1.0s						
KCSI	**Kotacane, Aceh**	**51.63**	**280**	P	**P**	**00 14 47.5**	**-1.3**
	comp=Z,33nm,0.8s						
KUR	**Kurilʲsk**	**51.85**	**359**	P	**P**	**00 14 52.6**	**+2.8**
KUR				S	**S**	**00 22 08.3**	**-0.6**
KUR				MLR	MLR		
	comp=Z,3μm,15.0s						
PKDT	**Phuket**	**52.09**	**285**	P	**P**	**00 14 52.5**	**+0.4**
	comp=Z,20nm,0.9s						
GYA	**Guiyang**	**52.33**	**311**	*e*P	**P**	**00 14 56.0**	**+2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PBKT	**Sadao Pong**	**52.42**	**297**	P	**P**	**00 14 58.8**	**+4.3**
	comp=Z,5.9nm,1.7s						
USRK	**Ussuriysk Ar.**	**52.95**	**345**	P	**P**	**00 14 56.6**	**-1.3**
	comp=Z,3.6nm,0.6s,baz=167,slow=6.1,SNR=8.1						
MLSI	**Meulaboh, Aceh**	**53.12**	**281**	P	**P**	**00 14 59.4**	**-0.4**
	comp=Z,52nm,0.8s						
NANT	**Nan**	**53.53**	**299**	P	**P**	**00 15 07.0**	**+4.3**
	comp=Z,2.7nm,0.6s						
UMPA	**Umpang Tak**	**54.16**	**296**	P	**P**	**00 15 10.2**	**+2.8**
	comp=Z,5.5nm,0.9s,comp=Z,1μm						
CN2	**Changchun**	**54.55**	**340**	*e*P	**P**	**00 15 12.6**	**+2.9**
KMI	**Kunming**	**54.66**	**307**	P	**P**	**00 15 13.7**	**+2.5**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
CM01	**Chiang Mai Arr**	**54.90**	**298**	*e*P	**P**	**00 15 14.0**	**+1.3**
CMAR	**Chiang Mai Arr**	**54.93**	**298**	P	**P**	**00 15 13.5**	**+0.6**
	comp=Z,1.2nm,0.3s,baz=125,slow=7.6,SNR=9.9						
CMMT	**Chiang Mai**	**55.06**	**299**	P	P	00 15 23.9	+10
CHTO	**Chiang Mai**	**55.06**	**298**	P	P	00 15 24.0	+10
XAN	**Xi'an**	**55.26**	**320**	P	**P**	**00 15 15.5**	**+0.4**
XAN				pP	pwP	00 15 29.5	-1.0
XAN				pmax	pmax		
	comp=Z,8.0nm,1.1s						
CD2	**Chengdu**	**56.90**	**314**	P	**P**	**00 15 26.4**	**-0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kulʲdur**	**57.73**	**347**	P	**P**	**00 15 31.4**	**-0.9**
	comp=Z,5.7nm,1.1s,baz=143,slow=6.4,SNR=8.6						
HHC	**Hu-ho-hao-te**	**58.32**	**328**	*e*P	**P**	**00 15 39.4**	**+2.6**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
LZH	**Lanzhou**	**59.80**	**319**	*e*P	**P**	**00 15 49.7**	**+2.5**
LZH				pP	sP	00 16 07.6	+2.8
LZH				*e*PP	**PP**	**00 18 05.0**	**+5.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,6.8s						
LZH				LR	LR		
	comp=Z,280nm,15.0s						
LZH				LR	LR		
	comp=Z,300nm,15.3s						
LZH				LR	LR		
	comp=Z,530nm,18.2s						
PEA0B	**Petropavlovsk-**	**60.24**	**6**	*e*P	**P**	**00 15 51.1**	**+1.5**
	comp=Z,147nm,1.9s						
PEA0B	**Petropavlovsk-**	**60.24**	**6**	*e*P	**P**	**00 15 51.1**	**+1.5**
PEA0B				pmax	pmax		
	comp=Z,147nm,1.9s						
PETK	**Petropavlovsk-**	**60.24**	**6**	*e*P	**P**	**00 15 50.8**	**+1.2**
PETK	**Petropavlovsk-**	**60.24**	**6**	*e*P	**P**	**00 15 50.8**	**+1.2**
PETK	**Petropavlovsk-**	**60.24**	**6**	P	**P**	**00 15 47.9**	**-1.7**
	comp=Z,7.5nm,1.1s,baz=168,slow=9.7,SNR=3.9						
HIA	**Hailar**	**61.26**	**339**	*e*P	**P**	**00 15 56.0**	**-0.6**
	comp=Z,12nm,1.0s						
HIA	**Hailar**	**61.26**	**339**	*e*P	**P**	**00 15 55.8**	**-0.9**
HIA				pmax	pmax		
	comp=Z,11nm,0.9s						
ZEA	**Zeya**	**62.96**	**346**	*e*P	**P**	**00 16 07.8**	**-0.2**
ZEA				pmax	pmax		
	comp=N,27nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,32nm,1.0s						
GTA	**Gaotai**	**64.32**	**320**	*e*P	**P**	**00 16 17.2**	**-0.2**
GTA				pP	pwP	00 16 33.6	-0.2
GTA				sP	sP	00 16 41.7	+6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CASY	**Casey**	**64.83**	**196**	*e*P	**P**	**00 16 19.4**	**-0.8**
	comp=Z,61nm,1.9s						
SONM	**Songino Array**	**65.85**	**330**	P	**P**	**00 16 25.8**	**-1.4**
	comp=Z,4.4nm,1.0s,baz=151,slow=4.7,SNR=18						
MA2	**Magadan**	**66.24**	**1**	*e*P	**P**	**00 16 31.2**	**+2.0**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MA2	**Magadan**	**66.24**	**1**	P	**P**	**00 16 28.1**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=120,slow=20,SNR=2.6						
MA2				LR	LR	00 40 45.3	
	comp=Z,892nm,21.9s,baz=330,slow=32						
RAMN	**Ramite**	**68.62**	**302**	*e*P	**P**	**00 16 44.5**	**-0.8**
PALK	**Pallekele**	**69.02**	**280**	*e*P	**P**	**00 16 47.7**	**-0.1**
	comp=Z,12nm,0.9s						
PALK	**Pallekele**	**69.02**	**280**	*e*P	**P**	**00 16 47.7**	**-0.1**
PALK				pmax	pmax		
	comp=Z,12nm,0.9s						
ZAK	**Zakamensk**	**69.08**	**331**	*e*P	**P**	**00 16 45.2**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GUN	**Gumba**	**69.54**	**303**	*e*P	**P**	**00 16 49.7**	**-1.4**
	comp=Z,49nm,1.2s						
SEY	**Seymchan**	**69.65**	**2**	*e*P	**P**	**00 16 50.3**	**-0.3**
SEY	**Seymchan**	**69.65**	**2**	P	**P**	**00 16 49.4**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=194,slow=11,SNR=3.1						
TLY	**Talaya**	**69.77**	**332**	*e*P	**P**	**00 16 50.8**	**-0.8**
PKI	**Pulchoki**	**69.82**	**303**	*e*P	**P**	**00 16 51.3**	**-

	comp=Z,16nm,1.8s								
NVS	**Novosibirsk**	**81.72**	**328**	*e*P		P	00 17 54.4	-5.4	
KURK	**Kurchatov**	**82.76**	**323**	*e*P		**P**	**00 18 04.3**	**-1.0**	
	comp=Z,7.7nm,1.3s								
KURK	**Kurchatov**	**82.76**	**323**	⇓*e*P		**P**	**00 18 03.7**	**-1.6**	
KURK					pmax	pmax			
	comp=Z,4.0nm,1.0s								
AAK	**Ala-Archa**	**82.97**	**314**	*e*P		**P**	**00 18 06.7**	**-0.2**	
	comp=Z,10nm,1.4s								
AAK	**Ala-Archa**	**82.97**	**314**	⇑*e*P		**P**	**00 18 05.9**	**-0.9**	
AAK					pmax	pmax			
	comp=Z,10.0nm,2.5s								
QSPA	**South Pole Qui**	**83.12**	**180**	*e*P		**P**	**00 18 07.1**	**0.0**	
	comp=Z,22nm,1.0s								
IM3	**Indian Mountai**	**83.77**	**20**	*e*P		**P**	**00 18 10.2**	**0.0**	
RND	**Reindeer**	**84.31**	**24**	*e*P		**P**	**00 18 14.1**	**+1.0**	
	comp=Z,8.2nm,1.0s								
RND	**Reindeer**	**84.31**	**24**	*e*P		**P**	**00 18 14.1**	**+1.0**	
RND					pmax	pmax			
	comp=Z,8.0nm,1.0s								
MLY	**Manley**	**84.36**	**22**	*e*P		**P**	**00 18 14.8**	**+1.5**	
	comp=Z,5.6nm,1.0s								
MCK	**McKinley**	**84.42**	**23**	*e*P		**P**	**00 18 14.3**	**+0.7**	
	comp=Z,9.7nm,1.0s								
MCK	**McKinley**	**84.42**	**23**	*e*P		**P**	**00 18 14.3**	**+0.7**	
MCK					pmax	pmax			
	comp=Z,10.0nm,1.0s								
WRH	**Wood River Hil**	**85.09**	**23**	*e*P		**P**	**00 18 18.2**	**+1.3**	
	comp=Z,12nm,1.2s								
GAR	**Garm**	**85.14**	**310**	*e*P		**P**	**00 18 17.6**	**-0.3**	
	comp=Z,9.8nm,1.1s								
CCB	**Clear Creek Bu**	**85.28**	**23**	*e*P		**P**	**00 18 18.2**	**+0.3**	
	comp=Z,8.2nm,1.2s								
COLA	**College**	**85.37**	**23**	⇑*e*P		**P**	**00 18 18.8**	**+0.5**	
COLA					pmax	pmax			
	comp=Z,5.0nm,0.9s								
IL1	**Eielson Array**	**85.69**	**23**	*e*P		**P**	**00 18 18.8**	**-1.1**	
ILAR	**Eielson Array**	**85.69**	**23**	P		**P**	**00 18 17.6**	**-2.4**	
	comp=Z,2.7nm,0.8s,baz=249,slow=4.8,SNR=17								
ILB	**Eielson Array**	**85.69**	**23**	*e*P		**P**	**00 18 19.7**	**-0.2**	
	comp=Z,4.4nm,0.8s								
KK31	**Karatay Array**	**85.92**	**314**	*e*P		**P**	**00 18 20.7**	**-0.9**	
	comp=Z,9.2nm,1.0s								
KK31	**Karatay Array**	**85.92**	**314**	*e*P		**P**	**00 18 20.7**	**-0.9**	
KK31					pmax	pmax			
	comp=Z,9.0nm,1.0s								
KKAR	**Karatay Array**	**85.92**	**314**	*e*P		**P**	**00 18 20.7**	**-0.9**	
	comp=Z,9.2nm,1.0s								
KKAR	**Karatay Array**	**85.92**	**314**	*e*P		**P**	**00 18 20.7**	**-0.9**	
KKAR					pmax	pmax			
	comp=Z,9.0nm,1.0s								
RIDG	**Independ'e Rid**	**86.07**	**24**	*e*P		**P**	**00 18 23.1**	**+1.3**	
	comp=Z,14nm,1.3s								
DOT	**Dot Lake**	**86.35**	**24**	*e*P		**P**	**00 18 25.1**	**+1.9**	
	comp=Z,7.6nm,1.0s								
SCRK	**Sand Creek**	**86.51**	**24**	*e*P		**P**	**00 18 24.6**	**+0.4**	
	comp=Z,5.8nm,1.2s								
NRIK	**Noril'sk**	**86.53**	**342**	P		**P**	**00 18 20.9**	**-3.0**	
	comp=Z,1.0nm,0.4s,baz=144,slow=3.1,SNR=3.9								
EGAK	**Eagle**	**87.95**	**24**	*e*P		**P**	**00 18 33.0**	**+2.1**	
	comp=Z,10nm,1.0s								
HYT	**Haines Junctio**	**88.25**	**28**	*e*P		**P**	**00 18 34.1**	**+1.5**	
	comp=Z,13nm,1.0s								
BRVK	**Borovoye**	**88.38**	**324**	⇓*e*P		**P**	**00 18 32.3**	**-0.9**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,1.2s								
DAWY	**Dawson**	**88.43**	**25**	*e*P		**P**	**00 18 34.8**	**+1.5**	
	comp=Z,12nm,1.3s								
SYO	**Syowa Base**	**90.30**	**200**	⇑*i*P		**P**	**00 18 41.0**	**-0.9**	
SYO	**Syowa Base**	**90.30**	**200**	⇓*i*PcP		**PcP**	**00 18 44.0**	**+1.0**	
INK	**Inuvik**	**91.91**	**21**	*e*P		**P**	**00 18 50.0**	**+0.7**	
	comp=Z,5.7nm,1.1s								
INK	**Inuvik**	**91.91**	**21**	*e*P		**P**	**00 18 50.0**	**+0.7**	
INK					pmax	pmax			
	comp=Z,6.0nm,1.1s								
INK	**Inuvik**	**91.91**	**21**	P		**P**	**00 18 47.0**	**-2.3**	
	comp=Z,3.1nm,1.0s,baz=245,slow=7.7,SNR=6.6								
HUMO	**Hull Mountain**	**93.54**	**48**	*e*P		**P**	**00 18 58.5**	**+1.0**	
	comp=Z,8.4nm,1.2s								
YBH	**Yreka Blue Hor**	**93.64**	**49**	*e*P		**P**	**00 18 58.0**	**0.0**	
	comp=Z,6.9nm,1.3s								
YBH	**Yreka Blue Hor**	**93.64**	**49**	*e*P		**P**	**00 18 58.0**	**0.0**	
YBH					pmax	pmax			
	comp=Z,7.0nm,1.3s								
WDC	**Whiskeytown Da**	**93.65**	**50**	*e*P		**P**	**00 18 58.5**	**+0.5**	
	comp=Z,8.4nm,0.6s								
WDC	**Whiskeytown Da**	**93.65**	**50**	*e*P		**P**	**00 18 58.5**	**+0.5**	
WDC					pmax	pmax			
	comp=Z,8.0nm,0.6s								
ABKAR	**Akbulak array**	**94.17**	**319**	*e*P		**P**	**00 18 58.3**	**-1.9**	
	comp=Z,5.3nm,1.1s								
GEYT	**Alibeck**	**94.43**	**308**	P		**P**	**00 18 60.0**	**-1.7**	
	comp=Z,2.6nm,1.0s,baz=90,slow=4.4,SNR=5.1								
AFDM	**Forest Hills D**	**94.70**	**51**	*e*P		**P**	**00 19 04.0**	**+1.1**	
	comp=Z,7.4nm,1.4s								
NV01	**Mina Array Sit**	**96.74**	**52**	*e*P		**P**	**00 19 13.2**	**+0.8**	
NVAR	**Mina Array Bea**	**96.74**	**52**	P		**P**	**00 19 11.8**	**-0.6**	
	comp=Z,1.7nm,0.8s,baz=255,slow=6.8,SNR=6.3								
DAC	**Darwin (Calif)**	**97.18**	**54**	*e*P		Pdif	00 19 14.7	+0.1	
	comp=Z,4.9nm,1.0s								
DAC	**Darwin (Calif)**	**97.18**	**54**	*e*P		Pdif	00 19 14.7	+0.1	
DAC					pmax	pmax			
	comp=Z,5.0nm,1.0s								
YKA	**Yellowknife Ar**	**99.24**	**28**	P		**Pdif**	**00 19 21.7**	**-1.1**	
	comp=Z,0.5nm,1.0s,baz=272,slow=4.2,SNR=5.6								
PDAR	**Pinedale Array**	**103.41**	**48**	Pdiff		**Pdif**	**00 19 41.0**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=242,slow=2.4,SNR=8.6								
BRTR	**Keskin Array B**	**113.38**	**310**	PKiKP		**PKiKP**	**00 24 18.8**	**-0.9**	
	comp=Z,1.2nm,1.0s,baz=151,slow=5.4,SNR=6.3								
AKASG	**Malin Array Be**	**113.57**	**323**	PKiKP		**PKiKP**	**00 24 18.1**	**-1.3**	
	comp=Z,1.2nm,0.6s,baz=61,slow=2.4,SNR=6.2								
TLB	**Topalu**	**116.24**	**317**	⇑*i*P		**PKPdf**	**00 24 24.6**	**-0.2**	
TLB	**Topalu**	**116.24**	**317**	⇑PKiKP		**PKPdf**	**00 24 24.6**	**-0.2**	
FRB	**Frobisher Bay**	**117.31**	**18**	PKiKP		**PKPdf**	**00 24 25.0**	**-1.3**	
FRB	**Frobisher Bay**	**117.31**	**18**	PKP		**PKPdf**	**00 24 24.9**	**-1.3**	
	comp=Z,1.3nm,0.6s,baz=305,slow=4.5,SNR=3.1								
MLR	**Muntele Rosu**	**117.36**	**318**	⇑*i*P		**PKPdf**	**00 24 26.1**	**-1.0**	
MLR	**Muntele Rosu**	**117.36**	**318**	⇑PKiKP		**PKPdf**	**00 24 26.1**	**-1.0**	
ARR	**Arges**	**118.28**	**318**	⇑*i*P		**PKiKP**	**00 24 29.4**	**+0.6**	
HUMR	**Humele**	**118.33**	**317**	⇑*i*P		**PKPdf**	**00 24 28.8**	**0.0**	
TRPA	**Tarpa**	**118.57**	**322**	⇑*i*P		**PKPdf**	**00 24 28.8**	**-0.3**	
DRGR		**118.99**	**320**	⇑*i*P		**PKPdf**	**00 24 29.6**	**-0.5**	
DRGR		**118.99**	**320**	⇑PKiKP		**PKPdf**	**00 24 29.6**	**-0.5**	
DEV	**Deva**	**119.22**	**319**	⇑*i*P		**PKiKP**	**00 24 31.0**	**+0.5**	
DEV	**Deva**	**119.22**	**319**	⇑PKiKP		**PKiKP**	**00 24 31.0**	**+0.5**	
GZR	**Gura Zlata**	**119.48**	**319**	⇑*i*P		**PKPdf**	**00 24 30.4**	**-0.7**	
GZR	**Gura Zlata**	**119.48**	**319**	⇑PKiKP		**PKPdf**	**00 24 30.4**	**-0.7**	
BZS	**Buzias**	**120.15**	**319**	⇑*i*P		**PKPdf**	**00 24 31.9**	**-0.4**	
BZS	**Buzias**	**120.15**	**319**	⇑PKiKP		**PKPdf**	**00 24 31.9**	**-0.4**	
VTS	**Vitosha**	**120.18**	**316**	⇑*i*P		**PKiKP**	**00 24 33.0**	**+0.3**	
VTS	**Vitosha**	**120.18**	**316**	⇑PKiKP		**PKiKP**	**00 24 33.0**	**+0.3**	
MDVR	**Moldovita**	**120.42**	**319**	⇑*i*P		**PKPdf**	**00 24 32.3**	**-0.6**	
PLCA	**Paso Flores**	**120.62**	**146**	PKP		**PKPdf**	**00 24 32.4**	**-1.1**	
	comp=Z,5.6nm,1.1s,baz=219,slow=6.7,SNR=3.0								
VYHS	**Vyhne**	**120.63**	**321**	*e*PKiKP		**PKPdf**	**00 24 32.6**	**-0.6**	
VYHS	**Vyhne**	**120.64**	**323**	*e*PKP		**PKPdf**	**00 24 32.6**	**-0.6**	
MORC	**Moravsky Berou**	**120.79**	**325**	⇑*i*P		**PKiKP**	**00 24 34.3**	**+0.7**	
MORC	**Moravsky Berou**	**120.79**	**325**	⇑PKiKP		**PKiKP**	**00 24 34.3**	**+0.7**	
MODS	**Modra-Piesok**	**121.62**	**324**	*e*PKiKP		**PKiKP**	**00 24 36.0**	**+0.8**	
MODS	**Modra-Piesok**	**121.62**	**324**	*e*PKP		**PKiKP**	**00 24 36.0**	**+0.8**	
DIVS	**Divibare**	**121.82**	**318**	*e*PKPdf		**PKPdf**	**00 24 35.0**	**-0.7**	
FNA	**Florina**	**122.12**	**314**	*e*PKPdf		**PKiKP**	**00 24 36.5**	**0.0**	
FNA	**Florina**	**122.12**	**314**	*e*PKiKP		**PKiKP**	**00 24 36.5**	**0.0**	
TREC	**Trest**	**122.19**	**326**	*e*PKPDF		**PKiKP**	**00 24 36.6**	**+0.3**	
TREC	**Trest**	**122.19**	**326**	*e*PKiKP		**PKiKP**	**00 24 36.6**	**+0.3**	
BRG	**Berggiesshubel**	**122.19**	**328**	*e*PKP		**PKPdf**	**00 24 35.0**	**-1.0**	
	comp=Z,11nm,1.2s								
BRG	**Berggiesshubel**	**122.19**	**328**	*e*PKiKP		**PKPdf**	**00 24 35.0**	**-1.0**	
BRG					pmax	pmax			
	comp=Z,11nm,1.2s								
GOPC	**GO Pecny, Ondr**	**122.25**	**326**	*e*PKPDF		**PKiKP**	**00 24 36.5**	**+0.1**	
GOPC	**GO Pecny, Ondr**	**122.25**	**326**	*e*PKiKP		**PKiKP**	**00 24 36.5**	**+0.1**	
PRU	**Pruhonice**	**122.35**	**327**	*e*PKPDF		**PKPdf**	**00 24 36.4**	**0.0**	
PRU	**Pruhonice**	**122.35**	**327**	*e*PKiKP		**PKPdf**	**00 24 36.4**	**0.0**	
CONA	**Conrad Observa**	**122.66**	**324**	*e*PKPdf		**PKPdf**	**00 24 36.7**	**-0.5**	
	comp=Z,3.6nm,1.0s								
ARSA	**Arzberg**	**123.20**	**323**	*e*PKPdf		**PKPdf**	**00 24 36.9**	**-1.2**	
	comp=Z,4.1nm,1.2s								
KHC	**Kasperske Hory**	**123.34**	**326**	*e*PKPDF		**PKPdf**	**00 24 38.1**	**-0.3**	
KHC	**Kasperske Hory**	**123.34**	**326**	*e*PKiKP		**PKPdf**	**00 24 38.1**	**-0.3**	
GERES	**GERESS Array B**	**123.42**	**326**	PKP		**PKPdf**	**00 24 37.7**	**-0.9**	
	comp=Z,4.0nm,1.0s,baz=122,slow=1.7,SNR=12								
VLDQ	**Val d'Or**	**123.43**	**35**	*e*PKPdf		**PKPdf**	**00 24 37.9**	**-0.6**	
MOA	**Molln**	**123.63**	**325**	*i* PKPdf		**PKPdf**	**00 24 38.6**	**-0.4**	
	comp=Z,5.2nm,1.2s								
SOKA	**Soboth**	**123.77**	**323**	*i* PKPdf		**PKPdf**	**00 24 38.1**	**-1.3**	
	comp=Z,5.3nm,0.9s								
SCHQ	**Schefferville**	**124.44**	**24**	PKP		**PKPdf**	**00 24 38.5**	**-1.7**	
	comp=Z,3.8nm,0.9s,baz=250,slow=6.8,SNR=4.6								
KBA	**Koelnbreinsper**	**124.56**	**324**	*i* PKPdf		**PKPdf**	**00 24 40.1**	**-0.9**	
	comp=Z,7.5nm,1.1s								
MYKA	**Terra Mystica**	**124.62**	**324**	*i* PKPdf		**PKPdf**	**00 24 38.0**	**-3.0**	
	comp=Z,4.2nm,1.2s								
ABTA	**Abfaltersbach**	**125.22**	**324**	*i* PKPdf		**PKPdf**	**00 24 41.5**	**-0.6**	
	comp=Z,12nm,1.2s								
WATA	**Walderalm**	**125.44**	**325**	*i* PKPdf		**PKPdf**	**00 24 41.4**	**-1.3**	
	comp=Z,5.7nm,1.0s								
WTTA	**Wattenberg**	**125.45**	**325**	*i* PKPdf		**PKPdf**	**00 24 41.2**	**-1.5**	
	comp=Z,12nm,0.9s								
MOTA	**Moosalm**	**125.70**	**325**	*i* PKPdf		**PKPdf**	**00 24 42.7**	**-0.5**	
	comp=Z,13nm,0.9s,SNR=12								
SQTA	**Sankt Quirin**	**125.71**	**325**	*i* PKPdf		**PKPdf**	**00 24 42.8**	**-0.4**	
	comp=Z,9.5nm,0.9s,SNR=6.4								
RETA	**Reutte**	**125.81**	**326**	*i* PKPdf		**PKPdf**	**00 24 40.8**	**-2.4**	
	comp=Z,8.8nm,1.2s								
FETA	**Feichten**	**126.10**	**325**	*i* PKPdf		**PKPdf**	**00 24 43.5**	**-0.4**	
	comp=Z,12nm,1.0s								
DAVA	**Damuels**	**126.42**	**326**	*i* PKiKP		**PKPdf**	**00 24 44.2**	**-0.3**	
	comp=Z,10nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**126.59**	**325**	*e*PKPdf		**PKiKP**	**00 24 45.8**	**+0.3**	
JTS	**JuntasAbangare**	**127.12**	**82**	*e*PKPdf		**PKiKP**	**00 24 48.0**	**+0.9**	
JTS	**JuntasAbangare**	**127.12**	**82**	*e*PKiKP		**PKiKP**	**00 24 48.0**	**+0.9**	
KEST	**Kesra**	**132.82**	**313**	PKP		**PKiKP**	**00 24 57.7**	**-0.4**	
	comp=Z,5.8nm,0.9s,baz=17,slow=4.9,SNR=4.6								
POPC	**Popayan, Colom**	**134.83**	**93**	*e*P		**PKPdf**	**00 25 00.4**	**-1.1**	
POPC	**Popayan, Colom**	**134.83**	**93**	*e*P		**PKPdf**	**00 25 00.4**	**-1.1**	
SOTA	**Rioblanco**	**134.85**	**94**	*e*P		**PKPdf**	**00 25 02.4**	**+0.5**	
SOTA	**Rioblanco**	**134.85**	**94**	*e*P		**PKPdf**	**00 25 02.4**	**+0.5**	
YOTC	**Yotoco, Valle**	**135.32**	**91**	*e*P		**PKPdf**	**00 25 02.4**	**+0.1**	
YOTC	**Yotoco, Valle**	**135.32**	**91**	*e*P		**PKPdf**	**00 25 02.4**	**+0.1**	
HELC	**Santa Helena**	**136.30**	**88**	*e*P		**PKPdf**	**00 25 04.4**	**0.0**	
HELC	**Santa Helena**	**136.30**	**88**	*e*P		**PKPdf**	**00 25 04.4**	**0.0**	
PTLC	**Puerto Leguiza**	**136.34**	**97**	*e*P		**PKPdf**	**00 25 03.7**	**-0.3**	
PTLC	**Puerto Leguiza**	**136.34**	**97**	*e*P		**PKPdf**	**00 25 03.7**	**-0.3**	
UREC	**San Jos de Ur**	**136.37**	**86**	*e*P		**PKPdf**	**00 25 04.4**	**+0.3**	
UREC	**San Jos de Ur**	**136.37**	**86**	*e*P		**PKPdf**	**00 25 04.4**	**+0.3**	
PRAC	**Prado**	**136.74**	**92**	*e*P		**PKPdf**	**00 25 04.4**	**-0.4**	
PRAC	**Prado**	**136.74**	**92**	*e*P		**PKPdf**	**00 25 04.4**	**-0.4**	
ZARC	**Zaragoza, Cauc**	**137.03**	**86**	*e*P		**PKPdf**	**00 25 04.4**	**-0.9**	
ZARC	**Zaragoza, Cauc**	**137.03**	**86**	*e*P		**PKPdf**	**00 25 04.4**	**-0.9**	
LPAZ	**La Paz**	**137.11**	**123**	PKP		**PKPdf**	**00 25 04.6**	**-1.5**	
	comp=Z,5.0nm,1.0s,baz=235,slow=5.7,SNR=6.8								
ROSC	**El Rosal**	**137.41**	**90**	*e*PKPdf		**PKiKP**	**00 25 07.7**	**-0.7**	
OCAC	**Ocana**	**138.57**	**85**	*e*P		**PKPdf**	**00 25 09.0**	**+0.7**	
OCAC	**Ocana**	**138.57**	**85**	*e*P		**PKPdf**	**00 25 09.0**	**+0.7**	
CPUP	**Villa Florida**	**138.60**	**144**	PKP		**PKPdf**	**00 25 08.5**	**+0.7**	
	comp=Z,5.4nm,0.9s,baz=296,slow=2.7,SNR=6.6								
BARC	**Barichara**	**138.65**	**88**	*e*P		**PKPdf**	**00 25 03.7**	**-4.9**	
BARC	**Barichara**	**138.65**	**88**	*e*P		**PKPdf**	**00 25 03.7**	**-4.9**	
RUSC	**La Rusia**	**138.71**	**89**	*e*P		**PKPdf**	**00 25 05.0**	**-4.0**	
RUSC	**La Rusia**	**138.71**	**89**	*e*P		**PKPdf**	**00 25 05.0**	**-4.0**	
ESDC	**Sonseca Array**	**138.99**	**327**	PKP		**PKPdf**	**00 25 08.4**	**+0.2**	
	comp=Z,0.3nm,0.5s,baz=48,slow=1.9,SNR=2.5								
PAMC	**Pamplona, Colo**	**139.16**	**87**	*e*P		**PKPdf**	**00 25 09.7**	**-0.1**	
PAMC	**Pamplona, Colo**	**139.16**	**87**	*e*P		**PKPdf**	**00 25 09.7**	**-0.1**	
HUMP	**Col San Antoni**	**144.75**	**68**	*e*PKPdf		**PKPdf**	**00 25 19.6**	**+0.6**	
CDVI	**St. Croix**	**145.84**	**68**	*e*PKPdf		**PKPbc**	**00 25 21.5**	**0.0**	
TOA0	**Torodi Ar. Sit**	**146.70**	**283**	*e*PKPdf		**PKPdf**	**00 25 22.7**	**+0.2**	
TOA0				*e*PKPdf		**PKPbc**	**00 25 24.3**	**+0.1**	
TORD	**Torodi Ar. Bea**	**146.70**	**283**	PKPbc		**PKPdf**	**00 25 23.2**	**+0.8**	
	comp=Z,36nm,1.0s,baz=24,slow=2.9,SNR=62								
FDF	**Fort de France**	**149.91**	**72**	*e*PKPab		**PKPab**	**00 25 38.2**	**0.0**	
PTGA	**Pitinga**	**150.65**	**104**	*e*PKPdf		**PKPdf**	**00 25 30.3**	**+1.3**	
BDFB	**Brasilia**	**152.33**	**144**	*e*PKPdf		**PKPdf**	**00 25 33.5**	**+2.0**	
BDFB	**Brasilia**	**152.33**	**144**	*e*PKiKP		**PKPdf**	**00 25 33.5**	**+2.0**	
BDFB	**Brasilia**	**152.33**	**144**	PKP		**PKPdf**	**00 25 31.1**	**-0.5**	
	comp=Z,5.4nm,1.0s,baz=83,slow=2.4,SNR=5.2								
BDFB				PKPbc		**PKPbc**	**00 25 37.8**	**-0.6**	
	comp=Z,19nm,1.0s,baz=199,slow=2.1,SNR=14								
KIC	**Kosan Boka**	**153.38**	**271**	*e*PKP2		**PKPdf**	**00 25 34.6**	**+1.6**	
	comp=Z,30nm,1.0s								
DBIC	**Dimbokro**	**153.50**	**271**	PKP		**PKPdf**	**00 25 34.0**	**+0.8**	
	comp=Z,4.6nm,1.0s,baz=261,slow=6.7,SNR=3.7								
DBIC				PKPbc		**PKiKP**	**00 25 41.0**	**+0.1**	
	comp=Z,12nm,0.9s,baz=63,slow=2.2,SNR=13								
DBIC				PKPab		**sPKPdf**	**00 25 50.0**	**-1.1**	
	comp=Z,10nm,0.9s,baz=94,slow=4.4,SNR=6.8								
LIC	**Lamto**	**153.65**	**270**	*e*PKP2		**PKPdf**	**00 25 34.9**	**+1.5**	
	comp=Z,48nm,1.0s								
TIC	**Toumodi**	**153.66**	**271**	*e*PKP2		**PKPdf**	**00 25 33.1**	**-0.3**	

SOME ***11*** *00:12:35.7, 42.˚53N×79.˚62E, h20km*
KRNET ***11*** *00:12:35.5±0.1, 42.˚55N×79.˚63E, h15km, mb2.9*
ISCJB ***11*** *00:12:36.7±0.8, 42.˚54N±0.˚04×79.˚74E±0.˚06, h10km, Error ellipse: s-maj=6.8km s-min=4.0km az=39.2*
NNC ***11*** *00:12:36.8±1.1, 42.˚60N×79.˚59E, h0km, mb3.0, mpv2.8, Error ellipse: s-maj=7.6km s-min=3.9km az=128.0*

ISC 11 00:12:35.4±1.2, 42.˚49N±0.˚04×79.˚58E±0.˚05, h10km, n48, σ1f13/83, 15C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.77**	**328**	P	**Pg**	**00 12 50.0**	**-0.4**
	15nm,0.2s						
UZB				S	**Sg**	**00 13 00.2**	**-0.3**
	30nm,0.2s						
UZB	**Uzynbulak**	**0.77**	**328**	*e*P	**Pg**	**00 12 50.0**	**-0.4**
	baz=24						
UZB				*e*S	**Sg**	**00 13 00.2**	**-0.3**
	baz=24						
UZB	**Uzynbulak**	**0.77**	**328**	*e*P	**Pg**	**00 12 50.0**	**-0.4**
	15nm,0.2s						
UZB				*e*S	**Sg**	**00 13 00.2**	**-0.3**
	30nm,0.2s						
PDGK	**Podgornoye**	**0.84**	**355**	P	**Pg**	**00 12 50.7**	**-0.9**
	6.4nm,0.2s						
PDGK				S	**Sg**	**00 13 01.4**	**-1.2**
	15nm,0.2s						
PDGK	**Podgornoye**	**0.84**	**355**	⇑P	**Pg**	**00 12 50.2**	**-1.4**
	5.8nm,0.4s						
PDGK				⇓S	**Sg**	**00 13 01.2**	**-1.4**
	5.1nm,0.4s						
PDGK	**Podgornoye**	**0.84**	**355**	⇓*i*P	**Pg**	**00 12 50.7**	**-0.9**
	baz=52						
PDGK				⇓*i*S	**Sg**	**00 13 01.6**	**-1.0**
	baz=52						
PRZ	**Przheval'sk**	**0.87**	**270**	⇓*i*P	**Pb**	**00 12 52.6**	**-0.2**
	baz=67						
PRZ				⇓*i*S	**Sb**	**00 13 05.4**	**+0.8**
	baz=67						
KURS	**Kuram**	**1.44**	**314**	P	**Pb**	**00 13 02.1**	**-0.2**
	1.9nm,0.2s						
KURS				S	**Sb**	**00 13 20.9**	**+0.3**
	10.0nm,0.4s						
KURS	**Kuram**	**1.44**	**314**	*e*P	**Pb**	**00 13 02.1**	**-0.2**
	baz=12						
KURS				*e*S	**Sb**	**00 13 21.0**	**+0.3**
	baz=12						
KURS	**Kuram**	**1.44**	**314**	*e*P	**Pb**	**00 13 02.1**	**-0.2**
	1.9nm,0.2s						
KURS				*e*S	**Sb**	**00 13 20.9**	**+0.3**
	10.0nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.52**	**241**	⇑*i*P	**Pg**	**00 13 04.2**	**-0.5**
	baz=40						
TARG				⇑*i*S	**Sg**	**00 13 26.0**	**+1.5**
	baz=40						
MNBS	**Baschi**	**1.81**	**332**	P	**Pb**	**00 13 08.2**	**-0.5**
MNBS				S	**Sb**	**00 13 31.8**	**+0.5**
KDJ	**Kajisay**	**1.82**	**259**	⇑*e*P	**Pg**	**00 13 10.1**	**-0.1**
	baz=58						
KDJ				⇑*i*S	**Sg**	**00 13 34.9**	**+1.1**
	baz=58						
DJR	**Jarkent**	**1.85**	**5**	P	**Pb**	**00 13 08.9**	**-0.4**
	1.4nm,0.3s						
DJR				S	**Sb**	**00 13 32.6**	**+0.1**
	6.8nm,0.3s						
DJR	**Jarkent**	**1.85**	**5**	*e*P	**Pb**	**00 13 08.9**	**-0.4**
	1.4nm,0.3s						
DJR				*e*S	**Sb**	**00 13 32.6**	**+0.1**
	6.8nm,0.3s						
KOTS	**Kotyrbulak**	**1.96**	**293**	Pg	**Pg**	**00 13 12.2**	**-0.8**
	4.1nm,0.2s						
KOTS				Lg	**Lg**	00 13 38.9	
	52nm,0.4s						
KOTS	**Kotyrbulak**	**1.96**	**293**	*e*P	**Pg**	**00 13 12.5**	**-0.5**
	baz=91						
KOTS				*e*S	**Sg**	**00 13 38.8**	**+0.4**
	baz=91						
KOTS	**Kotyrbulak**	**1.96**	**293**	*e*P	**Pg**	**00 13 12.5**	**-0.5**
	3.1nm,0.2s						
KOTS				*e*S	**Sg**	**00 13 38.9**	**+0.4**
	52nm,0.4s						
MDOK	**Medeo**	**1.98**	**291**	Pn	**Pb**	**00 13 11.3**	**-0.4**
	1.5nm,0.5s						
MDOK				Sn	**Sg**	**00 13 37.8**	**-1.2**
	9.6nm,0.6s						
MDOK	**Medeo**	**1.98**	**291**	Pg	**Pb**	**00 13 12.0**	**+0.4**
	4.2nm,0.2s						
MDOK				Lg	**Lg**	00 13 37.9	
	12nm,0.5s						
MDOK	**Medeo**	**1.98**	**291**	*e*P	**Pb**	**00 13 12.0**	**+0.4**
	baz=89						
MDOK				*e*S	**Sg**	**00 13 37.9**	**-1.2**
	baz=89						
MDOK	**Medeo**	**1.98**	**291**	*e*P	**Pb**	**00 13 12.0**	**+0.4**
	4.2nm,0.2s						
MDOK				*e*S	**Sg**	**00 13 37.9**	**-1.2**
	12nm,0.5s						
TNSS	**Tian-Shan**	**2.02**	**287**	Pg	**Pb**	**00 13 13.0**	**+0.6**
	4.8nm,0.2s						
TNSS				Lg	**Lg**	00 13 39.5	
	15nm,0.4s						
TNSS	**Tian-Shan**	**2.02**	**287**	*e*P	**Pb**	**00 13 13.0**	**+0.6**
	baz=85						
TNSS				*e*S	**Sg**	**00 13 39.5**	**-0.7**
	baz=85						
TNSS	**Tian-Shan**	**2.02**	**287**	*e*P	**Pb**	**00 13 13.0**	**+0.6**
	4.8nm,0.2s						
TNSS				*e*S	**Sg**	**00 13 39.

ASAR	**Alice Springs**	**22.00**	**218**	P		**P**	**00 21 39.0**	**-1.3**
	17nm,0.8s,baz=54,slow=9.1,SNR=48								
ASAR				S		**S**	**00 25 42.3**	**+1.6**
	4.8nm,0.9s,baz=38,slow=23,SNR=6.8								
BATI	**Baumata**	**24.91**	**260**	P		**P**	**00 22 09.0**	**+0.3**
	40nm,0.6s,baz=135,slow=4.8,SNR=4.7								
FITZ	**Fitzroy Crossi**	**25.09**	**241**	P		**P**	**00 22 09.9**	**-0.4**
	37nm,0.6s,baz=56,slow=8.9,SNR=40								
STKA	**Stephens Creek**	**25.89**	**194**	P		**P**	**00 22 16.2**	**-1.2**
	15nm,1.1s,baz=357,slow=8.4,SNR=11								
MJAR	**Matsushiro Arr**	**44.10**	**348**	P		**P**	**00 24 52.8**	**-0.8**
	2.9nm,0.9s,baz=145,slow=7.2,SNR=3.8								
USRK	**Ussuriysk Ar.**	**52.84**	**345**	P		**P**	**00 26 00.1**	**-0.6**
	1.9nm,0.6s,baz=167,slow=5.3,SNR=7.4								
CMAR	**Chiang Mai Arr**	**54.98**	**298**	P		**P**	**00 26 17.5**	**+0.6**
	0.4nm,0.3s,baz=165,slow=3.7,SNR=2.9								
KLR	**Kul'dur**	**57.61**	**347**	P		**P**	**00 26 36.6**	**+1.6**
	0.8nm,0.6s,baz=168,slow=9.3,SNR=2.8								
SONM	**Songino Array**	**65.79**	**330**	P		**P**	**00 27 29.8**	**-0.5**
	0.4nm,0.3s,baz=160,slow=4.6,SNR=5.9								
VNDA	**Vanda**	**71.13**	**177**	P		**P**	**00 28 02.9**	**-0.1**
	2.4nm,0.8s,baz=330,slow=6.3,SNR=11								
MKAR	**Makanchi Array**	**79.05**	**320**	P		**P**	**00 28 48.5**	**-0.7**
	0.5nm,0.4s,baz=100,slow=8.5,SNR=10								
ZALV	**Zalesovo Beam**	**80.45**	**327**	P		**P**	**00 28 55.3**	**-1.2**
	0.6nm,0.4s,baz=108,slow=4.7,SNR=3.2								
QSPA	**South Pole Qui**	**83.27**	**180**	*e*P		**P**	**00 29 11.9**	**+0.5**
QSPA	**South Pole Qui**	**83.27**	**180**	P		**P**	**00 29 10.3**	**-1.1**
	2.6nm,0.8s,baz=282,slow=0.3,SNR=8.7								
ILAR	**Eielson Array**	**85.50**	**23**	P		**P**	**00 29 21.7**	**-0.8**
	1.3nm,0.9s,baz=251,slow=5.3,SNR=9.4								
NVAR	**Mina Array Bea**	**96.54**	**52**	P		**P**	**00 30 16.1**	**+1.0**
	0.4nm,0.7s,baz=231,slow=5.7,SNR=3.2								
CONA	**Conrad Observa**	**122.62**	**324**	*e*pPKPdf		**PKiKP**	**00 35 42.7**	**+1.8**
	0.4nm,0.4s								
GERES	**GERESS Array B**	**123.38**	**326**	PKP		**PKPdf**	**00 35 41.9**	**-0.2**
	0.7nm,0.6s,baz=127,slow=3.5,SNR=3.5								
SOKA	**Soboth**	**123.74**	**323**	*e*pPKPdf		**PKiKP**	**00 35 45.0**	**+1.9**
	0.8nm,0.6s								
ABTA	**Abfaltersbach**	**125.19**	**324**	*e*pPKPdf		**PKiKP**	**00 35 48.4**	**+2.5**
	1.4nm,0.7s								
MOTA	**Moosalm**	**125.66**	**326**	*e*PKiKP		**PKiKP**	**00 35 47.4**	**+0.4**
	0.6nm,0.3s								
MOTA				*e*Sdiff			00 45 40.7		
	1.8nm,0.7s								
SQTA	**Sankt Quirin**	**125.67**	**325**	*e*pPKPdf		**PKiKP**	**00 35 48.8**	**+1.9**
	0.1nm,0.2s								
SQTA				*e*Sdiff			00 45 40.0		
	1.1nm,0.7s								
FETA	**Feichten**	**126.05**	**325**	*e*PKiKP		**PKiKP**	**00 35 47.9**	**+0.2**
	0.3nm,0.4s								
FETA				Sdiff			00 45 42.3		
	4.3nm,1.4s								
SDV	**Santo Domingo**	**141.08**	**84**	PKP		**PKiKP**	**00 36 18.6**	**-0.5**
	3.3nm,0.8s,baz=21,slow=4.9,SNR=4.4								
TORD	**Torodi Ar. Bea**	**146.81**	**284**	PKPbc		**PKPab**	**00 36 28.9**	**-0.4**
	5.4nm,0.8s,baz=58,slow=3.9,SNR=39								
PTGA	**Pitinga**	**150.55**	**103**	PKPbc		**PKiKP**	**00 36 38.7**	**+0.3**
	8.8nm,0.9s,baz=291,slow=4.4,SNR=12								
DBIC	**Dimbokro**	**153.64**	**272**	PKPbc		**PKiKP**	**00 36 46.4**	**+1.7**
	1.3nm,0.6s,baz=18,slow=9.0,SNR=3.4								

WBNET 11 00:22:21.9, 50.20N×12.45E, *H*10km, MI0.2, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NKC	**Novy Kostel**	**0.04**	**3**	⇓P			Pg	00 22 23.7	-0.2
NKC				S			Sg	00 22 25.1	-0.3
KVC	**Kvetna**	**0.05**	**80**	⇓P			Pg	00 22 23.6	-0.3
KVC				S			Sg	00 22 24.9	-0.5
VAC	**Vackov**	**0.06**	**311**	⇓P			Pg	00 22 23.9	-0.2
VAC				S			Sg	00 22 25.4	-0.3
SKC	**Skalna**	**0.06**	**242**	⇑P			Pg	00 22 23.9	-0.2
SKC				S			Sg	00 22 25.4	-0.3
LBCW	**Luby**	**0.07**	**343**	⇓P			Pg	00 22 24.1	-0.1
LBCW				S			Sg	00 22 25.8	-0.1
KACW	**Kaceov**	**0.07**	**140**	⇑P			Pg	00 22 24.0	-0.2
KACW				S			Sg	00 22 25.6	-0.3
STCW	**Studenec**	**0.08**	**38**	⇓P			Pg	00 22 24.1	-0.2
STCW				S			Sg	00 22 25.6	-0.5
POCW	**Potky**	**0.12**	**355**	⇓P			Pg	00 22 24.8	-0.1
POCW				S			Sg	00 22 26.9	-0.2
KRCW	**Kraslice**	**0.14**	**22**	⇑P			Pg	00 22 25.0	-0.2
KRCW				S			Sg	00 22 27.2	-0.4
KOCW	**Kopaniny**	**0.15**	**296**	⇓P			Pg	00 22 25.2	-0.1
KOCW				S			Sg	00 22 27.5	-0.2
ZHC	**Zelena Hora**	**0.15**	**215**	⇑P			Pg	00 22 25.2	-0.2
ZHC				S			Sg	00 22 27.5	-0.3
LACW	**Lazy**	**0.19**	**142**	⇓P			Pg	00 22 25.7	-0.2
LACW				S			Sg	00 22 28.5	-0.2

WBNET 11 00:23:28.7, 50.20N×12.45E, *H*10km, MI0.0, 2C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
NKC	**Novy Kostel**	**0.04**	**3**	⇓P			Pg	00 23 30.5	-0.2
NKC				S			Sg	00 23 31.9	-0.2
KVC	**Kvetna**	**0.05**	**80**	⇓P			Pg	00 23 30.4	-0.3
KVC				S			Sg	00 23 31.7	-0.5
VAC	**Vackov**	**0.06**	**311**	⇓P			Pg	00 23 30.7	-0.1
VAC				S			Sg	00 23 32.2	-0.2
SKC	**Skalna**	**0.06**	**242**	⇑P			Pg	00 23 30.7	-0.2
SKC				S			Sg	00 23 32.2	-0.2
LBCW	**Luby**	**0.07**	**343**	⇓P			Pg	00 23 30.9	-0.1
LBCW				S			Sg	00 23 32.6	-0.1
KACW	**Kaceov**	**0.07**	**140**	S			Sg	00 23 32.3	-0.4
STCW	**Studenec**	**0.08**	**38**	⇓P			Pg	00 23 30.9	-0.2
STCW				S			Sg	00 23 32.4	-0.4
POCW	**Potky**	**0.12**	**355**	⇓P			Pg	00 23 31.6	-0.1
POCW				S			Sg	00 23 33.7	-0.2
KRCW	**Kraslice**	**0.14**	**22**	⇓P			Pg	00 23 31.8	-0.2
KRCW				S			Sg	00 23 34.0	-0.3
KOCW	**Kopaniny**	**0.15**	**296**	⇓P			Pg	00 23 32.0	-0.1
KOCW				S			Sg	00 23 34.3	-0.2
ZHC	**Zelena Hora**	**0.15**	**215**	⇑P			Pg	00 23 32.0	-0.2
ZHC				S			Sg	00 23 34.3	-0.2
LACW	**Lazy**	**0.19**	**142**	S			Sg	00 23 35.3	-0.1

*IDC **11** 00:25:47.8±3.7, 34.°08N×23.°56E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.6/43, mbtmp3.7/7, ML3.0/3, Error ellipse: s-maj=82.8km s-min=33.1km az=7.0*
*THE **11** 00:25:56.5, 34.°45N×23.°49E, h16km, ML3.2/3, Error ellipse: s-maj=1.9km s-min=1.0km az=139.0*
*ATH **11** 00:25:58.1, 34.°48N×23.°75E, h33km±2km, ML3.2/2, Error ellipse: s-maj=5.9km s-min=2.6km az=48.0*
ISC 11 00:25:55.3±2.4, 34.°36N±0.°10×23.°68E±0.°08, *H*15km±11km, n29, σ1§66/35, mb3.9/4, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GVD	**Gavdhos**	**0.58**	**35**	P			**Pb**	**00 26 08.8**	**+1.6**
GVD				S			**Sb**	**00 26 17.8**	**+2.5**
GVD	**Gavdhos**	**0.58**	**35**	P			**Pb**	**00 26 08.8**	**+1.6**
GVD				S			**Sb**	**00 26 15.6**	**+0.3**
GVD				AML		AML	AML	00 26 25.4	
	comp=E,5533µm,0.4s								
GVD				AML		AML	AML	00 26 29.2	
	comp=N,6968µm,0.6s								
IMMV	**Iera Moni Meta**	**1.13**	**13**	P			**Pg**	**00 26 15.6**	**-1.4**
IMMV				S			**Sg**	**00 26 30.9**	**-0.9**
IMMV	**Iera Moni Meta**	**1.13**	**13**	P			**Pg**	**00 26 16.7**	**-0.3**
VAM	**Vamos**	**1.13**	**22**	P			**Pg**	**00 26 15.9**	**-1.2**
VAM				S			**Sb**	**00 26 31.8**	**+0.8**
VAM	**Vamos**	**1.13**	**22**	P			**Pg**	**00 26 16.3**	**-0.8**
VAM				S			**Sb**	**00 26 31.5**	**+0.6**
VAM				AML		AML	AML	00 26 47.3	
	comp=N,2022µm,0.5s								
VAM				AML		AML	AML	00 26 52.0	
	comp=E,2261µm,0.9s								
TMBK	**Timbaki Herakl**	**1.14**	**51**	P			**Pg**	**00 26 17.4**	**+0.1**
TMBK				S			**Sn**	**00 26 34.4**	**+2.4**
CHAN	**Chania**	**1.20**	**14**	P			**Pb**	**00 26 17.2**	**-0.4**
ANKY	**Antikythira Is**	**1.54**	**348**	P			**Pn**	**00 26 24.1**	**+2.0**
LAST	**Lasithi**	**1.68**	**61**	P			**Pn**	**00 26 25.8**	**+1.6**
NPS	**Neapolis**	**1.83**	**60**	P			**Pn**	**00 26 27.6**	**+1.5**
NPS	**Neapolis**	**1.83**	**60**	P			**Pn**	**00 26 27.9**	**+1.8**
ZKR	**Zakros**	**2.22**	**69**	P			**Pn**	**00 26 33.4**	**+1.9**
TURN	**Turunc**	**4.73**	**57**	*i* P			Pn	00 27 02.8	-3.2
TURN				*i* S			Sn	00 27 51.9	-8.6
TURN						IAML_P			
	comp=Z,472nm,0.2s								
DALY	**Dalyan (Mula)**	**4.74**	**57**	*i* P			**Pn**	**00 27 07.3**	**+1.2**
DALY				*i* S			**Sn**	**00 27 59.6**	**-1.1**
DALY						IAML_P			
	comp=Z,353nm,0.2s								
AKAS	**Kas**	**5.19**	**67**	*i* P			**Pn**	**00 27 13.5**	**+1.0**
AKAS				*i* S			**Sn**	**00 28 09.6**	**-2.6**
AKAS						IAML_P			
	comp=Z,89nm,0.3s								
TAVA	**DENIZLI_Tavas**	**5.26**	**52**	*i* P			**Pn**	**00 27 14.7**	**+1.4**
TAVA						IAML_P			
	comp=Z,82nm,0.2s								
AKUM	**Antalya-Kumluc**	**5.79**	**68**	*i* P			**Pn**	**00 27 21.4**	**+0.9**
AKUM				*i* S			**Sn**	**00 28 22.0**	**-4.5**
AKUM						IAML_P			
	comp=Z,162nm,0.2s								
KORT	**Korkueli**	**6.03**	**62**	*i* P			**Pn**	**00 27 24.4**	**+0.3**
KORT				*i* S			**Sn**	**00 28 31.3**	**-1.6**
KORT						IAML_P			
	comp=Z,14nm,0.1s								
USAK	**Uak-Merkez**	**6.11**	**43**	*i* P			**Pn**	**00 27 23.2**	**-1.8**
USAK						IAML_P			
	comp=Z,15nm,0.2s								
KHAL	**Karahalli**	**6.16**	**48**	*i* P			**Pn**	**00 27 26.9**	**+1.1**
KHAL						IAML_P			
	comp=Z,28nm,0.1s								
BRTR	**Keskin Array B**	**9.59**	**53**	Pn			**Pn**	**00 28 12.8**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=240,slow=13,SNR=8.8								
GERES	**GERESS Array B**	**16.26**	**336**	Pn			**Pn**	**00 29 43.9**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=156,slow=12,SNR=6.1								
KHC	**Kasperske Hory**	**16.55**	**336**	*e*P			**Pn**	**00 29 48.0**	**+1.3**
KBZ	**Khabaz**	**17.58**	**52**	P			**Pn**	**00 29 59.3**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=241,slow=10,SNR=8.3								
MKAR	**Makanchi Array**	**45.23**	**56**	P			**P**	**00 34 09.8**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=270,slow=7.9,SNR=22								
ZALV	**Zalesovo Beam**	**46.43**	**46**	P			P	00 34 17.1	-4.0
	comp=Z,0.5nm,0.4s,baz=273,slow=10.0,SNR=3.1								
SONM	**Songino Array**	**60.93**	**50**	P			P	00 36 03.7	-3.9
	comp=Z,0.9nm,0.9s,baz=293,slow=8.9,SNR=5.0								
YKA	**Yellowknife Ar**	**77.83**	**342**	P			P	00 37 48.0	-3.7
	comp=Z,0.3nm,0.9s,baz=49,slow=5.0,SNR=3.3								

*IDC **11** 00:26:42.3±0.8, 6.°62S×148.°57E, h0km, mb3.9/12, mb1 4.2/15, mb1mx4.1/35, mbtmp4.0/15, ML4.3/2, MS4.9/1, Ms1 4.9/1, ms1mx4.0/36, Error ellipse: s-maj=23.8km s-min=9.7km az=115.0*
*ISCJB **11** 00:26:47.0±0.8, 6.°63S±0.°07×148.°5E±0.°1, h46km, mb4.0/13, MS4.9/1, Error ellipse: s-maj=21.1km s-min=10.3km az=5.9*
ISC 11 00:26:48.7±0.8, 6.°62S±0.°08×148.°6E±0.°1, *H*46km, n20, σ1§17/21, mb4.0/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**13.58**	**189**	Pn			**Pn**	**00 29 57.3**	**-1.5**
	baz=7.6,slow=15,SNR=1.6								
SIJI	**Sorong**	**19.22**	**288**	P			**Pn**	**00 30 58.2**	**-0.2**
	1.1nm,0.3s,baz=100,slow=7.2,SNR=3.6								
WRA	**Warramunga Arr**	**19.16**	**225**	P			**P**	**00 31 07.8**	**-0.7**
	0.8nm,0.3s,baz=47,slow=11,SNR=46								
WRA				S			**Sn**	**00 34 43.4**	**-0.4**
	baz=48,slow=22,SNR=6.4								
ASAR	**Alice Springs**	**22.07**	**218**	P			**P**	**00 31 39.5**	**-0.4**
	7.9nm,0.5s,baz=54,slow=9.3,SNR=77								
ASAR				S			**S**	**00 35 43.2**	**+2.4**
	3.9nm,0.9s,baz=32,slow=23,SNR=4.4								
FITZ	**Fitzroy Crossi**	**25.13**	**241**	P			**P**	**00 32 10.0**	**+0.4**
	33nm,0.7s,baz=50,slow=8.4,SNR=63								
STKA	**Stephens Creek**	**25.97**	**194**	P			**P**	**00 32 17.4**	**+0.3**
	4.4nm,0.6s,baz=358,slow=9.4,SNR=11								
RAO	**Raoul Island**	**38.75**	**130**	LR			LR	00 45 07.5	
	comp=Z,2µm,20.6s,baz=44,slow=28								
MJAR	**Matsushiro Arr**	**44.03**	**348**	P			**P**	**00 34 50.7**	**-1.2**
	1.4nm,0.4s,baz=177,slow=7.3,SNR=3.5								
KSRS	**Korea Array**	**47.92**	**338**	P			**P**	**00 35 22.0**	**-0.5**
	0.8nm,0.6s,baz=153,slow=8.4,SNR=4.1								
USRK	**Ussuriysk Ar.**	**52.77**	**345**	P			**P**	**00 35 59.4**	**+0.4**
	2.8nm,0.6s,baz=182,slow=8.4,SNR=5.4								
CMAR	**Chiang Mai Arr**	**54.95**	**298**	P			**P**	**00 36 15.5**	**0.0**
	0.4nm,0.3s,baz=114,slow=6.0,SNR=3.0								
KLR	**Kul'dur**	**57.54**	**347**	P			**P**	**00 36 35.1**	**+1.7**
	0.7nm,0.7s,baz=152,slow=7.6,SNR=2.3								
SONM	**Songino Array**	**65.73**	**330**	P			**P**	**00 37 29.5**	**+0.7**
	0.6nm,0.8s,baz=158,slow=4.8,SNR=4.9								
VNDA	**Vanda**	**71.17**	**177**	P			**P**	**00 38 04.3**	**+2.0**
	1.3nm,1.0s,baz=313,slow=7.5,SNR=4.6								
MKAR	**Makanchi Array**	**79.00**	**320**	P			**P**	**00 38 47.1**	**-0.7**
	0.5nm,0.6s,baz=101,slow=8.7,SNR=7.0								
ZALV	**Zalesovo Beam**	**80.39**	**327**	P			**P**	**00 38 53.7**	**-1.4**
	0.3nm,0.3s,baz=108,slow=4.7,SNR=3.0								
ILAR	**Eielson Array**	**85.42**	**23**	P			**P**	**00 39 21.7**	**+0.6**
	0.8nm,0.7s,baz=248,slow=5.0,SNR=9.3								
GERES	**GERESS Array B**	**123.32**	**326**	PKP			**PKPdf**	**00 45 39.9**	**-1.0**
	0.6nm,0.6s,baz=132,slow=2.0,SNR=4.5								
TORD	**Torodi Ar. Bea**	**146.79**	**284**	PKPbc			**PKPbc**	**00 46 27.3**	**+0.5**
	7.2nm,0.9s,baz=62,slow=3.6,SNR=35								
BDFB	**Brasilia**	**152.42**	**143**	PKPbc			**PKPbc**	**00 46 39.4**	**-1.6**
	0.7nm,0.3s,baz=124,slow=11,SNR=1.9								

IDC 11 00:33:13.7±6.7, 8.°10S×147.°12E, h331km±63km, mb3.5/3, mb1 3.6/6, mb1mx3.2/34, mbtmp4.1/6, Error ellipse: s-maj=44.2km s-min=25.1km az=79.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**17.08**	**225**	P			P	00 36 52.0	0.0
	0.3nm,0.3s,baz=50,slow=11,SNR=8.0								
SIJI	**Sorong**	**17.36**	**294**	P			P	00 36 53.7	-1.3
	1.2nm,0.3s,baz=75,slow=10,SNR=3.8								
ASAR	**Alice Springs**	**20.00**	**218**	P			P	00 37 23.3	+0.3
	0.6nm,0.3s,baz=59,slow=9.4,SNR=12								
FITZ	**Fitzroy Crossi**	**23.14**	**242**	P			P	00 37 52.4	+0.5
	8.4nm,0.6s,baz=53,slow=8.9,SNR=13								
STKA	**Stephens Creek**	**24.21**	**192**	P			P	00 38 00.3	-1.1
	2.5nm,0.8s,baz=16,slow=7.2,SNR=5.3								
ILAR	**Eielson Array**	**87.35**	**23**	P			P	00 45 24.4	+1.0
	0.9nm,1.0s,baz=243,slow=4.3,SNR=5.3								
TORD	**Torodi Ar. Bea**	**145.68**	**281**	PKPbc			PKPdf	00 52 13.5	-0.5
	1.4nm,0.7s,baz=62,slow=3.0,SNR=7.7								

*IDC **11** 00:34:10.5±1.3, 6.°67S×148.°21E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/36, mbtmp4.1/5, ML4.1/1, Error ellipse: s-maj=62.8km s-min=17.3km az=124.0*
*ISCJB **11** 00:34:15.9±1.4, 6.°7S±0.°2×148.°2E±0.°3, h51km, mb4.1/4, Error ellipse: s-maj=53.3km s-min=22.6km az=34.9*
ISC 11 00:34:17.3±1.3, 6.°6S±0.°3×148.°3E±0.°4, *H*51km, n7, σ0§62/8, mb4.0/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
WRA	**Warramunga Arr**	**18.93**	**224**	P			**P**	**00 38 33.3**	**-0.8**
	0.6nm,0.3s,baz=52,slow=11,SNR=9.2								
ASAR	**Alice Springs**	**21.86**	**218**	P			**P**	**00 39 05.7**	**-0.3**
	6.1nm,0.7s,baz=56,slow=9.2,SNR=12								
ASAR				S			**S**	**00 43 06.0**	**+1.1**
	3.1nm,0.9s,baz=34,slow=22,SNR=8.0								
FITZ	**Fitzroy Crossi**	**24.83**	**241**	P			**P**	**00 39 34.9**	**-0.1**
	10nm,0.4s,baz=50,slow=9.2,SNR=14								
STKA	**Stephens Creek**	**25.91**	**193**	P			**P**	**00 39 44.4**	**-0.2**
	1.6nm,0.5s,baz=13,slow=9.7,SNR=5.2								
ILAR	**Eielson Array**	**85.54**	**23**	P			**P**	**00 46 49.8**	**+0.2**
	0.4nm,0.9s,baz=232,slow=4.4,SNR=2.4								
LPAZ	**La Paz**	**137.42**	**123**	PKP			**PKPdf**	**00 53 37.2**	**+0.1**
	0.5nm,0.5s,baz=250,slow=4.4,SNR=3.8								
TORD	**Torodi Ar. Bea**	**146.44**	**284**	PKPbc			**PKPbc**	**00 53 53.9**	**+0.1**
	0.6nm,0.4s,baz=86,slow=3.2,SNR=7.7								

*NSSP **11** 00:34:16.7, 38.°40N×45.°33E, h10km, Ms3.2*
*ISK **11** 00:34:18.6, 38.°48N×45.°20E, h5km, ML2.8/15*
*THR **11** 00:34:19.2, 38.°48N×45.°25E, h14km, ML2.7*
*DDA **11** 00:34:21.9, 38.°40N×44.°88E, h10km±4km, ML2.8*
ISC 11 00:34:18.9±1.5, 38.°42N±0.°03×45.°18E±0.°04, *H*10km±15km, n39, σ1§39/44, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BASK	**Baskale_VAN**	**0.99**	**249**	*i* P			**Pn**	**00 34 39.0**	**-0.2**
BASK						IAML_P			
	comp=Z,2µm,0.1s								
MAKU	**Maku**	**1.02**	**338**	*e*AML			AML	00 34 52.7	
	comp=N,213nm,0.2s								
MAKU				*e*Pg			**Pb**	**00 34 37.4**	**-1.4**
MAKU				*e*Sg			**Sb**	**00 34 51.3**	**-1.0**
MAKU				*e*AML			AML	00 34 53.2	
	comp=E,234nm,0.3s								
YOVA	**Hakkari_Yksek**	**1.09**	**221**	*i* P			**Pn**	**00 34 39.8**	**-0.7**
YOVA						IAML_P			
	comp=Z,3µm,0.3s								
CLDR	**Caldiran**	**1.23**	**307**	PN			**Pb**	**00 34 41.9**	**-0.5**
CLDR	**Caldiran**	**1.23**	**307**	*i* P			**Pb**	**00 34 42.1**	**-0.3**
CLDR						IAML_P			
	comp=Z,4µm,0.3s								
VMUR	**Van-Muradiye**	**1.38**	**295**	*i* P			**Pb**	**00 34 44.8**	**-0.2**
VMUR						IAML_P			
	comp=Z,392nm,0.4s								
TVAN	**Van**	**1.40**	**275**	*i* P			**Pg**	**00 34 46.4**	**+0.6**
VANB	**Van**	**1.42**	**278**	PN			**Pg**	**00 34 46.2**	**+0.1**
DYDN	**Diyadin**	**1.62**	**315**	*i* P			**Pg**	**00 34 49.8**	**-0.3**
DYDN						IAML_P			
	comp=Z,3µm,0.3s								
GEVA	**Gevas**	**1.67**	**267**	*i* P			**Pb**	**00 34 49.3**	**-0.6**
GEVA				*i* S			**Sg**	**00 35 15.9**	**+3.2**
GEVA						IAML_P			
	comp=Z,835nm,0.3s								
IGDI	**IGDIR**	**1.69**	**330**	*i* P			**Pb**	**00 34 49.9**	**-0.3**
IGDI						IAML_P			
	comp=Z,298nm,0.4s								
CUKT	**Cukurca**	**1.71**	**227**	PN			**Pg**	**00 34 51.0**	**-0.7**
CUKT	**Cukurca**	**1.71**	**227**	*i* P			**Pg**	**00 34 51.6**	**-0.1**
CUKT						IAML_P			
	comp=Z,1µm,0.4s								
TASB	**TASBURUN-IGDIR**	**1.73**	**335**	PN			**Pb**	**00 34 49.9**	**-1.0**
AKDM	**Akdamar-Van**	**1.73**	**268**	PN			**Pg**	**00 34 51.5**	**-0.7**
GNI	**Garni**	**1.77**	**349**	PN			**Pb**	**00 34 50.7**	**-0.8**
GNI				SN			**Sb**	**00 35 14.2**	**+0.4**
GNI	**Garni**	**1.77**	**349**	*i* P			**Pb**	**00 34 50.4**	**-1.2**
GNI				*i* S			**Sg**	**00 35 16.0**	**+0.3**
ADCV	**BITLIS_Adilcev**	**1.96**	**282**	*i* P			**Pg**	**00 34 56.1**	**-0.5**
ADCV						IAML_P			
	comp=Z,60nm,0.1s								
AGRB	**Hanur-Agry**	**2.06**	**305**	PN			**Pb**	**00 34 56.2**	**-0.4**
TUTA	**Tutak**	**2.09**	**299**	*i* P			**Pg**	**00 34 58.0**	**-1.1**
TUTA						IAML_P			
	comp=Z,792nm,0.4s								
GRMI	**Germi**	**2.16**	**79**	*e*Pn			**Pn**	**00 34 56.1**	**+0.9**
GRMI				*e*Sg			**Sb**	**00 35 25.1**	**0.0**
MLAZ	**Malazgirt-MUS**	**2.18**	**290**	PN			**Pb**	**00 34 57.5**	**-1.1**
SIRT	**Sirnak**	**2.35**	**248**	PN			**Pb**	**00 35 00.2**	**-1.3**
SIRN	**Sırnak**	**2.37**	**248**	*i* P			**Pb**	**00 35 01.4**	**-0.4**
SIRN						IAML_P			
	comp=Z,303nm,0.3s								
DIGO	**Kars**	**2.44**	**326**	*i* P			**Pg**	**00 35 04.5**	**-1.1**
GURO	**Guroymak-BITLI**	**2.48**	**274**	PN			**Pb**	**00 35 02.4**	**-1.2**
EAK	**Akyaka**	**2.57**	**332**	*i* P			**Pg**	**00 35 07.1**	**-1.2**
SRTM	**Siirt_Merkez**	**2.60**	**262**	*i* P			**Pb**	**00 35 04.0**	**-1.7**
SRTM						IAML_P			
	comp=Z,154nm,0.3s								
VRTB	**Varto-Mus**	**3.00**	**285**	PN			**Pb**	**00 35 09.2**	**-3.5**
VRTB	**Varto-Mus**	**3.00**	**285**	*i* P			**Pg**	**00 35 16.2**	**-0.3**
HOMI	**Horasan**	**3.02**	**304**	*i* P			**Pg**	**00 35 15.9**	**-0.9**
KOPR	**Koprukoy-ERZUR**	**3.03**	**302**	PN			**Pn**	**00 35 09.3

ACLC	**CERRO LA CRUZ**	**3.79**	**52**	*eP*		**Pn**	**00 43 46.1**	**-0.4**
MRA	**San Martin**	**4.00**	**100**	*eP*		**Pn**	**00 43 48.3**	**-1.0**
MRA				IAML			00 44 59.0	
	comp=Z,436nm,0.7s							
TCA	**Tanti**	**4.96**	**86**	*eP*		**Pn**	**00 44 00.3**	**-1.7**
TCA				IAML			00 44 55.5	
	comp=Z,345nm,0.6s							
CYA	**Choya**	**5.19**	**51**	*eP*		**Pn**	**00 44 03.2**	**-1.9**
AHML	**Horco Molle**	**6.66**	**43**	*eP*		**Pn**	**00 44 22.2**	**-2.9**
FSA	**Cafayete**	**6.85**	**35**	*eP*		**Pn**	**00 44 26.6**	**-1.2**
PLCA	**Paso Flores**	**8.92**	**181**	P		**Pn**	**00 44 53.5**	**-2.0**
	comp=Z,1.2nm,0.3s,baz=18,slow=12,SNR=47							
LVC	**Limon Verde**	**9.25**	**8**	P		**Pn**	**00 44 57.3**	**-3.1**
LVC	comp=Z,1.9nm,0.3s,baz=158,slow=8.5,SNR=23			S		**Sn**	**00 46 36.7**	**-6.1**
	comp=Z,0.9nm,0.3s,baz=142,slow=18,SNR=2.6							
HJA	**Humahuaca**	**9.63**	**28**	*eP*		**Pn**	**00 45 04.4**	**-1.1**
CPUP	**Villa Florida**	**12.65**	**68**	P		Pn	00 45 41.2	-4.1
	comp=Z,0.2nm,0.3s,baz=247,slow=10,SNR=3.4							
LPAZ	**La Paz**	**15.58**	**8**	P		**Pn**	**00 46 23.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=183,slow=8.3,SNR=26							
SIV	**San Ignacio**	**17.88**	**30**	P		**P**	**00 46 50.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=222,slow=8.4,SNR=13							
SNAA	**Sanae**	**53.10**	**159**	P		**P**	**00 51 56.5**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=270,slow=9.1,SNR=5.1							
DBIC	**Dimbokro**	**73.15**	**71**	P		**P**	**00 54 06.3**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=225,slow=8.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**82.14**	**69**	P		**P**	**00 54 58.3**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=268,slow=6.7,SNR=10.0							
ZALV	**Zalesovo Beam**	**151.63**	**31**	PKPbc		**PKiKP**	**01 02 32.0**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=331,slow=2.3,SNR=4.9							
MKAR	**Makanchi Array**	**154.26**	**47**	PKPab		**PKPab**	**01 02 51.7**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=266,slow=2.1,SNR=5.5							

IDC 11 00:43:15.6±3.1, 6.70S×148.29E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.4/27, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=103.6km s-min=24.9km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.89**	**224**	P		Pn	00 47 38.4	+0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**21.81**	**218**	P		P	00 48 09.8	+0.2
	0.9nm,0.6s,baz=37,slow=11,SNR=13							
ASAR				S		S	00 52 12.4	+0.6
	0.2nm,0.7s,baz=40,slow=21,SNR=2.9							
FITZ	**Fitzroy Crossi**	**24.82**	**241**	P		P	00 48 40.0	+0.3
	3.9nm,0.7s,baz=66,slow=7.4,SNR=8.5							
TORD	**Torodi Ar. Bea**	**146.50**	**284**	PKPbc		PKPdf	01 02 59.0	+0.4
	0.4nm,0.9s,baz=92,slow=3.3,SNR=3.5							

NNC 11 00:45:13.9±1.7, 47.38N×83.19E, h11km±24km, mb3.3, mpv2.5, Error ellipse: s-maj=9.9km s-min=7.7km az=63.0
SOME 11 00:45:19.8, 47.35N×82.75E, h10km
ISC 11 00:45:13.7±1.0, 47°27'N±0'09×83°19'E±0'06, h13km, n7, σ1°45/12, 7C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array**	**0.78**	**233**	⇑P		**Pn**	**00 45 31.0**	**+0.6**
	0.4nm,0.3s,baz=49,slow=19,SNR=1051							
MK31				⇑S		**Sn**	**00 45 42.7**	**+0.7**
	11nm,0.5s,baz=47,slow=32,SNR=54							
MAKZ	**Makanchi**	**0.95**	**241**	⇑P		**Pn**	**00 45 33.6**	**+0.8**
	1.5nm,0.3s							
MAKZ				⇑S		**Sn**	**00 45 47.1**	**+0.9**
	14nm,0.7s							
ZSN	**Zaisan**	**1.15**	**80**	*eP*		**Pg**	**00 45 36.9**	**+1.0**
	2.9nm,0.1s							
ZSN				*eS*		**Sb**	**00 45 47.8**	**-2.6**
	3.0nm,0.2s							
KAPS	**Kapalarasan**	**3.32**	**235**	*eP*		**Pg**	**00 46 16.3**	**-0.9**
	0.7nm,0.2s							
KAPS				*eS*		**Sg**	**00 46 58.0**	**-2.2**
	7.1nm,0.3s							
DJR	**Jarkent**	**3.78**	**220**	*eP*		**Pg**	**00 46 27.4**	**+1.3**
	0.2nm,0.1s							
DJR				*eS*		**Sg**	**00 47 14.8**	**-0.2**
	1.1nm,0.5s							
KURBB	**Kurchatov Arra**	**4.55**	**319**	⇓Pg		**Pb**	**00 46 34.1**	**+0.8**
	1.6nm,0.7s							
KURBB				⇑Lg		Lg	00 47 32.5	
	15nm,0.8s							
KURK	**Kurchatov**	**4.58**	**321**	⇑Pg		**Pb**	**00 46 33.2**	**-0.6**
	2.6nm,1.1s							
KURK				⇑Lg		Lg	00 47 33.8	
	7.2nm,0.5s							

IDC 11 00:50:46.0±3.0, 6.86S×148.44E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/36, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=59.9km s-min=38.6km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**8.83**	**299**	Pn		Pn	00 52 55.5	+0.4
	2.1nm,0.3s,baz=110,slow=23,SNR=8.2							
WRA	**Warramunga Arr**	**18.87**	**225**	P		Pn	00 55 08.9	+0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=9.9							
ASAR	**Alice Springs**	**21.77**	**218**	P		P	00 55 40.1	+0.5
	1.1nm,0.6s,baz=51,slow=9.8,SNR=12							
FITZ	**Fitzroy Crossi**	**24.86**	**241**	P		P	00 56 10.7	+0.1
	4.6nm,0.7s,baz=60,slow=9.3,SNR=7.4							
TORD	**Torodi Ar. Bea**	**146.68**	**283**	PKPbc		PKPdf	01 10 29.3	0.0
	0.3nm,0.7s,baz=62,slow=2.8,SNR=4.0							

IDC 11 00:51:27.7±1.6, 6.88S×148.83E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.8/35, mbtmp4.1/5, ML3.8/1, Error ellipse: s-maj=59.6km s-min=27.6km az=122.0
ISCJB 11 00:51:31.1±1.5, 6.8S±0.3×148.7E±0.3, h33km, mb4.0/4, Error ellipse: s-maj=55.9km s-min=23.8km az=35.0
ISC 11 00:51:32.7±1.5, 6.8S±0.3×148.7E±0.4, h35km, n7, σ0°42/6, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**225**	P		**Pn**	**00 55 53.0**	**-0.4**
	0.3nm,0.3s,baz=52,slow=11,SNR=7.7							
ASAR	**Alice Springs**	**21.97**	**219**	P		**P**	**00 56 24.2**	**+0.5**
	3.8nm,0.5s,baz=56,slow=9.3,SNR=17							
FITZ	**Fitzroy Crossi**	**25.09**	**241**	P		**P**	**00 56 54.4**	**+0.1**
	19nm,0.9s,baz=86,slow=8.5,SNR=15							
STKA	**Stephens Creek**	**25.82**	**194**	P		**P**	**00 57 00.6**	**-0.2**
	1.7nm,0.7s,baz=348,slow=13,SNR=3.9							
ILAR	**Eielson Array**	**85.56**	**23**	P		**P**	**01 04 07.0**	**+0.1**
	0.6nm,1.1s,baz=243,slow=6.0,SNR=1.7							
TORD	**Torodi Ar. Bea**	**146.88**	**284**	PKPbc		**PKPab**	**01 11 13.6**	**-0.2**
	1.6nm,0.8s,baz=72,slow=4.4,SNR=6.8							

IDC 11 00:53:16.0±1.5, 6.31S×148.55E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/35, mbtmp3.9/6, ML4.1/1, Error ellipse: s-maj=57.5km s-min=23.0km az=115.0
ISC 11 00:53:22.3±1.4, 6.4S±0.2×148.4E±0.3, h46km, n7, σ0°91/9, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.20**	**224**	P		**P**	**00 57 42.4**	**-0.1**
	0.6nm,0.3s,baz=52,slow=12,SNR=13							
WRA				S		**Sn**	**01 01 17.7**	**-0.6**
	0.1nm,0.3s,baz=56,slow=25,SNR=4.5							
ASAR	**Alice Springs**	**22.14**	**218**	P		**P**	**00 58 14.1**	**-0.2**
	5.6nm,0.7s,baz=53,slow=9.4,SNR=9.1							
ASAR				S		**S**	**01 02 14.8**	**-1.0**
	0.5nm,0.8s,baz=35,slow=23,SNR=2.6							
FITZ	**Fitzroy Crossi**	**25.08**	**240**	P		**P**	**00 58 44.4**	**+1.6**
	11nm,0.6s,baz=49,slow=9.3,SNR=16							
STKA	**Stephens Creek**	**26.16**	**193**	P		**P**	**00 58 53.2**	**+0.8**
	1.1nm,0.4s,baz=333,slow=18,SNR=3.4							
MKAR	**Makanchi Array**	**78.68**	**320**	P		**P**	**01 05 19.8**	**0.0**
	0.1nm,0.4s,baz=101,slow=7.5,SNR=2.8							
ILAR	**Eielson Array**	**85.28**	**23**	P		**P**	**01 05 53.4**	**-0.6**
	0.5nm,1.0s,baz=231,slow=5.7,SNR=3.1							
TORD	**Torodi Ar. Bea**	**146.54**	**284**	PKPbc		**PKiKP**	**01 13 02.3**	**-0.3**
	1.1nm,0.7s,baz=62,slow=3.4,SNR=6.1							

IDC 11 00:54:35.9±2.3, 6.49S×148.34E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/35, mbtmp4.0/5, ML4.0/1, MS4.8/2, Ms1 4.8/2, ms1mx3.8/42, Error ellipse: s-maj=66.9km s-min=28.2km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.07**	**224**	P		P	00 58 59.9	-0.3
	0.5nm,0.3s,baz=49,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**22.01**	**218**	P		P	00 59 31.4	-0.6
	3.9nm,0.6s,baz=54,slow=9.4,SNR=9.5							
FITZ	**Fitzroy Crossi**	**24.96**	**240**	P		P	01 00 01.6	+0.3
	8.4nm,0.5s,baz=64,slow=10,SNR=12							
STKA	**Stephens Creek**	**26.04**	**193**	P		P	01 00 11.1	+0.2
	2.6nm,0.8s,baz=347,slow=10,SNR=3.2							
RAO	**Raoul Island**	**39.05**	**130**	LR		LR	01 15 22.1	
	comp=Z,683nm,20.0s,baz=346,slow=32							
SEY	**Seymchan**	**69.29**	**2**	LR		LR	01 30 51.8	
	comp=Z,2μm,21.3s,baz=8.5,slow=31							
MKAR	**Makanchi Array**	**78.72**	**320**	P		P	01 06 40.1	-0.1
	0.2nm,0.6s,baz=107,slow=6.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**146.50**	**284**	PKPbc		PKPbc	01 14 19.7	-0.5
	1.4nm,0.7s,baz=85,slow=4.6,SNR=4.5							

IDC 11 00:57:34.3±3.2, 6.79S×148.54E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.5/35, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=98.6km s-min=43.8km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.00**	**225**	P		Pn	01 01 58.2	-0.2
	0.2nm,0.3s,baz=51,slow=11,SNR=5.5							
ASAR	**Alice Springs**	**21.89**	**218**	P		P	01 02 29.9	+0.7
	1.5nm,0.6s,baz=55,slow=8.9,SNR=6.7							
FITZ	**Fitzroy Crossi**	**24.99**	**241**	P		P	01 02 59.7	-0.3
	2.7nm,0.3s,baz=68,slow=7.3,SNR=9.3							
TORD	**Torodi Ar. Bea**	**146.77**	**284**	PKPbc		PKPdf	01 17 18.3	+0.6
	0.5nm,0.8s,baz=62,slow=3.2,SNR=2.8							

ISCJB 11 01:01:47.2±0.3, 4.60N±0.03×76.44W±0.04, h91km±4km, mb3.9/11, Error ellipse: s-maj=6.5km s-min=3.9km az=33.0
RSNC 11 01:01:48.7±0.8, 4.62N×76.49W, h32km±11km, ML3.3, Mw3.9
IDC 11 01:01:51.3±1.9, 4.60N×76.26W, h117km±17km, mb3.5/10, mb1 3.7/13, mb1mx3.5/33, mbtmp3.9/13, Error ellipse: s-maj=20.8km s-min=13.2km az=66.0
ISC 11 01:01:47.8±0.6, 4°57'N±0'03×76°44'W±0'04, h81km±5km, n46, σ1°41/61, mb3.9/11, 5C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOTC	**Yotoco, Valle**	**0.59**	**171**	⇓*eP*		**Pn**	**01 02 00.6**	**-2.0**
YOTC				*eS*		**Sn**	**01 02 10.6**	**-3.1**
YOTC				*i*			01 02 13.0	
	comp=Z,1μm,0.3s							
ANIL	**Santa Ana**	**1.03**	**94**	*eP*		**Pn**	**01 02 06.9**	**-0.7**
ANIL				*eS*		**Sn**	**01 02 21.6**	**-0.8**
MALC	**Bahia Malaga**	**1.05**	**238**	*eP*		**Pn**	**01 02 07.8**	**+0.3**
MALC				*i*			01 02 29.2	
	comp=Z,1μm,0.2s							
RREF	**El Recreo**	**1.13**	**73**	⇑*iP*		**Pn**	**01 02 08.8**	**-0.4**
RREF				*eS*		**Sn**	**01 02 24.5**	**-0.6**
PRAC	**Prado**	**1.76**	**119**	⇑*iP*		**Pn**	**01 02 16.7**	**0.0**
PRAC				*eS*		**Sn**	**01 02 38.8**	**+0.2**
PRAC				*i*			01 02 48.7	
	comp=Z,439nm,0.3s							
MARP	**Paez Belalcaza**	**1.78**	**164**	*eP*		**Pn**	**01 02 17.9**	**+0.7**
MARP				*eS*		**Sn**	**01 02 41.0**	**+1.7**
MARP				*i*			01 02 43.0	
	comp=Z,220nm,0.5s							
HELC	**Santa Helena**	**1.85**	**29**	*eP*		**Pn**	**01 02 17.7**	**-0.4**
HELC				*eS*		**Sn**	**01 02 39.6**	**-1.4**
HELC				*i*			01 02 49.2	
	comp=Z,106nm,0.6s							
SOLC	**Bahia Solano**	**1.91**	**330**	*eP*		**Pn**	**01 02 17.3**	**-1.2**
SOLC				*i*			01 02 44.5	
	comp=Z,122nm,0.4s							
POPC	**Popayan, Colom**	**2.03**	**187**	⇓*eP*		**Pn**	**01 02 20.7**	**+0.3**
POPC				*i*			01 02 53.4	
	comp=Z,262nm,0.9s							
BETC	**Betania**	**2.12**	**152**	*eP*		**Pn**	**01 02 21.9**	**+0.4**
ROSC	**El Rosal**	**2.13**	**83**	⇑*iP*		**Pn**	**01 02 23.4**	**+1.7**
ROSC				*i*			01 02 48.7	
	comp=Z,124nm,0.5s							
ROSC	**El Rosal**	**2.13**	**83**	P		**Pn**	**01 02 23.5**	**+1.7**
	comp=Z,40nm,0.3s,baz=334,slow=3.5,SNR=172							
ROSC				S		**Sn**	**01 02 50.8**	**+3.1**
	comp=Z,18nm,0.3s,baz=232,slow=19,SNR=8.1							
PCON	**Cinco Dias**	**2.23**	**179**	*eP*		**Pn**	**01 02 25.2**	**+1.8**
PCON				*i*			01 02 58.4	
	comp=Z,131nm,0.5s							
GRGC	**Isla de Gorgon**	**2.33**	**228**	*eP*		**Pn**	**01 02 23.3**	**-0.8**
GRGC				*eS*		**Sn**	**01 02 51.6**	**-0.3**
SOTA	**Rioblanco**	**2.42**	**184**	*eP*		**Pn**	**01 02 27.5**	**+1.6**
SOTA				*i*			01 03 11.8	
	comp=Z,124nm,0.5s							
CHIC	**Chingaza**	**2.70**	**89**	⇑*iP*		**Pn**	**01 02 31.0**	**+1.5**
CHIC				*i*			01 02 56.4	
	comp=Z,76nm,0.5s							
VILC	**Villavicencio,**	**2.77**	**99**	*eP*		**Pn**	**01 02 31.4**	**+1.2**
VILC				*i*			01 02 32.9	
	comp=Z,282nm,0.3s							
PTBC	**PUERTO BERRIO,**	**2.78**	**45**	*eP*		**Pn**	**01 02 30.5**	**+0.3**
PTBC				*eS*		**Sn**	**01 03 03.4**	**+0.6**
PTBC				*i*			01 03 09.0	
	comp=Z,97nm,0.6s							
CRUC	**La Cruz**	**3.03**	**190**	*eP*		**Pn**	**01 02 36.1**	**+2.2**
FLOC	**Florencia**	**3.07**	**165**	⇑*eP*		**Pn**	**01 02 34.6**	**+0.6**
FLOC				*i*			01 03 44.5	
	comp=N,139nm,0.5s							
UREC	**San Jos de Ur**	**3.29**	**16**	*eP*		**Pn**	**01 02 38.1**	**+1.0**
UREC				*i*			01 03 26.5	
	comp=N,65nm,0.3s							
ZARC	**Zaragoza, Cauc**	**3.30**	**28**	*eP*		**Pn**	**01 02 38.5**	**+1.2**
ZARC				*i*			01 03 20.9	
	comp=Z,103nm,0.5s							
RUSC	**La Rusia**	**3.59**	**68**	*eP*		**Pn**	**01 02 43.0**	**+1.4**
RUSC				*eS*		**Sn**	**01 03 24.1**	**+0.9**
BRRC	**Barranca, Sant**	**3.70**	**47**	*eP*		**Pn**	**01 02 43.0**	**+0.3**
BRRC				*eS*		**Sn**	**01 03 24.9**	**-0.3**
BRRC				*i*			01 03 31.5	
	comp=Z,49nm,0.5s							
GUVC	**San Jose del G**	**4.30**	**118**	*eP*		**Pn**	**01 02 50.8**	**-0.1**
PAMC	**Pamplona, Colo**	**4.62**	**53**	*eP*		**Pn**	**01 02 56.5**	**+0.7**
PAMC				*eS*		**Sn**	**01 03 49.0**	**+0.6**
PAMC				*i*			01 03 53.8	
	comp=Z,29nm,0.5s							
PTLC	**Puerto Leguiza**	**4.67**	**159**	*eP*		Pn	01 03 01.0	+5.1
OCAC	**Ocana**	**4.78**	**40**	*eP*		**Pn**	**01 02 58.2**	**+0.6**
OCAC				*eS*		**Sn**	**01 03 51.2**	**-0.7**
OCAC				*i*			01 03 57.2	
	comp=Z,44nm,0.5s							
SDV	**Santo Domingo**	**7.18**	**53**	P		**Pn**	**01 03 30.4**	**0.0**
	comp=Z,3.3nm,0.3s,baz=192,slow=6.5,SNR=30							
SDV				S		**Sn**	**01 04 47.4**	**-3.2**
	comp=Z,1.3nm,0.3s,baz=299,slow=19,SNR=3.3							
JTS	**JuntasAbangare**	**10.18**	**304**	P		**Pn**	**01 04 14.5**	**+3.4**
	comp=Z,0.8nm,0.3s,baz=164,slow=1.6,SNR=4.3							
PTGA	**Pitinga**	**17.28**	**107**	P		**Pn**	**01 05 42.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=310,slow=17,SNR=3.4							
LPAZ	**La Paz**	**22.29**	**159**	P		**P**	**01 06 39.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=333,slow=11,SNR=3.3							
SIV	**San Ignacio**	**25.47**	**144**	P		**P**	**01 07 07.1**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=337,slow=9.4,SNR=9.8							
TXAR	**Lajitas Array**	**35.66**	**317**	PcP		**PcP**	**01 11 06.7**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=184,slow=5.9,SNR=3.0							
SADO	**Sadowa**	**40.11**	**357**	P		**P**	**01 09 15.8**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=188,slow=1.3,SNR=3.4							
PLCA	**Paso Flores**	**45.40**	**174**	P		**P**	**01 09 58.2**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=25,slow=16,SNR=3.0							
ULM	**Lac du Bonnet**	**48.38**	**343**	P		**P**	**01 10 19.4**	**-2.1**
	comp=Z,2.1nm,0.9s,baz=171,slow=11,SNR=4.5							
SCHQ	**Schefferville**	**50.71**	**7**	P		**P**	**01 10 39.8**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=202,slow=7.7,SNR=5.6							
NVAR	**Mina Array Bea**	**50.80**	**317**	P		**P**	**01 10 41.2**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=132,slow=6.9,SNR=4.7							
NVAR				PcP		**PcP**	**01 11 57.3**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=130,slow=4.9,SNR=3.1							
YKA	**Yellowknife Ar**	**64.28**	**341**	P		**P**	**01 12 13.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=134,slow=6.2,SNR=28							
YKA				PcP		**sP**	**01 12 47.7**	**+3.2**
	comp=Z,0.1nm,0.7s,baz=139,slow=5.0,SNR=4.1							
SUMG	**Summit**	**71.81**	**11**	*i* P		**P**	**01 13 02.2**	**+0.4**
	comp=Z,20nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.43**	**78**	P		**P**	**01 13 32.8**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=287,slow=7.1,SNR=3.7							
ILAR	**Eielson Array**	**77.62**	**336**	P		**P**	**01 13 35.0**	**0.0**
	comp=Z,0.5nm,0.6s,baz=120,slow=4.3,SNR=9.9							
MKAR	**Makanchi Array**	**125.50**	**18**	PKP		**PKPdf**	**01 20 38.3**	**-1.6**
	comp=Z,0.3nm,0.9s,baz=255,slow=3.0,SNR=4.9							
ASAR	**Alice Springs**	**145.13**	**234**	PKPbc		**PKPbc**	**01 21 16.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=120,slow=3.8,SNR=11							
WRA	**Warramunga Arr**	**146.37**	**240**	PKPbc		**PKPdf**	**01 21 19.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=107,slow=3.1,SNR=6.4							

IDC 11 01:06:30.0±6.2, 6.96S×148.50E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.6/33, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=95.6km s-min=61.2km az=32.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**225**	P		Pn	01 10 52.2	-0.1
	0.1nm,0.3s,baz=52,slow=11,SNR=5.6							
ASAR	**Alice Springs**	**21.73**	**219**	P		P	01 11 23.5	+0.3
	5.1nm,0.3s,baz=52,slow=9.5,SNR=8.1							
FITZ	**Fitzroy Crossi**	**24.87**	**241**	P		P	01 11 54.4	-0.3
	1.3nm,0.4s,baz=60,slow=9.7,SNR=4.3							
STKA	**Stephens Creek**	**25.61**	**194**	P		P	01 12 01.1	-0.1
	0.7nm,0.4s,baz=348,slow=14,SNR=2.2							

IDC 11 01:08:48.5±2.8, 6.64S×148.50E, h0km, mb4.2/3, mb1 4.1/4, mb1mx3.6/31, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=62.9km s-min=42.6km az=102.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.08**	**225**	P		P	01 13 12.5	-0.3
	0.2nm,0.3s,baz=45,slow=11,SNR=9.6							
ASAR	**Alice Springs**	**21.99**	**218**	P		P	01 13 44.1	-0.3
	4.8nm,0.4s,baz=55,slow=9.7,SNR=11							
FITZ	**Fitzroy Crossi**	**25.03**	**241**	P		P	01 14 15.2	+0.6
	3.4nm,0.4s,baz=57,slow=8.0,SNR=22							
STKA	**Stephens Creek**	**25.92**	**194**	P		P	01 14 21.8	-0.7
	0.7nm,0.4s,baz=356,slow=13,SNR=2.7							
TORD	**Torodi Ar. Bea**	**146.69**	**284**	PKPbc		PKPbc	01 28 33.0	-0.5
	0.9nm,0.9s,baz=70,slow=2.9,SNR=9.3							

ISCJB 11 01:09:21.1±0.9, 12.55N±0.07×90.96W±0.05, h31km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=6.6km az=16.1
UCR 11 01:09:22.7±0.9, 12.70N×90.87W, h21km±35km, MD3.7, ML3.6
IDC 11 01:09:27.8±3.4, 12.78N×90.63W, h70km±25km, mb3.4/7, mb1 3.7/9, mb1mx3.4/39, mbtmp3.7/9, Error ellipse: s-maj=38.2km s-min=11.7km az=54.0
ISC 11 01:09:23.1±1.2, 12.75N±0.08×90.89W±0.06, h31km, n29, σ1°36/33, mb4.0/5, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**1.48**	**17**	*eP*		**Pn**	**01 09 48.9**	**+1.0**
CEVE	**Cerro Verde**	**1.64**	**49**	*eP*		**Pn**	**01 09 50.7**	**+0.6**
CEVE				IAML			01 10 05.6	
	comp=Z,844nm,0.3s							
SBLS	**San Blas**	**1.65**	**49**	*eP*		**Pn**	**01 09 50.8**	**+0.6**
PCG	**Pacaya**	**1.66**	**10**	*eP*		**Pn**	**01 09 51.7**	**+1.2**
RTR	**El Retiro**	**1.67**	**47**	*eP*		**Pn**	**01 09 51.2**	**+0.7**
SNJE	**San Jose**	**1.68**	**48**	*eP*		**Pn**	**01 09 51.2**	**+0.6**
FUG	**Fuego 3**	**1.69**	**2**	*eP*		**Pn**	**01 09 52.0**	**+1.2**
BOQS	**Boqueron**	**1.85**	**58**	⇑*eP*		**Pn**	**01 09 54.0**	**+1.0**
SNET	**Serv Nac Est T**	**1.87**	**60**	*eP*		**Pn**	**01 09 54.0**	**+0.9**
SNET				IAML			01 09 55.9	
	comp=Z,941nm,0.2s							
SNET				*eS*		**Sb**	**01 10 18.6**	**-1.2**
NBG	**Las Nubes**	**1.91**	**16**	*eP*		**Pb**	**01 09 56.3**	**-1.2**
LFRS	**El Faro**	**1.98**	**64**	⇑*eP*		**Pn**	**01 09 55.2**	**+0.5**
LFRS				*eS*		**Sn**	**01 10 20.9**	**+2.2**
LFU	**La Fuente**	**2.00**	**60**	*eP*		**Pn**	**01 09 55.8**	**+0.9**
LBRS	**Las Brisas**	**2.05**	**61**	*eP*		**Pn**	**01 09 56.6**	**+1.0**
PAVA	**Las Pavas**	**2.13**	**63**	*eP*		**Pn**

IDC 11 01:28:11.9±1.7, 6°80.8'S × 148°51.5'E, h0 km, mb3.6/4, mb1 3.8/5, mb1mx3.5/33, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=70.2km s-min=29.0km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**225**	P	P	01 32 35.0	-0.1
	0.1nm,0.3s,baz=57,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**21.88**	**218**	P	P	01 33 06.7	+0.1
	0.6nm,0.5s,baz=56,slow=9.2,SNR=9.0						
FITZ	**Fitzroy Crossi**	**24.97**	**241**	P	P	01 33 36.9	-0.5
	1.4nm,0.3s,baz=74,slow=9.7,SNR=5.7						
STKA	**Stephens Creek**	**25.78**	**194**	P	P	01 33 45.2	+0.6
	1.2nm,0.7s,baz=354,slow=10,SNR=3.3						
ILAR	**Eielson Array**	**85.62**	**23**	P	P	01 40 51.9	-0.1
	0.3nm,0.7s,baz=241,slow=5.0,SNR=1.8						
TORD	**Torodi Ar. Bea**	**146.74**	**284**	PKPbc	PKPbc	01 47 56.1	-0.8
	0.4nm,0.6s,baz=55,slow=3.8,SNR=4.3						

IDC 11 01:36:29.6±3.3, 6°68S × 148°15E, h0 km, mb3.7/2, mb1 3.8/3, mb1mx3.5/37, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=100.3km s-min=43.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.81**	**224**	P	P	01 40 51.0	+0.1
	0.1nm,0.3s,baz=50,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.75**	**218**	P	P	01 41 23.4	+0.4
	1.0nm,0.5s,baz=54,slow=9.5,SNR=15						
FITZ	**Fitzroy Crossi**	**24.71**	**241**	P	P	01 41 53.4	+0.6
	3.6nm,0.6s,baz=58,slow=12,SNR=7.7						
TORD	**Torodi Ar. Bea**	**146.36**	**284**	PKPbc	PKPdf	01 56 11.9	-0.5
	0.1nm,0.4s,baz=63,slow=3.7,SNR=3.5						

*VAO **11** 01:37:00.0±0.6, 31°09S × 71°89W, h10 km, mb4.5*
*NEIC **11** 01:37:11.0±0.0, 30°41S × 71°10W, h69 km, mb4.6/1, ML4.5(GUC), After GUC.*
NEIC Felt [IV] at Andacollo, Monte Patria and Ovalle; [III] at Combarbala, Coquimbo, La Serena, Rio Hurtado and Vicuna; [II] at La Higuera, Paiguano and Valparaiso.
*ISCJB **11** 01:37:11.6±0.5, 30°37S±0°02 × 71°45W±0°06, h75 km±4km, mb4.0/10, Error ellipse: s-maj=8.2km s-min=3.5km az=10.3*
*GUC **11** 01:37:11.9±0.7, 30°41S × 71°11W, h70 km±4km, ML4.5*
*IDC **11** 01:37:12.1±0.8, 30°43S × 71°15W, h63 km±5km, mb3.9/9, mb1 4.0/14, mb1mx3.8/32, mbtmp4.0/14, Error ellipse: s-maj=20.4km s-min=14.6km az=80.0*
*SJA **11** 01:37:13.1±1.1, 30°36S × 71°28W, h75 km, ML4.4, MW4.4*
ISC 11 01:37:11.6±0.6, 30°41S±0°03 × 71°48W±0°06, h62 km±5km, n76, σ1s88/94, mb4.3/10, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.63**	**69**	*e*Pn	**Pn**	**01 37 25.2**	**-0.2**
GO04				*e*Sn	**Sn**	**01 37 34.4**	**-1.0**
GO04	**Tololo Observa**	**0.63**	**69**	*e*P	**Pn**	**01 37 25.0**	**-0.4**
GO04				*e*S	**Sn**	**01 37 34.5**	**-1.0**
GO04				IAML		01 37 35.7	
	comp=N,85μm,0.2s						
CMCH	**Combarbala**	**0.87**	**152**	*i*P	**Pn**	**01 37 28.6**	**+0.5**
CMCH				*e*S	**Sn**	**01 37 40.5**	**+0.3**
CMCH				IAML		01 37 41.2	
	comp=N,42μm,0.3s						
LCO	**Las Campanas**	**1.55**	**26**	*e*Pn	**Pn**	**01 37 38.0**	**+0.8**
LCO				*e*Sn	**Sn**	**01 37 56.9**	**+0.5**
LCO	**Las Campanas**	**1.55**	**26**	*e*P	**Pn**	**01 37 38.0**	**+0.8**
LCO				*e*S	**Sn**	**01 37 57.2**	**+0.8**
LCO				IAML		01 37 58.6	
	comp=E,5μm,0.2s						
LCO	**Las Campanas**	**1.55**	**26**	*e*P	**Pn**	**01 37 38.1**	**+1.0**
AROD	**Rodeo**	**1.75**	**83**	*e*P	**Pn**	**01 37 41.5**	**+1.6**
AROD				*e*S	**Sn**	**01 38 02.7**	**+1.3**
ACDV	**Cuesta del Vie**	**2.05**	**84**	*e*P	**Pn**	**01 37 45.5**	**+1.6**
RTLS	**Leoncito**	**2.33**	**127**	*e*P	**Pn**	**01 37 50.5**	**+2.7**
RTLS				*e*S	**Sn**	**01 38 17.7**	**+2.2**
RTLS				IAML		01 38 20.2	
	comp=Z,3μm,0.6s						
AUSP	**Uspallata**	**2.55**	**136**	*e*P	**Pn**	**01 37 53.9**	**+3.1**
ROCH	**El Roble**	**2.59**	**171**	*e*P	**Pn**	**01 37 52.6**	**+1.3**
ROCH				*e*S	**Sn**	**01 38 24.6**	**+2.8**
ROCH				IAML		01 38 31.5	
	comp=E,3μm,0.6s						
ROC1	**El Roble**	**2.59**	**171**	*e*Pn	**Pn**	**01 37 52.2**	**+0.9**
ROC1				*e*Sn	**Sn**	**01 38 24.4**	**+2.5**
AMOG	**MOGNA**	**2.63**	**102**	*e*P	**Pn**	**01 37 53.9**	**+2.3**
RTLL	**Cerro Villicun**	**2.74**	**110**	*e*P	**Pn**	**01 37 54.8**	**+1.6**
RTLL				IAML		01 38 49.6	
	comp=E,1μm,0.5s						
AGUA	**GUANDACOL**	**2.75**	**71**	*e*P	**Pn**	**01 37 56.9**	**+3.6**
AGUA				*e*S	**Sn**	**01 38 52.2**	**-0.3**
PEL	**Peldehue**	**2.81**	**166**	*e*Pn	**Pn**	**01 37 55.5**	**+1.4**
PEL	**Peldehue**	**2.81**	**166**	*e*P	**Pn**	**01 37 55.3**	**+1.2**
PEL				*e*S	**Sn**	**01 38 28.2**	**+1.3**
RTCV	**Cerro Valdivia**	**2.91**	**121**	*e*P	**Pn**	**01 37 57.6**	**+2.1**
GO03	**Copiap**	**3.01**	**22**	*e*Pn	**Pn**	**01 37 58.5**	**+1.7**
GO03	**Copiap**	**3.01**	**22**	*e*P	**Pn**	**01 37 57.5**	**+0.6**
GO03				*e*S	**Sn**	**01 38 32.1**	**+0.3**
GO03				IAML		01 38 43.6	
	comp=N,616nm,0.5s						
CFA	**Coronel Fontan**	**3.03**	**114**	*e*P	**Pn**	**01 37 58.8**	**+1.7**
FCH	**Farellones**	**3.08**	**161**	*e*P	**Pn**	**01 37 59.5**	**+1.4**
FCH				*e*S	**Sn**	**01 38 35.1**	**+1.2**
FCH				IAML		01 38 51.5	
	comp=E,2μm,0.2s						
ASAL	**Salagasta**	**3.14**	**135**	*e*P	**Pn**	**01 38 01.4**	**+2.8**
ARCO	**CERRO ARCO**	**3.26**	**139**	*e*P	**Pn**	**01 38 03.0**	**+2.7**
ARCO				IAML		01 38 44.2	
	comp=Z,769nm,0.6s						
VCA	**Vinchina**	**3.30**	**61**	*e*P	**Pn**	**01 38 04.3**	**+3.4**
VCA				*e*S	**Sn**	**01 38 38.7**	**-0.4**
VCA				IAML		01 38 49.9	
	comp=Z,1μm,0.5s						
AAGR	**Agrelo**	**3.50**	**140**	*e*P	**Pn**	**01 38 07.1**	**+3.5**
LMEL	**Las Melosas**	**3.60**	**163**	*e*P	**Pn**	**01 38 07.4**	**+2.4**
LMEL				*e*S	**Sn**	**01 38 48.2**	**+1.8**
ACLC	**CERRO LA CRUZ**	**4.05**	**77**	*e*P	**Pn**	**01 38 12.1**	**+0.8**
ACAN	**Cantantal**	**4.12**	**118**	*e*P	**Pn**	**01 38 13.0**	**+1.0**
APLL	**PUNTA DE LOS L**	**4.28**	**91**	*e*P	**Pn**	**01 38 14.7**	**+0.5**
APLL				IAML		01 39 06.0	
	comp=Z,370nm,0.9s						
GO05	**Huala**	**4.61**	**185**	*e*Pn	**Pn**	**01 38 18.5**	**-0.2**
RFA	**San Rafael**	**5.04**	**150**	*e*P	**Pn**	**01 38 26.9**	**+2.3**
MRA	**San Martin**	**5.32**	**114**	*e*P	**Pn**	**01 38 28.6**	**+0.1**
CYA	**Choya**	**5.32**	**70**	*e*P	**Pn**	**01 38 28.9**	**+0.4**
CYA				IAML		01 38 41.0	
	comp=Z,137nm,0.5s						
GO02	**Mina Guanaco**	**5.48**	**18**	*e*Pn	**Pn**	**01 38 32.6**	**+1.6**
GO02				*e*Sn	**Sn**	**01 39 29.6**	**-3.4**
TCA	**Tanti**	**5.99**	**101**	*e*P	**Pn**	**01 38 37.3**	**-0.4**
TCA				IAML		01 38 40.5	
	comp=Z,213nm,0.5s						
AHML	**Horco Molle**	**6.50**	**58**	*e*P	**Pn**	**01 38 44.1**	**-0.5**
AHML				IAML		01 39 30.7	
	comp=Z,41nm,0.5s						
LVC	**Limon Verde**	**8.10**	**17**	*e*Pn	**Pn**	**01 39 06.7**	**-0.1**
LVC				*e*S	**Sn**	**01 40 43.9**	**+6.8**
LVC	**Limon Verde**	**8.10**	**17**	P	**Pn**	**01 39 05.4**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=169,slow=8.5,SNR=8.3						
LVC				S	**Sn**	**01 40 38.1**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=238,slow=13,SNR=2.2						
LVC	**Limon Verde**	**8.10**	**17**	*e*P	**Pn**	**01 39 07.3**	**+0.5**
GO06	**Curarrehue**	**9.16**	**180**	*e*Pn	**Pn**	**01 39 21.0**	**0.0**
PLCA	**Paso Flores**	**10.33**	**176**	P	**Pn**	**01 39 37.0**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=17,slow=15,SNR=4.4						
TRQA	**Tornquist**	**10.95**	**137**	*e*Pn	**Pn**	**01 39 43.9**	**-1.6**
CPUP	**Villa Florida**	**13.10**	**75**	P	**Pn**	**01 40 11.3**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=242,slow=10,SNR=5.4						
LPAZ	**La Paz**	**14.38**	**13**	P	**Pn**	**01 40 34.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=195,slow=8.2,SNR=12						
LPAZ	**La Paz**	**14.38**	**13**	*e*P	**Pn**	**01 40 35.0**	**+2.4**
CPSB	**Cacapava Do Su**	**15.57**	**95**	*e*P	**Pn**	**01 40 43.6**	**-3.6**
SIV	**San Ignacio**	**17.23**	**36**	P	**Pn**	**01 41 07.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=234,slow=12,SNR=29						
FRTB	**Fartura**	**20.76**	**75**	*e*P	**P**	**01 41 46.8**	**-0.6**
ITRB	**Iturama**	**21.86**	**66**	*e*P	**P**	**01 41 58.2**	**-1.0**
SPB	**Sao Paulo**	**22.45**	**78**	*e*P	**P**	**01 42 06.1**	**+0.6**
BB19B	**Bebedouro**	**22.63**	**71**	*e*P	**P**	**01 42 05.6**	**-1.9**
RCLB	**Rio Claro- Sao**	**22.84**	**75**	*e*P	**P**	**01 42 09.1**	**-0.7**
BDFB	**Brasilia**	**26.04**	**61**	*e*P	**P**	**01 42 38.9**	**-0.4**
BDFB	**Brasilia**	**26.04**	**61**	P	**P**	**01 42 37.9**	**-1.4**
	comp=Z,16nm,0.7s,baz=232,slow=8.8,SNR=23						
PTGA	**Pitinga**	**31.48**	**22**	*e*P	**P**	**01 43 28.0**	**+0.5**
VNA2	**Neumayer--Watz**	**53.15**	**158**	P	**P**	**01 46 23.5**	**+0.8**
	baz=284,slow=8.4						
SNAA	**Sanae**	**54.74**	**159**	P	**P**	**01 46 35.1**	**+0.8**
SNAA	**Sanae**	**54.74**	**159**	P	**P**	**01 46 34.1**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=286,slow=9.2,SNR=9.7						
SNAA				pP	**pP**	**01 46 50.3**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=277,slow=9.3,SNR=2.0						
QSPA	**South Pole Qui**	**59.82**	**180**	*e*P	**P**	**01 47 12.3**	**+2.0**
TXAR	**Lajitas Array**	**66.86**	**330**	P	**P**	**01 47 58.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=152,slow=9.9,SNR=3.4						
TXAR				pP	**pP**	**01 48 14.9**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=134,slow=7.2,SNR=4.8						
DBIC	**Dimbokro**	**73.60**	**72**	P	**P**	**01 48 37.4**	**-1.2**
	comp=Z,4.1nm,0.7s,baz=214,slow=7.6,SNR=8.3						
DBIC				pP	**PcP**	**01 48 54.5**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=210,slow=11,SNR=2.3						
DBIC	**Dimbokro**	**73.60**	**72**	*e*P	**P**	**01 48 38.2**	**-0.4**
TSUM	**Tsumeb**	**79.75**	**106**	*e*P	**P**	**01 49 14.4**	**+1.0**
	comp=Z,7.0nm,0.9s						
PDAR	**Pinedale Array**	**80.79**	**333**	P	**P**	**01 49 20.4**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=152,slow=4.1,SNR=1.9						
NVAR	**Mina Array Bea**	**81.22**	**325**	P	**P**	**01 49 22.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=143,slow=5.2,SNR=4.6						
BOSA	**Boshof**	**81.32**	**118**	P	**P**	**01 49 20.7**	**-1.1**
	comp=Z,4.8nm,0.7s,baz=227,slow=3.4,SNR=8.3						
TOA0	**Torodi Ar. Sit**	**82.54**	**70**	*e*P	**P**	**01 49 28.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**82.54**	**70**	P	**P**	**01 49 26.5**	**-1.6**
	comp=Z,3.5nm,0.9s,baz=254,slow=5.4,SNR=29						
YKA	**Yellowknife Ar**	**98.82**	**341**	P	**P**	**01 50 44.4**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=143,slow=4.8,SNR=2.9						
FETA	**Feichten**	**106.69**	**45**	*e*P'P'df	P'P'df	02 15 11.7	+0.5
	comp=Z,7.1nm,1.5s						
RETA	**Reutte**	**106.92**	**45**	P'P'df	P'P'df	02 15 10.3	-0.2
	comp=Z,6.6nm,1.3s						
MOTA	**Moosalm**	**107.06**	**45**	*e*P'P'df	P'P'df	02 15 10.6	+0.3
	comp=Z,1.9nm,0.5s						
SQTA	**Sankt Quirin**	**107.07**	**45**	P'P'df	P'P'df	02 15 10.2	-0.2
	comp=Z,1.3nm,0.5s						
MBWA	**Marble Bar**	**127.61**	**193**	*e*P	**PKPdf**	**01 56 03.6**	**-6.7**
ZALV	**Zalesovo Beam**	**150.90**	**29**	PKPbc	**PKiKP**	**01 56 57.5**	**+0.2**
	comp=Z,4.7nm,0.6s,baz=302,slow=3.6,SNR=10						
ZALV				pPKPbc	**sPKPdf**	**01 57 15.4**	**-0.3**
	comp=Z,3.3nm,0.5s,baz=304,slow=3.2,SNR=5.7						

IDC 11 01:39:02.1±9.5, 8°24S × 147°57E, h341 km±92km, mb3.2/5, mb1 3.3/6, mb1mx3.1/38, mbtmp3.8/6, Error ellipse: s-maj=50.3km s-min=39.8km az=64.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.31**	**226**	P	P	01 42 41.2	-1.1
	0.4nm,0.3s,baz=54,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.17**	**219**	P	P	01 43 12.7	+0.2
	3.3nm,0.5s,baz=52,slow=9.7,SNR=21						
FITZ	**Fitzroy Crossi**	**23.47**	**243**	P	P	01 43 42.5	0.0
	10.0nm,0.7s,baz=75,slow=8.7,SNR=17						
STKA	**Stephens Creek**	**24.17**	**192**	P	P	01 43 48.9	+0.2
	1.4nm,0.7s,baz=348,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**79.57**	**321**	P	P	01 50 32.7	+0.6
	0.1nm,0.5s,baz=122,slow=7.1,SNR=2.6						
ILAR	**Eielson Array**	**87.30**	**23**	P	P	01 51 10.1	-0.5
	0.3nm,0.7s,baz=260,slow=5.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**146.14**	**281**	PKPbc	PKPdf	01 58 02.2	+0.2
	1.2nm,0.9s,baz=69,slow=3.5,SNR=7.2						

IDC 11 01:42:02.5±3.3, 6°70S × 148°02E, h0 km, mb3.8/2, mb1 4.0/3, mb1mx3.5/39, mbtmp3.8/3, ML3.6/1, Error ellipse: s-maj=100.6km s-min=44.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.70**	**224**	P	Pn	01 46 23.5	+0.5
	0.2nm,0.3s,baz=49,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.65**	**217**	P	P	01 46 54.4	-0.3
	1.5nm,0.5s,baz=53,slow=9.5,SNR=8.8						
FITZ	**Fitzroy Crossi**	**24.58**	**241**	P	P	01 47 24.2	-0.3
	2.5nm,0.5s,baz=51,slow=9.2,SNR=8.2						
TORD	**Torodi Ar. Bea**	**146.25**	**284**	PKPbc	PKPdf	02 01 45.4	+0.3
	0.2nm,0.7s,baz=56,slow=3.7,SNR=5.8						

*IDC **11** 01:43:20.7±0.5, 6°67S × 148°56E, h0 km, mb4.5/21, mb1 4.5/25, mb1mx4.5/43, mbtmp4.4/25, ML4.1/4, MS5.1/12, Ms1 5.2/12, ms1mx4.8/39, Error ellipse: s-maj=17.1km s-min=12.2km az=95.0*
*NEIC **11** 01:43:24.1±3.3, 6°66S × 148°46E, h14 km±20km, mb5.1/30, MS5.4/130, Error ellipse: s-maj=8.3km s-min=6.6km az=91.0*
*BJI **11** 01:43:26.7, 6°18S × 148°95E, h31 km, mb4.8/38, mB5.3/23, Ms5.4/27, MS7 5.1/27*
*MOS **11** 01:43:26.3±0.9, 6°68S × 148°30E, h38 km, mb4.9/14, MS5.3/8, Error ellipse: s-maj=10.8km s-min=8.4km az=99.2*
*ISCJB **11** 01:43:27.0±0.2, 6°72S±0°03 × 148°48E±0°04, h47 km, mb4.7/60, MS5.3/156, Error ellipse: s-maj=6.1km s-min=4.4km az=8.0*
*GCMT **11** 01:43:28.1±0.2, 6°74S±0°01 × 148°60E±0°01, h12 km, MW5.5/105, Moment Tensor Solution. s44,c50; s105,c176; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr0.51±.05; Mθθ-0.02±.05; Mφφ-0.49±.04; Mrθ-0.54±.13; Mrφ1.73±.03; Mθφ-0.05±.12; Best double couple: Mo1.85300×10^17 NP1:φs276.00000°, δ80.00000°, λ21.00000°. NP2:φs183.00000°, δ70.00000°, λ170.00000°. Principal axes: T 1.6640, Plg21.0000°, Azm141.0000°; N 0.3780, Plg67.0000°, Azm300.0000°; P -2.0420, Plg7.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **11** 01:43:58.8±1.5, 7°S±17° × 14°8E±1°9, h348 km±14km, M4.9/13, mb4.8/13, mB5.5/6, Mw(mB)5.0/6*
ISC 11 01:43:28.7±0.3, 6°85S±0°05 × 148°50E±0°06, h47 km, n354, σ1s97/227, mb4.7/59, MS5.4/156, 12C-6D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.50**	**54**	*e*Pn	**Pn**	**01 44 32.8**	**-1.7**
COEN	**Coen**	**8.79**	**216**	P	**Pn**	**01 45 33.4**	**0.0**
	baz=8.7,SNR=12						
COEN				S	**Sn**	**01 47 11.1**	**-0.1**
	baz=8.7						
COEN	**Coen**	**8.79**	**216**	*e*Pn	**Pn**	**01 45 33.5**	**+0.2**
COEN				*e*Sn	**Sn**	**01 47 04.1**	**-7.1**
JAY	**Jayapura**	**8.88**	**299**	Pn	Pn	01 45 28.7	-5.9
	0.5nm,0.3s,baz=124,slow=3.6,SNR=2.9						
HNR	**Honiara**	**11.62**	**104**	*e*P	**Pn**	**01 46 15.3**	**+3.3**
HNR	**Honiara**	**11.62**	**104**	*e*P	**Pn**	**01 46 15.3**	**+3.3**
MTSU	**Mount Surprise**	**11.94**	**200**	P	**Pn**	**01 46 17.8**	**+1.4**
	baz=12,SNR=7.0						
CTA	**Charters Tower**	**13.34**	**189**	Pn	**Pn**	**01 46 33.4**	**-2.2**
	0.2nm,0.3s,baz=30,slow=8.1,SNR=2.8						
CTAO	**Charters Tower**	**13.34**	**189**	*e*Pn	**Pn**	**01 46 33.7**	**-1.9**
CTAO				*e*S	Sn	01 48 44.2	-18
CTAO	**Charters Tower**	**13.34**	**189**	*e*P	**Pn**	**01 46 33.7**	**-1.9**
QIS	**Mount Isa**	**16.13**	**211**	P	**P**	**01 47 13.7**	**-1.2**
	baz=16,SNR=14						
FAKI	**Fak Fak**	**16.65**	**283**	*e*Pn	**P**	**01 47 21.5**	**+0.7**
	271nm,1.9s						
FAKI	**Fak Fak**	**16.65**	**283**	P	**P**	**01 47 25.5**	**+4.7**
MTN	**Manton Dam**	**18.11**	**249**	P	**P**	**01 47 36.6**	**-0.3**
	baz=18,SNR=6.0						
MTN	**Manton Dam**	**18.11**	**249**	*e*Pn	**P**	**01 47 35.2**	**-1.7**
	53nm,1.3s						
SIJI	**Sorong**	**18.18**	**288**	P	**P**	**01 47 34.7**	**-3.0**
	1.0nm,0.3s,baz=102,slow=19,SNR=2.7						
SIJI				LR	LR	01 56 22.5	
	comp=Z,14μm,21.0s,baz=99,slow=43						
EIDS	**Eidsvold**	**18.59**	**173**	*e*P	**Pn**	**01 47 45.0**	**+2.3**
	193nm,1.8s						
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P	**Pn**	**01 47 46.6**	**-0.1**
	33nm,0.6s						
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P	**P**	**01 47 45.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,51nm,2.0s						
WB2	**Warramunga Arr**	**18.92**	**225**	*e*P	**P**	**01 47 46.2**	**+0.4**
WRA	**Warramunga Arr**	**18.93**	**225**	P	**P**	**01 47 45.4**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=53,slow=11,SNR=27						
WRA				S	**Sn**	**01 51 17.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=45,slow=19,SNR=4.7						
WRA				LR	LR	01 55 46.1	
	comp=Z,11μm,19.6s,baz=40,slow=39						
RMQ	**Roma**	**19.53**	**179**	P	**Pn**	**01 47 55.6**	**+1.5**
	baz=20,SNR=11						
GUMO	**Guam**	**20.62**	**350**	PFAKE		01 48 10.0	+3.0
GUMO				LR	LR		
	comp=Z,5μm,19.0s						
KNRA	**Kununurra**	**21.23**	**244**	P	**P**	**01 48 09.8**	**-1.2**
	baz=21,SNR=12						
NLAI	**Namlea**	**21.61**	**278**	P	**P**	**01 48 16.0**	**+1.0**
AS01	**Alice Springs**	**21.80**	**218**	*e*P	**P**	**01 48 16.8**	**-0.1**
AS31	**Alice Springs**	**21.82**	**218**	*e*P	**P**	**01 48 17.2**	**-0.1**
	comp=Z,25nm,0.8s						
ASAR	**Alice Springs**	**21.82**	**218**	P	**P**	**01 48 17.1**	**-0.1**
	comp=Z,29nm,0.6s,baz=55,slow=9.5,SNR=49						
ASAR				S	**S**	**01 52 17.3**	**+1.1**
	comp=Z,7.0nm,1.0s,baz=33,slow=24,SNR=4.9						
SANI	**Sanana**	**22.94**	**281**	P	**P**	**01 48 29.1**	**-0.1**
DZM	**Mont Dzumac**	**23.00**	**133**	P	**P**	**01 48 29.0**	**-0.8**
	comp=Z,14nm,1.0s,baz=323,slow=15,SNR=4.3						
ARMA	**Armidale**	**23.63**	**173**	P	**P**	**01 48 37.7**	**+1.8**
	baz=24,SNR=7.0						
ARMA	**Armidale**	**23.63**	**173**	*e*P	**P**	**01 48 37.5**	**+1.6**
	comp=Z,70nm,1.4s						
SOEI	**Soe**	**24.15**	**261**	*e*P	**P**	**01 48 41.1**	**+0.2**
	comp=Z,144nm,1.0s						
SOEI	**Soe**	**24.15**	**261**	P	P	01 48 49.1	+8.3
CMSA	**Cobar Meteorol**	**24.70**	**186**	P	**P**	**01 48 47.8**	**+2.2**
	baz=25,SNR=12						
BATI	**Baumata**	**24.78**	**261**	P	**P**	**01 48 52.3**	**+5.8**
BATI	**Baumata**	**24.78**	**261**	P	**P**	**01 48 45.5**	**-1.0**
	comp=Z,48nm,0.6s,baz=104,slow=4.2,SNR=3.9						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P	**P**	**01 48 47.7**	**-0.1**
	baz=25,SNR=35						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	*e*P	**P**	**01 48 47.7**	**-0.1**
	comp=Z,114nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P	**P**	**01 48 47.5**	**-0.2**
	comp=Z,38nm,0.5s,baz=56,slow=9.0,SNR=68						
FITZ				LR	LR	01 59 36.2	
	comp=Z,8μm,19.3s,baz=60,slow=39						
TARA	**Tarawa**	**25.70**	**72**	PFAKE		01 49 10.0	+15
TARA				LR	LR		
	comp=Z,266nm,21.0s						
STKA	**Stephens Creek**	**25.73**	**194**	P	**P**	**01 48 56.8**	**+2.0**
	baz=26,SNR=32						
STKA	**Stephens Creek**	**25.73**	**194**	*e*P	**P**	**01 48 56.0**	**+1.2**
	comp=Z,35nm,1.8s						
STKA	**Stephens Creek**	**25.73**	**194**	*e*P	**P**	**01 48 56.0**	**+1.2**
STKA				pmax	pmax		
	comp=Z,35nm,1.8s						
STKA	**Stephens Creek**	**25.73**	**194**	P	**P**	**01 48 55.1**	**+0.3**
	comp=Z,139nm,0.9s,baz=358,slow=9.0,SNR=19						
MMRI	**Maumere**	**26.08**	**264**	P	**P**	**01 48 55.1**	**-3.2**
LUWI	**Luwuk**	**26.30**	**282**	*e*P	**P**	**01 49 00.7**	**+0.5**
	comp=Z,158nm,0.8s						
LUWI	**Luwuk**	**26.30**	**282**	P	**P**	**01 49 02.0**	**+1.8**
WRKA	**Warakurna**	**26.47**	**225**	P	**P**	**01 49 01.7**	**-0.1**
	baz=26,SNR=23						
EDFI	**Ende, Flores**	**26.62**	**264**	P	**P**	**01 49 04.1**	**+0.8**
DAV	**Davao City (W)**	**26.72**	**301**	PFAKE		01 49 10.0	+6.0
DAV				LR	LR		
	comp=Z,3μm,21.0s						
YNG	**Young**	**27.32**	**180**	P	**P**	**01 49 12.4**	**+3.2**
	baz=27,SNR=8.4						
APSI	**Ampana**	**27.42**	**281**	P	**P**	**01 49 11.3**	**+1.0**
MRSI	**Marisa**	**27.48**	**284**	P	P	01 49 21.5	+11
HTT	**Hallett**	**27.91**	**197**	P	**P**	**01 49 16.1**	**+1.6**
	baz=28,SNR=13						
BBOO	**Buckleboo**	**28.31**	**202**	P	**P**	**01 49 19.2**	**+1.2**
	baz=28,SNR=6.6						
BBOO	**Buckleboo**	**28.31**	**202**	*e*P	**P**	**01 49 18.4**	**+0.3**
	comp=Z,17nm,0.8s						
CAN	**Canberra**	**28.34**	**179**	*e*P	**P**	**01 49 20.4**	**+2.0**
	comp=Z,41nm,1.5s						
CAN	**Canberra**	**28.34**	**179**	*e*P	**P**	**01 49 20.4**	**+2.0**
CAN				pmax	pmax		
	comp=Z,41nm,1.5s						
KAPI	**Kappang**	**28.65**	**272**	PFAKE		01 49 30.0	+

SSE Sheshan 45.89 327 PFAKE 01 52 00.0 +13
SSE LR LR
comp=Z,3μm,19.0s
KGM Kluang 45.94 279 P **P** **01 51 48.4 +0.9**
QIZ Qiongzhong 45.96 305 P P 01 51 52.6 +5.1
QIZ S **S** **01 58 30.2 +0.9**
QIZ LR LR
comp=Z,2μm,20.1s
QIZ LR LR
comp=Z,1μm,17.7s
QIZ LR LR
comp=Z,2μm,18.0s
QIZ Qiongzhong 45.96 305 PFAKE 01 52 00.0 +12
QIZ LR LR
comp=Z,283nm,20.0s
KTGM Kuala Trenggan 46.86 284 P **P** **01 51 57.0 +2.3**
JOHN Johnston Islan 47.66 60 PFAKE 01 52 10.0 +9.2
JOHN LR LR
comp=Z,557nm,21.0s
FRIM Kepong 47.85 281 P **P** **01 52 03.5 +1.1**
NJ2 Nanjing 47.91 326 *e*P **P** **01 52 01.6 -0.9**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MIDW Midway 47.96 42 PFAKE 01 52 10.0 +7.1
MIDW LR LR
comp=Z,3μm,20.0s
KSRS Korea Array 48.08 338 P **P** **01 51 59.8 -4.0**
comp=Z,4.6nm,1.0s,baz=159,slow=9.0,SNR=9.2
KSAR Wonju Array Be 48.08 338 P **P** **01 51 59.8 -4.0**
KSAR Wonju Array Be 48.08 338 P **P** **01 51 59.8 -4.0**
KS01 Wonju Array Si 48.11 338 *e*P **P** **01 52 01.8 -2.2**
IPM Ipoh 48.70 282 P **P** **01 52 10.4 +1.4**
IPM Ipoh 48.70 282 P **P** **01 52 10.4 +1.4**
ERM Erimo 48.87 355 PFAKE 01 52 20.0 +10
ERM LR LR
comp=Z,902nm,20.0s
PSI Prapat 50.40 279 *e*P **P** **01 52 20.4 -1.7**
comp=Z,228nm,1.9s
PSI Prapat 50.40 279 *e*P **P** **01 52 20.4 -1.7**
PSI pmax pmax
comp=Z,228nm,1.9s
TRTT Trang 50.81 286 P **P** **01 52 27.0 +2.0**
comp=Z,8.3nm,1.7s
COCO West Island 51.17 260 PFAKE 01 52 40.0 +12
COCO LR LR
comp=Z,3μm,20.0s
PKDT Phuket 52.12 285 P **P** **01 52 36.8 +2.0**
comp=Z,13nm,1.1s,comp=Z,1μm
GYA Guiyang 52.36 311 *e*P **P** **01 52 39.2 +2.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
ENH Enshi 52.55 317 PFAKE 01 52 50.0 +12
ENH LR LR
comp=Z,3μm,20.0s
USRK Ussurisyk Ar. 52.95 345 P **P** **01 52 38.1 -2.3**
comp=Z,3.4nm,0.8s,baz=174,slow=6.4,SNR=8.6
USRK LR LR 02 12 22.4
comp=Z,1μm,21.3s,baz=132,slow=33
MDJ Mudanjiang 53.98 343 P **P** **01 52 47.4 -0.6**
MDJ pP pP 01 52 55.9 -3.7
MDJ ScP **ScP** **01 57 46.6 -0.5**
MDJ S **S** **02 00 23.9 +3.5**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,190nm,3.7s
MDJ LR LR
comp=Z,1μm,15.5s
MDJ LR LR
comp=Z,2μm,21.5s
MDJ LR LR
comp=Z,810nm,16.5s
MDJ Mudanjiang 53.98 343 PFAKE 01 53 00.0 +12
MDJ LR LR
comp=Z,2μm,21.0s
CN2 Changchun 54.56 340 *e*P **P** **01 52 54.7 +2.6**
KMI Kunming 54.69 307 P **P** **01 52 57.7 +3.9**
KMI pP pP 01 53 07.6 +1.7
KMI sP sP 01 53 11.6 +0.7
KMI pmax pmax
comp=Z,13nm,0.5s
KMI LR LR
comp=Z,1μm,19.8s
KMI LR LR
comp=Z,1μm,20.3s
KMI LR LR
comp=Z,2μm,28.2s
CMAR Chiang Mai Arr 54.96 298 P **P** **01 52 55.3 -0.3**
comp=Z,1.1nm,0.3s,baz=126,slow=5.6,SNR=3.2
CMAR LR LR 02 15 13.6
comp=Z,1μm,22.0s,baz=108,slow=35
CHTO Chiang Mai 55.10 298 *e*P **P** **01 52 55.8 -0.7**
comp=Z,1.1nm,0.5s
CHTO LR LR
comp=Z,2μm,19.0s
CHTO Chiang Mai 55.10 298 *e*P **P** **01 52 55.8 -0.7**
CHTO pmax pmax
comp=Z,1.0nm,0.5s
CHTO MLR MLR
comp=Z,2μm,19.0s
XAN Xi'an 55.28 320 P **P** **01 52 55.3 -2.4**
XAN pP pP 01 53 04.2 -5.8
XAN pmax pmax
comp=Z,9.0nm,1.4s
BJT Baijiatuau 55.35 330 PFAKE 01 53 10.0 +12
BJT LR LR
comp=Z,3μm,19.0s
CD2 Chengdu 56.93 314 P **P** **01 53 09.0 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 LR LR
comp=Z,2μm,20.1s
CD2 LR LR
comp=Z,2μm,21.1s
KLR Kul'dur 57.73 347↓ *e*P **P** **01 53 11.2 -3.5**
HHC Hu-ho-hao-te 58.34 328 *e*P **P** **01 53 21.7 +2.4**
HHC sP pwP 01 53 35.5 +0.7
HHC S **S** **02 01 20.4 +1.8**
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,400nm,3.5s
HHC LR LR
comp=Z,2μm,16.7s
HHC LR LR
comp=Z,2μm,18.6s
HHC LR LR
comp=Z,3μm,17.5s
LZH Lanzhou 59.82 319 *e*P **P** **01 53 32.5 +2.8**
LZH pP pwP 01 53 44.1 -1.6
LZH sP sP 01 53 48.0 +0.8
LZH *e*PP **PP** **01 55 46.7 +4.4**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,97nm,7.0s
LZH LR LR
comp=Z,380nm,14.9s
LZH LR LR
comp=Z,380nm,15.4s
LZH LR LR
comp=Z,610nm,18.3s
PETK Petropavlovsk- 60.23 6 P **P** **01 53 31.0 -1.0**
PETK Petropavlovsk- 60.23 6 P P **01 53 31.0 -1.0**
comp=Z,1.5nm,0.4s,baz=157,slow=7.8,SNR=4.4
PET Petropavlovsk 60.26 7 PFAKE 01 53 40.0 +7.9
PET LR LR
comp=Z,2μm,19.0s
POHA Pohakuloa 61.08 63 PFAKE 01 53 50.0 +11
POHA LR LR
comp=Z,4μm,20.0s
HIA Hailar 61.27 339 *e*P **P** **01 53 38.4 -0.7**
HIA LR LR
comp=Z,3μm,21.0s
HIA Hailar 61.27 339 *e*P **P** **01 53 38.4 -0.7**
HIA MLR MLR
comp=Z,3μm,21.0s
ZEA Zeya 62.97 346 *e*P **P** **01 53 49.9 -0.5**
ZEA pmax pmax
comp=Z,51nm,1.4s
SHL Shillong 63.73 303 *e*P **P** **01 53 55.5 -0.6**
comp=Z,17nm,1.2s
SHL Shillong 63.73 303 *e*P **P** **01 53 55.6 -0.6**
SHL pmax pmax
comp=Z,17nm,1.2s
GTA Gaotai 64.34 320 P **P** **01 53 59.3 -0.7**
GTA pP pP 01 54 09.7 -2.7
GTA sP pwP 01 54 13.6 -2.5
GTA pmax pmax
comp=Z,4.0nm,1.3s
CASY Casey 64.85 196 *e*P **P** **01 54 03.5 +0.9**
comp=Z,58nm,1.8s
CASY LR LR
comp=Z,482nm,19.0s
ADK Adak 65.65 23 PFAKE 01 54 20.0 +12
ADK LR LR
comp=Z,3μm,22.0s
SONM Songino Array 65.87 330 P **P** **01 54 07.9 -1.8**
comp=Z,4.1nm,1.1s,baz=132,slow=2.8,SNR=11
SONM LR LR 02 24 13.8
comp=Z,2μm,19.2s,baz=123,slow=37
LSA Lhasa 65.94 307 PFAKE 01 54 20.0 +9.1
LSA LR LR
comp=Z,1μm,22.0s
MA2 Magadan 66.23 1 PFAKE 01 54 20.0 +8.4
MA2 LR LR
comp=Z,2μm,22.0s
MA2 Magadan 66.23 1↓ *e*P **P** **01 54 10.1 -1.5**
MA2 pmax pmax
comp=Z,10.0nm,2.1s
PALK Pallekele 69.06 280 *e*P **P** **01 54 30.4 0.0**
comp=Z,2.3nm,0.6s
PALK Pallekele 69.06 280 *e*P **P** **01 54 30.4 0.0**
PALK pmax pmax
comp=Z,2.0nm,0.6s
ZAK Zakamensk 69.09 331 *e*P **P** **01 54 28.5 -1.5**
ZAK pmax pmax
comp=Z,5.0nm,1.0s
SEY Seymchan 69.64 2↑ *e*P **P** **01 54 32.1 -0.8**
TLY Talaya 69.78 332 PFAKE 01 54 40.0 +5.9
TLY LR LR
comp=Z,1μm,21.0s
TLY Talaya 69.78 332↑ *e*P **P** **01 54 32.5 -1.6**
VNDA Vanda 70.99 177 P **P** **01 54 41.0 0.0**
comp=Z,3.5nm,1.1s,baz=345,slow=8.1,SNR=5.9
VNDA LR LR 02 23 45.1
comp=Z,2μm,18.5s,baz=1.0,slow=34
MOY Mondy 71.03 331 *e*P P 01 54 48.8 +7.0
SBA Scott Base 71.61 176 PFAKE 01 55 00.0 +15
SBA LR LR
comp=Z,2μm,19.0s
HYB Hyderabad 73.15 290 *i* P **P** **01 54 55.0 -0.1**
WMQ Urumqi 74.40 319 *e*P **P** **01 55 04.7 +2.7**
WMQ LR LR
comp=Z,2μm,26.3s
WMQ LR LR
comp=Z,2μm,30.7s
WMQ LR LR
comp=Z,1μm,24.1s
DGAR Diego Garcia 75.37 264 PFAKE 01 55 20.0 +12
DGAR LR LR
comp=Z,939nm,20.0s
BILL Bilibino 75.76 7 PFAKE 01 55 20.0 +11
BILL LR LR
comp=Z,974nm,20.0s
MK01 Makanchi Array 79.08 320 *e*P **P** **01 55 26.6 -1.6**
MK31 Makanchi Array 79.09 320 *e*P **P** **01 55 27.8 -0.6**
comp=Z,13nm,1.6s
MK31 Makanchi Array 79.09 320 *e*P **P** **01 55 27.8 -0.6**
MK31 pmax pmax
comp=Z,13nm,1.6s
MKAR Makanchi Array 79.09 320 P **P** **01 55 26.6 -1.7**
comp=Z,1.1nm,0.4s,baz=100,slow=8.7,SNR=18
MAKZ Makanchi 79.30 320 *e*P **P** **01 55 28.2 -1.2**
comp=Z,28nm,2.0s
MAKZ Makanchi 79.30 320 *e*P **P** **01 55 28.2 -1.2**
MAKZ pmax pmax
comp=Z,28nm,2.0s
TIXI Tiksi 79.40 354 PFAKE 01 55 40.0 +11
TIXI LR LR
comp=Z,1μm,19.0s
KDAK Kodiak Island 79.94 28 PFAKE 01 55 40.0 +7.4
KDAK LR LR
comp=Z,791nm,22.0s
ZALV Zalesovo Beam 80.52 328 P **P** **01 55 34.2 -1.6**
comp=Z,1.2nm,0.4s,baz=116,slow=5.6,SNR=7.6
ZALV LR LR 02 30 45.5
comp=Z,1μm,21.2s,baz=110,slow=35
KDJ Kajisay 80.94 314 *e*P **P** **01 55 40.5 +1.9**
KDJ Kajisay 80.94 314 *e*P **P** **01 55 40.5 +1.9**
KSH Kashi 81.05 312 *e*P P 01 55 44.5 +5.3
KSH pP pwP 01 55 54.7 -1.6
KSH S **S** **02 05 53.0 +7.6**
KSH pmax pmax
comp=Z,58nm,3.6s
KSH LR LR
comp=Z,310nm,12.6s
KSH LR LR
comp=Z,260nm,12.1s
KSH LR LR
comp=Z,300nm,16.3s
NVS Novosibirsk 81.74 328 *e*P **P** **01 55 41.1 -1.1**
KURK Kurchatov 82.78 323 PFAKE 01 56 00.0 +12
KURK LR LR
comp=Z,2μm,19.0s
KURK Kurchatov 82.78 323↑ *e*P **P** **01 55 45.9 -1.9**
KURK pmax pmax
comp=Z,3.0nm,1.0s
FRU Bishkek 82.96 315 *e*P P 01 55 54.0 +5.0
FRU *e* 02 00 52.0
AAK Ala-Archa 82.99 314 *e*P **P** **01 55 49.0 -0.4**
comp=Z,5.2nm,1.0s
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 82.99 314↓ *e*P **P** **01 55 48.7 -0.7**
AAK pmax pmax
comp=Z,9.0nm,2.0s
CAST Castle Rocks 83.02 23 *e*P **P** **01 55 52.5 +3.7**
QSPA South Pole Qui 83.13 180 *e*P **P** **01 55 50.5 +1.0**
QSPA LR LR
comp=Z,3μm,19.0s
ARSB Arslanbob 83.73 313 *e*P **P** **01 55 53.3 +0.1**
RND Reindeer 84.28 24 *e*P **P** **01 55 59.2 +3.7**
MLY Manley 84.34 22 *e*P **P** **01 55 59.3 +3.7**
WRH Wood River Hil 85.07 23 *e*P **P** **01 56 02.1 +2.9**
GAR Garm 85.17 310 *e*P **P** **01 55 59.2 -1.2**
CCB Clear Creek Bu 85.26 23 *e*P **P** **01 56 02.1 +1.9**
COLA College 85.35 23 PFAKE 01 56 10.0 +9.5
COLA LR LR
comp=Z,1μm,20.0s
COLA College 85.35 23↑ *e*P **P** **01 55 59.9 -0.6**
COLA pmax pmax
comp=Z,19nm,2.6s
IL1 Eielson Array 85.67 23 *e*P **P** **01 56 02.7 +0.5**
ILAR Eielson Array 85.67 23 P **P** **01 55 59.0 -3.2**
comp=Z,0.8nm,0.6s,baz=252,slow=4.8,SNR=14
ILAR LR LR 02 30 56.5
comp=Z,552nm,20.3s,baz=249,slow=33
ILB Eielson Array 85.67 23 *e*P **P** **01 56 03.0 +0.8**
KK31 Karatay Array 85.94 314 *e*P **P** **01 56 03.7 -0.4**
KK31 Karatay Array 85.94 314 *e*P **P** **01 56 03.7 -0.4**
KKAR Karatay Array 85.94 314 *e*P **P** **01 56 03.7 -0.4**
KKAR Karatay Array 85.94 314 *e*P **P** **01 56 03.7 -0.4**
DOT Dot Lake 86.33 24 *e*P **P** **01 56 09.8 +4.3**
EGAK Eagle 87.93 24 PFAKE 01 56 20.0 +6.8
EGAK LR LR
comp=Z,2μm,20.0s
BRVK Borovoye 88.40 324 *e*P **P** **01 56 14.2 -1.5**
comp=Z,2.3nm,0.7s
BRVK LR LR
comp=Z,649nm,20.0s
BRVK Borovoye 88.40 324↑ *e*P **P** **01 56 14.5 -1.2**
BRVK pmax pmax
comp=Z,4.0nm,1.6s
DAWY Dawson 88.41 25 *e*P **P** **01 56 15.0 -0.6**
WRAK Wrangell Islan 89.69 33 PFAKE 01 56 30.0 +8.4
WRAK LR LR
comp=Z,2μm,20.0s
INK Inuvik 91.89 21 *e*P **P** **01 56 32.4 +0.8**
comp=Z,0.7nm,1.0s
INK Inuvik 91.89 21 *e*P **P** **01 56 32.4 +0.8**
INK pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 91.89 21 P **P** **01 56 29.8 -1.8**
comp=Z,1.1nm,1.0s,baz=227,slow=3.3,SNR=2.8
NLWA Neilton Lookou 93.38 43 PFAKE 01 56 50.0 +11
NLWA LR LR
comp=Z,2μm,21.0s
ABKAR Akbulak array 94.19 319 *e*P **P** **01 56 40.9 -1.8**
GEYT Alibeck 94.46 308 P **P** **01 56 42.6 -1.7**
comp=Z,1.4nm,0.6s,baz=97,slow=6.1,SNR=4.8
ARU Arti 95.62 326 PFAKE 01 57 00.0 +11
ARU LR LR
comp=Z,627nm,19.0s
ARU Arti 95.62 326↑ *e*P **P** **01 56 46.4 -2.6**
ARU pmax pmax
comp=Z,14nm,2.7s
HAWA Hanford 96.26 44 PFAKE 01 57 00.0 +7.8
HAWA LR LR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 96.68 48 PFAKE 01 57 10.0 +16
WVOR LR LR
comp=Z,2μm,19.0s
NVAR Mina Array Bea 96.71 52 P **P** **01 56 53.0 -1.7**
comp=Z,0.3nm,0.6s,baz=254,slow=6.5,SNR=2.2
NVAR LR LR 02 33 30.0
comp=Z,1μm,20.6s,baz=267,slow=31
BMO Blue Mountains 97.75 46 PFAKE 01 57 10.0 +11
BMO LR LR
comp=Z,1μm,21.0s
PFO Pinyon Flats O 97.94 57 PFAKE 01 57 10.0 +10
PFO LR LR
comp=Z,2μm,20.0s
NEW Newport 97.98 42 PFAKE 01 57 10.0 +10
NEW LR LR
comp=Z,1μm,19.0s
ABPO Ambohimpanom 98.35 250 PFAKE 01 57 10.0 +7.5
ABPO LR LR
comp=Z,772nm,20.0s
YKA Yellowknife Ar 99.22 28 P **Pdif** **01 57 03.7 -1.4**
comp=Z,0.2nm,0.8s,baz=280,slow=5.6,SNR=4.0
YKA LR LR 02 39 11.2
comp=Z,114nm,20.2s,baz=280,slow=34
HLID Hailey 99.81 47 PFAKE 01 57 20.0 +12
HLID LR LR
comp=Z,2μm,19.0s
DUG Dugway, Tooele 101.01 50 PFAKE 01 57 20.0 +6.1
DUG LR LR
comp=Z,1μm,21.0s
BOZ Bozeman (W) 101.76 45 PFAKE 01 57 30.0 +13
BOZ LR LR
comp=Z,2μm,22.0s
HWUT Hardware Ranch 101.94 49 PFAKE 01 57 30.0 +12
HWUT LR LR
comp=Z,846nm,20.0s
WUAZ Wupatki 102.18 55 PFAKE 01 57 30.0 +11
WUAZ LR LR
comp=Z,2μm,20.0s
AHID Auburn Hatcher 102.25 48 PFAKE 01 57 30.0 +11
AHID LR LR
comp=Z,2μm,21.0s
TUC Tucson 102.67 59 PFAKE 01 57 30.0 +8.7
TUC LR LR
comp=Z,2μm,22.0s
MAK Makhachkala 102.67 312 *e*P **Pdif** **01 57 20.0 -0.9**
MAK *e* 02 01 33.3
MAK *e* 02 08 00.0
MAK pmax pmax
comp=Z,94nm,1.3s
LKWY Lake 102.68 46 PFAKE 01 57 30.0 +8.7
LKWY LR LR
comp=Z,2μm,20.0s
EGMT Eagleton 102.91 42 PFAKE 01 57 30.0 +8.0
EGMT LR LR
comp=Z,1μm,20.0s
BW06 Boulder Array 103.38 48 PFAKE 01 57 40.0 +16
BW06 LR LR
comp=Z,2μm,20.0s
PDAR Pinedale Array 103.38 48 Pdiff **Pdif** **01 57 23.8 -0.7**
comp=Z,0.3nm,0.6s,baz=199,slow=1.9,SNR=2.5
RLMT Red Lodge 103.45 45 PFAKE 01 57 40.0 +15
RLMT LR LR
comp=Z,1μm,20.0s
MVCO Mesa Verde 104.46 53 PFAKE 01 57 40.0 +11
MVCO LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 104.58 166 PFAKE 01 57 40.0 +11
PMSA LR LR
comp=Z,1μm,20.0s
RAYN Ar Rayn 104.59 292 PFAKE 01 57 40.0 +10
RAYN LR LR
comp=Z,647nm,19.0s
KBS Kingsbay 104.81 352 PFAKE 01 57 40.0 +10
KBS LR LR
comp=Z,751nm,20.0s
GNI Garni 104.89 310 PFAKE 01 57 40.0 +8.9
GNI LR LR
comp=Z,697nm,22.0s
LVZ Lovozero 105.16 339 PFAKE 01 57 40.0 +8.5
LVZ LR LR
comp=Z,504nm,20.0s
LAO LASA Array 105.43 44 PFAKE 02 02 00.0 +13
LAO LR LR
comp=Z,2μm,21.0s
KIV Kislovodsk 106.10 314 PFAKE 02 02 00.0 +12
KIV LR LR
comp=Z,772nm,20.0s
ANMO Albuquerque 106.22 56 PFAKE 02 02 00.0 +11
ANMO LR LR
comp=Z,1μm,21.0s
ISCO Idaho Springs 106.55 51 PFAKE 02 02 00.0 +11
ISCO LR LR
comp=Z,1μm,20.0s
DGMT Dagmar 106.56 42 PFAKE 02 02 00.0 +11
DGMT LR LR
comp=Z,1μm,19.0s
FFC Flin Flon 106.80 35 PFAKE 02 02 00.0 +11
FFC LR LR
comp=Z,1μm,19.0s
SDCO Great Sand Dun 106.81 53 PFAKE 02 02 00.0 +10
SDCO LR LR
comp=Z,2μm,20.0s
KEV Kevo 106.95 342 PFAKE 02 02 00.0 +11
KEV LR LR
comp=Z,1μm,21.0s
MNTX Cornudas Mount 107.27 59 PFAKE 02 02 00.0 +9.4
MNTX LR LR
comp=Z,1μm,20.0s
OBN Obninsk 108.06 326 PFAKE 02 02 00.0 +8.8
OBN LR LR
comp=Z,892nm,21.0s
OGNE Ogallala 109.15 49 PFAKE 02 02 10.0 +16
OGNE LR LR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 110.94 266 PFAKE 02 02 10.0 +12
KMBO LR LR
comp=Z,1μm,20.0s
CBKS Cedar Bluff 111.19 51 PFAKE 02 02 10.0 +12
CBKS LR LR
comp=Z,2μm,21.0s
AGMN Agassiz Nation 112.03 40 PFAKE 02 02 10.0 +11
AGMN LR LR
comp=Z,1μm,21.0s
JCT Junction City 112.13 60 PFAKE 02 02 10.0 +10
JCT LR LR
comp=Z,2μm,22.0s
WMOK Wichita Mounta 112.52 55 PFAKE 02 02 10.0 +10
WMOK LR LR
comp=Z,1μm,19.0s
ECSD EROS Data Cent 112.61 45 PFAKE 02 02 10.0 +10
ECSD LR LR
comp=Z,1μm,20.0s
KSU1 Kansas State U 113.55 50 PFAKE 02 02 10.0 +7.8
KSU1 LR LR
comp=Z,1μm,21.0s
AKASG Malin Array Be 113.59 323 PKiKP **PKiKP** **02 02 00.5 -1.4**
comp=Z,0.6nm,0.4s,baz=55,slow=2.8,SNR=6.6
KIEV Kiev 113.60 323 PFAKE 02 02 10.0 +8.1
KIEV LR LR
comp=Z,894nm,20.0s
ANTO Ankara 114.02 311 PFAKE 02 02 10.0 +6.8
ANTO LR LR
comp=Z,650nm,22.0s
KVTX Kingsville 114.05 63 PFAKE 02 02 20.0 +17
KVTX LR LR
comp=Z,1μm,19.0s
EYMN Ely 114.93 40 PFAKE 02 02 20.0 +15
EYMN LR LR
comp=Z,2μm,21.0s
SCIA State Center 115.47 47 PFAKE 02 02 20.0 +14
SCIA LR LR
comp=Z,1μm,19.0s
NATX Nacogdoches 116.36 58 PFAKE 02 02 20.0 +12
NATX LR LR
comp=Z,1μm,21.0s
SUR Sutherland 116.78 229 PFAKE 02 02 20.0 +11

SUR LR LR
comp=Z,3μm,21.0s
MIAR Mount Ida 116.79 55 PFAKE 02 02 20.0 +11
MIAR LR LR
comp=Z,2μm,20.0s
PLOR Plostina 116.80 318⇓ *i*P **PKiKP 02 02 14.2 +5.9**
LSZ Lusaka 116.91 249 *e*PKPdf **PKPdf 02 02 07.8 -1.7**
LSZ LR LR
comp=Z,1μm,19.0s
LSZ Lusaka 116.91 249 *e*PKiKP **PKPdf 02 02 07.8 -1.7**
LSZ MLR MLR
comp=Z,1μm,19.0s
COWI Conover 117.06 41 PFAKE 02 02 20.0 +11
COWI LR LR
comp=Z,1μm,22.0s
JFWS Jewell Farm 117.31 45 PFAKE 02 02 20.0 +11
JFWS LR LR
comp=Z,1μm,20.0s
MLR Muntele Rosu 117.39 318⇓ *i*P **PKiKP 02 02 09.8 +0.2**
MBAR Mbarara 117.47 266 PFAKE 02 02 20.0 +9.3
MBAR LR LR
comp=Z,333nm,22.0s
VOIR 118.00 318⇑ *i*P **PKiKP 02 02 13.8 +3.1**
ARR Arges 118.30 318⇑ *i*P **PKiKP 02 02 13.5 +2.2**
SFJD Kangerlussuaq 118.53 8 PFAKE 02 02 20.0 +9.1
SFJD LR LR
comp=Z,976nm,19.0s
HDIL Hopedale 118.68 47 PFAKE 02 02 20.0 +7.9
HDIL LR LR
comp=Z,2μm,21.0s
HOPE Hope Point 118.95 177 PFAKE 02 02 20.0 +7.8
HOPE LR LR
comp=Z,1μm,19.0s
DRGR 119.01 320⇓ *i*P PKiKP 02 02 21.8 +9.2
GZR Gura Zlata 119.51 319⇑ *i*P **PKPdf 02 02 10.4 -3.2**
BZS Buzias 120.17 320⇑ *i*P **PKPdf 02 02 14.3 -0.4**
MDVR Moldovita 120.44 319⇑ *i*P **PKiKP 02 02 15.7 +0.3**
GLMI Grayling 120.48 41 PFAKE 02 02 30.0 +15
GLMI LR LR
comp=Z,2μm,22.0s
PLCA Paso Flores 120.60 146 PKP **PKPdf 02 02 15.8 0.0**
comp=Z,0.7nm,0.5s,baz=278,slow=3.4,SNR=5.9
VYHS Vyhne 120.66 323 *e*PKiKP **PKiKP 02 02 17.7 +2.0**
VYHS Vyhne 120.66 323 *e*PKP **PKiKP 02 02 17.7 +2.0**
DPC Dobruska-Polom 121.20 326 AMS AMS 02 58 30.0
comp=Z,1μm,17.3s
SRO Srobarova 121.29 323 *e*PKiKP **PKPdf 02 02 16.6 -0.2**
SRO Srobarova 121.29 323 *e*PKP **PKPdf 02 02 16.6 -0.2**
UPC Upice 121.29 327 *e*PKPDF **PKiKP 02 02 20.2 +3.3**
UPC Upice 121.29 327 *e*PKiKP **PKiKP 02 02 20.2 +3.3**
MODS Modra-Piesok 121.64 324 *e*PKiKP **PKiKP 02 02 19.8 +2.2**
MODS Modra-Piesok 121.64 324 *e*PKP **PKiKP 02 02 19.8 +2.2**
PVCC Panska Ves 122.06 327 AMS AMS 03 00 40.0
comp=Z,1μm,17.7s
AAM Ann Arbor 122.10 44 PFAKE 02 02 30.0 +11
AAM LR LR
comp=Z,1μm,20.0s
TREC Trest 122.20 326 *e*PKPDF **PKiKP 02 02 20.5 +1.8**
TREC AMS AMS 02 59 20.0
comp=Z,1μm,25.5s
TREC Trest 122.20 326 *e*PKiKP **PKiKP 02 02 20.5 +1.8**
TREC MLR MLR
comp=Z,1μm,25.5s
BRG Berggiesshubel 122.21 328 *e*PKP **PKiKP 02 02 19.3 +0.7**
comp=Z,21nm,1.6s
BRG *e* 02 02 22.5
comp=Z,9.6nm,1.3s
BRG Berggiesshubel 122.21 328 *e*PKiKP **PKiKP 02 02 19.3 +0.7**
BRG pmax pmax
comp=Z,21nm,1.6s
PRU Pruhonice 122.37 327 AMS AMS 03 00 40.0
comp=Z,1μm,24.2s
CONA Conrad Observa 122.68 324 *e*PKiKP **PKPdf 02 02 19.2 -0.4**
comp=Z,1.8nm,0.8s
BRAL Brewton 122.85 57 PFAKE 02 02 30.0 +9.5
BRAL LR LR
comp=Z,1μm,21.0s
ARSA Arzberg 123.22 323 *e*PKPdf **PKPdf 02 02 19.1 -1.5**
comp=Z,4.0nm,1.1s
ACSO Alum Creek Sta 123.34 46 PFAKE 02 02 30.0 +8.8
ACSO LR LR
comp=Z,1μm,21.0s
KHC Kasperske Hory 123.36 326 *e*PKPDF **PKPdf 02 02 20.9 +0.1**
KHC *ex* x 02 02 30.5
KHC AMS AMS 03 01 30.0
comp=Z,1μm,17.3s
KHC Kasperske Hory 123.36 326 *e*PKiKP **PKPdf 02 02 20.9 +0.1**
KHC *e* 02 02 30.5
KHC MLR MLR
comp=Z,1μm,17.3s
NKC Novy Kostel 123.36 328 AMS AMS 03 05 40.0
comp=Z,2μm,15.8s
GERES GERESS Array B 123.44 326 PKP **PKPdf 02 02 20.5 -0.6**
comp=Z,1.7nm,0.5s,baz=84,slow=1.8,SNR=17
MOA Molln 123.65 325 *e*PKiKP **PKPdf 02 02 21.3 -0.1**
comp=Z,2.2nm,0.6s
SOKA Soboth 123.79 323 *e*PKiKP **PKPdf 02 02 21.1 -0.7**
comp=Z,7.3nm,1.6s
OBKA Obir 124.17 323 *e*PKPdf **PKPdf 02 02 21.4 -1.1**
comp=Z,6.4nm,1.3s
SCHQ Schefferville 124.42 24 PKP **PKPdf 02 02 21.6 -1.0**
comp=Z,3.4nm,1.0s,baz=300,slow=20,SNR=2.2
TSUM Tsumeb 125.16 241 PKP **PKPdf 02 02 24.6 -0.7**
TSUM LR LR
comp=Z,1μm,21.0s
TSUM Tsumeb 125.16 241 PKP **PKPdf 02 02 24.6 -0.7**
comp=Z,0.6nm,0.4s,baz=99,slow=22,SNR=6.3
GOGA Godfrey 125.21 54 PFAKE 02 02 40.0 +15
GOGA LR LR
comp=Z,1μm,20.0s
ABTA Abfaltersbach 125.24 324 *e*PKiKP **PKPdf 02 02 24.2 -0.3**
comp=Z,5.6nm,1.3s
WATA Walderalm 125.46 325 PKPdf **PKPdf 02 02 23.9 -1.2**
comp=Z,3.0nm,0.5s
MOTA Moosalm 125.72 325 *e*PKiKP **PKPdf 02 02 24.8 -0.7**
comp=Z,2.2nm,0.4s
SQTA Sankt Quirin 125.73 325 *e*PKiKP **PKPdf 02 02 25.7 +0.2**
comp=Z,6.4nm,1.1s
RETA Reutte 125.83 326 *e*PKiKP **PKPdf 02 02 25.7 +0.1**
comp=Z,1.5nm,0.5s
FETA Feichten 126.11 325 *e*PKiKP **PKPdf 02 02 26.5 +0.2**
comp=Z,11nm,1.2s
BLA Blacksburg 126.32 48 PFAKE 02 02 40.0 +13
BLA LR LR
comp=Z,1μm,20.0s
DAVA Damuels 126.44 326 *e*PKiKP **PKiKP 02 02 27.2 -0.2**
comp=Z,9.8nm,1.7s
ESK Eskdalemuir 126.65 340 PFAKE 02 02 40.0 +13
ESK LR LR
comp=Z,2μm,21.0s
BFO Black Forest 126.66 328 PFAKE 02 02 40.0 +12
BFO LR LR
comp=Z,41nm,20.0s
LONY Lake Ozonia 126.93 38 PFAKE 02 02 40.0 +12
LONY LR LR
comp=Z,1μm,19.0s
TRQA Tornquist 127.07 150 PFAKE 02 02 40.0 +11
TRQA LR LR
comp=Z,3.0nm,20.0s
JTS JuntasAbangare 127.08 82 *e*PKPdf **PKiKP 02 02 31.7 +2.3**
JTS LR LR
comp=Z,820nm,21.0s
JTS JuntasAbangare 127.08 82 *e*PKiKP **PKiKP 02 02 31.7 +2.3**
JTS MLR MLR
comp=Z,820nm,21.0s
BINY Binghamton 127.28 41 PFAKE 02 02 40.0 +11
BINY LR LR
comp=Z,2μm,19.0s
NHSC New Hope 127.93 53 PFAKE 02 02 40.0 +9.5
NHSC LR LR
comp=Z,1μm,19.0s
LCO Las Campanas 128.09 135 PFAKE 02 02 40.0 +8.6
LCO LR LR
comp=Z,580nm,19.0s
CBN Corbin Frederi 128.14 46 PFAKE 02 02 40.0 +9.2
CBN LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 128.95 50 PFAKE 02 02 40.0 +7.5
CNNC LR LR
comp=Z,1μm,20.0s
PKME Peaks-Kenny Pk 129.64 34 PFAKE 02 02 40.0 +6.4
PKME LR LR
comp=Z,1μm,19.0s
NNA Nana 131.18 112 PFAKE 02 02 50.0 +12
NNA LR LR
comp=Z,356nm,20.0s
BCIP Isla Barro Col 132.11 84 PFAKE 02 02 50.0 +11
BCIP LR LR
comp=Z,694nm,19.0s
OTAV Otavalo 132.71 96 PFAKE 02 02 50.0 +8.7
OTAV LR LR
comp=Z,575nm,19.0s
LVC Limon Verde 133.12 130 PFAKE 02 02 50.0 +8.2
LVC LR LR
comp=Z,698nm,21.0s
MTDJ Mount Denham 133.79 71 PFAKE 02 02 50.0 +7.1
MTDJ LR LR
comp=Z,773nm,21.0s
GTBY Guantanamo Bay 135.77 68 PFAKE 02 03 00.0 +13
GTBY LR LR
comp=Z,853nm,19.0s
LPAZ La Paz 137.08 123 PKP **PKPdf 02 02 48.0 -0.4**
comp=Z,0.9nm,0.4s,baz=200,slow=2.9,SNR=5.1
ROSC El Rosal 137.37 90 PKP **PKPdf 02 02 45.4 -3.4**
comp=Z,2.4nm,0.5s,baz=292,slow=13,SNR=4.1
CPUP Villa Florida 138.58 144 PKP **PKPdf 02 02 50.1 -0.1**
comp=Z,2.8nm,0.9s,baz=153,slow=2.3,SNR=2.4
GRTK Grand Turk 139.05 65 PFAKE 02 03 00.0 +6.6
GRTK LR LR
comp=Z,3μm,19.0s
PAB San Pablo 139.31 327 PFAKE 02 03 00.0 +6.5
PAB LR LR
comp=Z,1μm,21.0s
SDDR Presa de Saban 139.49 69 PFAKE 02 03 00.0 +5.6
SDDR LR LR
comp=Z,1μm,19.0s
SDV Santo Domingo 141.19 84 *e*PKPpre PKPpre 02 02 52.5
SDV *e*PKPdf **PKiKP 02 02 57.4 -0.8**
SDV LR LR
comp=Z,552nm,20.0s
SJG San Juan 144.44 68 PFAKE 02 03 10.0 +5.5
SJG LR LR
comp=Z,1μm,22.0s
SHEL Horse Pasture 145.89 228 PFAKE 02 03 20.0 +12
SHEL LR LR
comp=Z,800nm,19.0s
TORD Torodi Ar. Bea 146.74 283 PKPbc **PKPdf 02 03 05.7 +0.8**
comp=Z,24nm,0.9s,baz=86,slow=1.6,SNR=59
ANWB Willy Bob 148.56 67 PFAKE 02 03 20.0 +5.0
ANWB LR LR
comp=Z,1μm,20.0s
GRGR Grenville 149.81 78 PFAKE 02 03 20.0 -0.3
GRGR LR LR
comp=Z,834nm,21.0s
BBGH Gun Hill 151.69 75 PFAKE 02 03 20.0 +0.5
BBGH LR LR
comp=Z,1μm,19.0s
BDFB Brasilia 152.31 144 PKPbc **PKPbc 02 03 17.5 -3.2**
comp=Z,5.2nm,0.8s,baz=317,slow=2.0,SNR=5.7
DBIC Dimbokro 153.54 271 PKPbc **PKPbc 02 03 21.2 -2.1**
comp=Z,3.5nm,0.7s,baz=134,slow=4.2,SNR=4.0
SACV Santiago Islan 168.81 317 PFAKE 02 03 40.0 +8.3
SACV LR LR
comp=Z,731nm,19.0s

MEX 11 01:43:45.6±0.5, 16°.08N×98°.97W, h11km±16km, MD4.0,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.87**	**69**	*e*P	Pg	01 43 59.5	-2.8
PNIG				*i* S	Sg	01 44 10.8	-2.9
TLIG	**Tlapa**	**1.52**	**15**	*e*P	Pn	01 44 09.2	-3.6
TLIG				*e*S	Sn	01 44 27.6	-5.1

*IDC **11** 01:48:03.6±0.5, 6°.63S×148°.55E, h0km, mb4.4/17, mb1 4.6/21,mb1mx4.5/41,mbtmp4.4/21, ML4.2/4, MS5.2/3, Ms1 5.2/3, ms1mx4.5/37, Error ellipse: s-maj=17.3km s-min=13.0km az=84.0*
*NEIC **11** 01:48:06.1±0.3, 6°.65S×148°.38E, h10km, mb4.6/26, Error ellipse: s-maj=10.1km s-min=7.5km az=102.0*
*ISCJB **11** 01:48:09.6±0.3, 6°.70S±0°.03×148°.32E±0°.05, h46km, mb4.6/45, MS5.4/2, Error ellipse: s-maj=7.3km s-min=4.7km az=10.8*
*BJI **11** 01:48:11.4, 5°.98S×148°.42E, h30km, mb4.8/32, mB5.1/6, Ms5.2/9, Ms7 5.2/11*

ISC 11 01:48:11.2±0.4, 6.74S±0°.05×148.43E±0°.06, h46km, n109, σ1§44/113, mb4.7/44, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.50**	**56**	*e*Pn	**Pn**	**01 49 18.3**	**+1.4**
JAY	**Jayapura**	**8.77**	**298**	Pn	**Pn**	**01 50 14.7**	**-0.9**
	0.9nm,0.3s,baz=98,slow=19,SNR=2.6						
COEN	**Coen**	**8.84**	**215**	P	**Pn**	**01 50 15.5**	**-1.0**
	baz=8.7,SNR=9.8						
COEN				S	**Sn**	**01 51 53.6**	**-1.2**
	baz=8.7						
MTSU	**Mount Surprise**	**12.01**	**199**	P	**Pn**	**01 51 00.5**	**+0.6**
	baz=12						
CTA	**Charters Tower**	**13.44**	**189**	Pn	**Pn**	**01 51 16.2**	**-3.2**
	0.3nm,0.3s,baz=6.5,slow=17,SNR=2.3						
QIS	**Mount Isa**	**16.18**	**211**	P	**Pn**	**01 51 55.7**	**+0.1**
	baz=16,SNR=8.3						
FAKI	**Fak Fak**	**16.56**	**282**	*e*Pn	**P**	**01 52 06.6**	**+4.3**
	23nm,1.0s						
KDU	**Kakadu**	**16.80**	**248**	P	**Pn**	**01 52 03.2**	**-0.1**
	baz=17,SNR=4.5						
SIJI	**Sorong**	**18.09**	**288**	P	**P**	**01 52 18.0**	**-1.2**
	0.7nm,0.3s,baz=120,slow=14,SNR=3.1						
EIDS	**Eidsvold**	**18.70**	**173**	P	**P**	**01 52 25.6**	**-0.2**
	baz=19,SNR=3.6						
EIDS	**Eidsvold**	**18.70**	**173**	*e*P	**Pn**	**01 52 27.7**	**+1.2**
	37nm,1.0s						
WRA	**Warramunga Arr**	**18.96**	**225**	P	**P**	**01 52 27.1**	**-1.7**
	2.0nm,0.3s,baz=48,slow=12,SNR=16						
WRA				S	**Sn**	**01 56 01.3**	**-0.1**
	baz=48,slow=22,SNR=13						
RMQ	**Roma**	**19.64**	**179**	P	**Pn**	**01 52 37.2**	**-0.7**
	baz=20,SNR=9.3						
GUMO	**Guam**	**20.50**	**350**	LR	LR	02 00 05.9	
	comp=Z,4μm,18.3s,baz=190,slow=35						
KNRA	**Kununurra**	**21.22**	**244**	P	**P**	**01 52 52.7**	**-0.6**
	baz=21,SNR=6.6						
AS17	**Alice Springs**	**21.81**	**218**	P	**P**	**01 52 59.8**	**+0.1**
	baz=22						
AS01	**Alice Springs**	**21.84**	**218**	*e*P	**P**	**01 52 59.2**	**-0.7**
AS31	**Alice Springs**	**21.86**	**218**	*e*P	**P**	**01 53 00.2**	**0.0**
	26nm,0.9s						
ASAR	**Alice Springs**	**21.87**	**218**	P	**P**	**01 53 00.0**	**-0.2**
	29nm,0.6s,baz=56,slow=9.6,SNR=64						
ASAR				S	**S**	**01 57 01.3**	**+1.8**
	18nm,1.1s,baz=39,slow=21,SNR=7.2						
ASAR				ScP	**ScP**	**02 00 39.0**	**+6.6**
	5.2nm,1.1s,baz=45,slow=3.7,SNR=4.0						
DZM	**Mont Dzumac**	**23.12**	**133**	P	**P**	**01 53 12.1**	**-1.5**
	26nm,1.0s,baz=35,slow=20,SNR=4.8						
ARMA	**Armidale**	**23.75**	**173**	P	**P**	**01 53 20.5**	**+1.0**
	baz=24,SNR=5.7						
ARMA	**Armidale**	**23.75**	**173**	*e*P	**P**	**01 53 20.9**	**+1.5**
	33nm,1.1s						
BATI	**Baumata**	**24.73**	**260**	P	**P**	**01 53 30.1**	**+1.5**
	33nm,0.6s,baz=116,slow=7.4,SNR=3.8						
CMSA	**Cobar Meteorol**	**24.80**	**186**	P	**P**	**01 53 29.1**	**+0.1**
	baz=25,SNR=7.1						
FITZ	**Fitzroy Crossi**	**24.92**	**241**	P	**P**	**01 53 30.4**	**+0.2**
	baz=25,SNR=43						
FITZ	**Fitzroy Crossi**	**24.92**	**241**	P	**P**	**01 53 29.9**	**-0.3**
	90nm,0.8s,baz=70,slow=7.6,SNR=41						
STKA	**Stephens Creek**	**25.81**	**193**	P	**P**	**01 53 37.9**	**-0.3**
	baz=26,SNR=6.6						
STKA	**Stephens Creek**	**25.81**	**193**	*e*P	**P**	**01 53 37.9**	**-0.3**
	2.6nm,0.8s						
STKA	**Stephens Creek**	**25.81**	**193**	P	**P**	**01 53 37.0**	**-1.1**
	11nm,0.9s,baz=6.3,slow=12,SNR=7.5						
MGCD	**Mangrove Creek**	**26.45**	**175**	P	**P**	**01 53 46.7**	**+2.7**
	baz=26						
WRKA	**Warakurna**	**26.50**	**224**	P	**P**	**01 53 44.1**	**-0.4**
	baz=26,SNR=46						
YNG	**Young**	**27.42**	**180**	P	**P**	**01 53 54.7**	**+2.0**
	baz=27						
HTT	**Hallett**	**27.98**	**197**	P	**P**	**01 53 57.8**	**0.0**
	baz=28,SNR=12						
MBWA	**Marble Bar**	**31.24**	**240**	*e*P	**P**	**01 54 26.0**	**-0.7**
	32nm,1.0s						
MEEK	**Meekatharra**	**34.59**	**232**	P	**P**	**01 54 56.0**	**+0.1**
	baz=34,SNR=19						
MOO	**Moorlands**	**35.57**	**182**	P	**P**	**01 55 05.4**	**+1.2**
	baz=36,SNR=3.6						
TAU	**Tasmania Unive**	**36.04**	**181**	*e*P	**P**	**01 55 09.2**	**+1.1**
	5.4nm,0.6s						
MORW	**Morawa**	**37.77**	**230**	P	**P**	**01 55 23.3**	**+0.3**
	baz=38,SNR=3.5						
MORW	**Morawa**	**37.77**	**230**	*e*P	**P**	**01 55 23.3**	**+0.3**
	21nm,1.0s						
KLBR	**Kellerberrin**	**37.84**	**225**	P	**P**	**01 55 22.8**	**-0.8**
	baz=38,SNR=19						
BLDU	**Ballidu**	**38.06**	**227**	P	**P**	**01 55 25.4**	**-0.1**
	baz=38,SNR=4.6						
NWAO	**Narrogin (SRO)**	**38.96**	**224**	*e*P	**P**	**01 55 33.2**	**+0.2**
NWAO	**Narrogin (SRO)**	**38.96**	**224**	P	**P**	**01 55 32.8**	**-0.2**
	20nm,1.1s,baz=73,slow=19,SNR=3.1						
MUN	**Mundaring**	**39.15**	**226**	P	**P**	**01 55 34.9**	**+0.2**
	baz=39,SNR=3.7						
URZ	**Urewera**	**40.73**	**145**	P	**P**	**01 55 47.2**	**-0.4**
	6.7nm,1.0s,baz=9.0,slow=19,SNR=2.4						
MJAR	**Matsushiro Arr**	**44.11**	**348**	P	**P**	**01 56 13.5**	**-1.6**
	1.8nm,0.4s,baz=152,slow=8.3,SNR=5.9						
NJ2	**Nanjing**	**47.79**	**326**	*e*P	**P**	**01 56 43.1**	**-1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KSRS	**Korea Array**	**47.96**	**338**	P	**P**	**01 56 44.0**	**-1.3**
	2.3nm,0.8s,baz=153,slow=9.0,SNR=6.0						
KSAR	**Wonju Array Be**	**47.96**	**338**	P	**P**	**01 56 44.0**	**-1.4**
KS01	**Wonju Array Si**	**47.99**	**338**	*e*P	**P**	**01 56 43.2**	**-2.4**
PSI	**Prapat**	**50.32**	**279**	*e*P	**P**	**01 57 04.9**	**+0.8**
	15nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.83**	**345**	P	**P**	**01 57 20.0**	**-2.1**
	4.1nm,0.6s,baz=180,slow=6.4,SNR=14						
KMI	**Kunming**	**54.57**	**307**	P	**P**	**01 57 37.2**	**+1.7**
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.85**	**298**	P	**P**	**01 57 36.2**	**-1.2**
	1.3nm,0.3s,baz=126,slow=5.4,SNR=2.9						
CD2	**Chengdu**	**56.81**	**314**	P	**P**	**01 57 50.2**	**-1.0**
CD2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**58.21**	**328**	*e*P	**P**	**01 58 03.3**	**+2.3**
HHC				sP	pwP	01 58 18.8	+0.5
HHC				S	**S**	**02 06 00.9**	**+1.3**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				LR	LR		
	comp=E,1μm,17.8s						
HHC				LR	LR		
	comp=Z,3μm,18.0s						
GTA	**Gaotai**	**64.22**	**320**	*e*P	**P**	**01 58 41.4**	**-0.3**
GTA				pP	pP	01 58 53.8	0.0
GTA				sP	sP	01 58 58.7	0.0
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CASY	**Casey**	**64.93**	**196**	*e*P	**P**	**01 58 45.9**	**+0.2**
	1.4nm,0.6s						
SONM	**Songino Array**	**65.74**	**330**	P	**P**	**01 58 49.9**	**-1.5**
	3.8nm,1.1s,baz=145,slow=7.0,SNR=6.5						
VNDA	**Vanda**	**71.10**	**177**	*e*P	**P**	**01 59 26.6**	**+2.3**
	4.6nm,0.9s						
VNDA	**Vanda**	**71.10**	**177**	P	**P**	**01 59 24.5**	**+0.2**
	2.2nm,0.8s,baz=327,slow=6.0,SNR=7.3						
HYB	**Hyderabad**	**73.05**	**290**	*i* P	**P**	**01 59 38.0**	**+0.9**
WMQ	**Urumqi**	**74.28**	**319**	*e*P	**P**	**01 59 44.5**	**+0.7**
WMQ				pmax	pmax		
	comp=Z,18nm,0.7s						
WMQ				LR	LR		
	comp=N,2μm,25.3s						
WMQ				LR	LR		
	comp=E,1μm,21.5s						
WMQ				LR	LR		
	comp=Z,2μm,22.7s						
MK01	**Makanchi Array**	**78.96**	**320**	*e*P	**P**	**02 00 09.2**	**-0.9**
MK31	**Makanchi Array**	**78.97**	**320**	*e*P	**P**	**02 00 09.7**	**-0.6**
	2.4nm,1.1s						
MKAR	**Makanchi Array**	**78.97**	**320**	P	**P**	**02 00 09.0**	**-1.2**
	0.7nm,0.6s,baz=99,slow=7.9,SNR=5.7						
MAKZ	**Makanchi**	**79.18**	**320**	*e*P	**P**	**02 00 10.1**	**-1.2**
	3.7nm,1.1s						
ZALV	**Zalesovo Beam**	**80.39**	**328**	*e*P	**P**	**02 00 15.8**	**-2.0**
ZALV	**Zalesovo Beam**	**80.39**	**328**	P	**P**	**02 00 16.4**	**-1.3**
	0.9nm,0.5s,baz=99,slow=7.7,SNR=4.1						
KSH	**Kashi**	**80.93**	**312**	*e*P	**P**	**02 00 22.9**	**+1.8**
KSH				pP	pP	02 00 33.4	0.0
KSH				sP	sP	02 00 37.5	-0.6
KSH				S	**S**	**02 10 26.2**	**-0.6**
KSH				sS	ScS	02 10 44.1	-1.1
KSH				SS	**SS**	**02 15 44.2**	**+2.4**
KSH				LR	LR		
	comp=E,250nm,9.6s						
KSH				LR	LR		
	comp=Z,440nm,15.8s						
KURK	**Kurchatov**	**82.65**	**323**	*e*P	**P**	**02 00 28.0**	**-1.7**
	4.8nm,0.4s						
AAK	**Ala-Archa**	**82.87**	**314**	*e*P	**P**	**02 00 31.2**	**-0.1**
	6.4nm,1.3s						
QSPA	**South Pole Qui**	**83.23**	**180**	*e*P	**P**	**02 00 33.2**	**+0.6**
ARSB	**Arslanbob**	**83.61**	**313**	*e*P	**P**	**02 00 36.2**	**+1.1**
MCK	**McKinley**	**84.33**	**23**	*e*P	**P**	**02 00 37.4**	**-0.7**
	8.7nm,1.2s						
ILAR	**Eielson Array**	**85.60**	**23**	P	**P**	**02 00 43.0**	**-1.5**
	1.8nm,0.9s,baz=253,slow=4.6,SNR=10.0						
ILB	**Eielson Array**	**85.60**	**23**	*e*P	**P**	**02 00 45.3**	**+0.8**
	2.1nm,0.8s						
IL1	**Eielson Array**	**85.60**	**23**	*e*P	**P**	**02 00 44.3**	**-0.1**
KK31	**Karatay Array**	**85.82**	**314**	*e*P	**P**	**02 00 45.7**	**-0.4**
	7.8nm,1.1s						
KKAR	**Karatay Array**	**85.82**	**314**	*e*P	**P**	**02 00 45.7**	**-0.4**
	7.8nm,1.1s						
EGAK	**Eagle**	**87.86**	**24**	*e*P	**P**	**02 00 57.6**	**+2.2**
	4.5nm,1.0s						
HYT	**Haines Junctio**	**88.17**	**28**	*e*P	**P**	**02 00 59.5**	**+2.3**
	13nm,1.1s						
BRVK	**Borovoye**	**88.27**	**324**	*e*P	**P**	**02 00 56.7**	**-1.0**
	1.3nm,0.6s						
INK	**Inuvik**	**91.82**	**21**	*e*P	**P**	**02 01 12.3**	**-1.6**
	1.0nm,0.7s						
INK	**Inuvik**	**91.82**	**21**	LR	LR	02 38 18.4	
	comp=Z,1μm,21.1s,baz=257,slow=33						
YBH	**Yreka Blue Hor**	**93.58**	**49**	*e*P	**P**	**02 01 24.0**	**+1.2**
	4.2nm,1.0s						
ABKAR	**Akbulak array**	**94.07**	**319**	*e*P	**P**	**02 01 22.9**	**-1.8**
	2.0nm,1.1s						
MDPB	**Devils Postpil**	**96.03**	**53**	*e*P	**P**	**02 01 34.8**	**+0.4**
	2.6nm,1.1s						
NVAR	**Mina Array Bea**	**96.70**	**52**	P	**P**	**02 01 34.9**	**-2.4**
	1.4nm,0.9s,baz=256,slow=3.6,SNR=4.9						
DAC	**Darwin (Calif)**	**97.14**	**54**	*e*P	Pdif	02 01 41.8	+2.4
PFO	**Pinyon Flats O**	**97.94**	**57**	LR	LR	02 40 20.4	
	comp=Z,1μm,18.5s,baz=230,slow=32						
YKA	**Yellowknife Ar**	**99.16**	**28**	P	**Pdif**	**02 01 46.2**	**-1.2**
	0.1nm,0.4s,baz=268,slow=6.1,SNR=8.5						
PDAR	**Pinedale Array**	**103.36**	**48**	Pdiff	**Pdif**	**02 02 05.7**	**-1.3**
	0.6nm,0.9s,baz=354,slow=1.5,SNR=3.7						
BRG	**Berggiesshubel**	**122.08**	**328**	*e*PKP	**PKiKP**	**02 07 01.8**	**+0.8**
	12nm,1.4s						
CONA	**Conrad Observa**	**122.56**	**324**	*e*PKiKP	**PKiKP**	**02 07 03.1**	**+0.9**
	7.5nm,1.4s						
GERES	**GERESS Array B**	**123.32**	**326**	PKP	**PKPdf**	**02 07 03.2**	**-0.2**
	0.8nm,0.5s,baz=64,slow=3.1,SNR=6.5						
SOKA	**Soboth**	**123.67**	**323**	*e*PKPdf	**PKPdf**	**02 07 03.2**	**-0.9**
	7.3nm,1.8s						
SCHQ	**Schefferville**	**124.35**	**24**	PKP	**PKPdf**	**02 07 03.9**	**-1.2**
	1.2nm,0.6s,baz=230,slow=16,SNR=3.3						
WATA	**Walderalm**	**125.33**	**325**	*e*PKiKP	**PKPdf**	**02 07 06.8**	**-0.6**
	3.1nm,1.0s						
MOTA	**Moosalm**	**125.60**	**325**	*e*PKPdf	**PKPdf**	**02 07 07.3**	**-0.6**
	1.3nm,0.5s						
SQTA	**Sankt Quirin**	**125.61**	**325**	*e*PKiKP	**PKiKP**	**02 07 08.3**	**+0.1**
	2.6nm,0.8s						
FETA	**Feichten**	**125.99**	**325**	*e*PKiKP	**PKiKP**	**02 07 09.2**	**+0.1**
	6.2nm,1.2s						
DAVA	**Damuels**	**126.31**	**326**	*e*PKiKP	**PKPdf**	**02 07 08.9**	**-0.4**
	5.8nm,1.1s						
LPAZ	**La Paz**	**137.19**	**123**	PKP	**PKPdf**	**02 07 30.0**	**-1.2**
	2.0nm,0.9s,baz=307,slow=5.1,SNR=1.8						
ROSC	**El Rosal**	**137.43**	**90**	PKP	**PKPdf**	**02 07 30.7**	**-0.8**
	4.4nm,0.8s,baz=228,slow=16,SNR=2.4						
SDV	**Santo Domingo**	**141.25**	**84**	*e*PKPdf	**PKPdf**	**02 07 38.2**	**0.0**
TORD	**Torodi Ar. Bea**	**146.65**	**284**	PKPbc	**PKPdf**	**02 07 47.9**	**+0.6**
	9.7nm,0.8s,baz=91,slow=4.0,SNR=22						
TORD				SKPbc	**SKiKP**	**02 11 27.5**	**+3.1**
	1.9nm,0.9s,baz=38,slow=2.5,SNR=3.9						
BDFB	**Brasilia**	**152.43**	**144**	PKPbc	**PKPbc**	**02 08 02.5**	**-1.0**
	8.6nm,0.9s,baz=150,slow=8.1,SNR=8.4						
DBIC	**Dimbokro**	**153.47**	**271**	PKPbc	**PKPbc**	**02 08 03.6**	**-2.2**
	2.2nm,0.6s,baz=186

JMA 11 01:56:04.5,36.82N×138.74E,h6km±1km,M1.4,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.27**	**197**	P	Pg	01 56 10.0	+0.2
JGK				S	Sg	01 56 13.9	+0.5
JKT	**Katashina**	**0.41**	**97**	P	Pg	01 56 12.8	+0.3
JKT				S	Sg	01 56 18.0	+0.1
JHK	**Hiroka**	**0.48**	**27**	P	Pg	01 56 13.8	0.0
JHK				S	Sg	01 56 20.3	+0.2
MAT	**Matsushiro**	**0.51**	**237**	P	Pg	01 56 14.1	-0.2
MAT				S	Sg	01 56 20.6	-0.4
MAT	**Matsushiro**	**0.51**	**237**	P	Pg	01 56 14.1	-0.2
MAT				S	Sg	01 56 20.6	-0.4
JNG	**Nsakai**	**0.66**	**231**	P	Pg	01 56 16.9	-0.3
JAG	**Ashikaga**	**0.70**	**124**	S	Sg	01 56 27.2	+0.3
JRY	**Ryogami san**	**0.81**	**171**	P	Pg	01 56 19.9	-0.2
JRY				S	Sg	01 56 30.2	-0.4

*IDC **11** 01:56:06.4±0.7,6.68S×147.56E,h0km,mb4.1/10, mb1 4.3/12,mb1mx4.1/41,mbtmp4.1/12,ML4.3/2,Error ellipse: s-maj=28.3km s-min=15.6km az=107.0*
*NEIC **11** 01:56:08.7±0.4,6.63S×148.39E,h10km,mb4.7/5,Error ellipse: s-maj=13.1km s-min=7.4km az=117.0*
*ISCJB **11** 01:56:11.9±0.4,6.79S±0.06×148.51E±0.08,h47km, mb4.5/21,Error ellipse: s-maj=12.3km s-min=6.6km az=25.1*
*BJI **11** 01:56:12.3,6.52S×148.82E,h40km,mb4.8/17,mB5.1/6, Ms5.1/6,Ms7 5.0/5*

ISC 11 01:56:14.0±0.5,6.82S±0.07×148.50E±0.09,h47km,n43, σ1s68/47,mb4.6/21,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.48**	**55**	*e*Pn	**Pn**	**01 57 19.4**	**-0.1**
COEN	**Coen**	**8.82**	**216**	*e*Pn	**Pn**	**01 58 19.0**	**+0.1**
CTA	**Charters Tower**	**13.37**	**189**	Pn	**Pn**	**01 59 20.8**	**-0.4**
	0.4nm,0.3s,baz=17,slow=14,SNR=3.1						
CTAO	**Charters Tower**	**13.37**	**189**	*e*Pn	**Pn**	**01 59 23.0**	**+1.7**
CTAO				*e*S	Sn	02 01 26.3	-22
WRAB	**Tennant Creek**	**18.94**	**225**	*e*P	**P**	**02 00 30.7**	**-0.6**
	6.6nm,0.6s						
WRAB				*e*S	**Sn**	**02 04 00.9**	**-2.7**
WRA	**Warramunga Arr**	**18.95**	**225**	P	**P**	**02 00 30.9**	**-0.6**
	1.9nm,0.3s,baz=53,slow=11,SNR=36						
WRA				S	**Sn**	**02 04 02.0**	**-2.0**
	0.1nm,0.3s,baz=41,slow=21,SNR=3.8						
AS01	**Alice Springs**	**21.82**	**218**	*e*P	**P**	**02 01 01.7**	**-0.7**
AS31	**Alice Springs**	**21.85**	**218**	*e*P	**P**	**02 01 01.6**	**-1.2**
	8.2nm,0.7s						
ASAR	**Alice Springs**	**21.85**	**218**	P	**P**	**02 01 02.5**	**-0.2**
	11nm,0.5s,baz=54,slow=9.5,SNR=60						
ASAR				S	**S**	**02 05 02.7**	**+0.8**
	2.1nm,0.7s,baz=32,slow=23,SNR=5.1						
BATI	**Baumata**	**24.79**	**260**	P	**P**	**02 01 32.2**	**+0.3**
	28nm,0.5s,baz=50,slow=7.9,SNR=3.0						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	P	**P**	**02 01 33.0**	**-0.1**
	25nm,0.4s,baz=52,slow=8.4,SNR=44						
STKA	**Stephens Creek**	**25.75**	**194**	*e*P	**P**	**02 01 39.6**	**-0.7**
STKA	**Stephens Creek**	**25.75**	**194**	P	**P**	**02 01 38.4**	**-1.9**
	4.8nm,0.6s,baz=31,slow=9.3,SNR=17						
FORT	**Forrest**	**30.59**	**216**	*e*P	**P**	**02 02 23.4**	**-0.1**
	18nm,0.9s						
MBWA	**Marble Bar**	**31.26**	**240**	*e*P	**P**	**02 02 29.2**	**-0.4**
DCZ	**Deep Cove**	**41.76**	**160**	*e*P	**P**	**02 04 00.3**	**+1.6**
	24nm,1.1s						
NJ2	**Nanjing**	**47.89**	**326**	*e*P	**P**	**02 04 47.3**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
IPM	**Ipoh**	**48.70**	**282**	*e*P	**P**	**02 04 54.4**	**+0.2**
	8.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.93**	**345**	P	**P**	**02 05 24.2**	**-1.3**
	1.9nm,0.6s,baz=187,slow=10,SNR=6.8						
CN2	**Changchun**	**54.53**	**340**	*e*P	**P**	**02 05 39.8**	**+2.6**
KMI	**Kunming**	**54.67**	**307**	P	**P**	**02 05 39.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,12nm,0.7s						
CD2	**Chengdu**	**56.91**	**314**	P	**P**	**02 05 54.3**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.31**	**328**	*e*P	**P**	**02 06 07.1**	**+2.7**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,150nm,5.5s						
HHC				LR	LR		
	comp=N,890nm,17.2s						
HHC				LR	LR		
	comp=E,540nm,15.7s						
HHC				LR	LR		
	comp=Z,1μm,19.0s						
LZH	**Lanzhou**	**59.80**	**319**	*e*P	**P**	**02 06 17.0**	**+2.2**
LZH				pP	pP	02 06 28.3	+0.9
LZH				sP	sP	02 06 32.5	0.0
LZH				*e*PP	**PP**	**02 08 31.2**	**+3.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,7.2s						
LZH				LR	LR		
	comp=N,230nm,15.1s						
LZH				LR	LR		
	comp=E,220nm,15.3s						
LZH				LR	LR		
	comp=Z,380nm,18.5s						
PETK	**Petropavlovsk-**	**60.20**	**6**	P	**P**	**02 06 16.2**	**-0.8**
	4.5nm,0.9s,baz=173,slow=13,SNR=3.4						
SONM	**Songino Array**	**65.84**	**330**	P	**P**	**02 06 52.8**	**-2.0**
	0.3nm,0.5s,baz=118,slow=8.3,SNR=2.8						
VNDA	**Vanda**	**71.02**	**177**	P	**P**	**02 07 26.9**	**+0.4**
	1.4nm,0.9s,baz=291,slow=5.5,SNR=4.7						
WMQ	**Urumqi**	**74.38**	**319**	*e*P	**P**	**02 07 47.9**	**+0.8**
WMQ				LR	LR		
	comp=N,1μm,18.7s						
WMQ				LR	LR		
	comp=E,1μm,20.5s						
WMQ				LR	LR		
	comp=Z,1μm,22.3s						
MKAR	**Makanchi Array**	**79.08**	**320**	P	**P**	**02 08 11.1**	**-2.4**
	0.3nm,0.5s,baz=97,slow=8.3,SNR=8.1						
ZALV	**Zalesovo Beam**	**80.50**	**328**	P	**P**	**02 08 18.1**	**-2.8**
	0.4nm,0.4s,baz=128,slow=9.3,SNR=2.7						
KSH	**Kashi**	**81.03**	**312**	*e*P	**P**	**02 08 27.2**	**+2.9**
KSH				pmax	pmax		
	comp=Z,150nm,6.1s						
QSPA	**South Pole Qui**	**83.16**	**180**	*e*P	**P**	**02 08 35.6**	**+0.7**
ILAR	**Eielson Array**	**85.65**	**23**	P	**P**	**02 08 44.8**	**-2.5**
	0.7nm,0.7s,baz=252,slow=4.9,SNR=6.8						
SYO	**Syowa Base**	**90.34**	**200**	*e*PcP	**PcP**	**02 09 15.4**	**+4.5**
NVAR	**Mina Array Bea**	**96.69**	**52**	P	**P**	**02 09 39.0**	**-0.9**
	0.3nm,0.7s,baz=284,slow=5.0,SNR=2.9						
FRB	**Frobisher Bay**	**117.27**	**18**	PKP	**PKiKP**	**02 14 54.7**	**+0.9**
	0.9nm,0.9s,baz=353,slow=5.8,SNR=3.1						
PLCA	**Paso Flores**	**120.62**	**146**	PKP	**PKPdf**	**02 14 59.9**	**-1.3**
	1.3nm,0.8s,baz=243,slow=2.3,SNR=2.9						
KHC	**Kasperske Hory**	**123.33**	**326**	*e*PKP	**PKPdf**	**02 15 04.0**	**-2.0**
GERES	**GERESS Array B**	**123.42**	**326**	PKP	**PKPdf**	**02 15 06.1**	**-0.1**
	0.8nm,0.5s,baz=90,slow=2.0,SNR=7.6						
TORD	**Torodi Ar. Bea**	**146.73**	**284**	PKPbc	**PKPbc**	**02 15 51.0**	**-0.8**
	5.5nm,1.0s,baz=58,slow=3.6,SNR=45						
PTGA	**Pitinga**	**150.62**	**104**	*e*PKPbc	**PKiKP**	**02 16 02.8**	**+0.1**
BDFB	**Brasilia**	**152.33**	**144**	PKPbc	**PKiKP**	**02 16 06.2**	**-0.1**
	2.9nm,0.9s,baz=360,slow=5.2,SNR=2.7						
DBIC	**Dimbokro**	**153.54**	**271**	PKPbc	**PKiKP**	**02 16 08.8**	**+0.1**
	3.7nm,1.0s,baz=22,slow=7.5,SNR=3.2						

IDC 11 02:00:14.7±3.9,6.84S×149.11E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.5/42,mbtmp3.5/4,Error ellipse: s-maj=120.0km s-min=31.7km az=112.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.37**	**226**	P	P	02 04 41.6	-0.6
	baz=54,slow=9.5,SNR=2.4						
ASAR	**Alice Springs**	**22.21**	**220**	P	P	02 05 14.4	+1.4
	1.2nm,0.5s,baz=54,slow=9.4,SNR=7.9						
FITZ	**Fitzroy Crossi**	**25.47**	**242**	P	P	02 05 43.2	-1.4
	1.5nm,0.6s,baz=64,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**79.48**	**320**	P	P	02 12 23.1	-0.2
	0.2nm,0.8s,baz=103,slow=5.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**147.33**	**284**	PKPbc	PKPbc	02 20 01.8	+0.5
	0.2nm,0.5s,baz=65,slow=3.7,SNR=4.0						

IDC 11 02:02:01.9±3.5,7.11S×148.76E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.5/39,mbtmp3.6/3,ML3.1/1,Error ellipse: s-maj=112.7km s-min=45.1km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.93**	**226**	P	Pn	02 06 25.2	+0.1
	0.1nm,0.3s,baz=53,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**21.78**	**219**	P	P	02 06 56.6	+1.0
	0.7nm,0.6s,baz=59,slow=9.0,SNR=5.8						
FITZ	**Fitzroy Crossi**	**25.03**	**242**	P	P	02 07 27.3	-0.7
	3.4nm,0.6s,baz=76,slow=9.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**147.05**	**283**	PKPbc	PKPdf	02 21 46.8	+1.0
	0.5nm,1.1s,baz=64,slow=3.4,SNR=4.1						

IDC 11 02:04:44.8±2.7,6.71S×148.12E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/39,mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=63.6km s-min=41.8km az=109.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.76**	**224**	P	P	02 09 05.5	-0.1
	0.1nm,0.3s,baz=52,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**21.70**	**218**	P	P	02 09 37.4	-0.3
	0.9nm,0.5s,baz=52,slow=9.7,SNR=10						
FITZ	**Fitzroy Crossi**	**24.66**	**241**	P	P	02 10 07.5	-0.1
	2.6nm,0.6s,baz=48,slow=8.4,SNR=9.5						
STKA	**Stephens Creek**	**25.77**	**193**	P	P	02 10 18.9	+1.4
	1.3nm,0.7s,baz=10,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**146.34**	**284**	PKPbc	PKPdf	02 24 27.1	-0.5
	0.4nm,0.6s,baz=83,slow=3.9,SNR=7.1						

IDC 11 02:07:25.8±2.2,6.62S×147.89E,h0km,mb3.7/4, mb1 3.8/5,mb1mx3.6/36,mbtmp3.7/5,ML3.5/1,Error ellipse: s-maj=63.3km s-min=27.7km az=102.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.67**	**224**	P	P	02 11 45.2	-0.5
	0.2nm,0.3s,baz=50,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**21.64**	**217**	P	P	02 12 17.1	-0.8
	1.5nm,0.6s,baz=50,slow=9.7,SNR=12						
FITZ	**Fitzroy Crossi**	**24.51**	**240**	P	P	02 12 48.3	+1.1
	1.8nm,0.3s,baz=65,slow=12,SNR=8.5						
STKA	**Stephens Creek**	**25.81**	**192**	P	P	02 12 59.7	+0.9
	0.9nm,0.5s,baz=354,slow=15,SNR=2.8						
MKAR	**Makanchi Array**	**78.53**	**320**	P	P	02 19 29.1	-0.1
	0.2nm,0.5s,baz=102,slow=6.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.10**	**284**	PKPbc	PKPdf	02 27 07.2	-0.9
	0.7nm,0.9s,baz=97,slow=3.0,SNR=4.6						

*EAF **11** 02:07:26.4±2.6,25.91S×22.42E,h10km,MD3.2*
*PRE **11** 02:07:36.8±1.8,26.48S×27.38E,h2km,ML1.9*
*ISCJB **11** 02:07:37.1±0.7,26.49S±0.04×27.40E±0.06,h10km,Error ellipse: s-maj=8.5km s-min=5.0km az=18.6*

ISC 11 02:07:37.0±0.9,26.47S±0.04×27.40E±0.06,h10km,n11, σ0s88/16,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.04**	**24**	*e*P	**Pg**	**02 07 39.0**	**-0.2**
WDLM				*e*S	**Sg**	**02 07 39.6**	**-1.2**
WDLM				AML	AML	02 07 40.8	
	comp=Z,3μm,0.1s						
PRYS	**Parys**	**0.46**	**185**	*e*P	**Pb**	**02 07 46.4**	**-1.0**
PRYS				*e*S	**Sg**	**02 07 51.2**	**-1.0**
PRYS				AML	AML	02 07 54.1	
	comp=Z,57nm,0.1s						
SLR	**Silverton**	**1.07**	**48**	*e*P	**Pg**	**02 07 57.8**	**+0.1**
SLR				*e*S	**Sg**	**02 08 12.1**	**+0.4**
SLR				AML	AML	02 08 17.9	
	comp=Z,33nm,0.2s						
LBTB	**Lobatse**	**2.18**	**311**	*i* P	**Pb**	**02 08 15.7**	**-0.9**
LBTB	**Lobatse**	**2.18**	**311**	*e*P	**Pb**	**02 08 15.8**	**-0.8**
LBTB				*e*S	**Sn**	**02 08 40.9**	**+0.4**
LBTB				AML	AML	02 08 46.1	
	comp=Z,11nm,0.2s						
LBTB	**Lobatse**	**2.18**	**311**	*i* P	**Pb**	**02 08 15.7**	**-0.9**
BOSA	**Boshof**	**2.87**	**221**	*i* P	**Pn**	**02 08 24.1**	**+1.2**
BOSA				*i* S	**Sb**	**02 09 03.8**	**+0.2**
BOSA	**Boshof**	**2.87**	**221**	*e*P	**Pn**	**02 08 23.6**	**+0.7**
BOSA				*e*S	**Sn**	**02 08 58.2**	**+0.6**
BOSA				AML	AML	02 09 09.7	
	comp=Z,3.4nm,0.3s						
BOSA	**Boshof**	**2.87**	**221**	*i* P	**Pn**	**02 08 24.1**	**+1.2**
BOSA				*i* S	**Sb**	**02 09 03.8**	**+0.2**
MATP	**Matopo**	**6.09**	**10**	*i* P	Pb	02 09 16.4	-7.1
MATP	**Matopo**	**6.09**	**10**	*i* P	Pb	02 09 16.4	-7.1

IDC 11 02:07:59.7±1.8,3.67S×140.81E,h0km,mb3.8/3, mb1 4.2/4,mb1mx3.7/32,mbtmp4.0/4,ML4.0/1,Error ellipse: s-maj=60.7km s-min=12.3km az=94.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.15**	**355**	Pg	Pg	02 08 22.2	+0.4
	17nm,0.3s,baz=190,slow=10,SNR=26						
JAY				Lg	Lg	02 08 37.4	
	28nm,0.3s,baz=233,slow=20,SNR=15						
WRA	**Warramunga Arr**	**17.36**	**201**	P	Pn	02 12 02.3	-1.3
	0.5nm,0.3s,baz=21,slow=12,SNR=6.0						
FITZ	**Fitzroy Crossi**	**20.64**	**225**	P	P	02 12 40.3	-0.8
	3.4nm,1.0s,baz=51,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**20.97**	**198**	P	Pn	02 12 46.0	-1.1
	7.2nm,0.7s,baz=28,slow=8.5,SNR=26						
ILAR	**Eielson Array**	**85.84**	**24**	P	P	02 20 40.6	-0.4
	0.4nm,0.8s,baz=263,slow=3.6,SNR=4.2						

IDC 11 02:09:56.1±1.5,6.38S×148.35E,h0km,mb3.9/5, mb1 4.1/6,mb1mx3.8/36,mbtmp3.9/6,ML4.0/1,Error ellipse: s-maj=58.3km s-min=23.3km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**224**	P	P	02 14 20.5	-0.8
	0.5nm,0.3s,baz=51,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**22.10**	**217**	P	P	02 14 52.1	-1.1
	3.5nm,0.5s,baz=54,slow=9.5,SNR=24						
FITZ	**Fitzroy Crossi**	**25.03**	**240**	P	P	02 15 22.3	+0.2
	4.9nm,0.4s,baz=48,slow=8.5,SNR=26						
STKA	**Stephens Creek**	**26.14**	**193**	P	P	02 15 33.2	+1.1
	0.9nm,0.6s,baz=22,slow=9.8,SNR=3.4						
MKAR	**Makanchi Array**	**78.65**	**320**	P	P	02 22 00.6	+0.5
	0.3nm,0.6s,baz=101,slow=7.3,SNR=5.1						
ILAR	**Eielson Array**	**85.31**	**23**	P	P	02 22 34.0	-0.7
	0.5nm,0.8s,baz=236,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**146.49**	**284**	PKPbc	PKPbc	02 29 39.9	-0.6
	2.1nm,0.8s,baz=77,slow=2.8,SNR=20						

IDC 11 02:12:11.2±3.8,6.45S×148.24E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.5/35,mbtmp3.6/3,ML2.6/1,Error ellipse: s-maj=122.1km s-min=46.1km az=117.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.03**	**224**	P	Pn	02 16 37.0	+1.3
	0.0nm,0.3s,baz=47,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**21.98**	**217**	P	P	02 17 05.6	-1.5
	0.9nm,0.6s,baz=55,slow=9.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	**24.90**	**240**	P	P	02 17 35.7	-0.4
	2.6nm,0.5s,baz=49,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**146.40**	**284**	PKPbc	PKPbc	02 31 54.8	-0.5
	0.5nm,1.0s,baz=68,slow=2.9,SNR=3.0						

IDC 11 02:15:16.5±3.2,7.10S×148.79E,h0km,mb3.8/2, mb1 4.0/3,mb1mx3.5/32,mbtmp3.8/3,ML3.5/1,Error ellipse: s-maj=101.3km s-min=44.1km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.96**	**226**	P	Pn	02 19 40.1	0.0
	0.2nm,0.3s,baz=52,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**21.81**	**219**	P	P	02 20 10.9	+0.4
	1.8nm,0.7s,baz=55,slow=9.2,SNR=8.0						
FITZ	**Fitzroy Crossi**	**25.06**	**242**	P	P	02 20 42.6	-0.3
	4.4nm,0.9s,baz=58,slow=10,SNR=7.2						
TORD	**Torodi Ar. Bea**	**147.08**	**283**	PKPbc	PKPdf	02 35 01.5	+1.0
	0.5nm,0.8s,baz=85,slow=4.0,SNR=3.3						

*IDC **11** 02:15:42.1±0.5,6.66S×148.44E,h0km,mb4.3/18, mb1 4.5/22,mb1mx4.4/33,mbtmp4.3/22,ML4.1/4,MS5.1/18, Ms1 5.1/18,ms1mx5.0/31,Error ellipse: s-maj=18.3km s-min=13.1km az=95.0*
*GCMT **11** 02:15:47.1±0.2,6.74S±0.01×148.63E±0.01,h12km, MW5.3/107,Moment Tensor Solution. s36,c48; s107,c176; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.09±.03; $M_{\theta\theta}$-0.05±.03; $M_{\phi\phi}$-0.04±.03; $M_{r\theta}$-0.44±.09; $M_{\theta\phi}$1.22±.02; $M_{\phi r}$-0.29±.08; Best double couple: $M_0$1.32800×10^{17} NP1:ϕ_s272.00000°,δ78.00000°, λ19.00000°. NP2:ϕ_s178.00000°,δ71.00000°,λ168.00000°. Principal axes: T 1.3810, Plg22.0000°, Azm136.0000°; N -0.1050, Plg68.0000°, Azm302.0000°; P -1.2760, Plg5.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **11** 02:15:47.2±1.8,6.74S×148.20E,h33km,mb4.9/19 Error ellipse: s-maj=11.1km s-min=7.7km az=92.4*
*NEIC **11** 02:15:47.1±2.6,6.67S×148.41E,h27km±18km,mb4.9/45, MS5.4/125,Error ellipse: s-maj=9.2km s-min=7.7km az=102.0*
*ISCJB **11** 02:15:48.7±0.3,6.82S±0.03×148.29E±0.05,h47km, mb4.7/75,MS5.3/148,Error ellipse: s-maj=6.8km s-min=4.4km az=9.6*
*BJI **11** 02:15:51.0,6.61S×148.14E,h41km,mb4.7/41,mB5.2/10, Ms5.3/13,Ms7 5.1/14*
*DJA **11** 02:15:52.4±1.7,7.1S±9.14×8.1E±1.4,h59km±10km,M5.0/14, mB5.5/6,mb5.0/14,Mw(mB)5.0/6*

ISC 11 02:15:50.5±0.3,6.80S±0.04×148.34E±0.05,h47km,n338, σ2s57/215,mb4.8/74,MS5.4/148,8C-4D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.60**	**56**	*e*Pn	**Pn**	**02 16 54.1**	**-3.5**
JAY	**Jayapura**	**8.72**	**299**	Pn	**Pn**	**02 17 50.5**	**-3.6**
	1.1nm,0.3s,baz=83,slow=17,SNR=2.9						
COEN	**Coen**	**8.74**	**215**	P	**Pn**	**02 17 54.1**	**-0.3**
	baz=8.7,SNR=9.6						
COEN				S	**Sn**	**02 19 30.4**	**-1.2**
	baz=8.7						
COEN	**Coen**	**8.74**	**215**	*e*Pn	**Pn**	**02 17 55.8**	**+1.5**
COEN				*e*Sn	**Sn**	**02 19 34.8**	**+3.2**
GENI	**Genyem**	**9.15**	**297**	P	Pn	02 18 05.4	+5.4
HNR	**Honiara**	**11.79**	**104**	LR	LR	02 22 00.3	
	comp=Z,5μm,20.7s,baz=274,slow=32						
MTSU	**Mount Surprise**	**11.93**	**199**	P	**Pn**	**02 18 37.4**	**-0.6**
	baz=12,SNR=8.0						
CTA	**Charters Tower**	**13.37**	**189**	P	**Pn**	**02 18 59.1**	**+1.4**
	baz=13						
CTA	**Charters Tower**	**13.37**	**189**	Pn	**Pn**	**02 18 56.4**	**-1.3**
	0.2nm,0.3s,baz=27,slow=11,SNR=2.3						
CTA				LR	LR	02 24 24.2	
	comp=Z,11μm,18.1s,baz=10.0,slow=39						
CTAO	**Charters Tower**	**13.37**	**189**	*e*Pn	**Pn**	**02 18 57.7**	**+0.1**
CTAO	**Charters Tower**	**13.37**	**189**	*e*P	**Pn**	**02 18 57.7**	**+0.1**
QIS	**Mount Isa**	**16.09**	**211**	P	**Pn**	**02 19 32.5**	**-1.0**
	baz=16,SNR=14						
FAKI	**Fak Fak**	**16.49**	**283**	*e*Pn	**P**	**02 19 43.2**	**+2.5**
	62nm,1.1s						
FAKI	**Fak Fak**	**16.49**	**283**	P	**P**	**02 19 41.1**	**+0.4**
KDU	**Kakadu**	**16.69**	**248**	P	**Pn**	**02 19 41.8**	**+0.6**
	baz=17,SNR=11						
SIJI	**Sorong**	**18.02**	**288**	P	**Pn**	**02 19 54.9**	**-2.7**
	0.9nm,0.3s,baz=47,slow=6.6,SNR=4.5						
SIJI				LR	LR	02 28 44.8	
	comp=Z,12μm,21.3s,baz=95,slow=43						
EIDS	**Eidsvold**	**18.66**	**172**	P	**Pn**	**02 20 06.6**	**+1.3**
	baz=19,SNR=4.8						
EIDS	**Eidsvold**	**18.66**	**172**	*e*P	**Pn**	**02 20 06.7**	**+1.5**
	20nm,0.9s						
WRAB	**Tennant Creek**	**18.84**	**225**	*e*P	**Pn**	**02 20 07.3**	**-0.2**
	14nm,0.8s						
WRAB				*e*S	**Sn**	**02 23 35.2**	**-2.5**
WRAB	**Tennant Creek**	**18.84**	**225**	*e*P	**Pn**	**02 20 07.3**	**-0.2**
WB2	**Warramunga Arr**	**18.84**	**225**	*e*P	**Pn**	**02 20 07.5**	**-0.1**
	28nm,0.7s						
WRA	**Warramunga Arr**	**18.85**	**225**	P	**P**	**02 20 05.2**	**-1.6**
	1.8nm,0.3s,baz=52,slow=11,SNR=27						
WRA				S	**Sn**	**02 23 37.3**	**-0.7**
	0.1nm,0.3s,baz=49,slow=21,SNR=3.5						
WRA				LR	LR	02 28 07.8	
	comp=Z,6μm,20.9s,baz=45,slow=39						
RMQ	**Roma**	**19.59**	**179**	P	**Pn**	**02 20 17.0**	**+0.6**
	baz=20,SNR=23						
GUMO	**Guam**	**20.54**	**350**	LR	LR	02 28 39.4	
	comp=Z,4μm,18.6s,baz=172,slow=38						
KNRA	**Kunumurra**	**21.11**	**244**	P	**P**	**02 20 31.1**	**-0.3**
	baz=21,SNR=9.7						
NLAI	**Namlea**	**21.45**	**278**	P	**P**	**02 20 36.3**	**+1.3**
	53nm,1.2s						
AS01	**Alice Springs**	**21.74**	**218**	*e*P	**P**	**02 20 35.9**	**-2.1**
AS31	**Alice Springs**	**21.77**	**218**	*e*P	**P**	**02 20 36.2**	**-2.1**
	16nm,0.9s						
ASAR	**Alice Springs**	**21.77**	**218**	P	**P**	**02 20 36.9**	**-1.4**
	21nm,0.6s,baz=56,slow=8.4,SNR=40						
ASAR				S	**S**	**02 24 40.0**	**+3.2**
	6.9nm,0.8s,baz=31,slow=24,SNR=4.0						
ASAR				LR	LR	02 29 55.4	
	comp=Z,4μm,20.5s,baz=50,slow=39						
SANI	**Sanana**	**22.77**	**281**	P	**P**	**02 20 48.4**	**-0.8**
DZM	**Mont Dzumac**	**23.15**	**133**	P	**P**	**02 20 49.2**	**-3.8**
	13nm,0.9s,baz=9.3,slow=15,SNR=3.6						
DZM				LR	LR	02 27 31.1	
	comp=Z,4μm,20.7s,baz=320,slow=31						
ARMA	**Armidale**	**23.70**	**173**	P

APSI Ampana 27.25 281 P P 02 21 31.2 +0.7
comp=Z,69nm,1.1s,comp=Z,750nm
MRSI Marisa 27.31 284 P P 02 21 40.2 +9.1
HTT Hallett 27.91 197 P P 02 21 34.4 -1.8
baz=28,SNR=10.0
BBOO Buckleboo 28.29 202 P P 02 21 40.0 +0.3
baz=28,SNR=7.8
BBOO Buckleboo 28.29 202 eP P 02 21 40.1 +0.5
comp=Z,7.8nm,0.8s
CNB Canberra Magne 28.40 178 P P 02 21 45.9 +5.3
baz=28
KAPI Kappang 28.49 272 PFAKE 02 21 50.0 +8.4
KAPI LR LR
comp=Z,3μm,19.0s
TTSI Tana Toraja 28.65 276 P P 02 21 51.4 +8.4
PCI Palu 29.02 280 P P 02 21 47.7 +1.4
ARPS Mount Arapiles 30.42 190 P P 02 21 59.8 +1.4
baz=30
FORT Forrest 30.51 216 P P 02 21 59.8 +0.5
baz=30
FORT Forrest 30.51 216 eP P 02 22 00.3 +1.0
comp=Z,39nm,0.8s
MSVF Nonsavu 30.95 113 PFAKE 02 22 10.0 +6.6
MSVF LR LR
comp=Z,1μm,21.0s
MSVF Nonsavu 30.95 113⇓ eP P 02 22 03.6 +0.2
MSVF pmax pmax
comp=Z,38nm,3.4s
MBWA Marble Bar 31.14 240 eP P 02 22 03.6 -1.3
comp=Z,30nm,0.9s
MBWA LR LR
comp=Z,5μm,20.0s
WAKE Wake Island 31.58 35 PFAKE 02 22 20.0 +11
WAKE LR LR
comp=Z,4μm,19.0s
TSM Tawau 32.35 289 P P 02 22 15.6 -0.1
JAGI Jajag, Banyuwa 33.92 265 eP P 02 22 26.1 -3.4
comp=Z,22nm,0.9s
JCJ Chichijima 34.21 350 LR LR 02 35 15.0
comp=Z,2μm,20.3s,baz=164,slow=34
MEEK Meekatharra 34.48 232 P P 02 22 34.0 -0.1
baz=34,SNR=6.7
KKM Kota Kinabalu 34.50 291 P P 02 22 34.3 -0.3
TAU Tasmania Unive 35.98 181 PFAKE 02 23 00.0 +13
TAU LR LR
comp=Z,5μm,19.0s
SBUM Sibu 37.20 283 eP P 02 22 56.9 -0.8
comp=Z,11nm,0.8s
SBUM Sibu 37.20 283 P P 02 22 57.0 -0.6
MORW Morawa 37.66 230 P P 02 23 02.2 +0.9
baz=38,SNR=4.0
MORW Morawa 37.66 230 eP P 02 23 02.3 +1.0
comp=Z,31nm,0.9s
KLBR Kellerberrin 37.74 225 P P 02 23 00.4 -1.5
baz=38,SNR=8.0
BLDU Ballidu 37.95 227 P P 02 23 04.6 +0.8
baz=38
KSM Kuching 38.84 281 eP P 02 23 10.9 -0.5
comp=Z,32nm,1.0s
KSM Kuching 38.84 281 P P 02 23 10.9 -0.5
RAO Raoul Island 38.85 129 PFAKE 02 23 20.0 +8.7
RAO LR LR
comp=Z,7μm,19.0s
NWAO Narrogin (SRO) 38.86 224 eP P 02 23 13.3 +2.0
NWAO LR LR
comp=Z,5μm,19.0s
NWAO Narrogin (SRO) 38.86 224 eP P 02 23 13.4 +2.0
NWAO MLR MLR
comp=Z,5μm,19.0s
NWAO Narrogin (SRO) 38.86 224 P P 02 23 10.8 -0.5
comp=Z,7.7nm,0.8s,baz=326,slow=7.3,SNR=4.8
AFI Afiamalu 39.82 104 LR LR 02 38 31.4
comp=Z,3μm,19.2s,baz=272,slow=34
URZ Urewera 40.73 145 LR LR 02 39 27.7
comp=Z,8μm,18.3s,baz=320,slow=35
TATO Taipei 41.00 321 PFAKE 02 23 40.0 +11
TATO LR LR
comp=Z,5μm,20.0s
SNZO South Karori 41.62 150 PFAKE 02 23 50.0 +16
SNZO LR LR
comp=Z,5μm,20.0s
JNU Nakatsue 43.03 338 P P 02 23 43.5 -2.1
comp=Z,9.1nm,0.8s,baz=90,slow=4.0,SNR=2.2
MJAR Matsushiro Arr 44.14 348 P P 02 23 51.6 -2.9
comp=Z,4.5nm,0.9s,baz=171,slow=8.0,SNR=4.0
MJAR LR LR 02 40 29.2
comp=Z,1μm,21.1s,baz=130,slow=34
MAJO Matsushiro 44.15 348 eP P 02 23 54.3 -0.2
comp=Z,8.7nm,0.7s
MAJO LR LR
comp=Z,2μm,20.0s
MAJO Matsushiro 44.15 348⇑ eP P 02 23 53.0 -1.5
MAJO pmax pmax
comp=Z,140nm,5.3s
MYKOM Kota Tinggi 45.22 279 eP P 02 24 02.1 -1.4
comp=Z,37nm,1.0s
MYKOM Kota Tinggi 45.22 279 P P 02 24 02.9 -0.6
SSE Sheshan 45.77 327 PFAKE 02 24 20.0 +13
SSE LR LR
comp=Z,3μm,20.0s
KGM Kluang 45.78 279 P P 02 24 07.7 -0.3
QIZ Qiongzhong 45.80 305 PFAKE 02 24 20.0 +12
QIZ LR LR
comp=Z,256nm,21.0s
KTGM Kuala Trenggan 46.70 284 P P 02 24 14.3 -0.8
FRIM Kepong 47.68 281 P P 02 24 22.0 -0.9
JOHN Johnston Islan 47.78 60 PFAKE 02 24 30.0 +6.6
JOHN LR LR
comp=Z,456nm,22.0s
NJ2 Nanjing 47.78 326 eP P 02 24 22.5 -0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KSRS Korea Array 47.97 338 P P 02 24 22.1 -2.5
comp=Z,2.3nm,0.9s,baz=158,slow=7.8,SNR=5.2
KSAR Wonju Array Be 47.98 338 P P 02 24 22.1 -2.6
KSAR Wonju Array Be 47.98 338 P P 02 24 22.1 -2.6
MIDW Midway 48.03 42 PFAKE 02 24 40.0 +15
MIDW LR LR
comp=Z,2μm,21.0s
IPM Ipoh 48.54 282 eP P 02 24 28.5 -0.9
comp=Z,16nm,0.8s
IPM Ipoh 48.54 282 P P 02 24 28.6 -0.9
ERM Érimo 48.80 355 PFAKE 02 24 40.0 +9.1
ERM LR LR
comp=Z,867nm,19.0s
KULM Kulim 49.09 283 P P 02 24 33.2 -0.4
PSI Prapat 50.24 279 eP P 02 24 40.9 -1.7
comp=Z,20nm,1.0s
PSI Prapat 50.24 279 eP P 02 24 40.9 -1.7
PSI pmax pmax
comp=Z,20nm,1.0s
COCO West Island 51.02 260 PFAKE 02 25 00.0 +12
COCO LR LR
comp=Z,2μm,20.0s
GSI Gunungsitoli 51.30 277 eP P 02 24 48.6 -1.8
comp=Z,27nm,0.9s
GYA Guiyang 52.20 311 eP P 02 24 58.2 +1.1
GYA pmax pmax
comp=Z,10.0nm,1.0s
USRK Ussuriysk Ar. 52.86 345 P P 02 24 57.2 -4.3
comp=Z,1.7nm,0.7s,baz=195,slow=10,SNR=4.9
MDJ Mudanjiang 53.89 343 P P 02 25 08.0 -1.0
MDJ pmax pmax
comp=Z,11nm,2.1s
MDJ Mudanjiang 53.89 343 PFAKE 02 25 20.0 +11
MDJ LR LR
comp=Z,1μm,19.0s
CN2 Changchun 54.46 340 eP P 02 25 15.2 +2.1
KMI Kunming 54.53 307 P P 02 25 15.5 +1.1
KMI pmax pmax
comp=Z,13nm,0.5s
CMAR Chiang Mai Arr 54.80 298 P P 02 25 15.1 -1.0
comp=Z,1.5nm,0.3s,baz=123,slow=6.6,SNR=4.6
CMAR LR LR 02 47 23.3
comp=Z,918nm,21.6s,baz=110,slow=35
CHTO Chiang Mai 54.93 299 PFAKE 02 25 30.0 +13
CHTO LR LR
comp=Z,1μm,21.0s
BJT Baijiatuau 55.23 330 PFAKE 02 25 30.0 +11
BJT LR LR
comp=Z,2μm,20.0s
CD2 Chengdu 56.78 314 P P 02 25 28.9 -1.3
CD2 sP pP 02 25 43.9 +1.8
CD2 PP PP 02 27 36.9 0.0
CD2 S S 02 33 14.3 -5.8
CD2 sS pS 02 33 36.5 +1.1
CD2 SS SS 02 37 10.0 +1.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,2μm,17.9s
CD2 LR LR
comp=Z,2μm,19.0s
KLR Kul'dur 57.65 347⇓ eP P 02 25 34.8 -1.0
HHC Hu-ho-hao-te 58.21 328 eP P 02 25 41.1 +1.0
HHC S S 02 33 38.4 -0.3
HHC sS sS 02 33 58.9 -1.1
HHC pmax pmax
comp=Z,11nm,1.1s
HHC LR LR
comp=Z,1μm,15.3s
HHC LR LR
comp=Z,1μm,16.9s
HHC LR LR
comp=Z,1μm,18.4s
LZH Lanzhou 59.68 319 eP P 02 25 52.5 +2.0
LZH pP pP 02 26 03.6 +1.1
LZH sP pwP 02 26 07.6 +0.1
LZH ePP PP 02 28 06.1 +3.4
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,74nm,6.7s
LZH LR LR
comp=Z,230nm,15.2s
LZH LR LR
comp=Z,230nm,15.3s
LZH LR LR
comp=Z,370nm,18.4s
PETK Petropavlovsk- 60.20 6 P P 02 25 52.1 -1.4
comp=Z,3.5nm,0.9s,baz=184,slow=5.8,SNR=2.1
PETK LR LR 02 47 56.9
comp=Z,1μm,21.9s,baz=190,slow=32
PET Petropavlovsk 60.23 7 PFAKE 02 26 00.0 +6.4
PET LR LR
comp=Z,2μm,21.0s
HIA Hailar 61.16 339 eP P 02 26 02.8 +2.7
comp=Z,4.4nm,0.4s
HIA LR LR
comp=Z,2μm,20.0s
HIA Hailar 61.16 339 eP P 02 26 02.8 +2.7
HIA pmax pmax
comp=Z,4.0nm,0.4s
HIA MLR MLR
comp=Z,2μm,20.0s
POHA Pohakuloa 61.20 63 PFAKE 02 26 10.0 +8.8
POHA LR LR
comp=Z,3μm,19.0s
ZEA Zeya 62.88 346 eP P 02 26 16.8 +5.3
ZEA pmax pmax
comp=Z,29nm,1.0s
GTA Gaotai 64.20 320 eP P 02 26 26.4 +5.6
GTA pP sP 02 26 36.0 -1.8
GTA sP pwP 02 26 39.8 +1.8
GTA pmax pmax
comp=Z,4.0nm,1.0s
CASY Casey 64.85 196 eP P 02 26 23.4 -1.0
comp=Z,1.1nm,0.4s
CASY LR LR
comp=Z,384nm,19.0s
ADK Adak 65.66 23 PFAKE 02 26 40.0 +10
ADK LR LR
comp=Z,2μm,20.0s
SONM Songino Array 65.75 330 P P 02 26 27.8 -2.8
comp=Z,2.3nm,1.2s,baz=142,slow=5.1,SNR=4.6
SONM LR LR 02 56 24.9
comp=Z,2μm,19.2s,baz=118,slow=37
LSA Lhasa 65.78 307 PFAKE 02 26 40.0 +8.4
LSA LR LR
comp=Z,696nm,20.0s
MA2 Magadan 66.19 1 PFAKE 02 26 40.0 +7.0
MA2 LR LR
comp=Z,1μm,20.0s
MA2 Magadan 66.19 1⇑ eP P 02 26 34.8 +1.8
MA2 pmax pmax
comp=Z,6.0nm,1.0s
PALK Pallekele 68.90 280 eP P 02 26 53.4 +2.3
comp=Z,15nm,1.0s
PALK Pallekele 68.90 280 eP P 02 26 53.4 +2.3
PALK pmax pmax
comp=Z,15nm,1.0s
SEY Seymchan 69.60 2⇑ eP P 02 26 55.1 +0.7
TLY Talaya 69.66 332 PFAKE 02 27 10.0 +15
TLY LR LR
comp=Z,856nm,22.0s
VNDA Vanda 71.05 177 P P 02 27 02.8 -0.3
comp=Z,2.0nm,1.0s,baz=135,slow=1.4,SNR=5.4
VNDA LR LR 02 56 12.9
comp=Z,1μm,18.5s,baz=356,slow=34
SBA Scott Base 71.67 176 PFAKE 02 27 20.0 +13
SBA LR LR
comp=Z,1μm,19.0s
HYB Hyderabad 72.98 290 i P P 02 27 16.0 +0.1
WMQ Urumqi 74.26 319 eP P 02 27 23.8 +0.9
WMQ LR LR
comp=Z,1μm,25.7s
DGAR Diego Garcia 75.21 264 PFAKE 02 27 40.0 +11
DGAR LR LR
comp=Z,630nm,20.0s
BILL Bilibino 75.73 7 PFAKE 02 27 40.0 +9.3
BILL LR LR
comp=Z,631nm,21.0s
BILL Bilibino 75.73 7 eP P 02 27 33.1 +2.4
BILL e 02 27 44.2
BILL e 02 30 22.2
BILL pmax pmax
comp=Z,3.0nm,0.8s
MNCI Minicoy 76.53 280 eP P 02 27 37.8 +1.4
comp=Z,33nm,0.9s
MK01 Makanchi Array 78.94 320 eP P 02 27 47.5 -1.7
MK31 Makanchi Array 78.95 320 eP P 02 27 48.5 -0.7
comp=Z,3.3nm,1.0s
MK31 Makanchi Array 78.95 320 eP P 02 27 48.6 -0.7
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 78.95 320 P P 02 27 46.4 -2.9
comp=Z,0.7nm,0.7s,baz=91,slow=7.2,SNR=9.3
MAKZ Makanchi 79.16 320 eP P 02 27 48.8 -1.6
comp=Z,4.9nm,0.9s
MAKZ Makanchi 79.16 320 eP P 02 27 48.8 -1.6
MAKZ pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 79.33 354 PFAKE 02 28 00.0 +9.2
TIXI LR LR
comp=Z,820nm,20.0s
TIXI Tiksi 79.33 354⇑ eP P 02 27 53.6 +2.8
TIXI pmax pmax
comp=Z,9.0nm,2.7s
KDAK Kodiak Island 79.97 28 PFAKE 02 28 00.0 +5.5
KDAK LR LR
comp=Z,857nm,19.0s
ZALV Zalesovo Beam 80.39 328 P P 02 27 53.6 -3.2
comp=Z,0.6nm,0.4s,baz=140,slow=7.4,SNR=3.5
KSH Kashi 80.90 312 eP P 02 28 01.5 +1.4
KSH pP pP 02 28 11.7 -1.4
KSH PP PP 02 31 09.4 +4.2
KSH S S 02 38 06.8 +1.3
KSH pmax pmax
comp=Z,120nm,4.6s
KSH LR LR
comp=Z,430nm,14.8s
KSH LR LR
comp=Z,350nm,14.5s
KSH LR LR
comp=Z,440nm,16.7s
KURK Kurchatov 82.64 323 eP P 02 28 09.3 +0.5
comp=Z,33nm,1.0s
KURK LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 82.64 323⇑ eP P 02 28 09.4 +0.6
KURK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 82.84 314 eP P 02 28 10.5 +0.2
comp=Z,4.9nm,1.1s
AAK LR LR
comp=Z,2μm,19.0s
AAK Ala-Archa 82.84 314⇓ eP P 02 28 11.8 +1.5
AAK pmax pmax
comp=Z,6.0nm,1.8s
CAST Castle Rocks 83.04 23 eP P 02 28 14.6 +4.0
comp=Z,3.7nm,0.8s
QSPA South Pole Qui 83.18 180 eP P 02 28 11.3 -0.2
QSPA LR LR
comp=Z,1μm,21.0s
RND Reindeer 84.30 24 eP P 02 28 20.4 +3.2
comp=Z,6.1nm,1.0s
RND Reindeer 84.30 24 eP P 02 28 20.4 +3.2
RND pmax pmax
comp=Z,6.0nm,1.0s
MLY Manley 84.35 22 eP P 02 28 21.1 +3.7
comp=Z,3.0nm,1.0s
COLA College 85.36 23 PFAKE 02 28 30.0 +7.7
COLA LR LR
comp=Z,1μm,20.0s
COLA College 85.36 23⇓ eP P 02 28 22.3 0.0
COLA pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 85.69 23 P P 02 28 21.4 -2.6
comp=Z,2.1nm,0.8s,baz=255,slow=4.6,SNR=12
ILB Eielson Array 85.69 23 eP P 02 28 24.7 +0.7
comp=Z,4.4nm,0.8s
IL1 Eielson Array 85.69 23 eP P 02 28 21.6 -2.4
KK31 Karatay Array 85.80 314 eP P 02 28 25.1 +0.1
comp=Z,10nm,1.0s
KK31 Karatay Array 85.80 314 eP P 02 28 25.2 +0.1
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 85.80 314 eP P 02 28 25.1 +0.1
comp=Z,10nm,1.0s
KKAR Karatay Array 85.80 314 eP P 02 28 25.2 +0.1
KKAR pmax pmax
comp=Z,10.0nm,1.0s
DOT Dot Lake 86.35 24 eP P 02 28 31.1 +3.8
comp=Z,3.2nm,1.0s
TOLK Toolik Lake Re 86.51 19 eP P 02 28 32.4 +4.4
comp=Z,5.5nm,1.0s
EGAK Eagle 87.95 24 eP P 02 28 37.7 +2.7
comp=Z,5.0nm,0.9s
EGAK LR LR
comp=Z,1μm,20.0s
HYT Haines Junctio 88.26 28 eP P 02 28 41.5 +4.7
comp=Z,10.0nm,0.9s
BRVK Borovoye 88.26 324 PFAKE 02 28 50.0 +13
BRVK LR LR
comp=Z,678nm,20.0s
BRVK Borovoye 88.26 324⇑ eP P 02 28 39.3 +2.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s
DAWY Dawson 88.43 25 eP P 02 28 38.0 +0.6
comp=Z,6.4nm,1.0s
WRAK Wrangell Islan 89.74 33 PFAKE 02 28 50.0 +6.4
WRAK LR LR
comp=Z,2μm,21.0s
SYO Syowa Base 90.31 200⇑ eP P 02 28 45.4 -0.7
NLWA Neilton Lookou 93.45 43 PFAKE 02 29 10.0 +8.9
NLWA LR LR
comp=Z,1μm,20.0s
HUMO Hull Mountain 93.59 48 eP P 02 29 06.9 +5.1
comp=Z,6.6nm,0.9s
YBH Yreka Blue Hor 93.69 49 eP P 02 29 06.9 +4.5
comp=Z,4.1nm,0.9s
YBH Yreka Blue Hor 93.69 49 eP P 02 29 06.9 +4.5
YBH pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 94.05 319 eP P 02 29 04.7 +1.0
comp=Z,4.1nm,1.0s
GEYT Alibeck 94.30 308 P P 02 29 05.7 +0.4
comp=Z,2.6nm,0.9s,baz=97,slow=12,SNR=2.7
AFDM Forest Hills D 94.75 51 eP P 02 29 12.7 +5.4
comp=Z,6.8nm,1.1s
ARU Arti 95.49 326 PFAKE 02 29 20.0 +10
ARU LR LR
comp=Z,2μm,20.0s
ARU Arti 95.49 326 P P 02 29 09.7 -0.4
ARU 02 33 00.1
ARU S SKSac 02 39 42.8 +0.6
HAWA Hanford 96.34 44 PFAKE 02 29 20.0 +5.7
HAWA LR LR
comp=Z,1μm,21.0s
WVOR Wild Horse Val 96.77 48 PFAKE 02 29 30.0 +14
WVOR LR LR
comp=Z,2μm,20.0s
NV01 Mina Array Sit 96.80 52 eP P 02 29 17.6 +0.8
NVAR Mina Array Bea 96.80 52 P P 02 29 15.9 -1.0
comp=Z,0.8nm,0.7s,baz=240,slow=3.0,SNR=3.3
NVAR LR LR 03 08 55.4
comp=Z,1μm,18.9s,baz=282,slow=33
DAC Darwin (Calif) 97.25 54 eP Pdif 02 29 24.6 +5.6
comp=Z,4.1nm,0.9s
DAC Darwin (Calif) 97.25 54 eP Pdif 02 29 24.6 +5.6
DAC pmax pmax
comp=Z,4.0nm,0.9s
BMO Blue Mountains 97.83 46 PFAKE 02 29 30.0 +8.7
BMO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 98.04 57 PFAKE 02 29 30.0 +7.5
PFO LR LR
comp=Z,2μm,22.0s
NEW Newport 98.05 42 PFAKE 02 29 30.0 +7.9
NEW LR LR
comp=Z,1μm,19.0s
ABPO Ambohimpanom 98.22 250 PFAKE 02 29 30.0 +6.3
ABPO LR LR
comp=Z,692nm,19.0s
YKA Yellowknife Ar 99.25 28 P Pdif 02 29 24.7 -2.3
comp=Z,0.1nm,0.5s,baz=273,slow=4.4,SNR=4.0
HLID Hailey 99.89 47 PFAKE 02 29 40.0 +9.4
HLID LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 101.10 50 PFAKE 02 29 50.0 +14
DUG LR LR
comp=Z,804nm,20.0s
BOZ Bozeman (W) 101.84 45 PFAKE 02 29 50.0 +11
BOZ LR LR
comp=Z,1μm,19.0s
HWUT Hardware Ranch 102.02 49 PFAKE 02 29 50.0 +10
HWUT LR LR
comp=Z,799nm,19.0s
WUAZ Wupatki 102.28 55 PFAKE 02 29 50.0 +8.7
WUAZ LR LR
comp=Z,1μm,19.0s
AHID Auburn Hatcher 102.33 48 PFAKE 02 29 50.0 +8.5
AHID LR LR
comp=Z,2μm,19.0s
LKWY Lake 102.76 46 PFAKE 02 29 50.0 +6.6
LKWY LR LR
comp=Z,2μm,19.0s
TUC Tucson 102.78 59 PFAKE 02 29 50.0 +6.5
TUC LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 102.98 42 PFAKE 02 29 50.0 +5.9
EGMT LR LR
comp=Z,1μm,19.0s
BW06 Boulder Array 103.47 48 PFAKE 02 30 00.0 +13
BW06 LR LR
comp=Z,2μm,19.0s
PDAR Pinedale Array 103.47 48 Pdiff Pdif 02 29 39.7 -6.9
comp=Z,0.1nm,0.3s,baz=238,slow=5.0,SNR=2.1
RLMT Red Lodge 103.53 45 PFAKE 02 30 00.0 +13
RLMT LR LR
comp=Z,1μm,21.0s
RAYN Ar Rayn 104.43 292 PFAKE 02 30 00.0 +9.0
RAYN LR LR
comp=Z,854nm,19.0s
MVCO Mesa Verde 104.56 53 PFAKE 02 30 00.0 +8.5
MVCO LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 104.66 166 PFAKE 02 30 00.0 +8.9
PMSA LR LR
comp=Z,1μm,21.0s
KBS Kingsbay 104.74 352 PFAKE 02 30 00.0 +8.9
KBS LR LR
comp=Z,2μm,20.0s
GNI Garni 104.74 310 PFAKE 02 30 00.0 +7.8
GNI LR LR
comp=Z,1μm,19.0s
LVZ Lovozero 105.06 339 PFAKE 02 30 00.0 +7.2
LVZ LR LR
comp=Z,564nm,19.0s
LAO LASA Array 105.50 44 PFAKE 02 34 20.0 +11
LAO LR LR
comp=Z,1μm,20.0s
KIV Kislovodsk 105.95 314 PFAKE 02 34 20.0 +10
KIV LR LR
comp=Z,1μm,20.0s
ANMO Albuquerque 106.32 56 PFAKE 02 34 20.0 +9.3
ANMO LR LR
comp=Z,1μm,22.0s

DGMT	**Dagmar**	**106.62**	**41**	PFAKE		02 34 20.0	+9.4		
DGMT				LR	LR				
	comp=Z,951nm,20.0s								
ISCO	**Idaho Springs**	**106.64**	**51**	PFAKE		02 34 20.0	+8.7		
ISCO				LR	LR				
	comp=Z,961nm,19.0s								
FFC	**Flin Flon**	**106.84**	**35**	PFAKE		02 34 20.0	+9.2		
FFC				LR	LR				
	comp=Z,1μm,20.0s								
KEV	**Kevo**	**106.86**	**342**	PFAKE		02 34 20.0	+10		
KEV				LR	LR				
	comp=Z,6μm,19.0s								
SDCO	**Great Sand Dun**	**106.90**	**53**	PFAKE		02 34 20.0	+8.2		
SDCO				LR	LR				
	comp=Z,2μm,20.0s								
MNTX	**Cornudas Mount**	**107.38**	**59**	PFAKE		02 34 20.0	+7.5		
MNTX				LR	LR				
	comp=Z,931nm,20.0s								
OBN	**Obninsk**	**107.93**	**326**	PFAKE		02 34 20.0	+7.3		
OBN				LR	LR				
	comp=Z,1μm,20.0s								
OBN	**Obninsk**	**107.93**	**326**	*e*P	**Pdif**	**02 30 07.1**	**+1.4**		
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TXAR	**Lajitas Array**	**108.97**	**61**	PKiKP	**PKiKP**	**02 34 15.8**	**+0.1**		
	comp=Z,0.2nm,0.5s,baz=296,slow=40,SNR=1.1								
OGNE	**Ogallala**	**109.23**	**49**	PFAKE		02 34 30.0	+14		
OGNE				LR	LR				
	comp=Z,1μm,19.0s								
KMBO	**Kilima Mbogo**	**110.79**	**266**	PFAKE		02 34 30.0	+10		
KMBO				LR	LR				
	comp=Z,1μm,21.0s								
FINES	**FINESS Array B**	**110.97**	**334**	PKiKP	**PKiKP**	**02 34 16.5**	**-1.8**		
	comp=Z,1.5nm,1.0s,baz=222,slow=1.9,SNR=1.6								
CBKS	**Cedar Bluff**	**111.29**	**51**	PFAKE		02 34 30.0	+10		
CBKS				LR	LR				
	comp=Z,1μm,20.0s								
AGMN	**Agassiz Nation**	**112.09**	**40**	PFAKE		02 34 30.0	+9.1		
AGMN				LR	LR				
	comp=Z,1μm,19.0s								
JCT	**Junction City**	**112.24**	**60**	PFAKE		02 34 30.0	+8.3		
JCT				LR	LR				
	comp=Z,2μm,19.0s								
WMOK	**Wichita Mounta**	**112.62**	**55**	PFAKE		02 34 30.0	+7.7		
WMOK				LR	LR				
	comp=Z,1μm,21.0s								
ECSD	**EROS Data Cent**	**112.69**	**45**	PFAKE		02 34 30.0	+7.8		
ECSD				LR	LR				
	comp=Z,1μm,19.0s								
BRTR	**Keskin Array B**	**113.26**	**310**	PKiKP	**PKiKP**	**02 34 22.2**	**-1.3**		
	comp=Z,0.4nm,0.8s,baz=104,slow=3.0,SNR=2.6								
AKASG	**Malin Array Be**	**113.45**	**323**	PKiKP	**PKiKP**	**02 34 21.3**	**-2.0**		
	comp=Z,0.2nm,0.4s,baz=278,slow=14,SNR=3.4								
KIEV	**Kiev**	**113.46**	**323**	PFAKE		02 34 30.0	+6.6		
KIEV				LR	LR				
	comp=Z,634nm,20.0s								
KSU1	**Kansas State U**	**113.64**	**50**	PFAKE		02 34 30.0	+5.9		
KSU1				LR	LR				
	comp=Z,2μm,19.0s								
ANTO	**Ankara**	**113.87**	**311**	PFAKE		02 34 40.0	+15		
ANTO				LR	LR				
	comp=Z,686nm,21.0s								
KVTX	**Kingsville**	**114.17**	**63**	PFAKE		02 34 40.0	+15		
KVTX				LR	LR				
	comp=Z,2μm,19.0s								
EYMN	**Ely**	**114.99**	**40**	PFAKE		02 34 40.0	+14		
EYMN				LR	LR				
	comp=Z,2μm,20.0s								
SCIA	**State Center**	**115.55**	**47**	PFAKE		02 34 40.0	+12		
SCIA				LR	LR				
	comp=Z,1μm,20.0s								
NATX	**Nacogdoches**	**116.46**	**58**	PFAKE		02 34 40.0	+10		
NATX				LR	LR				
	comp=Z,1μm,19.0s								
SUR	**Sutherland**	**116.69**	**229**	PFAKE		02 34 40.0	+10		
SUR				LR	LR				
	comp=Z,2μm,20.0s								
LSZ	**Lusaka**	**116.78**	**249**	PFAKE		02 34 40.0	+9.1		
LSZ				LR	LR				
	comp=Z,1μm,20.0s								
MIAR	**Mount Ida**	**116.89**	**55**	PFAKE		02 34 40.0	+10		
MIAR				LR	LR				
	comp=Z,1μm,20.0s								
COWI	**Conover**	**117.12**	**41**	PFAKE		02 34 40.0	+9.4		
COWI				LR	LR				
	comp=Z,1μm,19.0s								
NOA	**NORSAR Array B**	**117.19**	**338**	PKP	**PKPdf**	**02 34 28.0**	**-2.3**		
	comp=Z,0.5nm,0.8s,baz=54,slow=1.9,SNR=2.5								
MBAR	**Mbarara**	**117.31**	**266**	PFAKE		02 34 40.0	+7.9		
MBAR				LR	LR				
	comp=Z,581nm,20.0s								
JFWS	**Jewell Farm**	**117.39**	**45**	PFAKE		02 34 40.0	+8.8		
JFWS				LR	LR				
	comp=Z,1μm,21.0s								
SFJD	**Kangerlussuaq**	**118.50**	**8**	PFAKE		02 34 40.0	+7.4		
SFJD				LR	LR				
	comp=Z,594nm,20.0s								
HDIL	**Hopedale**	**118.76**	**47**	PFAKE		02 34 40.0	+6.1		
HDIL				LR	LR				
	comp=Z,1μm,19.0s								
HOPE	**Hope Point**	**119.01**	**177**	PFAKE		02 34 50.0	+16		
HOPE				LR	LR				
	comp=Z,1μm,20.0s								
LANS	**Liptovska Anna**	**119.86**	**324**	*e*PKP	PKiKP	02 34 44.8	+8.9		
VYHS	**Vyhne**	**120.53**	**323**	*e*PKiKP	**PKiKP**	**02 34 43.2**	**+6.0**		
VYHS	**Vyhne**	**120.53**	**323**	*e*PKP	**PKiKP**	**02 34 43.2**	**+6.0**		
GLMI	**Grayling**	**120.55**	**41**	PFAKE		02 34 50.0	+13		
GLMI				LR	LR				
	comp=Z,1μm,21.0s								
PLCA	**Paso Flores**	**120.73**	**146**	PKP	**PKPdf**	**02 34 36.6**	**-1.2**		
	comp=Z,2.7nm,1.0s,baz=131,slow=2.6,SNR=3.2								
DPC	**Dobruska-Polom**	**121.07**	**326**	*e*PKP	**PKiKP**	**02 34 43.7**	**+5.5**		
DPC	**Dobruska-Polom**	**121.07**	**326**	*e*PKiKP	**PKiKP**	**02 34 43.7**	**+5.5**		
UPC	**Upice**	**121.16**	**327**	*e*PKP	**PKiKP**	**02 34 44.6**	**+6.3**		
UPC	**Upice**	**121.16**	**327**	*e*PKiKP	**PKiKP**	**02 34 44.6**	**+6.3**		
MODS	**Modra-Piesok**	**121.50**	**324**	*e*PKiKP	**PKiKP**	**02 34 44.9**	**+5.8**		
MODS	**Modra-Piesok**	**121.50**	**324**	*e*PKP	**PKiKP**	**02 34 44.9**	**+5.8**		
TREC	**Trest**	**122.08**	**325**	*e*PKP	**PKiKP**	**02 34 46.0**	**+5.8**		
TREC	**Trest**	**122.08**	**325**	*e*PKiKP	**PKiKP**	**02 34 46.0**	**+5.8**		
BRG	**Berggiesshubel**	**122.08**	**328**	*e*PKP	**PKiKP**	**02 34 45.8**	**+5.7**		
	comp=Z,13nm,1.1s								
BRG	**Berggiesshubel**	**122.08**	**328**	*e*PKiKP	**PKiKP**	**02 34 45.8**	**+5.7**		
BRG				pmax	pmax				
	comp=Z,13nm,1.1s								
GOPC	**GO Pecny, Ondr**	**122.14**	**326**	*e*PKP	**PKiKP**	**02 34 46.5**	**+6.2**		
GOPC	**GO Pecny, Ondr**	**122.14**	**326**	*e*PKiKP	**PKiKP**	**02 34 46.5**	**+6.2**		
AAM	**Ann Arbor**	**122.17**	**44**	PFAKE		02 34 50.0	+9.4		
AAM				LR	LR				
	comp=Z,1μm,20.0s								
PRU	**Pruhonice**	**122.24**	**327**	*e*PKP	**PKiKP**	**02 34 46.4**	**+5.9**		
PRU	**Pruhonice**	**122.24**	**327**	*e*PKiKP	**PKiKP**	**02 34 46.4**	**+5.9**		
CONA	**Conrad Observa**	**122.55**	**324**	PKPdf	**PKPdf**	**02 34 39.5**	**-1.6**		
	comp=Z,4.7nm,1.2s								
BRAL	**Brewton**	**122.96**	**57**	PFAKE		02 34 50.0	+7.6		
BRAL				LR	LR				
	comp=Z,1μm,20.0s								
KHC	**Kasperske Hory**	**123.23**	**326**	*e*PKP	**PKiKP**	**02 34 47.8**	**+5.3**		
KHC	**Kasperske Hory**	**123.23**	**326**	*e*PKiKP	**PKiKP**	**02 34 47.8**	**+5.3**		
NKC	**Novy Kostel**	**123.23**	**328**	*e*PKP	**PKiKP**	**02 34 48.5**	**+6.0**		
NKC	**Novy Kostel**	**123.23**	**328**	*e*PKiKP	**PKiKP**	**02 34 48.5**	**+6.0**		
GERES	**GERESS Array B**	**123.31**	**326**	PKP	**PKPdf**	**02 34 41.0**	**-1.5**		
	comp=Z,1.3nm,0.5s,baz=75,slow=1.5,SNR=10								
ACSO	**Alum Creek Sta**	**123.42**	**46**	PFAKE		02 34 50.0	+6.9		
ACSO				LR	LR				
	comp=Z,1μm,20.0s								
MOA	**Molln**	**123.52**	**325**	*e*PKiKP	**PKiKP**	**02 34 43.3**	**+0.2**		
	comp=Z,5.7nm,1.4s								
SOKA	**Soboth**	**123.66**	**323**	*e*PKPdf	**PKPdf**	**02 34 41.4**	**-1.9**		
	comp=Z,4.5nm,0.8s								
OBKA	**Obir**	**124.03**	**323**	*e*PKPdf	**PKPdf**	**02 34 42.0**	**-2.0**		
	comp=Z,12nm,1.8s								
KBA	**Koelnbreinsper**	**124.45**	**324**	*e*PKiKP	**PKiKP**	**02 34 45.8**	**+0.6**		
	comp=Z,3.8nm,0.6s								
TSUM	**Tsumeb**	**125.05**	**241**	PFAKE		02 35 00.0	+13		
TSUM				LR	LR				
	comp=Z,1μm,20.0s								
ABTA	**Abfaltersbach**	**125.11**	**324**	PKPdf	**PKPdf**	**02 34 43.9**	**-2.1**		
	comp=Z,9.6nm,0.9s								
GOGA	**Godfrey**	**125.31**	**54**	PFAKE		02 35 00.0	+13		
GOGA				LR	LR				
	comp=Z,1μm,20.0s								
WATA	**Walderalm**	**125.33**	**325**	PKPdf	**PKPdf**	**02 34 44.8**	**-1.7**		
	comp=Z,3.7nm,0.5s								
MOTA	**Moosalm**	**125.59**	**325**	*e*PKPdf	**PKPdf**	**02 34 45.4**	**-1.6**		
	comp=Z,7.9nm,0.7s								
SQTA	**Sankt Quirin**	**125.60**	**325**	PKiKP	**PKPdf**	**02 34 46.2**	**-0.8**		
	comp=Z,6.4nm,0.8s								
FETA	**Feichten**	**125.98**	**325**	PKPdf	**PKPdf**	**02 34 46.0**	**-1.8**		
	comp=Z,11nm,1.0s								
DAVA	**Damuels**	**126.31**	**326**	PKiKP	**PKPdf**	**02 34 47.2**	**-1.2**		
	comp=Z,8.3nm,0.7s								
BLA	**Blacksburg**	**126.40**	**48**	PFAKE		02 35 00.0	+11		
BLA				LR	LR				
	comp=Z,2μm,22.0s								
BFO	**Black Forest**	**126.53**	**328**	PFAKE		02 35 00.0	+11		
BFO				LR	LR				
	comp=Z,66nm,19.0s								
ESK	**Eskdalemuir**	**126.55**	**340**	PFAKE		02 35 00.0	+11		
ESK				LR	LR				
	comp=Z,2μm,20.0s								
LONY	**Lake Ozonia**	**126.98**	**38**	PFAKE		02 35 00.0	+10		
LONY				LR	LR				
	comp=Z,1μm,20.0s								
JTS	**JuntasAbangare**	**127.23**	**82**	PFAKE		02 35 00.0	+8.6		
JTS				LR	LR				
	comp=Z,663nm,21.0s								
BINY	**Binghamton**	**127.34**	**41**	PFAKE		02 35 00.0	+9.1		
BINY				LR	LR				
	comp=Z,2μm,19.0s								
NHSC	**New Hope**	**128.03**	**53**	PFAKE		02 35 00.0	+7.5		
NHSC				LR	LR				
	comp=Z,2μm,20.0s								
CBN	**Corbin Frederi**	**128.22**	**46**	PFAKE		02 35 00.0	+7.3		
CBN				LR	LR				
	comp=Z,920nm,19.0s								
CNNC	**Cliffs of the**	**129.04**	**50**	PFAKE		02 35 00.0	+5.6		
CNNC				LR	LR				
	comp=Z,2μm,20.0s								
PKME	**Peaks-Kenny Pk**	**129.69**	**34**	PFAKE		02 35 10.0	+15		
PKME				LR	LR				
	comp=Z,1μm,21.0s								
NNA	**Nana**	**131.35**	**112**	PFAKE		02 35 10.0	+10		
NNA				LR	LR				
	comp=Z,389nm,19.0s								
BCIP	**Isla Barro Col**	**132.26**	**84**	PFAKE		02 35 10.0	+8.5		
BCIP				LR	LR				
	comp=Z,654nm,19.0s								
OTAV	**Otavalo**	**132.88**	**96**	PFAKE		02 35 10.0	+6.6		
OTAV				LR	LR				
	comp=Z,543nm,21.0s								
LVC	**Limon Verde**	**133.28**	**130**	PFAKE		02 35 10.0	+6.2		
LVC				LR	LR				
	comp=Z,678nm,21.0s								
MTDJ	**Mount Denham**	**133.92**	**71**	PFAKE		02 35 10.0	+5.1		
MTDJ				LR	LR				
	comp=Z,687nm,20.0s								
GTBY	**Guantanamo Bay**	**135.90**	**68**	PFAKE		02 35 20.0	+11		
GTBY				LR	LR				
	comp=Z,776nm,19.0s								
LPAZ	**La Paz**	**137.24**	**123**	PKP	**PKPdf**	**02 35 10.1**	**-0.3**		
	comp=Z,1.7nm,0.8s,baz=14,slow=2.4,SNR=5.9								
ROSC	**El Rosal**	**137.53**	**90**	PKP	**PKPdf**	**02 35 10.5**	**-0.3**		
	comp=Z,2.8nm,0.6s,baz=153,slow=23,SNR=5.2								
CPUP	**Villa Florida**	**138.71**	**144**	PKP	**PKPdf**	**02 35 12.5**	**+0.3**		
	comp=Z,1.0nm,0.6s,baz=153,slow=16,SNR=2.5								
GRTK	**Grand Turk**	**139.17**	**65**	PFAKE		02 35 20.0	+4.7		
GRTK				LR	LR				
	comp=Z,2μm,19.0s								
PAB	**San Pablo**	**139.18**	**327**	PFAKE		02 35 20.0	+5.0		
PAB				LR	LR				
	comp=Z,1μm,20.0s								
SDDR	**Presa de Saban**	**139.62**	**69**	PFAKE		02 35 20.0	+3.6		
SDDR				LR	LR				
	comp=Z,1μm,19.0s								
SDV	**Santo Domingo**	**141.35**	**84**	PFAKE		02 35 30.0	+10		
SDV				LR	LR				
	comp=Z,609nm,21.0s								
SJG	**San Juan**	**144.57**	**68**	PFAKE		02 35 30.0	+3.5		
SJG				LR	LR				
	comp=Z,1μm,22.0s								
SHEL	**Horse Pasture**	**145.80**	**228**	PFAKE		02 35 40.0	+11		
SHEL				LR	LR				
	comp=Z,479nm,20.0s								
TORD	**Torodi Ar. Bea**	**146.57**	**284**	PKPbc	**PKPdf**	**02 35 26.6**	**+0.2**		
	comp=Z,21nm,0.9s,baz=15,slow=3.5,SNR=54								
ANWB	**Willy Bob**	**148.69**	**67**	PFAKE		02 35 40.0	+2.7		
ANWB				LR	LR				
	comp=Z,1μm,21.0s								
GRGR	**Grenville**	**149.96**	**78**	PFAKE		02 35 40.0	+2.3		
GRGR				LR	LR				
	comp=Z,759nm,19.0s								
BDFB	**Brasilia**	**152.44**	**144**	PKPbc	**PKPbc**	**02 35 40.6**	**-2.0**		
	comp=Z,11nm,0.8s,baz=204,slow=4.4,SNR=14								
DBIC	**Dimbokro**	**153.38**	**271**	PKPbc	**PKPbc**	**02 35 44.2**	**-0.4**		
	comp=Z,4.8nm,0.8s,baz=31,slow=2.3,SNR=6.9								
SACV	**Santiago Islan**	**168.67**	**316**	PFAKE		02 36 00.0	+6.7		
SACV				LR	LR				
	comp=Z,1μm,20.0s								

IDC ***11*** *02:20:08.8±0.5, 6.°61S×148.°42E, h0km, mb4.5/19, mb1 4.6/22, mb1mx4.6/37, mbtmp4.5/22, ML4.2/3, Error ellipse: s-maj=18.4km s-min=12.9km az=98.0*

NEIC ***11*** *02:20:10.7±0.3, 6.°57S×148.°39E, h10km, mb4.7/33, Error ellipse: s-maj=9.4km s-min=5.9km az=106.0*

ISCJB ***11*** *02:20:14.6±0.3, 6.°73S±0.°03×148.°30E±0.°05, h47km, mb4.7/51, Error ellipse: s-maj=7.8km s-min=4.5km az=19.6*

ISC 11 02:20:16.2±0.4, 6.°77S±0.°05×148.°38E±0.°07, h47km, n121, σ1°73/138, mb4.6/50, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RABL	**Rabaul**	**4.55**	**56**	*e*Pn	**Pn**	**02 21**	**24.2**		**+1.5**
COEN	**Coen**	**8.79**	**215**	P	**Pn**	**02 22**	**20.1**		**-0.7**
	baz=8.7								
COEN				S	**Sn**	**02 23**	**58.7**		**+0.1**
	baz=8.7								
COEN	**Coen**	**8.79**	**215**	*e*Pn	**Pn**	**02 22**	**21.1**		**+0.3**
COEN				*e*Sn	**Sn**	**02 23**	**59.1**		**+0.6**
MTSU	**Mount Surprise**	**11.97**	**199**	P	**Pn**	**02 23**	**05.5**		**+1.1**
	baz=12,SNR=5.5								
CTA	**Charters Tower**	**13.40**	**189**	Pn	**Pn**	**02 23**	**22.4**		**-1.5**
	0.3nm,0.3s,baz=238,slow=18,SNR=2.1								
CTAO	**Charters Tower**	**13.40**	**189**	*e*Pn	**Pn**	**02 23**	**26.2**		**+2.3**
	412nm,1.9s								
QIS	**Mount Isa**	**16.13**	**211**	P	**Pn**	**02 24**	**00.4**		**+0.5**
	baz=16,SNR=6.1								
KDU	**Kakadu**	**16.74**	**248**	P	**Pn**	**02 24**	**07.8**		**+0.2**
	baz=17,SNR=6.5								
SIJI	**Sorong**	**18.05**	**288**	P	**P**	**02 24**	**21.3**		**-2.4**
	0.8nm,0.3s,baz=180,slow=20,SNR=3.0								
EIDS	**Eidsvold**	**18.68**	**172**	P	**Pn**	**02 24**	**31.1**		**-0.2**
	baz=19,SNR=3.3								
WB5	**Warramunga Arr**	**18.84**	**225**	P	**P**	**02 24**	**32.0**		**-0.4**
	baz=19								
WRAB	**Tennant Creek**	**18.89**	**225**	*e*P	**P**	**02 24**	**32.5**		**-0.5**
	14nm,0.6s								
WB2	**Warramunga Arr**	**18.89**	**225**	*e*P	**P**	**02 24**	**33.1**		**+0.1**
	15nm,0.4s								
WRA	**Warramunga Arr**	**18.90**	**225**	P	**P**	**02 24**	**32.0**		**-1.1**
	1.7nm,0.3s,baz=50,slow=11,SNR=16								
WRA				S	**Sn**	**02 28**	**01.7**		**-3.3**
	0.1nm,0.3s,baz=49,slow=22,SNR=3.0								
RMQ	**Roma**	**19.61**	**179**	P	**P**	**02 24**	**41.0**		**+0.2**
	baz=20,SNR=10								
KNRA	**Kunumurra**	**21.16**	**244**	P	**P**	**02 24**	**57.9**		**+0.2**
	baz=21,SNR=5.3								
AS01	**Alice Springs**	**21.78**	**218**	*e*P	**P**	**02 25**	**05.9**		**+1.6**
AS31	**Alice Springs**	**21.81**	**218**	*e*P	**P**	**02 25**	**04.0**		**-0.6**
	16nm,0.6s								
ASAR	**Alice Springs**	**21.81**	**218**	P	**P**	**02 25**	**03.8**		**-0.9**
	32nm,0.7s,baz=54,slow=9.1,SNR=23								
ASAR				S	**S**	**02 29**	**05.9**		**+2.4**
	5.8nm,0.9s,baz=30,slow=23,SNR=5.0								
DZM	**Mont Dzumac**	**23.14**	**133**	P	**P**	**02 25**	**18.3**		**-0.4**
	14nm,0.8s,baz=325,slow=18,SNR=4.4								
ARMA	**Armidale**	**23.73**	**173**	*e*P	**P**	**02 25**	**25.7**		**+1.4**
	18nm,1.0s								
SOEI	**Soe**	**24.04**	**261**	*e*P	**P**	**02 25**	**27.8**		**+0.4**
	46nm,1.1s								
BATI	**Baumata**	**24.68**	**260**	P	**P**	**02 25**	**33.3**		**+0.3**
	44nm,0.6s,baz=214,slow=4.0,SNR=4.2								
FITZ	**Fitzroy Crossi**	**24.86**	**241**	P	**P**	**02 25**	**34.3**		**-0.4**
	baz=25,SNR=36								
FITZ	**Fitzroy Crossi**	**24.86**	**241**	*e*P	**P**	**02 25**	**34.2**		**-0.4**
	87nm,0.8s								
FITZ	**Fitzroy Crossi**	**24.86**	**241**	P	**P**	**02 25**	**34.3**		**-0.4**
	77nm,0.8s,baz=73,slow=5.9,SNR=32								
STKA	**Stephens Creek**	**25.77**	**193**	P	**P**	**02 25**	**43.0**		**+0.2**
	baz=26,SNR=7.7								
STKA	**Stephens Creek**	**25.77**	**193**	*e*P	**P**	**02 25**	**43.0**		**+0.2**
	6.6nm,1.0s								
STKA	**Stephens Creek**	**25.77**	**193**	P	**P**	**02 25**	**42.6**		**-0.1**
	33nm,1.1s,baz=4.6,slow=11,SNR=9.3								
WRKA	**Warakurna**	**26.45**	**224**	P	**P**	**02 25**	**48.3**		**-0.6**
	baz=26,SNR=23								
HTT	**Hallett**	**27.95**	**197**	P	**P**	**02 26**	**02.7**		**+0.3**
	baz=28,SNR=8.6								
BBOO	**Buckleboo**	**28.34**	**202**	*e*P	**P**	**02 26**	**05.4**		**-0.4**
	11nm,1.0s								
MBWA	**Marble Bar**	**31.18**	**240**	*e*P	**P**	**02 26**	**32.7**		**+1.6**
	37nm,1.1s								
JAGI	**Jajag, Banyuwa**	**33.96**	**265**	*e*P	**P**	**02 26**	**56.6**		**+1.0**
	39nm,0.9s								
MEEK	**Meekatharra**	**34.53**	**232**	P	**P**	**02 26**	**60.0**		**-0.4**
	baz=34,SNR=8.3								
MORW	**Morawa**	**37.71**	**230**	*e*P	**P**	**02 27**	**29.6**		**+2.1**
	24nm,1.1s								
KLBR	**Kellerberrin**	**37.78**	**225**	P	**P**	**02 27**	**26.9**		**-1.2**
	baz=38,SNR=8.5								
NWAO	**Narrogin (SRO)**	**38.91**	**224**	*e*P	**P**	**02 27**	**38.3**		**+0.8**
	78nm,1.1s								
NWAO	**Narrogin (SRO)**	**38.91**	**224**	P	**P**	**02 27**	**38.1**		**+0.5**
	9.2nm,0.8s,baz=194,slow=12,SNR=2.7								
MUN	**Mundaring**	**39.09**	**226**	P	**P**	**02 27**	**40.5**		**+1.4**
	baz=39								
CISI	**Cisompet, Garu**	**40.25**	**266**	*e*P	**P**	**02 27**	**47.0**		**-2.0**
	38nm,0.9s								
MJAR	**Matsushiro Arr**	**44.12**	**348**	P	**P**	**02 28**	**17.9**		**-2.2**
	5.7nm,0.9s,baz=174,slow=8.6,SNR=5.7								
NJ2	**Nanjing**	**47.78**	**326**	*e*P	**P**	**02 28**	**51.0**		**+2.0**
NJ2				pmax	pmax				
	comp=Z,15nm,0.5s								
KSRS	**Korea Array**	**47.96**	**338**	P	**P**	**02 28**	**48.6**		**-1.7**
	1.8nm,0.7s,baz=152,slow=8.5,SNR=6.1								
KSAR	**Wonju Array Be**	**47.97**	**338**	P	**P**	**02 28**	**48.6**		**-1.7**
IPM	**Ipoh**	**48.57**	**282**	*e*P	**P**	**02 28**	**55.7**		**+0.2**
	30nm,1.0s								
PSI	**Prapat**	**50.27**	**279**	*e*P	**P**	**02 29**	**08.3**		**-0.3**
	15nm,1.0s								
GSI	**Gunungsitoli**	**51.33**	**277**	*e*P	**P**	**02 29**	**15.8**		**-0.7**
	18nm,0.9s								
USRK	**Ussuriysk Ar.**	**52.85**	**345**	P	**P**	**02 29**	**25.5**		**-1.6**
	2.8nm,0.5s,baz=167,slow=7.9,SNR=11								
CN2	**Changchun**	**54.44**	**340**	*e*P	**P**	**02 29**	**42.0**		**+3.2**
KMI	**Kunming**	**54.55**	**307**	P	**P**	**02 29**	**41.2**		**+1.0**
KMI				pmax	pmax				
	comp=Z,11nm,0.5s								
CMAR	**Chiang Mai Arr**	**54.82**	**298**	P	**P**	**02 29**	**42.4**		**+0.4**
	0.9nm,0.3s,baz=126,slow=6.9,SNR=2.4								
CD2	**Chengdu**	**56.79**	**314**	P	**P**				
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**58.20**	**328**	*e*P	**P**	**02 30**	**08.8**		**+2.9**
HHC				pP	pP	02 30	19.3		+1.3
HHC				S	**S**	**02 38**	**11.4**		**+7.0**
HHC				sS	sS	02 38	23.5		-1.9
HHC				ScS	**ScS**	**02 39**	**51.6**		**-0.2**
HHC				pmax	pmax				
	comp=Z,14nm,1.0s								
HHC				LR	LR				
	comp=N,2μm,18.8s								
HHC				LR	LR				
	comp=E,1μm,18.6s								
HHC				LR	LR				
	comp=Z,2μm,17.7s								
LZH	**Lanzhou**	**59.68**	**319**	*e*P	**P**	**02 30**	**18.5**		**+2.2**
LZH				pP	pP	02 30	30.1		+1.8
LZH				sP	pwP	02 30	34.0		+0.7
LZH				*e*PP	**PP**	**02 32**	**32.6**		**+4.1**
LZH				pmax	pmax				
	comp=Z,18nm,1.1s								
LZH				pmax	pmax				
	comp=Z,73nm,7.0s								
LZH				LR	LR				
	comp=N,220nm,14.8s								
LZH				LR	LR				
	comp=E,230nm,15.0s								
LZH				LR	LR				
	comp=Z,360nm,18.1s								
PETK	**Petropavlovsk-**	**60.17**	**6**	P	**P**	**02 30**	**17.8**		**-1.2**
	3.0nm,0.8s,baz=167,slow=7.1,SNR=3.4								
HIA	**Hailar**	**61.15**	**339**	*e*P	**P**	**02 30**	**24.1**		**-1.7**
	2.4nm,0.3s								
CASY	**Casey**	**64.89**	**196**	*e*P	**P**	**02 30**	**51.3**		**+0.9**
	1.8nm,0.6s								
SONM	**Songino Array**	**65.74**

KHC	**Kasperske Hory**	**123.22**	**326**	*e*PKP	**PKPdf**	02 39 08.0	**-0.1**
KHC				*ex*	x	02 39 16.4	
GERES	**GERESS Array B**	**123.31**	**326**	PKP	**PKPdf**	02 39 07.5	**-0.8**
	1.8nm,0.5s,baz=81,slow=2.0,SNR=16						
MOA	**Molln**	**123.51**	**325**	*e*PKPdf	**PKPdf**	02 39 07.1	**-1.5**
	0.6nm,0.3s						
SOKA	**Soboth**	**123.66**	**323**	*e*PKPdf	**PKPdf**	02 39 06.8	**-2.2**
	0.7nm,0.5s						
OBKA	**Obir**	**124.03**	**323**	*e*PKiKP	**PKPdf**	02 39 09.6	**-0.1**
	1.9nm,0.6s						
OBKA				*e*Sdiff	**Sdif**	02 48 42.1	**-6.3**
	8.6nm,1.5s						
SCHQ	**Schefferville**	**124.40**	**24**	PKP	**PKPdf**	02 39 09.9	**-0.2**
	2.5nm,0.6s,baz=254,slow=7.7,SNR=6.5						
ABTA	**Abfaltersbach**	**125.11**	**324**	*e*PKPdf	**PKPdf**	02 39 10.7	**-1.1**
	1.8nm,0.6s						
ABTA				Sdiff	**Sdif**	02 48 56.6	**-0.7**
	0.5nm,0.3s						
WATA	**Walderalm**	**125.33**	**325**	*e*PKiKP	**PKPdf**	02 39 11.6	**-0.7**
	2.1nm,0.4s						
MOTA	**Moosalm**	**125.59**	**325**	*e*PKPdf	**PKPdf**	02 39 11.6	**-1.2**
	2.7nm,0.5s						
MOTA				*e*Sdiff	**Sdif**	02 49 00.2	**-1.3**
	0.8nm,0.4s						
SQTA	**Sankt Quirin**	**125.60**	**325**	*e*PKiKP	**PKPdf**	02 39 12.5	**-0.3**
	0.6nm,0.3s						
SQTA				*e*Sdiff	**Sdif**	02 48 58.6	**-2.9**
	0.6nm,0.3s						
RETA	**Reutte**	**125.70**	**326**	*e*PKPdf	**PKPdf**	02 39 11.2	**-1.7**
	0.7nm,0.2s						
RETA				*e*Sdiff	**Sdif**	02 48 59.4	**-2.9**
	0.3nm,0.2s						
FETA	**Feichten**	**125.98**	**325**	*e*PKiKP	**PKPdf**	02 39 12.9	**-0.6**
	1.5nm,0.6s						
FETA				*e*Sdiff	**Sdif**	02 49 04.1	**-0.7**
	1.0nm,0.5s						
DAVA	**Damuels**	**126.31**	**326**	*e*PKiKP	**PKPdf**	02 39 14.1	**-0.1**
	2.3nm,0.5s						
LPAZ	**La Paz**	**137.22**	**123**	PKP	**PKPdf**	02 39 36.8	**+0.6**
	2.0nm,0.8s,baz=297,slow=6.8,SNR=4.4						
ROSC	**El Rosal**	**137.49**	**90**	PKP	**PKiKP**	02 39 37.7	**-0.7**
	3.1nm,0.4s,baz=177,slow=23,SNR=5.1						
CPUP	**Villa Florida**	**138.71**	**144**	PKP	**PKiKP**	02 39 39.7	**-0.4**
	1.9nm,0.8s,baz=135,slow=5.7,SNR=2.9						
SDV	**Santo Domingo**	**141.31**	**84**	*e*PKPdf	**PKPdf**	02 39 43.9	**+0.7**
TORD	**Torodi Ar. Bea**	**146.60**	**284**	PKPbc	**PKPdf**	02 39 52.3	**+0.2**
	14nm,0.9s,baz=71,slow=2.4,SNR=34						
TORD				SKPbc	**SKiKP**	02 43 32.6	**+3.5**
	0.7nm,0.9s,baz=73,slow=2.6,SNR=2.7						
BDFB	**Brasilia**	**152.44**	**144**	PKPbc	**PKPbc**	02 40 07.2	**-1.2**
	9.6nm,0.9s,baz=164,slow=2.0,SNR=9.5						
KIC	**Kosan Boka**	**153.29**	**271**	*e*PKIKP	**PKPbc**	02 40 10.4	**+0.1**
	171nm,2.0s						
DBIC	**Dimbokro**	**153.42**	**271**	PKPbc	**PKPbc**	02 40 10.3	**-0.3**
	2.8nm,0.5s,baz=268,slow=0.7,SNR=5.5						
LIC	**Lamto**	**153.57**	**270**	*e*PKIKP	**PKPbc**	02 40 10.8	**-0.1**
	89nm,1.9s						
TIC	**Toumodi**	**153.58**	**271**	*e*PKIKP	**PKPbc**	02 40 11.0	**0.0**

IDC 11 02:27:36.6±1.6, 6°82S×148°35E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/34, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=60.5km s-min=25.3km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**225**	P	Pn	02 31 58.9	+0.1
	0.4nm,0.3s,baz=52,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.75**	**218**	P	P	02 32 30.5	+0.6
	3.7nm,0.7s,baz=56,slow=9.3,SNR=26						
FITZ	**Fitzroy Crossi**	**24.81**	**241**	P	P	02 33 01.2	+0.6
	9.8nm,0.5s,baz=52,slow=8.9,SNR=22						
STKA	**Stephens Creek**	**25.71**	**193**	P	P	02 33 07.5	-1.2
	2.4nm,0.9s,baz=349,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**78.98**	**320**	P	P	02 39 41.0	-1.4
	0.2nm,0.5s,baz=100,slow=6.0,SNR=2.6						
ILAR	**Eielson Array**	**85.71**	**23**	P	P	02 40 18.6	+1.4
	0.4nm,1.0s,baz=261,slow=4.5,SNR=1.3						
TORD	**Torodi Ar. Bea**	**146.59**	**283**	PKPbc	PKPdf	02 47 20.3	+0.5
	1.4nm,0.8s,baz=92,slow=3.6,SNR=11						

BUC 11 02:28:49.0±0.7, 45°.64N×26°.39E, h154km±7km, MD3.8/11, 52C-38D, Error ellipse: s-maj=6.2km s-min=5.0km az=45.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.28**	**40**	↑*i*P	Pn	02 29 09.5	-0.4
PLOR				*i* S	Sn	02 29 25.6	-0.4
PLOR	**Plostina**	**0.28**	**40**	↑*i*P	Pn	02 29 09.5	-0.4
VRI	**Vrincioaia**	**0.33**	**45**	↑*i*P	Pn	02 29 09.8	-0.2
VRI				*i* S	Sn	02 29 25.4	-0.8
VRI	**Vrincioaia**	**0.33**	**45**	↑*i*P	Pn	02 29 09.8	-0.2
MLR	**Muntele Rosu**	**0.35**	**245**	↑*i*P	Pn	02 29 10.2	-0.1
MLR				*i* S	Sn	02 29 26.4	0.0
MLR	**Muntele Rosu**	**0.35**	**245**	↑*i*P	Pn	02 29 10.2	-0.1
ODBI	**Odobesti**	**0.48**	**75**	↑*i*P	Pn	02 29 11.2	+0.6
ODBI				*i* S	Sn	02 29 27.8	+0.7
ODBI	**Odobesti**	**0.48**	**75**	↑*i*P	Pn	02 29 11.2	+0.6
GRER		**0.48**	**122**	↑*i*P	Pn	02 29 11.6	+0.9
GRER		**0.48**	**122**	↑*i*P	Pn	02 29 11.6	+0.9
ISR	**Istrita**	**0.53**	**168**	↑*i*P	Pn	02 29 11.1	+0.1
ISR				*i* S	Sn	02 29 29.3	+1.6
ISR	**Istrita**	**0.53**	**168**	↑*i*P	Pn	02 29 11.1	+0.1
PETR	**Petresti**	**0.59**	**81**	↓*i*P	Pn	02 29 11.6	+0.4
PETR				*i* S	Sn	02 29 28.2	+0.1
PETR	**Petresti**	**0.59**	**81**	↓*i*P	Pn	02 29 11.6	+0.4
OZUR		**0.62**	**317**	↑*i*P	Pn	02 29 10.9	-0.5
OZUR				*i* S	Sn	02 29 27.3	-1.4
OZUR		**0.62**	**317**	↑*i*P	Pn	02 29 10.9	-0.5
SECR		**0.64**	**201**	↓*i*P	Pn	02 29 12.0	+0.4
SECR				*i* S	Sn	02 29 29.8	+1.1
SECR		**0.64**	**201**	↓*i*P	Pn	02 29 12.0	+0.4
PLAR	**PLOIESTI**	**0.77**	**200**	↓*i*P	Pn	02 29 12.8	+0.5
PLAR	**PLOIESTI**	**0.77**	**200**	↓*i*P	Pn	02 29 12.8	+0.5
DOPR	**Dopca**	**0.78**	**296**	↑*i*P	Pn	02 29 12.1	-0.3
DOPR				*i* S	Sn	02 29 30.8	+0.5
DOPR	**Dopca**	**0.78**	**296**	↑*i*P	Pn	02 29 12.1	-0.3
PGOR	**Pogoanele**	**0.84**	**150**	↓*i*P	Pn	02 29 13.0	+0.2
PGOR				*i* S	Sn	02 29 31.7	+0.7
PGOR	**Pogoanele**	**0.84**	**150**	↓*i*P	Pn	02 29 13.0	+0.2
TESR	**Tescani**	**0.89**	**11**	↑*i*P	Pn	02 29 12.6	-0.6
TESR				*i* S	Sn	02 29 30.0	-1.9
TESR	**Tescani**	**0.89**	**11**	↑*i*P	Pn	02 29 12.6	-0.6
SULR		**0.96**	**186**	↓*i*P	Pn	02 29 14.0	+0.2
SULR				*i* S	Sn	02 29 33.6	+0.9
SULR		**0.96**	**186**	↓*i*P	Pn	02 29 14.0	+0.2
VOIR		**0.97**	**259**	↑*i*P	Pn	02 29 13.6	-0.3
VOIR				*i* S	Sn	02 29 32.8	-0.1
VOIR		**0.97**	**259**	↑*i*P	Pn	02 29 13.6	-0.3
MTUR	**Matau**	**1.02**	**247**	P	Pn	02 29 14.1	-0.3
BIR	**Birlad**	**1.07**	**53**	↑*i*P	Pn	02 29 14.3	-0.3
BIR				*i* S	Sn	02 29 33.1	-1.2
BIR	**Birlad**	**1.07**	**53**	↑*i*P	Pn	02 29 14.3	-0.3
LEHL	**Lehliu**	**1.20**	**165**	↓*i*P	Pn	02 29 15.9	0.0
LEHL				*i* S	Sn	02 29 36.3	-0.1
LEHL	**Lehliu**	**1.20**	**165**	↓*i*P	Pn	02 29 15.9	0.0
INCR	**INCERC-Sediu C**	**1.21**	**188**	P	Pn	02 29 15.4	-0.5
INCR				*i* S	Sn	02 29 36.3	-0.2
AMRR	**Amara**	**1.22**	**147**	↓*i*P	Pn	02 29 16.1	0.0
AMRR				*i* S	Sn	02 29 36.2	-0.5
AMRR	**Amara**	**1.22**	**147**	↓*i*P	Pn	02 29 16.1	0.0
ARR	**Arges**	**1.27**	**258**	↑*i*P	Pn	02 29 17.3	+0.7
ARR				*i* S	Sn	02 29 38.7	+1.1
ARR	**Arges**	**1.27**	**258**	↑*i*P	Pn	02 29 17.3	+0.7
GIUM	**Giurgiulesti**	**1.28**	**96**	P	Pn	02 29 16.8	+0.2
GIUM				*i* S	Sn	02 29 36.8	-0.9
CFR	**Carcaliu**	**1.31**	**110**	↑*i*P	Pn	02 29 16.3	-0.6
CFR				*i* S	Sn	02 29 36.8	-1.4
CFR	**Carcaliu**	**1.31**	**110**	↑*i*P	Pn	02 29 16.3	-0.6
BUC1	**Bucharest**	**1.31**	**192**	↑*i*P	Pn	02 29 17.1	+0.2
BUC1				*i* S	Sn	02 29 38.2	-0.1
BUC1	**Bucharest**	**1.31**	**192**	↑*i*P	Pn	02 29 17.1	+0.2
BIZ	**Bicaz**	**1.32**	**351**	↑*i*P	Pn	02 29 17.5	+0.5
BIZ				*i* S	Sn	02 29 39.0	+0.5
BIZ	**Bicaz**	**1.32**	**351**	↑*i*P	Pn	02 29 17.5	+0.5
HARR	**Harsova**	**1.44**	**131**	↓*i*P	Pn	02 29 17.8	-0.4
HARR	**Harsova**	**1.44**	**131**	↓*i*P	Pn	02 29 17.8	-0.4
SGRR	**Singureni**	**1.45**	**192**	↓*i*P	Pn	02 29 18.1	-0.1
SGRR				*i* S	Sn	02 29 40.0	-0.6
SGRR	**Singureni**	**1.45**	**192**	↓*i*P	Pn	02 29 18.1	-0.1
HUMR	**Humele**	**1.49**	**223**	↓*i*P	Pn	02 29 18.6	-0.2
HUMR				*i* S	Sn	02 29 40.1	-1.4
HUMR	**Humele**	**1.49**	**223**	↓*i*P	Pn	02 29 18.6	-0.2
MDB	**Medias**	**1.49**	**290**	↑*i*P	Pn	02 29 19.3	+0.6
MDB	**Medias**	**1.49**	**290**	↑*i*P	Pn	02 29 19.3	+0.6
RASA	**Rasa**	**1.52**	**159**	↓*i*P	Pn	02 29 18.7	-0.3
RASA				*i* S	Sn	02 29 41.6	-0.4
RASA	**Rasa**	**1.52**	**159**	↓*i*P	Pn	02 29 18.7	-0.3
LEOM	**Leova**	**1.54**	**56**	↓*i*P	Pn	02 29 18.8	-0.3
LEOM				*i* S	Sn	02 29 40.8	-1.5
LEOM	**Leova**	**1.54**	**56**	↓*i*P	Pn	02 29 18.8	-0.3
TLB	**Topalu**	**1.57**	**131**	↓*i*P	Pn	02 29 19.1	-0.4
TLB				*i* S	Sn	02 29 41.2	-1.7
TLB	**Topalu**	**1.57**	**131**	↓*i*P	Pn	02 29 19.1	-0.4
CVDA	**Cernavoda**	**1.75**	**138**	↓*i*P	Pn	02 29 21.2	-0.3
CVDA				*i* S	Sn	02 29 44.6	-1.8
CVDA	**Cernavoda**	**1.75**	**138**	↓*i*P	Pn	02 29 21.2	-0.3
IAS	**Iasi**	**1.75**	**27**	↑*i*P	Pn	02 29 20.5	-1.0
IAS				*i* S	Sn	02 29 44.3	-2.2
IAS	**Iasi**	**1.75**	**27**	↑*i*P	Pn	02 29 20.5	-1.0
TLCR		**1.76**	**104**	↑*i*P	Pn	02 29 21.3	-0.3
TLCR				*i* S	Sn	02 29 45.5	-1.1
TLCR		**1.76**	**104**	↑*i*P	Pn	02 29 21.3	-0.3
ICOR	**Ion Corvin**	**1.82**	**146**	↑*i*P	Pn	02 29 22.4	+0.1
ICOR				*i* S	Sn	02 29 46.8	-1.0
ICOR	**Ion Corvin**	**1.82**	**146**	↑*i*P	Pn	02 29 22.4	+0.1
LOT	**Lotru**	**1.85**	**265**	↑*i*P	Pn	02 29 23.3	+0.5
LOT	**Lotru**	**1.85**	**265**	↑*i*P	Pn	02 29 23.3	+0.5
TIRR	**Tirgusor**	**1.85**	**129**	↓*i*P	Pn	02 29 22.2	-0.4
TIRR				*i* S	Sn	02 29 46.8	-1.6
TIRR	**Tirgusor**	**1.85**	**129**	↓*i*P	Pn	02 29 22.2	-0.4
MFTR	**Murfatlar**	**2.05**	**135**	↑*i*P	Pn	02 29 25.1	+0.2
MFTR				*i* S	Sn	02 29 50.7	-1.8
MFTR	**Murfatlar**	**2.05**	**135**	↑*i*P	Pn	02 29 25.1	+0.2
MILM	**Milestii Mici**	**2.11**	**52**	↓*i*P	Pn	02 29 24.9	-0.6
MILM				*i* S	Sn	02 29 51.1	-2.7
MILM	**Milestii Mici**	**2.11**	**52**	↓*i*P	Pn	02 29 24.9	-0.6
ZIMR		**2.11**	**201**	↓*i*P	Pn	02 29 25.4	-0.2
ZIMR				*i* S	Sn	02 29 52.7	-1.1
ZIMR		**2.11**	**201**	↓*i*P	Pn	02 29 25.4	-0.2
BURAR	**Bucovina Array**	**2.14**	**338**	↑*i*P	Pn	02 29 27.0	+1.0
BURAR	**Bucovina Array**	**2.14**	**338**	↑*i*P	Pn	02 29 27.0	+1.0
VLAD	**Vladila**	**2.17**	**222**	↓*i*P	Pn	02 29 25.9	-0.3
VLAD				*i* S	Sn	02 29 54.8	-0.1
VLAD	**Vladila**	**2.17**	**222**	↓*i*P	Pn	02 29 25.9	-0.3
CJR	**Cluj-Napoca**	**2.22**	**300**	P	Pn	02 29 26.6	-0.3
MANR	**Mangalia**	**2.40**	**139**	P	Pn	02 29 28.6	-0.4
SRE	**Strehaia**	**2.46**	**248**	↓*i*P	Pn	02 29 29.6	-0.1
SRE	**Strehaia**	**2.46**	**248**	↓*i*P	Pn	02 29 29.6	-0.1
GZR	**Gura Zlata**	**2.56**	**266**	↑*i*P	Pn	02 29 31.4	+0.4
GZR	**Gura Zlata**	**2.56**	**266**	↑*i*P	Pn	02 29 31.4	+0.4
DRGR		**2.81**	**296**	↑*i*P	Pn	02 29 33.4	-0.7
DRGR		**2.81**	**296**	↑*i*P	Pn	02 29 33.4	-0.7
PUNG	**Punghina**	**2.81**	**242**	P	Pn	02 29 33.2	-0.8
PUNG				*i* S	Sn	02 30 06.9	-1.9
HERR	**Herculane**	**2.91**	**256**	↑*i*P	Pn	02 29 35.2	-0.1
HERR				*i* S	Sn	02 30 09.8	-1.3
HERR	**Herculane**	**2.91**	**256**	↑*i*P	Pn	02 29 35.2	-0.1
MDVR	**Moldovita**	**3.42**	**257**	↑*i*P	Pn	02 29 41.8	0.0
MDVR				*i* S	Sn	02 30 22.1	-0.7
MDVR	**Moldovita**	**3.42**	**257**	↑*i*P	Pn	02 29 41.8	0.0

IDC 11 02:30:40.2±0.6, 6°.61S×148°.56E, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.3/32, mbtmp4.2/19, ML4.1/3, MS4.7/9, Ms1 4.7/9, ms1mx4.3/40, Error ellipse: s-maj=23.6km s-min=14.2km az=103.0

NEIC 11 02:30:42.0±0.3, 6°.60S×148°.49E, h10km, mb4.7/19, Error ellipse: s-maj=8.8km s-min=5.3km az=106.0

BJI 11 02:30:44.0, 6°.56S×149°.00E, h35km, mb4.6/18, mB5.2/4, Ms5.0/5, Ms7 4.9/5

ISCJB 11 02:30:45.4±0.4, 6°.69S±0°.04×148°.42E±0°.06, h46km, mb4.6/41, MS4.7/7, Error ellipse: s-maj=8.1km s-min=5.6km az=9.3

DJA 11 02:30:46.0±1.0, 7°S±11°×14°8E±1°2, h10km, M4.7/13, mb4.7/13

ISC 11 02:30:47.6±0.4, 6°.76S±0°.05×148°.46E±0°.07, h46km, n98, σ1°99/100, mb4.7/40, MS4.7/7, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.48**	**56**	*e*Pn	Pn	02 31 58.9	+5.8
COEN	**Coen**	**8.84**	**216**	P	**Pn**	**02 32 52.5**	**-0.4**
	baz=7.9,SNR=5.7						
COEN				S	**Sn**	**02 34 28.2**	**-3.1**
	baz=7.9						
COEN	**Coen**	**8.84**	**216**	*e*Pn	**Pn**	**02 32 50.8**	**-2.1**
COEN				*e*Sn	**Sn**	**02 34 33.6**	**+2.3**
HNR	**Honiara**	**11.68**	**104**	Pn	**Pn**	**02 33 34.4**	**+2.6**
HNR	**Honiara**	**11.68**	**104**	LR	LR	02 37 08.6	
	comp=Z,2μm,19.2s,baz=299,slow=33						
MTSU	**Mount Surprise**	**12.01**	**199**	P	**Pn**	**02 33 37.0**	**+0.7**
	baz=11,SNR=7.3						
CTA	**Charters Tower**	**13.42**	**189**	P	**Pn**	**02 33 57.7**	**+2.1**
	baz=13						
CTA	**Charters Tower**	**13.42**	**189**	Pn	**Pn**	**02 33 56.0**	**+0.4**
	0.2nm,0.3s,baz=266,slow=16,SNR=3.6						
CTA				LR	LR	02 39 15.9	
	comp=Z,2μm,18.6s,baz=6.0,slow=38						
CTAO	**Charters Tower**	**13.42**	**189**	*e*Pn	**Pn**	**02 33 56.9**	**+1.3**
QIS	**Mount Isa**	**16.18**	**211**	P	**Pn**	**02 34 31.7**	**-0.3**
	baz=15,SNR=11						
KDU	**Kakadu**	**16.82**	**248**	P	**Pn**	**02 34 39.6**	**-0.3**
	baz=16,SNR=7.2						
MTN	**Manton Dam**	**18.11**	**249**	P	**P**	**02 34 55.0**	**-0.8**
	baz=17,SNR=3.4						
SIJI	**Sorong**	**18.12**	**288**	P	**Pn**	**02 34 56.0**	**-0.1**
	0.7nm,0.3s,baz=221,slow=20,SNR=1.6						
SIJI				LR	LR	02 43 39.5	
	comp=Z,4μm,19.2s,baz=61,slow=43						
WRAB	**Tennant Creek**	**18.95**	**225**	*e*P	**P**	**02 35 05.2**	**0.0**
	18nm,0.6s						
WB2	**Warramunga Arr**	**18.96**	**225**	*e*P	**P**	**02 35 05.4**	**+0.2**
	19nm,0.6s						
WRA	**Warramunga Arr**	**18.96**	**225**	P	**P**	**02 35 04.4**	**-0.9**
	1.2nm,0.3s,baz=52,slow=11,SNR=23						
WRA				S	**S**	**02 38 39.2**	**+0.8**
	baz=43,slow=21,SNR=2.7						
WRA				LR	LR	02 43 03.0	
	comp=Z,3μm,19.4s,baz=30,slow=39						
RMQ	**Roma**	**19.62**	**179**	P	**Pn**	**02 35 13.6**	**-0.5**
	baz=19,SNR=7.1						
GUMO	**Guam**	**20.53**	**350**	LR	LR	02 42 37.0	
	comp=Z,701nm,18.3s,baz=188,slow=35						
KNRA	**Kununurra**	**21.24**	**244**	P	**P**	**02 35 28.7**	**-1.3**
	baz=20,SNR=6.2						
NLAI	**Namlea**	**21.56**	**278**	P	**P**	**02 35 33.3**	**-0.1**
	25nm,0.7s						
AS01	**Alice Springs**	**21.84**	**218**	*e*P	**P**	**02 35 35.9**	**-0.5**
AS31	**Alice Springs**	**21.87**	**218**	*e*P	**P**	**02 35 36.1**	**-0.6**
	5.9nm,0.6s						
ASAR	**Alice Springs**	**21.87**	**218**	P	**P**	**02 35 36.0**	**-0.7**
	8.4nm,0.5s,baz=48,slow=9.4,SNR=30						
ASAR				S	**S**	**02 39 39.4**	**+3.3**
	2.1nm,0.8s,baz=30,slow=23,SNR=4.5						
SANI	**Sanana**	**22.88**	**281**	P	**P**	**02 35 44.8**	**-2.8**
	37nm,0.7s						
ARMA	**Armidale**	**23.73**	**173**	P	**P**	**02 35 59.0**	**+3.3**
	baz=23,SNR=4.2						
ARMA	**Armidale**	**23.73**	**173**	*e*P	**P**	**02 35 55.9**	**+0.1**
	16nm,1.0s						
SOEI	**Soe**	**24.12**	**261**	P	**P**	**02 36 00.4**	**+0.8**
BATI	**Baumata**	**24.76**	**260**	P	**P**	**02 36 05.2**	**0.0**
	34nm,0.6s,baz=78,slow=9.3,SNR=2.9						
BATI				LR	LR	02 47 28.8	
	comp=Z,3μm,20.1s,baz=78,slow=40						
CMSA	**Cobar Meteorol**	**24.79**	**186**	P	**P**	**02 36 07.5**	**+2.2**
	baz=24,SNR=7.8						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	P	**P**	**02 36 06.3**	**-0.5**
	baz=24,SNR=80						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	*e*P	**P**	**02 36 06.4**	**-0.5**
	76nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	P	**P**	**02 36 06.6**	**-0.2**
	65nm,0.7s,baz=59,slow=7.6,SNR=55						
FITZ				LR	LR	02 46 19.5	
	comp=Z,3μm,20.7s,baz=60,slow=37						
STKA	**Stephens Creek**	**25.80**	**194**	P	**P**	**02 36 15.2**	**+0.7**
	baz=25,SNR=9.8						
STKA	**Stephens Creek**	**25.80**	**194**	*e*P	**P**	**02 36 15.1**	**+0.6**
	5.1nm,1.1s						
STKA	**Stephens Creek**	**25.80**	**194**	P	**P**	**02 36 14.3**	**-0.2**
	3.4nm,0.3s,baz=27,slow=8.3,SNR=15						
WRKA	**Warakurna**	**26.51**	**224**	P	**P**	**02 36 20.5**	**-0.5**
	baz=26,SNR=20						
EDFI	**Ende, Flores**	**26.60**	**264**	P	**P**	**02 36 25.2**	**+3.2**
	29nm,1.0s						
APSI	**Ampana**	**27.36**	**281**	P	**P**	**02 36 27.0**	**-1.8**
	38nm,1.3s						
HTT	**Hallett**	**27.98**	**197**	P	**P**	**02 36 34.8**	**+0.7**
	baz=27,SNR=10						
BBOO	**Buckleboo**	**28.37**	**202**	*e*P	**P**	**02 36 36.9**	**-0.7**
	7.1nm,1.1s						
FORT	**Forrest**	**30.61**	**216**	*e*P	**P**	**02 36 57.8**	**+0.3**
	13nm,0.9s						
MBWA	**Marble Bar**	**31.26**	**240**	*e*P	**P**	**02 37 03.1**	**-0.2**
	10.0nm,0.8s						
JAGI	**Jajag, Banyuwa**	**34.04**	**265**	*e*P	**P**	**02 37 26.8**	**-0.9**
	23nm,0.8s						
MEEK	**Meekatharra**	**34.60**	**232**	P	**P**	**02 37 32.3**	**-0.2**
	baz=34						
SBUM	**Sibu**	**37.31**	**283**	*e*P	**P**	**02 37 55.8**	**-0.1**
	10.0nm,1.0s						
MORW	**Morawa**	**37.77**	**230**	*e*P	**P**	**02 37 57.3**	**-2.2**
	14nm,1.0s						
KLBR	**Kellerberrin**	**37.85**	**225**	P	**P**	**02 37 59.5**	**-0.7**
	baz=37,SNR=8.0						
KSM	**Kuching**	**38.95**	**281**	*e*P	**P**	**02 38 08.7**	**-0.9**
	9.9nm,0.7s						
CISI	**Cisompet, Garu**	**40.33**	**266**	*e*P	**P**	**02 38 20.6**	**-0.5**
	32nm,0.7s						
RPZ	**Rata Peaks**	**41.81**	**155**	LR	LR	02 53 16.6	
	comp=Z,1μm,21.6s,baz=310,slow=32						
MJAR	**Matsushiro Arr**	**44.13**	**348**	P	**P**	**02 38 50.6**	**-1.1**
	1.9nm,0.6s,baz=20,slow=23,SNR=4.2						
MYKOM	**Kota Tinggi**	**45.33**	**279**	*e*P	**P**	**02 39 04.4**	**+2.8**
	21nm,1.0s						
NJ2	**Nanjing**	**47.82**	**326**	*e*P	**P**	**02 39 20.0**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,27nm,0.5s						
KSRS	**Korea Array**	**47.98**	**338**	P	**P**	**02 39 20.0**	**-1.9**
	1.3nm,0.6s,baz=157,slow=7.8,SNR=5.1						
KSAR	**Wonju Array Be**	**47.99**	**338**	P	**P**	**02 39 20.0**	**-2.0**
IPM	**Ipoh**	**48.65**	**282**	*e*P	**P**	**02 39 26.9**	**-0.6**
	16nm,1.0s						
KULM	**Kulim**	**49.20**	**283**	*e*P	**P**	**02 39 31.0**	**-0.8**
	10nm,0.9s						
PSI	**Prapat**	**50.35**	**279**	*e*P	**P**	**02 39 39.6**	**-1.1**
	10nm,0.9s						
RAR	**Rarotonga**	**52.01**	**112**	LR	LR	03 00 03.5	
	comp=Z,280nm,18.2s,baz=276,slow=34						
USRK	**Ussuriysk Ar.**	**52.86**	**345**	P	**P**	**02 39 57.2**	**-1.5**
	2.5nm,0.7s,baz=196,slow=6.8,SNR=6.8						
CN2	**Changchun**	**54.46**	**340**	*e*P	**P**	**02 40 13.8**	**+3.3**
KMI	**Kunming**	**54.61**	**307**	P	**P**	**02 40 13.8**	**+1.6**
KMI				pmax	pmax		
	comp=Z,20nm,0.6s						
CMAR	**Chiang Mai Arr**	**54.88**	**298**	P	**P**	**02 40 14.6**	**+0.5**
	0.8nm,0.3s,baz=119,slow=5.2,SNR=2.4						
CD2	**Chengdu**	**56.84**	**314**	P	**P**	**02 40 28.4**	**+0.5**
CD2				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**58.24**	**328**	*e*P	**P**	**02 40 41.4**	**+3.8**
HHC				pP	sP	02 40 52.0	-2.3
HHC				S	**S**	**02 48 42.8**	**+6.4**
HHC				sS	sS	02

ASAR	**Alice Springs**	**21.89 218**	P	P	02 42 14.9	+0.3
	1.7nm,0.6s,baz=53,slow=9.7,SNR=13					
FITZ	**Fitzroy Crossi**	**24.97 241**	P	P	02 42 45.6	+0.3
	4.5nm,0.7s,baz=60,slow=10,SNR=10					
STKA	**Stephens Creek**	**25.80 194**	P	P	02 42 52.9	+0.2
	1.1nm,0.7s,baz=3.8,slow=15,SNR=2.3					
TORD	**Torodi Ar. Bea**	**146.73 284**	PKPbc	PKPdf	02 57 03.3	+0.1
	0.9nm,0.8s,baz=60,slow=3.3,SNR=10					

*IDC **11** 02:43:40.1±0.9, 11°.15S×161°.68E, h0km, mb4.0/9, mb1 4.2/12, mb1mx4.0/38, mbtmp4.0/12, ML3.8/3, MS4.4/4, Ms1 4.4/4, ms1mx3.8/38, Error ellipse: s-maj=23.4km s-min=19.0km az=131.0*

*ISCJB **11** 02:43:43.2±0.5, 11°.38S±0°.05×161°.65E±0°.07, h35km, mb4.0/13, MS4.4/3, Error ellipse: s-maj=10.2km s-min=7.2km az=155.1*

*NEIC **11** 02:43:45.9±1.3, 11°.21S×161°.56E, h40km±12km, mb4.2/5, Error ellipse: s-maj=12.3km s-min=10.1km az=118.0*

ISC 11 02:43:44.8±0.7, 11°.32S±0°.08×161°.7E±0°.1, h35km, n30, σ1§88/31, mb4.1/12, MS4.5/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.57**	**317**	*e*P	**Pn**	**02 44 25.0**	**+1.1**
HNR				*e*S	**Sn**	**02 44 56.0**	**+2.0**
HNR	**Honiara**	**2.57**	**317**	*e*Pn	**Pn**	**02 44 21.9**	**-2.0**
HNR				*e*Sn	**Sn**	**02 44 59.9**	**+5.9**
HNR	**Honiara**	**2.57**	**317**	Pn	**Pn**	**02 44 22.4**	**-1.5**
	24nm,0.3s,baz=256,slow=4.2,SNR=3.1						
HNR				Sn	**Sn**	**02 44 52.7**	**-1.3**
	80nm,0.3s,baz=265,slow=22,SNR=3.5						
HNR				LR	LR	02 45 30.3	
	comp=Z,4μm,19.6s,baz=175,slow=46						
DZM	**Mont Dzumac**	**11.60**	**158**	Pn	**Pn**	**02 46 31.0**	**+3.0**
	0.4nm,0.3s,baz=16,slow=15,SNR=4.3						
DZM				Sn	**Sn**	**02 48 36.5**	**0.0**
	0.3nm,0.3s,baz=107,slow=19,SNR=2.0						
RABL	**Rabaul**	**11.83**	**306**	*e*Pn	**Pn**	**02 46 29.5**	**-1.7**
PINNC	**Pines Island,**	**12.49**	**155**	*e*Pn	**Pn**	**02 46 37.9**	**-2.1**
CTA	**Charters Tower**	**17.25**	**198**	P	**P**	**02 47 44.1**	**-0.2**
	0.3nm,0.3s,baz=71,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**27.64**	**219**	P	**P**	**02 49 30.6**	**+1.4**
	1.6nm,0.9s,baz=35,slow=13,SNR=2.8						
STKA				LR	LR	03 00 13.8	
	comp=Z,1μm,18.4s,baz=9.2,slow=36						
WRAB	**Tennant Creek**	**27.69**	**249**	*e*P	**P**	**02 49 27.4**	**-2.5**
	4.8nm,1.0s						
WB2	**Warramunga Arr**	**27.69**	**249**	*e*P	**P**	**02 49 29.1**	**-0.8**
WR1	**Warramunga Arr**	**27.70**	**249**	*e*P	**P**	**02 49 30.4**	**+0.4**
	4.9nm,1.0s						
WRA	**Warramunga Arr**	**27.70**	**249**	P	**P**	**02 49 30.4**	**+0.4**
	4.5nm,1.1s,baz=75,slow=9.5,SNR=8.4						
WRA				LR	LR	03 00 20.1	
	comp=Z,1μm,18.9s,baz=60,slow=36						
AS01	**Alice Springs**	**29.14**	**241**	*e*P	**P**	**02 49 40.3**	**-2.5**
AS31	**Alice Springs**	**29.18**	**241**	*e*P	**P**	**02 49 42.4**	**-0.7**
	1.0nm,1.0s						
ASAR	**Alice Springs**	**29.18**	**241**	P	**P**	**02 49 43.5**	**+0.4**
	1.4nm,0.9s,baz=73,slow=9.5,SNR=7.7						
FITZ	**Fitzroy Crossi**	**35.51**	**255**	P	**P**	**02 50 39.8**	**+1.3**
	4.9nm,1.1s,baz=84,slow=10,SNR=3.2						
PPT	**Papeete**	**47.46**	**103**	LR	LR	03 08 32.5	
	comp=Z,248nm,19.7s,baz=267,slow=31						
SONA0	**Songino Array**	**76.60**	**325**	*e*P	**P**	**02 55 31.2**	**-0.6**
SONM	**Songino Array**	**76.60**	**325**	P	**P**	**02 55 31.2**	**-0.7**
	1.2nm,0.5s,baz=140,slow=5.2,SNR=7.8						
ILAR	**Eielson Array**	**85.06**	**20**	P	**P**	**02 56 18.2**	**+1.7**
	1.1nm,1.0s,baz=242,slow=3.7,SNR=5.7						
ILB	**Eielson Array**	**85.06**	**20**	*e*P	**P**	**02 56 17.6**	**+1.1**
	2.9nm,0.9s						
IL1	**Eielson Array**	**85.06**	**20**	*e*P	**P**	**02 56 18.7**	**+2.2**
EGAK	**Eagle**	**87.02**	**21**	*e*P	**P**	**02 56 25.8**	**-0.3**
	4.5nm,1.1s						
NV01	**Mina Array Sit**	**89.22**	**51**	*e*P	**P**	**02 56 38.1**	**+0.5**
NVAR	**Mina Array Bea**	**89.22**	**51**	P	**P**	**02 56 38.1**	**+0.5**
	0.3nm,0.5s,baz=223,slow=6.1,SNR=2.8						
MK32	**Makanchi Array**	**91.04**	**318**	*e*P	**P**	**02 56 43.9**	**-1.7**
MKAR	**Makanchi Array**	**91.04**	**318**	P	**P**	**02 56 43.9**	**-1.7**
	0.2nm,0.6s,baz=96,slow=4.9,SNR=2.8						
YKA	**Yellowknife Ar**	**97.03**	**28**	P	Pdif	02 57 13.9	+1.1
	0.2nm,0.6s,baz=259,slow=4.8,SNR=4.6						
YKB5	**Yellowknife Ar**	**97.03**	**28**	*e*P	Pdif	02 57 12.2	-0.6
LPAZ	**La Paz**	**123.56**	**118**	PKP	**PKiKP**	**03 02 40.4**	**-0.2**
	0.4nm,0.5s,baz=270,slow=5.1,SNR=2.4						

*IDC **11** 02:46:56.1±1.2, 11°.00S×162°.12E, h0km, mb3.7/6, mb1 4.1/9, mb1mx3.9/39, mbtmp3.9/9, ML4.0/3, Error ellipse: s-maj=30.0km s-min=26.9km az=9.0*

*ISCJB **11** 02:46:59.4±0.5, 11°.16S±0°.06×162°.12E±0°.08, h36km, mb3.8/9, Error ellipse: s-maj=13.2km s-min=6.9km az=146.4*

*NEIC **11** 02:47:02.5±1.5, 11°.11S×162°.06E, h52km±14km, mb4.1/3, Error ellipse: s-maj=14.9km s-min=11.9km az=65.0*

ISC 11 02:47:01.0±0.7, 11°.07S±0°.09×162°.1E±0°.1, h36km, n18, σ1§32/21, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.71**	**307**	*e*Pn	**Pn**	**02 47 41.7**	**-0.3**
HNR				Sn	**Sn**	**02 48 15.4**	**+2.0**
HNR	**Honiara**	**2.71**	**307**	Pn	**Pn**	**02 47 41.2**	**-0.8**
	24nm,0.3s,baz=185,slow=13,SNR=2.4						
HNR				Sn	**Sn**	**02 48 15.4**	**+2.0**
	170nm,0.3s,baz=197,slow=14,SNR=5.4						
DZM	**Mont Dzumac**	**11.69**	**160**	Pn	**Pn**	**02 49 47.6**	**+2.2**
	0.3nm,0.3s,baz=11,slow=19,SNR=2.2						
DZM				Sn	**Sn**	**02 51 55.6**	**+1.0**
	0.3nm,0.3s,baz=79,slow=16,SNR=2.4						
CTA	**Charters Tower**	**17.72**	**238**	P	**P**	**02 51 06.0**	**+0.4**
	0.7nm,0.3s,baz=61,slow=14,SNR=6.4						
OUZ	**Omahuta**	**26.20**	**158**	*e*P	**P**	**02 52 30.5**	**-1.8**
	6.5nm,1.0s						
STKA	**Stephens Creek**	**28.08**	**219**	*e*P	**P**	**02 52 48.4**	**-0.8**
	1.9nm,1.0s						
WR1	**Warramunga Arr**	**28.16**	**248**	*e*P	**P**	**02 52 49.3**	**-0.9**
	7.7nm,1.1s						
WRA	**Warramunga Arr**	**28.16**	**248**	P	**P**	**02 52 49.3**	**-0.9**
	1.2nm,0.7s,baz=76,slow=11,SNR=2.0						
SONA0	**Songino Array**	**76.63**	**325**	*e*P	**P**	**02 58 49.1**	**+0.9**
SONM	**Songino Array**	**76.63**	**325**	P	**P**	**02 58 49.1**	**+0.9**
	0.7nm,0.8s,baz=131,slow=4.0,SNR=4.5						
ILAR	**Eielson Array**	**84.69**	**20**	P	**P**	**02 59 32.1**	**+1.3**
	0.2nm,0.5s,baz=240,slow=5.9,SNR=3.4						
ILB	**Eielson Array**	**84.69**	**20**	*e*P	**P**	**02 59 30.7**	**-0.1**
NVAR	**Mina Array Bea**	**88.76**	**51**	P	**P**	**02 59 51.7**	**+0.2**
	0.2nm,0.5s,baz=226,slow=3.6,SNR=2.7						
NV01	**Mina Array Sit**	**88.76**	**51**	*e*P	**P**	**02 59 51.1**	**-0.4**
MK32	**Makanchi Array**	**91.13**	**317**	*e*P	**P**	**03 00 01.1**	**-1.0**
MKAR	**Makanchi Array**	**91.13**	**317**	P	**P**	**03 00 01.1**	**-1.0**
	0.3nm,0.7s,baz=98,slow=5.3,SNR=2.6						
YKA	**Yellowknife Ar**	**96.63**	**28**	P	**P**	**03 00 27.1**	**+0.1**
	0.1nm,0.5s,baz=259,slow=4.6,SNR=2.8						
TOA0	**Torodi Ar. Sit**	**160.77**	**278**	*e*PKPdf	**PKPdf**	**03 06 56.0**	**-2.3**

*IDC **11** 02:47:13.1±1.0, 6°.62S×148°.54E, h0km, mb4.1/7, mb1 4.3/8, mb1mx4.0/35, mbtmp4.1/8, ML3.9/1, MS4.4/1, Ms1 4.4/1, ms1mx3.4/37, Error ellipse: s-maj=37.9km s-min=20.7km az=101.0*

*NEIC **11** 02:47:15.7±0.5, 6°.58S×148°.19E, h10km, mb4.0/5, Error ellipse: s-maj=17.7km s-min=9.3km az=119.0*

*ISCJB **11** 02:47:17.3±0.9, 6°.66S±0°.08×148°.4E±0°.2, h46km, mb4.0/8, MS4.2/1, Error ellipse: s-maj=23.9km s-min=10.7km az=10.4*

ISC 11 02:47:20.1±0.7, 6°.6S±0°.1×148°.3E±0°.1, h46km, n25, σ1§05/29, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.56**	**58**	*e*Pn	**Pn**	**02 48 28.8**	**+2.0**
EIDS	**Eidsvold**	**18.85**	**172**	*e*P	**P**	**02 51 35.3**	**-1.2**
	16nm,1.0s						
WC3	**Warramunga Arr**	**18.92**	**224**	*e*P	**P**	**02 51 37.1**	**-0.2**
	6.1nm,0.7s						
WB2	**Warramunga Arr**	**18.93**	**224**	*e*P	**P**	**02 51 36.5**	**-0.9**
	6.9nm,0.8s						
WR1	**Warramunga Arr**	**18.94**	**224**	*e*P	**P**	**02 51 37.7**	**+0.2**
	12nm,0.9s						
WR1				*e*S	**Sn**	**02 55 10.1**	**+0.4**
WRA	**Warramunga Arr**	**18.94**	**224**	P	**P**	**02 51 37.7**	**+0.2**
	0.4nm,0.3s,baz=50,slow=10,SNR=18						
WRA				S	**Sn**	**02 55 10.1**	**+0.4**
	0.0nm,0.3s,baz=48,slow=22,SNR=7.1						
AS01	**Alice Springs**	**21.84**	**218**	*e*P	**P**	**02 52 08.6**	**-0.3**
AS31	**Alice Springs**	**21.87**	**218**	*e*P	**P**	**02 52 09.2**	**-0.1**
	5.2nm,1.0s						
AS31				*e*S	**S**	**02 56 10.4**	**+1.9**
ASAR	**Alice Springs**	**21.87**	**218**	P	**P**	**02 52 09.2**	**-0.1**
	7.6nm,0.7s,baz=53,slow=9.5,SNR=4.5						
ASAR				S	**S**	**02 56 10.4**	**+1.9**
	3.5nm,1.1s,baz=28,slow=22,SNR=4.3						
ASAR				LR	LR	03 00 42.2	
	comp=Z,848nm,18.8s,baz=49,slow=37						
FITZ	**Fitzroy Crossi**	**24.84**	**241**	P	**P**	**02 52 39.9**	**+1.4**
	17nm,0.7s,baz=69,slow=7.4,SNR=17						
STKA	**Stephens Creek**	**25.90**	**193**	P	**P**	**02 52 46.7**	**-1.3**
	9.9nm,1.1s,baz=0.8,slow=9.2,SNR=5.8						
MJAR	**Matsushiro Arr**	**43.94**	**348**	P	**P**	**02 55 20.9**	**-1.9**
	2.9nm,0.9s,baz=104,slow=9.0,SNR=3.6						
MAJO	**Matsushiro**	**43.94**	**348**	*e*P	**P**	**02 55 20.9**	**-1.9**
VNDA	**Vanda**	**71.24**	**177**	P	**P**	**02 58 33.2**	**-0.8**
	1.6nm,0.9s,baz=358,slow=4.6,SNR=4.3						
MK32	**Makanchi Array**	**78.76**	**320**	*e*P	**P**	**02 59 18.4**	**+0.4**
MKAR	**Makanchi Array**	**78.76**	**320**	P	**P**	**02 59 18.4**	**+0.4**
	0.3nm,0.7s,baz=97,slow=9.8,SNR=3.0						
KURBB	**Kurchatov Arra**	**82.47**	**323**	P	**P**	**02 59 38.8**	**+1.1**
	0.4nm,0.8s,baz=102,slow=3.8,SNR=3.5						
PDAR	**Pinedale Array**	**103.39**	**48**	Pdiff	**Pdif**	**03 01 16.2**	**+0.1**
	0.2nm,0.4s,baz=250,slow=1.8,SNR=3.7						
GEC2	**GERESS Array S**	**123.11**	**326**	*e*PKPdf	**PKiKP**	**03 06 12.2**	**+0.1**
GERES	**GERESS Array B**	**123.11**	**326**	PKP	**PKiKP**	**03 06 12.2**	**+0.1**
	0.5nm,0.6s,baz=313,slow=2.7,SNR=4.1						
LPAZ	**La Paz**	**137.40**	**123**	PKP	**PKiKP**	**03 06 41.6**	**-0.9**
	0.6nm,0.6s,baz=143,slow=5.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**146.46**	**284**	PKPbc	**PKPab**	**03 06 58.0**	**-0.3**
	7.9nm,0.9s,baz=27,slow=3.2,SNR=35						
TOA1	**Torodi Ar. Sit**	**146.46**	**284**	*e*PKPdf	**PKPab**	**03 06 58.0**	**-0.3**
BDFB	**Brasília**	**152.64**	**144**	PKPbc	**PKPbc**	**03 07 12.6**	**-0.3**
	5.2nm,0.8s,baz=38,slow=16,SNR=7.7						
DBIC	**Dimbokro**	**153.30**	**272**	PKPbc	**PKiKP**	**03 07 15.4**	**+0.9**
	2.1nm,0.8s,baz=46,slow=3.1,SNR=3.3						

IDC 11 02:50:15.7±1.8, 6°.84S×148°.40E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/37, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=51.6km s-min=28.4km az=97.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.86**	**225**	P	P	02 54 37.9	+0.2
	0.3nm,0.3s,baz=52,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**21.77**	**218**	P	P	02 55 09.3	+0.1
	1.8nm,0.4s,baz=53,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**24.84**	**241**	P	P	02 55 40.2	+0.2
	11nm,0.7s,baz=67,slow=9.5,SNR=11						
STKA	**Stephens Creek**	**25.71**	**193**	P	P	02 55 46.7	-1.1
	1.5nm,0.9s,baz=345,slow=14,SNR=3.0						
VNDA	**Vanda**	**71.00**	**177**	P	P	03 01 35.6	+0.7
	0.6nm,0.6s,baz=326,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**79.02**	**320**	P	P	03 02 21.6	-0.2
	0.1nm,0.4s,baz=89,slow=5.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**146.64**	**283**	PKPbc	PKPbc	03 09 59.8	-0.7
	1.0nm,0.7s,baz=75,slow=3.7,SNR=6.5						

*NORS **11** 02:52:43.7±0.0, 42°.63N×44°.44E, h4km, MPVA2.7*

*MOS **11** 02:52:43.7±0.0, 42°.63N×44°.44E, h4km, MPVA2.7*

*ISCJB **11** 02:52:47.9±0.6, 42°.67N±0°.03×44°.38E±0°.05, h11km±7km, Error ellipse: s-maj=6.5km s-min=4.5km az=148.1*

ISC 11 02:52:47.8±1.0, 42°.70N±0°.03×44°.42E±0°.04, h8km±9km, n12, σ1§87/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LACR	**Lac**	**0.16**	**326**	*i* Pg	**Pg**	**02 52 50.2**	**-0.9**
LACR				*e*Sg	**Sg**	**02 52 54.8**	**+1.4**
GUDG	**Gudauri**	**0.24**	**169**	P	**Pg**	**02 52 52.1**	**-0.4**
GUDG				S	**Sg**	**02 52 57.3**	**+1.5**
ZEI	**Tsey**	**0.39**	**284**	*e*Pg	**Pg**	**02 52 54.9**	**-0.5**
ZEI				*e*Sg	**Sb**	**02 53 01.4**	**-1.9**
VLKR	**Vladikavkaz**	**0.40**	**29**	*e*Pg	**Pb**	**02 52 55.0**	**-2.2**
VLKR				*e*Pg	**Pb**	**02 52 55.0**	**-2.2**
VLKR				*e*Sg	**Sb**	**02 53 02.6**	**-0.8**
VLKR				*e*Sg	**Sb**	**02 53 02.6**	**-0.8**
KORR	**Kora**	**0.47**	**327**	*e*Pg	**Pb**	**02 52 57.5**	**-0.7**
KORR				*e*Sg	**Sb**	**02 53 06.2**	**+0.8**
ARNR	**Ardon**	**0.49**	**349**	*e*Pg	**Pb**	**02 52 57.6**	**-1.1**
ARNR				*e*Sg	**Sb**	**02 53 07.5**	**+1.4**
DIGR	**Digorskoe uzhe**	**0.65**	**288**	*e*Pg	**Pg**	**02 52 59.5**	**-0.8**
DIGR				*e*Sg	**Sb**	**02 53 10.3**	**-0.5**
TRLG	**Trialeti**	**1.18**	**192**	P	**Pg**	**02 53 08.6**	**-1.8**
KBTC	**Kuba-Taba**	**1.34**	**327**	*e*Pg	**Pg**	**02 53 13.5**	**0.0**
KBTC				*e*Sg	**Sn**	**02 53 33.7**	**+2.8**
LGD	**Lagodekhi**	**1.61**	**122**	P	**Pg**	**02 53 17.1**	**-1.5**
SHA1	**Shidzhatmaz**	**1.66**	**310**	*e*Pg	**Pg**	**02 53 17.9**	**-1.6**
SHA1				*e*Sg	**Sg**	**02 53 42.4**	**+1.4**
DDFL	**Dedoflistskaro**	**1.78**	**134**	P	**Pg**	**02 53 20.9**	**-1.0**
DDFL				S	**Sg**	**02 53 50.0**	**+5.1**

*IDC **11** 03:00:49.6±2.6, 59°.32S×25°.26W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/25, mbtmp3.8/2, Error ellipse: s-maj=201.2km s-min=33.0km az=102.0*

ISC 11 03:00:51.0±1.2, 59°.5S±0°.2×24°.5W±0°.4, h10km, n9, σ2§70/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.02**	**156**	P	**P**	**03 04 04.1**	**-2.0**
VNA1				S	**Sn**	**03 06 25.4**	**+5.1**
VNA3	**Neumayer Olymp**	**13.21**	**159**	P	**P**	**03 04 06.1**	**-2.3**
VNA3				S	**Sn**	**03 06 22.1**	**-3.0**
VNA2	**Neumayer--Watz**	**13.41**	**155**	P	**P**	**03 04 09.3**	**-1.3**
	baz=316,slow=14						
VNA2				S	**Sn**	**03 06 29.8**	**-0.2**
	baz=316,slow=17						
SNAA	**Sanae**	**14.97**	**153**	P	**P**	**03 04 30.6**	**+2.7**
SNAA				S	**Sn**	**03 07 05.5**	**-2.4**
VNDA	**Vanda**	**43.14**	**182**	P	**P**	**03 08 53.5**	**+2.6**
	1.0nm,0.6s,baz=204,slow=8.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**75.48**	**26**	P	**P**	**03 12 35.8**	**+0.7**
	0.5nm,0.6s,baz=191,slow=6.0,SNR=9.9						
YKA	**Yellowknife Ar**	**139.68**	**314**	PKP	**PKPdf**	**03 20 15.0**	**-2.3**
	0.6nm,0.6s,baz=126,slow=2.8,SNR=4.0						
SONM	**Songino Array**	**149.39**	**90**	PKPbc	**PKiKP**	**03 20 40.5**	**+0.2**
	1.1nm,0.8s,baz=216,slow=4.2,SNR=4.1						
KSRS	**Korea Array**	**151.70**	**129**	PKPbc	**PKPbc**	**03 20 44.3**	**-0.5**
	0.5nm,0.3s,baz=223,slow=2.7,SNR=3.4						

*BGR **11** 03:01:33.4±0.0, 39°.99N×78°.35E, h12km, mb5.6, Ms4.8*

*IDC **11** 03:01:35.8±0.4, 40°.08N×77°.43E, h0km, mb5.0/35, mb1 5.1/41, mb1mx5.1/42, mbtmp5.0/41, ML4.3/6, MS4.7/26, Ms1 4.7/26, ms1mx4.5/51, Error ellipse: s-maj=9.2km s-min=8.6km az=25.0*

*BJI **11** 03:01:37.4, 40°.18N×77°.48E, h10km, mb5.0/59, mB5.3/42, ML5.4/8, Ms5.1/68, Ms7 4.9/63*

*NEIC **11** 03:01:37.5±0.1, 40°.12N×77°.47E, h10km, mb5.4/104, MS5.1/93, Error ellipse: s-maj=3.5km s-min=3.0km az=12.0*

NEIC At least 864 houses destroyed or damaged and 794 people displaced in the Artux area.

*SOME **11** 03:01:38.2, 40°.23N×77°.55E, h15km*

*KRNET **11** 03:01:38.4±0.1, 40°.19N×77°.31E, mb5.9*

*MOS **11** 03:01:39.4±1.0, 40°.10N×77°.47E, h35km, mb5.6/69, MS5.1/36, Error ellipse: s-maj=5.1km s-min=3.4km az=117.6*

MOS Felt (III) Naryn.

*NNC **11** 03:01:39.8±1.1, 40°.28N×77°.46E, h0km, mb5.9, mpv5.7, Error ellipse: s-maj=8.2km s-min=7.4km az=140.0*

*ISCJB **11** 03:01:40.9±0.3, 40°.06N±0°.02×77°.41E±0°.02, h49km±2km, mb5.2/223, MS5.0/158, Error ellipse: s-maj=2.8km s-min=2.3km az=30.3*

*GCMT **11** 03:01:40.5±0.4, 40°.22N±0°.03×77°.52E±0°.04, h12km, MW5.2/68, Moment Tensor Solution. s10,c11; s68,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.19; $M_{\theta\theta}$-1.39±.14; $M_{\phi\phi}$-0.43±.15; $M_{r\theta}$6.07±.46; $M_{\theta\phi}$-1.48±.12; $M_{r\phi}$2.02±.55; Best double couple: $M_0$6.76300×10^{16} NP1:ϕs71.00000°, δ81.00000°, λ97.00000°. NP2: ϕs210.00000°, δ11.00000°, λ50.00000°. Principal axes: T 6.5740, Plg53.0000°, Azm350.0000°; N 0.3810, Plg7.0000°, Azm250.0000°; P -6.9520, Plg36.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 03:01:37.5±0.5, 40°.08N±0°.02×77°.29E±0°.02, h10km±2km, h11km:pP-P, n1095, σ1§78/1170, mb5.3/233, MS5.0/158, 116C-40D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.16**	**241**	⇓*i*Pg	Pg	03 02 10.0	+10
KSH				Sg	Sn	03 02 31.6	+16
KSH				smax	smax		
	comp=N,32μm,0.7s						
KSH				smax	smax		
	comp=E,39μm,0.9s						
NRN	**Naryn**	**1.67**	**324**	*e*Pn	**Pb**	**03 02 07.9**	**-0.5**
NRN				*e*Sn	**Sb**	**03 02 29.6**	**0.0**
NRN	**Naryn**	**1.67**	**324**	*e*PN	**Pb**	**03 02 07.9**	**-0.5**
NRN				*e*		03 02 29.6	
NRN	**Naryn**	**1.67**	**324**	⇓*i*P	**Pn**	**03 02 07.3**	**+0.3**
	baz=21						
NRN				⇓*i*S	**Sb**	**03 02 30.0**	**+0.4**
	baz=21						
KDJ	**Kajisay**	**2.05**	**358**	*e*Pn	**Pb**	**03 02 14.2**	**-0.6**
KDJ	**Kajisay**	**2.05**	**358**	*e*PN	**Pb**	**03 02 14.2**	**-0.6**
KDJ	**Kajisay**	**2.05**	**358**	⇓*i*P	**Pb**	**03 02 14.5**	**-0.3**
	baz=57						
KDJ				⇓*i*S	**Sb**	**03 02 40.4**	**0.0**
	baz=57						
ULHL	**Ulahol**	**2.30**	**340**	P	**Pb**	**03 02 18.2**	**-0.9**
	SNR=4326						
ULHL	**Ulahol**	**2.30**	**340**	*e*P	**Pb**	**03 02 18.1**	**-1.1**
	baz=39						
ULHL				*i* S	**Sb**	**03 02 47.7**	**0.0**
	baz=39						
KZA	**Kyzart**	**2.52**	**323**	P	**Pb**	**03 02 22.3**	**-0.7**
	SNR=1590						
KZA	**Kyzart**	**2.52**	**323**	⇑*i*P	**Pb**	**03 02 22.3**	**-0.7**
	baz=21						
KZA				⇑*i*S	**Sb**	**03 02 53.0**	**-1.2**
	baz=21						
PRZ	**Przheval'sk**	**2.54**	**19**	*e*Pn	**Pb**	**03 02 21.6**	**-1.6**
PRZ	**Przheval'sk**	**2.54**	**19**	*e*PN	**Pb**	**03 02 21.7**	**-1.6**
PRZ	**Przheval'sk**	**2.54**	**19**	⇑*e*P	**Pn**	**03 02 21.0**	**+2.1**
	baz=20						
PRZ				⇑*i*S	**Sb**	**03 02 53.3**	**-1.3**
	baz=20						
BOOM	**Boomskoye usch**	**2.61**	**338**	⇑*i*P	**Pb**	**03 02 22.9**	**-1.5**
	baz=36						
BOOM				⇑*i*S	**Sb**	**03 02 54.4**	**-2.2**
	baz=36						
ARLS	**Aral**	**2.86**	**309**	⇓*e*P	**Pb**	**03 02 26.6**	**-2.1**
	baz=8.0						
ARLS				⇓*e*S	**Sb**	**03 03 01.9**	**-2.0**
	baz=8.0						
TNSS	**Tian-Shan**	**2.96**	**355**	Pg	**Pb**	**03 02 31.2**	**+0.6**
	11μm,0.6s						
TNSS				Lg	Lg	03 03 09.4	
	12μm,0.8s						
TNSS	**Tian-Shan**	**2.96**	**355**	*e*P	**Pb**	**03 02 31.2**	**+0.6**
	11μm,0.6s						
TNSS				*e*S	**Sb**	**03 03 09.4**	**+2.5**
	12μm,0.8s						
UCH	**Uchtor**	**3.00**	**317**	P	**Pb**	**03 02 29.2**	**-2.0**
	SNR=961						
UCH	**Uchtor**	**3.00**	**317**	*e*P	**Pb**	**03 02 29.1**	**-2.1**
	baz=15						
UCH				*i* S	**Sb**	**03 03 05.0**	**-3.0**
	baz=15						
MDOK	**Medeo**	**3.08**	**357**	⇓Pn	**Pn**	**03 02 29.0**	**+2.7**
MDOK				⇓Lg	Lg	03 03 16.3	
MDOK	**Medeo**	**3.08**	**357**	Pg	**Pb**	**03 02 33.0**	**+0.5**
	6μm,0.9s						
MDOK				Lg	Lg	03 03 12.4	
	14μm,1.0s						
MDOK	**Medeo**	**3.08**	**357**	*e*P	**Pb**	**03 02 33.0**	**+0.5**
	6μm,0.9s						
MDOK				*e*S	**Sb**	**03 03 12.4**	**+2.2**
	14μm,1.0s						
SATY	**Saty**	**3.09**	**15**	Pg	**Pg**	**03 02 38.7**	**+2.0**
	10μm,0.8s						
SATY				Lg	Lg	03 03 22.1	
	23μm,1.3s						
TKM2	**Tokmak 2**	**3.11**	**336**	P	**Pb**	**03 02 30.4**	**-2.6**
	SNR=825						
TKM2	**Tokmak 2**	**3.11**	**336**	⇑Pn	**Pb**	**03 02 30.2**	**-2.7**
	8μm,1.1s						
TKM2				⇑Lg	Lg	03 03 14.5	
	9μm,0.8s						
TKM2	**Tokmak 2**	**3.11**	**336**	PN	**Pb**	**03 02 30.2**	**-2.7**
TKM2	

FRU1	**Bishkek**	**3.38**	**325**	*e*PN	**Pb**	**03 02 35.0**	**-2.5**
FRU1	**Bishkek**	**3.38**	**325**	⇓*i*P	**Pn**	**03 02 33.6**	**+3.3**
	baz=23						
FRU1				⇓*i*S	**Sn**	**03 03 12.8**	**+2.3**
	baz=23						
AML	**Almayashu**	**3.40**	**308**	P	**Pb**	**03 02 35.4**	**-2.6**
	SNR=6515						
FRU	**Bishkek**	**3.41**	**325**	⇑PN	**Pn**	**03 02 34.0**	**+3.4**
FRU				*i*		03 03 20.0	
KURS	**Kuram**	**3.47**	**11**	*e*P	**Pb**	**03 02 39.2**	**+0.3**
	comp=Z,3μm,0.9s						
KURS				*e*S	**Sb**	**03 03 22.9**	**+1.8**
	comp=Z,7μm,1.0s						
CHMS	**Chumysh**	**3.48**	**328**	P	**Pb**	**03 02 35.5**	**-3.6**
	SNR=136						
CHMS	**Chumysh**	**3.48**	**328**	⇑*i*P	**Pn**	**03 02 35.0**	**+3.3**
	baz=26						
CHMS				⇑*i*S	**Sn**	**03 03 16.0**	**+3.1**
	baz=26						
ARSB	**Arslanbob**	**3.50**	**292**	*e*Pn	**Pb**	**03 02 36.2**	**-3.4**
ARSB	**Arslanbob**	**3.50**	**292**	⇑*e*P	**Pn**	**03 02 35.0**	**+2.9**
	baz=90						
ARSB				⇑*i*S	**Sn**	**03 03 17.8**	**+4.2**
	baz=90						
PDGK	**Podgornoye**	**3.64**	**26**	⇑Pn	**Pn**	**03 02 35.3**	**+1.3**
	comp=Z,3μm,0.8s						
PDGK				⇑Lg	Lg	03 03 29.1	
	comp=Z,23μm,1.7s						
PDGK	**Podgornoye**	**3.64**	**26**	PN	**Pn**	**03 02 35.2**	**+1.3**
PDGK				pmax	pmax		
	comp=Z,3μm,0.8s						
PDGK	**Podgornoye**	**3.64**	**26**	⇓*i*P	**Pn**	**03 02 36.3**	**+2.4**
	baz=27						
PDGK				⇓*i*S	**Sn**	**03 03 18.9**	**+2.0**
	baz=27						
KTBS	**Karatobe**	**3.66**	**353**	Pg	**Pb**	**03 02 43.0**	**+0.9**
	comp=Z,2μm,0.8s						
KTBS				Lg	Lg	03 03 30.1	
	comp=Z,11μm,0.9s						
KTBS	**Karatobe**	**3.66**	**353**	*e*P	**Pb**	**03 02 43.0**	**+0.9**
	comp=Z,1μm,0.8s						
KTBS				*e*S	**Sb**	**03 03 29.8**	**+3.3**
	comp=Z,11μm,0.9s						
EKS2	**Erkin-Say**	**3.69**	**315**	P	**Pb**	**03 02 39.1**	**-3.7**
	SNR=1828						
EKS2	**Erkin-Say**	**3.69**	**315**	⇑*i*P	**Pn**	**03 02 38.1**	**+3.5**
	baz=14						
EKS2				⇑*i*S	**Sn**	**03 03 21.7**	**+3.5**
	baz=14						
USP	**Ospenovka**	**3.81**	**328**	P	**Pn**	**03 02 40.1**	**+4.0**
	SNR=208						
KUU	**Kurty**	**3.87**	**350**	Pg	**Pb**	**03 02 46.6**	**+0.8**
	comp=Z,2μm,1.0s						
KUU				Lg	Lg	03 03 35.8	
	comp=Z,16μm,1.0s						
KUU	**Kurty**	**3.87**	**350**	*e*P	**Pb**	**03 02 46.6**	**+0.8**
	comp=Z,2μm,1.0s						
KUU				*e*S	**Sb**	**03 03 35.8**	**+3.0**
	comp=Z,16μm,1.0s						
MRKS	**Merke**	**4.05**	**312**	Pg	**Pb**	**03 02 51.8**	**+2.9**
	comp=Z,2μm,0.8s						
MRKS				Lg	Lg	03 03 44.6	
	comp=Z,3μm,0.7s						
MRKS	**Merke**	**4.05**	**312**	*e*P	**Pg**	**03 02 53.4**	**-1.6**
	comp=Z,2μm,0.8s						
MRKS				*e*S	**Sg**	**03 03 47.5**	**0.0**
	comp=Z,3μm,0.7s						
KTMS	**Ketmen**	**4.07**	**33**	Pg	**Pb**	**03 02 48.6**	**-0.6**
	comp=Z,147nm,0.3s						
KTMS				Lg	Lg	03 03 39.4	
	comp=Z,2μm,0.5s						
KTMS	**Ketmen**	**4.07**	**33**	*e*P	**Pb**	**03 02 48.6**	**-0.6**
	comp=Z,147nm,0.3s						
KTMS				*e*S	**Sb**	**03 03 39.4**	**+1.0**
	comp=Z,2μm,0.5s						
MNBS	**Baschi**	**4.08**	**11**	Pg	**Pb**	**03 02 48.4**	**-1.0**
	comp=Z,441nm,0.8s						
MNBS				Lg	Lg	03 03 39.3	
	comp=Z,3μm,1.0s						
MNBS	**Baschi**	**4.08**	**11**	*e*P	**Pb**	**03 02 48.4**	**-1.0**
	comp=Z,441nm,0.8s						
MNBS				*e*S	**Sb**	**03 03 39.0**	**+0.2**
	comp=Z,3μm,1.0s						
ARXS	**Arharly**	**4.15**	**5**	Pg	**Pb**	**03 02 51.1**	**+0.5**
	comp=Z,1μm,0.7s						
ARXS				Lg	Lg	03 03 43.9	
	comp=Z,6μm,0.9s						
ARXS	**Arharly**	**4.15**	**5**	*e*P	**Pb**	**03 02 52.9**	**+2.3**
	comp=Z,928nm,0.8s						
ARXS				*e*S	**Sg**	**03 03 46.5**	**-4.2**
	comp=Z,6μm,0.9s						
DRK	**Karamyk**	**4.27**	**264**	⇑*e*P	**Pn**	**03 02 47.1**	**+4.3**
	baz=62						
DRK				⇑*i*S	**Sn**	**03 03 37.4**	**+4.6**
	baz=62						
ARK	**Arkit**	**4.38**	**295**	⇓*e*P	**Pn**	**03 02 47.4**	**+3.3**
	baz=93						
ARK				⇓*i*S	**Sn**	**03 03 39.1**	**+3.8**
	baz=93						
DJR	**Jarkent**	**4.63**	**23**	Pg	**Pb**	**03 02 58.3**	**-0.5**
	comp=Z,487nm,0.9s						
DJR				Lg	Lg	03 03 55.9	
	comp=Z,1μm,1.2s						
DJR	**Jarkent**	**4.63**	**23**	*e*P	**Pb**	**03 02 58.3**	**-0.5**
	comp=Z,487nm,0.9s						
DJR				*e*S	**Sb**	**03 03 55.9**	**+1.2**
	comp=Z,1μm,1.2s						
KAPS	**Kapalarasan**	**5.42**	**16**	*e*P	**Pb**	**03 03 12.6**	**+0.4**
	comp=Z,329nm,1.0s						
KAPS				*e*S	**Sb**	**03 04 20.1**	**+2.9**
	comp=Z,1μm,1.1s						
GAR	**Garm**	**5.50**	**261**	*e*Pn	**Pn**	**03 03 02.3**	**+2.8**
GAR	**Garm**	**5.50**	**261**	*e*PN	**Pn**	**03 03 02.3**	**+2.8**
KK31	**Karatay Array**	**5.91**	**303**	*e*Pn	**Pn**	**03 03 07.8**	**+2.9**
KK31	**Karatay Array**	**5.91**	**303**	Pn	**Pn**	**03 03 08.0**	**+2.9**
	comp=Z,37nm,0.6s,baz=119,slow=11,SNR=927						
KK31				⇓Pg	**Pb**	**03 03 24.9**	**+4.4**
	comp=Z,415nm,0.7s,baz=125,slow=15,SNR=23						
KK31				⇓Lg	Lg	03 04 43.1	
	comp=Z,2μm,1.0s						
KK31	**Karatay Array**	**5.91**	**303**	*i* PN	**Pn**	**03 03 07.9**	**+2.9**
KK31				pmax	pmax		
	comp=Z,37nm,0.6s						
KK31				pmax	pmax		
	comp=Z,415nm,0.7s						
KKAR	**Karatay Array**	**5.91**	**303**	*e*Pn	**Pn**	**03 03 07.8**	**+2.9**
KKAR	**Karatay Array**	**5.91**	**303**	*e*PN	**Pn**	**03 03 07.9**	**+2.9**
CHCP	**Chirah Chowk**	**7.18**	**208**	P	**Pn**	**03 03 27.2**	**+4.8**
MAKZ	**Makanchi**	**7.54**	**25**	*e*Pn	**Pn**	**03 03 27.3**	**0.0**
MAKZ	**Makanchi**	**7.54**	**25**	⇓Pn	**Pn**	**03 03 26.8**	**-0.6**
	comp=Z,118nm,0.9s						
MAKZ				⇑Pg	Pb	03 03 53.3	+5.1
	comp=Z,387nm,1.2s						
MAKZ				⇑Lg	Lg	03 05 31.3	
	comp=Z,1μm,1.5s						
MAKZ	**Makanchi**	**7.54**	**25**	P	**Pn**	**03 03 26.7**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,118nm,1.0s						
MAKZ				pmax	pmax		
	comp=Z,387nm,1.3s						
CEP	**Cherat**	**7.59**	**216**	P	**Pn**	**03 03 31.8**	**+3.6**
MK01	**Makanchi Array**	**7.61**	**27**	*e*Pn	**Pn**	**03 03 27.5**	**-0.9**
MK31	**Makanchi Array**	**7.63**	**27**	*e*Pn	**Pn**	**03 03 28.8**	**+0.1**
MK31	**Makanchi Array**	**7.63**	**27**	⇑Pn	**Pn**	**03 03 28.7**	**+0.1**
	comp=Z,59nm,0.6s,baz=202,slow=13,SNR=844						
MK31				⇑Pg	Pb	03 03 55.4	+5.6
	comp=Z,329nm,1.0s,baz=218,slow=17,SNR=3.7						
MK31				⇑Lg	Lg	03 05 34.2	
	comp=Z,2μm,1.4s,baz=206,slow=27						
MK31	**Makanchi Array**	**7.63**	**27**	*i* P	**Pn**	**03 03 28.7**	**+0.1**
MK31				pmax	pmax		
	comp=Z,59nm,0.6s						
MK31				pmax	pmax		
	comp=Z,329nm,1.0s						
MKAR	**Makanchi Array**	**7.63**	**27**	Pn	**Pn**	**03 03 28.7**	**+0.1**
MKAR				Sn	**Sn**	**03 04 53.2**	**-1.9**
MKAR				Lg	Lg	03 05 35.2	
MKAR	**Makanchi Array**	**7.63**	**27**	P	**Pn**	**03 03 28.7**	**+0.1**
MKAR						03 04 53.2	
MKAR	**Makanchi Array**	**7.63**	**27**	Pn	**Pn**	**03 03 28.7**	**+0.1**
	comp=Z,12nm,0.3s,baz=212,slow=14,SNR=315						
MKAR				Sn	**Sn**	**03 04 53.2**	**-1.9**
	comp=Z,13nm,0.3s,baz=205,slow=20,SNR=5.3						
MKAR				Lg	Lg	03 05 35.2	
	comp=Z,22nm,0.3s,baz=225,slow=27,SNR=6.7						
MKAR				LR	LR	03 06 11.3	
	comp=Z,1μm,19.5s,baz=206,slow=36						
DHRM	**DHARAMSHALA**	**7.86**	**186**	*e*P	**Pn**	**03 03 34.7**	**+2.7**
DHRM				*e*S	**Sn**	**03 04 57.8**	**-3.2**
THW	**Thamme Wali**	**8.53**	**213**	P	**Pn**	**03 03 43.6**	**+2.5**
KBL	**Kabul**	**8.59**	**232**	*e*Pn	**Pn**	**03 03 45.2**	**+3.3**
KBL	**Kabul**	**8.59**	**232**	*e*P	**Pn**	**03 03 45.2**	**+3.3**
WMQ	**Urumqi**	**8.61**	**61**	*e*P	**Pn**	**03 03 42.1**	**+0.1**
WMQ				S	**Sn**	**03 05 20.9**	**+1.8**
WMQ				smax	smax		
	comp=Z,930nm,1.7s						
WMQ				smax	smax		
	comp=Z,1μm,1.1s						
WMQ	**Urumqi**	**8.61**	**61**	*e*Pn	**Pn**	**03 03 42.3**	**+0.2**
	comp=Z,601nm,1.3s						
WMQ				*e*S	**Sn**	**03 05 19.1**	**0.0**
WMQ	**Urumqi**	**8.61**	**61**	*e*P	**Pn**	**03 03 42.3**	**+0.2**
WMQ				*e*S	**Sn**	**03 05 19.2**	**0.0**
WMQ				pmax	pmax		
	comp=Z,601nm,1.3s						
BHK	**Bhakra**	**8.68**	**185**	*e*P	**Pn**	**03 03 44.4**	**+1.4**
BHK				*e*S	**Sn**	**03 05 14.8**	**-6.1**
OTUK	**Ortayu**	**8.90**	**338**	⇑Pn	**Pn**	**03 03 46.9**	**+0.9**
	comp=Z,282nm,1.1s						
OTUK				⇑Lg	Lg	03 06 16.0	
	comp=Z,4μm,1.4s						
OTUK	**Ortayu**	**8.90**	**338**	P	**Pn**	**03 03 46.9**	**+0.9**
OTUK				pmax	pmax		
	comp=Z,282nm,1.1s						
SMLA	**Simla**	**8.94**	**181**	*e*P	**Pn**	**03 03 47.4**	**+0.9**
SMLA				*e*S	**Sn**	**03 05 23.9**	**-3.2**
SARP	**Sargodha**	**8.96**	**206**	P	**Pn**	**03 03 47.9**	**+1.0**
DDI	**Dehra Dun**	**9.76**	**176**	*e*P	**Pn**	**03 03 58.7**	**+0.8**
DDI				*e*S	**Sn**	**03 05 40.7**	**-6.8**
KURBB	**Kurchatov Arra**	**10.58**	**4**	Pn	**Pn**	**03 04 08.2**	**-0.7**
KURBB				Lg	Lg	03 07 04.7	
KURBB	**Kurchatov Arra**	**10.58**	**4**	⇑Pn	**Pn**	**03 04 07.4**	**-1.5**
	comp=Z,176nm,0.8s						
KURBB				⇓Lg	Lg	03 07 08.1	
	comp=Z,2μm,1.1s						
KURBB	**Kurchatov Arra**	**10.58**	**4**	Pn	**Pn**	**03 04 08.2**	**-0.7**
	comp=Z,2.5nm,0.3s,baz=193,slow=12,SNR=309						
KURBB				Lg	Lg	03 07 04.7	
	comp=Z,1.4nm,0.3s,baz=189,slow=29,SNR=12						
KURK	**Kurchatov**	**10.68**	**5**	*e*Pn	**Pn**	**03 04 09.5**	**-0.8**
KURK				*e*S	**Sn**	**03 06 09.3**	**-0.4**
KURK	**Kurchatov**	**10.68**	**5**	⇑Pn	**Pn**	**03 04 09.4**	**-0.8**
	comp=Z,213nm,0.8s						
KURK				⇑Lg	Lg	03 07 11.2	
	comp=Z,3μm,1.4s						
KURK	**Kurchatov**	**10.68**	**5**	*c i*P	**Pn**	**03 04 09.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,257nm,0.8s						
KURK	**Kurchatov**	**10.68**	**5**	P	**Pn**	**03 04 09.5**	**-0.8**
	SNR=95						
NDI	**New Delhi**	**11.37**	**180**	*e*P	**Pn**	**03 04 19.0**	**-0.9**
PYUN	**Piuthan**	**12.85**	**157**	*e*P	**Pn**	**03 04 36.2**	**-4.1**
	comp=Z,600nm,1.1s						
DANN	**Dangsing**	**12.86**	**154**	*e*P	**Pn**	**03 04 37.1**	**-3.5**
	comp=Z,104nm,0.4s						
KOLN	**Koldanda**	**13.35**	**155**	*e*P	**Pn**	**03 04 42.5**	**-4.6**
	comp=Z,96nm,0.6s						
GKN	**Gorkha**	**13.49**	**151**	*e*P	**Pn**	**03 04 44.7**	**-4.3**
	comp=Z,93nm,0.3s						
BVA0	**Borovoye Array**	**13.78**	**342**	⇓Pn	**Pn**	**03 04 54.6**	**+1.9**
	comp=Z,203nm,1.0s,baz=152,slow=14,SNR=785						
BVA0	**Borovoye Array**	**13.78**	**342**	*i* P	**Pn**	**03 04 51.3**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,203nm,1.0s						
BVAR	**Borovoye Array**	**13.78**	**342**	Pn	**Pn**	**03 04 51.7**	**-1.0**
BVAR				Lg	Lg	03 08 45.3	
BVAR	**Borovoye Array**	**13.78**	**342**	P	**Pn**	**03 04 51.7**	**-1.0**
BVAR	**Borovoye Array**	**13.78**	**342**	Pn	**Pn**	**03 04 51.7**	**-1.0**
	comp=Z,1.1nm,0.3s,baz=153,slow=12,SNR=88						
BVAR				Lg	Lg	03 08 45.3	
	comp=Z,2.5nm,0.3s,baz=153,slow=20,SNR=6.7						
BVAR				LR	LR	03 10 18.0	
	comp=Z,7μm,18.2s,baz=134,slow=38						
BRVK	**Borovoye**	**13.84**	**342**	*e*Pn	**Pn**	**03 04 52.5**	**-1.0**
BRVK	**Borovoye**	**13.84**	**342**	⇓Pn	**Pn**	**03 04 55.4**	**+2.0**
	comp=Z,238nm,1.0s						
BRVK	**Borovoye**	**13.84**	**342**	*c i*P	**Pn**	**03 04 52.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,138nm,1.8s						
BRVK	**Borovoye**	**13.84**	**342**	P	**Pn**	**03 04 52.4**	**-1.1**
	SNR=101						
KKN	**Kakani**	**13.93**	**149**	*e*P	**Pn**	**03 04 50.8**	**-4.3**
	comp=Z,243nm,0.8s						
DMN	**Daman**	**14.02**	**150**	*e*P	**Pn**	**03 04 52.2**	**-4.2**
	comp=Z,237nm,1.0s						
GUN	**Gumba**	**14.07**	**147**	*e*P	**Pn**	**03 04 53.2**	**-3.9**
	comp=Z,625nm,1.2s						
PKIN	**Phulchoki**	**14.17**	**149**	*e*P	**Pn**	**03 04 54.5**	**-3.9**
	comp=Z,110nm,0.5s						
PKI	**Pulchoki**	**14.18**	**149**	*e*P	**Pn**	**03 04 54.6**	**-4.0**
	comp=Z,248nm,0.9s						
JIRN	**Jiri**	**14.42**	**147**	*e*P	**Pn**	**03 04 58.2**	**-3.7**
	comp=Z,262nm,0.5s						
ZAA0	**Zalesovo Array**	**14.78**	**18**	*e*Pn	**Pn**	**03 05 04.0**	**-2.4**
ZAA0	**Zalesovo Array**	**14.78**	**18**	⇑Pn	**Pn**	**03 05 05.4**	**-0.9**
	comp=Z,27nm,1.1s						
ZALV	**Zalesovo Beam**	**14.78**	**18**	Pn	**Pn**	**03 05 04.0**	**-2.3**
ZALV				Lg	Lg	03 09 23.8	
ZALV	**Zalesovo Beam**	**14.78**	**18**	P	**Pn**	**03 05 04.0**	**-2.3**
ZALV	**Zalesovo Beam**	**14.78**	**18**	Pn	**Pn**	**03 05 04.0**	**-2.3**
	comp=Z,1.1nm,0.3s,baz=202,slow=11,SNR=142						
ZALV				Lg	Lg	03 09 23.7	
	comp=Z,0.1nm,0.3s,baz=231,slow=20,SNR=3.1						
ZALV				LR	LR	03 11 22.9	
	comp=Z,2μm,18.2s,baz=221,slow=40						
GEYT	**Alibeck**	**15.06**	**268**	Pn	**Pn**	**03 05 07.4**	**-2.9**
GEYT				Sn	**Sn**	**03 07 49.0**	**-8.2**
GEYT	**Alibeck**	**15.06**	**268**	Pn	**Pn**	**03 05 07.4**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=96,slow=9.1,SNR=14						
GEYT				Sn	**Sn**	**03 07 49.0**	**-8.2**
	comp=Z,4.7nm,0.3s,baz=108,slow=14,SNR=5.2						
GYA0B	**ALIBECK ARRAY**	**15.06**	**268**	*e*Pn	**Pn**	**03 05 07.5**	**-2.8**
	comp=Z,76nm,0.9s						
GYA0B	**ALIBECK ARRAY**	**15.06**	**268**	⇓Pn	**P**	**03 05 13.5**	**-2.1**
RAMN	**Ramite**	**15.21**	**147**	*e*P	**Pn**	**03 05 07.2**	**-5.3**
	comp=Z,672nm,1.0s						
NVS	**Novosibirsk**	**15.29**	**13**	⇓*i*P	**Pn**	**03 05 12.2**	**-1.0**
NVS				*e*		03 08 01.5	
AB31	**Akbulak array**	**15.35**	**312**	⇑Pn	**Pn**	**03 05 16.2**	**+2.3**
	comp=Z,43nm,0.7s,baz=116,slow=10,SNR=686						
ABKAR	**Akbulak array**	**15.35**	**312**	*e*Pn	**Pn**	**03 05 12.8**	**-1.1**
	comp=Z,142nm,1.3s						
LSA	**Lhasa**	**15.36**	**128**	P	**Pn**	**03 05 15.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,63nm,1.6s						
LSA				LR	LR		
	comp=Z,1μm,12.3s						
LSA				LR	LR		
	comp=Z,4μm,13.5s						
LSA	**Lhasa**	**15.36**	**128**	*e*P	**Pn**	**03 05 14.7**	**0.0**
	comp=Z,332nm,1.9s						
LSA				*e*S	**Sn**	**03 08 05.9**	**+0.8**
LSA	**Lhasa**	**15.36**	**128**	*e*P	**Pn**	**03 05 14.7**	**0.0**
LSA				*e*S	**Sn**	**03 08 05.9**	**+0.8**
LSA				pmax	pmax		
	comp=Z,332nm,1.9s						
ODAN	**Odare**	**15.63**	**144**	*e*P	**Pn**	**03 05 13.2**	**-4.8**
	comp=Z,198nm,0.9s						
BHPL	**Bhopal**	**16.79**	**180**	*ex*	**Pn**	**03 05 28.9**	**-3.7**
AKTO	**Aktyubinsk**	**17.02**	**314**	P	**Pn**	**03 05 35.7**	**+0.3**
AKTO				Lg	Lg	03 10 42.1	
AKTO	**Aktyubinsk**	**17.02**	**314**	⇑Pn	**P**	**03 05 37.1**	**-0.1**
	comp=Z,194nm,1.0s						
AKTO	**Aktyubinsk**	**17.02**	**314**	P	**Pn**	**03 05 35.0**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,194nm,1.0s						
AKTO	**Aktyubinsk**	**17.02**	**314**	P	**Pn**	**03 05 35.7**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=120,slow=13,SNR=55						
AKTO				Lg	Lg	03 10 42.1	
	comp=Z,0.5nm,0.3s,baz=217,slow=20,SNR=3.7						
AKTO				LR	LR	03 12 46.0	
	comp=Z,3μm,19.9s,baz=101,slow=39						
JBP	**Jabalpur**	**17.02**	**172**	*e*P	**Pn**	**03 05 34.5**	**-1.0**
JBP				*ex*	x	03 08 16.9	
GTA	**Gaotai**	**17.33**	**85**	⇑P	**Pn**	**03 05 35.7**	**-3.8**
GTA				pP	P	03 05 39.0	-1.9
GTA				sP	pP	03 05 42.8	-1.5
GTA				S	**Sn**	**03 08 51.2**	**-1.2**
GTA				sS	S	03 08 57.4	-3.8
GTA				SS	**SnSn**	**03 09 13.6**	**+8.0**
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				pmax	pmax		
	comp=Z,270nm,5.6s						
GTA				LR	LR		
	comp=Z,2μm,12.0s						
GTA				LR	LR		
	comp=Z,3μm,9.3s						
GTA				LR	LR		
	comp=Z,3μm,12.4s						
BOK	**Bokaro**	**17.79**	**153**	*ex*	**Pn**	**03 05 40.5**	**-4.5**
BHJ	**Bhuj**	**17.98**	**203**	*e*P	**P**	**03 05 49.0**	**+1.1**
NGP	**Nagpur**	**18.93**	**175**	*ex*	**P**	**03 05 56.4**	**-2.1**
NGP				*ex*	x	03 09 14.6	
SHL	**Shillong**	**18.93**	**135**	*e*P	**P**	**03 05 55.8**	**-2.9**
	comp=Z,120nm,1.2s						
SHL	**Shillong**	**18.93**	**135**	*e*P	**P**	**03 05 55.8**	**-2.9**
SHL				pmax	pmax		
	comp=Z,120nm,1.2s						
SHL	**Shillong**	**18.93**	**135**	*e*P	**P**	**03 05 55.7**	**-2.9**
SHL				*e*S	**Sn**	**03 09 29.0**	**-2.3**
SVE	**Sverdlovsk**	**19.98**	**333**	*d i*P	**Pn**	**03 06 10.5**	**-0.8**
SVE				pmax	pmax		
	comp=Z,108nm,1.1s						
SVE				MLR	MLR		
	comp=Z,8μm,13.0s						
MOY	**Mondy**	**20.06**	**47**	*e*P	**P**	**03 06 10.8**	**0.0**
MOY				pmax	pmax		
	comp=Z,133nm,3.0s						
ARU	**Arti**	**20.45**	**329**	*e*P	**P**	**03 06 15.6**	**+0.7**
	comp=Z,117nm,0.7s						
ARU				LR	LR		
	comp=Z,2μm,20.0s						
ARU	**Arti**	**20.45**	**329**	*c i*P	**P**	**03 06 15.4**	**+0.5**
ARU						03 06 32.0	
ARU				PPP	PPP	03 06 41.8	
ARU				*e*S	Sn	03 10 06.5	-0.8
ARU				SS	**SnSn**	**03 10 22.1**	**+0.2**
ARU				pmax	pmax		
	comp=Z,113nm,1.5s						
ARU				MLR	MLR		
	comp=Z,2μm,11.0s						
ZAK	**Zakamensk**	**20.90**	**52**	*e*P	**P**	**03 06 19.5**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,89nm,1.6s						
BWNR	**Bhubaneshwar**	**21.03**	**157**	*ex*	**P**	**03 06 14.2**	**-7.1**
BWNR				IAmb	IAmb	03 06 16.3	
	comp=Z,133nm,1.0s						
BRDH	**Bariadhala**	**21.19**	**141**	P	**P**	**03 06 23.9**	**+0.8**
BRDH	**Bariadhala**	**21.19**	**141**	P	**P**	**03 06 23.9**	**+0.8**
	comp=Z,49nm,0.4s,baz=308,slow=12,SNR=12						
BRDH				LR	LR	03 15 21.1	
	comp=Z,1μm,20.1s,baz=328,slow=39						
LZH	**Lanzhou**	**21.25**	**92**	*e*P	**P**	**03 06 23.0**	**-0.8**
LZH				pP	sP	03 06 34.5	+5.6
LZH				sP	pP	03 06 38.4	+11
LZH				*e*PP		03 08 37.2	
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,75nm,7.3s						
LZH				LR	LR		
	comp=N,220nm,15.1s						
LZH				LR	LR		
	comp=E,230nm,14.8s						
LZH				LR	LR		
	comp=Z,360nm,17.9s						
LZH	**Lanzhou**	**21.25**	**92**	⇓P	**P**	**03 06 23.6**	**-0.2**
LZH				pP	pP	03 06 26.3	-1.0
LZH				PP	**PnPn**	**03 06 47.2**	**+4.0**
LZH				*e*S	**S**	**03 10 12.4**	**-7.6**
LZH				SS	**SnSn**	**03 10 44.1**	**+2.3**
LZH				pmax	pmax		
	comp=Z,140nm,1.3s						
LZH				pmax	pmax		
	comp=Z,700nm,4.0s						
LZH				LR	LR		
	comp=Z,6μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,14.1s						
LZH				LR	LR		
	comp=Z,6μm,15.2s						
TLY	**Talaya**	**21.58**	**49**	*e*P	**P**	**03 06 27.2**	**+0.2**
	comp=Z,35nm,1.1s						
TLY				LR	LR		
	comp=Z,280nm,19.0s						
TLY	**Talaya**	**21.58**	**49**	*e*P	**P**	**03 06 29.4**	**+2.4**
TLY				*e*PPP	PPP	03 06 53.0	
TLY				*e*S	**S**	**03 10 24.5**	**-1.4**
TLY				*e*		03 10 33.1	
TLY				*e*SSS	SSS	03 10 57.3	
TLY				pmax	pmax		
	comp=Z,174nm,2.1s						
TLY				MLR	MLR		
	comp=Z,4μm,17.0s						
POO	**Poona**	**21.68**	**189**	*e*P	**P**	**03 06 27.6**	**-0.8**
POO				IAmb	IAmb	03 06 34.0	
	comp=Z,153nm,1.2s						
IRK	**Irkutsk**	**22.15**	**48**	*e*P	**P**	**03 06 33.2**	**0.0**
IRK				pmax	pmax		
	comp=Z,381nm,2.3s						
SONM	**Songino Array**	**22.24**	**60**	P	**P**	**03 06 34.0**	**-0.4**
SONM				*e*		03 40 22.6	
SONM	**Songino Array**	**22.24**	**60**	P	**P**	**03 06 34.0**	**-0.4**
SONM	**Songino Array**	**22.24**	**60**	P	**P**	**03 06 34.0**	**-0.4**
	comp=Z,39nm,0.9s,baz=260,slow=8.8,SNR=40						
SONM				LR	LR	03 15 06.6	
	comp=Z,572nm,18.6s,baz=262,slow=37						
SONM				P3KPbc		03 40 22.6	
	comp=Z,0.9nm,0.9s,baz=111,slow=3.7,SNR=4.8						
MAK	**Makhachkala**	**22.43**	**287**	*e*P	**P**	**03 06 33.0**	**-3.2**
MAK				*e*S	**S**	**03 10 38.6**	**-3.8**
MAK				pmax	pmax		
	comp=Z,116nm,1.0s						
MAK				MLR	MLR		
	comp=Z,2μm,13.0s						
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GNI	**Garni**	**24.82 281**	*i* P		**P**	**03 07 02.9**	**+3.0**
	SNR=18							
GNI	**Garni**	**24.82 281**	*ce*P		**P**	**03 07 02.6**	**+2.8**
GNI				pmax	pmax			
	comp=Z,123nm,1.3s							
GNI				MLR	MLR			
	comp=Z,2μm,18.0s							
GNI	**Garni**	**24.82 281**	P		**P**	**03 07 02.6**	**+2.8**
	SNR=28							
GNI	**Garni**	**24.82 281**	P		**P**	**03 07 02.1**	**+2.3**
	comp=Z,35nm,0.7s,baz=154,slow=5.9,SNR=14							
GNI				LR	LR	03 18 31.7		
	comp=Z,951nm,18.6s,baz=56,slow=41							
ZEI	**Tsey**	**25.09 287**	*e*P		**P**	**03 07 01.4**	**-0.9**
ZEI				pmax	pmax			
	comp=Z,14nm,0.7s							
MHTO	**MHTO**	**25.18 227**	P		**P**	**03 07 04.3**	**+1.3**
	SNR=17							
NCK	**Nalchik**	**25.25 289**⇓	*e*P		**P**	**03 07 04.7**	**+1.1**
NCK				pmax	pmax			
	comp=Z,17nm,0.6s							
GOF	**Gofitskoye**	**25.58 293**	*e*P		**P**	**03 07 08.5**	**+2.0**
GOF				pmax	pmax			
	comp=Z,120nm,1.1s							
KIRV	**Kirov**	**25.63 326**	P		**P**	**03 07 07.9**	**+1.1**
KIRV			Lg		Lg	03 15 01.4		
KIRV	**Kirov**	**25.63 326**	P		**P**	**03 07 07.9**	**+1.1**
KIRV	**Kirov**	**25.63 326**	P		**P**	**03 07 07.9**	**+1.1**
	comp=Z,306nm,0.7s,baz=127,slow=4.8,SNR=100							
KIRV			Lg		Lg	03 15 01.4		
	comp=Z,16nm,1.0s,baz=158,slow=18,SNR=3.6							
KBZ	**Khabaz**	**25.74 289**	P		**P**	**03 07 08.5**	**+0.5**
KBZ	**Khabaz**	**25.74 289**	P		**P**	**03 07 08.5**	**+0.5**
KBZ	**Khabaz**	**25.74 289**	P		**P**	**03 07 08.5**	**+0.5**
	comp=Z,10nm,0.9s,baz=97,slow=6.2,SNR=18							
KBZ				LR	LR	03 18 22.0		
	comp=Z,1μm,18.4s,baz=72,slow=39							
XAN	**Xi'an**	**25.87 93**	P		**P**	**03 07 09.1**	**-0.1**
XAN			S		**S**	**03 11 39.9**	**+0.9**
XAN				pmax	pmax			
	comp=Z,51nm,1.2s							
XAN				pmax	pmax			
	comp=Z,180nm,6.7s							
XAN				LR	LR			
	comp=Z,2μm,12.4s							
XAN				LR	LR			
	comp=Z,1μm,11.0s							
XAN				LR	LR			
	comp=Z,2μm,17.3s							
XAN	**Xi'an**	**25.87 93**	*e*P		**P**	**03 07 09.2**	**-0.1**
	comp=Z,383nm,1.1s							
KVAR	**Kislovodsk Arr**	**25.88 290**	P		**P**	**03 07 09.9**	**+0.6**
KVAR	**Kislovodsk Arr**	**25.88 290**	P		**P**	**03 07 09.9**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=73,slow=20,SNR=15							
KVAR				LR	LR	03 18 13.0		
	comp=Z,2μm,19.9s,baz=256,slow=38							
KIV	**Kislovodsk**	**25.88 290**	*e*P		**P**	**03 07 10.4**	**+1.0**
	comp=Z,165nm,1.0s							
KIV				LR	LR			
	comp=Z,1μm,20.0s							
KIV	**Kislovodsk**	**25.88 290**	*i* P		**P**	**03 07 10.8**	**+1.4**
	SNR=15							
KIV	**Kislovodsk**	**25.88 290**	*e*P		**P**	**03 07 10.2**	**+0.9**
KIV			*e*S		**S**	**03 11 41.6**	**+2.4**
KIV				pmax	pmax			
	comp=Z,51nm,0.8s							
KIV				MLR	MLR			
	comp=Z,2μm,14.0s							
KIV	**Kislovodsk**	**25.88 290**	P		**P**	**03 07 10.3**	**+0.9**
	SNR=15							
NEY	**Neytrino**	**25.91 288**⇑	*e*P		**P**	**03 07 13.2**	**+3.5**
NEY				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HHC	**Hu-ho-hao-te**	**25.99 77**	*e*P		**P**	**03 07 11.4**	**+1.0**
HHC			sP		sP	03 07 20.6	+5.0
HHC			S		**S**	**03 11 41.1**	**+0.1**
HHC			sS		pS	03 11 45.1	+0.1
HHC				pmax	pmax			
	comp=Z,28nm,0.8s							
HHC				pmax	pmax			
	comp=Z,400nm,7.4s							
HHC				LR	LR			
	comp=Z,2μm,12.0s							
HHC				LR	LR			
	comp=Z,2μm,10.4s							
HHC				LR	LR			
	comp=Z,2μm,10.5s							
KMI	**Kunming**	**26.00 117**	P		**P**	**03 07 11.3**	**+0.6**
KMI			pP		pP	03 07 13.7	-0.7
KMI			S		**S**	**03 11 39.8**	**-1.7**
KMI				pmax	pmax			
	comp=Z,77nm,1.1s							
KMI				pmax	pmax			
	comp=Z,520nm,4.1s							
KMI				LR	LR			
	comp=Z,1μm,14.3s							
KMI				LR	LR			
	comp=Z,1μm,13.9s							
KMI				LR	LR			
	comp=Z,2μm,14.4s							
VRH	**Novokhopyorsk**	**26.98 306**	*e*P		**P**	**03 07 19.4**	**+0.3**
VRH				pmax	pmax			
	comp=Z,180nm,0.9s							
VRH				MLR	MLR			
	comp=Z,5μm,12.0s							
MDRS	**Chennai**	**27.04 174**	*e*P		**P**	**03 07 20.3**	**+0.5**
SIRT	**Sirnak**	**27.18 276**	*e*P		**P**	**03 07 23.7**	**+2.5**
	comp=Z,168nm,1.1s							
TIY	**Taiyuan**	**27.35 84**	*e*P		**P**	**03 07 25.9**	**+3.3**
TIY			S		**S**	**03 12 05.1**	**+2.7**
TIY				pmax	pmax			
	comp=Z,21nm,0.7s							
TIY				LR	LR			
	comp=Z,780nm,5.6s							
TIY				LR	LR			
	comp=Z,2μm,11.8s							
TIY				LR	LR			
	comp=Z,2μm,11.4s							
GYA	**Guiyang**	**27.92 110**⇑	*i*P		**P**	**03 07 28.4**	**+0.5**
GYA			PP		**PnPn**	**03 08 17.8**	**+3.3**
GYA			S		**S**	**03 12 10.0**	**-1.7**
GYA			SS		**SnSn**	**03 13 28.4**	**+3.1**
GYA			ScP		**ScP**	**03 14 25.5**	**+1.5**
GYA			ScS		**ScS**	**03 18 16.0**	**-0.6**
GYA				pmax	pmax			
	comp=Z,70nm,1.0s							
GYA				pmax	pmax			
	comp=Z,270nm,6.4s							
GYA				LR	LR			
	comp=Z,940nm,11.8s							
GYA				LR	LR			
	comp=Z,1μm,13.0s							
GYA				LR	LR			
	comp=Z,1μm,13.7s							
SOC	**Sochi**	**28.06 290**	*e*P		P	03 07 37.1	+8.3
SOC				MLR	MLR			
	comp=Z,1μm,12.0s							
CHTO	**Chiang Mai**	**28.23 132**	*e*P		**P**	**03 07 29.5**	**-1.0**
	comp=Z,25nm,1.3s							
CHTO			*e*PcP		**PcP**	**03 10 43.2**	**-0.8**
CHTO				LR	LR			
	comp=Z,482nm,20.0s							
CHTO	**Chiang Mai**	**28.23 132**	*e*P		**P**	**03 07 29.5**	**-1.0**
CHTO			*e*			03 10 43.2		
CHTO				pmax	pmax			
	comp=Z,25nm,1.3s							
CHTO				MLR	MLR			
	comp=Z,482nm,20.0s							
CHTO	**Chiang Mai**	**28.23 132**	P		**P**	**03 07 29.6**	**-1.0**
	SNR=7.1							
CHTO	**Chiang Mai**	**28.23 132**	P		**P**	**03 07 31.8**	**+1.3**
	comp=Z,57nm,1.1s							
CHTO	**Chiang Mai**	**28.23 132**	*e*P		**P**	**03 07 29.9**	**-0.7**
CMMT	**Chiang Mai**	**28.23 132**	P		**P**	**03 07 31.7**	**+1.1**
	comp=Z,15nm,1.0s							
CM31	**Chiang Mai Arr**	**28.51 133**	*e*P		**P**	**03 07 32.5**	**-0.6**
	comp=Z,34nm,1.1s							
CMAR	**Chiang Mai Arr**	**28.51 133**	P		**P**	**03 07 31.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.51 133**	P		**P**	**03 07 31.9**	**-1.2**
CMAR	**Chiang Mai Arr**	**28.51 133**	P		**P**	**03 07 31.9**	**-1.2**
	comp=Z,1.2nm,0.3s,baz=317,slow=7.7,SNR=6.0							
CM01	**Chiang Mai Arr**	**28.55 133**	*e*P		**P**	**03 07 32.1**	**-1.3**
VSR	**Storozhevoye**	**28.57 306**	*c i*P		**P**	**03 07 33.4**	**+0.1**
VSR				pmax	pmax			
	comp=Z,96nm,1.1s							
VORR	**Voronezh**	**28.61 307**	*e*P		**P**	**03 07 34.0**	**+0.4**
VORR				pmax	pmax			
	comp=Z,300nm,2.0s							
LAMP	**Lampang**	**28.85 132**	P		**P**	**03 07 36.2**	**+0.1**
	comp=Z,7.6nm,1.0s							
LPSR	**Galich'ya Gora**	**28.93 309**	*e*P		**P**	**03 07 36.8**	**+0.3**
LPSR				pmax	pmax			
	comp=Z,110nm,0.8s							
LPSR				MLR	MLR			
	comp=Z,4μm,14.0s							
BOD	**Bodaibo**	**29.43 41**	*e*P		**P**	**03 07 38.1**	**-2.8**
BOD				pmax	pmax			
	comp=Z,41nm,1.2s							
ANN	**Anapa**	**29.58 292**	*e*P		**P**	**03 07 38.9**	**-3.4**
ANN			*e*			03 08 37.6		
ANN			*e*S		**S**	**03 12 34.2**	**-2.9**
ANN				pmax	pmax			
	comp=Z,86nm,1.5s							
ANN				MLR	MLR			
	comp=Z,3μm,16.0s							
BJT	**Baijiatuao**	**29.60 77**	P		**P**	**03 07 40.9**	**-1.7**
BJT				LR	LR			
	comp=Z,2μm,19.0s							
BJT	**Baijiatuao**	**29.60 77**	P		**P**	**03 07 40.9**	**-1.7**
BJT				MLR	MLR			
	comp=Z,2μm,19.0s							
SUKH	**Sukhothai**	**29.68 133**	P		**P**	**03 07 46.7**	**+3.3**
	comp=Z,4.7nm,0.8s							
NRIK	**Noril'sk**	**29.83 7**	P		**P**	**03 07 44.1**	**-0.1**
NRIK	**Noril'sk**	**29.83 7**	P		**P**	**03 07 44.1**	**-0.1**
	comp=Z,41nm,0.9s,baz=193,slow=7.7,SNR=32							
NRIK				LR	LR	03 21 05.5		
	comp=Z,2μm,18.8s,baz=156,slow=39							
UTTA	**Uttaradit**	**30.00 131**	P		**P**	**03 07 47.1**	**+0.9**
	comp=Z,5.1nm,1.0s,comp=Z,66nm							
MOS	**Moscow**	**30.35 314**	*e*P		**P**	**03 07 46.9**	**-2.1**
MOS			*e*			03 08 45.1		
MOS			*e*			03 09 03.3		
MOS			*e*			03 10 50.9		
MOS				pmax	pmax			
	comp=Z,219nm,1.3s							
MOS				pmax	pmax			
	comp=Z,300nm,1.6s							
MOS				MLR	MLR			
	comp=Z,3μm,17.0s							
MOS				MLR	MLR			
	comp=E,2μm,16.0s							
OBN	**Obninsk**	**30.79 313**	*e*P		**P**	**03 07 53.3**	**+0.4**
	comp=E,90nm,0.8s							
OBN				LR	LR			
	comp=Z,1μm,20.0s							
OBN	**Obninsk**	**30.79 313**⇑	*i*P		**P**	**03 07 53.9**	**+1.0**
OBN	**Obninsk**	**30.79 313**	*c i*P		**P**	**03 07 53.5**	**+0.6**
OBN			*e*PPP		PPP	03 09 02.2		
OBN			*e*			03 10 46.3		
OBN				pmax	pmax			
	comp=Z,118nm,1.2s							
OBN				MLR	MLR			
	comp=Z,2μm,18.0s							
KLMR	**Klimovskoe**	**31.11 325**	*e*P		**P**	**03 07 54.1**	**-1.6**
KLMR				pmax	pmax			
	comp=Z,225nm,1.4s							
KLMR	**Klimovskoe**	**31.11 325**	*e*P		**P**	**03 07 54.1**	**-1.6**
KLMR				AMP		03 07 58.1		
	comp=Z,225nm,1.4s							
UTHA	**Uthaitani**	**31.15 135**	P		**P**	**03 07 58.1**	**+1.7**
	comp=Z,6.8nm,0.9s,comp=Z,76nm							
PBKT	**Sadao Pong**	**31.17 132**	*e*P		**P**	**03 07 56.0**	**-0.6**
	comp=Z,33nm,1.2s							
PBKT	**Sadao Pong**	**31.17 132**	P		**P**	**03 07 57.1**	**+0.5**
	comp=Z,24nm,0.9s							
HIA	**Hailar**	**31.19 59**	*e*P		**P**	**03 07 56.1**	**-0.5**
HIA				LR	LR			
	comp=Z,2μm,19.0s							
HIA	**Hailar**	**31.19 59**	*e*P		**P**	**03 07 56.1**	**-0.5**
HIA				MLR	MLR			
	comp=Z,2μm,19.0s							
PBA	**Port Blair**	**31.44 150**	*e*P		P	03 07 56.2	-2.7
TRD	**Trivandrum**	**31.44 181**	*e*P		**P**	**03 07 58.0**	**-1.0**
RAYN	**Ar Rayn**	**31.45 248**	*e*P		**P**	**03 08 00.8**	**+1.7**
	comp=Z,33nm,0.8s							
RAYN				LR	LR			
	comp=Z,854nm,19.0s							
RAYN	**Ar Rayn**	**31.45 248**	P		**P**	**03 08 01.0**	**+1.9**
RAYN	**Ar Rayn**	**31.45 248**	*e*P		**P**	**03 08 00.8**	**+1.7**
RAYN				pmax	pmax			
	comp=Z,33nm,0.8s							
RAYN				MLR	MLR			
	comp=Z,854nm,19.0s							
WHN	**Wuhan**	**31.51 96**	P		**P**	**03 08 00.3**	**+0.8**
WHN			S		**S**	**03 13 09.9**	**+2.2**
WHN				LR	LR			
	comp=Z,8μm,8.4s							
WHN				LR	LR			
	comp=Z,3μm,14.6s							
WHN				LR	LR			
	comp=Z,7μm,12.7s							
SNOP	**Sinop**	**31.57 287**	*e*P		**P**	**03 08 01.3**	**+1.4**
	comp=Z,66nm,1.3s							
MNCI	**Minicoy**	**31.89 188**	*e*P		**P**	**03 08 02.7**	**-0.2**
	comp=Z,60nm,1.2s							
SIM	**Simferopol'**	**31.91 293**	*e*P		**P**	**03 08 04.8**	**+1.9**
SIM			*e*			03 09 09.0		
SIM			*e*S		**S**	**03 13 20.0**	**+6.3**
SIM				pmax	pmax			
	comp=Z,84nm,1.3s							
CHAI	**Chaiyaphum**	**32.29 131**	P		**P**	**03 08 07.0**	**+0.6**
	comp=Z,9.8nm,0.9s							
SKNT	**Sakolnakorn**	**32.64 127**	P		**P**	**03 08 09.6**	**+0.1**
	comp=Z,37nm,1.2s,comp=Z,485nm							
PALK	**Pallekele**	**32.81 174**	*e*P		**P**	**03 08 11.8**	**+0.7**
	comp=Z,91nm,1.8s							
PALK	**Pallekele**	**32.81 174**	*i* P		**P**	**03 08 11.8**	**+0.7**
	SNR=7.8							
PALK	**Pallekele**	**32.81 174**	*e*P		**P**	**03 08 11.8**	**+0.7**
PALK				pmax	pmax			
	comp=Z,91nm,1.8s							
PALK	**Pallekele**	**32.81 174**	LR		LR	03 22 17.2		
	comp=Z,3μm,19.9s,baz=297,slow=38							
ILGA	**Ilgaz**	**32.86 286**	*e*P		**P**	**03 08 12.5**	**+1.0**
	comp=Z,37nm,0.9s							
TMCR	**Tamitsa**	**33.19 330**	*e*P		**P**	**03 08 12.5**	**-1.4**
TMCR				pmax	pmax			
	comp=Z,199nm,0.8s							
BR131	**Keskin Array S**	**33.24 284**	*e*P		**P**	**03 08 16.1**	**+1.4**
	comp=Z,42nm,0.8s							
BR131	**Keskin Array S**	**33.24 284**	P		**P**	**03 08 16.2**	**+1.4**
	SNR=114							
BRTR	**Keskin Array B**	**33.24 284**	P		**P**	**03 08 16.1**	**+1.4**
BRTR	**Keskin Array B**	**33.24 284**	P		**P**	**03 08 16.1**	**+1.4**
BRTR	**Keskin Array B**	**33.24 284**	P		**P**	**03 08 16.1**	**+1.4**
	comp=Z,38nm,0.8s,baz=93,slow=8.7,SNR=238							
PHET	**Kaeng Krachan**	**33.45 138**	P		**P**	**03 08 17.8**	**+1.2**
	comp=Z,17nm,0.8s,comp=Z,173nm							
ANTO	**Ankara**	**33.83 284**	*e*P		**P**	**03 08 21.5**	**+1.7**
	comp=Z,49nm,1.1s							
ANTO			*e*PP		**PP**	**03 09 39.1**	**+2.8**
ANTO				LR	LR			
	comp=Z,686nm,21.0s							
ANTO	**Ankara**	**33.83 284**⇑	*i*P		**P**	**03 08 22.4**	**+2.5**
ANTO	**Ankara**	**33.83 284**	*e*P		**P**	**03 08 21.5**	**+1.7**
ANTO			*e*			03 09 39.1		
ANTO				pmax	pmax			
	comp=Z,49nm,1.1s							
ANTO				MLR	MLR			
	comp=Z,686nm,21.0s							
ANTO	**Ankara**	**33.83 284**	P		**P**	**03 08 21.2**	**+1.3**
	SNR=10							
ANTO	**Ankara**	**33.83 284**	*e*P		**P**	**03 08 21.5**	**+1.7**
SRAK	**Srakaew**	**33.84 133**	P		**P**	**03 08 24.0**	**+4.0**
	comp=Z,54nm,1.0s,comp=Z,632nm							
BR231	**Keskin MP Arra**	**33.85 284**	*e*P		**P**	**03 08 22.3**	**+2.2**
	comp=Z,41nm,1.0s							
DL2	**Dalian**	**33.97 77**	*e*P		**P**	**03 08 20.9**	**-0.1**
DL2			S		**S**	**03 13 44.3**	**-1.5**
DL2				pmax	pmax			
	comp=Z,20nm,0.7s							
DL2				LR	LR			
	comp=Z,940nm,12.4s							
DL2				LR	LR			
	comp=Z,710nm,17.2s							
DL2				LR	LR			
	comp=Z,920nm,11.8s							
NJ2	**Nanjing**	**34.29 90**	*e*P		**P**	**03 08 24.0**	**+0.2**
NJ2				pmax	pmax			
	comp=Z,23nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,480nm,6.0s							
NJ2				LR	LR			
	comp=Z,850nm,14.1s							
NJ2				LR	LR			
	comp=Z,1μm,13.3s							
NJ2				LR	LR			
	comp=Z,1μm,11.4s							
SNY	**Shenyang**	**34.68 72**	⇑P		**P**	**03 08 29.4**	**+2.4**
SNY			S		**S**	**03 13 53.6**	**-3.1**
SNY				pmax	pmax			
	comp=Z,21nm,0.8s							
SNY				pmax	pmax			
	comp=Z,220nm,3.8s							
SNY				LR	LR			
	comp=Z,1μm,17.1s							
SNY				LR	LR			
	comp=Z,1μm,14.1s							
SNY				LR	LR			
	comp=Z,2μm,13.3s							
AKASG	**Malin Array Be**	**34.81 304**	P		**P**	**03 08 28.4**	**+0.2**
AKASG			PcP		**PcP**	**03 11 00.3**	**-0.9**
AKASG	**Malin Array Be**	**34.81 304**	*i* P		**P**	**03 08 28.3**	**+0.2**
AKASG				pmax	pmax			
	comp=Z,30nm,0.9s							
AKASG	**Malin Array Be**	**34.81 304**	P		**P**	**03 08 28.4**	**+0.2**
	comp=Z,54nm,1.1s,baz=77,slow=8.4,SNR=60							
AKASG			PcP		**PcP**	**03 11 00.3**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=78,slow=4.0,SNR=5.7							
AKASG				LR	LR	03 24 46.8		
	comp=Z,1μm,18.6s,baz=75,slow=40							
AKBB	**Malin Array Si**	**34.81 304**	*e*P		**P**	**03 08 28.4**	**+0.3**
	comp=Z,64nm,1.0s							
AKBB	**Malin Array Si**	**34.81 304**	*e*P		**P**	**03 08 28.4**	**+0.3**
AKBB				pmax	pmax			
	comp=Z,65nm,1.0s							
KIEV	**Kiev**	**34.82 304**	PFAKE			03 08 40.0	+12
KIEV				LR	LR			
	comp=Z,634nm,20.0s							
AK11	**Malin Array Si**	**34.85 304**	*e*P		**P**	**03 08 28.4**	**0.0**
QIZ	**Qiongzhong**	**34.95 117**	P		**P**	**03 08 29.9**	**+0.3**
QIZ			S		**S**	**03 14 02.3**	**+1.1**
QIZ				pmax	pmax			
	comp=Z,22nm,1.4s							
QIZ				LR	LR			
	comp=Z,590nm,13.2s							
QIZ				LR	LR			
	comp=Z,770nm,15.7s							
QIZ				LR	LR			
	comp=Z,960nm,11.3s							
CSS	**Mathiatis**	**34.97 276**	*e*P		P	03 08 35.2	+5.5
	comp=Z,14nm,1.0s							
CHBT	**CHBT**	**35.03 134**	P		**P**	**03 08 25.6**	**-4.7**
PUL	**Pulkovo**	**35.10 320**⇓	*e*P		**P**	**03 08 32.0**	**+1.5**
PUL				pmax	pmax			
	comp=Z,188nm,0.9s							
PUL	**Pulkovo**	**35.10 320**	*e*P		**P**	**03 08 31.6**	**+1.1**
PUL				IAmb	IAmb	03 08 36.2		
	comp=Z,223nm,0.7s							
LEF	**Lefka**	**35.25 276**⇑	*i*P		**P**	**03 08 34.4**	**+2.4**
KIS	**Kishinev**	**35.34 296**⇓	*i*P		**P**	**03 08 33.0**	**+0.3**
	comp=Z,170nm,2.0s							
KIS			*e*S		**S**	**03 14 04.0**	**-2.8**
KIS	**Kishinev**	**35.34 298**	*e*PcS		PcS	03 14 50.0	+0.4
KIS			*e*SS		SS	03 16 18.0	-22
KIS			*e*LQ		LQ	03 20 17.0		
KIS				LRM	MLR	03 25 12.0		
	comp=Z,3μm,13.0s							
KIS	**Kishinev**	**35.34 298**⇓	*i*P		**P**	**03 08 33.0**	**+0.3**
KIS			*e*			03 09 50.0		
KIS			*e*			03 10 12.0		
KIS			*e*S		**S**	**03 14 04.0**	**-2.8**
KIS			*e*SS		SS	03 16 18.0	-22
KIS				pmax	pmax			
	comp=Z,170nm,2.0s							
KIS				MLR	MLR			
	comp=Z,3μm,12.0s							
KIS				MLR	MLR			
	comp=N,3μm,13.0s							
TLCR		**35.59 295**⇑	*i*P		**P**	**03 08 35.8**	**+0.9**
CN2	**Changchun**	**35.62 68**	*e*P		**P**	**03 08 35.6**	**+0.5**
CN2			*e*S		**S**	**03 14 09.7**	**-1.4**
CN2				LR	LR			
	comp=N,1μm,14.0s							
CN2				LR	LR			
	comp=N,1μm,16.0s							
CN2				LR	LR			
	comp=N,2μm,16.0s							
MICGM	**Minsk**	**35.69 311**⇓	*e*P		**P**	**03 08 36.0**	**+0.3**
MICGM				PM		03 08 37.0		
	comp=Z,0.3nm,1.0s							
MICGM			*e*PP		**PnPn**	**03 09 49.0**	**-6.1**
MICGM			*e*PPP		PPP	03 10 13.0		
MICGM			*e*S		**S**	**03 14 13.0**	**+1.0**
MICGM			*e*SS		**SS**	**03 16 47.0**	**-0.1**
MICGM			*e*SSS		SSS	03 17 32.0		
MICGM			*e*LR		LR	03 22 36.0		
MICGM				LRM	MLR	03 24 03.0		
	comp=E,3.4nm,10.0s							
MICGM				LRM	MLR	03 24 06.0		
	comp=Z,7.0nm,11.0s							
MNK	**Minsk**	**35.69 311**	*e*P		**P**	**03 08 36.0**	**+0.3**
MNK			*e*S		**S**	**03 14 13.0**	**+1.0**
MNK				pmax	pmax			
	comp=Z,280nm,1.0s							
MNK				MLR	MLR			
	comp=Z,7μm,11.0s							
ZEA	**Zeya**	**35.99 51**	*e*P		**P**	**03 08 38.1**	**-0.1**
ZEA				pmax	pmax			
	comp=Z,60nm,1.4s							
ZEA				MLR	MLR			
	comp=Z,3μm,14.0s							
ZEA				MLR	MLR			
	comp=E,2μm,13.0s							
ZEA				MLR	MLR			
	comp=N,2μm,10.0s							
TIRR	**Tirgusor**	**36.00 293**	*e*P		**P**	**03 08 39.7**	**+1.3**
	comp=N,7.6nm,0.9s							
TIRR	**Tirgusor**	**36.00 293**⇑	*i*P		**P**	**03 08 39.8**	**+1.3**
TIRR	**Tirgusor**	**36.00 293**	*e*P		**P**	**03 08 39.7**	**+1.3**
TIRR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
MFTR	**Murfatlar**	**36.05 293**⇓	*i*P		**P**	**03 08 40.2**	**+1.4**
CFR	**Carcaliu**	**36.07 295**⇓	*i*P		**P**	**03 08 39.9**	**+0.9**
ISP	**Isparta**	**36.12 282**	*e*P		**P**	**03 08 40.8**	**+1.2**
	comp=Z,26nm,0.8s							
ISP	**Isparta**	**36.12 282**⇑	*i*P		**P**	**03 08 40.8**	**+1.2**
ISP	**Isparta**	**36.12 282**	*e*P		**P**	**03 08 40.8**	**+1.2**
ISP				pmax	pmax			
	comp=Z,26nm,0.8s							
LVZ	**Lovozero**	**36.17 334**	*e*P		**P**	**03 08 40.2**	**+0.5**
	comp=Z,252nm,1.0s							
LVZ				LR	LR			
	comp=Z,564nm,19.0s							
LVZ	**Lovozero**	**36.17 334**	*c i*P		**P**	**03 08 40.0**	**+0.3**
LVZ				pmax	pmax			
	comp=Z,262nm,1.0s							
YLV	**Yalova**	**36.18 287**⇑	*i*P		**P**	**03 08 41.1**	**+1.0**
TLB	**Topalu**	**36.24 294**⇑	*i*P		**P**	**03 08 41.8**	**+1.4**
BIR	**Birlad**	**36.25 297**⇑	*i*P		**P**	**03 08 42.5**	**+2.0**
HARR	**Harsova**	**36.30 294**⇑	*i*P		**P**	**03 08 42.9**	**+1.9**
APA	**Apatity**	**36.44 333**⇑	*i*P		**P**	**03 08 41.5**	**-0.4**
APA				pmax	pmax			
	comp=Z,34nm,0.9s							
APA				MLR	MLR			
	comp=Z,9μm,11.0s							
ICOR	**Ion Corvin**	**36.50 293**⇑	*i*P		**P**	**03 08 44.6**	**+1.9**
SSE	**Sheshan**	**36.50 90**	PFAKE			03 08 50.0	+7.2
SSE				LR	LR			
	comp=Z,649nm,19.0s							
VSU	**Vasula**	**36.70 317**	*ce*P		**P**	**03 08 44.7**	**+0.6**
VSU				pmax	pmax			
	comp=Z,309nm,1.3s							
VSU	**Vasula**	**36.70 317**	*e*P		**P**	**03 08 44.8**	**+0.6**
VSU				IAmb	IAmb	03 08 49.7		
	comp=Z,266nm,0.9s						

PLOR Plostina 36.99 296⇑ *i*P P 03 08 49.0 +2.1
PRAR RASCA 37.05 299⇑ *i*P P 03 08 48.3 +1.0
PKDT Phuket 37.17 144 P P 03 08 49.9 +1.3
comp=Z,10nm,1.0s,comp=Z,3µm
BIZ Bicaz 37.19 298⇑ *i*P P 03 08 50.0 +1.4
ISR Istrita 37.19 295⇓ *i*P P 03 08 51.4 +2.8
PHSR Pinarhisar 37.25 289⇑ *i*P P 03 08 50.2 +1.1
MANT Manisa 37.38 284 *e*P P 03 08 53.0 +2.5
comp=Z,153nm,1.3s
FIA1 FINESS Array S 37.49 322 *e*P P 03 08 51.6 +0.7
FINES FINESS Array B 37.50 322 P P 03 08 51.7 +0.8
FINES FINESS Array B 37.50 322 P P 03 08 51.7 +0.8
FINES FINESS Array B 37.50 322 P P 03 08 51.7 +0.8
comp=Z,57nm,0.8s,baz=108,slow=9.2,SNR=118
FINES LR LR 03 24 46.2
comp=Z,3µm,18.3s,baz=78,slow=37
MLR Muntele Rosu 37.54 296 *e*P P 03 08 53.7 +2.0
comp=Z,63nm,1.1s
MLR Muntele Rosu 37.54 296⇑ *i*P P 03 08 53.7 +2.0
MLR Muntele Rosu 37.54 296 *e*P P 03 08 53.7 +2.0
MLR pmax pmax
comp=Z,63nm,1.1s
BURAR Bucovina Array 37.69 299⇑ *i*P P 03 08 53.9 +1.0
BUR08 Bucovina Ar. S 37.70 299 *e*P P 03 08 53.8 +0.8
comp=Z,21nm,1.1s
JMB Yambol 37.73 291 P P 03 08 52.7 -0.4
DOPR Dopca 37.84 297⇑ *i*P P 03 08 55.5 +1.4
TRTT Trang 37.84 142 P P 03 08 54.5 +0.2
comp=Z,9.7nm,2.1s,comp=Z,333nm
SZH Strazhica 38.00 292 P P 03 08 55.6 +0.1
YAK Yakutsk 38.15 37 *e*P P 03 08 55.2 -1.3
YAK *e* 03 10 20.7
YAK *e* 03 11 11.7
YAK *e*S S 03 14 48.3 -1.0
YAK *e*SS SnSn 03 17 21.2 -11
YAK *e*SSS SSS 03 17 53.6
YAK *e* 03 19 03.9
YAK pmax pmax
comp=Z,51nm,0.8s
YAK pmax pmax
comp=N,20nm,0.9s
YAK pmax pmax
comp=E,34nm,1.0s
YAK pmax pmax
comp=Z,573nm,2.4s
YAK pmax pmax
comp=N,206nm,2.9s
YAK pmax pmax
comp=E,414nm,2.0s
YAK smax smax
comp=N,1µm,5.5s
YAK smax smax
comp=E,810nm,4.7s
YAK MLR MLR
comp=Z,4µm,13.0s
YAK MLR MLR
comp=N,2µm,14.0s
YAK MLR MLR
comp=E,5µm,14.0s
VOIR 38.17 296⇑ *i*P P 03 08 58.2 +1.3
LVV L'vov 38.20 303 *e*P P 03 08 58.1 +1.1
LVV *e* 03 10 29.4
LVV *e*PPP PPP 03 10 45.1
LVV *e*S S 03 14 46.0 -4.3
LVV *e*SS SnSn 03 17 26.6 -7.3
LVV *e*SSS SSS 03 17 59.6
LVV MLR MLR
comp=N,600nm,14.0s
LVV MLR MLR
comp=E,1µm,14.0s
LVV MLR MLR
comp=Z,2µm,14.0s
ARCR ARCALIA 38.35 298⇑ *i*P P 03 09 00.7 +2.3
DAMY Dhamar 38.36 238 *e*P P 03 09 02.7 +3.6
comp=Z,36nm,1.1s
MDJ Mudanjiang 38.37 66 P P 03 08 58.8 +0.2
MDJ pP sP 03 09 08.8 +5.0
MDJ sP pP 03 09 13.6 +11
MDJ S S 03 14 52.6 -0.5
MDJ ScP ScP 03 14 55.4 -4.4
MDJ ScS ScS 03 19 05.1 -4.6
MDJ pmax pmax
comp=Z,11nm,1.4s
MDJ pmax pmax
comp=Z,150nm,3.7s
MDJ LR LR
comp=Z,2µm,10.3s
MDJ LR LR
comp=Z,2µm,10.1s
MDJ LR LR
comp=Z,2µm,11.4s
MDJ Mudanjiang 38.37 66 PFAKE 03 09 10.0 +11
MDJ LR LR
comp=Z,298nm,21.0s
SUW Suwalki 38.45 310 *e*P P 03 08 60.0 +0.9
SUW Suwalki 38.45 310 *e*P P 03 08 58.9 -0.1
comp=Z,163nm,1.2s
SUW Suwalki 38.45 310 *e*P P 03 08 58.9 -0.1
SUW pmax pmax
comp=Z,163nm,1.2s
ARR Arges 38.47 296⇑ *i*P P 03 09 01.3 +1.9
EZN Ezine 38.62 287⇑ *i*P P 03 09 02.5 +1.8
KDZ Kurdzhali 38.77 290 P P 03 09 06.4 +4.4
VLAD Vladila 38.92 294⇑ *i*P P 03 09 04.0 +0.9
SLIT Slitere, Latvi 38.98 316 *e*P P 03 09 03.4 -0.1
SLIT IAmb IAmb 03 09 07.3
comp=Z,354nm,1.0s
KLR Kul'dur 39.04 58 P P 03 09 03.6 -0.5
KLR Kul'dur 39.04 58⇑ *e*P P 03 09 02.5 -1.6
KLR Kul'dur 39.04 58 P P 03 09 03.6 -0.5
comp=Z,8.1nm,0.8s,baz=288,slow=9.1,SNR=17
KLR LR LR 03 26 14.9
comp=Z,1µm,18.0s,baz=269,slow=38
LOT Lotru 39.05 296⇑ *i*P P 03 09 05.9 +1.5
KWP Kalwaria Pacla 39.07 303 *e*P P 03 09 06.2 +1.8
KWP Kalwaria Pacla 39.07 303 *e*P P 03 09 04.9 +0.5
comp=Z,2µm,1.2s
KWP Kalwaria Pacla 39.07 303 *e*P P 03 09 04.9 +0.5
KWP pmax pmax
comp=Z,2µm,1.2s
KSAR Wonju Array Be 39.11 77 P P 03 09 04.0 -0.8
KSAR Wonju Array Be 39.11 77 P P 03 09 04.0 -0.8
KSRS Korea Array 39.14 77 P P 03 09 04.0 -1.0
KSRS Korea Array 39.14 77 P P 03 09 04.0 -1.0
comp=Z,7.5nm,1.0s,baz=278,slow=8.1,SNR=17
KSRS LR LR 03 26 46.5
comp=Z,400nm,20.4s,baz=280,slow=39
PBUR Paburg 39.14 313 *e*P P 03 09 05.8 +1.0
PBUR IAmb IAmb 03 09 10.2
comp=Z,137nm,0.8s
RZN Rozhen 39.27 290 P P 03 09 06.2 -0.1
CHOS Chios island 39.27 285 P P 03 09 24.6 +18
TRPA Tarpa 39.39 300⇑ *i*P P 03 09 08.4 +1.3
PGB Panagyurishte 39.44 291 P P 03 09 11.3 +3.7
KARP Karpathos 39.44 280 *e*P P 03 09 09.2 +1.5
comp=Z,85nm,0.9s
KEV Kevo 39.48 335 *e*P P 03 09 08.2 +0.7
comp=Z,102nm,0.9s
KEV LR LR
comp=Z,6µm,19.0s
KEV Kevo 39.48 335 *e*P P 03 09 08.2 +0.7
KEV pmax pmax
comp=Z,103nm,0.9s
KEV MLR MLR
comp=Z,6µm,19.0s
KEV Kevo 39.48 335 *e*P P 03 09 08.2 +0.7
UZH Uzhgorod 39.48 301⇓ *i*P P 03 09 08.9 +1.1
UZH *e* 03 09 19.2
UZH *e*S S 03 15 09.2 -0.4
UZH MLR MLR
comp=Z,400nm,14.0s
DRGR 39.51 298⇑ *i*P P 03 09 09.6 +1.4
GZR Gura Zlata 39.74 296⇑ *i*P P 03 09 11.4 +1.3
PUNG Punghina 39.88 294⇑ *i*P P 03 09 12.1 +0.9
ARCES ARCESS Array B 39.89 334 *e*P P 03 09 11.8 +0.8
ARCES ARCESS Array B 39.89 334 P P 03 09 11.8 +0.8
ARCES ARCESS Array B 39.89 334 P P 03 09 11.8 +0.8
comp=Z,119nm,0.8s,baz=102,slow=9.5,SNR=147
ARCES LR LR 03 26 33.1
comp=Z,2µm,18.4s,baz=107,slow=38
ARE0 ARCESS Array S 39.89 334 *e*P P 03 09 11.9 +0.9
comp=Z,6.8nm,0.8s
ARE0 ARCESS Array S 39.89 334 *e*P P 03 09 11.8 +0.9
LTVH Ltavrtes, Hu 39.95 299 *e*P P 03 09 13.1 +1.4

NVR Nevrokopi 39.98 290 P P 03 09 12.7 +0.6
NVR Nevrokopi 39.98 290 P P 03 09 12.7 +0.6
MMB Musomiste 40.01 290 P P 03 09 12.2 -0.1
BEL Belsk 40.03 306 *e*P P 03 09 13.8 +1.5
BEL Belsk 40.03 306 *e*P P 03 09 13.8 +1.5
VTS Vitosha 40.08 292⇑ *i*P P 03 09 14.8 +1.7
VTS Vitosha 40.08 292 P P 03 09 13.5 +0.4
HERR Herculane 40.10 295⇑ *i*P P 03 09 14.3 +1.3
USRK Ussuriysk Ar. 40.14 66 P P 03 09 14.1 +0.8
USRK Ussuriysk Ar. 40.14 66 P P 03 09 14.1 +0.8
USRK Ussuriysk Ar. 40.14 66 P P 03 09 14.1 +0.8
comp=Z,3.2nm,0.8s,baz=303,slow=8.3,SNR=7.3
USRK LR LR 03 27 53.5
comp=Z,594nm,20.4s,baz=272,slow=39
KLNR Kaliningrad 40.16 311⇑ *e*P P 03 09 13.6 +0.3
KLNR pmax pmax
comp=Z,147nm,1.0s
SRS Serrai 40.24 290 P P 03 09 13.3 -0.9
SRS Serrai 40.24 290 P P 03 09 13.3 -0.9
SRS Serrai 40.24 290 P P 03 09 13.3 -0.9
KKB Krupnik 40.39 291 P P 03 09 15.8 +0.3
KTK1 Kautokeino 40.49 333 *e*P P 03 09 16.4 +0.5
BZS Buzias 40.49 297⇑ *i*P P 03 09 17.9 +1.7
KULM Kulim 40.52 143 P P 03 09 19.8 +3.0
PLG Polygyros 40.57 288 P P 03 09 17.7 +0.7
PLG Polygyros 40.57 288 P P 03 09 17.7 +0.7
TIXI Tiksi 40.59 22 *e*P P 03 09 16.1 -0.6
comp=Z,40nm,0.9s
TIXI LR LR
comp=Z,4µm,20.0s
TIXI Tiksi 40.59 22 *c i*P P 03 09 15.7 -1.0
TIXI pmax pmax
comp=Z,86nm,1.7s
TIXI Tiksi 40.59 22 P P 03 09 15.8 -0.9
comp=Z,40nm,0.8s,baz=251,slow=6.2,SNR=33
MDVR Moldovita 40.61 296⇑ *i*P P 03 09 19.0 +1.7
NIE Niedzica 40.65 303 *e*P P 03 09 19.4 +1.8
NIE Niedzica 40.65 303 *e*P P 03 09 19.4 +1.8
KNT Kendrikon 40.73 290 P P 03 09 17.5 -0.8
KNT Kendrikon 40.73 290 P P 03 09 17.5 -0.8
KNT Kendrikon 40.73 290 P P 03 09 17.5 -0.8
HAMF Hammerfest 40.85 336 *e*P P 03 09 19.9 +1.1
OJC Ojcow 40.85 304 *e*P P 03 09 19.8 +0.7
OJC Ojcow 40.85 304 *e*P P 03 09 19.3 +0.1
comp=Z,68nm,0.9s
OJC Ojcow 40.85 304 *e*P P 03 09 19.3 +0.1
OJC pmax pmax
comp=Z,68nm,0.9s
VAY Valandovo 40.92 290 *i*P P 03 09 21.0 +1.2
XOR Xorichti 41.07 287 P P 03 09 21.3 +0.2
XOR Xorichti 41.07 287 P P 03 09 21.3 +0.2
STIP Stip 41.09 291 *i*P P 03 09 20.9 -0.3
ATHU Athens Univers 41.10 285 P P 03 09 21.9 +0.5
ATHU Athens Univers 41.10 285 P P 03 09 21.9 +0.5
PSZ Piszkesteto 41.18 301 *e*P P 03 09 23.6 +1.6
comp=Z,34nm,1.1s
PSZ Piszkesteto 41.18 301 *e*P P 03 09 23.6 +1.6
PSZ pmax pmax
comp=Z,34nm,1.1s
PSZ Piszkesteto 41.18 301⇑ *e*P P 03 09 22.0 +0.1
LANS Liptovska Anna 41.23 303 *e*P P 03 09 24.5 +2.1
LANS Liptovska Anna 41.23 303 *e*P P 03 09 24.5 +2.1
IPM Ipoh 41.41 143 P P 03 09 27.0 +2.9
ATD Arta Tunnel 41.62 237 *e*P P 03 09 29.0 +3.1
comp=Z,44nm,1.3s
VYHS Vyhne 41.76 302 *e*P P 03 09 28.0 +1.3
VYHS pmax pmax
comp=Z,22nm,1.1s
VYHS Vyhne 41.76 302 *e*P P 03 09 28.0 +1.3
VYHS *e*PP PnPn 03 11 08.3 +0.3
GRNR Gornyy 41.80 55 *e*P P 03 09 27.8 +0.8
GRNR pmax pmax
comp=Z,30nm,1.1s
AGG Agios Georgios 41.81 287 *e*P P 03 09 28.4 +1.1
comp=Z,28nm,1.1s
AGG Agios Georgios 41.81 287 P P 03 09 27.4 +0.2
FRGS Fruska Gora 41.84 297⇑ *i*P P 03 09 28.4 +1.1
BUD Budapest 41.84 300 *e*P P 03 09 28.1 +0.8
KRUS Krusevo 41.85 291 *i*P P 03 09 32.2 +4.6
DSF Desfina 41.88 286 P P 03 09 27.1 -0.7
DSF Desfina 41.88 286 P P 03 09 27.1 -0.7
BIA Bitola 41.91 290 *i*P P 03 09 32.4 +4.4
FNA Florina 41.94 290 *e*P P 03 09 29.1 +0.8
comp=Z,14nm,0.7s
FNA Florina 41.94 290 *e*P P 03 09 29.1 +0.8
FNA pmax pmax
comp=Z,14nm,0.7s
OKC Ostrava-Krasne 41.97 304 *e*P P 03 09 29.5 +1.2
OKC *e*pP pP 03 09 32.7 +0.7
OKC AMS AMS 03 28 00.0
comp=Z,3µm,15.7s
OKC Ostrava-Krasne 41.97 304 *e*P P 03 09 29.5 +1.2
OKC MLR MLR
comp=Z,3µm,15.7s
PSI Prapat 41.97 147 *e*P P 03 09 27.3 -1.5
PSI Prapat 41.97 147 P P 03 09 27.2 -1.6
PSI Prapat 41.97 147 P P 03 09 27.2 -1.6
comp=Z,11nm,1.1s,baz=358,slow=1.0,SNR=10.0
PSI LR LR 03 29 51.6
comp=Z,543nm,19.4s,baz=272,slow=40
DIVS Divibare 41.98 295 *e*P P 03 09 29.9 +1.3
comp=Z,47nm,1.0s
DIVS Divibare 41.98 295⇑ *i*P P 03 09 29.8 +1.3
GKP Gorka Klasztor 42.03 309 *e*P P 03 09 29.8 +1.1
GKP *e*PP PP 03 11 04.3 -1.5
GKP Gorka Klasztor 42.03 309 *e*P P 03 09 29.8 +1.1
GKP *e* 03 11 04.3
TRO Tromso 42.13 334 *e*P P 03 09 29.8 +0.5
GUR Goura 42.18 285 P P 03 09 29.3 -1.0
GUR Goura 42.18 285 P P 03 09 29.3 -1.0
SERG Sergoula 42.22 286 P P 03 09 29.8 -0.8
EVR Evrytania 42.23 287 P P 03 09 31.0 +0.3
EVR Evrytania 42.23 287 P P 03 09 31.0 +0.3
SRO Srobarova 42.24 301 *e*P P 03 09 32.4 +1.8
SRO Srobarova 42.24 301 *e*P P 03 09 32.4 +1.8
OHR Ohrid 42.26 290 *i*P P 03 09 31.8 +0.9
EFP Efpalio 42.33 286 P P 03 09 30.6 -0.8
LAKA Lakka 42.34 286 P P 03 09 30.6 -0.9
LAKA Lakka 42.34 286 P P 03 09 30.6 -0.9
MORC Moravsky Berou 42.36 304 *e*P P 03 09 32.5 +0.9
comp=Z,44nm,0.9s
MORC Moravsky Berou 42.36 304 *e*P P 03 09 32.5 +0.9
MORC pmax pmax
comp=Z,44nm,0.9s
MORC Moravsky Berou 42.36 304 *e*P P 03 09 32.7 +1.1
CSKK Cskako 42.37 300⇑ *e*P P 03 09 32.1 +0.4
BBLS Lazići 42.45 295 *e*P P 03 09 32.1 -0.3
JAVC Velka Javorina 42.45 302 *e*P P 03 09 34.2 +2.2
SMOL Smolenice 42.68 302 *e*P P 03 09 36.2 +2.1
SMOL Smolenice 42.68 302 *e*P P 03 09 36.2 +2.1
HAPS Han Pijesak,BI 42.70 295 *e*P P 03 09 34.2 -0.3
ITM Ithomi 42.76 285 *e*P P 03 09 37.7 +2.8
comp=Z,24nm,0.8s
GSI Gunungsitoli 42.78 149 *e*P P 03 09 35.7 +0.5
comp=Z,60nm,1.1s
KRLC Kraliky 42.79 304 *e*P P 03 09 35.6 +0.5
KRLC *e*pP pP 03 09 39.6 +0.8
KRLC Kraliky 42.79 304 *e*P P 03 09 35.6 +0.5
MODS Modra-Piesok 42.80 302 *e*P P 03 09 36.5 +1.3
MODS pmax pmax
comp=Z,47nm,1.3s
MODS Modra-Piesok 42.80 302 *e*P P 03 09 36.5 +1.3
HOPEN Hopen 42.81 344 *e*P P 03 09 36.5 +1.7
ZST Bratislava 42.96 302 *e*P P 03 09 36.9 +0.5
ZST Bratislava 42.96 302 *e*P P 03 09 36.9 +0.5
PDG Podgorica 42.96 293⇑ *i*P P 03 09 37.3 +0.8
KSP Ksiaz 42.96 306 *e*P P 03 09 37.1 +0.7
KSP Ksiaz 42.96 306 *e*P P 03 09 37.1 +0.7
DPC Dobruska-Polom 43.03 305 *e*P P 03 09 38.3 +1.3
DPC *e*pP sP 03 09 41.9 -0.4
DPC AMS AMS 03 28 30.0
comp=Z,4µm,15.1s
DPC Dobruska-Polom 43.03 305 *e*P P 03 09 38.3 +1.3
DPC MLR MLR
comp=Z,4µm,15.1s
JNU Nakatsue 43.03 82 LR LR 03 29 50.0
comp=Z,544nm,18.1s,baz=294,slow=40
VRAC Vranov 43.06 303 *e*P P 03 09 38.4 +1.2
DRME Dracevica, Mon 43.08 293 *e*P P 03 09 42.1 +4.6
STEI Steigen 43.14 331 *e*P P 03 09 38.2 +0.6
UPC Upice 43.20 305 *e*P P 03 09 39.6 +1.3
UPC *e*pP sP 03 09 43.5 -0.1

UPC AMS AMS 03 28 40.0
comp=Z,4µm,13.5s
UPC Upice 43.20 305 *e*P P 03 09 39.6 +1.3
UPC MLR MLR
comp=Z,4µm,13.5s
KRUC Moravsky 43.23 303 *e*P P 03 09 40.0 +1.4
MOR8 Moi Rana 43.26 328 *e*P P 03 09 38.4 -0.2
BJO Bjornoya 43.39 341 *e*P P 03 09 40.6 +1.1
SOP Sopron 43.43 301 *e*P P 03 09 43.0 +2.8
TREB Trebinje 43.51 294 *e*P P 03 09 38.8 -2.2
BEHE Becsehely 43.57 299 *e*P P 03 09 39.7 -1.7
BEHE Becsehely 43.57 299 *e*P P 03 09 40.1 -1.3
BLY Banja Luka 43.74 297 *e*P P 03 09 43.7 +0.9
comp=Z,46nm,1.3s
BLY Banja Luka 43.74 297 *e*P P 03 09 43.6 +0.8
TREC Trest 43.77 303 *e*P P 03 09 44.5 +1.5
TREC AMS AMS 03 29 10.0
comp=Z,3µm,15.3s
TREC Trest 43.77 303 *e*P P 03 09 44.5 +1.5
TREC MLR MLR
comp=Z,3µm,15.3s
LOF Lofoten 43.80 331 *e*P P 03 09 42.9 +0.1
KONS Konsvik 43.81 329 *e*P P 03 09 43.6 +0.5
CONA Conrad Observa 43.83 301 *i*pP P 03 09 45.0 +1.4
comp=Z,35nm,0.9s,SNR=25
STON Ston 43.92 294 *e*P P 03 09 45.7 +1.5
NKL Nikolayevsk 44.03 51 *e*P P 03 09 43.0 -1.9
NKL pmax pmax
comp=Z,120nm,1.5s
NKL MLR MLR
comp=E,5µm,10.0s
NKL MLR MLR
comp=Z,4µm,10.0s
GOPC GO Pecny, Ondr 44.08 304 *e*P P 03 09 46.5 +1.0
GOPC *e*pP pP 03 09 49.9 +0.7
GOPC AMS AMS 03 29 20.0
comp=Z,4µm,14.7s
GOPC GO Pecny, Ondr 44.08 304 *e*P P 03 09 46.5 +1.0
GOPC MLR MLR
comp=Z,4µm,14.7s
PVCC Panska Ves 44.10 305 *e*P P 03 09 46.9 +1.4
PVCC *e*pP sP 03 09 50.8 0.0
PVCC AMS AMS 03 29 20.0
comp=Z,4µm,14.8s
PVCC Panska Ves 44.10 305 *e*P P 03 09 46.9 +1.4
PVCC MLR MLR
comp=Z,4µm,14.8s
NSS Namsos 44.21 326 *e*P P 03 09 46.0 -0.3
ARSA Arzberg 44.21 301 *i*P P 03 09 47.3 +0.8
comp=Z,17nm,1.0s,SNR=12
RUE Ruedersdorf 44.22 308 *e*P P 03 09 47.0 +0.6
RUE IAmb IAmb 03 09 48.6
comp=Z,32nm,0.9s
PRU Pruhonice 44.22 305 *e*P P 03 09 47.6 +1.0
PRU *e*pP pP 03 09 50.9 +0.6
PRU AMS AMS 03 29 20.0
comp=Z,4µm,11.2s
PRU Pruhonice 44.22 305 *e*P P 03 09 47.6 +1.0
PRU MLR MLR
comp=Z,4µm,11.2s
NC405 NORSAR Array S 44.38 321 *e*P P 03 09 48.4 +0.7
comp=Z,250nm,1.6s
BRG Berggiesshubel 44.42 306 *i*P P 03 09 49.1 +1.0
comp=Z,34nm,1.1s
BRG *i* 03 09 52.2
comp=Z,50nm,1.0s
BRG *i*PP PcP 03 11 34.5 +2.9
comp=Z,46nm,1.3s
BRG S S 03 16 30.0 +7.4
comp=N,1µm,13.0s
comp=E,3µm,13.8s
comp=Z,4µm,13.6s
BRG Berggiesshubel 44.42 306 *e*P P 03 09 49.5 +1.4
comp=Z,50nm,1.0s,baz=76,slow=7.8
BRG *e*pP sP 03 09 52.9 -0.5
baz=76,slow=7.8
BRG Berggiesshubel 44.42 306 *i*P P 03 09 49.1 +1.0
BRG *i* 03 11 34.5
BRG S S 03 16 30.0 +7.4
BRG pmax pmax
comp=Z,34nm,1.1s
BRG pmax pmax
comp=Z,46nm,1.3s
BRG MLR MLR
comp=N,1µm,13.0s
BRG MLR MLR
comp=E,3µm,13.8s
BRG MLR MLR
comp=Z,4µm,13.6s
NC602 NORSAR Array S 44.48 320 *e*P P 03 09 48.8 +0.3
comp=Z,40nm,0.9s
NC602 NORSAR Array S 44.48 320 *e*P P 03 09 48.5 0.0
COP Copenhagen 44.50 313 *i*P P 03 09 53.2 +4.5
comp=Z,77nm,0.7s
COP Copenhagen 44.50 313 *i*P P 03 09 53.2 +4.5
COP pmax pmax
comp=Z,77nm,0.7s
NC303 NORSAR Array S 44.54 321 *e*P P 03 09 49.5 +0.6
comp=Z,72nm,1.0s
NB201 NORSAR Array S 44.59 321 *e*P P 03 09 49.8 +0.5
comp=Z,51nm,0.9s
CRES Cresnjev 44.62 299⇑ *i*P P 03 09 50.4 +0.6
NB2 NORSAR Subarra 44.63 321 P P 03 09 49.6 -0.1
comp=Z,32nm,0.7s,baz=88,slow=7.9
NB2 NORSAR Subarra 44.63 321 P P 03 09 49.6 0.0
baz=88,slow=7.9
NOA NORSAR Array B 44.63 321 P P 03 09 49.7 -0.1
NOA NORSAR Array B 44.63 321 P P 03 09 49.7 0.0
NOA NORSAR Array B 44.63 321 P P 03 09 49.7 0.0
comp=Z,25nm,0.8s,baz=87,slow=7.9,SNR=94
NOA LR LR 03 29 05.2
comp=Z,2µm,18.1s,baz=85,slow=37
KGM Kluang 44.65 141 P P 03 09 54.1 +3.8
SOKA Soboth 44.68 300 *i*P P 03 09 51.4 +1.1
comp=Z,31nm,1.0s,SNR=28
FBE Freiberg 44.77 306 *e*P P 03 09 52.7 +1.7
comp=Z,71nm,1.1s,baz=76,slow=7.8
FBE *e*pP sP 03 09 55.9 -0.3
baz=76,slow=7.8
NAO01 NORSAR Array S 44.80 320 *e*P P 03 09 51.2 +0.2
comp=Z,47nm,0.9s
NC204 NORSAR Array S 44.83 321 *e*P P 03 09 51.7 +0.4
comp=Z,44nm,0.8s
NBO00 NORSAR Array S 44.84 321 *e*P P 03 09 51.6 +0.2
comp=Z,161nm,1.8s
MOA Molln 44.89 302 *i*P P 03 09 53.0 +1.0
comp=Z,12nm,0.8s,SNR=8.7
OSL Oslo 44.95 319 *e*P P 03 09 53.0 +0.9
TBLU Trondheim 44.97 324 *e*P P 03 09 52.6 +0.3
GERES GERESS Array B 45.01 303 P P 03 09 54.3 +1.3
GERES PP PP 03 11 37.2 -0.8
GERES GERESS Array B 45.01 303 P P 03 09 54.3 +1.3
GERES 03 11 37.2
GERES GERESS Array B 45.01 303 P P 03 09 54.3 +1.3
comp=Z,44nm,0.8s,baz=78,slow=7.0,SNR=86
GERES PP PP 03 11 37.2 -0.8
comp=Z,2.6nm,0.8s,baz=60,slow=6.0,SNR=4.2
HSPB Hornsund (broa 45.02 344 *e*P P 03 09 53.5 +1.0
KHC Kasperske Hory 45.03 304 *e*P P 03 09 54.3 +1.2
comp=Z,17nm,1.1s
KHC Kasperske Hory 45.03 304 *e*P P 03 09 54.1 +1.1
KHC *e*pP pP 03 09 57.5 +0.7
KHC AMS AMS 03 29 50.0
comp=Z,3µm,15.8s
KHC Kasperske Hory 45.03 304 *e*P P 03 09 54.1 +1.1
KHC MLR MLR
comp=Z,3µm,15.8s
OBKA Obir 45.05 300 *i*pP P 03 09 54.6 +1.3
comp=Z,10nm,0.8s,SNR=8.4
MYKOM Kota Tinggi 45.10 141 P P 03 09 57.4 +3.5
LJU Ljubljana 45.19 299 *i*P P 03 09 55.4 +1.1
LJU *e* 03 11 35.8
LJU *e* 03 30 55.5
LJU Ljubljana 45.19 299⇑ *i*P P 03 09 55.4 +1.1
SPA0 Spitsbergen Ar 45.21 345 *e*P P 03 09 55.9 +1.8
comp=Z,137nm,1.3s
SPA0 Spitsbergen Ar 45.21 345 *e*P P 03 09 55.5 +1.4
CEY Cerknica 45.34 299⇑ *i*P P 03 09 56.4 +0.8
KNDS Knezji Dol 45.43 299 *i*P P 03 09 57.1 +0.8
TANN Tannenbergstha 45.44 306 *e*P P 03 09 57.8 +1.5
comp=Z,82nm,1.2s,baz=76,slow=7.8
TANN *e*pP sP 03 10 01.1 -0.5
baz=76,slow=7.8
WET Wettzell 45.47 304 *e*P P 03 09 58.2 +1.7
comp=Z,59nm,1.1s,baz=76,slow=7.8

WET ePP **sP** 03 10 01.5 -0.3
baz=76,slow=7.8
NKC Novy Kostel 45.49 305 eP **P** 03 09 58.3 +1.6
NKC ePP **pP** 03 10 01.2 +0.8
NKC AMS AMS 03 30 10.0
comp=Z,4µm,14.3s
NKC Novy Kostel 45.49 305 eP **P** 03 09 58.3 +1.6
NKC MLR MLR
comp=Z,4µm,14.3s
WERN Wernitzgruen 45.52 305 eP **P** 03 09 58.5 +1.6
comp=Z,20nm,1.1s,baz=76,slow=7.8
WERN ePP **sP** 03 10 01.8 -0.4
baz=76,slow=7.8
GUNZ Gunzen 45.53 306 eP **P** 03 09 58.5 +1.5
comp=Z,39nm,1.0s,baz=76,slow=7.8
GUNZ ePP **sP** 03 10 01.9 -0.4
baz=76,slow=7.8
KONO Kongsberg 45.54 319 eP **P** 03 09 57.7 +0.8
comp=Z,82nm,1.4s
KONO Kongsberg 45.54 319c eP **P** 03 09 57.3 +0.4
KONO pmax pmax
comp=Z,85nm,1.7s
KONO Kongsberg 45.54 319 eP **P** 03 09 57.3 +0.4
DOMB Dombas 45.59 322 eP **P** 03 09 57.7 +0.4
PLN Plauen 45.61 306 eP **P** 03 09 59.0 +1.4
comp=Z,32nm,1.1s,baz=76,slow=7.8
PLN ePP **sP** 03 10 02.4 -0.5
baz=76,slow=7.8
MYKA Terra Mystica 45.62 300 i P **P** 03 09 58.7 +0.8
comp=Z,7.0nm,0.8s
CADS Cadrg 45.67 300 i P **P** 03 09 58.3 +0.2
NEUB Neuenburg 45.69 307 eP **P** 03 09 59.4 +1.3
comp=Z,62nm,1.0s,baz=76,slow=7.8
NEUB ePP **pP** 03 10 02.8 +0.9
baz=76,slow=7.8
KBA Koelnbreinsper 45.69 301 i P **P** 03 09 59.0 +0.5
comp=Z,12nm,0.8s,SNR=6.5
ROTZ Rotzenmuhle 45.75 305 eP **P** 03 10 00.4 +1.7
comp=Z,67nm,1.6s,baz=76,slow=7.8
ROTZ ePP **sP** 03 10 03.8 -0.2
baz=76,slow=7.8
MANZ Manzenberg 45.76 305 eP **P** 03 10 00.4 +1.6
comp=Z,30nm,1.1s,baz=76,slow=7.8
MANZ ePP **sP** 03 10 03.7 -0.4
baz=76,slow=7.8
MOX Moxa 45.91 306 eP **P** 03 10 01.4 +1.4
comp=Z,39nm,1.1s,baz=76,slow=7.8
MOX ePP **sP** 03 10 04.8 -0.5
baz=76,slow=7.8
MOX eL L 03 32 25.0
comp=Z,1µm,22.0s
MUD Monsted U'grnd 46.20 314 i P **P** 03 10 01.7 -0.4
comp=Z,40nm,1.1s
MUD Monsted U'grnd 46.20 314 i P **P** 03 10 01.7 -0.4
MUD pmax pmax
comp=Z,40nm,1.1s
MOL Molde 46.25 323 eP **P** 03 10 03.5 +1.0
KBS Kingsbay 46.28 346 eP **P** 03 10 03.0 +0.4
comp=Z,60nm,0.8s
KBS LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 46.28 346c i P **P** 03 10 03.2 +0.7
KBS pmax pmax
comp=Z,205nm,0.7s
KBS Kingsbay 46.28 346 eP **P** 03 10 03.3 +0.8
ABTA Abfaltersbach 46.33 301 i P **P** 03 10 03.3 -0.2
comp=Z,27nm,1.3s
GRA1 Grafenberg Arr 46.38 305 eP **P** 03 10 05.5 +1.7
comp=Z,85nm,0.9s
GRF Grafenberg Arr 46.38 305 eP **P** 03 10 05.9 +2.2
baz=76,slow=7.8
GRF eL L 03 32 26.2
comp=Z,937nm,18.3s
GRFO Grafenberg 46.38 305 eP **P** 03 10 05.3 +1.6
comp=Z,76nm,0.9s
GRFO Grafenberg 46.38 305 eP **P** 03 10 05.3 +1.6
GRFO pmax pmax
comp=Z,76nm,0.9s
CLZ Clausthal 46.40 308 eP **P** 03 10 05.2 +1.3
comp=Z,39nm,1.3s,baz=76,slow=7.8
CLZ ePP **sP** 03 10 08.7 -0.5
baz=76,slow=7.8
NRDL Niedersach Rie 46.42 309 eP **P** 03 10 05.7 +1.9
comp=Z,101nm,1.1s,baz=76,slow=7.8
NRDL ePP **sP** 03 10 09.0 -0.1
baz=76,slow=7.8
AKN Aaknes 46.55 323 eP **P** 03 10 05.6 +0.8
GTTG Gyttingen 46.72 308 eP **P** 03 10 07.8 +1.6
comp=Z,171nm,1.0s,baz=76,slow=7.8
GTTG ePP **sP** 03 10 11.3 -0.3
baz=76,slow=7.8
YSS Yuzh-Sakhalins 46.73 59 eP **P** 03 10 05.2 -1.2
YSS e 03 12 01.0
YSS MLR MLR
comp=Z,800nm,14.0s
YSS MLR MLR
comp=N,600nm,15.0s
FUR Furstenfeldbru 46.75 303 eP **P** 03 10 08.5 +1.9
comp=N,90nm,0.9s,baz=76,slow=7.8
FUR ePP **sP** 03 10 12.0 +0.1
baz=76,slow=7.8
WATA Walderalm 46.78 302 i P **P** 03 10 07.5 +0.4
comp=N,30nm,1.1s,SNR=12
CEL Celeste 46.79 289 eP **P** 03 10 11.0 +3.9
comp=N,35nm,0.8s
SNART Snartemo 46.94 317 eP **P** 03 10 08.8 +0.9
ENPP El Nido 46.99 116 eP **P** 03 10 12.5 +3.7
ODD1 Odda 47.00 319 eP **P** 03 10 09.4 +1.0
SQTA Sankt Quirin 47.05 302 i P **P** 03 10 09.3 +0.1
comp=N,38nm,1.2s
MOTA Moosalm 47.09 302 i P **P** 03 10 09.5 +0.1
comp=N,16nm,1.1s,SNR=13
AQU L'Aquila 47.09 295 eP **P** 03 10 11.2 +1.7
comp=N,45nm,0.9s
AQU L'Aquila 47.09 295 eP **P** 03 10 11.2 +1.7
AQU pmax pmax
comp=Z,45nm,0.9s
AQU L'Aquila 47.09 295 eP **P** 03 10 10.9 +1.5
MAJO Matsushiro 47.11 74⇓ eP **P** 03 10 09.3 -0.3
MAJO pmax pmax
comp=Z,63nm,2.3s
MAJO Matsushiro 47.11 74 eP **P** 03 10 10.8 +1.2
MAT Matsushiro 47.11 74 P **P** 03 10 11.3 +1.7
MJAR Matsushiro Arr 47.12 74 P **P** 03 10 09.0 -0.6
MJAR Matsushiro Arr 47.12 74 P **P** 03 10 09.0 -0.6
MJAR Matsushiro Arr 47.12 74 P **P** 03 10 09.0 -0.6
comp=Z,18nm,1.0s,baz=287,slow=10.0,SNR=14
BLS5 Blasjo 47.16 319 eP **P** 03 10 10.8 +1.2
RETA Reutte 47.27 302 i P **P** 03 10 11.2 +0.4
comp=Z,60nm,1.1s,SNR=13
SJMP San Jose 47.30 113 eP **P** 03 10 12.2 +0.9
FETA Feichten 47.42 302 i P **P** 03 10 11.9 -0.2
comp=Z,21nm,1.0s,SNR=9.6
DGAR Diego Garcia 47.47 187 PFAKE 03 10 20.0 +7.6
DGAR LR LR
comp=Z,413nm,19.0s
FOO Floro 47.53 322 eP **P** 03 10 12.7 +0.2
BER Bergen 47.57 320 eP **P** 03 10 13.6 +0.8
ASK Askoy 47.62 320 eP **P** 03 10 14.0 +0.8
UBR Ueberruh 47.64 303 eP **P** 03 10 14.8 +1.2
comp=Z,97nm,1.1s,baz=76,slow=7.8
UBR ePP **sP** 03 10 18.3 -0.6
baz=76,slow=7.8
FUORN Ofenpass-Fuorn 47.85 301 eP **P** 03 10 16.0 +0.5
comp=Z,28nm,1.1s
IBBN Ibbenburen 47.86 309 eP **P** 03 10 16.3 +1.2
comp=Z,54nm,0.9s,baz=76,slow=7.8
IBBN ePP **sP** 03 10 19.9 -0.5
baz=76,slow=7.8
DAVA Damuels 47.90 302 i P **P** 03 10 16.4 +0.7
comp=Z,89nm,1.0s,SNR=23
STU Stuttgart 47.91 304 eP **P** 03 10 17.1 +1.5
comp=Z,61nm,1.0s
STU Stuttgart 47.91 304 eP **P** 03 10 17.0 +1.4
comp=Z,167nm,1.7s,baz=76,slow=7.8
STU ePP **sP** 03 10 20.4 -0.6
baz=76,slow=7.8
STU Stuttgart 47.91 304 eP **P** 03 10 17.1 +1.4
STU pmax pmax
comp=Z,61nm,1.0s
CUYO Cuyo Island 48.35 115 eP **P** 03 10 23.1 +3.7
KDM Kudat 48.38 122 P **P** 03 10 24.1 +4.5
MA2 Magadan 48.46 41 eP **P** 03 10 19.5 -0.2
comp=Z,45nm,1.6s
MA2 LR LR
comp=Z,382nm,22.0s

MA2 Magadan 48.46 41⇓ iP **P** 03 10 20.7 +1.0
MA2 pmax pmax
comp=Z,32nm,1.7s
BFO Black Forest 48.59 304 eP **P** 03 10 21.2 +0.3
comp=Z,38nm,1.1s
BFO ePcP **PcP** 03 11 46.4 -0.1
BFO LR LR
comp=Z,66nm,19.0s
BFO Black Forest 48.59 304 eP **P** 03 10 21.9 +1.0
comp=Z,55nm,1.4s,baz=76,slow=7.8
BFO ePP **pP** 03 10 25.2 +0.5
baz=76,slow=7.8
BFO Black Forest 48.59 304 i P **P** 03 10 21.9 +1.0
KKM Kota Kinabalu 48.65 124 P **P** 03 10 23.8 +2.0
SEY Seymchan 48.65 36⇑ eP **P** 03 10 22.2 +1.1
KSM Kuching 48.74 134 P P 03 10 27.4 +5.0
SBUM Sibu 49.03 131 P **P** 03 10 26.4 +1.8
ECH Echery 49.37 304 eP **P** 03 10 27.4 +0.5
comp=Z,43nm,1.1s
ECH Echery 49.37 304 eP **P** 03 10 27.4 +0.5
ECH pmax pmax
comp=Z,43nm,1.1s
MEM Membach 49.37 307 ⇑P **P** 03 10 27.7 +0.8
MEM ⇑pP **pP** 03 10 30.9 +0.2
comp=Z,15nm,0.9s
WLF Walferdange 49.56 306 eP **P** 03 10 29.2 +0.9
comp=Z,255nm,1.0s
WLF Walferdange 49.56 306 eP **P** 03 10 29.9 +1.6
comp=Z,63nm,1.0s,baz=76,slow=7.8
WLF ePP **sP** 03 10 33.4 -0.2
baz=76,slow=7.8
WLF Walferdange 49.56 306 eP **P** 03 10 29.2 +0.9
WLF pmax pmax
comp=Z,255nm,1.0s
WLF Walferdange 49.56 306 ⇑P **P** 03 10 29.7 +1.4
comp=Z,38nm,1.4s
BCLA Clavier 49.85 307 ⇑P **P** 03 10 31.1 +0.6
SENIN Lac Senin/Sane 49.87 302 eP **P** 03 10 31.4 +0.4
comp=Z,39nm,1.1s
DOU Dourbes 50.39 307 ⇑P **P** 03 10 35.2 +0.7
BNI Bardonecchia 50.73 300 eP **P** 03 10 37.9 +0.5
comp=Z,76nm,1.2s
BNI Bardonecchia 50.73 300 eP **P** 03 10 37.9 +0.5
BNI pmax pmax
comp=Z,76nm,1.2s
SSB Saint Sauveur 52.06 301 eP **P** 03 10 47.4 +0.1
comp=Z,69nm,1.4s
SSB Saint Sauveur 52.06 301 eP **P** 03 10 47.4 +0.1
SSB pmax pmax
comp=Z,69nm,1.4s
PAGZ Pagadian 52.11 115 eP **P** 03 10 50.0 +2.1
CLF Chambon-Foret 52.52 305 eP **P** 03 10 50.3 -0.2
comp=Z,81nm,1.0s
KEST Kesra 52.61 288 eP **P** 03 10 53.1 +1.6
comp=Z,14nm,0.8s
KEST Kesra 52.61 288 P **P** 03 10 53.1 +1.6
comp=Z,6.8nm,0.7s,baz=53,slow=9.5,SNR=7.5
KEST LR LR 03 37 22.4
comp=Z,595nm,21.4s,baz=20,slow=41
DAG Danmarks Havn 52.71 343⇑ iP **P** 03 10 51.8 +0.2
comp=Z,127nm,0.8s
DAG i 03 10 55.3
comp=Z,880nm,20.0s
DAG Danmarks Havn 52.71 343⇑ iP **P** 03 10 51.8 +0.2
DAG pmax pmax
comp=Z,95nm,0.8s
DAG MLR MLR
comp=Z,940nm,20.0s
BILL Bilibino 53.17 28 eP **P** 03 10 55.0 -0.1
comp=Z,42nm,1.1s
BILL LR LR
comp=Z,712nm,20.0s
BILL Bilibino 53.17 28c iP **P** 03 10 54.8 -0.3
BILL e 03 12 01.6
BILL e 03 12 50.9
BILL ePPP PPP 03 13 57.9
BILL pmax pmax
comp=Z,75nm,1.7s
BILL MLR MLR
comp=Z,2µm,16.0s
ESK Eskdalemuir 53.23 315 eP **P** 03 10 55.9 +0.2
comp=Z,12nm,0.7s
ESK LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 53.23 315 eP **P** 03 10 55.9 +0.2
ESK pmax pmax
comp=Z,12nm,0.7s
ESK MLR MLR
comp=Z,2µm,20.0s
BUKP Musuan 53.26 114 eP **P** 03 11 00.1 +3.6
PETK Petropavlovsk- 53.93 47 P **P** 03 11 00.3 -0.6
PETK Petropavlovsk- 53.93 47 P **P** 03 11 00.3 -0.6
PETK Petropavlovsk- 53.93 47 P **P** 03 11 00.3 -0.6
comp=Z,5.8nm,1.0s,baz=291,slow=6.0,SNR=2.1
PETK LR LR 03 34 10.1
comp=Z,338nm,21.9s,baz=278,slow=36
DAV Davao City (W) 54.19 114 PFAKE 03 11 10.0 +6.8
DAV LR LR
comp=Z,411nm,19.0s
KMBO Kilima Mbogo 54.92 232 eP **P** 03 11 10.6 +1.8
comp=Z,30nm,1.3s
KMBO LR LR
comp=Z,405nm,20.0s
KMBO Kilima Mbogo 54.92 232 i P **P** 03 11 10.5 +1.7
SNR=16
KMBO Kilima Mbogo 54.92 232 eP **P** 03 11 10.6 +1.8
KMBO pmax pmax
comp=Z,30nm,1.3s
KMBO MLR MLR
comp=Z,405nm,20.0s
KMBO Kilima Mbogo 54.92 232 P **P** 03 11 10.0 +1.2
SNR=6.8
KMBO Kilima Mbogo 54.92 232 P **P** 03 11 10.8 +2.1
comp=Z,14nm,1.1s,baz=33,slow=11,SNR=17
SCO Scoresbysund 55.76 336 eP **P** 03 11 15.1 +1.3
comp=Z,28nm,1.2s
SCO Scoresbysund 55.76 336 i P **P** 03 11 14.7 +0.9
comp=Z,20nm,1.1s
SCO Scoresbysund 55.76 336 i P **P** 03 11 14.7 +0.9
SCO pmax pmax
comp=Z,20nm,1.1s
JAGI Jajag, Banyuwa 59.11 136 eP **P** 03 11 36.5 -1.7
SUMG Summit 59.26 342 eP **P** 03 11 39.5 +0.6
SUMG Summit 59.26 342⇑ iP **P** 03 11 39.6 +0.6
comp=Z,332nm,1.3s
SUMG Summit 59.26 342⇑ iP **P** 03 11 39.6 +0.6
SUMG pmax pmax
comp=Z,330nm,1.3s
KAPI Kappang 59.46 129 PFAKE 03 11 50.0 +9.4
KAPI LR LR
comp=Z,409nm,20.0s
ES06 SONSECA Array 60.13 298 eP **P** 03 11 45.1 +0.1
ESDC Sonseca Array 60.14 298 P **P** 03 11 45.3 +0.1
ESDC Sonseca Array 60.14 298 P **P** 03 11 45.3 +0.1
comp=Z,12nm,0.9s,baz=57,slow=7.3,SNR=29
ESLA Sonseca Array 60.14 298 eP **P** 03 11 45.7 +0.5
PAB San Pablo 60.46 298 PFAKE 03 12 00.0 +13
PAB LR LR
comp=Z,1µm,20.0s
MVO Moncorvo 61.45 301 eP **P** 03 11 55.1 +1.0
TULEG Thule 61.69 351 eP **P** 03 11 54.3 -0.7
KULLO Kullorsuaq 61.70 347⇑ iP **P** 03 11 55.3 +0.2
comp=Z,72nm,0.9s
KULLO Kullorsuaq 61.70 347⇑ iP **P** 03 11 55.3 +0.2
KULLO pmax pmax
comp=Z,72nm,0.9s
MTE Manteigas 62.17 301 eP **P** 03 12 00.3 +1.4
PVIS Viseu 62.24 301 eP **P** 03 12 00.6 +1.2
PMRV Marv??o 62.56 300 eP **P** 03 12 02.7 +1.2
COI Coimbra 62.84 301 eP **P** 03 12 04.5 +1.2
GAMB Gambell 63.10 28 eP **P** 03 12 04.6 0.0
PMTG Montargil 63.30 300 eP **P** 03 12 07.4 +1.0
ANGG Ammassalik, Gr 63.31 335 eP **P** 03 12 06.7 +0.8
PBEJ Beja 63.60 299 eP **P** 03 12 08.6 +0.2
MESJ Messejana 63.94 299 eP **P** 03 12 11.7 +1.1
PBDV Barranco-do-Ve 64.06 298 eP **P** 03 12 12.4 +1.0
GUMO Guam 64.26 94 PFAKE 03 12 20.0 +7.0
GUMO LR LR
comp=Z,747nm,19.0s
ILULI Ilulissat 64.60 342 eP **P** 03 12 14.1 -0.3
ILULI Ilulissat 64.60 342⇑ iP **P** 03 12 14.6 +0.2
comp=Z,56nm,0.8s
ILULI Ilulissat 64.60 342⇑ iP **P** 03 12 14.6 +0.2
ILULI pmax pmax
comp=Z,56nm,0.8s

ABPO Ambohimpanom 65.13 211 eP **P** 03 12 19.3 +0.6
comp=Z,58nm,1.0s
RES Resolute Bay 65.40 358 eP **P** 03 12 18.9 -0.6
comp=Z,19nm,1.0s
RES Resolute Bay 65.40 358 eP **P** 03 12 18.9 -0.6
RES pmax pmax
comp=Z,19nm,1.0s
TOLK Toolik Lake Re 66.14 17 P **P** 03 12 23.9 -0.6
baz=322
SFJD Kangerlussuaq 66.14 340 eP **P** 03 12 23.7 -0.7
comp=Z,31nm,0.9s
SFJD ePP **PP** 03 14 44.3 -5.1
SFJD LR LR
comp=Z,594nm,20.0s
SFJD Kangerlussuaq 66.14 340⇑ iP **P** 03 12 24.1 -0.3
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 66.14 340⇑ iP **P** 03 12 24.1 -0.3
SFJD pmax pmax
comp=Z,35nm,0.9s
SFJD Kangerlussuaq 66.14 340 eP **P** 03 12 24.3 -0.1
NRS Narsarsuaq 68.91 334 eP **P** 03 12 42.3 +0.3
NRS Narsarsuaq 68.91 334 eP **P** 03 12 42.3 +0.3
MDM Murphy Dome 69.42 19 eP **P** 03 12 44.5 -0.7
POKR Poker Plat Res 69.48 19 P **P** 03 12 45.2 -0.3
baz=325
INK Inuvik 69.49 12 eP **P** 03 12 44.8 -0.7
comp=Z,97nm,1.2s
INK Inuvik 69.49 12 eP **P** 03 12 44.8 -0.7
INK pmax pmax
comp=Z,97nm,1.2s
TCOL CIGO, UAF Yank 69.58 19 P **P** 03 12 45.2 -0.9
baz=324
COLA College 69.58 19 eP **P** 03 12 44.8 -1.3
comp=Z,14nm,0.9s
COLA LR LR
comp=Z,1µm,19.0s
COLA College 69.58 19c iP **P** 03 12 45.4 -0.7
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 69.58 19 eP **P** 03 12 45.9 -0.2
ILAR Eielson Array 69.90 19 P **P** 03 12 46.6 -1.5
ILAR PP **PP** 03 15 19.2 -2.8
ILAR Eielson Array 69.90 19 P **P** 03 12 46.6 -1.5
ILAR 03 15 19.2
ILAR Eielson Array 69.90 19 P **P** 03 12 46.6 -1.5
comp=Z,14nm,1.1s,baz=320,slow=5.0,SNR=66
ILAR PP **PP** 03 15 19.2 -2.8
comp=Z,3.3nm,0.9s,baz=334,slow=7.6,SNR=4.3
ILAR LR LR 03 47 30.3
comp=Z,902nm,19.2s,baz=328,slow=39
ILB Eielson Array 69.90 19 eP **P** 03 12 46.6 -1.5
HDA Harding Lake 70.19 19 P **P** 03 12 48.0 -1.9
baz=325
SVW2 Sparrevohn 70.39 24 eP **P** 03 12 52.0 +0.8
TOA0 Torodi Ar. Sit 70.68 271 P **P** 03 12 53.5 -0.1
SNR=20
TORD Torodi Ar. Bea 70.68 271 P **P** 03 12 52.4 -1.3
TORD Torodi Ar. Bea 70.68 271 P **P** 03 12 52.3 -1.3
comp=Z,39nm,0.7s,baz=38,slow=4.1,SNR=150
EPYK Eagle Plains 70.70 14 P **P** 03 12 52.0 -1.1
baz=333
EGAK Eagle 71.22 16 eP **P** 03 12 55.1 -1.0
comp=Z,20nm,1.3s
EGAK LR LR
comp=Z,653nm,21.0s
LSZ Lusaka 71.53 230 eP **P** 03 12 60.0 +1.2
comp=Z,4.2nm,0.8s
LSZ LR LR
comp=Z,577nm,19.0s
LSZ Lusaka 71.53 230 eP **P** 03 13 00.0 +1.2
LSZ pmax pmax
comp=Z,4.0nm,0.8s
LSZ MLR MLR
comp=Z,577nm,19.0s
RSO Redoubt South 71.76 24 eP **P** 03 13 00.4 +0.6
DAWY Dawson 72.22 16 eP **P** 03 13 01.1 -1.1
comp=Z,35nm,1.3s
MBWA Marble Bar 72.64 139 eP **P** 03 13 04.4 -0.7
comp=Z,101nm,1.0s
MBWA LR LR
comp=Z,400nm,19.0s
MBWA Marble Bar 72.64 139 eP **P** 03 13 05.1 -0.1
KDAK Kodiak Island 73.94 25 PFAKE 03 13 20.0 +7.6
KDAK LR LR
comp=Z,476nm,20.0s
KDAK Kodiak Island 73.94 25 i P **P** 03 13 12.0 -0.4
YKA Yellowknife Ar 77.32 6 P **P** 03 13 30.8 -1.0
YKA Yellowknife Ar 77.32 6 P **P** 03 13 30.7 -1.0
YKA Yellowknife Ar 77.32 6 P **P** 03 13 30.7 -1.0
comp=Z,33nm,0.9s,baz=345,slow=5.5,SNR=236
YKA LR LR 03 51 38.7
comp=Z,37nm,18.2s,baz=30,slow=39
WAKE Wake Island 77.37 75 PFAKE 03 13 40.0 +7.3
WAKE LR LR
comp=Z,2µm,20.0s
DLBC Dease Lake 79.23 14 eP **P** 03 13 42.3 -0.2
comp=Z,61nm,1.4s
DBIC Dimbokro 79.74 270 P **P** 03 13 45.4 -0.5
DBIC Dimbokro 79.74 270 P **P** 03 13 45.4 -0.5
DBIC Dimbokro 79.74 270 P **P** 03 13 45.4 -0.5
comp=Z,27nm,1.0s,baz=32,slow=7.4,SNR=25
DBIC Dimbokro 79.74 270 eP **P** 03 13 45.9 +0.1
KIC Kosan Boka 79.85 270 ePKP2 **P** 03 13 46.4 0.0
comp=Z,142nm,1.2s
TIC Toumodi 79.88 270 ePKP2 **P** 03 13 46.4 -0.3
WRAB Tennant Creek 79.91 127 PFAKE 03 14 00.0 +13
WRAB LR LR
comp=Z,409nm,20.0s
WRAB Tennant Creek 79.91 127⇓ eP **P** 03 13 44.9 -1.7
WRAB pmax pmax
comp=Z,28nm,1.6s
WRA Warramunga Arr 79.91 127 P **P** 03 13 46.0 -0.6
WRA PKKPbc **PKKPbc** 03 32 32.8 +1.1
WRA Warramunga Arr 79.91 127 i P **P** 03 13 48.9 +2.3
WRA pmax pmax
comp=Z,17nm,1.2s
WRA Warramunga Arr 79.91 127 P **P** 03 13 46.0 -0.6
comp=Z,17nm,1.2s,baz=332,slow=5.1,SNR=12
WRA PKKPbc **PKKPbc** 03 32 32.8 +1.1
comp=Z,1.3nm,0.8s,baz=146,slow=1.9,SNR=6.0
LIC Lamto 80.15 270 ePKP2 **P** 03 13 47.6 -0.5
comp=Z,141nm,1.3s
SCHQ Schefferville 80.59 340 P **P** 03 13 49.0 -0.8
SCHQ Schefferville 80.59 340 P **P** 03 13 49.0 -0.8
comp=Z,21nm,0.9s,baz=48,slow=3.6,SNR=12
WRAK Wrangell Islan 80.64 16 eP **P** 03 13 50.1 +0.1
comp=Z,66nm,1.2s
TSUM Tsumeb 81.02 236 eP **P** 03 13 54.1 +1.5
comp=Z,59nm,1.4s
TSUM LR LR
comp=Z,795nm,19.0s
FCC Fort Churchill 81.25 355 eP **P** 03 13 52.3 -0.9
comp=Z,60nm,1.2s
FCC Fort Churchill 81.25 355 eP **P** 03 13 52.3 -0.9
FCC pmax pmax
comp=Z,60nm,1.2s
NWAO Narrogin (SRO) 81.50 147 PFAKE 03 14 10.0 +15
NWAO LR LR
comp=Z,676nm,21.0s
ASAR Alice Springs 82.47 129 P **P** 03 13 59.7 -0.4
ASAR Alice Springs 82.47 129 P **P** 03 13 59.7 -0.4
ASAR Alice Springs 82.47 129 P **P** 03 13 59.7 -0.4
comp=Z,12nm,1.0s,baz=324,slow=5.0,SNR=13
BOSA Boshof 83.72 224 P **P** 03 14 07.6 +1.0
BOSA Boshof 83.72 224 P **P** 03 14 07.6 +1.0
BOSA Boshof 83.72 224 P **P** 03 14 07.6 +1.0
comp=Z,15nm,1.0s,baz=36,slow=6.4,SNR=8.8
BOSA Boshof 83.72 224 eP **P** 03 14 07.8 +1.2
FFC Flin Flon 85.56 360 eP **P** 03 14 14.5 -1.0
comp=Z,90nm,1.0s
FFC LR LR
comp=Z,672nm,19.0s
FFC Flin Flon 85.56 360 i P **P** 03 14 14.5 -1.0
CHGQ Chibougamau 86.98 342 P **P** 03 14 21.8 -0.8
baz=21,SNR=7.6
MATQ Matagami 87.85 344 P **P** 03 14 26.3 -0.5
baz=19
LSQQ Lebel-sur-Quev 88.37 343 P **P** 03 14 28.9 -0.4
baz=19
SACV Santiago Islan 88.60 288 PFAKE 03 14 40.0 +9.1
SACV LR LR
comp=Z,583nm,19.0s
LATQ La Tuque 88.93 340 P **P** 03 14 31.6 -0.4
baz=22
A04D Lummi Island 89.82 13 P **P** 03 14 35.3 -0.7
baz=345

ULM **Lac du Bonnet** 89.85 356 P **P** 03 14 34.6 -1.6
ULM Lac du Bonnet 89.85 356 P **P** 03 14 34.6 -1.6
ULM Lac du Bonnet 89.85 356 P **P** 03 14 34.6 -1.6
comp=Z,27nm,0.9s,baz=354,slow=5.5,SNR=20
ULM LR LR 03 59 29.4
comp=Z,1µm,18.0s,baz=27,slow=39
PKME Peaks-Kenny Pk 89.90 337 PFAKE 03 14 50.0 +14
PKME LR LR
comp=Z,1µm,21.0s
PKME Peaks-Kenny Pk 89.90 337 P **P** 03 14 36.0 -0.5
baz=25
D54A Lac Fusel, La 90.10 343 P **P** 03 14 36.9 -0.6
baz=20,SNR=8.5
B05A Bryant 90.37 13 P **P** 03 14 37.9 -0.7
baz=345,SNR=20
D53A Lac Vacive, Po 90.40 343 P **P** 03 14 38.2 -0.6
baz=19,SNR=13
D52A ZEK Kipawa Sen 90.66 344 P **P** 03 14 39.5 -0.5
baz=18,SNR=11
WALA Waterton Lakes 90.69 7 *e*P **P** 03 14 39.1 -1.3
comp=Z,51nm,1.1s
D51A Lot 18 Range I 90.75 344 P **P** 03 14 39.6 -0.8
baz=18
NLWA Neilton Lookou 90.89 14 *e*P **P** 03 14 41.6 +0.4
comp=Z,66nm,1.2s
NLWA LR LR
comp=Z,596nm,19.0s
E54A Lac Daplat, Po 90.90 343 P **P** 03 14 40.8 -0.4
baz=19
C06D Leavenworth 90.90 12 P **P** 03 14 40.3 -0.8
baz=346
D03D Eldon 90.90 14 P **P** 03 14 41.4 +0.2
baz=344,SNR=17
D49A Beulah Townshi 90.97 346 P **P** 03 14 40.8 -0.7
baz=16
E53A Dumoine, Ponti 91.06 343 P **P** 03 14 41.5 -0.4
baz=19
ALFO Alfred 91.10 341 P **P** 03 14 41.7 -0.4
baz=21,SNR=12
NEW Newport 91.11 10 *e*P **P** 03 14 41.4 -0.8
comp=Z,30nm,1.0s
NEW LR LR
comp=Z,685nm,21.0s
NEW Newport 91.11 10 *e*P **P** 03 14 41.4 -0.8
NEW pmax pmax
comp=Z,30nm,1.0s
NEW MLR MLR
comp=Z,685nm,21.0s
NEW Newport 91.11 10 P **P** 03 14 41.5 -0.8
baz=349,SNR=28
D48A Paudash Townsh 91.15 346 P **P** 03 14 41.8 -0.5
baz=16,SNR=9.8
F55A Otter Lake 91.27 342 P **P** 03 14 42.3 -0.6
baz=20
D04E Lakebay 91.30 14 P **P** 03 14 41.9 -1.1
baz=345
E51A G1948 Merrick 91.31 344 P **P** 03 14 42.6 -0.5
baz=17,SNR=13
E52A Mattawa 91.36 344 P **P** 03 14 42.9 -0.5
baz=18,SNR=5.3
ORIO Orleans, Innes 91.42 341 P **P** 03 14 42.7 -0.9
baz=20
D47A Chapleau 91.50 347 P **P** 03 14 43.7 -0.2
baz=15,SNR=18
ALGO Algonquin Park 91.55 343 P **P** 03 14 43.8 -0.3
baz=18,SNR=12
C40A Isle Royale Na 91.56 351 P **P** 03 14 43.1 -1.1
baz=10
LBNH Lisbon 91.60 338 P **P** 03 14 44.0 -0.4
baz=23
PEMO Pembroke 91.62 342 P **P** 03 14 44.1 -0.4
baz=19
E50A Wahnapitae 91.67 345 P **P** 03 14 44.7 0.0
baz=16,SNR=21
EYMN Ely 91.79 352 *e*P **P** 03 14 45.2 -0.1
comp=Z,26nm,1.1s
EYMN LR LR
comp=Z,885nm,20.0s
EYMN Ely 91.79 352 P **P** 03 14 43.8 -1.5
baz=8.4
AGMN Agassiz Nation 91.79 355 *e*P **P** 03 14 43.9 -1.4
comp=Z,34nm,0.9s
AGMN LR LR
comp=Z,870nm,20.0s
AGMN Agassiz Nation 91.79 355 P **P** 03 14 43.8 -1.4
baz=5.1
DGMT Dagmar 91.82 1 *e*P **P** 03 14 45.6 +0.1
comp=Z,101nm,1.3s
DGMT LR LR
comp=Z,653nm,20.0s
DGMT Dagmar 91.82 1 P **P** 03 14 45.0 -0.5
baz=359
D46A Sault St. Mari 91.82 347 P **P** 03 14 44.9 -0.5
baz=14,SNR=10
E48A Lockeyer 91.88 346 P **P** 03 14 45.2 -0.6
baz=15,SNR=13
G55A Calabogie 91.90 342 P **P** 03 14 45.3 -0.5
baz=20
E04D Cinebar 91.94 14 P **P** 03 14 45.4 -0.5
baz=345
LONY Lake Ozonia 91.96 340 *e*P **P** 03 14 46.2 0.0
comp=Z,41nm,1.3s
LONY LR LR
comp=Z,956nm,20.0s
LONY Lake Ozonia 91.96 340 P **P** 03 14 45.8 -0.3
baz=21
F51A Arnstein 91.97 344 P **P** 03 14 45.7 -0.5
baz=17,SNR=10.0
F52A Sundridge 91.97 344 P **P** 03 14 45.5 -0.7
baz=18,SNR=12
EGMT Eagleton 92.05 5 PFAKE 03 15 00.0 +13
EGMT LR LR
comp=Z,553nm,19.0s
EGMT Eagleton 92.05 5 P **P** 03 14 45.7 -1.0
baz=354
E47A Iron Bridge 92.11 347 P **P** 03 14 46.3 -0.5
baz=15,SNR=9.9
PLVO Plevna 92.19 342 P **P** 03 14 47.0 -0.2
baz=19
BUKO Buck Lake 92.33 344 P **P** 03 14 47.3 -0.5
baz=18
D41A Chassel 92.33 350 P **P** 03 14 46.3 -1.5
baz=11
E46A Sault Ste Mari 92.37 347 P **P** 03 14 47.4 -0.6
baz=14
E44A Grand Marais A 92.39 349 P **P** 03 14 47.4 -0.6
baz=13
BANO Bancroft 92.40 343 P **P** 03 14 47.6 -0.6
baz=19
MDND Maddock 92.41 358 P **P** 03 14 46.3 -1.8
baz=2.2
H56A Elgin 92.41 341 P **P** 03 14 47.8 -0.4
baz=20
G53A Haliburton 92.46 343 P **P** 03 14 47.7 -0.7
baz=18,SNR=5.8
E45A Wooded Hills, 92.53 348 P **P** 03 14 47.9 -0.8
baz=13
F49A Sandfield 92.55 346 P **P** 03 14 48.2 -0.7
baz=16,SNR=9.6
KLBO Killbear Provi 92.58 344 P **P** 03 14 48.6 -0.4
baz=17,SNR=11
F48A Evansville 92.60 346 P **P** 03 14 48.6 -0.4
baz=15
HAWA Hanford 92.60 12 *e*P **P** 03 14 48.6 -0.5
comp=Z,7.6nm,0.7s
HAWA LR LR
comp=Z,367nm,21.0s
H55A Tweed 92.67 342 P **P** 03 14 49.1 -0.3
baz=19
F05D White Salmon 92.78 13 P **P** 03 14 49.1 -0.9
baz=346
E43A Lone Tree Farm 92.78 349 P **P** 03 14 48.9 -1.0
baz=12
DELO Deloro Mine 92.81 342 P **P** 03 14 49.7 -0.3
baz=19
E42A Champion 92.86 350 P **P** 03 14 49.5 -0.8
baz=11
MSO Missoula 92.89 8 P **P** 03 14 49.3 -1.2
baz=351,SNR=11
E41A Kenton 92.96 351 P **P** 03 14 50.0 -0.8
baz=10
TOBO Tobermory, Bru 92.97 345 P **P** 03 14 49.7 -1.0
baz=16
F46A Macinaw City C 93.03 348 P **P** 03 14 50.2 -0.8
baz=14
F44A Big Bay de Noc 93.09 349 P **P** 03 14 50.6 -0.7
baz=12
E40A Wakefield 93.10 351 P **P** 03 14 50.7 -0.6
baz=9.6
STKA Stephens Creek 93.10 130 P **P** 03 14 51.9 +0.5
STKA Stephens Creek 93.10 130 P **P** 03 14 51.9 +0.5
STKA Stephens Creek 93.10 130 P **P** 03 14 51.9 +0.5
comp=Z,4.0nm,1.1s,baz=31,slow=5.9,SNR=2.6
G03D McMinnville, O 93.11 14 P **P** 03 14 49.6 -1.8
baz=344
E38A The Farm, Brul 93.12 352 P **P** 03 14 50.4 -1.1
baz=8.4
PECO Prince Edward 93.21 342 P **P** 03 14 51.4 -0.5
baz=19
F45A CMU Biological 93.24 348 P **P** 03 14 51.3 -0.7
baz=13
E39A Mellen 93.24 352 P **P** 03 14 51.2 -0.8
baz=9.1
COWI Conover 93.34 351 PFAKE 03 15 00.0 +7.5
COWI LR LR
comp=Z,956nm,21.0s
G47A Hillman 93.45 347 P **P** 03 14 52.8 -0.2
baz=14
BMRO Meriville Lake 93.51 345 P **P** 03 14 53.0 -0.3
baz=16
F42A Maple Grove Fa 93.55 350 P **P** 03 14 51.9 -1.5
baz=11
WLVO Wesleyville 93.55 343 P **P** 03 14 52.3 -1.1
baz=18
LAO LASA Array 93.55 2 *e*P **P** 03 14 53.5 -0.1
comp=Z,53nm,1.3s
LAO LR LR
comp=Z,643nm,19.0s
LAO LASA Array 93.55 2 P **P** 03 14 53.4 -0.1
baz=357,SNR=17
F40A Park Falls 93.64 351 P **P** 03 14 53.0 -0.9
baz=9.5
DRCO St. Marys Ceme 93.66 343 P **P** 03 14 53.9 -0.1
baz=18
PKRO Pickering 93.66 343 P **P** 03 14 53.3 -0.7
baz=18
DRWO Darlington Wes 93.67 343 P **P** 03 14 52.1 -1.9
baz=18
M65A Busby, Falmout 93.67 336 P **P** 03 14 51.8 -2.2
baz=24
F41A Three Lakes 93.69 350 P **P** 03 14 52.9 -1.2
baz=10
F39A Loretta 93.73 352 P **P** 03 14 53.2 -1.1
baz=8.9
F38A Pierce - Schro 93.79 352 P **P** 03 14 53.5 -1.1
baz=8.1,SNR=5.4
H48A Harrisville 93.82 346 P **P** 03 14 53.1 -1.6
baz=15
GLMI Grayling 93.92 347 PFAKE 03 15 10.0 +15
GLMI LR LR
comp=Z,734nm,20.0s
GLMI Grayling 93.92 347 P **P** 03 14 53.1 -2.1
baz=14
BWLO Walkerton 93.96 345 P **P** 03 14 54.2 -1.2
baz=16
G43A Wallace 93.98 349 P **P** 03 14 54.4 -1.0
baz=11
J55A Hilton 94.04 342 P **P** 03 14 53.6 -2.1
baz=19
H47A Mio 94.07 347 P **P** 03 14 54.4 -1.5
baz=14
F37A Hinrichs Farm, 94.10 353 P **P** 03 14 54.4 -1.6
baz=7.6
BASO Ashfield 94.16 345 P **P** 03 14 54.8 -1.5
baz=16
ACTO Acton 94.22 344 P **P** 03 14 56.0 -0.5
baz=17
G41A Antigo 94.22 350 P **P** 03 14 55.5 -1.1
baz=10
I51A Listowel 94.23 344 P **P** 03 14 56.2 -0.4
baz=16,SNR=5.3
G40A Rib Lake 94.29 351 P **P** 03 14 55.4 -1.5
baz=9.4
H46A Fife Lake 94.30 348 P **P** 03 14 55.8 -1.1
baz=13
I05D Terrebonne, OR 94.30 13 P **P** 03 14 56.1 -0.9
baz=346
BOZ Bozeman (W) 94.33 6 *e*P **P** 03 14 56.6 -0.7
comp=Z,18nm,1.0s
BOZ LR LR
comp=Z,430nm,21.0s
BOZ Bozeman (W) 94.33 6 *e*P **P** 03 14 56.6 -0.7
BOZ pmax pmax
comp=Z,18nm,1.0s
BOZ MLR MLR
comp=Z,430nm,21.0s
BOZ Bozeman (W) 94.33 6 P **P** 03 14 56.4 -0.8
baz=353,SNR=21
I48A Sherman Twp 94.38 346 P **P** 03 14 56.4 -0.8
baz=14
G39A Holcombe 94.38 352 P **P** 03 14 56.2 -1.1
baz=8.7
BMO Blue Mountains 94.43 10 PFAKE 03 15 10.0 +12
BMO LR LR
comp=Z,539nm,22.0s
I49A Point Hope 94.46 346 P **P** 03 14 57.5 -0.2
baz=15
I03D Drain, OR 94.55 15 P **P** 03 14 57.9 -0.1
baz=344
G38A Ridgeland 94.57 352 P **P** 03 14 56.8 -1.3
baz=8.2
BINY Binghamton 94.59 340 PFAKE 03 15 10.0 +12
BINY LR LR
comp=Z,1µm,19.0s
BINY Binghamton 94.59 340 P **P** 03 14 57.1 -1.2
baz=20
K55A Perry 94.61 342 P **P** 03 14 56.9 -1.5
baz=18
SPMN Marine on St. 94.61 353 P **P** 03 14 57.1 -1.2
baz=7.5
I04A Tendick Farm, 94.63 14 P **P** 03 14 56.0 -2.5
baz=345
J52A Paris 94.66 344 P **P** 03 14 57.7 -0.9
baz=17
TYNO Tyneside 94.67 343 P **P** 03 14 57.9 -0.7
baz=17
I47A Gladwin 94.69 347 P **P** 03 14 58.0 -0.7
baz=14
H42A Shiocton 94.83 350 P **P** 03 14 58.0 -1.3
baz=11
H41A Junction City 94.87 351 P **P** 03 14 57.9 -1.6
baz=9.8
ELFO Elginfield 94.88 344 P **P** 03 14 58.7 -0.9
baz=16
I46A Reed City 94.92 348 P **P** 03 14 58.6 -1.2
baz=13
J01E Myrtle Point 94.94 15 P **P** 03 14 59.1 -0.8
baz=344
H40A Chili 94.95 351 P **P** 03 14 59.1 -0.8
baz=9.3
RLMT Red Lodge 94.97 5 PFAKE 03 15 10.0 +10
RLMT LR LR
comp=Z,647nm,19.0s
RLMT Red Lodge 94.97 5 P **P** 03 14 59.6 -0.7
baz=355,SNR=16
H39A Augusta 95.00 352 P **P** 03 14 59.2 -0.9
baz=8.6,SNR=5.3
J49A Marlette 95.08 346 P **P** 03 14 58.5 -2.0
baz=15
H38A Maiden Rock 95.10 353 P **P** 03 15 00.1 -0.5
baz=7.8
L55A Hinsdale 95.21 342 P **P** 03 14 59.0 -2.2
baz=18
J04D Umpqua Nationa 95.22 14 P **P** 03 14 59.8 -1.7
baz=345
J48A Bridge Port 95.26 346 P **P** 03 14 58.7 -2.6
baz=15
I41A Arkdale 95.44 351 P **P** 03 15 01.1 -1.0
baz=9.7
LKWY Lake 95.45 6 PFAKE 03 15 10.0 +7.5
LKWY LR LR
comp=Z,918nm,19.0s
J47A Sunmer 95.50 347 P **P** 03 15 02.0 -0.4
baz=14
J46A Howard City 95.53 348 P **P** 03 15 00.8 -1.7
baz=13
H17A Grant Village 95.61 6 P **P** 03 15 02.0 -1.2
baz=354,SNR=12
ERPA Erie 95.62 343 P **P** 03 15 01.6 -1.4
baz=17
K49A Clarkson 95.69 346 P **P** 03 15 02.6 -0.7
baz=14
I40A Norwalk 95.70 351 P **P** 03 15 01.9 -1.4
baz=9.1
K48A Perry 95.80 346 P **P** 03 15 03.5 -0.3
baz=14
HLID Hailey 96.07 9 PFAKE 03 15 20.0 +15
HLID LR LR
comp=Z,606nm,19.0s
J42A Columbus 96.08 350 P **P** 03 15 04.2 -0.9
baz=10
K47A Vermontville 96.08 347 P **P** 03 15 03.9 -1.2
baz=13
M54A Oil Creek Stat 96.13 343 P **P** 03 15 04.9 -0.5
baz=17
J41A Loganville 96.14 351 P **P** 03 15 04.5 -0.9
baz=9.6
RSSD Black Hills 96.17 1 *e*P **P** 03 15 05.1 -0.7
comp=Z,22nm,1.1s
RSSD Black Hills 96.17 1 *e*P **P** 03 15 05.1 -0.7
RSSD pmax pmax
comp=Z,22nm,1.1s
RSSD Black Hills 96.17 1 P **P** 03 15 04.9 -0.8
baz=359
AAM Ann Arbor 96.20 346 PFAKE 03 15 20.0 +14
AAM LR LR
comp=Z,783nm,19.0s
K46A Dorr 96.20 348 P **P** 03 15 04.3 -1.3
baz=13
J40A Soldiers Grove 96.20 351 P **P** 03 15 04.7 -0.9
baz=9.0
L50A Kingsville 96.28 345 P **P** 03 15 05.3 -0.7
baz=15
ECSD EROS Data Cent 96.39 356 *e*P **P** 03 15 05.7 -0.7
comp=Z,26nm,1.1s
ECSD LR LR
comp=Z,689nm,19.0s
ECSD EROS Data Cent 96.39 356 P **P** 03 15 05.8 -0.7
baz=4.5,SNR=6.6
L49A Milan 96.40 346 P **P** 03 15 05.2 -1.4
baz=14
M53A WI Miller and 96.42 344 P **P** 03 15 06.0 -0.7
baz=17
M52A Chesterland 96.47 344 P **P** 03 15 05.0 -1.9
baz=16
PLIO Pelee Island, 96.53 345 P **P** 03 15 06.0 -1.2
baz=15
JFWS Jewell Farm 96.62 351 *e*P **P** 03 15 06.6 -0.9
comp=Z,42nm,1.2s
JFWS LR LR
comp=Z,855nm,21.0s
JFWS Jewell Farm 96.62 351 *e*P **P** 03 15 06.6 -0.9
JFWS pmax pmax
comp=Z,42nm,1.2s
JFWS MLR MLR
comp=Z,855nm,21.0s
JFWS Jewell Farm 96.62 351 P **P** 03 15 06.0 -1.6
baz=9.4
L48A N Adams 96.69 346 P **P** 03 15 06.8 -1.0
baz=14
L47A Sherwood 96.79 347 P **P** 03 15 07.4 -0.9
baz=13
K40A Colesburg 96.94 351 P **P** 03 15 06.6 -2.3
baz=8.8
L46A Eue Claire 96.94 348 P **P** 03 15 05.4 -3.6
baz=12
K39A Oelwein 97.01 352 P **P** 03 15 07.6 -1.7
baz=8.2
O56A Blue Knob Stat 97.05 342 P **P** 03 15 09.1 -0.5
baz=18
M49A Liberty Center 97.06 346 P **P** 03 15 08.7 -0.8
baz=14
M48A Edgerton 97.18 346 P **P** 03 15 09.0 -1.1
baz=14
AHID Auburn Hatcher 97.18 6 PFAKE 03 15 20.0 +10
AHID LR LR
comp=Z,560nm,20.0s
N51A Ashland 97.28 345 P **P** 03 15 09.7 -0.8
baz=15
N02D Trinity Center 97.30 15 P **P** 03 15 09.2 -1.5
baz=345
BW06 Boulder Array 97.30 5 PFAKE 03 15 20.0 +9.0
BW06 LR LR
comp=Z,585nm,22.0s
BW06 Boulder Array 97.30 5 P **P** 03 15 09.5 -1.4
baz=355
PDAR Pinedale Array 97.30 5 P **P** 03 15 10.2 -0.7
PDAR PKKPbc **PKKPdf** 03 31 50.6 +1.8
PDAR Pinedale Array 97.30 5 P **P** 03 15 10.2 -0.7
comp=Z,2.0nm,0.8s,baz=44,slow=3.3,SNR=16
PDAR PKKPbc **PKKPdf** 03 31 50.6 +1.8
comp=Z,0.3nm,0.7s,baz=243,slow=6.5,SNR=3.5
PDAR LR LR 04 04 17.8
comp=Z,343nm,18.7s,baz=80,slow=39
L42A Oliver, Polo 97.44 350 P **P** 03 15 10.2 -1.0
baz=9.9
K22A Casper 97.58 3 P **P** 03 15 11.2 -0.9
baz=357
N50A Nevada 97.58 345 P **P** 03 15 11.3 -0.6
baz=15
L39A Vinton 97.60 352 P **P** 03 15 11.3 -0.7
baz=8.1
N49A Columbus Grove 97.63 346 P **P** 03 15 10.8 -1.3
baz=14
N48A Decatur 97.84 347 P **P** 03 15 11.7 -1.4
baz=13
SCIA State Center 97.94 353 PFAKE 03 15 20.0 +6.5
SCIA LR LR
comp=Z,769nm,19.0s
ACSO Alum Creek Sta 98.06 345 PFAKE 03 15 30.0 +16
ACSO LR LR
comp=Z,622nm,21.0s
ACSO Alum Creek Sta 98.06 345 P **P** 03 15 13.2 -0.9
baz=15
O51A Pataskala 98.07 345 P **P** 03 15 12.6 -1.5
baz=15
P55A Reedsville 98.08 342 P **P** 03 15 12.8 -1.4
baz=17
N46A Monticello 98.10 348 P **P** 03 15 13.8 -0.4
baz=12
M39A Webster 98.26 352 P **P** 03 15 12.2 -2.8
baz=8.0
M40A Post Highland 98.26 352 P **P** 03 15 13.5 -1.4
baz=8.5
HWUT Hardware Ranch 98.29 7 *e*P **P** 03 15 14.9 -0.4
comp=Z,20nm,1.3s
HWUT LR LR
comp=Z,548nm,19.0s
O49A Covington 98.37 346 P **P** 03 15 14.3 -1.2
baz=14
N44A Piper City 98.42 349 P **P** 03 15 14.1 -1.6
baz=11
O48A Farmland 98.45 347 P **P** 03 15 15.2 -0.6
baz=13
P52A Corning 98.47 344 P **P** 03 15 14.3 -1.6
baz=16
Q55A Buckhannon 98.62 342 P **P** 03 15 15.1 -1.6
baz=17
N42A Yates City 98.64 350 P **P** 03 15 15.6 -1.1
baz=9.6
CBN Corbin Frederi 98.70 340 PFAKE 03 15 30.0 +13
CBN LR LR
comp=Z,920nm,19.0s
N40A Mertquake, Sal 98.78 351 P **P** 03 15 16.6 -0.7
baz=8.4
HDIL Hopedale 98.81 350 PFAKE 03 15 30.0 +13
HDIL LR LR
comp=Z,783nm,19.0s
P50A Jamestown 98.83 345 P **P** 03 15 16.2 -1.4
baz=14
P48A Milroy 99.28 347 P **Pdif** 03 15 18.9 -0.7
baz=13
N23A Red Feather La 99.35 2 P **Pdif** 03 15 19.0 -1.2
baz=357
OGNE Ogallala 99.35 359 PFAKE 03 15 30.0 +10
OGNE LR LR
comp=Z,855nm,20.0s
O41A Passeys Farm, 99.45 351 P **Pdif** 03 15 19.2 -1.1
baz=9.0
DUG Dugway, Tooele 99.57 8 PFAKE 03 15 30.0 +9.0
DUG LR LR
comp=Z,523nm,22.0s
DUG Dugway, Tooele 99.57 8 P **Pdif** 03 15 20.0 -1.1
baz=352
P41A Barry, Barry 99.91 351 P **Pdif** 03 15 20.4 -2.0
baz=8.9
BLA Blacksburg 100.40 342 PFAKE 03 15 40.0 +15
BLA LR LR
comp=Z,790nm,22.0s
ISCO Idaho Springs 100.45 2 PFAKE 03 15 40.0 +15
ISCO LR LR
comp=Z,606nm,19.0s
NVAR Mina Array Bea 100.57 12 P **Pdif** 03 15 25.8 +0.1

NVAR PP **PP** 03 19 35.2 +4.0
NVAR Mina Array Bea 100.57 12 P **Pdif** 03 15 25.8 +0.1
comp=Z,1.0nm,0.8s,baz=337,slow=4.4,SNR=2.5
NVAR PP **PP** 03 19 35.2 +4.0
comp=Z,1.5nm,1.0s,baz=300,slow=5.4,SNR=4.0
KSU1 Kansas State U 101.00 355 PFAKE 03 15 40.0 +13
KSU1 LR LR
comp=Z,663nm,21.0s
CBKS Cedar Bluff 101.43 358 PFAKE 03 15 40.0 +11
CBKS LR LR
comp=Z,1µm,19.0s
CNNC Cliffs of the 101.63 339 PFAKE 03 15 40.0 +10
CNNC LR LR
comp=Z,750nm,19.0s
SDCO Great Sand Dun 102.51 2 PFAKE 03 15 50.0 +16
SDCO LR LR
comp=Z,838nm,20.0s
MVCO Mesa Verde 102.90 5 PFAKE 03 15 50.0 +14
MVCO LR LR
comp=Z,577nm,19.0s
NHSC New Hope 104.25 341 PFAKE 03 15 50.0 +8.2
NHSC LR LR
comp=Z,721nm,19.0s
WUAZ Wupatki 104.35 7 PFAKE 03 15 50.0 +7.6
WUAZ LR LR
comp=Z,547nm,21.0s
GOGA Godfrey 104.74 343 PFAKE 03 16 00.0 +16
GOGA LR LR
comp=Z,861nm,19.0s
ANMO Albuquerque 105.26 3 PFAKE 03 20 10.0 +9.4
ANMO LR LR
comp=Z,811nm,21.0s
MIAR Mount Ida 105.26 352 PFAKE 03 20 10.0 +10
MIAR LR LR
comp=Z,718nm,22.0s
WMOK Wichita Mounta 105.46 357 PFAKE 03 20 10.0 +9.3
WMOK LR LR
comp=Z,586nm,19.0s
PFO Pinyon Flats O 105.58 12 PFAKE 03 20 10.0 +8.9
PFO LR LR
comp=Z,508nm,19.0s
TUC Tucson 107.58 7 PFAKE 03 20 20.0 +15
TUC LR LR
comp=Z,637nm,21.0s
BRAL Brewton 107.64 346 PFAKE 03 20 20.0 +15
BRAL LR LR
comp=Z,678nm,19.0s
NATX Nacogdoches 108.13 353 PFAKE 03 20 20.0 +14
NATX LR LR
comp=Z,810nm,21.0s
MNTX Cornudas Mount 108.54 2 PFAKE 03 20 20.0 +14
MNTX LR LR
comp=Z,597nm,20.0s
JCT Junction City 109.74 357 PFAKE 03 20 20.0 +11
JCT LR LR
comp=Z,595nm,21.0s
GRTK Grand Turk 112.02 328 PFAKE 03 20 20.0 +6.8
GRTK LR LR
comp=Z,2µm,20.0s
SYO Syowa Base 112.30 194 ||| *e*pPdiff pPdif 03 16 24.4 +3.9
SJG San Juan 112.83 322 PFAKE 03 20 30.0 +15
SJG LR LR
comp=Z,599nm,22.0s
BBGH Gun Hill 113.60 313 PFAKE 03 20 30.0 +14
BBGH LR LR
comp=Z,2µm,20.0s
SDDR Presa de Saban 114.34 327 PFAKE 03 20 30.0 +12
SDDR LR LR
comp=Z,830nm,19.0s
GRGR Grenville 115.59 315 PFAKE 03 20 30.0 +10
GRGR LR LR
comp=Z,759nm,19.0s
MTDJ Mount Denham 117.42 333 PFAKE 03 20 40.0 +16
MTDJ LR LR
comp=Z,468nm,20.0s
CMIG Matias Romero 122.66 351 PKP **PKiKP** **03 20 34.6 +0.7**
CMIG Matias Romero 122.66 351 PKP **PKiKP** **03 20 34.6 +0.7**
comp=Z,2.5nm,0.8s,baz=339,slow=8.5,SNR=3.9
PTGA Pitinga 124.86 304 PKP **PKPdf** **03 20 37.4 -0.6**
PTGA LR LR
comp=Z,22µm,20.0s
PTGA Pitinga 124.86 304 PKP **PKPdf** **03 20 37.4 -0.6**
comp=Z,1.2nm,0.3s,baz=294,slow=20,SNR=3.3
VNA2 Neumayer--Watz 125.61 204 PKP **PKiKP** **03 20 41.6 +3.5**
VNA3 Neumayer Olymp 126.42 204 PKP **PKiKP** **03 20 42.8 +3.1**
BDFB Brasilia 126.80 281 PKP **PKPdf** **03 20 41.1 -0.6**
BDFB Brasilia 126.80 281 PKIKP **PKPdf** **03 20 41.1 -0.6**
BDFB Brasilia 126.80 281 PKP **PKPdf** **03 20 41.1 -0.6**
comp=Z,3.0nm,0.9s,baz=190,slow=12,SNR=2.5
VNDA Vanda 127.60 164 PKP **PKPdf** **03 20 41.5 +0.2**
VNDA Vanda 127.60 164 PKIKP **PKPdf** **03 20 41.6 +0.2**
VNDA Vanda 127.60 164 PKP **PKPdf** **03 20 41.6 +0.2**
comp=Z,2.0nm,0.9s,baz=271,slow=3.7,SNR=8.2
ROSC El Rosal 128.23 323 PKP **PKiKP** **03 20 45.4 -0.2**
ROSC El Rosal 128.23 323 PKP **PKiKP** **03 20 45.4 -0.2**
comp=Z,14nm,0.9s,baz=107,slow=3.0,SNR=8.2
QSPA South Pole Qui 129.87 180 *e*PKPdf **PKPdf** **03 20 45.7 -0.3**
OTAV Otavalo 134.18 325 PFAKE 03 21 10.0 +12
OTAV LR LR
comp=Z,347nm,20.0s
SIV San Ignacio 136.64 291 PKP **PKPdf** **03 21 00.1 -0.2**
SIV San Ignacio 136.64 291 PKP **PKPdf** **03 21 00.0 -0.2**
comp=Z,3.5nm,0.9s,baz=101,slow=3.8,SNR=12
CPUP Villa Florida 140.05 276 PKP **PKPdf** **03 21 05.7 -0.5**
CPUP Villa Florida 140.05 276 PKIKP **PKPdf** **03 21 05.7 -0.5**
CPUP Villa Florida 140.05 276 PKP **PKPdf** **03 21 05.7 -0.5**
comp=Z,5.6nm,0.8s,baz=51,slow=3.1,SNR=8.5
ATAH Atahualpa 140.62 320 PKP **PKPdf** **03 21 09.4 +1.2**
ATAH Atahualpa 140.62 320 PKP **PKPdf** **03 21 09.4 +1.2**
comp=Z,5.3nm,0.9s,baz=36,slow=7.6,SNR=3.9
LPAZ La Paz 141.76 298 PKP **PKPdf** **03 21 10.3 -0.1**
LPAZ La Paz 141.76 298 PKIKP **PKPdf** **03 21 10.3 -0.1**
LPAZ La Paz 141.76 298 PKP **PKPdf** **03 21 10.3 -0.1**
comp=Z,1.5nm,0.9s,baz=304,slow=3.6,SNR=3.9
NNA Nana 143.89 314 PKP **PKPdf** **03 21 14.5 +1.1**
NNA LR LR
comp=Z,211nm,20.0s
NNA Nana 143.89 314 *i* PKIKP **PKiKP** **03 21 15.5 -1.4**
NNA Nana 143.89 314 PKP **PKPdf** **03 21 14.5 +1.1**
comp=Z,8.0nm,0.6s,baz=259,slow=5.2,SNR=4.0
LVC Limon Verde 146.54 291 *e*PKPbc **PKPbc** **03 21 20.2 +0.5**
LVC Limon Verde 146.54 291 PKP2 **PKPbc** **03 21 20.1 +0.5**
LVC Limon Verde 146.54 291 PKPbc **PKPbc** **03 21 20.1 +0.5**
comp=Z,44nm,0.7s,baz=58,slow=3.8,SNR=22
LCO Las Campanas 151.56 283 *e*PKPbc **PKPbc** **03 21 31.5 -0.7**
LCO Las Campanas 151.56 283 *e*PKIKP **PKPbc** **03 21 31.5 -0.7**
PLCA Paso Flores 155.57 258 PKPbc PKPbc 03 21 43.2
PLCA Paso Flores 155.57 258 PKPbc PKPbc 03 21 43.2
comp=Z,7.2nm,1.2s,baz=315,slow=11,SNR=3.0

ISCJB ***11*** *03:03:30.1±0.1, 17.˙94S±0.˙04×178.˚52W±0.˚03, h600km, mb4.6/115, Error ellipse: s-maj=5.5km s-min=2.8km az=147.7*

IDC ***11*** *03:03:31.0±0.7, 17.˙89S×178.˚44W, h600km±8km, mb3.9/14, mb1 4.2/17, mb1mx4.0/30, mbtmp4.9/17, Error ellipse: s-maj=14.1km s-min=10.2km az=131.0*

BJI ***11*** *03:03:30.8, 18.˚02S×178.˚40W, h617km, mb4.7/21, mB5.0/6*

NEIC ***11*** *03:03:30.9±0.5, 17.˚93S×178.˚50W, h596km±6km, mb4.6/83, Error ellipse: s-maj=6.7km s-min=3.9km az=144.0*

ISC 11 03:03:30.7±0.3, 17.˚95S±0.˚06×178.˚36W±0.˚05, h600km, n361, σ1°30/376, mb4.6/115, 11C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.43**	**273**	*e*P	**P**	**03 04 56.2**	**+3.7**
MSVF				S	**S**	**03 06 05.8**	**+6.6**
AFI	**Afiamalu**	**7.50**	**59**	P	**P**	**03 05 24.8**	**-0.8**
	30nm,0.3s,baz=40,slow=2.1,SNR=34						
AFI				S	**S**	**03 06 54.4**	**-5.0**
	baz=90,slow=20,SNR=2.2						
NIUE	**Niue**	**8.08**	**99**	P	**P**	**03 05 32.8**	**+2.0**
	baz=8.1						
NIUE	**Niue**	**8.08**	**99**	*e*P	**P**	**03 05 32.6**	**+1.8**
NIUE				S	**S**	**03 07 10.2**	**+0.9**
MARNC	**Mare, Loyalty**	**13.29**	**252**	*e*P	**P**	**03 06 21.7**	**-0.8**
PINNC	**Pines Island,**	**14.10**	**248**	*e*P	**P**	**03 06 30.4**	**-0.1**
OUENC	**Ouen Island, N**	**14.59**	**250**	*e*P	**P**	**03 06 35.2**	**+0.1**
DZM	**Mont Dzumac**	**14.86**	**251**	*e*P	**P**	**03 06 37.4**	**-0.3**
DZM				*e*S	**S**	**03 09 13.5**	**+3.1**
DZM	**Mont Dzumac**	**14.86**	**251**	P	**P**	**03 06 37.7**	**0.0**
	3.8nm,0.3s,baz=87,slow=16,SNR=29						

KNTN Kanton 16.43 24 *e*P **P** **03 06 51.0 -1.1**
176nm,0.6s
RAR Rarotonga 17.81 104 P **P** **03 07 05.6 +0.9**
0.5nm,0.3s,baz=262,slow=7.4,SNR=4.6
OUZ Omahuta 18.63 201 *e*P **P** **03 07 16.1 +4.2**
64nm,0.7s
URZ Urewera 20.62 190 P **P** **03 07 29.4 -0.5**
57nm,0.7s
URZ S **S** **03 10 36.0 -6.8**
URZ Urewera 20.62 190 P **P** **03 07 29.4 -0.5**
20nm,0.7s,baz=11,slow=4.7,SNR=12
URZ S **S** **03 10 36.0 -6.8**
6.6nm,0.7s,baz=66,slow=20,SNR=3.7
BKZ Black Stump Fm 21.61 191 *e*P **P** **03 07 38.1 -0.7**
17nm,0.6s
SNZO South Karori 24.03 193 *e*P **P** **03 07 59.0 -1.2**
THZ Tophouse 24.89 196 *e*P **P** **03 08 08.4 +0.5**
67nm,1.6s
KHZ Kahutara 25.35 194 *e*P **P** **03 08 11.0 -0.8**
128nm,1.6s
LTZ Lake Taylor 26.00 196 *e*P **P** **03 08 17.5 -0.2**
98nm,1.8s
OXZ Oxford 26.57 196 *e*P **P** **03 08 22.2 -0.4**
56nm,1.0s
FOZ Fox Glacier 27.39 199 *e*P **P** **03 08 30.7 +1.0**
34nm,0.7s
LBZ Lake Benmore 28.06 198 *e*P **P** **03 08 34.4 -1.1**
111nm,1.8s
ODZ Otahua Downs 28.54 196 *e*P **P** **03 08 39.3 -0.4**
78nm,1.6s
WKZ Wanaka 28.81 199 *e*P **P** **03 08 42.1 0.0**
106nm,1.5s
EIDS Eidsvold 29.30 250 P **P** **03 08 46.2 -0.3**
baz=29,SNR=14
EIDS Eidsvold 29.30 250 *e*P **P** **03 08 46.2 -0.3**
61nm,0.7s
MLZ Mavora Lakes 29.58 200 *e*P **P** **03 08 49.8 +1.1**
38nm,1.0s
ARMA Armidale 29.96 240 P **P** **03 08 53.3 +1.0**
baz=30,SNR=34
ARMA Armidale 29.96 240 *e*P **P** **03 08 53.3 +1.0**
46nm,0.8s
KWAJ Kwajalein Atol 29.97 331 *e*P **P** **03 08 51.4 -1.0**
MGCD Mangrove Creek 31.31 235 P **P** **03 09 04.9 +1.3**
baz=31,SNR=9.3
RMQ Roma 31.53 248 P **P** **03 09 06.4 +0.7**
baz=32,SNR=30
CNB Canberra Magne 33.44 232 P **P** **03 09 22.8 +1.1**
baz=34,SNR=78
CTAO Charters Tower 33.48 261 *e*P **P** **03 09 22.0 -0.2**
91nm,0.8s
CAN Canberra 33.72 233 *e*P **P** **03 09 24.7 +0.7**
48nm,0.8s
YNG Young 33.81 235 P **P** **03 09 25.7 +1.0**
baz=34,SNR=8.6
MILA Mila 34.29 230 P **P** **03 09 29.7 +1.0**
baz=34,SNR=8.8
CMSA Cobar Meteorol 35.17 240 P **P** **03 09 36.6 +0.6**
baz=35,SNR=54
MTSU Mount Surprise 35.45 264 P **P** **03 09 38.3 -0.3**
baz=35,SNR=34
COEN Coen 37.15 270 P **P** **03 09 53.0 +0.5**
baz=37,SNR=190
COEN Coen 37.15 270 *e*P **P** **03 09 53.1 +0.5**
285nm,0.8s
MANU Manus Island 37.16 291 *e*P **P** **03 09 53.0 +0.4**
146nm,1.1s
TOO Toolangi 37.18 231 P **P** **03 09 53.4 +0.9**
baz=37,SNR=34
TOO Toolangi 37.18 231 *e*P **P** **03 09 53.3 +0.8**
77nm,0.9s
MOO Moorlands 38.09 223 P **P** **03 10 00.7 +0.9**
baz=38,SNR=4.8
TAU Tasmania Unive 38.24 222 *e*P **P** **03 10 01.0 +0.1**
90nm,1.7s
STKA Stephens Creek 38.65 241 P **P** **03 10 05.3 +0.8**
baz=39,SNR=169
STKA Stephens Creek 38.65 241 *e*P **P** **03 10 05.2 +0.8**
27nm,0.9s
STKA Stephens Creek 38.65 241 P **P** **03 10 05.3 +0.8**
73nm,0.6s,baz=90,slow=9.4,SNR=212
ARPS Mount Arapiles 39.66 234 P **P** **03 10 12.9 +0.4**
baz=40,SNR=14
QIS Mount Isa 39.69 259 P **P** **03 10 12.2 -0.8**
baz=40,SNR=12
HTT Hallett 41.16 240 P **P** **03 10 25.1 +0.5**
baz=41,SNR=111
BBOO Buckleboo 43.43 241 P **P** **03 10 42.3 +0.2**
baz=44,SNR=299
BBOO Buckleboo 43.43 241 *e*P **P** **03 10 42.4 +0.2**
111nm,0.8s
HMH Hump'ula Sheep 43.56 32 *e*P **P** **03 10 44.6 +1.0**
175nm,1.0s
WB2 Warramunga Arr 44.66 260 *e*P **P** **03 10 51.0 -0.9**
WRAB Tennant Creek 44.66 260 *e*P **P** **03 10 50.9 -0.9**
70nm,0.6s
WRA Warramunga Arr 44.67 260 P **P** **03 10 50.8 -1.1**
63nm,0.7s,baz=94,slow=7.5,SNR=958
WRA PcP **PcP** **03 12 20.0 -1.2**
4.8nm,0.7s,baz=92,slow=3.5,SNR=4.3
WRA S **S** **03 16 42.0 -4.1**
1.4nm,0.7s,baz=102,slow=13,SNR=4.5
AS01 Alice Springs 44.78 254 *e*P **P** **03 10 51.3 -1.4**
AS31 Alice Springs 44.82 254 *e*P **P** **03 10 52.7 -0.4**
92nm,0.9s
ASAR Alice Springs 44.82 254 P **P** **03 10 52.9 -0.2**
333nm,0.7s,baz=87,slow=8.6,SNR=2807
ASAR PcP **PcP** **03 12 21.4 -0.3**
9.8nm,0.7s,baz=99,slow=4.2,SNR=4.8
ASAR S **S** **03 16 45.8 -2.3**
6.1nm,0.8s,baz=93,slow=15,SNR=15
KDU Kakadu 47.60 269 P **P** **03 11 13.4 -0.7**
baz=48,SNR=18
MTN Manton Dam 48.84 268 P **P** **03 11 22.3 -0.9**
baz=49,SNR=13
MTN Manton Dam 48.84 268 *e*P **P** **03 11 22.1 -1.1**
82nm,0.9s
WRKA Warakurna 49.88 252 P **P** **03 11 30.6 -0.2**
baz=50,SNR=118
FORT Forrest 50.03 245 P **P** **03 11 31.1 -0.6**
baz=50,SNR=93
FORT Forrest 50.03 245 *e*P **P** **03 11 31.2 -0.6**
156nm,0.6s
KNRA Kununurra 50.53 264 P **P** **03 11 34.9 -0.7**
baz=50,SNR=21
FITZ Fitzroy Crossi 53.07 261 P **P** **03 11 53.4 -0.3**
baz=53,SNR=21
FITZ Fitzroy Crossi 53.07 261 *e*P **P** **03 11 53.5 -0.3**
35nm,1.1s
SOEI Soe 56.12 270 *e*P **P** **03 12 16.0 +0.8**
173nm,0.9s
SOEI Soe 56.12 270 P **P** **03 12 14.1 -1.1**
MBWA Marble Bar 58.11 256 *e*P **P** **03 12 27.0 -1.5**
67nm,0.5s
MEEK Meekatharra 58.46 249 P **P** **03 12 30.0 -0.9**
baz=58,SNR=11
EDFI Ende, Flores 58.83 271 P **P** **03 12 32.8 -0.8**
KLBR Kellerberrin 58.85 244 P **P** **03 12 32.8 -0.6**
baz=59,SNR=28
NWAO Narrogin (SRO) 59.23 242 P **P** **03 12 35.5 -0.3**
baz=59,SNR=7.6
NWAO Narrogin (SRO) 59.23 242 *e*P **P** **03 12 35.2 -0.6**
65nm,0.6s
BLDU Ballidu 59.80 245 P **P** **03 12 38.9 -0.8**
baz=60,SNR=18
MUN Mundaring 60.15 243 P **P** **03 12 41.9 0.0**
baz=60,SNR=6.9
SBA Scott Base 60.38 184 *e*P **P** **03 12 45.1 +2.5**
4.1nm,0.5s
VNDA Vanda 60.41 185 P **P** **03 12 44.5 +1.7**
1.6nm,0.6s,baz=348,slow=6.0,SNR=9.0
MORW Morawa 60.51 246 P **P** **03 12 42.9 -1.4**
baz=60,SNR=5.2
KCP Kidapawan 61.07 289 ⇑ *i*P **P** **03 12 47.8 -0.5**
APSI Ampana 61.26 279 P **P** **03 12 48.4 -1.1**
SKMP Bagumbayan, Su 61.36 288 *e*P **P** **03 12 49.2 -0.9**
BUKP Musuan 61.46 290 *e*P **P** 03 13 00.6 +10
SPSI Sidrap Palu 62.04 275 P **P** **03 12 52.5 -2.1**
PLAI Plampang 62.54 269 P **P** **03 12 57.1 -0.7**
138nm,1.0s,1µm
PLAI Plampang 62.54 269 P **P** **03 12 57.0 -0.7**
MSLP Maasin 62.62 292 *e*P **P** **03 12 57.8 -0.4**
GIRL Giralia 62.93 253 P **P** **03 13 00.7 +0.6**
baz=63,SNR=13
GIRL Giralia 62.93 253 *e*P **P** **03 13 01.1 +1.0**
170nm,0.9s
PCI Palu 62.96 278 P **P** **03 13 02.6 +2.1**
MPSI Mapaga 63.33 280 P **P** **03 13 00.4 -2.4**

SRBI Singaraja 65.18 269 P **P** 03 13 08.2 -6.3
SRBI Singaraja 65.18 269 P **P** **03 13 14.5 0.0**
28nm,0.7s
JAGI Jajag, Banyuwa 66.08 269 *e*P **P** **03 13 18.3 -1.9**
102nm,1.0s
JAGI Jajag, Banyuwa 66.08 269 P **P** **03 13 18.5 -1.7**
110nm,0.8s,1µm
JAGI Jajag, Banyuwa 66.08 269 P **P** **03 13 17.6 -2.6**
CASY Casey 66.12 205 *e*P **P** **03 13 18.9 -0.5**
13nm,0.8s
BUSP Coron 67.54 292 *e*P **P** **03 13 28.4 -0.6**
MJAR Matsushiro Arr 67.97 323 P **P** **03 13 30.4 -0.7**
4.4nm,0.5s,baz=164,slow=5.8,SNR=18
MAJO Matsushiro 67.97 323 *e*P **P** **03 13 30.9 -0.3**
PWJI Pagerwojo 68.44 268 P **P** **03 13 34.0 -0.5**
58nm,1.0s
PWJI Pagerwojo 68.44 268 P **P** **03 13 34.1 -0.5**
58nm,1.0s
PCJI Pacitan 68.99 268 P **P** **03 13 37.6 -0.2**
PCJI Pacitan 68.99 268 P **P** **03 13 37.7 -0.1**
268nm,0.7s,2µm
APYP Conner 69.24 298 *e*P **P** **03 13 38.6 -0.5**
WOJI Wonogiri, Jawa 69.33 268 P **P** **03 13 39.8 -0.1**
76nm,1.0s
WOJI Wonogiri, Jawa 69.33 268 P **P** **03 13 39.8 -0.1**
76nm,1.0s
UGM Wanagama 69.69 268 *e*P **P** **03 13 41.1 -1.0**
411nm,1.6s
BTM Bintulu 70.70 280 P **P** **03 13 48.1 +0.1**
SBUM Sibu 71.26 279 P **P** **03 13 51.9 +0.7**
KPJI Karang Pucung 71.37 268 P **P** **03 13 51.2 -0.7**
KPJI Karang Pucung 71.37 268 P **P** **03 13 51.5 -0.4**
75nm,0.9s
QSPA South Pole Qui 72.11 180 *e*P **P** **03 13 56.4 +1.1**
CISI Cisompet, Garu 72.37 268 *e*P **P** **03 13 56.2 -1.6**
42nm,0.8s
CISI Cisompet, Garu 72.37 268 P **P** **03 13 56.3 -1.4**
CISI Cisompet, Garu 72.37 268 P **P** **03 13 58.1 +0.4**
55nm,0.8s
KSM Kuching 72.73 277 P **P** **03 14 00.6 +0.8**
PETK Petropavlovsk- 73.73 345 P **P** **03 14 04.2 -0.3**
10nm,0.7s,baz=127,slow=7.9,SNR=19
KSRS Korea Array 74.76 318 P **P** **03 14 11.0 +0.4**
0.7nm,0.4s,baz=138,slow=6.0,SNR=3.8
KSAR Wonju Array Be 74.78 318 P **P** **03 14 11.0 +0.2**
KASI Kota Agung 76.11 269 P **P** **03 14 17.1 -1.6**
KASI Kota Agung 76.11 269 P **P** **03 14 17.4 -1.3**
SCZ2 Santa Cruz Isl 76.11 47 P **P** **03 14 19.5 +1.3**
baz=237
SCI2 San Clemente I 76.33 48 P **P** **03 14 20.8 +1.4**
baz=238
USRK Uesurisk Ar. 76.67 326 P **P** **03 14 21.1 +0.1**
0.9nm,0.8s,baz=117,slow=4.2,SNR=5.8
MDSI Maura Dua 76.71 270 P **P** **03 14 20.3 -1.7**
20nm,0.8s
MDSI Maura Dua 76.71 270 P **P** **03 14 20.3 -1.7**
KMRM Mail Ridge 77.02 40 *e*P **P** **03 14 25.4 +2.3**
42nm,1.0s
ARVC Arvin 77.28 46 P **P** **03 14 25.4 +0.8**
baz=237
109C Camp Elliot, M 77.31 49 P **P** **03 14 25.5 +0.7**
baz=239
MWC Mount Wilson 77.33 48 *e*P **P** **03 14 26.3 +1.2**
10nm,0.7s
VES Vestal, Richgr 77.49 46 P **P** **03 14 26.5 +0.8**
baz=237
O02D Mt. Diablo Mer 77.55 40 P **P** **03 14 27.0 +1.0**
baz=234
MURC Murrieta 77.61 48 P **P** **03 14 27.3 +0.9**
baz=239
BFSC Mount Baldy Ra 77.62 48 P **P** **03 14 27.4 +0.8**
baz=238
EDW2 Edwards Air Fo 77.72 47 P **P** **03 14 28.2 +1.1**
baz=238,SNR=9.1
MONP2 Monument Peak 77.81 49 P **P** **03 14 28.7 +1.0**
baz=239,SNR=6.9
ISA Isabella, Lake 77.81 46 *e*P **P** **03 14 29.1 +1.6**
15nm,1.0s
ISA Isabella, Lake 77.81 46 P **P** **03 14 28.1 +0.6**
baz=237,SNR=13
CMB Columbia Colle 77.84 43 *e*P **P** **03 14 28.5 +0.9**
67nm,1.0s
IKP In-Ko-Pah, Jac 77.91 50 P **P** **03 14 28.9 +0.8**
baz=240
WDC Whiskeytown Da 77.94 40 *e*P **P** **03 14 29.3 +1.3**
15nm,1.4s
AFDM Forest Hills D 77.98 42 *e*P **P** **03 14 29.4 +1.1**
9.4nm,0.9s
ORV Oroville 77.99 41 *e*P **P** **03 14 29.3 +1.0**
9.8nm,1.1s
NJ2 Nanjing 78.00 309 *e*P **P** **03 14 28.3 -0.2**
NJ2 pmax pmax
comp=Z,23nm,0.5s
N02D Trinity Center 78.08 40 P **P** **03 14 30.1 +1.2**
baz=234
PFO Pinyon Flats O 78.15 49 P **P** **03 14 29.8 +0.4**
baz=239
O03E Paynes Creek 78.23 41 P **P** **03 14 30.5 +0.9**
baz=234
M02C Callahan 78.24 39 P **P** **03 14 30.9 +1.3**
baz=233,SNR=5.8
L02E Cave Junction 78.25 38 P **P** **03 14 31.0 +1.4**
baz=233
LRMC Laurel Mtn Rad 78.26 47 P **P** **03 14 30.7 +0.7**
baz=238
SWSC Sam W. Stewart 78.28 50 P **P** **03 14 31.0 +1.0**
baz=240
MDPB Devils Postpil 78.47 44 *e*P **P** **03 14 32.3 +1.1**
14nm,1.0s
CWC Cottonwood Cre 78.50 46 P **P** **03 14 32.2 +0.9**
baz=238
OMMB Old Mammoth Mi 78.51 44 *e*P **P** **03 14 32.9 +1.4**
13nm,1.2s
YBH Yreka Blue Hor 78.53 39 *e*P **P** **03 14 32.4 +1.2**
9.1nm,0.8s
K02D Willamette Mer 78.54 38 P **P** **03 14 32.7 +1.4**
baz=232
MLAC Mammoth, Mammo 78.63 44 P **P** **03 14 32.9 +0.9**
baz=237
J01E Myrtle Point 78.67 37 P **P** **03 14 32.7 +0.9**
baz=232
BELC Belle Mtn. Jos 78.67 49 P **P** **03 14 33.1 +0.8**
baz=239
MPMC Manual Prospec 78.70 46 P **P** **03 14 33.2 +0.8**
baz=238,SNR=6.4
WAKR Walker 78.72 43 *e*P **P** **03 14 34.1 +1.6**
17nm,1.0s
TIN Tinemaha, Big 78.72 45 P **P** **03 14 33.4 +1.0**
baz=237
GSC Goldstone, Bar 78.77 47 *e*P **P** **03 14 34.1 +1.4**
10nm,1.3s
GSC Goldstone, Bar 78.77 47 P **P** **03 14 34.1 +1.4**
baz=239
HEC Hector,Ludlow 78.86 48 P **P** **03 14 34.2 +1.0**
baz=239
BEKR Beckworth 78.89 42 *e*P **P** **03 14 34.2 +0.9**
6.8nm,0.7s
BC3 Big Chuckawall 78.89 49 P **P** **03 14 34.4 +1.1**
baz=240
HUMO Hull Mountain 78.90 38 *e*P **P** **03 14 34.0 +0.9**
9.3nm,0.9s
PNTR Pine Nut 78.94 43 *e*P **P** **03 14 34.9 +1.3**
22nm,0.9s
MYKOM Kota Tinggi 78.95 276 P **P** **03 14 34.4 +0.5**
VCNR Virginia City 79.02 42 *e*P **P** **03 14 35.5 +1.4**
8.5nm,0.9s
GLA Glamis 79.04 50 P **P** **03 14 34.9 +0.8**
baz=240
L04D Klamath Falls 79.06 39 P **P** **03 14 34.9 +0.8**
baz=234,SNR=5.1
M04C Macdoel 79.08 39 P **P** **03 14 35.4 +1.2**
baz=234
YERR Yerington 79.11 43 *e*P **P** **03 14 35.5 +1.0**
26nm,1.2s
GRAC Grapevine Rang 79.28 45 P **P** **03 14 36.5 +1.3**
baz=238
GMRC Granite Mounta 79.31 48 P **P** **03 14 36.6 +0.9**
baz=239
I03D Drain, OR 79.33 37 P **P** **03 14 36.2 +0.9**
baz=233
FURC Furnace Creek, 79.34 46 P **P** **03 14 36.6 +1.1**
baz=238
IRM Iron Mountain 79.36 49 P **P** **03 14 36.9 +1.2**
baz=240,SNR=6.9
RYN Ryan 79.38 44 *e*P **P** **03 14 37.2 +1.3**
11nm,1.2s
NV01 Mina Array Sit 79.42 44 *e*P **P** **03 14 36.9 +0.7**

NVAR	**Mina Array Bea**	**79.42**	**44**	P		**P**	**03 14 37.2**	**+1.0**
	7.4nm,0.8s,baz=224,slow=9.2,SNR=51							
NVAR				pP		**pP**	03 16 42.1	+1.1
	0.9nm,0.9s,baz=267,slow=3.5,SNR=2.5							
PAHR	**Pah Rah Range**	**79.42**	**42**	*eP*		**P**	**03 14 37.4**	**+1.3**
	13nm,1.1s							
SHOC	**Shoshone, Teco**	**79.45**	**47**	P		**P**	**03 14 36.8**	**+0.7**
	baz=239							
TUQ	**Turquoise Moun**	**79.46**	**47**	P		**P**	**03 14 37.2**	**+0.9**
	baz=239,SNR=5.1							
NV11	**Mina Array Sit**	**79.52**	**44**	*eP*		**P**	**03 14 34.0**	**-2.6**
	1.0nm,1.1s							
Y12C	**Blythe**	**79.61**	**49**	*eP*		**P**	**03 14 38.8**	**+1.8**
	7.5nm,0.9s							
Y12C	**Blythe**	**79.61**	**49**	P		**P**	**03 14 38.0**	**+1.0**
	baz=240							
J04D	**Umpqua Nationa**	**79.78**	**38**	P		**P**	**03 14 38.7**	**+0.7**
	baz=234,SNR=11							
LDFC	**Landfair**	**79.85**	**48**	*eP*		**P**	**03 14 40.4**	**+2.0**
	29nm,1.0s							
KVN	**Kaiserville**	**79.89**	**43**	*eP*		**P**	**03 14 39.5**	**+0.9**
	11nm,1.0s							
I04A	**Tendick Farm,**	**79.94**	**38**	P		**P**	**03 14 39.1**	**+0.6**
	baz=233							
TPNV	**Topopah Spring**	**80.01**	**46**	*eP*		**P**	**03 14 40.7**	**+1.5**
	12nm,1.3s							
TPNV	**Topopah Spring**	**80.01**	**46**	P		**P**	**03 14 40.2**	**+1.0**
	baz=239,SNR=8.3							
MOD	**Modoc Plateau**	**80.08**	**40**	*eP*		**P**	**03 14 40.4**	**+0.9**
	13nm,0.8s							
PDMCI	**Parker Dam,Lak**	**80.16**	**49**	P		**P**	**03 14 41.1**	**+1.3**
	baz=240							
H04D	**Lebanon**	**80.19**	**37**	P		**P**	**03 14 40.8**	**+1.1**
	baz=233							
G03D	**McMinnville, O**	**80.31**	**36**	P		**P**	**03 14 41.3**	**+1.0**
	baz=232							
J05D	**Fort Rock, OR**	**80.32**	**38**	P		**P**	**03 14 41.5**	**+0.8**
	baz=234,SNR=20							
KTGM	**Kuala Trenggan**	**80.76**	**279**	P		**P**	**03 14 44.2**	**+0.8**
PINE	**Pine Mountain**	**80.79**	**38**	*eP*		**P**	**03 14 44.1**	**+0.9**
	32nm,1.1s							
Y14A	**Wickenburg**	**80.81**	**50**	*eP*		**P**	**03 14 44.9**	**+1.6**
RSO	**Redoubt South**	**80.83**	**13**	*eP*		**P**	**03 14 42.0**	**-0.9**
I05D	**Terrebonne, OR**	**80.88**	**38**	P		**P**	**03 14 44.8**	**+1.4**
	baz=234							
R11A	**Troy Canyon, C**	**81.19**	**45**	*eP*		**P**	**03 14 45.9**	**+0.6**
R11A	**Troy Canyon, C**	**81.19**	**45**	P		**P**	**03 14 45.7**	**+0.4**
	baz=239,SNR=7.7							
WVOR	**Wild Horse Val**	**81.41**	**40**	*eP*		**P**	**03 14 47.0**	**+0.7**
	16nm,1.0s							
G05D	**Wamic, OR**	**81.42**	**37**	P		**P**	**03 14 47.1**	**+1.0**
	baz=234							
TUC	**Tucson**	**81.69**	**52**	*eP*		**P**	**03 14 49.9**	**+2.0**
	10nm,1.1s							
TUC	**Tucson**	**81.69**	**52**	P		**P**	**03 14 48.8**	**+0.9**
	baz=243							
I07A	**Izee**	**81.81**	**39**	*eP*		**P**	**03 14 49.2**	**+0.9**
	14nm,0.9s							
J08A	**Circle Bar Ran**	**82.02**	**40**	*eP*		**P**	**03 14 50.2**	**+0.9**
	18nm,1.0s							
LCMT	**Little Creek M**	**82.12**	**47**	*eP*		**P**	**03 14 51.6**	**+1.6**
	8.4nm,1.0s							
CCUT	**Cedar City**	**82.31**	**47**	*eP*		**P**	**03 14 52.9**	**+1.9**
	7.8nm,1.0s							
319A	**Douglas**	**82.41**	**54**	*eP*		**P**	**03 14 54.0**	**+2.4**
KNB	**Kanab**	**82.42**	**47**	*eP*		**P**	**03 14 52.9**	**+1.3**
	6.0nm,0.8s							
PSUT	**Pine Spring**	**82.45**	**46**	*eP*		**P**	**03 14 53.1**	**+1.3**
	6.1nm,0.8s							
IPM	**Ipoh**	**82.47**	**277**	P		**P**	**03 14 52.7**	**+0.5**
U15A	**North Rim**	**82.51**	**48**	*eP*		**P**	**03 14 53.8**	**+1.6**
SZCU	**Shurtz Canyon**	**82.52**	**47**	*eP*		**P**	**03 14 53.9**	**+1.8**
	7.4nm,1.0s							
F07A	**Phinny Hill Vi**	**82.60**	**37**	*eP*		**P**	**03 14 55.5**	**+3.5**
	19nm,1.1s							
ELK	**Elko**	**82.65**	**43**	*eP*		**P**	**03 14 53.6**	**+0.9**
	10nm,1.1s							
WUAZ	**Wupatki**	**82.73**	**49**	*eP*		**P**	**03 14 55.0**	**+1.8**
	8.2nm,1.0s							
WUAZ	**Wupatki**	**82.73**	**49**	P		**P**	**03 14 54.4**	**+1.2**
	baz=242							
DIV	**Divide**	**83.02**	**15**	*eP*		**P**	**03 14 53.6**	**-0.3**
KULM	**Kulim**	**83.08**	**278**	P		**P**	**03 14 55.9**	**+0.7**
MTPU	**Mount Pierson**	**83.36**	**47**	*eP*		**P**	**03 14 58.4**	**+1.9**
	7.0nm,1.0s							
PMSA	**Palmer Station**	**83.75**	**157**	*eP*		**P**	**03 14 55.4**	**-2.1**
	37nm,0.6s							
BJI	**Beijing**	**83.84**	**315**	⇑*eP*		**P**	**03 14 59.1**	**+0.8**
BJI					pmax	pmax		
	comp=Z,6.0nm,0.7s							
SKNT	**Sakolnakorn**	**83.92**	**290**	P		**P**	**03 14 59.6**	**+0.4**
	9.6nm,1.1s,519nm							
PSI	**Prapat**	**83.93**	**275**	*eP*		**P**	**03 14 58.3**	**-1.3**
TRF	**Thorofare Moun**	**84.04**	**12**	*eP*		**P**	**03 14 58.1**	**-0.8**
RND	**Reindeer**	**84.30**	**13**	*eP*		**P**	**03 14 59.8**	**-0.3**
MCK	**McKinley**	**84.57**	**13**	*eP*		**P**	**03 15 01.2**	**-0.2**
TMUT	**Trail Mountain**	**84.63**	**46**	*eP*		**P**	**03 15 04.4**	**+1.8**
	4.7nm,0.9s							
HLID	**Hailey**	**84.63**	**41**	*eP*		**P**	**03 15 03.5**	**+1.1**
	6.5nm,0.8s							
HLID	**Hailey**	**84.63**	**41**	P		**P**	**03 15 03.2**	**+0.8**
	baz=351							
SRAK	**Srakaew**	**84.66**	**286**	P		**P**	**03 15 02.2**	**-0.6**
MPU	**Maple Canyon**	**84.68**	**45**	*eP*		**P**	**03 15 04.0**	**+1.3**
	2.4nm,0.9s							
GSI	**Gunungsitoli**	**84.75**	**273**	*eP*		**P**	**03 15 04.1**	**+0.6**
	62nm,1.0s							
GSI	**Gunungsitoli**	**84.75**	**273**	P		**P**	**03 15 04.3**	**+0.9**
GSI	**Gunungsitoli**	**84.75**	**273**	P		**P**	**03 15 04.3**	**+0.9**
HVU	**Hansel Valley**	**84.78**	**43**	*eP*		**P**	**03 15 04.0**	**+0.9**
	6.5nm,1.0s							
KCSI	**Kotacane, Aceh**	**85.25**	**275**	P		**P**	**03 15 05.8**	**0.0**
	21nm,0.9s,558nm							
KCSI	**Kotacane, Aceh**	**85.25**	**275**	P		**P**	**03 15 05.8**	**0.0**
	21nm,0.9s,558nm							
TCUT	**Toone Canyon**	**85.36**	**44**	*eP*		**P**	**03 15 07.4**	**+1.3**
WRH	**Wood River Hil**	**85.40**	**13**	*eP*		**P**	**03 15 05.1**	**-0.2**
MNTX	**Cornudas Mount**	**85.56**	**55**	*eP*		**P**	**03 15 08.2**	**+1.3**
	3.0nm,0.8s							
MNTX	**Cornudas Mount**	**85.56**	**55**	P		**P**	**03 15 07.9**	**+1.0**
	baz=246							
HDA	**Harding Lake**	**85.59**	**13**	P		**P**	**03 15 05.4**	**-0.8**
	baz=210							
CCB	**Clear Creek Bu**	**85.61**	**13**	*eP*		**P**	**03 15 05.2**	**-1.1**
TCOL	**CIGO, UAF Yank**	**85.80**	**13**	P		**P**	**03 15 06.6**	**-0.6**
	baz=209							
ILAR	**Eielson Array**	**85.92**	**13**	P		**P**	**03 15 06.5**	**-1.2**
	3.7nm,0.8s,baz=222,slow=4.9,SNR=24							
IL1	**Eielson Array**	**85.92**	**13**	*eP*		**P**	**03 15 06.5**	**-1.2**
TX31	**Lajitas Ar. Si**	**85.98**	**58**	*eP*		**P**	**03 15 11.0**	**+1.9**
TXAR	**Lajitas Array**	**85.98**	**58**	P		**P**	**03 15 11.1**	**+2.0**
	4.8nm,0.8s,baz=217,slow=6.3,SNR=30							
TXAR				pP		**pwP**	03 17 19.1	-1.0
	0.4nm,0.8s,baz=202,slow=14,SNR=2.2							
ANMO	**Albuquerque**	**86.09**	**52**	*eP*		**P**	**03 15 10.7**	**+1.1**
ANMO	**Albuquerque**	**86.09**	**52**	P		**P**	**03 15 10.6**	**+1.1**
	baz=245							
POKR	**Poker Flat Res**	**86.10**	**13**	P		**P**	**03 15 07.1**	**-1.5**
	baz=210							
XAN	**Xi'an**	**86.32**	**307**	P		**P**	**03 15 11.4**	**+0.9**
XAN				pP		pP	03 17 20.6	+1.6
XAN					pmax	pmax		
	comp=Z,21nm,1.1s							
XAN	**Xi'an**	**86.32**	**307**	*eP*		**P**	**03 15 11.1**	**+0.6**
BILL	**Bilibino**	**86.48**	**354**	*eP*		**P**	**03 15 10.3**	**0.0**
	3.6nm,0.8s							
PHET	**Kaeng Krachan**	**86.50**	**285**	P		**P**	**03 15 13.5**	**+1.8**
	10nm,0.9s							
MLSI	**Meulaboh, Aceh**	**86.78**	**276**	P		**P**	**03 15 13.2**	**+0.2**
S22A	**4UR Ranch, Cre**	**87.00**	**49**	*eP*		**P**	**03 15 15.3**	**+1.4**
S22A	**4UR Ranch, Cre**	**87.00**	**49**	P		**P**	**03 15 14.8**	**+0.9**
	baz=245							
O20A	**White River Ci**	**87.05**	**46**	*eP*		**P**	**03 15 15.7**	**+1.7**
O20A	**White River Ci**	**87.05**	**46**	P		**P**	**03 15 14.9**	**+0.9**
	baz=244							
HHC	**Hu-ho-hao-te**	**87.33**	**314**	*eP*		**P**	**03 15 17.7**	**+2.5**
HHC				pP		pP	03 17 28.9	+4.9
HHC				S		**S**	**03 25 04.5**	**-1.8**
HHC					pmax	pmax		
	comp=Z,18nm,0.9s							
PDAR	**Pinedale Array**	**87.35**	**43**	P		**P**	**03 15 14.6**	**-0.8**
	3.7nm,0.7s,baz=224,slow=2.5,SNR=24							
PDAR				pP		**pwP**	03 17 25.2	-0.9
	0.2nm,0.5s,baz=183,slow=7.1,SNR=2.1							
UTHA	**Uthaitani**	**87.54**	**287**	P		**P**	**03 15 19.8**	**+3.3**
KMI	**Kunming**	**87.89**	**297**	P		**P**	**03 15 17.3**	**-1.0**
KMI					pmax	pmax		
	comp=Z,15nm,1.0s							
SDCO	**Great Sand Dun**	**87.95**	**49**	P		**P**	**03 15 19.2**	**+0.8**
	baz=246							
LAMP	**Lampang**	**88.34**	**290**	P		**P**	**03 15 22.1**	**+1.9**
MSTX	**Muleshoe**	**88.48**	**54**	*eP*		**P**	**03 15 21.5**	**+0.8**
MSTX	**Muleshoe**	**88.48**	**54**	P		**P**	**03 15 21.0**	**+0.3**
	baz=247							
T25A	**Trinidad**	**88.50**	**50**	P		**P**	**03 15 21.8**	**+0.9**
	baz=246							
Q24A	**Divide**	**88.71**	**48**	P		**P**	**03 15 22.9**	**+1.0**
	baz=246							
CM01	**Chiang Mai Arr**	**88.92**	**290**	*eP*		**P**	**03 15 23.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**88.94**	**290**	P		**P**	**03 15 23.9**	**+0.9**
	3.8nm,0.7s,baz=120,slow=5.4,SNR=24							
N23A	**Red Feather La**	**88.95**	**46**	P		**P**	**03 15 23.3**	**+0.3**
	baz=245							
CHTO	**Chiang Mai**	**89.06**	**290**	*eP*		**P**	**03 15 23.7**	**+0.1**
	4.1nm,0.6s							
SYO	**Syowa Base**	**89.13**	**193**	⇓*eP*		**P**	**03 15 21.4**	**-1.5**
SYO	**Syowa Base**	**89.13**	**193**	⇓*ePcP*		**PcP**	**03 15 24.2**	**+0.4**
CD2	**Chengdu**	**89.13**	**303**	P		**P**	**03 15 23.7**	**0.0**
CD2					pmax	pmax		
	comp=Z,20nm,0.5s							
JCT	**Junction City**	**89.52**	**58**	P		**P**	**03 15 26.0**	**+0.6**
	baz=249							
EPYK	**Eagle Plains**	**89.63**	**16**	P		**P**	**03 15 24.8**	**-0.3**
	baz=219							
AMTX	**Amarillo**	**89.66**	**53**	P		**P**	**03 15 26.7**	**+0.5**
	baz=248							
ABTX	**Abilene, Hawle**	**90.41**	**56**	*eP*		**P**	**03 15 30.8**	**+1.3**
ABTX	**Abilene, Hawle**	**90.41**	**56**	P		**P**	**03 15 30.2**	**+0.6**
	baz=249							
SNAA	**Sanae**	**90.56**	**179**	P		**P**	**03 15 29.6**	**+0.1**
SNAA	**Sanae**	**90.56**	**179**	*eP*		**P**	**03 15 29.2**	**-0.4**
VNA3	**Neumayer Olymp**	**90.70**	**176**	P		**P**	**03 15 30.3**	**+0.1**
VNA2	**Neumayer--Watz**	**91.14**	**177**	P		**P**	**03 15 32.8**	**+0.6**
	baz=186,slow=4.3							
LAO	**LASA Array**	**91.21**	**41**	P		**P**	**03 15 34.1**	**+1.2**
	baz=245							
VNA1	**Neumayer--Stat**	**91.36**	**177**	P		**P**	**03 15 34.2**	**+1.0**
RSSD	**Black Hills**	**91.56**	**44**	P		**P**	**03 15 34.9**	**+0.1**
	baz=246							
INK	**Inuvik**	**91.91**	**15**	*eP*		**P**	**03 15 34.9**	**-0.6**
	5.7nm,0.9s							
DGMT	**Dagmar**	**93.19**	**40**	P		**P**	**03 15 42.7**	**+0.7**
	baz=247							
SONM	**Songino Array**	**93.61**	**319**	P		**P**	**03 15 44.2**	**+0.1**
	8.5nm,1.3s,baz=101,slow=3.8,SNR=4.0							
YKA	**Yellowknife Ar**	**94.35**	**25**	P		**P**	**03 15 46.3**	**-0.5**
	0.9nm,0.8s,baz=343,slow=5.5,SNR=4.9							
KSU1	**Kansas State U**	**94.94**	**51**	P		**P**	**03 15 51.2**	**+1.1**
	baz=251							
GTA	**Gaotai**	**95.09**	**310**	*eP*		**P**	**03 15 52.6**	**+1.6**
GTA				pP		pP	03 18 05.0	+3.9
GTA				sP		sP	03 19 05.7	+5.0
GTA					pmax	pmax		
	comp=Z,5.0nm,1.2s							
F38A	**Pierce - Schro**	**100.30**	**45**	P		**Pdif**	**03 16 13.3**	**-0.6**
	baz=255							
152A	**Waverly Hall**	**102.45**	**60**	P		**Pdif**	**03 16 24.6**	**+0.9**
	baz=257							
G42A	**Mountain**	**102.47**	**46**	P		**Pdif**	**03 16 24.5**	**+1.0**
	baz=257							
V51A	**Loudon**	**103.44**	**56**	P		**Pdif**	**03 16 28.9**	**+0.8**
	baz=258							
ZALV	**Zalesovo Beam**	**108.29**	**322**	PKiKP		**PKiKP**	**03 20 49.0**	**-2.5**
	1.1nm,0.7s,baz=134,slow=4.2,SNR=3.5							
MKAR	**Makanchi Array**	**109.19**	**314**	PKiKP		**PKiKP**	**03 20 52.1**	**-1.3**
	1.0nm,0.5s,baz=146,slow=3.5,SNR=2.8							
ARCES	**ARCESS Array B**	**126.36**	**350**	PKP		**PKPdf**	**03 21 24.9**	**-0.7**
	5.8nm,1.0s,baz=72,slow=2.3,SNR=9.2							
GEYT	**Alibeck**	**127.10**	**304**	PKP		**PKPdf**	**03 21 28.3**	**+0.2**
	2.4nm,0.7s,baz=116,slow=3.4,SNR=4.4							
BOSA	**Boshof**	**128.38**	**207**	PKP		**PKiKP**	**03 21 31.5**	**-0.2**
	3.8nm,1.0s,baz=337,slow=5.3,SNR=3.3							
FINES	**FINESS Array B**	**133.24**	**344**	PKhKP		PKPpre	03 21 33.8	
	0.9nm,0.4s,baz=78,slow=2.2,SNR=11							
FINES				PKP		**PKPdf**	**03 21 38.9**	**0.0**
	0.9nm,0.4s,baz=66,slow=3.4,SNR=11							
FINES				SKPbc		**SKPbc**	**03 24 12.2**	**+0.5**
	1.6nm,0.7s,baz=64,slow=3.0,SNR=7.6							
NB2	**NORSAR Subarra**	**136.42**	**353**	PKP		**PKiKP**	**03 21 46.1**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=14,slow=2.5							
NOA	**NORSAR Array B**	**136.42**	**353**	PKP		**PKiKP**	**03 21 45.9**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=14,slow=3.8,SNR=3.4							
KMBO	**Kilima Mbogo**	**140.15**	**245**	PKP		**PKPdf**	**03 21 54.1**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=274,slow=7.1,SNR=4.0							
AKASG	**Malin Array Be**	**140.62**	**332**	PKhKP		PKPpre	03 21 46.0	
	comp=Z,0.7nm,0.3s,baz=44,slow=4.2,SNR=6.7							
AKASG				SKPbc		**SKPbc**	**03 24 33.4**	**-0.1**
	comp=Z,0.1nm,0.2s,baz=32,slow=3.4,SNR=4.1							
BURAR	**Bucovina Array**	**144.67**	**332**	⇑*iP*		**PKPab**	**03 22 01.5**	**+0.1**
BIZ	**Bicaz**	**144.77**	**331**	⇑*iP*		**PKPab**	**03 22 01.5**	**-0.2**
TESR	**Tescani**	**144.82**	**330**	⇑*iP*		**PKPdf**	**03 22 00.6**	**+0.3**
BRTR	**Keskin Array B**	**144.84**	**315**	PKP		**PKPdf**	**03 22 00.8**	**0.0**
	comp=Z,4.6nm,0.4s,baz=108,slow=3.2,SNR=45							
ANTO	**Ankara**	**145.34**	**316**	⇑*iP*		**PKPbc**	**03 22 02.3**	**-0.5**
TRPA	**Tarpa**	**145.40**	**335**	⇑*iP*		**PKPbc**	**03 22 02.6**	**0.0**
OZUR		**145.53**	**330**	⇑*iP*		**PKPbc**	**03 22 03.2**	**+0.1**
UPC	**Upice**	**145.54**	**344**	*e*PKP		**PKPbc**	**03 22 03.0**	**0.0**
DPC	**Dobruska-Polom**	**145.60**	**343**	*e*PKP		**PKPbc**	**03 22 03.6**	**+0.4**
LANS	**Liptovska Anna**	**145.69**	**339**	*e*PKP		**PKPbc**	**03 22 04.3**	**+0.8**
BRG	**Berggiesshubel**	**145.72**	**346**	*e*PKP		**PKPbc**	**03 22 03.1**	**-0.3**
	comp=Z,4.1nm,0.7s							
BRG					*i*		03 22 04.9	
	comp=Z,5.4nm,0.8s							
DOPR	**Dopca**	**145.81**	**330**	⇑*iP*		**PKPbc**	**03 22 04.1**	**+0.2**
PVCC	**Panska Ves**	**145.89**	**345**	*e*PKP		**PKPbc**	**03 22 04.3**	**+0.4**
PVCC					*ex*	x	03 22 08.8	
DRGR		**146.40**	**333**	⇑*iP*		**PKPbc**	**03 22 05.2**	**-0.4**
PRU	**Pruhonice**	**146.40**	**345**	*e*PKP		**PKPbc**	**03 22 05.4**	**0.0**
PRU					*ex*	x	03 22 08.0	
VYHS	**Vyhne**	**146.47**	**339**	*e*PKP		**PKPbc**	**03 22 06.0**	**+0.4**
TREC	**Trest**	**146.78**	**343**	*e*PKP		**PKPbc**	**03 22 06.4**	**-0.1**
MODS	**Modra-Piesok**	**147.09**	**341**	*e*PKP		**PKPbc**	**03 22 08.0**	**+0.7**
SRO	**Srobarova**	**147.24**	**339**	*e*PKP		**PKPbc**	**03 22 07.4**	**-0.2**
LEF	**Lefka**	**147.41**	**308**	⇑*iP*		**PKPbc**	**03 22 07.4**	**-1.1**
KHC	**Kasperske Hory**	**147.43**	**345**	*e*PKP		**PKPbc**	**03 22 08.3**	**+0.1**
KHC					*ex*	x	03 22 12.7	
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc		**PKPbc**	**03 22 08.8**	**-0.1**
	comp=Z,4.2nm,0.5s,baz=32,slow=3.4,SNR=29							
CONA	**Conrad Observa**	**147.91**	**342**	*i* PKPbc		**PKPbc**	**03 22 09.5**	**0.0**
	comp=Z,4.0nm,0.5s							
MOA	**Molln**	**148.44**	**344**	*i* PKPbc		**PKPbc**	**03 22 10.6**	**-0.2**
	comp=Z,9.6nm,1.4s							
SOKA	**Soboth**	**149.29**	**342**	*i* PKPbc		**PKPbc**	**03 22 12.2**	**-0.7**
	comp=Z,7.2nm,1.2s							
KBA	**Koelnbreinsper**	**149.39**	**344**	*i* PKPbc		**PKPbc**	**03 22 12.6**	**-0.7**
	comp=Z,3.0nm,0.5s							
WATA	**Walderalm**	**149.57**	**347**	*i* PKPbc		**PKPbc**	**03 22 13.2**	**-0.5**
	comp=Z,3.0nm,0.5s							
OBKA	**Obir**	**149.58**	**342**	*i* PKiKP		**PKiKP**	**03 22 14.1**	**-0.2**
	comp=Z,6.4nm,1.2s							
RETA	**Reutte**	**149.60**	**348**	*i* PKPbc		**PKPbc**	**03 22 13.2**	**-0.4**
	comp=Z,2.2nm,0.5s							
WTTA	**Wattenberg**	**149.63**	**346**	*i* PKPbc		**PKPbc**	**03 22 13.6**	**-0.3**
	comp=Z,8.0nm,0.5s							
MOTA	**Moosalm**	**149.67**	**347**	*i* PKPbc		**PKPbc**	**03 22 13.3**	**-0.5**
	comp=Z,2.3nm,0.5s							
MYKA	**Terra Mystica**	**149.73**	**343**	*i* PKPbc		**PKPbc**	**03 22 12.8**	**-1.1**
	comp=Z,4.4nm,0.6s							
SQTA	**Sankt Quirin**	**149.76**	**347**	*i* PKPbc		**PKPbc**	**03 22 13.7**	**-0.4**
	comp=Z,4.1nm,0.5s							
ABTA	**Abfaltersbach**	**149.91**	**345**	*i* PKPbc		**PKPbc**	**03 22 13.4**	**-1.0**
	comp=Z,8.2nm,0.7s							
DAVA	**Damuels**	**149.97**	**349**	*i* PKPbc		**PKPbc**	**03 22 13.8**	**-0.8**
	comp=Z,3.8nm,0.6s							
FETA	**Feichten**	**150.05**	**347**	*i* PKPbc		**PKPbc**	**03 22 14.6**	**-0.3**
	comp=Z,9.9nm,1.6s							
ESDC	**Sonseca Array**	**157.81**	**12**	PKPab		**PKPab**	**03 22 55.8**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=343,slow=5.7,SNR=4.5							
TORD	**Torodi Ar. Bea**	**175.23**	**181**	PKP		**PKPdf**	**03 22 31.4**	**-2.2**
	comp=Z,1.3nm,1.0s,baz=359,slow=3.0,SNR=5.3							
TORD				PKPab		**PKPab**	**03 24 13.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=195,slow=4.2,SNR=7.6							
TORD				PP		**PP**	**03 28 08.4**	**+3.0**
	comp=Z,1.0nm,1.1s,baz=194,slow=5.5,SNR=4.0							

*IDC **11** 03:18:56.8±0.7, 6°.79S×148°.53E, h0km, mb4.1/13, mb1 4.2/16, mb1mx4.1/40, mbtmp4.1/16, ML4.1/3, MS4.2/11, Ms1 4.2/11, ms1mx4.0/32, Error ellipse: s-maj=19.8km s-min=16.0km az=97.0*
*NEIC **11** 03:18:58.3±0.4, 6°.79S×148°.47E, h10km, mb4.4/8, Error ellipse: s-maj=11.0km s-min=7.2km az=119.0*
*ISCJB **11** 03:19:01.6±0.4, 6°.87S±0°.05×148°.49E±0°.07, h47km, mb4.2/20, MS4.2/8, Error ellipse: s-maj=10.4km s-min=6.2km az=30.0*

ISC 11 03:19:03.4±0.5, 6°.92S±0°.07×148°.48E±0°.09, h47km, n50, σ1s35/50, mb4.2/20, MS4.1/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**4.56**	**54**	*e*Pn		**Pn**	**03 20 09.2**	**-0.8**
MANU	**Manus Island**	**4.97**	**347**	*e*Pn		Pn	03 20 20.5	+4.9
COEN	**Coen**	**8.72**	**216**	*e*Pn		**Pn**	**03 21 07.7**	**+0.7**
COEN				*e*Sn		**Sn**	**03 22 42.5**	**-1.7**
CTA	**Charters Tower**	**13.27**	**189**	Pn		**Pn**	**03 22 09.8**	**+0.6**
	0.3nm,0.3s,baz=38,slow=19,SNR=3.2							
CTA				LR		LR	03 27 38.5	
	comp=Z,1μm,19.2s,baz=10.0,slow=39							
SIJI	**Sorong**	**18.19**	**289**	P		**Pn**	**03 23 12.5**	**-0.1**
	0.5nm,0.3s,baz=356,slow=14,SNR=2.2							
SIJI				LR		LR	03 31 35.8	
	comp=Z,887nm,21.3s,baz=88,slow=42							
WRAB	**Tennant Creek**	**18.85**	**225**	*e*P		**Pn**	**03 23 20.6**	**0.0**
	12nm,0.6s							
WB2	**Warramunga Arr**	**18.86**	**225**	*e*P		**P**	**03 23 19.6**	**-0.1**
WR1	**Warramunga Arr**	**18.86**	**225**	*e*P		**P**	**03 23 20.2**	**+0.3**
	13nm,0.9s							
WR1				*e*S		**Sn**	**03 26 48.8**	**-2.4**
WRA	**Warramunga Arr**	**18.86**	**225**	P		**P**	**03 23 20.2**	**+0.3**
	0.8nm,0.3s,baz=52,slow=11,SNR=34							
WRA				S		**Sn**	**03 26 48.8**	**-2.4**
	baz=42,slow=23,SNR=3.6							
WRA				LR		LR	03 32 03.2	
	comp=Z,718nm,18.3s,baz=40,slow=41							
GUMO	**Guam**	**20.69**	**350**	LR		LR	03 31 43.7	
	comp=Z,541nm,19.3s,baz=156,slow=37							
AS01	**Alice Springs**	**21.73**	**218**	*e*P		**P**	**03 23 51.0**	**+0.2**
AS31	**Alice Springs**	**21.75**	**218**	*e*P		**P**	**03 23 51.8**	**+0.6**
	6.6nm,0.7s							
AS31				*e*S		**S**	**03 27 52.8**	**+3.3**
ASAR	**Alice Springs**	**21.76**	**218**	P		**P**	**03 23 51.6**	**+0.4**
	12nm,0.6s,baz=52,slow=9.5,SNR=131							
ASAR				S		**S**	**03 27 52.8**	**+3.3**
	2.1nm,0.8s,baz=32,slow=22,SNR=3.6							
ASAR				LR		LR	03 32 60.0	
	comp=Z,649nm,18.5s,baz=52,slow=38							
DZM	**Mont Dzumac**	**22.97**	**133**	P		**P**	**03 24 04.0**	**-0.1**
	10nm,1.0s,baz=146,slow=17,SNR=2.9							
ARMA	**Armidale**	**23.56**	**173**	*e*P		**P**	**03 24 07.9**	**-2.0**
	6.1nm,0.9s							
SOEI	**Soe**	**24.12**	**262**	*e*P		**P**	**03 24 12.8**	**-2.4**
	14nm,0.8s							
BATI	**Baumata**	**24.75**	**261**	P		**P**	**03 24 21.6**	**+0.7**
	32nm,0.6s,baz=221,slow=9.3,SNR=2.1			

MDOK	**Medeo**	**3.09**	**351**	Pg	**Pb**	**03 21 12.8**	**-2.1**
	8.0nm,0.5s							
MDOK				Lg	Lg	03 21 52.3		
	28nm,0.4s							
MDOK	**Medeo**	**3.09**	**351**	*eP*	**Pb**	**03 21 12.8**	**-2.1**
	7.1nm,0.5s							
MDOK				*eS*	**Sb**	**03 21 52.3**	**-0.2**
	29nm,0.5s							
ARLS	**Aral**	**3.11**	**305**	⇑*iP*	**Pn**	**03 21 09.9**	**+1.0**
	baz=4.0							
ARLS				⇑*iS*	**Sn**	**03 21 47.0**	**+1.1**
	baz=4.0							
KOTS	**Kotyrbulak**	**3.15**	**352**	Pg	**Pb**	**03 21 14.2**	**-1.8**
	7.3nm,0.4s							
KOTS				Lg	Lg	03 21 55.2		
	28nm,0.5s							
KOTS	**Kotyrbulak**	**3.15**	**352**	*eP*	**Pb**	**03 21 14.3**	**-1.6**
	7.3nm,0.4s							
KOTS				*eS*	**Sb**	**03 21 54.8**	**+0.6**
	92nm,0.4s							
KNDC	**Almaty**	**3.15**	**350**	⇓Pg	**Pn**	**03 21 09.6**	**+0.3**
	8.6nm,0.4s							
KNDC				⇑Lg	Lg	03 21 54.7		
	69nm,0.6s							
MTBS	**Maitube**	**3.17**	**342**	Pg	**Pb**	**03 21 14.0**	**-2.2**
	4.2nm,0.3s							
MTBS				Lg	Lg	03 21 54.1		
	20nm,0.4s							
MTBS	**Maitube**	**3.17**	**342**	*eP*	**Pb**	**03 21 14.0**	**-2.2**
	4.2nm,0.3s							
MTBS				*eS*	**Sb**	**03 21 54.1**	**-0.5**
	20nm,0.4s							
UZB	**Uzynbulak**	**3.18**	**17**	Pg	**Pb**	**03 21 15.3**	**-1.1**
	3.2nm,0.6s							
UZB				Lg	Lg	03 21 56.6		
	4.8nm,0.5s							
UZB	**Uzynbulak**	**3.18**	**17**	*eP*	**Pb**	**03 21 15.3**	**-1.1**
	1.7nm,0.5s							
UZB				*eS*	**Sb**	**03 21 56.5**	**+1.5**
	5.5nm,0.5s							
KST	**Kastek**	**3.21**	**336**	Pg	**Pb**	**03 21 14.3**	**-2.7**
	4.2nm,0.3s							
KST				Lg	Lg	03 21 54.9		
	14nm,0.6s							
KST	**Kastek**	**3.21**	**336**	*eP*	**Pb**	**03 21 14.3**	**-2.7**
	1.8nm,0.4s							
KST				*eS*	**Sb**	**03 21 54.9**	**-1.0**
	19nm,0.6s							
UCH	**Uchtor**	**3.22**	**312**	⇑*eP*	**Pn**	**03 21 11.1**	**+0.5**
	baz=11							
UCH				⇑*iS*	**Sn**	**03 21 49.7**	**+0.8**
	baz=11							
TKM2	**Tokmak 2**	**3.23**	**331**	⇑Pg	**Pn**	**03 21 11.1**	**+0.6**
	6.1nm,1.1s							
TKM2				⇑Lg	Lg	03 21 54.4		
	6.0nm,0.7s							
TKM2	**Tokmak 2**	**3.23**	**331**	⇓*iP*	**Pn**	**03 21 11.0**	**+0.5**
	baz=30							
TKM2				⇓*iS*	**Sn**	**03 21 48.9**	**+0.1**
	baz=30							
KBK	**Karagaybulak**	**3.29**	**321**	⇓*iP*	**Pn**	**03 21 11.9**	**+0.6**
	baz=20							
KBK				⇓*iS*	**Sn**	**03 21 50.9**	**+0.6**
	baz=20							
KURS	**Kuram**	**3.39**	**5**	*eP*	**Pb**	**03 21 18.0**	**-1.9**
	6.7nm,1.6s							
KURS				*eS*	**Sb**	**03 22 00.8**	**-0.1**
	11nm,1.7s							
PDGK	**Podgornoye**	**3.47**	**22**	Pg	**Pb**	**03 21 20.0**	**-1.4**
	1.1nm,0.5s							
PDGK				Lg	Lg	03 22 04.6		
	4.8nm,0.7s							
PDGK	**Podgornoye**	**3.47**	**22**	⇓Pg	**Pb**	**03 21 18.8**	**-2.6**
	4.7nm,1.1s							
PDGK				⇑Lg	Lg	03 22 06.9		
	17nm,0.9s							
PDGK	**Podgornoye**	**3.47**	**22**	⇓*eP*	**Pn**	**03 21 14.2**	**+0.4**
	baz=22							
PDGK				⇓*iS*	**Sn**	**03 21 54.6**	**-0.1**
	baz=22							
AAK	**Ala-Archa**	**3.50**	**317**	Pg	**Pn**	**03 21 15.8**	**+1.5**
	4.4nm,0.8s							
AAK				Lg	Lg	03 22 02.2		
	18nm,0.9s							
AAK	**Ala-Archa**	**3.50**	**317**	⇓*eP*	**Pn**	**03 21 15.3**	**+1.0**
	baz=16							
AAK				⇓*iS*	**Sn**	**03 21 56.2**	**+0.6**
	baz=16							
AML	**Almayashu**	**3.65**	**305**	⇑*iP*	**Pn**	**03 21 17.2**	**+0.7**
	baz=3.0							
AML				⇑*iS*	**Sn**	**03 22 00.0**	**+0.4**
	baz=3.0							
KTBS	**Karatobe**	**3.68**	**348**	Pg	**Pb**	**03 21 23.3**	**-1.6**
	2.2nm,0.5s							
KTBS				Lg	Lg	03 22 10.3		
	25nm,0.4s							
KTBS	**Karatobe**	**3.68**	**348**	*eP*	**Pb**	**03 21 23.3**	**-1.6**
	2.2nm,0.5s							
KTBS				*eS*	**Sb**	**03 22 10.3**	**+1.0**
	25nm,0.4s							
KUU	**Kurty**	**3.92**	**345**	Pg	**Pb**	**03 21 27.0**	**-1.9**
	1.3nm,0.2s							
KUU				Lg	Lg	03 22 16.7		
	13nm,0.6s							
KUU	**Kurty**	**3.92**	**345**	*eP*	**Pb**	**03 21 27.0**	**-1.9**
	1.1nm,0.4s							
KUU				*eS*	**Sb**	**03 22 16.7**	**+0.6**
	18nm,0.8s							
ARXS	**Arharly**	**4.09**	**1**	Pg	**Pb**	**03 21 31.0**	**-1.0**
	2.2nm,0.9s							
ARXS				Lg	Lg	03 22 23.7		
	6.8nm,0.4s							
ARXS	**Arharly**	**4.09**	**1**	*eP*	**Pb**	**03 21 31.0**	**-1.0**
	2.2nm,0.9s							
ARXS				*eS*	**Sb**	**03 22 23.8**	**+2.4**
	6.8nm,0.4s							
MRKS	**Merke**	**4.29**	**309**	Pg	**Pb**	**03 21 33.0**	**-2.3**
	2.0nm,0.7s							
MRKS				Lg	Lg	03 22 26.6		
	4.5nm,0.5s							
MRKS	**Merke**	**4.29**	**309**	*eP*	**Pb**	**03 21 33.0**	**-2.3**
	0.6nm,0.1s							
MRKS				*eS*	**Sb**	**03 22 26.6**	**-0.2**
	4.6nm,0.5s							

IDC 11 03:21:24.2±2.8, 6.89S×148.92E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.7/36, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=65.2km s-min=44.4km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.20**	**226**	P	P	03 25 50.2	+0.4
	0.4nm,0.3s,baz=50,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**22.05**	**219**	P	P	03 26 21.4	+0.7
	4.1nm,0.6s,baz=53,slow=9.7,SNR=8.4						
FITZ	**Fitzroy Crossi**	**25.27**	**242**	P	P	03 26 52.3	-0.1
	3.6nm,0.3s,baz=68,slow=11,SNR=7.9						
STKA	**Stephens Creek**	**25.78**	**194**	P	P	03 26 56.2	-0.7
	1.6nm,0.8s,baz=348,slow=14,SNR=1.7						
TORD	**Torodi Ar. Bea**	**147.15**	**284**	PKPbc	PKPbc	03 41 09.8	-0.6
	1.6nm,0.8s,baz=68,slow=3.0,SNR=6.8						

IDC 11 03:27:57.3±6.5, 5.57S×150.81E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.5/24, mbtmp3.5/4, Error ellipse: s-maj=188.0km s-min=39.8km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.47**	**227**	P	P	03 32 46.0	-1.6
	0.4nm,0.7s,baz=58,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**24.27**	**220**	P	P	03 33 17.3	+0.8
	0.2nm,0.4s,baz=54,slow=9.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**27.56**	**241**	P	P	03 33 46.8	+0.6
	3.3nm,0.9s,baz=50,slow=7.9,SNR=2.3						
MKAR	**Makanchi Array**	**79.61**	**319**	P	P	03 40 06.4	-0.2
	0.3nm,0.6s,baz=97,slow=7.4,SNR=2.9						

IDC 11 03:35:57.9±3.3, 7.01S×147.80E, h0km, mb3.1/1, mb1 3.3/2, mb1mx3.2/20, mbtmp3.1/2, ML3.1/1, Error ellipse: s-maj=115.3km s-min=43.9km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.33**	**224**	P	Pn	03 40 12.9	-0.9
	0.1nm,0.3s,baz=49,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**21.27**	**217**	P	P	03 40 46.0	-0.1
	0.7nm,0.7s,baz=54,slow=9.8,SNR=5.7						
TORD	**Torodi Ar. Bea**	**146.10**	**283**	PKPbc	PKPdf	03 55 40.6	+0.4
	0.2nm,0.5s,baz=59,slow=3.4,SNR=4.9						

IDC 11 03:43:26.6±3.6, 7.02S×148.79E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/33, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=107.8km s-min=48.6km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**226**	P	P	03 47 50.2	0.0
	0.1nm,0.3s,baz=53,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.87**	**219**	P	P	03 48 22.1	+0.9
	0.5nm,0.7s,baz=58,slow=9.4,SNR=5.6						
FITZ	**Fitzroy Crossi**	**25.10**	**242**	P	P	03 48 53.1	-0.2
	1.9nm,0.8s,baz=72,slow=7.6,SNR=4.8						
TORD	**Torodi Ar. Bea**	**147.06**	**283**	PKPbc	PKPdf	04 03 11.3	+0.7
	0.2nm,0.7s,baz=66,slow=3.0,SNR=1.6						

IDC 11 03:51:24.6±2.9, 6.82S×148.29E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.5/32, mbtmp3.7/4, ML3.6/1, MS3.8/2, Ms1 3.8/2, ms1mx3.1/31, Error ellipse: s-maj=63.1km s-min=44.1km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.80**	**225**	P	Pn	03 55 46.3	0.0
	0.2nm,0.3s,baz=50,slow=11,SNR=13						
WRA				LR	LR	04 02 49.3	
	comp=Z,127nm,18.2s,baz=250,slow=36						
ASAR	**Alice Springs**	**21.72**	**218**	P	P	03 56 18.0	+0.4
	1.6nm,0.7s,baz=51,slow=9.2,SNR=14						
FITZ	**Fitzroy Crossi**	**24.76**	**241**	P	P	03 56 48.4	+0.2
	5.4nm,0.8s,baz=57,slow=12,SNR=13						
STKA	**Stephens Creek**	**25.71**	**193**	P	P	03 56 56.3	-0.4
	0.5nm,0.2s,baz=19,slow=8.7,SNR=3.1						
MAW	**Mawson**	**81.99**	**203**	LR	LR	04 38 39.2	
	comp=Z,116nm,19.8s,baz=312,slow=35						
TORD	**Torodi Ar. Bea**	**146.53**	**283**	PKPbc	PKPdf	04 11 07.7	+0.1
	1.0nm,1.1s,baz=75,slow=3.5,SNR=4.1						

IDC 11 03:56:27.6±0.8, 56.02S×27.64W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/25, mbtmp4.0/5, Error ellipse: s-maj=30.4km s-min=25.2km az=24.0
ISCJB 11 03:56:40.3±0.8, 56.1S±0.1×27.6W±0.2, h112km, mb3.9/5, Error ellipse: s-maj=24.6km s-min=12.9km az=154.1
ISC 11 03:56:41.5±0.8, 56.1S±0.1×27.7W±0.2, h112km, n13, σ0.664/13, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.07**	**160**	P	**P**	**04 00 32.8**	**-0.1**
VNA2	**Neumayer--Watz**	**17.29**	**157**	P	**P**	**04 00 35.2**	**0.0**
	baz=319,slow=13						
SNAA	**Sanae**	**18.84**	**156**	P	**P**	**04 00 52.0**	**-0.3**
LVC	**Limon Verde**	**45.07**	**301**	P	**P**	**04 04 46.3**	**-0.2**
	1.0nm,0.3s,baz=81,slow=8.3,SNR=4.4						
BOSA	**Boshof**	**46.24**	**76**	P	**P**	**04 04 55.3**	**-0.1**
	2.0nm,0.8s,baz=117,slow=6.8,SNR=2.2						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**04 04 57.8**	**+0.7**
	1.7nm,0.7s,baz=187,slow=5.3,SNR=13						
LPAZ	**La Paz**	**50.16**	**306**	P	**P**	**04 05 26.7**	**+0.6**
	0.8nm,0.3s,baz=108,slow=6.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**73.20**	**30**	P	**P**	**04 08 00.8**	**+0.9**
	0.5nm,0.8s,baz=196,slow=6.3,SNR=6.3						
YKA	**Yellowknife Ar**	**135.99**	**318**	PKP	**PKPdf**	**04 15 47.3**	**-0.3**
	0.1nm,0.3s,baz=120,slow=3.1,SNR=4.3						
INK	**Inuvik**	**145.63**	**321**	PKPbc	**PKPbc**	**04 16 05.2**	**-0.1**
	0.9nm,0.5s,baz=117,slow=2.8,SNR=12						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPbc**	**04 16 16.7**	**-0.3**
	0.7nm,0.7s,baz=118,slow=2.5,SNR=8.4						
KDAK	**Kodiak Island**	**150.57**	**297**	PKPbc	**PKPbc**	**04 16 17.5**	**-1.2**
	6.9nm,0.7s,baz=302,slow=11,SNR=3.4						
SONM	**Songino Array**	**151.01**	**87**	PKPbc	**PKPbc**	**04 16 19.4**	**-0.9**
	0.5nm,0.4s,baz=217,slow=3.2,SNR=6.3						

ISCJB 11 04:09:07.5±0.8, 62.67S±0.09×148.3E±0.5, h10km, mb3.8/5, Error ellipse: s-maj=33.5km s-min=13.3km az=178.5
IDC 11 04:09:07.8±0.9, 62.63S×148.30E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/33, mbtmp4.0/6, ML4.4/1, Error ellipse: s-maj=47.7km s-min=19.4km az=90.0
ISC 11 04:09:09.0±0.9, 62.7S±0.1×148.4E±0.3, h10km, n15, σ0.989/10, mb3.9/5, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**15.53**	**169**	Pn	**Pn**	**04 12 46.5**	**-1.2**
	1.5nm,0.3s,baz=326,slow=12,SNR=67						
VNDA				Sn	Sn	04 15 25.2	-14
	0.1nm,0.3s,baz=249,slow=14,SNR=1.7						
RPZ	**Rata Peaks**	**23.11**	**45**	P	**P**	**04 14 14.7**	**-0.2**
	2.1nm,0.3s,baz=227,slow=19,SNR=3.1						
QSPA	**South Pole Qui**	**27.42**	**180**	P	**P**	**04 14 56.2**	**+1.6**
	1.0nm,0.7s,baz=353,slow=7.4,SNR=3.9						
H01W1	**Cape Leeuwin H**	**35.02**	**306**	T	T	04 52 04.4	
	baz=154,slow=76,SNR=9.6						
H01W2	**Cape Leeuwin H**	**35.03**	**306**	T	T	04 52 06.3	
	baz=154,slow=76,SNR=10						
H01W3	**Cape Leeuwin H**	**35.04**	**306**	T	T	04 52 02.2	
	baz=154,slow=76,SNR=11						
ASAR	**Alice Springs**	**40.19**	**339**	P	**P**	**04 16 45.0**	**-0.3**
	2.2nm,0.9s,baz=167,slow=9.9,SNR=6.1						
WRA	**Warramunga Arr**	**43.77**	**341**	P	**P**	**04 17 14.4**	**-0.2**
	1.5nm,0.7s,baz=169,slow=6.7,SNR=11						
SNAA	**Sanae**	**44.48**	**193**	P	**P**	**04 17 19.6**	**-0.2**
	2.8nm,0.7s,baz=180,slow=7.1,SNR=10						
H08S2	**Diego Garcia H**	**76.77**	**279**	T	T	05 43 59.0	
	baz=152						
H08S1	**Diego Garcia H**	**76.78**	**279**	T	T	05 44 03.4	
	baz=152						
H08S3	**Diego Garcia H**	**76.79**	**279**	T	T	05 44 00.0	
	baz=152						
TORD	**Torodi Ar. Bea**	**125.19**	**221**	PKP	**PKiKP**	**04 28 09.6**	**-0.3**
	0.4nm,1.1s,baz=170,slow=2.7,SNR=2.8						
YKA	**Yellowknife Ar**	**144.28**	**52**	PKP	**PKPdf**	**04 28 44.6**	**+1.2**
	0.1nm,0.6s,baz=234,slow=2.5,SNR=2.9						
ESDC	**Sonseca Array**	**151.60**	**229**	PKP	**PKPdf**	**04 28 56.2**	**-0.1**
	0.8nm,0.6s,baz=161,slow=1.8,SNR=2.9						
ESDC				PKPbc	**PKiKP**	**04 29 02.9**	**-0.1**
	0.1nm,0.3s,baz=163,slow=1.5,SNR=5.0						

ISCJB 11 04:15:27.0±0.6, 6.44S±0.07×129.9E±0.2, h10km, mb3.9/7, Error ellipse: s-maj=29.7km s-min=9.6km az=177.9
IDC 11 04:15:27.7±0.9, 6.43S×129.89E, h0km, mb4.0/7, mb1 4.1/11, mb1mx3.9/36, mbtmp4.0/11, ML3.9/4, Error ellipse: s-maj=45.0km s-min=18.4km az=82.0
ISC 11 04:15:27.9±0.7, 6.54S±0.06×130.0E±0.2, h10km, n11, σ3.949/14, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.78**	**13**	Pn	**Pn**	**04 16 52.0**	**-1.9**
	3.9nm,0.3s,baz=226,slow=22,SNR=6.7						
SIJI				Sn	**Sn**	**04 17 54.8**	**-5.5**
	1.3nm,0.3s,baz=207,slow=23,SNR=1.3						
FITZ	**Fitzroy Crossi**	**12.24**	**200**	Pn	**Pn**	**04 18 24.6**	**+2.1**
	0.4nm,0.3s,baz=36,slow=8.4,SNR=13						
FITZ				Sn	**Sn**	**04 20 33.4**	**-5.8**
	0.4nm,0.3s,baz=106,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**13.97**	**163**	Pn	**Pn**	**04 18 48.0**	**+1.9**
	0.7nm,0.3s,baz=338,slow=12,SNR=27						
WRA				Sn	Sn	04 21 13.5	-7.9
	0.1nm,0.3s,baz=338,slow=16,SNR=3.6						
ASAR	**Alice Springs**	**17.43**	**168**	P	**P**	**04 19 35.0**	**+2.3**
	0.4nm,0.3s,baz=349,slow=12,SNR=13						
ASAR				S	**Sn**	**04 22 39.2**	**-6.5**
	0.1nm,0.3s,baz=352,slow=30,SNR=3.5						
STKA	**Stephens Creek**	**27.43**	**158**	P	**P**	**04 21 16.5**	**+2.4**
	0.8nm,0.4s,baz=343,slow=11,SNR=3.9						
SONM	**Songino Array**	**58.01**	**341**	P	**P**	**04 25 21.7**	**+0.7**
	0.4nm,0.5s,baz=156,slow=7.9,SNR=4.1						
PETK	**Petropavlovsk-**	**63.90**	**18**	P	**P**	**04 26 01.7**	**+0.9**
	2.0nm,0.7s,baz=113,slow=1.9,SNR=4.3						
MKAR	**Makanchi Array**	**67.84**	**327**	P	**P**	**04 26 27.1**	**+0.6**
	1.2nm,0.5s,baz=123,slow=8.4,SNR=15						
ZALV	**Zalesovo Beam**	**71.17**	**334**	P	**P**	**04 26 46.6**	**-0.2**
	1.4nm,0.6s,baz=130,slow=4.6,SNR=7.6						
SEY	**Seymchan**	**71.36**	**11**	P	**P**	**04 26 49.6**	**+1.8**
	0.4nm,0.3s,baz=240,slow=6.3,SNR=9.1						
ILAR	**Eielson Array**	**92.94**	**25**	P	**P**	**04 28 41.9**	**+0.9**
	0.4nm,0.9s,baz=268,slow=4.8,SNR=4.2						

IDC 11 04:19:03.1±1.5, 5.52S×143.07E, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.9/27, mbtmp4.0/8, ML3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/37, Error ellipse: s-maj=43.0km s-min=26.4km az=96.0
ISCJB 11 04:19:07.0±1.1, 5.60S±0.07×142.8E±0.2, h33km, mb3.9/4, Error ellipse: s-maj=24.2km s-min=9.6km az=9.2
ISC 11 04:19:07.7±1.3, 5.73S±0.08×143.0E±0.2, h35km, n8, σ1.930/10, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**3.91**	**325**	Pn	**Pn**	**04 20 04.4**	**-0.9**
	6.2nm,0.3s,baz=166,slow=7.8,SNR=11						
JAY				Sn	**Sn**	**04 20 52.6**	**+2.6**
	baz=108,slow=19,SNR=1.8						
SIJI	**Sorong**	**12.63**	**292**	Pn	**Pn**	**04 22 03.6**	**-1.4**
	0.8nm,0.3s,baz=104,slow=9.9,SNR=4.1						
SIJI				Sn	Sn	04 24 08.4	-16
	0.8nm,0.3s,baz=143,slow=20,SNR=2.6						
SIJI				LR	LR	04 27 40.8	
	comp=Z,225nm,21.7s,baz=282,slow=41						
WRA	**Warramunga Arr**	**16.43**	**210**	Pn	**P**	**04 22 58.1**	**0.0**
	0.2nm,0.3s,baz=27,slow=13,SNR=2.7						
WRA				Sn	**Sn**	**04 25 57.1**	**+0.1**
	0.1nm,0.3s,baz=29,slow=23,SNR=3.5						
ASAR	**Alice Springs**	**19.85**	**205**	P	**Pn**	**04 23 39.0**	**+1.4**
	5.8nm,0.8s,baz=33,slow=10,SNR=15						
SONM	**Songino Array**	**62.28**	**333**	P	**P**	**04 29 26.9**	**+0.5**
	0.4nm,0.6s,baz=153,slow=6.9,SNR=3.0						
MKAR	**Makanchi Array**	**74.76**	**322**	P	**P**	**04 30 44.1**	**-0.2**
	0.6nm,0.6s,baz=114,slow=5.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**76.68**	**329**	P	**P**	**04 30 54.6**	**-0.4**
	0.6nm,0.6s,baz=126,slow=7.3,SNR=3.4						
ILAR	**Eielson Array**	**86.84**	**24**	P	**P**	**04 31 48.2**	**-0.1**
	1.4nm,0.7s,baz=253,slow=4.7,SNR=14						

SJA 11 04:26:30.1±0.5, 31.40S×65.04W, h32km±6km, ML2.3, MW3.5, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TCA	**Tanti**	**0.38**	**81**	*eP*	Pn	04 26 39.6	+0.2
TCA				*eS*	Sn	04 26 46.1	+0.4
TCA				IAML		04 26 47.1	
	comp=Z,97nm,0.2s						
MRA	**San Martin**	**1.17**	**209**	*eP*	Pb	04 26 52.1	+0.2
MRA				IAML		04 27 10.7	
	comp=Z,156nm,0.3s						
APLL	**PUNTA DE LOS L**	**1.63**	**308**	*eP*	Pb	04 26 58.7	-0.9
APLL				*eS*	Sb	04 27 19.5	-0.2
APLL				IAML		04 27 21.3	
	comp=Z,44nm,0.2s						
ACAN	**Cantantal**	**2.03**	**244**	*eP*	Pb	04 27 06.2	-0.2
ACLC	**CERRO LA CRUZ**	**2.57**	**319**	*eP*	Pn	04 27 12.4	+2.7
CFA	**Coronel Fontan**	**2.74**	**265**	*eP*	Pn	04 27 14.5	+2.6
CYA	**Choya**	**3.02**	**347**	*eP*	Pb	04 27 21.7	-1.5
ASAL	**Salagasta**	**3.44**	**249**	*eP*	Pn	04 27 23.0	+1.5
AGUA	**GUANDACOL**	**3.54**	**302**	*eP*	Pn	04 27 27.5	+4.6
AHML	**Horco Molle**	**4.61**	**357**	*eP*	Pn	04 27 41.1	+3.6

ISCJB 11 04:39:41.5±0.5, 30.91N±0.04×139.16E±0.09, h250km, mb3.3/14, Error ellipse: s-maj=10.3km s-min=6.0km az=178.3
IDC 11 04:39:41.5±1.3, 31.12N×139.31E, h235km±13km, mb3.1/14, mb1 3.2/19, mb1mx3.1/39, mbtmp3.7/19, Error ellipse: s-maj=19.5km s-min=11.3km az=77.0
JMA 11 04:39:45.1±0.6, 31.01N×139.48E, h248km, M3.9
ISC 11 04:39:42.2±0.7, 30.94N±0.06×139.3E±0.1, h250km, n24, σ1.994/29, mb3.3/14, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.22**	**11**	P	**Pn**	**04 40 23.6**	**-3.0**
	3.2nm,0.3s,baz=180,slow=20,SNR=1.7						
BSO1	**Boso 1**	**3.98**	**21**	P	**Pn**	**04 40 47.5**	**+2.4**
BSO1				*eS*	**S**	**04 41 37.0**	**+1.8**
BSO3	**Boso 3**	**4.00**	**15**	P	**Pn**	**04 40 47.8**	**+2.2**
BSO3				*eS*	**S**	**04 41 36.2**	**+0.2**
BSO4	**Boso 4**	**4.14**	**12**	P	**Pn**	**04 40 49.8**	**+2.3**
BSO4				*eS*	**S**	**04 41 40.4**	**+1.0**
JCJ	**Chichijima**	**4.60**	**146**	P	**Pn**	**04 40 53.4**	**+0.2**
	18nm,0.3s,baz=16,slow=20,SNR=14						
JCJ				S	**S**	**04 41 48.5**	**-1.2**
	20nm,0.3s,baz=299,slow=24,SNR=9.1						
JRY	**Ryogami san**	**5.08**	**357**	P	**Pn**	**04 41 02.3**	**+3.5**
JAG	**Ashikaga**	**5.48**	**2**	P	**Pn**	**04 41 03.7**	**0.0**
JAG				*eS*	**S**	**04 42 04.5**	**-4.4**
KSRS	**Korea Array**	**11.41**	**308**	P	**Pn**	**04 42 18.0**	**-0.4**
	0.3nm,0.3s,baz=119,slow=13,SNR=3.1						
USRK	**Ussuriysk Ar.**	**14.43**	**339**	P	**Pn**	**04 42 51.5**	**-3.9**
	0.2nm,0.3s,baz=145,slow=11,SNR=3.6						
KLR	**Kul'dur**	**19.14**	**345**	P	**P**	**04 43 46.7**	**-0.1**
	0.3nm,0.3s,baz=161,slow=11,SNR=5.3						
PETK	**Petropavlovsk-**	**25.90**	**26**	P	**P**	**04 44 50.2**	**-1.0**
	2.2nm,0.8s,baz=188,slow=8.7,SNR=2.8						
SONM	**Songino Array**	**30.20**	**313**	P	**P**	**04 45 27.5**	**-2.0**
	0.2nm,0.5s,baz=96,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**46.09**	**307**	P	**P**	**04 47 41.4**	**0.0**
	0.1nm,0.3s,baz=127,slow=4.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**48.55**	**312**	P	**P**	**04 48 00.7**	**+0.5**

baz=311
KERU Kerch 0.93 303 *e*Pg **Pb 04 57 41.2 +2.2**
KERU *e*Sg **Sb 04 57 57.0 +6.0**
KGUR Krasnodar 1.06 78 *e*Pg **Pb 04 57 43.1 +1.9**
KGUR *e*Sg **Sb 04 57 57.4 +2.6**
LZRR Lazarevskoye 1.57 123 *e*Pg **Pn 04 57 48.5 +1.5**
LZRR *e*Sg **Sb 04 58 09.6 +0.4**
SUDU Sudak 1.83 273⇓*e*Pn **Pn 04 57 51.0 +0.5**
baz=280
SUDU Pnm 04 57 52.3
baz=280
SUDU *e*Sn **Sn 04 58 14.2 +1.8**
baz=280
SUDU Snm 04 58 17.4
baz=280
SUDU Snm 04 58 19.5
baz=280
SUDU Sudak 1.83 273 *e*Pg **Pn 04 57 51.0 +0.5**
SUDU *e*Sg **Sn 04 58 14.2 +1.8**
SOC Sochi 1.98 128 *e*P **Pn 04 57 55.1 +2.6**
baz=124
SOC Sochi 1.98 128 *e*Pg **Pn 04 57 55.7 +3.2**
SOC *e*Sg **Sn 04 58 20.2 +4.1**
GUZR Guzeripl' 2.00 113 *e*Pg **Pn 04 57 54.2 +1.2**
GUZR *e*Sg **Sn 04 58 20.5 +3.6**
RPOR Krasnaya Polya 2.24 119 *e*Pn **Pb 04 58 00.0 -1.2**
RPOR *e*Sn **Sb 04 58 27.3 -1.2**
ERBR Yeremizino-Bor 2.25 65 *e*Pn **Pn 04 57 57.3 +1.0**
ERBR *e*Sn **Sn 04 58 25.0 +2.0**
ALU Alushta 2.26 268 *e*Pn **Pn 04 57 56.6 +0.2**
baz=273
ALU Pnm 04 57 57.7
baz=273
ALU *e*Sn **Sn 04 58 24.3 +1.2**
baz=273
ALU Snm 04 58 27.0
baz=273
ALU Snm 04 58 27.6
baz=273
ALU Alushta 2.26 268 *e*Pg **Pn 04 57 56.6 +0.2**
ALU *e*Sg **Sn 04 58 24.3 +1.2**
SIM Simferopol' 2.46 274 *e*Pn **Pn 04 58 00.1 +1.0**
baz=279
SIM Pnm 04 58 01.1
baz=279
SIM *e*Sn **Sn 04 58 30.0 +2.0**
baz=279
SIM Snm 04 58 31.2
baz=279
SIM Snm 04 58 32.1
baz=279
SIM Simferopol' 2.46 274 *e*Pn **Pn 04 58 00.1 +1.0**
SIM *e*Sn **Sn 04 58 30.0 +2.0**
YAL Yalta 2.46 264 *e*Pn **Pn 04 57 59.6 +0.5**
baz=269
YAL Pnm 04 58 00.5
baz=269
YAL *e*Sn **Sn 04 58 29.0 +1.0**
baz=269
YAL Snm 04 58 32.2
baz=269
YAL Snm 04 58 32.3
baz=269
YAL Yalta 2.46 264 *e*Pn **Pn 04 57 59.6 +0.5**
YAL *e*Sn **Sn 04 58 29.0 +1.0**
SEV Sevastopol' 2.79 266⇓*e*Pn **Pn 04 58 03.9 +0.2**
baz=270
SEV Pnm 04 58 04.5
baz=270
SEV *e*Sn **Sn 04 58 37.3 +1.0**
baz=270
SEV Snm 04 58 40.7
baz=270
SEV Snm 04 58 41.1
baz=270
SEV Sevastopol' 2.79 266 *e*Pn **Pn 04 58 03.9 +0.2**
SEV *e*Sn **Sn 04 58 37.3 +1.0**
NVNR Nevinnomyssk 3.14 92 *e*Pn **Pn 04 58 12.8 +4.2**
NVNR *e*Sn **Sn 04 58 48.6 +3.7**
SNOP Sinop 3.28 212 *e*P **Pn 04 58 11.9 +1.5**
SINO SINOP_Merkez 3.28 212 *i*P **Pn 04 58 13.4 +2.9**
SINO *i*S **Sn 04 58 48.5 +0.1**
SINO IAML_P
comp=Z,606nm,0.1s
DOMR Dombai 3.30 116 *e*Pn **Pn 04 58 13.2 +2.3**
DOMR *e*Sn **Sn 04 58 51.5 +2.5**
DIKM Dikmen 3.58 209 *e*P **Pn 04 58 16.9 +2.3**
DIKM *e*S **Sn 04 58 56.3 +0.5**
DIKM Dikmen 3.58 209⇓*i*P **Pn 04 58 17.2 +2.6**
SAMS Samsun-Alacam 3.59 197 *i*P **Pn 04 58 16.6 +1.8**
SAMS *i*S **Sn 04 58 58.7 +2.6**
SAMS IAML_P
comp=Z,112nm,0.1s
KIV Kislovodsk 3.77 101 *e*P **Pn 04 58 21.7 +4.4**
KIV Kislovodsk 3.77 101 *e*P **Pn 04 58 19.1 +1.8**
baz=98
KIV Kislovodsk 3.77 101 *e*Pn **Pn 04 58 19.4 +2.1**
KIV *e*Sn **Sn 04 59 01.3 +0.8**
KIV0 Kislovodsk Arr 3.78 101 *e*Pn **Pn 04 58 19.2 +1.8**
KIV0 *e*Sn **Sn 04 59 00.8 +0.1**
KVAR Kislovodsk Arr 3.78 101 Pn **Pn 04 58 20.5 +3.1**
baz=300,slow=16,SNR=5.8
KVAR Sn **Sn 04 59 01.6 +0.9**
baz=253,slow=19,SNR=3.9
SHA1 Shidzhatmaz 3.81 105 *e*Pn **Pn 04 58 19.8 +1.8**
SHA1 *e*Sn **Sn 04 59 03.9 +2.1**
BZK Bozkurt 3.86 224 *e*P **Pn 04 58 21.3 +2.9**
BZK Bozkurt 3.86 224⇑*i*P **Pn 04 58 21.5 +3.1**
BZK Bozkurt 3.86 224 S **Sn 04 59 03.6 +1.1**
KVT Kavak 3.89 197 *e*P **Pn 04 58 21.1 +2.1**
GOF Gofitskoye 3.90 84 *e*Pn **Pn 04 58 20.9 +2.0**
GOF *e*Sn **Sn 04 59 05.8 +2.2**
HAVZ Havza 3.98 201 *i*P **Pn 04 58 23.8 +3.7**
HAVZ *i*S **Sn 04 59 07.2 +1.6**
HAVZ IAML_P
comp=Z,2μm,0.2s
KBZ Khabaz 3.98 104 Pn **Pn 04 58 24.0 +3.9**
comp=Z,0.7nm,0.3s,baz=283,slow=7.9,SNR=22
KBZ Sn **Sn 04 59 10.9 +5.3**
comp=Z,2.5nm,0.3s,baz=350,slow=18,SNR=5.6
PYA1 Pyatigorsk 4.03 99 *e*Pn **Pn 04 58 22.4 +1.6**
PYA1 *e*Sn **Sn 04 59 09.4 +2.5**
NEY Neytrino 4.03 111 *e*Pn **Pn 04 58 24.7 +3.7**
NEY *e*Sn **Sn 04 59 09.1 +1.9**
KTUT Trabzon 4.15 156 *e*P **Pn 04 58 24.3 +1.9**
KTUT Trabzon 4.15 156⇑*i*P **Pn 04 58 21.8 -0.6**
ERBA Erbaa 4.17 189 *i*P **Pn 04 58 25.6 +2.8**
ERBA *i*S **Sn 04 59 10.2 -0.2**
ERBA IAML_P
comp=Z,1μm,0.2s
MACK Trabzon 4.19 157 *i*P **Pn 04 58 25.8 +2.8**
MACK IAML_P
comp=Z,2μm,0.1s
KBTC Kuba-Taba 4.31 101 *e*Pn **Pn 04 58 26.2 +1.6**
KBTC *e*Sn **Sn 04 59 15.6 +1.8**
KAGI orum-Kargı 4.31 213 *i*P **Pn 04 58 27.8 +3.0**
KAGI *i*S **Sn 04 59 16.4 +2.5**
KAGI IAML_P
comp=Z,920nm,0.3s
CHOM Cayeli-Rize 4.39 147 *e*P **Pn 04 58 28.4 +2.6**
RSDY Resadiye-TOKAT 4.42 182 *e*P **Pn 04 58 28.5 +2.4**
BCA Borcka 4.49 137 *e*P **Pn 04 58 30.2 +3.1**
BCA Borcka 4.49 137⇑*i*P **Pn 04 58 28.5 +1.4**
NCK Nalchik 4.54 105 *e*Pn **Pn 04 58 29.1 +1.4**
NCK *e*Sn **Sn 04 59 20.4 +1.1**
TOKT Tokat 4.55 190 *e*P **Pn 04 58 29.9 +1.9**
DBOC Borcka 4.59 138 *i*P **Pn 04 58 30.5 +2.1**
DBOC *i*S **Sn 04 59 19.1 -1.5**
DBOC IAML_P
comp=Z,279nm,0.1s
KURC Kurucasile-Bar 4.60 232 *e*P **Pn 04 58 31.1 +2.5**
SUSE Susehri 4.62 174 *i*P **Pn 04 58 32.7 +3.5**
SUSE IAML_P
comp=Z,422nm,0.2s
PELI Kastamonı-Ara 4.69 223 *i*P **Pn 04 58 34.0 +4.0**
PELI *i*S **Sn 04 59 25.2 +1.9**
PELI IAML_P
comp=Z,1μm,0.1s
ILGA Ilgaz 4.70 218 *i*P **Pn 04 58 34.4 +4.1**
ILGA IAML_P
comp=Z,800nm,0.3s
BAYT Aydıntepe-Bayb 4.81 156 *e*P **Pn 04 58 34.5 +2.9**
KELT Kelkit 4.83 164 *i*P **Pn 04 58 35.0 +3.1**
KELT IAML_P
comp=Z,144nm,0.1s
ARTV Artvin 4.83 137 *i*P **Pn 04 58 33.0 +1.0**
ARTV *i*S **Sn 04 59 26.6 -0.5**
ARTV IAML_P
comp=Z,574nm,0.2s
DBAD Bademkaya 4.86 140 *i*P **Pn 04 58 34.5 +2.2**
DBAD IAML_P
comp=Z,1μm,0.1s
DAGI Agillar 4.91 138 *i*P **Pn 04 58 34.9 +1.9**
DAGI *i*S **Sn 04 59 27.7 -1.0**
DAGI IAML_P
comp=Z,78nm,0.1s
SVSK Karacayir 4.91 185 *e*P **Pn 04 58 35.7 +2.8**
CUZAR Zara_SİVAS 4.92 178 *i*P **Pn 04 58 36.0 +2.8**
COAL Corum-Alaca 4.94 204 *i*P **Pn 04 58 36.9 +3.6**
COAL *i*S **Sn 04 59 30.8 +1.4**
COAL IAML_P
comp=Z,92nm,0.2s
BAYB BAYBURT 4.97 155 *i*P **Pn 04 58 37.5 +3.6**
BAYB *i*S **Sn 04 59 31.3 +1.1**
BAYB IAML_P
comp=Z,321nm,0.2s
DDEM Demirkent 4.98 140 *i*P **Pn 04 58 36.8 +2.8**
DDEM IAML_P
comp=Z,978nm,0.1s
KORR Kora 5.00 108 *e*Pn **Pn 04 58 33.8 -0.4**
BTIN Bartın 5.02 233 *i*P **Pn 04 58 36.9 +2.6**
BTIN IAML_P
comp=Z,1μm,0.2s
KBUK KARABUK-Merkez 5.09 227 *i*P **Pn 04 58 37.2 +1.9**
KBUK IAML_P
comp=Z,137nm,0.1s
KOPT Kop Dagi 5.26 155 *i*P **Pn 04 58 42.5 +4.5**
KOPT IAML_P
comp=Z,130nm,0.1s
CUSAR Sarkisla-SIVAS 5.48 191 *i*P **Pn 04 58 43.6 +2.7**
CUKAN kangal_SIVAS 5.49 181 *i*P **Pn 04 58 44.0 +3.0**
DELI KİRİKKALE 5.52 211 *i*P **Pn 04 58 44.4 +3.1**
DELI IAML_P
comp=Z,186nm,0.3s
BCAM Yenicaga 5.68 227 *i*P **Pn 04 58 47.0 +3.4**
BCAM IAML_P
comp=Z,125nm,0.2s
SIRC Yozgat 5.76 199 *i*P **Pn 04 58 47.3 +2.7**
SIRC IAML_P
comp=Z,229nm,0.3s
BRTR Keskin Array B 5.86 211 Pn **Pn 04 58 48.1 +2.0**
comp=Z,0.4nm,0.3s,baz=31,slow=12,SNR=20
BRTR Sn **Sn 04 59 52.8 +0.6**
comp=Z,0.5nm,0.3s,baz=20,slow=19,SNR=5.8
KIBS BOLU 6.08 226 *i*P **Pn 04 58 51.9 +2.8**
KIBS IAML_P
comp=Z,101nm,0.2s
TLCR 6.22 277⇑*i*P **Pn 04 58 51.2 +0.4**
TIRR Tirgusor 6.54 270⇑*i*P **Pn 04 58 51.8 -3.4**
GIUM Giurgiulesti 6.65 279⇑*i*P **Pn 04 58 57.5 +0.7**
CFR Carcaliu 6.70 276⇓*i*P **Pn 04 58 56.3 -1.1**
TLB Topalu 6.79 271⇑*i*P Pn 04 58 54.9 -3.8
ICOR Ion Corvin 7.02 268⇑*i*P Pn 04 58 49.5 -12
GNI Garni 7.06 129 *e*Pn **Pn 04 59 05.4 +2.9**
KLYT Kilyos 7.19 243⇓*i*P Sn 05 00 15.1 -9.4
TESR Tescani 7.83 286⇑*i*P **Pn 04 59 12.7 -0.3**
AKASG Malin Array Be 8.14 319 Pn **Pn 04 59 15.9 -1.2**
comp=Z,1.9nm,0.3s,baz=127,slow=11,SNR=10
AKASG Sn **Sn 05 00 39.5 -8.4**
comp=Z,2.0nm,0.3s,baz=129,slow=24,SNR=5.6
AKASG Lg Lg 05 01 33.3
comp=Z,1.4nm,0.3s,baz=129,slow=30,SNR=4.2
KIRK Kırklareli 8.21 252 *i*P **Pn 04 59 17.8 -0.4**
KIRK IAML_P
comp=Z,111nm,0.1s
MLR Muntele Rosu 8.24 279⇑*i*P **Pn 04 59 19.6 +0.9**
MLR Muntele Rosu 8.24 279 Pn **Pn 04 59 19.1 +0.4**
comp=Z,0.4nm,0.3s,baz=115,slow=7.8,SNR=5.5
MLR Sn **Sn 05 00 48.0 -2.7**
comp=Z,0.2nm,0.3s,baz=158,slow=19,SNR=2.6
VOIR 8.87 278⇑*i*P **Pn 04 59 27.7 +0.4**
BURAR Bucovina Array 9.01 292⇑*i*P **Pn 04 59 27.4 -1.8**
AKTO Aktyubinsk 14.87 61 ⇓Pn **Pn 05 00 46.4 -2.8**
comp=Z,1.0nm,0.7s
AKTO ⇓Sn Sn 05 03 18.1 -15
comp=Z,1.6nm,0.5s
AKTO Aktyubinsk 14.87 61 Pn **Pn 05 00 47.0 -2.1**
comp=Z,0.2nm,0.3s,baz=276,slow=6.0,SNR=3.6
AKTO Sn Sn 05 03 17.9 -15
comp=Z,0.3nm,0.3s,baz=257,slow=3.2,SNR=5.5
AB31 Akbulak array 15.87 66 ⇓Pn **Pn 05 00 59.1 -3.0**
comp=Z,0.6nm,0.5s,baz=266,slow=11,SNR=11
AB31 ⇑Sn Sn 05 03 45.7 -11
comp=Z,0.6nm,0.6s,baz=263,slow=21,SNR=3.3
GERES GERESS Array B 16.80 292 Pn **Pn 05 01 13.6 -0.4**
comp=Z,0.1nm,0.3s,baz=86,slow=15,SNR=3.0
FINES FINESS Array B 17.98 342 Pn **Pn 05 01 22.1 -6.4**
comp=Z,0.2nm,0.3s,baz=151,slow=12,SNR=8.9
DAVOX Davos/Dischmat 19.37 286 P **P 05 01 43.0 -1.3**
comp=Z,0.4nm,0.3s,baz=72,slow=13,SNR=7.1
HFS Hagfors 20.95 326 P **P 05 02 00.0 -1.2**
comp=Z,0.9nm,0.4s,baz=122,slow=11,SNR=5.8
NOA NORSAR Array B 22.48 326 P **P 05 02 16.5 -1.2**
comp=Z,0.2nm,0.5s,baz=112,slow=9.5,SNR=3.4
BVAR Borovoye Array 22.91 57 P **P 05 02 23.6 +1.3**
comp=Z,0.8nm,0.7s,baz=263,slow=10,SNR=3.0
ARCES ARCESS Array B 25.53 350 P **P 05 02 46.1 -0.5**
comp=Z,4.2nm,1.1s,baz=158,slow=8.5,SNR=6.4
KURBB Kurchatov Arra 27.89 63 P **P 05 03 09.0 +0.9**
comp=Z,0.2nm,0.4s,baz=273,slow=9.6,SNR=3.2
MKAR Makanchi Array 30.93 70 P **P 05 03 36.4 +1.4**
comp=Z,0.5nm,1.0s,baz=288,slow=1.4,SNR=3.2
TORD Torodi Ar. Bea 43.90 235 P **P 05 05 24.5 -0.4**
comp=Z,1.0nm,0.5s,baz=32,slow=9.3,SNR=22
YKA Yellowknife Ar 70.74 347 P **P 05 08 34.2 +0.5**
comp=Z,0.4nm,0.5s,baz=21,slow=6.3,SNR=12

*ISK **11** 05:07:16.9, 38°.77N×43°.35E, h19km, ML2.3/6*
*DDA **11** 05:07:17.8, 38°.77N×43°.35E, h7km±3km, ML2.7*
*ISCJB **11** 05:07:18.0±0.8, 38°.75N±0°.03×43°.38E±0°.06, h25km±7km, Error ellipse: s-maj=7.7km s-min=4.8km az=19.7*
ISC 11 05:07:17.7±1.6, 38°.77N±0°.04×43°.37E±0°.04, h20km±2km, n13, σ0°63/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**175**	PG	**Pb**	**05 07 23.1**	**-0.3**
VANB				SG	**Sb**	**05 07 27.7**	**+0.3**
TVAN	**Van**	**0.24**	**173**	*i* P	**Pb**	**05 07 23.9**	**+0.1**
TVAN				*i* S	**Sb**	**05 07 27.9**	**-0.2**
VMUR	**Van-Muradiye**	**0.27**	**35**	*i* P	**Pb**	**05 07 24.3**	**+0.1**
VMUR				*i* S	**Sb**	**05 07 29.4**	**+0.7**
ADCV	**BITLIS_Adilcev**	**0.51**	**275**	*i* P	**Pb**	**05 07 28.1**	**+0.1**
ADCV				*i* S	**Sb**	**05 07 35.5**	**+0.4**
ADCV				IAML_P			
comp=Z,861nm,0.1s							
GEVA	**Gevas**	**0.52**	**209**	*i* P	**Pb**	**05 07 27.9**	**-0.2**
GEVA				*i* S	**Sb**	**05 07 35.7**	**+0.4**
GEVA				IAML_P			
comp=Z,4μm,0.1s							
AKDM	**Akdamar-Van**	**0.53**	**215**	PG	**Pb**	**05 07 27.8**	**-0.7**
CLDR	**Caldiran**	**0.57**	**48**	PG	**Pb**	**05 07 28.8**	**-0.4**
CLDR				SG	**Sb**	**05 07 37.6**	**+0.6**
CLDR	**Caldiran**	**0.57**	**48**	*i* P	**Pb**	**05 07 29.6**	**+0.4**
MLAZ	**Malazgirt-MUS**	**0.74**	**301**	PG	**Pb**	**05 07 31.9**	**-0.1**
TUTA	**Tutak**	**0.77**	**326**	*i* P	**Pb**	**05 07 33.0**	**+0.5**
TUTA				*i* S	**Sn**	**05 07 43.7**	**-1.0**
AGRB	**Hanur-Agry**	**0.86**	**340**	PG	**Pb**	**05 07 33.8**	**-0.2**
AGRB				SG	**Sn**	**05 07 46.3**	**-0.6**
GURO	**Guroymak-BITLI**	**1.07**	**259**	PG	**Pb**	**05 07 37.1**	**-0.5**
SRTM	**Siirt_Merkez**	**1.38**	**236**	*i* P	**Pb**	**05 07 44.4**	**+1.6**
SRTM				IAML_P			
comp=Z,189nm,0.3s							

*NIED **11** 05:34:00, 31°.20N×130°.40E, h165km, Mw5.0 Best double couple: M0 3.08000×10^16 NP1:φs229.00000°, δ15.00000°, λ122.00000°. NP2:φs15.00000°, δ78.00000°, λ82.00000°.*
*BGR **11** 05:34:36.6±0.0, 30°.68N×132°.39E, h33km, mb5.7*
*BJI **11** 05:34:53.5, 30°.98N×130°.68E, h164km, mb4.9/64, mB5.0/39*
*MOS **11** 05:34:56.5±1.0, 31°.17N×130°.36E, h167km, mb5.0/50, Error ellipse: s-maj=7.3km s-min=4.1km az=112.2*
*ISCJB **11** 05:34:56.3±0.2, 31°.13N±0°.02×130°.43E±0°.02, h165km±1km, mb4.8/236, Error ellipse: s-maj=3.6km s-min=2.9km az=142.1*
*NEIC **11** 05:34:57.4±0.2, 31°.14N×130°.35E, mb4.7/130, Error ellipse: s-maj=4.5km s-min=3.5km az=129.0*
NEIC Recorded [3 JMA] in Kagoshima.
*IDC **11** 05:34:57.4±0.4, 31°.20N×130°.39E, h161km±3km, mb4.5/35, mb1 4.5/42, mb1mx4.5/51, mbtmp4.9/42, MS3.6/4, Ms1 3.6/4, ms1mx2.9/58, Error ellipse: s-maj=8.8km s-min=5.7km az=91.0*
*JMA **11** 05:34:58.2±0.1, 31°.15N×130°.40E, h154km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs4.00000°, δ79.00000°, λ44.00000°. NP2:φs264.00000°, δ47.00000°, λ165.00000°. Principal axes: T Plg38.0000°, Azm234.0000°; N Plg45.0000°, Azm16.0000°; P Plg20.0000°, Azm127.0000°;*
JMA Felt III J1.
*GCMT **11** 05:34:59.4±0.3, 31°.21N±0°.02×130°.40E±0°.02, h176km±3km, MW5.0/89, Moment Tensor Solution. s21,c21; s89,c129; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.38±.18; Mθθ-0.76±.20; Mφφ-0.61±.22; Mrθ 0.18±.12; Mθφ-0.90±.18; Mφr 4.30±.14; Best double couple: M0 4.52700×10^16 NP1:φs6.00000°, δ83.00000°, λ78.00000°. NP2:φs245.00000°, δ14.00000°, λ148.00000°. Principal axes: T 4.8280, Plg51.0000°, Azm263.0000°; N -0.5970, Plg12.0000°, Azm8.0000°; P -4.2260, Plg37.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 11 05:34:57.5±0.3, 31°.13N±0°.03×130°.35E±0°.03, h164km±2km, h165km:pP-P, n640, σ1922/769, mb4.9/245, 55C-38D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.39**	**13**	⇑P	**Pn**	**05 35 19.6**	**-0.4**
JSU				*e*S	**Sn**	**05 35 35.7**	**-1.7**
JTSR	**Tashiro 2**	**0.49**	**85**	⇑P	**Pn**	**05 35 19.8**	**-0.6**
JTSR				*e*S	**Sn**	**05 35 35.7**	**-2.3**
JTN	**Tanegashima 3**	**0.71**	**131**	⇑P	**Pn**	**05 35 21.3**	**-0.3**
JTN				*e*S	**Sn**	**05 35 39.0**	**-1.1**
JSJ	**Shimokoshiki**	**0.78**	**315**	⇓P	**Pn**	**05 35 21.3**	**-0.7**
JSJ				*e*S	**Sn**	**05 35 39.4**	**-1.5**
JMTN	**Minamitane**	**0.86**	**147**	⇑P	**Pn**	**05 35 22.3**	**-0.3**
JMTN				*e*S	**Sn**	**05 35 40.9**	**-1.0**
JYAK	**Yakushimahirau**	**0.90**	**171**	⇑P	**Pn**	**05 35 22.5**	**-0.3**
JYAK				*e*S	**Sn**	**05 35 40.5**	**-1.8**
JTZ	**Takazaki**	**1.00**	**39**	⇑P	**Pn**	**05 35 23.1**	**-0.4**
JTZ				*e*S	**Sn**	**05 35 41.1**	**-2.6**
JNN	**Nakanoshima**	**1.34**	**198**	⇑P	**Pn**	**05 35 26.8**	**+0.1**
JNN				*e*S	**Sn**	**05 35 49.0**	**-0.1**
JNU	**Nakatsue**	**2.04**	**12**	*e*Pn	**Pn**	**05 35 33.6**	**-0.3**
JNU				*e*Sn	**Sn**	**05 36 01.1**	**-1.1**
JNU	**Nakatsue**	**2.04**	**12**	P	**Pn**	**05 35 33.4**	**-0.6**
133nm,0.3s,baz=185,slow=5.1,SNR=567							
JNU				S	**Sn**	**05 35 59.4**	**-2.8**
160nm,0.3s,baz=135,slow=17,SNR=18							
JTAJ	**Takarajima**	**2.20**	**207**	P	**Pn**	**05 35 36.6**	**+0.8**
JOW	**Kunigami**	**4.65**	**204**	*e*Pn	**Pn**	**05 36 07.4**	**+0.8**
JOW				*e*Sn	**Sn**	**05 36 57.3**	**-3.3**
JOW	**Kunigami**	**4.65**	**204**	P	**Pn**	**05 36 07.0**	**+0.4**
4.0nm,0.3s,baz=97,slow=18,SNR=39							
JOW				S	**Sn**	**05 36 57.0**	**-3.6**
12nm,0.3s,baz=64,slow=29,SNR=16							
TJN	**Taejon**	**5.80**	**335**	*e*P	**Pn**	**05 36 22.4**	**+0.8**
KS15	**Wonju Array Si**	**6.62**	**343**	*e*Pn	**Pn**	**05 36 32.8**	**+0.4**
KSRS	**Korea Array**	**6.62**	**343**	P	**Pn**	**05 36 33.2**	**+0.7**
2.4nm,0.3s,baz=170,slow=14,SNR=133							
KS01	**Wonju Array Si**	**6.65**	**343**	*e*Pn	**Pn**	**05 36 33.2**	**+0.3**
INU	**Inuyama**	**6.99**	**51**	*e*Pn	**Pn**	**05 36 39.7**	**+2.3**
INU				*e*Sn	**Sn**	**05 37 55.2**	**-0.8**
JHJ	**Hachijo jima 2**	**8.24**	**74**	P	**Pn**	**05 36 54.6**	**+0.7**
37nm,0.3s,baz=102,slow=14,SNR=2.2							
JHJ				LR	LR	05 39 05.1	
comp=Z,325nm,21.2s,baz=308,slow=30							
JHJ2	**Mitsune**	**8.27**	**74**	*e*Pn	**Pn**	**05 36 58.5**	**+4.2**
MAJO	**Matsushiro**	**8.47**	**48**	*e*Pn	**Pn**	**05 36 58.3**	**+1.2**
MAJO				*e*Sn	**Sn**	**05 38 30.7**	**-0.8**
MAJO	**Matsushiro**	**8.47**	**48**	*i*P	**Pn**	**05 36 55.8**	**-1.3**
MAT	**Matsushiro**	**8.47**	**48**	P	**Pn**	**05 36 59.1**	**+2.0**
MAT				*e*S	**Sn**	**05 38 29.6**	**-2.0**
MJB9	**Matsu-Tunnel**	**8.47**	**48**	*e*Pn	**Pn**	**05 36 58.4**	**+1.4**
MJAR	**Matsushiro Arr**	**8.48**	**48**	P	**Pn**	**05 36 57.5**	**+0.4**
1.4nm,0.3s,baz=242,slow=14,SNR=45							
MJAR				S	**Sn**	**05 38 26.1**	**-5.5**
0.7nm,0.3s,baz=230,slow=15,SNR=5.4							
NJ2	**Nanjing**	**9.85**	**278**	*e*P	**Pn**	**05 37 16.7**	**+1.4**
NJ2				pmax	pmax		
comp=Z,19nm,0.6s							
NJ2				LR	LR		
comp=N,690nm,5.2s							
NJ2				LR	LR		
comp=E,590nm,6.5s							
NJ2				LR	LR		
comp=Z,430nm,9.2s							
YHNB	**Yeheng**	**10.21**	**233**	*e*Pn	**Pn**	**05 37 20.9**	**+0.7**
NACB	**Ninganchiao**	**10.40**	**230**	*e*Pn	**Pn**	**05 37 20.5**	**-2.0**
DL2	**Dalian**	**10.55**	**320**	*e*P	**Pn**	**05 37 24.3**	**-0.1**
DL2				*es*P	sP	05 38 04.7	
DL2				S	**S**	**05 39 24.4**	**+2.1**
DL2				pmax	pmax		
comp=Z,28nm,1.2s							
SSLB	**Suanglung**	**11.09**	**231**	*e*Pn	**Pn**	**05 37 29.8**	**-1.8**
CBIJ	**Chichi jima**	**11.10**	**108**	*e*Pn	**Pn**	**05 37 31.1**	**-0.5**
JCJ	**Chichijima**	**11.10**	**108**	P	**Pn**	**05 37 31.1**	**-0.5**
10.0nm,0.3s,baz=272,slow=3.5,SNR=13							
YULB	**Yu-li**	**11.14**	**228**	*e*Pn	**Pn**	**05 37 28.2**	**-4.0**
TIA	**Tai'an**	**12.13**	**298**	P	**Pn**	**05 37 47.1**	**+2.2**
TIA				pmax	pmax		
comp=Z,5.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**13.12**	**5**	P	**P**	**05 38 01.5**	**-0.1**
0.2nm,0.3s,baz=187,slow=22,SNR=5.2							
CN2	**Changchun**	**13.23**	**344**	⇑*i*P	**P**	**05 38 05.2**	**+2.2**
CN2				*es*P	sP	05 38 45.6	
CN2				*e*S	**Sn**	**05 40 28.7**	**+3.0**
CN2				pmax	pmax		
comp=Z,100nm,1.0s							
MDJ	**Mudanjiang**	**13.48**	**358**	P	**Pn**	**05 38 02.5**	**+0.4**
MDJ				pmax	pmax		
comp=Z,5.0nm,1.4s							
WHN	**Wuhan**	**13.77**	**272**	⇓P	**P**	**05 38 07.6**	**-1.4**
WHN				S	**Sn**	**05 40 35.3**	**-3.3**
WHN				LR	LR		
comp=Z,1μm,4.9s							
WHN				LR	LR		
comp=Z,970nm,3.5s							
WHN				LR	LR		
comp=Z,1μm,4.8s							
BJT	**Baijiatuan**	**14.54**	**311**	*e*Pn	**Pn**	**05 38 13.5**	**-2.0**
BJT	**Baijiatuan**	**14.54**	**311**	*e*P	**Pn**	**05 38 13.5**	**-2.0**
BJI	**Beijing**	**14.55**	**312**	P	**P**	**05 38 17.4**	**-0.2**
BJI				S	**Sn**	**05 40 56.5**	**-0.8**
BJI				pmax	pmax		
comp=Z,170nm,1.0s							
ASAJ	**Asahikawa**	**16.17**	**33**	P	**Pn**	**05 38 33.5**	**-1.9**
comp=Z,1.5nm,0.3s,baz=215,slow=9.2,SNR=6.3							
TIY	**Taiyuan**	**16.17**	**299**	*e*P	**P**	**05 38 37.5**	**+1.9**
TIY				S	**S**	**05 41 32.4**	**-2.4**
TIY				ScS	**ScS**	**05 50 17.0**	**-1.1**
TIY				pmax	pmax		
comp=Z,98nm,1.1s							
TIY				LR	LR		
comp=Z,390nm,7.8s							
TIY				LR	LR		
comp=Z,210nm,4.6s							
TIY				LR	LR		
comp=Z,180nm,14.3s							
GZH	**Guangzhou**	**17.12**	**246**	P	**P**	**05 38 42.0**	**-4.1**
MCO	**Taipa Grande**	**17.47**	**243**	P	**Pn**	**05 38 51.0**	**-0.3**
ENH	**Enshi**	**17.97**	**273**	*e*P	**Pn**	**05 38 57.8**	**+0.7**
comp=Z,913nm,0.6s							
HHC	**Hu-ho-hao-te**	**18.01**	**308**	*e*P	**Pn**	**05 38 57.8**	**+0.3**
HHC				sP	sP	05 39 46.1	+1.7
HHC				S	**S**	**05 42 10.1**	**-3.7**
HHC				pmax	pmax		
comp=Z,69nm,1.2s							
HHC				pmax	pmax		
comp=Z,300nm,6.9s							
KLR	**Kul'dur**	**18.11**	**3**	*i*P	**P**	**05 38 55.8**	**-1.0**
KLR	**Kul'dur**	**18.11**	**3**	P	**P**	**05 38 57.1**	**+0.3**
comp=Z,1.3nm,0.3s,baz=190,slow=7.8,SNR=38							

XAN **Xi'an** 18.29 285 P **P** 05 38 59.7 +0.8
XAN pP pP 05 39 22.4 -4.4
XAN sP sP 05 39 47.9 +0.3
XAN S **S** **05 42 19.5 0.0**
XAN pmax pmax
comp=Z,110nm,1.5s
XAN LR LR
comp=Z,210nm,9.3s
XAN LR LR
comp=Z,280nm,10.3s
XAN LR LR
comp=Z,390nm,17.3s
XAN **Xi'an** **18.29 285** *eP* **Pn** **05 39 00.6 -0.3**
comp=Z,95nm,0.9s
XAN **Xi'an** **18.29 285** *eP* **Pn** **05 39 00.6 -0.3**
XAN pmax pmax
comp=Z,95nm,0.9s
YSS **Yuzh-Sakhalins** **18.47 28** *eP* **Pn** **05 39 08.0 +5.2**
YSS *e* 05 42 14.0
YSS MLR MLR
comp=Z,200nm,14.0s
TGY **Tagaytay City** **19.02 209** P **Pn** **05 39 08.7 -0.9**
comp=Z,12nm,0.3s,baz=360,slow=22,SNR=3.6
KUR **Kuril'sk** **19.64 39***ceP* **P** **05 39 14.2 +0.9**
HIA **Hailar** **19.81 339** *eP* **P** **05 39 13.8 -1.4**
comp=Z,17nm,1.0s
HIA **Hailar** **19.81 339** *i* P **Pn** **05 39 17.1 -1.5**
HIA pmax pmax
comp=Z,13nm,1.1s
GRNR **Gornyy** **20.14 11** *eP* Pn 05 39 22.0 -0.4
GRNR pmax pmax
comp=Z,42nm,1.0s
GYA **Guiyang** **21.26 263**⇑ *i*P **P** **05 39 31.1 +0.1**
GYA PP **pP** **05 40 03.2 +3.6**
GYA sP sP 05 40 23.4 +3.3
GYA S **S** **05 43 11.8 -5.8**
GYA SS **SnSn** **05 44 00.8 +3.2**
GYA ScP **ScP** **05 46 51.0 +0.4**
GYA pmax pmax
comp=Z,100nm,0.7s
GYA pmax pmax
comp=Z,160nm,4.9s
GUMO **Guam** **21.98 139** P **P** **05 39 39.3 +1.0**
comp=Z,61nm,0.6s,baz=160,slow=8.6,SNR=4.9
LZH **Lanzhou** **22.60 290**⇑ P **P** **05 39 45.2 +0.8**
LZH pP pP 05 40 17.0 +2.8
LZH PP **PnPn** **05 40 21.9 +3.0**
LZH sP sP 05 40 37.0 +2.4
LZH S **S** **05 43 35.8 -3.8**
LZH SS **SnSn** **05 44 32.7 +3.1**
LZH pmax pmax
comp=Z,850nm,4.1s
ZEA **Zeya** **22.71 355** *eP* **P** **05 39 43.4 -1.6**
ZEA *e**PP **pP** **05 40 17.9 +2.8**
ZEA *e*S Sn 05 44 37.5 +26
ZEA pmax pmax
comp=N,64nm,1.8s
ZEA pmax pmax
comp=Z,80nm,1.8s
ZEA smax smax
comp=E,800nm,13.0s
CD2 **Chengdu** **22.78 276**⇑ P **P** **05 39 45.1 -0.9**
CD2 pP pP 05 40 16.2 +0.1
CD2 PP sP 05 40 19.5 -17
CD2 sP PP 05 40 35.7 -5.6
CD2 S **S** **05 43 46.5 +4.0**
CD2 SS **SnSn** **05 44 38.3 +4.3**
CD2 pmax pmax
comp=E,880nm,5.7s
NKL **Nikolayevsk** **23.25 16** *i* P **P** **05 39 51.0 +1.0**
NKL pmax pmax
comp=Z,65nm,1.0s
KCP **Kidapawan** **24.49 193**‖ *eP* **P** **05 40 02.4 +0.7**
SONA0 **Songino Array** **24.76 319** *eP* **P** **05 40 04.0 +0.1**
SONA0 *ep*P **pP** **05 40 38.3 +1.2**
SONA0 *e*PcP **PcP** **05 43 36.4 +0.3**
SONA0 *e*ScP **ScP** **05 46 59.4 0.0**
SONM **Songino Array** **24.76 319** P **P** **05 40 04.0 +0.1**
comp=Z,14nm,0.7s,baz=140,slow=9.9,SNR=72
SONM pP **pP** **05 40 38.3 +1.2**
comp=Z,8.6nm,0.9s,baz=134,slow=9.3,SNR=4.1
SONM PcP **PcP** **05 43 36.4 +0.4**
comp=Z,1.5nm,0.9s,baz=130,slow=3.0,SNR=3.8
SONM ScP **ScP** **05 46 59.4 0.0**
comp=Z,2.4nm,0.9s,baz=128,slow=2.8,SNR=10
KMI **Kunming** **25.04 263** P **P** **05 40 08.8 +2.0**
KMI pP pP 05 40 42.0 +1.7
KMI sP sP 05 41 01.7 +2.4
KMI pmax pmax
comp=Z,50nm,0.8s
GTA **Gaotai** **26.18 297**⇑ P **P** **05 40 16.9 +0.1**
GTA pP pP 05 40 53.4 +3.0
GTA sP sP 05 41 09.9 +0.5
GTA PcP **PcP** **05 43 40.3 +0.9**
GTA ScP **ScP** **05 47 04.0 +0.3**
GTA ScS **ScS** **05 50 49.8 -4.1**
GTA pmax pmax
comp=Z,30nm,1.0s
GTA pmax pmax
comp=Z,130nm,4.2s
GTA LR LR
comp=Z,130nm,13.7s
GTA LR LR
comp=Z,210nm,12.4s
GTA LR LR
comp=Z,160nm,11.7s
SKNT **Sakolnakorn** **27.81 246** P **P** **05 40 32.1 +0.7**
comp=Z,31nm,0.9s
ZAK **Zakamensk** **27.87 321** *eP* **P** **05 40 30.4 -1.3**
ZAK *e* 05 41 05.3
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ZAK pmax pmax
comp=Z,5.0nm,1.2s
TLY **Talaya** **28.42 324***ceP* **P** **05 40 38.8 +2.3**
TLY pmax pmax
comp=Z,11nm,0.6s
CHAI **Chaiyaphum** **29.99 246** P **P** **05 40 51.1 +0.4**
comp=Z,49nm,0.8s,comp=Z,421nm
UTTA **Uttaradit** **30.11 251** P **P** **05 40 52.6 +0.8**
comp=Z,36nm,0.8s,comp=Z,254nm
PBKT **Sadao Pong** **30.41 248** *eP* **P** **05 40 55.8 +1.4**
PBKT **Sadao Pong** **30.41 248** P **P** **05 40 55.2 +0.8**
comp=Z,63nm,1.0s,comp=Z,2µm
LAMP **Lampang** **30.47 253** P **P** **05 40 56.2 +1.3**
comp=Z,22nm,0.8s,comp=Z,188nm
CMMT **Chiang Mai** **30.89 254** P **P** **05 40 59.5 +0.9**
comp=Z,59nm,1.0s
CHTO **Chiang Mai** **30.89 254** *eP* **P** **05 40 59.1 +0.5**
comp=Z,39nm,0.8s
CHTO **Chiang Mai** **30.89 254** *eP* **P** **05 40 59.1 +0.5**
CHTO pmax pmax
comp=Z,39nm,0.8s
CHTO **Chiang Mai** **30.89 254** P **P** **05 40 59.5 +0.9**
comp=Z,262nm,1.0s
SUKH **Sukhothai** **31.00 251** P **P** **05 41 01.0 +1.4**
comp=Z,14nm,0.8s
CM31 **Chiang Mai Arr** **31.07 253** P **P** **05 41 01.2 +1.0**
SNR=7.7
CMAR **Chiang Mai Arr** **31.07 253** *i* P **P** **05 41 01.5 +1.3**
CMAR pmax pmax
comp=Z,13nm,0.6s
CMAR **Chiang Mai Arr** **31.07 253** P **P** **05 41 01.7 +1.5**
comp=Z,13nm,0.6s,baz=49,slow=7.8,SNR=54
CMAR PcP **PcP** **05 43 53.2 +1.4**
comp=Z,5.3nm,0.9s,baz=30,slow=1.4,SNR=12
CMAR ScP **ScP** **05 47 21.4 +2.2**
comp=Z,0.6nm,0.4s,baz=30,slow=2.8,SNR=4.9
SRAK **Srakaew** **31.07 243** P **P** **05 40 57.3 -2.9**
comp=Z,245nm,0.8s,comp=Z,2µm
MA2 **Magadan** **31.59 20***ceP* **P** **05 41 04.4 +0.1**
MA2 pmax pmax
comp=Z,11nm,0.9s
UMPA **Umpang Tak** **32.30 250** P **P** **05 41 13.7 +2.6**
comp=Z,27nm,0.9s
SBUM **Sibu** **33.27 215** *eP* **P** **05 41 20.4 +1.0**
comp=Z,7.7nm,0.6s
SBUM **Sibu** **33.27 215** P **P** **05 41 21.0 +1.6**
PHET **Kaeng Krachan** **33.59 244** P **P** **05 41 23.9 +1.7**
comp=Z,17nm,0.8s,comp=Z,136nm
H11N2 **WAKE ISLAND Hy** **34.75 100** T T 06 17 59.4
baz=296,slow=75,SNR=21
H11N1 **WAKE ISLAND Hy** **34.75 100** T T 06 18 01.8
baz=296,slow=75,SNR=13
H11N3 **WAKE ISLAND Hy** **34.77 100** T T 06 18 00.6
baz=296,slow=75,SNR=18
SEY **Seymchan** **34.81 17***ceP* **P** **05 41 33.2 +1.1**
SEY **Seymchan** **34.81 17** P **P** **05 41 33.0 +0.9**
comp=Z,11nm,0.9s,baz=230,slow=6.1,SNR=20
KSM **Kuching** **35.07 217** *eP* **P** **05 41 36.4 +1.5**
comp=Z,18nm,0.7s
KSM **Kuching** **35.07 217** P **P** **05 41 36.9 +2.0**
H11S3 **WAKE ISLAND Hy** **35.14 102** T T 06 18 41.6
baz=303
H11S1 **WAKE ISLAND Hy** **35.14 102** T T 06 18 55.8
baz=303
H11S2 **WAKE ISLAND Hy** **35.15 102** T T 06 18 58.2
baz=303
WMQ **Urumqi** **35.77 303** *eP* **P** **05 41 40.6 -0.1**
WMQ pP pP 05 42 15.6 +0.1
WMQ sP sP 05 42 33.2 -1.0
WMQ PP **PnPn** **05 43 12.0 +5.5**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ pmax pmax
comp=Z,360nm,3.7s
WMQ LR LR
comp=Z,89nm,24.7s
WMQ LR LR
comp=Z,190nm,25.9s
WMQ LR LR
comp=Z,210nm,32.7s
WMQ **Urumqi** **35.77 303** *eP* **P** **05 41 40.7 0.0**
comp=Z,28nm,1.1s
WMQ **Urumqi** **35.77 303** *eP* **P** **05 41 40.7 0.0**
WMQ pmax pmax
comp=Z,28nm,1.1s
KTGM **Kuala Trenggan** **36.22 230** P **P** **05 41 47.4 +2.7**
TRTT **Trang** **36.82 237** P **P** **05 41 51.3 +1.5**
comp=Z,20nm,1.3s
ODAN **Odare** **37.65 275** *eP* **P** **05 41 57.5 +0.5**
comp=Z,47nm,0.6s
PKDT **Phuket** **37.77 239** P **P** **05 41 59.6 +1.8**
comp=Z,48nm,1.0s,comp=Z,645nm
KULM **Kulim** **37.92 233** *eP* **P** **05 42 00.9 +1.8**
comp=Z,45nm,0.7s
KULM **Kulim** **37.92 233** P **P** **05 42 01.2 +2.1**
IPM **Ipoh** **38.25 232** *eP* **P** **05 42 02.4 +0.5**
comp=Z,141nm,1.0s
RAMN **Ramite** **38.30 275** *eP* **P** **05 42 03.0 +0.5**
comp=Z,30nm,0.6s
JIRN **Jiri** **38.45 276** *eP* **P** **05 42 05.0 +1.2**
comp=Z,53nm,0.6s
MYKOM **Kota Tinggi** **38.46 226** *eP* **P** **05 42 05.8 +2.3**
comp=Z,14nm,0.8s
KGM **Kluang** **38.61 227** P **P** **05 42 07.1 +2.2**
GUN **Gumba** **38.64 277** *eP* **P** **05 42 05.7 +0.3**
comp=Z,154nm,0.5s
FRIM **Kepong** **38.77 230** P **P** **05 42 08.3 +2.1**
PKI **Pulchoki** **39.14 277** *eP* **P** **05 42 09.4 -0.1**
comp=Z,34nm,0.7s
PKIN **Phulchoki** **39.15 277** *eP* **P** **05 42 09.4 -0.1**
comp=Z,28nm,0.7s
KKN **Kakni** **39.19 277** *eP* **P** **05 42 10.5 +0.7**
comp=Z,38nm,0.5s
DMN **Daman** **39.38 277** *eP* **P** **05 42 12.6 +1.1**
comp=Z,19nm,0.6s
ZAA0 **Zalesovo Array** **39.65 319** *eP* **P** **05 42 12.5 -0.5**
comp=Z,11nm,1.1s
ZAA0 *ep*P **pP** **05 42 48.2 -0.1**
ZALV **Zalesovo Beam** **39.65 319** *eP* **P** **05 42 11.9 -1.0**
ZALV *ep*P **pP** **05 42 49.0 +0.7**
ZALV **Zalesovo Beam** **39.65 319** *eP* **P** **05 42 12.0 -1.0**
ZALV *e**PP **pP** **05 42 49.0 +0.7**
ZALV **Zalesovo Beam** **39.65 319** P **P** **05 42 12.4 -0.6**
comp=Z,6.9nm,0.8s,baz=99,slow=7.7,SNR=23
ZALV pP **pP** **05 42 48.8 +0.4**
comp=Z,5.0nm,0.9s,baz=100,slow=6.2,SNR=3.4
ZALV PcP **PcP** **05 44 16.3 -0.2**
comp=Z,8.9nm,0.8s,baz=88,slow=4.0,SNR=8.5
ZALV ScP **ScP** **05 47 48.0 -1.8**
comp=Z,4.0nm,0.7s,baz=113,slow=3.9,SNR=13
ZAA1 **Zalesovo Array** **39.65 319** *eP* **P** **05 42 12.4 -0.6**
ZAA1 *ep*P **pP** **05 42 48.8 +0.4**
ZAA1 *e*PcP **PcP** **05 44 16.3 -0.2**
ZAA1 *e*ScP **ScP** **05 47 48.0 -1.8**
GKN **Gorkha** **39.67 277** *eP* **P** **05 42 14.6 +0.8**
comp=Z,20nm,0.6s
MK01 **Makanchi Array** **39.86 307** *eP* **P** **05 42 14.7 -0.2**
MK01 *ep*P **pP** **05 42 49.6 -0.7**
MK31 **Makanchi Array** **39.87 307** *eP* **P** **05 42 14.8 -0.1**
comp=Z,7.2nm,0.9s
MK31 *ep*P **pP** **05 42 50.0 -0.3**
MK31 **Makanchi Array** **39.87 307** *i* P **P** **05 42 14.7 -0.3**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK32 **Makanchi Array** **39.87 307** *eP* **P** **05 42 14.9 -0.1**
MK32 *ep*P **pP** **05 42 50.1 -0.2**
MK32 *e*PP **PnPn** **05 43 53.6 -1.3**
MK32 *e*PcP **PcP** **05 44 17.3 -0.1**
MK32 *e*ScP **ScP** **05 47 50.1 -0.7**
MKAR **Makanchi Array** **39.87 307** P **P** **05 42 14.9 -0.1**
comp=Z,7.0nm,0.8s,baz=95,slow=10,SNR=67
MKAR pP **pP** **05 42 50.1 -0.2**
comp=Z,2.7nm,0.8s,baz=113,slow=8.0,SNR=2.2
MKAR PP **PnPn** **05 43 53.6 -1.3**
comp=Z,4.5nm,1.1s,baz=92,slow=8.5,SNR=4.2
MKAR PcP **PcP** **05 44 17.3 -0.1**
comp=Z,2.5nm,0.6s,baz=73,slow=4.1,SNR=6.4
MKAR ScP **ScP** **05 47 50.1 -0.7**
comp=Z,5.6nm,0.8s,baz=86,slow=5.7,SNR=26
MAKZ **Makanchi** **40.09 307** *eP* **P** **05 42 16.6 -0.1**
comp=Z,6.0nm,0.8s
MAKZ **Makanchi** **40.09 307** *eP* **P** **05 42 16.6 -0.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
MMRI **Maumere** **40.29 192** *eP* **P** **05 42 17.9 -0.8**
comp=Z,65nm,1.1s
MMRI *ep*P **pP** **05 42 54.4 +0.2**
DANN **Dangsing** **40.33 278** *eP* **P** **05 42 19.3 0.0**
comp=Z,54nm,0.6s
LHMI **Lhok Sumawe** **40.58 237** *eP* **P** **05 42 22.8 +1.6**
comp=Z,99nm,0.7s
TIXI **Tiksi** **40.59 359** *eP* **P** **05 42 18.9 -1.6**
comp=Z,19nm,0.7s
TIXI **Tiksi** **40.59 359***ceP* **P** **05 42 19.6 -0.8**
TIXI pmax pmax
comp=Z,15nm,0.6s
KOLN **Koldanda** **40.62 278** *eP* **P** **05 42 21.5 -0.1**
comp=Z,27nm,0.6s
PSI **Prapat** **40.90 233** *eP* **P** **05 42 24.9 +1.0**
comp=Z,56nm,0.9s
PSI *ep*P **pP** **05 42 59.5 +0.1**
PSI **Prapat** **40.90 233** P **P** **05 42 24.8 +0.9**
comp=Z,49nm,0.8s,baz=360,slow=6.4,SNR=65
PSI pP **pP** **05 43 00.3 +0.9**
comp=Z,3.2nm,0.5s,baz=360,slow=11,SNR=1.0
PSI PcP **PcP** **05 44 22.1 +0.7**
comp=Z,4.3nm,0.7s,baz=0.0,slow=6.1,SNR=3.6
PSI LR LR 06 00 29.3
comp=Z,61nm,18.4s,baz=268,slow=37
PYUN **Piuthan** **41.05 278** *eP* **P** **05 42 25.3 +0.2**
comp=Z,47nm,0.7s
BKNI **Bangkinang** **41.35 228** *eP* **P** **05 42 28.8 +1.4**
comp=Z,102nm,1.0s
BATI **Baumata** **41.59 190** P **P** **05 42 28.6 -0.7**
comp=Z,52nm,0.6s,baz=308,slow=3.7,SNR=5.8
BILL **Bilibino** **42.45 19** *eP* **P** **05 42 36.0 +0.3**
comp=Z,12nm,1.0s
BILL **Bilibino** **42.45 19**‖ *eP* **P** **05 42 36.3 +0.6**
BILL *e**PP **pP** **05 43 10.1 -1.7**
BILL *e* 05 44 24.7
BILL pmax pmax
comp=Z,20nm,1.7s
PRZ **Przheval'sk** **42.52 300** *eP* **P** **05 42 38.1 +1.3**
comp=Z,17nm,0.6s
KURK **Kurchatov** **42.72 313** *eP* **P** **05 42 37.8 -0.3**
comp=Z,24nm,0.8s
KURK **Kurchatov** **42.72 313***ceP* **P** **05 42 37.6 -0.5**
KURK pmax pmax
comp=Z,28nm,0.9s
KURK **Kurchatov** **42.72 313** P **P** **05 42 37.9 -0.3**
SNR=11
GSI **Gunungsitoli** **42.91 233** *eP* **P** **05 42 40.4 +0.3**
comp=Z,147nm,1.1s
TARG **Taragay, Kyrgy** **42.99 299** *eP* **P** **05 42 41.6 +0.6**
comp=Z,16nm,0.9s
KDJ **Kajisay** **43.44 300** *eP* **P** **05 42 45.7 +1.5**
comp=Z,4.6nm,0.7s
KDJ **Kajisay** **43.44 300** *eP* **P** **05 42 45.7 +1.5**
KDJ pmax pmax
comp=Z,5.0nm,0.7s
ULHL **Ulahol** **44.13 300** P **P** **05 42 50.7 +0.9**
SNR=7.3
NRN **Naryn** **44.37 299** *eP* **P** **05 42 52.3 +0.5**
comp=Z,11nm,1.0s
NRN **Naryn** **44.37 299** *eP* **P** **05 42 52.3 +0.5**
NRN pmax pmax
comp=Z,11nm,1.0s
TKM2 **Tokmak 2** **44.56 301** P **P** **05 42 54.0 +0.8**
SNR=28
KSH **Kashi** **44.58 296** P **P** **05 42 57.1 +3.8**
KSH pP pP 05 43 32.7 +3.4
KSH PcP **PP** **05 44 37.1 -3.4**
KSH S **S** **05 49 19.7 +3.0**
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,150nm,6.0s
KSH LR LR
comp=Z,120nm,13.1s
KSH LR LR
comp=Z,90nm,8.7s
KZA **Kyzart** **44.87 300** P **P** **05 42 57.8 +1.9**
SNR=6.6
KBK **Karagaybulak** **45.05 301** P **P** **05 42 58.0 +1.0**
SNR=6.3
NRIK **Noril'sk** **45.23 340** P **P** **05 42 57.1 -0.7**
comp=Z,19nm,0.8s,baz=120,slow=7.2,SNR=17
NRIK ScP **ScP** **05 48 11.6 -0.4**
comp=Z,1.4nm,0.3s,baz=114,slow=3.5,SNR=4.4
USP **Ospenovka** **45.34 302** P **P** **05 42 59.7 +0.6**
SNR=6.7
AAK **Ala-Archa** **45.39 301** P **P** **05 43 00.3 +0.6**
SNR=6.0
AAK **Ala-Archa** **45.39 301** *eP* **P** **05 42 59.2 -0.4**
comp=Z,4.9nm,0.8s
AAK **Ala-Archa** **45.39 301** *i* P **P** **05 43 00.3 +0.6**
SNR=7.7
AAK **Ala-Archa** **45.39 301***ceP* **P** **05 42 59.9 +0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
UCH **Uchtor** **45.41 300** P **P** **05 43 01.3 +1.1**
SNR=33
EKS2 **Erkin-Say** **45.91 301** P **P** **05 43 04.6 +0.9**
SNR=5.4
AML **Almayashu** **46.02 300** P **P** **05 43 06.5 +1.5**
SNR=8.2
ARSB **Arslanbob** **46.64 299** *eP* **P** **05 43 09.8 +0.3**
comp=Z,9.0nm,0.9s
OTUK **Ortayu** **46.67 309** P **P** **05 43 09.5 +0.1**
OTUK pmax pmax
comp=Z,14nm,0.7s
BVA0 **Borovoye Array** **47.99 315** *i* P **P** **05 43 19.2 -0.4**
BVA0 pmax pmax
comp=Z,12nm,0.7s
BRVK **Borovoye** **48.06 315** *eP* **P** **05 43 20.3 +0.3**
comp=Z,22nm,0.6s
BRVK **Borovoye** **48.06 315** *i* P **P** **05 43 20.0 0.0**
BRVK pmax pmax
comp=Z,17nm,0.6s
BRVK **Borovoye** **48.06 315** P **P** **05 43 20.2 +0.1**
SNR=6.6
KK31 **Karatay Array** **48.26 302** *eP* **P** **05 43 22.1 +0.4**
comp=Z,8.7nm,0.8s
KK31 **Karatay Array** **48.26 302** *i* P **P** **05 43 21.8 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KKAR **Karatay Array** **48.26 302** *eP* **P** **05 43 22.2 +0.4**
comp=Z,8.7nm,0.8s
KKAR **Karatay Array** **48.26 302** *eP* **P** **05 43 22.2 +0.4**
KKAR pmax pmax
comp=Z,9.0nm,0.8s
HYB **Hyderabad** **48.75 266** *i* P **P** **05 43 27.0 +1.1**
GAR **Garm** **48.99 297** *eP* **P** **05 43 27.2 -0.4**
comp=Z,27nm,0.7s
GAR **Garm** **48.99 297** *eP* **P** **05 43 27.2 -0.4**
GAR pmax pmax
comp=Z,27nm,0.7s
FITZ **Fitzroy Crossi** **49.15 186** P **P** **05 43 29.5 +0.9**
comp=Z,14nm,0.6s,baz=13,slow=6.9,SNR=38
CHGR **Chuyangaron** **49.95 296** *eP* **P** **05 43 36.4 +1.7**
comp=Z,63nm,0.8s
WRAB **Tennant Creek** **50.91 175** *eP* **P** **05 43 39.8 -2.1**
comp=Z,4.9nm,0.6s
WRAB **Tennant Creek** **50.91 175***ceP* **P** **05 43 44.4 +2.5**
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WR1 **Warramunga Arr** **50.92 175** *eP* **P** **05 43 42.8 +0.8**
comp=Z,9.2nm,0.8s
WR1 *ep*P **pP** **05 44 18.9 -0.3**
WR1 *e*ScP **ScP** **05 48 38.0 +1.3**
WRA **Warramunga Arr** **50.92 175** P **P** **05 43 42.8 +0.8**
comp=Z,4.2nm,0.6s,baz=355,slow=8.3,SNR=45
WRA pP **pP** **05 44 18.9 -0.3**
comp=Z,6.6nm,1.1s,baz=353,slow=8.3,SNR=3.5
WRA ScP **ScP** **05 48 38.0 +1.3**
comp=Z,0.9nm,0.8s,baz=343,slow=4.6,SNR=3.6
PALK **Pallekele** **52.01 254** *eP* **P** **05 43 49.1 -1.3**
comp=Z,18nm,0.8s
PALK **Pallekele** **52.01 254** *i* P **P** **05 43 51.4 +1.0**
SNR=7.4
PALK **Pallekele** **52.01 254** P **P** **05 43 51.1 +0.7**
comp=Z,18nm,0.7s,baz=115,slow=6.7
MBWA **Marble Bar** **52.98 192** *eP* **P** **05 43 56.0 -1.2**
comp=Z,19nm,1.0s
CTA **Charters Tower** **53.16 161** P **P** **05 43 58.9 +0.3**
comp=Z,11nm,0.7s,baz=357,slow=8.9,SNR=9.4
CTAO **Charters Tower** **53.16 161** *eP* **P** **05 43 59.4 +0.8**
comp=Z,14nm,0.8s
CTAO **Charters Tower** **53.16 161** *eP* **P** **05 43 59.4 +0.8**
CTAO pmax pmax
comp=Z,14nm,0.8s
SVE **Sverdlovsk** **53.62 320** *eP* **P** **05 44 02.6 +1.1**
SVE pmax pmax
comp=Z,45nm,1.3s
AS31 **Alice Springs** **54.59 176** *eP* **P** **05 44 07.5 -1.3**
comp=Z,2.5nm,0.7s
ASAR **Alice Springs** **54.59 176** P **P** **05 44 08.2 -0.7**
comp=Z,3.8nm,0.7s,baz=24,slow=9.5,SNR=55
AS01 **Alice Springs** **54.59 176** *eP* **P** **05 44 07.7 -1.2**
AB31 **Akbulak array** **54.76 311** *i* P **P** **05 44 09.9 0.0**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR **Akbulak array** **54.76 311** *eP* **P** **05 44 10.5 +0.6**
comp=Z,17nm,0.8s
ARU **Arti** **54.79 320** *eP* **P** **05 44 09.0 -1.0**
comp=Z,29nm,0.7s
ARU **Arti** **54.79 320***c i*P **P** **05 44 10.2 +0.2**
ARU *e**PP **pP** **05 44 48.4 +0.8**
ARU *e* 05 45 09.8
ARU 05 46 13.6
ARU S **S** **05 51 38.6 +0.9**
ARU SS **SS** **05 55 16.7 -6.1**
ARU pmax pmax
comp=Z,34nm,0.8s
SVW2 **Sparrevohn** **55.67 34** *eP* **P** **05 44 16.0 -0.2**
comp=Z,2.2nm,0.9s
AKTO **Aktyubinsk** **55.82 313** P **P** **05 44 18.0 +0.6**
AKTO pmax pmax
comp=Z,19nm,1.2s
IM3 **Indian Mountai** **56.30 28** *eP* **P** **05 44 21.0 +0.4**
IM3 *ep*P **pP** **05 44 58.5 -0.2**
RSO **Redoubt South** **57.10 35** *eP* **P** **05 44 27.6 +1.0**
PPLA **Purkeypile** **57.14 32** *eP* **P** **05 44 26.6 -0.1**
comp=Z,8.2nm,0.8s
CAST **Castle Rocks** **57.15 32** *eP* **P** **05 44 27.8 +1.2**
comp=Z,6.6nm,0.8s
CAST *ep*P **pP** **05 45 05.3 +0.5**
KDAK **Kodiak Island** **57.51 38** *eP* **P** **05 44 30.0 +0.8**
comp=Z,16nm,0.8s
KDAK **Kodiak Island** **57.51 38** *i* P **P** **05 44 29.6 +0.4**
BPAW **Bear Paw Mtn.** **57.58 31** *eP* **P** **05 44 28.5 -1.2**
comp=Z,6.4nm,1.0s
BPAW *ep*P **pP** **05 45 08.2 +0.3**
MLY **Manley** **57.60 30** *eP* **P** **05 44 30.2 +0.4**
comp=Z,5.8nm,0.9s
MLY *ep*P **pP** **05 45 08.5 +0.5**
TOLK **Toolik Lake Re** **57.81 25** *eP* **P** **05 44 32.1 +0.9**
comp=Z,3.2nm,0.7s
TOLK *ep*P **pP** **05 45 08.6 -0.8**
TRF **Thorofare Moun** **57.95 31** *eP* **P** **05 44 32.7 +0.2**
comp=Z,2.1nm,1.0s
RC01 **Rabbit Creek A** **58.49 34** *eP* **P** **05 44 36.8 +0.7**
comp=Z,6.9nm,0.7s
MCK **McKinley** **58.52 31** *eP* **P** **05 44 36.7 +0.5**
comp=Z,6.9nm,0.9s

MCK ep P pP 05 45 14.2 -0.4
MCK McKinley 58.52 31 eP P 05 44 36.7 +0.5
MCK e*PP pP 05 45 14.2 -0.4
MCK pmax pmax
comp=Z,7.0nm,0.9s
GEYT Alibeck 58.55 298 P P 05 44 37.8 +0.9
comp=Z,6.9nm,0.7s,baz=64,slow=3.4,SNR=11
RND Reindeer 58.59 31 eP P 05 44 36.9 +0.1
comp=Z,16nm,0.9s
RND epP pP 05 45 14.7 -0.5
RND Reindeer 58.59 31 eP P 05 44 36.9 +0.1
RND e*PP pP 05 45 14.7 -0.5
RND pmax pmax
comp=Z,16nm,0.9s
MDM Murphy Dome 58.67 30 eP P 05 44 38.1 +0.9
comp=Z,16nm,0.9s
MDM epP pP 05 45 15.7 +0.1
SEW Seward 58.78 35 eP P 05 44 38.4 +0.4
comp=Z,22nm,1.0s
SEW epP pP 05 45 16.1 -0.1
CCB Clear Creek Bu 58.89 30 eP P 05 44 39.2 +0.5
comp=Z,4.2nm,1.0s
SML Sawmill 59.06 33 eP P 05 44 38.6 -1.4
comp=Z,5.5nm,0.9s
SML Sawmill 59.06 33 eP P 05 44 38.6 -1.4
SML pmax pmax
comp=Z,6.0nm,0.9s
KNK Knik Glacier 59.06 34 eP P 05 44 40.6 +0.7
comp=Z,15nm,1.1s
IL1 Eielson Array 59.27 30 eP P 05 44 41.0 -0.3
IL1 epP pP 05 45 18.9 -0.9
ILAR Eielson Array 59.27 30 P P 05 44 40.8 -0.5
comp=Z,1.6nm,0.7s,baz=266,slow=5.8,SNR=18
ILAR pP pP 05 45 18.6 -1.1
comp=Z,2.2nm,0.7s,baz=281,slow=8.4,SNR=6.4
ILB Eielson Array 59.27 30 eP P 05 44 39.9 -1.4
comp=Z,3.0nm,0.9s
ILB epP pP 05 45 19.5 -0.3
HDA Harding Lake 59.29 30 eP P 05 44 41.6 +0.1
comp=Z,10nm,0.9s
HDA epP pP 05 45 19.3 -0.7
SCM Sheep Creek Mo 59.52 33 eP P 05 44 43.9 +0.7
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 59.52 33 eP P 05 44 43.9 +0.7
SCM pmax pmax
comp=Z,12nm,1.0s
EIDS Eidsvold 59.57 158 eP P 05 44 45.1 +1.3
comp=Z,15nm,1.0s
FYU Fort Yukon 59.68 27 eP P 05 44 44.3 +0.3
comp=Z,9.2nm,1.0s
FYU epP pP 05 45 23.0 +0.5
PRP Porcupine Dome 59.72 29 eP P 05 44 44.0 -0.6
comp=Z,4.9nm,0.9s
PRP epP pP 05 45 24.0 +1.0
RIDG Independ'e Rid 60.32 31 eP P 05 44 48.7 +0.1
comp=Z,4.4nm,1.2s
SCRK Sand Creek 60.64 30 eP P 05 44 50.9 +0.1
comp=Z,9.3nm,1.0s
SCRK epP pP 05 45 29.2 -0.3
MORW Morawa 61.39 194 eP P 05 44 55.2 -0.9
comp=Z,27nm,1.1s
FORT Forrest 61.60 182 eP P 05 44 56.0 -1.4
comp=Z,22nm,0.7s
EGAK Eagle 61.68 29 eP P 05 44 57.4 -0.2
comp=Z,6.6nm,1.0s
DAWY Dawson 62.59 30 eP P 05 45 02.3 -1.5
comp=Z,4.4nm,0.9s
EPYK Eagle Plains 63.06 27 eP P 05 45 05.7 -1.1
comp=Z,11nm,0.8s
JLN Jalan Bani Buh 63.10 281 P P 05 45 08.6 +0.8
SNR=5.1
DZM Mont Dzumac 63.22 142 P P 05 45 09.8 +1.4
comp=Z,15nm,0.6s,baz=334,slow=9.3,SNR=9.1
WSAR Wadi Sarin 63.31 282 P P 05 45 09.9 +0.7
SNR=6.6
TMCR Tamitsa 63.44 331 eP P 05 45 07.9 -1.3
TMCR pmax pmax
comp=Z,125nm,1.0s
STKA Stephens Creek 63.56 169 eP P 05 45 11.0 +0.6
comp=Z,1.6nm,0.7s
STKA Stephens Creek 63.56 169 P P 05 45 11.5 +1.1
comp=Z,7.0nm,0.7s,baz=339,slow=7.9,SNR=17
LVZ Lovozero 63.65 335 eP P 05 45 10.3 -0.3
comp=Z,17nm,1.0s
LVZ Lovozero 63.65 335 eP P 05 45 10.3 -0.3
LVZ pmax pmax
comp=Z,17nm,1.0s
INK Inuvik 63.67 24 eP P 05 45 11.3 +0.6
comp=Z,3.0nm,0.6s
INK Inuvik 63.67 24 P P 05 45 10.9 +0.2
comp=Z,2.2nm,0.5s,baz=292,slow=6.7,SNR=5.6
INK pP pP 05 45 48.0 -1.6
comp=Z,3.6nm,0.9s,baz=271,slow=6.1,SNR=5.5
KLMR Klimovskoe 63.74 327 eP P 05 45 08.5 -2.8
KLMR pmax pmax
comp=Z,42nm,0.8s
KLMR Klimovskoe 63.74 327 eP P 05 45 08.5 -2.8
KLMR AMP 05 45 11.8
comp=Z,42nm,0.8s
BBOO Buckleboo 63.82 175 eP P 05 45 10.4 -1.7
comp=Z,3.4nm,0.9s
SHME Shamn 64.24 286 P P 05 45 17.2 +1.9
HYT Haines Junctio 64.36 33 eP P 05 45 14.8 -0.8
comp=Z,9.2nm,1.0s
SPA0 Spitsbergen Ar 64.44 348 eP P 05 45 15.7 +0.1
comp=Z,55nm,1.0s
SPA0 Spitsbergen Ar 64.44 348 eP P 05 45 15.8 +0.1
MSFE Esma-Masafi 64.50 285 P P 05 45 19.1 +2.1
HATD Hatta, Dubai 64.74 285 P P 05 45 20.4 +1.9
HATD Hatta, Dubai 64.74 285 P P 05 45 19.7 +1.2
SNR=5.8
KBS Kingsbay 64.80 349 eP P 05 45 18.2 +0.3
comp=Z,31nm,1.1s
KBS Kingsbay 64.80 349 eP P 05 45 18.2 +0.3
KBS pmax pmax
comp=Z,31nm,1.1s
KBS Kingsbay 64.80 349 eP P 05 45 18.4 +0.5
MHTO MHTO 64.81 280 P P 05 45 19.5 +0.6
SNR=8.5
ASHO Ashiyiah 64.86 285 *i* P P 05 45 20.6 +1.3
SNR=9.3
ASHO Ashiyiah 64.86 285 P P 05 45 20.3 +1.0
SNR=7.2
NWAO Narrogin (SRO) 64.90 192 P P 05 45 19.6 +0.4
comp=Z,18nm,1.0s,baz=324,slow=4.6,SNR=3.7
HSPB Hornsund (broa 65.19 347 eP P 05 45 20.5 0.0
FAQ Al Faqa, Dubai 65.22 285 P P 05 45 22.9 +1.3
ALNE Al Ain 65.38 284 *i* P P 05 45 24.0 +1.4
SNR=7.2
ASUD Al Ashush, Dub 65.49 285 P P 05 45 24.6 +1.3
KEV Kevo 65.59 338 eP P 05 45 22.8 -0.3
comp=Z,35nm,0.8s
KEV Kevo 65.59 338 eP P 05 45 22.8 -0.3
KEV pmax pmax
comp=Z,35nm,0.8s
VRH Novokhopyorsk 65.62 316 eP P 05 45 22.8 -0.9
VRH pmax pmax
comp=Z,60nm,0.7s
WHY Whitehorse 65.63 33 eP P 05 45 21.7 -2.0
comp=Z,3.3nm,0.8s
GROC Groznyy 65.77 307 eP P 05 45 25.6 +0.8
GROC e 05 45 54.7
GROC e*PP pP 05 46 03.6 0.0
GROC eS S 05 53 59.3 +1.3
GROC pmax pmax
comp=Z,28nm,0.6s
ARA0 ARCESS Array S 66.16 338 eP P 05 45 26.1 -0.7
ARCES ARCESS Array B 66.16 338 eP P 05 45 26.4 -0.4
ARCES ARCESS Array B 66.16 338 eP P 05 45 26.4 -0.4
ARCES ARCESS Array B 66.16 338 P P 05 45 26.1 -0.7
comp=Z,11nm,0.6s,baz=61,slow=8.0,SNR=48
ARE0 ARCESS Array S 66.16 338 eP P 05 45 26.4 -0.4
comp=Z,1.0nm,0.8s
ARE0 ARCESS Array S 66.16 338 eP P 05 45 26.6 -0.2
HAMF Hammerfest 66.24 340 eP P 05 45 26.8 -0.5
MOS Moscow 66.35 322 eP P 05 45 26.8 -1.4
MOS e 05 46 22.7
MOS pmax pmax
comp=Z,164nm,0.9s
MOS pmax pmax
comp=Z,200nm,1.0s
LPSR Galich'ya Gora 66.76 318 eP P 05 45 30.0 -0.9
LPSR pmax pmax
comp=Z,90nm,0.8s
GOF Gofitskoye 66.96 310 eP P 05 45 33.0 +0.7
GOF pmax pmax
comp=Z,160nm,0.8s
KTK1 Kautokeino 67.11 338 eP P 05 45 32.4 -0.5
VSR Storozhevoye 67.12 317 eP P 05 45 32.3 -0.9
VSR pmax pmax
comp=Z,80nm,0.9s
OBN Obninsk 67.14 322 eP P 05 45 33.2 0.0
OBN e 05 46 00.0
OBN e*PP pP 05 46 11.1 -1.2
OBN e 05 46 27.7
OBN e 05 48 02.9
OBN pmax pmax
comp=Z,111nm,1.3s
NCK Nalchik 67.17 308 *i* P P 05 45 34.5 +0.8
NCK pmax pmax
comp=Z,34nm,0.4s
ZEI Tsey 67.22 307 eP P 05 45 32.4 -1.9
ZEI pmax pmax
comp=Z,49nm,0.6s
KBZ Khabaz 67.55 308 P P 05 45 36.7 +0.7
comp=Z,82nm,0.8s,baz=75,slow=4.5,SNR=159
KIV Kislovodsk 67.61 309 eP P 05 45 37.3 +0.8
comp=Z,143nm,1.0s
KIV Kislovodsk 67.61 309 *i* P P 05 45 37.4 +0.8
SNR=16
KIV Kislovodsk 67.61 309 eP P 05 45 37.2 +0.8
KIV pmax pmax
comp=Z,141nm,1.0s
KIV Kislovodsk 67.61 309 P P 05 45 37.5 +1.0
SNR=35
GNI Garni 67.63 304 eP P 05 45 37.9 +1.1
GNI Garni 67.63 304 *i* P P 05 45 38.2 +1.3
SNR=6.7
GNI Garni 67.63 304 *ce*P P 05 45 38.3 +1.5
GNI pmax pmax
comp=Z,135nm,1.1s
GNI Garni 67.63 304 P P 05 45 38.5 +1.7
SNR=14
NEY Neytrino 67.85 308 *d* iP P 05 45 39.7 +1.5
NEY pmax pmax
comp=Z,9.0nm,1.1s
PUL Pulkovo 68.41 328 *ce*P P 05 45 40.3 -0.7
PUL pmax pmax
comp=Z,100nm,0.8s
DOMR Dombai 68.57 308 *i* P P 05 45 43.4 +0.8
CLDR Caldiran 68.60 304 eP P 05 45 44.2 +1.2
AGRB Hanur-Agry 69.09 304 eP P 05 45 47.4 +1.4
SENK Senkaya-Erzuru 69.15 305 eP P 05 45 47.6 +1.3
BCA Borcka 69.30 307 eP P 05 45 47.9 +0.9
BCA Borcka 69.30 307 ⇑*i*P P 05 45 48.2 +1.2
FIA1 FINESS Array S 69.54 330 eP P 05 45 47.4 -0.7
comp=Z,56nm,0.7s
FIA0 FINESS Array S 69.54 330 eP P 05 45 47.5 -0.6
FIA0 epP pP 05 46 27.4 +0.1
FIA0 FINESS Array S 69.54 330 eP P 05 45 47.5 -0.6
FIA0 e*PP pP 05 46 27.5 +0.1
FINES FINESS Array B 69.54 330 P P 05 45 47.5 -0.6
comp=Z,43nm,0.6s,baz=68,slow=6.0,SNR=211
FINES pP pP 05 46 27.4 +0.1
comp=Z,7.1nm,0.6s,baz=56,slow=7.6,SNR=2.8
FINES LR LR 06 18 42.9
comp=Z,41nm,20.0s,baz=32,slow=38
AKDM Akdamar-Van 69.60 303 eP P 05 45 50.3 +1.2
KOPR Koprukoy-ERZUR 69.73 305 eP P 05 45 51.1 +1.3
SOC Sochi 69.73 309 eP P 05 45 49.7 +0.2
SOC e*PP pP 05 46 27.9 -0.9
SOC e 05 48 32.2
SOC eS S 05 54 44.2 -0.9
SOC pmax pmax
comp=Z,124nm,0.7s
GURO Guroymak-BITLI 70.19 304 eP P 05 45 53.7 +1.1
STEI Steigen 70.20 339 eP P 05 45 51.3 -0.7
SIRT Sirnak 70.33 302 eP P 05 45 54.0 +0.6
SIRT Sirnak 70.33 302 eP P 05 45 54.4 +1.0
comp=Z,201nm,1.0s
ABTO Aybut 70.37 279 P P 05 45 54.5 +0.6
SNR=6.5
RES Resolute Bay 70.40 12 eP P 05 45 53.2 +0.1
comp=Z,4.2nm,0.7s
RES Resolute Bay 70.40 12 eP P 05 45 53.2 +0.1
RES pmax pmax
comp=Z,4.0nm,0.7s
VSU Vasula 70.64 327 *ce*P P 05 45 54.4 -0.4
VSU pmax pmax
comp=Z,156nm,0.7s
DAG Danmarks Havn 70.66 353 ⇑*i*P P 05 45 54.0 -0.6
comp=Z,31nm,1.0s
DAG Danmarks Havn 70.66 353 ⇑*i*P P 05 45 54.0 -0.6
DAG pmax pmax
comp=Z,31nm,1.0s
ANN Anapa 70.72 311 eP P 05 45 54.3 -1.2
ANN eS S 05 54 54.9 -1.6
ANN eSS SS 05 59 27.7 -3.5
ANN pmax pmax
comp=Z,269nm,1.5s
BAYT Aydıntepe-Bayb 70.76 306 eP P 05 45 57.1 +1.0
SVAN Sîlvan-Diyarba 70.95 303 eP P 05 45 57.6 +0.5
MAZI Mazidag 71.78 303 eP P 05 46 02.8 +0.6
TULEG Thule 71.92 5 eP P 05 46 01.6 -0.6
comp=Z,14nm,1.0s
SIM Simferopol' 72.78 312 eP P 05 46 08.0 +0.2
SIM pmax pmax
comp=Z,47nm,0.7s
AKASG Malin Array Be 73.04 319 *i* P P 05 46 08.8 -0.4
AKASG pmax pmax
comp=Z,96nm,0.9s
AKASG Malin Array Be 73.04 319 P P 05 46 08.9 -0.4
comp=Z,56nm,0.8s,baz=56,slow=6.2,SNR=172
AKBB Malin Array Si 73.04 319 eP P 05 46 08.8 -0.5
comp=Z,57nm,0.9s
AKBB Malin Array Si 73.04 319 eP P 05 46 08.8 -0.5
AKBB pmax pmax
comp=Z,57nm,0.9s
AK11 Malin Array Si 73.08 319 eP P 05 46 08.8 -0.7
SVSK Karacayir 73.13 307 eP P 05 46 10.3 +0.3
KVT Kavak 73.26 308 eP P 05 46 11.3 +0.5
TOKT Tokat 73.26 307 eP P 05 46 10.9 +0.1
YKW3 Yellowknife Ar 73.28 26 eP P 05 46 11.5 +1.1
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 73.32 26 P P 05 46 11.0 +0.4
comp=Z,3.1nm,0.7s,baz=307,slow=5.5,SNR=80
YKA pP pP 05 46 49.7 -0.6
comp=Z,2.8nm,0.8s,baz=301,slow=5.9,SNR=6.7
YKB5 Yellowknife Ar 73.32 26 eP P 05 46 10.0 -0.7
DARE Darende-Malaty 73.40 305 eP P 05 46 12.8 +1.1
SNOP Sinop 73.40 309 eP P 05 46 11.1 -0.4
DIKM Dikmen 73.53 309 ⇓*i*P P 05 46 13.3 +1.0
RAYN Ar Rayn 74.05 288 eP P 05 46 15.6 -0.1
RAYN Ar Rayn 74.05 288 *i* P P 05 46 16.6 +0.9
SNR=43
RAYN Ar Rayn 74.05 288 eP P 05 46 15.6 -0.1
GAZ Gaziantep 74.22 304 eP P 05 46 17.3 +0.8
BZK Bozkurt 74.22 310 ⇓*i*P P 05 46 17.3 +1.0
KMRS Kahramanmaras 74.29 304 eP P 05 46 17.3 +0.4
BNN Bunyan 74.41 306 eP P 05 46 17.8 +0.2
YOZ Yozgat 74.41 307 eP P 05 46 17.4 -0.2
SUW Suwalki 74.59 324 eP P 05 46 18.5 +0.4
SUW Suwalki 74.59 324 eP P 05 46 18.5 +0.4
KOZT Kozan 75.06 305 eP P 05 46 21.2 0.0
CEYT Ceyhan 75.33 304 eP P 05 46 23.4 +0.6
YURE YUREGIR 75.50 304 eP P 05 46 24.8 +1.0
BR101 Keskin Array S 75.52 308 eP P 05 46 24.4 +0.4
BR131 Keskin Array S 75.52 308 eP P 05 46 23.6 -0.4
comp=Z,79nm,0.9s
BR131 Keskin Array S 75.52 308 P P 05 46 24.2 +0.2
SNR=49
BRTR Keskin Array B 75.52 308 *i* P P 05 46 24.2 +0.2
BRTR pmax pmax
comp=Z,64nm,0.9s
BRTR Keskin Array B 75.52 308 P P 05 46 24.4 +0.4
comp=Z,64nm,0.9s,baz=100,slow=4.6,SNR=302
NC405 NORSAR Array S 75.52 334 eP P 05 46 22.3 -1.1
comp=Z,37nm,0.8s
NC303 NORSAR Array S 75.58 334 eP P 05 46 23.4 -0.3
comp=Z,15nm,0.8s
NB201 NORSAR Array S 75.72 334 eP P 05 46 24.4 -0.1
comp=Z,20nm,0.7s
NB2 NORSAR Subarra 75.75 334 P P 05 46 23.6 -1.2
comp=Z,20nm,0.8s,baz=47,slow=5.6
NB2 NORSAR Subarra 75.75 334 P P 05 46 23.6 -1.2
baz=47,slow=5.6
NB200 NORSAR Array S 75.75 334 eP P 05 46 23.8 -1.0
NB200 epP pP 05 47 05.0 +0.2
NOA NORSAR Array B 75.75 334 P P 05 46 23.8 -1.0
comp=Z,12nm,0.7s,baz=49,slow=5.6,SNR=41
NOA pP pP 05 47 05.0 +0.2
comp=Z,4.2nm,0.8s,baz=50,slow=5.7,SNR=3.5
NC204 NORSAR Array S 75.77 334 eP P 05 46 24.2 -0.7
comp=Z,43nm,1.1s
YAYX Yaylak 75.77 307 eP P 05 46 25.3 -0.1
NC602 NORSAR Array S 75.82 334 eP P 05 46 24.7 -0.4
NBO00 NORSAR Array S 75.92 334 eP P 05 46 24.4 -1.3
comp=Z,17nm,1.0s
SERE Sereflikochisa 75.94 307 eP P 05 46 26.1 -0.3
TLCR 75.97 314 ⇑iP P 05 46 26.5 +0.3
ANTO Ankara 76.02 308 eP P 05 46 26.8 +0.1
ANTO Ankara 76.02 308 ⇓iP P 05 46 27.4 +0.7
ANTO Ankara 76.02 308 P P 05 46 27.3 +0.6
SNR=12
AFSR Afar-Bala (An 76.03 308 eP P 05 46 26.6 -0.3
KULU Kulu 76.28 307 eP P 05 46 28.1 -0.1
SUMG Summit 76.29 357 eP P 05 46 28.2 +0.2
comp=Z,29nm,0.8s
SUMG Summit 76.29 357 *i* P P 05 46 28.6 +0.5
comp=Z,80nm,0.9s
SUMG Summit 76.29 357 *i* P P 05 46 28.6 +0.5
SUMG pmax pmax
comp=Z,80nm,0.9s
SULT Sultanhani-AKS 76.33 306 eP P 05 46 28.5 -0.1
LVV L'vov 76.36 320 eP P 05 46 29.0 +0.6
CFR Carcaliu 76.39 315 ⇓iP P 05 46 28.9 +0.3
TIRR Tirgusor 76.59 314 eP P 05 46 29.5 -0.2
comp=Z,16nm,0.9s
TIRR Tirgusor 76.59 314 ⇓*i*P P 05 46 30.2 +0.5
TIRR Tirgusor 76.59 314 eP P 05 46 29.5 -0.2
TIRR pmax pmax
comp=Z,16nm,0.9s
TESR Tescani 76.60 316 ⇓iP P 05 46 30.3 +0.5
EFOR EFORIE 76.64 314 ⇑iP P 05 46 31.3 +1.3
PETR Petresti 76.66 315 ⇑iP P 05 46 31.0 +0.9
BIZ Bicaz 76.70 317 ⇓iP P 05 46 31.1 +0.7
KIZK Mersin 76.72 305 eP P 05 46 30.2 -0.4
SCO Scoresbysund 76.75 351 eP P 05 46 30.8 +0.7
comp=Z,16nm,1.1s
SCO Scoresbysund 76.75 351 ⇑*i*P P 05 46 30.4 +0.3
comp=Z,35nm,1.2s
SCO Scoresbysund 76.75 351 ⇑*i*P P 05 46 30.4 +0.3
SCO pmax pmax
comp=Z,35nm,1.2s
ODBI Odobesti 76.75 316 ⇑iP P 05 46 32.9 +2.3
TLB Topalu 76.75 314 ⇓iP P 05 46 31.3 +0.7
HARR Harsova 76.77 314 ⇓iP P 05 46 31.6 +0.9
BUR08 Bucovina Ar. S 76.86 318 eP P 05 46 30.9 -0.5
comp=Z,31nm,0.9s
BURAR Bucovina Array 76.86 318 ⇓iP P 05 46 32.2 +0.8
VRI Vrincioaia 76.89 316 ⇓iP P 05 46 32.3 +0.8
PLOR Plostina 76.94 316 ⇓iP P 05 46 32.7 +0.9
BEL Belsk 76.99 323 eP P 05 46 32.5 +0.8
BEL Belsk 76.99 323 eP P 05 46 32.6 +0.8
GRER 76.99 315 ⇑iP P 05 46 34.3 +2.3
KEBE Keben-Mersin 77.04 305 eP P 05 46 32.0 -0.5
LADK Ladik-KONYA 77.12 307 eP P 05 46 32.2 -0.8
PSN Preselentsi 77.12 313 P P 05 46 32.6 -0.2
ICOR Ion Corvin 77.14 314 ⇓iP P 05 46 34.1 +1.3
IKL Isikli 77.16 305 eP P 05 46 32.6 -0.5
KWP Kalwaria Pacla 77.19 321 eP P 05 46 33.8 +0.8
KWP Kalwaria Pacla 77.19 321 eP P 05 46 33.8 +0.8
KWP Kalwaria Pacla 77.19 321 eP P 05 46 33.8 +0.8
KONT Konya--Tatoy 77.25 307 eP P 05 46 33.1 -0.5
AKKU Akkuyu-Mersin 77.29 305 eP P 05 46 33.8 0.0
OZUR 77.33 316 ⇓iP P 05 46 35.2 +1.3
ISR Istrita 77.39 315 ⇑iP P 05 46 35.7 +1.4
BERE Bereket-Mersin 77.43 305 eP P 05 46 33.9 -0.9
MLR Muntele Rosu 77.56 316 eP P 05 46 35.3 0.0
comp=Z,16nm,0.6s
MLR Muntele Rosu 77.56 316 ⇓*i*P P 05 46 35.8 +0.5
MLR Muntele Rosu 77.56 316 eP P 05 46 35.3 0.0
MLR pmax pmax
comp=Z,16nm,0.6s
LEHL Lehliu 77.56 315 ⇑iP P 05 46 36.2 +1.1
TEKE Tekeli-Mersin 77.61 305 eP P 05 46 34.6 -1.0
DOPR Dopca 77.63 316 ⇓iP P 05 46 36.8 +1.2
ARCR ARCALIA 77.64 318 ⇑iP P 05 46 37.1 +1.5
SECR 77.72 315 ⇑iP P 05 46 37.5 +1.4
SULR 77.80 315 ⇓iP P 05 46 37.5 +1.1
BMR Baia Mare 77.82 319 ⇑iP P 05 46 38.1 +1.6
KLYT Kilyos 77.82 311 ⇓iP P 05 46 37.2 +0.6
PRD Provadia 77.86 313 P P 05 46 37.7 +0.9
GKP Gorka Klasztor 77.94 326 eP P 05 46 37.4 +0.4
GKP Gorka Klasztor 77.94 326 eP P 05 46 37.4 +0.4
YLV Yalova 77.95 310 ⇑iP P 05 46 38.3 +0.8
UZH Uzhgorod 77.97 320 eP P 05 46 37.8 +0.5
UZH *i* 05 46 42.2
CSS Mathiatis 78.04 304 eP P 05 46 37.9 -0.1
comp=Z,28nm,0.8s
TRPA Tarpa 78.11 319 ⇑iP P 05 46 39.0 +0.9
TRPA Tarpa 78.11 319 ⇑eP P 05 46 38.1 0.0
VOIR 78.12 316 ⇑iP P 05 46 39.0 +0.6
CTYL Yalikoy Yolu 78.19 311 ⇓iP P 05 46 39.5 +0.8
ARR Arges 78.40 316 ⇑iP P 05 46 40.8 +0.9
OJC Ojcow 78.42 322 eP P 05 46 40.5 +0.7
OJC Ojcow 78.42 322 eP P 05 46 39.9 +0.1
comp=Z,113nm,0.8s
OJC Ojcow 78.42 322 eP P 05 46 39.9 +0.1
OJC pmax pmax
comp=Z,113nm,0.8s
ISP Isparta 78.57 307 eP P 05 46 40.0 -1.0
comp=Z,18nm,0.8s
ISP Isparta 78.57 307 ⇑iP P 05 46 40.8 -0.2
ISP Isparta 78.57 307 eP P 05 46 40.0 -1.0
ISP pmax pmax
comp=Z,18nm,0.8s
PHSR Pinarhisar 78.60 312 ⇑iP P 05 46 41.7 +0.7
NIE Niedzica 78.61 321 eP P 05 46 42.1 +1.2
NIE Niedzica 78.61 321 eP P 05 46 42.1 +1.2
SZH Strazhica 78.74 314 P P 05 46 42.0 +0.3
DRGR 78.75 318 ⇑iP P 05 46 42.5 +0.7
LANS Liptovska Anna 79.21 321 eP P 05 46 45.5 +1.3
LANS Liptovska Anna 79.21 321 eP P 05 46 45.5 +1.3
DAMY Dhamar 79.22 281 eP P 05 46 46.8 +1.6
comp=Z,67nm,1.0s
VLAD Vladila 79.28 315 ⇓iP P 05 46 45.3 +0.7
GZR Gura Zlata 79.48 317 ⇓iP P 05 46 46.5 +0.7
OKC Ostrava-Krasne 79.51 322 eP P 05 46 46.3 +0.6
OKC Ostrava-Krasne 79.51 322 eP P 05 46 46.3 +0.6
SRE Strehaia 79.64 316 ⇑iP P 05 46 47.8 +1.3
DIM Dimitrovgrad 79.64 313 P P 05 46 46.6 0.0
SIRR Siria 79.64 318 ⇓iP P 05 46 47.3 +0.7
PSZ Piszkesteto 79.69 320 eP P 05 46 47.4 +0.5
comp=Z,34nm,1.0s
PSZ Piszkesteto 79.69 320 ⇓*i*P P 05 46 47.6 +0.7
PSZ Piszkesteto 79.69 320 eP P 05 46 47.4 +0.5
PSZ pmax pmax
comp=Z,34nm,1.0s
PSZ Piszkesteto 79.69 320 eP P 05 46 47.0 +0.2
KSP Ksiaz 79.86 324 eP P 05 46 48.4 +0.7
KSP Ksiaz 79.86 324 eP P 05 46 48.3 +0.7
MORC Moravsky Berou 79.86 323 eP P 05 46 48.1 +0.4
comp=Z,35nm,0.9s
MORC Moravsky Berou 79.86 323 ⇑iP P 05 46 48.6 +0.9
MORC Moravsky Berou 79.86 323 eP P 05 46 48.1 +0.4
MORC pmax pmax
comp=Z,35nm,0.9s
MORC Moravsky Berou 79.86 323 eP P 05 46 48.2 +0.5
VYHS Vyhne 79.93 321 eP P 05 46 49.1 +1.0
VYHS pmax pmax
comp=Z,30nm,1.2s
VYHS Vyhne 79.93 321 eP P 05 46 49.1 +1.0
HERR Herculane 79.98 317 ⇓iP P 05 46 48.7 +0.3
PUNG Punghina 80.01 316 ⇓iP P 05 46 49.5 +1.0
BZS Buzias 80.03 318 ⇓iP P 05 46 48.9 +0.3
KRLC Kraliky 80.07 323 eP P 05 46 49.7 +0.9
KRLC Kraliky 80.07 323 eP P 05 46 49.7 +0.9
RUE Ruedersdorf 80.08 326 eP P 05 46 49.7 +1.0
comp=Z,85nm,1.0s,baz=48,slow=5.1
DPC Dobruska-Polom 80.14 324 eP P 05 46 50.0 +0.8
DPC *ex* x 05 46 59.1
DPC *ex* x 05 47 12.2
DPC Dobruska-Polom 80.14 324 eP P 05 46 50.0 +0.8
UPC Upice 80.20 324 eP P 05 46 50.2 +0.7
UPC Upice 80.20 324 eP P 05 46 50.2 +0.7
EZN Ezine 80.33 311 ⇓iP P 05 46 50.8 +0.5
JAVC Velka Javorina 80.34 322 eP P 05 46 52.1 +1.8
MDVR Moldovita 80.45 317 ⇓iP P 05 46 51.3 +0.3
VRAC Vranov 80.63 323 ⇓iP P 05 46 53.2 +1.4
VRAC Vranov 80.63 323 eP P 05 46 52.6 +0.8
SMOL Smolenice 80.67 322 eP P 05 46 53.9 +1.9

SMOL **Smolenice** 80.67 322 *e*P P 05 46 53.9 +1.9
BSEG **Bad Segeberg** 80.73 329 *e*P P 05 46 52.8 +0.6
comp=Z,46nm,1.1s,baz=48,slow=5.1
VTS **Vitosha** 80.75 314⇑ *i*P P 05 46 53.9 +1.1
VTS **Vitosha** 80.75 314 P P 05 46 53.5 +0.7
MODS **Modra-Piesok** 80.84 322 *e*P P 05 46 54.2 +1.3
MODS pmax pmax
comp=Z,56nm,1.2s
MODS **Modra-Piesok** 80.84 322 *e*P P 05 46 54.2 +1.3
KRUC **Moravsky** 80.89 322 *e*P P 05 46 53.8 +0.7
CSKK **Cskako** 80.91 320⇓ *e*P P 05 46 53.1 -0.2
PVCC **Panska Ves** 80.92 324 *e*P P 05 46 54.0 +0.8
PVCC **Panska Ves** 80.92 324 *e*P P 05 46 54.0 +0.8
BRG **Berggiesshubel** 81.01 325 *e*P P 05 46 53.9 +0.1
comp=Z,22nm,1.0s
BRG **Berggiesshubel** 81.01 325 *e*P P 05 46 54.5 +0.8
comp=Z,20nm,0.9s,baz=48,slow=5.1
BRG **Berggiesshubel** 81.01 325 *e*P P 05 46 53.9 +0.1
BRG pmax pmax
comp=Z,22nm,1.0s
ZST **Bratislava** 81.04 322 *e*P P 05 46 54.2 +0.3
ZST **Bratislava** 81.04 322 *e*P P 05 46 54.2 +0.3
PINE **Pine Mountain** 81.05 44 *e*P P 05 46 53.7 -0.7
comp=Z,3.3nm,0.8s
PINE *e*pP pP 05 47 35.0 0.0
GOPC **GO Pecny, Ondr** 81.19 324 *e*P P 05 46 55.6 +0.9
GOPC *ex* x 05 47 04.5
GOPC **GO Pecny, Ondr** 81.19 324 *e*P P 05 46 55.6 +0.9
TREC **Trest** 81.22 323 *e*P P 05 46 55.8 +0.9
TREC **Trest** 81.22 323 *e*P P 05 46 55.8 +0.9
KKB **Krupnik** 81.27 314 P P 05 46 55.7 +0.4
PRU **Pruhonice** 81.27 324 *e*P P 05 46 55.6 +0.5
PRU **Pruhonice** 81.27 324 *e*P P 05 46 55.6 +0.5
FBE **Freiberg** 81.27 325 *e*P P 05 46 56.2 +1.1
comp=Z,70nm,1.2s,baz=48,slow=5.1
TIH **Tihany** 81.39 320⇓ *e* P 05 46 56.0 +0.2
SOP **Sopron** 81.64 321 *e*P P 05 46 47.0 -10
URZ **Urewera** 81.64 145 P P 05 46 57.0 -0.1
comp=Z,9.5nm,0.9s,baz=301,slow=18,SNR=3.3
NRDL **Niedersach Rie** 81.78 328 *e*P P 05 46 58.4 +0.7
comp=Z,50nm,1.5s,baz=48,slow=5.1
NEUB **Neuenburg** 81.85 326 *e*P P 05 46 59.0 +0.9
comp=Z,102nm,0.9s,baz=48,slow=5.1
DIVS **Divibare** 81.85 317 *e*P P 05 46 58.3 -0.1
comp=Z,23nm,0.9s
CONA **Conrad Observa** 81.86 322 *i* PcP P 05 46 59.8 +1.4
comp=Z,30nm,0.8s,SNR=15
VAY **Valandovo** 81.89 314 *i* P P 05 46 58.7 +0.2
STIP **Stip** 81.92 314 *i* P P 05 46 58.2 -0.5
ATD **Arta Tunnel** 82.03 279 *e*P P 05 47 01.6 +1.9
comp=Z,43nm,1.0s
TANN **Tannenbergstha** 82.03 325 *e*P P 05 46 59.9 +0.7
comp=Z,75nm,1.6s,baz=48,slow=5.1
CLZ **Clausthal** 82.09 327 *e*P P 05 47 00.6 +1.1
comp=Z,74nm,1.0s,baz=48,slow=5.1
GUNZ **Gunzen** 82.13 325 *e*P P 05 47 00.6 +0.9
comp=Z,28nm,1.0s,baz=48,slow=5.1
PLN **Plauen** 82.13 325 *e*P P 05 47 00.5 +0.8
comp=Z,46nm,1.4s,baz=48,slow=5.1
NKC **Novy Kostel** 82.15 325 *e*P P 05 46 59.6 -0.2
NKC **Novy Kostel** 82.15 325 *e*P P 05 46 59.6 -0.2
WERN **Wernitzgruen** 82.15 325 *e*P P 05 47 00.8 +1.0
comp=Z,30nm,0.9s,baz=48,slow=5.1
SFJD **Kangerlussuaq** 82.18 0 *e*P P 05 46 59.5 -0.1
comp=Z,11nm,0.8s
SFJD **Kangerlussuaq** 82.18 0 *i* P P 05 46 59.5 -0.1
comp=Z,10nm,0.8s
SFJD **Kangerlussuaq** 82.18 0 *i* P P 05 46 59.5 -0.1
SFJD pmax pmax
comp=Z,10.0nm,0.8s
MOX **Moxa** 82.29 326 *e*P P 05 47 01.2 +0.8
comp=Z,44nm,1.4s,baz=48,slow=5.1
KHC **Kasperske Hory** 82.29 324 *e*P P 05 47 01.0 +0.5
comp=Z,8.0nm,0.9s
KHC **Kasperske Hory** 82.29 324 *e*P P 05 47 01.1 +0.5
KHC **Kasperske Hory** 82.29 324 *e*P P 05 47 01.1 +0.5
GEC2 **GERESS Array S** 82.41 323 *e*P P 05 47 01.3 +0.1
GEC2 **GERESS Array S** 82.41 323 *e*P P 05 47 01.3 +0.1
GERES **GERESS Array B** 82.41 323 P P 05 47 01.3 +0.1
comp=Z,8.3nm,0.7s,baz=52,slow=5.2,SNR=43
ARSA **Arzberg** 82.46 321 *i* P P 05 47 02.3 +0.9
comp=Z,5.3nm,0.6s,SNR=6.9
MANZ **Manzenberg** 82.48 325 *e*P P 05 47 02.4 +0.9
comp=Z,46nm,1.5s,baz=48,slow=5.1
GTTG **Gvttingen** 82.48 327 *e*P P 05 47 02.4 +1.0
comp=Z,73nm,0.9s,baz=48,slow=5.1
MOD **Modoc Plateau** 82.52 45 *e*P P 05 47 03.5 +1.4
comp=Z,2.9nm,0.8s
BMO **Blue Mountains** 82.55 42 *e*P P 05 47 03.5 +1.4
comp=Z,2.1nm,1.1s
BMO *e*pP pP 05 47 42.4 -0.4
ROTZ **Rotzenmuhle** 82.57 325 *e*P P 05 47 03.1 +1.1
comp=Z,79nm,1.4s,baz=48,slow=5.1
WET **Wettzell** 82.64 324 *e*P P 05 47 03.2 +0.9
comp=Z,18nm,1.1s,baz=48,slow=5.1
KRUS **Krusevo** 82.68 314 *i* P P 05 47 02.8 0.0
MOA **Molln** 82.75 322 *i* PcP P 05 47 04.0 +1.0
comp=Z,13nm,0.8s,SNR=9.6
J08A **Circle Bar Ran** 82.76 43 *e*P P 05 47 03.2 0.0
comp=Z,3.4nm,0.6s
J08A *e*pP pP 05 47 44.2 +0.3
FNA **Florina** 82.94 314 *e*P P 05 47 03.5 -0.6
comp=Z,12nm,0.9s
FNA **Florina** 82.94 314 *e*P P 05 47 03.5 -0.6
FNA pmax pmax
comp=Z,12nm,0.9s
UBBA **Unterbreizbach** 82.95 327 *e*P P 05 47 04.6 +0.8
comp=Z,80nm,1.6s,baz=48,slow=5.1
IBBN **Ibbenburen** 82.97 329 *e*P P 05 47 04.4 +0.4
comp=Z,73nm,1.1s,baz=48,slow=5.1
SOKA **Soboth** 83.08 321 *i* P P 05 47 05.3 +0.6
comp=Z,32nm,0.9s,SNR=30
BLY **Banja Luka** 83.08 319 *e*P P 05 47 05.2 +0.5
comp=Z,20nm,0.8s
BLY **Banja Luka** 83.08 319⇑ *i* P P 05 47 05.5 +0.8
OHR **Ohrid** 83.11 314 *i* P P 05 47 04.1 -0.8
GRA1 **Grafenberg Arr** 83.11 325 *e*P P 05 47 05.2 +0.5
comp=Z,98nm,1.0s
GRF **Grafenberg Arr** 83.11 325 *e*P P 05 47 06.0 +1.3
comp=Z,132nm,1.1s,baz=48,slow=5.1
GRFO **Grafenberg** 83.11 325 *e*P P 05 47 05.5 +0.8
comp=Z,89nm,1.0s
FCC **Fort Churchill** 83.11 22 *e*P P 05 47 04.5 0.0
comp=Z,5.6nm,0.9s
FCC *e*pP pP 05 47 44.4 -0.8
AGG **Agios Georgios** 83.35 312 *e*P P 05 47 04.4 -1.8
comp=Z,32nm,1.0s
AGG **Agios Georgios** 83.35 312 *e*P P 05 47 04.4 -1.8
AGG pmax pmax
comp=Z,32nm,1.0s
FFC **Flin Flon** 83.40 28 *e*P P 05 47 06.0 -0.1
comp=Z,3.3nm,0.8s
FFC *e*pP pP 05 47 46.1 -0.6
FFC **Flin Flon** 83.40 28 *e*P P 05 47 06.0 -0.1
FFC *e**PP pP 05 47 46.2 -0.6
FFC pmax pmax
comp=Z,3.0nm,0.8s
OBKA **Obir** 83.44 321 *i* P P 05 47 07.2 +0.5
comp=Z,28nm,0.7s,SNR=9.4
RJOB **Jochberg** 83.59 323 *e*P P 05 47 08.4 +1.1
comp=Z,65nm,1.1s,baz=48,slow=5.1
BEKR **Beckworth** 83.66 47 *e*P P 05 47 05.8 -2.2
comp=Z,3.0nm,0.9s
BEKR *e*pP pP 05 47 48.8 0.0
KBA **Koelnbreinsper** 83.72 322 *i* PcP P 05 47 08.6 +0.5
comp=Z,24nm,0.8s,SNR=14
LJU **Ljubljana** 83.75 321 *i* P P 05 47 08.4 +0.3
MYKA **Terra Mystica** 83.85 322 *i* P P 05 47 08.8 +0.2
comp=Z,22nm,0.6s,SNR=13
FUR **Furstenfeldbru** 84.08 324 *e*P P 05 47 10.8 +1.1
comp=Z,116nm,1.0s,baz=48,slow=5.1
TNS **Taunus Mts** 84.08 327 *e*P P 05 47 10.5 +0.8
comp=Z,66nm,1.1s,baz=48,slow=5.1
JAVS **Javornik** 84.09 321 *i* P P 05 47 09.7 -0.2
KNDS **Knezji Dol** 84.16 321 *i* P P 05 47 10.1 -0.1
PAHR **Pah Rah Range** 84.36 47 *e*P P 05 47 12.3 +0.8
comp=Z,2.3nm,0.8s
PAHR *e*pP pP 05 47 52.6 +0.3
ABTA **Abfaltersbach** 84.37 322 *i* P P 05 47 11.2 -0.1
comp=Z,26nm,0.7s,SNR=18
WATA **Walderalm** 84.48 323 *i* PcP P 05 47 12.6 +0.7
comp=Z,8.5nm,0.7s
AHRW **Bad Neuenahr-A** 84.50 328 *e*P P 05 47 12.4 +0.7
comp=Z,72nm,1.1s,baz=48,slow=5.1
PNTR **Pine Nut** 84.59 47 *e*P P 05 47 14.4 +1.7
comp=Z,3.4nm,0.8s
ITM **Ithomi** 84.66 310 *e*P P 05 47 11.6 -1.2
comp=Z,91nm,0.8s
STU **Stuttgart** 84.71 325 *e*P P 05 47 13.5 +0.7
comp=Z,52nm,0.9s
STU **Stuttgart** 84.71 325 *e*P P 05 47 13.5 +0.7
comp=Z,70nm,1.0s,baz=48,slow=5.1
STU **Stuttgart** 84.71 325 *e*P P 05 47 13.5 +0.7
STU pmax pmax
comp=Z,52nm,0.9s
MOTA **Moosalm** 84.71 323 *i* PcP P 05 47 13.4 +0.3
comp=Z,8.6nm,0.6s,SNR=10
SQTA **Sankt Quirin** 84.74 323 *i* PcP P 05 47 13.6 +0.4
comp=Z,8.0nm,0.5s,SNR=5.0
RETA **Reutte** 84.79 324 *i* PcP P 05 47 14.1 +0.8
comp=Z,8.4nm,0.9s,SNR=5.8
RAR **Rarotonga** 84.82 118 LR LR 06 20 52.8
comp=Z,40nm,18.1s,baz=125,slow=32
DLMT **Dillon** 84.84 39 *e*P P 05 47 15.4 +1.6
comp=Z,5.7nm,1.1s
DLMT *e*pP pP 05 47 54.6 -0.1
YERR **Yerington** 84.88 47 *e*P P 05 47 15.4 +1.3
comp=Z,3.6nm,0.9s
YERR *e*pP pP 05 47 54.7 -0.4
MEM **Membach** 84.94 328 ⇑P P 05 47 13.6 -0.3
comp=Z,22nm,1.2s
HLID **Hailey** 84.98 41 *e*P P 05 47 13.8 -0.7
HLID *e*pP pP 05 47 55.6 +0.1
UBR **Ueberruh** 84.99 324 *e*P P 05 47 14.5 +0.1
comp=Z,71nm,1.5s,baz=48,slow=5.1
WAKR **Walker** 85.04 48 *e*P P 05 47 13.0 -2.0
comp=Z,2.2nm,0.8s
WAKR *e*pP pP 05 47 55.9 0.0
FETA **Feichten** 85.12 323 *i* PcP P 05 47 15.4 +0.3
comp=Z,10nm,0.9s,SNR=7.2
BOZ **Bozeman (W)** 85.21 38 *e*P P 05 47 16.9 +1.3
comp=Z,2.6nm,1.1s
BOZ *e*pP pP 05 47 56.4 -0.2
DAVA **Damuels** 85.37 324 *i* PcP P 05 47 17.0 +0.7
comp=Z,6.5nm,0.7s,SNR=6.3
BCLA **Clavier** 85.39 328 ⇓P P 05 47 16.3 +0.1
BFO **Black Forest** 85.43 325 *e*P P 05 47 16.7 +0.2
comp=Z,73nm,1.4s,baz=48,slow=5.1
BFO **Black Forest** 85.43 325 *ce*P P 05 47 17.2 +0.7
WLF **Walferdange** 85.54 327 *e*P P 05 47 17.5 +0.5
comp=Z,78nm,1.1s,baz=48,slow=5.1
WLF **Walferdange** 85.54 327 ⇑P P 05 47 17.9 +0.9
RYN **Ryan** 85.54 47 *e*P P 05 47 17.3 -0.1
comp=Z,2.3nm,0.8s
RYN *e*pP pP 05 47 57.9 -0.5
KVN **Kaiserville** 85.55 47 *e*P P 05 47 16.7 -0.8
comp=Z,3.0nm,0.7s
KVN *e*pP pP 05 47 56.7 -1.7
KVN **Kaiserville** 85.55 47 *e*P P 05 47 16.7 -0.8
KVN *e**PP pP 05 47 56.7 -1.7
KVN pmax pmax
comp=Z,3.0nm,0.7s
FUORN **Ofenpass-Fuorn** 85.62 323 *e*P P 05 47 17.0 -0.7
comp=Z,39nm,1.0s
NV01 **Mina Array Sit** 85.80 47 *e*P P 05 47 18.3 -0.5
NV01 *e*pP pP 05 47 59.0 -0.8
NVAR **Mina Array Bea** 85.80 47 P P 05 47 19.9 +1.2
comp=Z,1.8nm,0.7s,baz=294,slow=5.3,SNR=16
NVAR pP pP 05 47 58.8 -1.0
comp=Z,4.4nm,0.8s,baz=298,slow=5.1,SNR=12
NV11 **Mina Array Sit** 85.89 47 *e*P P 05 47 17.4 -1.7
comp=Z,0.2nm,1.1s
NV11 *e*pP pP 05 47 56.9 -3.2
DOU **Dourbes** 85.94 328 ⇓P P 05 47 19.0 +0.1
GCMT **Greycliff** 86.12 37 *e*P P 05 47 19.4 -0.7
AQU **L'Aquila** 86.72 319 *e*P P 05 47 24.1 +1.1
comp=Z,73nm,1.1s
AQU **L'Aquila** 86.72 319 *e*P P 05 47 24.1 +1.1
AQU pmax pmax
comp=Z,73nm,1.1s
PDAR **Pinedale Array** 88.20 40 *e*P P 05 47 28.8 -1.4
PDAR *e*pP pP 05 48 10.5 -1.0
PDAR **Pinedale Array** 88.20 40 P P 05 47 31.1 +0.8
comp=Z,1.0nm,0.9s,baz=273,slow=2.7,SNR=7.1
PDAR pP pP 05 48 10.7 -0.8
comp=Z,2.0nm,0.7s,baz=312,slow=0.5,SNR=9.8
ULM **Lac du Bonnet** 89.22 28 *e*P P 05 47 34.1 -0.5
comp=Z,10nm,0.8s
ULM *e*pP pP 05 48 14.3 -1.5
ULM **Lac du Bonnet** 89.22 28 *e*P P 05 47 34.1 -0.5
ULM *e**PP pP 05 48 14.3 -1.5
ULM pmax pmax
comp=Z,10.0nm,0.8s
ULM **Lac du Bonnet** 89.22 28 P P 05 47 34.8 +0.2
comp=Z,9.1nm,0.8s,baz=326,slow=4.0,SNR=18
ULM pP pP 05 48 14.6 -1.2
comp=Z,7.9nm,0.9s,baz=315,slow=5.4,SNR=5.1
P18A **Preston Nutter** 89.91 42 *e*P P 05 47 31.9 -6.5
comp=Z,1.0nm,0.7s
P18A *e*pP pP 05 48 19.3 -0.4
SCHQ **Schefferville** 93.12 10 P P 05 47 51.8 -0.7
comp=Z,5.9nm,1.0s,baz=28,slow=18,SNR=4.3
KMBO **Kilima Mbogo** 93.23 271 *i* P P 05 47 56.9 +2.8
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO **Kilima Mbogo** 93.23 271 P P 05 47 54.3 +0.2
comp=Z,1.2nm,0.4s,baz=41,slow=10,SNR=4.4
KEST **Kesra** 93.46 316 P P 05 47 54.1 -0.5
comp=Z,7.3nm,0.9s,baz=292,slow=5.4,SNR=5.2
ESDC **Seneca Array** 97.78 326 P P 05 48 13.1 -1.0
comp=Z,2.3nm,0.9s,baz=38,slow=4.2,SNR=5.3
TXAR **Lajitas Array** 100.91 46 Pdiff Pdif 05 48 27.2 -1.1
comp=Z,0.4nm,0.8s,baz=252,slow=2.5,SNR=3.6
TXAR pPdiff pP 05 49 10.4 +0.5
comp=Z,0.5nm,0.8s,baz=261,slow=3.5,SNR=5.1
TOA1 **Torodi Ar. Sit** 113.93 304 *e*PKiKP PKiKP 05 53 15.4 -2.1
TORD **Torodi Ar. Bea** 113.93 304 PKiKP PKiKP 05 53 15.4 -2.1
comp=Z,0.4nm,0.5s,baz=358,slow=2.7,SNR=8.4
DBIC **Dimbokro** 123.04 303 PKP PKPdf 05 53 34.1 -1.0
comp=Z,5.3nm,0.9s,baz=354,slow=1.6,SNR=6.7
DBIC pPKP PKPdf 05 54 17.3 -0.8
comp=Z,1.5nm,0.7s,baz=349,slow=10,SNR=1.4
DBIC PP PP 05 55 16.4 +0.5
comp=Z,2.7nm,0.9s,baz=66,slow=13,SNR=3.0
SDV **Santo Domingo** 135.42 30 *e*PKPdf PKPdf 05 53 58.0 -0.8
SDV *ep*PKPdf PKPdf 05 54 40.6 -1.4
PTGA **Pitinga** 148.23 20 *e*PKPbc PKPbc 05 54 25.1 +0.4
BDFB **Brasilia** 164.51 354 PKP PKPdf 05 54 40.1 -2.1
comp=Z,4.6nm,1.0s,baz=72,slow=3.2,SNR=2.5

ATH 11 05:44:10.6,36°.97N×21°.72E,h21km±3km, ML1.4/2, Error ellipse: s-maj=4.6km s-min=1.2km az=130.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.08**	**164**	P	Pb	05 44 14.6	0.0
PYL				S	Sb	05 44 17.2	-0.1
PYL				AML	AML	05 44 17.4	
	comp=N,499μm,0.2s						
PYL				AML	AML	05 44 17.7	
	comp=E,414μm,0.1s						
MES2	**Methoni**	**0.15**	**182**	P	Pb	05 44 15.3	-1.3
MES2				S	Sb	05 44 18.4	-2.5
ITM	**Ithomi**	**0.27**	**40**	P	Pb	05 44 16.9	-0.1
ITM				S	Sb	05 44 21.4	+0.1
ITM				AML	AML	05 44 21.6	
	comp=E,164μm,0.1s						
ITM				AML	AML	05 44 21.7	
	comp=N,218μm,0.1s						
MES3	**Kyparissia**	**0.28**	**353**	P	Pb	05 44 16.8	-0.2
AMT	**Artemida-Makis**	**0.56**	**360**	P	Pb	05 44 21.8	0.0
TRIP	**Tripoli**	**0.71**	**39**	P	Pb	05 44 24.3	0.0
GUR	**Goura**	**1.08**	**27**	P	Pb	05 44 31.1	+0.4

IDC 11 05:49:23.4±4.4,6°.86N×122°.46E, h643km±60km, mb2.5/4, mb1 2.6/4, mb1mx2.2/48, mbtmp3.6/4, Error ellipse: s-maj=213.8km s-min=16.4km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.09**	**157**	P	P	05 54 34.6	-0.6
	0.3nm,0.4s,baz=333,slow=10,SNR=8.8						
WRA				PcP	PcP	05 57 21.0	-0.4
	1.1nm,1.3s,baz=342,slow=2.9,SNR=3.0						
ASAR	**Alice Springs**	**32.34**	**160**	P	P	05 55 03.9	+1.0
	0.3nm,0.3s,baz=344,slow=7.4,SNR=7.5						
MKAR	**Makanchi Array**	**52.59**	**326**	P	P	05 57 39.8	+0.3
	0.4nm,0.4s,baz=118,slow=8.1,SNR=14						
KURBB	**Kurchatov Arra**	**56.84**	**328**	P	P	05 58 08.5	-0.3
	0.2nm,0.3s,baz=132,slow=6.1,SNR=4.3						

*ISCJB **11** 05:56:01.0±0.1,38°.033N±0°.009×88°.72W±0°.01, h0km, Error ellipse: s-maj=1.3km s-min=1.2km az=159.8*
*ANF **11** 05:56:01.7±0.1,38°.03N×88°.74W, ML3.5/110, Error ellipse: s-maj=1.3km s-min=1.1km az=3.0*
*NEIC **11** 05:56:02.1±0.2,38°.04N×88°.73W, h0km, MN2.7, Error ellipse: s-maj=2.8km s-min=2.6km az=133.0*
NEIC 35 km [21 miles] SSE of Mount Vernon. mbLg 2.7 [GS]. Felt at Carbondale, Ewing, Harrisburg and Herrin.
ISC 11 05:56:01.8±0.7, 38°.03N±0°.01×88°.74W±0°.01, h0km, n172, σ05 87/254, Southern Illinois

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R44A	**Waltonville**	**0.34**	**309**	P	Pg	05 56 08.7	+0.3
	baz=127,SNR=101						
R44A				S	Sg	05 56 12.5	-0.4
	baz=127						
S45A	**Carrier Mills**	**0.38**	**161**	P	Pg	05 56 09.1	+0.1
	baz=342,SNR=58						
S45A				S	Sg	05 56 14.2	+0.4
	baz=342						
R45A	**Skylar, Fairfi**	**0.44**	**54**	P	Pg	05 56 10.6	+0.3
	baz=234,SNR=187						
R45A				S	Sg	05 56 16.6	+0.5
	baz=234						
SIUC	**Southern Illin**	**0.49**	**230**	*e*Pg	Pg	05 56 11.5	+0.3
SIUC				*e*Sg	Sg	05 56 18.9	+1.2
S44A	**Carbondale**	**0.53**	**231**	P	Pg	05 56 11.6	-0.3
	baz=50						
S44A				S	Sg	05 56 19.1	+0.3
	baz=50						
USIN	**University of**	**0.85**	**94**	*e*Pg	Pg	05 56 18.0	-0.1
USIN				*e*Sb	Sg	05 56 28.6	-0.5
OLIL	**Olney**	**0.86**	**35**	*e*Pg	Pg	05 56 18.2	-0.1
OLIL				*e*Sb	Sg	05 56 30.0	+0.5
S46A	**Don Dixon Farm**	**0.88**	**113**	P	Pg	05 56 18.1	-0.5
	baz=294						
S46A				S	Sg	05 56 30.0	-0.1
	baz=294						
Q44A	**Meyer Farm, Va**	**0.90**	**346**	*e*Pg	Pg	05 56 18.9	-0.1
Q44A				*e*Sg	Sg	05 56 31.1	+0.5
Q44A	**Meyer Farm, Va**	**0.90**	**346**	P	Pg	05 56 18.7	-0.3
	baz=165,SNR=15						
Q44A				S	Sg	05 56 31.2	+0.6
	baz=165						
R43A	**Red Bud**	**0.97**	**285**	P	Pg	05 56 19.7	-0.7
	baz=104,SNR=37						
R43A				S	Sg	05 56 33.1	+0.1
	baz=104						
Q45A	**Warren Harvey,**	**0.97**	**28**	P	Pg	05 56 20.2	-0.3
	baz=208						
Q45A				S	Sg	05 56 33.4	+0.3
	baz=208						
R46A	**Gibon Southern**	**0.98**	**79**	P	Pg	05 56 20.2	-0.4
	baz=260						
R46A				S	Sg	05 56 33.4	0.0
	baz=260						
T45A	**Paducah**	**1.01**	**176**	*e*Pg	Pb	05 56 22.0	-0.2
T45A				*e*Sg	Sg	05 56 34.1	-0.2
T45A	**Paducah**	**1.01**	**176**	S	Sg	05 56 34.4	+0.1
	baz=356						
S43A	**Fulton Ridge,**	**1.16**	**247**	P	Pg	05 56 23.1	-0.8
	baz=66,SNR=22						
S43A				S	Sg	05 56 38.5	-0.4
	baz=66						
T44A	**Benton**	**1.16**	**216**	P	Pg	05 56 23.6	-0.4
	baz=35						
T44A				S	Sg	05 56 38.9	-0.2
	baz=35						
Q43A	**New Douglas**	**1.18**	**321**	P	Pg	05 56 23.7	-0.7
	baz=140,SNR=31						
Q43A				S	Sg	05 56 39.7	0.0
	baz=140						
T46A	**Princeton**	**1.20**	**146**	S	Sg	05 56 40.3	+0.1
	baz=327						
SLM	**Saint Louis**	**1.32**	**298**	*e*Pg	Pg	05 56 25.9	-1.2
SLM				*e*Sg	Sg	05 56 43.8	-0.5
FVM	**French Village**	**1.33**	**268**	*e*Pg	Pg	05 56 26.2	-1.2
FVM				*e*Sg	Sg	05 56 43.7	-0.9
P44A	**Sand Creek, Wi**	**1.44**	**4**	P	Pn	05 56 28.4	-0.7
	baz=183						
P44A				S	Sg	05 56 47.9	0.0
	baz=183						
Q46A	**CEJHS Indians,**	**1.47**	**47**	P	Pn	05 56 28.6	-0.8
	baz=228						
Q46A				S	Sg	05 56 48.1	-0.8
	baz=228						
S47A	**Hartford**	**1.54**	**106**	P	Pn	05 56 29.4	-1.0
	baz=287						
S47A				S	Sn	05 56 49.7	-1.4
	baz=287						
T43A	**Greenville**	**1.55**	**233**	P	Pn	05 56 30.0	-0.7
	baz=52,SNR=17						
T43A				S	Sn	05 56 50.6	-0.9
	baz=52						
PARMO	**Parma**	**1.59**	**211**	*e*Pn	Pn	05 56 31.2	+0.1
PARMO				*e*Sn	Sn	05 56 52.5	+0.1
R42A	**Luebbering**	**1.64**	**279**	P	Pn	05 56 31.2	-0.7
	baz=98,SNR=16						
R42A				S	Sn	05 56 53.4	-0.2
	baz=98						
S42A	**Caledonia**	**1.65**	**261**	P	Pn	05 56 31.5	-0.5
	baz=80,SNR=48						
S42A				S	Sn	05 56 53.3	-0.6
	baz=80						
Q42A	**Golden Eagle**	**1.66**	**302**	P	Pn	05 56 31.5	-0.7
	baz=121						
Q42A				S	Sn	05 56 53.8	-0.4
	baz=121						
T47A	**Sharon Grove**	**1.67**	**128**	*e*Pn	Pn	05 56 31.6	-0.7
T47A				*e*Sn	Sn	05 56 53.4	-0.9
T47A	**Sharon Grove**	**1.67**	**128**	P	Pn	05 56 31.6	-0.7
	baz=310,SNR=18						
T47A				S	Sn	05 56 53.7	-0.6
	baz=310						
U45A	**Rockin P Farm,**	**1.68**	**181**	P	Pn	05 56 31.9	-0.6
	baz=0.9						
U45A				S	Sn	05 56 55.0	+0.3
	baz=0.9						
P45A	**Graceland, Par**	**1.68**	**27**	*e*Pn	Pn	05 56 32.5	0.0
P45A				*e*Sn	Sn	05 56 54.7	0.0
P45A	**Graceland, Par**	**1.68**	**27**	P	Pn	05 56 32.2	-0.2
	baz=208,SNR=10						
P45A				S	Sb	05 56 55.4	0.0
	baz=208						
UTMT	**University of**	**1.69**	**183**	*e*Pn	Pb	05 56 33.4	-0.3
UTMT				*e*Sn	Sn	05 56 53.4	-1.5
U44A	**Portageville**	**1.70**	**207**	Pb	Pn	05 56 33.5	+0.8
	baz=26						
U44A				S	Sn	05 56 55.3	+0.1
	baz=26						
P43A	**Skaggs, Pawnee**	**1.72**	**339**	P	Pn	05 56 33.0	0.0
	baz=159,SNR=11						
P43A				S	Sn	05 56 56.0	+0.3
	baz=159						
U46A	**Springville**	**1.73**	**165**	P	Pn	05 56 33.2	+0.1
	baz=346,SNR=15						
U46A				Sb	Sg	05 56 57.8	+0.5
	baz=346						
R47A	**Wooly Knot Far**	**1.76**	**81**	P	Pn	05 56 33.4	-0.1
	baz=262,SNR=28						
R47A				S	Sb	05 56 57.4	-0.3
	baz=262						
PVMO	**Portageville**	**1.79**	**206**	*e*Pn	Pn	05 56 34.1	+0.2
PVMO				*e*Sn	Sn	05 56 57.6	+0.3
GLAT	**Glass**	**1.81**	**194**	*e*Pn	Pn	05 56 34.9	+0.6
GLAT				*e*Sn	Sn	05 56 57.5	-0.4
PBMO	**Poplar Bluff**	**1.84**	**228**	*e*Pn	Pn	05 56 35.0	+0.4
PBMO				*e*Sn	Sn	05 56 58.9	+0.4
WCI	**Wyandotte Cave**	**1.94**	**83**	*e*Pn	Pn	05 56 36.2	+0.2
WCI				*e*Sn	Sn	05 57 01.7	+0.7
WCI	**Wyandotte Cave**	**1.94**	**83**	P	Pn	05 56 36.0	0.0
	baz=265						
WCI				Sb	Sg	05 57 03.5	-0.5
	baz=265						
U47A	**Clarksville**	**1.96**	**144**	Pb	Pn	05 56 37.4	+1.1
	baz=325,SNR=32						
U47A				Sb	Sb	05 57 04.2	+0.8
	baz=325						
CCM	**Cathedral Cave**	**1.98**	**271**	*e*Pn	Pn	05 56 37.4	+0.9
CCM				*e*Sn	Sb	05 57 03.7	-0.2
CCM	**Cathedral Cave**	**1.98**	**271**	Pb	Pn	05 56 37.5	+0.9

baz=90
P46A **Rosedale** 1.98 37 P Pn 05 56 37.2 +0.6
baz=217,SNR=6.2
P42A **Winchester** 2.00 322 ePn Pb 05 56 38.1 -0.8
P42A eSn Sn 05 57 01.5 -1.0
P42A **Winchester** 2.00 322 Pb Pb 05 56 38.2 -0.8
baz=140,SNR=18
Q47A **Bedord North L** 2.03 63 P Pn 05 56 37.9 +0.7
baz=244
WVT **Waverly** 2.03 159 ePn Pn 05 56 37.9 +0.7
WVT eSn Sb 05 57 04.6 -0.8
WVT **Waverly** 2.03 159 P Pn 05 56 37.7 +0.4
baz=340
BLO **Bloomington** 2.08 56 ePn Pn 05 56 39.0 +1.1
BLO eSn Sn 05 57 05.0 +0.6
T48A **Bowling Green** 2.08 116 P Pn 05 56 38.5 +0.6
baz=297,SNR=43
R41A **Rosebud** 2.10 278 P Pn 05 56 38.9 +0.7
baz=96
T42A **Van Buren** 2.12 243 ePn Pn 05 56 39.5 +1.0
T42A eSn Sb 05 57 07.3 -0.7
T42A **Van Buren** 2.12 243 P Pn 05 56 39.1 +0.6
baz=61
O44A **Mansfield** 2.13 6 P Pn 05 56 39.4 +0.8
baz=186,SNR=6.5
U43A **Rector** 2.13 219 P Pn 05 56 39.2 +0.7
baz=38
U43A Sb Sb 05 57 08.8 +0.6
baz=38
S48A **Wiedeman Farm,** 2.15 99 P Pn 05 56 39.5 +0.6
baz=281,SNR=23
S48A S Sn 05 57 07.2 +0.8
baz=281
Q41A **Truxton** 2.16 296 P Pn 05 56 40.1 +1.0
baz=114,SNR=40
Q41A Sb Sb 05 57 10.4 +1.2
baz=114
HALT **Halls** 2.17 193 ePn Pn 05 56 40.2 +1.0
HALT eSn Sn 05 57 07.5 +0.7
V46A **Holladay** 2.28 167 P Pn 05 56 41.2 +0.5
baz=348
R48A **Northridge Ran** 2.29 80 P Pn 05 56 41.7 +0.9
baz=262,SNR=22
GNAR **Gosnell** 2.30 207 ePn Pn 05 56 40.7 -0.3
GNAR eSn Sb 05 57 13.0 -0.2
V47A **Nunnelly** 2.41 156 P Pn 05 56 43.1 +0.6
baz=337,SNR=11
P47A **Martinsville** 2.42 52 P Pn 05 56 43.6 +1.1
baz=234,SNR=58
S41A **Jillco Farms,** 2.42 260 P Pn 05 56 43.9 +1.2
baz=78
P41A **Barry, Barry** 2.45 313 P Pn 05 56 44.5 +1.5
baz=131
Q48A **North Vernon** 2.52 68 P Pn 05 56 45.4 +1.4
baz=250,SNR=6.8
HDIL **Hopedale** 2.56 350 P Pn 05 56 45.9 +1.4
baz=170,SNR=12
T41A **Mountain View** 2.60 249 P Pn 05 56 46.0 +0.9
baz=67
U42A **Revenden** 2.61 231 P Pn 05 56 46.0 +0.9
baz=49
O41A **Passleys Farm,** 2.67 322 P Pn 05 56 47.5 +1.5
baz=140
SFIN **Lafayette** 2.67 28 ePn Pn 05 56 47.0 +0.9
SFIN eSn Sn 05 57 20.0 +0.9
SFIN **Lafayette** 2.67 28 P Pn 05 56 46.9 +0.9
baz=209
T49A **Edmonton** 2.71 109 ePn Pn 05 56 47.5 +0.9
T49A eSn Sn 05 57 19.7 -0.3
T49A **Edmonton** 2.71 109 P Pn 05 56 47.5 +0.9
baz=291
S49A **Springfield** 2.74 94 P Pn 05 56 47.7 +0.7
baz=276,SNR=37
V48A **Smith Brothers** 2.76 146 ePn Pn 05 56 48.6 +1.3
V48A eSn Sn 05 57 20.6 -0.6
V48A **Smith Brothers** 2.76 146 P Pn 05 56 48.5 +1.2
baz=327
U49A **Red Boiling Sp** 2.81 122 P Pn 05 56 48.9 +1.0
baz=304
R49A **Shelbyville** 2.82 84 P Pn 05 56 48.6 +0.5
baz=266,SNR=5.9
W46A **Michie** 2.91 174 P Pn 05 56 49.2 -0.1
baz=355
W47A **Westpoint** 2.92 161 P Pn 05 56 49.4 -0.2
baz=342
P48A **Milroy** 2.96 60 P Pn 05 56 50.2 +0.2
baz=242,SNR=6.7
O47A **Sheridan** 2.97 41 P Pn 05 56 50.3 +0.1
baz=223
U41A **Viola** 3.05 237 P Pn 05 56 52.3 +1.1
baz=55
PLAL **Pickwick Lake** 3.09 170 ePn Pn 05 56 52.1 +0.2
PLAL eSn Sn 05 57 29.6 +0.1
N41A **Harden Midland** 3.13 329 ePn Pn 05 56 52.5 0.0
N41A eSn Sn 05 57 32.8 +2.2
Q49A **Aurora** 3.17 71 P Pn 05 56 53.0 +0.1
baz=253,SNR=20
V49A **McMinnville** 3.21 134 P Pn 05 56 52.3 -1.1
baz=316
W48A **Pulaski** 3.23 153 P Pn 05 56 52.1 -1.7
baz=334
T50A **Nancy** 3.26 107 P Pn 05 56 52.7 -1.5
baz=289
M44A **Midewin, Midew** 3.39 9 ePn Pn 05 56 54.2 -1.8
M44A eSn Sn 05 57 36.3 -0.7
M43A **Waltham Townsh** 3.40 357 P Pn 05 56 56.7 +0.6
baz=177
S50A **Richmond** 3.45 95 P Pn 05 56 56.4 -0.4
baz=277
X46A **Booneville** 3.47 178 P Pn 05 56 56.4 -0.6
baz=358
P49A **Miami Univ. Ec** 3.48 63 P Pn 05 56 56.7 -0.6
baz=246
R50A **Paris** 3.49 85 P Pn 05 56 56.3 -1.0
baz=267
U50A **Jamestown** 3.50 116 Pb Pb 05 57 04.2 -0.5
baz=299
W49A **Belvidere** 3.52 145 P Pn 05 56 58.8 +1.0
baz=327
O48A **Farmland** 3.56 50 P Pn 05 56 56.9 -1.4
baz=232,SNR=10
X47A **Russelville** 3.58 168 P Pn 05 56 58.3 -0.2
baz=349
SWET **Sewanee** 3.60 140 ePn Pn 05 56 57.4 -1.6
SWET eSn Sn 05 57 42.0 -0.2
U40A **Yellville** 3.69 244 Pb Pb 05 57 08.0 +0.2
baz=62
N47A **Urbana** 3.69 39 P Pn 05 56 59.8 -0.3
baz=220
V50A **Pikeville** 3.75 128 Pb Pb 05 57 08.8 -0.1
baz=310
Q50A **Georgetown** 3.82 76 P Pn 05 57 02.3 +0.4
baz=259,SNR=7.2
X48A **Hartselle** 3.83 159 Pb Pb 05 57 10.1 -0.1
baz=340
M46A **Old House Fiel** 3.84 28 ePn Pn 05 57 02.5 +0.3
M46A eSn Sn 05 57 47.1 -0.8
W50A **Signal Mountai** 3.95 135 ePn Pn 05 57 04.3 +0.6
W50A eSn Sn 05 57 53.2 +2.5
W50A **Signal Mountai** 3.95 135 P Pn 05 57 04.0 +0.4
baz=317
WHAR **Wooly Hollow** 3.95 227 ePn Pn 05 57 04.8 +1.1
WHAR eSn Sn 05 57 50.7 -0.1
T51A **Gray** 3.96 104 P Pn 05 57 03.2 -0.6
baz=287
M40A **Post Highland** 3.99 328 Pb Pb 05 57 13.5 +0.5
baz=147
W41B **Gary Mavity, V** 4.01 226 ePn Pn 05 57 05.5 +1.0
W41B eSn Sn 05 57 52.3 +0.1
W41B **Gary Mavity, V** 4.01 226 P Pn 05 57 04.4 -0.2
baz=44
N48A **Decatur** 4.03 44 P Pn 05 57 04.2 -0.5
baz=227
L42A **Oliver, Polo** 4.03 350 ePn Pn 05 57 05.6 +0.8
L42A eSn Sn 05 57 53.6 +1.0
O49A **Covington** 4.04 56 ePn Pn 05 57 05.0 +0.1
O49A eSn Sn 05 57 51.2 -1.8
O49A **Covington** 4.04 56 Pb Pb 05 57 13.4 -0.4
baz=239
R51A **Hillsboro** 4.07 85 P Pn 05 57 05.6 +0.3
baz=268
U51A **La Follette** 4.12 112 Pb Pb 05 57 14.5 -0.6
baz=295
V51A **Loudon** 4.16 121 ePn Pn 05 57 04.2 -2.3
V51A eSn Sn 05 57 56.9 +1.0
V51A **Loudon** 4.16 121 Pb Pb 05 57 15.6 -0.3
baz=304
P50A **Jamestown** 4.17 66 P Pn 05 57 06.7 0.0
baz=249
CPCT **Cooper Cave** 4.25 126 ePn Pn 05 57 07.3 -0.5
CPCT eSn Sn 05 57 55.6 -2.6
L41A **Preston** 4.26 342 Pb Pb 05 57 17.4 -0.2
baz=161
Y48A **Jasper** 4.30 162 Pb Pb 05 57 18.3 0.0
baz=343
M39A **Webster** 4.34 324 Pb Pb 05 57 19.3 +0.3
baz=141
Q51A **Peebles** 4.34 75 ePn Pn 05 57 09.9 +0.9
Q51A eSn Sn 05 58 01.1 +0.7
Q51A **Peebles** 4.34 75 P Pn 05 57 09.5 +0.4
baz=258
X50B **Fort Payne** 4.35 144 P Pn 05 57 09.7 +0.5
baz=326
UALR **University of** 4.36 223 ePn Pn 05 57 10.6 +1.3
UALR eSn Sn 05 58 01.3 +0.5
TZTN **Tazewell** 4.40 108 ePn Pn 05 57 10.8 +1.0
TZTN eSn Sn 05 58 01.6 -0.1
TZTN **Tazewell** 4.40 108 Pb Pb 05 57 19.1 -0.8
baz=292,SNR=5.8
L40A **Anamosa** 4.45 335 ePn Pn 05 57 11.2 +0.7
L40A eSn Sn 05 58 04.5 +1.4
HHAR **Hobbs** 4.51 249 ePn Pn 05 57 12.0 +0.7
HHAR eSn Sn 05 58 04.3 -0.2
O50A **Cable** 4.51 60 Pb Pb 05 57 20.2 -1.6
baz=244
U52A **Thorn Hill** 4.59 109 Pb Pb 05 57 21.6 -1.6
baz=293
TKL **Tuckaleechee C** 4.63 119 ePn Pn 05 57 13.5 +0.5
TKL eSn Sn 05 58 06.8 -0.7
T52A **Hallie** 4.66 100 P Pn 05 57 13.4 -0.1
baz=283
V52A **Sevierville** 4.66 116 ePn Pn 05 57 13.9 +0.5
V52A eSg Sg 05 58 29.1 -2.5
V52A **Sevierville** 4.66 116 Pb Pb 05 57 24.2 -0.3
baz=300
P51A **Williamsport** 4.67 70 Pb Pb 05 57 23.7 -0.8
baz=254
Y50A **Piedmont** 4.80 149 P Pn 05 57 16.0 +0.7
baz=331
X40A **Basin Creek Fa** 4.84 224 ePn Pn 05 57 16.3 +0.4
X40A eSn Sn 05 58 10.5 -2.2
W39A **Magazine** 4.95 237 P Pn 05 57 17.4 +0.1
baz=54
JFWS **Jewell Farm** 5.01 347 ePn Pn 05 57 18.9 +0.7
LRAL **Lakeview Retre** 5.18 164 ePn Pn 05 57 20.2 -0.4
LRAL eSn Sn 05 58 20.3 -0.8
LRAL **Lakeview Retre** 5.18 164 Pb Pb 05 57 32.1 -1.2
baz=345
MIAR **Mount Ida** 5.23 230 ePn Pn 05 57 21.9 +0.7
MIAR eSn Sn 05 58 23.1 +0.8
S53A **Williamson** 5.24 92 P Pn 05 57 21.5 0.0
baz=276
Z50A **Ashland** 5.29 153 ePn Pn 05 57 21.9 -0.1
V53A **Saluda** 5.30 115 ePn Pn 05 57 22.6 +0.3
V53A eSn Sn 05 58 23.4 -0.8
V53A **Saluda** 5.30 115 P Pn 05 57 22.3 -0.1
baz=298
R53A **Hurricane** 5.36 85 P Pn 05 57 23.0 +0.1
baz=269
P52A **Corning** 5.40 71 P Pn 05 57 23.9 +0.4
baz=255,SNR=8.9
Y52A **Lilburn** 5.63 136 ePn Pn 05 57 26.5 -0.2
Y52A eSg Sb 05 58 54.7 +5.8
N51A **Ashland** 5.70 58 ePn Pn 05 57 27.9 +0.2
N51A eSn Sn 05 58 34.2 +0.2
O52A **Adamsville** 5.76 67 ePn Pn 05 57 27.7 -0.8
P53A **Whipple** 5.92 74 ePn Pn 05 57 31.4 +0.6
P53A **Whipple** 5.92 74 P Pn 05 57 30.9 +0.1
baz=258,SNR=5.8
TUL1 **Leonard** 6.03 252 ePn Pn 05 57 32.0 -0.2
TUL1 eSn Sn 05 58 41.3 -0.7
I39A **Houston** 6.19 341 ePn Pn 05 57 35.2 +0.9
O53A **New Philadelph** 6.25 67 P Pn 05 57 35.3 0.0
baz=252
Q54A **Coxs Mills** 6.27 79 P Pn 05 57 35.5 -0.1
baz=264
S55A **Lewisburg** 6.52 90 P Pn 05 57 38.8 -0.2
baz=275,SNR=7.6
P54A **Burton** 6.64 74 P Pn 05 57 40.7 +0.1
baz=259,SNR=6.9
N53A **Lisbon** 6.71 63 P Pn 05 57 41.3 -0.4
baz=248

KRSC 11 05:58:57.5±10.0, 50.69N×157.71E, h48km±10km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.96**	**324**	*eP*		Pn	05 59 16.2	+1.6
PAU				eS		Sn	05 59 29.0	+1.8
SKR	**Severo-Kuril's**	**1.01**	**270**	*eP*		Pn	05 59 15.7	+0.4
SKR				eS		Sn	05 59 28.4	0.0
KDTR	**Khodutka, Kamc**	**1.14**	**11**	*eP*		Pn	05 59 18.4	+1.4
KDTR				eS		Sn	05 59 33.1	+1.6
ALID	**Alaid**	**1.38**	**278**	*eP*		Pn	05 59 21.9	+1.5
ASAK	**Asacha**	**1.70**	**4**	*eP*		Pn	05 59 26.8	+2.1
RUS	**Russkaya**	**1.81**	**16**	*eP*		Pn	05 59 27.5	+1.3
RUS				eS		Sn	05 59 49.4	+1.4
MTVR	**Mutnovka**	**1.82**	**9**	*eP*		Pn	05 59 28.4	+2.0
MTVR				eS		Sn	05 59 51.0	+2.7
KRMR	**Karymshinskiy**	**2.16**	**7**	*eP*		Pn	05 59 33.8	+2.9
KRMR				eS		Sn	05 59 59.9	+3.5
APC	**Apacha**	**2.26**	**351**	*eP*		Pn	05 59 35.3	+3.0
PET	**Petropavlovsk**	**2.41**	**14**	*eP*		Pn	05 59 36.7	+2.4
PET				eS		Sn	06 00 04.9	+2.4
DALK	**Dalny**	**2.43**	**15**	*eP*		Pn	05 59 37.0	+2.4
DALK				eS		Sn	06 00 05.4	+2.3
UGLR	**Uglovaya**	**2.61**	**15**	*eP*		Pn	05 59 40.6	+3.3
AVH	**Avacha**	**2.66**	**13**	*eP*		Pn	05 59 41.5	+3.7
AVH				eS		Sn	06 00 13.1	+4.3
SMAR	**Somma**	**2.66**	**14**	*eP*		Pn	05 59 42.0	+4.0
KOK	**Koryaka**	**2.67**	**12**	*eP*		Pn	05 59 42.0	+4.0
SDLR	**Sedlovina**	**2.69**	**15**	*eP*		Pn	05 59 40.8	+2.5
KRER	**Koryakskii**	**2.69**	**13**	*eP*		Pn	05 59 41.9	+3.5
KRER				eS		Sn	06 00 13.8	+3.9
KRX	**Arik**	**2.73**	**12**	*eP*		Pn	05 59 43.1	+4.2
SPN	**Mys Shipunski**	**2.80**	**30**	*eP*		Pn	05 59 42.9	+3.2
GNL	**Ganaly**	**3.01**	**3**	*eP*		Pn	05 59 46.1	+3.4
KII	**Karymskiy**	**3.52**	**17**	*eP*		Pn	05 59 54.8	+5.2
MKZ	**Mys Kozlova**	**4.58**	**31**	*eP*		Pn	06 00 06.8	+2.7
KBTR	**Krutoberegovo**	**6.31**	**27**	*eP*		Pn	06 00 31.4	+3.6

*NNC **11** 06:08:09.8±2.0, 54.48N×87.17E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=19.3km s-min=10.5km az=0.0, Suspected Mining explosion.*

IDC 11 06:08:15.0±2.7, 54.32N×86.82E, h0km, mb1 3.1/3, mb1mx3.0/57, mbtmp3.1/3, ML2.9/3, 6C-6D, Error ellipse: s-maj=24.8km s-min=14.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**254**	*i*			06 17 30.0	
	baz=73,slow=347,SNR=0.8							
ZAA0	**Zalesovo Array**	**1.23**	**254**	⇓	P	Pg	06 08 36.3	-2.4
	0.4nm,0.5s							
ZAA0				⇓	S	Sn	06 08 57.2	+0.4
	3.4nm,0.8s							
ZALV	**Zalesovo Beam**	**1.23**	**254**	Pg		Pg	06 08 36.8	-1.8
	2.5nm,0.3s,baz=73,slow=15,SNR=27							
ZALV				Lg		Lg	06 08 54.8	
	1.5nm,0.3s,baz=71,slow=28,SNR=5.3							
KURK	**Kurchatov**	**6.17**	**238**	⇑	Pn	Pn	06 09 46.5	-0.7
	3.0nm,0.8s							
KURK				⇓	Lg	Lg	06 11 35.8	
	2.8nm,0.8s							
KURBB	**Kurchatov Arra**	**6.27**	**237**	⇑	Pn	Pn	06 09 49.5	+0.9
	3.1nm,0.6s							
KURBB				⇓	Lg	Lg	06 11 41.1	
	5.0nm,0.8s							
KURBB	**Kurchatov Arra**	**6.27**	**237**	Pn		Pn	06 09 49.2	+0.5
	0.2nm,0.3s,baz=54,slow=14,SNR=18							
KURBB				Lg		Lg	06 11 35.0	
	0.0nm,0.3s,baz=50,slow=30,SNR=3.1							
MK31	**Makanchi Array**	**8.06**	**203**	⇓	Pn	Pn	06 10 12.7	-0.6
	0.3nm,0.6s,baz=27,slow=13,SNR=7.3							
MK31				⇑	Sn	Sn	06 11 45.4	+0.3
	0.3nm,0.5s,baz=22,slow=26,SNR=4.2							
MK31				⇑	Lg	Lg	06 12 32.4	
	1.1nm,0.8s,baz=188,slow=14,SNR=4.5							
MKAR	**Makanchi Array**	**8.06**	**203**	Pn		Pn	06 10 14.2	+0.9
	0.1nm,0.3s,baz=22,slow=13,SNR=6.8							
MKAR				Sn		Sn	06 11 45.9	+0.8
	0.1nm,0.3s,baz=18,slow=21,SNR=5.0							
MKAR				Lg		Lg	06 12 29.2	
	baz=30,slow=27,SNR=3.0							
MAKZ	**Makanchi**	**8.12**	**204**	⇑	Pn	Pn	06 10 12.6	-1.5
	0.5nm,0.6s							
MAKZ				⇓	Sn	Sn	06 11 47.8	+1.2
	1.4nm,1.1s							
MAKZ				⇑	Lg	Lg	06 12 31.6	
	1.5nm,1.1s							
BVAR	**Borovoye Array**	**9.84**	**269**	Pn		Pn	06 10 37.4	-0.2
	0.2nm,0.3s,baz=77,slow=15,SNR=3.5							

IDC 11 06:10:42.6±3.4, 54.20N×87.28E, h0km, mb1 2.9/2, mb1mx2.8/62, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=31.3km s-min=19.1km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**261**	*i*			06 20 59.6	
	baz=81,slow=355,SNR=1.0							
ZALV	**Zalesovo Beam**	**1.47**	**261**	Pg		Pn	06 11 08.8	-1.5
	3.4nm,0.3s,baz=78,slow=15,SNR=17							
ZALV				Lg		Lg	06 11 29.2	
	1.1nm,0.3s,baz=77,slow=27,SNR=4.1							
KURBB	**Kurchatov Arra**	**6.44**	**240**	Pn		Pn	06 12 19.4	+0.9
	0.1nm,0.3s,baz=54,slow=13,SNR=4.7							
MKAR	**Makanchi Array**	**8.06**	**205**	Pn		Pn	06 12 42.1	+1.2
	0.1nm,0.3s,baz=28,slow=13,SNR=5.3							

*ISCJB **11** 06:21:00.1±0.9, 7.39S±0.03×146.31E±0.04, h159km±9km, mb4.7/113, Error ellipse: s-maj=5.9km s-min=5.0km az=170.0*
*MOS **11** 06:21:00.6±0.8, 7.37S×146.31E, h165km, mb4.9/29, Error ellipse: s-maj=12.8km s-min=7.4km az=103.6*
*IDC **11** 06:21:02.3±0.6, 7.45S×146.29E, h168km±5km, mb4.4/30, mb1 4.4/32, mb1mx4.3/47, mbtmp4.8/32, MS3.2/1, Ms1 3.2/1, ms1mx2.6/29, Error ellipse: s-maj=12.6km s-min=7.3km az=88.0*
*BJI **11** 06:21:02.0, 7.27S×146.63E, h186km, mb4.9/52, mB4.8/29*
*NEIC **11** 06:21:03.1±0.7, 7.42S×146.28E, h176km±6km, mb4.6/67, Error ellipse: s-maj=4.7km s-min=3.6km az=73.0*
ISC 11 06:21:02.4±0.5, 7.44S±0.05×146.27E±0.06, h171km±4km, h171km:pP-P, n235, σ1.07/259, mb4.7/112, 14C-3D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**6.70**	**62**	*ePn*		**Pn**	**06 22 38.1**	**-0.5**
COEN	**Coen**	**7.15**	**205**	*ePn*		**Pn**	**06 22 46.8**	**+2.2**
CTA	**Charters Tower**	**12.57**	**180**	P		**P**	**06 24 01.7**	**+1.4**
	1.1nm,0.3s,baz=0.5,slow=14,SNR=9.2							
CTAO	**Charters Tower**	**12.57**	**180**	*ePn*		**Pn**	**06 23 56.4**	**+0.9**
CTAO	**Charters Tower**	**12.57**	**180**	*eP*		**Pn**	**06 23 56.4**	**+0.9**
FAKI	**Fak Fak**	**14.66**	**287**	*ePn*		**Pn**	**06 24 22.3**	**+0.5**
MTN	**Manton Dam**	**15.83**	**249**	*ePn*		**Pn**	**06 24 35.8**	**-0.4**
	8.2nm,0.8s							
SIJI	**Sorong**	**16.32**	**293**	P		**P**	**06 24 41.5**	**-0.4**
	7.7nm,0.3s,baz=95,slow=8.4,SNR=19							
WRAB	**Tennant Creek**	**16.96**	**222**	*eP*		**P**	**06 24 49.7**	**+0.7**
	6.9nm,0.8s							
WRAB	**Tennant Creek**	**16.96**	**222**	*i* P		**Pn**	**06 24 50.7**	**+0.8**
WB2	**Warramunga Arr**	**16.97**	**222**	*eP*		**P**	**06 24 49.7**	**+0.6**
WR1	**Warramunga Arr**	**16.98**	**222**	*eP*		**P**	**06 24 49.6**	**+0.5**
	7.6nm,1.0s							
WR1				*eS*		**S**	**06 27 54.9**	**-2.5**
WR1				*ePcP*		**PcP**	**06 29 26.1**	**+0.2**
WR1				*eScP*		**ScP**	**06 32 45.4**	**+0.6**
WRA	**Warramunga Arr**	**16.98**	**222**	*ceP*		**P**	**06 24 49.5**	**+0.4**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.4s							
WRA	**Warramunga Arr**	**16.98**	**222**	P		**P**	**06 24 49.6**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=48,slow=12,SNR=27							
WRA				S		**S**	**06 27 54.9**	**-2.5**
	baz=51,slow=19,SNR=3.0							
WRA				PcP		**PcP**	**06 29 26.1**	**+0.2**
	baz=34,slow=2.4,SNR=3.1							
WRA				ScP		**ScP**	**06 32 45.4**	**+0.6**
	baz=36,slow=2.2,SNR=3.2							
AS01	**Alice Springs**	**20.00**	**215**	*eP*		**P**	**06 25 22.8**	**+0.8**
AS31	**Alice Springs**	**20.02**	**215**	*eP*		**P**	**06 25 23.6**	**+1.3**
	comp=Z,5.7nm,0.3s							
ASAR	**Alice Springs**	**20.03**	**215**	P		**P**	**06 25 22.9**	**+0.6**
	comp=Z,6.5nm,0.8s,baz=51,slow=9.1,SNR=30							
ASAR				S		**S**	**06 28 57.3**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=33,slow=21,SNR=4.1							
ASAR				ScP		**ScP**	**06 32 51.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=42,slow=1.5,SNR=4.9							
BATI	**Baumata**	**22.50**	**261**	LR		LR	06 35 55.8	
	comp=Z,8nm,20.0s,baz=324,slow=40							
FITZ	**Fitzroy Crossi**	**22.71**	**240**	*eP*		**P**	**06 25 49.1**	**-0.7**
	comp=Z,6.3nm,0.6s							
FITZ	**Fitzroy Crossi**	**22.71**	**240**	P		**P**	**06 25 49.0**	**-0.9**
	comp=Z,4.8nm,0.3s,baz=58,slow=7.8,SNR=20							
ARMA	**Armidale**	**23.41**	**168**	*eP*		**P**	**06 25 57.2**	**+1.0**
	comp=Z,8.7nm,0.7s							
MMRI	**Maumere**	**23.82**	**265**	*eP*		**P**	**06 25 59.1**	**-0.9**
	comp=Z,36nm,0.6s							
DZM	**Mont Dzumac**	**24.29**	**129**	*eP*		**P**	**06 26 04.1**	**-0.2**
	comp=Z,11nm,0.8s							
DZM	**Mont Dzumac**	**24.29**	**129**	P		**P**	**06 26 03.2**	**-1.1**
	comp=Z,5.2nm,0.4s,baz=265,slow=11,SNR=14							
STKA	**Stephens Creek**	**24.70**	**190**	*eP*		**P**	**06 26 09.3**	**+1.5**
	comp=Z,1.5nm,0.6s							
STKA	**Stephens Creek**	**24.70**	**190**	*eP*		**P**	**06 26 09.3**	**+1.5**
STKA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
STKA	**Stephens Creek**	**24.70**	**190**	P		**P**	**06 26 08.2**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=346,slow=9.2,SNR=18							
BBOO	**Buckleboo**	**26.96**	**199**	*eP*		**P**	**06 26 26.9**	**-1.3**
	comp=Z,6.8nm,0.6s							
CAN	**Canberra**	**27.86**	**175**	*eP*		**P**	**06 26 36.1**	**-0.1**
	comp=Z,3.5nm,1.1s							
CAN	**Canberra**	**27.86**	**175**	*eP*		**P**	**06 26 36.1**	**-0.1**
CAN				pmax		pmax		
	comp=Z,4.0nm,1.1s							
FORT	**Forrest**	**28.80**	**214**	*eP*		**P**	**06 26 44.5**	**0.0**
	comp=Z,8.4nm,0.8s							
MBWA	**Marble Bar**	**29.04**	**239**	*eP*		**P**	**06 26 46.5**	**-0.2**
	comp=Z,14nm,1.1s							
TSM	**Tawau**	**30.64**	**291**	P		**P**	**06 27 00.7**	**-0.2**
MSVF	**Nonsavu**	**32.61**	**111**	*eP*		**P**	**06 27 18.1**	**-0.2**
	comp=Z,12nm,1.0s							
MSVF	**Nonsavu**	**32.61**	**111**	*eP*		**P**	**06 27 18.1**	**-0.2**
MSVF				pmax		pmax		
	comp=Z,12nm,1.0s							
KKM	**Kota Kinabalu**	**32.84**	**293**	P		**P**	**06 27 19.6**	**-0.7**
CBIJ	**Chichi jima**	**34.56**	**354**	*eP*		**P**	**06 27 34.0**	**-0.8**
JCJ	**Chichijima**	**34.56**	**354**	P		**P**	**06 27 34.0**	**-0.8**
	comp=Z,38nm,0.5s,baz=272,slow=13,SNR=6.3							
SBUM	**Sibu**	**35.36**	**285**	P		**P**	**06 27 40.6**	**-1.4**
JOW	**Kunigami**	**38.27**	**334**	*eP*		**P**	**06 28 07.2**	**+0.9**
	comp=Z,33nm,0.7s							
JOW	**Kunigami**	**38.27**	**334**	P		**P**	**06 28 07.4**	**+1.1**
	comp=Z,5.0nm,0.4s,baz=148,slow=12,SNR=11							
YULB	**Yu-li**	**39.18**	**322**	*eP*		**P**	**06 28 14.0**	**0.0**
	comp=Z,12nm,0.7s							
NACB	**Ninganchiao**	**39.59**	**323**	*eP*		**P**	**06 28 18.1**	**+0.8**
	comp=Z,36nm,0.8s							
SSLB	**Suanglung**	**39.68**	**322**	*eP*		**P**	**06 28 19.1**	**+0.9**
	comp=Z,11nm,0.6s							
YHNB	**Yeheng**	**40.09**	**324**	*eP*		**P**	**06 28 21.1**	**-0.4**
	comp=Z,30nm,0.5s							
URZ	**Urewera**	**41.45**	**142**	*eP*		**P**	**06 28 32.5**	**+0.1**
URZ	**Urewera**	**41.45**	**142**	P		**P**	**06 28 32.4**	**0.0**
	comp=Z,11nm,0.7s,baz=268,slow=3.7,SNR=10							
THZ	**Tophouse**	**41.54**	**150**	*eP*		**P**	**06 28 32.9**	**-0.3**
	comp=Z,14nm,0.8s							
BKZ	**Black Stump Fm**	**41.67**	**144**	*eP*		**P**	**06 28 35.3**	**+1.1**
	comp=Z,14nm,0.7s							
MXZ	**Matakaoa Point**	**41.75**	**141**	*eP*		**P**	**06 28 35.5**	**+0.7**
	comp=Z,45nm,1.0s							
RPZ	**Rata Peaks**	**42.15**	**153**	P		**P**	**06 28 38.7**	**+0.7**
	comp=Z,23nm,0.6s,baz=311,slow=4.8,SNR=19							
MLZ	**Mavora Lakes**	**42.26**	**157**	*eP*		**P**	**06 28 40.0**	**+1.1**
	comp=Z,15nm,1.0s							
LBZ	**Lake Benmore**	**42.30**	**154**	*eP*		**P**	**06 28 39.5**	**+0.3**
	comp=Z,32nm,1.1s							

KHZ	Kahutara	42.34	150	eP		P	06 28 40.1	+0.6
	comp=Z,20nm,1.0s							
BFZ	Birch Farm	42.54	146	eP		P	06 28 41.0	-0.2
WHZ	Wether Hill Ro	42.64	158	eP		P	06 28 42.5	+0.5
	comp=Z,11nm,0.9s							
MQZ	McQueen's Vall	42.88	152	eP		P	06 28 44.6	+0.7
	comp=Z,20nm,1.0s							
JNU	Nakatsue	42.91	341	P		P	06 28 43.9	-0.4
	comp=Z,18nm,1.1s,baz=135,slow=11,SNR=4.2							
KGM	Kluang	43.87	281	P		P	06 28 52.8	+0.6
MJAR	Matsushiro Arr	44.40	351	P		P	06 28 55.4	-0.7
	comp=Z,7.7nm,0.7s,baz=185,slow=9.7,SNR=14							
MJAR				PcP		PcP	06 30 37.2	+0.3
	comp=Z,1.5nm,0.6s,baz=164,slow=3.5,SNR=4.8							
MAJO	Matsushiro	44.40	351	eP		P	06 28 55.4	-0.7
	comp=Z,16nm,0.6s							
MAJO				ePcP		PcP	06 30 37.2	+0.3
MAJO	Matsushiro	44.40	351	eP		P	06 28 55.4	-0.7
MAJO				e			06 30 37.2	
MAJO				pmax	pmax			
	comp=Z,16nm,0.6s							
MAT	Matsushiro	44.40	351	P		P	06 28 55.6	-0.5
MJB9	Matsu-Tunnel	44.40	351	eP		P	06 28 55.9	-0.3
	comp=Z,16nm,0.6s							
KTGM	Kuala Trenggan	44.87	285	P		P	06 29 00.7	+0.6
FRIM	Kepong	45.79	282	P		P	06 29 07.7	+0.2
IPM	Ipoh	46.67	283	eP		P	06 29 14.5	+0.2
	comp=Z,32nm,0.7s							
IPM	Ipoh	46.67	283	P		P	06 29 14.6	+0.2
NJ2	Nanjing	47.19	328	eP		P	06 29 18.8	+0.8
NJ2				pmax	pmax			
	comp=Z,23nm,0.5s							
KULM	Kulim	47.24	284	eP		P	06 29 18.6	-0.2
	comp=Z,16nm,0.6s							
KULM	Kulim	47.24	284	P		P	06 29 18.9	+0.1
KSRS	Korea Array	47.84	340	P		P	06 29 23.6	+0.7
	comp=Z,20nm,0.7s,baz=159,slow=8.6,SNR=76							
KSRS				PcP		PcP	06 30 49.6	+0.7
	comp=Z,2.6nm,0.6s,baz=171,slow=2.8,SNR=7.9							
KS15	Wonju Array Si	47.84	340	eP		P	06 29 23.4	+0.4
	comp=Z,24nm,0.8s							
KS01	Wonju Array Si	47.87	340	eP		P	06 29 23.6	+0.4
PSI	Prapat	48.32	280	eP		P	06 29 26.4	-0.8
	comp=Z,14nm,1.1s							
PSI	Prapat	48.32	280	eP		P	06 29 26.4	-0.8
PSI				pmax	pmax			
	comp=Z,14nm,1.1s							
SKNT	Sakolnakorn	48.33	300	P		P	06 29 27.3	+0.2
GSI	Gunungsitoli	49.34	278	eP		P	06 29 33.0	-1.8
	comp=Z,20nm,0.8s							
CHAI	Chaiyaphum	49.60	298	P		P	06 29 36.7	0.0
	comp=Z,8.2nm,0.6s,comp=Z,147nm							
TMDB	BangkokBB_BH_I	49.94	295	P		P	06 29 54.2	+15
	comp=Z,0.0nm,0.6s,comp=Z,0.3nm							
PBKT	Sadao Pong	50.76	298	P		P	06 29 47.8	+2.4
	comp=Z,2.8nm,0.7s							
ASAJ	Asahikawa	51.42	357	P		P	06 29 50.3	+0.4
	comp=Z,8.7nm,0.8s,baz=195,slow=7.1,SNR=4.2							
UTTA	Uttaradit	51.61	300	P		P	06 29 52.6	+0.8
	comp=Z,7.5nm,0.7s							
NANT	Nan	51.94	301	P		P	06 29 55.1	+0.9
SUKH	Sukhothai	52.30	299	P		P	06 29 58.5	+1.6
	comp=Z,5.7nm,0.8s							
LAMP	Lampang	52.73	300	P		P	06 30 01.7	+1.6
	comp=Z,10nm,0.7s							
USA0B	Ussuriysk Arra	53.00	347	eP		P	06 30 01.8	+0.3
	comp=Z,14nm,0.9s							
USA0B	Ussuriysk Arra	53.00	347	eP		P	06 30 01.8	+0.3
USA0B				pmax	pmax			
	comp=Z,14nm,0.9s							
USRK	Ussuriysk Ar.	53.00	347	P		P	06 30 02.0	+0.5
	comp=Z,13nm,0.7s,baz=173,slow=7.2,SNR=24							
CM01	Chiang Mai Arr	53.27	299	eP		P	06 30 04.9	+0.9
CMAR	Chiang Mai Arr	53.30	300	P		P	06 30 05.5	+1.3
	comp=Z,17nm,0.6s,baz=125,slow=5.7,SNR=66							
KMI	Kunming	53.31	309	P		P	06 30 06.0	+1.6
KMI				pmax	pmax			
	comp=Z,28nm,1.0s							
CMMT	Chiang Mai	53.45	300	P		P	06 30 06.3	+1.0
	comp=Z,26nm,0.8s,comp=Z,505nm							
CHTO	Chiang Mai	53.45	300	eP		P	06 30 06.3	+1.1
	comp=Z,18nm,0.8s							
CHTO	Chiang Mai	53.45	300	eP		P	06 30 06.4	+1.1
CHTO				pmax	pmax			
	comp=Z,18nm,0.8s							
CHTO	Chiang Mai	53.45	300	P		P	06 30 06.4	+1.1
	comp=Z,113nm,1.1s							
YSS	Yuzh-Sakhalins	54.24	357	eP		P	06 30 11.0	+0.5
XAN	Xi'an	54.34	322	P		P	06 30 12.0	+0.5
XAN				pmax	pmax			
	comp=Z,41nm,0.8s							
XAN	Xi'an	54.34	322	eP		P	06 30 12.3	+0.8
	comp=Z,35nm,0.9s							
XAN	Xi'an	54.34	322	eP		P	06 30 12.3	+0.8
XAN				pmax	pmax			
	comp=Z,35nm,0.9s							
CN2	Changchun	54.38	342	eP		P	06 30 13.4	+1.9
BJI	Beijing	54.81	332⇑	eP		P	06 30 15.0	+0.3
BJI				S		S	06 37 44.2	+1.9
BJI				pmax	pmax			
	comp=Z,18nm,1.1s							
CD2	Chengdu	55.77	315⇑	iP		P	06 30 22.7	+0.9
CD2				pmax	pmax			
	comp=Z,130nm,0.5s							
HHC	Hu-ho-hao-te	57.68	329	eP		P	06 30 37.3	+2.1
HHC				sP		sP	06 31 44.5	+11
HHC				S		S	06 38 21.7	+1.3
HHC				pmax	pmax			
	comp=Z,19nm,0.9s							
HHC				pmax	pmax			
	comp=Z,75nm,5.2s							
KLR	Kul'dur	57.85	349	iP		P	06 30 35.2	-0.8
KLR	Kul'dur	57.85	349	P		P	06 30 36.5	+0.4
	comp=Z,5.3nm,0.5s,baz=182,slow=5.4,SNR=38							
KLR				PcP		PcP	06 31 26.8	+0.2
	comp=Z,3.6nm,1.0s,baz=220,slow=3.7,SNR=4.2							
LZH	Lanzhou	58.83	320	⇓P		P	06 30 45.3	+1.9
LZH				pP		pP	06 31 27.5	+3.9
LZH				sP		sP	06 31 48.0	+5.5
LZH				pmax	pmax			
	comp=Z,23nm,1.2s							
LZH				pmax	pmax			
	comp=Z,95nm,7.0s							
NKL	Nikolayevsk	60.54	356	iP		P	06 30 55.0	+0.6
NKL				pmax	pmax			
	comp=Z,33nm,0.9s							
HIA	Hailar	61.05	340	iP		P	06 30 57.9	-0.1
HIA				pmax	pmax			
	comp=Z,17nm,1.0s							
PEA0B	Petropavlovsk-	61.09	8	eP		P	06 30 58.8	+0.6
	comp=Z,14nm,0.9s							
PEA0B	Petropavlovsk-	61.09	8	eP		P	06 30 58.8	+0.6
PEA0B				pmax	pmax			
	comp=Z,14nm,0.9s							
PETK	Petropavlovsk-	61.09	8	eP		P	06 30 59.1	+0.9
PETK	Petropavlovsk-	61.09	8	eP		P	06 30 59.1	+0.9
PETK	Petropavlovsk-	61.09	8	P		P	06 30 58.8	+0.6
	comp=Z,6.6nm,0.7s,baz=164,slow=7.1,SNR=12							
PEA1	Petropavlovsk-	61.10	8	eP		P	06 30 58.8	+0.6
KIP	Kipapa	61.72	61	ceP		P	06 31 04.6	+1.5
KIP				pmax	pmax			
	comp=Z,78nm,1.2s							
ZEA	Zeya	63.03	347	eP		P	06 31 12.1	+1.0
ZEA				pmax	pmax			
	comp=Z,49nm,0.8s							
GTA	Gaotai	63.39	321	⇑P		P	06 31 15.0	+1.1
GTA				pP		pP	06 31 56.9	+2.2
GTA				sP		sP	06 32 14.5	+1.1
GTA				pmax	pmax			
	comp=Z,12nm,1.3s							
GTA				pmax	pmax			
	comp=Z,70nm,5.4s							
GTA				LR	LR			
	comp=Z,130nm,20.3s							
GTA				LR	LR			
	comp=Z,290nm,22.3s							
GTA				LR	LR			
	comp=Z,120nm,17.5s							
CASY	Casey	63.68	195	eP		P	06 31 15.8	+0.6
	comp=Z,11nm,0.6s							
LSA	Lhasa	64.53	308	eP		P	06 31 22.5	+0.5
	comp=Z,27nm,0.6s							
LSA	Lhasa	64.53	308	eP		P	06 31 22.5	+0.5
LSA				pmax	pmax			
	comp=Z,27nm,0.6s							
ULN	Ulaanbaatar	65.02	332	eP		P	06 31 24.0	-0.5
ULN				pmax	pmax			
	comp=Z,41nm,1.6s							
SONA0	Songino Array	65.31	332	eP		P	06 31 27.3	+1.1
SONM	Songino Array	65.31	332	P		P	06 31 27.3	+1.1
	comp=Z,8.2nm,0.5s,baz=159,slow=4.7,SNR=64							
MA2	Magadan	66.89	2	ceP		P	06 31 36.2	+0.3
MA2				pmax	pmax			
	comp=Z,17nm,0.9s							
MA2	Magadan	66.89	2	P		P	06 31 35.3	-0.6
	comp=Z,13nm,0.8s,baz=160,slow=3.9,SNR=14							
RAMN	Ramite	67.10	303	eP		P	06 31 38.8	+0.6
	comp=Z,30nm,0.5s							
JIRN	Jiri	67.70	304	eP		P	06 31 42.7	+0.5
	comp=Z,41nm,0.6s							
GUN	Gumba	68.05	304	eP		P	06 31 45.1	+0.8
	comp=Z,47nm,0.5s							
PKI	Pulchoki	68.32	303	eP		P	06 31 46.2	+0.3
	comp=Z,8.6nm,0.4s							
PKIN	Phulchoki	68.33	303	eP		P	06 31 46.1	+0.2
	comp=Z,11nm,0.5s							
KKN	Kakani	68.50	304	eP		P	06 31 47.6	+0.7
	comp=Z,47nm,0.8s							
ZAK	Zakamensk	68.55	332	eP		P	06 31 47.2	+0.6
ZAK				pmax	pmax			
	comp=Z,34nm,1.0s							
DMN	Daman	68.58	303	eP		P	06 31 48.3	+0.8
	comp=Z,131nm,1.0s							
GKN	Gorkha	69.11	304	eP		P	06 31 51.1	+0.5
	comp=Z,69nm,0.8s							
TLY	Talaya	69.29	333	ceP		P	06 31 52.5	+1.5
TLY				pmax	pmax			
	comp=Z,53nm,1.3s							
KOLN	Koldanda	69.89	303	eP		P	06 31 55.9	+0.5
	comp=Z,78nm,0.8s							
DANN	Dangsing	69.95	304	eP		P	06 31 56.2	+0.2
	comp=Z,70nm,0.8s							
SEY	Seymchan	70.33	3	ceP		P	06 31 58.0	+0.9
SEY	Seychan	70.33	3	P		P	06 31 57.0	0.0
	comp=Z,7.5nm,0.8s,baz=176,slow=4.2,SNR=26							
MOY	Mondy	70.49	332	eP		P	06 31 59.9	+1.4
PYUN	Piuthan	70.51	303	eP		P	06 31 59.3	+0.1
	comp=Z,118nm,0.8s							
VNDA	Vanda	70.53	176	eP		P	06 31 59.0	+0.8
VNDA	Vanda	70.53	176	P		P	06 31 58.9	+0.8
	comp=Z,1.3nm,0.9s,baz=316,slow=7.1,SNR=5.7							
VNDA				pP		pP	06 32 39.4	+0.3
	comp=Z,1.6nm,0.8s,baz=314,slow=5.9,SNR=3.7							
HYB	Hyderabad	71.29	291	iP		P	06 32 04.0	+0.1
WMQ	Urumqi	73.41	320	eP		P	06 32 17.3	+1.3
WMQ				pmax	pmax			
	comp=Z,55nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,420nm,5.1s							
BILL	Bilibino	76.62	8	eP		P	06 32 32.9	-0.9
BILL				e			06 32 41.3	
BILL				e*PP		pP	06 33 14.8	-0.7
BILL				e			06 35 24.8	
BILL				pmax	pmax			
	comp=Z,13nm,1.6s							
MK01	Makanchi Array	78.13	321	eP		P	06 32 43.5	+0.8
MK31	Makanchi Array	78.14	321	eP		P	06 32 43.5	+0.8
	comp=Z,8.2nm,0.7s							
MK31	Makanchi Array	78.14	321	eP		P	06 32 43.6	+0.8
MK31				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MK32	Makanchi Array	78.14	321	eP		P	06 32 43.5	+0.7
MKAR	Makanchi Array	78.14	321	P		P	06 32 43.5	+0.7
	comp=Z,10.0nm,0.6s,baz=100,slow=7.4,SNR=96							
MAKZ	Makanchi	78.34	321	eP		P	06 32 44.5	+0.7
	comp=Z,14nm,0.6s							
MAKZ	Makanchi	78.34	321	eP		P	06 32 44.5	+0.7
MAKZ				pmax	pmax			
	comp=Z,14nm,0.6s							
PDGK	Podgornoye	78.61	317	P		P	06 32 45.9	+0.4
TARG	Taragay, Kyrgy	79.21	315	eP		P	06 32 50.5	+1.3
	comp=Z,13nm,0.7s							
TIXI	Tiksi	79.76	354	ceP		P	06 32 49.2	-1.7
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KDJ	Kajisay	79.78	315	eP		P	06 32 54.2	+2.3
	comp=Z,28nm,0.7s							
KSH	Kashi	79.80	312	P		P	06 32 53.7	+1.7
KSH				pP		pP	06 33 40.5	+5.9
KSH				PP		PP	06 36 01.7	+5.9
KSH				S		S	06 42 35.6	-5.4
KSH				sS		sS	06 43 56.4	+1.6
KSH				SS		SS	06 47 52.8	-1.4
KSH				pmax	pmax			
	comp=Z,11nm,0.7s							
KSH				pmax	pmax			
	comp=Z,89nm,4.2s							
KSH				LR	LR			
	comp=Z,82nm,8.2s							
KSH				LR	LR			
	comp=Z,110nm,9.7s							
KSH				LR	LR			
	comp=Z,64nm,9.6s							
ZAA0	Zalesovo Array	79.84	328	eP		P	06 32 51.4	-0.4
	comp=Z,19nm,1.0s							
ZALV	Zalesovo Beam	79.84	328	P		P	06 32 51.4	-0.3
	comp=Z,11nm,0.4s,baz=108,slow=5.8,SNR=57							
ZAA1	Zalesovo Array	79.84	328	eP		P	06 32 51.4	-0.3
ULHL	Ulahol	80.48	315	P		P	06 32 56.7	+1.0
	SNR=13							
NVS	Novosibirsk	81.07	329	⇓iP		P	06 32 58.6	+0.3
NVS				pmax	pmax			
	comp=Z,22nm,1.2s							
NVS				pmax	pmax			
	comp=N,10.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,13nm,1.4s							
KZA	Kyzart	81.12	315	P		P	06 33 00.8	+1.3
	SNR=75							
TKM2	Tokmak 2	81.15	315	P		P	06 32 60.0	+0.7
	SNR=16							
KBK	Karagaybulak	81.52	315	P		P	06 33 02.0	+0.8
	SNR=8.6							
UCH	Uchtor	81.69	315	P		P	06 33 03.7	+1.2
	SNR=29							
AAK	Ala-Archa	81.83	315	P		P	06 33 03.7	+0.8
	SNR=13							
AAK	Ala-Archa	81.83	315	P		P	06 33 03.6	+0.8
	comp=E,9.6nm,0.7s,baz=122,slow=4.7,SNR=38							
SVW2	Sparrevohn	81.85	25	eP		P	06 33 01.2	-1.1
	comp=E,9.3nm,1.0s							
KURK	Kurchatov	81.92	324	eP		P	06 33 03.2	+0.3
	comp=E,12nm,0.9s							
KURK	Kurchatov	81.92	324	ceP		P	06 33 03.1	+0.2
KURK				pmax	pmax			
	comp=Z,19nm,1.2s							
KURBB	Kurchatov Arra	81.94	323	P		P	06 33 03.1	+0.2
	comp=Z,4.7nm,0.2s,baz=109,slow=4.6,SNR=14							
USP	Ospenovka	82.02	316	P		P	06 33 04.3	+0.7
	SNR=18							
AML	Almayashu	82.24	314	P		P	06 33 06.1	+0.8
	SNR=25							
EKS2	Erkin-Say	82.34	315	P		P	06 33 06.4	+1.0
	SNR=20							
QSPA	South Pole Qui	82.54	180	eP		P	06 33 06.0	0.0
	comp=Z,5.5nm,0.8s							
GAR	Garm	83.86	311	eP		P	06 33 13.3	0.0
	comp=Z,8.3nm,0.6s							
GAR	Garm	83.86	311	eP		P	06 33 13.3	0.0
GAR				pmax	pmax			
	comp=Z,8.0nm,0.6s							
CAST	Castle Rocks	84.44	23	eP		P	06 33 15.4	-0.1
	comp=Z,6.9nm,0.7s							
CHGR	Chuyangaron	84.65	310	eP		P	06 33 17.2	0.0
	comp=Z,27nm,0.5s							
KK31	Karatay Array	84.77	315	eP		P	06 33 17.9	+0.3
	comp=Z,6.3nm,0.5s							
KK31	Karatay Array	84.77	315	eP		P	06 33 17.9	+0.3
KK31				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KKAR	Karatay Array	84.77	315	eP		P	06 33 17.8	+0.2
	comp=Z,6.3nm,0.5s							
KKAR	Karatay Array	84.77	315	eP		P	06 33 17.8	+0.2
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
OTUK	Ortayu	84.96	320	P		P	06 33 19.1	+0.6
IM3	Indian Mountai	85.09	21	eP		P	06 33 19.2	+0.5
MLY	Manley	85.72	22	eP		P	06 33 22.1	+0.2
	comp=Z,8.2nm,0.9s							
RND	Reindeer	85.72	24	eP		P	06 33 21.3	-0.7
	comp=Z,14nm,0.9s							
RND				pmax	pmax			
	comp=Z,14nm,0.9s							
MCK	McKinley	85.83	24	eP		P	06 33 22.1	-0.3
	comp=Z,12nm,0.9s							
MCK	McKinley	85.83	24	eP		P	06 33 22.1	-0.3
MCK				pmax	pmax			
	comp=Z,12nm,0.9s							
NRIK	Noril'sk	86.42	342	P		P	06 33 25.2	0.0
	comp=Z,7.2nm,0.5s,baz=118,slow=4.5,SNR=8.4							
WRH	Wood River Hil	86.49	23	eP		P	06 33 24.2	-1.4
	comp=Z,7.2nm,1.0s							
CCB	Clear Creek Bu	86.67	23	eP		P	06 33 25.4	-1.1
	comp=Z,8.6nm,1.0s							
HDA	Harding Lake	86.91	24	eP		P	06 33 26.3	-1.3
	comp=Z,6.9nm,1.1s							
ILAR	Eielson Array	87.08	23	P		P	06 33 27.1	-1.4
	comp=Z,5.8nm,0.7s,baz=254,slow=4.9,SNR=63							
ILAR				pP		pP	06 34 09.0	-2.1
	comp=Z,1.3nm,0.7s,baz=251,slow=5.1,SNR=2.6							
ILB	Eielson Array	87.08	23	eP		P	06 33 27.5	-1.0
	comp=Z,7.9nm,0.8s							
IL1	Eielson Array	87.08	23	eP		P	06 33 27.5	-1.0
BVAR	Borovoye Array	87.50	324	P		P	06 33 30.1	-0.6
	comp=Z,1.9nm,0.5s,baz=107,slow=5.1,SNR=14							
RIDG	Independ'e Rid	87.50	25	eP		P	06 33 30.6	0.0
	comp=Z,7.9nm,1.0s							
BRVK	Borovoye	87.57	324	ceP		P	06 33 30.8	-0.2
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MENT	Mentasta	87.67	25	eP		P	06 33 32.1	+0.7
	comp=Z,3.6nm,0.7s							
TOLK	Toolik Lake Re	87.79	19	eP		P	06 33 32.9	+1.1
	comp=Z,4.6nm,0.8s							
SCRK	Sand Creek	87.94	24	eP		P	06 33 32.9	+0.2
	comp=Z,3.5nm,0.8s							
SYO	Syowa Base	89.00	200⇑	eX		P	06 33 34.2	-3.3
SYO	Syowa Base	89.00	200⇑	eX		P	06 33 36.8	-0.7
EGAK	Eagle	89.37	24	eP		P	06 33 39.7	+0.5
	comp=Z,4.5nm,0.8s							
DAWY	Dawson	89.88	25	eP		P	06 33 42.5	+0.8
	comp=Z,3.7nm,0.8s							
GEYT	Alibeck	93.06	308	P		P	06 33 56.6	-0.4
	comp=Z,2.8nm,0.7s,baz=48,slow=2.2,SNR=4.8							
ABKAR	Akbulak array	93.18	319	eP		P	06 33 56.3	-0.9
	comp=Z,4.3nm,0.9s							
AKTO	Aktyubinsk	94.56	320	P		P	06 34 02.4	-1.2
	comp=Z,1.7nm,0.5s,baz=103,slow=6.3,SNR=6.1							
ARU	Arti	94.87	326	diP		P	06 34 02.8	-2.0
ARU							06 37 51.5	
ARU				S		SKSac	06 44 22.0	-2.0
ARU				pmax	pmax			
	comp=Z,4.0nm,0.7s							
NVAR	Mina Array Bea	98.82	52	P		Pdif	06 34 24.6	+1.1
	comp=Z,0.4nm,0.6s,baz=278,slow=6.8,SNR=3.1							
YKA	Yellowknife Ar	100.78	28	P		Pdif	06 34 31.2	0.0
	comp=Z,0.1nm,0.5s,baz=275,slow=4.8,SNR=5.2							
YKA				PKPbc		PKKPbc	06 50 42.8	-3.8
	comp=Z,0.3nm,0.7s,baz=86,slow=2.9,SNR=5.1							
YKB5	Yellowknife Ar	100.78	28	ePdif		Pdif	06 34 31.4	+0.2
OBN	Obninsk	107.30	325	eP		Pdif	06 34 59.6	-0.8
OBN				e			06 39 30.4	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
ARA0	ARCESS Array S	107.39	342	ePdif		Pdif	06 35 00.2	-0.3
ARCES	ARCESS Array B	107.39	342	Pdiff		Pdif	06 35 00.2	-0.3
	comp=Z,1.0nm,0.4s,baz=76,slow=8.7,SNR=11							
FIA0	FINESS Array S	110.64	334	ePdif		Pdif	06 35 14.6	-0.5
FIA0	FINESS Array S	110.64	334	eP		Pdif	06 35 14.6	-0.5
FINES	FINESS Array B	110.64	334	Pdiff		Pdif	06 35 14.6	-0.5
	comp=Z,0.9nm,0.5s,baz=76,slow=5.2,SNR=5.7							
SFJD	Kangerlussuaq	119.42	8	PKP		PKPdf	06 39 30.8	-0.3
	comp=Z,4.7nm,0.7s,baz=270,slow=4.0,SNR=2.7							
DAVOX	Davos/Dischmat	125.94	324	PKP		PKPdf	06 39 43.5	-1.0
	comp=Z,0.7nm,0.4s,baz=8.0,slow=2.2,SNR=3.2							
EKA	Eskdalemuir Ar	126.40	339	PKP		PKPdf	06 39 44.5	-0.3
	comp=Z,4.1nm,0.9s,baz=7.1,slow=3.4,SNR=3.5							
TORD	Torodi Ar. Bea	144.71	282	PKP		PKPab	06 40 17.7	-1.4
	comp=Z,41nm,0.8s,baz=65,slow=3.1,SNR=140							
TORD				pPKP		pPKPdf	06 41 04.0	-1.4
	comp=Z,7.1nm,0.8s,baz=53,slow=4.3,SNR=4.0							
TORD				SKPbc		SKiKP	06 43 44.8	+0.9
	comp=Z,0.6nm,0.7s,baz=129,slow=3.0,SNR=3.5							
TOA1	Torodi Ar. Sit	144.71	282	ePKPbc		PKPab	06 40 17.7	-1.4
TOA1				epPKPdf		pPKPdf	06 41 04.0	-1.4
TOA1				eSKPdf		SKiKP	06 43 44.8	+0.9
KIC	Kosan Boka	151.20	270	ePKP1		PKiKP	06 40 37.0	-0.1
	comp=Z,72nm,0.9s							
DBIC	Dimbokro	151.33	270	ePKPbc		PKiKP	06 40 37.5	+0.1
DBIC	Dimbokro	151.33	270	PKPbc		PKiKP	06 40 37.4	0.0
	comp=Z,33nm,0.6s,baz=72,slow=2.7,SNR=61							
DBIC				pPKPbc		pPKPbc	06 41 21.9	-0.1
	comp=Z,6.5nm,0.7s,baz=64,slow=3.7,SNR=2.8							
LIC	Lamto	151.47	269	ePKP1		PKPbc	06 40 37.5	+0.2
	comp=Z,147nm,0.7s							
TIC	Toumodi	151.49	270	ePKP1		PKiKP	06 40 37.7	0.0
BDFB	Brasilia	153.06	148	PKPbc		PKPbc	06 40 40.6	-0.2
	comp=Z,3.3nm,0.7s,baz=146,slow=5.7,SNR=4.4							

IDC ***11*** *06:33:13.5±1.4,2.°99S×147.°61E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.7/37, mbtmp3.7/7, MS3.4/8, Ms1 3.4/8, ms1mx3.1/30, Error ellipse: s-maj=65.8km s-min=21.7km az=117.0*

ISCJB ***11*** *06:33:17.0±1.1,3.°0S±0.°2×147.°5E±0.°3, h32km, mb3.7/7, MS3.3/6, Error ellipse: s-maj=50.6km s-min=16.0km az=26.3*

ISC 11 06:33:18.2±1.4,3.°0S±0.°2×147.°6E±0.°4, h32km, n19,
σ1s14/8, mb3.7/7, MS3.3/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HNR	Honiara	13.79	118	LR	LR		06 41 50.5	
	comp=Z,134nm,18.2s,baz=278,slow=37							
GUMO	Guam	16.75	351	L

*NEIC **11** 06:56:31.7±0.8, 11°.62S×166°.42E, h63^{km}×7^{km}, mb4.7/44, Error ellipse: s-maj=5.9km s-min=5.0km az=107.0*
*BJI **11** 06:56:32.1, 11°.68S×166°.12E, h69^{km}, mb4.8/35, mB5.1/19, Ms4.8/5, Ms7 4.5/3*

ISC 11 06:56:31.3±0.4, 11°.65S±0°.05×166°.43E±0°.06, h59^{km}, n120, σ1^{s}39/118, mb4.7/68, MS4.0/26, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.75**	**288**	*e*Pn	**Pn**	**06 58 07.6**	**-0.1**
HNR				*e*Sn	**Sn**	**06 59 23.5**	**+0.3**
HNR	**Honiara**	**6.75**	**288**	P	**Pn**	**06 58 07.3**	**-0.4**
	62nm,0.3s,baz=167,slow=10,SNR=4.1						
DZM	**Mont Dzumac**	**10.36**	**180**	*e*Pn	**Pn**	**06 59 00.6**	**+3.3**
	32nm,0.5s						
DZM				*e*LR	LR	07 01 24.0	
	comp=Z,3μm,25.6s						
DZM	**Mont Dzumac**	**10.36**	**180**	*e*Pn	**Pn**	**06 58 58.7**	**+1.4**
DZM				*e*Sn	**Sn**	**07 00 52.0**	**0.0**
DZM	**Mont Dzumac**	**10.36**	**180**	P	**Pn**	**06 58 58.9**	**+1.6**
	2.4nm,0.3s,baz=5.1,slow=18,SNR=14						
DZM				S	**Sn**	**07 00 47.3**	**-4.7**
	1.0nm,0.3s,baz=311,slow=19,SNR=2.0						
ONTNC	**Ouen Toro**	**10.60**	**180**	*e*Pn	**Pn**	**06 59 00.1**	**-0.4**
PINNC	**Pines Island,**	**10.95**	**175**	*e*Pn	**Pn**	**06 59 07.6**	**+2.5**
MSVF	**Nonsavu**	**12.76**	**120**	*e*Pn	**Pn**	**06 59 29.6**	**-0.5**
TARA	**Tarawa**	**14.44**	**27**	*e*Pn	**Pn**	**06 59 51.6**	**-1.0**
EIDS	**Eidsvold**	**19.92**	**225**	*e*P	**Pn**	**07 01 01.2**	**+0.8**
	29nm,1.1s						
PATS	**Pohnpei**	**20.06**	**336**	*e*P	**P**	**07 01 00.8**	**+0.9**
	104nm,1.1s						
CTA	**Charters Tower**	**21.12**	**244**	P	**P**	**07 01 12.4**	**+1.0**
	10.0nm,0.7s,baz=80,slow=12,SNR=9.0						
CTAO	**Charters Tower**	**21.12**	**244**	*e*P	**P**	**07 01 11.3**	**0.0**
	14nm,0.8s						
AFI	**Afiamalu**	**21.37**	**98**	LR	LR	07 08 46.0	
	comp=Z,294nm,18.7s,baz=268,slow=34						
COEN	**Coen**	**22.79**	**262**	*e*P	**P**	**07 01 28.1**	**-1.1**
	21nm,0.9s						
ARMA	**Armidale**	**23.18**	**214**	*e*P	**P**	**07 01 34.2**	**+1.1**
	45nm,0.8s						
KNTN	**Kanton**	**23.38**	**70**	*e*P	**P**	**07 01 36.1**	**+1.0**
	136nm,1.1s						
OUZ	**Omahuta**	**24.35**	**166**	*e*P	**P**	**07 01 45.2**	**+1.6**
	5.8nm,0.7s						
HIZ	**Hauiti**	**27.79**	**166**	*e*P	**P**	**07 02 16.4**	**+1.7**
	17nm,1.0s						
URZ	**Urewera**	**28.16**	**162**	*e*P	**P**	**07 02 19.1**	**+1.0**
	13nm,1.1s						
URZ	**Urewera**	**28.16**	**162**	P	**P**	**07 02 19.1**	**+1.0**
	9.2nm,1.0s,baz=346,slow=19,SNR=3.9						
URZ				LR	LR	07 10 24.0	
	comp=Z,70nm,19.9s,baz=331,slow=30						
CAN	**Canberra**	**28.38**	**211**	*e*P	**P**	**07 02 21.0**	**+0.9**
	6.0nm,0.8s						
BKZ	**Black Stump Fm**	**28.83**	**164**	*e*P	**P**	**07 02 24.2**	**+0.2**
	5.2nm,0.7s						
H11S2	**WAKE ISLAND Hy**	**29.95**	**1**	T	T	07 33 43.4	
	baz=181,slow=76,SNR=24						
H11S3	**WAKE ISLAND Hy**	**29.95**	**0**	T	T	07 33 42.8	
	baz=181,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.97**	**1**	T	T	07 33 43.0	
	baz=181,slow=76,SNR=23						
STKA	**Stephens Creek**	**30.48**	**225**	*e*P	**P**	**07 02 39.7**	**+1.0**
	3.7nm,0.8s						
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**07 02 39.2**	**+0.5**
	16nm,0.7s,baz=42,slow=9.3,SNR=55						
STKA				LR	LR	07 14 11.9	
	comp=Z,554nm,20.8s,baz=43,slow=35						
THZ	**Tophouse**	**30.53**	**170**	*e*P	**P**	**07 02 39.0**	**-0.1**
	16nm,0.7s						
KHZ	**Kahutara**	**31.27**	**170**	*e*P	**P**	**07 02 43.5**	**-2.0**
	19nm,1.2s						
LTZ	**Lake Taylor**	**31.43**	**172**	*e*P	**P**	**07 02 46.9**	**-0.1**
	16nm,0.8s						
FOZ	**Fox Glacier**	**31.90**	**175**	*e*P	**P**	**07 02 51.6**	**+0.6**
	28nm,1.1s						
WB2	**Warramunga Arr**	**31.90**	**251**	*e*P	**P**	**07 02 50.8**	**-0.6**
WR1	**Warramunga Arr**	**31.91**	**251**	*e*P	**P**	**07 02 50.6**	**-0.8**
	9.7nm,0.8s						
WR1				*e*PcP	**PcP**	**07 05 39.7**	**-1.3**
WRA	**Warramunga Arr**	**31.91**	**251**	P	**P**	**07 02 50.6**	**-0.8**
	7.5nm,0.8s,baz=84,slow=9.3,SNR=42						
WRA				PcP	**PcP**	**07 05 39.7**	**-1.3**
	1.0nm,0.6s,baz=77,slow=3.1,SNR=5.7						
WRA				LR	LR	07 14 26.0	
	comp=Z,300nm,21.5s,baz=90,slow=34						
TOO	**Toolangi**	**31.91**	**212**	*e*P	**P**	**07 02 52.3**	**+1.0**
	12nm,0.8s						
RPZ	**Rata Peaks**	**32.20**	**174**	*e*P	**P**	**07 02 53.8**	**+0.2**
RPZ	**Rata Peaks**	**32.20**	**174**	P	**P**	**07 02 53.2**	**-0.5**
	12nm,0.6s,baz=299,slow=2.3,SNR=12						
MQZ	**McQueen's Vall**	**32.39**	**172**	*e*P	**P**	**07 02 55.1**	**-0.2**
	14nm,0.7s						
LBZ	**Lake Benmore**	**32.78**	**175**	*e*P	**P**	**07 02 58.5**	**-0.2**
	23nm,1.1s						
AS01	**Alice Springs**	**33.09**	**244**	*e*P	**P**	**07 03 00.5**	**-1.2**
AS31	**Alice Springs**	**33.13**	**244**	*e*P	**P**	**07 03 01.4**	**-0.7**
	2.2nm,0.7s						
ASAR	**Alice Springs**	**33.13**	**244**	P	**P**	**07 03 00.8**	**-1.3**
	7.2nm,0.7s,baz=70,slow=9.6,SNR=84						
ASAR				PcP	**PcP**	**07 05 43.5**	**-0.7**
	1.3nm,0.6s,baz=71,slow=2.7,SNR=6.6						
ASAR				ScP	**ScP**	**07 09 24.9**	**+1.2**
	0.7nm,0.9s,baz=79,slow=2.6,SNR=4.2						
ASAR				LR	LR	07 15 08.6	
	comp=Z,434nm,21.4s,baz=70,slow=34						
WKZ	**Wanaka**	**33.13**	**177**	*e*P	**P**	**07 03 01.8**	**-0.1**
	12nm,0.8s						
WHZ	**Wether Hill Ro**	**34.15**	**178**	*e*P	**P**	**07 03 09.4**	**-1.2**
	10nm,1.1s						
BBOO	**Buckleboo**	**34.92**	**228**	*e*P	**P**	**07 03 17.2**	**-0.3**
	7.6nm,0.7s						
TAU	**Tasmania Unive**	**35.29**	**205**	*e*P	**P**	**07 03 21.2**	**+0.7**
	16nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.88**	**256**	*e*P	**P**	**07 03 59.2**	**-0.4**
	15nm,0.7s						
FORT	**Forrest**	**40.25**	**236**	*e*P	**P**	**07 04 02.3**	**-0.2**
	21nm,0.8s						
PPT	**Papeete**	**42.90**	**103**	LR	LR	07 20 14.7	
	comp=Z,249nm,20.3s,baz=280,slow=33						
PPT2	**Papeete2**	**42.90**	**103**	*e*S	S	07 11 00.8	+15
	119nm,30.5s						
PPT2				*e*LQ	LQ	07 14 38.7	
	600nm,31.8s						
PPT2				*e*LR	LR	07 16 27.0	
	comp=Z,1μm,29.5s,baz=274						
TBI	**Tubuai**	**43.48**	**112**	*e*LQ	LQ	07 14 54.6	
	515nm,29.5s						
TBI				*e*LR	LR	07 16 46.4	
	comp=Z,1μm,29.2s,baz=285						
MBWA	**Marble Bar**	**45.64**	**252**	*e*P	**P**	**07 04 46.9**	**+0.5**
	22nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.69**	**237**	*e*P	**P**	**07 05 17.1**	**-0.4**
	26nm,1.1s						
NWAO	**Narrogin (SRO)**	**49.69**	**237**	P	**P**	**07 05 17.1**	**-0.4**
	12nm,0.7s,baz=36,slow=8.7,SNR=4.6						
MORW	**Morawa**	**49.93**	**242**	*e*P	**P**	**07 05 20.0**	**+0.6**
	12nm,0.9s						
TAOE	**Nuku Hiva Isla**	**52.58**	**92**	*e*LR	LR	07 20 58.0	
	comp=Z,412nm,27.2s						
MJAR	**Matsushiro Arr**	**54.81**	**332**	LR	LR	07 27 15.7	
	comp=Z,40nm,21.3s,baz=155,slow=34						
KSRS	**Korea Array**	**60.75**	**325**	P	**P**	**07 06 36.2**	**-0.8**
	1.1nm,0.8s,baz=132,slow=7.9,SNR=4.9						
KSRS				LR	LR	07 31 03.9	
	comp=Z,52nm,20.3s,baz=145,slow=34						
NJ2	**Nanjing**	**62.92**	**315**	*e*P	**P**	**07 06 51.8**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.79**	**333**	LR	LR	07 32 41.7	
	comp=Z,62nm,20.2s,baz=123,slow=34						
PETK	**Petropavlovsk-**	**64.93**	**354**	LR	LR	07 29 03.2	
	comp=Z,123nm,21.0s,baz=153,slow=30						
VNDA	**Vanda**	**65.90**	**181**	*e*P	**P**	**07 07 10.2**	**-0.3**
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**07 07 09.8**	**-0.7**
	1.8nm,0.6s,baz=345,slow=7.9,SNR=24						
VNDA				LR	LR	07 32 14.2	
	comp=Z,97nm,20.1s,baz=358,slow=32						
SBA	**Scott Base**	**66.20**	**180**	*e*P	**P**	**07 07 12.9**	**+0.5**
	5.8nm,0.9s						
CN2	**Changchun**	**66.60**	**329**	*e*P	**P**	**07 07 17.4**	**+2.0**
CHAI	**Chaiyaphum**	**69.39**	**292**	P	**P**	**07 07 34.0**	**+0.5**
	4.4nm,0.8s,0.0nm						
PBKT	**Sadao Pong**	**70.53**	**292**	P	**P**	**07 07 41.5**	**+1.1**
	4.7nm,0.5s,1μm0.1nm						
XAN	**Xi'an**	**71.02**	**312**	P	**P**	**07 07 43.0**	**-0.2**
XAN				pP	PcP	07 08 03.1	-0.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,4.1s						
KMI	**Kunming**	**72.01**	**301**	P	**P**	**07 07 50.4**	**+0.9**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
SUKH	**Sukhothai**	**72.03**	**293**	P	**P**	**07 07 52.0**	**+2.5**
	3.4nm,0.8s						
LAMP	**Lampang**	**72.37**	**294**	P	**P**	**07 07 52.9**	**+1.4**
	6.0nm,0.8s,0.0nm						
HHC	**Hu-ho-hao-te**	**72.72**	**319**	*e*P	**P**	**07 07 55.5**	**+2.2**
HHC				pP	sP	07 08 17.8	+2.1
HHC				S	**S**	**07 17 13.4**	**-1.1**
HHC				sS	SKSac	07 17 48.6	-5.1
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,130nm,6.4s						
HHC				LR	LR		
	comp=N,170nm,16.0s						
HHC				LR	LR		
	comp=E,190nm,16.5s						
CMAR	**Chiang Mai Arr**	**72.97**	**293**	P	**P**	**07 07 56.0**	**+0.9**
	8.6nm,0.8s,baz=127,slow=4.7,SNR=30						
CMAR				LR	LR	07 38 35.9	
	comp=Z,44nm,22.0s,baz=139,slow=35						
CMMT	**Chiang Mai**	**73.08**	**294**	P	**P**	**07 07 57.6**	**+1.8**
	9.2nm,1.0s						
CD2	**Chengdu**	**73.50**	**307**	P	**P**	**07 07 57.7**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.3s						
LZH	**Lanzhou**	**75.66**	**312**	*e*P	**P**	**07 08 11.7**	**+1.1**
LZH				pP	sP	07 08 32.6	-0.4
LZH				sP	pP	07 08 41.2	+15
LZH				*e*PP	**PP**	**07 11 04.0**	**+2.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,72nm,7.5s						
LZH				LR	LR		
	comp=N,150nm,15.7s						
LZH				LR	LR		
	comp=E,160nm,16.1s						
LZH				LR	LR		
	comp=Z,210nm,18.5s						
QSPA	**South Pole Qui**	**78.36**	**180**	*e*P	**P**	**07 08 24.6**	**-0.6**
	12nm,1.0s						
SONA0	**Songino Array**	**79.55**	**324**	*e*P	**P**	**07 08 31.6**	**-0.4**
SONM	**Songino Array**	**79.55**	**324**	P	**P**	**07 08 31.6**	**-0.4**
	1.6nm,0.8s,baz=138,slow=5.2,SNR=10						
SONM				LR	LR	07 43 44.1	
	comp=Z,54nm,19.2s,baz=128,slow=36						
GTA	**Gaotai**	**79.96**	**314**	P	**P**	**07 08 35.0**	**+0.6**
GTA				pP	pP	07 08 49.0	-1.5
GTA				S	**S**	**07 18 38.8**	**+4.9**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.7s						
GTA				pmax	pmax		
	comp=Z,98nm,4.8s						
GTA				LR	LR		
	comp=N,120nm,18.6s						
GTA				LR	LR		
	comp=E,570nm,21.0s						
GTA				LR	LR		
	comp=Z,230nm,18.9s						
BRDH	**Bariadhala**	**80.76**	**295**	LR	LR	07 41 01.5	
	comp=Z,71nm,21.3s,baz=107,slow=33						
CCB	**Clear Creek Bu**	**83.50**	**18**	*e*P	**P**	**07 08 52.3**	**0.0**
	2.6nm,0.7s						
HDA	**Harding Lake**	**83.60**	**19**	*e*P	**P**	**07 08 53.0**	**+0.2**
	5.6nm,0.7s						
ILAR	**Eielson Array**	**83.87**	**18**	P	**P**	**07 08 54.0**	**-0.3**
	0.9nm,0.6s,baz=237,slow=5.3,SNR=20						
ILAR				LR	LR	07 39 24.9	
	comp=Z,70nm,21.0s,baz=189,slow=31						
ILB	**Eielson Array**	**83.87**	**18**	*e*P	**P**	**07 08 54.2**	**0.0**
	2.2nm,0.8s						
IL1	**Eielson Array**	**83.87**	**18**	*e*P	**P**	**07 08 54.5**	**+0.3**
SCRK	**Sand Creek**	**84.25**	**20**	*e*P	**P**	**07 08 56.3**	**-0.1**
	3.3nm,0.7s						
BEKR	**Beckworth**	**84.86**	**48**	*e*P	**P**	**07 09 00.0**	**0.0**
	2.0nm,0.8s						
MDPB	**Devils Postpil**	**85.07**	**50**	*e*P	**P**	**07 09 01.4**	**+0.1**
	3.5nm,0.9s						
WAKR	**Walker**	**85.08**	**49**	*e*P	**P**	**07 09 00.6**	**-0.7**
	1.9nm,0.6s						
PAHR	**Pah Rah Range**	**85.51**	**48**	*e*P	**P**	**07 09 03.5**	**+0.2**
	3.2nm,1.1s						
EGAK	**Eagle**	**85.71**	**20**	*e*P	**P**	**07 09 04.5**	**+1.0**
	3.3nm,0.6s						
NV01	**Mina Array Sit**	**85.90**	**50**	*e*P	**P**	**07 09 05.6**	**+0.3**
NVAR	**Mina Array Bea**	**85.90**	**50**	P	**P**	**07 09 06.0**	**+0.7**
	1.1nm,0.8s,baz=235,slow=8.3,SNR=7.5						
NVAR				LR	LR	07 39 23.1	
	comp=Z,259nm,21.2s,baz=242,slow=30						
KVN	**Kaiserville**	**86.25**	**49**	*e*P	**P**	**07 09 06.9**	**-0.1**
	3.0nm,1.1s						
WMQ	**Urumqi**	**90.00**	**315**	*e*P	**P**	**07 09 24.7**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,290nm,4.5s						
WMQ				LR	LR		
	comp=N,150nm,21.1s						
WMQ				LR	LR		
	comp=E,230nm,31.7s						
WMQ				LR	LR		
	comp=Z,220nm,28.1s						
TCRU	**Three Creeks R**	**90.36**	**51**	*e*P	**P**	**07 09 26.2**	**-0.4**
	2.6nm,0.8s						
PDAR	**Pinedale Array**	**93.47**	**47**	P	**P**	**07 09 42.8**	**+1.9**
	0.3nm,0.7s,baz=194,slow=3.1,SNR=4.1						
PDAR				LR	LR	07 47 14.4	
	comp=Z,78nm,18.4s,baz=254,slow=32						
MK01	**Makanchi Array**	**94.41**	**317**	*e*P	**P**	**07 09 44.2**	**-0.6**
MK31	**Makanchi Array**	**94.42**	**317**	*e*P	**P**	**07 09 44.3**	**-0.6**
	2.6nm,0.8s						
MK32	**Makanchi Array**	**94.42**	**317**	*e*P	**P**	**07 09 44.4**	**-0.5**
MKAR	**Makanchi Array**	**94.42**	**317**	P	**P**	**07 09 44.4**	**-0.5**
	2.9nm,0.6s,baz=92,slow=6.5,SNR=47						
MKAR				LR	LR	07 53 19.4	
	comp=Z,25nm,18.8s,baz=82,slow=36						
ZALV	**Zalesovo Beam**	**94.44**	**324**	P	**P**	**07 09 44.1**	**-0.6**
	1.5nm,0.7s,baz=102,slow=5.0,SNR=6.3						
ZALV				LR	LR	07 51 22.5	
	comp=Z,25nm,20.7s,baz=70,slow=35						
ZAA1	**Zalesovo Array**	**94.44**	**324**	*e*P	**P**	**07 09 44.1**	**-0.6**
YKA	**Yellowknife Ar**	**95.20**	**27**	P	**P**	**07 09 47.3**	**-0.7**
	0.2nm,0.5s,baz=258,slow=4.7,SNR=8.2						
YKA				LR	LR	07 55 03.8	
	comp=Z,7.4nm,18.1s,baz=238,slow=37						
YKB5	**Yellowknife Ar**	**95.20**	**27**	*e*P	**P**	**07 09 45.5**	**-2.5**
TXAR	**Lajitas Array**	**95.53**	**61**	P	**P**	**07 09 51.2**	**+0.7**
	0.4nm,0.8s,baz=180,slow=2.3,SNR=3.4						
TXAR				LR	LR	07 45 04.1	
	comp=Z,105nm,21.0s,baz=0.0,slow=30						
NRIK	**Noril'sk**	**96.92**	**339**	LR	LR	07 50 33.9	
	comp=Z,101nm,21.8s,baz=61,slow=34						
KSH	**Kashi**	**97.66**	**309**	*e*P	Pdif	07 10 01.4	+1.4
KSH				pP	sP	07 10 21.7	-0.9
KSH				S	**S**	**07 21 14.1**	**-6.8**
KSH				sS	sS	07 21 49.7	+1.3
KSH				SS	**SS**	**07 28 00.2**	**-2.1**
KSH				pmax	pmax		
	comp=Z,37nm,4.5s						
ARA0	**ARCESS Array S**	**117.08**	**346**	*e*PKPdf	**PKiKP**	**07 15 09.7**	**+0.6**
ARCES	**ARCESS Array B**	**117.08**	**346**	PKP	**PKiKP**	**07 15 09.7**	**+0.6**
	3.6nm,0.8s,baz=68,slow=2.7,SNR=11						
FIA0	**FINESS Array S**	**122.58**	**339**	*e*PKPdf	**PKiKP**	**07 15 21.8**	**+1.8**
FINES	**FINESS Array B**	**122.58**	**339**	PKP	**PKiKP**	**07 15 21.8**	**+1.8**
	12nm,1.3s,baz=48,slow=2.8,SNR=5.5						
BOSA	**Boshof**	**125.13**	**222**	PKP	**PKPdf**	**07 15 25.4**	**-0.6**
	1.4nm,0.7s,baz=112,slow=5.0,SNR=3.7						
NB200	**NORSAR Array S**	**127.46**	**345**	*e*PKPdf	**PKPdf**	**07 15 27.6**	**-1.7**
NOA	**NORSAR Array B**	**127.46**	**345**	PKP	**PKPdf**	**07 15 27.5**	**-1.7**
	0.4nm,0.7s,baz=51,slow=2.3,SNR=2.3						
KEST	**Kesra**	**148.30**	**323**	PKPbc	**PKPbc**	**07 16 11.2**	**-0.3**
	2.6nm,0.8s,baz=90,slow=3.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**165.01**	**277**	PKPab	**PKPab**	**07 17 26.1**	**-0.6**
	1.0nm,0.8s,baz=60,slow=3.9,SNR=4.7						
TOA1	**Torodi Ar. Sit**	**165.02**	**277**	*e*PKPab	**PKPab**	**07 17 26.1**	**-0.7**

NNC 11 07:29:58.8±0.4, 50°.03N×78°.71E, h0^{km}, mb3.6, mpv3.2,

11C-9D, Error ellipse: s-maj=3.2km s-min=1.9km az=68.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.61**	**349**	⇑P	Pg	07 30 10.5	0.0
	47nm,0.4s						
KURBB				⇑S	Sg	07 30 19.3	+1.0
	129nm,0.5s						
KURK	**Kurchatov**	**0.69**	**355**	⇑P	Pg	07 30 11.8	-0.3
	22nm,0.4s						
KURK				⇓S	Sg	07 30 22.2	+1.2
	87nm,0.8s						
SEM	**Semipalatinsk**	**1.06**	**68**	P	Pb	07 30 20.1	0.0
	11nm,0.1s						
SEM				S	Sg	07 30 33.6	+0.9
	148nm,0.6s						
MAKZ	**Makanchi**	**3.89**	**145**	⇑Pg	Pb	07 31 10.2	+2.0
	2.3nm,0.5s						
MAKZ				⇓Lg	Lg	07 31 59.2	
	13nm,0.5s						
MK31	**Makanchi Array**	**4.02**	**142**	⇓Pn	Pn	07 31 02.9	+1.3
	0.2nm,0.1s,baz=323,slow=10,SNR=76						
MK31				⇓Pg	Pb	07 31 11.6	+1.1
	2.7nm,0.4s,baz=321,slow=16,SNR=11						
MK31				⇓Lg	Lg	07 32 05.7	
	21nm,0.5s,baz=328,slow=26,SNR=18						
OTUK	**Ortayu**	**4.55**	**249**	⇑Pn	Pn	07 31 09.7	+0.8
	2.1nm,0.3s						
OTUK				⇓Pg	Pb	07 31 21.9	+2.4
	2.4nm,0.5s						
OTUK				⇓Lg	Lg	07 32 22.9	
	7.7nm,0.5s						
KAPS	**Kapalarasan**	**4.77**	**175**	Pg	Pb	07 31 24.4	+1.1
	2.2nm,0.5s						
KAPS				Lg	Lg	07 32 26.9	
	28nm,0.7s						
ZSN	**Zaisan**	**4.82**	**120**	Pg	Pb	07 31 22.0	-2.1
	1.1nm,0.3s						
ZSN				Lg	Lg	07 32 20.5	
	9.3nm,0.7s						
BVA0	**Borovoye Array**	**6.00**	**303**	⇓Pn	Pn	07 31 29.9	+1.1
	1.5nm,0.9s,baz=118,slow=15,SNR=6.8						
BVA0				Sn	Sn	07 32 38.8	+0.6
	4.4nm,0.9s,baz=117,slow=25,SNR=6.6						
BVA0				⇑Lg	Lg	07 33 08.8	
	3.9nm,0.6s						
BRVK	**Borovoye**	**6.07**	**303**	⇓Pn	Pn	07 31 31.3	+1.5
	1.6nm,1.0s						
BRVK				⇑Sn	Sn	07 32 40.3	+0.4
	3.7nm,0.6s						
BRVK				⇑Lg	Lg	07 33 12.3	
	3.0nm,0.6s						
PDGK	**Podgornoye**	**6.72**	**175**	⇑Lg	Lg	07 33 34.8	
	17nm,0.6s						
TKM2	**Tokmak 2**	**7.43**	**198**	⇑Lg	Lg	07 33 58.1	
	5.4nm,0.6s						
AAK	**Ala-Archa**	**7.95**	**203**	⇑Lg	Lg	07 34 14.7	
	6.7nm,0.8s						

*ISCJB **11** 07:34:56.6±0.7, 51°.14N±0°.05×82°.61E±0°.08, h0^{km}, Error ellipse: s-maj=8.7km s-min=5.9km az=42.3*
*NNC **11** 07:35:01.9±3.0, 51°.36N×82°.14E, h0^{km}, mb3.3, mpv2.9, Error ellipse: s-maj=28.7km s-min=12.3km az=22.0, Suspected Mining explosion.*
*IDC **11** 07:35:02.3±1.2, 51°.44N×81°.99E, h0^{km}, mb1 2.3/3, mb1mx2.3/54, mbtmp2.3/3, ML2.0/3, Error ellipse: s-maj=15.0km s-min=11.5km az=122.0*

ISC 11 07:34:58.1±1.0, 51°.16N±0°.05×82°.61E±0°.08, h0^{km}, n9, σ1^{s}64/14, 11C, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**2.56**	**261**	⇑Pn	**Pn**	**07 35 41.2**	**+0.4**
	3.9nm,0.5s						
KURK				⇑Sn	**Sn**	**07 36 11.7**	**-0.9**
	16nm,1.0s						
KURBB	**Kurchatov Arra**	**2.64**	**260**	⇑Pn	**Pn**	**07 35 42.7**	**+0.8**
	2.4nm,0.3s						
KURBB				⇑Sn	**Sn**	**07 36 12.9**	**-1.6**
	30nm,0.7s						
KURBB	**Kurchatov Arra**	**2.64**	**260**	Pn	**Pn**	**07 35 42.4**	**+0.5**
	0.4nm,0.3s,baz=71,slow=18,SNR=8.2						
KURBB				Lg	Lg	07 36 13.6	
	0.6nm,0.3s,baz=67,slow=30,SNR=9.4						
I46RU	**ZALESOVO INFRA**	**3.10**	**25**	*i*		07 53 12.6	
	baz=210,slow=341,SNR=3.6						
ZALV	**Zalesovo Beam**	**3.10**	**25**	Pn	**Pb**	**07 35 52.1**	**-1.9**
	0.2nm,0.3s,baz=218,slow=13,SNR=3.8						
ZALV				Pg	**Pg**	**07 35 58.1**	**+0.7**
	0.8nm,0.3s,baz=216,slow=16,SNR=6.4						
ZALV				Sn	**Sn**	**07 36 26.8**	**+0.8**
	0.5nm,0.3s,baz=214,slow=24,SNR=5.8						
ZALV				Lg	Lg	07 36 37.1	
	0.8nm,0.3s,baz=218,slow=26,SNR=4.6						
MK31	**Makanchi Array**	**4.38**	**183**	⇑Pn	**Pb**	**07 36 14.3**	**-1.5**
	0.7nm,0.7s,baz=6.1,slow=11,SNR=26						
MK31				⇑Pg	Pg	07 36 25.5	+3.5
	1.1nm,0.6s,baz=8.1,slow=14,SNR=4.7						
MK31				⇑Lg	Lg	07 37 27.2	
	1.3nm,0.4s,baz=8.6,slow=27,SNR=5.5						
MKAR	**Makanchi Array**	**4.38**	**183**	Pn	**Pb**	**07 36 14.8**	**-1.0**
	0.2nm,0.3s,baz=4.7,slow=12,SNR=13						
MKAR				Pg	**Pg**	**07 36 22.7**	**+0.8**
	0.2nm,0.3s,baz=352,slow=15,SNR=5.5			

PLIG				*i* S		**Sn**	**07 45 10.7**	**+0.5**
YAIG	**Yautepec**	**3.39**	**82**	*e*P		**Pn**	**07 44 42.7**	**+1.0**
YAIG				*i* S		**Sn**	**07 45 21.9**	**+0.7**
YAIG	**Yautepec**	**3.39**	**82**	*e*P		**Pn**	**07 44 42.7**	**+1.0**
YAIG				*i* S		**Sn**	**07 45 21.9**	**+0.7**
TLIG	**Tlapa**	**3.94**	**102**	*e*P		**Pn**	**07 44 50.5**	**+1.2**
TLIG				*e*S		**Sn**	**07 45 35.6**	**+1.0**
TLIG	**Tlapa**	**3.94**	**102**	*e*P		**Pn**	**07 44 50.5**	**+1.2**
TLIG				*e*S		**Sn**	**07 45 35.6**	**+1.0**
PNIG	**Pinotepa**	**4.73**	**114**	*e*P		**Pn**	**07 45 00.2**	**+0.2**
PNIG				*i* S		**Sn**	**07 45 54.2**	**+0.3**
PNIG	**Pinotepa**	**4.73**	**114**	*e*P		**Pn**	**07 45 00.2**	**+0.2**
PNIG				*i* S		**Sn**	**07 45 54.2**	**+0.3**
CMIG	**Matias Romero**	**7.48**	**99**	Pn		**Pn**	**07 45 39.4**	**+1.6**
	0.3nm,0.3s,baz=278,slow=14,SNR=4.3							
CMIG				Lg		Lg	07 47 37.4	
	0.5nm,0.3s,baz=307,slow=15,SNR=5.6							
TXAR	**Lajitas Array**	**10.92**	**355**	Pn		Pn	07 46 18.8	-6.2
	0.0nm,0.3s,baz=175,slow=13,SNR=2.3							
NVAR	**Mina Array Bea**	**24.19**	**329**	P		**P**	**07 49 06.7**	**+1.9**
	0.4nm,0.6s,baz=140,slow=13,SNR=3.2							
YKA	**Yellowknife Ar**	**44.83**	**352**	P		**P**	**07 51 59.6**	**-2.1**
	0.1nm,0.5s,baz=162,slow=7.7,SNR=2.5							
ILAR	**Eielson Array**	**54.91**	**339**	P		**P**	**07 53 18.6**	**+0.3**
	0.2nm,0.8s,baz=119,slow=7.3,SNR=3.4							

ISCJB ***11*** *07:50:27.4±0.5, 39˚.69N±0˚.03×25˚.59E±0˚.03, h5km±6km, Error ellipse: s-maj=5.8km s-min=4.0km az=17.9*
ATH ***11*** *07:50:27.2, 39˚.66N×25˚.54E, h15km±6km, ML2.0/3, Error ellipse: s-maj=6.7km s-min=0.4km az=237.0*
DDA ***11*** *07:50:27.4, 39˚.70N×25˚.63E, h7km±2km, ML2.6*

ISC 11 07:50:27.4±1.0, 39˚.69N±0˚.04×25˚.59E±0˚.03, h13km±11km, n12, σ0951/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.38**	**304**	P	**Pg**	**07 50 35.0**	**0.0**
LIA				S	**Sg**	**07 50 40.3**	**+0.3**
LIA				AML	AML	07 50 41.0	
	comp=N,350μm,0.2s						
LIA				AML	AML	07 50 41.6	
	comp=E,249μm,0.1s						
BOZC	**Bozcaada**	**0.39**	**66**	*i* P	**Pg**	**07 50 34.7**	**-0.5**
BOZC				*i* S	**Sg**	**07 50 40.9**	**+0.5**
BOZC				IAML_P			
	comp=Z,2μm,0.1s						
EFSA	**Agios Efstrati**	**0.49**	**253**	P	**Pb**	**07 50 37.8**	**+0.1**
EFSA				S	**Sb**	**07 50 44.6**	**-0.2**
SIGR	**SIGRI**	**0.52**	**156**	P	**Pg**	**07 50 37.0**	**-0.5**
SIGR				S	**Sg**	**07 50 44.5**	**+0.1**
SIGR				AML	AML	07 50 44.7	
	comp=E,558μm,0.4s						
SIGR				AML	AML	07 50 44.8	
	comp=N,613μm,0.2s						
PRK	**Paraskevi**	**0.69**	**130**	P	**Pg**	**07 50 40.7**	**0.0**
PRK				S	**Sb**	**07 50 50.9**	**+0.3**
PRK				AML	AML	07 50 54.6	
	comp=N,360μm,0.4s						
PRK				AML	AML	07 50 54.7	
	comp=E,362μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	*i* P	**Pg**	**07 50 41.3**	**-0.4**
BAYC				*i* S	**Sg**	**07 50 51.4**	**-0.1**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**07 50 42.5**	**-0.1**
AYVA	**Ayvalik**	**0.93**	**114**	*i* P	**Pn**	**07 50 45.9**	**-0.2**
AYVA				*i* S	**Sb**	**07 50 58.0**	**+0.4**
ALN	**Alexandroupoli**	**1.26**	**16**	P	**Pg**	**07 50 51.5**	**-0.1**
CHOS	**Chios island**	**1.35**	**164**	P	**Pn**	**07 50 50.9**	**-1.1**
ZEDA	**zmir-Bergama**	**1.36**	**121**	*i* P	**Pg**	**07 50 54.7**	**+1.3**
ZEDA				*i* S	**Sg**	**07 51 11.4**	**+0.3**
ZEDA				IAML_P			
	comp=Z,405nm,0.2s						
AOS	**Alonnisos**	**1.42**	**249**	P	**Pn**	**07 50 53.2**	**+0.3**

NNC ***11*** *07:50:39.6±6.9, 54˚.05N×87˚.78E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=59.1km s-min=32.7km az=39.0, Suspected Mining explosion.*

IDC 11 07:50:46.3±2.6, 54˚.08N×87˚.15E, h0km, mb1 3.2/2, mb1mx3.0/40, mbtmp3.2/2, ML2.9/2, 4C-8D, Error ellipse: s-maj=21.5km s-min=15.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**265**	*i*		08 00 59.5	
	baz=85,slow=349,SNR=4.3						
ZAA0	**Zalesovo Array**	**1.38**	**265**	⇓Pn	Pg	07 51 11.0	-1.8
	0.8nm,0.3s						
ZAA0				⇓Sn	Sn	07 51 34.7	+2.8
	1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**1.38**	**265**	Pg	Pg	07 51 10.9	-1.9
	5.8nm,0.3s,baz=81,slow=16,SNR=50						
ZALV				Lg	Lg	07 51 31.4	
	2.6nm,0.3s,baz=81,slow=27,SNR=9.0						
KURK	**Kurchatov**	**6.21**	**241**	⇓Pn	Pn	07 52 19.5	+0.3
	2.0nm,0.9s						
KURK				⇓Lg	Lg	07 54 04.5	
	5.1nm,0.9s						
KURBB	**Kurchatov Arra**	**6.32**	**240**	⇑Pn	Pn	07 52 20.5	-0.1
	1.2nm,0.4s						
KURBB				⇑Lg	Lg	07 54 10.3	
	7.0nm,0.8s						
KURBB	**Kurchatov Arra**	**6.32**	**240**	Pn	Pn	07 52 21.8	+1.1
	0.2nm,0.3s,baz=56,slow=14,SNR=7.4						
KURBB				Sn	Sn	07 53 30.6	-2.8
	0.0nm,0.3s,baz=50,slow=27,SNR=2.4						
KURBB				Lg	Lg	07 54 09.7	
	0.0nm,0.3s,baz=57,slow=34,SNR=5.9						
MK31	**Makanchi Array**	**7.93**	**205**	⇓Pn	Pn	07 52 39.1	-3.7
	0.3nm,0.6s,baz=27,slow=14,SNR=20						
MK31				⇓Sn	Sn	07 54 11.5	-1.6
	0.7nm,0.7s,baz=23,slow=27						
MK31				⇑Lg	Lg	07 54 54.1	
	3.2nm,1.1s,baz=36,slow=33						
MKAR	**Makanchi Array**	**7.93**	**205**	Pn	Pn	07 52 44.3	+1.6
	0.2nm,0.3s,baz=27,slow=14,SNR=15						
MKAR				Sn	Sn	07 54 11.8	-1.3
	baz=33,slow=24,SNR=2.3						
MKAR				Lg	Lg	07 55 00.4	
	0.1nm,0.3s,baz=26,slow=31,SNR=6.2						
MAKZ	**Makanchi**	**8.00**	**206**	⇓Pn	Pn	07 52 40.6	-3.1
	1.7nm,0.8s						
MAKZ				⇓Sn	Sn	07 54 13.0	-1.8
	0.4nm,0.6s						
MAKZ				⇑Lg	Lg	07 54 55.9	
	1.1nm,0.8s						

ISCJB ***11*** *07:55:14.0±0.2, 44˚.49N±0˚.01×7˚.06E±0˚.03, h14km±2km, Error ellipse: s-maj=3.6km s-min=1.9km az=152.0*
ROM ***11*** *07:55:14.4±0.1, 44˚.488N±0˚.005×7˚.09E±0˚.01, h10km, ML2.1/13*
GEN ***11*** *07:55:14.8, 44˚.48N×7˚.07E, h5km±1km, Ml1.9*
STR ***11*** *07:55:15.3±0.4, 44˚.N±2˚×±˚, h10km, M1.9/7, MLv1.9/7*
LDG ***11*** *07:55:15.0±0.1, 44˚.49N×7˚.09E, h6km, Md2.4/3, Ml2.5/15, Error ellipse: s-maj=1.3km s-min=0.8km az=59.0*

ISC 11 07:55:13.6±0.8, 44˚.50N±0˚.02×7˚.13E±0˚.02, h14km±4km, n54, σ0976/100, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZZ	**Stroppo**	**0.01**	**312**	P	**Pg**	**07 55 16.5**	**+0.2**
PZZ				S	**Sg**	**07 55 17.4**	**-0.7**
PZZ	**Stroppo**	**0.01**	**312**	P	**Pg**	**07 55 16.5**	**+0.2**
PZZ				S	**Sg**	**07 55 17.4**	**-0.7**
PZZ				AML	AML		
	comp=E,7955μm,0.3s						
PZZ				AML	AML		
	comp=N,8555μm,0.5s						
SURF	**Saint Ours**	**0.23**	**266**	Pg	**Pg**	**07 55 19.0**	**+0.2**
SURF				Sg	**Sg**	**07 55 21.9**	**-0.3**
STV	**Sant Anna di V**	**0.29**	**151**	P	**Pb**	**07 55 20.6**	**0.0**
STV				S	**Sb**	**07 55 24.6**	**-0.7**
STV	**Sant Anna di V**	**0.29**	**151**	P	**Pb**	**07 55 20.6**	**0.0**
STV				S	**Sb**	**07 55 25.3**	**0.0**
STV				AML	AML		
	comp=E,219μm,0.5s						
STV				AML	AML		
	comp=N,306μm,0.9s						
STV				AML	AML		
	comp=E,220μm,0.5s						
STV				AML	AML		
	comp=N,306μm,0.9s						
STV				AML	AML		
	comp=E,220μm,0.5s						
ISO	**Isola**	**0.32**	**190**	Pg	**Pb**	**07 55 20.9**	**-0.2**
ISO				Sg	**Sg**	**07 55 24.7**	**0.0**
ENR	**Entracque**	**0.34**	**142**	P	**Pb**	**07 55 21.6**	**+0.1**
ENR				S	**Sb**	**07 55 26.5**	**-0.3**
ENR	**Entracque**	**0.34**	**142**	P	**Pb**	**07 55 21.7**	**+0.2**
ENR				S	**Sb**	**07 55 27.0**	**+0.1**
ENR				AML	AML		
	comp=E,1095μm,0.8s						
ENR				AML	AML		
	comp=N,980μm,0.1s						
ENR				AML	AML		
	comp=E,1095μm,0.8s						
ENR				AML	AML		
	comp=N,980μm,0.1s						
ENR				AML	AML		
	comp=E,1095μm,0.8s						
ENR				AML	AML		
	comp=N,980μm,0.1s						
MBDF	**Montbardon**	**0.34**	**312**	*e*Pg	**Pb**	**07 55 21.3**	**-0.3**
MBDF				*e*Sg	**Sb**	**07 55 26.4**	**-0.6**
	comp=N,120nm,0.3s						
BHB	**Bricherasio**	**0.36**	**15**	P	**Pb**	**07 55 22.3**	**+0.5**
BHB				S	**Sb**	**07 55 27.4**	**+0.2**
BHB	**Bricherasio**	**0.36**	**15**	P	**Pb**	**07 55 22.2**	**+0.5**
BHB				S	**Sb**	**07 55 27.6**	**+0.4**
BHB				AML	AML		
	comp=E,512μm,0.7s						
BHB				AML	AML		
	comp=N,537μm,0.5s						
BHB				AML	AML		
	comp=E,512μm,0.7s						
BHB				AML	AML		
	comp=N,537μm,0.5s						
BHB				AML	AML		
	comp=N,537μm,0.5s						
BHB				AML	AML		
	comp=E,512μm,0.7s						
OGAG	**Argentiere**	**0.42**	**264**	Pg	**Pn**	**07 55 24.6**	**-0.8**
OGAG				Sg	**Sb**	**07 55 32.1**	**+2.8**
RRL	**Rocca Remolon**	**0.49**	**330**	P	**Pb**	**07 55 24.1**	**0.0**
RRL				S	**Sb**	**07 55 30.7**	**-0.5**
RRL	**Rocca Remolon**	**0.49**	**330**	P	**Pb**	**07 55 24.1**	**0.0**
RRL				S	**Sb**	**07 55 31.2**	**0.0**
RRL				AML	AML		
	comp=E,134μm,0.2s						
RRL				AML	AML		
	comp=N,200μm,0.7s						
GBOS	**Grotte di Boss**	**0.57**	**116**	P	**Pn**	**07 55 26.4**	**-1.0**
GBOS				S	**Sb**	**07 55 34.0**	**+0.6**
SAOF	**Saorge**	**0.60**	**149**	Pg	**Pb**	**07 55 26.6**	**+0.8**
SAOF				Sg	**Sb**	**07 55 35.1**	**+1.1**
SAOF	**Saorge**	**0.60**	**149**	P	**Pb**	**07 55 26.4**	**+0.6**
SAOF				S	**Sb**	**07 55 34.4**	**+0.3**
BNI	**Bardonecchia**	**0.64**	**330**	P	**Pb**	**07 55 26.8**	**+0.1**
BNI				S	**Sb**	**07 55 36.0**	**+0.5**
RSP	**Reno Superiore**	**0.66**	**8**	P	**Pb**	**07 55 27.7**	**+0.8**
RSP				S	**Sb**	**07 55 36.6**	**+0.6**
RSP	**Reno Superiore**	**0.66**	**8**	P	**Pb**	**07 55 27.7**	**+0.8**
RSP				S	**Sb**	**07 55 36.6**	**+0.6**
RSP				AML	AML		
	comp=E,150μm,0.8s						
RSP				AML	AML		
	comp=N,144μm,0.1s						
RSP				AML	AML		
	comp=E,150μm,0.8s						
RSP				AML	AML		
	comp=N,144μm,0.1s						
RSP				AML	AML		
	comp=E,150μm,0.8s						
RSP				AML	AML		
	comp=N,144μm,0.1s						
MGRO	**Montegrosso**	**0.67**	**133**	P	**Pn**	**07 55 27.9**	**-0.9**
MGRO				S	**Sb**	**07 55 37.2**	**+1.0**
SBF	**Sospel**	**0.67**	**161**	*e*Pg	**Pb**	**07 55 27.8**	**+0.7**
SBF				*e*Sg	**Sb**	**07 55 36.2**	**-0.1**
	comp=N,32nm,0.2s						
ESCA	**l'Escarene**	**0.69**	**165**	Pg	**Pn**	**07 55 28.2**	**-0.7**
ESCA				Sg	**Sb**	**07 55 37.8**	**+1.0**
CALF	**Calern**	**0.76**	**191**	Pg	**Pn**	**07 55 29.4**	**-0.5**
CALF				Sg	**Sb**	**07 55 39.5**	**+0.6**
NEGI	**Seborga**	**0.77**	**147**	P	**Pn**	**07 55 29.8**	**-0.3**
NEGI				S	**Sb**	**07 55 40.1**	**+1.0**
NEGI	**Seborga**	**0.77**	**147**	P	**Pn**	**07 55 29.7**	**-0.3**
NEGI				S	**Sn**	**07 55 40.4**	**-1.0**
NEGI				AML	AML		
	comp=E,180μm,0.2s						
NEGI				AML	AML		
	comp=N,172μm,0.2s						
NEGI				AML	AML		
	comp=N,172μm,0.2s						
NEGI				AML	AML		
	comp=E,180μm,0.2s						
RORO	**Rocca Rossa**	**0.78**	**120**	P	**Pn**	**07 55 30.0**	**-0.1**
RORO				S	**Sn**	**07 55 40.5**	**-1.0**
RORO	**Rocca Rossa**	**0.78**	**120**	P	**Pn**	**07 55 29.9**	**-0.2**
RORO				S	**Sn**	**07 55 40.7**	**-0.8**
RORO				AML	AML		
	comp=E,177μm,0.6s						
RORO				AML	AML		
	comp=N,182μm,0.9s						
RORO				AML	AML		
	comp=N,182μm,0.9s						
RORO				AML	AML		
	comp=E,177μm,0.6s						
IMI	**Imperia**	**0.80**	**137**	P	**Pn**	**07 55 30.4**	**-0.2**
IMI				S	**Sb**	**07 55 40.7**	**+0.6**
IMI	**Imperia**	**0.80**	**137**	P	**Pn**	**07 55 30.1**	**-0.4**
IMI				S	**Sb**	**07 55 41.1**	**+1.0**
IMI				AML	AML		
	comp=E,142μm,0.6s						
IMI				AML	AML		
	comp=N,242μm,0.1s						
IMI				AML	AML		
	comp=E,142μm,0.6s						
IMI				AML	AML		
	comp=N,242μm,0.1s						
QLNO	**Quiliano**	**0.89**	**101**	P	**Pn**	**07 55 31.9**	**+0.2**
QLNO				S	**Sn**	**07 55 43.8**	**-0.5**
QLNO				AML	AML		
	comp=E,92μm,1.4s						
QLNO				AML	AML		
	comp=N,100μm,1.6s						
QLNO				AML	AML		
	comp=E,92μm,1.4s						
QLNO				AML	AML		
	comp=N,100μm,1.6s						
FINB	**Finale Ligure**	**0.92**	**110**	AML	AML		
	comp=N,91μm,0.4s						
FINB				AML	AML		
	comp=E,89μm,1.2s						
FINB				AML	AML		
	comp=N,91μm,0.4s						
FINB				AML	AML		
	comp=E,89μm,1.2s						
ROTM	**Rocchetta Tana**	**0.94**	**68**	AML	AML		
	comp=N,394μm,1.6s						
ROTM				AML	AML		
	comp=E,366μm,1.6s						
ROTM				AML	AML		
	comp=N,394μm,1.6s						
ROTM				AML	AML		
	comp=E,366μm,1.6s						
ORIF	**Oris-en-Rattie**	**0.98**	**296**	*e*Pg	**Pb**	**07 55 32.9**	**+0.5**
ORIF				*e*Sg	**Sb**	**07 55 46.0**	**+0.6**
	comp=E,14nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.98**	**296**	Pg	**Pb**	**07 55 33.0**	**+0.5**
FRF	**La Foret Royal**	**1.00**	**201**	*e*Pg	**Pn**	**07 55 33.3**	**+0.1**
FRF				*e*Sg	**Sb**	**07 55 45.9**	**+0.2**
	comp=E,70nm,0.3s						
PCP	**Piancastagn**	**1.01**	**87**	P	**Pn**	**07 55 34.4**	**+0.9**
PCP				S	**Sn**	**07 55 48.2**	**+0.7**
PCP	**Piancastagn**	**1.01**	**87**	P	**Pn**	**07 55 34.3**	**+0.9**
PCP				S	**Sn**	**07 55 48.2**	**+0.7**
PCP				AML	AML		
	comp=E,102μm,1.3s						
PCP				AML	AML		
	comp=N,148μm,0.5s						
PCP				AML	AML		
	comp=N,148μm,0.5s						
PCP				AML	AML		
	comp=E,102μm,1.3s						
LPG	**La Plagne**	**1.03**	**345**	*e*Pg	**Pn**	**07 55 34.4**	**+0.4**
LPG				*e*Sg	**Sn**	**07 55 48.9**	**+0.5**
	comp=E,21nm,0.3s						
LPL	**La Plagne**	**1.06**	**345**	*e*Pg	**Pn**	**07 55 34.8**	**+0.6**
LPL				*e*Sg	**Sn**	**07 55 49.5**	**+0.7**
	comp=E,15nm,0.2s						
RSL	**Roselend**	**1.24**	**343**	Pn	**Pg**	**07 55 38.0**	**+0.4**
LMR	**La Mourre**	**1.25**	**201**	*e*Pg	**Pg**	**07 55 37.7**	**+0.1**
LMR				*e*Sg	**Sg**	**07 55 53.4**	**-0.4**
	comp=E,27nm,0.2s						
ARTF	**Artigues**	**1.32**	**227**	Pg	**Pg**	**07 55 39.8**	**+0.8**
ARTF				Sg	**Sg**	**07 55 57.0**	**+0.9**
VIVF	**Saint-Julien-l**	**1.79**	**282**	*e*Pn	**Pn**	**07 55 44.8**	**+0.7**
VIVF				*e*Sg	**Sg**	**07 56 11.7**	**+0.5**
	comp=E,4.2nm,0.4s						
CABF	**La Chapelle**	**2.24**	**341**	*e*Pg	**Pg**	**07 55 57.0**	**+0.5**
CABF				*e*Sg	**Sg**	**07 56 25.7**	**+0.2**
	comp=E,1.0nm,0.2s						
PGF	**Pioggiola**	**2.38**	**144**	*e*Pn	**Pn**	**07 55 51.9**	**-0.3**
PGF				*e*Sn	**Sn**	**07 56 20.6**	**-0.6**
	comp=E,2.2nm,0.2s						
HINF	**Hinteralfeld**	**3.33**	**357**	*e*Pn	**Pn**	**07 56 05.9**	**+0.7**
HINF	**Hinteralfeld**	**3.33**	**357**	*e*Pg	**Pg**	**07 56 17.5**	**+0.2**
HINF				*e*Sn	**Sn**	**07 56 43.4**	**-1.1**
	comp=E,1.5nm,0.2s						
HAU	**Haudompre**	**3.55**	**351**	*e*Pn	**Pn**	**07 56 09.0**	**+0.7**
HAU				*e*Sn	**Sn**	**07 56 48.8**	**-1.2**
HAU				*e*Sg	**Sg**	**07 57 06.2**	**-1.4**
	comp=E,1.3nm,0.2s						
LOR	**Lormes**	**3.59**	**322**	*e*Pn	**Pn**	**07 56 09.7**	**+0.9**
	baz=141						
LOR	**Lormes**	**3.59**	**322**	*e*Pg	**Pg**	**07 56 20.9**	**-1.5**
LOR				*e*Sg	**Sg**	**07 57 07.2**	**-1.7**
	comp=E,0.7nm,0.3s,baz=151						
SSF	**Saint Saulge**	**3.61**	**317**	*e*Pg	**Pg**	**07 56 21.3**	**-1.3**
SSF				*e*Sg	**Sg**	**07 57 08.2**	**-1.1**
	comp=E,1.5nm,0.4s						
SFTF	**Sexfontaines**	**3.98**	**339**	*e*Pn	**Pn**	**07 56 14.9**	**+0.7**
	baz=159						
SFTF	**Sexfontaines**	**3.98**	**339**	*e*Pg	**Pg**	**07 56 28.6**	**-1.2**
SFTF				*e*Sg	**Sg**	**07 57 19.5**	**-1.9**
	comp=E,4.7nm,0.4s						

UCR ***11*** *07:58:28.1±1.8, 10˚.35N×86˚.39W, h5km, MD4.2, mb4.4(NEIC)*
IDC ***11*** *07:58:30.0±0.7, 11˚.45N×85˚.29W, h0km, mb3.8/9, mb1 4.0/11, mb1mx3.9/40, mbtmp3.8/11, ML3.1/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/30, Error ellipse: s-maj=34.7km s-min=10.2km az=71.0*
NEIC ***11*** *07:58:34.7±0.9, 10˚.57N×86˚.00W, h53km±7km, mb4.4/41, ML4.6(UCR), Error ellipse: s-maj=14.0km s-min=7.5km az=204.0*
NEIC Felt in Guanacaste and in the Valle Central.

ISC 11 07:58:28.4±1.7, 10˚.44N±0˚.06×86˚.27W±0˚.05, h6km±10km, n273, σ1963/277, mb4.5/51, 7C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GBS3	**Finca Las Img**	**0.87**	**67**	*i* P	**Pb**	**07 58 46.9**	**+0.9**
PLVR	**Palo Verde**	**0.91**	**96**	⇑*e*P	**Pg**	**07 58 46.9**	**+1.0**
PLVR				*e*S	**Sn**	**07 59 03.1**	**+1.5**
BUEV	**Buena Vista**	**0.92**	**67**	⇑*e*P	**Pb**	**07 58 47.7**	**+0.8**
BUEV				*e*S	**Sn**	**07 59 04.2**	**+2.5**
GB1A	**Borinquen Arri**	**0.94**	**66**	*i* P	**Pb**	**07 58 48.0**	**+0.8**
GB1A				*e*S	**Sn**	**07 59 03.6**	**+1.5**
GPS2	**Hotel Rincn d**	**0.96**	**71**	*i* P	**Pb**	**07 58 48.2**	**+0.8**
GPS2				*e*S	**Sn**	**07 59 06.4**	**+3.9**
GPS1	**Guardaparques**	**0.96**	**70**	*i* P	**Pb**	**07 58 48.5**	**+0.8**
BUAI	**Buenos Aires**	**1.02**	**65**	*i* P	**Pb**	**07 58 49.1**	**+0.6**
LIM1	**Limonal**	**1.03**	**76**	*i* P	**Pb**	**07 58 49.5**	**+0.7**
LIM1				*i* S	**Sn**	**07 59 05.0**	**+0.6**
COLC	**Colonia**	**1.07**	**78**	*i* P	**Pb**	**07 58 50.2**	**+0.7**
MESS	**Mesas**	**1.10**	**74**	*i* P	**Pg**	**07 58 49.9**	**+0.3**
MESS				⇑*e*P	**Pb**	**07 58 50.1**	**+0.1**
MESS				*e*S	**Sn**	**07 59 07.3**	**+1.2**
MESS				*i* S	**Sb**	**07 59 07.7**	**+3.0**
HORNC	**Hornillas**	**1.11**	**76**	*i* P	**Pg**	**07 58 50.4**	**+0.7**
CUI	**Cuipilapa**	**1.11**	**79**	⇑*e*P	**Pg**	**07 58 50.5**	**+0.8**
PTEN	**Parque Tenorio**	**1.29**	**78**	*i* P	**Pg**	**07 58 53.3**	**+0.1**
JTS	**JuntasAbangare**	**1.31**	**97**	*e*Pn	**Pg**	**07 58 52.9**	**-0.6**
JTS				*e*Sn	**Sg**	**07 59 08.1**	**-2.4**
JTS	**JuntasAbangare**	**1.31**	**97**	Pg	**Pg**	**07 58 52.9**	**-0.6**
	33nm,0.3s,baz=347,slow=8.6,SNR=227						
JTS				Lg	Lg	07 59 09.2	
	128nm,0.3s,baz=45,slow=20,SNR=18						
JTS	**JuntasAbangare**	**1.31**	**97**	⇑*e*P	**Pg**	**07 58 53.0**	**-0.6**
ARE1	**Arenal 1**	**1.53**	**89**	⇑*e*P	**Pn**	**07 58 57.2**	**+0.9**
MASN	**Masaya**	**1.54**	**4**	*e*P	**Pg**	**07 58 58.5**	**+0.5**
MGAN	**Managua**	**1.69**	**1**	*e*P	**Pn**	**07 58 59.5**	**+0.9**
MGAN				*e*S	Sg	07 59 37.5	+15
MOMN	**Momotombo**	**1.97**	**352**	*e*P	**Pn**	**07 59 02.5**	**0.0**
CNGN	**Cerro Negro**	**2.09**	**348**	*e*P	**Pn**	**07 59 04.5**	**+0.4**
HDC	**Heredia**	**2.17**	**101**	*e*Pn	**Pn**	**07 59 06.2**	**+0.9**
HDC	**Heredia**	**2.17**	**101**	⇑*e*P	**Pn**	**07 59 06.0**	**+0.7**
SJS	**Escuela Geolog**	**2.24**	**103**	*e*P	**Pn**	**07 59 05.8**	**-0.5**
BRAN	**Las Pilas**	**2.27**	**358**	*e*P	Pn	07 59 00.7	-5.8
LCR2	**La Lucha 2**	**2.34**	**107**	*e*P	**Pn**	**07 59 08.0**	**+0.3**
CRIN	**San Cristobal**	**2.37**	**341**	*e*P	**Pn**	**07 59 08.5**	**+0.5**
MATN	**Matagalpa**	**2.50**	**8**	*e*P	**Pn**	**07 59 10.1**	**+0.4**
ESPN	**Las Esperanzas**	**2.60**	**48**	*e*Pn	**Pn**	**07 59 11.6**	**+0.5**
ESPN	**Las Esperanzas**	**2.60**	**48**	*e*P	**Pn**	**07 59 11.7**	**+0.6**
EDDO	**Dominical**	**2.65**	**116**	*e*P	**Pn**	**07 59 12.1**	**+0.3**
EDLM	**Las Mercedes**	**2.89**	**113**	*e*P	**Pn**	**07 59 16.8**	**+1.7**
DRK0	**Durika**	**3.21**	**111**	*e*P	**Pn**	**07 59 20.4**	**+0.8**
EDSV	**San Vito**	**3.63**	**116**	*e*P	**Pn**	**07 59 25.9**	**+0.5**
TGUH	**Tegucigalpa,Un**	**3.72**	**345**	*e*Pn	**Pn**	**07 59 28.0**	**+1.4**
BRU2	**Volcan**	**3.89**	**115**	*e*P	**Pn**	**07 59 31.8**	**+2.8**
APG	**El Apazote**	**6.11**	**318**	Pn	**Pn**	**08 00 03.6**	**+4.0**
	0.3nm,0.3s,baz=150,slow=20,SNR=3.9						
BCIP	**Isla Barro Col**	**6.47**	**101**	*e*Pn	**Pn**	**08 00 05.0**	**+0.8**
CMIG	**Matias Romero**	**10.66**	**309**	Pn	**Pn**	**08 01 05.2**	**+3.4**
	0.2nm,0.3s,baz=129,slow=8.0,SNR=4.4						
LNIG	**Linares**	**19.07**	**321**	*e*P	**P**	**08 02 53.5**	**+1.7**
	6.5nm,1.0s						
ATAH	**Atahualpa**	**19.14**	**155**	LR	LR	08 09 17.9	
	comp=Z,373nm,19.2s,baz=349,slow=33						
554A	**Perry**	**19.69**	**7**	P	**P**	**08 02 58.6**	**+0.1**
	baz=187						
557A	**Orange Park**	**19.93**	**12**	P	**P**	**08 03 00.6**	**-0.5**
	baz=192						
454A	**Quit

	baz=157								
Z49A	**Columbiana**	22.64	359	P		P	08 03 29.7	-0.7	
	baz=179,SNR=7.0								
Z52A	**Williamson**	22.70	4	P		P	08 03 31.4	+0.4	
	baz=184								
Z50A	**Ashland**	22.71	1	*e*P		P	08 03 31.5	+0.4	
	12nm,1.0s								
Z50A	**Ashland**	22.71	1	P		P	08 03 31.2	+0.2	
	baz=180								
Z51A	**Franklin**	22.79	2	P		P	08 03 32.5	+0.6	
	baz=182								
435B	**Jarrell**	22.81	334	P		P	08 03 33.1	+0.9	
	baz=150								
Z53A	**Monticello**	22.86	6	P		P	08 03 32.8	+0.1	
	baz=186								
Z54A	**Sparta**	22.90	7	P		P	08 03 32.3	-0.8	
	baz=188								
GOGA	**Godfrey**	23.00	6	*e*P		P	08 03 33.6	-0.5	
	7.7nm,0.9s								
Z56A	**Williston**	23.22	10	P		P	08 03 34.8	-1.5	
	baz=192								
Y49A	**Blount Mountai**	23.31	360	*e*P		P	08 03 35.4	-1.9	
	11nm,0.9s								
Y49A	**Blount Mountai**	23.31	360	P		P	08 03 36.0	-1.2	
	baz=179								
Z57A	**Bowman**	23.32	12	P		P	08 03 34.6	-2.7	
	baz=193								
Y50A	**Piedmont**	23.34	1	P		P	08 03 36.1	-1.5	
	baz=181								
Y51A	**Rockmart**	23.37	3	P		P	08 03 36.2	-1.8	
	baz=182								
Y48A	**Jasper**	23.38	358	P		P	08 03 36.0	-1.9	
	baz=177								
Y52A	**Lilburn**	23.40	5	*e*P		P	08 03 37.0	-1.2	
	17nm,0.9s								
Y52A	**Lilburn**	23.40	5	P		P	08 03 36.0	-2.2	
	baz=185								
Y53A	**Monroe**	23.43	6	P		P	08 03 36.5	-2.0	
	baz=186,SNR=5.5								
Z41A	**Richland Creek**	23.49	346	P		P	08 03 38.5	-0.6	
	baz=163								
Y54A	**Tignall**	23.54	7	P		P	08 03 36.8	-2.8	
	baz=188,SNR=6.3								
SMRT	**St. Maarten**	23.70	69	*e*P		P	08 03 36.6	-4.7	
Y55A	**Saluda**	23.73	9	P		P	08 03 40.4	-1.1	
	baz=190								
X48A	**Hartselle**	23.91	358	P		P	08 03 42.8	-0.4	
	baz=178								
X50B	**Fort Payne**	23.91	1	P		P	08 03 42.6	-0.7	
	baz=181								
X49A	**Woodville**	23.96	360	P		P	08 03 42.6	-1.0	
	baz=179								
HODGE	**Hodges**	23.96	8	*e*P		P	08 03 42.8	-0.9	
	11nm,0.7s								
X47A	**Russellville**	24.01	357	P		P	08 03 42.6	-1.5	
	baz=176,SNR=8.7								
X51A	**Calhoun**	24.05	3	*e*P		P	08 03 44.7	+0.2	
	13nm,0.8s								
X51A	**Calhoun**	24.05	3	P		P	08 03 43.4	-1.1	
	baz=183								
X46A	**Booneville**	24.10	355	P		P	08 03 43.1	-1.8	
	baz=174								
OXF	**Oxford**	24.13	354	P		P	08 03 43.5	-1.7	
	baz=172								
X52A	**Dahlonega**	24.15	5	P		P	08 03 43.1	-2.4	
	baz=185								
JSC	**Jenkinsville**	24.17	10	*e*P		P	08 03 45.6	0.0	
	12nm,0.7s								
X55A	**Gracelyn & Ava**	24.29	9	P		P	08 03 44.6	-2.2	
	baz=190								
X56A	**White Oak**	24.41	11	P		P	08 03 45.8	-2.1	
	baz=192								
PLAL	**Pickwick Lake**	24.48	356	*e*P		P	08 03 49.2	+0.7	
	7.0nm,1.0s								
W49A	**Belvidere**	24.56	0	P		P	08 03 47.2	-2.0	
	baz=179,SNR=6.0								
W48A	**Pulaski**	24.59	359	P		P	08 03 47.4	-2.1	
	baz=178,SNR=9.5								
BG3	**Lake Jocassee**	24.63	7	*e*P		P	08 03 49.2	-0.6	
	15nm,0.8s								
W52A	**Murphy**	24.63	5	*e*P		P	08 03 49.8	-0.1	
	15nm,0.8s								
W52A	**Murphy**	24.63	5	P		P	08 03 47.8	-2.1	
	baz=185								
W51A	**Cleveland**	24.64	3	P		P	08 03 47.9	-2.0	
	baz=183								
W46A	**Michie**	24.65	356	P		P	08 03 48.8	-1.3	
	baz=174								
W50A	**Signal Mountai**	24.66	2	*e*P		P	08 03 49.3	-0.9	
	7.1nm,0.6s								
W50A	**Signal Mountai**	24.66	2	P		P	08 03 48.1	-2.0	
	baz=182								
SWET	**Sewanee**	24.66	1	*e*P		P	08 03 45.6	-4.6	
	12nm,0.8s								
W47A	**Westpoint**	24.73	357	P		P	08 03 49.2	-1.4	
	baz=176,SNR=9.0								
W53A	**Cullowhee**	24.78	6	P		P	08 03 50.3	-1.0	
	baz=187								
W54A	**Cherokee Point**	24.81	8	P		P	08 03 50.4	-1.1	
	baz=189								
TXAR	**Lajitas Array**	24.85	322	P		P	08 03 52.9	+0.9	
	1.6nm,0.8s,baz=146,slow=8.0,SNR=15								
TXAR				PcP		PcP	08 07 30.2	+1.9	
	0.6nm,0.8s,baz=146,slow=5.7,SNR=4.9								
TX31	**Lajitas Ar. Si**	24.85	322	*e*P		P	08 03 53.3	+1.3	
MIAR	**Mount Ida**	24.90	346	*e*P		P	08 03 51.8	-0.5	
	9.2nm,0.9s								
MIAR	**Mount Ida**	24.90	346	P		P	08 03 51.5	-0.8	
	baz=162								
CPCT	**Cooper Cave**	24.95	3	*e*P		P	08 03 51.9	-0.8	
	6.1nm,0.8s								
KMSC	**Kings Mountain**	25.00	10	*e*P		P	08 03 51.7	-1.4	
	13nm,1.1s								
KMSC	**Kings Mountain**	25.00	10	P		P	08 03 51.6	-1.6	
	baz=191								
V50A	**Pikevile**	25.14	2	P		P	08 03 53.2	-1.2	
	baz=182								
V48A	**Smith Brothers**	25.19	359	P		P	08 03 53.8	-1.1	
	baz=178								
TKL	**Tuckaleechee C**	25.20	5	*e*P		P	08 03 55.5	+0.5	
	5.5nm,0.8s								
TKL	**Tuckaleechee C**	25.20	5	P		P	08 03 49.2	-5.8	
	1.1nm,0.6s,baz=175,slow=12,SNR=1.8								
TKL				LR		LR	08 13 28.9		
	comp=Z,155nm,19.4s,baz=195,slow=37								
V49A	**McMinnville**	25.21	1	P		P	08 03 53.7	-1.4	
	baz=180,SNR=5.8								
W41B	**Gary Mavity, V**	25.21	348	P		P	08 03 53.9	-1.2	
	baz=166								
ABTX	**Abilene, Hawle**	25.29	333	P		P	08 03 55.4	-0.4	
	baz=147								
V47A	**Nunnelly**	25.30	358	P		P	08 03 54.8	-1.0	
	baz=176								
V46A	**Holladay**	25.30	356	P		P	08 03 54.6	-1.2	
	baz=175								
V45A	**Humboldt**	25.30	355	P		P	08 03 54.0	-1.8	
	baz=173								
V51A	**Loudon**	25.31	4	*e*P		P	08 03 56.1	+0.2	
	9.2nm,0.7s								
V51A	**Loudon**	25.31	4	P		P	08 03 54.9	-1.1	
	baz=184								
V53A	**Saluda**	25.31	7	*e*P		P	08 03 55.8	-0.2	
	9.7nm,1.0s								
V53A	**Saluda**	25.31	7	P		P	08 03 55.0	-1.0	
	baz=187								
WHAR	**Wooly Hollow**	25.34	348	*e*P		P	08 03 56.1	-0.1	
	8.2nm,1.0s								
V52A	**Sevierville**	25.40	5	*e*P		P	08 03 56.7	-0.1	
	8.6nm,1.1s								
V54A	**Nebo**	25.52	8	P		P	08 03 56.1	-1.8	
	baz=189								
W39A	**Magazine**	25.57	346	P		P	08 03 57.4	-0.9	
	baz=162								
WVT	**Waverly**	25.61	357	P		P	08 03 57.2	-1.5	
	baz=176								
U46A	**Springville**	25.86	356	P		P	08 03 59.5	-1.4	
	baz=175								
U50A	**Jamestown**	25.89	3	P		P	08 03 59.3	-2.0	
	baz=183,SNR=5.5								
U47A	**Clarksville**	25.90	358	P		P	08 03 59.9	-1.4	
	baz=177								
U48A	**Cassie Pea, Po**	25.95	360	P		P	08 04 00.6	-1.2	
	baz=179								
U49A	**Red Boiling Sp**	25.96	1	P		P	08 04 00.2	-1.6	
	baz=180								
U53A	**Fall Branch**	26.02	7	P		P	08 04 00.5	-2.0	
	baz=188								
PVMO	**Portageville**	26.04	354	*e*P		P	08 04 02.5	-0.1	
	77nm,0.4s								
TZTN	**Tazewell**	26.10	5	*e*P		P	08 04 02.3	-0.9	
	8.8nm,1.1s								
U42A	**Revenden**	26.18	351	P		P	08 04 02.2	-1.7	
	baz=168								
PARMO	**Parma**	26.29	354	*e*P		P	08 04 03.2	-1.7	
	25nm,0.7s								
T47A	**Sharon Grove**	26.44	359	*e*P		P	08 04 03.6	-2.6	
	11nm,0.9s								
T47A	**Sharon Grove**	26.44	359	P		P	08 04 04.3	-1.9	
	baz=178								
U40A	**Yellville**	26.48	348	P		P	08 04 05.4	-1.2	
	baz=165								
T51A	**Gray**	26.49	4	P		P	08 04 05.2	-1.4	
	baz=185								
T50A	**Nancy**	26.49	3	P		P	08 04 04.9	-1.8	
	baz=183								
T46A	**Princeton**	26.52	357	P		P	08 04 05.4	-1.6	
	baz=176								
T48A	**Bowling Green**	26.55	360	P		P	08 04 05.5	-1.7	
	baz=179								
T49A	**Edmonton**	26.55	1	P		P	08 04 04.7	-2.6	
	baz=181								
WMOK	**Wichita Mounta**	26.75	337	*e*P		P	08 04 10.6	+1.6	
	11nm,1.1s								
WMOK	**Wichita Mounta**	26.75	337	P		P	08 04 08.2	-0.8	
	baz=151,SNR=8.0								
T43A	**Greenville**	26.77	353	P		P	08 04 07.0	-2.2	
	baz=171								
TUL1	**Leonard**	26.79	343	P		P	08 04 08.1	-1.2	
	baz=158								
T42A	**Van Buren**	26.83	351	P		P	08 04 07.9	-1.8	
	baz=169								
T41A	**Mountain View**	26.95	350	P		P	08 04 09.7	-1.1	
	baz=167								
S48A	**Wiedeman Farm,**	27.10	0	P		P	08 04 10.2	-1.9	
	baz=180								
S46A	**Don Dixon Farm**	27.16	357	P		P	08 04 11.3	-1.3	
	baz=176								
S51A	**Beattyville**	27.19	5	*e*P		P	08 04 11.8	-1.1	
	10.0nm,0.8s								
S51A	**Beattyville**	27.19	5	P		P	08 04 11.1	-1.9	
	baz=185								
S43A	**Fulton Ridge,**	27.23	353	P		P	08 04 11.1	-2.2	
	baz=171								
S49A	**Springfield**	27.24	2	P		P	08 04 11.9	-1.5	
	baz=182								
S44A	**Carbondale**	27.27	355	P		P	08 04 11.8	-1.8	
	baz=173								
S53A	**Williamson**	27.38	7	P		P	08 04 12.3	-2.4	
	baz=188								
S41A	**Jillco Farms,**	27.47	351	P		P	08 04 13.7	-1.8	
	baz=168								
S42A	**Caledonia**	27.51	352	P		P	08 04 13.8	-2.1	
	baz=170								
WCI	**Wyandotte Cave**	27.67	360	*e*P		P	08 04 15.9	-1.4	
	14nm,1.0s								
WCI	**Wyandotte Cave**	27.67	360	P		P	08 04 15.6	-1.7	
	baz=179								
S55A	**Lewisburg**	27.70	10	P		P	08 04 14.7	-2.9	
	baz=192								
R47A	**Wooly Knot Far**	27.73	360	P		P	08 04 15.7	-2.1	
	baz=175								
R49A	**Shelbyville**	27.75	2	P		P	08 04 16.2	-1.8	
	baz=182								
R50A	**Paris**	27.77	3	P		P	08 04 17.0	-1.2	
	baz=184								
R45A	**Skylar, Fairfi**	27.79	357	P		P	08 04 16.8	-1.5	
	baz=175								
R44A	**Waltonville**	27.80	355	P		P	08 04 17.0	-1.4	
	baz=174								
R51A	**Hillsboro**	27.84	5	P		P	08 04 17.3	-1.5	
	baz=185,SNR=5.9								
CCM	**Cathedral Cave**	27.86	352	P		P	08 04 17.1	-1.8	
	baz=169								
MSTX	**Muleshoe**	27.88	330	P		P	08 04 17.9	-1.3	
	baz=143								
R43A	**Red Bud**	27.91	354	P		P	08 04 18.2	-1.2	
	baz=172								
R53A	**Hurricane**	28.04	7	P		P	08 04 19.0	-1.5	
	baz=188								
R55A	**Marlinton**	28.27	10	P		P	08 04 21.3	-1.4	
	baz=192								
Q47A	**Bedord North L**	28.37	360	P		P	08 04 21.7	-1.9	
	baz=179								
Q45A	**Warren Harvey,**	28.38	357	P		P	08 04 22.1	-1.5	
	baz=176								
Q44A	**Meyer Farm, Va**	28.45	356	P		P	08 04 21.7	-2.5	
	baz=174								
Q49A	**Aurora**	28.47	2	P		P	08 04 22.3	-2.1	
	baz=182								
Q51A	**Peebles**	28.58	5	*e*P		P	08 04 24.3	-1.1	
	25nm,0.8s								
Q51A	**Peebles**	28.58	5	P		P	08 04 23.3	-2.1	
	baz=186,SNR=8.4								
Q52A	**Bidwell**	28.62	7	P		P	08 04 23.7	-2.0	
	baz=188								
Q41A	**Truxton**	28.74	352	P		P	08 04 25.1	-1.7	
	baz=169								
Q54A	**Coxs Mills**	28.83	9	P		P	08 04 24.5	-3.2	
	baz=191								
P48A	**Milroy**	28.91	1	P		P	08 04 26.5	-1.8	
	baz=181								
P47A	**Martinsville**	28.92	0	P		P	08 04 26.5	-1.9	
	baz=180								
Q55A	**Buckhannon**	28.97	10	P		P	08 04 26.6	-2.2	
	baz=192								
P44A	**Sand Creek, Wi**	28.98	356	P		P	08 04 27.3	-1.6	
	baz=175								
P49A	**Miami Univ. Ec**	29.00	2	P		P	08 04 26.8	-2.3	
	baz=183								
P51A	**Williamsport**	29.06	5	P		P	08 04 27.7	-2.0	
	baz=186								
P46A	**Rosedale**	29.07	359	P		P	08 04 27.9	-1.8	
	baz=178								
P50A	**Jamestown**	29.13	4	P		P	08 04 28.3	-1.9	
	baz=184								
P53A	**Wilpple**	29.25	8	*e*P		P	08 04 30.1	-1.2	
	17nm,1.0s								
P53A	**Whipple**	29.25	8	P		P	08 04 30.1	-1.2	
	baz=189								
P52A	**Corning**	29.30	7	P		P	08 04 30.2	-1.6	
	baz=188								
O47A	**Sheridan**	29.67	0	P		P	08 04 33.4	-1.7	
	baz=180								
O50A	**Cable**	29.68	4	P		P	08 04 33.9	-1.3	
	baz=185								
O48A	**Farmland**	29.71	2	P		P	08 04 33.6	-1.8	
	baz=182								
O45A	**Potomac**	29.71	358	P		P	08 04 33.9	-1.6	
	baz=177								
O51A	**Pataskala**	29.76	6	P		P	08 04 34.1	-1.8	
	baz=187								
ACSO	**Alum Creek Sta**	29.81	5	*e*P		P	08 04 34.8	-1.5	
	12nm,0.8s								
ACSO	**Alum Creek Sta**	29.81	5	P		P	08 04 33.9	-2.4	
	baz=186								
O52A	**Adamsville**	29.81	7	*e*P		P	08 04 35.1	-1.2	
	14nm,0.8s								
O52A	**Adamsville**	29.81	7	P		P	08 04 34.9	-1.5	
	baz=188								
KSU1	**Kansas State U**	29.99	344	P		P	08 04 36.8	-1.1	
	baz=159								
O53A	**New Philadelph**	30.02	8	P		P	08 04 35.8	-2.4	
	baz=190								
O54A	**Avella**	30.08	9	P		P	08 04 37.7	-1.0	
	baz=191								
HDIL	**Hopedale**	30.11	355	P		P	08 04 37.1	-1.8	
	baz=174								
N44A	**Piper City**	30.28	357	P		P	08 04 38.4	-2.0	
	baz=176								
N45A	**Kentland**	30.30	358	P		P	08 04 37.9	-2.7	
	baz=177								
N48A	**Decatur**	30.32	2	P		P	08 04 38.6	-2.2	
	baz=182								
N46A	**Monticello**	30.33	359	P		P	08 04 38.8	-2.1	
	baz=179								
N49A	**Columbus Grove**	30.41	3	*e*P		P	08 04 38.8	-2.8	
	19nm,1.0s								
N49A	**Columbus Grove**	30.41	3	P		P	08 04 39.2	-2.4	
	baz=184								
O56A	**Blue Knob Stat**	30.48	12	P		P	08 04 40.2	-2.1	
	baz=195								
N52A	**McGinn's Farm,**	30.52	7	P		P	08 04 40.5	-2.0	
	baz=188								
ANMO	**Albuquerque**	30.56	326	P		P	08 04 44.1	+0.9	
	0.7nm,0.7s,baz=154,slow=2.9,SNR=6.6								
N53A	**Lisbon**	30.62	8	P		P	08 04 41.3	-2.2	
	baz=190								
SSPA	**Standing Stone**	30.97	12	P		P	08 04 44.8	-1.8	
	baz=196								
M49A	**Liberty Center**	30.98	3	P		P	08 04 45.3	-1.3	
	baz=184								
M53A	**WI Miller and**	31.27	8	P		P	08 04 47.4	-1.7	
	baz=190								
N59A	**State Game Lan**	31.74	15	P		P	08 04 51.6	-1.7	
	baz=199								
L53A	**Girard**	31.83	9	P		P	08 04 52.5	-1.7	
	baz=191								
SDCO	**Great Sand Dun**	32.22	331	P		P	08 04 57.6	-0.3	
	baz=142								
K41A	**Shullsburg**	32.23	354	P		P	08 04 56.2	-1.4	
	baz=172								
K48A	**Perry**	32.29	3	P		P	08 04 56.6	-1.5	
	baz=184								
L55A	**Hinsdale**	32.36	11	P		P	08 04 56.7	-2.0	
	baz=194								
D53A	**Lac Vacive, Po**	37.23	10	P		P	08 05 38.6	-2.2	
	baz=194								
D54A	**Lac Fusel, La**	37.48	11	P		P	08 05 41.0	-1.9	
	baz=195								
TPNV	**Topopah Spring**	37.78	319	P		P	08 05 44.4	-1.4	
	baz=126								
PDAR	**Pinedale Array**	38.08	332	P		P	08 05 46.6	-1.7	
	0.2nm,0.5s,baz=116,slow=10,SNR=3.7								
AGMN	**Agassiz Nation**	38.58	350	P		P	08 05 50.5	-1.7	
	baz=164								
LSQQ	**Lebel-sur-Quev**	39.27	10	P		P	08 05 55.4	-2.5	
	baz=194								
MATQ	**Matagami**	39.85	9	P		P	08 06 00.1	-2.6	
	baz=193								
NV11	**Mina Array Sit**	39.87	320	*e*P		P	08 06 02.8	-0.5	
	0.5nm,1.1s								
OMMB	**Old Mammoth Mi**	39.95	318	*e*P		P	08 06 06.9	+2.7	
	1.2nm,1.1s								
NV01	**Mina Array Sit**	39.97	320	*e*P		P	08 06 07.0	+2.8	
NVAR	**Mina Array Bea**	39.97	320	P		P	08 06 06.7	+2.5	
	2.9nm,0.9s,baz=138,slow=7.4,SNR=18								
NVAR				PcP		PcP	08 08 12.3	+2.7	
	1.2nm,0.7s,baz=145,slow=4.5,SNR=7.0								
MDPB	**Devils Postpil**	40.02	318	*e*P		P	08 06 07.6	+2.9	
	5.3nm,1.0s								
KVN	**Kaiserville**	40.20	320	*e*P		P	08 06 07.6	+1.4	
	0.9nm,0.7s								
ULM	**Lac du Bonnet**	40.47	351	P		P	08 06 02.3	-5.6	
	1.8nm,0.8s,baz=193,slow=13,SNR=2.9								
DGMT	**Dagmar**	40.78	342	*e*P		P	08 06 09.8	-0.7	
	8.8nm,0.9s								
BOZ	**Bozeman (W)**	41.21	333	P		P	08 06 13.5	-0.8	
	baz=140								
HRY	**Holter Researc**	42.16	334	*e*P		P	08 06 22.5	+0.5	
SCHQ	**Schefferville**	46.88	15	P		P	08 06 52.8	-6.7	
	1.8nm,0.7s,baz=238,slow=13,SNR=2.2								
YKA	**Yellowknife Ar**	55.84	345	P		P	08 08 03.6	-2.9	
	1.1nm,0.9s,baz=136,slow=7.2,SNR=14								
YKA				PcP		PcP	08 09 04.1	-1.3	
	0.2nm,0.7s,baz=144,slow=4.4,SNR=5.4								
RES	**Resolute Bay**	64.40	357	*e*P		P	08 09 03.0	-2.0	
HMT	**Hamilton**	65.44	332	*e*P		P	08 09 12.2	0.0	
	43nm,0.8s								
TULEG	**Thule**	66.74	4	*e*P		P	08 09 18.0	-2.1	
	3.0nm,1.0s								
IL1	**Eielson Array**	68.31	336	*e*P		P	08 09 28.8	-1.5	
ILAR	**Eielson Array**	68.31	336	P		P	08 09 28.8	-1.5	
	0.7nm,0.7s,baz=145,slow=3.8,SNR=7.2								
TRF	**Thorofare Moun**	69.23	334	*e*P		P	08 09 36.8	+0.5	
	4.3nm,1.0s								
PPLA	**Purkeypile**	69.88	334	*e*P		P	08 09 40.3	+0.1	
MLY	**Manley**	69.94	336	*e*P		P	08 09 40.0	-0.5	
	1.7nm,0.9s								
CAST	**Castle Rocks**	69.99	334	*e*P		P	08 09 39.2	-1.6	
	2.8nm,1.1s								
TOLK	**Toolik Lake Re**	70.76	340	P		P	08 09 43.1	-2.3	
	baz=111								
NOA	**NORSAR Array B**	84.55	29	LR		LR	08 44 52.7		
	comp=Z,22nm,21.9s,baz=35,slow=33								
LZH	**Lanzhou**	132.75	349	*e*PKP		PKPdf	08 17 44.6	-0.6	
LZH				pPKP		sPKPdf	08 17 53.0	+5.6	
LZH				sPKP			08 17 55.5		
CD2	**Chengdu**	137.77	347	PKP		PKPdf	08 17 53.0	-1.6	
CMAR	**Chiang Mai Arr**	150.83	350	PKPbc		PKPdf	08 18 22.6	+5.3	
	1.3nm,0.4s,baz=334,slow=2.5,SNR=10								

IDC ***11*** *08:09:59.8±0.5, 35.65N×141.01E, h0km, mb3.9/21, mb1 4.1/24, mb1mx4.0/50, mbtmp3.9/24, ML3.9/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/55, Error ellipse: s-maj=16.0km s-min=12.3km az=78.0*

NIED ***11*** *08:10:00, 35.80N×141.10E, h11km, Mw3.9 Best double couple: M0 7.62000×10^14 NP1:φs 190.00000°, δ32.00000°, λ-102.00000°. NP2:φs 24.00000°, δ59.00000°, λ-83.00000°.*

ISCJB ***11*** *08:10:01.2±0.7, 35.74N±0.03×141.10E±0.05, h21km±4km, mb4.0/27, MS3.6/1, Error ellipse: s-maj=7.2km s-min=5.5km az=163.2*

JMA ***11*** *08:10:02.4±0.2, 35.79N×141.02E, h15km±1km, M4.2*
JMA Felt II J1.

NEIC ***11*** *08:10:04.9±0.3, 35.67N×140.99E, h35km, mb4.3/9, Error ellipse: s-maj=7.9km s-min=7.0km az=221.0*

NEIC Recorded [2 JMA] in Chiba and Ibaraki.

ISC 11 08:10:01.4±1.3, 35.77N±0.03×141.09E±0.05, h11km±7km, n70, σ1 s22/67, mb4.0/27, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	0.20	250	⇑P		P	Pg	08 10 06.4	+0.7
CHOJ				S		S	Sg	08 10 09.1	+0.5
JIHU	**Itakohorinouch**	0.50	293	P		P	Pb	08 10 11.7	-0.5
JIHU				S		S	Sb	08 10 18.8	-0.7
JSMT	**Sammumatsuo**	0.54	256	P		P	Pb	08 10 12.7	-0.2
JHYU	**Hitachinakayam**	0.70	324	P		P	Pg	08 10 15.2	+0.2
JHYU				S		S	Sg	08 10 24.0	-0.1
JCN	**Nagara**	0.81	244	⇑P		P	Pb	08 10 17.9	+0.4
JYT	**Yasato**	0.86	302	⇑P		P	Pg	08 10 16.9	-1.1
JYT				S		S	Sg	08 10 27.2	-2.0
JHO	**Hitachi**	0.94	333	⇓P		P	Pb	08 10 18.5	-1.3
BSO4	**Boso 4**	0.99	218	P		P	Pg	08 10 21.2	+0.7
BSO3	**Boso 3**	1.08	206	P		P	Pb	08 10 21.8	-0.2
MJAR	**Matsushiro Arr**	2.46	289	Pn		Pn	Pn	08 10 40.8	-0.7
	5.4nm,0.3s,baz=202,slow=2.7,SNR=76								
MJAR				Sn		Sn	Sn	08 11 11.5	-0.1
	3.6nm,0.3s,baz=150,slow=34,SNR=5.2								
MJAR				LR		LR	LR	08 11 16

H11S2	**WAKE ISLAND Hy**	**28.43**	**121**	T		T		08 45 36.1	
	baz=312,slow=75,SNR=216								
TIXI	**Tiksi**	**36.51**	**354**	P		**P**		**08 17 07.1**	**+0.6**
	0.7nm,0.4s,baz=133,slow=3.9,SNR=2.5								
ZAA1	**Zalesovo Array**	**42.58**	**313**	*eP*		**P**		**08 17 57.6**	**+0.4**
ZALV	**Zalesovo Beam**	**42.58**	**313**	P		**P**		**08 17 57.7**	**+0.4**
	0.6nm,0.5s,baz=97,slow=4.8,SNR=3.2								
MK01	**Makanchi Array**	**44.58**	**303**	*eP*		**P**		**08 18 11.0**	**-2.5**
MK31	**Makanchi Array**	**44.58**	**303**	*eP*		**P**		**08 18 13.5**	**0.0**
	1.4nm,0.8s								
MK32	**Makanchi Array**	**44.58**	**303**	*eP*		**P**		**08 18 13.8**	**+0.3**
MKAR	**Makanchi Array**	**44.58**	**303**	P		**P**		**08 18 13.8**	**+0.3**
	1.1nm,0.6s,baz=91,slow=9.1,SNR=11								
KURK	**Kurchatov**	**46.51**	**309**	*eP*		**P**		**08 18 28.6**	**-0.2**
	5.2nm,1.0s								
KURBB	**Kurchatov Arra**	**46.58**	**309**	P		**P**		**08 18 29.3**	**+0.1**
	1.5nm,0.3s,baz=83,slow=8.1,SNR=9.3								
ILAR	**Eielson Array**	**50.70**	**32**	P		**P**		**08 19 02.1**	**+1.4**
	1.0nm,0.6s,baz=264,slow=6.0,SNR=17								
ILB	**Eielson Array**	**50.70**	**32**	*eP*		**P**		**08 19 02.0**	**+1.2**
	2.2nm,0.9s								
BVAR	**Borovoye Array**	**51.23**	**313**	P		**P**		**08 19 05.0**	**+0.1**
	1.1nm,0.7s,baz=78,slow=7.7,SNR=6.9								
BRVK	**Borovoye**	**51.29**	**313**	*eP*		**P**		**08 19 04.3**	**-1.0**
	5.2nm,1.1s								
KLU	**Klutina**	**51.33**	**36**	*eP*		**P**		**08 19 01.8**	**-3.8**
	9.1nm,0.6s								
INK	**Inuvik**	**55.63**	**27**	P		**P**		**08 19 38.0**	**+1.1**
	1.2nm,0.5s,baz=280,slow=5.4,SNR=16								
WR1	**Warramunga Arr**	**55.78**	**188**	*eP*		**P**		**08 19 37.0**	**-1.5**
	8.5nm,1.1s								
WRA	**Warramunga Arr**	**55.78**	**188**	P		**P**		**08 19 37.0**	**-1.5**
	0.9nm,0.5s,baz=4.4,slow=7.3,SNR=21								
ABKAR	**Akbulak array**	**58.56**	**311**	*eP*		**P**		**08 19 58.0**	**+0.1**
	1.3nm,0.8s								
ASAR	**Alice Springs**	**59.51**	**188**	P		**P**		**08 20 03.6**	**-1.1**
	0.4nm,0.5s,baz=17,slow=13,SNR=9.7								
DZM	**Mont Dzumac**	**62.34**	**153**	*eP*		**P**		**08 20 23.4**	**-0.7**
	14nm,1.1s								
DZM	**Mont Dzumac**	**62.34**	**153**	P		**P**		**08 20 23.0**	**-1.2**
	4.2nm,0.5s,baz=342,slow=20,SNR=4.1								
YKA	**Yellowknife Ar**	**65.03**	**30**	P		**P**		**08 20 42.2**	**+0.9**
	0.3nm,0.5s,baz=303,slow=7.4,SNR=8.0								
YKB5	**Yellowknife Ar**	**65.03**	**30**	*eP*		**P**		**08 20 41.8**	**+0.5**
STKA	**Stephens Creek**	**67.30**	**180**	P		**P**		**08 20 56.5**	**+0.4**
	0.9nm,0.5s,baz=338,slow=8.1,SNR=6.1								
FIA0	**FINESS Array S**	**69.81**	**332**	*eP*		**P**		**08 21 12.3**	**+0.7**
FINES	**FINESS Array B**	**69.81**	**332**	P		**P**		**08 21 12.3**	**+0.7**
	3.2nm,0.8s,baz=64,slow=4.4,SNR=6.8								
NB2	**NORSAR Subarra**	**75.25**	**337**	P		**P**		**08 21 44.3**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=41,slow=5.9								
NB200	**NORSAR Array S**	**75.25**	**337**	*eP*		**P**		**08 21 44.6**	**+0.5**
NOA	**NORSAR Array B**	**75.25**	**337**	P		**P**		**08 21 44.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=39,slow=5.7,SNR=4.4								
NV01	**Mina Array Sit**	**75.95**	**53**	*eP*		**P**		**08 21 49.7**	**+0.9**
NVAR	**Mina Array Bea**	**75.95**	**53**	P		**P**		**08 21 50.1**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=272,slow=7.8,SNR=4.2								
PD31	**Pinedale Array**	**78.74**	**45**	*eP*		**P**		**08 22 04.3**	**0.0**
	comp=Z,1.0nm,0.9s								
PDAR	**Pinedale Array**	**78.74**	**45**	P		**P**		**08 22 05.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=267,slow=1.8,SNR=3.2								
BR101	**Keskin Array S**	**79.49**	**312**	*eP*		**P**		**08 22 09.1**	**+0.7**
BRTR	**Keskin Array B**	**79.49**	**312**	P		**P**		**08 22 09.1**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=70,slow=5.1,SNR=3.2								
MMAI	**Mount Meron Ar**	**82.48**	**305**	LR		LR		09 02 54.1	
	comp=Z,24nm,18.5s,baz=70,slow=38								
TXAR	**Lajitas Array**	**91.10**	**52**	P		**P**		**08 23 07.2**	**+0.6**
	comp=Z,0.9nm,1.1s,baz=284,slow=4.4,SNR=3.9								
LPAZ	**La Paz**	**147.54**	**61**	PKPbc		**PKPbc**		**08 29 47.8**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=7.2,slow=9.5,SNR=5.2								

*ISCJB **11** 08:19:37.4±0.4,45°.07N±0°.02×14°.45E±0°.03,h4km±2km, Error ellipse: s-maj=3.5km s-min=2.4km az=135.0*
*ROM **11** 08:19:37.4±0.4,45°.04N±0°.01×14°.51E±0°.02,h6km±2km, ML2.8/10*
*SAR **11** 08:19:38.8±0.6,45°.09N×14°.46E,h5km,ML2.5/7*

ISC 11 08:19:38.2±1.1,45°.07N±0°.03×14°.48E±0°.02,h6km±9km, n55,σ0s76/95,4C,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RIY	**Rijeka**	**0.25**	**1**	*ePg*		**Pg**	**08 19 42.7**	**-0.4**
RIY				*eSg*		**Sg**	**08 19 46.8**	**+0.4**
KNDS	**Knezji Dol**	**0.46**	**352**	*i* Pg		**Pg**	**08 19 46.1**	**-0.9**
KNDS				*eSg*		**Sb**	**08 19 54.8**	**-1.1**
	comp=Z,79nm,0.2s							
GBRS	**Gornja Briga**	**0.51**	**27**	*i* Pg		**Pg**	**08 19 47.7**	**-0.4**
GBRS				*eSg*		**Sg**	**08 19 55.9**	**+1.2**
	comp=Z,26nm,0.1s							
SKDS	**Skadanscina**	**0.57**	**326**	*i* Pg		**Pg**	**08 19 47.8**	**-1.4**
SKDS				*eSg*		**Sg**	**08 19 56.8**	**+0.1**
	comp=Z,34nm,0.1s							
NVLJ	**Novalja**	**0.58**	**151**	*i* Pg		**Pg**	**08 19 48.7**	**-0.6**
NVLJ				Sg		**Sb**	**08 19 58.4**	**-0.9**
CEY	**Cerknica**	**0.67**	**357**	*ePg*		**Pg**	**08 19 50.4**	**-0.6**
CEY				*eSg*		**Sg**	**08 19 59.9**	**+0.3**
BOJS	**Bojanci**	**0.70**	**52**	*i* Pg		**Pg**	**08 19 50.8**	**-0.7**
BOJS				*eSg*		**Sg**	**08 20 01.5**	**+1.0**
	comp=Z,48nm,0.1s							
BOJS	**Bojanci**	**0.70**	**52**	P		**Pg**	**08 19 50.7**	**-0.9**
BOJS				S		**Sg**	**08 20 01.5**	**+1.0**
BOJS				AML		AML		
	comp=E,278μm,1.3s							
BOJS				AML		AML		
	comp=N,184μm,0.7s							
BOJS				AML		AML		
	comp=E,278μm,1.3s							
BOJS				AML		AML		
	comp=N,184μm,0.7s							
VISS	**Visnje**	**0.77**	**19**	*ePg*		**Pg**	**08 19 52.2**	**-0.8**
VISS				*eSg*		**Sg**	**08 20 03.8**	**+0.7**
TRI	**Trieste**	**0.81**	**322**	*ePg*		**Pg**	**08 19 54.0**	**+0.3**
TRI				*eSg*		**Sg**	**08 20 05.1**	**+0.8**
TRI	**Trieste**	**0.81**	**322**	P		**Pg**	**08 19 53.7**	**0.0**
TRI				S		**Sg**	**08 20 05.0**	**+0.8**
TRI				AML		AML		
	comp=E,206μm,1.4s							
TRI				AML		AML		
	comp=N,102μm,0.3s							
TRI				AML		AML		
	comp=E,206μm,1.4s							
TRI				AML		AML		
	comp=N,114μm,0.3s							
TRI				AML		AML		
	comp=E,206μm,1.4s							
TRI				AML		AML		
	comp=N,114μm,0.3s							
GBAS	**Gorenja Brezov**	**0.86**	**358**	*i* Pg		**Pg**	**08 19 54.4**	**-0.3**
	comp=Z,10.0nm,0.1s							
JAVS	**Javornik**	**0.87**	**341**	*i* Pg		**Pg**	**08 19 54.1**	**-0.7**
	comp=Z,16nm,0.1s							
OZLJ	**Ozalj**	**0.88**	**52**	*ePg*		**Pb**	**08 19 55.5**	**-0.4**
OZLJ				Sg		**Sb**	**08 20 08.6**	**+0.6**
LJU	**Ljubljana**	**0.97**	**2**	*ePg*		**Pg**	**08 19 56.6**	**-0.2**
LJU				*eSg*		**Sg**	**08 20 09.8**	**+0.4**
LJU	**Ljubljana**	**0.97**	**2**	P		**Pg**	**08 19 57.1**	**+0.3**
LJU				S		**Sb**	**08 20 11.0**	**+0.5**
LJU				AML		AML		
	comp=E,394μm,0.2s							
LJU				AML		AML		
	comp=N,421μm,1.5s							
LJU				AML		AML		
	comp=N,421μm,1.5s							
LJU				AML		AML		
	comp=E,394μm,0.2s							
CRES	**Cresnjev**	**1.02**	**42**	*ePg*		**Pg**	**08 19 57.3**	**-0.4**
CRES				*eSg*		**Sn**	**08 20 13.0**	**-0.7**
	comp=Z,54nm,0.3s							
CRES	**Cresnjev**	**1.02**	**42**	*ePg*		**Pg**	**08 19 57.1**	**-0.6**
CRES				*eSg*		**Sb**	**08 20 11.5**	**-0.5**
UDBI	**Udbina**	**1.07**	**120**	*ePg*		**Pn**	**08 20 00.4**	**+0.7**
UDBI				Sg		**Sn**	**08 20 15.6**	**+0.7**
SABO	**M.te Sabotino**	**1.10**	**326**	*ePg*		**Pg**	**08 19 59.4**	**+0.2**
SABO				*eSg*		**Sb**	**08 20 14.8**	**+0.7**
SABO	**M.te Sabotino**	**1.10**	**326**	P		**Pg**	**08 19 58.3**	**-0.9**
SABO				S		**Sg**	**08 20 13.9**	**+0.5**
SABO				AML		AML		
	comp=E,388μm,0.2s							
SABO				AML		AML		
	comp=N,386μm,1.1s							
SABO				AML		AML		
	comp=E,388μm,0.2s							
SABO				AML		AML		
	comp=N,386μm,1.1s							
DRE	**Drenchia**	**1.25**	**332**	*ePg*		**Pg**	**08 20 02.0**	**0.0**
DRE				*eSg*		**Sn**	**08 20 20.0**	**+0.7**
CADS	**Cadrg**	**1.27**	**336**	*ePg*		**Pb**	**08 20 02.9**	**+0.5**
	comp=Z,35nm,0.2s							
COLI	**Coloredo**	**1.31**	**324**	*ePg*		**Pb**	**08 20 03.2**	**0.0**
COLI				*eSg*		**Sn**	**08 20 22.0**	**+1.2**
OBKA	**Obir**	**1.44**	**2**	*ePn*		**Pn**	**08 20 04.7**	**-0.1**
	comp=Z,1.7nm,0.2s							
OBKA				Sn		**Sg**	**08 20 25.2**	**+0.8**
	comp=Z,68nm,0.3s							
BAD	**Bernadia**	**1.45**	**324**	*ePg*		**Pn**	**08 20 05.0**	**0.0**
BAD				*eSg*		**Sg**	**08 20 26.6**	**+1.9**
VINO	**Villanova**	**1.45**	**325**	*ePg*		**Pb**	**08 20 05.4**	**-0.2**
VINO	**Villanova**	**1.45**	**325**	P		**Pn**	**08 20 04.8**	**-0.2**
VINO				S		**Sg**	**08 20 25.5**	**+0.7**
PTCC	**Patocco-Chiusa**	**1.55**	**330**	P		**Pn**	**08 20 06.5**	**+0.1**
PTCC				S		**Sg**	**08 20 28.3**	**+0.4**
PTCC				AML		AML		
	comp=E,178μm,0.4s							
PTCC				AML		AML		
	comp=N,156μm,0.4s							
PTCC				AML		AML		
	comp=E,178μm,0.4s							
PTCC				AML		AML		
	comp=N,156μm,0.4s							
LSR	**Lussari**	**1.55**	**335**	*ePg*		**Pb**	**08 20 07.4**	**0.0**
MPRI	**Monte Prat**	**1.57**	**319**	*ePg*		**Pn**	**08 20 06.9**	**+0.3**
MPRI				*eSg*		**Sg**	**08 20 29.4**	**+0.9**
BOO	**Bordano**	**1.58**	**323**	*ePg*		**Pn**	**08 20 06.9**	**+0.2**
ACOM	**Acomizza, Ital**	**1.62**	**336**	*ePg*		**Pb**	**08 20 08.8**	**+0.2**
ACOM	**Acomizza, Ital**	**1.62**	**336**	P		**Pb**	**08 20 08.4**	**-0.2**
ACOM				S		**Sb**	**08 20 29.9**	**+0.4**
ACOM				AML		AML		
	comp=E,343μm,0.4s							
ACOM				AML		AML		
	comp=N,344μm,0.5s							
ACOM				AML		AML		
	comp=E,343μm,0.4s							
ACOM				AML		AML		
	comp=N,344μm,0.5s							
SOKA	**Soboth**	**1.65**	**13**	*ePn*		**Pb**	**08 20 08.6**	**-0.4**
	comp=N,0.7nm,0.2s							
SOKA				*eSn*		**Sn**	**08 20 29.8**	**+0.4**
	comp=N,5.9nm,0.3s							
MYKA	**Terra Mystica**	**1.66**	**340**	Pg		**Pb**	**08 20 09.2**	**0.0**
	comp=N,14nm,0.2s							
MYKA				Sg		**Sb**	**08 20 31.2**	**+0.7**
	comp=N,38nm,0.4s							
POLC	**Polcenigo**	**1.68**	**305**	P		**Pn**	**08 20 08.6**	**+0.5**
POLC				AML		AML		
	comp=E,413μm,0.6s							
POLC				AML		AML		
	comp=N,412μm,1.6s							
POLC				AML		AML		
	comp=N,412μm,1.6s							
POLC				AML		AML		
	comp=E,413μm,0.6s							
STAL	**STALIGIAL**	**1.71**	**314**	P		**Pn**	**08 20 08.6**	**0.0**
STAL				S		**Sn**	**08 20 31.5**	**+0.6**
STAL				AML		AML		
	comp=E,496μm,1.4s							
STAL				AML		AML		
	comp=N,387μm,1.5s							
STAL				AML		AML		
	comp=E,436μm,0.7s							
STAL				AML		AML		
	comp=N,300μm,1.4s							
STAL				AML		AML		
	comp=E,436μm,0.7s							
STAL				AML		AML		
	comp=N,300μm,1.4s							
STAL				AML		AML		
	comp=N,387μm,1.5s							
STAL				AML		AML		
	comp=E,496μm,1.4s							
FSSB	**Fossombrone**	**1.84**	**222**	P		**Pn**	**08 20 10.1**	**-0.3**
FSSB				AML		AML		
	comp=E,102μm,0.6s							
FSSB				AML		AML		
	comp=N,162μm,1.1s							
FSSB				AML		AML		
	comp=N,162μm,1.1s							
FSSB				AML		AML		
	comp=E,102μm,0.6s							
MPAG	**Monte Paganucc**	**1.90**	**221**	P		**Pn**	**08 20 10.9**	**-0.3**
BLY	**Banja Luka**	**1.95**	**99**	*ePn*		**Pn**	**08 20 12.5**	**+0.7**
BLY				*eSn*		**Sb**	**08 20 37.5**	**-1.2**
BLY	**Banja Luka**	**1.95**	**99**	AML		AML		
	comp=E,169μm,0.4s							
BLY				AML		AML		
	comp=N,82μm,1.6s							
BLY				AML		AML		
	comp=E,169μm,0.4s							
BLY				AML		AML		
	comp=N,82μm,1.6s							
BEHE	**Becsehely**	**2.13**	**48**	*ePn*		**Pn**	**08 20 14.6**	**+0.3**
BEHE				*eSn*		**Sn**	**08 20 41.3**	**+0.2**
KBA	**Koelnbreinsper**	**2.15**	**339**	*ePn*		**Pn**	**08 20 14.1**	**-0.7**
	comp=N,0.3nm,0.1s							
KBA				*eSg*		**Sb**	**08 20 45.6**	**+0.9**
	comp=N,3.0nm,0.3s							
ABTA	**Abfaltersbach**	**2.16**	**321**	Pn		**Pn**	**08 20 13.8**	**-1.0**
	comp=N,0.1nm,0.1s							
ABTA				Sn		**Sb**	**08 20 44.5**	**-0.4**
	comp=N,2μm,0.0s							
CSP1	**Cessapalombo**	**2.18**	**205**	P		**Pn**	**08 20 14.8**	**-0.4**
ARSA	**Arzberg**	**2.29**	**18**	*ePg*		**Pb**	**08 20 20.5**	**+0.5**
	comp=N,0.9nm,0.2s							
ARSA				Sn		**Sn**	**08 20 44.3**	**-0.9**
	comp=N,0.7nm,0.2s							
MOA	**Molln**	**2.78**	**357**	*ePn*		**Pn**	**08 20 21.7**	**-1.5**
	comp=N,0.1nm,0.1s							
MOA				Sn		**Sn**	**08 20 56.3**	**-0.8**
	comp=N,0.9nm,0.2s							
WTTA	**Wattenberg**	**2.95**	**319**	Sn		**Sn**	**08 20 59.8**	**-1.7**
	comp=N,565nm,0.0s							
CONA	**Conrad Observa**	**3.01**	**18**	*ePn*		**Pn**	**08 20 25.3**	**-1.2**
CONA				Sn		**Sn**	**08 21 03.7**	**+0.8**
	comp=N,0.2nm,0.1s							
WATA	**Walderalm**	**3.03**	**319**	*ePn*		**Pn**	**08 20 27.0**	**+0.2**
	comp=N,1.0nm,0.2s							
WATA				*eSn*		**Sn**	**08 21 01.9**	**-1.6**
	comp=N,2.7nm,0.3s							
SQTA	**Sankt Quirin**	**3.12**	**315**	*ePn*		**Pn**	**08 20 28.6**	**+0.5**
	comp=N,1.4nm,0.2s							
SQTA				*eSn*		**Sn**	**08 21 04.9**	**-1.0**
	comp=N,1.9nm,0.2s							
STON	**Ston**	**3.20**	**132**	*ePn*		**Pn**	**08 20 30.0**	**+1.0**
STON				*eSn*		**Sn**	**08 21 08.3**	**+0.8**
FETA	**Feichten**	**3.26**	**308**	*ePg*		**Pb**	**08 20 35.1**	**-1.4**
	comp=N,0.2nm,0.2s							
FETA				Sg		**Sb**	**08 21 17.7**	**+1.3**
	comp=N,0.7nm,0.2s							
RETA	**Reutte**	**3.53**	**314**	*eSn*		**Sn**	**08 21 16.1**	**+0.4**
	comp=N,1.1nm,0.2s							

*NNC **11** 08:19:55.8±2.0,53°.58N×87°.80E,h0km,mb3.3,mpv2.9, Error ellipse: s-maj=21.0km s-min=9.3km az=43.0, Suspected Mining explosion.*

IDC 11 08:19:57.5±2.9,53°.51N×87°.62E,h0km,mb1 3.1/2, mb1mx2.9/49,mbtmp3.1/2,ML2.8/2,8C-2D,Error ellipse: s-maj=25.3km s-min=13.8km az=64.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.72**	**286**	⇑Pn		Pn	08 20 27.9	-0.8
	0.4nm,0.3s							
ZAA0				⇓Sn		Sg	08 20 52.9	+0.1
	1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**1.72**	**286**	Pg		Pn	08 20 28.2	-0.5
	4.1nm,0.3s,baz=100,slow=16,SNR=15							
ZALV				Lg		Lg	08 20 51.8	
	5.4nm,0.3s,baz=104,slow=25,SNR=9.6							
I46RU	**ZALESOVO INFRA**	**1.72**	**286**	*i*			08 32 27.0	
	baz=99,slow=351,SNR=1.8							
KURK	**Kurchatov**	**6.21**	**247**	⇑Pn		Pn	08 21 28.9	-1.4
	1.8nm,1.0s							
KURK				⇑Lg		Lg	08 23 14.6	
	2.9nm,1.1s							
KURBB	**Kurchatov Arra**	**6.30**	**246**	⇑Pn		Pn	08 21 31.4	-0.2
	1.2nm,0.3s							
KURBB				⇑Lg		Lg	08 23 19.0	
	6.7nm,1.1s							
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn		Pn	08 21 32.8	+1.2
	0.2nm,0.3s,baz=62,slow=14,SNR=6.8							
KURBB				Lg		Lg	08 23 17.3	
	0.1nm,0.3s,baz=62,slow=32,SNR=2.5							
MK31	**Makanchi Array**	**7.54**	**209**	⇑Pn		Pn	08 21 50.2	+1.5
	0.3nm,0.6s,baz=29,slow=14,SNR=11							
MK31				⇓Lg		Lg	08 23 58.0	
	0.1nm,0.3s,baz=25,slow=31,SNR=4.6							
MKAR	**Makanchi Array**	**7.54**	**209**	Pn		Pn	08 21 50.0	+1.4
	0.2nm,0.3s,baz=28,slow=14,SNR=11							
MKAR				Sn		Sn	08 23 13.4	-1.3
	0.0nm,0.3s,baz=34,slow=19,SNR=3.5							
MKAR				Lg		Lg	08 23 53.7	
	0.0nm,0.3s,baz=24,slow=36,SNR=4.3							
MAKZ	**Makanchi**	**7.62**	**211**	⇑Pn		Pn	08 21 50.9	+1.2
	0.8nm,0.5s							
MAKZ				⇑Lg		Lg	08 24 00.1	
	0.9nm,0.4s							

*IDC **11** 08:22:12.7±0.5,6°.63S×148°.51E,h0km,mb4.4/17, mb1 4.6/20,mb1mx4.5/36,mbtmp4.4/20,ML4.4/3,MS4.5/21, Ms1 4.5/21,ms1mx4.3/40, Error ellipse: s-maj=18.5km s-min=12.7km az=97.0*
*BJI **11** 08:22:13.0±0.2,6°.70S×148°.40E,h6km,mb4.7/29,mB5.2/23, Ms4.8/16,Ms7 4.6/16*
*ISCJB **11** 08:22:13.0±0.2,6°.66S±0°.03×148°.56E±0°.04,h10km, mb4.7/72,MS4.5/24,Error ellipse: s-maj=5.3km s-min=3.9km az=12.9*
*NEIC **11** 08:22:14.8±0.3,6°.63S×148°.49E,h10km,mb4.8/45,Error ellipse: s-maj=7.1km s-min=5.6km az=103.0*
*GCMT **11** 08:22:19.8±0.2,6°.71S±0°.01×148°.58E±0°.02,h14km, MW5.0/82,Moment Tensor Solution. s43,c52; s82,c132; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.23±.17; Mθθ-2.87±.11; Mϕϕ-1.36±.11; Mrθ-0.92±.23; Mϕϕ2.77±.09; Mθr0.64±.26; Best double couple: Mw4.74100×10^16 NP1:ϕs307.00000°,δ52.00000°,λ89.00000°. NP2: ϕs128.00000°,δ38.00000°,λ91.00000°. Principal axes: T 4.3640, Plg83.0000°, Azm210.0000°; N 0.7550, Plg1.0000°, Azm307.0000°; P -5.1190, Plg7.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **11** 08:22:51.5±0.9,7°.5S×14°.8E±1°.0,h323km±9km,M5.1/27, mb4.8/27,mB5.3/11,MLv6.0/1,Mw(mB)4.7/11*

ISC 11 08:22:15.0±0.3,6.75S±0.04×148.56E±0.05,h10km,n184, σ1s82/191,**mb4.8**/71,**MS4.5**/25,**1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**4.40**	**55**	*ePn*		**Pn**	**08 23 25.1**	**+3.2**
JAY	**Jayapura**	**8.88**	**298**	P		Pg	08 24 56.5	-8.7
	651nm,1.2s,2.4nm							
JAY	**Jayapura**	**8.88**	**298**	Pn		**Pn**	**08 24 25.0**	**+1.5**
	1.0nm,0.3s,baz=119,slow=19,SNR=3.7							
COEN	**Coen**	**8.90**	**216**	P		**Pn**	**08 24 23.5**	**-0.3**
	baz=8.8,SNR=8.7							
COEN	**Coen**	**8.90**	**216**	*ePn*		**Pn**	**08 24 24.3**	**+0.5**
COEN				*eSn*		**Sn**	**08 26 03.8**	**-0.5**
GENI	**Genyem**	**9.32**	**296**	P		Pn	08 25 00.2	+31
	180nm,0.9s							
HNR	**Honiara**	**11.59**	**104**	LR		LR	08 28 56.2	
	comp=Z,1μm,20.0s,baz=277,slow=35							
MTSU	**Mount Surprise**	**12.05**	**200**	P		**Pn**	**08 25 09.6**	**+2.7**
	baz=12,SNR=32							
CTA	**Charters Tower**	**13.45**	**189**	P		**Pn**	**08 25 29.4**	**+3.4**
	baz=13							
CTA	**Charters Tower**	**13.45**	**189**	Pn		**Pn**	**08 25 28.4**	**+2.5**
	0.3nm,0.3s,baz=360,slow=12,SNR=5.7							
CTA				LR		LR	08 30 44.3	
	comp=Z,2μm,18.2s,baz=10,slow=38							
CTAO	**Charters Tower**	**13.45**	**189**	*ePn*		**Pn**	**08 25 29.6**	**+3.6**
RKPI	**Ransiki, Papua**	**15.25**	**289**	P		P	08 26 05.8	+10
QIS	**Mount Isa**	**16.24**	**211**	P		**Pn**	**08 26 04.8**	**+1.5**
	baz=16,SNR=34							
FAKI	**Fak Fak**	**16.69**	**282**	*ePn*		**Pn**	**08 26 09.9**	**+0.7**
	74nm,1.1s							
FAKI				*eSn*		**Sn**	**08 29 09.8**	**-4.8**
FAKI	**Fak Fak**	**16.69**	**282**	P		**P**	**08 26 17.8**	**+6.3**
KDU	**Kakadu**	**16.91**	**248**	P		**Pn**	**08 26 11.2**	**-0.7**
	baz=17,SNR=8.6							
MTN	**Manton Dam**	**18.20**	**249**	P		**Pn**	**08 26 27.7**	**-0.2**
	baz=18,SNR=9.0							
MTN	**Manton Dam**	**18.20**	**249**	*eP*		**Pn**	**08 26 27.6**	**-0.4**
	13nm,0.6s							
SIJI	**Sorong**	**18.21**	**288**	P		**Pn**	**08 26 26.7**	**-1.4**
	0.8nm,0.3s,baz=195,slow=20,SNR=3.5							
EIDS	**Eidsvold**	**18.67**	**173**	P		**P**	**08 26 33.6**	**+0.3**
	baz=19,SNR=4.3							
EIDS	**Eidsvold**	**18.67**	**173**	*eP*		**Pn**	**08 26 34.8**	**+1.2**
	24nm,1.0s							
WRAB	**Tennant Creek**	**19.02**	**225**	*eP*		**P**	**08 26 37.5**	**+0.3**
	42nm,0.8s							
WRAB				*eS*		**Sn**	**08 30 08.5**	**-2.7**
WB2	**Warramunga Arr**	**19.03**	**225**	*eP*		**P**	**08 26 37.2**	**-0.2**
WR1	**Warramunga Arr**	**19.04**	**225**	*eP*		**P**	**08 26 37.0**	**-0.5**
	30nm,0.6s							
WR1				*eS*		**Sn**	**08 30 11.2**	**-0.3**
WR1				*eScP*		**ScP**	**08 34 40.5**	**+1.8**
WRA	**Warramunga Arr**	**19.04**	**225**	P		**P**	**08 26 37.0**	**-0.5**
	3.4nm,0.3s,baz=49,slow=10,SNR=44							
WRA				S		**Sn**	**08 30 11.2**	**-0.4**
	baz=48,slow=22,SNR=14							
WRA				ScP		**ScP**	**08 34 40.5**	**+1.8**
	baz=43,slow=2.5,SNR

158nm,0.6s
MMRI Maumere 26.15 264 P **P** **08 27 51.0 +1.3**
272nm,0.7s
LUWI Luwuk 26.33 281 P **P** **08 27 51.8 +0.4**
192nm,1.7s
WRKA Warakurna 26.58 225 P **P** **08 27 52.9 -0.6**
baz=26,SNR=288
EDFI Ende, Flores 26.69 264 P **P** **08 27 53.5 -1.3**
54nm,1.3s,742nm
YNG Young 27.41 180 P **P** **08 28 00.6 -0.3**
baz=27,SNR=9.4
APSI Ampana 27.46 281 P **P** **08 28 02.2 +0.7**
74nm,1.4s,951nm
BASI Baing, Sumba 27.88 261 P **P** **08 28 07.8 +2.5**
328nm,1.4s,7µm
HTT Hallett 28.01 197 P **P** **08 28 06.6 +0.2**
baz=28,SNR=24
BBOO Buckleboo 28.42 203 P **P** **08 28 09.5 -0.3**
baz=28,SNR=12
BBOO Buckleboo 28.42 203 *e*P **P** **08 28 09.7 -0.2**
22nm,1.1s
CAN Canberra 28.44 179 *e*P **P** **08 28 12.4 +2.4**
4.7nm,0.8s
KAPI Kappang 28.70 272 *e*P **P** **08 28 13.8 +1.1**
22nm,0.9s
TTSI Tana Toraja 28.86 276 P P 08 28 28.3 +14
FORT Forrest 30.67 216 P **P** **08 28 29.8 -0.1**
baz=31,SNR=16
FORT Forrest 30.67 216 *e*P **P** **08 28 29.7 -0.1**
28nm,0.7s
TOO Toolangi 30.81 185 P **P** **08 28 31.4 +0.4**
baz=31,SNR=5.7
TOO Toolangi 30.81 185 *e*P **P** **08 28 31.5 +0.4**
7.7nm,0.8s
MBWA Marble Bar 31.35 240 *e*P **P** **08 28 35.6 -0.4**
31nm,0.9s
JAGI Jajag, Banyuwa 34.14 265 *e*P **P** **08 28 57.4 -3.1**
26nm,0.8s
KDM Kudat 34.44 293 P **P** **08 29 04.0 +0.9**
MEEK Meekatharra 34.68 232 P **P** **08 29 05.1 0.0**
baz=35,SNR=28
MOO Moorlands 35.57 182 P **P** **08 29 13.8 +1.4**
baz=36,SNR=4.4
TAU Tasmania Unive 36.03 182 *e*P **P** **08 29 17.0 +0.5**
23nm,1.1s
PWJI Pagerwojo 36.46 266 P **P** **08 29 23.5 +3.0**
23nm,1.0s
BTM Bintulu 36.77 285 P **P** **08 29 22.7 -0.4**
WOJI Wonogiri, Jawa 37.34 266 P **P** **08 29 28.6 +0.6**
49nm,1.6s
SBUM Sibu 37.41 283 *e*P **P** **08 29 27.9 -0.7**
12nm,0.8s
SBUM Sibu 37.41 283 P **P** **08 29 29.0 +0.4**
MORW Morawa 37.85 230 P **P** **08 29 32.2 0.0**
baz=38,SNR=4.8
MORW Morawa 37.85 230 *e*P **P** **08 29 32.3 0.0**
20nm,1.0s
KLBR Kellerberrin 37.92 225 P **P** **08 29 32.2 -0.6**
baz=38,SNR=38
BLDU Ballidu 38.14 227 P **P** **08 29 34.0 -0.6**
baz=38,SNR=6.2
KSM Kuching 39.04 281 *e*P **P** **08 29 41.7 -0.6**
38nm,1.1s
KSM Kuching 39.04 281 P **P** **08 29 42.8 +0.5**
NWAO Narrogin (SRO) 39.04 224 *e*P **P** **08 29 41.9 -0.3**
39nm,1.1s
MUN Mundaring 39.23 226 P **P** **08 29 43.7 0.0**
baz=39,SNR=3.7
CISI Cisompet, Garu 40.42 266 *e*P **P** **08 29 52.4 -1.5**
122nm,1.0s
CISI Cisompet, Garu 40.42 266 P **P** **08 29 53.1 -0.9**
MLZ Mavora Lakes 42.05 159 *e*P **P** **08 30 08.8 +1.9**
14nm,1.0s
WHZ Wether Hill Ro 42.45 160 *e*P **P** **08 30 10.4 +0.4**
XMIS Christmas Isla 42.56 262 *e*P **P** **08 30 12.2 +0.7**
31nm,1.1s
MJAR Matsushiro Arr 44.14 348 P **P** **08 30 21.9 -2.0**
4.4nm,0.8s,baz=177,slow=8.3,SNR=10
MAJO Matsushiro 44.15 348 *e*P **P** **08 30 21.9 -2.0**
MYKOM Kota Tinggi 45.42 279 *e*P **P** **08 30 33.9 -0.5**
34nm,0.9s
MYKOM Kota Tinggi 45.42 279 P **P** **08 30 35.4 +1.0**
KGM Kluang 45.98 279 P **P** **08 30 39.6 +0.7**
KTGM Kuala Trenggan 46.90 284 P **P** **08 30 46.7 +0.6**
NJ2 Nanjing 47.87 325 *e*P **P** **08 30 52.5 -0.8**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KSRS Korea Array 48.01 338 P **P** **08 30 52.5 -1.8**
2.0nm,0.8s,baz=153,slow=8.4,SNR=8.6
KSRS LR LR 08 51 10.3
comp=Z,451nm,18.0s,baz=150,slow=36
KS01 Wonju Array Si 48.04 338 *e*P **P** **08 30 54.1 -0.4**
IPM Ipoh 48.74 282 *e*P **P** **08 30 59.9 -0.5**
21nm,0.8s
IPM Ipoh 48.74 282 P **P** **08 31 00.4 0.0**
KULM Kulim 49.29 283 *e*P **P** **08 31 03.0 -1.5**
KULM Kulim 49.29 283 P **P** **08 31 04.5 -0.1**
SKNT Sakolnakorn 49.97 299 P **P** **08 31 12.9 +3.2**
2.6nm,0.7s,1µm
PSI Prapat 50.44 279 *e*P **P** **08 31 13.3 -0.2**
35nm,1.1s
TRTT Trang 50.84 286 P **P** **08 31 17.0 +0.6**
6.2nm,1.5s
GSI Gunungsitoli 51.50 277 *e*P **P** **08 31 18.5 -2.9**
25nm,0.8s
PKDT Phuket 52.15 285 P **P** **08 31 26.6 +0.4**
10nm,0.7s,2µm
USRK Usuriysk Ar. 52.88 345 P **P** **08 31 30.2 -0.7**
5.1nm,0.6s,baz=161,slow=6.6,SNR=13
USRK LR LR 08 51 45.0
comp=Z,230nm,20.8s,baz=154,slow=34
NANT Nan 53.57 299 P **P** **08 31 39.5 +2.9**
1.6nm,0.9s
UMPA Umpang Tak 54.21 295 P **P** **08 31 42.9 +1.6**
4.5nm,1.3s,717nm
CN2 Changchun 54.49 340 *e*P **P** **08 31 43.7 +0.9**
KMI Kunming 54.68 307 P **P** **08 31 45.5 +0.6**
KMI pmax pmax
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 54.97 298 P **P** **08 31 45.2 -1.6**
0.7nm,0.4s,baz=116,slow=5.5,SNR=7.3
CMAR LR LR 08 54 42.8
comp=Z,220nm,21.8s,baz=126,slow=36
XAN Xi'an 55.24 320 P **P** **08 31 48.7 +0.1**
XAN pmax pmax
comp=Z,7.0nm,1.1s
XAN LR LR
comp=N,210nm,15.2s
XAN LR LR
comp=E,290nm,18.6s
XAN LR LR
comp=Z,360nm,22.6s
CD2 Chengdu 56.91 314 P **P** **08 31 59.4 -1.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
KLR Kul'dur 57.65 347 P **P** **08 32 05.1 -0.3**
4.0nm,1.1s,baz=150,slow=17,SNR=6.1
HHC Hu-ho-hao-te 58.29 328 *e*P **P** **08 32 12.4 +2.3**
HHC PP **PP** **08 34 24.3 +5.0**
HHC S **S** **08 40 12.1 -0.5**
HHC ScS **ScS** **08 41 55.3 -5.0**
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,160nm,5.8s
HHC LR LR
comp=N,430nm,17.1s
HHC LR LR
comp=E,520nm,17.3s
HHC LR LR
comp=Z,460nm,17.8s
LZH Lanzhou 59.79 319 *e*P **P** **08 32 22.1 +1.4**
LZH pP pP 08 32 24.3 +1.8
LZH *e*PP **PP** **08 34 36.5 +3.7**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,83nm,7.2s
LZH LR LR
comp=N,260nm,15.5s
LZH LR LR
comp=E,260nm,15.3s
LZH LR LR
comp=Z,420nm,18.6s
PETK Petropavlovsk- 60.13 6 P **P** **08 32 21.9 -0.7**
2.2nm,0.6s,baz=168,slow=7.5,SNR=6.6
PEA1 Petropavlovsk- 60.14 6 *e*P **P** **08 32 21.9 -0.7**
PPT2 Papeete2 61.20 106 *e*S **S** **08 40 48.1 -2.8**
140nm,29.8s
PPT2 *e*LQ LQ 08 48 02.0
PPT2 716nm,30.0s *e*LR LR 08 50 30.0
comp=Z,337nm,23.2s
TBI Tubuai 61.65 113 *e*S **S** **08 40 53.6 -2.7**
226nm,25.0s
TBI *e*LR LR 08 50 46.3
comp=Z,271nm,33.0s
GTA Gaotai 64.31 320 *e*P **P** **08 32 50.0 -1.0**
GTA pP pP 08 32 55.4 +2.6
GTA sP pwP 08 32 58.2 -0.5
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,4.3s
GTA LR LR
comp=N,150nm,19.6s
GTA LR LR
comp=E,300nm,21.3s
GTA LR LR
comp=Z,240nm,19.9s
CASY Casey 64.96 196 *e*P **P** **08 32 54.9 +0.3**
8.8nm,0.8s
SONA0 Songino Array 65.81 330 *e*P **P** **08 32 59.0 -1.6**
SONM Songino Array 65.81 330 P **P** **08 32 59.0 -1.6**
2.1nm,1.1s,baz=149,slow=6.9,SNR=7.5
SONM LR LR 08 59 57.4
comp=Z,499nm,21.9s,baz=127,slow=34
SONM PKP2bc 09 01 42.1
0.7nm,0.9s,baz=17,slow=1.5,SNR=3.7
VNDA Vanda 71.08 177 *e*P **P** **08 33 32.6 -0.4**
8.6nm,1.0s
VNDA Vanda 71.08 177 P **P** **08 33 32.2 -0.8**
3.8nm,0.8s,baz=333,slow=7.2,SNR=7.2
VNDA LR LR 09 04 44.7
comp=Z,238nm,18.0s,baz=357,slow=36
HYB Hyderabad 73.17 290 *i* P **P** **08 33 46.0 -0.6**
WMQ Urumqi 74.37 319 *e*P **P** **08 33 54.3 +1.1**
WMQ LR LR
comp=N,310nm,26.1s
WMQ LR LR
comp=E,230nm,23.7s
WMQ LR LR
comp=Z,210nm,21.3s
MK01 Makanchi Array 79.04 320 *e*P **P** **08 34 17.6 -1.9**
MK31 Makanchi Array 79.06 320 *e*P **P** **08 34 18.3 -1.3**
1.2nm,0.6s
MK32 Makanchi Array 79.06 320 *e*P **P** **08 34 17.3 -2.3**
MKAR Makanchi Array 79.06 320 P **P** **08 34 17.3 -2.3**
1.0nm,0.5s,baz=98,slow=7.9,SNR=17
MAKZ Makanchi 79.26 320 *e*P **P** **08 34 17.9 -2.8**
2.2nm,0.6s
ZALV Zalesovo Beam 80.47 327 *e*P **P** **08 34 25.4 -1.6**
ZALV Zalesovo Beam 80.47 327 P **P** **08 34 24.0 -3.0**
1.1nm,0.4s,baz=125,slow=7.9,SNR=3.9
ZALV LR LR 09 09 36.6
comp=Z,571nm,21.5s,baz=72,slow=35
ZAA1 Zalesovo Array 80.47 327 *e*P **P** **08 34 24.0 -3.0**
KSH Kashi 81.03 312 *e*P **P** **08 34 34.4 +3.9**
KSH PP **PP** **08 37 42.8 +7.3**
KSH S **S** **08 44 45.5 +5.3**
KSH pmax pmax
comp=Z,59nm,4.6s
CAST Castle Rocks 82.91 23 *e*P **P** **08 34 39.8 0.0**
0.8nm,0.6s
QSPA South Pole Qui 83.22 180 *e*P **P** **08 34 41.6 0.0**
8.2nm,0.9s
MLY Maley 84.23 22 *e*P **P** **08 34 46.2 -0.3**
2.6nm,1.0s
DHY Denali Highway 84.62 24 *e*P **P** **08 34 48.0 -0.7**
4.1nm,0.9s
GAR Garm 85.15 310 *e*P **P** **08 34 48.9 -3.0**
6.3nm,1.0s
IL1 Eielson Array 85.56 23 *e*P **P** **08 34 50.8 -2.3**
ILAR Eielson Array 85.56 23 P **P** **08 34 50.8 -2.4**
1.8nm,0.7s,baz=254,slow=4.9,SNR=17
ILAR LR LR 09 09 28.2
comp=Z,117nm,18.9s,baz=260,slow=33
NRIK Noril'sk 86.46 342 LR LR 09 12 55.9
comp=Z,128nm,20.4s,baz=150,slow=35
EGAK Eagle 87.82 24 *e*P **P** **08 35 04.3 +0.1**
3.7nm,1.0s
HYT Haines Junctio 88.12 28 *e*P **P** **08 35 06.5 +0.6**
6.7nm,1.1s
DAWY Dawson 88.30 25 *e*P **P** **08 35 06.5 -0.1**
2.3nm,0.9s
SYO Syowa Base 90.42 200 ||*e*P **P** **08 35 17.0 +0.6**
DLBC Dease Lake 91.22 31 *e*P **P** **08 35 19.4 -1.0**
0.3nm,0.4s
DLBC Dease Lake 91.22 31 LR LR 09 15 15.0
comp=Z,110nm,18.1s,baz=237,slow=35
INK Inuvik 91.78 21 P **P** **08 35 22.4 -0.3**
0.4nm,0.6s,baz=268,slow=2.5,SNR=2.8
YBH Yreka Blue Hor 93.50 49 LR LR 09 11 55.0
comp=Z,393nm,19.7s,baz=274,slow=32
GEYT Alin 94.44 308 LR LR 09 21 22.3
comp=Z,82nm,20.5s,baz=80,slow=38
WVOR Wild Horse Val 96.57 48 *e*P **P** **08 35 44.0 -1.4**
2.6nm,0.8s
NV01 Mina Array Sit 96.60 52 *e*P **P** **08 35 44.2 -1.6**
NVAR Mina Array Bea 96.60 52 P **P** **08 35 46.7 +0.9**
1.5nm,0.7s,baz=251,slow=7.7,SNR=10
NVAR LR LR 09 15 57.1
comp=Z,238nm,18.4s,baz=270,slow=33
PFO Pinyon Flats O 97.84 57 LR LR 09 13 52.8
comp=Z,364nm,19.8s,baz=272,slow=32
YKA Yellowknife Ar 99.11 28 P **Pdif** **08 35 55.1 -1.0**
0.3nm,0.8s,baz=272,slow=5.4,SNR=5.9
YKA PKKPbc **PKKPbc** **08 52 20.2 -4.0**
0.1nm,0.8s,baz=82,slow=2.8,SNR=4.5
YKA LR LR 09 17 32.4
comp=Z,14nm,19.6s,baz=270,slow=34
PDAR Pinedale Array 103.27 48 Pdiff **Pdif** **08 36 15.2 -0.4**
0.5nm,0.6s,baz=223,slow=4.5,SNR=5.4
PLCA Paso Flores 120.65 146 PKP **PKPdf** **08 41 07.5 -0.2**
2.1nm,1.0s,baz=215,slow=2.7,SNR=3.6
CLL Collm 122.41 329 *e*PKPdf **PKPdf** **08 41 11.0 +0.4**
CLL Lm MLR 09 35 00.0
comp=Z,300nm,21.1s
KHC Kasperske Hory 123.31 326 *e*PKP **PKPdf** **08 41 12.7 +0.3**
SCHQ Schefferville 124.31 24 PKP **PKPdf** **08 41 10.8 -3.3**
comp=Z,3.0nm,0.9s,baz=234,slow=12,SNR=3.1
LPAZ La Paz 137.08 123 *e*PKPdf **PKPdf** **08 41 36.9 -3.2**
LPAZ La Paz 137.08 123 PKP **PKPdf** **08 41 37.0 -3.2**
comp=Z,4.8nm,1.1s,baz=328,slow=3.7,SNR=5.0
ROSC El Rosal 137.31 90 PKP **PKPdf** **08 41 38.9 -1.5**
comp=Z,8.6nm,0.6s,baz=180,slow=19,SNR=2.5
CPUP Villa Florida 138.62 144 PKP **PKPdf** **08 41 42.0 0.0**
comp=Z,4.0nm,1.1s,baz=229,slow=4.4,SNR=3.3
SDV Santo Domingo 141.13 84 *e*PKPdf **PKPdf** **08 41 43.0 -4.1**
TOA0 Torodi Ar. Sit 146.77 284 *e*PKPdf **PKPdf** **08 41 56.7 +0.1**
TORD Torodi Ar. Bea 146.77 284 PKPbc **PKPdf** **08 41 56.2 -0.5**
comp=Z,19nm,0.9s,baz=81,slow=1.7,SNR=68
TOA1 Torodi Ar. Sit 146.77 284 *e*PKPdf **PKPdf** **08 41 56.2 -0.5**
SMRT St. Maarten 147.19 67 *e*PKPbc **PKPdf** **08 42 00.0 +2.7**
PTGA Pitinga 150.58 104 *e*PKPbc **PKPdf** **08 42 05.8 +2.8**
PTGA *e*PKPab **PKiKP** **08 42 11.2 +2.1**
BDFB Brasilia 152.35 144 *e*PKPbc **PKPbc** **08 42 12.8 +0.3**
BDFB *e*PKPab **PKPab** **08 42 20.7 -1.6**
BDFB Brasilia 152.35 144 PKPbc **PKPbc** **08 42 12.8 +0.3**
comp=Z,16nm,1.0s,baz=117,slow=2.1,SNR=11
KIC Kosan Boka 153.47 271 *e*PKP2 **PKPbc** **08 42 13.7 -1.2**
comp=Z,55nm,1.5s
DBIC Dimbokro 153.60 271 *e*PKPbc **PKPbc** **08 42 13.8 -1.3**
DBIC Dimbokro 153.60 271 PKPbc **PKPbc** **08 42 15.2 +0.1**
comp=Z,4.6nm,0.9s,baz=57,slow=2.1,SNR=5.0
LIC Lamto 153.75 270 *e*PKP2 **PKPbc** **08 42 14.7 -0.8**
comp=Z,58nm,1.5s
TIC Toumodi 153.76 271 *e*PKP2 **PKPbc** **08 42 14.9 -0.6**

IDC **11** *08:25:49.4±3.7,5°68S×150°12E,h0km,mb3.9/3,*
mb1 4.2/3,mb1mx3.6/32,mbtmp3.9/3,Error ellipse:
s-maj=117.3km s-min=50.0km az=119.0,New Britain
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.89**	**226**	P	P	08 30 32.8	-0.7
	2.7nm,0.9s,baz=50,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**23.74**	**219**	P	P	08 31 02.9	-0.6
	1.5nm,0.6s,baz=55,slow=9.3,SNR=6.1						
FITZ	**Fitzroy Crossi**	**26.89**	**241**	P	P	08 31 33.7	+1.3
	2.0nm,0.4s,baz=46,slow=10,SNR=5.0						
TORD	**Torodi Ar. Bea**	**148.00**	**286**	PKPbc	PKPbc	08 45 36.9	-1.1
	0.4nm,0.6s,baz=56,slow=2.6,SNR=3.8						

DDA **11** *08:42:37.1,38.°17N×27.°33E,h7km±5km,ML2.6*
ISK **11** *08:42:37.9,38.°18N×27.°40E,h5km,ML2.1/5*
ISCJB **11** *08:42:38.2±0.6,38.°17N±0.°06×27.°39E±0.°05,h6km±11km,*
Error ellipse: s-maj=11.2km s-min=4.8km az=27.3
ISC 11 08:42:38.0±1.4,38.°18N±0.°06×27.°38E±0.°04,h11km±14km,
n12,σ0.9s4/17,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.33**	**308**	PG	**Pb**	**08 42 45.2**	**-0.8**
AYDB	**Zeytinkoy-Aydi**	**0.47**	**120**	PG	**Pg**	**08 42 47.1**	**-0.1**
AYDB				SG	**Sg**	**08 42 53.9**	**+0.5**
URLA	**Izmir**	**0.64**	**286**	PG	**Pb**	**08 42 51.1**	**-0.2**
URLA				SG	**Sb**	**08 43 00.7**	**+0.4**
AYDN	**Tasoluk**	**0.65**	**143**	*i* P	**Pg**	**08 42 50.8**	**+0.1**
AYDN				*i* S	**Sb**	**08 43 00.0**	**-0.6**
AYDN				IAML_P			
	comp=Z,994nm,0.1s						
AKHS	**Akhisar**	**0.78**	**26**	*i* P	**Pn**	**08 42 54.7**	**-0.2**
ZEDA	**zmir-Bergama**	**0.82**	**343**	*i* P	**Pb**	**08 42 54.1**	**-0.2**
ZEDA				*i* S	**Sb**	**08 43 05.9**	**+0.6**
MANT	**Manisa**	**0.98**	**71**	*i* P	**Pn**	**08 42 57.7**	**-0.3**
CHOS	**Chios island**	**1.06**	**282**	PN	**Pn**	**08 42 59.1**	**+0.2**
KULA	**Kula-Manisa**	**1.06**	**71**	PG	**Pb**	**08 42 58.5**	**0.0**
STEP	**BALIKESIR_Sava**	**1.22**	**12**	*i* P	**Pb**	**08 43 00.0**	**-1.2**
STEP				*i* S	**Sn**	**08 43 18.3**	**+0.6**
STEP				IAML_P			
	comp=Z,376nm,0.2s						
DEMI	**Demirci**	**1.36**	**50**	*i* P	**Pb**	**08 43 03.4**	**-0.1**
DEMI				IAML_P			
	comp=Z,402nm,0.1s						
USAK	**Uak-Merkez**	**1.39**	**67**	*i* P	**Pb**	**08 43 04.2**	**0.0**
USAK				IAML_P			
	comp=Z,399nm,0.3s						

IDC **11** *08:48:42.9±3.7,53.°58N×90.°67E,h0km,mb1 2.6/3,*
mb1mx2.6/58,mbtmp2.6/3,ML1.8/3,Error ellipse:
s-maj=29.2km s-min=24.2km az=62.0
KRAR 11 08:48:39.5±0.1,53.°81N×91.°07E,M2.6,Industrial
explosion (after: The Earthquakes of Russia in 2012.
Obninsk, GS RAS, 224p + CD-ROM, 2014),
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.70**	**275**	*i*		09 14 30.0	
	baz=96,slow=347,SNR=3.6						
ZALV	**Zalesovo Beam**	**3.70**	**275**	Pn	Pn	08 49 39.0	+1.1
	0.1nm,0.3s,baz=96,slow=13,SNR=2.4						
ZALV				Lg	Lg	08 50 33.0	
	0.7nm,0.3s,baz=93,slow=27,SNR=9.7						
KURBB	**Kurchatov Arra**	**8.34**	**253**	Pn	Pn	08 50 40.4	-1.1
	0.0nm,0.3s,baz=66,slow=14,SNR=3.7						
KURBB				Sn	Sn	08 52 11.0	-5.3
	baz=67,slow=25,SNR=2.7						
KURBB				Lg	Lg	08 52 57.5	
	0.0nm,0.3s,baz=70,slow=32,SNR=3.4						
MKAR	**Makanchi Array**	**8.99**	**222**	Pn	Pn	08 50 50.0	-0.5
	0.0nm,0.3s,baz=29,slow=16,SNR=2.5						
MKAR				Sn	Sn	08 52 26.9	-5.5
	0.0nm,0.3s,baz=30,slow=17,SNR=2.2						
MKAR				Lg	Lg	08 53 18.5	
	0.0nm,0.3s,baz=34,slow=27,SNR=5.1						
SONM	**Songino Array**	**11.38**	**116**	Lg	Lg	08 54 39.3	
	baz=311,slow=26,SNR=6.4						

ATH **11** *08:56:47.7,38.°94N×21.°81E,h20km±1km,ML3.6/21,Error*
ellipse: s-maj=1.1km s-min=0.6km az=218.0
IDC **11** *08:56:47.1±0.9,39.°03N×21.°73E,h0km,mb3.8/13,*
mb1 3.9/19,mb1mx3.7/62,mbtmp3.8/19,ML3.9/6,MS3.0/1,
Ms1 3.0/1,ms1mx2.3/58,Error ellipse: s-maj=18.5km
s-min=14.6km az=141.0
THE **11** *08:56:47.7,38.°94N×21.°80E,h0km±1km,ML3.7/18,Error*
ellipse: s-maj=1.4km s-min=0.3km az=292.0
NEIC **11** *08:56:47.7±0.0,38.°94N×21.°80E,h0km,mb4.1/11,*
ML3.6(ATH),ML3.7(THE),After THE.
PDG **11** *08:56:48.2±0.6,38.°92N×21.°83E,h12km,ML3.8/10,Error*
ellipse: s-maj=0.6km s-min=0.8km az=0.0
ISCJB **11** *08:56:48.1±0.4,38.°936N±0.°010×21.°81E±0.°02,*
h12km±3km,mb3.9/21,Error ellipse: s-maj=2.1km
s-min=1.6km az=156.7
ISC 11 08:56:48.3±0.7,38.°94N±0.°01×21.°81E±0.°01,h11km±5km,
n257,σ1.529/325,mb4.0/21,16C-14D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.02**	**188**	P	**Pg**	**08 56 50.1**	**-0.3**
EVR				S	**Sg**	**08 56 51.6**	**-0.2**
PVO	**Paravola**	**0.39**	**215**	P	**Pg**	**08 56 55.2**	**-0.9**
PVO				S	**Sg**	**08 57 00.9**	**-0.3**
PVO	**Paravola**	**0.39**	**215**	P	**Pg**	**08 56 55.2**	**-0.9**
PVO				S	**Sg**	**08 57 01.8**	**+0.6**
PVO				AML	AML	08 57 04.1	
	comp=E,21752µm,0.5s						
PVO				AML	AML	08 57 06.2	
	comp=N,31936µm,0.7s						
AGG	**Agios Georgios**	**0.41**	**78**	*e*Pg	**Pg**	**08 56 56.8**	**+0.3**
AGG				*e*Sg	**Sg**	**08 57 01.8**	**-0.2**
AGG	**Agios Georgios**	**0.41**	**78**	P	**Pg**	**08 56 56.6**	**+0.1**
AGG				S	**Sb**	**08 57 03.2**	**-0.8**
AGG	**Agios Georgios**	**0.41**	**78**	P	**Pg**	**08 56 56.9**	**+0.3**
AGG				S	**Sb**	**08 57 03.3**	**-0.7**
AGG				AML	AML	08 57 04.7	
	comp=N,53464µm,0.3s						
AGG				AML	AML	08 57 05.3	
	comp=E,66250µm,0.4s						
EFP	**Efpalio**	**0.51**	**172**	P	**Pg**	**08 56 57.6**	**-0.8**
EFP				S	**Sg**	**08 57 05.8**	**+0.6**
EFP	**Efpalio**	**0.51**	**172**	P	**Pg**	**08 56 57.8**	**-0.5**
EFP				S	**Sg**	**08 57 05.7**	**+0.6**
EFP				AML	AML	08 57 07.6	
	comp=N,32478µm,0.3s						
EFP				AML	AML	08 57 11.8	
	comp=E,29070µm,0.7s						
SERG	**Sergoula**	**0.56**	**160**	P	**Pg**	**08 56 58.3**	**-0.9**
SERG				S	**Sg**	**08 57 07.1**	**+0.6**
SERG	**Sergoula**	**0.56**	**160**	P	**Pg**	**08 56 58.5**	**-0.7**
SERG				S	**Sg**	**08 57 06.9**	**+0.4**
SERG				AML	AML	08 57 10.2	
	comp=N,37488µm,0.2s						
SERG				AML	AML	08 57 11.3	
	comp=E,24845µm,0.2s						
DSL	**Palaion Diasel**	**0.59**	**290**	P	**Pg**	**08 56 59.0**	**-0.8**
DSL				S	**Sg**	**08 57 07.5**	**-0.1**
KALE	**Kalithea**	**0.60**	**155**	P	**Pg**	**08 56 59.0**	**-1.0**
KALE				S	**Sg**	**08 57 08.5**	**+0.5**
KALE	**Kalithea**	**0.60**	**155**	P	**Pg**	**08 56 59.2**	**-0.8**
KALE				S	**Sb**	**08 57 09.1**	**-0.4**
KALE				AML	AML	08 57 15.4	
	comp=E,17699µm,0.3s						
KALE				AML	AML	08 57 15.4	
	comp=N,14770µm,0.3s						
TRIZ	**Trizonia**	**0.60**	**160**	P	**Pg**	**08 56 59.0**	**-1.1**
TRIZ				S	**Sb**	**08 57 09.1**	**-0.4**
TRIZ	**Trizonia**	**0.60**	**160**	P	**Pg**	**08 56 59.2**	**-0.9**
TRIZ				S	**Sg**	**08 57 08.6**	**+0.5**
THL	**Klokotos Trika**	**0.65**	**14**	P	**Pg**	**08 57 00.2**	**-0.7**
THL				S	**Sg**	**08 57 09.7**	**+0.3**
THL	**Klokotos Trika**	**0.65**	**14**	P	**Pg**	**08 57 00.5**	**-0.4**
THL				S	**Sb**	**08 57 10.1**	**-0.6**
THL				AML	AML	08 57 12.2	
	comp=N,13426µm,0.6s						
THL				AML	AML	08 57 15.4	
	comp=E,6354µm,0.3s						
UPR	**University Cam**	**0.65**	**182**	P	**Pg**	**08 57 01.0**	**0.0**
UPR				S	**Sb**	**08 57 10.8**	**-0.1**
DLFA	**Delphi**	**0.70**	**130**	P	**Pg**	**08 57 01.9**	**-0.1**
DLFA				S	**Sg**	**08 57 12.0**	**+0.8**
DLFA				AML	AML	08 57 17.4	
	comp=E,5719µm,0.3s						
DLFA				AML	AML	08 57 19.3	
	comp=N,5134µm,0.5s						
LAKA	**Lakka**	**0.71**	**169**	P	**Pg**	**08 57 00.7**	**-1.3**
LAKA				S	**Sb**	**08 57 12.2**	**-0.3**
LAKA	**Lakka**	**0.71**	**169**	P	**Pg**	**08 57 01.0**	**-1.1**
LAKA				S	**Sb**	**08 57 12.0**	**-0.4**

LAKA					AML	AML	08 57 19.8	
	comp=E,3936µm,0.7s							
LAKA					AML	AML	08 57 21.6	
	comp=N,3414µm,1.1s							
ALIK	**Aliki, Aigiali**	**0.71**	**161**	P	**Pg**		**08 57 01.0**	**-1.2**
DSF	**Desfina**	**0.77**	**133**	P	**Pg**		**08 57 01.9**	**-1.3**
DSF	**Desfina**	**0.77**	**133**	P	**Pg**		**08 57 02.0**	**-1.1**
DSF				S	**Sb**		**08 57 13.9**	**-0.3**
DSF				AML	AML		08 57 18.4	
	comp=N,7762µm,0.2s							
DSF				AML	AML		08 57 19.2	
	comp=E,4387µm,0.2s							
MGNA	**Meganis**	**0.84**	**251**	P	**Pb**		**08 57 04.7**	**-0.4**
LRSO	**Larissa Observ**	**0.86**	**31**	P	**Pg**		**08 57 04.0**	**-1.0**
LRSO				S	**Sg**		**08 57 16.3**	**+0.1**
LKD2	**Lefkada island**	**0.91**	**261**	P	**Pg**		**08 57 04.9**	**-1.0**
LKD2				S	**Sb**		**08 57 18.1**	**-0.3**
LKD2	**Lefkada island**	**0.91**	**261**	P	**Pg**		**08 57 05.1**	**-0.8**
LKD2				S	**Sb**		**08 57 18.2**	**-0.3**
LKD2				AML	AML		08 57 25.0	
	comp=N,18001µm,0.7s							
LKD2				AML	AML		08 57 25.3	
	comp=E,14094µm,0.7s							
RLS	**Riolos of Patr**	**0.92**	**197**	P	**Pg**		**08 57 05.5**	**-0.5**
RLS				S	**Sb**		**08 57 18.9**	**+0.4**
RLS	**Riolos of Patr**	**0.92**	**197**	P	**Pg**		**08 57 05.6**	**-0.5**
KLV	**Kalavryta, Ach**	**0.93**	**163**	P	**Pg**		**08 57 04.8**	**-1.5**
KLV				S	**Sg**		**08 57 18.5**	**+0.1**
KLV	**Kalavryta, Ach**	**0.93**	**163**	P	**Pg**		**08 57 05.2**	**-1.1**
KLV				S	**Sg**		**08 57 18.6**	**+0.1**
KLV				AML	AML		08 57 22.9	
	comp=E,2355µm,0.3s							
KLV				AML	AML		08 57 23.2	
	comp=N,4608µm,0.7s							
EVGI	**Lefkada island**	**0.96**	**251**	P	**Pg**		**08 57 05.5**	**-1.3**
MEV	**Metsovon**	**0.96**	**332**	P	**Pg**		**08 57 05.7**	**-1.2**
ATAL	**Atalanti**	**0.98**	**104**	P	**Pg**		**08 57 05.8**	**-1.3**
ATAL				S	**Sb**		**08 57 20.3**	**+0.1**
ATAL	**Atalanti**	**0.98**	**104**	P	**Pg**		**08 57 06.0**	**-1.1**
DRO	**Drossia**	**0.98**	**185**	P	**Pg**		**08 57 06.2**	**-1.1**
DRO	**Drossia**	**0.98**	**185**	P	**Pg**		**08 57 06.5**	**-0.8**
FYTO	**Fytoko, Volos**	**0.99**	**61**	P	**Pg**		**08 57 06.7**	**-0.8**
FYTO				S	**Sb**		**08 57 21.2**	**+0.5**
FYTO	**Fytoko, Volos**	**0.99**	**61**	P	**Pg**		**08 57 07.0**	**-0.5**
FYTO				S	**Sg**		**08 57 20.0**	**-0.5**
FYTO				AML	AML		08 57 26.5	
	comp=N,7714µm,0.4s							
FYTO				AML	AML		08 57 26.6	
	comp=E,3896µm,0.5s							
JAN	**Janina**	**1.04**	**314**	P	**Pg**		**08 57 07.6**	**-0.7**
JAN	**Janina**	**1.04**	**314**	P	**Pg**		**08 57 07.6**	**-0.7**
JAN				S	**Sb**		**08 57 22.2**	**+0.2**
JAN				AML	AML		08 57 31.9	
	comp=N,5641µm,0.3s							
JAN				AML	AML		08 57 32.7	
	comp=E,4854µm,0.3s							
KPRO	**Kipourio**	**1.07**	**341**	P	**Pg**		**08 57 07.6**	**-1.5**
KPRO	**Kipourio**	**1.07**	**341**	P	**Pg**		**08 57 08.0**	**-1.1**
KPRO				S	**Sb**		**08 57 23.4**	**+0.3**
KPRO				AML	AML		08 57 29.8	
	comp=N,6013µm,0.3s							
KPRO				AML	AML		08 57 33.4	
	comp=E,6867µm,0.5s							
GUR	**Goura**	**1.08**	**157**	P	**Pg**		**08 57 07.9**	**-1.3**
GUR	**Goura**	**1.08**	**157**	P	**Pg**		**08 57 07.7**	**-1.4**
PROD	**Prodromos**	**1.09**	**128**	P	**Pg**		**08 57 08.3**	**-1.0**
SMIA	**Simia**	**1.09**	**93**	P	**Pg**		**08 57 09.0**	**-0.3**
SMIA				S	**Sb**		**08 57 24.9**	**+1.4**
SMIA	**Simia**	**1.09**	**93**	P	**Pg**		**08 57 09.0**	**-0.3**
SMIA				S	**Sb**		**08 57 24.3**	**+0.8**
SMIA				AML	AML		08 57 31.0	
	comp=N,9896µm,0.7s							
SMIA				AML	AML		08 57 32.8	
	comp=E,5932µm,0.7s							
VTN	**Vitineika**	**1.13**	**206**	P	**Pb**		**08 57 10.4**	**+0.5**
XOR	**Xorichti**	**1.16**	**68**	P	**Pg**		**08 57 09.3**	**-1.3**
XOR				S	**Sb**		**08 57 27.1**	**+1.7**
XOR	**Xorichti**	**1.16**	**68**	P	**Pg**		**08 57 10.3**	**-0.2**
XOR				S	**Sg**		**08 57 25.3**	**-0.3**
XOR				AML	AML		08 57 29.9	
	comp=N,10083µm,0.3s							
XOR				AML	AML		08 57 32.1	
	comp=E,5186µm,0.4s							
NEO	**Neokhori**	**1.16**	**71**	P	**Pb**		**08 57 10.6**	**+0.2**
NEO				S	**Sb**		**08 57 26.8**	**+1.3**
NEO	**Neokhori**	**1.16**	**71**	P	**Pb**		**08 57 10.6**	**+0.2**
NEO				S	**Sn**		**08 57 27.3**	**+0.9**
NEO				AML	AML		08 57 31.4	
	comp=N,9500µm,0.4s							
NEO				AML	AML		08 57 33.1	
	comp=E,5919µm,0.4s							
VLS	**Valsamata**	**1.22**	**232**	P	**Pg**		**08 57 09.6**	**-2.2**
VLS	**Valsamata**	**1.22**	**232**	P	**Pg**		**08 57 09.6**	**-2.2**
LIT	**Litokhoron**	**1.28**	**24**	*e*Pn	**Pg**		**08 57 12.0**	**-0.8**
LIT				*e*Sn	**Sg**		**08 57 27.8**	**-1.6**
LIT	**Litokhoron**	**1.28**	**24**	P	**Pg**		**08 57 11.8**	**-1.1**
LIT	**Litokhoron**	**1.28**	**24**	P	**Pg**		**08 57 12.1**	**-0.8**
LIT				S	**Sg**		**08 57 28.6**	**-0.9**
LIT				AML	AML		08 57 34.7	
	comp=N,12893µm,0.3s							
LIT				AML	AML		08 57 35.5	
	comp=E,9152µm,0.3s							
LTK	**Loutraki**	**1.29**	**135**	P	**Pg**		**08 57 12.4**	**-0.6**
LTK	**Loutraki**	**1.29**	**135**	P	**Pg**		**08 57 12.7**	**-0.4**
IGT	**Igoumenitsa**	**1.29**	**298**	P	**Pg**		**08 57 11.6**	**-1.6**
IGT				S	**Sn**		**08 57 31.2**	**+1.5**
IGT	**Igoumenitsa**	**1.29**	**298**	P	**Pg**		**08 57 12.2**	**-1.0**
SKIA	**Skiathos**	**1.31**	**79**	P	**Pg**		**08 57 12.3**	**-1.2**
SKIA	**Skiathos**	**1.31**	**79**	P	**Pg**		**08 57 12.3**	**-1.2**
SKIA				S	**Sb**		**08 57 30.6**	**+0.9**
SKIA				AML	AML		08 57 34.9	
	comp=N,3348µm,0.6s							
SKIA				AML	AML		08 57 35.3	
	comp=E,2598µm,0.4s							
LOUT	**Loutraki**	**1.31**	**136**	P	**Pg**		**08 57 12.8**	**-0.8**
LOUT	**Loutraki**	**1.31**	**136**	P	**Pn**		**08 57 13.6**	**+0.9**
VIL2	**Platees**	**1.35**	**122**	P	**Pg**		**08 57 13.5**	**-0.8**
PENT	**Pentalofos**	**1.36**	**338**	P	**Pg**		**08 57 12.9**	**-1.6**
PENT	**Pentalofos**	**1.36**	**338**	P	**Pg**		**08 57 13.2**	**-1.4**
KZN	**Kozani**	**1.37**	**359**	P	**Pg**		**08 57 12.9**	**-1.8**
KZN	**Kozani**	**1.37**	**359**	P	**Pg**		**08 57 13.4**	**-1.3**
KZN				S	**Sg**		**08 57 31.9**	**-0.6**
KZN				AML	AML		08 57 37.9	
	comp=E,6580µm,0.3s							
KZN				AML	AML		08 57 37.9	
	comp=N,5471µm,0.2s							
AMT	**Artemida-Makis**	**1.40**	**183**	P	**Pn**		**08 57 14.1**	**+0.2**
AMT	**Artemida-Makis**	**1.40**	**183**	P	**Pn**		**08 57 14.4**	**+0.5**
MRKA	**Markates**	**1.41**	**99**	P	**Pn**		**08 57 14.2**	**+0.3**
VILL	**Villia**	**1.41**	**123**	P	**Pn**		**08 57 13.5**	**-0.5**
TRIP	**Tripoli**	**1.45**	**165**	P	**Pn**		**08 57 14.8**	**+0.2**
NEST	**Nestorio**	**1.59**	**339**	P	**Pn**		**08 57 16.8**	**+0.2**
NEST	**Nestorio**	**1.59**	**339**	P	**Pb**		**08 57 17.8**	**-0.1**
ALNA	**Alonissos**	**1.61**	**82**	P	**Pn**		**08 57 16.9**	**+0.1**
VLX	**Vlachokerasia**	**1.63**	**164**	P	**Pn**		**08 57 16.8**	**-0.2**
VLX	**Vlachokerasia**	**1.63**	**164**	P	**Pn**		**08 57 17.4**	**+0.4**
AOS	**Alonnisos**	**1.63**	**81**	P	**Pn**		**08 57 16.5**	**-0.5**
AOS	**Alonnisos**	**1.63**	**81**	P	**Pn**		**08 57 16.8**	**-0.2**
EPID	**Epidavros**	**1.67**	**142**	P	**Pn**		**08 57 18.6**	**+1.0**
MES3	**Kyparissia**	**1.69**	**184**	P	**Pb**		**08 57 19.1**	**-0.3**
KEK	**Kerkira**	**1.74**	**297**	P	**Pb**		**08 57 20.3**	**-0.1**
PAIG	**Paliouri**	**1.75**	**55**	P	**Pn**		**08 57 18.1**	**-0.5**
PAIG	**Paliouri**	**1.75**	**55**	P	**Pn**		**08 57 18.2**	**-0.5**
ITM	**Ithomi**	**1.76**	**177**	*e*Pn	**Pg**		**08 57 21.8**	**-0.3**
ITM				*e*Sn	**Sn**		**08 57 40.7**	**-0.5**
ITM	**Ithomi**	**1.76**	**177**	P	**Pn**		**08 57 19.7**	**+1.0**
ITM	**Ithomi**	**1.76**	**177**	P	**Pn**		**08 57 20.2**	**+1.4**
ATH	**Athens Observa**	**1.78**	**122**	P	**Pn**		**08 57 18.4**	**-0.6**
ATH	**Athens Observa**	**1.78**	**122**	P	**Pn**		**08 57 19.4**	**+0.4**
ATH				S	**Sn**		**08 57 42.1**	**+0.5**
ATH				AML	AML		08 57 43.8	
	comp=N,1389µm,0.3s							
ATH				AML	AML		08 57 51.0	
	comp=E,1508µm,0.3s							
DID	**Didima**	**1.82**	**141**	P	**Pn**		**08 57 20.0**	**+0.4**
DID	**Didima**	**1.82**	**141**	P	**Pn**		**08 57 20.1**	**+0.5**
ATHU	**Athens Univers**	**1.83**	**121**	P	**Pn**		**08 57 20.1**	**+0.4**
PTL	**Penteli**	**1.84**	**118**	P	**Pn**		**08 57 19.9**	**0.0**
KRND	**KRANIDI**	**1.88**	**145**	P	**Pn**		**08 57 20.7**	**+0.3**
KRND	**KRANIDI**	**1.88**	**145**	P	**Pn**		**08 57 20.9**	**+0.5**
FNA	**Florina**	**1.88**	**350**	*e*Pn	**Pn**		**08 57 21.5**	**+1.1**
FNA				*e*Sn	**Sn**		**08 57 43.8**	**-0.4**

FNA	**Florina**	**1.88**	**350**	P	**Pn**		**08 57 21.1**	**+0.7**
FNA	**Florina**	**1.88**	**350**	P	**Pn**		**08 57 21.5**	**+1.1**
VLY	**Voula,Athens**	**1.90**	**124**	P	**Pn**		**08 57 20.9**	**+0.2**
VLY	**Voula,Athens**	**1.90**	**124**	P	**Pn**		**08 57 21.3**	**+0.6**
PLG	**Polygyros**	**1.91**	**41**	P	**Pn**		**08 57 20.4**	**-0.5**
PLG	**Polygyros**	**1.91**	**41**	P	**Pn**		**08 57 20.4**	**-0.5**
THE	**Thessaloniki**	**1.91**	**27**	P	**Pn**		**08 57 20.4**	**-0.5**
THE	**Thessaloniki**	**1.91**	**27**	P	**Pn**		**08 57 20.3**	**-0.5**
HORT	**Hortiatis**	**1.93**	**30**	P	**Pn**		**08 57 20.6**	**-0.7**
HORT	**Hortiatis**	**1.93**	**30**	P	**Pn**		**08 57 20.6**	**-0.7**
PYL	**PYLOS**	**2.04**	**182**	P	**Pn**		**08 57 24.5**	**+1.9**
MES2	**Methoni**	**2.11**	**182**	P	**Pn**		**08 57 24.5**	**+0.9**
BIA	**Bitola**	**2.11**	**350**	*i* Pn	**Pb**		**08 57 26.8**	**+0.1**
OUR	**Ouranopolis**	**2.18**	**50**	P	**Pn**		**08 57 24.6**	**0.0**
OUR	**Ouranopolis**	**2.18**	**50**	P	**Pn**		**08 57 24.5**	**0.0**
SOH	**Sokhos**	**2.23**	**32**	P	**Pn**		**08 57 24.8**	**-0.5**
SOH	**Sokhos**	**2.23**	**32**	P	**Pn**		**08 57 25.6**	**+0.3**
OHR	**Ohrid**	**2.31**	**341**	*i* Pn	**Pg**		**08 57 31.0**	**-1.6**
OHR				*i* Sn	**Sg**		**08 58 04.0**	**+1.5**
KNT	**Kendrikon**	**2.37**	**20**	P	**Pn**		**08 57 27.6**	**+0.3**
KNT	**Kendrikon**	**2.37**	**20**	P	**Pn**		**08 57 27.6**	**+0.3**
VLI	**Veliai**	**2.39**	**158**	P	**Pn**		**08 57 28.1**	**+0.7**
VLI	**Veliai**	**2.39**	**158**	P	**Pn**		**08 57 28.2**	**+0.7**
VAY	**Valandovo**	**2.45**	**13**	*i* Pn	**Pn**		**08 57 29.1**	**+0.8**
KRUS	**Krusevo**	**2.47**	**350**	*i* Pn	**Pn**		**08 57 30.8**	**+2.2**
SRS	**Serrai**	**2.57**	**32**	P	**Pn**		**08 57 30.1**	**+0.1**
SRS	**Serrai**	**2.57**	**32**	P	**Pn**		**08 57 29.8**	**-0.1**
STIP	**Stip**	**2.77**	**6**	*i* Pn	**Pn**		**08 57 34.3**	**+1.6**
LIA	**Limnos Island**	**2.78**	**69**	P	**Pn**		**08 57 32.7**	**-0.1**
THAS	**Thassos island**	**2.79**	**52**	P	**Pn**		**08 57 32.5**	**-0.4**
THAS	**Thassos island**	**2.79**	**52**	P	**Pn**		**08 57 32.6**	**-0.4**
KYTH	**Kithira**	**2.84**	**159**	P	**Pn**		**08 57 34.4**	**+0.7**
KYTH	**Kithira**	**2.84**	**159**	P	**Pn**		**08 57 35.2**	**+1.6**
NVR	**Nevrokopi**	**2.88**	**32**	P	**Pn**		**08 57 34.6**	**+0.4**
NVR	**Nevrokopi**	**2.88**	**32**	P	**Pn**		**08 57 35.0**	**+0.8**
KAVA	**Kavala**	**2.92**	**44**	P	**Pn**		**08 57 34.4**	**-0.4**
KAVA	**Kavala**	**2.92**	**44**	P	**Pn**		**08 57 34.4**	**-0.4**
SIGR	**SIGRI**	**3.16**	**84**	P	**Pn**		**08 57 38.2**	**+0.2**
ANKY	**Antikythira Is**	**3.29**	**158**	P	**Pn**		**08 57 39.7**	**0.0**
APE	**Apeiranthos**	**3.48**	**121**	⇓*i* P	**Pn**		**08 57 43.0**	**+0.5**
APE	**Apeiranthos**	**3.48**	**121**	S	**Sn**		**08 58 22.4**	**-1.3**
APE	**Apeiranthos**	**3.48**	**121**	P	**Pn**		**08 57 42.6**	**+0.1**
ULC	**Ulcinj**	**3.60**	**328**	⇓*i* Pn	**Pn**		**08 57 45.6**	**+1.4**
ULC				*e*Sn	**Sn**		**08 58 29.4**	**+2.7**
EZN	**Ezine**	**3.61**	**74**	⇓*i* P	**Pn**		**08 57 44.8**	**+0.6**
EZN	**Ezine**	**3.61**	**74**	S	**Sn**		**08 58 25.2**	**-1.6**
RDO	**Rodhopi**	**3.61**	**51**	P	**Pn**		**08 57 44.3**	**+0.1**
CGL1	**Ceglie Messapi**	**3.75**	**299**	*e*Pn	**Pn**		**08 57 49.9**	**+3.7**
ALN	**Alexandroupoli**	**3.80**	**58**	*e*Pn	**Pn**		**08 57 46.7**	**-0.1**
ALN				*e*Sn	**Sn**		**08 58 28.8**	**-2.7**
VTS	**Vitosha**	**3.80**	**16**	⇓*i* P	**Pn**		**08 57 48.9**	**+1.9**
DRME	**Dracevica, Mon**	**3.81**	**329**	⇓*i* Pn	**Pn**		**08 57 48.6**	**+1.6**
DRME				*e*Sn	**Sn**		**08 58 34.9**	**+3.0**
DRME	**Dracevica, Mon**	**3.81**	**329**	*e*Pn	**Pn**		**08 57 49.5**	**+2.5**
FASA	**Fasano**	**3.91**	**300**	*e*Pn	**Pn**		**08 57 50.8**	**+2.5**
PVY	**Plav**	**3.92**	**340**	⇑*i* Pn	**Pn**		**08 57 50.4**	**+1.8**
PVY				*e*Sn	**Sn**		**08 58 36.9**	**+2.3**
PDG	**Podgorica**	**4.00**	**332**	*e*Pn	**Pn**		**08 57 51.9**	**+2.4**
TTG	**Podgorica**	**4.00**	**332**	⇑*i* Pn	**Pn**		**08 57 51.4**	**+1.9**
TTG				*e*Sn	**Sn**		**08 58 38.6**	**+2.3**
BUM	**Brajici-Budva**	**4.03**	**327**	⇑*i* Pn	**Pn**		**08 57 51.9**	**+1.9**
BUM				*e*Sn	**Sn**		**08 58 39.8**	**+2.5**
IVA	**Berane**	**4.19**	**340**	⇓*i* Pn	**Pn**		**08 57 54.6**	**+2.3**
IVA				*e*Sn	**Sn**		**08 58 43.1**	**+1.8**
CEME	**Cevo**	**4.22**	**330**	⇓*i* Pn	**Pn**		**08 57 54.8**	**+2.1**
CEME				*e*Sn	**Sn**		**08 58 44.3**	**+2.2**
KOME	**Kolasin**	**4.28**	**337**	⇑*i* Pn	**Pn**		**08 57 55.6**	**+2.0**
KOME				*e*Sn	**Sn**		**08 58 45.8**	**+2.3**
MATE	**Matera**	**4.29**	**295**	⇑*i* P	**Pn**		**08 57 54.8**	**+1.3**
HCY	**Herceg Novi**	**4.32**	**325**	⇑*i* Pn	**Pn**		**08 57 55.9**	**+1.9**
HCY				*e*Sn	**Sn**		**08 58 46.7**	**+2.3**
HCY	**Herceg Novi**	**4.32**	**325**	*e*Pn	**Pn**		**08 57 54.9**	**+0.9**
BAI	**Bari**	**4.36**	**301**	*e*Pn	**Pn**		**08 57 57.4**	**+2.8**
SG1	**Sgolgore (BA)**	**4.38**	**297**	*e*Pn	**Pn**		**08 57 56.3**	**+1.4**
SG1				Sn	**Sn**		**08 58 43.8**	**-2.1**
IDI	**Anoyia**	**4.39**	**145**	Pn	**Pn**		**08 57 56.9**	**+1.8**
	comp=E,1.0nm,0.3s,baz=332,slow=15,SNR=6.5							
IDI				Sn	**Sn**		**08 58 44.6**	**-1.7**
	comp=E,2.4nm,0.3s,baz=291,slow=17,SNR=2.5							
NKME	**Niksic**	**4.40**	**331**	⇑*i* Pn	**Pn**		**08 57 56.8**	**+1.7**
NKME				*e*Sn	**Sn**		**08 58 45.9**	**+2.6**
NKY	**Niksic**	**4.42**	**332**	⇓*i* Pn	**Pn**		**08 57 56.6**	**+1.1**
NKY				*e*Sn	**Sn**		**08 58 49.1**	**+2.1**
TREB	**Trebinje**	**4.60**	**326**	*e*Pn	**Pn**		**08 57 59.2**	**+1.4**
BRY	**Bratogost**	**4.67**	**329**	⇓*i* Pn	**Pn**		**08 58 00.9**	**+1.9**
BRY				*e*Sn	**Sn**		**08 58 55.1**	**+1.8**
BRY	**Bratogost**	**4.67**	**329**	*e*Pn	**Pn**		**08 57 58.5**	**-0.5**
CEL	**Celeste**	**4.69**	**264**	*e*Pn	**Pn**		**08 57 59.8**	**+0.8**
CEL				*e*Sn	**Sn**		**08 58 54.5**	**+1.1**
PLE	**Pljevlja**	**4.76**	**338**	⇑*i* Pn	**Pn**		**08 58 02.1**	**+2.0**
PLE				*e*Sn	**Sn**		**08 58 56.8**	**+1.5**
STON	**Ston**	**5.02**	**323**	*e*Pn	**Pn**		**08 58 04.5**	**+1.0**
STON				Sn	**Sn**		**08 58 59.5**	**-2.0**
STON	**Ston**	**5.02**	**323**	*e*Pn	**Pn**		**08 58 04.5**	**+1.0**
BBLS	**Lazići**	**5.25**	**341**	*e*Pn	**Pn**		**08 58 08.9**	**+2.1**
DIVS	**Divibare**	**5.34**	**346**	*e*Pn	**Pn**		**08 58 09.4**	**+1.4**
DIVS				*e*Sn	**Sn**		**08 59 08.8**	**-0.7**
DIVS	**Divibare**	**5.34**	**346**	*e*Pn	**Pn**		**08 58 09.2**	**+1.2**
HANS	**Han Pijesak,BI**	**5.58**	**338**	*e*Pn	**Pn**		**08 58 12.0**	**+0.7**
MDVR	**Moldovita**	**5.84**	**359**	⇑*i* P	**Pn**		**08 58 17.6**	**+2.7**
HERR	**Herculane**	**5.96**	**4**	⇓*i* P	**Pn**		**08 58 19.1**	**+2.6**
VAE	**Valguarnera**	**6.01**	**258**	Sn	**Sn**		**08 59 29.1**	**+3.0**
	comp=E,1.4nm,0.3s,baz=109,slow=14,SNR=1.9							
FRGS	**Fruska Gora**	**6.39**	**347**	*e*Pn	**Pn**		**08 58 23.5**	**+1.0**
GZR	**Gura Zlata**	**6.49**	**6**	⇑*i* P	**Pn**		**08 58 27.0**	**+3.1**
BZS	**Buzias**	**6.68**	**359**	⇑*i* P	**Pn**		**08 58 28.9**	**+2.6**
BLY	**Banja Luka**	**6.76**	**331**	*e*Pn	**Pn**		**08 58 27.7**	**+0.3**
BLY	**Banja Luka**	**6.76**	**331**	⇓*i* P	**Pn**		**08 58 30.1**	**+2.7**
BLY	**Banja Luka**	**6.76**	**331**	*e*Pn	**Pn**		**08 58 28.7**	**+1.3**
ARR	**Arges**	**6.76**	**17**	⇑*i* P	**Pn**		**08 58 28.7**	**+1.2**
CLTB	**Caltabellotta**	**6.90**	**261**	*e*Pn	**Pn**		**08 58 29.8**	**+0.3**
VOIR		**6.93**	**19**	⇓*i* P	**Pn**		**08 58 31.4**	**+1.6**
UDBI	**Udbina**	**7.19**	**323**	*e*Pn	**Pn**		**08 58 35.5**	**+2.1**
MLR	**Muntele Rosu**	**7.23**	**24**	⇑*i* P	**Pn**		**08 58 36.7**	**+2.6**
MLR	**Muntele Rosu**	**7.23**	**24**	Pn	**Pn**		**08 58 34.8**	**+0.8**
	comp=E,2.1nm,0.3s,baz=234,slow=2.0,SNR=13							
MLR				LR	LR		09 01 59.3	
	comp=E,121nm,20.6s,baz=198,slow=44							
TIRR	**Tirgusor**	**7.40**	**40**	*e*Pn	**Pn**		**08 58 37.2**	**+1.0**
TIRR	**Tirgusor**	**7.40**	**40**	⇑*i* P	**Pn**		**08 58 38.0**	**+1.7**
NVLJ	**Novalja**	**7.65**	**320**	*e*Pn	**Pn**		**08 58 41.0**	**+1.4**
PLOR	**Plostina**	**7.78**	**26**	⇓*i* P	**Pn**		**08 58 43.9**	**+2.4**
VRI	**Vrincioaia**	**7.82**	**26**	⇓*i* P	**Pn**		**08 58 44.7**	**+2.6**
CRES	**Cresnjev**	**8.34**	**328**	*e*Pn	**Pn**		**08 58 49.6**	**+0.5**
CEY	**Cerknica**	**8.72**	**324**	*e*Pn	**Pn**		**08 58 55.3**	**+0.9**
BURAR	**Bucovina Array**	**9.02**	**15**	⇑*i* P	**Pn**		**08 59 01.4**	**+2.8**
BUR08	**Bucovina Ar. S**	**9.05**	**15**	*e*Pn	**Pn**		**08 58 57.8**	**-1.1**
PSZ	**Piszkesteto**	**9.09**	**352**	*e*Pn	**Pn**		**08 58 57.9**	**-1.5**
PSZ	**Piszkesteto**	**9.09**	**352**	⇑*i* P	**Pn**		**08 59 02.6**	**+3.1**
SOKA	**Sobothi**	**9.20**	**329**	*e*Pn	**Pn**		**08 59 01.3**	**+0.3**
	comp=E,1.8nm,0.5s							
BR101	**Keskin Array S**	**9.20**	**81**	*e*Pn	**Pn**		**08 59 03.9**	**+2.7**
BRTR	**Keskin Array B**	**9.20**	**81**	Pn	**Pn**		**08 59 03.9**	**+2.7**
	comp=E,0.3nm,0.3s,baz=265,slow=12,SNR=7.0							
OBKA	**Obir**	**9.26**	**327**	*e*Pn	**Pn**		**08 58 59.8**	**-2.1**
	comp=E,2.9nm,0.7s							
ARSA	**Arzberg**	**9.49**	**333**	*e*Pn	**Pn**		**08 59 03.8**	**-1.2**
	comp=E,5.9nm,0.7s							
VYHS	**Vyhne**	**9.79**	**348**	*e*PN	**Pn**		**08 59 11.3**	**+2.2**
VYHS				*e*SN	Sn		09 00 44.9	-1.4
CONA	**Conrad Observa**	**9.97**	**336**	Pn	**Pn**		**08 59 10.3**	**-1.3**
	comp=E,1.9nm,0.7s							
KBA	**Koelnbreinsper**	**10.22**	**325**	*e*Pn	**Pn**		**08 59 14.2**	**-1.0**
	comp=E,0.4nm,0.3s							
ABTA	**Abfaltersbach**	**10.37**	**322**	*e*Pn	**Pn**		**08 59 18.0**	**+1.0**
	comp=E,1.9nm,0.5s							
KEST	**Kesra**	**10.43**	**256**	*e*Pn	**Pn**		**08 59 19.6**	**+1.7**
KEST	**Kesra**	**10.43**	**256**	Pn	**Pn**		**08 59 19.5**	**+1.6**
	comp=E,0.2nm,0.3s,baz=347,slow=1.0,SNR=6.1							
MOA	**Molln**	**10.46**	**331**	*e*Pn	**Pn**		**08 59 18.3**	**0.0**
	comp=E,1.6nm,0.4s							
MOTA	**Moosalm**	**11.47**	**321**	*e*Pn	**Pn**		**08 59 30.7**	**-1.4**
	comp=E,1.7nm,0.5s							
AKASG	**Malin Array Be**	**12.88**	**22**	Pn	**Pn**		**08 59 50.8**	**-0.4**
	comp=E,0.4nm,0.3s,baz=208,slow=12,SNR=3.8							
SENIN	**Lac Senin/Sane**	**13.00**	**309**	*e*Pn	**Pn**		**08 59 49.2**	**-3.9**
SENIN				*e*Sn	**Sn**		**09 02 14.3**	**-3.4**
SUW	**Suwalki**	**15.11**	**3**	*e*Pn	**Pn**		**09 00 21.4**	**-0.2**
	comp=E,36nm,0.6s							
ESDC	**Sonseca Array**	**19.94**	**280**	P	**P**		**09 01 19.9**	**-0.4**
	comp=E,0.3nm,0.3s,baz=76,slow=11,SNR=6.4							

HFS	**Hagfors**	**21.83**	**349**	P	**P**		**09 01 38.3**	**-2.1**
	comp=E,0.8nm,0.3s,baz=158,slow=12,SNR=7.7							
FIA0	**FINESS Array S**	**22.69**	**5**	*e*P	**P**		**09 01 47.5**	**-2.1**
FINES	**FINESS Array B**	**22.69**	**5**	P	**P**		**09 01 47.5**	**-2.1**
	comp=E,2.0nm,0.7s,baz=169,slow=12,SNR=7.1							
FIA1	**FINESS Array S**	**22.69**	**5**	*e*P	**P**		**09 01 49.2**	**-0.4**
NC602	**NORSAR Array S**	**22.75**	**347**	*e*P	**P**		**09 01 50.1**	**-0.2**
	comp=E,6.8nm,0.9s							
NAO01	**NORSAR Array S**	**22.97**	**346**	*e*P	**P**		**09 01 52.7**	**+0.1**
	comp=E,12nm,0.9s							
NC405	**NORSAR Array S**	**23.07**	**347**	*e*P	**P**		**09 01 53.9**	**+0.2**
	comp=E,4.6nm,0.8s							
NB201	**NORSAR Array S**	**23.09**	**347**	*e*P	**P**		**09 01 53.5**	**-0.4**
	comp=E,7.2nm,1.1s							
NB2	**NORSAR Subarra**	**23.09**	**347**	P	**P**		**09 01 53.7**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=157,slow=10							
NB200	**NORSAR Array S**	**23.09**	**347**	*e*P	**P**		**09 01 51.9**	**-2.1**
NOA	**NORSAR Array B**	**23.09**	**347**	P	**P**		**09 01 51.9**	**-2.1**
	comp=Z,24.4nm,0.7s,baz=159,slow=9.4,SNR=8.0							
NBO00	**NORSA

KDTR	**Khodutka, Kamc**	**2.43**	**349**	*e*P		**Pn**	**09 22 54.4**	**-1.5**
KDTR				*e*S		**Sn**	**09 23 22.6**	**-1.8**
KDTR	**Khodutka, Kamc**	**2.43**	**349**	PN		**Pn**	**09 22 54.4**	**-1.5**
KDTR				S		**Sn**	**09 23 22.6**	**-1.8**
ALID	**Alaid**	**2.56**	**306**	*e*S		**Sn**	**09 23 27.7**	**0.0**
RUS	**Russkaya**	**3.01**	**356**	*e*P		**Pn**	**09 23 02.6**	**-1.3**
RUS				*e*S		**Sn**	**09 23 36.3**	**-2.5**
RUS	**Russkaya**	**3.01**	**356**	PN		**Pn**	**09 23 02.6**	**-1.3**
RUS				S		**Sn**	**09 23 36.3**	**-2.5**
ASAK	**Asacha**	**3.02**	**349**	*e*P		**Pn**	**09 23 03.5**	**-0.5**
ASAK				*e*S		**Sn**	**09 23 38.0**	**-0.9**
ASAK	**Asacha**	**3.02**	**349**	PN		**Pn**	**09 23 03.5**	**-0.5**
ASAK				S		**Sn**	**09 23 38.0**	**-0.9**
MTVR	**Mutnovka**	**3.08**	**353**	*e*P		**Pn**	**09 23 04.2**	**-0.8**
MTVR				*e*S		**Sn**	**09 23 39.2**	**-1.5**
MTVR	**Mutnovka**	**3.08**	**353**	PN		**Pn**	**09 23 04.2**	**-0.8**
MTVR				S		**Sn**	**09 23 39.2**	**-1.5**
KRMR	**Karymshinskiy**	**3.43**	**353**	*e*P		**Pn**	**09 23 09.6**	**-0.1**
KRMR				*e*S		**Sn**	**09 23 48.4**	**-0.7**
KRMR	**Karymshinskiy**	**3.43**	**353**	PN		**Pn**	**09 23 09.6**	**-0.1**
KRMR				S		**Sn**	**09 23 48.4**	**-0.7**
PET	**Petropavlovsk**	**3.60**	**358**	*e*P		**Pn**	**09 23 11.2**	**-0.8**
PET				*e*S		**Sn**	**09 23 51.4**	**-1.8**
PET	**Petropavlovsk**	**3.60**	**358**	PN		**Pn**	**09 23 11.2**	**-0.8**
PET				S		**Sn**	**09 23 51.4**	**-1.8**
DALK	**Dalny**	**3.61**	**359**	*e*P		**Pn**	**09 23 11.0**	**-1.1**
DALK				*e*S		**Sn**	**09 23 51.2**	**-2.2**
DALK	**Dalny**	**3.61**	**359**	PN		**Pn**	**09 23 11.0**	**-1.1**
DALK				S		**Sn**	**09 23 51.2**	**-2.2**
APC	**Apacha**	**3.66**	**344**	*e*P		**Pn**	**09 23 13.1**	**+0.4**
APC	**Apacha**	**3.66**	**344**	PN		**Pn**	**09 23 13.1**	**+0.4**
SPN	**Mys Shipunski**	**3.75**	**11**	*e*P		**Pn**	**09 23 13.2**	**-0.8**
SPN				*e*S		**Sn**	**09 23 54.6**	**-2.3**
SPN	**Mys Shipunski**	**3.75**	**11**	PN		**Pn**	**09 23 13.2**	**-0.8**
SPN				S		**Sn**	**09 23 54.6**	**-2.3**
PETK	**Petropavlovsk-**	**3.75**	**350**	Pn		**Pn**	**09 23 13.9**	**-0.2**
	comp=E,2.7nm,0.3s,baz=141,slow=16,SNR=42							
PETK				Sn		**Sn**	**09 23 58.9**	**+1.9**
	comp=E,4.4nm,0.3s,baz=191,slow=30,SNR=12							
NLC	**Nalytchevo**	**3.76**	**5**	*e*S		**Sn**	**09 23 54.4**	**-2.7**
UGLR	**Uglovaya**	**3.79**	**360**	*e*P		**Pn**	**09 23 13.6**	**-1.0**
UGLR	**Uglovaya**	**3.79**	**360**	PN		**Pn**	**09 23 13.6**	**-1.0**
SMAR	**Somma**	**3.84**	**360**	*e*P		**Pn**	**09 23 14.3**	**-1.2**
SMAR	**Somma**	**3.84**	**360**	PN		**Pn**	**09 23 14.3**	**-1.2**
AVH	**Avacha**	**3.84**	**359**	*e*P		**Pn**	**09 23 14.8**	**-0.6**
AVH	**Avacha**	**3.84**	**359**	PN		**Pn**	**09 23 14.8**	**-0.6**
SDLR	**Sedlovina**	**3.85**	**0**	*e*P		**Pn**	**09 23 14.2**	**-1.4**
SDLR	**Sedlovina**	**3.85**	**0**	PN		**Pn**	**09 23 14.2**	**-1.4**
KOK	**Koryaka**	**3.87**	**358**	*e*P		**Pn**	**09 23 15.5**	**-0.3**
KOK	**Koryaka**	**3.87**	**358**	PN		**Pn**	**09 23 15.5**	**-0.3**
KRER	**Koryakskii**	**3.88**	**359**	*e*P		**Pn**	**09 23 15.9**	**-0.1**
KRER	**Koryakskii**	**3.88**	**359**	PN		**Pn**	**09 23 15.9**	**-0.1**
KRX	**Arik**	**3.94**	**358**	*e*P		**Pn**	**09 23 16.2**	**-0.5**
KRX	**Arik**	**3.94**	**358**	PN		**Pn**	**09 23 16.2**	**-0.5**
GNL	**Ganaly**	**4.31**	**353**	*e*P		**Pn**	**09 23 22.3**	**+0.5**
GNL	**Ganaly**	**4.31**	**353**	PN		**Pn**	**09 23 22.3**	**+0.5**
KII	**Karymskiy**	**4.63**	**5**	*e*P		**Pn**	**09 23 26.6**	**+0.4**
KII	**Karymskiy**	**4.63**	**5**	PN		**Pn**	**09 23 26.6**	**+0.4**
KZV	**Kizimen**	**5.76**	**8**	*e*P		**Pn**	**09 23 42.0**	**+0.2**
KZV	**Kizimen**	**5.76**	**8**	PN		**Pn**	**09 23 42.0**	**+0.2**
TUMD	**Tumrok D**	**5.86**	**9**	*e*P		**Pn**	**09 23 42.7**	**-0.4**
TUMR	**Tumrok**	**5.92**	**7**	PN		**Pn**	**09 23 42.7**	**-1.2**
SHO	**Shikotan**	**9.95**	**241**	*e*PN		**Pn**	**09 24 35.5**	**-3.5**
SHO				pmax	pmax			
	comp=Z,3.0nm,0.3s							
KLR	**Kul'dur**	**17.62**	**280**	*i* P		**P**	**09 26 24.4**	**+2.4**
BILL	**Bilibino**	**19.03**	**9**	*e*P		**P**	**09 26 37.4**	**0.0**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
HIA	**Hailar**	**25.28**	**285**	*i* P		**P**	**09 27 41.3**	**-0.2**
HIA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
TIXI	**Tiksi**	**26.16**	**339**	*i* P		**P**	**09 27 49.9**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,17nm,2.1s							
TIXI	**Tiksi**	**26.16**	**339**	P		**P**	**09 27 49.8**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=126,slow=9.8,SNR=14							
H11N2	**WAKE ISLAND Hy**	**30.33**	**165**	T		T	10 00 09.6	
	baz=350,slow=76,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**30.34**	**165**	T		T	10 00 11.2	
	baz=350,slow=76,SNR=5.0							
H11N1	**WAKE ISLAND Hy**	**30.34**	**165**	T		T	10 00 11.2	
	baz=350,slow=76,SNR=5.6							
H11S1	**WAKE ISLAND Hy**	**31.49**	**166**	T		T	10 01 38.3	
	baz=350,slow=76,SNR=5.8							
H11S3	**WAKE ISLAND Hy**	**31.50**	**166**	T		T	10 01 40.4	
	baz=350,slow=76,SNR=5.8							
H11S2	**WAKE ISLAND Hy**	**31.51**	**166**	T		T	10 01 40.4	
	baz=350,slow=76,SNR=5.0							
ILAR	**Eielson Array**	**32.04**	**41**	P		**P**	**09 28 41.7**	**+0.1**
	comp=Z,0.5nm,1.1s,baz=246,slow=7.6,SNR=4.3							
JOW	**Kunigami**	**32.60**	**237**	LR		LR	09 42 17.3	
	comp=Z,1µm,21.8s,baz=62,slow=37							
YKA	**Yellowknife Ar**	**46.45**	**40**	P		**P**	**09 30 42.6**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=293,slow=7.9,SNR=7.5							
MKAR	**Makanchi Array**	**49.10**	**298**	P		**P**	**09 31 02.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=52,slow=7.9,SNR=7.8							
BVAR	**Borovoye Array**	**52.09**	**310**	P		**P**	**09 31 25.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=89,slow=7.9,SNR=3.8							
OBN	**Obninsk**	**65.18**	**328**	*e*P		**P**	**09 32 57.1**	**+1.2**
OBN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
AFI	**Afiamalu**	**68.19**	**149**	LR		LR	10 03 33.8	
	comp=Z,24nm,19.1s,baz=97,slow=36							
WRA	**Warramunga Arr**	**72.41**	**204**	P		**P**	**09 33 40.2**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=23,slow=6.4,SNR=3.5							
TXAR	**Lajitas Array**	**72.86**	**65**	P		**P**	**09 33 44.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=295,slow=4.9,SNR=10							
ASAR	**Alice Springs**	**76.08**	**203**	P		**P**	**09 34 02.1**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=23,slow=6.8,SNR=4.1							
BRTR	**Keskin Array B**	**78.93**	**320**	*e*P		**P**	**09 34 22.3**	**+3.7**
BRTR	**Keskin Array B**	**78.93**	**320**	P		**P**	**09 34 19.8**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=46,slow=5.3,SNR=3.8							

*ISK **11** 09:23:21.4, 37.40N×38.95E, h5km, ML2.5/4*
*DDA **11** 09:23:21.8, 37.49N×38.89E, h7km±3km, ML2.9*
*ISCJB **11** 09:23:22.2±1.0, 37.48N±0.04×38.92E±0.04, h1km±9km, Error ellipse: s-maj=6.5km s-min=4.5km az=16.9*
ISC 11 09:23:21.8±1.1, 37.46N±0.03×38.91E±0.03, h5km±10km, n16, σ0.55/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URFA	**Urfa**	**0.07**	**256**	PG		**Pg**	**09 23 24.0**	**+0.5**
ATAB	**Bozova**	**0.49**	**271**	*i* P		**Pg**	**09 23 29.8**	**-1.4**
ATAB				*i* S		**Sg**	**09 23 38.7**	**+1.1**
ATAB				IAML_P				
	comp=Z,4µm,0.1s							
SURC	**SANLIURFA_SURC**	**0.62**	**202**	*i* P		**Pb**	**09 23 35.2**	**0.0**
SURC				*i* S		**Sb**	**09 23 44.5**	**+0.3**
SURC				IAML_P				
	comp=Z,880nm,0.2s							
ELZG	**Elazig**	**1.04**	**3**	*i* P		**Pg**	**09 23 41.9**	**+0.1**
ELZG				*i* S		**Sb**	**09 23 56.2**	**-0.1**
GZT	**Gaziantep**	**1.08**	**265**	*i* P		**Pn**	**09 23 43.5**	**-0.2**
GZT				*i* S		**Sb**	**09 23 57.2**	**-0.1**
GZT				IAML_P				
	comp=Z,1µm,0.1s							
AKCD	**Akcadag**	**1.15**	**317**	*i* P		**Pg**	**09 23 43.3**	**-0.5**
AKCD				*i* S		**Sb**	**09 23 59.9**	**+0.6**
AKCD				IAML_P				
	comp=Z,2µm,0.1s							
MAZI	**Mazidag**	**1.22**	**89**	PN		**Pn**	**09 23 45.3**	**-0.3**
MAZI				SN		**Sn**	**09 24 02.7**	**+0.2**
GAZ	**Gaziantep**	**1.39**	**259**	PN		**Pg**	**09 23 49.1**	**+0.8**
MARD	**Mardin**	**1.50**	**95**	*i* P		**Pg**	**09 23 50.8**	**+0.4**
MARD				*i* S		**Sg**	**09 24 09.5**	**-0.3**
HANI	**Diyarbakir_Han**	**1.52**	**51**	*i* P		**Pn**	**09 23 49.2**	**-0.4**
HANI				*i* S		**Sg**	**09 24 10.6**	**+0.1**
DARE	**Darende-Malaty**	**1.58**	**315**	PN		**Pg**	**09 23 52.5**	**+0.4**
KMRS	**Kahramanmaras**	**1.60**	**272**	PN		**Pg**	**09 23 52.3**	**-0.1**
HEKM	**Malatya_Hekimh**	**1.60**	**332**	*i* P		**Pb**	**09 23 51.4**	**-0.6**
HEKM				*i* S		**Sb**	**09 24 12.7**	**+0.1**
HEKM				IAML_P				
	comp=Z,312nm,0.1s							
KUZU	**Kuzuini**	**1.62**	**246**	*i* P		**Pb**	**09 23 51.6**	**-0.5**
KUZU				IAML_P				
	comp=Z,884nm,0.2s							
KEMA	**Kemaliye**	**1.84**	**350**	*i* P		**Pb**	**09 23 56.4**	**+0.5**
BTMN	**Batman**	**1.92**	**76**	*i* P		**Pg**	**09 23 58.5**	**-0.1**
BTMN				IAML_P				
	comp=Z,218nm,0.4s							

NNC 11 09:24:54.8±13.0, 36.90N×70.13E, h0km, mb3.9, mpv3.5, 5C-1D, Error ellipse: s-maj=105.5km s-min=96.6km az=157.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**5.91**	**27**	P		Pn	09 26 25.3	+1.4
	SNR=23							
KK31	**Karatay Array**	**6.21**	**3**	⇑Pn		Pn	09 26 28.8	+1.1
	0.6nm,0.3s,baz=186,slow=12,SNR=24							
KK31				⇑Sn		Sn	09 27 42.3	+3.0
	0.6nm,0.3s,baz=194,slow=24,SNR=5.8							
UCH	**Uchtor**	**6.31**	**31**	P		Pn	09 26 29.9	+0.5
	SNR=14							
EKS2	**Erkin-Say**	**6.41**	**25**	P		Pn	09 26 32.3	+1.8
	SNR=10							
AAK	**Ala-Archa**	**6.65**	**29**	P		Pn	09 26 34.7	+0.9
	SNR=6.1							
AAK	**Ala-Archa**	**6.65**	**29**	⇑Pn		Pn	09 26 34.4	+0.6
	2.8nm,0.5s							
AAK				⇑Sn		Sn	09 27 51.0	+0.6
	3.6nm,0.6s							
TKM2	**Tokmak 2**	**7.34**	**33**	P		Pn	09 26 43.1	-0.2
	SNR=9.5							
TKM2	**Tokmak 2**	**7.34**	**33**	⇓Pn		Pn	09 26 42.5	-0.8
	3.3nm,0.5s							
TKM2				⇑Sn		Sn	09 28 05.6	-1.9
	1.3nm,0.6s							

IDC 11 09:24:58.8±3.2, 7.07S×148.61E, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.4/40, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=96.9km s-min=43.3km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.85**	**226**	P		Pn	09 29 21.4	+0.3
	0.2nm,0.3s,baz=54,slow=12,SNR=9.3							
ASAR	**Alice Springs**	**21.72**	**219**	P		P	09 29 53.1	+1.2
	1.4nm,0.5s,baz=52,slow=9.5,SNR=35							
FITZ	**Fitzroy Crossi**	**24.92**	**242**	P		P	09 30 23.6	-0.3
	2.4nm,0.3s,baz=48,slow=10,SNR=19							
TORD	**Torodi Ar. Bea**	**146.89**	**283**	PKPbc		PKPdf	09 44 42.6	+0.2
	0.3nm,0.6s,baz=64,slow=3.4,SNR=3.9							

IDC 11 09:27:28.2±3.5, 6.84S×148.53E, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.3/40, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=99.8km s-min=46.5km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.96**	**225**	P		Pn	09 31 51.6	-0.2
	0.1nm,0.3s,baz=51,slow=11,SNR=6.6							
ASAR	**Alice Springs**	**21.85**	**218**	P		P	09 32 23.2	+0.5
	0.7nm,0.4s,baz=54,slow=9.3,SNR=21							
FITZ	**Fitzroy Crossi**	**24.96**	**241**	P		P	09 32 53.5	-0.1
	1.5nm,0.3s,baz=62,slow=11,SNR=7.8							
TORD	**Torodi Ar. Bea**	**146.77**	**284**	PKPbc		PKPdf	09 47 12.0	+0.3
	0.7nm,0.8s,baz=30,slow=3.1,SNR=3.9							

*SJA **11** 09:34:36.8±0.7, 23.88S×66.73W, h229km±6km, ML3.0, MW3.1*
*ISCJB **11** 09:34:37.0±0.5, 23.83S±0.04×66.81W±0.04, h222km±6km, mb3.2/2, Error ellipse: s-maj=7.7km s-min=5.3km az=135.3*
*IDC **11** 09:34:38.0±1.4, 23.77S×66.64W, h206km±12km, mb3.1/2, mb1 3.4/7, mb1mx3.2/27, mbtmp3.8/7, Error ellipse: s-maj=27.1km s-min=15.1km az=13.0*
*GUC **11** 09:34:39.1±0.4, 23.67S×67.25W, h250km±6km, ML4.1*
ISC 11 09:34:37.6±0.9, 23.83S±0.06×66.78W±0.05, h220km±9km, n34, σ1.930/54, 8C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HJA	**Humahuaca**	**1.40**	**64**	*e*P		**Pn**	**09 35 12.8**	**+0.1**
HJA				IAML			09 35 13.9	
	comp=Z,105nm,0.5s							
HJA				*e*S		**S**	**09 35 40.8**	**+0.9**
LVC	**Limon Verde**	**2.30**	**301**	*e*P		**Pn**	**09 35 22.2**	**+1.1**
LVC				*e*S		**S**	**09 35 55.6**	**+0.8**
LVC	**Limon Verde**	**2.30**	**301**	*e*P		**Pn**	**09 35 22.0**	**+0.9**
LVC				*e*S		**S**	**09 35 55.2**	**+0.4**
LVC	**Limon Verde**	**2.30**	**301**	P		**Pn**	**09 35 22.0**	**+0.9**
	comp=Z,33nm,0.3s,baz=123,slow=4.9,SNR=647							
LVC				S		**S**	**09 35 55.2**	**+0.4**
	comp=Z,20nm,0.3s,baz=277,slow=16,SNR=16							
PB15	**IPOC Station P**	**2.54**	**283**	⇑*i*P		**Pn**	**09 35 24.4**	**+0.9**
PB15				*i* S		**S**	**09 35 59.0**	**-0.1**
PB06	**IPOC Station P**	**2.80**	**293**	*e*P		**Pn**	**09 35 27.1**	**+0.9**
PB06				*e*S		**S**	**09 36 04.5**	**+0.5**
PB06	**IPOC Station P**	**2.80**	**293**	⇑*i*P		**Pn**	**09 35 27.1**	**+0.9**
PB06				*i* S		**S**	**09 36 03.0**	**-1.0**
PB06				IAML			09 36 07.2	
	comp=N,439nm,0.1s							
PB09	**IPOC Station P**	**3.04**	**311**	*e*P		**Pn**	**09 35 30.1**	**+1.1**
PB09	**IPOC Station P**	**3.04**	**311**	⇑*i*P		**Pn**	**09 35 30.1**	**+1.1**
PB09				IAML			09 36 16.4	
	comp=E,100nm,0.3s							
AHML	**Horco Molle**	**3.22**	**156**	*e*P		**Pn**	**09 35 30.5**	**-0.4**
AHML				IAML			09 35 31.0	
	comp=Z,21nm,0.6s							
AHML				*e*S		**S**	**09 36 09.8**	**-2.8**
PB03	**IPOC Station P**	**3.26**	**302**	*e*P		**Pn**	**09 35 32.1**	**+0.6**
PB03				*e*S		**S**	**09 36 13.5**	**-0.1**
PB03	**IPOC Station P**	**3.26**	**302**	⇑*i*P		**Pn**	**09 35 32.0**	**+0.6**
PB03				*e*S		**S**	**09 36 11.8**	**-1.7**
PB03				IAML			09 36 13.6	
	comp=N,380nm,0.5s							
PB05	**IPOC Station P**	**3.29**	**286**	*e*P		**Pn**	**09 35 32.6**	**+0.8**
PB05	**IPOC Station P**	**3.29**	**286**	⇑*i*P		**Pn**	**09 35 32.1**	**+0.3**
PB05				*i* S		**S**	**09 36 12.3**	**-1.8**
PB05				IAML			09 36 17.3	
	comp=N,234nm,0.4s							
PB14	**IPOC Station P**	**3.40**	**256**	*e*P		**Pn**	**09 35 33.5**	**+0.3**
PB04	**IPOC Station P**	**3.44**	**295**	*e*P		**Pn**	**09 35 34.2**	**+0.6**
PB04	**IPOC Station P**	**3.44**	**295**	⇑*i*P		**Pn**	**09 35 34.0**	**+0.4**
PB04				*i* S		**S**	**09 36 15.9**	**-1.5**
PB10	**IPOC Station P**	**3.47**	**274**	⇓*i*P		**Pn**	**09 35 34.0**	**+0.2**
PB10				*e*S		**S**	**09 36 15.8**	**-1.9**
PB07	**IPOC Station P**	**3.55**	**306**	⇑*i*P		**Pn**	**09 35 35.2**	**+0.3**
PB07				*i* S		**S**	**09 36 17.3**	**-2.3**
PB01	**IPOC Station P**	**3.73**	**317**	*e*P		**Pn**	**09 35 37.3**	**+0.2**
PB01	**IPOC Station P**	**3.73**	**317**	*e*P		**Pn**	**09 35 37.2**	**+0.2**
PB01				*e*S		**S**	**09 36 21.9**	**-1.7**
PB02	**IPOC Station P**	**3.81**	**310**	⇑*i*P		**Pn**	**09 35 37.9**	**-0.1**
PB02				*i* S		**S**	**09 36 22.7**	**-2.5**
PB08	**IPOC Station P**	**4.28**	**329**	*e*P		**Pn**	**09 35 45.4**	**+1.4**
PB08	**IPOC Station P**	**4.28**	**329**	*i* P		**Pn**	**09 35 44.8**	**+0.8**
PB08				*i* S		**S**	**09 36 35.2**	**-0.9**
PB11	**IPOC Station P**	**4.85**	**326**	⇓*i*P		**Pn**	**09 35 50.0**	**-0.8**
PB11				*i* S		**S**	**09 36 45.5**	**-3.0**
MNMC	**Minye Minye**	**5.36**	**330**	*i* P		**Pn**	**09 35 57.1**	**-0.3**
MNMC				*i* S		**S**	**09 36 57.4**	**-3.0**
ACLC	**CERRO LA CRUZ**	**5.58**	**182**	*e*P		**Pn**	**09 35 59.5**	**-0.5**
AGUA	**GUANDACOL**	**5.84**	**195**	*e*P		**Pn**	**09 36 03.1**	**-0.1**
LPAZ	**La Paz**	**7.61**	**350**	P		**Pn**	**09 36 27.1**	**+0.7**
	comp=N,0.8nm,0.3s,baz=163,slow=5.4,SNR=24							
LPAZ				S		**S**	**09 37 51.6**	**-1.7**
	comp=N,0.1nm,0.3s,baz=257,slow=19,SNR=2.7							
CPUP	**Villa Florida**	**8.92**	**108**	P		**Pn**	**09 36 41.5**	**-1.2**
	comp=N,0.1nm,0.3s,baz=268,slow=12,SNR=3.2							
SIV	**San Ignacio**	**9.46**	**36**	P		**Pn**	**09 36 48.3**	**-1.5**
	comp=N,0.2nm,0.3s,baz=233,slow=13,SNR=5.3							
BDFB	**Brasilia**	**19.44**	**69**	P		**P**	**09 38 48.6**	**+0.7**
	comp=N,0.9nm,0.3s,baz=245,slow=9.8,SNR=13							
TXAR	**Lajitas Array**	**63.66**	**324**	P		**P**	**09 44 48.3**	**+2.6**
	comp=N,0.3nm,0.9s,baz=138,slow=9.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**76.32**	**69**	P		**P**	**09 46 02.7**	**-0.2**
	comp=N,0.7nm,0.7s,baz=254,slow=6.0,SNR=6.4							

*NIED **11** 09:34:00, 31.60N×131.90E, h35km, Mw5.5 Best double couple: M0 2.00000×10^17 NP1:ϕs263.00000°, δ29.00000°, λ149.00000°. NP2:ϕs21.00000°, δ76.00000°, λ65.00000°.*
*BJI **11** 09:34:46.4, 31.40N×132.03E, h33km, mb5.1/71, mB5.3/61, Ms5.5/84, Ms7 5.5/79*
*JMA **11** 09:34:49.6±0.1, 31.58N×131.86E, h25km±2km, M5.2*
JMA Felt III J1.
*MOS **11** 09:34:49.8±1.3, 31.64N×131.47E, h32km, mb5.4/84, MS5.3/24, Error ellipse: s-maj=5.9km s-min=3.8km az=103.2*
*IDC **11** 09:34:49.9±2.0, 31.66N×131.51E, h22km±12km, mb4.7/30, mb1 4.9/34, mb1mx4.7/53, mbtmp4.9/34, ML4.1/5, MS5.1/35, Ms1 5.1/35, ms1mx5.0/42, Error ellipse: s-maj=12.1km s-min=10.1km az=88.0*
*ISCJB **11** 09:34:51.5±0.3, 31.61N±0.02×131.54E±0.02, h43km±2km, mb5.1/303, MS5.3/79, Error ellipse: s-maj=3.6km s-min=2.5km az=142.5*
*NEIC **11** 09:34:52.2±0.4, 31.60N×131.53E, h37km±3km, mb5.2/222, Error ellipse: s-maj=3.9km s-min=2.8km az=150.0*
NEIC Felt at Kagoshima and Miyazaki. Recorded [3 JMA] in Kagoshima and Miyazaki.
*GCMT **11** 09:34:53.2±0.1, 31.57N±0.01×131.92E±0.01, h29km, MW5.4/101, Moment Tensor Solution. s96,c176; s101,c186; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.38±.03; Mθθ 0.07±.02; Mϕϕ -1.31±.02; Mrθ 0.62±.04; Mθϕ -0.45±.01; Mϕr 0.80±.04; Best double couple: M0 1.74300×10^17 NP1:ϕs29.00000°, δ63.00000°, λ101.00000°. NP2:ϕs186.00000°, δ29.00000°, λ70.00000°. Principal axes: T 1.7340, Plg70.0000°, Azm322.0000°; N 0.0200, Plg10.0000°, Azm204.0000°; P -1.7530, Plg17.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **11** 09:35:00.7±0.0, 32.83N×130.82E, h26km, mb5.1, Ms5.9*
ISC 11 09:34:51.0±0.4, 31.59N±0.03×131.72E±0.03, h30km±2km, h30km:pP-P, n739, σ1.975/797, mb5.2/312, MS5.4/81, 62C-16D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNAR	**Kushima--Naru**	**0.39**	**260**	⇓P		**Pb**	**09 34 59.6**	**-0.1**
JNAR				S		**Sn**	**09 35 07.0**	**+0.1**
JTZ	**Takazaki**	**0.62**	**300**	⇑P		**Pb**	**09 35 03.1**	**-0.3**
JTZ				*e*S		**Sn**	**09 35 12.7**	**+0.1**
JTSN	**Tsuno**	**0.68**	**345**	⇓P		**Pn**	**09 35 03.5**	**-1.0**
JTSN				*e*S		**Sn**	**09 35 14.1**	**0.0**
JTSR	**Tashiro 2**	**0.80**	**238**	⇑P		**Pn**	**09 35 06.3**	**0.0**
JTSR				S		**Sb**	**09 35 19.5**	**+2.5**
JHHC	**Hyugahichiya**	**0.85**	**355**	⇑P		**Pn**	**09 35 06.0**	**-0.9**
JKIT	**Kitakata**	**1.05**	**348**	⇑P		**Pn**	**09 35 09.6**	**-0.1**
JSU	**Suzuyama**	**1.08**	**266**	⇑P		**Pn**	**09 35 10.5**	**+0.4**
JZO	**Okuchi**	**1.10**	**300**	⇑P		**Pn**	**09 35 10.4**	**0.0**
JTN	**Tanegashima 3**	**1.13**	**214**	P		**Pn**	**09 35 10.9**	**+0.1**
JTN				S		**Sb**	**09 35 27.5**	**+1.2**
JSKE	**Saikikamae**	**1.21**	**7**	⇑P		**Pn**	**09 35 11.0**	**-0.9**
JSKE				S		**Sn**	**09 35 27.7**	**+0.4**
JMTN	**Minamitane**	**1.38**	**211**	P		**Pn**	**09 35 14.3**	**0.0**
JUS	**Usuki**	**1.47**	**1**	⇑P		**Pn**	**09 35 15.3**	**-0.2**
JHD	**Hondo**	**1.60**	**303**	⇑P		**Pn**	**09 35 18.0**	**+0.8**
JNU	**Nakatsue**	**1.68**	**335**	*e*Pn		**Pn**	**09 35 19.6**	**+1.1**
JNU				*e*Sn		**Sn**	**09 35 32.6**	**-6.4**
JNU				Lg		Lg	09 35 43.7	
JNU	**Nakatsue**	**1.68**	**335**	⇑P		**Pn**	**09 35 19.3**	**+0.9**
JNU	**Nakatsue**	**1.68**	**335**	Pg		**Pn**	**09 35 19.3**	**+0.9**
	669nm,0.3s,baz=155,slow=10,SNR=1924							
JNU				Lg		Lg	09 35 43.7	
	593nm,0.3s,baz=83,slow=24,SNR=31							
JNU				LR		LR	09 35 50.2	
	comp=Z,18µm,19.2s,baz=176,slow=39							
JTA	**Tamana**	**1.70**	**324**	⇑P		**Pn**	**09 35 19.2**	**+0.6**
JSJ	**Shimokoshiki**	**1.71**	**273**	⇑P		**Pn**	**09 35 18.5**	**-0.2**
JBEP	**Beppuamama**	**1.76**	**352**	⇑P		**Pn**	**09 35 20.4**	**+0.9**
JFA	**Akaike**	**2.25**	**340**	⇑P		**Pn**	**09

YULB **Yu-li** 12.33 231 *e*Pn **Pn** **09 37 43.6 -1.0**
USA0B **Ussuriysk Arra** 12.59 1 *e*Pn **Pn** **09 37 49.9 +1.9**
USRK **Ussuriysk Ar.** 12.59 1 P **Pn** **09 37 51.0 +3.0**
USRK **Ussuriysk Ar.** 12.59 1 Pn **Pn** **09 37 51.0 +3.0**
comp=Z,0.2nm,0.3s,baz=185,slow=11,SNR=9.1
USRK LR LR 09 42 33.8
comp=Z,11μm,18.6s,baz=173,slow=37
TPUB **Ta-pu** 12.84 233 *e*Pn **Pn** **09 37 50.0 -1.6**
TIA **Tai'an** 12.96 295 P **Pn** **09 37 56.3 +3.1**
TIA S Sn 09 40 29.0 +13
TIA pmax pmax
comp=Z,21nm,1.2s
TIA LR LR
comp=Z,5μm,13.4s
TIA LR LR
comp=Z,7μm,14.2s
TIA LR LR
comp=Z,12μm,14.5s
MDJ **Mudanjiang** 13.11 353 *e*Pn **Pn** **09 37 54.0 -1.1**
CN2 **Changchun** 13.15 340 *e*P **Pn** **09 37 59.1 +3.4**
CN2 *e*SP P 09 38 07.3 +1.9
CN2 *e*S **Sn** **09 40 23.5 +2.6**
CN2 pmax pmax
comp=Z,70nm,1.2s
CN2 pmax pmax
comp=Z,1μm,8.0s
CN2 LR LR
comp=Z,13μm,14.0s
CN2 LR LR
comp=Z,10μm,14.0s
CN2 LR LR
comp=Z,15μm,14.0s
QZH **Quanzhou** 13.32 243 P **Pn** **09 37 58.0 -0.1**
QZH S **Sn** **09 40 23.0 -2.2**
QZH LR LR
comp=Z,8μm,11.8s
QZH LR LR
comp=Z,9μm,13.3s
QZH LR LR
comp=Z,13μm,14.7s
TEY **Ternei** 13.96 15⇑ *e*P **Pn** **09 38 10.4 +3.8**
TEY *e*S **Sn** **09 40 47.2 +6.8**
TEY pmax pmax
comp=E,30nm,1.7s
TEY pmax pmax
comp=Z,40nm,1.4s
TEY MLR MLR
comp=E,4μm,16.0s
TEY MLR MLR
comp=N,6μm,13.0s
TEY MLR MLR
comp=Z,8μm,17.0s
WHN **Wuhan** 14.92 271 ⇓P **Pn** **09 38 21.8 +2.0**
WHN LR LR
comp=Z,9μm,12.5s
WHN LR LR
comp=Z,29μm,14.5s
WHN LR LR
comp=Z,36μm,14.6s
BJT **Baijiatuan** 15.14 308 *e*Pn **P** **09 38 25.3 -2.2**
comp=Z,248nm,1.0s
BJT **Baijiatuan** 15.14 308 *e*P **P** **09 38 25.3 -2.2**
BJT pmax pmax
comp=Z,248nm,1.0s
ASAJ **Asahikawa** 15.15 31 Pn **P** **09 38 25.6 -2.0**
comp=Z,0.7nm,0.3s,baz=210,slow=11,SNR=7.1
YUK **Yuzh-Kuril'sk** 16.68 38*c i*P **P** **09 38 45.0 +0.5**
TIY **Taiyuan** 16.99 296 *e*P **P** **09 38 47.7 -0.4**
TIY S **Sn** **09 41 50.7 -3.7**
TIY pmax pmax
comp=Z,40nm,0.7s
TIY pmax pmax
comp=Z,2μm,7.6s
TIY LR LR
comp=Z,6μm,13.4s
TIY LR LR
comp=Z,10μm,13.8s
TIY LR LR
comp=Z,15μm,14.5s
YSS **Yuzh-Sakhalins** 17.53 26 *e*Pn **Pn** **09 38 52.0 -1.1**
comp=Z,135nm,1.2s
YSS **Yuzh-Sakhalins** 17.53 26 *e*P **Pn** **09 38 52.4 -0.6**
YSS *e*S **Sn** **09 42 00.2 -7.0**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS MLR MLR
comp=Z,4μm,18.0s
YSS MLR MLR
comp=N,4μm,16.0s
KLR **Kul'dur** 17.62 0 *e*P **P** **09 38 55.3 +0.4**
KLR **Kul'dur** 17.62 0 P **P** **09 38 55.1 +0.2**
comp=N,3.6nm,0.3s,baz=192,slow=8.1,SNR=136
KLR LR LR 09 45 41.4
comp=N,5μm,18.6s,baz=175,slow=37
GZH **Guangzhou** 18.37 247 P **P** **09 38 56.8 -6.6**
GZH S Sn 09 42 15.8 -12
GZH LR LR
comp=N,10μm,14.3s
GZH LR LR
comp=E,8μm,14.9s
KUR **Kuril'sk** 18.54 38 *e*P Pn 09 39 15.4 +10
KUR *e*S **S** **09 42 39.8 +5.0**
KUR pmax pmax
comp=Z,112nm,1.4s
KUR MLR MLR
comp=Z,4μm,19.0s
KUR MLR MLR
comp=N,5μm,15.0s
KUR MLR MLR
comp=E,2μm,19.0s
HHC **Hu-ho-hao-te** 18.67 305 *e*P **Pn** **09 39 08.0 +0.9**
HHC sP sP 09 39 18.2 -0.4
HHC PP **PnPn** **09 39 23.5 +4.2**
HHC S **Sn** **09 42 29.0 -6.0**
HHC pmax pmax
comp=E,66nm,1.1s
HHC pmax pmax
comp=E,2μm,6.1s
HHC LR LR
comp=E,10μm,14.5s
HHC LR LR
comp=E,15μm,13.9s
HHC LR LR
comp=E,19μm,14.7s
ENH **Enshi** 19.11 272 *e*P **Pn** **09 39 12.7 +0.2**
comp=E,221nm,1.0s
UGL **Uglegorsk** 19.13 21 *e*P **Pn** **09 39 13.5 +1.0**
UGL *e*S **Sn** **09 42 36.0 -10**
UGL pmax pmax
comp=Z,101nm,1.2s
UGL smax smax
comp=E,28nm,0.5s
UGL MLR MLR
comp=Z,3μm,16.0s
UGL MLR MLR
comp=N,2μm,65.0s
UGL MLR MLR
comp=E,4μm,16.0s
XAN **Xi'an** 19.31 283 P **P** **09 39 13.8 +0.1**
XAN pP pP 09 39 19.5 -2.3
XAN pmax pmax
comp=E,85nm,0.8s
XAN pmax pmax
comp=E,1μm,5.5s
XAN LR LR
comp=E,6μm,13.7s
XAN LR LR
comp=E,12μm,15.1s
XAN LR LR
comp=E,15μm,15.1s
XAN **Xi'an** 19.31 283 *e*P **P** **09 39 14.2 +0.5**
comp=E,77nm,0.9s
XAN **Xi'an** 19.31 283 *e*P **P** **09 39 14.2 +0.5**
XAN pmax pmax
comp=Z,77nm,0.9s
GRNR **Gornyy** 19.48 9 *e*P **P** **09 39 15.8 +0.5**
GRNR pmax pmax
comp=N,48nm,1.0s
GRNR pmax pmax
comp=Z,42nm,1.0s
SARN **Sarigan** 19.58 136 *e*P **Pn** **09 39 20.9 +2.7**
comp=Z,206nm,1.5s
BTO **Baotou** 19.66 303 *e*P **Pn** **09 39 18.9 -0.2**
BTO S **Sn** **09 43 03.4 +4.3**
HIA **Hailar** 19.82 336 *e*P **P** **09 39 19.2 0.0**
comp=Z,174nm,1.1s
HIA pmax pmax
comp=Z,174nm,1.1s
TYV **Tymovskoe** 20.89 20 *e*P Pn 09 39 32.9 -0.4
TYV *e*S Sn 09 43 27.3 -1.0
TYV pmax pmax
comp=Z,31nm,1.1s
TYV pmax pmax
comp=Z,600nm,5.4s
TYV smax smax
comp=N,12nm,2.1s
TYV smax smax
comp=N,2μm,6.9s
TYV MLR MLR
comp=N,2μm,16.0s
TYV MLR MLR
comp=Z,2μm,16.0s
GUMO **Guam** 21.61 143 LR LR 09 47 24.3
comp=Z,3μm,18.1s,baz=314,slow=35
ZEA **Zeya** 22.37 353 *e*P **P** **09 39 44.2 -2.3**
ZEA *e*S **S** **09 43 48.0 -2.4**
ZEA *e* 09 44 04.0
ZEA pmax pmax
comp=N,83nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,120nm,1.0s
ZEA pmax pmax
comp=Z,700nm,13.0s
ZEA smax smax
comp=N,600nm,12.0s
ZEA MLR MLR
comp=E,4μm,15.0s
ZEA MLR MLR
comp=Z,6μm,15.0s
ZEA MLR MLR
comp=N,4μm,16.0s
GYA **Guiyang** 22.48 263⇑ *i*P **P** **09 39 46.8 -1.2**
GYA pP pP 09 39 56.4 +0.2
GYA PP **PnPn** **09 40 15.8 +4.2**
GYA S **S** **09 43 45.0 -8.1**
GYA sS pS 09 44 00.9 -2.2
GYA SS **SnSn** **09 44 26.2 +3.6**
GYA ScP **ScP** **09 47 17.7 +0.7**
GYA pmax pmax
comp=N,50nm,1.0s
GYA pmax pmax
comp=N,270nm,6.4s
GYA LR LR
comp=N,840nm,13.8s
GYA LR LR
comp=N,1μm,14.0s
GYA LR LR
comp=N,1μm,14.7s
NKL **Nikolayevsk** 22.50 14 *i* P **P** **09 39 46.7 -1.2**
NKL *e*S **S** **09 43 54.0 +1.2**
NKL pmax pmax
comp=N,47nm,1.4s
NKL pmax pmax
comp=E,38nm,1.4s
NKL pmax pmax
comp=Z,790nm,1.4s
NKL pmax pmax
comp=Z,1μm,14.0s
NKL smax smax
comp=N,2μm,9.0s
NKL MLR MLR
comp=N,4μm,13.0s
NKL MLR MLR
comp=Z,7μm,14.0s
QIZ **Qiongzhong** 23.34 243 P **P** **09 39 55.6 -1.3**
QIZ LR LR
comp=Z,5μm,18.1s
QIZ LR LR
comp=Z,4μm,17.2s
QIZ LR LR
comp=Z,6μm,15.7s
LZH **Lanzhou** 23.54 289 ⇑P **P** **09 39 57.7 -1.2**
LZH pP pP 09 40 06.9 -0.5
LZH sP sP 09 40 11.2 0.0
LZH PP **PnPn** **09 40 30.0 +3.8**
LZH S **S** **09 44 04.4 -6.8**
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,860nm,5.4s
LZH LR LR
comp=Z,9μm,12.5s
LZH LR LR
comp=Z,17μm,13.0s
LZH LR LR
comp=Z,22μm,14.1s
CD2 **Chengdu** 23.89 276 ⇑P **P** **09 40 00.6 -1.5**
CD2 sP pP 09 40 11.0 +0.2
CD2 PP **PnPn** **09 40 31.2 +0.3**
CD2 S **S** **09 44 09.6 -6.9**
CD2 sS sS 09 44 30.1 -1.0
CD2 pmax pmax
comp=Z,280nm,1.2s
CD2 pmax pmax
comp=Z,1μm,8.9s
CD2 LR LR
comp=Z,14μm,14.8s
CD2 LR LR
comp=Z,16μm,11.6s
ULN **Ulaanbaatar** 24.82 318 *e*P **P** **09 40 09.6 -1.1**
comp=Z,123nm,1.0s
ULN **Ulaanbaatar** 24.82 318*ce*P **P** **09 40 09.4 -1.2**
ULN pmax pmax
comp=Z,145nm,1.3s
DAV **Davao City (W)** 25.06 195 LR LR 09 52 01.7
comp=Z,μm,18.1s,baz=38,slow=41
SONA0 **Songino Array** 25.18 317 *e*P **P** **09 40 12.6 -1.3**
SONM **Songino Array** 25.18 317 P **P** **09 40 12.6 -1.3**
comp=Z,96nm,1.1s,baz=132,slow=7.9,SNR=117
SONM LR LR 09 51 33.9
comp=Z,11μm,19.0s,baz=126,slow=40
KMI **Kunming** 26.25 263 P **P** **09 40 25.3 +1.4**
KMI pP pP 09 40 33.0 +0.4
KMI sP sP 09 40 36.8 +0.5
KMI PP **PnPn** **09 41 05.4 +2.0**
KMI S **S** **09 44 50.4 -4.3**
KMI sS pS 09 45 04.4 -0.2
KMI pmax pmax
comp=Z,22nm,0.6s
KMI pmax pmax
comp=Z,280nm,7.2s
KMI LR LR
comp=Z,5μm,16.7s
KMI LR LR
comp=Z,5μm,13.6s
KMI LR LR
comp=Z,7μm,13.8s
KMI **Kunming** 26.25 263 *e*P **P** **09 40 24.8 +0.9**
comp=Z,34nm,0.9s
KMI **Kunming** 26.25 263 *e*P **P** **09 40 24.8 +0.9**
KMI pmax pmax
comp=Z,34nm,0.9s
GTA **Gaotai** 27.02 296 ⇑P **P** **09 40 29.2 -1.3**
GTA pP pP 09 40 38.4 -0.9
GTA sP sP 09 40 42.7 -0.3
GTA PcP **PcP** **09 43 52.2 +0.7**
GTA S **S** **09 45 07.1 +0.8**
GTA sS sS 09 45 22.2 +1.2
GTA SS **SnSn** **09 46 18.7 +5.3**
GTA pmax pmax
comp=Z,43nm,1.2s
GTA pmax pmax
comp=Z,340nm,6.7s
GTA LR LR
comp=Z,4μm,18.6s
GTA LR LR
comp=Z,8μm,14.8s
GTA LR LR
comp=Z,10μm,15.1s
ZAK **Zakamensk** 28.25 320 *e*P **P** **09 40 38.5 -2.9**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
PETK **Petropavlovsk-** 28.55 34 P **P** **09 40 45.0 +1.0**
PETK **Petropavlovsk-** 28.55 34 P **P** **09 40 45.0 +1.0**
comp=Z,14nm,0.9s,baz=237,slow=4.4,SNR=7.3
PETK LR LR 09 53 52.6
comp=Z,2μm,18.0s,baz=207,slow=40
PEA1 **Petropavlovsk-** 28.55 34 *e*P **P** **09 40 45.0 +1.0**
IRK **Irkutsk** 28.74 324 *e*P **P** **09 40 46.1 +0.4**
IRK *e* 09 41 53.4
IRK pmax pmax
comp=Z,44nm,2.8s
TLY **Talaya** 28.75 322 *e*P **P** **09 40 47.0 +1.2**
comp=Z,28nm,1.5s
TLY **Talaya** 28.75 322 *e*P **P** **09 40 48.4 +2.7**
TLY *e* 09 41 52.0
TLY *e*SS SS 09 47 02.9 -32
TLY pmax pmax
comp=Z,33nm,1.4s
TLY MLR MLR
comp=Z,10μm,14.0s
BOD **Bodaibo** 28.91 340 *e*P **P** **09 40 46.4 -0.6**
BOD pmax pmax
comp=Z,13nm,1.9s
PET **Petropavlovsk** 28.95 34 *e*P P 09 40 52.5 +5.0
PET *e*S **S** **09 45 37.6 +1.4**
PET pmax pmax
comp=Z,20nm,0.6s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,3μm,16.0s
SKNT **Sakolnakorn** 29.06 246 P **P** **09 40 49.2 +0.4**
comp=Z,5.8nm,0.8s,comp=Z,603nm
YAK **Yakutsk** 30.48 358 *e*P **P** **09 40 59.7 -1.2**
YAK *e**PP **pP** **09 41 09.9 +0.3**
YAK *e* 09 42 00.5
YAK *e*PPP PPP 09 42 20.8
YAK *e* 09 43 57.3
YAK *e*S **S** **09 46 01.3 +1.4**
YAK *e*SS **SnSn** **09 47 37.6 +0.5**
YAK *e*SSS SSS 09 48 00.0
YAK pmax pmax
comp=Z,72nm,0.9s
YAK pmax pmax
comp=N,62nm,1.1s
YAK pmax pmax
comp=E,27nm,1.3s
YAK pmax pmax
comp=Z,1μm,4.8s
YAK pmax pmax
comp=N,384nm,3.0s
YAK pmax pmax
comp=E,253nm,3.5s
YAK smax smax
comp=N,277nm,4.0s
YAK smax smax
comp=E,401nm,4.2s
YAK MLR MLR
comp=Z,22μm,16.0s
YAK MLR MLR
comp=N,16μm,14.0s
YAK MLR MLR
comp=E,8μm,14.0s
MA2 **Magadan** 30.77 19 *e*P **P** **09 41 03.0 -0.4**
comp=E,18nm,1.0s
MA2 **Magadan** 30.77 19*ce*P **P** **09 41 03.7 +0.2**
MA2 pmax pmax
comp=Z,31nm,1.7s
MA2 **Magadan** 30.77 19 P **P** **09 41 03.4 0.0**
comp=Z,9.0nm,0.8s,baz=202,slow=8.8,SNR=12
CHAI **Chaiyaphum** 31.24 247 P **P** **09 41 08.1 0.0**
comp=Z,6.5nm,0.7s,comp=Z,86nm
UTTA **Uttaradit** 31.37 251 P **P** **09 41 09.1 -0.1**
comp=Z,14nm,1.0s,comp=Z,117nm
PBKT **Sadao Pong** 31.67 249 *e*P **P** **09 41 11.0 -0.8**
comp=Z,25nm,0.9s
PBKT **Sadao Pong** 31.67 249 P **P** **09 41 11.9 +0.1**
comp=Z,32nm,1.0s
LAMP **Lampang** 31.72 253 P **P** **09 41 13.0 +0.7**
comp=Z,14nm,1.0s,comp=Z,122nm
CMMT **Chiang Mai** 32.13 255 P **P** **09 41 16.0 0.0**
comp=Z,31nm,1.1s
CHTO **Chiang Mai** 32.14 255 *e*P **P** **09 41 14.8 -1.2**
comp=Z,28nm,0.9s
CHTO **Chiang Mai** 32.14 255 *e*P **P** **09 41 14.8 -1.2**
CHTO pmax pmax
comp=Z,28nm,0.9s
CHTO **Chiang Mai** 32.14 255 P **P** **09 41 16.1 +0.1**
comp=Z,136nm,1.1s
SUKH **Sukhothai** 32.25 252 P **P** **09 41 17.6 +0.6**
comp=Z,8.7nm,1.1s
SIJI **Sorong** 32.29 181 LR LR 09 52 55.5
comp=Z,2μm,21.4s,baz=19,slow=34
CM31 **Chiang Mai Arr** 32.31 254 *e*P **P** **09 41 17.1 -0.5**
comp=Z,25nm,1.0s
CMAR **Chiang Mai Arr** 32.31 254 P **P** **09 41 17.1 -0.5**
comp=Z,8.1nm,0.7s,baz=54,slow=6.5,SNR=36
CMAR PcP **PcP** **09 44 06.1 +0.9**
comp=Z,4.4nm,0.8s,baz=41,slow=1.2,SNR=8.9
CMAR LR LR 09 55 53.4
comp=Z,3μm,19.2s,baz=66,slow=39
CM01 **Chiang Mai Arr** 32.32 254 *e*P **P** **09 41 17.2 -0.4**
CM01 *e*PcP **PcP** **09 44 05.6 +0.4**
UMPA **Umpang Tak** 33.56 251 P **P** **09 41 30.1 +1.6**
comp=Z,5.1nm,0.4s,comp=Z,3μm
H11N2 **WAKE ISLAND Hy** 33.70 102 T T 10 17 12.9
baz=298,slow=75,SNR=234
H11N1 **WAKE ISLAND Hy** 33.70 102 T T 10 17 20.2
baz=298,slow=75,SNR=119
H11N3 **WAKE ISLAND Hy** 33.71 102 T T 10 17 06.5
baz=298,slow=75,SNR=92
SEY **Seymchan** 34.02 17*ce*P **P** **09 41 30.1 -1.8**
SEY **Seymchan** 34.02 17 P **P** **09 41 32.3 +0.4**
comp=Z,19nm,1.0s,baz=206,slow=6.7,SNR=34
H11S3 **WAKE ISLAND Hy** 34.11 104 T T 10 18 09.5
baz=304,slow=75,SNR=64
H11S1 **WAKE ISLAND Hy** 34.11 104 T T 10 18 12.0
baz=304,slow=75,SNR=109
H11S2 **WAKE ISLAND Hy** 34.12 104 T T 10 18 12.4
baz=304,slow=75,SNR=73
FAKI **Fak Fak** 34.32 179 *e*P **P** **09 41 35.7 +0.6**
comp=Z,126nm,1.1s
LSA **Lhasa** 34.81 278 P **P** **09 41 41.3 +1.5**
LSA **Lhasa** 34.81 278 *e*P **P** **09 41 39.4 -0.4**
comp=Z,17nm,1.0s
LSA **Lhasa** 34.81 278 *e*P **P** **09 41 39.4 -0.4**
LSA pmax pmax
comp=Z,17nm,1.0s
PHET **Kaeng Krachan** 34.84 245 P **P** **09 41 42.9 +3.3**
comp=Z,5.7nm,1.0s
SHL **Shillong** 35.35 270 *e*P **P** **09 41 42.5 -1.6**
comp=Z,20nm,0.9s
SHL **Shillong** 35.35 270 *e*P **P** **09 41 42.5 -1.6**
SHL pmax pmax
comp=Z,20nm,0.9s
SHL **Shillong** 35.35 270 *e*P **P** **09 41 43.5 -0.6**
WMQ **Urumqi** 36.50 302 P **P** **09 41 52.0 -1.6**
WMQ sP sP 09 42 10.2 +4.0
WMQ S **S** **09 47 40.3 +6.5**
WMQ PcS **PcS** **09 48 00.3 -4.4**
WMQ pmax pmax
comp=Z,73nm,1.5s
WMQ pmax pmax
comp=Z,390nm,3.7s
WMQ LR LR
comp=Z,7μm,20.9s
WMQ LR LR
comp=Z,20μm,17.3s
WMQ LR LR
comp=Z,15μm,18.5s
WMQ **Urumqi** 36.50 302 *e*P **P** **09 41 52.3 -1.3**
comp=Z,72nm,1.4s
WMQ **Urumqi** 36.50 302 *e*P **P** **09 41 52.3 -1.3**
WMQ pmax pmax
comp=Z,72nm,1.4s
TRTT **Trang** 38.05 238 P **P** **09 42 07.9 +0.9**
comp=Z,8.5nm,1.2s,comp=Z,217nm
KRAB **Krabi** 38.16 239 P **P** **09 42 09.0 +1.2**
comp=Z,43nm,0.6s,comp=Z,1μm
ZSN **Zaisan** 38.83 308 *e*P **P** **09 42 10.7 -2.5**
ZSN pmax pmax
comp=Z,43nm,1.1s
ZSN MLR MLR
comp=Z,1μm,16.0s
ZSN **Zaisan** 38.83 308 *e*P **P** **09 42 10.8 -2.5**
comp=Z,43nm,1.1s
ZSN *e*LR LR 09 58 29.6
comp=Z,1μm,15.9s
PKDT **Phuket** 39.01 240 P **P** **09 42 16.0 +1.0**
comp=Z,19nm,1.1s
KULM **Kulim** 39.14 235 *e*P **P** **09 42 16.5 +0.4**
comp=Z,28nm,1.0s
RAMN **Ramite** 39.42 275 *e*P **P** **09 42 18.9 +0.3**
comp=Z,22nm,0.4s
IPM **Ipoh** 39.46 233 *e*P **P** **09 42 18.5 -0.3**

comp=Z,43nm,0.9s
JIRN Jiri 39.55 276 *e*P **P 09 42 19.7 -0.2**
comp=Z,44nm,0.4s
GUN Gumba 39.74 277 *e*P **P 09 42 21.5 0.0**
comp=Z,314nm,0.8s
ZAA0 Zalesovo Array 40.08 318 *e*P **P 09 42 22.3 -1.1**
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 40.08 318 P **P 09 42 21.5 -2.0**
comp=Z,4.2nm,0.8s,baz=100,slow=6.2,SNR=12
ZALV PcP **PcP 09 44 27.3 -0.4**
comp=Z,4.9nm,0.8s,baz=123,slow=3.7,SNR=4.6
ZALV ScP **ScP 09 48 15.3 +0.7**
comp=Z,0.7nm,0.5s,baz=126,slow=3.7,SNR=3.6
ZALV LR LR 09 59 43.9
comp=Z,2µm,18.7s,baz=94,slow=37
ZAA1 Zalesovo Array 40.08 318 *e*P **P 09 42 21.5 -2.0**
ZAA1 *e*PcP **PcP 09 44 27.3 -0.4**
TIXI Tiksi 40.14 359 *e*P **P 09 42 23.7 0.0**
comp=Z,12nm,1.1s
TIXI Tiksi 40.14 359 *ce*P **P 09 42 22.1 -1.7**
TIXI pmax pmax
comp=Z,22nm,2.5s
PKI Pulchoki 40.24 277 *e*P **P 09 42 25.0 -0.6**
comp=Z,93nm,1.1s
PKIN Phulchoki 40.25 277 *e*P **P 09 42 24.9 -0.7**
comp=Z,26nm,0.4s
KKN Kakani 40.29 277 *e*P **P 09 42 25.8 0.0**
comp=Z,141nm,1.0s
DMN Daman 40.49 277 *e*P **P 09 42 27.1 -0.4**
comp=Z,90nm,1.2s
MK01 Makanchi Array 40.52 307 *e*P **P 09 42 25.4 -1.8**
MK31 Makanchi Array 40.52 307 *e*P **P 09 42 25.7 -1.6**
comp=Z,23nm,0.8s
MK31 Makanchi Array 40.52 307 *i* P **P 09 42 25.6 -1.7**
MK31 pmax pmax
comp=Z,39nm,0.9s
MK32 Makanchi Array 40.52 307 *e*P **P 09 42 25.6 -1.8**
MKAR Makanchi Array 40.52 307 P **P 09 42 25.6 -1.7**
comp=Z,29nm,0.8s,baz=90,slow=11,SNR=116
MKAR ScP **ScP 09 48 16.7 +0.1**
comp=Z,1.4nm,0.9s,baz=91,slow=5.2,SNR=4.6
MKAR LR LR 10 00 47.9
comp=Z,6µm,18.6s,baz=94,slow=39
MAKZ Makanchi 40.74 307 *e*P **P 09 42 27.6 -1.5**
comp=Z,30nm,0.8s
MAKZ Makanchi 40.74 307 P **P 09 42 26.7 -2.4**
MAKZ pmax pmax
comp=Z,30nm,0.9s
GKN Gorkha 40.77 277 *e*P **P 09 42 29.3 -0.5**
comp=Z,106nm,1.1s
NVS Novosibirsk 41.20 319 ‖ *i* P **P 09 42 31.8 -0.9**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS pmax pmax
comp=Z,12nm,1.0s
DANN Dangsing 41.41 278 *e*P **P 09 42 35.2 0.0**
comp=Z,190nm,0.7s
BILL Bilibino 41.63 19 *e*P **P 09 42 36.6 +0.5**
comp=Z,66nm,0.9s
BILL Bilibino 41.63 19 *e*P **P 09 42 36.6 +0.5**
BILL *e* 09 42 46.1
BILL *e*PPP PPP 09 44 42.3
BILL *i* S **S 09 48 51.2 +0.9**
BILL *e*SS **SS 09 51 58.3 +2.5**
BILL pmax pmax
comp=Z,88nm,1.0s
BILL MLR MLR
comp=Z,2µm,16.0s
KOLN Koldanda 41.72 278 *e*P **P 09 42 37.2 -0.4**
comp=Z,161nm,1.0s
PSI Prapat 42.11 234 *e*P **P 09 42 40.7 -0.1**
comp=Z,27nm,0.8s
PSI Prapat 42.11 234 *e*P **P 09 42 40.7 -0.1**
PSI pmax pmax
comp=Z,27nm,0.8s
PYUN Piuthan 42.13 278 *e*P **P 09 42 40.8 -0.2**
comp=Z,246nm,1.0s
SEM Semipalatinsk 42.20 312 *e*P **P 09 42 37.3 -3.9**
SEM pmax pmax
comp=Z,414nm,1.0s
SEM MLR MLR
comp=Z,3µm,15.0s
SEM Semipalatinsk 42.20 312 *e*P **P 09 42 37.4 -3.9**
comp=Z,414nm,1.0s
SEM *e*LR LR 10 00 53.8
comp=Z,3µm,15.1s
UZB Uzynbulak 42.80 301 *e*P **P 09 42 42.2 -3.9**
UZB pmax pmax
comp=Z,66nm,1.3s
UZB MLR MLR
comp=Z,1µm,14.0s
UZB Uzynbulak 42.80 301 *e*P **P 09 42 42.3 -3.9**
comp=Z,66nm,1.3s
UZB *e*LR LR 10 01 39.1
comp=Z,1µm,14.3s
ZHN Zhinishke 43.23 301 *e*P **P 09 42 47.0 -2.5**
ZHN pmax pmax
comp=Z,56nm,1.1s
ZHN MLR MLR
comp=Z,1µm,14.0s
ZHN Zhinishke 43.23 301 *e*P **P 09 42 47.0 -2.5**
comp=Z,56nm,1.1s
ZHN *e*LR LR 10 01 58.7
comp=Z,1µm,14.1s
KURK Kurchatov 43.27 312 *e*P **P 09 42 47.9 -1.7**
comp=Z,33nm,0.8s
KURK Kurchatov 43.27 312 P **P 09 42 47.7 -1.9**
KURK Kurchatov 43.27 312 P **P 09 42 47.7 -1.9**
SNR=15
KURBB Kurchatov Arra 43.31 312 P **P 09 42 47.7 -2.3**
comp=Z,26nm,1.0s,baz=97,slow=9.0,SNR=10
TARG Taragay, Kyrgy 43.78 299 *e*P **P 09 42 54.0 -0.4**
comp=Z,26nm,1.2s
GSI Gunungsitoli 44.12 234 *e*P **P 09 42 56.3 -0.6**
comp=Z,50nm,0.7s
KDJ Kajisay 44.22 300 *e*P **P 09 42 56.3 -1.3**
comp=Z,40nm,1.8s
KDJ Kajisay 44.22 300 *e*P **P 09 42 56.3 -1.3**
KDJ pmax pmax
comp=Z,40nm,1.8s
MDOK Medeo 44.24 301 *e*P **P 09 42 55.1 -2.6**
MDOK pmax pmax
comp=Z,102nm,1.2s
MDOK MLR MLR
comp=Z,3µm,18.0s
MDOK Medeo 44.24 301 *e*P **P 09 42 55.2 -2.6**
comp=Z,102nm,1.2s
MDOK *e*LR LR 10 02 30.1
comp=Z,3µm,18.4s
CHKK Chushkaly 44.24 302 *e*P **P 09 42 54.6 -3.0**
CHKK pmax pmax
comp=Z,204nm,1.3s
CHKK Chushkaly 44.24 302 *e*P **P 09 42 54.6 -3.0**
comp=Z,204nm,1.3s
KUU Kurty 44.71 302 *e*P **P 09 42 58.8 -2.5**
KUU pmax pmax
comp=Z,113nm,1.2s
KUU MLR MLR
comp=Z,1µm,16.0s
KUU Kurty 44.71 302 *e*P **P 09 42 58.8 -2.5**
comp=Z,113nm,1.2s
KUU *e*LR LR 10 02 56.5
comp=Z,1µm,16.0s
NRN Naryn 45.16 299 *e*P **P 09 43 04.6 -0.7**
comp=Z,9.9nm,0.8s
NRN Naryn 45.16 299 *e*P **P 09 43 04.6 -0.7**
NRN pmax pmax
comp=Z,10.0nm,0.8s
NRIK Noril'sk 45.20 340 P **P 09 43 03.8 -1.0**
comp=Z,25nm,1.0s,baz=115,slow=9.2,SNR=13
NRIK LR LR 10 03 40.9
comp=Z,6µm,18.5s,baz=130,slow=38
TKM2 Tokmak 2 45.32 301 P **P 09 43 05.7 -0.7**
SNR=44
KSH Kashi 45.41 296 P **P 09 43 09.9 +2.8**
KSH sP sP 09 43 23.6 +3.8
KSH PP **PP 09 44 57.5 +4.0**
KSH S **S 09 49 48.2 +1.6**
KSH sS sS 09 50 05.2 +3.6
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,210nm,6.9s
KSH LR LR
comp=Z,2µm,12.7s
KSH LR LR
comp=Z,6µm,16.5s
KSH LR LR
comp=Z,7µm,17.3s
KZA Kyzart 45.65 300 P **P 09 43 09.3 0.0**
SNR=10.0
KBK Karagaybulak 45.82 301 P **P 09 43 10.0 -0.3**
SNR=14
CHMS Chumysh 45.93 301 P **P 09 43 10.5 -0.6**
SNR=7.1
FRU Bishkek 46.04 301 *i* P **P 09 43 09.5 -2.5**
FRU pmax pmax
comp=Z,80nm,1.3s
FRU MLR MLR
comp=E,5µm,16.0s
USP Ospenovka 46.09 302 P **P 09 43 11.5 -0.8**
SNR=11
AAK Ala-Archa 46.15 301 P **P 09 43 12.3 -0.7**
SNR=12
AAK Ala-Archa 46.15 301 *e*P **P 09 43 10.7 -2.2**
AAK *e*P **P 09 43 11.1 -1.9**
AAK Ala-Archa 46.15 301 *i* P **P 09 43 11.8 -1.2**
SNR=15
AAK Ala-Archa 46.15 301 *ce*P **P 09 43 11.7 -1.2**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 46.15 301 P **P 09 43 12.5 -0.5**
SNR=5.6
AAK P **P 09 43 12.5 -0.5**
SNR=5.6
AAK Ala-Archa 46.15 301 P **P 09 43 10.7 -2.2**
comp=Z,7.4nm,0.7s,baz=101,slow=6.8,SNR=24
AAK LR LR 10 05 06.7
comp=Z,5µm,18.5s,baz=62,slow=40
UCH Uchtor 46.18 300 P **P 09 43 13.3 -0.3**
SNR=56
BTLS Baital 46.27 304 *e*P **P 09 43 10.2 -3.5**
BTLS pmax pmax
comp=Z,197nm,1.3s
BTLS MLR MLR
comp=Z,1µm,18.0s
BTLS Baital 46.27 304 *e*P **P 09 43 10.3 -3.5**
comp=Z,197nm,1.3s
BTLS *e*LR LR 10 03 20.2
comp=Z,1µm,17.6s
EKS2 Erkin-Say 46.68 301 P **P 09 43 15.9 -1.1**
SNR=9.5
AML Almayasshu 46.80 300 P **P 09 43 17.2 -1.1**
SNR=39
SPIA Saint Paul Isl 46.90 39 *e*P **P 09 43 19.0 +0.6**
comp=Z,211nm,1.6s
OTUK Ortayu 47.29 308 P **P 09 43 19.5 -2.1**
OTUK pmax pmax
comp=Z,43nm,1.0s
ARSB Arslanbob 47.43 299 *e*P **P 09 43 22.6 -0.3**
comp=Z,35nm,1.0s
GAMB Gambell 47.48 30 *e*P **P 09 43 22.9 +0.1**
comp=Z,30nm,1.1s
BVA0 Borovoye Array 48.49 315 P **P 09 43 27.7 -3.1**
BVA0 pmax pmax
comp=Z,30nm,1.3s
BVAR Borovoye Array 48.49 315 P **P 09 43 29.1 -1.6**
comp=Z,4.9nm,0.4s,baz=96,slow=9.1,SNR=29
BVAR LR LR 10 05 49.8
comp=Z,4µm,18.7s,baz=106,slow=38
BRVK Borovoye 48.55 315 *e*P **P 09 43 30.2 -1.1**
comp=Z,49nm,1.3s
BRVK Borovoye 48.55 315 *ce*P **P 09 43 30.0 -1.3**
BRVK pmax pmax
comp=Z,32nm,1.7s
BRVK Borovoye 48.55 315 P **P 09 43 29.4 -1.9**
SNR=13
KK31 Karatay Array 49.00 302 *e*P **P 09 43 33.5 -1.4**
comp=Z,40nm,0.8s
KK31 Karatay Array 49.00 302 *i* P **P 09 43 33.5 -1.4**
KK31 pmax pmax
comp=Z,30nm,0.8s
KKAR Karatay Array 49.00 302 *e*P **P 09 43 33.5 -1.4**
comp=Z,40nm,0.8s
KKAR Karatay Array 49.00 302 *e*P **P 09 43 33.5 -1.4**
KKAR pmax pmax
comp=Z,40nm,0.8s
AKUT Akutan 49.21 44 *e*P **P 09 43 38.7 +2.5**
comp=Z,218nm,1.5s
IUG Iuzhnay 49.49 301 *e*LR LR 10 04 34.3
comp=Z,1µm,15.4s
FITZ Fitzroy Crossi 49.75 188 *e*P **P 09 43 40.4 -0.3**
comp=Z,23nm,0.9s
FITZ Fitzroy Crossi 49.75 188 P **P 09 43 40.2 -0.4**
comp=Z,3.3nm,0.5s,baz=12,slow=8.0,SNR=7.4
HYB Hyderabad 49.94 267 *i* P **P 09 43 42.0 -0.4**
WRAB Tennant Creek 51.29 177 *e*P **P 09 43 53.5 +1.2**
comp=Z,23nm,1.0s
WRAB Tennant Creek 51.29 177 *ce*P **P 09 43 53.7 +1.3**
WRAB pmax pmax
comp=Z,7.0nm,1.0s
WR1 Warramunga Arr 51.30 177 *e*P **P 09 43 52.5 0.0**
comp=Z,19nm,0.9s
WRA Warramunga Arr 51.30 177 P **P 09 43 52.5 0.0**
comp=Z,6.2nm,0.9s,baz=353,slow=8.1,SNR=13
WB2 Warramunga Arr 51.30 177 *e*P **P 09 43 52.0 -0.5**
comp=Z,19nm,0.9s
WB2 *e*P **P 09 43 52.6 +0.2**
KBL Kabul 51.86 291 *e*P **P 09 43 55.6 -1.3**
comp=Z,20nm,0.8s
KBL Kabul 51.86 291 *e*P **P 09 43 55.6 -1.3**
KBL pmax pmax
comp=Z,20nm,0.8s
RDOG Red Dog Mine 51.92 26 *e*P **P 09 43 58.2 +1.7**
comp=Z,61nm,1.4s
CTA Charters Tower 53.24 163 LR LR 10 05 31.2
comp=Z,443nm,21.4s,baz=349,slow=34
CTAO Charters Tower 53.24 163 *e*P **P 09 44 05.6 -1.2**
comp=Z,64nm,1.4s
CTAO Charters Tower 53.24 163 *e*P **P 09 44 05.6 -1.2**
CTAO pmax pmax
comp=Z,64nm,1.4s
PALK Pallekele 53.26 254 *e*P **P 09 44 07.1 -0.1**
comp=Z,20nm,0.9s
PALK Pallekele 53.26 254 *i* P **P 09 44 07.7 +0.4**
SNR=6.8
PALK Pallekele 53.26 254 LR LR 10 08 26.1
comp=Z,988nm,20.8s,baz=110,slow=38
SVE Sverdlovsk 54.01 320 *e*P **P 09 44 10.5 -1.6**
SVE pmax pmax
comp=Z,38nm,1.3s
SVE MLR MLR
comp=Z,3µm,14.0s
SVW2 Sparrevohn 54.62 35 *e*P **P 09 44 16.6 0.0**
comp=Z,21nm,1.2s
AS01 Alice Springs 54.99 177 *e*P **P 09 44 19.8 +0.3**
ASAR Alice Springs 54.99 178 P **P 09 44 19.9 +0.4**
comp=Z,6.3nm,0.9s,baz=3.6,slow=5.8,SNR=15
ASAR S **S 09 52 02.0 +2.4**
comp=Z,0.6nm,1.0s,baz=14,slow=16,SNR=4.4
ASAR LR LR 10 06 23.3
comp=Z,741nm,21.9s,baz=350,slow=34
ARU Arti 55.19 320 *e*P **P 09 44 18.8 -1.9**
comp=Z,45nm,1.1s
ARU Arti 55.19 320 *c i*P **P 09 44 18.0 -2.7**
ARU 09 46 19.0
ARU S **S 09 52 01.7 -0.1**
ARU SS **SS 09 55 44.2 -1.4**
ARU pmax pmax
comp=Z,40nm,1.1s
ARU MLR MLR
comp=Z,4µm,15.0s
IM3 Indian Mountai 55.33 29 *e*P **P 09 44 22.6 +1.0**
AB31 Akbulak array 55.34 311 *i* P **P 09 44 20.1 -1.8**
AB31 pmax pmax
comp=Z,18nm,0.8s
ABKAR Akbulak array 55.34 311 *e*P **P 09 44 20.1 -1.8**
comp=Z,22nm,0.9s
RSO Redoubt South 56.05 35 *e*P **P 09 44 28.9 +1.8**
PPLA Purkeypile 56.13 32 *e*P **P 09 44 29.5 +2.0**
comp=Z,83nm,1.4s
CAST Castle Rocks 56.14 32 *e*P **P 09 44 29.4 +2.0**
comp=Z,19nm,0.9s
AKTO Aktyubinsk 56.36 313 LR LR 10 10 39.0
comp=Z,2µm,20.6s,baz=84,slow=38
KDAK Kodiak Island 56.42 39 *e*P **P 09 44 30.7 +1.3**
comp=Z,57nm,0.9s
KDAK Kodiak Island 56.42 39 *i* P **P 09 44 30.9 +1.5**
BPAW Bear Paw Mtn. 56.58 31 *e*P **P 09 44 32.3 +1.8**
comp=Z,41nm,1.2s
MLY Manley 56.62 30 *e*P **P 09 44 32.3 +1.4**
comp=Z,46nm,1.0s
COLD Coldfoot 56.72 27 *e*P **P 09 44 33.6 +2.1**
comp=Z,15nm,1.0s
TOLK Toolik Lake Re 56.89 25 *e*P **P 09 44 34.3 +1.6**
comp=Z,45nm,1.1s
TOLK Toolik Lake Re 56.89 25 P **P 09 44 33.9 +1.2**
baz=273
TRF Thorofare Moun 56.94 32 *e*P **P 09 44 35.0 +1.7**
comp=Z,51nm,1.6s
BRLK Bradley Lake 57.05 36 *e*P **P 09 44 36.1 +2.2**
comp=Z,78nm,1.2s
BWN Browne 57.24 31 *e*P **P 09 44 38.0 +2.8**
comp=Z,128nm,1.0s
RC01 Rabbit Creek A 57.45 34 *e*P **P 09 44 38.0 +1.2**
comp=Z,59nm,1.2s
MCK McKinley 57.52 31 *e*P **P 09 44 38.3 +1.1**
comp=Z,39nm,1.0s
MCK McKinley 57.52 31 *e*P **P 09 44 38.3 +1.1**
MCK pmax pmax
comp=Z,39nm,1.0s
RND Reindeer 57.59 32 *e*P **P 09 44 38.6 +0.8**
comp=Z,64nm,0.9s
RND Reindeer 57.59 32 *e*P **P 09 44 38.6 +0.8**
RND pmax pmax
comp=Z,64nm,0.9s
PMR Palmer 57.68 34 *e*P **P 09 44 38.9 +0.6**
comp=Z,42nm,1.0s
PMR Palmer 57.68 34 *e*P **P 09 44 38.9 +0.6**
PMR pmax pmax
comp=Z,42nm,1.0s
MDM Murphy Dome 57.69 30 *e*P **P 09 44 39.7 +1.3**
comp=Z,110nm,1.0s
SEW Seward 57.73 36 *e*P **P 09 44 39.7 +1.1**
comp=Z,81nm,1.1s
WRH Wood River Hil 57.80 30 *e*P **P 09 44 40.4 +1.3**
comp=Z,35nm,1.0s
TCOL CIGO, UAF Yank 57.86 30 P **P 09 44 41.4 +1.9**
baz=277
COLA College 57.86 30 *e*P **P 09 44 41.5 +2.0**
comp=Z,39nm,1.1s
COLA College 57.86 30 *e*P **P 09 44 41.5 +2.0**
COLA pmax pmax
comp=Z,39nm,1.1s
CCB Clear Creek Bu 57.91 30 *e*P **P 09 44 41.3 +1.4**
comp=Z,16nm,0.9s
POKR Poker Plat Res 58.01 30 P **P 09 44 42.4 +1.8**
baz=277
KNK Knik Glacier 58.02 34 *e*P **P 09 44 41.9 +1.1**
comp=Z,48nm,0.9s
SML Sawmill 58.03 33 *e*P **P 09 44 41.9 +1.1**
comp=Z,57nm,1.3s
SML Sawmill 58.03 33 *e*P **P 09 44 41.9 +1.1**
SML pmax pmax
comp=Z,57nm,1.3s
IL1 Eielson Array 58.28 30 *e*P **P 09 44 42.4 -0.1**
ILAR Eielson Array 58.28 30 P **P 09 44 42.7 +0.2**
comp=Z,9.7nm,0.9s,baz=278,slow=5.2,SNR=55
ILAR LR LR 10 12 45.5
comp=Z,437nm,18.0s,baz=290,slow=39
ILB Eielson Array 58.28 30 *e*P **P 09 44 42.8 +0.2**
comp=Z,26nm,1.1s
DHY Denali Highway 58.30 32 *e*P **P 09 44 44.4 +1.6**
comp=Z,15nm,0.9s
HDA Harding Lake 58.30 30 *e*P **P 09 44 42.7 0.0**
comp=Z,54nm,1.0s
HDA Harding Lake 58.30 30 P **P 09 44 42.8 +0.2**
baz=278
SCM Sheep Creek Mo 58.50 33 *e*P **P 09 44 45.4 +1.2**
comp=Z,78nm,1.2s
SCM Sheep Creek Mo 58.50 33 *e*P **P 09 44 45.4 +1.2**
SCM pmax pmax
comp=Z,78nm,1.2s
FYU Fort Yukon 58.73 28 *e*P **P 09 44 47.9 +2.4**
comp=Z,84nm,1.1s
PRP Porcupine Dome 58.76 29 *e*P **P 09 44 46.9 +1.0**
comp=Z,32nm,1.0s
MNCI Minicoy 59.08 260 *e*P **P 09 44 48.9 +0.2**
comp=Z,110nm,1.0s
PAX Paxson 59.17 32 *e*P **P 09 44 49.9 +1.1**
comp=Z,22nm,1.0s
PAX Paxson 59.17 32 *e*P **P 09 44 49.9 +1.1**
PAX pmax pmax
comp=Z,22nm,1.0s
KLU Klutina 59.21 34 *e*P **P 09 44 50.9 +1.8**
comp=Z,28nm,1.0s
RIDG Independ'e Rid 59.32 31 *e*P **P 09 44 50.9 +1.1**
comp=Z,16nm,0.9s
DIV Divide 59.35 34 *e*P **P 09 44 51.0 +0.9**
comp=Z,38nm,0.9s
GEYT Alibeck 59.36 298 P **P 09 44 49.3 -1.1**
comp=Z,8.9nm,0.8s,baz=38,slow=2.6,SNR=12
GEYT LR LR 10 14 02.1
comp=Z,3µm,18.7s,baz=65,slow=40
GYA0B ALIBECK ARRAY 59.36 298 *e*P **P 09 44 50.1 -0.4**
comp=Z,9.7nm,0.7s
HARP HAARP 59.41 32 *e*P **P 09 44 52.6 +2.2**
comp=Z,58nm,0.9s
SCRK Sand Creek 59.65 31 *e*P **P 09 44 52.6 +0.4**
comp=Z,42nm,1.0s
DOT Dot Lake 59.68 31 *e*P **P 09 44 53.3 +1.1**
comp=Z,32nm,1.0s
HMDM Hanimaadhoo 59.77 259 *e*P **P 09 44 54.3 +0.7**
comp=Z,103nm,1.0s
MENT Mentasta 59.96 32 *e*P **P 09 44 55.6 +1.4**
comp=Z,50nm,0.9s
EGAK Eagle 60.70 29 *e*P **P 09 44 60.0 +0.8**
comp=Z,12nm,1.1s
TGL Tana Glacier 60.83 34 *e*P **P 09 44 60.0 +0.8**
comp=Z,39nm,1.0s
BALM Baldy 61.00 34 *e*P **P 09 45 03.2 +1.8**
comp=Z,46nm,1.3s
BALM Baldy 61.00 34 *e*P **P 09 45 03.2 +1.8**
BALM pmax pmax
comp=Z,46nm,1.3s
DAWY Dawson 61.61 30 *e*P **P 09 45 06.7 +1.3**
comp=Z,15nm,1.0s
EPYK Eagle Plains 62.12 27 *e*P **P 09 45 09.8 +1.0**
comp=Z,51nm,1.0s
EPYK Eagle Plains 62.12 27 P **P 09 45 10.1 +1.3**
baz=285
INK Inuvik 62.77 25 *e*P **P 09 45 13.5 +0.5**
comp=Z,28nm,1.1s
INK Inuvik 62.77 25 P **P 09 45 13.5 +0.5**
comp=Z,26nm,1.1s,baz=280,slow=7.5,SNR=48
INK LR LR 10 14 54.9
comp=Z,511nm,20.4s,baz=272,slow=38
DZM Mont Dzumac 62.88 144 *e*P P 09 45 19.9 +5.4
comp=Z,93nm,1.1s
DZM Mont Dzumac 62.88 144 *e*LR LR 10 04 10.5
comp=Z,997nm,23.6s
HYT Haines Junctio 63.34 33 *e*P **P 09 45 19.6 +2.5**
comp=Z,38nm,1.1s
TMCR Tamitsa 63.60 331 *e*P **P 09 45 17.0 -1.6**
TMCR pmax pmax
comp=Z,70nm,1.2s
STKA Stephens Creek 63.81 171 *e*P **P 09 45 20.3 0.0**
comp=Z,4.1nm,0.9s
STKA Stephens Creek 63.81 171 *e*P **P 09 45 20.3 0.0**
STKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 63.81 171 P **P 09 45 21.1 +0.8**
comp=Z,6.4nm,0.6s,baz=343,slow=8.0,SNR=11
STKA LR LR 10 13 24.2
comp=Z,650nm,19.9s,baz=345,slow=36
KLMR Klimovskoe 63.99 327 *e*P **P 09 45 17.5 -3.7**
KLMR pmax pmax
comp=Z,40nm,1.1s
KLMR Klimovskoe 63.99 327 *e*P **P 09 45 17.6 -3.7**
KLMR AMP 09 45 30.6
comp=Z,40nm,1.1s
JLN Jalan Bani Buh 64.16 281 P **P 09 45 24.1 +1.2**
SNR=6.2
JLN P **P 09 45 24.1 +1.2**
SNR=6.2
BBOO Buckleboo 64.19 176 *e*P **P 09 45 23.6 +0.8**
comp=Z,16nm,0.9s
APA Apatity 64.27 335 ‖ *i*P P 09 45 28.5 +5.5
APA pmax pmax
comp=Z,15nm,0.8s
APA MLR MLR
comp=Z,1µm,17.0s
WHY Whitehorse 64.61 33 *e*P **P 09 45 25.7 +0.3**
comp=Z,32nm,1.1s
BIDO Bidbid 64.65 283 P **P 09 45 25.7 -0.5**
SNR=6.3
BIDO P **P 09 45 25.7 -0.5**
SNR=6.3
SKAG Skagway 64.80 34 *e*P **P 09 45 26.9 +0.3**
comp=Z,30nm,1.1s

BANOM **Banah** 65.16 286 *i* P P 09 45 30.4 +0.9
SNR=6.9
SHME Shamm 65.23 286 *i* P P 09 45 30.3 +0.3
SNR=6.2
MAK Makhachkala 65.34 307 *e*P P 09 45 27.6 -2.8
MAK *e*S S 09 54 08.8 -3.5
MAK pmax pmax
comp=Z,153nm,0.9s
MAK MLR MLR
comp=Z,5μm,16.0s
MSFE Esma-Masafi 65.50 286 P P 09 45 32.2 +0.4
JIS Juneau Island 65.67 35 *e*P P 09 45 33.8 +1.6
comp=Z,24nm,1.1s
HATD Hatta, Dubai 65.75 285 *i* P P 09 45 33.5 +0.2
SNR=7.6
HATD Hatta, Dubai 65.75 285 P P 09 45 32.7 -0.6
SNR=6.7
HATD P P 09 45 32.7 -0.6
SNR=6.7
ASHO Ashiyiah 65.87 285 *i* P P 09 45 34.2 +0.1
SNR=18
ASHO Ashiyiah 65.87 285 P P 09 45 33.6 -0.5
SNR=11
ASHO P P 09 45 33.6 -0.5
SNR=11
MHTO MHTO 65.87 281 P P 09 45 32.6 -1.5
SNR=11
MHTO P P 09 45 32.6 -1.5
SNR=11
VRH Novokhopyorsk 66.09 317 *e*P P 09 45 33.2 -1.8
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,4μm,16.0s
ARA0 ARCESS Array S 66.16 338 *e*P P 09 45 34.2 -1.0
ARCES ARCESS Array B 66.16 338 P P 09 45 34.2 -1.0
comp=Z,4.2nm,0.8s,baz=67,slow=11,SNR=6.6
ARCES LR LR 10 19 44.0
comp=Z,3μm,18.3s,baz=60,slow=41
ALNE Al Ain 66.39 285 *i* P P 09 45 37.5 0.0
SNR=5.8
ASUD Al Ashush, Dub 66.50 285 P P 09 45 38.2 +0.1
MOS Moscow 66.70 322 *e*P P 09 45 36.3 -2.6
MOS *e* 09 45 46.3
MOS *e* 09 46 04.7
MOS *e*S S 09 54 26.2 -2.2
MOS *e* 09 55 06.6
MOS pmax pmax
comp=Z,46nm,0.8s
MOS MLR MLR
comp=Z,3μm,16.0s
LPSR Galich'ya Gora 67.18 319 *e*P P 09 45 39.6 -2.4
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,3μm,16.0s
OBN Obninsk 67.50 322 *ce*P P 09 45 43.0 -0.9
OBN *e* 09 45 49.8
OBN *e* 09 46 05.3
OBN *e* 09 48 16.3
OBN *e*PPP PPP 09 49 48.5
OBN *e*S S 09 54 31.9 -6.1
OBN *e*SS SS 09 58 57.8 -0.2
OBN pmax pmax
comp=Z,48nm,1.7s
OBN MLR MLR
comp=Z,4μm,18.0s
GOF Gofitskoye 67.56 310 *e*P P 09 45 40.9 -3.6
GOF pmax pmax
comp=Z,60nm,1.0s
VSR Storozhevoye 67.58 317 *i* P P 09 45 42.5 -2.0
VSR pmax pmax
comp=Z,22nm,0.6s
DLBC Dease Lake 67.73 34 *e*P P 09 45 47.5 +2.0
comp=Z,15nm,1.1s
ZEI Tsey 67.86 307 *e*P P 09 45 41.6 -5.2
ZEI pmax pmax
comp=Z,15nm,0.9s
KBZ Khabaz 68.17 309 P P 09 45 47.6 -0.7
comp=Z,20nm,0.9s,baz=78,slow=3.2,SNR=36
KBZ LR LR 10 20 06.6
comp=Z,3μm,18.5s,baz=55,slow=40
KIV Kislovodsk 68.22 309 *e*P P 09 45 48.6 -0.2
comp=Z,108nm,1.1s
KIV Kislovodsk 68.22 309 *i* P P 09 45 48.2 -0.6
SNR=6.2
KIV Kislovodsk 68.22 309 *e*P P 09 45 48.5 -0.3
KIV pmax pmax
comp=Z,101nm,1.1s
KIV Kislovodsk 68.22 309 P P 09 45 48.2 -0.6
SNR=23
GNI Garni 68.33 305 *e*P P 09 45 48.7 -1.0
comp=Z,38nm,0.9s
GNI Garni 68.33 305 *ce*P P 09 45 49.7 +0.1
GNI pmax pmax
comp=Z,161nm,1.7s
RES Resolute Bay 69.71 12 *e*P P 09 45 57.4 0.0
comp=Z,42nm,1.0s
RES Resolute Bay 69.71 12 *e*P P 09 45 57.4 0.0
RES pmax pmax
comp=Z,42nm,1.0s
FIA1 FINESS Array S 69.72 330 *e*P P 09 45 55.7 -1.9
FIA1 *e*P P 09 45 56.3 -1.3
FIA0 FINESS Array S 69.72 330 *e*P P 09 45 55.9 -1.8
FIA0 FINESS Array S 69.72 330 *e*P P 09 45 55.9 -1.8
FINES FINESS Array B 69.72 330 P P 09 45 55.9 -1.8
comp=Z,8.7nm,0.4s,baz=65,slow=5.3,SNR=68
FINES LR LR 10 19 32.9
comp=Z,3μm,19.4s,baz=62,slow=39
DAG Danmarks Havn 70.34 353 *i* P P 09 46 00.7 -0.5
comp=Z,23nm,1.1s
DAG Danmarks Havn 70.34 353 *i* P P 09 46 00.7 -0.5
DAG pmax pmax
comp=Z,29nm,1.1s
VSU Vasula 70.88 327 *ce*P P 09 46 04.1 -0.7
VSU pmax pmax
comp=Z,86nm,1.0s
VSU Vasula 70.88 327 *e*P P 09 46 03.9 -0.9
VSU IAmb IAmb 09 46 14.7
comp=Z,248nm,1.3s
SIRT Sirnak 71.06 303 *e*P P 09 46 06.2 -0.2
comp=Z,124nm,1.0s
TULEG Thule 71.36 5 *e*P P 09 46 06.8 -0.7
comp=Z,54nm,1.0s
ABTO Aybut 71.45 279 P P 09 46 08.5 -0.5
SNR=5.1
MICGM Minsk 72.28 324 *e*P P 09 46 12.0 -1.3
MICGM *e*LR LR 10 16 20.0
MICGM LRM MLR 10 22 20.0
comp=Z,7.8nm,16.0s
MICGM LRM MLR 10 22 22.0
comp=E,6.1nm,16.0s
MICGM LRM MLR 10 22 23.0
comp=Z,5.6nm,16.0s
MICGM LRM MLR 10 22 26.0
comp=E,3.3nm,16.0s
MNK Minsk 72.28 324 *e*P P 09 46 12.0 -1.3
MNK MLR MLR
comp=Z,6μm,16.0s
YKW3 Yellowknife Ar 72.34 26 *e*P P 09 46 14.2 +0.7
comp=Z,16nm,1.0s
YKA Yellowknife Ar 72.39 26 P P 09 46 14.0 +0.2
comp=Z,12nm,0.9s,baz=303,slow=5.7,SNR=91
YKA LR LR 10 22 40.8
comp=Z,28nm,19.0s,baz=300,slow=40
YKB5 Yellowknife Ar 72.39 26 *e*P P 09 46 13.8 0.0
IZAR Zarasai 72.47 325 *e*P P 09 46 13.9 -0.5
IZAR IAmb IAmb 09 46 24.7
comp=Z,24nm,1.0s
ISAL Salakas 72.61 325 *e*P P 09 46 14.9 -0.4
ISAL IAmb IAmb 09 46 25.7
comp=Z,29nm,1.0s
SIM Simferopol' 73.33 313 *e*P P 09 46 27.7 +8.0
SIM pmax pmax
comp=Z,22nm,0.8s
SIM MLR MLR
comp=Z,2μm,18.0s
SLIT Slitere, Latvi 73.34 328 *e*P P 09 46 17.3 -2.2
SLIT IAmb IAmb 09 46 29.0
comp=Z,307nm,1.1s
AKASG Malin Array Be 73.44 320 *i* P P 09 46 18.5 -1.8
AKASG pmax pmax
comp=Z,11nm,0.6s
AKASG Malin Array Be 73.44 320 P P 09 46 18.2 -2.1
comp=Z,10nm,0.6s,baz=55,slow=6.4,SNR=44
AKASG LR LR 10 20 39.4
comp=Z,2μm,20.1s,baz=45,slow=38
AKBB Malin Array Si 73.44 320 *e*P P 09 46 18.6 -1.7
comp=Z,14nm,0.8s
AKBB Malin Array Si 73.44 320 *e*P P 09 46 18.6 -1.7
AKBB pmax pmax
comp=Z,15nm,0.8s
AK11 Malin Array Si 73.49 320 *e*P P 09 46 18.8 -1.8
KULLO Kullorsuaq 73.93 2 *i* P P 09 46 22.1 -0.7
comp=Z,45nm,1.1s
comp=Z,2μm,17.0s
comp=Z,2μm,17.0s
KULLO Kullorsuaq 73.93 2 *i* P P 09 46 22.1 -0.7
KULLO pmax pmax
comp=Z,45nm,1.1s
KULLO MLR MLR
comp=Z,2μm,17.0s
PBUR Paburg 74.38 327 *e*P P 09 46 23.6 -2.0
PBUR IAmb IAmb 09 46 34.6
comp=Z,97nm,1.1s
SUW Suwalki 74.89 325 *e*P P 09 46 28.3 -0.3
comp=Z,85nm,1.0s
SUW Suwalki 74.89 325 *e*P P 09 46 28.3 -0.3
SUW pmax pmax
comp=Z,85nm,1.0s
RAYN Ar Rayn 75.01 289 *e*P P 09 46 29.1 -0.9
comp=Z,59nm,1.1s
RAYN Ar Rayn 75.01 289 *i* P P 09 46 29.4 -0.6
SNR=29
RAYN Ar Rayn 75.01 289 *e*P P 09 46 29.1 -0.9
RAYN pmax pmax
comp=Z,59nm,1.1s
ILGA Ilgaz 75.45 309 *e*P P 09 46 30.6 -1.8
ILGA *e*pP pP 09 46 41.5 -0.5
KIS Kishinev 75.54 316 *e*P P 09 46 28.0 -4.6
KIS Kishinev 75.54 316 *e*PS 09 57 20.0
KIS LRM MLR 10 22 28.0
comp=Z,4μm,18.0s
KIS Kishinev 75.54 316 *e*P P 09 46 28.0 -4.6
KIS *e* 09 49 28.0
KIS MLR MLR
comp=Z,4μm,18.0s
KIS MLR MLR
comp=N,2μm,17.0s
NC405 NORSAR Array S 75.61 334 *e*P P 09 46 31.8 -0.9
comp=N,54nm,1.3s
LLLB Lillooet 75.62 39 *e*P P 09 46 33.7 +0.6
comp=N,21nm,1.1s
NC303 NORSAR Array S 75.66 334 *e*P P 09 46 32.1 -0.9
comp=N,24nm,1.1s
PGC Sidney 75.80 41 *e*P P 09 46 34.8 +0.8
PGC *e*pP pP 09 46 44.6 +1.3
NB201 NORSAR Array S 75.81 334 *e*P P 09 46 33.0 -0.9
comp=N,66nm,1.3s
NB2 NORSAR Subarra 75.84 334 P P 09 46 32.5 -1.5
comp=Z,2.8nm,0.6s,baz=47,slow=5.9
NB200 NORSAR Array S 75.84 334 *e*P P 09 46 32.6 -1.5
NOA NORSAR Array B 75.84 334 P P 09 46 32.6 -1.5
comp=Z,4.8nm,0.7s,baz=49,slow=5.6,SNR=18
NOA LR LR 10 23 16.7
comp=Z,2μm,19.0s,baz=35,slow=38
NC204 NORSAR Array S 75.85 335 *e*P P 09 46 33.3 -0.9
NC204 *e*pP pP 09 46 43.1 -0.6
SUMG Summit 75.89 357 *e*P P 09 46 34.7 +0.1
comp=Z,20nm,0.8s
SUMG Summit 75.89 357 *i* P P 09 46 34.9 +0.3
comp=Z,55nm,0.9s
SUMG Summit 75.89 357 *i* P P 09 46 34.9 +0.3
SUMG pmax pmax
comp=Z,55nm,0.9s
NC602 NORSAR Array S 75.92 334 *e*P P 09 46 32.9 -1.6
comp=Z,103nm,1.9s
BR101 Keskin Array S 76.15 308 *e*P P 09 46 35.2 -1.2
BR131 Keskin Array S 76.15 308 *e*P P 09 46 35.7 -0.7
comp=Z,42nm,1.1s
BR131 Keskin Array S 76.15 308 P P 09 46 35.2 -1.2
SNR=25
BRTR Keskin Array B 76.15 308 P P 09 46 35.2 -1.2
comp=Z,10.0nm,0.9s,baz=106,slow=4.1,SNR=34
BRTR LR LR 10 25 33.5
comp=Z,1μm,18.5s,baz=47,slow=40
SCO Scoresbysund 76.47 351 *i* P P 09 46 39.4 +2.0
SCO Scoresbysund 76.47 351 *i* P P 09 46 39.4 +2.0
D03D Eldon 76.59 42 P P 09 46 40.3 +1.8
baz=302
ANTO Ankara 76.64 309 *e*P P 09 46 38.3 -0.8
comp=Z,36nm,1.2s
ANTO Ankara 76.64 309 *e*P P 09 46 38.3 -0.8
ANTO pmax pmax
comp=Z,36nm,1.2s
LVV L'vov 76.75 321 *e*P P 09 46 39.2 -0.2
LVV MLR MLR
comp=E,2μm,15.0s
LVV MLR MLR
comp=N,800nm,14.0s
LVV MLR MLR
comp=Z,2μm,15.0s
B05A Bryant 76.77 41 P P 09 46 41.0 +1.5
baz=303
CFR Carcaliu 76.89 315 ⇓ *i* P P 09 46 39.5 -0.7
CFR Carcaliu 76.89 315 ⇓ P P 09 46 39.5 -0.7
D04E Lakebay 76.97 42 P P 09 46 43.2 +2.6
baz=303
B06A Marblemount 76.97 41 *e*P P 09 46 41.8 +1.2
comp=Z,24nm,1.0s
TESR Tescani 77.07 317 ⇑ *i* P P 09 46 41.0 -0.3
TIRR Tirgusor 77.10 314 *e*P P 09 46 41.5 +0.1
TIRR *e*pP pP 09 46 50.0 -1.0
TIRR Tirgusor 77.10 314 ⇑ *i* P P 09 46 41.8 +0.4
TIRR Tirgusor 77.10 314 ⇑ P P 09 46 41.8 +0.4
BIZ Bicaz 77.15 317 ⇑ *i* P P 09 46 41.3 -0.5
TLB Topalu 77.26 315 ⇑ *i* P P 09 46 41.5 -0.8
TLB Topalu 77.26 315 ⇑ P P 09 46 41.5 -0.8
BUR08 Bucovina Ar. S 77.29 318 *e*P P 09 46 41.6 -1.0
comp=Z,17nm,1.1s
BURAR Bucovina Array 77.30 318 ⇑ *i* P P 09 46 41.8 -0.9
BURAR Bucovina Array 77.30 318 ⇑ P P 09 46 41.8 -0.9
VRI Vrincioaia 77.37 316 ⇑ *i* P P 09 46 43.2 +0.2
VRI Vrincioaia 77.37 316 ⇑ P P 09 46 43.2 +0.2
D05A Enumclaw 77.41 42 *e*P P 09 46 43.2 +0.1
D05A *e*pP sP 09 46 55.9 -0.1
KWP Kalwaria Pacla 77.56 321 *e*P P 09 46 44.0 0.0
KWP Kalwaria Pacla 77.56 321 *e*P P 09 46 43.2 -0.7
comp=Z,575nm,0.5s
KWP Kalwaria Pacla 77.56 321 *e*P P 09 46 43.3 -0.7
KWP pmax pmax
comp=Z,575nm,0.5s
MLR Muntele Rosu 78.03 316 *e*P P 09 46 45.0 -1.9
comp=Z,111nm,1.0s
MLR Muntele Rosu 78.03 316 ⇑ *i* P P 09 46 46.4 -0.4
MLR Muntele Rosu 78.03 316 ⇑ P P 09 46 46.4 -0.4
LTY Liberty 78.12 42 *e*P P 09 46 49.0 +1.7
comp=Z,9.8nm,1.3s
B08A Colville Reser 78.25 40 *e*P P 09 46 48.9 +1.0
comp=Z,20nm,1.1s
TRPA Tarpa 78.51 320 ⇓ *i* P P 09 46 49.5 +0.3
YLV Yalova 78.54 311 ⇓ *i* P P 09 46 50.0 +0.4
YLV Yalova 78.54 311 ⇓ P P 09 46 50.0 +0.4
VOIR 78.59 317 ⇑ *i* P P 09 46 50.4 +0.6
VOIR 78.59 317 ⇑ P P 09 46 50.4 +0.6
OJC Ojcow 78.76 323 *e*P P 09 46 50.1 -0.5
OJC Ojcow 78.76 323 *e*P P 09 46 50.1 -0.5
comp=Z,31nm,1.0s
OJC Ojcow 78.76 323 *e*P P 09 46 50.1 -0.5
K02D Willamette Mer 78.85 47 P P 09 46 52.6 +1.3
baz=303
ARR Arges 78.87 317 ⇓ *i* P P 09 46 52.3 +0.9
NIE Niedzica 78.97 322 *e*P P 09 46 52.3 +0.5
NIE Niedzica 78.97 322 *e*P P 09 46 52.3 +0.5
I04A Tendick Farm, 79.02 45 P P 09 46 53.3 +1.1
baz=304
C09A Chrisman Ranch 79.15 40 *e*P P 09 46 53.9 +1.1
comp=Z,20nm,0.9s
DRGR 79.17 319 ⇑ *i* P P 09 46 53.8 +0.8
DRGR 79.17 319 ⇑ P P 09 46 53.8 +0.8
D08A Wollman Farm, 79.22 41 *e*P P 09 46 54.3 +1.1
comp=Z,19nm,1.1s
HAWA Hanford 79.26 42 *e*P P 09 46 54.7 +1.3
comp=Z,12nm,0.9s
I05D Terrebonne, OR 79.36 44 P P 09 46 55.6 +1.5
baz=304
E08A Dider Farm, El 79.47 42 *e*P P 09 46 56.0 +1.4
comp=Z,8.9nm,0.9s
J04D Umpqua Nationa 79.50 46 P P 09 46 56.7 +1.6
baz=304
NEW Newport 79.51 39 *e*P P 09 46 55.7 +0.9
comp=Z,10nm,1.0s
NEW Newport 79.51 39 *e*P P 09 46 55.7 +0.9
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 79.51 39 P P 09 46 55.8 +1.0
baz=306
LANS Liptovska Anna 79.57 322 *e*P P 09 46 56.4 +1.3
LANS Liptovska Anna 79.57 322 *e*P P 09 46 56.4 +1.3
OKC Ostrava-Krasne 79.84 323 AMS AMS 10 26 50.0
comp=Z,4μm,16.0s
PINE Pine Mountain 79.90 45 *e*P P 09 46 58.1 +0.8
comp=Z,20nm,0.9s
GZR Gura Zlata 79.94 317 ⇑ *i* P P 09 46 58.0 +0.8
GZR Gura Zlata 79.94 317 ⇑ P P 09 46 58.0 +0.8
L04D Klamath Falls 79.95 46 P P 09 46 58.8 +1.3
baz=304
YBH Yreka Blue Hor 79.97 47 *e*P P 09 46 59.5 +2.0
YBH *e*pP pP 09 47 06.2 -0.7
E09A Wood Farm, Sta 79.97 41 *e*P P 09 46 58.3 +1.0
comp=Z,17nm,1.1s
J05D Fort Rock, OR 80.01 45 P P 09 46 59.2 +1.5
baz=304
PSZ Piszkesteto 80.07 321 ⇑ *e*P P 09 46 58.1 +0.2
MORC Moravsky Berou 80.19 323 *e*P P 09 46 58.4 0.0
MORC *e*pP PcP 09 47 06.3 +0.7
MORC Moravsky Berou 80.19 323 ⇓ *i* P P 09 46 58.8 +0.3
MORC Moravsky Berou 80.19 323 ⇓ P P 09 46 58.8 +0.3
MORC Moravsky Berou 80.19 323 *e*P P 09 46 59.2 +0.7
G08A Pilot Rock 80.22 43 *e*P P 09 46 59.6 +0.8
comp=Z,12nm,1.4s
VYHS Vyhne 80.30 322 *e*P P 09 47 00.3 +1.3
VYHS pmax pmax
comp=Z,9.0nm,1.1s
VYHS Vyhne 80.30 322 *e*P P 09 47 00.3 +1.3
N02D Trinity Center 80.39 48 P P 09 47 00.2 +0.4
baz=304
KRLC Kraliky 80.39 324 AMS AMS 10 26 40.0
comp=Z,2μm,17.2s
HERR Herculane 80.44 317 ⇑ *i* P P 09 47 00.3 +0.5
DPC Dobruska-Polom 80.45 324 *e*pP pP 09 47 09.4 -0.1
DPC AMS AMS 10 26 50.0
comp=Z,6μm,16.6s
DPC Dobruska-Polom 80.45 324 *e*P P 09 47 09.4 +10
DPC MLR MLR
comp=Z,6μm,16.6s
M04C Macdoel 80.48 47 P P 09 47 02.3 +2.1
baz=304
UPC Upice 80.51 324 AMS AMS 10 27 00.0
comp=Z,5μm,17.0s
I07A Izee 80.59 44 *e*P P 09 47 02.3 +1.5
comp=Z,9.8nm,1.0s
JAVC Velka Javorina 80.69 322 *e*P P 09 47 03.1 +1.9
WDC Whiskeytown Da 80.71 48 *e*P P 09 47 03.5 +2.1
comp=Z,12nm,1.1s
WDC Whiskeytown Da 80.71 48 *e*P P 09 47 03.5 +2.1
WDC pmax pmax
comp=Z,12nm,1.1s
WALA Waterton Lakes 80.73 37 *e*P P 09 47 02.6 +1.2
comp=Z,15nm,1.1s
F10A Beach Ranch, E 80.81 41 *e*P P 09 47 03.0 +1.1
comp=Z,12nm,1.3s
MDVR Moldovita 80.90 317 ⇑ *i* P P 09 47 06.3 +3.9
VRAC Vranov 80.97 323 ⇑ *i* P P 09 47 03.5 +0.9
VRAC Vranov 80.97 323 ⇑ P P 09 47 03.5 +0.9
VRAC Vranov 80.97 323 *e*P P 09 47 02.8 +0.2
MODS Modra-Piesok 81.19 322 *e*P P 09 47 03.8 0.0
MODS Modra-Piesok 81.19 322 *e*P P 09 47 03.8 0.0
PVCC Panska Ves 81.21 325 *e*P P 09 47 12.7 +8.9
PVCC AMS AMS 10 27 00.0
comp=Z,6μm,17.1s
PVCC Panska Ves 81.21 325 *e*P P 09 47 12.7 +8.9
PVCC MLR MLR
comp=Z,6μm,17.1s
KRUC Moravsky 81.22 323 *e*P P 09 47 03.8 -0.1
VTS Vitosha 81.26 315 ⇓ *i* P P 09 47 05.5 +1.1
VTS Vitosha 81.26 315 ⇓ P P 09 47 05.5 +1.1
BRG Berggiesshubel 81.29 325 *e*P P 09 47 06.8 +2.5
comp=Z,8.8nm,1.3s
BRG SS SS 10 02 55.0 +27
comp=N,4μm,18.2s
comp=E,4μm,18.0s
comp=Z,8μm,17.0s
BRG Berggiesshubel 81.29 325 *e*P P 09 47 06.8 +2.5
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG MLR MLR
comp=N,4μm,18.2s
BRG MLR MLR
comp=E,4μm,18.0s
BRG MLR MLR
comp=Z,8μm,17.0s
MOD Modoc Plateau 81.36 46 *e*P P 09 47 06.2 +1.2
comp=Z,15nm,1.3s
BMO Blue Mountains 81.42 42 *e*P P 09 47 05.4 +0.2
comp=Z,31nm,1.7s
BMO Blue Mountains 81.42 42 *e*P P 09 47 05.4 +0.2
BMO pmax pmax
comp=Z,31nm,1.7s
CLL Collm 81.46 326 *e*P P 09 47 04.9 -0.2
comp=Z,30nm,1.0s
CLL Collm 81.46 326 *e*P P 09 47 05.0 -0.2
comp=Z,12nm,1.0s
CLL comp=Z,32nm,1.0s *i* pP pP 09 47 13.4 -1.3
CLL *e*S S 09 57 19.0 +4.6
CLL *e*PS PnS 09 58 02.0 -2.0
CLL *e*PPS PPS 09 58 22.0
CLL *e*SS SS 10 02 30.0 -0.1
CLL *e* 10 07 06.0
CLL *e*SSSS 10 08 36.0
CLL Lm MLR 10 27 00.0
comp=N,4μm,18.5s
CLL Lm MLR 10 27 00.0
comp=E,2μm,18.0s
CLL Lm MLR 10 27 00.0
comp=Z,6μm,18.9s
CLL Collm 81.46 326 *e*P P 09 47 05.0 -0.2
CLL *i* *PP pP 09 47 13.4 -1.3
CLL *e*S S 09 57 19.0 +4.6
CLL pmax pmax
comp=Z,12nm,1.0s
CLL MLR MLR
comp=Z,6μm,18.9s
GOPC GO Pecny, Ondr 81.50 324 *e*pP pP 09 47 14.5 -0.5
GOPC AMS AMS 10 27 30.0
comp=Z,4μm,16.5s
TREC Trest 81.54 324 *e*P P 09 47 15.1 +9.5
TREC AMS AMS 10 27 30.0
comp=Z,7μm,17.7s
PRU Pruhonice 81.57 325 *e*P P 09 47 14.6 +8.9
PRU AMS AMS 10 27 30.0
comp=Z,4μm,17.1s
PRU Pruhonice 81.57 325 *e*P P 09 47 14.6 +8.9
PRU MLR MLR
comp=Z,4μm,17.1s
J08A Circle Bar Ran 81.62 44 *e*P P 09 47 07.5 +1.2
comp=Z,15nm,0.9s
SFJD Kangerlussuaq 81.71 1 *e*P P 09 47 05.6 -0.5
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 81.71 1 *i* P P 09 47 05.5 -0.6
comp=Z,16nm,0.9s
SFJD Kangerlussuaq 81.71 1 *i* P P 09 47 05.5 -0.6
SFJD pmax pmax
comp=Z,16nm,0.9s
ORV Oroville 81.94 48 *e*P P 09 47 08.4 +0.5
comp=Z,9.3nm,1.1s
ORV Oroville 81.94 48 *e*P P 09 47 08.4 +0.5
ORV pmax pmax
comp=Z,9.0nm,1.1s
WVOR Wild Horse Val 82.06 45 *e*P P 09 47 09.9 +1.2
comp=Z,7.1nm,0.6s
MSO Missoula 82.10 39 *e*P P 09 47 07.5 -1.2
comp=Z,18nm,1.6s
MSO Missoula 82.10 39 P P 09 47 09.6 +0.9
baz=308
CONA Conrad Observa 82.21 322 P P 09 47 09.6 +0.3
comp=Z,13nm,1.0s
FCC Fort Churchill 82.25 22 *e*P P 09 47 09.1 0.0
comp=Z,25nm,0.8s
FCC Fort Churchill 82.25 22 *e*P P 09 47 09.1 0.0
FCC pmax pmax
comp=Z,25nm,0.8s
NKC Novy Kostel 82.43 326 *e*P P 09 47 19.4 +9.1
NKC AMS AMS 10 27 50.0
comp=Z,7μm,18.0s
FFC Flin Flon 82.44 28 *e*P P 09 47 10.2 -0.1

comp=Z,16nm,0.9s
FFC Flin Flon 82.44 28 *ce*P **P 09 47 10.6 +0.4**
BEKR Beckworth 82.49 48 *e*P **P 09 47 12.3 +1.3**
comp=Z,9.5nm,1.0s
KHC Kasperske Hory 82.60 324 *e*P **P 09 47 11.6 +0.3**
KHC *e*pP **pP 09 47 20.9 0.0**
KHC Kasperske Hory 82.60 324 *e*P **P 09 47 15.7 +4.5**
KHC *e*pP **pP 09 47 20.9 0.0**
KHC AMS AMS 10 28 00.0
comp=Z,4µm,15.5s
KHC Kasperske Hory 82.60 324 *e*P **P 09 47 15.7 +4.5**
KHC *e* 09 47 20.9
KHC MLR MLR
comp=Z,4µm,15.5s
AFDM Forest Hills D 82.62 49 *e*P **P 09 47 12.4 +0.9**
AFDM *e*pP **pP 09 47 21.6 +0.6**
ARSA Arzberg 82.82 322 PcP **P 09 47 15.3 +2.9**
comp=Z,4.9nm,1.0s
MOA Molln 83.09 323 P **P 09 47 14.3 +0.6**
comp=Z,19nm,1.2s
ATD Arta Tunnel 83.11 279 *e*P **P 09 47 15.7 +1.3**
comp=Z,31nm,1.0s
PAHR Pah Rah Range 83.19 47 *e*P **P 09 47 14.5 -0.1**
comp=Z,34nm,1.5s
VCNR Virginia City 83.27 48 *e*P **P 09 47 15.7 +0.6**
comp=Z,7.4nm,1.1s
HRY Holter Researc 83.30 38 *e*P **P 09 47 16.6 +1.6**
GRA1 Grafenberg Arr 83.39 326 *e*P **P 09 47 15.4 +0.1**
comp=Z,62nm,1.2s
GRF Grafenberg Arr 83.39 326 *e*P **P 09 47 17.0 +1.8**
comp=Z,18nm,1.2s,baz=54,slow=4.7
GRF *e*pP **pP 09 47 24.6 -0.3**
baz=48,slow=4.7
GRF *e*L L 10 28 37.9
comp=Z,5µm,19.2s
GRF Grafenberg Arr 83.39 326 *e*P **P 09 47 15.4 +0.1**
GRF pmax pmax
comp=Z,62nm,1.2s
GRFO Grafenberg 83.39 326 *e*P **P 09 47 16.3 +1.1**
comp=Z,56nm,1.2s
GRFO Grafenberg 83.39 326 *e*P **P 09 47 16.3 +1.1**
GRFO pmax pmax
comp=Z,56nm,1.2s
PNTR Pine Nut 83.42 48 *e*P **P 09 47 18.1 +2.2**
comp=Z,37nm,1.8s
SOKA Soboth 83.44 322 *e*P **P 09 47 15.1 -0.5**
comp=Z,18nm,1.0s
EGMT Eagleton 83.52 36 *e*P **P 09 47 16.9 +0.8**
comp=Z,32nm,1.1s
EGMT Eagleton 83.52 36 P **P 09 47 17.2 +1.1**
baz=311
CMB Columbia Colle 83.52 49 *e*P **P 09 47 16.6 +0.4**
comp=Z,11nm,1.1s
CMB Columbia Colle 83.52 49 *e*P **P 09 47 16.6 +0.4**
CMB pmax pmax
comp=Z,11nm,1.1s
LRM Limekiln Ridge 83.53 39 *e*P **P 09 47 15.9 -0.5**
YERR Yerington 83.70 48 *e*P **P 09 47 17.0 -0.3**
comp=Z,20nm,1.2s
DLMT Dillon 83.75 40 *e*P **P 09 47 18.5 +1.1**
comp=Z,16nm,1.0s
OBKA Obir 83.81 322 *e*P **P 09 47 17.6 0.0**
comp=Z,6.0nm,0.7s
HLID Hailey 83.86 42 *e*P **P 09 47 19.5 +1.5**
comp=Z,11nm,1.0s
HLID Hailey 83.86 42 P **P 09 47 19.4 +1.4**
baz=308
WAKR Walker 83.86 48 *e*P **P 09 47 20.0 +1.8**
comp=Z,17nm,1.2s
KBA Koelnbreinsper 84.06 323 *e*P **P 09 47 18.5 -0.4**
comp=Z,5.4nm,0.9s
BMN Battle Mountai 84.11 46 *e*P **P 09 47 20.6 +1.3**
BMN Battle Mountai 84.11 46 *e*P **P 09 47 20.6 +1.3**
BOZ Bozeman (W) 84.12 39 *e*P **P 09 47 20.2 +1.0**
comp=Z,11nm,1.3s
BOZ Bozeman (W) 84.12 39 *e*P **P 09 47 20.3 +1.0**
BOZ pmax pmax
comp=Z,11nm,1.3s
BOZ Bozeman (W) 84.12 39 P **P 09 47 19.9 +0.7**
baz=310
MYKA Terra Mystica 84.20 322 *e*P **P 09 47 18.0 -1.5**
comp=Z,4.7nm,0.5s
RYN Ryan 84.37 48 *e*P **P 09 47 22.1 +1.4**
comp=Z,31nm,1.5s
KVN Kaiserville 84.39 47 *e*P **P 09 47 22.0 +1.2**
comp=Z,20nm,1.1s
KVN Kaiserville 84.39 47 *e*P **P 09 47 22.0 +1.2**
KVN pmax pmax
comp=Z,20nm,1.1s
MDPB Devils Postpil 84.60 49 *e*P **P 09 47 23.6 +1.6**
comp=Z,16nm,1.3s
NV01 Mina Array Sit 84.62 48 *e*P **P 09 47 22.9 +0.8**
NVAR Mina Array Bea 84.62 48 P **P 09 47 22.9 +0.9**
comp=Z,5.5nm,0.8s,baz=295,slow=5.1,SNR=30
OMMB Old Mammoth Mi 84.66 49 *e*P **P 09 47 22.0 -0.4**
comp=Z,16nm,1.3s
ABTA Abfaltersbach 84.71 323 *e*P **P 09 47 20.1 -2.0**
comp=Z,8.1nm,0.8s
NV11 Mina Array Sit 84.72 48 *e*P **P 09 47 19.8 -2.7**
comp=Z,16nm,1.4s
YHB Horse Butte 84.90 40 *e*P **P 09 47 25.0 +1.7**
comp=Z,10nm,0.9s
PAGB Antelope Grade 84.94 51 *e*P **P 09 47 25.6 +2.1**
comp=Z,21nm,0.9s
MOTA Moosalm 85.03 324 *e*PcP **P 09 47 23.7 -0.1**
comp=Z,4.2nm,0.7s
SQTA Sankt Quirin 85.06 324 P **P 09 47 21.0 -2.9**
comp=Z,9nm,0.6s
YHH Holmes Hill 85.06 39 *e*P **P 09 47 25.9 +1.7**
comp=Z,20nm,1.6s
YMR Madison River 85.08 40 *e*P **P 09 47 25.4 +1.2**
comp=Z,42nm,1.7s
RETA Reutte 85.10 324 *e*PcP **P 09 47 25.7 +1.6**
comp=Z,8.7nm,1.1s
ELK Elko 85.12 45 *e*P **P 09 47 26.1 +1.6**
comp=Z,7.3nm,1.1s
ELK Elko 85.12 45 *e*P **P 09 47 26.1 +1.6**
ELK pmax pmax
comp=Z,7.0nm,1.1s
MEM Membach 85.16 329 ⇑P **P 09 47 24.8 +0.6**
YNR Norris Junctio 85.20 39 *e*P **P 09 47 26.6 +1.7**
comp=Z,16nm,1.3s
FETA Feichten 85.43 324 PcP **P 09 47 25.5 -0.3**
comp=Z,3.6nm,0.8s
H17A Grant Village 85.47 40 *e*P **P 09 47 29.4 +3.2**
comp=Z,20nm,1.3s
H17A Grant Village 85.47 40 P **P 09 47 29.2 +3.0**
baz=311
IMW Indian Meadow 85.59 40 *e*P **P 09 47 29.4 +2.5**
comp=Z,12nm,1.2s
FLWY Flagg Ranch 85.60 40 *e*P **P 09 47 29.0 +2.1**
comp=Z,18nm,1.1s
VES Vestal, Richgr 85.65 50 P **P 09 47 27.4 +0.5**
baz=306
DAVA Damuels 85.67 325 *e*PcP **P 09 47 26.8 -0.3**
comp=Z,11nm,1.2s
RLMT Red Lodge 85.69 38 *e*P **P 09 47 28.5 +1.2**
comp=Z,16nm,1.2s
RLMT Red Lodge 85.69 38 P **P 09 47 28.5 +1.2**
baz=312
BFO Black Forest 85.70 326 *ce*P **P 09 47 27.3 +0.3**
comp=Z,30nm,1.3s
BFO Black Forest 85.70 326 *ce*P **P 09 47 28.0 +1.0**
FXWY Fox Creek 85.71 40 *e*P **P 09 47 29.1 +1.6**
comp=Z,15nm,1.5s
WLF Walferdange 85.77 328 ⇑pP pP 09 47 36.7 -0.1
comp=Z,36nm,1.5s
MOOW Moose Ponds 85.80 40 *e*P **P 09 47 29.5 +1.6**
comp=Z,5.8nm,1.0s
HVU Hansel Valley 85.92 43 *e*P **P 09 47 30.0 +1.6**
comp=Z,8.4nm,0.9s
HVU Hansel Valley 85.92 43 *e*P **P 09 47 30.0 +1.6**
HVU pmax pmax
comp=Z,8.0nm,0.9s
DGMT Dagmar 85.94 34 *e*P **P 09 47 29.5 +1.4**
DGMT *e*pP **pP 09 47 39.4 +1.8**
DGMT Dagmar 85.94 34 P **P 09 47 29.3 +1.1**
baz=315
FUORN Ofenpass-Fuorn 85.94 324 *e*P **P 09 47 29.1 +0.6**
FUORN *e*pP **pP 09 47 37.0 -1.2**
CWC Cottonwood Cre 85.95 49 P **P 09 47 29.2 +0.6**
baz=307
LOHW Long Hollow 85.96 40 *e*P **P 09 47 27.2 -1.4**
comp=Z,6.8nm,1.3s
SNOW Snow King Moun 85.98 40 *e*P **P 09 47 27.9 -0.9**
comp=Z,9.9nm,1.1s
REDW Red Top Meadow 85.99 40 *e*P **P 09 47 30.1 +1.3**
comp=Z,10nm,1.2s
ISA Isabella, Lake 86.15 50 *e*P **P 09 47 30.5 +0.9**
comp=Z,9.6nm,1.4s
ISA Isabella, Lake 86.15 50 *e*P **P 09 47 30.5 +0.9**
ISA pmax pmax
comp=Z,10.0nm,1.4s
LAO LASA Array 86.20 36 *e*P **P 09 47 30.3 +0.7**
LAO *e*pP **pP 09 47 41.1 +2.1**
LAO LASA Array 86.20 36 P **P 09 47 31.0 +1.5**
baz=314
BGU Big Grassy Mou 86.31 43 *e*P **P 09 47 30.1 -0.3**
comp=Z,8.0nm,1.1s
R11A Troy Canyon, C 86.38 47 *e*P **P 09 47 31.9 +1.2**
comp=Z,29nm,1.8s
R11A Troy Canyon, C 86.38 47 P **P 09 47 31.6 +0.8**
baz=308
SPUT South Promonto 86.41 43 *e*P **P 09 47 29.7 -1.1**
comp=Z,8.2nm,1.2s
MPMC Manual Prospec 86.56 49 P **P 09 47 32.4 +0.7**
baz=307
FURC Furnace Creek, 86.72 49 P **P 09 47 33.3 +1.2**
baz=308
TPNV Topopah Spring 86.81 48 *e*P **P 09 47 33.5 +0.6**
DUG Dugway, Tooele 86.90 44 *e*P **P 09 47 32.8 -0.4**
comp=Z,15nm,1.2s
DUG Dugway, Tooele 86.90 44 *e*P **P 09 47 32.8 -0.4**
DUG pmax pmax
comp=Z,15nm,1.2s
DUG Dugway, Tooele 86.90 44 P **P 09 47 34.6 +1.4**
baz=310
EDW2 Edwards Air Fo 86.93 51 P **P 09 47 34.6 +1.2**
baz=307
BW06 Boulder Array 87.09 40 *e*P **P 09 47 33.3 -0.9**
comp=Z,6.7nm,1.1s
BW06 Boulder Array 87.09 40 P **P 09 47 35.0 +0.7**
baz=312
PD31 Pinedale Array 87.09 40 *e*P **P 09 47 33.6 -0.6**
comp=Z,6.2nm,1.1s
PDAR Pinedale Array 87.09 40 *e*P **P 09 47 34.2 -0.1**
PDAR Pinedale Array 87.09 40 P **P 09 47 34.3 +0.1**
comp=Z,3.6nm,0.9s,baz=300,slow=2.1,SNR=20
TCUT Toone Canyon 87.13 42 *e*P **P 09 47 35.0 +0.6**
comp=Z,25nm,1.1s
JLU Jordanelle 87.44 43 *e*P **P 09 47 36.4 +0.4**
comp=Z,10nm,1.3s
GSC Goldstone, Bar 87.46 50 *e*P **P 09 47 35.2 -0.7**
comp=Z,12nm,1.3s
GSC Goldstone, Bar 87.46 50 *e*P **P 09 47 35.3 -0.7**
GSC pmax pmax
comp=Z,12nm,1.3s
GSC Goldstone, Bar 87.46 50 P **P 09 47 36.7 +0.7**
baz=308
NLU North Lily Min 87.49 44 *e*P **P 09 47 36.8 +0.6**
comp=Z,11nm,1.1s
MPU Maple Canyon 87.71 43 *e*P **P 09 47 37.4 +0.2**
comp=Z,10nm,1.1s
ULM Lac du Bonnet 88.27 28 *e*P **P 09 47 38.6 -0.8**
comp=Z,34nm,0.9s
ULM Lac du Bonnet 88.27 28 *e*P **P 09 47 38.6 -0.8**
ULM pmax pmax
comp=Z,34nm,0.9s
ULM Lac du Bonnet 88.27 28 P **P 09 47 39.3 -0.1**
comp=Z,23nm,1.0s,baz=321,slow=5.4,SNR=25
ULM LR LR 10 31 10.8
comp=Z,455nm,18.8s,baz=318,slow=38
MSU Marysvale 88.36 45 *e*P **P 09 47 40.1 -0.3**
MSU Marysvale 88.36 45 *e*P **P 09 47 40.1 -0.3**
MDND Maddock 88.51 32 *e*P **P 09 47 41.4 +0.8**
comp=Z,53nm,0.9s
MDND Maddock 88.51 32 P **P 09 47 41.4 +0.8**
baz=318
GMRC Granite Mounta 88.52 49 P **P 09 47 41.2 +0.1**
baz=308
P17A Butcher Ranch, 88.59 43 *e*P **P 09 47 41.6 +0.2**
comp=Z,29nm,1.3s
MTPU Mount Pierson 88.65 45 *e*P **P 09 47 41.2 -0.7**
comp=Z,18nm,1.5s
LCMT Little Creek M 88.66 47 *e*P **P 09 47 39.7 -2.0**
comp=Z,8.9nm,1.4s
Q16A Castle Valley 88.69 44 *e*P **P 09 47 41.8 -0.1**
comp=Z,43nm,2.0s
P18A Preston Nutter 88.78 43 *e*P **P 09 47 43.4 +1.0**
comp=Z,14nm,0.9s
KNB Kanab 88.92 46 *e*P **P 09 47 42.0 -1.0**
comp=Z,16nm,1.3s
KNB Kanab 88.92 46 *e*P **P 09 47 42.0 -1.0**
KNB pmax pmax
comp=Z,16nm,1.3s
SRU San Rafael Swe 88.95 44 *e*P **P 09 47 42.2 -0.9**
comp=Z,10nm,1.1s
SRU San Rafael Swe 88.95 44 *e*P **P 09 47 42.2 -0.9**
SRU pmax pmax
comp=Z,10.0nm,1.1s
RSSD Black Hills 89.09 37 *e*P **P 09 47 43.9 +0.2**
comp=Z,13nm,1.0s
RSSD Black Hills 89.09 37 *e*P **P 09 47 43.9 +0.2**
RSSD pmax pmax
comp=Z,13nm,1.0s
RSSD Black Hills 89.09 37 P **P 09 47 45.5 +1.8**
baz=315
O20A White River Ci 89.59 42 P **P 09 47 47.4 +1.3**
baz=313
U15A North Rim 89.62 46 *e*P **P 09 47 47.5 +1.1**
comp=Z,20nm,1.6s
AGMN Agassiz Nation 89.79 30 *e*P **P 09 47 46.8 +0.2**
AGMN *e*pP **pP 09 47 56.6 +0.5**
AGMN Agassiz Nation 89.79 30 P **P 09 47 46.9 +0.3**
baz=321
PMOR Pomariorio Ree 89.80 108 *e*T T 11 26 37.8
comp=Z,20nm,0.2s
PPT Papeete 89.83 111 LR LR 10 21 48.6
comp=Z,349nm,20.2s,baz=301,slow=31
PPT2 Papeete2 89.84 111 *e*S **S 09 58 40.5 +2.7**
comp=Z,670nm,25.0s
PPT2 *e*SS **SS 10 04 41.4 +5.4**
comp=Z,415nm,25.2s
PPT2 Papeete2 89.84 111 *e*LR LR 10 16 32.3
comp=Z,538nm,21.5s,baz=296
PV09 Paradox Valley 90.17 43 *e*P **P 09 47 50.3 +1.3**
PV21 Cone Mtn., Par 90.22 43 *e*P **P 09 47 51.2 +2.1**
comp=Z,29nm,1.3s
PV23 Carpenter Ridg 90.27 43 *e*P **P 09 47 50.1 +0.7**
comp=Z,35nm,1.4s
PV10 Paradox Valley 90.31 43 *e*P **P 09 47 50.6 +1.0**
comp=Z,60nm,1.3s
PV14 Iron Creek, Pa 90.32 43 *e*P **P 09 47 50.4 +0.8**
comp=Z,31nm,1.2s
N23A Red Feather La 90.35 40 *e*P **P 09 47 51.3 +1.6**
comp=Z,21nm,1.3s
N23A Red Feather La 90.35 40 P **P 09 47 50.9 +1.2**
baz=314
PV20 West Nyswonger 90.37 43 *e*P **P 09 47 49.6 -0.1**
comp=Z,52nm,1.4s
PV04 Paradox Valley 90.37 43 *e*P **P 09 47 53.0 +3.3**
comp=Z,25nm,1.2s
PV19 Morning Glory 90.38 43 *e*P **P 09 47 49.8 0.0**
comp=Z,57nm,1.6s
PV17 East Wray Mesa 90.42 43 *e*P **P 09 47 50.7 +0.7**
comp=Z,75nm,1.5s
PV16 Nyswonger Mesa 90.42 43 *e*P **P 09 47 49.7 -0.3**
comp=Z,48nm,1.5s
PV11 David Mesa, Pa 90.46 43 *e*P **P 09 47 51.7 +1.5**
comp=Z,41nm,1.6s
PV12 Saucer Basin, 90.48 43 *e*P **P 09 47 50.4 +0.1**
comp=Z,60nm,1.9s
PV03 Paradox Valley 90.50 43 *e*P **P 09 47 52.5 +2.1**
comp=Z,27nm,1.4s
PV13 Radium Mtn., P 90.58 43 *e*P **P 09 47 51.3 +0.5**
comp=Z,24nm,1.2s
PV02 Paradox Valley 90.60 43 *e*P **P 09 47 52.5 +1.6**
comp=Z,24nm,1.5s
PV15 Paradox Valley 90.66 43 *e*P **P 09 47 53.0 +1.9**
comp=Z,15nm,1.1s
PV01 Paradox Valley 90.74 43 *e*P **P 09 47 52.8 +1.2**
comp=Z,20nm,1.1s
WUAZ Wupatki 90.78 47 P **P 09 47 53.4 +1.8**
baz=311
SMCO Snowmass 90.96 42 *e*P **P 09 47 54.3 +1.6**
comp=Z,9.9nm,1.1s
MVCO Mesa Verde 91.41 44 *e*P **P 09 47 53.5 -1.2**
comp=Z,15nm,1.2s
MVCO Mesa Verde 91.41 44 P **P 09 47 55.6 +0.9**
baz=312
EYMN Ely 91.85 27 P **P 09 47 57.5 +1.4**
baz=324
S22A 4UR Ranch, Cre 92.02 43 *e*P **P 09 47 57.8 +0.3**
comp=Z,9.9nm,1.3s
S22A 4UR Ranch, Cre 92.02 43 P **P 09 47 58.4 +0.9**
baz=314
SCHQ Schefferville 92.46 11 LR LR 10 32 11.6
comp=Z,1µm,19.8s,baz=326,slow=37
TAOE Nuku Hiva Isla 93.00 98 *e*LR LR 10 17 35.0
comp=Z,460nm,25.4s
TBI Tubuai 93.06 115 *e*S **S 09 59 07.5 +0.9**
comp=Z,478nm,26.8s
TBI *e*SS **SS 10 05 24.9 +2.7**
comp=Z,255nm,26.0s
TBI Tubuai 93.06 115 *e*LR LR 10 17 55.6
comp=Z,834nm,22.8s,baz=301
TUC Tucson 93.23 49 *e*P **P 09 48 04.4 +1.5**
TUC *e*pP **sP 09 48 15.2 -0.7**
TUC Tucson 93.23 49 *e*P **P 09 48 04.4 +1.5**
TUC *e**PP **sP 09 48 15.2 -0.7**
TUC Tucson 93.23 49 P **P 09 48 04.5 +1.5**
baz=311
F38A Pierce - Schro 93.30 29 P **P 09 48 04.0 +1.1**
baz=324
KEST Kesra 93.94 316 LR LR 10 36 19.1
comp=Z,1µm,19.9s,baz=342,slow=39
KMBO Kilima Mbogo 94.39 271 *i* P **P 09 48 09.8 +1.0**
KMBO pmax pmax
comp=Z,1.0nm,0.3s
KMBO Kilima Mbogo 94.39 271 P **P 09 48 09.0 +0.2**
comp=Z,1.3nm,0.3s,baz=26,slow=7.4,SNR=8.2
KMBO LR LR 10 31 01.2
comp=Z,367nm,21.3s,baz=92,slow=36
ESDC Sonseca Array 98.03 327 LR LR 10 38 35.4
comp=Z,2µm,18.2s,baz=40,slow=39
TXAR Lajitas Array 99.74 47 P **Pdif 09 48 34.1 +1.6**
comp=Z,0.7nm,0.9s,baz=273,slow=2.9,SNR=6.9
TOA1 Torodi Ar. Sit 114.63 305 *e*PKiKP **PKiKP 09 53 28.1 -0.8**
TORD Torodi Ar. Bea 114.63 305 PKP **PKiKP 09 53 28.1 -0.9**
comp=Z,1.8nm,1.0s,baz=56,slow=0.8,SNR=9.4
SYO Syowa Base 119.85 205 *es*Pdiff sPdiff 09 50 22.0
DBIC Dimbokro 123.74 305 PKP **PKiKP 09 53 46.8 0.0**
comp=Z,6.8nm,0.7s,baz=41,slow=2.3,SNR=9.7
TIC Toumodi 123.88 305 *e*PKP1 **PKPdf 09 53 45.0 -1.8**
KIC Kosan Boka 123.88 304 *e*PKP1 **PKPdf 09 53 45.6 -1.2**
comp=Z,15nm,0.8s
LIC Lamto 124.18 305 *e*PKP1 **PKPdf 09 53 46.1 -1.3**
comp=Z,31nm,0.8s
SDV Santo Domingo 134.42 32 *e*PKPdf **PKPdf 09 54 07.4 +0.4**
NNA Nana 147.24 60 *i* PKP2 **PKPab 09 54 33.5 -0.4**
PTGA Pitinga 147.38 22 *e*PKPdf **PKPbc 09 54 31.9 -0.5**
RCBR Riachuelo 151.87 333 *e*PKPbc **PKiKP 09 54 43.9 -0.1**
RCBR Riachuelo 151.87 333 *e*PKiKP **PKiKP 09 54 43.9 -0.1**
LPAZ La Paz 156.37 54 *e*PKPdf **PKPdf 09 54 44.6 +0.5**
LPAZ La Paz 156.37 54 *e*PKiKP **PKPdf 09 54 44.7 +0.5**

IDC ***11*** *09:38:46.9±1.1, 6.°50S×148.°29E, h0km, mb4.1/6, mb1 4.4/7, mb1mx4.0/34, mbtmp4.1/7, ML4.1/1, MS4.1/3, Ms1 4.1/3, ms1mx3.4/38, Error ellipse: s-maj=41.4km s-min=22.2km az=109.0*
ISCJB ***11*** *09:38:52.3±1.1, 6.°6S±0.°2×148.°2E±0.°2, h51km, mb4.0/6, Error ellipse: s-maj=35.7km s-min=19.0km az=24.7*
ISC 11 09:38:53.9±1.2, 6.°5S±0.°2×148.°2E±0.°3, h51km, n11, σ0s88/8, mb4.1/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.93**	**224**	P	**P**	**09 43 09.8**	**-1.1**
	0.6nm,0.3s,baz=50,slow=11,SNR=27						
ASAR	**Alice Springs**	**21.88**	**217**	P	**P**	**09 43 42.3**	**-0.4**
	9.7nm,0.5s,baz=55,slow=9.2,SNR=322						
FITZ	**Fitzroy Crossi**	**24.81**	**240**	P	**P**	**09 44 11.9**	**+0.5**
	8.2nm,0.3s,baz=53,slow=8.8,SNR=20						
STKA	**Stephens Creek**	**25.96**	**193**	P	**P**	**09 44 21.2**	**-0.6**
	3.3nm,0.4s,baz=4.5,slow=8.8,SNR=19						
RAO	**Raoul Island**	**39.14**	**129**	LR	LR	09 58 06.0	
	comp=Z,295nm,20.9s,baz=310,slow=30						
RPZ	**Rata Peaks**	**42.13**	**155**	LR	LR	10 04 00.2	
	comp=Z,88nm,20.5s,baz=96,slow=36						
VNDA	**Vanda**	**71.32**	**177**	P	**P**	**09 50 08.8**	**+1.0**
	1.1nm,0.8s,baz=339,slow=8.6,SNR=6.6						
MKAR	**Makanchi Array**	**78.66**	**320**	P	**P**	**09 50 51.1**	**+0.5**
	0.3nm,0.4s,baz=95,slow=8.8,SNR=5.3						
ILAR	**Eielson Array**	**85.51**	**23**	P	**P**	**09 51 25.3**	**-0.8**
	0.2nm,0.8s,baz=251,slow=4.5,SNR=3.4						
NEW	**Newport**	**97.95**	**42**	LR	LR	10 30 37.2	
	comp=Z,309nm,20.7s,baz=338,slow=32						
TORD	**Torodi Ar. Bea**	**146.36**	**284**	PKPbc	**PKPab**	**09 58 31.2**	**+0.1**
	1.0nm,0.5s,baz=61,slow=3.8,SNR=16						

MEX 11 09:40:08.0±0.5, 15.°76N×93.°73W, h95km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.49**	**96**	*i* P	Pn	09 40 21.9	-1.3
PCIG				*i* S	Sn	09 40 32.8	-1.7
CCIG	**Comitan**	**1.62**	**71**	*e*P	Pn	09 40 34.0	-1.6
CCIG				*i* S	Sn	09 40 55.1	-1.5
THIG		**1.65**	**121**	*e*P	Pn	09 40 35.5	-0.3
THIG				*i* S	Sn	09 40 55.7	-1.2
CMIG	**Matias Romero**	**1.73**	**320**	*e*P	Pn	09 40 36.1	-0.8
CMIG				*e*S	Sn	09 40 57.4	-1.5
HUIG	**Huatulco**	**2.29**	**271**	*i* P	Pn	09 40 42.8	-1.4
HUIG				*i* S	Sn	09 41 10.7	-1.2
VHO	**Vista Hermosa**	**3.17**	**295**	*i* P	Pn	09 40 54.6	-1.4
VHO				*i* S	Sn	09 41 32.7	-0.4

ISK ***11*** *09:45:04.9, 35.°29N×31.°64E, h14km, ML3.0/10*
ISCJB ***11*** *09:45:07.3±1.1, 35.°37N±0.°06×31.°82E±0.°07, h2km±9km, Error ellipse: s-maj=11.2km s-min=6.8km az=41.5*
NIC ***11*** *09:45:08.1±0.2, 35.°32N×31.°79E, h15km, ML2.9*
DDA ***11*** *09:45:11.9, 35.°51N×32.°10E, h7km±7km, ML3.0*
ISC 11 09:45:07.9±1.5, 35.°35N±0.°04×31.°81E±0.°05, h15km±10km, n21, σ0s72/30, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPCY	**Paphos**	**0.64**	**137**	P	**Pg**	**09 45 20.2**	**-0.2**
	baz=314						
LEF	**Lefka**	**0.91**	**104**	PG	**Pb**	**09 45 25.1**	**-0.3**
LEF				SG	**Sn**	**09 45 39.1**	**+0.1**
LEF	**Lefka**	**0.91**	**104**	*i* P	**Pn**	**09 45 25.9**	**-0.2**
LEF				*i* S	**Sg**	**09 45 38.2**	**+0.7**
LEF				IAML_P			
	comp=Z,2µm,0.1s						
SZAC	**Souni**	**1.06**	**124**	P	**Pb**	**09 45 27.8**	**-0.1**
	baz=302						
SZAC				S	**Sn**	**09 45 42.6**	**-0.1**
BOZY	**Bozyazi-Mersin**	**1.21**	**51**	PN	**Pn**	**09 45 30.2**	**0.0**
ALAN	**Alanya-ANTALYA**	**1.22**	**8**	PN	**Pn**	**09 45 29.4**	**-0.9**
CSS	**Mathiatis**	**1.30**	**107**	PN	**Pn**	**09 45 31.1**	**-0.4**
CSS	**Mathiatis**	**1.30**	**107**	P	**Pn**	**09 45 31.1**	**-0.4**
	baz=286						
CSS				S	**Sb**	**09 45 48.7**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.32**	**53**	PN	**Pn**	**09 45 31.8**	**0.0**
TEKE				SN	**Sg**	**09 45 51.4**	**+0.9**
BERE	**Bereket-Mersin**	**1.52**	**49**	PN	**Pn**	**09 45 34.6**	**0.0**
BERE				SN	**Sb**	**09 45 56.1**	**+1.2**
AKUM	**Antalya-Kumluc**	**1.54**	**310**	*i* P	**Pb**	**09 45 36.2**	**+0.1**
AKUM				IAML_P			
	comp=Z,567nm,0.2s						
ERMK	**Ermenek**	**1.57**	**34**	*i* P	**Pg**	**09 45 38.2**	**+0.1**
ERMK				IAML_P			
	comp=Z,1µm,0.2s						
AKKU	**Akkuyu-Mersin**	**1.63**	**60**	PN	**Pn**	**09 45 36.3**	**+0.3**
GULN	**MERSIN_Gulnar**	**1.64**	**59**	*i* P	**Pg**	**09 45 38.9**	**-0.4**
GULN				*i* S	**Sn**	**09 45 56.7**	**-0.1**
TEVE	**Tevekalti-Mers**	**1.71**	**50**	PN	**Pn**	**09 45 37.3**	**+0.1**
IKL	**Isikli**	**1.76**	**59**	PN	**Pn**	**09 45 38.1**	**+0.3**
KEBE	**Keben-Mersin**	**1.89**	**54**	PN	**Pn**	**09 45 39.9**	**+0.2**
KIZK	**Mersin**	**2.20**	**59**	PN	**Pn**	**09 45 44.8**	**+0.9**
KIZK	**Mersin**	**2.20**	**59**	*i* P	**Pb**	**09 45 46.6**	**-0.8**
KIZK				*i* S	**Sn**	**09 46 12.3**	**+1.4**
KERG	**Konya-Eregli**	**2.78**	**41**	*i* P	**Pb**	**09 45 57.0**	**-0.4**
KERG				*i* S	**Sb**	**09 46 30.7**	**-0.5**
GULE	**Gulek**	**3.07**	**50**	*i* P	**Pb**	**09 46 00.1**	**-2.2**
GULE				IAML_P			
	comp=Z,245nm,0.2s						

SJA ***11*** *09:58:41.8±0.5, 31.°18S×67.°64W, h8km±2km, ML2.9, MW3.9*
GUC ***11*** *09:58:43.7±0.6, 31.°30S×67.°49W, h18km±8km, ML3.1*
ISC 11 09:58:40.6±1.3, 31.°22S±0.°03×67.°55W±0.°03, h4km±12km,

n24,σ1ᵍ58/35, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFA	**Coronel Fontan**	**0.70**	**237**	*eP*	**Pb**	**09 58 55.2**	**-0.2**
CFA				*eS*	**Sb**	**09 59 04.9**	**-0.5**
AMOG	**MOGNA**	**0.85**	**289**	*eP*	**Pg**	**09 58 57.1**	**+0.1**
AMOG				*eS*	**Sg**	**09 59 08.5**	**+0.4**
RTCV	**Cerro Valdivia**	**1.05**	**233**	*eP*	**Pn**	**09 59 01.8**	**-0.5**
RTCV				*eS*	**Sn**	**09 59 16.4**	**-1.1**
ACAN	**Cantantal**	**1.09**	**164**	*eP*	**Pn**	**09 59 04.0**	**+1.2**
APLL	**PUNTA DE LOS L**	**1.21**	**47**	*eP*	**Pg**	**09 59 05.4**	**+1.6**
APLL				*eS*	**Sn**	**09 59 22.6**	**+1.3**
ACCO	**Cerro Coronel**	**1.45**	**296**	*eP*	**Pb**	**09 59 08.4**	**+0.1**
RTLS	**Leoncito**	**1.59**	**248**	*eP*	**Pg**	**09 59 11.6**	**+0.3**
RTLS				IAML		09 59 33.7	
	comp=Z,142nm,0.3s						
ACDV	**Cuesta del Vie**	**1.71**	**307**	*eP*	**Pb**	**09 59 12.7**	**0.0**
ASAL	**Salagasta**	**1.75**	**218**	*eP*	**Pg**	**09 59 14.6**	**+0.5**
ACLC	**CERRO LA CRUZ**	**1.87**	**16**	*eP*	**Pg**	**09 59 16.0**	**-0.4**
ACLC				*eS*	**Sg**	**09 59 41.7**	**+1.1**
AGUA	**GUANDACOL**	**1.91**	**335**	*eP*	**Pb**	**09 59 15.9**	**-0.2**
AROD	**Rodeo**	**1.96**	**302**	*eP*	**Pb**	**09 59 17.2**	**+0.1**
MRA	**San Martin**	**1.97**	**128**	*eP*	**Pg**	**09 59 19.3**	**+1.0**
ARCO	**CERRO ARCO**	**1.99**	**216**	IAML		09 59 47.9	
	comp=Z,110nm,0.5s						
TCA	**Tanti**	**2.54**	**93**	*eP*	**Pb**	**09 59 26.3**	**-0.5**
TCA				IAML		10 00 05.6	
	comp=N,50nm,0.3s						
VCA	**Vinchina**	**2.54**	**347**	*iP*	**Pg**	**09 59 28.2**	**-1.1**
VCA				*eS*	**Sb**	**10 00 00.1**	**+1.5**
VCA				IAML		10 00 06.7	
	comp=N,107nm,0.3s						
CMCH	**Combarbala**	**2.95**	**270**	*eP*	**Pb**	**09 59 32.3**	**-1.6**
CMCH				*i* S	**Sb**	**10 00 09.2**	**-1.2**
GO04	**Tololo Observa**	**2.98**	**290**	*eP*	**Pb**	**09 59 34.8**	**+0.3**
GO04				*i* S	**Sb**	**10 00 13.8**	**+2.4**
FCH	**Farellones**	**3.13**	**227**	*eP*	**Pb**	**09 59 35.8**	**-1.2**
FCH				*i* S	**Sb**	**10 00 14.8**	**-0.8**
FCH				IAML		10 00 21.5	
	comp=N,38nm,0.4s						
CYA	**Choya**	**3.16**	**29**	*eP*	**Pb**	**09 59 35.1**	**-2.3**
CYA				*eS*	**Sb**	**10 00 11.9**	**-4.5**
PEL	**Peldehue**	**3.27**	**233**	*i* S	**Sb**	**10 00 17.5**	**-2.0**
PEL				IAML		10 00 28.5	
	comp=N,27nm,0.4s						
CLCH	**Cerro Calan**	**3.33**	**229**	*eP*	**Pb**	**09 59 38.9**	**-1.3**
CLCH				*i* S	**Sb**	**10 00 21.2**	**+0.1**
CLCH				IAML		10 00 33.4	
	comp=E,62nm,0.5s						
ROCH	**El Roble**	**3.41**	**238**	*i* P	**Pb**	**09 59 38.6**	**-3.2**
ROCH				*eS*	**Sn**	**10 00 18.9**	**+3.1**
ROCH				IAML		10 00 36.6	
	comp=E,41nm,0.5s						
LMEL	**Las Melosas**	**3.44**	**220**	*eP*	**Pb**	**09 59 41.0**	**-1.3**

JMA 11 09:59:26.3±0.1, 31.59N×131.83E, h24km±1km, M2.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.48**	**263**	P	Pb	09 59 35.9	-0.3
JNAR				S	Sb	09 59 43.0	+0.2
JTZ	**Takazaki**	**0.70**	**296**	P	Pb	09 59 39.4	-0.5
JTZ				S	Sb	09 59 48.9	-0.3
JTSN	**Tsuno**	**0.71**	**337**	P	Pb	09 59 39.7	-0.3
JTSN				S	Sb	09 59 49.9	+0.5
JSU	**Suzuyama**	**1.18**	**266**	P	Pn	09 59 47.2	-0.1
JZO	**Okuchi**	**1.18**	**298**	P	Pn	09 59 47.0	-0.4
JTN	**Tanegashima 3**	**1.18**	**218**	P	Pn	09 59 47.2	-0.2

NIED ***11*** *09:59:00, 31.60N×131.90E, h38km, Mw4.9 Best double couple: M₀2.24000×10¹⁶ NP1:φ₁229.00000°, δ46.00000°, λ115.00000°. NP2:φ₂15.00000°, δ49.00000°, λ66.00000°.*
MOS ***11*** *09:59:40.8±1.1, 31.65N×131.64E, h28km, mb4.9/31, Error ellipse: s-maj=9.2km s-min=5.7km az=107.0*
ISCJB ***11*** *09:59:41.7±0.2, 31.62N±0.03×131.78E±0.03, h33km, mb4.5/86, MS4.4/12, Error ellipse: s-maj=4.5km s-min=3.3km az=152.1*
JMA ***11*** *09:59:42.2±0.1, 31.56N×131.88E, h23km±2km, M4.5*
JMA Felt II J1.
BJI ***11*** *09:59:43.8, 31.60N×131.60E, h25km, mb4.6/52, mB5.0/34, Ms4.6/32, Ms7 4.5/31*
NEIC ***11*** *09:59:43.7±0.2, 31.60N×131.63E, mb4.7/46, Error ellipse: s-maj=5.3km s-min=4.3km az=146.0*
NEIC Recorded [2 JMA] in Miyazaki.
IDC ***11*** *09:59:44.1±2.2, 31.66N×131.56E, h34km±16km, mb4.0/25, mb1 4.2/27, mb1mx4.1/45, mbtmp4.3/27, ML2.7/2, MS4.2/11, Ms1 4.2/11, ms1mx3.8/52, Error ellipse: s-maj=14.1km s-min=11.3km az=99.0*

ISC 11 09:59:43.4±0.4, 31.63N±0.04×131.75E±0.04, h33km, n191, σ1ᵍ54/201, mb4.6/86, MS4.5/13, 12C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.42**	**256**	⇓P	**Pb**	**09 59 52.5**	**-0.3**
JNAR				S	**Sn**	**10 00 00.3**	**+0.6**
JTZ	**Takazaki**	**0.63**	**296**	⇑P	**Pb**	**09 59 56.2**	**+0.2**
JTZ				*eS*	**Sn**	**10 00 06.1**	**+1.3**
JTSN	**Tsuno**	**0.65**	**341**	⇓P	**Pb**	**09 59 56.5**	**+0.1**
JTSN				*eS*	**Sn**	**10 00 06.5**	**+1.1**
JZO	**Okuchi**	**1.10**	**298**	P	**Pb**	**10 00 03.8**	**-0.2**
JSU	**Suzuyama**	**1.11**	**264**	⇑P	**Pb**	**10 00 03.5**	**-0.6**
JTN	**Tanegashima 3**	**1.17**	**214**	P	**Pn**	**10 00 03.5**	**0.0**
JTN				S	**Sb**	**10 00 20.0**	**-0.1**
JMTN	**Minamitane**	**1.43**	**211**	P	**Pn**	**10 00 06.8**	**-0.2**
JNU	**Nakatsue**	**1.66**	**334**	Pg	**Pb**	**10 00 12.1**	**-1.3**
	107nm,0.3s,baz=153,slow=9.0,SNR=34						
JNU				Lg	Lg	10 00 36.6	
	207nm,0.3s,baz=266,slow=22,SNR=24						
JOW	**Kunigami**	**5.66**	**213**	*ePn*	**Pn**	**10 01 06.3**	**+1.1**
JOW				*eSn*	**Sn**	**10 02 05.2**	**-3.9**
JOW	**Kunigami**	**5.66**	**213**	Pn	**Pn**	**10 01 06.7**	**+1.5**
	0.3nm,0.3s,baz=92,slow=18,SNR=5.1						
JOW				Sn	**Sn**	**10 02 06.6**	**-2.5**
	1.8nm,0.3s,baz=95,slow=18,SNR=7.3						
INU	**Inuyama**	**5.75**	**48**	*ePn*	**Pn**	**10 01 08.0**	**+1.5**
INU				*eSn*	**Sn**	**10 02 09.6**	**-1.8**
KSRS	**Korea Array**	**6.61**	**333**	Pn	**Pn**	**10 01 19.9**	**+1.7**
	0.5nm,0.3s,baz=151,slow=14,SNR=18						
KSRS				Lg	Lg	10 03 08.5	
	0.3nm,0.3s,baz=156,slow=25,SNR=3.9						
KS15	**Wonju Array Si**	**6.62**	**332**	*ePn*	**Pn**	**10 01 20.8**	**+2.5**
KSAR	**Wonju Array Be**	**6.62**	**332**	Pn	**Pn**	**10 01 19.9**	**+1.6**
KSAR				Lg	Lg	10 03 08.5	
KSAR	**Wonju Array Be**	**6.62**	**332**	P	**Pn**	**10 01 19.9**	**+1.6**
KS01	**Wonju Array Si**	**6.64**	**332**	*ePn*	**Pn**	**10 01 20.0**	**+1.3**
MAJO	**Matsushiro**	**7.26**	**46**	*ePn*	**Pn**	**10 01 27.8**	**+0.6**
MAJO	**Matsushiro**	**7.26**	**46**	*iP*	**Pn**	**10 01 27.6**	**+0.5**
MAT	**Matsushiro**	**7.26**	**46**	P	**Pn**	**10 01 27.6**	**+0.5**
MAT				*eS*	**Sn**	**10 02 48.3**	**-0.1**
MJAR	**Matsushiro Arr**	**7.26**	**46**	Pn	**Pn**	**10 01 28.1**	**+0.9**
	0.4nm,0.3s,baz=359,slow=23,SNR=17						
JCJ	**Chichijima**	**10.16**	**114**	LR	LR	10 05 40.1	
	comp=Z,1μm,18.4s,baz=308,slow=34						
NJ2	**Nanjing**	**10.98**	**276**	*eP*	**Pn**	**10 02 21.9**	**+3.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
NJ2				LR	LR		
	comp=N,1μm,10.3s						
NJ2				LR	LR		
	comp=E,2μm,12.5s						
NJ2				LR	LR		
	comp=Z,2μm,14.6s						
USRK	**Ussuriysk Ar.**	**12.55**	**1**	LR	LR	10 07 43.4	
	comp=Z,1μm,18.6s,baz=174,slow=38						
TIA	**Tai'an**	**12.98**	**295**	P	**Pn**	**10 02 49.8**	**+4.4**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIA				LR	LR		
	comp=N,540nm,14.4s						
TIA				LR	LR		
	comp=E,760nm,16.0s						
TIA				LR	LR		
	comp=Z,1μm,12.9s						
CN2	**Changchun**	**13.13**	**340**	*eP*	**P**	**10 02 59.0**	**+1.8**
CN2				*es*P	sP	10 03 08.2	
CN2				*eS*	S	10 05 24.5	-12
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,2μm,15.0s						
CN2				LR	LR		
	comp=Z,2μm,15.0s						
TEY	**Ternei**	**13.91**	**14**	⇑*eP*	**P**	**10 03 05.6**	**-0.2**
TEY				pmax	pmax		
	comp=Z,20nm,1.2s						
TEY				pmax	pmax		
	comp=N,20nm,1.1s						
BJT	**Baijiatuan**	**15.14**	**308**	*ePn*	**Pn**	**10 03 14.2**	**-0.6**
	comp=N,49nm,1.1s						
BJT	**Baijiatuan**	**15.14**	**308**	*eP*	**Pn**	**10 03 14.2**	**-0.6**
BJT				pmax	pmax		
	comp=Z,49nm,1.1s						
BJI	**Beijing**	**15.15**	**308**	⇑*eP*	**P**	**10 03 21.8**	**+2.2**
BJI				pmax	pmax		
	comp=Z,29nm,1.0s						
TIY	**Taiyuan**	**17.00**	**296**	*eP*	**P**	**10 03 41.7**	**+1.4**
TIY				S	**Sn**	**10 06 44.7**	**-1.9**
TIY				pmax	pmax		
	comp=Z,340nm,5.9s						
TIY				LR	LR		
	comp=Z,710nm,11.4s						
TIY				LR	LR		
	comp=Z,990nm,13.5s						
TIY				LR	LR		
	comp=Z,2μm,14.1s						
KLR	**Kul'dur**	**17.58**	**0**	*i* P	**P**	**10 03 46.5**	**0.0**
KLR	**Kul'dur**	**17.58**	**0**	P	**P**	**10 03 47.5**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=174,slow=8.0,SNR=58						
KLR				LR	LR	10 10 02.5	
	comp=Z,473nm,20.4s,baz=176,slow=35						
HHC	**Hu-ho-hao-te**	**18.67**	**305**	*eP*	**P**	**10 03 58.4**	**-0.3**
HHC				sP	sP	10 04 13.3	+2.1
HHC				S	**Sn**	**10 07 19.6**	**-7.5**
HHC				sS	S	10 07 32.8	+3.2
HHC				pmax	pmax		
	comp=Z,19nm,0.8s						
HHC				pmax	pmax		
	comp=Z,540nm,5.0s						
HHC				LR	LR		
	comp=Z,1μm,13.7s						
HHC				LR	LR		
	comp=Z,2μm,14.5s						
HHC				LR	LR		
	comp=Z,2μm,14.2s						
ENH	**Enshi**	**19.14**	**272**	*eP*	**Pn**	**10 04 05.5**	**+0.5**
	comp=Z,61nm,1.1s						
XAN	**Xi'an**	**19.33**	**283**	P	**Pn**	**10 04 06.9**	**-0.3**
XAN				pP	pP	10 04 12.9	-1.7
XAN				S	**S**	**10 07 39.6**	**-3.3**
XAN				pmax	pmax		
	comp=Z,21nm,0.8s						
XAN				pmax	pmax		
	comp=Z,150nm,4.9s						
XAN				LR	LR		
	comp=Z,710nm,12.8s						
XAN				LR	LR		
	comp=Z,1μm,13.5s						
XAN				LR	LR		
	comp=Z,2μm,14.1s						
XAN	**Xi'an**	**19.33**	**283**	*eP*	**P**	**10 04 06.2**	**+0.3**
	comp=Z,15nm,0.7s						
XAN	**Xi'an**	**19.33**	**283**	*eP*	**P**	**10 04 06.2**	**+0.3**
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
GRNR	**Gornyy**	**19.44**	**9**	*eP*	**P**	**10 04 06.0**	**-0.9**
HIA	**Hailar**	**19.80**	**336**	*eP*	**P**	**10 04 11.7**	**+0.8**
	comp=Z,30nm,1.0s						
HIA	**Hailar**	**19.80**	**336**	*i* P	**P**	**10 04 10.0**	**-1.0**
HIA				pmax	pmax		
	comp=Z,24nm,1.2s						
ZEA	**Zeya**	**22.34**	**353**	*eP*	**P**	**10 04 40.7**	**+2.5**
ZEA				pmax	pmax		
	comp=Z,32nm,1.2s						
NKL	**Nikolayevsk**	**22.46**	**14**	*i* P	**P**	**10 04 39.2**	**-0.3**
NKL				pmax	pmax		
	comp=N,12nm,1.3s						
NKL				pmax	pmax		
	comp=Z,120nm,1.3s						
NKL				MLR	MLR		
	comp=Z,1μm,13.0s						
GYA	**Guiyang**	**22.51**	**263**	P	**P**	**10 04 41.2**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LZH	**Lanzhou**	**23.56**	**288**	*eP*	**P**	**10 04 49.9**	**-1.2**
LZH				pP	pP	10 04 59.5	-0.8
LZH				sP	sP	10 05 03.7	-0.5
LZH				PP	**PnPn**	**10 05 22.6**	**+4.1**
LZH				pmax	pmax		
	comp=Z,25nm,1.1s						
LZH				pmax	pmax		
	comp=Z,93nm,5.2s						
LZH				LR	LR		
	comp=Z,1μm,11.9s						
LZH				LR	LR		
	comp=Z,2μm,12.5s						
LZH				LR	LR		
	comp=Z,2μm,13.6s						
CD2	**Chengdu**	**23.91**	**276**	P	**P**	**10 04 52.1**	**-2.3**
CD2				pmax	pmax		
	comp=Z,70nm,0.9s						
ULN	**Ulaanbaatar**	**24.82**	**318**	*eP*	**P**	**10 05 02.2**	**-0.3**
ULN				*ep*P	**pP**	**10 05 12.2**	**+0.2**
ULN	**Ulaanbaatar**	**24.82**	**318**	*ceP*	**P**	**10 05 01.0**	**-1.6**
ULN				pmax	pmax		
	comp=Z,26nm,1.3s						
SONA0	**Songino Array**	**25.18**	**317**	*eP*	**P**	**10 05 05.3**	**-0.5**
SONM	**Songino Array**	**25.18**	**317**	P	**P**	**10 05 05.3**	**-0.5**
	comp=Z,12nm,1.0s,baz=133,slow=8.6,SNR=41						
KMI	**Kunming**	**26.29**	**263**	P	**P**	**10 05 15.8**	**-0.4**
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
GTA	**Gaotai**	**27.02**	**296**	P	**P**	**10 05 23.2**	**+0.6**
GTA				pP	pP	10 05 33.0	+0.9
GTA				sP	sP	10 05 36.2	+0.3
GTA				pmax	pmax		
	comp=Z,21nm,1.1s						
GTA				pmax	pmax		
	comp=Z,110nm,5.5s						
GTA				LR	LR		
	comp=Z,360nm,15.1s						
GTA				LR	LR		
	comp=Z,890nm,15.5s						
GTA				LR	LR		
	comp=Z,1μm,15.1s						
ZAK	**Zakamensk**	**28.24**	**320**	*eP*	**P**	**10 05 31.1**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MA2	**Magadan**	**30.72**	**19**	*ceP*	**P**	**10 05 53.0**	**-2.1**
MA2				pmax	pmax		
	comp=Z,12nm,1.7s						
MA2	**Magadan**	**30.72**	**19**	P	**P**	**10 05 56.4**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=190,slow=9.1,SNR=4.1						
UTTA	**Uttaradit**	**31.41**	**251**	P	**P**	**10 06 01.6**	**+0.1**
	comp=Z,5.2nm,0.9s						
PBKT	**Sadao Pong**	**31.71**	**249**	*eP*	**P**	**10 06 02.8**	**-1.4**
	comp=Z,6.8nm,0.8s						
PBKT	**Sadao Pong**	**31.71**	**249**	P	**P**	**10 06 04.5**	**+0.3**
	comp=Z,10nm,1.0s						
CMMT	**Chiang Mai**	**32.17**	**255**	P	**P**	**10 06 08.7**	**+0.4**
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**32.17**	**255**	*eP*	**P**	**10 06 08.1**	**-0.2**
	comp=Z,8.4nm,0.8s						
CHTO	**Chiang Mai**	**32.17**	**255**	*eP*	**P**	**10 06 08.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CM31	**Chiang Mai Arr**	**32.35**	**254**	*eP*	**P**	**10 06 09.9**	**+0.1**
	comp=Z,6.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**32.35**	**254**	P	**P**	**10 06 10.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=57,slow=4.8,SNR=18						
CMAR				PcP	**PcP**	**10 08 58.6**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=82,slow=2.0,SNR=5.5						
CMAR				LR	LR	10 20 47.3	
	comp=Z,270nm,18.9s,baz=50,slow=39						
CM01	**Chiang Mai Arr**	**32.36**	**254**	*eP*	**P**	**10 06 09.1**	**-0.9**
UMPA	**Umpang Tak**	**33.60**	**251**	P	**P**	**10 06 23.1**	**+2.3**
	comp=Z,2.1nm,0.5s,comp=Z,2μm						
H11N2	**WAKE ISLAND Hy**	**33.67**	**102**	T	T	10 41 49.3	
	baz=298,slow=74,SNR=49						
H11N1	**WAKE ISLAND Hy**	**33.68**	**102**	T	T	10 41 46.8	
	baz=298,slow=74,SNR=32						
H11N3	**WAKE ISLAND Hy**	**33.69**	**102**	T	T	10 41 50.6	
	baz=298,slow=74,SNR=36						
SEY	**Seymchan**	**33.98**	**17**	*ceP*	**P**	**10 06 23.8**	**+0.3**
SEY	**Seymchan**	**33.98**	**17**	P	**P**	**10 06 24.9**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=223,slow=6.7,SNR=8.2						
H11S3	**WAKE ISLAND Hy**	**34.09**	**104**	T	T	10 43 00.3	
	baz=304,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**34.09**	**104**	T	T	10 43 05.3	
	baz=304,slow=75,SNR=25						
H11S2	**WAKE ISLAND Hy**	**34.11**	**104**	T	T	10 42 58.6	
	baz=304,slow=75,SNR=16						
WMQ	**Urumqi**	**36.50**	**302**	*eP*	**P**	**10 06 45.8**	**+0.2**
WMQ				pP	pP	10 06 54.2	-1.0
WMQ				pmax	pmax		
	comp=Z,28nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,750nm,6.5s						
WMQ				LR	LR		
	comp=Z,570nm,23.3s						
WMQ				LR	LR		
	comp=Z,790nm,30.1s						
WMQ				LR	LR		
	comp=Z,1μm,21.7s						
ZALV	**Zalesovo Beam**	**40.07**	**318**	P	**P**	**10 07 14.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=114,slow=3.6,SNR=3.4						
ZALV				PcP	**PcP**	**10 09 19.1**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=108,slow=4.8,SNR=3.6						
ZALV				LR	LR	10 23 59.8	
	comp=Z,259nm,19.9s,baz=74,slow=36						
ZAA1	**Zalesovo Array**	**40.07**	**318**	*eP*	**P**	**10 07 14.8**	**-0.6**
ZAA1				*e*PcP	**PcP**	**10 09 19.1**	**-0.5**
TIXI	**Tiksi**	**40.11**	**359**	*i* P	**P**	**10 07 14.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK01	**Makanchi Array**	**40.52**	**306**	*eP*	**P**	**10 07 18.0**	**-1.2**
MK31	**Makanchi Array**	**40.52**	**307**	*eP*	**P**	**10 07 18.6**	**-0.7**
	comp=Z,5.5nm,0.9s						
MK31	**Makanchi Array**	**40.52**	**307**	*eP*	**P**	**10 07 18.6**	**-0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MK32	**Makanchi Array**	**40.52**	**307**	*eP*	**P**	**10 07 18.3**	**-1.0**
MKAR	**Makanchi Array**	**40.52**	**307**	P	**P**	**10 07 18.3**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=94,slow=10,SNR=40						
MAKZ	**Makanchi**	**40.74**	**307**	*eP*	**P**	**10 07 19.8**	**-1.3**
	comp=Z,6.9nm,0.9s						
MAKZ	**Makanchi**	**40.74**	**307**	*eP*	**P**	**10 07 19.8**	**-1.3**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BILL	**Bilibino**	**41.59**	**19**	*eP*	**P**	**10 07 29.1**	**+1.3**
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**41.59**	**19**	*eP*	**P**	**10 07 28.8**	**+1.0**
BILL				*e*PPP	PPP	10 09 29.6	
BILL				pmax	pmax		
	comp=Z,35nm,1.7s						
KURK	**Kurchatov**	**43.26**	**312**	*eP*	**P**	**10 07 40.0**	**-1.6**
	comp=Z,7.2nm,0.9s						
KURK				*eS*	**S**	**10 14 01.0**	**-5.4**
KURK	**Kurchatov**	**43.26**	**312**	*ceP*	**P**	**10 07 39.5**	**-2.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KURBB	**Kurchatov Arra**	**43.31**	**312**	P	**P**	**10 07 40.8**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=98,slow=8.9,SNR=11						
NRIK	**Noril'sk**	**45.17**	**340**	LR	LR	10 28 32.7	
	comp=Z,796nm,19.2s,baz=140,slow=38						
KSH	**Kashi**	**45.42**	**296**	*eP*	**P**	**10 08 03.7**	**+4.5**
KSH				S	**S**	**10 14 43.0**	**+4.5**
KSH				pmax	pmax		
	comp=Z,270nm,7.9s						
AAK	**Ala-Archa**	**46.16**	**301**	*ceP*	**P**	**10 08 04.2**	**-0.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
AAK	**Ala-Archa**	**46.16**	**301**	P	**P**	**10 08 04.3**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=101,slow=9.4,SNR=4.6						
AAK				LR	LR	10 27 17.6	
	comp=Z,441nm,18.3s,baz=74,slow=36						
BVAR	**Borovoye Array**	**48.48**	**315**	P	**P**	**10 08 21.7**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=116,slow=8.4,SNR=4.8						
BVAR				LR	LR	10 30 33.2	
	comp=Z,470nm,18.9s,baz=217,slow=38						
BRVK	**Borovoye**	**48.55**	**315**	*ceP*	**P**	**10 08 23.0**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
HNR	**Honiara**	**48.94**	**142**	LR	LR	10 29 03.5	
	comp=Z,122nm,18.1s,baz=318,slow=36						
KK31	**Karatay Array**	**49.01**	**302**	*eP*	**P**	**10 08 26.5**	**-0.5**
	comp=Z,6.7nm,0.8s						
KK31	**Karatay Array**	**49.01**	**302**	*eP*	**P**	**10 08 26.5**	**-0.5**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KKAR	**Karatay Array**	**49.01**	**302**	*eP*	**P**	**10 08 26.2**	**-0.8**
	comp=Z,6.7nm,0.8s						
KKAR	**Karatay Array**	**49.01**	**302**	*eP*	**P**	**10 08 26.2**	**-0.8**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**51.33**	**177**	*ceP*	P	10 08 52.4	+7.8
WRAB				pmax	pmax		
	comp=Z,13nm,1.3s						
WR1	**Warramunga Arr**	**51.34**	**177**	*eP*	**P**	**10 08 44.5**	**-0.2**
	comp=Z,8.6nm,1.0s						
WRA	**Warramunga Arr**	**51.34**	**177**	P	**P**	**10 08 44.5**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=354,slow=8.2,SNR=12						
WB2	**Warramunga Arr**	**51.34**	**177**	*eP*	**P**	**10 08 44.6**	**-0.1**
PALK	**Palikele**	**53.30**	**254**	P	**P**	**10 08 59.7**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=108,slow=3.0,SNR=4.4						
AS31	**Alice Springs**	**55.02**	**178**	*eP*	**P**	**10 09 12.2**	**+0.4**
	comp=Z,1.2nm,1.0s						
AS01	**Alice Springs**	**55.02**	**178**	*eP*	**P**	**10 09 12.1**	**+0.3**
ASAR	**Alice Springs**	**55.02**	**178**	P	**P**	**10 09 12.2**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=7.6,slow=7.7,SNR=11						
ARU	**Arti**	**55.18**	**320**	*eP*	**P**	**10 09 11.2**	**-1.3**
	comp=Z,7.4nm,1.1s						
ARU	**Arti**	**55.18**	**320**	*d iP*	**P**	**10 09 11.0**	**-1.6**
ARU						10 11 11.5	
ARU				S	**S**	**10 16 52.7**	**-0.7**
ARU				SS	**SS**	**10 20 33.3**	**-4.0**
ARU				pmax	pmax		
	comp=Z,11nm,1.3s						
IM3	**Indian Mountai**	**55.29**	**29**	*eP*	**P**	**10 09 15.0**	**+1.8**
IM3				*ep*P	**pP**	**10 09 24.1**	**+1.0**
ABKAR	**Akbulak array**	**55.34**	**311**	*eP*	**P**	**10 09 13.1**	**-0.7**
	comp=Z,4.1nm,0.8s						
RSO	**Redoubt South**	**56.00**	**35**	*eP*	**P**	**10 09 22.1**	**+3.4**
AKTO	**Aktyubinsk**	**56.36**	**312**	P	**P**	**10 09 20.7**	**-0.5**
	comp=Z,3.3nm,0.7s,baz=84,slow=10.0,SNR=16						
KDAK	**Kodiak Island**	**56.37**	**39**	*eP*	**P**	**10 09 21.1**	**0.0**
	comp=Z,4.

INK	**Inuvik**	**62.72**	**25**	*e*P		**P**	**10 10 06.1**	**+1.4**
	comp=Z,3.9nm,0.8s							
INK	**Inuvik**	**62.72**	**25**	P		**P**	**10 10 06.0**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=292,slow=6.3,SNR=21							
DZM	**Mont Dzumac**	**62.90**	**144**	LR		LR	10 34 44.6	
	comp=Z,239nm,19.6s,baz=28,slow=33							
TMCR	**Tamitsa**	**63.59**	**331**	*e*P		**P**	**10 10 09.0**	**-1.4**
TMCR				pmax	pmax			
	comp=Z,26nm,1.3s							
STKA	**Stephens Creek**	**63.84**	**171**	*e*P		**P**	**10 10 13.4**	**+0.9**
	comp=Z,1.7nm,0.9s							
STKA	**Stephens Creek**	**63.84**	**171**	P		**P**	**10 10 13.4**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=340,slow=8.2,SNR=7.4							
KLMR	**Klimovskoe**	**63.97**	**327**	*e*P		**P**	**10 10 10.1**	**-3.0**
KLMR				pmax	pmax			
	comp=Z,17nm,1.4s							
KLMR	**Klimovskoe**	**63.97**	**327**	*e*P		**P**	**10 10 10.1**	**-3.0**
KLMR				AMP			10 10 27.9	
	comp=Z,17nm,1.4s							
OBN	**Obninsk**	**67.49**	**322**	*e*P		**P**	**10 10 34.5**	**-1.3**
OBN				*e*			10 10 57.0	
OBN				*e*PPP		PPP	10 14 42.8	
OBN				pmax	pmax			
	comp=Z,7.0nm,1.2s							
VSR	**Storozhevoye**	**67.57**	**317**	*i* P		**P**	**10 10 36.9**	**+0.5**
VSR				pmax	pmax			
	comp=Z,13nm,0.9s							
ZEI	**Tsey**	**67.87**	**307**	*e*P		**P**	**10 10 36.5**	**-2.2**
ZEI				pmax	pmax			
	comp=Z,10.0nm,1.4s							
KBZ	**Khabaz**	**68.17**	**309**	P		**P**	**10 10 40.1**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=80,slow=3.6,SNR=12							
KIV	**Kislovodsk**	**68.22**	**309**	*e*P		**P**	**10 10 40.3**	**-0.5**
KIV				pmax	pmax			
	comp=Z,12nm,1.0s							
RES	**Resolute Bay**	**69.67**	**12**	*e*P		**P**	**10 10 50.0**	**+0.9**
	comp=Z,7.0nm,1.0s							
RES	**Resolute Bay**	**69.67**	**12**	*e*P		**P**	**10 10 50.0**	**+0.9**
RES				pmax	pmax			
	comp=Z,7.0nm,1.0s							
FIA0	**FINESS Array S**	**69.70**	**330**	*e*P		**P**	**10 10 48.3**	**-1.2**
FIA0	**FINESS Array S**	**69.70**	**330**	*e*P		**P**	**10 10 48.3**	**-1.2**
FINES	**FINESS Array B**	**69.70**	**330**	*i* P		**P**	**10 10 49.0**	**-0.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**69.70**	**330**	P		**P**	**10 10 48.3**	**-1.2**
	comp=Z,1.4nm,0.4s,baz=71,slow=5.7,SNR=14							
VSU	**Vasula**	**70.87**	**327**	*i* P		**P**	**10 10 55.1**	**-1.6**
VSU				pmax	pmax			
	comp=Z,77nm,1.7s							
TULEG	**Thule**	**71.32**	**5**	*e*P		**P**	**10 10 59.7**	**+0.5**
	comp=Z,1.1nm,1.0s							
YKW3	**Yellowknife Ar**	**72.30**	**26**	*e*P		**P**	**10 11 06.4**	**+1.1**
	comp=Z,3.8nm,1.1s							
YKA	**Yellowknife Ar**	**72.34**	**27**	P		**P**	**10 11 06.4**	**+0.9**
	comp=Z,2.6nm,0.8s,baz=304,slow=5.7,SNR=39							
YKB5	**Yellowknife Ar**	**72.34**	**27**	*e*P		**P**	**10 11 06.0**	**+0.5**
YKB5				*e*pP		**pP**	**10 11 16.7**	**+1.1**
AKASG	**Malin Array Be**	**73.44**	**320**	*i* P		**P**	**10 11 11.1**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**73.44**	**320**	P		**P**	**10 11 11.2**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=55,slow=6.5,SNR=15							
KIEV	**Kiev**	**73.45**	**320**	*e*P		**P**	**10 11 10.9**	**-1.4**
	comp=Z,4.0nm,1.0s							
KIEV	**Kiev**	**73.45**	**320**	*e*P		**P**	**10 11 10.9**	**-1.4**
KIEV				pmax	pmax			
	comp=Z,4.0nm,1.0s							
RAYN	**Ar Rayn**	**75.03**	**289**	*e*P		**P**	**10 11 21.3**	**-0.8**
	comp=Z,14nm,1.1s							
RAYN	**Ar Rayn**	**75.03**	**289**	*e*P		**P**	**10 11 21.3**	**-0.8**
RAYN				pmax	pmax			
	comp=Z,14nm,1.1s							
NB2	**NORSAR Subarra**	**75.82**	**334**	P		**P**	**10 11 24.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=46,slow=5.9							
NB200	**NORSAR Array S**	**75.82**	**334**	*e*P		**P**	**10 11 25.1**	**-0.8**
NOA	**NORSAR Array B**	**75.82**	**334**	P		**P**	**10 11 25.1**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=49,slow=5.7,SNR=5.4							
BR101	**Keskin Array S**	**76.15**	**308**	*e*P		**P**	**10 11 27.8**	**-0.5**
BR131	**Keskin Array S**	**76.15**	**308**	*e*P		**P**	**10 11 27.5**	**-0.8**
BR131				*e*PcP		**pP**	**10 11 37.1**	**-1.6**
BRTR	**Keskin Array B**	**76.15**	**308**	*i* P		**P**	**10 11 28.2**	**-0.2**
BRTR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BRTR	**Keskin Array B**	**76.15**	**308**	P		**P**	**10 11 27.8**	**-0.5**
	comp=Z,2.2nm,1.0s,baz=100,slow=3.8,SNR=9.4							
VYHS	**Vyhne**	**80.29**	**322**	*e*P		P	10 11 43.2	-7.7
CLL	**Collm**	**81.45**	**326**	*e*pP		**pP**	**10 12 06.0**	**-1.4**
CLL				Lm		MLR	10 51 00.0	
	comp=Z,700nm,19.6s							
J08A	**Circle Bar Ran**	**81.58**	**44**	*e*P		**P**	**10 11 57.4**	**-0.6**
	comp=Z,7.8nm,1.1s							
FCC	**Fort Churchill**	**82.20**	**22**	*e*P		**P**	**10 12 00.3**	**-0.5**
	comp=Z,6.3nm,0.8s							
FCC	**Fort Churchill**	**82.20**	**22**	*e*P		**P**	**10 12 00.3**	**-0.5**
FCC				pmax	pmax			
	comp=Z,6.0nm,0.8s							
FFC	**Flin Flon**	**82.40**	**28**	*e*P		**P**	**10 12 02.1**	**+0.2**
	comp=Z,2.2nm,0.9s							
FFC	**Flin Flon**	**82.40**	**28**	*i* P		**P**	**10 12 04.0**	**+2.1**
DLMT	**Dillon**	**83.70**	**40**	*e*P		**P**	**10 12 10.1**	**+1.0**
DLMT				*e*pP		**pP**	**10 12 20.8**	**+1.3**
HLID	**Hailey**	**83.81**	**42**	*e*P		**P**	**10 12 11.6**	**+1.8**
	comp=Z,3.1nm,0.9s							
KVN	**Kaiserville**	**84.34**	**47**	*e*P		**P**	**10 12 14.4**	**+1.9**
	comp=Z,5.5nm,1.1s							
KVN	**Kaiserville**	**84.34**	**47**	*e*P		**P**	**10 12 14.4**	**+1.9**
KVN				pmax	pmax			
	comp=Z,6.0nm,1.1s							
NV01	**Mina Array Sit**	**84.58**	**48**	*e*P		**P**	**10 12 13.3**	**-0.5**
NVAR	**Mina Array Bea**	**84.58**	**48**	P		**P**	**10 12 15.3**	**+1.5**
	comp=Z,1.2nm,0.6s,baz=303,slow=5.3,SNR=14							
BFO	**Black Forest**	**85.69**	**326**	*ce*P		**P**	**10 12 20.0**	**+1.1**
PDAR	**Pinedale Array**	**87.05**	**40**	P		**P**	**10 12 26.7**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=338,slow=1.6,SNR=6.4							
ULM	**Lac du Bonnet**	**88.22**	**28**	*e*P		**P**	**10 12 31.2**	**+0.1**
	comp=Z,11nm,1.0s							
ULM	**Lac du Bonnet**	**88.22**	**28**	*e*P		**P**	**10 12 31.2**	**+0.1**
ULM				pmax	pmax			
	comp=Z,11nm,1.0s							
ULM	**Lac du Bonnet**	**88.22**	**28**	P		**P**	**10 12 31.8**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=302,slow=5.9,SNR=7.4							
P17A	**Butcher Ranch,**	**88.54**	**43**	*e*P		**P**	**10 12 33.1**	**0.0**
	comp=Z,5.2nm,1.1s							
DBIC	**Dimbokro**	**123.75**	**305**	PKP		**PKPdf**	**10 18 38.3**	**-0.2**
	comp=Z,2.7nm,0.7s,baz=95,slow=2.8,SNR=4.3							

*ISCJB **11** 10:27:00.4±0.3,58°.85N±0°.02×136°.67W±0°.05,h10km, Error ellipse: s-maj=4.1km s-min=2.7km az=41.5*
*NEIC **11** 10:27:01.7±0.0,58°.76N×136°.61W,h1km,ML3.5(AEIC), ML3.6(OTT),After AEIC.*
*PGC **11** 10:27:01.0±0.6,58°.72N×136°.79W,h1km,ML3.6/10, 100km Wsw of Haines, Ak Southeastern Alaska*
ISC 11 10:26:59.3±0.8,58°.68N±0°.03×136°.67W±0°.03,h10km,n68, σ1°86/105,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BESE	**Bessie Mountai**	**0.95**	**95**	P	**Pn**	**10 27 19.5**	**+0.7**
BESE				S	**Sn**	**10 27 32.9**	**+0.4**
BESE	**Bessie Mountai**	**0.95**	**95**	P	**Pn**	**10 27 19.5**	**+0.7**
BESE				S	**Sn**	**10 27 32.9**	**+0.4**
SKAG	**Skagway**	**1.04**	**41**	P	**Pg**	**10 27 19.7**	**+0.3**
SKAG				S	**Sb**	**10 27 33.7**	**+0.5**
JIS	**Juneau Island**	**1.27**	**108**	P	**Pg**	**10 27 24.6**	**+1.0**
JIS				S	**Sn**	**10 27 41.9**	**+1.9**
PNL	**Peninsula**	**1.72**	**306**	P	**Pn**	**10 27 29.6**	**+0.4**
PNL				S	**Sn**	**10 27 51.3**	**+0.1**
PNL	**Peninsula**	**1.72**	**306**	Pn	**Pn**	**10 27 29.6**	**+0.4**
PNL				Sg	**Sn**	**10 27 51.5**	**+0.3**
YKU2	**Yakutat**	**1.76**	**300**	P	**Pb**	**10 27 31.2**	**-0.4**
YKU2				S	**Sb**	**10 27 54.8**	**+1.1**
SIT	**Sitka**	**1.78**	**156**	P	**Pg**	**10 27 32.7**	**-0.7**
SIT				S	**Sg**	**10 27 57.7**	**+1.2**
BCPM	**Bancas Point**	**1.98**	**311**	P	**Pn**	**10 27 33.5**	**+0.7**
BCPM				S	**Sn**	**10 27 58.9**	**+1.1**
YUK7	**Dusty Glacier**	**2.00**	**339**	P	**Pn**	**10 27 34.4**	**+1.0**
YUK7				S	**Sn**	**10 28 00.6**	**+2.1**
YUK7	**Dusty Glacier**	**2.00**	**339**	Pn	**Pn**	**10 27 34.3**	**+1.0**
YUK7				Pg	**Pb**	**10 27 35.9**	**+0.1**
YUK7				Sg	**Sn**	**10 28 00.6**	**+2.1**
WHY	**Whitehorse**	**2.18**	**24**	P	**Pn**	**10 27 37.5**	**+1.8**
WHY	**Whitehorse**	**2.18**	**24**	Pn	**Pn**	**10 27 37.5**	**+1.8**
WHY				Pg	**Pb**	**10 27 40.2**	**+1.3**
WHY				Sg	**Sb**	**10 28 08.1**	**+2.1**
HYT	**Haines Junctio**	**2.19**	**349**	P	**Pn**	**10 27 37.4**	**+1.5**
HYT				S	**Sn**	**10 28 04.5**	**+1.4**
HYT	**Haines Junctio**	**2.19**	**349**	Pn	**Pn**	**10 27 37.2**	**+1.4**
HYT				Pg	**Pb**	**10 27 39.7**	**+0.7**
HYT				Sg	**Sb**	**10 28 06.9**	**+0.6**
YUK6	**Outpost Mounta**	**2.42**	**340**	P	**Pn**	**10 27 40.3**	**+1.2**
YUK6	**Outpost Mounta**	**2.42**	**340**	Pn	**Pn**	**10 27 40.5**	**+1.3**
YUK6				Pg	**Pb**	**10 27 43.3**	**+0.2**
YUK6				Sg	**Sb**	**10 28 15.2**	**+2.1**
YUK5	**Granite Creek**	**2.53**	**347**	Pn	**Pn**	**10 27 42.4**	**+1.9**
YUK5				Pg	**Pb**	**10 27 45.7**	**+0.8**
YUK5				Sn	**Sn**	**10 28 12.9**	**+1.5**
YUK5				Sg	**Sb**	**10 28 17.3**	**+1.2**
SAMH	**Samovar Hills**	**2.56**	**306**	P	**Pn**	**10 27 42.5**	**+1.7**
SAMH	**Samovar Hills**	**2.56**	**306**	Pn	**Pn**	**10 27 42.0**	**+1.2**
SAMH				Sg	**Sb**	**10 28 16.3**	**-0.4**
YUK4	**Talbot Arm**	**2.85**	**340**	P	**Pn**	**10 27 48.0**	**+3.0**
YUK4	**Talbot Arm**	**2.85**	**340**	Pn	**Pn**	**10 27 47.7**	**+2.8**
YUK4				Sg	**Sg**	**10 28 30.4**	**-0.3**
RKAV	**Rock Avalanche**	**2.88**	**306**	P	**Pn**	**10 27 46.7**	**+1.4**
RKAV	**Rock Avalanche**	**2.88**	**306**	Pn	**Pn**	**10 27 46.8**	**+1.4**
RKAV				Sg	**Sb**	**10 28 26.1**	**-0.1**
MESA	**MESA**	**3.09**	**301**	P	**Pn**	**10 27 48.9**	**+0.7**
MESA	**MESA**	**3.09**	**301**	Pn	**Pn**	**10 27 49.0**	**+0.7**
CTGM	**Chitina Glacie**	**3.29**	**316**	P	**Pn**	**10 27 53.2**	**+2.3**
CTGM	**Chitina Glacie**	**3.29**	**316**	Pn	**Pn**	**10 27 52.9**	**+2.0**
CTGM				Sn	**Sn**	**10 28 31.6**	**+1.5**
KULT	**Kultieth River**	**3.46**	**300**	P	**Pn**	**10 27 54.6**	**+1.3**
DLBC	**Dease Lake**	**3.49**	**91**	P	**Pn**	**10 27 56.0**	**+2.4**
DLBC	**Dease Lake**	**3.49**	**91**	Pn	**Pn**	**10 27 55.9**	**+2.3**
DLBC				Pg	**Pg**	**10 28 04.6**	**-1.4**
DLBC				Sg	**Sg**	**10 28 50.9**	**-0.3**
YUK3	**Moose Creek**	**3.63**	**330**	P	**Pn**	**10 27 56.8**	**+1.1**
YUK3	**Moose Creek**	**3.63**	**330**	Pn	**Pn**	**10 27 57.0**	**+1.2**
YUK3				Pg	**Pb**	**10 28 05.5**	**+1.9**
YUK3				Sg	**Sb**	**10 28 51.2**	**+3.3**
KIAG	**Kiagna River**	**3.65**	**310**	Pn	**Pn**	**10 27 57.0**	**+1.1**
BALM	**Baldy**	**3.71**	**312**	Pn	**Pn**	**10 27 58.5**	**+1.8**
YUK2	**White River**	**3.75**	**328**	Pn	**Pn**	**10 27 58.4**	**+1.3**
YUK2				Pg	**Pb**	**10 28 06.2**	**+0.7**
YUK2				Sg	**Sb**	**10 28 55.2**	**+4.3**
KHIT	**Khitrov Hills**	**3.79**	**301**	P	**Pn**	**10 27 58.9**	**+1.2**
NICHA	**Nichawak Mount**	**4.04**	**296**	P	**Pn**	**10 28 03.4**	**+2.3**
HMT	**Hamilton**	**4.21**	**296**	P	**Pn**	**10 28 05.7**	**+2.2**
BVCY	**Beaver Creek**	**4.28**	**333**	Pn	**Pn**	**10 28 05.2**	**+0.8**
BVCY				Sg	**Sg**	**10 29 12.5**	**-4.0**
EYAK	**Cordova Ski Ar**	**4.98**	**296**	P	**Pn**	**10 28 15.5**	**+1.6**
BCA3	**Beaver Creek A**	**5.06**	**333**	P	**Pn**	**10 28 15.7**	**+0.6**
DIV	**Divide**	**5.20**	**302**	P	**Pn**	**10 28 18.3**	**+1.3**
DIV	**Divide**	**5.20**	**302**	Pn	**Pn**	**10 28 18.2**	**+1.1**
KLU	**Klutina**	**5.42**	**305**	P	**Pn**	**10 28 22.1**	**+1.9**
JPK	**Jack Peak**	**5.54**	**300**	P	**Pn**	**10 28 23.6**	**+1.9**
DAWY	**Dawson**	**5.56**	**348**	P	**Pn**	**10 28 23.9**	**+1.9**
DAWY	**Dawson**	**5.56**	**348**	Pn	**Pn**	**10 28 23.9**	**+1.9**
DAWY				Sn	**Sn**	**10 29 25.2**	**-0.7**
DAWY				Sg	**Sg**	**10 29 51.9**	**-5.6**
HARP	**HAARP**	**5.61**	**315**	Pn	**Pn**	**10 28 24.4**	**+1.7**
RUBB	**Prince Rupert**	**5.63**	**138**	Sg	**Sg**	**10 29 58.5**	**-1.3**
PAX	**Paxson**	**6.08**	**319**	Pn	**Pn**	**10 28 33.2**	**+4.0**
SCM	**Sheep Creek Mo**	**6.17**	**305**	P	**Pn**	**10 28 32.7**	**+2.2**
PWL	**Port Wells**	**6.28**	**295**	P	**Pn**	**10 28 32.8**	**+0.9**
SCRK	**Sand Creek**	**6.37**	**330**	P	**Pn**	**10 28 33.7**	**+0.5**
EGAK	**Eagle**	**6.48**	**343**	P	**Pn**	**10 28 36.5**	**+2.0**
KNK	**Knik Glacier**	**6.51**	**300**	P	**Pn**	**10 28 37.2**	**+2.2**
SML	**Sawmill**	**6.60**	**303**	P	**Pn**	**10 28 37.9**	**+1.7**
SEW	**Seward**	**6.68**	**288**	P	**Pn**	**10 28 38.3**	**+0.9**
PMR	**Palmer**	**6.87**	**300**	P	**Pn**	**10 28 42.3**	**+2.3**
RC01	**Rabbit Creek A**	**7.00**	**296**	P	**Pn**	**10 28 42.8**	**+1.0**
FNBB	**Fort Nelson**	**7.11**	**82**	Pn	**Pn**	**10 28 45.9**	**+2.7**
FNBB				Sn	**Sn**	**10 30 03.6**	**-0.3**
FNBB				Sg	**Sg**	**10 30 43.6**	**-3.5**
SLKM	**Skilak Lake**	**7.12**	**291**	P	**Pn**	**10 28 44.6**	**+1.2**
BRLK	**Bradley Lake**	**7.38**	**285**	P	**Pn**	**10 28 48.6**	**+1.7**
FSB	**Fort Saint Jam**	**8.01**	**116**	Sg	**Sg**	**10 31 13.1**	**-2.9**
BBB	**Bella Bella**	**8.12**	**140**	Sg	**Sg**	**10 31 14.4**	**-5.2**
TRF	**Thorofare Moun**	**8.14**	**312**	P	**Pn**	**10 28 59.0**	**+1.4**
BMBC	**Bull Mountain**	**8.29**	**102**	Sg	**Sg**	**10 31 21.8**	**-3.2**
CAST	**Castle Rocks**	**8.85**	**309**	P	**Pn**	**10 29 07.8**	**+0.8**

*NNC **11** 10:27:02.3±4.5,36°.83N×70°.77E,h181km±55km,mb2.8, mpv3.7,Error ellipse: s-maj=39.9km s-min=29.5km az=38.0*
ISC 11 10:27:04.9±3.0,37°.0N±0°.2×70°.8E±0°.1,h200km,n10, σ1°79/15,7C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.60**	**22**	P	**Pn**	**10 28 24.4**	**-2.9**
	SNR=46						
UCH	**Uchtor**	**5.96**	**27**	P	**Pn**	**10 28 30.4**	**-1.6**
	SNR=8.1						
EKS2	**Erkin-Say**	**6.11**	**21**	P	**Pn**	**10 28 33.6**	**-0.1**
	SNR=19						
KK31	**Karatay Array**	**6.12**	**358**	⇑P	**Pn**	**10 28 32.4**	**-1.3**
	4.5nm,0.4s,baz=183,slow=13,SNR=87						
KK31				⇑S	**Sn**	**10 29 45.2**	**+1.3**
	1.6nm,0.3s,baz=178,slow=20,SNR=7.4						
AAK	**Ala-Archa**	**6.32**	**25**	⇑P	**Pn**	**10 28 35.3**	**-1.0**
	SNR=5.2						
AAK	**Ala-Archa**	**6.32**	**25**	⇑P	**Pn**	**10 28 33.8**	**-2.5**
	2.2nm,0.5s						
AAK				⇓S	**Sn**	**10 29 49.8**	**+1.1**
	7.9nm,0.8s						
TKM2	**Tokmak 2**	**6.97**	**30**	P	**Pn**	**10 28 45.2**	**+0.3**
	SNR=6.4						
TKM2	**Tokmak 2**	**6.97**	**30**	⇓P	**Pn**	**10 28 44.3**	**-0.5**
	2.1nm,0.5s						
TKM2				⇑S	**Sn**	**10 30 05.1**	**+0.9**
	2.3nm,0.8s						
AB31	**Akbulak array**	**14.60**	**331**	⇑P	**P**	**10 30 22.8**	**-0.3**
	0.3nm,0.4s,baz=166,slow=12,SNR=20						
AB31				⇑S	**S**	**10 33 01.7**	**-2.3**
	0.2nm,0.3s,baz=152,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**16.29**	**330**	⇑P	**Pn**	**10 30 45.5**	**+2.9**
	3.1nm,0.8s						
AKTO				⇓S	**S**	**10 33 42.6**	**+0.4**
	0.4nm,0.6s						

*ISCJB **11** 10:32:31.6±0.5, 19°.80S±0°.04×133°.85E±0°.04,h13km, mb3.8/1,Error ellipse: s-maj=6.9km s-min=4.4km az=30.6*
*IDC **11** 10:32:34.6±1.3, 19°.88S×133°.93E,h0km,mb3.9/1, mb1 4.0/3,mb1mx3.6/29,mbtmp3.9/3,ML3.9/2,Error ellipse: s-maj=8.6km s-min=3.6km az=99.0*
*AUST **11** 10:32:34.3±0.0, 19°.86S×133°.89E,h13km,Error ellipse: s-maj=0.7km s-min=0.5km az=225.0*
ISC 11 10:32:34.0±0.7,19°.81S±0°.06×133°.89E±0°.05,h13km,n18, σ1°86/24,Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I07AU	**WARRAMUNGA INF**	**0.43**	**107**	Pg	**Pg**	**10 32 42.1**	**-0.4**
	baz=283,slow=30,SNR=0.5						
I07AU				Lg	Lg	10 32 47.3	
	baz=310,slow=280						
WRA	**Warramunga Arr**	**0.44**	**108**	LR	LR	10 32 41.7	
	comp=Z,162nm,21.2s,baz=340,slow=18						
WRA				Pg	**Pg**	**10 32 42.5**	**-0.2**
	76nm,0.3s,baz=276,slow=19,SNR=278						
WRA				Lg	Lg	10 32 46.9	
	379nm,0.3s,baz=280,slow=31,SNR=166						
WB2	**Warramunga Arr**	**0.45**	**108**	P	**Pg**	**10 32 42.8**	**-0.2**
	baz=0.4						
WB2				S	**Sg**	**10 32 48.0**	**-1.0**
	baz=0.4						
ASAR	**Alice Springs**	**3.84**	**180**	Pn	**Pn**	**10 33 36.0**	**+3.2**
	10nm,0.3s,baz=4.1,slow=6.9,SNR=220						
ASAR				Sn	**Sn**	**10 34 20.1**	**+2.2**
	14nm,0.3s,baz=1.9,slow=28,SNR=10						
ASAR				Lg	Lg	10 34 34.0	
	24nm,0.3s,baz=1.7,slow=30,SNR=10						
QIS	**Mount Isa**	**5.42**	**99**	P	**Pn**	**10 33 56.1**	**+1.5**
	baz=5.4,SNR=12						
QIS				S	**Sn**	**10 34 56.8**	**0.0**
	baz=5.4						
KNRA	**Kununurra**	**6.38**	**309**	P	**Pn**	**10 34 09.4**	**+1.6**
	baz=6.4,SNR=6.0						
KNRA				S	**Sn**	**10 35 20.1**	**-0.5**
	baz=6.4						
WRKA	**Warakurna**	**7.34**	**224**	P	**Pn**	**10 34 21.9**	**+0.9**
	baz=7.3,SNR=7.1						
MTN	**Manton Dam**	**7.41**	**339**	P	**Pn**	**10 34 22.4**	**+0.5**
	baz=7.5,SNR=4.9						
MTN				S	**Sn**	**10 35 45.5**	**-0.5**
	baz=7.5						
FITZ	**Fitzroy Crossi**	**7.99**	**281**	P	**Pn**	**10 34 31.0**	**+1.1**
	baz=8.0,SNR=6.1						
FITZ	**Fitzroy Crossi**	**7.99**	**281**	Pn	**Pn**	**10 34 31.4**	**+1.5**
	1.2nm,0.3s,baz=98,slow=10,SNR=32						
FITZ				Sn	**Sn**	**10 35 56.4**	**-3.8**
	4.6nm,0.3s,baz=144,slow=18,SNR=13						
FITZ				Lg	Lg	10 36 47.2	
	4.0nm,0.3s,baz=12,slow=20,SNR=5.2						
COEN	**Coen**	**10.62**	**58**	P	**Pn**	**10 35 05.5**	**-0.4**
	baz=11,SNR=11						
FORT	**Forrest**	**12.13**	**205**	P	**Pn**	**10 35 25.3**	**-1.2**
	baz=12,SNR=17						
BBOO	**Buckleboo**	**13.10**	**172**	P	**Pn**	**10 35 37.9**	**-1.9**
	baz=13						
STKA	**Stephens Creek**	**13.87**	**152**	P	**Pn**	**10 35 48.2**	**-2.1**
	baz=14,SNR=8.6						
STKA	**Stephens Creek**	**13.87**	**152**	Pn	**Pn**	**10 35 47.9**	**-2.4**
	0.4nm,0.3s,baz=324,slow=13,SNR=9.9						
STKA				Sn	Sn	10 38 14.6	-10
	0.7nm,0.3s,baz=328,slow=5.0,SNR=3.8						
HTT	**Hallett**	**14.29**	**163**	P	**Pn**	**10 35 55.8**	**-0.3**
	baz=14,SNR=3.6						
MEEK	**Meekatharra**	**15.60**	**241**	P	**Pn**	**10 36 10.5**	**-3.2**
	baz=16,SNR=3.9						
MKAR	**Makanchi Array**	**80.96**	**327**	P	**P**	**10 44 50.8**	**+2.7**
	0.6nm,0.5s,baz=137,slow=6.5,SNR=10.0						

*ISCJB **11** 10:32:44.0±0.7,3°.4S±0°.1×68°.4E±0°.1,h12km,mb4.1/16, MS3.9/7,Error ellipse: s-maj=19.2km s-min=15.4km az=36.4*
*IDC **11** 10:32:43.8±0.8,3°.46S×68°.33E,h0km,mb4.1/14, mb1 4.3/14,mb1mx4.0/53,mbtmp4.1/14,MS3.9/8, Ms1 3.9/8,ms1mx3.5/35,Error ellipse: s-maj=23.5km s-min=17.9km az=34.0*
*NEIC **11** 10:32:45.4±0.5,3°.43S×68°.34E,h10km,mb4.5/2,Error ellipse: s-maj=14.9km s-min=12.7km az=218.0*
ISC 11 10:32:45.7±0.8,3°.4S±0°.2×68°.3E±0°.1,h12km,n35, σ0°83/26,mb4.2/16,MS3.8/7,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**3.92**	**137**	T	T	10 37 38.8	
	baz=319,slow=75,SNR=850						
H08N3	**Diego Garcia H**	**3.93**	**138**	T	T	10 37 47.2	
	baz=319,slow=75,SNR=629						
H08N1	**Diego Garcia H**	**3.94**	**137**	T	T	10 37 48.8	
	baz=319,slow=75,SNR=692						
H08S3	**Diego Garcia H**	**5.87**	**135**	T	T	10 40 16.3	
	baz=307,slow=75,SNR=4.5						
H08S1	**Diego Garcia H**	**5.88**	**136**	T	T	10 40 15.0	
	baz=307,slow=75,SNR=11						
H08S2	**Diego Garcia H**	**5.89**	**135**	T	T	10 40 14.1	
	baz=307,slow=75,SNR=5.9						
PALK	**Pallekele**	**16.30**	**49**	LR	LR	10 41 36.5	
	comp=Z,363nm,18.9s,baz=297,slow=33						
OPO	**Ambohidratompo**	**25.58**	**232**	LR	LR	10 46 03.2	
	comp=Z,277nm,18.8s,baz=354,slow=31						
WSAR	**Wadi Sarin**	**28.14**	**341**	LR	LR	10 47 36.5	
	comp=Z,166nm,18.8s,baz=192,slow=32						
CMAR	**Chiang Mai Arr**	**37.18**	**53**	P	**P**	**10 39 58.9**	**+1.8**
	1.0nm,0.4s,baz=247,slow=9.8,SNR=13						
CMAR				LR	LR	10 53 56.2	
	comp=Z,56nm,18.4s,baz=302,slow=34						
LSZ	**Lusaka**	**41.23**	**251**	P	**P**	**10 40 31.9**	**+0.9**
	2.2nm,0.6s,baz=71,slow=5.7,SNR=5.1						
AAK	**Ala-Archa**	**46.19**	**6**	*e*P	**P**	**10 41 10.4**	**-0.3**
	7.3nm,1.3s						
AAK	**Ala-Archa**	**46.19**	**6**	LR	LR	10 57 10.3	
	comp=Z,

MKAR	**Makanchi Array**	**26.43**	**339**	P		P	11 04 58.9	-1.1
	0.7nm,0.5s,baz=145,slow=12,SNR=13							

IDC 11 11:07:11.3±1.9, 4°.16S×154°.29E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=191.9km s-min=33.7km az=138.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.98**	**229**	P	P	11 12 36.5	-0.5
	0.6nm,0.8s,baz=54,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**27.63**	**224**	P	P	11 13 01.1	+0.2
	0.6nm,0.6s,baz=60,slow=8.6,SNR=8.7						
NVAR	**Mina Array Bea**	**90.52**	**52**	P	P	11 20 16.0	+0.1
	0.4nm,0.6s,baz=271,slow=5.3,SNR=4.1						

DDA 11 11:11:09.3, 40°.25N×44°.05E, h16km±3km, ML2.7
TIF 11 11:11:09.9, 40°.25N×44°.02E, h18km±1km
ISK 11 11:11:09.6, 40°.26N×43°.97E, h10km, ML2.6/5
ISCJB 11 11:11:10.4±0.5, 40°.24N±0°.02×44°.00E±0°.03, h5km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=5.6

ISC 11 11:11:09.7±1.0, 40°.26N±0°.02×44°.05E±0°.03, h16km±9km, n26, σ0s78/44, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TASB	**TASBURUN-IGDIR**	**0.31**	**152**	PG	**Pb**	**11 11 16.9**	**0.0**
TASB				SG	**Sb**	**11 11 22.3**	**+0.5**
IGDI	**IGDIR**	**0.39**	**177**	*i* P	**Pb**	**11 11 18.5**	**+0.2**
IGDI				*i* S	**Sg**	**11 11 23.1**	**-0.2**
DIGO	**Kars**	**0.54**	**287**	*i* P	**Pg**	**11 11 19.9**	**-0.6**
DIGO				*i* S	**Sg**	**11 11 27.2**	**-0.6**
GNI	**Garni**	**0.54**	**102**	PG	**Pb**	**11 11 21.8**	**+0.9**
GNI				SG	**Sn**	**11 11 30.6**	**-1.1**
EAK	**Akyaka**	**0.54**	**322**	*i* P	**Pb**	**11 11 21.4**	**+0.5**
EAK				*i* S	**Sn**	**11 11 30.4**	**-1.4**
DYDN	**Diyadin**	**0.77**	**201**	*i* P	**Pg**	**11 11 23.3**	**-1.4**
DYDN				*i* S	**Sb**	**11 11 35.4**	**+0.4**
BGD	**Bogdanovka**	**1.06**	**341**	P	**Pn**	**11 11 29.9**	**-0.2**
BGD				S	**Sn**	**11 11 45.4**	**+0.8**
AGRB	**Hanur-Agry**	**1.06**	**230**	PG	**Pn**	**11 11 29.6**	**-0.5**
AGRB				SG	**Sn**	**11 11 44.2**	**-0.4**
CLDR	**Caldiran**	**1.12**	**185**	PN	**Pg**	**11 11 31.4**	**0.0**
CLDR	**Caldiran**	**1.12**	**185**	*i* P	**Pg**	**11 11 31.0**	**-0.4**
KZRT	**Kazreti**	**1.16**	**13**	P	**Pb**	**11 11 31.5**	**+0.2**
KZRT				S	**Sg**	**11 11 47.7**	**+0.6**
TRLG	**Trialeti**	**1.28**	**2**	P	**Pn**	**11 11 32.3**	**-0.7**
TRLG				S	**Sb**	**11 11 49.7**	**0.0**
TUTA	**Tutak**	**1.28**	**228**	*i* P	**Pg**	**11 11 34.9**	**+0.4**
TUTA				*i* S	**Sg**	**11 11 53.0**	**+1.8**
VMUR	**Van-Muradiye**	**1.32**	**196**	*i* P	**Pb**	**11 11 34.3**	**+0.1**
VMUR				IAML_P			
	comp=Z,196nm,0.3s						
SENK	**Senkaya-Erzuru**	**1.33**	**284**	PN	**Pb**	**11 11 33.8**	**-0.6**
BTNK	**Botanikuri**	**1.53**	**22**	P	**Pb**	**11 11 38.5**	**+0.8**
BTNK				S	**Sg**	**11 11 59.9**	**+0.9**
BTNK	**Botanikuri**	**1.53**	**22**	*i* P	**Pg**	**11 11 38.7**	**-0.5**
BTNK				*i* S	**Sg**	**11 12 00.7**	**+1.6**
BTNK				IAML_P			
	comp=Z,3μm,0.1s						
TBLG	**Delisi**	**1.56**	**19**	PN	**Pb**	**11 11 38.3**	**+0.1**
TBLG	**Delisi**	**1.56**	**19**	P	**Pb**	**11 11 38.5**	**+0.4**
TBLG				S	**Sg**	**11 12 00.1**	**+0.2**
EPOS	**Posof**	**1.59**	**322**	*i* P	**Pb**	**11 11 39.3**	**+0.5**
EPOS				*i* S	**Sg**	**11 12 01.3**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.71**	**262**	PN	**Pn**	**11 11 39.4**	**+0.5**
DAGI	**Agillar**	**1.82**	**297**	*i* P	**Pb**	**11 11 42.7**	**+0.1**
DAGI				IAML_P			
	comp=Z,288nm,0.3s						
ARTV	**Artvin**	**1.86**	**300**	*i* P	**Pb**	**11 11 43.9**	**+0.5**
ARTV				*i* S	**Sg**	**11 12 10.8**	**+1.2**
ARTV				IAML_P			
	comp=Z,930nm,0.2s						
DBAD	**Bademkaya**	**1.94**	**294**	*i* P	**Pb**	**11 11 44.7**	**-0.1**
DBAD				*i* S	**Sb**	**11 12 09.6**	**+0.8**
GUDG	**Gudauri**	**2.23**	**8**	P	**Pg**	**11 11 51.2**	**-1.2**
LGD	**Lagodekhi**	**2.29**	**46**	P	**Pg**	**11 11 52.6**	**-1.0**
LGD				S	**Sg**	**11 12 24.3**	**+1.1**

IDC 11 11:27:18.6±1.2, 3°.16S×128°.52E, h0km, mb3.8/3, mb1 4.1/5, mb1mx3.6/35, mbtmp4.0/5, ML4.0/2, MS3.4/2, Ms1 3.4/2, ms1mx2.6/40, Error ellipse: s-maj=41.8km s-min=23.7km az=72.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.57**	**50**	Pn	Pn	11 28 13.8	-1.4
	12nm,0.3s,baz=234,slow=15,SNR=42						
SIJI				Sn	Sn	11 28 51.5	-6.6
	8.2nm,0.3s,baz=288,slow=24,SNR=14						
WRA	**Warramunga Arr**	**17.62**	**162**	P	Pn	11 31 25.7	0.0
	0.5nm,0.3s,baz=337,slow=12,SNR=28						
ASAR	**Alice Springs**	**21.04**	**166**	P	P	11 32 04.6	+0.4
	3.6nm,0.6s,baz=349,slow=12,SNR=42						
JHJ	**Hachijo jima 2**	**37.62**	**16**	LR	LR	11 47 09.2	
	comp=Z,48nm,21.8s,baz=286,slow=32						
MKAR	**Makanchi Array**	**64.23**	**327**	P	P	11 37 55.7	+0.2
	0.6nm,0.8s,baz=127,slow=8.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**68.49**	**328**	P	P	11 38 22.7	0.0
	1.0nm,0.8s,baz=123,slow=5.4,SNR=9.5						
GEYT	**Alibeck**	**76.63**	**310**	LR	LR	12 20 29.1	
	comp=Z,31nm,18.4s,baz=285,slow=42						

KRSC 11 11:42:38.8±10.0, 54°.50N×161°.80E, h46km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.07**	**325**	*e*P	Pn	11 42 46.9	+0.9
MKZ				*e*S	Sn	11 42 52.1	+1.0
KZV	**Kizimen**	**1.07**	**306**	*e*P	Pn	11 42 58.7	+1.2
KZV				*e*S	Sn	11 43 12.7	+1.5
TUMD	**Tumrok D**	**1.08**	**312**	*e*P	Pn	11 42 58.4	+1.0
TUMD				*e*S	Sn	11 43 11.5	+0.3
KII	**Karymskiy**	**1.46**	**252**	*e*P	Pn	11 43 04.4	+1.8
SPN	**Mys Shipunski**	**1.75**	**218**	*e*P	Pn	11 43 07.4	+0.7
SPN				*e*S	Sn	11 43 27.8	0.0
KBBR	**Krutoberegovo**	**1.81**	**18**	*e*P	Pn	11 43 09.3	+1.9
KLY	**Klyuchi**	**1.93**	**341**	*e*P	Pn	11 43 11.1	+2.0
NLC	**Nalytchevo**	**1.97**	**229**	*e*P	Pn	11 43 11.6	+2.0
SDLR	**Sedlovina**	**2.12**	**236**	*e*P	Pn	11 43 14.3	+2.6
SDLR				*e*S	Sn	11 43 40.0	+3.2
SMAR	**Somma**	**2.16**	**236**	*e*P	Pn	11 43 15.1	+2.6
SMAR				*e*S	Sn	11 43 41.2	+3.0
KRER	**Koryakskii**	**2.17**	**238**	*e*P	Pn	11 43 15.6	+3.1
KRER				*e*S	Sn	11 43 42.7	+4.5
KRX	**Arik**	**2.19**	**240**	*e*P	Pn	11 43 15.4	+2.7
UGLR	**Uglovaya**	**2.19**	**235**	*e*P	Pn	11 43 15.5	+2.8
UGLR				*e*S	Sn	11 43 42.4	+3.9
AVH	**Avacha**	**2.19**	**237**	*e*P	Pn	11 43 15.8	+3.0
AVH				*e*S	Sn	11 43 42.8	+4.1
KOK	**Koryaka**	**2.23**	**238**	*e*P	Pn	11 43 16.0	+2.7
ESO	**Esso**	**2.28**	**310**	*e*P	Pn	11 43 15.7	+1.8
DALK	**Dalny**	**2.33**	**232**	*e*P	Pn	11 43 16.8	+2.3
DALK				*e*S	Sn	11 43 44.5	+2.6
PET	**Petropavlovsk**	**2.38**	**233**	*e*P	Pn	11 43 17.7	+2.5
PET				*e*S	Sn	11 43 45.8	+2.6
GNL	**Ganaly**	**2.41**	**252**	*e*P	Pn	11 43 18.6	+2.8
KRMR	**Karymshinskiy**	**2.75**	**234**	*e*P	Pn	11 43 23.1	+2.8

ISCJB 11 11:43:22.7±0.4, 26°.10N±0°.07×124°.29E±0°.06, h216km±5km, mb3.5/10, Error ellipse: s-maj=12.9km s-min=4.4km az=145.2
IDC 11 11:43:22.6±1.9, 26°.17N×124°.28E, h202km±19km, mb3.4/10, mb1 3.5/11, mb1mx3.3/44, mbtmp3.9/11, MS2.9/2, Ms1 2.9/2, ms1mx2.6/26, Error ellipse: s-maj=20.2km s-min=13.1km az=73.0
JMA 11 11:43:24.6±0.2, 26°.17N×124°.16E, h196km, M4.5

ISC 11 11:43:23.6±0.7, 26°.14N±0°.09×124°.25E±0°.07, h214km±6km, n36, σ1s48/57, mb3.6/10, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.51**	**143**	P	**Pn**	**11 43 59.4**	**+0.8**
JIKM				S	**S**	**11 44 25.6**	**-0.1**
JTJ	**Tarama**	**1.54**	**165**	P	**Pn**	**11 43 59.5**	**+0.5**
JTJ				S	**S**	**11 44 25.3**	**-1.0**
JISG	**Ishigakijimahi**	**1.55**	**178**	P	**Pn**	**11 43 58.8**	**-0.2**
JISG				S	**S**	**11 44 24.4**	**-1.9**
JIRB	**Irabujima**	**1.55**	**147**	P	**Pn**	**11 43 59.4**	**+0.4**
JIRB				S	**S**	**11 44 25.1**	**-1.2**
JMJ	**Miyako jima 2**	**1.62**	**144**	P	**Pn**	**11 44 00.5**	**+0.9**
JMJ				S	**S**	**11 44 26.8**	**-0.6**
JOGS	**Gusukube**	**1.72**	**143**	P	**Pn**	**11 44 01.7**	**+1.1**
JOGS				S	**S**	**11 44 29.0**	**-0.1**
JIJ	**Ishigaki jima**	**1.77**	**183**	P	**Pn**	**11 44 00.4**	**-0.6**
JIJ				S	**S**	**11 44 26.9**	**-3.0**
IRIF	**Iriomote-Funau**	**1.86**	**195**	P	**Pn**	**11 44 01.2**	**-0.6**
IRIF				S	**S**	**11 44 29.2**	**-2.1**
JKRS	**Kuro-shima**	**1.91**	**187**	P	**Pn**	**11 44 01.9**	**-0.4**
JKRS				S	**S**	**11 44 29.8**	**-2.4**
YOJ	**Yonaguni jima**	**2.01**	**214**	P	**Pn**	**11 44 03.0**	**-0.3**
YOJ				S	**S**	**11 44 32.9**	**-1.1**
JYNG	**Yonagunijimaku**	**2.06**	**215**	P	**Pn**	**11 44 03.5**	**-0.2**
JYNG				S	**S**	**11 44 33.6**	**-1.1**
HATJ	**Hateruma jima**	**2.11**	**191**	P	**Pn**	**11 44 03.8**	**-0.5**
HATJ				S	**S**	**11 44 33.8**	**-2.0**
JKE	**Kume jima 2**	**2.28**	**85**	P	**Pn**	**11 44 07.1**	**+1.1**
JKE				*e*S	**S**	**11 44 39.6**	**+0.8**
JAGN	**Aguni-jima**	**2.72**	**80**	P	**Pn**	**11 44 11.3**	**+0.5**
JAGN				S	**S**	**11 44 46.6**	**-0.7**
JJT3	**Tamagusuku3**	**3.17**	**89**	P	**Pn**	**11 44 17.0**	**+1.0**
JJT3				S	**S**	**11 44 56.0**	**-0.7**
JNTH	**Nagotoyohara**	**3.40**	**83**	P	**Pn**	**11 44 19.2**	**+0.5**
JNTH				S	**S**	**11 44 58.8**	**-2.7**
JIH	**Iheya**	**3.44**	**74**	P	**Pn**	**11 44 19.4**	**+0.3**
JIH				S	**S**	**11 45 01.2**	**-1.2**
JOW	**Kunigami**	**3.67**	**78**	P	**Pn**	**11 44 21.9**	**0.0**
JOW				S	**S**	**11 45 04.5**	**-2.8**
JOW	**Kunigami**	**3.67**	**78**	P	**Pn**	**11 44 21.9**	**0.0**
	4.4nm,0.3s,baz=138,slow=14,SNR=69						
JOW				S	**S**	**11 45 04.6**	**-2.7**
	30nm,0.3s,baz=94,slow=18,SNR=35						
JYRO	**Yoronjima**	**3.86**	**76**	P	**Pn**	**11 44 24.0**	**-0.2**
JYRO				S	**S**	**11 45 08.5**	**-3.0**
JOKE	**Okinoerabujima**	**4.05**	**72**	P	**Pn**	**11 44 26.1**	**-0.4**
JTK	**Tokunoshima**	**4.50**	**68**	P	**Pn**	**11 44 31.3**	**-0.8**
JTK				*e*S	**S**	**11 45 22.5**	**-3.3**
JAMN	**Amaminishikomi**	**4.86**	**63**	P	**Pn**	**11 44 35.6**	**-0.9**
JAMN				S	**S**	**11 45 30.2**	**-3.7**
JNU	**Nakatsue**	**9.04**	**38**	P	**Pn**	**11 45 33.0**	**+2.8**
	1.0nm,0.3s,baz=270,slow=6.0,SNR=10						
KSRS	**Korea Array**	**11.70**	**15**	P	**Pn**	**11 46 06.8**	**+2.5**
	0.8nm,0.3s,baz=197,slow=12,SNR=23						
KSRS				LR	LR	11 50 27.4	
	comp=Z,33nm,18.9s,baz=5.5,slow=36						
USRK	**Ussuriysk Ar.**	**19.08**	**17**	LR	LR	11 55 33.3	
	comp=Z,55nm,20.9s,baz=308,slow=38						
ASAJ	**Asahikawa**	**23.29**	**35**	P	**P**	**11 48 12.1**	**-0.1**
	6.1nm,0.6s,baz=230,slow=19,SNR=6.6						
KLR	**Kul'dur**	**23.78**	**12**	P	**P**	**11 48 16.8**	**+0.2**
	1.1nm,0.8s,baz=196,slow=15,SNR=5.0						
SONM	**Songino Array**	**25.81**	**332**	P	**P**	**11 48 35.1**	**0.0**
	0.4nm,0.4s,baz=150,slow=10,SNR=4.1						
PETK	**Petropavlovsk-**	**36.70**	**34**	P	**P**	**11 50 09.6**	**-0.4**
	4.4nm,0.9s,baz=183,slow=3.9,SNR=6.3						
MKAR	**Makanchi Array**	**38.96**	**313**	P	**P**	**11 50 28.9**	**0.0**
	1.3nm,0.4s,baz=96,slow=7.7,SNR=15						
ZALV	**Zalesovo Beam**	**40.20**	**324**	P	**P**	**11 50 38.3**	**-0.7**
	1.2nm,0.4s,baz=113,slow=7.8,SNR=7.8						
WRA	**Warramunga Arr**	**46.84**	**167**	P	**P**	**11 51 32.3**	**0.0**
	0.7nm,0.5s,baz=349,slow=8.7,SNR=9.1						
ASAR	**Alice Springs**	**50.38**	**168**	P	**P**	**11 51 59.7**	**+0.5**
	0.2nm,0.5s,baz=355,slow=14,SNR=7.0						
YKA	**Yellowknife Ar**	**80.08**	**24**	P	**P**	**11 55 08.9**	**-0.3**
	0.2nm,0.6s,baz=303,slow=4.8,SNR=5.6						
NVAR	**Mina Array Bea**	**93.11**	**44**	P	**P**	**11 56 14.5**	**+0.8**
	0.5nm,0.6s,baz=298,slow=6.7,SNR=4.9						

NEIC 11 12:05:17.5±0.5, 6°.76S×148°.72E, h10km, mb4.5/18, Error ellipse: s-maj=9.5km s-min=7.8km az=130.0
IDC 11 12:05:17.3±1.5, 6°.70S×148°.74E, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.0/33, mbtmp4.2/7, ML4.1/1, MS3.6/6, Ms1 3.6/6, ms1mx3.2/40, Error ellipse: s-maj=47.0km s-min=23.6km az=117.0
ISCJB 11 12:05:19.3±0.5, 6°.85S±0°.06×148°.73E±0°.07, h35km, mb4.4/17, MS3.5/6, Error ellipse: s-maj=10.7km s-min=7.4km az=33.6

ISC 11 12:05:20.9±0.6, 6°.83S±0°.08×148°.73E±0°.09, h35km, n36, σ1s24/34, mb4.6/17, MS3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.30**	**53**	*e*Pn	**Pn**	**12 06 24.1**	**+0.2**
COEN	**Coen**	**8.95**	**217**	*e*Pn	**Pn**	**12 07 27.2**	**-0.6**
COEN				*e*Sn	**Sn**	**12 09 06.3**	**-1.1**
HNR	**Honiara**	**11.40**	**104**	*e*Pn	**Pn**	**12 08 00.5**	**-0.9**
CTAO	**Charters Tower**	**13.40**	**190**	*e*Pn	**Pn**	**12 08 28.1**	**-0.6**
MTN	**Manton Dam**	**18.34**	**250**	*e*Pn	**P**	**12 09 31.1**	**-1.4**
	33nm,1.4s						
EIDS	**Eidsvold**	**18.57**	**173**	*e*P	**Pn**	**12 09 35.6**	**+0.2**
	20nm,1.3s						
WRAB	**Tennant Creek**	**19.09**	**226**	*e*P	**P**	**12 09 40.8**	**0.0**
	15nm,1.3s						
WB2	**Warramunga Arr**	**19.10**	**226**	*e*P	**P**	**12 09 41.7**	**+0.8**
	7.1nm,0.8s						
WR1	**Warramunga Arr**	**19.11**	**226**	*e*P	**P**	**12 09 42.2**	**+1.2**
	24nm,1.4s						
WRA	**Warramunga Arr**	**19.11**	**226**	P	**P**	**12 09 42.2**	**+1.2**
	0.6nm,0.3s,baz=51,slow=11,SNR=24						
AS01	**Alice Springs**	**21.95**	**219**	*e*P	**P**	**12 10 13.2**	**+1.4**
AS31	**Alice Springs**	**21.98**	**219**	*e*P	**P**	**12 10 13.4**	**+1.3**
	4.7nm,0.6s						
ASAR	**Alice Springs**	**21.98**	**219**	P	**P**	**12 10 13.5**	**+1.4**
	8.9nm,0.7s,baz=55,slow=9.3,SNR=122						
ASAR				LR	LR	12 19 21.4	
	comp=Z,188nm,18.4s,baz=54,slow=38						
SARN	**Sarigan**	**23.56**	**353**	*e*P	**P**	**12 10 27.1**	**-1.3**
	71nm,1.3s						
ARMA	**Armidale**	**23.62**	**174**	*e*P	**P**	**12 10 29.3**	**+0.2**
	13nm,1.3s						
SOEI	**Soe**	**24.38**	**261**	*e*P	**P**	**12 10 36.3**	**0.0**
	26nm,0.9s						
BATI	**Baumata**	**25.02**	**261**	P	**P**	**12 10 44.9**	**+2.9**
	37nm,0.6s,baz=97,slow=5.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**25.14**	**241**	*e*P	**P**	**12 10 43.4**	**+0.4**
	32nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.14**	**241**	P	**P**	**12 10 44.3**	**+1.3**
	31nm,0.8s,baz=80,slow=7.9,SNR=31						
FITZ				LR	LR	12 20 36.3	
	comp=Z,127nm,19.4s,baz=70,slow=36						
STKA	**Stephens Creek**	**25.80**	**194**	*e*P	**P**	**12 10 49.8**	**+1.1**
	3.4nm,1.4s						
STKA	**Stephens Creek**	**25.80**	**194**	P	**P**	**12 10 52.2**	**+3.4**
	2.3nm,0.6s,baz=358,slow=9.9,SNR=6.7						
STKA				LR	LR	12 22 14.2	
	comp=Z,160nm,18.7s,baz=345,slow=39						
DAV	**Davao City (W)**	**26.91**	**300**	LR	LR	12 22 38.6	
	comp=Z,81nm,18.5s,baz=129,slow=39						
BBOO	**Buckleboo**	**28.41**	**203**	*e*P	**P**	**12 11 13.0**	**+0.7**
	10nm,1.3s						
FORT	**Forrest**	**30.71**	**217**	*e*P	**P**	**12 11 33.2**	**+0.5**
	20nm,0.8s						
MBWA	**Marble Bar**	**31.46**	**240**	*e*P	**P**	**12 11 39.7**	**+0.3**
	20nm,1.3s						
URZ	**Urewera**	**40.48**	**145**	LR	LR	12 27 17.8	
	comp=Z,138nm,19.7s,baz=280,slow=32						
CISI	**Cisompet, Garu**	**40.59**	**266**	*e*P	**P**	**12 12 57.1**	**-0.6**
	22nm,1.0s						
JNU	**Nakatsue**	**43.20**	**338**	LR	LR	12 27 49.3	
	comp=Z,45nm,19.4s,baz=110,slow=31						
KULM	**Kulim**	**49.48**	**283**	*e*P	**P**	**12 14 07.7**	**-0.7**
	4.0nm,0.6s						
PSI	**Prapat**	**50.63**	**279**	*e*P	**P**	**12 14 16.1**	**-1.1**
	6.1nm,1.1s						
MK01	**Makanchi Array**	**79.22**	**320**	*e*P	**P**	**12 17 21.3**	**-1.2**
MK32	**Makanchi Array**	**79.23**	**320**	*e*P	**P**	**12 17 23.7**	**+1.1**
MKAR	**Makanchi Array**	**79.23**	**320**	P	**P**	**12 17 23.7**	**+1.1**
	0.4nm,0.8s,baz=98,slow=8.7,SNR=3.7						
QSPA	**South Pole Qui**	**83.14**	**180**	*e*P	**P**	**12 17 42.5**	**-0.6**
	10nm,1.5s						
ILAR	**Eielson Array**	**85.57**	**23**	P	**P**	**12 17 56.0**	**+0.7**
	0.2nm,0.6s,baz=245,slow=4.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**146.96**	**284**	PKPbc	**PKPab**	**12 25 03.1**	**+0.8**
	1.3nm,0.6s,baz=50,slow=3.6,SNR=9.8						

NEIC 11 12:20:19.0±0.0, 17°.04N×102°.61W, h16km, MD4.1(MEX), After MEX.

MEX 11 12:20:19.4±0.7, 17°.00N×102°.62W, h16km±27km, MD4.1, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**1.26**	**61**	*e*P	Pn	12 20 38.2	-4.1
ZIIG				*i* S	Sb	12 20 53.2	-5.5
MMIG	**Aquila**	**1.45**	**332**	*i* P	Pn	12 20 41.4	-3.7
MMIG				*i* S	Sn	12 20 58.1	-5.7
CAIG	**El Cayaco**	**2.25**	**88**	*i* P	Pn	12 20 52.2	-3.8
CAIG				*i* S	Sn	12 21 16.1	-7.4
ARIG	**Puente Sto Nin**	**2.51**	**59**	*e*P	Pn	12 20 57.3	-2.3
ARIG				*e*S	Sn	12 21 25.8	-4.2
R15V		**2.52**	**329**	*e*P	Pn	12 20 56.8	-2.9
R15V				*i* S	Sn	12 21 26.7	-3.4
EZ5V		**2.63**	**339**	*e*P	Pn	12 20 58.3	-3.2
EZ5V				*i* S	Sn	12 21 29.2	-4.0
MOIG	**Morelia**	**2.99**	**27**	*e*Pn	Pn	12 21 05.1	-1.3
MOIG				*e*Sn	Sn	12 21 40.0	-2.0
MOIG	**Morelia**	**2.99**	**27**	*e*P	Pn	12 21 03.9	-2.5
MOIG				*i* S	Sn	12 21 37.9	-4.1
MEIG	**Mezcala**	**3.01**	**72**	*i* P	Pn	12 21 03.5	-3.1
MEIG				*i* S	Sn	12 21 37.8	-4.5
PLIG	**Platanillo**	**3.28**	**65**	*e*P	Pn	12 21 08.1	-2.1
PLIG				*i* S	Sn	12 21 44.8	-4.2
TLIG	**Tlapa**	**3.92**	**81**	*e*Pn	Pn	12 21 17.1	-1.9
TLIG				*e*Sn	Sn	12 22 00.3	-4.4
TLIG	**Tlapa**	**3.92**	**81**	*e*P	Pn	12 21 16.2	-2.8
TLIG				*i* S	Sn	12 22 00.8	-3.9
UNM	**Universidad Na**	**4.01**	**54**	*e*Pn	Pn	12 21 18.9	-1.6
ZAIG	**Zacatecas**	**5.74**	**1**	*e*Pn	Pn	12 21 44.0	-0.3
LVIG	**Laguna Verde**	**6.48**	**64**	*e*Pn	Pn	12 21 51.9	-2.3
LNIG	**Linares**	**8.39**	**20**	*e*Pn	Pn	12 22 19.3	-1.2
KVTX	**Kingsville**	**11.37**	**22**	*e*Pn	Pn	12 22 59.8	-1.4

IDC 11 12:29:13.6±1.5, 3°.16S×128°.49E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.5/37, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=43.2km s-min=25.6km az=77.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.59**	**51**	Pn	Pn	12 30 09.1	-1.4
	6.2nm,0.3s,baz=231,slow=14,SNR=36						
SIJI				Sn	Sn	12 30 46.2	-7.5
	4.4nm,0.3s,baz=103,slow=23,SNR=12						
WRA	**Warramunga Arr**	**17.63**	**162**	P	Pn	12 33 20.7	-0.1
	0.3nm,0.3s,baz=337,slow=12,SNR=19						
ASAR	**Alice Springs**	**21.05**	**166**	P	P	12 33 59.8	+0.5
	1.8nm,0.4s,baz=347,slow=12,SNR=38						
MKAR	**Makanchi Array**	**64.21**	**327**	P	P	12 39 50.5	+0.2
	0.2nm,0.5s,baz=98,slow=9.1,SNR=3.4						

ISK 11 12:33:58.8, 38°.76N×43°.34E, h8km, ML2.2/5
ISCJB 11 12:33:59.8±0.5, 38°.77N±0°.02×43°.39E±0°.04, h10km±5km, Error ellipse: s-maj=5.2km s-min=4.1km az=1.2
DDA 11 12:33:59.0, 38°.76N×43°.42E, h7km±3km, ML2.6

ISC 11 12:33:59.4±1.2, 38°.76N±0°.03×43°.41E±0°.03, h15km±11km, n13, σ0s52/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**184**	PG	**Pb**	**12 34 04.6**	**+0.2**
TVAN	**Van**	**0.23**	**180**	*i* P	**Pg**	**12 34 04.9**	**+0.2**
TVAN				*i* S	**Sb**	**12 34 09.1**	**-0.5**
TVAN				IAML_P			
	comp=Z,5μm,0.1s						
VMUR	**Van-Muradiye**	**0.26**	**30**	*i* P	**Pb**	**12 34 05.8**	**-0.2**
VMUR				*i* S	**Sb**	**12 34 10.9**	**+0.6**
VMUR				IAML_P			
	comp=Z,744nm,0.1s						
GEVA	**Gevas**	**0.53**	**211**	*i* P	**Pb**	**12 34 10.1**	**-0.4**
GEVA				*i* S	**Sb**	**12 34 18.2**	**+0.3**
GEVA				IAML_P			
	comp=Z,2μm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.53**	**275**	*i* P	**Pb**	**12 34 10.7**	**+0.1**
ADCV				*i* S	**Sb**	**12 34 19.0**	**+0.8**
AKDM	**Akdamar-Van**	**0.55**	**218**	PG	**Pg**	**12 34 09.4**	**-0.9**
CLDR	**Caldiran**	**0.55**	**46**	PG	**Pg**	**12 34 10.4**	**0.0**
TUTA	**Tutak**	**0.79**	**324**	*i* P	**Pg**	**12 34 14.4**	**-0.4**
TUTA				*i* S	**Sb**	**12 34 26.1**	**+0.5**
BASK	**Baskale_VAN**	**0.85**	**146**	*e*P	**Pg**	**12 34 15.5**	**-0.5**
BASK

comp=Z,31nm,1.1s
LSZ Lusaka 29.67 338 *e*P **P 12 58 17.9 -0.3**
LSZ pmax pmax
comp=Z,31nm,1.1s
LSZ Lusaka 29.67 338 P **P 12 58 18.5 +0.4**
comp=Z,9.5nm,1.0s,baz=177,slow=7.4,SNR=11
LSZ LR LR 13 08 56.3
comp=Z,665nm,20.5s,baz=167,slow=34
TSUM Tsumeb 30.35 316 *e*P **P 12 58 23.6 -0.6**
comp=Z,26nm,1.2s
SNAA Sanae 34.87 202 *e*P **P 12 59 04.5 +1.3**
comp=Z,15nm,1.2s
SNAA Sanae 34.87 202 *e*P **P 12 59 03.2 0.0**
KMBO Kilima Mbogo 42.17 357 LR LR 13 15 22.2
comp=Z,1µm,20.6s,baz=104,slow=33
QSPA South Pole Qui 46.77 180 *e*P **P 13 00 41.1 -0.4**
comp=Z,18nm,1.2s
QSPA South Pole Qui 46.77 180 P **P 13 00 43.3 +1.8**
comp=Z,2.8nm,0.9s,baz=203,slow=1.4,SNR=8.7
VNDA Vanda 54.28 167 LR LR 13 24 10.5
comp=Z,367nm,18.4s,baz=232,slow=35
ATD Arta Tunnel 54.79 4 *e*P **P 13 01 41.1 -1.1**
comp=Z,37nm,1.5s
SBA Scott Base 54.83 168 *e*P **P 13 01 42.4 +0.6**
comp=Z,8.1nm,1.1s
SBA Scott Base 54.83 168 *e*P **P 13 01 42.4 +0.6**
SBA pmax pmax
comp=Z,8.0nm,1.1s
H01W2 Cape Leeuwin H 56.76 109 T T 14 03 13.9
baz=238,slow=75,SNR=5.3
H01W3 Cape Leeuwin H 56.77 109 T T 14 03 14.4
baz=238,slow=75,SNR=5.8
H01W1 Cape Leeuwin H 56.78 109 T T 14 03 15.9
baz=238,slow=75,SNR=4.6
DAMY Dhamar 57.90 6 *e*P **P 13 02 04.9 +0.2**
comp=Z,12nm,0.5s
KIC Kosan Boka 63.65 309 *e*P **P 13 02 43.8 +0.2**
comp=Z,72nm,1.4s
LIC Lamto 63.70 309 *e*P **P 13 02 44.0 +0.1**
comp=Z,45nm,1.1s
DBIC Dimbokro 63.97 309 *e*P **P 13 02 45.0 -0.7**
comp=Z,48nm,1.5s
DBIC Dimbokro 63.97 309 *e*P **P 13 02 45.0 -0.7**
DBIC pmax pmax
comp=Z,48nm,1.5s
DBIC Dimbokro 63.97 309 P **P 13 02 46.0 +0.4**
comp=Z,7.9nm,0.9s,baz=125,slow=6.3,SNR=6.2
DBIC LR LR 13 27 07.1
comp=Z,243nm,21.4s,baz=122,slow=33
TIC Toumodi 64.04 309 *e*P **P 13 02 46.5 +0.3**
TOA0 Torodi Ar. Sit 66.03 319 *e*P **P 13 02 58.1 -0.9**
TORD Torodi Ar. Bea 66.03 319 P **P 13 02 58.2 -0.8**
comp=Z,12nm,1.0s,baz=151,slow=4.9,SNR=38
TORD PP **PP 13 05 26.8 +2.2**
comp=Z,1.9nm,1.0s,baz=141,slow=7.4,SNR=3.7
TORD LR LR 13 30 43.7
comp=Z,326nm,19.6s,baz=300,slow=35
TOA1 Torodi Ar. Sit 66.03 319 *e*P **P 13 02 58.2 -0.8**
RAYN Ar Rayn 66.86 6 *e*P **P 13 03 03.8 -0.5**
comp=Z,15nm,1.6s
RAYN Ar Rayn 66.86 6 *e*P **P 13 03 03.8 -0.5**
RAYN pmax pmax
comp=Z,15nm,1.6s
GSI Gunungsitoli 68.35 66 *e*P **P 13 03 14.1 +0.2**
comp=Z,45nm,1.2s
BKNI Bangkinang 69.97 69 *e*P **P 13 03 23.8 -0.2**
comp=Z,54nm,0.5s
PSI Prapat 70.36 66 *e*P **P 13 03 25.7 -0.8**
comp=Z,18nm,1.0s
PSI Prapat 70.36 66 *e*P **P 13 03 25.7 -0.8**
PSI pmax pmax
comp=Z,18nm,1.0s
PSI Prapat 70.36 66 LR LR 13 29 09.2
comp=Z,108nm,19.5s,baz=190,slow=32
HYB Hyderabad 70.38 40 *i* P **P 13 03 25.0 -1.4**
BBOO Buckleboo 72.62 119 *e*P **P 13 03 39.2 -0.7**
comp=Z,26nm,1.0s
TAM Tamanrasset 72.90 327 *e*P **P 13 03 41.9 +0.3**
comp=Z,15nm,1.4s
TAM Tamanrasset 72.90 327 *e*P **P 13 03 41.9 +0.3**
TAM pmax pmax
comp=Z,15nm,1.4s
IPM Ipoh 73.00 66 *e*P **P 13 03 41.9 -0.4**
comp=Z,15nm,1.0s
KULM Kulim 73.35 66 *e*P **P 13 03 44.1 -0.2**
comp=Z,34nm,1.1s
TRTT Trang 74.62 63 P **P 13 03 51.3 -0.4**
FITZ Fitzroy Crossi 75.09 101 *e*P **P 13 03 54.3 -0.2**
comp=Z,22nm,1.3s
FITZ Fitzroy Crossi 75.09 101 LR LR 13 33 37.9
comp=Z,111nm,18.4s,baz=229,slow=33
PLCA Paso Flores 75.16 228 LR LR 13 31 45.5
comp=Z,125nm,19.0s,baz=152,slow=32
STKA Stephens Creek 76.73 121 *e*P **P 13 04 03.4 -0.3**
comp=Z,3.9nm,1.0s
STKA Stephens Creek 76.73 121 *e*P **P 13 04 03.4 -0.3**
STKA pmax pmax
comp=Z,4.0nm,1.0s
STKA Stephens Creek 76.73 121 P **P 13 04 03.9 +0.2**
comp=Z,19nm,1.1s,baz=248,slow=4.5,SNR=28
CPUP Villa Florida 76.98 246 *e*P **P 13 04 04.9 -0.2**
comp=Z,12nm,1.1s
CPUP Villa Florida 76.98 246 *e*P **P 13 04 04.9 -0.2**
CPUP pmax pmax
comp=Z,12nm,1.1s
CPUP Villa Florida 76.98 246 P **P 13 04 05.9 +0.8**
comp=Z,7.5nm,1.0s,baz=129,slow=3.9,SNR=9.1
CPUP LR LR 13 32 50.8
comp=Z,115nm,20.6s,baz=66,slow=32
ASAR Alice Springs 77.21 110 P **P 13 04 06.0 -0.6**
comp=Z,6.3nm,1.1s,baz=217,slow=5.7,SNR=20
AS31 Alice Springs 77.21 110 *e*P **P 13 04 05.6 -1.0**
comp=Z,1.5nm,1.0s
AS01 Alice Springs 77.24 110 *e*P **P 13 04 05.7 -1.0**
BDFB Brasilia 77.59 260 *e*P **P 13 04 09.1 +0.2**
comp=Z,29nm,1.3s
BDFB Brasilia 77.59 260 *e*P **P 13 04 09.1 +0.2**
BDFB pmax pmax
comp=Z,29nm,1.3s
BDFB Brasilia 77.59 260 P **P 13 04 10.2 +1.3**
comp=Z,13nm,1.1s,baz=96,slow=4.2,SNR=7.5
WRA Warramunga Arr 80.00 108 P **P 13 04 21.3 -0.7**
comp=Z,8.1nm,1.1s,baz=219,slow=4.2,SNR=16
WRA LR LR 13 34 07.5
comp=Z,333nm,21.4s,baz=220,slow=32
WR1 Warramunga Arr 80.00 108 *e*P **P 13 04 21.3 -0.7**
comp=Z,26nm,1.4s
WB2 Warramunga Arr 80.01 108 *e*P **P 13 04 21.5 -0.5**
WRAB Tennant Creek 80.01 108 *e*P **P 13 04 21.3 -0.8**
comp=Z,22nm,1.3s
WRAB Tennant Creek 80.01 108 *i* P **P 13 04 21.2 -0.8**
WRAB pmax pmax
comp=Z,11nm,1.1s
PBKT Sadao Pong 82.03 58 *e*P **P 13 04 31.2 -1.4**
comp=Z,3.7nm,0.9s
KBL Kabul 82.18 24 *e*P **P 13 04 32.9 -0.4**
comp=Z,5.5nm,0.6s
KBL Kabul 82.18 24 *e*P **P 13 04 32.9 -0.4**
KBL pmax pmax
comp=Z,6.0nm,0.6s
CM01 Chiang Mai Arr 82.21 56 *e*P **P 13 04 32.6 -0.9**
CM31 Chiang Mai Arr 82.23 56 *e*P **P 13 04 32.8 -0.9**
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 82.23 56 P **P 13 04 33.1 -0.6**
comp=Z,1.5nm,0.4s,baz=232,slow=6.4,SNR=18
CMAR LR LR 13 37 28.2
comp=Z,102nm,18.1s,baz=218,slow=33
CHTO Chiang Mai 82.50 55 *e*P **P 13 04 34.3 -0.8**
comp=Z,7.1nm,1.1s
CHTO Chiang Mai 82.50 55 *e*P **P 13 04 34.3 -0.8**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
GEYT Alibeck 82.75 15 P **P 13 04 35.7 -0.2**
comp=Z,5.9nm,1.1s,baz=234,slow=7.1,SNR=9.3
GEYT LR LR 13 37 45.7
comp=Z,176nm,21.4s,baz=205,slow=33
GYA0B ALIBECK ARRAY 82.75 15 *e*P **P 13 04 35.4 -0.6**
comp=Z,20nm,1.4s
BRTR Keskin Array B 82.95 356 *i* P **P 13 04 35.7 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 82.95 356 P **P 13 04 36.6 -0.5**
comp=Z,1.1nm,0.9s,baz=163,slow=5.2,SNR=4.6
BRTR LR LR 13 42 05.9
comp=Z,124nm,18.4s,baz=138,slow=36
BR101 Keskin Array S 82.95 356 *e*P **P 13 04 36.6 -0.5**
RPZ Rata Peaks 83.05 147 LR LR 13 35 16.0
comp=Z,160nm,18.1s,baz=212,slow=31
GNI Garni 83.34 4 *e*P **P 13 04 38.8 -0.2**
comp=Z,34nm,1.5s
GNI Garni 83.34 4 *i* P **P 13 04 38.9 -0.2**
GNI pmax pmax
comp=Z,32nm,1.3s
KEST Kesra 83.43 336 *e*P **P 13 04 40.2 +0.7**
comp=Z,29nm,1.3s
KEST Kesra 83.43 336 P **P 13 04 41.8 +2.2**
comp=Z,3.1nm,0.6s,baz=163,slow=3.0,SNR=3.8
KEST LR LR 13 44 04.5
comp=Z,567nm,18.6s,baz=152,slow=37
SHL Shillong 83.86 46 *e*P **P 13 04 41.5 -0.7**
comp=Z,72nm,1.6s
SHL Shillong 83.86 46 *e*P **P 13 04 41.5 -0.7**
SHL pmax pmax
comp=Z,72nm,1.6s
TBLG Delisi 84.92 4 *e*P **P 13 04 47.1 +0.2**
comp=Z,11nm,0.5s
TBLG Delisi 84.92 4 *e*P **P 13 04 47.1 +0.2**
TBLG pmax pmax
comp=Z,11nm,0.5s
CHGR Chuyangaron 86.04 23 *e*P **P 13 04 52.1 -0.6**
comp=Z,58nm,1.3s
GAR Garm 86.69 24 *e*P **P 13 04 55.0 -0.9**
comp=Z,48nm,1.4s
GAR Garm 86.69 24 *e*P **P 13 04 55.0 -0.9**
GAR pmax pmax
comp=Z,48nm,1.4s
KBZ Khabaz 86.84 3 P **P 13 04 57.2 +1.0**
comp=Z,4.6nm,1.1s,baz=246,slow=3.9,SNR=5.6
KBZ LR LR 13 43 40.8
comp=Z,86nm,19.3s,baz=180,slow=36
LSA Lhasa 86.85 43 *e*P **P 13 04 56.8 -0.6**
comp=Z,15nm,1.3s
LSA Lhasa 86.85 43 *e*P **P 13 04 56.8 -0.6**
LSA pmax pmax
comp=Z,15nm,1.3s
KSH Kashi 88.94 27 *e*P **P 13 05 08.5 +1.8**
KSH pP pwP 13 05 13.1 +1.4
KSH PP **PP 13 08 39.4 +2.6**
KSH S **S 13 15 55.5 +0.9**
KSH pmax pmax
comp=Z,160nm,5.1s
MLR Muntele Rosu 89.35 351 *e*P **P 13 05 08.1 -0.4**
comp=Z,22nm,1.5s
MLR Muntele Rosu 89.35 351 *e*P **P 13 05 08.1 -0.4**
MLR pmax pmax
comp=Z,23nm,1.5s
KMI Kunming 89.58 54 P **P 13 05 11.4 +1.2**
KMI pmax pmax
comp=Z,11nm,0.5s
ARSB Arslanbob 89.62 25 *e*P **P 13 05 09.2 -0.7**
comp=Z,9.3nm,1.2s
URZ Urewera 90.09 148 LR LR 13 41 54.3
comp=Z,163nm,18.3s,baz=216,slow=33
LPAZ La Paz 91.15 246 LR LR 13 41 41.7
comp=Z,103nm,19.3s,baz=68,slow=32
ES06 SONSECA Array 91.55 328 *e*P **P 13 05 18.4 -0.3**
ESDC Sonseca Array 91.56 328 P **P 13 05 19.4 +0.6**
comp=Z,1.3nm,0.8s,baz=139,slow=7.0,SNR=5.8
ESDC LR LR 13 47 16.5
comp=Z,362nm,19.0s,baz=140,slow=36
BUR08 Bucovina Ar. S 91.56 350 *e*P **P 13 05 18.6 -0.1**
comp=Z,12nm,1.4s
GYA Guiyang 92.92 56 *e*P **P 13 05 27.2 +1.7**
GYA PP **PP 13 09 12.2 +3.7**
GYA SKS **SKSac 13 15 59.6 -0.1**
GYA S **S 13 16 30.0 -1.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.9s
AKASG Malin Array Be 94.18 354 LR LR 13 49 14.9
comp=Z,72nm,20.3s,baz=290,slow=36
VSR Storozhevoye 94.27 360 *i* P **P 13 05 30.1 -0.8**
VSR pmax pmax
comp=Z,23nm,1.5s
CD2 Chengdu 94.53 51 P **P 13 05 33.3 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
GERES GERESS Array B 94.64 343 LR LR 13 49 46.5
comp=Z,163nm,21.1s,baz=163,slow=37
WMQ Urumqi 96.99 33 *e*P **P 13 05 44.8 +1.2**
WMQ LR LR
comp=Z,300nm,26.5s
WMQ LR LR
comp=Z,170nm,23.1s
WMQ LR LR
comp=Z,340nm,26.5s
CLL Collm 97.12 344 *e*PS PS 13 18 30.0 +0.3
CLL *e*SS SS 13 23 54.0 +9.2
CLL *e* 13 26 54.0
CLL LmV 13 50 00.0
comp=Z,200nm,19.8s
MK01 Makanchi Array 97.51 28 *e*P **P 13 05 44.1 -1.8**
MK32 Makanchi Array 97.52 28 *e*P **P 13 05 44.5 -1.4**
MKAR Makanchi Array 97.52 28 P **P 13 05 44.5 -1.4**
comp=Z,0.7nm,0.9s,baz=220,slow=3.2,SNR=6.0
MKAR LR LR 13 46 33.5
comp=Z,64nm,20.1s,baz=228,slow=34
OBN Obninsk 98.21 358 *e*P **P 13 05 48.6 -0.1**
OBN *e* 13 09 46.9
OBN *e*PPP PPP 13 11 51.4
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,154nm,23.0s
LZH Lanzhou 98.45 48 *e*P **P 13 05 50.5 -0.1**
LZH pP sP 13 05 53.7 +0.4
LZH sP pwP 13 05 55.3 -0.4
LZH *e*PP **PP 13 09 53.7 +2.4**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,97nm,8.2s
LZH LR LR
comp=Z,320nm,17.2s
LZH LR LR
comp=Z,450nm,19.8s
DZM Mont Dzumac 98.67 131 LR LR 13 43 24.9
comp=Z,221nm,18.5s,baz=220,slow=31
GTA Gaotai 98.88 43 *e*P **P 13 05 51.7 -0.6**
GTA pP pwP 13 05 57.9 +0.4
GTA sP sP 13 06 01.2 +6.1
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,100nm,4.6s
GTA LR LR
comp=Z,120nm,19.2s
GTA LR LR
comp=Z,410nm,21.6s
BVAR Borovoye Array 99.71 18 LR LR 13 48 36.3
comp=Z,108nm,19.4s,baz=216,slow=34
KURK Kurchatov 99.78 24 *i* P **Pdif 13 05 54.1 -1.8**
KURK pmax pmax
comp=Z,1.0nm,1.0s
NNA Nana 100.03 243 *i* P **Pdif 13 05 55.0 -3.1**
ARU Arti 100.80 11 *i* P **Pdif 13 05 58.0 -2.2**
ARU pmax pmax
comp=Z,2.0nm,1.0s
TBI Tubuai 113.04 171 *e*SS SS 13 27 25.5 +4.8
comp=Z,74nm,40.8s
TBI Tubuai 113.04 171 *e*LR LR 13 44 42.1
comp=Z,333nm,40.0s
PPT2 Papeete2 118.72 170 *e*SS SS 13 28 42.3 +7.1
comp=Z,93nm,28.5s
PPT2 Papeete2 118.72 170 *e*LR LR 13 47 30.2
comp=Z,220nm,20.8s
KLR Kul'dur 122.46 51 *i* PKIKP **PKPdf 13 11 05.1 -1.9**
TAOE Nuku Hiva Isla 127.96 181 *e*LR LR 13 51 49.3
comp=Z,272nm,25.1s
TIXI Tiksi 130.36 25 *e*PKIKP **PKPdf 13 11 21.1 -0.3**
TIXI pmax pmax
comp=Z,6.0nm,1.8s
454A Quitman 133.66 274 P **PKPdf 13 11 29.2 +0.3**
baz=122
X56A White Oak 133.73 280 P **PKiKP 13 11 29.7 -0.5**
baz=120
LONY Lake Ozonia 133.73 295 P **PKiKP 13 11 30.2 +0.3**
baz=113
155A Kite 133.82 277 P **PKPdf 13 11 29.8 +0.6**
baz=121
SSPA Standing Stone 134.34 289 P **PKPdf 13 11 30.0 +0.2**
baz=115

V55A Taylorsville 134.52 281 P **PKiKP 13 11 31.3 -0.5**
baz=118
O56A Blue Knob Stat 134.65 288 P **PKPdf 13 11 31.1 +0.5**
baz=115
U55A TA2, Sparta 134.71 282 P **PKPdf 13 11 31.5 +0.7**
baz=118
W54A Cherokee Point 134.85 280 P **PKiKP 13 11 31.8 -0.7**
baz=119
O55A Ligonier 135.13 288 P **PKiKP 13 11 32.5 -0.4**
baz=115
Q55A Buckhannon 135.15 286 P **PKiKP 13 11 33.4 +0.3**
baz=116
N55A Marion Center 135.15 289 P **PKiKP 13 11 33.4 +0.4**
baz=115
R54A Victor 135.43 284 P **PKiKP 13 11 34.1 +0.5**
baz=116
PLVO Plevna 135.53 295 P **PKiKP 13 11 33.6 +0.1**
baz=111
V53A Saluda 135.57 280 P **PKiKP 13 11 34.1 +0.1**
baz=118
X52A Dahlonega 135.84 278 P **PKiKP 13 11 34.2 -0.4**
baz=119
PEMO Pembroke 135.88 296 P **PKiKP 13 11 33.8 -0.4**
baz=111
M54A Oil Creek Stat 135.92 289 P **PKiKP 13 11 34.4 0.0**
baz=114
O53A New Philadelph 136.48 287 P **PKiKP 13 11 35.2 -0.4**
baz=114
G53A Haliburton 136.59 295 P **PKiKP 13 11 35.2 -0.5**
baz=111
U50A Jamestown 137.38 280 P **PKiKP 13 11 37.0 -0.6**
baz=117
O51A Pataskala 137.41 286 P **PKiKP 13 11 37.2 -0.4**
baz=114
T50A Nancy 137.65 281 P **PKiKP 13 11 37.9 -0.2**
baz=117
U47A Clarksville 139.15 279 P **PKiKP 13 11 40.8 -0.4**
baz=117
X46A Booneville 139.21 276 P **PKiKP 13 11 41.1 -0.2**
baz=118
V44A Blytheville 140.75 277 P **PKiKP 13 11 44.3 -0.1**
baz=117
S43A Fulton Ridge, 141.65 279 P **PKiKP 13 11 46.4 +0.1**
baz=115
M44A Midewin, Midew 141.69 286 P **PKiKP 13 11 46.1 -0.1**
baz=111
W41B Gary Mavity, V 142.16 274 P **PKiKP 13 11 47.3 -0.1**
baz=118
K43A Burlington 142.35 287 P **PKiKP 13 11 47.5 0.0**
baz=109
R42A Luebbering 142.46 280 P **PKiKP 13 11 47.6 -0.3**
baz=114
L43A Garden Prairie 142.46 286 P **PKiKP 13 11 47.5 -0.3**
baz=110
T41A Mountain View 142.64 277 P PKPpre 13 11 40.5
baz=115
CCM Cathedral Cave 142.69 279 P PKPpre 13 11 40.9
baz=114
S41A Jillco Farms, 142.86 278 P PKPpre 13 11 42.0
baz=115
R41A Rosebud 142.88 279 P PKPpre 13 11 42.3
baz=114
BILL Bilibino 143.04 30 *e*PKIKP PKPpre 13 11 41.0
BILL *e* 13 11 46.5
BILL pmax pmax
comp=Z,3.0nm,1.0s
K42A Prairie Point, 143.08 287 P PKPbc 13 11 43.0 +0.2
baz=109
U40A Yellville 143.13 276 P PKPab 13 11 42.0 +0.4
baz=116
I42A Draeger Farm, 143.13 289 P PKPbc 13 11 42.8 0.0
baz=108
F42A Maple Grove Fa 143.14 292 P PKPbc 13 11 42.6 -0.2
baz=106
E42A Champion 143.17 293 P PKPbc 13 11 42.8 -0.1
baz=105
G42A Mountain 143.20 291 P PKPbc 13 11 42.7 -0.2
baz=106
O41A Passleys Farm, 143.24 282 P PKPbc 13 11 43.2 0.0
baz=112
N41A Harden Midland 143.43 283 P PKPbc 13 11 43.4 -0.4
baz=111
M41A Milan 143.45 284 P PKPbc 13 11 43.3 -0.5
baz=110
K41A Shullsburg 143.70 286 P PKPab 13 11 43.1 -0.5
baz=109
J41A Loganville 143.73 288 P PKPab 13 11 43.4 -0.4
baz=108,SNR=7.8
JFWS Jewell Farm 143.75 287 P PKPab 13 11 43.5 -0.4
baz=108,SNR=6.2
I41A Arkdale 143.84 289 P PKPbc 13 11 44.6 -0.2
baz=107,SNR=7.2
435B Jarrell 143.85 264 *e*PKPpre PKPab 13 11 43.9 -0.7
435B Jarrell 143.85 264 P PKPab 13 11 44.6 0.0
baz=123
H41A Junction City 143.86 290 P PKPab 13 11 44.2 0.0
baz=106,SNR=5.1
E41A Kenton 143.88 293 P PKPab 13 11 44.2 0.0
baz=104
N40A Mertquake, Sal 144.01 283 P **PKPab 13 11 44.8 -0.1**
baz=111,SNR=7.8
M40A Post Highland 144.14 284 P **PKPab 13 11 45.4 0.0**
baz=110,SNR=8.7
L40A Anamosa 144.16 285 *e*PKPdf PKPbc 13 11 45.7 -0.2
L40A Anamosa 144.16 285 P **PKPab 13 11 45.5 +0.1**
baz=109
J40A Soldiers Grove 144.25 288 P **PKPab 13 11 44.9 -0.9**
baz=108,SNR=7.9
K40A Colesburg 144.31 286 P **PKPab 13 11 45.9 -0.1**
baz=108,SNR=10
I40A Norwalk 144.31 288 P **PKPab 13 11 46.1 +0.1**
baz=107,SNR=7.5
H40A Chili 144.36 290 P PKPbc 13 11 46.3 -0.1
baz=106,SNR=12
WHTX Lake Whitney, 144.40 266 *e*PKPdf **PKPab 13 11 46.8 +0.1**
WHTX Lake Whitney, 144.40 266 P **PKPab 13 11 46.7 +0.1**
baz=121
G40A Rib Lake 144.41 291 P **PKPab 13 11 46.4 +0.1**
baz=105
F40A Park Falls 144.53 292 P **PKPab 13 11 46.4 -0.3**
baz=104,SNR=5.3
M39A Webster 144.64 284 P **PKPab 13 11 47.0 -0.2**
baz=110,SNR=14
L39A Vinton 144.73 285 P **PKPab 13 11 47.3 -0.2**
baz=109,SNR=14
K39A Oelwein 144.83 286 P **PKPab 13 11 47.1 -0.8**
baz=108,SNR=6.1
J39A Decorah 144.90 287 P **PKPab 13 11 47.9 -0.3**
baz=107,SNR=9.2
I39A Houston 144.93 288 *e*PKPdf **PKPab 13 11 47.9 -0.3**
I39A Houston 144.93 288 P **PKPab 13 11 47.9 -0.3**
baz=107
E39A Mellen 144.93 293 P **PKPab 13 11 47.6 -0.6**
baz=104
H39A Augusta 144.99 290 P PKPbc 13 11 47.8 -0.6
baz=106
F39A Loretta 145.06 292 P **PKPbc 13 11 47.9 -0.7**
baz=104,SNR=6.9
TUL1 Leonard 145.07 273 *e*PKPbc **PKPbc 13 11 48.9 -0.1**
TUL1 Leonard 145.07 273 P **PKPbc 13 11 47.9 -1.1**
baz=116
G39A Holcombe 145.07 291 P **PKPbc 13 11 47.7 -0.9**
baz=105
JCT Junction City 145.29 262 *e*PKPbc **PKPbc 13 11 49.7 -0.2**
JCT Junction City 145.29 262 *e*PKIKP **PKPbc 13 11 49.7 -0.2**
JCT Junction City 145.29 262 P **PKPbc 13 11 49.0 -0.9**
baz=123
G38A Ridgeland 145.51 290 P **PKPdf 13 11 49.0 -0.9**
baz=105
H38A Maiden Rock 145.68 289 P **PKPdf 13 11 49.1 -1.2**
baz=105
F38A Pierce - Schro 145.72 292 P **PKPdf 13 11 50.1 -0.2**
baz=104
EYMN Ely 145.89 295 *e*PKPdf **PKPbc 13 11 50.9 -0.3**
EYMN Ely 145.89 295 P **PKPdf 13 11 50.6 +0.1**
baz=101
F37A Hinrichs Farm, 146.18 291 P **PKPbc 13 11 52.0 -0.1**
baz=104
SPMN Marine on St. 146.18 290 P **PKPdf 13 11 51.3 +0.2**
baz=104
ABTX Abilene, Hawle 146.31 265 *e*PKPdf **PKPbc 13 11 52.5 -0.5**
ABTX Abilene, Hawle 146.31 265 P **PKPbc 13 11 52.7 -0.3**
baz=121
WMOK Wichita Mounta 146.71 269 *e*PKPdf **PKPdf 13 11 52.3 -0.1**
WMOK Wichita Mounta 146.71 269 *e*PKIKP **PKPdf 13 11 52.3 -0.1**
WMOK Wichita Mounta 146.71 269 P **PKPbc 13 11 53.2 -0.8**
baz=118
KSU1 Kansas State U 146.97 278 *e*PKPdf **PKPdf 13 11 53.0 +0.3**

KSU1	Kansas State U	146.97	278	P		PKPbc	13 11 53.9	-0.8
	baz=112							
HPIG		147.35	251	ePKPdf		PKPdf	13 11 53.7	-0.3
TX31	Lajitas Ar. Si	147.41	257	ePKPdf		PKPdf	13 11 53.8	0.0
TX31				ePKPdf		PKPbc	13 11 53.9	-2.4
TXAR	Lajitas Array	147.41	257	PKP		PKPdf	13 11 54.4	+0.6
	comp=Z,13nm,1.0s,baz=138,slow=2.6,SNR=59							
TXAR				PKPbc		pPKPdf	13 11 56.6	+0.6
	comp=Z,13nm,1.0s,baz=134,slow=5.2,SNR=58							
FCC	Fort Churchill	147.79	315	ePKPdf		PKPdf	13 11 54.7	+1.4
FCC	Fort Churchill	147.79	315	ePKP2		PKPdf	13 11 54.7	+1.4
ECSD	EROS Data Cent	148.44	286	ePKPdf		PKPdf	13 11 54.7	-0.2
ECSD	EROS Data Cent	148.44	286	P		PKPbc	13 11 58.1	-0.4
	baz=105							
AGMN	Agassiz Nation	148.84	295	ePKPdf		PKPdf	13 11 57.0	+1.6
AGMN	Agassiz Nation	148.84	295	P		PKPbc	13 11 59.2	-0.2
	baz=98							
BGNE	Belgrade	148.86	281	ePKPdf		PKPdf	13 11 56.3	+0.6
BGNE				ePKPbc		PKPbc	13 11 59.8	+0.2
BGNE	Belgrade	148.86	281	P		PKPbc	13 11 58.7	-1.0
	baz=108							
AMTX	Amarillo	148.89	267	ePKPdf		PKPdf	13 11 56.6	+0.5
AMTX				ePKPbc		PKPbc	13 12 00.6	+0.5
AMTX	Amarillo	148.89	267	P		PKPbc	13 11 60.0	-0.1
	baz=118							
ULM	Lac du Bonnet	149.06	299	ePKPdf		PKPdf	13 11 56.4	+0.7
ULM				ePKPbc		PKPbc	13 11 59.5	-0.4
ULM	Lac du Bonnet	149.06	299	ePKIKP		PKPdf	13 11 56.4	+0.7
ULM				e			13 11 59.5	
ULM	Lac du Bonnet	149.06	299	PKPbc		PKPbc	13 11 59.4	-0.4
	comp=Z,14nm,0.6s,baz=87,slow=1.8,SNR=25							
CBKS	Cedar Bluff	149.12	276	ePKPdf		PKPdf	13 11 57.1	+0.9
CBKS				ePKPbc		PKPbc	13 12 01.0	+0.6
CBKS	Cedar Bluff	149.12	276	ePKIKP		PKPdf	13 11 57.1	+0.9
CBKS				e			13 12 01.0	
CBKS	Cedar Bluff	149.12	276	P		PKPbc	13 12 00.2	-0.2
	baz=112							
MSTX	Muleshoe	149.25	265	ePKPdf		PKPdf	13 11 57.3	+0.6
MSTX				ePKPbc		PKPbc	13 12 01.5	+0.5
MSTX	Muleshoe	149.25	265	P		PKPbc	13 12 00.7	-0.3
	baz=119							
CPRX	Cap Rock	149.57	262	ePKPbc		PKiKP	13 12 02.4	-0.5
MNTX	Cornudas Mount	149.96	259	ePKPdf		PKPdf	13 11 56.8	-1.0
MNTX				ePKPbc		PKPbc	13 12 02.0	-0.7
MNTX				ePKPab		PKPab	13 12 08.7	+0.3
MNTX	Cornudas Mount	149.96	259	P		PKPbc	13 12 01.6	-1.1
	baz=123							
SUSD	Miller	150.25	287	P		PKPbc	13 12 02.8	-0.2
	baz=103							
MDND	Maddock	151.27	293	ePKPbc		PKPbc	13 12 05.4	+0.1
MDND				ePKPab		pPKPab	13 12 14.7	-0.2
MDND	Maddock	151.27	293	P		PKPbc	13 12 04.8	-0.5
	baz=96							
KSCO	Kaye Shedlock'	151.29	274	P		PKPbc	13 12 05.8	0.0
	baz=111							
OGNE	Ogallala	151.51	278	ePKPbc		PKiKP	13 12 06.9	+0.3
OGNE	Ogallala	151.51	278	P		PKPbc	13 12 06.3	+0.2
	baz=108							
T25A	Trinidad	151.87	269	ePKPbc		PKiKP	13 12 07.8	+0.2
T25A				ePKPab		pPKPab	13 12 17.9	-0.1
T25A	Trinidad	151.87	269	P		PKPbc	13 12 07.4	+0.2
	baz=114							
121A	Cookes Peak, D	152.13	258	P		PKPbc	13 12 07.8	-0.1
	baz=122							
BNM	Barren Site	152.13	262	ePKPdf		PKPdf	13 12 01.5	+0.2
BNM				ePKPbc		PKiKP	13 12 09.0	+0.7
BNM				ePKPab		pPKPab	13 12 19.0	-0.2
LENM	Lemitar	152.39	262	ePKPdf		PKPdf	13 12 01.3	-0.3
LENM				ePKPbc		PKiKP	13 12 09.2	+0.5
LENM				ePKPab		pPKPab	13 12 20.5	+0.3
ANMO	Albuquerque	152.39	264	ePKPdf		PKPdf	13 12 02.0	+0.4
ANMO				ePKPbc		PKPbc	13 12 08.5	+0.1
ANMO	Albuquerque	152.39	264	ePKIKP		PKPdf	13 12 02.0	+0.4
ANMO				e			13 12 08.5	
ANMO	Albuquerque	152.39	264	P		PKPbc	13 12 08.4	-0.1
	baz=118							
319A	Douglas	152.55	254	ePKPdf		PKPdf	13 12 01.6	-0.3
319A				ePKPab		pPKPab	13 12 20.8	0.0
LAZ	Ladron	152.62	262	ePKPdf		PKPdf	13 12 02.3	+0.3
LAZ				ePKPbc		PKiKP	13 12 09.8	+0.6
FFC	Flin Flon	152.66	308	ePKPbc		PKPbc	13 12 07.5	-0.7
FFC	Flin Flon	152.66	308	i PKIKP		PKPbc	13 12 08.0	-0.2
SDCO	Great Sand Dun	152.91	270	ePKPbc		PKiKP	13 12 09.8	0.0
SDCO				ePKPab		pPKPab	13 12 22.4	0.0
SDCO	Great Sand Dun	152.91	270	P		PKiKP	13 12 09.9	0.0
	baz=113							
GAMB	Gambell	152.97	30	ePKPbc		PKiKP	13 12 09.3	+0.6
GAMB				ePKPab		PKPab	13 12 20.7	+0.8
Q24A	Divide	153.11	273	P		PKiKP	13 12 10.3	0.0
	baz=111							
ISCO	Idaho Springs	153.73	274	P		PKPbc	13 12 11.2	-0.3
	baz=109							
RSSD	Black Hills	153.75	284	ePKPdf		PKPdf	13 12 02.5	-0.8
RSSD				ePKPbc		PKPbc	13 12 11.2	0.0
RSSD				ePKPab		PKPab	13 12 24.7	+0.5
RSSD	Black Hills	153.75	284	ePKIKP		PKPdf	13 12 02.5	-0.8
RSSD				e			13 12 24.7	
RSSD	Black Hills	153.75	284	P		PKPbc	13 12 10.6	-0.6
	baz=101							
S22A	4UR Ranch, Cre	153.87	269	ePKPdf		PKPdf	13 12 04.3	+0.5
S22A	4UR Ranch, Cre	153.87	269	P		PKPbc	13 12 11.2	-0.5
	baz=113							
PHWY	Pilot Hill	154.08	277	ePKPab		PKPab	13 12 26.3	+0.5
TUC	Tucson	154.13	255	P		PKPbc	13 12 12.0	-0.3
	baz=124							
TOLK	Toolik Lake Re	154.30	8	P		PKiKP	13 12 12.2	+0.8
	baz=345							
N23A	Red Feather La	154.32	276	ePKPdf		PKPdf	13 12 05.4	+1.1
N23A				ePKPab		pPKPab	13 12 28.5	+0.1
N23A	Red Feather La	154.32	276	P		PKiKP	13 12 13.0	+0.4
	baz=107							
DGMT	Dagmar	154.38	294	ePKPab		PKPab	13 12 28.8	+2.4
DGMT	Dagmar	154.38	294	P		PKPab	13 12 28.0	+1.5
	baz=92							
SMCO	Snowmass	154.51	272	ePKPdf		PKPdf	13 12 06.1	+1.3
SMCO				ePKPbc		PKiKP	13 12 13.9	+0.6
SMCO				ePKPab		PKPab	13 12 28.1	+0.3
X18A	Snowflake	154.71	260	ePKPdf		PKPdf	13 12 05.3	+0.3
X18A				ePKPab		pPKPab	13 12 30.1	+0.1
INK	Inuvik	154.79	354	ePKPdf		PKPdf	13 12 04.1	+0.4
INK				ePKPbc		PKPbc	13 12 11.9	-0.4
INK	Inuvik	154.79	354	ePKIKP		PKPdf	13 12 04.1	+0.4
INK				e			13 12 11.9	
W18A	Petrified Fore	154.84	261	P		PKPab	13 12 30.0	+1.0
	baz=118							
MVCO	Mesa Verde	154.87	267	ePKPdf		PKPdf	13 12 05.6	+0.4
MVCO				ePKPab		pPKPab	13 12 30.8	0.0
MVCO	Mesa Verde	154.87	267	P		PKPab	13 12 29.6	+0.4
	baz=114							
K22A	Casper	155.20	280	ePKPdf		PKPdf	13 12 03.9	-1.5
K22A	Casper	155.20	280	P		PKPab	13 12 30.3	-0.1
	baz=103							
PV01	Paradox Valley	155.29	269	ePKPdf		PKPdf	13 12 04.5	-1.2
PV01				ePKPab		pPKPab	13 12 32.0	-0.5
214A	Organ Pipe Nat	155.34	252	P		PKPab	13 12 31.8	+0.8
	baz=126							
PV12	Saucer Basin,	155.53	269	ePKPdf		PKPdf	13 12 06.4	+0.4
PV12				ePKPab		PKPab	13 12 32.9	+1.0
YKA	Yellowknife Ar	155.63	330	PKP		PKPdf	13 12 02.3	-2.7
	comp=Z,1.4nm,1.0s,baz=47,slow=1.7,SNR=15							
YKA				PKPbc		pPKPbc	13 12 13.8	-2.6
	comp=Z,1.5nm,0.9s,baz=32,slow=1.9,SNR=12							
YKA				PKPab		PKPab	13 12 31.0	-0.3
	comp=Z,2.1nm,1.1s,baz=46,slow=4.5,SNR=9.5							
PV17	East Wray Mesa	155.63	269	ePKPab		PKPab	13 12 33.5	+1.1
X16A	Lo Mia Camp, P	155.72	258	ePKPdf		PKPdf	13 12 06.4	+0.1
X16A				ePKPab		pPKPab	13 12 34.2	-0.2
O20A	White River Ci	155.75	273	P		PKPab	13 12 34.0	+1.1
	baz=108							
WUAZ	Wupatki	156.21	260	ePKPdf		PKPdf	13 12 07.3	+0.4
WUAZ				ePKPab		pPKPab	13 12 36.4	0.0
IM3	Indian Mountai	156.26	13	ePKPdf		PKPdf	13 12 05.5	-0.3
IM3				ePKPab		PKPab	13 12 33.9	0.0
Y14A	Wickenburg	156.58	255	ePKPdf		PKPdf	13 12 07.4	+0.1
Y14A				ePKPab		PKPab	13 12 37.1	+0.8
EPYK	Eagle Plains	156.92	356	ePKPdf		PKPdf	13 12 06.7	0.0
EPYK	Eagle Plains	156.92	356	P		PKPab	13 12 37.6	+0.8
	baz=6.9							
P18A	Preston Nutter	157.05	271	ePKPdf		PKPdf	13 12 08.1	0.0
P18A				ePKPab		PKPab	13 12 38.8	+0.2
SRU	San Rafael Swe	157.07	269	ePKPdf		PKPdf	13 12 08.0	0.0
SRU				ePKPab		PKPab	13 12 38.8	+0.3
SRU	San Rafael Swe	157.07	269	ePKIKP		PKPdf	13 12 08.0	0.0
U15A	North Rim	157.28	262	ePKPdf		PKPdf	13 12 08.6	+0.1
U15A				ePKPab		PKPab	13 12 40.4	+0.8
P17A	Butcher Ranch,	157.36	270	ePKPab		PKPab	13 12 40.6	+0.9
PD31	Pinedale Array	157.41	279	ePKPdf		PKPdf	13 12 07.1	-1.3
PD31				ePKPab		PKPab	13 12 40.5	+0.6
PDAR	Pinedale Array	157.41	279	ePKPdf		PKPdf	13 12 07.2	-1.1
PDAR				ePKPab		PKPab	13 12 40.2	+0.3
PDAR	Pinedale Array	157.41	279	PKP		PKPdf	13 12 06.7	-1.7
	comp=Z,1.1nm,0.9s,baz=99,slow=4.7,SNR=7.1							
PDAR				PKPab		PKPab	13 12 40.3	+0.3
	comp=Z,1.4nm,1.0s,baz=146,slow=3.4,SNR=6.1							
BW06	Boulder Array	157.41	279	ePKPab		PKPab	13 12 40.2	+0.3
BW06	Boulder Array	157.41	279	P		PKPab	13 12 40.8	+0.8
	baz=102							
Y12C	Blythe	157.54	253	P		PKPab	13 12 41.2	+0.8
	baz=123							
RLMT	Red Lodge	157.59	285	ePKPab		PKPab	13 12 41.6	+1.0
RLMT	Red Lodge	157.59	285	P		PKPab	13 12 40.4	-0.2
	baz=97							
TMUT	Trail Mountain	157.64	269	ePKPdf		PKPdf	13 12 09.1	+0.3
TMUT				ePKPab		pPKPab	13 12 42.4	-0.3
MTPU	Mount Pierson	157.88	266	ePKPdf		PKPdf	13 12 09.3	+0.1
MTPU				ePKPab		PKPab	13 12 43.2	+0.9
POKR	Poker Plat Res	157.94	8	P		PKPab	13 12 42.1	+0.9
	baz=346							
MSU	Marysvale	158.06	267	ePKPdf		PKPdf	13 12 09.6	+0.3
MSU				ePKPab		pPKPab	13 12 44.2	-0.2
MSU	Marysvale	158.06	267	ePKIKP		PKPdf	13 12 09.6	+0.3
MSU				e			13 12 44.2	
EGMT	Eagleton	158.09	293	ePKPdf		PKPdf	13 12 08.0	-0.8
EGMT				ePKPab		PKPab	13 12 43.4	+0.9
EGMT	Eagleton	158.09	293	P		PKPab	13 12 42.4	-0.1
	baz=89							
BC3	Big Chuckawall	158.13	252	P		PKPab	13 12 42.6	-0.5
	baz=124							
IRM	Iron Mountain	158.19	253	P		PKPab	13 12 44.5	+1.2
	baz=123							
JLU	Jordanelle	158.23	273	ePKPab		PKPab	13 12 44.6	+1.1
LOHW	Long Hollow	158.32	281	ePKPab		PKPab	13 12 44.6	+0.7
SZCU	Shurtz Canyon	158.36	264	ePKPdf		PKPdf	13 12 10.2	+0.5
REDW	Red Top Meadow	158.46	280	ePKPdf		PKPdf	13 12 09.2	-0.4
REDW				ePKPab		PKPab	13 12 44.8	+0.3
NLU	North Lily Min	158.49	270	ePKPdf		PKPdf	13 12 09.8	0.0
NLU				ePKPab		PKPab	13 12 45.5	+0.9
CCUT	Cedar City	158.54	263	ePKPdf		PKPdf	13 12 10.8	+0.9
CCUT				ePKPab		pPKPab	13 12 46.0	-0.5
TPAW	Teton Pass	158.55	280	ePKPab		PKPab	13 12 44.2	-0.7
IMW	Indian Meadow	158.61	282	ePKPdf		PKPdf	13 12 09.5	-0.4
IMW				ePKPab		PKPab	13 12 46.1	+0.9
EGAK	Eagle	158.61	1	ePKPab		PKPab	13 12 44.0	0.0
FXWY	Fox Creek	158.63	281	ePKPab		PKPab	13 12 45.8	+0.6
LDFC	Landfair	158.65	256	ePKPab		PKPab	13 12 46.6	+1.3
YHH	Holmes Hill	158.67	284	ePKPdf		PKPdf	13 12 09.9	0.0
YHH				ePKPab		pPKPab	13 12 46.8	-0.2
HDA	Harding Lake	158.68	8	P		PKPab	13 12 44.7	+0.3
	baz=347							
BELC	Belle Mtn. Jos	158.70	252	P		PKPab	13 12 45.0	-0.6
	baz=124							
PFO	Pinyon Flats O	158.80	251	P		PKPab	13 12 46.7	+0.7
	baz=125							
GMRC	Granite Mounta	158.89	254	P		PKPab	13 12 46.6	+0.2
	baz=122							
DUG	Dugway, Tooele	159.10	271	ePKPdf		PKPdf	13 12 10.8	+0.4
DUG				ePKPab		PKPab	13 12 47.9	+0.7
DUG	Dugway, Tooele	159.10	271	ePKIKP		PKPdf	13 12 10.8	+0.4
DUG				e			13 12 47.9	
DUG	Dugway, Tooele	159.10	271	P		PKPab	13 12 48.1	+0.8
	baz=108							
MCK	McKinley	159.10	10	ePKPab		PKPab	13 12 46.1	-0.1
PSUT	Pine Spring	159.29	265	ePKPdf		PKPdf	13 12 11.3	+0.6
PSUT				ePKPab		pPKPab	13 12 50.0	+0.3
BOZ	Bozeman (W)	159.30	286	ePKPab		PKPab	13 12 49.4	+1.5
BOZ	Bozeman (W)	159.30	286	P		PKPab	13 12 49.0	+1.0
	baz=94							
SCRK	Sand Creek	159.33	4	ePKPab		PKPab	13 12 47.7	+0.4
SHPR	Sheep Range	159.38	259	ePKPab		PKPab	13 12 49.8	+1.2
HEC	Hector,Ludlow	159.38	254	P		PKPab	13 12 49.2	+0.7
	baz=122							
TUQ	Turquoise Moun	159.41	256	P		PKPab	13 12 49.6	+0.9
	baz=120							
BGU	Big Grassy Mou	159.47	272	ePKPdf		PKPdf	13 12 11.1	+0.3
BGU				ePKPab		PKPab	13 12 49.3	+0.5
HVU	Hansel Valley	159.51	275	ePKPab		PKPab	13 12 49.2	+0.3
DLMT	Dillon	159.96	285	ePKPab		PKPab	13 12 52.5	+1.7
GSC	Goldstone, Bar	159.96	254	P		PKPab	13 12 52.0	+1.0
	baz=121							
MCMT	McKenzie Canyo	160.09	284	ePKPab		PKPab	13 12 52.8	+1.3
TPNV	Topopah Spring	160.36	259	P		PKPab	13 12 53.9	+1.0
	baz=117							
R11A	Troy Canyon, C	160.47	263	ePKPdf		PKPdf	13 12 12.4	+0.4
R11A				ePKPab		pPKPab	13 12 54.3	-0.5
R11A	Troy Canyon, C	160.47	263	P		PKPab	13 12 54.1	+0.8
	baz=113							
EDW2	Edwards Air Fo	160.56	252	P		PKPab	13 12 54.1	+0.5
	baz=123							
FURC	Furnace Creek,	160.58	257	P		PKPab	13 12 54.8	+1.3
	baz=118							
SNCC	San Nicolas Is	160.66	245	P		PKPab	13 12 54.1	+0.1
	baz=126							
LRMC	Laurel Mtn Rad	160.66	253	P		PKPab	13 12 55.0	+0.9
	baz=121							
MPMC	Manual Prospec	160.82	255	P		PKPab	13 12 55.6	+0.7
	baz=120							
BLG	Laguna Peak, P	160.86	248	P		PKPab	13 12 55.8	+0.9
	baz=125							
MSO	Missoula	160.94	290	ePKPab		PKPab	13 12 56.2	+1.1
MSO	Missoula	160.94	290	P		PKPab	13 12 56.2	+1.1
	baz=89							
ELK	Elko	161.03	271	ePKPdf		PKPdf	13 12 12.4	-0.2
ELK				ePKPab		pPKPab	13 12 57.0	-0.3
ELK	Elko	161.03	271	ePKIKP		PKPdf	13 12 12.4	-0.2
HLID	Hailey	161.04	279	P		PKPab	13 12 56.6	+1.0
	baz=98							
ISA	Isabella, Lake	161.31	253	P		PKPab	13 12 57.5	+0.6
	baz=121							
CWC	Cottonwood Cre	161.42	256	P		PKPab	13 12 59.1	+1.6
	baz=119							
NV01	Mina Array Sit	162.47	261	ePKPdf		PKPdf	13 12 14.9	+0.8
NV01				ePKPab		PKPab	13 13 02.5	+0.4
NVAR	Mina Array Bea	162.47	261	PKP		PKPdf	13 12 15.3	+1.1
	comp=Z,1.1nm,1.0s,baz=110,slow=2.6,SNR=6.1							
NVAR				PKPab		pPKPab	13 13 03.1	-0.5
	comp=Z,3.8nm,1.1s,baz=132,slow=3.5,SNR=8.5							
KVN	Kaiserville	162.56	263	ePKPdf		PKPdf	13 12 13.9	-0.3
KVN				ePKPab		PKPab	13 13 03.3	+0.9
KVN	Kaiserville	162.56	263	ePKIKP		PKPdf	13 12 13.9	-0.3
KVN				e			13 13 03.3	
BMO	Blue Mountains	163.25	283	ePKPab		PKPab	13 13 05.8	+0.6
WAKR	Walker	163.31	260	ePKPab		PKPab	13 13 06.5	+0.7
YERR	Yerington	163.36	262	ePKPdf		PKPdf	13 12 15.7	+0.7
PNTR	Pine Nut	163.66	262	ePKPab		PKPab	13 13 08.3	+1.1
PAHR	Pah Rah Range	163.72	264	ePKPab		PKPab	13 13 08.2	+0.8
WVOR	Wild Horse Val	163.91	274	ePKPdf		PKPdf	13 12 16.2	+0.9
WVOR				ePKPab		PKPab	13 13 08.7	+0.5
WVOR	Wild Horse Val	163.91	274	ePKIKP		PKPdf	13 12 16.2	+0.9
WVOR				e			13 13 08.7	
J08A	Circle Bar Ran	163.94	277	ePKPab		PKPab	13 13 08.7	+0.4
B08A	Colville Reser	164.43	296	ePKPdf		PKPdf	13 12 13.8	-1.7
B08A				ePKPab		PKPab	13 13 10.9	+0.7
G08A	Pilot Rock	164.44	284	ePKPdf		PKPdf	13 12 14.4	-1.3
MOD	Modoc Plateau	165.01	271	ePKPab		PKPab	13 13 14.2	+1.1
F07A	Phinny Hill Vi	165.11	287	ePKPab		PKPab	13 13 14.2	+1.0
J05D	Fort Rock, OR	165.93	276	P		PKPab	13 13 17.8	+0.7
	baz=97							
M04C	Macdoel	166.10	270	P		PKPab	13 13 18.5	+0.6
	baz=103							
B05A	Bryant	166.26	297	P		PKPab	13 13 18.8	+0.7
	baz=76							
L04D	Klamath Falls	166.53	271	P		PKPab	13 13 20.3	+0.5
	baz=101							
M02C	Callahan	166.75	267	P		PKPab	13 13 20.7	0.0
	baz=104							
E04D	Cinebar	166.88	290	P		PKPab	13 13 22.0	+1.1
	baz=82							
D03D	Eldon	167.07	295	P		PKPab	13 13 22.7	+1.0
	baz=77							
L02E	Cave Junction	167.47	270	P		PKPab	13 13 23.6	-0.1
	baz=101							

*IDC **11** 13:19:20.4±1.8, 1.˝53N×126.˝70E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/36, mbtmp3.9/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/36, Error ellipse: s-maj=163.8km s-min=22.3km az=65.0*

*ISCJB **11** 13:19:23.0±0.8, 1.˝7N±0.˝1×126.˝9E±0.˝1, h35km, mb4.0/7, MS3.8/1, Error ellipse: s-maj=22.8km s-min=9.2km az=146.8*

*NEIC **11** 13:19:28.5±0.9, 1.˝51N×126.˝76E, h67km±8km, mb4.1/5, Error ellipse: s-maj=16.6km s-min=6.4km az=52.0*

ISC 11 13:19:25.6±1.2, 1.7N±0.˝1×126.˝9E±0.˝2, h35km, n16,
σ1§39/15, mb3.9/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
TNTI	Ternate	1.02	155			ePn	Pn	13 19 46.6	+3.2
KKM	Kota Kinabalu	11.53	292			ePn	Pn	13 22 08.4	+0.6
SOEI	Soe	11.69	193			ePn	Pn	13 22 10.6	+0.5
SBUM	Sibu	14.72	273			ePn	Pn	13 22 51.0	-0.3
MTN	Manton Dam	15.04	164			ePn	Pn	13 22 54.8	-0.8
FITZ	Fitzroy Crossi	19.72	184			eP	P	13 23 50.8	-1.4
	14nm,1.4s								
WR1	Warramunga Arr	22.71	162			eP	P	13 24 22.8	-1.6
	28nm,1.6s								
WRA	Warramunga Arr	22.71	162	P		P	P	13 24 22.8	-1.6
	3.6nm,0.6s,baz=340,slow=11,SNR=33								
AS31	Alice Springs	26.11	165			eP	P	13 24 55.1	-1.3
	0.9nm,0.6s								
ASAR	Alice Springs	26.11	165	P		P	P	13 24 55.4	-1.1
	1.4nm,0.4s,baz=346,slow=12,SNR=46								
STKA	Stephens Creek	36.18	159			eP	P	13 26 23.8	-1.1
	1.8nm,1.4s								
STKA	Stephens Creek	36.18	159	P		P	P	13 26 24.3	-0.7
	0.8nm,0.4s,baz=332,slow=11,SNR=3.9								
SONM	Songino Array	49.27	342	LR		LR		13 51 47.2	
	comp=Z,89nm,19.4s,baz=223,slow=39								
MK32	Makanchi Array	59.33	326	eP		P	P	13 29 24.3	+0.2
MKAR	Makanchi Array	59.33	326	P		P	P	13 29 24.3	+0.2
	0.5nm,0.5s,baz=120,slow=8.3,SNR=11								
KURK	Kurchatov	63.55	328			eP	P	13 29 52.7	+0.2
	2.1nm,0.4s								

*IDC **11** 13:29:50.2±0.8, 11.˚15S×165.˚09E, h0km, mb4.3/11, mb1 4.6/13, mb1mx4.2/44, mbtmp4.4/13, ML4.9/2, MS3.9/10, Ms1 3.9/10, ms1mx3.6/30, Error ellipse: s-maj=23.4km s-min=18.5km az=128.0*

*BJI **11** 13:29:52.6, 11.˚39S×165.˚04E, h27km, mb4.7/24, mB5.1/15, Ms4.9/6, Ms7 4.7/3*

*ISCJB **11** 13:29:53.4±0.4, 11.˚28S±0.˚05×164.˚97E±0.˚06, h31km, mb4.6/27, MS4.0/11, Error ellipse: s-maj=8.9km s-min=6.4km az=150.2*

*NEIC **11** 13:29:54.6±1.9, 11.˚17S×165.˚06E, h30km±14km, mb4.8/15, Error ellipse: s-maj=7.4km s-min=6.8km az=93.0*

ISC 11 13:29:55.0±0.5, 11.˚22S±0.˚07×165.˚08E±0.˚08, h31km, n58,
σ1§12/53, mb4.7/27, MS4.1/12, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HNR	Honiara	5.36	289			Pn	Pn	13 31 12.5	-0.4
	75nm,0.3s,baz=141,slow=7.8,SNR=8.5								
HNR						Sn	Sn	13 32 12.3	-1.3
	48nm,0.3s,baz=162,slow=23,SNR=4.6								
HNR						LR	LR	13 33 30.1	
	comp=Z,997nm,20.4s,baz=154,slow=41								
MARNC	Mare, Loyalty	10.59	165			ePn	Pn	13 32 25.4	+0.7
DZM	Mont Dzumac	10.87	173			Pn	Pn	13 32 28.8	+0.2
	5.5nm,0.3s,baz=184,slow=16,SNR=44								
ONTNC	Ouen Toro	11.11	173			ePn	Pn	13 32 32.2	+0.4
PINNC	Pines Island,	11.55	169			ePn	Pn	13 32 38.1	+0.2
TARA	Tarawa	14.72	32			ePn	Pn	13 33 19.7	-1.5
EIDS	Eidsvold	19.33	221			eP	P	13 34 17.9	0.0
	54nm,1.4s								
MANU	Manus Island	19.80	296			eP	P	13 34 22.6	-0.5
	118nm,1.0s								
CTA	Charters

LZH LR LR
comp=Z,400nm,16.2s
SONM Songino Array 78.42 324 P **P** **13 41 53.8 +0.9**
1.3nm,1.0s,baz=134,slow=6.4,SNR=5.9
GTA Gaotai 78.71 314 *e*P **P** **13 41 55.2 +0.5**
GTA pP PcP 13 42 04.4 +0.9
GTA sP pwP 13 42 08.9 -1.2
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.9s
GTA LR LR
comp=N,97nm,19.9s
GTA LR LR
comp=E,500nm,20.7s
QSPA South Pole Qui 78.79 180 *e*P **P** **13 41 55.3 +0.6**
13nm,0.9s
ILAR Eielson Array 83.88 19 P **P** **13 42 21.2 -0.2**
0.8nm,0.7s,baz=231,slow=5.1,SNR=12
EGAK Eagle 85.76 20 *e*P **P** **13 42 31.4 +0.5**
7.7nm,1.4s
NVAR Mina Array Bea 86.63 50 P **P** **13 42 36.1 +0.1**
0.8nm,0.9s,baz=236,slow=9.3,SNR=4.2
NVAR LR LR 14 14 46.9
comp=Z,106nm,18.8s,baz=272,slow=31
WMQ Urumqi 88.76 315 *e*P **P** **13 42 46.2 +0.3**
WMQ LR LR
comp=N,80nm,29.1s
WMQ LR LR
comp=E,100nm,21.5s
SYO Syowa Base 91.43 197⇑*e*P **P** **13 42 56.6 -1.2**
MK01 Makanchi Array 93.19 317 *e*P **P** **13 43 05.8 -0.6**
MK31 Makanchi Array 93.20 317 *e*P **P** **13 43 06.0 -0.5**
9.0nm,2.0s
MKAR Makanchi Array 93.20 317 P **P** **13 43 06.1 -0.3**
0.9nm,0.8s,baz=100,slow=6.3,SNR=12
YKA Yellowknife Ar 95.42 27 P **P** **13 43 14.5 -1.7**
0.2nm,0.8s,baz=256,slow=4.5,SNR=4.9
KSH Kashi 96.36 309 *e*P **P** **13 43 24.3 +3.1**
KSH pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 96.48 61 LR LR 14 18 02.7
comp=Z,80nm,21.9s,baz=0.0,slow=30
TOA0 Torodi Ar. Sit 163.65 278 *e*PKPdf **PKPdf** **13 49 54.8 -1.1**
TORD Torodi Ar. Bea 163.65 278 PKP **PKPdf** **13 49 55.0 -0.9**
1.3nm,1.0s,baz=360,slow=1.0,SNR=5.5
TORD PKPab **PKPab** **13 50 47.2 -0.7**
0.6nm,0.8s,baz=92,slow=4.3,SNR=3.6

*ISCJB **11** 13:39:25.6±1.2,22.°05S±0.°04×68.°99W±0.°08, h100km±10km, Error ellipse: s-maj=11.8km s-min=6.3km az=179.9*
*SJA **11** 13:39:25.2±0.6,22.°10S×68.°99W, h93km±6km, ML2.9, MW3.3*
*GUC **11** 13:39:25.5±0.7,22.°04S×69.°01W, h97km±3km, ML3.6*
ISC 11 13:39:26.5±2.0, 22.°06S±0.°04×68.°98W±0.°07, h91km±12km, **n21,σ0°63/34, 6C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.36**	**316**	*e*P		**Pn**	**13 39 40.5**	**-0.1**
PB09				*e*S		**Sn**	**13 39 51.6**	**+0.6**
PB09	**IPOC Station P**	**0.36**	**316**⇓	*e*P		**Pn**	**13 39 40.4**	**-0.1**
PB09				*e*S		**Sn**	**13 39 51.6**	**+0.6**
PB09				IAML			13 39 52.4	
	comp=E,3μm,0.5s							
LVC	**Limon Verde**	**0.55**	**174**	*e*P		**Pn**	**13 39 41.4**	**-0.7**
LVC				*e*S		**Sn**	**13 39 53.5**	**-0.3**
LVC				IAML			13 39 54.6	
	comp=Z,370nm,0.1s							
LVC	**Limon Verde**	**0.55**	**174**⇓	*i*P		**Pn**	**13 39 41.5**	**-0.7**
LVC				*e*S		**Sn**	**13 39 54.0**	**+0.2**
PB03	**IPOC Station P**	**0.72**	**271**	*e*P		**Pn**	**13 39 43.0**	**-0.4**
PB03	**IPOC Station P**	**0.72**	**271**	*e*P		**Pn**	**13 39 43.2**	**-0.3**
PB03				*e*S		**Sn**	**13 39 56.8**	**+0.6**
PB03				IAML			13 39 58.6	
	comp=E,2μm,0.2s							
PB06	**IPOC Station P**	**0.85**	**221**	*e*P		**Pn**	**13 39 44.6**	**-0.2**
PB06	**IPOC Station P**	**0.85**	**221**⇑	*i*P		**Pn**	**13 39 44.5**	**-0.3**
PB06				*i*S		**Sn**	**13 39 59.1**	**+0.7**
PB06				IAML			13 39 59.8	
	comp=E,2μm,0.2s							
PB07	**IPOC Station P**	**0.91**	**291**	*e*P		**Pn**	**13 39 45.1**	**-0.4**
PB07	**IPOC Station P**	**0.91**	**291**⇑	*e*P		**Pn**	**13 39 45.0**	**-0.4**
PB07				*e*S		**Sn**	**13 39 59.8**	**+0.2**
PB07				IAML			13 40 02.3	
	comp=N,2μm,0.2s							
PB01	**IPOC Station P**	**1.12**	**335**	*e*P		**Pn**	**13 39 46.9**	**-0.8**
PB01	**IPOC Station P**	**1.12**	**335**⇑	*e*P		**Pn**	**13 39 47.4**	**-0.3**
PB01				*e*S		**Sn**	**13 40 03.2**	**-0.4**
PB01				IAML			13 40 04.0	
	comp=E,4μm,0.2s							
PB04	**IPOC Station P**	**1.12**	**256**	*e*P		**Pn**	**13 39 47.2**	**-0.6**
PB04	**IPOC Station P**	**1.12**	**256**⇑	*e*P		**Pn**	**13 39 47.3**	**-0.6**
PB04				*e*S		**Sn**	**13 40 04.5**	**+0.6**
PB04				IAML			13 40 05.4	
	comp=N,1μm,0.1s							
PB02	**IPOC Station P**	**1.13**	**310**	*e*P		**Pn**	**13 39 47.4**	**-0.5**
PB02	**IPOC Station P**	**1.13**	**310**⇑	*e*P		**Pn**	**13 39 47.2**	**-0.6**
PB02				*e*S		**Sn**	**13 40 03.7**	**-0.2**
PB02				IAML			13 40 04.7	
	comp=E,2μm,0.2s							
PB15	**IPOC Station P**	**1.23**	**202**	*e*P		**Pn**	**13 39 48.6**	**-0.6**
PB15	**IPOC Station P**	**1.23**	**202**	*e*P		**Pn**	**13 39 49.1**	**-0.1**
PB15				*e*S		**Sn**	**13 40 08.0**	**+1.7**
PB15				IAML			13 40 10.9	
	comp=E,3μm,0.1s							
PB05	**IPOC Station P**	**1.38**	**235**	*e*P		**Pn**	**13 39 50.3**	**-0.6**
PB05	**IPOC Station P**	**1.38**	**235**⇑	*e*P		**Pn**	**13 39 50.5**	**-0.5**
PB05				*e*S		**Sn**	**13 40 09.7**	**+0.3**
PB08	**IPOC Station P**	**1.92**	**355**	*e*P		**Pn**	**13 39 58.0**	**0.0**
PB08				⇓*e*S		**Sn**	**13 40 23.2**	**+1.3**

*ISCJB **11** 14:28:21.7±0.5,56.°85S±0.°07×24.°2W±0.°2, h10km, mb4.7/13, MS4.0/9, Error ellipse: s-maj=14.9km s-min=8.0km az=148.7*
*IDC **11** 14:28:22.3±0.7,56.°80S×24.°10W, h0km, mb4.5/9, mb1 4.6/10, mb1mx4.4/22, mbtmp4.6/10, ML4.3/1, MS4.0/8, Ms1 3.9/8, ms1mx3.6/32, Error ellipse: s-maj=23.1km s-min=17.5km az=90.0*
*NEIC **11** 14:28:23.6±0.3,56.°81S×24.°33W, h10km, mb4.7/7, Error ellipse: s-maj=9.9km s-min=8.1km az=223.0*
*BJI **11** 14:28:25.0,56.°90S×24.°50W, h20km, Ms5.1/2, Ms7 4.8/1*
ISC 11 14:28:23.5±0.5, 56.°86S±0.°09×24.°33W±0.°10, h10km, **n53,** σ1°**02/49, mb4.7/13, MS3.9/10, 2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**7.36**	**285**	*e*Pn		**Pn**	**14 30 08.0**	**-2.8**
VNA1	**Neumayer--Stat**	**15.47**	**160**	P		**Pn**	**14 32 00.8**	**-0.5**
VNA1				S		Sn	14 34 37.6	-15
VNA3	**Neumayer Olymp**	**15.72**	**162**	P		**Pn**	**14 32 03.4**	**-1.3**
VNA3				S		Sn	14 34 40.4	-18
VNA2	**Neumayer--Watz**	**15.86**	**159**	P		**Pn**	**14 32 05.2**	**-1.3**
	baz=323,slow=13							
VNA2				S		Sn	14 34 49.8	-12
	baz=291,slow=12							
SNAA	**Sanae**	**17.37**	**157**	P		**Pn**	**14 32 25.0**	**-0.7**
SNAA				S		Sn	14 35 25.8	-13
SNAA	**Sanae**	**17.37**	**157**	*e*Pn		**Pn**	**14 32 24.9**	**-0.8**
	72nm,1.4s							
SNAA	**Sanae**	**17.37**	**157**	P		**Pn**	**14 32 25.2**	**-0.5**
	1.2nm,0.3s,baz=317,slow=16,SNR=45							
EFI	**East Falkland**	**20.23**	**270**	*e*P		**P**	**14 32 58.1**	**-0.3**
	72nm,0.6s							
PMSA	**Palmer Station**	**20.60**	**231**	P		**P**	**14 33 03.5**	**+1.3**
	31nm,0.8s,baz=76,slow=3.9,SNR=7.2							
PMSA				LR		LR	14 39 29.7	
	comp=Z,536nm,19.5s,baz=114,slow=32							
USHA	**Ushuaia**	**24.53**	**256**	P		**P**	**14 33 43.5**	**+0.7**
	5.6nm,0.5s,baz=111,slow=16,SNR=7.3							
USHA				LR		LR	14 41 08.4	
	comp=Z,259nm,18.1s,baz=124,slow=31							
SYO	**Syowa Base**	**29.95**	**140**⇓	*e*P		**P**	**14 34 28.5**	**-2.7**
SYO	**Syowa Base**	**29.95**	**140**⇓	*e*X		P	14 34 36.6	+5.4
QSPA	**South Pole Qui**	**33.39**	**180**	*e*P		**P**	**14 35 02.6**	**+0.8**
	13nm,0.9s							
QSPA	**South Pole Qui**	**33.39**	**180**	P		**P**	**14 35 02.5**	**+0.8**
	3.8nm,0.6s,baz=199,slow=3.1,SNR=22							
PLCA	**Paso Flores**	**33.70**	**279**	LR		LR	14 47 48.2	
	comp=Z,156nm,21.6s,baz=150,slow=34							
CPUP	**Villa Florida**	**38.55**	**308**	*e*P		**P**	**14 35 46.1**	**+0.1**
	8.4nm,1.0s							
CPUP	**Villa Florida**	**38.55**	**308**	P		**P**	**14 35 46.6**	**+0.5**
	3.0nm,0.4s,baz=151,slow=8.1,SNR=11							
BOSA	**Boshof**	**44.66**	**72**	LR		LR	14 51 34.7	
	comp=Z,221nm,18.5s,baz=186,slow=31							
BDFB	**Brasilia**	**44.88**	**327**	LR		LR	14 52 41.7	
	comp=Z,80nm,20.5s,baz=263,slow=32							
GO02	**Mina Guanaco**	**45.27**	**295**	*e*P		**P**	**14 36 41.0**	**-0.4**
	24nm,1.4s							
VNDA	**Vanda**	**45.83**	**182**	*e*P		**P**	**14 36 46.4**	**+1.6**
	7.7nm,1.1s							
VNDA	**Vanda**	**45.83**	**182**	P		**P**	**14 36 46.5**	**+1.7**
	3.3nm,0.7s,baz=188,slow=6.2,SNR=18							
VNDA				LR		LR	14 55 13.1	
	comp=Z,90nm,19.6s,baz=225,slow=35							
LVC	**Limon Verde**	**47.08**	**298**	*e*P		**P**	**14 36 55.9**	**+0.2**
	11nm,0.4s							
PB01	**IPOC Station P**	**48.69**	**298**	*e*P		**P**	**14 37 08.3**	**+0.5**
	11nm,0.7s							
MNMC	**Minye Minye**	**50.38**	**299**	*e*P		**P**	**14 37 21.1**	**+0.2**
	14nm,0.6s							
LPAZ	**La Paz**	**52.14**	**303**	*e*P		**P**	**14 37 36.1**	**+1.4**
	15nm,0.6s							
LPAZ	**La Paz**	**52.14**	**303**	P		**P**	**14 37 36.7**	**+2.0**
	13nm,0.6s,baz=159,slow=5.5,SNR=47							
RPN	**Rapa Nui**	**65.06**	**258**	LR		LR	15 01 30.3	
	comp=Z,72nm,19.7s,baz=198,slow=30							
DBIC	**Dimbokro**	**65.29**	**21**	P		**P**	**14 39 05.2**	**-0.1**
	2.2nm,0.6s,baz=198,slow=4.9,SNR=6.3							
TOA0	**Torodi Ar. Sit**	**73.02**	**27**	*e*P		**P**	**14 39 53.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.02**	**27**	P		**P**	**14 39 53.0**	**-0.3**
	1.9nm,0.6s,baz=196,slow=6.2,SNR=15							
SDV	**Santo Domingo**	**75.71**	**313**	*e*P		**P**	**14 40 10.4**	**+1.2**
	4.5nm,0.6s							
KEST	**Kesra**	**96.54**	**27**	LR		LR	15 21 09.3	
	comp=Z,226nm,20.4s,baz=204,slow=33							
ASAR	**Alice Springs**	**97.72**	**160**	P		**P**	**14 41 58.8**	**+0.2**
	0.6nm,0.6s,baz=189,slow=4.6,SNR=12							
FINES	**FINESS Array B**	**124.37**	**27**	PKP		**PKPdf**	**14 47 20.8**	**-0.3**
	0.7nm,0.5s,baz=116,slow=4.4,SNR=4.3							
KSH	**Kashi**	**127.27**	**73**	*e*PKP		**PKPdf**	**14 47 27.0**	**-0.5**
KSH				PP		**PP**	**14 49 28.8**	**+1.1**
ARCES	**ARCESS Array B**	**131.12**	**21**	PKP		**PKPdf**	**14 47 33.7**	**0.0**
	6.9nm,1.0s,baz=242,slow=1.9,SNR=5.8							
CD2	**Chengdu**	**135.92**	**103**	PKP		**PKPdf**	**14 47 44.0**	**-0.1**
WMQ	**Urumqi**	**136.52**	**77**	*e*PKP		**PKiKP**	**14 47 46.7**	**+0.2**
WMQ				LR		LR		
	comp=N,120nm,28.1s							
WMQ				LR		LR		
	comp=E,210nm,22.1s							
YKA	**Yellowknife Ar**	**137.84**	**316**	PKP		**PKPdf**	**14 47 46.3**	**-0.2**
	0.3nm,0.3s,baz=128,slow=1.9,SNR=9.2							
YKA				PP		**PP**	**14 50 34.7**	**-0.3**
	0.2nm,0.7s,baz=118,slow=6.9,SNR=4.5							
YKB5	**Yellowknife Ar**	**137.84**	**316**	*e*PKPdf		**PKPdf**	**14 47 46.1**	**-0.4**
LZH	**Lanzhou**	**139.91**	**99**	*e*PKP		**PKPdf**	**14 47 52.5**	**+1.1**
LZH				sPKP			14 47 57.1	
LZH				LR		LR		
	comp=N,110nm,18.2s							
LZH				LR		LR		
	comp=E,120nm,18.0s							
LZH				LR		LR		
	comp=Z,160nm,20.3s							
NJ2	**Nanjing**	**144.56**	**119**	*e*PKP		**PKPdf**	**14 48 00.9**	**+1.4**
INK	**Inuvik**	**147.44**	**319**	*e*PKPbc		**PKPbc**	**14 48 06.0**	**+0.1**
HHC	**Hu-hi-hao-te**	**147.53**	**100**	*e*PKPbc		**PKPdf**	**14 48 05.7**	**+1.2**
SONM	**Songino Array**	**149.20**	**86**	PKPbc		**PKPbc**	**14 48 10.8**	**-0.4**
	0.6nm,0.8s,baz=203,slow=2.9,SNR=5.3							
RIDG	**Independ'e Rid**	**150.74**	**308**	*e*PKPbc		**PKiKP**	**14 48 15.1**	**0.0**
IL1	**Eielson Array**	**151.84**	**310**	*e*PKPbc		**PKPbc**	**14 48 16.7**	**-0.1**
ILAR	**Eielson Array**	**151.84**	**310**	PKPbc		**PKPbc**	**14 48 17.1**	**+0.2**
	2.4nm,0.8s,baz=138,slow=1.6,SNR=18							
ILB	**Eielson Array**	**151.84**	**310**	*e*PKPbc		**PKPbc**	**14 48 16.7**	**-0.2**
TOLK	**Toolik Lake Re**	**153.33**	**318**	*e*PKPbc		**PKiKP**	**14 48 20.5**	**+0.3**
BPAW	**Bear Paw Mtn.**	**153.47**	**308**	*e*PKPbc		**PKPbc**	**14 48 20.6**	**+0.1**
CN2	**Changchun**	**156.93**	**112**	*e*PKP		**PKPdf**	**14 48 16.2**	**-2.0**

*TIR **11** 14:47:31.1,42.°02N×20.°49E, h7km, Md2.9/3*
*SKO **11** 14:47:33.4,42.°06N×20.°39E, h0km, M1.7, ML2.3*
ISC 11 14:47:33.8±1.2, 41.°96N±0.°04×20.°29E±0.°05, h5km±12km, **n8,σ1°12/15, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PHP	**Peshkopia**	**0.30**	**157**	*i* PG		**Pg**	**14 47 38.8**	**-0.8**
PHP				*i* SG		**Sg**	**14 47 43.7**	**+0.1**
BCI	**Bajram Curri**	**0.44**	**338**	*i* PG		**Pg**	**14 47 41.4**	**-0.8**
BCI				*i* SG		**Sg**	**14 47 48.0**	**0.0**
TIR	**Tirane**	**0.69**	**207**	*i* PG		**Pg**	**14 47 47.8**	**+0.8**
TIR				*i* SG		**Sn**	**14 48 00.0**	**-1.3**
ULC	**Ulcinj**	**0.78**	**271**	*i* Pg		**Pg**	**14 47 48.5**	**-0.1**
OHR	**Ohrid**	**0.93**	**155**	*i* Pg		**Pg**	**14 47 51.3**	**-0.3**
OHR				*i* Sg		**Sb**	**14 48 05.5**	**+0.3**
OHR				*e*Lg		Lg	14 48 05.8	
	comp=N,37nm,0.5s							
OHR				*e*Lg		Lg	14 48 06.0	
	comp=E,44nm,0.6s							
KRUS	**Krusevo**	**0.93**	**129**	*i* Pg		**Pg**	**14 47 50.2**	**-1.4**
KRUS				*i* Sg		**Sg**	**14 48 03.4**	**-0.4**
KRUS				*e*Lg		Lg	14 48 04.4	
	comp=N,9.0nm,0.3s							
KRUS				*e*Lg		Lg	14 48 04.8	
	comp=E,7.0nm,0.3s							
FNA	**Florina**	**1.43**	**145**	*e*Pg		**Pn**	**14 47 59.9**	**-0.6**
FNA				*e*Sg		**Sb**	**14 48 20.2**	**+0.5**
STIP	**Stip**	**1.45**	**100**	*e*Pg		**Pn**	**14 48 01.9**	**+1.3**
STIP				*i* Sg		**Sg**	**14 48 22.6**	**+2.4**
STIP				*e*Lg		Lg	14 48 24.1	
	comp=E,2.3nm,0.3s							
STIP				*e*Lg		Lg	14 48 24.2	
	comp=N,2.7nm,0.3s							

*AZER **11** 14:56:43.3±0.6,35.°60N×41.°29E, h15km, ml5.4/4, ms4.5/5, Error ellipse: s-maj=12.0km s-min=5.3km az=132.0*
*NSSC **11** 14:57:03.5±1.2,37.°99N×42.°96E, h4km, ML4.8*
*DDA **11** 14:57:03.4,36.°47N×43.°38E, h4km±3km, ML5.2*
*ISN **11** 14:57:04.7±1.2,36.°79N×43.°56E, h7km±4km, ML4.9*
*BJI **11** 14:57:05.0,36.°50N×43.°50E, h6km, mb4.7/45, mB5.1/33, Ms4.7/30, Ms7 4.5/28*
*NEIC **11** 14:57:07.0±0.0,36.°67N×43.°44E, h7km, mb4.9/90, MN4.9(TEH), After TEH.*
NEIC Felt [IV] at Dahuk. Also felt at Baghdad, Ba'shiqah and Erbil. Felt at Orumiyeh, Iran.
*TEH **11** 14:57:07.5,36.°67N×43.°44E, h7km, ML4.9*
*GII **11** 14:57:09.6±0.0,36.°66N×43.°55E, h10km*
*ISK **11** 14:57:09.4,36.°78N×43.°42E, h6km, ML5.2/12*
*MOS **11** 14:57:09.4±1.4,36.°53N×43.°56E, h33km, mb5.0/54, MS4.4/19, Error ellipse: s-maj=4.9km s-min=3.4km az=105.6*
*IDC **11** 14:57:09.8±3.3,36.°57N×43.°44E, h21km±20km, mb4.5/28, mb1 4.6/35, mb1mx4.5/60, mbtmp4.6/35, ML4.0/6, MS4.3/39, Ms1 4.3/39, ms1mx4.2/58, Error ellipse: s-maj=13.3km s-min=9.2km az=162.0*
*GCMT **11** 14:57:09.0±0.1,36.°56N±0.°01×43.°36E±0.°01, h12km, MW5.2/102, Moment Tensor Solution. s69,c95; s102,c189; Duration: 0 Moment tensor: Scale 10^17 Nm; Mrr 0.70±.01; Mθθ-0.74±.01; Mϕϕ 0.04±.01; Mrθ 0.09±.03; Mθϕ 0.09±.01; Mϕr-0.01±.03; Best double couple: M0 0.73300×10^17 NP1:ϕs 97.00000°, δ 49.00000°, λ 90.00000°. NP2:ϕs 277.00000°, δ 41.00000°, λ 90.00000°. Principal axes: T 0.7050, Plg86.0000°, Azm3.0000°; N 0.0550, Plg0.0000°, Azm97.0000°; P -0.7600, Plg4.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DSN **11** 14:57:10.9±0.5,36.°43N×43.°94E, h15km, mb5.5/8 Error ellipse: s-maj=8.7km s-min=5.8km az=46.0*
*ISCJB **11** 14:57:10.6±0.2,36.°59N±0.°01×43.°51E±0.°01, h41km±2km, mb4.8/143, MS4.4/49, Error ellipse: s-maj=2.0km s-min=1.7km az=15.7*
ISC 11 14:57:08.5±0.7, 36.°61N±0.°02×43.°42E±0.°02, h13km±4km, **n745,σ2°12/831, mb4.9/154, MS4.4/49, 75C-54D, Iraq**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSL	**Mosul**	**0.33**	**229**	*e*Pg		**Pb**	**14 57 15.8**	**-0.4**
MSL				*e*Sg		**Sb**	**14 57 22.0**	**+0.6**
CUKT	**Cukurca**	**0.65**	**14**	PG		**Pg**	**14 57 19.6**	**-1.7**
CUKT	**Cukurca**	**0.65**	**14**⇓	*i*P		**Pg**	**14 57 19.2**	**-2.1**
CUKT				*i* S		**Sb**	**14 57 31.1**	**+0.1**
CUKT				IAML_P				
	comp=Z,415μm,0.2s							
SIRT	**Sirnak**	**1.18**	**319**	PG		**Pn**	**14 57 30.9**	**0.0**
SIRT				SG		**Sb**	**14 57 46.6**	**+0.4**
SIRT	**Sirnak**	**1.18**	**319**	*e*Pn		**Pn**	**14 57 29.4**	**-1.5**
SIRT	**Sirnak**	**1.18**	**319**	*e*Pg		**Pn**	**14 57 30.3**	**-0.6**
SIRN	**Sirnak**	**1.19**	**318**⇓	*i*P		**Pn**	**14 57 30.2**	**-0.8**
SIRN				*i* S		**Sg**	**14 57 47.3**	**+0.3**
YOVA	**Hakkari_Yksek**	**1.20**	**35**⇓	*i*P		**Pb**	**14 57 29.8**	**-1.4**
YOVA				*i* S		**Sn**	**14 57 49.7**	**+2.2**
YOVA				IAML_P				
	comp=Z,90μm,0.1s							
YOVA	**Hakkari_Yksek**	**1.20**	**35**	*e*Pg		**Pb**	**14 57 28.8**	**-2.4**
IKRK	**Kirkuk**	**1.42**	**148**	*e*Pg		**Pn**	**14 57 34.0**	**-0.1**
IKRK				*e*Sg		**Sg**	**14 57 55.0**	**+0.6**
BASK	**Baskale_VAN**	**1.51**	**18**⇓	*i*P		**Pn**	**14 57 35.2**	**-0.3**
BASK				*i* S		**Sg**	**14 57 59.0**	**+1.7**
BASK				IAML_P				
	comp=Z,99μm,0.2s							
BASK	**Baskale_VAN**	**1.51**	**18**	*e*Pn		**Pn**	**14 57 34.6**	**-0.9**
GEVA	**Gevas**	**1.72**	**351**⇓	*i*P		**Pb**	**14 57 39.9**	**-0.3**
GEVA				*i* S		**Sg**	**14 58 04.8**	**+0.9**
GEVA	**Gevas**	**1.72**	**351**	*e*Pn		**Pn**	**14 57 39.2**	**+0.8**
AKDM	**Akdamar-Van**	**1.75**	**349**	PN		**Pn**	**14 57 39.7**	**+1.0**
AKDM				SN		**Sn**	**14 58 01.9**	**+0.9**
SRTM	**Siirt_Merkez**	**1.82**	**320**⇓	*i*P		**Pn**	**14 57 40.5**	**+0.8**
SRTM				*i* S		**Sg**	**14 58 06.7**	**-0.4**
SRTM				IAML_P				
	comp=Z,203μm,0.3s							
SRTM	**Siirt_Merkez**	**1.82**	**320**	*e*Pn		**Pn**	**14 57 39.7**	**0.0**
MAHB	**Mahabad**	**1.85**	**85**	*e*Pn		**Pb**	**14 57 41.1**	**-1.1**
MAHB				IAMB		IAmb	14 58 16.1	
	comp=Z,0.0nm,1.0s							
TVAN	**Van**	**1.91**	**360**⇓	*i*P		**Pb**	**14 57 42.8**	**-0.7**
TVAN				*i* S		**Sg**	**14 58 09.4**	**-0.7**
VANB	**Van**	**1.98**	**359**	PN		**Pn**	**14 57 41.8**	**-0.1**
VANB				SN		**Sn**	**14 58 05.6**	**-1.0**
VANB	**Van**	**1.98**	**359**	*e*Pn		**Pn**	**14 57 42.2**	**+0.3**
BTMN	**Batman**	**2.14**	**307**⇑	*i*P		**Pn**	**14 57 44.7**	**+0.7**
BTMN				*i* S		**Sn**	**14 58 12.1**	**+1.7**
BTMN	**Batman**	**2.14**	**307**	*e*Pn		**Pn**	**14 57 44.1**	**+0.1**
GURO	**Guroymak-BITLI**	**2.23**	**331**	PN		**Pn**	**14 57 46.6**	**+1.3**
GURO				SN		**Sn**	**14 58 14.5**	**+1.8**
GURO	**Guroymak-BITLI**	**2.23**	**331**	*e*Pn		**Pb**	**14 57 47.7**	**-1.0**
MARD	**Mardin**	**2.23**	**289**⇑	*i*P		**Pn**	**14 57 46.7**	**+1.4**
MARD				*i* S		**Sb**	**14 58 15.1**	**-1.1**
ADCV	**BITLIS_Adilcev**	**2.26**	**346**⇓	*i*P		**Pn**	**14 57 47.5**	**+1.8**
ADCV				*i* S		**Sg**	**14 58 20.7**	**-0.5**
ADCV	**BITLIS_Adilcev**	**2.26**	**346**	*e*Pn		**Pn**	**14 57 47.2**	**+1.4**
IAZR	**Agrı**	**2.31**	**62**	*e*Pn		**Pn**	**14 57 47.7**	**+1.2**
IAZR				IAMB		IAmb	14 58 28.4	
	comp=E,76μm,0.5s							
SVAN	**Silvan-Diyarba**	**2.34**	**312**	PN		**Pn**	**14 57 48.8**	**+2.0**
SVAN	**Silvan-Diyarba**	**2.34**	**312**⇓	*i*P		**Pn**	**14 57 47.1**	**+0.3**
SVAN				*i* S		**Sg**	**14 58 22.5**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.34**	**312**	*e*Pn		**Pn**	**14 57 48.7**	**+2.0**
VMUR	**Van-Muradiye**	**2.38**	**3**⇓	*i*P		**Pb**	**14 57 49.4**	**-1.9**
VMUR				*i* S		**Sg**	**14 58 26.8**	**+1.8**
VMUR				IAML_P				
	comp=Z,20μm,0.3s							
VMUR	**Van-Muradiye**	**2.38**	**3**	*e*Pn		**Pn**	**14 57 48.8**	**+1.4**
CLDR	**Caldiran**	**2.56**	**9**	PN		**Pn**	**14 57 51.4**	**+1.5**
CLDR	**Caldiran**	**2.56**	**9**⇓	*i*P		**Pn**	**14 57 51.2**	**+1.3**
CLDR				*i* S		**Sg**	**14 58 28.7**	**-2.1**
CLDR	**Caldiran**	**2.56**	**9**	*e*Pn		**Pn**	**14 57 51.7**	**+1.8**
MLAZ	**Malazgirt-MUS**	**2.62**	**345**	PN		**Pn**	**14 57 52.1**	**+1.4**
ITBZ	**Tabriz**	**2.71**	**53**	*e*Pn		**Pn**	**14 57 52.4**	**+0.4**
ITBZ				IAMB		IAmb	14 58 26.6	
	comp=Z,14μm,0.5s							
IMRD	**Marand**	**2.77**	**40**	*e*Pn		**Pn**	**14 57 53.2**	**+0.4**
IMRD				IAMB		IAmb	14 58 47.0	
	comp=Z,43μm,0.6s							
TUTA	**Tutak**	**2.83**	**350**⇓	*i*P		**Pn**	**14 57 55.1**	**+1.5**
TUTA				*i* S		**Sg**	**14 58 40.9**	**+1.6**
TUTA				IAML_P				
	comp=Z,15μm,0.2s							
TUTA	**Tutak**	**2.83**	**350**	*e*Pn		**Pn**	**14 57 54.5**	**+0.9**
DYDN	**Diyadin**	**2.93**	**4**⇓	*i*P		**Pn**	**14 57 56.8**	**+1.7**
DYDN				*i* S		**Sg**	**14 58 48.1**	**+5.2**
DYDN	**Diyadin**	**2.93**	**4**	*e*Pn		**Pb**	**14 57 58.5**	**-2.3**
DIYA	**Diyarbakir**	**2.94**	**297**⇓	*i*P		**Pn**	**14 57 57.2**	**+2.2**
DIYA				*i* S		**Sb**	**14 58 39.6**	**+3.0**
AGRB	**Hanur-Agry**	**2.98**	**354**	PN		**Pn**	**14 57 57.2**	**+1.5**
AGRB	**Hanur-Agry**	**2.98**	**354**	*e*Pn		**Pn**	**14 57 56.9**	**+1.2**
IBST	**Bostanabad**	**2.98**	**68**	*e*Pn		**Pn**	**

RTB **Rutbah** 4.39 216 *e*Pn **Pn** 14 58 17.0 +2.0
RTB *e*Sn **Sn** 14 59 10.0 +3.9
LRK Lerik 4.40 61 *e*Pn **Pn** 14 58 17.5 +2.3
LRK Lerik 4.40 61 ⇑P **Pn** 14 58 17.5 +2.3
LRK ⇓S **Sg** 14 59 32.6 +2.7
GDB GEDABAY 4.49 23 *e*Pn **Pn** 14 58 14.4 -2.0
GDB GEDABAY 4.49 23 ⇓P **Pn** 14 58 14.5 -2.0
GDB ⇓S **Sb** 14 59 26.9 +5.5
GANJ Ganja 4.62 29 *e*Pn **Pn** 14 58 17.5 -0.6
GANJ Ganja 4.62 29 ⇑P **Pn** 14 58 17.6 -0.6
GANJ ⇑S **Sg** 14 59 32.0 -5.0
BGD Bogdanovka 4.65 2 P Pb 14 58 24.9 -5.1
ASTR Astara 4.69 64 *e*Pn **Pn** 14 58 21.3 +2.3
ASTR Astara 4.69 64 ⇓P **Pn** 14 58 21.3 +2.3
SNR=38
ASTR ⇑S **Sg** 14 59 40.2 +1.1
BRDA Brd 4.69 38 *e*Pn **Pn** 14 58 19.0 0.0
BRDA Brd 4.69 38 ⇑P **Pn** 14 58 19.1 0.0
BRDA ⇓S **Sg** 14 59 36.6 -2.5
QZX Qazax, Azerbai 4.69 18 ⇑P **Pn** 14 58 15.7 -3.4
QZX ⇓S **Sb** 14 59 29.3 +2.2
GLBA Clilabad 4.73 55 *e*Pn **Pn** 14 58 22.0 +2.5
GLBA Clilabad 4.73 55 ⇓P **Pn** 14 58 22.0 +2.5
SNR=55
GLBA ⇓S **Sg** 14 59 40.2 -0.1
LKRN Lenkeran, Azer 4.74 62 *e*Pn **Pn** 14 58 22.2 +2.5
LKRN Lenkeran, Azer 4.74 62 ⇓P **Pn** 14 58 22.3 +2.5
SNR=5.5
LKRN ⇓S **Sg** 14 59 41.0 +0.3
IKFM Kafar-mosalman 4.76 129 *e*Pn **Pn** 14 58 21.1 +1.1
IDOB Doab 4.81 124 *e*Pn **Pn** 14 58 22.8 +1.9
IDOB IAMB IAmb 15 00 32.7
comp=Z,0.0nm,2.1s
KZRT Kazreti 4.83 9 P **Pn** 14 58 24.3 +3.3
HSAM Samen 4.87 118 *e*Pn **Pn** 14 58 23.5 +1.8
TRLG Trialeti 4.95 6 P **Pn** 14 58 25.4 +2.7
ZRD Zardab 4.96 41 *e*Pn **Pn** 14 58 24.1 +1.4
ZRD Zardab 4.96 41 ⇓P **Pn** 14 58 24.2 +1.4
SNR=15
ZRD ⇓S **Sg** 14 59 44.2 -3.6
HAGD Aghdareh 4.99 109 *e*Pn **Pn** 14 58 26.1 +2.8
HAGD IAMB IAmb 14 59 59.3
comp=N,0.0nm,1.7s
GAZ Gaziantep 5.00 278 *e*Pn **Pn** 14 58 23.7 +0.3
BCA Borcka 5.02 344 ⇑*i*P **Pb** 14 58 32.8 -3.5
MNGR Mingechevir, A 5.05 34 *e*Pn **Pn** 14 58 24.0 +0.1
MNGR Mingechevir, A 5.05 34 ⇑P **Pn** 14 58 24.0 +0.1
SNR=12
MNGR ⇑S **Sg** 14 59 44.3 -6.2
SAAT Saatly 5.10 49 *e*Pn **Pn** 14 58 25.9 +1.3
SAAT Saatly 5.10 49 ⇑P **Pn** 14 58 25.9 +1.3
SAAT ⇑S **Sg** 14 59 48.6 -3.7
IKMR Kamar-syah 5.11 126 *e*Pn **Pn** 14 58 26.4 +1.7
IKMR IAMB IAmb 15 00 54.9
comp=Z,0.0nm,4.9s
BATM Batumi 5.16 345 P **Pb** 14 58 41.0 +2.4
TBLG Delisi 5.21 11 P **Pn** 14 58 30.3 +4.1
TBLG Delisi 5.21 11 *e*Pn **Pn** 14 58 26.8 +0.6
TBLG Delisi 5.21 11 *e*P **Pn** 14 58 26.8 +0.6
TBLG Delisi 5.21 11 *e*Pn **Pn** 14 58 26.8 +0.6
KTUT Trabzon 5.22 328 ⇑*i*P **Pb** 14 58 38.0 -1.6
KDMR Kurdemir 5.30 43 *e*Pn **Pn** 14 58 29.0 +1.6
KDMR Kurdemir 5.30 43 ⇑P **Pn** 14 58 29.0 +1.6
KDMR ⇑S **Sg** 14 59 53.1 -5.5
IRAZ Razeghan 5.42 101 *e*Pn **Pn** 14 58 31.1 +1.9
SEKA Sheki 5.46 32 *e*Pn **Pn** 14 58 29.7 +0.2
SEKA Sheki 5.46 32 ⇓P **Pn** 14 58 29.8 +0.2
SNR=19
SEKA ⇑S **Sb** 14 59 54.5 +5.5
ALIB Äli-Bayra 5.52 51 *e*Pn **Pn** 14 58 32.2 +1.8
ALIB Äli-Bayra 5.52 51 ⇓P **Pn** 14 58 32.2 +1.8
SNR=9.5
ALIB ⇓S **Sb** 14 59 57.7 +6.9
QBL Gabala 5.54 37 *e*Pn **Pn** 14 58 31.0 +0.3
QBL Gabala 5.54 37 ⇑P **Pn** 14 58 31.0 +0.3
SNR=17
QBL ⇓S **Sb** 14 59 57.0 +5.6
IML Ismayilli 5.59 40 *e*Pn **Pn** 14 58 32.0 +0.5
IML Ismayilli 5.59 40 ⇓P **Pn** 14 58 32.1 +0.5
SNR=8.8
IML ⇓S **Sb** 14 59 57.4 +4.3
ZKTA Zakatala 5.60 25 *e*Pn **Pn** 14 58 29.8 -1.7
ZKTA Zakatala 5.60 25 ⇓P **Pn** 14 58 29.9 -1.7
SNR=29
ZKTA ⇑S **Sb** 14 59 54.9 +1.6
LGD Lagodekhi 5.66 22 P Pn 14 58 37.6 +5.2
LGD Lagodekhi 5.66 22 P Pn 14 58 37.5 +5.2
PQL Pirkuli 5.81 43 *e*Pn **Pn** 14 58 35.5 +1.0
PQL Pirkuli 5.81 43 ⇓P **Pn** 14 58 35.6 +1.0
SNR=12
PQL ⇑S **Sb** 15 00 03.7 +4.3
GBS Qobustan 5.84 46 *e*Pn **Pn** 14 58 36.5 +1.7
GBS Qobustan 5.84 46 ⇑P **Pn** 14 58 36.5 +1.7
SNR=5.7
GBS ⇓S **Sb** 15 00 05.3 +5.3
XNQ Khinaliq 5.86 38 *e*Pn **Pn** 14 58 35.5 +0.3
XNQ Khinaliq 5.86 38 ⇑P **Pn** 14 58 35.6 +0.3
SNR=12
XNQ ⇓S **Sb** 15 00 03.1 +2.3
GUDG Gudauri 5.90 8 P Pn 14 58 41.3 +5.5
IMHD Mahdasht 5.94 97 *e*Pn **Pn** 14 58 37.5 +1.2
NSR Nassriya 6.03 157 *e*Pn **Pn** 14 58 38.0 +0.6
NSR *e*Sn **Sn** 14 59 47.0 +0.7
ATGJ Altiaghaj 6.05 44 *e*Pn **Pn** 14 58 38.9 +1.1
ATGJ Altiaghaj 6.05 44 ⇓P **Pn** 14 58 38.9 +1.1
SNR=10.0
ATGJ ⇑S **Sb** 15 00 08.9 +2.7
QUB Quba 6.12 37 *e*Pn **Pn** 14 58 39.8 +1.0
QUBA Quba, Azerbaij 6.17 38 ⇓P **Pn** 14 58 39.9 +0.5
SNR=8.6
QUBA ⇑S **Sb** 15 00 11.0 +1.5
SIZA Siyzn 6.18 42 *e*Pn **Pn** 14 58 40.7 +1.2
SIZA Siyzn 6.18 42 ⇑P **Pn** 14 58 40.8 +1.2
SNR=9.7
SIZA ⇓S **Sb** 15 00 12.9 +3.0
QSAR Qusar 6.18 36 *e*Pn **Pn** 14 58 39.6 +0.1
QSAR Qusar 6.18 36 ⇓P **Pn** 14 58 39.6 +0.1
SNR=4.2
QSAR ⇓S **Sb** 15 00 09.8 0.0
ZEI Tsey 6.18 3 *e*P **Pn** 14 58 43.8 +4.1
ZEI pmax pmax
comp=Z,55nm,0.9s
GOBA Gobu 6.23 51 ⇑S **Sb** 15 00 14.1 +2.8
NDR Nardaran 6.49 50 ⇑S **Sb** 15 00 21.0 +2.2
GALA Gala 6.50 52 ⇓S **Sb** 15 00 22.2 +3.1
HWQ Hawqa 6.53 251 *e*P **Pn** 14 58 46.5 +2.1
TOTH TOTAH 6.59 243 *e*P **Pn** 14 58 47.8 +2.6
TOTH *e*S **Sn** 15 00 04.3 +4.1
TOTH AML AML 15 01 04.2
comp=E,1µm,0.6s
TOTH AML AML 15 01 04.5
comp=N,963nm,0.8s
QASN Qassioun 6.61 244 *e*P **Pn** 14 58 48.6 +3.1
QASN *e*S **Sn** 15 00 03.1 +2.3
QASN AML AML 15 00 52.9
comp=N,2µm,0.7s
QASN AML AML 15 00 53.7
comp=E,3µm,0.6s
NEY Neytrino 6.65 356 *i*P **Pn** 14 58 46.7 +0.6
GROC Groznyy 6.83 15 *e*P **Pn** 14 58 48.0 -0.4
GROC *e*S **Sn** 15 00 07.7 +1.7
GROC pmax pmax
comp=Z,130nm,1.0s
GROC smax smax
comp=E,317nm,4.2s
GROC smax smax
comp=E,454nm,2.0s
GROC smax smax
comp=N,377nm,2.2s
BHL Bhannes 6.90 249 *e*P **Pn** 14 58 51.9 +2.4
BRBR Barbar 6.91 245 *e*P **Pn** 14 58 52.5 +2.8
BRBR *e*S **Sn** 15 00 10.2 +1.9
BRBR AML AML 15 00 58.4
comp=E,1µm,0.6s
BRBR AML AML 15 01 02.7
comp=N,980nm,0.7s
RCY Rachaya 6.95 246 *e*P **Pn** 14 58 53.0 +2.8
ASF Jabal al Asfar 6.97 232 P **Pn** 14 58 52.4 +1.9
ASF Jabal al Asfar 6.97 232 Pn **Pn** 14 58 52.2 +1.7
comp=N,6.5nm,0.3s,baz=3.8,slow=7.8,SNR=40
ASF Lg Lg 15 00 52.2
comp=N,21nm,0.3s,baz=51,slow=22,SNR=6.4
ASF LR LR 15 01 43.5
comp=N,3µm,18.4s,baz=7.5,slow=39
QRWL Qaraoun 7.04 247 *e*P **Pn** 14 58 54.6 +3.3
DQRL Deir Qamar 7.05 248 *e*P **Pn** 14 58 54.9 +3.3
MAK Makhachkala 7.08 25 *e*P **Pn** 14 58 49.8 -2.0
MAK *e*S **Sn** 15 00 10.1 -1.9
MAK pmax pmax
comp=Z,96nm,0.7s
MAK MLR MLR
comp=Z,7µm,14.0s
SHBL Chebaa 7.09 245 *e*P **Pn** 14 58 54.7 +2.6
KBZ Khabaz 7.12 357 Pn **Pn** 14 58 56.8 +4.5
comp=Z,0.2nm,0.3s,baz=174,slow=10,SNR=19
KBZ Lg Lg 15 00 55.6
comp=Z,0.2nn,0.3s,baz=162,slow=4.0,SNR=1.9
NATI Neve Ativ 7.14 244 Pn **Pn** 14 58 55.3 +2.7
GEM Giv'at Ha'Em 7.22 244 Pn **Pn** 14 58 56.6 +2.9
KSHT Keshet 7.23 242 Pn **Pn** 14 58 56.9 +3.0
KSDI Kefar Szold 7.23 244 Pn **Pn** 14 58 56.7 +2.8
IPIR Pirpir 7.30 120 *e*Pn **Pn** 14 58 55.9 +0.7
KVAR Kislovodsk Arr 7.36 356 LR LR 15 01 42.4
comp=Z,3µm,18.3s,baz=103,slow=37
JHBN Jahan bin 7.41 124 *e*Pn **Pn** 14 58 57.6 +0.9
IKLH Kolahrood 7.46 114 *e*Pn **Pn** 14 58 59.5 +2.2
HSUJ Al Zarqa 7.47 235 P **Pn** 14 58 58.1 +0.8
MMA1 Mount Meron ar 7.50 244 Pn **Pn** 14 59 01.2 +3.5
MMA0B Mount Meron ar 7.50 244 Pn **Pn** 14 59 00.8 +3.1
MMA0B Mount Meron ar 7.50 244 Pn **Pn** 14 59 01.2 +3.5
MMAI Mount Meron Ar 7.50 244 Pn **Pn** 14 59 00.7 +2.9
comp=Z,20nm,0.3s,baz=65,slow=14,SNR=55
MMAI Lg Lg 15 01 08.7
comp=Z,50nm,0.3s,baz=68,slow=31,SNR=6.1
MMAI LR LR 15 02 12.9
comp=Z,2µm,18.3s,baz=30,slow=40
SOC Sochi 7.52 339 *e*P **Pn** 14 58 55.2 -2.6
SOC *e* 15 00 21.2
SOC MLR MLR
comp=Z,5µm,15.0s
KRSH Karshahi 7.60 108 *e*Pn **Pn** 14 59 01.3 +2.1
IFIR Firoozkooh 7.62 95 *e*Pn **Pn** 14 59 02.8 +3.3
HNTI Hanita 7.63 245 Pn **Pn** 14 59 03.5 +4.0
MMLI Mount Malkishu 7.80 240 Pn **Pn** 14 59 04.5 +2.7
BLGI Bet Lehem HaGe 7.80 243 Pn **Pn** 14 59 04.7 +2.9
HMDT Nahal Hemdat 7.83 239 Pn **Pn** 14 59 05.5 +3.3
IBRJ Brojen 8.01 124 *e*Pn **Pn** 14 59 07.7 +2.8
OFRI `Ofer 8.01 243 Pn **Pn** 14 59 08.1 +3.5
WALJ Wala 8.07 234 P **Pn** 14 59 06.8 +1.4
SWQJ Swaqa 8.12 231 P **Pn** 14 59 06.1 -0.2
SLTI Sal'it 8.18 240 Pn **Pn** 14 59 10.4 +3.5
IZEF Zefreh 8.22 114 *e*Pn **Pn** 14 59 08.4 +0.7
IGAR Gharneh 8.26 118 *e*Pn **Pn** 14 59 09.1 +0.8
BR131 Keskin Array S 8.30 295 *e*Pn **Pn** 14 59 09.5 +0.7
BR131 Keskin Array S 8.30 295 P **Pn** 14 59 09.6 +0.8
SNR=8.0
BRTR Keskin Array B 8.30 295 *i*P **Pn** 14 59 12.6 +3.8
BRTR pmax pmax
comp=Z,2.0nm,0.4s
BRTR Keskin Array B 8.30 295 Pn **Pn** 14 59 12.1 +3.3
comp=Z,0.7nm,0.3s,baz=119,slow=13,SNR=10
BRTR Lg Lg 15 01 36.3
comp=Z,0.3nm,0.3s,baz=130,slow=19,SNR=3.0
SNOP Sinop 8.34 313 *e*Pn **Pn** 14 59 10.4 +1.3
CSS Mathiatis 8.36 262 *e*Pn **Pn** 14 59 10.2 +0.8
GOF Gofitskoye 8.44 358 *e*P Pn 14 59 02.9 -7.6
GOF pmax pmax
comp=Z,30nm,0.6s
LISJ El Lisan 8.49 233 P **Pn** 14 59 12.6 +1.4
YTIR Yattir 8.65 235 Pn **Pn** 14 59 16.5 +3.0
JDRJ Daraweish 8.72 230 P **Pn** 14 59 14.5 -0.1
KLNJ Kolanjah 8.80 127 *e*Pn **Pn** 14 59 16.4 +0.6
IRAM Ramesheh 8.83 120 *e*Pn **Pn** 14 59 16.1 0.0
IRAM IAMB IAmb 14 59 21.9
comp=Z,755nm,0.4s
ANTO Ankara 8.97 294 ⇑*i*P Pn 14 59 26.2 +8.4
ANTO Ankara 8.97 294 ⇑P Pn 14 59 26.2 +8.4
ANN Anapa 9.35 333 *e*P **Pn** 14 59 23.4 +0.4
ANN *e*S **Sn** 15 01 07.4 -0.6
ANN pmax pmax
comp=Z,133nm,1.1s
ANN MLR MLR
comp=Z,4µm,19.0s
PRNI Paran 9.39 231 Pn **Pn** 14 59 27.8 +4.1
HRFI Mount Harif 9.60 229 Pn **Pn** 14 59 30.4 +4.0
KRMI Paran Flat 9.73 231 Pn **Pn** 14 59 31.9 +3.6
IKAZ Kazeroun 9.81 132 *e*Pn **Pn** 14 59 29.2 -0.4
MBRI Mt Berech 9.84 229 Pn **Pn** 14 59 33.2 +3.4
EIL Elat 9.91 228 *e*Pn **Pn** 14 59 34.5 +3.8
EIL Elat 9.91 228 Pn **Pn** 14 59 33.3 +2.6
EIL Elat 9.91 228 Pn **Pn** 14 59 33.3 +2.6
comp=Z,0.8nm,0.3s,baz=74,slow=4.9,SNR=8.2
EIL Lg Lg 15 02 30.9
comp=Z,10nm,0.3s,baz=344,slow=23,SNR=9.2
EIL LR LR 15 03 26.9
comp=Z,3µm,20.4s,baz=42,slow=38
SIM Simferopol' 10.90 323 *e*P Pn 14 59 51.7 +7.5
SIM *e*S Sn 15 01 57.0 +11
SIM pmax pmax
comp=Z,280nm,12.8s
SIM MLR MLR
comp=Z,270nm,12.7s
GEYT Alibeck 11.79 79 Pn **Pn** 14 59 57.8 +1.4
comp=Z,1.1nm,0.3s,baz=286,slow=13,SNR=30
GYA0B ALIBECK ARRAY 11.79 79 *e*Pn **Pn** 14 59 56.3 -0.1
RAYN Ar Rayn 13.17 172 *e*Pn **Pn** 15 00 12.8 -2.6
RAYN Ar Rayn 13.17 172 *i*P **Pn** 15 00 13.2 -2.1
SNR=7.9
RAYN Ar Rayn 13.17 172 *e*P **Pn** 15 00 12.8 -2.6
RAYN Ar Rayn 13.17 172 *e*Pn **Pn** 15 00 12.8 -2.6
TIRR Tirgusor 13.83 309 *e*Pn **Pn** 15 00 25.3 +1.1
TIRR Tirgusor 13.83 309 P **P** 15 00 31.7 -0.9
TIRR Tirgusor 13.83 309 *e*P **Pn** 15 00 25.3 +1.1
PRD Provadia 13.93 303 P **Pn** 15 00 29.7 +4.1
TLB Topalu 14.12 309 ⇑*i*P **P** 15 00 36.8 +1.0
TLB Topalu 14.12 309 ⇑P **P** 15 00 36.9 +1.1
APE Apeiranthos 14.34 277 *i*P **P** 15 00 35.2 -3.1
VRH Novokhopyorsk 14.64 356 *e*P **Pn** 15 00 36.8 +1.6
VRH *e*S **Sn** 15 03 21.1 +4.0
VRH pmax pmax
comp=Z,30nm,1.4s
VRH smax smax
comp=E,2µm,11.0s
VRH MLR MLR
comp=Z,4µm,12.0s
VSR Storozhevoye 14.91 350 *e*P **Pn** 15 00 38.8 -0.1
VSR *e*S **Sn** 15 03 23.9 0.0
VSR pmax pmax
comp=Z,20nm,1.2s
VSR smax smax
comp=E,320nm,8.2s
VSR MLR MLR
comp=Z,1µm,11.0s
KIS Kishinev 15.01 318 *e*P **Pn** 15 00 43.0 +2.7
KIS *e*S **Sn** 15 03 29.0 +2.6
KIS *e*SS **SnSn** 15 03 40.0 +1.0
KIS LRM MLR 15 10 04.0
comp=Z,2µm,10.0s
KIS Kishinev 15.01 318 *e*P **Pn** 15 00 43.0 +2.7
KIS *e*S **Sn** 15 03 29.0 +2.6
KIS MLR MLR
comp=Z,3µm,12.0s
KIS MLR MLR
comp=N,2µm,10.0s
IDI Anoyia 15.07 270 Pn **P** 15 00 45.0 -1.5
comp=N,0.4nm,0.3s,baz=85,slow=12,SNR=10
SHME Shamm 15.12 131 *i*P **Pn** 15 00 37.4 -4.5
SNR=12
BANOM Banah 15.31 130 *i*P **Pn** 15 00 40.7 -3.7
SNR=32
BANOM Banah 15.31 130 P **Pn** 15 00 40.4 -4.0
VORR Voronezh 15.35 350 P **Pn** 15 00 47.0 +2.3
VORR pmax pmax
comp=Z,250nm,2.0s
PLOR Plostina 15.60 311 ⇑*i*P **P** 15 00 55.0 +2.6
PLOR Plostina 15.60 311 ⇑P **P** 15 00 55.0 +2.6
NAZ Nazwa, Dubai 15.63 134 *i*P **Pn** 15 00 45.8 -2.8
SNR=11
NAZ Nazwa, Dubai 15.63 134 P **Pn** 15 00 46.4 -2.2
MSFE Esma-Masafi 15.64 132 *i*P **Pn** 15 00 44.2 -4.5
SNR=17
OUR Ouranopolis 15.67 290 P **P** 15 00 53.0 0.0
OUR Ouranopolis 15.67 290 P **P** 15 00 53.0 0.0
VLY Voula,Athens 15.68 280 P **P** 15 00 55.0 +1.8
VLY Voula,Athens 15.68 280 P **P** 15 00 55.0 +1.8
ASUD Al Ashush, Dub 15.73 136 P **Pn** 15 00 47.7 -2.1
ASUD Al Ashush, Dub 15.73 136 P **Pn** 15 00 48.5 -1.3
IMMV Iera Moni Meta 15.77 272 P **Pn** 15 00 52.0 +1.7
MDH Madha 15.77 132 *i*P **Pn** 15 00 46.7 -3.7
SNR=13
MDH Madha 15.77 132 P **Pn** 15 00 46.7 -3.7
FAQ Al Faqa, Dubai 15.78 135 P **Pn** 15 00 48.5 -2.0
PAIG Paliouri 15.85 288 P **P** 15 00 55.1 +0.1
PAIG Paliouri 15.85 288 P **P** 15 00 55.1 +0.1
PAIG Paliouri 15.85 288 P **P** 15 00 55.1 +0.1
MLR Muntele Rosu 15.86 309 *e*Pn **Pn** 15 00 51.7 +0.2
comp=Z,22nm,1.0s
MLR Muntele Rosu 15.86 309 ⇑*i*P **P** 15 00 58.5 +3.2
MLR Muntele Rosu 15.86 309 *e*P **Pn** 15 00 51.7 +0.2
MLR pmax pmax
comp=Z,22nn,1.0s
NVR Nevrokopi 15.92 293 P **P** 15 00 57.3 +1.4
NVR Nevrokopi 15.92 293 P **P** 15 00 57.3 +1.4
TESR Tescani 15.95 314 ⇑*i*P **P** 15 00 59.3 +3.2
PGB Panagyurishte 15.97 298 P **P** 15 00 55.8 -0.7
HATD Hatta, Dubai 16.03 134 *i*P **Pn** 15 00 51.5 -2.2
SNR=20
HATD Hatta, Dubai 16.03 134 P **Pn** 15 00 50.5 -3.2
SNR=18
VILL Villia 16.06 282 P **P** 15 01 02.2 +4.8
MMB Musomiste 16.06 294 P **P** 15 00 57.3 -0.2
SRS Serrai 16.08 292 P **P** 15 00 57.9 +0.3
SRS Serrai 16.08 292 P **P** 15 00 57.9 +0.3
SRS Serrai 16.08 292 P **P** 15 00 57.9 +0.3
PLG Polygyros 16.08 290 P **P** 15 00 59.8 +2.2
PLG Polygyros 16.08 290 P **P** 15 00 59.8 +2.2
PLG Polygyros 16.08 290 P **P** 15 00 59.8 +2.2
ASHO Ashiyiah 16.09 134 *i*P **Pn** 15 00 51.5 -3.1
SNR=24
ASHO Ashiyiah 16.09 134 P **Pn** 15 00 51.6 -3.1
SNR=22
MZR Muzera 16.12 145 *i*P **Pn** 15 00 52.2 -2.7
SNR=14
DID Didima 16.14 279 P **P** 15 00 57.7 -0.6
DID Didima 16.14 279 P **P** 15 00 57.7 -0.6
XOR Xorichti 16.18 286 P **P** 15 00 57.6 -1.2
XOR Xorichti 16.18 286 P **P** 15 00 57.6 -1.2
SOH Sokhos 16.21 291 P **P** 15 01 00.1 +1.0
SOH Sokhos 16.21 291 P **P** 15 01 00.1 +1.0
SOH Sokhos 16.21 291 P **P** 15 01 00.1 +1.0
KRND KRANIDI 16.21 279 P **Pn** 15 00 57.4 +1.4
OZUR 16.25 311 ⇓*i*P **P** 15 01 01.7 +2.2
ATAL Atalanti 16.29 283 P **P** 15 01 03.7 +3.8
ATAL Atalanti 16.29 283 P **P** 15 01 03.7 +3.8
LPSR Galich'ya Gora 16.30 350 *e*P **Pn** 15 00 56.7 -0.3
LPSR *e*S **Sn** 15 03 55.3 -2.2
LPSR pmax pmax
comp=Z,20nm,1.3s
LPSR smax smax
comp=E,550nm,7.4s
LPSR MLR MLR
comp=Z,1µm,10.0s
LTK Loutraki 16.33 281 P **P** 15 01 03.8 +3.4
LTK Loutraki 16.33 281 P **P** 15 01 03.8 +3.4
VOIR 16.40 308 ⇑*i*P **P** 15 01 03.0 +1.8
VOIR 16.40 308 ⇑P **P** 15 01 03.0 +1.8
KYTH Kithira 16.40 275 P **P** 15 01 02.8 +1.6
KYTH Kithira 16.40 275 P **P** 15 01 02.8 +1.6
DOPR Dopca 16.43 310 ⇑*i*P **P** 15 01 04.2 +2.7
KTHR Kythira 16.43 275 P **P** 15 01 03.7 +2.1
VLI Veliai 16.44 276 P **P** 15 01 04.1 +2.5
VLI Veliai 16.44 276 P **P** 15 01 04.1 +2.5
BIZ Bicaz 16.49 314 ⇓*i*P **P** 15 01 04.2 +2.0
AXAR Agios Charalam 16.57 284 P **P** 15 01 07.6 +4.5
AXAR Agios Charalam 16.57 284 P **P** 15 01 07.6 +4.5
KKB Krupnik 16.59 295 P **P** 15 01 05.3 +2.0
KNT Kendrikon 16.60 292 P **P** 15 01 06.5 +3.1
KNT Kendrikon 16.60 292 P **P** 15 01 06.5 +3.1
ARR Arges 16.63 308 ⇑*i*P **P** 15 01 07.3 +3.5
VTS Vitosha 16.65 297 ⇑*i*P **P** 15 01 06.0 +1.9
VTS Vitosha 16.65 297 ⇑P **P** 15 01 06.0 +1.9
VTS Vitosha 16.65 297 P **P** 15 01 05.0 +0.9
DSF Desfina 16.67 282 P **P** 15 01 05.5 +1.2
DSF Desfina 16.67 282 P **P** 15 01 05.5 +1.2
LIT Litokhoron 16.77 288 *e*Pn **P** 15 01 05.4 0.0
comp=Z,94nm,1.6s
LIT Litokhoron 16.77 288 P **P** 15 01 06.9 +1.5
LIT Litokhoron 16.77 288 *e*P **P** 15 01 05.4 0.0
LIT pmax pmax
comp=Z,94nm,1.6s
SOHO SOHO 16.79 134 P **Pn** 15 01 03.7 +0.2
SNR=9.5
AGG Agios Georgios 16.83 285 *e*Pn **P** 15 01 06.0 0.0
comp=Z,20nn,0.9s
AGG Agios Georgios 16.83 285 *e*P **P** 15 01 06.0 0.0
AGG pmax pmax
comp=Z,20nn,0.9s
VAY Valandovo 16.87 293 *i*P **P** 15 01 08.6 +2.2
KLV Kalavryta, Ach 16.98 281 P **P** 15 01 07.3 -0.3
KLV Kalavryta, Ach 16.98 281 P **P** 15 01 07.3 -0.3
TRIZ Trizonia 17.03 282 P **P** 15 01 11.0 +2.9
SERG Sergoula 17.04 282 P **P** 15 01 10.7 +2.4
THL Klokotos Trika 17.10 286 P **P** 15 01 10.8 +1.9
LAKA Lakka 17.11 282 P **P** 15 01 10.4 +1.4
LAKA Lakka 17.11 282 P **P** 15 01 10.4 +1.4
EFP Efpalio 17.16 283 P **P** 15 01 11.5 +1.9
ITM Ithomi 17.20 278 *e*Pn **P** 15 01 10.3 +0.2
comp=Z,55nm,1.2s
STIP Stip 17.22 294 *i*P **Pn** 15 01 09.5 +0.8
LOT Lotru 17.22 307 ⇑*i*P **P** 15 01 13.4 +3.1
EVR Evrytania 17.24 284 P **P** 15 01 12.4 +1.8
EVR Evrytania 17.24 284 P **P** 15 01 12.4 +1.8
DRO Drossia 17.33 281 P **P** 15 01 13.9 +2.4
KZN Kozani 17.34 289 P **P** 15 01 13.3 +1.6
KZN Kozani 17.34 289 P **P** 15 01 13.3 +1.6
AKTO Aktyubinsk 17.36 33 P **Pn** 15 01 09.2 -1.2
AKTO pmax pmax
comp=Z,37nn,0.9s
AKTO Aktyubinsk 17.36 33 P **Pn** 15 01 10.1 -0.3
comp=Z,0.8nm,0.3s,baz=222,slow=10,SNR=59
AKTO LR LR 15 08 53.2
comp=Z,627nm,22.0s,baz=216,slow=40
BURAR Bucovina Array 17.37 315 ⇓*i*P **P** 15 01 14.9 +3.0
AKASG Malin Array Be 17.38 329 P **Pn** 15 01 11.1 +0.4
comp=Z,2.4nm,0.3s,baz=137,slow=11,SNR=28
AKASG LR LR 15 09 33.6
comp=Z,1µm,18.3s,baz=140,slow=43
AKBB Malin Array Si 17.38 329 *e*Pn **Pn** 15 01 10.0 -0.7
AKBB Malin Array Si 17.38 329 *e*P **Pn** 15 01 10.0 -0.7
KIEV Kiev 17.39 329 *e*Pn **Pn** 15 01 09.9 -0.8
comp=Z,46nn,1.1s
KIEV Kiev 17.39 329 *i*P **P** 15 01 12.2 +0.2
KIEV pmax pmax
comp=Z,48nn,1.1s
AK11 Malin Array Si 17.39 328 *e*Pn Pn 15 01 02.8 -8.0
BUR08 Bucovina Ar. S 17.39 315 *e*Pn **P** 15 01 12.9 +0.7
comp=Z,24nn,1.0s
ARQ Araqi 17.41 136 P **Pn** 15 01 11.4 +0.2
SNR=17
AB31 Akbulak array 17.45 38 *i*P **Pn** 15 01 11.0 -0.5
AB31 pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 17.45 38 *e*Pn **Pn** 15 01 09.0 -2.5
comp=Z,17nn,0.9s
PVO Paravola 17.46 283 P **P** 15 01 14.9 +2.0
KPRO Kipourio 17.63 288 P **P** 15 01 16.1 +1.3
HOQ Hoqain 17.67 133 P **Pn** 15 01 13.8 -0.6
SNR=8.2
FNA Florina 17.69 290 *e*Pn **P** 15 01 17.5 +2.0
comp=Z,34nn,1.0s
FNA Florina 17.69 290 *e*P **P** 15 01 17.5 +2.0
FNA pmax pmax
comp=Z,34nn,1.0s
GZR Gura Zlata 17.84 306 ⇑*i*P **P** 15 01 19.4 +2.3
CJR Cluj-Napoca 17.87 311 ⇓*i*P **P** 15 01 20.9 +3.4
CJR Cluj-Napoca 17.87 311 ⇓P **P** 15 01 20.9 +3.4
HERR Herculane 17.89 304 ⇑*i*P **P** 15 01 20.5 +2.9
NEST Nestorio 17.90 289 P **P** 15 01 22.4 +4.5
LKD2 Lefkada island 18.14 284 P **P** 15 01 22.4 +2.0
LKD2 Lefkada island 18.14 284 P **P** 15 01 22.4 +2.0
OHR Ohrid 18.16 291 *i*P **P** 15 01 24.1 +3.3
BSY Bisya 18.26 135 P **Pn** 15 01 19.4 -2.2
SNR=34
MDVR Moldovita 18.33 303 ⇓*i*P **P** 15 01 25.0 +2.5
DRGR 18.45 310 ⇑*i*P **Pn** 15 01 26.1 +2.1
DRGR 18.45 310 ⇑P **Pn** 15 01 26.1 +2.1
SMDO Samad 18.50 133 P **P** 15 01 21.9 -2.7
SNR=29
BZS Buzias 18.68 306 ⇑*i*P **Pn** 15 01 28.1 +1.4
BZS Buzias 18.68 306 ⇑P **Pn** 15 01 28.2 +1.5

WSAR **Wadi Sarin** 18.71 131 P P 15 01 24.8 -2.0
WSAR **Wadi Sarin** 18.71 131 P P 15 01 24.6 -2.2
comp=Z,4.1nm,0.3s,baz=312,slow=11,SNR=38
WSAR LR LR 15 10 33.4
comp=Z,1µm,18.2s,baz=338,slow=43
JMDO **Jabal Madar** 19.07 134 P P 15 01 29.1 -1.6
SNR=13
OBN **Obninsk** 19.09 348 eP P 15 01 29.9 -0.8
comp=Z,56nm,1.1s
OBN **Obninsk** 19.09 348 ceP P 15 01 30.5 -0.2
OBN pmax pmax
comp=Z,30nm,1.0s
OBN **Obninsk** 19.09 348 LR LR 15 10 49.8
comp=Z,110nm,18.5s,baz=163,slow=43
TRPA **Tarpa** 19.18 313⇑ iP Pn 15 01 33.4 +0.7
TRPA **Tarpa** 19.18 313 eP P 15 01 32.1 +0.3
TRPA Sn S 15 05 15.0 +6.3
LVV **L'vov** 19.26 319 eP Pn 15 01 35.4 +1.8
LVV eS Sn 15 05 05.5 -3.8
LVV MLR MLR
comp=E,900nm,14.0s
LVV MLR MLR
comp=N,300nm,13.0s
LVV MLR MLR
comp=Z,800nm,13.0s
DIVS **Divibare** 19.31 300 eP Pn 15 01 34.6 +0.2
comp=Z,154nm,2.0s
WBK **Wadi Bani Khal** 19.39 132 P P 15 01 34.5 +0.2
SNR=12
MOS **Moscow** 19.53 350 eP Pn 15 01 36.8 0.0
MOS eS S 15 05 17.0 +1.3
MOS pmax pmax
comp=Z,82nm,1.1s
UZH **Uzhgorod** 19.57 314 eP P 15 01 36.2 +0.2
UZH eS S 15 05 09.1 -7.5
UZH MLR MLR
comp=Z,100nm,13.0s
KWP **Kalwaria Pacla** 19.86 317 eP Pn 15 01 43.9 +3.0
KWP **Kalwaria Pacla** 19.86 317 eP P 15 01 38.5 -0.7
comp=Z,649nm,1.1s
KWP **Kalwaria Pacla** 19.86 317 eP P 15 01 38.6 -0.7
KWP pmax pmax
comp=Z,649nm,1.1s
JLN **Jalan Bani Buh** 20.01 132 P P 15 01 40.9 0.0
SNR=8.1
MHTO **MHTO** 20.09 137 P P 15 01 40.7 -1.1
SNR=19
PSZ **Piszkesteto** 20.67 310 eP P 15 01 48.4 +0.3
comp=Z,50nm,1.0s
PSZ **Piszkesteto** 20.67 310 eP P 15 01 48.4 +0.3
PSZ pmax pmax
comp=Z,51nm,1.0s
PSZ **Piszkesteto** 20.67 310 eP P 15 01 48.0 0.0
PSZ Sn Sn 15 05 47.1 +3.8
WHFO **Wadi Hawf** 20.74 151 P P 15 01 48.4 -0.7
SNR=7.3
MICGM **Minsk** 20.85 334⇑ eP P 15 01 50.0 +0.1
MICGM PM 15 01 51.0
comp=Z,0.1nm,1.0s
MICGM PM 15 01 53.0
comp=N,0.2nm,1.0s
MICGM ePP sP 15 02 20.0 +25
MICGM eS S 15 05 37.0 -5.0
MICGM eSS SnSn 15 06 22.0 +20
MICGM eLQ LQ 15 08 40.0
MICGM eLR LR 15 10 16.0
MNK **Minsk** 20.85 334 eP P 15 01 50.0 +0.1
MNK e 15 02 20.0
MNK eS S 15 05 37.0 -5.0
MNK eSS SnSn 15 06 22.0 +20
MNK pmax pmax
comp=Z,140nm,1.0s
KBL **Kabul** 20.93 88 eP P 15 01 50.4 -0.8
comp=Z,14nm,0.9s
KBL **Kabul** 20.93 88 eP P 15 01 50.4 -0.8
KBL pmax pmax
comp=Z,14nm,0.9s
BUD **Budapest** 21.04 309 eP P 15 01 56.0 +4.1
ABTO **Aybut** 21.08 153 P P 15 01 53.6 +0.9
SNR=5.4
NIE **Niedzica** 21.10 315 eP P 15 01 58.3 +5.6
NIE **Niedzica** 21.10 315 eP P 15 01 58.3 +5.6
MATE **Matera** 21.22 289⇑ iP P 15 01 54.1 +0.1
BLY **Banja Luka** 21.42 300 eP P 15 01 55.1 -1.0
comp=Z,17nm,1.0s
BLY esP sP 15 02 02.9 +1.2
LANS **Liptovska Anna** 21.46 313 eP P 15 01 58.6 +2.1
LANS **Liptovska Anna** 21.46 313 esP P 15 01 58.6 +2.1
CSKK **Cskako** 21.47 308 eP P 15 01 58.0 +1.4
VYHS **Vyhne** 21.55 311 eP P 15 02 00.3 +2.8
VYHS **Vyhne** 21.55 311 esP P 15 02 00.3 +2.8
NACGM **Naroch** 21.56 333 eP P 15 01 55.0 -2.5
NACGM eS S 15 05 46.0 -10
NACGM eSS SnSn 15 06 28.0 +8.3
NACGM eSSS SSS 15 07 06.0
NACGM eLQ LQ 15 09 24.0
NACGM eLR LR 15 10 36.0
KK31 **Karatay Array** 21.73 64 eP P 15 02 00.1 +0.6
comp=Z,54nm,1.2s
KK31 **Karatay Array** 21.73 64 iP P 15 01 59.6 +0.1
KK31 pmax pmax
comp=Z,28nm,0.9s
KKAR **Karatay Array** 21.73 64 eP P 15 01 59.4 -0.1
comp=Z,54nm,1.2s
KKAR **Karatay Array** 21.73 64 eP P 15 01 59.4 -0.1
KKAR pmax pmax
comp=Z,55nm,1.2s
DAMY **Dhamar** 21.97 177 eP P 15 01 57.2 -5.3
comp=Z,30nm,0.8s
ARU **Arti** 22.30 22 eP P 15 02 03.8 -1.7
comp=Z,58nm,1.0s
ARU **Arti** 22.30 22 diP P 15 02 05.2 -0.2
ARU PPP PPP 15 02 36.6
ARU eS S 15 06 12.8 +2.6
ARU SS SnSn 15 06 40.4 +2.7
ARU pmax pmax
comp=Z,47nm,1.0s
ARU MLR MLR
comp=Z,2µm,21.0s
ISAL **Salakas** 22.32 334 eP P 15 02 06.2 +0.5
ISAL IAmb IAmb 15 02 12.0
comp=Z,22nm,0.9s
KIRV **Kirov** 22.34 8 P P 15 02 04.9 -0.9
comp=Z,53nm,0.5s,baz=157,slow=3.1,SNR=15
KIRV LR LR 15 12 08.9
comp=Z,3µm,20.4s,baz=204,slow=40
SUW **Suwalki** 22.34 328 eP P 15 02 05.7 -0.2
comp=Z,123nm,0.9s
SUW **Suwalki** 22.34 328 eP P 15 02 05.7 -0.2
SUW pmax pmax
comp=Z,123nm,0.9s
JAVC **Velka Javorina** 22.40 311 eP P 15 02 10.5 +3.8
MODS **Modra-Piesok** 22.46 310 eP P 15 02 12.4 +5.1
MODS **Modra-Piesok** 22.46 310 esP P 15 02 12.4 +5.1
KOGS **Kog** 22.49 304 iP P 15 02 10.3 +2.8
ZST **Bratislava** 22.50 309 eP P 15 02 10.6 +2.9
ZST **Bratislava** 22.50 309 esP P 15 02 10.6 +2.9
OKC **Ostrava-Krasne** 22.53 314 eP P 15 02 10.2 +2.2
OKC AMS AMS 15 13 40.0
comp=Z,900nm,7.6s
OKC **Ostrava-Krasne** 22.53 314 eP P 15 02 10.2 +2.2
OKC MLR MLR
comp=Z,900nm,7.6s
SOP **Sopron** 22.67 308 eP P 15 02 11.1 +1.6
SOP Sn S 15 06 13.0 -4.1
MORC **Moravsky Berou** 22.86 313⇑ iP P 15 02 12.7 +1.2
comp=Z,19nm,1.0s
MORC **Moravsky Berou** 22.86 313⇑ iP P 15 02 12.7 +1.2
MORC **Moravsky Berou** 22.86 313 eP P 15 02 13.6 +2.1
BOJS **Bojanci** 22.93 302 iP P 15 02 14.2 +2.0
VAE **Valguarnera** 23.13 281 LR LR 15 12 30.3
comp=Z,443nm,18.0s,baz=170,slow=40
CONA **Conrad Observa** 23.19 308 eP P 15 02 16.9 +1.9
comp=Z,29nm,1.0s,SNR=16
ARSA **Arzberg** 23.20 306 iP P 15 02 17.6 +2.6
comp=Z,19nm,1.1s
VRAC **Vranov** 23.23 312 eP P 15 02 17.6 +2.3
VRAC **Vranov** 23.23 312 P P 15 02 16.6 +1.3
comp=Z,16nm,0.9s,baz=123,slow=9.1,SNR=10
VRAC LR LR 15 12 56.8
comp=Z,456nm,18.6s,baz=118,slow=41
KRUC **Moravsky** 23.26 311 eP P 15 02 17.7 +2.1
SVE **Sverdlovsk** 23.29 24 eP P 15 02 16.5 +0.7
SVE eS S 15 06 24.9 -2.8
SVE pmax pmax
comp=Z,66nm,1.4s
SVE MLR MLR
comp=Z,916nm,14.0s
SOKA **Soboth** 23.36 304 epP P 15 02 16.9 +0.2
comp=Z,9.2nm,0.9s
ARSB **Arslanbob** 23.40 69 eP P 15 02 17.6 +0.3
comp=Z,103nm,1.4s
KRLC **Kraliky** 23.43 313 eP P 15 02 18.3 +0.9
KRLC **Kraliky** 23.43 313 eP P 15 02 18.3 +0.9
LJU **Ljubljana** 23.54 303 iP P 15 02 20.9 +2.5
OBKA **Obir** 23.64 304 epP P 15 02 20.0 +0.5
comp=Z,24nm,1.6s
DPC **Dobruska-Polom** 23.82 314 eP P 15 02 25.7 +4.6
DPC AMS AMS 15 13 50.0
comp=Z,1µm,18.1s
DPC **Dobruska-Polom** 23.82 314 eP P 15 02 25.7 +4.6
DPC MLR MLR
comp=Z,1µm,18.1s
TREC **Trest** 23.90 311 eP P 15 02 26.6 +4.7
TREC **Trest** 23.90 311 eP P 15 02 26.6 +4.7
AML **Almayashu** 23.97 67 P P 15 02 23.8 +0.7
SNR=12
UPC **Upice** 24.06 314 eP P 15 02 27.4 +4.0
UPC AMS AMS 15 16 00.0
comp=Z,900nm,13.2s
UPC **Upice** 24.06 314 eP P 15 02 27.4 +4.0
UPC MLR MLR
comp=Z,900nm,13.2s
EKS2 **Erkin-Say** 24.07 66 P P 15 02 24.7 +1.0
SNR=21
OTUK **Ortayu** 24.16 52 P P 15 02 24.2 -0.1
OTUK pmax pmax
comp=Z,36nm,1.2s
MOA **Molln** 24.19 307 ipP P 15 02 25.1 +0.5
comp=Z,17nm,0.8s,SNR=7.0
PBUR **Paburg** 24.25 330 eP P 15 02 26.1 +1.1
PBUR IAmb IAmb 15 02 31.2
comp=Z,106nm,0.8s
MYKA **Terra Mystica** 24.28 304 eP P 15 02 27.7 +2.2
comp=Z,15nm,1.2s
KLMR **Klimovskoe** 24.39 355 eP P 15 02 24.3 -1.9
KLMR pmax pmax
comp=Z,50nm,1.4s
KLMR **Klimovskoe** 24.39 355 eP P 15 02 24.3 -1.9
KLMR AMP 15 02 29.6
comp=Z,50nm,1.4s
VSU **Vasula** 24.45 339 ceP P 15 02 27.7 +0.8
VSU pmax pmax
comp=Z,130nm,0.8s
VSU **Vasula** 24.45 339 eP P 15 02 27.4 +0.5
VSU IAmb IAmb 15 02 32.9
comp=Z,137nm,0.5s
GOPC **GO Pecny, Ondr** 24.55 312 eP P 15 02 28.5 +0.6
GOPC AMS AMS 15 14 40.0
comp=Z,700nm,17.1s
GOPC **GO Pecny, Ondr** 24.55 312 eP P 15 02 28.5 +0.6
GOPC MLR MLR
comp=Z,700nm,17.1s
KBA **Koelnbreinsper** 24.58 305 epP P 15 02 28.8 +0.5
comp=Z,50nm,0.8s,SNR=24
UCH **Uchtor** 24.59 67 P P 15 02 32.5 +3.7
SNR=6.8
AAK **Ala-Archa** 24.59 66 P P 15 02 29.7 +1.2
SNR=5.2
AAK **Ala-Archa** 24.59 66 eP P 15 02 27.8 -0.8
comp=Z,24nm,1.3s
AAK **Ala-Archa** 24.59 66 iP P 15 02 27.3 -1.2
SNR=15
AAK **Ala-Archa** 24.59 66 P P 15 02 27.3 -1.2
AAK pmax pmax
comp=Z,19nm,1.4s
AAK **Ala-Archa** 24.59 66 P P 15 02 28.1 -0.4
SNR=10
AAK P P 15 02 28.1 -0.4
SNR=10
AAK **Ala-Archa** 24.59 66 P P 15 02 29.8 +1.3
comp=Z,5.5nm,1.1s,baz=237,slow=10,SNR=13
AAK LR LR 15 14 14.6
comp=Z,792nm,21.1s,baz=269,slow=42
USP **Osenovka** 24.65 65 P P 15 02 29.9 +1.0
SNR=13
FRU **Bishkek** 24.70 66 eP P 15 02 29.0 -0.3
FRU e 15 03 22.0
FRU pmax pmax
comp=Z,98nm,2.6s
PRU **Pruhonice** 24.73 312 eP P 15 02 31.7 +2.3
PRU AMS AMS 15 14 50.0
comp=Z,800nm,13.8s
PRU **Pruhonice** 24.73 312 eP P 15 02 31.7 +2.3
PRU MLR MLR
comp=Z,800nm,13.8s
GERES **GERESS Array B** 24.85 309 P P 15 02 30.8 +0.1
comp=Z,9.7nm,0.8s,baz=115,slow=8.8,SNR=36
GERES LR LR 15 15 05.2
comp=Z,466nm,18.6s,baz=111,slow=43
PVCC **Panska Ves** 24.91 313 eP P 15 02 32.8 +1.7
PVCC AMS AMS 15 14 20.0
comp=Z,900nm,21.0s
PVCC **Panska Ves** 24.91 313 eP P 15 02 32.8 +1.7
PVCC MLR MLR
comp=Z,900nm,21.0s
KBK **Karagaybulak** 24.93 66 P P 15 02 33.3 +1.7
SNR=6.4
BRVK **Borovoye** 24.95 40 eP P 15 02 31.1 -0.3
comp=Z,26nm,0.9s
BRVK **Borovoye** 24.95 40 ceP P 15 02 32.5 +1.1
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK **Borovoye** 24.95 40 P P 15 02 33.1 +1.6
SNR=20
BVA0 **Borovoye Array** 24.99 40 iP P 15 02 32.1 +0.3
BVA0 pmax pmax
comp=Z,35nm,1.2s
BVAR **Borovoye Array** 24.99 40 P P 15 02 31.9 +0.1
comp=Z,15nm,1.0s,baz=243,slow=6.5,SNR=50
KHC **Kasperske Hory** 25.02 309 eP P 15 02 32.6 +0.5
comp=Z,5.9nm,0.8s
KHC **Kasperske Hory** 25.02 309 eP P 15 02 32.9 +0.8
KHC **Kasperske Hory** 25.02 309 eP P 15 02 32.9 +0.8
ABTA **Abfaltersbach** 25.06 304 ipP P 15 02 33.7 +1.1
comp=Z,13nm,1.0s
KZA **Kyzart** 25.13 68 P P 15 02 35.3 +1.7
SNR=12
BRG **Berggiesshubel** 25.41 313 eP P 15 02 40.4 +4.8
comp=Z,16nm,0.9s
comp=N,1µm,14.5s
comp=E,734nm,21.4s
comp=Z,1µm,18.1s
BRG **Berggiesshubel** 25.41 313 ePCP PcP 15 06 01.2 -6.3
comp=Z,16nm,1.6s
BRG **Berggiesshubel** 25.41 313 eP P 15 02 40.4 +4.8
BRG e 15 06 01.2
BRG pmax pmax
comp=Z,16nm,0.9s
BRG MLR MLR
comp=N,1µm,14.5s
BRG MLR MLR
comp=E,734nm,21.4s
BRG MLR MLR
comp=Z,1µm,18.1s
TKM2 **Tokmak 2** 25.42 66 P P 15 02 38.6 +2.5
SNR=16
TKM2 **Tokmak 2** 25.42 66 P P 15 02 36.3 +0.2
TKM2 pmax pmax
comp=Z,20nm,1.2s
DESE **Dese** 25.61 189 iP P 15 02 36.7 -1.4
DESE eS S 15 07 08.7 +2.6
DESE **Dese** 25.61 189 iP P 15 02 36.7 -1.4
DESE eS S 15 07 08.7 +2.6
NRN **Naryn** 25.68 69 eP P 15 02 38.6 +0.1
comp=Z,37nm,1.2s
NRN **Naryn** 25.68 69 eP P 15 02 38.6 +0.1
NRN pmax pmax
comp=Z,37nm,1.2s
KSH **Kashi** 25.72 74 P P 15 02 37.8 -0.9
KSH pP pP 15 02 41.9 -0.8
KSH PP PnPn 15 03 14.7 -0.4
KSH S S 15 07 03.1 -4.2
KSH sS pS 15 07 11.0 -0.7
KSH SS SnSn 15 08 05.6 +3.7
KSH pmax pmax
comp=Z,170nm,5.1s
KSH LR LR
comp=Z,320nm,10.2s
KSH LR LR
comp=Z,500nm,13.3s
KSH LR LR
comp=Z,620nm,16.1s
WATA **Walderalm** 25.81 305 epP P 15 02 39.2 -0.3
comp=Z,9.0nm,0.5s
ULHL **Ulahol** 25.87 67 P P 15 02 42.2 +2.1
SNR=16
SQTA **Sankt Quirin** 26.03 304 epP P 15 02 41.1 -0.4
comp=Z,37nm,1.0s
NKC **Novy Kostel** 26.07 311 eP P 15 02 45.1 +3.4
NKC **Novy Kostel** 26.07 311 eP P 15 02 45.1 +3.4
CLL **Collm** 26.13 314 eP P 15 02 42.4 +0.3
comp=Z,19nm,0.9s
CLL **Collm** 26.13 314 eP P 15 02 43.0 +0.9
comp=Z,22nm,1.0s
CLL e 15 02 49.0
CLL eS S 15 07 16.0 +2.8
CLL eSSS SSS 15 08 24.0
CLL Lm MLR 15 15 00.0
comp=N,1µm,18.0s
CLL Lm MLR 15 15 00.0
comp=E,300nm,19.6s
CLL Lm MLR 15 15 00.0
comp=Z,600nm,19.1s
CLL **Collm** 26.13 314 eP P 15 02 43.0 +0.9
CLL eS S 15 07 16.0 +2.8
CLL pmax pmax
comp=Z,22nm,1.0s
CLL MLR MLR
comp=Z,600nm,19.1s
MOTA **Moosalm** 26.13 304 epP P 15 02 42.4 0.0
comp=Z,36nm,0.9s,SNR=14
FETA **Feichten** 26.31 304 epP P 15 02 43.8 -0.3
comp=Z,17nm,0.9s
FUORN **Ofenpass-Fuorn** 26.55 303 eP P 15 02 45.6 -0.8
comp=Z,13nm,0.9s
KDJ **Kajisay** 26.56 68 eP P 15 02 46.4 0.0
comp=Z,14nm,1.1s
KDJ **Kajisay** 26.56 68 eP P 15 02 46.4 0.0
KDJ pmax pmax
comp=Z,14nm,1.1s
GRA1 **Grafenberg Arr** 26.65 310 eP P 15 02 47.6 +0.8
comp=Z,34nm,1.0s
GRF **Grafenberg Arr** 26.65 310 eP P 15 02 47.7 +0.8
GRF pmax pmax
comp=Z,35nm,1.0s
GRFO **Grafenberg** 26.65 310 eP P 15 02 47.8 +0.9
comp=Z,31nm,1.0s
GRFO **Grafenberg** 26.65 310 eP P 15 02 47.8 +0.9
GRFO pmax pmax
comp=Z,31nm,1.0s
DAVA **Damuels** 26.93 304 epP P 15 02 49.3 -0.3
comp=Z,17nm,0.5s
FIA1 **FINESS Array S** 27.15 342 eP P 15 02 51.3 +0.1
FINES **FINESS Array B** 27.15 342 P P 15 02 50.7 -0.5
comp=Z,12nm,0.8s,baz=141,slow=12,SNR=24
FINES PcP PcP 15 06 13.0 +1.6
comp=Z,2.4nm,0.7s,baz=116,slow=3.2,SNR=4.1
FINES LR LR 15 14 35.7
comp=Z,1µm,20.0s,baz=144,slow=38
KEST **Kesra** 27.44 278 eP P 15 02 56.7 +2.5
comp=Z,72nm,1.0s
TMCR **Tamitsa** 27.78 355 eP P 15 02 59.3 +2.5
TMCR pmax pmax
comp=Z,14nm,0.8s
PDGK **Podgornoye** 28.29 65 P P 15 03 00.8 -1.0
PDGK pmax pmax
comp=Z,8.0nm,1.3s
SENIN **Lac Senin/Sane** 28.54 301 eP P 15 03 03.4 -0.7
comp=Z,55nm,1.9s
KURBB **Kurchatov Arra** 28.72 50 P P 15 03 06.0 +0.6
comp=Z,6.2nm,0.6s,baz=262,slow=9.1,SNR=34
KURBB PcP PcP 15 06 16.1 +0.7
comp=Z,2.4nm,1.0s,baz=254,slow=2.6,SNR=4.5
KURK **Kurchatov** 28.80 50 eP P 15 03 05.2 -0.8
comp=Z,16nm,1.0s
KURK **Kurchatov** 28.80 50 ceP P 15 03 07.3 +1.3
KURK pmax pmax
comp=Z,27nm,1.7s
KURK **Kurchatov** 28.80 50 P P 15 03 07.5 +1.4
SNR=6.1
BNI **Bardonecchia** 28.85 299 eP P 15 03 06.5 -0.2
comp=Z,93nm,2.0s
BNI **Bardonecchia** 28.85 299 eP P 15 03 06.6 -0.2
BNI pmax pmax
comp=Z,93nm,2.0s
HFS **Hagfors** 30.25 330 P P 15 03 18.6 -0.3
comp=Z,17nm,0.8s,baz=134,slow=11,SNR=29
HFS LR LR 15 16 33.8
comp=Z,824nm,20.0s,baz=130,slow=38
MAKZ **Makanchi** 30.26 58 eP P 15 03 19.0 -0.1
comp=Z,17nm,1.4s
MAKZ **Makanchi** 30.26 58 eP P 15 03 19.0 -0.1
MAKZ pmax pmax
comp=Z,17nm,1.4s
MK31 **Makanchi Array** 30.48 58 eP P 15 03 21.3 +0.3
comp=Z,6.8nm,1.1s
MK31 **Makanchi Array** 30.48 58 iP P 15 03 21.0 0.0
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR **Makanchi Array** 30.48 58 ceP P 15 03 21.7 +0.7
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR **Makanchi Array** 30.48 58 P P 15 03 21.6 +0.6
comp=Z,5.5nm,0.9s,baz=264,slow=6.5,SNR=29
MKAR LR LR 15 18 00.6
comp=Z,550nm,19.5s,baz=260,slow=41
MK01 **Makanchi Array** 30.48 58 eP P 15 03 21.3 +0.2
NC602 **NORSAR Array S** 31.47 330 eP P 15 03 29.9 +0.3
comp=Z,46nm,1.8s
NC602 **NORSAR Array S** 31.47 330 eP P 15 03 29.1 -0.4
KONO **Kongsberg** 31.68 327 eP P 15 03 31.2 -0.2
comp=Z,20nm,0.3s
KONO **Kongsberg** 31.68 327 ceP P 15 03 34.4 +3.0
KONO pmax pmax
comp=Z,14nm,0.8s
KONO **Kongsberg** 31.68 327 eP P 15 03 30.7 -0.7
NB2 **NORSAR Subarra** 31.78 330 P P 15 03 31.3 -1.0
comp=Z,2.2nm,0.8s,baz=124,slow=8.6
NB2 **NORSAR Subarra** 31.78 330 P P 15 03 31.3 -1.0
baz=124,slow=8.6
NOA **NORSAR Array B** 31.78 330 P P 15 03 31.6 -0.8
comp=Z,2.6nm,0.8s,baz=126,slow=8.8,SNR=9.7
NOA LR LR 15 17 20.1
comp=Z,695nm,19.6s,baz=130,slow=38
NVS **Novosibirsk** 32.66 43⇑ iP P 15 03 41.2 +1.1
NVS eS S 15 08 54.5 -1.2
NVS pmax pmax
comp=N,17nm,1.7s
NVS pmax pmax
comp=Z,33nm,1.7s
NVS pmax pmax
comp=E,12nm,1.3s
BLS5 **Blasjo** 32.96 326 eP P 15 03 42.1 -0.6
ODD1 **Odda** 33.11 326 eP P 15 03 44.2 +0.1
DOMB **Dombas** 33.20 331 eP P 15 03 43.6 -1.2
ZAA0 **Zalesovo Array** 33.31 45 eP P 15 03 44.5 -1.2
comp=E,5.8nm,0.8s
ZALV **Zalesovo Beam** 33.31 45 eP P 15 03 44.5 -1.3
ZALV **Zalesovo Beam** 33.31 45 eP P 15 03 44.5 -1.3
ZALV **Zalesovo Beam** 33.31 45 P P 15 03 45.3 -0.5
comp=E,3.2nm,0.4s,baz=256,slow=9.4,SNR=16
ZALV LR LR 15 19 38.8
comp=E,688nm,19.2s,baz=250,slow=40
NSS **Namsos** 33.67 336 eP P 15 03 48.0 -0.8
BER **Bergen** 33.91 327 eP P 15 03 50.1 -0.7
ASK **Askoy** 34.01 327 eP P 15 03 51.0 -0.7
MOR8 **Moi Rana** 34.05 339 eP P 15 03 51.2 -0.9
AKN **Aaknes** 34.09 330 eP P 15 03 51.7 -0.8
WMQ **Urumqi** 34.24 64 eP P 15 03 55.6 +1.5
WMQ pP sP 15 04 00.0 +0.2
WMQ S S 15 09 25.3 +4.7
WMQ pmax pmax
comp=E,32nm,1.1s
WMQ pmax pmax
comp=E,330nm,3.7s
WMQ LR LR
comp=E,920nm,37.3s
WMQ LR LR
comp=E,720nm,31.5s
WMQ LR LR
comp=E,600nm,34.3s
PYUN **Piuthan** 34.30 93 eP P 15 03 55.0 +0.1
comp=E,68nm,1.1s
KTK1 **Kautokeino** 34.31 347 eP P 15 03 53.3 -1.0

ARCES ARCESS Array B 34.40 349 P **P** **15 03 55.1 +0.1**
comp=E,8.1nm,0.8s,baz=150,slow=8.4,SNR=18
ARCES PcP **PcP** **15 06 30.8 +0.5**
comp=E,5.4nm,0.9s,baz=66,slow=2.9,SNR=4.3
ARCES LR LR 15 18 00.1
comp=E,789nm,21.7s,baz=145,slow=36
ARE0 ARCESS Array S 34.40 349 *eP* **P** **15 03 54.0 -1.1**
FOO Floro 34.60 328 *eP* **P** **15 03 56.1 -0.8**
KONS Konsvik 34.66 339 *eP* **P** **15 03 56.3 -1.0**
DANN Dangsing 34.81 92 *eP* **P** **15 03 59.9 +0.4**
comp=E,121nm,0.9s
KOLN Koldanda 34.92 93 *eP* **P** **15 04 00.5 +0.2**
comp=E,46nm,1.0s
STEI Steigen 35.13 342 *eP* **P** **15 04 00.8 -0.6**
TAM Tamanrasset 35.44 258 *eP* **P** **15 04 04.6 -0.2**
comp=E,38nm,1.2s
TAM Tamanrasset 35.44 258 *eP* **P** **15 04 04.6 -0.2**
TAM pmax pmax
comp=Z,38nm,1.2s
TRO Tromso 35.65 346 *eP* **P** **15 04 05.1 -0.7**
GKN Gorkha 35.66 92 *eP* **P** **15 04 06.7 +0.1**
comp=Z,74nm,0.7s
DMN Daman 36.20 92 *eP* **P** **15 04 11.6 +0.2**
comp=Z,167nm,1.2s
KKN Kakani 36.27 92 *eP* **P** **15 04 11.9 0.0**
comp=Z,82nm,1.1s
HYB Hyderabad 36.40 112 *i* P **P** **15 04 13.0 +0.1**
PKIN Phulchoki 36.45 92 *eP* **P** **15 04 13.5 0.0**
comp=Z,24nm,0.5s
PKI Pulchoki 36.46 92 *eP* **P** **15 04 13.7 0.0**
comp=Z,116nm,1.3s
EKA Eskdalemuir Ar 36.55 316 P **P** **15 04 14.0 +0.3**
EKA Eskdalemuir Ar 36.55 316 P **P** **15 04 14.0 +0.3**
comp=Z,12nm,0.9s,baz=100,slow=9.5,SNR=8.9
GUN Gumba 36.70 91 *eP* **P** **15 04 15.7 0.0**
comp=Z,182nm,1.1s
ES06 SONSECA Array 37.04 290 *eP* **P** **15 04 17.4 -0.8**
ESDC Sonseca Array 37.05 290 P **P** **15 04 18.0 -0.3**
comp=Z,6.4nm,0.8s,baz=64,slow=8.5,SNR=21
ESDC PcP **PcP** **15 06 39.5 +0.6**
comp=Z,3.7nm,0.9s,baz=66,slow=3.3,SNR=5.9
JIRN Jiri 37.05 91 *eP* **P** **15 04 19.0 +0.2**
comp=Z,182nm,1.0s
RAMN Ramite 37.69 92 *eP* **P** **15 04 24.0 0.0**
comp=Z,79nm,0.6s
KMBO Kilima Mbogo 37.98 190 LR LR 15 19 18.5
comp=Z,1μm,21.6s,baz=288,slow=35
ODAN Odare 38.36 92 *eP* **P** **15 04 30.0 +0.3**
comp=Z,196nm,1.1s
TAPN Taplejung 38.41 91 *eP* **P** **15 04 30.7 +0.6**
comp=Z,76nm,0.9s
PCBR Castelo Branco 39.68 291 *eP* **P** **15 04 42.1 +1.8**
PMRV Marv??o 39.70 290 *eP* **P** **15 04 44.0 +3.5**
PESTR Estremoz 39.97 289 *eP* **P** **15 04 44.3 +1.5**
PESTR Estremoz 39.97 289 *eP* **P** **15 04 42.0 -0.8**
comp=Z,14nm,1.0s
LSA Lhasa 40.22 86 *eP* **P** **15 04 44.7 -0.8**
comp=Z,16nm,0.9s
LSA Lhasa 40.22 86 *eP* **P** **15 04 44.7 -0.8**
LSA pmax pmax
comp=Z,16nm,0.9s
PBEJ Beja 40.38 288 *eP* **P** **15 04 49.1 +2.9**
NRIK Noril'sk 40.53 22 P **P** **15 04 47.9 +0.9**
comp=Z,9.6nm,1.0s,baz=233,slow=9.1,SNR=13
NRIK LR LR 15 24 49.2
comp=Z,1μm,20.6s,baz=236,slow=41
SHL Shillong 42.55 91 *eP* **P** **15 05 01.3 -3.0**
comp=Z,64nm,1.4s
SHL Shillong 42.55 91 *eP* **P** **15 05 01.3 -3.0**
SHL pmax pmax
comp=Z,64nm,1.4s
MOY Mondy 42.84 51 *eP* **P** **15 05 08.8 +2.5**
MOY pmax pmax
comp=Z,23nm,1.7s
SPA0 Spitsbergen Ar 43.21 352 *eP* **P** **15 05 08.0 -0.9**
SPITS Spitsbergen Ar 43.21 352 P **P** **15 05 09.8 +0.9**
comp=Z,27nm,1.1s,baz=136,slow=11,SNR=12
SPITS LR LR 15 25 33.8
comp=Z,265nm,18.6s,baz=195,slow=39
JMIC Jan Mayen 43.64 338 LR LR 15 23 38.7
comp=Z,443nm,20.7s,baz=72,slow=36
GTA Gaotai 43.91 68 P **P** **15 05 16.0 +0.9**
GTA pP pP 15 05 19.5 +0.3
GTA sP sP 15 05 22.0 +1.1
GTA PcS **PcS** **15 10 56.2 +2.1**
GTA S **S** **15 11 47.1 +0.8**
GTA ScS **ScS** **15 15 15.2 +1.1**
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,140nm,5.7s
GTA LR LR
comp=Z,320nm,18.9s
GTA LR LR
comp=Z,440nm,16.1s
GTA LR LR
comp=Z,320nm,15.1s
TOA0 Torodi Ar. Sit 44.01 249 *eP* **P** **15 05 13.4 -2.6**
TOA0 Torodi Ar. Sit 44.01 249 P **P** **15 05 16.1 +0.1**
SNR=5.5
TORD Torodi Ar. Bea 44.01 249 P **P** **15 05 15.5 -0.4**
comp=Z,8.4nm,1.1s,baz=46,slow=7.4,SNR=28
TORD PcP **PcP** **15 07 01.4 -0.1**
comp=Z,1.9nm,0.9s,baz=74,slow=2.8,SNR=3.5
TORD LR LR 15 24 36.6
comp=Z,140nm,21.5s,baz=355,slow=37
KBS Kingsbay 44.33 352 *eP* **P** **15 05 17.0 -0.8**
ZAK Zakamensk 44.37 52 *eP* **P** **15 05 18.4 -0.2**
ZAK *e* 15 07 01.4
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 46.76 55 P **P** **15 05 38.2 +0.7**
comp=Z,0.6nm,0.6s,baz=251,slow=9.0,SNR=3.1
SONM PcP **PcP** **15 07 11.0 +0.2**
comp=Z,1.2nm,0.8s,baz=264,slow=5.5,SNR=5.1
SONM LR LR 15 28 05.7
comp=Z,838nm,18.2s,baz=284,slow=40
BORG Borgarnes 46.87 328 LR LR 15 26 38.2
comp=Z,382nm,21.1s,baz=100,slow=38
ULN Ulaanbaatar 47.19 55 *eP* **P** **15 05 39.1 -1.8**
comp=Z,38nm,2.0s
ULN Ulaanbaatar 47.19 55 *ce*P **P** **15 05 40.7 -0.3**
ULN pmax pmax
comp=Z,14nm,1.7s
LZH Lanzhou 47.94 72 *eP* **P** **15 05 47.9 +0.9**
LZH pP pP 15 05 51.2 0.0
LZH sP sP 15 05 52.7 -0.1
LZH PP **PP** **15 07 38.1 -0.7**
LZH pmax pmax
comp=Z,45nm,1.0s
LZH pmax pmax
comp=Z,250nm,6.0s
LZH LR LR
comp=Z,1μm,14.3s
LZH LR LR
comp=Z,670nm,14.5s
LZH LR LR
comp=Z,590nm,17.6s
CD2 Chengdu 49.78 78 P **P** **15 05 57.8 -3.2**
CD2 pmax pmax
comp=Z,60nm,1.3s
CD2 pmax pmax
comp=Z,200nm,5.2s
CD2 LR LR
comp=Z,410nm,12.7s
CD2 LR LR
comp=Z,430nm,12.1s
BOD Bodaibo 49.85 41 *eP* **P** **15 06 00.3 -0.8**
BOD pmax pmax
comp=Z,53nm,0.9s
BTO Baotou 51.08 64 *eP* **P** **15 06 09.5 -1.3**
KMI Kunming 51.48 85 P **P** **15 06 13.4 -0.7**
KMI pmax pmax
comp=Z,14nm,0.7s
CHTO Chiang Mai 51.56 94 *eP* **P** **15 06 12.2 -2.3**
comp=Z,15nm,0.8s
CHTO Chiang Mai 51.56 94 *eP* **P** **15 06 12.2 -2.3**
CHTO pmax pmax
comp=Z,15nm,0.8s
CHTO Chiang Mai 51.56 94 P **P** **15 06 13.3 -1.2**
SNR=11
CHTO Chiang Mai 51.56 94 P **P** **15 06 14.0 -0.5**
comp=Z,102nm,1.0s
CMMT Chiang Mai 51.56 94 P **P** **15 06 13.9 -0.7**
comp=Z,22nm,1.0s
CM31 Chiang Mai Arr 51.74 95 *eP* **P** **15 06 13.8 -2.2**
comp=Z,36nm,1.4s
CM31 Chiang Mai Arr 51.74 95 P **P** **15 06 15.6 -0.3**
SNR=13
CMAR Chiang Mai Arr 51.74 95 P **P** **15 06 14.8 -1.1**
comp=Z,9.0nm,0.8s,baz=296,slow=8.4,SNR=56
CMAR LR LR 15 33 06.2
comp=Z,162nm,18.7s,baz=275,slow=42
CM01 Chiang Mai Arr 51.78 95 *eP* **P** **15 06 13.5 -2.7**
HHC Hu-ho-hao-te 52.11 63 *eP* **P** **15 06 18.3 -0.2**
HHC pP sP 15 06 23.4 -1.0
HHC S **S** **15 13 37.7 -4.7**
HHC sS pS 15 13 46.3 -1.2
HHC pmax pmax
comp=Z,17nm,0.8s
HHC pmax pmax
comp=Z,310nm,6.7s
HHC LR LR
comp=Z,360nm,14.7s
HHC LR LR
comp=Z,400nm,16.2s
HHC LR LR
comp=Z,340nm,14.7s
LAMP Lampang 52.26 94 P **P** **15 06 20.4 +0.6**
comp=Z,8.9nm,1.0s,comp=Z,76nm
XAN Xi'an 52.56 72 P **P** **15 06 21.7 -0.2**
XAN pP pP 15 06 25.5 -0.6
XAN S **S** **15 13 52.7 +4.1**
XAN pmax pmax
comp=Z,28nm,1.3s
XAN LR LR
comp=Z,340nm,16.7s
XAN LR LR
comp=Z,270nm,16.2s
XAN LR LR
comp=Z,200nm,13.2s
XAN Xi'an 52.56 72 *eP* **P** **15 06 20.2 -1.7**
comp=Z,25nm,0.9s
XAN Xi'an 52.56 72 *eP* **P** **15 06 20.2 -1.7**
XAN pmax pmax
comp=Z,25nm,0.9s
SUKH Sukhothai 52.82 95 P **P** **15 06 24.3 +0.4**
comp=Z,6.2nm,1.0s
UMPA Umpang Tak 52.90 97 P **P** **15 06 26.6 +2.1**
comp=Z,8.4nm,1.1s
SUMG Summit 53.09 338 *eP* **P** **15 06 24.0 -1.7**
comp=Z,22nm,1.2s
SUMG Summit 53.09 338 *i* P **P** **15 06 27.4 +1.7**
SUMG Summit 53.09 338 *eP* **P** **15 06 24.0 -1.7**
SUMG pmax pmax
comp=Z,22nm,1.2s
DBIC Dimbokro 53.10 248 *eP* **P** **15 06 24.3 -1.7**
comp=Z,17nm,1.2s
DBIC Dimbokro 53.10 248 *eP* **P** **15 06 24.3 -1.7**
DBIC pmax pmax
comp=Z,17nm,1.2s
DBIC Dimbokro 53.10 248 P **P** **15 06 25.1 -0.8**
comp=Z,5.9nm,0.7s,baz=31,slow=8.8,SNR=6.5
DBIC LR LR 15 29 45.9
comp=Z,319nm,18.7s,baz=38,slow=37
KIC Kosan Boka 53.21 248 *eP* **P** **15 06 26.8 0.0**
comp=Z,49nm,1.1s
TIC Toumodi 53.23 248 *eP* **P** **15 06 27.7 +0.7**
UTTA Uttaradit 53.42 95 P **P** **15 06 29.2 +0.9**
comp=Z,3.3nm,0.9s
LIC Lamto 53.52 248 *eP* **P** **15 06 28.9 -0.1**
comp=Z,52nm,0.9s
UTHA Uthaitani 53.73 98 P **P** **15 06 30.6 0.0**
comp=Z,4.8nm,0.8s,comp=Z,46nm
GYA Guiyang 54.00 82 *eP* **P** **15 06 32.0 -0.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 54.31 23 *eP* **P** **15 06 33.6 -0.5**
comp=Z,20nm,1.4s
TIXI Tiksi 54.31 23 *ce*P **P** **15 06 35.4 +1.4**
TIXI pmax pmax
comp=Z,19nm,1.7s
TIXI Tiksi 54.31 23 P **P** **15 06 34.4 +0.4**
comp=Z,6.4nm,0.9s,baz=319,slow=4.8,SNR=14
PBKT Sadao Pong 54.39 95 P **P** **15 06 35.5 +0.1**
comp=Z,21nm,1.0s
ENH Enshi 54.54 76 *eP* **P** **15 06 34.4 -2.0**
comp=Z,33nm,1.4s
CHAI Chaiyaphum 55.57 95 P **P** **15 06 48.0 +4.0**
comp=Z,3.0nm,1.0s
BJI Beijing 55.70 63 P **P** **15 06 45.8 +1.2**
BJI pmax pmax
comp=Z,6.0nm,0.8s
SKNT Sakolnakorn 56.59 93 P **P** **15 06 50.9 -0.3**
comp=Z,8.3nm,1.2s
SRAK Srakaew 56.67 97 P **P** **15 06 55.0 +3.2**
comp=Z,84nm,1.0s,comp=Z,703nm
YAK Yakutsk 56.74 34 *eP* **P** **15 06 51.1 -0.6**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,14nm,1.1s
ZEA Zeya 58.06 44 *eP* **P** **15 07 02.8 +1.7**
ZEA pmax pmax
comp=Z,18nm,1.4s
ZEA MLR MLR
comp=E,500nm,16.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
ZEA MLR MLR
comp=N,500nm,17.0s
TULEG Thule 59.61 345 *eP* **P** **15 07 11.4 -0.1**
comp=N,22nm,1.4s
CN2 Changchun 60.64 55 *eP* **P** **15 07 20.2 +1.1**
NJ2 Nanjing 60.96 70 *eP* **P** **15 07 21.1 -0.4**
NJ2 pmax pmax
comp=N,12nm,0.5s
GSI Gunungsitoli 61.02 112 *eP* **P** **15 07 20.4 -1.7**
comp=N,16nm,0.8s
PSI Prapat 61.06 110 *eP* **P** **15 07 20.1 -2.3**
comp=N,11nm,1.0s
PSI Prapat 61.06 110 *eP* **P** **15 07 20.2 -2.3**
PSI pmax pmax
comp=Z,11nm,1.0s
KLR Kul'dur 62.37 48 *i* P **P** **15 07 29.9 -0.8**
KLR Kul'dur 62.37 48 P **P** **15 07 30.8 0.0**
comp=Z,3.1nm,0.7s,baz=294,slow=7.6,SNR=8.3
USRK Ussuriysk Ar. 64.72 53 P **P** **15 07 44.7 -1.7**
comp=Z,1.0nm,0.8s,baz=357,slow=2.9,SNR=4.4
USRK LR LR 15 38 04.0
comp=Z,266nm,19.1s,baz=290,slow=38
KS01 Wonju Array Si 65.08 61 *eP* **P** **15 07 47.0 -1.8**
KSAR Wonju Array Be 65.09 61 P **P** **15 07 47.8 -1.0**
KSAR Wonju Array Be 65.09 61 P **P** **15 07 47.8 -1.0**
KSRS Korea Array 65.11 61 P **P** **15 07 47.8 -1.2**
comp=Z,4.4nm,1.0s,baz=288,slow=6.3,SNR=8.0
KSRS LR LR 15 39 21.6
comp=Z,179nm,18.3s,baz=299,slow=39
RES Resolute Bay 65.62 349 *eP* **P** **15 07 51.2 -0.5**
comp=Z,4.4nm,1.0s
RES Resolute Bay 65.62 349 *eP* **P** **15 07 51.2 -0.5**
RES pmax pmax
comp=Z,4.0nm,1.0s
NKL Nikolayevsk 65.62 41 *eP* **P** **15 07 51.0 -1.0**
NKL pmax pmax
comp=Z,12nm,0.8s
SEY Seymchan 65.89 28 *ce*P **P** **15 07 53.9 +0.3**
BOSA Boshof 67.09 197 LR LR 15 37 20.0
comp=Z,300nm,18.7s,baz=18,slow=36
MA2 Magadan 67.11 32 *eP* **P** **15 08 00.7 -0.8**
comp=Z,21nm,1.4s
MA2 Magadan 67.11 32 *ce*P **P** **15 08 04.9 +3.5**
MA2 pmax pmax
comp=Z,19nm,1.7s
MA2 Magadan 67.11 32 P **P** **15 08 01.9 +0.5**
comp=Z,4.7nm,0.8s,baz=291,slow=8.9,SNR=7.4
BILL Bilibino 67.29 20 *eP* **P** **15 08 04.5 +2.0**
BILL *e* 15 08 31.6
BILL *e*PPP PPP 15 12 08.5
BILL pmax pmax
comp=Z,8.0nm,1.1s
TYV Tymovskoe 67.82 42 *eP* **P** **15 08 06.1 0.0**
TYV pmax pmax
comp=Z,6.0nm,1.0s
YSS Yuzh-Sakhalins 69.93 46 *eP* **P** **15 08 20.4 +1.1**
YSS MLR MLR
comp=E,300nm,15.0s
YSS MLR MLR
comp=Z,400nm,15.0s
SBUM Sibu 71.59 101 *eP* **P** **15 08 28.1 -1.7**
comp=Z,6.9nm,1.1s
MJAR Matsushiro Arr 72.67 57 LR LR 15 43 29.8
comp=Z,312nm,19.4s,baz=290,slow=38
RDOG Red Dog Mine 73.79 10 *eP* **P** **15 08 41.1 -1.0**
comp=Z,16nm,1.1s
PETK Petropavlovsk- 74.08 35 LR LR 15 48 31.0
comp=Z,195nm,19.4s,baz=306,slow=42
TOLK Toolik Lake Re 74.61 5 *eP* **P** **15 08 46.7 -0.3**
comp=Z,11nm,0.9s
INK Inuvik 75.37 359 *eP* **P** **15 08 49.9 -1.3**
comp=Z,12nm,1.3s
INK Inuvik 75.37 359 *eP* **P** **15 08 49.9 -1.3**
INK pmax pmax
comp=Z,12nm,1.3s
COLD Coldfoot 75.96 5 *eP* **P** **15 08 54.3 -0.4**
comp=Z,10nm,0.9s
ANM Nome 76.64 12 *eP* **P** **15 08 58.1 -0.5**
comp=Z,20nm,1.2s
ANM Nome 76.64 12 *eP* **P** **15 08 58.1 -0.5**
ANM pmax pmax
comp=Z,20nm,1.2s
IM3 Indian Mountai 76.87 7 *eP* **P** **15 08 59.4 -0.5**
EPYK Eagle Plains 77.34 0 *eP* **P** **15 09 01.4 -1.1**
comp=Z,20nm,0.9s
MLY Manley 78.08 6 *eP* **P** **15 09 06.1 -0.7**
comp=Z,12nm,1.0s
MDM Murphy Dome 78.35 5 *eP* **P** **15 09 08.1 0.0**
comp=Z,25nm,1.2s
COLA College 78.46 5 *eP* **P** **15 09 08.6 -0.1**
comp=Z,25nm,1.0s
COLA College 78.46 5 *eP* **P** **15 09 08.6 -0.1**
COLA pmax pmax
comp=Z,25nm,1.0s
FCC Fort Churchill 78.60 339 *eP* **P** **15 09 09.5 -0.1**
comp=Z,18nm,1.1s
FCC Fort Churchill 78.60 339 *eP* **P** **15 09 09.5 -0.1**
FCC pmax pmax
comp=Z,18nm,1.1s
IL1 Eielson Array 78.62 4 *eP* **P** **15 09 09.0 -0.7**
ILAR Eielson Array 78.62 4 P **P** **15 09 09.5 -0.2**
comp=Z,3.9nm,0.9s,baz=330,slow=4.5,SNR=22
ILAR PKKPbc **PKKPbc** **15 28 04.8 -0.2**
comp=Z,0.6nm,0.9s,baz=213,slow=2.5,SNR=5.7
ILAR LR LR 15 48 48.8
comp=Z,123nm,18.5s,baz=340,slow=39
ILB Eielson Array 78.62 4 *eP* **P** **15 09 09.1 -0.6**
comp=Z,5.5nm,1.0s
CCB Clear Creek Bu 78.69 5 *eP* **P** **15 09 09.2 -0.7**
comp=Z,11nm,1.1s
EGAK Eagle 78.88 2 *eP* **P** **15 09 10.7 -0.3**
comp=Z,16nm,1.0s
BPAW Bear Paw Mtn. 78.98 6 *eP* **P** **15 09 11.2 -0.4**
comp=Z,22nm,1.2s
HDA Harding Lake 78.98 5 *eP* **P** **15 09 11.0 -0.6**
comp=Z,10.0nm,1.0s
MCK McKinley 79.51 6 *eP* **P** **15 09 13.6 -1.0**
comp=Z,24nm,1.2s
MCK McKinley 79.51 6 *eP* **P** **15 09 13.6 -1.0**
MCK pmax pmax
comp=Z,24nm,1.2s
CAST Castle Rocks 79.54 7 *eP* **P** **15 09 14.6 -0.2**
comp=Z,32nm,1.3s
SCRK Sand Creek 79.58 3 *eP* **P** **15 09 15.0 -0.1**
comp=Z,18nm,1.1s
YKW3 Yellowknife Ar 79.60 350 *eP* **P** **15 09 14.4 -0.6**
comp=Z,9.3nm,1.1s
DAWY Dawson 79.63 1 *eP* **P** **15 09 15.3 0.0**
comp=Z,14nm,1.1s
YKA Yellowknife Ar 79.66 350 P **P** **15 09 14.8 -0.6**
comp=Z,6.8nm,1.0s,baz=16,slow=5.5,SNR=21
YKA LR LR 15 46 30.5
comp=Z,26nm,21.5s,baz=20,slow=37
YKB5 Yellowknife Ar 79.66 350 *eP* **P** **15 09 14.4 -1.0**
RIDG Independ'e Rid 79.77 4 *eP* **P** **15 09 15.8 -0.2**
comp=Z,24nm,1.1s
RND Reindeer 79.84 6 *eP* **P** **15 09 16.0 -0.4**
comp=Z,20nm,1.2s
RND Reindeer 79.84 6 *eP* **P** **15 09 16.0 -0.4**
RND pmax pmax
comp=Z,21nm,1.2s
MOQ Mont Orford 79.93 320 *eP* **P** **15 09 16.6 -0.7**
DHY Denali Highway 80.28 5 *eP* **P** **15 09 17.6 -1.3**
comp=Z,36nm,1.7s
VLDQ Val d'Or 80.56 324 *eP* **P** **15 09 20.4 0.0**
comp=Z,17nm,1.0s
MENT Mentasta 80.62 3 *eP* **P** **15 09 19.6 -1.0**
comp=Z,9.2nm,0.9s
SML Sawmill 81.46 6 *eP* **P** **15 09 24.4 -0.7**
comp=Z,113nm,1.9s
SML Sawmill 81.46 6 *eP* **P** **15 09 24.4 -0.7**
SML pmax pmax
comp=Z,113nm,1.9s
KLU Klutina 81.94 5 *eP* **P** **15 09 27.0 -0.7**
comp=Z,28nm,1.0s
RC01 Rabbit Creek A 82.05 6 *eP* **P** **15 09 27.5 -0.7**
comp=Z,88nm,1.9s
HYT Haines Junctio 82.91 0 *eP* **P** **15 09 32.5 -0.3**
comp=Z,13nm,1.0s
FFC Flin Flon 84.29 341 *eP* **P** **15 09 39.2 -0.6**
comp=Z,14nm,1.2s
FFC Flin Flon 84.29 341 *ce*P **P** **15 09 41.4 +1.6**
KDAK Kodiak Island 85.00 9 *ce*P **P** **15 09 47.2 +3.8**
ULM Lac du Bonnet 86.35 335 *eP* **P** **15 09 49.8 -0.4**
comp=Z,16nm,1.0s
ULM Lac du Bonnet 86.35 335 *eP* **P** **15 09 49.8 -0.4**
ULM pmax pmax
comp=Z,16nm,1.0s
ULM Lac du Bonnet 86.35 335 P **P** **15 09 50.2 0.0**
comp=Z,9.0nm,0.9s,baz=24,slow=7.1,SNR=10
ULM LR LR 15 48 25.1
comp=Z,162nm,20.3s,baz=24,slow=36
BATI Baumata 88.30 104 LR LR 15 53 39.2
comp=Z,52nm,20.0s,baz=311,slow=38
ECSD EROS Data Cent 92.17 332 *eP* **P** **15 10 16.6 -1.3**
comp=Z,7.8nm,1.1s
NEW Newport 93.73 347 *eP* **P** **15 10 23.4 -1.6**
comp=Z,5.6nm,1.0s
NEW Newport 93.73 347 *eP* **P** **15 10 23.4 -1.6**
NEW pmax pmax
comp=Z,6.0nm,1.0s
FITZ Fitzroy Crossi 94.58 109 LR LR 15 57 08.8
comp=Z,100nm,19.2s,baz=304,slow=38
PDAR Pinedale Array 97.24 340 P Pdif 15 10 42.1 +0.7
comp=Z,0.5nm,0.9s,baz=76,slow=7.5,SNR=3.4
PDAR LR LR 15 55 58.9
comp=Z,143nm,20.2s,baz=27,slow=36
QSPA South Pole Qui 126.44 180 *e*PKPdf **PKPdf** **15 16 10.1 -0.1**

ISN **11** *15:04:59.4±0.7, 36°.71N×43°.42E, h0km±5km, ML3.2*
DDA **11** *15:05:00.4, 36°.67N×43°.39E, h7km±2km, ML3.4*
ISK **11** *15:05:02.2, 36°.82N×43°.39E, h5km, ML3.1/6*
ISC 11 15:05:00.2±1.2, 36°.66N±0°.03×43°.33E±0°.04, h6km±11km, n19, σ0°.81, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul** baz=40	**0.31**	**215**	*e*Pg		**Pb**	**15 05 08.0**	**-0.2**
MSL				*e*Sg		**Sb**	**15 05 14.0**	**+0.4**
CUKT	**Cukurca**	**0.63**	**20**	PG		**Pg**	**15 05 12.3**	**-0.1**
CUKT				SG		**Sg**	**15 05 19.9**	**-0.7**
SIRT	**Sirnak**	**1.10**	**320**	PG		**Pn**	**15 05 22.9**	**+0.5**
SIRT				SG		**Sn**	**15 05 37.9**	**-0.1**
SIRN	**Sırnak**	**1.11**	**319**	*i* P		**Pn**	**15 05 22.8**	**+0.3**
SIRN				*i* S		**Sn**	**15 05 38.6**	**+0.3**
YOVA	**Hakkari_Yksek**	**1.20**	**39**	*i* P		**Pn**	**15 05 22.4**	**-1.5**
YOVA				*i* S		**Sn**	**15 05 40.1**	**-0.5**
BASK	**Baskale_VAN**	**1.49**	**21**	*i* P		**Pb**	**15 05 28.8**	**+0.2**
BASK				*i* S		**Sg**	**15 05 49.3**	**+1.1**
BASK				IAML_P				
	comp=Z,2μm,0.2s							
IKRK	**Kirkuk**	**1.50**	**147**	*e*Pn		**Pb**	**15 05 28.0**	**-0.5**
IKRK				*e*Sn		**Sg**	**15 05 49.0**	**+0.7**
GEVA	**Gevas**	**1.67**	**353**	*i* P		**Pg**	**15 05 32.6**	**+0.4**
GEVA				*i* S		**Sg**	**15 05 55.5**	**+1.7**
GEVA				IAML_P				
	comp=Z,2μm,0.3s							
AKDM	**Akdamar-Van**	**1.69**	**351**	PN		**Pb**	**15 05 31.9**	**0.0**
SRTM	**Siirt_Merkez**	**1.74**	**320**	*i* P		**Pb**	**15 05 32.0**	**-0.7**
SRTM				*i* S		**Sg**	**15 05 56.0**	**-0.2**
SRTM				IAML_P				
	comp=Z,2μm,0.3s							
TVAN	**Van**	**1.87**	**2**	*i* P		**Pg**	**15 05 35.8**	**-0.3**
VANB	**Van**	**1.94**	**1**	PN		**Pn**	**15 05 33.9**	**+0.1**
BTMN	**Batman**	**2.06**	**307**	*i* P		**Pb**	**15 05 38.2**	**+0.2**
BTMN				*i* S		**Sg**	**15 06 06.5**	**+0.3**

BTMN				IAML_P			
	comp=Z,407nm,0.2s						
GURO	**Guroymak-BITLI**	**2.15**	**332**	PN	**Pb**	**15 05 38.9**	**-0.8**
GURO				SN	**Sb**	**15 06 05.8**	**-1.0**
ADCV	**BITLIS_Adilcev**	**2.20**	**348**	*i* P	**Pg**	**15 05 41.7**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.26**	**312**	PN	**Pb**	**15 05 41.1**	**-0.4**
SVAN	**Silvan-Diyarba**	**2.26**	**312**	*i* P	**Pg**	**15 05 43.1**	**-0.4**
SVAN				*i* S	**Sg**	**15 06 12.2**	**-0.7**
SVAN				IAML_P			
	comp=Z,1µm,0.3s						
CLDR	**Caldiran**	**2.52**	**10**	PN	**Pn**	**15 05 43.5**	**+1.5**
AGRB	**Hanur-Agry**	**2.93**	**355**	PN	**Pn**	**15 05 49.3**	**+1.8**

*IDC **11** 15:09:18.9±1.6, 19°.16N×62°.89W, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.6/57, mbtmp3.7/7, ML3.0/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/36, Error ellipse: s-maj=34.0km s-min=25.9km az=104.0*

ISC 11 15:09:20.2±1.5, 18°.7N±0°.1×62°.6W±0°.2, h35km, n23, σ1°27/21, mb3.7/5, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**3.44**	**261**	Pn	**Pn**	**15 10 10.9**	**-0.5**
	8.8nm,0.3s,baz=61,slow=14,SNR=13						
SJG				Sn	**Sn**	**15 10 51.3**	**+0.3**
	22nm,0.3s,baz=285,slow=23,SNR=5.9						
SJG				LR	LR	15 11 55.2	
	comp=Z,286nm,18.3s,baz=334,slow=48						
H05S1	**Guadeloupe/Mar**	**4.53**	**158**	Pn	Pn	15 10 36.9	+11
SDV	**Santo Domingo**	**12.48**	**220**	Pn	Pn	15 12 20.6	+5.1
	0.2nm,0.3s,baz=24,slow=12,SNR=5.1						
OCAC	**Ocana**	**14.71**	**227**	*e*P	**P**	**15 12 53.5**	**+1.8**
OCAC	**Ocana**	**14.71**	**227**	*e*P	**P**	**15 12 53.5**	**+1.8**
SMLC	**San Martn de**	**14.86**	**230**	*e*P	**P**	**15 12 54.8**	**+1.6**
SMLC	**San Martn de**	**14.86**	**230**	*e*P	**P**	**15 12 54.8**	**+1.6**
BARC	**Barichara**	**15.84**	**222**	*e*P	**P**	**15 13 03.4**	**-0.9**
BARC	**Barichara**	**15.84**	**222**	*e*P	**P**	**15 13 03.4**	**-0.9**
RUSC	**La Rusia**	**16.32**	**220**	*e*P	**P**	**15 13 11.4**	**+1.5**
RUSC	**La Rusia**	**16.32**	**220**	*e*P	**P**	**15 13 11.4**	**+1.5**
PTBC	**PUERTO BERRIO,**	**16.71**	**225**	*e*P	**P**	**15 13 14.1**	**+0.3**
PTBC	**PUERTO BERRIO,**	**16.71**	**225**	*e*P	**P**	**15 13 14.1**	**+0.3**
HELC	**Santa Helena**	**17.70**	**227**	*e*P	Pn	**15 13 22.7**	**-1.7**
HELC	**Santa Helena**	**17.70**	**227**	*e*P	Pn	**15 13 22.7**	**-1.7**
CHIC	**Chingaza**	**17.70**	**219**	*e*P	**P**	**15 13 26.7**	**+1.5**
CHIC	**Chingaza**	**17.70**	**219**	*e*P	**P**	**15 13 26.7**	**+1.5**
TXAR	**Lajitas Array**	**38.84**	**294**	P	**P**	**15 16 42.7**	**+0.4**
	0.4nm,0.7s,baz=99,slow=9.2,SNR=3.7						
PDAR	**Pinedale Array**	**46.26**	**312**	P	**P**	**15 17 42.2**	**-0.3**
	0.8nm,0.8s,baz=99,slow=9.8,SNR=5.7						
YKA	**Yellowknife Ar**	**56.46**	**334**	P	**P**	**15 18 58.0**	**-0.3**
	0.2nm,0.5s,baz=108,slow=7.5,SNR=4.1						
INK	**Inuvik**	**65.78**	**337**	P	**P**	**15 20 01.7**	**+0.3**
	1.8nm,1.1s,baz=100,slow=2.7,SNR=3.9						
ILAR	**Eielson Array**	**70.88**	**333**	P	**P**	**15 20 33.5**	**+0.1**
	0.6nm,0.7s,baz=109,slow=4.8,SNR=9.2						
TSUM	**Tsumeb**	**87.17**	**111**	LR	LR	15 54 01.4	
	comp=Z,63nm,21.1s,baz=328,slow=31						

*DDA **11** 15:14:35.7, 36°.72N×43°.31E, h13km±1km, ML3.4*
*ISK **11** 15:14:35.6, 36°.73N×43°.36E, h5km, ML3.2/6*
*ISN **11** 15:14:36.7±0.7, 36°.64N×43°.34E, h19km±24km, ML3.2*

ISC 11 15:14:35.0±1.3, 36°.65N±0°.03×43°.28E±0°.03, h1km±12km, n27, σ0°85/46, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.28**	**209**	*e*Pg	**Pb**	**15 14 43.2**	**+0.3**
	baz=38						
MSL				AML	AML	15 14 46.4	
	comp=Z,1µm,0.2s						
MSL				*e*Sg	**Sb**	**15 14 47.6**	**-0.6**
CUKT	**Cukurca**	**0.65**	**23**	PG	**Pg**	**15 14 47.4**	**-0.1**
CUKT				SG	**Sg**	**15 14 56.4**	**+0.5**
CUKT	**Cukurca**	**0.65**	**23**	*i* P	**Pg**	**15 14 47.0**	**-0.4**
CUKT				*i* S	**Sg**	**15 14 56.5**	**+0.6**
SIRT	**Sirnak**	**1.09**	**322**	PG	**Pn**	**15 14 57.0**	**-0.5**
SIRN	**Sırnak**	**1.09**	**321**	*i* P	**Pn**	**15 14 58.0**	**+0.4**
SIRN				*i* S	**Sn**	**15 15 13.6**	**+0.2**
SIRN	**Sırnak**	**1.09**	**321**	*i* P	**Pn**	**15 15 00.0**	**+2.4**
SIRN				*i* S	**Sn**	**15 15 13.9**	**+0.5**
YOVA	**Hakkari_Yksek**	**1.23**	**40**	*i* P	**Pg**	**15 14 58.1**	**-0.6**
YOVA				*i* S	**Sb**	**15 15 15.8**	**0.0**
YOVA				IAML_P			
	comp=Z,3µm,0.2s						
IKRK	**Kirkuk**	**1.51**	**145**	*e*Pg	**Pb**	**15 15 03.7**	**-0.1**
IKRK				AML	AML	15 15 07.5	
	comp=Z,988nm,0.5s						
IKRK				*e*Sg	**Sb**	**15 15 22.5**	**-1.0**
BASK	**Baskale_VAN**	**1.51**	**22**	*i* P	**Pn**	**15 15 03.0**	**-0.4**
GEVA	**Gevas**	**1.67**	**354**	*i* P	**Pg**	**15 15 07.9**	**+0.9**
GEVA				*i* S	**Sg**	**15 15 28.4**	**-0.2**
GEVA				IAML_P			
	comp=Z,3µm,0.3s						
GEVA	**Gevas**	**1.67**	**354**	*i* P	**Pg**	**15 15 07.7**	**+0.7**
GEVA				*i* S	**Sg**	**15 15 29.4**	**+0.8**
GEVA				IAML_P			
	comp=Z,3µm,0.3s						
AKDM	**Akdamar-Van**	**1.69**	**352**	PN	**Pb**	**15 15 06.5**	**-0.6**
SRTM	**Siirt_Merkez**	**1.72**	**321**	*i* P	**Pb**	**15 15 07.0**	**-0.5**
SRTM				*i* S	**Sg**	**15 15 32.3**	**+1.9**
SRTM	**Siirt_Merkez**	**1.72**	**321**	*i* P	**Pg**	**15 15 08.5**	**+0.5**
BTMN	**Batman**	**2.03**	**308**	*i* P	**Pb**	**15 15 11.7**	**-1.0**
BTMN				*i* S	**Sb**	**15 15 37.3**	**-1.2**
BTMN	**Batman**	**2.03**	**308**	*i* P	**Pg**	**15 15 13.9**	**+0.1**
BTMN				*i* S	**Sg**	**15 15 40.5**	**+0.3**
GURO	**Guroymak-BITLI**	**2.14**	**333**	PN	**Pb**	**15 15 13.3**	**-1.4**
ADCV	**BITLIS_Adilcev**	**2.20**	**349**	*i* P	**Pg**	**15 15 17.2**	**+0.1**
ADCV	**BITLIS_Adilcev**	**2.20**	**349**	*i* P	**Pg**	**15 15 16.5**	**-0.6**
ADCV				*i* S	**Sg**	**15 15 46.7**	**+1.0**
ADCV				IAML_P			
	comp=Z,496nm,0.3s						
SVAN	**Silvan-Diyarba**	**2.24**	**313**	PN	**Pb**	**15 15 15.3**	**-0.9**
SVAN	**Silvan-Diyarba**	**2.24**	**313**	*i* P	**Pb**	**15 15 15.7**	**-0.5**
SVAN				*i* S	**Sg**	**15 15 46.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**2.24**	**313**	*i* P	**Pb**	**15 15 16.3**	**0.0**
SVAN				*i* S	**Sg**	**15 15 46.7**	**-0.1**
SVAN				IAML_P			
	comp=Z,4µm,0.3s						
DIYA	**Diyarbakir**	**2.83**	**298**	*i* P	**Pg**	**15 15 28.7**	**-0.4**
DIYA				*i* S	**Sg**	**15 16 05.8**	**+0.1**
DIYA	**Diyarbakir**	**2.83**	**298**	*i* P	**Pg**	**15 15 28.7**	**-0.4**
DIYA				*i* S	**Sg**	**15 16 06.1**	**+0.4**
HANI	**Diyarbakir_Han**	**2.89**	**308**	*i* P	**Pg**	**15 15 29.4**	**-1.0**
HANI				*i* S	**Sg**	**15 16 07.3**	**-0.6**
HANI	**Diyarbakir_Han**	**2.89**	**308**	*i* P	**Pg**	**15 15 29.9**	**-0.5**
HANI				*i* S	**Sg**	**15 16 09.7**	**+1.8**
AGRB	**Hanur-Agry**	**2.93**	**356**	PN	**Pn**	**15 15 24.1**	**+1.2**

*ISCJB **11** 15:22:23.0±1.4, 33°.77N±0°.05×35°.67E±0°.09, h19km±15km, Error ellipse: s-maj=14.3km s-min=7.0km az=154.7*
*GRAL **11** 15:22:23.8±0.3, 33°.78N×35°.77E, h6km±5km, MD2.9*
*NSSC **11** 15:22:23.3±0.4, 33°.76N×35°.69E, h10km±21km, ML1.7*

ISC 11 15:22:22.6±1.1, 33°.79N±0°.05×35°.72E±0°.05, h17km±9km, n10, σ0°52/15, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13**	**335**	*e*P	**Pb**	**15 22 26.8**	**0.0**
DQRL	**Deir Qamar**	**0.15**	**238**	*e*P	**Pb**	**15 22 27.2**	**+0.2**
DQRL				*e*S	**Sg**	**15 22 29.8**	**+0.3**
BEYL	**Beirut**	**0.21**	**294**	*e*P	**Pb**	**15 22 28.3**	**+0.3**
QRWL	**Qaraoun**	**0.24**	**188**	*e*P	**Pg**	**15 22 28.2**	**+0.1**
RCY	**Rachaya**	**0.30**	**162**	*e*P	**Pg**	**15 22 29.1**	**-0.1**
RCY				*e*S	**Sg**	**15 22 33.0**	**-0.6**
BRBR	**Barbar**	**0.42**	**153**	*e*P	**Pb**	**15 22 31.6**	**-0.2**
BRBR				*e*S	**Sb**	**15 22 37.5**	**-0.4**
BRBR				AML	AML	15 22 42.8	
	comp=N,61nm,0.5s						
BRBR				AML	AML	15 22 43.0	
	comp=E,88nm,0.5s						
SHBL	**Chebaa**	**0.44**	**178**	*e*P	**Pg**	**15 22 31.5**	**0.0**
HWQ	**Hawqa**	**0.53**	**21**	*e*P	**Pb**	**15 22 33.3**	**-0.2**
QASN	**Qassioun**	**0.53**	**118**	*e*P	**Pb**	**15 22 34.1**	**+0.6**
QASN				*e*S	**Sb**	**15 22 41.5**	**+0.6**
QASN				AML	AML	15 22 45.5	
	comp=E,117nm,0.4s						
QASN				AML	AML	15 22 47.6	
	comp=N,66nm,0.6s						
TOTH	**TOTAH**	**0.72**	**125**	*e*P	**Pn**	**15 22 37.7**	**-0.5**
TOTH				*e*S	**Sb**	**15 22 47.6**	**+1.1**
TOTH				AML	AML	15 22 53.9	
	comp=N,14nm,0.4s						
TOTH				AML	AML	15 23 00.5	
	comp=E,24nm,0.6s						

*ISCJB **11** 15:22:35.6±0.6, 27°.94N±0°.05×91°.95W±0°.04, h10km, mb3.9/5, Error ellipse: s-maj=7.5km s-min=4.4km az=166.3*
*NEIC **11** 15:22:37.2±0.6, 27°.88N×92°.04W, h10km, MN2.9, Error ellipse: s-maj=9.0km s-min=5.4km az=159.0*
*IDC **11** 15:22:37.4±1.0, 27°.90N×92°.49W, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.7/36, mbtmp4.0/7, ML4.4/2, Error ellipse: s-maj=24.3km s-min=16.1km az=10.0*

ISC 11 15:22:38.1±0.8, 28°.05N±0°.07×92°.06W±0°.06, h10km, n97, σ1°81/96, mb4.1/5, Gulf of Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKT	**Hockley**	**3.81**	**301**	*e*Pn	**Pn**	**15 23 38.5**	**+1.7**
HKT				*e*Sn	**Sn**	**15 24 16.6**	**-5.1**
NATX	**Nacogdoches**	**4.34**	**329**	*e*Pn	**Pn**	**15 23 46.6**	**+2.5**
NATX	**Nacogdoches**	**4.34**	**329**	P	**Pn**	**15 23 47.5**	**+3.5**
	baz=149						
NATX				S	**Sn**	**15 24 32.2**	**-2.6**
	baz=149						
VBMS	**Vicksburg**	**4.37**	**17**	S	**Sn**	**15 24 36.5**	**+1.0**
	baz=129						
448A	**Bay Minette**	**4.65**	**51**	S	**Sn**	**15 24 41.6**	**-0.9**
	baz=231						
KVTX	**Kingsville**	**5.20**	**266**	*e*Pn	**Pn**	**15 23 55.0**	**-0.8**
Z41A	**Richland Creek**	**5.24**	**353**	*e*Pn	**Pn**	**15 23 59.5**	**+3.1**
Z41A	**Richland Creek**	**5.24**	**353**	P	**Pn**	**15 23 59.7**	**+3.3**
	baz=173						
435B	**Jarrell**	**5.54**	**301**	*e*Pn	**Pn**	**15 24 01.3**	**+0.7**
435B	**Jarrell**	**5.54**	**301**	P	**Pn**	**15 24 02.0**	**+1.3**
	baz=120						
147A	**Livingston**	**5.66**	**34**	*e*Pn	**Pn**	**15 24 03.4**	**+1.3**
147A	**Livingston**	**5.66**	**34**	P	**Pn**	**15 24 04.3**	**+2.1**
	baz=215						
WLAR	**White Oak Lake**	**5.70**	**351**	*e*Pn	**Pn**	**15 24 05.4**	**+2.7**
CCAR	**Cane Creek**	**5.86**	**2**	*e*Pn	**Pn**	**15 24 07.5**	**+2.6**
451A	**Vernon**	**6.07**	**64**	*e*Pn	**Pn**	**15 24 07.2**	**-0.7**
WHTX	**Lake Whitney,**	**6.12**	**311**	*e*Pn	**Pn**	**15 24 10.5**	**+2.0**
WHTX	**Lake Whitney,**	**6.12**	**311**	P	**Pn**	**15 24 10.7**	**+2.2**
	baz=130						
250A	**Grady**	**6.37**	**51**	*e*Pn	**Pn**	**15 24 13.0**	**+1.1**
250A	**Grady**	**6.37**	**51**	P	**Pn**	**15 24 13.6**	**+1.6**
	baz=232						
X40A	**Basin Creek Fa**	**6.46**	**354**	*e*Pn	**Pn**	**15 24 15.1**	**+1.9**
833A	**Chaparral WMA,**	**6.48**	**274**	*e*Pn	Pn	15 24 10.8	-2.8
833A	**Chaparral WMA,**	**6.48**	**274**	P	Pn	15 24 11.4	-2.2
	baz=92						
MIAR	**Mount Ida**	**6.61**	**349**	*e*Pn	**Pn**	**15 24 18.5**	**+3.2**
452A	**Marianna**	**6.61**	**63**	P	**Pn**	**15 24 14.9**	**-0.4**
	baz=245						
LRAL	**Lakeview Retre**	**6.61**	**40**	*e*Pn	**Pn**	**15 24 15.8**	**+0.4**
LRAL	**Lakeview Retre**	**6.61**	**40**	P	**Pn**	**15 24 16.5**	**+1.2**
	baz=221						
UALR	**University of**	**6.71**	**358**	*e*Pn	**Pn**	**15 24 18.6**	**+1.8**
OXF	**Oxford**	**6.83**	**19**	*e*Pn	**Pn**	**15 24 19.6**	**+1.2**
OXF	**Oxford**	**6.83**	**19**	P	**Pn**	**15 24 20.0**	**+1.6**
	baz=199						
Z49A	**Columbiana**	**7.00**	**41**	P	**Pn**	**15 24 22.0**	**+1.3**
	baz=223						
251A	**Midway**	**7.03**	**53**	P	**Pn**	**15 24 20.8**	**-0.3**
	baz=235						
W41B	**Gary Mavity, V**	**7.11**	**359**	*e*Pn	**Pn**	**15 24 24.3**	**+2.2**
W41B	**Gary Mavity, V**	**7.11**	**359**	P	**Pn**	**15 24 24.5**	**+2.3**
	baz=179						
X37A	**Clayton**	**7.11**	**337**	*e*Pn	**Pn**	**15 24 24.6**	**+2.4**
X46A	**Booneville**	**7.14**	**24**	P	**Pn**	**15 24 24.6**	**+2.1**
	baz=205						
JCT	**Junction City**	**7.19**	**292**	*e*Pn	**Pn**	**15 24 22.7**	**-0.6**
JCT	**Junction City**	**7.19**	**292**	P	**Pn**	**15 24 23.7**	**+0.4**
	baz=109						
Y48A	**Jasper**	**7.20**	**34**	P	**Pn**	**15 24 24.5**	**+1.1**
	baz=216						
W39A	**Magazine**	**7.28**	**349**	*e*Pn	**Pn**	**15 24 27.7**	**+3.2**
151A	**Opelika**	**7.33**	**51**	P	**Pn**	**15 24 25.4**	**+0.1**
	baz=233						
LNIG	**Linares**	**7.34**	**246**	*e*Pn	Pn	15 24 19.7	-5.7
X47A	**Russelville**	**7.38**	**28**	P	**Pn**	**15 24 27.2**	**+1.3**
	baz=209						
Z50A	**Ashland**	**7.41**	**44**	*e*Pn	**Pn**	**15 24 25.9**	**-0.4**
Y49A	**Blount Mountai**	**7.55**	**39**	*e*Pn	**Pn**	**15 24 28.5**	**+0.2**
Y49A	**Blount Mountai**	**7.55**	**39**	P	**Pn**	**15 24 29.1**	**+0.8**
	baz=220						
X48A	**Hartselle**	**7.69**	**33**	*e*Pn	**Pn**	**15 24 30.7**	**+0.6**
X48A	**Hartselle**	**7.69**	**33**	P	**Pn**	**15 24 31.0**	**+0.8**
	baz=214						
PLAL	**Pickwick Lake**	**7.70**	**25**	*e*Pn	**Pn**	**15 24 31.5**	**+1.2**
152A	**Waverly Hall**	**7.84**	**52**	*e*Pn	**Pn**	**15 24 31.7**	**-0.4**
ABTX	**Abilene, Hawle**	**7.99**	**307**	*e*Pn	**Pn**	**15 24 35.5**	**+1.3**
ABTX	**Abilene, Hawle**	**7.99**	**307**	P	**Pn**	**15 24 35.8**	**+1.5**
	baz=224						
X49A	**Woodville**	**8.10**	**36**	P	**Pn**	**15 24 36.3**	**+0.6**
	baz=218						
W47A	**Westpoint**	**8.13**	**27**	P	**Pn**	**15 24 37.2**	**+1.1**
	baz=208						
X50B	**Fort Payne**	**8.42**	**39**	P	**Pn**	**15 24 40.7**	**+0.5**
	baz=221						
W49A	**Belvidere**	**8.61**	**34**	P	**Pn**	**15 24 43.2**	**+0.5**
	baz=216						
V47A	**Nunnally**	**8.66**	**25**	P	**Pn**	**15 24 45.2**	**+1.8**
	baz=207						
WMOK	**Wichita Mounta**	**8.80**	**321**	*e*Pn	**Pn**	**15 24 46.2**	**+0.8**
WMOK	**Wichita Mounta**	**8.80**	**321**	P	**Pn**	**15 24 47.6**	**+2.1**
	baz=138						
PBMO	**Poplar Bluff**	**8.82**	**9**	*e*Pn	**Pn**	**15 24 46.8**	**+1.2**
WVT	**Waverly**	**8.82**	**23**	*e*Pn	**Pn**	**15 24 46.0**	**+0.4**
WVT	**Waverly**	**8.82**	**23**	P	**Pn**	**15 24 46.9**	**+1.3**
	baz=205						
SWET	**Sewanee**	**8.85**	**35**	*e*Pn	**Pn**	**15 24 46.1**	**0.0**
V48A	**Smith Brothers**	**8.87**	**29**	*e*Pn	**Pn**	**15 24 46.5**	**+0.3**
T42A	**Van Buren**	**9.00**	**5**	*e*Pn	**Pn**	**15 24 50.3**	**+2.3**
T42A	**Van Buren**	**9.00**	**5**	P	**Pn**	**15 24 50.5**	**+2.5**
	baz=185						
GOGA	**Godfrey**	**9.12**	**52**	*e*Pn	**Pn**	**15 24 49.0**	**-0.8**
W50A	**Signal Mountai**	**9.16**	**37**	*e*Pn	**Pn**	**15 24 50.2**	**-0.1**
U47A	**Clarksville**	**9.29**	**25**	P	**Pn**	**15 24 53.4**	**+1.4**
	baz=206						
V49A	**McMinnville**	**9.30**	**33**	P	**Pn**	**15 24 53.2**	**+0.9**
	baz=215						
T45A	**Paducah**	**9.40**	**17**	*e*Pn	**Pn**	**15 24 55.0**	**+1.4**
V50A	**Pikeville**	**9.63**	**36**	P	**Pn**	**15 24 57.4**	**+0.6**
	baz=219						
CPCT	**Cooper Cave**	**9.78**	**39**	*e*Pn	**Pn**	**15 24 58.7**	**-0.1**
T47A	**Sharon Grove**	**9.85**	**24**	*e*Pn	**Pn**	**15 25 00.3**	**+0.6**
T47A	**Sharon Grove**	**9.85**	**24**	P	**Pn**	**15 25 00.8**	**+1.2**
	baz=206						
U49A	**Red Boiling Sp**	**9.97**	**31**	P	**Pn**	**15 25 02.4**	**+0.9**
	baz=213						
TXAR	**Lajitas Array**	**10.28**	**280**	Pn	Pn	15 25 02.9	-2.8
	1.5nm,0.3s,baz=109,slow=14,SNR=60						
TXAR				Sn	Sn	15 26 52.2	-8.9
	1.9nm,0.3s,baz=117,slow=26,SNR=10						
TX31	**Lajitas Ar. Si**	**10.28**	**280**	*e*Pn	Pn	15 25 03.6	-2.2
U50A	**Jamestown**	**10.34**	**34**	P	**Pn**	**15 25 06.9**	**+0.5**
	baz=218						
TKL	**Tuckaleechee C**	**10.35**	**41**	*e*Pn	**Pn**	**15 25 06.8**	**+0.2**
TKL				Sn	**Sn**	**15 26 57.0**	**-5.6**
TKL	**Tuckaleechee C**	**10.35**	**41**	Pn	**Pn**	**15 25 07.5**	**+0.9**
	0.7nm,0.3s,baz=214,slow=12,SNR=5.5						
TKL				Sn	**Sn**	**15 26 57.0**	**-5.6**
	0.9nm,0.3s,baz=294,slow=15,SNR=3.5						
HODGE	**Hodges**	**10.41**	**51**	*e*Pn	**Pn**	**15 25 05.5**	**-1.9**
T49A	**Edmonton**	**10.57**	**30**	*e*Pn	Pn	**15 25 10.3**	**+0.7**
T49A	**Edmonton**	**10.57**	**30**	P	Pn	**15 25 10.8**	**+1.1**
	baz=213						
AMTX	**Amarillo**	**10.67**	**312**	*e*Pn	**Pn**	**15 25 10.9**	**-0.2**
AMTX	**Amarillo**	**10.67**	**312**	P	**Pn**	**15 25 12.4**	**+1.3**
	baz=128						
T50A	**Nancy**	**10.82**	**32**	P	**Pn**	**15 25 12.7**	**-0.4**
	baz=216						
S48A	**Wiedeman Farm,**	**10.83**	**26**	P	**Pn**	**15 25 14.9**	**+1.7**
	baz=209						
TZTN	**Tazewell**	**11.11**	**38**	*e*Pn	**Pn**	**15 25 17.4**	**+0.3**
TZTN	**Tazewell**	**11.11**	**38**	P	**Pn**	**15 25 17.4**	**+0.3**
	baz=222						
MNTX	**Cornudas Mount**	**12.12**	**291**	*e*Pn	**Pn**	**15 25 29.6**	**-1.4**
APG	**El Apazote**	**13.06**	**173**	Pn	**Pn**	**15 25 43.6**	**-0.4**
	0.7nm,0.3s,baz=15,slow=20,SNR=7.5						
YKA	**Yellowknife Ar**	**37.51**	**343**	P	**P**	**15 29 53.4**	**+1.6**
	0.6nm,0.6s,baz=138,slow=8.5,SNR=20						
ILAR	**Eielson Array**	**50.15**	**333**	P	**P**	**15 31 35.6**	**+2.3**
	0.4nm,0.5s,baz=112,slow=6.5,SNR=9.5						
PLCA	**Paso Flores**	**71.28**	**163**	P	**P**	**15 33 58.6**	**+1.0**
	1.1nm,0.5s,baz=359,slow=7.3,SNR=5.0						
ARCES	**ARCESS Array B**	**72.90**	**19**	P	**P**	**15 34 08.2**	**+1.2**
	2.2nm,0.7s,baz=311,slow=5.8,SNR=6.2						
FINES	**FINESS Array B**	**77.88**	**26**	P	**P**	**15 34 37.3**	**+1.6**
	1.7nm,0.9s,baz=300,slow=3.1,SNR=4.5						
WRA	**Warramunga Arr**	**137.06**	**270**	PKP	**PKPdf**	**15 42 03.9**	**+1.9**
	0.5nm,0.8s,baz=74,slow=2.7,SNR=4.1						

*KLM **11** 15:24:48.9, 3°.11N×92°.63E, h44km, mb4.7*
*IDC **11** 15:24:49.0±1.1, 3°.19N×92°.88E, h0km, mb4.0/9, mb1 4.1/12, mb1mx3.9/46, mbtmp4.0/12, ML4.1/3, MS3.9/6, Ms1 3.9/6, ms1mx3.3/56, Error ellipse: s-maj=37.5km s-min=17.3km az=42.0*
*ISCJB **11** 15:24:50.4±0.3, 3°.08N±0°.04×92°.96E±0°.03, h33km, mb4.2/22, MS4.0/7, Error ellipse: s-maj=7.0km s-min=3.3km az=32.7*
*DJA **11** 15:24:50.2±0.6, 3°.N±4°.×92°.3E±°, h35km±8km, M4.7/16, mb4.9/16, mB5.2/10, MLv4.9/10, Mw(mB)4.5/10*
*NEIC **11** 15:24:52.5±0.5, 3°.21N×92°.94E, mb4.3/10, Error ellipse: s-maj=10.6km s-min=6.1km az=213.0*

ISC 11 15:24:52.7±0.5, 3°.21N±0°.06×92°.92E±0°.06, h35km, n110, σ1°71/111, mb4.3/23, MS3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**3.50**	**103**	P	**Pn**	**15 25 44.1**	**-0.5**
SNSI				S	**Sn**	**15 26 20.6**	**-4.2**
MLSI	**Meulaboh, Aceh**	**3.64**	**73**	P	**Pn**	**15 25 46.4**	**-0.1**
CMBY	**CAMPBELL BAY**	**3.91**	**15**	*e*P	**Pn**	**15 25 49.9**	**-0.3**
CMBY				*e*S	**Sn**	**15 26 29.7**	**-5.3**
TPTI		**4.26**	**89**	P	**Pn**	**15 25 54.5**	**-0.6**
LHMI	**Lhok Sumawe**	**4.49**	**63**	*e*Pn	**Pn**	**15 25 58.7**	**+0.5**
LHMI	**Lhok Sumawe**	**4.49**	**63**	P	**Pn**	**15 25 58.8**	**+0.5**
KCSI	**Kotacane, Aceh**	**4.86**	**86**	P	**Pn**	**15 26 04.0**	**+0.7**
	200nm,0.5s,3µm1.8nm						
GSI	**Gunungsitoli**	**5.03**	**112**	*e*Pn	**Pn**	**15 26 05.6**	**0.0**
GSI	**Gunungsitoli**	**5.03**	**112**	P	**Pn**	**15 26 04.7**	**-0.9**
	244nm,0.6s,3µm0.9nm						
PSI	**Prapat**	**6.01**	**94**	*e*Pn	**Pn**	**15 26 19.4**	**0.0**
PSI				Sn	**Sn**	**15 27 26.1**	**-1.0**
PSI	**Prapat**	**6.01**	**94**	Pn	**Pn**	**15 26 19.8**	**+0.4**
	2.3nm,0.3s,baz=358,slow=3.4,SNR=14						
PSI				Sn	**Sn**	**15 27 26.1**	**-1.0**
	7.3nm,0.3s,baz=360,slow=22,SNR=7.2						
PBSI	**Pulau Batu**	**6.26**	**121**	P	**Pn**	**15 26 22.2**	**-0.5**
	416nm,0.7s,4µm1.3nm						
MNSI	**Mandailing Nat**	**7.08**	**110**	P	**Pn**	**15 26 33.6**	**-0.2**
PKDT	**Phuket**	**7.12**	**49**	P	**Pn**	**15 26 34.0**	**-0.5**
	26nm,0.6s,556nm0.1nm						
SISI	**Saibi**	**7.64**	**126**	P	**Pn**	**15 26 40.7**	**-0.9**
KULM	**Kulim**	**7.99**	**75**	*e*Pn	**Pn**	**15 26 46.2**	**-0.1**
KULM	**Kulim**	**7.99**	**75**	P	**Pn**	**15 26 47.1**	**+0.7**
TRTT	**Trang**	**8.16**	**55**	P	**Pn**	**15 26 48.0**	**-0.7**
	35nm,0.6s,483nm0.1nm						
IPM	**Ipoh**	**8.19**	**81**	*e*Pn	**Pn**	**15 26 48.9**	**-0.3**
IPM	**Ipoh**	**8.19**	**81**	P	**Pn**	**15 26 49.5**	**+0.3**
PPI	**Padang Panjang**	**8.32**	**116**	P	**Pn**	**15 26 49.2**	**-1.7**
	94nm,0.7s,2µm						
PBA	**Port Blair**	**8.39**	**359**	*e*Pn	Pn	15 26 49.3	-2.6
PBA	**Port Blair**	**8.39**	**359**	*e*P	Pn	15 26 49.7	-2.2
PBA				*e*S	Sn	15 28 16.5	-9.0
PBA				IAML		15 28 29.4	
	comp=N,151nm,0.1s						
PBA				IAML		15 28 29.9

CD2						pmax	pmax					
	comp=Z,5.0nm,0.5s											
BHJ	**Bhuj**	**30.06**	**314**		*e*P	**P**		**15**	**30**	**58.7**	**-0.1**
SMLA	**Simla**	**31.50**	**334**		*e*P	**P**		**15**	**31**	**12.6**	**+1.3**
DHRM	**DHARAMSHALA**	**32.84**	**333**		*e*P	**P**		**15**	**31**	**23.8**	**+0.4**
LZH	**Lanzhou**	**34.24**	**16**		*e*P	**P**		**15**	**31**	**38.5**	**+3.0**
LZH						pP	sP	15	31	47.5	-0.5
LZH						sP	pwP	15	31	51.2	+1.1
LZH						*e*PP	**PP**	**15**	**32**	**54.6**	**+1.1**
LZH						pmax	pmax					
	comp=Z,17nm,1.1s											
LZH						pmax	pmax					
	comp=Z,43nm,5.2s											
GTA	**Gaotai**	**36.58**	**9**		*e*P	**P**		**15**	**31**	**57.6**	**+2.1**
GTA						pP	pP	15	32	03.2	-1.1
GTA						sP	sP	15	32	06.0	-2.0
GTA	**Gaotai**	**36.58**	**9**		*e*P	P		15	32	06.0	+11
GTA						pP	pwP	15	32	11.5	+1.4
GTA						sP	sP	15	32	14.6	+6.6
GTA						pmax	pmax					
	comp=Z,1.0nm,0.9s											
GTA						pmax	pmax					
	comp=Z,4.0nm,1.0s											
KSH	**Kashi**	**39.28**	**339**		*e*P	**P**		**15**	**32**	**16.4**	**-1.9**
KSH						pP	pP	15	32	24.7	-2.5
KSH						PP	**PP**	**15**	**33**	**49.5**	**+0.6**
KSH						S	**S**	**15**	**38**	**09.5**	**-7.4**
KSH						sS	sS	15	38	24.7	-6.9
KSH						pmax	pmax					
	comp=Z,140nm,5.4s											
KSH						LR	LR					
	comp=N,89nm,8.2s											
KSH						LR	LR					
	comp=E,99nm,7.4s											
WMQ	**Urumqi**	**40.70**	**354**		*e*P	**P**		**15**	**32**	**31.4**	**+1.4**
WMQ						LR	LR					
	comp=N,120nm,20.9s											
WMQ						LR	LR					
	comp=E,210nm,20.9s											
WMQ						LR	LR					
	comp=Z,130nm,31.3s											
HHC	**Hu-ho-hao-te**	**41.07**	**22**		*e*P	**P**		**15**	**32**	**35.1**	**+2.0**
HHC						sP	pwP	15	32	50.0	+2.2
HHC						S	**S**	**15**	**38**	**45.1**	**+1.5**
HHC						sS	sS	15	39	00.6	+2.2
HHC						pmax	pmax					
	comp=Z,6.0nm,1.1s											
HHC						pmax	pmax					
	comp=Z,310nm,7.4s											
HHC						LR	LR					
	comp=N,150nm,10.4s											
HHC						LR	LR					
	comp=E,200nm,12.8s											
HHC						LR	LR					
	comp=Z,330nm,12.7s											
GAR	**Garm**	**41.14**	**333**		*e*P	**P**		**15**	**32**	**34.1**	**+0.4**
	comp=Z,15nm,1.1s											
KDJ	**Kajisay**	**41.23**	**342**		*e*P	**P**		**15**	**32**	**34.1**	**-0.4**
	comp=Z,5.6nm,1.3s											
CHGR	**Chuyangaron**	**41.40**	**332**		*e*P	**P**		**15**	**32**	**35.5**	**-0.4**
AAK	**Ala-Archa**	**42.56**	**340**		P	**P**		**15**	**32**	**47.7**	**+2.4**
	comp=Z,0.5nm,0.4s,baz=173,slow=8.9,SNR=3.9											
MK01	**Makanchi Array**	**44.36**	**350**		*e*P	**P**		**15**	**33**	**00.6**	**+1.0**
MK31	**Makanchi Array**	**44.39**	**350**		*e*P	**P**		**15**	**33**	**00.7**	**+0.8**
	comp=Z,2.5nm,0.8s											
MKAR	**Makanchi Array**	**44.39**	**350**		P	**P**		**15**	**33**	**00.8**	**+1.0**
	comp=Z,3.9nm,0.8s,baz=166,slow=8.4,SNR=43											
MKAR						PcP	**PP**	**15**	**34**	**46.4**	**+2.6**
	comp=Z,1.7nm,1.0s,baz=169,slow=7.1,SNR=3.0											
MAKZ	**Makanchi**	**44.46**	**349**		*e*P	**P**		**15**	**33**	**01.3**	**+0.9**
	comp=Z,2.2nm,0.7s											
SONM	**Songino Array**	**45.95**	**13**		P	**P**		**15**	**33**	**14.5**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=183,slow=8.5,SNR=3.5											
SONM						LR	LR	15	55	22.6		
	comp=Z,80nm,18.6s,baz=5.0,slow=40											
WRA	**Warramunga Arr**	**46.73**	**121**		P	**P**		**15**	**33**	**20.3**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=299,slow=9.1,SNR=6.9											
GEYT	**Alibeck**	**46.97**	**322**		P	**P**		**15**	**33**	**22.3**	**+1.9**
	comp=Z,4.1nm,0.7s,baz=152,slow=6.6,SNR=7.8											
ASAR	**Alice Springs**	**48.02**	**126**		P	**P**		**15**	**33**	**30.0**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=246,slow=4.3,SNR=7.4											
KURK	**Kurchatov**	**48.85**	**348**		*e*P	**P**		**15**	**33**	**35.6**	**+0.9**
	comp=Z,3.2nm,0.8s											
RAYN	**Ar Rayn**	**50.04**	**298**		*e*P	**P**		**15**	**33**	**46.1**	**+1.8**
ZAA0	**Zalesovo Array**	**51.01**	**354**		*e*P	**P**		**15**	**33**	**52.0**	**+1.0**
	comp=Z,6.1nm,1.3s											
ZALV	**Zalesovo Beam**	**51.01**	**354**		*e*P	**P**		**15**	**33**	**51.8**	**+0.8**
ZALV	**Zalesovo Beam**	**51.01**	**354**		P	**P**		**15**	**33**	**52.4**	**+1.3**
	comp=Z,2.5nm,0.5s,baz=178,slow=7.4,SNR=11											
ZALV						LR	LR	15	58	06.1		
	comp=Z,62nm,19.8s,baz=236,slow=39											
ABKAR	**Akbulak array**	**53.78**	**334**		*e*P	**P**		**15**	**34**	**12.1**	**+0.4**
ABKAR						*e*pP	**pP**	**15**	**34**	**21.1**	**+0.2**
KBZ	**Khabaz**	**59.78**	**320**		P	**P**		**15**	**34**	**55.2**	**+0.9**
	comp=Z,1.5nm,0.9s,baz=124,slow=2.3,SNR=3.7											
BRTR	**Keskin Array B**	**64.61**	**313**		P	**P**		**15**	**35**	**28.1**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=114,slow=6.1,SNR=3.9											
ANTO	**Ankara**	**65.27**	**313**		*e*P	**P**		**15**	**35**	**29.6**	**-1.7**
	comp=Z,12nm,0.6s											
MATP	**Matopo**	**67.35**	**246**		LR	LR		16	00	28.4		
	comp=Z,60nm,18.3s,baz=95,slow=32											
LBTB	**Lobatse**	**70.98**	**242**		LR	LR		16	01	54.6		
	comp=Z,68nm,19.0s,baz=82,slow=31											
TIXI	**Tiksi**	**72.02**	**11**		*e*P	**P**		**15**	**36**	**12.7**	**+0.2**
TIXI						*e*pP	**pP**	**15**	**36**	**22.6**	**+0.6**
VNDA	**Vanda**	**88.64**	**168**		LR	LR		16	09	37.1		
	comp=Z,291nm,21.4s,baz=250,slow=30											

IDC 11 15:45:46.3±4.0, 6°57S×125°71E, h495km±56km, mb3.2/3, mb1 3.3/6, mb1mx2.9/49, mbtmp4.1/6, Error ellipse: s-maj=108.6km s-min=16.8km az=54.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.14**	**209**	P	P	15 47 07.3	+1.7
	21nm,0.3s,baz=40,slow=1.7,SNR=32						
BATI				S	S	15 48 09.6	-0.6
	3.7nm,0.3s,baz=310,slow=22,SNR=4.7						
WRA	**Warramunga Arr**	**15.71**	**149**	P	P	15 49 04.4	+0.3
	0.8nm,0.3s,baz=334,slow=9.8,SNR=50						
ASAR	**Alice Springs**	**18.74**	**156**	P	P	15 49 33.5	-0.2
	0.9nm,0.3s,baz=345,slow=16,SNR=65						
STKA	**Stephens Creek**	**29.23**	**152**	P	P	15 51 07.4	+0.1
	2.8nm,0.6s,baz=325,slow=10.0,SNR=12						
MKAR	**Makanchi Array**	**65.59**	**329**	P	P	15 55 40.7	+0.1
	0.6nm,0.6s,baz=125,slow=7.2,SNR=9.8						
ZALV	**Zalesovo Beam**	**69.37**	**336**	P	P	15 56 03.3	-0.3
	0.8nm,0.4s,baz=151,slow=4.4,SNR=5.0						

IDC 11 15:48:48.4±2.9, 30°83S×178°00W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.6/28, mbtmp3.7/3, ML2.7/1, Error ellipse: s-maj=71.1km s-min=44.7km az=120.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.44**	**207**	Pn	Pn	15 50 51.8	-0.1
	0.1nm,0.3s,baz=4.6,slow=17,SNR=3.9						
URZ				Sn	Sn	15 52 25.0	-2.7
	0.5nm,0.3s,baz=24,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**43.09**	**267**	P	P	15 56 50.5	0.0
	1.1nm,1.0s,baz=106,slow=7.4,SNR=4.7						
WRA	**Warramunga Arr**	**44.12**	**273**	P	P	15 56 58.6	-0.2
	0.4nm,0.3s,baz=111,slow=8.1,SNR=9.0						
FINES	**FINESS Array B**	**145.55**	**340**	PKPbc	PKPdf	16 08 27.1	-0.7
	1.0nm,0.5s,baz=40,slow=3.8,SNR=10						

IDC 11 16:04:43.2±1.4, 3°96N×127°53E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/34, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=103.5km s-min=23.1km az=64.0

ISC 11 16:04:43.8±0.9, 4°1N±0°3×127°9E±0°5, h10km, n6, σ2s50/8, mb3.7/3, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**4.02**	**316**	*e*P	**Pb**	**16**	**05**	**54.7**	**-0.1**
CGP	**Cagayan de Oro**	**5.38**	**324**	*e*P	**Pg**	**16**	**06**	**27.2**	**+0.3**
CGP				*e*S	**Sb**	**16**	**07**	**20.2**	**-2.4**
SIJI	**Sorong**	**5.97**	**145**	Pn	**Pn**	**16**	**06**	**14.2**	**+2.0**
	1.0nm,0.3s,baz=168,slow=24,SNR=5.4						
SIJI				Sn	**Sn**	**16**	**07**	**16.2**	**-4.5**
	0.9nm,0.3s,baz=195,slow=22,SNR=4.1						
WRA	**Warramunga Arr**	**24.70**	**165**	P	**P**	**16**	**10**	**06.2**	**+0.9**
	1.1nm,0.6s,baz=344,slow=10,SNR=8.0						
SONM	**Songino Array**	**47.35**	**340**	P	**P**	**16**	**13**	**18.5**	**+0.4**
	0.7nm,0.6s,baz=167,slow=7.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.93**	**325**	P	**P**	**16**	**14**	**36.8**	**+0.5**
	0.3nm,0.4s,baz=111,slow=8.8,SNR=8.5						

IDC 11 16:08:47.4±2.6, 6°86S×132°12E, h0km, mb3.3/1, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=106.1km s-min=29.0km az=81.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.83**	**209**	Pn	Pn	16 11 50.7	-0.4
	0.1nm,0.3s,baz=34,slow=15,SNR=3.6						
FITZ				Sn	Sn	16 14 05.2	-10
	0.7nm,0.3s,baz=220,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**13.18**	**171**	Pn	Pn	16 11 55.5	-0.5
	0.2nm,0.3s,baz=353,slow=13,SNR=11						
WRA				Sn	Sn	16 14 18.3	-5.1
	0.5nm,0.3s,baz=349,slow=23,SNR=7.8						
ASAR	**Alice Springs**	**16.80**	**174**	Pn	Pn	16 12 45.0	+0.9
	0.1nm,0.3s,baz=352,slow=8.9,SNR=11						
ASAR				Sn	Sn	16 15 43.1	-8.4
	0.1nm,0.3s,baz=358,slow=27,SNR=4.2						
MKAR	**Makanchi Array**	**69.28**	**326**	P	P	16 19 56.5	0.0
	0.2nm,0.6s,baz=107,slow=4.8,SNR=3.5						

ISN 11 16:15:56.0±1.0, 36°65N×43°50E, h1km±5km, ML2.5
DDA 11 16:15:57.0, 36°64N×43°38E, h7km±3km, ML3.3
ISK 11 16:16:00.9, 36°94N×43°34E, h5km, ML2.9/5

ISC 11 16:15:56.8±1.5, 36°65N±0°03×43°39E±0°04, h3km±12km, n16, σ0s77/26, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.33**	**222**	*e*Pg	**Pb**	**16**	**16**	**05.2**	**-0.1**
MSL				AML	AML	16 16 07.4			
	comp=Z,520nm,0.4s								
MSL				*e*Sg	**Sb**	**16**	**16**	**10.7**	**-0.4**
CUKT	**Cukurca**	**0.63**	**16**	PG	**Pg**	**16**	**16**	**09.2**	**+0.4**
CUKT				SG	**Sg**	**16**	**16**	**15.6**	**-1.4**
CUKT	**Cukurca**	**0.63**	**16**	*i* P	**Pb**	**16**	**16**	**09.8**	**-0.6**
CUKT				*i* S	**Sb**	**16**	**16**	**19.1**	**-0.6**
CUKT				IAML_P					
	comp=Z,10μm,0.2s								
SIRT	**Sirnak**	**1.14**	**319**	PG	**Pb**	**16**	**16**	**19.3**	**+0.1**
SIRT				SG	**Sg**	**16**	**16**	**33.3**	**-0.2**
SIRN	**Sırnak**	**1.15**	**318**	*i* P	**Pn**	**16**	**16**	**20.1**	**+0.2**
SIRN				*i* S	**Sn**	**16**	**16**	**36.0**	**-0.2**
YOVA	**Hakkari_Yksek**	**1.19**	**37**	*i* P	**Pb**	**16**	**16**	**20.1**	**+0.1**
YOVA				*i* S	**Sn**	**16**	**16**	**37.6**	**+0.4**
IKRK	**Kirkuk**	**1.46**	**148**	*e*Pn	**Pn**	**16**	**16**	**24.0**	**-0.1**
IKRK				AML	AML	16 16 31.4			
	comp=Z,58nm,0.6s								
IKRK				*e*Sn	**Sn**	**16**	**16**	**43.0**	**-0.8**
BASK	**Baskale_VAN**	**1.49**	**19**	*i* P	**Pg**	**16**	**16**	**26.4**	**+1.0**
BASK				IAML_P					
	comp=Z,911nm,0.1s								
GEVA	**Gevas**	**1.68**	**351**	*i* P	**Pg**	**16**	**16**	**29.3**	**+0.2**
GEVA				IAML_P					
	comp=Z,2μm,0.4s								
AKDM	**Akdamar-Van**	**1.71**	**349**	PN	**Pb**	**16**	**16**	**28.9**	**-0.1**
SRTM	**Siirt_Merkez**	**1.78**	**319**	*i* P	**Pb**	**16**	**16**	**30.1**	**-0.1**
SRTM				*i* S	**Sg**	**16**	**16**	**55.1**	**+1.1**
SRTM				IAML_P					
	comp=Z,1μm,0.1s								
BTMN	**Batman**	**2.10**	**307**	*i* P	**Pg**	**16**	**16**	**36.3**	**-0.7**
BTMN				IAML_P					
	comp=Z,274nm,0.1s								
GURO	**Guroymak-BITLI**	**2.19**	**331**	PN	**Pb**	**16**	**16**	**35.9**	**-1.2**
MARD	**Mardin**	**2.19**	**288**	*i* P	**Pb**	**16**	**16**	**35.8**	**-1.4**
MARD				*i* S	**Sb**	**16**	**17**	**05.7**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.30**	**311**	PN	**Pb**	**16**	**16**	**38.5**	**-0.5**
RTB	**Rutbah**	**4.41**	**216**	*e*Pn	**Pn**	**16**	**17**	**06.0**	**+1.4**
RTB				AML	AML	16 17 11.7			
	comp=Z,35nm,0.4s								
RTB				*e*Sn	**Sn**	**16**	**17**	**56.5**	**0.0**

IDC 11 16:21:33.1±1.5, 6°74S×148°33E, h0km, mb4.1/4, mb1 4.4/5, mb1mx3.8/32, mbtmp4.2/5, ML4.2/1, MS3.4/4, Ms1 3.3/4, ms1mx2.9/34, Error ellipse: s-maj=56.7km s-min=18.5km az=123.0

ISCJB 11 16:21:35.9±0.7, 6°71S±0°08×148°5E±0°1, h46km, mb4.0/5, MS3.3/3, Error ellipse: s-maj=16.7km s-min=9.0km az=32.4

NEIC 11 16:21:35.0±2.9, 6°72S×148°52E, h16km±19km, mb4.3/8, Error ellipse: s-maj=11.3km s-min=6.1km az=121.0

ISC 11 16:21:37.8±0.8, 6°69S±0°09×148°5E±0°1, h46km, n21, σ0s65/22, mb4.0/5, MS3.4/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.38**	**56**	*e*Pn	**Pn**	**16**	**22**	**41.2**	**-0.7**
MANU	**Manus Island**	**4.76**	**346**	*e*Pn	**Pn**	**16**	**22**	**46.5**	**-0.6**
COEN	**Coen**	**8.94**	**216**	*e*Pn	**Pn**	**16**	**23**	**43.6**	**-1.0**
HNR	**Honiara**	**11.62**	**104**	LR	LR	16 27 55.9			
	comp=Z,78nm,20.4s,baz=279,slow=32								
MTN	**Manton Dam**	**18.21**	**249**	*e*P	**Pn**	**16**	**25**	**47.1**	**-0.2**
	64nm,1.4s								
EIDS	**Eidsvold**	**18.73**	**173**	*e*P	**Pn**	**16**	**25**	**53.4**	**-0.3**
	34nm,1.4s								
WRAB	**Tennant Creek**	**19.05**	**225**	*e*P	**P**	**16**	**25**	**55.5**	**-0.9**
	23nm,1.5s								
WB2	**Warramunga Arr**	**19.06**	**225**	*e*P	**P**	**16**	**25**	**56.1**	**-0.4**
	32nm,1.6s								
WR1	**Warramunga Arr**	**19.07**	**225**	*e*P	**P**	**16**	**25**	**56.2**	**-0.4**
	19nm,1.2s								
WRA	**Warramunga Arr**	**19.07**	**225**	P	**P**	**16**	**25**	**56.2**	**-0.4**
	0.7nm,0.3s,baz=50,slow=11,SNR=26								
AS01	**Alice Springs**	**21.94**	**218**	*e*P	**P**	**16**	**26**	**27.6**	**-0.1**
AS31	**Alice Springs**	**21.97**	**218**	*e*P	**P**	**16**	**26**	**28.0**	**-0.1**
	3.2nm,0.5s								
AS31				*e*S	**S**	**16**	**30**	**29.1**	**+1.0**
ASAR	**Alice Springs**	**21.97**	**218**	P	**P**	**16**	**26**	**27.9**	**-0.2**
	4.6nm,0.5s,baz=55,slow=9.4,SNR=131								
ASAR				S	**S**	**16**	**30**	**29.2**	**+1.0**
	1.2nm,0.8s,baz=29,slow=23,SNR=5.5								
ASAR				LR	LR	16 35 47.8			
	comp=Z,126nm,18.1s,baz=70,slow=39								
FITZ	**Fitzroy Crossi**	**25.04**	**241**	*e*P	**P**	**16**	**26**	**58.4**	**+0.4**
	11nm,0.8s								
FITZ	**Fitzroy Crossi**	**25.04**	**241**	P	**P**	**16**	**26**	**58.4**	**+0.4**
	7.7nm,0.5s,baz=55,slow=8.6,SNR=25								
FITZ				LR	LR	16 38 02.1			
	comp=Z,78nm,19.4s,baz=107,slow=40								
STKA	**Stephens Creek**	**25.88**	**194**	*e*P	**P**	**16**	**27**	**05.8**	**+0.3**
	4.4nm,1.7s								
STKA	**Stephens Creek**	**25.88**	**194**	P	**P**	**16**	**27**	**06.1**	**+0.7**
	3.5nm,0.8s,baz=14,slow=8.6,SNR=6.3								
STKA				LR	LR	16 38 52.6			
	comp=Z,98nm,18.1s,baz=6.2,slow=40								
ILAR	**Eielson Array**	**85.52**	**23**	P	**P**	**16**	**34**	**12.0**	**+1.3**
	0.3nm,0.6s,baz=260,slow=5.1,SNR=4.9								
TOA0	**Torodi Ar. Sit**	**146.74**	**284**	*e*PKPdf	**PKPdf**	**16**	**41**	**14.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.74**	**284**	PKPbc	**PKPab**	**16**	**41**	**17.2**	**+0.1**
	1.0nm,0.5s,baz=54,slow=2.9,SNR=7.3								
TOA1	**Torodi Ar. Sit**	**146.75**	**284**	*e*PKPdf	**PKPab**	**16**	**41**	**17.2**	**+0.1**

BJI 11 16:56:04.0, 33°50N×116°50W, h13km, mb5.2/9, mB5.3/6, Ms5.1/4, Ms7 4.9/4

ANF 11 16:56:05.1±0.4, 33°49N×116°49W, h9km±2km, ML5.3/48, Error ellipse: s-maj=3.5km s-min=2.2km az=25.0

IDC 11 16:56:05.8±0.8, 33°56N×116°29W, h0km, mb4.3/7, mb1 4.5/13, mb1mx4.2/47, mbtmp4.3/13, ML4.1/6, MS4.1/15, Ms1 4.1/15, ms1mx3.8/45, Error ellipse: s-maj=12.9km s-min=5.3km az=2.0

ISCJB 11 16:56:05.2±0.2, 33°51N±0°01×116°44W±0°01, h21km±2km, mb4.7/39, MS4.3/13, Error ellipse: s-maj=2.3km s-min=1.8km az=39.1

PAS 11 16:56:06.0, 33°50N×116°46W, h13km, MW4.7, MB4.7(NEIC)

ECX 11 16:56:06.9±0.8, 33°47N×116°43W, h15km, MD4.6, ML4.7

MOS 11 16:56:06.6±1.6, 33°71N×116°23W, h10km, mb4.9/20, Error ellipse: s-maj=6.5km s-min=4.6km az=95.7

NEIC 11 16:56:06.0±0.0, 33°50N×116°46W, h13km, mb4.7/42, MW4.7(PAS), After PAS.

NEIC Felt [V] at Hemet, Indian Wells, Thermal and Warner Springs. Felt in much of southern California. Felt [III] at Tijuana and Mexicali, Baja California. Also felt at Algodones and Ensenada.

ISC 11 16:56:05.9±0.7, 33°48N±0°02×116°45W±0°02, h10km±4km, n564, σ1s37/569, mb4.8/39, MS4.2/13, 8C-5D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I57US	**PINON FLAT INF**	**0.12**	**360**	Pg	**Pg**	**16**	**56**	**08.5**	**-0.4**
	baz=184,slow=26,SNR=1.0						
I57US				Lg	Lg	16 56 10.2			
	baz=197,slow=30						
TPFO	**Pinon Flats**	**0.12**	**359**	P	**Pg**	**16**	**56**	**08.6**	**-0.3**
	baz=194						
TPFO				S	**Sg**	**16**	**56**	**10.6**	**-0.6**
	baz=194						
XPFO	**Pion Flat**	**0.13**	**359**	*e*Pg	**Pg**	**16**	**56**	**08.7**	**-0.3**
PFO	**Pinyon Flats O**	**0.13**	**357**	Pg	**Pg**	**16**	**56**	**08.7**	**-0.3**
	28μm,0.3s,baz=335,slow=19						
PFO				Lg	Lg	16 56 10.7			
	28μm,0.3s,baz=181,slow=10,SNR=230						
MONP2	**Monument Peak**	**0.59**	**178**	P	**Pg**	**16**	**56**	**17.5**	**+0.1**
	baz=355,SNR=1000						
MONP2	**Monument Peak**	**0.59**	**178**	*e*P	**Pg**	**16**	**56**	**17.5**	**+0.1**
MURC	**Murrieta**	**0.63**	**281**	P	**Pg**	**16**	**56**	**17.4**	**-0.7**
	baz=100,SNR=1000						
MURC				S	**Sg**	**16**	**56**	**26.1**	**-0.3**
	baz=100						
BELC	**Belle Mtn. Jos**	**0.64**	**36**	P	**Pg**	**16**	**56**	**17.7**	**-0.6**
	baz=219,SNR=529						
BELC				S	**Sg**	**16**	**56**	**26.0**	**-0.8**
	baz=219						
EML	**El Monte Cty P**	**0.68**	**209**	*e*P	**Pg**	**16**	**56**	**18.5**	**-0.4**
SWSC	**Sam W. Stewart**	**0.77**	**134**	P	**Pg**	**16**	**56**	**20.3**	**-0.4**
	baz=314,SNR=769						
SWSC				S	**Sg**	**16**	**56**	**31.0**	**+0.3**
	baz=314						
SWSC	**Sam W. Stewart**	**0.77**	**134**	*e*P	**Pg**	**16**	**56**	**20.3**	**-0.4**
109C	**Camp Elliot, M**	**0.81**	**223**	P	**Pg**	**16**	**56**	**20.9**	**-0.6**
	baz=40,SNR=596						
109C				S	**Sg**	**16**	**56**	**31.2**	**-0.8**
	baz=40						
CPE	**Camp Elliot**	**0.81**	**223**	*e*Pg	**Pg**	**16**	**56**	**20.8**	**-0.6**
BAR	**Barrett**	**0.82**	**193**	*e*Pg	**Pg**	**16**	**56**	**21.0**	**-0.7**
BAR	**Barrett**	**0.82**	**193**	*e*P	**Pg**	**16**	**56**	**21.2**	**-0.5**
BAR				*e*S	**Sg**	**16**	**56**	**32.1**	**-0.3**
BC3	**Big Chuckawall**	**0.85**	**78**	P	**Pg**	**16**	**56**	**21.6**	**-0.7**
	baz=260						
BC3				S	**Sg**	**16**	**56**	**33.5**	**+0.1**
	baz=260						
SDRC	**San Diego Road**	**0.85**	**209**	*e*P	**Pg**	**16**	**56**	**21.4**	**-0.8**
BBRC	**Big Bear Solar**	**0.87**	**334**	P	**Pg**	**16**	**56**	**21.8**	**-0.9**
	baz=155,SNR=1000						
BBRC				S	**Sg**	**16**	**56**	**33.2**	**-0.9**
	baz=155						
COK	**Cook Ranch**	**0.88**	**136**	*i* P	**Pg**	**16**	**56**	**22.3**	**-0.5**
IKP	**In-Ko-Pah, Jac**	**0.88**	**161**	P	**Pg**	**16**	**56**	**22.6**	**-0.3**
	baz=339,SNR=1000						
IKP				S	**Sb**	**16**	**56**	**34.7**	**-0.3**
	baz=339						
IKP	**In-Ko-Pah, Jac**	**0.88**	**161**	*e*P	**Pg**	**16**	**56**	**22.5**	**-0.3**
RMX	**La Rumorosa**	**0.93**	**160**	*e*P	**Pb**	**16**	**56**	**24.1**	**-0.1**
RMX				IAML		16 56 37.1			
	comp=N,17μm,0.2s						
RMX				*e*		16 56 37.1			
RMX				⇑*e*		16 56 38.6			
RMX				IAML		16 56 38.6			
	comp=E,23μm,0.2s						
RMX				⇑*e*		16 56 39.5			
RMX				IAML		16 56 39.5			
	comp=N,13μm,0.2s						
WESC	**Westside Schoo**	**0.94**	**140**	*e*P	**Pg**	**16**	**56**	**23.1**	**-0.9**
TJIG	**Tijuana**	**1.06**	**190**	*e*P	**Pg**	**16**	**56**	**25.2**	**-1.1**
TJIG				*e*S	**Sg**	**16**	**56**	**39.2**	**-1.0**
DREC	**Desert Rsrch C**	**1.08**	**128**	*e*P	**Pb**	**16**	**56**	**25.4**	**-1.3**
CBX	**Cerro Bola**	**1.18**	**189**	*e*P	**Pb**	**16**	**56**	**27.4**	**-1.0**
CBX				*e*S	**Sb**	**16**	**56**	**43.1**	**-0.7**
CBX				⇑*e*		16 56 46.6			
CBX				IAML		16 56 46.6			
	comp=N,41μm,0.4s						
UABX	**UABC, Campus M**	**1.20**	**135**	*e*P	**Pb**	**16**	**56**	**26.9**	**-1.7**
BFSC	**Mount Baldy Ra**	**1.25**	**307**	P	**Pn**	**16**	**56**	**27.9**	**-1.7**
	baz=127,SNR=1000						
BFSC				S	**Sb**	**16**	**56**	**44.0**	**-2.0**
	baz=127						
IRM	**Iron Mountain**	**1.28**	**58**	P	**Pn**	**16**	**56**	**27.9**	**-1.9**
	baz=

SBC	Santa Barbara	2.87	290	P		Pn	16 56 50.8	-0.9	
	baz=109,SNR=26								
Y14A	Wickenburg	2.91	80	ePn		Pn	16 56 50.6	-1.6	
DAC	Darwin (Calif)	2.94	342	ePn		Pn	16 56 53.9	+1.1	
DAC	Darwin (Calif)	2.94	342	eP		Pn	16 56 53.9	+1.1	
FURC	Furnace Creek,	3.00	354	P		Pn	16 56 52.4	-1.0	
	baz=174,SNR=44								
PKM	Mcpherson Peak	3.12	298	P		Pn	16 56 54.5	-0.7	
	baz=116,SNR=122								
SHPR	Sheep Range	3.20	19	ePn		Pn	16 56 55.8	-0.5	
VES	Vestal, Richgr	3.20	318	P		Pn	16 56 55.4	-0.8	
	baz=137,SNR=56								
CWC	Cottonwood Cre	3.24	336	P		Pn	16 56 56.4	-0.5	
	baz=156								
214A	Organ Pipe Nat	3.43	115	P		Pn	16 56 57.5	-1.9	
	baz=297,SNR=29								
SMMC	Simmler	3.45	303	P		Pn	16 56 59.0	-0.7	
	baz=121,SNR=35								
TPNV	Topopah Spring	3.46	3	ePn		Pn	16 56 59.7	-0.3	
TPNV	Topopah Spring	3.46	3	eP		Pn	16 56 59.7	-0.3	
TPNV	Topopah Spring	3.46	3	P		Pn	16 56 59.7	-0.3	
	baz=183,SNR=58								
GRAC	Grapevine Rang	3.58	348	P		Pn	16 57 01.5	0.0	
	baz=168,SNR=236								
TIN	Tinemaha, Big	3.85	338	P		Pn	16 57 05.3	+0.1	
	baz=158,SNR=94								
PAGB	Antelope Grade	3.85	307	ePn		Pn	16 57 03.5	-1.7	
X16A	Lo Mia Camp, P	4.27	76	ePn		Pn	16 57 10.2	-0.8	
LCMT	Little Creek M	4.39	36	ePn		Pn	16 57 12.4	-0.3	
U15A	North Rim	4.51	48	ePn		Pn	16 57 14.1	-0.3	
MLAC	Mammoth, Mammo	4.57	336	P		Pn	16 57 14.1	-1.2	
	baz=154,SNR=21								
KNB	Kanab	4.61	39	ePn		Pn	16 57 15.8	0.0	
KNB	Kanab	4.61	39	eP		Pn	16 57 15.8	0.0	
OMMB	Old Mammoth Mi	4.62	334	ePn		Pn	16 57 16.5	+0.5	
WUAZ	Wupatki	4.66	63	ePn		Pn	16 57 16.2	-0.2	
WUAZ	Wupatki	4.66	63	P		Pn	16 57 16.5	+0.1	
	baz=246,SNR=361								
MDPB	Devils Postpil	4.66	333	ePn		Pn	16 57 17.8	+1.3	
CCUT	Cedar City	4.78	31	ePn		Pn	16 57 18.0	-0.1	
R11A	Troy Canyon, C	4.91	8	ePn		Pn	16 57 20.1	+0.2	
R11A	Troy Canyon, C	4.91	8	P		Pn	16 57 20.0	+0.2	
	baz=189,SNR=68								
TUC	Tucson	4.91	102	ePn		Pn	16 57 17.6	-2.2	
TUC	Tucson	4.91	102	eP		Pn	16 57 17.6	-2.2	
TUC	Tucson	4.91	102	P		Pn	16 57 18.0	-1.8	
	baz=285								
SZCU	Shurtz Canyon	4.94	33	ePn		Pn	16 57 20.0	-0.3	
NV11	Mina Array Sit	5.13	345	ePn		Pn	16 57 19.2	-3.7	
NV01	Mina Array Sit	5.16	344	ePn		Pn	16 57 24.7	+1.3	
NVAR	Mina Array Bea	5.16	344	Pn		Pn	16 57 23.9	+0.5	
	comp=N,8.5nm,0.3s,baz=168,slow=16,SNR=103								
PKCU	Pink Cliffs	5.20	39	ePn		Pn	16 57 24.2	+0.2	
SAO	San Andreas Ge	5.24	310	ePn		Pn	16 57 24.9	+0.6	
SAO	San Andreas Ge	5.24	310	eP		Pn	16 57 24.9	+0.6	
RYN	Ryan	5.40	343	ePn		Pn	16 57 27.1	+0.4	
PSUT	Pine Spring	5.46	22	ePn		Pn	16 57 27.7	+0.2	
X18A	Snowflake	5.50	77	ePn		Pn	16 57 27.8	-0.2	
CMB	Columbia Colle	5.55	326	ePn		Pn	16 57 29.0	+0.4	
CMB	Columbia Colle	5.55	326	eP		Pn	16 57 29.0	+0.4	
WAKR	Walker	5.56	335	ePn		Pn	16 57 30.8	+1.9	
KVN	Kaiserville	5.71	347	ePn		Pn	16 57 31.4	+0.5	
KVN	Kaiserville	5.71	347	eP		Pn	16 57 31.4	+0.5	
MTPU	Mount Pierson	5.72	36	ePn		Pn	16 57 31.9	+0.7	
W18A	Petrified Fore	5.79	72	ePn		Pn	16 57 32.1	+0.1	
W18A	Petrified Fore	5.79	72	P		Pn	16 57 32.2	+0.1	
	baz=256,SNR=99								
YERR	Yerington	5.94	338	ePn		Pn	16 57 35.0	+1.1	
TCRU	Three Creeks R	6.06	31	ePn		Pn	16 57 36.4	+0.6	
MSU	Marysvale	6.10	33	ePn		Pn	16 57 37.3	+1.1	
MSU	Marysvale	6.10	33	eP		Pn	16 57 37.3	+1.1	
PNTR	Pine Nut	6.14	336	ePn		Pn	16 57 38.3	+1.4	
RUBR	Rubicon Trail	6.31	333	ePn		Pn	16 57 40.1	+1.0	
VCNR	Virginia City	6.35	337	ePn		Pn	16 57 39.7	+0.1	
319A	Douglas	6.42	107	ePn		Pn	16 57 39.3	-1.2	
AFDM	Forest Hills D	6.56	327	ePn		Pn	16 57 43.3	+0.8	
PAHR	Pah Rah Range	6.64	340	ePn		Pn	16 57 45.0	+1.4	
Q16A	Castle Valley	6.90	37	ePn		Pn	16 57 48.5	+1.3	
BMN	Battle Mountai	6.96	355	ePn		Pn	16 57 46.6	-1.5	
BMN	Battle Mountai	6.96	355	eP		Pn	16 57 46.6	-1.5	
MCCM	Marconi Confer	6.99	314	ePn		Pn	16 57 48.7	+0.5	
BEKR	Beckworth	7.10	335	ePn		Pn	16 57 51.5	+1.5	
SRIG	Santa Rosalia	7.14	148	ePn		Pn	16 57 49.9	-0.4	
TMUT	Trail Mountain	7.18	35	ePn		Pn	16 57 50.5	-0.7	
ORV	Oroville	7.29	328	ePn		Pn	16 57 52.7	+0.2	
DUG	Dugway, Tooele	7.31	22	ePn		Pn	16 57 52.4	-0.3	
DUG	Dugway, Tooele	7.31	22	eP		Pn	16 57 52.4	-0.3	
DUG	Dugway, Tooele	7.31	22	P		Pn	16 57 53.8	+1.0	
	baz=205,SNR=17								
ELK	Elko	7.31	7	eP		Pn	16 57 53.8	+0.9	
ELK	Elko	7.31	7	Pn		Pn	16 57 54.0	+1.0	
	comp=N,1.8nm,0.3s,baz=196,slow=12,SNR=25								
ELK				Lg	Lg		16 59 54.0		
	comp=N,3.6nm,0.3s,baz=121,slow=12,SNR=4.3								
121A	Cookes Peak, D	7.34	95	P		Pn	16 57 52.8	-0.5	
	baz=280,SNR=55								
NLU	North Lily Min	7.35	27	ePn		Pn	16 57 54.1	+0.7	
SRU	San Rafael Swe	7.38	39	ePn		Pn	16 57 54.9	+1.1	
SRU	San Rafael Swe	7.38	39	eP		Pn	16 57 54.9	+1.1	
GDXM	Geysers	7.38	318	ePn		Pn	16 57 53.5	-0.3	
MVCO	Mesa Verde	7.49	58	ePn		Pn	16 57 56.5	+1.2	
MVCO	Mesa Verde	7.49	58	P		Pn	16 57 56.3	+1.0	
	baz=243,SNR=48								
P17A	Butcher Ranch,	7.54	36	ePn		Pn	16 57 54.2	-1.8	
MPU	Maple Canyon	7.58	29	ePn		Pn	16 57 57.3	+0.7	
HOPS	Hopland Field	7.67	318	ePn		Pn	16 57 58.2	+0.6	
PV17	East Wray Mesa	7.74	50	ePn		Pn	16 57 59.7	+0.9	
PV19	Morning Glory	7.74	49	ePn		Pn	16 58 00.1	+1.3	
PV10	Paradox Valley	7.74	49	ePn		Pn	16 57 58.9	0.0	
PV14	Lion Creek, Pa	7.75	49	ePn		Pn	16 57 59.9	+0.9	
PV13	Radium Mtn., P	7.76	51	ePn		Pn	16 58 00.3	+1.3	
PV09	Paradox Valley	7.76	48	ePn		Pn	16 58 00.2	+1.1	
PV20	West Nyswonger	7.77	49	ePn		Pn	16 57 59.8	+0.7	
PV16	Nyswonger Mesa	7.78	50	ePn		Pn	16 58 00.4	+1.0	
LAZ	Ladron	7.79	81	ePn		Pn	16 57 59.5	0.0	
PV03	Paradox Valley	7.79	50	ePn		Pn	16 58 00.4	+0.9	
PV11	David Mesa, Pa	7.80	50	ePn		Pn	16 58 00.8	+1.1	
PV23	Carpenter Ridg	7.81	48	ePn		Pn	16 58 01.0	+1.3	
PV02	Paradox Valley	7.84	51	ePn		Pn	16 58 01.2	+1.0	
PV04	Paradox Valley	7.84	49	ePn		Pn	16 58 01.2	+1.1	
PV12	Saucer Basin,	7.86	50	ePn		Pn	16 58 01.5	+1.1	
PV21	Cone Mtn., Par	7.90	48	ePn		Pn	16 58 02.1	+1.1	
P18A	Preston Nutter	7.91	37	ePn		Pn	16 58 02.5	+1.4	
PV01	Paradox Valley	7.91	52	ePn		Pn	16 58 02.2	+1.2	
BGU	Big Grassy Mou	7.91	19	ePn		Pn	16 58 01.1	+0.1	
LENM	Lemitar	7.92	82	ePn		Pn	16 58 00.8	-0.4	
PV07	Paradox Valley	8.03	50	ePn		Pn	16 58 03.7	+0.9	
O03E	Paynes Creek	8.04	329	P		Pn	16 58 04.3	+1.6	
	baz=146,SNR=7.6								
PV15	Paradox Valley	8.08	51	ePn		Pn	16 58 04.4	+0.9	
CTU	Camp Tracy	8.12	26	ePn		Pn	16 58 04.4	+0.5	
JLU	Jordanelle	8.15	28	ePn		Pn	16 58 05.7	+1.3	
BNM	Barren Site	8.20	83	ePn		Pn	16 58 04.8	-0.4	
LPM	Los Pinos Moun	8.21	82	ePn		Pn	16 58 04.6	-0.5	
ANMO	Albuquerque	8.41	77	ePn		Pn	16 58 08.0	+0.1	
ANMO				Lg		Lg	17 00 31.3		
ANMO	Albuquerque	8.41	77	*i* P		Pn	16 58 07.8	-0.1	
ANMO	Albuquerque	8.41	77	P		Pn	16 58 08.1	+0.1	
	baz=263								
ANMO	Albuquerque	8.41	77	Pn		Pn	16 58 08.6	+0.7	
	comp=N,2.0nm,0.3s,baz=265,slow=12,SNR=26								
ANMO				Lg		Lg	17 00 31.3		
	comp=N,0.5nm,0.3s,baz=135,slow=17,SNR=3.8								
ANMO				LR		LR	17 01 25.2		
	comp=N,1µm,19.8s,baz=258,slow=39								
SPUT	South Promonto	8.44	21	ePn		Pn	16 58 07.6	-0.6	
KCPM	Cahto Peak	8.44	319	ePn		Pn	16 58 07.3	-0.9	
WDC	Whiskeytown Da	8.59	327	ePn		Pn	16 58 09.6	-0.7	
WDC	Whiskeytown Da	8.59	327	eP		Pn	16 58 09.6	-0.7	
TCUT	Toone Canyon	8.61	26	ePn		Pn	16 58 07.4	-3.4	
HVU	Hansel Valley	8.78	18	ePn		Pn	16 58 12.2	-0.8	
HVU	Hansel Valley	8.78	18	eP		Pn	16 58 12.2	-0.8	
KMRM	Mail Ridge	8.89	321	ePn		Pn	16 58 12.7	-1.7	
S22A	4UR Ranch, Cre	8.91	59	ePn		Pn	16 58 14.1	-0.9	
S22A	4UR Ranch, Cre	8.91	59	P		Pn	16 58 16.6	+1.6	
	baz=244								
MOD	Modoc Plateau	8.94	341	ePn		Pn	16 58 12.6	-2.6	
HWUT	Hardware Ranch	8.99	24	ePn		Pn	16 58 13.8	-2.1	
WVOR	Wild Horse Val	9.10	350	ePn		Pn	16 58 15.8	-1.5	
WVOR	Wild Horse Val	9.10	350	eP		Pn	16 58 15.8	-1.5	
M04C	Macdoel	9.32	334	P		Pn	16 58 22.2	+1.9	
	baz=151,SNR=12								
O20A	White River Ci	9.35	42	ePn		Pn	16 58 20.8	0.0	
O20A	White River Ci	9.35	42	P		Pn	16 58 22.3	+1.5	
	baz=227,SNR=8.6								
JCC	Jacoby Creek,	9.49	323	ePn		Pn	16 58 20.8	-1.7	
MNTX	Cornudas Mount	9.51	98	ePn		Pn	16 58 22.4	-0.5	
MNTX	Cornudas Mount	9.51	98	P		Pn	16 58 22.3	-0.5	
	baz=284,SNR=38								
SMCO	Snowmass	9.52	51	ePn		Pn	16 58 20.8	-2.6	
YBH	Yreka Blue Hor	9.61	331	ePn		Pn	16 58 24.9	+0.6	
YBH				Lg		Lg	17 00 60.0		
YBH	Yreka Blue Hor	9.61	331	eP		Pn	16 58 24.9	+0.6	
YBH	Yreka Blue Hor	9.61	331	Pn		Pn	16 58 30.1	+5.8	
	comp=N,0.1nm,0.3s,baz=121,slow=8.0,SNR=11								
YBH				Lg		Lg	17 00 60.0		
	comp=N,0.1nm,0.3s,baz=158,slow=8.6,SNR=5.0								
L04D	Klamath Falls	9.87	334	P		Pn	16 58 27.9	+0.1	
	baz=150,SNR=9.0								
SDCO	Great Sand Dun	9.88	61	ePn		Pn	16 58 29.5	+1.4	
SDCO	Great Sand Dun	9.88	61	P		Pn	16 58 28.1	0.0	
	baz=248,SNR=11								
J08A	Circle Bar Ran	9.99	351	ePn		Pn	16 58 29.2	-0.2	
K04D	Chiloquin, OR	10.04	337	P		Pn	16 58 29.2	-0.9	
	baz=154								
AHID	Auburn Hatcher	10.18	23	ePn		Pn	16 58 31.3	-0.9	
HLID	Hailey	10.19	8	ePn		Pn	16 58 32.6	+0.3	
HLID	Hailey	10.19	8	P		Pn	16 58 31.8	-0.5	
	baz=190,SNR=14								
GDL2	Guadalupe Moun	10.25	94	ePn		Pn	16 58 33.4	+0.3	
L02E	Cave Junction	10.34	329	P		Pn	16 58 32.5	-1.6	
	baz=145								
J05D	Fort Rock, OR	10.48	340	P		Pn	16 58 35.6	-0.6	
	baz=158								
T25A	Trinidad	10.49	66	ePn		Pn	16 58 38.0	+1.5	
T25A	Trinidad	10.49	66	P		Pn	16 58 36.1	-0.4	
	baz=253,SNR=8.8								
CPRX	Cap Rock	10.55	89	ePn		Pn	16 58 36.8	-0.5	
Q24A	Divide	10.64	56	P		Pn	16 58 37.3	-1.3	
	baz=243,SNR=5.2								
J04D	Umpqua Nationa	10.70	337	P		Pn	16 58 37.4	-2.0	
	baz=154								
BW06	Boulder Array	10.74	28	P		Pn	16 58 39.1	-0.8	
	baz=213,SNR=11								
PD31	Pinedale Array	10.74	28	ePn		Pn	16 58 37.8	-2.1	
PDAR	Pinedale Array	10.74	28	ePn		Pn	16 58 37.9	-1.9	
PDAR	Pinedale Array	10.74	28	Pn		Pn	16 58 41.8	+2.0	
	comp=N,0.1nm,0.3s,baz=214,slow=12,SNR=24								
PDAR				LR		LR	17 02 50.9		
	comp=N,533nm,21.8s,baz=228,slow=38								
ISCO	Idaho Springs	10.75	51	ePn		Pn	16 58 37.9	-2.2	
ISCO	Idaho Springs	10.75	51	eP		Pn	16 58 37.9	-2.2	
ISCO	Idaho Springs	10.75	51	P		Pn	16 58 39.0	-1.1	
	baz=238								
LPIG	La Paz	10.79	148	LR		LR	17 02 34.1		
	comp=N,578nm,19.8s,baz=350,slow=36								
REDW	Red Top Meadow	10.79	22	ePn		Pn	16 58 39.9	-0.7	
K02D	Willamette Mer	10.81	330	P		Pn	16 58 38.6	-2.1	
	baz=146								
I07A	Izee	10.85	348	ePn		Pn	16 58 40.2	-1.0	
TPAW	Teton Pass	10.88	22	ePn		Pn	16 58 42.4	+0.5	
SNOW	Snow King Moun	10.91	22	ePn		Pn	16 58 40.9	-1.4	
LOHW	Long Hollow	11.10	23	ePn		Pn	16 58 42.7	-2.1	
N23A	Red Feather La	11.17	46	ePn		Pn	16 58 45.4	-0.5	
N23A	Red Feather La	11.17	46	P		Pn	16 58 43.4	-2.4	
	baz=232								
MOOW	Moose Ponds	11.18	22	ePn		Pn	16 58 43.6	-2.2	
I04A	Tendick Farm,	11.30	337	P		Pn	16 58 45.1	-2.2	
	baz=154,SNR=26								
J01E	Myrtle Point	11.30	331	P		Pn	16 58 46.1	-1.2	
	baz=146								
BMO	Blue Mountains	11.37	357	ePn		Pn	16 58 46.3	-2.1	
	comp=N,16nm,1.0s								
BMO	Blue Mountains	11.37	357	eP		Pn	16 58 46.3	-2.1	
BMO				pmax		pmax			
	comp=Z,16nm,1.0s								
MSTX	Muleshoe	11.40	84	ePn		Pn	16 58 49.3	+0.4	
MSTX	Muleshoe	11.40	84	P		Pn	16 58 47.6	-1.2	
	baz=271,SNR=8.9								
I05D	Terrebonne, OR	11.49	342	P		Pn	16 58 48.3	-1.6	
	baz=159								
I03D	Drain, OR	11.53	334	P		Pn	16 58 49.5	-1.0	
	baz=150								
TX31	Lajitas Ar. Si	11.68	107	ePn		Pn	16 58 53.5	+0.9	
TXAR	Lajitas Array	11.68	107	Pn		Pn	16 58 53.3	+0.7	
	comp=Z,2.0nm,0.3s,baz=294,slow=13,SNR=77								
TXAR				LR		LR	17 03 26.0		
	comp=Z,686nm,18.1s,baz=0.0,slow=38								
G08A	Pilot Rock	11.95	351	ePn		Pn	16 58 56.0	-0.3	
YMR	Madison River	11.95	19	ePn		Pn	16 58 55.8	-0.7	
K22A	Casper	12.03	38	ePn		Pn	16 58 55.2	-2.3	
K22A	Casper	12.03	38	P		Pn	16 58 58.0	+0.5	
	baz=224								
H04D	Lebanon	12.05	338	P		Pn	16 58 56.1	-1.6	
	baz=154								
YNR	Norris Junctio	12.07	20	ePn		Pn	16 58 56.8	-1.4	
YHH	Holmes Hill	12.09	19	ePn		Pn	16 58 56.5	-1.9	
AMTX	Amarillo	12.31	79	ePn		Pn	16 59 03.8	+2.5	
	comp=Z,73nm,1.3s								
AMTX	Amarillo	12.31	79	P		Pn	16 58 59.9	-1.4	
	baz=268								
G05D	Wamic, OR	12.33	344	P		Pn	16 58 59.6	-1.8	
	baz=161,SNR=7.8								
BOZ	Bozeman (W)	12.65	16	Pn		Pn	16 59 05.9	-0.1	
	comp=Z,15nm,1.2s								
BOZ	Bozeman (W)	12.65	16	P		Pn	16 59 05.9	-0.1	
BOZ				pmax		pmax			
	comp=Z,15nm,1.2s								
G03D	McMinnville, O	12.84	338	P		Pn	16 59 10.1	+1.8	
	baz=154								
RLMT	Red Lodge	12.88	23	P		Pn	16 59 11.2	+2.1	
	baz=208								
F05D	White Salmon	12.97	344	P		Pn	16 59 11.4	+1.2	
	baz=161								
MSO	Missoula	13.47	7	P		Pn	16 59 17.1	0.0	
	baz=189								
OGNE	Ogallala	13.68	53	ePn		Pn	16 59 20.0	0.0	
	comp=Z,68nm,1.6s								
OGNE	Ogallala	13.68	53	P		Pn	16 59 18.5	-1.5	
	baz=242								
E04D	Cinebar	13.87	342	P		Pn	16 59 22.4	+0.1	
	baz=158,SNR=9.3								
LTY	Liberty	14.13	348	ePn		Pn	16 59 24.3	-1.7	
ABTX	Abilene, Hawle	14.13	89	ePn		Pn	16 59 25.8	-0.2	
ABTX	Abilene, Hawle	14.13	89	P		Pn	16 59 26.1	0.0	
	baz=278								
D05A	Enumclaw	14.32	345	ePn		Pn	16 59 26.9	-1.7	
RSSD	Black Hills	14.35	39	ePn		Pn	16 59 28.7	-0.6	
	comp=Z,12nm,1.1s								
RSSD	Black Hills	14.35	39	eP		Pn	16 59 28.7	-0.6	
RSSD				pmax		pmax			
	comp=Z,12nm,1.1s								
RSSD	Black Hills	14.35	39	P		Pn	16 59 28.6	-0.6	
	baz=226								
JCT	Junction City	14.45	97	ePn		Pn	16 59 30.1	-0.3	
	comp=Z,26nm,1.3s								
JCT	Junction City	14.45	97	eP		Pn	16 59 30.2	-0.3	
JCT				pmax		pmax			
	comp=Z,27nm,1.3s								
JCT	Junction City	14.45	97	P		Pn	16 59 31.4	+0.9	
	baz=286								
D04E	Lakebay	14.50	343	P		Pn	16 59 32.0	+1.0	
	baz=159								
CBKS	Cedar Bluff	14.51	64	ePn		Pn	16 59 31.0	-0.3	
	comp=Z,30nm,1.0s								
CBKS	Cedar Bluff	14.51	64	eP		Pn	16 59 31.0	-0.3	
CBKS				pmax		pmax			
	comp=Z,29nm,1.0s								
CBKS	Cedar Bluff	14.51	64	P		Pn	16 59 31.7	+0.4	
	baz=254								
WMOK	Wichita Mounta	14.70	80	ePn		Pn	16 59 33.3	-0.5	
WMOK	Wichita Mounta	14.70	80	eP		Pn	16 59 33.3	-0.5	
WMOK	Wichita Mounta	14.70	80	P		Pn	16 59 33.8	0.0	
	baz=270,SNR=9.7								
NEW	Newport	14.78	358	ePn		Pn	16 59 35.2	+0.3	
	comp=Z,47nm,0.9s								
NEW	Newport	14.78	358	eP		Pn	16 59 35.2	+0.3	
NEW				pmax		pmax			
	comp=Z,47nm,0.9s								
NEW	Newport	14.78	358	P		Pn	16 59 36.7	+1.9	
	baz=178,SNR=13								
NEW	Newport	14.78	358	Pn		P	16 59 38.0	-2.9	
	comp=Z,0.1nm,0.3s,baz=176,slow=12,SNR=11								
NEW				LR		LR	17 06 02.2		
	comp=Z,466nm,21.6s,baz=190,slow=41								
C06D	Leavenworth	14.81	348	P		Pn	16 59 33.5	-1.8	
	baz=166								
D03D	Eldon	14.91	342	P		Pn	16 59 36.2	-0.4	
	baz=158,SNR=7.3								
B08A	Colville Reser	15.02	353	ePn		Pn	16 59 37.7	-0.4	
B05A	Bryant	15.36	346	P		Pn	16 59 43.1	+0.5	
	baz=162								
EGMT	Eagleton	15.38	17	ePn		Pn	16 59 43.0	+0.1	
	comp=Z,28nm,1.0s								
EGMT	Eagleton	15.38	17	P		Pn	16 59 43.3	+0.4	
	baz=202,SNR=13								
833A	Chaparral WMA,	15.52	105	P		Pn	16 59 44.5	-0.3	
	baz=294								
WALA	Waterton Lakes	15.68	6	ePn		Pn	16 59 45.6	-1.3	
	comp=Z,87nm,1.0s								
A04D	Lummi Island	15.93	345	P		Pn	16 59 49.6	-0.3	
	baz=161								
PGC	Sidney	16.03	343	ePn		Pn	16 59 50.5	-0.8	
	comp=Z,20nm,0.8s								
WHTX	Lake Whitney,	16.06	90	P		Pn	16 59 51.0	-0.8	
	baz=280,SNR=7.2								
435B	Jarrell	16.21	94	P		Pn	16 59 53.2	-0.5	
	baz=285								
BGNE	Belgrade	16.53	56	P		Pn	16 59 57.1	-0.7	
	baz=247,SNR=8.2								
KSU1	Kansas State U	16.94	65	ePn		Pn	17 00 03.0	0.0	
	comp=Z,27nm,1.0s								
KSU1	Kansas State U	16.94	65	P		Pn	17 00 02.8	-0.1	
	baz=257								
TUL1	Leonard	17.16	76	ePn		Pn	17 00 04.8	-0.9	
	comp=Z,66nm,1.3s								
TUL1	Leonard	17.16	76	P		Pn	17 00 05.8	+0.1	
	baz=268								
SUSD	Miller	17.42	46	P		Pn	17 00 08.9	-0.1	
	baz=237								
X37A	Clayton	17.51	81	ePn		Pn	17 00 08.8	-1.3	
	comp=Z,27nm,1.1s								
DGMT	Dagmar	17.57	28	ePn		Pn	17 00 11.1	+0.3	
	comp=Z,50nm,1.2s								
DGMT	Dagmar	17.57	28	P		Pn	17 00 10.5	-0.2	
	baz=216,SNR=5.7								
LLLB	Lillooet	17.57	348	ePn		Pn	17 00 08.3	-2.5	
	comp=Z,15nm,0.9s								
HKT	Hockley	17.89	96	ePn		Pn	17 00 13.0	-1.7	
	comp=Z,52nm,1.4s								
HKT	Hockley	17.89	96	eP		Pn	17 00 13.0	-1.7	
HKT				pmax		pmax			
	comp=Z,52nm,1.4s								
NATX	Nacogdoches	18.44	89	P		P	17 00 21.1	-0.4	
	baz=281								
ECSD	EROS Data Cent	18.54	51	eP		P	17 00 22.1	-0.3	
	comp=Z,21nm,1.4s								
ECSD	EROS Data Cent	18.54	51	P		Pn	17 00 23.1	+0.5	
	baz=243								
HHAR	Hobbs	18.68	75	eP		P	17 00 23.0	-1.0	
	comp=Z,48nm,1.7s								
W39A	Magazine	18.80	78	eP		P	17 00 24.1	-1.2	
	comp=Z,33nm,1.0s								
W39A	Magazine	18.80	78	P		P	17 00 25.1	-0.2	
	baz=271,SNR=9.8								
MIAR	Mount Ida	18.99	80	eP		P	17 00 27.2	-0.4	
	comp=Z,48nm,1.2s								
MIAR	Mount Ida	18.99	80	eP		P	17 00 27.2	-0.4	
MIAR				pmax		pmax			
	comp=Z,48nm,1.2s								
MIAR	Mount Ida	18.99	80	P		P	17 00

Q43A	**New Douglas**	**22.22**	**68**	P		**P**	**17 01 03.3**	**+0.7**
	baz=264							
G38A	**Ridgeland**	**22.23**	**51**	P		**P**	**17 01 01.7**	**-0.8**
	baz=247							
N42A	**Yates City**	**22.24**	**63**	P		**P**	**17 01 01.8**	**-0.9**
	baz=259,SNR=7.2							
J40A	**Soldiers Grove**	**22.36**	**56**	P		**P**	**17 01 02.2**	**-1.8**
	baz=252							
H39A	**Augusta**	**22.42**	**53**	P		**P**	**17 01 02.0**	**-2.7**
	baz=249							
OXF	**Oxford**	**22.43**	**80**	*e*P		**P**	**17 01 04.8**	**+0.1**
	comp=Z,103nm,1.3s							
OXF	**Oxford**	**22.43**	**80**	*e*P		**P**	**17 01 04.8**	**+0.1**
OXF				pmax		pmax		
	comp=Z,103nm,1.3s							
OXF	**Oxford**	**22.43**	**80**	P		**P**	**17 01 03.9**	**-0.8**
	baz=275							
P43A	**Skaggs, Pawnee**	**22.44**	**66**	P		**P**	**17 01 04.0**	**-0.9**
	baz=263							
K41A	**Shullsburg**	**22.45**	**58**	P		**P**	**17 01 04.9**	**0.0**
	baz=255							
S44A	**Carbondale**	**22.48**	**71**	P		**P**	**17 01 04.9**	**-0.4**
	baz=268							
F38A	**Pierce - Schro**	**22.54**	**49**	P		**P**	**17 01 05.3**	**-0.5**
	baz=245,SNR=6.4							
JFWS	**Jewell Farm**	**22.57**	**58**	P		**P**	**17 01 06.0**	**-0.2**
	baz=254							
M42A	**Sheffield**	**22.57**	**62**	P		**P**	**17 01 06.3**	**0.0**
	baz=258							
ULM	**Lac du Bonnet**	**22.58**	**36**	*e*P		**P**	**17 01 05.4**	**-0.9**
	comp=Z,11nm,0.8s							
ULM	**Lac du Bonnet**	**22.58**	**36**	*e*P		**P**	**17 01 05.4**	**-0.9**
ULM				pmax		pmax		
	comp=Z,11nm,0.8s							
ULM	**Lac du Bonnet**	**22.58**	**36**	P		**P**	**17 01 06.0**	**-0.3**
	comp=Z,12nm,0.9s,baz=242,slow=8.6,SNR=15							
ULM				LR		LR	17 10 10.6	
	comp=Z,577nm,18.0s,baz=236,slow=38							
I40A	**Norwalk**	**22.60**	**55**	P		**P**	**17 01 06.4**	**-0.2**
	baz=251							
R44A	**Waltonville**	**22.65**	**70**	P		**P**	**17 01 06.0**	**-1.1**
	baz=266,SNR=6.4							
G39A	**Holcombe**	**22.72**	**51**	P		**P**	**17 01 05.7**	**-2.1**
	baz=248,SNR=5.9							
Q44A	**Meyer Farm, Va**	**22.75**	**68**	*e*P		**P**	**17 01 07.2**	**-1.0**
	comp=Z,91nm,1.5s							
Q44A	**Meyer Farm, Va**	**22.75**	**68**	P		**P**	**17 01 07.4**	**-0.7**
	baz=265,SNR=5.9							
L42A	**Oliver, Polo**	**22.76**	**60**	P		**P**	**17 01 07.0**	**-1.2**
	baz=257,SNR=5.4							
U45A	**Rockin P Farm,**	**22.86**	**75**	P		**P**	**17 01 08.7**	**-0.6**
	baz=271							
J41A	**Loganville**	**22.86**	**57**	P		**P**	**17 01 09.1**	**-0.2**
	baz=253							
N43A	**Stutzman Famil**	**22.90**	**63**	P		**P**	**17 01 09.1**	**-0.6**
	baz=260							
H40A	**Chili**	**23.00**	**53**	P		**P**	**17 01 09.0**	**-1.7**
	baz=250							
S45A	**Carrier Mills**	**23.01**	**72**	P		**P**	**17 01 09.9**	**-1.1**
	baz=268							
X46A	**Booneville**	**23.10**	**80**	P		**P**	**17 01 10.4**	**-1.5**
	baz=275							
P44A	**Sand Creek, Wi**	**23.11**	**67**	P		**P**	**17 01 09.5**	**-2.4**
	baz=264							
F39A	**Loretta**	**23.13**	**50**	P		**P**	**17 01 09.2**	**-2.8**
	baz=246							
M43A	**Waltham Townsh**	**23.16**	**62**	P		**P**	**17 01 11.3**	**-1.0**
	baz=259							
I41A	**Arkdale**	**23.17**	**55**	P		**P**	**17 01 10.3**	**-2.2**
	baz=252							
K42A	**Prairie Point,**	**23.17**	**58**	P		**P**	**17 01 12.6**	**+0.1**
	baz=255,SNR=6.3							
R45A	**Skylar, Fairfi**	**23.28**	**70**	P		**P**	**17 01 14.2**	**+0.6**
	baz=267							
G40A	**Rib Lake**	**23.35**	**52**	P		**P**	**17 01 13.4**	**-1.0**
	baz=249							
V46A	**Holladay**	**23.39**	**76**	P		**P**	**17 01 12.3**	**-2.5**
	baz=273							
Q45A	**Warren Harvey,**	**23.42**	**69**	P		**P**	**17 01 14.5**	**-0.5**
	baz=266							
L43A	**Garden Prairie**	**23.47**	**60**	P		**P**	**17 01 16.4**	**+0.9**
	baz=257							
J42A	**Columbus**	**23.47**	**57**	P		**P**	**17 01 15.3**	**-0.2**
	baz=254							
E39A	**Mellen**	**23.55**	**49**	P		**P**	**17 01 16.1**	**-0.1**
	baz=246							
T46A	**Princeton**	**23.55**	**73**	P		**P**	**17 01 18.0**	**+1.6**
	baz=270							
FFC	**Flin Flon**	**23.55**	**21**	*e*P		**P**	**17 01 13.9**	**-2.3**
	comp=Z,27nm,1.1s							
FFC	**Flin Flon**	**23.55**	**21**	*i* P		**P**	**17 01 14.8**	**-1.4**
147A	**Livingston**	**23.60**	**84**	*e*P		**P**	**17 01 14.1**	**-2.8**
	comp=Z,156nm,1.7s							
147A	**Livingston**	**23.60**	**84**	P		**P**	**17 01 15.7**	**-1.2**
	baz=280							
WVT	**Waverly**	**23.61**	**75**	P		**P**	**17 01 15.0**	**-2.0**
	baz=272							
F40A	**Park Falls**	**23.64**	**51**	P		**P**	**17 01 14.8**	**-2.4**
	baz=248							
N44A	**Piper City**	**23.66**	**64**	P		**P**	**17 01 13.3**	**-4.1**
	baz=261							
EYMN	**Ely**	**23.67**	**45**	P		**P**	**17 01 15.2**	**-2.2**
	baz=242							
X47A	**Russelville**	**23.70**	**79**	P		**P**	**17 01 16.0**	**-1.8**
	baz=276							
I42A	**Draeger Farm,**	**23.78**	**56**	P		**P**	**17 01 18.2**	**-0.3**
	baz=253							
P45A	**Graceland, Par**	**23.79**	**67**	P		**P**	**17 01 18.2**	**-0.5**
	baz=264							
M44A	**Midewin, Midew**	**23.82**	**62**	*e*P		**P**	**17 01 16.6**	**-2.4**
	comp=Z,47nm,1.0s							
M44A	**Midewin, Midew**	**23.82**	**62**	P		**P**	**17 01 18.4**	**-0.5**
	baz=260							
W47A	**Westpoint**	**23.85**	**78**	P		**P**	**17 01 17.9**	**-1.4**
	baz=274							
V47A	**Nunnelly**	**23.88**	**76**	P		**P**	**17 01 17.2**	**-2.4**
	baz=273							
U47A	**Clarksville**	**24.04**	**75**	P		**P**	**17 01 21.2**	**+0.1**
	baz=272							
L44A	**Lake County Fo**	**24.07**	**61**	P		**P**	**17 01 21.4**	**+0.1**
	baz=258							
T47A	**Sharon Grove**	**24.18**	**73**	P		**P**	**17 01 21.1**	**-1.3**
	baz=270							
P46A	**Rosedale**	**24.22**	**67**	P		**P**	**17 01 20.9**	**-1.8**
	baz=265							
Y48A	**Jasper**	**24.33**	**81**	P		**P**	**17 01 21.8**	**-2.0**
	baz=277							
X48A	**Hartselle**	**24.37**	**79**	P		**P**	**17 01 21.5**	**-2.7**
	baz=276							
SFIN	**Lafayette**	**24.38**	**65**	P		**P**	**17 01 21.7**	**-2.5**
	baz=263							
W48A	**Pulaski**	**24.40**	**78**	P		**P**	**17 01 24.5**	**0.0**
	baz=275							
V48A	**Smith Brothers**	**24.45**	**76**	P		**P**	**17 01 22.4**	**-2.5**
	baz=273							
G42A	**Mountain**	**24.52**	**53**	P		**P**	**17 01 22.7**	**-2.7**
	baz=251							
LRAL	**Lakeview Retre**	**24.60**	**83**	P		**P**	**17 01 26.1**	**-0.1**
	baz=279							
U48A	**Cassie Pea, Po**	**24.64**	**74**	P		**P**	**17 01 25.7**	**-0.9**
	baz=272							
R47A	**Wooly Knot Far**	**24.66**	**70**	P		**P**	**17 01 26.1**	**-0.6**
	baz=268							
N46A	**Monticello**	**24.72**	**64**	P		**P**	**17 01 25.9**	**-1.3**
	baz=262							
T48A	**Bowling Green**	**24.75**	**73**	P		**P**	**17 01 28.7**	**+1.2**
	baz=271							
Q47A	**Bedord North L**	**24.77**	**69**	P		**P**	**17 01 28.9**	**+1.2**
	baz=267							
149A	**Jones**	**24.84**	**84**	P		**P**	**17 01 29.7**	**+1.3**
	baz=280							
W49A	**Belvidere**	**24.95**	**78**	P		**P**	**17 01 29.4**	**+0.1**
	baz=275							
X49A	**Woodville**	**24.96**	**79**	P		**P**	**17 01 29.3**	**-0.1**
	baz=276							
Y49A	**Blount Mountai**	**24.97**	**81**	P		**P**	**17 01 29.6**	**+0.1**
	baz=278							
S48A	**Wiedeman Farm,**	**25.02**	**72**	P		**P**	**17 01 30.2**	**+0.3**
	baz=270							
G43A	**Wallace**	**25.02**	**53**	P		**P**	**17 01 28.6**	**-1.2**
	baz=252							
M46A	**Old House Fiel**	**25.08**	**63**	P		**P**	**17 01 31.0**	**+0.5**
	baz=261							
V49A	**McMinnville**	**25.20**	**76**	P		**P**	**17 01 29.2**	**-2.4**
	baz=274							
CMIG	**Matias Romero**	**25.35**	**125**	P		**P**	**17 01 35.4**	**+2.3**
	comp=Z,8.9nm,1.1s,baz=310,slow=10,SNR=5.4							
CMIG				LR		LR	17 12 39.2	
	comp=Z,695nm,19.6s,baz=270,slow=39							
T49A	**Edmonton**	**25.44**	**73**	P		**P**	**17 01 31.1**	**-2.7**
	baz=271							
Z50A	**Ashland**	**25.46**	**82**	P		**P**	**17 01 31.8**	**-2.2**
	baz=279							
N47A	**Urbana**	**25.50**	**64**	P		**P**	**17 01 31.4**	**-2.9**
	baz=263							
Y50A	**Piedmont**	**25.52**	**80**	P		**P**	**17 01 34.2**	**-0.4**
	baz=278							
P48A	**Milroy**	**25.58**	**68**	P		**P**	**17 01 35.5**	**+0.5**
	baz=266							
W50A	**Signal Mountai**	**25.72**	**77**	P		**P**	**17 01 32.8**	**-3.6**
	baz=275							
V50A	**Pikevile**	**25.85**	**76**	P		**P**	**17 01 36.0**	**-1.5**
	baz=274							
N48A	**Decatur**	**26.00**	**64**	P		**P**	**17 01 38.5**	**-0.4**
	baz=264							
Y51A	**Rockmart**	**26.07**	**80**	P		**P**	**17 01 42.1**	**+2.6**
	baz=278							
251A	**Midway**	**26.09**	**84**	P		**P**	**17 01 38.0**	**-1.7**
	baz=282							
I46A	**Reed City**	**26.21**	**57**	P		**P**	**17 01 39.2**	**-1.6**
	baz=257							
M48A	**Edgerton**	**26.31**	**63**	P		**P**	**17 01 40.1**	**-1.6**
	baz=263							
R50A	**Paris**	**26.39**	**70**	P		**P**	**17 01 41.7**	**-0.7**
	baz=269							
V51A	**Loudon**	**26.45**	**76**	P		**P**	**17 01 43.5**	**+0.5**
	baz=274							
O49A	**Covington**	**26.46**	**66**	P		**P**	**17 01 42.6**	**-0.4**
	baz=266							
DLBC	**Dease Lake**	**26.58**	**344**	*e*P		**P**	**17 01 42.7**	**-1.2**
	comp=Z,16nm,1.1s							
DLBC	**Dease Lake**	**26.58**	**344**	LR		LR	17 12 17.4	
	comp=Z,666nm,18.5s,baz=168,slow=37							
L48A	**N Adams**	**26.58**	**62**	P		**P**	**17 01 42.3**	**-1.8**
	baz=262							
N49A	**Columbus Grove**	**26.65**	**64**	P		**P**	**17 01 44.9**	**+0.3**
	baz=264							
252A	**Lumpkin**	**26.67**	**84**	P		**P**	**17 01 45.1**	**+0.1**
	baz=282							
T51A	**Gray**	**26.71**	**73**	P		**P**	**17 01 44.2**	**-1.1**
	baz=272							
Z52A	**Williamson**	**26.71**	**82**	P		**P**	**17 01 42.3**	**-3.1**
	baz=280							
P50A	**Jamestown**	**26.84**	**67**	P		**P**	**17 01 44.0**	**-2.5**
	baz=267							
TKL	**Tuckaleechee C**	**26.93**	**76**	LR		LR	17 12 38.3	
	comp=Z,271nm,18.2s,baz=280,slow=37							
X52A	**Dahlonega**	**26.94**	**78**	P		**P**	**17 01 47.7**	**+0.2**
	baz=277							
R51A	**Hillsboro**	**26.97**	**70**	P		**P**	**17 01 47.7**	**0.0**
	baz=270							
E45A	**Wooded Hills,**	**27.02**	**52**	P		**P**	**17 01 47.0**	**-1.1**
	baz=253							
W53A	**Cullowhee**	**27.48**	**77**	P		**P**	**17 01 52.7**	**+0.3**
	baz=276							
ACSO	**Alum Creek Sta**	**27.50**	**66**	*e*P		**P**	**17 01 51.4**	**-1.0**
	comp=Z,50nm,1.3s							
V53A	**Saluda**	**27.71**	**76**	*e*P		**P**	**17 01 53.2**	**-1.2**
	comp=Z,32nm,1.5s							
V53A	**Saluda**	**27.71**	**76**	P		**P**	**17 01 53.9**	**-0.5**
	baz=275							
U53A	**Fall Branch**	**27.84**	**74**	P		**P**	**17 01 56.6**	**+1.1**
	baz=274							
Z54A	**Sparta**	**28.01**	**81**	P		**P**	**17 01 55.2**	**-1.8**
	baz=280							
Y55A	**Saluda**	**28.70**	**79**	P		**P**	**17 02 00.9**	**-2.2**
	baz=279							
V55A	**Taylorsville**	**28.99**	**75**	P		**P**	**17 02 06.3**	**+0.7**
	baz=276							
YKA	**Yellowknife Ar**	**29.05**	**2**	P		**P**	**17 02 07.0**	**+1.0**
YKA	**Yellowknife Ar**	**29.05**	**2**	P		**P**	**17 02 07.0**	**+1.0**
	comp=Z,2.7nm,1.1s,baz=183,slow=8.3,SNR=22							
N53A	**Lisbon**	**29.17**	**65**	P		**P**	**17 02 07.6**	**+0.4**
	baz=267							
M53A	**WI Miller and**	**29.33**	**64**	P		**P**	**17 02 08.2**	**-0.5**
	baz=266							
BLA	**Blacksburg**	**29.51**	**72**	P		**P**	**17 02 09.4**	**-1.0**
	baz=274							
N54A	**Moraine State**	**29.82**	**65**	*e*P		**P**	**17 02 13.0**	**0.0**
	comp=Z,28nm,1.1s							
N54A	**Moraine State**	**29.82**	**65**	P		**P**	**17 02 13.2**	**+0.2**
	baz=267							
APG	**El Apazote**	**29.86**	**122**	LR		LR	17 13 36.7	
	comp=Z,789nm,20.9s,baz=299,slow=35							
O55A	**Ligonier**	**30.32**	**66**	P		**P**	**17 02 17.3**	**-0.1**
	baz=269							
M55A	**Ridgway**	**30.76**	**64**	P		**P**	**17 02 21.7**	**+0.3**
	baz=267							
J55A	**Hilton**	**31.58**	**61**	P		**P**	**17 02 28.7**	**+0.2**
	baz=265							
E53A	**Dumoine, Ponti**	**32.09**	**55**	P		**P**	**17 02 32.4**	**-0.6**
	baz=260							
H55A	**Tweed**	**32.17**	**58**	P		**P**	**17 02 33.5**	**-0.1**
	baz=264							
MATQ	**Matagami**	**32.83**	**49**	P		**P**	**17 02 37.7**	**-1.7**
	baz=255							
BINY	**Binghamton**	**32.87**	**63**	P		**P**	**17 02 41.5**	**+1.6**
	baz=268							
D54A	**Lac Fusel, La**	**32.90**	**54**	P		**P**	**17 02 38.8**	**-1.3**
	baz=260							
DAWY	**Dawson**	**33.74**	**342**	P		**P**	**17 02 46.4**	**-0.9**
	comp=Z,13nm,1.1s							
LONY	**Lake Ozonia**	**34.02**	**58**	P		**P**	**17 02 49.0**	**-0.9**
	baz=266							
PAL	**Palisades**	**34.42**	**65**	P		**P**	**17 02 52.6**	**-0.7**
	baz=271							
EGAK	**Eagle**	**34.77**	**342**	*e*P		**P**	**17 02 56.2**	**+0.2**
	comp=Z,9.3nm,1.0s							
EPYK	**Eagle Plains**	**35.06**	**346**	P		**P**	**17 02 58.9**	**+0.2**
	baz=150,SNR=5.9							
LBNH	**Lisbon**	**35.90**	**59**	P		**P**	**17 03 04.7**	**-1.4**
	baz=268							
HRV	**Adam Dziewonsk**	**36.15**	**62**	P		**P**	**17 03 07.1**	**-1.2**
	baz=271							
HDA	**Harding Lake**	**36.16**	**338**	P		**P**	**17 03 06.7**	**-1.3**
	baz=134							
INK	**Inuvik**	**36.22**	**349**	*e*P		**P**	**17 03 08.1**	**-0.4**
	comp=Z,12nm,1.1s							
INK	**Inuvik**	**36.22**	**349**	*e*P		**P**	**17 03 08.1**	**-0.4**
INK				pmax		pmax		
	comp=Z,12nm,1.1s							
ILAR	**Eielson Array**	**36.39**	**339**	P		**P**	**17 03 11.3**	**+1.2**
	comp=Z,7.4nm,1.0s,baz=156,slow=7.2,SNR=23							
ILAR				LR		LR	17 18 19.2	
	comp=Z,240nm,18.1s,baz=170,slow=37							
COLA	**College**	**36.76**	**338**	*i* P		P	17 03 19.2	+6.1
COLA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
IM3	**Indian Mountai**	**39.37**	**337**	*e*P		**P**	**17 03 33.8**	**-1.3**
TOLK	**Toolik Lake Re**	**39.88**	**342**	P		**P**	**17 03 39.3**	**-0.2**
	baz=135,SNR=7.6							
ROSC	**El Rosal**	**48.42**	**117**	LR		LR	17 27 17.9	
	comp=Z,80nm,18.2s,baz=82,slow=39							
BILL	**Bilibino**	**54.69**	**333**	*e*P		**P**	**17 05 35.6**	**+0.9**
	comp=Z,6.1nm,1.1s							
BILL	**Bilibino**	**54.69**	**333**	*e*P		**P**	**17 05 38.4**	**+3.7**
BILL				*e*			17 06 42.4	
BILL				*e*			17 07 40.3	
BILL				*e*PPP		PPP	17 08 48.8	
BILL				pmax		pmax		
	comp=Z,5.0nm,1.0s							
SEY	**Seymchan**	**61.28**	**329**	*i* P		**P**	**17 06 24.9**	**+3.9**
SEY	**Seymchan**	**61.28**	**329**	P		**P**	**17 06 23.2**	**+2.3**
	comp=Z,3.0nm,1.0s,baz=73,slow=2.8,SNR=7.9							
MA2	**Magadan**	**63.12**	**325**	*i* P		P	17 06 38.4	+5.0
MA2				pmax		pmax		
	comp=Z,6.0nm,0.9s							
TIXI	**Tiksi**	**65.78**	**342**	*e*P		**P**	**17 06 50.3**	**-0.3**
	comp=Z,6.6nm,1.1s							
TIXI	**Tiksi**	**65.78**	**342**	*i* P		**P**	**17 06 53.8**	**+3.3**
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.4s							
YSS	**Yuzh-Sakhalins**	**72.97**	**315**	*e*P		**P**	**17 07 40.1**	**+4.6**
NOA	**NORSAR Array B**	**76.64**	**23**	LR		LR	17 41 42.2	
	comp=Z,100nm,19.2s,baz=335,slow=36							
KLR	**Kul'dur**	**77.81**	**321**	*c*e*e*P		**P**	**17 08 07.5**	**+4.3**
TMCR	**Tamitsa**	**80.61**	**11**	*e*P		P	17 08 23.5	+5.2
TMCR				pmax		pmax		
	comp=Z,24nm,1.1s							
FINES	**FINESS Array B**	**80.63**	**17**	LR		LR	17 42 33.8	
	comp=Z,108nm,18.4s,baz=330,slow=35							
MAJO	**Matsushiro**	**81.52**	**308**	*c*e*e*P		P	17 08 29.9	+6.2
MAJO				pmax		pmax		
	comp=Z,23nm,2.5s							
MJAR	**Matsushiro Arr**	**81.52**	**308**	P		**P**	**17 08 25.6**	**+1.9**
	comp=Z,2.4nm,0.8s,baz=40,slow=3.2,SNR=6.5							
KLMR	**Klimovskoe**	**83.97**	**12**	*e*P		**P**	**17 08 39.3**	**+3.4**
KLMR				pmax		pmax		
	comp=Z,12nm,1.3s							
KLMR	**Klimovskoe**	**83.97**	**12**	*e*P		**P**	**17 08 39.3**	**+3.4**
KLMR				AMP			17 08 42.2	
	comp=Z,12nm,1.2s							
CLL	**Collm**	**84.60**	**29**	*e*pP		**pP**	**17 08 44.0**	**+0.8**
CLL				LmH			17 43 00.0	
	comp=N,200nm,20.9s							
CLL				LmH			17 43 00.0	
	comp=E,200nm,19.5s							
CLL				LmV			17 45 00.0	
	comp=Z,200nm,18.3s							
CLL	**Collm**	**84.60**	**29**	*e*P		pP	17 08 44.0	+0.8
CN2	**Changchun**	**84.62**	**320**	*e*P		**P**	**17 08 41.1**	**+1.5**
BRG	**Berggiesshubel**	**85.32**	**29**	*e*PKP		P	17 08 48.8	+5.8
	comp=Z,3.4nm,0.9s							
BRG	**Berggiesshubel**	**85.32**	**29**	*e*P		P	17 08 48.8	+5.9
BRG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KSRS	**Korea Array**	**87.43**	**314**	LR		LR	17 46 31.0	
	comp=Z,130nm,19.9s,baz=140,slow=35							
TLY	**Talaya**	**88.19**	**336**	*c*e*e*P		P	17 09 02.7	+5.7
TLY				pmax		pmax		
	comp=Z,14nm,1.0s							
OBN	**Obninsk**	**88.77**	**15**	*e*P		**P**	**17 09 02.8**	**+3.3**
OBN				*e*			17 12 28.0	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.6s							
SVE	**Sverdlovsk**	**90.01**	**2**	*e*P		P	17 09 10.8	+5.4
ULN	**Ulaanbaatar**	**90.13**	**332**	*c*e*e*P		P	17 09 12.3	+6.0
ULN				pmax		pmax		
	comp=Z,3.0nm,1.7s							
ARU	**Arti**	**90.34**	**3**	*d i*P		**P**	**17 09 10.1**	**+3.2**
ARU							17 12 39.5	
ARU				S		**SKSac**	**17 19 37.4**	**-0.7**
ARU				SS		**SS**	**17 25 56.7**	**-2.5**
ARU				pmax		pmax		
	comp=Z,8.0nm,1.2s							
AKASG	**Malin Array Be**	**90.87**	**21**	*c*e*e*P		**P**	**17 09 13.6**	**+4.1**
AKASG	**Malin Array Be**	**90.87**	**21**	P		**P**	**17 09 10.3**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=326,slow=4.0,SNR=6.0							
KIEV	**Kiev**	**90.87**	**21**	*i* P		**P**	**17 09 13.3**	**+3.8**
KIEV				pmax		pmax		
	comp=Z,7.0nm,1.5s							
BRVK	**Borovoye**	**93.62**	**356**	*e*P		**P**	**17 09 21.1**	**-1.1**
	comp=Z,7.5nm,0.9s							
BRVK	**Borovoye**	**93.62**	**356**	*i* P		**P**	**17 09 26.7**	**+4.5**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
HHC	**Hu-ho-hao-te**	**93.80**	**326**	*e*P		**P**	**17 09 22.5**	**-0.9**
HHC				sP		sP	17 09 33.1	+4.7
HHC				SKS		**SKSac**	**17 19 56.1**	**-2.3**
HHC				S		**S**	**17 20 27.7**	**-5.5**
HHC				sS		pS	17 20 38.0	-0.2
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,79nm,6.7s							
HHC				LR		LR		
	comp=Z,350nm,18.5s							
HHC				LR		LR		
	comp=Z,740nm,18.6s							
KURK	**Kurchatov**	**95.11**	**350**	*e*P		**P**	**17 09 28.0**	**-1.0**
	comp=Z,17nm,1.0s							
KURK	**Kurchatov**	**95.11**	**350**	*i* P		**P**	**17 09 32.2**	**+3.1**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
NJ2	**Nanjing**	**96.54**	**315**	*e*P		**P**	**17 09 35.4**	**-0.5**
WMQ	**Urumqi**	**99.97**	**343**	*e*P		**Pdif**	**17 09 51.9**	**+0.7**
WMQ				LR		LR		
	comp=Z,490nm,30.7s							
WMQ				LR		LR		
	comp=Z,660nm,30.7s							
LZH	**Lanzhou**	**101.20**	**328**	*e*P		**Pdif**	**17 09 55.0**	**-2.0**
LZH				pP		pPdif	17 09 59.5	-1.2
LZH				sP		sPdif	17 10 01.7	-0.3
LZH				*e*PP		**PP**	**17 14 06.2**	**+1.3**
LZH				pmax		pmax		
	comp=Z,18nm,1.4s							
LZH				pmax		pmax		
	comp=Z,75nm,5.6s							
LZH				LR		LR		
	comp=Z,110nm,17.2s							
LZH				LR		LR		
	comp=Z,110nm,17.5s							
LZH				LR		LR		
	comp=Z,160nm,19.7s							
CD2	**Chengdu**	**105.54**	**325**	Pdif		**Pdif**	**17 10 13.8**	**-2.4**

ISN **11** *16:57:48.7±0.5,36.74N×43.29E,h4km±3km,ML2.5*
ISK **11** *16:57:56.6,36.92N×43.36E,h5km,ML2.4/4*
DDA **11** *16:58:00.3,37.21N×43.29E,h7km±7km,ML2.5*
ISC 11 16:57:51.9±1.1,36.59N±0.03×43.39E±0.04,h7km±13km,
n10,σ1s06/18,Iraq

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.30**	**231**	*e*Pg	**Pg**	**16 57 56.8**	**-1.0**
	baz=23						
MSL				*e*Sg	**Sg**	**16 58 02.4**	**+0.7**
CUKT	**Cukurca**	**0.68**	**15**	PG	**Pg**	**16 58 05.1**	**+0.1**
CUKT				SG	**Sg**	**16 58 11.7**	**-2.2**
CUKT	**Cukurca**	**0.68**	**15**	*i* P	**Pb**	**16 58 05.7**	**-0.5**
CUKT				*i* S	**Sg**	**16 58 13.1**	**-0.8**
CUKT				IAML_P			
	comp=Z,1μm,0.2s						
SIRT	**Sirnak**	**1.19**	**320**	PG	**Pg**	**16 58 15.5**	**+0.8**
SIRT				SG	**Sb**	**16 58 29.7**	**-0.8**
SIRN	**Sırnak**	**1.20**	**319**	*i* P	**Pb**	**16 58 15.1**	**+0.1**
SIRN				*i* S	**Sg**	**16 58 31.0**	**+0.6**
SIRN				IAML_P			
	comp=Z,1μm,0.2s						
YOVA	**Hakkari_Yksek**	**1.23**	**35**	*i* P	**Pg**	**16 58 17.1**	**+1.6**
YOVA				*i* S	**Sn**	**16 58 32.1**	**-0.6**
YOVA				IAML_P			
	comp=Z,1μm,0.2s						
IKRK	**Kirkuk**	**1.41**	**147**	*e*Pn	**Pb**	**16 58 18.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**16 58 39.0**	**+1.7**
AKDM	**Akdamar

VANB	**Van**	**1.97**	**360**	PN	**Pb**	**17 03 23.5**	**-0.1**
BTMN	**Batman**	**2.12**	**308**	*i* P	**Pg**	**17 03 29.0**	**+1.2**
BTMN				*i* S	**Sg**	**17 03 55.6**	**+0.3**
MARD	**Mardin**	**2.21**	**289**	*i* P	**Pb**	**17 03 26.9**	**-0.7**
MARD				*i* S	**Sb**	**17 03 55.3**	**+0.1**
GURO	**Guroymak-BITLI**	**2.21**	**331**	PN	**Pb**	**17 03 28.5**	**+0.9**
ADCV	**BITLIS_Adilcev**	**2.25**	**347**	*i* P	**Pg**	**17 03 30.2**	**-0.2**
ADCV				IAML_P			
	comp=Z,390nm,0.4s						
SVAN	**Silvan-Diyarba**	**2.33**	**312**	PN	**Pg**	**17 03 31.4**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.33**	**312**	*i* P	**Pg**	**17 03 31.4**	**-0.3**
SVAN				*i* S	**Sg**	**17 04 00.9**	**-1.0**
CLDR	**Caldiran**	**2.56**	**9**	PN	**Pb**	**17 03 33.1**	**-0.4**
AGRB	**Hanur-Agry**	**2.97**	**354**	PN	**Pb**	**17 03 38.8**	**-1.8**
HANI	**Diyarbakir_Han**	**2.98**	**308**	*i* P	**Pg**	**17 03 43.3**	**-1.0**
BHD	**Baghdad**	**3.44**	**166**	*e*Pn	**Pn**	**17 03 42.0**	**+0.8**
BHD				*e*Sn	**Sb**	**17 04 26.0**	**-4.3**
IBDR	**Badra**	**4.07**	**148**	*e*Pn	**Pn**	**17 03 50.0**	**+0.1**
IBDR				*e*Sn	**Sn**	**17 04 40.0**	**+2.2**
RTB	**Rutbah**	**4.39**	**216**	*e*Pn	**Pn**	**17 03 54.0**	**-0.3**
RTB				*e*Sn	**Sn**	**17 04 48.0**	**+2.3**

DDA ***11*** *17:08:11.4,41.14N×39.98E,h7km±4km,ML2.8*
ISK ***11*** *17:08:12.4,41.03N×39.97E,h5km,ML2.4/3*

ISC 11 17:08:11.2±2.2, 41.17N±0.09×39.86E±0.07, h18km±3km, n9, σ0s70/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTUT	**Trabzon**	**0.19**	**203**	PG	**Pb**	**17 08 15.8**	**0.0**
KTUT				SG	**Sb**	**17 08 18.6**	**-0.1**
MACK	**Trabzon**	**0.23**	**198**	*i* P	**Pb**	**17 08 17.3**	**+0.6**
MACK				*i* S	**Sg**	**17 08 21.4**	**+1.0**
CHOM	**Cayeli-Rize**	**0.68**	**95**	PG	**Pg**	**17 08 25.2**	**+0.6**
CHOM				SG	**Sg**	**17 08 34.9**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**0.80**	**165**	PG	**Pb**	**17 08 26.2**	**-0.4**
BAYT				SG	**Sb**	**17 08 36.7**	**-0.5**
BAYB	**BAYBURT**	**0.95**	**162**	*i* P	**Pg**	**17 08 29.5**	**-0.3**
BAYB				*i* S	**Sb**	**17 08 41.2**	**-0.4**
BAYB				IAML_P			
	comp=Z,1μm,0.2s						
KELT	**Kelkit**	**1.12**	**205**	*i* P	**Pb**	**17 08 31.6**	**-0.5**
KELT				*i* S	**Sb**	**17 08 45.8**	**-0.6**
KELT				IAML_P			
	comp=Z,534nm,0.1s						
KOPT	**Kop Dagi**	**1.24**	**157**	*i* P	**Pg**	**17 08 34.9**	**-0.4**
KOPT				*i* S	**Sg**	**17 08 52.8**	**+1.2**
KOPT				IAML_P			
	comp=Z,670nm,0.1s						
DBAD	**Bademkaya**	**1.39**	**95**	*i* P	**Pg**	**17 08 37.6**	**-0.4**
DBAD				*i* S	**Sb**	**17 08 54.7**	**+0.5**
DBAD				IAML_P			
	comp=Z,465nm,0.2s						
DDEM	**Demirkent**	**1.45**	**100**	*i* P	**Pb**	**17 08 37.4**	**-0.4**
DDEM				*i* S	**Sg**	**17 08 57.5**	**-0.6**
DDEM				IAML_P			
	comp=Z,521nm,0.1s						

IDC ***11*** *17:12:12.3±0.4, 11.53S×165.24E,h0km,mb5.1/24, mb1 5.2/26,mb1mx5.1/33,mbtmp5.1/26,ML5.6/2,MS4.7/26, Ms1 4.7/26,ms1mx4.5/37,Error ellipse: s-maj=15.7km s-min=11.8km az=91.0*

ISCJB ***11*** *17:12:12.6±0.1, 11.55S±0.02×165.15E±0.02,h12km, mb5.3/296,MS5.0/127,Error ellipse: s-maj=2.8km s-min=2.6km az=35.6*

NEIC ***11*** *17:12:13.5±0.1, 11.53S×165.19E,h10km,mb5.5/237, MS5.1/82,MW5.5,MW5.5,Error ellipse: s-maj=2.7km s-min=2.3km az=122.0,Moment Tensor Solution. s35 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.99; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$2.00; $M_{r\theta}$-0.96; $M_{\theta\phi}$-0.30; $M_{r\theta}$1.06; Best double couple: $M_0$2.50000×10^{17} NP1:ϕ_s8.00000°, δ32.00000°, λ-60.00000°. NP2:ϕ_s154.00000°, δ63.00000°, λ-107.00000°. Principal axes: T 2.3900, Plg16.0000°, Azm256.0000°; N 0.1700, Plg15.0000°, Azm162.0000°; P -2.5500, Plg68.0000°, Azm31.0000°;*

BJI ***11*** *17:12:13.8, 11.19S×165.21E,h12km,mb5.4/74,mB5.7/54, Ms5.1/65,Ms7 4.8/62*

NEIC ***11*** *17:12:14.0±0.0, 11.73S×164.90E,h11km,Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.25; $M_{\theta\theta}$0.46; $M_{\phi\phi}$ 1.79; $M_{r\theta}$-0.56; $M_{\theta\phi}$-0.78; $M_{\theta r}$-0.80; Best double couple: $M_0$2.40000×10^{17} NP1:ϕ_s353.00000°, δ54.00000°,λ-68.00000°. NP2:ϕ_s139.00000°, δ41.00000°, λ-116.00000°. Principal axes: T 2.2100, Plg6.0000°, Azm67.0000°; N 0.3500, Plg17.0000°, Azm160.0000°; P -2.5700, Plg71.0000°, Azm316.0000°;*

MOS ***11*** *17:12:15.4±1.0, 11.51S×165.11E,h29km,mb5.6/72, MS4.9/14 Error ellipse: s-maj=7.4km s-min=6.3km az=93.7*

GCMT ***11*** *17:12:15.5±0.1, 11.72S±0.01×165.15E±0.01,h12km, MW5.5/114,Moment Tensor Solution. s109,c181; s114,c223; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}-2.35±.02; $M_{\theta\theta}$0.31±.02; $M_{\phi\phi}$2.04±.02; $M_{r\theta}$-0.93±.07; $M_{\theta\phi}$-0.78±.02; $M_{\phi r}$0.73±.07; Best double couple: $M_0$2.62400×10^{17} NP1:ϕ_s146.00000°,δ58.00000°, λ-104.00000°. NP2:ϕ_s351.00000°,δ34.00000°, λ-69.00000°. Principal axes: T 2.5580, Plg12.0000°, Azm246.0000°; N 0.1360, Plg12.0000°, Azm154.0000°; P -2.6900, Plg73.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 17:12:13.7±0.8, 11.59S±0.04×165.20E±0.04, h10km±4km, n882, σ1s29/880, mb5.4/295, MS5.0/129, 54C-21D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.59**	**292**	*e*Pn	**Pn**	**17 13 37.5**	**+0.5**
HNR				*e*Sn	**Sn**	**17 14 39.7**	**-1.5**
HNR	**Honiara**	**5.59**	**292**	Pn	**Pn**	**17 13 37.8**	**+0.9**
	309nm,0.3s,baz=142,slow=5.4,SNR=57						
HNR				Sn	**Sn**	**17 14 39.7**	**-1.5**
	186nm,0.3s,baz=152,slow=23,SNR=6.3						
MARNC	**Mare, Loyalty**	**10.21**	**165**	*e*Pn	**Pn**	**17 14 41.5**	**+1.2**
DZM	**Mont Dzumac**	**10.49**	**174**	*e*Pn	**Pn**	**17 14 45.5**	**+1.2**
	149nm,0.3s						
DZM				*e*Sn	**Sn**	**17 16 37.6**	**-4.5**
	161nm,0.6s						
DZM				*e*LR	LR	17 17 08.3	
	comp=Z,4μm,23.1s						
DZM	**Mont Dzumac**	**10.49**	**174**	Pn	**Pn**	**17 14 45.5**	**+1.2**
	25nm,0.3s,baz=304,slow=11,SNR=268						
DZM				Sn	**Sn**	**17 16 39.3**	**-2.8**
	12nm,0.3s,baz=178,slow=23,SNR=8.4						
OUENC	**Ouen Island, N**	**10.88**	**172**	*e*Pn	**Pn**	**17 14 50.9**	**+1.3**
PINNC	**Pines Island,**	**11.17**	**169**	*e*Pn	**Pn**	**17 14 54.9**	**+1.3**
MSVF	**Nonsavu**	**13.85**	**118**	*e*Pn	**Pn**	**17 15 32.2**	**+1.9**
MSVF	**Nonsavu**	**13.85**	**118**	*i* P	**Pn**	**17 15 30.4**	**+0.1**
RABL	**Rabaul**	**14.85**	**299**	*e*Pn	**Pn**	**17 15 43.2**	**-0.7**
TARA	**Tarawa**	**14.98**	**31**	*e*Pn	**Pn**	**17 15 45.0**	**-0.6**
EIDS	**Eidsvold**	**19.13**	**222**	P	**Pn**	**17 16 39.3**	**+1.3**
	baz=19,SNR=6.3						
EIDS	**Eidsvold**	**19.13**	**222**	*e*P	**Pn**	**17 16 38.9**	**+0.9**
	178nm,1.1s						
PATS	**Pohnpei**	**19.54**	**339**	*e*P	**P**	**17 16 41.8**	**+0.2**
	706nm,1.8s						
MANU	**Manus Island**	**20.07**	**297**	*e*P	**P**	**17 16 47.8**	**+0.5**
	454nm,1.4s						
CTA	**Charters Tower**	**20.07**	**243**	P	Pn	17 16 48.9	-0.3
	160nm,1.0s,baz=71,slow=13,SNR=24						
CTA				LR	LR	17 23 35.5	
	comp=Z,2μm,18.5s,baz=70,slow=34						
CTAO	**Charters Tower**	**20.07**	**243**	*e*P	Pn	17 16 48.8	-0.4
	223nm,1.0s						
CTAO				LR	LR		
	comp=Z,6μm,22.0s						
CTAO	**Charters Tower**	**20.07**	**243**	*e*P	Pn	17 16 48.8	-0.4
CTAO				pmax	pmax		
	comp=Z,223nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,6μm,22.0s						
LHI	**Lord Howe Isla**	**20.63**	**195**	*e*P	Pn	17 16 56.8	+1.1
	comp=Z,198nm,1.1s						
MTSU	**Mount Surprise**	**21.19**	**250**	P	**P**	**17 17 01.1**	**+1.5**
	baz=21,SNR=22						
RMQ	**Roma**	**21.43**	**224**	P	**P**	**17 17 04.0**	**+1.9**
	baz=22,SNR=27						
COEN	**Coen**	**21.60**	**261**	P	**P**	**17 17 04.0**	**0.0**
	baz=22,SNR=15						
COEN	**Coen**	**21.60**	**261**	*e*P	**P**	**17 17 04.3**	**+0.3**
	comp=Z,177nm,1.2s						
ARMA	**Armidale**	**22.57**	**212**	P	**P**	**17 17 15.8**	**+1.3**
	baz=23,SNR=7.3						
ARMA	**Armidale**	**22.57**	**212**	*e*P	**P**	**17 17 15.6**	**+1.2**
	comp=Z,153nm,1.0s						
OUZ	**Omahuta**	**24.73**	**163**	*e*P	**P**	**17 17 37.8**	**+2.5**
	comp=Z,177nm,1.1s						
OUZ	**Omahuta**	**24.73**	**163**	P	**P**	**17 17 37.6**	**+2.3**
MGCD	**Mangrove Creek**	**25.10**	**209**	P	**P**	**17 17 42.0**	**+3.4**
	baz=25,SNR=6.7						
WCZ	**Waipu Caves**	**25.62**	**163**	P	**P**	**17 17 46.6**	**+3.3**
JAY	**Jayapura**	**25.90**	**289**	LR	LR	17 28 37.2	
	comp=Z,2μm,20.7s,baz=98,slow=38						
QIS	**Mount Isa**	**26.13**	**247**	P	**P**	**17 17 48.6**	**+0.5**
	baz=26,SNR=18						
MBAZ	**Motutapu North**	**26.55**	**162**	P	**P**	**17 17 55.0**	**+3.2**
WIAZ	**Waiheke Island**	**26.65**	**162**	P	**P**	**17 17 56.1**	**+3.4**
CMSA	**Cobar Meteorol**	**26.80**	**219**	P	**P**	**17 17 54.8**	**+0.7**
	baz=27,SNR=23						
MKAZ	**Moumakai**	**26.94**	**162**	P	**P**	**17 17 58.3**	**+3.0**
YNG	**Young**	**27.31**	**211**	P	**P**	**17 18 00.3**	**+1.6**
	baz=28,SNR=5.8						
CNB	**Canberra Magne**	**27.65**	**209**	P	**P**	**17 18 02.9**	**+1.2**
	baz=28,SNR=6.7						
CAN	**Canberra**	**27.83**	**209**	*e*P	**P**	**17 18 02.8**	**-0.5**
	comp=Z,39nm,1.2s						
CAN	**Canberra**	**27.83**	**209**	*e*P	**P**	**17 18 02.8**	**-0.5**
CAN				pmax	pmax		
	comp=Z,39nm,1.2s						
HIZ	**Hauiti**	**28.17**	**164**	*e*P	**P**	**17 18 08.3**	**+2.0**
	comp=Z,337nm,1.4s						
HIZ	**Hauiti**	**28.17**	**164**	P	**P**	**17 18 09.6**	**+3.4**
HAZ	**Te Kaha**	**28.40**	**159**	P	**P**	**17 18 10.5**	**+2.2**
MXZ	**Matakaoa Point**	**28.41**	**158**	*e*P	**P**	**17 18 09.4**	**+0.9**
	comp=Z,267nm,1.2s						
MXZ	**Matakaoa Point**	**28.41**	**158**	P	**P**	**17 18 09.7**	**+1.3**
URZ	**Urewera**	**28.62**	**160**	*e*P	**P**	**17 18 10.6**	**+0.3**
	comp=Z,251nm,1.5s						
URZ	**Urewera**	**28.62**	**160**	P	**P**	**17 18 12.0**	**+1.7**
	comp=Z,44nm,0.9s,baz=0.9,slow=4.9,SNR=11						
URZ	**Urewera**	**28.62**	**160**	P	**P**	**17 18 11.9**	**+1.7**
PKGZ	**Pakihiroa**	**28.62**	**158**	P	**P**	**17 18 11.8**	**+1.4**
VRZ	**Vera Road**	**28.71**	**164**	P	**P**	**17 18 15.7**	**+4.6**
MWZ	**Matawai**	**28.82**	**160**	P	**P**	**17 18 14.2**	**+2.1**
PUZ	**Puketiti**	**28.85**	**158**	P	**P**	**17 18 12.9**	**+0.6**
FWVZ	**Far West T-bar**	**29.05**	**163**	P	**P**	**17 18 17.0**	**+2.6**
BKZ	**Black Stump Fm**	**29.25**	**162**	*e*P	**P**	**17 18 17.0**	**+1.1**
	comp=Z,438nm,1.9s						
BHHZ	**Black Hill Sta**	**29.42**	**163**	P	**P**	**17 18 20.0**	**+2.6**
KWHZ	**Kaweka Forest**	**29.46**	**162**	P	**P**	**17 18 19.6**	**+1.7**
KRHZ	**Kereru**	**29.65**	**162**	P	**P**	**17 18 20.5**	**+1.1**
STKA	**Stephens Creek**	**29.68**	**223**	P	**P**	**17 18 20.8**	**+1.0**
	baz=30,SNR=16						
STKA	**Stephens Creek**	**29.68**	**223**	*e*P	**P**	**17 18 18.6**	**-1.2**
	comp=Z,5.0nm,0.9s						
STKA				*e*PcP	**PcP**	**17 21 24.8**	**+0.6**
STKA	**Stephens Creek**	**29.68**	**223**	P	**P**	**17 18 20.8**	**+1.0**
	comp=Z,22nm,1.1s,baz=35,slow=8.8,SNR=20						
STKA				PcP	**PcP**	**17 21 24.8**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=27,slow=6.3,SNR=3.6						
STKA				LR	LR	17 29 20.6	
	comp=Z,3μm,21.0s,baz=53,slow=35						
MHGZ	**Mahia Peninsul**	**29.69**	**160**	P	**P**	**17 18 20.3**	**+0.5**
QRZ	**Quartz Range**	**29.83**	**169**	P	**P**	**17 18 22.0**	**+1.0**
PNHZ	**Pukenui**	**29.85**	**163**	P	**P**	**17 18 22.2**	**+0.9**
TSZ	**Takapari Road**	**29.91**	**163**	P	**P**	**17 18 23.4**	**+1.6**
H11S2	**WAKE ISLAND Hy**	**29.92**	**3**	T	T	17 49 55.3	
	baz=184,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**29.93**	**3**	T	T	17 49 55.9	
	baz=184,slow=76,SNR=86						
KAHZ	**Kahuranaki**	**29.94**	**162**	P	**P**	**17 18 23.2**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**29.94**	**3**	T	T	17 49 58.3	
	baz=184,slow=76,SNR=122						
MRZ	**Mangatainoka R**	**30.37**	**164**	P	**P**	**17 18 26.8**	**+1.0**
OGWZ	**Otaki Gorge**	**30.41**	**165**	P	**P**	**17 18 27.1**	**+1.0**
BFZ	**Birch Farm**	**30.57**	**163**	*e*P	**P**	**17 18 27.2**	**-0.3**
	comp=Z,147nm,1.1s						
BFZ	**Birch Farm**	**30.57**	**163**	P	**P**	**17 18 28.0**	**+0.4**
HOWZ	**Holdsworth Sta**	**30.58**	**165**	P	**P**	**17 18 28.3**	**+0.6**
TUWZ	**Tuamarina**	**30.70**	**167**	P	**P**	**17 18 29.5**	**+0.8**
SNZO	**South Karori**	**30.76**	**166**	*e*P	**P**	**17 18 29.2**	**0.0**
	comp=Z,251nm,1.4s						
WRAB	**Tennant Creek**	**30.78**	**250**	*e*P	**P**	**17 18 29.1**	**-0.6**
	comp=Z,145nm,1.3s						
WRAB				LR	LR		
	comp=Z,2μm,22.0s						
WRAB	**Tennant Creek**	**30.78**	**250**	*c i*P	**P**	**17 18 29.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,53nm,1.2s						
WB2	**Warramunga Arr**	**30.78**	**250**	*e*P	**P**	**17 18 28.7**	**-1.1**
WB2				*e*PcP	**PcP**	**17 21 27.5**	**+0.3**
WR1	**Warramunga Arr**	**30.79**	**250**	*e*P	**P**	**17 18 29.4**	**-0.5**
	comp=Z,183nm,1.3s						
WR1				*e*PcP	**PcP**	**17 21 27.6**	**+0.3**
WRA	**Warramunga Arr**	**30.79**	**250**	P	**P**	**17 18 29.4**	**-0.5**
	comp=Z,25nm,0.7s,baz=84,slow=8.8,SNR=100						
WRA				PcP	**PcP**	**17 21 27.6**	**+0.3**
	comp=Z,6.7nm,0.8s,baz=77,slow=3.6,SNR=8.3						
WRA				LR	LR	17 29 26.4	
	comp=Z,2μm,21.3s,baz=65,slow=34						
THZ	**Tophouse**	**30.81**	**169**	*e*P	**P**	**17 18 31.3**	**+1.5**
	comp=Z,62nm,0.8s						
THZ	**Tophouse**	**30.81**	**169**	P	**P**	**17 18 30.7**	**+1.0**
MTW	**Mount Morrison**	**30.82**	**165**	P	**P**	**17 18 30.1**	**+0.4**
TMWZ	**Te Mpua**	**30.87**	**164**	P	**P**	**17 18 32.7**	**+2.5**
MSWZ	**Moikau Station**	**31.00**	**165**	P	**P**	**17 18 32.5**	**+1.2**
PAWZ	**Paruwai Farm**	**31.01**	**165**	P	**P**	**17 18 32.2**	**+0.7**
PLWZ	**Palliser**	**31.14**	**165**	P	**P**	**17 18 34.9**	**+2.2**
H11N1	**WAKE ISLAND Hy**	**31.15**	**3**	T	T	17 51 31.6	
	baz=182,slow=76,SNR=55						
H11N3	**WAKE ISLAND Hy**	**31.15**	**3**	T	T	17 51 31.2	
	baz=182,slow=76,SNR=8.1						
H11N2	**WAKE ISLAND Hy**	**31.17**	**3**	T	T	17 51 25.7	
	baz=182,slow=76,SNR=68						
TOO	**Toolangi**	**31.33**	**211**	P	**P**	**17 18 35.4**	**+1.1**
	baz=32,SNR=8.4						
TOO	**Toolangi**	**31.33**	**211**	*e*P	**P**	**17 18 34.5**	**+0.1**
	comp=Z,37nm,1.3s						
TOO	**Toolangi**	**31.33**	**211**	*e*P	**P**	**17 18 34.5**	**+0.1**
TOO				pmax	pmax		
	comp=Z,37nm,1.3s						
KHZ	**Kahutara**	**31.56**	**168**	*e*P	**P**	**17 18 36.5**	**+0.3**
	comp=Z,40nm,1.0s						
LTZ	**Lake Taylor**	**31.68**	**170**	*e*P	**P**	**17 18 38.1**	**+0.7**
	comp=Z,54nm,0.9s						
KDU	**Kakadu**	**32.00**	**265**	P	**P**	**17 18 40.0**	**-0.5**
	baz=32,SNR=8.6						
AS01	**Alice Springs**	**32.03**	**244**	*e*P	**P**	**17 18 39.4**	**-1.3**
AS01				*e*PcP	**PcP**	**17 21 30.6**	**0.0**
AS31	**Alice Springs**	**32.07**	**244**	*e*P	**P**	**17 18 40.1**	**-0.9**
	comp=Z,9.5nm,1.0s						
AS31				*e*PcP	**PcP**	**17 21 31.2**	**+0.6**
ASAR	**Alice Springs**	**32.07**	**244**	P	**P**	**17 18 40.1**	**-0.9**
	comp=Z,19nm,0.9s,baz=74,slow=8.9,SNR=42						
ASAR				PcP	**PcP**	**17 21 30.6**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=82,slow=2.3,SNR=11						
ASAR				LR	LR	17 30 43.2	
	comp=Z,2μm,20.4s,baz=77,slow=35						
FOZ	**Fox Glacier**	**32.08**	**174**	*e*P	**P**	**17 18 41.3**	**+0.5**
	comp=Z,96nm,1.0s						
GUMO	**Guam**	**32.13**	**321**	LR	LR	17 30 35.1	
	comp=Z,2μm,21.5s,baz=146,slow=34						
OXZ	**Oxford**	**32.17**	**171**	*e*P	**P**	**17 18 41.3**	**-0.3**
	comp=Z,125nm,1.4s						
RPZ	**Rata Peaks**	**32.41**	**172**	*e*P	**P**	**17 18 43.7**	**0.0**
	comp=Z,144nm,1.4s						
RPZ	**Rata Peaks**	**32.41**	**172**	P	**P**	**17 18 44.3**	**+0.6**
	comp=Z,39nm,0.8s,baz=320,slow=3.9,SNR=16						
RPZ				LR	LR	17 29 48.8	
	comp=Z,1μm,20.7s,baz=344,slow=32						
HTT	**Hallett**	**32.41**	**224**	P	**P**	**17 18 44.3**	**+0.3**
	baz=32,SNR=16						
ARPS	**Mount Arapiles**	**32.72**	**216**	P	**P**	**17 18 48.0**	**+1.4**
	baz=33,SNR=7.3						
LBZ	**Lake Benmore**	**32.96**	**173**	*e*P	**P**	**17 18 48.1**	**-0.5**
	comp=Z,41nm,1.1s						
WKZ	**Wanaka**	**33.28**	**175**	*e*P	**P**	**17 18 49.4**	**-2.0**
	comp=Z,180nm,1.4s						
MTN	**Manton Dam**	**33.30**	**264**	P	**P**	**17 18 51.6**	**-0.3**
	baz=33,SNR=6.0						
MTN	**Manton Dam**	**33.30**	**264**	*e*P	**P**	**17 18 51.9**	**0.0**
	comp=Z,51nm,1.3s						
ODZ	**Otahua Downs**	**33.67**	**173**	*e*P	**P**	**17 18 54.6**	**0.0**
	comp=Z,113nm,1.7s						
MLZ	**Mavora Lakes**	**33.76**	**176**	*e*P	**P**	**17 18 54.9**	**-0.6**
	comp=Z,132nm,1.8s						
DCZ	**Deep Cove**	**33.80**	**178**	*e*P	**P**	**17 18 55.2**	**-0.6**
	comp=Z,60nm,1.1s						
BBOO	**Buckleboo**	**34.07**	**227**	P	**P**	**17 18 58.3**	**-0.1**
	baz=34,SNR=16						
BBOO	**Buckleboo**	**34.07**	**227**	*e*P	**P**	**17 18 57.4**	**-1.0**
	comp=Z,40nm,1.0s						
KNRA	**Kununurra**	**35.61**	**259**	P	**P**	**17 19 11.6**	**-0.2**
	baz=36,SNR=9.8						
PALU	**Palau**	**35.88**	**300**	P	**P**	**17 19 13.4**	**-0.8**
	baz=36,SNR=4.0						
WRKA	**Warakurna**	**37.36**	**244**	P	**P**	**17 19 26.2**	**-0.6**
	baz=37,SNR=28						
JOHN	**Johnston Islan**	**37.63**	**42**	PFAKE		17 19 40.0	+11
JOHN				LR	LR		
	comp=Z,197nm,19.0s						
FITZ	**Fitzroy Crossi**	**38.72**	**256**	P	**P**	**17 19 38.0**	**-0.3**
	baz=39,SNR=12						
FITZ	**Fitzroy Crossi**	**38.72**	**256**	*e*P	**P**	**17 19 37.1**	**-1.2**
	comp=Z,51nm,1.1s						
FORT	**Forrest**	**39.29**	**235**	P	**P**	**17 19 44.5**	**+1.6**
	baz=39,SNR=7.7						
FORT	**Forrest**	**39.29**	**235**	*e*P	**P**	**17 19 42.8**	**-0.1**
	comp=Z,135nm,1.1s						
SOEI	**Soe**	**40.24**	**269**	*e*P	**P**	**17 19 50.6**	**-0.6**
	comp=Z,98nm,1.2s						
BATI	**Baumata**	**40.78**	**268**	LR	LR	17 37 42.3	
	comp=Z,1μm,19.6s,baz=104,slow=38						
MMRI	**Maumere**	**42.36**	**270**	P	**P**	**17 20 11.3**	**+2.8**
	comp=Z,130nm,1.2s,comp=Z,2μm						
EDFI	**Ende, Flores**	**42.88**	**270**	P	**P**	**17 20 15.4**	**+2.5**
	comp=Z,28nm,2.9s,comp=Z,1μm						
DAV	**Davao City (W)**	**43.55**	**293**	PFAKE		17 20 30.0	+12
DAV				LR	LR		
	comp=Z,847nm,22.0s						
KCP	**Kidapawan**	**43.97**	**293**	*e*P	**P**	**17 20 20.9**	**-0.6**
PPT	**Papeete**	**44.09**	**103**	LR	LR	17 35 34.0	
	comp=Z,816nm,19.7s,baz=276,slow=32						
PPT2	**Papeete2**	**44.09**	**103**	*e*S	**S**	**17 27 03.0**	**+7.5**
	comp=Z,1μm,26.8s						
PPT2				*e*LQ	LQ	17 30 53.0	
	comp=Z,5μm,26.5s						
PPT2				*e*LR	LR	17 32 46.5	
	comp=Z,7μm,32.2s,baz=277						
MBWA	**Marble Bar**	**44.51**	**252**	*e*P	**P**	**17 20 25.9**	**+0.1**
	comp=Z,114nm,1.2s						
MBWA				LR	LR		
	comp=Z,2μm,19.0s						
MBWA	**Marble Bar**	**44.51**	**252**	P	**P**	**17 20 26.3**	**+0.5**
TBI	**Tubuai**	**44.63**	**111**	*e*S	**S**	**17 27 08.0**	**+4.9**
	comp=Z,854nm,28.5s						
TBI				*e*LQ	LQ	17 31 10.0	
	comp=Z,4μm,29.2s						
TBI				*e*LR	LR	17 33 04.6	
	comp=Z,4μm,31.0s,baz=286						
KAPI	**Kappang**	**45.39**	**274**	PFAKE		17 20 40.0	+7.1
KAPI				LR	LR		
	comp=Z,471nm,21.0s						
MEEK	**Meekatharra**	**46.23**	**244**	P	**P**	**17 20 39.6**	**+0.3**
	baz=46,SNR=15						
KLBR	**Kellerberrin**	**47.96**	**238**	P	**P**	**17 20 52.2**	**-0.6**
	baz=48,SNR=5.3						
NWAO	**Narrogin (SRO)**	**48.72**	**236**	*e*P	**P**	**17 20 58.4**	**-0.2**
	comp=Z,95nm,1.3s						
NWAO	**Narrogin (SRO)**	**48.72**	**236**	*e*P	**P**	**17 20 58.4**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,95nm,1.3s						
NWAO	**Narrogin (SRO)**	**48.72**	**236**	LR	LR	17 41 31.6	
	comp=Z,4μm,18.1s,baz=319,slow=36						
MORW	**Morawa**	**48.89**	**242**	P	**P**	**17 21 00.4**	**+0.4**
	baz=49,SNR=7.3						
MORW	**Morawa**	**48.89**	**242**	*e*P	**P**	**17 20 59.6**	**-0.5**
	comp=Z,236nm,1.8s						
TSM	**Tawau**	**49.64**	**286**	P	**P**	**17 21 07.1**	**+1.2**
SDKM	**Sandakan**	**50.73**	**287**	P	**P**	**17 21 16.2**	**+2.0**
TGY	**Tagaytay City**	**50.76**	**299**	LR	LR	17 40 10.9	
	comp=Z,769nm,21.2s,baz=118,slow=33						
KDM	**Kudat**	**51.50**	**289**	P	**P**	**17 21 21.3**	**+1.3**
KKM	**Kota Kinabalu**	**51.78**	**287**	*e*P	**P**	**17 21 22.2**	**0.0**
	comp=Z,181nm,1.4s						
KKM	**Kota Kinabalu**	**51.78**	**287**	P	**P**	**17 21 23.0**	**+0.8**
PWJI	**Pagerwojo**	**52.67**	**269**	P	**P**	**17 21 31.6**	**+2.9**
	comp=Z,42nm,1.4s,comp=Z,1μm						
NGJI	**Ngawi**	**53.11**	**269**	P	P	17 21 42.8	+11
PCJI	**Pacitan**	**53.26**	**268**	P

KSAR Wonju Array Be 60.03 326 P P 17 22 21.2 +0.4
KS01 Wonju Array Si 60.05 326 eP P 17 22 20.0 -0.9
KASI Kota Agung 60.23 270 P P 17 22 22.5 -0.2
LWLI Liwa 60.75 271 P P 17 22 27.5 +1.1
comp=Z,19nm,0.8s,comp=Z,5μm
GZH Guangzhou 61.34 304 P P 17 22 31.2 +1.2
GZH S S 17 30 51.1 +0.2
GZH SS SS 17 34 51.5 -0.2
GZH LR LR
comp=Z,500nm,15.9s
GZH LR LR
comp=Z,330nm,15.3s
LHSI Lahat 61.50 272 P P 17 22 34.7 +3.4
comp=Z,31nm,1.7s,comp=Z,883nm
YSS Yuzh-Sakhalins 61.64 343 eP P 17 22 31.3 -0.2
comp=Z,173nm,1.6s
YSS Yuzh-Sakhalins 61.64 343 ⇓iP P 17 22 32.3 +0.8
YSS e*SP pwP 17 22 37.9 -2.1
YSS e 17 23 12.4
YSS eS S 17 30 55.7 +2.0
YSS e 17 31 01.9
YSS e 17 37 34.0
YSS pmax pmax
comp=Z,40nm,1.2s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=E,600nm,13.0s
NJ2 Nanjing 62.03 316 eP P 17 22 35.3 +0.8
NJ2 pmax pmax
comp=E,54nm,1.3s
NJ2 LR LR
comp=E,410nm,16.3s
NJ2 LR LR
comp=E,390nm,15.7s
NJ2 LR LR
comp=E,600nm,16.8s
MSHR Mys Shultsa 62.28 332 iP P 17 22 34.3 -1.6
MYKOM Kota Tinggi 62.39 278 P P 17 22 39.4 +2.2
QIZ Qiongzhong 62.46 299 P P 17 22 38.7 +1.1
QIZ S S 17 31 09.2 +4.0
QIZ pmax pmax
comp=E,17nm,1.5s
QIZ LR LR
comp=E,250nm,21.1s
QIZ LR LR
comp=E,330nm,20.6s
QIZ LR LR
comp=E,590nm,27.9s
KGM Kluang 62.96 278 P P 17 22 43.0 +1.9
USA0B Ussuriysk Arra 63.19 334 eP P 17 22 42.5 +0.6
comp=E,188nm,1.7s
USRK Ussuriysk Ar. 63.19 334 P P 17 22 42.8 +0.8
comp=E,17nm,0.7s,baz=124,slow=6.2,SNR=30
USRK LR LR 17 48 48.4
comp=E,337nm,20.3s,baz=143,slow=35
KRJI Kerinci 63.86 273 P P 17 22 48.9 +1.7
comp=E,52nm,1.2s,comp=E,1μm
KTGM Kuala Trenggan 63.98 282 P P 17 22 49.9 +2.1
WHN Wuhan 64.35 312 ⇓P P 17 22 48.8 -1.1
WHN S S 17 31 15.3 -13
WHN LR LR
comp=E,4μm,23.2s
WHN LR LR
comp=E,980nm,14.7s
WHN LR LR
comp=E,2μm,22.5s
MDJ Mudanjiang 64.58 333 P P 17 22 51.6 +0.5
MDJ S S 17 31 34.4 +3.7
MDJ pmax pmax
comp=E,33nm,1.3s
MDJ pmax pmax
comp=E,650nm,4.0s
MDJ LR LR
comp=E,600nm,7.5s
MDJ LR LR
comp=E,350nm,9.2s
MDJ LR LR
comp=E,310nm,10.0s
MDJ Mudanjiang 64.58 333 eP P 17 22 51.0 -0.1
comp=E,58nm,1.3s
MDJ LR LR
comp=Z,488nm,19.0s
DL2 Dalian 64.59 323 ⇓iP P 17 22 51.3 0.0
DL2 S S 17 31 30.7 -0.3
DL2 pmax pmax
comp=Z,49nm,1.2s
DL2 pmax pmax
comp=Z,640nm,5.8s
DL2 LR LR
comp=Z,280nm,16.3s
DL2 LR LR
comp=Z,350nm,22.3s
DL2 LR LR
comp=Z,480nm,18.7s
PETK Petropavlovsk- 64.75 355 eP P 17 22 52.1 0.0
PETK Petropavlovsk- 64.75 355 P P 17 22 52.2 +0.1
comp=Z,14nm,0.7s,baz=181,slow=6.4,SNR=23
PEA1 Petropavlovsk- 64.76 355 eP P 17 22 52.2 +0.1
PDSI Padang 65.08 274 P P 17 22 58.8 +3.7
comp=Z,13nm,1.8s,comp=Z,688nm
TYV Tymovskoe 65.22 344 eP P 17 22 55.4 +0.3
TYV eS S 17 31 40.5 +2.2
TYV pmax pmax
comp=Z,500nm,5.5s
TYV pmax pmax
comp=Z,31nm,0.8s
TYV smax smax
comp=E,1μm,6.5s
TIA Tai'an 65.66 319 P P 17 22 58.6 +0.2
TIA pmax pmax
comp=E,13nm,1.2s
IPM Ipoh 65.78 280 eP P 17 22 59.3 -0.3
comp=E,92nm,1.2s
CN2 Changchun 65.93 330 ⇓iP P 17 23 00.3 +0.4
CN2 esP sP 17 23 10.4 +8.2
CN2 eS S 17 31 46.1 -1.2
CN2 pmax pmax
comp=E,50nm,0.8s
CN2 LR LR
comp=E,430nm,20.0s
CN2 LR LR
comp=E,490nm,20.0s
CN2 LR LR
comp=E,570nm,20.0s
VNDA Vanda 65.95 181 eP P 17 23 00.1 +0.6
comp=E,88nm,1.4s
VNDA Vanda 65.95 181 eP P 17 23 00.2 +0.6
VNDA pmax pmax
comp=Z,88nm,1.4s
VNDA Vanda 65.95 181 P P 17 23 00.4 +0.9
comp=Z,28nm,1.2s,baz=344,slow=7.1,SNR=30
VNDA LR LR 17 49 14.4
comp=Z,548nm,18.0s,baz=333,slow=34
SBA Scott Base 66.26 180 eP P 17 23 03.0 +1.4
comp=Z,151nm,1.6s
SBA Scott Base 66.26 180 eP P 17 23 03.0 +1.4
SBA pmax pmax
comp=Z,151nm,1.6s
MNSI Mandailing Nat 66.31 276 P P 17 23 03.3 +0.3
comp=Z,50nm,1.2s,comp=Z,1μm
SISI Saibi 66.34 274 P P 17 23 07.6 +4.4
KULM Kulim 66.35 281 eP P 17 23 02.6 -0.7
comp=Z,71nm,1.4s
COCO West Island 66.72 262 PFAKE 17 23 20.0 +14
COCO LR LR
comp=Z,708nm,19.0s
SKNT Sakolnakorn 66.82 294 P P 17 23 06.8 +0.6
comp=Z,20nm,1.4s,comp=Z,458nm
GRNR Gornyy 66.97 341 eP P 17 23 09.1 +2.7
GRNR pmax pmax
comp=Z,46nm,1.0s
KLR Kul'dur 67.34 337 diP P 17 23 09.3 +0.5
PBSI Pulau Batu 67.39 275 P P 17 23 15.3 +5.4
PSI Prapat 67.41 278 eP P 17 23 09.2 -0.9
comp=Z,155nm,1.9s
PSI Prapat 67.41 278 eP P 17 23 09.2 -0.9
PSI pmax pmax
comp=Z,155nm,1.9s
PSI Prapat 67.41 278 LR LR 17 55 23.2
comp=Z,261nm,19.9s,baz=92,slow=38
SRAK Srakaew 67.57 290 P P 17 23 15.6 +4.6
comp=Z,20nm,1.2s
NKL Nikolayevsk 67.81 344 eP P 17 23 12.0 +0.4
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=Z,37nm,0.8s
NKL MLR MLR
comp=Z,800nm,18.0s
ENH Enshi 67.82 309 eP P 17 23 11.8 -0.6
comp=Z,205nm,1.5s
ENH LR LR
comp=Z,368nm,21.0s
TRTT Trang 67.94 283 P P 17 23 14.9 +1.5
comp=Z,11nm,1.8s,comp=Z,330nm
CHAI Chaiyaphum 68.25 292 P P 17 23 16.3 +1.1
comp=Z,4.3nm,1.4s,comp=Z,66nm
GYA Guiyang 68.28 305 ⇑iP P 17 23 16.0 +0.6
GYA PP PP 17 25 50.2 +4.0
GYA S S 17 32 17.2 +0.6
GYA SKS SKSac 17 33 12.9 -1.9
GYA SS SS 17 36 42.0 +2.0
GYA pmax pmax
comp=Z,30nm,1.2s
GYA pmax pmax
comp=Z,130nm,5.8s
GYA LR LR
comp=Z,740nm,20.0s
GYA LR LR
comp=Z,680nm,19.3s
GYA LR LR
comp=Z,640nm,19.7s
PATY Pattaya 68.31 289 P P 17 23 19.1 +3.5
comp=Z,12nm,1.2s,comp=Z,915nm
GSI Gungsitoli 68.38 276 eP P 17 23 15.8 -0.4
comp=Z,142nm,1.5s
GSI Gunungsitoli 68.38 276 P P 17 23 17.0 +0.9
comp=Z,65nm,1.7s,comp=Z,1μm
BJT Baijiatuao 68.56 321 eP P 17 23 16.9 +0.2
comp=Z,116nm,1.6s
BJT LR LR
comp=Z,448nm,20.0s
BJT Baijiatuao 68.56 321 eP P 17 23 16.9 +0.2
BJT pmax pmax
comp=Z,115nm,1.6s
BJT MLR MLR
comp=Z,448nm,20.0s
KCSI Kotacane, Aceh 68.70 278 P P 17 23 18.0 -0.1
PBKT Sadao Pong 69.39 293 P P 17 23 23.5 +1.2
comp=Z,28nm,1.6s,comp=Z,755nm
TIY Taiyuan 69.59 318 eP P 17 23 24.8 +1.5
TIY S S 17 32 29.3 -2.3
TIY ScS SKSac 17 33 18.8 -5.4
TIY pmax pmax
comp=Z,65nm,1.1s
TIY LR LR
comp=Z,140nm,7.1s
TIY LR LR
comp=Z,150nm,8.7s
TIY LR LR
comp=Z,360nm,18.6s
XAN Xi'an 70.09 313 P P 17 23 26.8 +0.4
XAN pP sP 17 23 29.9 +1.3
XAN S S 17 32 34.4 -3.2
XAN SKS SKSac 17 33 26.4 -1.6
XAN SS SS 17 37 05.4 -2.2
XAN pmax pmax
comp=Z,40nm,0.9s
XAN pmax pmax
comp=Z,440nm,3.5s
XAN LR LR
comp=Z,350nm,16.7s
XAN LR LR
comp=Z,400nm,20.6s
XAN LR LR
comp=Z,770nm,21.1s
XAN Xi'an 70.09 313 eP P 17 23 26.5 +0.1
comp=Z,206nm,1.9s
XAN Xi'an 70.09 313 eP P 17 23 26.5 +0.1
XAN pmax pmax
comp=Z,206nm,1.9s
UTTA Uttaradit 70.15 294 P P 17 23 28.7 +1.7
comp=Z,4.2nm,1.2s,comp=Z,71nm
MLSI Meulaboh, Aceh 70.20 279 P P 17 23 31.1 +3.7
comp=Z,66nm,1.3s
UTHA Uthaitani 70.45 291 P P 17 23 30.4 +1.6
comp=Z,7.6nm,1.2s,comp=Z,81nm
SUKH Sukhothai 70.90 293 P P 17 23 34.1 +2.6
comp=Z,4.8nm,1.2s
KMI Kunming 70.94 302 P P 17 23 33.5 +1.5
KMI pP sP 17 23 36.9 +2.6
KMI sP pwP 17 23 39.0 -1.6
KMI PP PP 17 26 09.8 +0.4
KMI S S 17 32 48.3 +0.1
KMI SKS SKSac 17 33 34.0 -1.2
KMI pmax pmax
comp=Z,69nm,1.6s
KMI pmax pmax
comp=Z,600nm,4.1s
KMI LR LR
comp=Z,340nm,16.4s
KMI LR LR
comp=Z,500nm,23.6s
KMI LR LR
comp=Z,580nm,23.6s
KMI Kunming 70.94 302 eP P 17 23 33.0 +1.0
comp=Z,138nm,1.4s
KMI Kunming 70.94 302 eP P 17 23 33.0 +1.0
KMI pmax pmax
comp=Z,138nm,1.4s
UMPA Umpang Tak 71.18 292 P P 17 23 35.9 +2.5
comp=Z,6.0nm,1.3s,comp=Z,273nm
LAMP Lampang 71.24 294 P P 17 23 35.5 +1.9
comp=Z,8.1nm,1.2s,comp=Z,102nm
CM01 Chiang Mai Arr 71.81 294 eP P 17 23 38.0 +0.9
CM31 Chiang Mai Arr 71.83 294 eP P 17 23 38.4 +1.2
comp=Z,78nm,1.5s
CM31 Chiang Mai Arr 71.83 294 P P 17 23 38.4 +1.2
SNR=21
CMAR Chiang Mai Arr 71.83 294 P P 17 23 38.4 +1.1
comp=Z,16nm,1.1s,baz=115,slow=4.1,SNR=65
CMAR LR LR 17 53 16.9
comp=Z,150nm,21.5s,baz=112,slow=34
MA2 Magadan 71.87 352 eP P 17 23 35.9 -0.7
comp=Z,100nm,2.0s
MA2 LR LR
comp=Z,533nm,21.0s
MA2 Magadan 71.87 352 ceP P 17 23 36.2 -0.3
MA2 pmax pmax
comp=Z,35nm,1.7s
HHC Hu-ho-hao-te 71.89 320 eP P 17 23 38.6 +1.3
HHC sP sP 17 23 48.5 +8.9
HHC S S 17 33 00.1 +1.7
HHC sS sS 17 33 05.8 +4.4
HHC pmax pmax
comp=Z,44nm,1.1s
HHC pmax pmax
comp=Z,520nm,7.4s
HHC LR LR
comp=Z,370nm,15.1s
HHC LR LR
comp=Z,330nm,18.0s
HHC LR LR
comp=Z,310nm,16.7s
CMMT Chiang Mai 71.95 294 P P 17 23 38.7 +0.8
comp=Z,28nm,1.4s,comp=Z,636nm
CHTO Chiang Mai 71.95 294 eP P 17 23 38.1 +0.2
comp=Z,47nm,1.3s
CHTO LR LR
comp=Z,344nm,19.0s
CHTO Chiang Mai 71.95 294 eP P 17 23 38.1 +0.2
CHTO pmax pmax
comp=Z,47nm,1.3s
CHTO MLR MLR
comp=Z,344nm,19.0s
CHTO Chiang Mai 71.95 294 P P 17 23 38.8 +0.9
SNR=24
CHTO Chiang Mai 71.95 294 P P 17 23 38.8 +0.9
comp=Z,127nm,1.5s,comp=Z,3μm
CD2 Chengdu 72.50 308 P P 17 23 40.3 -0.8
CD2 PP PP 17 26 23.6 +1.1
CD2 S S 17 33 00.7 -5.0
CD2 SS SS 17 37 46.1 +1.3
CD2 pmax pmax
comp=Z,680nm,4.7s
CD2 LR LR
comp=Z,470nm,16.4s
CD2 LR LR
comp=Z,750nm,22.2s
HIA Hailar 72.57 331 eP P 17 23 41.0 -0.1
comp=Z,118nm,1.5s
HIA LR LR
comp=Z,350nm,20.0s
HIA Hailar 72.57 331 diP P 17 23 41.4 +0.4
HIA pmax pmax
comp=Z,43nm,1.2s
ZEA Zeya 72.63 337 eP P 17 23 42.2 +1.0
ZEA eS SKSac 17 33 54.0 +7.8
ZEA pmax pmax
comp=N,110nm,1.6s
ZEA pmax pmax
comp=Z,130nm,1.4s
ZEA pmax pmax
comp=Z,600nm,7.0s
ZEA pmax pmax
comp=N,400nm,6.0s
BTO Baotou 72.74 319 eP P 17 23 43.9 +1.6
BTO S S 17 33 03.5 -4.6
LZH Lanzhou 74.72 313 ⇓P P 17 23 55.7 +1.6
LZH pP sP 17 23 59.0 +2.6
LZH sP pwP 17 24 00.6 -2.2
LZH PP PP 17 26 45.1 +3.6
LZH eS S 17 33 30.3 -0.5
LZH sS sS 17 33 37.3 +3.5
LZH SS SS 17 38 19.6 +0.9
LZH pmax pmax
comp=N,110nm,1.4s
LZH pmax pmax
comp=N,1μm,7.6s
LZH LR LR
comp=N,760nm,14.1s
LZH LR LR
comp=N,1μm,15.2s
LZH LR LR
comp=N,1μm,17.9s
SEY Seymchan 74.95 354 ceP P 17 23 52.3 -2.3
SEY Seymchan 74.95 354 LR LR 17 55 59.1
comp=N,188nm,18.2s,baz=186,slow=35
GAMB Gambell 77.19 10 eP P 17 24 07.7 +0.4
comp=N,40nm,1.2s
KDAK Kodiak Island 77.28 22 eP P 17 24 07.7 -0.3
comp=N,190nm,1.7s
KDAK LR LR
comp=Z,361nm,21.0s
KDAK Kodiak Island 77.28 22 P P 17 24 07.9 -0.1
comp=Z,8.7nm,0.7s,baz=245,slow=5.3,SNR=5.6
CIT Chita 77.36 330 eP P 17 24 08.0 -0.7
CIT e 17 24 20.0
CIT pmax pmax
comp=Z,143nm,1.1s
QSPA South Pole Qui 78.42 180 eP P 17 24 14.5 0.0
comp=Z,208nm,1.2s
ULN Ulaanbaatar 78.42 324 eP P 17 24 15.0 +0.2
comp=Z,218nm,1.9s
ULN Ulaanbaatar 78.42 324 deP P 17 24 15.6 +0.8
ULN pmax pmax
comp=Z,60nm,1.3s
ULN Ulaanbaatar 78.42 324 P P 17 24 15.8 +1.0
SNR=29
ULN P P 17 24 15.8 +1.0
SNR=29
YAK Yakutsk 78.46 344 diP P 17 24 14.5 0.0
YAK pmax pmax
comp=Z,172nm,0.8s
YAK pmax pmax
comp=N,83nm,1.0s
YAK pmax pmax
comp=E,95nm,1.1s
SONA0 Songino Array 78.78 324 eP P 17 24 17.4 +0.7
SONM Songino Array 78.78 324 P P 17 24 17.4 +0.7
comp=E,9.4nm,0.7s,baz=145,slow=6.4,SNR=43
SONM LR LR 17 56 59.3
comp=E,396nm,21.2s,baz=125,slow=34
SVW2 Sparrevohn 78.79 18 eP P 17 24 16.4 0.0
comp=E,61nm,1.6s
GTA Gaotai 79.05 314 ⇓P P 17 24 19.8 +1.4
GTA pP pwP 17 24 25.1 -2.0
GTA sP PcP 17 24 28.7 +1.8
GTA S S 17 34 20.1 +2.3
GTA SKS SKSac 17 34 30.2 -4.4
GTA SS SS 17 39 23.3 -0.6
GTA pmax pmax
comp=E,49nm,1.5s
GTA pmax pmax
comp=E,540nm,6.0s
GTA LR LR
comp=E,300nm,17.9s
GTA LR LR
comp=E,400nm,20.6s
GTA LR LR
comp=E,470nm,21.0s
ANM Nome 79.13 12 eP P 17 24 17.9 -0.2
comp=E,36nm,1.5s
ANM Nome 79.13 12 eP P 17 24 17.9 -0.2
ANM pmax pmax
comp=Z,36nm,1.5s
BRLK Bradley Lake 79.33 21 eP P 17 24 18.6 -0.8
comp=Z,251nm,2.0s
BILL Bilibino 79.42 0 eP P 17 24 19.2 -0.5
comp=Z,247nm,1.8s
BILL LR LR
comp=Z,671nm,19.0s
BILL Bilibino 79.42 0 deP P 17 24 19.7 0.0
BILL e 17 24 27.6
BILL e 17 24 35.6
BILL e 17 27 26.5
BILL ePPP PPP 17 29 12.1
BILL pmax pmax
comp=Z,125nm,1.7s
BILL MLR MLR
comp=Z,425nm,22.0s
SHL Shillong 80.30 299 eP P 17 24 25.7 +0.1
comp=Z,193nm,1.6s
SHL Shillong 80.30 299 eP P 17 24 25.7 +0.1
SHL pmax pmax
comp=Z,193nm,1.6s
SUA Susitna One 80.61 20 eP P 17 24 25.6 -0.8
comp=Z,50nm,1.4s
BOD Bodaibo 80.79 335 eP P 17 24 25.8 -1.4
BOD pmax pmax
comp=Z,37nm,1.6s
PMR Palmer 81.25 20 eP P 17 24 29.2 -0.4
comp=Z,36nm,1.2s
PMR Palmer 81.25 20 eP P 17 24 29.2 -0.4
PMR pmax pmax
comp=Z,36nm,1.2s
KNK Knik Glacier 81.35 21 eP P 17 24 30.2 0.0
comp=Z,119nm,2.0s
CAST Castle Rocks 81.63 18 eP P 17 24 29.6 -2.0
comp=Z,12nm,0.6s
SML Sawmill 81.67 20 eP P 17 24 31.2 -0.7
comp=Z,137nm,1.9s
SML Sawmill 81.67 20 eP P 17 24 31.2 -0.7
SML pmax pmax
comp=Z,137nm,1.9s
ZAK Zakamensk 81.83 325 eP P 17 24 32.9 -0.2
ZAK pmax pmax
comp=Z,22nm,1.3s
SCM Sheep Creek Mo 82.03 21 eP P 17 24 33.9 0.0
comp=Z,51nm,1.2s
SCM Sheep Creek Mo 82.03 21 eP P 17 24 33.9 0.0
SCM pmax pmax
comp=Z,51nm,1.2s
DIV Divide 82.11 22 eP P 17 24 33.5 -0.8
comp=Z,35nm,0.7s
LSA Lhasa 82.19 302 eP P 17 24 34.5 -1.4
comp=Z,51nm,1.5s
LSA LR LR
comp=Z,370nm,21.0s
LSA Lhasa 82.19 302 eP P 17 24 34.5 -1.4
LSA pmax pmax
comp=Z,51nm,1.5s
LSA MLR MLR
comp=Z,370nm,21.0s
TRF Thorofare Moun 82.20 19 eP P 17 24 32.2 -2.6
comp=Z,28nm,1.3s
IRK Irkutsk 82.22 327 eP P 17 24 34.0 -1.0
IRK pmax pmax
comp=Z,51nm,2.2s
TLY Talaya 82.27 326 eP P 17 24 34.7 -0.6
comp=Z,94nm,1.8s
TLY LR LR
comp=Z,174nm,20.0s
TLY Talaya 82.27 326 eP P 17 24 36.1 +0.8
TLY eS S 17 34 54.4 +3.5
TLY pmax pmax
comp=Z,83nm,1.4s

TLY MLR MLR
comp=Z,608nm,19.0s
TLY Talaya 82.27 326 P P 17 24 35.6 +0.3
SNR=16
TLY P P 17 24 35.6 +0.3
SNR=16
KLU Klutina 82.30 21 eP P 17 24 34.5 -0.8
comp=Z,30nm,1.1s
BPAW Bear Paw Mtn. 82.46 18 eP P 17 24 35.7 -0.3
comp=Z,26nm,1.6s
RND Reindeer 82.62 19 eP P 17 24 36.6 -0.3
comp=Z,28nm,1.2s
RND Reindeer 82.62 19 eP P 17 24 36.6 -0.3
RND pmax pmax
comp=Z,28nm,1.2s
RDOG Red Dog Mine 82.66 12 eP P 17 24 37.4 +0.5
comp=Z,47nm,1.4s
MCK McKinley 82.83 19 eP P 17 24 37.4 -0.5
comp=Z,50nm,1.4s
MCK McKinley 82.83 19 eP P 17 24 37.4 -0.5
MCK pmax pmax
comp=Z,50nm,1.4s
DHY Denali Highway 82.87 20 eP P 17 24 37.5 -0.8
comp=Z,14nm,1.1s
BWN Browne 82.97 18 eP P 17 24 37.3 -1.3
comp=Z,60nm,1.3s
IM3 Indian Mountai 83.09 16 eP P 17 24 38.7 -0.5
HARP HAARP 83.18 21 eP P 17 24 39.2 -0.6
comp=Z,45nm,1.1s
MLY Manley 83.21 17 eP P 17 24 39.9 0.0
comp=Z,23nm,1.5s
BALM Baldy 83.32 23 eP P 17 24 40.6 0.0
comp=Z,32nm,0.7s
PAX Paxson 83.44 20 eP P 17 24 40.4 -0.8
comp=Z,53nm,1.7s
PAX Paxson 83.44 20 eP P 17 24 40.4 -0.8
PAX pmax pmax
comp=Z,53nm,1.7s
GDXM Geysers 83.58 48 eP P 17 24 42.1 -0.3
comp=Z,23nm,1.1s
WRH Wood River Hil 83.61 19 eP P 17 24 40.9 -1.0
comp=Z,22nm,1.1s
MOY Mondy 83.72 326 eP P 17 24 42.8 -0.1
MOY pmax pmax
comp=Z,87nm,4.1s
CCB Clear Creek Bu 83.82 18 eP P 17 24 41.4 -1.5
comp=Z,9.6nm,0.6s
MDM Murphy Dome 83.91 18 eP P 17 24 41.9 -1.6
comp=Z,46nm,1.5s
HDA Harding Lake 83.93 19 eP P 17 24 42.2 -1.4
comp=Z,102nm,1.6s
HDA Harding Lake 83.93 19 P P 17 24 41.8 -1.7
baz=227
HDA S S 17 35 05.0 -2.2
baz=227
TCOL CIGO, UAF Yank 83.96 18 P P 17 24 42.7 -1.0
baz=226
COLA College 83.97 18 eP P 17 24 42.0 -1.7
comp=Z,115nm,1.8s
COLA LR LR
comp=Z,544nm,21.0s
COLA College 83.97 18 *c i*P P 17 24 44.0 +0.3
COLA pmax pmax
comp=Z,14nm,0.8s
MAW Mawson 84.02 202 LR LR 17 54 36.3
comp=Z,420nm,21.0s,baz=94,slow=30
MENT Mentasta 84.03 21 eP P 17 24 43.7 -0.4
comp=Z,65nm,1.4s
O02D Mt. Diablo Mer 84.06 47 P P 17 24 43.9 -1.0
baz=250,SNR=11
RIDG Independ'e Rid 84.17 20 eP P 17 24 44.8 0.0
comp=Z,69nm,1.4s
L02E Cave Junction 84.19 45 P P 17 24 44.9 -0.5
baz=249
IL1 Eielson Array 84.19 19 eP P 17 24 43.6 -1.3
ILAR Eielson Array 84.19 19 P P 17 24 44.1 -0.8
comp=Z,8.4nm,0.5s,baz=234,slow=5.0,SNR=192
ILAR LR LR 17 56 03.9
comp=Z,303nm,20.2s,baz=238,slow=31
ILB Eielson Array 84.19 19 eP P 17 24 44.0 -0.8
comp=Z,13nm,0.8s
POKR Poker Plat Res 84.26 18 P P 17 24 44.5 -0.7
baz=226
SNCC San Nicolas Is 84.28 55 P P 17 24 45.5 -0.6
baz=252
J01E Myrtle Point 84.32 44 P P 17 24 45.5 -0.5
baz=248
K02D Willamette Mer 84.34 45 P P 17 24 45.3 -0.9
baz=249,SNR=5.8
DOT Dot Lake 84.37 20 eP P 17 24 46.1 +0.3
comp=Z,63nm,1.3s
WDC Whiskeytown Da 84.37 47 eP P 17 24 46.3 -0.1
comp=Z,48nm,1.4s
WDC Whiskeytown Da 84.37 47 eP P 17 24 46.3 -0.1
WDC pmax pmax
comp=Z,48nm,1.4s
N02D Trinity Center 84.39 46 P P 17 24 45.1 -1.4
baz=250,SNR=9.0
SCZ2 Santa Cruz Isl 84.42 54 P P 17 24 45.4 -1.4
baz=252
M02C Callahan 84.44 46 P P 17 24 46.6 -0.2
baz=249,SNR=13
SBC Santa Barbara 84.49 53 P P 17 24 45.3 -1.8
baz=252
SMMC Simmler 84.54 52 P P 17 24 47.1 -0.3
baz=252
PKM Mcpherson Peak 84.55 53 P P 17 24 47.1 -0.5
baz=252
SCRK Sand Creek 84.61 20 eP P 17 24 47.1 -0.1
comp=Z,98nm,1.4s
YBH Yreka Blue Hor 84.66 46 eP P 17 24 47.6 -0.3
comp=Z,33nm,1.3s
YBH Yreka Blue Hor 84.66 46 eP P 17 24 47.6 -0.3
YBH pmax pmax
comp=Z,33nm,1.3s
I02D Swisshome 84.73 43 P P 17 24 48.1 0.0
baz=248
ORV Oroville 84.78 48 eP P 17 24 48.2 -0.2
comp=Z,20nm,1.1s
ORV Oroville 84.78 48 eP P 17 24 48.2 -0.2
ORV pmax pmax
comp=Z,20nm,1.1s
HUMO Hull Mountain 84.79 45 eP P 17 24 49.1 +0.6
comp=Z,45nm,1.4s
O03E Paynes Creek 84.81 47 P P 17 24 48.2 -0.5
baz=250,SNR=8.8
BLG Laguna Peak, P 84.90 54 P P 17 24 48.7 -0.5
baz=252
I03D Drain, OR 84.91 44 P P 17 24 48.9 -0.1
baz=249
AFDM Forest Hills D 84.96 49 eP P 17 24 49.0 -0.4
comp=Z,22nm,0.9s
COLD Coldfoot 84.97 16 eP P 17 24 49.5 +0.8
comp=Z,12nm,1.4s
HYT Haines Junctio 85.10 24 eP P 17 24 49.7 0.0
comp=Z,16nm,0.8s
CMB Columbia Colle 85.10 50 eP P 17 24 49.5 -0.7
comp=Z,18nm,1.0s
CMB Columbia Colle 85.10 50 eP P 17 24 49.5 -0.7
CMB pmax pmax
comp=Z,18nm,1.0s
L04D Klamath Falls 85.11 45 P P 17 24 50.6 +0.4
baz=250,SNR=5.7
PRP Porcupine Dome 85.13 18 eP P 17 24 50.4 +0.6
comp=Z,47nm,1.7s
CIS Catalina Islan 85.21 55 P P 17 24 51.0 +0.3
baz=253
RAMN Ramite 85.24 299 eP P 17 24 51.7 +0.3
comp=Z,153nm,1.4s
SKAG Skagway 85.26 26 eP P 17 24 51.0 +0.6
comp=Z,91nm,1.8s
M04C Macdoel 85.28 46 P P 17 24 51.6 +0.5
baz=250,SNR=7.2
OSI Osito Audit: C 85.32 53 P P 17 24 51.6 +0.3
baz=253
VOG Valley Oaks Go 85.33 52 P P 17 24 51.4 +0.2
baz=252
ARVC Arvin 85.39 53 P P 17 24 52.0 +0.4
baz=252
FMP Fort Macarthur 85.40 54 P P 17 24 51.9 +0.3
baz=253
VES Vestal, Richgr 85.41 52 P P 17 24 51.6 -0.1
baz=252
G03D McMinnville, O 85.52 42 P P 17 24 52.1 +0.2
baz=249
DECC Green Verdugo 85.52 54 P P 17 24 52.4 +0.1
baz=253
I04A Tendick Farm, 85.58 44 P P 17 24 52.4 0.0
baz=250
J04D Umpqua Nationa 85.60 44 P P 17 24 53.2 +0.5
baz=250,SNR=5.8
H04D Lebanon 85.62 43 P P 17 24 53.1 +0.5
baz=249
K04D Chiloquin, OR 85.63 45 P P 17 24 53.2 +0.4
baz=250
BEKR Beckworth 85.71 48 eP P 17 24 52.8 -0.6
comp=Z,15nm,0.9s
MWC Mount Wilson 85.73 54 eP P 17 24 52.4 -1.2
comp=Z,20nm,0.6s
MWC Mount Wilson 85.73 54 eP P 17 24 52.4 -1.2
MWC pmax pmax
comp=Z,20nm,0.6s
JIRN Jiri 85.78 299 eP P 17 24 54.5 +0.3
comp=Z,460nm,1.7s
ISA Isabella, Lake 85.83 52 eP P 17 24 53.5 -0.4
comp=Z,16nm,0.9s
ISA Isabella, Lake 85.83 52 eP P 17 24 53.5 -0.4
ISA pmax pmax
comp=Z,16nm,0.9s
ISA Isabella, Lake 85.83 52 P P 17 24 54.3 +0.4
baz=253,SNR=11
FYU Fort Yukon 85.92 18 eP P 17 24 54.3 +0.8
comp=Z,76nm,1.8s
NLWA Neilton Lookou 85.93 40 PFAKE 17 25 00.0 +6.0
NLWA LR LR
comp=Z,1μm,22.0s
MDPB Devils Postpil 85.96 50 eP P 17 24 55.0 +0.2
comp=Z,22nm,0.9s
WAKR Walker 85.96 50 eP P 17 24 54.7 0.0
comp=Z,50nm,1.4s
EDW2 Edwards Air Fo 85.97 53 P P 17 24 55.0 +0.4
baz=253,SNR=13
F04D Rainier, OR 86.00 42 P P 17 24 54.9 +0.6
baz=249
OMMB Old Mammoth Mi 86.01 51 eP P 17 24 54.7 -0.4
comp=Z,44nm,1.6s
PNTR Pine Nut 86.02 49 eP P 17 24 53.8 -1.2
comp=Z,22nm,1.0s
BFSC Mount Baldy Ra 86.05 54 P P 17 24 54.5 -0.6
baz=253,SNR=5.8
EGAK Eagle 86.07 20 eP P 17 24 54.4 +0.1
comp=Z,37nm,0.9s
EGAK LR LR
comp=Z,662nm,22.0s
PALK Pallekele 86.09 278 eP P 17 24 54.8 -0.8
comp=Z,48nm,1.1s
PALK Pallekele 86.09 278 eP P 17 24 54.8 -0.8
PALK pmax pmax
comp=Z,48nm,1.1s
GUN Gumba 86.11 299 eP P 17 24 56.1 +0.3
comp=Z,341nm,1.9s
109C Camp Elliot, M 86.11 55 P P 17 24 55.2 0.0
baz=254
MLAC Mammoth, Mammo 86.14 51 P P 17 24 56.0 +0.4
baz=252
TOLK Toolik Lake Re 86.15 15 eP P 17 24 54.8 +0.1
comp=Z,82nm,1.9s
TOLK Toolik Lake Re 86.15 15 P P 17 24 55.6 +0.9
baz=224
J05D Fort Rock, OR 86.21 45 P P 17 24 56.2 +0.5
baz=250
MURC Murrieta 86.24 55 P P 17 24 56.0 +0.1
baz=254
DAWY Dawson 86.25 21 eP P 17 24 55.3 0.0
comp=Z,13nm,0.8s
YERR Yerington 86.25 49 eP P 17 24 55.6 -0.5
comp=Z,15nm,0.5s
CWC Cottonwood Cre 86.36 52 P P 17 24 56.9 +0.3
baz=253
PAHR Pah Rah Range 86.37 48 eP P 17 24 56.4 -0.1
comp=Z,20nm,1.1s
LRMC Laurel Mtn Rad 86.39 53 P P 17 24 57.2 +0.4
baz=253,SNR=15
MOD Modoc Plateau 86.41 46 eP P 17 24 56.3 -0.4
comp=Z,22nm,1.3s
PKI Pulchoki 86.42 299 eP P 17 24 57.2 -0.1
comp=Z,231nm,1.6s
TIN Tinemaha, Big 86.43 51 P P 17 24 57.3 +0.5
baz=253
PKIN Phulchoki 86.44 299 eP P 17 24 57.1 -0.2
comp=Z,212nm,1.7s
E04D Cinebar 86.45 41 P P 17 24 57.1 +0.5
baz=249
D03D Eldon 86.47 40 P P 17 24 57.2 +0.5
baz=249
I05D Terrebonne, OR 86.50 44 P P 17 24 57.3 +0.4
baz=250
TIXI Tiksi 86.52 349 eP P 17 24 55.4 -0.9
comp=Z,84nm,1.6s
TIXI Tiksi 86.52 349 *c*eP P 17 24 55.8 -0.5
TIXI pmax pmax
comp=Z,61nm,1.7s
D04E Lakebay 86.54 41 P P 17 24 57.5 +0.5
baz=249
PINE Pine Mountain 86.58 44 eP P 17 24 56.6 -0.9
comp=Z,19nm,0.9s
KKN Kakani 86.59 299 eP P 17 24 58.1 +0.1
comp=Z,194nm,1.6s
BBRC Big Bear Solar 86.65 54 P P 17 24 58.4 +0.3
baz=254
PGC Sidney 86.65 39 eP P 17 24 57.9 +0.4
comp=Z,16nm,0.9s
MONP2 Monument Peak 86.67 56 P P 17 24 58.8 +0.6
baz=254,SNR=9.6
RYN Ryan 86.68 50 eP P 17 24 57.3 -0.9
comp=Z,16nm,1.0s
DAC Darwin (Calif) 86.69 52 eP P 17 24 59.0 +0.7
comp=Z,17nm,1.0s
DAC Darwin (Calif) 86.69 52 eP P 17 24 59.0 +0.7
DAC pmax pmax
comp=Z,17nm,1.0s
DMN Daman 86.69 299 eP P 17 24 58.8 +0.2
comp=Z,190nm,1.3s
MPMC Manual Prospec 86.71 52 P P 17 24 58.5 +0.1
baz=253,SNR=13
RRX Edison Barstow 86.76 54 P P 17 24 58.8 +0.4
baz=254
NV01 Mina Array Sit 86.78 50 eP P 17 24 57.8 -0.9
NVAR Mina Array Bea 86.78 50 P P 17 24 59.0 +0.3
comp=Z,12nm,0.8s,baz=231,slow=8.1,SNR=65
NVAR LR LR 17 56 42.8
comp=Z,1μm,19.9s,baz=256,slow=31
G05D Wamic, OR 86.82 43 P P 17 24 58.8 +0.4
baz=250
PFO Pinyon Flats O 86.83 55 PFAKE 17 25 10.0 +11
PFO LR LR
comp=Z,1μm,20.0s
PFO Pinyon Flats O 86.83 55 P P 17 24 59.0 +0.1
baz=254
IKP In-Ko-Pah, Jac 86.85 56 P P 17 24 59.4 +0.4
baz=254
NV11 Mina Array Sit 86.89 50 eP P 17 24 54.8 -4.4
comp=Z,1.7nm,1.0s
F05D White Salmon 86.94 42 P P 17 24 59.3 +0.2
baz=250
LON Longmire 87.01 41 eP P 17 24 59.2 -0.1
comp=Z,25nm,1.5s
LON Longmire 87.01 41 eP P 17 24 59.3 -0.1
LON pmax pmax
comp=Z,25nm,1.5s
GSC Goldstone, Bar 87.03 53 eP P 17 24 59.4 -0.4
comp=Z,46nm,1.7s
GSC Goldstone, Bar 87.03 53 eP P 17 24 59.4 -0.4
GSC pmax pmax
comp=Z,46nm,1.7s
GSC Goldstone, Bar 87.03 53 P P 17 25 00.1 +0.2
baz=254
D05A Enumclaw 87.05 41 eP P 17 24 59.7 +0.2
comp=Z,98nm,1.6s
GRAC Grapevine Rang 87.07 51 P P 17 25 00.2 +0.3
baz=253
KVN Kaiserville 87.12 49 eP P 17 24 59.7 -0.6
comp=Z,14nm,0.9s
KVN Kaiserville 87.12 49 eP P 17 24 59.7 -0.6
KVN pmax pmax
comp=Z,14nm,0.9s
A04D Lummi Island 87.14 39 P P 17 25 00.3 +0.5
baz=249
SWSC Sam W. Stewart 87.18 56 P P 17 25 01.1 +0.7
baz=254,SNR=5.2
GKN Gorkha 87.20 299 eP P 17 25 00.6 -0.3
comp=Z,122nm,1.3s
HEC Hector,Ludlow 87.27 54 P P 17 25 01.2 +0.2
baz=254
BELC Belle Mtn. Jos 87.31 55 P P 17 25 01.8 +0.5
baz=254,SNR=16
FURC Furnace Creek, 87.31 52 P P 17 25 01.2 +0.2
baz=254
B05A Bryant 87.36 40 P P 17 25 01.3 +0.3
baz=250
SHOC Shoshone, Teco 87.61 53 P P 17 25 02.9 +0.4
baz=254
BC3 Big Chuckawall 87.65 55 P P 17 25 03.7 +0.8
baz=254,SNR=10
I07A Izee 87.66 44 eP P 17 25 02.3 -0.4
comp=Z,40nm,1.5s
WVOR Wild Horse Val 87.75 46 eP P 17 25 02.3 -0.9
comp=Z,33nm,1.3s
WVOR Wild Horse Val 87.75 46 eP P 17 25 02.3 -0.9
WVOR pmax pmax
comp=Z,33nm,1.3s
TUQ Turquoise Moun 87.76 53 P P 17 25 03.8 +0.4
baz=254,SNR=6.6
GMRC Granite Mounta 87.79 54 P P 17 25 04.0 +0.4
baz=254,SNR=8.0
TPNV Topopah Spring 87.92 52 eP P 17 25 04.0 -0.2
comp=Z,37nm,1.6s
TPNV Topopah Spring 87.92 52 eP P 17 25 04.0 -0.2
TPNV pmax pmax
comp=Z,37nm,1.6s
TPNV Topopah Spring 87.92 52 P P 17 25 04.4 +0.2
baz=254,SNR=8.0
C06D Leavenworth 88.00 40 P P 17 25 04.2 +0.1
baz=250
GLA Glamis 88.00 56 P P 17 25 05.4 +0.9
baz=255,SNR=5.3
KOLN Koldanda 88.03 299 eP P 17 25 04.2 -0.7
comp=Z,78nm,1.3s
DANN Dangsing 88.03 299 eP P 17 25 04.4 -0.7
comp=Z,47nm,0.8s
IRM Iron Mountain 88.03 55 P P 17 25 05.3 +0.7
baz=255,SNR=16
J08A Circle Bar Ran 88.14 45 eP P 17 25 04.6 -0.4
comp=Z,23nm,1.1s
BMN Battle Mountai 88.17 48 eP P 17 25 06.0 +0.7
comp=Z,13nm,1.3s
BMN Battle Mountai 88.17 48 eP P 17 25 06.0 +0.7
BMN pmax pmax
comp=Z,13nm,1.3s
LLLB Lillooet 88.31 38 eP P 17 25 04.9 -0.6
comp=Z,28nm,1.6s
HAWA Hanford 88.37 42 eP P 17 25 05.8 -0.1
comp=Z,15nm,1.0s
HAWA LR LR
comp=Z,796nm,22.0s
G08A Pilot Rock 88.41 43 eP P 17 25 05.8 -0.4
comp=Z,27nm,1.2s
Y12C Blythe 88.43 55 eP P 17 25 06.1 -0.3
comp=Z,31nm,1.0s
Y12C Blythe 88.43 55 P P 17 25 07.2 +0.8
baz=255,SNR=6.6
EPYK Eagle Plains 88.50 20 P P 17 25 06.0 -0.1
baz=236
NEE2 Needles Airpor 88.61 54 P P 17 25 07.8 +0.6
baz=255
PYUN Piuthan 88.63 299 eP P 17 25 06.9 -0.9
comp=Z,75nm,1.2s
SHPR Sheep Range 88.64 52 eP P 17 25 07.8 +0.2
comp=Z,29nm,1.3s
E08A Dider Farm, El 88.72 42 eP P 17 25 07.2 -0.3
comp=Z,85nm,1.8s
113A Mohawk Valley, 88.79 56 eP P 17 25 08.5 +0.4
comp=Z,15nm,0.9s
R11A Troy Canyon, C 88.81 51 eP P 17 25 07.8 -0.6
comp=Z,19nm,1.3s
R11A Troy Canyon, C 88.81 51 P P 17 25 08.7 +0.3
baz=254,SNR=16
PDMCI Parker Dam,Lak 88.87 55 P P 17 25 09.2 +0.7
baz=255,SNR=13
D08A Wollman Farm, 88.98 42 eP P 17 25 08.3 -0.4
comp=Z,63nm,1.8s
WMQ Urumqi 89.09 315 eP P 17 25 09.4 0.0
WMQ pP sP 17 25 12.9 +1.2
WMQ sP pwP 17 25 20.2 +2.1
WMQ PP **PP** **17 28 42.5 +2.8**
WMQ S **S** **17 35 56.6 -1.8**
WMQ SS **SS** **17 41 50.3 -1.9**
WMQ pmax pmax
comp=Z,64nm,1.9s
WMQ LR LR
comp=Z,650nm,31.1s
WMQ LR LR
comp=Z,560nm,25.9s
WMQ LR LR
comp=Z,680nm,28.5s
WMQ Urumqi 89.09 315 eP P 17 25 09.0 -0.5
comp=Z,79nm,1.5s
WMQ Urumqi 89.09 315 eP P 17 25 09.0 -0.5
WMQ pmax pmax
comp=Z,79nm,1.5s
B08A Colville Reser 89.13 40 eP P 17 25 08.6 -0.9
comp=Z,81nm,1.9s
W13A Hualapai Mount 89.28 54 eP P 17 25 10.3 -0.4
comp=Z,20nm,1.1s
E09A Wood Farm, Sta 89.32 42 eP P 17 25 10.9 +0.5
comp=Z,97nm,1.9s
214A Organ Pipe Nat 89.38 57 P P 17 25 12.1 +1.1
baz=256,SNR=13
BMO Blue Mountains 89.39 44 eP P 17 25 10.5 -0.3
comp=Z,88nm,1.9s
BMO LR LR
comp=Z,949nm,20.0s
BMO Blue Mountains 89.39 44 eP P 17 25 10.5 -0.3
BMO pmax pmax
comp=Z,88nm,1.9s
BMO MLR MLR
comp=Z,949nm,20.0s
C09A Chrisman Ranch 89.63 41 eP P 17 25 11.3 -0.4
comp=Z,60nm,2.0s
Y14A Wickenburg 89.70 55 eP P 17 25 11.7 -0.7
comp=Z,10nm,1.0s
ELK Elko 89.71 48 eP P 17 25 11.9 -0.7
comp=Z,54nm,1.8s
ELK Elko 89.71 48 eP P 17 25 11.9 -0.7
ELK pmax pmax
comp=Z,54nm,1.8s
F10A Beach Ranch, E 89.77 43 eP P 17 25 12.0 -0.6
comp=Z,28nm,0.8s
PSUT Pine Spring 90.17 51 eP P 17 25 14.6 -0.2
comp=Z,21nm,1.1s
HSIG 90.25 61 eP P 17 25 14.4 -0.8
comp=Z,51nm,1.4s
LCMT Little Creek M 90.26 52 eP P 17 25 15.0 -0.1
comp=Z,21nm,1.0s
HYB Hyderabad 90.26 288 *i* P P 17 25 15.0 -0.4
CCUT Cedar City 90.30 52 eP P 17 25 15.5 0.0
comp=Z,22nm,1.0s
NEW Newport 90.50 41 eP P 17 25 14.9 -1.0
comp=Z,64nm,1.9s
NEW LR LR
comp=Z,696nm,21.0s
NEW Newport 90.50 41 eP P 17 25 14.9 -1.0
NEW pmax pmax
comp=Z,64nm,1.9s
NEW MLR MLR
comp=Z,696nm,21.0s
NEW Newport 90.50 41 P P 17 25 15.9 0.0
baz=253
SZCU Shurtz Canyon 90.52 52 eP P 17 25 16.9 +0.5
comp=Z,20nm,1.0s
INK Inuvik 90.59 19 eP P 17 25 15.3 -0.4
comp=Z,11nm,1.4s
INK Inuvik 90.59 19 eP P 17 25 15.3 -0.4
INK pmax pmax
comp=Z,11nm,1.4s
INK Inuvik 90.59 19 P P 17 25 15.5 -0.2
comp=Z,2.5nm,1.0s,baz=220,slow=4.3,SNR=5.1
KNB Kanab 90.59 52 eP P 17 25 16.9 +0.3
comp=Z,108nm,1.8s
KNB Kanab 90.59 52 eP P 17 25 17.0 +0.3
KNB pmax pmax
comp=Z,108nm,1.8s
U15A North Rim 90.86 53 eP P 17 25 18.4 +0.2
comp=Z,25nm,0.9s
HLID Hailey 91.04 46 eP P 17 25 18.6 -0.1
comp=Z,41nm,1.8s
HLID LR LR
comp=Z,557nm,20.0s
HLID Hailey 91.04 46 P P 17 25 19.4 +0.7
baz=255
X16A Lo Mia Camp, P 91.07 55 eP P 17 25 19.1 0.0
comp=Z,15nm,1.0s
PKCU Pink Cliffs 91.08 52 eP P 17 25 20.2 +1.0
comp=Z,89nm,1.4s

SYO **Syowa Base** 91.11 197 eP P 17 25 16.0 -2.3
TUC **Tucson** 91.13 57 eP P 17 25 18.8 -0.4
comp=Z,73nm,2.0s
TUC **Tucson** 91.13 57 eP P 17 25 18.8 -0.4
TUC pmax pmax
comp=Z,73nm,2.0s
TUC **Tucson** 91.13 57 P P 17 25 20.1 +0.9
baz=257
TCRU **Three Creeks R** 91.26 51 eP P 17 25 20.7 +0.8
comp=Z,25nm,1.0s
MTPU **Mount Pierson** 91.32 52 eP P 17 25 21.3 +1.0
comp=Z,21nm,1.0s
DUG **Dugway, Tooele** 91.36 49 eP P 17 25 19.0 -1.2
comp=Z,10nm,1.0s
DUG LR LR
comp=Z,810nm,20.0s
DUG **Dugway, Tooele** 91.36 49 eP P 17 25 19.0 -1.2
DUG pmax pmax
comp=Z,10.0nm,1.0s
DUG MLR MLR
comp=Z,810nm,20.0s
DUG **Dugway, Tooele** 91.36 49 P P 17 25 20.7 +0.5
baz=256
WUAZ **Wupatki** 91.37 54 eP P 17 25 20.2 -0.2
comp=Z,15nm,1.0s
WUAZ **Wupatki** 91.37 54 P P 17 25 21.3 +0.9
baz=257
BGU **Big Grassy Mou** 91.38 49 eP P 17 25 19.8 -0.5
comp=Z,15nm,1.1s
MSU **Marysvale** 91.44 51 eP P 17 25 21.2 +0.5
MSU **Marysvale** 91.44 51 eP P 17 25 21.2 +0.5
HVU **Hansel Valley** 91.77 48 eP P 17 25 22.3 +0.2
comp=Z,110nm,1.9s
HVU **Hansel Valley** 91.77 48 eP P 17 25 22.3 +0.2
HVU pmax pmax
comp=Z,110nm,1.9s
NLU **North Lily Min** 91.85 50 eP P 17 25 22.1 -0.5
comp=Z,21nm,1.1s
319A **Douglas** 92.18 59 eP P 17 25 25.3 +1.2
comp=Z,28nm,1.3s
MSO **Missoula** 92.19 43 eP P 17 25 22.6 -1.3
comp=Z,26nm,1.8s
MSO **Missoula** 92.19 43 P P 17 25 23.4 -0.4
baz=256
MPU **Maple Canyon** 92.20 50 eP P 17 25 24.5 +0.4
comp=Z,41nm,1.6s
CTU **Camp Tracy** 92.26 49 eP P 17 25 23.8 -0.7
comp=Z,22nm,1.2s
X18A **Snowflake** 92.30 55 eP P 17 25 24.5 -0.2
comp=Z,64nm,1.9s
Q16A **Castle Valley** 92.30 51 eP P 17 25 24.1 -0.6
comp=Z,51nm,1.7s
TMUT **Trail Mountain** 92.35 51 eP P 17 25 25.1 +0.1
comp=Z,9.2nm,0.9s
MCMT **McKenzie Canyo** 92.44 45 eP P 17 25 25.4 +0.2
JLU **Jordanelle** 92.47 49 eP P 17 25 25.5 +0.1
comp=Z,26nm,1.4s
W18A **Petrified Fore** 92.59 55 P P 17 25 26.7 +0.6
baz=258
DLMT **Dillon** 92.74 44 eP P 17 25 26.9 +0.4
comp=Z,83nm,1.8s
P17A **Butcher Ranch,** 92.75 50 eP P 17 25 26.4 -0.3
comp=Z,38nm,1.9s
WALA **Waterton Lakes** 92.77 41 eP P 17 25 26.4 0.0
comp=Z,71nm,1.8s
SRU **San Rafael Swe** 92.83 51 eP P 17 25 26.8 -0.3
comp=Z,43nm,1.5s
SRU **San Rafael Swe** 92.83 51 eP P 17 25 26.8 -0.3
SRU pmax pmax
comp=Z,43nm,1.9s
LRM **Limekiln Ridge** 92.95 44 eP P 17 25 27.5 0.0
P18A **Preston Nutter** 93.15 50 eP P 17 25 27.3 -1.4
comp=Z,6.0nm,1.0s
AHID **Auburn Hatcher** 93.20 47 PFAKE 17 25 40.0 +11
AHID LR LR
comp=Z,604nm,21.0s
QLMT **Earthquake Lak** 93.43 45 eP P 17 25 30.7 +1.0
FXWY **Fox Creek** 93.45 46 eP P 17 25 30.0 +0.1
comp=Z,33nm,1.9s
BOZ **Bozeman (W)** 93.46 44 eP P 17 25 30.1 +0.3
comp=Z,65nm,1.9s
BOZ LR LR
comp=Z,799nm,20.0s
BOZ **Bozeman (W)** 93.46 44 P P 17 25 30.3 +0.5
baz=257
REDW **Red Top Meadow** 93.51 47 eP P 17 25 29.9 -0.3
comp=Z,24nm,1.5s
MK01 **Makanchi Array** 93.53 317 eP P 17 25 29.5 -0.4
MK31 **Makanchi Array** 93.55 317 eP P 17 25 29.6 -0.4
comp=Z,62nm,1.7s
MK32 **Makanchi Array** 93.55 317 eP P 17 25 30.1 +0.1
MK32 ePKKPdf **PKKPdf** 17 42 35.1 -1.4
MK32 eP'P'df **P'P'df** 17 50 43.0 -3.1
MKAR **Makanchi Array** 93.55 317 P P 17 25 30.1 +0.1
comp=Z,7.2nm,0.6s,baz=93,slow=6.3,SNR=102
MKAR PKKP **PKKPdf** 17 42 35.1 -1.4
comp=Z,1.0nm,0.9s,baz=282,slow=2.4,SNR=7.8
MKAR PKPPKP **P'P'df** 17 50 43.0 -3.1
comp=Z,0.5nm,1.0s,baz=57,slow=4.9,SNR=3.1
MKAR LR LR 18 08 48.8
comp=Z,187nm,19.2s,baz=84,slow=36
IMW **Indian Meadow** 93.57 46 eP P 17 25 31.0 +0.5
comp=Z,8.1nm,1.1s
YHB **Horse Butte** 93.57 45 eP P 17 25 30.7 +0.3
comp=Z,20nm,1.4s
121A **Cookes Peak, D** 93.66 58 P P 17 25 31.6 +0.6
baz=259
MOOW **Moose Ponds** 93.67 46 eP P 17 25 31.2 +0.3
comp=Z,7.4nm,1.2s
ZAA0 **Zalesovo Array** 93.68 324 eP P 17 25 29.4 -1.0
comp=Z,67nm,1.6s
ZALV **Zalesovo Beam** 93.68 324 eP P 17 25 28.9 -1.4
ZALV **Zalesovo Beam** 93.68 324 eP P 17 25 29.0 -1.4
ZALV **Zalesovo Beam** 93.68 324 P P 17 25 29.4 -1.0
comp=Z,9.5nm,0.9s,baz=119,slow=3.8,SNR=31
ZALV LR LR 18 06 57.9
comp=Z,171nm,20.0s,baz=76,slow=35
ZAA1 **Zalesovo Array** 93.68 324 eP P 17 25 29.4 -1.0
YMR **Madison River** 93.72 45 eP P 17 25 30.6 -0.5
comp=Z,60nm,2.0s
LOHW **Long Hollow** 93.74 46 eP P 17 25 31.1 -0.1
comp=Z,17nm,1.6s
MAKZ **Makanchi** 93.76 317 eP P 17 25 30.3 -0.7
comp=Z,76nm,1.5s
MAKZ **Makanchi** 93.76 317 eP P 17 25 30.3 -0.7
MAKZ pmax pmax
comp=Z,76nm,1.5s
PV09 **Paradox Valley** 93.77 52 eP P 17 25 31.6 +0.1
YHH **Holmes Hill** 93.82 45 eP P 17 25 32.0 +0.3
comp=Z,15nm,1.6s
PV14 **Lion Creek, Pa** 93.83 52 eP P 17 25 31.8 0.0
comp=Z,9.8nm,0.9s
PV23 **Carpenter Ridg** 93.85 52 eP P 17 25 32.2 +0.3
comp=Z,13nm,0.8s
PV17 **East Wray Mesa** 93.86 52 eP P 17 25 31.9 +0.1
comp=Z,14nm,1.3s
PV16 **Nyswonger Mesa** 93.90 52 eP P 17 25 32.4 +0.3
comp=Z,27nm,1.8s
PV21 **Cone Mtn., Par** 93.90 52 eP P 17 25 31.2 -0.9
comp=Z,22nm,1.5s
PV04 **Paradox Valley** 93.92 52 eP P 17 25 31.4 -0.7
comp=Z,13nm,1.2s
H17A **Grant Village** 93.93 46 eP P 17 25 31.1 -1.0
comp=Z,8.1nm,1.1s
H17A **Grant Village** 93.93 46 P P 17 25 33.7 +1.6
baz=258
PV12 **Saucer Basin,** 93.98 52 eP P 17 25 31.2 -1.3
comp=Z,17nm,1.2s
MVCO **Mesa Verde** 94.00 53 PFAKE 17 25 40.0 +7.4
MVCO LR LR
comp=Z,764nm,20.0s
MVCO **Mesa Verde** 94.00 53 P P 17 25 32.8 +0.2
baz=259
LKWY **Lake** 94.09 45 PFAKE 17 25 40.0 +7.2
LKWY LR LR
comp=Z,1μm,19.0s
BW06 **Boulder Array** 94.31 47 eP P 17 25 33.7 -0.2
comp=Z,10nm,1.4s
BW06 LR LR
comp=Z,664nm,22.0s
BW06 **Boulder Array** 94.31 47 P P 17 25 33.4 -0.5
baz=258
PD31 **Pinedale Array** 94.31 47 eP P 17 25 33.1 -0.8
comp=Z,9.2nm,1.4s
PDAR **Pinedale Array** 94.31 47 eP P 17 25 32.1 -1.8
PDAR **Pinedale Array** 94.31 47 P P 17 25 33.4 -0.5
comp=Z,1.6nm,0.8s,baz=242,slow=3.2,SNR=11
PDAR LR LR 18 00 54.9
comp=Z,369nm,21.9s,baz=248,slow=31
O20A **White River Ci** 94.77 50 P P 17 25 36.2 +0.2
baz=259
RLMT **Red Lodge** 94.99 45 PFAKE 17 25 50.0 +13
RLMT LR LR
comp=Z,952nm,20.0s
RLMT **Red Lodge** 94.99 45 P P 17 25 37.2 +0.2
baz=259
ANMO **Albuquerque** 95.20 56 eP P 17 25 38.5 +0.4
comp=Z,6.6nm,1.3s
ANMO LR LR
comp=Z,789nm,22.0s
ANMO **Albuquerque** 95.20 56 ceP P 17 25 37.7 -0.4
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO **Albuquerque** 95.20 56 P P 17 25 37.6 -0.4
baz=260
EGMT **Eagleton** 95.23 42 eP P 17 25 37.9 +0.2
comp=Z,65nm,1.7s
EGMT LR LR
comp=Z,496nm,20.0s
EGMT **Eagleton** 95.23 42 P P 17 25 38.0 +0.2
baz=259
PRZ **Przheval'sk** 95.38 312 eP P 17 25 39.7 +0.9
comp=Z,23nm,1.1s
S22A **4UR Ranch, Cre** 95.41 53 eP P 17 25 39.2 +0.1
comp=Z,4.3nm,0.9s
S22A **4UR Ranch, Cre** 95.41 53 P P 17 25 39.6 +0.5
baz=260
MNTX **Cornudas Mount** 95.50 59 eP P 17 25 39.0 -0.3
comp=Z,6.3nm,1.4s
MNTX LR LR
comp=Z,1μm,20.0s
MNTX **Cornudas Mount** 95.50 59 P P 17 25 39.4 +0.1
baz=260
TARG **Taragay, Kyrgy** 95.68 311 eP P 17 25 40.4 +0.1
comp=Z,36nm,1.8s
YKA **Yellowknife Ar** 95.70 27 P P 17 25 37.9 -1.5
comp=Z,2.5nm,0.7s,baz=256,slow=4.7,SNR=46
YKA PKKPbc **PKKPbc** 17 42 29.0 -3.2
comp=Z,0.2nm,0.5s,baz=66,slow=2.8,SNR=3.9
YKA LR LR 18 01 45.9
comp=Z,39nm,22.0s,baz=261,slow=31
YKB5 **Yellowknife Ar** 95.70 27 eP P 17 25 38.2 -1.2
YKB5 ePKKPbc **PKKPbc** 17 42 29.1 -3.2
YKW3 **Yellowknife Ar** 95.71 27 eP P 17 25 37.7 -1.7
comp=Z,19nm,1.6s
NVL **N'lazarevskaya** 95.85 189 eP P 17 25 39.0 -1.1
NVL eS **SKSac** 17 36 10.7 -5.5
NVL pmax pmax
comp=Z,11nm,1.1s
KDJ **Kajisay** 96.21 312 eP P 17 25 41.8 -0.7
comp=Z,34nm,1.8s
KDJ **Kajisay** 96.21 312 eP P 17 25 41.8 -0.7
KDJ pmax pmax
comp=Z,34nm,1.8s
NRIK **Noril'sk** 96.44 340 P P 17 25 42.0 -0.6
comp=Z,3.5nm,0.4s,baz=109,slow=5.9,SNR=13
NRIK LR LR 18 10 29.5
comp=Z,198nm,19.2s,baz=99,slow=36
SDCO **Great Sand Dun** 96.44 53 PFAKE 17 25 50.0 +6.2
SDCO LR LR
comp=Z,724nm,21.0s
SDCO **Great Sand Dun** 96.44 53 P P 17 25 43.9 +0.1
baz=260
K22A **Casper** 96.49 48 P P 17 25 43.0 -0.7
baz=260
SNAA **Sanae** 96.54 184 eP P 17 25 42.4 -0.9
comp=Z,33nm,1.3s
SNAA **Sanae** 96.54 184 eP P 17 25 42.4 -0.9
SNAA pmax pmax
comp=Z,33nm,1.3s
TX31 **Lajitas Ar. Si** 96.56 61 eP P 17 25 43.8 -0.5
comp=Z,16nm,1.6s
TXAR **Lajitas Array** 96.56 61 P P 17 25 44.6 +0.3
comp=Z,1.2nm,0.7s,baz=230,slow=4.3,SNR=13
TXAR LR LR 18 01 38.9
comp=Z,946nm,20.5s,baz=0.0,slow=31
N23A **Red Feather La** 96.62 50 P P 17 25 43.8 -0.7
baz=260
KSH **Kashi** 96.67 309 P P 17 25 46.5 +1.9
KSH sP pwP 17 25 54.1 +0.8
KSH PP **PP** 17 29 46.9 +7.5
KSH S **S** 17 37 04.7 -1.7
KSH sS sS 17 37 13.8 +4.4
KSH pmax pmax
comp=Z,140nm,5.2s
KSH LR LR
comp=Z,86nm,11.6s
KSH LR LR
comp=Z,85nm,7.8s
KSH LR LR
comp=Z,210nm,14.4s
ISCO **Idaho Springs** 96.69 51 PFAKE 17 26 00.0 +15
ISCO LR LR
comp=Z,1μm,20.0s
KURK **Kurchatov** 96.71 320 eP P 17 25 43.3 -0.9
comp=Z,32nm,1.7s
KURK LR LR
comp=Z,585nm,22.0s
KURK **Kurchatov** 96.71 320 ceP P 17 25 41.7 -2.6
KURK pmax pmax
comp=Z,3.0nm,1.3s
KURK **Kurchatov** 96.71 320 P P 17 25 44.4 +0.1
SNR=10
KURK P P 17 25 44.4 +0.1
SNR=10
NRN **Naryn** 96.96 311 eP P 17 25 45.7 -0.4
comp=Z,13nm,1.6s
NRN **Naryn** 96.96 311 eP P 17 25 45.7 -0.4
NRN pmax pmax
comp=Z,13nm,1.6s
T25A **Trinidad** 97.20 54 P P 17 25 46.9 -0.3
baz=261
LAO **LASA Array** 97.36 44 PFAKE 17 26 00.0 +12
LAO LR LR
comp=Z,747nm,21.0s
FRU **Bishkek** 98.19 312 eP P 17 25 50.0 -1.3
AAK **Ala-Archa** 98.25 312 eP P 17 25 50.9 -0.8
comp=Z,9.4nm,1.6s
AAK LR LR
comp=Z,262nm,21.0s
AAK **Ala-Archa** 98.25 312 ceP P 17 25 51.2 -0.5
AAK pmax pmax
comp=Z,8.0nm,2.4s
AAK **Ala-Archa** 98.25 312 P P 17 25 48.8 -2.9
AAK P P 17 25 48.8 -2.9
RSSD **Black Hills** 98.51 47 P P 17 25 52.8 -0.1
baz=262
KSCO **Kaye Shedlock'** 98.86 52 P Pdif 17 25 54.6 +0.1
baz=262
DGMT **Dagmar** 98.97 42 PFAKE 17 26 10.0 +15
DGMT LR LR
comp=Z,494nm,21.0s
DGMT **Dagmar** 98.97 42 P Pdif 17 25 54.5 -0.1
baz=263
AMTX **Amarillo** 99.06 56 P **Pdif** 17 25 55.1 -0.3
baz=262
ARSB **Arslanbob** 99.19 310 eP **Pdif** 17 25 54.2 -1.8
comp=Z,26nm,1.6s
OGNE **Ogallala** 99.56 50 PFAKE 17 26 10.0 +12
OGNE LR LR
comp=Z,1μm,21.0s
OGNE **Ogallala** 99.56 50 P **Pdif** 17 25 57.6 +0.1
baz=263
JCT **Junction City** 100.05 61 PFAKE 17 26 10.0 +10
JCT LR LR
comp=Z,1μm,20.0s
FFC **Flin Flon** 100.99 36 PFAKE 17 26 10.0 +6.6
FFC LR LR
comp=Z,1μm,21.0s
FFC **Flin Flon** 100.99 36 ceP **Pdif** 17 26 03.8 +0.4
KVTX **Kingsville** 101.33 64 PFAKE 17 26 20.0 +14
KVTX LR LR
comp=Z,476nm,19.0s
BRVK **Borovoye** 102.11 322 ePdif **Pdif** 17 26 07.6 -0.8
BRVK LR LR
comp=Z,247nm,22.0s
BRVK **Borovoye** 102.11 322 eP **Pdif** 17 26 07.6 -0.8
BRVK MLR MLR
comp=Z,247nm,22.0s
KSU1 **Kansas State U** 103.53 52 PFAKE 17 26 30.0 +15
KSU1 LR LR
comp=Z,972nm,19.0s
ECSD **EROS Data Cent** 103.81 48 PFAKE 17 26 30.0 +14
ECSD LR LR
comp=Z,579nm,19.0s
AGMN **Agassiz Nation** 104.49 43 PFAKE 17 26 30.0 +11
AGMN LR LR
comp=Z,380nm,19.0s
NATX **Nacogdoches** 104.57 60 PFAKE 17 26 30.0 +10
NATX LR LR
comp=Z,1μm,20.0s
MIAR **Mount Ida** 105.67 57 PFAKE 17 30 50.0 +12
MIAR LR LR
comp=Z,1μm,20.0s
EYMN **Ely** 107.42 43 PFAKE 17 30 50.0 +9.3
EYMN LR LR
comp=Z,966nm,20.0s
JFWS **Jewell Farm** 108.44 49 PFAKE 17 30 50.0 +7.2
JFWS LR LR
comp=Z,390nm,20.0s
ARU **Arti** 108.77 326 PFAKE 17 30 50.0 +7.1
ARU LR LR
comp=Z,254nm,21.0s
COWI **Conover** 109.11 45 PFAKE 17 31 00.0 +16
COWI LR LR
comp=Z,734nm,20.0s
HDIL **Hopedale** 109.20 51 PFAKE 17 31 00.0 +16
HDIL LR LR
comp=Z,1μm,22.0s
GEYT **Alibeck** 110.47 306 PKiKP **PKiKP** 17 30 47.3 +0.5
comp=Z,1.7nm,0.8s,baz=102,slow=4.9,SNR=3.5
JTS **JuntasAbangare** 111.28 83 PFAKE 17 31 00.0 +11
JTS LR LR
comp=Z,374nm,19.0s
KBS **Kingsbay** 111.41 355 PFAKE 17 31 00.0 +13
KBS LR LR
comp=Z,254nm,20.0s
GLMI **Grayling** 112.39 46 PFAKE 17 31 00.0 +10
GLMI LR LR
comp=Z,973nm,22.0s
AAM **Ann Arbor** 113.33 49 PFAKE 17 31 00.0 +8.0
AAM LR LR
comp=Z,1μm,20.0s
ACSO **Alum Creek Sta** 114.03 51 PFAKE 17 31 00.0 +6.6
ACSO LR LR
comp=Z,744nm,20.0s
GOGA **Godfrey** 114.05 59 PFAKE 17 31 10.0 +16
GOGA LR LR
comp=Z,1μm,20.0s
NNA **Nana** 114.10 109 PFAKE 17 31 10.0 +16
NNA LR LR
comp=Z,370nm,20.0s
APA **Apatity** 115.78 341 i PKIKP PKiKP 17 30 47.0 -8.9
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,700nm,14.0s
OTAV **Otavalo** 115.84 95 PFAKE 17 31 10.0 +12
OTAV LR LR
comp=Z,395nm,22.0s
BCIP **Isla Barro Col** 116.10 85 PFAKE 17 31 10.0 +12
BCIP LR LR
comp=Z,304nm,21.0s
BLA **Blacksburg** 116.31 54 PFAKE 17 31 10.0 +12
BLA LR LR
comp=Z,880nm,20.0s
ARA0 **ARCESS Array S** 116.72 345 ePKPdf **PKPdf** 17 30 57.5 -0.2
ARCES **ARCESS Array B** 116.72 345 PKP **PKPdf** 17 30 57.5 -0.2
comp=Z,3.8nm,0.6s,baz=47,slow=1.6,SNR=24
NHSC **New Hope** 116.82 59 PFAKE 17 31 10.0 +11
NHSC LR LR
comp=Z,1μm,20.0s
KLMR **Klimovskoe** 116.99 333 ePKIKP **PKPdf** 17 30 56.1 -2.3
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR **Klimovskoe** 116.99 333 ePKPdf **PKPdf** 17 30 56.2 -2.2
KLMR AMP 17 31 04.2
comp=Z,17nm,1.6s
CNNC **Cliffs of the** 118.54 56 PFAKE 17 31 10.0 +7.7
CNNC LR LR
comp=Z,962nm,21.0s
CBN **Corbin Frederi** 118.59 53 PFAKE 17 31 10.0 +7.7
CBN LR LR
comp=Z,1μm,20.0s
BINY **Binghamton** 118.98 48 PFAKE 17 31 10.0 +7.0
BINY LR LR
comp=Z,924nm,21.0s
GROC **Groznyy** 119.20 313 i PKIKP **PKPdf** 17 31 02.1 -1.2
GROC e 17 32 21.4
GROC e 17 38 14.7
GROC pmax pmax
comp=Z,15nm,0.4s
LONY **Lake Ozonia** 119.47 45 PFAKE 17 31 20.0 +16
LONY LR LR
comp=Z,643nm,21.0s
LPAZ **La Paz** 120.43 117 ePKPdf **PKPdf** 17 31 05.6 -1.6
LPAZ **La Paz** 120.43 117 PKP **PKiKP** 17 31 07.6 +0.3
comp=Z,5.0nm,0.9s,baz=74,slow=0.9,SNR=15
GNI **Garni** 120.59 310 PFAKE 17 31 20.0 +14
GNI LR LR
comp=Z,290nm,21.0s
GNI **Garni** 120.59 310 c iPKIKP **PKiKP** 17 31 06.7 +0.3
GNI pmax pmax
comp=Z,92nm,1.3s
ZEI **Tsey** 120.65 313 i PKIKP **PKiKP** 17 31 08.6 +2.1
ZEI pmax pmax
comp=Z,8.0nm,1.5s
SCO **Scoresbysund** 120.98 3 ePKPdf **PKPdf** 17 31 04.4 -1.5
SCO **Scoresbysund** 120.98 3 ePKIKP **PKPdf** 17 31 04.4 -1.5
OBN **Obninsk** 120.98 328 PFAKE 17 31 20.0 +14
OBN LR LR
comp=Z,241nm,20.0s
OBN **Obninsk** 120.98 328 ePKIKP **PKPdf** 17 31 05.0 -1.3
OBN e 17 32 33.7
OBN ePPP PPP 17 35 08.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,292nm,20.0s
RAYN **Ar Rayn** 121.65 291 ePKPdf **PKPdf** 17 31 06.8 -1.9
RAYN LR LR
comp=Z,264nm,19.0s
RAYN **Ar Rayn** 121.65 291 ePKIKP **PKPdf** 17 31 06.8 -1.9
RAYN MLR MLR
comp=Z,264nm,19.0s
FIA0 **FINESS Array S** 122.07 338 ePKPdf **PKPdf** 17 31 07.6 -0.6
FIA0 **FINESS Array S** 122.07 338 ePKIKP **PKPdf** 17 31 07.6 -0.6
FINES **FINESS Array B** 122.07 338 c iPKIKP **PKPdf** 17 31 07.5 -0.7
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES **FINESS Array B** 122.07 338 PKP **PKPdf** 17 31 07.6 -0.6
comp=Z,2.5nm,0.7s,baz=2.9,slow=3.8,SNR=8.2
PKME **Peaks-Kenny Pk** 122.91 43 PFAKE 17 31 20.0 +9.5
PKME LR LR
comp=Z,562nm,22.0s
VSU **Vasula** 123.73 335 c iPKIKP **PKPdf** 17 31 10.5 -1.0
VSU pmax pmax
comp=Z,71nm,2.5s
CPUP **Villa Florida** 124.06 133 ePKPdf **PKPdf** 17 31 11.8 -1.4
CPUP **Villa Florida** 124.06 133 ePKIKP **PKPdf** 17 31 11.8 -1.4
CPUP **Villa Florida** 124.06 133 PKP **PKPdf** 17 31 12.8 -0.3
comp=Z,11nm,1.1s,baz=235,slow=3.7,SNR=7.7
BATG **Bathurst New B** 124.31 40 ePKPdf **PKPdf** 17 31 12.5 -0.5
BOSA **Boshof** 124.35 223 PKP **PKiKP** 17 31 14.2 0.0
comp=Z,5.3nm,0.9s,baz=240,slow=2.7,SNR=4.4
SDV **Santo Domingo** 125.06 87 ePKPdf **PKPdf** 17 31 15.0 -0.6
SDV **Santo Domingo** 125.06 87 PKP **PKPdf** 17 31 15.2 -0.4
comp=Z,22nm,0.9s,baz=230,slow=3.5,SNR=18
LBTB **Lobatse** 126.38 227 ePKPdf **PKiKP** 17 31 18.1 -0.1
LBTB **Lobatse** 126.38 227 PKP **PKiKP** 17 31 18.3 +0.1
comp=Z,5.8nm,0.9s,baz=259,slow=22,SNR=4.9
SIV **San Ignacio** 126.64 120 PKP **PKPdf** 17 31 18.4 0.0
comp=Z,7.4nm,0.9s,baz=257,slow=3.9,SNR=21
KMBO **Kilima Mbogo** 126.76 260 ePKPdf **PKiKP** 17 31 19.2 -0.3
KMBO LR LR
comp=Z,418nm,21.0s
KMBO **Kilima Mbogo** 126.76 260 c iPKIKP **PKiKP** 17 31 21.0 +1.5
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO **Kilima Mbogo** 126.76 260 PKP **PKiKP** 17 31 20.3 +0.9
comp=Z,3.1nm,0.9s,baz=110,slow=0.4,SNR=7.6
MATP **Matopo** 126.84 233 PKP **PKiKP** 17 31 19.1 -0.2
comp=Z,8.7nm,1.2s,baz=144,slow=3.9,SNR=5.9
AKASG **Malin Array Be** 127.02 326 c iPKIKP **PKPdf** 17 31 18.0 0.0
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG **Malin Array Be** 127.02 326 PKP **PKPdf** 17 31 17.4 -0.6
comp=Z,1.5nm,0.6s,baz=59,slow=2.4,SNR=21
AKBB **Malin Array Si** 127.02 326 ePKPdf **PKPdf** 17 31 17.6 -0.4

KIEV	**Kiev**	**127.03 326**	*e*PKPdf	**PKPdf**	**17 31 16.5**	**-1.6**
KIEV			LR	LR		
	comp=Z,354nm,19.0s					
KIEV	**Kiev**	**127.03 326**	*i* PKIKP	**PKPdf**	**17 31 17.9**	**-0.1**
AK11	**Malin Array Si**	**127.06 326**	*e*PKPdf	**PKPdf**	**17 31 16.8**	**-1.3**
NB2	**NORSAR Subarra**	**127.08 344**	PKPdf	**PKPdf**	**17 31 17.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=31,slow=1.9					
NB200	**NORSAR Array S**	**127.08 344**	*e*PKPdf	**PKPdf**	**17 31 17.8**	**-0.1**
NOA	**NORSAR Array B**	**127.08 344**	PKP	**PKPdf**	**17 31 17.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=34,slow=2.0,SNR=8.1					
ILGA	**Ilgaz**	**128.42 314**	*e*PKPdf	**PKiKP**	**17 31 21.8**	**-0.2**
BR101	**Keskin Array S**	**128.93 312**	*e*PKPdf	**PKPdf**	**17 31 22.2**	**0.0**
BR101			*e*PP	**PP**	**17 33 27.4**	**-1.9**
BR131	**Keskin Array S**	**128.93 312**	*e*PKPdf	**PKPdf**	**17 31 21.5**	**-0.7**
BRTR	**Keskin Array B**	**128.93 312**	PKP	**PKPdf**	**17 31 22.2**	**0.0**
	comp=Z,3.8nm,1.0s,baz=132,slow=1.8,SNR=20					
BRTR			PP	**PP**	**17 33 27.4**	**-1.9**
	comp=Z,1.5nm,0.9s,baz=120,slow=4.4,SNR=4.7					
ANTO	**Ankara**	**129.49 313**	*e*PKPdf	**PKPdf**	**17 31 22.7**	**-0.5**
ANTO			LR	LR		
	comp=Z,157nm,20.0s					
ANTO	**Ankara**	**129.49 313** ⇑	*i*P	**PKiKP**	**17 31 23.9**	**-0.1**
ANTO	**Ankara**	**129.49 313** ⇑	PKiKP	**PKiKP**	**17 31 23.9**	**-0.1**
LSZ	**Lusaka**	**129.75 239**	*e*PKPdf	**PKiKP**	**17 31 24.9**	**-0.3**
LSZ			LR	LR		
	comp=Z,613nm,19.0s					
LSZ	**Lusaka**	**129.75 239**	PKP	**PKiKP**	**17 31 25.2**	**0.0**
	comp=Z,6.4nm,0.9s,baz=86,slow=2.0,SNR=12					
SJG	**San Juan**	**130.07 76**	*e*PKPdf	**PKPdf**	**17 31 24.0**	**-0.8**
SJG	**San Juan**	**130.07 76**	*e*PKIKP	**PKPdf**	**17 31 24.0**	**-0.8**
LVV	**L'vov**	**130.27 328**	*e*PKIKP	**PKiKP**	**17 31 25.1**	**0.0**
HUMP	**Col San Antoni**	**130.36 76**	*e*PKPdf	**PKPdf**	**17 31 24.8**	**-0.5**
CFR	**Carcaliu**	**130.42 321** ⇑	*i*P	**PKiKP**	**17 31 25.0**	**+0.3**
CFR	**Carcaliu**	**130.42 321** ⇑	PKiKP	**PKPdf**	**17 31 25.0**	**+0.3**
EIL	**Elat**	**130.49 320**	PKP	**PKiKP**	**17 31 26.0**	**-0.1**
	comp=Z,6.7nm,0.9s,baz=30,slow=2.2,SNR=14					
TIRR	**Tirgusor**	**130.59 320** ⇑	*i*P	**PKiKP**	**17 31 26.8**	**+0.9**
TIRR	**Tirgusor**	**130.59 320** ⇑	PKiKP	**PKiKP**	**17 31 26.8**	**+0.9**
TESR	**Tescani**	**130.66 323** ⇑	*i*P	**PKiKP**	**17 31 25.8**	**-0.2**
BIZ	**Bicaz**	**130.75 324** ⇑	*i*P	**PKiKP**	**17 31 26.9**	**+0.7**
TLB	**Topalu**	**130.77 320** ⇑	*i*P	**PKiKP**	**17 31 26.1**	**-0.1**
TLB	**Topalu**	**130.77 320** ⇑	PKiKP	**PKiKP**	**17 31 26.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**130.89 325**	*e*PKPdf	**PKiKP**	**17 31 27.3**	**+0.7**
BURAR	**Bucovina Array**	**130.89 325** ⇑	*i*P	**PKiKP**	**17 31 28.0**	**+1.4**
BURAR	**Bucovina Array**	**130.89 325** ⇑	PKiKP	**PKiKP**	**17 31 28.0**	**+1.4**
ICOR	**Ion Corvin**	**131.14 320** ⇑	*i*P	**PKiKP**	**17 31 28.1**	**+1.1**
AMRR	**Amara**	**131.20 320** ⇑	*i*P	**PKiKP**	**17 31 28.0**	**+0.9**
AMRR	**Amara**	**131.20 320** ⇑	PKiKP	**PKiKP**	**17 31 28.0**	**+0.9**
SILT	**Sile**	**131.23 315** ⇑	*i*P	**PKiKP**	**17 31 26.8**	**-0.5**
MLR	**Muntele Rosu**	**131.61 322**	*e*PKPdf	**PKPdf**	**17 31 27.2**	**+0.1**
MLR	**Muntele Rosu**	**131.61 322** ⇑	*i*P	**PKiKP**	**17 31 27.7**	**-0.4**
MLR	**Muntele Rosu**	**131.61 322** ⇑	PKiKP	**PKiKP**	**17 31 27.7**	**-0.4**
ARCR	**ARCALIA**	**131.68 325** ⇓	*i*P	**PKiKP**	**17 31 28.7**	**+0.7**
UZH	**Uzhgorod**	**131.90 327** ⇓	*i*PKIKP	**PKPdf**	**17 31 27.6**	**+0.2**
UZH			*e*		17 31 34.2	
UZH			*e*		17 31 37.5	
CTYL	**Yalikoy Yolu**	**132.02 316** ⇑	*i*P	**PKiKP**	**17 31 28.5**	**-0.4**
TRPA	**Tarpa**	**132.07 327** ⇑	*i*P	**PKiKP**	**17 31 28.9**	**+0.2**
CJR	**Cluj-Napoca**	**132.31 325** ⇓	*i*P	**PKiKP**	**17 31 30.0**	**+0.7**
CJR	**Cluj-Napoca**	**132.31 325** ⇓	PKiKP	**PKiKP**	**17 31 30.1**	**+0.7**
ARR	**Arges**	**132.46 323** ⇑	*i*P	**PKiKP**	**17 31 29.9**	**+0.2**
PHSR	**Pinarhisar**	**132.47 317** ⇓	*i*P	**PKiKP**	**17 31 30.3**	**+0.5**
HUMR	**Humele**	**132.69 321** ⇑	*i*P	**PKPdf**	**17 31 29.3**	**+0.3**
DRGR		**132.77 325** ⇓	*i*P	**PKiKP**	**17 31 30.7**	**+0.4**
DRGR		**132.77 325** ⇓	PKiKP	**PKiKP**	**17 31 30.7**	**+0.4**
DEV	**Deva**	**133.18 324** ⇑	*i*P	**PKiKP**	**17 31 30.6**	**-0.5**
DEV	**Deva**	**133.18 324** ⇑	PKiKP	**PKiKP**	**17 31 30.6**	**-0.5**
PTGA	**Pitinga**	**133.50 102**	*e*PKPdf	**PKPdf**	**17 31 31.1**	**-0.4**
PTGA	**Pitinga**	**133.50 102**	PKP	**PKPdf**	**17 31 31.8**	**+0.4**
	comp=Z,5.2nm,0.5s,baz=258,slow=2.3,SNR=13					
MORC	**Moravsky Berou**	**133.52 331**	*e*PKPdf	**PKPdf**	**17 31 30.5**	**0.0**
MORC	**Moravsky Berou**	**133.52 331** ⇑	*i*P	**PKiKP**	**17 31 31.2**	**-0.5**
MORC	**Moravsky Berou**	**133.52 331** ⇑	PKiKP	**PKiKP**	**17 31 31.2**	**-0.5**
MORC	**Moravsky Berou**	**133.52 331**	*e*PKP	**PKiKP**	**17 31 31.4**	**-0.3**
GZR	**Gura Zlata**	**133.53 324** ⇑	*i*P	**PKPdf**	**17 31 31.0**	**+0.3**
GZR	**Gura Zlata**	**133.53 324** ⇑	PKiKP	**PKPdf**	**17 31 31.0**	**+0.3**
PSZ	**Piszkesteto**	**133.60 328** ⇑	*i*P	**PKPdf**	**17 31 30.1**	**-0.6**
PSZ	**Piszkesteto**	**133.60 328** ⇑	PKiKP	**PKPdf**	**17 31 30.1**	**-0.6**
SIRR	**Siria**	**133.66 325** ⇑	*i*P	**PKPdf**	**17 31 30.5**	**-0.3**
DPC	**Dobruska-Polom**	**133.68 333**	*e*PKP	**PKiKP**	**17 31 31.6**	**-0.4**
DPC	**Dobruska-Polom**	**133.68 333**	*e*PKIKP	**PKiKP**	**17 31 31.6**	**-0.4**
HERR	**Herculane**	**134.03 323** ⇑	*i*P	**PKPdf**	**17 31 30.7**	**-0.8**
BZS	**Buzias**	**134.07 325** ⇑	*i*P	**PKPdf**	**17 31 31.5**	**-0.1**
BZS	**Buzias**	**134.07 325** ⇑	PKiKP	**PKPdf**	**17 31 31.5**	**-0.1**
GRGR	**Grenville**	**134.19 84**	PFAKE		17 31 40.0	+6.0
GRGR			LR	LR		
	comp=Z,565nm,19.0s					
VRAC	**Vranov**	**134.29 332**	*e*PKP	**PKiKP**	**17 31 32.6**	**-0.7**
BRG	**Berggiesshubel**	**134.32 335**	*e*PKP	**PKPdf**	**17 31 29.8**	**-2.1**
	comp=Z,38nm,1.8s					
BRG	**Berggiesshubel**	**134.32 335**	*e*PKIKP	**PKPdf**	**17 31 29.8**	**-2.1**
BRG			pmax	pmax		
	comp=Z,38nm,1.8s					
CLL	**Collm**	**134.38 336**	*e*PKPdf	**PKPdf**	**17 31 32.0**	**0.0**
CLL			Lm	MLR	18 39 00.0	
	comp=N,200nm,18.0s					
CLL			Lm	MLR	18 39 00.0	
	comp=E,200nm,19.0s					
CLL			Lm	MLR	18 39 00.0	
	comp=Z,300nm,18.3s					
CLL	**Collm**	**134.38 336**	*e*PKIKP	**PKPdf**	**17 31 32.0**	**0.0**
CLL			MLR	MLR		
	comp=Z,300nm,18.3s					
MDVR	**Moldovita**	**134.50 324** ⇑	*i*P	**PKPdf**	**17 31 32.8**	**+0.3**
KRUC	**Moravsky**	**134.56 331**	*e*PKP	**PKPdf**	**17 31 33.0**	**+0.6**
MODS	**Modra-Piesok**	**134.61 330**	*e*PKIKP	**PKiKP**	**17 31 34.7**	**+0.7**
MODS	**Modra-Piesok**	**134.61 330**	*e*PKP	**PKiKP**	**17 31 34.7**	**+0.7**
VTS	**Vitosha**	**134.77 320** ⇑	*i*P	**PKPdf**	**17 31 33.6**	**+0.4**
VTS	**Vitosha**	**134.77 320** ⇑	PKiKP	**PKPdf**	**17 31 33.6**	**+0.4**
VTS	**Vitosha**	**134.77 320**	*e*P	**PKiKP**	**17 31 34.1**	**-0.5**
MMB	**Musomiste**	**134.99 319**	*e*P	**PKPdf**	**17 31 32.5**	**-1.0**
KKB	**Krupnik**	**135.26 319**	*e*P	**PKPdf**	**17 31 34.2**	**+0.2**
CONA	**Conrad Observa**	**135.61 331**	*e*PKiKP	**PKPdf**	**17 31 35.0**	**+0.5**
	comp=Z,10nm,1.5s					
KHC	**Kasperske Hory**	**135.79 333**	*e*PKPdf	**PKPdf**	**17 31 34.4**	**-0.3**
KHC	**Kasperske Hory**	**135.79 333**	*e*PKP	**PKPdf**	**17 31 35.2**	**+0.5**
KHC			*ex*	x	17 31 46.2	
KHC			*ex*	x	17 31 59.0	
KHC	**Kasperske Hory**	**135.79 333**	*e*PKIKP	**PKPdf**	**17 31 35.2**	**+0.5**
KHC			*e*		17 31 46.2	
TSUM	**Tsumeb**	**135.79 227**	PP	PP	17 34 13.1	-0.1
	comp=Z,1.4nm,0.3s,baz=244,slow=0.4,SNR=6.7					
DIVS	**Divibare**	**135.90 324**	*e*PKPdf	**PKPdf**	**17 31 35.0**	**-0.1**
GEC2	**GERESS Array S**	**135.94 333**	*e*PKPdf	**PKPdf**	**17 31 34.5**	**-0.6**
GEC2	**GERESS Array S**	**135.94 333**	*e*PKIKP	**PKPdf**	**17 31 34.5**	**-0.6**
GERES	**GERESS Array B**	**135.94 333**	PKP	**PKPdf**	**17 31 35.5**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=80,slow=1.5,SNR=14					
GEA0	**GERESS Array S**	**135.95 333**	*e*PKPdf	**PKPdf**	**17 31 34.6**	**-0.5**
ARSA	**Arzberg**	**136.24 330**	*i* PKiKP	**PKPdf**	**17 31 35.7**	**+0.1**
	comp=Z,3.6nm,1.0s					
MOA	**Molln**	**136.42 332**	*ep*PKPdf	**PKiKP**	**17 31 38.7**	**+1.1**
	comp=Z,5.0nm,1.1s					
SOKA	**Soboth**	**136.88 330**	*i* PKiKP	**PKiKP**	**17 31 38.3**	**-0.4**
FNA	**Florina**	**136.92 319**	*e*PKPdf	**PKPdf**	**17 31 36.8**	**-0.3**
FNA	**Florina**	**136.92 319**	*e*PKIKP	**PKPdf**	**17 31 36.8**	**-0.3**
BDFB	**Brasilia**	**137.43 129**	PKP	**PKPdf**	**17 31 38.5**	**-0.3**
	comp=Z,4.1nm,0.6s,baz=160,slow=7.1,SNR=5.7					
MYKA	**Terra Mystica**	**137.59 331**	*e*PKiKP	**PKiKP**	**17 31 39.4**	**-0.7**
	comp=Z,13nm,1.6s					
ABTA	**Abfaltersbach**	**138.04 332**	*e*PKPdf	**PKPdf**	**17 31 38.7**	**-0.3**
	comp=Z,17nm,1.3s					
FETA	**Feichten**	**138.63 333**	*e*PKiKP	**PKPdf**	**17 31 40.3**	**0.0**
	comp=Z,15nm,1.5s					
BNI	**Bardonecchia**	**141.91 335**	*e*PKPpre	PKPpre	17 31 42.6	
BNI	**Bardonecchia**	**141.91 335**	*e*PKIKP	PKPpre	17 31 42.6	
SSB	**Saint Sauveur**	**142.57 337**	*e*PKPdf	**PKPdf**	**17 31 45.9**	**-1.4**
SSB	**Saint Sauveur**	**142.57 337**	*e*PKIKP	**PKPdf**	**17 31 45.9**	**-1.4**
KEST	**Kesra**	**147.51 322**	*e*PKPbc	**PKPbc**	**17 31 59.1**	**+0.5**
KEST	**Kesra**	**147.51 322**	PKPbc	**PKPbc**	**17 31 59.3**	**+0.7**
	comp=Z,23nm,0.7s,baz=85,slow=0.1,SNR=20					
CMAH	**Djebel Manchou**	**148.02 325**	P	**PKPbc**	**17 31 59.2**	**-0.8**
CAEH	**'Ain El Ouahch**	**148.23 326**	P	**PKPbc**	**17 32 01.0**	**+0.5**
ABSA	**Djebel Ababsia**	**148.24 324**	P	**PKPbc**	**17 32 00.3**	**-0.3**
CKFL	**Kef-Lekhel**	**148.58 325**	P	**PKPbc**	**17 32 02.0**	**+0.5**
CASM	**Ain Smara**	**148.81 325**	P	**PKPbc**	**17 32 02.6**	**+0.6**
DFRA	**Djebel Bou Aff**	**148.93 327**	P	**PKiKP**	**17 32 03.4**	**-0.4**
CTEI	**Djebel Teioual**	**149.00 325**	P	**PKPbc**	**17 32 03.2**	**+0.6**
CKHR	**Kef el Ahmar**	**149.52 326**	P	**PKPbc**	**17 32 04.0**	**+0.1**
POLO	**Lamas de Olo**	**149.70 350**	*e*PKPbc	**PKiKP**	**17 32 04.9**	**-0.3**
MVO	**Moncorvo**	**149.75 348**	*e*PKPbc	**PKiKP**	**17 32 05.6**	**+0.3**
PVRL	**Vila Real**	**149.78 349**	*e*PKPbc	**PKPbc**	**17 32 04.0**	**-0.3**
ES06	**SONSECA Array**	**150.41 343**	*e*PKPdf	**PKPdf**	**17 31 59.8**	**-0.9**
ESDC	**Sonseca Array**	**150.42 343**	PKPbc	**PKiKP**	**17 32 06.3**	**-0.4**
	comp=Z,6.2nm,0.8s,baz=18,slow=3.0,SNR=21					
ESLA	**Sonseca Array**	**150.42 343**	*e*PKPbc	**PKPbc**	**17 32 04.8**	**-1.1**
MTE	**Manteigas**	**150.59 349**	*e*PKPbc	**PKiKP**	**17 32 07.1**	**+0.1**
MTE	**Manteigas**	**150.59 349**	*e*PKPbc	**PKiKP**	**17 32 07.0**	**-0.1**
PAB	**San Pablo**	**150.65 343**	*e*PKPbc	**PKiKP**	**17 32 07.2**	**0.0**
PAB			LR	LR		
	comp=Z,508nm,19.0s					
PMRV	**Marv??o**	**151.50 348**	*e*PKPbc	**PKiKP**	**17 32 09.1**	**+0.2**
PTOM	**Tomar**	**151.51 350**	*e*PKPbc	**PKiKP**	**17 32 09.3**	**+0.5**
PTOM	**Tomar**	**151.51 350**	*e*PKPab	**PKPab**	**17 32 18.8**	**+2.2**
PMTG	**Montargil**	**152.01 349**	*e*PKPbc	**PKiKP**	**17 32 09.8**	**-0.1**
PMTG	**Montargil**	**152.01 349**	*e*PKPab	**PKPab**	**17 32 20.6**	**+1.9**
PESTR	**Estremoz**	**152.08 348**	*e*PKPab	**PKPab**	**17 32 20.4**	**+1.3**
PESTR	**Estremoz**	**152.08 348**	*e*PKPab	**PKPab**	**17 32 20.1**	**+1.0**
RCBR	**Riachuelo**	**152.80 128**	*e*PKPdf	**PKPdf**	**17 32 01.6**	**-3.4**
RCBR	**Riachuelo**	**152.80 128**	*e*PKIKP	**PKPdf**	**17 32 01.6**	**-3.4**
MESJ	**Messejana**	**153.20 348**	*e*PKPab	**PKPab**	**17 32 25.5**	**+1.7**
TAM	**Tamanrasset**	**157.64 303**	*e*PKPdf	**PKPdf**	**17 32 11.6**	**+0.1**
TAM	**Tamanrasset**	**157.64 303**	*e*PKIKP	**PKPdf**	**17 32 11.6**	**+0.1**
TOA0	**Torodi Ar. Sit**	**163.81 277**	*e*PKPdf	**PKPdf**	**17 32 16.4**	**-1.7**
TOA0			*e*PKPab	**PKPab**	**17 33 09.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**163.81 277**	PKP	**PKPdf**	**17 32 17.4**	**-0.7**
	comp=Z,11nm,1.2s,baz=134,slow=2.5,SNR=28					
TORD			PKPab	**PKPab**	**17 33 11.1**	**+0.5**
	comp=Z,6.9nm,1.1s,baz=104,slow=6.8,SNR=7.3					
TORD			PP	**PP**	**17 36 59.6**	**+3.3**
	comp=Z,1.7nm,1.1s,baz=64,slow=3.4,SNR=4.9					
TOA1	**Torodi Ar. Sit**	**163.81 277**	*e*PKPdf	**PKPdf**	**17 32 17.4**	**-0.7**
TOA1			*e*PKPab	**PKPab**	**17 33 11.1**	**+0.5**
TOA1			*e*PP	**PP**	**17 36 59.6**	**+3.3**
KIC	**Kosan Boka**	**168.79 243**	*e*PKP2	**PKPab**	**17 33 32.9**	**+0.4**
	comp=Z,72nm,1.4s					
KIC	**Kosan Boka**	**168.79 243**	*e*PKPab	**PKPab**	**17 33 32.9**	**+0.4**
LIC	**Lamto**	**168.97 242**	*e*PKP2	**PKPab**	**17 33 33.6**	**+0.3**
	comp=Z,59nm,1.2s					
LIC	**Lamto**	**168.97 242**	*e*PKPab	**PKPab**	**17 33 33.6**	**+0.3**
DBIC	**Dimbokro**	**169.03 244**	*e*P	**PKPdf**	**17 32 21.6**	**-0.7**
DBIC	**Dimbokro**	**169.03 244**	PKP	**PKPdf**	**17 32 21.7**	**-0.5**
	comp=Z,3.1nm,0.8s,baz=160,slow=1.0,SNR=3.8					
TIC	**Toumodi**	**169.16 244**	*e*PKP2	**PKPab**	**17 33 34.4**	**+0.2**
TIC	**Toumodi**	**169.16 244**	*e*PKPab	**PKPab**	**17 33 34.4**	**+0.2**
TIC	**Toumodi**	**169.16 244**	*e*PKP2	**PKPab**	**17 33 34.4**	**+0.2**
SACV	**Santiago Islan**	**170.79 68**	PFAKE		17 32 30.0	+6.8
SACV			LR	LR		
	comp=Z,726nm,19.0s					

*ISCJB **11** 17:32:18.2±0.3, 35°.45N±0°.04×96°.57W±0°.03, h12km, Error ellipse: s-maj=6.4km s-min=3.3km az=170.5*
*ANF **11** 17:32:18.9±0.5, 35°.48N×96°.55W, h3km±3km, ML4.2/9, Error ellipse: s-maj=6.4km s-min=1.4km az=164.0*
*NEIC **11** 17:32:18.5±0.2, 35°.42N×96°.55W, h5km, MN3.2, Error ellipse: s-maj=4.4km s-min=2.9km az=173.0*
NEIC Felt at Norman, Paden, Sapulpa and Spencer.
ISC 11 17:32:18.9±0.9, 35°.44N±0°.06×96°.52W±0°.03, h12km, n37, σ1≗42/42, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK002	**Wilshire Harra**	**0.56**	**281**	*e*Pg	**Pg**	**17 32 29.4**	**-0.5**
TUL1	**Leonard**	**0.75**	**51**	*e*Pg	**Pg**	**17 32 33.4**	**-0.2**
TUL1	**Leonard**	**0.75**	**51**	P	**Pg**	**17 32 33.3**	**-0.2**
	baz=235						
TUL1				S	**Sg**	**17 32 43.6**	**+0.2**
	baz=235						
X37A	**Clayton**	**1.27**	**132**	*e*Pg	**Pn**	**17 32 42.4**	**-0.1**
WMOK	**Wichita Mounta**	**1.98**	**250**	*e*Pn	**Pn**	**17 32 53.0**	**+0.6**
WMOK	**Wichita Mounta**	**1.98**	**250**	P	**Pn**	**17 32 53.1**	**+0.8**
	baz=67						
WMOK				S	**Sb**	**17 33 19.7**	**0.0**
	baz=67						
U32A	**Winter Ranch,**	**2.22**	**296**	*e*Pn	**Pn**	**17 32 56.4**	**+0.7**
W39A	**Magazine**	**2.25**	**95**	*e*Pn	**Pn**	**17 32 56.8**	**+0.9**
W39A	**Magazine**	**2.25**	**95**	P	**Pn**	**17 32 57.2**	**+1.2**
	baz=278						
W39A				S	**Sb**	**17 33 27.0**	**-0.2**
	baz=278						
HHAR	**Hobbs**	**2.25**	**67**	*e*Pn	**Pn**	**17 32 57.3**	**+1.3**
MIAR	**Mount Ida**	**2.57**	**109**	*e*Pn	**Pn**	**17 33 01.8**	**+1.4**
U40A	**Yellville**	**3.11**	**72**	P	**Pn**	**17 33 09.1**	**+1.3**
	baz=255						
U40A				S	**Sn**	**17 33 47.6**	**+2.7**
	baz=255						
X40A	**Basin Creek Fa**	**3.17**	**106**	*e*Pn	**Pn**	**17 33 10.4**	**+1.8**
WHAR	**Wooly Hollow**	**3.46**	**91**	*e*Pn	**Pn**	**17 33 13.6**	**+1.1**
UALR	**University of**	**3.49**	**100**	*e*Pn	**Pn**	**17 33 13.5**	**+0.5**
W41B	**Gary Mavity, V**	**3.50**	**93**	*e*Pn	**Pn**	**17 33 14.6**	**+1.5**
W41B	**Gary Mavity, V**	**3.50**	**93**	P	**Pn**	**17 33 14.6**	**+1.5**
	baz=276						
W41B				S	**Sn**	**17 33 57.5**	**+3.0**
	baz=276						
WHTX	**Lake Whitney,**	**3.53**	**193**	*e*Pn	**Pn**	**17 33 13.6**	**+0.1**
KSU1	**Kansas State U**	**3.65**	**359**	*e*Pn	**Pn**	**17 33 16.4**	**+1.1**
ABTX	**Abilene, Hawle**	**3.83**	**224**	*e*Pn	**Pn**	**17 33 17.7**	**0.0**
ABTX	**Abilene, Hawle**	**3.83**	**224**	P	**Pn**	**17 33 17.8**	**+0.1**
	baz=41						
T41A	**Mountain View**	**4.16**	**66**	P	**Pn**	**17 33 23.6**	**+1.4**
	baz=249						
CBKS	**Cedar Bluff**	**4.24**	**324**	*e*Pn	**Pn**	**17 33 23.9**	**+0.6**
AMTX	**Amarillo**	**4.27**	**264**	*e*Pn	**Pn**	**17 33 24.4**	**+0.6**
AMTX	**Amarillo**	**4.27**	**264**	S	**Sn**	**17 34 14.9**	**+1.3**
	baz=80						
T42A	**Van Buren**	**4.66**	**69**	*e*Pn	**Pn**	**17 33 29.9**	**+0.8**
T42A	**Van Buren**	**4.66**	**69**	P	**Pn**	**17 33 30.2**	**+1.1**
	baz=252						
CCM	**Cathedral Cave**	**4.97**	**57**	*e*Pn	**Pn**	**17 33 34.1**	**+0.7**
MSTX	**Muleshoe**	**5.36**	**256**	*e*Pn	**Pn**	**17 33 38.7**	**-0.1**
FVM	**French Village**	**5.51**	**61**	*e*Pn	**Pn**	**17 33 41.1**	**+0.3**
JCT	**Junction City**	**5.67**	**210**	*e*Pn	**Pn**	**17 33 42.2**	**-0.8**
T25A	**Trinidad**	**6.60**	**287**	*e*Pn	**Pn**	**17 33 56.0**	**+0.1**
N41A	**Harden Midland**	**6.90**	**39**	*e*Pn	**Pn**	**17 33 59.9**	**+0.1**
Q44A	**Meyer Farm, Va**	**6.91**	**58**	*e*Sg	**Sg**	**17 35 55.0**	**-5.7**
SDCO	**Great Sand Dun**	**7.58**	**290**	*e*Pn	**Pn**	**17 34 09.9**	**+0.4**
ECSD	**EROS Data Cent**	**8.28**	**360**	*e*Pn	**Pn**	**17 34 18.6**	**-0.2**
TX31	**Lajitas Ar. Si**	**8.58**	**227**	*e*Pn	**Pn**	**17 34 21.5**	**-1.5**

*ISCJB **11** 17:42:52.4±0.8, 61°.5S±0°.2×25°.3W±0°.5, h35km, mb4.0/5, Error ellipse: s-maj=38.3km s-min=9.7km az=144.1*
*IDC **11** 17:42:56.3±2.7, 60°.09S×25°.72W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.9/23, mbtmp4.1/5, Error ellipse: s-maj=83.1km s-min=37.2km az=179.0*
ISC 11 17:42:55.0±0.9, 61°.6S±0°.2×25°.3W±0°.2, h35km, n14, σ3≗12/12, mb4.1/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**11.37**	**150**	P	**Pn**	**17 45 37.0**	**+2.4**
VNA3	**Neumayer Olymp**	**11.49**	**154**	P	**Pn**	**17 45 38.5**	**+2.2**
VNA2	**Neumayer--Watz**	**11.77**	**150**	P	**Pn**	**17 45 41.5**	**+1.5**
	baz=315,slow=15						
VNA2				S	**Sn**	**17 47 44.9**	**-5.0**
	baz=315,slow=20						
SNAA	**Sanae**	**13.37**	**148**	P	**Pn**	**17 46 03.2**	**+1.3**
PLCA	**Paso Flores**	**34.23**	**286**	P	**P**	**17 49 37.9**	**+0.8**
	1.6nm,0.7s,baz=162,slow=11,SNR=4.4						
CPUP	**Villa Florida**	**41.28**	**314**	P	**P**	**17 50 34.0**	**-2.7**
	2.5nm,0.6s,baz=135,slow=7.5,SNR=5.1						
SIV	**San Ignacio**	**52.13**	**315**	P	**P**	**17 51 58.9**	**-2.8**
	1.0nm,0.4s,baz=154,slow=9.2,SNR=6.8						
H10S2	**ASCENSION HYDR**	**53.10**	**13**	T	T	18 49 02.7	
	baz=187						
H10S3	**ASCENSION HYDR**	**53.11**	**13**	T	T	18 48 60.0	
	baz=187						
H10S1	**ASCENSION HYDR**	**53.12**	**13**	T	T	18 49 00.4	
	baz=187						
LPAZ	**La Paz**	**54.42**	**307**	P	**P**	**17 52 18.2**	**-1.0**
	2.1nm,0.6s,baz=162,slow=6.5,SNR=9.1						
TORD	**Torodi Ar. Bea**	**77.48**	**27**	P	**P**	**17 54 46.3**	**-0.3**
	1.2nm,0.8s,baz=200,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**140.81**	**313**	PKP	**PKiKP**	**18 02 24.2**	**+2.3**
	0.2nm,0.6s,baz=128,slow=1.8,SNR=3.4						
ILAR	**Eielson Array**	**154.26**	**303**	PKPbc	**PKiKP**	**18 02 54.6**	**+5.0**
	0.4nm,0.6s,baz=187,slow=1.5,SNR=4.1						

*ISN **11** 17:47:30.9±0.3, 36°.72N×43°.43E, h3km±2km, ML2.7*
*DDA **11** 17:47:37.0, 36°.67N×43°.39E, h12km±1km, ML3.0*
*ISK **11** 17:47:40.7, 36°.94N×43°.39E, h5km, ML2.6/4*
ISC 11 17:47:35.0±1.2, 36°.55N±0°.04×43°.40E±0°.04, h8km±10km, n14, σ1≗17/25, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.28**	**238**	*e*Pg	**Pg**	**17 47 39.8**	**-0.7**
	baz=40						
MSL				*e*Sg	**Sg**	**17 47 46.0**	**+1.9**
CUKT	**Cukurca**	**0.72**	**13**	PG	**Pg**	**17 47 48.6**	**-0.3**
CUKT				SG	**Sg**	**17 47 54.8**	**-3.5**
CUKT	**Cukurca**	**0.72**	**13**	*i* P	**Pg**	**17 47 49.1**	**+0.2**
CUKT				*i* S	**Sg**	**17 47 59.0**	**+0.7**
CUKT				IAML_P			
	comp=Z,3μm,0.2s						
SIRT	**Sirnak**	**1.23**	**321**	PG	**Pg**	**17 47 59.7**	**+1.2**
SIRT				SG	**Sn**	**17 48 14.1**	**-1.2**
SIRN	**Sirnak**	**1.23**	**320**	*i* P	**Pg**	**17 47 59.5**	**+0.9**
SIRN				*i* S	**Sn**	**17 48 15.5**	**-0.1**
SIRN				IAML_P			
	comp=Z,3μm,0.2s						
YOVA	**Hakkari_Yksek**	**1.26**	**34**	*i* P	**Pn**	**17 47 59.2**	**+0.1**
YOVA				*i* S	**Sb**	**17 48 16.2**	**+0.7**
YOVA				IAML_P			
	comp=Z,2μm,0.3s						
IKRK	**Kirkuk**	**1.38**	**146**	*e*Pn	**Pn**	**17 47 59.5**	**-1.0**
IKRK				*e*Sn	**Sn**	**17 48 19.5**	**+0.6**
**GEV

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**2.60**	**268**	*e*P	**Pn**	**17 55 28.8**	**0.0**
PB08				*e*S	**S**	**17 56 06.3**	**-0.7**
PB01	**IPOC Station P**	**3.06**	**251**	*e*Pn	**Pn**	**17 55 33.0**	**-0.3**
PB01	**IPOC Station P**	**3.06**	**251**	*e*P	**Pn**	**17 55 33.6**	**+0.2**
PB01				*e*S	**S**	**17 56 12.1**	**-3.3**
PB11	**IPOC Station P**	**3.09**	**275**	*e*Pn	**Pn**	**17 55 32.5**	**-1.3**
PB11	**IPOC Station P**	**3.09**	**275**	*e*P	**Pn**	**17 55 33.2**	**-0.7**
PB11				*e*S	**S**	**17 56 12.4**	**-3.7**
PB09	**IPOC Station P**	**3.16**	**237**	*e*P	**Pn**	**17 55 35.3**	**+0.6**
MNMC	**Minye Minye**	**3.17**	**287**	*e*Pn	**Pn**	**17 55 33.9**	**-0.9**
MNMCX	**Minye Minye**	**3.17**	**287**	*e*P	**Pn**	**17 55 34.4**	**-0.4**
LVC	**Limon Verde**	**3.44**	**223**	*e*Pn	**Pn**	**17 55 37.5**	**-0.4**
LVC				*e*S	**S**	**17 56 21.1**	**-2.4**
LVC	**Limon Verde**	**3.44**	**223**	*e*P	**Pn**	**17 55 39.0**	**+1.1**
LVC				IAML		17 56 26.2	
	comp=Z,25nm,0.7s						
LVC	**Limon Verde**	**3.44**	**223**	P	**Pn**	**17 55 38.8**	**+0.9**
	comp=Z,2.5nm,0.3s,baz=8.7,slow=7.1,SNR=12						
LVC				S	**S**	**17 56 21.9**	**-1.7**
	comp=Z,7.8nm,0.3s,baz=330,slow=21,SNR=19						
PB02	**IPOC Station P**	**3.50**	**249**	*e*P	**Pn**	**17 55 37.9**	**-0.5**
PSGCX	**Pisagua**	**3.55**	**277**	*e*P	**Pn**	**17 55 37.3**	**-1.6**
PSGCX				*e*S	**S**	**17 56 19.7**	**-5.6**
PB07	**IPOC Station P**	**3.65**	**243**	*e*P	**Pn**	**17 55 39.9**	**-0.3**
PB03	**IPOC Station P**	**3.70**	**237**	*e*P	**Pn**	**17 55 40.4**	**-0.3**
PB06	**IPOC Station P**	**3.95**	**228**	*e*P	**Pn**	**17 55 43.7**	**+0.1**
LPAZ	**La Paz**	**4.12**	**336**	*e*P	**Pn**	**17 55 46.5**	**+0.4**
LPAZ	**La Paz**	**4.12**	**336**	P	**Pn**	**17 55 47.1**	**+0.9**
	comp=Z,10nm,0.3s,baz=155,slow=7.4,SNR=119						
LPAZ				S	**S**	**17 56 36.8**	**-1.5**
	comp=Z,2.6nm,0.3s,baz=347,slow=18,SNR=6.1						
PB04	**IPOC Station P**	**4.16**	**237**	*e*Pn	**Pn**	**17 55 45.2**	**-0.9**
PB04	**IPOC Station P**	**4.16**	**237**	*e*P	**Pn**	**17 55 45.4**	**-0.7**
PB05	**IPOC Station P**	**4.49**	**231**	*e*P	**Pn**	**17 55 49.6**	**-0.4**
GO02	**Mina Guanaco**	**5.86**	**210**	*e*Pn	**Pn**	**17 56 06.6**	**-0.3**
SIV	**San Ignacio**	**6.49**	**52**	P	**Pn**	**17 56 16.6**	**+1.9**
	comp=Z,3.3nm,0.3s,baz=248,slow=12,SNR=33						
SIV				S	**S**	**17 57 24.6**	**-5.7**
	baz=256,slow=17,SNR=2.9						
PLCA	**Paso Flores**	**20.89**	**189**	P	**P**	**17 59 05.6**	**+1.7**
PLCA	**Paso Flores**	**20.89**	**189**	P	**P**	**17 59 06.2**	**+2.4**
	comp=Z,3.8nm,0.5s,baz=30,slow=12,SNR=22						
TXAR	**Lajitas Array**	**60.88**	**323**	P	**P**	**18 04 27.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=152,slow=7.8,SNR=9.0						
SDCO	**Great Sand Dun**	**68.28**	**327**	*e*P	**P**	**18 05 15.6**	**+0.6**
	comp=Z,2.1nm,0.7s						
Y14A	**Wickenburg**	**69.69**	**320**	*e*P	**P**	**18 05 22.6**	**-0.8**
	comp=Z,13nm,0.3s						
U15A	**North Rim**	**70.99**	**322**	*e*P	**P**	**18 05 34.4**	**+2.8**
	comp=Z,2.2nm,0.8s						
CCUT	**Cedar City**	**72.39**	**322**	*e*P	**P**	**18 05 42.8**	**+3.0**
	comp=Z,4.2nm,1.0s						
MSU	**Marysvale**	**72.39**	**324**	*e*P	**P**	**18 05 42.3**	**+2.6**
PSUT	**Pine Spring**	**73.35**	**323**	*e*P	**P**	**18 05 47.8**	**+2.5**
	comp=Z,2.9nm,0.8s						
TPNV	**Topopah Spring**	**73.67**	**320**	*e*P	**P**	**18 05 50.1**	**+2.8**
	comp=Z,4.7nm,1.1s						
PDAR	**Pinedale Array**	**74.10**	**328**	P	**P**	**18 05 50.8**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=117,slow=8.8,SNR=5.2						
TORD	**Torodi Ar. Bea**	**74.66**	**70**	P	**P**	**18 05 53.8**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=263,slow=5.4,SNR=16						
ULM	**Lac du Bonnet**	**74.72**	**341**	P	**P**	**18 05 52.9**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=139,slow=5.9,SNR=6.8						
NV01	**Mina Array Sit**	**75.87**	**320**	*e*P	**P**	**18 06 02.2**	**+2.4**
NVAR	**Mina Array Bea**	**75.87**	**320**	P	**P**	**18 06 02.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=144,slow=6.7,SNR=4.2						
KVN	**Kaiserville**	**76.15**	**321**	*e*P	**P**	**18 06 02.9**	**+1.5**
	comp=Z,2.7nm,0.8s						
YHH	**Holmes Hill**	**76.23**	**329**	*e*P	**P**	**18 06 04.2**	**+2.4**
	comp=Z,2.7nm,0.8s						
HLID	**Hailey**	**77.14**	**326**	*e*P	**P**	**18 06 09.4**	**+2.6**
	comp=Z,4.4nm,1.1s						
PAHR	**Pah Rah Range**	**77.34**	**321**	*e*P	**P**	**18 06 10.1**	**+2.2**
	comp=Z,5.4nm,0.9s						
TSUM	**Tsumeb**	**78.18**	**106**	*e*P	**P**	**18 06 08.9**	**-4.2**
	comp=Z,3.5nm,0.6s						
BMO	**Blue Mountains**	**79.54**	**326**	*e*P	**P**	**18 06 21.9**	**+2.1**
	comp=Z,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**90.66**	**340**	P	**P**	**18 07 15.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=127,slow=4.3,SNR=22						
ASAR	**Alice Springs**	**132.23**	**205**	PKP	**PKiKP**	**18 13 27.6**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=150,slow=1.9,SNR=5.2						
SONM	**Songino Array**	**151.70**	**10**	PKPbc	**PKiKP**	**18 14 07.5**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=306,slow=1.5,SNR=5.0						

ISN ***11*** *18:01:40.5±1.0,36°.64N×43°.50E, h19km, ML2.5*
ISK ***11*** *18:01:40.2, 36°.69N×43°.57E, h5km, ML2.5/3*
DDA ***11*** *18:01:42.9, 36°.79N×43°.41E, h16km±4km, ML2.8*

ISC 11 18:01:40.2±1.2, 36°.65N±0°.04×43°.46E±0°.05, h15km±11km, n11, σ0s97/19, Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.38**	**229**	*e*Pg	**Pg**	**18 01 48.0**	**+0.2**
	baz=54						
MSL				*e*Sg	**Sg**	**18 01 54.0**	**+0.9**
CUKT	**Cukurca**	**0.61**	**11**	PG	**Pb**	**18 01 52.1**	**-0.6**
CUKT				SG	**Sb**	**18 02 00.8**	**-0.4**
CUKT	**Cukurca**	**0.61**	**11**	*i* P	**Pb**	**18 01 52.9**	**+0.2**
CUKT				*i* S	**Sb**	**18 02 00.9**	**-0.3**
YOVA	**Hakkari_Yksek**	**1.15**	**35**	*i* P	**Pg**	**18 02 02.9**	**+0.5**
YOVA				*i* S	**Sn**	**18 02 19.8**	**+2.2**
YOVA				IAML_P			
	comp=Z,678nm,0.1s						
IKRK	**Kirkuk**	**1.44**	**150**	*e*Pg	**Pn**	**18 02 05.0**	**-0.8**
IKRK				*e*Sg	**Sn**	**18 02 24.0**	**-0.4**
GEVA	**Gevas**	**1.69**	**349**	*i* P	**Pg**	**18 02 12.7**	**0.0**
GEVA				IAML_P			
	comp=Z,496nm,0.2s						
AKDM	**Akdamar-Van**	**1.72**	**347**	PN	**Pg**	**18 02 12.3**	**-1.0**
AKDM				SN	**Sg**	**18 02 35.6**	**-0.1**
SRTM	**Siirt_Merkez**	**1.82**	**318**	*i* P	**Pg**	**18 02 14.6**	**-0.6**
SRTM				*i* S	**Sg**	**18 02 38.4**	**-0.3**
SRTM				IAML_P			
	comp=Z,494nm,0.2s						
BTMN	**Batman**	**2.14**	**306**	*i* P	**Pg**	**18 02 20.6**	**-0.8**
BTMN				*i* S	**Sb**	**18 02 47.3**	**+2.0**
BTMN				IAML_P			
	comp=Z,150nm,0.3s						
SVAN	**Silvan-Diyarba**	**2.34**	**310**	PN	**Pb**	**18 02 21.7**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.34**	**310**	*i* P	**Pg**	**18 02 25.6**	**+0.4**
SVAN				IAML_P			
	comp=Z,256nm,0.2s						

ISCJB ***11*** *18:08:19.7±0.7, 2°.82N±0°.09×128°.8E±0°.2, h250km, mb3.6/12, Error ellipse: s-maj=32.4km s-min=10.8km az=166.6*
IDC ***11*** *18:08:24.9±6.9, 2°.75N×128°.79E, h291km±78km, mb3.2/12, mb1 3.3/12, mb1mx3.1/49, mbtmp3.8/12, Error ellipse: s-maj=29.1km s-min=12.6km az=77.0*

ISC 11 18:08:21.4±0.9, 2°.8N±0°.1×128°.8E±0°.3, h250km, n12, σ0s53/11, mb3.7/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.98**	**189**	P	**P**	**18 12 45.2**	**-0.6**
	2.0nm,0.7s,baz=18,slow=9.6,SNR=3.3						
WRA	**Warramunga Arr**	**23.21**	**167**	P	**P**	**18 13 06.6**	**0.0**
	1.1nm,0.4s,baz=343,slow=10,SNR=39						
ASAR	**Alice Springs**	**26.74**	**170**	P	**P**	**18 13 38.5**	**+0.2**
	0.7nm,0.3s,baz=352,slow=7.2,SNR=61						
CMAR	**Chiang Mai Arr**	**33.17**	**300**	P	**P**	**18 14 35.1**	**+0.2**
	0.5nm,0.8s,baz=125,slow=7.8,SNR=4.6						
KSRS	**Korea Array**	**34.53**	**359**	P	**P**	**18 14 47.0**	**+0.7**
	0.9nm,0.4s,baz=176,slow=10,SNR=5.4						
MJAR	**Matsushiro Arr**	**34.70**	**13**	P	**P**	**18 14 47.3**	**-0.6**
	2.0nm,0.8s,baz=194,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**36.53**	**162**	P	**P**	**18 15 03.8**	**+0.4**
	1.1nm,0.3s,baz=338,slow=12,SNR=19						
SONM	**Songino Array**	**48.89**	**340**	P	**P**	**18 16 42.5**	**+0.3**
	0.2nm,0.4s,baz=139,slow=6.8,SNR=2.2						
MKAR	**Makanchi Array**	**59.54**	**325**	P	**P**	**18 17 58.5**	**-0.2**
	0.6nm,0.4s,baz=118,slow=8.1,SNR=13						
ZALV	**Zalesovo Beam**	**62.40**	**332**	P	P	18 18 16.0	-1.8
	0.6nm,0.4s,baz=134,slow=5.4,SNR=3.0						
KURBB	**Kurchatov Arra**	**63.68**	**327**	P	**P**	**18 18 25.4**	**-0.8**
	1.0nm,0.4s,baz=127,slow=5.9,SNR=19						
BVAR	**Borovoye Array**	**69.27**	**327**	P	**P**	**18 19 01.5**	**0.0**
	0.4nm,0.4s,baz=123,slow=5.5,SNR=4.8						

MOS ***11*** *18:13:33.2±1.1, 9°.00S×118°.50E, h110km, mb4.6/22, Error ellipse: s-maj=16.2km s-min=6.9km az=115.6*
BJI ***11*** *18:13:34.0, 9°.20S×118°.40E, h122km, mb4.9/44, mB5.1/27*
ISCJB ***11*** *18:13:34.8±0.3, 9°.28S±0°.04×118°.50E±0°.03, h138km±3km, mb4.5/59, Error ellipse: s-maj=6.4km s-min=4.1km az=16.0*
NEIC ***11*** *18:13:34.2±0.5, 9°.14S×118°.43E, h109km±5km, mb4.5/35, Error ellipse: s-maj=7.4km s-min=4.2km az=214.0*
IDC ***11*** *18:13:35.1±3.4, 8°.95S×118°.49E, h105km±31km, mb4.2/17, mb1 4.2/20, mb1mx4.1/42, mbtmp4.5/20, Error ellipse: s-maj=25.8km s-min=13.1km az=66.0*
DJA ***11*** *18:13:35.2±0.2, 9°.3S×11°.9E±°, h111km±4km, M4.8/26, mb5.0/26, mB5.3/19, MLv5.1/22, Mw(mB)4.7/19*
KLM ***11*** *18:13:37.6, 9°.42S×118°.50E, h117km, mb4.7*

ISC 11 18:13:35.1±0.8, 9°.30S±0°.05×118°.52E±0°.05, h122km±7km, n207, σ1s70/216, mb4.5/58, 13C-1D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.87**	**302**	P	**Pn**	**18 13 55.8**	**-0.3**
WSI	**Waingapu**	**1.79**	**102**	P	**Pn**	**18 14 06.5**	**+0.4**
DNP	**Denpasar**	**3.33**	**280**	P	**Pn**	**18 14 25.4**	**-0.4**
SRBI	**Singaraja**	**3.48**	**290**	P	**Pn**	**18 14 28.0**	**+0.1**
MMRI	**Maumere**	**3.73**	**80**	*e*Pn	**Pn**	**18 14 31.4**	**+0.3**
MMRI	**Maumere**	**3.73**	**80**	P	**Pn**	**18 14 31.7**	**+0.6**
BKSI	**Bulukumba**	**4.26**	**22**	P	**Pn**	**18 14 37.9**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.39**	**280**	*e*Pn	**Pn**	**18 14 38.8**	**-1.2**
JAGI	**Jajag, Banyuwa**	**4.39**	**280**	P	**Pn**	**18 14 39.0**	**-1.0**
KMMI	**Kalianget**	**5.03**	**296**	P	**Pn**	**18 14 49.9**	**+1.4**
	52nm,0.9s,904nm0.4nm						
BLJI	**Banyuglugur**	**5.11**	**287**	P	**Pn**	**18 14 50.5**	**+0.9**
	282nm,0.4s,11μm1.8nm						
BNSI	**Bone**	**5.11**	**18**	P	**Pn**	**18 14 51.1**	**+1.4**
BATI	**Baumata**	**5.15**	**101**	P	**Pn**	**18 14 50.4**	**+0.2**
BATI	**Baumata**	**5.15**	**101**	P	**Pn**	**18 14 51.1**	**+1.0**
	157nm,0.3s,baz=307,slow=1.9,SNR=244						
BATI				S	**Sn**	**18 15 46.1**	**-2.4**
	150nm,0.3s,baz=120,slow=20,SNR=8.1						
SPSI	**Sidrap Palu**	**5.44**	**13**	P	**Pn**	**18 14 55.5**	**+1.4**
BBSI	**Bau Bau**	**5.52**	**47**	P	**Pn**	**18 14 56.5**	**+1.4**
	152nm,0.8s,2μm0.6nm						
SOEI	**Soe**	**5.69**	**95**	*e*Pn	**Pn**	**18 14 58.1**	**+0.6**
SOEI	**Soe**	**5.69**	**95**	P	**Pn**	**18 14 58.2**	**+0.7**
	780nm,1.0s,8μm2.5nm						
TTSI	**Tana Toraja**	**6.34**	**12**	P	**Pn**	**18 15 09.5**	**+3.2**
	88nm,0.6s,855nm0.3nm						
GRJI	**Gresik**	**6.43**	**291**	P	**Pn**	**18 15 08.3**	**+0.9**
	306nm,0.6s,3μm1.1nm						
PWJI	**Pagerwojo**	**6.76**	**280**	P	**Pn**	**18 15 12.9**	**+1.0**
NGJI	**Ngawi**	**7.24**	**285**	P	**Pn**	**18 15 20.6**	**+2.2**
	64nm,1.0s,0.4nm						
PCJI	**Pacitan**	**7.34**	**278**	P	**Pn**	**18 15 19.7**	**0.0**
WOJI	**Wonogiri, Jawa**	**7.65**	**280**	P	**Pn**	**18 15 24.9**	**+1.0**
	43nm,0.8s,3μm0.5nm						
UGM	**Wanagama**	**8.03**	**279**	*e*Pn	**Pn**	**18 15 27.9**	**-1.1**
UGM	**Wanagama**	**8.03**	**279**	P	**Pn**	**18 15 29.0**	**0.0**
PCI	**Palu**	**8.44**	**9**	P	Pn	18 15 42.5	+7.9
MTKI	**Muara Teweh, K**	**9.05**	**336**	P	**Pn**	**18 15 45.6**	**+2.8**
	72nm,0.9s,3μm						
MPSI	**Mapaga**	**9.67**	**8**	P	**Pn**	**18 15 52.9**	**+1.7**
KPJI	**Karang Pucung**	**9.69**	**281**	P	**Pn**	**18 15 51.0**	**-0.4**
	80nm,0.5s,1μm						
SANI	**Sanana**	**10.34**	**46**	P	**Pn**	**18 16 01.3**	**+1.0**
	39nm,1.3s						
NLAI	**Namlea**	**10.44**	**55**	P	**Pn**	**18 16 03.4**	**+1.9**
CISI	**Cisompet, Garu**	**10.73**	**278**	*e*Pn	**Pn**	**18 16 02.4**	**-3.1**
CISI	**Cisompet, Garu**	**10.73**	**278**	P	**Pn**	**18 16 03.1**	**-2.4**
	134nm,0.6s,3μm						
FITZ	**Fitzroy Crossi**	**11.15**	**142**	*e*Pn	**Pn**	**18 16 11.4**	**+0.4**
FITZ				S	**Sn**	**18 18 09.3**	**-4.5**
FITZ	**Fitzroy Crossi**	**11.15**	**142**	P	**Pn**	**18 16 11.7**	**+0.7**
	3.2nm,0.3s,baz=339,slow=11,SNR=44						
FITZ				S	**Sn**	**18 18 09.3**	**-4.5**
	12nm,0.3s,baz=171,slow=19,SNR=14						
MBWA	**Marble Bar**	**11.85**	**174**	*e*Pn	**Pn**	**18 16 20.8**	**+0.4**
CBJI	**Citeko**	**11.91**	**283**	P	**Pn**	**18 16 18.2**	**-2.9**
XMIS	**Christmas Isla**	**12.73**	**264**	*e*Pn	**Pn**	**18 16 27.8**	**-4.1**
MTN	**Manton Dam**	**12.87**	**107**	*e*Pn	**Pn**	**18 16 32.5**	**-1.2**
SBUM	**Sibu**	**13.25**	**331**	*e*Pn	**Pn**	**18 16 37.0**	**-1.6**
SBUM	**Sibu**	**13.25**	**331**	P	**P**	**18 16 42.7**	**-1.3**
KSM	**Kuching**	**13.47**	**322**	P	**P**	**18 16 48.8**	**+2.4**
TSM	**Tawau**	**13.52**	**357**	P	**P**	**18 16 46.0**	**-0.9**
BTM	**Bintulu**	**13.55**	**336**	P	**P**	**18 16 47.7**	**+0.4**
KASI	**Kota Agung**	**14.40**	**284**	P	**Pn**	**18 16 53.7**	**+0.3**
	57nm,0.5s,1μm						
SDKM	**Sandakan**	**14.90**	**355**	P	**P**	**18 17 06.0**	**+3.6**
LWLI	**Liwa**	**14.96**	**286**	P	**Pn**	**18 17 00.4**	**-0.2**
	24nm,0.5s						
MDSI	**Maura Dua**	**15.02**	**288**	P	**Pn**	**18 17 01.0**	**-0.2**
	6.4nm,1.0s						
FAKI	**Fak Fak**	**15.04**	**66**	*e*Pn	**Pn**	**18 17 00.3**	**-1.2**
	128nm,1.4s						
SIJI	**Sorong**	**15.20**	**57**	P	**Pn**	**18 17 00.9**	**-2.5**
	3.8nm,0.3s,baz=213,slow=11,SNR=13						
SIJI				S	**Sn**	**18 19 52.6**	**+0.7**
	1.1nm,0.3s,baz=162,slow=20,SNR=5.3						
KKM	**Kota Kinabalu**	**15.41**	**351**	*e*Pn	**P**	**18 17 07.5**	**-0.5**
	55nm,0.6s						
LHSI	**Lahat**	**15.86**	**289**	P	**P**	**18 17 12.5**	**-0.4**
KDM	**Kudat**	**16.19**	**354**	P	**P**	**18 17 23.6**	**+7.0**
MYKOM	**Kota Tinggi**	**18.30**	**306**	P	**Pn**	**18 17 46.5**	**+5.2**
KRJI	**Kerinci**	**18.41**	**292**	P	**Pn**	**18 17 43.1**	**+0.4**
	406nm,0.7s,3μm						
WR1	**Warramunga Arr**	**18.59**	**126**	*e*P	**Pn**	**18 17 45.5**	**+0.8**
	10.0nm,0.7s						
WRA	**Warramunga Arr**	**18.59**	**126**	*i* P	**Pn**	**18 17 45.5**	**+0.8**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA	**Warramunga Arr**	**18.59**	**126**	P	**Pn**	**18 17 45.5**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=303,slow=12,SNR=34						
WRA				S	**S**	**18 21 01.6**	**-7.2**
	comp=Z,1.9nm,0.3s,baz=304,slow=24,SNR=11						
WRAB	**Tennant Creek**	**18.59**	**126**	*e*P	**Pn**	**18 17 45.0**	**+0.3**
	comp=Z,8.7nm,0.8s						
WRAB	**Tennant Creek**	**18.59**	**126**	*ce*P	**Pn**	**18 17 46.0**	**+1.3**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WB2	**Warramunga Arr**	**18.60**	**126**	*e*P	**Pn**	**18 17 45.0**	**+0.2**
KGM	**Kluang**	**18.86**	**306**	P	**Pn**	**18 17 49.6**	**+1.7**
ASAR	**Alice Springs**	**20.50**	**136**	P	Pn	18 18 08.0	+0.9
	comp=Z,2.8nm,0.6s,baz=310,slow=10,SNR=50						
ASAR				S	**S**	**18 21 50.9**	**+4.2**
	comp=Z,16nm,0.8s,baz=312,slow=22,SNR=7.0						
AS31	**Alice Springs**	**20.51**	**136**	*e*P	Pn	18 18 06.7	-0.4
	comp=Z,4.7nm,0.8s						
AS31				*e*S	**S**	**18 21 50.9**	**+4.2**
AS01	**Alice Springs**	**20.54**	**136**	*e*P	**P**	**18 18 05.8**	**+1.7**
KTGM	**Kuala Trenggan**	**21.12**	**313**	P	P	18 18 17.8	+7.4
IPM	**Ipoh**	**22.17**	**307**	*e*P	**P**	**18 18 19.0**	**-2.4**
	comp=Z,6.8nm,0.7s						
IPM	**Ipoh**	**22.17**	**307**	P	**P**	**18 18 21.8**	**+0.4**
PSI	**Prapat**	**22.93**	**301**	*e*P	**P**	**18 18 27.1**	**-1.9**
	comp=Z,18nm,1.0s						
PSI	**Prapat**	**22.93**	**301**	*e*P	**P**	**18 18 27.2**	**-1.9**
PSI				pmax	pmax		
	comp=Z,18nm,1.0s						
KULM	**Kulim**	**22.96**	**308**	P	**P**	**18 18 30.8**	**+1.6**
GSI	**Gunungsitoli**	**23.37**	**296**	*e*P	**P**	**18 18 32.6**	**-0.5**
	comp=Z,8.7nm,0.6s						
PBKT	**Sadao Pong**	**31.02**	**326**	*e*P	**P**	**18 19 41.6**	**+0.2**
	comp=Z,8.2nm,0.9s						
STKA	**Stephens Creek**	**31.03**	**140**	*e*P	**P**	**18 19 44.4**	**+3.0**
	comp=Z,5.8nm,1.9s						
STKA	**Stephens Creek**	**31.03**	**140**	*e*P	**P**	**18 19 44.4**	**+3.0**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.9s						
STKA	**Stephens Creek**	**31.03**	**140**	P	P	18 19 47.4	+6.0
	comp=Z,1.0nm,0.4s,baz=308,slow=8.8,SNR=5.1						
CM01	**Chiang Mai Arr**	**33.63**	**325**	*e*P	**P**	**18 20 03.1**	**-1.1**
CM31	**Chiang Mai Arr**	**33.67**	**325**	*e*P	**P**	**18 20 04.8**	**+0.2**
	comp=Z,4.7nm,0.8s						
CM31				*e*PcP	**PcP**	**18 22 44.4**	**+2.4**
CMAR	**Chiang Mai Arr**	**33.67**	**325**	*ce*P	**P**	**18 20 05.1**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**33.67**	**325**	P	**P**	**18 20 04.8**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=154,slow=6.7,SNR=23						
CMAR				PcP	**PcP**	**18 22 44.4**	**+2.4**
	comp=Z,1.1nm,0.6s,baz=184,slow=3.0,SNR=6.6						
CHTO	**Chiang Mai**	**33.96**	**325**	*e*P	**P**	**18 20 06.9**	**-0.2**
	comp=Z,5.6nm,1.0s						
CHTO	**Chiang Mai**	**33.96**	**325**	*e*P	**P**	**18 20 06.9**	**-0.2**

CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KMI	**Kunming**	**37.51**	**336**	P	**P**	**18 20 39.5**	**+1.9**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
ENH	**Enshi**	**40.29**	**348**	*e*P	**P**	**18 20 59.9**	**-0.6**
	comp=Z,18nm,0.7s						
NJ2	**Nanjing**	**41.12**	**0**	*e*P	**P**	**18 21 08.7**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2	**Chengdu**	**42.41**	**341**	P	**P**	**18 21 17.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,90nm,0.6s						
SHL	**Shillong**	**43.28**	**324**	*e*P	**P**	**18 21 23.9**	**-1.2**
	comp=Z,18nm,0.4s						
SHL	**Shillong**	**43.28**	**324**	*e*P	**P**	**18 21 23.9**	**-1.2**
SHL				pmax	pmax		
	comp=Z,18nm,0.4s						
XAN	**Xi'an**	**44.05**	**349**	P	**P**	**18 21 30.5**	**-0.5**
XAN				pP	pP	18 21 59.4	+0.6
XAN				pmax	pmax		
	comp=Z,14nm,0.5s						
XAN	**Xi'an**	**44.05**	**349**	*e*P	**P**	**18 21 30.5**	**-0.5**
	comp=Z,10nm,0.6s						
XAN	**Xi'an**	**44.05**	**349**	*e*P	**P**	**18 21 30.5**	**-0.5**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
H08S2	**Diego Garcia H**	**45.53**	**268**	T	T	19 11 32.8	
	baz=95,slow=76,SNR=5.4						
H08S3	**Diego Garcia H**	**45.54**	**268**	T	T	19 11 38.0	
	baz=95,slow=76,SNR=4.9						
H08S1	**Diego Carcia H**	**45.55**	**268**	T	T	19 11 37.9	
	baz=95,slow=76,SNR=4.0						
TJN	**Taejon**	**46.19**	**10**	*ce*P	**P**	**18 21 47.0**	**-0.7**
LSA	**Lhasa**	**46.88**	**327**	*e*P	**P**	**18 21 53.7**	**-0.1**
	comp=Z,7.6nm,0.6s						
LSA	**Lhasa**	**46.88**	**327**	*e*P	**P**	**18 21 53.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
LZH	**Lanzhou**	**47.21**	**344**	↑P	**P**	**18 21 56.4**	**+0.5**
LZH				pP	pP	18 22 24.5	+0.4
LZH				sP	sP	18 22 37.6	-0.2
LZH				PP	**PP**	**18 23 48.5**	**+0.4**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,65nm,5.9s						
KS15	**Wonju Array Si**	**47.31**	**10**	*e*P	**P**	**18 21 56.6**	**+0.2**
	comp=Z,22nm,1.3s						
KS15				*e*PcP	**PcP**	**18 23 26.9**	**+1.3**
KSAR	**Wonju Array Be**	**47.31**	**10**	P	**P**	**18 21 56.6**	**+0.1**
KSAR				PcP	**PcP**	**18 23 26.9**	**+1.3**
KSAR	**Wonju Array Be**	**47.31**	**10**	P	**P**	**18 21 56.6**	**+0.1**
KSAR						18 23 26.9	
KSRS	**Korea Array**	**47.33**	**10**	P	**P**	**18 21 56.6**	**0.0**
	comp=Z,7.2nm,0.6s,baz=186,slow=8.5,SNR=30						
KSRS				PcP	**PcP**	**18 23 26.9**	**+1.2**
	comp=Z,2.3nm,0.7s,baz=191,slow=3.1,SNR=7.6						
KS01	**Wonju Array Si**	**47.35**	**10**	*e*P	**P**	**18 21 55.5**	**-1.2**
RAMN	**Ramite**	**47.51**	**320**	*e*P	**P**	**18 21 57.8**	**-0.7**
	comp=Z,22nm,0.5s						
JIRN	**Jiri**	**48.27**	**321**	*e*P	**P

MK31	**Makanchi Array**	**64.51**	**333**	*e*P		**P**	**18 23 57.8**	**-1.1**
	comp=Z,4.1nm,0.8s							
MK31	**Makanchi Array**	**64.51**	**333**	*e*P		**P**	**18 23 58.3**	**-0.6**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MK32	**Makanchi Array**	**64.51**	**333**	*e*P		**P**	**18 23 58.6**	**-0.3**
MKAR	**Makanchi Array**	**64.51**	**333**	P		**P**	**18 23 58.6**	**-0.3**
	comp=Z,8.3nm,0.5s,baz=150,slow=7.3,SNR=114							
MAKZ	**Makanchi**	**64.66**	**333**	*e*P		**P**	**18 23 58.8**	**-1.1**
	comp=Z,21nm,1.8s							
MAKZ	**Makanchi**	**64.66**	**333**	*e*P		**P**	**18 23 58.8**	**-1.1**
MAKZ				pmax	pmax			
	comp=Z,21nm,1.8s							
KZA	**Kyzart**	**64.67**	**326**	P		**P**	**18 24 00.9**	**+0.4**
	SNR=9.9							
TKM2	**Tokmak 2**	**65.04**	**327**	P		**P**	**18 24 02.4**	**-0.3**
	SNR=5.8							
UCH	**Uchtor**	**65.18**	**325**	P		**P**	**18 24 03.8**	**-0.1**
	SNR=5.9							
KBK	**Karagaybulak**	**65.22**	**326**	P		**P**	**18 24 04.1**	**+0.3**
	SNR=5.6							
AAK	**Ala-Archa**	**65.46**	**326**	P		**P**	**18 24 05.6**	**+0.3**
	SNR=12							
AAK	**Ala-Archa**	**65.46**	**326**	*e*P		**P**	**18 24 05.0**	**-0.3**
	comp=Z,7.9nm,0.8s							
AAK	**Ala-Archa**	**65.46**	**326**	*ce*P		**P**	**18 24 05.4**	**0.0**
AAK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AAK	**Ala-Archa**	**65.46**	**326**	P		**P**	**18 24 05.3**	**0.0**
	comp=Z,6.0nm,0.7s,baz=131,slow=5.5,SNR=38							
ARSB	**Arslanbob**	**65.47**	**324**	*e*P		**P**	**18 24 04.9**	**-0.5**
	comp=Z,20nm,0.8s							
AML	**Almayashu**	**65.58**	**325**	P		**P**	**18 24 06.6**	**+0.2**
	SNR=17							
GAR	**Garm**	**65.67**	**320**	*e*P		**P**	**18 24 05.4**	**-1.3**
	comp=Z,41nm,1.0s							
GAR	**Garm**	**65.67**	**320**	*e*P		**P**	**18 24 05.4**	**-1.3**
GAR				pmax	pmax			
	comp=Z,41nm,1.0s							
USP	**Ospenovka**	**65.87**	**326**	P		**P**	**18 24 07.2**	**-0.6**
	SNR=5.3							
EKS2	**Erkin-Say**	**65.87**	**325**	P		**P**	**18 24 08.3**	**+0.4**
	SNR=12							
CHGR	**Chuyangaron**	**66.21**	**320**	*e*P		**P**	**18 24 08.7**	**-1.4**
BOD	**Bodaibo**	**66.98**	**357**	*e*P		**P**	**18 24 13.2**	**-1.3**
BOD				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KK31	**Karatay Array**	**68.02**	**324**	*e*P		**P**	**18 24 20.2**	**-1.2**
	comp=Z,5.0nm,1.1s							
KK31	**Karatay Array**	**68.02**	**324**	*e*P		**P**	**18 24 20.1**	**-1.2**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KKAR	**Karatay Array**	**68.02**	**324**	*e*P		**P**	**18 24 20.3**	**-1.1**
	comp=Z,5.0nm,1.1s							
KKAR	**Karatay Array**	**68.02**	**324**	*e*P		**P**	**18 24 20.3**	**-1.1**
KKAR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KURK	**Kurchatov**	**69.06**	**334**	*e*P		**P**	**18 24 26.6**	**-1.0**
	comp=Z,9.4nm,1.0s							
KURK	**Kurchatov**	**69.06**	**334**	*ce*P		**P**	**18 24 27.3**	**-0.3**
KURK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ZAA0	**Zalesovo Array**	**69.15**	**339**	*e*P		**P**	**18 24 26.6**	**-1.5**
	comp=Z,9.4nm,0.6s							
ZALV	**Zalesovo Beam**	**69.15**	**339**	*e*P		**P**	**18 24 26.5**	**-1.6**
ZALV	**Zalesovo Beam**	**69.15**	**339**	*i* P		**P**	**18 24 27.1**	**-1.0**
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.4s							
ZALV	**Zalesovo Beam**	**69.15**	**339**	P		**P**	**18 24 26.8**	**-1.3**
	comp=Z,9.5nm,0.4s,baz=139,slow=6.1,SNR=46							
ZAA1	**Zalesovo Array**	**69.15**	**339**	*e*P		**P**	**18 24 26.8**	**-1.3**
NVS	**Novosibirsk**	**70.42**	**339**	*i* P		**P**	**18 24 34.6**	**-1.3**
PETK	**Petropavlovsk-**	**70.53**	**24**	P		**P**	**18 24 37.2**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=208,slow=1.2,SNR=6.2							
PEA1	**Petropavlovsk-**	**70.54**	**24**	*e*P		**P**	**18 24 37.2**	**+0.5**
VNDA	**Vanda**	**71.77**	**171**	*e*P		**P**	**18 24 47.3**	**+3.5**
VNDA	**Vanda**	**71.77**	**171**	*e*P		**P**	**18 24 47.3**	**+3.5**
VNDA	**Vanda**	**71.77**	**171**	P		**P**	**18 24 47.8**	**+4.0**
	comp=Z,0.4nm,0.4s,baz=327,slow=8.0,SNR=6.9							
GEYT	**Allbeck**	**73.31**	**316**			**P**	**18 24 54.0**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=111,slow=4.0,SNR=6.0							
MA2	**Magadan**	**73.34**	**16**	*e*P		**P**	**18 24 52.3**	**-0.9**
	comp=Z,5.8nm,1.0s							
MA2	**Magadan**	**73.34**	**16**	*ce*P		**P**	**18 24 54.5**	**+1.3**
MA2				pmax	pmax			
	comp=Z,9.0nm,1.7s							
BRVK	**Borovoye**	**74.41**	**332**	*e*P		**P**	**18 24 58.8**	**-0.8**
	comp=Z,7.7nm,1.4s							
BRVK	**Borovoye**	**74.41**	**332**	*ce*P		**P**	**18 24 59.6**	**0.0**
BRVK				pmax	pmax			
	comp=Z,10.0nm,2.5s							
SEY	**Seymchan**	**76.57**	**15**	*ce*P		**P**	**18 25 10.9**	**-0.8**
SYO	**Syowa Base**	**77.41**	**201⇑**	*e*P		**P**	**18 25 16.2**	**-0.2**
SYO	**Syowa Base**	**77.41**	**201‖**	*es*P		sP	18 26 04.0	+4.8
AB31	**Akbulak array**	**77.53**	**325**	*i* P		**P**	**18 25 16.5**	**-0.9**
AB31				pmax	pmax			
	comp=Z,5.0nm,0.7s							
ABKAR	**Akbulak array**	**77.53**	**325**	*e*P		**P**	**18 25 16.2**	**-1.2**
	comp=Z,6.4nm,0.8s							
AKTO	**Aktyubinsk**	**79.20**	**325**	P		**P**	**18 25 26.6**	**0.0**
	comp=Z,6.5nm,0.9s,baz=100,slow=6.3,SNR=20							
TIXI	**Tiksi**	**81.06**	**3**	*e*P		**P**	**18 25 34.8**	**-1.3**
	comp=Z,3.0nm,0.6s							
TIXI	**Tiksi**	**81.06**	**3**	*ce*P		**P**	**18 25 35.6**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SVE	**Sverdlovsk**	**81.12**	**332**	*e*P		**P**	**18 25 35.8**	**-0.9**
SVE				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BILL	**Bilibino**	**84.21**	**16**	*i* P		**P**	**18 25 54.2**	**+1.7**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
ZEI	**Tsey**	**85.18**	**315**	*e*P		**P**	**18 26 00.1**	**+1.9**
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**86.15**	**315**	P		**P**	**18 26 03.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=90,slow=5.1,SNR=4.1							
BR101	**Keskin Array S**	**91.96**	**310**	*e*P		**P**	**18 26 30.3**	**-0.1**
BRTR	**Keskin Array B**	**91.96**	**310**	P		**P**	**18 26 30.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=150,slow=4.6,SNR=6.4							
OBN	**Obninsk**	**92.98**	**325**	*i* P		**P**	**18 26 35.2**	**+0.7**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FIA0	**FINESS Array S**	**99.26**	**331**	*e*P		**Pdif**	**18 27 01.6**	**-1.3**
FIA0	**FINESS Array S**	**99.26**	**331**	*e*P		**Pdif**	**18 27 01.6**	**-1.3**
FINES	**FINESS Array B**	**99.26**	**331**	P		**Pdif**	**18 27 01.6**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=104,slow=5.9,SNR=3.7							
YKA	**Yellowknife Ar**	**114.66**	**24**	PKP		PKPdf	18 32 01.3	+0.6
	comp=Z,0.7nm,0.5s,baz=304,slow=1.8,SNR=15							
YKB5	**Yellowknife Ar**	**114.66**	**24**	*e*PKiKP		**PKiKP**	**18 32 00.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**118.05**	**280**	PKP		**PKiKP**	**18 32 09.1**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=76,slow=1.7,SNR=4.6							
TOA1	**Torodi Ar. Sit**	**118.05**	**280**	*e*PKPdf		**PKiKP**	**18 32 09.1**	**+0.4**
NV01	**Mina Array Sit**	**121.57**	**50**	*e*PKPdf		**PKiKP**	**18 32 15.4**	**+0.2**
NVAR	**Mina Array Bea**	**121.57**	**50**	PKP		**PKiKP**	**18 32 17.0**	**+1.8**
	comp=Z,0.7nm,0.7s,baz=231,slow=2.9,SNR=5.1							

IDC **11** *18:14:51.8±5.3,* **20°.81S×177°.54W,** *h* **489**km±61km,
mb3.5/6, mb1 3.7/8, mb1mx3.3/31, mbtmp4.4/8, Error ellipse: s-maj=40.8km s-min=27.4km az=38.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.96**	**262**	P	P	18 18 02.2	+0.2
	0.5nm,0.3s,baz=180,slow=20,SNR=4.5						
URZ	**Urewera**	**18.00**	**194**	P	P	18 18 32.4	-0.1
	1.9nm,0.3s,baz=253,slow=3.2,SNR=6.5						
CTA	**Charters Tower**	**33.89**	**265**	P	P	18 20 53.2	0.0
	9.1nm,0.4s,baz=90,slow=10,SNR=23						
JAY	**Jayapura**	**44.54**	**288**	P	P	18 22 19.3	-0.3
	8.6nm,0.4s,baz=188,slow=2.8,SNR=7.9						
MJAR	**Matsushiro Arr**	**70.71**	**323**	P	P	18 25 17.5	-0.3
	3.1nm,0.5s,baz=163,slow=6.2,SNR=12						
KSRS	**Korea Array**	**77.40**	**318**	P	P	18 25 56.4	+0.7
	0.8nm,0.7s,baz=126,slow=4.9,SNR=3.6						
ILAR	**Eielson Array**	**88.52**	**13**	P	P	18 26 51.0	0.0
	0.5nm,0.4s,baz=216,slow=5.4,SNR=10.0						
PDAR	**Pinedale Array**	**88.89**	**43**	P	P	18 26 53.6	-0.1
	0.3nm,0.6s,baz=210,slow=3.0,SNR=3.4						
FINES	**FINESS Array B**	**136.18**	**344**	PKP	PKPdf	18 33 17.1	+0.6
	0.5nm,0.6s,baz=38,slow=2.5,SNR=2.9						
AKASG	**Malin Array Be**	**143.49**	**331**	PKP	PKPab	18 33 27.5	-0.7
	1.9nm,0.5s,baz=40,slow=4.3,SNR=11						
BRTR	**Keskin Array B**	**147.36**	**312**	PKPbc	PKPbc	18 33 40.2	-0.1
	0.5nm,0.4s,baz=147,slow=3.3,SNR=6.5						
GERES	**GERESS Array B**	**150.61**	**345**	PKPbc	PKPbc	18 33 48.0	0.0
	0.6nm,0.5s,baz=16,slow=2.2,SNR=6.0						

ISCJB **11** *18:25:32.0±0.9, 36°.57N±0°.03×43°.42E±0°.05, h1km±7km, Error ellipse: s-maj=6.8km s-min=5.5km az=12.0*
ISK **11** *18:25:32.5, 36°.65N×43°.40E, h5km, ML2.6/3*
ISN **11** *18:25:32.0±0.6, 36°.62N×43°.34E, h18km±6km, ML1.8*
DDA **11** *18:25:40.1, 37°.25N×43°.34E, h7km±2km, ML2.8*
ISC 11 18:25:31.9±1.1, **36°.57N**±0°.03×**43°.41E**±0°.04, **h13**km±12km, **n10,** σ **0s65**/18, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.30**	**235**	*e*Pg	**Pg**	**18 25 38.0**	**0.0**
	baz=42						
MSL				AML	AML	18 25 38.6	
	comp=Z,52nm,0.2s						
MSL				*e*Sg	**Sg**	**18 25 42.3**	**+0.1**
CUKT	**Cukurca**	**0.69**	**13**	PG	**Pg**	**18 25 44.9**	**-0.5**
CUKT				SG	**Sg**	**18 25 54.0**	**-0.6**
CUKT	**Cukurca**	**0.69**	**13**	*i* P	**Pb**	**18 25 45.6**	**-0.3**
CUKT				*i* S	**Sg**	**18 25 54.1**	**-0.5**
SIRT	**Sirnak**	**1.21**	**320**	PN	**Pb**	**18 25 54.8**	**+0.1**
SIRT				SN	**Sg**	**18 26 11.1**	**0.0**
SIRN	**Sirnak**	**1.22**	**319**	*i* P	**Pg**	**18 25 55.6**	**+0.2**
SIRN				*i* S	**Sn**	**18 26 11.0**	**-0.2**
YOVA	**Hakkari_Yksek**	**1.23**	**34**	*i* P	**Pg**	**18 25 56.7**	**+1.1**
YOVA				*i* S	**Sg**	**18 26 12.9**	**+1.1**
YOVA				IAML_P			
	comp=Z,1μm,0.1s						
IKRK	**Kirkuk**	**1.39**	**147**	*e*Pn	**Pg**	**18 25 58.0**	**-0.6**
IKRK				AML	AML	18 26 00.3	
	comp=N,46nm,0.4s						
IKRK				*e*Sn	**Sg**	**18 26 17.0**	**+0.4**
AKDM	**Akdamar-Van**	**1.79**	**349**	PN	**Pb**	**18 26 04.0**	**-0.6**
SRTM	**Siirt_Merkez**	**1.85**	**320**	*i* P	**Pb**	**18 26 06.2**	**+0.5**
SRTM				*i* S	**Sg**	**18 26 30.6**	**-0.8**
SRTM				IAML_P			
	comp=Z,903nm,0.2s						
BTMN	**Batman**	**2.16**	**308**	*i* P	**Pb**	**18 26 11.6**	**+0.7**
BTMN				IAML_P			
	comp=Z,99nm,0.2s						

MOS **11** *18:42:22.7±0.0, 41°.95N×48°.07E, h22km, MPVA3.6*
NORS **11** *18:42:23.5±0.0, 41°.93N×48°.14E, h27km, MPVA3.5*
ISCJB **11** *18:42:24.5±0.8, 41°.95N±0°.04×48°.15E±0°.06, h22km±6km, Error ellipse: s-maj=8.2km s-min=6.0km az=166.4*
DRS **11** *18:42:24.0±0.0, 42°.01N×48°.09E, h14km*
ISC 11 18:42:24.4±1.0, **41°.97N**±0°.04×**48°.04E**±0°.04, **h14**km±9km, **n12,** σ **0s99**/23, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.23**	**76**	*e*Pg	**Pg**	**18 42 29.1**	**-0.3**
DRN				*e*Sg	**Sg**	**18 42 33.7**	**+1.0**
URKR	**Urkarakh**	**0.36**	**303**	*e*Pg	**Pb**	**18 42 32.1**	**-0.5**
URKR				*e*Sg	**Sb**	**18 42 39.3**	**+1.2**
KSMR	**Kasumkent**	**0.38**	**170**	*i* Pg	**Pg**	**18 42 32.0**	**-0.1**
KSMR				*e*Sg	**Sb**	**18 42 38.2**	**-0.4**
AKT	**Akhty**	**0.54**	**205**	*i* Pg	**Pb**	**18 42 35.1**	**-0.7**
AKT				*e*Sg	**Sb**	**18 42 43.5**	**+0.1**
KMKR	**Kumukh**	**0.71**	**283**	*e*Pg	**Pg**	**18 42 38.0**	**-0.4**
KMKR				*e*Sg	**Sn**	**18 42 50.0**	**-1.2**
GNBR	**Gunib**	**0.90**	**298**	*e*Pg	**Pg**	**18 42 40.7**	**-1.1**
GNBR				*e*Sg	**Sn**	**18 42 56.2**	**+0.8**
ARKR	**Arakani**	**1.00**	**309**	*e*Pg	**Pg**	**18 42 43.0**	**-0.7**
ARKR				*e*Sg	**Sn**	**18 42 59.5**	**+1.6**
KRNR	**Karanay**	**1.19**	**316**	*e*Pg	**Pb**	**18 42 46.0**	**-0.9**
KRNR				*e*Sg	**Sn**	**18 43 04.5**	**+1.7**
LGD	**Lagodekhi**	**1.35**	**265**	P	**Pg**	**18 42 49.5**	**-0.8**
LGD				S	**Sg**	**18 43 08.3**	**+0.5**
LGD	**Lagodekhi**	**1.35**	**265**	*e*Pg	**Pg**	**18 42 49.5**	**-0.8**
LGD				*e*Sg	**Sg**	**18 43 08.3**	**+0.5**
DBC	**Dubki**	**1.37**	**320**	*e*Pg	**Pn**	**18 42 48.7**	**-0.5**
DBC				*e*Sg	**Sg**	**18 43 09.5**	**+0.8**
DDFL	**Dedoflistskaro**	**1.53**	**250**	P	**Pg**	**18 42 55.4**	**+1.6**

ISN **11** *19:03:19.2±0.3, 36°.70N×43°.44E, h0km±2km, ML2.2*
ISK **11** *19:03:27.4, 36°.94N×43°.34E, h5km, ML2.1/3*
DDA **11** *19:03:29.6, 37°.20N×43°.35E, h7km±2km, ML2.5*
ISC 11 19:03:22.4±1.1, **36°.60N**±0°.03×**43°.41E**±0°.05, **h9**km±12km, **n10,** σ **0s68**/18, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.31**	**230**	*e*Pg	**Pg**	**19 03 27.9**	**-0.6**
MSL				*e*Sg	**Sg**	**19 03 34.1**	**+1.3**
	baz=42						
CUKT	**Cukurca**	**0.67**	**14**	PG	**Pg**	**19 03 34.9**	**-0.3**
CUKT				SG	**Sg**	**19 03 42.7**	**-1.3**
CUKT	**Cukurca**	**0.67**	**14**	*i* P	**Pg**	**19 03 35.1**	**-0.2**
CUKT				*i* S	**Sg**	**19 03 44.0**	**0.0**
SIRT	**Sirnak**	**1.19**	**320**	PG	**Pb**	**19 03 45.0**	**-0.1**
SIRT				SG	**Sb**	**19 04 00.1**	**-0.5**
SIRN	**Sırnak**	**1.20**	**319**	*i* P	**Pn**	**19 03 45.0**	**-0.4**
SIRN				*i* S	**Sb**	**19 04 01.2**	**+0.3**
SIRN				IAML_P			
	comp=Z,1μm,0.2s						
YOVA	**Hakkari_Yksek**	**1.21**	**35**	*i* P	**Pg**	**19 03 46.0**	**+0.4**
YOVA				IAML_P			
	comp=Z,465nm,0.2s						
IKRK	**Kirkuk**	**1.42**	**147**	*e*Pn	**Pn**	**19 03 48.0**	**-0.3**
IKRK				*e*Sn	**Sg**	**19 04 08.0**	**+0.1**
GEVA	**Gevas**	**1.73**	**351**	*i* P	**Pb**	**19 03 55.1**	**+0.7**
GEVA				*i* S	**Sg**	**19 04 18.8**	**+0.8**
GEVA				IAML_P			
	comp=Z,279nm,0.2s						
AKDM	**Akdamar-Van**	**1.76**	**349**	PN	**Pb**	**19 03 55.6**	**+0.7**
SRTM	**Siirt_Merkez**	**1.82**	**320**	*i* P	**Pb**	**19 03 56.2**	**+0.2**
SRTM				*i* S	**Sg**	**19 04 21.3**	**+0.3**
SRTM				IAML_P			
	comp=Z,385nm,0.2s						

ISN **11** *19:17:03.6±0.8, 36°.84N×43°.28E, h0km±3km, ML2.8*
DDA **11** *19:17:07.9, 36°.67N×43°.40E, h8km±2km, ML3.1*
ISK **11** *19:17:11.9, 37°.00N×43°.32E, h5km, ML2.8/9*
ISC 11 19:17:08.3±1.2, **36°.63N**±0°.03×**43°.38E**±0°.04, **h7**km±10km, **n24,** σ **1s12**/37, **Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.32**	**223**	*e*Pg	**Pg**	**19 17 14.0**	**-0.6**
MSL				*e*Sg	**Sb**	**19 17 20.2**	**-1.6**
CUKT	**Cukurca**	**0.64**	**16**	PG	**Pg**	**19 17 19.7**	**-0.9**
CUKT	**Cukurca**	**0.64**	**16**	*i* P	**Pg**	**19 17 20.3**	**-0.4**
CUKT				*i* S	**Sg**	**19 17 28.0**	**-1.0**
CUKT				IAML_P			
	comp=Z,7μm,0.3s						
SIRT	**Sirnak**	**1.15**	**319**	PG	**Pb**	**19 17 29.6**	**-1.0**
SIRN	**Sırnak**	**1.16**	**318**	*i* P	**Pb**	**19 17 30.1**	**-0.6**
SIRN				*i* S	**Sg**	**19 17 46.9**	**+1.3**
YOVA	**Hakkari_Yksek**	**1.20**	**37**	*i* P	**Pn**	**19 17 30.7**	**-1.0**
YOVA				*i* S	**Sb**	**19 17 46.7**	**-0.6**
YOVA				IAML_P			
	comp=Z,3μm,0.2s						
IKRK	**Kirkuk**	**1.46**	**147**	*e*Pn	**Pn**	**19 17 34.5**	**-0.6**
IKRK				*e*Sn	**Sg**	**19 17 57.0**	**+1.9**
BASK	**Baskale_VAN**	**1.50**	**19**	*i* P	**Pb**	**19 17 37.4**	**+0.8**
BASK				IAML_P			
	comp=Z,1μm,0.2s						
GEVA	**Gevas**	**1.69**	**351**	*i* P	**Pb**	**19 17 40.1**	**+0.1**
GEVA				*i* S	**Sb**	**19 18 03.3**	**+1.7**
GEVA				IAML_P			
	comp=Z,2μm,0.4s						
AKDM	**Akdamar-Van**	**1.72**	**349**	PN	**Pn**	**19 17 39.1**	**+0.2**
AKDM				SN	**Sn**	**19 17 58.7**	**-2.5**
SRTM	**Siirt_Merkez**	**1.79**	**320**	*i* P	**Pb**	**19 17 41.5**	**+0.1**
SRTM				*i* S	**Sb**	**19 18 05.3**	**+1.2**
TVAN	**Van**	**1.89**	**1**	*i* P	**Pb**	**19 17 43.3**	**0.0**
TVAN				IAML_P			
	comp=Z,1μm,0.4s						
VANB	**Van**	**1.96**	**0**	PN	**Pn**	**19 17 41.3**	**-0.8**
BTMN	**Batman**	**2.10**	**307**	*i* P	**Pb**	**19 17 46.5**	**-0.3**
BTMN				*i* S	**Sb**	**19 18 12.9**	**-0.3**
BTMN				IAML_P			
	comp=Z,248nm,0.2s						
GURO	**Guroymak-BITLI**	**2.19**	**331**	PN	**Pn**	**19 17 46.2**	**+0.8**

ADCV	**BITLIS_Adilcev**	**2.23**	**347**	*i* P		**Pb**	**19 17 50.1**	**+1.0**
ADCV				IAML_P				
	comp=Z,373nm,0.4s							
SVAN	**Silvan-Diyarba**	**2.31**	**312**	PN		**Pn**	**19 17 48.9**	**+2.1**
SVAN	**Silvan-Diyarba**	**2.31**	**312**	*i* P		**Pn**	**19 17 48.3**	**+1.5**
SVAN				*i* S		**Sb**	**19 18 19.3**	**+0.3**
CLDR	**Caldiran**	**2.54**	**9**	PN		**Pn**	**19 17 51.0**	**+0.8**
MLAZ	**Malazgirt-MUS**	**2.59**	**346**	PN		**Pn**	**19 17 51.5**	**+0.7**
AGRB	**Hanur-Agry**	**2.95**	**354**	PN		**Pn**	**19 17 56.6**	**+0.8**
BHD	**Baghdad**	**3.46**	**166**	*e*Pn		**Pn**	**19 18 03.0**	**+0.5**
BHD				*e*Sn		**Sn**	**19 18 45.0**	**+1.3**
IBDR	**Badra**	**4.09**	**148**	*e*Pn		**Pn**	**19 18 12.0**	**+0.7**
IBDR				*e*Sn		**Sn**	**19 19 00.0**	**+0.5**
RTB	**Rutbah**	**4.40**	**216**	*e*Pn		**Pn**	**19 18 15.0**	**-0.5**
RTB				*e*Sn		**Sn**	**19 19 05.5**	**-1.5**

DDA **11** *19:25:29.7, 38°.91N×43°.53E, h5km±1km, ML2.5*
ISK **11** *19:25:29.7, 38°.93N×43°.51E, h10km, ML2.1/5*
ISCJB **11** *19:25:30.6±0.6, 38°.96N±0°.03×43°.51E±0°.06, h13km±6km, Error ellipse: s-maj=8.5km s-min=5.1km az=20.4*
ISC 11 19:25:30.2±1.0, **38°.94N**±0°.04×**43°.52E**±0°.04, **h11**km±7km, **n10,** σ **0s59**/16, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.07**	**40**	*i* P	**Pg**	**19 25 32.3**	**-0.4**
VMUR				*i* S	**Sg**	**19 25 35.0**	**+0.5**
VANB	**Van**	**0.36**	**196**	PG	**Pg**	**19 25 38.8**	**+0.2**
VANB				SG	**Sb**	**19 25 45.1**	**+0.8**
CLDR	**Caldiran**	**0.37**	**57**	PG	**Pg**	**19 25 37.7**	**0.0**
CLDR				SG	**Sg**	**19 25 43.3**	**+0.6**
CLDR	**Caldiran**	**0.37**	**57**	*i* P	**Pg**	**19 25 37.6**	**-0.1**
CLDR				*i* S	**Sb**	**19 25 43.9**	**-1.1**
CLDR				IAML_P			
	comp=Z,4μm,0.1s						
TVAN	**Van**	**0.42**	**192**	*i* P	**Pb**	**19 25 38.9**	**-0.8**
TVAN				IAML_P			
	comp=Z,2μm,0.1s						
DYDN	**Diyadin**	**0.62**	**12**	*i* P	**Pb**	**19 25 42.9**	**-0.3**
DYDN				*i* S	**Sb**	**19 25 52.4**	**+0.3**
DYDN				IAML_P			
	comp=Z,943nm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.63**	**258**	*i* P	**Pg**	**19 25 42.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.76**	**328**	PG	**Pg**	**19 25 44.8**	**0.0**
AGRB				SG	**Sb**	**19 25 55.8**	**-0.1**
TASB	**TASBURUN-IGDIR**	**1.19**	**28**	PN	**Pn**	**19 25 53.2**	**+0.4**
GURO	**Guroymak-BITLI**	**1.22**	**252**	PN	**Pg**	**19 25 52.9**	**-0.8**

KRSC **11** *19:35:35.3±10.0, 55°.56N×162°.24E, h70km±10km, ML4.3*
ISCJB **11** *19:35:36.6±0.4, 55°.59N±0°.02×162°.16E±0°.07, h77km±4km, mb3.6/14, Error ellipse: s-maj=6.9km s-min=3.4km az=14.6*
MOS **11** *19:35:36.1±0.8, 55°.61N×162°.22E, h74km, mb4.6/2, Error ellipse: s-maj=9.5km s-min=4.9km az=74.0*
IDC **11** *19:35:39.4±3.0, 55°.65N×161°.91E, h86km±29km, mb3.3/12, mb1 3.6/13, mb1mx3.3/45, mbtmp3.6/13, MS3.1/2, Ms1 3.1/2, ms1mx2.6/40, Error ellipse: s-maj=20.8km s-min=14.2km az=144.0*
ISC 11 19:35:37.2±0.8, **55°.59N**±0°.03×**162°.19E**±0°.04, **h64**km±7km, **n99,** σ **1s32**/136, **mb3.6**/14, **6C, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.72**	**29**	*e*P	**Pn**	**19 35 51.9**	**+0.1**
KBTR				*e*S	**Sn**	**19 36 03.6**	**+1.0**
KBTR	**Krutoberegovo**	**0.72**	**29**	PN	**Pn**	**19 35 51.9**	**+0.1**
KBTR				S	**Sn**	**19 36 03.6**	**+1.0**
ZLN	**Zelenaya**	**0.90**	**299**	*e*P	**Pn**	**19 35 54.4**	**+0.3**
ZLN				*e*S	**Sn**	**19 36 07.6**	**+0.9**
ZLN	**Zelenaya**	**0.90**	**299**	PN	**Pn**	**19 35 54.4**	**+0.3**
ZLN				S	**Sn**	**19 36 07.6**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**0.92**	**293**	*e*P	**Pn**	**19 35 54.5**	**+0.1**
BZGR				*e*S	**Sn**	**19 36 07.9**	**+0.7**
BZGR	**Bezymyann

DALK S Sn 19 37 03.9 +0.6
PET Petropavlovsk 3.30 220 *e*P Pn 19 36 27.0 +0.7
PET *e*S Sn 19 37 04.7 +0.4
PET Petropavlovsk 3.30 220 *e*PN Pn 19 36 27.4 +1.1
PET *e*S Sn 19 37 04.9 +0.6
PET smax smax
comp=E,362nm,0.5s
PET smax smax
comp=N,325nm,0.5s
PETK Petropavlovsk- 3.62 228 P Pn 19 36 32.1 +1.5
comp=N,3.3nm,0.3s,baz=63,slow=16,SNR=26
PETK S Sn 19 37 19.6 +7.5
comp=N,4.7nm,0.3s,baz=78,slow=16,SNR=6.0
PETK LR LR 19 38 12.0
comp=N,112nm,20.0s,baz=76,slow=43
KRMR Karymshinskiy 3.65 222 *e*P Pn 19 36 32.4 +1.3
KRMR *e*S Sn 19 37 14.9 +2.1
KRMR Karymshinskiy 3.65 222 PN Pn 19 36 32.4 +1.3
KRMR S Sn 19 37 14.9 +2.1
OSSR Ossora 3.70 7 *e*P Pn 19 36 31.6 -0.2
OSSR Ossora 3.70 7 PN Pn 19 36 31.6 -0.2
PALN Palana 3.71 342 *e*P Pn 19 36 35.0 +3.1
PALN Palana 3.71 342 PN Pn 19 36 35.0 +3.1
RUS Russkaya 3.83 216 *e*P Pn 19 36 33.6 0.0
RUS *e*S Sn 19 37 18.5 +1.2
RUS Russkaya 3.83 216 PN Pn 19 36 33.6 0.0
RUS S Sn 19 37 18.5 +1.2
MTVR Mutnovka 3.91 219 *e*P Pn 19 36 34.8 0.0
MTVR Mutnovka 3.91 219 PN Pn 19 36 34.8 0.0
APC Apacha 3.98 230 *e*P Pn 19 36 37.6 +2.0
APC Apacha 3.98 230 PN Pn 19 36 37.6 +2.0
ASAK Asacha 4.09 220 *e*P Pn 19 36 39.3 +2.1
ASAK Asacha 4.09 220 PN Pn 19 36 39.3 +2.1
MA2 Magadan 7.33 308 *ce*PN Pn 19 37 32.9 +12
BILL Bilibino 12.64 7 *e*PN P 19 38 37.6 -5.4
BILL pmax pmax
comp=E,2.0nm,1.1s
TIXI Tiksi 21.40 332 *ce*P P 19 40 21.2 +2.1
TIXI Tiksi 21.40 332 P P 19 40 19.1 +0.1
comp=E,1.7nm,0.7s,baz=120,slow=13,SNR=4.5
MJAR Matsushiro Arr 25.07 231 P P 19 40 54.6 -0.8
comp=E,2.2nm,0.7s,baz=34,slow=6.8,SNR=6.8
ILAR Eielson Array 26.21 49 P P 19 41 05.0 -0.5
comp=E,0.8nm,0.8s,baz=277,slow=10,SNR=10
H11N2 WAKE ISLAND Hy 35.97 172 T T 20 20 03.8
baz=355,slow=76,SNR=21
H11N3 WAKE ISLAND Hy 35.99 172 T T 20 20 04.0
baz=355,slow=76,SNR=19
H11N1 WAKE ISLAND Hy 35.99 172 T T 20 20 04.4
baz=355,slow=76,SNR=16
YKA Yellowknife Ar 40.51 45 P P 19 43 09.1 -0.2
comp=E,0.5nm,0.4s,baz=300,slow=8.2,SNR=8.6
MKAR Makanchi Array 48.20 295 *ce*P P 19 44 12.3 +1.4
MKAR Makanchi Array 48.20 295 P P 19 44 10.8 -0.1
comp=E,0.1nm,0.4s,baz=44,slow=5.1,SNR=3.8
BVAR Borovoye Array 49.81 308 P P 19 44 21.3 -1.8
comp=E,0.3nm,0.6s,baz=46,slow=6.2,SNR=3.7
NVAR Mina Array Bea 53.71 73 P P 19 44 55.0 +1.8
comp=E,1.4nm,0.7s,baz=298,slow=7.4,SNR=10
AAK Ala-Archa 55.08 296 *ce*P P 19 45 00.8 -1.6
AAK pmax pmax
comp=E,8.0nm,1.7s
AAK Ala-Archa 55.08 296 LR LR 20 12 13.3
comp=E,35nm,18.3s,baz=170,slow=40
PDAR Pinedale Array 55.27 64 P P 19 45 05.4 +1.6
comp=E,0.5nm,0.5s,baz=331,slow=4.5,SNR=5.8
FINES FINESS Array B 58.31 337 *ce*P P 19 45 23.6 -1.1
FINES FINESS Array B 58.31 337 P P 19 45 23.2 -1.6
comp=E,0.9nm,0.5s,baz=53,slow=7.1,SNR=7.2
OBN Obninsk 61.07 328 *e*P P 19 45 41.4 -2.3
OBN pmax pmax
comp=E,3.0nm,0.9s
TXAR Lajitas Array 68.57 69 P P 19 46 33.9 +0.8
comp=E,0.2nm,0.6s,baz=274,slow=4.8,SNR=3.5
WRAB Tennant Creek 78.85 207 *ce*P P 19 47 31.7 -1.3
WRA Warramunga Arr 78.86 207 P P 19 47 32.4 -0.7
comp=E,0.8nm,1.0s,baz=6.3,slow=5.9,SNR=2.7
ASAR Alice Springs 82.54 206 P P 19 47 52.2 -0.5
comp=E,0.2nm,0.6s,baz=10,slow=5.7,SNR=3.6

MOS ***11*** *19:46:31.2±1.2,20.˚18S×178.˚18W,h174km,mb4.9/38, Error ellipse: s-maj=12.2km s-min=9.3km az=71.4*
IDC ***11*** *19:46:58.1±1.4,21.˚09S×178.˚17W,h451km±15km, mb4.1/27,mb1 4.2/29,mb1mx4.1/40,mbtmp4.8/29,Error ellipse: s-maj=11.3km s-min=8.5km az=123.0*
NEIC ***11*** *19:46:58.8±0.6,21.˚15S×178.˚15W,h467km±6km, mb4.6/148,Error ellipse: s-maj=5.5km s-min=3.8km az=143.0*
ISCJB ***11*** *19:47:00.7±0.1,21.˚16S±0.˚03×178.˚20W±0.˚04,h495km, mb4.6/181,Error ellipse: s-maj=5.2km s-min=3.1km az=40.1*
BJI ***11*** *19:47:03.9,20.˚49S×178.˚60W,h489km,mb4.8/34, mB5.0/21*
ISC 11 19:47:01.7±0.3, 21.˚06S±0.˚07×178.˚14W±0.˚07, h495km, n590, σ1s11/623, mb4.6/181, 71C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.88**	**312**	*e*P	**P**	19 48 24.1	-3.4
GLKZ	**Green Lake**	**8.17**	**179**	P	P	19 48 53.6	-6.0
DZM	**Mont Dzumac**	**14.38**	**263**	P	**P**	19 50 04.1	-1.5
	0.3nm,0.3s,baz=83,slow=18,SNR=3.1						
OUZ	**Omahuta**	**15.87**	**205**	P	**P**	19 50 19.6	-1.3
WCZ	**Waipu Caves**	**16.22**	**202**	P	**P**	19 50 23.0	-1.6
KUZ	**Kuaotunu**	**16.52**	**198**	P	**P**	19 50 25.6	-2.2
MXZ	**Matakaoa Point**	**16.73**	**190**	*e*P	**P**	19 50 26.8	-3.1
	107nm,1.3s						
MXZ	**Matakaoa Point**	**16.73**	**190**	P	**P**	19 50 27.7	-2.3
WIAZ	**Waiheke Island**	**16.74**	**199**	P	**P**	19 50 29.9	-0.1
HAZ	**Te Kaha**	**17.01**	**191**	P	**P**	19 50 29.4	-3.4
MKAZ	**Moumakai**	**17.02**	**199**	P	**P**	19 50 32.6	-0.2
WTAZ	**Waiatarua**	**17.04**	**200**	P	**P**	19 50 33.1	0.0
PKGZ	**Pakihiroa**	**17.09**	**190**	P	**P**	19 50 31.6	-2.1
RUGZ	**Raukumara Rang**	**17.23**	**191**	P	**P**	19 50 32.6	-2.5
PUZ	**Puketiti**	**17.24**	**190**	P	**P**	19 50 32.9	-2.2
MWZ	**Matawai**	**17.62**	**191**	P	**P**	19 50 34.9	-3.7
URZ	**Urewera**	**17.63**	**192**	P	**P**	19 50 34.6	-4.1
	4.4nm,0.3s,baz=357,slow=1.4,SNR=14						
URZ				S	**S**	19 53 36.5	+0.5
	1.6nm,0.3s,baz=336,slow=20,SNR=4.8						
URZ	**Urewera**	**17.63**	**192**	P	**P**	19 50 35.2	-3.5
PRGZ	**Paritu Road**	**18.13**	**190**	P	**P**	19 50 41.4	-2.0
HIZ	**Hauiti**	**18.41**	**198**	P	**P**	19 50 45.9	-0.1
BKZ	**Black Stump Fm**	**18.63**	**193**	*e*P	**P**	19 50 44.4	-3.5
	104nm,1.8s						
KNTN	**Kanton**	**19.22**	**20**	*e*P	**P**	19 50 51.0	-2.6
	103nm,0.8s						
BFZ	**Birch Farm**	**20.14**	**192**	*e*P	**P**	19 50 59.0	-2.6
	128nm,1.6s						
TCW	**Tory Channel**	**21.09**	**196**	P	**P**	19 51 08.1	-2.2
PLWZ	**Palliser**	**21.20**	**194**	P	**P**	19 51 09.8	-1.5
QRZ	**Quartz Range**	**21.24**	**200**	P	**P**	19 51 10.0	-1.7
NNZ	**Nelson**	**21.34**	**198**	P	**P**	19 51 11.0	-1.5
TUWZ	**Tuamarina**	**21.39**	**196**	P	**P**	19 51 11.6	-1.4
THZ	**Tophouse**	**21.98**	**198**	*e*P	**P**	19 51 16.0	-2.4
	162nm,2.0s						
THZ	**Tophouse**	**21.98**	**198**	P	**P**	19 51 16.6	-1.8
KHZ	**Kahutara**	**22.41**	**196**	*e*P	**P**	19 51 19.2	-3.0
	141nm,2.0s						
KHZ	**Kahutara**	**22.41**	**196**	P	**P**	19 51 19.2	-3.0
LTZ	**Lake Taylor**	**23.11**	**198**	*e*P	**P**	19 51 24.6	-3.9
	29nm,0.6s						
LTZ	**Lake Taylor**	**23.11**	**198**	P	**P**	19 51 24.6	-3.9
INZ	**Inchbonnie**	**23.30**	**200**	P	**P**	19 51 27.3	-2.9
OXZ	**Oxford**	**23.67**	**198**	P	**P**	19 51 38.0	+4.5
WVZ	**Waitaha Valley**	**23.84**	**200**	P	**P**	19 51 33.6	-1.4
RPZ	**Rata Peaks**	**24.32**	**199**	P	**P**	19 51 36.1	-3.2
	4.1nm,0.5s,baz=35,slow=2.3,SNR=5.7						
TOO	**Toolangi**	**35.46**	**234**	*e*P	**P**	19 53 15.6	-0.2
	9.3nm,0.7s						
TOO	**Toolangi**	**35.46**	**234**	*e*P	**P**	19 53 15.6	-0.2
TOO				pmax	pmax		
	comp=E,9.0nm,0.7s						
STKA	**Stephens Creek**	**37.43**	**245**	*e*P	**P**	19 53 30.9	-1.2
	comp=E,5.5nm,1.9s						
STKA				PcP	**PcP**	19 55 39.3	+1.3
STKA	**Stephens Creek**	**37.43**	**245**	*e*P	**P**	19 53 30.9	-1.2
STKA						19 55 39.3	
STKA				pmax	pmax		
	comp=E,6.0nm,1.9s						
STKA	**Stephens Creek**	**37.43**	**245**	P	**P**	19 53 31.4	-0.7
	comp=E,3.0nm,0.5s,baz=92,slow=11,SNR=11						
STKA				PcP	**PcP**	19 55 39.3	+1.3
	comp=Z,2.7nm,0.5s,baz=100,slow=4.6,SNR=5.9						
JAY	**Jayapura**	**44.09**	**289**	P	**P**	19 54 25.2	-0.4
	comp=Z,36nm,0.7s,baz=135,slow=4.0,SNR=13						
AS01	**Alice Springs**	**44.22**	**257**	*e*P	**P**	19 54 25.2	-1.3
AS31	**Alice Springs**	**44.26**	**257**	*e*P	**P**	19 54 26.0	-0.8
	comp=Z,3.0nm,0.6s						
ASAR	**Alice Springs**	**44.26**	**257**	P	**P**	19 54 26.0	-0.8
	comp=Z,9.3nm,0.9s,baz=92,slow=7.7,SNR=56						
ASAR				PcP	**pwP**	19 56 01.8	-1.0
	comp=Z,8.2nm,0.6s,baz=104,slow=3.8,SNR=23						
ASAR				ScP	**ScP**	19 59 10.3	+5.0
	comp=Z,2.2nm,0.7s,baz=106,slow=4.5,SNR=8.7						
ASAR				S	**S**	20 00 24.9	+0.8
	comp=Z,2.2nm,0.8s,baz=95,slow=16,SNR=9.8						
WB2	**Warramunga Arr**	**44.38**	**263**	*e*P	**P**	19 54 26.2	-1.6
WRAB	**Tennant Creek**	**44.38**	**263**	*ce*P	**P**	19 54 25.8	-2.0
WRAB				pmax	pmax		
	comp=Z,15nm,1.0s						
WR1	**Warramunga Arr**	**44.39**	**263**	*e*P	**P**	19 54 26.1	-1.8
	comp=Z,13nm,0.8s						
WR1				*e*pP	**PcP**	19 56 02.1	+0.8
WR1				*e*ScP	**ScP**	19 59 10.7	+4.8
WR1				*e*S	**S**	20 00 25.6	-0.5
WRA	**Warramunga Arr**	**44.39**	**263**	P	**P**	19 54 26.1	-1.8
	comp=Z,5.6nm,0.6s,baz=92,slow=7.7,SNR=89						
WRA				PcP	**PcP**	19 56 02.1	+0.8
	comp=Z,4.0nm,0.8s,baz=99,slow=3.0,SNR=7.1						
WRA				ScP	**ScP**	19 59 10.7	+4.8
	comp=Z,0.5nm,0.6s,baz=93,slow=4.0,SNR=4.1						
WRA				S	**S**	20 00 25.6	-0.5
	comp=Z,0.5nm,0.7s,baz=94,slow=15,SNR=3.4						
SOEI	**Soe**	**56.38**	**272**	*e*P	**P**	19 55 56.2	+0.2
	comp=Z,31nm,0.8s						
SBA	**Scott Base**	**57.31**	**184**	*e*P	**P**	19 56 02.2	+1.1
	comp=Z,12nm,0.8s						
SBA	**Scott Base**	**57.31**	**184**	*e*P	**P**	19 56 02.2	+1.1
SBA				pmax	pmax		
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**57.34**	**185**	*e*P	**P**	19 56 02.5	+1.1
VNDA				*e*		19 56 02.6	
VNDA				ScP	**ScP**	20 00 04.9	+4.3
VNDA	**Vanda**	**57.34**	**185**	*e*P	**P**	19 56 02.5	+1.1
VNDA	**Vanda**	**57.34**	**185**	P	**P**	19 56 02.9	+1.5
	comp=Z,2.5nm,0.6s,baz=353,slow=7.8,SNR=26						
VNDA				ScP	**ScP**	20 00 04.9	+4.3
	comp=Z,2.2nm,0.8s,baz=335,slow=2.0,SNR=7.6						
PWJI	**Pagerwojo**	**68.59**	**269**	P	**P**	19 57 14.2	-0.8
	comp=Z,13nm,0.7s						
QSPA	**South Pole Qui**	**69.01**	**180**	*e*P	**P**	19 57 17.5	+0.7
	comp=Z,16nm,0.9s						
QSPA	**South Pole Qui**	**69.01**	**180**	P	**P**	19 57 17.7	+0.8
	comp=Z,15nm,0.9s,baz=356,slow=0.8,SNR=52						
PCJI	**Pacitan**	**69.11**	**269**	P	**P**	19 57 17.8	-0.4
MJAR	**Matsushiro Arr**	**70.58**	**324**	P	**P**	19 57 26.4	-0.1
	comp=Z,9.5nm,0.5s,baz=156,slow=6.1,SNR=44						
MAJO	**Matsushiro**	**70.58**	**324**	*e*P	**P**	19 57 26.4	0.0
	comp=Z,15nm,0.6s						
MAJO	**Matsushiro**	**70.58**	**324**	*e*P	**P**	19 57 26.4	0.0
MAJO				pmax	pmax		
	comp=Z,15nm,0.6s						
MJB9	**Matsu-Tunnel**	**70.58**	**324**	*e*P	**P**	19 57 26.2	-0.3
	comp=Z,15nm,0.6s						
KPJI	**Karang Pucung**	**71.50**	**269**	P	**P**	19 57 32.0	-0.4
SBUM	**Sibu**	**71.97**	**280**	*e*P	**P**	19 57 34.9	-0.2
	comp=Z,5.5nm,0.9s						
KSM	**Kuching**	**73.36**	**278**	*e*P	**P**	19 57 41.8	-1.3
	comp=Z,16nm,0.8s						
ASAJ	**Asahikawa**	**74.15**	**332**	P	**P**	19 57 48.8	+1.8
	comp=Z,33nm,0.5s,baz=234,slow=7.5,SNR=13						
NIKH	**Nikolski High**	**74.16**	**6**	*e*P	**P**	19 57 46.2	-0.6
	comp=Z,86nm,0.8s						
UNV	**Unalaska Valle**	**75.27**	**7**	*e*P	**P**	19 57 52.3	-0.6
	comp=Z,40nm,0.6s						
KASI	**Kota Agung**	**76.25**	**269**	P	**P**	19 57 59.0	-0.4
YSS	**Yuzh-Sakhalins**	**76.33**	**334**	*e*P	**P**	19 58 00.4	+1.4
	comp=Z,44nm,0.8s						
YSS	**Yuzh-Sakhalins**	**76.33**	**334**	*i*P	**P**	19 58 00.1	+1.0
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
PETK	**Petropavlovsk-**	**76.77**	**345**	*e*P	**P**	19 58 01.4	0.0
PETK	**Petropavlovsk-**	**76.77**	**345**	*e*P	**P**	19 58 01.4	0.0
PETK	**Petropavlovsk-**	**76.77**	**345**	P	**P**	19 58 01.9	+0.5
	comp=Z,41nm,0.9s,baz=142,slow=8.4,SNR=18						
PEA1	**Petropavlovsk-**	**76.78**	**345**	*e*P	**P**	19 58 01.9	+0.4
MDSI	**Maura Dua**	**76.91**	**270**	P	**P**	19 58 02.6	-0.5
KSRS	**Korea Array**	**77.22**	**319**	P	**P**	19 58 05.2	+1.0
	comp=Z,4.0nm,0.6s,baz=130,slow=5.9,SNR=17						
KS15	**Wonju Array Si**	**77.23**	**319**	*e*P	**P**	19 58 04.1	-0.2
	comp=Z,79nm,1.9s						
KSAR	**Wonju Array Be**	**77.23**	**319**	P	**P**	19 58 05.2	+0.9
KSAR	**Wonju Array Be**	**77.23**	**319**	P	**P**	19 58 05.2	+0.9
KS01	**Wonju Array Si**	**77.25**	**319**	*e*P	**P**	19 58 05.0	+0.6
SCZ2	**Santa Cruz Isl**	**78.08**	**46**	P	**P**	19 58 09.0	0.0
	baz=234						
SCI2	**San Clemente I**	**78.24**	**48**	P	**P**	19 58 09.7	-0.1
	baz=235						
PKM	**Mcpherson Peak**	**78.48**	**46**	P	**P**	19 58 11.4	0.0
	baz=234						
CIS	**Catalina Islan**	**78.57**	**47**	P	**P**	19 58 11.6	-0.1
	baz=235						
PASC	**Pasadena Art C**	**79.17**	**47**	*e*P	**P**	19 58 14.4	-0.4
	comp=Z,15nm,0.9s						
109C	**Camp Elliot, M**	**79.19**	**49**	P	**P**	19 58 15.1	+0.2
	baz=236						
KMRM	**Mail Ridge**	**79.27**	**39**	*e*P	**P**	19 58 16.8	+1.6
	comp=Z,39nm,0.8s						
ARVC	**Arvin**	**79.28**	**46**	P	**P**	19 58 15.7	+0.4
	baz=235						
USA0B	**Ussuriysk Arra**	**79.35**	**326**	*e*P	**P**	19 58 16.8	+1.3
	comp=Z,23nm,0.9s						
USA0B	**Ussuriysk Arra**	**79.35**	**326**	*e*P	**P**	19 58 16.8	+1.3
USA0B				pmax	pmax		
	comp=Z,23nm,0.9s						
USRK	**Ussuriysk Ar.**	**79.35**	**326**	P	**P**	19 58 17.0	+1.5
USRK	**Ussuriysk Ar.**	**79.35**	**326**	P	**P**	19 58 17.0	+1.5
	comp=Z,14nm,0.7s,baz=128,slow=3.2,SNR=18						
MYKOM	**Kota Tinggi**	**79.46**	**276**	*e*P	**P**	19 58 17.0	+0.2
	comp=Z,17nm,0.8s						
TYV	**Tymovskoe**	**79.49**	**336**	*e*P	**P**	19 58 16.5	+0.5
TYV				pmax	pmax		
	comp=Z,46nm,0.8s						
MURC	**Murrieta**	**79.53**	**48**	P	**P**	19 58 17.6	+0.9
	baz=236						
BFSC	**Mount Baldy Ra**	**79.56**	**47**	P	**P**	19 58 17.5	+0.5
	baz=236						
MONP2	**Monument Peak**	**79.67**	**49**	P	**P**	19 58 18.0	+0.2
	baz=236						
EDW2	**Edwards Air Fo**	**79.70**	**46**	P	**P**	19 58 17.8	+0.1
	baz=235,SNR=9.7						
IKP	**In-Ko-Pah, Jac**	**79.76**	**49**	P	**P**	19 58 17.7	-0.3
	baz=237						
O02D	**Mt. Diablo Mer**	**79.79**	**40**	P	**P**	19 58 18.3	+0.2
	baz=231,SNR=7.6						
ISA	**Isabella, Lake**	**79.82**	**46**	*e*P	**P**	19 58 18.3	0.0
	comp=Z,13nm,1.3s						
ISA	**Isabella, Lake**	**79.82**	**46**	*e*P	**P**	19 58 18.3	0.0
ISA				pmax	pmax		
	comp=Z,13nm,1.3s						
ISA	**Isabella, Lake**	**79.82**	**46**	P	**P**	19 58 18.6	+0.3
	baz=235,SNR=7.1						
CMB	**Columbia Colle**	**79.96**	**43**	*e*P	**P**	19 58 19.3	+0.3
	comp=Z,8.0nm,1.0s						
CMB	**Columbia Colle**	**79.96**	**43**	*e*P	**P**	19 58 19.3	+0.3
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
PFO	**Pinyon Flats O**	**80.04**	**48**	P	**P**	19 58 19.9	+0.3
	baz=236						
NJ2	**Nanjing**	**80.13**	**310**	*e*P	**P**	19 58 20.8	+0.9
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
AFDM	**Forest Hills D**	**80.14**	**42**	*e*P	**P**	19 58 19.8	0.0
	comp=Z,11nm,1.1s						
SWSC	**Sam W. Stewart**	**80.14**	**49**	P	**P**	19 58 20.5	+0.6
	baz=237						
ORV	**Oroville**	**80.19**	**41**	*e*P	**P**	19 58 20.0	0.0
	comp=Z,7.8nm,0.7s						
ORV	**Oroville**	**80.19**	**41**	*e*P	**P**	19 58 20.0	0.0
ORV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WDC	**Whiskeytown Da**	**80.19**	**40**	*e*P	**P**	19 58 21.0	+1.0
	comp=Z,9.8nm,0.9s						
WDC	**Whiskeytown Da**	**80.19**	**40**	*e*P	**P**	19 58 21.0	+1.0
WDC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
LRMC	**Laurel Mtn Rad**	**80.25**	**46**	P	**P**	19 58 21.2	+0.6
	baz=235						
N02D	**Trinity Center**	**80.34**	**39**	P	**P**	19 58 21.6	+0.7
	baz=231,SNR=5.9						
O03E	**Paynes Creek**	**80.45**	**40**	P	**P**	19 58 22.1	+0.6
	baz=232						
M02C	**Callahan**	**80.51**	**39**	P	**P**	19 58 22.8	+1.1
	baz=231,SNR=7.8						
CWC	**Cottonwood Cre**	**80.53**	**45**	P	**P**	19 58 22.4	+0.3
	baz=235						
L02E	**Cave Junction**	**80.56**	**38**	P	**P**	19 58 23.1	+1.2
	baz=230						
MDPB	**Devils Postpil**	**80.56**	**44**	*e*P	**P**	19 58 23.1	+0.7
	comp=Z,8.7nm,0.9s						
BELC	**Belle Mtn. Jos**	**80.58**	**48**	P	**P**	19 58 23.1	+0.8
	baz=237						
OMMB	**Old Mammoth Mi**	**80.60**	**44**	*e*P	**P**	19 58 23.6	+0.9
	comp=Z,7.0nm,1.1s						
MPMC	**Manual Prospec**	**80.70**	**46**	P	**P**	19 58 23.8	+0.8
	baz=235						
GSC	**Goldstone, Bar**	**80.74**	**47**	*e*P	**P**	19 58 23.1	0.0
	comp=Z,7.2nm,1.1s						
GSC	**Goldstone, Bar**	**80.74**	**47**	*e*P	**P**	19 58 23.1	0.0
GSC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GSC	**Goldstone, Bar**	**80.74**	**47**	P	**P**	19 58 23.7	+0.5
	baz=236						
BC3	**Big Chuckawall**	**80.77**	**49**	P	**P**	19 58 24.0	+0.7
	baz=237						
TIN	**Tinemaha, Big**	**80.78**	**45**	P	**P**	19 58 24.0	+0.7
	baz=235						
HEC	**Hector,Ludlow**	**80.80**	**47**	P	**P**	19 58 23.5	+0.1
	baz=236,SNR=9.3						
YBH	**Yreka Blue Hor**	**80.81**	**39**	*e*P	**P**	19 58 24.1	+0.8
	comp=Z,14nm,0.6s						
YBH	**Yreka Blue Hor**	**80.81**	**39**	*e*P	**P**	19 58 24.1	+0.8
YBH				pmax	pmax		
	comp=Z,14nm,0.6s						
YBH	**Yreka Blue Hor**	**80.81**	**39**	P	**P**	19 58 24.5	+1.2
	comp=Z,13nm,0.6s,baz=210,slow=2.1,SNR=33						
WAKR	**Walker**	**80.84**	**43**	*e*P	**P**	19 58 23.6	-0.1
	comp=Z,17nm,1.1s						
K02D	**Willamette Mer**	**80.87**	**37**	P	**P**	19 58 24.2	+0.6
	baz=230						
GLA	**Glamis**	**80.89**	**49**	*e*P	**P**	19 58 24.2	+0.3
	comp=Z,11nm,0.8s						
GLA	**Glamis**	**80.89**	**49**	*e*P	**P**	19 58 24.2	+0.3
GLA				pmax	pmax		
	comp=Z,11nm,0.8s						
GLA	**Glamis**	**80.89**	**49**	P	**P**	19 58 24.6	+0.7
	baz=238						
MDJ	**Mudanjiang**	**80.90**	**325**	P	**P**	19 58 24.6	+1.0
MDJ				pP	pP	20 00 10.9	+0.3
MDJ				sP	sP	20 01 01.9	+0.6
MDJ				S	**S**	20 07 54.9	+4.0
MDJ				pmax	pmax		
	comp=Z,26nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,130nm,4.9s						
MDJ	**Mudanjiang**	**80.90**	**325**	*e*P	**P**	19 58 24.4	+0.8
	comp=Z,21nm,0.8s						
J01E	**Myrtle Point**	**81.02**	**37**	P	**P**	19 58 25.3	+1.1
	baz=230						
BEKR	**Beckworth**	**81.07**	**41**	*e*P	**P**	19 58 25.3	+0.5
	comp=Z,5.6nm,0.8s						
PNTR	**Pine Nut**	**81.08**	**42**	*e*P	**P**	19 58 25.7	+0.7
	comp=Z,21nm,0.8s						
HUMO	**Hull Mountain**	**81.22**	**38**	*e*P	**P**	19 58 26.4	+1.1
	comp=Z,10.0nm,0.8s						
GMRC	**Granite Mounta**	**81.24**	**48**	P	**P**	19 58 26.3	+0.5
	baz=237						
YERR	**Yerington**	**81.25**	**42**	*e*P	**P**	19 58 26.7	+0.9
	comp=Z,15nm,1.1s						
IRM	**Iron Mountain**	**81.26**	**48**	P	**P**	19 58 26.5	+0.7
	baz=237,SNR=6.9						
GRAC	**Grapevine Rang**	**81.31**	**45**	P	**P**	19 58 27.1	+1.1
	baz=235						
L04D	**Klamath Falls**	**81.35**	**38**	P	**P**	19 58 26.7	+0.5
	baz=231,SNR=8.4						
M04C	**Macdoel**	**81.35**	**39**	P	**P**	19 58 26.9	+0.8
	baz=232,SNR=6.1						
KDAK	**Kodiak Island**	**81.39**	**14**	*ce*P	**P**	19 58 26.3	+0.5
KDAK	**Kodiak Island**	**81.39**	**14**	P	**P**	19 58 26.1	+0.3
	comp=Z,13nm,0.6s,baz=223,slow=1.4,SNR=9.0						
TUQ	**Turquoise Moun**	**81.41**	**47**	P	**P**	19 58 27.3	+0.7
	baz=236						
Y12C	**Blythe**	**81.47**	**49**	*e*P	**P**	19 58 27.8	+1.0
	comp=Z,8.1nm,0.8s						
Y12C	**Blythe**	**81.47**	**49**	P	**P**	19 58 27.9	+1.0
	baz=238						
RYN	**Ryan**	**81.50**	**43**	*e*P	**P**	19 58 26.7	-0.3
	comp=Z,23nm,1.7s						
NV01	**Mina Array Sit**	**81.52**	**43**	*e*P	**P**	19 58 27.1	-0.1
NVAR	**Mina Array Bea**	**81.52**	**43**	P	**P**	19 58 27.9	+0.7
	comp=Z,8.1nm,0.8s,baz=224,slow=9.3,SNR=48						
PAHR	**Pah Rah Range**	**81.58**	**42**	*e*P	**P**	19 58 28.1	+0.7
	comp=Z,15nm,1.3s						
NV11	**Mina Array Sit**	**81.62**	**43**	*e*P	**P**	19 58 23.7	-4.0
	comp=Z,1.0nm,1.0s						
I03D	**Drain, OR**	**81.68**	**37**	P	**P**	19 58 28.4	+0.8
	baz=230						
214A	**Organ Pipe Nat**	**81.77**	**51**	P	**P**	19 58 29.4	+1.0
	baz=239						
LDFC	**Landfair**	**81.78**	**48**	*e*P	**P**	19 58 29.6	+1.1
	comp=Z,19nm,0.8s						
KVN	**Ka

comp=Z,10nm,0.9s
G05D Wamic, OR 83.78 37 P **P** 19 58 39.3 +1.0
baz=232
SVW2 Sparrevohn 83.87 11 *e*P **P** 19 58 37.8 -0.4
comp=Z,9.5nm,0.7s
E04D Cinebar 83.92 35 P **P** 19 58 39.9 +1.0
baz=231
X16A Lo Mia Camp, P 84.01 50 *e*P **P** 19 58 40.2 +0.3
comp=Z,7.8nm,1.0s
LCMT Little Creek M 84.09 47 *e*P **P** 19 58 40.7 +0.5
comp=Z,5.5nm,1.0s
319A Douglas 84.09 53 *e*P **P** 19 58 41.8 +1.6
comp=Z,17nm,0.9s
I07A Izee 84.11 38 *e*P **P** 19 58 40.9 +0.8
comp=Z,8.8nm,0.9s
D03D Eldon 84.27 34 P **P** 19 58 41.6 +1.0
baz=230
J08A Circle Bar Ran 84.28 39 *e*P **P** 19 58 41.3 +0.4
comp=Z,17nm,1.4s
MA2 Magadan 84.28 345 *e*P **P** 19 58 39.5 -0.9
comp=Z,26nm,1.0s
MA2 Magadan 84.28 345 *ce*P **P** 19 58 40.2 -0.1
MA2 pmax pmax
comp=Z,28nm,1.0s
CCUT Cedar City 84.29 46 *e*P **P** 19 58 40.6 -0.6
comp=Z,12nm,1.5s
KNB Kanab 84.38 47 *e*P **P** 19 58 42.2 +0.7
comp=Z,19nm,1.6s
KNB Kanab 84.38 47 *e*P **P** 19 58 42.3 +0.7
KNB pmax pmax
comp=Z,19nm,1.6s
PSI Prapat 84.41 275 *e*P **P** 19 58 41.5 -0.7
comp=Z,24nm,0.9s
PSI Prapat 84.41 275 *e*P **P** 19 58 41.5 -0.7
PSI pmax pmax
comp=Z,24nm,0.9s
U15A North Rim 84.44 48 *e*P **P** 19 58 42.7 +0.6
comp=Z,13nm,0.8s
PSUT Pine Spring 84.48 45 *e*P **P** 19 58 41.8 -0.3
comp=Z,2.6nm,0.8s
WUAZ Wupatki 84.61 49 *e*P **P** 19 58 43.4 +0.6
comp=Z,7.2nm,1.1s
WUAZ Wupatki 84.61 49 P **P** 19 58 43.4 +0.6
baz=239
GAMB Gambell 84.70 3 *e*P **P** 19 58 43.2 +0.9
comp=Z,20nm,0.8s
ELK Elko 84.78 43 *e*P **P** 19 58 43.1 -0.5
comp=Z,2.1nm,0.7s
ELK Elko 84.78 43 *e*P **P** 19 58 43.1 -0.5
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 84.78 43 P **P** 19 58 43.6 0.0
comp=Z,2.0nm,0.6s,baz=268,slow=5.2,SNR=11
PGC Sidney 84.80 33 *e*P **P** 19 58 43.5 +0.4
comp=Z,9.9nm,0.7s
BBB Bella Bella 84.96 28 P **P** 19 58 45.6 +1.8
comp=Z,4.9nm,0.7s,baz=258,slow=7.0,SNR=5.2
GSI Gunungsitoli 85.12 273 *e*P **P** 19 58 46.4 +0.8
comp=Z,76nm,0.6s
GSI Gunungsitoli 85.12 273 P **P** 19 58 45.5 -0.1
X18A Snowflake 85.13 50 *e*P **P** 19 58 45.6 +0.2
comp=Z,5.2nm,0.8s
G08A Pilot Rock 85.14 37 *e*P **P** 19 58 45.0 -0.1
comp=Z,8.5nm,0.8s
SKNT Sakolnakorn 85.17 290 P **P** 19 58 46.9 +1.2
A04D Lummi Island 85.22 33 P **P** 19 58 46.0 +0.8
baz=230
B05A Bryant 85.25 34 P **P** 19 58 45.9 +0.6
baz=231
MTPU Mount Pierson 85.34 46 *e*P **P** 19 58 47.3 +0.8
comp=Z,5.6nm,0.8s
LTY Liberty 85.38 35 *e*P **P** 19 58 45.7 -0.4
comp=Z,5.8nm,1.0s
HAWA Hanford 85.48 36 *e*P **P** 19 58 46.5 0.0
comp=Z,11nm,1.0s
TRTT Trang 85.54 280 P **P** 19 58 49.4 +1.8
ZAIG Zacatecas 85.57 64 *e*P **P** 19 58 47.1 -0.7
comp=Z,34nm,1.1s
KNK Knik Glacier 85.58 14 *e*P **P** 19 58 46.7 0.0
comp=Z,22nm,0.7s
MSU Marysvale 85.59 46 *e*P **P** 19 58 48.3 +0.8
PMR Palmer 85.59 13 *e*P **P** 19 58 46.3 -0.3
comp=Z,12nm,0.6s
PMR Palmer 85.59 13 *e*P **P** 19 58 46.3 -0.3
PMR pmax pmax
comp=Z,12nm,0.6s
C06D Leavenworth 85.67 35 P **P** 19 58 47.7 +0.2
baz=232
KCSI Kotacane, Aceh 85.74 275 P **P** 19 58 48.7 +0.1
121A Cookes Peak, D 85.76 53 P **P** 19 58 48.8 +0.4
baz=242
E08A Dider Farm, El 85.80 36 *e*P **P** 19 58 47.9 -0.1
comp=Z,12nm,0.9s
DIV Divide 85.96 15 *e*P **P** 19 58 48.1 -0.5
comp=Z,16nm,1.0s
SML Sawmill 85.96 14 *e*P **P** 19 58 48.6 +0.1
comp=Z,76nm,2.0s
SML Sawmill 85.96 14 *e*P **P** 19 58 48.6 +0.1
SML pmax pmax
comp=Z,76nm,2.0s
DUG Dugway, Tooele 86.05 44 P **P** 19 58 50.2 +0.6
baz=238
SYO Syowa Base 86.16 193‖ *e*P **P** 19 58 48.0 -1.4
SYO Syowa Base 86.16 193‖ *e*pP pP 20 00 37.0 -1.5
BJI Beijing 86.19 315‖ *e*P **P** 19 58 50.6 +0.5
BJI pmax pmax
comp=Z,10.0nm,0.8s
SCM Sheep Creek Mo 86.20 14 *e*P **P** 19 58 49.8 +0.1
comp=Z,31nm,0.7s
SCM Sheep Creek Mo 86.20 14 *e*P **P** 19 58 49.8 +0.1
SCM pmax pmax
comp=Z,31nm,0.7s
D08A Wollman Farm, 86.21 36 *e*P **P** 19 58 50.4 +0.4
comp=Z,7.7nm,0.8s
KLU Klutina 86.23 15 *e*P **P** 19 58 50.1 +0.2
comp=Z,60nm,2.0s
ENH Enshi 86.24 304 *e*P **P** 19 58 51.5 +0.9
comp=Z,37nm,0.9s
E09A Wood Farm, Sta 86.32 37 *e*P **P** 19 58 49.6 -1.0
comp=Z,9.8nm,1.1s
CHAI Chaiyaphum 86.51 288 P **P** 19 58 53.6 +1.5
F10A Beach Ranch, E 86.53 38 *e*P **P** 19 58 51.4 -0.3
comp=Z,20nm,0.8s
TMUT Trail Mountain 86.64 46 *e*P **P** 19 58 53.2 +0.6
comp=Z,6.3nm,0.9s
BALM Baldy 86.75 17 *e*P **P** 19 58 52.3 -0.1
comp=Z,14nm,0.6s
BALM Baldy 86.75 17 *e*P **P** 19 58 52.3 -0.1
BALM pmax pmax
comp=Z,14nm,0.6s
B08A Colville Reser 86.76 35 *e*P **P** 19 58 52.3 -0.3
comp=Z,8.3nm,0.7s
PKDT Phuket 86.81 280 P **P** 19 58 56.6 +3.0
HLID Hailey 86.83 41 *e*P **P** 19 58 53.4 +0.1
comp=Z,3.3nm,0.8s
HLID Hailey 86.83 41 P **P** 19 58 54.3 +1.0
baz=237
LLLB Lillooet 86.84 32 *e*P **P** 19 58 52.8 -0.1
comp=Z,6.9nm,0.7s
SEY Seymchan 86.89 347 *ce*P **P** 19 58 50.8 -2.0
C09A Chrisman Ranch 87.00 36 *e*P **P** 19 58 53.3 -0.4
comp=Z,9.9nm,0.7s
SRU San Rafael Swe 87.00 46 *e*P **P** 19 58 54.6 +0.4
comp=Z,6.8nm,0.8s
TRF Thorofare Moun 87.02 12 *e*P **P** 19 58 52.7 -1.0
comp=Z,26nm,0.7s
MNTX Cornudas Mount 87.18 55 *e*P **P** 19 58 55.4 +0.4
comp=Z,8.2nm,0.9s
MNTX Cornudas Mount 87.18 55 P **P** 19 58 55.5 +0.5
baz=243
RND Reindeer 87.27 13 *e*P **P** 19 58 54.6 -0.1
comp=Z,30nm,0.8s
RND Reindeer 87.27 13 *e*P **P** 19 58 54.6 -0.1
RND pmax pmax
comp=Z,30nm,0.8s
DHY Denali Highway 87.29 13 *e*P **P** 19 58 55.2 +0.3
comp=Z,25nm,1.6s
TX31 Lajitas Ar. Si 87.47 57 *e*P **P** 19 58 57.0 +0.5
TXAR Lajitas Array 87.47 57 P **P** 19 58 57.5 +1.0
comp=Z,3.2nm,0.8s,baz=218,slow=6.7,SNR=24
BPAW Bear Paw Mtn. 87.47 12 *e*P **P** 19 58 54.8 -0.8
comp=Z,11nm,1.3s
PHET Kaeng Krachan 87.48 285 P **P** 19 58 59.6 +2.9
PV09 Paradox Valley 87.65 47 *e*P **P** 19 58 56.9 -0.5
PBKT Sadao Pong 87.67 289 *e*P **P** 19 58 58.4 +0.8
PBKT Sadao Pong 87.67 289 P **P** 19 58 59.6 +2.1
PV23 Carpenter Ridg 87.71 47 *e*P **P** 19 58 57.8 +0.2
comp=Z,9.7nm,0.6s
PV04 Paradox Valley 87.75 47 *e*P **P** 19 58 57.6 -0.1
comp=Z,4.6nm,0.6s
PV21 Cone Mtn., Par 87.79 47 *e*P **P** 19 58 58.0 +0.1
comp=Z,5.9nm,0.7s
BWN Browne 87.83 12 *e*P **P** 19 58 56.7 -0.5
comp=Z,38nm,1.2s
ANMO Albuquerque 87.86 51 *e*P **P** 19 58 58.6 +0.3
comp=Z,4.4nm,0.9s
ANMO Albuquerque 87.86 51 *ce*P **P** 19 58 59.4 +1.1
ANMO pmax pmax
comp=Z,9.0nm,2.5s
ANMO Albuquerque 87.86 51 P **P** 19 58 58.5 +0.2
baz=242
ANMO Albuquerque 87.86 51 P **P** 19 58 58.8 +0.5
comp=Z,2.9nm,0.8s,baz=245,slow=2.8,SNR=6.1
NEW Newport 87.90 36 *e*P **P** 19 58 57.8 -0.2
comp=Z,5.2nm,1.0s
NEW Newport 87.90 36 *e*P **P** 19 58 57.8 -0.2
NEW pmax pmax
comp=Z,5.0nm,1.0s
NEW Newport 87.90 36 P **P** 19 58 58.5 +0.4
baz=235
NEW Newport 87.90 36 P **P** 19 58 58.5 +0.4
comp=Z,2.3nm,0.7s,baz=189,slow=5.6,SNR=5.9
ZEA Zeya 88.05 331 *e*P **P** 19 58 57.9 -0.6
ZEA pmax pmax
comp=Z,14nm,1.2s
XAN Xi'an 88.36 307 *e*P **P** 19 58 59.8 -0.7
comp=Z,20nm,0.8s
XAN Xi'an 88.36 307 *e*P **P** 19 58 59.8 -0.7
XAN pmax pmax
comp=Z,20nm,0.8s
MLY Manley 88.36 11 *e*P **P** 19 58 58.6 -1.2
comp=Z,12nm,0.5s
WRH Wood River Hil 88.37 13 *e*P **P** 19 58 59.3 -0.4
comp=Z,23nm,0.7s
MCMT McKenzie Canyo 88.46 40 *e*P **P** 19 59 00.6 -0.4
UTTA Uttaradit 88.49 290 P **P** 19 59 03.7 +2.4
comp=Z,3.4nm,1.0s
HDA Harding Lake 88.55 13 *e*P **P** 19 59 00.2 -0.5
comp=Z,26nm,0.6s
HDA Harding Lake 88.55 13 P **P** 19 59 00.1 -0.5
baz=209
CCB Clear Creek Bu 88.59 13 *e*P **P** 19 58 59.9 -0.8
comp=Z,32nm,0.5s
DLBC Dease Lake 88.61 23 *e*P **P** 19 59 00.9 -0.2
comp=Z,32nm,1.8s
DLBC Dease Lake 88.61 23 P **P** 19 59 02.5 +1.4
comp=Z,5.4nm,0.8s,baz=236,slow=4.9,SNR=10
WHY Whitehorse 88.62 20 *e*P **P** 19 59 00.8 -0.3
comp=Z,7.4nm,0.8s
UTHA Uthaitani 88.64 287 P **P** 19 59 04.4 +2.3
IM3 Indian Mountai 88.73 10 *e*P **P** 19 59 00.4 -1.0
TCOL CIGO, UAF Yank 88.78 12 P **P** 19 59 01.3 -0.3
baz=208
MDM Muphy Dome 88.78 12 *e*P **P** 19 59 00.5 -1.1
comp=Z,21nm,0.9s
COLA College 88.78 12 *e*P **P** 19 59 00.4 -1.2
comp=Z,33nm,0.6s
COLA College 88.78 12 *i*P **P** 19 59 01.1 -0.5
COLA pmax pmax
comp=Z,18nm,0.8s
ILAR Eielson Array 88.89 13 P **P** 19 59 01.2 -0.9
comp=Z,5.3nm,0.4s,baz=216,slow=5.3,SNR=119
ILAR PP **PP** 20 02 36.4 -4.3
comp=Z,1.0nm,0.8s,baz=225,slow=7.6,SNR=4.4
ILB Eielson Array 88.89 13 *e*P **P** 19 59 01.0 -1.1
comp=Z,7.8nm,0.8s
IL1 Eielson Array 88.89 13 *e*P **P** 19 59 00.6 -1.5
S22A 4UR Ranch, Cre 88.89 49 *e*P **P** 19 59 02.5 -0.7
comp=Z,21nm,1.1s
S22A 4UR Ranch, Cre 88.89 49 P **P** 19 59 03.4 +0.2
baz=242
MSO Missoula 88.89 38 P **P** 19 59 02.6 -0.2
baz=237
REDW Red Top Meadow 88.94 42 *e*P **P** 19 59 03.4 +0.2
comp=Z,13nm,1.1s
TPAW Teton Pass 88.94 42 *e*P **P** 19 59 02.9 -0.4
comp=Z,26nm,1.7s
FXWY Fox Creek 88.97 42 *e*P **P** 19 59 03.4 0.0
comp=Z,3.8nm,1.0s
O20A White River Ci 89.04 46 P **P** 19 59 03.9 +0.1
baz=241
SNOW Snow King Moun 89.05 42 *e*P **P** 19 59 04.5 +0.7
comp=Z,10nm,0.8s
HIA Hailar 89.07 325 *e*P **P** 19 59 03.2 -0.2
comp=Z,12nm,0.7s
HIA Hailar 89.07 325 *e*P **P** 19 59 03.2 -0.2
HIA pmax pmax
comp=Z,12nm,0.7s
POKR Poker Flat Res 89.08 12 P **P** 19 59 02.3 -0.7
baz=208
MOOW Moose Ponds 89.20 42 *e*P **P** 19 59 04.8 +0.3
comp=Z,2.5nm,0.8s
SUKH Sukhothai 89.20 289 P **P** 19 59 07.3 +2.6
comp=Z,8.4nm,0.8s
LOHW Long Hollow 89.22 42 *e*P **P** 19 59 05.0 +0.5
comp=Z,4.7nm,0.8s
YHB Horse Butte 89.43 41 *e*P **P** 19 59 05.2 -0.3
comp=Z,7.8nm,0.9s
SMCO Snowmass 89.45 47 *e*P **P** 19 59 05.0 -0.9
comp=Z,30nm,0.8s
BW06 Boulder Array 89.46 43 P **P** 19 59 04.9 -0.8
baz=240
PD31 Pinedale Array 89.46 43 *e*P **P** 19 59 05.3 -0.4
comp=Z,5.8nm,0.8s
PDAR Pinedale Array 89.46 43 P **P** 19 59 05.5 -0.2
comp=Z,4.5nm,0.7s,baz=204,slow=2.6,SNR=37
KMI Kunming 89.48 297 P **P** 19 59 05.4 -0.7
KMI pmax pmax
comp=Z,11nm,0.7s
BILL Bilibino 89.57 354 *e*P **P** 19 59 04.4 -0.9
BILL *e* 20 02 38.0
BILL pmax pmax
comp=Z,10.0nm,0.8s
LAMP Lampang 89.59 290 P **P** 19 59 08.9 +2.4
comp=Z,13nm,0.9s,comp=Z,96nm
BOZ Bozeman (W) 89.60 40 *e*P **P** 19 59 06.0 -0.1
comp=Z,5.5nm,0.6s
BOZ Bozeman (W) 89.60 40 *e*P **P** 19 59 06.0 -0.1
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 89.60 40 P **P** 19 59 07.1 +0.9
baz=239
H17A Grant Village 89.63 42 *e*P **P** 19 59 06.5 0.0
comp=Z,6.9nm,0.8s
H17A Grant Village 89.63 42 P **P** 19 59 08.1 +1.7
baz=240
HHC Hu-ho-hao-te 89.64 314 *e*P **P** 19 59 07.8 +1.4
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,190nm,6.2s
YHH Holmes Hill 89.66 41 *e*P **P** 19 59 06.4 -0.2
comp=Z,17nm,1.8s
SDCO Great Sand Dun 89.82 49 P **P** 19 59 07.8 +0.2
baz=243
PRP Porcupine Dome 89.82 13 *e*P **P** 19 59 07.1 +0.4
comp=Z,24nm,1.6s
DAWY Dawson 90.03 16 *e*P **P** 19 59 07.3 -0.2
comp=Z,12nm,0.6s
WALA Waterton Lakes 90.11 36 *e*P **P** 19 59 07.9 -0.4
comp=Z,14nm,1.5s
CM01 Chiang Mai Arr 90.14 290 *e*P **P** 19 59 10.0 +0.9
MSTX Muleshoe 90.15 54 *e*P **P** 19 59 09.2 +0.3
comp=Z,7.3nm,0.8s
MSTX Muleshoe 90.15 54 P **P** 19 59 09.1 +0.2
baz=244
CM31 Chiang Mai Arr 90.17 290 *e*P **P** 19 59 10.8 +1.6
comp=Z,19nm,0.9s
CMAR Chiang Mai Arr 90.17 290 *ce*P **P** 19 59 11.1 +1.9
CMAR pmax pmax
comp=Z,15nm,0.9s
CMAR Chiang Mai Arr 90.17 290 P **P** 19 59 11.2 +2.0
comp=Z,14nm,0.9s,baz=125,slow=3.0,SNR=73
EGAK Eagle 90.18 15 *e*P **P** 19 59 08.2 0.0
comp=Z,11nm,0.8s
CMMT Chiang Mai 90.30 290 P **P** 19 59 11.4 +1.6
CHTO Chiang Mai 90.31 290 *e*P **P** 19 59 10.9 +1.1
comp=Z,17nm,0.7s
CHTO Chiang Mai 90.31 290 *e*P **P** 19 59 10.9 +1.1
CHTO pmax pmax
comp=Z,17nm,0.7s
T25A Trinidad 90.33 50 P **P** 19 59 09.6 -0.2
baz=244
COLD Coldfoot 90.45 11 *e*P **P** 19 59 09.3 0.0
comp=Z,4.4nm,1.1s
RLMT Red Lodge 90.80 41 P **P** 19 59 12.5 +0.7
baz=240
N23A Red Feather La 90.95 46 P **P** 19 59 13.4 +0.8
baz=243
CD2 Chengdu 90.97 303 P **P** 19 59 11.6 -1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
AMTX Amarillo 91.36 53 P **P** 19 59 14.7 +0.3
baz=245
K22A Casper 91.37 44 P **P** 19 59 14.6 +0.2
baz=242
TOLK Toolik Lake Re 91.83 10 P **P** 19 59 15.8 +0.1
baz=206
EPYK Eagle Plains 92.56 15 *e*P **P** 19 59 18.7 -0.4
comp=Z,5.7nm,0.8s
EPYK Eagle Plains 92.56 15 P **P** 19 59 19.0 -0.1
baz=218
YAK Yakutsk 92.58 338 *e*P **P** 19 59 18.0 -1.2
YAK *e* 20 09 37.9
YAK pmax pmax
comp=Z,141nm,0.9s
YAK pmax pmax
comp=N,21nm,0.9s
YAK pmax pmax
comp=E,34nm,1.0s
YAK pmax pmax
comp=Z,922nm,5.3s
YAK pmax pmax
comp=N,435nm,4.7s
YAK pmax pmax
comp=E,251nm,4.8s
LZH Lanzhou 93.00 307 ⇑P **P** 19 59 23.8 +1.7
LZH pP pwP 20 01 14.5 -1.3
LZH sP sP 20 02 02.1 +0.5
LZH PP **PP** **20 03 18.2 +4.5**
LZH pmax pmax
comp=E,20nm,1.4s
LZH pmax pmax
comp=E,67nm,6.3s
RSSD Black Hills 93.65 44 P **P** 19 59 25.0 +0.1
baz=244
INK Inuvik 94.84 15 P **P** 19 59 28.9 -0.5
comp=E,1.4nm,0.6s,baz=232,slow=3.5,SNR=6.2
ULN Ulaanbaatar 95.69 319 *e*P **P** 19 59 32.9 -1.1
comp=E,2.4nm,0.8s
ULN Ulaanbaatar 95.69 319 *i*P **P** 19 59 31.5 -2.5
ULN pmax pmax
comp=Z,2.0nm,0.9s
SONA0 Songino Array 96.08 319 *e*P **P** 19 59 36.6 +0.9
SONM Songino Array 96.08 319 P **P** 19 59 36.6 +0.9
comp=Z,0.9nm,0.8s,baz=148,slow=5.2,SNR=3.6
YKA Yellowknife Ar 97.07 25 P **P** 19 59 39.2 -0.4
comp=Z,0.5nm,0.6s,baz=241,slow=4.7,SNR=13
YKB5 Yellowknife Ar 97.07 25 *e*P **P** 19 59 39.1 -0.5
GTA Gaotai 97.22 309 P Pdif 19 59 41.6 +0.5
GTA pP pP 20 01 28.4 -2.8
GTA pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 99.25 345 *e*Pdif **Pdif** **19 59 48.3 -0.8**
comp=Z,3.5nm,1.2s
TIXI Tiksi 99.25 345 *ce*P **Pdif** **19 59 48.4 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,1.4s
TLY Talaya 99.25 322 *ce*P **Pdif** **19 59 49.8 +0.2**
TLY pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 110.84 321 PKiKP **PKiKP** **20 04 37.0 -0.7**
comp=Z,2.0nm,0.6s,baz=214,slow=1.0,SNR=12
ZAA1 Zalesovo Array 110.84 321 *e*PKiKP **PKiKP** **20 04 37.0 -0.7**
MK32 Makanchi Array 111.48 313 *e*Pdif **Pdif** **20 00 45.0 +0.9**
MK32 *e*PKiKP **PKiKP** **20 04 38.5 -0.7**
MKAR Makanchi Array 111.48 313 Pdiff **Pdif** **20 00 45.0 +0.9**
comp=Z,0.6nm,0.7s,baz=80,slow=5.5,SNR=8.0
MKAR PKiKP **PKiKP** **20 04 38.5 -0.7**
comp=Z,1.1nm,0.6s,baz=119,slow=0.9,SNR=18
KSH Kashi 115.09 305 *e*PKP **PKiKP** **20 04 50.3 +3.8**
KSH PP PP 20 06 03.6 +8.0
KSH AMB AMB
comp=Z,98nm,5.0s
GAR Garm 119.41 304 *e*PKPdif **PKPdf** **20 04 53.9 -0.9**
BRVK Borovoye 119.48 320 *e*PKPdif **PKPdf** **20 04 53.7 -0.6**
BRVK Borovoye 119.48 320 *e*PKiKP **PKPdf** **20 04 53.7 -0.6**
KBS Kingsbay 121.89 358 *e*PKPdif **PKPdf** **20 04 58.0 -0.3**
SPA0 Spitsbergen Ar 122.41 356 *e*PKPdif **PKPdf** **20 04 59.4 0.0**
SPITS Spitsbergen Ar 122.41 356 PKP **PKPdf** **20 04 58.6 -0.7**
comp=Z,7.5nm,0.7s,baz=52,slow=7.5,SNR=12
DAG Danmarks Havn 123.30 6 *i* PKiKP **PKPdf** **20 04 59.8 -1.2**
DAG pmax pmax
comp=Z,2.0nm,0.6s
SUMG Summit 123.72 14 *e*PKiKP **PKPdf** **20 05 01.3 -1.1**
ARU Arti 125.58 325 *e*PKPdf **PKPdf** **20 05 05.8 -0.1**
ARU Arti 125.58 325 *i* PKiKP **PKPdf** **20 05 05.9 0.0**
ARU 20 06 57.5
ARU SS SS 20 23 56.0 +30
ABKAR Akbulak array 126.40 316 *e*PKPdf **PKPdf** **20 05 07.0 -0.7**
SCO Scoresbysund 128.58 10 *i* PKiKP **PKiKP** **20 05 12.4 +0.5**
HAMF Hammerfest 128.75 351 *e*PKPdf **PKiKP** **20 05 12.2 -0.1**
GEYT Alibeck 128.97 302 PKP **PKiKP** **20 05 13.7 -0.1**
comp=Z,1.9nm,0.7s,baz=252,slow=2.9,SNR=4.2
ARA0 ARCESS Array S 129.44 349 *e*PKPdf **PKPdf** **20 05 12.2 -0.8**
ARCES ARCESS Array B 129.44 349 PKP **PKPdf** **20 05 12.2 -0.8**
comp=Z,4.3nm,0.6s,baz=48,slow=1.3,SNR=23
ARE0 ARCESS Array S 129.44 349 *e*PKPdf **PKiKP** **20 05 14.3 +0.6**
KTK1 Kautokeino 130.28 350 *e*PKPdf **PKiKP** **20 05 15.3 -0.1**
TRO Tromso 130.33 352 *e*PKPdf **PKiKP** **20 05 15.3 -0.1**
KLMR Klimovskoe 132.33 336 *e*PP PP 20 07 43.1 -5.5
KLMR AMP 20 07 52.9
comp=Z,9.0nm,1.6s
STEI Steigen 132.38 353 *e*PKPdf **PKPdf** **20 05 18.9 +0.4**
KONS Konsvik 133.99 354 *e*PKPdf **PKPdf** **20 05 21.9 +0.4**
MOR8 Moi Rana 134.17 353 *e*pPKPdf pPKPdf 20 07 13.5 -5.4
FIA0 FINESS Array S 136.27 343 *e*PKPpre PKPpre 20 05 14.6
FIA0 *e*PKPdf **PKPdf** **20 05 25.4 -0.5**
FIA0 *e*PP **PP** **20 08 14.8 +1.9**
FIA0 FINESS Array S 136.27 343 *e*PKHKP PKPpre 20 05 14.6
FIA0 *e* 20 08 14.9
FINES FINESS Array B 136.27 343 PKhKP PKPpre 20 05 14.6
comp=Z,0.5nm,0.3s,baz=52,slow=2.5,SNR=12
FINES PKP **PKPdf** **20 05 25.4 -0.5**
comp=Z,1.2nm,0.5s,baz=38,slow=2.5,SNR=5.6
FINES SKP 20 08 14.8
comp=Z,1.5nm,0.8s,baz=28,slow=3.6,SNR=4.9
OBN Obninsk 137.18 331 *e*PKiKP **PKPdf** **20 05 27.9 +0.1**
OBN *e* 20 08 16.8
OBN pmax pmax
comp=Z,6.0nm,0.9s
DOMB Dombas 138.74 355 *e*Pdif **Pdif** **20 02 43.2 -1.9**
DOMB *e* 20 05 24.2
NB2 NORSAR Subarra 139.52 353 PKP PKPpre 20 05 24.1
comp=Z,3.5nm,0.8s,baz=15,slow=2.8
NB200 NORSAR Array S 139.52 353 *e*PKPpre PKPpre 20 05 23.8
NB200 *e*SKPbc **SKiKP** **20 08 24.7 +1.3**
NOA NORSAR Array B 139.52 353 PKhKP PKPpre 20 05 23.8
comp=Z,1.1nm,0.6s,baz=14,slow=4.4,SNR=10
NOA SKPbc **SKiKP** **20 08 24.7 +1.3**
comp=Z,1.4nm,0.8s,baz=14,slow=4.5,SNR=4.6
NC602 NORSAR Array S 139.77 353 *e* PKPpre 20 05 23.9
NC602 *e*PKPdf **PKPdf** **20 05 32.4 0.0**
ASK Askoy 140.54 357 *e*PKPdf **PKPdf** **20 05 33.5 -0.2**
BER Bergen 140.63 357 *e*PKPdf **PKPdf** **20 05 34.1 +0.2**
ODD1 Odda 141.03 356 *e*PKPdf **PKPdf** **20 05 34.6 -0.1**
KONO Kongsberg 141.05 354 *e*PKPdf PKPpre 20 05 30.5
BLS5 Blasjo 141.53 356 *e*PKPdf **PKPdf** **20 05 35.3 -0.4**
SUW Suwalki 143.31 339 *e*PKP PKPbc 20 05 37.0 -0.1
SUW Suwalki 143.31 339 *e*PKPpre PKPbc 20 05 36.8 -0.3
SUW Suwalki 143.31 339 *e*PKHKP PKPbc 20 05 37.0 -0.1
AKASG Malin Array Be 143.43 331 PKhKP PKPpre 20 05 36.8
comp=Z,25nm,0.4s,baz=43,slow=4.4,SNR=149
AKBB Malin Array Si 143.43 331 *e*PKPdf PKPab 20 05 36.6 -0.7
KIEV Kiev 143.44 331 *e*PKPdf PKPab 20 05 36.6 -0.8
AK11 Malin Array Si 143.47 331 *e*PKPdf PKPab 20 05 36.7 -0.8
MUD Monsted U'grnd 144.24 353 *i* PKHKP PKPpre 20 05 39.9
MUD pmax pmax
comp=Z,41nm,0.6s
SIM Simferopol' 144.33 319 *e*PKHKP PKPpre 20 05 41.8
SIM pmax pmax
comp=Z,56nm,0.8s
BSD Bornholm Skovb 144.60 347 *i* PKHKP PKPpre 20 05 41.2
BSD pmax pmax
comp=Z,44nm,0.7s
GKP Gorka Klasztor 145.74 344 *e*PKP **PKPbc** **20 05 44.8 +0.2**
BZK Bozkurt 145.87 315⇑ *i*P **PKPab** **20 05 46.3 -0.7**
BEL Belsk 145.93 339 *e*PKP **PKPbc** **20 05 45.7 +0.5**

BEL	Belsk	145.93 339	ePKP2	PKPbc	20 05 45.7	+0.5	
LVV	L'vov	146.35 334	ePKIKP	PKPbc	20 05 47.3	+0.9	
KWP	Kalwaria Pacla	147.03 335	ePKP	PKPbc	20 05 48.8	+0.5	
KWP	Kalwaria Pacla	147.03 335	ePKIKP	PKPbc	20 05 48.8	+0.5	
BR101	Keskin Array S	147.11 312	ePKPbc	PKPbc	20 05 48.7	-0.3	
BR131	Keskin Array S	147.11 312	ePKPbc	PKPbc	20 05 48.9	-0.1	
BRTR	Keskin Array B	147.11 312	PKPbc	PKPbc	20 05 48.7	-0.3	
	comp=Z,6.2nm,0.6s,baz=86,slow=1.3,SNR=41						
PRAR	RASCA	147.18 329	⇑iP	PKPbc	20 05 49.3	+0.5	
TLCR		147.28 324	⇑iP	PKPbc	20 05 49.5	+0.4	
TLCR		147.28 324	⇑PKIKP	PKPbc	20 05 49.5	+0.4	
BUR08	Bucovina Ar. S	147.46 330	ePKPbc	PKPbc	20 05 50.2	+0.6	
BURAR	Bucovina Array	147.48 330	⇑iP	PKiKP	20 05 51.7	+0.4	
BIZ	Bicaz	147.53 328	⇑iP	PKPbc	20 05 50.9	-0.5	
TESR	Tescani	147.56 327	⇑iP	PKPbc	20 05 50.2	+0.4	
OJC	Ojcow	147.63 338	ePKP	PKPbc	20 05 50.3	+0.4	
OJC	Ojcow	147.63 338	ePKPbc	PKPbc	20 05 49.3	-0.6	
ANTO	Ankara	147.63 312	ePKPbc	PKPbc	20 05 49.8	-0.5	
CFR	Carcaliu	147.66 324	⇑iP	PKPbc	20 05 50.4	+0.4	
CFR	Carcaliu	147.66 324	⇑PKIKP	PKPbc	20 05 50.4	+0.4	
ODBI	Odobesti	147.85 326	⇓iP	PKiKP	20 05 51.8	-0.2	
TIRR	Tirgusor	147.95 323	ePKPbc	PKPbc	20 05 51.1	+0.2	
TIRR	Tirgusor	147.95 323	⇑iP	PKPbc	20 05 51.4	+0.6	
TIRR	Tirgusor	147.95 323	⇑PKIKP	PKPbc	20 05 51.4	+0.6	
VRI	Vrincioaia	147.96 326	⇑iP	PKPbc	20 05 51.2	+0.3	
VRI	Vrincioaia	147.96 326	⇑PKIKP	PKPbc	20 05 51.2	+0.3	
UZH	Uzhgorod	147.99 334	ePKIKP	PKiKP	20 05 51.5	-0.7	
UZH			e		20 05 55.9		
PLOR	Plostina	148.01 326	⇑iP	PKPbc	20 05 51.1	+0.1	
PLOR	Plostina	148.01 326	⇑PKIKP	PKPbc	20 05 51.1	+0.1	
TLB	Topalu	148.08 323	⇑iP	PKiKP	20 05 51.9	-0.6	
TLB	Topalu	148.08 323	⇑PKIKP	PKiKP	20 05 51.9	-0.6	
MFTR	Murfatlar	148.12 322	⇑iP	PKPbc	20 05 52.0	-0.6	
NIE	Niedzica	148.12 337	ePKP	PKiKP	20 05 52.3	-0.2	
NIE	Niedzica	148.12 337	ePKIKP	PKiKP	20 05 52.3	-0.2	
KSP	Ksiaz	148.18 343	ePKP	PKiKP	20 05 52.4	-0.1	
KSP	Ksiaz	148.18 343	ePKIKP	PKiKP	20 05 52.4	-0.1	
BMR	Baia Mare	148.22 332	⇑PKIKP	PKiKP	20 05 52.3	-0.4	
ARCR	ARCALIA	148.26 330	⇑iP	PKPab	20 05 58.0	+1.5	
TRPA	Tarpa	148.28 333	ePKiKP	PKPbc	20 05 51.0	-0.5	
OZUR		148.28 328	⇑iP	PKiKP	20 05 52.4	-0.6	
OKC	Ostrava-Krasne	148.51 340	⇑ePKP	PKPbc	20 05 52.6	+0.5	
OKC			ePKPAB	PKPab	20 05 58.1	+0.8	
OKC	Ostrava-Krasne	148.51 340	ePKIKP	PKPbc	20 05 52.6	+0.5	
OKC			e		20 05 58.1		
UPC	Upice	148.56 343	⇑ePKP	PKiKP	20 05 53.1	-0.2	
UPC			ePKPAB	PKPab	20 05 58.4	+0.9	
UPC	Upice	148.56 343	ePKIKP	PKiKP	20 05 53.1	-0.2	
UPC			e		20 05 58.4		
DOPR	Dopca	148.57 328	⇑iP	PKiKP	20 05 53.5	0.0	
CLL	Collm	148.57 347	ePKPbc	PKPbc	20 05 52.0	-0.1	
CLL	Collm	148.57 347	⇓iPKPbc	PKPbc	20 05 52.5	+0.3	
	comp=Z,30nm,0.6s						
CLL			⇑iPKPab	PKPab	20 05 57.7	+0.2	
	comp=Z,28nm,0.9s						
CLL	Collm	148.57 347	⇓iPKIKP	PKPbc	20 05 52.5	+0.3	
CLL			i		20 05 57.7		
CLL			pmax	pmax			
	comp=Z,30nm,0.6s						
CLL			pmax	pmax			
	comp=Z,28nm,0.9s						
DPC	Dobruska-Polom	148.61 342	⇑ePKP	PKiKP	20 05 53.4	-0.1	
DPC			ePKPAB	PKPab	20 05 58.7	+0.9	
DPC	Dobruska-Polom	148.61 342	ePKIKP	PKiKP	20 05 53.4	-0.1	
DPC			e		20 05 58.7		
MLR	Muntele Rosu	148.62 327	ePKPbc	PKPbc	20 05 52.4	-0.3	
MLR	Muntele Rosu	148.62 327	ePKIKP	PKPbc	20 05 52.4	-0.3	
LANS	Liptovska Anna	148.64 338	ePKIKP	PKiKP	20 05 53.8	+0.2	
LANS			e		20 05 59.7		
LANS	Liptovska Anna	148.64 338	ePKP	PKiKP	20 05 53.8	+0.2	
LANS			e		20 05 59.7		
KRLC	Kraliky	148.72 341	⇑ePKP	PKiKP	20 05 53.4	-0.4	
KRLC			ePKPAB	PKPab	20 05 59.5	+1.2	
KRLC	Kraliky	148.72 341	ePKIKP	PKiKP	20 05 53.4	-0.4	
KRLC			e		20 05 59.5		
MORC	Moravsky Berou	148.75 340	ePKPbc	PKPbc	20 05 52.5	-0.2	
MORC	Moravsky Berou	148.75 340	⇑PKIKP	PKiKP	20 05 53.5	-0.3	
MORC	Moravsky Berou	148.75 340	ePKP	PKPbc	20 05 53.0	+0.2	
MORC			e		20 05 59.2		
BRG	Berggiesshubel	148.76 345	i PKP	PKPbc	20 05 53.1	+0.4	
	comp=Z,14nm,0.8s						
BRG	Berggiesshubel	148.76 345	ePKP	PKPab	20 05 59.0	+0.6	
	comp=Z,15nm,0.7s						
BRG	Berggiesshubel	148.76 345	i PKIKP	PKPbc	20 05 53.1	+0.4	
BRG			e		20 05 59.0		
BRG			pmax	pmax			
	comp=Z,14nm,0.8s						
BRG			pmax	pmax			
	comp=Z,15nm,0.7s						
SECR		148.86 326	⇑iP	PKiKP	20 05 53.7	-0.4	
CJR	Cluj-Napoca	148.89 330	⇑iP	PKPbc	20 05 53.5	+0.3	
CJR	Cluj-Napoca	148.89 330	⇑PKIKP	PKPbc	20 05 53.5	+0.3	
PVCC	Panska Ves	148.93 344	⇑ePKP	PKiKP	20 05 53.9	-0.2	
PVCC			ePKPAB	PKPab	20 06 00.2	+1.2	
PVCC	Panska Ves	148.93 344	ePKIKP	PKiKP	20 05 53.9	-0.2	
PVCC			e		20 06 00.2		
CSS	Mathiatis	149.10 303	ePKPbc	PKPbc	20 05 53.9	-0.2	
SILT	Sile	149.11 317	⇑iP	PKiKP	20 05 54.3	-0.4	
LTVH	Ltavrtes, Hu	149.13 333	ePKIKP	PKPbc	20 05 52.0	-1.6	
DRGR		149.23 331	⇑iP	PKPbc	20 05 53.8	-0.3	
DRGR		149.23 331	⇑PKIKP	PKPbc	20 05 53.8	-0.3	
PRD	Provadia	149.31 322	eP	PKiKP	20 05 55.4	+0.3	
ARR	Arges	149.37 328	⇑iP	PKiKP	20 05 55.6	+0.3	
VYHS	Vyhne	149.42 338	ePKIKP	PKiKP	20 05 55.0	-0.2	
VYHS			e		20 06 01.9		
VYHS	Vyhne	149.42 338	ePKP	PKiKP	20 05 55.0	-0.2	
VYHS			e		20 06 01.9		
PRU	Pruhonice	149.43 344	⇑ePKP	PKiKP	20 05 55.0	-0.1	
PRU			ePKPAB	PKPab	20 06 02.1	+1.0	
PRU	Pruhonice	149.43 344	ePKIKP	PKiKP	20 05 55.0	-0.1	
PRU			e		20 06 02.1		
GOPC	GO Pecny, Ondr	149.43 343	⇑ePKP	PKiKP	20 05 55.1	-0.1	
GOPC			ePKPAB	PKPab	20 06 02.3	+1.1	
GOPC	GO Pecny, Ondr	149.43 343	ePKIKP	PKiKP	20 05 55.1	-0.1	
GOPC			e		20 06 02.3		
VRAC	Vranov	149.46 341	⇑PKIKP	PKPbc	20 05 54.5	+0.1	
VRAC	Vranov	149.46 341	ePKP	PKPbc	20 05 54.8	+0.4	
VRAC			e		20 06 02.3		
PSZ	Piszkesteto	149.51 336	ePKPbc	PKPbc	20 05 54.9	+0.2	
PSZ	Piszkesteto	149.51 336	⇑PKP2	PKPab	20 06 02.0	+0.3	
PSZ	Piszkesteto	149.51 336	ePKIKP	PKiKP	20 05 56.0	+0.6	
JAVC	Velka Javorina	149.51 339	ePKP	PKiKP	20 05 56.1	+0.7	
JAVC			e		20 06 03.6		
NKC	Novy Kostel	149.70 346	⇑ePKP	PKiKP	20 05 55.6	-0.1	
NKC			ePKPAB	PKPab	20 06 03.1	+0.8	
NKC	Novy Kostel	149.70 346	ePKIKP	PKiKP	20 05 55.6	-0.1	
NKC			e		20 06 03.1		
KRUC	Moravsky	149.74 341	ePKP	PKPbc	20 05 55.3	+0.2	
KRUC			e		20 06 03.2		
HUMR	Humele	149.77 326	⇑iP	PKPbc	20 05 54.6	-0.7	
TREC	Trest	149.80 342	⇑ePKP	PKiKP	20 05 55.8	-0.2	
TREC			ePKPAB	PKPab	20 06 03.7	+1.0	
TREC	Trest	149.80 342	ePKIKP	PKiKP	20 05 55.8	-0.2	
TREC			e		20 06 03.7		
MODS	Modra-Piesok	150.06 339	ePKP	PKiKP	20 05 57.0	+0.5	
MODS			e		20 06 05.1		
SIRR	Siria	150.10 332	⇑iP	PKiKP	20 05 56.7	0.0	
ZIMR		150.15 324	⇑iP	PKPbc	20 05 56.1	-0.1	
PHSR	Pinarhisar	150.17 319	⇑iP	PKiKP	20 05 56.7	-0.2	
GZR	Gura Zlata	150.25 330	⇑iP	PKPbc	20 05 56.2	-0.3	
GZR	Gura Zlata	150.25 330	⇑PKIKP	PKPbc	20 05 56.2	-0.3	
ZST	Bratislava	150.27 339	ePKP2	PKPab	20 06 05.1	+0.4	
ZST	Bratislava	150.27 339	ePKP	PKPab	20 06 05.1	+0.4	
MEM	Membach	150.33 355	⇓PKP	PKPbc	20 05 56.2	-0.2	
VLAD	Vladila	150.44 326	⇑iP	PKiKP	20 05 57.3	-0.1	
KHC	Kasperske Hory	150.47 344	ePKPbc	PKPbc	20 05 56.4	-0.5	
KHC	Kasperske Hory	150.47 344	⇑ePKP	PKiKP	20 05 57.4	0.0	
KHC			ePKPAB	PKPab	20 06 06.1	+0.6	
GRA1	Grafenberg Arr	150.47 348	ePKPbc	PKPbc	20 05 55.3	-1.5	
GRF	Grafenberg Arr	150.47 348	ePKPdf	PKiKP	20 05 57.3	0.0	
	baz=12,slow=1.5						
GRF			ePKPab	PKPab	20 06 06.7	+1.2	
	baz=18,slow=3.9						
GRF	Grafenberg Arr	150.47 348	ePKIKP	PKPbc	20 05 55.3	-1.5	
GRFO	Grafenberg	150.47 348	ePKPbc	PKPbc	20 05 56.5	-0.3	
SRE	Strehaia	150.58 328	⇑iP	PKiKP	20 05 58.2	+0.5	
BZS	Buzias	150.62 331	⇑iP	PKiKP	20 05 57.6	-0.1	
GEC2	GERESS Array S	150.70 344	ePKPbc	PKiKP	20 05 57.7	-0.2	
GERES	GERESS Array B	150.70 344	PKPbc	PKPbc	20 05 57.3	-0.2	
	comp=Z,7.3nm,0.7s,baz=27,slow=2.4,SNR=3.9						
GEA0	GERESS Array S	150.71 344	ePKPbc	PKPbc	20 05 57.2	-0.3	
HERR	Herculane	150.80 329	⇑iP	PKiKP	20 05 58.0	-0.1	
CONA	Conrad Observa	150.91 340	i PKiKP	PKiKP	20 05 58.7	+0.3	
	comp=Z,9.3nm,0.7s						
CONA			i PKPab	PKPab	20 06 08.6	+1.1	
	comp=Z,15nm,1.3s						
DOU	Dourbes	150.94 356	⇑PKPbc	PKPbc	20 05 57.8	0.0	
DOU			⇑PKPab	PKPab	20 06 07.5	+0.1	
BANR	Banloc	151.02 331	⇑iP	PKiKP	20 05 59.2	+0.7	
DIM	Dimitrovgrad	151.10 322	eP	PKiKP	20 05 59.2	+0.4	
MANT	Manisa	151.19 313	ePKPbc	PKPbc	20 05 59.0	-0.1	
MDVR	Moldovita	151.21 330	⇑iP	PKiKP	20 05 58.9	-0.2	
WLF	Walferdange	151.25 354	⇓PKPbc	PKiKP	20 05 59.0	+0.1	
WLF			⇑PKPab	PKPab	20 06 09.1	+0.4	
MORH	Mrgy, Hungar	151.40 335	ePKiKP	PKPbc	20 05 58.0	-1.0	
MOA	Molln	151.46 342	i PKiKP	PKiKP	20 05 59.3	-0.2	
	comp=Z,4.4nm,0.5s						
MOA			i PKPab	PKPab	20 06 09.8	+0.1	
	comp=Z,15nm,1.2s						
ARSA	Arzberg	151.62 340	i PKPbc	PKPbc	20 05 58.9	-0.6	
	comp=Z,3.0nm,0.7s						
ARSA			ePKPab	PKPab	20 06 09.8	-0.6	
	comp=Z,6.0nm,0.8s						
VTS	Vitosha	152.00 325	⇑iP	PKiKP	20 06 01.1	+0.2	
VTS	Vitosha	152.00 325	⇑PKIKP	PKiKP	20 06 01.2	+0.3	
VTS	Vitosha	152.00 325	eP	PKiKP	20 06 00.8	-0.1	
SOKA	Soboth	152.28 340	i PKPbc	PKPbc	20 06 00.5	-0.6	
	comp=Z,4.7nm,0.8s						
SOKA			i PKPab	PKPab	20 06 13.7	+0.4	
	comp=Z,9.7nm,1.1s						
BFO	Black Forest	152.30 351	ePKPbc	PKPbc	20 06 00.9	-0.1	
BFO	Black Forest	152.30 351	c PKIKP	PKiKP	20 06 01.9	+0.7	
KBA	Koelnbreinsper	152.41 343	ePKPbc	PKPbc	20 06 01.3	-0.2	
	comp=Z,5.5nm,0.7s						
KBA			i PKPab	PKPab	20 06 15.4	+1.4	
	comp=Z,7.6nm,0.7s						
MMB	Musomiste	152.43 323	eP	PKPbc	20 06 01.3	-0.2	
DIVS	Divibare	152.53 331	ePKPbc	PKPbc	20 06 01.5	-0.2	
OBKA	Obir	152.58 341	ePKPbc	PKPbc	20 06 01.3	-0.5	
	comp=Z,4.5nm,0.7s						
OBKA			ePKPab	PKPab	20 06 13.1	-1.5	
	comp=Z,8.2nm,0.9s						
KKB	Krupnik	152.60 324	eP	PKPbc	20 06 01.8	-0.1	
WATA	Walderalm	152.63 346	i PKPbc	PKPbc	20 06 01.6	-0.3	
	comp=Z,4.5nm,0.4s						
WATA			i PKPab	PKPab	20 06 15.1	+0.2	
	comp=Z,6.9nm,0.6s						
RETA	Reutte	152.66 347	ePKiKP	PKiKP	20 06 01.9	-0.1	
	comp=Z,2.9nm,0.6s						
RETA			i PKPab	PKPab	20 06 15.4	+0.5	
	comp=Z,12nm,0.9s						
WTTA	Wattenberg	152.68 345	i PKiKP	PKiKP	20 06 02.2	0.0	
	comp=Z,7.4nm,0.4s						
WTTA			i PKPab	PKPab	20 06 15.8	+0.7	
	comp=Z,17nm,0.6s						
MOTA	Moosalm	152.72 346	i PKPbc	PKPbc	20 06 01.9	-0.2	
	comp=Z,5.8nm,0.8s,SNR=4.7						
MOTA			i PKPab	PKPab	20 06 15.6	+0.4	
	comp=Z,15nm,0.9s						
MYKA	Terra Mystica	152.74 342	i PKPbc	PKPbc	20 06 01.5	-0.6	
	comp=Z,5.3nm,0.7s						
MYKA			i PKPab	PKPab	20 06 15.0	-0.2	
	comp=Z,8.1nm,0.6s						
SQTA	Sankt Quirin	152.82 346	ePKiKP	PKiKP	20 06 02.4	0.0	
	comp=Z,6.4nm,0.7s,SNR=4.3						
SQTA			i PKPab	PKPab	20 06 16.0	+0.4	
	comp=Z,11nm,1.0s						
ABTA	Abfaltersbach	152.94 344	i PKPbc	PKPbc	20 06 02.1	-0.4	
	comp=Z,11nm,0.6s						
ABTA			ePKPab	PKPab	20 06 15.9	-0.2	
	comp=Z,9.8nm,0.6s						
LJU	Ljubljana	153.00 340	ePKPbc	PKiKP	20 06 02.6	0.0	
LJU			i		20 06 16.4		
CRNS	Crni Vrh	153.05 341	i PKPbc	PKPbc	20 06 02.4	-0.3	
FETA	Feichten	153.11 347	ePKiKP	PKPbc	20 06 02.8	-0.2	
	comp=Z,4.4nm,0.7s						
FETA			ePKPab	PKPab	20 06 17.2	+0.3	
	comp=Z,10.0nm,1.2s						
BLY	Banja Luka	153.19 335	ePKPab	PKPab	20 06 16.6	-0.6	
FUORN	Ofenpass-Fuorn	153.59 347	ePKPbc	PKiKP	20 06 04.7	+0.5	
FUORN			ePKPab	PKPab	20 06 19.9	+0.8	
FNA	Florina	154.28 324	ePKPbc	PKiKP	20 06 05.2	-0.3	
FNA	Florina	154.28 324	ePKIKP	PKiKP	20 06 05.3	-0.3	
SENIN	Lac Senin/Sane	154.37 351	ePKPab	PKPab	20 06 22.5	+0.1	
ES06	SONSECA Array	160.79 14	ePKPab	PKPab	20 06 51.4	+1.2	
TORD	Torodi Ar. Bea	172.13 179	PKP	PKPdf	20 06 13.6	-0.4	
	comp=Z,1.4nm,0.9s,baz=69,slow=0.6,SNR=6.1						
TORD			PKPab	PKPab	20 07 39.9	-0.8	
	comp=Z,0.5nm,0.6s,baz=166,slow=4.8,SNR=3.6						
TOA1	Torodi Ar. Sit	172.14 179	ePKPdf	PKPdf	20 06 13.6	-0.4	
TOA1			ePKPab	PKPab	20 07 39.9	-0.8	

DDA 11 20:04:03.5, 38°.34N × 29°.71E, h7km ± 2km, ML 1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHAL	Karahalli	0.17	279	i P	Pg	20 04 07.5	+0.5
KHAL				i S	Sg	20 04 10.1	+0.7
KHAL				IAML_P			
	comp=Z,914nm,0.1s						
KZIL	AFYON_Kizioren	0.35	104	i P	Pg	20 04 10.9	+0.5
KZIL				IAML_P			
	comp=Z,313nm,0.1s						
USAK	Uak-Merkez	0.65	305	i P	Pb	20 04 17.3	0.0
USAK				IAML_P			
	comp=Z,116nm,0.1s						
MANT	Manisa	0.91	280	i P	Pb	20 04 21.7	-0.1
MANT				i S	Sb	20 04 34.5	+0.3
MANT				IAML_P			
	comp=Z,129nm,0.2s						

IDC 11 20:40:30.2 ± 1.7, 0°.19S × 147°.89E, h0km, mb 3.4/3, mb1 3.8/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=295.4km s-min=26.5km az=118.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.69	213	P	P	20 45 43.8	-0.1
	0.4nm,0.4s,baz=38,slow=9.5,SNR=14						
H11S3	WAKE ISLAND Hy	26.20	44	T	T	21 12 59.3	
	baz=223,slow=75,SNR=416						
H11S2	WAKE ISLAND Hy	26.20	44	T	T	21 12 58.7	
	baz=223,slow=75,SNR=192						
H11S1	WAKE ISLAND Hy	26.21	44	T	T	21 13 00.7	
	baz=223,slow=75,SNR=298						
ASAR	Alice Springs	26.99	209	P	P	20 46 14.1	+0.1
	0.4nm,0.4s,baz=41,slow=7.1,SNR=10						
H11N1	WAKE ISLAND Hy	27.17	42	T	T	21 14 15.4	
	baz=222,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	27.19	42	T	T	21 14 16.0	
	baz=222,slow=76,SNR=26						
H11N2	WAKE ISLAND Hy	27.19	42	T	T	21 14 16.2	
	baz=222,slow=76,SNR=28						
ILAR	Eielson Array	79.83	23	P	P	20 52 40.4	0.0
	0.3nm,0.7s,baz=255,slow=5.5,SNR=3.5						

DJA 11 20:45:59.6 ± 0.5, 0°.5S ± 5°, 12°.3E ± °, h141km ± 6km, M3.8/7, mb4.2/1, MLv3.6/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	Cibinong	0.98	44	P	Pn	20 46 24.1	+0.8
KMSI				S	Sn	20 46 42.0	+0.7
LUWI	Luwuk	1.05	210	P	Pn	20 46 23.9	-0.1
LUWI				S	Sn	20 46 42.8	+0.3
APSI	Ampana	1.82	245	P	Pn	20 46 32.0	-0.1
APSI				S	Sn	20 46 57.7	+0.7
SANI	Sanana	3.29	125	P	Pn	20 46 49.3	-1.1
MPSI	Mapaga	3.43	278	P	Pn	20 46 52.9	+0.7
NLAI	Namlea	4.89	129	P	Pn	20 47 12.3	+0.8

IDC ***11*** *20:46:22.8 ± 1.1, 8°.03S × 149°.98E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.7/38, mbtmp3.7/7, ML3.9/1, MS3.6/9, Ms1 3.6/9, ms1mx3.3/32, Error ellipse: s-maj=38.6km s-min=11.6km az=128.0*

NEIC ***11*** *20:46:33.0 ± 1.8, 7°.81S × 149°.52E, h57km ± 18km, mb4.5/4, Error ellipse: s-maj=37.2km s-min=11.8km az=125.0*

ISC 11 20:46:32.0 ± 0.9, 7°.4S ± 0°.2 × 149°.0E ± 0°.2, h35km, n28, σ1§84/23, mb3.8/9, MS3.6/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	4.42	45	ePn	Pn	20 47 37.9	+1.2
JAY	Jayapura	9.58	300	LR	LR	20 53 06.0	
	comp=Z,264nm,20.7s,baz=0.5,slow=38						
WR1	Warramunga Arr	18.96	227	eP	P	20 50 49.6	-0.8
	22nm,1.4s						
WR1				eS	S	20 54 25.6	+1.5
WRA	Warramunga Arr	18.96	227	P	P	20 50 49.6	-0.9
	0.4nm,0.3s,baz=52,slow=11,SNR=18						
WRA				S	S	20 54 25.6	+1.5
	baz=47,slow=22,SNR=4.7						
AS01	Alice Springs	21.74	220	eP	P	20 51 21.4	+0.8
AS31	Alice Springs	21.77	220	eP	P	20 51 21.7	+0.8
	3.3nm,0.5s						
ASAR	Alice Springs	21.77	220	P	P	20 51 19.4	-1.5
	7.7nm,0.7s,baz=52,slow=9.6,SNR=70						
ASAR				S	S	20 55 23.2	+3.2
	1.5nm,1.0s,baz=27,slow=22,SNR=4.0						
FITZ	Fitzroy Crossi	25.16	243	eP	P	20 51 53.1	-1.1
	41nm,1.0s						
FITZ	Fitzroy Crossi	25.16	243	P	P	20 51 52.9	-1.3
	37nm,1.0s,baz=59,slow=9.7,SNR=33						
FITZ				LR	LR	21 02 39.3	
	comp=Z,113nm,19.5s,baz=22,slow=38						
STKA	Stephens Creek	25.37	195	LR	LR	21 02 45.8	
	comp=Z,185nm,19.0s,baz=20,slow=39						
URZ	Urewera	39.89	145	LR	LR	21 09 44.1	
	comp=Z,147nm,18.2s,baz=347,slow=36						
CISI	Cisompet, Garu	40.85	267	eP	P	20 54 08.9	-2.1
	33nm,1.0s						
MJAR	Matsushiro Ar	44.82	348	LR	LR	21 12 22.4	
	comp=Z,36nm,20.7s,baz=90,slow=34						
KSRS	Korea Array	48.74	338	LR	LR	21 14 47.0	
	comp=Z,56nm,19.3s,baz=153,slow=34						
CMAR	Chiang Mai Arr	55.66	298	P	P	20 56 09.8	+4.7
	0.4nm,0.5s,baz=119,slow=6.0,SNR=5.8						
PETK	Petropavlovsk-	60.67	6	LR	LR	21 19 30.9	
	comp=Z,42nm,19.4s,baz=150,slow=32						
PALK	Pallekele	69.67	281	LR	LR	21 29 17.4	
	comp=Z,30nm,21.8s,baz=117,slow=36						
MK32	Makanchi Array	79.81	320	eP	P	20 58 38.5	+1.6
MKAR	Makanchi Array	79.81	320	P	P	20 58 38.5	+1.6
	0.2nm,0.7s,baz=92,slow=8.7,SNR=2.8						
ZALV	Zalesovo Beam	81.22	327	P	P	20 58 47.1	+2.9
	0.3nm,0.3s,baz=90,slow=5.8,SNR=2.7						
ZALV				LR	LR	21 36 07.0	
	comp=Z,29nm,18.6s,baz=50,slow=36						
ZAA1	Zalesovo Array	81.22	327	eP	P	20 58 47.1	+2.9
KURBB	Kurchatov Arra	83.51	323	P	P	20 58 59.1	+2.9
	0.3nm,0.8s,baz=122,slow=5.0,SNR=2.8						
ILAR	Eielson Array	85.93	23	P	P	20 59 06.8	-1.3
	0.5nm,0.9s,baz=248,slow=4.8,SNR=3.1						
GERES	GERESS Array B	124.15	326	PKP	PKPdf	21 05 24.9	-2.3
	0.4nm,0.5s,baz=40,slow=2.3,SNR=4.8						
TOA0	Torodi Ar. Sit	147.36	283	ePKPdf	PKPdf	21 06 09.9	-0.7
TORD	Torodi Ar. Bea	147.36	283	PKPbc	PKPdf	21 06 10.6	-0.1
	2.7nm,0.9s,baz=69,slow=2.3,SNR=21						
TOA1	Torodi Ar. Sit	147.37	283	ePKPdf	PKPdf	21 06 10.6	-0.1
BDFB	Brasilia	151.60	144	PKPbc	PKPdf	21 06 16.4	-1.1
	1.0nm,0.3s,baz=126,slow=5.8,SNR=2.5						

ROM ***11*** *20:55:23.6 ± 0.1, 39°.24N ± 0°.01 × 18°.80E ± 0°.01, h10km, ML3.5/26*

THE ***11*** *20:55:23.9, 39°.28N × 18°.84E, h0km ± 1km, ML3.2/6, Error ellipse: s-maj=2.0km s-min=0.9km az=286.0*

ISCJB ***11*** *20:55:25.6 ± 0.2, 39°.34N ± 0°.02 × 18°.77E ± 0°.02, h68km ± 6km, mb3.0/2, Error ellipse: s-maj=3.1km s-min=2.8km az=37.4*

PDG ***11*** *20:55:26.4 ± 0.6, 39°.34N × 18°.72E, h60km ± 11km, ML3.5/11, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*

IDC ***11*** *20:55:38.9 ± 3.2, 41°.20N × 20°.30E, h0km, mb3.0/2, mb1 3.5/8, mb1mx3.3/44, mbtmp3.4/8, ML3.0/6, Error ellipse: s-maj=54.5km s-min=14.3km az=32.0*

**ISC 11 20:55:27.8 ± 1.1, 39°.39N ± 0°.05 ×

TIP				AML	AML			
	comp=N,192μm,0.7s							
TIP				AML	AML			
	comp=E,200μm,0.6s							
EVGI	**Lefkada island**	**1.62**	**118**	P	**Pn**	**20 55 51.7**	**-2.2**
EVGI				S	**Sn**	**20 56 14.7**	**+1.1**
CGL1	**Ceglie Messapi**	**1.64**	**321**	*e*Pn	**Pn**	**20 55 53.8**	**-0.3**
CGL1				Sn	Sn	20 56 23.6	+10
TAR1	**Taranto**	**1.64**	**314**	*e*Pn	**Pn**	**20 55 53.8**	**-0.4**
TAR1				Sn	**Sn**	**20 56 21.9**	**+7.8**
SERS	**Sersale**	**1.69**	**259**	P	**Pn**	**20 55 53.6**	**-1.4**
MASS	**Massafra**	**1.79**	**315**	*e*Pn	**Pn**	**20 55 55.9**	**-0.4**
CELI	**Celico**	**1.79**	**271**	P	**Pn**	**20 55 55.3**	**-1.1**
CELI				AML	AML			
	comp=E,748μm,0.9s							
CELI				AML	AML			
	comp=N,876μm,1.4s							
CELI				AML	AML			
	comp=N,876μm,1.4s							
CELI				AML	AML			
	comp=E,748μm,0.9s							
FASA	**Fasano**	**1.82**	**322**	*e*Pn	**Pn**	**20 55 56.3**	**-0.3**
FASA				Sn	Sn	20 56 29.5	+11
VLS	**Valsamata**	**1.83**	**131**	P	**Pn**	**20 55 54.5**	**-2.3**
VLS	**Valsamata**	**1.83**	**131**	P	**Pn**	**20 55 54.5**	**-2.3**
VLS				AML	AML			
	comp=E,159μm,1.2s							
VLS				AML	AML			
	comp=N,170μm,0.4s							
VLS				AML	AML			
	comp=E,159μm,1.2s							
VLS				AML	AML			
	comp=N,170μm,0.4s							
VLS				AML	AML			
	comp=N,170μm,0.4s							
VLS				AML	AML			
	comp=E,159μm,1.2s							
NOCI	**Noci**	**1.94**	**317**	P	**Pn**	**20 55 58.0**	**-0.4**
NOCI				AML	AML			
	comp=E,1455μm,0.5s							
NOCI				AML	AML			
	comp=N,1445μm,0.7s							
NOCI				AML	AML			
	comp=N,1445μm,0.7s							
NOCI				AML	AML			
	comp=E,1455μm,0.5s							
PENT	**Pentalofos**	**1.96**	**65**	P	**Pn**	**20 55 59.2**	**+0.6**
LTRZ	**Laterza**	**1.96**	**309**	P	**Pn**	**20 55 57.7**	**-0.9**
LTRZ				AML	AML			
	comp=E,838μm,0.4s							
LTRZ				AML	AML			
	comp=N,894μm,0.6s							
LTRZ				AML	AML			
	comp=N,894μm,0.6s							
LTRZ				AML	AML			
	comp=E,838μm,0.4s							
NEST	**Nestorio**	**2.00**	**58**	P	**Pn**	**20 56 00.3**	**+1.2**
MATE	**Matera**	**2.06**	**308**	⇑*i*P	Pn	20 56 05.3	+5.4
MATE				S	**Sn**	**20 56 33.1**	**+8.8**
PLAC	**Placanica**	**2.08**	**244**	P	**Pn**	**20 55 58.3**	**-2.0**
PLAC				S	**Sn**	**20 56 24.0**	**-1.0**
PLAC				AML	AML			
	comp=E,284μm,0.8s							
PLAC				AML	AML			
	comp=N,282μm,0.9s							
PLAC				AML	AML			
	comp=N,282μm,0.9s							
PLAC				AML	AML			
	comp=E,284μm,0.8s							
T0702	**Acquaformosa (**	**2.14**	**280**	AML	AML			
	comp=E,311μm,0.6s							
T0702				AML	AML			
	comp=N,242μm,0.9s							
T0702				AML	AML			
	comp=E,311μm,0.6s							
T0702				AML	AML			
	comp=N,242μm,0.9s							
SG1	**Sgolgore (BA)**	**2.19**	**312**	*e*Pn	**Pn**	**20 56 02.3**	**+0.5**
SG1				Sn	Sn	20 56 39.2	+11
PVO	**Paravola**	**2.24**	**109**	P	**Pn**	**20 56 01.4**	**-1.0**
BAI	**Bari**	**2.27**	**320**	*e*Pn	Pn	20 56 07.4	+4.6
BAI				Sn	Sn	20 56 42.8	+13
AMUR	**Altamura**	**2.28**	**312**	P	**Pn**	**20 56 02.3**	**-0.7**
AMUR				AML	AML			
	comp=E,758μm,0.6s							
AMUR				AML	AML			
	comp=N,704μm,0.5s							
AMUR				AML	AML			
	comp=N,704μm,0.5s							
AMUR				AML	AML			
	comp=E,758μm,0.6s							
OHR	**Ohrid**	**2.29**	**41**	*i* Pn	**Pn**	**20 56 06.3**	**+3.2**
EVR	**Evrytania**	**2.37**	**101**	P	**Pn**	**20 56 03.8**	**-0.4**
FNA	**Florina**	**2.40**	**54**	P	**Pn**	**20 56 05.1**	**+0.4**
JOPP	**Joppolo**	**2.42**	**252**	P	**Pn**	**20 56 03.2**	**-1.6**
JOPP				AML	AML			
	comp=E,304μm,0.9s							
JOPP				AML	AML			
	comp=N,288μm,1.0s							
JOPP				AML	AML			
	comp=N,288μm,1.0s							
JOPP				AML	AML			
	comp=E,304μm,0.9s							
KZN	**Kozani**	**2.45**	**67**	P	**Pn**	**20 56 05.3**	**0.0**
RLS	**Riolos of Patr**	**2.46**	**122**	P	**Pn**	**20 56 03.8**	**-1.6**
THL	**Klokotos Trika**	**2.48**	**85**	P	**Pn**	**20 56 06.0**	**+0.4**
BIA	**Bitola**	**2.52**	**49**	*i* Pn	**Pn**	**20 56 07.2**	**+0.9**
SOI	**Samo**	**2.53**	**240**	P	**Pn**	**20 56 04.1**	**-2.3**
EFP	**Efpalio**	**2.59**	**111**	P	**Pn**	**20 56 06.4**	**-0.8**
ULC	**Ulcinj**	**2.59**	**7**	⇓*i*Pn	**Pn**	**20 56 07.1**	**-0.2**
ULC				*e*Sn	**Sn**	**20 56 38.6**	**+1.0**
MGR	**Morigerati**	**2.63**	**288**	P	**Pn**	**20 56 08.0**	**+0.2**
MGR				AML	AML			
	comp=E,228μm,0.8s							
MGR				AML	AML			
	comp=N,204μm,0.6s							
MGR				AML	AML			
	comp=N,204μm,0.6s							
MGR				AML	AML			
	comp=E,228μm,0.8s							
MPAZ	**Palizzi**	**2.63**	**238**	P	**Pn**	**20 56 05.2**	**-2.6**
MPAZ				AML	AML			
	comp=E,306μm,0.7s							
MPAZ				AML	AML			
	comp=N,254μm,0.4s							
MPAZ				AML	AML			
	comp=N,254μm,0.4s							
MPAZ				AML	AML			
	comp=E,306μm,0.7s							
MSCL	**Scilla**	**2.64**	**245**	P	**Pn**	**20 56 06.1**	**-1.8**
MSCL				AML	AML			
	comp=E,578μm,0.6s							
MSCL				AML	AML			
	comp=N,580μm,1.1s							
MSCL				AML	AML			
	comp=N,580μm,1.1s							
MSCL				AML	AML			
	comp=E,578μm,0.6s							
GMB	**Gambarie**	**2.64**	**243**	P	**Pn**	**20 56 05.8**	**-2.2**
GMB				AML	AML			
	comp=E,1360μm,1.1s							
GMB				AML	AML			
	comp=N,1490μm,1.2s							
GMB				AML	AML			
	comp=N,1490μm,1.2s							
GMB				AML	AML			
	comp=E,1360μm,1.1s							
DRO	**Drossia**	**2.68**	**121**	P	**Pn**	**20 56 07.1**	**-1.3**
SERG	**Sergoula**	**2.70**	**110**	P	**Pn**	**20 56 07.9**	**-0.9**
LAKA	**Lakka**	**2.72**	**114**	P	**Pn**	**20 56 08.1**	**-0.9**
TRIZ	**Trizonia**	**2.73**	**111**	P	**Pn**	**20 56 08.6**	**-0.5**
AGG	**Agios Georgios**	**2.75**	**97**	P	**Pn**	**20 56 09.2**	**-0.2**
AGG				S	**Sn**	**20 56 43.1**	**+1.7**
DRME	**Dracevica, Mon**	**2.81**	**5**	⇑*i*Pn	**Pn**	**20 56 10.1**	**-0.1**
DRME				*e*Sn	**Sn**	**20 56 43.7**	**+0.9**
DRME	**Dracevica, Mon**	**2.81**	**5**	*e*Pn	**Pn**	**20 56 09.5**	**-0.7**
MTTG	**Motta San Giov**	**2.81**	**242**	P	**Pn**	**20 56 07.6**	**-2.7**
MTTG				AML	AML			
	comp=E,449μm,0.7s							
MTTG				AML	AML			
	comp=N,550μm,0.7s							
MTTG				AML	AML			
	comp=N,449μm,0.7s							
MTTG				AML	AML			
	comp=N,550μm,0.7s							
BUM	**Brajici-Budva**	**2.91**	**1**	⇓*i*Pn	**Pn**	**20 56 11.2**	**-0.5**
BUM				*e*Sn	**Sn**	**20 56 46.1**	**+0.7**
LIT	**Litokhoron**	**2.92**	**75**	P	**Pn**	**20 56 11.5**	**-0.2**
TRAZ	**Trapeza**	**2.92**	**114**	P	**Pn**	**20 56 10.9**	**-0.8**
PDG	**Podgorica**	**3.06**	**6**	*e*Pn	**Pn**	**20 56 13.1**	**-0.5**
TTG	**Podgorica**	**3.06**	**6**	⇑*i*Pn	**Pn**	**20 56 13.4**	**-0.2**
TTG				*e*Sn	**Sn**	**20 56 49.5**	**+0.6**
HCY	**Herceg Novi**	**3.07**	**355**	⇓*i*Pn	**Pn**	**20 56 12.9**	**-0.8**
HCY				*e*Sn	**Sn**	**20 56 49.3**	**+0.1**
HCY	**Herceg Novi**	**3.07**	**355**	*e*Pn	**Pn**	**20 56 12.8**	**-0.9**
MCSR	**Castroreale**	**3.09**	**246**	P	**Pn**	**20 56 11.8**	**-2.4**
MCSR				AML	AML			
	comp=E,327μm,0.3s							
MCSR				AML	AML			
	comp=N,374μm,0.9s							
MCSR				AML	AML			
	comp=E,327μm,0.3s							
MCSR				AML	AML			
	comp=N,374μm,0.9s							
CEME	**Cevo**	**3.16**	**1**	⇑*i*Pn	**Pn**	**20 56 14.7**	**-0.3**
CEME				*e*Sn	**Sn**	**20 56 52.5**	**+1.0**
MSAG	**Monte S. Angel**	**3.21**	**317**	P	**Pn**	**20 56 15.4**	**-0.4**
MSAG				AML	AML			
	comp=E,540μm,0.5s							
MSAG				AML	AML			
	comp=N,958μm,0.5s							
MSAG				AML	AML			
	comp=N,958μm,0.5s							
MSAG				AML	AML			
	comp=E,540μm,0.5s							
PVY	**Plav**	**3.32**	**15**	⇓*i*Pn	**Pn**	**20 56 17.4**	**+0.1**
PVY				*e*Sn	**Sn**	**20 56 56.4**	**+0.9**
TREB	**Trebinje**	**3.35**	**354**	*e*Pn	**Pn**	**20 56 17.3**	**-0.3**
NKME	**Niksic**	**3.38**	**2**	⇑*i*Pn	**Pn**	**20 56 17.6**	**-0.4**
NKME				*e*Sn	**Sn**	**20 56 57.8**	**+0.9**
MRB1	**Monte Rocchett**	**3.42**	**302**	AML	AML			
	comp=N,379μm,0.7s							
MRB1				AML	AML			
	comp=E,257μm,0.8s							
MRB1				AML	AML			
	comp=E,257μm,0.8s							
MRB1				AML	AML			
	comp=N,379μm,0.7s							
NKY	**Niksic**	**3.42**	**2**	⇓*i*Pn	**Pn**	**20 56 18.4**	**-0.3**
NKY				*e*Sn	**Sn**	**20 56 58.5**	**+0.4**
STIP	**Stip**	**3.45**	**47**	*i* Pn	**Pn**	**20 56 22.0**	**+3.0**
VAY	**Valandovo**	**3.45**	**55**	*i* Pn	**Pn**	**20 56 18.7**	**-0.3**
BRY	**Bratogost**	**3.52**	**357**	⇓*i*Pn	**Pn**	**20 56 20.1**	**+0.1**
BRY				*e*Sn	**Sn**	**20 57 00.8**	**+0.3**
BRY	**Bratogost**	**3.52**	**357**	*e*Pn	**Pn**	**20 56 19.7**	**-0.3**
AGST	**Augusta-Monte**	**3.54**	**234**	P	**Pn**	**20 56 15.4**	**-4.8**
AGST				AML	AML			
	comp=E,195μm,0.7s							
AGST				AML	AML			
	comp=N,180μm,1.6s							
AGST				AML	AML			
	comp=E,195μm,0.7s							
AGST				AML	AML			
	comp=N,180μm,1.6s							
HAGA	**Augusta**	**3.57**	**235**	P	**Pn**	**20 56 16.1**	**-4.5**
IVA	**Berane**	**3.57**	**13**	⇑*i*Pn	**Pn**	**20 56 22.0**	**+1.2**
IVA				*e*Sn	**Sn**	**20 57 02.6**	**+0.8**
STON	**Ston**	**3.58**	**347**	*e*Pn	**Pn**	**20 56 20.4**	**-0.3**
STON				Sn	**Sn**	**20 57 02.7**	**+0.9**
STON	**Ston**	**3.58**	**347**	*e*Pn	**Pn**	**20 56 20.5**	**-0.3**
STON	**Ston**	**3.58**	**347**	AML	AML			
	comp=N,85μm,0.3s							
STON				AML	AML			
	comp=E,92μm,0.6s							
STON				AML	AML			
	comp=N,85μm,0.3s							
STON				AML	AML			
	comp=E,92μm,0.6s							
KNT	**Kendrikon**	**3.59**	**59**	P	**Pn**	**20 56 20.6**	**-0.3**
MELA	**Melanico ??? S**	**3.65**	**311**	AML	AML			
	comp=N,823μm,0.9s							
MELA				AML	AML			
	comp=E,756μm,0.9s							
MELA				AML	AML			
	comp=N,844μm,1.0s							
MELA				AML	AML			
	comp=E,751μm,0.9s							
MELA				AML	AML			
	comp=E,756μm,0.9s							
MELA				AML	AML			
	comp=N,844μm,1.0s							
MELA				AML	AML			
	comp=N,823μm,0.9s							
HCRL	**Carlentini**	**3.65**	**236**	P	**Pn**	**20 56 17.5**	**-4.2**
HCRL				AML	AML			
	comp=E,164μm,1.4s							
HCRL				AML	AML			
	comp=N,114μm,0.8s							
HCRL				AML	AML			
	comp=E,164μm,1.4s							
HCRL				AML	AML			
	comp=N,114μm,0.8s							
SSY	**Sortino**	**3.70**	**234**	P	Pn	20 56 17.6	-4.9
SSY				AML	AML			
	comp=E,238μm,0.6s							
SSY				AML	AML			
	comp=N,354μm,0.3s							
SSY				AML	AML			
	comp=N,354μm,0.3s							
SSY				AML	AML			
	comp=E,238μm,0.6s							
PLE	**Pljevlja**	**3.96**	**6**	⇑*i*Pn	**Pn**	**20 56 26.4**	**+0.3**
PLE				*e*Sn	**Sn**	**20 57 11.4**	**0.0**
BBLS	**Lazići**	**4.50**	**5**	*e*Pn	Pn	20 56 47.5	+14
VTS	**Vitosha**	**4.64**	**45**	⇑*i*P	**Pn**	**20 56 35.2**	**-0.3**
HAPS	**Han Pijesak,Bl**	**4.70**	**1**	*e*Pn	**Pn**	**20 56 34.7**	**-1.5**
DIVS	**Divibare**	**4.79**	**10**	*e*Pn	**Pn**	**20 56 36.8**	**-0.6**
BLY	**Banja Luka**	**5.50**	**348**	⇑*i*P	**Pn**	**20 56 47.9**	**+0.9**
BLY	**Banja Luka**	**5.50**	**348**	S	**Sn**	**20 57 50.3**	**+1.4**
BLY	**Banja Luka**	**5.50**	**348**	*e*Pn	**Pn**	**20 56 46.8**	**-0.2**
UDBI	**Udbina**	**5.62**	**337**	Sn	**Sn**	**20 57 53.2**	**+1.2**
APE	**Apeiranthos**	**5.76**	**112**	⇑*i*P	**Pn**	**20 56 52.3**	**+1.5**
MDVR	**Moldovita**	**5.80**	**21**	⇑*i*P	**Pn**	**20 56 50.9**	**-0.4**
MDVR	**Moldovita**	**5.80**	**21**	S	**Sn**	**20 57 53.5**	**-3.0**
FRGS	**Fruska Gora**	**5.81**	**7**	*e*Pn	**Pn**	**20 56 50.1**	**-1.3**
NVLJ	**Novalja**	**5.95**	**332**	*e*Pn	**Pn**	**20 56 53.1**	**-0.1**
NVLJ				Sn	**Sn**	**20 57 58.0**	**-2.1**
HERR	**Herculane**	**6.10**	**25**	⇑*i*P	**Pn**	**20 56 55.2**	**-0.2**
BZS	**Buzias**	**6.56**	**17**	⇑*i*P	**Pn**	**20 57 00.7**	**-0.9**
BZS	**Buzias**	**6.56**	**17**	S	**Sn**	**20 58 13.0**	**-2.0**
MORH	**Mrgy, Hungar**	**6.83**	**359**	*e*Pn	Pn	20 56 53.8	-11
CRES	**Cresnjev**	**6.90**	**340**	*e*Pn	**Pn**	**20 57 06.8**	**+0.5**
CEY	**Cerknica**	**7.13**	**334**	*e*Pn	**Pn**	**20 57 09.3**	**-0.1**
SIRR	**Siria**	**7.18**	**16**	⇑*i*P	**Pn**	**20 57 09.6**	**-0.6**
LJU	**Ljubljana**	**7.37**	**336**	*e*Pn	**Pn**	**20 57 12.5**	**-0.2**
VOIR		**7.60**	**35**	⇓*i*P	**Pn**	**20 57 16.1**	**+0.2**
OBKA	**Obir**	**7.78**	**338**	*e*Pn	**Pn**	**20 57 19.4**	**+1.0**
	comp=E,1.9nm,0.3s							
OBKA				*i* Sn	**Sn**	**20 58 44.9**	**-0.2**
	comp=E,13nm,0.6s							
SOKA	**Soboth**	**7.80**	**340**	*i* Pn	**Pn**	**20 57 18.4**	**-0.3**
	comp=E,2.1nm,0.3s,SNR=11							
SOKA				*e*Sn	**Sn**	**20 58 42.7**	**-2.9**
	comp=E,4.0nm,0.5s							
MLR	**Muntele Rosu**	**8.05**	**38**	⇓*i*P	**Pn**	**20 57 22.0**	**-0.2**
ABTA	**Abfaltersbach**	**8.68**	**330**	*i* Pn	**Pn**	**20 57 30.8**	**0.0**
	comp=E,3.1nm,0.5s,SNR=5.1							
ABTA				*e*Sn	**Sn**	**20 59 05.0**	**-2.3**
	comp=E,5.7nm,0.5s							
VRI	**Vrincioaia**	**8.71**	**39**	⇑*i*P	**Pn**	**20 57 29.5**	**-1.6**
MOA	**Molln**	**9.08**	**340**	*i* Pn	**Pn**	**20 57 37.2**	**+1.1**
	comp=E,4.6nm,0.3s							
MOA				*e*Sn	**Sn**	**20 59 14.9**	**-2.1**
	comp=E,1.2nm,0.3s							
TRPA	**Tarpa**	**9.14**	**16**	⇑*i*P	**Pn**	**20 57 37.9**	**+0.9**
GERES	**GERESS Array B**	**10.14**	**340**	Pn	**Pn**	**20 57 50.7**	**-0.1**
	comp=E,0.3nm,0.3s,baz=163,slow=14,SNR=8.4							
GERES				Sn	**Sn**	**20 59 37.0**	**-6.1**
	comp=E,0.3nm,0.3s,baz=159,slow=26,SNR=7.0							
BRTR	**Keskin Array B**	**11.45**	**84**	Pn	**Pn**	**20 58 09.4**	**+0.7**
	comp=E,0.0nm,0.3s,baz=269,slow=14,SNR=3.1							
AKASG	**Malin Array Be**	**13.47**	**30**	Pn	Pn	20 58 20.7	-15
	comp=E,0.5nm,0.3s,baz=204,slow=13,SNR=4.1							
KBZ	**Khabaz**	**18.51**	**69**	Pn	**P**	**20 59 39.0**	**-1.0**
	comp=E,0.1nm,0.3s,baz=250,slow=11,SNR=3.9							
GNI	**Garni**	**19.92**	**80**	P	**Pn**	**20 59 57.4**	**-0.2**
	comp=E,0.4nm,0.3s,baz=276,slow=10,SNR=4.7							
HFS	**Hagfors**	**21.02**	**353**	P	**P**	**21 00 07.3**	**+0.2**
	comp=E,0.0nm,0.3s,baz=170,slow=18,SNR=3.1							
NOA	**NORSAR Array B**	**22.19**	**350**	P	**P**	**21 00 19.6**	**0.0**
	comp=E,0.7nm,0.9s,baz=155,slow=11,SNR=3.1							
MKAR	**Makanchi Array**	**45.81**	**59**	P	**P**	**21 03 45.7**	**+1.0**
	comp=E,0.2nm,0.6s,baz=286,slow=5.6,SNR=3.2							

IDC 11 21:02:40.1±3.2, 6°87S×148°36E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/32, mbtmp3.4/3, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=102.3km s-min=43.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**18.06**	**289**	LR	LR	21 15 38.3	
	comp=Z,82nm,19.9s,baz=21,slow=43						
WRA	**Warramunga Arr**	**18.81**	**225**	P	Pn	21 07 02.2	+0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**21.72**	**218**	P	P	21 07 34.0	+0.9
	0.5nm,0.4s,baz=53,slow=9.1,SNR=11						
FITZ	**Fitzroy Crossi**	**24.79**	**241**	P	P	21 08 03.1	-0.9
	1.5nm,0.5s,baz=41,slow=10,SNR=5.9						
TORD	**Torodi Ar. Bea**	**146.61**	**283**	PKPbc	PKPdf	21 22 23.8	+0.6
	0.7nm,1.0s,baz=92,slow=3.3,SNR=3.4						

IDC 11 21:04:31.1±5.2, 17°59S×176°81W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/34, mbtmp4.0/3, Error ellipse: s-maj=195.8km s-min=56.1km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.12**	**241**	P	P	21 12 08.9	+0.1
	0.4nm,0.2s,baz=61,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**46.19**	**259**	P	P	21 12 57.9	-0.2
	0.3nm,0.4s,baz=94,slow=7.2,SNR=19						
ASAR	**Alice Springs**	**46.34**	**254**	P	P	21 12 59.0	-0.3
	3.1nm,0.5s,baz=90,slow=8.5,SNR=66						
BRTR	**Keskin Array B**	**145.62**	**316**	PKPbc	PKPdf	21 24 11.3	-0.6
	0.3nm,0.7s,baz=40,slow=2.5,SNR=2.3						

IDC 11 21:11:43.0±25.0, 22°10S×173°03W, h0km, mb4.5/4, mb1 4.7/4, mb1mx4.0/35, mbtmp4.5/4, Error ellipse: s-maj=470.8km s-min=136.2km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.96**	**265**	P	P	21 19 03.7	+1.0
	12nm,0.4s,baz=90,slow=10,SNR=23						
STKA	**Stephens Creek**	**41.34**	**246**	P	P	21 19 29.3	-1.5
	2.2nm,0.6s,baz=94,slow=12,SNR=12						
ASAR	**Alice Springs**	**48.68**	**257**	P	P	21 20 29.1	-0.2
	1.3nm,0.4s,baz=99,slow=7.5,SNR=30						
WRA	**Warramunga Arr**	**48.97**	**262**	P	P	21 20 31.9	+0.2
	3.4nm,0.4s,baz=98,slow=8.4,SNR=24						

*IDC **11** 21:20:30.5±0.6, 25°10N×63°33E, h0km, mb3.8/27, mb1 3.9/30, mb1mx3.8/60, mbtmp3.8/30, ML3.5/3, MS3.1/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=14.7km s-min=12.0km az=15.0*

*ISCJB **11** 21:20:32.8±0.2, 25°17N±0°04×63°24E±0°03, h28km, mb3.8/32, MS2.9/1, Error ellipse: s-maj=5.8km s-min=3.1km az=162.7*

*NEIC **11** 21:20:32.1±0.5, 25°10N×63°30E, h10km, mb4.0/12, Error ellipse: s-maj=10.7km s-min=7.8km az=155.0*

*OMAN **11** 21:20:44.5±2.4, 25°04N×62°58E, h38km, ml4.1/3, Error ellipse: s-maj=24.3km s-min=16.5km az=77.0*

*DSN **11** 21:20:45.1±1.7, 26°52N×62°28E, h30km, mb3.8/2, ML3.9/9, Error ellipse: s-maj=49.4km s-min=10.8km az=153.0*

ISC 11 21:20:34.3±0.4, 25°20N±0°05×63°23E±0°04, h28km, n99, σ2s46/103, mb3.9/32, Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**4.63**	**246**	Pn	**Pn**	**21 21 42.8**	**+0.4**
	2.2nm,0.3s,baz=81,slow=4.1,SNR=80						
WSAR				Sn	**Sn**	**21 22 29.6**	**-5.7**
	14nm,0.3s,baz=289,slow=12,SNR=12						
WSAR				LR	LR	21 24 25.9	
	comp=Z,203nm,18.0s,baz=102,slow=50						
JLN	**Jalan Bani Buh**	**4.63**	**230**	P	**Pn**	**21 21 42.8**	**+0.3**
	SNR=6.7						
JLN				S	**Sn**	**21 22 31.3**	**-4.0**
WBK	**Wadi Bani Khal**	**4.67**	**237**	P	**Pn**	**21 21 43.8**	**+0.8**
	SNR=23						
WBK				S	**Sn**	**21 22 30.5**	**-5.9**
SMDO	**Samad**	**5.19**	**247**	P	**Pn**	**21 21 51.8**	**+1.6**
	SNR=16						
BSY	**Bisya**	**6.03**	**247**	P	**Pn**	**21 22 04.7**	**+2.9**
BSY				S	**Sn**	**21 23 07.9**	**-2.1**
BHJ	**Bhuj**	**6.17**	**107**	*e*P	**Pn**	**21 22 03.5**	**-0.1**
BHJ				*e*S	**Sn**	**21 23 08.8**	**-4.5**
BHJ				IAML		21 23 13.0	
	comp=E,169nm,0.6s						
SOHO	**SOHO**	**6.18**	**262**	P	**Pn**	**21 22 03.6**	**-0.2**
	SNR=5.2						
SOHO				S	**Sn**	**21 23 07.1**	**-6.5**
MDH	**Madha**	**6.28**	**272**	*i* P	**Pn**	**21 22 04.7**	**-0.4**
	SNR=36						
MDH				S	**Sn**	**21 23 07.9**	**-8.0**
MDH	**Madha**	**6.28**	**272**	P	**Pn**	**21 22 04.8**	**-0.3**
	SNR=36						
MDH				S	**Sn**	**21 23 08.2**	**-7.7**
	SNR=13						
BANOM	**Banah**	**6.30**	**278**	*i* P	**Pn**	**21 22 05.5**	**0.0**
	SNR=113						
BANOM	**Banah**	**6.30**	**278**	P	**Pn**	**21 22 05.9**	**+0.5**
	SNR=113						
BANOM				S	**Sn**	**21 23 10.9**	**-5.7**
ARQ	**Araqi**	**6.40**	**255**	P	**Pn**	**21 22 10.3**	**+3.6**
	SNR=8.5						
ARQ				S	**Sn**	**21 23 17.5**	**-1.4**
MSFE	**Esma-Masafi**	**6.40**	**273**	*i* P	**Pn**	**21 22 06.1**	**-0.7**
	SNR=9.3						
MHTO	**MHTO**	**6.41**	**230**	P	**Pn**	**21 22 07.3**	**+0.5**
MHTO				S	**Sn**	**21 23 13.8**	**-5.2**
HATD	**Hatta, Dubai**	**6.45**	**268**	*i* P	**Pn**	**21 22 07.8**	**+0.4**
	SNR=6.9						
ASHO	**Ashiyiah**	**6.53**	**267**	*i* P	**Pn**	**21 22 09.1**	**+0.6**
	SNR=28						
ASHO	**Ashiyiah**	**6.53**	**267**	P	**Pn**	**21 22 09.3**	**+0.7**
ASHO				S	**Sn**	**21 23 20.7**	**-1.5**
NAZ	**Nazwa, Dubai**	**6.87**	**270**	P	Pn	**21 22 15.4**	**+2.3**
ALNE	**Al Ain**	**6.90**	**262**	*i* P	Pn	**21 22 16.1**	**+2.5**
	SNR=32						
FAQ	**Al Faqa, Dubai**	**6.95**	**268**	*i* P	Pn	**21 22 17.1**	**+2.9**
	SNR=70						
FAQ	**Al Faqa, Dubai**	**6.95**	**268**	P	Pn	**21 22 17.2**	**+2.9**
	SNR=70						
ASUD	**Al Ashush, Dub**	**7.20**	**267**	*i* P	Pn	**21 22 20.7**	**+3.0**
	SNR=38						
ASUD	**Al Ashush, Dub**	**7.20**	**267**	P	Pn	**21 22 21.1**	**+3.4**

RAYN	**Ar Rayn**	**16.24**	**268**	*e*Pn		**Pn**	**21 24 18.4**	**-2.2**
	comp=N,2.4nm,0.5s							
RAYN				*e*S		Sn	21 27 02.0	-18
RAYN	**Ar Rayn**	**16.24**	**268**	*i* P		**Pn**	**21 24 19.3**	**-1.3**
	SNR=9.5							
PYUN	**Piuthan**	**17.90**	**76**	*e*P		**P**	**21 24 42.7**	**+0.8**
	comp=N,17nm,0.7s							
KOLN	**Koldanda**	**18.41**	**78**	*e*P		**Pn**	**21 24 48.5**	**+0.7**
	comp=N,12nm,0.8s							
DANN	**Dangsing**	**18.60**	**76**	*e*P		**Pn**	**21 24 50.5**	**+0.4**
	comp=N,24nm,0.8s							
KK31	**Karatay Array**	**18.84**	**17**	*e*P		**P**	**21 24 51.5**	**-0.4**
	comp=N,2.5nm,0.6s							
KKAR	**Karatay Array**	**18.84**	**17**	*e*P		**P**	**21 24 52.0**	**+0.1**
	comp=N,2.5nm,0.6s							
GKN	**Gorkha**	**19.34**	**77**	*e*P		**Pn**	**21 24 58.9**	**-0.1**
	comp=N,11nm,0.6s							
AAK	**Ala-Archa**	**19.71**	**25**	*e*P		**Pn**	**21 25 04.1**	**+0.8**
AAK				*e*S		**S**	**21 28 37.1**	**-5.5**
AAK	**Ala-Archa**	**19.71**	**25**	*i* P		**Pn**	**21 25 03.7**	**+0.4**
	SNR=6.0							
AAK	**Ala-Archa**	**19.71**	**25**	P		**P**	**21 25 01.3**	**-0.4**
	comp=N,0.2nm,0.3s,baz=207,slow=6.2,SNR=11							
AAK				LR		LR	21 33 10.0	
	comp=N,38nm,19.9s,baz=182,slow=38							
DMN	**Daman**	**19.74**	**78**	*e*P		**Pn**	**21 25 03.5**	**-0.3**
	comp=N,15nm,0.9s							
KKN	**Kakani**	**19.90**	**78**	*e*P		**Pn**	**21 25 05.2**	**-0.5**
	comp=N,6.6nm,0.5s							
FRU1	**Bishkek**	**19.91**	**25**	*e*P		**Pn**	**21 25 05.8**	**+0.2**
	comp=N,5.8nm,0.5s							
PKIN	**Phulchoki**	**20.00**	**78**	*e*P		**Pn**	**21 25 06.2**	**-0.7**
	comp=N,4.3nm,0.5s							
PKI	**Pulchoki**	**20.01**	**78**	*e*P		Pn	21 25 06.2	-0.9
	comp=N,8.3nm,0.7s							
GUN	**Gumba**	**20.44**	**77**	*e*P		Pn	21 25 11.7	-0.4
	comp=N,31nm,0.8s							
KDJ	**Kajisay**	**20.45**	**31**	*e*P		Pn	21 25 12.3	+0.3
	comp=N,2.5nm,0.8s							
DAMY	**Dhamar**	**20.60**	**243**	*e*P		Pn	21 25 21.6	+7.5
	comp=N,16nm,0.9s							
JIRN	**Jiri**	**20.70**	**78**	*e*P		Pn	21 25 14.6	-0.7
	comp=N,61nm,0.9s							
RAMN	**Ramite**	**21.06**	**80**	*e*P		**P**	**21 25 17.6**	**+1.0**
	comp=N,9.1nm,0.5s							
GNI	**Garni**	**21.49**	**318**	*e*P		**P**	**21 25 24.3**	**+3.3**
	comp=N,15nm,0.9s							
GNI	**Garni**	**21.49**	**318**	P		**P**	**21 25 23.5**	**+2.6**
	comp=N,10nm,0.8s,baz=84,slow=5.5,SNR=8.7							
ASF	**Jabal al Asfar**	**24.09**	**293**	P		**P**	**21 25 50.8**	**+3.2**
	comp=N,1.9nm,0.8s,baz=103,slow=18,SNR=3.0							
ABKAR	**Akbulak array**	**24.15**	**355**	*e*P		**P**	**21 25 50.4**	**+2.5**
	comp=N,3.7nm,0.6s							
KBZ	**Khabaz**	**24.84**	**323**	P		**P**	**21 25 57.5**	**+3.2**
	comp=N,4.0nm,0.8s,baz=136,slow=8.1,SNR=10							
LSA	**Lhasa**	**25.15**	**73**	P		**P**	**21 25 58.0**	**+0.2**
EIL	**Elat**	**25.46**	**286**	P		**P**	**21 26 02.3**	**+2.3**
	comp=N,1.6nm,0.7s,baz=153,slow=6.8,SNR=2.8							
MMAI	**Mount Meron Ar**	**25.48**	**294**	P		**P**	**21 26 02.3**	**+2.1**
	comp=N,1.0nm,0.6s,baz=102,slow=14,SNR=2.8							
AKTO	**Aktyubinsk**	**25.52**	**352**	P		**P**	**21 26 02.7**	**+2.4**
	comp=N,2.5nm,0.7s,baz=160,slow=9.2,SNR=8.4							
MAKZ	**Makanchi**	**26.24**	**30**	*e*P		**P**	**21 26 08.6**	**+1.7**
	comp=N,2.8nm,0.9s							
MK01	**Makanchi Array**	**26.36**	**30**	*e*P		**P**	**21 26 09.0**	**+1.0**
MK31	**Makanchi Array**	**26.37**	**30**	*e*P		**P**	**21 26 09.5**	**+1.4**
	comp=N,2.6nm,0.7s							
MKAR	**Makanchi Array**	**26.37**	**30**	P		**P**	**21 26 09.7**	**+1.6**
	comp=N,3.0nm,0.6s,baz=212,slow=9.6,SNR=43							
KURBB	**Kurchatov Arra**	**27.99**	**21**	P		**P**	**21 26 24.8**	**+2.2**
	comp=N,0.2nm,0.6s,baz=220,slow=8.1,SNR=2.9							
KURBB				PcP		**PcP**	**21 29 37.0**	**-0.1**
	comp=N,0.2nm,0.7s,baz=220,slow=3.5,SNR=4.4							
BVAR	**Borovoye Array**	**28.31**	**9**	P		**P**	**21 26 27.8**	**+2.4**
	comp=N,0.2nm,0.3s,baz=227,slow=5.7,SNR=2.8							
BRTR	**Keskin Array B**	**28.71**	**308**	P		**P**	**21 26 32.3**	**+3.0**
	comp=N,0.3nm,0.6s,baz=116,slow=9.8,SNR=2.5							
BRTR				PcP		**PcP**	**21 29 40.6**	**+1.3**
	comp=N,0.6nm,0.7s,baz=130,slow=5.0,SNR=3.9							
H08N2	**Diego Garcia H**	**32.23**	**165**	T		T	22 00 27.3	
	baz=347,slow=76,SNR=21							
H08N3	**Diego Garcia H**	**32.25**	**165**	T		T	22 00 31.3	
	baz=347,slow=76,SNR=23							
H08N1	**Diego Garcia H**	**32.25**	**165**	T		T	22 00 27.2	
	baz=347,slow=76,SNR=12							
ZALV	**Zalesovo Beam**	**32.92**	**24**	P		**P**	**21 27 06.0**	**0.0**
	comp=N,1.0nm,0.6s,baz=228,slow=9.7,SNR=5.2							
CMAR	**Chiang Mai Arr**	**33.75**	**94**	P		**P**	**21 27 13.9**	**+0.2**
	comp=N,0.3nm,0.3s,baz=280,slow=9.6,SNR=4.1							
CMAR				LR		LR	21 46 16.3	
	comp=N,23nm,18.1s,baz=120,slow=46							
AKASG	**Malin Array Be**	**36.45**	**323**	P		**P**	**21 27 37.0**	**+0.3**
	comp=N,0.2nm,0.3s,baz=122,slow=7.6,SNR=7.6							
KIEV	**Kiev**	**36.46**	**323**	*e*P		**P**	**21 27 39.7**	**+3.0**
	comp=N,2.5nm,0.8s							
AK11	**Malin Array Si**	**36.47**	**323**	*e*P		P	21 27 47.0	+10
SONM	**Songino Array**	**40.70**	**45**	P		**P**	**21 28 13.4**	**+0.8**
	comp=N,1.0nm,0.8s,baz=245,slow=9.6,SNR=5.8							
PSI	**Prapat**	**40.94**	**117**	P		**P**	**21 28 15.5**	**+0.7**
	comp=N,3.8nm,0.6s,baz=0.3,slow=6.9,SNR=5.2							
OJC	**Ojcow**	**41.66**	**318**	*e*P		P	21 28 31.2	+11
	comp=N,5.5nm,0.7s							
FINES	**FINESS Array B**	**44.09**	**335**	P		**P**	**21 28 40.3**	**+0.6**
	comp=N,0.7nm,0.7s,baz=115,slow=12,SNR=3.8							
GERES	**GERESS Array B**	**45.07**	**315**	P		**P**	**21 28 47.5**	**-0.3**
	comp=N,0.5nm,0.7s,baz=106,slow=6.2,SNR=5.1							
HFS	**Hagfors**	**48.64**	**330**	P		**P**	**21 29 15.8**	**+0.3**
	comp=N,0.9nm,0.8s,baz=89,slow=13,SNR=2.4							
ARCES	**ARCESS Array B**	**49.58**	**344**	P		**P**	**21 29 21.9**	**-0.7**
	comp=N,2.4nm,1.0s,baz=132,slow=6.3,SNR=2.9							
NB2	**NORSAR Subarra**	**50.12**	**330**	P		P	21 29 35.4	+8.6
	comp=Z,0.3nm,0.5s,baz=109,slow=7.9							
NOA	**NORSAR Array B**	**50.12**	**330**	P		**P**	**21 29 26.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=110,slow=7.5,SNR=2.8							
KSAR	**Wonju Array Be**	**55.60**	**61**	P		**P**	**21 30 06.3**	**-1.2**
KSRS	**Korea Array**	**55.63**	**61**	P		**P**	**21 30 06.3**	**-1.4**
	comp=Z,1.0nm,0.6s,baz=277,slow=6.1,SNR=5.4							
TOA0	**Torodi Ar. Sit**	**58.92**	**271**	*e*P		P	21 30 42.0	+11
TORD	**Torodi Ar. Bea**	**58.92**	**271**	P		**P**	**21 30 51.1**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=51,slow=7.1,SNR=12							
BOSA	**Boshof**	**64.78**	**217**	P		**P**	**21 31 10.7**	**+0.1**
	comp=Z,3.7nm,0.6s,baz=33,slow=5.4,SNR=10							
WRA	**Warramunga Arr**	**82.39**	**116**	P		**P**	**21 32 54.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=318,slow=4.7,SNR=15							
ASAR	**Alice Springs**	**83.92**	**120**	P		**P**	**21 33 02.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=303,slow=5.0,SNR=11							
ILAR	**Eielson Array**	**87.32**	**12**	P		**P**	**21 33 17.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=313,slow=5.4,SNR=4.5							
YKA	**Yellowknife Ar**	**92.60**	**359**	P		**P**	**21 33 44.1**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=352,slow=4.7,SNR=8.1							
TXAR	**Lajitas Array**	**124.34**	**346**	PKP		**PKiKP**	**21 39 32.5**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=140,slow=2.8,SNR=4.2							

ISCJB ***11*** *21:25:25.8±0.6, 13.6°N×0.1×88.4°W±0.08, h184km±4km, mb3.5/3, Error ellipse: s-maj=23.9km s-min=6.8km az=29.2*

UCR ***11*** *21:25:26.9±1.4, 13.56°N×88.53°W, h176km±5km, MD3.7, ML3.4*

IDC ***11*** *21:25:28.1±2.3, 14.01°N×88.25°W, h166km±30km, mb3.2/3, mb1 3.5/5, mb1mx3.1/39, mbtmp3.8/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=90.0km s-min=25.7km az=35.0*

ISC 11 21:25:26.8±0.9, **13.5N**±0.1×**88.48W**±0.09, **h180**km±6km, **n26,** σ0**94**/32, **mb3.5**/3, **1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAHU	**Cacacuatique**	**0.37**	**46**	*e*P	**Pn**	**21 25 51.6**	**+0.2**
VICT	**Victoria**	**0.47**	**341**	*e*P	**Pn**	**21 25 51.5**	**-0.1**
VICT				*e*S	**Sn**	**21 26 10.4**	**-0.5**
PAVA	**Las Pavas**	**0.48**	**294**	*e*S	**Sn**	**21 26 10.5**	**-0.3**
LFRS	**El Faro**	**0.57**	**281**	*i*P	**Pn**	**21 25 51.4**	**-0.7**
LFRS				*e*S	**Sn**	**21 26 11.0**	**-0.5**
LBRS	**Las Brisas**	**0.59**	**292**	*e*P	**Pn**	**21 25 51.6**	**-0.5**
LCND	**La Caada**	**0.61**	**110**	*e*P	**Pn**	**21 25 52.6**	**+0.4**
LCND				*e*S	**Sn**	**21 26 12.2**	**+0.6**
LCND				IAML		21 26 22.8	
	comp=Z,266nm,0.3s						
LFU	**La Fuente**	**0.65**	**291**	*e*P	**Pn**	**21 25 51.8**	**-0.6**
CNCH	**Conchagua**	**0.68**	**111**	*e*P	**Pn**	**21 25 53.1**	**+0.5**
CNCH				*e*S	**Sn**	**21 26 13.7**	**+1.2**
CNCH				IAML		21 26 21.5	
	comp=Z,667nm,0.5s						
LOMA	**San Marcos**	**0.68**	**281**	*e*P	**Pn**	**21 25 51.8**	**-0.7**
LOMA				*e*S	**Sn**	**21 26 12.6**	**+0.4**
LOMA				IAML		21 26 14.4	
	comp=Z,588nm,0.3s						
BOQS	**Boqueron**	**0.80**	**286**	*e*P	**Pn**	**21 25 52.9**	**-0.6**
SNJE	**San Jose**	**1.15**	**288**	*e*P	**Pn**	**21 25 55.2**	**-0.7**
CEVE	**Cerro Verde**	**1.15**	**286**	*e*P	**Pn**	**21 25 55.4**	**-0.6**
CEVE				IAML		21 26 10.2	
	comp=Z,506nm,0.3s						
SBLS	**San Blas**	**1.15**	**286**	*e*P	**Pn**	**21 25 55.1**	**-0.8**
RTR	**El Retiro**	**1.19**	**289**	*e*P	**Pn**	**21 25 55.5**	**-0.7**
IXG	**Ixpaco**	**2.02**	**289**	*e*P	**Pn**	**21 26 04.0**	**-0.3**
IXG				*e*S	**Sn**	**21 26 35.5**	**+2.1**
NBG	**Las Nubes**	**2.10**	**301**	*e*P	**Pn**	**21 26 06.1**	**+0.8**
PCG	**Pacaya**	**2.24**	**293**	*e*P	**Pn**	**21 26 06.9**	**+0.1**
APG	**El Apazote**	**2.42**	**308**	P	**Pn**	**21 26 08.8**	**-0.1**
	comp=Z,3.6nm,0.3s,baz=126,slow=4.6,SNR=29						
APG				S	**Sn**	**21 26 40.3**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=339,slow=17,SNR=8.8						
FUG	**Fuego 3**	**2.47**	**292**	*e*P	**Pn**	**21 26 10.8**	**+1.5**
JTS	**JuntasAbangare**	**4.71**	**132**	S	**Sn**	**21 27 30.6**	**-1.8**
	comp=Z,4.2nm,0.3s,baz=2.5,slow=21,SNR=6.1						
SDV	**Santo Domingo**	**18.10**	**103**	P	**P**	**21 29 26.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=311,slow=13,SNR=4.0						
TXAR	**Lajitas Array**	**21.11**	**321**	P	**P**	**21 29 58.1**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=142,slow=9.1,SNR=5.7						
ULM	**Lac du Bonnet**	**37.13**	**352**	P	**P**	**21 32 18.5**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=167,slow=7.9,SNR=4.2						
YBH	**Yreka Blue Hor**	**40.89**	**320**	LR	LR	21 50 48.2	
	comp=Z,29nm,18.2s,baz=222,slow=37						
YKA	**Yellowknife Ar**	**52.33**	**345**	P	**P**	**21 34 19.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=137,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**138.58**	**255**	PKP	**PKPdf**	**21 44 33.0**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=80,slow=3.5,SNR=3.8						

IDC ***11*** *21:27:24.2±0.6, 38.76°N×21.05°E, h0km, mb4.3/24, mb1 4.2/36, mb1mx4.2/55, mbtmp4.1/36, ML3.9/8, MS3.3/10, Ms1 3.3/10, ms1mx2.9/57, Error ellipse: s-maj=11.7km s-min=10.5km az=0.0*

NEIC ***11*** *21:27:26.0±0.0, 38.68°N×21.13°E, h5km, mb4.3/19, ML3.8(ATH), ML3.9(THE), After ATH.*

PDG ***11*** *21:27:26.8±0.8, 38.75°N×21.02°E, h4km±1km, ML4.3/10, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0*

ATH ***11*** *21:27:26.6, 38.68°N×21.13°E, h17km±1km, ML3.9/36, Error ellipse: s-maj=1.2km s-min=0.6km az=227.0*

THE ***11*** *21:27:26.6, 38.68°N×21.09°E, h0km±1km, ML3.9/29, Error ellipse: s-maj=1.2km s-min=0.4km az=221.0*

ISCJB ***11*** *21:27:26.5±0.2, 38.65°N±0.01×20.93°E±0.02, h24km±2km, mb4.3/57, MS3.6/7, Error ellipse: s-maj=2.6km s-min=1.6km az=39.6*

MOS ***11*** *21:27:27.9±1.5, 38.75°N×20.95°E, h33km, mb4.6/22, Error ellipse: s-maj=7.0km s-min=4.2km az=76.5*

MED_RC ***11*** *21:27:28.0±1.0, 38.74°N×21.01°E, h10km, MW4.1/6, Moment Tensor Solution.Mantle waves: s6,c7; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr-1.15±.26; Mθθ1.26±.15; Mθθ-0.11±.33; Mrθ0.82±.53; Mrθ-0.64±.21; Mrr0.92±.52; Best double couple: M0 1.81000×10^15 NP1:φs259.00000°, δ64.00000°, λ-127.00000°. NP2: φs139.00000°, δ44.00000°, λ-39.00000°. Principal axes: T 1.6000, Plg12.0000°, Azm15.0000°; N 0.4100, Plg33.0000°, Azm277.0000°; P -2.0100, Plg55.0000°, Azm121.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*

ISC 11 21:27:26.7±0.7, **38.63N**±0.02×**21.05E**±0.02, **h13**km±4km, **n481,** σ1**82**/550, **mb4.4**/67, **MS3.8**/7, **57C-22D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGNA	**Meganis**	**0.20**	**278**	P	**Pg**	**21 27 32.7**	**+1.4**
MGNA				S	**Sg**	**21 27 37.2**	**+2.8**
MGNA				AML	AML	21 27 38.3	
MGNA				AML	AML	21 27 44.0	
	comp=E,77325μm,0.6s						
EVGI	**Lefkada island**	**0.31**	**269**	P	**Pb**	**21 27 33.5**	**-0.6**
EVGI	**Lefkada island**	**0.31**	**269**	P	**Pb**	**21 27 33.9**	**-0.2**
EVGI				S	**Sb**	**21 27 40.5**	**+1.4**
LKD2	**Lefkada island**	**0.35**	**298**	P	**Pb**	**21 27 33.9**	**-0.9**
LKD2				S	**Sb**	**21 27 38.4**	**-1.8**
LKD2	**Lefkada island**	**0.35**	**298**	P	**Pb**	**21 27 34.3**	**-0.5**
LKD2				S	**Sb**	**21 27 40.2**	**0.0**
LKD2				AML	AML	21 27 43.5	
	comp=N,88744μm,0.4s						
LKD2				AML	AML	21 27 44.8	
PVO	**Paravola**	**0.37**	**92**	P	**Pg**	**21 27 33.3**	**-0.9**
PVO				S	**Sg**	**21 27 39.2**	**-0.1**
PVO	**Paravola**	**0.37**	**92**	P	**Pg**	**21 27 33.4**	**-0.9**
PVO				S	**Sg**	**21 27 39.3**	**0.0**
PVO				AML	AML	21 27 53.0	
	comp=N,56726μm,0.8s						
PVO				AML	AML	21 27 55.3	
	comp=E,50375μm,0.7s						
DSL	**Palaion Diasel**	**0.51**	**4**	P	**Pg**	**21 27 35.1**	**-1.6**
DSL				S	**Sg**	**21 27 42.3**	**-1.2**
DSL	**Palaion Diasel**	**0.51**	**4**	P	**Pg**	**21 27 35.3**	**-1.4**
DSL				S	**Sg**	**21 27 42.8**	**-0.7**
VLS	**Valsamata**	**0.58**	**219**	P	**Pb**	**21 27 38.2**	**-0.5**
VLS				S	**Sn**	**21 27 48.9**	**-1.1**
VLS	**Valsamata**	**0.58**	**219**	P	**Pn**	**21 27 38.4**	**-2.2**
VLS				S	**Sn**	**21 27 49.4**	**-0.6**
VLS				AML	AML	21 27 54.4	
	comp=N,27470μm,0.5s						
VLS				AML	AML	21 27 57.7	
	comp=E,25901μm,0.5s						
RLS	**Riolos of Patr**	**0.66**	**150**	P	**Pb**	**21 27 39.4**	**-0.6**
RLS				S	**Sb**	**21 27 49.9**	**+0.8**
RLS	**Riolos of Patr**	**0.66**	**150**	P	**Pb**	**21 27 39.6**	**-0.4**
RLS				S	**Sb**	**21 27 48.4**	**-0.7**
RLS				AML	AML	21 27 55.1	
	comp=N,26009μm,0.6s						
RLS				AML	AML	21 28 00.0	
	comp=E,14732μm,0.9s						
EVR	**Evrytania**	**0.66**	**64**	P	**Pg**	**21 27 37.6**	**-2.0**
EVR				S	**Sg**	**21 27 46.4**	**-1.9**
EVR	**Evrytania**	**0.66**	**64**	P	**Pg**	**21 27 38.0**	**-1.6**
EVR				S	**Sg**	**21 27 46.4**	**-1.9**
EVR				AML	AML	21 27 52.8	
	comp=N,27038μm,0.8s						
EVR				AML	AML	21 27 56.5	
	comp=E,19929μm,0.7s						
UPR	**University Cam**	**0.67**	**121**	P	**Pg**	**21 27 39.6**	**-0.2**
UPR	**University Cam**	**0.67**	**121**	P	**Pb**	**21 27 39.9**	**-0.4**
UPR				S	**Sg**	**21 27 49.0**	**+0.3**
EFP	**Efpalio**	**0.70**	**106**	P	**Pg**	**21 27 39.1**	**-1.2**
EFP	**Efpalio**	**0.70**	**106**	P	**Pg**	**21 27 39.4**	**-1.0**
EFP				S	**Sg**	**21 27 49.5**	**0.0**
EFP				AML	AML	21 28 00.2	
	comp=E,16455μm,0.6s						
EFP				AML	AML	21 28 00.4	
	comp=N,21193μm,0.4s						
VTN	**Vitineika**	**0.72**	**171**	P	**Pn**	**21 27 41.6**	**-0.9**
VTN	**Vitineika**	**0.72**	**171**	P	**Pn**	**21 27 41.7**	**-0.8**
SERG	**Sergoula**	**0.82**	**105**	P	**Pg**	**21 27 41.3**	**-1.3**
SERG				S	**Sg**	**21 27 54.0**	**+0.7**
SERG	**Sergoula**	**0.82**	**105**	P	**Pg**	**21 27 42.0**	**-0.6**
SERG				S	**Sg**	**21 27 52.3**	**-1.0**
SERG				AML	AML	21 27 59.0	
	comp=N,19324μm,0.4s						
SERG				AML	AML	21 27 59.8	
	comp=E,17806μm,0.4s						
LAKA	**Lakka**	**0.82**	**118**	P	**Pg**	**21 27 41.2**	**-1.5**
LAKA	**Lakka**	**0.82**	**118**	P	**Pg**	**21 27 41.5**	**-1.2**
LAKA				AML	AML	21 28 03.3	
	comp=N,9089μm,0.7s						
LAKA				AML	AML	21 28 04.8	
	comp=E,7128μm,0.8s						
TRIZ	**Trizonia**	**0.84**	**108**	P	**Pg**	**21 27 41.7**	**-1.4**
TRIZ	**Trizonia**	**0.84**	**108**	P	**Pg**	**21 27 41.9**	**-1.1**
DRO	**Drossia**	**0.85**	**142**	P	**Pg**	**21 27 42.3**	**-0.9**
DRO				S	**Sn**	**21 27 56.7**	**-0.1**
DRO	**Drossia**	**0.85**	**142**	P	**Pb**	**21 27 42.7**	**-0.7**
DRO				S	**Sn**	**21 27 55.7**	**-1.0**
DRO				AML	AML	21 27 59.5	
	comp=N,31218μm,0.7s						
DRO				AML	AML	21 28 06.3	
	comp=E,33705μm,0.8s						
KALE	**Kalithea**	**0.89**	**105**	P	**Pg**	**21 27 42.6**	**-1.3**
KALE				S	**Sg**	**21 27 56.1**	**+0.6**
KALE	**Kalithea**	**0.89**	**105**	P	**Pg**	**21 27 42.9**	**-1.0**
KALE				S	**Sg**	**21 27 54.4**	**-1.1**
KALE				AML	AML	21 28 03.1	
	comp=E,12597μm,0.9s						
KALE				AML	AML	21 28 07.8	
	comp=N,15285μm,0.8s						
ALIK	**Aliki, Aigiali**	**0.91**	**114**	P	**Pg**	**21 27 43.2**	**-1.1**
TRAZ	**Trapeza**	**1.02**	**116**	P	**Pg**	**21 27 44.9**	**-1.5**
TRAZ	**Trapeza**	**1.02**	**116**	P	**Pg**	**21 27 45.1**	**-1.3**
JAN	**Janina**	**1.04**	**351**	P	**Pg**	**21 27 45.2**	**-1.6**
JAN				S	**Sg**	**21 28 00.8**	**+0.5**
JAN	**Janina**	**1.04**	**351**	P	**Pg**	**21 27 45.3**	**-1.5**
JAN				AML	AML	21 28 08.1	
	comp=E,19822μm,0.6s						
JAN				AML	AML	21 28 10.1	
	comp=N,12396μm,0.6s						
KLV	**Kalavryta, Ach**	**1.04**	**124**	P	**Pg**	**21 27 45.0**	**-1.9**
KLV	**Kalavryta, Ach**	**1.04**	**124**	P	**Pg**	**21 27 45.4**	**-1.5**
KLV				AML	AML	21 28 17.9	
	comp=N,7950μm,0.7s						
KLV				AML	AML	21 28 18.5	
	comp=E,6001μm,0.9s						
IGT	**Igoumenitsa**	**1.06**	**328**	P	**Pg**	**21 27 45.0**	**-2.2**
IGT				S	**Sb**	**21 28 01.4**	**+0.6**
IGT	**Igoumenitsa**	**1.06**	**328**	P	**Pg**	**21 27 45.6**	**-1.6**
IGT				S	**Sb**	**21 28 01.8**	**+1.0**
IGT				AML	AML	21 28 13.3	
	comp=N,11462μm,0.6s						
IGT				AML	AML	21 28 17.5	
	comp=E,11159μm,0.6s						
AGG	**Agios Georgios**	**1.07**	**68**	*e*P	**Pg**	**21 27 45.9**	**-1.5**
AGG	**Agios Georgios**	**1.07**	**68**	*e*Pg	**Pg**	**21 27 45.3**	**-2.1**
AGG	**Agios Georgios**	**1.07**	**68**	P	**Pg**	**21 27 45.4**	**-2.1**
AGG				S	**Sg**	**21 28 01.2**	**-0.2**
AGG	**Agios Georgios**	**1.07**	**68**	*e*P	**Pg**	**21 27 45.3**	**-2.1**
DLFA	**Delphi**	**1.14**	**97**	P	**Pg**	**21 27 47.8**	**-1.0**
DLFA				S	**Sg**	**21 28 02.4**	**-1.3**
DLFA				AML	AML	21 28 09.8	
	comp=E,5904μm,0.7s						
DLFA				AML	AML	21 28 19.4	
	comp=N,6156μm,1.0s						
DSF	**Desfina**	**1.18**	**100**	P	**Pg**	**21 27 47.1**	**-2.3**
DSF	**Desfina**	**1.18**	**100**	P	**Pg**	**21 27 47.4**	**-2.0**
DSF				S	**Sg**	**21 28 03.3**	**-1.5**
DSF				AML	AML	21 28 16.5	
	comp=E,6179μm,0.6s						
DSF				AML	AML	21 28 16.8	
	comp=N,8050μm,0.7s						
THL	**Klokotos Trika**	**1.20**	**38**	P	**Pn**	**21 27 47.1**	**-2.0**
THL				S	**Sg**	**21 28 05.2**	**-0.2**
THL	**Klokotos Trika**	**1.20**	**38**	P	**Pn**	**21 27 47.5**	**-1.6**
THL				AML	AML	21 28 12.8	
	comp=E,9845μm,0.8s						
THL				AML	AML	21 28 17.3	
	comp=N,6857μm,0.7s						
AMT	**Artemida-Makis**	**1.21**	**154**	P	**Pn**	**21 27 49.0**	**-0.4**
AMT	**Artemida-Makis**	**1.21**	**154**	P	**Pn**	**21 27 49.6**	**+0.2**
AMT				AML	AML	21 28 14.5	
	comp=E,27143μm,0.8s						
AMT				AML	AML	21 28 15.1	
	comp=N,25032μm,1.4s						
GUR	**Goura**	**1.23**	**124**	P	**Pg**	**21 27 48.2**	**-2.2**
GUR	**Goura**	**1.23**	**124**	P	**Pg**	**21 27 48.7**	**-1.7**
GUR				AML	AML	21 28 20.5	
	comp=E,13194μm,0.5s						
GUR				AML	AML	21 28 22.3	
	comp=N,12550μm,0.6s						
KPRO	**Kipourio**	**1.35**	**10**	P	**Pn**	**21 27 50.5**	**-0.8**
KPRO				S	**Sb**	**21 28 09.9**	**+0.9**
KPRO	**Kipourio**	**1.35**	**10**	P	**Pn**	**21 27 50.8**	**-0.5**
KPRO				AML	AML	21 28 15.6	
	comp=E,16352μm,1.0s						
KPRO				AML	AML	21 28 15.8	
	comp=N,17972μm,1.2s						
KASA	**Kassiopi**	**1.41**	**322**	P	**Pg**	**21 27 53.4**	**-0.5**
KASA				S	**Sg**	**21 28 12.4**	**+0.2**
KASA				AML	AML	21 28 21.1	
	comp=N,6477μm,0.5s						
KASA				AML	AML	21 28 24.1	
	comp=E,7133μm,0.5s						
KEK	**Kerkira**	**1.46**	**318**	P	**Pn**	**21 27 52.3**	**-0.4**
KEK				S	**Sg**	**21 28 14.6**	**+1.0**
KEK	**Kerkira**	**1.46**	**318**	P	**Pn**	**21 27 53.0**	**+0.3**

NEO AML AML 21 28 29.8
comp=E,4981µm,0.7s
VILL Villia 1.84 104 P Pn 21 27 59.1 +1.1
VILL S Sb 21 28 23.6 +0.5
LIT Litokhoron 1.84 37 *e*Pn Pn 21 27 58.9 +0.8
LIT Litokhoron 1.84 37 P Pn 21 27 58.6 +0.5
LIT S Sn 21 28 22.9 +1.6
LIT Litokhoron 1.84 37 *e*P Pn 21 27 58.9 +0.8
LIT Litokhoron 1.84 37 P Pn 21 27 59.1 +1.0
TPE Tepelena 1.85 335 P Pn 21 27 59.1 +1.0
EPID Epidavros 1.92 121 P Pb 21 28 01.3 -0.3
MRKA Markates 1.99 87 P Pn 21 28 00.2 +0.1
MRKA Markates 1.99 87 P Pn 21 28 00.1 +0.1
DID Didima 2.06 122 P Pb 21 28 02.8 -1.1
DID Didima 2.06 122 P Pb 21 28 03.3 -0.6
KRND KRANIDI 2.07 126 P Pb 21 28 02.9 -1.3
FNA Florina 2.17 7 *e*P Pn 21 28 03.7 +1.2
FNA Florina 2.17 7 *e*Pn Pn 21 28 03.9 +1.3
FNA Florina 2.17 7 P Pn 21 28 03.5 +1.0
FNA S Sn 21 28 30.1 +0.8
FNA Florina 2.17 7 *e*P Pn 21 28 03.9 +1.3
FNA Florina 2.17 7 P Pn 21 28 04.0 +1.4
FNA AML AML 21 28 44.2
comp=E,5462µm,0.7s
FNA AML AML 21 28 48.1
comp=N,5323µm,0.6s
VLO Vlora 2.20 327 P Pn 21 28 03.9 +1.0
ATH Athens Observa 2.20 107 P Pn 21 28 04.5 +1.6
ATH S Sn 21 28 32.1 +2.2
ATH Athens Observa 2.20 107 P Pn 21 28 03.6 +0.7
ATH AML AML 21 28 51.0
comp=N,3703µm,1.1s
ATH AML AML 21 28 53.0
comp=E,4758µm,0.8s
ATHU Athens Univers 2.25 106 P Pn 21 28 05.0 +1.4
ATHU Athens Univers 2.25 106 P Pn 21 28 05.5 +1.9
ATHU S Sn 21 28 31.7 +0.5
ATHU AML AML 21 28 43.4
comp=N,1292µm,0.6s
ATHU AML AML 21 28 44.6
comp=E,830µm,0.9s
EREA Eretria 2.27 94 P Pn 21 28 05.0 +1.1
EREA Eretria 2.27 94 P Pn 21 28 05.3 +1.4
EREA S Sn 21 28 33.5 +1.8
AOS Alonnisos 2.27 75 *e*P Pn 21 28 04.9 +1.0
AOS Alonnisos 2.27 75 P Pn 21 28 03.7 -0.2
PTL Penteli 2.29 104 P Pn 21 28 05.7 +1.5
PTL Penteli 2.29 104 P Pn 21 28 06.3 +2.1
VLY Voula,Athens 2.29 109 P Pn 21 28 05.3 +1.1
VLY Voula,Athens 2.29 109 P Pn 21 28 05.7 +1.4
BIA Bitola 2.40 5 *i* Pn Pn 21 28 07.5 +1.8
PAIG Paliouri 2.42 57 P Pn 21 28 05.6 -0.3
VLI Veliai 2.42 141 P Pb 21 28 08.8 -1.4
VLI Veliai 2.42 141 P Pb 21 28 08.8 -1.4
OHR Ohrid 2.49 356 *i* Pn Pn 21 28 08.5 +1.5
THE Thessaloniki 2.49 36 P Pn 21 28 07.5 +0.6
HORT Hortiatis 2.52 38 *e*P Pn 21 28 08.6 +1.1
HORT Hortiatis 2.52 38 P Pn 21 28 07.5 0.0
HORT Hortiatis 2.52 38 P Pn 21 28 07.8 +0.3
PLG Polygyros 2.54 46 P Pn 21 28 07.5 -0.2
PLG Polygyros 2.54 46 P Pn 21 28 07.8 +0.1
KRUS Krusevo 2.74 3 *i* Pn Pn 21 28 11.7 +1.2
SOH Sokhos 2.82 38 P Pn 21 28 12.3 +0.8
SOH S Sn 21 28 46.5 +1.1
OUR Ouranopolis 2.84 52 *e*P Pn 21 28 12.8 +1.1
OUR Ouranopolis 2.84 52 P Pn 21 28 12.0 +0.3
TIR Tirane 2.86 342 P Pn 21 28 13.1 +1.0
KNT Kendrikon 2.90 29 *e*P Pn 21 28 13.7 +1.1
KNT Kendrikon 2.90 29 P Pn 21 28 13.4 +0.8
KNT S Sn 21 28 49.0 +1.7
VAY Valandovo 2.93 23 *i* Pn Pn 21 28 13.9 +1.0
SERI Serifos 3.09 117 P Pn 21 28 17.2 +2.0
PHP Peshkopia 3.09 351 P Pn 21 28 15.8 +0.6
SRS Serrai 3.16 37 P Pn 21 28 16.5 +0.3
STIP Stip 3.18 15 *i* Pn Pn 21 28 18.6 +2.2
ANKY Antikythira Is 3.29 146 P Pn 21 28 20.9 +2.9
CGL1 Ceglie Messapi 3.42 307 ⇓*i* Pn Pn 21 28 20.5 +0.8
NVR Nevrokopi 3.47 38 P Pn 21 28 20.8 +0.3
NVR S Sn 21 29 03.9 +2.5
TAR1 Taranto 3.47 304 ⇓*i* Pn Pn 21 28 20.5 +0.1
KAVA Kavala 3.56 47 P Pn 21 28 21.6 -0.1
FASA Fasano 3.59 309 ⇓*i* Pn Pn 21 28 22.1 0.0
ULC Ulcinj 3.61 338 ⇑*i* Pn Pn 21 28 22.1 -0.2
ULC *e*Sn Sn 21 29 06.4 +1.7
MASS Massafra 3.62 305 ⇓*i* Pn Pn 21 28 22.8 +0.3
SIGR SIGRI 3.79 80 *e*P Pn 21 28 26.8 +2.0
DRME Dracevica, Mon 3.83 339 ⇑*i* Pn Pn 21 28 25.4 +0.1
DRME *e*Sn Sn 21 29 12.2 +2.0
DRME Dracevica, Mon 3.83 339 ⇑*i* Pn Pn 21 28 25.3 0.0
APE Apeiranthos 3.87 112 *e*P Pn 21 28 28.9 +2.9
APE Apeiranthos 3.87 112 P Pn 21 28 29.6 +3.6
APE Apeiranthos 3.87 112 *i* P Pn 21 28 27.6 +1.6
CHOS Chios island 3.93 92 *e*P Pn 21 28 29.1 +2.3
IMMV Iera Moni Meta 3.94 143 *e*P Pn 21 28 30.8 +4.0
BUM Brajici-Budva 4.02 337 ⇓*i* Pn Pn 21 28 27.8 -0.2
BUM *e*Sn Sn 21 29 16.1 +1.1
SG1 Sgolgore (BA) 4.03 305 ⇑*i* Pn Pn 21 28 28.3 +0.2
PDG Podgorica 4.04 341 ⇑*i* Pn Pn 21 28 27.8 -0.4
TTG Podgorica 4.04 341 ⇓*i* Pn Pn 21 28 28.3 +0.1
TTG *e*Sn Sn 21 29 16.9 +1.6
PVY Plav 4.05 348 ⇓*i* Pn Pn 21 28 28.9 +0.4
PVY *e*Sn Sn 21 29 16.5 +0.7
BAI Bari 4.05 309 ⇓*i* Pn Pn 21 28 28.6 +0.2
CEL Celeste 4.07 266 *e*Pn Pn 21 28 30.2 +1.6
SANT Santorini 4.17 121 *e*Pn Pn 21 28 31.0 +1.0
CEME Cevo 4.24 338 ⇑*i* Pn Pn 21 28 30.4 -0.6
CEME *e*Sn Sn 21 29 21.4 +1.1
EZN Ezine 4.27 72 *e*P Pn 21 28 33.4 +2.1
RDO Rodhopi 4.27 53 *e*P Pn 21 28 32.9 +1.5
RDO Rodhopi 4.27 53 P Pn 21 28 31.5 +0.1
HCY Herceg Novi 4.28 334 ⇓*i* Pn Pn 21 28 30.8 -0.8
HCY *e*Sn Sn 21 29 22.5 +1.1
HCY Herceg Novi 4.28 334 ⇑*i* Pn Pn 21 28 30.4 -1.2
VTS Vitosha 4.29 22 ⇑*i* P Pn 21 28 33.7 +2.0
ZEY zmir 4.30 94 *i* P Pn 21 28 37.3 +5.5
IVA Berane 4.33 349 ⇓*i* Pn Pn 21 28 33.0 +0.7
IVA *e*Sn Sn 21 29 23.1 +0.5
URLA Izmir 4.36 92 *e*P Pn 21 28 35.2 +2.6
URLA Izmir 4.36 92 *i* P Pn 21 28 35.6 +2.9
BAYC CANAKKALE_Bayr 4.41 74 *i* P Pn 21 28 36.2 +2.9
NKME Niksic 4.43 340 ⇑*i* Pn Pn 21 28 33.6 0.0
NKME *e*Sn Sn 21 29 25.9 +0.8
AYVA Ayvalik 4.45 79 *i* P Pn 21 28 37.9 +4.1
AYVA IAML_P
comp=Z,252nm,0.3s
PLD Plovdiv 4.45 38 *e*P Pn 21 28 35.9 +2.0
NKY Niksic 4.46 340 ⇓*i* Pn Pn 21 28 34.0 -0.1
NKY *e*Sn Sn 21 29 26.2 +0.2
ENEZ Enez 4.46 60 *e*P Pn 21 28 36.1 +2.1
ALN Alexandroupoli 4.47 58 *e*P Pn 21 28 36.1 +2.0
ALN Alexandroupoli 4.47 58 *e*Pn Pn 21 28 34.7 +0.6
ALN Alexandroupoli 4.47 58 P Pn 21 28 34.4 +0.3
ALN Alexandroupoli 4.47 58 *e*P Pn 21 28 34.7 +0.6
GVD Gavdhos 4.50 146 *e*P Pn 21 28 39.2 +4.6
IDI Anoyia 4.54 136 Pn Pn 21 28 37.2 +2.1
comp=Z,1.7nm,0.3s,baz=333,slow=7.5,SNR=29
IDI Sn Sn 21 29 29.9 +2.1
comp=Z,3.2nm,0.3s,baz=331,slow=6.2,SNR=5.5
GELI Tayfur-Gelibol 4.55 65 *e*P Pn 21 28 37.4 +2.2
TREB Trebinje 4.57 334 ⇑*i* Pn Pn 21 28 34.2 -1.3
BRY Bratogost 4.67 337 ⇑*i* Pn Pn 21 28 36.6 -0.5
BRY *e*Sn Sn 21 29 31.3 +0.1
BRY Bratogost 4.67 337 ⇑*i* Pn Pn 21 28 35.9 -1.2
ERIK Erikli-Kesan 4.68 62 *e*P Pn 21 28 39.3 +2.3
ZEDA zmir-Bergama 4.72 84 *i* P Pn 21 28 40.0 +2.4
ZEDA IAML_P
comp=Z,300nm,0.2s
LPK Lapseki 4.75 67 *e*P Pn 21 28 40.2 +2.3
PLE Pljevlja 4.86 346 ⇓*i* Pn Pn 21 28 40.5 +0.9
PLE *e*Sn Sn 21 29 37.9 +2.1
KESN Edirne-Kesan 4.86 61 *i* P Pn 21 28 41.0 +1.1
KESN IAML_P
comp=Z,55nm,0.2s
STON Ston 4.94 330 *i* Pn Pn 21 28 39.4 -1.2
STON Sn Sn 21 29 33.3 -4.3
STON Ston 4.94 330 ⇑*i* Pn Pn 21 28 39.0 -1.6
KRBG Karabiga-Canak 5.14 68 *e*P Pn 21 28 46.1 +2.7
RKY Sarkoy-Tekirda 5.16 65 *e*P Pn 21 28 46.5 +2.9
STEP BALIKESIR_Sava 5.25 80 *i* P Pn 21 28 49.1 +4.2
VAE Valguarnera 5.36 260 Pn Pn 21 28 48.0 +1.6
comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=2.5

VAE Sn Sn 21 29 52.0 +3.9
comp=Z,3.4nm,0.3s,baz=161,slow=14,SNR=3.7
BBLS Lazići 5.38 347 *e*Pn Pn 21 28 47.9 +1.2
BALB Balikesir 5.41 77 *e*P Pn 21 28 49.8 +2.8
EDRB Edirne 5.41 52 *e*P Pn 21 28 49.6 +2.5
AYDB Zeytinkoy-Aydi 5.42 95 *e*P Pn 21 28 50.4 +3.0
ZKR Zakros 5.43 129 *e*P Pn 21 28 51.0 +3.7
SBT4 Kumbag-Tekirda 5.46 64 *e*P Pn 21 28 50.4 +2.8
DAT Datca 5.51 108 *i* P Pn 21 28 42.0 -6.6
DAT IAML_P
comp=Z,92nm,1.0s
DIVS Divibare 5.52 352 *e*Pn Pn 21 28 47.5 -1.1
DIVS Divibare 5.52 352 ⇑*i* Pn Pn 21 28 47.7 -1.0
HAPS Han Pijesak,BI 5.68 345 *e*Pn Pn 21 28 50.3 -0.5
CRLT Corlu 5.72 62 *e*P Pn 21 28 54.3 +3.0
PHSR Pinarhisar 5.80 57 ⇑*i* P Pn 21 28 54.8 +2.4
DURS Dursunbey 5.85 78 *i* P Pn 21 28 56.5 +3.3
DURS IAML_P
comp=Z,245nm,0.3s
VLAD Vladila 5.93 24 ⇑*i* P Pn 21 28 56.1 +2.0
DEMI Demirci 6.00 84 *i* P Pn 21 28 59.8 +4.5
DEMI IAML_P
comp=Z,131nm,0.2s
TEKS Tekeris 6.02 350 *e*Pn Pn 21 28 53.1 -2.4
SLVT Silivri 6.08 62 *e*P Pn 21 28 59.2 +2.9
MDVR Moldovita 6.17 4 ⇑*i* P Pn 21 28 57.9 +0.4
USAK Uak-Merkez 6.24 87 *i* P Pn 21 29 03.5 +5.0
USAK IAML_P
comp=Z,270nm,0.4s
CTYL Yalikoy Yolu 6.24 61 *e*P Pn 21 29 01.3 +2.9
CTYL Yalikoy Yolu 6.24 61 ⇑*i* P Pn 21 29 00.3 +1.9
TAVA DENIZLI_Tavas 6.31 98 *i* P Pn 21 29 04.2 +4.6
TAVA IAML_P
comp=Z,138nm,0.5s
HERR Herculane 6.33 9 ⇓*i* P Pn 21 29 00.5 +0.8
HUMR Humele 6.59 25 ⇓*i* P Pn 21 29 05.0 +1.8
FRGS Fruska Gora 6.59 352 ⇑*i* Pn Pn 21 29 01.7 -1.6
GDZ Gediz 6.59 83 *i* P Pn 21 29 07.6 +4.1
GDZ IAML_P
comp=Z,38nm,0.2s
KHAL Karahalli 6.63 90 *i* P Pn 21 29 08.7 +4.8
KHAL IAML_P
comp=Z,97nm,0.4s
FETY Fethiye 6.68 105 *e*P Pn 21 29 08.6 +4.1
FETY Fethiye 6.68 105 *i* P Pn 21 29 11.1 +6.6
FETY IAML_P
comp=Z,1µm,0.5s
SGRR Singureni 6.70 32 ⇑*i* P Pn 21 29 06.5 +1.7
YLV Yalova 6.71 71 ⇓*i* P Pn 21 29 09.3 +4.3
BLY Banja Luka 6.76 336 *e*Pn Pn 21 29 04.2 -1.5
BLY Banja Luka 6.76 336 ⇓*i* P Pn 21 29 04.8 -0.8
BLY Banja Luka 6.76 336 ⇑*i* Pn Pn 21 29 04.4 -1.2
GZR Gura Zlata 6.88 10 ⇑*i* Pn Pn 21 29 07.7 +0.4
AQU L'Aquila 6.92 305 *e*Pn Pn 21 29 09.3 +1.5
AQU L'Aquila 6.92 305 *e*P Pn 21 29 09.3 +1.5
AQU L'Aquila 6.92 305 *e*Pn Pn 21 29 09.2 +1.4
BZS Buzias 7.00 3 ⇑*i* P Pn 21 29 09.6 +0.8
SILT Sile 7.07 66 *e*P Pn 21 29 12.9 +3.1
UDBI Udbina 7.10 328 *e*Pn Pn 21 29 10.5 +0.1
UDBI Sn Sn 21 30 28.1 -2.8
LOT Lotru 7.11 16 ⇑*i* P Pn 21 29 13.0 +2.5
KZIL AFYON_Kizioren 7.14 90 *i* P Pn 21 29 16.5 +5.5
KZIL IAML_P
comp=Z,133nm,0.2s
BRDR BURDUR-Merkez 7.16 95 *i* P Pn 21 29 16.1 +4.9
BRDR IAML_P
comp=Z,64nm,0.2s
SULR 7.19 31 ⇑*i* P Pn 21 29 13.9 +2.4
MTUR Matau 7.24 23 ⇑*i* P Pn 21 29 14.3 +2.1
ARR Arges 7.24 20 ⇑*i* P Pn 21 29 14.1 +1.8
PSN Preselentsi 7.38 45 *e*P Pn 21 29 16.4 +2.4
SECR 7.42 29 ⇓*i* P Pn 21 29 16.3 +1.7
VOIR 7.42 22 ⇑*i* P Pn 21 29 16.7 +1.9
NVLJ Novalja 7.52 324 *i* Pn Pn 21 29 15.1 -0.9
NVLJ Sn Sn 21 30 38.9 -2.2
ISR Istrita 7.67 31 ⇑*i* P Pn 21 29 19.9 +1.8
PGOR Pogoanele 7.68 33 ⇓*i* P Pn 21 29 21.3 +3.1
AMBH Ambrzfalva 7.72 358 *e*Pn Pn 21 29 23.1 +4.3
MLR Muntele Rosu 7.76 26 ⇓*i* P Pn 21 29 22.4 +2.9
MLR Muntele Rosu 7.76 26 Pn Pn 21 29 19.7 +0.2
comp=Z,5.0nm,0.3s,baz=190,slow=3.0,SNR=39
MLR LR LR 21 32 42.1
comp=Z,170nm,20.3s,baz=212,slow=42
MORH Mrgy, Hungar 7.79 348 *e*Pn Pn 21 29 17.8 -1.8
MORH Mrgy, Hungar 7.79 348 *e*Pn Pn 21 29 18.0 -1.6
MORH *e*Sg Sg 21 31 53.0 +17
TLB Topalu 7.92 39 ⇑*i* P Pn 21 29 23.2 +1.7
DOPR Dopca 8.01 22 ⇑*i* P Pn 21 29 25.2 +2.5
TIRR Tirgusor 8.02 41 *e*Pn Pn 21 29 23.4 +0.5
TIRR Tirgusor 8.02 41 ⇑*i* P Pn 21 29 25.1 +2.2
TIRR Tirgusor 8.02 41 *e*P Pn 21 29 23.4 +0.5
GRER 8.06 31 ⇓*i* P Pn 21 29 26.8 +3.4
OZUR 8.24 24 ⇓*i* P Pn 21 29 28.4 +2.4
DRGR 8.25 8 ⇑*i* P Pn 21 29 27.4 +1.3
RIY Rijeka 8.29 326 *e*Pn Pn 21 29 25.5 -1.0
CRES Cresnjev 8.30 332 ⇑*i* Pn Pn 21 29 25.0 -1.7
PLOR Plostina 8.32 28 ⇑*i* P Pn 21 29 30.5 +3.4
VRI Vrincioaia 8.37 28 *e*P Pn 21 29 30.2 +2.6
VRI Vrincioaia 8.37 28 ⇑*i* P Pn 21 29 30.8 +3.2
ODBI Odobesti 8.40 30 ⇑*i* P Pn 21 29 31.8 +3.7
CFR Carcaliu 8.41 37 ⇑*i* P Pn 21 29 29.2 +1.1
BEHE Becsehely 8.45 339 *e*Pn Pn 21 29 27.0 -1.7
BEHE Becsehely 8.45 339 *e*Pn Pn 21 29 27.1 -1.7
BEHE Sn Sn 21 31 01.0 -2.8
TIH Tihany 8.59 345 *e*Pn Pn 21 29 29.0 -1.6
CEY Cerknica 8.64 327 ⇑*i* Pn Pn 21 29 29.9 -1.5
SKDS Skadanscina 8.66 325 *i* Pn Pn 21 29 30.0 -1.8
SKDS *i* Sn Sn 21 31 03.0 -6.3
LJU Ljubljana 8.84 329 *e*Pn Pn 21 29 32.4 -1.7
TESR Tescani 8.89 26 ⇑*i* P Pn 21 29 37.7 +2.9
BIZ Bicaz 9.10 22 ⇑*i* P Pn 21 29 40.4 +2.8
SOKA Soboth 9.18 333 *i* Pn Pn 21 29 36.9 -1.9
comp=Z,21nm,0.5s,SNR=20
SOKA *e*Sn Sn 21 31 16.2 -5.8
comp=Z,7.6nm,0.5s
OBKA Obir 9.22 331 *e*Pn Pn 21 29 37.7 -1.7
comp=Z,16nm,0.5s,SNR=10
OBKA *e*Sn Sn 21 31 18.6 -4.3
comp=Z,31nm,0.8s
PSZ Piszkesteto 9.32 355 *e*Pn Pn 21 29 39.9 -0.9
PSZ Piszkesteto 9.32 355 ⇑*i* P Pn 21 29 40.4 -0.4
PSZ Piszkesteto 9.32 355 *e*P Pn 21 29 39.9 -0.9
PSZ Piszkesteto 9.32 355 *e*Pn Pn 21 29 40.1 -0.7
BURAR Bucovina Array 9.48 17 ⇑*i* P Pn 21 29 45.0 +2.4
BUR08 Bucovina Ar. S 9.51 17 *e*Pn Pn 21 29 44.4 +1.1
PRAR RASCA 9.51 22 ⇑*i* P Pn 21 29 47.2 +3.9
ARSA Arzberg 9.52 337 *i* Pn Pn 21 29 41.5 -2.0
comp=Z,5.9nm,0.6s
TRPA Tarpa 9.56 6 ⇓*i* P Pn 21 29 45.3 +1.4
SOP Sopron 9.62 342 *e*Pn Pn 21 29 44.1 -0.8
SOP Sn Sn 21 31 23.1 -10
MYKA Terra Mystica 9.68 328 *e*Pn Pn 21 29 44.5 -1.2
comp=Z,5.5nm,0.6s
MYKA *e*Sn Sn 21 31 28.8 -5.4
comp=Z,4.0nm,0.4s
KEST Kesra 9.78 256 Pn Pn 21 29 46.8 -0.3
comp=Z,0.1nm,0.3s,baz=45,slow=16,SNR=1.9
BR131 Keskin Array S 9.84 80 *e*Pn Pn 21 29 47.9 -0.1
BRTR Keskin Array B 9.84 80 Pn Pn 21 29 51.9 +3.9
comp=Z,0.5nm,0.3s,baz=267,slow=12,SNR=14
VYHS Vyhne 9.99 351 *e*P Pn 21 29 47.5 -2.4
VYHS *e* 21 31 36.3
VYHS Vyhne 9.99 351 *e*PN Pn 21 29 47.5 -2.4
VYHS *e*SN Sn 21 31 36.3 -5.5
CONA Conrad Observa 10.03 340 *i* Pn Pn 21 29 50.7 +0.2
comp=Z,1.2nm,0.4s
MODS Modra-Piesok 10.12 346 *e*P Pn 21 29 50.9 -0.7
MODS *e* 21 31 41.3
MODS Modra-Piesok 10.12 346 *e*PN Pn 21 29 50.9 -0.7
MODS *e*SN Sn 21 31 41.3 -3.6
KBA Koelnbreinsper 10.16 329 *i* Pn Pn 21 29 51.4 -0.9
comp=Z,2.1nm,0.2s
KBA *e*Sn Sn 21 31 40.9 -5.3
comp=Z,14nm,0.6s
SMOL Smolenice 10.22 346 *e*P Pn 21 29 55.2 +2.1
SMOL Smolenice 10.22 346 *e*PN Pn 21 29 55.2 +2.1
ABTA Abfaltersbach 10.26 325 *e*Pn Pn 21 29 52.4 -1.2
comp=Z,17nm,0.6s
ABTA *e*Sn Sn 21 31 43.9 -4.6
comp=Z,23nm,0.7s
MOA Molln 10.46 334 *e*Pn Pn 21 29 55.6 -0.7
comp=Z,18nm,0.6s,SNR=7.7

MOA *e*Sn Sn 21 31 50.2 -3.0
comp=Z,5.9nm,0.3s
LANS Liptovska Anna 10.58 354 *e*P Pn 21 29 58.3 +0.3
LANS Liptovska Anna 10.58 354 *e*PN Pn 21 29 58.3 +0.3
WTTA Wattenberg 11.04 324 *e*Pn Pn 21 30 04.4 0.0
comp=Z,12nm,0.6s
WTTA *i* Sn Sn 21 32 01.8 -6.0
comp=Z,21nm,0.6s
WATA Walderalm 11.12 325 *i* Pn Pn 21 30 05.2 -0.3
comp=Z,21nm,0.6s,SNR=17
WATA *e*Sn Sn 21 32 05.4 -4.3
comp=Z,8.2nm,0.5s
VRAC Vranov 11.15 345 Pn Pn 21 30 03.7 -1.9
comp=Z,0.1nm,0.3s,baz=184,slow=18,SNR=2.5
VRAC LR LR 21 35 04.1
comp=Z,162nm,20.7s,baz=170,slow=42
SQTA Sankt Quirin 11.21 323 *e*Pn Pn 21 30 06.7 +0.1
comp=Z,9.9nm,0.4s,SNR=7.1
FUORN Ofenpass-Fuorn 11.26 319 *e*Pn Pn 21 30 07.5 0.0
FUORN *e*Sn Sn 21 32 11.7 -1.5
FETA Feichten 11.29 321 *i* Pn Pn 21 30 08.2 +0.3
comp=Z,7.2nm,0.6s
FETA *e*Sn Sn 21 32 10.8 -3.2
comp=Z,6.9nm,0.7s
MOTA Moosalm 11.35 323 *i* Pn Pn 21 30 08.2 -0.4
comp=Z,30nm,0.8s,SNR=29
LVV L'vov 11.39 10 *e*P Pn 21 30 12.7 +3.7
MORC Moravsky Berou 11.42 348 *e*Pn Pn 21 30 09.0 -0.6
GEA0 GERESS Array S 11.50 335 *e*Pn Pn 21 30 09.2 -1.4
GEC2 GERESS Array S 11.51 335 *e*Pn Pn 21 30 09.5 -1.2
GEC2 GERESS Array S 11.51 335 *e*P Pn 21 30 09.5 -1.2
GERES GERESS Array B 11.51 335 Pn Pn 21 30 08.9 -1.8
comp=Z,1.4nm,0.3s,baz=159,slow=14,SNR=43
GERES Sn Sn 21 32 11.8 -7.2
comp=Z,0.6nm,0.3s,baz=147,slow=24,SNR=5.4
GERES LR LR 21 35 49.5
comp=Z,255nm,18.6s,baz=154,slow=44
RETA Reutte 11.61 323 *i* Pn Pn 21 30 11.2 -0.9
comp=Z,3.5nm,0.6s
RETA *i* Sn Sn 21 32 18.0 -3.6
comp=Z,12nm,0.6s
KHC Kasperske Hory 11.79 335 *e*Pn Pn 21 30 13.9 -0.7
KHC Kasperske Hory 11.79 335 *e*P Pn 21 30 12.5 -2.1
KHC *e*S Sn 21 32 19.3 -6.7
KHC AMS AMS 21 35 30.0
comp=Z,700nm,13.1s
KHC Kasperske Hory 11.79 335 *e*P Pn 21 30 12.5 -2.1
KHC *e* 21 32 19.3
KHC MLR MLR
comp=Z,700nm,13.1s
DAVA Damuels 11.90 320 *e*Pn Pn 21 30 16.6 +0.4
comp=Z,4.1nm,0.5s
DPC Dobruska-Polom 12.19 346 AMS AMS 21 35 50.0
comp=Z,700nm,8.2s
PRU Pruhonice 12.27 340 AMS AMS 21 35 40.0
comp=Z,700nm,11.6s
UPC Upice 12.40 345 AMS AMS 21 36 00.0
comp=Z,600nm,16.3s
SENIN Lac Senin/Sane 12.74 312 *e*Pn Pn 21 30 28.3 +0.6
SENIN *e*Sn Sn 21 32 40.1 -9.4
MMAI Mount Meron Ar 12.92 111 Pn Pn 21 30 30.2 +0.2
comp=Z,1.1nm,0.3s,baz=301,slow=12,SNR=6.4
STU Stuttgart 13.26 324 *e*Pn Pn 21 30 34.6 0.0
BFO Black Forest 13.37 321 *e*Pn Pn 21 30 34.5 -1.7
BFO *e*S Sn 21 32 56.2 -8.4
BFO Black Forest 13.37 321 *e*P Pn 21 30 34.5 -1.7
BFO *e*S Sn 21 32 56.2 -8.4
KIEV Kiev 13.38 23 *e*Pn Pn 21 30 36.3 +0.2
KIEV Kiev 13.38 23 *i* P Pn 21 30 36.5 +0.4
AKASG Malin Array Be 13.39 23 *i* P Pn 21 30 41.0 +4.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 13.39 23 Pn Pn 21 30 32.4 -3.9
baz=210,slow=13,SNR=2.4
CLL Collm 13.89 339 *i* P Pn 21 30 43.3 +0.2
CLL *i* PP P 21 30 51.4 +0.1
comp=Z,9.0nm,0.9s
CLL *e*(PPP) 21 30 55.0
CLL *e* 21 31 02.0
CLL Collm 13.89 339 *i* P Pn 21 30 43.3 +0.2
EIL Elat 14.56 124 Pn Pn 21 30 51.5 -0.9
comp=Z,0.3nm,0.3s,baz=355,slow=12,SNR=4.9
WLF Walferdange 15.33 321 ⇑sP sP 21 31 10.3 -2.6
MEM Membach 16.03 323 ⇑sP sP 21 31 17.4 -3.4
comp=Z,11nm,0.9s
SIRT Sirnak 16.88 87 *e*Pn Pn 21 31 22.9 +0.2
comp=Z,47nm,1.1s
NEY Neytrino 17.00 67 *i* P Pn 21 31 24.5 +0.2
KBZ Khabaz 17.20 66 Pn P 21 31 29.6 +1.4
comp=Z,0.1nm,0.3s,baz=311,slow=8.9,SNR=7.9
VSR Storozhevoye 17.91 39 *e*P P 21 31 38.1 +2.2
VSR pmax pmax
comp=Z,10.0nm,0.6s
GNI Garni 18.37 78 *e*Pn P 21 31 44.3 +3.1
GNI Garni 18.37 78 P Pn 21 31 41.5 +0.3
comp=Z,0.3nm,0.3s,baz=240,slow=5.1,SNR=4.9
GNI LR LR 21 38 52.1
comp=Z,44nm,19.2s,baz=70,slow=38
LPSR Galich'ya Gora 18.68 36 *e*P Pn 21 31 46.9 +2.2
LPSR pmax pmax
comp=Z,20nm,0.6s
VRH Novokhopyorsk 19.21 42 *e*P P 21 31 50.9 +0.7
VRH pmax pmax
comp=Z,8.0nm,0.6s
GROC Groznyy 19.23 68 *e*P P 21 31 49.9 -0.5
GROC *e*S Sn 21 35 26.2 -0.4
GROC pmax pmax
comp=Z,17nm,1.2s
ESDC Sonseca Array 19.41 281 P P 21 31 51.8 -0.9
comp=Z,0.1nm,0.3s,baz=77,slow=11,SNR=3.8
OBN Obninsk 19.53 27 *e*P P 21 31 53.0 -0.7
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN Obninsk 19.53 27 LR LR 21 40 40.6
comp=Z,12nm,18.5s,baz=186,slow=41
VSU Vasula 20.19 9 *i* P P 21 32 00.0 -0.8
VSU pmax pmax
comp=Z,48nm,0.8s
TAM Tamanrasset 20.63 225 *e*P Pn 21 32 07.7 -0.6
comp=Z,3.6nm,0.9s
TAM Tamanrasset 20.63 225 *e*P Pn 21 32 07.7 -0.6
TAM pmax pmax
comp=Z,4.0nm,0.9s
HFS Hagfors 22.02 350 P P 21 32 18.6 -2.0
comp=Z,4.9nm,0.5s,baz=163,slow=11,SNR=30
HFS LR LR 21 40 52.8
comp=Z,64nm,21.2s,baz=181,slow=37
KONO Kongsberg 22.27 345 *e*P P 21 32 23.1 -0.2
BLS5 Blasjo 22.80 341 *e*P P 21 32 27.4 -1.6
NC602 NORSAR Array S 22.92 348 *e*P P 21 32 29.0 -1.2
comp=Z,9.2nm,0.8s
NC602 NORSAR Array S 22.92 348 *e*P P 21 32 29.4 -0.7
FINES FINESS Array B 23.05 6 *i* P P 21 32 28.7 -2.7
FINES pmax pmax
comp=Z,20nm,0.8s
FINES FINESS Array B 23.05 6 P P 21 32 28.8 -2.7
comp=Z,19nm,0.7s,baz=158,slow=9.9,SNR=55
FINES LR LR 21 41 38.3
comp=Z,79nm,18.8s,baz=188,slow=37
FIA1 FINESS Array S 23.05 6 *e*P P 21 32 29.7 -1.8
NB2 NORSAR Subarra 23.26 348 P P 21 32 31.5 -2.2
comp=Z,4.3nm,0.7s,baz=156,slow=10
NOA NORSAR Array B 23.26 348 P P 21 32 31.1 -2.6
comp=Z,3.5nm,0.7s,baz=157,slow=9.4,SNR=29
NOA LR LR 21 42 41.4
comp=Z,56nm,19.8s,baz=155,slow=40
EKA Eskdalemuir Ar 23.31 324 P P 21 32 33.1 -1.0
comp=Z,13nm,0.8s,baz=121,slow=11,SNR=23
NBO00 NORSAR Array S 23.33 347 *e*P P 21 32 33.7 -0.6
comp=Z,15nm,1.0s
NC303 NORSAR Array S 23.41 348 *e*P P 21 32 33.3 -1.8
comp=Z,17nm,1.1s
NC204 NORSAR Array S 23.56 348 *e*P P 21 32 35.1 -1.5
comp=Z,15nm,1.0s
HYA Hoyanger 24.39 342 *e*P P 21 32 43.8 -0.6
DOMB Dombas 24.57 346 *e*P P 21 32 46.1 -0.1
KLMR Klimovskoe 25.07 21 *e*P P 21 32 48.5 -2.0
KLMR pmax pmax
comp=Z,14nm,0.9s
KLMR Klimovskoe 25.07 21 *e*P P 21 32 48.5 -2.0
KLMR AMP 21 32 54.1
comp=Z,14nm,0.9s
AKN Aaknes 25.11 344 *e*P P 21 32 51.4 +0.5
RAYN Ar Rayn 25.69 119 *e*P P 21 32 56.0 -0.5
comp=Z,4.4nm,1.1s
RAYN Ar Rayn 25.69 119 *e*P P 21 32 56.0 -0.5

RAYN pmax pmax
comp=Z,4.0nm,1.1s
NSS Namsos 26.49 351 *eP* **P 21 33 03.1 -0.2**
KIRV Kirov 27.05 33 P **P 21 33 06.5 -1.9**
comp=Z,6.4nm,0.8s,baz=52,slow=1.9,SNR=4.9
TMCR Tamitsa 27.49 16 *eP* **P**
TMCR pmax pmax
comp=Z,17nm,0.8s
MOR8 Moi Rana 27.85 354 *eP* **P 21 33 16.6 +1.0**
AKTO Aktyubinsk 28.58 54 P **P 21 33 21.1 -1.2**
comp=Z,1.1nm,0.6s,baz=260,slow=8.1,SNR=5.3
GEYT Alibeck 28.98 80 P **P 21 33 26.0 0.0**
comp=Z,2.9nm,0.7s,baz=278,slow=10,SNR=6.8
ABKAR Akbulak array 29.64 56 *eP* **P 21 33 30.6 -1.2**
comp=Z,1.1nm,1.1s
ARU Arti 30.45 42 *eP* **P 21 33 36.6 -2.1**
comp=Z,3.9nm,0.7s
ARU Arti 30.45 42*c i P* **P 21 33 40.6 +1.9**
ARU 21 36 39.9
ARU S **S 21 38 43.4 +4.3**
ARU SS **SnSn 21 40 12.7 -2.0**
ARU pmax pmax
comp=Z,6.0nm,1.3s
KTK1 Kautokeino 30.46 2 *eP* **P 21 33 37.7 -1.0**
TOA0 Torodi Ar. Sit 30.64 219 *eP* **P 21 33 40.2 -0.6**
TORD Torodi Ar. Bea 30.64 219 P **P 21 33 41.1 +0.3**
comp=Z,1.8nm,0.5s,baz=27,slow=9.8,SNR=19
ARCES ARCESS Array B 31.06 3 P **P 21 33 42.2 -1.8**
comp=Z,2.0nm,0.5s,baz=190,slow=9.4,SNR=26
ARE0 ARCESS Array S 31.06 3 *eP* **P 21 33 43.6 -0.4**
TRO Tromso 31.09 359 *eP* **P 21 33 43.2 -1.0**
SVE Sverdlovsk 31.66 42 *eP* **P 21 33 48.5 -0.9**
SVE pmax pmax
comp=Z,17nm,1.0s
HAMF Hammerfest 32.11 2 *eP* **P 21 33 53.1 -0.1**
BRVK Borovoye 36.45 50 *eP* **P 21 34 30.0 -1.0**
comp=Z,5.3nm,0.7s
BRVK Borovoye 36.45 50*ceP* **P 21 34 33.5 +2.5**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BVAR Borovoye Array 36.51 50 P **P 21 34 30.2 -1.3**
comp=Z,1.6nm,0.7s,baz=262,slow=3.0,SNR=9.5
ARSB Arslanbob 39.40 69 *eP* **P 21 34 55.1 -1.2**
comp=Z,8.6nm,1.0s
DBIC Dimbokro 39.51 223 P **P 21 34 57.4 +0.2**
comp=Z,2.1nm,0.5s,baz=2.7,slow=12,SNR=5.8
TIC Toumodi 39.62 223 *eP* **P 21 34 59.0 +0.9**
KIC Kosan Boka 39.70 223 *eP* **P 21 34 59.3 +0.5**
comp=Z,75nm,1.7s
SPA0 Spitsbergen Ar 39.71 358 *eP* **P 21 34 57.5 -0.7**
LIC Lamto 39.97 223 *eP* **P 21 35 01.0 0.0**
comp=Z,96nm,1.8s
AAK Ala-Archa 40.20 67 *eP* **P 21 35 02.5 -0.4**
AAK Ala-Archa 40.20 67*ceP* **P 21 35 02.9 0.0**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 40.20 67 P **P 21 35 01.9 -1.0**
comp=Z,5.3nm,0.7s,baz=274,slow=3.4,SNR=18
NRN Naryn 41.57 68 *eP* **P 21 35 14.4 0.0**
comp=Z,2.9nm,0.8s
NRN Naryn 41.57 68 *eP* **P 21 35 14.5 0.0**
NRN pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 41.63 54 P **P 21 35 12.9 -1.5**
comp=Z,3.2nm,0.6s,baz=283,slow=8.7,SNR=15
KURK Kurchatov 41.67 54 *eP* **P 21 35 15.6 +0.9**
comp=Z,3.6nm,0.9s
KURK Kurchatov 41.67 54*ceP* **P 21 35 16.5 +1.8**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KDJ Kajisay 42.25 67 *eP* **P 21 35 20.5 +0.7**
comp=Z,4.3nm,0.8s
KDJ Kajisay 42.25 67 *eP* **P 21 35 20.5 +0.7**
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 42.28 156*ceP* **P 21 35 19.5 -0.8**
KMBO pmax pmax
comp=Z,6.0nm,0.2s
PRZ Przheval'sk 43.03 66 *eP* **P 21 35 26.2 +0.1**
comp=Z,3.6nm,0.7s
PRZ Przheval'sk 43.03 66 *eP* **P 21 35 26.3 +0.1**
PRZ pmax pmax
comp=Z,4.0nm,0.7s
NVS Novosibirsk 44.06 47*i P* **P 21 35 34.0 0.0**
NVS pmax pmax
comp=Z,24nm,1.0s
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,11nm,1.0s
MAKZ Makanchi 44.50 59 *eP* **P 21 35 36.3 -1.4**
comp=E,2.1nm,0.8s
MAKZ Makanchi 44.50 59 *eP* **P 21 35 36.3 -1.4**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 44.71 59 *eP* **P 21 35 37.8 -1.6**
comp=Z,3.2nm,0.8s
MK31 Makanchi Array 44.71 59 *eP* **P 21 35 37.8 -1.6**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 44.71 59*ceP* **P 21 35 37.7 -1.7**
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 44.71 59 P **P 21 35 37.8 -1.6**
comp=Z,3.7nm,0.6s,baz=278,slow=7.4,SNR=45
MK01 Makanchi Array 44.72 59 *eP* **P 21 35 37.8 -1.7**
ZALV Zalesovo Beam 45.08 48 P **P 21 35 40.7 -1.5**
comp=Z,11nm,0.4s,baz=275,slow=8.6,SNR=26
NRIK Noril'sk 46.21 27 P **P 21 35 49.9 -1.0**
comp=Z,3.8nm,0.5s,baz=158,slow=4.0,SNR=3.9
WMQ Urumqi 49.18 61 *eP* **P 21 36 15.9 +1.5**
WMQ LR LR
comp=N,120nm,24.3s
WMQ LR LR
comp=E,110nm,21.7s
WMQ LR LR
comp=Z,60nm,19.1s
PYUN Piuthan 51.92 82 *eP* **P 21 36 32.3 -3.2**
comp=Z,11nm,0.8s
DANN Dangsing 52.39 81 *eP* **P 21 36 37.3 -1.8**
comp=Z,19nm,0.8s
KOLN Koldanda 52.55 82 *eP* **P 21 36 37.5 -2.7**
GKN Gorkha 53.24 81 *eP* **P 21 36 43.0 -2.2**
comp=Z,6.2nm,0.6s
DMN Daman 53.79 81 *eP* **P 21 36 46.6 -2.8**
comp=Z,7.6nm,0.6s
KKN Kakani 53.84 81 *eP* **P 21 36 47.2 -2.5**
comp=Z,6.1nm,0.8s
PKIN Phulchoki 54.03 81 *eP* **P 21 36 48.1 -3.1**
comp=Z,6.4nm,1.0s
PKI Pulchoki 54.05 81 *eP* **P 21 36 47.9 -3.4**
comp=Z,5.5nm,1.0s
GUN Gumba 54.24 81 *eP* **P 21 36 50.7 -2.1**
comp=Z,12nm,0.8s
JIRN Jiri 54.61 81 *eP* **P 21 36 53.3 -2.2**
comp=Z,9.0nm,0.6s
RAMN Ramite 55.27 81 *eP* **P 21 36 57.3 -2.9**
comp=Z,9.1nm,0.8s
TLY Talaya 56.67 48 *eP* **P 21 37 12.6 +3.0**
TLY pmax pmax
comp=Z,11nm,1.3s
LSA Lhasa 57.42 76 *eP* **P 21 37 15.1 -0.6**
comp=Z,1.9nm,0.8s
LSA Lhasa 57.42 76 *eP* **P 21 37 15.1 -0.6**
LSA pmax pmax
comp=Z,2.0nm,0.8s
TIXI Tiksi 59.08 21*ceP* **P 21 37 29.2 +3.1**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
GTA Gaotai 59.24 62 *eP* **P 21 37 28.8 +0.9**
GTA pP sP 21 37 33.9 +0.1
GTA sP pP 21 37 36.8 +4.5
GTA pmax pmax
comp=Z,2.0nm,1.2s
SONM Songino Array 59.85 51 P **P 21 37 30.9 -1.1**
comp=Z,0.9nm,0.7s,baz=282,slow=9.4,SNR=6.4
LZH Lanzhou 63.63 64 *eP* **P 21 37 57.0 -0.7**
LZH pP pP 21 37 59.6 -2.4
LZH sP sP 21 38 00.8 -2.8
LZH *e*PP **PP 21 40 18.3 +1.0**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,65nm,7.6s
LZH LR LR
comp=N,170nm,15.1s
LZH LR LR
comp=E,170nm,14.9s
LZH LR LR
comp=Z,230nm,18.2s
CD2 Chengdu 66.22 69 P **P 21 38 12.9 -1.5**
CD2 pmax pmax
comp=Z,9.0nm,0.6s
HHC Hu-ho-hao-te 66.44 56 *eP* **P 21 38 17.6 +1.8**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,84nm,7.3s
BOSA Boshof 67.01 176 LR LR 22 12 39.9
comp=Z,59nm,18.6s,baz=211,slow=40
KMI Kunming 68.58 74 P **P 21 38 31.3 +1.6**
KMI pmax pmax
comp=Z,4.0nm,0.6s
CMAR Chiang Mai Arr 69.42 82 *i P* **P 21 38 37.7 +3.0**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 69.42 82 P **P 21 38 33.0 -1.7**
comp=Z,0.6nm,0.6s,baz=300,slow=7.2,SNR=5.1
BILL Bilibino 70.48 13 *eP* **P 21 38 41.5 +1.0**
BILL *e* 21 39 03.5
BILL *e* 21 41 13.0
BILL pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 73.11 340 P **P 21 38 55.0 -1.3**
YKA Yellowknife Ar 73.11 340 P **P 21 38 55.0 -1.3**
YKA Yellowknife Ar 73.11 340 P **P 21 38 55.0 -1.3**
comp=Z,1.0nm,0.6s,baz=34,slow=5.4,SNR=21
MA2 Magadan 73.71 24*ceP* **P 21 39 00.5 +0.6**
MA2 pmax pmax
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 75.58 324 P **P 21 39 10.7 -0.3**
comp=Z,2.3nm,0.7s,baz=1.9,slow=4.9,SNR=5.8
IM3 Indian Mountai 75.64 358 *eP* **P 21 39 11.3 +0.3**
NJ2 Nanjing 76.23 60 *eP* **P 21 39 16.9 +2.0**
NJ2 pmax pmax
comp=Z,14nm,0.5s
DAWY Dawson 76.48 351 *eP* **P 21 39 15.9 +0.1**
comp=Z,3.9nm,0.7s
ILAR Eielson Array 76.50 355 P **P 21 39 16.0 +0.1**
comp=Z,1.2nm,0.9s,baz=1.2,slow=4.1,SNR=7.7
USRK Ussuriysk Ar. 76.67 44 LR LR 22 17 32.4
comp=Z,62nm,18.0s,baz=58,slow=39
KSAR Wonju Array Be 78.71 51 P **P 21 39 28.0 -0.7**
KSAR Wonju Array Be 78.71 51 P **P 21 39 28.0 -0.7**
KSRS Korea Array 78.72 51 P **P 21 39 28.0 -0.8**
comp=Z,1.5nm,0.7s,baz=308,slow=4.4,SNR=4.6
PDAR Pinedale Array 87.41 326 P **P 21 40 12.6 -1.4**
comp=Z,0.8nm,0.7s,baz=59,slow=5.7,SNR=6.2
PV09 Paradox Valley 90.64 323 *eP* **P 21 40 30.1 +0.7**
GDL2 Guadalupe Moun 93.16 316 *eP* **P 21 40 42.2 +1.3**
TX31 Lajitas Ar. Si 94.96 314 *eP* **P 21 40 52.7 +3.5**
TXAR Lajitas Array 94.96 314 P **P 21 40 50.0 +0.8**
TXAR Lajitas Array 94.96 314 P **P 21 40 50.0 +0.8**
comp=Z,1.6nm,0.9s,baz=64,slow=3.3,SNR=13
WRA Warramunga Arr 120.14 92*c i* PKIKP **PKPdf 21 46 17.6 0.0**
WRA Warramunga Arr 120.14 92 PKP **PKPdf 21 46 16.0 -1.6**
comp=Z,0.3nm,0.6s,baz=318,slow=1.6,SNR=4.6
ASAR Alice Springs 121.81 96 PKIKP **PKPdf 21 46 19.0 -1.8**
ASAR Alice Springs 121.81 96 PKP **PKPdf 21 46 18.9 -1.8**
comp=Z,0.5nm,0.4s,baz=316,slow=1.3,SNR=5.8

ISCJB ***11*** *21:34:15.4±0.7, 6.˚48S×0.˚04×130.˚2E±0.˚2, h10km, mb3.8/3, Error ellipse: s-maj=25.5km s-min=6.1km az=177.3*
IDC ***11*** *21:34:16.6±1.4, 6.˚45S×129.˚95E, h0km, mb3.9/3, mb1 3.9/7, mb1mx3.6/28, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=57.0km s-min=22.7km az=88.0*
ISC 11 21:34:17.3±0.8, 6.˚52S±0.˚06×130.˚1E±0.˚2, h10km, n7, σ1ŝ72/11, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.74**	**12**	Pn	**Pn**	**21 35 42.7**	**+0.1**
	1.4nm,0.3s,baz=184,slow=24,SNR=8.4						
SIJI				Sn	**Sn**	**21 36 46.7**	**-1.8**
	1.1nm,0.3s,baz=287,slow=19,SNR=2.4						
FITZ	**Fitzroy Crossi**	**12.30**	**200**	Pn	**Pn**	**21 37 14.1**	**+1.5**
	0.2nm,0.3s,baz=34,slow=14,SNR=4.0						
FITZ				Sn	**Sn**	**21 39 27.2**	**-2.5**
	0.1nm,0.3s,baz=73,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**13.97**	**163**	Pn	**Pn**	**21 37 36.2**	**+0.7**
	0.2nm,0.3s,baz=334,slow=15,SNR=12						
WRA				Sn	**Sn**	**21 40 11.6**	**+0.7**
	0.3nm,0.3s,baz=330,slow=23,SNR=7.6						
ASAR	**Alice Springs**	**17.45**	**168**	P	**P**	**21 38 23.3**	**+1.1**
	0.2nm,0.3s,baz=346,slow=9.5,SNR=9.9						
ASAR				S	**Sn**	**21 41 32.4**	**-2.9**
	0.1nm,0.3s,baz=356,slow=27,SNR=4.3						
MJAR	**Matsushiro Arr**	**43.51**	**10**	P	**P**	**21 42 21.5**	**+0.4**
	1.0nm,0.6s,baz=191,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**21 45 16.4**	**+0.5**
	0.6nm,0.6s,baz=120,slow=8.0,SNR=9.8						
ZALV	**Zalesovo Beam**	**71.18**	**334**	P	**P**	**21 45 35.7**	**-0.5**
	0.7nm,0.5s,baz=101,slow=7.6,SNR=4.6						

IDC 11 21:39:20.2±2.9, 4.˚67S×133.˚92E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.5/28, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=117.3km s-min=26.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.18**	**178**	Pn	Pn	21 42 57.3	+1.1
	0.1nm,0.3s,baz=357,slow=13,SNR=3.6						
WRA				Sn	Sn	21 45 45.9	+0.7
	0.0nm,0.3s,baz=355,slow=22,SNR=3.1						
FITZ	**Fitzroy Crossi**	**15.61**	**211**	Pn	Pn	21 43 03.8	+2.1
	0.2nm,0.3s,baz=40,slow=7.9,SNR=3.0						
ASAR	**Alice Springs**	**18.89**	**180**	P	P	21 43 41.2	-1.2
	0.0nm,0.3s,baz=5.2,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**68.51**	**325**	P	P	21 50 24.6	0.0
	0.3nm,0.5s,baz=118,slow=7.3,SNR=8.3						

IDC 11 21:40:04.3±6.5, 30.˚48S×178.˚73W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/36, mbtmp3.7/2, Error ellipse: s-maj=256.4km s-min=61.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.47**	**267**	P	P	21 48 01.1	-0.4
	0.5nm,0.8s,baz=109,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**43.47**	**273**	P	P	21 48 09.6	+0.1
	0.6nm,0.4s,baz=113,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	21 59 41.4	-0.8
	0.5nm,0.6s,baz=20,slow=4.4,SNR=3.7						

DDA ***11*** *21:43:36.3, 36.˚34N×28.˚51E, h50km, ML3.5*
ATH ***11*** *21:43:36.1, 36.˚37N×28.˚48E, h54km±3km, ML3.2/3, Error ellipse: s-maj=3.3km s-min=1.2km az=172.0*
HLW ***11*** *21:43:37.3, 36.˚00N×28.˚67E, h10km±13km, Md4.0*
ISK ***11*** *21:43:37.2, 36.˚30N×28.˚49E, h30km, ML3.2/20*
THE ***11*** *21:43:38.2, 36.˚31N×28.˚49E, h42km±2km, ML3.0/3, Error ellipse: s-maj=2.7km s-min=0.7km az=177.0*
GII ***11*** *21:43:41.3±0.0, 35.˚90N×29.˚01E, h20km±1km, MD3.3/1*
ISC 11 21:43:36.2±1.0, 36.˚25N±0.˚03×28.˚54E±0.˚03, h45km±12km, n100, σ2ŝ11/150, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.34**	**264**	PG	**Pn**	**21 43 46.2**	**+0.9**
ARG	**Arkhangelos**	**0.34**	**264**	P	**Pn**	**21 43 46.5**	**+1.2**
ARG				S	**Sn**	**21 43 52.9**	**+1.2**
ARG	**Arkhangelos**	**0.34**	**264**	P	**Pn**	**21 43 46.4**	**+1.2**
ARG				S	**Sn**	**21 43 53.5**	**+1.8**
ARG				AML	AML	21 43 53.8	
	comp=E,7965μm,0.3s						
ARG				AML	AML	21 43 54.6	
	comp=N,4918μm,0.2s						
MRSB	**Marmaris-Mugla**	**0.54**	**329**	PG	**Pn**	**21 43 48.0**	**+0.3**
DALY	**Dalyan (Mula)**	**0.57**	**9**	PG	**Pn**	**21 43 48.9**	**+0.8**
DALY				SG	**Sn**	**21 43 57.4**	**+0.8**
DALY	**Dalyan (Mula)**	**0.57**	**9**	*i* P	**Pn**	**21 43 49.9**	**+1.8**
DALY				*i* S	**Sn**	**21 43 57.2**	**+0.6**
FETY	**Fethiye**	**0.58**	**49**	PG	**Pn**	**21 43 49.4**	**+1.1**
FETY	**Fethiye**	**0.58**	**49**	*i* P	**Pn**	**21 43 49.6**	**+1.3**
FETY				*i* S	**Sn**	**21 43 58.9**	**+2.0**
FETY				IAML_P			
	comp=Z,29μm,0.3s						
TURN	**Turunc**	**0.62**	**5**	PG	**Pn**	**21 43 48.6**	**-0.2**
TURN				SG	**Sn**	**21 43 56.9**	**-0.8**
TURN	**Turunc**	**0.62**	**5**	*i* P	**Pn**	**21 43 49.3**	**+0.5**
TURN				*i* S	**Sn**	**21 43 57.9**	**+0.1**
KSL	**Kastellorizon**	**0.85**	**97**	P	**Pn**	**21 43 53.8**	**+2.0**
KSL				S	**Sn**	**21 44 05.9**	**+2.7**
KSL	**Kastellorizon**	**0.85**	**97**	P	**Pn**	**21 43 54.0**	**+2.2**
KSL				S	**Sn**	**21 44 06.2**	**+3.1**
KSL				AML	AML	21 44 06.7	
	comp=N,1378μm,0.4s						
KSL				AML	AML	21 44 07.0	
	comp=E,2880μm,0.4s						
AKAS	**Kas**	**0.86**	**91**	PG	**Pn**	**21 43 54.1**	**+2.0**
AKAS	**Kas**	**0.86**	**91**	*i* P	**Pn**	**21 43 54.9**	**+2.8**
AKAS				*i* S	**Sn**	**21 44 07.1**	**+3.4**
AKAS				IAML_P			
	comp=Z,7μm,0.1s						
DATC	**Datca-Mugla**	**0.87**	**306**	PG	**Pn**	**21 43 52.7**	**+0.6**
YER	**Yerkesik**	**0.90**	**347**	PG	**Pn**	**21 43 53.4**	**+0.8**
YER	**Yerkesik**	**0.90**	**347**	P	**Pn**	**21 43 53.5**	**+0.8**
YER				S	**Sn**	**21 44 05.3**	**+0.7**
DAT	**Datca**	**0.91**	**302**	PG	**Pn**	**21 43 53.3**	**+0.6**
DAT	**Datca**	**0.91**	**302**	*i* P	**Pn**	**21 43 53.1**	**+0.3**
DAT				*i* S	**Sn**	**21 44 04.1**	**-0.7**
DAT				IAML_P			
	comp=Z,3μm,0.2s						
NISR	**Nisiros**	**1.19**	**288**	P	**Pn**	**21 43 57.5**	**+1.0**
NISR				S	**Sn**	**21 44 11.5**	**0.0**
BDRM	**Kayabasi**	**1.20**	**313**	*i* P	**Pn**	**21 43 56.9**	**+0.3**
BDRM				*i* S	**Sn**	**21 44 11.1**	**-0.6**
BDRM				IAML_P			
	comp=Z,3μm,0.2s						
ELL	**Elmali**	**1.21**	**65**	PN	**Pn**	**21 43 58.7**	**+1.9**
TAVA	**DENIZLI_Tavas**	**1.25**	**14**	*i* P	**Pn**	**21 43 59.1**	**+1.7**
TAVA				*i* S	**Sn**	**21 44 13.2**	**+0.2**
TAVA				IAML_P			
	comp=Z,4μm,0.1s						
BODT	**Bodrum**	**1.28**	**310**	PN	**Pn**	**21 43 58.5**	**+0.9**
BODT	**Bodrum**	**1.28**	**310**	P	**Pn**	**21 43 57.6**	**0.0**
BODT				S	**Sn**	**21 44 12.8**	**-0.8**
KARP	**Karpathos**	**1.32**	**238**	PN	**Pn**	**21 43 59.9**	**+1.6**
KARP	**Karpathos**	**1.32**	**238**	P	**Pn**	**21 43 59.8**	**+1.6**
KARP				S	**Sn**	**21 44 16.1**	**+1.3**
KARP	**Karpathos**	**1.32**	**238**	P	**Pn**	**21 43 59.9**	**+1.6**
KARP				S	**Sn**	**21 44 16.3**	**+1.5**
AKUM	**Antalya-Kumluc**	**1.46**	**87**	*i* P	**Pn**	**21 44 02.5**	**+2.4**
AKUM				*i* S	**Sn**	**21 44 21.8**	**+3.8**
AKUM				IAML_P			
	comp=Z,3μm,0.1s						
AYDN	**Tasoluk**	**1.50**	**340**	*i* P	**Pn**	**21 44 02.1**	**+1.4**
AYDN				*i* S	**Sn**	**21 44 20.1**	**+0.9**
KORT	**Korkueli**	**1.64**	**62**	PN	**Pn**	**21 44 04.9**	**+2.2**
KEMT	**Kemer-ANTALYA**	**1.66**	**77**	PN	**Pn**	**21 44 05.5**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**1.77**	**343**	PN	**Pn**	**21 44 05.3**	**+0.8**
ANTB	**Antalya**	**1.82**	**69**	PN	**Pn**	**21 44 07.5**	**+2.5**
BRDR	**BURDUR-Merkez**	**1.89**	**40**	*i* P	**Pn**	**21 44 08.2**	**+2.2**
BRDR				*i* S	**Sn**	**21 44 30.0**	**+1.3**
SMG	**Samos**	**1.99**	**317**	P	**Pn**	**21 44 07.0**	**-0.5**
SMG				S	**Sn**	**21 44 29.5**	**-1.7**
SMG				AML	AML	21 44 30.9	
	comp=N,828μm,0.2s						
SMG				AML	AML	21 44 31.3	
	comp=E,1044μm,0.2s						
ZKR	**Zakros**	**2.21**	**240**	P	**Pn**	**21 44 12.6**	**+2.3**
ZKR	**Zakros**	**2.21**	**240**	P	**Pn**	**21 44 12.7**	**+2.3**
ZKR				S	**Sn**	**21 44 38.6**	**+2.1**
AMGA	**Amorgos Island**	**2.21**	**286**	P	**Pn**	**21 44 10.7**	**+0.3**
ISP	**Isparta**	**2.23**	**45**	Pn	**Pn**	**21 44 12.0**	**+1.2**
MANT	**Manisa**	**2.23**	**0**	*i* P	**Pn**	**21 44 11.0**	**+0.1**
MANT				*i* S	**Sn**	**21 44 35.7**	**-1.7**
MANT				IAML_P			
	comp=Z,455nm,0.1s						
ANAF	**Anafi Island**	**2.24**	**273**	P	**Pn**	**21 44 11.2**	**+0.4**
KHAL	**Karahalli**	**2.25**	**19**	*i* P	**Pn**	**21 44 11.7**	**+0.7**
KHAL				*i* S	**Sn**	**21 44 36.5**	**-1.0**
KHAL				IAML_P			
	comp=Z,323nm,0.1s						
STIA	**Sitia Lasithi**	**2.25**	**243**	P	**Pn**	**21 44 12.4**	**+1.4**
STIA				S	**Sn**	**21 44 38.9**	**+1.4**
KULA	**Kula-Manisa**	**2.26**	**2**	PN	**Pn**	**21 44 12.7**	**+1.5**
KZIL	**AFYON_Kizioren**	**2.37**	**32**	*i* P	**Pn**	**21 44 14.6**	**+1.8**
KZIL				IAML_P			
	comp=Z,410nm,0.1s						
BLCB	**Balcova**	**2.44**	**331**	PN	**Pn**	**21 44 15.2**	**+1.6**
USAK	**Uak-Merkez**	**2.49**	**9**	*i* P	**Pn**	**21 44 15.1**	**+0.8**
USAK				*i* S	**Sn**	**21 44 42.2**	**-1.2**
USAK				IAML_P			
	comp=Z,407nm,0.1s						
APE	**Apeiranthos**	**2.55**	**289**	P	**Pn**	**21 44 15.4**	**+0.2**
APE				S	**Sn**	**21 44 44.3**	**-0.7**
ZEV	**zmir**	**2.56**	**321**	*i* P	**Pn**	**21 44 15.3**	**+0.1**
NPS	**Neapolis**	**2.58**	**248**	P	**Pn**	**21 44 16.0**	**+0.8**
NPS	**Neapolis**	**2.58**	**248**	P	**Pn**	**21 44 16.3**	**+0.8**
URLA	**Izmir**	**2.61**	**324**	PN	**Pn**	**21 44 17.6**	**+1.6**
URLA	**Izmir**	**2.61**	**324**	*i* P	**Pn**	**21 44 16.5**	**+0.5**
URLA				IAML_P			
	comp=Z,2μm,0.1s						
AKHS	**Akhisar**	**2.68**	**348**	*i* P	**Pn**	**21 44 17.0**	**+0.1**
AKHS				*i* S	**Sn**	**21 44 46.7**	**-1.5**
LAST	**Lasithi**	**2.72**	**247**	P	**Pn**	**21 44 18.2**	**+0.8**
SHUT	**Suhut-Afyon**	**2.80**	**34**	PN	**Pn**	**21 44 20.8**	**+2.2**
ALAN	**Alanya-ANTALYA**	**2.83**	**83**	PN	**Pn**	**21 44 22.3**	**+3.3**
CHOS	**Chios island**	**2.91**	**318**	P	**Pn**	**21 44 19.7**	**-0.4**
CHOS				S	**Sn**	**21 44 51.9**	**-1.9**
ZEDA	**zmir-Bergama**	**2.95**	**337**	*i* P	**Pn**	**21 44 21.2**	**+0.6**
ZEDA				*i* S	**Sn**	**21 44 55.0**	**+0.3**
ZEDA				IAML_P			
	comp=Z,1μm,0.3s						
DOGA	**KONYA_Doganhis**	**3.11**	**53**	*i* P	**Pn**	**21 44 26.0**	**+3.1**
IDI	**Anoyia**	**3.12**	**253**	P	**Pn**	**21 44 23.5**	**+0.5**
STEP	**BALIKESIR_Sava**	**3.19**	**348**	*i* P	**Pn**	**21 44 24.9**	**+1.1**
DURS	**Dursunbey**	**3.34**	**359**	*i* P	**Pn**	**21 44 26.0**	**0.0**
VAM	**Vamos**	**3.63**	**258**	P	**Pn**	**21 44 30.9**	**+1.0**
KDHN	**Kadinhani**	**3.64**	**50**	*i* P	**Pn**	**21 44 32.6**	**+2.5**
KDHN				IAML_P			
	comp=Z,224nm,0.1s						
IMMV	**Iera Moni Meta**	**3.79**	**259**	P	**Pn**	**21 44 33.0**	**+0.9**
IMMV				S	**Sn**	**21 45 14.5**	**-0.8**
GVD	**Gavdhos**	**3.90**	**250**	P	**Pn**	**21 44 35.5**	**+2.0**
GVD				S	**Sn**	**21 45 18.8**	**+0.7**
CSS	**Mathiatis**	**4.11**	**107**	Pn	**Pn**	**21 44 37.2**	**+0.7**
HNTI	**Hanita**	**6.32**	**118**	Pn	**Pn**	**21 45 07.2**	**+0.4**
HNTI				Sn	**Sn**	**21 46 12.9**	**-4.7**
OFRI	**`Ofer**	**6.44**	**122**	Pn	**Pn**	**21 45 08.5**	**0.0**
OFRI				Sn	**Sn**	**21 46 16.2**	**-4.6**
MMA0B	**Mount Meron ar**	**6.51**	**118**	Pn	**Pn**	**21 45 09.8**	**+0.2**
MMA0B				Sn	**Sn**	**21 46 18.1**	**-4.5**
SHBL	**Chebaa**	**6.60**	**114**	*e*P	**Pn**	**21 45 11.3**	**+0.5**
GEM	**Giv'at Ha'Em**	**6.60**	**115**	Pn	**Pn**	**21 45 10.3**	**-0.4**
GEM				Sn	**Sn**	**21 46 20.4**	**-4.3**
KSDI	**Kefar Szold**	**6.61**	**115**	Pn	**Pn**	**21 45 10.5**	**-0.3**
KSDI				Sn	**Sn**	**21 46 20.4**	**-4.4**
NATI	**Neve Ativ**	**6.63**	**115**	Pn	**Pn**	**21 45 11.5**	**+0.4**
NATI				Sn	**Sn**	**21 46 21.1**	**-4.3**
SLTI	**Sal'it**	**6.71**	**125**	Pn	**Pn**	**21 45 12.5**	**+0.3**
SLTI				Sn	**Sn**	**21 46 22.4**	**-4.9**
KSHT	**Keshet**	**6.83**	**116**	Pn	**Pn**	**21 45 13.3**	**-0.5**
HNAT	**Natroun**	**6.83**	**165**	S	**Sn**	**21 46 24.2**	**-6.1**
	baz=165						
MMLI	**Mount Malkishu**	**6.85**	**122**	Pn	**Pn**	**21 45 14.2**	**+0.1**
MMLI				Sn	**Sn**	**21 46 25.9**	**-4.8**
HMDT	**Nahal Hemdat**	**7.03**	**123**	Pn	**Pn**	**21 45 17.1**	**+0.6**
HMDT				Sn	**Sn**	**21 46 30.4**	**-4.7**
AMAZ	**Amatzia**	**7.09**	**130**	Pn	**Pn**	**21 45 17.1**	**-0.3**
GLL	**Jalalah**	**7.17**	**157**	P	**Pn**	**21 45 18.

ZFRI				Sn	Sn	21 46 52.8	-4.8
NBNS	**Bani Suef**	**7.96**	**162**	P	Pn	**21 45 29.5**	**+0.2**
	baz=162						
PRNI	**Paran**	**7.99**	**136**	Pn	Pn	**21 45 29.2**	**-0.6**
HRFI	**Mount Harif**	**8.25**	**137**	Pn	Pn	**21 45 33.5**	**+0.1**
HRFI				Sn	Sn	**21 47 00.1**	**-5.2**
MBRI	**Mt Berech**	**8.37**	**138**	Pn	Pn	21 45 34.6	-0.5
MBRI				Sn	Sn	**21 47 03.2**	**-5.1**
EIL	**Elat**	**8.49**	**139**	Pn	Pn	21 45 36.4	-0.2
EIL				Sn	Sn	**21 47 06.8**	**-4.3**
HKAT	**Jabal Katrina**	**8.98**	**148**	P	Pn	**21 45 44.1**	**+0.6**
	baz=147						
HFRF	**Wahat Farafira**	**9.08**	**181**	P	Pn	**21 45 45.4**	**+0.7**
	baz=183						
SH2	**Sharm el Sheik**	**9.58**	**149**	P	Pn	**21 45 52.0**	**+0.5**
	baz=149						
HHRG	**Al Ghardaqah**	**9.97**	**153**	P	Pn	**21 45 59.5**	**+2.6**
	baz=153						

IDC ***11*** *22:00:18.9±1.4, 39.˚46N×53.˚49E, h0km, mb3.3/6, mb1 3.6/14, mb1mx3.4/44, mbtmp3.4/14, ML3.2/7, MS2.7/3, Ms1 2.7/3, ms1mx2.3/32, Error ellipse: s-maj=27.3km s-min=10.4km az=176.0*

NNC ***11*** *22:00:18.4±6.7, 40.˚04N×52.˚77E, h0km, mb3.7, Error ellipse: s-maj=68.2km s-min=21.6km az=64.0*

ISCJB ***11*** *22:00:19.5±0.4, 39.˚54N±0.˚04×53.˚50E±0.˚04, h10km, mb3.3/4, MS2.8/1, Error ellipse: s-maj=6.6km s-min=3.6km az=18.1*

THR ***11*** *22:00:19.3, 39.˚56N×53.˚55E, h15km, ML4.2*

AZER ***11*** *22:00:25.3±1.8, 39.˚34N×53.˚12E, h10km, ml3.9/14, Error ellipse: s-maj=13.9km s-min=13.2km az=19.0*

ISC 11 22:00:21.2±0.6, 39.˚57N±0.˚05×53.˚55E±0.˚03, h10km, n63, σ2s75/75, mb3.4/4, 31C-19D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	**Maraveh tapeh**	**2.75**	**133**	*e*Pn	**Pn**	**22 01 04.7**	**-0.8**
ATGJ	**Altiaghaj**	**3.76**	**292**	⇓P	**Pn**	**22 01 20.6**	**+1.3**
	SNR=3.5						
ATGJ				⇑S	**Sn**	**22 02 05.3**	**+1.5**
LKRN	**Lenkeran, Azer**	**3.81**	**258**	⇓P	**Pn**	**22 01 19.2**	**-0.7**
	SNR=4.5						
LKRN				⇑S	Sn	22 01 59.1	-5.6
ASTR	**Astara**	**3.84**	**256**	⇓P	**Pn**	**22 01 19.1**	**-1.2**
	SNR=3.8						
ASTR				⇑S	**Sn**	**22 02 01.5**	**-4.0**
SIZA	**Siyzn**	**3.86**	**294**	⇓P	**Pn**	**22 01 21.9**	**+1.2**
	SNR=5.1						
SIZA				⇑S	**Sn**	**22 02 07.5**	**+1.3**
GEYT	**Alibeck**	**3.92**	**113**	Pn	**Pn**	**22 01 20.2**	**-1.3**
	2.0nm,0.3s,baz=295,slow=15,SNR=23						
GEYT				Sn	**Sn**	**22 02 01.4**	**-6.2**
	4.2nm,0.3s,baz=172,slow=13,SNR=5.4						
GEYT				Lg	Lg	22 02 30.8	
	8.6nm,0.3s,baz=291,slow=32,SNR=5.2						
GEYT				LR	LR	22 03 19.2	
	comp=Z,41nm,21.7s,baz=215,slow=46						
GYA0B	**ALIBECK ARRAY**	**3.92**	**113**	⇓Pn	**Pb**	**22 01 28.1**	**-2.4**
GYA0B				⇑Sn	**Sg**	**22 02 27.4**	**+0.2**
PQL	**Pirkuli**	**3.99**	**289**	⇓P	**Pn**	**22 01 23.6**	**+1.1**
	SNR=5.0						
GLBA	**Clilabad**	**4.01**	**267**	⇓P	**Pn**	**22 01 23.0**	**+0.3**
	SNR=9.3						
GLBA				⇓S	**Sn**	**22 02 06.6**	**-3.1**
SHRO	**Shahrood**	**4.07**	**151**	*e*Pn	**Pn**	**22 01 23.1**	**-0.5**
CHTH	**Charan**	**4.13**	**209**	*e*Pn	**Pn**	**22 01 23.9**	**-0.6**
LRK	**Lerik**	**4.16**	**259**	⇑P	**Pn**	**22 01 23.6**	**-1.3**
	SNR=3.5						
LRK				⇓S	**Sn**	**22 02 09.1**	**-4.5**
THKV	**Tehran--Karaj**	**4.22**	**211**	*e*AML	AML	22 02 13.4	
	comp=N,261nm,0.4s						
THKV				*e*AML	AML	22 02 16.1	
	comp=E,265nm,0.6s						
THKV	**Tehran--Karaj**	**4.22**	**211**	*e*Pn	**Pn**	**22 01 24.9**	**-0.8**
QUBA	**Quba, Azerbaij**	**4.25**	**296**	⇑P	**Pn**	**22 01 26.9**	**+0.9**
QUBA				⇑S	**Sn**	**22 02 15.3**	**-0.5**
IML	**Ismayilli**	**4.29**	**288**	⇑P	**Pn**	**22 01 28.0**	**+1.4**
	SNR=4.4						
IML				⇓S	**Sn**	**22 02 16.1**	**-0.6**
XNQ	**Khinaliq**	**4.43**	**293**	⇑P	**Pn**	**22 01 29.5**	**+0.8**
XNQ				⇓S	**Sn**	**22 02 18.8**	**-1.7**
GRMI	**Germi**	**4.46**	**262**	*e*AML	AML	22 02 19.9	
	comp=N,144nm,0.2s						
GRMI	**Germi**	**4.46**	**262**	*e*Pn	**Pn**	**22 01 28.6**	**-0.5**
ZRD	**Zardab**	**4.57**	**281**	⇑P	**Pn**	**22 01 30.8**	**+0.5**
ZRD				⇑S	**Sn**	**22 02 22.5**	**-1.0**
QBL	**Gabala**	**4.58**	**289**	⇓S	**Sn**	**22 02 21.2**	**-2.7**
ZNJK	**Zanjan**	**4.81**	**235**	*e*AML	AML	22 02 27.5	
	comp=E,162nm,0.4s						
ZNJK				*e*AML	AML	22 02 28.9	
	comp=N,351nm,0.4s						
ZNJK	**Zanjan**	**4.81**	**235**	*e*Pn	**Pn**	**22 01 33.6**	**-0.3**
SEKA	**Sheki**	**5.12**	**291**	P	**Pn**	**22 01 39.1**	**+1.1**
	SNR=9.5						
SEKA				⇑S	**Sn**	**22 02 33.7**	**-3.5**
GANJ	**Ganja**	**5.65**	**283**	⇑P	**Pn**	**22 01 44.9**	**-0.4**
	SNR=6.2						
GANJ				⇑S	**Sn**	**22 02 46.8**	**-3.3**
ZKTA	**Zakatala**	**5.67**	**294**	P	**Pn**	**22 01 46.0**	**+0.6**
	SNR=16						
ZKTA				⇑S	**Sn**	**22 02 49.1**	**-1.5**
ORD	**Ordubad**	**5.90**	**266**	⇓P	**Pn**	**22 01 48.9**	**+0.1**
ORD				⇑S	**Sn**	**22 02 52.0**	**-4.5**
DDFL	**Dedoflistskaro**	**5.97**	**291**	P	**Pn**	**22 01 53.2**	**+3.5**
LGD	**Lagodekhi**	**6.00**	**294**	P	**Pn**	**22 01 53.0**	**+3.0**
GDB	**GEDABAY**	**6.09**	**283**	⇓P	**Pn**	**22 01 50.0**	**-1.3**
	SNR=6.5						
SBZ	**Shahbuz**	**6.19**	**271**	⇑P	**Pn**	**22 01 53.3**	**+0.5**
SBZ				⇓S	**Sn**	**22 03 01.6**	**-2.0**
QZX	**Qazax, Azerbai**	**6.43**	**286**	⇑P	**Pn**	**22 01 55.5**	**-0.4**
	SNR=6.3						
QZX				⇓S	**Sn**	**22 03 06.8**	**-2.5**
TABS	**Tabas**	**6.57**	**153**	*e*Pn	**Pn**	**22 01 58.0**	**+0.1**
GNI	**Garni**	**6.80**	**278**	Pn	**Pn**	**22 02 03.8**	**+2.6**
	comp=N,0.9nm,0.3s,baz=255,slow=2.3,SNR=5.6						
GNI				Sn	**Sn**	**22 03 22.3**	**+3.5**
	comp=N,0.7nm,0.3s,baz=36,slow=16,SNR=4.2						
BTNK	**Botanikuri**	**6.99**	**290**	P	**Pn**	**22 02 04.1**	**+0.5**
BTNK				S	**Sn**	**22 03 19.3**	**-3.8**
TBLG	**Delisi**	**7.04**	**291**	P	**Pn**	**22 02 05.3**	**+1.0**
TBLG				S	**Sn**	**22 03 19.8**	**-4.6**
TRLG	**Trialeti**	**7.46**	**288**	P	**Pn**	**22 02 10.4**	**+0.2**
TRLG				S	Sn	22 03 29.1	-5.9
KBZ	**Khabaz**	**8.99**	**301**	Pn	**Pn**	**22 02 30.8**	**-0.3**
	comp=N,0.2nm,0.3s,baz=20,slow=1.9,SNR=9.9						
KBZ				Sn	Sn	22 04 04.9	-7.4
	comp=N,0.8nm,0.3s,baz=284,slow=16,SNR=6.4						
KVAR	**Kislovodsk Arr**	**9.22**	**302**	Pn	**Pn**	**22 02 33.9**	**-0.4**
	baz=90,slow=20,SNR=5.3						
KVAR				Sn	Sn	22 04 10.4	-7.7
	baz=322,slow=19,SNR=9.9						
AB31	**Akbulak array**	**10.70**	**23**	⇑P	**Pn**	**22 02 51.8**	**-2.7**
	comp=N,0.4nm,0.3s,baz=202,slow=14,SNR=43						
AB31				⇑S	**Sn**	**22 04 50.0**	**-4.3**
	comp=N,1.6nm,0.4s,baz=192,slow=25,SNR=6.2						
AKTO	**Aktyubinsk**	**11.31**	**15**	⇓P	**Pn**	**22 02 59.0**	**-3.7**
	comp=N,1.3nm,0.8s						
AKTO				⇓S	**Sn**	**22 05 02.0**	**-7.1**
	comp=N,6.4nm,0.7s						
AKTO	**Aktyubinsk**	**11.31**	**15**	Pn	**Pn**	**22 03 01.0**	**-1.7**
	comp=N,0.4nm,0.3s,baz=196,slow=12,SNR=11						
AKTO				Sn	**Sn**	**22 05 03.1**	**-6.1**
	comp=N,0.6nm,0.3s,baz=213,slow=22,SNR=7.2						
KK31	**Karatay Array**	**13.22**	**69**	⇓P	**Pn**	**22 03 33.4**	**+4.5**
	comp=N,0.4nm,0.3s,baz=256,slow=15,SNR=5.8						
KK31				⇑S	**Sn**	**22 06 02.9**	**+6.9**
	comp=N,0.9nm,0.4s,baz=272,slow=22,SNR=3.5						
BRTR	**Keskin Array B**	**15.35**	**277**	Pn	**Pn**	**22 03 59.1**	**+1.1**
	comp=N,0.0nm,0.3s,baz=98,slow=10,SNR=2.3						
AAK	**Ala-Archa**	**16.07**	**72**	Pn	**Pn**	**22 04 04.5**	**-2.9**
	comp=N,0.1nm,0.3s,baz=236,slow=11,SNR=2.2						
WSAR	**Wadi Sarin**	**16.84**	**164**	LR	LR	22 12 16.1	
	comp=N,36nm,20.1s,baz=252,slow=43						
BVAR	**Borovoye Array**	**17.72**	**35**	P	**Pn**	**22 04 27.5**	**-0.5**
	comp=N,0.1nm,0.3s,baz=243,slow=9.4,SNR=5.3						
BVAR				S	Sn	22 07 33.4	-12
	comp=N,0.2nm,0.3s,baz=230,slow=27,SNR=4.8						
AKASG	**Malin Array Be**	**20.36**	**311**	P	**P**	**22 04 56.6**	**-1.1**
	comp=N,0.3nm,0.3s,baz=98,slow=8.5,SNR=4.1						
PLOR	**Plostina**	**20.69**	**296**	⇑*i*P	Pn	22 05 09.7	+6.1
KURBB	**Kurchatov Arra**	**20.70**	**50**	P	**P**	**22 04 60.0**	**-1.4**
	comp=N,0.3nm,0.7s,baz=245,slow=10.0,SNR=2.9						
TESR	**Tescani**	**20.79**	**298**	⇑*i*P	Pn	22 05 10.3	+5.5
MLR	**Muntele Rosu**	**21.13**	**295**	⇑*i*P	**P**	22 05 17.0	+11
MLR	**Muntele Rosu**	**21.13**	**295**	P	**P**	**22 05 07.1**	**+0.9**
	comp=N,2.1nm,1.0s,baz=69,slow=8.6						
PRAR	**RASCA**	**21.23**	**300**	⇑*i*P	P	22 05 15.6	+8.5
BIZ	**Bicaz**	**21.23**	**299**	⇑*i*P	P	22 05 15.9	+8.7
DOPR	**Dopca**	**21.57**	**296**	⇑*i*P	P	22 05 19.7	+8.8
VOIR		**21.75**	**295**	⇑*i*P	P	22 05 22.8	+10
BURAR	**Bucovina Array**	**21.95**	**301**	⇑*i*P	**P**	**22 05 22.0**	**+7.0**
MKAR	**Makanchi Array**	**22.08**	**61**	P	**P**	**22 05 15.7**	**-0.6**
	comp=N,0.5nm,0.7s,baz=252,slow=11,SNR=8.3						
MDVR	**Moldovita**	**24.07**	**293**	⇑*i*P	**P**	**22 05 41.1**	**+4.4**
ZALV	**Zalesovo Beam**	**25.54**	**45**	P	**P**	**22 05 50.8**	**+1.0**
	comp=N,0.4nm,0.5s,baz=258,slow=6.9,SNR=2.6						
FINES	**FINESS Array B**	**27.63**	**331**	P	**P**	**22 06 10.3**	**+1.7**
	comp=N,0.9nm,0.8s,baz=114,slow=17,SNR=2.6						
NOA	**NORSAR Array B**	**33.66**	**324**	LR	LR	22 22 09.6	
	comp=N,18nm,19.9s,baz=250,slow=39						

IDC 11 22:15:08.1±4.1, 23.˚48S×178.˚86W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/31, mbtmp4.3/3, Error ellipse: s-maj=170.6km s-min=44.5km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.85**	**248**	P	P	22 22 09.0	-0.7
	0.9nm,0.4s,baz=96,slow=9.2,SNR=4.0						
ASAR	**Alice Springs**	**43.14**	**260**	P	P	22 23 10.4	-0.3
	1.4nm,0.3s,baz=95,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**43.48**	**265**	P	P	22 23 13.9	+0.5
	3.1nm,0.3s,baz=101,slow=8.3,SNR=127						
AKASG	**Malin Array Be**	**145.18**	**328**	PKPbc	PKPdf	22 34 47.7	+0.3
	0.4nm,0.4s,baz=43,slow=5.0,SNR=4.3						
BRTR	**Keskin Array B**	**148.16**	**308**	PKPbc	PKPdf	22 34 54.4	+1.4
	0.4nm,0.6s,baz=90,slow=1.4,SNR=3.8						

DDA ***11*** *22:28:35.8, 41.˚11N×39.˚99E, h7km±4km, ML3.1*

ISCJB ***11*** *22:28:36.9±0.8, 41.˚07N±0.˚05×39.˚90E±0.˚05, h12km±4km, Error ellipse: s-maj=9.1km s-min=4.1km az=144.3*

ISK ***11*** *22:28:36.6, 41.˚01N×39.˚91E, h14km, ML2.6/5*

ISC 11 22:28:36.6±1.1, 41.˚06N±0.˚06×39.˚93E±0.˚05, h15km±8km, n13, σ0s67/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	**Trabzon**	**0.15**	**239**	PG	**Pg**	**22 28 40.2**	**-0.2**
KTUT				SG	**Sg**	**22 28 42.2**	**-0.7**
MACK	**Trabzon**	**0.17**	**226**	*i* P	**Pb**	**22 28 41.9**	**+0.3**
MACK				*i* S	**Sg**	**22 28 44.8**	**+1.1**
CHAY	**Cayeli-Rize**	**0.60**	**88**	PG	**Pb**	**22 28 49.3**	**+0.5**
CHAY				SG	**Sb**	**22 28 58.5**	**+1.5**
CHOM	**Cayeli-Rize**	**0.63**	**87**	PG	**Pb**	**22 28 49.8**	**+0.5**
CHOM				SG	**Sn**	**22 28 59.4**	**-1.4**
BAYT	**Aydıntepe-Bayb**	**0.69**	**167**	PG	**Pg**	**22 28 49.7**	**-0.4**
BAYT				SG	**Sg**	**22 28 58.9**	**-0.3**
BAYB	**BAYBURT**	**0.84**	**163**	*i* P	**Pb**	**22 28 53.2**	**+0.1**
BAYB				*i* S	**Sb**	**22 29 04.2**	**-0.1**
BAYB				IAML_P			
	comp=Z,830nm,0.1s						
KELT	**Kelkit**	**1.05**	**210**	*i* P	**Pg**	**22 28 56.2**	**-0.7**
KELT				*i* S	**Sg**	**22 29 09.9**	**-0.8**
KOPT	**Kop Dagi**	**1.13**	**157**	*i* P	**Pn**	**22 28 58.8**	**+0.7**
KOPT				*i* S	**Sn**	**22 29 13.8**	**+0.2**
KOPT				IAML_P			
	comp=Z,1μm,0.1s						
BCA	**Borcka**	**1.33**	**73**	PN	**Pg**	**22 29 01.5**	**-0.7**
DBAD	**Bademkaya**	**1.33**	**91**	*i* P	**Pg**	**22 29 01.8**	**-0.5**
DBAD				*i* S	**Sg**	**22 29 19.4**	**-0.2**
DBAD				IAML_P			
	comp=Z,3μm,0.2s						
DBOC	**Borcka**	**1.34**	**77**	*i* P	**Pn**	**22 29 01.0**	**+0.2**
DBOC				*i* S	**Sb**	**22 29 18.1**	**-0.2**
DBOC				IAML_P			
	comp=Z,907nm,0.2s						
DDEM	**Demirkent**	**1.39**	**97**	*i* P	**Pb**	**22 29 02.3**	**0.0**
DDEM				*i* S	**Sg**	**22 29 21.6**	**+0.3**
DDEM				IAML_P			
	comp=Z,2μm,0.2s						
DAGI	**Agillar**	**1.50**	**89**	*i* P	**Pb**	**22 29 04.2**	**0.0**
DAGI				*i* S	**Sb**	**22 29 23.5**	**+0.4**
DAGI				IAML_P			
	comp=Z,640nm,0.1s						

MEX 11 22:37:53.3±0.4, 15.˚97N×98.˚71W, h5km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.70**	**53**	*e*P	Pg	22 39 05.7	-1.2
PNIG				*e*S	Sg	22 38 15.1	-1.0
TLIG	**Tlapa**	**1.59**	**5**	*e*P	Pn	22 38 18.1	-4.2
TLIG				*i* S	Sn	22 38 38.6	-4.8
CAIG	**El Cayaco**	**1.84**	**306**	*i* P	Pn	22 38 22.8	-2.8
CAIG				*e*S	Sn	22 38 44.7	-4.5
VHO	**Vista Hermosa**	**2.19**	**60**	*i* P	Pn	22 38 27.3	-3.3
VHO				*i* S	Sn	22 38 54.3	-4.0
HUIG	**Huatulco**	**2.52**	**94**	*i* P	Pn	22 38 31.2	-3.6
HUIG				*i* S	Sn	22 39 02.3	-3.6
CMIG	**Matias Romero**	**3.84**	**73**	*i* P	Pn	22 38 51.1	-2.0
CMIG				*i* S	Sn	22 39 36.0	-2.6

IDC ***11*** *22:38:12.5±1.4, 23.˚02N×125.˚01E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/43, mbtmp3.2/4, ML2.5/1, MS2.6/2, Ms1 2.6/2, ms1mx2.3/28, Error ellipse: s-maj=48.8km s-min=26.1km az=77.0*

ISCJB ***11*** *22:38:14.6±0.8, 23.˚06N±0.˚05×124.˚88E±0.˚05, h24km, mb2.3, MS2.9/1, Error ellipse: s-maj=6.9km s-min=6.3km az=139.0*

JMA ***11*** *22:38:16.4±0.2, 23.˚11N×124.˚86E, h42km, M3.4*

ISC 11 22:38:15.5±1.2, 23.˚16N±0.˚07×124.˚97E±0.˚05, h24km, n18, σ0s87/27, mb3.4/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**1.39**	**321**	P	**Pb**	**22 38 40.1**	**-0.6**
JKRS				S	**Sn**	**22 38 57.2**	**+0.3**
HATJ	**Hateruma jima**	**1.39**	**310**	P	**Pn**	**22 38 39.3**	**-0.1**
HATJ				S	**Sn**	**22 38 55.7**	**-1.3**
JIJ	**Ishigaki jima**	**1.42**	**328**	P	**Pn**	**22 38 40.3**	**+0.6**
JIJ				S	**Sn**	**22 38 57.5**	**-0.1**
JTJ	**Tarama**	**1.49**	**351**	P	**Pb**	**22 38 42.2**	**-0.3**
JTJ				S	**Sb**	**22 39 01.6**	**+0.6**
JISG	**Ishigakijimahi**	**1.54**	**337**	P	**Pb**	**22 38 42.3**	**-1.0**
JISG				S	**Sb**	**22 39 01.7**	**-0.7**
IRIF	**Iriomote-Funau**	**1.63**	**316**	P	**Pn**	**22 38 43.2**	**+0.6**
IRIF				S	**Sn**	**22 39 02.6**	**-0.3**
JOGS	**Gusukube**	**1.64**	**14**	P	**Pb**	**22 38 44.6**	**-0.4**
JOGS				S	**Sb**	**22 39 06.1**	**+0.8**
JIRB	**Irabujima**	**1.67**	**6**	P	**Pb**	**22 38 44.6**	**-0.9**
JIRB				S	**Sb**	**22 39 05.6**	**-0.5**
JMJ	**Miyako jima 2**	**1.67**	**10**	*e*S	**Sb**	**22 39 06.4**	**+0.2**
JIKM	**Ikemajima**	**1.77**	**8**	P	**Pb**	**22 38 46.3**	**-1.0**
YOJ	**Yonaguni jima**	**2.21**	**306**	P	**Pn**	**22 38 51.4**	**+0.7**
YOJ				S	**Sn**	**22 39 16.7**	**-0.6**
JYNG	**Yonagunijimaku**	**2.25**	**305**	P	**Pn**	**22 38 52.0**	**+0.7**
JYNG				S	**Sn**	**22 39 17.1**	**-1.2**
JOW	**Kunigami**	**4.73**	**39**	Pn	**Pn**	**22 39 25.9**	**+0.6**
	0.5nm,0.3s,baz=113,slow=14,SNR=7.8						
JOW				Sn	**Sn**	**22 40 18.2**	**-1.1**
	0.6nm,0.3s,baz=99,slow=18,SNR=4.9						
KSRS	**Korea Array**	**14.47**	**9**	LR	LR	22 47 55.7	
	comp=Z,10nm,20.2s,baz=350,slow=40						
KLR	**Kul'dur**	**26.56**	**10**	LR	LR	22 54 59.7	
	comp=Z,36nm,18.7s,baz=156,slow=38						
MKAR	**Makanchi Array**	**41.49**	**315**	P	**P**	**22 46 02.4**	**+1.8**
	0.2nm,0.4s,baz=101,slow=8.9,SNR=5.2						
WRA	**Warramunga Arr**	**43.81**	**167**	P	**P**	**22 46 18.1**	**-1.5**
	0.3nm,0.5s,baz=346,slow=8.8,SNR=4.7						
ASAR	**Alice Springs**	**47.35**	**169**	P	**P**	**22 46 48.0**	**+0.4**
	0.4nm,0.9s,baz=350,slow=9.4,SNR=3.1						

IDC 11 22:42:04.8±2.0, 5.˚76S×151.˚17E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/39, mbtmp3.4/4, Error ellipse: s-maj=83.7km s-min=28.0km az=120.0, New Britain region

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

WRA	**Warramunga Arr**	**21.60**	**228**	P	P	22 46 57.0	+0.4
	0.6nm,0.5s,baz=53,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**24.36**	**221**	P	P	22 47 24.6	-0.2
	0.8nm,0.6s,baz=54,slow=9.0,SNR=8.1						
MKAR	**Makanchi Array**	**79.98**	**319**	P	P	22 54 16.7	+0.6
	0.1nm,0.4s,baz=116,slow=5.6,SNR=2.8						
ILAR	**Eielson Array**	**83.66**	**22**	P	P	22 54 35.0	-0.1
	0.4nm,0.6s,baz=250,slow=5.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.03**	**286**	PKPbc	PKPbc	23 01 54.8	-1.2
	1.0nm,0.7s,baz=72,slow=2.7,SNR=11						

IDC 11 22:45:10.0±1.8, 11.˚10S×165.˚88E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.7/40, mbtmp3.9/5, ML3.5/1, Error ellipse: s-maj=53.8km s-min=31.2km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.92**	**177**	Pn	Pn	22 47 48.0	+0.1
	0.3nm,0.3s,baz=127,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**31.59**	**250**	P	P	22 51 35.1	+0.4
	1.2nm,0.8s,baz=80,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**32.88**	**243**	P	P	22 51 45.6	-0.5
	1.2nm,0.8s,baz=74,slow=9.7,SNR=6.7						
ILAR	**Eielson Array**	**83.52**	**18**	P	P	22 57 39.5	0.0
	0.5nm,0.8s,baz=238,slow=5.2,SNR=4.7						
MKAR	**Makanchi Array**	**93.65**	**317**	P	P	22 58 28.5	0.0
	0.2nm,0.5s,baz=88,slow=6.3,SNR=4.3						

ISCJB ***11*** *22:51:49.6±0.6, 13.˚21N±0.˚06×90.˚97W±0.˚03, h29km, mb4.0/6, MS3.4/3, Error ellipse: s-maj=9.3km s-min=3.8km az=15.1*

IDC ***11*** *22:51:49.1±2.3, 13.˚72N×90.˚55W, h0km, mb3.5/3, mb1 4.0/6, mb1mx3.7/34, mbtmp3.8/6, ML4.0/3, MS3.1/6, Ms1 3.1/6, ms1mx3.0/23, Error ellipse: s-maj=107.2km s-min=17.7km az=37.0*

UCR ***11*** *22:51:54.3±1.1, 13.˚51N×90.˚72W, h16km±4km, MD3.9, ML4.0, mb4.0(NEIC)*

NEIC ***11*** *22:51:54.0±0.0, 13.˚51N×90.˚71W, h14km, mb4.0/6, MD4.1(SNET), After SNET.*

NEIC Felt [i] at Ahuachapan, El Salvador.

ISC 11 22:51:51.7±0.8, 13.˚31N±0.˚09×90.˚93W±0.˚05, h29km, n42, σ1s72/45, mb4.0/6, MS3.4/3, 1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.98**	**28**	*e*P	**Pn**	**22 52 08.3**	**-1.4**
PCG	**Pacaya**	**1.12**	**16**	*e*P	**Pn**	**22 52 10.5**	**-1.3**
FUG	**Fuego 3**	**1.14**	**4**	⇓*e*P	**Pn**	**22 52 10.5**	**-1.4**
CEVE	**Cerro Verde**	**1.37**	**68**	*e*P	**Pn**	**22 52 14.7**	**-0.5**
CEVE				*e*S	**Sn**	**22 52 31.1**	**-1.4**
CEVE				IAML		22 52 37.1	
	comp=Z,8μm,0.2s						
SBLS	**San Blas**	**1.37**	**67**	*e*P	**Pn**	**22 52 14.3**	**-0.9**
RTR	**El Retiro**	**1.38**	**65**	*e*P	**Pn**	**22 52 14.5**	**-0.7**
NBG	**Las Nubes**	**1.39**	**24**	*e*P	**Pn**	**22 52 15.4**	**-0.1**
SNJE	**San Jose**	**1.40**	**66**	*e*P	**Pn**	**22 52 14.8**	**-0.8**
BOQS	**Boqueron**	**1.66**	**75**	*e*P	**Pn**	**22 52 19.2**	**+0.1**
BOQS				*e*S	**Sn**	**22 52 39.5**	**-0.1**
SNET	**Serv Nac Est T**	**1.69**	**77**	*e*S	**Sn**	**22 52 39.5**	**-0.7**
SNET				IAML		22 52 44.6	
	comp=Z,2μm,0.2s						
OPAM	**San Salvador**	**1.73**	**76**	*e*P	**Pn**	**22 52 20.7**	**+0.8**
OPAM				IAML		22 52 43.7	
	comp=Z,2μm,0.2s						
LOMA	**San Marcos**	**1.74**	**78**	*e*S	**Sn**	**22 52 41.5**	**+0.2**
LOMA				IAML		22 52 43.2	
	comp=Z,3μm,0.3s						
CUSC	**San Salvador**	**1.74**	**76**	*e*S	**Sn**	**22 52 40.6**	**-0.8**
CUSC				IAML		22 52 43.6	
	comp=Z,3μm,0.2s						
LFU	**La Fuente**	**1.82**	**76**	*e*P	**Pn**	**22 52 21.9**	**+0.7**
LFRS	**El Faro**	**1.84**	**80**	*e*P	**Pn**	**22 52 21.9**	**+0.4**
LBRS	**Las Brisas**	**1.88**	**77**	*e*P	**Pn**	**22 52 22.9**	**+0.8**
PAVA	**Las Pavas**	**1.98**	**78**	*e*P	**Pn**	**22 52 23.8**	**+0.4**
PAVA				IAML		22 52 55.4	
	comp=Z,1μm,0.5s						
CCIG	**Comitan**	**3.18**	**339**	*e*Pn	**Pn**	**22 52 40.8**	**+0.8**
CCIG				*e*Sn	**Sn**	**22 53 19.6**	**+2.5**
PCIG		**3.26**	**317**	P	**Pn**	**22 52 40.9**	**0.0**
PCIG				S

IDC ***11*** *22:57:15.8±1.4,30°.53N×50°.66E,h0km,mb3.4/6, mb1 3.6/8,mb1mx3.3/45,mbtmp3.5/8,ML3.1/2,Error ellipse: s-maj=33.0km s-min=22.4km az=163.0*
TEH ***11*** *22:57:17.4,30°.46N×50°.59E,h15km,ML3.2*
ISCJB ***11*** *22:57:18.4±0.6,30°.40N±0°.05×50°.59E±0°.05,h25km, mb3.4/6,Error ellipse: s-maj=7.7km s-min=5.7km az=29.9*
THR ***11*** *22:57:19.3,30°.43N×50°.65E,h42km,ML3.2*

ISC 11 22:57:18.7±0.8,30°.38N±0°.06×50°.67E±0°.06,h25km,n41, σ1§47/44,mb3.4/6,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**1.01**	**52**	*e*Pg	**Pn**	**22 57 36.2**	**-1.5**
KLNJ				*e*Sg	**Sn**	**22 57 51.7**	**+0.4**
KLNJ				IAMB	IAmb	22 57 58.6	
	comp=Z,0.0nm,0.3s						
IKAZ	**Kazeroun**	**1.18**	**120**	*e*Pg	**Pb**	**22 57 42.4**	**+1.8**
IKAZ				IAMB	IAmb	22 58 05.2	
	comp=N,17μm,0.3s						
IBRJ	**Brojen**	**1.61**	**18**	*e*Pn	**Pb**	**22 57 48.5**	**+0.6**
IBRJ				IAMB	IAmb	22 58 12.9	
	comp=Z,3μm,0.3s						
ZNGN	**Zangian**	**1.74**	**5**	*e*Pn	**Pn**	**22 57 48.1**	**+0.5**
ZNGN				IAMB	IAmb	22 58 15.3	
	comp=Z,0.0nm,0.5s						
JHBN	**Jahan bin**	**1.85**	**360**	*e*Pn	**Pn**	**22 57 49.8**	**+0.7**
JHBN				IAMB	IAmb	22 58 20.0	
	comp=Z,0.0nm,0.3s						
ROKH	**ROKH**	**1.99**	**9**	*e*Pn	**Pn**	**22 57 52.2**	**+1.3**
ROKH				IAMB	IAmb	22 58 20.8	
	comp=Z,0.0nm,0.5s						
IRAM	**Rameshed**	**2.05**	**45**	*e*Pn	**Pn**	**22 57 53.4**	**+1.6**
IRAM				IAMB	IAmb	22 58 26.7	
	comp=Z,2μm,0.3s						
IPAR	**Pars**	**2.13**	**104**	*e*Pn	**Pb**	**22 57 55.7**	**-1.1**
IPIR	**Pirpir**	**2.31**	**5**	*e*Pn	**Pn**	**22 57 57.0**	**+1.6**
IPIR				IAMB	IAmb	22 58 31.9	
	comp=Z,1μm,0.4s						
IGAR	**Gharneh**	**2.34**	**30**	*e*Pn	**Pn**	**22 57 57.2**	**+1.5**
IGAR				IAMB	IAmb	22 57 59.4	
	comp=Z,1μm,0.2s						
ISRV	**Sarvestan**	**2.34**	**114**	*e*Pn	**Pn**	**22 57 57.9**	**+1.9**
SHGR	**Shooshtar-Gavs**	**2.35**	**318**	*e*AML	AML	22 58 35.1	
	comp=N,136nm,0.4s						
SHGR				*e*Pn	**Pn**	**22 57 56.3**	**+0.5**
SHGR				*e*Sg	**Sb**	**22 58 30.0**	**+1.1**
SHGR				*e*AML	AML	22 58 38.7	
	comp=E,136nm,0.3s						
IZEF	**Zefreh**	**2.88**	**29**	IAMB	IAmb	22 58 05.7	
IZEF	comp=Z,1μm,0.2s						
				*e*Pn	**Pn**	**22 58 04.7**	**+1.4**
GHIR	**Ghir-Karzin**	**2.91**	**135**	*e*Pn	**Pn**	**22 58 05.3**	**+1.8**
GHIR	**Ghir-Karzin**	**2.91**	**135**	*e*Pn	**Pn**	**22 58 05.2**	**+1.8**
ISAD	**Sadrabad**	**3.00**	**59**	IAMB	IAmb	22 58 09.3	
	comp=Z,695nm,0.2s						
ISAD				*e*Pn	**Pn**	**22 58 07.0**	**+2.0**
IKLH	**Kolahrood**	**3.03**	**15**	IAMB	IAmb	22 58 08.5	
	comp=Z,589nm,0.2s						
IKLH				*e*Pn	**Pn**	**22 58 06.4**	**+1.0**
KHMZ	**Khomeyn**	**3.40**	**350**	*e*Pn	**Pn**	**22 58 11.1**	**+0.7**
KHMZ	**Khomeyn**	**3.40**	**350**	*e*Pn	**Pn**	**22 58 11.1**	**+0.7**
IMEH	**Mehriz**	**3.54**	**72**	*e*Pn	**Pn**	**22 58 14.3**	**+2.0**
IMEH				IAMB	IAmb	22 58 16.6	
	comp=Z,196nm,0.2s						
IKMR	**Kamar-syah**	**3.68**	**329**	*e*Pn	**Pn**	**22 58 13.1**	**-0.9**
IKMR				IAMB	IAmb	22 59 15.9	
	comp=Z,0.0nm,0.5s						
ICHK	**Chekchek**	**3.70**	**59**	*e*Pn	**Pn**	**22 58 16.1**	**+1.6**
ICHK				IAMB	IAmb	22 59 04.0	
	comp=Z,313nm,0.2s						
KRSH	**Karshahi**	**3.79**	**19**	*e*Pn	**Pn**	**22 58 16.7**	**+1.0**
KRSH				IAMB	IAmb	22 59 46.8	
	comp=Z,0.0nm,2.0s						
YZKH	**Yazd**	**3.91**	**58**	*e*Pn	**Pn**	**22 58 18.5**	**+1.3**
YZKH	**Yazd**	**3.91**	**58**	*e*Pn	**Pn**	**22 58 18.5**	**+1.3**
IDOB	**Doab**	**4.00**	**329**	*e*Pn	**Pn**	**22 58 19.3**	**+0.7**
GHVR	**GHOM**	**4.12**	**7**	*e*Pn	**Pn**	**22 58 20.8**	**+0.6**
GHVR	**GHOM**	**4.12**	**7**	*e*Pn	**Pn**	**22 58 20.8**	**+0.6**
ISFB	**Sefidab**	**4.18**	**18**	*e*Pn	**Pn**	**22 58 21.4**	**+0.4**
ISFB				IAMB	IAmb	22 58 22.1	
	comp=Z,315nm,0.5s						
IKOM	**Komasi**	**4.63**	**326**	*e*Pn	**Pn**	**22 58 27.1**	**-0.2**
IANJ	**Anjilo**	**5.76**	**27**	*e*Pn	**Pn**	**22 58 43.7**	**+0.9**
IANJ				IAMB	IAmb	22 58 44.0	
	comp=Z,258nm,0.2s						
TPRV	**Parvadeh(Tabas**	**5.77**	**61**	*e*Pn	**Pn**	**22 58 44.1**	**+1.3**
TNSJ	**Nastanj**	**6.17**	**53**	*e*Pn	**Pn**	**22 58 49.7**	**+1.3**
GEYT	**Alibeck**	**9.73**	**37**	Pn	**Pn**	**22 59 37.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=253,slow=15,SNR=2.4						
WSAR	**Wadi Sarin**	**10.05**	**133**	Pn	**Pn**	**22 59 41.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=284,slow=19,SNR=3.7						
WSAR				Sn	**Sn**	**23 01 28.6**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=54,slow=18,SNR=2.5						
MLR	**Muntele Rosu**	**24.52**	**315**	P	**P**	**23 02 36.4**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=135,slow=16						
KURBB	**Kurchatov Arra**	**29.01**	**38**	P	**P**	**23 03 17.2**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=239,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**29.40**	**47**	P	**P**	**23 03 20.6**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=247,slow=9.7,SNR=4.5						
ZALV	**Zalesovo Beam**	**34.04**	**36**	P	**P**	**23 03 59.0**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=246,slow=14,SNR=3.7						
FINES	**FINESS Array B**	**35.03**	**340**	P	**P**	**23 04 06.8**	**-2.2**
	comp=Z,0.7nm,0.6s,baz=133,slow=8.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**48.22**	**260**	P	**P**	**23 05 59.2**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=61,slow=8.0,SNR=2.8						

IDC 11 23:01:41.6±5.9,50°.04N×114°.00W,h0km,mb1 3.6/1, mb1mx3.0/38,mbtmp3.3/1,ML2.9/1,Error ellipse: s-maj=88.4km s-min=42.9km az=74.0,Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.71**	**230**	*i*		23 17 20.0	
	baz=49,slow=325,SNR=2.5						
I10CA	**LAC DU BONNET**	**11.54**	**82**	*i*		00 15 30.0	
	baz=272,slow=382,SNR=1.4						
YKA	**Yellowknife Ar**	**12.49**	**359**	Pn	Pn	23 04 36.6	-3.7
	0.1nm,0.3s,baz=180,slow=13,SNR=6.7						
YKA				Sn	Sn	23 06 48.9	-11
	0.0nm,0.3s,baz=176,slow=22,SNR=3.4						
YKA				Lg	Lg	23 08 11.2	
	0.0nm,0.3s,baz=173,slow=28,SNR=2.8						

MEX 11 23:19:02.1±0.7,17°.81N×100°.76W,h52km±9km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.60**	**40**	*i* P	Pn	23 19 12.9	-1.9
ARIG				*i* S	Sn	23 19 22.1	-1.8
ZIIG	**Zihuatanejo**	**0.71**	**253**	*i* P	Pn	23 19 14.2	-1.8
ZIIG				*i* S	Sn	23 19 24.9	-1.2
CAIG	**El Cayaco**	**0.89**	**149**	*i* P	Pn	23 19 16.7	-1.8
CAIG				*i* S	Sn	23 19 28.1	-2.3
MEIG	**Mezcala**	**1.09**	**84**	*i* P	Pn	23 19 19.9	-1.2
MEIG				*e*S	Sn	23 19 33.4	-1.8
PLIG	**Platanillo**	**1.32**	**64**	*e*P	Pn	23 19 22.9	-1.4
PLIG				*i* S	Sn	23 19 38.1	-2.8
YAIG	**Yautepec**	**1.91**	**57**	*e*P	Pn	23 19 30.7	-1.8
YAIG				*i* S	Sn	23 19 53.1	-2.3
TLIG	**Tlapa**	**2.10**	**96**	*e*P	Pn	23 19 34.5	-0.5
TLIG				*i* S	Sn	23 19 58.2	-1.9
PNIG	**Pinotepa**	**2.88**	**119**	*e*P	Pn	23 19 44.6	-1.0

ISCJB ***11*** *23:31:28.1±0.7,34°.87N±0°.05×140°.10E±0°.05,h64km±5km, mb3.2/2,Error ellipse: s-maj=8.2km s-min=6.8km az=41.7*
JMA ***11*** *23:31:28.4±0.2,34°.94N×140°.08E,h64km±2km,M2.6*
IDC ***11*** *23:31:32.8±2.2,34°.65N×139°.43E,h76km±12km,mb2.8/2, mb1 3.1/3,mb1mx2.9/36,mbtmp3.1/3,Error ellipse: s-maj=88.8km s-min=6.4km az=71.0*

ISC 11 23:31:29.0±1.0,34°.90N±0°.05×140°.09E±0°.05,h58km±7km, n17,σ1§03/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.21**	**308**	P	**Pn**	**23 31 39.0**	**+0.7**
TATJ				S	**Sn**	**23 31 46.5**	**+1.5**
BSO4	**Boso 4**	**0.22**	**67**	P	**Pn**	**23 31 38.8**	**+0.5**
BSO4				*e*X		23 31 46.5	
JKUC	**kamogawauchiur**	**0.27**	**19**	P	**Pn**	**23 31 38.5**	**-0.2**
JKUC				S	**Sn**	**23 31 45.6**	**-0.2**
KTR	**Katsuura**	**0.31**	**37**	P	**Pn**	**23 31 38.8**	**-0.2**
KTR				*e*S	**Sn**	**23 31 46.2**	**0.0**
BSO3	**Boso 3**	**0.36**	**106**	P	**Pn**	**23 31 39.6**	**+0.5**
BSO3				X		23 31 48.0	
JIM2	**Oshima 3**	**0.57**	**251**	P	**Pn**	**23 31 41.5**	**-0.2**
JIM2				S	**Sn**	**23 31 50.4**	**-0.5**
BSO1	**Boso 1**	**0.77**	**109**	P	**Pn**	**23 31 43.5**	**0.0**
BSO1				*e*X		23 31 54.7	
JOD2	**Odawara 2**	**0.90**	**294**	P	**Pn**	**23 31 45.0**	**-0.7**
JOD2				S	**Sn**	**23 31 56.9**	**-1.0**
JIZS	**Izushimoda**	**1.01**	**260**	S	**Sn**	**23 32 00.3**	**-0.3**
JHJ	**Hachijo jima 2**	**1.80**	**188**	P	**Pn**	**23 32 00.1**	**+2.4**
	7.9nm,0.3s,baz=252,slow=19,SNR=4.8						
JHJ				S	**Sn**	**23 32 18.5**	**-0.9**
	29nm,0.3s,baz=223,slow=22,SNR=11						
MJAR	**Matsushiro Arr**	**2.24**	**317**	P	**Pn**	**23 32 04.2**	**+0.5**
	1.4nm,0.3s,baz=158,slow=12,SNR=42						
MJAR				S	**Sn**	**23 32 32.1**	**+1.8**
	0.5nm,0.3s,baz=176,slow=21,SNR=4.6						
MAT	**Matsushiro**	**2.24**	**317**	P	**Pn**	**23 32 04.4**	**+0.7**
MAT				*e*S	**Sn**	**23 32 31.4**	**+1.1**
H11N2	**WAKE ISLAND Hy**	**28.09**	**116**	T	T	00 06 57.2	
	baz=308,slow=75,SNR=5.3						
H11N1	**WAKE ISLAND Hy**	**28.10**	**116**	T	T	00 06 44.3	
	baz=308,slow=75,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**28.11**	**116**	T	T	00 06 39.3	
	baz=308,slow=75,SNR=4.8						
MKAR	**Makanchi Array**	**44.37**	**304**	P	**P**	**23 39 33.9**	**+0.4**
	0.1nm,0.4s,baz=81,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**54.81**	**187**	P	**P**	**23 40 51.7**	**-1.4**
	0.3nm,0.6s,baz=5.0,slow=7.7,SNR=4.8						

IDC 11 23:41:48.9±3.3,7°.00S×148°.67E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.4/30,mbtmp3.5/3,ML3.2/1,Error ellipse: s-maj=104.7km s-min=44.6km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.94**	**226**	P	Pn	23 46 12.1	-0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**21.81**	**219**	P	P	23 46 43.8	+0.9
	0.7nm,0.6s,baz=54,slow=8.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**25.00**	**242**	P	P	23 47 14.7	0.0
	2.2nm,0.8s,baz=57,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**146.94**	**283**	PKPbc	PKPdf	00 01 33.1	+0.4
	0.1nm,0.5s,baz=75,slow=3.5,SNR=2.6						

DDA ***11*** *23:53:22.3,37°.05N×28°.08E,h7km±1km,ML2.5*
ISK ***11*** *23:53:22.7,37°.09N×28°.03E,h6km,ML2.6/13*
ISCJB ***11*** *23:53:23.1±0.4,37°.09N±0°.03×28°.05E±0°.03,h6km±7km, Error ellipse: s-maj=4.7km s-min=4.3km az=174.5*

ISC 11 23:53:22.5±1.3,37°.05N±0°.03×28°.07E±0°.02,h8km±12km, n19,σ0§87/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.19**	**65**	PG	**Pg**	**23 53 27.0**	**+0.5**
MRSB	**Marmaris-Mugla**	**0.35**	**163**	PG	**Pb**	**23 53 30.9**	**-0.1**
DATC	**Datca-Mugla**	**0.44**	**228**	PG	**Pb**	**23 53 31.9**	**-0.6**
DATC				SG	**Sb**	**23 53 38.6**	**-0.5**
TURN	**Turunc**	**0.47**	**112**	PG	**Pg**	**23 53 29.2**	**-2.4**
TURN	**Turunc**	**0.47**	**112**	*i* P	**Pg**	**23 53 29.7**	**-1.9**
TURN				IAML_P			
	comp=Z,3μm,0.1s						
BDRM	**Kayabasi**	**0.50**	**272**	*i* P	**Pg**	**23 53 32.6**	**+0.4**
BDRM				*i* S	**Sb**	**23 53 40.1**	**-0.9**
BDRM				IAML_P			
	comp=Z,896nm,0.1s						
DAT	**Datca**	**0.51**	**231**	PG	**Pg**	**23 53 32.8**	**+0.5**
DAT				SG	**Sb**	**23 53 40.8**	**-0.5**
DAT	**Datca**	**0.51**	**231**	*i* P	**Pg**	**23 53 32.2**	**-0.1**
DAT				IAML_P			
	comp=Z,587nm,0.1s						
DALY	**Dalyan (Mula)**	**0.53**	**116**	PG	**Pb**	**23 53 34.2**	**+0.2**
DALY				SG	**Sb**	**23 53 42.5**	**+0.8**
DALY	**Dalyan (Mula)**	**0.53**	**116**	*i* P	**Pb**	**23 53 33.7**	**-0.2**
DALY				IAML_P			
	comp=Z,821nm,0.1s						
BODT	**Bodrum**	**0.60**	**271**	PG	**Pg**	**23 53 34.4**	**+0.2**
BODT				SG	**Sb**	**23 53 42.9**	**-1.1**
AYDN	**Tasoluk**	**0.62**	**346**	*i* P	**Pb**	**23 53 35.6**	**-0.2**
AYDN				*i* S	**Sb**	**23 53 43.4**	**-1.3**
TAVA	**DENIZLI_Tavas**	**0.79**	**58**	*i* P	**Pg**	**23 53 38.0**	**+0.2**
TAVA				*i* S	**Sb**	**23 53 49.7**	**+0.1**
TAVA				IAML_P			
	comp=Z,406nm,0.1s						
ARG	**Arkhangelos**	**0.84**	**177**	PG	**Pb**	**23 53 40.0**	**+0.7**
ARG				SG	**Sn**	**23 53 52.7**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**0.90**	**351**	PG	**Pg**	**23 53 39.7**	**-0.2**
FETY	**Fethiye**	**0.92**	**117**	PG	**Pb**	**23 53 41.5**	**+0.8**
AKAS	**Kas**	**1.48**	**123**	PN	**Pg**	**23 53 51.4**	**+0.4**
ELL	**Elmali**	**1.51**	**101**	PN	**Pg**	**23 53 51.7**	**+0.2**
KARP	**Karpathos**	**1.67**	**206**	PN	**Pn**	**23 53 52.9**	**+0.8**

ISCJB ***11*** *23:53:23.1±0.4,50°.29N±0°.02×18°.71E±0°.02,h0km,Error ellipse: s-maj=3.5km s-min=2.0km az=12.7*
VIE ***11*** *23:53:24.8±1.2,50°.15N×18°.88E,h0km,mb1.9/2,ml2.8/6, Error ellipse: s-maj=15.0km s-min=8.0km az=152.0, Suspected Mining induced.*
BGR ***11*** *23:53:25.5±0.3,50°.28N×18°.79E,h1km,ML3.1/10,Error ellipse: s-maj=6.7km s-min=3.3km az=7.0*
PRU ***11*** *23:53:27.1±0.0,50°.18N×18°.65E,h0km*

ISC 11 23:53:24.1±0.8,50°.29N±0°.03×18°.78E±0°.02,h0km,n54, σ1§20/92,5C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.14**	**88**	*e*Pg	**Pg**	**23 53 27.4**	**+0.7**
CHZP				*e*Sg	**Sg**	**23 53 29.4**	**+1.0**
OKC	**Ostrava-Krasne**	**0.61**	**223**	*e*PG	**Pg**	**23 53 36.6**	**+0.9**
OKC				*e*SG	**Sg**	**23 53 44.7**	**+1.1**
	comp=Z,116nm,0.8s						
OKC	**Ostrava-Krasne**	**0.61**	**223**	*e*Pg	**Pb**	**23 53 37.0**	**-0.6**
OKC				*e*Sg	**Sb**	**23 53 45.8**	**-0.9**
OJC	**Ojcow**	**0.66**	**95**	*e*Pg	**Pg**	**23 53 36.8**	**+0.1**
OJC				*e*Sg	**Sg**	**23 53 45.5**	**+0.3**
OJC	**Ojcow**	**0.66**	**95**	*e*Pg	**Pg**	**23 53 36.8**	**+0.1**
OJC				*e*Sg	**Sg**	**23 53 46.1**	**+0.9**
MORC	**Moravsky Berou**	**0.95**	**238**	*i*/*e*P	**Pg**	**23 53 42.9**	**+0.7**
MORC	**Moravsky Berou**	**0.95**	**238**	S	**Sb**	**23 53 56.1**	**-0.4**
MORC	**Moravsky Berou**	**0.95**	**238**	*e*PG	**Pg**	**23 53 43.0**	**+0.7**
MORC				*e*SG	**Sg**	**23 53 55.6**	**+1.1**
MORC	**Moravsky Berou**	**0.95**	**238**	*e*Pg	**Pb**	**23 53 43.0**	**-0.4**
MORC				*e*Sg	**Sb**	**23 53 56.2**	**-0.4**
LANS	**Liptovska Anna**	**1.22**	**158**	*e*PG	**Pg**	**23 53 47.5**	**0.0**
LANS				*e*SG	**Sg**	**23 54 02.8**	**-0.5**
KRLC	**Kraliky**	**1.30**	**261**	*e*PG	**Pg**	**23 53 48.8**	**-0.3**
KRLC				*e*SG	**Sg**	**23 54 06.0**	**+0.1**
	comp=Z,22nm,0.6s						
NIE	**Niedzica**	**1.31**	**131**	*e*Pg	**Pg**	**23 53 48.9**	**-0.4**
NIE				*e*Sg	**Sn**	**23 54 07.6**	**-0.4**
DPC	**Dobruska-Polom**	**1.58**	**273**	*e*PG	**Pb**	**23 53 53.8**	**-0.4**
DPC				*e*SG	**Sg**	**23 54 15.7**	**+0.9**
	comp=Z,66nm,0.6s						
DPC	**Dobruska-Polom**	**1.58**	**273**	*e*Pn	**Pb**	**23 53 53.8**	**-0.4**
DPC				*e*Pg	**Pg**	**23 53 55.2**	**+0.8**
DPC				*e*Sg	**Sg**	**23 54 15.6**	**+0.9**
JAVC	**Velka Javorina**	**1.60**	**207**	*e*PN	**Pn**	**23 53 54.0**	**+0.3**
KSP	**Ksiaz**	**1.68**	**290**	*e*Pb	**Pb**	**23 53 55.2**	**-0.7**
KSP				*e*Pg	**Pg**	**23 53 57.3**	**+1.0**
KSP				*e*Sg	**Sg**	**23 54 19.6**	**+1.5**
KSP	**Ksiaz**	**1.68**	**290**	*e*Pn	**Pg**	**23 53 55.9**	**-0.5**
KSP				*e*Pg	**Pb**	**23 53 57.5**	**+1.6**
KSP				*e*Sg	**Sg**	**23 54 19.7**	**+1.5**
VRAC	**Vranov**	**1.72**	**236**	*i*/*e*P	**Pn**	**23 53 55.4**	**0.0**
VRAC	**Vranov**	**1.72**	**236**	S	**Sb**	**23 54 19.0**	**+0.2**
VRAC	**Vranov**	**1.72**	**236**	*e*PN	**Pn**	**23 53 55.8**	**+0.4**
VRAC				*e*SG	**Sn**	**23 54 18.3**	**+0.2**
UPC	**Upice**	**1.79**	**278**	*e*PG	**Pb**	**23 53 57.6**	**-0.1**
UPC				*e*SG	**Sg**	**23 54 21.8**	**+0.3**
	comp=Z,23nm,0.4s						
VYHS	**Vyhne**	**1.79**	**179**	*e*PN	**Pn**	**23 53 56.0**	**-0.4**
VYHS				*e*SN	**Sn**	**23 54 18.4**	**-1.4**
VYHS				*e*LG	Lg	23 54 25.5	
KRUC	**Moravsky**	**1.98**	**233**	*e*PN	**Pn**	**23 53 58.3**	**-0.5**
KRUC				*e*SG	**Sn**	**23 54 25.4**	**+1.1**
SMOL	**Smolenice**	**1.98**	**207**	*e*	**Pg**	**23 54 02.3**	**+0.2**
SMOL	**Smolenice**	**1.98**	**207**	*e*SN	**Sn**	**23 54 24.0**	**-0.4**
MODS	**Modra-Piesok**	**2.15**	**208**	*e*PN	**Pn**	**23 54 02.0**	**+0.7**
MODS				*e*SN	**Sn**	**23 54 28.5**	**-0.2**
MODS				*e*LG	Lg	23 54 42.1	
TREC	**Trest**	**2.35**	**246**	*e*PG	**Pb**	**23 54 06.8**	**-0.6**
TREC				*e*SG	**Sb**	**23 54 38.4**	**+1.4**
	comp=Z,38nm,0.6s						
PSZ	**Piszkesteto**	**2.48**	**162**	*i*P	**Pn**	**23 54 06.5**	**+0.7**
PSZ	**Piszkesteto**	**2.48**	**162**	S	**Sn**	**23 54 38.8**	**+2.0**
PSZ	**Piszkesteto**	**2.48**	**162**	*e*Pn	**Pn**	**23 54 06.1**	**+0.2**
PSZ				*e*Sg	**Pg**	**23 54 11.1**	**-0.5**
PSZ				Sn	**Sb**	**23 54 41.0**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.60**	**263**	*e*SG	**Sg**	**23 54 46.7**	**-0.9**
	comp=Z,41nm,0.7s						
PVCC	**Panska Ves**	**2.71**	**277**	*e*SG	**Sg**	**23 54 51.4**	**+0.4**
	comp=Z,43nm,0.7s						
PRU	**Pruhonice**	**2.74**	**265**	*e*SG	**Sg**	**23 54 52.1**	**-0.1**
	comp=Z,21nm,0.6s						
CONA	**Conrad Observa**	**3.04**	**220**	*e*Pn	**Pn**	**23 54 14.0**	**+0.4**
	0.3nm,0.1s						
CONA				Sn	**Sn**	**23 54 48.5**	**-2.2**
	2.2nm,0.2s						
BRG	**Berggiesshubel**	**3.14**	**283**	PG	**Pg**	**23 54 24.3**	**0.0**
BRG				SG	**Sg**	**23 55 04.5**	**-0.5**
	23nm,0.6s						
BRG	**Berggiesshubel**	**3.14**	**283**	*e*Pg	**Pg**	**23 54 24.0**	**-0.3**
BRG				*e*Sg	**Sg**	**23 55 04.9**	**0.0**
TRPA	**Tarpa**	**3.27**	**130**	*i*P	**Pn**	**23 54 16.8**	**+0.1**
FBE	**Freiberg**	**3.52**	**282**	*e*Sg	**Sg**	**23 55 17.1**	**+0.1**
KHC	**Kasperske Hory**	**3.57**	**253**	*e*PN	**Pn**	**23 54 18.9**	**-1.9**
KHC				*e*PG	**Pb**	**23 54 29.3**	**+1.2**
KHC				*e*SG	**Sg**	**23 55 18.2**	**-0.5**
	comp=Z,25nm,0.6s						
ARSA	**Arzberg**	**3.73**	**217**	Sg	**Sg**	**23 55 27.2**	**+3.5**
	5.2nm,0.5s						
CLL	**Collm**	**3.81**	**288**	*e*Pg	**Pg**	**23 54 37.0**	**0.0**
CLL				*e*Sg	**Sg**	**23 55 27.0**	**+0.7**
	comp=Z,19nm,1.0s						
CLL	**Collm**	**3.81**	**288**	*e*Sg	**Sg**	**23 55 27.0**	**+0.7**
MOA	**Molln**	**3.84**	**232**	*e*Pn	**Pn**	**23 54 24.6**	**+0.1**
	comp=Z,0.2nm,0.1s						
MOA				*e*Sn	**Sn**	**23 55 11.4**	**+1.0**
	comp=Z,2.0nm,0.3s						
WET	**Wettzell**	**4.00**	**256**	*e*Pg	**Pg**	**23 54 39.2**	**-1.5**
WET				*e*Sg	**Sg**	**23 55 30.9**	**+1.6**
TANN	**Tannenbergstha**	**4.05**	**274**	*e*Pn	**Pn**	**23 54 28.5**	**+1.2**
TANN				*e*Pg	**Pg**	**23 54 42.7**	**+1.0**
TANN				*e*Sg	**Sg**	**23 55 32.6**	**-1.5**
NKC	**Novy Kostel**	**4.06**	**272**	*e*SG	**Sg**	**23 55 34.1**	**-0.5**
MORH	**Mrgy, Hungar**	**4.08**	**181**	*e*Pn	**Pn**	**23 54 29.0**	**+1.3**
MORH				Sn	**Sn**	**23 55 11.1**	**-4.9**
DRGR		**4.36**	**142**	*i*P	**Pn**	**23 54 31.7**	**0.0**
MOX	**Moxa**	**4.59**	**277**	*e*Sg	**Sg**	**23 55 50.3**	**-1.2**
KBA	**Koelnbreinsper**	**4.82**	**230**	*i* Sn	**Sn**	**23 55 34.4**	**-0.3**
	comp=Z,1.0nm,0.3s						
KBA				Sg	**Sg**	**23 56 02.7**	**+3.7**
	comp=Z,5.5nm,0.5s						
BURAR	**Bucovina Array**	**5.01**	**120**	*i*P	**Pn**	**23 54 40.6**	**0.0**
BZS	**Buzias**	**5.05**	**157**	*i*P	**Pn**	**23 54 41.0**	**0.0**
BSD	**Bornholm Skovb**	**5.38**	**336**	*i* P	**Pn**	**23 54 45.6**	**+0.1**
BSD				*i* S	**Sn**	**23 55 43.7**	**-4.3**
GZR	**Gura Zlata**	**5.58**	**150**	*i*P	**Pn**	**23 54 48.4**	**-0.1**

IDC 12 00:03:24.5±1.4,1°.66S×139°.10E,h0km,mb3.2/2, mb1 3.6/3,mb1mx3.4/35,mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=33.0km s-min=22.0km az=54.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**1.82**	**118**	Pn	Pb	00 03 57.9	-0.8
	1.4nm,0.3s,baz=332,slow=16,SNR=4.3						
JAY				Sn	Sn	00 04 20.5	-0.4
	1.7nm,0.3s,baz=347,slow=19,SNR=3.7						
**WRA

	0.5nm,0.7s,baz=224,slow=5.1,SNR=4.2								
CPUP	**Villa Florida**	**77.61**	**246**	P		**P**	**00 18 27.4**	**+0.5**	
	2.7nm,1.0s,baz=26,slow=4.4,SNR=3.3								
CPUP				LR		LR	00 45 19.0		
	comp=Z,102nm,20.5s,baz=42,slow=30								
WRA	**Warramunga Arr**	**79.43**	**107**	P		**P**	**00 18 36.2**	**-0.9**	
	1.0nm,0.9s,baz=220,slow=4.4,SNR=5.5								
WR1	**Warramunga Arr**	**79.44**	**107**	*e*P		**P**	**00 18 36.2**	**-0.9**	
	4.9nm,1.1s								
WRAB	**Tennant Creek**	**79.45**	**107**	*e*P		**P**	**00 18 37.2**	**0.0**	
	5.9nm,1.3s								
CMAR	**Chiang Mai Arr**	**81.64**	**55**	P		**P**	**00 18 49.0**	**+0.3**	
	0.5nm,0.3s,baz=225,slow=5.8,SNR=5.6								
CMAR				LR		LR	00 51 18.2		
	comp=Z,68nm,18.1s,baz=206,slow=33								
GEYT	**Alibeck**	**82.46**	**14**	LR		LR	00 54 06.6		
	comp=Z,26nm,19.5s,baz=355,slow=35								
BRTR	**Keskin Array B**	**82.87**	**355**	P		**P**	**00 18 55.7**	**+0.8**	
	1.0nm,0.8s,baz=194,slow=8.2,SNR=6.3								
BRTR				LR		LR	00 54 04.5		
	comp=Z,43nm,21.0s,baz=110,slow=34								
BR101	**Keskin Array S**	**82.87**	**355**	*e*P		**P**	**00 18 55.7**	**+0.8**	
KEST	**Kesra**	**83.57**	**335**	LR		LR	00 58 13.0		
	comp=Z,91nm,18.1s,baz=268,slow=37								
KBZ	**Khabaz**	**86.68**	**2**	LR		LR	00 57 06.0		
	comp=Z,72nm,19.9s,baz=164,slow=35								
ESDC	**Sonseca Array**	**91.78**	**327**	P		**P**	**00 19 38.8**	**+0.8**	
	0.5nm,0.6s,baz=152,slow=4.7,SNR=3.6								
GERES	**GERESS Array B**	**94.70**	**343**	LR		LR	01 07 16.2		
	comp=Z,49nm,18.4s,baz=188,slow=38								
MKAR	**Makanchi Array**	**97.11**	**28**	LR		LR	01 00 56.9		
	comp=Z,49nm,18.9s,baz=256,slow=34								
JCT	**Junction City**	**145.94**	**261**	*e*PKPdf		**PKPbc**	**00 26 10.4**	**+0.2**	
TXAR	**Lajitas Array**	**148.06**	**256**	PKPbc		**PKPbc**	**00 26 16.7**	**+0.4**	
	5.3nm,0.8s,baz=138,slow=5.4,SNR=44								
ULM	**Lac du Bonnet**	**149.55**	**299**	PKPbc		**PKPbc**	**00 26 18.9**	**-0.3**	
	6.2nm,1.0s,baz=79,slow=1.8,SNR=8.6								
MNTX	**Cornudas Mount**	**150.61**	**258**	*e*PKPbc		**PKPbc**	**00 26 22.2**	**-0.2**	
BNM	**Barren Site**	**152.78**	**262**	*e*PKPdf		**PKPdf**	**00 26 19.8**	**-0.7**	
BNM				*e*PKPbc		**PKiKP**	**00 26 28.2**	**+0.4**	
ANMO	**Albuquerque**	**153.03**	**263**	*e*PKPdf		**PKPdf**	**00 26 19.0**	**-1.8**	
ANMO				*e*PKPbc		**PKPbc**	**00 26 27.9**	**-0.3**	
YKA	**Yellowknife Ar**	**155.82**	**331**	PKP		**PKPdf**	**00 26 24.2**	**+0.8**	
	0.4nm,0.8s,baz=36,slow=1.6,SNR=6.9								
YKA				PKPbc		pPKPbc	00 26 32.7	-2.7	
	0.3nm,0.7s,baz=33,slow=2.1,SNR=5.8								
YKA				PKPab		**PKPab**	**00 26 51.0**	**+0.7**	
	0.6nm,0.7s,baz=44,slow=4.4,SNR=8.8								
YKB5	**Yellowknife Ar**	**155.82**	**331**	*e*PKPdf		**PKPdf**	**00 26 23.0**	**-0.5**	
YKB5				*e*PKPdif		pPKPbc	00 26 32.7	-2.7	
YKB5				*e*PKPab		**PKPab**	**00 26 51.0**	**+0.7**	

*IDC **12** 00:06:45.9±0.8, 8.87°S×157.63°E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.9/42, mbtmp3.9/12, ML4.7/1, MS3.5/10, Ms1 3.5/10, ms1mx3.4/24, Error ellipse: s-maj=23.0km s-min=18.2km az=151.0*

*ISCJB **12** 00:06:47.2±0.5, 8.85S±0.08°×157.75E±0.07, h23km, mb3.9/16, MS3.4/8, Error ellipse: s-maj=12.3km s-min=9.4km az=153.0*

*NEIC **12** 00:06:52.5±1.8, 8.97°S×157.90E, h61km±20km, mb4.2/6, Error ellipse: s-maj=21.8km s-min=8.1km az=138.0*

ISC 12 00:06:48.4±0.6, 8.80S±0.09°×157.74E±0.06, h23km, n41, σ2.502/32, mb4.0/16, MS3.4/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.27**	**106**	*i* P	**Pn**	**00 07 23.0**	**-1.5**
HNR				*i* S	**Sb**	**00 07 55.0**	**-1.3**
HNR	**Honiara**	**2.27**	**106**	Pn	**Pn**	**00 07 24.6**	**+0.1**
HNR				*e*Sn	**Sn**	**00 07 49.6**	**-2.1**
HNR				Sn	**Sb**	**00 07 57.8**	**+1.5**
HNR	**Honiara**	**2.27**	**106**	Pn	**Pn**	**00 07 24.6**	**+0.1**
	168nm,0.3s,baz=230,slow=5.6,SNR=19						
HNR				Sn	**Sb**	**00 07 57.8**	**+1.5**
	251nm,0.3s,baz=310,slow=8.0,SNR=4.8						
PATS	**Pohnpei**	**15.55**	**2**	*e*P	Pn	00 10 20.5	-5.7
PATS				*e*Sn	**Sn**	**00 13 10.2**	**-7.8**
DZM	**Mont Dzumac**	**15.62**	**149**	LR	LR	00 15 41.9	
	comp=Z,405nm,18.2s,baz=7.0,slow=34						
CTA	**Charters Tower**	**15.79**	**223**	Pn	**P**	**00 10 31.7**	**-1.4**
	1.4nm,0.3s,baz=43,slow=15,SNR=11						
CTAO	**Charters Tower**	**15.79**	**223**	*e*Pn	**Pn**	**00 10 26.2**	**-3.2**
	11nm,1.0s						
JAY	**Jayapura**	**18.06**	**289**	LR	LR	00 17 46.5	
	comp=Z,167nm,19.6s,baz=172,slow=37						
WC3	**Warramunga Arr**	**25.17**	**241**	*e*P	**P**	**00 12 13.3**	**+1.1**
	13nm,1.0s						
WRAB	**Tennant Creek**	**25.18**	**241**	*e*P	**P**	**00 12 13.9**	**+1.5**
	7.4nm,0.8s						
WB2	**Warramunga Arr**	**25.18**	**241**	*e*P	**P**	**00 12 13.2**	**+0.8**
	8.9nm,0.9s						
WR1	**Warramunga Arr**	**25.19**	**241**	*e*P	**P**	**00 12 13.4**	**+0.9**
	17nm,1.1s						
WRA	**Warramunga Arr**	**25.19**	**241**	P	**P**	**00 12 13.4**	**+0.9**
	3.6nm,0.6s,baz=67,slow=9.5,SNR=43						
WRA				LR	LR	00 21 45.3	
	comp=Z,212nm,20.0s,baz=15,slow=36						
GUMO	**Guam**	**25.66**	**330**	LR	LR	00 20 30.9	
	comp=Z,93nm,21.4s,baz=128,slow=32						
ASAR	**Alice Springs**	**27.18**	**234**	P	**P**	**00 12 29.2**	**-1.2**
	0.6nm,0.8s,baz=63,slow=9.7,SNR=4.9						
ASAR				LR	LR	00 22 58.3	
	comp=Z,142nm,19.2s,baz=92,slow=36						
STKA	**Stephens Creek**	**27.43**	**211**	P	**P**	**00 12 32.4**	**-0.1**
	1.7nm,0.6s,baz=42,slow=14,SNR=2.5						
STKA				LR	LR	00 23 09.6	
	comp=Z,67nm,19.2s,baz=27,slow=36						
CAN	**Canberra**	**27.58**	**196**	*e*P	**P**	**00 12 33.4**	**-0.5**
	2.6nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**28.52**	**18**	T	T	00 41 15.3	
	baz=199,slow=76,SNR=77						
H11S2	**WAKE ISLAND Hy**	**28.53**	**18**	T	T	00 41 15.1	
	baz=199,slow=76,SNR=94						
H11S1	**WAKE ISLAND Hy**	**28.54**	**18**	T	T	00 41 16.6	
	baz=199,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**29.73**	**18**	T	T	00 43 13.4	
	baz=196,slow=76						
H11N3	**WAKE ISLAND Hy**	**29.75**	**18**	T	T	00 42 44.2	
	baz=196,slow=76						
H11N2	**WAKE ISLAND Hy**	**29.75**	**18**	T	T	00 43 15.6	
	baz=196,slow=76						
FITZ	**Fitzroy Crossi**	**32.51**	**250**	P	**P**	**00 13 17.4**	**-0.4**
	0.7nm,0.4s,baz=98,slow=10.0,SNR=2.3						
BATI	**Baumata**	**33.63**	**265**	LR	LR	00 28 01.7	
	comp=Z,162nm,20.6s,baz=93,slow=38						
MJAR	**Matsushiro Arr**	**48.70**	**339**	LR	LR	00 36 40.4	
	comp=Z,17nm,18.9s,baz=5.0,slow=37						
KSRS	**Korea Array**	**53.82**	**331**	LR	LR	00 36 19.6	
	comp=Z,33nm,21.4s,baz=110,slow=33						
PETK	**Petropavlovsk-**	**61.67**	**360**	LR	LR	00 41 11.2	
	comp=Z,38nm,21.2s,baz=151,slow=34						
KLR	**Kul'dur**	**62.12**	**341**	P	**P**	**00 17 10.6**	**+3.1**
	1.2nm,0.8s,baz=139,slow=7.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**64.01**	**295**	P	**P**	**00 17 21.8**	**+1.1**
	0.5nm,0.3s,baz=116,slow=4.1,SNR=2.5						
SONA0	**Songino Array**	**72.33**	**326**	*e*P	**P**	**00 18 12.9**	**+0.4**
SONM	**Songino Array**	**72.33**	**326**	P	**P**	**00 18 12.9**	**+0.4**
	0.1nm,0.3s,baz=124,slow=5.2,SNR=2.1						
IM3	**Indian Mountai**	**82.57**	**18**	*e*P	**P**	**00 19 08.7**	**-0.5**
ILAR	**Eielson Array**	**84.07**	**21**	P	**P**	**00 19 17.3**	**+0.3**
	0.5nm,0.6s,baz=259,slow=5.0,SNR=6.6						
IL1	**Eielson Array**	**84.07**	**21**	*e*P	**P**	**00 19 17.5**	**+0.6**
MK32	**Makanchi Array**	**86.55**	**318**	*e*P	**P**	**00 19 30.6**	**+0.8**
MKAR	**Makanchi Array**	**86.55**	**318**	P	**P**	**00 19 30.6**	**+0.8**
	0.3nm,0.6s,baz=98,slow=6.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**87.19**	**326**	P	**P**	**00 19 32.3**	**-0.4**
	0.5nm,0.5s,baz=80,slow=12,SNR=3.5						
ZAA1	**Zalesovo Array**	**87.19**	**326**	*e*P	**P**	**00 19 32.3**	**-0.4**
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**00 20 19.8**	**+3.4**
	0.2nm,0.6s,baz=270,slow=4.3,SNR=2.8						
BDFB	**Brasilia**	**144.78**	**133**	PKP	**PKiKP**	**00 26 27.9**	**-0.5**
	1.5nm,0.4s,baz=217,slow=1.0,SNR=3.4						

*ISK **12** 00:22:08.3, 35.23N×27.35E, h6km, ML2.9/8*

*DDA **12** 00:22:31.5, 36.83N×27.84E, h7km±7km, ML1.8*

ISC 12 00:22:03.4±2.8, 35.1N±0.1°×27.15E±0.07, h17km±13km, n14, σ1.918/19, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.46**	**2**	PG	**Pn**	**00 22 15.6**	**+0.3**
KARP				SG	**Sb**	**00 22 21.1**	**+1.4**
ARG	**Arkhangelos**	**1.38**	**35**	PN	**Pg**	**00 22 30.9**	**+0.9**
ARG				SN	**Sb**	**00 22 47.7**	**+1.5**
DAT	**Datca**	**1.68**	**12**	PN	**Pg**	**00 22 36.0**	**+0.3**
DAT				SN	**Sg**	**00 22 56.9**	**-0.6**
DAT	**Datca**	**1.68**	**12**	*i* P	**Pg**	**00 22 36.2**	**+0.5**
DAT				*i* S	**Sb**	**00 22 55.4**	**+0.6**
DAT				IAML_P			
	comp=Z,779nm,0.2s						
BDRM	**Kayabasi**	**1.99**	**7**	*i* P	**Pg**	**00 22 40.3**	**-1.3**
DALY	**Dalyan (Mula)**	**2.12**	**35**	PN	**Pb**	**00 22 42.2**	**+0.9**
DALY	**Dalyan (Mula)**	**2.12**	**35**	*i* P	**Pg**	**00 22 44.3**	**+0.2**
DALY				IAML_P			
	comp=Z,322nm,0.3s						
TURN	**Turunc**	**2.14**	**33**	PN	**Pn**	**00 22 39.4**	**+1.1**
TURN				SN	**Sn**	**00 23 02.2**	**-2.3**
TURN	**Turunc**	**2.14**	**33**	*i* P	**Pb**	**00 22 40.5**	**-1.2**
FETY	**Fethiye**	**2.21**	**45**	PN	**Pb**	**00 22 43.3**	**+0.4**
FETY	**Fethiye**	**2.21**	**45**	*i* P	**Pg**	**00 22 44.1**	**-1.7**
YER	**Yerkesik**	**2.24**	**24**	PN	**Pb**	**00 22 44.2**	**+0.7**
APE	**Apeiranthos**	**2.37**	**327**	PN	**Pg**	**00 22 48.6**	**-0.3**
TAVA	**DENIZLI_Tavas**	**2.77**	**31**	*i* P	**Pb**	**00 22 51.5**	**-1.0**
TAVA				IAML_P			
	comp=Z,97nm,0.2s						

*ISCJB **12** 00:31:18.4±1.0, 32.53S±0.04°×70.40W±0.05, h103km±9km, Error ellipse: s-maj=8.1km s-min=5.6km az=135.1*

*GUC **12** 00:31:18.4±0.5, 32.41S×70.28W, h84km±11km, ML3.5*

*SJA **12** 00:31:18.3±0.6, 32.49S×70.39W, h92km±4km, ML3.3, MW3.6*

ISC 12 00:31:19.7±2.2, 32.53S±0.05°×70.39W±0.05, h92km±20km, n17, σ0.848/29, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.66**	**202**	*e*P	**Pn**	**00 31 35.1**	**-1.0**
PEL				*i* S	**Sn**	**00 31 48.2**	**-0.1**
PEL				IAML		00 31 49.5	
	comp=E,1μm,0.1s						
ROCH	**El Roble**	**0.69**	**229**	⇑*i* P	**Pn**	**00 31 36.1**	**-0.4**
ROCH				*i* S	**Sn**	**00 31 49.4**	**+0.4**
ROCH				IAML		00 31 50.3	
	comp=E,4μm,0.5s						
ROC1	**El Roble**	**0.69**	**229**	*e*P	**Pn**	**00 31 36.2**	**-0.4**
ROC1				*e*S	**Sn**	**00 31 49.7**	**+0.5**
FCH	**Farellones**	**0.80**	**174**	⇑*e*P	**Pn**	**00 31 37.5**	**-0.3**
FCH				*i* S	**Sn**	**00 31 52.0**	**+0.7**
FCH				IAML		00 31 52.5	
	comp=N,1μm,0.3s						
CLCH	**Cerro Calan**	**0.88**	**188**	⇓*e*P	**Pn**	**00 31 37.9**	**-0.4**
CLCH				*i* S	**Sn**	**00 31 52.7**	**+0.6**
CLCH				IAML		00 31 54.1	
	comp=N,2μm,0.3s						
AUSP	**Uspallata**	**0.90**	**71**	*e*P	**Pn**	**00 31 38.3**	**-0.4**
AUSP				*e*S	**Sn**	**00 31 53.1**	**+0.2**
ANTU	**Antumapu**	**1.06**	**191**	*e*P	**Pn**	**00 31 40.0**	**-0.3**
ANTU				*i* S	**Sn**	**00 31 56.2**	**+0.6**
ANTU				IAML		00 31 57.0	
	comp=E,1μm,0.7s						
RTLS	**Leoncito**	**1.18**	**52**	*e*P	**Pn**	**00 31 41.7**	**-0.2**
RTLS				*e*S	**Sn**	**00 31 59.2**	**+0.7**
RTLS				IAML		00 32 00.1	
	comp=Z,558nm,0.4s						
ARCO	**CERRO ARCO**	**1.27**	**105**	*e*P	**Pn**	**00 31 42.6**	**-0.2**
ARCO				IAML		00 31 43.3	
	comp=Z,650nm,0.5s						
ARCO				*e*S	**Sn**	**00 32 01.0**	**+0.7**
ASAL	**Salagasta**	**1.32**	**93**	*e*P	**Pn**	**00 31 43.1**	**-0.2**
ASAL				*e*S	**Sn**	**00 31 01.5**	**+0.3**
AAGR	**Agrelo**	**1.43**	**113**	*e*P	**Pn**	**00 31 44.5**	**-0.2**
CMCH	**Combarbala**	**1.45**	**339**	*e*P	**Pn**	**00 31 44.8**	**-0.1**
CMCH				*e*S	**Sn**	**00 32 04.2**	**+0.2**
CMCH				IAML		00 32 06.1	
	comp=N,3μm,0.4s						
RTLL	**Cerro Villicun**	**2.02**	**54**	*e*P	**Pn**	**00 31 51.6**	**-0.7**
RTLL				*e*S	**Sn**	**00 32 16.6**	**-0.5**
ACCO	**Cerro Coronel**	**2.24**	**31**	*e*P	**Pn**	**00 31 55.3**	**-0.2**
AMOG	**MOGNA**	**2.26**	**46**	*e*P	**Pn**	**00 31 55.1**	**-0.4**
ACDV	**Cuesta del Vie**	**2.59**	**25**	*e*P	**Pn**	**00 32 00.1**	**+0.2**
ACDV				IAML		00 32 34.7	
	comp=Z,75nm,0.6s						
AGUA	**GUANDACOL**	**3.44**	**29**	*e*P	**Pn**	**00 32 11.2**	**-0.1**

*IDC **12** 00:44:52.4±1.1, 11.52S×165.01E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/31, mbtmp4.1/7, ML3.9/1, Error ellipse: s-maj=46.3km s-min=24.3km az=137.0*

*ISCJB **12** 00:44:55.9±0.8, 11.7S±0.1×165.0E±0.2, h34km, mb4.0/6, Error ellipse: s-maj=24.6km s-min=17.4km az=16.7*

ISC 12 00:44:57.4±0.9, 11.6S±0.1×165.0E±0.2, h34km, n13, σ1.927/7, mb4.0/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.49**	**173**	Pn	**Pn**	**00 47 25.5**	**0.0**
	0.8nm,0.3s,baz=307,slow=20,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**29.95**	**3**	T	T	01 22 42.5	
	baz=184,slow=76,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**29.96**	**3**	T	T	01 22 34.3	
	baz=184,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**29.97**	**3**	T	T	01 22 36.8	
	baz=184,slow=76,SNR=4.2						
WRA	**Warramunga Arr**	**30.65**	**250**	P	**P**	**00 51 08.1**	**-0.8**
	7.7nm,1.2s,baz=82,slow=8.6,SNR=12						
H11N1	**WAKE ISLAND Hy**	**31.18**	**3**	T	T	01 24 08.5	
	baz=182						
H11N3	**WAKE ISLAND Hy**	**31.18**	**3**	T	T	01 24 14.0	
	baz=182						
H11N2	**WAKE ISLAND Hy**	**31.20**	**3**	T	T	01 24 07.2	
	baz=182						
ASAR	**Alice Springs**	**31.93**	**244**	P	**P**	**00 51 20.6**	**+0.4**
	1.5nm,0.8s,baz=77,slow=9.4,SNR=6.6						
ILAR	**Eielson Array**	**84.26**	**19**	P	**P**	**00 57 25.6**	**+0.3**
	0.7nm,0.6s,baz=240,slow=4.6,SNR=8.7						
NVAR	**Mina Array Bea**	**86.91**	**50**	P	**P**	**00 57 40.4**	**+1.0**
	1.4nm,0.8s,baz=231,slow=7.3,SNR=4.6						
MKAR	**Makanchi Array**	**93.46**	**317**	P	**P**	**00 58 10.5**	**+0.9**
	0.4nm,0.8s,baz=111,slow=6.6,SNR=3.9						
YKA	**Yellowknife Ar**	**95.79**	**27**	P	**P**	**00 58 17.9**	**-1.9**
	0.1nm,0.4s,baz=257,slow=4.8,SNR=4.4						

IDC 12 00:56:07.3±3.2, 6.72S×148.43E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/34, mbtmp3.7/4, ML3.5/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/34, Error ellipse: s-maj=95.5km s-min=30.0km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**11.72**	**104**	LR	LR	01 02 59.9	
	comp=Z,84nm,19.8s,baz=302,slow=35						
WRA	**Warramunga Arr**	**18.97**	**225**	P	P	01 00 30.1	-0.3
	0.2nm,0.3s,baz=50,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**21.88**	**218**	P	P	01 01 01.8	-0.3
	1.7nm,0.5s,baz=55,slow=9.3,SNR=17						
BATI	**Baumata**	**24.74**	**260**	LR	LR	01 14 13.7	
	comp=Z,182nm,18.6s,baz=60,slow=44						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P	P	01 01 32.2	-0.1
	5.8nm,0.6s,baz=46,slow=9.7,SNR=10.0						
STKA	**Stephens Creek**	**25.83**	**193**	LR	LR	01 12 13.5	
	comp=Z,128nm,18.3s,baz=22,slow=37						
KSRS	**Korea Array**	**47.94**	**338**	LR	LR	01 23 21.2	
	comp=Z,35nm,21.5s,baz=35,slow=34						
MKAR	**Makanchi Array**	**78.95**	**320**	P	P	01 08 12.3	-0.7
	0.1nm,0.5s,baz=130,slow=4.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**146.64**	**284**	PKPbc	PKPab	01 15 52.9	-0.2
	0.5nm,0.7s,baz=83,slow=3.5,SNR=5.2						

*JMA **12** 01:15:51.3±0.2, 24.33N×121.38E, h3km, M3.2*

*TAP **12** 01:15:51.5, 24.35N×121.45E, h6km, ML3.2, B*

ISC 12 01:15:51.9±0.9, 24.34N±0.02°×121.42E±0.02, h8km±6km, n63, σ0.979/73, 17C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNSB	**Datong**	**0.09**	**337**	⇓P	**Pg**	**01 15 54.2**	**0.0**
	baz=324						
NNSB				S	**Sg**	**01 15 55.7**	**-0.2**
	baz=324						
NNS	**Nan Shan**	**0.10**	**335**	*i* P	**Pg**	**01 15 54.5**	**0.0**
	baz=326						
NNS				S	**Sg**	**01 15 56.1**	**-0.2**
	baz=326						
ETLH	**Xiulin Townshi**	**0.15**	**158**	⇓P	**Pg**	**01 15 55.7**	**+0.6**
	baz=175						
NACB	**Ninganchiao**	**0.23**	**137**	⇓P	**Pg**	**01 15 57.0**	**+0.5**
	baz=141						
TWT	**Tachien**	**0.24**	**248**	*e*P	**Pg**	**01 15 57.6**	**+0.7**
	baz=240						
WHF	**Hehuan Shan**	**0.24**	**216**	⇑*i* P	**Pg**	**01 15 57.4**	**+0.5**
	baz=220						
TDCB	**Techi**	**0.26**	**249**	⇑P	**Pg**	**01 15 57.6**	**+0.5**
	baz=240						
TDCB				*e*S	**Sg**	**01 16 01.2**	**+0.6**
	baz=240						
NDT	**Datong Townshi**	**0.27**	**18**	⇑P	**Pg**	**01 15 57.3**	**0.0**
	baz=12						
ENA	**Nanau**	**0.30**	**74**	⇑*i* P	**Pg**	**01 15 57.7**	**-0.3**
	baz=87						
TWD	**Chiawan**	**0.31**	**149**	*e*P	**Pb**	**01 15 58.5**	**-1.2**
	baz=151						
TWD				*e*S	**Sg**	**01 16 02.9**	**+0.8**
	baz=151						
NANB	**Nanao**	**0.31**	**74**	⇑P	**Pg**	**01 15 57.7**	**-0.4**
	baz=87						
YHNB	**Yeheng**	**0.33**	**353**	⇓P	**Pg**	**01 15 58.7**	**+0.3**
	baz=348						
NSK	**Sanguang**	**0.34**	**350**	⇓*i* P	**Pg**	**01 15 58.9**	**+0.3**
	baz=347						
CHGB	**Renai**	**0.36**	**219**	P	**Pb**	**01 15 59.4**	**-1.4**
	baz=223						
HWA	**Hwalien**	**0.40**	**155**	*e*P	**Pb**	**01 16 00.5**	**-0.8**
	baz=145						
NWLT	**Wulai**	**0.44**	**10**	*e*P	**Pg**	**01 16 00.5**	**+0.1**
	baz=356						
TWE	**Neicheng**	**0.44**	**31**	⇑P	**Pg**	**01 16 00.3**	**-0.1**
	baz=43						
WHP	**Taichung City**	**0.44**	**261**	⇑*i* P	**Pb**	**01 16 01.6**	**-0.4**
	baz=263						
OWD	**Renai**	**0.45**	**210**	⇑P	**Pg**	**01 16 00.7**	**0.0**
	baz=214						
SLBB	**Yuanshan**	**0.45**	**26**	⇑*e*P	**Pg**	**01 16 00.8**	**+0.1**
	baz=18						
ENLB	**Shoufeng**	**0.47**	**159**	*e*P	**Pb**	**01 16 01.8**	**-0.7**
	baz=148						
TWC	**Suao**	**0.47**	**56**	⇑*i* P	**Pb**	**01 16 00.7**	**-0.4**
	baz=45						
NSTT	**Nanjuang**	**0.48**	**307**	⇑P	**Pb**	**01 16 02.2**	**-0.4**
	baz=307						
NSTT				*e*S	**Sb**	**01 16 08.3**	**-1.6**
	baz=307						
ILA	**Ilan**	**0.51**	**35**	*e*P	**Pb**	**01 16 03.0**	**-0.2**
	baz=44						
ESL	**Shilin**	**0.53**	**179**	⇑*i* P	**Pb**	**01 16 02.4**	**-1.0**
	baz=168						
WLTB	**Daxi**	**0.53**	**343**	*e*P	**Pb**	**01 16 03.5**	**0.0**
	baz=340						
TWQ1	**Liyutan**	**0.59**	**270**	*e*P	**Pb**	**01 16 04.8**	**+0.3**
	baz=271						
NTC	**Toucheng**	**0.63**	**36**	*e*P	**Pb**	**01 16 03.4**	**-0.7**
	baz=43						
TATO	**Taipei**	**0.63**	**5**	*e*P	**Pb**	**01 16 05.0**	**-0.2**
	baz=355						
VWDT	**VWDT**	**0.64**	**204**	⇑P	**Pg**	**01 16 04.2**	**-0.1**
	baz=212						
PTSB	**Yuanli**	**0.66**	**279**	*e*P	**Pb**	**01 16 06.3**	**+0.5**
	baz=280						
SMLT	**Sun Moon Lake**	**0.66**	**226**	⇑P	**Pb**	**01 16 05.3**	**-0.5**
	baz=238						
EGFH	**Guangfu**	**0.67**	**180**	*e*P	**Pb**	**01 16 05.3**	**-0.6**
	baz=172						
EOS1	**EOS1**	**0.68**	**72**	*e*P	**Pg**	**01 16 05.1**	**+0.1**
	baz=71						
TYC	**Yuchr**	**0.68**	**230**	⇑*i* P	**Pb**	**01 16 05.5**	**-0.5**
	baz=241						
SSLB	**Suanglung**	**0.70**	**218**	⇑P	**Pg**	**01 16 05.3**	**-0.1**
	baz=221						
TIPB	**Shuangxi**	**0.72**	**30**	⇑*i* P	**Pg**	**01 16 05.6**	**-0.3**
	baz=13						
TWS1	**Kuangyinshan**	**0.75**	**360**	*e*P	**Pn**	**01 16 08.1**	**-0.8**
	baz=358						
NWF	**Wu-fen Shan**	**0.79**	**24**	*e*P	**Pg**	**01 16 07.2**	**-0.1**
	baz=22						
WFSB	**Wu-fen Shan**	**0.79**	**24**	*e*P	**Pg**	**01 16 07.2**	**-0.1**
	baz=22						
YM01	**YM01**	**0.81**	**10**	*e*P	**Pb**	**01 16 08.3**	**0.0**
	baz=7.0						
YM05	**YM05**	**0.83**	**9**	*e*P	**Pb**	**01 16 08.6**	**0.0**
	baz=7.0						
WHYT	**Xinyi Township**	**0.83**	**219**	*e*P	**Pn**	**01 16 09.5**	**-0.4**
	baz=222						
YM11	**YM11**	**0.83**	**10**	*e*P	**Pb**	**01 16 08.4**	**-0.3**
	baz=7.0						
EHY	**Hungye**	**0.84**	**186**	*e*P	**

	baz=244							
ENA	**Nanau**	**0.29**	**74**	*e*P	**Pg**	**01 16 01.6**	**+0.8**
	baz=71							
NANB	**Nanao**	**0.30**	**75**	*e*P	**Pg**	**01 16 00.1**	**-0.7**
	baz=71							
TWD	**Chiawan**	**0.31**	**151**	*e*P	**Pg**	**01 16 00.8**	**-0.2**
	baz=149							
YHNB	**Yeheng**	**0.32**	**350**	*e*P	**Pg**	**01 16 01.6**	**+0.2**
	baz=338							
NSK	**Sanguang**	**0.33**	**348**	*e*P	**Pb**	**01 16 02.5**	**-1.0**
	baz=354							
NSK				*e*S	**Sg**	**01 16 06.0**	**0.0**
	baz=354							
CHGB	**Renai**	**0.38**	**220**	*e*P	**Pg**	**01 16 02.2**	**-0.2**
	baz=208							
HWA	**Hwalien**	**0.40**	**157**	*e*P	**Pb**	**01 16 03.9**	**-0.7**
	baz=144							
NWLT	**Wulai**	**0.43**	**8**	*e*P	**Pg**	**01 16 03.4**	**0.0**
	baz=8.0							
SLBB	**Yuanshan**	**0.44**	**24**	*e*P	**Pg**	**01 16 04.2**	**+0.5**
	baz=24							
WHP	**Taichung City**	**0.45**	**261**	⇑P	**Pg**	**01 16 04.4**	**+0.6**
	baz=261							
TWC	**Suao**	**0.46**	**55**	*e*P	**Pg**	**01 16 03.5**	**-0.4**
	baz=53							
OWD	**Renai**	**0.46**	**211**	P	**Pb**	**01 16 03.5**	**-0.4**
	baz=211							
ENLB	**Shoufeng**	**0.47**	**161**	*e*P	**Pb**	**01 16 05.1**	**-0.7**
	baz=162							
NSTT	**Nanjuang**	**0.48**	**305**	*e*P	**Pb**	**01 16 05.1**	**-0.9**
	baz=311							
NSTT				*e*S	**Sg**	**01 16 11.5**	**+0.7**
	baz=311							
WLTB	**Daxi**	**0.53**	**342**	*e*P	**Pb**	**01 16 06.4**	**-0.4**
	baz=356							
WLTB				*e*S	**Sb**	**01 16 14.1**	**-0.5**
	baz=356							
ESL	**Shilin**	**0.53**	**180**	*e*P	**Pg**	**01 16 05.6**	**+0.2**
	baz=181							
SBCB	**Hsinchu**	**0.60**	**317**	*e*P	**Pb**	**01 16 08.8**	**+0.8**
	baz=319							
TWQ1	**Liyutan**	**0.60**	**270**	*e*P	**Pb**	**01 16 07.6**	**-0.4**
	baz=270							
NHDH	**Xindian Distri**	**0.62**	**8**	*e*P	**Pb**	**01 16 07.9**	**-0.3**
	baz=8.0							
NMLH	**Miaoli**	**0.62**	**288**	*e*P	**Pb**	**01 16 07.7**	**-0.5**
	baz=287							
TATO	**Taipei**	**0.62**	**4**	*e*P	**Pb**	**01 16 07.9**	**-0.5**
	baz=5.0							
VWDT	**VWDT**	**0.65**	**204**	*e*P	**Pg**	**01 16 07.1**	**-0.5**
	baz=208							
VWDT				*e*S	**Sg**	**01 16 16.3**	**+0.2**
	baz=208							
PTSB	**Yuanli**	**0.67**	**278**	*e*P	**Pb**	**01 16 09.5**	**+0.3**
	baz=277							
PTSB				*e*S	**Sb**	**01 16 18.8**	**0.0**
	baz=277							
SMLT	**Sun Moon Lake**	**0.68**	**227**	*e*P	**Pg**	**01 16 08.1**	**0.0**
	baz=226							
EGFH	**Guangfu**	**0.68**	**181**	*e*P	**Pg**	**01 16 08.2**	**+0.1**
	baz=181							
TYC	**Yuchr**	**0.69**	**230**	*e*P	**Pg**	**01 16 08.0**	**-0.3**
	baz=239							
SSLB	**Suanglung**	**0.71**	**218**	⇑P	**Pg**	**01 16 08.2**	**-0.6**
	baz=219							
TIPB	**Shuangxi**	**0.71**	**30**	*e*P	**Pg**	**01 16 09.0**	**+0.2**
	baz=19							
TIPB				*e*S	**Sg**	**01 16 17.7**	**-0.4**
	baz=19							
NWF	**Wu-fen Shan**	**0.78**	**24**	*e*P	**Pg**	**01 16 10.6**	**+0.5**
	baz=22							
WFSB	**Wu-fen Shan**	**0.78**	**24**	*e*P	**Pg**	**01 16 10.4**	**+0.2**
	baz=22							
YM01	**YM01**	**0.80**	**9**	*e*P	**Pb**	**01 16 11.6**	**+0.2**
	baz=8.0							
YM05	**YM05**	**0.82**	**8**	*e*P	**Pb**	**01 16 12.1**	**+0.4**
	baz=8.0							
YM11	**YM11**	**0.82**	**9**	*e*P	**Pb**	**01 16 12.2**	**+0.4**
	baz=8.0							
WNT	**Mingjian**	**0.83**	**236**	*e*P	**Pn**	**01 16 12.8**	**-0.5**
	baz=230							
ANP	**Anpu**	**0.84**	**5**	*e*P	**Pb**	**01 16 12.6**	**+0.5**
	baz=5.0							
YM08	**YM08**	**0.85**	**9**	*e*P	**Pb**	**01 16 12.6**	**+0.4**
	baz=9.0							
EHY	**Hungye**	**0.85**	**187**	*e*P	**Pg**	**01 16 11.6**	**+0.3**
	baz=179							
YULB	**Yu-li**	**0.96**	**188**	*e*P	**Pg**	**01 16 13.5**	**-0.1**
	baz=183							
TWF1	**Yuli**	**1.00**	**187**	*e*P	**Pb**	**01 16 14.6**	**-0.2**
	baz=183							
WGK	**Gukeng**	**1.04**	**231**	*e*P	**Pn**	**01 16 16.3**	**+0.2**
	baz=231							
WDLH	**Douliu**	**1.05**	**231**	*e*P	**Pn**	**01 16 16.8**	**+0.5**
	baz=232							
RLNB	**Erlin**	**1.08**	**245**	*e*P	**Pn**	**01 16 16.8**	**0.0**
	baz=245							
FULB	**Fuli**	**1.15**	**187**	*e*P	**Pn**	**01 16 18.1**	**+0.4**
	baz=189							
CHN2	**Minshiung**	**1.20**	**227**	*e*P	**Pn**	**01 16 19.1**	**+0.8**
	baz=228							
ELDTW	**Lidau**	**1.22**	**198**	*e*P	**Pg**	**01 16 17.6**	**-0.9**
	baz=205							
CHY	**Chiayi**	**1.26**	**228**	*e*P	**Pg**	**01 16 19.6**	**+0.4**
	baz=228							
TPUB	**Ta-pu**	**1.28**	**215**	*e*P	**Pg**	**01 16 20.5**	**+0.9**
	baz=227							
STYT	**Tauyuan**	**1.33**	**208**	*e*P	**Pg**	**01 16 20.9**	**+0.2**
	baz=203							
SNST	**Tainan City**	**1.42**	**218**	*e*P	**Pg**	**01 16 22.7**	**+0.4**
	baz=218							
YOJ	**Yonaguni jima**	**1.44**	**85**	*e*P	**Pn**	**01 16 21.5**	**-0.2**
	baz=71							
SLGT	**Liugui**	**1.53**	**208**	*e*P	**Pg**	**01 16 24.8**	**+0.4**
	baz=205							
TWGBT	**Beinan**	**1.56**	**192**	*e*P	**Pn**	**01 16 23.7**	**+0.3**
	baz=194							
MASBT	**Mashibuluo**	**1.88**	**203**	*e*P	**Pb**	**01 16 30.3**	**+0.5**
	baz=204							
WDGT	**Dungji**	**1.96**	**237**	*e*P	**Pb**	**01 16 30.1**	**-1.0**
	baz=237							
SONM	**Songino Array**	**26.31**	**337**	P	**P**	**01 21 30.1**	**-1.4**
	1.4nm,0.8s,baz=148,slow=8.1,SNR=8.6							
MKAR	**Makanchi Array**	**38.38**	**316**	P	**P**	**01 23 17.8**	**+0.7**
	0.6nm,0.5s,baz=106,slow=10,SNR=11							
ZALV	**Zalesovo Beam**	**40.23**	**327**	P	**P**	**01 23 31.7**	**-0.7**
	0.9nm,0.6s,baz=109,slow=7.6,SNR=4.7							
KURBB	**Kurchatov Arra**	**42.13**	**320**	P	**P**	**01 23 47.5**	**-0.6**
	0.4nm,0.8s,baz=112,slow=9.2,SNR=2.5							
BVAR	**Borovoye Array**	**47.69**	**321**	P	**P**	**01 24 32.7**	**+0.4**
	0.3nm,0.5s,baz=116,slow=8.2,SNR=2.4							

IDC 12 01:17:37.5±2.1, 0.36N×127.30E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/44, mbtmp3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/17, Error ellipse: s-maj=172.0km s-min=25.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**11.10**	**199**	LR	LR	01 24 45.2	
	comp=Z,63nm,19.2s,baz=320,slow=38						
WRA	**Warramunga Arr**	**21.33**	**162**	P	P	01 22 26.5	+0.2
	0.6nm,0.5s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**24.73**	**165**	P	P	01 23 00.8	-0.1
	0.4nm,0.5s,baz=349,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**60.64**	**326**	P	P	01 27 50.4	0.0
	0.1nm,0.5s,baz=110,slow=7.4,SNR=2.7						

IDC 12 01:22:09.4±3.7, 6.92S×149.01E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/37, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=118.1km s-min=47.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.24**	**226**	P	P	01 26 36.0	+0.4
	0.1nm,0.3s,baz=53,slow=9.9,SNR=5.5						
ASAR	**Alice Springs**	**22.09**	**219**	P	P	01 27 06.7	+0.3
	0.5nm,0.5s,baz=46,slow=9.9,SNR=8.1						
FITZ	**Fitzroy Crossi**	**25.34**	**242**	P	P	01 27 37.3	-0.9
	3.6nm,0.9s,baz=39,slow=7.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**147.25**	**283**	PKPbc	PKPbc	01 41 55.6	-0.3
	0.2nm,0.9s,baz=107,slow=1.5,SNR=2.7						

*ISK **12** 01:40:53.9, 37.18N×29.11E, h8km, ML3.3/20*

*ISCJB **12** 01:40:54.5±0.5, 37.19N±0.02×29.11E±0.02, h1km±4km, Error ellipse: s-maj=3.0km s-min=2.6km az=140.5*
*ATH **12** 01:40:54.4, 37.28N×28.93E, h9km±3km, ML3.5/2, Error ellipse: s-maj=4.5km s-min=2.2km az=59.0*
*DDA **12** 01:40:54.1, 37.19N×29.05E, h14km±2km, ML3.3*
*THE **12** 01:40:55.7, 37.26N×29.08E, h0km±1km, ML3.4/1, Error ellipse: s-maj=3.3km s-min=1.2km az=333.0*

ISC 12 01:40:54.7±1.1, 37.20N±0.02×29.08E±0.02, h5km±10km, n58, σ1s27/84, 4C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVA	**DENIZLI_Tavas**	**0.29**	**334**	*i* P	**Pb**	**01 41 01.8**	**-0.7**
TAVA				*i* S	**Sb**	**01 41 06.6**	**-1.2**
TAVA				IAML_P			
	comp=Z,28μm,0.1s						
TURN	**Turunc**	**0.50**	**229**	PG	**Pn**	**01 41 09.2**	**+0.7**
TURN	**Turunc**	**0.50**	**229**	*i* P	**Pn**	**01 41 09.1**	**+0.6**
DALY	**Dalyan (Mula)**	**0.51**	**222**	PG	**Pg**	**01 41 04.2**	**-0.3**
DALY				SG	**Sb**	**01 41 12.4**	**-1.4**
DALY	**Dalyan (Mula)**	**0.51**	**222**	*i* P	**Pb**	**01 41 04.9**	**-1.2**
DALY				*i* S	**Sb**	**01 41 12.3**	**-1.4**
DALY				IAML_P			
	comp=Z,2μm,0.1s						
DENT	**Denizli**	**0.55**	**357**	PG	**Pg**	**01 41 05.1**	**-0.3**
DENT				SG	**Sb**	**01 41 14.3**	**-0.9**
FETY	**Fethiye**	**0.56**	**179**	PG	**Pg**	**01 41 04.6**	**-0.9**
FETY				SG	**Sg**	**01 41 12.7**	**-0.1**
FETY	**Fethiye**	**0.56**	**179**	*i* P	**Pg**	**01 41 04.8**	**-0.7**
FETY				*i* S	**Sb**	**01 41 13.2**	**-2.2**
FETY				IAML_P			
	comp=Z,12μm,0.3s						
YER	**Yerkesik**	**0.64**	**264**	PG	**Pb**	**01 41 07.5**	**-0.8**
YER				SG	**Sb**	**01 41 17.1**	**-0.5**
YER	**Yerkesik**	**0.64**	**264**	P	**Pb**	**01 41 07.8**	**-0.5**
ELL	**Elmali**	**0.81**	**124**	PG	**Pg**	**01 41 08.9**	**-1.2**
ELL				SG	**Sg**	**01 41 20.9**	**+0.3**
BRDR	**BURDUR-Merkez**	**0.93**	**57**	*i* P	**Pg**	**01 41 12.5**	**0.0**
BRDR				*i* S	**Sb**	**01 41 26.5**	**+0.5**
BRDR				IAML_P			
	comp=Z,3μm,0.2s						
KORT	**Korkueli**	**1.04**	**101**	PG	**Pg**	**01 41 14.6**	**0.0**
AKAS	**Kas**	**1.05**	**156**	PG	**Pg**	**01 41 14.6**	**-0.3**
AKAS	**Kas**	**1.05**	**156**	*i* P	**Pn**	**01 41 16.3**	**0.0**
AKAS				*i* S	**Sn**	**01 41 33.0**	**+1.6**
AKAS				IAML_P			
	comp=Z,8μm,0.2s						
AYDN	**Tasoluk**	**1.06**	**296**	*i* P	**Pn**	**01 41 15.3**	**-0.9**
AYDN				*i* S	**Sn**	**01 41 32.2**	**+0.8**
AYDN				IAML_P			
	comp=Z,3μm,0.2s						
KSL	**Kastellorizon**	**1.12**	**159**	P	**Pn**	**01 41 18.2**	**+1.1**
KSL				S	**Sn**	**01 41 35.8**	**+2.9**
AYDB	**Zeytinkoy-Aydi**	**1.20**	**309**	PN	**Pn**	**01 41 17.8**	**-0.5**
KHAL	**Karahalli**	**1.21**	**16**	*i* P	**Pb**	**01 41 17.5**	**-0.7**
KHAL				*i* S	**Sn**	**01 41 36.0**	**+0.6**
KHAL				IAML_P			
	comp=Z,4μm,0.2s						
BCK	**Bucak**	**1.23**	**77**	PN	**Pn**	**01 41 17.6**	**-1.1**
ARG	**Arkhangelos**	**1.24**	**218**	PN	**Pg**	**01 41 18.2**	**-0.3**
ARG	**Arkhangelos**	**1.24**	**218**	P	**Pb**	**01 41 17.4**	**-1.3**
ARG				S	**Sn**	**01 41 36.0**	**+0.1**
ARG				AML	AML	01 41 39.8	
	comp=N,3528μm,0.8s						
ARG				AML	AML	01 41 40.2	
	comp=E,5020μm,0.5s						
DAT	**Datca**	**1.29**	**249**	PN	**Pg**	**01 41 19.1**	**-0.3**
DAT	**Datca**	**1.29**	**249**	*i* P	**Pg**	**01 41 20.5**	**+1.1**
DAT				*i* S	**Sn**	**01 41 40.6**	**+3.4**
ANTB	**Antalya**	**1.30**	**103**	PN	**Pn**	**01 41 18.9**	**-0.6**
ISP	**Isparta**	**1.31**	**61**	PN	**Pn**	**01 41 18.6**	**-1.1**
ISP	**Isparta**	**1.31**	**61**	P	**Pb**	**01 41 19.4**	**-0.4**
ISP				S	**Sg**	**01 41 37.6**	**+0.9**
BDRM	**Kayabasi**	**1.31**	**265**	*i* P	**Pg**	**01 41 21.3**	**+1.5**
BDRM				*i* S	**Sn**	**01 41 40.9**	**+3.4**
KEMT	**Kemer-ANTALYA**	**1.33**	**116**	PN	**Pn**	**01 41 19.1**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.34**	**130**	*i* P	**Pg**	**01 41 21.3**	**+0.9**
AKUM				*i* S	**Sg**	**01 41 42.9**	**+5.1**
AKUM				IAML_P			
	comp=Z,3μm,0.4s						
KULA	**Kula-Manisa**	**1.35**	**346**	PN	**Pn**	**01 41 19.4**	**-0.9**
KULA	**Kula-Manisa**	**1.35**	**346**	P	**Pn**	**01 41 19.5**	**-0.9**
KZIL	**AFYON_Kizioren**	**1.35**	**38**	*i* P	**Pg**	**01 41 20.5**	**-0.1**
KZIL				*i* S	**Sg**	**01 41 40.2**	**+2.1**
KZIL				IAML_P			
	comp=Z,2μm,0.3s						
MANT	**Manisa**	**1.35**	**343**	*i* P	**Pg**	**01 41 20.1**	**-0.5**
MANT				*i* S	**Sg**	**01 41 39.8**	**+1.6**
MANT				IAML_P			
	comp=Z,3μm,0.2s						
BODT	**Bodrum**	**1.42**	**265**	PN	**Pg**	**01 41 21.2**	**-0.7**
BODT	**Bodrum**	**1.42**	**265**	P	**Pg**	**01 41 22.0**	**+0.1**
BODT				S	**Sg**	**01 41 41.8**	**+1.6**
USAK	**Uak-Merkez**	**1.51**	**358**	*i* P	**Pb**	**01 41 22.6**	**-0.7**
USAK				*i* S	**Sb**	**01 41 42.3**	**-0.5**
USAK				IAML_P			
	comp=Z,1μm,0.2s						
BAGO	**Egridir - ISPA**	**1.57**	**59**	*i* P	**Pb**	**01 41 24.0**	**-0.3**
BAGO				*i* S	**Sn**	**01 41 43.2**	**-1.0**
SHUT	**Suhut-Afyon**	**1.79**	**40**	PN	**Pn**	**01 41 25.7**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.82**	**4**	PN	**Pn**	**01 41 26.9**	**+0.1**
SMG	**Samos**	**1.85**	**287**	P	**Pb**	**01 41 27.1**	**-1.9**
SMG	**Samos**	**1.85**	**287**	P	**Pn**	**01 41 26.8**	**-0.3**
AFYO	**Afyonkarahisar**	**1.86**	**31**	*i* P	**Pg**	**01 41 29.9**	**-0.4**
GEDZ	**Gediz**	**1.86**	**8**	PN	**Pn**	**01 41 27.3**	**0.0**
GDZ	**Gediz**	**1.91**	**10**	*i* P	**Pn**	**01 41 28.3**	**+0.2**
AKHS	**Akhisar**	**1.95**	**330**	*i* P	**Pn**	**01 41 27.4**	**-1.1**
BLCB	**Balcova**	**2.00**	**307**	PN	**Pb**	**01 41 29.4**	**-2.1**
KEPZ	**Antalya-Kepez**	**2.04**	**98**	*i* P	**Pb**	**01 41 31.8**	**-0.6**
KEPZ				IAML_P			
	comp=Z,1μm,0.4s						
DOGA	**KONYA_Doganhis**	**2.25**	**65**	*i* P	**Pb**	**01 41 35.0**	**-0.9**
DOGA				*i* S	**Sn**	**01 42 01.7**	**+0.8**
DOGA				IAML_P			
	comp=Z,325nm,0.3s						
KARP	**Karpathos**	**2.26**	**224**	PN	**Pn**	**01 41 32.7**	**-0.1**
KARP	**Karpathos**	**2.26**	**224**	P	**Pb**	**01 41 34.1**	**-1.9**
KARP				S	**Sb**	**01 42 03.0**	**-1.3**
KARP	**Karpathos**	**2.26**	**224**	P	**Pb**	**01 41 34.1**	**-1.9**
KARP				S	**Sb**	**01 42 02.9**	**-1.4**
KARP				AML	AML	01 42 08.4	
	comp=E,851μm,0.7s						
KARP				AML	AML	01 42 12.3	
	comp=N,865μm,0.8s						
URLA	**Izmir**	**2.28**	**301**	PN	**Pn**	**01 41 33.3**	**+0.3**
ZEDA	**zmir-Bergama**	**2.37**	**319**	*i* P	**Pn**	**01 41 34.4**	**+0.2**
ZEDA				IAML_P			
	comp=Z,495nm,0.3s						
YLV	**Yalova**	**3.37**	**4**	⇑*i*P	**Pg**	**01 41 58.9**	**-0.4**
LEF	**Lefka**	**3.72**	**123**	⇑*i*P	**Pn**	**01 41 52.4**	**-0.4**
SILT	**Sile**	**3.97**	**6**	⇑*i*P	**Pg**	**01 42 11.1**	**+0.3**
MLR	**Muntele Rosu**	**8.61**	**345**	⇑*i*P	**Pn**	**01 42 59.8**	**-0.3**

*ISCJB **12** 02:02:25.6±0.4, 55.22S±0.07×27.7W±0.1, h10km, mb4.6/21, MS3.8/8, Error ellipse: s-maj=10.5km s-min=8.9km az=146.1*
*IDC **12** 02:02:25.6±0.7, 55.36S×27.62W, h0km, mb4.4/9, mb1 4.4/10, mb1mx4.2/26, mbtmp4.4/10, ML4.1/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/23, Error ellipse: s-maj=23.4km s-min=17.7km az=108.0*
*NEIC **12** 02:02:28.5±1.8, 55.33S×27.63W, h16km±4km, mb4.6/19, Error ellipse: s-maj=16.8km s-min=6.0km az=140.0*

ISC 12 02:02:27.1±0.5, 55.32S±0.09×27.72W±0.10, h10km, n53, σ1s20/49, mb4.6/19, MS3.8/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.59**	**158**	P	**P**	**02 06 35.6**	**+2.7**
VNA3	**Neumayer Olymp**	**17.78**	**161**	P	**P**	**02 06 37.9**	**+2.7**
VNA2	**Neumayer--Watz**	**17.98**	**158**	P	**P**	**02 06 39.5**	**+2.1**
	baz=318,slow=13						
SNAA	**Sanae**	**19.53**	**157**	P	**Pn**	**02 06 54.8**	**-0.9**
SNAA	**Sanae**	**19.53**	**157**	*e*P	**P**	**02 06 52.3**	**-2.1**
	7.5nm,0.7s						
SNAA	**Sanae**	**19.53**	**157**	P	**P**	**02 06 52.3**	**-2.1**
	0.6nm,0.3s,baz=316,slow=15,SNR=15						
PMSA	**Palmer Station**	**20.16**	**227**	P	**P**	**02 07 00.4**	**-0.8**
	21nm,0.8s,baz=19,slow=9.7,SNR=3.2						
PMSA				LR	LR	02 14 07.4	
	comp=Z,239nm,18.1s,baz=138,slow=35						
USHA	**Ushuaia**	**23.08**	**254**	P	**P**	**02 07 32.4**	**-0.2**
	14nm,0.9s,baz=119,slow=4.8,SNR=4.9						
TRQA	**Tornquist**	**28.76**	**293**	*e*P	**P**	**02 08 26.0**	**+1.3**
	12nm,1.1s						
PLCA	**Paso Flores**	**31.58**	**279**	*e*P	**P**	**02 08 47.1**	**-2.6**
	5.4nm,1.2s						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**02 09 19.3**	**+0.5**
	6.4nm,1.0s						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**02 09 17.6**	**-1.2**
	2.7nm,0.6s,baz=189,slow=3.6,SNR=19						
GO04	**Tololo Observa**	**39.48**	**292**	*e*P	**P**	**02 09 57.2**	**-0.6**
	27nm,1.2s						
SUR	**Sutherland**	**40.75**	**76**	*e*P	**P**	**02 10 07.0**	**-1.2**
	20nm,1.3s						
GO02	**Mina Guanaco**	**42.89**	**297**	*e*P	**P**	**02 10 26.9**	**+0.9**
	13nm,1.2s						
LVC	**Limon Verde**	**44.67**	**300**	*e*P	**P**	**02 10 41.2**	**+0.8**
	11nm,1.4s						
BOSA	**Boshof**	**46.09**	**77**	*e*P	**P**	**02 10 50.6**	**-0.7**
	8.1nm,1.2s						
BOSA	**Boshof**	**46.09**	**77**	P	**P**	**02 10 52.2**	**+0.9**
	3.7nm,1.0s,baz=245,slow=8.0,SNR=3.6						
BOSA				LR	LR	02 27 02.0	
	comp=Z,108nm,21.2s,baz=206,slow=32						
SBA	**Scott Base**	**46.79**	**184**	*e*P	**P**	**02 10 55.8**	**-0.2**
	7.4nm,1.3s						
VNDA	**Vanda**	**47.29**	**183**	*e*P	**P**	**02 11 01.1**	**+1.2**
	3.2nm,0.8s						
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**02 11 00.7**	**+0.7**
	2.8nm,0.7s,baz=182,slow=6.5,SNR=20						
MNMC	**Minye Minye**	**47.96**	**302**	*e*P	**P**	**02 11 04.7**	**-1.4**
	8.5nm,0.8s						
LBTB	**Lobatse**	**49.09**	**74**	*e*P	**P**	**02 11 15.0**	**+0.4**
	15nm,1.4s						
LBTB	**Lobatse**	**49.09**	**74**	LR	LR	02 29 31.4	
	comp=Z,92nm,19.1s,baz=190,slow=33						
TSUM	**Tsumeb**	**49.60**	**62**	*e*P	**P**	**02 11 19.5**	**+0.9**
	4.1nm,0.8s						
TSUM	**Tsumeb**	**49.60**	**62**	LR	LR	02 30 03.6	
	comp=Z,74nm,18.1s,baz=148,slow=34						
LPAZ	**La Paz**	**49.71**	**305**	*e*P	**P**	**02 11 22.1**	**+2.1**
	3.9nm,0.8s						
LPAZ	**La Paz**	**49.71**	**305**	P	**P**	**02 11 21.7**	**+1.7**
	2.5nm,0.6s,baz=166,slow=5.1,SNR=10.0						
CASY	**Casey**	**54.70**	**161**	*e*P	**P**	**02 11 55.1**	**-0.7**
	136nm,1.5s						
DBIC	**Dimbokro**	**64.63**	**25**	*e*P	**P**	**02 13 03.2**	**-1.5**
	12nm,1.4s						
DBIC	**Dimbokro**	**64.63**	**25**	P	**P**	**02 13 03.2**	**-1.5**
	3.2nm,0.8s,baz=228,slow=5.2,SNR=4.6						
DBIC				LR	LR	02 33 24.2	
	comp=Z,67nm,20.8s,baz=209,slow=29						
TOA0	**Torodi Ar. Sit**	**72.57**	**30**	*e*P	**P**	**02 13 54.1**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.57**	**30**	P	**P**	**02 13 53.9**	**-0.4**
	3.3nm,0.9s,baz=200,slow=5.9,SNR=18						
TORD				LR	LR	02 40 56.2	
	comp=Z,66nm,18.7s,baz=315,slow=32						
TOA1	**Torodi Ar. Sit**	**72.58**	**30**	*e*P	**P**	**02 13 53.9**	**-0.4**
KMBO	**Kilima Mbogo**	**75.06**	**70**	LR	LR	02 46 15.3	
	comp=Z,70nm,18.9s,baz=91,slow=35						
DCZ	**Deep Cove**	**78.80**	**191**	*e*P	**P**	**02 14 30.5**	**+0.8**
	31nm,1.5s						
KEST	**Kesra**	**96.09**	**30**	LR	LR	02 53 01.1	
	comp=Z,68nm,19.8s,baz=294,slow=32						
ASAR	**Alice Springs**	**99.78**	**163**	P	**Pdif**	**02 16 11.8**	**+0.3**
	0.6nm,0.7s,baz=176,slow=5.8,SNR=3.9						
AS31	**Alice Springs**	**99.78**	**163**	*e*Pdif	**Pdif**	**02 16 11.8**	**+0.2**
	2.7nm,1.4s						
FIA0	**FINESS Array S**	**123.88**	**28**	*e*PKPdf	**PKiKP**	**02 21 24.3**	**+0.2**
FINES	**FINESS Array B**	**123.88**	**28**	PKP	**PKiKP**	**02 21 24.3**	**+0.2**
	0.5nm,0.5s,baz=215,slow=1.7,SNR=3.8						
YKA	**Yellowknife Ar**	**135.43**	**319**	PKP	**PKPdf**	**02 21 46.4**	**+0.7**
	0.2nm,0.4s,baz=128,slow=2.2,SNR=4.2						
YKB5	**Yellowknife Ar**	**135.43**	**319**	*e*PKPdf	**PKPdf**	**02 21 46.4**	**+0.7**
RIDG	**Independ'e Rid**	**148.30**	**311**	*e*PKPbc	**PKiKP**	**02 22 13.8**	**0.0**
IL1	**Eielson Array**	**149.40**	**313**	*e*PKPbc	**PKPbc**	**02 22 14.8**	**0.0**
ILAR	**Eielson Array**	**149.40**	**313**	PKPbc	**PKPbc**	**02 22 13.7**	**-1.1**
	3.6nm,1.0s,baz=120,slow=1.3,SNR=20						
ILB	**Eielson Array**	**149.40**	**313**	*e*PKPbc	**PKPbc**	**02 22 15.4**	**+0.6**
WRH	**Wood River Hil**	**149.85**	**312**	*e*PKPbc	**PKiKP**	**02 22 16.7**	**-0.1**
TOLK	**Toolik Lake Re**	**150.93**	**320**	*e*PKPbc	**PKiKP**	**02 22 19.5**	**+0.5**
SONA0	**Songino Array**	**150.98**	**86**	*e*PKPbc	**PKiKP**	**02 22 19.9**	**0.0**
SONM	**Songino Array**	**150.98**	**86**	PKPbc	**PKiKP**	**02 22 19.9**	**0.0**
	0.6nm,0.5s,baz=219,slow=3.7,SNR=6.9						
BPAW	**Lac Paw Mtn.**	**151.03**	**311**	*e*PKPbc	**PKiKP**	**02 22 19.3**	**0.0**
IM3	**Indian Mountai**	**152.41**	**314**	*e*PKPbc	**PKiKP**	**02 22 22.8**	**+0.8**

KRSC 12 02:08:58.8±10.0, 55.57N×162.59E, h20km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**1.

s-min=10.5km az=27.1
IDC ***12*** *02:58:37.8±0.7,21°.37S×68°.65E,h0km,mb4.0/13, mb1 4.2/13,mb1mx3.9/46,mbtmp4.0/13,MS3.7/11, Ms1 3.7/11,ms1mx3.5/30,Error ellipse: s-maj=21.7km s-min=18.7km az=25.0*
NEIC ***12*** *02:58:40.2±2.6,21°.38S×68°.76E,h15km±4km,mb4.4/15, Error ellipse: s-maj=19.8km s-min=17.1km az=176.0*

ISC 12 02:58:38.9±0.7,21°.4S±0°.1×68°.8E±0°.1,h10km,n43, σ1§24/38,mb4.2/24,MS3.7/11,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**20.46**	**274**	LR	LR	03 09 12.4	
	comp=Z,330nm,18.0s,baz=98,slow=31						
KMBO	**Kilima Mbogo**	**36.73**	**299**	LR	LR	03 16 48.4	
	comp=Z,130nm,21.7s,baz=98,slow=30						
PSI	**Prapat**	**38.09**	**54**	*e*P	**P**	**03 05 56.2**	**-2.1**
	3.5nm,1.1s						
BOSA	**Boshof**	**39.90**	**251**	*e*P	**P**	**03 06 09.9**	**-3.5**
	4.8nm,1.0s						
BOSA	**Boshof**	**39.90**	**251**	P	**P**	**03 06 13.6**	**+0.2**
	2.8nm,0.8s,baz=92,slow=8.9,SNR=4.0						
BOSA				LR	LR	03 19 09.9	
	comp=Z,203nm,18.8s,baz=109,slow=31						
CISI	**Cisompet, Garu**	**40.11**	**76**	*e*P	**P**	**03 06 13.9**	**-1.3**
	36nm,1.5s						
ATD	**Arta Tunnel**	**41.45**	**320**	*e*P	**P**	**03 06 27.6**	**+1.4**
	6.1nm,1.2s						
CM31	**Chiang Mai Arr**	**49.43**	**39**	*e*P	**P**	**03 07 31.2**	**+1.9**
	5.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.43**	**39**	P	**P**	**03 07 31.2**	**+1.9**
	1.1nm,0.3s,baz=230,slow=7.0,SNR=4.0						
CMAR				LR	LR	03 26 13.2	
	comp=Z,47nm,20.4s,baz=210,slow=34						
SHL	**Shillong**	**51.80**	**27**	*e*P	**P**	**03 07 47.4**	**0.0**
	7.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.40**	**97**	*e*P	**P**	**03 07 57.9**	**-1.3**
KBL	**Kabul**	**55.63**	**0**	*e*P	**P**	**03 08 13.9**	**-1.4**
	3.9nm,0.5s						
ASAR	**Alice Springs**	**59.74**	**106**	P	**P**	**03 08 45.1**	**+0.7**
	2.5nm,0.7s,baz=261,slow=6.0,SNR=28						
ASAR				LR	LR	03 31 37.6	
	comp=Z,128nm,19.6s,baz=278,slow=33						
AS31	**Alice Springs**	**59.75**	**106**	*e*P	**P**	**03 08 45.1**	**+0.7**
	1.2nm,0.9s						
AS01	**Alice Springs**	**59.79**	**106**	*e*P	**P**	**03 08 44.6**	**-0.1**
WR1	**Warramunga Arr**	**60.96**	**102**	*e*P	**P**	**03 08 53.6**	**+0.8**
	21nm,1.5s						
WRA	**Warramunga Arr**	**60.96**	**102**	P	**P**	**03 08 53.6**	**+0.8**
	1.0nm,0.6s,baz=261,slow=9.5,SNR=10.0						
WRA				LR	LR	03 32 12.1	
	comp=Z,100nm,20.5s,baz=220,slow=33						
WB2	**Warramunga Arr**	**60.98**	**102**	*e*P	**P**	**03 08 53.7**	**+0.8**
AAK	**Ala-Archa**	**63.93**	**5**	*e*P	**P**	**03 09 10.2**	**-2.0**
	1.9nm,1.2s						
STKA	**Stephens Creek**	**64.88**	**116**	LR	LR	03 33 48.3	
	comp=Z,87nm,20.1s,baz=208,slow=32						
QSPA	**South Pole Qui**	**68.71**	**180**	P	**P**	**03 09 43.7**	**+1.0**
	3.9nm,0.9s,baz=260,slow=2.0,SNR=9.5						
MK32	**Makanchi Array**	**68.97**	**10**	*e*P	**P**	**03 09 45.0**	**+0.7**
MKAR	**Makanchi Array**	**68.97**	**10**	P	**P**	**03 09 45.0**	**+0.7**
	0.3nm,0.7s,baz=195,slow=5.0,SNR=4.5						
KBZ	**Khabaz**	**69.02**	**340**	P	**P**	**03 09 45.1**	**+0.6**
	1.5nm,0.9s,baz=90,slow=9.1,SNR=2.5						
BR101	**Keskin Array S**	**69.08**	**332**	*e*P	**P**	**03 09 44.7**	**-0.6**
BR131	**Keskin Array S**	**69.08**	**332**	*e*P	**P**	**03 09 47.5**	**+2.3**
	2.2nm,1.0s						
BRTR	**Keskin Array B**	**69.08**	**332**	P	**P**	**03 09 44.7**	**-0.6**
	1.1nm,0.8s,baz=144,slow=5.4,SNR=7.9						
BRTR				LR	LR	03 37 22.7	
	comp=Z,19nm,19.8s,baz=262,slow=34						
ABKAR	**Akbulak array**	**70.77**	**354**	*e*P	**P**	**03 09 56.3**	**+1.1**
	3.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**74.23**	**291**	P	**P**	**03 10 16.8**	**+0.3**
	0.5nm,1.1s,baz=95,slow=3.2,SNR=2.5						
TOA1	**Torodi Ar. Sit**	**74.23**	**291**	*e*P	**P**	**03 10 16.8**	**+0.2**
ZALV	**Zalesovo Beam**	**76.31**	**10**	P	**P**	**03 10 28.4**	**+0.7**
	0.6nm,0.6s,baz=202,slow=6.1,SNR=3.8						
ZALV				LR	LR	03 42 30.5	
	comp=Z,33nm,21.0s,baz=296,slow=34						
ZAA1	**Zalesovo Array**	**76.31**	**10**	*e*P	**P**	**03 10 28.4**	**+0.7**
SONA0	**Songino Array**	**76.75**	**25**	*e*P	**P**	**03 10 30.9**	**+0.3**
SONM	**Songino Array**	**76.75**	**25**	P	**P**	**03 10 30.9**	**+0.3**
	0.7nm,0.9s,baz=224,slow=6.4,SNR=5.0						
DBIC	**Dimbokro**	**77.33**	**282**	*e*P	**P**	**03 10 34.0**	**-0.4**
	10nm,1.3s						
DBIC	**Dimbokro**	**77.33**	**282**	P	**P**	**03 10 34.0**	**-0.4**
	2.6nm,0.9s,baz=207,slow=9.0,SNR=2.3						
AKASG	**Malin Array Be**	**79.80**	**336**	P	**P**	**03 10 46.4**	**-0.8**
	1.6nm,0.8s,baz=139,slow=4.5,SNR=7.1						
AKBB	**Malin Array Si**	**79.80**	**336**	*e*P	**P**	**03 10 46.4**	**-0.8**
	4.0nm,1.0s						
KSRS	**Korea Array**	**80.77**	**44**	LR	LR	03 46 23.7	
	comp=Z,32nm,19.2s,baz=224,slow=36						
MJAR	**Matsushiro Arr**	**87.23**	**49**	LR	LR	03 47 47.4	
	comp=Z,41nm,21.5s,baz=250,slow=34						
YKA	**Yellowknife Ar**	**138.87**	**2**	PKP	**PKPdf**	**03 18 06.3**	**+1.3**
	0.1nm,0.6s,baz=2.8,slow=2.1,SNR=3.5						
YKB5	**Yellowknife Ar**	**138.87**	**2**	*e*PKPdf	**PKPdf**	**03 18 06.3**	**+1.3**
TXAR	**Lajitas Array**	**169.54**	**321**	PKPab	**PKPab**	**03 20 01.1**	**+0.6**
	0.8nm,1.0s,baz=90,slow=4.4,SNR=5.5						

SOME ***12*** *03:04:31.5,45°.08N×78°.37E,h15km*
NNC ***12*** *03:04:31.4±0.7,44°.98N×78°.53E,h0km,mb3.0,mpv3.1, Error ellipse: s-maj=6.5km s-min=4.1km az=143.0*

ISC 12 03:04:32.3±0.8,45°.01N±0°.03×78°.45E±0°.03,h15km±5km, n36,σ§92/66,9C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDK	**Taldyqorghan**	**0.03**	**259**	P	**Pg**	**03 04 34.8**	**-0.2**
	114nm,0.1s						
TDK				S	**Sg**	**03 04 36.8**	**0.0**
	806nm,0.1s						
TDK	**Taldyqorghan**	**0.03**	**259**	⇑*i*P	**Pg**	**03 04 34.9**	**-0.2**
	114nm,0.1s						
TDK				*e*S	**Sg**	**03 04 37.0**	**+0.1**
	806nm,0.1s						
KAPS	**Kapalarasan**	**0.70**	**66**	P	**Pb**	**03 04 45.3**	**-0.9**
	15nm,0.1s						
KAPS				S	**Sg**	**03 04 54.4**	**-0.8**
	33nm,0.1s						
KAPS	**Kapalarasan**	**0.70**	**66**	*e*P	**Pb**	**03 04 45.3**	**-0.9**
	17nm,0.1s						
KAPS				*e*S	**Sg**	**03 04 54.5**	**-0.8**
	57nm,0.1s						
ARXS	**Arharly**	**0.91**	**210**	P	**Pg**	**03 04 48.8**	**-1.2**
	17nm,0.1s						
ARXS				S	**Sg**	**03 05 01.0**	**-1.0**
	30nm,0.1s						
ARXS	**Arharly**	**0.91**	**210**	*e*P	**Pg**	**03 04 48.8**	**-1.2**
	17nm,0.1s						
ARXS				*e*S	**Sg**	**03 05 01.0**	**-1.0**
	30nm,0.1s						
MNBS	**Baschi**	**0.93**	**182**	P	**Pg**	**03 04 49.8**	**-0.5**
	11nm,0.1s						
MNBS				S	**Sb**	**03 05 03.2**	**+0.8**
	10nm,0.1s						
MNBS	**Baschi**	**0.93**	**182**	*e*P	**Pb**	**03 04 50.2**	**0.0**
	11nm,0.1s						
MNBS				*e*S	**Sb**	**03 05 03.3**	**+0.9**
	20nm,0.1s						
DJR	**Jarkent**	**1.17**	**125**	P	**Pg**	**03 04 53.8**	**-1.1**
	1.7nm,0.2s						
DJR				S	**Sb**	**03 05 09.8**	**+0.5**
	14nm,0.2s						
DJR	**Jarkent**	**1.17**	**125**	⇑*i*P	**Pg**	**03 04 54.1**	**-0.8**
	1.7nm,0.2s						
DJR				*e*S	**Sb**	**03 05 10.0**	**+0.7**
	14nm,0.2s						
KURS	**Kuram**	**1.53**	**188**	P	**Pn**	**03 05 00.0**	**+0.8**
	2.2nm,0.1s						
KURS				S	**Sb**	**03 05 20.4**	**+0.7**
	6.1nm,0.3s						
KURS	**Kuram**	**1.53**	**188**	*e*P	**Pb**	**03 05 00.2**	**-0.3**
	2.2nm,0.1s						
KURS				*e*S	**Sb**	**03 05 20.8**	**+1.1**
	6.1nm,0.3s						
CHKK	**Chushkaly**	**1.56**	**223**	P	**Pn**	**03 04 59.6**	**0.0**
	8.1nm,0.1s						
CHKK				S	**Sn**	**03 05 19.6**	**+0.1**
	82nm,0.2s						
CHKK	**Chushkaly**	**1.56**	**223**	*e*P	**Pn**	**03 04 59.8**	**+0.2**
	8.1nm,0.1s						
CHKK				*e*S	**Sn**	**03 05 19.9**	**+0.4**
	82nm,0.2s						
KTBS	**Karatobe**	**1.81**	**225**	P	**Pn**	**03 05 03.8**	**+0.7**
	5.6nm,0.1s						
KTBS				S	**Sb**	**03 05 27.8**	**0.0**
	32nm,0.5s						
KTBS	**Karatobe**	**1.81**	**225**	*e*P	**Pn**	**03 05 03.9**	**+0.9**
	5.6nm,0.1s						
KTBS				*e*S	**Sn**	**03 05 27.4**	**+1.6**
	32nm,0.5s						
PDGK	**Podgornoye**	**1.84**	**156**	P	**Pb**	**03 05 05.4**	**-0.3**
	1.4nm,0.2s						
PDGK				S	**Sb**	**03 05 29.7**	**+1.1**
	11nm,0.1s						
KUU	**Kurty**	**1.88**	**234**	P	**Pn**	**03 05 04.6**	**+0.6**
	3.7nm,0.2s						
KUU				S	**Sn**	**03 05 28.8**	**+1.5**
	55nm,0.2s						
KUU	**Kurty**	**1.88**	**234**	*e*P	**Pn**	**03 05 04.6**	**+0.6**
	3.7nm,0.2s						
KUU				*e*S	**Sn**	**03 05 28.9**	**+1.5**
	55nm,0.2s						
UZB	**Uzynbulak**	**1.91**	**167**	Pg	**Pb**	**03 05 06.7**	**-0.1**
	1.7nm,0.1s						
UZB				Lg	Lg	03 05 32.1	
	16nm,0.4s						
UZB	**Uzynbulak**	**1.91**	**167**	*e*P	**Pb**	**03 05 06.7**	**-0.1**
	1.7nm,0.1s						
UZB				*e*S	**Sb**	**03 05 32.1**	**+1.5**
	16nm,0.4s						
SATY	**Saty**	**1.95**	**181**	Pg	**Pb**	**03 05 06.9**	**-0.7**
	5.8nm,0.1s						
SATY				Lg	Lg	03 05 32.3	
	16nm,0.1s						
SATY	**Saty**	**1.95**	**181**	*e*P	**Pb**	**03 05 07.2**	**-0.4**
	5.8nm,0.1s						
SATY				*e*S	**Sb**	**03 05 33.0**	**+1.3**
	16nm,0.1s						
KOTS	**Kotyrbulak**	**2.02**	**209**	Pg	**Pb**	**03 05 07.6**	**-1.2**
	5.2nm,0.3s						
KOTS				Lg	Lg	03 05 33.9	
	7.4nm,0.3s						
KOTS	**Kotyrbulak**	**2.02**	**209**	*e*P	**Pb**	**03 05 07.6**	**-1.2**
	5.2nm,0.3s						
KOTS				*e*S	**Sb**	**03 05 33.9**	**+0.1**
	7.4nm,0.3s						
MDOK	**Medeo**	**2.10**	**209**	Pn	**Pn**	**03 05 08.6**	**+1.4**
	2.1nm,0.4s						
MDOK				⇓Lg	Lg	03 05 37.1	
	5.2nm,0.5s						
MDOK	**Medeo**	**2.10**	**209**	Pg	**Pb**	**03 05 09.0**	**-1.3**
	5.2nm,0.3s						
MDOK				Lg	Lg	03 05 35.8	
	5.8nm,0.3s						
MDOK	**Medeo**	**2.10**	**209**	*e*P	**Pb**	**03 05 09.0**	**-1.3**
	5.2nm,0.3s						
MDOK				*e*S	**Sb**	**03 05 35.8**	**-0.4**
	5.8nm,0.3s						
TNSS	**Tian-Shan**	**2.25**	**209**	Pg	**Pb**	**03 05 11.3**	**-1.6**
	2.9nm,0.4s						
TNSS				Lg	Lg	03 05 40.4	
	4.7nm,0.3s						
TNSS	**Tian-Shan**	**2.25**	**209**	*e*P	**Pb**	**03 05 11.3**	**-1.6**
	2.9nm,0.4s						
TNSS				*e*S	**Sb**	**03 05 40.4**	**-0.3**
	4.7nm,0.3s						
MTBS	**Maitube**	**2.38**	**219**	Pg	**Pb**	**03 05 14.4**	**-0.5**
	6.1nm,0.3s						
MTBS				Lg	Lg	03 05 45.1	
	8.3nm,0.3s						
MTBS	**Maitube**	**2.38**	**219**	*e*P	**Pb**	**03 05 14.4**	**-0.5**
	6.1nm,0.3s						
MTBS				*e*S	**Sb**	**03 05 45.1**	**+1.0**
	8.3nm,0.3s						
TKM2	**Tokmak 2**	**2.93**	**226**	⇓Pg	**Pg**	**03 05 27.3**	**-1.2**
	2.1nm,1.1s						
TKM2				⇑Sn	**Sb**	**03 06 00.9**	**+0.7**
	1.1nm,0.3s						
MAKZ	**Makanchi**	**3.05**	**53**	⇑Pg	**Pb**	**03 05 26.6**	**+0.3**
	0.8nm,0.6s						
MAKZ				⇑Sn	**Sn**	**03 05 54.6**	**-1.7**
	0.7nm,0.3s						
MAKZ				⇑Lg	Lg	03 06 05.6	
	1.4nm,0.4s						
BTLS	**Baital**	**3.12**	**272**	*e*P	**Pb**	**03 05 26.9**	**-0.7**
	0.8nm,0.2s						
BTLS				*e*S	**Sb**	**03 06 06.9**	**+1.4**
	2.6nm,0.3s						
MK31	**Makanchi Array**	**3.22**	**55**	⇑Pn	**Pn**	**03 05 23.1**	**+0.7**
	0.1nm,0.2s,baz=233,slow=13,SNR=9.3						
MK31				⇑Pg	**Pb**	**03 05 29.5**	**+0.3**
	0.3nm,0.3s,baz=233,slow=18,SNR=3.4						
MK31				⇓Sn	**Sn**	**03 06 00.8**	**+0.3**
	0.2nm,0.3s,baz=228,slow=20,SNR=6.9						
MK31				⇑Lg	Lg	03 06 10.0	
	0.3nm,0.2s,baz=237,slow=29,SNR=6.2						

IDC ***12*** *03:07:59.4±1.1,54°.94N×134°.42W,h0km,mb2.9/2, mb1 3.4/9,mb1mx3.3/43,mbtmp3.2/9,ML3.0/7,MS2.9/3, Ms1 2.9/3,ms1mx2.5/16,Error ellipse: s-maj=14.2km s-min=8.5km az=72.0*
AEIC ***12*** *03:08:00.3±0.0,55°.06N×134°.63W,h20km*
PGC ***12*** *03:08:01.1±1.7,54°.97N×134°.43W,h20km,ML4.0/11, Mw4.2,181km Wnw of Masset, Bc Haida Gwaii Region*
NEIC ***12*** *03:08:01.0±0.0,54°.97N×134°.43W,h20km,ML3.6(AEIC), MW4.2(OTT),After OTT.*

ISC 12 03:07:59.0±1.4,54°.96N±0°.03×134°.48W±0°.05, h13km±10km,n88,σ§98/118,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**0.93**	**56**	P	**Pb**	**03 08 17.5**	**+0.5**
CRAG				S	**Sb**	**03 08 29.9**	**+0.5**
NDB	**Naden**	**1.35**	**138**	Pn	**Pg**	**03 08 24.4**	**-0.5**
NDB	**Naden**	**1.35**	**138**	Pn	**Pg**	**03 08 24.4**	**-0.5**
NDB				Pg	**Pb**	**03 08 26.1**	**+1.9**
MASB	**Masset**	**1.72**	**122**	Pn	**Pb**	**03 08 29.5**	**-0.9**
MASB	**Masset**	**1.72**	**122**	Pn	**Pb**	**03 08 29.5**	**-0.9**
MASB				Pg	**Pg**	**03 08 32.3**	**+0.3**
WRAK	**Wrangell Islan**	**1.90**	**39**	P	**Pn**	**03 08 31.4**	**+0.3**
DIB	**Dawson Inlet,**	**2.12**	**145**	Pn	**Pn**	**03 08 35.0**	**+0.9**
DIB				Sn	**Sn**	**03 09 00.9**	**+0.7**
DIB	**Dawson Inlet,**	**2.12**	**145**	Pn	**Pn**	**03 08 35.0**	**+0.9**
DIB				Sn	**Sn**	**03 09 00.9**	**+0.7**
H02S1	**DAWSON INLET T**	**2.12**	**145**	Pn	**Pn**	**03 08 35.4**	**+1.3**
H02S1				Lg	Lg	03 09 05.5	
SIT	**Sitka**	**2.16**	**348**	P	**Pn**	**03 08 33.4**	**-1.2**
SIT				S	**Sn**	**03 08 58.6**	**-2.6**
MOBC	**Moresby Island**	**2.34**	**140**	Pn	**Pn**	**03 08 38.2**	**+0.9**
MOBC	**Moresby Island**	**2.34**	**140**	Pn	**Pn**	**03 08 38.2**	**+0.9**
MOBC				Pg	**Pg**	**03 08 43.0**	**-1.0**
HG1B	**Mitchell Dam**	**2.46**	**145**	Pn	**Pn**	**03 08 39.7**	**+1.0**
RUBB	**Prince Rupert**	**2.54**	**103**	Pn	**Pn**	**03 08 39.9**	**0.0**
RUBB				Sn	**Sn**	**03 09 09.8**	**-0.8**
RUBB	**Prince Rupert**	**2.54**	**103**	Pn	**Pn**	**03 08 39.9**	**0.0**
RUBB				Pg	**Pg**	**03 08 45.8**	**-1.8**
RUBB				Sn	**Sn**	**03 09 09.8**	**-0.8**
RUBB				Sg	**Sg**	**03 09 19.0**	**-1.5**
BNB	**Barry Inlet**	**2.88**	**145**	P	**Pn**	**03 08 46.0**	**+1.3**
BNB	**Barry Inlet**	**2.88**	**145**	Pn	**Pn**	**03 08 45.5**	**+0.8**
BNB				Pg	**Pg**	**03 08 52.9**	**-1.4**
HG3B	**Hotspring**	**2.99**	**142**	Pn	**Pn**	**03 08 46.8**	**+0.7**
HG3B				Sg	**Sg**	**03 09 32.3**	**-2.7**
HG4B	**Hotspring**	**3.31**	**142**	Pn	**Pn**	**03 08 51.6**	**+1.1**
HG4B				Sg	**Sg**	**03 09 41.3**	**-3.9**
JIS	**Juneau Island**	**3.33**	**1**	P	**Pn**	**03 08 50.0**	**-0.7**
BESE	**Bessie Mountai**	**3.64**	**357**	Pn	**Pn**	**03 08 55.0**	**-0.1**
BESE				Sn	**Sn**	**03 09 37.3**	**-0.6**
BESE	**Bessie Mountai**	**3.64**	**357**	Pn	**Pn**	**03 08 55.0**	**-0.1**
BESE				Sn	**Sn**	**03 09 37.3**	**-0.6**
DLBC	**Dease Lake**	**4.27**	**33**	Pn	**Pn**	**03 09 05.2**	**+1.4**
DLBC				Pg	**Pb**	**03 09 16.0**	**+2.1**
DLBC	**Dease Lake**	**4.27**	**33**	Pn	**Pn**	**03 09 05.2**	**+1.4**
DLBC				Pg	**Pb**	**03 09 16.0**	**+2.1**
DLBC	**Dease Lake**	**4.27**	**33**	Pn	**Pn**	**03 09 05.4**	**+1.7**
	0.4nm,0.3s,baz=219,slow=14,SNR=27						
DLBC				Pg	**Pb**	**03 09 15.9**	**+2.0**
	3.5nm,0.3s,baz=214,slow=14,SNR=43						
DLBC				Sn	**Sn**	**03 09 54.1**	**+0.7**
	2.9nm,0.3s,baz=164,slow=13,SNR=4.2						
DLBC				Lg	Lg	03 10 14.0	
	6.4nm,0.3s,baz=112,slow=20,SNR=11						
BBB	**Bella Bella**	**4.70**	**124**	Pn	**Pn**	**03 09 10.8**	**+1.2**
BBB				Sn	**Sn**	**03 10 02.1**	**-1.9**
BBB	**Bella Bella**	**4.70**	**124**	Pn	**Pn**	**03 09 10.5**	**+0.9**
	1.3nm,0.3s,baz=302,slow=13,SNR=15						
BBB				Sn	**Sn**	**03 10 03.5**	**-0.4**
	6.9nm,0.3s,baz=67,slow=20,SNR=12						
BBB				Lg	Lg	03 10 26.9	
	8.0nm,0.3s,baz=203,slow=23,SNR=7.0						
BBB				LR	LR	03 10 30.8	
	comp=Z,58nm,19.6s,baz=142,slow=32						
BCBC	**Bella Coola**	**5.27**	**116**	Sn	**Sn**	**03 10 15.9**	**-2.1**
PNL	**Peninsula**	**5.42**	**333**	Pn	**Pn**	**03 09 20.0**	**+0.5**
PNL				Sn	**Sn**	**03 10 18.4**	**-3.4**
PNL	**Peninsula**	**5.42**	**333**	Pn	**Pn**	**03 09 20.0**	**+0.5**
PNL				Sn	**Sn**	**03 10 18.4**	**-3.4**
WHY	**Whitehorse**	**5.72**	**358**	Pn	**Pn**	**03 09 24.5**	**+0.8**
WHY				Sn	**Sn**	**03 10 25.4**	**-3.9**
WHY	**Whitehorse**	**5.72**	**358**	Pn	**Pn**	**03 09 24.5**	**+0.8**
WHY				Sn	**Sn**	**03 10 25.4**	**-3.9**
HOLB	**Holberg**	**5.79**	**136**	Sn	**Sn**	**03 10 28.0**	**-2.8**
HOLB	**Holberg**	**5.79**	**136**	Sn	**Sn**	**03 10 28.0**	**-2.8**
FSB	**Fort Saint Jam**	**5.91**	**91**	Pn	**Pn**	**03 09 27.1**	**+0.9**
FSB				Pg	**Pb**	**03 09 45.0**	**+3.2**
FSB	**Fort Saint Jam**	**5.91**	**91**	Pn	**Pn**	**03 09 27.1**	**+0.9**
FSB				Pg	**Pb**	**03 09 45.0**	**+3.2**
YUK7	**Dusty Glacier**	**5.92**	**342**	Pn	**Pn**	**03 09 27.8**	**+1.2**
YUK7	**Dusty Glacier**	**5.92**	**342**	Pn	**Pn**	**03 09 27.8**	**+1.2**
PHC	**Port Hardy**	**6.03**	**132**	Sn	**Sn**	**03 10 34.4**	**-2.2**
PHC	**Port Hardy**	**6.03**	**132**	Sn	**Sn**	**03 10 34.4**	**-2.2**
SAMH	**Samovar Hills**	**6.20**	**329**	Pn	**Pn**	**03 09 31.2**	**+1.0**
SAMH	**Samovar Hills**	**6.20**	**329**	Pn	**Pn**	**03 09 31.2**	**+1.0**
PACB	**Port Alice, BC**	**6.21**	**134**	Sn	**Sn**	**03 10 36.5**	**-4.6**
MAYB	**Maynard**	**6.37**	**133**	Pn	**Pn**	**03 09 34.7**	**+2.1**
MAYB	**Maynard**	**6.37**	**133**	Pn	**Pn**	**03 09 34.7**	**+2.1**
TLCB	**Telegraph Cove**	**6.41**	**130**	Pn	**Pn**	**03 09 33.8**	**+0.8**
YUK5	**Granite Creek**	**6.45**	**345**	Sn	**Sn**	**03 10 42.2**	**-5.0**
YUK5	**Granite Creek**	**6.45**	**345**	Sn	**Sn**	**03 10 42.2**	**-5.0**
RKAV	**Rock Avalanche**	**6.50**	**328**	Pn	**Pn**	**03 09 35.0**	**+0.5**
RKAV				Sn	**Sn**	**03 10 45.7**	**-2.8**
RKAV	**Rock Avalanche**	**6.50**	**328**	Pn	**Pn**	**03 09 35.0**	**+0.5**
RKAV				Sn	**Sn**	**03 10 45.7**	**-2.8**
MESA	**MESA**	**6.60**	**326**	Pn	**Pn**	**03 09 36.0**	**+0.2**
MESA	**MESA**	**6.60**	**326**	Pn	**Pn**	**03 09 36.0**	**+0.2**
YUK4	**Talbot Arm**	**6.77**	**343**	Pn	**Pn**	**03 09 38.8**	**+0.6**
YUK4	**Talbot Arm**	**6.77**	**343**	Pn	**Pn**	**03 09 38.8**	**+0.6**
WOSB	**Woss**	**6.80**	**132**	Pn	**Pn**	**03 09 40.4**	**+1.8**
WOSB	**Woss**	**6.80**	**132**	Pn	**Pn**	**03 09 40.4**	**+1.8**
KULT	**Kultieth River**	**6.91**	**324**	P	**Pn**	**03 09 39.8**	**-0.1**
CTGM	**Chitina Glacie**	**7.04**	**332**	Pn	**Pn**	**03 09 43.0**	**+1.2**
CTGM				Sn	**Sn**	**03 10 58.9**	**-2.8**
KIAG	**Kiagna River**	**7.30**	**328**	Pn	**Pn**	**03 09 46.4**	**+1.0**
KIAG				Sn	**Sn**	**03 11 04.5**	**-3.8**
KIAG	**Kiagna River**	**7.30**	**328**	Pn	**Pn**	**03 09 46.4**	**+1.0**
KIAG				Sn	**Sn**	**03 11 04.5**	**-3.8**
GDR	**Gold River**	**7.32**	**132**	Pn	**Pn**	**03 09 47.6**	**+2.1**
GDR	**Gold River**	**7.32**	**132**	Pn	**Pn**	**03 09 47.6**	**+2.1**
BALM	**Baldy**	**7.39**	**329**	P	**Pn**	**03 09 46.1**	**-0.5**
BALM	**Baldy**	**7.39**	**329**	Pn	**Pn**	**03 09 46.9**	**+0.3**
BALM				Sn	**Sn**	**03 11 06.7**	**-3.5**
CBB	**Campbell River**	**7.43**	**128**	Sn	**Sn**	**03 11 11.0**	**-0.2**
CBB	**Campbell River**	**7.43**	**128**	Sn	**Sn**	**03 11 11.0**	**-0.2**
YUK3	**Moose Creek**	**7.52**	**338**	Pn	**Pn**	**03 09 49.9**	**+1.4**
YUK3	**Moose Creek**	**7.52**	**338**	Pn	**Pn**	**03 09 49.9**	**+1.4**
PTPK	**Patty Peak**	**7.54**	**329**	Pn	**Pn**	**03 09 50.1**	**+1.3**
PTPK				Sn	**Sn**	**03 11 12.1**	**-2.0**
PTPK	**Patty Peak**	**7.54**	**329**	Pn	**Pn**	**03 09 50.1**	**+1.3**
PTPK				Sn	**Sn**	**03 11 12.1**	**-2.0**
YUK2	**White River**	**7.62**	**337**	Pn	**Pn**	**03 09 51.4**	**+1.7**
YUK2	**White River**	**7.62**	**337**	Pn	**Pn**	**03 09 51.4**	**+1.7**
EGAK	**Eagle**	**10.40**	**344**	*e*Pn	**Pn**	**03 10 28.6**	**+0.9**
KDAK	**Kodiak Island**	**10.43**	**293**	Pn	**Pn**	**03 10 26.9**	**-1.2**
	0.9nm,0.3s,baz=82,slow=5.4,SNR=14						
KDAK				Sn	Sn	03 12 16.8	-7.8
	0.1nm,0.3s,baz=90,slow=20,SNR=2.7						
KDAK				LR	LR	03 13 58.3	
	comp=Z,66nm,18.6s,baz=104,slow=34						
ILAR	**Eielson Array**	**11.62**	**333**	Pn	**Pn**	**03 10 46.3**	**+1.9**
	0.1nm,0.3s,baz=151,slow=12,SNR=21						
ILAR				Lg	Lg	03 14 09.2	
	0.0nm,0.3s,baz=108,slow=27,SNR=3.1						
NEW	**Newport**	**12.68**	**115**	Lg	Lg	03 14 34.7	
	0.

PB03	**IPOC Station P**	**3.19**	**310**	⇑*i* P	**Pn**	**03 33 33.2 +0.8**
PB03				*i* S	**Sn**	**03 34 11.4 -1.0**
PB03				IAML		03 34 15.8
	comp=N,518nm,0.1s					
PB10	**IPOC Station P**	**3.20**	**281**	*i* P	**Pn**	**03 33 32.2 -0.1**
PB10	**IPOC Station P**	**3.20**	**281**	⇑*i* P	**Pn**	**03 33 32.6 +0.3**
PB10				*e*S	**Sn**	**03 34 10.5 -1.7**
PB10				IAML		03 34 18.9
	comp=N,165nm,0.3s					
LPAZ	**La Paz**	**7.87**	**353**	P	**Pn**	**03 34 29.8 -3.7**
	comp=N,0.1nm,0.3s,baz=153,slow=6.4,SNR=2.8					
LPAZ				S	**Sn**	**03 36 00.2 -2.0**
	comp=N,0.1nm,0.3s,baz=357,slow=16,SNR=3.6					
CPUP	**Villa Florida**	**9.14**	**106**	P	Pn	03 34 56.1 +6.8
	comp=N,0.3nm,0.3s,baz=282,slow=12,SNR=6.7					
SIV	**San Ignacio**	**9.91**	**36**	P	**Pn**	**03 34 58.5 -1.1**
	comp=N,0.6nm,0.3s,baz=218,slow=13,SNR=20					
PLCA	**Paso Flores**	**16.79**	**189**	P	**Pn**	**03 36 30.8 +5.0**
	comp=N,0.2nm,0.3s,baz=22,slow=12,SNR=4.0					
BDFB	**Brasilia**	**19.85**	**68**	P	**P**	**03 36 58.1 -0.3**
	comp=N,0.8nm,0.3s,baz=254,slow=12,SNR=9.0					
JTS	**JuntasAbangare**	**38.40**	**331**	LR	LR	03 54 33.7
	comp=N,199nm,20.2s,baz=358,slow=34					
TORD	**Torodi Ar. Bea**	**76.73**	**69**	P	**P**	**03 44 12.8 0.0**
	comp=N,0.6nm,0.9s,baz=246,slow=4.9,SNR=5.6					
WRA	**Warramunga Arr**	**131.44**	**207**	PKP	**PKiKP**	**03 51 33.1 -0.6**
	comp=N,0.8nm,1.1s,baz=175,slow=1.4,SNR=3.0					

IDC ***12*** *03:43:56.2±0.9,2°.73S×152°.86E, h0km, mb4.2/12, mb1 4.3/12,mb1mx4.1/38,mbtmp4.2/12,MS3.5/9, Ms1 3.5/9,ms1mx3.1/42,Error ellipse: s-maj=34.7km s-min=18.4km az=96.0*

ISCJB ***12*** *03:43:59.2±0.5,2°.75S±0°.04×152°.92E±0°.08, h33km, mb4.4/30,MS3.4/7,Error ellipse: s-maj=12.0km s-min=6.4km az=5.8*

NEIC ***12*** *03:44:01.4±2.2,2°.81S×152°.94E, h41km±5km, mb4.5/22, Error ellipse: s-maj=18.1km s-min=8.5km az=56.0*

ISC 12 03:44:01.2±0.7,2°.78S±0°.07×152°.9E±0°.1, h35km, n52, σ1§04/47, mb4.4/30, MS3.4/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.60**	**209**	*e*Pn	**Pn**	**03 44 27.2**	**+0.1**
RABL				*e*Sn	**Sn**	**03 44 46.0**	**-0.6**
MANU	**Manus Island**	**5.61**	**277**	*e*Pn	**Pn**	**03 45 22.5**	**+0.3**
HNR	**Honiara**	**9.61**	**134**	LR	LR	03 50 10.2	
	comp=Z,395nm,18.3s,baz=296,slow=39						
JAY	**Jayapura**	**12.22**	**271**	LR	LR	03 50 53.8	
	comp=Z,311nm,21.8s,baz=126,slow=34						
SARN	**Sarigan**	**20.60**	**340**	*e*P	**P**	**03 48 36.7**	**-0.9**
	124nm,1.4s						
DZM	**Mont Dzumac**	**23.24**	**147**	*e*P	**P**	**03 49 04.2**	**-1.5**
	38nm,1.3s						
DZM	**Mont Dzumac**	**23.24**	**147**	LR	LR	03 55 28.0	
	comp=Z,68nm,21.6s,baz=323,slow=30						
MARNC	**Mare, Loyalty**	**23.70**	**143**	*e*P	**P**	**03 49 08.2**	**-1.9**
	221nm,1.1s						
MTN	**Manton Dam**	**23.77**	**244**	*e*P	**P**	**03 49 10.0**	**-0.8**
	29nm,1.3s						
WRAB	**Tennant Creek**	**24.90**	**225**	*e*P	**P**	**03 49 19.8**	**-1.4**
	7.6nm,0.8s						
WB2	**Warramunga Arr**	**24.91**	**225**	*e*P	**P**	**03 49 21.3**	**+0.1**
	14nm,1.3s						
WR1	**Warramunga Arr**	**24.91**	**225**	*e*P	**P**	**03 49 20.3**	**-1.0**
	14nm,1.2s						
WR1				*e*PcP	**PcP**	**03 52 57.7**	**+1.1**
WRA	**Warramunga Arr**	**24.91**	**225**	P	**P**	**03 49 20.3**	**-1.0**
	5.1nm,0.8s,baz=49,slow=9.8,SNR=23						
WRA				PcP	**PcP**	**03 52 57.7**	**+1.1**
	0.5nm,0.8s,baz=61,slow=3.0,SNR=3.9						
WRA				LR	LR	04 00 50.7	
	comp=Z,103nm,18.8s,baz=45,slow=41						
ARMA	**Armidale**	**27.52**	**182**	*e*P	**P**	**03 49 46.6**	**+1.8**
	16nm,1.2s						
AS31	**Alice Springs**	**27.75**	**220**	*e*P	**P**	**03 49 45.9**	**-0.9**
	2.7nm,1.4s						
ASAR	**Alice Springs**	**27.75**	**220**	P	**P**	**03 49 45.9**	**-0.9**
	1.4nm,0.7s,baz=54,slow=8.5,SNR=14						
DAV	**Davao City (W)**	**29.00**	**290**	LR	LR	04 01 33.4	
	comp=Z,57nm,18.3s,baz=338,slow=37						
FITZ	**Fitzroy Crossi**	**30.78**	**238**	LR	LR	04 03 20.0	
	comp=Z,112nm,18.1s,baz=88,slow=38						
YULB	**Yu-li**	**40.33**	**312**	*e*P	**P**	**03 51 34.4**	**-1.3**
	10nm,0.7s						
NACB	**Ninganchiao**	**40.57**	**313**	*e*P	**P**	**03 51 37.2**	**-0.4**
	14nm,0.8s						
SSLB	**Suanglung**	**40.81**	**312**	*e*P	**P**	**03 51 39.5**	**-0.2**
	14nm,1.1s						
TATO	**Taipei**	**41.13**	**314**	*e*P	**P**	**03 51 40.7**	**-1.6**
	102nm,1.3s						
JNU	**Nakatsue**	**41.35**	**332**	LR	LR	04 07 26.6	
	comp=Z,21nm,19.3s,baz=148,slow=34						
KSRS	**Korea Array**	**46.27**	**332**	P	**P**	**03 52 23.0**	**-0.4**
	1.9nm,0.7s,baz=154,slow=8.1,SNR=7.3						
KS15	**Wonju Array Si**	**46.28**	**332**	*e*P	**P**	**03 52 23.0**	**-0.5**
	17nm,1.3s						
CM01	**Chiang Mai Arr**	**57.13**	**294**	*e*P	**P**	**03 53 45.7**	**+0.8**
CM31	**Chiang Mai Arr**	**57.16**	**294**	*e*P	**P**	**03 53 46.4**	**+1.3**
	10nm,0.3s						
CMAR	**Chiang Mai Arr**	**57.16**	**294**	P	**P**	**03 53 46.4**	**+1.3**
	2.7nm,0.6s,baz=107,slow=5.2,SNR=14						
SONA0	**Songino Array**	**64.70**	**327**	*e*P	**P**	**03 54 36.7**	**+0.8**
SONM	**Songino Array**	**64.70**	**327**	P	**P**	**03 54 36.7**	**+0.8**
	0.9nm,0.7s,baz=146,slow=5.2,SNR=10						
VNDA	**Vanda**	**74.83**	**178**	P	**P**	**03 55 39.5**	**+1.8**
	2.0nm,0.8s,baz=332,slow=7.2,SNR=11						
MK01	**Makanchi Array**	**78.89**	**319**	*e*P	**P**	**03 56 00.4**	**-0.7**
MK31	**Makanchi Array**	**78.90**	**319**	*e*P	**P**	**03 56 00.9**	**-0.3**
	1.4nm,0.9s						
MK32	**Makanchi Array**	**78.90**	**319**	*e*P	**P**	**03 56 01.3**	**+0.1**
MKAR	**Makanchi Array**	**78.90**	**319**	P	**P**	**03 56 01.3**	**+0.1**
	1.1nm,0.7s,baz=99,slow=6.7,SNR=13						
ZALV	**Zalesovo Beam**	**79.55**	**326**	*e*P	**P**	**03 56 04.0**	**-0.5**
ZALV	**Zalesovo Beam**	**79.55**	**326**	P	**P**	**03 56 03.7**	**-0.9**
	1.3nm,0.5s,baz=110,slow=7.2,SNR=5.6						
ZAA1	**Zalesovo Array**	**79.56**	**326**	*e*P	**P**	**03 56 03.7**	**-0.9**
ILAR	**Eielson Array**	**80.25**	**22**	P	**P**	**03 56 08.3**	**+0.2**
	0.5nm,0.4s,baz=261,slow=4.7,SNR=15						
ILB	**Eielson Array**	**80.25**	**22**	*e*P	**P**	**03 56 08.3**	**+0.2**
	3.4nm,1.1s						
KDJ	**Kajisay**	**81.33**	**313**	*e*P	**P**	**03 56 17.1**	**+2.5**
	2.2nm,0.9s						
KURK	**Kurchatov**	**82.27**	**322**	*e*P	**P**	**03 56 19.1**	**0.0**
	2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**82.30**	**322**	P	**P**	**03 56 18.6**	**-0.7**
	1.2nm,0.9s,baz=106,slow=4.7,SNR=8.9						
NRIK	**Noril'sk**	**84.13**	**341**	P	**P**	**03 56 28.8**	**+0.6**
	4.0nm,0.5s,baz=157,slow=7.7,SNR=3.9						
YBH	**Yreka Blue Hor**	**87.62**	**48**	LR	LR	04 29 36.9	
	comp=Z,44nm,19.9s,baz=234,slow=31						
BVAR	**Borovoye Array**	**87.71**	**323**	P	**P**	**03 56 45.2**	**-1.2**
	1.8nm,0.7s,baz=113,slow=5.9,SNR=12						
BRVK	**Borovoye**	**87.78**	**323**	*e*P	**P**	**03 56 46.3**	**-0.4**
	2.1nm,0.8s						
LPIG	**La Paz**	**97.30**	**66**	LR	LR	04 31 47.0	
	comp=Z,42nm,21.2s,baz=252,slow=30						
GEC2	**GERESS Array S**	**122.40**	**329**	*e*PKPdf	**PKiKP**	**04 02 53.4**	**+0.1**
GERES	**GERESS Array B**	**122.40**	**329**	PKP	**PKiKP**	**04 02 53.4**	**+0.1**
	0.3nm,0.5s,baz=11,slow=1.0,SNR=3.0						
TORD	**Torodi Ar. Bea**	**149.75**	**292**	PKPbc	**PKPbc**	**04 03 47.1**	**-1.5**
	1.1nm,0.6s,baz=25,slow=3.3,SNR=14						
TOA1	**Torodi Ar. Sit**	**149.75**	**292**	*e*PKPbc	**PKPbc**	**04 03 47.0**	**-1.5**

UCR ***12*** *03:46:29.3±1.1,16°.21N×93°.89W, h135km±47km, MD4.8, ML4.7,mb4.9(NEIC)*

MOS ***12*** *03:46:29.1±0.9, 15°.92N×93°.63W, h74km, mb5.0/40, Error ellipse: s-maj=12.6km s-min=4.6km az=108.5*

IDC ***12*** *03:46:30.4±0.4, 15°.92N×93°.86W, h77km±3km, mb4.4/24, mb1 4.6/27,mb1mx4.5/42,mbtmp4.8/27,MS3.7/22, Ms1 3.7/22,ms1mx3.6/37,Error ellipse: s-maj=14.5km s-min=5.4km az=46.0*

MEX ***12*** *03:46:32.1±0.5, 15°.77N×94°.09W, h69km±7km, MD4.9*

NEIC ***12*** *03:46:32.0±0.0, 15°.77N×94°.08W, h66km, mb4.9/254, MD4.9(MEX), After MEX.*

NEIC Felt [IV] at Tuxtla Gutierrez and [II] at San Cristobal de Las Casas. Also felt at Calcahualco and Cardenas. Felt at Guatemala, Guatemala.

ISCJB ***12*** *03:46:32.5±0.3, 15°.98N±0°.02×93°.73W±0°.02, h108km±2km, mb4.8/210, Error ellipse: s-maj=3.4km s-min=2.2km az=145.0*

GCMT ***12*** *03:46:33.0±0.3, 16°.01N±0°.02×93°.89W±0°.02, h84km±4km, MW4.8/77,Moment Tensor Solution. s36,c39; s77,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=1.42±.12; $M_{\theta\theta}$0.26±.14; $M_{\phi\phi}$1.17±.13; $M_{r\theta}$2.05±.06; $M_{r\phi}$0.38±.15; $M_{\theta\phi}$-0.06±.06; Best double couple: M_o2.29300×10^{16} NP1:ϕ$_S$254.00000°,δ76.00000°,λ-72.00000°. NP2: ϕ$_S$22.00000°,δ23.00000°,λ-140.00000°. Principal axes: T 1.7730, Plg29.0000°, Azm330.0000°; N 1.0470, Plg17.0000°, Azm70.0000°; P -2.8140, Plg56.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 03:46:30.6±0.3, 15°.93N±0°.03×93°.95W±0°.03, h81km±2km, h81km:pP-P, n837, σ1§75/894, mb4.8/213, 1C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.73**	**108**	*i* P	**Pn**	**03 46 47.2**	**+0.5**
PCIG				*i* S	**Sn**	**03 46 59.4**	**+0.7**
CMIG	**Matias Romero**	**1.46**	**322**	*e*P	**Pn**	**03 46 56.2**	**+0.7**
CMIG				*i* S	**Sn**	**03 47 14.0**	**-0.3**
CMIG	**Matias Romero**	**1.46**	**322**	P	**Pn**	**03 46 56.4**	**+0.9**
	577nm,0.3s,baz=147,slow=14,SNR=6462						
CMIG				S	**Sn**	**03 47 14.0**	**-0.3**
	3μm,0.3s,baz=47,slow=19,SNR=82						
CMIG				LR	LR	03 47 33.1	
	comp=Z,4μm,19.7s,baz=176,slow=41						
CCIG	**Comitan**	**1.77**	**78**	*e*Pn	**Pn**	**03 47 01.1**	**+1.4**
CCIG				*e*Sn	**Sn**	**03 47 20.5**	**-1.3**
CCIG	**Comitan**	**1.77**	**78**	*i* P	**Pn**	**03 47 01.5**	**+1.8**
CCIG				*i* S	**Sn**	**03 47 25.0**	**+3.2**
THIG		**1.91**	**122**	*e*P	**Pn**	**03 47 01.7**	**+0.3**
THIG				*i* S	**Sn**	**03 47 25.6**	**+0.8**
HUIG	**Huatulco**	**2.09**	**266**	*e*P	**Pn**	**03 47 01.7**	**-2.0**
HUIG				*i* S	**Sn**	**03 47 24.2**	**-4.8**
VHO	**Vista Hermosa**	**2.91**	**293**	*e*P	**Pn**	**03 47 15.1**	**+0.2**
VHO				*e*S	**Sn**	**03 47 47.3**	**-1.7**
FUG	**Fuego 3**	**3.34**	**116**	*e*P	**Pn**	**03 47 22.6**	**+1.8**
APG	**El Apazote**	**3.48**	**105**	P	**Pn**	**03 47 23.1**	**+0.4**
	87nm,0.3s,baz=334,slow=19,SNR=167						
APG				S	**Sn**	**03 48 01.1**	**-1.9**
	1μm,0.3s,baz=119,slow=19,SNR=15						
APG				LR	LR	03 48 34.3	
	comp=Z,4μm,19.8s,baz=243,slow=36						
PCG	**Pacaya**	**3.57**	**115**	*e*P	**Pn**	**03 47 26.7**	**+2.8**
NBG	**Las Nubes**	**3.72**	**111**	*e*P	**Pn**	**03 47 27.9**	**+1.8**
IXG	**Ixpaco**	**3.80**	**117**	*e*P	**Pn**	**03 47 28.3**	**+1.3**
PNIG	**Pinotepa**	**4.04**	**277**	*e*P	**Pn**	**03 47 29.1**	**-1.1**
PNIG				*i* S	**Sn**	**03 48 13.3**	**-3.1**
MRL	**Marmol**	**4.19**	**101**	*e*P	**Pn**	**03 47 32.4**	**0.0**
LVIG	**Laguna Verde**	**4.45**	**328**	*e*Pn	**Pn**	**03 47 35.1**	**-0.5**
LVIG				*e*Sn	**Sn**	**03 48 26.0**	**-0.1**
RTR	**El Retiro**	**4.62**	**115**	*e*P	**Pn**	**03 47 40.3**	**+2.1**
SBLS	**San Blas**	**4.67**	**116**	*e*P	**Pn**	**03 47 41.3**	**+2.4**
SBLS				*e*S	**Sn**	**03 48 36.6**	**+4.6**
SNJE	**San Jose**	**4.67**	**115**	*e*P	**Pn**	**03 47 40.5**	**+1.6**
CEVE	**Cerro Verde**	**4.67**	**116**	*e*P	**Pn**	**03 47 41.5**	**+2.5**
CEVE				*e*S	**Sn**	**03 48 37.0**	**+4.9**
CEVE				IAML		03 48 59.5	
	comp=Z,7μm,0.4s						
TLIG	**Tlapa**	**4.71**	**291**	*e*Pn	**Pn**	**03 47 41.0**	**+1.5**
TLIG				*e*Sn	**Sn**	**03 48 29.6**	**-3.4**
TLIG	**Tlapa**	**4.71**	**291**	*e*P	**Pn**	**03 47 39.3**	**-0.2**
TLIG				*e*S	**Sn**	**03 48 31.5**	**-1.5**
SNET	**Serv Nac Est T**	**5.08**	**115**	*e*P	**Pn**	**03 47 46.2**	**+1.9**
SNET				IAML		03 49 00.3	
	comp=Z,2μm,0.3s						
OPAM	**San Salvador**	**5.09**	**115**	*e*P	**Pn**	**03 47 46.5**	**+2.1**
LOMA	**San Marcos**	**5.14**	**116**	*e*P	**Pn**	**03 47 46.2**	**+1.1**
LOMA				*e*S	**Sn**	**03 48 47.8**	**+4.6**
LOMA				IAML		03 48 57.9	
	comp=Z,3μm,0.4s						
LFU	**La Fuente**	**5.15**	**114**	*e*P	**Pn**	**03 47 46.6**	**+1.2**
LBRS	**Las Brisas**	**5.22**	**114**	*e*P	**Pn**	**03 47 48.1**	**+1.9**
LFRS	**El Faro**	**5.25**	**115**	*e*P	**Pn**	**03 47 47.9**	**+1.1**
PAVA	**Las Pavas**	**5.32**	**114**	*e*P	**Pn**	**03 47 49.7**	**+2.0**
VICT	**Victoria**	**5.49**	**110**	*e*P	**Pn**	**03 47 52.0**	**+1.9**
PACA	**Pacayal**	**5.97**	**114**	*e*P	**Pn**	**03 47 57.6**	**+1.1**
UNM	**Universidad Na**	**6.03**	**305**	*e*Pn	Pn	03 48 02.6	+5.2
UNM				*e*Sn	**Sn**	**03 49 04.5**	**-0.6**
UNM	**Universidad Na**	**6.03**	**305**	*e*P	Pn	03 48 02.6	+5.2
UNM				*e*		03 49 04.5	
MYIG	**Mrida**	**6.40**	**38**	*e*Pn	**Pn**	**03 48 03.7**	**+1.5**
MYIG				*e*Sn	**Sn**	**03 49 14.6**	**+0.7**
LCND	**La Caada**	**6.42**	**113**	*e*P	**Pn**	**03 48 03.7**	**+1.2**
LCND				*e*S	**Sn**	**03 49 18.7**	**+4.3**
LCND				IAML		03 49 24.6	
	comp=Z,787nm,0.3s						
CNCH	**Conchagua**	**6.48**	**113**	*e*P	**Pn**	**03 48 05.4**	**+1.9**
TGUH	**Tegucigalpa,Un**	**6.71**	**105**	*e*Pn	**Pn**	**03 48 07.7**	**+1.2**
TGUH				*e*Sn	**Sn**	**03 49 23.5**	**+1.9**
TEIG	**Tepich**	**6.88**	**51**	*e*Pn	**Pn**	**03 48 10.9**	**+2.1**
TEIG				*e*Sn	**Sn**	**03 49 25.7**	**+0.1**
MOIG	**Morelia**	**7.84**	**299**	*e*Pn	**Pn**	**03 48 22.6**	**+5.5**
MOIG				*e*Sn	**Sn**	**03 49 50.1**	**+0.6**
ESPN	**Las Esperanzas**	**10.07**	**110**	*e*Pn	**Pn**	**03 48 55.3**	**+2.9**
ESPN				*e*Sn	**Sn**	**03 50 36.2**	**-7.4**
LNIG	**Linares**	**10.31**	**331**	*e*Pn	**Pn**	**03 48 57.1**	**+1.4**
LNIG				*e*Sn	**Sn**	**03 50 47.0**	**-2.5**
JTS	**JuntasAbangare**	**10.40**	**122**	P	**Pn**	**03 48 57.5**	**+0.6**
	comp=Z,14nm,0.3s,baz=14,slow=6.4,SNR=40						
JTS				S	**Sn**	**03 50 50.7**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=0.0,slow=20,SNR=1.6						
ZAIG	**Zacatecas**	**10.60**	**311**	*e*Pn	**Pn**	**03 49 02.9**	**+3.0**
HDC	**Heredia**	**11.25**	**120**	*e*Pn	**Pn**	**03 49 09.3**	**+0.7**
FSCY	**Frank Sound, G**	**12.62**	**73**	*e*Pn	**Pn**	**03 49 29.5**	**+2.4**
FSCY				*e*Sn	**Sn**	**03 51 37.6**	**-8.2**
833A	**Chaparral WMA,**	**13.32**	**339**	*e*Pn	**Pn**	**03 49 38.0**	**+1.6**
833A				*e*Sn	**Sn**	**03 51 57.6**	**-5.1**
833A	**Chaparral WMA,**	**13.32**	**339**	P	**Pn**	**03 49 37.5**	**+1.1**
	baz=158,SNR=48						
HKT	**Hockley**	**14.06**	**353**	*e*Pn	**Pn**	**03 49 48.0**	**+2.0**
HKT	**Hockley**	**14.06**	**353**	*e*P	**Pn**	**03 49 48.0**	**+2.0**
435B	**Jarrell**	**15.15**	**348**	*e*Pn	**P**	**03 50 02.6**	**-0.8**
	comp=Z,92nm,0.6s						
435B	**Jarrell**	**15.15**	**348**	P	**Pn**	**03 50 01.0**	**+0.9**
	baz=167,SNR=23						
JCT	**Junction City**	**15.44**	**341**	*e*Pn	**P**	**03 50 05.8**	**-0.9**
	comp=Z,64nm,0.8s						
JCT	**Junction City**	**15.44**	**341**	*e*P	**P**	**03 50 05.8**	**-0.9**
JCT				pmax	pmax		
	comp=Z,64nm,0.8s						
JCT	**Junction City**	**15.44**	**341**	P	**Pn**	**03 50 04.7**	**+0.8**
	baz=159,SNR=25						
HPIG		**15.44**	**317**	*e*Pn	**P**	**03 50 06.2**	**-0.7**
	comp=Z,38nm,0.9s						
059Z	**Ave Maria**	**15.58**	**46**	P	**Pn**	**03 50 05.4**	**-0.2**
	baz=231						
061Z	**Ochoppi**	**15.68**	**49**	*e*Pn	**P**	**03 50 10.0**	**+0.8**
	comp=Z,299nm,1.0s						
061Z	**Ochoppi**	**15.68**	**49**	P	**Pn**	**03 50 06.7**	**-0.1**
	baz=233,SNR=5.5						
NATX	**Nacogdoches**	**15.77**	**358**	*e*Pn	**P**	**03 50 10.5**	**+0.2**
	comp=Z,46nm,0.8s						
NATX	**Nacogdoches**	**15.77**	**358**	P	**Pn**	**03 50 08.3**	**+0.4**
	baz=178,SNR=7.8						
058A	**Arcadia**	**15.80**	**44**	P	**Pn**	**03 50 07.4**	**-1.0**
	baz=228						
MTDJ	**Mount Denham**	**15.86**	**79**	*e*Pn	**Pn**	**03 50 09.5**	**+0.3**
448A	**Bay Minette**	**15.93**	**19**	P	**Pn**	**03 50 10.3**	**+0.3**
	baz=202						
957A	**Wimauma**	**15.94**	**41**	*e*Pn	**Pn**	**03 50 09.4**	**-0.7**
	comp=Z,50nm,0.8s						
957A	**Wimauma**	**15.94**	**41**	P	**Pn**	**03 50 09.9**	**-0.3**
	baz=225						
TXAR	**Lajitas Array**	**16.06**	**328**	P	**P**	**03 50 14.2**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=150,slow=10,SNR=139						
TXAR				LR	LR	03 57 11.1	
	comp=Z,96nm,21.2s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**16.06**	**328**	*e*Pn	**P**	**03 50 14.3**	**+0.6**
059A	**Moore Haven**	**16.19**	**45**	P	**Pn**	**03 50 13.0**	**-0.3**
	baz=230						
958A	**Wauchula**	**16.19**	**42**	P	**Pn**	**03 50 12.6**	**-0.6**
	baz=227						
450A	**Crestview**	**16.26**	**23**	P	**Pn**	**03 50 13.9**	**-0.2**
	baz=206						
WHTX	**Lake Whitney,**	**16.30**	**349**	*e*Pn	**P**	**03 50 16.6**	**+0.5**
	comp=Z,61nm,0.6s						
WHTX	**Lake Whitney,**	**16.30**	**349**	P	**Pn**	**03 50 15.4**	**+0.8**
	baz=168,SNR=20						
857A	**Zephyrhills**	**16.37**	**39**	P	**Pn**	**03 50 15.0**	**-0.4**
	baz=224						
BRAL	**Brewton**	**16.42**	**21**	*e*Pn	**P**	**03 50 20.4**	**+2.9**
	comp=Z,518nm,1.4s						
BRAL	**Brewton**	**16.42**	**21**	P	**Pn**	**03 50 16.7**	**+0.6**
	baz=204						
451A	**Vernon**	**16.43**	**26**	*e*Pn	**P**	**03 50 17.6**	**0.0**
	comp=Z,521nm,1.4s						
451A	**Vernon**	**16.43**	**26**	P	**Pn**	**03 50 15.6**	**-0.6**
	baz=209						
VBMS	**Vicksburg**	**16.51**	**10**	*e*Pn	**P**	**03 50 19.6**	**+1.1**
	comp=Z,123nm,1.0s						
VBMS				*e*pP	**pP**	**03 50 38.2**	**+3.7**
VBMS	**Vicksburg**	**16.51**	**10**	P	**Pn**	**03 50 17.7**	**+0.5**
	baz=192,SNR=7.6						
349A	**Repton**	**16.54**	**21**	P	**Pn**	**03 50 18.0**	**+0.5**
	baz=204,SNR=6.9						
DWPF	**Disney Wildern**	**16.76**	**42**	*e*Pn	**P**	**03 50 22.1**	**+0.9**
	comp=Z,69nm,0.6s						
DWPF				*e*Sn	**Sn**	**03 53 19.8**	**-6.2**
DWPF	**Disney Wildern**	**16.76**	**42**	P	**Pn**	**03 50 20.5**	**+0.2**
	baz=226						
452A	**Marianna**	**16.87**	**27**	P	**Pn**	**03 50 21.9**	**+0.2**
	baz=210						
858A	**St. Cloud**	**16.88**	**41**	P	**Pn**	**03 50 21.5**	**-0.2**
	baz=226						
350A	**Dozier**	**16.91**	**23**	P	**Pn**	**03 50 22.3**	**+0.2**
	baz=206,SNR=5.7						
554A	**Perry**	**16.94**	**32**	P	**Pn**	**03 50 22.3**	**-0.2**
	baz=216						
757A	**Oxford**	**16.96**	**38**	P	**Pn**	**03 50 22.6**	**-0.1**
	baz=223						
145A	**Houston Renfro**	**16.99**	**12**	P	**P**	**03 50 23.9**	**+0.2**
	baz=194						
656A	**Willston**	**17.00**	**36**	*e*Pn	**Pn**	**03 50 23.5**	**+0.2**
	comp=Z,64nm,0.9s						
656A				*e*Sn	**Sn**	**03 53 24.7**	**-7.2**
656A	**Willston**	**17.00**	**36**	P	**Pn**	**03 50 23.3**	**0.0**
	baz=220						
351A	**Pinckard**	**17.07**	**25**	P	**P**	**03 50 24.8**	**+0.2**
	baz=208						
859A	**Kempfer Cattle**	**17.07**	**43**	P	**Pn**	**03 50 24.0**	**-0.1**
	baz=228						
249A	**Camden**	**17.14**	**20**	P	**P**	**03 50 26.0**	**+0.6**
	baz=203						
453A	**Whigham**	**17.27**	**29**	P	**Pn**	**03 50 26.6**	**+0.1**
	baz=213						
Z41A	**Richland Creek**	**17.28**	**3**	*e*Pn	**P**	**03 50 28.9**	**+2.0**
	comp=Z,263nm,0.8s						
Z41A	**Richland Creek**	**17.28**	**3**	P	**P**	**03 50 28.5**	**+1.6**
	baz=184,SNR=19						
555A	**McAlpin**	**17.35**	**34**	*e*Pn	**P**	**03 50 29.2**	**+1.5**
	comp=Z,81nm,0.8s						
555A	**McAlpin**	**17.35**	**34**	P	**P**	**03 50 28.0**	**+0.3**
	baz=218						
LPIG	**La Paz**	**17.38**	**300**	P	**P**	**03 50 31.4**	**+3.3**
	comp=Z,3.1nm,0.3s,baz=28,slow=1.3,SNR=5.3						
LPIG				LR	LR	03 56 58.9	
	comp=Z,259nm,19.4s,baz=128,slow=36						
ABTX	**Abilene, Hawle**	**17.40**	**344**	*e*P	**P**	**03 50 29.6**	**+1.2**
	comp=Z,59nm,0.8s						
ABTX	**Abilene, Hawle**	**17.40**	**344**	P	**P**	**03 50 29.3**	**+1.0**
	baz=162,SNR=22						
250A	**Grady**	**17.43**	**22**	*e*P	**P**	**03 50 31.6**	**+2.9**
	comp=Z,41nm,0.6s						
250A	**Grady**	**17.43**	**22**	P	**P**	**03 50 29.3**	**+0.6**
	baz=206						
147A	**Livingston**	**17.45**	**16**	*e*P	**P**	**03 50 30.7**	**+1.9**
	comp=Z,52nm,0.9s						
147A				*e*Sn	Sn	03 53 30.4	-12
147A	**Livingston**	**17.45**	**16**	P	**P**	**03 50 29.0**	**+0.2**
	baz=199,SNR=6.2						
454A	**Quitman**	**17.48**	**31**	P	**Pn**	**03 50 29.2**	**0.0**
	baz=215						
352A	**Blakely**	**17.53**	**26**	*e*P	**Pn**	**03 50 31.8**	**+2.1**
	comp=Z,146nm,1.1s						
352A	**Blakely**	**17.53**	**26**	P	**P**	**03 50 29.7**	**0.0**
	baz=210						
657A	**Interlachen**	**17.55**	**37**	P	**P**	**03 50 29.3**	**-0.6**
	baz=222						
556A	**

baz=207
Y49A Blount Mountai 19.10 19 eP P 03 50 44.8 -2.2
comp=Z,39nm,1.3s
Y49A Blount Mountai 19.10 19 P Pn 03 50 48.0 -0.6
baz=203
X46A Booneville 19.16 14 P Pn 03 50 48.7 -0.6
baz=196,SNR=7.4
W39A Magazine 19.18 0 eP Pn 03 50 49.2 -0.3
comp=Z,64nm,0.7s
W39A Magazine 19.18 0 P P 03 50 48.8 +1.0
baz=181,SNR=5.8
W41B Gary Mavity, V 19.22 4 eP Pn 03 50 49.7 -0.3
comp=Z,44nm,1.1s
W41B Gary Mavity, V 19.22 4 P P 03 50 48.8 +0.5
baz=185,SNR=12
Z52A Williamson 19.22 25 P P 03 50 49.1 +0.8
baz=209
WMOK Wichita Mounta 19.22 348 eP Pn 03 50 49.4 -0.7
comp=Z,22nm,1.0s
WMOK Wichita Mounta 19.22 348 eP Pn 03 50 49.4 -0.7
WMOK pmax pmax
comp=Z,23nm,1.0s
WMOK Wichita Mounta 19.22 348 P P 03 50 49.2 +0.8
baz=166,SNR=24
CPRX Cap Rock 19.25 334 eP Pn 03 50 51.2 +0.8
X47A Russelville 19.30 15 P P 03 50 49.1 0.0
baz=198,SNR=16
154A Montrose 19.30 29 eP Pn 03 50 52.2 +1.2
comp=Z,68nm,0.7s
154A epP pP 03 51 08.2 +2.8
154A Montrose 19.30 29 P P 03 50 49.7 +0.6
baz=213
WHAR Wooly Hollow 19.34 4 eP P 03 50 50.5 +1.0
comp=Z,37nm,0.9s
Y50A Piedmont 19.35 21 P P 03 50 50.6 +0.8
baz=205,SNR=25
256A Glennville 19.38 32 P P 03 50 50.1 +0.1
baz=217
X48A Hartselle 19.46 17 eP P 03 50 51.8 +1.0
comp=Z,35nm,0.9s
X48A Hartselle 19.46 17 P P 03 50 51.5 +0.6
baz=200,SNR=10
W44A Shelby Farms P 19.48 10 P P 03 50 51.7 +0.7
baz=192
DBBC Dabeiba 19.49 115 eP P 03 50 51.2 -0.3
DBBC Dabeiba 19.49 115 eP P 03 50 51.2 -0.3
Y51A Rockmart 19.60 23 P P 03 50 53.5 +1.1
baz=206,SNR=8.7
155A Kite 19.61 30 P P 03 50 53.5 +1.1
baz=215,SNR=9.5
MSTX Muleshoe 19.64 338 eP Pn 03 50 54.4 -0.7
comp=Z,223nm,1.1s
MSTX Muleshoe 19.64 338 P Pn 03 50 54.3 -0.8
baz=155,SNR=95
Z53A Monticello 19.66 27 P Pn 03 50 54.7 -0.4
baz=211
PLAL Pickwick Lake 19.69 14 eP P 03 50 54.3 +1.0
comp=Z,17nm,0.6s
X49A Woodville 19.73 19 P P 03 50 54.9 +1.1
baz=202,SNR=20
UREC San Jos de Ur 19.76 112 eP P 03 50 45.9 -8.4
UREC San Jos de Ur 19.76 112 eP P 03 50 45.9 -8.4
W46A Michie 19.76 14 P P 03 50 54.0 -0.1
baz=196,SNR=17
HBAR Harrisburg 19.76 8 eP Pn 03 50 55.5 -0.9
comp=Z,92nm,1.3s
GOGA Godfrey 19.81 27 eP Pn 03 50 58.5 +1.6
comp=Z,38nm,0.8s
GOGA eS S 03 54 29.9 -3.6
GOGA Godfrey 19.81 27 eP Pn 03 50 58.5 +1.6
GOGA eS S 03 54 29.9 -3.6
GOGA pmax pmax
comp=Z,38nm,0.8s
GOGA Godfrey 19.81 27 P P 03 50 55.3 +0.6
baz=211,SNR=6.8
X50B Fort Payne 19.90 21 P P 03 50 55.8 +0.1
baz=204,SNR=34
Z54A Sparta 19.94 28 P P 03 50 55.5 -0.6
baz=213
Y52A Lilburn 19.96 25 eP Pn 03 51 00.5 +1.9
comp=Z,110nm,0.6s
Y52A eS S 03 54 34.1 -2.2
Y52A Lilburn 19.96 25 P P 03 50 57.2 +0.9
baz=209
TUL1 Leonard 19.96 356 eP Pn 03 50 58.1 -0.6
comp=Z,44nm,0.8s
TUL1 Leonard 19.96 356 P P 03 50 56.7 +0.4
baz=175,SNR=6.8
V43A Jonesboro 20.00 8 P P 03 50 57.2 +0.5
baz=190
W47A Westpoint 20.06 15 P P 03 50 57.9 +0.5
baz=198,SNR=6.7
AMTX Amarillo 20.11 341 eP Pn 03 50 59.6 -0.9
comp=Z,167nm,0.6s
AMTX Amarillo 20.11 341 P Pn 03 50 59.5 -1.0
baz=158
156A Sylvania 20.12 32 P P 03 50 58.1 +0.1
baz=217
W48A Pulaski 20.13 17 P P 03 50 58.7 +0.6
baz=200,SNR=5.5
Y53A Monroe 20.14 26 P P 03 50 57.6 -0.7
baz=210
V45A Humboldt 20.22 12 P P 03 50 59.7 +0.5
baz=194
GNAR Gosnell 20.26 9 eP Pn 03 51 06.0 +3.9
comp=Z,157nm,0.9s
Z55A Blythe 20.26 30 P P 03 50 59.1 -0.4
baz=215
HHAR Hobbs 20.27 0 eP Pn 03 51 01.5 -0.8
comp=Z,44nm,0.7s
X51A Calhoun 20.27 22 eP P 03 51 00.7 +1.0
comp=Z,102nm,1.0s
X51A eS S 03 54 41.0 -1.6
X51A Calhoun 20.27 22 P P 03 51 00.0 +0.4
baz=206,SNR=15
W49A Belvidere 20.31 18 P P 03 50 59.8 -0.3
baz=202
HALT Halls 20.32 11 eP Pn 03 51 05.9 +3.1
comp=Z,88nm,0.7s
HALT eS S 03 54 42.0 -1.4
U40A Yellville 20.36 3 P P 03 51 00.7 +0.1
baz=183,SNR=14
HSIG 20.38 313 eP Pn 03 51 03.8 +0.2
comp=Z,101nm,1.1s
157A Early Branch 20.39 33 P P 03 51 00.7 -0.3
baz=218
U41A Viola 20.41 5 P P 03 51 00.7 -0.4
baz=186,SNR=6.2
V46A Holladay 20.46 14 P P 03 51 01.6 -0.1
baz=196,SNR=5.5
U42A Revenden 20.48 6 P P 03 51 01.4 -0.5
baz=188
HELC Santa Helena 20.48 116 eP P 03 51 01.1 -1.4
HELC Santa Helena 20.48 116 eP P 03 51 01.1 -1.4
SWET Sewanee 20.50 19 eP P 03 51 02.5 +0.3
comp=Z,26nm,0.7s
SWET eS S 03 54 45.9 -1.3
Y54A Tignall 20.54 28 P P 03 51 02.1 -0.4
baz=212,SNR=8.9
U43A Rector 20.60 8 P P 03 51 03.3 +0.2
baz=190
V47A Nunnelly 20.63 15 P P 03 51 04.1 +0.6
baz=198,SNR=9.0
X52A Dahlonega 20.67 24 P P 03 51 03.8 -0.2
baz=208,SNR=6.2
GLAT Glass 20.68 11 eP Pn 03 51 11.2 +4.1
comp=Z,174nm,0.9s
GLAT eS S 03 54 52.1 +1.6
W50A Signal Mountai 20.69 20 eP Pn 03 51 07.3 +0.1
comp=Z,77nm,0.8s
W50A Signal Mountai 20.69 20 P P 03 51 05.4 +1.2
baz=204,SNR=27
Z56A Williston 20.72 31 P P 03 51 04.5 0.0
baz=216
V48A Smith Brothers 20.73 17 eP Pn 03 51 07.3 -0.4
comp=Z,51nm,0.8s
V48A eS S 03 54 48.1 -3.5
V48A Smith Brothers 20.73 17 P P 03 51 05.6 +1.0
baz=200
121A Cookes Peak, D 20.76 325 P P 03 51 05.9 +0.8
baz=140,SNR=97
319A Douglas 20.79 320 eP Pn 03 51 08.6 0.0
comp=Z,116nm,1.0s
X53A Estanollee 20.82 25 P P 03 51 06.6 +1.0
baz=210,SNR=7.9
WVT Waverly 20.84 14 eP P 03 51 06.8 +1.0
comp=Z,28nm,0.8s
WVT Waverly 20.84 14 eP P 03 51 06.8 +1.0
WVT pmax pmax
comp=Z,28nm,0.8s
WVT Waverly 20.84 14 P P 03 51 06.7 +1.0
baz=197
W51A Cleveland 20.84 22 P P 03 51 06.7 +0.9
baz=206,SNR=8.7
U45A Rockin P Farm, 20.85 12 P P 03 51 06.9 +1.0
baz=194
U32A Winter Ranch, 20.86 348 eP P 03 51 07.1 +1.1
comp=Z,100nm,0.9s
Y55A Saluda 20.98 29 P P 03 51 07.7 +0.4
baz=214
PARMO Parma 20.98 9 eP Pn 03 51 12.1 +1.5
comp=Z,86nm,0.9s
U46A Springville 20.98 13 P P 03 51 07.2 0.0
baz=196
YOTC Yotoco, Valle 20.98 123 eP P 03 51 07.8 +0.1
YOTC Yotoco, Valle 20.98 123 eP P 03 51 07.8 +0.1
PBMO Poplar Bluff 21.00 8 eP P 03 51 07.8 +0.3
comp=Z,22nm,0.8s
V49A McMinnville 21.02 18 P P 03 51 07.3 -0.4
baz=202
Z57A Bowman 21.03 32 P P 03 51 07.9 +0.1
baz=218,SNR=6.6
HODGE Hodges 21.04 28 eP P 03 51 12.7 +4.8
comp=Z,56nm,0.9s
W52A Murphy 21.09 23 eP P 03 51 14.7 +6.2
comp=Z,109nm,1.3s
W52A eS Sn 03 55 05.0 -5.0
W52A Murphy 21.09 23 P P 03 51 07.7 -0.8
baz=208
T41A Mountain View 21.12 5 P P 03 51 08.7 0.0
baz=186,SNR=11
NHSC New Hope 21.16 34 eP P 03 51 16.4 +7.3
comp=Z,250nm,1.0s
NHSC New Hope 21.16 34 P P 03 51 08.9 -0.3
baz=219,SNR=8.4
T42A Van Buren 21.17 6 eP P 03 51 09.4 +0.2
comp=Z,22nm,0.9s
T42A Van Buren 21.17 6 P P 03 51 08.4 -0.9
baz=188,SNR=5.2
CPCT Cooper Cave 21.19 22 eP P 03 51 08.8 -0.7
comp=Z,27nm,1.2s
V50A Pikeville 21.19 20 P P 03 51 09.1 -0.4
baz=204,SNR=14
PTBC PUERTO BERRIO, 21.25 114 eP P 03 51 09.1 -1.3
PTBC PUERTO BERRIO, 21.25 114 eP P 03 51 09.1 -1.3
X54A Belton 21.25 27 P P 03 51 09.6 -0.6
baz=212
U47A Clarksville 21.27 15 P P 03 51 10.6 +0.3
baz=198,SNR=5.0
T43A Greenville 21.32 8 P P 03 51 10.1 -0.7
baz=190,SNR=15
BG3 Lake Jocassee 21.40 25 eP P 03 51 19.0 +7.2
comp=Z,44nm,0.7s
BG3 eS S 03 55 07.7 +2.9
T44A Benton 21.42 10 P P 03 51 12.3 +0.4
baz=192
BNM Barren Site 21.43 330 eP P 03 51 15.5 +3.0
W53A Cullowhee 21.45 25 P P 03 51 12.1 -0.4
baz=210,SNR=5.7
ANIL Santa Ana 21.47 120 eP P 03 51 15.8 +2.7
ANIL Santa Ana 21.47 120 eP P 03 51 15.8 +2.7
Y22D IRIS PASSCAL I 21.52 329 eP P 03 51 17.2 +4.0
comp=Z,238nm,1.0s
X55A Gracelyn & Ava 21.52 29 P P 03 51 13.1 +0.1
baz=214,SNR=8.0
T45A Paducah 21.52 12 P P 03 51 13.4 +0.4
baz=194
Z58A St. Stephen 21.53 34 P P 03 51 12.2 -1.0
baz=220
U48A Cassie Pea, Po 21.53 16 P P 03 51 13.5 +0.4
baz=200
JSC Jenkinsville 21.54 30 eP P 03 51 16.1 +2.8
comp=Z,41nm,0.7s
V51A Loudon 21.57 22 eP P 03 51 15.0 +1.5
comp=Z,39nm,0.9s
V51A eSn Sn 03 55 20.2 -1.2
V51A Loudon 21.57 22 P P 03 51 12.8 -0.7
baz=206,SNR=8.4
LPM Los Pinos Moun 21.57 330 eP P 03 51 17.4 +3.6
POPC Popayan, Colom 21.59 126 eP P 03 51 15.1 +0.8
POPC Popayan, Colom 21.59 126 eP P 03 51 15.1 +0.8
LENM Lemitar 21.61 330 eP P 03 51 11.7 -2.6
TKL Tuckaleechee C 21.65 23 eP P 03 51 14.9 +0.5
comp=Z,50nm,1.0s
TKL eS S 03 55 13.3 +3.6
TKL Tuckaleechee C 21.65 23 eP P 03 51 14.9 +0.5
TKL eS S 03 55 13.3 +3.6
TKL pmax pmax
comp=Z,50nm,1.0s
TKL Tuckaleechee C 21.65 23 P P 03 51 14.9 +0.5
comp=Z,6.3nm,0.8s,baz=194,slow=10,SNR=3.2
TKL S S 03 55 10.1 +0.4
comp=Z,16nm,0.8s,baz=51,slow=6.5,SNR=3.6
S41A Jillco Farms, 21.66 5 P P 03 51 14.6 +0.1
baz=186
T46A Princeton 21.70 13 P P 03 51 15.1 +0.1
baz=196,SNR=11
PAULI Pauline 21.73 28 eP P 03 51 22.0 +6.7
comp=Z,51nm,1.0s
PAULI eSn Sn 03 55 18.6 -6.7
U49A Red Boiling Sp 21.75 18 P P 03 51 15.9 +0.5
baz=202,SNR=7.5
Y57A Sumter 21.76 32 P P 03 51 15.6 0.0
baz=217
W54A Cherokee Point 21.79 27 P P 03 51 17.2 +1.2
baz=212
X56A White Oak 21.82 30 P P 03 51 16.7 +0.4
baz=215
S43A Fulton Ridge, 21.82 8 P P 03 51 15.5 -0.8
baz=190
T47A Sharon Grove 21.83 15 eP P 03 51 16.8 +0.5
comp=Z,46nm,0.8s
T47A Sharon Grove 21.83 15 P P 03 51 16.6 +0.3
baz=198,SNR=11
OTAV Otavalo 21.84 134 eP P 03 51 18.5 +1.4
comp=Z,9.9nm,0.8s
OTAV Otavalo 21.84 134 eP P 03 51 18.1 +0.9
V52A Sevierville 21.88 23 eP P 03 51 23.1 +6.3
comp=Z,183nm,1.3s
V52A eSn Sn 03 55 23.0 -5.8
V52A Sevierville 21.88 23 P P 03 51 17.7 +0.8
baz=208,SNR=5.9
LAZ Ladron 21.89 330 eP P 03 51 20.3 +3.1
SOTA Rioblanco 21.90 127 eP P 03 51 19.1 +1.2
SOTA Rioblanco 21.90 127 eP P 03 51 19.1 +1.2
S42A Caledonia 21.93 7 P P 03 51 17.0 -0.4
baz=188
GCUF Volcan Galeras 21.94 130 eP P 03 51 20.4 +2.1
GCUF Volcan Galeras 21.94 130 eP P 03 51 20.4 +2.1
PCON Cinco Dias 21.94 126 eP P 03 51 19.1 +0.7
PCON Cinco Dias 21.94 126 eP P 03 51 19.1 +0.7
U50A Jamestown 21.95 20 P P 03 51 18.8 +1.1
baz=204,SNR=9.5
CRUC La Cruz 22.01 129 eP P 03 51 19.1 +0.3
CRUC La Cruz 22.01 129 eP P 03 51 19.1 +0.3
ANMO Albuquerque 22.01 332 eP P 03 51 20.8 +2.3
comp=Z,29nm,0.8s
ANMO Albuquerque 22.01 332 c iP P 03 51 20.4 +1.9
ANMO pmax pmax
comp=Z,31nm,0.8s
ANMO Albuquerque 22.01 332 P P 03 51 20.0 +1.5
baz=147
ANMO Albuquerque 22.01 332 P P 03 51 20.8 +2.3
comp=Z,33nm,0.9s,baz=141,slow=12,SNR=126
V53A Saluda 22.03 25 eP P 03 51 26.2 +7.6
comp=Z,35nm,0.7s
V53A eS S 03 55 19.1 +2.2
V53A Saluda 22.03 25 P P 03 51 19.4 +0.8
baz=210,SNR=11
S44A Carbondale 22.07 10 P P 03 51 18.5 -0.3
baz=192,SNR=17
SIUC Southern Illin 22.10 10 eP P 03 51 18.6 -0.6
comp=Z,140nm,1.0s
SIUC eS S 03 55 21.0 +3.0
T48A Bowling Green 22.13 16 P P 03 51 20.1 +0.6
baz=200
CCM Cathedral Cave 22.17 6 eP P 03 51 19.0 -0.9
comp=Z,16nm,0.8s
CCM eSn S 03 55 26.7 +7.5
CCM Cathedral Cave 22.17 6 eP P 03 51 19.0 -0.9
CCM pmax pmax
comp=Z,16nm,0.8s
CCM Cathedral Cave 22.17 6 P P 03 51 19.2 -0.8
baz=187
S45A Carrier Mills 22.17 11 P P 03 51 19.8 -0.1
baz=194,SNR=6.9
U51A La Follette 22.20 22 P P 03 51 21.4 +1.1
baz=206,SNR=14
ROSC El Rosal 22.20 118 eP P 03 51 23.4 +2.4
comp=Z,19nm,0.9s
ROSC El Rosal 22.20 118 P P 03 51 22.5 +1.5
comp=Z,18nm,0.7s,baz=356,slow=13,SNR=11
ROSC LR LR 04 00 04.4
comp=Z,144nm,20.9s,baz=308,slow=37
KMSC Kings Mountain 22.22 28 P P 03 51 21.6 +1.0
baz=214
X57A Johnson Farm, 22.26 31 P P 03 51 21.0 0.0
baz=217
PRAC Prado 22.33 121 eP P 03 51 22.4 +0.4
PRAC Prado 22.33 121 eP P 03 51 22.4 +0.4
TUC Tucson 22.35 320 eP P 03 51 24.9 +2.8
TUC Tucson 22.35 320 eP P 03 51 24.9 +2.8
TUC Tucson 22.35 320 P P 03 51 23.3 +1.2
baz=134
T49A Edmonton 22.37 18 eP P 03 51 26.9 +4.8
comp=Z,45nm,0.7s
T49A eS S 03 55 25.9 +3.3
T49A Edmonton 22.37 18 P P 03 51 21.3 -0.9
baz=202,SNR=8.3
R41A Rosebud 22.39 5 P P 03 51 22.1 -0.2
baz=187
R42A Luebbering 22.43 7 P P 03 51 22.6 -0.2
baz=188
U52A Thorn Hill 22.45 23 P P 03 51 22.0 -1.1
baz=208
S47A Hartford 22.46 15 P P 03 51 22.6 -0.5
baz=198
PAMC Pamplona, Colo 22.47 110 eP P 03 51 25.7 +1.7
PAMC Pamplona, Colo 22.47 110 eP P 03 51 25.7 +1.7
V54A Nebo 22.48 26 P P 03 51 22.2 -1.1
baz=212
T50A Nancy 22.50 19 P P 03 51 23.1 -0.5
baz=204,SNR=5.1
TZTN Tazewell 22.52 22 eP P 03 51 27.0 +3.3
comp=Z,34nm,1.1s
TZTN Tazewell 22.52 22 P P 03 51 23.3 -0.4
baz=207,SNR=5.4
R43A Red Bud 22.54 8 P P 03 51 23.6 -0.3
baz=190
R44A Waltonville 22.64 10 P P 03 51 24.7 -0.3
baz=192,SNR=14
X58A Rowland 22.72 33 P P 03 51 25.6 -0.2
baz=219
U53A Fall Branch 22.73 24 P P 03 51 25.7 -0.3
baz=209
S48A Wiedeman Farm, 22.74 16 P P 03 51 26.0 0.0
baz=200
T51A Gray 22.75 21 P P 03 51 26.4 +0.3
baz=206,SNR=17
RUSC La Rusia 22.76 114 eP P 03 51 25.7 -1.3
RUSC La Rusia 22.76 114 eP P 03 51 25.7 -1.3
CHIC Chingaza 22.81 117 eP P 03 51 29.0 +1.6
CHIC Chingaza 22.81 117 eP P 03 51 29.0 +1.6
R45A Skylar, Fairfi 22.83 12 P P 03 51 26.5 -0.4
baz=194
V55A Taylorsville 22.86 27 P P 03 51 27.4 +0.1
baz=213
FLOC Florencia 22.99 127 eP P 03 51 28.4 -0.4
FLOC Florencia 22.99 127 eP P 03 51 28.4 -0.4
Q41A Truxton 23.06 5 P P 03 51 28.0 -1.2
baz=187
T25A Trinidad 23.07 338 eP P 03 51 32.0 +2.4
comp=Z,160nm,1.2s
T25A Trinidad 23.07 338 P P 03 51 29.4 -0.2
baz=154,SNR=78
S49A Springfield 23.07 18 P P 03 51 28.1 -1.2
baz=202,SNR=6.7
Q42A Golden Eagle 23.09 7 P P 03 51 28.5 -1.0
baz=189,SNR=5.4
KSU1 Kansas State U 23.20 355 eP P 03 51 29.5 -1.0
comp=Z,22nm,0.8s
KSU1 Kansas State U 23.20 355 P P 03 51 29.7 -0.8
baz=174,SNR=8.7
WCI Wyandotte Cave 23.21 15 eP P 03 51 30.8 +0.1
comp=Z,34nm,0.8s
WCI Wyandotte Cave 23.21 15 eP P 03 51 30.8 +0.1
WCI pmax pmax
comp=Z,35nm,0.8s
WCI Wyandotte Cave 23.21 15 P P 03 51 29.4 -1.3
baz=199
R47A Wooly Knot Far 23.22 15 P P 03 51 29.7 -1.0
baz=198,SNR=6.7
Q43A New Douglas 23.22 8 P P 03 51 29.7 -1.0
baz=191
S50A Richmond 23.25 19 P P 03 51 30.1 -0.9
baz=204
T53A Wise 23.28 24 P P 03 51 30.4 -1.1
baz=209
OLIL Olney 23.29 12 eP P 03 51 31.0 -0.4
comp=Z,36nm,1.0s
Q44A Meyer Farm, Va 23.29 10 eP P 03 51 31.0 -0.4
comp=Z,43nm,1.0s
Q44A Meyer Farm, Va 23.29 10 P P 03 51 30.2 -1.2
baz=192
CBKS Cedar Bluff 23.36 349 eP P 03 51 32.5 +0.4
CBKS Cedar Bluff 23.36 349 eP P 03 51 32.5 +0.4
CBKS Cedar Bluff 23.36 349 P P 03 51 32.3 +0.2
baz=166,SNR=20
214A Organ Pipe Nat 23.43 316 P P 03 51 31.8 -1.0
baz=129
Q45A Warren Harvey, 23.43 11 P P 03 51 32.2 -0.5
baz=194,SNR=5.1
X18A Snowflake 23.45 325 eP P 03 51 35.9 +2.7
comp=Z,58nm,0.9s
U55A TA2, Sparta 23.48 27 P P 03 51 32.4 -0.8
baz=213
R48A Northridge Ran 23.48 16 P P 03 51 32.4 -0.7
baz=200
R49A Shelbyville 23.58 17 P P 03 51 33.4 -0.6
baz=202
W18A Petrified Fore 23.77 326 eP P 03 51 38.7 +2.7
comp=Z,39nm,1.0s
W18A Petrified Fore 23.77 326 P P 03 51 36.1 +0.1
baz=140,SNR=25
P42A Winchester 23.77 7 eP P 03 51 35.6 -0.1
comp=Z,22nm,0.8s
P42A Winchester 23.77 7 P P 03 51 35.6 -0.1
baz=189
P41A Barry, Barry 23.79 6 P P 03 51 34.7 -1.1
baz=187,SNR=5.1
SDV Santo Domingo 23.80 104 eP P 03 51 35.6 -0.9
comp=Z,12nm,0.7s
SDV Santo Domingo 23.80 104 P P 03 51 34.3 -2.2
comp=Z,11nm,0.7s,baz=323,slow=5.1,SNR=8.3
SDV LR LR 04 01 03.8
comp=Z,145nm,20.9s,baz=266,slow=37
SDV Santo Domingo 23.80 104 eP P 03 51 38.5 +2.0
R50A Paris 23.82 19 P P 03 51 35.0 -1.2
baz=204
Q47A Bedord North L 23.85 15 P P 03 51 35.9 -0.5
baz=198
P44A Sand Creek, Wi 23.91 10 P P 03 51 35.6 -1.3
baz=193
P43A Skaggs, Pawnee 23.93 8 P P 03 51 36.8 -0.4
baz=191
CNNC Cliffs of the 24.01 34 eP P 03 51 38.5 +0.6
comp=Z,180nm,1.3s
CNNC Cliffs of the 24.01 34 P P 03 51 37.2 -0.6
baz=221
SDCO Great Sand Dun 24.01 337 eP P 03 51 40.3 +2.1
comp=Z,26nm,1.0s
SDCO Great Sand Dun 24.01 337 P P 03 51 39.0 +0.8
baz=152,SNR=36
Q48A North Vernon 24.02 16 P P 03 51 37.2 -0.7
baz=200
R51A Hillsboro 24.08 20 P P 03 51 38.4 -0.1
baz=205
T55A Pulaski 24.11 26 P P 03 51 38.6 -0.3
baz=212
P45A Graceland, Par 24.12 12 P P 03 51 38.9 +0.1
baz=195
X16A Lo Mia Camp, P 24.21 323 eP P 03 51 42.8 +2.9
comp=Z,36nm,1.0s
KSCO Kaye Shedlock' 24.22 343 eP P 03 51 41.7 +1.8
comp=Z,62nm,0.8s
KSCO Kaye Shedlock' 24.22 343 P P 03 51 40.1 +0.2
baz=160,SNR=12
O41A Passleys Farm, 24.24 6 P P 03 51 40.2 +0.3
baz=187
Q49A Aurora 24.32 17 P P 03 51 40.5 -0.1
baz=202

P46A **Rosedale** 24.32 13 P P 03 51 40.8 +0.2
baz=196
BLA **Blacksburg** 24.35 27 *e*pP pP 03 52 01.7 +2.1
BLA **Blacksburg** 24.35 27 P P 03 51 40.1 -0.9
baz=213
P47A **Martinsville** 24.41 14 P P 03 51 40.2 -1.2
baz=198
S22A **4UR Ranch, Cre** 24.53 335 *e*P P 03 51 45.4 +2.4
comp=Z,12nm,0.8s
S22A **4UR Ranch, Cre** 24.53 335 P P 03 51 44.1 +1.1
baz=149,SNR=25
113A **Mohawk Valley,** 24.57 317 *e*P P 03 51 45.8 +2.8
comp=Z,59nm,0.9s
P48A **Milroy** 24.60 16 P P 03 51 42.6 -0.6
baz=200
O44A **Mansfield** 24.60 10 P P 03 51 43.1 -0.1
baz=193
MVCO **Mesa Verde** 24.81 331 *e*P P 03 51 47.9 +2.5
comp=Z,42nm,0.9s
MVCO **Mesa Verde** 24.81 331 P P 03 51 46.0 +0.6
baz=145,SNR=30
Q51A **Peebles** 24.81 20 *e*P P 03 51 44.8 -0.4
comp=Z,22nm,1.0s
Q51A **Peebles** 24.81 20 P P 03 51 44.8 -0.4
baz=205
Y14A **Wickenburg** 24.82 320 *e*P P 03 51 47.8 +2.4
comp=Z,55nm,1.3s
N41A **Harden Midland** 24.83 6 P P 03 51 44.8 -0.5
baz=187
P49A **Miami Univ. Ec** 24.86 17 P P 03 51 45.1 -0.5
baz=202
HDIL **Hopedale** 24.87 8 *e*P P 03 51 46.0 +0.4
comp=Z,68nm,0.7s
HDIL **Hopedale** 24.87 8 P P 03 51 45.8 +0.2
baz=191
N40A **Mertquake, Sal** 24.95 4 P P 03 51 46.6 +0.3
baz=186
Q24A **Divide** 24.96 339 *e*P P 03 51 49.3 +2.4
comp=Z,14nm,1.1s
Q24A **Divide** 24.96 339 P P 03 51 47.8 +0.9
baz=154,SNR=5.3
WUAZ **Wupatki** 24.96 325 *e*P P 03 51 49.5 +2.7
comp=Z,49nm,1.0s
WUAZ **Wupatki** 24.96 325 P P 03 51 46.9 +0.1
baz=138,SNR=44
Q52A **Bidwell** 25.13 22 P P 03 51 47.0 -1.1
baz=207
O47A **Sheridan** 25.14 14 P P 03 51 47.0 -1.1
baz=198
P50A **Jamestown** 25.20 19 P P 03 51 47.5 -1.2
baz=204
N43A **Stutzman Famil** 25.26 8 P P 03 51 48.6 -0.6
baz=191
N44A **Piper City** 25.28 10 P P 03 51 48.8 -0.6
baz=193
P51A **Williamsport** 25.32 20 P P 03 51 48.9 -0.9
baz=205
O48A **Farmland** 25.42 16 P P 03 51 50.0 -0.6
baz=200
GLA **Glamis** 25.44 316 *e*P P 03 51 53.7 +2.7
GLA **Glamis** 25.44 316 *e*P P 03 51 53.7 +2.7
GLA **Glamis** 25.44 316 P P 03 51 50.1 -0.9
baz=128
N45A **Kentland** 25.45 11 P P 03 51 49.6 -1.3
baz=195
M40A **Post Highland** 25.47 4 P P 03 51 50.4 -0.7
baz=186,SNR=6.7
M39A **Webster** 25.50 3 P P 03 51 50.5 -0.9
baz=184
M41A **Milan** 25.52 6 P P 03 51 50.7 -0.9
baz=188
O49A **Covington** 25.58 17 *e*P P 03 51 51.1 -1.0
comp=Z,11nm,0.7s
O49A **Covington** 25.58 17 P P 03 51 50.7 -1.4
baz=202
PV01 **Paradox Valley** 25.60 333 *e*P P 03 51 55.4 +2.8
comp=Z,32nm,0.9s
BGNE **Belgrade** 25.64 353 P P 03 51 51.4 -1.3
baz=171
N46A **Monticello** 25.65 13 P P 03 51 51.4 -1.3
baz=196
Y12C **Blythe** 25.67 317 *e*P P 03 51 55.9 +2.8
comp=Z,11nm,0.8s
Y12C **Blythe** 25.67 317 P P 03 51 52.9 -0.1
baz=129
PV13 **Radium Mtn., P** 25.73 332 *e*P P 03 51 56.4 +2.6
comp=Z,51nm,0.8s
PV15 **Paradox Valley** 25.73 333 *e*P P 03 51 57.2 +3.4
comp=Z,35nm,1.1s
PV02 **Paradox Valley** 25.73 332 *e*P P 03 51 57.0 +3.2
comp=Z,64nm,1.1s
O50A **Cable** 25.75 18 P P 03 51 52.4 -1.2
baz=204
P52A **Corning** 25.77 21 P P 03 51 52.9 -0.9
baz=207
PDMCI **Parker Dam,Lak** 25.78 319 P P 03 51 52.3 -1.7
baz=131
M43A **Waltham Townsh** 25.78 9 P P 03 51 53.5 -0.3
baz=191
PV05 **Paradox Valley** 25.79 332 *e*P P 03 51 57.0 +2.7
comp=Z,42nm,0.9s
PV05 *e*pP **pP** 03 52 16.5 +3.6
SMCO **Snowmass** 25.82 336 *e*P P 03 51 57.4 +2.6
comp=Z,32nm,1.0s
PV03 **Paradox Valley** 25.82 332 *e*P P 03 51 57.3 +2.7
comp=Z,51nm,1.0s
PV12 **Saucer Basin,** 25.85 332 *e*P P 03 51 57.8 +2.9
comp=Z,71nm,0.9s
N47A **Urbana** 25.87 14 P P 03 51 53.8 -0.9
baz=199
PV11 **David Mesa, Pa** 25.87 332 *e*P P 03 51 57.7 +2.7
comp=Z,39nm,0.8s
ISCO **Idaho Springs** 25.87 339 *e*P P 03 51 57.2 +2.1
comp=Z,14nm,0.8s
ISCO **Idaho Springs** 25.87 339 *e*P P 03 51 57.2 +2.1
ISCO pmax pmax
comp=Z,14nm,0.8s
ISCO **Idaho Springs** 25.87 339 P P 03 51 55.7 +0.6
baz=154,SNR=20
PV07 **Paradox Valley** 25.88 333 *e*P P 03 51 58.1 +2.9
comp=Z,42nm,1.0s
OGNE **Ogallala** 25.89 346 *e*P P 03 51 56.7 +1.7
comp=Z,96nm,1.0s
OGNE *e*pP **pP** 03 52 16.3 +2.5
OGNE **Ogallala** 25.89 346 P P 03 51 55.5 +0.4
baz=162
PV17 **East Wray Mesa** 25.89 332 *e*P P 03 51 57.6 +2.4
comp=Z,48nm,1.1s
SCIA **State Center** 25.89 1 P P 03 51 54.8 -0.2
baz=182
PV16 **Nyswonger Mesa** 25.90 332 *e*P P 03 51 57.9 +2.6
comp=Z,46nm,1.1s
P53A **Whipple** 25.91 23 P P 03 51 54.6 -0.5
baz=209
PV19 **Morning Glory** 25.93 332 *e*P P 03 51 58.5 +2.9
comp=Z,45nm,1.2s
PV20 **West Nyswonger** 25.95 332 *e*P P 03 51 58.4 +2.7
comp=Z,34nm,1.0s
PV04 **Paradox Valley** 25.96 332 *e*P P 03 51 58.5 +2.7
comp=Z,51nm,0.9s
PV14 **Lion Creek, Pa** 26.00 332 *e*P P 03 51 58.7 +2.5
comp=Z,50nm,1.2s
PV10 **Paradox Valley** 26.01 332 *e*P P 03 51 58.5 +2.1
comp=Z,36nm,1.0s
N48A **Decatur** 26.02 16 P P 03 51 54.7 -1.4
baz=200
ACSO **Alum Creek Sta** 26.02 19 P P 03 51 54.8 -1.3
baz=205
PV23 **Carpenter Ridg** 26.06 332 *e*P P 03 51 59.7 +2.9
comp=Z,52nm,0.9s
PV21 **Cone Mtn., Par** 26.13 333 *e*P P 03 52 00.2 +2.8
comp=Z,25nm,1.1s
U15A **North Rim** 26.13 325 *e*P P 03 52 00.1 +2.6
comp=Z,12nm,0.9s
L40A **Anamosa** 26.15 5 *e*P P 03 51 56.8 -0.4
comp=Z,27nm,1.1s
L40A *e*pP **pP** 03 52 18.0 +2.0
L40A **Anamosa** 26.15 5 P P 03 51 56.3 -0.9
baz=186
PV09 **Paradox Valley** 26.15 332 *e*P P 03 52 00.4 +2.8
L39A **Vinton** 26.15 3 P P 03 51 57.1 -0.2
baz=184
L41A **Preston** 26.22 6 P P 03 51 56.7 -1.2
baz=188
L42A **Oliver, Polo** 26.24 7 P P 03 51 56.1 -1.9
baz=190
O52A **Adamsville** 26.30 21 P P 03 51 56.8 -1.8
baz=207

K39A **Oelwein** 26.74 3 P P 03 52 01.1 -1.4
baz=185
K41A **Shullsburg** 26.77 6 P P 03 52 00.9 -1.9
baz=188
K40A **Colesburg** 26.79 5 P P 03 52 02.3 -0.7
baz=186,SNR=6.9
KNB **Kanab** 26.85 325 *e*P P 03 52 07.1 +3.2
comp=Z,14nm,0.9s
PKCU **Pink Cliffs** 26.89 326 *e*P P 03 52 08.4 +4.1
comp=Z,24nm,1.3s
N23A **Red Feather La** 26.96 340 *e*P P 03 52 07.2 +2.3
comp=Z,7.5nm,0.8s
N23A **Red Feather La** 26.96 340 P P 03 52 06.2 +1.3
baz=154
K42A **Prairie Point,** 27.05 7 P P 03 52 04.8 -0.5
baz=190
JFWS **Jewell Farm** 27.08 6 *e*P P 03 52 05.3 -0.3
comp=Z,28nm,1.1s
JFWS **Jewell Farm** 27.08 6 *e*P P 03 52 05.3 -0.3
JFWS pmax pmax
comp=Z,28nm,1.1s
JFWS **Jewell Farm** 27.08 6 P P 03 52 04.5 -1.1
baz=188
LCMT **Little Creek M** 27.09 324 *e*P P 03 52 08.8 +2.9
comp=Z,8.2nm,1.1s
O20A **White River Ci** 27.14 335 *e*P P 03 52 08.9 +2.4
comp=Z,12nm,0.9s
O20A **White River Ci** 27.14 335 P P 03 52 07.3 +0.8
baz=149,SNR=8.4
PHWY **Pilot Hill** 27.17 341 *e*P P 03 52 09.5 +2.7
comp=Z,6.8nm,0.9s
PHWY *e*pP **pP** 03 52 29.1 +3.4
MTPU **Mount Pierson** 27.27 327 *e*P P 03 52 10.8 +3.0
comp=Z,16nm,1.0s
SRU **San Rafael Swe** 27.28 331 *e*P P 03 52 10.3 +2.6
comp=Z,8.9nm,1.0s
SRU **San Rafael Swe** 27.28 331 *e*P P 03 52 10.3 +2.6
SRU pmax pmax
comp=Z,9.0nm,1.0s
J39A **Decorah** 27.38 4 P P 03 52 06.3 -2.0
baz=185
SZCU **Shurtz Canyon** 27.42 326 *e*P P 03 52 12.2 +3.3
comp=Z,21nm,1.1s
Q16A **Castle Valley** 27.43 330 *e*P P 03 52 12.2 +3.1
comp=Z,27nm,1.3s
J40A **Soldiers Grove** 27.51 5 P P 03 52 07.9 -1.6
baz=187
CCUT **Cedar City** 27.54 325 *e*P P 03 52 13.6 +3.6
comp=Z,16nm,1.0s
J41A **Loganville** 27.55 6 P P 03 52 08.4 -1.4
baz=188
P18A **Preston Nutter** 27.57 332 *e*P P 03 52 13.2 +2.8
comp=Z,23nm,1.4s
ATAH **Atahualpa** 27.61 145 P P 03 52 10.7 -0.4
comp=Z,19nm,0.9s,baz=319,slow=7.8,SNR=7.6
MSU **Marysvale** 27.62 328 *e*P P 03 52 13.7 +2.9
MSU **Marysvale** 27.62 328 *e*P P 03 52 13.7 +2.9
P17A **Butcher Ranch,** 27.67 331 *e*P P 03 52 13.9 +2.7
comp=Z,15nm,0.9s
P17A *e*pP **pP** 03 52 33.6 +3.8
TMUT **Trail Mountain** 27.75 330 *e*P P 03 52 14.9 +2.9
comp=Z,8.6nm,0.8s
ECSD **EROS Data Cent** 27.80 356 *e*P P 03 52 11.4 -0.7
comp=Z,13nm,0.9s
ECSD **EROS Data Cent** 27.80 356 P P 03 52 11.3 -0.8
baz=175,SNR=14
SHPR **Sheep Range** 27.85 321 *e*P P 03 52 15.5 +2.7
comp=Z,25nm,1.3s
I39A **Houston** 27.91 4 *e*P P 03 52 12.6 -0.4
comp=Z,22nm,0.8s
I40A **Norwalk** 28.01 5 P P 03 52 13.5 -0.4
baz=187
RWWY **Rawlins** 28.10 339 *e*P P 03 52 17.8 +2.8
comp=Z,50nm,1.1s
RWWY *e*pP **sP** 03 52 39.5 -4.2
I42A **Draeger Farm,** 28.19 8 P P 03 52 14.6 -0.9
baz=190,SNR=5.3
I41A **Arkdale** 28.25 6 P P 03 52 15.8 -0.2
baz=188
PSUT **Pine Spring** 28.52 326 *e*P P 03 52 21.6 +2.9
comp=Z,13nm,1.0s
MPU **Maple Canyon** 28.52 331 *e*P P 03 52 21.4 +2.7
comp=Z,12nm,1.0s
NLU **North Lily Min** 28.68 330 *e*P P 03 52 23.1 +2.9
comp=Z,11nm,1.2s
H38A **Maiden Rock** 28.69 2 P P 03 52 19.4 -0.5
baz=184
ERPA **Erie** 28.73 22 P P 03 52 19.4 -0.8
baz=209
K22A **Casper** 28.73 340 *e*P P 03 52 22.7 +2.2
comp=Z,25nm,1.4s
K22A **Casper** 28.73 340 P P 03 52 20.1 -0.4
baz=155
H39A **Augusta** 28.74 4 P P 03 52 20.4 -0.1
baz=186
JLU **Jordanelle** 28.90 332 *e*P P 03 52 24.8 +2.7
comp=Z,4.9nm,0.8s
CTU **Camp Tracy** 29.11 331 *e*P P 03 52 26.8 +2.8
comp=Z,13nm,1.2s
G38A **Ridgeland** 29.20 3 P P 03 52 23.7 -0.7
baz=184
SPMN **Marine on St.** 29.22 2 *e*P P 03 52 24.2 -0.4
comp=Z,27nm,0.8s
SPMN **Marine on St.** 29.22 2 P P 03 52 24.0 -0.6
baz=182,SNR=11
DUG **Dugway, Tooele** 29.23 330 *e*P P 03 52 27.8 +2.9
comp=Z,10nm,1.3s
DUG **Dugway, Tooele** 29.23 330 *e*P P 03 52 27.8 +2.9
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG **Dugway, Tooele** 29.23 330 P P 03 52 24.4 -0.6
baz=141,SNR=6.1
TCUT **Toone Canyon** 29.30 332 *e*P P 03 52 28.6 +2.9
comp=Z,133nm,1.4s
R11A **Troy Canyon, C** 29.34 324 *e*P P 03 52 28.9 +2.9
comp=Z,9.5nm,1.3s
R11A **Troy Canyon, C** 29.34 324 P P 03 52 26.3 +0.3
baz=134,SNR=9.8
G39A **Holcombe** 29.36 4 P P 03 52 25.4 -0.4
baz=186
RSSD **Black Hills** 29.38 345 *e*P P 03 52 28.1 +1.8
comp=Z,9.9nm,0.8s
RSSD **Black Hills** 29.38 345 *e*P P 03 52 28.1 +1.8
RSSD pmax pmax
comp=Z,7.0nm,0.8s
RSSD **Black Hills** 29.38 345 P P 03 52 27.0 +0.7
baz=160
J52A **Paris** 29.55 20 P P 03 52 26.1 -1.5
baz=207
F37A **Hinrichs Farm,** 29.72 2 P P 03 52 28.2 -0.8
baz=183
HWUT **Hardware Ranch** 29.76 333 *e*P P 03 52 32.1 +2.4
comp=Z,6.2nm,1.0s
BGU **Big Grassy Mou** 29.89 330 *e*P P 03 52 33.6 +2.8
comp=Z,10nm,1.1s
BW06 **Boulder Array** 29.90 337 *e*P P 03 52 32.2 +1.3
comp=Z,11nm,1.2s
BW06 **Boulder Array** 29.90 337 P P 03 52 31.2 +0.2
baz=149,SNR=12
PD31 **Pinedale Array** 29.90 337 *e*P P 03 52 32.3 +1.3
comp=Z,8.0nm,1.1s
PD31 *e*PcP **PcP** 03 55 30.3 -1.8
PDAR **Pinedale Array** 29.90 337 *e*P P 03 52 31.7 +0.7
PDAR **Pinedale Array** 29.90 337 P P 03 52 32.4 +1.4
comp=Z,3.9nm,0.7s,baz=142,slow=8.0,SNR=36
PDAR PcP **PcP** 03 55 30.3 -1.8
comp=Z,0.4nm,0.6s,baz=157,slow=4.9,SNR=2.9
PDAR pPcP 03 55 51.4
comp=Z,1.2nm,0.7s,baz=150,slow=4.1,SNR=4.5
F38A **Pierce - Schro** 29.98 3 P P 03 52 31.0 -0.4
baz=184
HVU **Hansel Valley** 30.44 332 *e*P P 03 52 38.2 +2.5
comp=Z,20nm,0.9s
HVU **Hansel Valley** 30.44 332 *e*P P 03 52 38.2 +2.5
HVU pmax pmax
comp=Z,20nm,0.9s
AHID **Auburn Hatcher** 30.51 335 *e*P P 03 52 38.7 +2.3
comp=Z,40nm,1.3s
ELK **Elko** 30.86 327 *e*P P 03 52 42.2 +2.7
comp=Z,8.6nm,0.9s
ELK **Elko** 30.86 327 *e*P P 03 52 42.2 +2.7
ELK pmax pmax
comp=Z,9.0nm,0.9s
NV11 **Mina Array Sit** 30.91 321 *e*P P 03 52 43.1 +3.3
comp=Z,2.9nm,1.3s
REDW **Red Top Meadow** 30.91 336 *e*P P 03 52 41.9 +2.1
comp=Z,139nm,1.4s
SNOW **Snow King Moun** 30.95 336 *e*P P 03 52 42.5 +2.2

comp=Z,96nm,0.8s
NV01 **Mina Array Sit** 31.00 321 *e*P P 03 52 43.2 +2.5
NVAR **Mina Array Bea** 31.00 321 P P 03 52 43.1 +2.4
comp=Z,17nm,0.8s,baz=133,slow=9.0,SNR=26
NVAR pPcP 03 55 56.6
comp=Z,4.6nm,0.9s,baz=134,slow=3.9,SNR=5.5
NVAR LR LR 04 07 13.1
comp=Z,125nm,18.4s,baz=172,slow=40
LOHW **Long Hollow** 31.02 336 *e*P P 03 52 42.9 +2.0
comp=Z,40nm,1.0s
TPAW **Teton Pass** 31.06 336 *e*P P 03 52 42.4 +1.2
comp=Z,49nm,1.0s
MOOW **Moose Ponds** 31.19 336 *e*P P 03 52 44.3 +2.0
comp=Z,26nm,0.9s
FXWY **Fox Creek** 31.21 336 *e*P P 03 52 44.5 +2.0
comp=Z,21nm,0.9s
RYN **Ryan** 31.25 321 *e*P P 03 52 46.4 +3.5
comp=Z,8.7nm,0.9s
KVN **Kaiserville** 31.27 322 *e*P P 03 52 46.0 +2.9
comp=Z,19nm,1.2s
KVN **Kaiserville** 31.27 322 *e*P P 03 52 46.0 +2.9
KVN pmax pmax
comp=Z,19nm,1.2s
SADO **Sadowa** 31.35 20 LR LR 04 06 54.5
comp=Z,184nm,19.0s,baz=180,slow=39
IMW **Indian Meadow** 31.39 336 *e*P P 03 52 46.0 +1.9
comp=Z,17nm,0.9s
FLWY **Flagg Ranch** 31.46 337 *e*P P 03 52 47.0 +2.3
comp=Z,22nm,0.8s
YPP **Pitchstone Pla** 31.66 337 *e*P P 03 52 49.2 +2.7
comp=Z,11nm,1.2s
H17A **Grant Village** 31.68 337 *e*P P 03 52 49.5 +2.9
comp=Z,19nm,1.1s
H17A **Grant Village** 31.68 337 P P 03 52 46.6 0.0
baz=149,SNR=12
BMN **Battle Mountai** 31.70 325 *e*P P 03 52 50.0 +3.2
comp=Z,14nm,1.0s
BMN *e*pP **pP** 03 53 09.4 +3.7
BMN **Battle Mountai** 31.70 325 *e*P P 03 52 50.0 +3.2
BMN *e**PP **pP** 03 53 09.4 +3.7
BMN pmax pmax
comp=Z,14nm,1.0s
WAKR **Walker** 31.73 320 *e*P P 03 52 50.5 +3.3
comp=Z,19nm,1.3s
LKWY **Lake** 31.75 337 *e*P P 03 52 50.4 +3.1
comp=Z,24nm,1.0s
LKWY **Lake** 31.75 337 *e*P P 03 52 50.4 +3.1
LKWY pmax pmax
comp=Z,25nm,1.0s
YFT **Old Faithful** 31.82 337 *e*P P 03 52 51.8 +3.9
comp=Z,25nm,1.0s
RLMT **Red Lodge** 31.83 339 *e*P P 03 52 49.7 +1.7
comp=Z,57nm,1.5s
RLMT **Red Lodge** 31.83 339 P P 03 52 47.9 0.0
baz=152,SNR=21
YERR **Yerington** 31.91 321 *e*P P 03 52 51.9 +3.2
comp=Z,11nm,0.8s
YNR **Norris Junctio** 31.99 337 *e*P P 03 52 52.4 +3.1
comp=Z,12nm,0.9s
CMB **Columbia Colle** 32.05 318 *e*P P 03 52 51.8 +2.1
comp=Z,7.1nm,1.1s
CMB **Columbia Colle** 32.05 318 *e*P P 03 52 51.8 +2.1
CMB pmax pmax
comp=Z,7.0nm,1.1s
YMR **Madison River** 32.05 337 *e*P P 03 52 52.7 +2.8
comp=Z,40nm,0.9s
YHH **Holmes Hill** 32.11 337 *e*P P 03 52 53.3 +2.8
comp=Z,30nm,1.3s
MDND **Maddock** 32.17 353 *e*P P 03 52 51.0 +0.5
comp=Z,44nm,0.8s
MDND *e*pP **pP** 03 53 11.0 +1.3
MDND **Maddock** 32.17 353 P P 03 52 50.4 -0.2
baz=170,SNR=7.1
PNTR **Pine Nut** 32.20 321 *e*P P 03 52 54.8 +3.6
comp=Z,10nm,0.8s
YHB **Horse Butte** 32.21 337 *e*P P 03 52 53.8 +2.5
comp=Z,7.2nm,0.8s
AGMN **Agassiz Nation** 32.31 358 *e*P P 03 52 51.1 -0.8
comp=Z,37nm,1.1s
AGMN **Agassiz Nation** 32.31 358 P P 03 52 51.0 -0.8
baz=177,SNR=17
LAO **LASA Array** 32.33 344 *e*P P 03 52 51.4 -0.7
comp=Z,32nm,1.3s
LAO **LASA Array** 32.33 344 P P 03 52 49.8 -2.3
baz=158
QLMT **Earthquake Lak** 32.37 336 *e*P P 03 52 55.9 +3.3
PAHR **Pah Rah Range** 32.46 322 *e*P P 03 52 56.7 +3.3
comp=Z,9.5nm,1.0s
RUBR **Rubicon Trail** 32.51 320 *e*P P 03 52 57.9 +3.9
comp=Z,23nm,1.0s
GCMT **Greycliff** 32.56 339 *e*P P 03 52 55.7 +1.5
HLID **Hailey** 32.59 332 *e*P P 03 52 56.7 +2.2
comp=Z,14nm,0.9s
HLID **Hailey** 32.59 332 P P 03 52 55.0 +0.5
baz=142,SNR=29
MCMT **McKenzie Canyo** 32.93 335 *e*P P 03 52 58.3 +0.8
BOZ **Bozeman (W)** 33.09 337 *e*P P 03 53 01.2 +2.3
comp=Z,23nm,1.3s
BOZ **Bozeman (W)** 33.09 337 *e*P P 03 53 01.2 +2.3
BOZ pmax pmax
comp=Z,23nm,1.3s
BOZ **Bozeman (W)** 33.09 337 P P 03 53 00.7 +1.8
baz=148,SNR=25
DLMT **Dillon** 33.27 336 *e*P P 03 53 03.1 +2.7
comp=Z,53nm,0.9s
DGMT **Dagmar** 33.52 348 *e*P P 03 53 03.5 +1.0
comp=Z,49nm,1.1s
DGMT **Dagmar** 33.52 348 P P 03 53 03.2 +0.7
baz=162,SNR=5.5
ORV **Oroville** 33.65 320 *e*P P 03 53 06.5 +2.9
comp=Z,7.9nm,1.2s
ORV *e*pP **pP** 03 53 27.2 +4.6
ORV **Oroville** 33.65 320 *e*P P 03 53 06.5 +2.9
ORV *e**PP **pP** 03 53 27.2 +4.6
ORV pmax pmax
comp=Z,8.0nm,1.2s
WVOR **Wild Horse Val** 33.85 326 *e*P P 03 53 07.2 +1.7
comp=Z,24nm,1.2s
WVOR **Wild Horse Val** 33.85 326 *e*P P 03 53 07.2 +1.7
WVOR pmax pmax
comp=Z,24nm,1.2s
HRY **Holter Researc** 34.11 338 *e*P P 03 53 09.6 +1.9
ULM **Lac du Bonnet** 34.27 358 *e*P P 03 53 07.6 -1.2
comp=Z,25nm,1.0s
ULM *e*pP **pP** 03 53 26.7 -1.3
ULM **Lac du Bonnet** 34.27 358 *e*P P 03 53 07.6 -1.2
ULM *e**PP **pP** 03 53 26.7 -1.3
ULM pmax pmax
comp=Z,25nm,1.0s
ULM **Lac du Bonnet** 34.27 358 P P 03 53 07.5 -1.2
comp=Z,18nm,0.9s,baz=177,slow=9.7,SNR=24
ULM LR LR 04 09 58.1
comp=Z,137nm,19.6s,baz=155,slow=41
O03E **Paynes Creek** 34.28 321 P P 03 53 09.5 +0.3
baz=128
MOD **Modoc Plateau** 34.41 324 *e*P P 03 53 12.2 +1.8
comp=Z,11nm,1.0s
J08A **Circle Bar Ran** 34.41 328 *e*P P 03 53 12.6 +2.3
comp=Z,33nm,1.0s
EGMT **Eagleton** 34.55 341 *e*P P 03 53 13.2 +1.8
comp=Z,66nm,1.4s
EGMT **Eagleton** 34.55 341 P P 03 53 12.0 +0.5
baz=153,SNR=14
BMO **Blue Mountains** 34.92 330 *e*P P 03 53 16.1 +1.5
comp=Z,16nm,1.4s
BMO **Blue Mountains** 34.92 330 *e*P P 03 53 16.1 +1.5
BMO pmax pmax
comp=Z,16nm,1.4s
MSO **Missoula** 35.01 336 *e*P P 03 53 16.8 +1.4
comp=Z,37nm,1.1s
MSO *e*pP **pP** 03 53 36.9 +2.4
MSO **Missoula** 35.01 336 P P 03 53 16.2 +0.8
baz=145,SNR=16
M04C **Macdoel** 35.21 323 P P 03 53 17.8 +0.6
baz=129,SNR=6.5
I07A **Izee** 35.45 328 *e*P P 03 53 21.1 +1.8
comp=Z,7.0nm,1.2s
M02C **Callahan** 35.57 321 P P 03 53 21.2 +0.9
baz=127
F10A **Beach Ranch, E** 35.73 332 *e*P P 03 53 23.0 +1.4
comp=Z,18nm,0.8s
L04D **Klamath Falls** 35.76 323 P P 03 53 22.4 +0.5
baz=129,SNR=5.3
PINE **Pine Mountain** 36.01 326 *e*P P 03 53 26.4 +2.3
PINE *e*pP **pP** 03 53 44.6 +1.3
G08A **Pilot Rock** 36.03 330 *e*P P 03 53 25.6 +1.4
comp=Z,6.7nm,1.3s

J04D	**Umpqua Nationa**	**36.29**	**324**	P		**P**	**03 53 27.7**	**+1.1**
	baz=130							
E09A	**Wood Farm, Sta**	**36.55**	**332**	*e*P		**P**	**03 53 30.4**	**+1.9**
	comp=Z,16nm,1.4s							
I05D	**Terrebonne, OR**	**36.59**	**326**	P		**P**	**03 53 29.5**	**+0.6**
	baz=132							
I04A	**Tendick Farm,**	**36.81**	**325**	P		**P**	**03 53 31.4**	**+0.6**
	baz=130							
WALA	**Waterton Lakes**	**36.84**	**338**	*e*P		**P**	**03 53 32.7**	**+1.7**
	comp=Z,20nm,1.1s							
G05D	**Wamic, OR**	**37.19**	**327**	P		**P**	**03 53 36.1**	**+2.2**
	baz=133							
I03D	**Drain, OR**	**37.28**	**324**	P		**P**	**03 53 35.8**	**+1.1**
	baz=129,SNR=5.5							
D08A	**Wollman Farm,**	**37.31**	**332**	*e*P		**P**	**03 53 36.4**	**+1.5**
	comp=Z,5.3nm,1.0s							
KEBM	**Edson Butte**	**37.34**	**322**	*e*P		P	03 53 41.5	+6.2
	comp=Z,56nm,1.1s							
PTGA	**Pitinga**	**37.41**	**113**	P		**P**	**03 53 34.3**	**-1.8**
	comp=Z,18nm,0.7s,baz=307,slow=9.8,SNR=44							
PTGA	**Pitinga**	**37.41**	**113**	*e*P		**P**	**03 53 35.1**	**-1.1**
CHGQ	**Chibougamau**	**37.42**	**21**	P		**P**	**03 53 35.9**	**+0.1**
	baz=212							
NEW	**Newport**	**37.45**	**334**	*e*P		**P**	**03 53 37.4**	**+1.3**
	comp=Z,9.3nm,1.0s							
NEW	**Newport**	**37.45**	**334**	*e*P		**P**	**03 53 37.4**	**+1.3**
NEW				pmax		pmax		
	comp=Z,9.0nm,1.0s							
NEW	**Newport**	**37.45**	**334**	P		**P**	**03 53 36.9**	**+0.8**
	baz=142,SNR=7.6							
NEW	**Newport**	**37.45**	**334**	LR		LR	04 12 19.5	
	comp=Z,115nm,18.7s,baz=148,slow=41							
H04D	**Lebanon**	**37.46**	**326**	P		**P**	**03 53 36.7**	**+0.5**
	baz=131							
C09A	**Chrisman Ranch**	**37.58**	**333**	*e*P		**P**	**03 53 38.8**	**+1.6**
	comp=Z,40nm,1.4s							
C09A				*e*pP		**pP**	**03 53 58.2**	**+1.7**
I02D	**Swisshome**	**37.81**	**324**	P		**P**	**03 53 39.8**	**+0.7**
	baz=129							
G03D	**McMinnville, O**	**38.19**	**326**	P		**P**	**03 53 42.8**	**+0.5**
	baz=131							
LTY	**Liberty**	**38.27**	**330**	*e*P		**P**	**03 53 44.8**	**+1.6**
	comp=Z,20nm,1.4s							
B08A	**Colville Reser**	**38.47**	**333**	*e*P		**P**	**03 53 46.7**	**+2.0**
	comp=Z,8.8nm,1.4s							
LON	**Longmire**	**38.47**	**329**	*e*P		**P**	**03 53 46.8**	**+2.0**
	comp=Z,5.0nm,0.8s							
LON	**Longmire**	**38.47**	**329**	*e*P		**P**	**03 53 46.8**	**+2.0**
LON				pmax		pmax		
	comp=Z,5.0nm,0.8s							
E04D	**Cinebar**	**38.72**	**328**	P		**P**	**03 53 46.3**	**-0.4**
	baz=133							
FFC	**Flin Flon**	**39.21**	**353**	*e*P		**P**	**03 53 51.1**	**+0.4**
	comp=Z,19nm,0.6s							
FFC	**Flin Flon**	**39.21**	**353**	*i* P		**P**	**03 53 51.2**	**+0.4**
D03D	**Eldon**	**39.65**	**329**	P		**P**	**03 53 53.9**	**-0.5**
	baz=133							
B05A	**Bryant**	**39.67**	**330**	P		**P**	**03 53 55.1**	**+0.5**
	baz=135							
A04D	**Lummi Island**	**40.28**	**330**	P		**P**	**03 54 00.9**	**+1.3**
	baz=135							
LPAZ	**La Paz**	**40.91**	**140**	*e*P		**P**	**03 54 05.5**	**-0.5**
	comp=Z,5.8nm,0.8s							
LPAZ	**La Paz**	**40.91**	**140**	*e*P		**P**	**03 54 05.5**	**-0.5**
LPAZ				pmax		pmax		
	comp=Z,6.0nm,0.8s							
LPAZ	**La Paz**	**40.91**	**140**	P		**P**	**03 54 05.3**	**-0.7**
	comp=Z,6.9nm,0.9s,baz=337,slow=5.0,SNR=19							
LPAZ	**La Paz**	**40.91**	**140**	*e*P		**P**	**03 54 05.4**	**-0.5**
LLLB	**Lillooet**	**41.25**	**333**	*e*P		**P**	**03 54 09.8**	**+2.1**
	comp=Z,10.0nm,1.0s							
MNMC	**Minye Minye**	**42.28**	**145**	*e*P		**P**	**03 54 17.1**	**+0.3**
	comp=Z,54nm,0.8s							
FCC	**Fort Churchill**	**42.76**	**360**	*e*P		**P**	**03 54 19.1**	**-0.6**
	comp=Z,11nm,0.9s							
FCC	**Fort Churchill**	**42.76**	**360**	*e*P		**P**	**03 54 19.2**	**-0.6**
FCC				pmax		pmax		
	comp=Z,11nm,0.9s							
PB11	**IPOC Station P**	**42.76**	**145**	*e*P		**P**	**03 54 20.4**	**0.0**
	comp=Z,63nm,0.9s							
SCHQ	**Schefferville**	**44.11**	**22**	*e*P		**P**	**03 54 30.8**	**0.0**
	comp=Z,6.0nm,0.9s							
SCHQ	**Schefferville**	**44.11**	**22**	P		**P**	**03 54 30.8**	**0.0**
	comp=Z,5.3nm,1.0s,baz=233,slow=8.4,SNR=5.1							
SCHQ				LR		LR	04 13 37.4	
	comp=Z,185nm,19.7s,baz=212,slow=37							
SIV	**San Ignacio**	**45.38**	**133**	P		**P**	**03 54 40.5**	**-0.8**
	comp=Z,28nm,0.7s,baz=313,slow=8.1,SNR=150							
SIV				PcP		**PcP**	**03 56 19.9**	**+0.4**
	comp=Z,6.8nm,0.8s,baz=157,slow=2.3,SNR=3.5							
LVC	**Limon Verde**	**45.48**	**147**	*e*P		**P**	**03 54 43.4**	**+1.0**
	comp=Z,17nm,0.8s							
LVC	**Limon Verde**	**45.48**	**147**	*e*P		**P**	**03 54 43.4**	**+1.0**
LVC				pmax		pmax		
	comp=Z,17nm,0.8s							
LVC	**Limon Verde**	**45.48**	**147**	P		**P**	**03 54 42.8**	**+0.4**
	comp=Z,14nm,0.8s,baz=275,slow=5.5,SNR=12							
LVC	**Limon Verde**	**45.48**	**147**	*e*P		**P**	**03 54 43.1**	**+0.7**
GO02	**Mina Guanaco**	**47.24**	**149**	*e*P		**P**	**03 54 57.0**	**+0.8**
	comp=Z,29nm,0.6s							
YKA	**Yellowknife Ar**	**48.73**	**347**	P		**P**	**03 55 07.5**	**+0.8**
	comp=Z,20nm,0.6s,baz=152,slow=7.3,SNR=385							
YKA				pP		**pP**	**03 55 26.0**	**-0.8**
	comp=Z,20nm,0.9s,baz=155,slow=6.8,SNR=11							
YKB5	**Yellowknife Ar**	**48.73**	**347**	*e*P		**P**	**03 55 06.5**	**-0.2**
YKB5				*e*pP		**pP**	**03 55 26.1**	**-0.8**
YKW3	**Yellowknife Ar**	**48.80**	**347**	*e*P		**P**	**03 55 07.6**	**+0.3**
	comp=Z,26nm,0.6s							
LCO	**Las Campanas**	**50.01**	**153**	*e*P		**P**	**03 55 17.4**	**+0.1**
	comp=Z,24nm,0.8s							
LCO	**Las Campanas**	**50.01**	**153**	*e*P		**P**	**03 55 17.4**	**+0.1**
LCO				pmax		pmax		
	comp=Z,24nm,0.8s							
LCO	**Las Campanas**	**50.01**	**153**	*e*P		**P**	**03 55 17.6**	**+0.3**
DLBC	**Dease Lake**	**50.13**	**336**	*e*P		**P**	**03 55 21.0**	**+3.4**
	comp=Z,34nm,1.2s							
FRB	**Frobisher Bay**	**50.89**	**14**	LR		LR	04 19 21.6	
	comp=Z,92nm,18.9s,baz=224,slow=39							
TAOE	**Nuku Hiva Isla**	**51.95**	**245**	*e*LR		LR	04 10 16.8	
	comp=Z,156nm,27.0s							
TAOE	**Nuku Hiva Isla**	**51.95**	**245**	*e*T		T	04 50 25.2	
	comp=Z,23nm,0.2s							
AQDB	**Aquidauana**	**52.15**	**133**	*e*P		**P**	**03 55 31.2**	**-1.9**
ROC1	**El Roble**	**53.34**	**156**	*e*P		**P**	**03 55 40.8**	**-1.2**
	comp=Z,20nm,0.7s							
PEL	**Peldehue**	**53.62**	**156**	*e*P		**P**	**03 55 43.9**	**+0.1**
	comp=Z,18nm,0.8s							
PEL	**Peldehue**	**53.62**	**156**	*e*P		**P**	**03 55 43.9**	**+0.1**
PEL				pmax		pmax		
	comp=Z,18nm,0.8s							
GO05	**Huala**	**54.81**	**158**	*e*P		**P**	**03 55 52.5**	**+0.1**
	comp=Z,46nm,0.9s							
CPUP	**Villa Florida**	**55.06**	**139**	*e*P		**P**	**03 55 52.9**	**-1.4**
	comp=Z,11nm,0.9s							
CPUP				*e*pP		**pP**	**03 56 13.8**	**-0.8**
CPUP	**Villa Florida**	**55.06**	**139**	*e*P		**P**	**03 55 52.9**	**-1.4**
CPUP				*e**PP		**pP**	**03 56 13.8**	**-0.8**
CPUP				pmax		pmax		
	comp=Z,11nm,0.9s							
CPUP	**Villa Florida**	**55.06**	**139**	P		**P**	**03 55 52.6**	**-1.8**
	comp=Z,7.6nm,0.8s,baz=325,slow=7.1,SNR=16							
CPUP				pP		**pP**	**03 56 13.8**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=347,slow=9.7,SNR=2.3							
CPUP	**Villa Florida**	**55.06**	**139**	*e*P		**P**	**03 55 52.8**	**-1.6**
BDFB	**Brasilia**	**55.14**	**122**	*e*P		**P**	**03 55 54.5**	**-0.7**
BDFB	**Brasilia**	**55.14**	**122**	*e*P		**P**	**03 55 54.5**	**-0.7**
BDFB	**Brasilia**	**55.14**	**122**	P		**P**	**03 55 53.9**	**-1.3**
	comp=Z,23nm,0.8s,baz=296,slow=8.5,SNR=43							
ITRB	**Iturama**	**55.59**	**128**	*e*P		**P**	**03 55 56.3**	**-2.0**
TRCB	**Terra Rica**	**55.82**	**133**	*e*P		**P**	**03 55 57.4**	**-2.5**
RKT	**Rikitea**	**55.83**	**227**	*e*T		T	04 55 22.0	
	comp=Z,6.8nm,0.3s							
IPMB	**Ipameri, GO**	**56.26**	**125**	*e*P		**P**	**03 56 01.5**	**-1.6**
PTGB	**Pitanga**	**57.45**	**134**	*e*P		**P**	**03 56 09.3**	**-2.1**
BB19B	**Bebedouro**	**57.78**	**128**	*e*P		**P**	**03 56 12.2**	**-1.6**
PMNB	**Patos De Minas**	**57.97**	**124**	*e*P		**P**	**03 56 12.8**	**-2.4**
INK	**Inuvik**	**58.07**	**344**	*e*P		**P**	**03 56 15.7**	**+0.7**
	comp=Z,36nm,1.3s							
INK	**Inuvik**	**58.07**	**344**	*e*P		**P**	**03 56 15.7**	**+0.7**
INK				pmax		pmax		
	comp=Z,36nm,1.3s							
INK	**Inuvik**	**58.07**	**344**	LR		LR	04 25 04.5	
	comp=Z,106nm,18.2s,baz=120,slow=40							
EGAK	**Eagle**	**58.23**	**338**	*e*P		**P**	**03 56 17.2**	**+1.0**
	comp=Z,3.6nm,0.9s							
FRTB	**Fartura**	**58.37**	**131**	*e*P		**P**	**03 56 17.1**	**-0.7**
DOT	**Dot Lake**	**58.70**	**336**	*e*P		**P**	**03 56 21.6**	**+2.0**
	comp=Z,6.0nm,0.9s							
DOT				*e*pP		**pP**	**03 56 41.5**	**+1.3**
RES	**Resolute Bay**	**58.76**	**360**	*e*P		**P**	**03 56 19.2**	**-0.5**
	comp=Z,8.0nm,0.8s							
RES	**Resolute Bay**	**58.76**	**360**	*e*P		**P**	**03 56 19.2**	**-0.5**
RES				pmax		pmax		
	comp=Z,8.0nm,0.8s							
RES	**Resolute Bay**	**58.76**	**360**	LR		LR	04 23 28.6	
	comp=Z,78nm,21.2s,baz=234,slow=38							
MCI8	**Montes Claros**	**59.02**	**121**	*e*P		**P**	**03 56 21.8**	**-0.7**
ITAB	**Concordia**	**59.05**	**136**	*e*P		**P**	**03 56 21.2**	**-1.2**
RIDG	**Independ'e Rid**	**59.05**	**336**	*e*P		**P**	**03 56 23.9**	**+1.8**
	comp=Z,15nm,1.2s							
MCI9	**Montes Claros**	**59.06**	**121**	*e*P		**P**	**03 56 21.8**	**-1.0**
GO06	**Curarrehue**	**59.08**	**160**	*e*P		**P**	**03 56 22.4**	**-0.2**
	comp=Z,18nm,1.1s							
MCI6	**Montes Claros**	**59.12**	**121**	*e*P		**P**	**03 56 21.8**	**-1.4**
RCLB	**Rio Claro- Sao**	**59.32**	**129**	*e*P		**P**	**03 56 23.4**	**-1.1**
SPB	**Sao Paulo**	**60.08**	**130**	*e*P		**P**	**03 56 28.9**	**-0.7**
	comp=Z,26nm,1.1s							
SPB	**Sao Paulo**	**60.08**	**130**	*e*P		**P**	**03 56 28.9**	**-0.7**
HDA	**Harding Lake**	**60.19**	**336**	*e*P		**P**	**03 56 31.0**	**+1.2**
	comp=Z,4.2nm,0.7s							
HDA				*e*pP		**pP**	**03 56 51.0**	**+0.6**
HDA	**Harding Lake**	**60.19**	**336**	P		**P**	**03 56 30.6**	**+0.8**
	baz=118,SNR=5.2							
PRP	**Porcupine Dome**	**60.19**	**338**	*e*P		**P**	**03 56 31.4**	**+1.5**
	comp=Z,6.9nm,0.8s							
IL1	**Eielson Array**	**60.33**	**337**	*e*P		**P**	**03 56 31.4**	**+0.7**
ILAR	**Eielson Array**	**60.33**	**337**	P		**P**	**03 56 31.4**	**+0.7**
	comp=Z,3.8nm,1.0s,baz=164,slow=4.3,SNR=25							
ILAR				pP		**pP**	**03 56 51.0**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=132,slow=4.0,SNR=18							
ILAR				PP		**PP**	**03 58 44.9**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=108,slow=7.7,SNR=3.1							
ILAR				LR		LR	04 24 04.6	
	comp=Z,55nm,20.8s,baz=128,slow=37							
ILB	**Eielson Array**	**60.33**	**337**	*e*P		**P**	**03 56 31.8**	**+1.0**
	comp=Z,6.6nm,0.9s							
ILB				*e*pP		**pP**	**03 56 51.0**	**-0.3**
ILB				*e*PP		**PP**	**03 58 44.9**	**+0.5**
CPSB	**Cacapava Do Su**	**60.36**	**140**	*e*P		**P**	**03 56 29.7**	**-1.7**
PLCA	**Paso Flores**	**60.42**	**160**	*e*P		**P**	**03 56 31.9**	**+0.2**
	comp=Z,29nm,0.9s							
PLCA	**Paso Flores**	**60.42**	**160**	P		**P**	**03 56 31.9**	**+0.2**
	comp=Z,22nm,0.8s,baz=356,slow=8.1,SNR=36							
PLCA				LR		LR	04 16 14.5	
	comp=Z,114nm,21.1s,baz=69,slow=30							
PLCA	**Paso Flores**	**60.42**	**160**	*e*P		**P**	**03 56 31.8**	**+0.1**
RND	**Reindeer**	**60.49**	**335**	*e*P		**P**	**03 56 33.8**	**+1.8**
	comp=Z,14nm,1.0s							
RND	**Reindeer**	**60.49**	**335**	*e*P		**P**	**03 56 33.8**	**+1.8**
RND				pmax		pmax		
	comp=Z,14nm,1.0s							
BSCB	**Bom Sucesso**	**60.62**	**126**	*e*P		**P**	**03 56 32.9**	**-0.6**
POKR	**Poker Plat Res**	**60.70**	**337**	P		**P**	**03 56 34.1**	**+0.8**
	baz=118							
COLA	**College**	**60.75**	**337**	*e*P		**P**	**03 56 33.9**	**+0.4**
	comp=Z,5.5nm,1.0s							
COLA	**College**	**60.75**	**337**	*d i*P		**P**	**03 56 34.7**	**+1.2**
COLA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
COLA	**College**	**60.75**	**337**	*e*P		pP	03 56 54.6	+0.5
TCOL	**CIGO, UAF Yank**	**60.75**	**337**	P		**P**	**03 56 34.2**	**+0.6**
	baz=117							
BWN	**Browne**	**61.06**	**336**	*e*P		**P**	**03 56 37.0**	**+1.3**
	comp=Z,45nm,1.1s							
TRF	**Thorofare Moun**	**61.10**	**335**	*e*P		**P**	**03 56 37.6**	**+1.4**
	comp=Z,15nm,1.0s							
PLTB	**Pedras Altas**	**61.20**	**141**	*e*P		**P**	**03 56 35.7**	**-1.4**
CNLB	**Canela**	**61.27**	**137**	*e*P		**P**	**03 56 36.1**	**-1.6**
RCBR	**Riachuelo**	**61.38**	**106**	*e*P		**P**	**03 56 38.2**	**-0.5**
TRQA	**Torquist**	**61.52**	**152**	*e*P		**P**	**03 56 39.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**61.64**	**335**	*e*P		**P**	**03 56 40.8**	**+1.1**
	comp=Z,6.8nm,1.0s							
TER01	**Tubaro-SC**	**61.91**	**135**	*e*P		**P**	**03 56 40.9**	**-1.1**
ESAR	**Angra dos Reis**	**62.00**	**127**	*e*P		**P**	**03 56 42.7**	**+0.1**
TULEG	**Thule**	**62.01**	**6**	*e*P		**P**	**03 56 42.1**	**+0.2**
	comp=Z,9.7nm,0.9s							
SJMB	**Sao Joao De Ma**	**62.30**	**122**	*e*P		**P**	**03 56 44.3**	**-0.4**
COLD	**Coldfoot**	**62.66**	**339**	*e*P		**P**	**03 56 48.4**	**+2.1**
	comp=Z,3.9nm,1.2s							
COLD				*e*pP		**pP**	**03 57 07.9**	**+0.8**
TOLK	**Toolik Lake Re**	**63.08**	**340**	P		**P**	**03 56 50.0**	**+0.8**
	baz=117							
DUB01	**Friburgo-RJ**	**63.09**	**125**	*e*P		**P**	**03 56 49.5**	**-0.5**
RIB01	**Linhares ES**	**63.25**	**122**	*e*P		**P**	**03 56 50.5**	**-0.5**
ALF01	**Guarapari-ES**	**63.63**	**123**	*e*P		**P**	**03 56 53.1**	**-0.4**
PPT2	**Papeete2**	**64.14**	**241**	*e*LR		LR	04 15 45.4	
	comp=Z,114nm,24.5s							
TBI	**Tubuai**	**66.85**	**235**	*e*LR		LR	04 17 10.5	
	comp=Z,118nm,27.8s							
TBI	**Tubuai**	**66.85**	**235**	*e*T		T	05 09 08.6	
	comp=Z,2.8nm,0.3s							
DAG	**Danmarks Havn**	**71.23**	**14**	*i* P		**P**	**03 57 40.4**	**-0.2**
	comp=Z,8.8nm,0.8s							
DAG				*i*			03 58 01.0	
DAG	**Danmarks Havn**	**71.23**	**14**	*i* P		**P**	**03 57 40.4**	**-0.2**
DAG				*i*			03 58 01.0	
DAG				pmax		pmax		
	comp=Z,7.0nm,0.8s							
USHA	**Ushuaia**	**73.75**	**165**	P		**P**	**03 57 55.8**	**+0.1**
	comp=Z,17nm,1.1s,baz=324,slow=8.7,SNR=3.4							
EFI	**East Falkland**	**74.22**	**158**	*i* P		**P**	**03 57 57.5**	**-1.0**
EFI				pmax		pmax		
	comp=Z,59nm,1.2s							
ESDC	**Sonseca Array**	**80.00**	**52**	P		**P**	**03 58 31.5**	**0.0**
	comp=Z,1.1nm,0.7s,baz=293,slow=6.3,SNR=5.3							
NB2	**NORSAR Subarra**	**83.35**	**28**	P		**P**	**03 58 49.5**	**+0.8**
	comp=Z,2.2nm,0.8s,baz=293,slow=5.6							
NB200	**NORSAR Array S**	**83.35**	**28**	*e*P		**P**	**03 58 49.4**	**+0.8**
NOA	**NORSAR Array B**	**83.35**	**28**	P		**P**	**03 58 49.4**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=291,slow=5.2,SNR=16							
NOA				LR		LR	04 37 37.4	
	comp=Z,15nm,18.5s,baz=290,slow=37							
PMSA	**Palmer Station**	**83.63**	**168**	*e*P		**P**	**03 58 50.9**	**+1.3**
ARA0	**ARCESS Array S**	**84.89**	**18**	*e*P		**P**	**03 58 57.6**	**+1.3**
ARA0				*e*pP		**pP**	**03 59 17.4**	**-0.7**
ARCES	**ARCESS Array B**	**84.89**	**18**	P		**P**	**03 58 57.6**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=308,slow=4.8,SNR=17							
ARCES				pP		**pP**	**03 59 17.4**	**-0.7**
	comp=Z,3.5nm,0.5s,baz=304,slow=5.9,SNR=3.0							
DBIC	**Dimbokro**	**87.33**	**84**	LR		LR	04 39 19.2	
	comp=Z,37nm,18.0s,baz=236,slow=36							
DBIC	**Dimbokro**	**87.33**	**84**	*e*P		**P**	**03 59 11.2**	**+1.9**
CLL	**Collm**	**87.92**	**37**	*e*P		**P**	**03 59 12.0**	**+0.6**
TIXI	**Tiksi**	**87.98**	**348**	*i* P		**P**	**03 59 11.9**	**+0.6**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.1s							
TIXI	**Tiksi**	**87.98**	**348**	P		**P**	**03 59 11.3**	**0.0**
	comp=Z,1.2nm,0.2s,baz=8.4,slow=5.4,SNR=3.7							
TIXI				pP		**pP**	**03 59 31.4**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=86,slow=5.8,SNR=2.5							
PETK	**Petropavlovsk-**	**87.99**	**325**	LR		LR	04 39 00.8	
	comp=Z,30nm,18.9s,baz=93,slow=36							
MA2	**Magadan**	**88.53**	**333**	pP		pP	03 59 35.5	-0.5
	comp=Z,12nm,0.8s,baz=65,slow=5.9,SNR=4.3							
GEC2	**GERESS Array S**	**89.30**	**39**	*e*P		**P**	**03 59 18.0**	**-0.1**
	comp=Z,2.4nm,0.9s							
GEC2				*e*pP		**pP**	**03 59 39.0**	**-1.1**
GEC2	**GERESS Array S**	**89.30**	**39**	*e*P		**P**	**03 59 18.0**	**-0.1**
GEC2				*e**PP		**pP**	**03 59 39.0**	**-1.1**
GEC2				pmax		pmax		
	comp=Z,2.0nm,0.9s							
GERES	**GERESS Array B**	**89.30**	**39**	P		**P**	**03 59 18.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=305,slow=4.7,SNR=9.3							
GERES				pP		**pP**	**03 59 39.0**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=300,slow=2.6,SNR=3.4							
GERES				LR		LR	04 41 11.2	
	comp=Z,52nm,18.2s,baz=285,slow=37							
GEA0	**GERESS Array S**	**89.31**	**39**	*e*P		**P**	**03 59 18.1**	**0.0**
FIA0	**FINESS Array S**	**89.54**	**25**	*e*P		**P**	**03 59 18.9**	**+0.1**
FIA0				*e*pP		**pP**	**03 59 40.0**	**-0.7**
FIA0	**FINESS Array S**	**89.54**	**25**	*e*P		**P**	**03 59 18.9**	**+0.1**
FIA0				*e**PP		**pP**	**03 59 40.0**	**-0.7**
FINES	**FINESS Array B**	**89.54**	**25**	P		**P**	**03 59 18.9**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=336,slow=4.2,SNR=5.6							
FINES				pP		**pP**	**03 59 40.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=300,slow=3.2,SNR=3.5							
FINES				LR		LR	04 40 35.3	
	comp=Z,25nm,18.9s,baz=282,slow=36							
VSU	**Vasula**	**91.49**	**27**	*i* P		**P**	**03 59 27.3**	**-0.6**
VSU				pmax		pmax		
	comp=Z,11nm,1.0s							
TOA1	**Torodi Ar. Sit**	**91.74**	**76**	*e*P		**P**	**03 59 26.9**	**-3.1**
TORD	**Torodi Ar. Bea**	**91.75**	**76**	P		**P**	**03 59 26.9**	**-3.1**
	comp=Z,0.2nm,0.6s,baz=289,slow=4.7,SNR=4.3							
VYHS	**Vyhne**	**92.53**	**38**	*e*P		**P**	**03 59 33.2**	**+0.2**
VYHS	**Vyhne**	**92.53**	**38**	*e*P		**P**	**03 59 33.2**	**+0.2**
KLMR	**Klimovskoe**	**94.94**	**21**	*e*P		**P**	**03 59 42.9**	**-0.8**
KLMR				pmax		pmax		
	comp=Z,12nm,1.5s							
KLMR	**Klimovskoe**	**94.94**	**21**	*e*P		**P**	**03 59 43.0**	**-0.8**
KLMR				AMP			03 59 45.9	
	comp=Z,12nm,1.4s							
NRIK	**Noril'sk**	**94.95**	**359**	LR		LR	04 46 29.4	
	comp=Z,36nm,18.7s,baz=28,slow=38							
KIEV	**Kiev**	**97.13**	**32**	*i* P		**P**	**03 59 53.0**	**-0.9**
KIEV				pmax		pmax		
	comp=Z,1.0nm,0.9s							
AKASG	**Malin Array Be**	**97.13**	**32**	LR		LR	04 45 10.2	
	comp=Z,36nm,18.5s,baz=285,slow=36							
OBN	**Obninsk**	**97.80**	**26**	*e*P		**P**	**03 59 56.7**	**-0.1**
OBN				*PP		**pP**	**04 00 19.0**	**+0.2**
OBN				*e*			04 18 07.0	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,60nm,17.0s							
ULN	**Ulaanbaatar**	**113.77**	**345**	*i* PKIKP		PKPpre	04 04 48.4	
SONM	**Songino Array**	**113.97**	**345**	PKKPbc		PKKPbc	04 15 41.0	-2.8
	comp=Z,0.5nm,0.6s,baz=181,slow=3.0,SNR=3.9							
MK32	**Makanchi Array**	**117.47**	**3**	*e*PKPdf		**PKiKP**	**04 05 07.4**	**+0.2**
MK32				*ep*PKPdf		**pPKPdf**	**04 05 27.3**	**-2.7**
MKAR	**Makanchi Array**	**117.47**	**3**	PKP		**PKiKP**	**04 05 07.4**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=336,slow=3.2,SNR=2.3							
MKAR				pPKP		**pPKPdf**	**04 05 27.3**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=294,slow=1.2,SNR=5.8							
MKAR				PKKPbc		**PKKPbc**	**04 15 32.6**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=142,slow=6.1,SNR=3.8							
HHC	**Hu-ho-hao-te**	**118.75**	**338**	*e*PKP		**PKPdf**	**04 05 08.5**	**-1.5**
HHC				AMB		AMB		
	comp=Z,190nm,6.3s							
WMQ	**Urumqi**	**120.52**	**359**	*e*PKP		**PKiKP**	**04 05 13.5**	**+0.2**
WMQ				LR		LR		
	comp=Z,140nm,34.1s							
WMQ				LR		LR		
	comp=Z,140nm,34.1s							
WMQ				LR		LR		
	comp=Z,100nm,24.9s							
NJ2	**Nanjing**	**122.86**	**327**	*e*PKP		**PKiKP**	**04 05 19.1**	**+1.0**
BOSA	**Boshof**	**122.86**	**114**	PKP		**PKPdf**	**04 05 17.8**	**-0.4**
	comp=Z,3.7nm,0.8s,baz=287,slow=4.5,SNR=7.1							
BOSA				pPKP		**pPKPdf**	**04 05 39.6**	**-1.3**
	comp=Z,7.0nm,0.8s,baz=248,slow=1.3,SNR=5.7							
BOSA	**Boshof**	**122.86**	**114**	*e*P		**PKiKP**	**04 05 21.5**	**+3.2**
LBTB	**Lobatse**	**123.03**	**110**	PKP		**PKPdf**	**04 05 17.9**	**-0.6**
	comp=Z,4.1nm,0.9s,baz=313,slow=4.1,SNR=4.1							
LBTB				pPKP		**pPKPdf**	**04 05 40.2**	**-1.1**
	comp=Z,4.3nm,1.0s,baz=249,slow=7.6,SNR=2.5							
LZH	**Lanzhou**	**125

CLL				*e*Sg	**Sg**	**03 50 08.0**	**-0.7**
MOA	**Mollin**	**3.95**	**233**	Sg	**Sg**	**03 50 09.1**	**-1.5**
KBA	**Koelnbreinsper**	**4.93**	**231**	*e*Sn	**Sn**	**03 50 17.0**	**-0.1**
	0.8nm,0.4s						
KBA				Sg	**Sg**	**03 50 44.6**	**+2.5**
	1.2nm,0.5s						

IDC 12 03:57:05.3±2.3,50°44N×96°26E, *h*0km, mb1 2.7/1, mb1mx2.6/62, mbtmp2.7/1, ML2.2/1, Error ellipse: s-maj=65.6km s-min=18.4km az=11.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**7.14**	**107**	Pg	Pg	03 59 16.6	-5.4
	0.5nm,0.3s,baz=295,slow=17,SNR=8.4						
SONM				Lg	Lg	04 00 50.7	
	1.1nm,0.3s,baz=293,slow=30,SNR=12						
ZALV	**Zalesovo Beam**	**7.86**	**301**	Pg	Pb	03 59 27.9	+5.6
	0.1nm,0.3s,baz=108,slow=14,SNR=3.4						
ZALV				Lg	Lg	04 01 09.7	
	0.3nm,0.3s,baz=117,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**9.94**	**254**	Pg	Pn	04 00 07.6	+38
	0.1nm,0.3s,baz=65,slow=16,SNR=2.8						
MKAR				Lg	Lg	04 02 20.1	
	0.1nm,0.3s,baz=72,slow=34,SNR=2.7						
KURBB	**Kurchatov Arra**	**11.29**	**278**	Pn	Pn	03 59 47.4	-0.3
	0.0nm,0.3s,baz=88,slow=14,SNR=2.5						
KURBB				Lg	Lg	04 03 01.8	
	0.0nm,0.3s,baz=84,slow=33,SNR=3.0						

ISCJB 12 03:58:10.6±0.5,21°.41S±0°.09×68°.73E±0°.09, h10km, mb4.3/35, MS3.8/15, Error ellipse: s-maj=15.6km s-min=9.5km az=37.1
IDC 12 03:58:10.5±0.6,21°.40S×68°.62E, h0km, mb4.2/20, mb1 4.3/20, mb1mx4.1/53, mbtmp4.2/20, MS3.8/15, Ms1 3.8/15, ms1mx3.6/46, Error ellipse: s-maj=23.1km s-min=15.4km az=54.0
NEIC 12 03:58:12.8±1.4,21°.46S×68°.60E, h15km±2km, mb4.6/14, Error ellipse: s-maj=19.7km s-min=17.7km az=147.0
ISC 12 03:58:11.8±0.5,21°.5S±0°.1×68°.6E±0°.1, h10km, n73, σ0s94/61, mb4.5/35, MS3.9/15, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.26**	**16**	T	T	04 15 55.1	
	baz=196,slow=76,SNR=69						
H08S2	**Diego Garcia H**	**14.26**	**16**	T	T	04 15 52.5	
	baz=196,slow=76,SNR=204						
H08S3	**Diego Garcia H**	**14.27**	**16**	T	T	04 15 56.5	
	baz=196,slow=76,SNR=66						
OPO	**Ambohidratompo**	**20.30**	**274**	LR	LR	04 08 36.5	
	comp=Z,356nm,19.5s,baz=92,slow=31						
PALK	**Pallekele**	**30.95**	**24**	LR	LR	04 13 30.6	
	comp=Z,198nm,21.4s,baz=297,slow=30						
KMBO	**Kilima Mbogo**	**36.62**	**299**	LR	LR	04 17 57.4	
	comp=Z,124nm,19.1s,baz=110,slow=32						
PSI	**Prapat**	**38.27**	**55**	LR	LR	04 17 34.6	
	comp=Z,144nm,20.2s,baz=250,slow=30						
LBTB	**Lobatse**	**39.53**	**256**	LR	LR	04 19 11.7	
	comp=Z,235nm,19.6s,baz=100,slow=32						
BOSA	**Boshof**	**39.72**	**251**	*e*P	**P**	**04 05 42.1**	**-2.6**
	8.0nm,0.8s						
BOSA	**Boshof**	**39.72**	**251**	LR	LR	04 18 43.8	
	comp=Z,184nm,21.1s,baz=56,slow=31						
NWAO	**Narrogin (SRO)**	**44.41**	**115**	LR	LR	04 20 18.1	
	comp=Z,212nm,21.3s,baz=299,slow=30						
WSAR	**Wadi Sarin**	**45.49**	**347**	LR	LR	04 19 53.0	
	comp=Z,26nm,19.0s,baz=160,slow=29						
KSM	**Kuching**	**46.72**	**66**	*e*P	**P**	**04 06 38.6**	**-2.8**
	71nm,1.5s						
CM31	**Chiang Mai Arr**	**49.59**	**39**	*e*P	**P**	**04 07 03.5**	**0.0**
	10nm,1.4s						
CMAR	**Chiang Mai Arr**	**49.59**	**39**	P	**P**	**04 07 03.5**	**0.0**
	0.8nm,0.4s,baz=249,slow=6.3,SNR=4.6						
CMAR				LR	LR	04 24 28.0	
	comp=Z,77nm,21.8s,baz=212,slow=32						
FITZ	**Fitzroy Crossi**	**53.56**	**97**	P	**P**	**04 07 33.5**	**+0.2**
	6.5nm,0.9s,baz=240,slow=9.0,SNR=6.0						
ASAR	**Alice Springs**	**59.89**	**106**	P	**P**	**04 08 18.4**	**+0.1**
	3.5nm,0.8s,baz=262,slow=6.0,SNR=22						
ASAR				LR	LR	04 30 11.6	
	comp=Z,132nm,21.7s,baz=274,slow=32						
AS31	**Alice Springs**	**59.89**	**106**	*e*P	**P**	**04 08 18.4**	**+0.1**
	1.6nm,0.8s						
AS01	**Alice Springs**	**59.93**	**106**	*e*P	**P**	**04 08 18.0**	**-0.5**
WRA	**Warramunga Arr**	**61.11**	**102**	P	**P**	**04 08 26.6**	**0.0**
	4.7nm,1.0s,baz=261,slow=6.3,SNR=12						
WRA				LR	LR	04 31 45.3	
	comp=Z,113nm,20.4s,baz=135,slow=33						
WR1	**Warramunga Arr**	**61.11**	**102**	*e*P	**P**	**04 08 26.6**	**0.0**
	19nm,1.4s						
WB2	**Warramunga Arr**	**61.12**	**102**	*e*P	**P**	**04 08 27.6**	**+0.9**
STKA	**Stephens Creek**	**65.00**	**116**	P	**P**	**04 08 52.5**	**+0.2**
	1.9nm,0.7s,baz=295,slow=19,SNR=3.8						
STKA				LR	LR	04 33 32.1	
	comp=Z,75nm,20.1s,baz=207,slow=33						
QSPA	**South Pole Qui**	**68.64**	**180**	P	**P**	**04 09 16.3**	**+1.3**
	8.7nm,1.0s,baz=275,slow=2.2,SNR=12						
MK01	**Makanchi Array**	**69.05**	**10**	*e*P	**P**	**04 09 17.1**	**-0.5**
MK32	**Makanchi Array**	**69.07**	**10**	*e*P	**P**	**04 09 17.3**	**-0.4**
MKAR	**Makanchi Array**	**69.07**	**10**	P	**P**	**04 09 17.3**	**-0.4**
	0.4nm,0.6s,baz=191,slow=5.4,SNR=5.4						
BR101	**Keskin Array S**	**69.07**	**332**	*e*P	**P**	**04 09 19.1**	**+1.0**
BR131	**Keskin Array S**	**69.07**	**332**	*e*P	**P**	**04 09 19.2**	**+1.2**
	4.0nm,1.0s						
BRTR	**Keskin Array B**	**69.07**	**332**	P	**P**	**04 09 19.1**	**+1.0**
	2.2nm,0.8s,baz=149,slow=7.3,SNR=16						
VNDA	**Vanda**	**69.90**	**167**	P	**P**	**04 09 23.5**	**+1.0**
	1.2nm,0.9s,baz=276,slow=8.4,SNR=3.9						
ABKAR	**Akbulak array**	**70.83**	**354**	*e*P	**P**	**04 09 28.8**	**+0.4**
	4.7nm,1.0s						
AKTO	**Aktyubinsk**	**72.20**	**353**	P	**P**	**04 09 36.7**	**+0.1**
	1.6nm,0.8s,baz=200,slow=2.9,SNR=7.0						
KURBB	**Kurchatov Arra**	**72.31**	**7**	P	**P**	**04 09 37.3**	**-0.1**
	0.3nm,0.3s,baz=198,slow=7.6,SNR=4.4						
TORD	**Torodi Ar. Bea**	**74.10**	**291**	P	**P**	**04 09 47.9**	**-0.8**
	1.0nm,1.1s,baz=92,slow=3.6,SNR=4.8						
TOA1	**Torodi Ar. Sit**	**74.10**	**291**	*e*P	**P**	**04 09 47.9**	**-0.8**
BVAR	**Borovoye Array**	**74.20**	**1**	P	**P**	**04 09 48.1**	**-0.4**
	0.7nm,0.7s,baz=174,slow=1.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**76.41**	**10**	P	**P**	**04 10 00.4**	**-0.7**
	0.7nm,0.5s,baz=199,slow=7.7,SNR=4.1						
ZAA1	**Zalesovo Array**	**76.41**	**10**	*e*P	**P**	**04 10 00.4**	**-0.7**
SONA0	**Songino Array**	**76.89**	**25**	*e*P	**P**	**04 10 04.7**	**+0.5**
SONM	**Songino Array**	**76.89**	**25**	P	**P**	**04 10 04.7**	**+0.5**
	2.3nm,1.0s,baz=214,slow=5.8,SNR=7.3						
ULN	**Ulaanbaatar**	**77.18**	**25**	*e*P	**P**	**04 10 07.4**	**+1.6**
	5.3nm,1.1s						
AKASG	**Malin Array Be**	**79.80**	**336**	P	**P**	**04 10 20.2**	**+0.2**
	3.5nm,0.8s,baz=137,slow=4.7,SNR=18						
AKBB	**Malin Array Si**	**79.80**	**336**	*e*P	**P**	**04 10 20.3**	**+0.3**
	7.4nm,0.9s						
KIEV	**Kiev**	**79.80**	**336**	*e*P	**P**	**04 10 20.2**	**+0.3**
	7.7nm,1.0s						
AK11	**Malin Array Si**	**79.80**	**336**	*e*P	**P**	**04 10 20.4**	**+0.4**
KS15	**Wonju Array Si**	**80.91**	**44**	*e*P	**P**	**04 10 26.2**	**-0.1**
	9.0nm,1.1s						
KS01	**Wonju Array Si**	**80.93**	**44**	*e*P	**P**	**04 10 26.3**	**-0.1**
KSRS	**Korea Array**	**80.94**	**44**	P	**P**	**04 10 26.2**	**-0.2**
	3.5nm,1.1s,baz=222,slow=4.6,SNR=4.5						
KSRS				LR	LR	04 45 46.9	
	comp=Z,61nm,19.6s,baz=246,slow=35						
CONA	**Conrad Observa**	**83.68**	**327**	P	**P**	**04 10 41.8**	**+1.1**
	7.0nm,1.2s						
MOA	**Mollin**	**84.43**	**327**	P	**P**	**04 10 46.0**	**+1.6**
	4.4nm,1.0s						
ABTA	**Abfaltersbach**	**84.64**	**325**	*e*P	**P**	**04 10 47.0**	**+1.4**
	5.1nm,1.2s						
DPC	**Dobruska-Polom**	**85.08**	**329**	*e*P	**P**	**04 10 49.2**	**+1.5**
GEC2	**GERESS Array S**	**85.36**	**327**	*e*P	**P**	**04 10 49.5**	**+0.3**
	1.6nm,1.0s						
GERES	**GERESS Array B**	**85.36**	**327**	P	**P**	**04 10 49.5**	**+0.3**
	0.6nm,0.9s,baz=131,slow=4.1,SNR=3.5						
KHC	**Kasperske Hory**	**85.61**	**327**	*e*P	**P**	**04 10 51.2**	**+0.8**
MOTA	**Moosalm**	**85.77**	**325**	P	**P**	**04 10 53.6**	**+2.3**
	4.1nm,1.1s						
FETA	**Feichten**	**85.77**	**324**	P	**P**	**04 10 51.3**	**0.0**
	5.6nm,1.1s						
CLL	**Collm**	**87.29**	**329**	*e*P	**P**	**04 10 59.0**	**+0.5**
USRK	**Ussuriysk Ar.**	**87.31**	**40**	LR	LR	04 47 53.4	
	comp=Z,45nm,21.0s,baz=224,slow=34						
MAJO	**Matsushiro**	**87.40**	**49**	*e*P	**P**	**04 10 59.3**	**-0.1**
MJAR	**Matsushiro Arr**	**87.41**	**49**	P	**P**	**04 10 59.3**	**-0.1**
	1.1nm,0.3s,baz=232,slow=5.6,SNR=6.0						
MJAR				LR	LR	04 47 52.1	
	comp=Z,58nm,21.2s,baz=270,slow=34						
KLR	**Kul'dur**	**89.96**	**36**	P	**P**	**04 11 10.6**	**-0.6**
	2.8nm,0.8s,baz=254,slow=4.4,SNR=10						
ILAR	**Eielson Array**	**130.84**	**19**	PKP	**PKPdf**	**04 17 22.3**	**-0.5**
	0.2nm,0.8s,baz=299,slow=2.2,SNR=3.8						
ILB	**Eielson Array**	**130.84**	**19**	*e*PKPdf	**PKPdf**	**04 17 22.3**	**-0.5**
YKA	**Yellowknife Ar**	**138.95**	**2**	PKP	**PKPdf**	**04 17 37.2**	**-0.8**
	0.5nm,0.8s,baz=345,slow=2.4,SNR=8.1						
YKB5	**Yellowknife Ar**	**138.95**	**2**	*e*PKPdf	**PKPdf**	**04 17 37.2**	**-0.8**
MVL	**Millersville**	**144.94**	**310**	*e*PKPdf	**PKPab**	**04 17 47.4**	**-1.2**
ULM	**Lac du Bonnet**	**148.77**	**341**	PKPbc	**PKPdf**	**04 17 57.3**	**+1.8**
	2.0nm,0.7s,baz=63,slow=1.6,SNR=4.0						
PD31	**Pinedale Array**	**158.71**	**356**	*e*PKPdf	**PKPdf**	**04 18 10.0**	**-0.2**
PDAR	**Pinedale Array**	**158.71**	**356**	PKP	**PKPdf**	**04 18 10.0**	**-0.2**
	0.2nm,0.6s,baz=357,slow=1.8,SNR=2.9						
AHID	**Auburn Hatcher**	**158.77**	**359**	*e*PKPdf	**PKPdf**	**04 18 11.1**	**+0.9**
TXAR	**Lajitas Array**	**169.50**	**320**	PKPab	**PKPab**	**04 19 34.4**	**+1.2**
	1.4nm,1.0s,baz=60,slow=3.0,SNR=9.4						

ISCJB 12 04:07:39.2±0.4,21°.35S±0°.09×68°.79E±0°.08, h10km, mb4.2/24, MS3.5/3, Error ellipse: s-maj=13.3km s-min=10.7km az=20.6
IDC 12 04:07:39.4±0.6,21°.34S×68°.77E, h0km, mb4.1/17, mb1 4.2/17, mb1mx4.0/40, mbtmp4.1/17, MS3.6/3, Ms1 3.6/3, ms1mx3.1/40, Error ellipse: s-maj=18.6km s-min=16.2km az=14.0
NEIC 12 04:07:42.0±0.8,21°.36S×68°.80E, h15km±3km, mb4.4/12, Error ellipse: s-maj=19.9km s-min=17.0km az=211.0
ISC 12 04:07:40.9±0.5,21°.4S±0°.1×68°.8E±0°.1, h10km, n46, σ0s57/42, mb4.3/24, MS3.7/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**14.09**	**15**	T	T	04 25 25.7	
	baz=196,slow=76,SNR=32						
H08S2	**Diego Garcia H**	**14.09**	**15**	T	T	04 25 23.4	
	baz=196,slow=76,SNR=84						
H08S3	**Diego Garcia H**	**14.11**	**15**	T	T	04 25 24.5	
	baz=196,slow=76,SNR=32						
OPO	**Ambohidratompo**	**20.48**	**274**	LR	LR	04 18 30.7	
	comp=Z,291nm,18.2s,baz=164,slow=32						
KMBO	**Kilima Mbogo**	**36.72**	**299**	*e*P	**P**	**04 14 49.5**	**+0.7**
	2.5nm,1.0s						
KMBO	**Kilima Mbogo**	**36.72**	**299**	P	**P**	**04 14 49.5**	**+0.7**
	0.8nm,0.5s,baz=103,slow=20,SNR=3.0						
LBTB	**Lobatse**	**39.74**	**256**	*e*P	**P**	**04 15 14.3**	**+0.2**
	5.5nm,0.9s						
LBTB	**Lobatse**	**39.74**	**256**	P	**P**	**04 15 14.3**	**+0.2**
	1.8nm,0.8s,baz=119,slow=19,SNR=2.1						
BOSA	**Boshof**	**39.93**	**251**	P	**P**	**04 15 16.1**	**+0.4**
	5.6nm,1.0s,baz=132,slow=14,SNR=2.1						
BOSA				LR	LR	04 28 22.6	
	comp=Z,105nm,20.3s,baz=118,slow=31						
CM31	**Chiang Mai Arr**	**49.38**	**39**	*e*P	**P**	**04 16 30.6**	**-0.4**
	7.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.38**	**39**	P	**P**	**04 16 30.6**	**-0.4**
	1.6nm,0.3s,baz=243,slow=8.0,SNR=5.1						
ASAR	**Alice Springs**	**59.74**	**106**	P	**P**	**04 17 46.6**	**+0.2**
	2.2nm,0.9s,baz=261,slow=5.8,SNR=15						
AS31	**Alice Springs**	**59.74**	**106**	*e*P	**P**	**04 17 46.6**	**+0.2**
	1.2nm,1.0s						
AS01	**Alice Springs**	**59.78**	**106**	*e*P	**P**	**04 17 46.2**	**-0.5**
WR1	**Warramunga Arr**	**60.96**	**102**	*e*P	**P**	**04 17 55.0**	**+0.3**
	12nm,1.2s						
WRA	**Warramunga Arr**	**60.96**	**102**	P	**P**	**04 17 55.0**	**+0.2**
	2.1nm,0.9s,baz=261,slow=6.7,SNR=8.1						
STKA	**Stephens Creek**	**64.88**	**116**	*e*P	**P**	**04 18 20.4**	**-0.3**
	2.6nm,1.5s						
STKA	**Stephens Creek**	**64.88**	**116**	P	**P**	**04 18 20.4**	**-0.3**
	2.0nm,0.7s,baz=273,slow=4.1,SNR=3.3						
QSPA	**South Pole Qui**	**68.76**	**180**	*e*P	**P**	**04 18 45.6**	**+0.6**
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**04 18 44.9**	**-0.1**
	4.4nm,1.0s,baz=272,slow=4.5,SNR=6.1						
MK32	**Makanchi Array**	**68.92**	**10**	*e*P	**P**	**04 18 45.9**	**-0.1**
MKAR	**Makanchi Array**	**68.92**	**10**	P	**P**	**04 18 45.9**	**-0.1**
	0.4nm,0.7s,baz=204,slow=5.3,SNR=5.0						
BR101	**Keskin Array S**	**69.05**	**332**	*e*P	**P**	**04 18 47.4**	**+0.3**
BR131	**Keskin Array S**	**69.05**	**332**	*e*P	**P**	**04 18 47.8**	**+0.7**
	3.0nm,1.1s						
BRTR	**Keskin Array B**	**69.05**	**332**	P	**P**	**04 18 47.4**	**+0.3**
	1.5nm,0.8s,baz=153,slow=8.0,SNR=13						
BRTR				LR	LR	04 47 07.4	
	comp=Z,17nm,19.8s,baz=276,slow=34						
VNDA	**Vanda**	**69.98**	**167**	P	**P**	**04 18 52.3**	**+0.1**
	1.1nm,0.8s,baz=246,slow=4.6,SNR=3.6						
ABKAR	**Akbulak array**	**70.73**	**354**	*e*P	**P**	**04 18 57.1**	**+0.2**
	3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**74.22**	**291**	P	**P**	**04 19 17.3**	**-1.3**
	0.6nm,0.9s,baz=108,slow=4.8,SNR=4.0						
TOA1	**Torodi Ar. Sit**	**74.23**	**291**	*e*P	**P**	**04 19 17.3**	**-1.3**
ZALV	**Zalesovo Beam**	**76.25**	**10**	P	**P**	**04 19 29.3**	**-0.1**
	0.4nm,0.4s,baz=213,slow=6.9,SNR=3.4						
ZAA1	**Zalesovo Array**	**76.26**	**10**	*e*P	**P**	**04 19 29.3**	**-0.2**
SONA0	**Songino Array**	**76.70**	**25**	*e*P	**P**	**04 19 32.9**	**+0.6**
SONM	**Songino Array**	**76.70**	**25**	P	**P**	**04 19 32.9**	**+0.6**
	0.3nm,0.4s,baz=47,slow=24,SNR=6.3						
AKASG	**Malin Array Be**	**79.76**	**336**	P	**P**	**04 19 48.9**	**-0.1**
	4.4nm,0.9s,baz=138,slow=4.7,SNR=11						
AKBB	**Malin Array Si**	**79.76**	**336**	*e*P	**P**	**04 19 49.2**	**+0.2**
	3.6nm,0.9s						
KIEV	**Kiev**	**79.76**	**336**	*e*P	**P**	**04 19 48.9**	**0.0**
	3.5nm,0.9s						
AK11	**Malin Array Si**	**79.77**	**336**	*e*P	**P**	**04 19 48.8**	**-0.2**
KS15	**Wonju Array Si**	**80.69**	**44**	*e*P	**P**	**04 19 54.2**	**-0.1**
	16nm,1.4s						
KSRS	**Korea Array**	**80.72**	**44**	P	**P**	**04 19 54.2**	**-0.2**
	1.2nm,0.7s,baz=248,slow=4.4,SNR=4.7						
MAJO	**Matsushiro**	**87.18**	**49**	*e*P	**P**	**04 20 28.5**	**+0.9**
MJAR	**Matsushiro Arr**	**87.19**	**49**	P	**P**	**04 20 28.5**	**+0.9**
	2.1nm,0.8s,baz=212,slow=5.1,SNR=4.2						
YKA	**Yellowknife Ar**	**138.82**	**2**	PKP	**PKPdf**	**04 27 07.3**	**+0.3**
	0.4nm,0.8s,baz=342,slow=2.0,SNR=5.7						
YKB5	**Yellowknife Ar**	**138.82**	**2**	*e*PKPdf	**PKPdf**	**04 27 07.3**	**+0.3**
MVL	**Millersville**	**145.01**	**310**	*e*PKPbc	**PKPdf**	**04 27 18.4**	**-0.3**
ULM	**Lac du Bonnet**	**146.72**	**341**	PKPbc	**PKPbc**	**04 27 26.6**	**-1.8**
	1.5nm,0.8s,baz=8.1,slow=7.1,SNR=2.5						
TXAR	**Lajitas Array**	**169.52**	**321**	PKPab	**PKPab**	**04 29 02.5**	**0.0**
	0.8nm,1.0s,baz=66,slow=3.1,SNR=6.3						

ISCJB 12 04:11:14.2±0.3,24°.43N±0°.02×121°.99E±0°.02, h9km±2km, Error ellipse: s-maj=3.0km s-min=2.3km az=156.0
JMA 12 04:11:14.7,24°.40N×121°.94E, h28km, M2.3
TAP 12 04:11:14.6,24°.46N×121°.95E, h12km, ML3.1, B
ISC 12 04:11:14.1±0.9,24°.44N±0°.02×121°.99E±0°.02, h12km±7km, n59, σ0s55/91, 3C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.16**	**48**	⇓P	**Pb**	**04 11 19.1**	**-0.1**
	baz=53						
EOS1				S	**Sb**	**04 11 22.7**	**+2.3**
	baz=53						
TWC	**Suao**	**0.21**	**322**	⇑*i*P	**Pg**	**04 11 18.9**	**+0.2**
	baz=337						
TWC				*i* S	**Sg**	**04 11 21.3**	**-0.5**
	baz=337						
NANB	**Nanao**	**0.22**	**267**	⇓P	**Pg**	**04 11 19.0**	**+0.2**
	baz=268						
NANB				S	**Sg**	**04 11 21.8**	**-0.3**
	baz=268						
ENA	**Nanau**	**0.23**	**267**	⇓*i*P	**Pg**	**04 11 19.1**	**+0.1**
	baz=268						
ENA				S	**Sg**	**04 11 22.0**	**-0.3**
	baz=268						
ILA	**Ilan**	**0.39**	**325**	*e*P	**Pg**	**04 11 22.3**	**+0.3**
	baz=318						
EGS		**0.41**	**352**	*e*P	**Pg**	**04 11 22.6**	**+0.4**
	baz=358						
TWE	**Neicheng**	**0.41**	**313**	⇑P	**Pg**	**04 11 22.4**	**+0.2**
	baz=320						
TWE				S	**Sg**	**04 11 27.4**	**-0.2**
	baz=320						
NTC	**Toucheng**	**0.44**	**340**	*e*P	**Pg**	**04 11 22.9**	**+0.1**
	baz=353						
NACB	**Ninganchiao**	**0.45**	**234**	P	**Pg**	**04 11 23.1**	**+0.1**
	baz=230						
NACB				S	**Sg**	**04 11 29.2**	**+0.2**
	baz=230						
SLBB	**Yuanshan**	**0.45**	**314**	⇑*i*P	**Pb**	**04 11 23.6**	**-0.4**
	baz=318						
SLBB				*e*S	**Sg**	**04 11 29.5**	**+0.5**
	baz=318						
NDT	**Datong Townshi**	**0.47**	**290**	P	**Pg**	**04 11 23.8**	**+0.4**
	baz=290						
NDT				S	**Sg**	**04 11 29.1**	**-0.4**
	baz=290						
TWD	**Chiawan**	**0.51**	**225**	*e*P	**Pg**	**04 11 24.3**	**+0.2**
	baz=221						
TWD				*e*S	**Sg**	**04 11 31.2**	**+0.3**
	baz=221						
TWD	**Chiawan**	**0.51**	**225**	*e*S	**Pg**	**04 11 24.3**	**+0.2**
	baz=147						
ETLH	**Xiulin Townshi**	**0.52**	**244**	*e*P	**Pg**	**04 11 24.2**	**-0.1**
	baz=241						
ETLH				*e*S	**Sg**	**04 11 31.5**	**+0.2**
	baz=241						
TIPB	**Shuangxi**	**0.55**	**344**	*e*P	**Pg**	**04 11 25.3**	**+0.4**
	baz=353						
TIPB				*e*S	**Sg**	**04 11 32.7**	**+0.4**
	baz=353						
NNSB	**Datong**	**0.56**	**269**	*e*P	**Pg**	**04 11 25.0**	**0.0**
	baz=267						
NNSB				*e*S	**Sg**	**04 11 31.9**	**-0.6**
	baz=267						
NWLT	**Wulai**	**0.56**	**307**	*e*P	**Pb**	**04 11 25.6**	**-0.3**
	baz=300						
NWLT				*e*S	**Sg**	**04 11 32.5**	**0.0**
	baz=300						
NNS	**Nan Shan**	**0.57**	**270**	P	**Pg**	**04 11 25.2**	**0.0**
	baz=268						
NNS				S	**Sg**	**04 11 32.1**	**-0.6**
	baz=268						
YHNB	**Yeheng**	**0.61**	**292**	*e*P	**Pg**	**04 11 26.3**	**+0.4**
	baz=292						
YHNB				*e*S	**Sg**	**04 11 33.0**	**-1.0**
	baz=292						
NSK	**Sanguang**	**0.62**	**292**	*e*P	**Pg**	**04 11 26.4**	**+0.1**
	baz=292						
TWA	**Mucha**	**0.65**	**325**	*e*P	**Pb**	**04 11 27.5**	**0.0**
	baz=327						
TWA				*e*S	**Sb**	**04 11 36.1**	**-0.5**
	baz=327						
NWF	**Wu-fen Shan**	**0.66**	**343**	P	**Pb**	**04 11 28.0**	**+0.4**
	baz=333						
NWF				S	**Sb**	**04 11 37.0**	**+0.2**
	baz=333						
WFSB	**Wu-fen Shan**	**0.66**	**343**	P	**Pb**	**04 11 28.1**	**+0.6**
	baz=333						
WFSB				S	**Sb**	**04 11 36.9**	**+0.2**
	baz=333						
NHDH	**Xindian Distri**	**0.67**	**321**	*e*P	**Pb**	**04 11 27.7**	**-0.2**
	baz=314						
TATO	**Taipei**	**0.70**	**319**	*e*P	**Pb**	**04 11 28.7**	**+0.4**
	baz=309						
TATO				*e*S	**Sg**	**04 11 36.7**	**-0.3**
	baz=309						
WHF	**Hehuan Shan**	**0.73**	**246**	*e*P	**Pg**	**04 11 28.3**	**0.0**
	baz=244						
WHF				*e*S	**Sg**	**04 11 37.9**	**0.0**
	baz=244						
TDCB	**Techi**	**0.79**	**256**	*e*P	**Pb**	**04 11 29.6**	**-0.2**
	baz=255						
TDCB				*e*S	**Sg**	**04 11 39.0**	**-0.6**
	baz=255						
WLTB	**Daxi**	**0.79**	**301**	*e*P	**Pb**	**04 11 29.9**	**+0.1**
	baz=301						
WLTB				*e*S	**Sb**	**04 11 41.2**	**+0.7**
	baz=301						
YM01	**YM01**	**0.80**	**331**	*e*P	**Pn**	**04 11 30.6**	**-0.7**
	baz=332						
ESL	**Shilin**	**0.81**	**220**	*e*P	**Pg**	**04 11 29.2**	**-0.5**
	baz=225						
YM11	**YM11**	**0.82**	**332**	*e*P	**Pn**	**04 11 31.1**	**-0.5**
	baz=333						
YM05	**YM05**	**0.82**	**332**	*e*P	**Pb**	**04 11 30.9**	**+0.5**
	baz=332						
YM04	**YM04**	**0.82**	**330**	*e*P	**Pb**	**04 11 31.0**	**-0.6**
	baz=331						
YM08	**YM08**	**0.83**	**334**	*e*P	**Pb**	**04 11 30.5**	**0.0**
	baz=335						
CHGB	**Renai**	**0.84**	**243**	*e*P	**Pg**	**04 11 30.4**	**0.0**
	baz=252						
CHGB				*e*S	**Sg**	**04 11 41.5**	**+0.1**
	baz=252						
TWS1	**Kuangyinshan**	**0.84**	**322**	*e*P	**Pn**	**04 11 31.9**	**+0.1**
	baz=322						
JYNG	**Yonagunijimaku**	**0.87**	**89**	P	**Pb**	**04 11 31.4**	**+0.3**
JYNG				S	**Sb**	**04 11 42.9**	**+0.2**
NTST	**Danshui**	**0.88**	**326**	*e*P	**Pg**	**04 11 30.9**	**-0.2**
	baz=326						
OWD	**Renai**	**0.89**	**237**	*e*P	**Pg**	**04 11 31.1**	**-0.2**
	baz=230						
NSTT	**Nanjuang**	**0.92

*ISCJB **12** 04:21:13.9±0.4, 24°.43N±0°.02×121°.98E±0°.02, h7km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=42.2*
*TAP **12** 04:21:13.8, 24°.45N×121°.92E, h9km±1km, ML2.6, C*
*JMA **12** 04:21:14.4±0.1, 24°.39N×121°.94E, h27km*

ISC 12 04:21:13.9±0.9, 24°.44N±0°.02×121°.96E±0°.02, h19km±1km, n40, σ0§57/77, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.19**	**54**	P	**Pb**	**04 21 18.3**	**+0.3**
	baz=63						
EOS1				S	**Sg**	**04 21 22.3**	**+0.3**
	baz=63						
NANB	**Nanao**	**0.19**	**267**	P	**Pg**	**04 21 18.5**	**-0.3**
	baz=260						
NANB				S	**Sb**	**04 21 21.4**	**+0.5**
	baz=260						
TWC	**Suao**	**0.20**	**329**	*i* P	**Pb**	**04 21 18.0**	**-0.3**
	baz=338						
TWC				S	**Sb**	**04 21 20.8**	**-0.3**
	baz=338						
ENA	**Nanau**	**0.20**	**267**	*i* P	**Pb**	**04 21 18.4**	**+0.1**
	baz=260						
ENA				*i* S	**Sb**	**04 21 21.4**	**+0.2**
	baz=260						
TWE	**Neicheng**	**0.39**	**317**	*i* P	**Pg**	**04 21 21.9**	**-0.1**
	baz=320						
TWE				S	**Sg**	**04 21 27.1**	**-0.3**
	baz=320						
EGS		**0.41**	**356**	*e*P	**Pg**	**04 21 22.1**	**-0.2**
	baz=2.0						
EGS				*e*S	**Sb**	**04 21 29.6**	**+1.1**
	baz=2.0						
NACB	**Ninganchiao**	**0.42**	**232**	P	**Pg**	**04 21 22.3**	**-0.3**
	baz=227						
NACB				S	**Sb**	**04 21 28.7**	**-0.3**
	baz=227						
NTC	**Toucheng**	**0.43**	**344**	*i* P	**Pg**	**04 21 22.5**	**-0.3**
	baz=347						
NTC				*e*S	**Sb**	**04 21 29.9**	**+0.7**
	baz=347						
NDT	**Datong Townshi**	**0.44**	**292**	*i* P	**Pb**	**04 21 23.1**	**0.0**
	baz=291						
NDT				*i* S	**Sg**	**04 21 28.9**	**-0.1**
	baz=291						
TWD	**Chiawan**	**0.49**	**223**	P	**Pg**	**04 21 23.7**	**-0.1**
	baz=218						
TWD				S	**Sb**	**04 21 30.9**	**+0.2**
	baz=218						
ETLH	**Xiulin Townshi**	**0.49**	**242**	P	**Pg**	**04 21 23.6**	**-0.3**
	baz=238						
ETLH				S	**Sb**	**04 21 31.6**	**+0.6**
	baz=238						
NNSB	**Datong**	**0.53**	**269**	P	**Pb**	**04 21 24.6**	**0.0**
	baz=267						
NNSB				S	**Sb**	**04 21 31.9**	**0.0**
	baz=267						
NNS	**Nan Shan**	**0.54**	**270**	*i* P	**Pg**	**04 21 24.6**	**-0.1**
	baz=268						
NNS				S	**Sb**	**04 21 31.9**	**-0.2**
	baz=268						
NWLT	**Wulai**	**0.54**	**309**	*i* P	**Pb**	**04 21 24.8**	**+0.1**
	baz=309						
NWLT				*i* S	**Sg**	**04 21 31.9**	**0.0**
	baz=309						
TIPB	**Shuangxi**	**0.55**	**347**	*i* P	**Pg**	**04 21 24.9**	**0.0**
	baz=350						
TIPB				*e*S	**Sb**	**04 21 32.9**	**+0.6**
	baz=350						
YHNB	**Yeheng**	**0.58**	**293**	P	**Pg**	**04 21 25.8**	**+0.3**
	baz=293						
YHNB				S	**Sg**	**04 21 33.0**	**-0.3**
	baz=293						
NSK	**Sanguang**	**0.60**	**293**	*i* P	**Pg**	**04 21 25.9**	**+0.1**
	baz=293						
NSK				S	**Sb**	**04 21 33.5**	**-0.2**
	baz=293						
NWF	**Wu-fen Shan**	**0.65**	**346**	P	**Pg**	**04 21 27.5**	**+0.6**
	baz=348						
NWF				S	**Sg**	**04 21 36.2**	**+0.6**
	baz=348						
WFSB	**Wu-fen Shan**	**0.65**	**346**	P	**Pg**	**04 21 27.4**	**+0.6**
	baz=348						
WFSB				S	**Sg**	**04 21 36.4**	**+0.9**
	baz=348						
TATO	**Taipei**	**0.69**	**321**	*e*P	**Pg**	**04 21 27.4**	**0.0**
	baz=323						
TATO				*e*S	**Sg**	**04 21 36.7**	**+0.1**
	baz=323						
WHF	**Hehuan Shan**	**0.70**	**245**	*i* P	**Pg**	**04 21 27.8**	**0.0**
	baz=242						
WHF				S	**Sg**	**04 21 37.6**	**+0.4**
	baz=242						
TWT	**Tachien**	**0.74**	**256**	*i* P	**Pn**	**04 21 29.0**	**-0.6**
	baz=253						
TWT				S	**Sg**	**04 21 38.9**	**+0.5**
	baz=253						
TDCB	**Techi**	**0.76**	**256**	P	**Pg**	**04 21 29.1**	**+0.4**
	baz=254						
TDCB				S	**Sg**	**04 21 38.9**	**+0.1**
	baz=254						
YM01	**YM01**	**0.79**	**333**	P	**Pn**	**04 21 30.0**	**-0.1**
	baz=334						
YM01				*e*S	**Sn**	**04 21 41.3**	**-0.1**
	baz=334						
YM05	**YM05**	**0.81**	**334**	*e*P	**Pn**	**04 21 30.2**	**-0.2**
	baz=335						
YM04	**YM04**	**0.81**	**332**	*e*P	**Pn**	**04 21 30.6**	**+0.2**
	baz=333						
YM04				*e*S	**Sn**	**04 21 41.6**	**-0.4**
	baz=333						
CHGB	**Renai**	**0.81**	**242**	P	**Pg**	**04 21 30.0**	**+0.2**
	baz=240						
CHGB				S	**Sn**	**04 21 41.3**	**-0.9**
	baz=240						
YM08	**YM08**	**0.82**	**336**	P	**Pn**	**04 21 30.5**	**0.0**
	baz=337						
YM08				*e*S	**Sn**	**04 21 41.9**	**-0.3**
	baz=337						
OWD	**Renai**	**0.86**	**236**	*i* P	**Pg**	**04 21 30.6**	**-0.2**
	baz=233						
OWD				S	**Sn**	**04 21 43.0**	**-0.4**
	baz=233						
NSTT	**Nanjuang**	**0.90**	**283**	*e*P	**Pg**	**04 21 31.3**	**0.0**
	baz=281						
NSTT				*e*S	**Sn**	**04 21 43.5**	**-0.5**
	baz=281						
JYNG	**Yonagunijimaku**	**0.90**	**89**	P	**Pg**	**04 21 31.3**	**-0.1**
JYNG				S	**Sb**	**04 21 42.4**	**-0.1**
WHP	**Taichung City**	**0.94**	**260**	*i* P	**Pn**	**04 21 32.5**	**+0.3**
	baz=256						
WHP				*e*S	**Sn**	**04 21 44.8**	**-0.4**
	baz=258						
YOJ	**Yonaguni jima**	**0.96**	**88**	P	**Pb**	**04 21 31.9**	**0.0**
VWDT	**VWDT**	**1.01**	**228**	P	**Pg**	**04 21 33.7**	**+0.2**
	baz=225						
VWDT				*e*S	**Sn**	**04 21 47.7**	**+0.8**
	baz=225						
SMLT	**Sun Moon Lake**	**1.12**	**240**	*e*P	**Pg**	**04 21 35.3**	**-0.3**
	baz=238						
SSLB	**Suanglung**	**1.12**	**235**	P	**Pg**	**04 21 35.7**	**0.0**
	baz=233						
SSLB				*e*S	**Sg**	**04 21 50.0**	**-0.5**
	baz=233						
TYC	**Yuchr**	**1.14**	**242**	*e*P	**Pg**	**04 21 35.8**	**-0.2**
	baz=240						
TYC				*e*S	**Sg**	**04 21 51.4**	**+0.5**
	baz=240						
YULB	**Yu-li**	**1.21**	**210**	*e*P	**Pg**	**04 21 37.7**	**+0.5**
	baz=208						
YULB				*e*S	**Sg**	**04 21 55.0**	**+2.0**
	baz=208						
JKRS	**Kuro-shima**	**1.88**	**96**	P	**Pn**	**04 21 45.5**	**+0.5**
JKRS				S	**Sn**	**04 22 08.7**	**+0.4**
JIJ	**Ishigaki jima**	**1.99**	**92**	P	**Pn**	**04 21 45.7**	**-0.9**
JIJ				S	**Sn**	**04 22 08.1**	**-2.9**

ISC 12 04:21:35.3±1.6, 50°.19N±0°.05×18°.63E±0°.06, h0km, n18, σ1§26/23, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.25**	**66**	*e*Pg	Pg	04 21 36.0	-4.2
CHZP				*e*Sg	Sg	04 21 38.2	-5.3
OKC	**Ostrava-Krasne**	**0.47**	**222**	*e*PG	**Pg**	**04 21 45.4**	**+1.1**
OKC				*e*SG	**Sg**	**04 21 52.4**	**+2.0**
	comp=Z,17nm,0.3s						
OJC	**Ojcow**	**0.75**	**87**	*e*Pg	Pg	04 21 45.5	-4.2
OJC				*e*Sg	Sg	04 21 54.4	-5.1
MORC	**Moravsky Berou**	**0.81**	**240**	*e*PG	**Pg**	**04 21 51.2**	**+0.3**
MORC				*e*SG	**Sb**	**04 22 03.8**	**-0.1**
LANS	**Liptovska Anna**	**1.17**	**152**	*e*PG	Pg	04 21 56.3	-1.5
LANS				*e*SG	**Sg**	**04 22 12.7**	**-0.3**
KRLC	**Kraliky**	**1.20**	**265**	*e*PG	**Pg**	**04 21 57.2**	**-1.0**
KRLC				*e*SG	**Sg**	**04 22 13.7**	**0.0**
	comp=Z,6.2nm,0.6s						
NIE	**Niedzica**	**1.33**	**125**	*e*Pg	Pn	04 21 57.6	-3.6
NIE				*e*Sg	Sg	04 22 15.9	-2.1
DPC	**Dobruska-Polom**	**1.49**	**277**	*e*PG	**Pg**	**04 22 01.4**	**-2.5**
DPC				*e*SG	**Sg**	**04 22 23.1**	**-0.1**
	comp=Z,21nm,0.6s						
VRAC	**Vranov**	**1.59**	**237**	*e*PN	**Pn**	**04 22 04.1**	**-0.6**
VRAC				*e*SG	**Sn**	**04 22 27.1**	**+1.2**
KSP	**Ksiaz**	**1.63**	**295**	*e*Pg	**Pn**	**04 22 05.1**	**-0.2**
KSP				*e*Sg	**Sn**	**04 22 28.2**	**+1.2**
VYHS	**Vyhne**	**1.70**	**175**	*e*PN	Pn	04 22 04.3	-2.0
VYHS				*e*SN	**Sn**	**04 22 27.9**	**-0.8**
VYHS				*e*LG	Lg	04 22 34.4	
UPC	**Upice**	**1.71**	**282**	*e*SG	**Sg**	**04 22 30.6**	**+0.5**
KRUC	**Moravsky**	**1.84**	**233**	*e*PN	**Pn**	**04 22 06.9**	**-1.3**
KRUC				*e*SG	**Sg**	**04 22 34.7**	**+0.3**
PVCC	**Panska Ves**	**2.62**	**279**	*e*SG	**Sg**	**04 22 59.1**	**-0.5**
	comp=Z,12nm,0.6s						
PRU	**Pruhonice**	**2.64**	**267**	*e*SG	**Sg**	**04 22 58.3**	**-1.8**
BRG	**Berggiesshubel**	**3.07**	**285**	SG	**Sg**	**04 23 13.3**	**-0.6**
	4.2nm,0.3s						
KHC	**Kasperske Hory**	**3.45**	**254**	*e*SG	**Sg**	**04 23 25.3**	**-0.8**
	comp=Z,5.2nm,0.4s						
CLL	**Collm**	**3.75**	**290**	*e*Pg	**Pg**	**04 22 50.0**	**+2.9**
CLL				*e*Sg	**Sg**	**04 23 36.0**	**+0.4**

IDC 12 04:22:17.0±2.7, 18°.68S×176°.33W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/44, mbtmp3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx3.0/25, Error ellipse: s-maj=194.2km s-min=33.0km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.77**	**102**	LR	LR	04 29 56.5	
	comp=Z,87nm,21.9s,baz=288,slow=29						
PPT2	**Papeete2**	**25.44**	**92**	*e*LR	LR	04 34 42.3	
	comp=Z,169nm,27.2s						
PPT	**Papeete**	**25.44**	**92**	LR	LR	04 35 37.4	
	comp=Z,88nm,20.3s,baz=258,slow=32						
TBI	**Tubuai**	**25.49**	**105**	*e*LR	LR	04 34 58.5	
	comp=Z,210nm,28.5s						
JAY	**Jayapura**	**45.02**	**286**	LR	LR	04 46 32.3	
	comp=Z,54nm,21.4s,baz=314,slow=32						
ASAR	**Alice Springs**	**46.49**	**255**	P	P	04 30 45.8	-0.7
	0.7nm,0.5s,baz=84,slow=8.4,SNR=5.1						
TXAR	**Lajitas Array**	**84.75**	**57**	P	P	04 34 54.1	+0.6
	0.7nm,1.1s,baz=259,slow=1.8,SNR=4.1						
PDAR	**Pinedale Array**	**86.56**	**43**	P	P	04 35 01.0	-1.5
	0.2nm,0.7s,baz=194,slow=3.3,SNR=2.9						
BRTR	**Keskin Array B**	**146.72**	**315**	PKPbc	PKPdf	04 42 00.5	+0.8
	0.8nm,0.9s,baz=56,slow=5.9,SNR=4.8						
GERES	**GERESS Array B**	**148.84**	**347**	PKPbc	PKiKP	04 42 07.8	-0.3
	0.3nm,0.5s,baz=23,slow=5.3,SNR=2.3						

UCR 12 04:35:13.0±2.0, 8°.77N×84°.16W, h13km±10km, MD4.0, 4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.56**	**32**↓	*e*P	Pg	04 35 24.1	0.0
EDDO				*i* S	Sb	04 35 32.8	+0.2
EDLM	**Las Mercedes**	**0.76**	**48**↓	*i* P	Pg	04 35 27.3	-0.4
EDLM				*i* S	Sb	04 35 38.4	0.0
PTJ1	**Puerto Jimnez**	**0.88**	**105**	*e*P	Pg	04 35 29.4	-0.7
PTJ1				*e*S	Sg	04 35 40.6	-1.1
EDBA	**Buenos Aires**	**0.96**	**66**↓	*e*P	Pb	04 35 30.1	-1.4
EDBA				*e*S	Sg	04 35 44.0	-0.1
LCR2	**La Lucha 2**	**0.98**	**9**	*e*P	Pg	04 35 30.5	-1.4
LCR2				*e*S	Sg	04 35 43.6	-1.1
DRK0	**Durika**	**1.03**	**62**↓	*e*P	Pb	04 35 31.6	-1.2
DRK0				*e*S	Sg	04 35 46.8	+0.4
EDSV	**San Vito**	**1.18**	**88**	*e*P	Pb	04 35 34.6	-0.7
EDSV				*e*S	Sn	04 35 51.5	+0.2
HDC	**Heredia**	**1.22**	**2**	*e*P	Pn	04 35 34.6	-1.4
HDC				*i* S	Sb	04 35 50.5	-1.3
BRU2	**Volcan**	**1.45**	**89**	*e*P	Pn	04 35 38.2	-1.0
BRU2				*e*S	Sn	04 35 57.9	-0.3
TBS2		**1.49**	**89**	*e*P	Pn	04 35 39.0	-0.6
TBS2				*e*S	Sb	04 35 59.7	+0.2
JTS	**JuntasAbangare**	**1.70**	**333**	*e*P	Pn	04 35 40.5	-1.9
JTS				*e*S	Sb	04 36 06.0	+0.5
DVD	**David**	**1.73**	**101**	*e*P	Pn	04 35 41.6	-1.1
ARE1	**Arenal 1**	**1.77**	**342**	*e*P	Pn	04 35 44.1	+0.7
PLVR	**Palo Verde**	**1.96**	**323**	*e*P	Pn	04 35 45.3	-0.8
CUI	**Cuipilapa**	**2.12**	**332**	*e*P	Pn	04 35 47.8	-0.4
MESS	**Mesas**	**2.20**	**333**	*e*P	Pn	04 35 48.9	-0.5

*ISCJB **12** 04:39:56.2±1.2, 30°.81S±0°.09×178°.3W±0°.2, h46km, mb3.9/4, Error ellipse: s-maj=31.1km s-min=9.1km az=18.9*
*IDC **12** 04:39:57.9±2.1, 30°.74S×178°.20W, h47km±23km, mb3.7/4, mb1 3.8/5, mb1mx3.6/28, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=30.1km s-min=16.2km az=105.0*

ISC 12 04:39:57.4±1.0, 30°.83S±0°.10×178°.2W±0°.2, h46km, n9, σ1§69/11, mb3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.60**	**10**	P	**Pn**	**04 40 23.1**	**0.0**
	76nm,0.3s,baz=207,slow=19,SNR=3.7						
RAO				S	**Sn**	**04 40 40.7**	**-1.9**
	421nm,0.3s,baz=52,slow=23,SNR=7.2						
URZ	**Urewera**	**8.34**	**206**	P	**Pn**	**04 41 56.4**	**+0.7**
	0.5nm,0.3s,baz=31,slow=18,SNR=3.7						
URZ				S	**Sn**	**04 43 24.7**	**-3.8**
	2.0nm,0.3s,baz=178,slow=22,SNR=14						
STKA	**Stephens Creek**	**34.18**	**258**	P	**P**	**04 46 39.4**	**+1.0**
	1.2nm,0.5s,baz=93,slow=14,SNR=3.4						
ASAR	**Alice Springs**	**42.88**	**268**	P	**P**	**04 47 52.0**	**+0.5**
	1.2nm,0.9s,baz=102,slow=7.2,SNR=6.7						
WRA	**Warramunga Arr**	**43.91**	**273**	P	**P**	**04 48 00.3**	**+0.5**
	0.8nm,0.4s,baz=110,slow=8.1,SNR=23						
QSPA	**South Pole Qui**	**59.28**	**180**	P	**P**	**04 49 55.5**	**+1.4**
	1.0nm,0.8s,baz=63,slow=2.3,SNR=4.2						
FINES	**FINESS Array B**	**145.48**	**340**	PKPbc	**PKPdf**	**04 59 29.0**	**-0.6**
	2.3nm,0.5s,baz=33,slow=4.1,SNR=12						
NB2	**NORSAR Subarra**	**149.14**	**351**	PKP	**PKPbc**	**04 59 40.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=17,slow=2.6						
TORD	**Torodi Ar. Bea**	**162.40**	**180**	PKPab	**PKPab**	**05 00 41.8**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=183,slow=4.3,SNR=2.7						

MEX 12 04:41:12.8±0.6, 16°.09N×98°.62W, h13km±13km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.56**	**58**	*i* P	Pg	04 41 21.9	-1.9
PNIG				*e*S	Sg	04 41 30.0	-1.3
TLIG	**Tlapa**	**1.46**	**2**	*e*P	Pn	04 41 34.9	-4.1
TLIG				*e*S	Sn	04 41 52.6	-5.5
VHO	**Vista Hermosa**	**2.06**	**62**	*e*P	Pn	04 41 44.2	-3.0
VHO				*i* S	Sn	04 42 08.6	-4.3
CMIG	**Matias Romero**	**3.72**	**74**	*e*P	Pn	04 42 06.7	-3.3
CMIG				*i* S	Sn	04 42 50.1	-3.6

MEX 12 04:45:11.3±0.4, 15°.97N×98°.74W, h4km±18km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.72**	**55**	*i* P	Pg	04 45 24.0	-1.2
PNIG				*i* S	Sg	04 45 34.1	-0.5
TLIG	**Tlapa**	**1.59**	**6**	*e*P	Pn	04 45 35.9	-4.5
TLIG				*e*S	Sn	04 45 56.5	-4.8
VHO	**Vista Hermosa**	**2.21**	**60**	*i* P	Pn	04 45 45.3	-3.7
VHO				*i* S	Sn	04 46 12.6	-4.3

MEX 12 05:00:14.0±0.4, 17°.35N×101°.13W, h15km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.41**	**308**	*i* P	Pg	05 00 21.3	-1.0
ZIIG				*i* S	Sg	05 00 27.0	-1.0
CAIG	**El Cayaco**	**0.87**	**110**	*i* P	Pb	05 00 27.5	-3.4
CAIG				*i* S	Sb	05 00 39.1	-3.3
ARIG	**Puente Sto Nin**	**1.19**	**39**	*e*P	Pn	05 00 32.6	-3.5
ARIG				*e*S	Sb	05 00 46.6	-4.9
MEIG	**Mezcala**	**1.55**	**68**	*i* P	Pn	05 00 36.8	-4.3
MEIG				*i* S	Sn	05 00 56.0	-5.0
PLIG	**Platanillo**	**1.86**	**56**	*e*P	Pn	05 00 41.9	-3.7
PLIG				*e*S	Sn	05 01 04.0	-4.8

*ISCJB **12** 05:05:09.7±0.3, 24°.09N±0°.01×122°.26E±0°.01, h29km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=150.7*
*JMA **12** 05:05:09.3±0.1, 24°.02N×122°.29E, h31km±3km, M2.8*
*TAP **12** 05:05:09.7, 24°.13N×122°.24E, h24km, ML3.2, B*

ISC 12 05:05:09.5±1.0, 24°.09N±0°.02×122°.25E±0°.02, h26km±11km, n66, σ0§70/132, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.47**	**346**↓	*i* P	**Pb**	**05 05 19.1**	**-0.2**
	baz=346						
EOS1				S	**Sb**	**05 05 26.3**	**+0.4**
	baz=346						
NANB	**Nanao**	**0.57**	**306**	*e*P	**Pb**	**05 05 20.8**	**-0.1**
	baz=303						
NANB				*e*S	**Sb**	**05 05 29.2**	**+0.5**
	baz=303						
ENA	**Nanau**	**0.57**	**306**	*e*P	**Pn**	**05 05 22.0**	**0.0**
	baz=303						
ENA				*e*S	**Sb**	**05 05 28.6**	**-0.2**
	baz=303						
TWD	**Chiawan**	**0.60**	**269**	P	**Pb**	**05 05 21.7**	**+0.3**
	baz=265						
TWD				*e*S	**Sn**	**05 05 30.7**	**-0.5**
	baz=265						
NACB	**Ninganchiao**	**0.61**	**278**	*i* P	**Pb**	**05 05 21.8**	**+0.2**
	baz=274						
NACB				*e*S	**Sn**	**05 05 31.2**	**-0.2**
	baz=274						
ENLB	**Shoufeng**	**0.62**	**253**	*e*P	**Pn**	**05 05 22.4**	**-0.3**
	baz=248						
ENLB				*e*S	**Sn**	**05 05 32.2**	**+0.4**
	baz=248						
TWC	**Suao**	**0.63**	**324**	*i* P	**Pb**	**05 05 21.3**	**-0.7**
	baz=323						
TWC				S	**Sb**	**05 05 29.0**	**-1.5**
	baz=323						
ETLH	**Xiulin Townshi**	**0.71**	**279**	P	**Pn**	**05 05 23.5**	**+0.1**
	baz=276						
ETLH				*e*S	**Sb**	**05 05 33.4**	**+0.5**
	baz=276						
JYNG	**Yonagunijimaku**	**0.73**	**60**	P	**Pb**	**05 05 23.2**	**-0.3**
JYNG				*e*S	**Sb**	**05 05 33.1**	**0.0**
YOJ	**Yonaguni jima**	**0.78**	**62**	*e*P	**Pn**	**05 05 24.8**	**-0.1**
	baz=64						
YOJ				*e*S	**Sb**	**05 05 34.6**	**-0.2**
	baz=64						
YOJ	**Yonaguni jima**	**0.78**	**62**	P	**Pb**	**05 05 24.1**	**-0.4**
YOJ				S	**Sb**	**05 05 34.4**	**-0.4**
ESL	**Shilin**	**0.80**	**250**	*e*P	**Pb**	**05 05 24.2**	**-0.6**
	baz=246						
ESL				*e*S	**Sn**	**05 05 36.5**	**+0.3**
	baz=246						
EGS		**0.81**	**339**	*e*P	**Pb**	**05 05 25.2**	**+0.3**
	baz=339						
EGS				*e*S	**Sb**	**05 05 34.7**	**-0.7**
	baz=339						
ILA	**Ilan**	**0.81**	**326**	*e*P	**Pb**	**05 05 25.1**	**+0.1**
	baz=324						
ILA				*e*S	**Sn**	**05 05 36.6**	**+0.1**
	baz=324						
TWE	**Neicheng**	**0.82**	**320**	*i* P	**Pn**	**05 05 25.1**	**-0.3**
	baz=318						
TWE				*e*S	**Sb**	**05 05 35.0**	**-0.9**
	baz=318						
NDT	**Datong Townshi**	**0.84**	**307**	*i* P	**Pb**	**05 05 26.2**	**+0.6**
	baz=305						
NDT				*e*S	**Sb**	**05 05 35.5**	**-1.0**
	baz=305						
NTC	**Toucheng**	**0.85**	**333**	*e*P	**Pb**	**05 05 26.0**	**+0.3**
	baz=332						
NTC				*e*S	**Sb**	**05 05 36.6**	**-0.1**
	baz=332						
NNSB	**Datong**	**0.86**	**293**	P	**Pn**	**05 05 26.0**	**0.0**
	baz=290						
NNSB				*e*S	**Sb**	**05 05 37.2**	**+0.1**
	baz=290						
EGFH	**Guangfu**	**0.86**	**241**	*e*P	**Pb**	**05 05 27.1**	**+1.2**
	baz=238						
EGFH				*e*S	**Sn**	**05 05 37.6**	**-0.2**
	baz=238						
NNS	**Nan Shan**	**0.88**	**294**	*e*P	**Pn**	**05 05 26.2**	**0.0**
	baz=291						
NNS				*e*S	**Sb**	**05 05 37.2**	**-0.3**
	baz=291						
WHF	**Hehuan Shan**	**0.90**	**274**	P	**Pn**	**05 05 26.5**	**-0.4**
	baz=270						
WHF				*e*S	**Sn**	**05 05 39.5**	**+0.1**
	baz=270						
TWB1	**Santiao Chiao**	**0.94**	**345**	*e*P	**Pn**	**05 05 27.1**	**0.0**
	baz=345						
TWB1				*e*S	**Sb**	**05 05 38.4**	**-1.0**
	baz=345						
TIPB	**Shuangxi**	**0.96**	**336**	*e*P	**Pn**	**05 05 27.6**	**+0.2**
	baz=335						
TIPB				*e*S	**Sb**	**05 05 39.5**	**-0.3**
	baz=335						
HGSD	**Ruisui**	**0.97**	**232**	*e*P	**Pb**	**05 05 28.3**	**+0.7**
	baz=229						
HGSD				*e*S	**Sn**	**05 05 40.3**	**+0.1**
	baz=229						
NWLT	**Wulai**	**0.97**	**315**	*e*P	**Pb**	**05 05 28.0**	**+0.3**
	baz=313						
NWLT				*e*S	**Sb**	**05 05 40.9**	**+0.9**
	baz=313						
YHNB	**Yeheng**	**0.98**	**306**	*e*P	**Pb**	**05 05 28.2**	**+0.2**
	baz=304						
YHNB				*e*S	**Sb**	**05 05 41.3**	**+0.7**
	baz=304						
CHGB	**Renai**	**0.99**	**268**	*e*P	**Pn**	**05 05 27.8**	**0.0**
	baz=265						
CHGB				*e*S	**Sn**	**05 05 41.2**	**+0.1**
	baz=265						
OWD	**Renai**	**0.99**	**262**	*e*P	**Pn**	**05 05 27.8**	**-0.1**
	baz=259						
OWD				*e*S	**Sn**	**05 05 39.9**	**-1.3**
	baz=259						
NSK	**Sanguang**	**1.00**	**306**	*e*P	**Pb**	**05 05 28.3**	**+0.1**
	baz=304						
NSK				*e*S	**Sb**	**05 05 41.8**	**+0.7**
	baz=304						
TDCB	**Techi**	**1.01**	**279**	*e*P	**Pb**	**05 05 28.6**	**+0.1**
	baz=277						
TDCB				*e*S	**Sn**	**05 05 40.5**	**-1.1**
	baz=277						
NWF	**Wu-fen Shan**	**1.06**	**336**	*e*P	**Pn**	**05 05 29.0**	**+0.1**
	baz=335						
NWF				*e*S	**Sn**	**05 05 42.8**	**0.0**
	baz=335						
WFSB	**Wu-fen Shan**	**1.06**	**336**	*e*P	**Pn**	**05 05 29.0**	**+0.2**
	baz=335						
WFSB				*e*S	**Sn**	**05 05 42.8**	**0.0

TWF1	**Yuli**	**1.15**	**230**	*e*P	**Pn**	**05 05 29.4**	**-0.4**
	baz=227						
TWF1				*e*S	**Sn**	**05 05 44.4**	**-0.3**
	baz=227						
WHP	**Taichung City**	**1.21**	**279**	*e*P	**Pb**	**05 05 32.2**	**+0.4**
	baz=277						
WHP				*e*S	**Sn**	**05 05 44.0**	**-2.4**
	baz=277						
YM01	**YM01**	**1.22**	**330**	*e*P	**Pb**	**05 05 32.0**	**0.0**
	baz=328						
YM01				*e*S	**Sb**	**05 05 48.0**	**+0.6**
	baz=328						
SSLB	**Suanglung**	**1.23**	**256**	*e*P	**Pn**	**05 05 31.3**	**+0.3**
	baz=253						
SSLB				*e*S	**Sn**	**05 05 46.3**	**-0.4**
	baz=253						
YM11	**YM11**	**1.23**	**330**	*e*P	**Pb**	**05 05 32.2**	**0.0**
	baz=329						
YM11				*e*S	**Sn**	**05 05 45.8**	**-1.3**
	baz=329						
YM05	**YM05**	**1.24**	**330**	*e*P	**Pb**	**05 05 32.2**	**-0.1**
	baz=329						
YM05				*e*S	**Sn**	**05 05 44.7**	**-2.4**
	baz=329						
YM04	**YM04**	**1.24**	**328**	*e*P	**Pb**	**05 05 32.5**	**+0.1**
	baz=327						
YM04				*e*S	**Sn**	**05 05 46.1**	**-1.0**
	baz=327						
YM08	**YM08**	**1.25**	**331**	*e*P	**Pb**	**05 05 33.6**	**+1.2**
	baz=330						
YM08				*e*S	**Sb**	**05 05 50.5**	**+2.5**
	baz=330						
SMLT	**Sun Moon Lake**	**1.25**	**261**	*e*P	**Pb**	**05 05 32.1**	**-0.5**
	baz=258						
SMLT				*e*S	**Sn**	**05 05 47.6**	**0.0**
	baz=258						
TWS1	**Kuangyinshan**	**1.26**	**323**	*e*P	**Pn**	**05 05 31.5**	**+0.1**
	baz=322						
TWS1				*e*S	**Sn**	**05 05 47.1**	**-0.4**
	baz=322						
NSTT	**Nanjuang**	**1.26**	**295**	*e*P	**Pb**	**05 05 33.0**	**+0.3**
	baz=293						
NSTT				*e*S	**Sn**	**05 05 47.2**	**-0.4**
	baz=293						
CHKT	**Chengkung**	**1.28**	**220**	*e*P	**Pb**	**05 05 32.6**	**-0.3**
	baz=217						
CHKT				*e*S	**Sn**	**05 05 46.3**	**-1.7**
	baz=217						
TYC	**Yuchr**	**1.29**	**262**	*e*P	**Pn**	**05 05 32.5**	**+0.7**
	baz=259						
TYC				*e*S	**Sn**	**05 05 48.5**	**+0.3**
	baz=259						
WHYT	**Xinyi Township**	**1.34**	**253**	*e*P	**Pb**	**05 05 34.4**	**+0.4**
	baz=251						
WHYT				*e*S	**Sn**	**05 05 50.1**	**+0.6**
	baz=251						
IRIF	**Iriomote-Funau**	**1.37**	**80**	P	**Pn**	**05 05 33.0**	**+0.1**
IRIF				S	**Sb**	**05 05 51.6**	**0.0**
TWQ1	**Liyutan**	**1.38**	**281**	*e*P	**Pn**	**05 05 33.5**	**+0.5**
	baz=279						
TWQ1				*e*S	**Sn**	**05 05 50.6**	**+0.2**
	baz=279						
HATJ	**Hateruma jima**	**1.42**	**91**	P	**Pn**	**05 05 33.8**	**+0.2**
HATJ				S	**Sn**	**05 05 50.7**	**-0.7**
ALS	**Alishan**	**1.45**	**247**	*e*P	**Pb**	**05 05 35.4**	**-0.6**
	baz=244						
ALS				*e*S	**Sn**	**05 05 52.5**	**-0.1**
	baz=244						
ELDTW	**Lidau**	**1.45**	**232**	*e*P	**Pn**	**05 05 34.5**	**+0.4**
	baz=229						
ELDTW				*e*S	**Sn**	**05 05 51.6**	**-0.7**
	baz=229						
JKRS	**Kuro-shima**	**1.61**	**84**	P	**Pn**	**05 05 36.7**	**+0.5**
JKRS				*e*S	**Sn**	**05 05 56.4**	**+0.2**
TWGBT	**Beinan**	**1.66**	**221**	*e*P	**Pn**	**05 05 37.2**	**+0.2**
	baz=219						
TWGBT				*e*S	**Sn**	**05 05 57.1**	**-0.4**
	baz=219						
TWG	**Pinlang**	**1.67**	**221**	*e*P	**Pn**	**05 05 36.2**	**-0.8**
	baz=219						
TWG				*e*S	**Sn**	**05 05 57.0**	**-0.6**
	baz=219						
TPUB	**Ta-pu**	**1.68**	**242**	*e*P	**Pn**	**05 05 38.4**	**+1.1**
	baz=240						
TPUB				*e*S	**Sn**	**05 05 58.0**	**0.0**
	baz=240						
JIJ	**Ishigaki jima**	**1.75**	**81**	P	**Pn**	**05 05 38.2**	**+0.1**
JIJ				S	**Sn**	**05 05 59.4**	**-0.1**
ECL	**Taimali**	**1.91**	**219**	*e*P	**Pn**	**05 05 41.8**	**+1.4**
	baz=217						
ECL				*e*S	**Sn**	**05 06 03.8**	**+0.3**
	baz=217						
JISG	**Ishigakijimahi**	**1.94**	**75**	P	**Pn**	**05 05 40.9**	**+0.1**
JISG				S	**Sn**	**05 06 04.4**	**+0.1**
MASBT	**Mashibuluo**	**2.10**	**226**	*e*P	**Pb**	**05 05 45.1**	**-1.7**
	baz=224						
MASBT				*e*S	**Sn**	**05 06 09.5**	**+1.4**
	baz=224						
LAY	**Lan-yu**	**2.14**	**198**	*e*P	**Pn**	**05 05 44.6**	**+0.9**
	baz=196						
LAY				*e*S	**Sn**	**05 06 07.7**	**-1.6**
	baz=196						
JTJ	**Tarama**	**2.30**	**76**	P	**Pn**	**05 05 46.6**	**+0.9**
JTJ				*e*S	**Sn**	**05 06 14.6**	**+1.4**

ISCJB ***12*** *05:11:27.5±0.8, 22°.0N±0°.1×143°.7E±0°.2, h150km, mb3.4/10, Error ellipse: s-maj=26.4km s-min=15.8km az=173.6*

IDC ***12*** *05:11:31.4±7.0, 22°.02N×143°.66E, h170km±65km, mb3.2/11, mb1 3.4/11, mb1mx3.2/41, mbtmp3.7/11, Error ellipse: s-maj=29.2km s-min=13.4km az=90.0*

ISC 12 05:11:29.3±0.8, 22°.0N±0°.1×143°.7E±0°.2, h150km, n12, σ1§16/13, mb3.4/10, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.57**	**322**	P	**P**	**05 15 58.5**	**+2.3**
	1.2nm,0.6s,baz=145,slow=9.4,SNR=4.8						
KLR	**Kul'dur**	**28.78**	**344**	P	**P**	**05 17 12.6**	**-0.3**
	1.2nm,0.8s,baz=122,slow=6.7,SNR=5.9						
SONM	**Songino Array**	**39.41**	**320**	P	**P**	**05 18 44.0**	**-0.6**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=3.2						
WRA	**Warramunga Arr**	**42.68**	**193**	P	**P**	**05 19 11.1**	**-0.3**
	0.5nm,0.3s,baz=15,slow=8.8,SNR=19						
WRA				PcP	**PcP**	**05 21 01.2**	**+0.7**
	0.5nm,0.7s,baz=0.3,slow=3.3,SNR=3.5						
ASAR	**Alice Springs**	**46.38**	**192**	P	**P**	**05 19 40.5**	**-0.2**
	0.4nm,0.7s,baz=9.2,slow=7.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**54.27**	**321**	P	**P**	**05 20 40.6**	**+1.0**
	0.6nm,0.3s,baz=110,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**54.85**	**312**	P	**P**	**05 20 43.4**	**-0.6**
	0.3nm,0.5s,baz=94,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**61.55**	**27**	P	**P**	**05 21 29.4**	**-0.9**
	0.2nm,0.6s,baz=251,slow=5.8,SNR=2.8						
YKA	**Yellowknife Ar**	**75.97**	**28**	P	**P**	**05 22 59.3**	**-0.1**
	0.3nm,0.4s,baz=293,slow=5.9,SNR=11						
NVAR	**Mina Array Bea**	**82.58**	**52**	P	**P**	**05 23 37.3**	**+1.2**
	0.3nm,0.5s,baz=270,slow=6.7,SNR=4.4						
FINES	**FINESS Array B**	**83.11**	**335**	P	**P**	**05 23 36.2**	**-1.8**
	2.0nm,0.9s,baz=74,slow=4.4,SNR=9.2						
PLCA	**Paso Flores**	**145.59**	**131**	PKPbc	**PKPdf**	**05 30 50.7**	**+0.8**
	0.9nm,0.7s,baz=276,slow=5.0,SNR=4.7						

IDC 12 05:14:58.0±3.7, 30°.44S×138°.26E, h0km, mb1 3.0/3, mb1mx3.0/22, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=85.8km s-min=16.8km az=41.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.20**	**118**	P	Pn	05 15 49.0	-0.6
	0.4nm,0.3s,baz=300,slow=14,SNR=7.1						
STKA				Pg	Pb	05 15 57.5	+1.8
	1.5nm,0.3s,baz=300,slow=14,SNR=15						
STKA				Sn	Sn	05 16 24.6	-3.9
	0.9nm,0.3s,baz=308,slow=17,SNR=2.8						
STKA				Lg	Lg	05 16 38.8	
	2.1nm,0.3s,baz=358,slow=13,SNR=5.0						
ASAR	**Alice Springs**	**7.78**	**329**	Pn	Pn	05 16 52.9	+0.4
	0.1nm,0.3s,baz=146,slow=12,SNR=4.7						
ASAR				Sn	Sn	05 18 21.4	0.0
	0.1nm,0.3s,baz=155,slow=22,SNR=3.9						
WRA	**Warramunga Arr**	**11.03**	**340**	Pn	Pn	05 17 37.2	+0.1
	0.1nm,0.3s,baz=164,slow=11,SNR=8.1						

VIE ***12*** *05:28:42.3±0.1, 47°.65N×13°.74E, h1km, mb2.1/15, ml2.6/20, Error ellipse: s-maj=1.2km s-min=0.8km az=38.0, felt 4 ems98 at Altaussee / Styria*

LDG ***12*** *05:28:42.3±0.2, 47°.69N×13°.74E, h2km, Ml2.8/7, Error ellipse: s-maj=3.7km s-min=2.7km az=15.0*

IPEC ***12*** *05:28:43.3±0.2, 47°.67N×13°.77E, h1km±1km, ML2.4/3, Error ellipse: s-maj=1.8km s-min=1.0km az=165.0*

PRU ***12*** *05:28:43.8±0.0, 47°.67N×13°.78E, h0km*

BGR ***12*** *05:28:44.0±0.2, 47°.67N×13°.77E, h5km, ML2.5/12, Error ellipse: s-maj=3.3km s-min=3.3km az=75.0*

BGR Felt in Altaussee and Grundlsee.

ISC 12 05:28:42.8±1.0, 47°.67N±0°.02×13°.69E±0°.02, h10km±9km, n56, σ2§08/98, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.43**	**65**	Pg	**Pg**	**05 28 50.2**	**-0.9**
	2.7nm,0.2s,SNR=56						
MOA				Sg	**Sg**	**05 28 56.1**	**-0.7**
	33nm,0.5s						
MOA	**Molln**	**0.43**	**65**	*e*Pg	**Pg**	**05 28 50.3**	**-0.9**
MOA				*e*Sg	**Sg**	**05 28 56.6**	**-0.1**
RJOB	**Jochberg**	**0.61**	**277**	*e*Pg	**Pb**	**05 28 56.7**	**+1.1**
RJOB				*e*Sg	**Sb**	**05 29 06.3**	**+2.0**
KBA	**Koelnbreinsper**	**0.64**	**202**	Pg	**Pg**	**05 28 54.4**	**-0.7**
	8.3nm,0.3s,SNR=9.0						
KBA				Sg	**Sg**	**05 29 04.0**	**+0.4**
	51nm,0.6s						
KBA	**Koelnbreinsper**	**0.64**	**202**	*e*Pg	**Pg**	**05 28 54.8**	**-0.4**
KBA				*e*Sg	**Sg**	**05 29 03.9**	**+0.4**
MYKA	**Terra Mystica**	**1.04**	**182**	Pg	**Pg**	**05 29 02.3**	**-0.5**
	1.2nm,0.2s						
MYKA				Sg	**Sb**	**05 29 16.6**	**0.0**
	8.3nm,0.3s						
GEC2	**GERESS Array S**	**1.18**	**0**	*e*Pg	**Pn**	**05 29 06.4**	**+1.0**
GEC2				*e*Sg	**Sn**	**05 29 23.0**	**+1.4**
ABTA	**Abfaltersbach**	**1.22**	**222**	Pg	**Pg**	**05 29 06.0**	**-0.3**
	3.7nm,0.3s,SNR=10.0						
ABTA				Sg	**Sn**	**05 29 23.5**	**+0.8**
	43nm,0.5s						
OBKA	**Obir**	**1.30**	**153**	Pg	**Pg**	**05 29 06.8**	**-0.9**
	7.2nm,0.4s,SNR=5.6						
OBKA				Sg	**Sn**	**05 29 25.3**	**+0.7**
	48nm,0.6s						
OBKA	**Obir**	**1.30**	**153**	*e*Pn	**Pb**	**05 29 07.1**	**-0.3**
OBKA				*e*Pg	**Pn**	**05 29 09.3**	**+2.2**
OBKA				*e*Sg	**Sn**	**05 29 25.7**	**+1.2**
ARSA	**Arzberg**	**1.31**	**108**	Pg	**Pn**	**05 29 07.3**	**+0.1**
	3.0nm,0.3s						
ARSA				Sg	**Sn**	**05 29 24.8**	**0.0**
	19nm,0.4s						
SOKA	**Soboth**	**1.35**	**137**	Pg	**Pg**	**05 29 06.9**	**-1.8**
	2.7nm,0.2s						
SOKA				Sg	**Sn**	**05 29 25.9**	**+0.1**
	9.1nm,0.4s						
WTTA	**Wattenberg**	**1.45**	**255**	Pg	**Pb**	**05 29 11.3**	**+1.3**
	10.0nm,0.4s						
WTTA				Sg	**Sn**	**05 29 33.1**	**+4.6**
	30nm,0.5s,SNR=5.7						
KHC	**Kasperske Hory**	**1.47**	**357**	*e*PG	**Pg**	**05 29 10.8**	**-0.1**
KHC				*e*SG	**Sn**	**05 29 31.2**	**+2.6**
	comp=Z,48nm,0.9s						
WATA	**Walderalm**	**1.47**	**258**	Pg	**Pg**	**05 29 11.7**	**+0.6**
	4.3nm,0.3s						
CONA	**Conrad Observa**	**1.48**	**79**	*e*Pg	**Pg**	**05 29 10.1**	**-1.2**
	1.6nm,0.2s,SNR=20						
CONA				Sg	**Sn**	**05 29 31.0**	**+1.8**
	23nm,0.4s						
WET	**Wettzell**	**1.57**	**340**	*e*Pg	**Pg**	**05 29 12.9**	**-0.1**
WET				*e*Sg	**Sg**	**05 29 34.4**	**+1.0**
SQTA	**Sankt Quirin**	**1.75**	**256**	Pg	**Pb**	**05 29 15.8**	**+0.8**
	12nm,0.7s						
SQTA				Sg	**Sg**	**05 29 41.5**	**+2.6**
	21nm,0.4s,SNR=6.0						
MOTA	**Moosalm**	**1.79**	**260**	Pg	**Pg**	**05 29 17.0**	**0.0**
	1.4nm,0.2s						
RETA	**Reutte**	**1.99**	**266**	Sg	**Sg**	**05 29 48.9**	**+2.0**
	22nm,0.4s						
TREC	**Trest**	**2.02**	**36**	*e*PG	**Pn**	**05 29 17.9**	**+1.0**
TREC				*e*SG	**Sg**	**05 29 46.7**	**-0.9**
	comp=Z,31nm,0.9s						
FETA	**Feichten**	**2.12**	**253**	Pg	**Pg**	**05 29 22.9**	**-0.5**
	1.1nm,0.3s						
FETA				Sg	**Sg**	**05 29 52.0**	**+1.2**
	5.5nm,0.5s						
KRUC	**Moravsky**	**2.28**	**51**	*e*PN	**Pn**	**05 29 21.4**	**+0.9**
KRUC				*e*SG	**Sb**	**05 29 53.7**	**+1.5**
KRUC	**Moravsky**	**2.28**	**51**	*e*Pn	**Pn**	**05 29 21.4**	**+0.9**
	baz=232						
KRUC				*e*Sg	**Sb**	**05 29 53.6**	**+1.4**
	22nm,0.8s,baz=232						
ROTZ	**Rotzenmuhle**	**2.32**	**335**	*e*Sg	**Sg**	**05 29 57.8**	**+0.5**
PRU	**Pruhonice**	**2.39**	**13**	*e*PG	**Pb**	**05 29 24.9**	**-1.0**
UBR	**Ueberruh**	**2.42**	**272**	*e*Sg	**Sg**	**05 30 01.8**	**+1.1**
VRAC	**Vranov**	**2.53**	**49**	*e*PN	**Pn**	**05 29 25.0**	**+1.0**
VRAC				*e*SG	**Sb**	**05 30 01.1**	**+1.6**
VRAC	**Vranov**	**2.53**	**49**	*e*Pn	**Pn**	**05 29 24.9**	**+1.0**
	baz=230						
VRAC				*e*Sg	**Sb**	**05 30 01.1**	**+1.6**
	15nm,0.7s,baz=230						
MANZ	**Manzenberg**	**2.54**	**336**	*e*Sg	**Sg**	**05 30 04.8**	**+0.3**
GRF	**Grafenberg Arr**	**2.60**	**322**	*e*Pg	**Pg**	**05 29 34.1**	**+1.4**
GRF				*e*Sg	**Sg**	**05 30 08.4**	**+2.0**
DAVA	**Damuels**	**2.62**	**263**	Pg	**Pg**	**05 29 34.4**	**+1.5**
	0.6nm,0.1s						
DAVA				Sg	**Sg**	**05 30 08.5**	**+1.7**
	4.9nm,0.3s						
DAVA	**Damuels**	**2.62**	**263**	*e*Pg	**Pg**	**05 29 34.6**	**+1.7**
DAVA				*e*Sg	**Sg**	**05 30 08.7**	**+2.0**
NKC	**Novy Kostel**	**2.69**	**343**	*e*SG	**Sg**	**05 30 09.7**	**+0.4**
	comp=Z,18nm,0.7s						
KRLC	**Kraliky**	**3.15**	**39**	*e*SG	**Sg**	**05 30 23.6**	**-0.5**
	comp=Z,7.6nm,0.9s						
DPC	**Dobruska-Polom**	**3.19**	**32**	*e*SG	**Sg**	**05 30 25.0**	**-0.3**
	comp=Z,18nm,0.8s						
BRG	**Berggiesshubel**	**3.21**	**3**	PG	**Pb**	**05 29 41.5**	**+1.6**
BRG				*e*		05 30 14.2	
BRG	**Berggiesshubel**	**3.21**	**3**	SG	**Sg**	**05 30 27.4**	**+1.5**
	14nm,0.8s						
UPC	**Upice**	**3.22**	**27**	*e*SG	**Sg**	**05 30 24.8**	**-1.5**
	comp=Z,23nm,0.8s						
WILA	**Wila**	**3.25**	**267**	*e*Pg	**Pg**	**05 29 44.9**	**-0.2**
MOX	**Moxa**	**3.28**	**336**	*e*Sg	**Sg**	**05 30 28.6**	**+0.7**
MORC	**Moravsky Berou**	**3.31**	**49**	*e*SG	**Sg**	**05 30 25.8**	**-3.2**
MORC	**Moravsky Berou**	**3.31**	**49**	*e*Sg	**Sg**	**05 30 25.7**	**-3.2**
	20nm,0.8s,baz=231						
SLE	**Schleitheim**	**3.51**	**273**	*e*Pg	**Pg**	**05 29 50.3**	**+0.2**
SLE				*e*Sg	**Sg**	**05 30 37.2**	**+1.6**
BFO	**Black Forest**	**3.66**	**282**	*e*Pn	**Pn**	**05 29 40.9**	**+1.4**
BFO				*e*Sg	**Sg**	**05 30 43.6**	**+3.2**
CLL	**Collm**	**3.67**	**353**	*e*Pg	**Pg**	**05 29 53.0**	**-0.1**
CLL				*e*		05 30 25.0	
CLL				*e*Sg	**Sg**	**05 30 42.0**	**+1.4**
	comp=Z,8.0nm,0.7s						
CLL				Lm	MLR	08 54 00.0	
	comp=Z,100nm,18.5s						
CLL				LmV		15 10 00.0	
	comp=Z,100nm,19.6s						
CDF	**Champ du Feu**	**4.37**	**282**	*e*Pn	**Pn**	**05 29 48.4**	**-0.9**
CDF				*e*Sn	**Sn**	**05 30 37.0**	**-3.3**
CDF				*e*Sg	**Sg**	**05 31 00.3**	**-2.7**
	comp=Z,6.2nm,0.6s						
HINF	**Hinteralfeld**	**4.62**	**274**	*e*Pn	**Pn**	**05 29 51.1**	**-1.6**
HINF				*e*Sn	**Sn**	**05 30 42.8**	**-3.6**
HINF				*e*Sg	**Sg**	**05 31 07.7**	**-3.3**
	comp=Z,3.9nm,0.4s						
HAU	**Haudompre**	**4.96**	**277**	*e*P	**Pn**	**05 29 59.8**	**+2.5**
HAU	**Haudompre**	**4.96**	**277**	*e*Pg	**Pg**	**05 30 14.5**	**-3.2**
HAU				*e*Sn	**Sn**	**05 30 51.1**	**-3.6**
HAU				*e*Sg	**Sg**	**05 31 18.2**	**-3.7**
	comp=Z,2.8nm,0.4s						
CABF	**La Chapelle**	**5.30**	**261**	*e*P	**Pn**	**05 30 04.0**	**+2.0**
CABF				*e*Sn	**Sn**	**05 30 58.7**	**-4.5**
CABF				*e*Sg	**Sg**	**05 31 29.1**	**-3.7**
	comp=Z,0.4nm,0.2s						
PAGF	**Fort de Pagny**	**5.41**	**282**	*e*Pn	**Pn**	**05 30 02.0**	**-1.5**
	baz=102						
PAGF	**Fort de Pagny**	**5.41**	**282**	*e*Pg	**Pg**	**05 30 23.1**	**-3.3**
PAGF				*e*Sn	**Sn**	**05 31 01.7**	**-4.1**
	comp=Z,12nm,0.5s						
MEZF	**Maizieres J'vi**	**5.85**	**281**	*e*P	**Pn**	**05 30 13.1**	**+3.6**
MEZF	**Maizieres J'vi**	**5.85**	**281**	*e*Pg	**Pg**	**05 30 30.4**	**-4.4**
MEZF				*e*Sg	**Sg**	**05 31 46.1**	**-4.4**
	comp=Z,3.5nm,0.3s						
GIVF	**Givet**	**6.34**	**296**	*e*Pn	**Pn**	**05 30 15.4**	**-0.8**
GIVF				*e*Sn	**Sn**	**05 31 23.8**	**-4.8**
GIVF				*e*Sg	**Sg**	**05 32 01.3**	**-4.8**
	comp=Z,2.3nm,0.2s						

IDC ***12*** *05:56:10.4±1.0, 10°.83S×163°.75E, h0km, mb3.9/8, mb1 4.2/11, mb1mx3.9/44, mbtmp4.0/11, ML4.2/3, MS3.5/2, Ms1 3.4/2, ms1mx2.9/33, Error ellipse: s-maj=28.9km s-min=20.5km az=140.0*

ISCJB ***12*** *05:56:13.1±0.7, 10°.95S±0°.09×163°.69E±0°.08, h31km, mb3.9/9, MS3.3/1, Error ellipse: s-maj=13.9km s-min=9.9km az=28.7*

NEIC ***12*** *05:56:15.5±0.8, 10°.85S×163°.69E, h35km, mb4.5/1, Error ellipse: s-maj=17.4km s-min=15.9km az=111.0*

ISC 12 05:56:14.6±0.8, 10°.95S±0°.09×163°.72E±0°.10, h31km, n19, σ1§44/14, mb4.0/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.00**	**292**	Pn	**Pn**	**05 57 12.8**	**-1.0**
	18nm,0.3s,baz=185,slow=12,SNR=2.5						
HNR				Sn	**Sn**	**05 58 00.1**	**+0.3**
	15nm,0.3s,baz=183,slow=17,SNR=1.4						
HNR				LR	LR	05 59 00.4	
	comp=Z,708nm,18.1s,baz=126,slow=43						
DZM	**Mont Dzumac**	**11.37**	**167**	Pn	**Pn**	**05 58 56.9**	**+1.9**
	1.3nm,0.3s,baz=302,slow=17,SNR=8.5						
DZM				Sn	**Sn**	**06 00 58.9**	**-2.2**
	0.6nm,0.3s,baz=156,slow=20,SNR=3.9						
CTA	**Charters Tower**	**19.11**	**239**	P	**Pn**	**06 00 37.8**	**+1.7**
	0.5nm,0.3s,baz=61,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**29.17**	**221**	LR	LR	06 13 11.3	
	comp=Z,67nm,18.4s,baz=25,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.40**	**6**	T	T	06 33 03.9	
	baz=188,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**29.40**	**6**	T	T	06 33 04.0	
	baz=188,slow=76,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**29.42**	**6**	T	T	06 33 04.1	
	baz=188,slow=76,SNR=6.0						
WRA	**Warramunga Arr**	**29.65**	**249**	P	**P**	**06 02 18.0**	**+0.3**
	1.9nm,0.5s,baz=79,slow=9.0,SNR=28						
H11N1	**WAKE ISLAND Hy**	**30.63**	**6**	T	T	06 34 26.7	
	baz=184,slow=77,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**30.63**	**6**	T	T	06 34 34.9	
	baz=184,slow=77,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**30.65**	**6**	T	T	06 34 31.0	
	baz=184,slow=77,SNR=4.3						
ASAR	**Alice Springs**	**31.07**	**242**	P	**P**	**06 02 30.4**	**+0.2**
	2.8nm,0.7s,baz=61,slow=10,SNR=15						
MBWA	**Marble Bar**	**43.34**	**251**	*e*P	**P**	**06 04 12.2**	**-2.1**
	6.5nm,0.6s						
KLR	**Kul'dur**	**66.19**	**338**	P	**P**	**06 06 59.5**	**+0.2**
	1.0nm,0.8s,baz=180,slow=4.0,SNR=2.8						
SONM	**Songino Array**	**77.42**	**324**	P	**P**	**06 08 08.6**	**+1.6**
	0.4nm,0.6s,baz=132,slow=8.0,SNR=2.8						
ILAR	**Eielson Array**	**84.06**	**19**	P	**P**	**06 08 42.0**	**+0.1**
	0.4nm,0.8s,baz=251,slow=4.7,SNR=4.3						
NVAR	**Mina Array Bea**	**87.49**	**50**	P	**P**	**06 09 00.2**	**+0.3**
	1.0nm,0.8s,baz=229,slow=6.7,SNR=5.4						
MKAR	**Makanchi Array**	**92.09**	**317**	P	**P**	**06 09 21.2**	**+0.2**
	0.2nm,0.6s,baz=88,slow=6.3,SNR=2.4						
YKA	**Yellowknife Ar**	**95.81**	**28**	P	**P**	**06 09 35.8**	**-1.8**
	0.3nm,0.8s,baz=257,slow=5.1,SNR=4.1						

KRSC 12 05:58:51.4±10.0, 51°.43N×157°.64E, h89km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.47**	**35**	*e*P	Pn	05 59 06.8	+1.0
KDTR				*e*S	Sn	05 59 17.5	+1.1
PAU	**Pauzhetka**	**0.52**	**275**	*e*P	Pn	05 59 07.5	+1.4
ASAK	**Asacha**	**0.97**	**9**	*e*P	Pn	05 59 12.1	+1.3
MTVR	**Mutnovka**	**1.11**	**17**	*e*P	Pn	05 59 13.8	+1.4
MTVR				*e*S	Sn	05 59 30.6	+2.4
RUS	**Russkaya**	**1.14**	**28**	*e*P	Pn	05 59 13.4	+0.7
RUS				*e*S	Sn	05 59 29.5	+0.9
SKR	**Severo-Kuril's**	**1.22**	**233**	*e*P	Pn	05 59 14.4	+0.9
SKR				*e*S	Sn	05 59 31.5	+1.3
ALID	**Alaid**	**1.43**	**248**	*e*P	Pn	05 59 17.0	+0.7
KRMR	**Karymshinskiy**	**1.44**	**12**	*e*P	Pn	05 59 18.2	+1.9
APC	**Apacha**	**1.53**	**349**	*e*P	Pn	05 59 18.5	+1.1
APC				*e*S	Sn	05 59 38.5	+1.4
PET	**Petropavlovsk**	**1.72**	**21**	*e*P	Pn	05 59 21.1	+1.3
DALK	**Dalny**	**1.75**	**23**	*e*P	Pn	05 59 21.6	+1.4
DALK				*e*S	Sn	05 59 43.9	+1.8
UGLR	**Uglovaya**	**1.93**	**22**	*e*P	Pn	05 59 24.9	+2.2
AVH	**Avacha**	**1.96**	**20**	*e*P	Pn	05 59 25.5	+2.4
KOK	**Koryaka**	**1.97**	**18**	*e*P	Pn	05 59 25.7	+2.5
SMAR	**Somma**	**1.97**	**21**	*e*P	Pn	05 59 25.6	+2.2
KRER	**Koryakskii**	**2.00**	**19**	*e*P	Pn	05 59 25.9	+2.2
SDLR	**Sedlovina**	**2.01**	**22**	*e*P	Pn	05 59 25.2	+1.5
KRX	**Arik**	**2.03**	**17**	*e*P	Pn	05 59 26.6	+2.5
GNL	**Ganaly**	**2.28**	**5**	*e*P	Pn	05 59 29.0	+1.7
MKZ	**Mys Kozlova**	**3.99**	**37**	*e*P	Pn	05 59 51.2	+1.0

baz=242
TDCB S Sg 06 14 15.4 +0.6
baz=242
NDT Datong Townshi 0.27 17⇑*i*P Pg 06 14 11.7 +0.1
baz=12
NDT S Sg 06 14 15.6 +0.4
baz=12
ENA Nanau 0.30 73⇑*i*P Pg 06 14 11.7 -0.4
baz=71
ENA S Sg 06 14 15.8 -0.3
baz=71
TWD Chiawan 0.30 149 *e*P Pb 06 14 12.5 -1.2
baz=151
TWD *e*S Sg 06 14 16.5 +0.3
baz=151
NANB Nanao 0.31 74 ⇑P Pg 06 14 11.7 -0.5
baz=71
NANB S Sg 06 14 15.3 -1.0
baz=71
YHNB Yeheng 0.33 352 ⇑P Pg 06 14 13.1 +0.5
baz=349
YHNB S Sg 06 14 17.0 -0.1
baz=349
NSK Sanguang 0.34 350⇑*i*P Pb 06 14 13.3 -1.1
baz=348
NSK *e*S Sg 06 14 17.5 +0.2
baz=348
CHGB Renai 0.36 219 ⇑P Pg 06 14 13.4 +0.1
baz=221
CHGB *e*S Sg 06 14 18.6 +0.5
baz=221
HWA Hwalien 0.40 156 *e*P Pb 06 14 14.5 -0.9
baz=146
TWE Neicheng 0.44 30⇑*i*P Pg 06 14 14.8 +0.2
baz=41
TWE *e*S Sg 06 14 20.2 -0.1
baz=41
NWLT Wulai 0.44 9 ⇑P Pg 06 14 15.0 +0.3
NWLT *e*S Sg 06 14 20.4 -0.1
WHP Taichung City 0.44 262 ⇑P Pb 06 14 15.8 -0.3
baz=262
WHP S Sb 06 14 21.7 -1.2
baz=262
OWD Renai 0.45 211 *e*P Pg 06 14 14.6 -0.2
baz=212
OWD *e*S Sg 06 14 20.9 +0.2
baz=212
ENLB Shoufeng 0.47 160 *e*P Pb 06 14 15.7 -0.8
baz=148
TWC Suao 0.47 55⇑*i*P Pg 06 14 14.8 -0.4
baz=44
TWC S Sg 06 14 20.9 -0.5
baz=44
NSTT Nanjuang 0.48 307 ⇑P Pb 06 14 16.8 0.0
baz=308
NSTT S Sb 06 14 22.9 -1.1
baz=308
ILA Ilan 0.52 35 *e*P Pg 06 14 15.9 -0.1
baz=44
ESL Shilin 0.53 179 *e*P Pg 06 14 16.2 0.0
baz=169
WLTB Daxi 0.53 343 P Pb 06 14 17.5 -0.1
baz=342
WLTB *e*S Sb 06 14 24.7 -0.8
baz=342
TWQ1 Liyutan 0.59 271 *e*P Pb 06 14 19.4 +0.7
baz=271
TWQ1 *e*S Sb 06 14 27.3 0.0
baz=271
SBCB Hsinchu 0.60 318 *e*P Pn 06 14 20.9 +0.1
baz=318
NMLH Miaoli 0.61 289 *e*P Pn 06 14 20.1 -0.9
baz=290
NSY Sanyi 0.61 277 *e*P Pn 06 14 20.0 -1.0
baz=279
NHDH Xindian Distri 0.62 8 *e*P Pb 06 14 18.6 -0.6
baz=359
NTC Toucheng 0.63 36 *e*P Pg 06 14 17.9 -0.4
baz=46
TATO Taipei 0.63 5 ⇑P Pb 06 14 19.0 -0.3
baz=15
TATO S Sg 06 14 27.0 +0.3
baz=15
VWDT VWDT 0.64 204 ⇑P Pg 06 14 18.2 -0.2
baz=210
VWDT *e*S Sg 06 14 26.9 +0.1
baz=210
TWA Mucha 0.65 13 P Pb 06 14 19.1 -0.6
baz=12
TWA *e*S Sg 06 14 27.6 +0.4
baz=12
NCUH Zhongli 0.66 341 *e*P Pn 06 14 20.8 -0.9
baz=339
SMLT Sun Moon Lake 0.66 226⇑*i*P Pb 06 14 19.4 -0.5
baz=227
SMLT *e*S Sb 06 14 28.6 -0.7
baz=227
EGFH Guangfu 0.67 180 *e*P Pg 06 14 18.8 -0.2
baz=171
EOS1 EOS1 0.67 72 *e*P Pg 06 14 19.1 +0.1
baz=59
EOS1 *e*S Sb 06 14 29.1 -0.4
baz=59
TYC Yuchr 0.68 230⇑*i*P Pb 06 14 19.6 -0.5
baz=221
TYC *e*S Sg 06 14 27.2 -0.8
baz=221
EGS 0.68 43⇑*i*P Pg 06 14 19.2 -0.1
baz=53
EGS *e*S Sb 06 14 29.6 -0.2
baz=53
TAP Taipei 0.70 6 *e*P Pb 06 14 20.3 -0.2
baz=356
SSLB Suanglung 0.70 218 ⇑P Pg 06 14 19.4 -0.2
baz=219
SSLB *e*S Sg 06 14 27.9 -0.8
baz=219
TCU Taichung 0.71 254 *e*P Pn 06 14 22.8 +0.4
baz=256
WDJ Dajia District 0.71 271 *e*P Pn 06 14 22.1 -0.3
baz=272
TIPB Shuangxi 0.73 30⇑*i*P Pg 06 14 19.8 -0.3
baz=16
TIPB *e*S Sg 06 14 28.5 -1.1
baz=16
TWS1 Kuangyinshan 0.76 360 *e*P Pb 06 14 22.2 +0.8
baz=358
NWF Wu-fen Shan 0.80 24 *e*P Pg 06 14 21.6 +0.2
baz=22
NWF *e*S Sb 06 14 33.4 +0.3
baz=22
WFSB Wu-fen Shan 0.80 24 ⇑P Pb 06 14 21.6 -0.5
baz=22
WFSB *e*S Sb 06 14 32.9 -0.1
baz=22
YM01 YM01 0.81 9 ⇑P Pb 06 14 22.6 +0.1
baz=8.0
YM04 YM04 0.81 7 *e*P Pb 06 14 22.3 -0.2
baz=21
NTST Danshui 0.82 2 *e*P Pb 06 14 23.2 +0.7
baz=15
WNT Mingjian 0.82 236 *e*P Pn 06 14 23.0 -0.9
baz=238
WJS Zhushan 0.82 231 *e*P Pn 06 14 23.4 -0.5
baz=233
WHYT Xinyi Township 0.83 219 *e*P Pg 06 14 21.5 -0.5
baz=220
YM05 YM05 0.83 9 ⇑P Pb 06 14 23.0 +0.2
baz=21
YM05 *e*S Sb 06 14 33.9 -0.2
baz=21
YM11 YM11 0.83 9 ⇑P Pb 06 14 22.8 0.0
baz=9.0
YM11 *e*S Sn 06 14 35.8 -0.8
baz=9.0
WCHH Zhanghua 0.83 252 *e*P Pn 06 14 24.2 +0.2
baz=254
EHY Hungye 0.84 186 *e*P Pb 06 14 22.0 -0.9
baz=178
ANP Anpu 0.85 6 *e*P Pb 06 14 23.1 +0.1
baz=20
HGSD Ruisui 0.85 180 *e*P Pb 06 14 22.9 0.0
baz=190
YM08 YM08 0.86 10 *e*P Pb 06 14 23.1 -0.1
baz=9.0
YULB Yu-li 0.95 187 *e*P Pg 06 14 24.0 -0.4
baz=178
YULB *e*S Sg 06 14 36.6 -0.2
baz=178
TWF1 Yuli 0.99 187 *e*P Pb 06 14 25.4 -0.1
baz=177
TWF1 *e*S Sb 06 14 38.5 -0.2
baz=177
WGK Gukeng 1.02 231 *e*P Pn 06 14 27.1 +0.5
baz=231
RLNB Erlin 1.07 245 *e*P Pn 06 14 28.3 +0.9
baz=246
FULB Fuli 1.14 186 *e*P Pn 06 14 28.6 +0.3
baz=188
FULB *e*S Sn 06 14 44.8 +0.6
baz=188
CHN2 Minshiung 1.19 227 *e*P Pn 06 14 30.4 +1.5
baz=243
ELDTW Lidau 1.21 198 *e*P Pg 06 14 28.2 -1.1
baz=187
CHY Chiayi 1.24 228 *e*P Pn 06 14 30.3 +0.6
baz=244
TPUB Ta-pu 1.27 215 *e*P Pn 06 14 30.2 +0.1
baz=213
TPUB *e*S Sn 06 14 49.5 +2.3
baz=213
STYT Tauyuan 1.32 208 *e*P Pb 06 14 31.9 +0.7
baz=196
STYT *e*S Sn 06 14 50.3 +1.6
baz=196
JYNG Yonagunijimaku 1.39 85 P Pg 06 14 32.3 -0.5
JYNG S Sn 06 14 50.9 +0.6
SNST Tainan City 1.40 217 *e*P Pn 06 14 33.8 +0.8
baz=218
PCYT Pengchaiyu 1.41 24 *e*P Pn 06 14 31.6 -0.4
baz=6.0
YOJ Yonaguni jima 1.45 85 P Pn 06 14 32.4 -0.2
baz=75
YOJ Yonaguni jima 1.45 85 P Pb 06 14 32.9 -0.4
YOJ *e*S Sg 06 14 53.2 +0.4
CHN8 Yiju 1.49 229 *e*P Pg 06 14 34.4 -0.3
baz=238
CHN8 *e*S Sg 06 14 56.3 +2.3
baz=238
SLGT Liugui 1.52 208 *e*P Pg 06 14 35.1 -0.1
baz=197
TWG Pinlang 1.55 192 *e*P Pg 06 14 35.2 -0.6
baz=173
TWGBT Beinan 1.55 192 *e*P Pg 06 14 35.0 -0.8
baz=173
MASBT Mashibuluo 1.87 203 *e*P Pg 06 14 40.7 -1.3
baz=204
MASBT *e*S Sg 06 15 06.0 -0.2
baz=204
PNG Penghu 1.88 246 *e*P Pb 06 14 40.5 -0.1
baz=246
PHUB P'eng-hu 1.89 244 *e*P Pn 06 14 38.7 +0.2
baz=245
WDGT Dungji 1.94 237 *e*P Pb 06 14 41.9 +0.2
baz=232
WDGT *e*S Sg 06 15 06.8 -1.7
baz=232
EAST Anshuo 2.02 195 *e*P Pg 06 14 43.7 -1.1
baz=177
TAW Tawu 2.03 194 *e*P Pb 06 14 42.9 -0.4
baz=176
IRIF Iriomote-Funau 2.10 90 P Pn 06 14 41.9 +0.4
IRIF S Sn 06 15 08.9 +1.1
VCHM Qimei 2.15 239 *e*P Pb 06 14 43.6 -1.6
baz=239
HATJ Hateruma jima 2.19 97 *e*S Sn 06 15 10.5 +0.5
PTMZ Houxiangcun 2.21 289 *e*P Pn 06 14 43.0 0.0
baz=287
MATB Ma-tsu 2.25 324 *e*P Pn 06 14 43.8 +0.3
baz=321
JKRS Kuro-shima 2.36 92 P Pn 06 14 46.5 +1.4
JKRS *e*S Sn 06 15 15.6 +1.4
JIJ Ishigaki jima 2.48 89 P Pn 06 14 47.3 +0.6
JIJ *e*S Sn 06 15 17.7 +0.6
KNMB Chin-men Tao 2.77 273 *e*P Pn 06 14 50.9 +0.1
baz=275
JTJ Tarama 3.00 84 P Pn 06 14 55.2 +1.3
AXDP Jialang 3.19 281 *e*P Pn 06 14 56.3 -0.2
baz=282

ISCJB ***12*** *06:14:07.0±0.8, 31°.31S±0°.03×69°.09W±0°.05, h116km±6km, Error ellipse: s-maj=6.6km s-min=4.2km az=176.3*
GUC ***12*** *06:14:06.4±0.5, 31°.29S×69°.46W, h155km±12km, ML3.2*
SJA ***12*** *06:14:07.0±0.7, 31°.31S×69°.11W, h108km±3km, ML3.1, MW3.4*

ISC 12 06:14:07.7±1.7, 31°.30S±0°.03×69°.10W±0°.05, h111km±12km, n23, σ0s51/41, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZON	**Zonda**	**0.43**	**124**	*e*P		**Pn**	**06 14 23.8**	**-0.5**
ZON				IAML			06 14 25.0	
	comp=Z,218nm,0.1s							
ZON				*e*S		**Sn**	**06 14 36.2**	**-0.5**
RTLS	**Leoncito**	**0.52**	**199**	*e*P		**Pn**	**06 14 25.0**	**-0.2**
RTLS				IAML			06 14 25.1	
	comp=Z,453nm,0.1s							
RTLS				*e*S		**Sn**	**06 14 38.6**	**+0.3**
RTLL	**Cerro Villicun**	**0.54**	**93**	*e*P		**Pn**	**06 14 24.4**	**-0.5**
RTLL				*e*S		**Sn**	**06 14 37.4**	**-0.4**
AMOG	**MOGNA**	**0.64**	**55**	*e*P		**Pn**	**06 14 25.7**	**0.0**
AMOG				*e*S		**Sn**	**06 14 39.2**	**-0.1**
ACCO	**Cerro Coronel**	**0.71**	**3**	*e*P		**Pn**	**06 14 27.0**	**+0.4**
ACCO				*e*S		**Sn**	**06 14 41.9**	**+1.1**
RTCV	**Cerro Valdivia**	**0.73**	**139**	*e*P		**Pn**	**06 14 26.3**	**-0.2**
RTCV				*e*S		**Sn**	**06 14 40.4**	**-0.3**
CFA	**Coronel Fontan**	**0.80**	**112**	*e*P		**Pn**	**06 14 26.6**	**-0.4**
CFA				*e*S		**Sn**	**06 14 41.3**	**-0.3**
AUSP	**Uspallata**	**0.95**	**195**	*e*P		**Pn**	**06 14 28.7**	**0.0**
AUSP				*e*S		**Sn**	**06 14 44.8**	**+0.2**
ACDV	**Cuesta del Vie**	**1.13**	**359**	*e*P		**Pn**	**06 14 30.9**	**+0.3**
ACDV				*e*S		**Sn**	**06 14 48.3**	**+0.6**
ACDV				IAML			06 14 49.4	
	comp=Z,222nm,0.4s							
AROD	**Rodeo**	**1.18**	**344**	*e*P		**Pn**	**06 14 31.8**	**+0.6**
AROD				*e*S		**Sn**	**06 14 49.3**	**+0.3**
ASAL	**Salagasta**	**1.30**	**170**	*e*P		**Pn**	**06 14 32.5**	**+0.1**
ASAL				*e*S		**Sn**	**06 14 51.4**	**+0.3**
ARCO	**CERRO ARCO**	**1.54**	**175**	*e*P		**Pn**	**06 14 35.2**	**0.0**
ARCO				*e*S		**Sn**	**06 14 56.7**	**+0.7**
ARCO				IAML			06 14 58.6	
	comp=Z,172nm,0.4s							
CMCH	**Combarbala**	**1.63**	**274**	*e*P		**Pn**	**06 14 35.9**	**-0.4**
CMCH				*e*S		**Sn**	**06 14 58.1**	**+0.2**
CMCH				IAML			06 14 59.3	
	comp=N,455nm,0.5s							
AAGR	**Agrelo**	**1.79**	**173**	*e*P		**Pn**	**06 14 38.2**	**0.0**
GO04	**Tololo Observa**	**1.85**	**307**	⇓*e*P		**Pn**	**06 14 38.7**	**-0.3**
GO04				*e*S		**Sn**	**06 15 02.9**	**0.0**
GO04				IAML			06 15 05.8	
	comp=E,480nm,0.4s							
ACAN	**Cantantal**	**1.89**	**121**	*e*P		**Pn**	**06 14 39.3**	**-0.1**
FCH	**Farellones**	**2.25**	**206**	*e*P		**Pn**	**06 14 44.7**	**+0.4**
FCH				*i* S		**Sn**	**06 15 13.9**	**+1.7**
FCH				IAML			06 15 18.9	
	comp=E,82nm,0.2s							
PEL	**Peldehue**	**2.27**	**216**	*e*P		**Pn**	**06 14 43.8**	**-0.4**
PEL				*i* S		**Sn**	**06 15 11.8**	**-0.5**
PEL				IAML			06 15 13.4	
	comp=N,78nm,0.3s							
ROCH	**El Roble**	**2.32**	**224**	*e*P		**Pn**	**06 14 44.2**	**-0.8**
ROCH				*e*S		**Sn**	**06 15 13.3**	**-0.3**
CLCH	**Cerro Calan**	**2.41**	**210**	*e*P		**Pn**	**06 14 45.8**	**-0.2**
CLCH				*i* S		**Sn**	**06 15 15.8**	**+0.3**
CLCH				IAML			06 15 18.6	
	comp=E,82nm,0.5s							
ANTU	**Antumapu**	**2.60**	**209**	IAML			06 15 22.4	
	comp=E,62nm,0.4s							
LCO	**Las Campanas**	**2.67**	**328**	*e*P		**Pn**	**06 14 49.1**	**-0.6**
LCO				*i* S		**Sn**	**06 15 21.1**	**-0.7**
LCO				IAML			06 15 22.0	
	comp=E,87nm,0.3s							
LMEL	**Las Melosas**	**2.70**	**200**	*e*P		**Pn**	**06 14 50.2**	**+0.3**
LMEL				IAML			06 15 31.0	
	comp=N,37nm,0.2s							

BJI ***12*** *06:31:13.7, 14°.08N×120°.81E, h115km, mb4.5/37, mB4.8/21*
MAN ***12*** *06:31:14.3, 14°.17N×120°.27E, h100km, mb5.1, ML4.1, MS4.1*
MAN INTENSITY II - PASAY CITY; LUBANG OCCIDENTAL MINDORO.
MOS ***12*** *06:31:14.4±0.8, 14°.15N×120°.58E, h112km, mb4.5/15, Error ellipse: s-maj=13.0km s-min=7.0km az=116.9*
IDC ***12*** *06:31:15.1±0.4, 14°.17N×120°.62E, h103km±3km, mb4.0/25, mb1 4.1/25, mb1mx4.0/42, mbtmp4.3/25, MS3.3/7, Ms1 3.3/7, ms1mx3.0/35, Error ellipse: s-maj=12.6km s-min=9.2km az=74.0*
ISCJB ***12*** *06:31:15.3±0.2, 14°.27N±0°.02×120°.57E±0°.03, h111km±3km, mb4.5/72, Error ellipse: s-maj=5.5km s-min=3.4km az=1.0*
NEIC ***12*** *06:31:15.9±0.4, 14°.20N×120°.64E, h110km±4km, mb4.5/38, Error ellipse: s-maj=5.3km s-min=3.6km az=104.0*
NEIC Felt [II] at Manila. Felt [II PIVS] on Lubang Island and at Pasay. Also felt at Bacoor, Batangas and Muntinlupa City.
KLM ***12*** *06:31:21.0, 14°.54N×120°.56E, h180km, mb5.1*
DJA ***12*** *06:31:21.8±0.9, 14°N±5°×12°OE±°, h161km±13km, M4.9/21, mb4.7/21, mB5.7/4, Mw(mB)5.2/4*

ISC 12 06:31:15.9±0.4, 14°.22N±0°.03×120°.47E±0°.04, h106km±3km, h106km:pP-P, n206, σ1s77/230, mb4.5/73, 8C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**0.46**	**104**	P		**Pn**	**06 31 31.6**	**-0.5**
	10μm,0.3s,baz=280,slow=1.9,SNR=540							
TGY				S		**Sn**	**06 31 43.0**	**-1.4**
	5μm,0.3s,baz=290,slow=21,SNR=20							
TGY	**Tagaytay City**	**0.46**	**104**	⇑*i*P		**Pn**	**06 31 31.6**	**-0.6**
TGY				*i* S		**Sn**	**06 31 44.8**	**+0.4**
POLP	**Polilio Island**	**1.51**	**70**	*e*P		**Pn**	**06 31 43.2**	**+0.6**
POLP				*e*S		**Sn**	**06 32 04.9**	**+2.1**
BOAC	**Boac**	**1.53**	**119**	*e*P		**Pn**	**06 31 43.4**	**+0.5**
BOAC				*e*S		**Sn**	**06 32 06.0**	**+2.7**
SCZP	**Santa Cruz**	**1.64**	**341**	*e*P		**Pn**	**06 31 42.5**	**-1.7**
SCZP				*e*S		**Sn**	**06 32 04.0**	**-1.8**
SJMP	**San Jose**	**1.85**	**160**	*e*P		**Pn**	**06 31 46.5**	**-0.4**
SJMP				*e*S		**Sn**	**06 32 09.6**	**-0.9**
BUSP	**Coron**	**2.22**	**187**	*e*P		**Pn**	**06 31 49.9**	**-1.7**
BUSP				*e*S		**Sn**	**06 32 15.8**	**-3.0**
BOLP	**Bolinao**	**2.22**	**346**	*e*P		**Pn**	**06 31 50.2**	**-1.3**
BOLP				*e*S		**Sn**	**06 32 18.5**	**-0.3**
OTRP	**Odiongan**	**2.38**	**141**	*e*P		**Pn**	**06 31 54.4**	**+0.8**
OTRP				*e*S		**Sn**	**06 32 23.4**	**+0.8**
CAUP	**Cauayan**	**3.01**	**25**	*e*P		**Pn**	**06 32 02.7**	**+0.7**
CAUP				*e*S		Sn	06 33 01.7	+24
ENPP	**El Nido**	**3.16**	**199**	*e*P		**Pn**	**06 32 02.5**	**-1.5**
ENPP				*e*S		**Sn**	**06 32 36.7**	**-4.3**
CUYO	**Cuyo Island**	**3.39**	**171**	*e*P		**Pn**	**06 32 05.5**	**-1.5**
PALP	**Palanan**	**3.40**	**33**	*e*P		**Pn**	**06 32 08.4**	**+1.3**
PALP				*e*S		**Sn**	**06 32 44.8**	**-1.9**
ABRA	**Dolores**	**3.42**	**4**	*e*P		**Pn**	**06 32 06.3**	**-1.1**
ABRA				*e*S		**Sn**	**06 32 40.6**	**-6.7**
RCP	**Roxas**	**3.45**	**140**	⇑*e*P		**Pn**	**06 32 08.9**	**+1.1**
APYP	**Conner**	**3.70**	**11**	*e*P		**Pn**	**06 32 12.0**	**+0.8**
APYP				*e*S		**Sn**	**06 32 51.1**	**-2.9**
KDM	**Kudat**	**8.09**	**207**	P		**Pn**	**06 33 13.7**	**+3.0**
TWG	**Pinlang**	**8.58**	**4**	*e*Pn		**Pn**	**06 33 15.8**	**-1.5**
DAV	**Davao City (W)**	**8.69**	**144**	LR		LR	06 37 34.9	
	comp=Z,107nm,18.6s,baz=300,slow=44							
KKM	**Kota Kinabalu**	**9.14**	**208**	*e*Pn		**Pn**	**06 33 27.4**	**+2.4**
KKM	**Kota Kinabalu**	**9.14**	**208**	P		Pn	06 33 34.6	+10
SSLB	**Suanglung**	**9.53**	**3**	*e*Pn		**Pn**	**06 33 29.4**	**-0.8**
TSM	**Tawau**	**10.19**	**195**	P		**Pn**	**06 33 41.5**	**+2.3**
YHNB	**Yeheng**	**10.43**	**5**	*e*Pn		**Pn**	**06 33 43.3**	**+1.1**
BTM	**Bintulu**	**13.15**	**214**	P		**P**	06 34 29.7	+4.9
MPSI	**Mapaga**	**13.80**	**182**	P		**P**	**06 34 34.4**	**+2.4**
SBUM	**Sibu**	**14.25**	**216**	*e*Pn		**Pn**	**06 34 33.0**	**0.0**
SBUM	**Sibu**	**14.25**	**216**	P		**P**	**06 34 40.0**	**+3.0**
MTKI	**Muara Teweh, K**	**16.04**	**201**	P		P	06 35 08.4	+12
SKNT	**Sakolnakorn**	**16.12**	**282**	P		**P**	**06 34 59.8**	**+2.1**
	2.3nm,1.2s							
KSM	**Kuching**	**16.16**	**219**	*e*Pn		**P**	**06 34 58.5**	**+0.3**
	49nm,0.6s							
KSM	**Kuching**	**16.16**	**219**	P		**P**	**06 35 03.2**	**+5.0**
NJ2	**Nanjing**	**17.82**	**356**	*e*P		**Pn**	**06 35 17.4**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,22nm,0.5s							
SRAK	**Srakaew**	**17.88**	**272**	P		**P**	**06 35 14.1**	**-3.0**
	58nm,0.8s,642nm							
CHAI	**Chaiyaphum**	**17.93**	**278**	P		**Pn**	**06 35 19.9**	**+1.3**
	16nm,1.1s,157nm							
PBKT	**Sadao Pong**	**18.95**	**280**	*e*P		**P**	**06 35 30.9**	**+2.1**
	9.1nm,0.7s							
PBKT	**Sadao Pong**	**18.95**	**280**	P		**P**	**06 35 30.9**	**+2.1**
	17nm,0.7s							
PATY	**Pattaya**	**19.10**	**268**	P		**Pn**	**06 35 34.0**	**+1.5**
	14nm,1.0s							
KTGM	**Kuala Trenggan**	**19.22**	**244**	P		**Pn**	**06 35 34.5**	**+0.6**
UTTA	**Uttaradit**	**19.47**	**283**	P		**Pn**	**06 35 39.0**	**+2.3**
	3.8nm,0.7s							
KMI	**Kunming**	**19.89**	**306**	P		Pn	06 35 42.3	+0.5
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
KMI				pmax		pmax		
	comp=Z,140nm,4.1s							
PHET	**Kaeng Krachan**	**20.30**	**269**	P		**P**	**06 35 46.6**	**+3.0**
	7.5nm,0.7s,136nm							
SUKH	**Sukhothai**	**20.31**	**282**	P		**P**	**06 35 46.2**	**+2.6**
	14nm,0.7s							
UTHA	**Uthaitani**	**20.37**	**276**	P		**P**	**06 35 46.5**	**+2.3**
	6.8nm,0.6s,76nm							
LAMP	**Lampang**	**20.45**	**285**	P		Pn	06 35 48.5	+0.3
	10nm,0.6s,122nm							
MYKOM	**Kota Tinggi**	**20.55**	**235**	*e*P		**P**	**06 35 47.8**	**+1.6**
	16nm,1.1s							
MYKOM	**Kota Tinggi**	**20.55**	**235**	P		Pn	06 35 50.2	+0.8
KGM	**Kluang**	**20.84**	**236**	P		**P**	**06 35 51.2**	**+1.9**
UMPA	**Umpang Tak**	**20.95**	**278**	P		**P**	**06 35 52.8**	**+2.3**
	25nm,0.9s,1μm							
CM01	**Chiang Mai Arr**	**21.06**	**284**	*e*P		**P**	**06 35 53.2**	**+1.5**
JNU	**Nakatsue**	**21.07**	**25**	*e*P		**P**	**06 35 52.4**	**+0.7**
	12nm,1.0s							
JNU	**Nakatsue**	**21.07**	**25**	P		**P**	**06 35 52.4**	**+0.7**
	4.4nm,0.6s,baz=185,slow=11,SNR=4.0							
CM31	**Chiang Mai Arr**	**21.08**	**284**	*e*P		**P**	**06 35 54.2**	**+2.2**
	57nm,1.0s							
CMAR	**Chiang Mai Arr**	**21.08**	**284**	P		**P**	**06 35 53.6**	**+1.7**
	27nm,0.8s,baz=92,slow=8.4,SNR=113							
CMMT	**Chiang Mai**	**21.13**	**285**	P		**P**	**06 35 53.5**	**+1.0**
	19nm,0.9s							
CHTO	**Chiang Mai**	**21.14**	**285**	*e*P		**P**	**06 35 52.8**	**+0.3**
	17nm,0.9s							
CHTO	**Chiang Mai**	**21.14**	**285**	*e*P		**P**	**06 35 52.8**	**+0.3**
CHTO				pmax		pmax		
	comp=Z,17nm,0.9s							
CHTO	**Chiang Mai**	**21.14**	**285**	P		**P**	**06 35 53.6**	**+1.1**
	comp=Z,85nm,0.8s							
TRTT	**Trang**	**21.35**	**255**	P		**P**	**06 35 56.7**	**+1.9**
	comp=Z,8.6nm,0.9s							
KULM	**Kulim**	**21.44**	**248**	*e*P		**P**	**06 35 56.3**	**+0.5**
	comp=Z,17nm,1.1s							
KULM	**Kulim**	**21.44**	**248**	P		**P**	**06 35 57.2**	**+1.5**
IPM	**Ipoh**	**21.47**	**245**	*e*P		**P**	**06 35 56.3**	**+0.2**
	comp=Z,14nm,0.5s							
IPM	**Ipoh**	**21.47**	**245**	P		**P**	**06 35 56.7**	**+0.6**
KRAB	**Krabi**	**21.69**	**256**	P		**P**	**06 35 59.7**	**+1.2**
XAN	**Xi'an**	**22.34**	**334**	P		**P**	**06 36 04.9**	**-0.2**
XAN				pP		sP	06 36 34.8	-3.8
XAN				pmax		pmax		
	comp=Z,10.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,98nm,6.7s							
XAN	**Xi'an**	**22.34**	**334**	*e*P		**P**	**06 36 05.0**	**-0.1**
	comp=Z,7.5nm,0.6s							
XAN	**Xi'an**	**22.34**	**334**	*e*P		**P**	**06 36 05.0**	**-0.1**
XAN				pmax		pmax		
	comp=Z,8.0nm,0.6s							
CD2	**Chengdu**	**22.63**	**320**	P		**P**	**06 36 08.0**	**-0.1**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
SRBI	**Singaraja**	**22.76**	**194**	P		**P**	**06 36 11.0**	**+1.5**
EDFI	**Ende, Flores**	**22.85**	**177**	P		**P**	**06 36 11.5**	**+1.1**
PLAI	**Plampang**	**23.05**	**187**	P		**P**	**06 36 13.8**	**+1.5**
NGJI	**Ngawi**	**23.23**	**203**	P		**P**	**06 36 17.3**	**+3.3**
	comp=Z,98nm,0.8s							
JAGI	**Jajag, Banyuwa**	**23.39**	**196**	*e*P		**P**	**06 36 16.8**	**+1.3**
	comp=Z,51nm,0.9s							
JAGI	**Jajag, Banyuwa**	**23.39**	**196**	P		**P**	**06 36 17.1**	**+1.6**
WOJI	**Wonogiri, Jawa**	**23.87**	**204**	P		**P**	**06 36 21.6**	**+1.8**
KSAR	**Wonju Array Be**	**24.05**	**15**	P		**P**	**06 36 21.0**	**-0.2**
KSAR	**Wonju Array Be**	**24.05**	**15**	P		**P**	**06 36 21.0**	**-0.2**
KSRS	**Korea Array**	**24.08**	**15**	P		**P**	**06 36 21.0**	**-0.4**

comp=Z,3.0nm,0.7s,baz=199,slow=10,SNR=9.1
KSRS LR LR 06 45 36.8
comp=Z,30nm,20.0s,baz=201,slow=36
PSI Prapat 24.11 244 *e*P **P 06 36 22.7 +0.6**
comp=Z,34nm,1.0s
PSI Prapat 24.11 244 *e*P **P 06 36 22.7 +0.6**
PSI pmax pmax
comp=Z,34nm,1.0s
PSI Prapat 24.11 244 P **P 06 36 22.6 +0.6**
comp=Z,24nm,0.8s,baz=0.7,slow=3.0,SNR=22
KPJI Karang Pucung 24.28 209 P **P 06 36 25.5 +2.0**
BATI Baumata 24.47 172 P **P 06 36 24.4 -0.8**
comp=Z,26nm,0.4s,baz=344,slow=7.4,SNR=3.7
LHSI Lahat 24.57 224 P **P 06 36 28.4 +2.2**
MNSI Mandailing Nat 24.59 239 P **P 06 36 27.0 +0.6**
MDSI Maura Dua 24.63 222 P **P 06 36 27.5 +0.9**
KCSI Kotacane, Aceh 24.79 247 P **P 06 36 28.9 +0.7**
comp=Z,28nm,0.9s
CISI Cisompet, Garu 25.01 211 *e*P **P 06 36 30.6 +0.3**
comp=Z,27nm,0.7s
CISI Cisompet, Garu 25.01 211 P **P 06 36 32.4 +2.2**
comp=Z,49nm,0.8s,comp=Z,3μm
LWLI Liwa 25.11 222 P **P 06 36 35.0 +3.9**
comp=Z,41nm,0.8s,comp=Z,7μm
KASI Kota Agung 25.22 220 P **P 06 36 32.9 +0.9**
comp=Z,50nm,0.9s
MNAI Manna 25.35 225 P **P 06 36 34.8 +1.6**
BJT Baijiatuau 25.98 352 *e*P **P 06 36 39.6 +0.9**
comp=Z,16nm,0.7s
BJT Baijiatuau 25.98 352 *e*P **P 06 36 39.6 +0.9**
BJT pmax pmax
comp=Z,17nm,0.7s
BJI Beijing 26.00 352⇓ *i*P **P 06 36 39.6 +0.8**
BJI pmax pmax
comp=Z,16nm,0.7s
LZH Lanzhou 26.39 329⇓ P **P 06 36 43.8 +1.1**
LZH pP pP 06 37 07.9 +2.1
LZH sP sP 06 37 21.3 +3.1
LZH PP **PnPn 06 37 32.0 +3.0**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,69nm,4.2s
MJAR Matsushiro Arr 27.31 32 LR LR 06 48 43.6
comp=Z,31nm,19.5s,baz=135,slow=38
HHC Hu-ho-hao-te 27.65 345 *e*P **P 06 36 55.8 +2.0**
HHC pP pP 06 37 17.9 +0.6
HHC S **S 06 41 32.1 +4.1**
HHC sS sS 06 42 13.1 +4.3
HHC pmax pmax
comp=Z,10.0nm,0.9s
HHC pmax pmax
comp=Z,88nm,5.6s
SHL Shillong 29.09 297 *e*P **P 06 37 06.9 0.0**
comp=Z,34nm,0.5s
SHL Shillong 29.09 297 *e*P **P 06 37 06.9 0.0**
SHL pmax pmax
comp=Z,34nm,0.5s
SHL Shillong 29.09 297 *e*P **P 06 37 05.0 -1.9**
USRK Ussuriysk Ar. 31.46 16 P **P 06 37 27.6 +0.3**
comp=Z,2.2nm,0.7s,baz=210,slow=7.2,SNR=5.6
ODAN Odare 33.33 297 *e*P **P 06 37 44.7 +0.5**
comp=Z,32nm,0.5s
RAMN Ramite 34.03 297 *e*P **P 06 37 50.7 +0.4**
comp=Z,65nm,1.0s
JIRN Jiri 34.57 298 *e*P **P 06 37 55.5 +0.4**
comp=Z,56nm,0.5s
GUN Gumba 34.90 299 *e*P **P 06 37 58.2 +0.3**
comp=Z,54nm,0.6s
PKI Pulchoki 35.22 298 *e*P **P 06 38 00.5 -0.1**
comp=Z,36nm,0.5s
PKIN Phulchoki 35.23 298 *e*P **P 06 38 00.5 -0.1**
comp=Z,27nm,0.5s
ASAJ Asahikawa 35.28 28 P **P 06 37 57.9 -2.6**
comp=Z,3.4nm,0.4s,baz=253,slow=13,SNR=4.3
ULN Ulaanbaatar 35.35 344 *e*P **P 06 38 01.4 +0.1**
comp=Z,14nm,0.5s
ULN Ulaanbaatar 35.35 344 *e*P **P 06 38 01.4 +0.1**
ULN pmax pmax
comp=Z,14nm,0.5s
KKN Kakani 35.38 298 *e*P **P 06 38 02.0 +0.1**
comp=Z,40nm,0.7s
DMN Daman 35.48 298 *e*P **P 06 38 02.5 -0.3**
comp=Z,34nm,0.6s
SONA0 Songino Array 35.50 344 *e*P **P 06 38 03.1 +0.6**
SONM Songino Array 35.50 344 P **P 06 38 03.1 +0.6**
comp=Z,16nm,0.6s,baz=162,slow=10,SNR=115
GKN Gorkha 35.99 298 *e*P **P 06 38 06.5 -0.5**
comp=Z,58nm,0.8s
KLR Kul'dur 36.12 13⇑ *e*P **P 06 38 07.7 +0.1**
KLR Kul'dur 36.12 13 P **P 06 38 07.4 -0.3**
comp=Z,5.9nm,0.7s,baz=225,slow=7.2,SNR=34
WR1 Warramunga Arr 36.58 158 *e*P **P 06 38 10.3 -1.6**
comp=Z,7.1nm,0.9s
WR1 *e*pP **pP 06 38 33.6 -2.3**
WR1 *e*S **S 06 43 39.9 -7.1**
WRA Warramunga Arr 36.58 158 P **P 06 38 10.3 -1.6**
comp=Z,1.1nm,0.4s,baz=331,slow=10,SNR=40
WRA pP **pP 06 38 33.6 -2.3**
comp=Z,3.8nm,0.6s,baz=336,slow=9.6,SNR=8.7
WRA S **S 06 43 39.9 -7.1**
comp=Z,0.6nm,0.8s,baz=330,slow=15,SNR=5.6
KOLN Koldanda 36.82 297 *e*P **P 06 38 14.2 +0.1**
comp=Z,27nm,0.7s
DANN Dangsing 36.82 298 *e*P **P 06 38 14.3 0.0**
comp=Z,93nm,0.7s
PYUN Piuthan 37.42 298 *e*P **P 06 38 19.4 +0.2**
comp=Z,129nm,0.8s
ZAK Zakamensk 38.69 342 *e*P **P 06 38 29.1 -0.3**
ZAK pmax pmax
comp=Z,8.0nm,0.8s
PALK Pallekele 39.63 264 *e*P **P 06 38 38.4 +0.7**
comp=Z,6.0nm,1.1s
PALK Pallekele 39.63 264 *e*P **P 06 38 38.4 +0.7**
PALK pmax pmax
comp=Z,6.0nm,1.1s
PALK Pallekele 39.63 264 P **P 06 38 38.4 +0.7**
comp=Z,2.2nm,0.3s,baz=299,slow=1.2,SNR=4.2
TLY Talaya 39.75 344 *e*P **P 06 38 38.6 +0.5**
comp=Z,15nm,0.6s
TLY Talaya 39.75 344 *c i*P **P 06 38 38.8 +0.7**
AS31 Alice Springs 39.88 161 *e*P **P 06 38 0.0 -1.4**
comp=Z,1.2nm,0.6s
AS31 *e*S **S 06 44 30.4 -6.2**
ASAR Alice Springs 39.88 161 P **P 06 38 38.6 -0.8**
comp=Z,1.9nm,0.4s,baz=336,slow=6.8,SNR=35
ASAR pP **pP 06 39 00.7 -2.9**
comp=Z,2.3nm,0.5s,baz=338,slow=6.8,SNR=6.7
ASAR S **S 06 44 30.4 -6.2**
comp=Z,1.0nm,0.8s,baz=342,slow=15,SNR=3.4
HYB Hyderabad 40.40 280 *i*P **P 06 38 45.0 +1.0**
WMQ Urumqi 40.66 323 *e*P **P 06 38 48.1 +2.3**
WMQ LR LR
comp=Z,81nm,24.9s
WMQ LR LR
comp=Z,84nm,16.5s
BOD Bodaibo 43.80 355 *e*P **P 06 39 07.7 -3.2**
BOD pmax pmax
comp=Z,6.0nm,1.9s
MK01 Makanchi Array 45.47 323 *e*P **P 06 39 24.4 -0.1**
MK31 Makanchi Array 45.49 323 *e*P **P 06 39 26.0 +1.4**
comp=Z,2.6nm,0.8s
MK31 Makanchi Array 45.49 323 *e*P **P 06 39 26.0 +1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK32 Makanchi Array 45.49 323 *e*P **P 06 39 25.6 +1.0**
MK32 *e*pP **pP 06 39 49.9 +0.5**
MK32 *e*PcP **PcP 06 41 01.9 +0.1**
MKAR Makanchi Array 45.49 323 P **P 06 39 25.6 +1.0**
comp=Z,3.5nm,0.8s,baz=124,slow=8.8,SNR=30
MKAR pP **pP 06 39 49.9 +0.5**
comp=Z,1.6nm,0.8s,baz=139,slow=8.7,SNR=3.0
MKAR PcP **PcP 06 41 01.9 +0.1**
comp=Z,1.5nm,0.7s,baz=119,slow=3.9,SNR=5.3
MKAR ScP **ScP 06 44 44.4 -0.7**
comp=Z,1.2nm,0.7s,baz=123,slow=4.5,SNR=7.3
KSH Kashi 46.39 312 *e*P **P 06 39 35.0 +3.0**
KSH pP pP 06 40 00.0 +3.4
KSH S **S 06 46 13.4 +1.6**
KSH pmax pmax
comp=Z,65nm,3.8s
KSH LR LR
comp=Z,150nm,9.6s
KSH LR LR
comp=Z,140nm,9.5s
KSH LR LR

comp=Z,47nm,10.0s
KDJ Kajisay 46.52 315 *e*P **P 06 39 35.0 +2.1**
comp=Z,1.9nm,0.8s
KDJ Kajisay 46.52 315 *e*P **P 06 39 35.1 +2.1**
KDJ pmax pmax
comp=Z,2.0nm,0.8s
NRN Naryn 47.06 314 *e*P **P 06 39 38.6 +1.2**
comp=Z,3.0nm,0.8s
NRN Naryn 47.06 314 *e*P **P 06 39 38.6 +1.2**
NRN pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 48.55 315 *i*P **P 06 39 48.5 -0.1**
AAK pmax pmax
comp=Z,1.0nm,0.9s
AAK Ala-Archa 48.55 315 LR LR 07 00 23.1
comp=Z,44nm,19.5s,baz=90,slow=36
PETK Petropavlovsk- 48.68 29 P **P 06 39 49.0 -0.3**
comp=Z,2.5nm,0.6s,baz=232,slow=6.8,SNR=3.3
PEA1 Petropavlovsk- 48.69 29 *e*P **P 06 39 49.0 -0.3**
ARSB Arslanbob 49.15 313 *e*P **P 06 39 53.4 +0.1**
comp=Z,3.5nm,0.8s
KURK Kurchatov 49.64 326 *e*P **P 06 39 57.6 +1.0**
comp=Z,15nm,0.7s
KURK Kurchatov 49.64 326 *ce*P **P 06 39 57.5 +0.9**
KURK pmax pmax
comp=Z,14nm,0.7s
NVS Novosibirsk 49.79 333 *e*P **P 06 39 54.4 -3.2**
NVS *e* 06 40 23.0
STKA Stephens Creek 50.11 156 *e*P **P 06 39 59.4 -0.9**
comp=Z,0.7nm,0.9s
STKA Stephens Creek 50.11 156 *e*P **P 06 39 59.4 -0.9**
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 50.11 156 P **P 06 39 59.4 -0.9**
comp=Z,1.8nm,0.7s,baz=327,slow=8.8,SNR=4.1
GAR Garm 50.42 309 *e*P **P 06 40 03.9 +1.0**
comp=Z,19nm,1.0s
GAR Garm 50.42 309 *e*P **P 06 40 03.9 +1.0**
GAR pmax pmax
comp=Z,19nm,1.0s
MA2 Magadan 50.49 19 LR LR 07 01 58.0
comp=Z,46nm,19.2s,baz=210,slow=36
CHGR Chuyangaron 51.22 308 *e*P **P 06 40 09.8 +1.0**
comp=Z,22nm,0.8s
KK31 Karatay Array 51.46 314 *e*P **P 06 40 11.6 +1.1**
comp=Z,3.7nm,0.9s
KK31 Karatay Array 51.46 314 *e*P **P 06 40 11.6 +1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.9s
KKAR Karatay Array 51.46 314 *e*P **P 06 40 11.6 +1.1**
comp=Z,3.7nm,0.9s
KKAR Karatay Array 51.46 314 *e*P **P 06 40 11.6 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 55.30 326 *e*P **P 06 40 39.3 +1.0**
comp=Z,12nm,1.0s
BRVK Borovoye 55.30 326 *c i*P **P 06 40 39.1 +0.8**
BRVK pmax pmax
comp=Z,13nm,1.0s
TIXI Tiksi 57.63 3 *e*P **P 06 40 53.4 -1.1**
comp=Z,5.0nm,1.1s
TIXI Tiksi 57.63 3 *e*P **P 06 40 53.4 -1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
NRIK Noril'sk 58.86 347 P **P 06 41 03.0 -0.2**
comp=Z,1.5nm,0.3s,baz=125,slow=6.1,SNR=5.2
NRIK pP **pP 06 41 28.5 -0.7**
comp=Z,1.7nm,0.3s,baz=145,slow=12,SNR=2.0
GEYT Alibeck 59.66 306 P **P 06 41 09.5 +0.2**
comp=Z,2.1nm,0.6s,baz=71,slow=5.5,SNR=3.8
GEYT pP **pP 06 41 36.1 +1.4**
comp=Z,0.8nm,0.4s,baz=55,slow=13,SNR=1.2
ABKAR Akbulak array 60.20 319 *e*P **P 06 41 13.6 +0.8**
comp=Z,6.5nm,0.6s
BILL Bilibino 61.29 18⇑ *e*P **P 06 41 22.0 +2.3**
BILL *e**PP **pP 06 41 47.9 +2.1**
BILL *e**SP **sP 06 41 56.7 -0.8**
BILL pmax pmax
comp=Z,2.0nm,1.1s
AKTO Aktyubinsk 61.68 320 LR LR 07 07 19.1
comp=Z,27nm,19.2s,baz=86,slow=35
SVE Sverdlovsk 61.85 327 *e*P **P 06 41 24.2 +0.5**
SVE pmax pmax
comp=Z,27nm,0.8s
ARU Arti 62.83 327 *e*P **P 06 41 30.2 0.0**
comp=Z,17nm,0.6s
ARU Arti 62.83 327 *d i*P **P 06 41 30.2 0.0**
ARU 06 43 48.8
ARU S **S 06 49 51.1 -0.1**
ARU SS **SS 06 53 54.4 -3.4**
ARU pmax pmax
comp=Z,16nm,0.7s
RAYN Ar Rayn 70.87 290 *e*P **P 06 42 22.2 +0.3**
comp=Z,4.3nm,0.9s
RAYN Ar Rayn 70.87 290 *e*P **P 06 42 22.2 +0.3**
RAYN pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 71.38 312 pP pP 06 42 52.9 +1.9
comp=Z,3.1nm,0.9s,baz=45,slow=2.9,SNR=4.3
KLMR Klimovskoe 73.30 330 *e*P **P 06 42 34.8 -0.8**
KLMR pmax pmax
comp=Z,10.0nm,1.3s
KLMR Klimovskoe 73.30 330 *e*P **P 06 42 34.8 -0.8**
KLMR AMP 06 42 37.0
comp=Z,10.0nm,1.2s
ILAR Eielson Array 78.39 26 P **P 06 43 03.4 -1.1**
comp=Z,0.4nm,0.7s,baz=267,slow=4.9,SNR=6.2
ILAR pP **pP 06 43 29.2 -2.5**
comp=Z,0.7nm,1.1s,baz=309,slow=5.7,SNR=2.2
ILB Eielson Array 78.39 26 *e*P **P 06 43 03.4 -1.1**
comp=Z,0.1nm,0.3s
ARA0 ARCESS Array S 78.53 339 *e*P **P 06 43 05.0 -0.2**
ARCES ARCESS Array B 78.53 339 P **P 06 43 05.0 -0.2**
comp=Z,2.8nm,0.5s,baz=79,slow=7.3,SNR=30
BR101 Keskin Array S 78.66 308 *e*P **P 06 43 07.0 +0.3**
BRTR Keskin Array B 78.66 308 P **P 06 43 07.0 +0.3**
comp=Z,0.4nm,0.5s,baz=90,slow=7.2,SNR=2.7
FIA0 FINESS Array S 79.73 331 *e*P **P 06 43 11.5 -0.4**
FIA0 *e*pP **pP 06 43 37.7 -1.4**
FIA0 FINESS Array S 79.73 331 *e*P **P 06 43 11.5 -0.4**
FIA0 *e**PP **pP 06 43 37.7 -1.4**
FINES FINESS Array B 79.73 331 P **P 06 43 11.5 -0.4**
comp=Z,2.1nm,0.5s,baz=56,slow=5.9,SNR=18
FINES pP **pP 06 43 37.7 -1.4**
comp=Z,2.0nm,0.7s,baz=76,slow=5.9,SNR=2.7
AKASG Malin Array Be 79.93 320 P **P 06 43 12.3 -0.8**
comp=Z,0.3nm,0.3s,baz=70,slow=4.9,SNR=3.8
VSU Vasula 79.96 328 *ce*P **P 06 43 12.3 -0.8**
VSU pmax pmax
comp=Z,74nm,2.5s
BUR08 Bucovina Ar. S 83.14 317 *e*P **P 06 43 30.8 +0.5**
comp=Z,2.5nm,0.8s
NC405 NORSAR Array S 86.45 333 *e*P **P 06 43 46.0 -0.6**
comp=Z,13nm,0.6s
NB2 NORSAR Subarra 86.70 333 P **P 06 43 46.4 -1.3**
comp=Z,2.7nm,0.6s,baz=66,slow=4.6
NB200 NORSAR Array S 86.70 333 *e*P **P 06 43 46.5 -1.3**
NOA NORSAR Array B 86.70 333 P **P 06 43 46.5 -1.3**
comp=Z,3.6nm,0.6s,baz=67,slow=4.7,SNR=19
NC204 NORSAR Array S 86.81 333 *e*P **P 06 43 48.0 -0.4**
comp=Z,7.4nm,0.7s
VYHS Vyhne 87.01 319 *e*P P 06 43 44.1 -5.4
VYHS Vyhne 87.01 319 *e*P P 06 43 44.1 -5.4
GEC2 GERESS Array S 90.09 321 *e*P **P 06 44 04.1 -0.1**
comp=Z,1.6nm,0.9s
GEC2 GERESS Array S 90.09 321 *e*P **P 06 44 04.1 -0.1**
GEC2 pmax pmax
comp=Z,2.0nm,0.9s
GERES GERESS Array B 90.09 321 P **P 06 44 04.1 -0.1**
comp=Z,0.7nm,0.7s,baz=72,slow=4.3,SNR=5.9
YKA Yellowknife Ar 92.39 22 P **P 06 44 14.3 0.0**
comp=Z,0.3nm,0.4s,baz=308,slow=4.5,SNR=14
YKA pP **pP 06 44 41.7 -0.4**
comp=Z,0.2nm,0.6s,baz=305,slow=4.7,SNR=2.7
YKB5 Yellowknife Ar 92.39 22 *e*P **P 06 44 14.3 0.0**
PPT Papeete 94.15 107 LR LR 07 22 32.7
comp=Z,38nm,18.9s,baz=194,slow=33
TXAR Lajitas Array 119.26 44 PKP **PKPdf 06 49 52.6 -0.9**
comp=Z,0.3nm,0.7s,baz=14,slow=2.6,SNR=3.6

*ISK **12** 06:31:55.9,36.°68N×43.°39E,h5km,ML3.6/12*
*ISN **12** 06:31:55.1±0.9,36.°70N×43.°40E,h0km±4km,ML3.4*
*TEH **12** 06:31:57.6,36.°70N×43.°43E,h10km,ML3.6*
*DDA **12** 06:31:57.1,36.°71N×43.°42E,h3km±3km,ML3.7*

ISC 12 06:31:57.0±1.1,36.°66N±0.°02×43.°39E±0.°03,h6km±9km,
n57,σ1s31/72,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.34**	**220**	*e*Pg	**Pg**	**06 32 03.0**	**-0.6**
MSL				AML	AML	06 32 03.9	
	comp=Z,784nm,0.2s						
MSL				*e*Sg	**Sg**	**06 32 09.1**	**+1.0**
CUKT	**Cukurca**	**0.61**	**17**	PG	**Pg**	**06 32 07.9**	**-0.9**
CUKT	**Cukurca**	**0.61**	**17**	*i* P	**Pg**	**06 32 08.7**	**-0.1**
CUKT				*i* S	**Sg**	**06 32 17.0**	**+0.3**
CUKT	**Cukurca**	**0.61**	**17**	*e*Pg	**Pg**	**06 32 07.8**	**-1.0**
SIRT	**Sirnak**	**1.13**	**318**	PN	**Pg**	**06 32 18.2**	**-0.5**
SIRT				SN	**Sb**	**06 32 34.7**	**+0.8**
SIRN	**Sirnak**	**1.14**	**317**	*i* P	**Pg**	**06 32 18.9**	**+0.1**
SIRN				*i* S	**Sn**	**06 32 35.8**	**+0.3**
SIRN	**Sirnak**	**1.14**	**317**	*e*Pg	**Pg**	**06 32 18.4**	**-0.5**
YOVA	**Hakkari_Yksek**	**1.17**	**38**	*i* P	**Pn**	**06 32 19.9**	**-0.2**
YOVA				*i* S	**Sg**	**06 32 34.3**	**-0.4**
YOVA				IAML_P			
	comp=Z,13μm,0.2s						
YOVA	**Hakkari_Yksek**	**1.17**	**38**	*e*Pg	**Pg**	**06 32 18.9**	**-0.6**
IKRK	**Kirkuk**	**1.48**	**148**	*e*Pn	**Pn**	**06 32 24.0**	**-0.1**
IKRK				AML	AML	06 32 25.8	
	comp=Z,199nm,0.4s						
IKRK				*e*Sn	**Sg**	**06 32 44.6**	**+0.1**
GEVA	**Gevas**	**1.67**	**351**	*i* P	**Pg**	**06 32 29.4**	**+0.4**
GEVA				*i* S	**Sg**	**06 32 51.2**	**+0.6**
GEVA	**Gevas**	**1.67**	**351**	*e*Pn	**Pg**	**06 32 28.6**	**-0.4**
AKDM	**Akdamar-Van**	**1.69**	**349**	PN	**Pb**	**06 32 28.3**	**-0.4**
AKDM				SN	**Sg**	**06 32 51.2**	**+0.3**
SRTM	**Siirt_Merkez**	**1.77**	**319**	*i* P	**Pn**	**06 32 28.8**	**+0.6**
SRTM				*i* S	**Sg**	**06 32 55.7**	**+1.9**
SRTM				IAML_P			
	comp=Z,9μm,0.3s						
SRTM	**Siirt_Merkez**	**1.77**	**319**	*e*Pn	**Pn**	**06 32 28.3**	**+0.1**
TVAN	**Van**	**1.86**	**0**	*i* P	**Pg**	**06 32 32.8**	**+0.1**
TVAN				IAML_P			
	comp=Z,5μm,0.5s						
TVAN	**Van**	**1.86**	**0**	*e*Pn	**Pb**	**06 32 31.9**	**+0.3**
MAHB	**Mahabad**	**1.87**	**86**	*e*Pn	**Pb**	**06 32 30.8**	**-0.7**
MAHB				IAMB	IAmb	06 33 04.8	
	comp=Z,0.0nm,0.4s						
VANB	**Van**	**1.93**	**0**	PN	**Pn**	**06 32 30.2**	**-0.2**
VANB				SN	**Sn**	**06 32 54.6**	**-0.5**
BTMN	**Batman**	**2.09**	**307**	*i* P	**Pb**	**06 32 35.8**	**+0.5**
BTMN				*i* S	**Sb**	**06 33 02.4**	**+0.9**
BTMN				IAML_P			
	comp=Z,1μm,0.3s						
BTMN	**Batman**	**2.09**	**307**	*e*Pn	**Pb**	**06 32 35.3**	**0.0**
GURO	**Guroymak-BITLI**	**2.17**	**331**	PN	**Pn**	**06 32 34.8**	**+1.0**
MARD	**Mardin**	**2.19**	**288**	*i* P	**Pb**	**06 32 35.8**	**-1.2**
MARD				*i* S	**Sb**	**06 33 03.5**	**-0.8**
MARD				IAML_P			
	comp=Z,3μm,0.2s						
ADCV	**BITLIS_Adilcev**	**2.21**	**346**	*i* P	**Pg**	**06 32 38.3**	**-1.0**
ADCV				IAML_P			
	comp=Z,1μm,0.4s						
ADCV	**BITLIS_Adilcev**	**2.21**	**346**	*e*Pn	**Pb**	**06 32 38.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**2.29**	**311**	PN	**Pn**	**06 32 36.7**	**+1.4**
SVAN	**Silvan-Diyarba**	**2.29**	**311**	*i* P	**Pb**	**06 32 38.3**	**-0.4**
SVAN				*i* S	**Sg**	**06 33 09.9**	**-0.7**
SVAN				IAML_P			
	comp=Z,916nm,0.2s						
SVAN	**Silvan-Diyarba**	**2.29**	**311**	*e*Pn	**Pb**	**06 32 38.1**	**-0.6**
IAZR	**Azarshahr**	**2.31**	**63**	*e*Pn	**Pb**	**06 32 38.6**	**-0.5**
IAZR				IAMB	IAmb	06 33 24.6	
	comp=N,12μm,0.7s						
VMUR	**Van-Muradiye**	**2.33**	**4**	*i* P	**Pb**	**06 32 39.1**	**-0.4**
VMUR				IAML_P			
	comp=Z,595nm,0.5s						
VMUR	**Van-Muradiye**	**2.33**	**4**	*e*Pn	**Pb**	**06 32 39.0**	**-0.4**
MAZI	**Mazidag**	**2.48**	**290**	PN	**Pn**	**06 32 38.6**	**+0.6**
CLDR	**Caldiran**	**2.51**	**9**	PN	**Pn**	**06 32 39.5**	**+0.9**
CLDR	**Caldiran**	**2.51**	**9**	*i* P	**Pb**	**06 32 43.1**	**+0.4**
CLDR	**Caldiran**	**2.51**	**9**	*e*Pn	**Pb**	**06 32 43.0**	**+0.4**
MLAZ	**Malazgirt-MUS**	**2.56**	**345**	PN	**Pn**	**06 32 39.7**	**+0.5**
IMRD	**Marand**	**2.75**	**41**	*e*Pn	**Pn**	**06 32 43.3**	**+1.5**
IMRD				IAMB	IAmb	06 32 54.3	
	comp=Z,1μm,0.4s						
AGRB	**Hanur-Agry**	**2.93**	**354**	PN	**Pn**	**06 32 44.4**	**+0.2**
HANI	**Diyarbakir_Han**	**2.95**	**307**	*i* P	**Pg**	**06 32 51.9**	**-1.6**
HANI				*i* S	**Sg**	**06 33 29.3**	**-2.4**
HANI				IAML_P			
	comp=Z,1μm,0.3s						
IBST	**Bostanabad**	**2.99**	**69**	*e*Pn	**Pn**	**06 32 46.3**	**+1.2**
IBST				IAMB	IAmb	06 32 54.1	
	comp=Z,572nm,0.5s						
BHD	**Baghdad**	**3.48**	**166**	*e*Pn	**Pn**	**06 32 53.0**	**+1.4**
BHD				AML	AML	06 32 53.7	
	comp=Z,7μm,0.4s						
BHD				*e*Sn	**Sn**	**06 33 33.0**	**-0.1**
IGHG	**Ghaleghazi**	**3.49**	**131**	*e*Pn	**Pn**	**06 32 54.4**	**+2.5**
IGHG				IAMB	IAmb	06 34 01.6	
	comp=Z,1μm,0.6s						
IVIS	**Veis**	**3.54**	**126**	*e*Pn	**Pn**	**06 32 54.3**	**+1.8**
IVIS				IAMB	IAmb	06 34 01.5	
	comp=Z,909nm,0.8s						
KOPR	**Koprukoy-ERZUR**	**3.54**	**341**	PN	**Pn**	**06 32 53.0**	**+0.4**
ISRB	**Sarab**	**3.61**	**70**	*e*Pn	**Pn**	**06 32 55.9**	**+2.3**
ISRB				IAMB	IAmb	06 33 08.3	
	comp=Z,488nm,0.4s						
GNI	**Garni**	**3.64**	**17**	PN	**Pn**	**06 32 54.5**	**+0.5**
IBDR	**Badra**	**4.11**	**149**	*e*Pn	**Pn**	**06 33 01.0**	**+0.7**
IBDR				AML	AML	06 33 02.0	
	comp=Z,102nm,0.6s						
IBDR				*e*Sn	**Sn**	**06 33 47.0**	**-1.7**
RTB	**Rutbah**	**4.42**	**216**	*e*Pn	**Pn**	**06 33 06.0**	**+1.4**
RTB				AML	AML	06 33 13.8	
	comp=Z,57nm,0.5s						
RTB				*e*Sn	**Sn**	**06 33 55.5**	**-0.9**
NSR	**Nassriya**	**6.08**	**157**	*e*Pn	**Pn**	**06 33 29.0**	**+1.6**
NSR				AML	AML	06 33 30.5	
	comp=Z,291nm,0.5s						
NSR				*e*Sn	**Sn**	**06 34 35.0**	**-2.3**
ASF	**Jabal al Asfar**	**6.99**	**232**	P	**Pb**	**06 33 56.4**	**-2.3**
SHMJ	**Saham**	**7.40**	**240**	P	**Pb**	**06 34 10.5**	**+4.7**
HSUJ	**Al Zarqa**	**7.48**	**235**	P	**Pb**	**06 34 10.5**	**+3.3**
SWQJ	**Swaqa**	**8.14**	**230**	P	Pb	06 34 11.5	-6.9
KARJ		**8.47**	**232**	P	Pn	06 34 11.9	+12
JDRJ	**Daraweish**	**8.74**	**230**	P	Pn	06 34 15.0	+11
HSNJ	**Maan**	**9.06**	**227**	P	**Pn**	**06 34 10.7**	**+2.3**
AQBJ	**Aqaba**	**9.82**	**228**	P	**Pn**	**06 34 15.9**	**-2.8**

*CNRM **12** 06:32:19.2,34.°40N×5.°88W,h3km,ml2.9*
*INMG **12** 06:32:19.3±1.4,34.°80N×5.°27W,h13km±5km,ML2.0, Error ellipse: s-maj=5.9km s-min=2.7km az=73.0*

ISC 12 06:32:21.8±1.0,34.°57N±0.°03×5.°84W±0.°04,h29km±10km,
n19,σ2s17/33,Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSA	**Sarsar**	**0.32**	**3**	P	**Pb**	**06 32 27.9**	**-1.6**
RSA				S	**Sb**	**06 32 34.5**	**-0.2**
SMIR	**Smir Dam**	**1.18**	**19**	P	**Pb**	**06 32 44.7**	**+1.2**
SMIR				S	**Sb**	**06 33 04.0**	**+5.6**
IFR	**Ifrane**	**1.20**	**150**	*e*P	**Pn**	**06 32 41.3**	**-1.6**
IFR				*e*S	**Sn**	**06 32 56.6**	**-1.6**
AVE	**Averroes**	**1.82**	**226**	*e*P	**Pb**	**06 32 58.1**	**+3.7**
AVE				*e*S	**Sb**	**06 33 22.3**	**+5.6**
AVE	**Averroes**	**1.82**	**226**	P	**Pn**	**06 32 50.3**	**-0.8**
AVE				S	**Sn**	**06 33 13.1**	**-0.1**
MD31	**MD31**	**1.92**	**152**	P	**Pn**	**06 32 50.7**	**-1.9**
MD31				S	**Sn**	**06 33 17.0**	**+1.2**
MDT	**Midelt**	**2.03**	**149**	P	**Pn**	**06 32 53.0**	**-1.1**
MDT				S	**Sn**	**06 33 16.6**	**-1.9**
SRHM	**Skhour des Reh**	**2.70**	**220**	P	**Pb**	**06 33 06.1**	**-3.4**
SRHM				S	**Sb**	**06 33 40.1**	**-2.2**
PBDV	**Barranco-do-Ve**	**3.16**	**328**	*e*Pn	**Pn**	**06 33 09.5**	**-0.2**
PBDV				*e*Sn	**Sn**	**06 33 45.7**	**-0.7**
PVAQ	**Vaqueiros**	**3.21**	**332**	*e*Pn	**Pn**	**06 33 09.9**	**-0.4**
PVAQ				*e*Sn	**Sn**	**06 33 46.5**	**-1.1**
OUZM	**OUZ**	**3.73**	**192**	P	**Pn**	**06 33 18.1**	**+0.6**
OUZM				S	**Sn**	**06 34 01.2**	**+0.7**
PTEO	**Sao Teotonio**	**3.78**	**323**	*e*Sn	**Sn**	**06 34 00.2**	**-1.4**
MESJ	**Messejana**	**3.79**	**330**	*e*Sn	**Sn**	**06 34 01.0**	**-0.8**
MESJ				A	A	06 34 04.1	
	2.7nm,0.3s						
PNCL	**Nicolau / Gran**	**4.15**	**329**	*e*Pn	**Pn**	**06 33 22.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**06 34 09.5**	**-1.2**
EVO	**Evora**	**4.33**	**337**	*e*Sn	**Sn**	**06 34 14.9**	**-0.2**

PESTR	**Estremoz**	**4.52 342**	*e*Sn		**Sn**	**06 34 17.5**	**-2.3**
FIGM	**Figuig**	**4.54 121**	P		**Pn**	**06 33 27.5**	**-1.1**
FIGM			S		**Sn**	**06 34 22.2**	**+1.8**
TTIG	**Tnine Tigouga,**	**4.57 209**	P		**Pn**	**06 33 27.8**	**-1.2**
TTIG			S		**Sn**	**06 34 20.7**	**-0.6**
PMTG	**Montargil**	**4.88 338**	*e*Sn		**Sn**	**06 34 26.7**	**-2.1**

NEIC ***12*** *06:51:42.6±0.0, 18°.93N×68°.04W, h83km, MD3.4(RSPR), After RSPR.*

RSPR 12 06:51:42.6, 18°.93N×68°.04W, h83km±5km**, MD3.4**/11**, 6C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.99 118**	⇑	*e*P	Pn	06 52 01.4	-0.4
AGPR	**Aguadilla, PR**	**0.99 118**		*e*S	Sn	06 52 15.2	-0.9
AGPR	**Aguadilla, PR**	**0.99 118**	⇑	*e*P	Pn	06 52 01.4	-0.4
AGPR				*e*S	Sn	06 52 15.2	-0.9
AGP	**Aguadilla**	**1.00 121**		*e*Pn	Pn	06 51 60.0	-1.8
AGP				*e*Sn	Sn	06 52 14.0	-2.2
MPR	**Mayaguez**	**1.11 130**	⇑	*e*P	Pn	06 52 01.1	-2.1
MPR	**Mayaguez**	**1.11 130**		*e*S	Sn	06 52 18.7	0.0
MPR	**Mayaguez**	**1.11 130**		*e*Pn	Pn	06 52 02.1	-1.1
MPR				*e*Sn	Sn	06 52 18.0	-0.6
LSP	**Las Mesas**	**1.17 130**		*e*S	Sn	06 52 20.1	+0.1
LSP	**Las Mesas**	**1.17 130**	⇑	*e*P	Pn	06 52 03.6	-0.4
LSP	**Las Mesas**	**1.17 130**		*e*Pn	Pn	06 52 03.6	-0.4
LSP				*e*Sn	Sn	06 52 20.1	+0.1
CRPR	**Cabo Rojo, PR**	**1.27 136**		*e*S	Sn	06 52 21.5	-0.6
CRPR	**Cabo Rojo, PR**	**1.27 136**	⇓	*e*P	Pn	06 52 03.9	-1.3
CRPR	**Cabo Rojo, PR**	**1.27 136**		*e*Pn	Pn	06 52 02.7	-2.5
CRPR				*e*Pn	Pn	06 52 03.9	-1.3
CRPR				*e*Sn	Sn	06 52 21.5	-0.6
GBPR	**Guanica, Bosqu**	**1.45 131**	⇓	*e*P	Pn	06 52 08.7	+1.2
GBPR	**Guanica, Bosqu**	**1.45 131**		*e*Pn	Pn	06 52 08.7	+1.2
OBIP	**Obispado Ponce**	**1.62 123**		*e*S	Sn	06 52 30.3	+0.3
OBIP	**Obispado Ponce**	**1.62 123**	⇑	*e*P	Pn	06 52 08.6	-1.1
OBIP	**Obispado Ponce**	**1.62 123**		*e*Pn	Pn	06 52 08.7	-0.9
OBIP				*e*Sn	Sn	06 52 30.3	+0.2
CELP	**Cerrillos**	**1.62 121**	⇓	*e*P	Pn	06 52 09.3	-0.4
CELP				*e*S	Sn	06 52 29.2	-1.0
CELP	**Cerrillos**	**1.62 121**		*e*Pn	Pn	06 52 09.3	-0.4
CELP				*e*Sn	Sn	06 52 29.2	-1.0
SJG	**San Juan**	**1.97 114**	⇑	*e*P	Pn	06 52 13.7	-0.5
SJG	**San Juan**	**1.97 114**		*e*S	Sn	06 52 37.8	-0.4
SJG	**San Juan**	**1.97 114**		*e*Pn	Pn	06 52 13.7	-0.5
SJG				*e*Sn	Sn	06 52 37.8	-0.4
SJG				*e*Sn	Sn	06 52 37.9	-0.3
CBYP	**Canovanas**	**2.17 107**		*e*Pn	Pn	06 52 16.2	-0.8
CBYP				*e*Sn	Sn	06 52 40.7	-2.4
HUMP	**Col San Antoni**	**2.22 110**		*e*Pn	Pn	06 52 17.0	-0.5
HUMP				*e*Sn	Sn	06 52 43.4	-0.8
BANI	**BANI**	**2.27 257**		*e*Pn	Pn	06 52 20.0	+1.7
BANI				*e*Sn	Sn	06 52 48.0	+2.4
MTP	**Monte Pirata**	**2.50 109**		*e*Pn	Pn	06 52 20.3	-0.9
MTP				*e*Sn	Sn	06 52 49.8	-1.1
CUPR	**Culebra, Puert**	**2.68 103**		*e*Pn	Pn	06 52 23.5	-0.2
STVI	**Saint Thomas**	**2.98 101**		*e*Pn	Pn	06 52 27.8	+0.1
SDDR	**Presa de Saban**	**3.08 271**		*e*Pn	Pn	06 52 31.4	+2.2
CDVI	**St. Croix**	**3.32 110**		*e*Pn	Pn	06 52 33.9	+1.5

DJA 12 06:51:43.7±2.3, 6°S±8°×10°4E±1°.5, h22km±29km**, M3.5**/4**, MLv3.5**/4**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.71**	**58**	P	Pn	06 51 58.3	-0.1
KASI				S	Sn	06 52 08.0	-0.7
LWLI	**Liwa**	**0.89**	**11**	P	Pn	06 52 01.1	0.0
LWLI				S	Sn	06 52 13.4	0.0
MDSI	**Maura Dua**	**1.43**	**12**	P	Pn	06 52 08.8	+0.4
MNAI	**Manna**	**1.79 329**		P	Pn	06 52 12.9	-0.4

IDC 12 07:07:14.4±0.7, 28°.27N×140°.13E, h390km±12km**, mb2.7**/6**, mb1 2.9**/7**, mb1mx2.7**/48**, mbtmp3.5**/7**, Error ellipse: s-maj=29.4km s-min=19.5km az=66.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.17 122**		P	Pn	07 08 12.0	+1.3
	20nm,0.3s,baz=286,slow=21,SNR=6.0						
JCJ				S	S	07 08 56.0	+0.1
	10nm,0.3s,baz=287,slow=19,SNR=3.6						
SONM	**Songino Array**	**32.61 316**		P	P	07 13 11.7	+0.3
	0.3nm,0.3s,baz=116,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**48.26 187**		P	P	07 15 17.9	0.0
	0.3nm,0.7s,baz=16,slow=9.4,SNR=2.8						
MKAR	**Makanchi Array**	**48.32 309**		P	P	07 15 17.7	-0.5
	0.1nm,0.3s,baz=93,slow=8.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**50.92 314**		P	P	07 15 36.8	-0.6
	0.5nm,0.4s,baz=91,slow=8.5,SNR=8.2						
BVAR	**Borovoye Array**	**55.95 317**		P	P	07 16 13.4	0.0
	0.4nm,0.4s,baz=86,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**71.97 28**		P	P	07 17 56.8	+0.5
	0.1nm,0.6s,baz=296,slow=6.1,SNR=3.5						

IDC ***12*** *07:13:20.1±1.8, 24°.10S×69°.07W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.6/22, mbtmp3.8/3, ML4.3/1, Error ellipse: s-maj=66.7km s-min=47.6km az=94.0*

ISCJB ***12*** *07:13:38.9±0.8, 22°.97S±0°.05×68°.73W±0°.10, h124km±6km, mb3.5/2, Error ellipse: s-maj=15.1km s-min=7.1km az=11.6*

GUC ***12*** *07:13:39.8±0.4, 22°.92S×68°.75W, h115km±3km, ML3.3*

SJA ***12*** *07:13:39.5±0.8, 22°.95S×68°.73W, h114km±5km, MD2.8*

ISC 12 07:13:38.5±1.1, 23°.00S±0°.05×68°.67W±0°.09, h122km±7km**, n24, σ0°.92/42, 7C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.45 330**		*e*P	**Pn**	**07 13 56.9**	**+0.1**
LVC				*e*S	**Sn**	**07 14 09.8**	**-0.7**
LVC	**Limon Verde**	**0.45 330**		*e*P	**Pn**	**07 13 56.8**	**+0.1**
LVC				*i* S	**Sn**	**07 14 09.2**	**-1.3**
PB15	**IPOC Station P**	**0.77 254**		*e*P	**Pn**	**07 13 59.6**	**+0.9**
PB15				*e*S	**Sn**	**07 14 14.5**	**+0.4**
PB15	**IPOC Station P**	**0.77 254**		*e*P	**Pn**	**07 13 59.6**	**+0.9**
PB15				*i* S	**Sn**	**07 14 14.5**	**+0.4**
PB06	**IPOC Station P**	**0.88 289**		*e*P	**Pn**	**07 14 00.4**	**+0.7**
PB06				*e*S	**Sn**	**07 14 15.9**	**+0.2**
PB06	**IPOC Station P**	**0.88 289**	⇑	*e*P	**Pn**	**07 14 00.2**	**+0.5**
PB06				*i* S	**Sn**	**07 14 15.5**	**-0.3**
PB06				IAML		07 14 16.6	
	comp=N,1μm,0.1s						
PB09	**IPOC Station P**	**1.31 336**		*e*P	**Pn**	**07 14 05.1**	**+1.0**
PB09				*e*S	**Sn**	**07 14 23.8**	**+0.3**
PB09	**IPOC Station P**	**1.31 336**	⇑	*e*P	**Pn**	**07 14 05.0**	**+1.0**
PB09				*i* S	**Sn**	**07 14 23.8**	**+0.3**
PB09				IAML		07 14 25.3	
	comp=N,581nm,0.6s						
PB03	**IPOC Station P**	**1.38 313**		*e*P	**Pn**	**07 14 05.3**	**+0.5**
PB03				*e*S	**Sn**	**07 14 24.4**	**-0.4**
PB03	**IPOC Station P**	**1.38 313**	⇑	*i*P	**Pn**	**07 14 05.2**	**+0.4**
PB03				*i* S	**Sn**	**07 14 24.2**	**-0.6**
PB03				IAML		07 14 26.0	
	comp=E,599nm,0.2s						
PB05	**IPOC Station P**	**1.42 276**		*e*P	**Pn**	**07 14 05.9**	**+0.6**
PB05				*e*S	**Sn**	**07 14 25.2**	**-0.3**
PB05	**IPOC Station P**	**1.42 276**	⇑	*e*P	**Pn**	**07 14 05.8**	**+0.6**
PB05				*e*S	**Sn**	**07 14 25.4**	**-0.1**
PB05				IAML		07 14 35.5	
	comp=N,172nm,0.2s						
PB04	**IPOC Station P**	**1.52 296**		*e*P	**Pn**	**07 14 07.0**	**+0.5**
PB04	**IPOC Station P**	**1.52 296**	⇑	*e*P	**Pn**	**07 14 06.9**	**+0.5**
PB04				*e*S	**Sn**	**07 14 27.4**	**-0.2**
PB04				IAML		07 14 34.4	
	comp=N,407nm,0.5s						
PB07	**IPOC Station P**	**1.70 318**		*e*P	**Pn**	**07 14 09.2**	**+0.6**
PB07				*e*S	**Sn**	**07 14 31.3**	**0.0**
PB07	**IPOC Station P**	**1.70 318**	⇑	*i*P	**Pn**	**07 14 09.1**	**+0.6**
PB07				*i* S	**Sn**	**07 14 30.8**	**-0.6**
PB07				IAML		07 14 32.7	
	comp=E,1μm,0.4s						
PB10	**IPOC Station P**	**1.81 253**		*e*P	**Pn**	**07 14 10.5**	**+0.9**
PB10				IAML		07 14 46.1	
	comp=N,124nm,0.3s						
PB02	**IPOC Station P**	**2.02 326**	⇑	*i*P	**Pn**	**07 14 12.7**	**+0.3**
PB02				*i* S	**Sn**	**07 14 37.9**	**-0.4**
PB02				IAML		07 14 44.2	
	comp=E,557nm,0.4s						
PB01	**IPOC Station P**	**2.09 339**	⇓	*e*P	**Pn**	**07 14 13.7**	**+0.5**
PB01				*i* S	**Sn**	**07 14 39.8**	**-0.1**
PB01				IAML		07 14 42.0	
	comp=E,463nm,0.3s						
PB14	**IPOC Station P**	**2.27 224**		*e*P	**Pn**	**07 14 16.5**	**+0.8**
PB14				*i* S	**Sn**	**07 14 44.3**	**+0.2**
PB14				IAML		07 14 45.3	
	comp=E,184nm,0.2s						
LPAZ	**La Paz**	**6.70**	**4**	Pn	**Pn**	**07 15 16.5**	**+1.6**
	comp=E,1.8nm,0.3s,baz=196,slow=6.9,SNR=87						
TORD	**Torodi Ar. Bea**	**77.65**	**70**	P	**P**	**07 25 22.9**	**+0.8**
	comp=E,0.4nm,0.4s,baz=242,slow=5.8,SNR=5.0						
YKA	**Yellowknife Ar**	**92.67 340**		P	**P**	**07 26 36.7**	**+0.6**
	comp=E,0.3nm,1.0s,baz=136,slow=4.3,SNR=3.7						
WRA	**Warramunga Arr**	**131.77 210**		PKP	**PKPdf**	**07 32 34.0**	**-4.0**
	comp=E,0.4nm,0.9s,baz=162,slow=2.0,SNR=2.9						

ISCJB ***12*** *07:16:49.4±0.4, 8°.20S±0°.04×109°.13E±0°.03, h109km±3km, mb4.3/40, Error ellipse: s-maj=7.5km s-min=4.0km az=20.6*

NEIC ***12*** *07:16:49.3±0.6, 8°.18S×109°.10E, h89km±6km, mb4.4/26, Error ellipse: s-maj=9.3km s-min=5.4km az=220.0*

IDC ***12*** *07:16:50.6±2.7, 7°.86S×109°.25E, h80km±23km, mb3.9/18, mb1 4.0/21, mb1mx3.8/41, mbtmp4.2/21, MS2.9/2, Ms1 3.0/2, ms1mx2.6/40, Error ellipse: s-maj=21.5km s-min=11.1km az=51.0*

DJA ***12*** *07:16:52.2±0.3, 8°S±4°×107°9E±°, h45km±28km, M4.6/18, mb4.5/3, mB5.3/3, MLv4.6/18, Mw(mB)4.7/3*

ISC 12 07:16:49.7±0.8, 8°.27S±0°.06×109°.15E±0°.03, h92km±7km**, n93, σ2°.04/106, mb4.3/40, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.95 347**		P	**Pn**	**07 17 10.2**	**+1.2**
KPJI				S	**Sn**	**07 17 25.4**	**+2.0**
UGM	**Wanagama**	**1.41**	**76**	*e*Pn	**Pn**	**07 17 15.0**	**+0.6**
UGM				*e*Sn	**Sn**	**07 17 33.0**	**-0.1**
UGM	**Wanagama**	**1.41**	**76**	P	**Pn**	**07 17 15.2**	**+0.8**
UGM				S	**Sn**	**07 17 33.2**	**+0.1**
CISI	**Cisompet, Garu**	**1.49 298**		*e*Pn	**Pn**	**07 17 15.6**	**+0.1**
CISI				*e*Sn	**Sn**	**07 17 35.4**	**+0.4**
CISI	**Cisompet, Garu**	**1.49 298**		P	**Pn**	**07 17 16.2**	**+0.7**
CISI				S	**Sn**	**07 17 35.1**	**+0.1**
SMRI	**Semarang**	**1.76**	**47**	*e*Pn	**Pn**	**07 17 19.8**	**+0.9**
SMRI	**Semarang**	**1.76**	**47**	P	**Pn**	**07 17 20.9**	**+2.0**
SMRI				S	**Sn**	**07 17 42.0**	**+0.9**
WOJI	**Wonogiri, Jawa**	**1.81**	**77**	P	**Pn**	**07 17 19.6**	**+0.1**
PCJI	**Pacitan**	**2.01**	**88**	P	**Pn**	**07 17 23.7**	**+1.6**
PCJI				S	**Sn**	**07 17 47.7**	**+0.8**
NGJI	**Ngawi**	**2.46**	**69**	P	**Pn**	**07 17 31.5**	**+3.4**
PWJI	**Pagerwojo**	**2.64**	**85**	P	**Pn**	**07 17 31.9**	**+1.4**
SKJI	**Sukabumi**	**2.85 296**		P	**Pn**	**07 17 35.8**	**+2.5**
SKJI				S	**Sn**	**07 18 09.8**	**+2.9**
TBJI	**Tambak Boyo**	**3.04**	**62**	P	**Pn**	**07 17 36.1**	**+0.3**
TBJI				S	**Sn**	**07 18 14.0**	**+2.6**
GRJI	**Gresik**	**3.57**	**68**	P	**Pn**	**07 17 44.9**	**+2.0**
GRJI				S	**Sn**	**07 18 26.5**	**+2.4**
XMIS	**Christmas Isla**	**4.09 237**		*e*Pn	**Pn**	**07 17 48.8**	**-1.2**
XMIS				*e*Sn	Sn	07 18 30.4	-6.4
BLJI	**Banyuglugur**	**4.44**	**84**	P	**Pn**	**07 17 56.9**	**+2.2**
KMMI	**Kalianget**	**4.93**	**76**	P	**Pn**	**07 18 02.7**	**+1.3**
JAGI	**Jajag, Banyuwa**	**4.96**	**93**	*e*Pn	**Pn**	**07 18 02.2**	**+0.4**
JAGI				*e*Sn	**Sn**	**07 18 58.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**4.96**	**93**	P	**Pn**	**07 18 04.4**	**+2.6**
PPBI	**Pangkal Pinang**	**6.76 334**		P	**Pn**	**07 18 30.0**	**+3.6**
MNAI	**Manna**	**7.27 302**		*e*Pn	**Pn**	**07 18 33.1**	**-0.2**
KSM	**Kuching**	**9.74**	**7**	*e*Pn	**Pn**	**07 19 05.8**	**-1.2**
BATI	**Baumata**	**14.46**	**99**	P	**Pn**	**07 20 11.5**	**+1.5**
	3.5nm,0.3s,baz=236,slow=11,SNR=1.9						
GSI	**Gunungsitoli**	**14.95 309**		*e*Pn	**Pn**	**07 20 12.1**	**-4.2**
PSI	**Prapat**	**14.99 317**		*e*Pn	**Pn**	**07 20 12.8**	**-4.1**
PSI	**Prapat**	**14.99 317**		P	**Pn**	**07 20 13.5**	**-3.4**
	0.6nm,0.3s,baz=0.0,slow=5.1,SNR=2.5						
PSI				LR	LR	07 26 44.5	
	comp=Z,62nm,19.6s,baz=224,slow=40						
SOEI	**Soe**	**15.01**	**97**	*e*Pn	**Pn**	**07 20 15.6**	**-1.6**
	24nm,0.7s						
IPM	**Ipoh**	**15.03 327**		*e*Pn	**Pn**	**07 20 14.8**	**-2.5**
GIRL	**Giralia**	**15.11 162**		*e*Pn	**Pn**	**07 20 17.4**	**-0.9**
	207nm,1.4s						
MBWA	**Marble Bar**	**16.39 143**		*e*Pn	**Pn**	**07 20 33.3**	**-1.1**
	32nm,1.6s						
FITZ	**Fitzroy Crossi**	**18.78 123**		*e*P	**P**	**07 21 01.1**	**-0.8**
	5.5nm,0.8s						
FITZ				S	**S**	**07 24 23.1**	**-7.7**
FITZ	**Fitzroy Crossi**	**18.78 123**		P	**Pn**	**07 21 05.1**	**+1.7**
	0.2nm,0.3s,baz=333,slow=9.0,SNR=3.9						
FITZ				S	**S**	**07 24 23.1**	**-7.7**
	0.1nm,0.3s,baz=342,slow=12,SNR=2.2						
MTN	**Manton Dam**	**22.08 104**		*e*P	**P**	**07 21 37.0**	**-0.5**
	44nm,1.4s						
WRA	**Warramunga Arr**	**27.00 118**		P	**P**	**07 22 26.4**	**+3.1**
	0.5nm,0.3s,baz=289,slow=12,SNR=28						
WRA				PcP	**PcP**	**07 25 44.9**	**+2.0**
	0.8nm,0.5s,baz=304,slow=2.0,SNR=9.1						
WR1	**Warramunga Arr**	**27.01 118**		*e*P	**P**	**07 22 26.4**	**+3.1**
	13nm,1.2s						
WB2	**Warramunga Arr**	**27.02 118**		*e*P	**P**	**07 22 23.5**	**+0.1**
	14nm,1.3s						
WC3	**Warramunga Arr**	**27.04 118**		*e*P	**P**	**07 22 24.0**	**+0.4**
	19nm,1.4s						
ASAR	**Alice Springs**	**28.23 126**		P	**P**	**07 22 37.6**	**+3.4**
	1.8nm,0.4s,baz=304,slow=9.2,SNR=46						
ASAR				PcP	**PcP**	**07 25 48.9**	**+3.0**
	1.2nm,0.3s,baz=311,slow=2.1,SNR=12						
ASAR				ScP	**ScP**	**07 29 21.7**	**+2.9**
	0.3nm,0.7s,baz=292,slow=2.5,SNR=3.1						
AS31	**Alice Springs**	**28.23 126**		*e*P	**P**	**07 22 34.7**	**+0.5**
	2.3nm,1.1s						
AS01	**Alice Springs**	**28.27 126**		*e*P	**P**	**07 22 35.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**28.40 339**		P	**P**	**07 22 35.5**	**-0.2**
	1.7nm,0.4s,baz=158,slow=6.7,SNR=3.7						
CMAR				LR	LR	07 34 01.3	
	comp=Z,23nm,21.8s,baz=190,slow=37						
PALK	**Pallekele**	**32.28 298**		P	**P**	**07 23 12.2**	**+2.1**
	2.9nm,0.5s,baz=114,slow=3.7,SNR=3.6						
COEN	**Coen**	**33.84 103**		*e*P	**P**	**07 23 24.0**	**+0.3**
	23nm,1.4s						
NACB	**Ninganchiao**	**34.46**	**20**	*e*P	**P**	**07 23 26.8**	**-2.0**
	15nm,0.7s						
BBOO	**Buckleboo**	**34.89 138**		*e*P	**P**	**07 23 34.1**	**+1.6**
	16nm,1.2s						
H08S2	**Diego Garcia H**	**36.30 268**		T	T	08 02 17.1	
	baz=93,slow=75,SNR=57						
H08S3	**Diego Garcia H**	**36.31 268**		T	T	08 02 17.9	
	baz=93,slow=75,SNR=58						
H08S1	**Diego Garcia H**	**36.31 268**		T	T	08 02 18.5	
	baz=93,slow=75,SNR=58						
STKA	**Stephens Creek**	**38.22 132**		*e*P	**P**	**07 24 02.4**	**+1.5**
	1.9nm,1.3s						
STKA	**Stephens Creek**	**38.22 132**		P	**P**	**07 24 04.0**	**+3.1**
	2.8nm,0.4s,baz=320,slow=8.3,SNR=22						
STKA				PcP	**PcP**	**07 26 16.5**	**+2.9**
	1.8nm,0.8s,baz=325,slow=3.6,SNR=6.3						
KS15	**Wonju Array Si**	**48.73**	**20**	*e*P	**P**	**07 25 23.9**	**-1.2**
	26nm,1.5s						
MAJO	**Matsushiro**	**52.26**	**30**	*e*P	**P**	**07 25 50.3**	**-1.4**
MJAR	**Matsushiro Arr**	**52.26**	**30**	P	**P**	**07 25 50.3**	**-1.4**
	0.8nm,0.4s,baz=226,slow=7.5,SNR=3.4						
SONA0	**Songino Array**	**55.91 358**		*e*P	**P**	**07 26 18.0**	**-0.2**
SONM	**Songino Array**	**55.91 358**		P	**P**	**07 26 18.0**	**-0.2**
	0.5nm,0.5s,baz=169,slow=9.6,SNR=5.2						
SONM				PcP	**PcP**	**07 27 17.8**	**+2.0**
	0.4nm,0.4s,baz=177,slow=3.7,SNR=6.0						
USRK	**Ussuriysk Ar.**	**56.16**	**20**	P	**P**	**07 26 18.8**	**-1.0**
	0.7nm,0.5s,baz=206,slow=6.5,SNR=2.9						
KSH	**Kashi**	**56.61 330**		*e*P	P	07 26 32.8	+9.5
KSH				pmax	pmax		
	comp=Z,100nm,6.7s						
GAR	**Garm**	**59.25 325**		*e*P	**P**	**07 26 40.4**	**-1.5**
	comp=Z,4.8nm,0.9s						
MK01	**Makanchi Array**	**59.78 339**		*e*P	**P**	**07 26 43.6**	**-1.5**
MK31	**Makanchi Array**	**59.81 339**		*e*P	**P**	**07 26 43.8**	**-1.6**
	comp=Z,1.6nm,1.4s						
MK32	**Makanchi Array**	**59.81 339**		*e*P	**P**	**07 26 44.9**	**-0.5**
MKAR	**Makanchi Array**	**59.81 339**		P	**P**	**07 26 44.9**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=153,slow=7.3,SNR=21						
KLR	**Kul'dur**	**60.59**	**17**	P	**P**	**07 26 49.2**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=180,slow=20,SNR=4.0						
KKAR	**Karatay Array**	**62.03 329**		*e*P	**P**	**07 26 59.0**	**-1.5**
	comp=Z,0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**64.38 339**		P	**P**	**07 27 14.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=150,slow=5.7,SNR=3.9						
KURK	**Kurchatov**	**64.42 339**		*e*P	**P**	**07 27 14.8**	**-1.3**
	comp=Z,4.1nm,1.4s						
ZAA0	**Zalesovo Array**	**65.30 344**		*e*P	**P**	**07 27 20.2**	**-1.5**
	comp=Z,1.6nm,0.4s						
ZALV	**Zalesovo Beam**	**65.30 344**		P	**P**	**07 27 20.9**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=153,slow=7.2,SNR=11						
ZAA1	**Zalesovo Array**	**65.30 344**		*e*P	**P**	**07 27 20.9**	**-0.9**
BKZ	**Black Stump Fm**	**67.28 129**		*e*P	**P**	**07 27 34.9**	**0.0**
	comp=Z,14nm,1.3s						
ABKAR	**Akbulak array**	**71.59 328**		*e*P	**P**	**07 28 00.0**	**-1.0**
	comp=Z,3.7nm,0.7s						
PETK	**Petropavlovsk-**	**73.68**	**28**	P	**P**	**07 28 13.9**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=224,slow=5.6,SNR=3.7						
PEA1	**Petropavlovsk-**	**73.68**	**28**	*e*P	**P**	**07 28 13.9**	**+0.5**
VNDA	**Vanda**	**74.34 170**		*e*P	**P**	**07 28 17.3**	**+0.4**
	comp=Z,2.1nm,1.3s						
KBZ	**Khabaz**	**79.01 317**		P	**P**	**07 28 45.0**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=45,slow=7.1,SNR=3.4						
BOSA	**Boshof**	**80.75 242**		*e*P	**P**	**07 28 52.4**	**-1.3**
BOSA	**Boshof**	**80.75 242**		P	**P**	**07 28 57.0**	**+3.3**
	comp=Z,1.7nm,0.5s,baz=105,slow=4.4,SNR=4.2						
TIXI	**Tiksi**	**80.81**	**6**	*e*P	**P**	**07 28 51.5**	**-1.3**
	comp=Z,2.4nm,0.7s						
BR101	**Keskin Array S**	**84.25 311**		*e*P	**P**	**07 29 13.2**	**+1.5**
BR131	**Keskin Array S**	**84.25 311**		*e*P	**P**	**07 29 10.3**	**-1.3**
	comp=Z,2.5nm,0.8s						
BRTR	**Keskin Array B**	**84.25 311**		P	**P**	**07 29 13.2**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=145,slow=7.1,SNR=12						
SNAA	**Sanae**	**88.95 197**		*e*P	**P**	**07 29 34.9**	**+1.0**
	comp=Z,9.4nm,1.5s						
AKASG	**Malin Array Be**	**90.00 321**		P	**P**	**07 29 39.5**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=90,slow=4.9,SNR=6.0						
KIEV	**Kiev**	**90.01 321**		*e*P	**P**	**07 29 37.2**	**-1.8**
	comp=Z,5.2nm,1.1s						
FINES	**FINESS Array B**	**93.89 331**		P	**P**	**07 29 58.4**	**+1.7**
	comp=Z,2.1nm,0.8s,baz=339,slow=36,SNR=3.1						
ARCES	**ARCESS Array B**	**95.46 339**		P	**P**	**07 30 04.9**	**+1.1**
	comp=Z,9.4nm,1.1s,baz=123,slow=4.5,SNR=3.3						
SPITS	**Spitsbergen Ar**	**98.61 348**		P	**P**	**07 30 17.4**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=80,slow=7.1,SNR=5.2						
YKA	**Yellowknife Ar**	**117.29**	**21**	PKP	**PKiKP**	**07 35 25.7**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=324,slow=1.3,SNR=16						
SCHQ	**Schefferville**	**133.45 357**		*e*PKPdf	**PKPdf**	**07 35 53.9**	**-1.4**
SCHQ	**Schefferville**	**133.45 357**		PKP	**PKiKP**	**07 35 56.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=91,slow=5.6,SNR=3.7						
TXAR	**Lajitas Array**	**142.75**	**51**	PKhKP	PKPpre	07 36 11.3	
	comp=Z,0.3nm,0.4s,baz=220,slow=2.6,SNR=16						
MIAR	**Mount Ida**	**146.53**	**35**	*e*PKPdf	**PKPdf**	**07 36 18.9**	**-0.6**
BDFB	**Brasilia**	**147.19 224**		PKPbc	**PKPab**	**07 36 25.6**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=75,slow=2.4,SNR=5.7						

IDC ***12*** *07:34:43.1±3.6, 36°.17N×71°.17E, h56km±31km, mb3.5/7, mb1 3.6/13, mb1mx3.3/59, mbtmp3.7/13, ML3.5/6, Error ellipse: s-maj=27.9km s-min=21.6km az=4.0*

ISCJB ***12*** *07:34:48.4±1.3, 36°.7N±0°.1×70°.83E±0°.09, h100km, mb3.7/6, Error ellipse: s-maj=19.3km s-min=7.1km az=154.6*

NNC ***12*** *07:34:49.9±4.5, 37°.06N×70°.66E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=38.6km s-min=32.4km az=157.0*

**ISC 12 07:34:49.5±1.6, 36°

2.0nm,0.3s,baz=127,slow=20,SNR=3.0
SIJI LR LR 07 45 12.4
comp=Z,178nm,18.3s,baz=155,slow=42
MTN Manton Dam 11.93 204 *e*Pn **Pn 07 44 38.5 +0.3**
COEN Coen 13.83 150 *e*Pn **Pn 07 45 03.2 -1.1**
WB2 Warramunga Arr 17.99 185 *e*Pn **Pn 07 45 58.2 -0.1**
WRA Warramunga Arr 17.99 185 P **Pn 07 45 56.2 -2.2**
0.1nm,0.3s,baz=6.9,slow=13,SNR=8.7
WRA S Sn 07 49 06.6 -13
0.1nm,0.3s,baz=11,slow=23,SNR=3.6
WRA LR LR 07 52 51.0
comp=Z,72nm,18.6s,baz=200,slow=37
FITZ Fitzroy Crossi 19.09 212 LR LR 07 53 59.8
comp=Z,68nm,18.8s,baz=162,slow=39
AS01 Alice Springs 21.71 185 *e*P **P 07 46 40.2 +0.8**
AS31 Alice Springs 21.72 186 *e*P **P 07 46 40.2 +0.7**
1.8nm,0.6s
ASAR Alice Springs 21.72 186 P **P 07 46 40.0 +0.4**
1.0nm,0.7s,baz=11,slow=11,SNR=13
ASAR S **S 07 50 36.3 -3.6**
0.2nm,0.6s,baz=3.7,slow=21,SNR=3.2
ASAR LR LR 07 56 05.2
comp=Z,82nm,18.0s,baz=24,slow=40
STKA Stephens Creek 30.23 171 *e*P **P 07 47 59.5 +0.5**
2.8nm,1.6s
MK01 Makanchi Array 67.60 323 *e*P **P 07 52 44.5 -0.4**
MKAR Makanchi Array 67.61 323 P **P 07 52 45.5 +0.5**
0.8nm,0.5s,baz=111,slow=7.7,SNR=12
MAKZ Makanchi 67.81 323 *e*P **P 07 52 46.0 -0.2**
1.4nm,0.6s
ILAR Eielson Array 86.19 25 P **P 07 54 31.7 +2.4**
0.7nm,0.8s,baz=253,slow=4.0,SNR=5.2

ISCJB ***12*** *07:52:08.0±0.3,55°.45S×27°.76W±0°.08, h10km, mb4.8/36, MS4.5/21, Error ellipse: s-maj=7.6km s-min=5.9km az=41.7*
IDC ***12*** *07:52:07.9±0.5,55°.45S×27°.71W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.5/22, mbtmp4.5/15, ML4.6/1, MS4.4/18, Ms1 4.4/18, ms1mx4.4/20, Error ellipse: s-maj=16.2km s-min=15.3km az=178.0*
NEIC ***12*** *07:52:09.4±0.1,55°.44S×27°.75W, h10km, mb5.0/32, Error ellipse: s-maj=4.9km s-min=3.7km az=185.0*
MOS ***12*** *07:52:11.4±1.2,55°.50S×27°.76W, h33km, mb5.1/12, Error ellipse: s-maj=21.6km s-min=12.5km az=111.7*
GCMT ***12*** *07:52:17.4±0.2,55°.46S±0°.02×27°.59W±0°.02, h18km±1km, MW5.1/83, Moment Tensor Solution. s31,c41; s83,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 2.19±.17; Mθθ -1.24±.13; Mϕϕ -0.95±.11; Mrθ 0.55±.27; Mθϕ 2.95±.08; Mϕr 3.93±.45; Best double couple: Mo 5.27600×10^16 NP1: ϕs 101.00000°, δ 75.00000°, λ 125.00000°. Principal axes: T 5.5560, Plg 48.0000°, Azm 298.0000°; N -0.5670, Plg 34.0000°, Azm 160.0000°; P -4.9970, Plg 22.0000°, Azm 55.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 07:52:09.5±0.3, 55°.50S±0°.07×27°.75W±0°.06, h10km, n209, σ1§18/191, mb4.9/35, MS4.5/21, 6C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.19**	**280**	**Pn**	**Pn**	**07 53 26.5**	**-0.5**
HOPE				*e*Sn	**Sn**	**07 54 24.6**	**-2.3**
VNA1	**Neumayer--Stat**	**17.43**	**158**	P	**P**	**07 56 16.4**	**+2.8**
VNA3	**Neumayer Olymp**	**17.62**	**161**	P	**P**	**07 56 16.8**	**+1.1**
VNA2	**Neumayer--Watz**	**17.82**	**158**	P	**P**	**07 56 20.0**	**+2.0**
baz=313,slow=14							
EFI	**East Falkland**	**18.32**	**269**	*e*P	**P**	**07 56 23.7**	**+0.2**
91nm,1.4s							
EFI	**East Falkland**	**18.32**	**269**	*e*P	**P**	**07 56 23.7**	**+0.2**
EFI				pmax	pmax		
comp=Z,91nm,1.4s							
SNAA	**Sanae**	**19.38**	**156**	P	**Pn**	**07 56 36.1**	**-0.1**
SNAA	**Sanae**	**19.38**	**156**	*e*P	**Pn**	**07 56 36.0**	**-0.1**
comp=Z,19nm,0.7s							
SNAA	**Sanae**	**19.38**	**156**	*i* P	**Pn**	**07 56 35.6**	**-0.5**
SNAA				pmax	pmax		
comp=Z,744nm,0.6s							
SNAA	**Sanae**	**19.38**	**156**	P	**Pn**	**07 56 35.7**	**-0.5**
comp=Z,1.6nm,0.3s,baz=312,slow=9.4,SNR=42							
SNAA				LR	LR	08 02 41.2	
comp=Z,848nm,19.6s,baz=324,slow=33							
PMSA	**Palmer Station**	**20.03**	**228**	*e*P	Pn	07 56 43.4	-0.5
comp=Z,108nm,1.3s							
PMSA	**Palmer Station**	**20.03**	**228**	P	Pn	07 56 43.1	-0.8
comp=Z,44nm,0.8s,baz=63,slow=5.8,SNR=9.1							
PMSA				LR	LR	08 03 12.9	
comp=Z,1μm,19.4s,baz=80,slow=33							
PMSA	**Palmer Station**	**20.03**	**228**	*e*P	Pn	07 56 45.2	+1.4
NVL	**N'lazarevskaya**	**22.90**	**147**	*e*P	**P**	**07 57 08.7**	**-4.2**
NVL				pmax	pmax		
comp=Z,5.0nm,0.7s							
USHA	**Ushuaia**	**23.02**	**255**	P	**P**	**07 57 13.8**	**-0.5**
comp=Z,8.8nm,0.7s,baz=106,slow=14,SNR=7.4							
USHA				LR	LR	08 04 09.4	
comp=Z,1μm,19.1s,baz=104,slow=31							
GO10	**Punta Arenas**	**25.06**	**257**	*e*P	**P**	**07 57 34.4**	**+0.7**
comp=Z,228nm,1.5s							
GO09	**Cerro Castillo**	**26.57**	**260**	*e*P	**P**	**07 57 46.1**	**-1.3**
comp=Z,36nm,1.1s							
TRQA	**Tornquist**	**28.81**	**293**	*e*P	**P**	**07 58 06.9**	**-0.7**
comp=Z,10nm,1.0s							
TRQA	**Tornquist**	**28.81**	**293**	*e*P	**P**	**07 58 06.9**	**-0.7**
TRQA				pmax	pmax		
comp=Z,10.0nm,1.0s							
PLTB	**Pedras Altas**	**29.89**	**312**	*e*P	**P**	**07 58 17.4**	**+0.2**
CNLB	**Canela**	**30.95**	**318**	*e*P	**P**	**07 58 27.2**	**+0.7**
CPSB	**Cacapava Do Su**	**31.00**	**313**	*e*P	**P**	**07 58 27.2**	**+0.2**
PLCA	**Paso Flores**	**31.59**	**280**	*e*P	**P**	**07 58 31.8**	**-0.4**
comp=Z,11nm,1.5s							
PLCA	**Paso Flores**	**31.59**	**280**	*e*P	**P**	**07 58 31.8**	**-0.4**
PLCA				pmax	pmax		
comp=Z,11nm,1.5s							
PLCA	**Paso Flores**	**31.59**	**280**	P	**P**	**07 58 31.3**	**-0.9**
comp=Z,2.2nm,0.8s,baz=213,slow=5.8,SNR=5.4							
PLCA				LR	LR	08 12 37.0	
comp=Z,537nm,18.8s,baz=148,slow=39							
SYO	**Syowa Base**	**32.21**	**141**	*es*	P	07 58 45.2	+5.0
QSPA	**South Pole Qui**	**34.76**	**180**	*e*P	**P**	**07 59 00.5**	**+0.9**
comp=Z,13nm,0.6s							
QSPA	**South Pole Qui**	**34.76**	**180**	P	**P**	**07 58 59.9**	**+0.3**
comp=Z,11nm,0.6s,baz=249,slow=0.5,SNR=95							
SPB	**Sao Paulo**	**35.04**	**327**	*e*P	**P**	**07 59 04.5**	**+2.2**
PTGB	**Pitanga**	**35.56**	**320**	*e*P	**P**	**07 59 06.7**	**-0.1**
FRTB	**Fartura**	**35.95**	**324**	*e*P	**P**	**07 59 11.5**	**+1.4**
CPUP	**Villa Florida**	**36.21**	**311**	*e*P	**P**	**07 59 11.1**	**-1.1**
comp=Z,7.4nm,0.9s							
CPUP	**Villa Florida**	**36.21**	**311**	P	**P**	**07 59 11.2**	**-1.1**
comp=Z,3.5nm,0.5s,baz=141,slow=6.0,SNR=8.7							
CPUP				LR	LR	08 12 59.6	
comp=Z,549nm,20.1s,baz=156,slow=35							
CPUP	**Villa Florida**	**36.21**	**311**	*e*P	**P**	**07 59 12.1**	**-0.2**
GO05	**Huala**	**36.43**	**286**	*e*P	**P**	**07 59 12.7**	**-1.4**
comp=Z,11nm,0.7s							
BSCB	**Bom Sucesso**	**36.74**	**333**	*e*P	**P**	**07 59 17.6**	**+0.7**
PEL	**Peldehue**	**37.16**	**289**	*e*P	**P**	**07 59 20.1**	**-0.3**
comp=Z,40nm,0.7s							
PEL	**Peldehue**	**37.16**	**289**	*e*P	**P**	**07 59 20.1**	**-0.3**
PEL				pmax	pmax		
comp=Z,40nm,0.7s							
RIB01	**Linhares ES**	**37.37**	**340**	*e*P	**P**	**07 59 25.3**	**+3.1**
ROC1	**El Roble**	**37.46**	**289**	*e*P	**P**	**07 59 22.8**	**-0.4**
comp=Z,18nm,0.8s							
TRCB	**Terra Rica**	**37.52**	**320**	*e*P	**P**	**07 59 23.8**	**+0.3**
BB19B	**Bebedouro**	**37.74**	**327**	*e*P	**P**	**07 59 26.5**	**+1.0**
SJMB	**Sao Joao De Ma**	**38.12**	**339**	*e*P	**P**	**07 59 31.8**	**+3.3**
GO04	**Tololo Observa**	**39.53**	**292**	*e*P	**P**	**07 59 40.5**	**0.0**
comp=Z,64nm,1.5s							
ITRB	**Iturama**	**39.60**	**325**	*e*P	**P**	**07 59 40.7**	**-0.3**
LCO	**Las Campanas**	**40.40**	**293**	*e*P	**P**	**07 59 47.4**	**-0.5**
comp=Z,24nm,1.4s							
LCO	**Las Campanas**	**40.40**	**293**	*e*P	**P**	**07 59 47.4**	**-0.5**
LCO				pmax	pmax		
comp=Z,24nm,1.4s							
LCO	**Las Campanas**	**40.40**	**293**	*e*P	**P**	**07 59 47.8**	**0.0**
IPMB	**Ipameri, GO**	**40.56**	**329**	*e*P	**P**	**07 59 50.4**	**+1.5**
MAW	**Mawson**	**40.78**	**144**	LR	LR	08 16 18.6	
comp=Z,377nm,19.1s,baz=256,slow=36							
SUR	**Sutherland**	**40.81**	**76**	P	**P**	**07 59 50.7**	**-0.4**
comp=Z,4.3nm,0.9s,baz=163,slow=17,SNR=2.4							
BDFB	**Brasilia**	**42.73**	**331**	P	**P**	**08 00 07.0**	**+0.2**
comp=Z,1.0nm,0.5s,baz=129,slow=5.7,SNR=3.1							
BDFB				LR	LR	08 16 15.9	
comp=Z,833nm,18.1s,baz=125,slow=34							
GO02	**Mina Guanaco**	**42.96**	**297**	*e*P	**P**	**08 00 08.5**	**-0.4**
comp=Z,32nm,0.7s							
LVC	**Limon Verde**	**44.75**	**300**	*e*P	**P**	**08 00 23.3**	**-0.1**
comp=Z,19nm,0.6s							
LVC	**Limon Verde**	**44.75**	**300**	*e*P	**P**	**08 00 23.3**	**-0.1**
LVC				pmax	pmax		
comp=Z,19nm,0.6s							
LVC	**Limon Verde**	**44.75**	**300**	*e*P	**P**	**08 00 23.6**	**+0.2**
BOSA	**Boshof**	**46.15**	**77**	*e*P	**P**	**08 00 32.9**	**-1.2**
BOSA	**Boshof**	**46.15**	**77**	*e*P	**P**	**08 00 32.9**	**-1.2**
BOSA	**Boshof**	**46.15**	**77**	P	**P**	**08 00 34.0**	**-0.2**
comp=Z,2.9nm,0.7s,baz=196,slow=7.5,SNR=5.9							
BOSA				LR	LR	08 17 51.0	
comp=Z,569nm,18.1s,baz=210,slow=34							
BOSA	**Boshof**	**46.15**	**77**	*e*P	P	08 00 47.5	+13
PB01	**IPOC Station P**	**46.36**	**301**	*e*P	**P**	**08 00 35.4**	**-0.3**
comp=Z,31nm,0.6s							
SBA	**Scott Base**	**46.61**	**184**	*e*P	**P**	**08 00 38.1**	**+1.1**
comp=Z,28nm,1.4s							
SBA	**Scott Base**	**46.61**	**184**	*e*P	**P**	**08 00 38.1**	**+1.1**
SBA				pmax	pmax		
comp=Z,28nm,1.4s							
VNDA	**Vanda**	**47.11**	**183**	*e*P	**P**	**08 00 41.6**	**+0.7**
comp=Z,7.4nm,0.6s							
VNDA	**Vanda**	**47.11**	**183**	*e*P	**P**	**08 00 41.6**	**+0.7**
VNDA				pmax	pmax		
comp=Z,7.0nm,0.6s							
VNDA	**Vanda**	**47.11**	**183**	P	**P**	**08 00 41.7**	**+0.7**
comp=Z,6.3nm,0.6s,baz=188,slow=6.8,SNR=67							
PB11	**IPOC Station P**	**47.53**	**301**	*e*P	**P**	**08 00 44.7**	**-0.3**
comp=Z,21nm,0.7s							
H10S2	**ASCENSION HYDR**	**47.56**	**18**	T	T	08 52 47.1	
baz=190,slow=74,SNR=5.9							
H10S3	**ASCENSION HYDR**	**47.57**	**18**	T	T	08 52 47.2	
baz=190,slow=74,SNR=7.1							
H10S1	**ASCENSION HYDR**	**47.58**	**18**	T	T	08 52 48.4	
baz=190,slow=74,SNR=7.0							
MNMC	**Minye Minye**	**48.04**	**302**	*e*P	**P**	**08 00 48.8**	**-0.3**
comp=Z,37nm,0.7s							
H10N1	**ASCENSION HYDR**	**48.68**	**18**	T	T	08 53 49.9	
baz=190							
H10N3	**ASCENSION HYDR**	**48.68**	**18**	T	T	08 54 04.7	
baz=190							
H10N2	**ASCENSION HYDR**	**48.70**	**18**	T	T	08 53 51.0	
baz=190							
LBTB	**Lobatse**	**49.16**	**74**	*e*P	**P**	**08 00 56.7**	**-0.8**
comp=Z,20nm,1.4s							
LBTB	**Lobatse**	**49.16**	**74**	*e*P	**P**	**08 00 56.7**	**-0.8**
LBTB				pmax	pmax		
comp=Z,20nm,1.4s							
LBTB	**Lobatse**	**49.16**	**74**	P	**P**	**08 00 56.5**	**-1.0**
comp=Z,2.9nm,0.8s,baz=237,slow=8.3,SNR=4.2							
TSUM	**Tsumeb**	**49.69**	**62**	*e*P	**P**	**08 01 01.4**	**-0.2**
comp=Z,8.8nm,1.0s							
LPAZ	**La Paz**	**49.80**	**305**	*e*P	**P**	**08 01 02.6**	**-0.4**
comp=Z,19nm,0.8s							
LPAZ	**La Paz**	**49.80**	**305**	*e*P	**P**	**08 01 02.6**	**-0.4**
LPAZ				pmax	pmax		
comp=Z,19nm,0.8s							
LPAZ	**La Paz**	**49.80**	**305**	P	**P**	**08 01 03.6**	**+0.6**
comp=Z,19nm,0.7s,baz=133,slow=5.0,SNR=114							
LPAZ				LR	LR	08 21 29.0	
comp=Z,244nm,22.0s,baz=164,slow=35							
LPAZ	**La Paz**	**49.80**	**305**	*e*P	**P**	**08 01 03.8**	**+0.8**
NNA	**Nana**	**57.70**	**299**	*ce*P	**P**	**08 02 02.6**	**+2.3**
LIC	**Lamto**	**64.33**	**25**	*e*P	**P**	**08 02 45.7**	**+0.6**
comp=Z,62nm,1.3s							
LIC	**Lamto**	**64.33**	**25**	*e*P	**P**	**08 02 45.7**	**+0.6**
comp=Z,62nm,1.3s							
KIC	**Kosan Boka**	**64.53**	**25**	*e*P	**P**	**08 02 49.5**	**+3.1**
comp=Z,64nm,1.5s							
KIC	**Kosan Boka**	**64.53**	**25**	*e*P	**P**	**08 02 49.5**	**+3.1**
comp=Z,64nm,1.5s							
TIC	**Toumodi**	**64.73**	**25**	*e*P	**P**	**08 02 47.7**	**-0.1**
TIC	**Toumodi**	**64.73**	**25**	*e*P	**P**	**08 02 47.7**	**-0.1**
TIC	**Toumodi**	**64.73**	**25**	*e*P	**P**	**08 02 47.7**	**-0.1**
DBIC	**Dimbokro**	**64.80**	**25**	*e*P	**P**	**08 02 47.7**	**-0.5**
comp=Z,14nm,1.4s							
DBIC	**Dimbokro**	**64.80**	**25**	*e*P	**P**	**08 02 47.7**	**-0.5**
DBIC				pmax	pmax		
comp=Z,14nm,1.4s							
DBIC	**Dimbokro**	**64.80**	**25**	P	**P**	**08 02 47.6**	**-0.5**
comp=Z,4.7nm,1.0s,baz=176,slow=8.6,SNR=4.6							
DBIC				LR	LR	08 25 32.8	
comp=Z,370nm,18.9s,baz=177,slow=31							
OTAV	**Otavalo**	**69.08**	**304**	*e*P	**P**	**08 03 15.7**	**-0.4**
comp=Z,10nm,1.3s							
OTAV	**Otavalo**	**69.08**	**304**	*ce*P	**P**	**08 03 17.4**	**+1.3**
OTAV				pmax	pmax		
comp=Z,16nm,1.3s							
OTAV	**Otavalo**	**69.08**	**304**	*e*P	**P**	**08 03 17.1**	**+1.0**
SOTA	**Rioblanco**	**69.90**	**307**	*e*P	**P**	**08 03 22.0**	**+0.8**
SOTA	**Rioblanco**	**69.90**	**307**	*e*P	**P**	**08 03 22.0**	**+0.8**
PCON	**Cinco Dias**	**69.97**	**307**	*e*P	**P**	**08 03 22.7**	**+0.9**
PCON	**Cinco Dias**	**69.97**	**307**	*e*P	**P**	**08 03 22.7**	**+0.9**
POPC	**Popayan, Colom**	**70.29**	**307**	*e*P	**P**	**08 03 23.4**	**+0.1**
POPC	**Popayan, Colom**	**70.29**	**307**	*e*P	**P**	**08 03 23.4**	**+0.1**
PRAC	**Prado**	**70.53**	**309**	*e*P	**P**	**08 03 22.7**	**-1.8**
PRAC	**Prado**	**70.53**	**309**	*e*P	**P**	**08 03 22.7**	**-1.8**
ROSC	**El Rosal**	**71.28**	**310**	LR	LR	08 37 15.0	
comp=Z,157nm,18.2s,baz=168,slow=38							
YOTC	**Yotoco, Valle**	**71.42**	**308**	*e*P	**P**	**08 03 28.0**	**-2.0**
YOTC	**Yotoco, Valle**	**71.42**	**308**	*e*P	**P**	**08 03 28.0**	**-2.0**
RUSC	**La Rusia**	**71.69**	**312**	*e*P	**P**	**08 03 29.3**	**-2.7**
RUSC	**La Rusia**	**71.69**	**312**	*e*P	**P**	**08 03 29.3**	**-2.7**
TOA0	**Torodi Ar. Sit**	**72.73**	**30**	*e*P	**P**	**08 03 36.4**	**-1.2**
TORD	**Torodi Ar. Bea**	**72.73**	**30**	P	**P**	**08 03 37.0**	**-0.6**
comp=Z,3.3nm,0.8s,baz=206,slow=4.7,SNR=13							
TORD				LR	LR	08 30 29.8	
comp=Z,395nm,18.9s,baz=285,slow=32							
TOA1	**Torodi Ar. Sit**	**72.73**	**30**	*e*P	**P**	**08 03 37.0**	**-0.6**
SDV	**Santo Domingo**	**73.39**	**315**	*e*P	**P**	**08 03 40.6**	**-1.1**
comp=Z,12nm,0.9s							
KMBO	**Kilima Mbogo**	**75.14**	**70**	LR	LR	08 35 57.8	
comp=Z,449nm,18.4s,baz=163,slow=35							
RPZ	**Rata Peaks**	**79.88**	**194**	LR	LR	08 36 10.3	
comp=Z,110nm,20.3s,baz=168,slow=33							
RKT	**Rikitea**	**80.45**	**243**	*e*T	T	09 32 50.8	
comp=Z,0.7nm,0.2s							
JTS	**JuntasAbangare**	**80.94**	**303**	*i* P	**P**	**08 04 24.3**	**+0.3**
JTS				pmax	pmax		
comp=Z,15nm,1.5s							
THZ	**Tophouse**	**81.53**	**195**	*e*P	**P**	**08 04 26.8**	**-0.2**
comp=Z,9.3nm,0.8s							
BKZ	**Black Stump Fm**	**83.46**	**199**	*e*P	**P**	**08 04 37.3**	**+0.2**
comp=Z,7.7nm,1.1s							
TBI	**Tubuai**	**87.18**	**232**	*e*S	**S**	**08 15 39.3**	**+4.0**
comp=Z,109nm,24.8s							
TBI	**Tubuai**	**87.18**	**232**	*e*LR	LR	08 32 26.2	
comp=Z,169nm,26.8s							
PPT2	**Papeete2**	**92.25**	**234**	*e*LR	LR	08 34 45.5	
comp=Z,200nm,24.0s							
PPT	**Papeete**	**92.27**	**234**	LR	LR	08 40 47.6	
comp=Z,95nm,18.1s,baz=135,slow=32							
STKA	**Stephens Creek**	**92.50**	**171**	*e*P	**P**	**08 05 18.8**	**-1.8**
comp=Z,0.9nm,1.0s							
STKA	**Stephens Creek**	**92.50**	**171**	*e*P	**P**	**08 05 18.8**	**-1.8**
STKA				pmax	pmax		
comp=Z,1.0nm,1.0s							
STKA	**Stephens Creek**	**92.50**	**171**	LR	LR	08 44 04.7	
comp=Z,201nm,20.9s,baz=199,slow=34							
KEST	**Kesra**	**96.25**	**30**	LR	LR	08 45 48.0	
comp=Z,362nm,19.0s,baz=198,slow=34							
ESDC	**Sonseca Array**	**96.95**	**18**	LR	LR	08 44 54.9	
comp=Z,131nm,20.8s,baz=115,slow=33							
ASAR	**Alice Springs**	**99.61**	**163**	P	**Pdif**	**08 05 51.9**	**-1.3**
comp=Z,0.8nm,0.7s,baz=178,slow=4.0,SNR=9.5							
WR1	**Warramunga Arr**	**103.33**	**163**	*e*Pdif	**Pdif**	**08 06 08.6**	**-1.1**
WRA	**Warramunga Arr**	**103.33**	**163**	Pdiff	**Pdif**	**08 06 08.6**	**-1.1**
comp=Z,0.3nm,0.8s,baz=194,slow=3.9,SNR=3.3							
WRA				PKiKP	**PKiKP**	**08 10 27.2**	**-1.6**
comp=Z,0.9nm,1.1s,baz=217,slow=1.0,SNR=2.6							
NV01	**Mina Array Sit**	**120.89**	**294**	*e*PKPdf	**PKPdf**	**08 11 01.4**	**-0.2**
NVAR	**Mina Array Bea**	**120.89**	**294**	PKP	**PKiKP**	**08 11 02.0**	**+0.4**
comp=Z,0.5nm,0.5s,baz=160,slow=2.9,SNR=1.6							
MOOW	**Moose Ponds**	**121.09**	**303**	*e*PKPdf	**PKPdf**	**08 11 01.5**	**-0.2**
FXWY	**Fox Creek**	**121.14**	**303**	*e*PKPdf	**PKPdf**	**08 11 01.6**	**-0.2**
OBN	**Obninsk**	**122.10**	**38**	*e*PKiKP	**PKiKP**	**08 11 04.2**	**+1.1**
OBN				*e*SSS	SSS	08 33 52.8	
OBN				pmax	pmax		
comp=Z,9.0nm,0.6s							
OBN				MLR	MLR		
FIA0	**FINESS Array S**	**124.04**	**28**	*e*PKPdf	**PKPdf**	**08 11 06.3**	**-0.1**
FIA0	**FINESS Array S**	**124.04**	**28**	*e*PKiKP	**PKPdf**	**08 11 06.4**	**-0.1**
FINES	**FINESS Array B**	**124.04**	**28**	PKP	**PKPdf**	**08 11 06.3**	**-0.1**
comp=Z,1.4nm,0.5s,baz=158,slow=1.8,SNR=15							
BMO	**Blue Mountains**	**125.09**	**300**	*e*PKPdf	**PKPdf**	**08 11 08.8**	**-0.4**
BMO	**Blue Mountains**	**125.09**	**300**	*e*PKiKP	**PKPdf**	**08 11 08.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**125.56**	**111**	PKP	**PKPdf**	**08 11 10.5**	**-0.3**
comp=Z,1.0nm,0.3s,baz=230,slow=4.2,SNR=3.2							
G08A	**Pilot Rock**	**126.22**	**299**	*e*PKPdf	**PKPdf**	**08 11 11.4**	**0.0**
KSH	**Kashi**	**128.72**	**74**	PKP	**PKiKP**	**08 11 17.3**	**+0.3**
KSH				PP	**PP**	**08 13 26.0**	**+2.6**
KSH				SS	SS	08 30 36.4	-4.8
KSH				AMB	AMB		
comp=Z,120nm,6.0s							
KSH				LR	LR		
comp=Z,84nm,12.5s							
ARCES	**ARCESS Array B**	**130.54**	**22**	PKP	**PKPdf**	**08 11 18.4**	**-0.3**
comp=Z,2.9nm,0.7s,baz=197,slow=1.3,SNR=8.6							
ARA0	**ARCESS Array S**	**130.55**	**22**	*e*PKPdf	**PKPdf**	**08 11 18.4**	**-0.3**
ARU	**Arti**	**131.56**	**48**	*c* PKiKP	**PKiKP**	**08 11 23.6**	**+1.6**
YKA	**Yellowknife Ar**	**135.55**	**319**	PKhKP	PKPpre	08 11 14.3	
comp=Z,0.1nm,0.6s,baz=122,slow=2.8,SNR=3.9							
YKA				PKP	**PKPdf**	**08 11 28.0**	**-0.3**
comp=Z,0.9nm,0.5s,baz=126,slow=2.3,SNR=33							
YKB5	**Yellowknife Ar**	**135.55**	**319**	*e*PKPdf	**PKPdf**	**08 11 27.6**	**-0.7**
MK32	**Makanchi Array**	**137.01**	**71**	*e*PKPdf	**PKPdf**	**08 11 31.2**	**-0.4**
MKAR	**Makanchi Array**	**137.01**	**71**	PKhKP	PKPpre	08 11 23.5	
comp=Z,0.2nm,0.6s,baz=180,slow=1.0,SNR=3.5							
MKAR				PKP	**PKPdf**	**08 11 31.2**	**-0.4**
comp=Z,0.3nm,0.7s,baz=352,slow=2.9,SNR=4.0							
WMQ	**Urumqi**	**138.10**	**78**	*e*PKP	**PKiKP**	**08 11 35.4**	**-0.4**
WMQ				LR	LR		
comp=Z,120nm,25.3s							
WMQ				LR	LR		
comp=Z,140nm,31.1s							
WMQ				LR	LR		
comp=Z,170nm,27.3s							
CD2	**Chengdu**	**138.11**	**105**	PKP	**PKPdf**	**08 11 33.7**	**-0.5**
LZH	**Lanzhou**	**142.02**	**100**	*e*PKP	**PKPdf**	**08 11 41.6**	**+0.3**
LZH				pPKP	PKiKP	08 11 51.7	+7.5
LZH				LR	LR		
comp=Z,120nm,17.9s							
LZH				LR	LR		
comp=Z,130nm,18.2s							
LZH				LR	LR		
comp=Z,180nm,20.1s							
ZALV	**Zalesovo Beam**	**142.41**	**63**	PKhKP	PKPpre	08 11 33.5	
comp=Z,1.1nm,0.3s,baz=77,slow=16,SNR=5.0							
ZALV				PKP	pPKPdf	08 11 42.1	-0.3
comp=Z,1.3nm,0.6s,baz=215,slow=4.1,SNR=6.5							
ZAA1	**Zalesovo Array**	**142.41**	**63**	*e*PKPdf	**PKPdf**	**08 11 42.1**	**+1.0**
HYT	**Haines Junctio**	**144.20**	**308**	*e*PKPdf	PKPbc	08 11 43.2	+0.7
INK	**Inuvik**	**145.17**	**321**	*e*PKPbc	**PKPbc**	**08 11 45.1**	**-0.1**
INK	**Inuvik**	**145.17**	**321**	*e*PKiKP	**PKPbc**	**08 11 45.1**	**-0.1**
INK	**Inuvik**	**145.17**	**321**	PKPab	**PKPab**	**08 11 45.3**	**0.0**
comp=Z,18nm,0.8s,baz=85,slow=3.7,SNR=72							
EPYK	**Eagle Plains**	**145.80**	**317**	*e*PKPdf	**PKPdf**	**08 11 46.3**	**-0.4**
DAWY	**Dawson**	**146.18**	**313**	*e*PKPdf	**PKPdf**	**08 11 46.7**	**-0.8**
NJ2	**Nanjing**	**146.90**	**121**	*e*PKPbc	**PKPdf**	**08 11 50.3**	**+0.7**
EGAK	**Eagle**	**147.13**	**314**	*e*PKPdf	**PKPdf**	**08 11 48.7**	**-0.3**
DOT	**Dot Lake**	**148.04**	**311**	*e*PKPdf	**PKPdf**	**08 11 51.7**	**+1.1**
DOT				*e*PKPbc	**PKPbc**	**08 11 54.2**	**+0.5**
DIV	**Divide**	**148.07**	**306**	*e*PKPdf	**PKPdf**	**08 11 51.1**	**+0.4**
DIV				*e*PKPbc	**PKPbc**	**08 11 54.0**	**0.0**
SCRK	**Sand Creek**	**148.10**	**312**	*e*PKPbc	**PKPbc**	**08 11 54.1**	**+0.1**
KLU	**Klutina**	**148.25**	**307**	*e*PKPdf	**PKPdf**	**08 11 51.2**	**+0.1**
KLU				*e*PKPbc	**sPKPdf**	**08 11 53.4**	**+0.4**
RIDG	**Independ'e Rid**	**148.40**	**311**	*e*PKPbc	**PKPbc**	**08 11 55.3**	**+0.6**
PAX	**Paxson**	**148.47**	**309**	*e*PKPbc	**PKPbc**	**08 11 54.9**	**-0.1**
PAX	**Paxson**	**148.47**	**309**	*e*PKP2	**PKPbc**	**08 11 54.9**	**-0.1**
BTO	**Baotou**	**148.64**	**100**	*e*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**3.03**	**278**	*eP*	**Pn**	**08 05 38.5**	**+0.8**
MKZ				*eS*	**Sn**	**08 06 10.9**	**-1.8**
MKZ	**Mys Kozlova**	**3.03**	**278**	PN	**Pn**	**08 05 38.5**	**+0.8**
MKZ				S	**Sn**	**08 06 10.9**	**-1.8**
TUMD	**Tumrok D**	**3.88**	**287**	*eP*	**Pn**	**08 05 50.8**	**+1.4**
TUMD				*eS*	**Sn**	**08 06 33.2**	**-0.6**
ZLN	**Zelenaya**	**3.92**	**299**	*eP*	**Pn**	**08 05 53.1**	**+3.1**
ZLN	**Zelenaya**	**3.92**	**299**	PN	**Pn**	**08 05 53.1**	**+3.1**
KZV	**Kizimen**	**3.92**	**285**	*eP*	**Pn**	**08 05 51.5**	**+1.4**
KZV				*eS*	**Sn**	**08 06 34.3**	**-0.7**
KZV	**Kizimen**	**3.92**	**285**	PN	**Pn**	**08 05 51.5**	**+1.4**
KZV				S	**Sn**	**08 06 34.3**	**-0.7**
TUMR	**Tumrok**	**4.04**	**288**	PN	**Pn**	**08 05 50.8**	**-0.9**
TUMR				S	**Sn**	**08 06 33.2**	**-4.6**
SPN	**Mys Shipunski**	**4.24**	**257**	*eP*	**Pn**	**08 05 55.5**	**+1.2**
SPN	**Mys Shipunski**	**4.24**	**257**	PN	**Pn**	**08 05 55.5**	**+1.2**
KII	**Karymskiy**	**4.38**	**270**	*eP*	**Pn**	**08 05 57.6**	**+1.3**
KII				*eS*	**Sn**	**08 06 44.5**	**-1.6**
KII	**Karymskiy**	**4.38**	**270**	PN	**Pn**	**08 05 57.6**	**+1.3**
KII				S	**Sn**	**08 06 44.5**	**-1.6**
NLC	**Nalytchevo**	**4.61**	**260**	*eP*	**Pn**	**08 06 00.4**	**+1.0**
NLC				*eS*	**Sn**	**08 06 50.1**	**-1.5**
NLC	**Nalytchevo**	**4.61**	**260**	PN	**Pn**	**08 06 00.4**	**+1.0**
NLC				S	**Sn**	**08 06 50.1**	**-1.5**
SDLR	**Sedlovina**	**4.85**	**262**	*eP*	**Pn**	**08 06 04.2**	**+1.4**
SDLR				*eS*	**Sn**	**08 06 56.8**	**-0.9**
SDLR	**Sedlovina**	**4.85**	**262**	PN	**Pn**	**08 06 04.2**	**+1.4**
SDLR				S	**Sn**	**08 06 56.8**	**-0.9**
SMAR	**Somma**	**4.90**	**262**	*eP*	**Pn**	**08 06 05.2**	**+1.6**
SMAR	**Somma**	**4.90**	**262**	PN	**Pn**	**08 06 05.2**	**+1.6**
UGLR	**Uglovaya**	**4.90**	**261**	*eP*	**Pn**	**08 06 05.0**	**+1.5**
UGLR	**Uglovaya**	**4.90**	**261**	PN	**Pn**	**08 06 05.0**	**+1.5**
KRER	**Koryakskii**	**4.92**	**262**	*eP*	**Pn**	**08 06 05.8**	**+2.0**
KRER	**Koryakskii**	**4.92**	**262**	PN	**Pn**	**08 06 05.8**	**+2.0**
AVH	**Avacha**	**4.94**	**262**	*eP*	**Pn**	**08 06 05.6**	**+1.6**
AVH	**Avacha**	**4.94**	**262**	PN	**Pn**	**08 06 05.6**	**+1.6**
KRX	**Arik**	**4.96**	**263**	*eP*	**Pn**	**08 06 06.1**	**+1.7**
KRX	**Arik**	**4.96**	**263**	PN	**Pn**	**08 06 06.1**	**+1.7**
KOK	**Koryaka**	**4.99**	**262**	*eP*	**Pn**	**08 06 06.3**	**+1.6**
KOK	**Koryaka**	**4.99**	**262**	PN	**Pn**	**08 06 06.3**	**+1.6**
DALK	**Dalny**	**4.99**	**259**	*eP*	**Pn**	**08 06 06.3**	**+1.7**
DALK				*eS*	**Sn**	**08 06 59.3**	**-1.7**
DALK	**Dalny**	**4.99**	**259**	PN	**Pn**	**08 06 06.3**	**+1.7**
DALK				S	**Sn**	**08 06 59.3**	**-1.7**
PET	**Petropavlovsk**	**5.05**	**259**	*e*Pn	**Pn**	**08 06 06.4**	**+0.9**
PET				*e*Sn	**Sn**	**08 07 00.4**	**-2.1**
PET	**Petropavlovsk**	**5.05**	**259**	*eP*	**Pn**	**08 06 07.8**	**+2.4**
PET	**Petropavlovsk**	**5.05**	**259**	*e*PN	**Pn**	**08 06 08.1**	**+2.7**
PET				*eS*	**Sn**	**08 07 02.0**	**-0.5**
PET				pmax	pmax		
	comp=Z,34nm,0.4s						
PET				smax	smax		
	comp=E,90nm,0.4s						
PET				smax	smax		
	comp=N,62nm,0.3s						
GNL	**Ganaly**	**5.31**	**268**	*eP*	**Pn**	**08 06 11.5**	**+2.4**
GNL	**Ganaly**	**5.31**	**268**	PN	**Pn**	**08 06 11.5**	**+2.4**
RUS	**Russkaya**	**5.34**	**253**	*eP*	**Pn**	**08 06 10.5**	**+1.1**
RUS				*eS*	**Sn**	**08 07 07.1**	**-2.4**
RUS	**Russkaya**	**5.34**	**253**	PN	**Pn**	**08 06 10.5**	**+1.1**
KRMR	**Karymshinskiy**	**5.41**	**258**	*eP*	**Pn**	**08 06 12.0**	**+1.6**
KRMR				*eS*	**Sn**	**08 07 09.5**	**-1.9**
KRMR	**Karymshinskiy**	**5.41**	**258**	PN	**Pn**	**08 06 12.0**	**+1.6**
KRMR				S	**Sn**	**08 07 09.5**	**-1.9**
MTVR	**Mutnovka**	**5.50**	**255**	*eP*	**Pn**	**08 06 13.7**	**+1.9**
MTVR				*eS*	**Sn**	**08 07 12.3**	**-1.6**
MTVR	**Mutnovka**	**5.50**	**255**	PN	**Pn**	**08 06 13.7**	**+1.9**
MTVR				S	**Sn**	**08 07 12.3**	**-1.6**
PEA1	**Petropavlovsk-**	**5.58**	**262**	*e*Pn	**Pn**	**08 06 13.6**	**+0.8**
PEA1				*e*Sn	**Sn**	**08 07 17.0**	**+1.4**
PETK	**Petropavlovsk-**	**5.58**	**262**	*e*Pn	**Pn**	**08 06 14.2**	**+1.5**
PETK				*e*Sn	**Sn**	**08 07 16.2**	**+0.6**
PETK	**Petropavlovsk-**	**5.58**	**262**	Pn	**Pn**	**08 06 13.6**	**+0.8**
	comp=N,4.2nm,0.3s,baz=84,slow=19,SNR=70						
PETK				Sn	**Sn**	**08 07 17.0**	**+1.4**
	comp=N,6.4nm,0.3s,baz=340,slow=25,SNR=11						
PETK				LR	LR	08 08 51.8	
	comp=N,60nm,18.4s,baz=106,slow=44						
ASAK	**Asacha**	**5.70**	**255**	*eP*	**Pn**	**08 06 16.7**	**+2.2**
ASAK	**Asacha**	**5.70**	**255**	PN	**Pn**	**08 06 16.7**	**+2.2**
KDTR	**Khodutka, Kamc**	**5.85**	**249**	*eP*	**Pn**	**08 06 17.4**	**+1.0**
KDTR				*eS*	**Sn**	**08 07 17.6**	**-4.6**
KDTR	**Khodutka, Kamc**	**5.85**	**249**	PN	**Pn**	**08 06 17.4**	**+1.0**
APC	**Apacha**	**5.94**	**261**	*eP*	**Pn**	**08 06 20.6**	**+2.9**
APC	**Apacha**	**5.94**	**261**	PN	**Pn**	**08 06 20.6**	**+2.9**
PAU	**Pauzhetka**	**6.71**	**250**	*eS*	**Sn**	**08 07 40.8**	**-2.5**
SKR	**Severo-Kuril's**	**7.48**	**246**	*eS*	**Sn**	**08 07 57.7**	**-4.6**
GAMB	**Gambell**	**14.51**	**40**	*e*Pn	**Pn**	**08 08 11.9**	**-2.8**
IM3	**Indian Mountai**	**22.41**	**43**	*eP*	**P**	**08 09 45.7**	**-1.8**
KDAK	**Kodiak Island**	**22.68**	**65**	P	**P**	**08 09 49.9**	**-0.4**
	comp=N,18nm,1.1s,baz=276,slow=18,SNR=2.3						
ILAR	**Eielson Array**	**25.10**	**47**	P	**P**	**08 10 13.7**	**+0.4**
	comp=N,0.5nm,0.7s,baz=255,slow=7.6,SNR=6.0						
ILB	**Eielson Array**	**25.10**	**47**	*eP*	**P**	**08 10 12.2**	**-1.1**
	comp=N,8.7nm,1.4s						
DOT	**Dot Lake**	**26.33**	**49**	*eP*	**P**	**08 10 22.8**	**-1.8**
	comp=N,2.7nm,1.2s						
SCRK	**Sand Creek**	**26.36**	**49**	*eP*	**P**	**08 10 22.2**	**-2.7**
	comp=N,6.5nm,1.6s						
MAJO	**Matsushiro**	**26.54**	**240**	*eP*	**P**	**08 10 27.0**	**+0.5**
MAJO	**Matsushiro**	**26.54**	**240**	*eP*	**P**	**08 10 27.0**	**+0.5**
MJAR	**Matsushiro Arr**	**26.54**	**240**	P	**P**	**08 10 27.0**	**+0.5**
	comp=N,0.4nm,0.4s,baz=26,slow=10.0,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**34.45**	**180**	T	T	08 48 33.5	
	baz=0.8,slow=76,SNR=132						
H11N3	**WAKE ISLAND Hy**	**34.47**	**180**	T	T	08 48 34.1	
	baz=0.8,slow=76,SNR=110						
H11N1	**WAKE ISLAND Hy**	**34.47**	**180**	T	T	08 48 44.5	
	baz=0.8,slow=76,SNR=118						
H11S1	**WAKE ISLAND Hy**	**35.67**	**180**	T	T	08 50 09.2	
	baz=0.5,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**35.68**	**180**	T	T	08 50 07.7	
	baz=0.5,slow=76,SNR=10						
H11S2	**WAKE ISLAND Hy**	**35.69**	**180**	T	T	08 50 11.9	
	baz=0.5,slow=76,SNR=30						
KURK	**Kurchatov**	**50.48**	**305**	*eP*	**P**	**08 13 46.0**	**-0.3**
	comp=N,2.5nm,1.1s						
KURK	**Kurchatov**	**50.48**	**305**	*eP*	**P**	**08 13 46.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MK32	**Makanchi Array**	**51.22**	**299**	*eP*	**P**	**08 13 51.1**	**-0.9**
MKAR	**Makanchi Array**	**51.22**	**299**	P	**P**	**08 13 51.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=56,slow=6.7,SNR=3.2						
MK01	**Makanchi Array**	**51.23**	**299**	*eP*	**P**	**08 13 51.5**	**-0.6**
FIA0	**FINESS Array S**	**60.56**	**340**	*eP*	**P**	**08 14 59.1**	**+0.5**
FIA0	**FINESS Array S**	**60.56**	**340**	*eP*	**P**	**08 14 59.1**	**+0.5**
FINES	**FINESS Array B**	**60.56**	**340**	P	**P**	**08 14 59.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=17,slow=15,SNR=2.7						
TXAR	**Lajitas Array**	**66.45**	**72**	P	**P**	**08 15 40.3**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=309,slow=4.1,SNR=5.3						
PSI	**Prapat**	**74.97**	**253**	LR	LR	08 49 23.5	
	comp=Z,259nm,20.7s,baz=266,slow=36						
WR1	**Warramunga Arr**	**79.00**	**211**	*eP*	**P**	**08 16 53.5**	**+1.2**
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**79.00**	**211**	P	**P**	**08 16 53.5**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=22,slow=6.3,SNR=5.5						
ASAR	**Alice Springs**	**82.63**	**210**	P	**P**	**08 17 13.8**	**+2.1**
	comp=Z,0.5nm,0.7s,baz=11,slow=5.4,SNR=5.8						

IDC 12 08:24:21.0±6.0, 3°.66S×148°.72E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/33, mbtmp3.1/3, Error ellipse: s-maj=190.6km s-min=34.0km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.42**	**220**	P	P	08 29 10.5	-0.2
	0.4nm,0.7s,baz=45,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**24.51**	**214**	P	P	08 29 42.6	+0.3
	0.2nm,0.6s,baz=40,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**76.82**	**320**	P	P	08 36 14.8	0.0
	0.2nm,0.7s,baz=100,slow=5.0,SNR=2.0						

*IDC **12** 08:35:16.1±1.0, 55°.91S×26°.65W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=39.8km s-min=29.3km az=97.0*
ISC 12 08:35:19.6±0.8, 55°.7S±0°.1×27°.1W±0°.3, h10km, n11, σ2°.8/18/11, mb4.1/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**17.11**	**159**	P	**Pn**	**08 39 18.3**	**-0.1**
VNA3	**Neumayer Olymp**	**17.31**	**161**	P	**Pn**	**08 39 20.3**	**-0.7**
VNA2	**Neumayer--Watz**	**17.51**	**158**	P	**Pn**	**08 39 23.4**	**0.0**
	baz=324,slow=14						
SNAA	**Sanae**	**19.05**	**157**	P	**P**	**08 39 44.6**	**+3.0**
VNDA	**Vanda**	**46.94**	**183**	P	**P**	**08 43 47.0**	**-2.7**
	0.7nm,0.8s,baz=210,slow=5.9,SNR=6.3						
LPAZ	**La Paz**	**50.21**	**305**	P	**P**	**08 44 17.5**	**+1.3**
	1.4nm,0.5s,baz=173,slow=2.9,SNR=9.8						
DBIC	**Dimbokro**	**64.82**	**25**	P	**P**	**08 45 57.5**	**-0.9**
	1.5nm,0.6s,baz=219,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**72.72**	**29**	P	**P**	**08 46 47.0**	**-0.5**
	0.5nm,0.5s,baz=198,slow=6.1,SNR=5.3						
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP	**PKPdf**	**08 54 36.2**	**-2.9**
	0.2nm,0.5s,baz=126,slow=2.2,SNR=4.9						
ILAR	**Eielson Array**	**149.91**	**312**	PKPbc	**PKPdf**	**08 55 05.9**	**+2.3**
	1.2nm,0.8s,baz=140,slow=2.9,SNR=16						
SONM	**Songino Array**	**150.65**	**86**	PKPbc	**PKPdf**	**08 55 07.6**	**+2.1**
	0.5nm,0.4s,baz=261,slow=1.6,SNR=3.2						

MEX 12 08:57:03.8±0.6, 16°.74N×94°.84W, h106km±6km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.36**	**353**	*i* P	Pn	08 57 18.1	-1.3
CMIG				*i* S	Sn	08 57 28.9	-2.2
HUIG	**Huatulco**	**1.55**	**232**	*i* P	Pn	08 57 29.2	-1.8
HUIG				*e*S	Sn	08 57 50.5	-1.1
VHO	**Vista Hermosa**	**1.84**	**281**	*eP*	Pn	08 57 34.5	-0.3
VHO				*i* S	Sn	08 57 57.0	-1.4
PCIG		**1.86**	**123**	*eP*	Pn	08 57 33.8	-1.1
PCIG				*e*S	Sn	08 57 57.1	-1.5
PNIG	**Pinotepa**	**3.17**	**264**	*eP*	Pn	08 57 50.9	-1.1
PNIG				*i* S	Sn	08 58 27.0	-2.2

*IDC **12** 09:01:51.4±1.1, 6°.55S×148°.36E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/40, mbtmp3.9/6, ML4.0/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/40, Error ellipse: s-maj=43.1km s-min=21.9km az=116.0*
*NEIC **12** 09:01:53.0±0.5, 6°.53S×148°.25E, h10km, mb4.1/5, Error ellipse: s-maj=19.2km s-min=8.4km az=125.0*
*ISCJB **12** 09:01:55.3±0.7, 6°.7S±0°.1×148°.4E±0°.1, h46km, mb3.9/6, MS3.8/5, Error ellipse: s-maj=25.5km s-min=8.0km az=35.8*
ISC 12 09:01:57.4±0.8, 6°.7S±0°.1×148°.4E±0°.2, h46km, n23, σ0°.99/20, mb3.8/6, MS3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.46**	**57**	*e*Pn	**Pn**	**09 03 02.4**	**-0.2**
COEN	**Coen**	**8.90**	**215**	*e*Pn	**Pn**	**09 04 03.5**	**-0.1**
COEN				*e*Sn	**Sn**	**09 05 42.3**	**-0.2**
SIJI	**Sorong**	**18.04**	**288**	LR	LR	09 15 02.4	
	comp=Z,677nm,19.9s,baz=103,slow=44						
WRAB	**Tennant Creek**	**19.00**	**225**	*eP*	**P**	**09 06 12.5**	**-2.8**
	6.6nm,0.8s						
WB2	**Warramunga Arr**	**19.00**	**225**	*eP*	**P**	**09 06 15.6**	**+0.2**
WR1	**Warramunga Arr**	**19.01**	**225**	*eP*	**P**	**09 06 15.2**	**-0.3**
	9.4nm,1.0s						
WRA	**Warramunga Arr**	**19.01**	**225**	P	**P**	**09 06 15.2**	**-0.3**
	0.5nm,0.3s,baz=50,slow=10,SNR=23						
WRA				LR	LR	09 14 52.2	
	comp=Z,237nm,18.6s,baz=45,slow=41						
AS01	**Alice Springs**	**21.90**	**218**	*eP*	**P**	**09 06 46.8**	**0.0**
AS31	**Alice Springs**	**21.93**	**218**	*eP*	**P**	**09 06 46.9**	**-0.2**
	2.2nm,0.5s						
ASAR	**Alice Springs**	**21.93**	**218**	P	**P**	**09 06 45.5**	**-1.6**
	3.6nm,0.4s,baz=56,slow=9.0,SNR=110						
FITZ	**Fitzroy Crossi**	**24.95**	**241**	*eP*	**P**	**09 07 17.3**	**+0.6**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.95**	**241**	P	**P**	**09 07 18.0**	**+1.4**
	5.7nm,0.5s,baz=54,slow=11,SNR=15						
FITZ				LR	LR	09 17 31.2	
	comp=Z,251nm,18.8s,baz=66,slow=38						
STKA	**Stephens Creek**	**25.89**	**193**	*eP*	**P**	**09 07 24.9**	**-0.2**
STKA	**Stephens Creek**	**25.89**	**193**	P	**P**	**09 07 25.8**	**+0.7**
	2.5nm,0.8s,baz=17,slow=14,SNR=3.9						
STKA				LR	LR	09 18 29.1	
	comp=Z,337nm,18.2s,baz=16,slow=38						
DAV	**Davao City (W)**	**26.55**	**300**	LR	LR	09 19 39.7	
	comp=Z,168nm,18.4s,baz=108,slow=40						
SONA0	**Songino Array**	**65.66**	**330**	*eP*	**P**	**09 12 37.0**	**-0.1**
SONM	**Songino Array**	**65.66**	**330**	P	**P**	**09 12 37.0**	**-0.1**
	0.4nm,0.8s,baz=145,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**78.89**	**320**	LR	LR	09 46 49.6	
	comp=Z,45nm,20.7s,baz=28,slow=34						
ILAR	**Eielson Array**	**85.53**	**23**	P	**P**	**09 14 29.6**	**-0.7**
	0.7nm,0.9s,baz=243,slow=5.0,SNR=4.4						
ELK	**Elko**	**99.10**	**50**	LR	LR	09 55 24.5	
	comp=Z,53nm,18.7s,baz=284,slow=32						
TORD	**Torodi Ar. Bea**	**146.61**	**284**	PKPbc	**PKPbc**	**09 21 34.8**	**-0.2**
	8.1nm,1.0s,baz=65,slow=2.0,SNR=30						
TOA1	**Torodi Ar. Sit**	**146.62**	**284**	*e*PKPdf	**PKPbc**	**09 21 34.8**	**-0.2**
PTGA	**Pitinga**	**150.74**	**103**	PKPbc	**PKiKP**	**09 21 47.9**	**+1.5**
	3.6nm,0.6s,baz=229,slow=3.5,SNR=7.4						

*NIED **12** 09:03:00, 24°.30N×121°.80E, h47km, Mw4.4 Best double couple: M0 3.90000×10^15 NP1: φ=156.00000°, δ=42.00000°, λ=30.00000°. NP2: φ=43.00000°, δ=70.00000°, λ=128.00000°.*
*BJI **12** 09:03:42.3, 24°.39N×121°.78E, h19km, mb4.1/13, mB4.3/3, ML4.3/7, Ms3.9/2, Ms7 3.9/3*
*JMA **12** 09:03:43.8, 24°.30N×121°.77E, h59km±1km, M4.3*
*ISCJB **12** 09:03:44.2±0.1, 24°.37N±0°.01×121°.83E±0°.01, h63km±1km, mb4.1/23, Error ellipse: s-maj=2.3km s-min=1.6km az=43.2*
*TAP **12** 09:03:44.8, 24°.36N×121°.78E, h52km, ML5.0, B*
*ASIES **12** 09:03:45.7, 24°.35N×121°.80E, h45km, MW4.0*
*NEIC **12** 09:03:45.7±0.0, 24°.35N×121°.80E, h47km, mb4.4/11, ML5.0(TAP), After TAP.*
NEIC Recorded [4 TAP] in Hualien and Yilan; [2 TAP] in Hsinchu, Nantou and Taichung; [1 TAP] in Taoyuan.
*IDC **12** 09:03:47.2±2.7, 24°.34N×122°.06E, h86km±27km, mb3.5/9, mb1 3.6/13, mb1mx3.5/50, mbtmp3.8/13, MS3.3/7, Ms1 3.3/7, ms1mx3.0/41, Error ellipse: s-maj=18.0km s-min=15.5km az=61.0*
ISC 12 09:03:45.1±0.6, 24°.36N±0°.02×121°.83E±0°.02, h56km±4km, n183, σ1°.41/293, mb4.1/23, MS3.4/5, 21C-49D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NANB	**Nanao**	**0.10**	**315**	⇓P	**Pn**	**09 03 53.1**	**-0.4**
	baz=324						
NANB				S	**Sn**	**09 03 59.1**	**-0.6**
	baz=324						
ENA	**Nanau**	**0.10**	**312**	⇓P	**Pn**	**09 03 53.2**	**-0.4**
	baz=323						
ENA				*e*S	**Sn**	**09 03 59.3**	**-0.4**
	baz=323						
TWC	**Suao**	**0.25**	**5**	⇑*i*P	**Pn**	**09 03 54.3**	**0.0**
	baz=22						
TWC				S	**Sn**	**09 04 01.2**	**+0.2**
	baz=22						
NACB	**Ninganchiao**	**0.28**	**229**	*e*Pn	**Pn**	**09 03 54.0**	**-0.6**
NACB				*e*Sn	**Sn**	**09 03 58.9**	**-2.5**
NACB	**Ninganchiao**	**0.28**	**229**	⇓P	**Pn**	**09 03 54.0**	**-0.6**
	baz=229						
NACB				S	**Sn**	**09 04 00.7**	**-0.8**
	baz=229						
EOS1	**EOS1**	**0.34**	**55**	⇑P	**Pn**	**09 03 55.9**	**+0.9**
	baz=69						
EOS1				*e*S	**Sn**	**09 04 04.4**	**+2.3**
	baz=69						
TWD	**Chiawan**	**0.35**	**217**	⇓*i*P	**Pn**	**09 03 54.6**	**-0.5**
	baz=220						
TWD				*i* S	**Sn**	**09 04 01.9**	**-0.5**
	baz=220						
ETLH	**Xiulin Townshi**	**0.35**	**245**	⇓P	**Pn**	**09 03 54.8**	**-0.5**
	baz=240						
ETLH				*e*S	**Sn**	**09 04 01.9**	**-0.7**
	baz=240						
NDT	**Datong Townshi**	**0.38**	**311**	⇓P	**Pn**	**09 03 55.1**	**-0.3**
	baz=319						
NDT				*i* S	**Sn**	**09 04 02.5**	**-0.4**
	baz=319						
TWE	**Neicheng**	**0.39**	**338**	⇑*i*P	**Pn**	**09 03 55.4**	**-0.1**
	baz=342						
TWE				S	**Sn**	**09 04 03.3**	**+0.2**
	baz=342						
NNSB	**Datong**	**0.41**	**280**	⇓P	**Pn**	**09 03 55.5**	**-0.4**
	baz=280						
NNSB				S	**Sn**	**09 04 02.7**	**-1.0**
	baz=280						
ILA	**Ilan**	**0.41**	**350**	⇑*i*P	**Pn**	**09 03 56.1**	**+0.3**
	baz=354						
ILA				S	**Sn**	**09 04 04.4**	**+0.9**
	baz=354						
NNS	**Nan Shan**	**0.42**	**281**	⇓*i*P	**Pn**	**09 03 55.6**	**-0.4**
	baz=282						
NNS				S	**Sn**	**09 04 03.0**	**-0.9**
	baz=282						
HWA	**Hwalien**	**0.43**	**208**	⇓P	**Pn**	**09 03 55.9**	**0.0**
	baz=190						
HWA				*e*S	**Sn**	**09 04 04.8**	**+1.0**
	baz=190						
EGS		**0.49**	**11**	⇑*i*P	**Pn**	**09 03 57.2**	**+0.5**
	baz=25						
EGS				*e*S	**Sn**	**09 04 06.4**	**+1.4**
	baz=25						
NTC	**Toucheng**	**0.49**	**0**	⇑P	**Pn**	**09 03 57.0**	**+0.4**
	baz=7.0						
NTC				*e*S	**Sn**	**09 04 05.9**	**+0.9**
	baz=7.0						
ENLB	**Shoufeng**	**0.50**	**204**	⇓*e*P	**Pn**	**09 03 56.6**	**0.0**
	baz=188						
ENLB				S	**Sn**	**09 04 06.3**	**+1.3**
	baz=188						
NWLT	**Wulai**	**0.51**	**325**	P	**Pn**	**09 03 56.7**	**-0.2**
	baz=320						
NWLT				*e*S	**Sn**	**09 04 04.9**	**-0.5**
	baz=320						
YHNB	**Yeheng**	**0.52**	**307**	*e*Pn	**Pn**	**09 03 56.6**	**-0.3**
YHNB				*e*Sn	**Sn**	**09 04 05.3**	**-0.2**
YHNB	**Yeheng**	**0.52**	**307**	⇓P	**Pn**	**09 03 56.6**	**-0.3**
	baz=302						
YHNB				S	**Sn**	**09 04 04.5**	**-1.1**
	baz=302						
NSK	**Sanguang**	**0.53**	**307**	⇓*i*P	**Pn**	**09 03 56.7**	**-0.4**
	baz=301						
NSK				*i* S	**Sn**	**09 04 04.7**	**-1.1**
	baz=301						
WHF	**Hehuan Shan**	**0.55**	**248**	⇓*i*P	**Pn**	**09 03 57.3**	**-0.4**
	baz=244						
WHF				S	**Sn**	**09 04 06.0**	**-0.9**
	baz=244						
TWT	**Tachien**	**0.60**	**260**	⇓*i*P	**Pn**	**09 03 58.3**	**+0.2**
	baz=259						
TWT				*i* S	**Sn**	**09 04 07.4**	**-0.1**
	baz=259						
TIPB	**Shuangxi**	**0.61**	**360**	⇑*i*P	**Pn**	**09 03 58.6**	**+0.5**
	baz=1.0						
TIPB				*i* S	**Sn**	**09 04 08.0**	**+0.6**
	baz=1.0						
TDCB	**Techi**	**0.62**	**260**	⇓P	**Pn**	**09 03 58.3**	**+0.1**
	baz=259						
TDCB				S	**Sn**	**09 04 07.0**	**-0.7**
	baz=259						
ESL	**Shilin**	**0.65**	**214**	⇓*i*P	**Pn**	**09 03 57.2**	**-1.2**
	baz=216						
TWA	**Mucha**	**0.66**	**340**	⇑*i*P	**Pn**	**09 03 58.6**	**0.0**
	baz=332						
TWA				S	**Sn**	**09 04 08.5**	**+0.1**
	baz=332						
NHDH	**Xindian Distri**	**0.66**	**336**	*eP*	**Pn**	**09 03 58.5**	**-0.1**
	baz=329						
NHDH				S	**Sn**	**09 04 08.3**	**-0.1**
	baz=329						
CHGB	**Renai**	**0.67**	**244**	⇓P	**Pn**	**09 03 58.8**	**0.0**
	baz=234						
CHGB				S	**Sn**	**09 04 08.4**	**-0.4**
	baz=234						
TATO	**Taipei**	**0.69**	**333**	*e*Pn	**Pn**	**09 03 58.6**	**-0.3**
TATO				*e*Sn	**Sn**	**09 04 08.7**	**-0.3**
NWF	**Wu-fen Shan**	**0.71**	**357**	⇑*i*P	**Pn**	**09 03 59.7**	**+0.4**
	baz=353						
NWF				S	**Sn**	**09 04 10.5**	**+0.8**
	baz=353						
WFSB	**Wu-fen Shan**	**0.71**	**357**	⇑P	**Pn**	**09 03 59.7**	**+0.4**
	baz=353						
WFSB				S	**Sn**	**09 04 10.5**	**+0.9**
	baz=353						
OWD	**Renai**	**0.72**	**236**	⇓*i*P	**Pn**	**09 03 59.1**	**-0.3**
	baz=227						
OWD				*e*S	**Sn**	**09 04 08.8**	**-1.1**
	baz=227						
WLTB	**Daxi**	**0.72**	**313**	⇓*i*P	**Pn**	**09 03 59.5**	**+0.2**
	baz=315						
WLTB				*i* S	**Sn**	**09 04 10.2**	**+0.5**
	baz=315						
TAP	**Taipei**	**0.74**	**337**	*eP*	**Pn**	**09 03 59.3**	**-0.3**
	baz=330						
TAP				S	**Sn**	**09 04 10

	baz=204								
EHY					*e*S		**Sn**	09 04 13.6	-1.8
	baz=204								
SMLT	**Sun Moon Lake**	**0.97**	**241**	⇓	*i*P		**Pn**	09 04 02.9	+0.3
	baz=233								
SMLT					*e*S		**Sn**	09 04 16.2	+0.6
	baz=233								
NSY	**Sanyi**	**0.97**	**274**		*e*P		**Pn**	09 04 03.0	+0.4
	baz=273								
NSY					*e*S		**Sn**	09 04 17.0	+1.4
	baz=273								
SSLB	**Suanglung**	**0.98**	**235**		*e*Pn		**Pn**	09 04 02.7	-0.1
SSLB					*e*Sn		**Sn**	09 04 14.3	-1.4
SSLB	**Suanglung**	**0.98**	**235**	⇓	P		**Pn**	09 04 02.6	-0.1
	baz=229								
SSLB					*e*S		**Sn**	09 04 15.5	-0.3
	baz=229								
TYC	**Yuchr**	**0.99**	**243**	⇓	*i*P		**Pn**	09 04 03.2	+0.4
	baz=242								
TYC					*e*S		**Sn**	09 04 17.2	+1.2
	baz=242								
JYNG	**Yonagunijimaku**	**1.02**	**85**		P		**Pn**	09 04 03.3	0.0
JYNG					*e*S		**Sn**	09 04 17.1	+0.4
PTSB	**Yuanli**	**1.03**	**275**		*e*P		**Pn**	09 04 03.4	+0.1
	baz=275								
PTSB					*e*S		**Sn**	09 04 16.1	-0.7
	baz=275								
TCU	**Taichung**	**1.07**	**259**		*e*P		**Pn**	09 04 04.2	+0.3
	baz=258								
TCU					*e*S		**Sn**	09 04 18.7	+0.9
	baz=258								
YULB	**Yu-li**	**1.08**	**207**		*e*Pn		**Pn**	09 04 02.5	-1.5
YULB					*e*Sn		**Sn**	09 04 15.3	-2.7
YULB	**Yu-li**	**1.08**	**207**	⇓	P		**Pn**	09 04 02.3	-1.7
	baz=203								
YULB					*e*S		**Sn**	09 04 15.9	-2.1
	baz=203								
WDJ	**Dajia District**	**1.08**	**270**	⇓	*e*P		**Pn**	09 04 04.2	+0.2
	baz=269								
WDJ					*e*S		**Sn**	09 04 17.9	-0.2
	baz=269								
YOJ	**Yonaguni jima**	**1.08**	**84**		*e*Pn		**Pn**	09 04 04.0	0.0
YOJ					*e*Sn		**Sn**	09 04 18.6	+0.4
YOJ	**Yonaguni jima**	**1.08**	**84**	⇓	P		**Pn**	09 04 04.0	0.0
	baz=76								
YOJ					S		**Sn**	09 04 18.4	+0.2
	baz=76								
YOJ	**Yonaguni jima**	**1.08**	**84**		P		**Pn**	09 04 04.0	0.0
YOJ					*e*S		**Sn**	09 04 18.5	+0.4
WHYT	**Xinyi Township**	**1.11**	**234**		*e*P		**Pn**	09 04 05.0	+0.6
	baz=233								
WHYT					*e*S		**Sn**	09 04 20.2	+1.4
	baz=233								
TWF1	**Yuli**	**1.11**	**206**		*e*P		**Pn**	09 04 02.9	-1.6
	baz=208								
TWF1					*e*S		**Sn**	09 04 17.6	-1.3
	baz=208								
WJS	**Zhushan**	**1.14**	**242**	⇓	*e*P		**Pn**	09 04 05.8	+1.0
	baz=242								
WJS					*e*S		**Sn**	09 04 21.6	+2.2
	baz=242								
WNT	**Mingjian**	**1.15**	**246**	⇓	P		**Pn**	09 04 05.8	+0.9
	baz=257								
WNT					*e*S		**Sn**	09 04 22.0	+2.3
	baz=257								
WCHH	**Zhanghua**	**1.19**	**257**		*e*P		**Pn**	09 04 05.7	+0.2
	baz=256								
WCHH					*e*S		**Sn**	09 04 21.6	+0.9
	baz=256								
FULB	**Fuli**	**1.25**	**203**	⇑	P		**Pn**	09 04 05.6	-0.8
	baz=205								
FULB					*e*S		**Sn**	09 04 22.9	+0.6
	baz=205								
PCYT	**Pengchaiyu**	**1.28**	**10**	⇑	*i*P		**Pn**	09 04 06.9	+0.1
	baz=15								
PCYT					*e*S		**Sn**	09 04 23.4	+0.5
	baz=15								
CHKT	**Chengkung**	**1.32**	**199**		*e*P		**Pn**	09 04 06.4	-0.9
	baz=184								
WGK	**Gukeng**	**1.34**	**240**		*e*P		**Pn**	09 04 08.6	+1.2
	baz=239								
WGK					*e*S		**Sn**	09 04 26.6	+2.5
	baz=239								
ELDTW	**Lidau**	**1.38**	**213**		*e*P		**Pn**	09 04 07.3	-0.9
	baz=198								
ELDTW					*e*S		**Sn**	09 04 24.7	-0.7
	baz=198								
RLNB	**Erlin**	**1.42**	**251**	⇓	P		**Pn**	09 04 08.8	+0.3
	baz=263								
RLNB					*e*S		**Sn**	09 04 26.8	+0.6
	baz=263								
CHN2	**Minshiung**	**1.48**	**237**		*e*P		**Pn**	09 04 10.9	+1.4
	baz=248								
CHN2					*e*S		**Sn**	09 04 30.2	+2.4
	baz=248								
WTCT	**Ta-ch'eng**	**1.50**	**251**		P		**Pn**	09 04 09.5	-0.1
	baz=263								
WTCT					S		**Sn**	09 04 28.3	+0.3
	baz=263								
TPUB	**Ta-pu**	**1.52**	**226**		*e*Pn		**Pn**	09 04 11.1	+1.1
TPUB					*e*Sn		**Sn**	09 04 30.2	+1.5
TPUB	**Ta-pu**	**1.52**	**226**	⇑	P		**Pn**	09 04 11.0	+1.1
	baz=215								
TPUB					S		**Sn**	09 04 30.6	+1.9
	baz=215								
STYT	**Tauyuan**	**1.54**	**220**	⇑	*i*P		**Pn**	09 04 11.0	+0.7
	baz=217								
STYT					*e*S		**Sn**	09 04 30.4	+1.1
	baz=217								
CHY	**Chiayi**	**1.54**	**237**		*e*P		**Pn**	09 04 11.1	+0.9
	baz=250								
CHY					*e*S		**Sn**	09 04 30.7	+1.5
	baz=250								
WMLT	**Mailiao**	**1.57**	**250**		*e*P		**Pn**	09 04 10.2	-0.4
	baz=249								
WMLT					*e*S		**Sn**	09 04 29.9	+0.2
	baz=249								
WSF	**Szhu**	**1.63**	**244**	⇓	*i*P		**Pn**	09 04 11.8	+0.4
	baz=256								
WSF					*e*S		**Sn**	09 04 32.3	+0.9
	baz=256								
WLGB	**Puzi**	**1.65**	**238**		*e*P		**Pn**	09 04 12.5	+0.8
	baz=251								
WLGB					*e*S		**Sn**	09 04 33.2	+1.4
	baz=251								
SNST	**Tainan City**	**1.66**	**227**		*e*P		**Pn**	09 04 13.0	+1.1
	baz=227								
SNST					*e*S		**Sn**	09 04 35.0	+2.9
	baz=227								
TWG	**Pinlang**	**1.68**	**204**		*e*Pn		**Pn**	09 04 10.4	-1.7
TWG					*e*Sn		**Sn**	09 04 30.0	-2.6
TWG	**Pinlang**	**1.68**	**204**	⇑	*e*P		**Pn**	09 04 10.3	-1.8
	baz=191								
TWGBT	**Beinan**	**1.68**	**204**	⇑	P		**Pn**	09 04 10.4	-1.8
	baz=187								
TWGBT					*e*S		**Sn**	09 04 30.5	-2.0
	baz=187								
IRIF	**Iriomote-Funau**	**1.74**	**90**		P		**Pn**	09 04 12.5	-0.4
IRIF					*e*S		**Sn**	09 04 33.5	-0.4
SLGT	**Liugui**	**1.74**	**219**	⇑	*i*P		**Pn**	09 04 14.3	+1.4
	baz=205								
SLGT					*e*S		**Sn**	09 04 36.2	+2.2
	baz=205								
CHN8	**Yiju**	**1.79**	**236**		*e*P		**Pn**	09 04 14.5	+0.9
	baz=250								
CHN8					*e*S		**Sn**	09 04 36.5	+1.3
	baz=250								
HATJ	**Hateruma jima**	**1.83**	**99**		P		**Pn**	09 04 14.7	+0.5
HATJ					S		**Sn**	09 04 36.8	+0.6
CHN3	**Shinhua**	**1.85**	**227**		*e*P		**Pn**	09 04 16.0	+1.6
	baz=226								
CHN3					*e*S		**Sn**	09 04 40.2	+3.5
	baz=226								
SCLT	**Jiali**	**1.90**	**232**		*e*P		**Pn**	09 04 16.3	+1.2
	baz=221								
SCLT					*e*S		**Sn**	09 04 40.5	+2.5
	baz=221								
ECL	**Taimali**	**1.93**	**205**		*e*P		**Pn**	09 04 13.8	-1.6
	baz=190								
ECL					*e*S		**Sn**	09 04 37.8	-0.8
	baz=190								
TAI1	**Yung-k'ang**	**1.97**	**228**		*e*P		**Pn**	09 04 16.7	+0.7
	baz=228								
TAI1					*e*S		**Sn**	09 04 42.6	+3.1
	baz=228								
JKRS	**Kuro-shima**	**2.00**	**93**		P		**Pn**	09 04 16.5	+0.1
JKRS					*e*S		**Sn**	09 04 40.6	+0.4
SGLT	**Jiouru**	**2.04**	**217**		*e*P		**Pn**	09 04 19.2	+2.2
	baz=214								
SGLT					*e*S		**Sn**	09 04 45.6	+4.4
	baz=214								
MASBT	**Mashibuluo**	**2.06**	**212**		*e*P		**Pn**	09 04 17.5	+0.2
	baz=223								
MASBT					*e*S		**Sn**	09 04 43.9	+2.1
	baz=223								
JIJ	**Ishigaki jima**	**2.11**	**89**		P		**Pn**	09 04 17.6	-0.4
JIJ					*e*S		**Sn**	09 04 43.2	+0.1
EAST	**Anshuo**	**2.16**	**205**		*e*P		**Pn**	09 04 17.3	-1.4
	baz=192								
TAW	**Tawu**	**2.17**	**203**		*e*P		**Pn**	09 04 19.3	+0.5
	baz=191								
SSPT	**Xinbi**	**2.19**	**212**		*e*P		**Pn**	09 04 20.4	+1.3
	baz=207								
SSPT					*e*S		**Sn**	09 04 46.9	+1.8
	baz=207								
PNG	**Penghu**	**2.22**	**250**	⇓	P		**Pn**	09 04 18.5	-1.0
	baz=252								
PNG					*e*S		**Sn**	09 04 44.2	-1.6
	baz=252								
PHUB	**P'eng-hu**	**2.23**	**248**	⇓	P		**Pn**	09 04 18.6	-1.0
	baz=250								
PHUB					*e*S		**Sn**	09 04 43.3	-2.6
	baz=250								
VWUC	**VWUC**	**2.25**	**287**	⇓	*e*P		**Pn**	09 04 18.7	-1.2
	baz=287								
SCZT	**Fangliau**	**2.27**	**210**		*e*P		**Pn**	09 04 20.6	+0.5
	baz=222								
SCZT					*e*S		**Sn**	09 04 49.4	+2.5
	baz=222								
JISG	**Ishigakijimahi**	**2.27**	**84**		P		**Pn**	09 04 19.7	-0.5
JISG					*e*S		**Sn**	09 04 47.1	0.0
LAY	**Lan-yu**	**2.32**	**186**		*e*P		**Pn**	09 04 19.2	-1.7
	baz=174								
LAY					*e*S		**Sn**	09 04 44.1	-4.2
	baz=174								
WLCH	**Liuqiu**	**2.40**	**214**		*e*P		**Pn**	09 04 24.4	+2.4
	baz=231								
TWP	**Hsiaoliuchiu**	**2.41**	**214**		*e*P		**Pn**	09 04 23.8	+1.6
	baz=231								
MATB	**Ma-tsu**	**2.47**	**317**	⇓	*e*P		**Pn**	09 04 21.3	-1.6
	baz=315								
VCHM	**Qimei**	**2.48**	**243**		*e*P		**Pn**	09 04 22.4	-0.6
	baz=245								
HEN	**Hengchun**	**2.55**	**203**		*e*P		**Pn**	09 04 25.5	+1.6
	baz=192								
PTMZ	**Houxiangcun**	**2.55**	**286**	⇓	*e*P		**Pn**	09 04 22.8	-1.3
	baz=286								
TWK1	**Hengchun**	**2.58**	**202**		*e*P		**Pn**	09 04 25.5	+1.1
	baz=191								
TWKBT	**Hengchun**	**2.58**	**201**		*e*P		**Pn**	09 04 24.3	-0.2
	baz=191								
TSEB	**Hengchuen, Pin**	**2.59**	**199**		*e*P		**Pn**	09 04 25.1	+0.6
	baz=188								
JTJ	**Tarama**	**2.63**	**83**		P		**Pn**	09 04 25.3	+0.2
JTJ					*e*S		**Sn**	09 04 55.7	-0.2
LYJJ	**Jianjiangzhen**	**2.87**	**320**	⇓	*e*P		**Pn**	09 04 26.9	-1.5
	baz=318								
XPSS	**Dashiqiu**	**2.96**	**330**	⇓	*e*P		**Pn**	09 04 28.2	-1.3
	baz=328								
QZH	**Quanzhou**	**3.00**	**282**	⇓	*i*Pn		**Pn**	09 04 28.8	-1.3
QZH					Sn		**Sn**	09 05 00.3	-4.6
QZH					smax		smax		
	comp=N,300nm,0.5s								
QZH					smax		smax		
	comp=E,240nm,0.7s								
MHZQ	**Yeshan**	**3.07**	**305**	⇓	*e*P		**Pn**	09 04 29.5	-1.6
	baz=303								
JIRB	**Irabujima**	**3.08**	**81**		P		**Pn**	09 04 31.5	+0.2
JIRB					*e*S		**Sn**	09 05 07.9	+1.0
KNM	**Kinmen**	**3.09**	**272**	⇓	*e*P		**Pn**	09 04 31.8	+0.4
	baz=272								
KNMB	**Chin-men Tao**	**3.14**	**273**	⇓	*e*P		**Pn**	09 04 30.5	-1.5
	baz=273								
JIKM	**Ikemajima**	**3.16**	**79**		P		**Pn**	09 04 32.8	+0.4
JIKM					*e*S		**Sn**	09 05 10.4	+1.5
JMJ	**Miyako jima 2**	**3.19**	**81**		*e*P		**Pn**	09 04 33.7	+1.0
	baz=82								
JMJ	**Miyako jima 2**	**3.19**	**81**		P		**Pn**	09 04 33.6	+0.9
JMJ					*e*S		**Sn**	09 05 10.6	+1.1
JOGS	**Gusukube**	**3.28**	**82**		P		**Pn**	09 04 34.9	+0.9
JOGS					*e*S		**Sn**	09 05 12.5	+0.6
AXDP	**Jialang**	**3.55**	**280**	⇓	*e*P		**Pn**	09 04 36.6	-1.1
	baz=280								
ZPLA	**Ao Xicun**	**3.75**	**264**	⇓	*e*P		**Pn**	09 04 39.2	-1.2
	baz=265								
ZZJH	**Jiuhuzhen**	**3.83**	**273**		*e*P		**Pn**	09 04 40.1	-1.4
	baz=273								
JOW	**Kunigami**	**6.32**	**66**		*e*P		**Pn**	09 05 15.1	-0.6
	baz=68								
JOW	**Kunigami**	**6.32**	**66**		P		**Pn**	09 05 15.1	-0.6
	1.5nm,0.3s,baz=166,slow=14,SNR=22								
JOW					S		**Sn**	09 06 24.1	-2.5
	0.2nm,0.3s,baz=92,slow=16,SNR=1.8								
GZH	**Guangzhou**	**7.88**	**262**		Pn		Pn	09 05 31.3	-5.7
GZH					Sn		Sn	09 06 48.5	-16
GZH					smax		smax		
	comp=N,220nm,0.8s								
GZH					smax		smax		
	comp=E,130nm,0.7s								
WHN	**Wuhan**	**9.06**	**315**		P		**Pn**	09 05 50.0	-3.1
WHN					S		**Sn**	09 07 27.7	-5.9
JNU	**Nakatsue**	**11.80**	**40**		P		**Pn**	09 06 32.7	+2.0
	comp=E,0.4nm,0.3s,baz=336,slow=4.8,SNR=3.4								
JNU					LR		LR	09 12 26.7	
	comp=E,117nm,19.6s,baz=200,slow=44								
KSRS	**Korea Array**	**14.06**	**20**		P		**Pn**	09 07 02.5	+1.3
	comp=E,0.3nm,0.3s,baz=204,slow=14,SNR=5.4								
KSRS					LR		LR	09 12 29.8	
	comp=E,86nm,22.0s,baz=220,slow=37								
JHJ	**Hachijo jima 2**	**17.99**	**57**		LR		LR	09 14 41.8	
	comp=E,52nm,20.9s,baz=282,slow=37								
HHC	**Hu-ho-hao-te**	**18.55**	**335**		*e*P		**Pn**	09 08 00.4	+2.3
HHC					pmax		pmax		
	comp=E,17nm,0.9s								
MJAR	**Matsushiro Arr**	**18.59**	**45**		P		**P**	09 07 54.7	-3.0
	comp=E,0.0nm,0.3s,baz=234,slow=9.2,SNR=3.4								
PBKT	**Sadao Pong**	**21.00**	**252**		*e*P		**P**	09 08 26.6	+2.5
	comp=E,6.6nm,0.8s								
PBKT	**Sadao Pong**	**21.00**	**252**		P		**P**	09 08 30.8	+6.7
	comp=E,9.3nm,0.9s								
SRAK	**Srakaew**	**21.30**	**245**		P		**P**	09 08 26.3	-1.0
	comp=E,24nm,0.7s								
CMMT	**Chiang Mai**	**21.97**	**260**		P		**P**	09 08 38.2	+3.8
	comp=E,6.3nm,1.0s								
CHTO	**Chiang Mai**	**21.97**	**260**		*e*P		**P**	09 08 36.7	+2.2
	comp=E,15nm,1.5s								
CHTO	**Chiang Mai**	**21.97**	**260**		P		**P**	09 08 38.3	+3.9
	comp=E,27nm,1.2s								
CMAR	**Chiang Mai Arr**	**22.09**	**259**		P		**P**	09 08 37.9	+2.2
	comp=E,2.3nm,0.7s,baz=57,slow=8.0,SNR=10.0								
CMAR					LR		LR	09 17 52.2	
	comp=E,60nm,20.5s,baz=76,slow=38								
SBUM	**Sibu**	**23.68**	**205**		*e*P		**P**	09 08 50.2	-1.5
	comp=E,12nm,0.8s								
GTA	**Gaotai**	**23.88**	**314**		*e*P		**P**	09 08 59.2	+5.5
GTA					pP		pP	09 09 04.8	-2.7
GTA					sP		sP	09 09 07.3	-7.1
GTA					pmax		pmax		
	comp=E,5.0nm,1.0s								
ASAJ	**Asahikawa**	**26.01**	**36**		LR		LR	09 18 22.5	
	comp=E,100nm,20.8s,baz=120,slow=34								
KLR	**Kul'dur**	**26.02**	**15**		LR		LR	09 19 42.5	
	comp=E,126nm,18.4s,baz=208,slow=37								
SONM	**Songino Array**	**26.44**	**336**		P		**P**	09 09 16.6	-0.2
	comp=E,1.2nm,0.7s,baz=145,slow=9.4,SNR=6.8								
PSI	**Prapat**	**30.79**	**229**		LR		LR	09 22 15.6	
	comp=E,81nm,20.5s,baz=277,slow=36								
WMQ	**Urumqi**	**33.96**	**313**		*e*P		**P**	09 10 24.9	+1.7
WMQ					LR		LR		
	comp=E,120nm,20.1s								
WMQ					LR		LR		
	comp=E,130nm,17.9s								
MK01	**Makanchi Array**	**38.61**	**315**		*e*P		**P**	09 11 02.9	+0.1
MK31	**Makanchi Array**	**38.62**	**316**		*e*P		**P**	09 11 02.7	-0.2
	comp=E,1.5nm,0.9s								
MKAR	**Makanchi Array**	**38.62**	**316**		P		**P**	09 11 02.4	-0.5
	comp=E,1.1nm,0.7s,baz=106,slow=10,SNR=7.6								
ZALV	**Zalesovo Beam**	**40.42**	**327**		*e*P		**P**	09 11 17.4	-0.3
ZALV	**Zalesovo Beam**	**40.42**	**327**		P		**P**	09 11 16.8	-0.9
	comp=E,0.6nm,0.4s,baz=100,slow=7.7,SNR=3.8								
KURBB	**Kurchatov Arra**	**42.35**	**320**		P		**P**	09 11 34.9	+1.3
	comp=E,0.4nm,0.5s,baz=113,slow=7.1,SNR=3.2								
COEN	**Coen**	**43.42**	**149**		*e*P		**P**	09 11 42.9	+0.4
	comp=E,86nm,1.6s								
WRA	**Warramunga Arr**	**45.69**	**163**		P		**P**	09 11 58.5	-2.1
	comp=E,1.3nm,0.5s,baz=346,slow=8.7,SNR=16								
WB2	**Warramunga Ar**	**45.69**	**163**		*e*P		**P**	09 11 57.4	-3.2
TIXI	**Tiksi**	**47.49**	**3**		*e*P		**P**	09 12 12.5	-1.6
	comp=E,4.3nm,0.8s								
ASAR	**Alice Springs**	**49.16**	**165**		P		**P**	09 12 26.1	-1.4
	comp=E,0.7nm,0.6s,baz=339,slow=6.6,SNR=8.4								
AS01	**Alice Springs**	**49.16**	**165**		*e*P		**P**	09 12 26.6	-1.0
ABKAR	**Akbulak array**	**53.74**	**314**		*e*P		**P**	09 13 01.4	-0.2
	comp=E,8.2nm,1.6s								
IM3	**Indian Mountai**	**65.77**	**27**		*e*P		**P**	09 14 23.7	-0.2
PPLA	**Purkeypile**	**66.81**	**30**		*e*P		**P**	09 14 30.7	-0.1
	comp=E,23nm,1.7s								
RSO	**Redoubt South**	**66.90**	**32**		*e*P		**P**	09 14 30.8	-0.7
TOLK	**Toolik Lake Re**	**67.06**	**23**		*e*P		**P**	09 14 32.5	+0.3
	comp=E,6.6nm,1.5s								
MLY	**Manley**	**67.13**	**27**		*e*P		**P**	09 14 32.2	-0.5
	comp=E,2.1nm,1.0s								
MCK	**McKinley**	**68.12**	**29**		*e*P		**P**	09 14 38.4	-0.5
	comp=E,5.2nm,1.0s								
MDM	**Murphy Dome**	**68.19**	**27**		*e*P		**P**	09 14 39.3	0.0
ILAR	**Eielson Array**	**68.79**	**27**		P		**P**	09 14 42.1	-0.9
	comp=E,1.0nm,0.9s,baz=273,slow=5.4,SNR=4.8								
YKA	**Yellowknife Ar**	**82.58**	**23**		P		**P**	09 16 00.4	-1.5
	comp=E,0.3nm,0.5s,baz=312,slow=4.7,SNR=10								
SDV	**Santo Domingo**	**144.79**	**22**		PKP		**PKPab**	09 23 14.6	-1.1
	comp=E,6.5nm,0.8s,baz=23,slow=2.4,SNR=7.1								

NNC 12 09:04:51.9±2.4, 53.36N×88.93E, h0km, mb3.5, mpv3.2, 6C-5D, Error ellipse: s-maj=18.5km s-min=11.5km az=63.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**2.51**	**285**	⇑	Pg		Pb	09 05 37.0	-0.8
	2.0nm,0.9s								
ZAA0				⇑	Lg		Lg	09 06 12.8	
	1.7nm,0.7s								
KURK	**Kurchatov**	**6.89**	**252**	⇓	Pn		Pn	09 06 34.8	+0.8
	4.6nm,1.5s								
KURK				⇑	Sn		Sn	09 07 55.0	+2.0
	1.5nm,0.7s								
KURK				⇓	Lg		Lg	09 08 30.4	
KURBB	**Kurchatov Arra**	**6.98**	**251**	⇓	Pn		Pn	09 06 35.7	+0.5
	2.7nm,0.6s								
KURBB				⇑	Sn		Sn	09 07 54.6	-0.7
	4.8nm,0.6s								
KURBB				⇓	Lg		Lg	09 08 35.3	
	8.4nm,0.7s								
MK31	**Makanchi Array**	**7.83**	**216**	⇑	Pn		Pn	09 06 48.0	+0.9
	0.9nm,0.6s,baz=32,slow=12,SNR=15								
MK31				⇓	Sn		Sn	09 08 17.5	+1.1
	1.1nm,0.6s,baz=40,slow=25,SNR=5.3								
MK31				⇑	Lg		Lg	09 08 59.8	
	1.7nm,0.8s,baz=32,slow=29								

TAP 12 09:09:14.8, 24.36N×121.43E, h13km, ML2.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.08**	**328**		*e*P		Pg	09 09 18.2	+0.5
	baz=327								
NNSB					*e*S		Sg	09 09 19.7	-0.1
	baz=327								
NNS	**Nan Shan**	**0.10**	**327**		P		Pg	09 09 18.4	+0.5
	baz=330								
NNS					S		Sg	09 09 20.2	+0.1
	baz=330								
ETLH	**Xiulin Townshi**	**0.16**	**163**		*e*P		Pb	09 09 19.6	-0.1
	baz=162								
ETLH					*e*S		Sg	09 09 21.9	+0.6
	baz=162								
NACB	**Ninganchiao**	**0.24**	**141**		*e*P		Pb	09 09 20.9	-0.1
	baz=140								
NACB					*e*S		Sb	09 09 24.3	-0.8
	baz=140								
NDT	**Datong Townshi**	**0.25**	**17**		*e*P		Pb	09 09 21.1	-0.2
	baz=17								
NDT					*e*S		Sb	09 09 25.3	-0.3
	baz=17								
TWT	**Tachien**	**0.26**	**246**		*e*P		Pb	09 09 21.7	+0.3
	baz=246								
TWT					S		Sb	09 09 25.5	-0.3
	baz=246								
WHF	**Hehuan Shan**	**0.26**	**215**		*i* P		Pb	09 09 21.2	-0.4
	baz=214								
WHF					S		Sg	09 09 24.9	+0.5
	baz=214								
TDCB	**Techi**	**0.27**	**247**		*e*P		Pb	09 09 21.6	0.0
	baz=247								
TDCB					*e*S		Sg	09 09 25.0	+0.6
	baz=247								
ENA	**Nanau**	**0.29**	**76**		*e*P		Pb	09 09 21.9	0.0
	baz=76								
ENA					*e*S		Sb	09 09 26.6	0.0
	baz=76								
NANB	**Nanao**	**0.30**	**77**		*e*P		Pb	09 09 21.7	-0.4
	baz=76								
NANB					*e*S		Sb	09 09 26.6	-0.3
	baz=76								
YHNB	**Yeheng**	**0.31**	**351**		*e*P		Pb	09 09 22.7	+0.4
	baz=350								
YHNB					*e*S		Sb	09 09 26.7	-0.7
	baz=350								
TWD	**Chiawan**	**0.32**	**151**		*e*P		Pb	09 09 22

NEIC ***12*** *09:20:46.1±0.8, 7.°40S×148.°90E, h35km, mb4.4/9, Error ellipse: s-maj=27.5km s-min=9.6km az=122.0*

ISC 12 09:20:45.9±0.7, 7.°36S±0.°09×149.°0E±0.°1, h35km, n59, σ1§68/55, mb4.4/21, MS4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.45**	**45**	*e*Pn	**Pn**	**09 21 53.4**	**+2.4**
COEN	**Coen**	**8.71**	**221**	*e*Pn	**Pn**	**09 22 49.5**	**+0.1**
COEN				*e*Sn	**Sn**	**09 24 25.2**	**-1.2**
JAY	**Jayapura**	**9.57**	**300**	LR	LR	09 26 49.5	
	comp=Z,2μm,20.3s,baz=16,slow=38						
HNR	**Honiara**	**11.02**	**102**	LR	LR	09 26 38.9	
	comp=Z,635nm,21.4s,baz=273,slow=33						
WC3	**Warramunga Arr**	**18.93**	**227**	*e*P	**P**	**09 25 03.3**	**-0.6**
	9.4nm,0.9s						
WRAB	**Tennant Creek**	**18.93**	**227**	*e*P	**P**	**09 25 01.8**	**-2.1**
	8.1nm,0.9s						
WB2	**Warramunga Arr**	**18.93**	**227**	*e*P	**P**	**09 25 02.8**	**-1.3**
WR1	**Warramunga Arr**	**18.94**	**227**	*e*P	**P**	**09 25 03.4**	**-0.7**
	24nm,1.1s						
WR1				*e*S	**Sn**	**09 28 34.8**	**-1.4**
WRA	**Warramunga Arr**	**18.94**	**227**	P	**P**	**09 25 03.4**	**-0.7**
	0.6nm,0.3s,baz=47,slow=11,SNR=23						
WRA				S	**Sn**	**09 28 34.8**	**-1.4**
	0.0nm,0.3s,baz=54,slow=24,SNR=3.4						
GUMO	**Guam**	**21.22**	**349**	LR	LR	09 31 36.0	
	comp=Z,184nm,21.6s,baz=160,slow=31						
AS01	**Alice Springs**	**21.72**	**220**	*e*P	**P**	**09 25 33.9**	**-0.3**
AS31	**Alice Springs**	**21.75**	**220**	*e*P	**P**	**09 25 34.7**	**+0.1**
	6.1nm,0.6s						
ASAR	**Alice Springs**	**21.75**	**220**	P	**P**	**09 25 34.3**	**-0.3**
	13nm,0.6s,baz=51,slow=9.6,SNR=120						
ASAR				S	**S**	**09 29 36.5**	**+3.0**
	2.4nm,1.0s,baz=33,slow=22,SNR=5.3						
DZM	**Mont Dzumac**	**22.28**	**133**	*e*LR	LR	09 31 23.5	
	comp=Z,6μm,25.8s						
FITZ	**Fitzroy Crossi**	**25.13**	**243**	*e*P	**P**	**09 26 04.9**	**-3.0**
FITZ	**Fitzroy Crossi**	**25.13**	**243**	P	**P**	**09 26 05.2**	**-2.7**
	36nm,0.9s,baz=49,slow=11,SNR=25						
STKA	**Stephens Creek**	**25.35**	**195**	*e*P	**P**	**09 26 13.8**	**+4.1**
	3.0nm,1.1s						
STKA	**Stephens Creek**	**25.35**	**195**	P	**P**	**09 26 12.9**	**+3.1**
	8.0nm,0.9s,baz=13,slow=11,SNR=7.7						
MBWA	**Marble Bar**	**31.43**	**241**	*e*P	**P**	**09 27 02.9**	**-1.3**
	19nm,1.0s						
KKM	**Kota Kinabalu**	**35.32**	**291**	P	**P**	**09 27 40.8**	**+2.5**
SBUM	**Sibu**	**37.98**	**284**	P	**P**	**09 28 02.3**	**+1.5**
NWAO	**Narrogin (SRO)**	**38.92**	**225**	P	**P**	**09 28 07.1**	**-1.4**
	5.3nm,0.7s,baz=16,slow=7.4						
KSM	**Kuching**	**39.59**	**281**	P	**P**	**09 28 16.1**	**+1.7**
JNU	**Nakatsue**	**43.80**	**338**	LR	LR	09 45 27.5	
	comp=Z,166nm,20.5s,baz=173,slow=34						
MJAR	**Matsushiro Arr**	**44.83**	**348**	P	**P**	**09 28 55.6**	**-1.1**
	5.5nm,1.0s,baz=177,slow=7.7,SNR=8.5						
MJAR				LR	LR	09 47 39.1	
	comp=Z,138nm,18.1s,baz=110,slow=36						
MAJO	**Matsushiro**	**44.83**	**348**	*e*P	**P**	**09 28 55.6**	**-1.1**
MYKOM	**Kota Tinggi**	**45.96**	**280**	*e*P	**P**	**09 29 07.1**	**+1.1**
	34nm,1.1s						
MYKOM	**Kota Tinggi**	**45.96**	**280**	P	**P**	**09 29 08.6**	**+2.6**
KGM	**Kluang**	**46.53**	**280**	P	**P**	**09 29 11.8**	**+1.3**
KTGM	**Kuala Trenggan**	**47.48**	**284**	P	**P**	**09 29 20.2**	**+2.3**
KSRS	**Korea Array**	**48.74**	**338**	P	**P**	**09 29 26.2**	**-1.0**
	1.6nm,0.7s,baz=166,slow=9.4,SNR=4.9						
IPM	**Ipoh**	**49.30**	**282**	*e*P	**P**	**09 29 33.1**	**+1.1**
	17nm,0.7s						
IPM	**Ipoh**	**49.30**	**282**	P	**P**	**09 29 34.0**	**+1.9**
KULM	**Kulim**	**49.86**	**283**	P	**P**	**09 29 37.7**	**+1.5**
USRK	**Ussuriysk Ar.**	**53.58**	**345**	P	**P**	**09 30 03.3**	**-0.2**
	2.7nm,0.7s,baz=179,slow=6.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**55.65**	**298**	P	**P**	**09 30 20.1**	**+1.1**
	0.7nm,0.3s,baz=124,slow=5.4,SNR=6.8						
CD2	**Chengdu**	**57.65**	**314**	P	**P**	**09 30 29.5**	**-3.5**
CD2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**59.04**	**327**	*e*P	**P**	**09 30 42.8**	**+0.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,6.3s						
LZH	**Lanzhou**	**60.54**	**319**	*e*P	**P**	**09 30 53.5**	**+0.4**
LZH				pP	sP	09 31 06.0	+0.8
LZH				sP	pwP	09 31 10.2	+0.2
LZH				PP	**PP**	**09 33 08.6**	**+1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,45nm,7.6s						
PPT2	**Papeete2**	**60.60**	**106**	*e*S	S	09 39 16.2	+8.1
	comp=Z,78nm,23.2s						
PPT2				*e*LR	LR	09 49 07.4	
	comp=Z,169nm,23.8s						
PETK	**Petropavlovsk-**	**60.69**	**6**	LR	LR	09 52 40.7	
	comp=Z,113nm,21.0s,baz=188,slow=32						
TBI	**Tubuai**	**61.01**	**113**	*e*LR	LR	09 49 19.3	
	comp=Z,102nm,29.5s						
SONA0	**Songino Array**	**66.56**	**330**	*e*P	**P**	**09 31 33.0**	**+0.4**
SONM	**Songino Array**	**66.56**	**330**	P	**P**	**09 31 33.0**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=144,slow=5.9,SNR=10.0						
SONM				LR	LR	10 01 12.1	
	comp=Z,138nm,18.4s,baz=114,slow=36						
PALK	**Pallekele**	**69.65**	**281**	*e*P	**P**	**09 31 54.2**	**+1.6**
	comp=Z,6.0nm,0.8s						
WMQ	**Urumqi**	**75.12**	**319**	*e*P	**P**	**09 32 24.1**	**-0.6**
WMQ				LR	LR		
	comp=N,120nm,27.1s						
WMQ				LR	LR		
	comp=E,120nm,24.1s						
WMQ				LR	LR		
	comp=Z,100nm,19.7s						
MK32	**Makanchi Array**	**79.81**	**320**	*e*P	**P**	**09 32 49.4**	**-1.4**
MKAR	**Makanchi Array**	**79.81**	**320**	P	**P**	**09 32 49.4**	**-1.4**
	comp=Z,1.8nm,1.0s,baz=109,slow=6.7,SNR=5.9						
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	**P**	**09 32 57.5**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=104,slow=6.1,SNR=3.9						
ZALV				LR	LR	10 08 28.3	
	comp=Z,84nm,20.9s,baz=72,slow=35						
ZAA1	**Zalesovo Array**	**81.22**	**327**	*e*P	**P**	**09 32 57.5**	**-0.6**
KSH	**Kashi**	**81.77**	**312**	*e*P	**P**	**09 33 01.8**	**+0.3**
KSH				sP	sP	09 33 15.8	+2.0
ILAR	**Eielson Array**	**85.95**	**23**	P	**P**	**09 33 19.6**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=259,slow=4.7,SNR=4.1						
NRIK	**Noril'sk**	**87.18**	**342**	LR	LR	10 13 42.5	
	comp=Z,87nm,18.3s,baz=126,slow=36						
NVAR	**Mina Array Bea**	**96.62**	**52**	P	**P**	**09 34 10.9**	**-2.1**
	comp=Z,0.1nm,0.4s,baz=278,slow=6.2,SNR=2.7						
YKA	**Yellowknife Ar**	**99.44**	**28**	P	**Pdif**	**09 34 24.7**	**0.0**
	comp=Z,0.2nm,0.8s,baz=274,slow=5.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**147.34**	**283**	PKPbc	**PKPdf**	**09 40 24.4**	**-0.2**
	comp=Z,4.2nm,0.9s,baz=32,slow=2.8,SNR=15						
TOA1	**Torodi Ar. Sit**	**147.35**	**283**	*e*PKPdf	**PKPdf**	**09 40 24.4**	**-0.2**
PTGA	**Pitinga**	**150.00**	**104**	PKPbc	**PKiKP**	**09 40 34.5**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=311,slow=7.6,SNR=4.6						
DBIC	**Dimbokro**	**154.05**	**270**	PKPbc	**PKPbc**	**09 40 42.7**	**-0.4**
	comp=Z,9.2nm,1.1s,baz=102,slow=1.6,SNR=2.2						

UCR 12 09:23:32.5±0.8, 11.°28N×85.°87W, h104km±4km, MD3.6, 1C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONN	**Concepcion**	**0.37**	**39**	*e*P	Pn	09 23 48.3	+0.3
GBS3	**Finca Las Img**	**0.63**	**141**	*i* P	Pn	09 23 49.8	0.0
GBS3				*i* S	Sn	09 24 03.1	+0.3
GB1A	**Borinquen Arri**	**0.65**	**135**	*i* P	Pn	09 23 50.3	+0.3
GB1A				*e*S	Sn	09 24 04.1	+1.0
BUEV	**Buena Vista**	**0.65**	**136**	*e*P	Pn	09 23 50.1	0.0
BUEV				*e*S	Sn	09 24 03.9	+0.7
BUAI	**Buenos Aires**	**0.66**	**127**	*i* P	Pn	09 23 50.1	+0.1
LAPC	**Finca la Perla**	**0.66**	**140**	*i* P	Pn	09 23 50.0	0.0
LAPC				*i* S	Sn	09 24 03.4	+0.2
NY14	**Universidad de**	**0.70**	**152**	*i* P	Pn	09 23 50.6	+0.2
GPS1	**Guardaparques**	**0.71**	**134**	*i* P	Pn	09 23 50.7	+0.2
GPS1				*i* S	Sn	09 24 04.5	+0.5
GPS3	**Bodega del ICE**	**0.71**	**136**	*i* P	Pn	09 23 50.5	-0.1
GPS3				*i* S	Sn	09 24 04.2	+0.1
GPS2	**Hotel Rincn d**	**0.72**	**136**	↑*i* P	Pn	09 23 50.7	+0.1
GPS2				*e*S	Sn	09 24 05.1	+0.8
LIM1	**Limonal**	**0.83**	**134**	*i* P	Pn	09 23 51.7	0.0
MESS	**Mesas**	**0.85**	**129**	*i* P	Pn	09 23 52.2	+0.4
MESS				*e*P	Pn	09 23 52.2	+0.4
MESS				*e*S	Sn	09 24 07.4	+1.1
CUI	**Cuipilapa**	**0.92**	**132**	*i* P	Pn	09 23 52.6	+0.1
CUI				*e*S	Sn	09 24 08.9	+1.3
MOMN	**Momotombo**	**1.31**	**330**	*e*P	Pn	09 23 56.9	+0.1
MOMN				*e*S	Sn	09 24 15.7	+0.6
JTS	**JuntasAbangare**	**1.33**	**137**	*e*P	Pn	09 23 56.9	-0.1
JTS				*e*S	Sn	09 24 15.5	0.0
CNGN	**Cerro Negro**	**1.47**	**326**	*e*P	Pn	09 23 58.8	+0.2
CNGN				*e*S	Sn	09 24 19.1	+0.6
ESPN	**Las Esperanzas**	**1.79**	**59**	*e*P	Pn	09 24 02.6	+0.1

IDC 12 09:37:03.3±1.9, 6.°56S×148.°16E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.6/40, mbtmp4.0/4, ML3.8/1, Error ellipse: s-maj=96.5km s-min=26.1km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.90**	**224**	P	P	09 41 24.8	-0.8
	0.3nm,0.3s,baz=47,slow=11,SNR=30						
ASAR	**Alice Springs**	**21.85**	**217**	P	P	09 41 57.2	-0.5
	3.3nm,0.5s,baz=54,slow=9.3,SNR=68						
FITZ	**Fitzroy Crossi**	**24.78**	**240**	P	P	09 42 27.5	+0.4
	5.4nm,0.4s,baz=48,slow=8.8,SNR=26						
ILAR	**Eielson Array**	**85.54**	**23**	P	P	09 49 43.2	+0.1
	0.3nm,0.8s,baz=240,slow=7.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**146.34**	**284**	PKPbc	PKPdf	09 56 46.4	+0.4
	0.9nm,0.9s,baz=94,slow=3.3,SNR=5.0						

NNC ***12*** *09:41:49.5±1.7, 53.°52N×87.°77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=14.1km s-min=9.2km az=70.0, Suspected Mining explosion.*

KRAR 12 09:41:47.9±0.3, 53.°63N×87.°88E, M2.0, 8C-6D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.84**	**281**	⇓Pn	Pn	09 42 21.4	+0.6
	1.8nm,0.6s						
ZAA0				⇑Lg	Lg	09 42 47.6	
	13nm,1.1s						
KURK	**Kurchatov**	**6.40**	**247**	⇑Pn	Pn	09 43 24.1	+0.8
	3.0nm,0.7s						
KURK				⇑Sn	Sn	09 44 38.8	+1.7
	2.6nm,0.6s						
KURK				⇓Lg	Lg	09 45 08.7	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**6.50**	**246**	⇑Pn	Pn	09 43 25.2	+0.5
	5.4nm,0.5s						
KURBB				⇑Sn	Sn	09 44 37.5	-2.0
	7.2nm,0.6s						
KURBB				⇑Lg	Lg	09 45 13.3	
	9.8nm,0.6s						
MK31	**Makanchi Array**	**7.72**	**210**	⇓Pn	Pn	09 43 42.8	+1.2
	0.7nm,0.6s,baz=31,slow=12,SNR=11						
MK31				⇓Sn	Sn	09 45 08.9	-0.8
	2.6nm,0.8s						
MK31				⇑Lg	Lg	09 45 50.8	
	1.9nm,0.6s,baz=34,slow=30,SNR=5.8						
MAKZ	**Makanchi**	**7.81**	**211**	⇑Pn	Pn	09 43 43.5	+0.8
	0.8nm,0.5s						
MAKZ				⇓Sn	Sn	09 45 10.5	-1.3
	1.1nm,0.7s						
MAKZ				⇓Lg	Lg	09 45 53.1	
	3.1nm,0.8s						

KRNET ***12*** *09:45:49.9±0.1, 40.°08N×71.°83E, mb2.5*
SOME ***12*** *09:45:52.9, 40.°18N×71.°90E, h10km*
NNC ***12*** *09:45:55.9±2.8, 40.°36N×71.°98E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=22.3km s-min=9.6km az=8.0*

ISC 12 09:45:49.8±3.0, 40.°1N±0.°1×71.°90E±0.°05, h4km±18km, n13, σ1§46/23, 14C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.48**	**33**	↑*i* P	**Pg**	**09 46 18.5**	**+0.4**
	baz=35						
ARSB				⇑*i* S	**Sg**	**09 46 39.8**	**+2.6**
	baz=35						
ARK	**Arkit**	**1.70**	**2**	↑*i* P	**Pg**	**09 46 22.0**	**-0.4**
	baz=4.0						
ARK				⇑*i* S	**Sg**	**09 46 45.3**	**+0.9**
	baz=4.0						
AML	**Almayashu**	**2.44**	**33**	⇑*i* P	**Pb**	**09 46 34.5**	**0.0**
	baz=34						
AML				⇑*i* S	**Sb**	**09 47 06.1**	**+1.0**
	baz=34						
IUG	**Iuzhnay**	**2.49**	**326**	*e*P	**Pg**	**09 46 37.5**	**0.0**
	5.1nm,0.3s						
IUG				*e*S	**Sg**	**09 47 10.4**	**+0.6**
	12nm,0.5s						
ARLS	**Aral**	**2.54**	**45**	↑*i* P	**Pb**	**09 46 35.8**	**-0.3**
	baz=46						
ARLS				⇑*i* S	**Sb**	**09 47 08.8**	**+1.1**
	baz=46						
MRKS	**Merke**	**2.83**	**20**	*e*P	**Pb**	**09 46 42.0**	**+1.1**
	3.9nm,0.3s						
MRKS				*e*S	**Sg**	**09 47 18.0**	**-2.6**
	3.0nm,0.5s						
UCH	**Uchtor**	**2.90**	**42**	⇑*i* P	**Pb**	**09 46 41.2**	**-1.1**
	baz=42						
UCH				⇑*i* S	**Sb**	**09 47 18.3**	**0.0**
	baz=42						
EKS2	**Erkin-Say**	**2.92**	**28**	⇑*i* P	**Pb**	**09 46 40.6**	**-2.0**
	baz=29						
EKS2				⇑*i* S	**Sb**	**09 47 17.6**	**-1.1**
	baz=29						
KK31	**Karatay Array**	**3.18**	**341**	⇓Pg	**Pg**	**09 46 50.1**	**-0.6**
	0.4nm,0.3s,baz=151,slow=15,SNR=5.4						
KK31				⇓Lg	Lg	09 47 29.0	
	0.6nm,0.3s,baz=160,slow=30,SNR=5.0						
AAK	**Ala-Archa**	**3.20**	**37**	⇓Pg	**Pb**	**09 46 49.1**	**+1.8**
	1.5nm,0.6s						
AAK				⇑Lg	Lg	09 47 30.6	
	3.8nm,0.5s						
TKM2	**Tokmak 2**	**3.96**	**43**	⇓Pg	**Pg**	**09 47 04.4**	**-1.2**
	1.6nm,0.8s						
TKM2				⇑Lg	Lg	09 47 54.5	
	1.9nm,0.8s						
TNSS	**Tian-Shan**	**4.79**	**51**	*e*P	**Pg**	**09 47 21.6**	**+0.1**
	1.2nm,0.4s						
TNSS				*e*S	**Sg**	**09 48 26.0**	**+2.4**
	1.2nm,0.2s						
CHKK	**Chushkaly**	**5.33**	**44**	*e*P	**Pg**	**09 47 29.9**	**-2.0**
	1.2nm,0.4s						
CHKK				*e*S	**Sg**	**09 48 40.3**	**-0.7**
	2.5nm,0.4s						

DDA ***12*** *09:47:33.4, 36.°67N×43.°37E, h7km±3km, ML3.3*
ISN ***12*** *09:47:35.8±0.9, 36.°41N×43.°53E, h0km±3km, ML2.8*
ISK ***12*** *09:47:36.7, 36.°90N×43.°35E, h5km, ML2.8/6*

ISC 12 09:47:33.6±1.2, 36.°64N±0.°03×43.°42E±0.°04, h5km±11km, n19, σ1§38/32, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUKT	**Cukurca**	**0.63**	**14**	PG	**Pg**	**09 47 45.0**	**-0.7**
CUKT				SG	**Sg**	**09 47 52.8**	**-1.1**
CUKT	**Cukurca**	**0.63**	**14**	*i* P	**Pg**	**09 47 45.3**	**-0.4**
CUKT				*i* S	**Sb**	**09 47 55.9**	**-0.4**
CUKT				IAML_P			
	comp=Z,5μm,0.1s						
SIRT	**Sirnak**	**1.16**	**318**	PG	**Pg**	**09 47 55.3**	**-0.7**
SIRT				SG	**Sg**	**09 48 10.3**	**-0.8**
SIRN	**Sırnak**	**1.17**	**317**	*i* P	**Pg**	**09 47 56.0**	**-0.2**
SIRN				*i* S	**Sb**	**09 48 12.6**	**+0.5**
YOVA	**Hakkari_Yksek**	**1.18**	**36**	*i* P	**Pb**	**09 47 56.7**	**+0.1**
YOVA				*i* S	**Sn**	**09 48 14.7**	**+1.2**
YOVA				IAML_P			
	comp=Z,4μm,0.1s						
IKRK	**Kirkuk**	**1.45**	**149**	*e*Pg	**Pg**	**09 48 02.0**	**+0.7**
IKRK				*e*Sg	**Sg**	**09 48 21.0**	**+0.9**
GEVA	**Gevas**	**1.69**	**350**	*e*P	**Pb**	**09 48 05.4**	**0.0**
GEVA				*i* S	**Sg**	**09 48 28.2**	**+0.1**
AKDM	**Akdamar-Van**	**1.72**	**348**	PN	**Pn**	**09 48 05.3**	**+0.8**
SRTM	**Siirt_Merkez**	**1.80**	**319**	*i* P	**Pb**	**09 48 06.7**	**-0.5**
SRTM				*i* S	**Sg**	**09 48 31.3**	**-0.2**
SRTM				IAML_P			
	comp=Z,3μm,0.2s						
TVAN	**Van**	**1.89**	**360**	*i* P	**Pn**	**09 48 07.4**	**+0.6**
TVAN				*i* S	**Sb**	**09 48 33.6**	**+0.9**
VANB	**Van**	**1.95**	**359**	PN	**Pn**	**09 48 07.3**	**-0.3**
BTMN	**Batman**	**2.12**	**307**	*i* P	**Pn**	**09 48 09.2**	**-0.7**
BTMN				*i* S	**Sn**	**09 48 37.7**	**+1.0**
BTMN				IAML_P			
	comp=Z,152nm,0.3s						
GURO	**Guroymak-BITLI**	**2.20**	**330**	PN	**Pn**	**09 48 12.2**	**+1.2**
SVAN	**Silvan-Diyarba**	**2.32**	**311**	PN	**Pn**	**09 48 14.5**	**+1.9**
CLDR	**Caldiran**	**2.53**	**9**	PN	**Pn**	**09 48 17.0**	**+1.4**
AGRB	**Hanur-Agry**	**2.95**	**354**	PN	**Pn**	**09 48 22.7**	**+1.3**
BHD	**Baghdad**	**3.45**	**166**	*e*Pn	**Pn**	**09 48 29.0**	**+0.9**
BHD				*e*Sn	**Sn**	**09 49 06.0**	**-3.3**
IBDR	**Badra**	**4.08**	**149**	*e*Pn	**Pn**	**09 48 38.0**	**+1.3**
IBDR				*e*Sn	**Sn**	**09 49 21.0**	**-3.9**
RTB	**Rutbah**	**4.42**	**216**	*e*Pn	**Pn**	**09 48 43.5**	**+2.1**
RTB				*e*Sn	**Sn**	**09 49 32.0**	**-1.2**

BJI ***12*** *09:50:43.7, 6.°11S×147.°09E, h34km, mb4.8/27, mB5.0/9, Ms4.6/5, Ms7.4/3.3*
ISCJB ***12*** *09:50:49.6±0.3, 5.°82S±0.°04×146.°55E±0.°05, h52km, mb4.5/37, MS3.7/9, Error ellipse: s-maj=7.3km s-min=4.9km az=14.9*
DJA ***12*** *09:50:50.2±3.0, 6.°S±16.°×14.°7E±1.°8, h46km±20km, M4.9/11, mb4.8/11, mB5.5/5, Mw(mB)5.0/5*
NEIC ***12*** *09:50:52.5±0.8, 5.°78S×146.°57E, h66km±8km, mb4.6/18, Error ellipse: s-maj=8.7km s-min=5.6km az=101.0*
IDC ***12*** *09:50:53.6±3.5, 5.°87S×146.°51E, h74km±32km, mb4.1/17, mb1 4.2/19, mb1mx4.2/27, mbtmp4.4/19, MS3.6/11, Ms1 3.6/11, ms1mx3.3/36, Error ellipse: s-maj=18.2km s-min=10.0km az=97.0*

ISC 12 09:50:51.4±0.4, 5.°91S±0.°05×146.°57E±0.°07, h52km, n88, σ1§50/91, mb4.6/36, MS3.6/9, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.92**	**12**	*e*Pn	**Pn**	**09 51 48.6**	**-0.6**
RABL	**Rabaul**	**5.83**	**73**	*e*Pn	**Pn**	**09 52 15.2**	**-0.2**
JAY	**Jayapura**	**6.75**	**300**	LR	LR	09 55 34.9	
	comp=Z,458nm,18.6s,baz=100,slow=42						
COEN	**Coen**	**8.67**	**202**	*e*Pn	**Pn**	**09 52 55.9**	**+1.5**
COEN				*e*Sn	**Sn**	**09 54 30.7**	**0.0**
HNR	**Honiara**	**13.71**	**106**	LR	LR	09 58 35.9	
	comp=Z,170nm,20.3s,baz=204,slow=34						
CTA	**Charters Tower**	**14.10**	**181**	P	**Pn**	**09 54 11.3**	**+2.8**
	2.2nm,0.3s,baz=1.5,slow=14,SNR=19						
CTAO	**Charters Tower**	**14.10**	**181**	*e*Pn	**P**	**09 54 12.4**	**-2.3**
SIJI	**Sorong**	**16.07**	**288**	P	**P**	**09 54 37.5**	**+0.8**
	3.2nm,0.3s,baz=69,slow=10,SNR=18						
SIJI				LR	LR	10 02 10.2	
	comp=Z,89nm,19.7s,baz=140,slow=42						
SWI	**Sorong**	**16.08**	**288**	P	**P**	**09 54 38.2**	**+1.4**
WRAB	**Tennant Creek**	**18.32**	**219**	*e*P	**P**	**09 55 01.9**	**+0.4**
	17nm,0.9s						
WB2	**Warramunga Arr**	**18.32**	**219**	*e*P	**P**	**09 55 01.5**	**-0.1**
WR1	**Warramunga Arr**	**18.33**	**219**	*e*P	**P**	**09 55 01.9**	**+0.2**
	15nm,0.8s						
WR1				*e*PcP	**PcP**	**09 59 32.0**	**+0.3**
WRA	**Warramunga Arr**	**18.33**	**219**	P	**P**	**09 55 01.9**	**+0.2**
	0.8nm,0.3s,baz=44,slow=12,SNR=36						
WRA				S	**Sn**	**09 58 20.6**	**-5.6**
	0.1nm,0.3s,baz=40,slow=22,SNR=3.0						
WRA				PcP	**PcP**	**09 59 32.0**	**+0.3**
	0.2nm,0.3s,baz=22,slow=1.9,SNR=11						
WRA				LR	LR	10 02 11.5	
	comp=Z,203nm,19.5s,baz=50,slow=37						
SANI	**Sanana**	**20.89**	**280**	P	Pn	09 55 40.8	+8.2
AS01	**Alice Springs**	**21.43**	**213**	*e*P	**P**	**09 55 37.5**	**+2.1**
AS31	**Alice Springs**	**21.45**	**213**	*e*P	**P**	**09 55 36.4**	**+0.8**
	2.8nm,0.7s						
ASAR	**Alice Springs**	**21.46**	**213**	P	**P**	**09 55 36.6**	**+1.0**
	3.3nm,0.5s,baz=54,slow=8.8,SNR=40						
ASAR				S	**S**	**09 59 29.9**	**-1.1**
	2.2nm,0.8s,baz=32,slow=26,SNR=4.8						
ASAR				LR	LR	10 05 02.5	
	comp=Z,241nm,20.4s,baz=58,slow=40						
SOEI	**Soe**	**22.42**	**259**	P	**P**	**09 55 47.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**23.75**	**238**	*e*P	**P**	**09 56 00.0**	**+0.8**
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.75**	**238**	P	**P**	**09 55 58.7**	**-0.6**
	8.9nm,0.5s,baz=61,slow=9.4,SNR=35						
FITZ				LR	LR	10 06 15.6	
	comp=Z,184nm,19.9s,baz=53,slow=39						
LUWI	**Luwuk**	**24.24**	**281**	*e*P	**P**	**09 56 04.9**	**+1.2**
	88nm,0.7s						
LUWI	**Luwuk**	**24.24**	**281**	P	**P**	**09 56 05.4**	**+1.7**
	119nm,1.2s,3μm						
EDFI	**Ende, Flores**	**24.84**	**262**	P	**P**	**09 56 09.4**	**+0.1**
DZM	**Mont Dzumac**	**25.04**	**132**	P	**P**	**09 56 10.9**	**-0.2**
	20nm,0.7s,baz=276,slow=9.4,SNR=8.7						
APSI	**Ampana**	**25.36**	**280**	P	**P**	**09 56 15.0**	**+1.0**
STKA	**Stephens Creek**	**26.25**	**190**	*e*P	**P**	**09 56 21.7**	**-0.1**
	1.3nm,1.0s						
STKA	**Stephens Creek**	**26.25**	**190**	P	**P**	**09 56 21.7

LZH				pmax	pmax			
	comp=Z,18nm,1.2s							
LZH				pmax	pmax			
	comp=Z,63nm,7.5s							
LZH				LR	LR			
	comp=N,140nm,15.5s							
LZH				LR	LR			
	comp=E,140nm,16.2s							
LZH				LR	LR			
	comp=Z,200nm,18.1s							
PETK	**Petropavlovsk-**	**59.55**	**8**	P	**P**	**10 00 49.2**	**-0.2**
	4.0nm,0.8s,baz=179,slow=11,SNR=4.8							
PETK				LR	LR	10 22 07.9		
	comp=Z,49nm,21.4s,baz=198,slow=32							
PEA1	**Petropavlovsk-**	**59.55**	**8**	*eP*	**P**	**10 00 49.2**	**-0.3**
GTA	**Gaotai**	**62.40**	**320**	*eP*	**P**	**10 01 08.9**	**-0.4**
GTA				pP	pP	10 01 18.9	-4.9
GTA				sP	sP	10 01 23.1	-6.6
GTA				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SONA0	**Songino Array**	**64.12**	**331**	*eP*	**P**	**10 01 20.0**	**-0.5**
SONM	**Songino Array**	**64.12**	**331**	P	**P**	**10 01 20.0**	**-0.5**
	3.1nm,0.9s,baz=154,slow=8.0,SNR=13							
VNDA	**Vanda**	**72.03**	**177**	*eP*	**P**	**10 02 10.3**	**+0.9**
	6.3nm,0.8s							
VNDA	**Vanda**	**72.03**	**177**	P	**P**	**10 02 10.3**	**+0.9**
	4.5nm,0.7s,baz=328,slow=6.7,SNR=24							
WMQ	**Urumqi**	**72.45**	**319**	*eP*	**P**	**10 02 13.4**	**+0.8**
MK32	**Makanchi Array**	**77.16**	**321**	*eP*	**P**	**10 02 38.1**	**-1.6**
MKAR	**Makanchi Array**	**77.16**	**321**	P	**P**	**10 02 38.1**	**-1.6**
	1.1nm,0.5s,baz=99,slow=7.5,SNR=13							
MAKZ	**Makanchi**	**77.36**	**321**	*eP*	**P**	**10 02 39.8**	**-1.1**
	1.9nm,0.6s							
ZAA0	**Zalesovo Array**	**78.71**	**328**	*eP*	**P**	**10 02 47.0**	**-1.1**
	2.2nm,0.6s							
ZALV	**Zalesovo Beam**	**78.71**	**328**	*eP*	**P**	**10 02 44.6**	**-3.5**
ZALV	**Zalesovo Beam**	**78.71**	**328**	P	**P**	**10 02 45.8**	**-2.4**
	1.8nm,0.5s,baz=114,slow=5.1,SNR=8.5							
ZAA1	**Zalesovo Array**	**78.71**	**328**	*eP*	**P**	**10 02 45.8**	**-2.4**
KSH	**Kashi**	**79.00**	**312**	*eP*	**P**	**10 02 53.1**	**+2.8**
KSH				pP	pP	10 03 04.1	-1.5
KSH				S	**S**	**10 12 47.8**	**+2.3**
IM3	**Indian Mountai**	**83.56**	**21**	*eP*	**P**	**10 03 12.8**	**-0.8**
QSPA	**South Pole Qui**	**84.06**	**180**	*eP*	**P**	**10 03 16.3**	**-0.1**
	5.8nm,0.7s							
CCB	**Clear Creek Bu**	**85.16**	**23**	*eP*	**P**	**10 03 19.9**	**-1.8**
	3.9nm,0.8s							
IL1	**Eielson Array**	**85.57**	**23**	*eP*	**P**	**10 03 21.7**	**-2.1**
ILAR	**Eielson Array**	**85.57**	**23**	P	**P**	**10 03 21.6**	**-2.2**
	0.5nm,0.6s,baz=256,slow=4.8,SNR=36							
ILB	**Eielson Array**	**85.57**	**23**	*eP*	**P**	**10 03 21.9**	**-1.9**
	3.9nm,0.8s							
SYO	**Syowa Base**	**90.53**	**200**	⇑*eP*	**P**	**10 03 49.0**	**+1.5**
DLBC	**Dease Lake**	**91.54**	**32**	LR	LR	10 36 49.9		
	comp=Z,50nm,20.5s,baz=212,slow=30							
NVAR	**Mina Array Bea**	**97.65**	**52**	P	**P**	**10 04 20.8**	**-0.3**
	0.7nm,0.8s,baz=237,slow=7.9,SNR=5.3							
YKA	**Yellowknife Ar**	**99.29**	**28**	P	**Pdif**	**10 04 27.5**	**-0.1**
	0.1nm,0.5s,baz=283,slow=5.5,SNR=5.0							
PLCA	**Paso Flores**	**122.43**	**147**	*e*PKPdf	**PKPdf**	**10 09 41.8**	**+0.3**
PLCA	**Paso Flores**	**122.43**	**147**	PKP	**PKPdf**	**10 09 41.4**	**-0.1**
	2.6nm,0.8s,baz=246,slow=5.1,SNR=7.8							
CPUP	**Villa Florida**	**140.45**	**145**	PKP	**PKPdf**	**10 10 16.4**	**+0.6**
	4.3nm,0.8s,baz=285,slow=2.4,SNR=8.8							
TORD	**Torodi Ar. Bea**	**144.66**	**284**	PKP	**PKPab**	**10 10 21.4**	**-0.8**
	6.0nm,1.0s,baz=52,slow=3.1,SNR=23							
TOA1	**Torodi Ar. Sit**	**144.66**	**284**	*e*PKPdf	**PKPab**	**10 10 21.4**	**-0.8**
DBIC	**Dimbokro**	**151.59**	**273**	*e*PKPbc	**PKPbc**	**10 10 39.2**	**-1.9**
DBIC	**Dimbokro**	**151.59**	**273**	PKPbc	**PKPbc**	**10 10 41.1**	**0.0**
	5.9nm,0.8s,baz=177,slow=2.8,SNR=7.0							
BDFB	**Brasilia**	**154.17**	**146**	PKPbc	**PKPbc**	**10 10 46.7**	**-0.1**
	9.9nm,0.6s,baz=298,slow=0.8,SNR=17							

ISCJB ***12*** *10:09:01.7±0.5,2°.81S±0°.06×128°.04E±0°.04, h51km, mb3.8/2, Error ellipse: s-maj=9.0km s-min=5.1km az=169.4*
DJA ***12*** *10:09:01.8±0.5,3°.S±4°.×12°.8E±°, h79km±11km, M4.3/7, mb5.0/2, mB4.8/1, MLv4.0/7, Mw(mB)4.0/1*
IDC ***12*** *10:09:08.4±3.5,2°.81S×128°.57E, h96km±38km, mb3.5/2, mb1 3.8/5, mb1mx3.3/36, mbtmp3.9/5, Error ellipse: s-maj=51.4km s-min=17.5km az=74.0*

ISC 12 10:09:03.2±0.9, 2°.81S±0°.07×128°.03E±0°.04, h51km, n12, σ1s72/17, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.02**	**245**	P	**Pn**	**10 09 21.6**	**+0.3**
NLAI				S	**Sn**	**10 09 35.9**	**+1.3**
SANI	**Sanana**	**2.18**	**290**	P	**Pn**	10 09 36.1	**-0.9**
SANI				S	**Sn**	**10 10 01.2**	**-1.6**
BNDI	**Bandanaira**	**2.53**	**132**	P	**Pn**	10 09 40.1	**-1.7**
SWI	**Sorong**	**3.76**	**59**	P	**Pn**	**10 09 57.8**	**-0.9**
SWI				S	**Sn**	**10 10 44.3**	**+2.5**
SIJI	**Sorong**	**3.76**	**59**	P	**Pn**	**10 09 58.8**	**0.0**
	21nm,0.3s,baz=231,slow=10,SNR=38							
SIJI				S	**Sn**	**10 10 42.6**	**+0.7**
	5.8nm,0.3s,baz=80,slow=22,SNR=13							
FAKI	**Fak Fak**	**4.21**	**92**	P	**Pn**	10 10 03.4	**-1.6**
KMSI	**Cibinong**	**5.26**	**310**	P	**Pn**	**10 10 16.3**	**-3.1**
	127nm,0.5s,1.0nm							
APSI	**Ampana**	**6.65**	**286**	P	**Pn**	10 10 38.2	**-0.2**
FITZ	**Fitzroy Crossi**	**15.37**	**189**	P	**P**	10 12 42.2	**+1.5**
	0.3nm,0.3s,baz=13,slow=14,SNR=4.0							
WRA	**Warramunga Arr**	**18.11**	**161**	P	**P**	**10 13 09.7**	**-1.4**
	0.7nm,0.3s,baz=341,slow=12,SNR=51							
ASAR	**Alice Springs**	**21.50**	**165**	P	**P**	**10 13 47.8**	**-0.1**
	7.2nm,0.7s,baz=347,slow=12,SNR=50							
ASAR				S	**S**	**10 17 41.5**	**-2.2**
	0.8nm,0.8s,baz=351,slow=22,SNR=4.7							
MKAR	**Makanchi Array**	**63.67**	**327**	P	**P**	**10 19 31.6**	**+2.3**
	0.4nm,0.7s,baz=129,slow=5.9,SNR=4.1							

IDC 12 10:21:54.1±3.4, 20°.51S×176°.26W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.6/32, mbtmp3.9/2, Error ellipse: s-maj=194.9km s-min=52.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**46.11**	**257**	P	P	10 30 20.8	+0.4
	1.4nm,0.5s,baz=91,slow=8.2,SNR=25						
ASAR				PcP	PcP	10 31 54.5	-2.2
	0.3nm,0.6s,baz=119,slow=3.7,SNR=4.9						
WRA	**Warramunga Arr**	**46.22**	**262**	P	P	10 30 21.0	-0.3
	0.4nm,0.3s,baz=96,slow=7.5,SNR=28						
AKASG	**Malin Array Be**	**143.79**	**332**	PKP	PKPdf	10 41 31.1	0.0
	0.4nm,0.4s,baz=44,slow=3.8,SNR=6.0						
BRTR	**Keskin Array B**	**148.04**	**313**	PKPbc	PKPbc	10 41 42.2	+0.1
	0.4nm,0.4s,baz=125,slow=3.5,SNR=2.7						

SOME ***12*** *10:40:36.7, 40°.98N×71°.02E, h5km*
KRNET ***12*** *10:40:40.7±0.1, 40°.74N×71°.35E, mb2.6*
NNC ***12*** *10:40:40.8±0.5, 41°.18N×71°.17E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=4.4km s-min=2.0km az=17.0*

ISC 12 10:40:37.2±3.3, 41°.1N±0°.1×71°.01E±0°.06, h5km±18km, n10, σ0s92/17, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**1.31**	**326**	*eP*	**Pn**	**10 41 02.0**	**-0.3**
	6.1nm,0.4s						
IUG				*eS*	**Sb**	**10 41 19.2**	**-0.3**
	12nm,0.5s						
KK31	**Karatay Array**	**2.07**	**350**	⇓Pn	**Pb**	**10 41 15.8**	**+0.4**
	2.0nm,0.3s,baz=164,slow=16,SNR=56						
KK31				⇓Lg	Lg	10 41 43.9	
	5.2nm,0.4s,baz=163,slow=30,SNR=15						
AML	**Almayashu**	**2.28**	**61**	⇑*iP*	**Pg**	**10 41 20.8**	**0.0**
	baz=51						
AML				⇑*iS*	**Sg**	**10 41 50.1**	**-0.2**
	baz=51						
MRKS	**Merke**	**2.36**	**44**	*eP*	**Pg**	**10 41 22.5**	**+0.1**
	3.7nm,0.2s						
MRKS				*eS*	**Sg**	**10 41 53.2**	**+0.4**
	4.8nm,0.4s						
EKS2	**Erkin-Say**	**2.61**	**51**	⇑*iP*	**Pg**	**10 41 26.7**	**-0.5**
	baz=43						
EKS2				⇑*iS*	**Sg**	**10 42 00.1**	**-0.9**
	baz=43						
ARLS	**Aral**	**2.61**	**71**	⇓*iP*	**Pb**	**10 41 24.6**	**0.0**
	baz=62						
ARLS				⇓*iS*	**Sb**	**10 41 56.8**	**-0.3**
	baz=62						
UCH	**Uchtor**	**2.87**	**65**	⇑*iP*	**Pb**	**10 41 28.9**	**-0.3**
	baz=57						
UCH				⇑*iS*	**Sb**	**10 42 04.0**	**-0.8**
	baz=57						
AAK	**Ala-Archa**	**3.04**	**58**	⇓Pg	**Pb**	**10 41 33.2**	**+1.4**
	1.1nm,0.5s						
AAK				Lg	Lg	10 42 12.8	
	2.9nm,0.8s						
AAK	**Ala-Archa**	**3.04**	**58**	⇑*iP*	**Pb**	**10 41 31.7**	**-0.2**
	baz=50						
AAK				⇑*iS*	**Sb**	**10 42 09.2**	**-0.2**
	baz=50						
TKM2	**Tokmak 2**	**3.89**	**60**	⇓Pg	**Pb**	**10 41 49.0**	**+2.6**
	2.2nm,1.1s						
TKM2				⇓Lg	Lg	10 42 39.5	
	0.6nm,0.4s						

MEX 12 10:42:22.5±0.6, 16°.50N×99°.28W, h10km±6km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**1.09**	**300**	*eP*	Pb	10 42 39.7	-3.8
CAIG				*i* S	Sg	10 42 54.0	-3.7
PNIG	**Pinotepa**	**1.11**	**95**	*eP*	Pb	10 42 40.8	-3.0
PNIG				*i* S	Sg	10 42 54.0	-4.4
TLIG	**Tlapa**	**1.26**	**33**	*eP*	Pn	10 42 42.5	-3.9
TLIG				*i* S	Sb	10 42 58.0	-4.7
MEIG	**Mezcala**	**1.46**	**347**	*eP*	Pn	10 42 45.5	-3.5
MEIG				*eS*	Sn	10 43 03.2	-5.0
PLIG	**Platanillo**	**1.90**	**354**	*eP*	Pn	10 42 52.1	-2.9
PLIG				*i* S	Sn	10 43 13.7	-5.4
ARIG	**Puente Sto Nin**	**2.04**	**330**	*eP*	Pn	10 42 54.2	-2.8
ARIG				*eS*	Sn	10 43 18.1	-4.5
ZIIG	**Zihuatanejo**	**2.36**	**298**	*i* P	Pn	10 42 58.0	-3.4
ZIIG				*i* S	Sn	10 43 25.7	-4.7

ROM 12 10:45:43.9±0.1, 43°.389N±0°.004×12°.51E±0°.01, h8km±1km, ML0.3/1, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.07**	**264**	P	Pg	10 45 46.1	+0.2
ATVO				S	Sg	10 45 47.6	+0.3
ATPI	**Pietralunga -**	**0.10**	**309**	P	Pg	10 45 46.6	+0.3
ATPI				S	Sg	10 45 48.6	+0.7
ATPC	**Poggio Castell**	**0.10**	**339**	P	Pg	10 45 46.6	+0.3
ATPC				S	Sg	10 45 48.7	+0.8
PIEI	**Pieia**	**0.15**	**8**	P	Pg	10 45 47.5	+0.5
PIEI				S	Sg	10 45 50.1	+0.8
PIEI				AML	AML		
	comp=E,26μm,0.3s						
PIEI				AML	AML		
	comp=N,16μm,1.5s						
PIEI				AML	AML		
	comp=E,26μm,0.3s						
PIEI				AML	AML		
	comp=N,16μm,1.5s						

IDC 12 10:57:01.0±3.4, 6°.97S×148°.70E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=96.2km s-min=46.0km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.99**	**226**	P	P	11 01 23.7	-0.6
	0.2nm,0.3s,baz=52,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**21.86**	**219**	P	P	11 01 55.5	0.0
	2.4nm,0.6s,baz=51,slow=9.6,SNR=47						
FITZ	**Fitzroy Crossi**	**25.05**	**242**	P	P	11 02 26.4	-0.8
	4.4nm,0.7s,baz=58,slow=8.2,SNR=6.0						
TORD	**Torodi Ar. Bea**	**146.96**	**283**	PKPbc	PKPbc	11 16 47.1	+0.4
	0.7nm,1.0s,baz=84,slow=4.7,SNR=3.8						

ISCJB ***12*** *10:59:14.5±0.6,2°.79S±0°.06×128°.05E±0°.04, h38km, mb4.0/2, Error ellipse: s-maj=8.4km s-min=6.1km az=159.6*
DJA ***12*** *10:59:15.7±0.5,3°.S±6°.×12°.8E±°, h78km±11km, M4.6/10, mb5.0/4, mB5.0/1, MLv4.4/10, Mw(mB)4.4/1*
IDC ***12*** *10:59:17.4±3.6,2°.97S×128°.24E, h46km±38km, mb3.7/2, mb1 4.1/4, mb1mx3.5/35, mbtmp4.1/4, ML4.2/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/42, Error ellipse: s-maj=33.4km s-min=11.5km az=88.0*

ISC 12 10:59:15.3±0.9, 2°.76S±0°.07×127°.98E±0°.05, h38km, n13, σ2s32/16, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.00**	**242**	P	**Pn**	**10 59 34.5**	**+1.7**
NLAI				S	**Sn**	**10 59 47.9**	**+2.2**
SANI	**Sanana**	**2.11**	**289**	P	**Pn**	**10 59 49.3**	**+1.2**
BNDI	**Bandanaira**	**2.60**	**132**	P	**Pn**	**10 59 57.4**	**+2.7**
SWI	**Sorong**	**3.78**	**60**	P	**Pn**	**11 00 12.1**	**+1.1**
SIJI	**Sorong**	**3.78**	**60**	P	**Pn**	**11 00 12.1**	**+1.1**
	33nm,0.3s,baz=230,slow=10,SNR=65						
SIJI				S	**Sn**	**11 00 54.4**	**+0.1**
	5.5nm,0.3s,baz=85,slow=22,SNR=15						
FAKI	**Fak Fak**	**4.26**	**92**	P	**Pn**	**11 00 17.9**	**+0.2**
KMSI	**Cibinong**	**5.19**	**310**	P	**Pn**	**11 00 28.4**	**-2.0**
	100nm,0.5s,1.5nm						
LUWI	**Luwuk**	**5.48**	**288**	P	**Pn**	**11 00 32.9**	**-1.5**
	55nm,0.6s,0.5nm						
APSI	**Ampana**	**6.59**	**286**	P	**Pn**	**11 00 49.7**	**0.0**
DAV	**Davao City (W)**	**10.05**	**346**	LR	LR	11 06 11.0	
	comp=Z,72nm,18.2s,baz=63,slow=40						
WRA	**Warramunga Arr**	**18.17**	**160**	P	**Pn**	**11 03 23.1**	**-1.7**
	0.7nm,0.3s,baz=342,slow=12,SNR=27						
WRA				S	**Sn**	**11 06 41.9**	**-4.8**
	0.1nm,0.3s,baz=344,slow=21,SNR=3.0						
ASAR	**Alice Springs**	**21.56**	**165**	P	**P**	**11 04 01.2**	**-0.4**
	10nm,0.7s,baz=346,slow=11,SNR=46						
ASAR				S	**S**	**11 07 55.5**	**-3.2**
	1.5nm,0.9s,baz=348,slow=22,SNR=5.9						
MKAR	**Makanchi Array**	**63.60**	**327**	P	**P**	**11 09 45.2**	**+2.9**
	0.3nm,0.5s,baz=133,slow=7.5,SNR=4.8						

IDC 12 11:19:01.0±3.2, 6°.90S×148°.67E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.4/29, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=98.5km s-min=43.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**226**	P	Pn	11 23 25.1	-0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**21.89**	**219**	P	P	11 23 56.8	+0.9
	0.7nm,0.4s,baz=56,slow=9.3,SNR=30						
FITZ	**Fitzroy Crossi**	**25.05**	**241**	P	P	11 24 26.7	-0.5
	0.9nm,0.3s,baz=49,slow=11,SNR=5.1						
TORD	**Torodi Ar. Bea**	**146.91**	**283**	PKPbc	PKPdf	11 38 45.4	+0.7
	0.8nm,1.0s,baz=99,slow=2.5,SNR=3.1						

IDC ***12*** *11:30:44.5±1.4,4°.90S×145°.34E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.6/33, mbtmp3.9/6, ML3.6/2, MS3.1/3, Ms1 3.0/3, ms1mx2.6/33, Error ellipse: s-maj=64.8km s-min=23.7km az=116.0*

ISC 12 11:30:49.9±1.2, 5°.2S±0°.2×145°.6E±0°.3, h35km, n10, σ2s12/7, mb4.0/4, MS3.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**14.78**	**178**	Pn	**P**	**11 34 21.7**	**-0.4**
	0.4nm,0.3s,baz=357,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**18.28**	**216**	P	**P**	**11 35 00.3**	**-0.6**
	0.1nm,0.3s,baz=38,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**21.52**	**210**	P	**P**	**11 35 35.7**	**-0.5**
	1.0nm,0.9s,baz=42,slow=7.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**23.33**	**235**	P	**P**	**11 35 55.8**	**+0.7**
	3.8nm,1.0s,baz=50,slow=9.4,SNR=5.7						
FITZ				LR	LR	11 46 25.7	
	comp=Z,74nm,19.5s,baz=266,slow=40						
STKA	**Stephens Creek**	**26.77**	**188**	LR	LR	11 46 43.6	
	comp=Z,22nm,21.6s,baz=39,slow=35						
JNU	**Nakatsue**	**40.62**	**341**	LR	LR	11 53 27.3	
	comp=Z,22nm,20.1s,baz=170,slow=34						
ILAR	**Eielson Array**	**85.33**	**23**	P	**P**	**11 43 22.9**	**-0.2**
	0.9nm,0.6s,baz=251,slow=5.0,SNR=17						
AKTO	**Aktyubinsk**	**92.46**	**320**	P	**P**	**11 43 55.5**	**-1.8**
	0.6nm,0.4s,baz=90,slow=7.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**143.56**	**285**	PKP	PKPab	11 50 20.1	+1.5
	0.5nm,0.7s,baz=64,slow=3.1,SNR=5.3						
DBIC	**Dimbokro**	**150.59**	**274**	PKPbc	**PKPdf**	**11 50 37.6**	**+3.7**
	1.5nm,0.6s,baz=72,slow=3.2,SNR=3.7						

DDA ***12*** *11:34:19.9, 38°.08N×36°.48E, h7km±3km, ML2.7*
ISK ***12*** *11:34:20.3, 38°.05N×36°.55E, h8km, ML1.8/3*

ISC 12 11:34:20.3±1.3, 38°.08N±0°.04×36°.50E±0°.04, h6km±12km, n10, σ0s62/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAIM	**ADANA**	**0.35**	**252**	*i* P	**Pg**	**11 34 26.9**	**-0.2**
SAIM				*i* S	**Sg**	**11 34 32.2**	**+0.6**
ANDN	**Andirin**	**0.52**	**194**	*i* P	**Pg**	**11 34 30.4**	**+0.2**
ANDN				*i* S	**Sb**	**11 34 38.5**	**-1.1**
ANDN				IAML_P			
	comp=Z,834nm,0.1s						
KMRS	**Kahramanmaras**	**0.66**	**151**	PG	**Pg**	**11 34 32.8**	**-0.1**
KMRS				SG	**Sg**	**11 34 41.2**	**-0.2**
HCB	**Kahramanmara**	**0.81**	**156**	*i* P	**Pb**	**11 34 36.5**	**-0.2**
HCB				*i* S	**Sb**	**11 34 47.4**	**-0.4**
HCB				IAML_P			
	comp=Z,940nm,0.1s						
YAHY	**KAYSERI_Yahyal**	**0.90**	**271**	*i* P	**Pg**	**11 34 37.2**	**-0.3**
YAHY				IAML_P			
	comp=Z,988nm,0.1s						
DARE	**Darende-Malaty**	**0.91**	**57**	PG	**Pb**	**11 34 38.1**	**-0.5**
DARE				SG	**Sb**	**11 34 50.8**	**-0.3**
BNN	**Bunyan**	**0.93**	**326**	PG	**Pb**	**11 34 39.3**	**+0.5**
BNN				SG	**Sn**	**11 34 53.2**	**-0.5**
GAZ	**Gaziantep**	**1.07**	**148**	PG	**Pb**	**11 34 40.6**	**-0.6**
GZT	**Gaziantep**	**1.11**	**130**	*i* P	**Pn**	**11 34 43.7**	**+1.1**
GZT				*i* S	**Sn**	**11 34 58.6**	**+0.4**
YOZ	**Yozgat**	**1.81**	**330**	PN	**Pb**	**11 34 53.2**	**-0.7**

IDC 12 11:42:56.2±3.8, 17°.70S×179°.19W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.6/39, mbtmp3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/30, Error ellipse: s-maj=283.0km s-min=28.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.94**	**259**	P	P	11 51 04.8	-0.5
	0.5nm,0.6s,baz=95,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**44.13**	**254**	P	P	11 51 07.0	+0.2
	3.3nm,0.6s,baz=89,slow=7.5,SNR=80						
SIJI	**Sorong**	**51.46**	**283**	LR	LR	12 14 17.2	
	comp=Z,37nm,19.4s,baz=312,slow=36						
NVAR	**Mina Array Bea**	**79.79**	**44**	P	P	11 55 06.8	0.0
	0.1nm,0.5s,baz=224,slow=8.7,SNR=2.6						
YKA	**Yellowknife Ar**	**94.46**	**25**	LR	LR	12 35 56.3	
	comp=Z,6.3nm,18.8s,baz=140,slow=34						

ISCJB ***12*** *11:44:37.5±0.9, 36°.03N±0°.06×140°.21E±0°.09, h60km±6km, mb3.4/3, Error ellipse: s-maj=12.7km s-min=7.9km az=148.2*
IDC ***12*** *11:44:39.1±1.2, 35°.15N×137°.86E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.2/61, mbtmp3.4/5, ML2.9/2, Error ellipse: s-maj=26.2km s-min=17.2km az=79.0*
JMA ***12*** *11:44:39.2±0.1, 36°.06N×140°.12E, h51km±1km, M3.0 Broadband fault plane solution: P waves. NP1: φs63.00000°, δ78.00000°, λ75.00000°. NP2:φs294.00000°, δ19.00000°, λ140.00000°. Principal axes: T Plg55.0000°, Azm314.0000°; N Plg15.0000°, Azm66.0000°; P Plg31.0000°, Azm165.0000°;*
JMA Felt I J1.

ISC 12 11:44:38.5±1.1, 36°.05N±0°.06×140°.20E±0°.08, h54km±9km, n11, σ0s65/18, mb3.4/3, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.18**	**360**	⇓P	**Pn**	**11 44 47.6**	**+0.4**
JYT				S	**Sn**	**11 44 53.5**	**+0.1**
JAG	**Ashikaga**	**0.71**	**302**	⇓P	**Pn**	**11 44 52.4**	**-0.2**
JAG				S	**Sn**	**11 45 01.8**	**-1.0**
JKT	**Katashina**	**1.05**	**314**	⇓P	**Pn**	**11 44 57.0**	**-0.1**
JKT				S	**Sn**	**11 45 10.3**	**-0.5**
JRY	**Ryogami san**	**1.05**	**269**	⇓P	**Pn**	**11 44 56.9**	**-0.1**
JRY				S	**Sn**	**11 45 09.8**	**-0.9**
JOD2	**Odawara 2**	**1.19**	**229**	P	**Pn**	**11 44 59.7**	**+0.7**
MJAR	**Matsushiro Arr**	**1.68**	**288**	Pn	**Pn**	**11 45 05.2**	**-0.4**
	0.8nm,0.3s,baz=209,slow=15,SNR=35						
MJAR				Sn	**Sn**	**11 45 26.7**	**+0.8**
	0.9nm,0.3s,baz=279,slow=29,SNR=14						
MAT	**Matsushiro**	**1.68**	**288**	P	**Pn**	**11 45 06.6**	**+1.0**
MAT				S	**Sn**	**11 45 26.8**	**+0.8**
JHJ	**Hachijo jima 2**	**2.94**	**187**	Pn	**Pn**	**11 45 22.8**	**+0.1**
	20nm,0.3s,baz=68,slow=19,SNR=12						
JHJ				Sn	**Sn**	**11 45 56.2**	**-0.6**
	6.0nm,0.3s,baz=128,slow=23,SNR=4.1						
MKAR	**Makanchi Array**	**43.82**	**303**	P	**P**	**11 52 39.1**	**+0.1**
	0.4nm,0.7s,baz=90,slow=8.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**45.84**	**309**	P	**P**	**11 52 55.3**	**+0.3**
	0.2nm,0.4s,baz=85,slow=7.1,SNR=3.1						
WRA	**Warramunga Arr**	**55.96**	**187**	P	**P**	**11 54 11.0**	**-0.3**
	0.3nm,0.6s,baz=0.4,slow=7.6,SNR=6.2						

NIED ***12*** *11:48:00, 44°.40N×140°.40E, h290km, Mw3.9 Best double couple: M0 7.08000×10^14 NP1:φs204.00000°, δ45.00000°, λ-86.00000°. NP2:φs19.00000°, δ45.00000°, λ-94.00000°.*
ISCJB ***12

SONM	**Songino Array**	**23.77 291**	P		**P**		**11 53 44.7**	**+0.4**
	3.4nm,0.7s,baz=84,slow=8.4,SNR=15							
ZALV	**Zalesovo Beam**	**36.77 305**	P		**P**		**11 55 37.3**	**-0.4**
	0.6nm,0.3s,baz=89,slow=8.0,SNR=4.4							
ZALV			PcP		**PcP**		**11 57 54.2**	**+0.2**
	1.3nm,0.5s,baz=128,slow=2.3,SNR=5.0							
MKAR	**Makanchi Array**	**40.00 295**	P		**P**		**11 56 04.7**	**-0.1**
	1.5nm,0.7s,baz=84,slow=9.1,SNR=13							
MKAR			PcP		**PcP**		**11 58 04.1**	**-0.3**
	0.4nm,0.6s,baz=63,slow=3.3,SNR=4.3							
KURBB	**Kurchatov Arra**	**41.24 302**	P		**P**		**11 56 14.5**	**-0.3**
	7.8nm,0.7s,baz=73,slow=8.9,SNR=36							
KURBB			PcP		**PcP**		**11 58 08.2**	**-0.1**
	0.5nm,0.5s,baz=78,slow=3.6,SNR=3.5							
CMAR	**Chiang Mai Arr**	**43.16 247**	P		**P**		**11 56 31.9**	**+1.3**
	0.5nm,0.3s,baz=47,slow=6.4,SNR=4.5							
ILAR	**Eielson Array**	**43.90 36**	P		**P**		**11 56 35.0**	**-0.8**
	0.3nm,0.9s,baz=282,slow=9.6,SNR=5.7							
AAK	**Ala-Archa**	**46.71 292**	P		**P**		**11 56 58.7**	**+0.4**
	baz=90,slow=9.1							
INK	**Inuvik**	**48.34 30**	P		**P**		**11 57 09.7**	**-0.5**
	0.6nm,0.3s,baz=288,slow=9.4,SNR=11							
YKA	**Yellowknife Ar**	**57.96 32**	P		**P**		**11 58 19.5**	**-0.6**
	0.1nm,0.6s,baz=306,slow=6.1,SNR=3.8							
YKA			PcP		**PcP**		**11 59 09.3**	**0.0**
	0.2nm,0.6s,baz=304,slow=3.3,SNR=3.9							
GEYT	**Alibeck**	**59.88 295**	P		**P**		**11 58 34.1**	**+0.3**
	1.6nm,0.4s,baz=38,slow=10,SNR=2.6							
FINES	**FINESS Array B**	**62.09 330**	P		**P**		**11 58 47.0**	**-1.1**
	4.6nm,0.6s,baz=54,slow=7.9,SNR=16							
WRA	**Warramunga Arr**	**64.18 186**	P		**P**		**11 59 02.2**	**0.0**
	0.5nm,0.4s,baz=1.8,slow=6.9,SNR=21							
KBZ	**Khabaz**	**65.72 308**	P		**P**		**11 59 13.2**	**+1.2**
	1.9nm,0.9s,baz=31,slow=8.2,SNR=3.5							
HFS	**Hagfors**	**67.19 334**	P		**P**		**11 59 19.7**	**-1.3**
	2.0nm,0.5s,baz=71,slow=9.6,SNR=9.5							
NB2	**NORSAR Subarra**	**67.22 336**	P		**P**		**11 59 20.0**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=36,slow=6.5							
NOA	**NORSAR Array B**	**67.22 336**	P		**P**		**11 59 20.2**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=36,slow=6.3,SNR=7.7							
ASAR	**Alice Springs**	**67.91 186**	P		**P**		**11 59 27.0**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=7.3,slow=6.2,SNR=15							
AKASG	**Malin Array Be**	**68.16 320**	P		**P**		**11 59 26.4**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=43,slow=7.0,SNR=5.8							
NVAR	**Mina Array Bea**	**71.28 54**	P		**P**		**11 59 49.2**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=325,slow=7.7,SNR=2.4							
BRTR	**Keskin Array B**	**73.56 310**	P		**P**		**12 00 00.2**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=61,slow=5.3,SNR=2.8							
GERES	**GERESS Array B**	**76.18 327**	P		**P**		**12 00 14.0**	**-0.7**
	comp=Z,0.4nm,0.2s,baz=47,slow=9.5,SNR=2.5							
TXAR	**Lajitas Array**	**86.24 52**	P		**P**		**12 01 09.4**	**+1.6**
	comp=Z,0.3nm,1.0s,baz=312,slow=4.4,SNR=2.3							

IDC ***12*** *11:55:28.6±3.5,* **5°.18S×150°.60E, h0**km**, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.3**/34**, mbtmp3.6**/2**, MS3.1**/2**, Ms1 3.1**/2**, ms1mx2.7**/25**, Error ellipse: s-maj=132.9km s-min=47.5km az=115.0, New Britain region*

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**10.19**	**115**	LR	LR	12 01 59.7	
	comp=Z,109nm,18.2s,baz=57,slow=38						
WRA	**Warramunga Arr**	**21.58**	**226**	P	P	12 00 20.5	+0.3
	1.2nm,0.6s,baz=51,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.43**	**220**	P	P	12 00 48.9	-0.4
	1.5nm,0.7s,baz=53,slow=8.5,SNR=20						
TGY	**Tagaytay City**	**35.11**	**303**	LR	LR	12 17 01.5	
	comp=Z,24nm,18.7s,baz=205,slow=37						
TORD	**Torodi Ar. Bea**	**148.33**	**287**	PKPbc	PKPbc	12 15 17.6	-0.5
	0.4nm,0.6s,baz=79,slow=2.4,SNR=3.2						

MAN **12** *12:25:57.1,* **6°.87N×126°.91E, h85**km**, mb4.2, ML3.0, MS2.7, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.65**	**277**	*e*P	Pn	12 26 14.9	+2.2
MATI				*e*S	Sn	12 26 27.0	+2.7
DMPH	**Davao City--Mi**	**1.40**	**279**	*i*P	Pn	12 26 21.5	0.0
DMPH				*i* S	Sn	12 26 41.3	+1.5
DDMP	**Don Marcelino,**	**1.41**	**237**	*e*P	Pn	12 26 20.9	-0.6
DDMP				*e*S	Sn	12 26 36.8	-3.1
BUKP	**Musuan**	**2.08**	**299**	*e*P	Pn	12 26 31.3	+0.9
BUKP				*e*S	Sn	12 26 56.2	+0.4

GUC ***12*** *12:31:50.9±0.6, 19°.95S×69°.19W, h99*km*±2*km*, ML3.5*
ISCJB ***12*** *12:31:51.5±1.2, 19°.945±0°.04×69°.2W±0°.1, h105*km*±8*km*, Error ellipse: s-maj=18.5km s-min=5.9km az=168.0*
SJA ***12*** *12:31:51.6±0.8,20°.01S×69°.24W, h94*km*±4*km*, ML3.2, MW3.2*

ISC 12 12:31:53.1±1.8, 19°.96S±0°.05×69°.3W±0°.1, h91km**±10**km**, n17, σ0°.87/30, 3C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.20**	**153**	*e*P	**Pn**	**12 32 06.0**	**-0.7**
PB08				*e*S	**Sn**	**12 32 16.9**	**+0.1**
PB08	**IPOC Station P**	**0.20**	**153**	*e*P	**Pn**	**12 32 06.1**	**-0.7**
PB08				*e*S	**Sn**	**12 32 17.2**	**+0.4**
PB08				IAML		12 32 18.3	
	comp=N,2μm,0.3s						
PB11	**IPOC Station P**	**0.43**	**297**	*e*P	**Pn**	**12 32 06.9**	**-0.7**
PB11				*e*S	**Sn**	**12 32 18.9**	**+0.5**
PB11	**IPOC Station P**	**0.43**	**297**	*e*P	**Pn**	**12 32 07.0**	**-0.7**
PB11				*e*S	**Sn**	**12 32 19.3**	**+0.9**
PB11				IAML		12 32 19.5	
	comp=E,5μm,0.3s						
MNMC	**Minye Minye**	**0.88**	**338**	*e*P	**Pn**	**12 32 11.3**	**-0.6**
MNMC				*e*S	**Sn**	**12 32 26.0**	**+0.1**
MNMCX	**Minye Minye**	**0.88**	**338**	*e*P	**Pn**	**12 32 11.5**	**-0.4**
MNMCX				*e*S	**Sn**	**12 32 27.7**	**+1.8**
PSGC	**Pisagua**	**0.90**	**293**	*e*P	**Pn**	**12 32 11.2**	**-0.6**
PSGC				*e*S	**Sn**	**12 32 26.5**	**+0.6**
PSGC				IAML		12 32 27.1	
	comp=N,2μm,0.2s						
PB01	**IPOC Station P**	**1.10**	**192**	*e*P	**Pn**	**12 32 13.6**	**-0.6**
PB01				*e*S	**Sn**	**12 32 31.1**	**+1.1**
PB01	**IPOC Station P**	**1.10**	**192**	*e*P	**Pn**	**12 32 13.3**	**-0.8**
PB01				*e*S	**Sn**	**12 32 30.2**	**+0.2**
PB01				IAML		12 32 32.1	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.48**	**204**	*e*P	**Pn**	**12 32 18.1**	**-0.7**
PB12	**IPOC Station P**	**1.68**	**323**	*e*P	**Pn**	**12 32 20.2**	**-1.0**
PB12				*e*S	**Sn**	**12 32 44.4**	**+1.7**
PB12	**IPOC Station P**	**1.68**	**323**	*e*P	**Pn**	**12 32 20.2**	**-1.0**
PB12				*e*S	**Sn**	**12 32 43.0**	**+0.3**
PB12				IAML		12 32 49.0	
	comp=E,778nm,0.3s						
PB09	**IPOC Station P**	**1.83**	**180**	*e*P	**Pn**	**12 32 22.4**	**-0.9**
PB09	**IPOC Station P**	**1.83**	**180**	*e*P	**Pn**	**12 32 23.3**	**0.0**
PB09				*e*S	**Sn**	**12 32 47.7**	**+1.5**
PB09				IAML		12 32 54.3	
	comp=E,373nm,0.3s						
PB07	**IPOC Station P**	**1.86**	**199**	*e*P	**Pn**	**12 32 23.1**	**-0.6**
PB07				*i* S	**Sn**	**12 32 47.3**	**+0.4**
PB07				IAML		12 32 54.4	
	comp=E,500nm,0.5s						
PB03	**IPOC Station P**	**2.13**	**193**	*e*P	**Pn**	**12 32 26.4**	**-0.9**
LVC	**Limon Verde**	**2.66**	**173**	*e*P	**Pn**	**12 32 34.0**	**-0.4**
LVC				IAML		12 33 15.7	
	comp=Z,88nm,0.5s						

GUC **12** *12:32:29.1±0.5,* **35°.88S×71°.89W, h97**km**±5**km**, ML3.7, 1C-1D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.74**	**192**	*i*P	Pn	12 32 46.3	-0.3
CCHI				*e*S	Sn	12 32 59.2	-0.5
CCHI				IAML		12 32 59.9	
	comp=N,2μm,0.3s						
GO05	**Huala**	**0.87**	**358**	*e*P	Pn	12 32 47.8	-0.1
GO05				*e*S	Sn	12 33 01.6	-0.4
GO05				IAML		12 33 02.6	
	comp=E,3μm,0.2s						
CHPI	**Pichilemu**	**1.49**	**356**	*e*P	Pn	12 32 54.9	-0.2
LMEL	**Las Melosas**	**2.45**	**35**	*e*P	Pn	12 33 07.9	+0.2
LMEL				*e*S	Sn	12 33 37.0	-0.2
LMEL				IAML		12 33 39.7	
CLCH	**Cerro Calan**	**2.71**	**25**	*e*P	Pn	12 33 10.7	-0.4
CLCH				IAML		12 33 46.7	
	comp=E,446nm,0.4s						
FCH	**Farellones**	**2.87**	**28**	*e*P	Pn	12 33 12.8	-0.5
PEL	**Peldehue**	**2.90**	**20**	*i*P	Pn	12 33 13.1	-0.4
PEL				*e*S	Sn	12 33 45.0	-2.8
PEL				IAML		12 33 51.5	
	comp=N,220nm,0.1s						
ROCH	**El Roble**	**2.99**	**14**	*e*P	Pn	12 33 14.2	-0.7

ISCJB ***12*** *12:34:13.7±0.4, 6°.87N±0°.03×73°.12W±0°.04, h155*km*±3*km*, mb3.3/7, Error ellipse: s-maj=6.5km s-min=4.5km az=21.4*
IDC ***12*** *12:34:14.4±0.7, 6°.76N×72°.91W, h162*km*±9*km*, mb3.1/7, mb1 3.5/10, mb1mx3.3/30, mbtmp3.7/10, Error ellipse: s-maj=27.9km s-min=7.4km az=131.0*
RSNC ***12*** *12:34:15.6±0.9, 6°.81N×73°.15W, h145*km*±4*km*, ML3.8, Mw3.8*

ISC 12 12:34:14.5±0.7, 6°.88N±0°.03×73°.13W±0°.04, h153km**±5**km**, n32, σ1°.20/50, mb3.3/7, 4C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**190**	*i*P	**Pn**	**12 34 35.4**	**-0.3**
BARC				*e*S	**Sn**	**12 34 49.6**	**-2.2**
BARC				*i*		12 34 51.3	
	comp=Z,2μm,0.3s						
BRRC	**Barranca, Sant**	**0.62**	**291**	*i*P	**Pn**	**12 34 37.1**	**+0.4**
BRRC				*e*S	**Sn**	**12 34 53.6**	**-0.2**
BRRC				*i*		12 34 57.4	
	comp=Z,847nm,0.2s						
PAMC	**Pamplona, Colo**	**0.63**	**43**	*e*P	**Pn**	**12 34 38.2**	**+0.8**
PAMC				*e*S	**Sn**	**12 34 54.8**	**-0.1**
PAMC				*i*		12 34 57.3	
	comp=Z,858nm,0.5s						
RUSC	**La Rusia**	**0.98**	**177**	*e*P	**Pn**	**12 34 39.4**	**-0.6**
RUSC				*e*S	**Sn**	**12 34 57.5**	**-1.9**
OCAC	**Ocana**	**1.36**	**352**	*e*P	**Pn**	**12 34 43.4**	**+0.4**
OCAC				*e*S	**Sn**	**12 35 05.3**	**+0.3**
OCAC				*i*		12 35 09.0	
	comp=Z,636nm,0.2s						
TAMC	**Tame, Arauca**	**1.41**	**108**	*e*P	**Pn**	**12 34 43.8**	**+0.5**
TAMC				*e*S	**Sn**	**12 35 04.7**	**-0.7**
TAMC				*i*		12 35 07.2	
	comp=E,841nm,0.6s						
ZARC	**Zaragoza, Cauc**	**1.82**	**290**	*e*P	**Pn**	**12 34 48.0**	**+0.3**
ZARC				*e*S	**Sn**	**12 35 13.1**	**-0.1**
ZARC				*i*		12 35 15.4	
	comp=N,1μm,0.1s						
CTAU	**Tausa, Cundina**	**1.90**	**209**	*e*P	**Pn**	**12 34 51.5**	**+2.4**
SMLC	**San Martn de**	**2.12**	**334**	*e*P	**Pn**	**12 34 51.6**	**+0.4**
SMLC				*e*S	**Sn**	**12 35 20.2**	**+0.6**
CTAB	**Cerro Tablazo,**	**2.14**	**210**	*e*P	**Pn**	**12 34 52.8**	**+0.9**
CTAB				*e*S	**Sn**	**12 35 20.0**	**-0.7**
ROSC	**El Rosal**	**2.35**	**210**	*e*P	**Pn**	**12 34 55.3**	**+1.0**
ROSC				*e*S	**Sn**	**12 35 23.6**	**-1.3**
ROSC	**El Rosal**	**2.35**	**210**	P	**Pn**	**12 34 55.8**	**+1.5**
	comp=N,48nm,0.3s,baz=312,slow=7.7,SNR=33						
ROSC				S	**Sn**	**12 35 26.5**	**+1.6**
	comp=N,107nm,0.3s,baz=34,slow=22,SNR=29						
HELC	**Santa Helena**	**2.48**	**254**	*e*P	**Pn**	**12 34 55.5**	**-0.4**
HELC				*e*S	**Sn**	**12 35 27.4**	**-0.2**
HELC				*i*		12 35 34.8	
	comp=Z,210nm,0.5s						
UREC	**San Jos de Ur**	**2.53**	**290**	*e*P	**Pn**	**12 34 55.2**	**-0.9**
VILC	**Villavicencio,**	**2.81**	**191**	*e*P	**Pn**	**12 34 58.8**	**-0.9**
VILC				*e*S	**Sn**	**12 35 32.4**	**-2.3**
VILC				*i*		12 35 44.0	
	comp=Z,384nm,0.5s						
RREF	**El Recreo**	**2.95**	**228**	*e*P	**Pn**	**12 35 02.0**	**0.0**
RREF				*e*S	**Sn**	**12 35 38.5**	**-0.2**
RREF				*i*		12 35 45.7	
	comp=Z,285nm,0.3s						
CODC	**Agustn Codazz**	**3.05**	**354**	*e*P	**Pn**	**12 35 02.6**	**0.0**
DBBC	**Dabeiba**	**3.06**	**273**	*e*P	**Pn**	**12 35 02.8**	**0.0**
SDV	**Santo Domingo**	**3.18**	**51**	P	**Pn**	**12 35 04.8**	**+0.4**
SDV				S	**Sn**	**12 35 41.9**	**-1.2**
	comp=Z,42nm,0.3s,baz=70,slow=23,SNR=22						
PRAC	**Prado**	**3.60**	**209**	*e*P	**Pn**	**12 35 09.3**	**-0.4**
PRAC				*e*S	**Sn**	**12 35 50.6**	**-2.0**
PRAC				*i*		12 35 56.2	
	comp=Z,307nm,0.4s						
SJCC	**San Jacinto, C**	**3.62**	**326**	*e*P	**Pn**	**12 35 09.1**	**-0.8**
SJCC				*e*S	**Sn**	**12 35 49.8**	**-3.1**
SMRC	**Santa Marta, M**	**4.39**	**346**	*e*P	**Pn**	**12 35 20.3**	**+0.4**
SMRC				*e*S	**Sn**	**12 36 08.0**	**-3.0**
APG	**El Apazote**	**18.82**	**297**	P	**Pn**	**12 38 25.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=103,slow=14,SNR=3.6						
TXAR	**Lajitas Array**	**36.41**	**312**	P	**P**	**12 41 05.4**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=125,slow=8.6,SNR=8.1						
ULM	**Lac du Bonnet**	**47.23**	**340**	P	**P**	**12 42 31.2**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=146,slow=8.9,SNR=3.9						
PDAR	**Pinedale Array**	**48.02**	**324**	P	**P**	**12 42 39.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=116,slow=8.7,SNR=4.1						
NVAR	**Mina Array Bea**	**51.43**	**315**	P	**P**	**12 43 05.7**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=108,slow=8.6,SNR=2.5						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**12 44 26.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=131,slow=6.7,SNR=20						
INK	**Inuvik**	**72.97**	**340**	P	**P**	**12 45 27.9**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=108,slow=3.2,SNR=2.6						
ILAR	**Eielson Array**	**76.90**	**335**	P	**P**	**12 45 49.9**	**+0.3**
	comp=Z,0.1nm,0.6s,baz=92,slow=4.6,SNR=2.4						
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc	**PKPbc**	**12 53 44.4**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=112,slow=3.8,SNR=4.2						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**12 53 47.4**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.7,SNR=14						

IDC **12** *12:35:32.6±3.6,* **7°.12S×148°.37E, h0**km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/35**, mbtmp3.5**/4**, ML3.5**/1**, MS4.3**/1**, Ms1 4.3**/1**, ms1mx2.8**/26**, Error ellipse: s-maj=97.3km s-min=30.9km az=111.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.64**	**226**	P	Pn	12 39 52.4	+0.1
	0.2nm,0.3s,baz=51,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.53**	**219**	P	P	12 40 24.2	+0.7
	1.4nm,0.6s,baz=54,slow=9.3,SNR=31						
FITZ	**Fitzroy Crossi**	**24.68**	**242**	P	P	12 40 54.4	-1.1
	1.5nm,0.3s,baz=60,slow=8.8,SNR=8.3						
RAO	**Raoul Island**	**38.63**	**129**	LR	LR	12 55 37.7	
	comp=Z,407nm,19.1s,baz=300,slow=31						
MKAR	**Makanchi Array**	**79.22**	**320**	P	P	12 47 40.1	+0.3
	0.1nm,0.3s,baz=96,slow=4.3,SNR=2.0						

MEX **12** *12:35:48.3±0.3,* **28°.08N×112°.34W, h10**km**, MD3.5, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.76**	**173**	*e*P	Pg	12 36 01.1	-1.9
SRIG				*i* S	Sg	12 36 10.9	-1.9
GUYB	**Guaymas**	**1.31**	**97**	*e*P	Pn	12 36 09.0	-3.7
GUYB				*i* S	Sb	12 36 25.1	-4.9

UCR **12** *12:38:21.0±1.8,* **9°.41N×84°.17W, h28**km**±3**km**, MD3.6, 3C-1D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.34**	**117**	*i*P	Pb	12 38 29.1	+0.3
EDDO				*e*S	Sn	12 38 35.8	-0.4
LCR2	**La Lucha 2**	**0.37**	**27**	*i*P	Pb	12 38 29.6	+0.1
LCR2				*e*S	Sn	12 38 36.3	-0.9
SJS	**Escuela Geolog**	**0.54**	**12**	*e*P	Pn	12 38 33.0	0.0
EDLM	**Las Mercedes**	**0.59**	**103**	*e*P	Pb	12 38 32.5	-0.4
EDLM				*e*S	Sb	12 38 41.6	+0.7
HDC	**Heredia**	**0.59**	**6**	*e*P	Pb	12 38 32.6	-0.3
HDC				*e*S	Sn	12 38 42.1	-0.4
EDBA	**Buenos Aires**	**0.92**	**105**	*e*P	Pn	12 38 36.3	-1.8
CASO	**Castillo**	**1.16**	**332**	*i* P	Pn	12 38 41.4	-0.1
CASO				*i* S	Sb	12 38 57.4	+0.3
FORC	**Fortuna**	**1.16**	**335**	*i* P	Pn	12 38 41.5	0.0
FORC				*i* S	Sb	12 38 57.4	+0.3
JTS	**JuntasAbangare**	**1.17**	**319**	*i*P	Pn	12 38 41.2	-0.3
JTS				*e*S	Sn	12 38 56.7	+0.2
ARE1	**Arenal 1**	**1.18**	**333**	*e*P	Pn	12 38 41.8	+0.1
ARE1				*e*S	Sb	12 38 58.9	+1.3
CEDE	**Laguna Cedeo**	**1.19**	**334**	*i* P	Pn	12 38 42.0	+0.1
ACAL	**Aguas Claras**	**1.48**	**325**	*i* P	Pn	12 38 46.0	0.0
PLVR	**Palo Verde**	**1.49**	**309**	*e*P	Pn	12 38 44.5	-1.6
PTEN	**Parque Tenorio**	**1.53**	**328**	*i* P	Pn	12 38 46.4	-0.2
CUI	**Cuipilapa**	**1.58**	**322**	*i*P	Pn	12 38 47.1	-0.1
BRU2	**Volcan**	**1.58**	**113**	*e*P	Pn	12 38 48.0	+0.6
BRU2				*e*S	Sn	12 39 07.5	+0.4
COLC	**Colonia**	**1.61**	**321**	*i* P	Pn	12 38 47.4	-0.2
TBS2		**1.62**	**112**	*e*P	Pn	12 38 47.4	-0.5
TBS2				*e*S	Sn	12 39 08.4	+0.5
GPS2	**Hotel Rincn d**	**1.77**	**319**	*i* P	Pn	12 38 49.7	-0.2
GB1A	**Borinquen Arri**	**1.85**	**319**	*i* P	Pn	12 38 50.9	-0.1
DVD	**David**	**1.96**	**119**	*e*P	Pn	12 38 51.6	-0.8
DVD				*e*S	Sn	12 39 17.6	+1.6

ISCJB ***12*** *12:56:52.6±0.9, 36°.17N±0°.05×71°.3E±0°.1, h200*km*, Error ellipse: s-maj=14.7km s-min=5.5km az=157.8*
NNC ***12*** *12:56:53.4±3.6, 36°.70N×70°.68E, h0*km*, mb3.9, mpv3.6, Error ellipse: s-maj=29.0km s-min=23.6km az=162.0*

ISC 12 12:56:51.7±1.6, 36°.21N±0°.10×71°.0E±0°.1, h200km**, n18, σ1°.81/22, 5C-1D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.27**	**19**	P	**Pn**	**12 58 23.1**	**+0.3**
	SNR=29						
UCH	**Uchtor**	**6.60**	**23**	P	**Pn**	**12 58 28.2**	**+1.2**
	SNR=12						
EKS2	**Erkin-Say**	**6.79**	**18**	P	**Pn**	**12 58 30.7**	**+1.4**
	SNR=8.3						
KK31	**Karatay Array**	**6.90**	**357**	P	**Pn**	**12 58 29.9**	**-0.6**
	1.3nm,0.3s,baz=176,slow=11,SNR=31						
KK31				⇑S	**Sn**	**12 59 44.5**	**-4.5**
	6.4nm,0.6s,baz=136,slow=25,SNR=4.3						
AAK	**Ala-Archa**	**6.96**	**22**	P	**Pn**	**12 58 32.6**	**+1.1**
	SNR=7.8						
AAK	**Ala-Archa**	**6.96**	**22**	⇑P	**Pn**	**12 58 32.5**	**+1.0**
	1.4nm,0.3s						
AAK				S	**Sn**	**12 59 48.4**	**-2.4**
	2.0nm,0.6s						
CHMS	**Chumysh**	**7.37**	**22**	P	**Pn**	**12 58 38.5**	**+1.9**
	SNR=5.0						
TKM2	**Tokmak 2**	**7.58**	**26**	P	**Pn**	**12 58 40.9**	**+1.3**
	SNR=9.1						
TKM2	**Tokmak 2**	**7.58**	**26**	⇑P	**Pn**	**12 58 40.8**	**+1.2**
	2.4nm,0.5s						
TKM2				⇓S	**Sn**	**13 00 06.1**	**+0.7**
	2.1nm,0.7s						
PYUN	**Piuthan**	**12.97**	**125**	*e*P	**Pn**	**12 59 46.9**	**-2.1**
	4.9nm,0.4s						
DANN	**Dangsing**	**13.32**	**122**	*e*P	**Pn**	**12 59 51.9**	**-1.6**
	7.2nm,0.5s						
KOLN	**Koldanda**	**13.59**	**125**	*e*P	**Pn**	**12 59 55.4**	**-1.3**
	3.4nm,0.3s						
PKIN	**Phulchoki**	**14.93**	**121**	*e*P	**Pn**	**13 00 12.8**	**-0.6**
	5.4nm,0.4s						
PKI	**Pulchoki**	**14.94**	**121**	*e*P	**Pn**	**13 00 12.7**	**-0.9**
	7.3nm,0.6s						
GUN	**Gumba**	**15.07**	**119**	*e*P	**Pn**	**13 00 14.4**	**-0.7**
	4.0nm,0.4s						
AB31	**Akbulak array**	**15.34**	**332**	⇑P	**P**	**13 00 21.7**	**+3.6**
	0.4nm,0.3s,baz=150,slow=13,SNR=36						
AB31				⇑S	**S**	**13 03 08.0**	**-0.1**
	0.4nm,0.5s,baz=156,slow=23,SNR=2.8						
JIRN	**Jiri**	**15.44**	**119**	*e*P	**Pn**	**13 00 19.1**	**-0.5**
	5.2nm,0.3s						
RAMN	**Ramite**	**16.16**	**120**	*e*P	**Pn**	**13 00 28.9**	**+0.7**

IDC ***12*** *12:57:16.1±1.4, 8°.65S×124°.04E, h0*km*, mb3.7/4, mb1 3.7/6, mb1mx3.5/34, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=254.9km s-min=22.7km az=58.0*
DJA ***12*** *12:57:30.4±1.6, 9°.5±4°×12°.4E±°, h24*km*±18*km*, M3.4/6, MLv3.4/6*

ISC 12 12:57:25.4±1.1, 8°.8S±0°.1×123°.80E±0°.08, h74km**, n11, σ3°.03/15, mb3.5/4, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.03**	**154**	P	**Pn**	**12 57 48.7**	**+4.0**
SOEI				S	**Sn**	**12 58 01.7**	**+2.7**
BATI	**Baumata**	**1.38**	**186**	P	**Pn**	**12 57 50.7**	**+1.7**
BATI				S	**Sn**	**12 58 07.8**	**+1.1**
MMRI	**Maumere**	**1.56**	**277**	P	**Pn**	**12 57 55.5**	**+4.2**
EDFI	**Ende, Flores**	**2.09**	**272**	P	**Pn**	**12 58 01.4**	**+2.9**
EDFI				S	**Sn**	**12 58 26.5**	**+2.9**
PLAI	**Plampang**	**5.95**	**270**	P	**Pn**	**12 58 52.3**	**+1.2**
PLAI				S	**Sn**	**12 59 53.3**	**-4.6**
WRA	**Warramunga Arr**	**15.04

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.21**	**60**	*e*P	**Pb**	**13 33 22.6**	**-0.7**
MEF				*e*SN	**Sn**	**13 33 41.7**	**+0.9**
AAL	**Aland**	**1.28**	**296**	P	**Pn**	**13 33 24.1**	**-0.5**
AAL				S	**Sn**	**13 33 44.2**	**+1.8**
AAL	**Aland**	**1.28**	**296**	*e*P	**Pn**	**13 33 24.4**	**-0.2**
AAL				*e*SN	**Sn**	**13 33 44.9**	**+2.5**
RAF	**Rauma**	**1.42**	**350**	*e*P	**Pb**	**13 33 26.2**	**-0.7**
RAF				*e*SN	**Sn**	**13 33 48.6**	**+2.7**
NUR	**Nurmijrvi**	**1.48**	**52**	*e*P	**Pb**	**13 33 27.2**	**-0.7**
NUR				*e*SN	**Sn**	**13 33 49.5**	**+2.1**
NRTU	**Norrtaelje**	**1.85**	**273**	P	**Pb**	**13 33 33.7**	**-0.6**
NRTU	**Norrtaelje**	**1.85**	**273**	*e*P	**Pb**	**13 33 33.7**	**-0.6**
ARBE	**Arbavere**	**1.90**	**94**	*e*P	**Pg**	**13 33 35.2**	**-0.6**
GRAU	**Graesoe**	**2.01**	**292**	P	**Pb**	**13 33 35.9**	**-1.1**
GRAU				S	**Sg**	**13 34 03.5**	**-0.6**
GRAU	**Graesoe**	**2.01**	**292**	*e*P	**Pb**	**13 33 35.9**	**-1.1**
GRAU				*e*S	**Sg**	**13 34 03.5**	**-0.6**
SLIT	**Slitere, Latvi**	**2.01**	**180**	*e*P	**Pg**	**13 33 37.9**	**-0.2**
PVF	**Pernaja**	**2.01**	**61**	*e*P	**Pg**	**13 33 37.1**	**-1.0**
FORU	**Forsmark**	**2.20**	**292**	P	**Pb**	**13 33 39.2**	**-0.9**
FORU	**Forsmark**	**2.20**	**292**	*e*P	**Pb**	**13 33 39.2**	**-0.9**
NYNU	**Nynaeshamn**	**2.28**	**256**	P	**Pb**	**13 33 42.0**	**+0.4**
NYNU	**Nynaeshamn**	**2.28**	**256**	*e*P	**Pb**	**13 33 42.0**	**+0.4**
FIBU	**Brunna**	**2.51**	**278**	P	**Pb**	**13 33 45.3**	**-0.1**
FIA0	**FINESS Array S**	**2.61**	**44**	*e*P	**Pb**	**13 33 46.1**	**-1.1**
FINES	**FINESS Array B**	**2.61**	**44**	Pn	**Pb**	**13 33 46.3**	**-0.9**
	0.5nm,0.3s,baz=229,slow=14,SNR=18						
FINES				Pg	**Pg**	**13 33 50.1**	**+0.6**
	0.5nm,0.3s,baz=225,slow=15,SNR=38						
FINES				Sn	**Sb**	**13 34 18.8**	**-0.9**
	0.6nm,0.3s,baz=234,slow=28,SNR=8.8						
FINES				Lg	Lg	13 34 22.8	
	0.6nm,0.3s,baz=231,slow=30,SNR=9.4						
FIA1	**FINESS Array S**	**2.61**	**44**	*e*P	**Pb**	**13 33 46.2**	**-1.0**
BACU	**Backbrunna**	**2.63**	**277**	P	**Pb**	**13 33 47.6**	**+0.2**
BACU	**Backbrunna**	**2.63**	**277**	*e*P	**Pb**	**13 33 47.6**	**+0.2**
KEF	**Keuruu**	**2.84**	**25**	*e*P	**Pb**	**13 33 49.9**	**-1.1**
KEF				MSG		13 34 33.0	
	comp=Z,5.3nm,0.1s						
VAF	**Ylistaro**	**3.43**	**3**	MSG		13 34 49.8	
	comp=Z,1.3nm,0.1s						
SUF	**Sumiainen**	**3.62**	**29**	MSG		13 34 51.9	
	comp=Z,2.4nm,0.2s						
HFS	**Hagfors**	**4.36**	**280**	Pn	Pb	13 34 11.5	-5.4
	comp=Z,0.1nm,0.3s,baz=111,slow=11,SNR=8.0						
HFS				Pg	**Pg**	**13 34 22.5**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=98,slow=18,SNR=6.3						
HFS				Sn	**Sb**	**13 35 03.9**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=90,slow=22,SNR=3.0						
HFS				Lg	Lg	13 35 22.1	
	comp=Z,0.5nm,0.3s,baz=91,slow=33,SNR=6.0						
NOA	**NORSAR Array B**	**5.68**	**289**	Pn	Pn	13 34 30.9	+5.8
	comp=Z,0.0nm,0.3s,baz=98,slow=12,SNR=3.0						
NOA				Sn	**Sn**	**13 35 35.1**	**+4.2**
	comp=Z,0.0nm,0.3s,baz=91,slow=17,SNR=2.3						
ARCES	**ARCESS Array B**	**10.04**	**7**	Pn	**Pn**	**13 35 27.0**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=195,slow=13,SNR=7.2						

IDC ***12*** *13:35:24.4±1.4, 7.°65S×130.°78E, h0km, mb4.1/1, mb1 4.1/7, mb1mx3.7/44, mbtmp4.0/7, ML3.8/6, Error ellipse: s-maj=33.4km s-min=23.3km az=102.0*

ISCJB ***12*** *13:35:26.9±0.4, 7.°72S±0.°04×130.°85E±0.°05, h33km, mb3.9/2, Error ellipse: s-maj=8.0km s-min=5.1km az=158.5*

NEIC ***12*** *13:35:32.5±0.8, 7.°87S×130.°70E, h76km±10km, mb4.1/2, Error ellipse: s-maj=12.7km s-min=7.3km az=222.0*

ISC 12 13:35:28.8±0.7, 7.71S±0.°05×130.76E±0.°07, h35km, n24, σ2s06/29, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**0.60**	**117**	*e*Pn	Pn	13 35 48.5	+7.6
FAKI	**Fak Fak**	**4.99**	**17**	*e*Pn	**Pn**	**13 36 42.2**	**+0.9**
MTN	**Manton Dam**	**5.11**	**176**	*e*Pn	**Pn**	**13 36 46.8**	**+3.8**
SOEI	**Soe**	**6.73**	**252**	*e*Pn	**Pn**	**13 37 07.6**	**+2.3**
SIJI	**Sorong**	**6.82**	**4**	Pn	**Pn**	**13 37 06.7**	**+0.2**
	1.5nm,0.3s,baz=176,slow=19,SNR=5.6						
SIJI				Sn	**Sn**	**13 38 18.7**	**-4.2**
	1.1nm,0.3s,baz=259,slow=23,SNR=3.2						
BATI	**Baumata**	**7.43**	**250**	Pn	**Pn**	**13 37 17.0**	**+2.1**
	1.9nm,0.3s,baz=90,slow=14,SNR=3.4						
BATI				Sn	**Sn**	**13 38 36.5**	**-1.5**
	2.0nm,0.3s,baz=24,slow=23,SNR=3.3						
MMRI	**Maumere**	**8.48**	**263**	*e*Pn	**Pn**	**13 37 33.1**	**+3.8**
LUWI	**Luwuk**	**10.35**	**309**	*e*Pn	**Pn**	**13 37 57.3**	**+2.3**
JAY	**Jayapura**	**11.17**	**63**	Pn	**Pn**	**13 38 06.0**	**-0.2**
	0.8nm,0.3s,baz=249,slow=15,SNR=18						
KAPI	**Kappang**	**11.26**	**283**	*e*Pn	**Pn**	**13 38 09.9**	**+2.6**
FITZ	**Fitzroy Crossi**	**11.46**	**205**	Pn	**Pn**	**13 38 10.7**	**+0.5**
	0.8nm,0.3s,baz=28,slow=9.8,SNR=15						
FITZ				Sn	**Sn**	**13 40 12.0**	**-5.0**
	0.9nm,0.3s,baz=259,slow=20,SNR=6.8						
WRAB	**Tennant Creek**	**12.64**	**164**	*e*Pn	**Pn**	**13 38 27.1**	**+0.9**
WR1	**Warramunga Arr**	**12.64**	**164**	*e*Pn	**Pn**	**13 38 25.9**	**-0.5**
WR1				*e*Sn	**Sn**	**13 40 44.7**	**-1.2**
WRA	**Warramunga Arr**	**12.64**	**164**	Pn	**Pn**	**13 38 25.9**	**-0.5**
	0.5nm,0.3s,baz=348,slow=13,SNR=34						
WRA				Sn	**Sn**	**13 40 44.7**	**-1.3**
	0.7nm,0.3s,baz=333,slow=22,SNR=8.1						
WB2	**Warramunga Arr**	**12.65**	**164**	*e*Pn	**Pn**	**13 38 25.8**	**-0.6**
COEN	**Coen**	**13.68**	**118**	*e*Pn	**Pn**	**13 38 41.9**	**+1.4**
AS31	**Alice Springs**	**16.15**	**170**	*e*P	**P**	**13 39 14.5**	**-1.7**
	1.2nm,0.8s						
ASAR	**Alice Springs**	**16.15**	**170**	Pn	**Pn**	**13 39 13.7**	**+0.4**
	0.2nm,0.3s,baz=347,slow=9.0,SNR=12						
ASAR				Sn	**Sn**	**13 42 12.2**	**+0.8**
	0.2nm,0.3s,baz=350,slow=27,SNR=5.3						
AS01	**Alice Springs**	**16.16**	**169**	*e*P	**P**	**13 39 14.5**	**-1.8**
JAGI	**Jajag, Banyuwa**	**16.46**	**266**	*e*Pn	**Pn**	**13 39 17.7**	**+0.5**
	20nm,0.6s						
MK01	**Makanchi Array**	**69.21**	**327**	*e*P	**P**	**13 46 31.8**	**-0.3**
MK31	**Makanchi Array**	**69.23**	**327**	*e*P	**P**	**13 46 32.2**	**0.0**
	1.2nm,0.9s						
MK32	**Makanchi Array**	**69.23**	**327**	*e*P	**P**	**13 46 32.2**	**0.0**
MKAR	**Makanchi Array**	**69.23**	**327**	P	**P**	**13 46 32.2**	**0.0**
	1.2nm,0.6s,baz=122,slow=7.9,SNR=13						

ISCJB ***12*** *13:37:07.8±0.3, 59.°69N±0.°02×22.°39E±0.°04, h0km, Error ellipse: s-maj=3.6km s-min=2.4km az=158.0*

HEL ***12*** *13:37:08.6±0.2, 59.°63N×22.°34E, h0km, ML2.4, Explosion*

EST ***12*** *13:37:09.4±0.1, 59.°68N×22.°35E, h0km, ML2.3(HEL), Explosion*

NAO ***12*** *13:37:10.3±1.4, 59.°77N×22.°21E, ML2.2*

IDC ***12*** *13:37:10.0±1.6, 59.°72N×22.°20E, h0km, mb1 3.1/4, mb1mx2.9/58, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=22.2km s-min=7.3km az=162.0*

UPP ***12*** *13:37:11.1±0.7, 59.°70N×22.°05E, h0km, ML2.2, Suspected explosion*

BER ***12*** *13:37:12.6±3.9, 59.°78N×22.°17E, h0km, ML2.2(NAO), Suspected explosion*

ISC 12 13:37:07.9±0.7, 59.71N±0.°03×22.30E±0.°02, h0km, n56, σ1s72/90, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.17**	**64**	*e*PB	**Pg**	**13 37 30.5**	**+0.2**
MEF				*e*SB	**Sb**	**13 37 45.8**	**-0.9**
AAL	**Aland**	**1.25**	**293**	P	**Pg**	**13 37 32.2**	**+0.3**
AAL				S	**Sg**	**13 37 49.1**	**+1.1**
AAL	**Aland**	**1.25**	**293**	*e*P	**Pg**	**13 37 32.1**	**+0.2**
MTSE	**Matsula**	**1.27**	**141**	*e*PB	**Pg**	**13 37 31.8**	**-0.4**
MTSE				*e*SB	**Sg**	**13 37 48.4**	**-0.3**
RAF	**Rauma**	**1.34**	**349**	*e*P	**Pb**	**13 37 34.0**	**+0.1**
RAF				MSG		13 37 51.6	
	comp=Z,34nm,0.2s						
RAF				*e*SB	**Sn**	**13 37 52.1**	**-0.2**
NUR	**Nurmijrvi**	**1.42**	**55**	*e*PG	**Pg**	**13 37 35.1**	**-0.1**
NRTU	**Norrtaelje**	**1.86**	**270**	P	**Pn**	**13 37 42.3**	**+1.4**
NRTU				S	**Sn**	**13 38 06.7**	**+1.6**
ARBE	**Arbavere**	**1.90**	**97**	*e*PG	**Pn**	**13 37 42.7**	**+1.3**
PVF	**Pernaja**	**1.97**	**63**	*e*PG	**Pb**	**13 37 44.4**	**-0.2**
PVF				MSG		13 38 07.7	
	comp=Z,21nm,0.2s						
PVF				*e*SG	**Sb**	**13 38 09.9**	**+0.3**
GRAU	**Graesoe**	**1.99**	**290**	P	**Pn**	**13 37 44.0**	**+1.3**
GRAU				S	**Sb**	**13 38 10.4**	**+0.2**
SLIT	**Slitere, Latvi**	**2.09**	**180**	*e*PB	**Pn**	**13 37 45.5**	**+1.3**
SLIT				*e*SG	**Sn**	**13 38 13.0**	**+2.2**
FORU	**Forsmark**	**2.17**	**290**	P	**Pn**	**13 37 47.2**	**+1.9**
NYNU	**Nynaeshamn**	**2.31**	**254**	P	**Pn**	**13 37 49.2**	**+2.0**
FIBU	**Brunna**	**2.51**	**276**	P	**Pn**	**13 37 52.2**	**+2.3**
FIA0	**FINESS Array S**	**2.55**	**45**	Pn	**Pb**	**13 37 53.1**	**-1.3**
	baz=227,slow=14						
FIA0				Sn	**Sb**	**13 38 26.1**	**-0.2**
	baz=243,slow=28						
FIA0	**FINESS Array S**	**2.55**	**45**	Pn	**Pb**	**13 37 53.1**	**-1.3**
	baz=227,slow=14						
FIA0				Sn	**Sb**	**13 38 26.1**	**-0.2**
	baz=243,slow=28						
FIA0	**FINESS Array S**	**2.55**	**45**	*e*PB	**Pb**	**13 37 53.9**	**-0.6**
FIA0				*e*SB	**Sb**	**13 38 25.8**	**-0.5**
FIA0				MSG		13 38 29.6	
	comp=Z,10nm,0.1s						
FINES	**FINESS Array B**	**2.55**	**45**	Pn	**Pb**	**13 37 53.1**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=229,slow=14,SNR=71						
FINES				Pg	**Pg**	**13 38 00.6**	**+3.9**
	comp=Z,1.3nm,0.3s,baz=228,slow=13,SNR=10.0						
FINES				Sn	**Sb**	**13 38 26.2**	**-0.1**
	comp=Z,4.2nm,0.3s,baz=234,slow=29,SNR=23						
FIA1	**FINESS Array S**	**2.55**	**45**	*e*PB	**Pb**	**13 37 54.0**	**-0.4**
FIA1				*e*SB	**Sb**	**13 38 26.3**	**0.0**
FIA1				MSG		13 38 29.9	
	comp=Z,13nm,0.2s						
VSU	**Vasula**	**2.61**	**117**	Pn	**Pn**	**13 37 53.7**	**+2.4**
VSU				Sn	**Sb**	**13 38 27.9**	**-0.2**
VSU	**Vasula**	**2.61**	**117**	Pn	**Pn**	**13 37 53.7**	**+2.4**
VSU				Sn	**Sb**	**13 38 27.9**	**-0.2**
VSU	**Vasula**	**2.61**	**117**	*e*PB	**Pn**	**13 37 53.5**	**+2.2**
VSU				*e*SG	**Sb**	**13 38 28.0**	**-0.1**
BACU	**Backbrunna**	**2.63**	**275**	P	**Pn**	**13 37 54.2**	**+2.7**
OSTU	**Oestervaala**	**2.65**	**283**	P	**Pn**	**13 37 53.7**	**+1.9**
IGGU	**Iggoen**	**2.74**	**297**	P	**Pn**	**13 37 54.9**	**+1.8**
VJF	**Virojoki**	**2.76**	**70**	*e*P	**Pn**	**13 37 54.5**	**+1.1**
VJF				MSG		13 38 30.2	
	comp=Z,18nm,0.2s						
VJF				*e*SG	**Sb**	**13 38 33.2**	**+0.9**
KEF	**Keuruu**	**2.76**	**26**	*e*PB	**Pb**	**13 37 57.2**	**-0.9**
KEF				*e*SB	**Sb**	**13 38 33.3**	**+0.8**
KEF				MSG		13 38 37.1	
	comp=Z,11nm,0.1s						
GOTU	**Gotland**	**2.81**	**225**	P	**Pn**	**13 37 55.5**	**+1.4**
ESKU	**Eskilstuna**	**3.05**	**263**	P	**Pn**	**13 37 59.2**	**+1.8**
KAF	**Kangasniemi**	**3.10**	**37**	*e*PB	**Pb**	**13 38 02.3**	**-1.6**
KAF				MSG		13 38 41.4	
	comp=Z,11nm,0.2s						
KAF				*e*SB	**Sb**	**13 38 42.3**	**+0.1**
ARNU	**Arnoeviken**	**3.13**	**311**	P	**Pn**	**13 38 00.6**	**+2.2**
VIKU	**Vikbolandet**	**3.13**	**250**	P	**Pn**	**13 38 00.2**	**+1.8**
FALU	**Falun**	**3.33**	**286**	P	**Pn**	**13 38 03.0**	**+1.8**
VAF	**Ylistaro**	**3.34**	**3**	*e*PB	**Pb**	**13 38 07.5**	**-0.6**
SUF	**Sumiainen**	**3.54**	**30**	*e*PB	**Pb**	**13 38 09.8**	**-1.6**
SUF				*e*SB	**Sb**	**13 38 54.7**	**-0.2**
HEMU	**Hemsoen**	**3.62**	**327**	*e*P	**Pn**	**13 38 07.8**	**+2.7**
ROTU	**Roteberg**	**3.63**	**301**	P	**Pn**	**13 38 07.0**	**+1.7**
VSTU	**Vaestervik**	**3.65**	**238**	P	**Pn**	**13 38 06.9**	**+1.4**
BYXU	**Byxelkrok**	**3.69**	**231**	P	**Pn**	**13 38 08.0**	**+1.8**
HASU	**Hassela**	**3.70**	**314**	P	**Pn**	**13 38 08.4**	**+2.1**
HUSU	**Husum**	**3.93**	**339**	P	**Pn**	**13 38 12.4**	**+3.1**
SOLU	**Sollefteaa**	**4.29**	**328**	P	**Pn**	**13 38 16.6**	**+2.3**
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**13 38 17.3**	**+2.1**
	baz=85,slow=18						
HFS				Sn	**Sn**	**13 39 05.9**	**-0.6**
	baz=77,slow=28						
HFS				Lg	Lg	13 39 22.4	
	baz=90,slow=37						
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**13 38 15.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=12,SNR=25						
HFS				Pg	**Pb**	**13 38 24.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=97,slow=12,SNR=10.0						
HFS				Sn	**Sn**	**13 39 06.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=91,slow=18,SNR=4.4						
HFS				Lg	Lg	13 39 22.4	
	comp=Z,0.9nm,0.3s,baz=92,slow=36,SNR=7.6						
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**13 38 17.3**	**+2.1**
	baz=85,slow=18						
HFS				Sn	**Sn**	**13 39 05.9**	**-0.6**
	baz=77,slow=28						
HFS				Sg	**Sb**	**13 39 22.4**	**+4.2**
	baz=90,slow=37						
NRA0	**NORESS Array S**	**5.46**	**285**	Pn	**Pn**	**13 38 31.7**	**+1.3**
	baz=80,slow=11						
NRA0				Sn	**Sn**	**13 39 33.3**	**-0.5**
	baz=103,slow=22						
NRA0				Lg	Lg	13 39 58.2	
	baz=101,slow=28						
NRA0	**NORESS Array S**	**5.46**	**285**	Pn	**Pn**	**13 38 31.7**	**+1.3**
	baz=80,slow=11						
NRA0				Sn	**Sn**	**13 39 33.3**	**-0.5**
	baz=103,slow=22						
NRA0				Sg	**Sg**	**13 39 58.2**	**-4.9**
	baz=101,slow=28						
NB2	**NORSAR Subarra**	**5.66**	**288**	Pn	**Pn**	**13 38 33.6**	**+0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**13 39 38.6**	**-0.2**
	baz=97,slow=22						
NB2	**NORSAR Subarra**	**5.66**	**288**	Pn	**Pn**	**13 38 33.6**	**+0.4**
	baz=97,slow=14						
NB2				Sn	**Sn**	**13 39 38.6**	**-0.2**
	baz=97,slow=22						
NOA	**NORSAR Array B**	**5.66**	**288**	Pn	**Pn**	**13 38 33.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=103,slow=10.0,SNR=9.0						
NOA				Sn	**Sn**	**13 39 37.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=71,slow=14,SNR=2.5						
NOA				Lg	Lg	13 40 04.8	
	comp=Z,0.1nm,0.3s,baz=135,slow=20,SNR=3.4						
BSD	**Bornholm Skovb**	**6.10**	**224**	*i* P	**Pn**	**13 38 38.5**	**-0.6**
BSD				*i* S	**Sn**	**13 39 46.0**	**-3.5**
APA0	**Apatity Array**	**9.22**	**26**	Pn	**Pn**	**13 39 24.4**	**+2.4**
APA0	**Apatity Array**	**9.22**	**26**	Pn	**Pn**	**13 39 24.4**	**+2.4**
ARA0	**ARCESS Array S**	**9.96**	**7**	Pn	**Pn**	**13 39 31.4**	**-0.6**
	baz=192,slow=14						
ARA0	**ARCESS Array S**	**9.96**	**7**	Pn	**Pn**	**13 39 31.4**	**-0.6**
	baz=192,slow=14						
ARCES	**ARCESS Array B**	**9.96**	**7**	Pn	**Pn**	**13 39 31.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=188,slow=13,SNR=13						
ARCES				Sn	**Sn**	**13 41 18.5**	**-5.8**
	comp=Z,0.2nm,0.3s,baz=191,slow=23,SNR=3.4						

WEL 12 13:39:35.0±0.8, 46.°5S±4.°×167.°7E±°, h5km, ML4.2/19, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.44**	**175**	P	Pg	13 39 43.4	-0.1
PYZ				S	Sg	13 39 50.1	+0.8
DCZ	**Deep Cove**	**0.45**	**55**	P	Pg	13 39 43.9	+0.1
DCZ				S	Sg	13 39 50.3	+0.7
WHZ	**Wether Hill Ro**	**0.94**	**101**	P	Pg	13 39 53.0	0.0
MLZ	**Mavora Lakes**	**1.11**	**71**	P	Pg	13 39 55.4	-0.8
MLZ				S	Sg	13 40 10.6	-0.1
MSZ	**Milford Sound**	**1.40**	**42**	P	Pn	13 39 57.7	-3.5
MSZ				S	Sn	13 40 22.0	+2.0
WKZ	**Wanaka**	**1.91**	**63**	P	Pn	13 40 08.7	+0.4
WKZ				S	Sg	13 40 36.3	-0.1
SYZ	**Scrubby Hill**	**1.93**	**116**	P	Pn	13 40 08.5	+0.1
EAZ	**Earnscleugh**	**1.95**	**76**	P	Pn	13 40 09.5	+0.7
EAZ				S	Sn	13 40 34.5	+0.9
TUZ	**Tuapeka**	**2.11**	**97**	P	Pn	13 40 12.0	+1.0
TUZ				S	Sb	13 40 39.2	-1.0
JCZ	**Jackson Bay**	**2.26**	**44**	P	Pn	13 40 14.6	+1.6
HHSZ	**Highcliff Hill**	**2.78**	**95**	P	Pn	13 40 21.4	+1.2
LBZ	**Lake Benmore**	**2.86**	**63**	P	Pn	13 40 21.5	+0.3
ODZ	**Otahua Downs**	**2.91**	**78**	P	Pn	13 40 21.6	-0.4
FOZ	**Fox Glacier**	**3.16**	**47**	P	Pn	13 40 26.6	+1.2
RPZ	**Rata Peaks**	**3.74**	**59**	P	Pn	13 40 33.0	-0.4
WVZ	**Waitaha Valley**	**3.96**	**49**	P	Pn	13 40 37.2	+0.8
OXZ	**Oxford**	**4.55**	**60**	P	Pn	13 40 43.2	-1.3
INZ	**Inchbonnie**	**4.58**	**51**	P	Pn	13 40 44.7	-0.2
MQZ	**McQueen's Vall**	**4.75**	**67**	P	Pn	13 40 45.9	-1.3
OKCZ	**Okains Bay**	**5.00**	**69**	P	Pn	13 40 51.5	+0.8
AMCZ	**Amberley**	**5.01**	**62**	P	Pn	13 40 50.1	-0.7
LTZ	**Lake Taylor**	**5.01**	**56**	P	Pn	13 40 50.1	-0.8
DSZ	**Denniston Nort**	**5.47**	**45**	P	Pn	13 40 56.4	-0.7
THZ	**Tophouse**	**6.03**	**51**	P	Pn	13 41 04.2	-0.7
QRZ	**Quartz Range**	**6.52**	**43**	P	Pn	13 41 10.5	-1.1
DUWZ	**D'Urville Isla**	**7.25**	**50**	P	Pn	13 41 24.9	+3.3

SOME ***12*** *13:41:00.8, 48.°45N×80.°45E, h0km*

NNC ***12*** *13:41:04.5±0.9, 48.°55N×81.°08E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=36.8km s-min=5.1km az=60.0*

ISC 12 13:41:05.7±1.2, 48.49N±0.°06×81.13E±0.°06, h10km, n7, σ1s72/10, 6C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.77**	**161**	⇓Pn	**Pn**	**13 41 37.2**	**+0.8**
	1.6nm,0.4s						
MAKZ				⇑Lg	Lg	13 42 04.0	
	3.9nm,0.3s						
MK31	**Makanchi Array**	**1.87**	**155**	⇑Pn	**Pb**	**13 41 39.0**	**-0.8**
	3.2nm,0.4s,baz=334,slow=16,SNR=162						
MK31				⇑Lg	Lg	13 42 04.8	
	2.7nm,0.3s,baz=337,slow=27,SNR=21						
ZSN	**Zaisan**	**2.71**	**111**	*e*P	**Pb**	**13 41 53.7**	**-0.6**
	1.1nm,0.3s						
ZSN				*e*S	**Sg**	**13 42 31.8**	**-1.0**
	4.1nm,0.3s						
KURBB	**Kurchatov Arra**	**2.73**	**323**	⇑Pg	**Pb**	**13 41 53.6**	**-0.9**
	1.8nm,0.3s						
KURBB				⇓Lg	Lg	13 42 27.3	
	19nm,0.6s						
KURK	**Kurchatov**	**2.77**	**325**	⇑Pg	**Pb**	**13 41 54.1**	**-1.1**
	4.8nm,1.2s						
KURK				⇑Lg	Lg	13 42 27.6	
	5.9nm,0.5s						
KAPS	**Kapalarasan**	**3.43**	**201**	*e*P	**Pn**	**13 41 59.9**	**+0.7**
	0.5nm,0.2s						
KAPS				*e*S	**Sn**	**13 42 42.5**	**+2.6**
	1.7nm,0.5s						
DJR	**Jarkent**	**4.26**	**193**	*e*P	**Pb**	**13 42 17.8**	**-2.9**
	0.3nm,0.1s						
DJR				*e*S	**Sb**	**13 43 12.7**	**+0.6**
	0.5nm,0.2s						

UCR ***12*** *13:41:17.5±2.9, 8.°73N×82.°41W, h7km±7km*

NEIC ***12*** *13:41:18.8±2.0, 8.°75N×82.°37W, h10km, MD4.3(UCR), Error ellipse: s-maj=43.4km s-min=9.3km az=20.0*

NEIC Felt [IV] at Boquete and Los Naranjos, Panama. Also felt at Cordillera, David, Dos Rios Abajo, El Salto, Guabal Poniente, Potrerillos, Rovira and Volcancito Arriba.

ISC 12 13:41:17.9±1.5, 8.78N±0.°06×82.38W±0.°04, h1km±13km, n37, σ1s15/48, 12C-2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBS2		**0.27**	**272**	⇑*e*P	**Pg**	**13 41 22.4**	**-0.7**
TBS2				*e*S	**Sg**	**13 41 26.1**	**-0.6**
BRU2	**Volcan**	**0.30**	**272**	⇑*i*P	**Pg**	**13 41 23.9**	**+0.1**
BRU2				*e*S	**Sg**	**13 41 28.5**	**+0.7**
DVD	**David**	**0.35**	**191**	⇑*i*P	**Pg**	**13 41 24.3**	**-0.3**
DVD				*e*S	**Sg**	**13 41 29.5**	**+0.2**
CTCR	**Cotoan**	**0.39**	**287**	⇑*i*P	**Pg**	**13 41 25.2**	**-0.2**
CDITO	**Canoas**	**0.53**	**247**	⇓*i*P	**Pg**	**13 41 27.6**	**-0.5**
EDSV	**San Vito**	**0.58**	**274**	⇓*e*P	**Pg**	**13 41 29.2**	**+0.1**
EDSV				*e*S	**Sb**	**13 41 38.6**	**-1.3**
EDBA	**Buenos Aires**	**0.96**	**293**	⇑*e*P	**Pg**	**13 41 35.7**	**-0.6**
EDLM	**Las Mercedes**	**1.29**	**293**	*e*P	**Pn**	**13 41 40.8**	**-2.4**
EDLM				*e*S	**Sb**	**13 41 58.0**	**-2.1**
EDDO	**Dominical**	**1.54**	**288**	*e*P	**Pn**	**13 41 45.5**	**-1.0**
BATAN	**Batan**	**1.63**	**323**	⇑*i*P	**Pn**	**13 41 46.2**	**-1.6**
PNME	**Penonome**	**2.05**	**98**	*e*P	**Pn**	**13 41 53.2**	**-0.4**
PNME	**Penonome**	**2.05**	**98**	*e*P	**Pn**	**13 41 53.2**	**-0.4**
PNME	**Penonome**	**2.05**	**98**	⇑*i*P	**Pn**	**13 41 51.8**	**-1.8**
PNME				*e*S	**Sn**	**13 42 18.3**	**-1.5**
HDC	**Heredia**	**2.10**	**305**	*e*Pn	**Pn**	**13 41 54.4**	**+0.1**
HDC				*e*Sn	**Sb**	**13 42 22.6**	**-0.8**
HDC	**Heredia**	**2.10**	**305**	⇑*i*P	**Pn**	**13 41 54.4**	**+0.1**
AZU	**Azuero**	**2.31**	**115**	*e*P	**Pn**	**13 41 55.5**	**-1.6**
AZU				*i*		13 42 28.5	
	comp=Z,2μm,0.7s						

PETK				LR	LR	14 26 42.4			
	comp=Z,93nm,20.3s,baz=155,slow=31								
QSPA	**South Pole Qui**	**73.41**	**180**	*e*P	**P**	**13 59 49.2**	**+1.6**		
	29nm,1.8s								
KSRS	**Korea Array**	**74.06**	**318**	LR	LR	14 28 10.9			
	comp=Z,51nm,20.9s,baz=120,slow=32								
YBH	**Yreka Blue Hor**	**77.27**	**39**	*e*P	**P**	**14 00 13.1**	**+3.2**		
	8.8nm,1.3s								
YBH	**Yreka Blue Hor**	**77.27**	**39**	P	**P**	**14 00 10.3**	**+0.4**		
	2.6nm,0.9s,baz=278,slow=18,SNR=5.6								
NJ2	**Nanjing**	**77.48**	**309**	*e*P	P	13 59 59.6	-12		
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
NVAR	**Mina Array Bea**	**78.21**	**44**	P	**P**	**14 00 15.2**	**-0.1**		
NVAR	**Mina Array Bea**	**78.21**	**44**	P	**P**	**14 00 15.2**	**-0.1**		
	0.7nm,0.7s,baz=228,slow=9.3,SNR=4.2								
I07A	**Izee**	**80.55**	**39**	*e*P	**P**	**14 00 31.0**	**+3.3**		
	9.2nm,1.4s								
U15A	**North Rim**	**81.35**	**48**	*e*P	**P**	**14 00 35.8**	**+3.5**		
	8.1nm,1.5s								
ELK	**Elko**	**81.44**	**43**	P	**P**	**14 00 31.7**	**-0.9**		
ELK	**Elko**	**81.44**	**43**	P	**P**	**14 00 31.7**	**-0.9**		
	0.5nm,0.8s,baz=258,slow=9.1,SNR=2.5								
G08A	**Pilot Rock**	**81.54**	**38**	*e*P	**P**	**14 00 34.4**	**+1.5**		
	7.1nm,1.3s								
WRH	**Wood River Hil**	**84.05**	**13**	*e*P	**P**	**14 00 43.8**	**-1.4**		
	20nm,1.2s								
DOT	**Dot Lake**	**84.24**	**14**	*e*P	**P**	**14 00 44.9**	**-1.3**		
	10.0nm,1.2s								
CCB	**Clear Creek Bu**	**84.26**	**13**	*e*P	**P**	**14 00 44.8**	**-1.4**		
	23nm,1.3s								
IM3	**Indian Mountai**	**84.37**	**10**	*e*P	**P**	**14 00 45.4**	**-1.3**		
MDM	**Murphy Dome**	**84.45**	**12**	*e*P	**P**	**14 00 45.5**	**-1.8**		
	30nm,1.4s								
COLA	**College**	**84.45**	**12**	P	**P**	**14 00 44.8**	**-2.4**		
	16nm,1.2s								
IL1	**Eielson Array**	**84.56**	**13**	*e*P	**P**	**14 00 46.2**	**-1.6**		
ILAR	**Eielson Array**	**84.56**	**13**	P	**P**	**14 00 46.8**	**-1.0**		
ILAR	**Eielson Array**	**84.56**	**13**	P	**P**	**14 00 46.8**	**-1.0**		
	7.6nm,1.1s,baz=228,slow=7.0,SNR=9.1								
ILB	**Eielson Array**	**84.56**	**13**	*e*P	**P**	**14 00 45.5**	**-2.2**		
	35nm,1.5s								
TXAR	**Lajitas Array**	**84.95**	**58**	P	**P**	**14 00 49.4**	**-1.2**		
TXAR	**Lajitas Array**	**84.95**	**58**	P	**P**	**14 00 49.4**	**-1.2**		
	0.5nm,0.9s,baz=209,slow=4.8,SNR=4.9								
TXAR				LR	LR	14 30 47.2			
	comp=Z,38nm,21.1s,baz=0.0,slow=30								
PRP	**Porcupine Dome**	**85.50**	**13**	*e*P	**P**	**14 00 50.2**	**-2.4**		
	20nm,1.4s								
DAWY	**Dawson**	**85.76**	**16**	*e*P	**P**	**14 00 53.1**	**-0.7**		
	8.9nm,1.2s								
XAN	**Xi'an**	**85.85**	**307**	P	P	14 00 43.8	-11		
XAN				pP	PcP	14 00 47.7	-10		
XAN				pmax	pmax				
	comp=Z,6.0nm,0.5s								
EGAK	**Eagle**	**85.88**	**15**	*e*P	**P**	**14 00 51.9**	**-2.5**		
	22nm,1.4s								
PDAR	**Pinedale Array**	**86.13**	**43**	P	**P**	**14 00 56.1**	**-0.3**		
PDAR	**Pinedale Array**	**86.13**	**43**	P	**P**	**14 00 56.1**	**-0.3**		
	0.7nm,1.1s,baz=205,slow=4.0,SNR=2.9								
HHC	**Hu-ho-hao-te**	**86.71**	**314**	*e*P	P	14 00 48.1	-11		
HHC				sP	PcP	14 00 58.3	-2.8		
HHC				S	**S**	**14 11 17.6**	**-1.9**		
HHC				pmax	pmax				
	comp=Z,8.0nm,1.1s								
HHC				pmax	pmax				
	comp=Z,100nm,5.0s								
HHC				LR	LR				
	comp=N,180nm,14.7s								
HHC				LR	LR				
	comp=E,160nm,16.3s								
CD2	**Chengdu**	**88.76**	**303**	P	P	14 00 57.5	-11		
CD2				pmax	pmax				
	comp=Z,3.0nm,0.5s								
CMAR	**Chiang Mai Arr**	**88.88**	**290**	LR	LR	14 38 29.3			
	comp=Z,49nm,21.1s,baz=120,slow=33								
LZH	**Lanzhou**	**90.47**	**308**	*e*P	P	14 01 06.8	-10		
LZH				pP	PcP	14 01 10.1	-7.9		
LZH				*e*PP	PP	14 04 38.2	-17		
LZH				pmax	pmax				
	comp=Z,18nm,1.4s								
LZH				pmax	pmax				
	comp=Z,76nm,6.0s								
LZH				LR	LR				
	comp=N,170nm,17.0s								
LZH				LR	LR				
	comp=E,180nm,16.7s								
LZH				LR	LR				
	comp=Z,220nm,19.2s								
SYO	**Syowa Base**	**90.48**	**193**	*e*PcP	**P**	**14 01 15.2**	**-1.0**		
YKA	**Yellowknife Ar**	**93.00**	**25**	P	**P**	**14 01 27.3**	**-0.5**		
YKA	**Yellowknife Ar**	**93.00**	**25**	P	**P**	**14 01 27.3**	**-0.5**		
	0.1nm,0.4s,baz=228,slow=5.5,SNR=3.8								
WMQ	**Urumqi**	**104.43**	**312**	*e*P	**Pdif**	**14 02 11.8**	**-7.9**		
WMQ				LR	LR				
	comp=N,110nm,21.5s								
WMQ				LR	LR				
	comp=E,140nm,28.7s								
KSH	**Kashi**	**112.69**	**306**	*e*PKP	**PKiKP**	**14 06 51.3**	**+0.6**		
DPC	**Dobruska-Polom**	**144.46**	**344**	*e*PKP	**PKiKP**	**14 07 53.4**	**-0.3**		
KRLC	**Kraliky**	**144.59**	**344**	*e*PKP	**PKiKP**	**14 07 55.3**	**+1.3**		
PRU	**Pruhonice**	**145.24**	**346**	*e*PKP	**PKiKP**	**14 07 56.0**	**+0.8**		
GOPC	**GO Pecny, Ondr**	**145.25**	**346**	*e*PKP	**PKiKP**	**14 07 57.5**	**+2.2**		
VRAC	**Vranov**	**145.34**	**343**	*e*PKP	**PKPab**	**14 07 52.3**	**+0.2**		
VYHS	**Vyhne**	**145.39**	**340**	*e*PKP	**PKiKP**	**14 07 54.6**	**-1.0**		
PSZ	**Piszkesteto**	**145.53**	**339**	*e*PKPdf	**PKPdf**	**14 07 49.0**	**-2.9**		
KRUC	**Moravsky**	**145.62**	**343**	*e*PKP	**PKPab**	**14 07 53.1**	**0.0**		
TREC	**Trest**	**145.65**	**344**	*e*PKP	**PKiKP**	**14 07 57.1**	**+0.9**		
MODS	**Modra-Piesok**	**145.98**	**342**	*e*PKP	**PKiKP**	**14 07 58.8**	**+1.9**		
KHC	**Kasperske Hory**	**146.26**	**346**	*e*PKP	**PKiKP**	**14 07 57.4**	**-0.1**		
KHC				*ex*	x	14 08 00.3			
CONA	**Conrad Observa**	**146.80**	**343**	*ep*PKiKP	**PKiKP**	**14 07 59.0**	**+0.4**		
	8.4nm,1.1s								
MOA	**Molln**	**147.29**	**345**	*e*P	**PKPab**	**14 08 01.8**	**+2.0**		
	16nm,1.6s								
MORH	**Mrgy, Hungar**	**147.43**	**338**	*e*PKPdf	**PKPdf**	**14 07 50.0**	**-5.0**		
ARSA	**Arzberg**	**147.51**	**343**	pPKiKP	**PKPab**	**14 08 00.7**	**+0.1**		
	3.0nm,0.8s								
SOKA	**Soboth**	**148.17**	**343**	*e*P	**PKPab**	**14 08 04.7**	**+1.3**		
	9.2nm,1.0s								
KBA	**Koelnbreinsper**	**148.24**	**345**	*ep*PKPab	**PKiKP**	**14 08 01.0**	**-0.7**		
	4.2nm,1.1s								
WATA	**Walderalm**	**148.40**	**348**	*e*P	**PKPab**	**14 08 07.0**	**+2.7**		
	1.8nm,0.4s								
RETA	**Reutte**	**148.41**	**349**	*e*P	**PKPab**	**14 08 06.2**	**+1.9**		
	7.1nm,1.0s								
WTTA	**Wattenberg**	**148.45**	**347**	*e*P	**PKPab**	**14 08 07.1**	**+2.5**		
	23nm,1.4s								
OBKA	**Obir**	**148.46**	**343**	*e*P	**PKPab**	**14 08 05.1**	**+0.5**		
	2.2nm,0.6s								
MOTA	**Moosalm**	**148.48**	**348**	*e*P	**PKPab**	**14 08 06.5**	**+1.8**		
	5.5nm,0.9s								
SQTA	**Sankt Quirin**	**148.58**	**348**	*e*P	**PKPab**	**14 08 06.1**	**+1.1**		
	1.8nm,0.6s								
MYKA	**Terra Mystica**	**148.59**	**345**	*e*P	**PKPab**	**14 08 05.6**	**+0.5**		
	10nm,1.2s								
ABTA	**Abfaltersbach**	**148.75**	**346**	*e*P	**PKPab**	**14 08 05.9**	**+0.2**		
	14nm,1.2s								
FETA	**Feichten**	**148.87**	**348**	*e*P	**PKPab**	**14 08 04.6**	**-1.7**		
	8.8nm,1.8s								

*IDC **12** 13:48:39.4±8.2,21°.85S×177°.50W,h331km±71km, mb3.7/9, mb1 3.7/10, mb1mx3.4/48, mbtmp4.3/10, Error ellipse: s-maj=41.4km s-min=25.2km az=77.0*

*ISCJB **12** 13:48:40.2±1.9,21°.9S±0°.2×177°.6W±0°.3, h350km, mb3.8/11, Error ellipse: s-maj=39.8km s-min=22.0km az=5.5*

ISC 12 13:48:41.0±1.2,21°.8S±0°.1×177°.5W±0°.2, h350km, n19, σ0s89/21, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URZ	**Urewera**	**17.02**	**195**	P	**P**		**13 52 16.2**	**-1.2**
	0.3nm,0.3s,baz=11,slow=5.2,SNR=3.0							
URZ				S	**S**		**13 55 18.2**	**+1.5**
	0.6nm,0.3s,baz=107,slow=23,SNR=11							
STKA	**Stephens Creek**	**37.66**	**246**	P	**P**		**13 55 24.3**	**+0.4**
	2.5nm,0.6s,baz=80,slow=7.4,SNR=5.5							
AS01	**Alice Springs**	**44.65**	**258**	*e*P	**P**		**13 56 19.1**	**-1.3**
AS31	**Alice Springs**	**44.70**	**258**	*e*P	**P**		**13 56 20.3**	**-0.5**
	2.7nm,0.8s							
ASAR	**Alice Springs**	**44.70**	**258**	P	**P**		**13 56 20.6**	**-0.2**
	5.7nm,0.8s,baz=98,slow=7.8,SNR=55							
ASAR				PcP	**PcP**		**13 57 56.4**	**0.0**
	0.5nm,0.6s,baz=112,slow=3.7,SNR=3.1							
WRA	**Warramunga Arr**	**44.91**	**263**	P	**P**		**13 56 21.3**	**-1.1**
	1.9nm,0.7s,baz=93,slow=8.5,SNR=44							
WRA				PcP	**PcP**		**13 57 57.2**	**-0.1**
	0.3nm,0.5s,baz=99,slow=3.3,SNR=2.5							
JAY	**Jayapura**	**44.93**	**289**	P	**P**		**13 56 22.4**	**-0.3**
	9.6nm,0.5s,baz=112,slow=1.8,SNR=8.9							
FITZ	**Fitzroy Crossi**	**53.34**	**263**	P	**P**		**13 57 25.9**	**+0.2**
	0.6nm,0.3s,baz=104,slow=8.3,SNR=3.7							
SIJI	**Sorong**	**54.05**	**286**	P	**P**		**13 57 30.8**	**-0.1**
	12nm,0.8s,baz=130,slow=16,SNR=9.8							
MJAR	**Matsushiro Arr**	**71.56**	**324**	P	**P**		**13 59 26.0**	**+1.1**
	0.7nm,0.5s,baz=160,slow=7.3,SNR=3.4							
KSM	**Kuching**	**74.07**	**278**	*e*P	P		13 59 28.8	-11
	16nm,1.3s							
CMAR	**Chiang Mai Arr**	**91.01**	**289**	P	**P**		**14 01 08.3**	**+1.7**
	0.3nm,0.3s,baz=110,slow=1.3,SNR=3.7							
SONM	**Songino Array**	**97.07**	**319**	P	**P**		**14 01 33.2**	**-0.6**
	0.3nm,0.3s,baz=96,slow=1.4,SNR=4.3							
MKAR	**Makanchi Array**	**112.45**	**313**	PKiKP	**PKiKP**		**14 06 34.9**	**-0.8**
	0.1nm,0.4s,baz=105,slow=4.9,SNR=3.2							
BVAR	**Borovoye Array**	**120.40**	**320**	PKP	**PKiKP**		**14 06 51.0**	**+0.1**
	0.6nm,0.5s,baz=171,slow=0.1,SNR=4.6							
ARCES	**ARCESS Array B**	**130.31**	**350**	PKP	**PKiKP**		**14 07 09.9**	**-0.3**
	5.9nm,1.1s,baz=344,slow=2.6,SNR=5.6							
AKASG	**Malin Array Be**	**144.41**	**331**	PKP	**PKPab**		**14 07 33.9**	**-1.1**
	2.2nm,0.5s,baz=41,slow=4.3,SNR=11							
BRTR	**Keskin Array B**	**148.08**	**311**	PKPbc	**PKPbc**		**14 07 46.1**	**0.0**
	0.6nm,0.5s,baz=141,slow=3.9,SNR=4.2							
GERES	**GERESS Array B**	**151.61**	**344**	PKPbc	**PKiKP**		**14 07 55.4**	**+0.8**
	1.5nm,0.9s,baz=0.0,slow=2.7,SNR=5.7							

IDC 12 13:49:03.1±2.3,4°.99N×122°.67E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.3/49,mbtmp3.5/3, Error ellipse: s-maj=352.2km s-min=25.7km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**27.30**	**156**	P	P		13 54 49.7	0.0
	0.3nm,0.3s,baz=335,slow=9.7,SNR=8.7							
ASAR	**Alice Springs**	**30.52**	**159**	P	P		13 55 18.3	0.0
	0.2nm,0.4s,baz=336,slow=8.2,SNR=5.3							
MKAR	**Makanchi Array**	**54.25**	**327**	P	P		13 58 30.9	-0.1
	0.2nm,0.3s,baz=122,slow=7.7,SNR=7.6							

ISC 12 14:03:40.0±2.6,51°.6N±0°.1×16°.13E±0°.07,h0km,n10, σ0s49/17, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KSP	**Ksiaz**	**0.74**	**172**	*e*Pg	**Pg**		**14 03 54.6**	**+0.5**
KSP				*e*Sg	**Sg**		**14 04 04.5**	**+0.8**
UPC	**Upice**	**1.07**	**184**	*e*PG	**Pg**		**14 04 00.4**	**-0.1**
UPC				*e*SG	**Sg**		**14 04 14.8**	**+0.4**
	comp=Z,8.4nm,0.2s							
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**		**14 04 03.5**	**-0.1**
DPC				*e*SG	**Sg**		**14 04 19.0**	**-0.5**
	comp=Z,4.0nm,0.3s							
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pn**		**14 04 07.5**	**+0.2**
PVCC				*e*SG	**Sg**		**14 04 26.5**	**+0.3**
	comp=Z,25nm,0.2s							
BRG	**Berggiesshubel**	**1.55**	**244**	PG	**Pn**		**14 04 08.9**	**+0.1**
BRG				SG	**Sg**		**14 04 29.4**	**-0.2**
	10nm,0.3s							
KRLC	**Kraliky**	**1.56**	**164**	*e*PG	**Pn**		**14 04 09.1**	**+0.1**
KRLC				*e*SG	**Sg**		**14 04 29.1**	**-0.9**
	comp=Z,1.1nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*PG	**Pb**		**14 04 14.8**	**-0.2**
MORC	**Moravsky Berou**	**2.01**	**153**	*e*PN	**Pn**		**14 04 14.9**	**-0.3**
MORC				*e*SG	**Sb**		**14 04 43.5**	**+0.5**
NKC	**Novy Kostel**	**2.69**	**241**	*e*SG	**Sg**		**14 05 06.3**	**-0.1**
	comp=Z,4.9nm,0.3s							
KHC	**Kasperske Hory**	**2.94**	**215**	*e*SG	**Sg**		**14 05 13.6**	**-0.9**

*ISCJB **12** 14:20:06.8±0.4,59°.66N±0°.03×22°.36E±0°.04, h0km, Error ellipse: s-maj=4.1km s-min=2.6km az=159.6*

*IDC **12** 14:20:07.9±2.2,59°.42N×22°.58E, h0km, mb1 3.1/4, mb1mx2.9/49, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=27.1km s-min=8.8km az=162.0*

*HEL **12** 14:20:08.8±0.2,59°.69N×22°.30E, h0km, ML2.3, Explosion*

*EST **12** 14:20:09.1±0.1,59°.68N×22°.34E, h0km, ML2.2(HEL), Explosion*

*NAO **12** 14:20:10.3±1.7,59°.79N×22°.38E, ML2.2*

*UPP **12** 14:20:10.6±1.9,59°.76N×22°.12E, h1km±8km, ML2.1, Suspected explosion*

*BER **12** 14:20:12.3±3.2,59°.95N×22°.23E, h0km, ML2.2(NAO), Suspected explosion*

ISC 12 14:20:08.0±0.8,59°.74N±0°.03×22°.35E±0°.03,h0km,n50, σ1s06/69, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MEF	**Metsahovi**	**1.13**	**64**	*e*PB	**Pb**		**14 20 30.3**	**-0.1**
AAL	**Aland**	**1.26**	**291**	P	**Pg**		**14 20 31.9**	**-0.3**
AAL				S	**Sg**		**14 20 46.2**	**-2.2**
AAL	**Aland**	**1.26**	**291**	*e*P	**Pg**		**14 20 31.8**	**-0.3**
MTSE	**Matsula**	**1.28**	**143**	*e*PB	**Pg**		**14 20 31.3**	**-1.1**
RAF	**Rauma**	**1.31**	**348**	*e*P	**Pn**		**14 20 33.8**	**+0.2**
RAF				*e*SB	**Sn**		**14 20 52.0**	**+0.2**
RAF				MSG			14 20 53.5	
	comp=Z,27nm,0.1s							
NUR	**Nurmijrvi**	**1.38**	**55**	*e*PG	**Pb**		**14 20 34.8**	**+0.1**
ARBE	**Arbavere**	**1.88**	**98**	*e*PG	**Pb**		**14 20 42.6**	**-0.4**
NRTU	**Norrtaelje**	**1.89**	**270**	P	**Pn**		**14 20 42.0**	**+0.7**
PVF	**Pernaja**	**1.93**	**64**	*e*PG	**Pb**		**14 20 44.2**	**+0.2**
PVF				*e*SG	**Sg**		**14 21 10.0**	**0.0**
PVF				MSG			14 21 12.7	
	comp=Z,18nm,0.1s							
GRAU	**Graesoe**	**2.00**	**289**	P	**Pn**		**14 20 43.6**	**+0.6**
GRAU				S	**Sb**		**14 21 10.5**	**-0.1**
SLIT	**Slitere, Latvi**	**2.12**	**181**	*e*PB	**Pn**		**14 20 45.1**	**+0.5**
SLIT				*e*SG	**Sn**		**14 21 13.0**	**+1.3**
FORU	**Forsmark**	**2.19**	**289**	P	**Pn**		**14 20 47.1**	**+1.6**
FORU				S	**Sn**		**14 21 14.6**	**+1.4**
NYNU	**Nynaeshamn**	**2.34**	**253**	P	**Pn**		**14 20 49.1**	**+1.4**
FIA0	**FINESS Array S**	**2.51**	**46**	Pn	**Pb**		**14 20 52.9**	**-0.9**
	baz=234,slow=16							
FIA0				Sn	**Sb**		**14 21 24.5**	**-0.7**
	baz=230,slow=28							
FIA0				Lg	Lg		14 21 26.7	
	baz=233,slow=28							
FIA0	**FINESS Array S**	**2.51**	**46**	Pn	**Pb**		**14 20 52.9**	**-0.9**
	baz=234,slow=16							
FIA0				Sn	**Sb**		**14 21 24.5**	**-0.7**
	baz=230,slow=28							
FIA0				Sg	**Sg**		**14 21 26.7**	**-1.8**
	baz=233,slow=28							
FIA0	**FINESS Array S**	**2.51**	**46**	*e*PB	**Pb**		**14 20 53.8**	**0.0**
FIA0				*e*SB	**Sb**		**14 21 25.8**	**+0.6**
FIA0				MSG			14 21 28.9	
	comp=Z,10nm,0.1s							
FINES	**FINESS Array B**	**2.51**	**46**	Pn	**Pb**		**14 20 53.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=220,slow=14,SNR=40							
FINES				Sn	**Sb**		**14 21 26.2**	**+1.0**
	comp=Z,3.3nm,0.3s,baz=232,slow=26,SNR=23							
FINES				Lg	Lg		14 21 39.2	
	comp=Z,3.9nm,0.3s,baz=238,slow=25,SNR=15							
FIA1	**FINESS Array S**	**2.51**	**46**	*e*PB	**Pb**		**14 20 53.9**	**0.0**
FIA1				*e*SB	**Sg**		**14 21 26.8**	**-1.7**
FIA1				MSG			14 21 28.5	
	comp=Z,5.6nm,0.1s							
FIBU	**Brunna**	**2.53**	**276**	P	**Pn**		**14 20 51.9**	**+1.7**
VSU	**Vasula**	**2.60**	**118**	Sn	**Sb**		**14 21 28.1**	**+0.2**
VSU	**Vasula**	**2.60**	**118**	Sn	**Sb**		**14 21 28.1**	**+0.2**
VSU	**Vasula**	**2.60**	**118**	*e*SG	**Sb**		**14 21 27.7**	**-0.2**
BACU	**Backbrunna**	**2.65**	**275**	P	**Pn**		**14 20 53.1**	**+1.2**
OSTU	**Oestervaala**	**2.67**	**283**	P	**Pn**		**14 20 53.4**	**+1.3**
VJF	**Virojoki**	**2.72**	**71**	*e*P	**Pn**		**14 20 53.9**	**+1.0**
VJF				MSG			14 21 30.2	
	comp=Z,17nm,0.2s							
KEF	**Keuruu**	**2.73**	**26**	*e*PB	**Pb**		**14 20 57.0**	**-0.5**
KEF				*e*SB	**Sb**		**14 21 32.6**	**+1.1**
KEF				MSG			14 21 35.3	
	comp=Z,8.0nm,0.1s							
KAF	**Kangasniemi**	**3.06**	**37**	*e*PB	**Pb**		**14 21 02.4**	**-0.9**
KAF				MSG			14 21 40.3	
	comp=Z,9.2nm,0.2s							
KAF				*e*SB	**Sb**		**14 21 41.6**	**+0.5**
VAF	**Ylistaro**	**3.31**	**3**	*e*PB	**Pb**		**14 21 07.1**	**-0.4**
SUF	**Sumiainen**	**3.51**	**30**	*e*P	**Pn**		**14 21 06.7**	**+3.0**
HEMU	**Hemsoen**	**3.61**	**327**	*e*P	**Pn**		**14 21 07.6**	**+2.6**
UMAU	**Umeaa**	**4.23**	**350**	*e*P	**Pn**		**14 21 15.9**	**+2.4**
HFS	**Hagfors**	**4.37**	**279**	Pn	**Pn**		**14 21 17.1**	**+1.6**
	baz=107,slow=14							
HFS				Sn	**Sn**		**14 22 06.8**	**-0.3**
	baz=90,slow=16							
HFS	**Hagfors**	**4.37**	**279**	Pn	**Pn**		**14 21 16.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=96,slow=15,SNR=9.0							
HFS				Sn	**Sn**		**14 22 07.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=85,slow=32,SNR=2.2							
HFS				Lg	Lg		14 22 19.7	
	comp=Z,0.6nm,0.3s,baz=97,slow=30,SNR=5.9							
HFS	**Hagfors**	**4.37**	**279**	Pn	**Pn**		**14 21 17.1**	**+1.6**
	baz=107,slow=14							
HFS				Sn	**Sn**		**14 22 06.8**	**-0.3**
	baz=90,slow=16							
JOF	**Joensuu**	**5.36**	**50**	*e*P	**Pn**		**14 21 30.6**	**+1.5**
NC602	**NORSAR Array S**	**5.47**	**285**	*e*P	**Pn**		**14 21 31.6**	**+0.8**
NRA0	**NORESS Array S**	**5.47**	**285**	Pn	**Pn**		**14 21 31.4**	**+0.6**
	baz=76,slow=11							
NRA0	**NORESS Array S**	**5.47**	**285**	Pn	**Pn**		**14 21 31.4**	**+0.6**
	baz=76,slow=11							
NC303	**NORSAR Array S**	**5.63**	**290**	*e*P	**Pn**		**14 21 33.3**	**+0.5**
NB201	**NORSAR Array S**	**5.63**	**288**	*e*P	**Pn**		**14 21 33.4**	**+0.4**
NB2	**NORSAR Subarra**	**5.67**	**288**	Pn	**Pn**		**14 21 33.8**	**+0.4**
	baz=97,slow=12							
NB2	**NORSAR Subarra**	**5.67**	**288**	Pn	**Pn**		**14 21 33.8**	**+0.4**
	baz=97,slow=12							
NOA	**NORSAR Array B**	**5.67**	**288**	Pn	**Pn**		**14 21 34.2**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=122,slow=21,SNR=4.2							
NOA				Sn	**Sn**		**14 22 41.0**	**+1.8**
	comp=Z,0.0nm,0.3s,baz=110,slow=16,SNR=1.9							
NOA				Lg	Lg		14 23 13.4	
	comp=Z,0.1nm,0.3s,baz=310,slow=6.3,SNR=3.5							
STRU	**Stroemstad**	**5.75**	**268**	*e*P	**Pn**		**14 21 34.0**	**-0.5**
NAO01	**NORSAR Array S**	**5.81**	**286**	*e*P	**Pn**		**14 21 35.4**	**+0.1**
NBO00	**NORSAR Array S**	**5.88**	**288**	*e*P	**Pn**		**14 21 36.4**	**+0.1**
NC204	**NORSAR Array S**	**5.92**	**290**	*e*P	**Pn**		**14 21 36.7**	**-0.3**
ARA0	**ARCESS Array S**	**9.92**	**6**	Pn	**Pn**		**14 22 31.5**	**-0.2**
	baz=193,slow=14							
ARA0	**ARCESS Array S**	**9.92**	**6**	Pn	**Pn**		**14 22 31.5**	**-0.2**
	baz=193,slow=14							
ARCES	**ARCESS Array B**	**9.92**	**6**	Pn	**Pn**		**14 22 32.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=11							
ARCES				Sn	**Sn**		**14 24 22.7**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=202,slow=23,SNR=1.9							

*IDC **12** 14:20:36.3±2.3,6°.86S×148°.47E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.7/35, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=62.6km s-min=28.5km az=103.0*

*NEIC **12** 14:20:38.7±1.2,6°.76S×148°.21E, h10km, mb4.1/4, Error ellipse: s-maj=39.2km s-min=10.7km az=108.0*

*ISCJB **12** 14:20:41.6±1.8,6°.8S±0°.1×148°.2E±0°.3, h47km, mb3.9/5, Error ellipse: s-maj=47.0km s-min=15.0km az=15.6*

ISC 12 14:20:43.4±2.1,6°.8S±0°.2×148°.3E±0°.4, h47km, n14, σ0s46/14, mb3.9/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
COEN	**Coen**	**8.66**	**215**	*e*Pn	**Pn**		**14 22 46.4**	**+0.3**
WRAB	**Tennant Creek**	**18.75**	**225**	*e*P	**P**		**14 24 57.7**	**-0.8**
	24nm,1.5s							
WB2	**Warramunga Arr**	**18.75**	**225**	*e*P	**P**		**14 24 57.9**	**-0.7**
WR1	**Warramunga Arr**	**18.76**	**225**	*e*P	**P**		**14 24 58.3**	**-0.4**
	15nm,1.2s							
WRA	**Warramunga Arr**	**18.76**	**225**	P	**P**		**14 24 58.3**	**-0.4**
	0.3nm,0.3s,baz=53,slow=11,SNR=14							
AS31	**Alice Springs**	**21.68**	**218**	*e*P	**P**		**14 25 30.1**	**-0.2**
	2.1nm,0.6s							
ASAR	**Alice Springs**	**21.68**	**218**	P

SNGZ	Shannon Statio	3.84	209	P		Pn	14 29 29.2	-0.3
MUGZ	Murupara	3.84	217	P		Pn	14 29 28.4	-1.0
RTZ	Ruatahuna	3.85	214	P		Pn	14 29 28.5	-1.1
KMRZ	Kaimai	3.87	230	P		Pn	14 29 30.0	+0.2
RRRZ	Republican Roa	3.87	220	P		Pn	14 29 29.7	0.0
HLRZ	Highlands Stat	3.89	223	P		Pn	14 29 31.5	+1.3
UTU	Utuhina	3.93	225	P		Pn	14 29 33.3	+2.6
KNZ	Kokohu	3.93	204	P		Pn	14 29 28.6	-2.0
WIAZ	Waiheke Island	3.94	248	P		Pn	14 29 30.5	-0.2
MHGZ	Mahia Peninsul	3.98	201	P		Pn	14 29 30.3	-1.0
HSRZ	Hossack Road	4.00	223	P		Pn	14 29 34.4	+2.9
HRRZ	Handcock Road	4.03	222	P		Pn	14 29 31.5	-0.5
MKAZ	Moumakai	4.03	244	P		Pn	14 29 32.1	+0.1
PRRZ	Plateau Road	4.05	220	P		Pn	14 29 31.7	-0.6
RAHZ	Arahi	4.06	210	P		Pn	14 29 32.0	-0.4
TOZ	Tahuroa Road	4.09	235	P		Pn	14 29 33.2	+0.5
GRRZ	Galatos Road	4.10	224	P		Pn	14 29 33.1	+0.2
MTHZ	Maungataniwha	4.11	213	P		Pn	14 29 32.9	-0.2
MBAZ	Motutapu North	4.11	250	P		Pn	14 29 32.9	-0.2
ALRZ	Allen Road	4.12	220	P		Pn	14 29 33.1	-0.2
WHHZ	Waihua	4.14	208	P		Pn	14 29 33.3	-0.2
ETAZ	East Tamaki Re	4.15	247	P		Pn	14 29 33.8	+0.2
WPRZ	Whakapapatarin	4.19	222	P		Pn	14 29 34.1	-0.1
MRHZ	Matea Rd	4.29	217	P		Pn	14 29 34.4	-1.3
NMHZ	Naumai	4.33	211	P		Pn	14 29 36.1	0.0
KUTZ	Kaahu Road	4.36	224	P		Pn	14 29 36.6	+0.1
ARHZ	Aropaoanui	4.39	209	P		Pn	14 29 35.6	-1.4
TLZ	Tolley Road	4.42	228	P		Pn	14 29 38.6	+1.2
HATZ	Hinemaiaia	4.50	219	P		Pn	14 29 37.2	-1.2
BKZ	Black Stump Fm	4.52	214	P		Pn	14 29 36.9	-1.9
WATZ	Wairara	4.56	223	P		Pn	14 29 39.0	-0.2
RATZ	Rangitukua	4.65	221	P		Pn	14 29 40.1	-0.4
MCHZ	McNeill Hill	4.67	210	P		Pn	14 29 39.3	-1.4
RITZ	Rihia Road	4.69	220	P		Pn	14 29 40.0	-1.0
CKHZ	Cape Kidnapper	4.71	206	P		Pn	14 29 39.8	-1.5
KWHZ	Kaweka Forest	4.76	212	P		Pn	14 29 40.0	-2.2
KATZ	Kakaramea	4.77	221	P		Pn	14 29 42.1	-0.1
KRVZ	Karewarewa	4.89	220	P		Pn	14 29 42.9	-1.0
KAHZ	Kahuranaki	4.90	206	P		Pn	14 29 41.5	-2.5
WTVZ	West Tongariro	4.93	221	P		Pn	14 29 43.2	-1.2
KRHZ	Kereru	4.97	211	P		Pn	14 29 41.9	-3.0
TWVZ	Taurewa	4.98	222	P		Pn	14 29 44.2	-0.9
BHHZ	Black Hill Sta	4.98	214	P		Pn	14 29 42.9	-2.2
TUVZ	Tukino	5.01	219	P		Pn	14 29 44.4	-1.2
FWVZ	Far West T-bar	5.05	220	P		Pn	14 29 44.8	-1.4
TRVZ	Turoa	5.08	219	P		Pn	14 29 44.9	-1.7
PXZ	Pawanui	5.11	205	P		Pn	14 29 44.2	-2.6
MTVZ	Mangateitei	5.19	219	P		Pn	14 29 45.7	-2.3
PNHZ	Pukenui	5.27	211	P		Pn	14 29 45.9	-3.1
TSZ	Takapari Road	5.49	212	P		Pn	14 29 48.4	-3.7

IDC ***12*** *14:35:07.7±3.7,59°.15N×22°.72E, h0km, mb1 3.3/3, mb1mx3.0/34, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=47.7km s-min=12.4km az=162.0*

ISCJB ***12*** *14:35:10.0±0.4,59°.65N±0°.03×22°.39E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.5km az=175.0*

EST ***12*** *14:35:11.7±0.1,59°.66N×22°.31E, h0km, ML2.1(HEL), Explosion*

HEL ***12*** *14:35:11.9±0.1,59°.68N×22°.31E, h0km, ML2.1, Explosion*

UPP ***12*** *14:35:11.7±1.2,59°.86N×22°.36E, h0km, ML1.9, Suspected explosion*

ISC 12 14:35:09.8±0.8, 59°.64N±0°.03×22°.34E±0°.02, h0km, n24, σ 0s 92/43, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.18**	**60**	*e*P	**Pb**	**14 35 32.8**	**-0.3**
MEF				*e*S	**Sg**	**14 35 48.1**	**+0.3**
MTSE	**Matsula**	**1.20**	**140**	*e*PB	**Pn**	**14 35 34.0**	**+0.3**
MTSE				*e*S	**Sb**	**14 35 49.9**	**+0.4**
AAL	**Aland**	**1.30**	**295**	P	**Pg**	**14 35 34.5**	**-0.2**
AAL				S	**Sb**	**14 35 51.6**	**-0.6**
AAL	**Aland**	**1.30**	**295**	*e*P	**Pg**	**14 35 34.4**	**-0.2**
AAL				*e*SN	**Sn**	**14 35 55.4**	**+2.3**
RAF	**Rauma**	**1.41**	**349**	*e*P	**Pn**	**14 35 36.3**	**-0.4**
RAF				MSG		14 35 53.4	
	comp=Z,11nm,0.2s						
RAF				*e*S	**Sg**	**14 35 54.4**	**-0.7**
NUR	**Nurmijrvi**	**1.45**	**52**	*e*P	**Pg**	**14 35 37.3**	**-0.1**
NUR				*e*SB	**Sn**	**14 35 56.7**	**-0.1**
ARBE	**Arbavere**	**1.87**	**95**	*e*PN	**Pg**	**14 35 45.1**	**-0.4**
ARBE				*e*SG	**Sg**	**14 36 09.9**	**+0.2**
NRTU	**Norrtaelje**	**1.88**	**273**	P	**Pb**	**14 35 44.5**	**-0.5**
NRTU				S	**Sg**	**14 36 09.7**	**-0.5**
PVF	**Pernaja**	**1.98**	**61**	*e*PB	**Pb**	**14 35 46.8**	**+0.1**
PVF				MSG		14 36 10.7	
	comp=Z,17nm,0.2s						
PVF				*e*SG	**Sg**	**14 36 13.0**	**-0.4**
SLIT	**Slitere, Latvi**	**2.02**	**181**	*e*PG	**Pg**	**14 35 47.9**	**-0.5**
SLIT				*e*SG	**Sg**	**14 36 14.3**	**-0.3**
GRAU	**Graesoe**	**2.03**	**292**	P	**Pn**	**14 35 46.0**	**+0.8**
GRAU				S	**Sb**	**14 36 13.1**	**-0.3**
FORU	**Forsmark**	**2.22**	**291**	P	**Pb**	**14 35 49.2**	**-1.4**
FORU				S	**Sb**	**14 36 17.7**	**-0.9**
FIBU	**Brunna**	**2.54**	**278**	P	**Pb**	**14 35 55.4**	**-0.7**
FIBU				S	**Sb**	**14 36 26.1**	**-1.8**
VSU	**Vasula**	**2.56**	**116**	*e*PB	**Pb**	**14 35 56.3**	**-0.3**
VSU				*e*SG	**Sg**	**14 36 30.6**	**-1.4**
FIA0	**FINESS Array S**	**2.58**	**44**	*e*PB	**Pb**	**14 35 56.3**	**-0.6**
FIA0				*e*SB	**Sb**	**14 36 28.6**	**-0.6**
FIA0				MSG		14 36 31.8	
	comp=Z,6.4nm,0.1s						
FINES	**FINESS Array B**	**2.58**	**44**	Pn	**Pb**	**14 35 55.9**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=225,slow=14,SNR=15						
FINES				Sn	**Sb**	**14 36 29.5**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=244,slow=30,SNR=23						
FIA1	**FINESS Array S**	**2.58**	**44**	*e*PB	**Pb**	**14 35 56.3**	**-0.6**
FIA1				*e*SB	**Sb**	**14 36 29.5**	**+0.3**
FIA1				MSG		14 36 31.8	
	comp=Z,5.4nm,0.1s						
BACU	**Backbrunna**	**2.66**	**277**	P	**Pb**	**14 35 57.5**	**-0.6**
KEF	**Keuruu**	**2.82**	**25**	*e*SB	**Sb**	**14 36 36.0**	**+0.1**
KEF				MSG		14 36 39.0	
	comp=Z,6.3nm,0.2s						
KAF	**Kangasniemi**	**3.15**	**36**	*e*PB	**Pb**	**14 36 05.0**	**-1.5**
KAF				MSG		14 36 43.6	
	comp=Z,6.3nm,0.2s						
KAF				*e*SB	**Sb**	**14 36 45.0**	**-0.4**
VAF	**Ylistaro**	**3.42**	**3**	*e*PB	**Pb**	**14 36 10.2**	**-0.9**
HEMU	**Hemsoen**	**3.69**	**327**	*e*P	**Pn**	**14 36 10.2**	**+2.2**
NOA	**NORSAR Array B**	**5.70**	**289**	Pn	**Pn**	**14 36 36.4**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=103,slow=12,SNR=5.6						
NOA				Sn	**Sn**	**14 37 44.0**	**+2.3**
	comp=Z,0.0nm,0.3s,baz=109,slow=20,SNR=2.3						
NOA				Lg	Lg	14 38 05.0	
	comp=Z,0.0nm,0.3s,baz=77,slow=18,SNR=2.6						
ARCES	**ARCESS Array B**	**10.02**	**6**	Pn	**Pn**	**14 37 35.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=12,SNR=1.3						

ISCJB ***12*** *14:39:23.2±0.4,59°.66N±0°.04×22°.46E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=2.7km az=170.4*

HEL ***12*** *14:39:23.9±0.1,59°.64N×22°.20E, h0km, ML2.1, Explosion*

EST ***12*** *14:39:23.9±0.2,59°.69N×22°.21E, h0km, ML2.2(HEL), Explosion*

IDC ***12*** *14:39:24.7±2.4,59°.51N×22°.41E, h0km, mb1 3.2/3, mb1mx2.9/36, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=27.6km s-min=10.5km az=168.0*

UPP ***12*** *14:39:26.0±1.1,59°.77N×22°.24E, h0km, ML2.1, Suspected explosion*

ISC 12 14:39:23.6±0.8, 59°.71N±0°.03×22°.27E±0°.02, h0km, n28, σ 0s 89/45, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.18**	**64**	*e*PB	**Pb**	**14 39 46.7**	**-0.3**
MEF				*e*SB	**Sb**	**14 40 02.3**	**-0.5**
AAL	**Aland**	**1.24**	**293**	P	**Pn**	**14 39 48.3**	**+0.1**
AAL				S	**Sn**	**14 40 05.3**	**-0.2**
AAL	**Aland**	**1.24**	**293**	*e*PN	**Pn**	**14 39 48.2**	**+0.1**
MTSE	**Matsula**	**1.28**	**141**	*e*PN	**Pb**	**14 39 49.1**	**-0.5**
RAF	**Rauma**	**1.34**	**349**	*e*PN	**Pb**	**14 39 50.1**	**+0.5**
RAF				*e*SN	**Sn**	**14 40 08.8**	**+0.8**
RAF				MSG		14 40 09.9	
	comp=Z,18nm,0.1s						
NUR	**Nurmijrvi**	**1.44**	**55**	*e*PN	**Pb**	**14 39 51.2**	**0.0**
NUR				*e*SB	**Sb**	**14 40 09.9**	**-0.1**
NRTU	**Norrtaelje**	**1.84**	**270**	P	**Pb**	**14 39 58.3**	**+0.1**
NRTU				S	**Sg**	**14 40 23.3**	**+0.5**
ARBE	**Arbavere**	**1.91**	**97**	*e*PG	**Pb**	**14 39 59.0**	**-0.3**
ARBE				*e*SG	**Sb**	**14 40 23.4**	**-0.3**
GRAU	**Graesoe**	**1.97**	**290**	P	**Pb**	**14 39 59.9**	**-0.5**
PVF	**Pernaja**	**1.98**	**64**	*e*PG	**Pb**	**14 40 00.6**	**+0.1**
PVF				MSG		14 40 24.5	
	comp=Z,21nm,0.2s						
PVF				*e*SG	**Sg**	**14 40 26.5**	**-0.8**
SLIT	**Slitere, Latvi**	**2.09**	**180**	*e*PG	**Pb**	**14 40 01.6**	**-0.8**
FORU	**Forsmark**	**2.16**	**290**	P	**Pb**	**14 40 03.0**	**-0.5**
NYNU	**Nynaeshamn**	**2.30**	**254**	P	**Pb**	**14 40 05.5**	**-0.4**
NYNU				S	**Sb**	**14 40 34.6**	**-0.1**
UPP	**Uppsala**	**2.35**	**276**	P	**Pb**	**14 40 06.4**	**-0.4**
FIBU	**Brunna**	**2.49**	**276**	P	**Pb**	**14 40 08.3**	**-0.9**
FIA0	**FINESS Array S**	**2.56**	**46**	*e*PG	**Pb**	**14 40 10.1**	**-0.3**
FIA0				*e*SB	**Sb**	**14 40 42.1**	**-0.3**
FIA0				MSG		14 40 46.2	
	comp=Z,8.8nm,0.1s						
FINES	**FINESS Array B**	**2.56**	**46**	Pn	**Pb**	**14 40 09.7**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=228,slow=13,SNR=43						
FINES				Sn	**Sb**	**14 40 42.5**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=227,slow=28,SNR=31						
FIA1	**FINESS Array S**	**2.56**	**46**	*e*PG	**Pb**	**14 40 10.2**	**-0.2**
FIA1				*e*SG	**Sb**	**14 40 43.2**	**+0.8**
FIA1				MSG		14 40 46.2	
	comp=Z,8.7nm,0.1s						
BACU	**Backbrunna**	**2.61**	**275**	P	**Pb**	**14 40 09.9**	**-1.4**
VSU	**Vasula**	**2.62**	**117**	*e*PG	**Pb**	**14 40 10.7**	**-0.7**
VSU				*e*SG	**Sb**	**14 40 44.6**	**+0.4**
OSTU	**Oestervaala**	**2.63**	**284**	P	**Pb**	**14 40 09.8**	**-1.9**
IGGU	**Iggoen**	**2.73**	**297**	P	**Pb**	**14 40 11.0**	**-2.2**
KEF	**Keuruu**	**2.77**	**26**	*e*PG	**Pb**	**14 40 13.5**	**-0.5**
KEF				*e*SG	**Sb**	**14 40 49.8**	**+1.3**
KEF				MSG		14 40 51.3	
	comp=Z,8.2nm,0.1s						
ESKU	**Eskilstuna**	**3.04**	**263**	P	**Pn**	**14 40 15.1**	**+2.3**
KAF	**Kangasniemi**	**3.11**	**38**	*e*PB	**Pb**	**14 40 18.2**	**-1.6**
KAF				MSG	**Sb**	**14 40 57.7**	**-0.6**
	comp=Z,7.6nm,0.2s						
KAF				*e*SB	**Sb**	**14 40 57.7**	**-0.6**
VAF	**Ylistaro**	**3.35**	**3**	*e*PG	**Pb**	**14 40 23.9**	**+0.1**
NOA	**NORSAR Array B**	**5.64**	**288**	Pn	**Pn**	**14 40 49.6**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=102,slow=15,SNR=3.9						
NOA				Sn	**Sn**	**14 41 54.1**	**0.0**
	comp=Z,0.0nm,0.3s,baz=41,slow=14,SNR=3.5						
NOA				Lg	Lg	14 42 27.2	
	comp=Z,0.1nm,0.3s,baz=89,slow=18,SNR=1.7						
ARCES	**ARCESS Array B**	**9.96**	**7**	Pn	**Pn**	**14 41 48.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=13,SNR=6.5						
ARCES				Sn	**Sn**	**14 43 38.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=194,slow=23,SNR=1.0						

ISCJB ***12*** *14:44:43.8±0.3,0°.17S±0°.03×123°.36E±0°.03, h100km, mb3.9/12, Error ellipse: s-maj=5.3km s-min=4.3km az=38.1*

DJA ***12*** *14:44:45.3±0.3,0°.5S×12°.3E±°, h93km±8km, M4.5/14, mb4.6/4, mB4.6/2, MLv4.4/14, Mw(mB)3.8/2*

IDC ***12*** *14:44:49.0±3.7,0°.07S×123°.51E, h146km±37km, mb3.5/11, mb1 3.7/13, mb1mx3.4/37, mbtmp3.9/13, MS3.4/1, Ms1 3.4/1, ms1mx2.4/33, Error ellipse: s-maj=27.5km s-min=11.8km az=75.0*

ISC 12 14:44:44.7±0.6, 0°.15S±0°.05×123°.34E±0°.05, h100km, n44, σ 1s 12/48, mb3.9/12, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.97**	**42**	P	**Pn**	**14 45 05.0**	**+0.2**
KMSI				S	**Sn**	**14 45 19.6**	**-0.3**
LUWI	**Luwuk**	**1.05**	**213**	P	**Pn**	**14 45 05.6**	**-0.1**
LUWI				S	**Sn**	**14 45 21.4**	**0.0**
APSI	**Ampana**	**1.85**	**246**	P	**Pn**	**14 45 15.9**	**+0.6**
SANI	**Sanana**	**3.25**	**125**	P	**Pn**	**14 45 32.3**	**-1.5**
MPSI	**Mapaga**	**3.48**	**278**	P	**Pn**	**14 45 37.9**	**+1.1**
PCI	**Palu**	**3.58**	**258**	P	**Pn**	**14 45 39.0**	**+0.8**
KDI	**Kendari**	**3.85**	**191**	P	**Pn**	**14 45 42.5**	**+0.7**
TNTI	**Ternate**	**4.13**	**77**	P	**Pn**	**14 45 46.4**	**+0.7**
TTSI	**Tana Toraja**	**4.54**	**231**	P	**Pn**	**14 45 52.1**	**+0.9**
TTSI				S	**Sn**	**14 46 42.1**	**-0.8**
NLAI	**Namlea**	**4.85**	**129**	P	**Pn**	**14 45 56.1**	**+0.7**
SPSI	**Sidrap Palu**	**5.20**	**223**	P	**Pn**	**14 45 59.7**	**-0.5**
BNSI	**Bone**	**5.31**	**217**	P	**Pn**	**14 46 02.7**	**+1.0**
BKSI	**Bulukumba**	**6.05**	**212**	P	**Pn**	**14 46 12.8**	**+1.0**
DDMP	**Don Marcelino,**	**6.65**	**21**	*e*P	**Pn**	**14 46 22.1**	**+2.2**
SKMP	**Bagumbayan, Su**	**6.74**	**10**	*e*P	**Pn**	**14 46 21.0**	**-0.1**
CTBH	**Cotabato--PC H**	**7.38**	**7**	*i*P	**Pn**	**14 46 30.4**	**+0.5**
IPIL	**Ipil**	**7.93**	**354**	*e*P	**Pn**	**14 46 38.5**	**+1.2**
PAGZ	**Pagadian**	**7.95**	**0**	*e*P	**Pn**	**14 46 39.1**	**+1.6**
SIJI	**Sorong**	**7.96**	**95**	P	**Pn**	**14 46 40.0**	**+2.3**
	1.4nm,0.3s,baz=257,slow=11,SNR=6.9						
SIJI				S	**Sn**	**14 48 06.4**	**+0.2**
	0.3nm,0.3s,baz=156,slow=20,SNR=2.2						
FITZ	**Fitzroy Crossi**	**17.98**	**173**	P	**Pn**	**14 48 48.8**	**+0.6**
	0.6nm,0.3s,baz=6.5,slow=11,SNR=11						
WRA	**Warramunga Arr**	**22.43**	**152**	P	**P**	**14 49 35.0**	**-0.4**
	3.2nm,0.6s,baz=334,slow=10,SNR=32						
ASAR	**Alice Springs**	**25.52**	**157**	P	**P**	**14 50 05.0**	**+0.9**
	1.7nm,0.8s,baz=346,slow=15,SNR=18						
CMAR	**Chiang Mai Arr**	**30.28**	**309**	P	**P**	**14 50 47.6**	**+1.0**
	0.4nm,0.3s,baz=126,slow=7.7,SNR=5.4						
JCJ	**Chichijima**	**32.60**	**32**	LR	LR	15 04 40.5	
	comp=Z,56nm,19.0s,baz=128,slow=37						
STKA	**Stephens Creek**	**35.97**	**153**	P	**P**	**14 51 35.9**	**0.0**
	2.7nm,1.1s,baz=326,slow=11,SNR=1.9						
MJAR	**Matsushiro Arr**	**39.03**	**19**	P	**P**	**14 52 00.9**	**-0.8**
	2.6nm,0.7s,baz=198,slow=9.1,SNR=5.4						
RAMN	**Ramn**	**44.43**	**310**	*e*P	**P**	**14 52 48.0**	**+1.8**
	10nm,0.6s						
JIRN	**Jiri**	**45.11**	**311**	*e*P	**P**	**14 52 53.1**	**+1.4**
	7.8nm,0.6s						
GUN	**Gumba**	**45.47**	**311**	*e*P	**P**	**14 52 55.9**	**+1.3**
	8.0nm,0.6s						
PKI	**Pulchoki**	**45.66**	**310**	*e*P	**P**	**14 52 56.9**	**+0.9**
	3.9nm,0.7s						
PKIN	**Phulchoki**	**45.67**	**310**	*e*P	**P**	**14 52 57.3**	**+1.3**
	1.8nm,0.3s						
KKN	**Kakani**	**45.87**	**310**	*e*P	**P**	**14 52 58.6**	**+1.1**
	4.4nm,0.5s						
DMN	**Daman**	**45.91**	**310**	*e*P	**P**	**14 52 58.9**	**+1.0**
GKN	**Gorkha**	**46.46**	**310**	*e*P	**P**	**14 53 03.3**	**+1.2**
	7.8nm,0.7s						
KOLN	**Koldanda**	**47.14**	**309**	*e*P	**P**	**14 53 08.8**	**+1.3**
	14nm,0.7s						
DANN	**Dangsing**	**47.31**	**310**	*e*P	**P**	**14 53 10.1**	**+1.3**
	19nm,0.6s						
PYUN	**Piuthan**	**47.78**	**309**	*e*P	**P**	**14 53 13.9**	**+1.5**
	16nm,0.7s						
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**14 53 28.9**	**-0.2**
	1.5nm,0.7s,baz=158,slow=8.3,SNR=8.1						
MKAR	**Makanchi Array**	**58.92**	**328**	P	**P**	**14 54 32.6**	**-0.8**
	0.6nm,0.5s,baz=122,slow=8.8,SNR=9.6						
MKAR				PcP	**PcP**	**14 55 20.3**	**-1.3**
	0.7nm,0.6s,baz=123,slow=5.1,SNR=5.2						
AAK	**Ala-Archa**	**61.06**	**321**	P	**P**	**14 54 48.2**	**-0.2**
	0.4nm,0.3s,baz=76,slow=4.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**62.59**	**336**	P	**P**	**14 54 57.6**	**-0.5**
	0.8nm,0.7s,baz=134,slow=8.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**63.27**	**330**	P	**P**	**14 55 00.9**	**-1.7**
	0.9nm,0.7s,baz=127,slow=5.9,SNR=8.3						
MAW	**Mawson**	**78.97**	**200**	P	**P**	**14 56 37.1**	**0.0**
	18nm,0.7s,baz=59,slow=5.9,SNR=5.6						
ILAR	**Eielson Array**	**90.04**	**25**	P	**P**	**14 57 30.6**	**-2.3**
	0.4nm,0.5s,baz=244,slow=5.0,SNR=7.3						

IDC ***12*** *14:55:09.3±3.1,36°.48N×79°.81E, h0km, mb4.0/3, mb1 3.7/7, mb1mx3.4/49, mbtmp3.6/7, ML3.1/4, Error ellipse: s-maj=63.6km s-min=32.8km az=103.0*

ISCJB ***12*** *14:55:13.5±0.5,36°.95N±0°.04×79°.2E±0°.1, h10km, mb3.8/3, Error ellipse: s-maj=13.5km s-min=4.4km az=161.9*

BJI ***12*** *14:55:13.2,36°.83N×78°.93E, h5km, ML3.5/7*

NNC ***12*** *14:55:20.4±2.9,37°.28N×79°.34E, h0km, mb4.0, mpv3.9, Error ellipse: s-maj=21.7km s-min=20.4km az=68.0*

ISC 12 14:55:16.5±0.9, 36°.88N±0°.07×79°.00E±0°.09, h10km, n25, σ 2s 68/30, mb3.8/3, 6C-4D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.55**	**319**	Pg	**Pb**	**14 56 20.4**	**+0.9**
KSH				Sn	**Sn**	**14 56 54.1**	**+0.2**
KSH				smax	smax		
	comp=N,720nm,0.6s						
KSH				smax	smax		
	comp=E,480nm,0.7s						
MDOK	**Medeo**	**6.45**	**347**	Pg	**Pb**	**14 57 12.1**	**+3.2**
	11nm,0.7s						
MDOK				Lg	Lg	14 58 36.4	
	17nm,0.8s						
PDGK	**Podgornoye**	**6.46**	**3**	⇓Pn	**Pn**	**14 56 52.5**	**+0.8**
	6.2nm,0.4s						
PDGK				⇑Sn	**Sn**	**14 58 03.2**	**-2.3**
	18nm,0.6s						
PDGK				⇑Lg	Lg	14 58 30.8	
	21nm,0.9s						
TKM2	**Tokmak 2**	**6.58**	**338**	⇑Pg	**Pb**	**14 57 14.6**	**+3.5**
	3.0nm,0.5s						
TKM2				⇑Lg	Lg	14 58 42.1	
	9.2nm,0.9s						
AAK	**Ala-Archa**	**6.72**	**330**	⇓Pg	**Pb**	**14 57 17.2**	**+3.8**
	7.0nm,0.8s						
AAK				Lg	Lg	14 58 47.2	
	31nm,0.9s						
AAK	**Ala-Archa**	**6.72**	**330**	Pn	Pn	14 57 02.0	+6.7
	0.2nm,0.3s,baz=135,slow=8.6,SNR=2.6						
AAK				Sn	Sb	14 58 25.7	-8.1
	0.7nm,0.3s,baz=181,slow=16,SNR=4.1						
AAK				Lg	Lg	14 58 48.5	
	1.0nm,0.3s,baz=27,slow=22,SNR=3.7						
PYUN	**Piuthan**	**9.38**	**158**	*e*P	**Pn**	**14 57 31.7**	**-0.2**
	6.4nm,0.4s						
DANN	**Dangsing**	**9.40**	**153**	*e*P	**Pn**	**14 57 31.6**	**-0.7**
	7.4nm,0.3s						
WMQ	**Urumqi**	**9.60**	**41**	*e*P	**Pn**	**14 57 37.9**	**+3.1**
WMQ				S	**Sn**	**14 59 28.3**	**+5.6**
WMQ				smax	smax		
	comp=N,18nm,0.9s						
WMQ				smax	smax		
	comp=E,26nm,0.9s						
KOLN	**Koldanda**	**9.88**	**156**	*e*P	**Pn**	**14 57 38.6**	**-0.2**
	3.7nm,0.4s						
GKN	**Gorkha**	**10.05**	**150**	*e*P	**Pn**	**14 57 40.8**	**-0.2**
	8.0nm,0.3s						
MAKZ	**Makanchi**	**10.17**	**12**	⇓Pn	**Pn**	**14 57 40.9**	**-1.6**
	1.0nm,0.5s						
MAKZ				⇓Sn	**Sn**	**14 59 31.3**	**-5.3**
	1.7nm,0.6s						
MK31	**Makanchi Array**	**10.21**	**13**	⇑Pn	**Pn**	**14 57 42.0**	**-1.1**
	0.2nm,0.2s,baz=190,slow=13,SNR=29						
MK31				⇑Sn	**Sn**	**14 59 32.1**	**-5.4**
	3.4nm,0.8s,baz=191,slow=24,SNR=5.4						
MKAR	**Makanchi Array**	**10.21**	**13**	Pn	**Pn**	**14 57 42.0**	**-1.1**
	0.6nm,0.3s,baz=197,slow=14,SNR=26						
MKAR				Sn	**Sn**	**14 59 32.6**	**-5.0**
	0.7nm,0.3s,baz=185,slow=22,SNR=6.5						
KKN	**Kakani**	**10.50**	**148**	*e*P	**Pn**	**14 57 46.8**	**-0.5**
	8.8nm,0.4s						
DMN	**Daman**	**10.59**	**149**	*e*P	**Pn**	**14 57 48.2**	**-0.3**
	4.5nm,0.4s						
PKIN	**Phulchoki**	**10.74**	**148**	*e*P	**Pn**	**14 57 49.9**	**-0.7**
	7.6nm,0.5s						
PKI	**Pulchoki**	**10.75**	**148**	*e*P	**Pn**	**14 57 50.2**	**-0.6**
	12nm,0.5s						
JIRN	**Jiri**	**11.02**	**144**	*e*P	**Pn**	**14 57 53.7**	**-0.9**
	27nm,0.5s						
RAMN	**Ramite**	**11.81**	**145**	*e*P	**Pn**	**14 58 02.6**	**-2.7**
	7.5nm,0.4s						
KURBB	**Kurchatov Arra**	**13.75**	**359**	Pn	**Pn**	**14 58 28.5**	**-2.8**
	0.0nm,0.3s,baz=184,slow=13,SNR=4.8						
BVAR	**Borovoye Array**	**17.24**	**342**	P	**P**	**14 59 19.9**	**+1.2**
	0.1nm,0.3s,baz=140,slow=11,SNR=3.5						
FINES	**FINESS Array B**	**40.86**	**324**	P	**P**	**15 02 58.3**	**+0.2**
	1.5nm,0.9s,baz=93,slow=8.4,SNR=4.1						
ARCES	**ARCESS Array B**	**43.35**	**336**	P	**P**	**15 03 18.1**	**-0.3**
	5.6nm,1.1s,baz=106,slow=9.5,SNR=3.1						
**TORD

AS31	**Alice Springs**	**48.13**	**258**	*e*P	**P**	**15 43 22.2**	**-0.5**
	1.8nm,1.1s						
ASAR	**Alice Springs**	**48.13**	**258**	P	**P**	**15 43 22.8**	**+0.1**
	2.8nm,0.8s,baz=98,slow=7.9,SNR=16						
WB2	**Warramunga Arr**	**48.41**	**263**	*e*P	**P**	**15 43 23.9**	**-1.0**
WR1	**Warramunga Arr**	**48.42**	**263**	*e*P	**P**	**15 43 24.1**	**-0.9**
WRA	**Warramunga Arr**	**48.42**	**263**	P	**P**	**15 43 24.1**	**-0.9**
	2.3nm,0.8s,baz=95,slow=8.3,SNR=39						
FITZ	**Fitzroy Crossi**	**56.85**	**262**	*e*P	**P**	**15 44 24.7**	**-2.7**
	15nm,1.5s						
FITZ	**Fitzroy Crossi**	**56.85**	**262**	P	**P**	**15 44 25.3**	**-2.1**
	1.5nm,0.6s,baz=108,slow=13,SNR=3.1						
SIJI	**Sorong**	**57.59**	**284**	P	**P**	**15 44 31.5**	**-1.2**
	6.5nm,0.7s,baz=56,slow=2.9,SNR=4.4						
NV01	**Mina Array Sit**	**79.49**	**41**	*e*P	**P**	**15 46 47.6**	**-1.7**
NVAR	**Mina Array Bea**	**79.49**	**41**	P	**P**	**15 46 49.1**	**-0.3**
	0.7nm,0.7s,baz=224,slow=11,SNR=4.0						
TXAR	**Lajitas Array**	**84.56**	**55**	P	**P**	**15 47 18.8**	**+2.8**
	0.2nm,0.6s,baz=224,slow=7.6,SNR=2.7						
YKA	**Yellowknife Ar**	**96.33**	**24**	P	**P**	**15 48 11.5**	**+0.9**
	0.2nm,0.7s,baz=230,slow=4.4,SNR=4.0						
ARA0	**ARCESS Array S**	**131.21**	**351**	*e*PKPdf	**PKPdf**	**15 53 53.9**	**+0.1**
ARCES	**ARCESS Array B**	**131.21**	**351**	PKP	**PKPdf**	**15 53 53.9**	**+0.1**
	6.0nm,0.9s,baz=21,slow=5.3,SNR=4.1						
AKASG	**Malin Array Be**	**146.35**	**334**	PKPbc	**PKPbc**	**15 54 23.2**	**+0.1**
	0.7nm,0.4s,baz=41,slow=4.0,SNR=4.6						
AKBB	**Malin Array Si**	**146.35**	**334**	*e*PKPdf	**PKPbc**	**15 54 22.7**	**-0.3**
CLL	**Collm**	**150.43**	**352**	*e*PKPbc	**PKiKP**	**15 54 35.0**	**+0.5**
BR101	**Keskin Array S**	**150.94**	**313**	*e*PKPbc	**PKiKP**	**15 54 36.1**	**0.0**
BRTR	**Keskin Array B**	**150.94**	**313**	PKPbc	**PKiKP**	**15 54 36.1**	**0.0**
	0.8nm,0.7s,baz=29,slow=2.8,SNR=6.0						

IDC 12 15:41:13.9±2.6, **10°94S**×**113°59E, h0**km**, mb3.3/5, mb1 3.5/5, mb1mx3.4**/33**, mbtmp3.3/5, Error ellipse: s-maj=112.7km s-min=22.0km az=47.0, South of Java**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.89**	**117**	P	P	15 46 09.7	+1.0
	0.6nm,0.4s,baz=290,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**23.12**	**126**	P	P	15 46 21.1	-0.7
	0.1nm,0.4s,baz=302,slow=9.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**32.59**	**334**	P	P	15 47 48.7	+1.4
	0.3nm,0.5s,baz=163,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**58.86**	**354**	P	P	15 51 12.8	-1.7
	0.2nm,0.4s,baz=161,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**63.92**	**337**	P	P	15 51 48.5	-0.2
	0.1nm,0.3s,baz=152,slow=7.5,SNR=2.3						

IDC 12 15:51:28.5±3.3, **11°59S**×**164°75E, h0**km**, mb3.5/3, mb1 3.8/4, mb1mx3.4**/33**, mbtmp3.6**/4**, ML4.1**/1**, Error ellipse: s-maj=66.5km s-min=44.0km az=73.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.55**	**171**	Pn	Pn	15 54 00.7	-0.4
	1.6nm,0.3s,baz=122,slow=19,SNR=12						
H11S2	**WAKE ISLAND Hy**	**29.95**	**4**	T	T	16 28 59.3	
	baz=184,slow=76,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	**29.95**	**4**	T	T	16 28 55.8	
	baz=184,slow=76,SNR=4.5						
H11S1	**WAKE ISLAND Hy**	**29.97**	**4**	T	T	16 28 55.4	
	baz=184,slow=76,SNR=5.6						
WRA	**Warramunga Arr**	**30.38**	**250**	P	P	15 57 42.8	+0.2
	0.3nm,0.5s,baz=81,slow=9.1,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**31.18**	**4**	T	T	16 30 31.5	
	baz=185						
H11N3	**WAKE ISLAND Hy**	**31.18**	**4**	T	T	16 30 32.4	
	baz=185						
H11N2	**WAKE ISLAND Hy**	**31.19**	**4**	T	T	16 30 28.6	
	baz=185						
ASAR	**Alice Springs**	**31.68**	**244**	P	P	15 57 53.7	-0.3
	0.4nm,0.7s,baz=66,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**93.25**	**317**	P	P	16 04 45.1	0.0
	0.3nm,0.8s,baz=100,slow=5.3,SNR=2.7						

*IDC **12** 16:00:27.6*±*1.8, 35°.36N*×*141°.48E, h0*km*, mb3.5/3, mb1 3.7/7, mb1mx3.4/42, mbtmp3.8/7, ML3.4/4, MS2.8/3, Ms1 2.8/3, ms1mx2.5/43, Error ellipse: s-maj=45.9km s-min=21.4km az=74.0*

*ISCJB **12** 16:00:29.5*±*0.8, 35°.33N*±*0°.04*×*141°.39E*±*0°.07, h25*km*, mb3.6/3, Error ellipse: s-maj=8.8km s-min=5.8km az=169.6*

*JMA **12** 16:00:32.2*±*0.1, 35°.36N*×*141°.18E, h32*km*±*2km, M3.0*

ISC 12 16:00:30.7±1.0, **35°31N**±0°.05×**141°33E**±0°.08, **h25**km**, n24,** σ1°**50/20, mb3.6/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.55**	**316**	P	**Pb**	**16 00 41.6**	**-0.1**
CHOJ				S	**Sb**	**16 00 48.0**	**-1.2**
BSO1	**Boso 1**	**0.71**	**204**	P	**Pn**	**16 00 45.6**	**+0.9**
JSMT	**Sammumatsuo**	**0.79**	**295**	P	**Pb**	**16 00 45.2**	**-0.6**
BSO3	**Boso 3**	**0.84**	**233**	P	**Pn**	**16 00 46.8**	**+0.2**
KTR	**Katsuura**	**0.84**	**259**	P	**Pb**	**16 00 46.3**	**-0.3**
KTR				S	**Sb**	**16 00 56.2**	**-1.3**
BSO4	**Boso 4**	**0.87**	**249**	P	**Pb**	**16 00 47.0**	**0.0**
JCN	**Nagara**	**0.93**	**277**	P	**Pb**	**16 00 47.9**	**-0.1**
JYT	**Yasato**	**1.30**	**315**	P	**Pn**	**16 00 53.1**	**-0.1**
JHO	**Hitachi**	**1.44**	**335**	P	**Pn**	**16 00 55.7**	**+0.6**
JHJ	**Hachijo jima 2**	**2.53**	**211**	Pn	**Pn**	**16 01 11.6**	**+1.5**
	15nm,0.3s,baz=116,slow=22,SNR=11						
JHJ				Sn	**Sn**	**16 01 40.6**	**+0.4**
	39nm,0.3s,baz=243,slow=21,SNR=8.8						
MJAR	**Matsushiro Arr**	**2.81**	**297**	Pn	**Pn**	**16 01 15.4**	**+1.3**
	0.7nm,0.3s,baz=99,slow=7.4,SNR=49						
MJAR				LR	LR	16 02 36.4	
	comp=Z,118nm,20.6s,baz=160,slow=45						
JCJ	**Chichijima**	**8.22**	**175**	Pn	**Pn**	**16 02 29.4**	**+1.1**
	4.6nm,0.3s,baz=270,slow=20,SNR=2.4						
JCJ				Sn	**Sn**	**16 03 55.5**	**-5.0**
	3.4nm,0.3s,baz=302,slow=19,SNR=3.0						
ASAJ	**Asahikawa**	**8.85**	**6**	Pn	**Pn**	**16 02 36.4**	**-0.5**
	0.4nm,0.3s,baz=209,slow=16,SNR=5.6						
JNU	**Nakatsue**	**8.92**	**259**	LR	LR	16 05 55.2	
	comp=Z,56nm,18.5s,baz=353,slow=36						
KSRS	**Korea Array**	**11.02**	**285**	LR	LR	16 07 20.3	
	comp=Z,75nm,18.1s,baz=64,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.37**	**118**	T	T	16 35 17.4	
	baz=310,slow=75,SNR=31						
H11N1	**WAKE ISLAND Hy**	**27.37**	**118**	T	T	16 35 19.8	
	baz=310,slow=75,SNR=31						
H11N3	**WAKE ISLAND Hy**	**27.39**	**118**	T	T	16 35 19.4	
	baz=310,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	16 35 49.7	
	baz=312,slow=75,SNR=71						
H11S3	**WAKE ISLAND Hy**	**28.02**	**120**	T	T	16 35 51.8	
	baz=312,slow=75,SNR=61						
H11S2	**WAKE ISLAND Hy**	**28.04**	**120**	T	T	16 35 53.0	
	baz=312,slow=75,SNR=61						
MKAR	**Makanchi Array**	**44.99**	**304**	P	**P**	**16 08 44.5**	**+0.6**
	0.4nm,0.7s,baz=90,slow=7.3,SNR=4.3						
WRA	**Warramunga Arr**	**55.35**	**188**	P	**P**	**16 10 03.5**	**+1.0**
	0.8nm,0.6s,baz=4.9,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**59.07**	**188**	P	**P**	**16 10 30.1**	**+1.3**
	0.4nm,0.9s,baz=14,slow=7.8,SNR=4.7						

TRN 12 16:04:23.6, 18°94N×**61°21W, h8**km**, MD3.7, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**1.38**	**204**	*e*P	Pg	16 04 50.8	+0.7
ANWB				*e*S	Sg	16 05 10.5	+2.6
SMRT	**St. Maarten**	**1.98**	**244**	*e*P	Pb	16 05 00.2	+0.3
SMRT				*e*S	Sb	16 05 25.7	+0.9
BPA	**Boggy Peak**	**1.98**	**198**	*e*P	Pb	16 05 00.1	+0.2
BPA				*e*S	Sg	16 05 26.6	-0.7
NEV	**Hard Times**	**2.21**	**216**	*e*P	Pn	16 05 02.2	+1.6
NEV				*e*S	Sb	16 05 31.5	0.0
SEUS	**St. Eustatius**	**2.22**	**230**	*e*P	Pb	16 05 02.8	-1.1
SEUS				*e*S	Sb	16 05 31.4	-0.2
MLYT	**Lee's Yard**	**2.40**	**203**	*e*P	Pb	16 05 05.5	-1.5
MLYT				*e*S	Sb	16 05 36.0	-0.8
TBG	**Guadaloupe-3**	**3.10**	**188**	*e*P	Pn	16 05 14.9	+2.1
TBG	**Guadaloupe-3**	**3.10**	**188**	*e*	Pg	16 05 37.7	+15
TBG				*e*S	Sn	16 05 52.3	+2.2
MDPV	**Dominica, Penn**	**3.30**	**184**	*e*P	Pn	16 05 17.0	+1.4
MDPO	**Dominica; Chan**	**3.35**	**184**	*e*P	Pn	16 05 18.9	+2.6
BBL	**Barber's Block**	**3.40**	**184**	*e*P	Pn	16 05 18.8	+1.7
BBL	**Barber's Block**	**3.40**	**184**	*e*	Pg	16 05 39.3	+10
BBL				*e*S	Sn	16 06 01.3	+3.7
BBL	**Barber's Block**	**3.40**	**184**	*i* P	Sn	16 06 02.7	+5.1

*NSSC **12** 16:05:28.4*±*0.5, 33°.94N*×*36°.11E, h2km*±*9km, ML1.3*

*GRAL **12** 16:05:29.6*±*0.3, 33°.95N*×*36°.14E, h13km*±*2km, MD2.5*

ISC 12 16:05:27.4±1.7, **33°97N**±0°.07×**36°14E**±0°.07, **h29**km±13km**, n7,** σ0°**33/13, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.35**	**332**	*e*P	**Pn**	**16 05 36.6**	**-0.1**
BHL	**Bhannes**	**0.41**	**262**	*e*P	**Pn**	**16 05 37.2**	**-0.3**
BHL				*e*S	**Sb**	**16 05 42.8**	**0.0**
QASN	**Qassioun**	**0.45**	**166**	*e*P	**Pn**	**16 05 37.3**	**-0.6**
QASN				*e*S	**Sb**	**16 05 43.3**	**-0.3**
QASN				AML	AML	16 05 48.5	
	comp=N,39nm,0.3s						
QASN				AML	AML	16 05 48.7	
	comp=E,105nm,0.3s						
DQRL	**Deir Qamar**	**0.54**	**242**	*e*P	**Pn**	**16 05 39.2**	**0.0**
DQRL				*e*S	**Sb**	**16 05 46.4**	**+0.1**
QRWL	**Qaraoun**	**0.57**	**223**	*e*P	**Pn**	**16 05 39.5**	**-0.1**
QRWL				*e*S	**Sb**	**16 05 46.9**	**+0.1**
BRBR	**Barbar**	**0.58**	**196**	*e*P	**Pb**	**16 05 39.3**	**+0.1**
BRBR				*e*S	**Sb**	**16 05 47.0**	**-0.2**
BRBR				AML	AML	16 05 52.4	
	comp=E,15nm,0.6s						
BRBR				AML	AML	16 05 54.1	
	comp=N,8.3nm,0.5s						
TOTH	**TOTAH**	**0.65**	**158**	*e*P	**Pn**	**16 05 41.2**	**+0.6**
TOTH				*e*S	**Sn**	**16 05 50.0**	**+0.1**
TOTH				AML	AML	16 05 54.7	
	comp=E,13nm,0.3s						
TOTH				AMB	AMB	16 05 56.5	
	comp=N,14nm,1.8s						

IDC 12 16:17:05.4±2.9, **6°32S**×**130°30E, h116**km±40km**, mb2.8/1, mb1 3.0/5, mb1mx2.9**/40**, mbtmp3.3/5, Error ellipse: s-maj=75.8km s-min=22.3km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.50**	**10**	P	Pn	16 18 25.2	+0.2
	0.8nm,0.3s,baz=217,slow=23,SNR=11						
SIJI				S	Sn	16 19 21.3	-5.8
	0.7nm,0.3s,baz=138,slow=4.6,SNR=6.9						
FITZ	**Fitzroy Crossi**	**12.56**	**201**	P	Pn	16 20 00.8	+0.7
	0.1nm,0.3s,baz=25,slow=14,SNR=1.2						
FITZ				S	Sn	16 22 12.2	-6.3
	0.1nm,0.3s,baz=150,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**14.10**	**164**	P	Pn	16 20 19.3	-0.8
	0.1nm,0.3s,baz=347,slow=14,SNR=21						
WRA				S	Sn	16 22 47.8	-8.0
	0.1nm,0.3s,baz=340,slow=21,SNR=1.5						
ASAR	**Alice Springs**	**17.60**	**169**	P	Pn	16 21 03.1	-0.3
	0.1nm,0.3s,baz=347,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	16 27 50.8	-0.2
	0.1nm,0.4s,baz=134,slow=6.2,SNR=1.6						

*ISCJB **12** 16:22:36.0*±*0.5, 50°.93N*±*0°.07*×*174°.18E*±*0°.06, h10*km, mb3.9/19, MS2.8/3, Error ellipse: s-maj=9.7km s-min=5.4km az=3.2*

*IDC **12** 16:22:36.1*±*0.8, 50°.86N*×*174°.09E, h0*km*, mb3.8/15, mb1 4.0/17, mb1mx3.8/63, mbtmp3.8/17, ML3.1/2, MS2.7/4, Ms1 2.7/4, ms1mx2.5/39, Error ellipse: s-maj=23.0km s-min=15.3km az=164.0*

*NEIC **12** 16:22:40.0*±*0.0, 51°.03N*×*174°.31E, h25*km*, mb4.3/4, After AEIC.*

ISC 12 16:22:38.0±0.7, **50°97N**±0°.10×**174°13E**±0°.06, **h10**km**, n36,** σ0°**79/36, mb4.0/19, MS2.6/3, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.76**	**359**	P	**Pn**	**16 23 08.1**	**-0.5**
SMY				S	**Sn**	**16 23 29.9**	**-1.1**
TASE	**Tanaga Southea**	**4.98**	**77**	P	**Pn**	**16 23 53.1**	**+0.3**
TAFP	**Tanaga Falls P**	**5.02**	**76**	P	**Pn**	**16 23 53.4**	**0.0**
KIMD	**Kanaga Island**	**5.47**	**78**	P	**Pn**	**16 23 59.7**	**+0.2**
KIKV	**Kanaga Island**	**5.52**	**77**	P	**Pn**	**16 24 00.5**	**+0.3**
KIWB	**Kanaga Island**	**5.53**	**77**	*e*Pn	**Pn**	**16 24 00.3**	**0.0**
ADK	**Adak**	**5.82**	**77**	*e*Pn	**Pn**	**16 24 03.9**	**-0.4**
ADK				S	**Sn**	**16 25 09.1**	**-1.9**
ADAG	**Mount Adagdak**	**5.88**	**76**	P	**Pn**	**16 24 04.9**	**-0.2**
GSTD	**Great Sitkin T**	**6.17**	**76**	P	**Pn**	**16 24 08.8**	**-0.3**
GSTD				S	**Sn**	**16 25 10.1**	**-1.6**
GSMY	**Great Sitkin M**	**6.22**	**76**	P	**Pn**	**16 24 09.5**	**-0.3**
PETK	**Petropavlovsk-**	**10.35**	**288**	Pn	**Pn**	**16 25 06.0**	**-0.4**
	1.3nm,0.3s,baz=101,slow=19,SNR=16						
PETK				Sn	Sn	16 26 54.7	-7.7
	0.6nm,0.3s,baz=101,slow=21,SNR=6.1						
PETK				LR	LR	16 29 28.1	
	comp=Z,20nm,18.4s,baz=113,slow=40						
SEY	**Seymchan**	**16.75**	**324**	Pn	**Pn**	**16 26 32.6**	**+0.1**
	0.0nm,0.3s,baz=63,slow=11,SNR=2.7						
KDAK	**Kodiak Island**	**20.39**	**58**	P	**P**	**16 27 13.7**	**-1.0**
	10nm,0.9s,baz=277,slow=2.7,SNR=17						
MDM	**Murphy Dome**	**23.91**	**40**	*e*P	**P**	**16 27 52.0**	**+0.3**
	8.6nm,1.1s						
ILAR	**Eielson Array**	**24.41**	**41**	P	**P**	**16 27 55.6**	**-0.6**
	0.7nm,0.6s,baz=250,slow=7.5,SNR=18						
ILB	**Eielson Array**	**24.41**	**41**	*e*P	**P**	**16 27 56.0**	**-0.2**
	18nm,1.9s						
EGAK	**Eagle**	**26.80**	**42**	*e*P	**P**	**16 28 16.8**	**-1.1**
	4.6nm,0.8s						
DAWY	**Dawson**	**27.47**	**44**	*e*P	**P**	**16 28 23.9**	**0.0**
	16nm,1.5s						
MJAR	**Matsushiro Arr**	**29.35**	**255**	LR	LR	16 37 46.3	
	comp=Z,17nm,21.9s,baz=120,slow=31						
KSRS	**Korea Array**	**35.18**	**266**	LR	LR	16 45 03.3	
	comp=Z,11nm,19.3s,baz=40,slow=38						
YKA	**Yellowknife Ar**	**38.70**	**45**	P	**P**	**16 30 03.2**	**+1.7**
	0.2nm,0.4s,baz=288,slow=7.8,SNR=3.7						
SONM	**Songino Array**	**42.79**	**293**	P	**P**	**16 30 36.2**	**+0.6**
	0.2nm,0.4s,baz=69,slow=8.0,SNR=2.6						
TULEG	**Thule**	**46.70**	**17**	*e*P	**P**	**16 31 06.8**	**+0.5**
	17nm,0.9s						
PDAR	**Pinedale Array**	**50.63**	**68**	P	**P**	**16 31 37.5**	**+0.2**
	0.4nm,0.3s,baz=280,slow=5.4,SNR=2.0						
KURK	**Kurchatov**	**55.98**	**310**	*e*P	**P**	**16 32 15.6**	**-0.6**
	8.6nm,0.5s						
TGY	**Tagaytay City**	**56.28**	**249**	LR	LR	16 51 19.5	
	comp=Z,14nm,20.8s,baz=146,slow=31						
MKAR	**Makanchi Array**	**56.70**	**305**	P	**P**	**16 32 20.4**	**-1.0**
	0.2nm,0.6s,baz=59,slow=7.8,SNR=4.4						
ARCES	**ARCESS Array B**	**57.63**	**347**	P	**P**	**16 32 27.6**	**0.0**
	3.1nm,0.9s,baz=356,slow=10,SNR=3.1						
SCHQ	**Schefferville**	**62.98**	**35**	P	**P**	**16 33 05.2**	**+0.8**
	4.3nm,1.0s,baz=306,slow=6.3,SNR=4.3						
TXAR	**Lajitas Array**	**63.09**	**76**	P	**P**	**16 33 06.6**	**+0.9**
	0.5nm,0.6s,baz=305,slow=4.4,SNR=6.3						
FINES	**FINESS Array B**	**65.06**	**344**	P	**P**	**16 33 17.9**	**-0.1**
	1.9nm,0.9s,baz=0.0,slow=10,SNR=4.3						
CMAR	**Chiang Mai Arr**	**66.59**	**27**	P	**P**	**16 33 28.2**	**-0.3**
	0.2nm,0.4s,baz=34,slow=6.7,SNR=3.2						
KBZ	**Khabaz**	**76.61**	**326**	P	**P**	**16 34 29.1**	**+0.6**
	1.9nm,0.9s,baz=14,slow=4.2,SNR=4.7						
WRA	**Warramunga Arr**	**78.79**	**218**	P	**P**	**16 34 39.6**	**-1.2**
	0.3nm,0.6s,baz=30,slow=6.5,SNR=4.1						
ASAR	**Alice Springs**	**82.33**	**217**	P	**P**	**16 34 59.0**	**-0.8**
	0.6nm,0.8s,baz=15,slow=5.6,SNR=4.9						
BRTR	**Keskin Array B**	**83.28**	**330**	P	**P**	**16 35 05.7**	**+0.8**
	0.5nm,0.7s,baz=33,slow=7.3,SNR=3.6						

MAN 12 16:45:54.1, 13°95N×**120°47E, h126**km**, mb3.8, ML2.5, MS2.1, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOAC	**Boac**	**1.42**	**110**	*e*P	Pn	16 46 22.3	+1.2
SJMP	**San Jose**	**1.61**	**157**	*e*P	Pn	16 46 24.0	+0.8
SJMP				*e*S	Sn	16 46 46.5	+1.1
SCZP	**Santa Cruz**	**1.89**	**343**	*e*P	Pn	16 46 27.3	+0.7
SCZP				*e*S	Sn	16 46 52.3	+0.8
BUSP	**Coron**	**1.95**	**188**	*e*P	Pn	16 46 28.4	+1.0
BUSP				*e*S	Sn	16 46 53.9	+1.1
CUYO	**Cuyo Island**	**3.13**	**170**	*e*P	Pn	16 46 43.0	+0.6

*SOF **12** 17:01:06.9, 42°.36N*×*23°.74E, h5km, MD2.5*

*ISCJB **12** 17:01:07.0*±*0.5, 42°.39N*±*0°.02*×*23°.70E*±*0°.04, h3km*±*4km, Error ellipse: s-maj=4.6km s-min=3.3km az=165.8*

*BEO **12** 17:01:09.6*±*1.5, 42°.36N*×*23°.62E, h0km, ML1.6/3*

*SKO **12** 17:01:09.5, 42°.37N*×*23°.63E, h4km*

*ATH **12** 17:01:10.3, 42°.23N*×*23°.74E, h29km*±*1km, ML2.2/5, Error ellipse: s-maj=3.9km s-min=2.3km az=164.0*

*THE **12** 17:01:10.6, 42°.24N*×*23°.70E, h2km*±*1km, ML2.1/7, Error ellipse: s-maj=2.5km s-min=1.4km az=328.0*

ISC 12 17:01:06.9±1.0, **42°38N**±0°.02×**23°74E**±0°.03, **h11**km±9km**, n45,** σ1°**00/69, 9C-2D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGB	**Panagyurishte**	**0.36**	**61**	*i* Pg	**Pb**	**17 01 14.4**	**-0.9**
VTS	**Vitosha**	**0.45**	**299**	*e*Pg	**Pg**	**17 01 15.9**	**+0.1**
VTS				*e*Sg	**Sg**	**17 01 21.6**	**-0.2**
VTS	**Vitosha**	**0.45**	**299**	↑ *i* P	**Pg**	**17 01 16.0**	**+0.1**
VTS				S	**Sg**	**17 01 22.0**	**+0.2**
VTS	**Vitosha**	**0.45**	**299**	↑ *i* Pg	**Pg**	**17 01 16.1**	**+0.2**
VTS				*i* Sg	**Sg**	**17 01 22.1**	**+0.3**
VTS	**Vitosha**	**0.45**	**299**	*i* Pg	**Pg**	**17 01 15.9**	**+0.1**
KKB	**Krupnik**	**0.71**	**224**	*i* Pg	**Pg**	**17 01 21.0**	**+0.4**
KKB				*i* Sg	**Sg**	**17 01 30.5**	**+0.6**
KKB	**Krupnik**	**0.71**	**224**	Pg	**Pg**	**17 01 21.0**	**+0.4**
PLD	**Plovdiv**	**0.76**	**110**	Pg	**Pb**	**17 01 21.7**	**-0.4**
MMB	**Musomiste**	**0.79**	**181**	↑ *i* Pg	**Pb**	**17 01 23.2**	**+0.6**
MMB				*i* Sg	**Sn**	**17 01 35.5**	**-0.1**
MMB	**Musomiste**	**0.79**	**181**	P	**Pb**	**17 01 23.1**	**+0.6**
RZN	**Rozhen**	**1.00**	**133**	P	**Pb**	**17 01 26.2**	**-0.1**
NVR	**Nevrokopi**	**1.03**	**175**	P	**Pn**	**17 01 27.3**	**0.0**
NVR				S	**Sb**	**17 01 40.8**	**+0.6**
NVR	**Nevrokopi**	**1.03**	**175**	P	**Pn**	**17 01 27.2**	**0.0**
NVR				S	**Sb**	**17 01 40.8**	**+0.6**
NVR				AML	AML	17 01 43.5	
	comp=N,174μm,0.2s						
NVR				AML	AML	17 01 43.8	
	comp=E,220μm,0.2s						
ZAPS	**Zavoj**	**1.21**	**318**	*e*Pg	**Pn**	**17 01 30.4**	**+0.5**
ZAPS				*e*Sg	**Sn**	**17 01 47.1**	**+0.8**
SRS	**Serrai**	**1.26**	**185**	P	**Pg**	**17 01 31.5**	**+0.4**
SRS				S	**Sn**	**17 01 48.1**	**+0.7**
SRS	**Serrai**	**1.26**	**185**	*i* Pg	**Pg**	**17 01 31.4**	**+0.2**
SRS	**Serrai**	**1.26**	**185**	P	**Pg**	**17 01 31.5**	**+0.4**
SRS				S	**Sn**	**17 01 48.1**	**+0.7**
SRS				AML	AML	17 01 50.7	
	comp=N,229μm,0.3s						
SRS				AML	AML	17 01 51.9	
	comp=E,164μm,0.3s						
STIP	**Stip**	**1.34**	**240**	*i* Pg	**Pn**	**17 01 28.3**	**-3.3**
STIP				*i* Sg	**Sb**	**17 01 43.5**	**-5.8**
KNT	**Kendrikon**	**1.37**	**208**	P	**Pg**	**17 01 33.3**	**+0.1**
KNT				S	**Sg**	**17 01 51.0**	**+0.1**
KNT	**Kendrikon**	**1.37**	**208**	↓ *i* Pg	**Pg**	**17 01 33.3**	**+0.1**
KNT				*i* Sg	**Sg**	**17 01 51.5**	**+0.7**
KNT	**Kendrikon**	**1.37**	**208**	P	**Pg**	**17 01 33.0**	**-0.1**
KNT				S	**Sb**	**17 01 50.2**	**+0.2**
KNT				AML	AML	17 01 53.4	
	comp=E,136μm,0.3s						
KNT				AML	AML	17 01 53.7	
	comp=N,160μm,0.2s						
DIM	**Dimitrovgrad**	**1.37**	**103**	P	**Pb**	**17 01 32.3**	**-0.2**
VAY	**Valandovo**	**1.37**	**220**	*i* Pg	**Pg**	**17 01 33.5**	**+0.3**
VAY				*i* Sg	**Sn**	**17 01 51.0**	**+0.9**
BARS	**Barje**	**1.49**	**288**	*e*Pg	**Pg**	**17 01 35.6**	**+0.1**
BARS				*e*Sg	**Sb**	**17 01 54.1**	**+0.6**
BARS	**Barje**	**1.49**	**288**	*i* Pg	**Pg**	**17 01 35.8**	**+0.3**
BARS				*i* Sg	**Sg**	**17 01 54.6**	**-0.2**
KAVA	**Kavala**	**1.49**	**157**	P	**Pg**	**17 01 35.0**	**-0.5**
KAVA				S	**Sg**	**17 01 55.8**	**+0.9**
KAVA	**Kavala**	**1.49**	**157**	P	**Pb**	**17 01 34.9**	**+0.3**
KAVA				S	**Sn**	**17 01 53.6**	**+0.5**
SOH	**Sokhos**	**1.58**	**191**	P	**Pg**	**17 01 37.4**	**+0.2**
SOH				S	**Sb**	**17 01 57.2**	**+1.1**
SOH	**Sokhos**	**1.58**	**191**	P	**Pg**	**17 01 37.4**	**+0.2**
SOH				AML	AML	17 01 59.7	
	comp=N,192μm,0.4s						
SOH				AML	AML	17 01 59.7	
	comp=E,123μm,0.5s						
RDO	**Rodhopi**

BJUU	**Bjuv**	**2.03**	**50**	P		**Pn**	**17 05 35.8**	**+0.5**
FABU	**Falkenberg**	**2.61**	**31**	P		**Pn**	**17 05 43.9**	**+0.8**
FABU				S		**Sb**	**17 06 18.4**	**-1.4**
DEL	**Delary**	**2.65**	**50**	P		**Pn**	**17 05 44.3**	**+0.6**
BSD	**Bornholm Skovb**	**2.72**	**82**	*i* P		**Pn**	**17 05 44.2**	**-0.4**
ONAU	**Onsala**	**2.76**	**19**	P		**Pn**	**17 05 46.0**	**+0.7**
BORU	**Boraas**	**3.17**	**25**	P		**Pn**	**17 05 51.8**	**+0.9**
GNOU	**Gnosjoe**	**3.18**	**37**	P		**Pn**	**17 05 52.4**	**+1.4**
TJOU	**Tjoern**	**3.33**	**13**	P		**Pn**	**17 05 53.6**	**+0.7**
VXJU	**Vaexsjoe**	**3.39**	**49**	P		**Pn**	**17 05 54.8**	**+0.8**
BLEU	**Blekinge**	**3.51**	**62**	P		**Pn**	**17 05 56.0**	**+0.5**
VANU	**Vaenersborg**	**3.83**	**15**	P		**Pn**	**17 06 00.7**	**+0.7**
FKPU	**Falk**	**3.88**	**28**	P		**Pn**	**17 06 02.1**	**+1.5**
EKSU	**Eksjoe**	**3.96**	**44**	P		**Pn**	**17 06 02.9**	**+1.1**
HFS	**Hagfors** baz=200,slow=14	**5.66**	**18**	Pn		**Pn**	**17 06 25.1**	**+0.1**
HFS	baz=203,slow=28			Sn		**Sn**	**17 07 29.8**	**-0.2**
HFS	**Hagfors** baz=200,slow=14	**5.66**	**18**	Pn		**Pn**	**17 06 25.1**	**+0.1**
HFS	baz=203,slow=28			Sn		**Sn**	**17 07 29.8**	**-0.2**
NRA0	**NORESS Array S** baz=195,slow=11	**5.99**	**6**	Pn		**Pn**	**17 06 29.4**	**-0.1**
NRA0	baz=189,slow=28			Sn		**Sn**	**17 07 38.1**	**0.0**
NRA0	**NORESS Array S** baz=195,slow=11	**5.99**	**6**	Pn		**Pn**	**17 06 29.4**	**-0.1**
NRA0	baz=189,slow=28			Sn		**Sn**	**17 07 38.1**	**0.0**
FIA0	**FINESS Array S** baz=247,slow=14	**10.68**	**45**	Pn		**Pn**	**17 07 33.5**	**-0.3**
FIA0	**FINESS Array S** baz=247,slow=14	**10.68**	**45**	Pn		**Pn**	**17 07 33.5**	**-0.3**

MEX 12 17:19:16.6±0.5, 16.13N×95.86W, h35km±19km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.43**	**213**	*eP*		17 19 24.2	-1.9
HUIG				*eS*		17 19 31.1	-1.8
CMIG	**Matias Romero**	**1.34**	**44**	*eP*		17 19 37.8	-1.0
CMIG				*i* S		17 19 52.9	-2.5
PNIG	**Pinotepa**	**2.19**	**277**	*i* P		17 19 49.8	-0.7
PNIG				*i* S		17 20 14.2	-2.2

MEX 12 17:53:29.7±0.4, 14.13N×92.32W, h28km±20km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.77**	**4**	*i* P		17 53 42.0	-2.6
THIG				*i* S		17 53 52.4	-2.4
PCIG		**1.79**	**331**	*eP*		17 53 56.7	-2.1
PCIG				*i* S		17 54 17.7	-2.9
CCIG	**Comitan**	**2.15**	**5**	*eP*		17 54 04.2	+0.4
CCIG				*eS*		17 54 26.9	-2.8

TRN 12 17:53:56.7, 10.89N×62.27W, h92km, MD3.6, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.88**	**105**	*eP*		17 54 15.6	+0.4
TRN				*eS*		17 54 28.8	-0.2
TPP	**Pointe-a-Pierr**	**0.98**	**125**	*eP*		17 54 16.2	0.0
TPP				*eS*		17 54 31.1	+0.1
TBH	**Brigand Hill**	**1.25**	**109**	*eP*		17 54 19.8	+0.4
TBH				*eS*		17 54 36.6	+0.1
GRGR	**Grenville**	**1.38**	**26**	*eP*		17 54 20.8	-0.2
GRGR				*eS*		17 54 38.7	-0.7
GRHS	**Sauteurs**	**1.47**	**25**	*eP*		17 54 22.1	0.0
GRHS				*eS*		17 54 40.8	-0.6
GRSS	**Sisters**	**1.54**	**25**	*eP*		17 54 23.7	+0.6
GRSS				*eS*		17 54 42.9	-0.2
TOSP	**Speyside**	**1.75**	**76**	*eP*		17 54 25.8	+0.1
TOSP				*eS*		17 54 46.7	-1.0
SVB	**Belmont**	**2.57**	**23**	*eP*		17 54 36.8	+0.2
SVB				*eS*		17 55 06.9	-0.3
SVCV	**St. Vincent, C**	**2.61**	**25**	*eP*		17 54 36.8	-0.4
SVV	**Soufriere Volc**	**2.63**	**23**	*eP*		17 54 37.8	+0.5
SSV	**Crater Summit**	**2.65**	**23**	*eP*		17 54 38.0	+0.3
MCLT	**Moule a Chique**	**3.09**	**25**	*eP*		17 54 43.0	-0.5
MCLT				*eS*		17 55 18.5	-1.2
SLB	**Belfond**	**3.16**	**22**	*eP*		17 54 44.8	+0.3
SLB				*eS*		17 55 20.3	-1.1

*ISCJB **12** 18:04:12.6±0.3, 67.04N±0.02×20.93E±0.06, h0km, Error ellipse: s-maj=3.4km s-min=2.6km az=173.4*
*HEL **12** 18:04:13.9±0.1, 67.05N×20.96E, h0km, ML1.9, ML1.7(UPP), Explosion*
*UPP **12** 18:04:13.2±0.1, 67.04N×20.98E, h0km, ML1.7, Explosion*
*IDC **12** 18:04:14.4±0.7, 67.02N×21.46E, h0km, mb1 3.3/5, mb1mx3.0/50, mbtmp3.2/5, ML1.9/4, Error ellipse: s-maj=15.8km s-min=6.4km az=111.0*
*BER **12** 18:04:14.3±0.9, 66.85N×21.24E, h0km, ML1.4, Suspected explosion*

ISC 12 18:04:13.2±0.7, 67.05N±0.02×20.94E±0.02, h0km, n51, σ1s04/70, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.16**	**297**	P		**Pg**	**18 04 16.9**	**+0.6**
DUNU				S		**Sg**	**18 04 19.5**	**+1.0**
DUNU	**Dundret**	**0.16**	**297**	*i* P		**Pg**	**18 04 16.9**	**+0.6**
DUNU				*i* S		**Sg**	**18 04 19.5**	**+1.0**
MASU	**Masugnsbyn**	**0.58**	**44**	P		**Pg**	**18 04 24.3**	**0.0**
MASU				S		**Sg**	**18 04 32.8**	**+1.0**
MASU	**Masugnsbyn**	**0.58**	**44**	*i* P		**Pg**	**18 04 24.3**	**0.0**
MASU				*i* S		**Sg**	**18 04 32.8**	**+1.0**
ERTU	**Ertsjaerv**	**0.70**	**135**	P		**Pg**	**18 04 26.1**	**-0.4**
ERTU	**Ertsjaerv**	**0.70**	**135**	*eP*		**Pg**	**18 04 26.0**	**-0.5**
ERTU				*eS*		**Sg**	**18 04 35.5**	**-0.1**
PAJU	**Pajala**	**0.85**	**91**	P		**Pg**	**18 04 28.8**	**-0.7**
PAJU	**Pajala**	**0.85**	**91**	*i* P		**Pg**	**18 04 28.8**	**-0.7**
HARU	**Harads**	**0.89**	**179**	P		**Pg**	**18 04 29.7**	**-0.5**
HARU	**Harads**	**0.89**	**179**	*i* P		**Pg**	**18 04 29.7**	**-0.5**
RATU	**Laukkuluspa**	**0.94**	**327**	P		**Pg**	**18 04 30.6**	**-0.5**
RATU	**Laukkuluspa**	**0.94**	**327**	*eP*		**Pg**	**18 04 30.6**	**-0.5**
KUA	**Kurravaara**	**0.94**	**346**	P		**Pg**	**18 04 30.5**	**-0.7**
KUA	**Kurravaara**	**0.94**	**346**	*eP*		**Pg**	**18 04 30.5**	**-0.7**
SALU	**Saltoluokta**	**1.01**	**291**	P		**Pg**	**18 04 32.2**	**-0.2**
SALU	**Saltoluokta**	**1.01**	**291**	*eP*		**Pg**	**18 04 32.2**	**-0.2**
LANU	**Lannavaara**	**1.08**	**21**	P		**Pg**	**18 04 32.9**	**-1.0**
LANU	**Lannavaara**	**1.08**	**21**	*eP*		**Pg**	**18 04 32.9**	**-1.0**
NIKU	**Nikkaluokta**	**1.10**	**319**	P		**Pg**	**18 04 33.6**	**-0.7**
NIKU	**Nikkaluokta**	**1.10**	**319**	*eP*		**Pg**	**18 04 33.6**	**-0.7**
KALU	**Kalix**	**1.54**	**140**	P		**Pn**	**18 04 41.4**	**-0.4**
KALU	**Kalix**	**1.54**	**140**	*eP*		**Pn**	**18 04 41.2**	**-0.6**
KALU				*eSN*		**Sg**	**18 05 03.7**	**+1.3**
SJUU	**Sjulsmark**	**1.57**	**170**	P		**Pn**	**18 04 42.0**	**-0.2**
SJUU	**Sjulsmark**	**1.57**	**170**	*eP*		**Pn**	**18 04 42.0**	**-0.2**
TOF	**Tornio**	**1.67**	**124**	*eP*		**Pn**	**18 04 43.4**	**-0.2**
TOF	comp=Z,12nm,0.2s			MSG			18 05 03.7	
TOF				*eSN*		**Sg**	**18 05 06.4**	**-0.2**
HEF	**Hetta**	**1.71**	**36**	*eP*		**Pn**	**18 04 44.1**	**-0.1**
HEF				*eS*		**Sb**	**18 05 07.6**	**0.0**
HEF	**Hetta** baz=218	**1.71**	**36**	*eP*		**Pn**	**18 04 43.8**	**-0.5**
HEF	comp=Z,8.7nm,0.2s			MSG			18 05 04.5	
HEF				*eSN*		**Sb**	**18 05 07.8**	**+0.1**
LILU	**Lilltraesk**	**1.82**	**195**	P		**Pn**	**18 04 46.0**	**+0.3**
LILU	**Lilltraesk**	**1.82**	**195**	*eP*		**Pn**	**18 04 46.0**	**+0.3**
KIF	**Kilpisjarvi**	**1.97**	**359**	*eP*		**Pb**	**18 04 49.2**	**-0.6**
KIF	**Kilpisjarvi**	**1.97**	**359**	*ePB*		**Pb**	**18 04 49.0**	**-0.8**
KIF	comp=Z,13nm,0.2s			MSG			18 05 12.8	
KIF				*eSG*		**Sg**	**18 05 17.1**	**+0.8**
RNF	**Rovaniemi**	**2.05**	**100**	*ePB*		**Pn**	**18 04 49.6**	**+0.7**
RNF				*eSG*		**Sb**	**18 05 17.5**	**+0.2**
KTK1	**Kautokeino**	**2.15**	**23**	*eP*		**Pb**	**18 04 51.8**	**-1.2**
KTK1				*eS*		**Sb**	**18 05 19.4**	**-0.8**
KTK1	comp=Z,4.6nm,0.2s			IAML			18 05 24.9	
SGF	**Sodankyl**	**2.21**	**77**	*eP*		**Pn**	**18 04 51.8**	**+0.8**
	baz=262							
SGF				*eSG*		**Sb**	**18 05 22.6**	**+0.9**
STEI	**Steigen**	**2.37**	**295**	*eP*		**Pn**	**18 04 54.6**	**+1.5**
BURU	**Burvik** baz=355	**2.48**	**176**	*eP*		**Pn**	**18 04 55.9**	**+1.2**
BURU				*eSB*		**Sb**	**18 05 28.6**	**-1.0**
MOR8	**Moi Rana**	**2.74**	**254**	*eP*		**Pn**	**18 04 57.0**	**-1.4**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=214,slow=14,SNR=39	**3.02**	**32**	Pn		**Pn**	**18 05 02.2**	**0.0**
ARCES	comp=Z,0.4nm,0.3s,baz=214,slow=25,SNR=7.9			Sn		**Sn**	**18 05 38.9**	**-0.1**
ARCES				Lg	Lg		18 05 46.2	
ARE0	**ARCESS Array S** comp=Z,0.5nm,0.3s,baz=208,slow=28,SNR=11	**3.02**	**32**	*eP*		**Pn**	**18 05 02.8**	**+0.6**
ARE0	**ARCESS Array S** baz=214	**3.02**	**32**	*eP*		**Pn**	**18 05 02.3**	**+0.1**
ARE0				*eS*		**Sn**	**18 05 41.2**	**+2.2**
OUF	**Merijarvi** baz=334	**3.11**	**148**	*ePG*		**Pb**	**18 05 09.1**	**-0.2**
OUF	comp=Z,1.5nm,0.2s			MSG			18 05 45.1	
UMAU	**Umeaa**	**3.18**	**182**	*eS*		**Sn**	**18 05 45.3**	**+2.4**
VRF	**Varrio** baz=261	**3.42**	**74**	*eP*		**Pn**	**18 05 09.5**	**+1.8**
VRF				*eSG*		**Sb**	**18 05 58.5**	**+1.9**
MSF	**Maaselka**	**3.44**	**106**	*ePB*		**Pn**	**18 05 10.9**	**+2.9**
KEV	**Kevo**	**3.52**	**37**	*eP*		**Pn**	**18 05 09.8**	**+0.7**
KEV	**Kevo**	**3.52**	**37**	*eP*		**Pn**	**18 05 10.4**	**+1.3**
KU6	**Riekki** baz=293	**3.72**	**102**	*eP*		**Pn**	**18 05 13.8**	**+1.9**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=349,slow=12,SNR=7.5	**6.05**	**156**	Pn		**Pn**	**18 05 44.1**	**+0.3**
FINES	comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=7.8			Sn		**Sn**	**18 06 52.8**	**-0.9**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=46,slow=19,SNR=2.6	**7.38**	**220**	Pn		**Pn**	**18 06 02.9**	**+0.9**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=41,slow=14,SNR=3.4	**7.65**	**208**	Pn		**Pn**	**18 06 06.5**	**+0.8**
HFS	comp=Z,0.1nm,0.3s,baz=31,slow=24,SNR=4.0			Sn		**Sn**	**18 07 29.5**	**-3.5**
SPITS	**Spitsbergen Ar** baz=159,slow=18,SNR=3.0	**11.27**	**355**	Pn		**Pn**	**18 06 54.8**	**-0.4**

*DDA **12** 18:07:24.4, 38.18N×26.56E, h27km±1km, ML2.9*
*ATH **12** 18:07:25.8, 38.14N×26.63E, h31km±1km, ML3.0/4, Error ellipse: s-maj=2.2km s-min=0.9km az=74.0*
*ISK **12** 18:07:25.7, 38.18N×26.68E, h5km, ML3.1/29*
*ISCJB **12** 18:07:26.2±0.4, 38.15N±0.02×26.66E±0.03, h9km±3km, Error ellipse: s-maj=4.0km s-min=2.8km az=163.5*
*THE **12** 18:07:26.7, 38.15N×26.67E, h13km±1km, ML2.8/7, Error ellipse: s-maj=1.3km s-min=0.6km az=73.0*

ISC 12 18:07:26.3±0.8, 38.14N±0.02×26.59E±0.02, h16km±6km, n61, σ1s17/84, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZEY	**zmir**	**0.12**	**328**	*i* P		**Pg**	**18 07 30.9**	**+0.9**
ZEY				*i* S		**Sg**	**18 07 33.7**	**+1.3**
URLA	**Izmir**	**0.23**	**2**	PG		**Pg**	**18 07 30.4**	**-1.1**
URLA				SG		**Sg**	**18 07 33.4**	**-1.6**
URLA	**Izmir**	**0.23**	**2**	*i* P		**Pg**	**18 07 30.9**	**-0.6**
URLA				*i* S		**Sg**	**18 07 34.8**	**-0.1**
URLA	comp=Z,18μm,0.2s			IAML_P				
CESE	**eme**	**0.30**	**311**	PG		**Pb**	**18 07 32.6**	**-0.7**
BLCB	**Balcova**	**0.44**	**55**	PG		**Pg**	**18 07 33.0**	**-2.1**
BLCB				SG		**Sg**	**18 07 37.6**	**-3.5**
KRBN	**Karaburun**	**0.46**	**357**	PG		**Pg**	**18 07 34.3**	**-1.2**
KRBN				SG		**Sg**	**18 07 40.8**	**-0.9**
SMG	**Samos**	**0.47**	**155**	P		**Pb**	**18 07 35.9**	**-0.3**
SMG				S		**Sb**	**18 07 42.9**	**0.0**
SMG	**Samos**	**0.47**	**155**	P		**Pb**	**18 07 35.9**	**-0.3**
SMG				S		**Sb**	**18 07 43.3**	**+0.4**
SMG	comp=E,4319μm,0.3s			AML	AML		18 07 43.7	
SMG	comp=N,4916μm,0.3s			AML	AML		18 07 43.7	
CHOS	**Chios island**	**0.49**	**301**	PG		**Pn**	**18 07 37.1**	**-1.7**
CHOS	**Chios island**	**0.49**	**301**	P		**Pn**	**18 07 37.0**	**-1.7**
CHOS				S		**Sb**	**18 07 45.6**	**+2.1**
CHOS	**Chios island**	**0.49**	**301**	P		**Pn**	**18 07 37.0**	**-1.7**
CHOS				S		**Sb**	**18 07 44.8**	**+1.3**
CHOS	comp=E,3676μm,0.3s			AML	AML		18 07 48.8	
CHOS	comp=N,2148μm,0.4s			AML	AML		18 07 49.5	
FOCM	**Foa**	**0.59**	**11**	PG		**Pg**	**18 07 36.4**	**-1.5**
ZEDA	**zmir-Bergama**	**0.92**	**25**	*i* P		**Pg**	**18 07 42.5**	**-1.5**
ZEDA				*i* S		**Sg**	**18 07 54.7**	**-1.4**
ZEDA	comp=Z,3μm,0.4s			IAML_P				
AYDB	**Zeytinkoy-Aydi**	**1.05**	**100**	PG		**Pg**	**18 07 45.2**	**-1.4**
AYDN	**Tasoluk**	**1.13**	**114**	*i* P		**Pg**	**18 07 47.5**	**-0.6**
AYDN	comp=Z,3μm,0.2s			IAML_P				
PRK	**Paraskevi**	**1.14**	**348**	P		**Pn**	**18 07 48.0**	**+0.5**
PRK				S		**Sg**	**18 08 02.4**	**-0.7**
PRK	**Paraskevi**	**1.14**	**348**	P		**Pn**	**18 07 47.9**	**+0.4**
PRK				S		**Sb**	**18 08 02.6**	**+0.5**
PRK	comp=N,1407μm,0.4s			AML	AML		18 08 05.3	
PRK	comp=E,1824μm,0.5s			AML	AML		18 08 07.7	
AYVA	**Ayvalik**	**1.17**	**4**	*i* P		**Pg**	**18 07 48.4**	**-0.6**
AYVA				*i* S		**Sb**	**18 08 04.8**	**+1.7**
AYVA	comp=Z,610nm,0.1s			IAML_P				
GOMA	**Golmarmara-Man**	**1.19**	**61**	PN		**Pn**	**18 07 47.9**	**-0.4**
BODT	**Bodrum**	**1.22**	**151**	PN		**Pg**	**18 07 48.9**	**-0.9**
AKHS	**Akhisar**	**1.22**	**52**	*i* P		**Pn**	**18 07 47.1**	**-1.5**
AKHS	comp=Z,2μm,0.4s			IAML_P				
AKS	**Akhisar**	**1.22**	**52**	PN		**Pn**	**18 07 47.9**	**-0.8**
SIGR	**SIGRI**	**1.22**	**332**	PN		**Pn**	**18 07 48.8**	**+0.2**
SIGR	**SIGRI**	**1.22**	**332**	P		**Pn**	**18 07 48.5**	**-0.1**
SIGR				S		**Sn**	**18 08 05.2**	**+0.4**
SIGR	**SIGRI**	**1.22**	**332**	P		**Pn**	**18 07 48.6**	**-0.1**
SIGR				S		**Sn**	**18 08 05.0**	**+0.2**
SIGR	comp=E,510μm,0.5s			AML	AML		18 08 08.8	
SIGR	comp=N,872μm,0.6s			AML	AML		18 08 09.2	
BDRM	**Kayabasi**	**1.27**	**147**	*i* P		**Pn**	**18 07 49.1**	**-0.2**
BDRM				*i* S		**Sb**	**18 08 06.7**	**+0.9**
BDRM	comp=Z,592nm,0.1s			IAML_P				
APE	**Apeiranthos**	**1.35**	**219**	P		**Pn**	**18 07 51.0**	**+0.4**
APE				S		**Sn**	**18 08 09.8**	**+1.6**
APE	**Apeiranthos**	**1.35**	**219**	P		**Pn**	**18 07 51.0**	**+0.4**
APE				S		**Sn**	**18 08 09.5**	**+1.2**
GPNR	**Gulpinar-Canak**	**1.36**	**345**	PN		**Pg**	**18 07 51.6**	**-1.0**
AMGA	**Amorgos Island**	**1.41**	**203**	P		**Pg**	**18 07 51.3**	**-2.2**
AMGA				S		**Sn**	**18 08 11.2**	**+1.6**
AMGA	**Amorgos Island**	**1.41**	**203**	P		**Pg**	**18 07 51.3**	**-2.2**
AMGA				S		**Sn**	**18 08 10.5**	**+0.9**
STEP	**BALIKESIR_Sava**	**1.52**	**35**	*i* P		**Pn**	**18 07 53.0**	**+0.1**
STEP	comp=Z,711nm,0.1s			IAML_P				
BAYC	**CANAKKALE_Bayr**	**1.60**	**359**	*i* P		**Pn**	**18 07 54.0**	**0.0**
BAYC	comp=Z,662nm,0.1s			IAML_P				
DAT	**Datca**	**1.61**	**150**	*i* P		**Pn**	**18 07 55.0**	**+0.8**
KULA	**Kula-Manisa**	**1.68**	**76**	PN		**Pn**	**18 07 55.4**	**+0.4**
YER	**Yerkesik**	**1.68**	**126**	PN		**Pn**	**18 07 56.1**	**+1.1**
EZN	**Ezine**	**1.70**	**353**	PN		**Pb**	**18 07 56.7**	**-0.5**
BOZC	**Bozcaada**	**1.75**	**346**	PN		**Pb**	**18 07 57.3**	**-0.8**
BOZC	**Bozcaada**	**1.75**	**346**	*i* P		**Pn**	**18 07 54.6**	**-1.4**
BOZC				*i* S		**Sg**	**18 08 21.7**	**-1.1**
BALB	**Balikesir**	**1.81**	**34**	PN		**Pn**	**18 07 57.4**	**+0.6**
TAVA	**DENIZLI_Tavas**	**1.96**	**109**	*i* P		**Pn**	**18 07 59.5**	**+0.5**
TAVA	comp=Z,70nm,0.2s			IAML_P				
USAK	**Uak-Merkez**	**2.00**	**72**	*i* P		**Pn**	**18 07 59.5**	**+0.1**
USAK				*i* S		**Sn**	**18 08 26.4**	**+2.2**
LIA	**Limnos Island**	**2.07**	**329**	P		**Pn**	**18 08 01.0**	**+0.6**
GONE	**Gonen-Balikesi**	**2.09**	**24**	PN		**Pn**	**18 08 01.5**	**+0.8**
LPK	**Lapseki**	**2.24**	**3**	PN		**Pn**	**18 08 03.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.26**	**358**	PN		**Pn**	**18 08 03.7**	**+0.7**
KHAL	**Karahalli**	**2.30**	**83**	*i* P		**Pb**	**18 08 08.5**	**+1.1**
KRBG	**Karabiga-Canak**	**2.32**	**14**	PN		**Pn**	**18 08 04.9**	**+1.1**
EDC	**Edincik**	**2.42**	**24**	PN		**Pn**	**18 08 06.3**	**+1.1**
SMTH	**Samothraki Isl**	**2.47**	**341**	P		**Pn**	**18 08 06.6**	**+0.6**
SMTH				S		**Sn**	**18 08 36.3**	**+0.5**
SMTH	**Samothraki Isl**	**2.47**	**341**	P		**Pn**	**18 08 06.5**	**+0.6**
ERIK	**Erikli-Kesan**	**2.53**	**359**	PN		**Pn**	**18 08 07.1**	**+0.4**
KCTX	**Karacabey (Bur**	**2.53**	**32**	PN		**Pn**	**18 08 07.6**	**+0.8**
MRMT	**Marmara Adasi**	**2.59**	**17**	PN		**Pn**	**18 08 08.8**	**+1.2**
RKY	**Sarkoy-Tekirda**	**2.59**	**10**	PN		**Pn**	**18 08 08.4**	**+0.8**
TVSB	**Tavsanli**	**2.60**	**59**	PN		**Pn**	**18 08 08.4**	**+0.6**
ENEZ	**Enez**	**2.62**	**353**	PN		**Pn**	**18 08 09.5**	**+1.6**
SBT4	**Kumbag-Tekirda**	**2.79**	**15**	PN		**Pn**	**18 08 11.4**	**+1.3**
ALN	**Alexandroupoli**	**2.79**	**352**	PN		**Pn**	**18 08 11.9**	**+1.6**
ALN	**Alexandroupoli**	**2.79**	**352**	P		**Pn**	**18 08 11.8**	**+1.6**
ARMT	**Armutlu**	**3.00**	**35**	PN		**Pn**	**18 08 14.4**	**+1.2**

IDC 12 18:20:13.2±5.0, 4.27S×147.16E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/27, mbtmp3.3/3, ML3.3/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/15, Error ellipse: s-maj=160.5km s-min=29.3km az=100.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=42,slow=11,SNR=7.4	**19.97**	**218**	P	P	18 24 47.1	-0.2
ASAR	**Alice Springs** 0.5nm,0.7s,baz=45,slow=7.6,SNR=5.4	**23.14**	**212**	P	P	18 25 21.4	+0.1
KSRS	**Korea Array** comp=Z,19nm,18.2s,baz=35,slow=35	**45.21**	**338**	LR	LR	18 46 18.9	
SONM	**Songino Array** 0.1nm,0.5s,baz=145,slow=6.8,SNR=2.1	**62.98**	**330**	P	P	18 30 42.0	0.0

*ISCJB **12** 18:22:35.8±0.3, 55.37N±0.04×160.84E±0.10, h138km±3km, mb3.6/9, Error ellipse: s-maj=9.6km s-min=4.7km az=25.5*
*KRSC **12** 18:22:35.7±10.0, 55.32N×160.94E, h134km±10km, ML3.9*
*IDC **12** 18:22:37.7±1.8, 55.41N×160.62E, h143km±21km, mb3.4/9, mb1 3.5/13, mb1mx3.3/42, mbtmp3.8/13, Error ellipse: s-maj=22.4km s-min=17.3km az=163.0*

ISC 12 18:22:36.7±0.7, 55.35N±0.05×160.84E±0.06, h133km±5km, n47, σ0s70/55, mb3.7/9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**0.29**	**241**	*eP*		**Pn**	**18 22 54.8**	**-0.4**
TUMD				*eS*		**Sn**	**18 23 08.9**	**-0.2**
KZV	**Kizimen**	**0.39**	**234**	*eP*		**Pn**	**18 22 55.5**	**-0.3**
TUMR	**Tumrok**	**0.40**	**261**	*eP*		**Pn**	**18 22 55.9**	**+0.1**
TUMR				*eS*		**Sn**	**18 23 10.6**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**0.60**	**352**	*eP*		**Pn**	**18 22 56.8**	**0.0**
BZMR	**Bezymyannaya**	**0.62**	**341**	*eP*		**Pn**	**18 22 56.7**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.65**	**342**	*eP*		**Pn**	**18 22 56.8**	**-0.4**
KIRR	**Kirishev**	**0.67**	**335**	*eP*		**Pn**	**18 22 57.1**	**-0.3**
ZLN	**Zelenaya**	**0.67**	**358**	*eP*		**Pn**	**18 22 57.6**	**+0.3**
ZLN				*eS*		**Sn**	**18 23 14.1**	**+1.1**
LGNR	**Loginova**	**0.74**	**353**	*eP*		**Pn**	**18 22 58.2**	**+0.2**
LGNR				*eS*		**Sn**	**18 23 15.0**	**+0.8**
MKZ	**Mys Kozlova**	**0.94**	**147**	*eP*		**Pn**	**18 22 59.1**	**-0.2**
MKZ				*eS*		**Sn**	**18 23 16.2**	**-0.2**
KLY	**Klyuchi**	**0.98**	**354**	*eP*		**Pn**	**18 22 59.5**	**-0.1**
KLY				*eS*		**Sn**	**18 23 17.5**	**+0.5**
BDR	**Baidarnaya**	**1.24**	**9**	*eP*		**Pn**	**18 23 02.6**	**+0.3**
SRKR	**Sorokina**	**1.32**	**8**	*eP*		**Pn**	**18 23 03.3**	**+0.2**
KBTR	**Krutoberegovo**	**1.41**	**51**	*eP*		**Pn**	**18 23 03.9**	**-0.1**
KBTR				*eS*		**Sn**	**18 23 24.6**	**-0.2**
KII	**Karymskiy**	**1.54**	**212**	*eP*		**Pn**	**18 23 05.9**	**+0.4**
SPN	**Mys Shipunski**	**2.30**	**192**	*eP*		**Pn**	**18 23 13.3**	**-1.2**
NLC	**Nalytchevo**	**2.35**	**203**	*eP*		**Pn**	**18 23 15.3**	**+0.2**
GNL	**Ganaly**	**2.37**	**227**	*eP*		**Pn**	**18 23 15.8**	**+0.4**
SDLR	**Sedlovina**	**2.37**	**210**	*eP*		**Pn**	**18 23 16.2**	**+0.7**
KRX	**Arik**	**2.37**	**214**	*eP*		**Pn**	**18 23 16.5**	**+1.0**
KRER	**Koryakskii**	**2.38**	**212**	*eP*		**Pn**	**18 23 16.3**	**+0.5**
SMAR	**Somma**	**2.41**	**211**	*eP*		**Pn**	**18 23 16.8**	**+0.8**
AVH	**Avacha**	**2.42**	**211**	*eP*		**Pn**	**18 23 17.1**	**+1.0**
KOK	**Koryaka**	**2.43**	**213**	*eP*		**Pn**	**18 23 17.3**	**+1.1**
UGLR	**Uglovaya**	**2.45**	**210**	*eP*		**Pn**	**18 23 17.2**	**+0.8**
PET	**Petropavlovsk**	**2.66**	**210**	*eP*		**Pn**	**18 23 19.6**	**+0.6**
PETK	**Petropavlovsk-** 2.6nm,0.3s,baz=67,slow=15,SNR=25	**2.90**	**221**	P		**Pn**	**18 23 22.4**	**+0.3**
PETK	0.9nm,0.3s,baz=102,slow=18,SNR=2.6			S		Sn	18 24 07.7	+11
KRMR	**Karymshinskiy**	**2.98**	**213**	*eP*		**Pn**	**18 23 23.6**	**+0.4**
RUS	**Russkaya**	**3.23**	**206**	*eP*		**Pn**	**18 23

0.7nm,0.6s,baz=36,slow=3.7,SNR=6.3
TORD Torodi Ar. Bea 148.95 287 PKPbc **PKPdf 19 12 16.9 +1.2**
1.0nm,0.7s,baz=76,slow=3.0,SNR=7.3
TOA1 Torodi Ar. Sit 148.95 287 *e*PKPbc **PKPdf 19 12 16.9 +1.2**

*IDC **12** 19:00:11.1±1.5, 19.°17N×95.°61E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=37.2km s-min=15.5km az=34.0*
*ISCJB **12** 19:00:12.0±1.6, 19.°3N±0.°3×95.°9E±0.°2, h13km, mb3.6/5, Error ellipse: s-maj=47.4km s-min=11.9km az=36.8*
ISC 12 19:00:14.3±1.7, 19.°4N±0.°3×95.°9E±0.°2, h13km, n6, σ0°89/7, mb3.6/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**3.02**	**108**	Pn	**Pn**	**19 01 02.8**	**+0.9**
	0.3nm,0.3s,baz=277,slow=14,SNR=21						
CMAR				Pg	**Pg**	19 01 11.8	-0.5
	5.5nm,0.3s,baz=280,slow=17,SNR=100						
CMAR				Lg	Lg	19 01 52.8	
	8.3nm,0.3s,baz=276,slow=32,SNR=7.1						
AAK	**Ala-Archa**	**29.38**	**327**	P	**P**	**19 06 18.1**	**+0.7**
	0.6nm,0.6s,baz=169,slow=5.2,SNR=3.7						
MKAR	**Makanchi Array**	**29.50**	**341**	P	**P**	**19 06 17.6**	**-0.6**
	0.6nm,0.6s,baz=160,slow=8.7,SNR=8.4						
ZALV	**Zalesovo Beam**	**35.51**	**349**	P	**P**	**19 07 10.1**	**-0.6**
	0.6nm,0.4s,baz=179,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**56.62**	**137**	P	**P**	**19 09 56.7**	**-0.6**
	0.9nm,1.2s,baz=325,slow=6.5,SNR=4.5						
ILAR	**Eielson Array**	**83.48**	**23**	P	**P**	**19 12 42.2**	**+0.7**
	0.3nm,0.7s,baz=309,slow=5.1,SNR=2.9						

*ISCJB **12** 19:00:20.9±0.3, 4.°47N±0.°03×125.°95E±0.°06, h168km±5km, mb3.8/9, Error ellipse: s-maj=9.6km s-min=4.6km az=162.2*
*IDC **12** 19:00:21.4±1.0, 4.°48N×125.°88E, h160km±9km, mb3.6/9, mb1 3.8/13, mb1mx3.4/43, mbtmp4.2/13, Error ellipse: s-maj=27.6km s-min=8.4km az=68.0*
*MAN **12** 19:00:23.6, 4.°56N×125.°72E, h165km, mb5.3, ML4.3, MS4.5*
*DJA **12** 19:00:24.5±0.8, 4.°N±7.°×12.°6E±.°, h145km±8km, M4.2/9, mb4.2/7, mB4.7/5, MLv4.4/9, Mw(mB)3.9/5*
ISC 12 19:00:21.3±0.7, 4.°38N±0.°04×125.°86E±0.°07, h159km±6km, n36, σ1°92/54, mb3.9/9, 4C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.73**	**355**	*e*P	**Pn**	**19 00 54.0**	**+0.1**
DDMP				*e*S	**Sn**	**19 01 18.1**	**-1.0**
GSPH	**General Santos**	**1.93**	**332**	*i*P	**Pn**	**19 00 56.9**	**+0.6**
GSPH				*i* S	**Sn**	**19 01 21.5**	**-1.7**
SKMP	**Bagumbayan, Su**	**2.50**	**328**	*e*P	**Pn**	**19 01 03.4**	**+0.5**
SKMP				*e*S	**Sn**	**19 01 34.9**	**-0.2**
MATI	**Mati**	**2.58**	**9**	*e*P	**Pn**	**19 01 03.6**	**-0.3**
MATI				*e*S	**Sn**	**19 01 35.9**	**-1.0**
DAV	**Davao City (W)**	**2.69**	**354**	P	**Pn**	**19 01 05.0**	**-0.2**
	52nm,0.3s,baz=270,slow=8.1,SNR=3.5						
DAV				S	**Sn**	**19 01 37.5**	**-1.8**
	65nm,0.3s,baz=72,slow=20,SNR=5.6						
DMPH	**Davao City--Mi**	**2.71**	**353**	*e*P	**Pn**	**19 01 07.9**	**+2.5**
DMPH				*e*S	**Sn**	**19 01 38.8**	**-0.9**
KCP	**Kidapawan**	**2.73**	**344**	*i*P	**Pn**	**19 01 06.5**	**+0.8**
KCP				*i* S	**Sn**	**19 01 40.9**	**+0.7**
CTBH	**Cotabato--PC H**	**3.25**	**330**	*i*P	**Pn**	**19 01 12.5**	**+0.3**
BUKP	**Musuan**	**3.57**	**347**	*e*P	**Pn**	**19 01 17.0**	**+0.7**
BUKP				*e*S	**Sn**	**19 01 58.4**	**-0.8**
TNTI	**Ternate**	**3.88**	**157**	P	**Pn**	**19 01 21.5**	**+1.2**
TNTI				S	**Sn**	**19 02 06.0**	**-0.2**
CGP	**Cagayan de Oro**	**4.22**	**344**	*i*P	Pn	19 01 29.7	+5.1
CGP				*i* S	Pn	19 01 31.7	+7.1
CGP	**Cagayan de Oro**	**4.22**	**344**	*e*S	**Sn**	**19 02 17.5**	**+3.6**
KMSI	**Cibinong**	**4.22**	**207**	P	**Pn**	**19 01 27.4**	**+2.8**
BUTP	**Butuan**	**4.57**	**357**	*e*P	**Pn**	**19 01 30.1**	**+0.9**
BUTP				*e*S	**Sn**	**19 02 24.6**	**+2.3**
IPIL	**Ipil**	**4.71**	**316**	*e*P	**Pn**	**19 01 31.4**	**+0.3**
IPIL				*e*S	**Sn**	**19 02 23.6**	**-2.0**
LUWI	**Luwuk**	**6.20**	**210**	P	**Pn**	**19 01 53.7**	**+2.9**
SANI	**Sanana**	**6.38**	**179**	P	**Pn**	**19 01 52.1**	**-1.1**
SANI				S	**Sn**	**19 02 57.7**	**-7.6**
APSI	**Ampana**	**6.73**	**219**	P	Pn	19 02 02.7	+4.9
SIJI	**Sorong**	**7.50**	**134**	P	**Pn**	**19 02 09.3**	**+1.2**
	4.7nm,0.3s,baz=123,slow=23,SNR=31						
SIJI				S	**Sn**	**19 03 31.9**	**-0.3**
	0.6nm,0.3s,baz=198,slow=20,SNR=3.7						
NLAI	**Namlea**	**7.66**	**171**	P	**Pn**	**19 02 10.8**	**+0.6**
NLAI				S	**Sn**	**19 03 30.7**	**-5.3**
TTSI	**Tana Toraja**	**9.53**	**219**	P	**Pn**	**19 02 38.3**	**+3.3**
BATI	**Baumata**	**14.65**	**189**	P	**P**	**19 03 44.9**	**+1.7**
BATI	**Baumata**	**14.65**	**189**	P	**P**	**19 03 43.4**	**+0.2**
	8.5nm,0.3s,baz=172,slow=0.7,SNR=16						
JAY	**Jayapura**	**16.33**	**115**	P	**Pn**	**19 04 03.2**	**+1.4**
	0.8nm,0.3s,baz=287,slow=20,SNR=3.3						
JAGI	**Jajag, Banyuwa**	**17.30**	**222**	P	**Pn**	**19 04 16.4**	**+3.0**
FITZ	**Fitzroy Crossi**	**22.33**	**181**	P	**P**	**19 05 06.5**	**+0.4**
	2.7nm,0.3s,baz=5.5,slow=10,SNR=20						
WRA	**Warramunga Arr**	**25.56**	**161**	P	**P**	**19 05 36.0**	**+0.3**
	1.0nm,0.3s,baz=338,slow=10,SNR=49						
WRA				PcP	**PcP**	**19 09 03.1**	**+0.2**
	0.5nm,0.6s,baz=334,slow=2.3,SNR=5.0						
WRA				ScP	**ScP**	**19 12 27.0**	**-0.6**
	0.2nm,0.6s,baz=336,slow=2.5,SNR=3.3						
ASAR	**Alice Springs**	**28.95**	**165**	P	**P**	**19 06 06.9**	**+1.0**
	1.5nm,0.5s,baz=340,slow=7.1,SNR=53						
ASAR				PcP	**PcP**	**19 09 11.4**	**+0.5**
	0.4nm,0.4s,baz=349,slow=2.5,SNR=7.2						
ASAR				ScP	**ScP**	**19 12 36.8**	**-1.0**
	0.2nm,0.7s,baz=350,slow=3.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**29.80**	**300**	P	**P**	**19 06 14.0**	**+0.5**
	0.8nm,0.8s,baz=122,slow=8.6,SNR=3.5						
STKA	**Stephens Creek**	**39.04**	**159**	P	**P**	**19 07 33.9**	**+1.2**
	2.8nm,0.6s,baz=327,slow=8.6,SNR=5.2						
KLR	**Kul'dur**	**44.97**	**5**	P	**P**	**19 08 20.7**	**+0.1**
	0.8nm,0.6s,baz=179,slow=9.3,SNR=4.5						
SONM	**Songino Array**	**46.42**	**342**	PcP	**PcP**	**19 10 04.3**	**0.0**
	0.3nm,0.5s,baz=183,slow=2.7,SNR=3.5						
MKAR	**Makanchi Array**	**56.54**	**325**	P	**P**	**19 09 46.1**	**-1.1**
	0.5nm,0.5s,baz=119,slow=7.8,SNR=8.3						
MKAR				PcP	**PcP**	**19 10 41.3**	**-0.6**
	0.8nm,0.4s,baz=112,slow=3.3,SNR=7.4						
MKAR				ScP	**ScP**	**19 14 25.3**	**-1.2**
	0.2nm,0.5s,baz=114,slow=3.5,SNR=3.7						
BVAR	**Borovoye Array**	**66.31**	**327**	P	**P**	**19 10 51.5**	**-1.1**
	0.2nm,0.4s,baz=84,slow=4.1,SNR=4.1						
ARCES	**ARCESS Array B**	**89.55**	**340**	P	**P**	**19 12 59.1**	**-1.2**
	5.6nm,0.9s,baz=75,slow=6.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**121.90**	**288**	PKP	**PKPdf**	**19 18 56.3**	**-1.4**
	0.4nm,0.4s,baz=71,slow=1.0,SNR=9.1						

*JMA **12** 19:04:31.2±0.5, 43.°82N×148.°30E, h0km, M3.7*
*SKHL **12** 19:04:32.3±0.4, 43.°99N×148.°63E, h52km±6km, mb4.2/4*
ISC 12 19:04:30.6±3.3, 44.°07N±0.°10×148.°5E±0.°2, h8km±13km, n13, σ1°92/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**1.19**	**261**	*e*P	**Pg**	**19 04 53.2**	**-0.2**
SHO				AMB	AMB	19 04 55.0	
	18nm,0.3s						
SHO				AMB	AMB	19 04 55.0	
	29nm,0.3s						
SHO				AMB	AMB	19 04 55.0	
	51nm,0.3s						
SHO				*e*S	**Sg**	**19 05 09.0**	**+0.2**
SHO				A	A	19 05 10.0	
	563nm,0.3s						
SHO				A	A	19 05 10.0	
	368nm,0.3s						
KUR	**Kuril'sk**	**1.24**	**340**	*i*P	**Pg**	**19 04 54.0**	**-0.4**
KUR				AMB	AMB	19 04 55.0	
	46nm,0.3s						
KUR				*i* S	**Sg**	**19 05 09.9**	**-0.5**
KUR				A	A	19 05 14.0	
	325nm,0.3s						
KUR				A	A	19 05 14.0	
	246nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.87**	**270**	*i*P	**Pn**	**19 05 03.0**	**+0.2**
YUK				AMB	AMB	19 05 06.0	
	110nm,0.3s						
YUK				*i* S	**Sn**	**19 05 26.0**	**-0.5**
YUK				A	A	19 05 28.0	
	223nm,0.3s						
YUK				A	A	19 05 28.0	
	270nm,0.3s						
GRPR	**Tuman**	**1.93**	**269**	*e*P	**Pn**	**19 05 04.0**	**+0.3**
GRPR				AMB	AMB	19 05 06.0	
	54nm,0.3s						
GRPR				*e*S	**Sn**	**19 05 28.0**	**-0.2**
GRPR				A	A	19 05 32.0	
	264nm,0.3s						
GRPR				A	A	19 05 32.0	
	329nm,0.3s						
NEM2	**Nemuro 2**	**2.09**	**251**	P	**Pn**	**19 05 05.3**	**-0.5**
NEM2				*e*S	**Sn**	**19 05 30.7**	**-1.2**
JRA	**Rausu**	**2.41**	**268**	P	**Pn**	**19 05 11.4**	**+1.2**
JKHN	**Kushirohamanak**	**2.59**	**249**	*e*S	**Sn**	**19 05 43.4**	**-0.8**
JNK	**Nakash**	**2.74**	**261**	P	**Pn**	**19 05 15.1**	**+0.3**
JAK	**Akkeshi**	**2.93**	**250**	P	**Pn**	**19 05 17.7**	**+0.3**
JAK				*e*S	**Sn**	**19 05 52.0**	**-0.8**
JTKR	**Abashiri--Toko**	**3.28**	**270**	P	**Pn**	**19 05 24.6**	**+2.4**
JAR	**Ashorobuto**	**3.48**	**259**	P	**Pn**	**19 05 26.3**	**+1.3**
JCH	**Churui**	**3.99**	**250**	P	**Pn**	**19 05 33.0**	**+1.1**
JCH				*e*S	**Sn**	**19 06 17.8**	**-1.0**
JKB	**Kayabe**	**5.86**	**251**	P	**Pn**	**19 05 58.9**	**+1.2**

*NEIC **12** 19:19:57.0±0.0, 15.°98N×95.°27W, h9km, MD4.0(MEX), After MEX.*
MEX 12 19:19:57.0±0.6, 15.°98N×95.°27W, h9km±6km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.83**	**256**	*i*P	Pg	19 20 10.8	-2.3
HUIG				*i* S	Sg	19 20 21.6	-2.3
HUIG	**Huatulco**	**0.83**	**256**	*i*P	Pg	19 20 10.8	-2.3
HUIG				*i* S	Sg	19 20 21.6	-2.3
CMIG	**Matias Romero**	**1.17**	**18**	*e*P	Pb	19 20 15.5	-3.8
CMIG				*e*S	Sb	19 20 29.9	-4.7
CMIG	**Matias Romero**	**1.17**	**18**	*e*P	Pb	19 20 15.5	-3.8
CMIG				*e*S	Sb	19 20 29.9	-4.7
VHO	**Vista Hermosa**	**1.78**	**308**	*e*P	Pn	19 20 25.1	-3.0
VHO				*e*S	Sn	19 20 46.2	-4.6
VHO	**Vista Hermosa**	**1.78**	**308**	*e*P	Pn	19 20 25.1	-3.0
VHO				*e*S	Sn	19 20 46.2	-4.6
PCIG		**1.99**	**98**	*e*P	Pn	19 20 27.8	-3.0
PCIG				*e*S	Sn	19 20 51.1	-4.8
PCIG		**1.99**	**98**	*e*P	Pn	19 20 27.8	-3.0
PCIG				*e*S	Sn	19 20 51.1	-4.8
TUIG	**Tuzandepetl**	**2.20**	**22**	*i*P	Pn	19 20 31.2	-2.5
TUIG	**Tuzandepetl**	**2.20**	**22**	*i*P	Pn	19 20 31.2	-2.5
PNIG	**Pinotepa**	**2.78**	**279**	*e*P	Pn	19 20 38.0	-3.6
PNIG	**Pinotepa**	**2.78**	**279**	*e*P	Pn	19 20 38.0	-3.6

IDC 12 19:21:27.5±1.6, 5.°37S×129.°69E, h132km±19km, mb2.9/1, mb1 3.1/5, mb1mx2.9/41, mbtmp3.5/5, Error ellipse: s-maj=29.9km s-min=12.9km az=113.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.74**	**19**	P	Pn	19 22 36.5	-0.8
	1.5nm,0.3s,baz=192,slow=23,SNR=19						
SIJI				S	Sn	19 23 32.4	+0.9
	1.9nm,0.3s,baz=227,slow=23,SNR=16						
BATI	**Baumata**	**7.66**	**231**	P	Pn	19 23 15.8	-0.6
	2.3nm,0.3s,baz=69,slow=2.3,SNR=4.6						
BATI				S	Sn	19 24 42.9	+1.1
	0.7nm,0.3s,baz=53,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**15.18**	**163**	P	Pn	19 24 55.7	+0.7
	0.1nm,0.3s,baz=346,slow=14,SNR=9.8						
ASAR	**Alice Springs**	**18.64**	**168**	P	P	19 25 35.4	+0.2
	0.1nm,0.3s,baz=345,slow=11,SNR=12						
MKAR	**Makanchi Array**	**66.70**	**327**	P	P	19 32 04.3	0.0
	0.1nm,0.4s,baz=122,slow=8.0,SNR=3.8						

*ISCJB **12** 19:22:31.2±1.7, 11.°70N±0.°06×89.°12W±0.°05, h15km±17km, mb3.3/3, Error ellipse: s-maj=11.2km s-min=5.7km az=35.8*
*UCR **12** 19:22:33.2±1.3, 11.°73N×89.°08W, h27km±15km, MD3.6, ML3.9*
*IDC **12** 19:22:35.1±1.3, 13.°42N×87.°53W, h0km, mb3.3/3, mb1 3.8/5, mb1mx3.5/34, mbtmp3.4/5, ML3.4/2, Error ellipse: s-maj=67.7km s-min=16.2km az=48.0*
ISC 12 19:22:32.9±3.1, 11.°75N±0.°08×89.°11W±0.°06, h24km±22km, n30, σ1°45/40, mb3.4/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**1.85**	**26**	*e*P	**Pn**	**19 23 03.7**	**+0.2**
VSM				*e*S	**Sn**	**19 23 27.8**	**+1.4**
LFRS	**El Faro**	**1.86**	**1**	*e*P	**Pn**	**19 23 03.1**	**-0.3**
LCMA	**San Marcos**	**1.89**	**358**	*e*P	**Pn**	**19 23 04.2**	**+0.4**
LCND	**La Caada**	**1.95**	**37**	*e*P	**Pn**	**19 23 04.4**	**-0.2**
PAVA	**Las Pavas**	**1.96**	**5**	*e*P	**Pn**	**19 23 04.7**	**-0.1**
PAVA				*e*S	**Sn**	**19 23 29.6**	**+0.9**
CNCH	**Conchagua**	**1.96**	**39**	*e*P	**Pn**	**19 23 04.3**	**-0.6**
BOQS	**Boqueron**	**1.98**	**355**	*e*P	**Pn**	**19 23 05.4**	**+0.3**
LFU	**La Fuente**	**1.98**	**360**	*e*P	**Pn**	**19 23 05.4**	**+0.3**
CEVE	**Cerro Verde**	**2.12**	**346**	*e*P	**Pn**	**19 23 07.9**	**+0.7**
CEVE				*e*S	**Sb**	**19 23 35.8**	**-1.1**
CEVE				IAML		19 23 41.7	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**2.13**	**347**	*e*P	**Pn**	**19 23 08.0**	**+0.7**
SNJE	**San Jose**	**2.16**	**347**	*e*P	**Pn**	**19 23 08.1**	**+0.5**
CAHU	**Cacacuatique**	**2.19**	**24**	*e*P	**Pn**	**19 23 08.8**	**+0.8**
RTR	**El Retiro**	**2.19**	**346**	*e*P	**Pn**	**19 23 09.0**	**+0.9**
CRIN	**San Cristobal**	**2.22**	**65**	*e*P	**Pn**	**19 23 08.2**	**-0.1**
VICT	**Victoria**	**2.24**	**12**	*e*P	**Pn**	**19 23 08.5**	**+0.8**
VICT				*e*S	**Sn**	**19 23 37.9**	**+2.3**
TELN	**Telica**	**2.38**	**69**	*e*P	**Pn**	**19 23 10.4**	**-0.2**
CNGN	**Cerro Negro**	**2.47**	**72**	*e*P	**Pn**	**19 23 11.8**	**0.0**
IXG	**Ixpaco**	**2.73**	**332**	*e*P	**Pn**	**19 23 16.3**	**+0.8**
IXG				*e*S	**Sn**	**19 23 46.2**	**-1.7**
TGUH	**Tegucigalpa,Un**	**2.91**	**38**	*e*P	**Pn**	**19 23 17.9**	**+0.1**
PCG	**Pacaya**	**3.00**	**331**	*e*S	**Sn**	**19 23 57.3**	**+2.7**
NBG	**Las Nubes**	**3.06**	**337**	*e*P	**Pn**	**19 23 22.4**	**+2.2**
NBG				*e*S	**Sn**	**19 23 58.0**	**+1.7**
FUG	**Fuego 3**	**3.17**	**328**	*e*P	**Pn**	**19 23 22.7**	**+1.3**
FUG				*e*S	**Sn**	**19 23 57.2**	**-1.4**
MATN	**Matagalpa**	**3.33**	**69**	*e*P	**Pn**	**19 23 23.4**	**-0.2**
APG	**El Apazote**	**3.49**	**338**	Pn	**Pn**	**19 23 27.1**	**+1.2**
	comp=Z,1.7nm,0.3s,baz=180,slow=13,SNR=5.9						
APG				Sn	**Sn**	**19 24 08.8**	**+2.1**
	comp=Z,5.7nm,0.3s,baz=336,slow=21,SNR=12						
JTS	**JuntasAbangare**	**4.33**	**109**	Pn	**Pn**	**19 23 38.8**	**+1.5**
	comp=Z,7.0nm,0.3s,baz=162,slow=22,SNR=24						
JTS				Sn	**Sn**	**19 24 29.5**	**+2.3**
	comp=Z,3.4nm,0.3s,baz=0.4,slow=18,SNR=2.9						
JTS				Lg	Lg	19 24 40.7	
	comp=Z,1.6nm,0.3s,baz=342,slow=20,SNR=3.8						
CMIG	**Matias Romero**	**7.71**	**314**	Pn	**Pn**	**19 24 25.3**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=62,slow=15,SNR=5.1						
CMIG				Sn	**Sn**	**19 25 47.5**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=310,slow=16,SNR=2.5						
TXAR	**Lajitas Array**	**22.14**	**324**	P	**P**	**19 27 28.6**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=128,slow=10,SNR=4.1						
YKA	**Yellowknife Ar**	**53.87**	**346**	P	**P**	**19 31 50.4**	**-3.4**
	comp=Z,0.3nm,0.8s,baz=144,slow=7.6,SNR=5.6						
ILAR	**Eielson Array**	**66.01**	**337**	P	**P**	**19 33 18.3**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=176,slow=5.0,SNR=6.7						
CMAR	**Chiang Mai Arr**	**148.95**	**345**	PKPbc	**PKiKP**	**19 42 20.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=328,slow=3.2,SNR=4.4						

MAN 12 19:22:59.4, 14.°91N×122.°45E, h38km, mb3.9, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.53**	**250**	*e*P	Pn	19 23 11.8	+1.3
POLP				*e*S	Sn	19 23 21.4	+3.2
GQP	**Guinayangan**	**1.00**	**180**	*e*P	Pn	19 23 17.1	+0.2
GQP				*e*S	Sn	19 23 30.6	+0.9
BALP	**Baler**	**1.19**	**315**	*e*P	Pn	19 23 19.8	+0.4
BALP				*e*S	Sn	19 23 33.6	-0.8

KRSC 12 19:28:39.4±10.0, 51.°02N×158.°19E, h40km±10km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.79**	**355**	*e*P	Pn	19 28 55.0	+0.9
KDTR				*e*S	Sn	19 29 05.9	+1.1
PAU	**Pauzhetka**	**0.97**	**298**	*e*P	Pn	19 28 58.1	+1.5
SKR	**Severo-Kuril's**	**1.35**	**256**	*e*P	Pn	19 29 02.9	+1.1
SKR				*e*S	Sn	19 29 20.0	+1.5
ASAK	**Asacha**	**1.38**	**353**	*e*P	Pn	19 29 03.6	+1.4
RUS	**Russkaya**	**1.43**	**8**	*e*P	Pn	19 29 03.5	+0.7
RUS				*e*S	Sn	19 29 22.5	+2.1
MTVR	**Mutnovka**	**1.47**	**360**	*e*P	Pn	19 29 04.8	+1.3
MTVR				*e*S	Sn	19 29 23.4	+1.9
ALID	**Alaid**	**1.68**	**266**	*e*P	Pn	19 29 08.3	+2.0
KRMR	**Karymshinskiy**	**1.81**	**359**	*e*P	Pn	19 29 10.2	+2.1
APC	**Apacha**	**2.01**	**342**	*e*P	Pn	19 29 13.2	+2.4
DALK	**Dalny**	**2.04**	**10**	*e*P	Pn	19 29 12.7	+1.4
DALK				*e*S	Sn	19 29 37.9	+2.4
UGLR	**Uglovaya**	**2.23**	**10**	*e*P	Pn	19 29 15.9	+2.0
AVH	**Avacha**	**2.27**	**8**	*e*P	Pn	19 29 17.1	+2.6
SMAR	**Somma**	**2.28**	**9**	*e*P	Pn	19 29 17.5	+2.8
KOK	**Koryaka**	**2.29**	**7**	*e*P	Pn	19 29 17.5	+2.7
SDLR	**Sedlovina**	**2.30**	**10**	*e*P	Pn	19 29 17.2	+2.3
KRER	**Koryakskii**	**2.31**	**8**	*e*P	Pn	19 29 19.0	+3.8
KRX	**Arik**	**2.36**	**7**	*e*P	Pn	19 29 19.1	+3.4
GNL	**Ganaly**	**2.68**	**357**	*e*P	Pn	19 29 23.2	+3.0

*NSSP **12** 19:30:49.6, 38.°45N×46.°65E, h15km, Ms3.2*
*THR **12** 19:30:51.2, 38.°40N×46.°64E, h14km, ML3.1*
*TEH **12** 19:30:51.0, 38.°39N×46.°65E, h11km, ML3.4*
*ISCJB **12** 19:30:53.9±0.7, 38.°21N±0.°04×46.°59E±0.°08, h10km, Error ellipse: s-maj=9.6km s-min=5.6km az=169.7*
ISC 12 19:30:50.1±0.9, 38.°38N±0.°03×46.°66E±0.°03, h10km, n21, σ1°02/24, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.43**	**250**	*e*Pg	**Pg**	**19 30 59.4**	**+0.9**
ITBZ				IAMB	IAmb	19 31 06.0	
	comp=Z,21μm,0.2s						
IBST	**Bostanabad**	**0.70**	**165**	*e*Pg	**Pg**	**19 31 04.3**	**+0.6**
IMRD	**Marand**	**0.82**	**294**	IAMB	IAmb	19 31 20.1	
	comp=Z,44μm,0.3s						
IMRD				*e*Pg	**Pg**	**19 31 06.1**	**+0.2**
IAZR	**Azarshahr**	**0.88**	**218**	IAMB	IAmb	19 31 26.8	
	comp=Z,15μm,0.3s						
IAZR				*e*Pg	**Pg**	**19 31 08.2**	**+1.2**
GRMI	**Germi**	**1.06**	**66**	*e*Pg	**Pg**	**19 31 11.3**	**+0.8**
GRMI	**Germi**	**1.06**	**66**	*e*Pg	**Pg**	**19 31 11.2**	**+0.8**
GRMI				*e*Sg	**Sb**	**19 31 25.8**	**+1.3**
MAHB	**Mahabad**	**1.78**	**205**	*e*Pn	**Pb**	**19 31 24.1**	**+1.3**
MAHB				IAMB	IAmb	19 31 25.7	
	comp=Z,0.0nm,0.2s						
MAKU	**Maku**	**1.82**	**303**	*e*Pn	**Pb**	**19 31 23.9**	**+0.3**
MAKU	**Maku**	**1.82**	**303**	*e*AML	AML	19 31 53.0	
	comp=E,183nm,0.4s						
MAKU	**Maku**	**1.82**	**303**	*e*Pn	**Pb**	**19 31 23.9**	**+0.3**
MAKU				*e*Sg	**Sb**	**19 31 48.2**	**+1.6**
YOVA	**Hakkari_Yksek**	**2.03**	**248**	*i*P	**Pg**	**19 31 29.0**	**0.0**
YOVA				IAML_P			
	comp=Z,504nm,0.3s						
CLDR	**Caldiran**	**2.27**	**290**	*i*P	**Pg**	**19 31 33.8**	**+0.2**
CLDR				IAML_P			
	comp=Z,712nm,0.3s						
GNI	**Garni**	**2.31**	**321**	*i*P	**Pb**	**19 31 32.5**	**+0.6**
GNI				*i* S	**Sg**	**19 32 03.8**	**-0.6**
ZNJK	**Zanjan**	**2.35**	**136**	*e*Pn	**Pb**	**19 31 31.9**	**-0.7**
ZNJK	**Zanjan**	**2.35**	**136**	*e*Pn	**Pb**	**19 31 31.9**	**-0.7**
VMUR	**Van-Muradiye**	**2.49**	**285**	*i*P	**Pn**	**19 31 28.9**	**-2.0**
VMUR				IAML_P			
	comp=Z,85nm,0.3s						
CUKT	**Cukurca**	**2.67**	**246**	*i*P	**Pg**	**19 31 41.0**	**-0.2**
DDFL	**Dedoflistskaro**	**3.09**	**352**	P	**Pb**	**19 31 45.7**	**+0.5**
DDFL				S	**Sg**	**19 32 27.8**	**-1.6**
LGD	**Lagodekhi**	**3.47**	**355**	P	**Pb**	**19 31 51.6**	**+0.1**
LGD				S	**Sb**	**19 32 35.2**	**+1.5**
TRLG	**Trialeti**	**3.72**	**329**	P	**Pb**	**19 31 57.0**	**+1.1**
SRTM	**Siirt_Merkez**	**3.75**	**266**	*i*P	Pn	19 31 40.3	-7.8
SRTM				IAML_P			
	comp=Z,158nm,0.4s						

*IDC **12** 19:36:04.5±1.4, 5.°34S×141.°91E, h0km, mb4.1/7, mb1 4.2/11, mb1mx4.1/25, mbtmp4.2/11, ML4.2/4, MS3.0/2, Ms1 3.0/2, ms1mx2.6/33, Error ellipse: s-maj=33.9km s-min=21.4km az=105.0*
*ISCJB **12** 19:36:06.8±0.3, 5.°47S±0.°04×141.°71E±0.°06, h25km, mb4.7/45, MS3.0/1, Error ellipse: s-maj=8.9km s-min=6.3km az=5.7*
*NEIC **12** 19:36:09.3

	17nm,0.4s								
KOLN	**Koldanda**	**65.03**	**304**	*e*P		**P**		**19 46 47.9**	**+0.7**
	11nm,0.8s								
DANN	**Dangsing**	**65.11**	**305**	*e*P		**P**		**19 46 48.2**	**+0.4**
	12nm,0.5s								
TLY	**Talaya**	**65.52**	**335**	*e*P		**P**		**19 46 51.0**	**+1.3**
	1.9nm,0.8s								
PYUN	**Piuthan**	**65.66**	**304**	*e*P		**P**		**19 46 51.7**	**+0.5**
	16nm,0.6s								
MK01	**Makanchi Array**	**73.76**	**322**	*e*P		**P**		**19 47 41.0**	**+0.5**
MK31	**Makanchi Array**	**73.77**	**322**	*e*P		**P**		**19 47 41.1**	**+0.5**
	2.7nm,0.9s								
MK32	**Makanchi Array**	**73.77**	**322**	*e*P		**P**		**19 47 41.5**	**+0.8**
MKAR	**Makanchi Array**	**73.77**	**322**	P		**P**		**19 47 41.5**	**+0.8**
	5.6nm,1.0s,baz=104,slow=7.8,SNR=26								
MAKZ	**Makanchi**	**73.97**	**322**	*e*P		**P**		**19 47 42.3**	**+0.5**
	5.0nm,1.0s								
PRZ	**Przheval'sk**	**74.50**	**317**	*e*P		**P**		**19 47 46.4**	**+1.1**
	8.8nm,1.3s								
KDJ	**Kajisay**	**75.21**	**316**	*e*P		**P**		**19 47 51.0**	**+1.7**
	3.0nm,0.9s								
NRN	**Naryn**	**75.78**	**315**	*e*P		**P**		**19 47 52.8**	**0.0**
	5.0nm,1.6s								
ZALV	**Zalesovo Beam**	**75.79**	**329**	*e*P		**P**		**19 47 51.9**	**-0.2**
ZALV	**Zalesovo Beam**	**75.79**	**329**	P		**P**		**19 47 51.7**	**-0.4**
	0.4nm,0.5s,baz=120,slow=8.5,SNR=3.8								
ZAA1	**Zalesovo Array**	**75.79**	**329**	*e*P		**P**		**19 47 51.7**	**-0.4**
AAK	**Ala-Archa**	**77.25**	**316**	*e*P		**P**		**19 48 02.0**	**+1.1**
	5.4nm,1.8s								
TIXI	**Tiksi**	**77.38**	**356**	*e*P		**P**		**19 48 01.4**	**+0.6**
	7.7nm,1.7s								
KURK	**Kurchatov**	**77.66**	**325**	*e*P		**P**		**19 48 03.1**	**+0.4**
	1.9nm,0.6s								
GAR	**Garm**	**79.15**	**311**	*e*P		**P**		**19 48 11.8**	**+0.3**
	4.8nm,0.9s								
CHGR	**Chuyangaron**	**79.93**	**311**	*e*P		**P**		**19 48 15.7**	**0.0**
	6.9nm,0.8s								
KDAK	**Kodiak Island**	**81.92**	**30**	*e*P		**P**		**19 48 26.7**	**+1.0**
	193nm,1.9s								
RSO	**Redoubt South**	**82.93**	**27**	*e*P		**P**		**19 48 28.9**	**-2.3**
NRIK	**Noril'sk**	**83.16**	**343**	P		**P**		**19 48 32.1**	**+0.1**
	2.0nm,0.3s,baz=121,slow=3.8,SNR=4.5								
BRVK	**Borovoye**	**83.33**	**325**	*e*P		**P**		**19 48 32.9**	**-0.2**
	3.2nm,0.8s								
IM3	**Indian Mountai**	**84.85**	**22**	*e*P		**P**		**19 48 41.4**	**+0.7**
TRF	**Thorofare Moun**	**85.18**	**25**	*e*P		**P**		**19 48 42.2**	**-0.4**
	51nm,2.0s								
KNK	**Knik Glacier**	**85.23**	**27**	*e*P		**P**		**19 48 43.2**	**+0.5**
	76nm,2.0s								
SML	**Sawmill**	**85.42**	**27**	*e*P		**P**		**19 48 43.6**	**0.0**
	57nm,1.7s								
MLY	**Manley**	**85.60**	**23**	*e*P		**P**		**19 48 45.0**	**+0.5**
	2.2nm,0.7s								
RND	**Reindeer**	**85.76**	**25**	*e*P		**P**		**19 48 45.2**	**-0.1**
	6.0nm,0.9s								
MCK	**McKinley**	**85.84**	**25**	*e*P		**P**		**19 48 44.9**	**-0.8**
	37nm,1.8s								
SCM	**Sheep Creek Mo**	**85.88**	**27**	*e*P		**P**		**19 48 45.9**	**-0.1**
	113nm,2.0s								
DHY	**Denali Highway**	**86.28**	**26**	*e*P		**P**		**19 48 48.5**	**+0.6**
	16nm,1.4s								
WRH	**Wood River Hil**	**86.45**	**24**	*e*P		**P**		**19 48 48.4**	**-0.3**
	30nm,2.0s								
MDM	**Murphy Dome**	**86.56**	**24**	*e*P		**P**		**19 48 48.4**	**-0.9**
	16nm,1.8s								
CCB	**Clear Creek Bu**	**86.63**	**24**	*e*P		**P**		**19 48 48.6**	**-0.9**
	3.4nm,0.7s								
HMT	**Hamilton**	**86.83**	**29**	*e*P		**P**		**19 48 51.3**	**+0.6**
	74nm,1.4s								
HARP	**HAARP**	**87.03**	**26**	*e*P		**P**		**19 48 49.0**	**-2.6**
	112nm,1.7s								
IL1	**Eielson Array**	**87.04**	**24**	*e*P		**P**		**19 48 50.6**	**-1.0**
ILAR	**Eielson Array**	**87.04**	**24**	P		**P**		**19 48 50.5**	**-1.0**
	1.8nm,0.6s,baz=261,slow=4.5,SNR=29								
ILB	**Eielson Array**	**87.04**	**24**	*e*P		**P**		**19 48 50.6**	**-0.9**
	22nm,1.9s								
RIDG	**Independ'e Rid**	**87.57**	**25**	*e*P		**P**		**19 48 54.6**	**+0.4**
	37nm,1.8s								
DOT	**Dot Lake**	**87.87**	**25**	*e*P		**P**		**19 48 56.7**	**+1.1**
	15nm,1.7s								
BALM	**Baldy**	**87.93**	**28**	*e*P		**P**		**19 48 56.7**	**+0.7**
	24nm,1.4s								
SCRK	**Sand Creek**	**88.00**	**25**	*e*P		**P**		**19 48 56.9**	**+0.6**
	15nm,2.0s								
FYU	**Fort Yukon**	**88.26**	**22**	*e*P		**P**		**19 48 58.5**	**+1.2**
	19nm,1.5s								
ABKAR	**Akbulak array**	**88.73**	**320**	*e*P		**P**		**19 48 58.9**	**-1.0**
	7.6nm,1.8s								
CLL	**Collm**	**117.66**	**326**	*e*PKiKP		**PKiKP**		**19 54 53.0**	**+0.6**

*ISCJB **12** 19:49:02.6±0.5,55.°16S±0.°05×158.°44E±0.°10,h10km, mb4.6/16,MS5.1/1,Error ellipse: s-maj=9.4km s-min=5.2km az=41.3*

*IDC **12** 19:49:02.6±1.5,55.°30S×158.°35E,h0km,mb3.9/5, mb1 4.1/6,mb1mx4.0/23,mbtmp4.0/6,ML3.9/1,MS3.9/5, Ms1 3.8/5,ms1mx3.6/31,Error ellipse: s-maj=34.7km s-min=25.8km az=77.0*

*NEIC **12** 19:49:04.4±0.5,55.°17S×158.°35E,h10km,mb4.6/16,Error ellipse: s-maj=9.9km s-min=6.6km az=140.0*

*BJI **12** 19:49:06.2,55.°42S×158.°06E,h26km,mb4.8/4,Ms4.8/1, Ms7 4.8/2*

ISC 12 19:49:05.0±0.6,**55.°16S**±0.°06×**158.°61E**±0.°09,**h10**km,**n48**, σ**2**s**16**/49,**mb4.8**/16,**1C**,**Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**0.69**	**17**	*e*Pg	**Pg**	**19 49 17.8**	**-0.5**
MCQ				*e*Sn	**Sn**	**19 49 30.9**	**-0.6**
PYZ	**Puysegur Point**	**10.35**	**33**	*e*Pn	**Pn**	**19 51 32.4**	**-1.0**
PYZ				*e*Sn	**Sn**	**19 53 28.3**	**-1.0**
WHZ	**Wether Hill Ro**	**11.01**	**36**	*e*Pn	**Pn**	**19 51 42.2**	**-0.2**
WHZ				*e*Sn	**Sn**	**19 53 42.1**	**-3.3**
DCZ	**Deep Cove**	**11.13**	**33**	*e*Pn	**Pn**	**19 51 44.4**	**+0.4**
DCZ				*e*Sn	**Sn**	**19 53 50.4**	**+2.1**
MLZ	**Mavora Lakes**	**11.53**	**36**	*e*Pn	**Pn**	**19 51 50.0**	**+0.5**
MLZ				*e*Sn	**Sn**	**19 53 57.2**	**-1.0**
WKZ	**Wanaka**	**12.30**	**37**	*e*Pn	**Pn**	**19 51 59.6**	**-0.5**
WKZ				*e*Sn	**Sn**	**19 54 21.9**	**+4.6**
ODZ	**Otahua Downs**	**12.71**	**42**	*e*Pn	**Pn**	**19 52 04.6**	**-1.1**
LBZ	**Lake Benmore**	**13.10**	**39**	*e*Pn	**Pn**	**19 52 10.0**	**-1.0**
FOZ	**Fox Glacier**	**13.72**	**37**	*e*Pn	**Pn**	**19 52 15.7**	**-3.7**
RPZ	**Rata Peaks**	**14.00**	**40**	Pn	**Pn**	**19 52 23.4**	**+0.2**
	0.6nm,0.3s,baz=225,slow=2.9,SNR=3.1						
RPZ				LR	LR	19 57 00.5	
	comp=Z,265nm,18.3s,baz=192,slow=34						
TAU	**Tasmania Unive**	**14.29**	**324**	*e*Pn	**Pn**	**19 52 24.8**	**-2.4**
MQZ	**McQueen's Vall**	**14.62**	**44**	*e*Pn	**Pn**	**19 52 33.0**	**+1.2**
OXZ	**Oxford**	**14.70**	**42**	*e*Pn	**Pn**	**19 52 34.3**	**+1.4**
CRLZ	**Canterbury Las**	**14.72**	**44**	*e*Pn	**Pn**	**19 52 35.4**	**+2.3**
LTZ	**Lake Taylor**	**15.26**	**41**	*e*Pn	**P**	**19 52 42.9**	**-2.4**
	34nm,1.5s						
KHZ	**Kahutara**	**16.06**	**44**	*e*Pn	**P**	**19 52 54.7**	**+0.6**
	23nm,1.3s						
THZ	**Tophouse**	**16.37**	**41**	*e*Pn	**P**	**19 52 57.5**	**-0.1**
	52nm,1.4s						
BFZ	**Birch Farm**	**18.61**	**46**	*e*P	**P**	**19 53 17.9**	**-4.5**
	43nm,1.2s						
TOO	**Toolangi**	**19.72**	**328**	*e*P	**P**	**19 53 34.0**	**-0.6**
	79nm,1.8s						
BKZ	**Black Stump Fm**	**20.00**	**44**	*e*P	Pn	19 53 38.5	-0.8
	29nm,1.2s						
CAN	**Canberra**	**20.92**	**338**	*e*P	Pn	19 53 48.9	-1.2
	18nm,1.2s						
URZ	**Urewera**	**21.02**	**44**	P	**P**	**19 53 50.3**	**+1.7**
	7.7nm,0.8s,baz=210,slow=20,SNR=5.4						
MXZ	**Matakaoa Point**	**22.11**	**45**	*e*P	**P**	**19 54 02.9**	**+2.6**
	244nm,1.9s						
VNDA	**Vanda**	**22.49**	**178**	*e*P	**P**	**19 54 03.0**	**-1.0**
VNDA	**Vanda**	**22.49**	**178**	P	**P**	**19 54 01.8**	**-2.2**
	1.3nm,0.8s,baz=336,slow=9.2,SNR=7.0						
VNDA				LR	LR	20 01 14.5	
	comp=Z,140nm,19.6s,baz=136,slow=33						
STKA	**Stephens Creek**	**26.20**	**326**	*e*P	**P**	**19 54 42.0**	**+2.4**
	8.0nm,1.8s						
STKA	**Stephens Creek**	**26.20**	**326**	P	**P**	**19 54 41.0**	**+1.3**
	2.4nm,0.8s,baz=168,slow=10.0,SNR=4.0						
STKA				LR	LR	20 03 10.3	
	comp=Z,156nm,21.8s,baz=198,slow=32						
AS01	**Alice Springs**	**36.38**	**320**	*e*P	**P**	**19 56 07.5**	**-1.9**
ASAR	**Alice Springs**	**36.40**	**320**	P	**P**	**19 56 08.5**	**-1.0**
	1.3nm,0.7s,baz=160,slow=8.9,SNR=9.8						
AS31	**Alice Springs**	**36.40**	**320**	*e*P	**P**	**19 56 08.1**	**-1.4**
	3.6nm,1.5s						
WB2	**Warramunga Arr**	**39.66**	**323**	*e*P	**P**	**19 56 35.5**	**-1.5**
	19nm,1.1s						
WR1	**Warramunga Arr**	**39.66**	**323**	*e*P	**P**	**19 56 35.0**	**-2.0**
	43nm,1.8s						
WRA	**Warramunga Arr**	**39.66**	**323**	P	**P**	**19 56 35.0**	**-2.0**
	1.3nm,0.7s,baz=156,slow=7.2,SNR=11						
MAW	**Mawson**	**42.74**	**214**	*e*P	**P**	**19 57 00.5**	**-1.3**
	41nm,1.8s						
COEN	**Coen**	**42.83**	**338**	*e*P	**P**	**19 57 01.7**	**-1.3**
	125nm,1.8s						
FITZ	**Fitzroy Crossi**	**44.70**	**313**	*e*P	**P**	**19 57 17.1**	**-0.9**
	30nm,1.8s						
RAR	**Rarotonga**	**45.98**	**60**	LR	LR	20 14 14.4	
	comp=Z,111nm,20.0s,baz=152,slow=33						
SYO	**Syowa Base**	**48.42**	**205**	*e*P	**P**	**19 57 47.8**	**+1.1**
TBI	**Tubuai**	**49.61**	**72**	*e*LR	LR	20 11 46.6	
	comp=Z,157nm,32.8s						
SNAA	**Sanae**	**52.79**	**187**	*e*P	**P**	**19 58 18.3**	**-1.4**
	25nm,1.8s						
PPT2	**Papeete2**	**54.24**	**68**	*e*LR	LR	20 14 17.6	
	comp=Z,173nm,23.0s						
PMSA	**Palmer Station**	**56.01**	**159**	*e*P	**P**	**19 58 42.6**	**-0.5**
	202nm,1.6s						
RKT	**Rikitea**	**57.92**	**85**	*e*T	T	21 01 23.4	
	2.2nm,0.2s						
JHJ	**Hachijo jima 2**	**89.40**	**344**	LR	LR	20 39 20.3	
	comp=Z,357nm,19.6s,baz=284,slow=34						
NJ2	**Nanjing**	**93.32**	**327**	*e*P	**P**	**20 02 21.2**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
CD2	**Chengdu**	**97.74**	**315**	P	**P**	**20 02 39.3**	**-0.5**
CD2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LZH	**Lanzhou**	**102.24**	**317**	*e*P	**Pdif**	**20 03 01.4**	**+1.5**
LZH				pP	sPdif	20 03 08.1	+3.9
LZH				sP	pPdif	20 03 10.5	+7.4
LZH				*e*PP	**PP**	**20 07 16.7**	**+4.0**
LZH				LR	LR		
	comp=N,100nm,17.5s						
LZH				LR	LR		
	comp=E,110nm,17.3s						
LZH				LR	LR		
	comp=Z,160nm,19.7s						
WMQ	**Urumqi**	**115.42**	**311**	*e*PKP	**PKiKP**	**20 07 49.9**	**+3.8**
WMQ				PP	**PP**	**20 08 54.2**	**+5.8**
WMQ				LR	LR		
	comp=Z,460nm,20.1s						

*IDC **12** 20:04:59.1±0.6,6.°63S×148.°51E,h0km,mb4.4/15, mb1 4.6/17,mb1mx4.3/42,mbtmp4.4/17,ML4.5/2,Error ellipse: s-maj=22.2km s-min=13.0km az=102.0*

*NEIC **12** 20:05:01.1±0.2,6.°65S×148.°39E,h10km,mb5.0/60,Error ellipse: s-maj=6.1km s-min=4.4km az=102.0*

*MOS **12** 20:05:03.7±1.2,6.°61S×148.°18E,h33km,mb4.8/19, MS4.8/4,Error ellipse: s-maj=11.8km s-min=6.9km az=93.8*

*BJI **12** 20:05:04.3,6.°70S×148.°40E,h33km,mb4.7/37,mB5.0/28, Ms5.0/30,Ms7 4.8/27*

*ISCJB **12** 20:05:04.0±0.9,6.°70S±0.°03×148.°38E±0.°04,h42km±8km, mb4.8/88,MS4.9/20,Error ellipse: s-maj=6.3km s-min=4.6km az=13.2*

*GCMT **12** 20:05:05.1±0.4,6.°67S±0.°02×148.°54E±0.°03,h17km±1km, MW4.9/60,Moment Tensor Solution. s29,c33; s60,c87; Duration: 0 Moment tensor: Scale 10**16**Nm; Mrr3.06±.19; Mθθ-2.13±.12; Mφφ-0.92±.13; Mrθ-0.84±.27; Mθφ1.19±.09; Mφr0.33±.35; Best double couple: M0 3.09400×10**16** NP1:φs124.00000°,δ53.00000°,λ87.00000°. NP2: φs299.00000°,δ37.00000°,λ94.00000°. Principal axes: T 3.1970, Plg81.0000°, Azm194.0000°; N -0.2020, Plg3.0000°, Azm301.0000°; P -2.9910, Plg8.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*DJA **12** 20:05:15.4±1.1,7.°5S×147.°8E±°,h118km±7km,M4.8/50, mb5.0/50,mB5.4/16,Mw(mB)4.8/16*

ISC 12 20:05:07.4±1.0,**6.°76S**±0.°05×**148.°42E**±0.°06,**h58**km±9km, **n253,**σ**1**s**54**/261,**mb5.0**/87,**MS5.0**/21,**5C**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.52**	**56**	*e*Pn	**Pn**	**20 06 11.6**	**-1.8**
MANU	**Manus Island**	**4.80**	**347**	*e*Pn	**Pn**	**20 06 16.8**	**-0.4**
COEN	**Coen**	**8.82**	**215**	*e*Pn	**Pn**	**20 07 11.7**	**-0.6**
COEN				*e*Sn	**Sn**	**20 08 46.3**	**-4.0**
GENI	**Genyem**	**9.20**	**296**	P	Pn	20 07 27.4	+10
MTSU	**Mount Surprise**	**11.99**	**199**	P	**Pn**	**20 07 56.3**	**+0.6**
	baz=12,SNR=3.8						
CTA	**Charters Tower**	**13.42**	**189**	Pn	**Pn**	**20 08 15.6**	**+0.5**
	0.3nm,0.3s,baz=13,slow=13,SNR=5.9						
CTAO	**Charters Tower**	**13.42**	**189**	*e*Pn	**Pn**	**20 08 14.8**	**-0.2**
CTAO	**Charters Tower**	**13.42**	**189**	*e*P	**Pn**	**20 08 14.9**	**-0.2**
QIS	**Mount Isa**	**16.16**	**211**	P	**Pn**	**20 08 50.9**	**0.0**
	baz=16,SNR=55						
FAKI	**Fak Fak**	**16.55**	**283**	*e*Pn	**P**	**20 08 58.5**	**+0.9**
	86nm,1.1s						
MTN	**Manton Dam**	**18.07**	**249**	P	**P**	**20 09 14.0**	**-0.2**
	baz=18,SNR=5.7						
MTN	**Manton Dam**	**18.07**	**249**	*e*Pn	**P**	**20 09 13.5**	**-0.8**
	86nm,1.6s						
SIJI	**Soron**	**18.08**	**288**	P	**P**	**20 09 13.3**	**-1.1**
	0.5nm,0.3s,baz=103,slow=14,SNR=3.5						
EIDS	**Eidsvold**	**18.68**	**172**	P	**Pn**	**20 09 21.8**	**0.0**
	baz=19,SNR=5.3						
EIDS	**Eidsvold**	**18.68**	**172**	*e*P	**P**	**20 09 19.2**	**-1.7**
	38nm,1.0s						
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P	**P**	**20 09 22.7**	**-0.9**
	47nm,0.9s						
WRAB	**Tennant Creek**	**18.92**	**225**	*i* P	**P**	**20 09 22.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,40nm,0.8s						
WB2	**Warramunga Arr**	**18.93**	**225**	*e*P	**P**	**20 09 22.6**	**-1.1**
WB2				*e*PcP	**PcP**	**20 13 48.5**	**+0.5**
WR1	**Warramunga Arr**	**18.93**	**225**	*e*P	**P**	**20 09 22.9**	**-0.9**
	comp=Z,49nm,0.8s						
WR1				*e*Sn	**S**	**20 12 51.0**	**-5.0**
WR1				*e*PcP	**PcP**	**20 13 47.9**	**-0.1**
WRA	**Warramunga Arr**	**18.93**	**225**	P	**P**	**20 09 22.9**	**-0.9**
	comp=Z,2.3nm,0.3s,baz=53,slow=9.7,SNR=136						
WRA				S	**S**	**20 12 51.0**	**-5.0**
	baz=47,slow=22,SNR=3.1						
WRA				PcP	**PcP**	**20 13 47.9**	**-0.1**
	baz=32,slow=1.5,SNR=5.8						
RMQ	**Roma**	**19.62**	**179**	P	**Pn**	**20 09 32.7**	**-0.4**
	baz=20,SNR=33						
KNRA	**Kununurra**	**21.20**	**244**	P	**P**	**20 09 47.6**	**-0.8**
	baz=21,SNR=24						
NLAI	**Namlea**	**21.52**	**278**	P	**P**	**20 09 52.8**	**+1.0**
AS01	**Alice Springs**	**21.81**	**218**	*e*P	**P**	**20 09 53.9**	**-1.0**
AS31	**Alice Springs**	**21.84**	**218**	*e*P	**P**	**20 09 55.2**	**0.0**
	comp=Z,32nm,0.8s						
ASAR	**Alice Springs**	**21.84**	**218**	P	**P**	**20 09 55.0**	**-0.2**
	comp=Z,73nm,0.8s,baz=52,slow=9.3,SNR=554						
ASAR				S	**S**	**20 13 55.7**	**+2.0**
	comp=Z,3.2nm,0.9s,baz=30,slow=19,SNR=4.8						
SANI	**Sanana**	**22.84**	**281**	P	**P**	**20 10 03.4**	**-2.6**
ARMA	**Armidale**	**23.73**	**173**	P	**P**	**20 10 14.5**	**+0.1**
	baz=24,SNR=5.1						
ARMA	**Armidale**	**23.73**	**173**	*e*P	**P**	**20 10 14.1**	**-0.3**
	comp=Z,104nm,1.5s						
SOEI	**Soe**	**24.08**	**261**	*e*P	**P**	**20 10 17.4**	**-0.5**
	comp=Z,78nm,0.8s						
SOEI	**Soe**	**24.08**	**261**	P	**P**	**20 10 18.2**	**+0.3**
BATI	**Baumata**	**24.72**	**260**	P	**P**	**20 10 24.1**	**+0.6**
BATI	**Baumata**	**24.72**	**260**	P	**P**	**20 10 24.2**	**+0.7**
	comp=Z,82nm,0.7s,baz=165,slow=0.7,SNR=22						
CMSA	**Cobar Meteorol**	**24.78**	**186**	P	**P**	**20 10 24.8**	**+0.9**
	baz=25,SNR=15						
FITZ	**Fitzroy Crossi**	**24.90**	**241**	P	**P**	**20 10 25.4**	**+0.2**
	baz=25,SNR=117						
FITZ	**Fitzroy Crossi**	**24.90**	**241**	*e*P	**P**	**20 10 24.8**	**-0.3**
	comp=Z,217nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.90**	**241**	P	**P**	**20 10 24.9**	**-0.2**
	comp=Z,209nm,0.8s,baz=68,slow=8.3,SNR=141						
KMSI	**Cibinong**	**25.45**	**286**	P	**P**	**20 10 30.1**	**-0.1**
STKA	**Stephens Creek**	**25.79**	**193**	P	**P**	**20 10 33.6**	**+0.5**
	baz=26,SNR=24						
STKA	**Stephens Creek**	**25.79**	**193**	*e*P	**P**	**20 10 32.7**	**-0.3**
	comp=Z,16nm,1.0s						
STKA	**Stephens Creek**	**25.79**	**193**	P	**P**	**20 10 33.2**	**+0.2**
	comp=Z,47nm,0.9s,baz=337,slow=7.1,SNR=34						
MMRI	**Maumere**	**26.01**	**264**	*e*P	**P**	**20 10 34.8**	**-0.5**
	comp=Z,137nm,0.7s						
MMRI	**Maumere**	**26.01**	**264**	P	**P**	**20 10 35.6**	**+0.4**
LUWI	**Luwuk**	**26.20**	**281**	*e*P	**P**	**20 10 36.9**	**-0.1**
	comp=Z,133nm,1.0s						
LUWI	**Luwuk**	**26.20**	**281**	P	**P**	**20 10 36.6**	**-0.3**
WRKA	**Warakurna**	**26.48**	**224**	P	**P**	**20 10 39.2**	**-0.2**
	baz=27,SNR=151						
EDFI	**Ende, Flores**	**26.55**	**264**	P	**P**	**20 10 39.1**	**-1.2**
DAV	**Davao City (W)**	**26.60**	**301**	*e*P	**P**	**20 10 38.4**	**-2.2**
	comp=Z,306nm,0.5s						
APSI	**Ampana**	**27.32**	**281**	P	**P**	**20 10 46.7**	**-0.4**
YNG	**Young**	**27.41**	**180**	P	**P**	**20 10 48.5**	**+0.9**
	baz=28,SNR=9.2						
BASI	**Baing, Sumba**	**27.74**	**261**	P	**P**	**20 10 56.1**	**+5.3**
HTT	**Hallett**	**27.96**	**197**	P	**P**	**20 10 53.3**	**+0.6**
	baz=28,SNR=6.9						
WSI	**Waingapu**	**27.98**	**262**	P	**P**	**20 10 52.7**	**-0.2**
BKSI	**Bulukumba**	**28.17**	**271**	P	**P**	**20 10 57.3**	**+2.6**
	comp=Z,7.2nm,1.5s						
BNSI	**Bone**	**28.27**	**273**	P	**P**	**20 10 56.0**	**+0.5**
BBOO	**Buckleboo**	**28.36**	**202**	P	**P**	**20 10 56.4**	**+0.3**
	baz=28						
BBOO	**Buckleboo**	**28.36**	**202**	*e*P	**P**	**20 10 54.9**	**-1.2**
	comp=Z,34nm,1.0s						
TTSI	**Tana Toraja**	**28.73**	**276**	P	**P**	**20 11 02.9**	**+3.3**
PCI	**Palu**	**29.09**	**280**	P	**P**	**20 11 04.2**	**+1.3**
MPSI	**Mapaga**	**29.32**	**283**	P	**P**	**20 11 03.6**	**-1.2**
PLAI	**Plampang**	**30.42**	**264**	P	**P**	**20 11 12.7**	**-1.9**
FORT	**Forrest**	**30.58**	**216**	*e*P	**P**	**20 11 15.8**	**0.0**
	comp=Z,39nm,0.8s						
MBWA	**Marble Bar**	**31.22**	**240**	*e*P	**P**	**20 11 21.3**	**-0.3**
	comp=Z,46nm,1.0s						
JAGI	**Jajag, Banyuwa**	**34.00**	**265**	*e*P	**P**	**20 11 43.2**	**-2.8**
	comp=Z,90nm,1.4s						
JAGI	**Jajag, Banyuwa**	**34.00**	**265**	P	**P**	**20 11 43.6**	**-2.4**
KKM	**Kota Kinabalu**	**34.56**	**291**	*e*P	**P**	**20 11 50.8**	**-0.1**
	comp=Z,20nm,1.0s						
MEEK	**Meekatharra**	**34.56**	**232**	P	**P**	**20 11 51.3**	**+0.5**
	baz=35,SNR=22						
TAU	**Tasmania Unive**	**36.02**	**181**	*e*P	**P**	**20 12 04.2**	**+1.3**
	comp=Z,44nm,1.1s						
TAU	**Tasmania Unive**	**36.02**	**181**	*e*P	**P**	**20 12 04.2**	**+1.3**
TAU				pmax	pmax		
	comp=Z,44nm,1.1s						
PWJI	**Pagerwojo**	**36.32**	**266**	P	**P**	**20 12 04.5**	**-1.5**
GIRL	**Giralia**	**36.51**	**241**	*e*P	**P**	**20 12 08.7**	**+1.2**
	comp=Z,594nm,1.5s						
PCJI	**Pacitan**	**36.94**	**265**	P	**P**	**20 12 10.5**	**-0.8**
WOJI	**Wonogiri, Jawa**	**37.20**	**266**	P	**P**	**20 12 12.9**	**-0.5**
SBUM	**Sibu**	**37.27**	**283**	*e*P	**P**	**20 12 14.2**	**+0.2**
	comp=Z,13nm,0.9s						
UGM	**Wanagama**	**37.59**	**266**	*e*P	**P**	**20 12 16.3**	**-0.5**
	comp=Z,40nm,0.9s						
UGM	**Wanagama**	**37.59**	**266**	P	**P**	**20 12 14.0**	**-2.8**
MORW	**Morawa**	**37.74**	**230**	P	**P**	**20 12 18.5**	**+0.6**
	baz=38,SNR=5.3						
MORW	**Morawa**	**37.74**	**230**	*e*P	**P**	**20 12 18.3**	**+0.5**
	comp=Z,77nm,1.2s						
KLBR	**Kellerberrin**	**37.82**	**225**	P	**P**	**20 12 18.3**	**-0.2**
	baz=38,SNR=30						
BLDU	**Balliduu**	**38.03**	**227**	P	**P**	**20 12 20.6**	**+0.3**
	baz=38,SNR=5.6						
KSM	**Kuching**	**38.90**	**281**	*e*P	**P**	**20 12 27.4**	**-0.4**
	comp=Z,27nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.94**	**224**	P	**P**	**20 12 28.4**	**+0.5**
	baz=39,SNR=3.9						
NWAO	**Narrogin (SRO)**	**38.94**	**224**	P	**P**	**20 12 28.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.94**	**224**	P	**P**	**20 12 28.0**	**+0.1**
	comp=Z,29nm,1.0s,baz=316,slow=6.1,SNR=5.8						
MUN	**Mundaring**	**39.13**	**226**	P	**P**	**20 12 30.0**	**+0.5**
	baz=39,SNR=8.0						
KPJI	**Karang Pucung**	**39.18**	**267**	P	**P**	**20 12 29.9**	**-0.2**
RKGY	**Rocky Gully**	**40.09**	**222**	P	**P**	**20 12 39.2**	**+1.8**
	baz=40,SNR=5.2						
CISI	**Cisompet, Garu**	**40.28**	**266**	*e*P	**P**	**20 12 38.1**	**-1.2**
	comp=Z,77nm,0.9s						
CISI	**Cisompet, Garu**	**40.28**	**266**	P	**P**	**20 12 37.6**	**-1.8**
THZ	**Tophouse**	**41.09**	**152**	*e*P	**P**	**20 12 47.8**	**+2.2**
	comp=Z,68nm,

USA0B	**Ussuriysk Arra**	**52.85**	**345**	*e*P		**P**		**20 14 15.7**	**-1.4**
USA0B					pmax	pmax			
	comp=Z,9.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**52.85**	**345**	P		**P**		**20 14 16.9**	**-0.3**
	comp=Z,5.0nm,0.6s,baz=185,slow=5.7,SNR=10.0								
MLSI	**Meulaboh, Aceh**	**53.06**	**280**	P		**P**		**20 14 19.4**	**+0.1**
	comp=Z,59nm,0.8s								
KMI	**Kunming**	**54.57**	**307**	P		**P**		**20 14 32.5**	**+2.1**
KMI				pP		pP		20 14 41.2	-3.7
KMI				sP		pwP		20 14 47.1	-1.7
KMI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,91nm,4.7s								
KMI				LR		LR			
	comp=Z,480nm,17.1s								
KMI				LR		LR			
	comp=Z,620nm,20.9s								
KMI				LR		LR			
	comp=Z,900nm,22.3s								
CM01	**Chiang Mai Arr**	**54.82**	**298**	*e*P		**P**		**20 14 33.6**	**+1.6**
CM01				*e*PcP		**PcP**		**20 15 34.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**54.85**	**298**	P		**P**		**20 14 32.7**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=133,slow=5.2,SNR=7.6								
CMAR				PcP		**PcP**		**20 15 35.6**	**+1.7**
	comp=Z,2.3nm,0.9s,baz=121,slow=4.4,SNR=6.7								
CHTO	**Chiang Mai**	**54.98**	**298**	*e*P		**P**		**20 14 34.8**	**+1.6**
	comp=Z,7.1nm,1.5s								
CHTO	**Chiang Mai**	**54.98**	**298**	*e*P		**P**		**20 14 34.8**	**+1.6**
CHTO				pmax		pmax			
	comp=Z,7.0nm,1.5s								
XAN	**Xi'an**	**55.16**	**320**	P		P		20 14 40.9	+6.6
XAN				pP		pP		20 14 51.0	+2.5
XAN				pmax		pmax			
	comp=Z,8.0nm,1.6s								
XAN				LR		LR			
	comp=Z,540nm,19.1s								
XAN				LR		LR			
	comp=Z,370nm,20.6s								
XAN				LR		LR			
	comp=Z,730nm,19.6s								
CD2	**Chengdu**	**56.81**	**314**	P		**P**		**20 14 45.7**	**-0.4**
CD2				sP		pwP		20 15 04.1	-1.8
CD2				PP		**PP**		**20 16 58.0**	**+4.9**
CD2				S		**S**		**20 22 33.4**	**-2.0**
CD2				sS		sS		20 22 59.6	-1.5
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
CD2				LR		LR			
	comp=Z,960nm,16.9s								
CD2				LR		LR			
	comp=Z,1μm,17.4s								
SKR	**Severo-Kuril's**	**57.59**	**6**	*e*P		P		20 14 45.7	-5.5
SKR				*e*				20 16 55.4	
SKR				*e*S		**S**		**20 22 36.6**	**-8.2**
SKR				*e*SS		**SS**		**20 26 29.9**	**-6.0**
SKR				pmax		pmax			
	comp=Z,500nm,6.2s								
SKR				pmax		pmax			
	comp=Z,900nm,9.6s								
SKR				MLR		MLR			
	comp=Z,800nm,17.0s								
SKR				MLR		MLR			
	comp=Z,800nm,19.0s								
KLR	**Kul'dur**	**57.63**	**347**	*ce*P		**P**		**20 14 50.5**	**-1.0**
HHC	**Hu-ho-hao-te**	**58.22**	**328**	*e*P		**P**		**20 14 58.1**	**+2.2**
HHC				pP		pP		20 15 11.4	+1.3
HHC				S		**S**		**20 22 56.1**	**+2.5**
HHC				sS		pS		20 23 09.5	-2.0
HHC				pmax		pmax			
	comp=Z,11nm,1.1s								
HHC				pmax		pmax			
	comp=Z,150nm,5.6s								
HHC				LR		LR			
	comp=Z,750nm,19.6s								
HHC				LR		LR			
	comp=Z,1μm,20.2s								
HHC				LR		LR			
	comp=Z,1μm,20.2s								
LZH	**Lanzhou**	**59.70**	**319**	*e*P		**P**		**20 15 10.4**	**+4.0**
LZH				pP		pwP		20 15 23.5	-2.6
LZH				pmax		pmax			
	comp=Z,30nm,1.3s								
LZH				pmax		pmax			
	comp=Z,100nm,5.4s								
LZH				LR		LR			
	comp=Z,850nm,16.8s								
LZH				LR		LR			
	comp=Z,940nm,16.3s								
LZH				LR		LR			
	comp=Z,1μm,17.9s								
PETK	**Petropavlovsk-**	**60.16**	**6**	P		**P**		**20 15 07.9**	**-1.1**
	comp=Z,5.1nm,1.0s,baz=181,slow=9.1,SNR=2.8								
PETK				PKP2bc				20 44 42.4	
	comp=Z,5.6nm,1.0s,baz=32,slow=5.8,SNR=3.7								
PEA1	**Petropavlovsk-**	**60.16**	**6**	*e*P		**P**		**20 15 07.9**	**-1.1**
PEA1				⇑*e*				20 44 42.4	
PET	**Petropavlovsk**	**60.19**	**7**	*e*P		**P**		**20 15 11.3**	**+2.2**
	comp=Z,34nm,1.2s								
PET	**Petropavlovsk**	**60.19**	**7**	*e*P		**P**		**20 15 11.3**	**+2.2**
PET				pmax		pmax			
	comp=Z,34nm,1.2s								
HIA	**Hailar**	**61.16**	**339**	*i* P		**P**		**20 15 14.0**	**-1.8**
HIA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ZEA	**Zeya**	**62.86**	**346**	*e*P		**P**		**20 15 26.6**	**-0.5**
ZEA				pmax		pmax			
	comp=Z,12nm,1.0s								
ZEA				MLR		MLR			
	comp=Z,700nm,18.0s								
ZEA				MLR		MLR			
	comp=N,600nm,17.0s								
GTA	**Gaotai**	**64.22**	**320**	*e*P		**P**		**20 15 35.6**	**-1.0**
GTA				pP		pP		20 15 49.0	-1.9
GTA				sP		sP		20 15 53.6	-3.3
GTA				pmax		pmax			
	comp=N,2.0nm,1.2s								
GTA				pmax		pmax			
	comp=N,96nm,5.9s								
GTA				LR		LR			
	comp=N,280nm,19.6s								
GTA				LR		LR			
	comp=N,230nm,21.3s								
GTA				LR		LR			
	comp=N,280nm,18.9s								
ULN	**Ulaanbaatar**	**65.45**	**331**	*i* P		**P**		**20 15 42.6**	**-1.9**
ULN				pmax		pmax			
	comp=Z,6.0nm,2.1s								
SONA0	**Songino Array**	**65.75**	**330**	*e*P		**P**		**20 15 44.6**	**-1.8**
SONA0				⇑*e*				20 44 33.9	
SONM	**Songino Array**	**65.75**	**330**	P		**P**		**20 15 44.6**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=157,slow=4.1,SNR=10								
SONM				PKP2ab				20 44 33.9	
	comp=Z,0.4nm,0.9s,baz=270,slow=1.4,SNR=3.7								
LSA	**Lhasa**	**65.82**	**307**	*e*P		**P**		**20 15 48.3**	**+0.7**
	comp=Z,2.6nm,1.0s								
LSA	**Lhasa**	**65.82**	**307**	*e*P		**P**		**20 15 48.3**	**+0.7**
LSA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MA2	**Magadan**	**66.15**	**1**	*e*P		**P**		**20 15 49.1**	**+0.6**
	comp=Z,18nm,1.4s								
MA2	**Magadan**	**66.15**	**1**	*i* P		**P**		**20 15 49.5**	**+1.0**
MA2				pmax		pmax			
	comp=Z,12nm,2.4s								
PALK	**Pallekele**	**68.97**	**280**	*e*P		**P**		**20 16 06.7**	**-0.6**
	comp=Z,11nm,1.0s								
PALK	**Pallekele**	**68.97**	**280**	*e*P		**P**		**20 16 06.7**	**-0.6**
PALK				pmax		pmax			
	comp=Z,11nm,1.0s								
ZAK	**Zakamensk**	**68.98**	**331**	*e*P		**P**		**20 16 04.8**	**-1.9**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
GUN	**Gumba**	**69.46**	**303**	*e*P		**P**		**20 16 09.7**	**-0.7**
	comp=Z,13nm,0.9s								
SEY	**Seymchan**	**69.56**	**2**	*i* P		**P**		**20 16 11.5**	**+1.7**
TLY	**Talaya**	**69.67**	**332**	*e*P		**P**		**20 16 11.5**	**+0.7**
	comp=Z,2.3nm,1.1s								
TLY	**Talaya**	**69.67**	**332**	*i* P		**P**		**20 16 11.3**	**+0.5**
PKI	**Pulchoki**	**69.74**	**303**	*e*P		**P**		**20 16 11.1**	**-1.0**
	comp=Z,5.9nm,0.9s								
PKIN	**Phulchoki**	**69.75**	**303**	*e*P		**P**		**20 16 11.0**	**-1.1**
	comp=Z,16nm,1.5s								
DMN	**Daman**	**70.00**	**302**	*e*P		**P**		**20 16 12.1**	**-1.6**
	comp=Z,16nm,1.0s								
GKN	**Gorkha**	**70.53**	**303**	*e*P		**P**		**20 16 15.8**	**-1.0**
	comp=Z,36nm,1.5s								

VNDA	**Vanda**	**71.08**	**177**	*e*P		**P**		**20 16 20.1**	**+1.1**
	comp=Z,12nm,1.1s								
VNDA	**Vanda**	**71.08**	**177**	*e*P		**P**		**20 16 20.1**	**+1.1**
VNDA				pmax		pmax			
	comp=Z,13nm,1.1s								
VNDA	**Vanda**	**71.08**	**177**	P		**P**		**20 16 19.6**	**+0.6**
	comp=Z,8.3nm,1.1s,baz=322,slow=6.2,SNR=17								
KOLN	**Koldanda**	**71.32**	**302**	*e*P		**P**		**20 16 20.6**	**-1.0**
	comp=Z,17nm,1.1s								
DANN	**Dangsing**	**71.37**	**303**	*e*P		**P**		**20 16 21.7**	**-0.3**
	comp=Z,10nm,0.9s								
PYUN	**Piuthan**	**71.94**	**302**	*e*P		**P**		**20 16 24.1**	**-1.2**
	comp=Z,14nm,1.0s								
HYB	**Hyderabad**	**73.05**	**290**	*i* P		**P**		**20 16 32.5**	**+0.6**
WMQ	**Urumqi**	**74.28**	**319**	*e*P		**P**		**20 16 40.3**	**+1.6**
WMQ				LR		LR			
	comp=Z,670nm,28.7s								
WMQ				LR		LR			
	comp=Z,320nm,22.1s								
MK01	**Makanchi Array**	**78.96**	**320**	*e*P		**P**		**20 17 03.4**	**-1.6**
MK31	**Makanchi Array**	**78.98**	**320**	*e*P		**P**		**20 17 04.0**	**-1.1**
	comp=Z,3.9nm,1.5s								
MK31	**Makanchi Array**	**78.98**	**320**	*e*P		**P**		**20 17 04.0**	**-1.1**
MK31				pmax		pmax			
	comp=Z,4.0nm,1.5s								
MK32	**Makanchi Array**	**78.98**	**320**	*e*P		**P**		**20 17 03.5**	**-1.6**
MKAR	**Makanchi Array**	**78.98**	**320**	*ce*P		**P**		**20 17 04.9**	**-0.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**78.98**	**320**	P		**P**		**20 17 03.5**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=99,slow=8.2,SNR=11								
TIXI	**Tiksi**	**79.31**	**354**	*i* P		**P**		**20 17 04.3**	**-2.0**
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.1s								
TIXI	**Tiksi**	**79.31**	**354**	P		**P**		**20 17 05.4**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=93,slow=8.5,SNR=3.7								
ZALV	**Zalesovo Beam**	**80.40**	**328**	P		**P**		**20 17 10.2**	**-2.4**
	comp=Z,0.9nm,0.6s,baz=104,slow=6.3,SNR=4.9								
ZAA1	**Zalesovo Array**	**80.40**	**328**	*e*P		**P**		**20 17 10.2**	**-2.4**
KDJ	**Kajisay**	**80.82**	**314**	*e*P		**P**		**20 17 15.3**	**-0.1**
KDJ				pmax		pmax			
	comp=Z,9.5nm,1.6s								
KDJ	**Kajisay**	**80.82**	**314**	*e*P		**P**		**20 17 15.3**	**-0.1**
KDJ				pmax		pmax			
	comp=Z,10.0nm,1.6s								
KSH	**Kashi**	**80.93**	**312**	*e*P		**P**		**20 17 16.5**	**+0.6**
KSH				sP		pwP		20 17 35.2	-0.9
KSH				S		**S**		**20 27 17.4**	**-3.1**
KSH				sS		pS		20 27 39.5	-0.1
KSH				pmax		pmax			
	comp=Z,46nm,5.5s								
RDOG	**Red Dog Mine**	**82.06**	**17**	*e*P		**P**		**20 17 21.3**	**+0.2**
	comp=Z,4.7nm,0.9s								
KURK	**Kurchatov**	**82.66**	**323**	*i* P		**P**		**20 17 23.3**	**-1.3**
KURK				pmax		pmax			
	comp=Z,3.0nm,1.3s								
AAK	**Ala-Archa**	**82.87**	**314**	*i* P		**P**		**20 17 26.7**	**+0.6**
AAK				pmax		pmax			
	comp=Z,4.0nm,1.5s								
QSPA	**South Pole Qui**	**83.21**	**180**	*e*P		**P**		**20 17 27.5**	**+0.1**
	comp=Z,25nm,1.4s								
IM3	**Indian Mountai**	**83.70**	**20**	*e*P		**P**		**20 17 29.7**	**+0.1**
RND	**Reindeer**	**84.24**	**24**	*e*P		**P**		**20 17 32.9**	**+0.4**
	comp=Z,9.9nm,1.0s								
RND	**Reindeer**	**84.24**	**24**	*e*P		**P**		**20 17 32.9**	**+0.4**
RND				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GAR	**Garm**	**85.05**	**310**	*e*P		**P**		**20 17 37.5**	**+0.3**
	comp=Z,8.4nm,1.2s								
GAR	**Garm**	**85.05**	**310**	*e*P		**P**		**20 17 37.5**	**+0.3**
GAR				pmax		pmax			
	comp=Z,8.0nm,1.2s								
IL1	**Eielson Array**	**85.62**	**23**	*e*P		**P**		**20 17 39.5**	**+0.1**
ILAR	**Eielson Array**	**85.62**	**23**	P		**P**		**20 17 37.7**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=252,slow=4.8,SNR=13								
ILB	**Eielson Array**	**85.62**	**23**	*e*P		**P**		**20 17 39.6**	**+0.2**
	comp=Z,27nm,1.8s								
KK31	**Karatay Array**	**85.83**	**314**	*e*P		**P**		**20 17 39.2**	**-1.7**
	comp=Z,6.3nm,1.1s								
KK31	**Karatay Array**	**85.83**	**314**	*e*P		**P**		**20 17 39.2**	**-1.7**
KK31				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KKAR	**Karatay Array**	**85.83**	**314**	*e*P		**P**		**20 17 39.5**	**-1.4**
	comp=Z,6.3nm,1.1s								
KKAR	**Karatay Array**	**85.83**	**314**	*e*P		**P**		**20 17 39.5**	**-1.4**
KKAR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
DOT	**Dot Lake**	**86.28**	**24**	*e*P		**P**		**20 17 44.2**	**+1.5**
	comp=Z,8.8nm,1.2s								
EGAK	**Eagle**	**87.88**	**24**	*e*P		**P**		**20 17 52.7**	**+2.4**
	comp=Z,6.4nm,1.0s								
BRVK	**Borovoye**	**88.28**	**324**	*e*P		**P**		**20 17 51.4**	**-1.0**
	comp=Z,2.3nm,1.0s								
BRVK	**Borovoye**	**88.28**	**324**	⇑*i* P		**P**		**20 17 53.1**	**+0.6**
BRVK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
DAWY	**Dawson**	**88.36**	**25**	*e*P		**P**		**20 17 55.6**	**+2.9**
	comp=Z,16nm,1.4s								
INK	**Inuvik**	**91.84**	**21**	*e*P		**P**		**20 18 09.2**	**+0.5**
	comp=Z,13nm,1.5s								
INK	**Inuvik**	**91.84**	**21**	*e*P		**P**		**20 18 09.2**	**+0.5**
INK				pmax		pmax			
	comp=Z,13nm,1.5s								
YKA	**Yellowknife Ar**	**99.18**	**28**	P		**Pdif**		**20 18 42.2**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=278,slow=4.9,SNR=2.7								
LANS	**Liptovska Anna**	**119.87**	**324**	*e*PKIKP		**PKiKP**		**20 23 52.6**	**+1.1**
LANS	**Liptovska Anna**	**119.87**	**324**	*e*PKP		**PKiKP**		**20 23 52.6**	**+1.1**
OKC	**Ostrava-Krasne**	**120.31**	**325**	AMS		AMS		21 25 20.0	
	comp=Z,300nm,15.9s								
VYHS	**Vyhne**	**120.55**	**323**	*e*PKIKP		**PKiKP**		**20 23 52.9**	**+0.1**
VYHS	**Vyhne**	**120.55**	**323**	*e*PKP		**PKiKP**		**20 23 52.9**	**+0.1**
DPC	**Dobruska-Polom**	**121.08**	**326**	AMS		AMS		21 25 20.0	
	comp=Z,400nm,15.5s								
UPC	**Upice**	**121.17**	**327**	AMS		AMS		21 25 10.0	
	comp=Z,500nm,19.9s								
PVCC	**Panska Ves**	**121.94**	**327**	AMS		AMS		21 27 20.0	
	comp=Z,400nm,21.0s								
TREC	**Trest**	**122.09**	**326**	AMS		AMS		21 26 00.0	
	comp=Z,300nm,18.1s								
GOPC	**GO Pecny, Ondr**	**122.15**	**326**	AMS		AMS		21 25 50.0	
	comp=Z,400nm,20.8s								
PRU	**Pruhonice**	**122.25**	**327**	AMS		AMS		21 23 20.0	
	comp=Z,500nm,24.0s								
CLL	**Collm**	**122.34**	**329**	*e*PKPdf		**PKiKP**		**20 23 57.0**	**+0.8**
CLL				*e*				20 24 07.0	
CLL	**Collm**	**122.34**	**329**	*e*PKIKP		**PKiKP**		**20 23 57.0**	**+0.8**
CONA	**Conrad Observa**	**122.56**	**324**	*ep*PKPdf		**PKiKP**		**20 23 58.7**	**+1.9**
	comp=Z,2.5nm,0.8s								
KHC	**Kasperske Hory**	**123.24**	**326**	*e*PKPdf		**PKiKP**		**20 23 58.2**	**+0.1**
KHC				AMS		AMS		21 26 30.0	
	comp=Z,400nm,18.7s								
KHC	**Kasperske Hory**	**123.24**	**326**	*e*PKIKP		**PKiKP**		**20 23 58.2**	**+0.1**
KHC				MLR		MLR			
	comp=Z,400nm,18.7s								
NKC	**Novy Kostel**	**123.24**	**328**	AMS		AMS		21 23 50.0	
	comp=Z,600nm,20.7s								
GEC2	**GERESS Array S**	**123.32**	**326**	*e*PKPdf		**PKPdf**		**20 23 57.8**	**-0.3**
GEC2	**GERESS Array S**	**123.32**	**326**	*e*PKIKP		**PKPdf**		**20 23 57.8**	**-0.3**
GERES	**GERESS Array B**	**123.32**	**326**	PKP		**PKPdf**		**20 23 58.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=57,slow=2.2,SNR=7.1								
GEA0	**GERESS Array S**	**123.33**	**326**	*e*PKPpre		PKPpre		20 23 46.5	
GEA0				*e*PKPdf		**PKPdf**		**20 23 57.5**	**-0.6**
MOTA	**Moosalm**	**125.60**	**325**	*e*PKiKP		**PKPdf**		**20 24 02.8**	**+0.1**
	comp=Z,1.5nm,0.6s								
FETA	**Feichten**	**126.00**	**325**	*e*PKiKP		**PKiKP**		**20 24 04.0**	**+0.2**
	comp=Z,4.6nm,1.0s								
LPAZ	**La Paz**	**137.19**	**123**	*e*PKPpre		PKPpre		20 24 14.1	
LPAZ				*e*PKPdf		**PKPdf**		**20 24 26.3**	**+0.4**
LPAZ	**La Paz**	**137.19**	**123**	PKP		**PKiKP**		**20 24 27.6**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=336,slow=6.6,SNR=7.0								
CPUP	**Villa Florida**	**138.70**	**144**	*e*PKPdf		**PKPdf**		**20 24 27.8**	**+0.1**
CPUP	**Villa Florida**	**138.70**	**144**	*e*PKIKP		**PKPdf**		**20 24 27.8**	**+0.1**
CPUP	**Villa Florida**	**138.70**	**144**	PKP		**PKPdf**		**20 24 28.1**	**+0.3**
	comp=Z,5.2nm,1.1s,baz=152,slow=1.2,SNR=4.8								
SDV	**Santo Domingo**	**141.27**	**84**	*e*PKPpre		PKPpre		20 24 24.2	
SDV				*e*PKPdf		**PKPdf**		**20 24 31.7**	**-1.2**
TOA0	**Torodi Ar. Sit**	**146.64**	**284**	*e*PKPdf		**PKPdf**		**20 24 42.4**	**+0.4**
TOA0				*e*PKPdf		**PKPbc**		**20 24 43.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**146.64**	**284**	PKPbc		**PKPdf**		**20 24 42.9**	**+0.9**
	comp=Z,20nm,1.0s,baz=2.0,slow=3.9,SNR=68								
TOA1	**Torodi Ar. Sit**	**146.64**	**284**	*e*PKPdf		**PKPdf**		**20 24 42.9**	**+0.9**
PTGA	**Pitinga**	**150.72**	**104**	*e*PKPdf		**PKPdf**		**20 24 49.7**	**+1.0**
PTGA				*e*PKPbc		**PKPbc**		**20 24 54.6**	**+0.3**
BDFB	**Brasilia**	**152.43**	**144**	PKP		**PKPdf**		**20 24 52.5**	**+1.1**
	comp=Z,1.3nm,0.3s,baz=173,slow=2.8,SNR=3.1								
BDFB				PKPbc		**PKPbc**		**20 24 58.5**	**+0.2**
	comp=Z,14nm,0.8s,baz=187,slow=3.6,SNR=14								

KIC	**Kosan Boka**	**153.33**	**271**	*e*PKP2		**PKiKP**		**20 25 02.0**	**+1.7**
DBIC	**Dimbokro**	**153.46**	**271**	*e*PKPbc		**PKPbc**		**20 25 00.4**	**0.0**
DBIC	**Dimbokro**	**153.46**	**271**	PKPbc		**PKiKP**		**20 25 00.7**	**+0.2**
	comp=Z,3.9nm,0.9s,baz=91,slow=4.7,SNR=3.8								
LIC	**Lamto**	**153.61**	**270**	*e*PKP2		**PKPbc**		**20 25 00.8**	**0.0**
	comp=Z,52nm,1.6s								
TIC	**Toumodi**	**153.62**	**271**	*e*PKP2		**PKiKP**		**20 25 01.0**	**+0.1**

IDC ***12*** *20:10:08.9±0.4, 6.58S×148.48E, h0km, mb4.4/21, mb1 4.5/24, mb1mx4.4/44, mbtmp4.4/24, ML4.4/3, MS4.6/23, Ms1 4.6/23, ms1mx4.5/43, Error ellipse: s-maj=17.1km s-min=11.0km az=94.0*

NEIC ***12*** *20:10:10.7±0.2, 6.65S×148.36E, h10km, mb5.0/65, Error ellipse: s-maj=6.7km s-min=5.0km az=112.0*

ISCJB ***12*** *20:10:14.0±0.2, 6.69S±0.03×148.38E±0.03, h46km, mb4.8/95, MS4.7/34, Error ellipse: s-maj=5.0km s-min=3.5km az=16.4*

MOS ***12*** *20:10:13.2±1.6, 6.62S×148.24E, h33km, mb4.9/18, Error ellipse: s-maj=12.0km s-min=7.4km az=95.4*

BJI ***12*** *20:10:15.4, 6.36S×148.71E, h53km, mb4.7/38, mB5.2/33, Ms5.0/31, Ms7 4.8/30*

DJA ***12*** *20:10:15.8×1.4, 7.7S×8.7×14.8E±1.2, h46km±8km, M5.2/30, mb5.3/30, mB5.7/18, Mw(mB)5.2/18*

GCMT ***12*** *20:10:15.7±0.1, 6.67S±0.01×148.52E±0.01, h12km, MW5.2/99, Moment Tensor Solution. s76,c97; s99,c184; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.78±.02; Mθθ-0.65±.01; Mϕϕ-0.12±.01; Mrθ-0.24±.03; Mθϕ0.42±.01; Mϕr-0.14±.04; Best double couple: M0 0.88300×10^17 NP1 ϕs282.00000°, δ53.00000°, λ68.00000°. NP2 ϕs136.00000°, δ43.00000°, λ116.00000°. Principal axes: T 0.8660, Plg72.0000°, Azm133.0000°; N 0.0340, Plg18.0000°, Azm296.0000°; P -0.9000, Plg5.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 20:10:15.8±0.3, 6.72S±0.04×148.38E±0.05, h46km, n329, σ1 s57/335, mb4.9/94, MS4.7/34, 15C-2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.53**	**57**	*e*Pn		**Pn**		**20 11 22.0**	**0.0**
MANU	**Manus Island**	**4.75**	**348**	*e*Pn		**Pn**		**20 11 28.3**	**+3.3**
COEN	**Coen**	**8.83**	**215**	P		**Pn**		**20 12 21.7**	**+0.8**
	baz=8.8,SNR=12								
COEN				S		**Sn**		**20 13 59.1**	**-0.1**
	baz=8.8								
COEN	**Coen**	**8.83**	**215**	*e*Pn		**Pn**		**20 12 20.8**	**-0.1**
COEN				*e*Sn		**Sn**		**20 13 58.2**	**-0.9**
GENI	**Genyem**	**9.15**	**296**	P		**Pn**		**20 12 26.4**	**+1.1**
HNR	**Honiara**	**11.77**	**104**	LR		LR		20 17 02.8	
	comp=Z,4μm,20.1s,baz=276,slow=35								
MTSU	**Mount Surprise**	**12.02**	**199**	P		**Pn**		**20 13 05.9**	**+1.3**
	baz=12,SNR=40								
CTA	**Charters Tower**	**13.45**	**189**	Pn		**Pn**		**20 13 24.9**	**+0.8**
	0.6nm,0.3s,baz=11,slow=12,SNR=12								
CTA				LR		LR		20 18 30.9	
	comp=Z,5μm,19.5s,baz=8.0,slow=37								
QIS	**Mount Isa**	**16.17**	**211**	P		**Pn**		**20 14 00.8**	**+0.8**
	baz=16,SNR=41								
SIJI	**Sorong**	**18.03**	**288**	P		**Pn**		**20 14 21.5**	**-1.6**
	0.2nm,0.3s,baz=138,slow=14,SNR=2.6								
MTN	**Manton Dam**	**18.04**	**249**	P		**P**		**20 14 23.9**	**+0.6**
	baz=18,SNR=7.5								
EIDS	**Eidsvold**	**18.73**	**172**	P		**P**		**20 14 31.3**	**+0.5**
	baz=19,SNR=4.5								
EIDS	**Eidsvold**	**18.73**	**172**	*e*P		**P**		**20 14 30.1**	**-0.7**
	32nm,0.9s								
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P		**P**		**20 14 32.9**	**0.0**
	79nm,0.9s								
WRAB	**Tennant Creek**	**18.92**	**225**	*ce*P		**P**		**20 14 31.6**	**-1.4**
WRAB				pmax		pmax			
	comp=Z,70nm,0.9s								
WB2	**Warramunga Arr**	**18.93**	**225**	*e*P		**P**		**20 14 31.8**	**-1.2**
	comp=Z,75nm,1.0s								
WR1	**Warramunga Arr**	**18.93**	**225**	*e*P		**P**		**20 14 32.9**	**-0.3**
	comp=Z,84nm,1.0s								
WR1				*e*Sn		**Sn**		**20 18 02.0**	**-3.4**
WR1				*e*PcP		**PcP**		**20 18 59.1**	**+1.2**
WR1				*e*ScP		**ScP**		**20 22 36.2**	**+6.1**
WRA	**Warramunga Arr**	**18.93**	**225**	*ce*P		**P**		**20 14 32.9**	**-0.2**
WRA

BNSI Bone 28.23 273 P **P** **20 16 02.9 -1.8**
BBOO Buckleboo 28.38 202 P **P** **20 16 06.2 +0.4**
baz=28,SNR=4.7
SPSI Sidrap Palu 28.61 274 P P 20 16 17.2 +9.1
TTSI Tana Toraja 28.68 276 P **P** **20 16 12.6 +3.9**
PCI Palu 29.04 280 P **P** **20 16 14.5 +2.5**
MPSI Mapaga 29.27 283 P **P** **20 16 12.0 -1.9**
PLAI Plampang 30.39 264 P **P** **20 16 25.4 +1.5**
FORT Forrest 30.59 216 P **P** **20 16 26.4 +0.9**
baz=31
FORT Forrest 30.59 216 *e*P **P** **20 16 25.0 -0.5**
comp=Z,51nm,0.9s
TOO Toolangi 30.82 184 P **P** **20 16 29.6 +2.2**
baz=31
MBWA Marble Bar 31.21 240 *e*P **P** **20 16 30.9 -0.1**
comp=Z,47nm,0.9s
JAGI Jajag, Banyuwa 33.96 265 *e*P **P** **20 16 53.1 -2.2**
comp=Z,38nm,0.7s
JAGI Jajag, Banyuwa 33.96 265 P **P** **20 16 55.5 +0.3**
MEEK Meekatharra 34.56 232 P **P** **20 17 00.7 +0.4**
baz=35,SNR=37
MOO Moorlands 35.59 182 P **P** **20 17 10.1 +1.1**
baz=36
TAU Tasmania Unive 36.06 181 *e*P **P** **20 17 12.5 -0.4**
comp=Z,63nm,1.1s
TAU Tasmania Unive 36.06 181 *e*P **P** **20 17 12.5 -0.4**
TAU pmax pmax
comp=Z,63nm,1.1s
PWJI Pagerwojo 36.28 266 P **P** **20 17 15.8 +0.6**
PCJI Pacitan 36.91 265 P **P** **20 17 21.0 +0.5**
WOJI Wonogiri, Jawa 37.16 266 P **P** **20 17 19.4 -3.3**
SBUM Sibu 37.22 283 *e*P **P** **20 17 22.9 -0.4**
comp=Z,18nm,0.7s
SBUM Sibu 37.22 283 P **P** **20 17 24.9 +1.7**
UGM Wanagama 37.55 266 *e*P **P** **20 17 25.9 -0.2**
comp=Z,54nm,0.8s
UGM Wanagama 37.55 266 P **P** **20 17 25.9 -0.2**
MORW Morawa 37.74 230 P **P** **20 17 27.8 +0.4**
baz=38,SNR=7.0
MORW Morawa 37.74 230 *e*P **P** **20 17 26.9 -0.6**
comp=Z,34nm,0.9s
KLBR Kellerberrin 37.82 225 P **P** **20 17 27.9 -0.2**
baz=38,SNR=40
BLDU Ballidu 38.03 227 P **P** **20 17 30.6 +0.7**
baz=38,SNR=8.3
KSM Kuching 38.85 281 *e*P **P** **20 17 37.8 +0.8**
comp=Z,26nm,1.0s
NWAO Narrogin (SRO) 38.94 224 P **P** **20 17 38.0 +0.5**
baz=39,SNR=5.1
NWAO Narrogin (SRO) 38.94 224 P **P** **20 17 37.6 +0.2**
comp=Z,23nm,0.9s,baz=31,slow=5.9,SNR=6.0
MUN Mundaring 39.13 226 P **P** **20 17 40.1 +1.1**
baz=39,SNR=6.5
KPJI Karang Pucung 39.15 267 P **P** **20 17 42.6 +3.2**
CISI Cisompet, Garu 40.24 266 *e*P **P** **20 17 47.5 -1.2**
comp=Z,107nm,0.8s
CISI Cisompet, Garu 40.24 266 P **P** **20 17 48.9 +0.2**
URZ Urewera 40.78 145 LR LR 20 32 59.8
comp=Z,801nm,22.0s,baz=334,slow=34
CBJI Citeko 41.24 268 P **P** **20 17 56.3 -0.5**
SKJI Sukabumi 41.51 267 P **P** **20 17 59.6 +0.6**
LTZ Lake Taylor 41.65 153 *e*P **P** **20 17 59.3 -0.5**
comp=Z,18nm,1.2s
RPZ Rata Peaks 41.88 155 P **P** **20 18 01.5 -0.1**
comp=Z,4.8nm,0.6s,baz=315,slow=2.9,SNR=3.2
DCZ Deep Cove 41.90 160 *e*P **P** **20 18 01.3 -0.4**
comp=Z,31nm,1.1s
MLZ Mavora Lakes 42.15 159 *e*P **P** **20 18 03.5 -0.3**
comp=Z,70nm,1.5s
PPBI Pangkal Pinang 42.34 274 P **P** **20 18 07.4 +1.6**
XMIS Christmas Isla 42.38 262 *e*P **P** **20 18 04.8 -1.3**
comp=Z,55nm,1.0s
KASI Kota Agung 43.63 269 P **P** **20 18 15.2 -1.1**
MDSI Maura Dua 44.03 270 P **P** **20 18 18.0 -1.5**
MJAR Matsushiro Arr 44.07 348 P **P** **20 18 17.5 -2.0**
comp=Z,5.7nm,0.8s,baz=179,slow=8.3,SNR=9.0
MAJO Matsushiro 44.08 348 *e*P **P** **20 18 18.6 -0.8**
comp=Z,16nm,0.9s
MAJO Matsushiro 44.08 348 *e*P **P** **20 18 18.6 -0.8**
MAJO pmax pmax
comp=Z,16nm,0.9s
MAT Matsushiro 44.08 348 P **P** **20 18 17.9 -1.5**
MJB9 Matsu-Tunnel 44.08 348 *e*P **P** **20 18 19.2 -0.3**
comp=Z,16nm,0.9s
LWLI Liwa 44.11 270 P **P** **20 18 22.4 +2.2**
TPRI Tanjung Pinang 44.41 278 P **P** **20 18 24.6 +2.1**
LHSI Lahat 44.74 271 P **P** **20 18 29.6 +4.5**
MYKOM Kota Tinggi 45.24 279 *e*P **P** **20 18 29.5 +0.4**
comp=Z,50nm,0.8s
MYKOM Kota Tinggi 45.24 279 P **P** **20 18 30.4 +1.4**
KGM Kluang 45.80 279 P **P** **20 18 35.2 +1.6**
KTGM Kuala Trenggan 46.71 284 P **P** **20 18 42.1 +1.4**
KRJI Kerinci 46.98 273 P P 20 18 47.5 +4.6
NJ2 Nanjing 47.73 326 *e*P **P** **20 18 48.2 -0.1**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 LR LR
comp=Z,2μm,18.4s
NJ2 LR LR
comp=Z,750nm,19.5s
NJ2 LR LR
comp=Z,2μm,20.6s
KSRS Korea Array 47.91 338 P **P** **20 18 48.3 -1.3**
comp=Z,3.1nm,0.9s,baz=151,slow=8.5,SNR=6.2
KSRS LR LR 20 37 34.1
comp=Z,1μm,19.9s,baz=154,slow=34
KS15 Wonju Array Si 47.92 338 *e*P **P** **20 18 48.3 -1.4**
comp=Z,152nm,1.8s
KSAR Wonju Array Be 47.92 338 P **P** **20 18 48.3 -1.4**
KSAR Wonju Array Be 47.92 338 P **P** **20 18 48.3 -1.4**
PPI Padang Panjang 48.26 275 P **P** **20 18 52.6 -0.1**
IPM Ipoh 48.56 282 *e*P **P** **20 18 55.5 +0.5**
comp=Z,26nm,0.8s
IPM Ipoh 48.56 282 P **P** **20 18 56.0 +1.0**
KULM Kulim 49.10 283 *e*P **P** **20 18 58.9 -0.3**
comp=Z,23nm,0.7s
KULM Kulim 49.10 283 P **P** **20 19 00.3 +1.1**
MNSI Mandailing Nat 49.26 277 P **P** **20 19 01.3 +0.9**
SKNT Sakolnakorn 49.80 299 P P 20 19 16.0 +12
PSI Prapat 50.26 279 *e*P **P** **20 19 07.0 -1.2**
comp=Z,42nm,1.1s
PSI Prapat 50.26 279 *e*P **P** **20 19 07.0 -1.2**
PSI pmax pmax
comp=Z,43nm,1.1s
TRTT Trang 50.66 286 P **P** **20 19 14.1 +3.1**
comp=Z,6.8nm,1.0s,comp=Z,230nm
ASAJ Asahikawa 50.87 355 LR LR 20 39 55.6
comp=Z,345nm,20.7s,baz=182,slow=35
CHAI Chaiyaphum 51.13 297 P **P** **20 19 17.9 +3.4**
comp=Z,3.8nm,0.8s
GSI Gunungsitoli 51.32 277 *e*P **P** **20 19 15.1 -0.9**
comp=Z,26nm,0.7s
GSI Gunungsitoli 51.32 277 P **P** **20 19 17.2 +1.2**
KCSI Kotacane, Aceh 51.53 280 P **P** **20 19 16.9 -0.7**
KUR Kuril'sk 51.72 360 P **P** **20 19 18.6 +0.3**
PKDT Phuket 51.97 285 P **P** **20 19 22.4 +1.6**
comp=Z,25nm,0.9s,comp=Z,338nm
USRK Ussuriysk Ar. 52.80 345 P **P** **20 19 25.4 -1.0**
comp=Z,4.2nm,0.6s,baz=184,slow=5.6,SNR=6.7
USRK LR LR 20 39 31.0
comp=Z,539nm,21.1s,baz=155,slow=33
MLSI Meulaboh, Aceh 53.01 280 P **P** **20 19 27.3 -1.3**
UTTA Uttaradit 53.10 298 P P 20 19 34.1 +4.9
comp=Z,2.0nm,0.8s
CN2 Changchun 54.39 340 *e*P **P** **20 19 41.4 +3.3**
CN2 *e*S **S** **20 27 13.1 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,700nm,17.0s
CN2 LR LR
comp=Z,600nm,17.0s
CN2 LR LR
comp=Z,800nm,19.0s
KMI Kunming 54.52 307 P **P** **20 19 41.6 +1.9**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.3s
KMI LR LR
comp=Z,480nm,17.1s
KMI LR LR
comp=Z,620nm,20.9s
KMI LR LR
comp=Z,900nm,22.3s
CM31 Chiang Mai Arr 54.79 298 *e*P **P** **20 19 42.3 +0.8**
comp=Z,5.2nm,0.8s
CMAR Chiang Mai Arr 54.79 298 *i* P **P** **20 19 44.2 +2.7**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 54.79 298 P **P** **20 19 42.7 +1.1**
comp=Z,1.6nm,0.8s,baz=119,slow=6.4,SNR=9.1
CMAR PcP **PcP** **20 20 45.1 +1.5**
comp=Z,2.8nm,0.9s,baz=125,slow=3.7,SNR=4.9
CMAR LR LR 20 42 16.9
comp=Z,398nm,21.9s,baz=123,slow=35
CHTO Chiang Mai 54.93 298 *e*P **P** **20 19 44.0 +1.5**
comp=Z,3.6nm,0.8s
CHTO Chiang Mai 54.93 298 *e*P **P** **20 19 44.0 +1.5**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
XAN Xi'an 55.10 320 P **P** **20 19 43.6 0.0**
XAN pP sP 20 19 59.2 -0.8
XAN pmax pmax
comp=Z,10.0nm,1.5s
XAN LR LR
comp=Z,540nm,19.1s
XAN LR LR
comp=Z,370nm,20.6s
XAN LR LR
comp=Z,730nm,19.6s
CD2 Chengdu 56.75 314 P **P** **20 19 55.4 0.0**
CD2 pmax pmax
comp=Z,18nm,0.6s
KLR Kul'dur 57.58 347 *i* P **P** **20 19 59.5 -1.3**
KLR Kul'dur 57.58 347 P **P** **20 20 00.1 -0.7**
comp=Z,4.2nm,1.1s,baz=164,slow=7.4,SNR=5.7
HHC Hu-ho-hao-te 58.16 328 *e*P **P** **20 20 08.0 +2.8**
HHC pP sP 20 20 19.4 -2.1
HHC S **S** **20 28 00.2 -3.4**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,86nm,5.4s
HHC LR LR
comp=Z,520nm,16.0s
HHC LR LR
comp=Z,400nm,17.0s
HHC LR LR
comp=Z,710nm,15.6s
LZH Lanzhou 59.64 319 *e*P **P** **20 20 18.0 +2.3**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,86nm,5.6s
LZH LR LR
comp=Z,650nm,16.8s
LZH LR LR
comp=Z,740nm,16.3s
LZH LR LR
comp=Z,1μm,18.2s
NKL Nikolayevsk 59.99 355 *e*P **P** **20 20 20.0 +2.5**
PETK Petropavlovsk- 60.12 6 *e*P **P** **20 20 18.1 -0.3**
comp=Z,1.5nm,0.5s,baz=165,slow=8.7,SNR=5.0
PETK LR LR 20 42 16.6
comp=Z,386nm,20.9s,baz=200,slow=32
PEA1 Petropavlovsk- 60.12 6 *e*P **P** **20 20 18.1 -0.4**
HIA Hailar 61.10 339 *i* P **P** **20 20 24.6 -0.6**
HIA pmax pmax
comp=Z,10.0nm,1.0s
PPT Papeete 61.38 106 LR LR 20 43 44.9
comp=Z,267nm,18.6s,baz=286,slow=33
PPT2 Papeete2 61.38 106 *e*S **S** **20 28 47.2 +1.4**
comp=Z,644nm,31.0s
PPT2 *e*LQ LQ 20 35 59.0
comp=Z,1μm,29.5s
PPT2 *e*LR LR 20 38 41.3
comp=Z,658nm,23.2s
TBI Tubuai 61.83 113 *e*S **S** **20 28 55.4 +4.2**
comp=Z,346nm,28.0s
TBI *e*LQ LQ 20 36 17.5
comp=Z,508nm,30.5s
TBI *e*LR LR 20 39 00.5
comp=Z,517nm,25.5s
BRDH Bariadhala 62.70 300 LR LR 20 48 51.2
comp=Z,303nm,20.3s,baz=145,slow=37
GTA Gaotai 64.17 320 *e*P **P** **20 20 46.2 +0.2**
GTA pP pP 20 20 57.9 +0.3
GTA sP pwP 20 21 02.9 -0.9
GTA S **S** **20 29 14.6 -5.5**
GTA sS sS 20 29 37.6 -3.3
GTA pmax pmax
comp=Z,77nm,5.2s
GTA LR LR
comp=Z,340nm,18.9s
GTA LR LR
comp=Z,320nm,21.6s
GTA LR LR
comp=Z,470nm,21.0s
ULN Ulaanbaatar 65.39 331 *e*P **P** **20 20 53.5 -0.4**
comp=Z,9.4nm,1.5s
ULN Ulaanbaatar 65.39 331 *ce*P **P** **20 20 53.6 -0.2**
ULN pmax pmax
comp=Z,2.0nm,1.0s
SONA0 Songino Array 65.69 330 *e*P **P** **20 20 54.5 -1.3**
SONM Songino Array 65.69 330 P **P** **20 20 54.5 -1.3**
comp=Z,2.5nm,0.9s,baz=136,slow=4.2,SNR=11
SONM LR LR 20 49 29.8
comp=Z,1μm,20.3s,baz=131,slow=36
MA2 Magadan 66.11 1 *e*P **P** **20 21 00.3 +2.3**
comp=Z,13nm,1.2s
MA2 Magadan 66.11 1 *ce*P **P** **20 20 55.5 -2.5**
MA2 pmax pmax
comp=Z,4.0nm,1.0s
MA2 Magadan 66.11 1 P **P** **20 20 57.0 -0.9**
comp=Z,1.2nm,0.3s,baz=163,slow=11,SNR=2.7
RAMN Ramite 68.47 302 *e*P **P** **20 21 13.4 -0.6**
comp=Z,11nm,1.0s
PALK Pallekele 68.92 280 *e*P **P** **20 21 18.0 +1.3**
comp=Z,14nm,1.0s
PALK Pallekele 68.92 280 *e*P **P** **20 21 18.0 +1.3**
PALK pmax pmax
comp=Z,14nm,1.0s
GUN Gumba 69.40 303 *e*P **P** **20 21 19.5 -0.3**
comp=Z,28nm,1.0s
SEY Seymchan 69.52 2 *ce*P **P** **20 21 17.5 -1.8**
SEY Seymchan 69.52 2 P **P** **20 21 19.1 -0.3**
comp=Z,0.3nm,0.2s,baz=174,slow=7.0,SNR=1.7
TLY Talaya 69.61 332 *e*P **P** **20 21 20.5 +0.3**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,629nm,14.0s
PKI Pulchoki 69.68 303 *e*P **P** **20 21 21.6 +0.1**
comp=Z,17nm,1.1s
PKIN Phulchoki 69.69 303 *e*P **P** **20 21 21.3 -0.2**
comp=Z,39nm,1.7s
KKN Kakani 69.86 303 *e*P **P** **20 21 22.1 -0.4**
comp=Z,9.6nm,0.8s
DMN Daman 69.95 302 *e*P **P** **20 21 22.7 -0.4**
comp=Z,23nm,1.0s
BOD Bodaibo 70.09 341 *e*P **P** **20 21 18.6 -4.4**
BOD pmax pmax
comp=Z,5.0nm,2.2s
GKN Gorkha 70.47 303 *e*P **P** **20 21 25.6 -0.6**
comp=Z,13nm,0.8s
TAOE Nuku Hiva Isla 70.76 97 *e*LR LR 20 43 08.3
comp=Z,550nm,22.8s
MOY Mondy 70.86 331 *e*P **P** **20 21 29.4 +1.4**
VNDA Vanda 71.12 177 *e*P **P** **20 21 29.0 -0.1**
VNDA Vanda 71.12 177 *e*P **P** **20 21 29.0 -0.1**
VNDA Vanda 71.12 177 P **P** **20 21 29.2 +0.1**
comp=Z,5.3nm,1.0s,baz=319,slow=6.2,SNR=16
VNDA LR LR 20 50 30.5
comp=Z,313nm,18.2s,baz=352,slow=34
KOLN Koldanda 71.26 302 *e*P **P** **20 21 30.2 -0.8**
comp=Z,16nm,0.8s
DANN Dangsing 71.31 303 *e*P **P** **20 21 30.2 -1.2**
comp=Z,13nm,0.7s
PYUN Piuthan 71.88 302 *e*P **P** **20 21 33.7 -1.1**
comp=Z,19nm,0.7s
HYB Hyderabad 72.99 290 *i* P **P** **20 21 42.0 +0.6**
WMQ Urumqi 74.22 319 *e*P **P** **20 21 48.9 +0.8**
WMQ pP pwP 20 22 05.6 +0.7
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,280nm,3.6s
WMQ LR LR
comp=Z,550nm,21.7s
WMQ LR LR
comp=Z,610nm,22.9s
WMQ LR LR
comp=Z,450nm,20.5s
MNCI Minicoy 76.55 280 *e*P **P** **20 22 03.3 +1.3**
comp=Z,51nm,0.9s
MK01 Makanchi Array 78.90 320 *e*P **P** **20 22 12.9 -1.5**
MK31 Makanchi Array 78.92 320 *e*P **P** **20 22 13.0 -1.5**
comp=Z,2.7nm,1.0s
MK31 Makanchi Array 78.92 320 *e*P **P** **20 22 13.0 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK32 Makanchi Array 78.92 320 *e*P **P** **20 22 13.4 -1.1**
MK32 *e*PKKPbc **PKKPbc** **20 41 09.8 0.0**
MKAR Makanchi Array 78.92 320 *i* P **P** **20 22 13.3 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 78.92 320 P **P** **20 22 13.4 -1.1**
comp=Z,0.7nm,0.4s,baz=98,slow=8.6,SNR=13
MKAR PKKPbc **PKKPbc** **20 41 09.8 0.0**
comp=Z,0.2nm,0.8s,baz=318,slow=1.6,SNR=3.7
MKAR LR LR 20 57 31.5
comp=Z,328nm,21.3s,baz=105,slow=36
MAKZ Makanchi 79.12 320 *e*P **P** **20 22 14.4 -1.2**
comp=Z,15nm,1.8s
TIXI Tiksi 79.26 354 *ce*P **P** **20 22 15.3 -0.5**
TIXI pmax pmax
comp=Z,1.0nm,1.0s
TIXI Tiksi 79.26 354 P **P** **20 22 14.0 -1.9**
comp=Z,0.3nm,0.4s,baz=118,slow=4.9,SNR=2.1
PRZ Przheval'sk 80.01 315 *e*P **P** **20 22 20.8 0.0**
comp=Z,21nm,1.5s
ZALV Zalesovo Beam 80.34 328 *e*P **P** **20 22 19.1 -2.9**
ZALV Zalesovo Beam 80.34 328 *e*P **P** **20 22 19.1 -2.9**
ZALV Zalesovo Beam 80.34 328 P **P** **20 22 20.0 -2.1**
comp=Z,1.1nm,0.5s,baz=119,slow=5.7,SNR=6.4
ZALV LR LR 20 57 32.9
comp=Z,1μm,21.3s,baz=76,slow=35
ZAA1 Zalesovo Array 80.35 328 *e*P **P** **20 22 20.0 -2.1**
KDJ Kajisay 80.76 314 *e*P **P** **20 22 25.4 +0.5**
comp=Z,4.7nm,0.9s
KDJ Kajisay 80.76 314 *e*P **P** **20 22 25.4 +0.5**
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KSH Kashi 80.87 312 P **P** **20 22 28.8 +3.4**
KSH pP sP 20 22 46.1 +3.6
KSH PP **PP** **20 25 36.6 +6.2**
KSH S **S** **20 32 30.4 -0.4**
KSH sS sS 20 32 58.3 +6.8
KSH SS **SS** **20 37 49.1 +3.5**
KSH pmax pmax
comp=Z,270nm,5.7s
KSH LR LR
comp=Z,140nm,12.0s
KSH LR LR
comp=Z,190nm,12.7s
KSH LR LR
comp=Z,250nm,15.5s
RDOG Red Dog Mine 82.03 17 *e*P **P** **20 22 31.8 +1.1**
comp=Z,7.1nm,1.0s
KURK Kurchatov 82.60 323 *e*P **P** **20 22 33.9 -0.1**
comp=Z,7.2nm,1.3s
KURK Kurchatov 82.60 323 *ce*P **P** **20 22 32.5 -1.6**
KURK pmax pmax
comp=Z,11nm,2.6s
AAK Ala-Archa 82.81 314 *e*P **P** **20 22 35.9 +0.3**
comp=Z,8.3nm,1.5s
AAK Ala-Archa 82.81 314 *e*P **P** **20 22 35.9 +0.3**
AAK pmax pmax
comp=Z,8.0nm,1.5s
QSPA South Pole Qui 83.25 180 *e*P **P** **20 22 37.0 -0.4**
comp=Z,48nm,1.6s
IM3 Indian Mountai 83.68 20 *e*P **P** **20 22 38.6 -0.7**
RND Reindeer 84.22 24 *e*P **P** **20 22 42.0 -0.2**
comp=Z,12nm,1.0s
RND Reindeer 84.22 24 *e*P **P** **20 22 42.0 -0.2**
RND pmax pmax
comp=Z,12nm,1.0s
KLU Klutina 84.60 26 *e*P **P** **20 22 47.7 +3.5**
comp=Z,13nm,1.0s
BTK Batken 84.85 311 *e*P **P** **20 22 45.1 -0.9**
comp=Z,13nm,1.6s
BTK Batken 84.85 311 *e*P **P** **20 22 45.1 -0.9**
BTK pmax pmax
comp=Z,13nm,1.6s
GAR Garm 84.99 310 *e*P **P** **20 22 46.2 -0.6**
comp=Z,9.6nm,1.0s
GAR Garm 84.99 310 *e*P **P** **20 22 46.2 -0.6**
GAR pmax pmax
comp=Z,10.0nm,1.0s
WRH Wood River Hil 85.00 23 *e*P **P** **20 22 48.7 +2.6**
comp=Z,11nm,1.2s
CCB Clear Creek Bu 85.19 23 *e*P **P** **20 22 48.7 +1.7**
comp=Z,8.1nm,1.2s
IL1 Eielson Array 85.60 23 *e*P **P** **20 22 47.0 -2.0**
ILAR Eielson Array 85.60 23 P **P** **20 22 46.5 -2.6**
comp=Z,3.2nm,1.0s,baz=258,slow=5.6,SNR=8.1
ILAR LR LR 20 57 03.8
comp=Z,248nm,21.9s,baz=251,slow=33
ILB Eielson Array 85.60 23 *e*P **P** **20 22 48.0 -1.1**
KK31 Karatay Array 85.77 314 *e*P **P** **20 22 48.6 -1.8**
comp=Z,13nm,1.3s
KK31 Karatay Array 85.77 314 *e*P **P** **20 22 48.6 -1.8**
KK31 pmax pmax
comp=Z,13nm,1.3s
KKAR Karatay Array 85.77 314 *e*P **P** **20 22 48.7 -1.7**
comp=Z,13nm,1.3s
KKAR Karatay Array 85.77 314 *e*P **P** **20 22 48.7 -1.7**
KKAR pmax pmax
comp=Z,13nm,1.3s
CHGR Chuyangaron 85.80 310 *e*P **P** **20 22 48.8 -1.9**
comp=Z,31nm,1.5s
RIDG Independe'e Rid 85.98 24 *e*P **P** **20 22 50.8 -0.2**
comp=Z,12nm,1.1s
DOT Dot Lake 86.26 24 *e*P **P** **20 22 51.9 -0.5**
comp=Z,13nm,1.1s
NRIK Noril'sk 86.37 342 LR LR 21 00 52.2
comp=Z,229nm,19.8s,baz=141,slow=35
SCRK Sand Creek 86.42 24 *e*P **P** **20 22 53.0 -0.3**
comp=Z,5.2nm,1.0s
TOLK Toolik Lake Re 86.42 19 *e*P **P** **20 22 55.4 +2.3**
comp=Z,6.0nm,0.9s
EGAK Eagle 87.86 24 *e*P **P** **20 23 01.9 +1.8**
comp=Z,9.9nm,1.0s
BVAR Borovoye Array 88.15 324 LR LR 21 02 57.1
comp=Z,315nm,21.7s,baz=91,slow=36
HYT Haines Junctio 88.17 28 *e*P **P** **20 23 04.4 +2.6**
comp=Z,17nm,1.2s
DAWY Dawson 88.34 25 *e*P **P** **20 23 04.8 +2.4**
comp=Z,10.0nm,1.1s
SYO Syowa Base 90.39 200 †*e*X P 20 23 05.2 -6.7
SYO Syowa Base 90.39 200 †*e*X P 20 23 19.8 +7.9
DLBC Dease Lake 91.29 31 *e*P **P** **20 23 15.8 -0.5**
comp=Z,15nm,1.5s
DLBC Dease Lake 91.29 31 LR LR 20 55 24.3
comp=Z,205nm,21.7s,baz=301,slow=30
INK Inuvik 91.82 21 *e*P **P** **20 23 20.2 +1.7**
comp=Z,6.3nm,1.1s
INK Inuvik 91.82 21 *e*P **P** **20 23 20.2 +1.7**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 91.82 21 P **P** **20 23 17.7 -0.8**
comp=Z,2.0nm,1.0s,baz=226,slow=2.3,SNR=2.7
INK LR LR 20 59 46.6
comp=Z,290nm,21.9s,baz=301,slow=32
YBH Yreka Blue Hor 93.61 49 P **P** **20 23 27.5 0.0**
comp=Z,0.6nm,0.4s,baz=187,slow=2.4,SNR=4.0
ABKAR Akbulak array 94.01 319 *e*P **P** **20 23 27.1 -1.9**
comp=Z,5.2nm,1.3s
GEYT Alibeck 94.28 308 LR LR 21 11 18.9
comp=Z,120nm,18.2s,baz=150,slow=39
DAC Darwin (Calif) 97.17 54 *e*P Pdif 20 23 44.7 +0.6
DAC Darwin (Calif) 97.17 54 *e*P Pdif 20 23 44.7 +0.6
YKA Yellowknife Ar 99.16 28 P **Pdif** **20 23 51.0 -1.1**
YKA Yellowknife Ar 99.16 28 P **Pdif** **20 23 51.0 -1.1**
comp=Z,0.1nm,0.5s,baz=286,slow=4.4,SNR=2.8
YKA PKKPbc **PKKPbc** **20 40 18.7 -0.9**
comp=Z,0.1nm,0.6s,baz=81,slow=4.3,SNR=4.5
YKA LR LR 21 04 47.6
comp=Z,16nm,19.0s,baz=280,slow=33
YKB5 Yellowknife Ar 99.16 28 *e*P **Pdif** **20 23 50.9 -1.1**
ARA0 ARCESS Array S 107.36 342 *e*PKiKP **PKiKP** **20 28 36.6 -0.2**
ARCES ARCESS Array B 107.36 342 PKiKP **PKiKP** **20 28 36.6 -0.2**
comp=Z,4.2nm,1.0s,baz=64,slow=2.8,SNR=5.7
FIA0 FINESS Array S 110.91 334 *e*PKiKP **PKiKP** **20 28 44.6 +1.0**
FIA0 FINESS Array S 110.91 334 *e*PKiKP **PKiKP** **20 28 44.6 +1.0**
FINES FINESS Array B 110.91 334 PKiKP **PKiKP** **20 28 44.6 +1.0**

	comp=Z,0.3nm,0.4s,baz=80,slow=1.6,SNR=4.1						
BR101	**Keskin Array S**	**113.23 310**	*e*PKiKP	**PKiKP**	**20 28 48.3**	**-0.7**
BRTR	**Keskin Array B**	**113.23 310**	PKiKP	**PKiKP**	**20 28 48.3**	**-0.7**
	comp=Z,0.7nm,0.9s,baz=158,slow=4.7,SNR=3.8						
AKASG	**Malin Array Be**	**113.41 323**	PKiKP	**PKiKP**	**20 28 48.5**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=62,slow=2.7,SNR=4.9						
TLB	**Topalu**	**116.08 317**	⇑PKiKP	**PKiKP**	**20 28 54.8**	**+0.7**
VRI	**Vrincioaia**	**116.57 318**	⇑PKiKP	**PKiKP**	**20 28 56.7**	**+1.7**
LVV	**L'vov**	**116.84 323**	*e*PKiKP	**PKPdf**	**20 28 53.2**	**-2.2**
LVV			*e*		20 35 44.9		
LVV			MLR	MLR			
	comp=E,300nm,19.0s						
LVV			MLR	MLR			
	comp=N,200nm,20.0s						
LVV			MLR	MLR			
	comp=Z,500nm,20.0s						
NB200	**NORSAR Array S**	**117.13 338**	*e*PKPdf	**PKiKP**	**20 28 56.0**	**+0.3**
NOA	**NORSAR Array B**	**117.13 338**	PKiKP	**PKiKP**	**20 28 56.0**	**+0.3**
NOA	**NORSAR Array B**	**117.13 338**	PKP	**PKiKP**	**20 28 56.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=56,slow=1.6,SNR=2.3						
MLR	**Muntele Rosu**	**117.21 318**	⇓PKiKP	**PKPdf**	**20 28 54.4**	**-2.0**
VOIR		**117.82 318**	⇑PKiKP	**PKiKP**	**20 28 59.3**	**+1.7**
DRGR		**118.84 320**	⇑PKiKP	**PKiKP**	**20 28 59.9**	**+0.4**
GZR	**Gura Zlata**	**119.33 319**	⇑PKiKP	**PKiKP**	**20 29 00.7**	**+0.2**
LANS	**Liptovska Anna**	**119.82 324**	*e*PKiKP	**PKiKP**	**20 29 02.4**	**+1.1**
LANS	**Liptovska Anna**	**119.82 324**	*e*PKP	**PKiKP**	**20 29 02.4**	**+1.1**
BZS	**Buzias**	**120.00 320**	⇓PKiKP	**PKPdf**	**20 29 01.0**	**-0.6**
VTS	**Vitosha**	**120.02 316**	⇑PKiKP	**PKPdf**	**20 28 57.5**	**-4.4**
VYHS	**Vyhne**	**120.49 323**	*e*PKiKP	**PKPdf**	**20 29 02.2**	**-0.3**
VYHS	**Vyhne**	**120.49 323**	*e*PKP	**PKPdf**	**20 29 02.2**	**-0.3**
PLCA	**Paso Flores**	**120.77 146**	*e*PKPdf	**PKiKP**	**20 29 03.5**	**0.0**
PLCA	**Paso Flores**	**120.77 146**	*e*PKiKP	**PKiKP**	**20 29 03.5**	**0.0**
PLCA	**Paso Flores**	**120.77 146**	PKP	**PKiKP**	**20 29 04.0**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=226,slow=11,SNR=3.3						
DPC	**Dobruska-Polom**	**121.03 326**	*e*PKPdf	**PKiKP**	**20 29 04.6**	**+1.0**
DPC	**Dobruska-Polom**	**121.03 326**	*e*PKiKP	**PKiKP**	**20 29 04.6**	**+1.0**
DIVS	**Divibare**	**121.66 318**	*e*PKPdf	**PKPdf**	**20 29 04.8**	**-0.2**
BRG	**Berggiesshubel**	**122.03 328**	*e*PKP	**PKiKP**	**20 29 06.4**	**+0.9**
	comp=Z,5.0nm,0.8s						
BRG	**Berggiesshubel**	**122.03 328**	*e*PKiKP	**PKiKP**	**20 29 06.4**	**+0.9**
BRG			pmax	pmax			
	comp=Z,5.0nm,0.8s						
PRU	**Pruhonice**	**122.19 327**	*e*PKPdf	**PKiKP**	**20 29 07.1**	**+1.3**
PRU	**Pruhonice**	**122.19 327**	*e*PKiKP	**PKiKP**	**20 29 07.1**	**+1.3**
CLL	**Collm**	**122.29 329**	*e*PKPdf	**PKiKP**	**20 29 06.0**	**0.0**
CLL			*e*		20 29 23.0		
CLL			*e*		20 43 06.0		
CLL			*e*SS	SS	20 47 18.0	+0.4	
CLL			*e*		20 48 24.0		
CLL			*e*SSS	SSS	20 51 48.0		
CLL			*e*SSSS		20 55 18.0		
CLL			Lm	MLR	21 23 00.0		
	comp=N,500nm,20.8s						
CLL			Lm	MLR	21 23 00.0		
	comp=E,600nm,21.5s						
CLL			Lm	MLR	21 23 00.0		
	comp=Z,700nm,21.3s						
CLL	**Collm**	**122.29 329**	*e*PKiKP	**PKiKP**	**20 29 06.0**	**0.0**
CLL			MLR	MLR			
	comp=Z,700nm,21.3s						
CONA	**Conrad Observa**	**122.51 324**	*e*PKiKP	**PKiKP**	**20 29 07.6**	**+0.9**
	comp=Z,1.8nm,0.5s						
KHC	**Kasperske Hory**	**123.18 326**	*e*PKPdf	**PKPdf**	**20 29 07.1**	**-0.6**
KHC	**Kasperske Hory**	**123.18 326**	*e*PKPdf	**PKPdf**	**20 29 07.6**	**-0.1**
KHC			*ex*	x	20 29 17.2		
KHC	**Kasperske Hory**	**123.18 326**	*e*PKiKP	**PKPdf**	**20 29 07.1**	**-0.6**
GEC2	**GERESS Array S**	**123.27 326**	*e*PKPdf	**PKPdf**	**20 29 07.8**	**-0.1**
GEC2	**GERESS Array S**	**123.27 326**	*e*PKiKP	**PKPdf**	**20 29 07.8**	**-0.1**
GERES	**GERESS Array B**	**123.27 326**	PKP	**PKPdf**	**20 29 07.2**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=93,slow=1.3,SNR=20						
VLDQ	**Val d'Or**	**123.37 35**	*e*PKPdf	**PKPdf**	**20 29 06.7**	**-1.3**
MOA	**Molln**	**123.47 325**	*e*PKiKP	**PKiKP**	**20 29 08.8**	**+0.3**
	comp=Z,0.6nm,0.5s						
SOKA	**Soboth**	**123.62 323**	*e*PKiKP	**PKiKP**	**20 29 09.1**	**+0.2**
	comp=Z,3.8nm,1.2s						
SCHQ	**Schefferville**	**124.35 24**	*e*PKPdf	**PKiKP**	**20 29 09.9**	**-0.1**
SCHQ	**Schefferville**	**124.35 24**	PKP	**PKiKP**	**20 29 10.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=243,slow=4.5,SNR=3.9						
KBA	**Koelnbreinsper**	**124.41 324**	*e*PKPdf	**PKPdf**	**20 29 09.0**	**-1.3**
	comp=Z,2.8nm,1.0s						
ABTA	**Abfaltersbach**	**125.07 324**	*e*PKiKP	**PKPdf**	**20 29 11.3**	**-0.1**
	comp=Z,2.1nm,0.7s						
TSUM	**Tsumeb**	**125.12 241**	*e*PKPdf	**PKPdf**	**20 29 11.0**	**-1.3**
WATA	**Walderalm**	**125.28 325**	*e*PKiKP	**PKiKP**	**20 29 13.0**	**+0.8**
	comp=Z,2.0nm,0.4s						
MOTA	**Moosalm**	**125.55 325**	*e*PKiKP	**PKPdf**	**20 29 12.1**	**-0.3**
	comp=Z,10nm,1.1s						
SQTA	**Sankt Quirin**	**125.56 325**	*e*PKiKP	**PKiKP**	**20 29 12.4**	**-0.4**
	comp=Z,6.2nm,1.0s						
FETA	**Feichten**	**125.94 325**	*e*PKiKP	**PKPdf**	**20 29 13.1**	**-0.1**
	comp=Z,7.0nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**126.43 325**	*e*PKPdf	**PKPdf**	**20 29 14.1**	**-0.2**
LPAZ	**La Paz**	**137.25 123**	*e*PKPpre	PKPpre	20 29 24.2		
LPAZ			*e*PKPdf	**PKPdf**	**20 29 36.1**	**+0.1**
LPAZ	**La Paz**	**137.25 123**	*e*PKHKP	PKPpre	20 29 24.2		
LPAZ			*e*		20 29 36.1		
LPAZ	**La Paz**	**137.25 123**	PKP	**PKPdf**	**20 29 36.6**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=180,slow=3.7,SNR=5.7						
CPUP	**Villa Florida**	**138.75 144**	*e*PKPdf	**PKPdf**	**20 29 37.3**	**-0.4**
CPUP	**Villa Florida**	**138.75 144**	*e*PKiKP	**PKPdf**	**20 29 37.3**	**-0.4**
CPUP	**Villa Florida**	**138.75 144**	PKP	**PKPdf**	**20 29 36.5**	**-1.2**
	comp=Z,4.6nm,1.0s,baz=155,slow=2.3,SNR=4.8						
SPB	**Sao Paulo**	**146.15 153**	*e*PKPdf	**PKPdf**	**20 29 51.1**	**+0.2**
TOA0	**Torodi Ar. Sit**	**146.59 284**	*e*PKPdf	**PKPdf**	**20 29 52.0**	**+0.2**
TOA0			*e*PKPbc	**PKPbc**	**20 29 52.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**146.59 284**	PKPbc	**PKPbc**	**20 29 52.9**	**-0.6**
	comp=Z,39nm,0.9s,baz=0.0,slow=3.1,SNR=68						
TOA1	**Torodi Ar. Sit**	**146.59 284**	*e*PKPdf	**PKPbc**	**20 29 52.9**	**-0.6**
PTGA	**Pitinga**	**150.76 104**	*e*PKPdf	**PKPdf**	**20 29 59.5**	**+0.8**
PTGA			*e*PKPbc	**PKPbc**	**20 30 04.4**	**+0.1**
BDFB	**Brasilia**	**152.49 144**	*e*PKPdf	**PKPdf**	**20 30 02.1**	**+0.8**
BDFB			*e*PKPdf	**PKPdf**	**20 30 02.4**	**+1.0**
BDFB			*e*PKPbc	**PKiKP**	**20 30 07.9**	**-0.7**
BDFB	**Brasilia**	**152.49 144**	PKP	**PKPdf**	**20 30 02.4**	**+1.0**
	comp=Z,5.6nm,0.9s,baz=199,slow=9.4,SNR=5.0						
BDFB			PKPbc	**PKiKP**	**20 30 08.5**	**0.0**
	comp=Z,20nm,0.9s,baz=190,slow=3.4,SNR=16						
DBIC	**Dimbokro**	**153.41 271**	*e*PKPdf	**PKPdf**	**20 30 00.9**	**-1.6**
DBIC			*e*PKPbc	**PKPbc**	**20 30 09.8**	**-0.4**
DBIC	**Dimbokro**	**153.41 271**	*e*PKiKP	**PKPdf**	**20 30 01.0**	**-1.6**
DBIC			*e*		20 30 09.8		
DBIC	**Dimbokro**	**153.41 271**	PKPbc	**PKiKP**	**20 30 10.4**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=77,slow=2.2,SNR=4.6						

IDC 12 20:16:55.7±34.0, 19.79S×179.22W, h650km±398km, mb2.7/3, mb1 3.0/3, mb1mx2.6/33, mbtmp3.7/3, Error ellipse: s-maj=317.1km s-min=115.4km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.57**	**262**	P	P	20 24 05.3	+0.1
	0.8nm,0.7s,baz=97,slow=7.5,SNR=28						
ASAR	**Alice Springs**	**43.57**	**256**	P	P	20 24 05.3	0.0
	0.9nm,0.7s,baz=92,slow=8.2,SNR=5.3						
ILAR	**Eielson Array**	**87.89**	**13**	P	P	20 28 37.8	+0.2
	0.2nm,0.4s,baz=218,slow=4.9,SNR=4.2						
AKASG	**Malin Array Be**	**141.84**	**331**	PKP	PKPdf	20 35 12.9	-2.1
	0.3nm,0.4s,baz=39,slow=3.8,SNR=8.0						

IDC 12 20:19:46.4±1.9, 37.55N×142.41E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/43, mbtmp3.6/5, ML2.7/3, Error ellipse: s-maj=37.7km s-min=25.9km az=90.0
JMA 12 20:19:50.3±0.2, 37.62N×142.08E, h25km±3km, M3.4
ISC 12 20:19:48.0±1.8, 37.59N±0.04×142.14E±0.06, h11km±10km, n19, σ1s56/33, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.90**	**324**	P	**Pg**	**20 20 06.1**	**+0.8**
JIKH				*e*S	**Sg**	**20 20 16.1**	**-1.0**
JFK	**Kawauchi**	**1.03**	**258**	P	**Pb**	**20 20 08.2**	**+0.3**
JFK				*e*S	**Sg**	**20 20 21.4**	**+0.1**
JIO	**Ouri**	**1.07**	**324**	P	**Pb**	**20 20 08.7**	**+0.2**
JIO				*e*S	**Sg**	**20 20 21.7**	**-0.8**
JMM	**Marumori**	**1.10**	**285**	P	**Pb**	**20 20 09.4**	**+0.3**
JMM				S	**Sg**	**20 20 23.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.18**	**246**	P	**Pb**	**20 20 10.2**	**-0.2**
ONAJ				*e*S	**Sb**	**20 20 24.7**	**-0.9**
JKMT	**Kesennumamotoy**	**1.33**	**337**	P	**Pn**	**20 20 12.5**	**0.0**
JKMT				*e*S	**Sb**	**20 20 28.1**	**-1.9**
JOU	**Okura**	**1.40**	**304**	P	**Pb**	**20 20 14.6**	**+0.4**
JOU				S	**Sn**	**20 20 31.5**	**-0.6**
JFT	**Otama**	**1.44**	**268**	P	**Pb**	**20 20 15.1**	**+0.3**
JFT				S	**Sn**	**20 20 33.0**	**+0.1**
JMK	**Ichinoseki**	**1.54**	**332**	P	**Pn**	**20 20 16.1**	**+0.6**
JMK				*e*S	**Sn**	**20 20 34.0**	**-1.5**
JYS	**Shirataka**	**1.76**	**292**	P	**Pb**	**20 20 21.3**	**+1.0**
JYS				S	**Sn**	**20 20 42.5**	**+1.6**
JYK	**Kaneyama**	**1.93**	**314**	P	**Pb**	**20 20 23.0**	**-0.2**
JFY	**Yanaizu**	**1.95**	**265**	P	**Pb**	**20 20 22.6**	**-0.9**
JRG	**Rokugo**	**2.16**	**327**	P	**Pb**	**20 20 26.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.31**	**253**	Pn	**Pb**	**20 20 43.3**	**-3.5**
	0.2nm,0.3s,baz=83,slow=16,SNR=8.5						
MJAR				S	**Sb**	**20 21 24.9**	**-2.3**
	0.2nm,0.3s,baz=96,slow=16,SNR=3.2						
MAT	**Matsushiro**	**3.31**	**253**	P	**Pb**	**20 20 43.4**	**-3.4**
MAT				S	**Sn**	**20 21 22.8**	**+3.5**
JHJ	**Hachijo jima 2**	**4.86**	**204**	Pn	**Pn**	**20 21 02.3**	**+1.3**
	3.4nm,0.3s,baz=45,slow=20,SNR=3.0						
JHJ				Sn	**Sn**	**20 21 55.0**	**-2.3**
	4.2nm,0.3s,baz=105,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**6.53**	**3**	Pn	**Pn**	**20 21 25.9**	**+1.9**
	0.2nm,0.3s,baz=210,slow=16,SNR=2.6						
ASAJ				Sn	**Sn**	**20 22 37.0**	**-1.5**
	0.3nm,0.3s,baz=258,slow=18,SNR=2.4						
SONM	**Songino Array**	**27.96**	**303**	P	**P**	**20 25 39.5**	**+0.9**
	0.5nm,0.8s,baz=94,slow=7.8,SNR=3.8						
WRA	**Warramunga Arr**	**57.69**	**189**	P	**P**	**20 29 38.5**	**-0.2**
	0.6nm,0.9s,baz=5.4,slow=7.2,SNR=3.1						

ISCJB 12 20:39:18.2±0.1, 18.80S±0.02×177.72W±0.03, h600km, mb4.7/193, Error ellipse: s-maj=4.1km s-min=2.7km az=35.2
IDC 12 20:39:19.8±1.2, 18.75S×177.64W, h607km±14km, mb4.0/32, mb1 4.1/34, mb1mx4.1/42, mbtmp5.0/34, Error ellipse: s-maj=11.2km s-min=9.6km az=144.0
BJI 12 20:39:19.4, 18.49S×177.19W, h625km, mb4.6/25, mB5.1/15
NEIC 12 20:39:20.4±0.4, 18.83S×177.70W, h617km±5km, mb4.7/162, Error ellipse: s-maj=4.7km s-min=3.3km az=139.0
MOS 12 20:39:21.4±2.0, 18.53S×177.87W, h619km, mb4.7/27, Error ellipse: s-maj=9.6km s-min=8.6km az=58.6
ISC 12 20:39:19.1±0.3, 18.83S±0.05×177.68W±0.05, h600km, n550, σ1s17/592, mb4.7/193, 49C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.20**	**284**	*e*P	**P**	**20 40 50.0**	**+3.8**
MSVF	**Nonsavu**	**4.20**	**284**	*e*P	**P**	**20 40 50.0**	**+3.8**
NIUE	**Niue**	**7.34**	**93**	P	**P**	**20 41 14.7**	**+2.4**
	baz=7.2,SNR=4.6						
NIUE	**Niue**	**7.34**	**93**	*e*P	**P**	**20 41 14.4**	**+2.1**
RAO	**Raoul Island**	**10.38**	**181**	*e*P	**P**	**20 41 39.5**	**-2.0**
RAO	**Raoul Island**	**10.38**	**181**	*e*P	**P**	**20 41 39.5**	**-2.0**
GLKZ	**Green Lake**	**10.39**	**181**	P	**P**	**20 41 41.8**	**+0.2**
MARNC	**Mare, Loyalty**	**13.68**	**256**	*e*P	**P**	**20 42 15.3**	**+0.5**
PINNC	**Pines Island,**	**14.42**	**252**	*e*P	**P**	**20 42 22.6**	**+0.6**
DZM	**Mont Dzumac**	**15.23**	**255**	*e*P	**P**	**20 42 30.0**	**+0.5**
	73nm,1.0s						
DZM	**Mont Dzumac**	**15.23**	**255**	P	**P**	**20 42 30.3**	**+0.8**
	4.2nm,0.3s,baz=58,slow=23,SNR=24						
KNTN	**Kanton**	**16.99**	**21**	*e*P	**P**	**20 42 44.8**	**-0.9**
	245nm,1.2s						
RAR	**Rarotonga**	**16.99**	**101**	*e*P	**P**	**20 42 46.7**	**+1.1**
	40nm,0.8s						
RAR	**Rarotonga**	**16.99**	**101**	*e*P	**P**	**20 42 46.7**	**+1.1**
RAR				pmax	pmax		
	comp=Z,40nm,0.8s						
RAR	**Rarotonga**	**16.99**	**101**	P	**P**	**20 42 46.5**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=257,slow=7.5,SNR=9.9						
OUZ	**Omahuta**	**18.07**	**204**	*e*P	**P**	**20 42 58.5**	**+3.3**
	comp=Z,47nm,0.8s						
OUZ	**Omahuta**	**18.07**	**204**	P	**P**	**20 42 58.8**	**+3.5**
ABAZ	**Army Bay**	**18.89**	**199**	P	**P**	**20 43 05.9**	**+3.2**
WIAZ	**Waiheke Island**	**18.98**	**198**	P	**P**	**20 43 06.1**	**+2.6**
MXZ	**Matakaoa Point**	**18.99**	**190**	*e*P	**P**	**20 43 03.4**	**-0.2**
	comp=Z,52nm,1.1s						
MXZ	**Matakaoa Point**	**18.99**	**190**	P	**P**	**20 43 03.5**	**-0.2**
WMGZ	**Waiomatatini S**	**19.23**	**189**	P	**P**	**20 43 07.0**	**+1.3**
MKAZ	**Moumakai**	**19.26**	**198**	P	**P**	**20 43 08.8**	**+2.8**
HAZ	**Te Kaha**	**19.27**	**191**	P	**P**	**20 43 06.6**	**+0.5**
PKGZ	**Pakihiroa**	**19.35**	**190**	P	**P**	**20 43 10.1**	**+3.2**
RUGZ	**Raukumara Rang**	**19.50**	**191**	P	**P**	**20 43 08.9**	**+0.6**
TWGZ	**Tauwhareparae**	**19.65**	**190**	P	**P**	**20 43 10.1**	**+0.6**
TOZ	**Tauroa Road**	**19.76**	**196**	P	**P**	**20 43 13.1**	**+2.6**
MWZ	**Matawai**	**19.88**	**191**	P	**P**	**20 43 10.7**	**-0.9**
MWZ				S	**S**	**20 46 14.3**	**-5.3**
URZ	**Urewera**	**19.89**	**192**	P	**P**	**20 43 09.5**	**-2.2**
	comp=Z,6.1nm,0.3s,baz=34,slow=5.1,SNR=28						
URZ				S	**S**	**20 46 10.8**	**-8.8**
	comp=Z,0.4nm,0.3s,baz=18,slow=19,SNR=4.6						
URZ	**Urewera**	**19.89**	**192**	P	**P**	**20 43 10.1**	**-1.6**
URZ				S	**S**	**20 46 12.2**	**-7.4**
CNGZ	**Carnagh Statio**	**19.91**	**190**	P	**P**	**20 43 12.8**	**+0.9**
RTZ	**Ruatahuna**	**20.26**	**192**	P	**P**	**20 43 14.7**	**-0.4**
MTHZ	**Maungataniwha**	**20.51**	**192**	P	**P**	**20 43 18.1**	**+0.7**
RAHZ	**Arahi**	**20.53**	**192**	P	**P**	**20 43 17.3**	**-0.2**
MRHZ	**Matea Rd**	**20.59**	**193**	P	**P**	**20 43 18.2**	**+0.1**
HIZ	**Hauiti**	**20.66**	**197**	*e*P	**P**	**20 43 19.2**	**+0.6**
	comp=Z,172nm,1.7s						
BKZ	**Black Stump Fm**	**20.89**	**193**	*e*P	**P**	**20 43 19.4**	**-1.3**
	comp=Z,6.9nm,0.8s						
BKZ				*e*S	**S**	**20 46 34.5**	**-1.0**
BKZ	**Black Stump Fm**	**20.89**	**193**	P	**P**	**20 43 19.5**	**-1.3**
TWVZ	**Taurewa**	**21.04**	**195**	P	**P**	**20 43 22.1**	**-0.1**
NGZ	**Ngauruhoe**	**21.10**	**195**	P	**P**	**20 43 22.9**	**+0.1**
KWHZ	**Kaweka Forest**	**21.15**	**193**	P	**P**	**20 43 22.5**	**-0.6**
TUVZ	**Tukino**	**21.17**	**194**	P	**P**	**20 43 23.5**	**+0.1**
FWVZ	**Far West T-bar**	**21.18**	**195**	P	**P**	**20 43 24.1**	**+0.5**
MOVZ	**Moawhango**	**21.28**	**194**	P	**P**	**20 43 23.7**	**-0.6**
TARA	**Tarawa**	**22.08**	**334**	*e*P	**P**	**20 43 31.9**	**+0.2**
	comp=Z,537nm,1.4s						
BFZ	**Birch Farm**	**22.40**	**192**	*e*P	**P**	**20 43 33.4**	**-0.7**
SNZO	**South Karori**	**23.34**	**195**	*e*P	**P**	**20 43 41.8**	**-0.6**
	comp=Z,28nm,0.7s						
HNR	**Honiara**	**23.60**	**290**	*e*P	**P**	**20 43 45.8**	**+0.7**
	comp=Z,320nm,1.1s						
HNR	**Honiara**	**23.60**	**290**	*e*P	**P**	**20 43 45.8**	**+0.7**
HNR				pmax	pmax		
	comp=Z,320nm,1.1s						
THZ	**Tophouse**	**24.23**	**197**	*e*P	**P**	**20 43 50.4**	**0.0**
	comp=Z,15nm,0.5s						
THZ				*e*S	**S**	**20 47 25.1**	**-3.0**
KHZ	**Kahutara**	**24.67**	**196**	*e*P	**P**	**20 43 53.6**	**-0.6**
	comp=Z,24nm,0.9s						
LTZ	**Lake Taylor**	**25.35**	**197**	*e*P	**P**	**20 43 59.2**	**-1.1**
	comp=Z,28nm,0.8s						
OXZ	**Oxford**	**25.92**	**197**	*e*P	**P**	**20 44 05.5**	**+0.3**
MQZ	**McQueen's Vall**	**26.10**	**196**	*e*P	**P**	**20 44 07.3**	**+0.5**
	comp=Z,58nm,1.8s						
RPZ	**Rata Peaks**	**26.56**	**198**	*e*P	**P**	**20 44 10.5**	**-0.4**
	comp=Z,126nm,1.8s						
RPZ	**Rata Peaks**	**26.56**	**198**	P	**P**	**20 44 10.5**	**-0.4**
	comp=Z,9.6nm,0.5s,baz=344,slow=4.9,SNR=12						
TBI	**Tubuai**	**26.69**	**105**	*e*P	**P**	**20 44 13.2**	**+0.9**
	comp=Z,40nm,0.9s						
PAE	**Paea**	**26.70**	**92**	*e*P	**P**	**20 44 13.2**	**+0.8**
	comp=Z,5.9nm,1.0s						
PPT2	**Papeete2**	**26.71**	**92**	*e*P	**P**	**20 44 13.5**	**+0.8**
	comp=Z,38nm,1.3s						
PPT	**Papeete**	**26.72**	**92**	*e*P	**P**	**20 44 12.0**	**-0.6**
PPT	**Papeete**	**26.72**	**92**	*e*P	**P**	**20 44 12.0**	**-0.6**
PPT	**Papeete**	**26.72**	**92**	P	**P**	**20 44 13.4**	**+0.8**
	comp=Z,20nm,0.7s,baz=210,slow=20,SNR=4.1						
FOZ	**Fox Glacier**	**26.79**	**200**	*e*P	**P**	**20 44 12.6**	**-0.2**
	comp=Z,62nm,0.6s						
TIAR	**Tiarei**	**26.94**	**92**	*e*P	**P**	**20 44 15.3**	**+0.8**
	comp=Z,11nm,0.8s						
TVO	**Taravao**	**27.00**	**92**	*e*P	**P**	**20 44 15.9**	**+0.8**
	comp=Z,7.2nm,0.8s						
LBZ	**Lake Benmore**	**27.43**	**199**	*e*P	**P**	**20 44 17.2**	**-1.3**
	comp=Z,14nm,0.8s						
ODZ	**Otahua Downs**	**27.89**	**198**	*e*P	**P**	**20 44 21.8**	**-0.6**
	comp=Z,64nm,1.7s						
WKZ	**Wanaka**	**28.20**	**200**	*e*P	**P**	**20 44 24.9**	**-0.3**
	comp=Z,22nm,0.8s						
VAH	**Vaihoa**	**28.94**	**88**	*e*P	**P**	**20 44 32.0**	**+0.1**
	comp=Z,43nm,0.9s						
MLZ	**Mavora Lakes**	**28.98**	**201**	*e*P	**P**	**20 44 32.4**	**+0.5**
	comp=Z,24nm,0.7s						
DCZ	**Deep Cove**	**29.40**	**202**	*e*P	**P**	**20 44 36.2**	**+0.7**
	comp=Z,20nm,0.8s						
WHZ	**Wether Hill Ro**	**29.50**	**201**	*e*P	**P**	**20 44 37.2**	**+0.9**
	comp=Z,46nm,0.8s						
EIDS	**Eidsvold**	**29.62**	**252**	P	**P**	**20 44 38.4**	**+0.7**
	baz=30,SNR=5.6						
EIDS	**Eidsvold**	**29.62**	**252**	*e*P	**P**	**20 44 38.1**	**+0.4**
	comp=Z,21nm,0.8s						
ARMA	**Armidale**	**30.10**	**242**	P	**P**	**20 44 43.7**	**+1.8**
	baz=30,SNR=36						
ARMA	**Armidale**	**30.10**	**242**	*e*P	**P**	**20 44 43.1**	**+1.2**
	comp=Z,35nm,0.6s						
PYZ	**Puysegur Point**	**30.17**	**202**	*e*P	**P**	**20 44 43.7**	**+1.6**
	comp=Z,43nm,1.1s						
KWAJ	**Kwajalein Atol**	**31.05**	**331**	*e*P	**P**	**20 44 49.0**	**-1.0**
	comp=Z,406nm,1.2s						
KWAJ	**Kwajalein Atol**	**31.05**	**331**	*e*P	**P**	**20 44 49.0**	**-1.0**
KWAJ				pmax	pmax		
	comp=Z,406nm,1.2s						
MGCD	**Mangrove Creek**	**31.35**	**237**	P	**P**	**20 44 54.0**	**+1.6**
	baz=32,SNR=15						
RMQ	**Roma**	**31.83**	**250**	P	**P**	**20 44 58.3**	**+1.8**
	baz=32,SNR=13						
RABL	**Rabaul**	**32.85**	**293**	*e*P	**P**	**20 45 06.0**	**+0.7**
	comp=Z,39nm,0.5s						
CNB	**Canberra Magne**	**33.43**	**234**	P	**P**	**20 45 11.8**	**+1.8**
	baz=34,SNR=69						
CAN	**Canberra**	**33.71**	**234**	P	**P**	**20 45 13.9**	**+1.5**
	baz=34						
CAN	**Canberra**	**33.71**	**234**	*e*P	**P**	**20 45 13.7**	**+1.3**
	comp=Z,91nm,0.6s						
CAN	**Canberra**	**33.71**	**234**	*e*P	**P**	**20 45 13.7**	**+1.3**
CAN				pmax	pmax		
	comp=Z,91nm,0.6s						
YNG	**Young**	**33.84**	**236**	P	**P**	**20 45 14.9**	**+1.5**
	baz=34,SNR=15						
CTA	**Charters Tower**	**33.99**	**262**	P	**P**	**20 45 15.6**	**+0.7**
	comp=Z,64nm,0.6s,baz=93,slow=10,SNR=106						
CTAO	**Charters Tower**	**33.99**	**262**	*e*P	**P**	**20 45 15.6**	**+0.7**
	comp=Z,79nm,0.8s						
CTAO	**Charters Tower**	**33.99**	**262**	*e*P	**P**	**20 45 15.6**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,79nm,0.8s						
MILA	**Mila**	**34.23**	**231**	P	**P**	**20 45 17.9**	**+1.3**
	baz=34,SNR=10						
PATS	**Pohnpei**	**34.80**	**315**	*e*P	**P**	**20 45 22.6**	**+1.1**
	comp=Z,335nm,1.6s						
CMSA	**Cobar Meteorol**	**35.31**	**242**	P	**P**	**20 45 26.9**	**+1.3**
	baz=36,SNR=91						
MTSU	**Mount Surprise**	**36.01**	**265**	P	**P**	**20 45 32.3**	**+0.7**
	baz=36,SNR=56						
TOO	**Toolangi**	**37.14**	**232**	P	**P**	**20 45 42.0**	**+1.4**
	baz=37,SNR=32						
TOO	**Toolangi**	**37.14**	**232**	*e*P	**P**	**20 45 41.8**	**+1.2**
	comp=Z,68nm,0.8s						
TOO	**Toolangi**	**37.14**	**232**	*e*P	**P**	**20 45 41.8**	**+1.2**
TOO

SBA Scott Base 59.55 184 *e*P P **20 48 28.8 +3.2**
comp=Z,11nm,0.8s
VNDA Vanda 59.59 185 *e*P P **20 48 27.7 +1.9**
comp=Z,20nm,1.6s
VNDA Vanda 59.59 185 *e*P P **20 48 27.7 +1.9**
VNDA pmax pmax
comp=Z,20nm,1.6s
VNDA Vanda 59.59 185 P P **20 48 27.4 +1.6**
comp=Z,3.1nm,0.6s,baz=352,slow=6.9,SNR=39
BLDU Ballidu 60.02 245 P P **20 48 29.2 -0.3**
baz=60,SNR=29
MUN Mundaring 60.33 243 P P **20 48 32.0 +0.5**
baz=60,SNR=13
MORW Morawa 60.75 247 P P **20 48 34.3 0.0**
baz=61,SNR=3.5
MORW Morawa 60.75 247 *e*P P **20 48 34.2 -0.2**
comp=Z,120nm,1.9s
GIRL Giralia 63.30 254 *e*P P **20 48 51.8 +0.9**
comp=Z,554nm,1.8s
MJAR Matsushiro Arr 69.06 323 P P **20 49 25.6 -0.6**
comp=Z,13nm,0.7s,baz=165,slow=6.1,SNR=48
MAJO Matsushiro 69.06 323 *e*P P **20 49 26.1 0.0**
comp=Z,16nm,0.6s
MAJO Matsushiro 69.06 323 *e*P P **20 49 26.1 0.0**
MAJO pmax pmax
comp=Z,16nm,0.6s
MAT Matsushiro 69.06 323 P P **20 49 25.7 -0.4**
MJB9 Matsu-Tunnel 69.06 323 *e*P P **20 49 26.2 0.0**
comp=Z,16nm,0.6s
QSPA South Pole Qui 71.23 180 *e*P P **20 49 39.9 +1.2**
comp=Z,15nm,0.7s
ASAJ Asahikawa 72.41 331 P P **20 49 46.7 +1.1**
comp=Z,28nm,0.9s,baz=233,slow=6.0,SNR=15
SSLB Suanglung 73.32 303 *e*P P **20 49 50.2 -1.1**
comp=Z,13nm,0.5s
TPUB Ta-pu 73.33 302 *e*P P **20 49 50.3 -1.1**
comp=Z,36nm,0.7s
YSS Yuzh-Sakhalins 74.55 333 *e*P P **20 49 58.3 +0.7**
comp=Z,52nm,1.2s
YSS Yuzh-Sakhalins 74.55 333⇑ *i*P P **20 49 58.2 +0.6**
YSS *e* 20 50 11.0
YSS pmax pmax
comp=Z,30nm,1.0s
PETK Petropavlovsk- 74.74 345 P P **20 49 58.1 -0.5**
comp=Z,21nm,0.7s,baz=134,slow=7.8,SNR=40
PEA1 Petropavlovsk- 74.75 345 *e*P P **20 49 58.1 -0.5**
KSRS Korea Array 75.84 318 P P **20 50 05.8 +0.7**
comp=Z,4.0nm,1.0s,baz=135,slow=6.5,SNR=7.8
KSAR Wonju Array Be 75.86 318 P P **20 50 05.8 +0.6**
KSAR Wonju Array Be 75.86 318 P P **20 50 05.8 +0.6**
KS01 Wonju Array Si 75.88 318 *e*P P **20 50 05.5 +0.3**
CHGN Chignik 76.58 11 *e*P P **20 50 08.5 -0.1**
CHGN *e*pP pP **20 52 11.9 -0.4**
TYV Tymovskoe 77.65 336 *e*P P **20 50 14.4 -0.1**
TYV pmax pmax
comp=Z,13nm,0.9s
USRK Ussuriysk Ar. 77.76 325 P P **20 50 15.8 +0.5**
comp=Z,4.7nm,0.5s,baz=138,slow=3.9,SNR=13
ISA Isabella, Lake 77.95 46 *e*P P **20 50 17.4 +0.7**
comp=Z,7.8nm,0.9s
ISA Isabella, Lake 77.95 46 *e*P P **20 50 17.4 +0.7**
ISA pmax pmax
comp=Z,8.0nm,0.9s
CMB Columbia Colle 78.03 43 *e*P P **20 50 17.5 +0.5**
comp=Z,9.3nm,0.9s
CMB Columbia Colle 78.03 43 *e*P P **20 50 17.5 +0.5**
CMB pmax pmax
comp=Z,9.0nm,0.9s
AFDM Forest Hills D 78.19 42 *e*P P **20 50 18.1 +0.3**
comp=Z,11nm,1.0s
WDC Whiskeytown Da 78.20 40 *e*P P **20 50 18.8 +1.0**
comp=Z,14nm,1.4s
ORV Oroville 78.22 41 *e*P P **20 50 18.6 +0.7**
comp=Z,7.8nm,0.9s
ORV Oroville 78.22 41 *e*P P **20 50 18.6 +0.7**
ORV pmax pmax
comp=Z,8.0nm,0.9s
MDPB Devils Postpil 78.65 44 *e*P P **20 50 21.3 +0.7**
comp=Z,14nm,1.1s
OMMB Old Mammoth Mi 78.69 44 *e*P P **20 50 21.7 +0.8**
comp=Z,8.2nm,0.5s
YBH Yreka Blue Hor 78.80 39 *e*P P **20 50 21.9 +0.8**
comp=Z,8.2nm,0.7s
WAKR Walker 78.92 43 *e*P P **20 50 22.7 +0.8**
comp=Z,9.3nm,0.8s
NJ2 Nanjing 79.06 309 *e*P P **20 50 23.5 +1.0**
NJ2 pmax pmax
comp=Z,14nm,0.5s
BEKR Beckworth 79.12 41 *e*P P **20 50 23.3 +0.4**
comp=Z,8.9nm,0.6s
KDAK Kodiak Island 79.13 13 *e*P P **20 50 21.8 -0.5**
comp=Z,133nm,1.7s
KDAK Kodiak Island 79.13 13 *i*P P **20 50 22.1 -0.1**
KDAK Kodiak Island 79.13 13 P P **20 50 21.8 -0.5**
comp=Z,16nm,0.7s,baz=196,slow=3.2,SNR=9.0
PNTR Pine Nut 79.15 42 *e*P P **20 50 24.0 +0.8**
comp=Z,25nm,0.8s
HUMO Hull Mountain 79.19 38 *e*P P **20 50 24.1 +1.1**
comp=Z,21nm,1.4s
YERR Yerington 79.32 43 *e*P P **20 50 24.6 +0.6**
comp=Z,14nm,0.6s
MDJ Mudanjiang 79.33 325 *e*P P **20 50 24.6 +0.9**
comp=Z,27nm,0.9s
RYN Ryan 79.58 43 *e*P P **20 50 25.7 +0.4**
comp=Z,4.9nm,0.8s
PAHR Pah Rah Range 79.64 42 *e*P P **20 50 26.1 +0.6**
comp=Z,6.9nm,0.7s
KVN Kaiserville 80.09 43 *e*P P **20 50 28.4 +0.4**
comp=Z,10nm,1.1s
KVN Kaiserville 80.09 43 *e*P P **20 50 28.4 +0.4**
KVN pmax pmax
comp=Z,11nm,1.1s
TPNV Topopah Spring 80.16 46 *e*P P **20 50 29.0 +0.6**
comp=Z,5.7nm,0.9s
TPNV Topopah Spring 80.16 46 *e*P P **20 50 29.0 +0.6**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
NKL Nikolayevsk 80.20 336 *i*P P **20 50 27.5 -0.4**
NKL pmax pmax
comp=Z,23nm,0.9s
MOD Modoc Plateau 80.34 40 *e*P P **20 50 29.8 +0.5**
comp=Z,12nm,0.8s
Y14A Wickenburg 80.88 50 *e*P P **20 50 33.3 +1.2**
comp=Z,7.8nm,1.4s
H04A Detroit Lake 80.91 37 *e*P P **20 50 31.9 -0.1**
comp=Z,58nm,1.5s
PINE Pine Mountain 81.08 38 *e*P P **20 50 33.8 +0.8**
comp=Z,31nm,1.1s
CN2 Changchun 81.17 322 *e*P P **20 50 33.8 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 81.25 329⇑ *i*P P **20 50 33.2 -0.3**
KLR Kul'dur 81.25 329 P P **20 50 33.6 +0.1**
comp=Z,3.0nm,0.7s,baz=90,slow=4.3,SNR=12
R11A Troy Canyon, C 81.35 45 *e*P P **20 50 34.9 +0.3**
comp=Z,5.5nm,1.1s
BMN Battle Mountai 81.42 42 *e*P P **20 50 35.3 +0.5**
comp=Z,16nm,1.1s
BMN Battle Mountai 81.42 42 *e*P P **20 50 35.3 +0.5**
BMN pmax pmax
comp=Z,16nm,1.1s
RSO Redoubt South 81.55 12 *e*P P **20 50 33.9 -1.1**
WVOR Wild Horse Val 81.66 40 *e*P P **20 50 36.3 +0.4**
comp=Z,17nm,1.0s
WVOR Wild Horse Val 81.66 40 *e*P P **20 50 36.3 +0.4**
WVOR pmax pmax
comp=Z,17nm,1.0s
TUC Tucson 81.71 52 *e*P P **20 50 37.7 +1.3**
comp=Z,14nm,1.2s
I07A Izee 82.09 38 *e*P P **20 50 38.8 +0.7**
comp=Z,14nm,0.8s
X16A Lo Mia Camp, P 82.24 50 *e*P P **20 50 40.2 +1.1**
comp=Z,5.8nm,0.9s
LCMT Little Creek M 82.25 47 *e*P P **20 50 39.7 +0.7**
comp=Z,6.0nm,0.9s
MA2 Magadan 82.26 344 *e*P P **20 50 37.1 -1.3**
comp=Z,13nm,0.8s
MA2 Magadan 82.26 344 *ce*P P **20 50 36.2 -2.2**
MA2 pmax pmax
comp=Z,10.0nm,0.9s
MA2 Magadan 82.26 344 P P **20 50 37.1 -1.3**
comp=Z,8.6nm,0.6s,baz=131,slow=5.8,SNR=18
J08A Circle Bar Ran 82.29 39 *e*P P **20 50 39.6 +0.5**
comp=Z,27nm,1.3s
319A Douglas 82.41 53 *e*P P **20 50 41.6 +1.6**
comp=Z,17nm,1.0s
CCUT Cedar City 82.44 46 *e*P P **20 50 41.1 +1.0**
comp=Z,6.9nm,0.9s
GAMB Gambell 82.47 3 *e*P P **20 50 39.4 +0.1**
comp=Z,37nm,1.2s
KNB Kanab 82.54 47 *e*P P **20 50 41.4 +0.8**
comp=Z,7.0nm,0.9s
KNB Kanab 82.54 47 *e*P P **20 50 41.4 +0.8**
KNB pmax pmax
comp=Z,7.0nm,0.9s
PSUT Pine Spring 82.61 45 *e*P P **20 50 41.4 +0.5**
comp=Z,4.0nm,0.7s
U15A North Rim 82.62 48 *e*P P **20 50 42.1 +1.0**
comp=Z,13nm,0.9s
SZCU Shurtz Canyon 82.65 46 *e*P P **20 50 41.7 +0.5**
comp=Z,7.7nm,1.1s
WUAZ Wupatki 82.82 49 *e*P P **20 50 42.3 +0.3**
ELK Elko 82.85 43 *e*P P **20 50 42.4 +0.2**
comp=Z,40nm,0.3s
ELK Elko 82.85 43 *e*P P **20 50 42.4 +0.2**
ELK pmax pmax
comp=Z,40nm,0.3s
SUA Susitna One 82.87 13 *e*P P **20 50 40.9 -0.7**
comp=Z,34nm,0.7s
G08A Pilot Rock 83.11 37 *e*P P **20 50 43.4 +0.3**
comp=Z,20nm,1.3s
KNK Knik Glacier 83.32 14 *e*P P **20 50 43.0 -0.6**
comp=Z,18nm,0.7s
PMR Palmer 83.33 13 *e*P P **20 50 42.8 -0.8**
comp=Z,18nm,0.5s
PMR Palmer 83.33 13 *e*P P **20 50 42.8 -0.8**
PMR pmax pmax
comp=Z,18nm,0.5s
HAWA Hanford 83.43 36 *e*P P **20 50 44.9 +0.4**
comp=Z,11nm,1.0s
MTPU Mount Pierson 83.49 46 *e*P P **20 50 46.6 +1.1**
comp=Z,4.9nm,0.9s
DIV Divide 83.70 15 *e*P P **20 50 45.2 -0.4**
comp=Z,33nm,0.8s
MSU Marysvale 83.73 46 *e*P P **20 50 46.4 -0.1**
E08A Dider Farm, El 83.75 36 *e*P P **20 50 46.5 +0.4**
comp=Z,76nm,1.9s
BMO Blue Mountains 83.83 38 *e*P P **20 50 46.5 -0.2**
comp=Z,3.8nm,0.8s
SCM Sheep Creek Mo 83.95 14 *e*P P **20 50 46.3 -0.5**
comp=Z,41nm,0.7s
SCM Sheep Creek Mo 83.95 14 *e*P P **20 50 46.3 -0.5**
SCM pmax pmax
comp=Z,41nm,0.7s
KLU Klutina 83.98 15 *e*P P **20 50 46.6 -0.4**
comp=Z,21nm,1.1s
D08A Wollman Farm, 84.16 36 *e*P P **20 50 48.2 +0.1**
comp=Z,33nm,1.9s
B08A Colville Reser 84.69 35 *e*P P **20 50 50.2 -0.5**
comp=Z,11nm,0.8s
LLLB Lillooet 84.72 32 *e*P P **20 50 50.6 -0.3**
comp=Z,7.4nm,0.6s
TRF Thorofare Moun 84.76 12 *e*P P **20 50 49.5 -1.3**
comp=Z,28nm,0.7s
TMUT Trail Mountain 84.78 46 *e*P P **20 50 51.7 0.0**
comp=Z,4.9nm,0.7s
SEY Seymchan 84.82 347 *ce*P P **20 50 49.8 -1.2**
SEY Seymchan 84.82 347 P P **20 50 50.3 -0.7**
comp=Z,20nm,0.8s,baz=147,slow=5.5,SNR=68
HLID Hailey 84.87 41 *e*P P **20 50 52.4 +0.5**
comp=Z,5.0nm,0.8s
RND Reindeer 85.01 13 *e*P P **20 50 50.9 -1.1**
comp=Z,35nm,0.8s
RND Reindeer 85.01 13 *e*P P **20 50 50.9 -1.1**
RND pmax pmax
comp=Z,35nm,0.8s
SRU San Rafael Swe 85.15 46 *e*P P **20 50 53.3 -0.1**
comp=Z,4.5nm,0.7s
BPAW Bear Paw Mtn. 85.21 11 *e*P P **20 50 51.0 -1.9**
comp=Z,30nm,1.9s
ENH Enshi 85.36 304 *e*P P **20 50 54.0 -0.4**
comp=Z,14nm,0.8s
PAX Paxson 85.37 14 *e*P P **20 50 52.6 -1.1**
comp=Z,15nm,1.4s
PAX Paxson 85.37 14 *e*P P **20 50 52.6 -1.1**
PAX pmax pmax
comp=Z,15nm,1.4s
MNTX Cornudas Mount 85.54 55 *e*P P **20 50 55.2 0.0**
comp=Z,8.7nm,1.4s
PV09 Paradox Valley 85.82 47 *e*P P **20 50 56.2 -0.5**
PV23 Carpenter Ridg 85.88 47 *e*P P **20 50 57.4 +0.4**
comp=Z,5.9nm,0.7s
TX31 Lajitas Arr. Si 85.90 57 *e*P P **20 50 57.9 +0.8**
TXAR Lajitas Array 85.90 57 P P **20 50 58.3 +1.2**
comp=Z,4.0nm,0.8s,baz=225,slow=3.4,SNR=3.5
WRH Wood River Hil 86.11 12 *e*P P **20 50 55.9 -1.2**
comp=Z,21nm,0.8s
ANMO Albuquerque 86.13 51 *e*P P **20 50 57.9 -0.3**
comp=Z,4.1nm,1.1s
ANMO Albuquerque 86.13 51 *ce*P P **20 50 58.3 +0.2**
ANMO pmax pmax
comp=Z,3.0nm,1.0s
RIDG Independ'e Rid 86.18 14 *e*P P **20 50 56.7 -0.8**
comp=Z,19nm,1.2s
DOT Dot Lake 86.28 14 *e*P P **20 50 57.1 -0.9**
comp=Z,19nm,1.4s
HDA Harding Lake 86.29 13 *e*P P **20 50 56.8 -1.1**
comp=Z,18nm,0.6s
CCB Clear Creek Bu 86.33 12 *e*P P **20 50 56.8 -1.3**
comp=Z,23nm,0.6s
DLBC Dease Lake 86.40 23 *e*P P **20 50 59.0 +0.3**
comp=Z,38nm,1.6s
DLBC Dease Lake 86.40 23 P P **20 50 58.8 +0.1**
comp=Z,3.3nm,0.8s,baz=218,slow=7.9,SNR=5.5
IM3 Indian Mountai 86.47 10 *e*P P **20 50 57.8 -0.9**
MCMT McKenzie Canyo 86.49 40 *e*P P **20 50 58.8 -0.9**
MDM Murphy Dome 86.52 12 *e*P P **20 50 57.6 -1.4**
comp=Z,20nm,0.9s
COLA College 86.52 12 *e*P P **20 50 57.7 -1.2**
comp=Z,32nm,0.6s
COLA College 86.52 12 *c i*P P **20 50 58.0 -1.0**
COLA pmax pmax
comp=Z,24nm,0.7s
SCRK Sand Creek 86.58 14 *e*P P **20 50 58.5 -1.0**
comp=Z,19nm,1.4s
IL1 Eielson Array 86.62 13 *e*P P **20 50 58.2 -1.3**
ILAR Eielson Array 86.62 13 P P **20 50 58.3 -1.2**
comp=Z,7.2nm,0.8s,baz=228,slow=4.9,SNR=97
ILB Eielson Array 86.62 13 *e*P P **20 50 58.3 -1.2**
comp=Z,13nm,1.0s
TPAW Teton Pass 87.00 42 *e*P P **20 51 01.4 -0.8**
comp=Z,12nm,1.3s
REDW Red Meadow 87.00 42 *e*P P **20 51 01.9 -0.2**
comp=Z,19nm,1.3s
FXWY Fox Creek 87.02 42 *e*P P **20 51 02.2 0.0**
comp=Z,5.2nm,1.1s
S22A 4UR Ranch, Cre 87.09 49 *e*P P **20 51 02.7 -0.1**
comp=Z,5.3nm,1.0s
IMW Indian Meadow 87.21 42 *e*P P **20 51 03.2 +0.1**
comp=Z,13nm,1.1s
MOOW Moose Ponds 87.25 42 *e*P P **20 51 03.3 0.0**
comp=Z,27nm,1.8s
LOHW Long Hollow 87.28 42 *e*P P **20 51 03.4 0.0**
comp=Z,22nm,1.6s
RDOG Red Dog Mine 87.31 6 *e*P P **20 51 02.3 -0.4**
comp=Z,3.7nm,0.6s
QLMT Earthquake Lak 87.36 41 *e*P P **20 51 03.4 -0.3**
XAN Xi'an 87.37 307 P P **20 51 04.4 +0.6**
XAN pP pwP 20 53 14.5 0.0
XAN pmax pmax
comp=Z,16nm,1.0s
XAN Xi'an 87.37 307 *e*P P **20 51 03.4 -0.4**
comp=Z,14nm,0.9s
XAN Xi'an 87.37 307 *e*P P **20 51 03.4 -0.4**
XAN pmax pmax
comp=Z,14nm,0.9s
BILL Bilibino 87.41 354 *i*P P **20 51 02.5 -0.6**
BILL pmax pmax
comp=Z,9.0nm,0.7s
FLWY Flagg Ranch 87.45 42 *e*P P **20 51 03.9 -0.3**
comp=Z,16nm,1.2s
BW06 Boulder Array 87.54 43 *e*P P **20 51 04.3 -0.4**
comp=Z,5.8nm,1.0s
PD31 Pinedale Array 87.54 43 *e*P P **20 51 04.4 -0.3**
comp=Z,5.5nm,1.0s
PDAR Pinedale Array 87.54 43 P P **20 51 04.5 -0.2**
comp=Z,3.3nm,0.8s,baz=213,slow=3.1,SNR=27
PDAR pP **pwP 20 53 18.6 +2.8**
comp=Z,0.5nm,0.8s,baz=204,slow=3.3,SNR=3.7
YFT Old Faithful 87.54 41 *e*P P **20 51 05.9 +1.3**
comp=Z,12nm,1.1s
PRP Porcupine Dome 87.56 13 *e*P P **20 51 02.7 -1.4**
comp=Z,26nm,1.6s
BOZ Bozeman (W) 87.62 40 *e*P P **20 51 05.0 +0.2**
comp=Z,11nm,1.0s
BOZ Bozeman (W) 87.62 40 *e*P P **20 51 05.0 +0.2**
BOZ pmax pmax
comp=Z,11nm,1.0s
H17A Grant Village 87.68 41 *e*P P **20 51 05.8 +0.6**
comp=Z,7.8nm,0.9s
YHH Holmes Hill 87.70 41 *e*P P **20 51 06.2 +0.7**
comp=Z,12nm,1.4s
DAWY Dawson 87.78 16 *e*P P **20 51 04.5 -0.5**
comp=Z,9.3nm,0.8s
EGAK Eagle 87.92 15 *e*P P **20 51 05.1 -0.4**
comp=Z,14nm,0.8s
COLD Coldfoot 88.19 10 *e*P P **20 51 06.3 -0.5**
comp=Z,19nm,1.6s
HHC Hu-ho-hao-te 88.41 314 *e*P P **20 51 09.4 +0.8**
HHC S S 21 00 55.4 -9.2
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,380nm,6.1s
FYU Fort Yukon 88.53 12 *e*P P **20 51 07.1 -1.3**
comp=Z,31nm,1.7s
TOLK Toolik Lake Re 89.57 10 *e*P P **20 51 12.8 -0.4**
comp=Z,6.0nm,0.8s
SNAA Sanae 89.66 178 P P **20 51 13.3 -0.6**
VNA3 Neumayer Olymp 89.78 176 P P **20 51 14.2 -0.1**
CM01 Chiang Mai Arr 89.82 289 *e*P P **20 51 15.2 -0.3**
CM31 Chiang Mai Arr 89.84 289 *e*P P **20 51 15.5 -0.1**
comp=Z,3.7nm,0.9s
CMAR Chiang Mai Arr 89.84 289 *i*P P **20 51 16.7 +1.1**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 89.84 289 P P **20 51 16.1 +0.6**
comp=Z,2.5nm,0.9s,baz=121,slow=3.3,SNR=15
CD2 Chengdu 90.15 303 P P **20 51 16.1 -0.7**
CD2 pmax pmax
comp=Z,30nm,0.5s
PLCA Paso Flores 90.20 133 *e*P P **20 51 17.8 +0.8**
comp=Z,29nm,1.8s
PLCA Paso Flores 90.20 133 *e*P P **20 51 17.8 +0.8**
PLCA pmax pmax
comp=Z,29nm,1.8s
PLCA Paso Flores 90.20 133 P P **20 51 18.1 +1.1**
comp=Z,0.9nm,0.6s,baz=258,slow=8.3,SNR=5.1
VNA2 Neumayer--Watz 90.23 177 P P **20 51 16.5 +0.2**
baz=164,slow=6.5
EPYK Eagle Plains 90.30 15 *e*P P **20 51 16.0 -0.6**
comp=Z,12nm,0.8s
RSSD Black Hills 91.74 44 *e*P P **20 51 23.2 -0.9**
comp=Z,9.3nm,1.3s
RSSD Black Hills 91.74 44 *e*P P **20 51 23.2 -0.9**
RSSD pmax pmax
comp=Z,9.0nm,1.3s
LZH Lanzhou 92.00 307⇓ P P **20 51 26.7 +1.3**
LZH pP pP 20 53 38.1 +3.0
LZH sP sP 20 54 36.8 +2.2
LZH PP **PP 20 55 20.5 +4.2**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,76nm,5.3s
INK Inuvik 92.59 15 *e*P P **20 51 25.8 -1.2**
comp=Z,14nm,1.1s
INK Inuvik 92.59 15 *e*P P **20 51 25.8 -1.2**
INK pmax pmax
comp=Z,14nm,1.1s
INK Inuvik 92.59 15 P P **20 51 25.9 -1.1**
comp=Z,7.4nm,0.8s,baz=219,slow=4.3,SNR=20
DGMT Dagmar 93.45 40 *e*P P **20 51 31.4 -0.1**
comp=Z,17nm,0.9s
ULN Ulaanbaatar 94.30 319 *e*P P **20 51 34.6 -0.9**
comp=Z,9.2nm,1.8s
ULN Ulaanbaatar 94.30 319 *ce*P P **20 51 34.8 -0.8**
ULN pmax pmax
comp=Z,5.0nm,1.9s
SONA0 Songino Array 94.70 319 *e*P P **20 51 37.4 0.0**
SONM Songino Array 94.70 319 P P **20 51 37.4 0.0**
comp=Z,0.7nm,0.6s,baz=119,slow=3.1,SNR=4.9
YKA Yellowknife Ar 94.87 25 P P **20 51 36.8 -0.7**
comp=Z,1.8nm,0.8s,baz=241,slow=4.6,SNR=24
YKA PP **PP 20 55 34.4 -3.0**
comp=Z,0.2nm,0.7s,baz=252,slow=7.0,SNR=4.5
YKB5 Yellowknife Ar 94.87 25 *e*P P **20 51 36.1 -1.5**
YKW3 Yellowknife Ar 94.91 24 *e*P P **20 51 36.9 -0.8**
comp=Z,10nm,1.5s
TIXI Tiksi 97.22 345 *ce*P Pdif 20 51 45.9 -2.0
TIXI pmax pmax
comp=Z,1.0nm,0.5s
TIXI Tiksi 97.22 345 P Pdif 20 51 46.3 -1.6
comp=Z,0.8nm,0.3s,baz=165,slow=3.3,SNR=6.0
ZAA1 Zalesovo Array 109.38 322 *e*PKiKP **PKiKP 20 56 40.1 -1.8**
ZAA1 *e*PP **PP 20 57 26.4 +2.0**
ZALV Zalesovo Beam 109.38 322 PKiKP **PKiKP 20 56 40.1 -1.8**
comp=Z,0.9nm,0.5s,baz=146,slow=3.2,SNR=4.3
ZALV PP **PP 20 57 26.4 +2.0**
comp=Z,0.4nm,0.7s,baz=79,slow=7.5,SNR=3.6
MK32 Makanchi Array 110.27 314 *e*Pdif **Pdif 20 52 46.6 0.0**
MK32 *e*PKiKP **PKiKP 20 56 42.3 -1.5**
MKAR Makanchi Array 110.27 314 Pdiff **Pdif 20 52 46.6 0.0**
comp=Z,0.1nm,0.6s,baz=98,slow=3.5,SNR=2.4
MKAR PKiKP **PKiKP 20 56 42.3 -1.6**
comp=Z,0.9nm,0.5s,baz=187,slow=0.5,SNR=27
KURBB Kurchatov Arra 113.02 318 PKiKP **PKiKP 20 56 47.1 -1.8**
comp=Z,1.2nm,0.6s,baz=92,slow=1.7,SNR=15
KURBB PP **PP 20 57 43.9 -6.2**
comp=Z,0.7nm,1.0s,baz=92,slow=5.7,SNR=4.1
KSH Kashi 114.17 306 PKP PKPdf 20 56 48.4 -3.3
KSH PP **PP 20 58 03.8 +5.1**
KSH SS SS 21 13 09.3 +3.5
KSH AMB AMB
comp=Z,160nm,4.8s
NIL Nilore 115.79 299 *e*Pdif **Pdif 20 53 12.4 +1.0**
NIL *e*Sdif Sdif 21 04 58.8 +2.4
NIL Nilore 115.79 299 *e*P **Pdif 20 53 12.4 +1.0**
BVAR Borovoye Array 117.99 321 PKP **PKPdf 20 56 57.1 -1.3**
comp=Z,2.0nm,0.5s,baz=132,slow=1.5,SNR=24
BRVK Borovoye 118.05 321 *c i*PKiKP **PKPdf 20 56 58.1 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.7s
GAR Garm 118.53 305 *e*PKPdf **PKPdf 20 56 59.2 -0.9**
GAR Garm 118.53 305 *e*PKiKP **PKPdf 20 56 59.2 -0.9**
SPA0 Spitsbergen Ar 120.22 357 *e*PKPdf **PKPdf 20 57 01.3 -0.8**
SPITS Spitsbergen Ar 120.22 357 PKP **PKPdf 20 57 01.1 -1.0**
comp=Z,6.2nm,0.8s,baz=81,slow=2.8,SNR=8.0
SFJD Sangerlussuaq 121.28 22 PKP **PKPdf 20 57 02.9 -1.4**
comp=Z,2.7nm,0.5s,baz=222,slow=3.8,SNR=3.7
ARU Arti 124.00 326 *e*PKPdf **PKPdf 20 57 08.2 -1.6**
ARU Arti 124.00 326 *i*PKiKP **PKPdf 20 57 08.8 -1.1**
ARU 21 03 23.7
ARU SS SS 21 15 07.3 -1.5
AKTO Aktyubinsk 126.02 319 PKP **PKPdf 20 57 13.1 -0.8**
comp=Z,1.5nm,0.8s,baz=142,slow=3.6,SNR=5.7
ARA0 ARCESS Array S 127.34 350 *e*PKPdf **PKPdf 20 57 14.9 -1.0**
ARCES ARCESS Array B 127.34 350 PKP **PKPdf 20 57 14.9 -1.0**
comp=Z,2.7nm,0.5s,baz=359,slow=1.9,SNR=19
KLMR Klimovskoe 130.47 337 *e*PP PP 20 59 44.6 -1.1
KLMR AMP 20 59 50.5
comp=Z,23nm,1.6s
FIA0 FINESS Array S 134.26 344 *e*PKPpre PKPpre 20 57 14.6
FIA0 *e*PKPdf **PKPdf 20 57 29.2 0.0**
FIA0 *e*SKPbc **SKPbc 21 00 02.3 -1.1**
FIA0 FINESS Array S 134.26 344 *e*PKHKP PKPpre 20 57 14.6
FIA0 *e* 20 57 29.2
FINES FINESS Array B 134.26 344 PKhKP PKPpre 20 57 14.6
comp=Z,1.3nm,0.8s,baz=27,slow=0.6,SNR=2.5
FINES PKP **PKPdf 20 57 29.2 0.0**
comp=Z,2.5nm,0.6s,baz=333,slow=0.4,SNR=11
FINES SKPbc **SKPbc 21 00 02.3 -1.1**
comp=Z,2.3nm,0.5s,baz=55,slow=3.0,SNR=16
NB2 NORSAR Subarra137.36 354 PKP **PKPdf 20 57 35.9 +0.9**
comp=Z,0.9nm,0.6s,baz=17,slow=2.6
NB200 NORSAR Array S 137.36 354 *e*PKPdf **PKiKP 20 57 36.1 -1.0**
NOA NORSAR Array B 137.36 354 PKP **PKiKP 20 57 36.1 -1.0**
comp=Z,0.8nm,0.6s,baz=14,slow=4.1,SNR=5.3
HFS Hagfors 137.94 352 PKhKP PKPpre 20 57 23.8
comp=Z,1.3nm,0.5s,baz=60,slow=5.8,SNR=7.0
HFS PKP **PKPdf 20 57 36.6 +0.6**
comp=Z,2.1nm,0.6s,baz=48,slow=2.2,SNR=4.6
AKASG Malin Array Be 141.69 332 *i*PKiKP **PKiKP 20 57 45.5 -0.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 141.69 332 PKhKP PKPpre 20 57 37.6
comp=Z,4.1nm,0.4s,baz=42,slow=4.2,SNR=25
AKBB Malin Array Si 141.69 332 *e*PKPpre PKPpre 20 57 36.9
AKBB Malin Array Si 141.69 332 *e*PKHKP PKPpre 20 57 36.9
KIEV Kiev 141.70 332 *e*PKPpre PKPpre 20 57 37.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
KIEV	**Kiev**	**141.70**	**332**	⇓PKHKP	PKPpre	20 57 37.8	
AK11	**Malin Array Si**	**141.73**	**332**	ePKPpre	PKPpre	20 57 37.5	
AK11				ePKPdf	**PKPdf**	**20 57 43.4**	**+0.2**
SIM	**Simferopol'**	**142.89**	**322c**	iPKHKP	PKPpre	20 57 43.0	
SIM				pmax	pmax		
	comp=Z,55nm,0.6s						
EKA	**Eskdalemuir Ar**	**143.32**	**5**	PKP	PKPab	20 57 43.1	-1.1
	comp=Z,16nm,0.6s,baz=323,slow=2.9,SNR=85						
GKP	**Gorka Klasztor**	**143.73**	**345**	ePKP	PKPbc	20 57 45.1	-0.6
GKP	**Gorka Klasztor**	**143.73**	**345**	ePKIKP	PKPbc	20 57 45.1	-0.7
BEL	**Belsk**	**144.00**	**340**	ePKP	PKPbc	20 57 46.5	-0.1
BEL	**Belsk**	**144.00**	**340**	ePKIKP	PKPbc	20 57 46.5	-0.2
BSEG	**Bad Segeberg**	**144.42**	**352**	ePKPbc	PKPbc	20 57 47.8	0.0
	baz=16,slow=2.6						
KIS	**Kishinev**	**144.50**	**328**	ePKHKP	PKPpre	20 57 45.0	
LVV	**L'vov**	**144.53**	**336**	i PKIKP	**PKPdf**	**20 57 47.2**	**-0.9**
LEOM	**Leova**	**145.14**	**328**	⇑PKIKP	**PKPdf**	**20 57 49.3**	**+0.1**
KWP	**Kalwaria Pacla**	**145.19**	**337**	ePKP	**PKPdf**	**20 57 49.8**	**+0.5**
KWP	**Kalwaria Pacla**	**145.19**	**337**	ePKPdf	**PKPdf**	**20 57 49.5**	**+0.3**
KWP	**Kalwaria Pacla**	**145.19**	**337**	ePKIKP	**PKPdf**	**20 57 49.5**	**+0.3**
RUE	**Ruedersdorf**	**145.24**	**348**	ePKPbc	**PKPbc**	**20 57 50.2**	**-0.1**
	baz=16,slow=2.6						
OJC	**Ojcow**	**145.71**	**340**	ePKP	**PKPbc**	**20 57 51.2**	**-0.6**
OJC	**Ojcow**	**145.71**	**340**	ePKPdf	**PKPdf**	**20 57 50.3**	**+0.2**
OJC	**Ojcow**	**145.71**	**340**	ePKIKP	**PKPbc**	**20 57 51.2**	**-0.6**
TLCR		**145.72**	**326**	⇑PKIKP	**PKPbc**	**20 57 51.6**	**-0.4**
BUR08	**Bucovina Ar. S**	**145.73**	**332**	ePKPdf	**PKPbc**	**20 57 51.5**	**-0.6**
BURAR	**Bucovina Array**	**145.75**	**332**	⇑PKIKP	**PKPbc**	**20 57 51.9**	**-0.3**
NRDL	**Niedersach Rie**	**145.85**	**352**	ePKPbc	**PKPbc**	**20 57 52.0**	**-0.1**
	baz=16,slow=2.6						
BR101	**Keskin Array S**	**145.92**	**314**	ePKPdf	**PKPbc**	**20 57 52.0**	**-0.9**
BR101				eSKPbc	**SKPbc**	**21 00 34.0**	**-1.2**
BR131	**Keskin Array S**	**145.92**	**314**	ePKPdf	**PKPdf**	**20 57 51.9**	**+0.9**
BRTR	**Keskin Array B**	**145.92**	**314**	PKPbc	**PKPbc**	**20 57 52.0**	**-0.9**
	comp=Z,6.1nm,0.8s,baz=136,slow=4.4,SNR=29						
BRTR				SKPbc	**SKPbc**	**21 00 34.0**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=84,slow=1.0,SNR=3.9						
CFR	**Carcaliu**	**146.08**	**326**	⇑PKIKP	**PKPdf**	**20 57 51.5**	**+0.6**
ASSE	**Asse, Remlinge**	**146.12**	**351**	ePKPbc	**PKPbc**	**20 57 52.8**	**0.0**
	baz=16,slow=2.6						
UZH	**Uzhgorod**	**146.16**	**336**	⇑iPKIKP	**PKPbc**	**20 57 52.1**	**-1.0**
KSP	**Ksiaz**	**146.18**	**344**	ePKP	**PKPdf**	**20 57 47.8**	**-3.1**
NIE	**Niedzica**	**146.23**	**339**	ePKP	**PKPbc**	**20 57 53.5**	**+0.1**
NIE	**Niedzica**	**146.23**	**339**	ePKP2	**PKPbc**	**20 57 53.5**	**+0.1**
IBBN	**Ibbenburen**	**146.32**	**354**	ePKPbc	**PKPbc**	**20 57 53.3**	**-0.2**
	baz=16,slow=2.6						
IBBN				ePKPab	**PKiKP**	**20 57 55.6**	**0.0**
	baz=16,slow=4.4						
VRI	**Vrincioaia**	**146.32**	**329**	⇓PKIKP	**PKPbc**	**20 57 53.7**	**0.0**
PLOR	**Plostina**	**146.37**	**329**	⇑PKIKP	**PKPdf**	**20 57 52.6**	**+1.2**
TIRR	**Tirgusor**	**146.41**	**325**	⇓PKIKP	**PKPbc**	**20 57 53.9**	**0.0**
ANTO	**Ankara**	**146.42**	**315**	ePKPdf	**PKPbc**	**20 57 53.1**	**-1.1**
BMR	**Baia Mare**	**146.44**	**334**	⇑PKIKP	**PKPbc**	**20 57 53.6**	**-0.3**
CLZ	**Clausthal**	**146.45**	**351**	ePKPbc	**PKPbc**	**20 57 53.9**	**0.0**
	baz=16,slow=2.6						
CLZ				ePKPab	**PKiKP**	**20 57 56.3**	**+0.2**
	baz=16,slow=4.4						
TRPA	**Tarpa**	**146.47**	**335**	ePKPdf	**PKPbc**	**20 57 53.1**	**-0.9**
CLL	**Collm**	**146.51**	**348**	ePKPdf	**PKPbc**	**20 57 53.0**	**-1.0**
CLL	**Collm**	**146.51**	**348**	ePKPbc	**PKPbc**	**20 57 53.9**	**-0.1**
	baz=16,slow=2.6						
CLL				ePKPab	**PKiKP**	**20 57 56.1**	**+0.1**
	baz=16,slow=4.4						
CLL	**Collm**	**146.51**	**348**	⇑iPKPbc	**PKPbc**	**20 57 53.6**	**-0.4**
	comp=Z,26nm,0.6s						
CLL				⇓iPKPab	**PKiKP**	**20 57 56.2**	**+0.1**
	comp=Z,23nm,1.1s						
CLL				eSKPbc	**SKPbc**	**21 00 35.0**	**-0.8**
CLL	**Collm**	**146.51**	**348**	⇑iPKIKP	**PKPbc**	**20 57 53.6**	**-0.4**
CLL				i		20 57 56.2	
CLL				pmax	pmax		
	comp=Z,26nm,0.6s						
CLL				pmax	pmax		
	comp=Z,23nm,1.1s						
TLB	**Topalu**	**146.53**	**326**	⇑PKIKP	**PKPbc**	**20 57 53.1**	**-1.1**
UPC	**Upice**	**146.56**	**344**	⇑ePKP	**PKPbc**	**20 57 54.1**	**-0.1**
UPC				ePKPAB	**PKPab**	**20 57 56.9**	**-0.2**
UPC	**Upice**	**146.56**	**344**	ePKIKP	**PKPbc**	**20 57 54.1**	**-0.1**
UPC				e		20 57 56.9	
OKC	**Ostrava-Krasne**	**146.56**	**341**	⇑ePKP	**PKPbc**	**20 57 53.9**	**-0.3**
OKC				ePKPAB	**PKiKP**	**20 57 56.5**	**+0.3**
OKC	**Ostrava-Krasne**	**146.56**	**341**	ePKIKP	**PKPbc**	**20 57 53.9**	**-0.3**
OKC				e		20 57 56.5	
DPC	**Dobruska-Polom**	**146.62**	**344**	⇑ePKP	**PKPbc**	**20 57 54.5**	**+0.1**
DPC				ePKPAB	**PKPab**	**20 57 57.5**	**+0.1**
DPC	**Dobruska-Polom**	**146.62**	**344**	ePKP2	**PKPbc**	**20 57 54.5**	**+0.1**
BRG	**Berggiesshubel**	**146.72**	**347**	i PKP	**PKPbc**	**20 57 54.3**	**-0.3**
	comp=Z,12nm,0.7s						
BRG				i		20 57 57.1	
	comp=Z,13nm,0.8s						
BRG	**Berggiesshubel**	**146.72**	**347**	ePKPbc	**PKPbc**	**20 57 54.5**	**0.0**
	baz=16,slow=2.6						
BRG				ePKPab	**PKPab**	**20 57 57.2**	**-0.4**
	baz=16,slow=4.4						
BRG	**Berggiesshubel**	**146.72**	**347**	i PKIKP	**PKPbc**	**20 57 54.3**	**-0.3**
BRG				i		20 57 57.1	
BRG				pmax	pmax		
	comp=Z,13nm,0.7s						
BRG				pmax	pmax		
	comp=Z,13nm,0.9s						
LANS	**Liptovska Anna**	**146.74**	**339**	ePKP2	**PKPbc**	**20 57 55.2**	**+0.4**
LANS	**Liptovska Anna**	**146.74**	**339**	ePKP	**PKPbc**	**20 57 55.2**	**+0.4**
WTSB	**Winterswijk**	**146.74**	**355**	ePKP	**PKPbc**	**20 57 53.8**	**-0.7**
	comp=Z,34nm,0.9s						
KRLC	**Kraliky**	**146.75**	**343**	⇑ePKP	**PKPbc**	**20 57 54.6**	**-0.2**
KRLC				ePKPAB	**PKPab**	**20 57 57.8**	**-0.1**
KRLC	**Kraliky**	**146.75**	**343**	ePKIKP	**PKPbc**	**20 57 54.6**	**-0.2**
KRLC				e		20 57 57.8	
MORC	**Moravsky Berou**	**146.80**	**342**	ePKPdf	**PKPbc**	**20 57 53.6**	**-1.3**
MORC	**Moravsky Berou**	**146.80**	**342**	⇓PKP2	**PKPbc**	**20 57 55.2**	**+0.3**
MORC	**Moravsky Berou**	**146.80**	**342**	ePKP	**PKPbc**	**20 57 54.3**	**-0.6**
MORC				e		20 57 57.8	
GTTG	**Gvttingen**	**146.80**	**351**	ePKPab	**PKPab**	**20 57 57.6**	**-0.4**
	baz=16,slow=4.4						
FBE	**Freiberg**	**146.80**	**347**	ePKPbc	**PKPbc**	**20 57 55.1**	**+0.3**
	baz=16,slow=2.6						
NEUB	**Neuenburg**	**146.83**	**349**	ePKPbc	**PKPbc**	**20 57 54.8**	**0.0**
	baz=16,slow=2.6						
NEUB				ePKPab	**PKPab**	**20 57 57.5**	**-0.6**
	baz=16,slow=4.4						
AMRR	**Amara**	**146.88**	**326**	⇑PKIKP	**PKPbc**	**20 57 54.7**	**-0.5**
PVCC	**Panska Ves**	**146.90**	**346**	⇑ePKP	**PKPbc**	**20 57 54.9**	**-0.2**
PVCC	**Panska Ves**	**146.90**	**346**	ePKIKP	**PKPbc**	**20 57 54.9**	**-0.2**
ISR	**Istrita**	**146.94**	**328**	⇑PKIKP	**PKPbc**	**20 57 55.2**	**-0.2**
MLR	**Muntele Rosu**	**146.97**	**329**	ePKPdf	**PKPbc**	**20 57 54.2**	**-1.4**
MLR				ePKPbc	**PKPbc**	**20 57 54.7**	**-1.0**
MLR	**Muntele Rosu**	**146.97**	**329**	ePKIKP	**PKPbc**	**20 57 54.2**	**-1.4**
MLR	**Muntele Rosu**	**146.97**	**329**	PKPbc	**PKPbc**	**20 57 54.7**	**-1.0**
	baz=8.1,slow=7.1						
CJR	**Cluj-Napoca**	**147.15**	**333**	⇑PKIKP	**PKPbc**	**20 57 55.7**	**-0.2**
BUG	**Bochum--Univer**	**147.22**	**354**	ePKPbc	**PKPbc**	**20 57 55.6**	**-0.3**
	baz=16,slow=2.6						
LTVH	**Ltavrtes, Hu**	**147.32**	**335**	⇑ePKPdf	**PKPbc**	**20 57 56.0**	**-0.2**
MOX	**Moxa**	**147.40**	**349**	ePKPbc	**PKPbc**	**20 57 56.3**	**-0.1**
	baz=16,slow=2.6						
MOX				ePKPab	**PKPab**	**20 57 59.9**	**-0.6**
	baz=16,slow=4.4						
PRU	**Pruhonice**	**147.41**	**345**	⇑ePKP	**PKPbc**	**20 57 56.1**	**-0.3**
PRU				ePKPAB	**PKPab**	**20 57 59.9**	**-0.6**
PRU	**Pruhonice**	**147.41**	**345**	ePKIKP	**PKPbc**	**20 57 56.1**	**-0.3**
PRU				e		20 57 59.9	
GOPC	**GO Pecny, Ondr**	**147.42**	**345**	⇑ePKP	**PKPbc**	**20 57 56.5**	**0.0**
GOPC				ePKPAB	**PKPab**	**20 57 59.7**	**-0.9**
GOPC	**GO Pecny, Ondr**	**147.42**	**345**	ePKP2	**PKPbc**	**20 57 56.5**	**0.0**
VOIR		**147.45**	**330**	⇑PKIKP	**PKPbc**	**20 57 56.1**	**-0.7**
PLN	**Plauen**	**147.46**	**348**	ePKPbc	**PKPbc**	**20 57 56.5**	**0.0**
	baz=16,slow=2.6						
PLN				ePKPab	**PKPab**	**20 58 00.2**	**-0.5**
	baz=16,slow=4.4						
TANN	**Tannenbergstha**	**147.46**	**348**	ePKPbc	**PKPbc**	**20 57 56.7**	**0.0**
	baz=16,slow=2.6						
TANN				ePKPab	**PKPab**	**20 58 00.4**	**-0.4**
	baz=16,slow=4.4						
DRGR		**147.47**	**334**	⇑PKIKP	**PKPbc**	**20 57 56.3**	**-0.5**
VRAC	**Vranov**	**147.49**	**343**	⇑PKIKP	**PKPbc**	**20 57 56.6**	**-0.1**
VRAC	**Vranov**	**147.49**	**343**	ePKP	**PKPbc**	**20 57 56.4**	**-0.3**
VRAC				e		20 58 01.0	
VRAC	**Vranov**	**147.49**	**343**	PKPbc	**PKPbc**	**20 57 56.3**	**-0.4**
	comp=Z,8.4nm,0.6s,baz=322,slow=4.6,SNR=5.9						
VYHS	**Vyhne**	**147.52**	**339**	ePKIKP	**PKPbc**	**20 57 56.7**	**-0.1**
VYHS				e		20 58 01.1	
VYHS	**Vyhne**	**147.52**	**339**	ePKP	**PKPbc**	**20 57 56.7**	**-0.1**
VYHS				e		20 58 01.1	
GUNZ	**Gunzen**	**147.54**	**348**	ePKPbc	**PKPbc**	**20 57 57.0**	**+0.2**
	baz=16,slow=2.6						
GUNZ				ePKPab	**PKPab**	**20 58 00.7**	**-0.3**
	baz=16,slow=4.4						
JAVC	**Velka Javorina**	**147.57**	**341**	ePKP	**PKPbc**	**20 57 57.6**	**+0.6**
WERN	**Wernitzgruen**	**147.60**	**348**	ePKPbc	**PKPbc**	**20 57 57.2**	**+0.3**
	baz=16,slow=2.6						
WERN				ePKPab	**PKPab**	**20 58 01.1**	**-0.2**
	baz=16,slow=4.4						
NKC	**Novy Kostel**	**147.64**	**348**	⇑ePKP	**PKPbc**	**20 57 56.9**	**-0.1**
NKC				ePKPAB	**PKPab**	**20 58 00.2**	**-1.3**
NKC	**Novy Kostel**	**147.64**	**348**	ePKIKP	**PKPbc**	**20 57 56.9**	**-0.1**
NKC				e		20 58 00.2	
PSZ	**Piszkesteto**	**147.65**	**338**	ePKPdf	**PKPdf**	**20 57 54.6**	**+1.1**
PSZ				ePKPbc	**PKPbc**	**20 57 56.8**	**-0.4**
PSZ				ePKPab	**PKPab**	**20 58 01.4**	**-0.2**
PSZ	**Piszkesteto**	**147.65**	**338**	ePKIKP	**PKPdf**	**20 57 54.6**	**+1.1**
PSZ				e		20 58 01.4	
PSZ	**Piszkesteto**	**147.65**	**338**	⇑ePKPdf	**PKPbc**	**20 57 56.1**	**-1.1**
KRUC	**Moravsky**	**147.77**	**343**	ePKP	**PKPbc**	**20 57 56.9**	**-0.5**
KRUC				e		20 58 01.7	
TREC	**Trest**	**147.81**	**344**	⇑ePKP	**PKPbc**	**20 57 57.0**	**-0.5**
TREC				ePKPAB	**PKPab**	**20 58 01.8**	**-0.4**
TREC	**Trest**	**147.81**	**344**	ePKIKP	**PKPbc**	**20 57 57.0**	**-0.5**
TREC				e		20 58 01.8	
MANZ	**Manzenberg**	**147.94**	**348**	ePKPbc	**PKPbc**	**20 57 57.9**	**+0.1**
	baz=16,slow=2.6						
SMOL	**Smolenice**	**147.95**	**341**	ePKP2	**PKPbc**	**20 57 58.5**	**+0.6**
SMOL	**Smolenice**	**147.95**	**341**	ePKP	**PKPbc**	**20 57 58.5**	**+0.6**
SMOL				e		20 58 03.7	
HGN	**Heimansgroeve**	**148.01**	**356**	ePKP	**PKPab**	**20 58 02.3**	**-0.5**
	comp=Z,19nm,0.7s						
MODS	**Modra-Piesok**	**148.12**	**341**	ePKP2	**PKPbc**	**20 57 58.6**	**+0.3**
MODS	**Modra-Piesok**	**148.12**	**341**	ePKP	**PKPbc**	**20 57 58.6**	**+0.3**
MODS				e		20 58 04.0	
ROTZ	**Rotzenmuhle**	**148.13**	**348**	ePKPbc	**PKPbc**	**20 57 58.4**	**+0.1**
	baz=16,slow=2.6						
MEM	**Membach**	**148.15**	**356**	⇑PKP	**PKPbc**	**20 57 57.7**	**-0.6**
TNS	**Taunus Mts**	**148.30**	**353**	ePKPbc	**PKPbc**	**20 57 58.7**	**-0.1**
	baz=16,slow=2.6						
SNF	**Seneffe**	**148.35**	**358**	⇑PKPbc	**PKPbc**	**20 57 57.0**	**-1.7**
SNF				⇓PKPab	**PKPab**	**20 58 02.3**	**-2.0**
GRA1	**Grafenberg Arr**	**148.39**	**349**	ePKPbc	**PKPbc**	**20 57 57.9**	**-1.1**
GRA1				ePKPab	**PKPab**	**20 58 03.4**	**-1.1**
GRF	**Grafenberg Arr**	**148.39**	**349**	ePKPbc	**PKPbc**	**20 57 59.0**	**+0.1**
	baz=16,slow=2.6						
GRF				ePKPab	**PKPab**	**20 58 04.4**	**-0.1**
	baz=16,slow=4.4						
GRF	**Grafenberg Arr**	**148.39**	**349**	ePKHKP	PKPpre	20 57 57.9	
GRF				e		20 58 03.4	
BCLA	**Clavier**	**148.39**	**356**	⇑PKPbc	**PKPbc**	**20 57 56.9**	**-2.0**
BCLA				⇑PKPab	**PKPab**	**20 58 03.1**	**-1.3**
GRFO	**Grafenberg**	**148.39**	**349**	ePKPab	**PKPab**	**20 58 03.6**	**-1.0**
KHC	**Kasperske Hory**	**148.44**	**346**	ePKPbc	**PKPbc**	**20 57 58.4**	**-0.7**
KHC				ePKPab	**PKPab**	**20 58 04.1**	**-0.6**
KHC	**Kasperske Hory**	**148.44**	**346**	⇑ePKP	**PKPbc**	**20 57 58.8**	**-0.3**
KHC				ePKPAB	**PKPab**	**20 58 03.9**	**-0.9**
KHC	**Kasperske Hory**	**148.44**	**346**	ePKHKP	**PKPbc**	**20 57 58.4**	**-0.7**
KHC				e		20 58 04.1	
GZR	**Gura Zlata**	**148.53**	**332**	⇑PKHKP	PKPpre	20 57 58.0	
WET	**Wettzell**	**148.58**	**347**	ePKPbc	**PKPbc**	**20 57 59.3**	**-0.1**
	baz=16,slow=2.6						
GEC2	**GERESS Array S**	**148.67**	**345**	ePKPbc	**PKPbc**	**20 57 59.5**	**-0.2**
GEC2				ePKPab	**PKPab**	**20 58 04.8**	**-1.1**
GEC2	**GERESS Array S**	**148.67**	**345**	ePKPbc	**PKPbc**	**20 57 59.6**	**-0.2**
	baz=16,slow=2.6						
GEC2	**GERESS Array S**	**148.67**	**345**	ePKHKP	**PKPbc**	**20 57 59.5**	**-0.2**
GEC2				e		20 58 04.8	
GERES	**GERESS Array B**	**148.67**	**345**	PKPbc	**PKPbc**	**20 57 59.3**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=29,slow=3.0,SNR=44						
GEA0	**GERESS Array S**	**148.68**	**345**	ePKPbc	**PKPbc**	**20 57 58.8**	**-0.9**
GEA0				ePKPab	**PKPab**	**20 58 05.1**	**-0.8**
DOU	**Dourbes**	**148.75**	**357**	⇑PKP	**PKPbc**	**20 57 59.1**	**-0.7**
DOU				⇑PKPab	**PKiKP**	**20 58 03.0**	**+2.3**
BZS	**Buzias**	**148.86**	**333**	⇑PKHKP	PKPpre	20 57 59.7	
CONA	**Conrad Observa**	**148.95**	**342**	i PKiKP	**PKPbc**	**20 58 00.3**	**-0.1**
	comp=Z,12nm,1.0s,SNR=9.4						
SOP	**Sopron**	**148.96**	**341**	ePKPdf	**PKPdf**	**20 57 56.1**	**+0.6**
WLF	**Walferdange**	**149.08**	**355**	ePKPbc	**PKPbc**	**20 58 00.4**	**-0.2**
WLF	**Walferdange**	**149.08**	**355**	ePKPbc	**PKiKP**	**20 58 01.2**	**-0.3**
	baz=16,slow=2.6						
WLF	**Walferdange**	**149.08**	**355**	ePKHKP	**PKPbc**	**20 58 00.4**	**-0.2**
WLF	**Walferdange**	**149.08**	**355**	⇓PKPbc	**PKPbc**	**20 58 00.7**	**+0.1**
TIH	**Tihany**	**149.22**	**339**	⇑ePKPdf	**PKPbc**	**20 58 00.0**	**-0.9**
MOA	**Molln**	**149.46**	**344**	ePKPbc	**PKPbc**	**20 58 01.0**	**-0.6**
	comp=Z,3.1nm,0.5s						
STU	**Stuttgart**	**149.62**	**351**	ePKPbc	**PKPbc**	**20 58 01.9**	**0.0**
	baz=16,slow=2.6						
ARSA	**Arzberg**	**149.66**	**342**	i PKPbc	**PKPbc**	**20 58 01.2**	**-0.9**
	comp=Z,1.0nm,0.5s						
FUR	**Furstenfeldbru**	**149.84**	**348**	ePKPbc	**PKPbc**	**20 58 02.4**	**-0.1**
	baz=16,slow=2.6						
RJOB	**Jochberg**	**149.92**	**346**	ePKPbc	**PKPbc**	**20 58 02.3**	**-0.4**
	baz=16,slow=2.6						
BFO	**Black Forest**	**150.17**	**352**	ePKPbc	**PKPbc**	**20 58 02.5**	**-0.7**
BFO	**Black Forest**	**150.17**	**352**	ePKPbc	**PKPbc**	**20 58 03.0**	**-0.2**
	baz=16,slow=2.6						
BFO	**Black Forest**	**150.17**	**352**	i PKHKP	**PKPbc**	**20 58 03.0**	**-0.2**
SOKA	**Soboth**	**150.32**	**342**	ePKPbc	**PKPbc**	**20 58 02.7**	**-1.1**
	comp=Z,2.5nm,0.5s,SNR=7.9						
PERS	**Pernice**	**150.33**	**342**	ePKPbc	**PKPbc**	**20 58 02.6**	**-1.2**
PERS				i PKPab	**PKPab**	**20 58 12.3**	**-0.5**
VTS	**Vitosha**	**150.40**	**328**	⇑PKIKP	**PKPbc**	**20 58 03.5**	**-0.6**
KBA	**Koelnbreinsper**	**150.41**	**345**	i PKPbc	**PKPbc**	**20 58 02.7**	**-1.3**
	comp=Z,9.4nm,0.5s,SNR=7.1						
UBR	**Ueberruh**	**150.53**	**349**	ePKPbc	**PKPbc**	**20 58 03.9**	**-0.3**
	baz=16,slow=2.6						
EZN	**Ezine**	**150.57**	**320**	⇑PKIKP	**PKPbc**	**20 58 03.6**	**-0.8**
WATA	**Walderalm**	**150.57**	**347**	i PKPbc	**PKPbc**	**20 58 03.7**	**-0.6**
	comp=Z,14nm,0.4s,SNR=12						
RETA	**Reutte**	**150.59**	**348**	i PKPbc	**PKPbc**	**20 58 03.8**	**-0.6**
	comp=Z,2.0nm,0.2s						
OBKA	**Obir**	**150.61**	**343**	i PKPbc	**PKPbc**	**20 58 02.9**	**-1.6**
	comp=Z,3.5nm,0.6s						
WTTA	**Wattenberg**	**150.63**	**347**	i PKPbc	**PKPbc**	**20 58 03.9**	**-0.7**
	comp=Z,22nm,0.5s						
MOTA	**Moosalm**	**150.66**	**348**	i PKPbc	**PKPbc**	**20 58 03.7**	**-0.9**
	comp=Z,2.3nm,0.4s,SNR=7.6						
MYKA	**Terra Mystica**	**150.75**	**344**	i PKPbc	**PKPbc**	**20 58 03.3**	**-1.4**
	comp=Z,12nm,0.5s,SNR=7.1						
SQTA	**Sankt Quirin**	**150.76**	**348**	i PKPbc	**PKPbc**	**20 58 04.2**	**-0.6**
	comp=Z,16nm,0.6s,SNR=6.9						
DIVS	**Divibare**	**150.77**	**333**	ePKPbc	**PKPbc**	**20 58 04.0**	**-0.9**
ABTA	**Abfaltersbach**	**150.92**	**346**	i PKPbc	**PKPbc**	**20 58 04.0**	**-1.1**
	comp=Z,16nm,0.5s,SNR=15						
DAVA	**Damuels**	**150.95**	**349**	i PKPbc	**PKPbc**	**20 58 04.4**	**-0.8**
	comp=Z,3.7nm,0.4s						
FETA	**Feichten**	**151.05**	**348**	i PKiKP	**PKPbc**	**20 58 05.0**	**-0.5**
	comp=Z,6.1nm,0.5s,SNR=6.9						
VISS	**Visnje**	**151.17**	**342**	i PKPbc	**PKPbc**	**20 58 05.0**	**-0.6**
VISS				i PKPab	**PKPab**	**20 58 15.4**	**-0.8**
JAVS	**Javornik**	**151.31**	**343**	i PKPbc	**PKPbc**	**20 58 04.9**	**-1.1**
JAVS				i PKPab	**PKPab**	**20 58 15.7**	**-1.2**
BOJS	**Bojanci**	**151.31**	**341**	i PKPbc	**PKPbc**	**20 58 05.5**	**-0.4**
BOJS				i PKPab	**PKPab**	**20 58 16.1**	**-0.8**
DAVOX	**Davos/Dischmat**	**151.44**	**349**	PKPbc	**PKPbc**	**20 58 05.8**	**-0.6**
	comp=Z,20nm,0.5s,baz=287,slow=5.9,SNR=75						
FUORN	**Ofenpass-Fuorn**	**151.52**	**348**	ePKPbc	**PKPbc**	**20 58 06.1**	**-0.6**
SENIN	**Lac Senin/Sane**	**152.23**	**353**	ePKPbc	**PKPbc**	**20 58 07.7**	**-0.5**
SENIN				ePKPab	**PKPab**	**20 58 19.8**	**-1.2**
ESDC	**Sonseca Array**	**158.53**	**13**	PKPab	**PKPab**	**20 58 46.4**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=5.6,slow=4.5,SNR=6.8						
ES06	**SONSECA Array**	**158.53**	**13**	ePKPdf	**PKPdf**	**20 58 07.6**	**-1.6**
ES06				ePKPab	**PKPab**	**20 58 46.9**	**-1.2**
KEST	**Kesra**	**162.05**	**341**	ePKPdf	**PKPdf**	**20 58 11.2**	**-2.0**
KEST				ePKPab	**PKPab**	**20 59 03.4**	**-0.3**
KEST	**Kesra**	**162.05**	**341**	PKPab	**PKPab**	**20 59 03.1**	**-0.5**
	comp=Z,15nm,1.2s,baz=314,slow=9.1,SNR=6.0						
TORD	**Torodi Ar. Bea**	**174.32**	**174**	PKPab	**PKPab**	**20 59 58.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=179,slow=5.7,SNR=4.1						
TOA1	**Torodi Ar. Sit**	**174.32**	**174**	ePKPab	**PKPab**	**20 59 58.4**	**+0.1**

*IDC **12** 20:47:00.5±1.1, 39.°08N×29.°02E, h0km, mb3.4/5, mb1 3.5/9, mb1mx3.3/47, mbtmp3.5/9, ML3.5/3, MS3.7/1, Ms1 3.7/1, ms1mx2.4/38, Error ellipse: s-maj=20.4km s-min=14.5km az=165.0*

*ISCJB **12** 20:47:01.5±0.3, 39.°14N±0.°01×29.°04E±0.°02, h4km±2km, mb3.4/5, MS3.6/1, Error ellipse: s-maj=2.2km s-min=2.0km az=36.7*

*DDA **12** 20:47:01.2, 39.°12N×29.°06E, h13km±1km, ML4.1*

*ISK **12** 20:47:01.3, 39.°12N×29.°05E, h7km, ML3.9/50*

*THE **12** 20:47:02.7, 39.°09N×29.°11E, h6km±3km, ML3.6/7, Error ellipse: s-maj=4.2km s-min=1.3km az=45.0*

ISC 12 20:47:02.4±0.9, **39.°12N**±0.°02×**29.°05E**±0.°01, **h10**km±6km, **n145, σ0.°91**/185, **mb3.5**/5, **24C-15D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.16**	**126**	PG	**Pg**	**20 47 05.8**	**-0.2**
SHAP				SG	**Sg**	**20 47 08.4**	**-0.1**
GEDZ	**Gediz**	**0.29**	**105**	PG	**Pg**	**20 47 07.9**	**-0.3**
GEDZ				SG	**Sg**	**20 47 12.0**	**-0.1**
GDZ	**Gediz**	**0.34**	**95**	⇓iP	**Pg**	**20 47 09.1**	**0.0**
GDZ				i S	**Sg**	**20 47 13.5**	**-0.1**
GDZ				IAML_P			
	comp=Z,367µm,0.2s						
USAK	**Uak-Merkez**	**0.41**	**184**	⇑iP	**Pg**	**20 47 10.3**	**-0.1**
USAK				i S	**Sg**	**20 47 16.1**	**+0.4**
USAK				IAML_P			
	comp=Z,286µm,0.2s						
TVSB	**Tavsanli**	**0.46**	**44**	PG	**Pg**	**20 47 10.7**	**-0.7**
TVSB				SG	**Sg**	**20 47 17.0**	**-0.4**
DST	**Dursunbey**	**0.59**	**325**	PG	**Pg**	**20 47 12.9**	**-0.9**
DURS	**Dursunbey**	**0.66**	**317**	⇓iP	**Pg**	**20 47 15.3**	**+0.2**
DURS				i S	**Sg**	**20 47 24.4**	**+0.6**
DURS				IAML_P			
	comp=Z,18µm,0.1s						
KULA	**Kula-Manisa**	**0.68**	**207**	PG	**Pg**	**20 47 14.9**	**-0.6**
MANT	**Manisa**	**0.74**	**212**	⇑iP	**Pg**	**20 47 16.1**	**-0.6**
MANT				i S	**Sg**	**20 47 26.0**	**-0.3**
KHAL	**Karahalli**	**0.82**	**155**	⇑iP	**Pg**	**20 47 18.5**	**+0.2**
KHAL				i S	**Sg**	**20 47 28.7**	**-0.3**
KHAL				IAML_P			
	comp=Z,53µm,0.2s						
KHL	**Karahalli**	**0.88**	**155**	PG	**Pg**	**20 47 18.7**	**-0.6**
KHL				SG	**Sg**	**20 47 30.4**	**-0.3**
ORLT	**Orhaneli**	**0.93**	**353**	PG	**Pg**	**20 47 19.3**	**-1.0**
GOMA	**Golmarmara-Man**	**0.98**	**245**	PG	**Pg**	**20 47 20.7**	**-0.5**
AKHS	**Akhisar**	**0.99**	**256**	⇓iP	**Pg**	**20 47 21.2**	**-0.3**
AKHS				i S	**Sb**	**20 47 35.7**	**+0.8**
AKHS				IAML_P			
	comp=Z,39µm,0.3s						
AKS	**Akhisar**	**0.99**	**256**	PG	**Pg**	**20 47 21.1**	**-0.4**
AFYO	**Afyonkarahisar**	**1.03**	**109**	⇓iP	**Pg**	**20 47 21.6**	**-0.5**
AFYO				i S	**Sb**	**20 47 36.5**	**+0.6**
AFYO				IAML_P			
	comp=Z,48µm,0.3s						
BALB	**Balikesir**	**1.05**	**300**	PG	**Pb**	**20 47 22.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**1.07**	**284**	⇓iP	**Pb**	**20 47 22.6**	**-0.4**
STEP				i S	**Sn**	**20 47 37.9**	**-0.5**
STEP				IAML_P			
	comp=Z,37µm,0.2s						
AUKIR	**Kırka- Seyitga**	**1.16**	**82**	⇓iP	**Pb**	**20 47 23.2**	**-1.3**
AUKIR				i S	**Sb**	**20 47 39.8**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.21**	**135**	i P	**Pg**	**20 47 26.0**	**+0.3**
KZIL				i S	**Sn**	**20 47 42.3**	**+0.2**
KZIL				IAML_P			
	comp=Z,9µm,0.2s						
CAVI	**Cavuskoy**	**1.24**	**29**	PN	**Pn**	**20 47 25.1**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	PN	**Pn**	**20 47 25.4**	**-0.6**
IZI	**Iznik**	**1.26**	**15**	PN	**Pn**	**20 47 25.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	PN	**Pn**	**20 47 25.7**	**-0.5**
BALY	**Balya**	**1.27**	**300**	⇓iP	**Pn**	**20 47 26.6**	**+0.3**
BALY				i S	**Sg**	**20 47 43.9**	**+0.6**
SHUT	**Suhut-Afyon**	**1.30**	**115**	PN	**Pn**	**20 47 26.7**	**0.0**
GEMT	**Gemlik**	**1.32**	**5**	PN	**Pn**	**20 47 27.1**	**+0.2**
BORA	**Eskisehir**	**1.32**	**55**	⇓iP	**Pn**	**20 47 26.5**	**-0.6**
BORA				i S	**Sn**	**20 47 45.0**	**+0.3**
BORA				IAML_P			
	comp=Z,85µm,0.2s						
DENT	**Denizli**	**1.36**	**181**	PN	**Pn**	**20 47 27.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**312**	PN	**Pn**	**20 47 28.5**	**+0.5**
ESKT	**Eskisehir**	**1.45**	**73**	PN	**Pn**	**20 47 28.7**	**-0.1**
ARMT	**Armutlu**	**1.45**	**354**	PN	**Pn**	**20 47 27.8**	**-0.9**
YLV	**Yalova**	**1.47**	**10**	PN	**Pn**	**20 47 28.5**	**-0.5**
YLV	**Yalova**	**1.47**	**10**	⇑iP	**Pb**	**20 47 29.9**	**+0.1**
YLV	**Yalova**	**1.47**	**10**	S	**Sn**	**20 47 48.5**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**1.48**	**218**	PN	**Pn**	**20 47 28.5**	**-0.8**
GPA	**Golpazari**	**1.52**	**39**	PN	**Pn**	**20 47 29.9**	**+0.2**
EDC	**Edincik**	**1.53**	**324**	PN	**Pn**	**20 47 29.9**	**+0.1**
BOLV	**Bolvadin**	**1.53**	**105**	⇓iP	**Pn**	**20 47 30.7**	**+0.7**
BOLV				i S	**Sg**	**20 47 51.5**	**-0.3**
BOLV				IAML_P			
	comp=Z,16µm,0.2s						
ZEDA	**zmir-Bergama**	**1.55**	**265**	i P	**Pn**	**20 47 30.3**	**+0.3**
ZEDA				i S	**Sg**	**20 47 54.0**	**+1.9**
ZEDA				IAML_P			
	comp=Z,5µm,0.1s						
BRDR	**BURDUR-Merkez**	**1.63**	**151**	i P	**Pn**	**20 47 31.2**	**0.0**
BRDR				i S	**Sg**	**20 47 56.2**	**+1.5**
BRDR				IAML_P			
	comp=Z,2µm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.66**	**184**	i P	**Pn**	**20 47 31.0**	**-0.6**
TAVA				i S	**Sg**	**20 47 57.8**	**+2.2**
GEYV	**SAKARYA_Geyve**	**1.67**	**35**	⇓iP	**Pn**	**20 47 31.7**	**0.0**
GEYV				i S	**Sg**	**20 47 57.1**	**+1.2**
GEYV				IAML_P			
	comp=Z,7µm,0.2s						
AYDN	**Tasoluk**	**1.72**	**213**	i P	**Pn**	**20 47 32.2**	**-0.3**
AYDN				i S	**Sg**	**20 47 58.0**	**+0.2**
GULT	**Gulveren**	**1.73**	**40**	PN	**Pn**	**20 47 32.9**	**+0.3**
BUY	**Buyukada**	**1.73**	**2**	PN	**Pn**	**20 47 32.6**	**+0.1**
BUY	**Buyukada**	**1.73**	**2**	i P	**Pn**	**20 47 32.2**	**-0.3**
BUY				i S	**Sg**	**20 47 58.9**	**+0.9**
BUY				IAML_P			
	comp=Z,2µm,0.3s						
BLCB	**Balcova**	**1.73**	**246**	PN	**Pn**	**20 47 33.1**	**+0.5**
ISP	**Isparta**	**1.73**	**138**	PN	**Pn**	**20 47 32.8**	**+0.1**
ISP	**Isparta**	**1.73**	**138**	⇑iP	**Pb**	**20 47 35.0**	**+0.6**
ISP	**Isparta**	**1.73**	**138**	S	**Sg**	**20 48 00.0**	**+1.8**
ISP	**Isparta**	**1.73**	**138**	P	**Pn**	**20 47 32.0**	**-0.7**
ISP				S	**Sn**	**20 47 52.1**	**-2.8**
BAGO	**Egridir - ISPA**	**1.77**	**129**	i P	**Pn**	**20 47 33.6**	**+0.5**
BAGO				i S	**Sg**	**20 48 00.0**	**+0.8**
SPNC	**Sapanca-Adapaz**	**1.84**	**31**	PN	**Pn**	**20 47 34.6**	**+0.6**
AYVA	**Ayvalik**	**1.84**	**277**	i P	**Pb**	**20 47 36.3**	**+0.1**
AYVA				i S	**Sg**	**20 48 02.0**	**+0.3**
FOCM	**Foa**	**1.86**	**258**	PN	**Pn**	**20 47 34.7**	**+0.5**
KRBG	**Karabiga-Canak**	**1.86**	**314**	PN	**Pn**	**20 47 34.9**	**+0.6**
MRMT	**Marmara Adasi**	**1.86**	**323**	PN	**Pn**	**20 47 35.1**	**+0.7**
SAUV	**Serdivan-Sakar**	**1.89**	**31**	PN	**Pn**	**20 47 35.1**	**+0.3**
KAVV	**Kandilli-Istan**	**1.94**	**0**	PN	**Pn**	**20 47 34.8**	**-0.6**
ISK	**Istanbul-Kandi**	**1.94**	**0**	PN	**Pn**	**20 47 34.6**	**-0.9**
AUSIV	**SIVRIHISAR**	**1.96**	**80**	i P	**Pn**	**20 47 35.4**	**-0.3**
AUSIV				i S	**Sg**	**20 48 05.1**	**-0.1**
KRBN	**Karaburun**	**2.02**	**256**	PN	**Pn**	**20 47 37.1**	**+0.6**
AUMIH	**MIHALICIK**	**2.02**	**68**	i P	**Pb**	**20 47 40.6**	**+1.3**
AUMIH				i S	**Sg**	**20 48 07.9**	**+0.4**
BCK	**Bucak**	**2.05**	**143**	PN	**Pn**	**20 47 37.4**	**+0.4**
SBT4	**Kumbag-Tekirda**	**2.07**	**326**	PN	**Pn**	**20 47 37.8**	**+0.8**
BGKT	**Bogazkoy**	**2.07**	**354**	PN	**Pn**	**20 47 36.4**	**-0.8**
YER	**Yerkesik**	**2.07**	**197**	PN	**Pn**	**20 47 36.8**	**-0.5**
SILT	**Sile**	**2.08**	**12**	⇑iP	**Pn**	**20 47 38.5**	**+1.2**
SILT	**Sile**	**2.08**	**12**	S	**Sn**	**20 48 03.6**	**+0.3**
BTAS	**Taskesti**	**2.08**	**45**	i P	**Pn**	**20 47 37.4**	**-0.1**
BTAS				i S	**Sg**	**20 48 10.5**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.13**	**318**	PN	**Pn**	**20 47 38.3**	**+0.2**
SART	**Tekirdag**	**2.13**	**318**	i P	**Pb**	**20 47 41.5**	**+0.4**
SART				i S	**Sg**	**20 48 10.3**	**-0.5**
KLYT	**Kilyos**	**2.13**	**360**	⇑iP	**Pn**	**20 47 39.4**	**+1.4**
KLYT	**Kilyos**	**2.13**	**360**	S	**Sn**	**20 48 04.4**	**-0.1**
KAND	**Kocaeli-Kandir**	**2.16**	**24**	i P	**Pn**	**20 47 38.1**	**-0.2**
KAND				i S	**Sg**	**20 48 11.5**	**-0.2**
LPK	**Lapseki**	**2.17**	**306**	PN	**Pn**	**20 47 38.8**	**+0.3**
PRK	**Paraskevi**	**2.17**	**274**	P	**Pn**	**20 47 39.5**	**+1.0**
PRK				S	**Sn**	**20 48 06.5**	**+1.1**
TKR	**Tekirdag**	**2.20**	**329**	PN	**Pn**	**20 47 39.5**	**+0.5**
SAHE	**Sakarya_HENDEK**	**2.21**	**38**	i P	**Pn**	**20 47 39.4**	**+0.1**
SAHE				i S	**Sg**	**20 48 13.1**	**-0.5**
EZN	**Ezine**	**2.23**	**289**	PN	**Pn**	**20 47 39.9**	**+0.6**
EZN	**Ezine**	**2.23**	**289**	⇑iP	**Pb**	**20 47 43.2**	**+0.5**
EZN	**Ezine**	**2.23**	**289**	S	**Sg**	**20 48 12.5**	**-1.4**
SMG	**Samos**	**2.24**	**232**	P	**Pn**	**20 47 38.1**	**-1.4**
SMG				S	**Sn**	**20 48 08.2**	**+0.9**
TURN	**Turunc**	**2.27**	**189**	PN	**Pn**	**20 47 41.7**	**+1.7**
GPNR	**Gulpinar-Canak**	**2.29**	**279**	PN	**Pn**	**20 47 40.0**	**-0.2**
DALY	**Dalyan (Mula)**	**2.32**	**188**	PN	**Pn**	**20 47 40.6**	**0.0**
KORT	**Korkueli**	**2.35**	**154**	PN	**Pn**	**20 47 41.1**	**-0.1**
GELI	**Tayfur-Gelibol**	**2.36**	**304**	PN	**Pn**	**20 47 41.7**	**+0.5**
CTYL	**Yalikoy Yolu**	**2.42**	**346**	⇑iP	**Pn**	**20 47 44.0**	**+1.9**
CTYL	**Yalikoy Yolu**	**2.42**	**346**	S	**Sn**	**20 48 12.3**	**+0.5**
BOZC	**Bozcaada**	**2.43**	**288**	PN	**Pn**	**20 47 42.9**	**+0.7**

CHOS	**Chios island**	**2.46**	**254**	PN		**Pn**	**20 47 43.0**	**+0.4**
CHOS	**Chios island**	**2.46**	**254**	P		**Pn**	**20 47 42.1**	**-0.5**
CHOS				S		**Sn**	**20 48 13.1**	**+0.4**
ELL	**Elmali**	**2.46**	**164**	PN		**Pn**	**20 47 43.2**	**+0.5**
KDHN	**Kadinhani**	**2.47**	**103**	*i* P		**Pn**	**20 47 43.2**	**+0.5**
BODT	**Bodrum**	**2.47**	**214**	PN		**Pn**	**20 47 43.2**	**+0.4**
FETY	**Fethiye**	**2.48**	**179**	PN		**Pn**	**20 47 43.4**	**+0.5**
SIGR	**SIGRI**	**2.49**	**273**	PN		**Pn**	**20 47 43.4**	**+0.5**
SIGR	**SIGRI**	**2.49**	**273**	P		**Pn**	**20 47 42.3**	**-0.6**
SIGR				S		**Sn**	**20 48 14.8**	**+1.5**
KIBS	**BOLU**	**2.52**	**58**	*i* P		**Pn**	**20 47 44.2**	**+0.8**
DAT	**Datca**	**2.66**	**206**	PN		**Pn**	**20 47 44.8**	**-0.6**
DAT	**Datca**	**2.66**	**206**	*i* P		**Pn**	**20 47 44.6**	**-0.7**
PHSR	**Pinarhisar**	**2.77**	**336**	⇑*i* P		**Pn**	**20 47 49.0**	**+2.2**
PHSR	**Pinarhisar**	**2.77**	**336**	S		**Sn**	**20 48 22.1**	**+1.9**
ALN	**Alexandroupoli**	**2.91**	**308**	P		**Pn**	**20 47 48.8**	**0.0**
ALN				S		**Sn**	**20 48 24.9**	**+1.1**
AKAS	**Kas**	**2.92**	**171**	PN		**Pn**	**20 47 49.6**	**+0.6**
AKAS	**Kas**	**2.92**	**171**	*i* P		**Pn**	**20 47 50.4**	**+1.4**
AKUM	**Antalya-Kumluc**	**2.97**	**159**	*i* P		**Pn**	**20 47 50.7**	**+1.0**
SMTH	**Samothraki Isl**	**3.03**	**298**	P		**Pn**	**20 47 50.7**	**+0.3**
LIA	**Limnos Island**	**3.09**	**286**	P		**Pn**	**20 47 51.5**	**+0.3**
LIA				S		**Sn**	**20 48 30.8**	**+2.5**
RDO	**Rodhopi**	**3.37**	**308**	P		**Pn**	**20 47 55.4**	**+0.3**
RDO				S		**Sn**	**20 48 35.9**	**+0.8**
APE	**Apeiranthos**	**3.45**	**235**	⇑*i* P		**Pb**	**20 48 01.2**	**-2.4**
APE	**Apeiranthos**	**3.45**	**235**	S		**Sg**	**20 48 53.0**	**-0.2**
BRTR	**Keskin Array B**	**3.60**	**79**	Pn		**Pn**	**20 47 58.6**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=256,slow=13,SNR=119							
BRTR				Pg		**Pb**	**20 48 08.3**	**+2.1**
	comp=Z,4.9nm,0.3s,baz=261,slow=17,SNR=44							
BRTR				Lg		Lg	20 48 58.3	
	comp=Z,3.7nm,0.3s,baz=260,slow=23,SNR=10							
BZK	**Bozkurt**	**4.72**	**51**	⇑*i* P		**Pg**	**20 48 31.8**	**-1.0**
IDI	**Anoyia**	**5.07**	**222**	Pn		**Pn**	**20 48 18.5**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=43,slow=22,SNR=6.8							
ICOR	**Ion Corvin**	**5.08**	**350**	⇓*i* P		**Pn**	**20 48 19.4**	**+0.8**
TIRR	**Tirgusor**	**5.36**	**355**	⇓*i* P		**Pn**	**20 48 22.6**	**+0.3**
VAY	**Valandovo**	**5.43**	**296**	*i* Pn		**Pb**	**20 48 38.4**	**+1.2**
TLB	**Topalu**	**5.51**	**352**	⇑*i* P		**Pn**	**20 48 25.4**	**+0.9**
VTS	**Vitosha**	**5.63**	**310**	⇑*i* P		**Pn**	**20 48 27.9**	**+1.7**
VTS	**Vitosha**	**5.63**	**310**	S		**Sg**	**20 50 00.3**	**-2.7**
STIP	**Stip**	**5.84**	**298**	*i* Pn		**Pn**	**20 48 30.2**	**+1.3**
TLCR		**6.06**	**358**	⇑*i* P		**Pn**	**20 48 32.2**	**+0.1**
CFR	**Carcaliu**	**6.09**	**354**	⇑*i* P		**Pn**	**20 48 34.0**	**+1.6**
MLR	**Muntele Rosu**	**6.77**	**341**	⇑*i* P		**Pn**	**20 48 42.8**	**+0.9**
MLR	**Muntele Rosu**	**6.77**	**341**	Pn		**Pn**	**20 48 42.7**	**+0.8**
	baz=162,slow=13							
PLOR	**Plostina**	**6.96**	**346**	⇓*i* P		**Pn**	**20 48 45.4**	**+1.0**
VRI	**Vrincioaia**	**6.96**	**346**	⇑*i* P		**Pn**	**20 48 45.3**	**+0.9**
ARR	**Arges**	**7.05**	**334**	⇑*i* P		**Pn**	**20 48 46.6**	**+0.9**
DOPR	**Dopca**	**7.36**	**340**	⇑*i* P		**Pn**	**20 48 51.0**	**+1.1**
OZUR		**7.38**	**342**	⇓*i* P		**Pn**	**20 48 51.1**	**+1.0**
TESR	**Tescani**	**7.59**	**347**	⇑*i* P		**Pn**	**20 48 53.2**	**+0.1**
MILM	**Milestii Mici**	**7.80**	**359**	⇑*i* P		**Pn**	**20 48 56.3**	**+0.5**
GZR	**Gura Zlata**	**7.80**	**325**	⇑*i* P		**Pn**	**20 48 57.7**	**+1.7**
MDVR	**Moldovita**	**7.87**	**318**	⇓*i* P		**Pn**	**20 48 58.0**	**+1.1**
MMAI	**Mount Meron Ar**	**7.97**	**138**	Pn		**Pn**	**20 48 58.0**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=319,slow=13,SNR=9.4							
MMAI				Sn		**Sn**	**20 50 25.1**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=314,slow=28,SNR=4.9							
BURAR	**Bucovina Array**	**8.94**	**343**	⇑*i* P		**Pn**	**20 49 12.8**	**+1.2**
AKTO	**Aktyubinsk**	**23.31**	**51**	P		**P**	**20 52 11.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=267,slow=12,SNR=3.7							
KIRV	**Kirov**	**23.47**	**27**	LR		LR	21 02 17.1	
	comp=Z,218nm,21.9s,baz=69,slow=39							
TORD	**Torodi Ar. Bea**	**35.41**	**231**	P		**P**	**20 53 57.6**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=34,slow=8.7,SNR=3.9							
KURBB	**Kurchatov Arra**	**36.26**	**55**	P		**P**	**20 54 04.9**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=275,slow=8.7,SNR=4.0							
MKAR	**Makanchi Array**	**39.06**	**61**	P		**P**	**20 54 29.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=273,slow=7.5,SNR=5.8							
SONM	**Songino Array**	**54.60**	**54**	P		**P**	**20 56 30.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=305,slow=7.4,SNR=2.8							

*DDA **12** 21:10:09.7,41.77N×41.77E,h7km±2km,ML3.0*
*TIF **12** 21:10:09.7,41.77N×41.73E,h17km*
*ISK **12** 21:10:10.1,41.77N×41.67E,h13km,ML3.0/8*
*NORS **12** 21:10:12.1±0.0,41.97N×41.93E,h9km,MPVA3.6*
*MOS **12** 21:10:13.1±0.0,42.03N×41.78E,h1km,MPVA3.6*

ISC 12 21:10:09.7±1.0, 41.82N±0.02×41.72E±0.02, h9km±9km, n39,σ0.983/63, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
BATM	**Batumi**	**0.22**	**185**	P		**Pg**	**21 10 14.4**			**+0.3**
BATM				S		**Sg**	**21 10 18.0**			**+0.8**
BCA	**Borcka**	**0.38**	**191**	PG		**Pg**	**21 10 17.1**			**-0.1**
BCA				SG		**Sg**	**21 10 22.6**			**+0.3**
DBOC	**Borcka**	**0.48**	**185**	*i* P		**Pg**	**21 10 19.4**			**+0.4**
DBOC				IAML_P						
	comp=Z,5μm,0.1s									
ARTV	**Artvin**	**0.66**	**166**	*i* P		**Pg**	**21 10 22.7**			**+0.3**
ARTV				*i* S		**Sg**	**21 10 31.4**			**+0.5**
DAGI	**Agillar**	**0.76**	**169**	*i* P		**Pg**	**21 10 24.0**			**-0.3**
DAGI				*i* S		**Sg**	**21 10 34.5**			**+0.3**
DAGI				IAML_P						
	comp=Z,4μm,0.4s									
DBAD	**Bademkaya**	**0.80**	**181**	*i* P		**Pg**	**21 10 24.5**			**-0.6**
DBAD				IAML_P						
	comp=Z,4μm,0.1s									
EPOS	**Posof**	**0.82**	**113**	*i* P		**Pg**	**21 10 25.1**			**-0.3**
EPOS				*i* S		**Sb**	**21 10 36.7**			**-0.6**
DDEM	**Demirkent**	**0.93**	**179**	*i* P		**Pg**	**21 10 26.8**			**-0.8**
DDEM				*i* S		**Sg**	**21 10 39.8**			**+0.2**
CHOM	**Cayeli-Rize**	**1.02**	**225**	PG		**Pg**	**21 10 28.5**			**-0.8**
CHOM				SG		**Sg**	**21 10 42.8**			**+0.2**
SENK	**Senkaya-Erzuru**	**1.35**	**159**	PN		**Pn**	**21 10 34.0**			**-0.8**
SENK				SN		**Sb**	**21 10 52.4**			**-0.1**
DOMR	**Dombai**	**1.47**	**357**	*i* Pg		**Pn**	**21 10 36.3**			**-0.2**
DOMR				*i* Sg		**Sn**	**21 10 56.4**			**+0.5**
BGD	**Bogdanovka**	**1.52**	**111**	P		**Pb**	**21 10 37.8**			**-0.3**
BGD				S		**Sg**	**21 10 57.8**			**-0.6**
NEY	**Neytrino**	**1.61**	**27**	*i* Pg		**Pb**	**21 10 39.3**			**-0.3**
NEY				*i* Sg		**Sb**	**21 11 00.7**			**+0.6**
KTUT	**Trabzon**	**1.69**	**241**	PN		**Pn**	**21 10 39.3**			**0.0**
ARXR	**Arkhyz**	**1.77**	**349**	*i* Pg		**Pb**	**21 10 42.1**			**-0.2**
ARXR				*i* Sg		**Sb**	**21 11 05.6**			**+0.9**
TRLG	**Trialeti**	**1.81**	**98**	P		**Pn**	**21 10 40.8**			**-0.3**
TRLG				S		**Sn**	**21 11 04.6**			**+0.4**
EAK	**Akyaka**	**1.82**	**128**	*i* P		**Pb**	**21 10 43.2**			**0.0**
EAK				IAML_P						
	comp=Z,983nm,0.3s									
KOPR	**Koprukoy-ERZUR**	**1.83**	**177**	PN		**Pn**	**21 10 41.7**			**+0.3**
BAYT	**Aydıntepe-Bayb**	**1.86**	**220**	PN		**Pn**	**21 10 41.8**			**0.0**
BAYB	**BAYBURT**	**1.91**	**216**	*i* P		**Pn**	**21 10 43.8**			**+1.2**
BAYB				*i* S		**Sb**	**21 11 08.7**			**-0.2**
BAYB				IAML_P						
	comp=Z,1μm,0.3s									
SHA1	**Shidzhatmaz**	**2.04**	**19**	*i* Pg		**Pb**	**21 10 47.5**			**+0.6**
SHA1				*i* Sg		**Sg**	**21 11 14.7**			**-0.4**
KZRT	**Kazreti**	**2.06**	**101**	P		**Pb**	**21 10 45.9**			**-1.2**
KZRT				S		**Sb**	**21 11 12.7**			**-0.2**
GUDG	**Gudauri**	**2.15**	**72**	P		**Pb**	**21 10 48.8**			**-0.1**
GUDG				S		**Sg**	**21 11 17.5**			**-1.2**
KORR	**Kora**	**2.15**	**53**	*e*Pg		**Pg**	**21 10 51.1**			**+0.2**
KORR				*e*Sg		**Sg**	**21 11 18.3**			**-0.4**
LACR	**Lac**	**2.16**	**61**	*e*Pg		**Pb**	**21 10 49.4**			**+0.4**
LACR				*e*Sg		**Sb**	**21 11 16.2**			**+0.3**
KIV	**Kislovodsk**	**2.25**	**18**	PN		**Pb**	**21 10 49.5**			**-1.0**
TBLG	**Delisi**	**2.26**	**91**	PN		**Pn**	**21 10 48.9**			**+1.7**
TBLG	**Delisi**	**2.26**	**91**	P		**Pb**	**21 10 49.6**			**-1.0**
TBLG				S		**Sb**	**21 11 19.9**			**+1.3**
TBLG	**Delisi**	**2.26**	**91**	*i* P		**Pb**	**21 10 50.3**			**-0.3**
TBLG				IAML_P						
	comp=Z,746nm,0.3s									
ECAT	**Cat-ERZURUM**	**2.29**	**195**	*i* P		**Pn**	**21 10 49.5**			**+1.8**
BTNK	**Botanikuri**	**2.31**	**92**	P		**Pb**	**21 10 49.9**			**-1.5**
STDR	**Stavd-Durt**	**2.32**	**47**	*e*Pg		**Pb**	**21 10 51.7**			**+0.1**
STDR				*e*Sg		**Sb**	**21 11 20.3**			**0.0**
AGRB	**Hanur-Agry**	**2.44**	**156**	PN		**Pn**	**21 10 50.6**			**+0.7**
GUZR	**Guzeripl'**	**2.47**	**332**	*i* Pn		**Pb**	**21 10 53.5**			**-0.8**
GUZR				*e*Sn		**Sb**	**21 11 25.5**			**+0.7**
KELT	**Kelkit**	**2.50**	**229**	*i* P		**Pb**	**21 10 53.7**			**-1.2**
KELT				IAML_P						
	comp=Z,151nm,0.2s									
TASB	**TASBURUN-IGDIR**	**2.65**	**133**	PN		**Pn**	**21 10 53.6**			**+1.0**
LZRR	**Lazarevskoye**	**2.72**	**322**	*e*Pn		**Pb**	**21 10 56.7**			**-1.8**
LZRR				*e*Sn		**Sb**	**21 11 33.4**			**+1.4**
GNI	**Garni**	**2.83**	**125**	PN		**Pn**	**21 10 56.5**			**+1.3**
LGD	**Lagodekhi**	**3.38**	**88**	P		**Pb**	**21 11 08.7**			**-1.0**
LGD				S		**Sg**	**21 11 56.0**			**-2.2**

IDC 12 21:14:11.4±1.4, 6.56S×148.52E, h0km, mb4.3/5, mb1 4.4/6, mb1mx3.8/30, mbtmp4.2/6, ML4.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/32, Error ellipse: s-maj=49.7km s-min=25.0km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.14**	**225**	P		P	21 18 35.0			-1.4
	0.6nm,0.3s,baz=46,slow=11,SNR=35									
ASAR	**Alice Springs**	**22.06**	**218**	P		P	21 19 07.5			-0.5
	5.2nm,0.5s,baz=53,slow=9.6,SNR=148									
BATI	**Baumata**	**24.85**	**260**	P		P	21 19 37.7			+1.7
	9.0nm,0.5s,baz=111,slow=8.6,SNR=4.0									
FITZ	**Fitzroy Crossi**	**25.08**	**241**	P		P	21 19 37.7			-0.2
	13nm,0.5s,baz=50,slow=8.0,SNR=52									
STKA	**Stephens Creek**	**26.00**	**194**	P		P	21 19 46.5			+0.4
	2.2nm,0.7s,baz=17,slow=14,SNR=4.0									
RPZ	**Rata Peaks**	**41.96**	**155**	LR		LR	21 39 38.7			
	comp=Z,76nm,18.0s,baz=210,slow=36									
ILAR	**Eielson Array**	**85.41**	**23**	P		P	21 26 50.4			-0.1
	0.5nm,1.0s,baz=236,slow=6.4,SNR=3.4									
TORD	**Torodi Ar. Bea**	**146.69**	**284**	PKPbc		PKPdf	21 33 55.4			+0.6
	1.1nm,0.6s,baz=66,slow=3.1,SNR=8.1									

*NIED **12** 21:32:00,39.30N×142.10E,h50km,Mw5.0 Best double couple: M0 3.77000×10^16 NP1:φs195.00000°,δ20.00000°, λ79.00000°. NP2:φs26.00000°,δ70.00000°,λ94.00000°.*
*BGR **12** 21:32:23.0±0.0,39.59N×142.87E,h33km,mb5.2, mB_BB5.4,Ms4.4*
*JMA **12** 21:32:25.2,39.34N×142.08E,h48km±1km,M5.0 Broadband fault plane solution: P waves. NP1: φs28.00000°,δ67.00000°,λ95.00000°. NP2:φs195.00000°, δ23.00000°,λ78.00000°. Principal axes: T Plg67.0000°, Azm307.0000°; N Plg5.0000°, Azm206.0000°; P Plg22.0000°, Azm114.0000°;*
JMA Felt III J1.
*ISCJB **12** 21:32:25.6±0.2,39.37N±0.02×141.90E±0.02,h59km±1km, mb5.0/313,MS4.4/58 Error ellipse: s-maj=3.2km s-min=2.3km az=143.6*
*MOS **12** 21:32:25.4±1.0,39.53N×141.96E,h56km,mb5.4/80, MS4.7/17,Error ellipse: s-maj=5.9km s-min=3.7km az=100.2*
*BJI **12** 21:32:25.3,39.30N×141.80E,h43km,mb4.9/73,mB5.0/54, Ms4.4/80,Ms7 4.3/74*
*IDC **12** 21:32:27.4±0.8,39.33N×141.91E,h68km±5km,mb4.5/30, mb1 4.6/34,mb1mx4.5/50,mbtmp4.7/34,MS4.2/31, Ms1 4.2/31,ms1mx4.1/45,Error ellipse: s-maj=12.6km s-min=9.9km az=132.0*
*GCMT **12** 21:32:27.3±0.2,39.43N±0.01×142.12E±0.02,h52km±1km, MW5.1/79,Moment Tensor Solution. s53,c76; s79,c136; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.19±.18; Mθθ-0.79±.12; Mφφ-3.40±.11; Mrθ1.37±.09; Mθφ-0.95±.09; Mφr2.55±.10; Best double couple: M0 4.89400×10^16 NP1:φs24.00000°,δ63.00000°,λ95.00000°. NP2: φs194.00000°,δ27.00000°,λ81.00000°. Principal axes: T 5.1530, Plg72.0000°, Azm304.0000°; N -0.5180, Plg4.0000°, Azm202.0000°; P -4.6350, Plg18.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **12** 21:32:28.3±0.4,39.30N×141.84E,h73km±4km,mb5.0/205 Error ellipse: s-maj=3.8km s-min=2.5km az=147.0*
NEIC Felt at Morioka. Recorded [3 JMA] in Iwate and Miyagi.

ISC 12 21:32:24.4±0.3, 39.34N±0.03×142.09E±0.03, h44km±2km, h44km:pP-P,n946,σ1.959/1015, mb5.0/319, MS4.5/59, 66C-42D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
MIYJ	**Miyakonagasawa**	**0.31**	**319**	⇓P		**Pn**	**21 32 34.2**			**+1.0**
MIYJ				S		**Sn**	**21 32 40.6**			**+1.2**
OFUJ	**Ofunato**	**0.42**	**231**	⇑P		**Pn**	**21 32 35.3**			**+1.0**
OFUJ				S		**Sn**	**21 32 42.3**			**+1.0**
JTH	**Tanohata**	**0.62**	**344**	⇓P		**Pn**	**21 32 37.8**			**+0.9**
JTH				S		**Sn**	**21 32 46.8**			**+0.9**
JOM	**Ohasama**	**0.63**	**282**	⇓P		**Pn**	**21 32 37.9**			**+0.9**
JOM				S		**Sn**	**21 32 47.3**			**+1.2**
JKMT	**Kesennumamotoy**	**0.71**	**222**	P		**Pn**	**21 32 38.8**			**+0.7**
JKMT				S		**Sn**	**21 32 48.4**			**+0.4**
JMK	**Ichinoseki**	**0.78**	**240**	⇓P		**Pn**	**21 32 39.7**			**+0.7**
JMK				S		**Sn**	**21 32 50.1**			**+0.5**
JKZ	**Kuzumaki**	**0.87**	**318**	⇓P		**Pn**	**21 32 41.5**			**+1.2**
JKZ				S		**Sn**	**21 32 53.3**			**+1.4**
JKEN	**Kujiedanarisaw**	**0.91**	**341**	P		**Pn**	**21 32 41.6**			**+0.8**
JSZI	**Iwateshizukuis**	**0.96**	**295**	⇓P		**Pn**	**21 32 42.6**			**+1.1**
JIO	**Ouri**	**1.06**	**213**	⇓P		**Pn**	**21 32 43.3**			**+0.5**
JIO				S		**Sn**	**21 32 56.2**			**-0.1**
JANG	**Nango**	**1.12**	**337**	⇓P		**Pn**	**21 32 44.4**			**+0.7**
JANG				S		**Sn**	**21 32 58.7**			**+0.7**
JRG	**Rokugo**	**1.13**	**273**	⇓P		**Pn**	**21 32 44.6**			**+0.8**
JRG				S		**Sn**	**21 32 59.6**			**+1.5**
JIKH	**Ishinomakikobu**	**1.14**	**205**	P		**Pn**	**21 32 44.2**			**+0.3**
JOFO	**Osakifurukawao**	**1.18**	**232**	P		**Pn**	**21 32 45.6**			**+1.2**
JAH	**Hinai**	**1.40**	**308**	⇓P		**Pn**	**21 32 48.7**			**+1.2**
JYK	**Kaneyama**	**1.41**	**253**	⇓P		**Pn**	**21 32 48.7**			**+1.1**
JYW	**Yuwa**	**1.47**	**278**	⇓P		**Pn**	**21 32 49.7**			**+1.3**
JOU	**Okura**	**1.48**	**229**	⇓P		**Pn**	**21 32 49.3**			**+0.7**
JTM	**Tenmabayashi**	**1.64**	**332**	⇓P		**Pn**	**21 32 51.9**			**+1.1**
JYYZ	**Yamagatayuzo**	**1.71**	**260**	P		**Pn**	**21 32 53.4**			**+1.7**
JNTW	**Noshirotokiwa**	**1.75**	**303**	P		**Pn**	**21 32 53.8**			**+1.5**
JARK	**Aomorirokkasho**	**1.75**	**342**	P		**Pn**	**21 32 52.9**			**+0.6**
JHHS	**Hirosakihyakuz**	**1.86**	**315**	P		**Pn**	**21 32 55.6**			**+1.7**
JYS	**Shirataka**	**1.94**	**235**	⇓P		**Pn**	**21 32 56.2**			**+1.3**
JTB	**Tobi-shima**	**1.97**	**267**	P		**Pn**	**21 32 55.7**			**+0.4**
JYA	**Atsumi**	**2.00**	**249**	⇓P		**Pn**	**21 32 56.9**			**+1.2**
JIW	**Iwasaki**	**2.03**	**309**	⇓P		**Pn**	**21 32 57.6**			**+1.5**
JSI2	**Shiura 2**	**2.14**	**324**	⇓P		**Pn**	**21 32 59.3**			**+1.7**
JOT	**Ohata**	**2.19**	**339**	⇓P		**Pn**	**21 32 59.2**			**+0.9**
JOG3	**Oga3**	**2.39**	**285**	P		Pn	21 32 54.4			-6.7
JFY	**Yanaizu**	**2.69**	**225**	⇓P		**Pn**	**21 33 07.0**			**+1.8**
ERM	**Erimo**	**2.79**	**17**	*e*Pn		**Pn**	**21 33 07.5**			**+1.0**
ERM				*e*S		**Sn**	**21 33 32.1**			**-6.9**
ERM	**Erimo**	**2.79**	**17**	*ce*P		**Pn**	**21 33 07.3**			**+0.7**
ERM				pmax		pmax				
	comp=Z,712nm,0.7s									
MJAR	**Matsushiro Arr**	**4.15**	**229**	P		**Pn**	**21 33 28.1**			**+2.9**
	comp=Z,5.4nm,0.3s,baz=36,slow=11,SNR=228									
MJAR				LR		LR	21 35 13.2			
	comp=Z,2μm,20.9s,baz=60,slow=41									
MAJO	**Matsushiro**	**4.15**	**229**	*e*Pn		**Pn**	**21 33 28.3**			**+3.1**
MAJO	**Matsushiro**	**4.15**	**229**	*c* P		**Pn**	**21 33 28.6**			**+3.3**
MAT	**Matsushiro**	**4.15**	**229**	P		**Pn**	**21 33 28.3**			**+3.0**
MAT				eS		**Sn**	**21 34 20.0**			**+7.5**
MJB9	**Matsu-Tunnel**	**4.15**	**229**	*e*Pn		**Pn**	**21 33 28.6**			**+3.3**
ASAJ	**Asahikawa**	**4.79**	**4**	P		**Pn**	**21 33 34.9**			**+0.9**
	comp=Z,10.0nm,0.3s,baz=190,slow=18,SNR=39									
ASAJ				S		**Sn**	**21 34 29.3**			**+1.2**
	comp=Z,15nm,0.3s,baz=135,slow=20,SNR=4.9									
GRPR	**Tuman**	**5.40**	**30**	*e*P		**Pn**	**21 33 42.8**			**+0.4**
GRPR				*e*S		**Sn**	**21 34 39.8**			**-3.5**
GRPR				pmax		pmax				
	comp=Z,560nm,0.5s									
GRPR				pmax		pmax				
	comp=N,145nm,0.2s									
GRPR				pmax		pmax				
	comp=E,210nm,0.4s									
GRPR				smax		smax				
	comp=E,1μm,0.4s									
GRPR				smax		smax				
	comp=N,4μm,0.5s									
YUK	**Yuzh-Kuril'sk**	**5.47**	**30**	*e*P		**Pn**	**21 33 43.5**			**+0.1**
YUK				*e*S		**Sn**	**21 34 42.7**			**-2.3**
YUK				pmax		pmax				
	comp=Z,533nm,0.3s									
YUK				pmax		pmax				
	comp=N,193nm,0.2s									
YUK				pmax		pmax				
	comp=E,360nm,0.4s									
YUK				smax		smax				
	comp=N,4μm,0.5s									
YUK				smax		smax				
	comp=E,3μm,0.5s									
INU	**Inuyama**	**5.67**	**227**	*e*Pn		**Pn**	**21 33 49.4**			**+3.2**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SHO	**Shikotan**	**5.75**	**37**	*e*P		**Pn**	**21 33 46.3**			**-0.9**
SHO				*e*S		**Sn**	**21 34 46.0**			**-5.9**
SHO				pmax		pmax				
	comp=E,32nm,0.5s									
SHO				pmax		pmax				
	comp=Z,58nm,0.5s									
SHO				pmax		pmax				
	comp=N,30nm,0.2s									
SHO				smax		smax				
	comp=N,2μm,0.5s									
SHO				smax		smax				
	comp=E,866nm,0.4s									
SHO				MLR		MLR				
	comp=Z,2μm,15.0s									
JHJ2	**Mitsune**	**6.48**	**197**	*e*Pn		**Pn**	**21 33 57.3**			**0.0**
JHJ2				*e*Sn		**Sn**	**21 35 06.5**			**-3.4**
JHJ	**Hachijo jima 2**	**6.48**	**197**	P		**Pn**	**21 33 57.1**			**-0.1**
	comp=Z,73nm,0.3s,baz=13,slow=2.2,SNR=19									
JHJ				S		**Sn**	**21 35 03.8**			**-6.1**
	comp=Z,93nm,0.3s,baz=89,slow=23,SNR=8.1									
TEY	**Ternei**	**7.00**	**326**	⇓*e*P		**Pn**	**21 34 06.8**			**+2.6**
TEY				pmax		pmax				
	comp=N,20nm,2.4s									
TEY				pmax		pmax				
	comp=E,210nm,1.1s									
TEY				pmax		pmax				
	comp=N,210nm,1.2s									
TEY				pmax		pmax				
	comp=Z,240nm,1.2s									
KUR	**Kuril'sk**	**7.28**	**34**	*e*P		**Pn**	**21 34 09.2**			**+1.1**
KUR				*i* S		**Sn**	**21 35 26.4**			**-3.0**
KUR				pmax		pmax				
	comp=N,69nm,0.4s									
KUR				pmax		pmax				
	comp=Z,247nm,0.4s									
KUR				pmax		pmax				
	comp=E,107nm,0.5s									
KUR				smax		smax				
	comp=E,1μm,1.2s									
KUR				smax		smax				
	comp=N,166nm,0.5s									
KUR				smax		smax				
	comp=E,516nm,0.5s									
YSS	**Yuzh-Sakhalins**	**7.62**	**3**	*e*Pn		**Pn**	**21 34 14.8**			**+2.0**
YSS				*e*S		Sn	21 35 07.3			-31
YSS	**Yuzh-Sakhalins**	**7.62**	**3**	⇑*e*P		**Pn**	**21 34 15.0**			**+2.2**
YSS				*e*S		**Sn**	**21 35 40.2**			**+2.4**
YSS				pmax		pmax				
	comp=Z,90nm,0.8s									
YSS				pmax		pmax				
	comp=N,90nm,0.7s									
YSS				smax		smax				
	comp=N,400nm,1.6s									
YSS				smax		smax				
	comp=E,600nm,1.9s									
YSS				smax		smax				
	comp=N,120nm,1.3s									
YSS				smax		smax				
	comp=E,110nm,1.3s									
YSS				MLR		MLR				
	comp=Z,1μm,14.0s									
YSS				MLR		MLR				
	comp=N,900nm,15.0s									
YS

DL2 pmax pmax
comp=Z,87nm,1.1s
DL2 pmax pmax
comp=Z,760nm,7.5s
DL2 LR LR
comp=Z,850nm,17.7s
DL2 LR LR
comp=Z,1µm,16.5s
DL2 LR LR
comp=Z,1µm,24.5s
JOW Kunigami 16.99 227 *e*Pn **Pn 21 36 18.4 -0.5**
comp=Z,46nm,1.2s
PETK Petropavlovsk- 17.44 33 P **Pn 21 36 22.4 -1.8**
comp=Z,0.3nm,0.3s,baz=212,slow=14,SNR=4.7
ZEA Zeya 17.59 330 *e*P **Pn 21 36 23.8 -2.3**
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,93nm,1.0s
ZEA MLR MLR
comp=Z,1µm,18.0s
ZEA MLR MLR
comp=E,600nm,17.0s
ZEA MLR MLR
comp=N,1µm,16.0s
PET Petropavlovsk 17.79 34 *e*P **P 21 36 33.5 +4.6**
comp=N,38nm,1.0s
PET Petropavlovsk 17.79 34 *e*P **P 21 36 34.3 +5.4**
PET *e*S **S 21 39 49.8 -1.2**
PET pmax pmax
comp=Z,45nm,1.3s
PET MLR MLR
comp=Z,800nm,18.0s
HIA Hailar 18.76 309 *e*P **P 21 36 36.8 -2.7**
comp=Z,38nm,1.0s
HIA Hailar 18.76 309 *e*P **P 21 36 36.8 -2.7**
HIA pmax pmax
comp=Z,38nm,1.0s
SSE Sheshan 18.93 251 P **Pn 21 36 43.8 +1.3**
SSE S **Sn 21 40 10.2 -3.2**
SSE pmax pmax
comp=Z,27nm,0.8s
SSE pmax pmax
comp=Z,120nm,3.5s
BJI Beijing 19.94 280⇑ *i*P **P 21 36 50.4 -2.1**
BJI pmax pmax
comp=Z,40nm,0.9s
BJI LR LR
comp=Z,160nm,13.3s
BJI LR LR
comp=Z,430nm,16.1s
BJT Baijiatuau 19.94 280 *e*P **P 21 36 50.7 -1.9**
comp=Z,57nm,0.9s
BJT Baijiatuau 19.94 280 *e*P **P 21 36 50.7 -1.9**
BJT pmax pmax
comp=Z,57nm,0.9s
TIA Tai'an 19.96 269 P **P 21 36 52.4 -0.4**
TIA pmax pmax
comp=Z,13nm,1.3s
TIA pmax pmax
comp=Z,130nm,5.0s
TIA LR LR
comp=Z,170nm,9.2s
TIA LR LR
comp=Z,400nm,15.6s
TIA LR LR
comp=Z,360nm,14.9s
NJ2 Nanjing 20.19 256 *e*P **P 21 36 54.4 -0.9**
NJ2 sP **sP 21 37 11.9 +0.2**
NJ2 pmax pmax
comp=Z,62nm,0.8s
NJ2 LR LR
comp=Z,590nm,18.4s
NJ2 LR LR
comp=Z,800nm,14.1s
NJ2 LR LR
comp=Z,800nm,17.9s
MA2 Magadan 20.99 12 *e*P **P 21 37 04.5 +0.8**
MA2 pP **sP 21 37 20.3 +0.4**
MA2 Magadan 20.99 12 *ce*P **P 21 37 03.4 -0.3**
MA2 pmax pmax
comp=Z,107nm,1.0s
MA2 Magadan 20.99 12 P **P 21 37 04.2 +0.5**
comp=Z,68nm,0.7s,baz=202,slow=8.8,SNR=101
MA2 pP **sP 21 37 20.3 +0.4**
comp=Z,75nm,0.7s,baz=188,slow=9.7,SNR=11
MA2 LR LR 21 45 29.2
comp=Z,256nm,20.3s,baz=208,slow=37
YHNB Yeheng 22.78 236 *e*P **P 21 37 21.2 -2.1**
comp=Z,26nm,0.9s
NACB Ninganchiao 22.99 235 *e*P **P 21 37 21.7 -3.6**
comp=Z,33nm,0.8s
HHC Hu-ho-hao-te 23.34 284 *e*P **P 21 37 26.7 -2.1**
HHC PP **PnPn 21 37 58.8 +2.7**
HHC S **S 21 41 35.8 -2.6**
HHC sS sS 21 41 50.4 -7.5
HHC SS **SnSn 21 42 23.9 +7.9**
HHC pmax pmax
comp=Z,16nm,0.8s
HHC pmax pmax
comp=Z,210nm,7.3s
HHC LR LR
comp=Z,390nm,14.3s
HHC LR LR
comp=Z,890nm,16.3s
HHC LR LR
comp=Z,1µm,16.3s
SSLB Suanglung 23.68 235 *e*P **P 21 37 29.2 -2.8**
comp=Z,30nm,0.9s
YULB Yu-li 23.75 234 *e*P **P 21 37 31.5 -1.1**
comp=Z,41nm,0.9s
YAK Yakutsk 23.95 346 *e*P **P 21 37 32.3 -1.9**
YAK *e**PP **pP 21 37 40.8 -5.0**
YAK *e*S **S 21 41 43.8 -3.7**
YAK *e**SS **sS 21 42 03.8 -3.2**
YAK *e* 21 48 35.0
YAK pmax pmax
comp=Z,706nm,1.0s
YAK pmax pmax
comp=N,360nm,1.0s
YAK pmax pmax
comp=E,72nm,0.9s
YAK pmax pmax
comp=Z,169nm,0.8s
YAK smax smax
comp=E,1µm,1.8s
YAK smax smax
comp=N,810nm,1.4s
YAK MLR MLR
comp=Z,3µm,18.0s
YAK MLR MLR
comp=E,2µm,17.0s
YAK MLR MLR
comp=N,2µm,15.0s
TPUB Ta-pu 24.23 235 *e*P **P 21 37 34.6 -2.6**
comp=N,49nm,1.1s
WHN Wuhan 24.30 257⇓ P **P 21 37 37.5 -0.2**
WHN pP **pP 21 37 50.0 +0.5**
WHN S **S 21 41 53.0 -0.6**
WHN LR LR
comp=N,560nm,14.3s
WHN LR LR
comp=N,2µm,16.4s
WHN LR LR
comp=N,1µm,16.2s
TWG Pinlang 24.30 234 *e*P **P 21 37 37.1 -0.7**
comp=N,292nm,0.9s
SEY Seymchan 24.43 11 *ce*P **P 21 37 39.0 +0.5**
SEY Seymchan 24.43 11 P **P 21 37 39.4 +0.8**
comp=N,26nm,0.9s,baz=202,slow=7.7,SNR=86
QZH Quanzhou 24.44 241 *e*P **P 21 37 42.5 +3.5**
QZH S **S 21 41 54.0 -1.9**
QZH LR LR
comp=N,390nm,16.9s
QZH LR LR
comp=N,270nm,15.6s
QZH LR LR
comp=N,530nm,17.1s
BTO Baotou 24.54 283 *e*P **P 21 37 37.7 -2.2**
GUMO Guam 25.77 174 LR LR 21 47 22.3
comp=N,184nm,21.9s,baz=354,slow=35
BOD Bodaibo 25.91 325⇓ *i*P **P 21 37 51.6 -0.4**
BOD *e* 21 38 05.3
BOD pmax pmax
comp=Z,54nm,1.4s

ULN Ulaanbaatar 26.57 300 *e*P **P 21 37 57.4 -1.0**
comp=Z,14nm,1.1s
ULN Ulaanbaatar 26.57 300 *ce*P **P 21 37 56.6 -1.8**
ULN pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 27.01 300 P **P 21 38 01.0 -1.2**
comp=Z,2.9nm,0.4s,baz=107,slow=9.3,SNR=28
SONM LR LR 21 49 15.9
comp=Z,975nm,18.7s,baz=94,slow=38
XAN Xi'an 27.02 269 P **P 21 38 01.8 -0.6**
XAN pP pP 21 38 12.1 -2.1
XAN S **S 21 42 36.1 -0.9**
XAN pmax pmax
comp=Z,21nm,0.7s
XAN pmax pmax
comp=Z,80nm,8.8s
XAN LR LR
comp=Z,190nm,20.1s
XAN LR LR
comp=Z,340nm,19.6s
XAN LR LR
comp=Z,540nm,27.1s
XAN Xi'an 27.02 269 *e*P **P 21 38 00.7 -1.7**
comp=Z,88nm,0.6s
XAN Xi'an 27.02 269 *e*P **P 21 38 00.7 -1.7**
XAN pmax pmax
comp=Z,88nm,0.6s
ENH Enshi 28.13 261 *e*P **P 21 38 11.6 -0.7**
comp=Z,39nm,0.7s
H11N2 WAKE ISLAND Hy 28.96 125 T T 22 08 44.7
baz=318,slow=75
H11N1 WAKE ISLAND Hy 28.97 125 T T 22 08 45.3
baz=318,slow=75
H11N3 WAKE ISLAND Hy 28.98 125 T T 22 08 46.0
baz=318,slow=75
IRK Irkutsk 29.00 309 *e*P P 21 38 15.0 -4.8
IRK pmax pmax
comp=Z,63nm,2.0s
TLY Talaya 29.28 308 *e*P **P 21 38 22.4 +0.1**
comp=Z,24nm,0.9s
TLY Talaya 29.28 308 *e*P **P 21 38 22.5 +0.2**
TLY *e* 21 38 39.7
TLY *e* 21 39 36.3
TLY *e*SS SS 21 44 47.2 -30
TLY *e*SSS SSS 21 45 05.1
TLY pmax pmax
comp=Z,71nm,1.4s
TLY MLR MLR
comp=Z,2µm,16.0s
TLY Talaya 29.28 308 P **P 21 38 22.4 +0.1**
SNR=11
TLY P **P 21 38 22.4 +0.1**
SNR=11
ZAK Zakamensk 29.32 305 *e*P **P 21 38 22.6 -0.1**
ZAK pmax pmax
comp=Z,13nm,0.9s
H11S1 WAKE ISLAND Hy 29.75 127 T T 22 09 45.0
baz=319,slow=76,SNR=79
H11S3 WAKE ISLAND Hy 29.75 127 T T 22 09 45.5
baz=319,slow=76,SNR=357
H11S2 WAKE ISLAND Hy 29.77 127 T T 22 09 46.4
baz=319,slow=76,SNR=62
LZH Lanzhou 30.28 276 *e*P **P 21 38 32.5 +1.0**
LZH pP pP 21 38 43.3 -0.1
LZH sP sP 21 38 47.6 -1.2
LZH PP **PnPn 21 39 32.6 +2.1**
LZH *e*S **S 21 43 27.4 -1.0**
LZH sS sS 21 43 45.0 -3.1
LZH SS **ScP 21 45 09.4 -0.3**
LZH pmax pmax
comp=Z,65nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.6s
LZH LR LR
comp=Z,710nm,12.9s
LZH LR LR
comp=Z,960nm,13.0s
LZH LR LR
comp=Z,1µm,16.3s
MOY Mondy 30.91 307 *e*P **P 21 38 36.9 +0.1**
MOY pmax pmax
comp=Z,32nm,1.6s
BILL Bilibino 31.67 17 *e*P **P 21 38 44.0 +0.9**
BILL Bilibino 31.67 17 *ce*P **P 21 38 43.8 +0.7**
BILL pmax pmax
comp=Z,9.0nm,1.0s
GYA Guiyang 32.19 257⇑ *i*P **P 21 38 47.8 -0.5**
GYA pP pP 21 39 00.6 +0.3
GYA PP **PnPn 21 39 58.4 +3.0**
GYA S **S 21 43 59.7 +1.4**
GYA sS sS 21 44 17.0 -1.1
GYA SS **SnSn 21 45 54.2 +2.3**
GYA pmax pmax
comp=Z,60nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,610nm,17.0s
GYA LR LR
comp=Z,580nm,17.3s
GYA LR LR
comp=Z,540nm,17.7s
CD2 Chengdu 32.27 267 P **P 21 38 47.1 -1.8**
CD2 sP pP 21 39 04.1 +3.3
CD2 PP **PnPn 21 39 51.6 -4.6**
CD2 S **S 21 43 54.3 -5.0**
CD2 sS sS 21 44 19.6 +0.5
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,190nm,4.6s
CD2 LR LR
comp=Z,490nm,13.2s
CD2 LR LR
comp=Z,790nm,14.8s
GTA Gaotai 32.46 284 *e*P **P 21 38 49.9 -0.7**
GTA PcP **PcP 21 41 38.0 +1.1**
GTA S **S 21 44 00.8 -1.5**
GTA sS sS 21 44 21.8 -0.3
GTA PcS **PcS 21 45 22.2 +0.2**
GTA ScS **ScS 21 49 15.0 -1.4**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA pmax pmax
comp=Z,84nm,5.7s
GTA LR LR
comp=Z,410nm,21.3s
GTA LR LR
comp=Z,800nm,17.2s
GTA LR LR
comp=Z,1µm,19.2s
TIXI Tiksi 33.07 352 *e*P **P 21 38 54.8 -0.5**
comp=Z,14nm,0.8s
TIXI Tiksi 33.07 352 *ce*P **P 21 38 54.2 -1.1**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI Tiksi 33.07 352 LR LR 21 53 52.4
comp=Z,296nm,18.9s,baz=157,slow=39
QIZ Qiongzhong 34.40 243 P **P 21 39 09.1 +1.6**
QIZ S **S 21 44 34.9 +2.5**
QIZ LR LR
comp=Z,280nm,18.2s
QIZ LR LR
comp=Z,210nm,15.7s
QIZ LR LR
comp=Z,360nm,16.3s
KMI Kunming 35.88 259 P **P 21 39 20.4 -0.1**
KMI pP pP 21 39 33.7 +1.1
KMI sP sP 21 39 37.8 -0.1
KMI PP **PP 21 40 40.2 -2.3**
KMI S **S 21 44 53.9 -1.7**
KMI sS sS 21 45 12.0 -3.6
KMI SS **SnSn 21 47 19.5 -2.2**
KMI pmax pmax
comp=Z,60nm,1.3s
KMI pmax pmax
comp=Z,180nm,4.0s
KMI LR LR
comp=Z,260nm,14.6s
KMI LR LR
comp=Z,450nm,16.4s
KMI LR LR
comp=Z,530nm,16.6s
GAMB Gambell 36.48 33 *e*P **P 21 39 27.5 +2.7**
comp=Z,13nm,1.3s
ANM Nome 39.36 33 *e*P **P 21 39 50.0 +0.9**
comp=Z,30nm,1.0s
ANM Nome 39.36 33 *e*P **P 21 39 50.0 +0.9**
ANM pmax pmax
comp=Z,30nm,1.0s
SKNT Sakolnakorn 39.90 247 P **P 21 39 54.7 +0.5**
comp=Z,13nm,1.1s
WMQ Urumqi 40.32 295 *e*P **P 21 39 58.3 +0.8**
WMQ pP pP 21 40 07.8 -2.0
WMQ sP sP 21 40 16.2 +1.1
WMQ ScP **ScP 21 45 46.4 +0.6**
WMQ S **S 21 45 56.6 -5.4**
WMQ pmax pmax
comp=Z,88nm,1.3s
WMQ pmax pmax
comp=Z,450nm,3.8s
WMQ LR LR
comp=Z,300nm,25.7s
WMQ LR LR
comp=Z,490nm,33.7s
WMQ LR LR
comp=Z,750nm,31.9s
WMQ Urumqi 40.32 295 *e*P **P 21 39 57.8 +0.3**
comp=Z,83nm,1.0s
WMQ *e*PP **PP 21 41 25.6 -5.0**
WMQ Urumqi 40.32 295 *e*P **P 21 39 57.8 +0.3**
WMQ pmax pmax
comp=Z,83nm,1.0s
SDKM Sandakan 40.38 220 P **P 21 39 59.4 +1.2**
ZAA0 Zalesovo Array 40.79 310 *e*P **P 21 40 00.7 -0.4**
comp=Z,78nm,0.8s
ZALV Zalesovo Beam 40.79 310 P **P 21 40 01.0 -0.1**
comp=Z,21nm,0.4s,baz=92,slow=8.2,SNR=102
ZALV PcP **PcP 21 42 01.4 0.0**
comp=Z,3.9nm,0.4s,baz=103,slow=3.4,SNR=6.4
ZALV LR LR 21 57 44.0
comp=Z,953nm,18.2s,baz=70,slow=37
RDOG Red Dog Mine 41.21 28 *e*P **P 21 40 06.5 +2.1**
comp=Z,11nm,0.8s
TSM Tawau 41.22 218 P P 21 40 11.6 +6.6
NRIK Noril'sk 41.41 334 P **P 21 40 05.6 -0.4**
comp=Z,6.5nm,0.6s,baz=114,slow=9.9,SNR=13
NRIK LR LR 21 58 17.8
comp=Z,876nm,19.8s,baz=99,slow=38
NVS Novosibirsk 41.66 312⇓ *i*P **P 21 40 08.6 +0.3**
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,40nm,1.0s
NVS pmax pmax
comp=Z,48nm,1.0s
JAY Jayapura 41.67 182 LR LR 21 56 40.1
comp=Z,116nm,21.9s,baz=40,slow=35
UTTA Uttaradit 41.89 251 P **P 21 40 10.9 +0.4**
comp=Z,4.0nm,0.7s,comp=Z,46nm
CHAI Chaiyaphum 42.04 248 P **P 21 40 11.9 +0.1**
comp=Z,13nm,1.0s,comp=Z,112nm
LAMP Lampang 42.08 253 P **P 21 40 12.8 +0.7**
comp=Z,6.2nm,0.9s,comp=Z,76nm
PBKT Sadao Pong 42.34 249 *e*P **P 21 40 13.1 -1.0**
comp=Z,16nm,0.9s
PBKT Sadao Pong 42.34 249 P **P 21 40 14.5 +0.3**
comp=Z,19nm,1.1s
CMMT Chiang Mai 42.41 254 P **P 21 40 14.9 +0.1**
comp=Z,20nm,0.9s,comp=Z,322nm
CHTO Chiang Mai 42.41 254 *e*P **P 21 40 14.8 0.0**
comp=Z,17nm,0.9s
CHTO Chiang Mai 42.41 254 *e*P **P 21 40 14.8 0.0**
CHTO pmax pmax
comp=Z,17nm,0.9s
CHTO Chiang Mai 42.41 254 P **P 21 40 15.0 +0.2**
SNR=11
CHTO P **P 21 40 15.0 +0.2**
SNR=11
CHTO Chiang Mai 42.41 254 P **P 21 40 14.9 +0.2**
comp=Z,91nm,0.8s
LSA Lhasa 42.57 273 *e*P **P 21 40 17.3 +0.7**
comp=Z,36nm,1.0s
LSA Lhasa 42.57 273 P **P 21 40 17.7 +1.2**
CM31 Chiang Mai Arr 42.63 253 P **P 21 40 16.9 +0.4**
CMAR Chiang Mai Arr 42.63 253 P **P 21 40 17.0 +0.4**
comp=Z,4.0nm,0.8s,baz=48,slow=5.8,SNR=28
CMAR LR LR 21 58 55.2
comp=Z,119nm,18.1s,baz=50,slow=37
CM01 Chiang Mai Arr 42.64 253 *e*P **P 21 40 16.9 +0.2**
SUKH Sukhothai 42.73 252 P **P 21 40 18.6 +1.2**
comp=Z,11nm,1.0s
SRAK Srakaew 43.27 246 P **P 21 40 19.0 -2.7**
MK01 Makanchi Array 43.38 300 *e*P **P 21 40 21.5 -0.9**
SVW2 Sparrevohn 43.38 39 *e*P **P 21 40 25.2 +3.0**
comp=Z,15nm,0.8s
MK31 Makanchi Array 43.38 300 *e*P **P 21 40 22.6 +0.2**
comp=Z,64nm,0.9s
MK31 Makanchi Array 43.38 300 *e*P **P 21 40 22.6 +0.2**
MK31 pmax pmax
comp=Z,64nm,0.9s
MKAR Makanchi Array 43.38 300 P **P 21 40 22.6 +0.2**
comp=Z,12nm,0.6s,baz=86,slow=9.9,SNR=118
MKAR pP **sP 21 40 39.3 -0.6**
comp=Z,46nm,0.8s,baz=85,slow=8.8,SNR=22
MAKZ Makanchi 43.59 300 *e*P **P 21 40 24.2 +0.2**
comp=Z,85nm,1.0s
MAKZ Makanchi 43.59 300 *e*P **P 21 40 24.2 +0.2**
MAKZ pmax pmax
comp=Z,85nm,1.0s
SANI Sanana 43.77 204 P **P 21 40 25.2 -0.5**
SHL Shillong 44.00 267 *e*P **P 21 40 27.6 -0.2**
comp=Z,37nm,0.9s
SHL Shillong 44.00 267 *e*P **P 21 40 27.6 -0.2**
SHL pmax pmax
comp=Z,37nm,0.9s
SHL Shillong 44.00 267 *i* P **P 21 40 27.0 -0.8**
UTHA Uthaitani 44.10 250 P **P 21 40 29.9 +1.5**
comp=Z,6.7nm,1.0s,comp=Z,71nm
UMPA Umpang Tak 44.11 251 P **P 21 40 31.0 +2.5**
comp=Z,15nm,1.1s,comp=Z,126nm
APSI Ampana 44.23 210 P **P 21 40 29.1 -0.3**
IM3 Indian Mountai 44.41 32 *e*P **P 21 40 31.9 +1.6**
BTM Bintulu 44.59 224 P **P 21 40 33.0 +0.7**
RSO Redoubt South 44.78 40 *e*P **P 21 40 35.9 +2.3**
KURK Kurchatov 44.96 306 *e*P **P 21 40 34.7 -0.2**
comp=Z,143nm,0.9s
KURK Kurchatov 44.96 306 *i* P **P 21 40 34.2 -0.7**
KURK pmax pmax
comp=Z,98nm,1.2s
KURK Kurchatov 44.96 306 P **P 21 40 34.7 -0.2**
SNR=36
KURK P **P 21 40 34.7 -0.2**
SNR=36
PPLA Purkeypile 44.98 36 *e*P **P 21 40 38.2 +3.1**
comp=Z,54nm,1.4s
KDAK Kodiak Island 45.05 43 *i* P **P 21 40 36.7 +1.2**
BPAW Bear Paw Mtn. 45.52 34 *e*P **P 21 40 41.7 +2.5**
comp=Z,41nm,1.5s
SBUM Sibu 45.68 224 *e*P **P 21 40 40.6 -0.4**
comp=Z,10nm,1.0s
SBUM Sibu 45.68 224 P **P 21 40 41.8 +0.8**
PHET Kaeng Krachan 45.73 247 P **P 21 40 42.8 +1.4**
comp=Z,29nm,0.8s,comp=Z,236nm
TRF Thorofare Moun 45.84 35 *e*P **P 21 40 43.8 +1.9**
comp=Z,12nm,1.0s
COLD Coldfoot 45.89 30 *e*P P 21 40 47.2 +5.2
comp=Z,19nm,1.3s
BWN Browne 46.18 34 *e*P **P 21 40 47.6 +3.2**
comp=Z,138nm,1.2s
TOLK Toolik Lake Re 46.18 28 *e*P **P 21 40 46.5 +2.0**
comp=Z,21nm,0.9s
TOLK Toolik Lake Re 46.18 28 P **P 21 40 46.4 +2.0**
baz=267
RC01 Rabbit Creek A 46.22 39 *e*P **P 21 40 46.3 +1.6**
comp=Z,26nm,1.0s
PMR Palmer 46.47 38 *e*P **P 21 40 47.1 +0.5**
comp=Z,17nm,0.9s
PMR Palmer 46.47 38 *e*P **P 21 40 47.1 +0.5**
PMR pmax pmax
comp=Z,17nm,0.9s
RND Reindeer 46.48 35 *e*P **P 21 40 48.4 +1.5**
comp=Z,34nm,1.1s
RND Reindeer 46.48 35 *e*P **P 21 40 48.4 +1.5**
RND pmax pmax
comp=Z,34nm,1.1s
MDM Murphy Dome 46.69 33 *e*P **P 21 40 50.4 +2.0**
comp=Z,37nm,1.2s
WRH Wood River Hil 46.77 34 *e*P **P 21 40 50.8 +1.9**
comp=Z,16nm,1.0s
KNK Knik Glacier 46.81 38 *e*P **P 21 40 51.2 +1.9**
comp=Z,75nm,1.8s
TCOL CIGO, UAF Yank 46.85 33 P **P 21 40 51.5 +2.0**

baz=273
COLA College 46.85 33 *e*P P 21 40 51.8 +2.2
comp=Z,20nm,0.9s
COLA College 46.85 33 *e*P P 21 40 51.8 +2.2
COLA pmax pmax
comp=Z,20nm,0.9s
CCB Clear Creek Bu 46.88 34 *e*P P 21 40 50.5 +0.6
comp=Z,20nm,1.3s
POKR Poker Plat Res 47.02 33 P P 21 40 53.2 +2.3
baz=273
PRZ Przheval'sk 47.22 295 *e*P P 21 40 54.3 +1.2
comp=Z,125nm,1.0s
HDA Harding Lake 47.27 34 *e*P P 21 40 54.2 +1.3
comp=Z,26nm,1.2s
HDA Harding Lake 47.27 34 P P 21 40 53.9 +1.0
baz=274
ILAR Eielson Array 47.27 33 P P 21 40 54.1 +1.2
comp=Z,11nm,0.7s,baz=268,slow=6.5,SNR=116
ILAR LR LR 22 02 35.4
comp=Z,124nm,18.9s,baz=294,slow=38
ILB Eielson Array 47.27 33 *e*P P 21 40 54.4 +1.5
comp=Z,26nm,1.1s
IL1 Eielson Array 47.27 33 *e*P P 21 40 53.3 +0.4
SCM Sheep Creek Mo 47.30 38 *e*P P 21 40 55.4 +2.1
comp=Z,30nm,0.9s
SCM Sheep Creek Mo 47.30 38 *e*P P 21 40 55.4 +2.1
SCM pmax pmax
comp=Z,30nm,0.9s
JIRN Jiri 47.37 273 *e*P P 21 40 55.0 +0.4
comp=Z,47nm,0.4s
RAMN Ramite 47.40 272 *e*P P 21 40 54.9 +0.2
comp=Z,116nm,0.9s
GUN Gumba 47.49 274 *e*P P 21 40 55.8 +0.3
comp=Z,145nm,0.6s
KSM Kuching 47.54 226 *e*P P 21 40 56.3 +0.8
comp=Z,40nm,1.1s
KSM Kuching 47.54 226 P P 21 40 56.8 +1.3
SPSI Sidrap Palu 47.75 211 P P 21 40 57.0 -0.2
PRP Porcupine Dome 47.80 32 *e*P P 21 40 59.1 +2.0
comp=Z,21nm,0.9s
FYU Fort Yukon 47.85 31 *e*P P 21 41 00.5 +3.2
comp=Z,51nm,1.1s
KLU Klutina 48.01 38 *e*P P 21 41 01.0 +2.3
comp=Z,34nm,1.1s
KKN Kakani 48.01 274 *e*P P 21 40 59.7 +0.3
comp=Z,93nm,0.7s
BNSI Bone 48.02 210 P P 21 40 59.7 +0.5
PKI Pulchoki 48.02 274 *e*P P 21 40 59.4 -0.2
comp=Z,36nm,0.6s
PKIN Phulchoki 48.03 274 *e*P P 21 40 59.4 -0.2
comp=Z,16nm,0.4s
DIV Divide 48.13 38 *e*P P 21 41 02.0 +2.4
comp=Z,46nm,1.2s
KDJ Kajisay 48.19 295 *e*P P 21 41 02.1 +1.5
comp=Z,45nm,0.9s
KDJ Kajisay 48.19 295 *e*P P 21 41 02.1 +1.5
KDJ pmax pmax
comp=Z,45nm,0.9s
DMN Daman 48.24 274 *e*P P 21 41 01.3 +0.1
comp=Z,51nm,0.9s
RIDG Independ'e Rid 48.25 35 *e*P P 21 41 01.8 +1.3
comp=Z,21nm,1.1s
GKN Gorkha 48.41 275 *e*P P 21 41 02.5 +0.1
comp=Z,53nm,0.6s
SCRK Sand Creek 48.60 34 *e*P P 21 41 04.6 +1.3
comp=Z,27nm,1.1s
DOT Dot Lake 48.60 35 *e*P P 21 41 04.4 +1.1
comp=Z,18nm,1.2s
KAPI Kappang 48.72 210 P P 21 41 05.3 +0.7
KTGM Kuala Trenggan 48.80 236 P P 21 41 06.9 +1.6
ULHL Ulahol 48.81 296 P P 21 41 05.8 +0.4
SNR=13
MENT Mentasta 48.84 36 *e*P P 21 41 07.7 +2.5
comp=Z,38nm,1.0s
BKSI Bulukumba 48.86 210 P P 21 41 03.2 -2.4
DANN Dangsing 48.92 276 *e*P P 21 41 07.0 +0.5
comp=Z,223nm,0.5s
TKM2 Tokmak 2 49.03 297 P P 21 41 07.8 +0.8
SNR=103
TKM2 Tokmak 2 49.03 297 *i* P P 21 41 07.6 +0.5
TKM2 pmax pmax
comp=Z,125nm,0.9s
TRTT Trang 49.24 242 P P 21 41 10.5 +1.9
comp=Z,9.8nm,1.0s
NRN Naryn 49.26 295 *e*P P 21 41 08.7 -0.3
comp=Z,35nm,1.1s
NRN Naryn 49.26 295 *e*P P 21 41 08.7 -0.3
NRN pmax pmax
comp=Z,35nm,1.1s
KOLN Koldanda 49.32 275 *e*P P 21 41 09.8 +0.3
comp=Z,57nm,0.5s
BVAR Borovoye Array 49.44 311 LR LR 22 03 02.7
comp=Z,537nm,19.5s,baz=78,slow=37
BRVK Borovoye 49.49 311 *e*P P 21 41 10.4 +0.2
comp=Z,34nm,1.1s
BRVK Borovoye 49.49 311 *c i*P P 21 41 10.5 +0.4
BRVK pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 49.49 311 P P 21 41 10.3 +0.2
SNR=12
BRVK P P 21 41 10.3 +0.2
SNR=12
KZA Kyzart 49.56 296 P P 21 41 12.7 +1.3
SNR=24
KBK Karagaybulak 49.57 297 P P 21 41 11.9 +0.7
SNR=54
CHMS Chumysh 49.59 297 P P 21 41 11.3 +0.2
SNR=13
PYUN Piuthan 49.63 276 *e*P P 21 41 12.2 +0.4
comp=Z,156nm,0.9s
USP Ospenovka 49.67 298 P P 21 41 11.9 +0.2
SNR=28
EGAK Eagle 49.71 33 *e*P P 21 41 12.8 +1.2
comp=Z,15nm,0.9s
FRU1 Bishkek 49.74 297 *e*P P 21 41 13.0 +0.7
comp=Z,86nm,1.1s
FRU1 Bishkek 49.74 297 *e*P P 21 41 13.0 +0.7
FRU1 pmax pmax
comp=Z,86nm,1.1s
FRU Bishkek 49.74 297 *e*P P 21 41 11.0 -1.2
FRU *i* 21 41 25.0
FRU pmax pmax
comp=Z,120nm,1.6s
AAK Ala-Archa 49.89 297 P P 21 41 14.0 +0.4
SNR=21
AAK Ala-Archa 49.89 297 *e*P P 21 41 13.9 +0.3
comp=Z,36nm,1.0s
AAK Ala-Archa 49.89 297 *i* P P 21 41 13.6 0.0
SNR=35
AAK Ala-Archa 49.89 297 *i* P P 21 41 13.5 0.0
AAK pmax pmax
comp=Z,6.0nm,0.4s
AAK Ala-Archa 49.89 297 P P 21 41 14.2 +0.7
SNR=11
AAK P P 21 41 14.2 +0.7
SNR=11
KSH Kashi 49.98 293 P P 21 41 18.4 +4.2
KSH sP sP 21 41 31.9 0.0
KSH PcP **PcP** 21 42 35.7 +1.9
KSH S **S** 21 48 26.1 +4.3
KSH SS **SS** 21 51 56.3 +1.5
KSH pmax pmax
comp=Z,21nm,1.1s
KSH pmax pmax
comp=Z,230nm,5.2s
KSH LR LR
comp=Z,170nm,10.9s
KSH LR LR
comp=Z,120nm,9.3s
KSH LR LR
comp=Z,94nm,12.0s
UCH Uchtor 50.02 296 P P 21 41 15.6 +0.7
SNR=16
PKDT Phuket 50.13 243 P P 21 41 17.3 +1.9
comp=Z,29nm,0.8s,comp=Z,343nm
EKS2 Erkin-Say 50.38 297 P P 21 41 17.5 +0.3
SNR=37
KULM Kulim 50.45 239 *e*P P 21 41 18.9 +1.0
comp=Z,22nm,0.9s
KULM Kulim 50.45 239 P P 21 41 19.5 +1.6
DAWY Dawson 50.59 34 *e*P P 21 41 19.7 +1.4
comp=Z,8.1nm,1.1s
AML Almayashu 50.62 297 P P 21 41 19.9 +0.6
SNR=58
IPM Ipoh 50.81 238 *e*P P 21 41 19.5 -1.1
IPM Ipoh 50.81 238 P P 21 41 20.9 +0.3
MYKOM Kota Tinggi 51.07 233 P P 21 41 25.2 +2.7

EPYK Eagle Plains 51.27 31 *e*P P 21 41 25.7 +2.3
comp=Z,40nm,0.8s
EPYK Eagle Plains 51.27 31 P P 21 41 25.7 +2.3
baz=281
SOEI Soe 51.58 203 *e*P P 21 41 25.5 -0.8
comp=Z,92nm,1.3s
INK Inuvik 52.10 28 *e*P P 21 41 31.1 +1.6
INK Inuvik 52.10 28 P P 21 41 30.6 +1.1
comp=Z,13nm,0.8s,baz=286,slow=7.1,SNR=65
HYT Haines Junctio 52.14 38 *e*P P 21 41 33.5 +3.3
comp=Z,62nm,1.2s
KK31 Karatay Array 52.45 299 *e*P P 21 41 32.7 +0.1
comp=Z,61nm,1.1s
KK31 Karatay Array 52.45 299 *e*P P 21 41 32.7 +0.1
KK31 pmax pmax
comp=Z,61nm,1.1s
KKAR Karatay Array 52.45 299 *e*P P 21 41 32.7 +0.1
comp=Z,61nm,1.1s
KKAR Karatay Array 52.45 299 *e*P P 21 41 32.7 +0.1
KKAR pmax pmax
comp=Z,61nm,1.1s
BHK Bhakra 53.08 283 *ex* P 21 41 38.4 +1.0
WHY Whitehorse 53.43 37 *e*P P 21 41 42.5 +2.9
comp=Z,9.8nm,0.8s
PSI Prapat 53.44 238 *e*P P 21 41 40.7 +0.4
comp=Z,18nm,0.9s
PSI Prapat 53.44 238 *e*P P 21 41 40.7 +0.4
PSI pmax pmax
comp=Z,18nm,0.9s
SVE Sverdlovsk 53.79 318 *d i*P P 21 41 42.8 +0.7
SVE pmax pmax
comp=Z,97nm,1.0s
SVE MLR MLR
comp=Z,998nm,17.0s
ARU Arti 55.00 318 *e*P P 21 41 51.1 +0.2
comp=Z,120nm,1.2s
ARU Arti 55.00 318 *c i*P P 21 41 51.1 +0.2
ARU *PP **pP** 21 42 05.5 +2.0
ARU 21 42 51.9
ARU 21 43 51.9
ARU S S 21 49 30.4 +0.8
ARU 21 51 37.1
ARU SS **SS** 21 53 11.8 -1.3
ARU pmax pmax
comp=Z,109nm,1.2s
ARU MLR MLR
comp=Z,825nm,17.0s
UGM Wanagama 55.38 219 *e*P P 21 41 53.4 -0.8
comp=Z,102nm,1.2s
GSI Gunungsitoli 55.45 238 *e*P P 21 41 54.6 -0.2
comp=Z,58nm,1.0s
DLBC Dease Lake 56.49 39 P P 21 42 04.2 +2.5
comp=Z,4.6nm,0.8s,baz=299,slow=13,SNR=5.7
ABKAR Akbulak array 56.88 309 *e*P P 21 42 04.5 +0.1
comp=Z,34nm,0.6s
KBL Kabul 57.11 290 *e*P P 21 42 06.1 -0.5
comp=Z,26nm,0.8s
KBL Kabul 57.11 290 *e*P P 21 42 06.1 -0.5
KBL pmax pmax
comp=Z,26nm,0.8s
HOPEN Hopen 57.94 346 *e*P P 21 42 12.8 +1.3
SPA0 Spitsbergen Ar 58.37 349 *e*P P 21 42 15.4 +0.9
KBS Kingsbay 58.48 350 *e*P P 21 42 16.7 +1.4
comp=Z,36nm,0.9s
KBS Kingsbay 58.48 350 *e*P P 21 42 16.7 +1.4
KBS pmax pmax
comp=Z,36nm,0.9s
HYB Hyderabad 58.82 267 *i* P P 21 42 18.5 -0.1
FITZ Fitzroy Crossi 59.17 198 P P 21 42 20.5 -0.3
comp=Z,7.6nm,0.8s,baz=24,slow=5.0,SNR=7.8
HSPB Hornsund (broa 59.30 348 *e*P P 21 42 22.2 +1.1
WRAB Tennant Creek 59.41 188 *e*P P 21 42 21.6 -0.8
comp=Z,59nm,1.6s
WRAB Tennant Creek 59.41 188 *i* P P 21 42 20.6 -1.8
WRAB pmax pmax
comp=Z,11nm,0.8s
WB2 Warramunga Arr 59.42 188 *e*P P 21 42 21.3 -1.2
WRA Warramunga Arr 59.42 188 *i* P P 21 42 21.7 -0.8
WRA pmax pmax
comp=Z,13nm,0.9s
WRA Warramunga Arr 59.42 188 P P 21 42 21.5 -1.0
comp=Z,12nm,0.9s,baz=6.0,slow=7.0,SNR=80
WRA LR LR 22 08 10.8
comp=Z,28nm,20.8s,baz=0.0,slow=36
WRA PKP2bc 22 12 04.5
comp=Z,1.6nm,1.0s,baz=208,slow=2.5,SNR=4.8
RES Resolute Bay 60.24 15 *e*P P 21 42 28.0 +0.5
comp=Z,18nm,0.9s
RES Resolute Bay 60.24 15 *e*P P 21 42 28.0 +0.5
RES pmax pmax
comp=Z,18nm,0.9s
RES Resolute Bay 60.24 15 P P 21 42 27.7 +0.3
comp=Z,14nm,0.8s,baz=305,slow=6.7,SNR=74
TMCR Tamitsa 60.98 331 *e*P P 21 42 32.7 0.0
TMCR pmax pmax
comp=Z,36nm,1.0s
YKW3 Yellowknife Ar 61.51 31 *e*P P 21 42 37.6 +1.3
YKA Yellowknife Ar 61.55 31 P P 21 42 37.4 +0.9
comp=Z,3.5nm,0.8s,baz=299,slow=6.8,SNR=44
YKB5 Yellowknife Ar 61.55 31 *e*P P 21 42 37.4 +0.8
ARCES ARCESS Array B 62.03 339 P P 21 42 39.6 -0.1
comp=Z,4.3nm,0.7s,baz=40,slow=6.4,SNR=20
ARCES LR LR 22 14 22.7
comp=Z,230nm,18.0s,baz=352,slow=41
ARE0 ARCESS Array S 62.03 339 *e*P P 21 42 40.2 +0.5
KLMR Klimovskoe 62.10 327 *e*P P 21 42 38.9 -1.3
KLMR *e* 21 44 55.7
KLMR pmax pmax
comp=Z,42nm,1.3s
KLMR Klimovskoe 62.10 327 *e*P P 21 42 39.0 -1.3
KLMR AMP 21 42 41.3
comp=Z,42nm,1.2s
KLMR *ePP **PP** 21 44 55.7 -1.1
TULEG Thule 62.75 8 *e*P P 21 42 44.5 +0.2
comp=Z,24nm,0.9s
KTK1 Kautokeino 62.99 339 *e*P P 21 42 46.7 +0.6
KTK1 *epP **sP** 21 43 05.9 +1.9
AS01 Alice Springs 63.14 188 *e*P P 21 42 47.4 -0.2
AS31 Alice Springs 63.14 188 *e*P P 21 42 48.2 +0.6
comp=Z,3.0nm,0.6s
ASAR Alice Springs 63.14 188 P P 21 42 47.4 -0.2
comp=Z,7.2nm,0.8s,baz=12,slow=6.2,SNR=34
ASAR LR LR 22 09 50.7
comp=Z,104nm,21.5s,baz=2.5,slow=36
ASAR PKP2bc 22 11 54.0
comp=Z,1.0nm,0.9s,baz=186,slow=2.7,SNR=5.6
GEYT Alibeck 63.20 298 P P 21 42 48.2 +0.1
comp=Z,20nm,0.9s,baz=35,slow=3.6,SNR=26
GEYT pP **sP** 21 43 05.8 -0.3
comp=Z,10nm,0.8s,baz=60,slow=3.5,SNR=5.8
GYA0B ALIBECK ARRAY 63.20 298 *e*P P 21 42 48.2 +0.1
comp=Z,26nm,1.1s
PALK Pallekele 63.40 257 *e*P P 21 42 48.9 -0.7
comp=Z,14nm,0.9s
PALK Pallekele 63.40 257 *e*P P 21 42 48.9 -0.7
PALK pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 63.52 355⇑ *i*P P 21 42 49.7 +0.2
comp=Z,20nm,0.9s
DAG Danmarks Havn 63.52 355⇑ *i*P P 21 42 49.7 +0.2
DAG pmax pmax
comp=Z,17nm,0.9s
TRO Tromso 63.71 341 *e*P P 21 42 51.0 +0.2
D03D Eldon 65.16 48 P P 21 43 03.4 +2.7
baz=302
DZM Mont Dzumac 65.20 155 *e*S S 21 51 42.2 +0.9
comp=Z,109nm,25.4s
DZM Mont Dzumac 65.20 155 *e*LR LR 22 02 31.4
comp=Z,473nm,23.4s
DZM Mont Dzumac 65.20 155 LR LR 22 08 17.3
comp=Z,245nm,21.5s,baz=11,slow=33
MOS Moscow 65.72 323 *e*P P 21 43 03.3 -0.8
MOS *e* 21 43 20.8
MOS pmax pmax
comp=Z,82nm,1.3s
MOS MLR MLR
comp=Z,400nm,17.0s
MOS MLR MLR
comp=N,300nm,16.0s
MOS MLR MLR
comp=E,300nm,17.0s
STEI Steigen 65.87 341 *e*P P 21 43 05.0 +0.1
E04D Cinebar 65.98 49 P P 21 43 09.2 +3.2
baz=302
VRH Novokhopyorsk 66.23 317 *e*P P 21 43 06.5 -1.0
VRH pmax pmax
comp=Z,50nm,1.2s
VRH MLR MLR
comp=Z,720nm,19.0s
COCO West Island 66.34 229 P P 21 43 09.6 +1.0
OBN Obninsk 66.57 323 *e*P P 21 43 09.4 -0.1
comp=Z,52nm,1.0s
OBN Obninsk 66.57 323⇑ *i*P P 21 43 09.5 -0.1
OBN Obninsk 66.57 323 *c i*P P 21 43 09.5 -0.1
OBN *e*PP **sP** 21 43 27.1 -0.5
OBN *SP **PcP** 21 43 32.0 -6.7
OBN *e* 21 43 36.2
OBN 21 45 37.0
OBN pmax pmax
comp=Z,59nm,1.0s
OBN MLR MLR
comp=Z,387nm,16.0s
LTY Liberty 66.69 47 *e*P P 21 43 12.5 +1.9
comp=Z,40nm,1.8s
B08A Colville Reser 66.84 46 *e*P P 21 43 13.4 +1.8
comp=Z,15nm,1.3s
LPSR Galich'ya Gora 66.88 320 *e*P P 21 43 10.8 -0.8
LPSR pmax pmax
comp=Z,70nm,1.3s
LPSR MLR MLR
comp=Z,450nm,18.0s
J01E Myrtle Point 66.98 52 P P 21 43 15.6 +3.2
baz=303
FIA1 FINESS Array S 67.02 332 *e*P P 21 43 12.4 0.0
comp=Z,45nm,1.0s
FINES FINESS Array B 67.03 332 *i* P P 21 43 12.3 -0.1
FINES pmax pmax
comp=Z,23nm,0.8s
FINES FINESS Array B 67.03 332 P P 21 43 11.9 -0.4
comp=Z,23nm,0.8s,baz=55,slow=7.7,SNR=52
FINES pP **sP** 21 43 29.9 -0.5
comp=Z,14nm,0.6s,baz=54,slow=5.3,SNR=8.8
FINES LR LR 22 14 44.4
comp=Z,359nm,19.2s,baz=42,slow=38
I03D Drain, OR 67.05 52 P P 21 43 15.4 +2.5
baz=303
MOR8 Moi Rana 67.39 340 *e*P P 21 43 13.5 -1.2
MAK Makhachkala 67.46 308 *e*P P 21 43 16.8 +1.3
MAK *eS **S** 21 52 10.5 +2.2
MAK pmax pmax
comp=Z,51nm,0.8s
KONS Konsvik 67.49 340 *e*P P 21 43 15.3 +0.1
VSR Storozhevoye 67.55 318 *c i*P P 21 43 15.8 -0.1
VSR pmax pmax
comp=Z,46nm,1.1s
I04A Tendick Farm, 67.57 51 P P 21 43 17.8 +1.5
baz=304
L02E Cave Junction 67.74 53 P P 21 43 19.6 +2.4
baz=304
C09A Chrisman Ranch 67.74 46 *e*P P 21 43 18.1 +0.9
comp=Z,12nm,0.9s
D08A Wollman Farm, 67.80 47 *e*P P 21 43 17.4 -0.2
comp=Z,6.9nm,0.8s
HUMO Hull Mountain 67.89 53 *e*P P 21 43 18.8 +0.6
comp=Z,10.0nm,1.4s
J04D Umpqua Nationa 68.06 52 P P 21 43 21.8 +2.2
baz=304
NEW Newport 68.11 45 *e*P P 21 43 20.7 +1.1
comp=Z,14nm,1.3s
NEW Newport 68.11 45 *e*P P 21 43 20.7 +1.1
NEW pmax pmax
comp=Z,14nm,1.3s
NEW Newport 68.11 45 P P 21 43 21.0 +1.4
baz=305
NEW Newport 68.11 45 P P 21 43 20.3 +0.7
comp=Z,5.6nm,0.8s,baz=307,slow=5.5,SNR=10
GROC Groznyy 68.37 309 *e*P P 21 43 19.4 -1.8
GROC *ePP **pP** 21 43 32.4 -1.7
GROC *eSP **sP** 21 43 37.7 -1.5
GROC *e* 21 43 44.1
GROC *e* 21 45 50.5
GROC *eSS **sS** 21 52 41.0 0.0
GROC pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 68.38 0 *e*P P 21 43 22.3 +1.0
comp=Z,27nm,1.0s
SUMG Summit 68.38 0⇑ *i*P P 21 43 22.3 +1.0
comp=Z,64nm,1.0s
SUMG Summit 68.38 0⇑ *i*P P 21 43 22.3 +1.0
SUMG pmax pmax
comp=Z,64nm,1.0s
PINE Pine Mountain 68.45 51 *e*P P 21 43 24.8 +2.8
comp=Z,18nm,0.8s
L04D Klamath Falls 68.51 53 P P 21 43 24.1 +1.9
baz=304
YBH Yreka Blue Hor 68.53 53 P P 21 43 24.5 +2.2
comp=Z,2.2nm,0.7s,baz=343,slow=5.0,SNR=7.9
J05D Fort Rok, OR 68.56 51 P P 21 43 24.9 +2.3
baz=304
M02C Callahan 68.63 54 P P 21 43 25.5 +2.5
baz=304
VSU Vasula 68.74 329 *e*P P 21 43 23.1 -0.1
VSU IAmb IAmb 21 43 24.1
comp=Z,88nm,0.8s
N02D Trinity Center 68.95 54 P P 21 43 27.4 +2.4
baz=304
M04C Macdoel 69.04 53 P P 21 43 28.0 +2.5
baz=304
WDC Whiskeytown Da 69.28 54 *e*P P 21 43 29.2 +2.3
comp=Z,19nm,1.4s
WDC Whiskeytown Da 69.28 54 *e*P P 21 43 29.2 +2.3
WDC pmax pmax
comp=Z,19nm,1.4s
NSS Namsos 69.31 339 *e*P P 21 43 27.5 +0.9
O02D Mt. Diablo Mer 69.35 55 P P 21 43 29.5 +2.1
baz=305
WALA Waterton Lakes 69.38 43 *e*P P 21 43 28.9 +1.3
comp=Z,4.7nm,0.8s
NCK Nalchik 69.53 310⇓ *i*P P 21 43 29.0 +0.6
NCK pmax pmax
comp=Z,28nm,1.2s
ZEI Tsey 69.75 309 *e*P P 21 43 27.1 -3.0
ZEI pmax pmax
comp=Z,20nm,1.1s
KIV Kislovodsk 69.80 311 *e*P P 21 43 30.8 +0.6
comp=Z,314nm,1.1s
KIV Kislovodsk 69.80 311⇑ *i*P P 21 43 30.8 +0.6
KIV Kislovodsk 69.80 311 *i* P P 21 43 30.7 +0.6
SNR=52
KIV Kislovodsk 69.80 311 *e*P P 21 43 30.8 +0.6
KIV pmax pmax
comp=Z,300nm,1.1s
KIV Kislovodsk 69.80 311 P P 21 43 30.8 +0.6
SNR=23
KIV P P 21 43 30.8 +0.6
SNR=23
KBZ Khabaz 69.81 310 P P 21 43 30.1 +0.1
comp=Z,24nm,0.9s,baz=60,slow=5.4,SNR=43
KBZ LR LR 22 19 03.4
comp=Z,153nm,18.6s,baz=46,slow=40
TBLG Delisi 69.85 308 *e*P P 21 43 31.3 +0.9
comp=Z,28nm,1.1s
SCO Scoresbysund 69.87 354 *e*P P 21 43 31.1 +1.1
comp=Z,14nm,1.1s
SCO Scoresbysund 69.87 354⇑ *i*P P 21 43 30.8 +0.8
comp=Z,12nm,1.1s
SCO Scoresbysund 69.87 354⇑ *i*P P 21 43 30.8 +0.8
SCO pmax pmax
comp=Z,12nm,1.1s
O03E Paynes Creek 69.90 54 P P 21 43 32.3 +1.4
baz=305
MOD Modoc Plateau 69.91 52 *e*P P 21 43 33.2 +2.2
comp=Z,9.1nm,1.1s
BMO Blue Mountains 69.98 48 *e*P P 21 43 33.0 +1.7
comp=Z,9.0nm,1.3s
BMO Blue Mountains 69.98 48 *e*P P 21 43 33.0 +1.7
BMO pmax pmax
comp=Z,9.0nm,1.3s
J08A Circle Bar Ran 70.17 50 *e*P P 21 43 34.9 +2.4
comp=Z,16nm,1.3s
NEY Neytrino 70.19 310⇑ *i*P P 21 43 34.0 +1.3
NEY pmax pmax
comp=Z,4.0nm,1.0s
WVOR Wild Horse Val 70.61 51 *e*P P 21 43 37.0 +1.7
comp=Z,15nm,1.2s
WVOR Wild Horse Val 70.61 51 *e*P P 21 43 37.0 +1.7
WVOR pmax pmax
comp=Z,15nm,1.2s
IZAR Zarasai 70.75 327 *e*P P 21 43 35.9 +0.2
IZAR IAmb IAmb 21 43 36.6
comp=Z,9.5nm,0.6s
GNI Garni 70.76 306 *e*P P 21 43 36.5 +0.2
comp=Z,28nm,1.1s

GNI **Garni** 70.76 306 P P 21 43 37.2 +1.0
GNI **Garni** 70.76 306*c* *i*P P 21 43 37.4 +1.2
GNI pmax pmax
comp=Z,75nm,1.4s
GNI **Garni** 70.76 306 P P 21 43 36.7 +0.5
GNI P P 21 43 36.7 +0.5
IDID **Didziasalis** 70.84 327 *e*P P 21 43 36.5 +0.3
IDID IAmb IAmb 21 43 38.1
comp=Z,15nm,1.0s
MICGM **Minsk** 70.89 326 *e* P 21 43 36.0 -0.5
MNK **Minsk** 70.89 326 *e*P P 21 43 36.0 -0.5
BANOM **Banah** 70.98 288 P P 21 43 38.2 +0.5
SHME **Shamm** 71.03 288 P P 21 43 37.1 -0.8
IIGN **Ignalina** 71.03 327 *e*P P 21 43 37.8 +0.4
IIGN IAmb IAmb 21 43 39.4
comp=Z,19nm,1.0s
SLIT **Slitere, Latvi** 71.04 330 *e*P P 21 43 36.7 -0.6
SLIT IAmb IAmb 21 43 37.7
comp=Z,237nm,0.9s
BEKR **Beckworth** 71.05 54 *e*P P 21 43 39.9 +1.8
comp=Z,21nm,1.2s
MSFE **Esma-Masafi** 71.41 288 P P 21 43 40.7 +0.5
FFC **Flin Flon** 71.48 33 *e*P P 21 43 41.0 +0.9
comp=Z,17nm,0.8s
FFC **Flin Flon** 71.48 33 *i* P P 21 43 41.2 +1.1
UMQ **Umm Al-Quwin** 71.68 288 P P 21 43 41.1 -0.6
FCC **Fort Churchill** 71.70 27 *e*P P 21 43 41.7 +0.4
comp=Z,21nm,1.1s
FCC **Fort Churchill** 71.70 27 *e*P P 21 43 41.7 +0.4
FCC pmax pmax
comp=Z,21nm,1.1s
HATD **Hatta, Dubai** 71.74 287 P P 21 43 42.7 +0.5
HATD **Hatta, Dubai** 71.74 287 P P 21 43 42.6 +0.5
PAHR **Pah Rah Range** 71.76 53 *e*P P 21 43 44.7 +2.5
comp=Z,28nm,1.4s
BATM **Batumi** 71.78 309⇑ *i*P P 21 43 42.6 +0.5
SOHO **SOHO** 71.84 287 P P 21 43 42.8 0.0
BCA **Borcka** 71.91 309⇓ *i*P P 21 43 43.5 +0.5
HRY **Holter Researc** 71.92 44 *e*P P 21 43 45.1 +2.0
NAZ **Nazwa, Dubai** 71.99 288 P P 21 43 43.8 +0.1
NC405 **NORSAR Array S** 72.06 337 *e*P P 21 43 43.8 +0.3
comp=Z,46nm,1.3s
NC303 **NORSAR Array S** 72.07 337 *e*P P 21 43 44.1 +0.5
comp=Z,20nm,1.0s
DOMB **Dombas** 72.09 339 *e*P P 21 43 44.1 +0.5
DOMB *e*pP **sP** 21 44 03.6 +1.9
CMB **Columbia Colle** 72.11 55 *e*P P 21 43 46.3 +2.1
comp=Z,16nm,1.1s
CMB **Columbia Colle** 72.11 55 *e*P P 21 43 46.3 +2.1
CMB pmax pmax
comp=Z,16nm,1.1s
LRM **Limekiln Ridge** 72.14 45 *e*P P 21 43 39.2 -5.3
FAQ **Al Faqa, Dubai** 72.19 288 P P 21 43 44.9 +0.1
EGMT **Eagleton** 72.20 42 *e*P P 21 43 46.0 +1.3
comp=Z,26nm,1.0s
EGMT **Eagleton** 72.20 42 P P 21 43 45.8 +1.1
baz=310
NC204 **NORSAR Array S** 72.21 338 *e*P P 21 43 44.9 +0.4
comp=Z,40nm,0.9s
NB201 **NORSAR Array S** 72.23 337 *e*P P 21 43 44.9 +0.3
comp=Z,60nm,1.4s
NB2 **NORSAR Subarra** 72.27 337 P P 21 43 44.5 -0.3
comp=Z,27nm,1.0s,baz=35,slow=5.9
NB2 **NORSAR Subarra** 72.27 337 P P 21 43 44.5 -0.3
baz=35,slow=5.9
NOA **NORSAR Array B** 72.27 337 P P 21 43 44.8 +0.1
comp=Z,12nm,0.9s,baz=38,slow=6.0,SNR=38
NOA LR LR 22 18 10.9
comp=Z,247nm,21.8s,baz=30,slow=38
PBUR **Paburg** 72.32 329 *e*P P 21 43 45.3 +0.2
PBUR IAmb IAmb 21 43 46.6
comp=Z,33nm,0.8s
DLMT **Dillon** 72.34 46 *e*P P 21 43 47.8 +2.1
comp=Z,10nm,0.8s
NBO00 **NORSAR Array S** 72.40 337 *e*P P 21 43 46.0 +0.5
comp=Z,27nm,1.0s
NC602 **NORSAR Array S** 72.41 337 *e*P P 21 43 45.4 -0.2
HLID **Hailey** 72.42 48 *e*P P 21 43 48.3 +2.1
comp=Z,7.9nm,1.2s
HLID **Hailey** 72.42 48 P P 21 43 47.9 +1.7
baz=308
ASUD **Al Ashush, Dub** 72.45 288 P P 21 43 47.1 +0.7
ALNE **Al Ain** 72.47 287 *i* P P 21 43 47.0 +0.5
SNR=5.8
BOZ **Bozeman (W)** 72.72 45 *e*P P 21 43 49.9 +2.0
comp=Z,11nm,0.8s
BOZ **Bozeman (W)** 72.72 45 P P 21 43 49.4 +1.4
baz=309
AKASG **Malin Array Be** 72.80 322 *i* P P 21 43 47.9 -0.1
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG **Malin Array Be** 72.80 322 P P 21 43 47.5 -0.5
comp=Z,6.7nm,0.5s,baz=45,slow=6.4,SNR=64
AKASG LR LR 22 18 46.2
comp=Z,123nm,18.9s,baz=270,slow=38
AKBB **Malin Array Si** 72.80 322 *e*P P 21 43 47.9 -0.2
comp=Z,31nm,0.9s
KIEV **Kiev** 72.81 322 *e*P P 21 43 47.7 -0.4
comp=Z,32nm,1.0s
KIEV **Kiev** 72.81 322⇑ *i*P P 21 43 48.0 -0.1
KIEV **Kiev** 72.81 322 *i* P P 21 43 48.0 -0.1
SNR=16
KIEV **Kiev** 72.81 322*c* *i*P P 21 43 47.9 -0.1
KIEV pmax pmax
comp=Z,39nm,1.1s
AK11 **Malin Array Si** 72.84 322 *e*P P 21 43 48.0 -0.3
KVN **Kaiserville** 72.95 53 *e*P P 21 43 47.7 -1.7
comp=Z,19nm,1.1s
KVN **Kaiserville** 72.95 53 *e*P P 21 43 47.7 -1.7
KVN pmax pmax
comp=Z,19nm,1.1s
SUW **Suwalki** 73.23 327 *e*P P 21 43 50.7 +0.2
SUW **Suwalki** 73.23 327 *e*P P 21 43 50.6 +0.2
SUW **Suwalki** 73.23 327 *e*P P 21 43 50.7 +0.2
YHB **Horse Butte** 73.50 45 *e*P P 21 43 54.9 +2.3
comp=Z,9.0nm,1.0s
SFJD **Kangerlussuaq** 73.54 5 *e*P P 21 43 52.9 +0.8
comp=Z,82nm,1.8s
SFJD **Kangerlussuaq** 73.54 5 *i* P P 21 43 52.7 +0.6
comp=Z,15nm,1.0s
SFJD **Kangerlussuaq** 73.54 5 *i* P P 21 43 52.7 +0.6
SFJD pmax pmax
comp=Z,15nm,1.0s
PAGB **Antelope Grade** 73.56 57 *e*P P 21 43 52.5 -0.3
comp=Z,19nm,0.9s
YHH **Holmes Hill** 73.66 45 *e*P P 21 43 55.8 +2.1
comp=Z,8.5nm,1.1s
ELK **Elko** 73.67 51 *e*P P 21 43 54.6 +0.9
comp=Z,14nm,1.6s
ELK **Elko** 73.67 51 *e*P P 21 43 54.6 +0.9
ELK pmax pmax
comp=Z,14nm,1.6s
GCMT **Greycliff** 73.67 44 *e*P P 21 43 55.6 +2.2
YMR **Madison River** 73.68 45 *e*P P 21 43 54.1 +0.5
comp=Z,55nm,1.8s
SIRT **Sirnak** 73.78 305 *e*P P 21 43 54.6 +0.4
comp=Z,101nm,1.1s
KONO **Kongsberg** 73.86 337 *e*P P 21 43 55.0 +0.8
YFT **Old Faithful** 73.89 45 *e*P P 21 43 56.8 +1.9
comp=Z,9.3nm,0.9s
YPP **Pitchstone Pla** 74.02 46 *e*P P 21 43 55.6 -0.1
comp=Z,20nm,1.7s
SIM **Simferopol'** 74.06 315*c* *i*P P 21 43 55.5 -0.1
SIM pmax pmax
comp=Z,46nm,1.2s
SIM MLR MLR
comp=Z,300nm,19.2s
H17A **Grant Village** 74.06 45 *e*P P 21 43 59.4 +3.4
comp=Z,16nm,1.1s
H17A **Grant Village** 74.06 45 P P 21 43 59.4 +3.4
baz=310
IMW **Indian Meadow** 74.18 46 *e*P P 21 43 59.4 +2.7
comp=Z,7.1nm,0.8s
FLWY **Flagg Ranch** 74.20 46 *e*P P 21 43 59.6 +3.0
comp=Z,38nm,1.8s
FXWY **Fox Creek** 74.30 46 *e*P P 21 43 59.9 +2.6
comp=Z,12nm,1.1s
RLMT **Red Lodge** 74.31 44 *e*P P 21 43 59.1 +1.8
comp=Z,28nm,1.6s
RLMT **Red Lodge** 74.31 44 P P 21 43 59.1 +1.8
baz=310
MOOW **Moose Ponds** 74.38 46 *e*P P 21 43 59.8 +2.0
comp=Z,8.5nm,1.1s
HVU **Hansel Valley** 74.48 49 *e*P P 21 44 00.7 +2.4
comp=Z,8.2nm,1.0s
CWC **Cottonwood Cre** 74.54 56 P P 21 44 00.5 +1.8
baz=308
LOHW **Long Hollow** 74.55 46 *e*P P 21 44 00.2 +1.4
comp=Z,16nm,1.7s
REDW **Red Top Meadow** 74.57 46 *e*P P 21 44 01.4 +2.5
comp=Z,12nm,1.1s
DGMT **Dagmar** 74.71 39 *e*P P 21 44 00.6 +1.3
comp=Z,18nm,0.9s
DGMT **Dagmar** 74.71 39 P P 21 44 00.5 +1.2
baz=313
ISA **Isabella, Lake** 74.76 56 *e*P P 21 43 59.5 -0.4
comp=Z,6.3nm,1.1s
ISA **Isabella, Lake** 74.76 56 P P 21 44 01.1 +1.2
baz=308
BGU **Big Grassy Mou** 74.86 49 *e*P P 21 44 01.1 +0.5
comp=Z,14nm,1.5s
R11A **Troy Canyon, C** 74.93 53 *e*P P 21 44 02.7 +1.7
comp=Z,18nm,1.2s
R11A **Troy Canyon, C** 74.93 53 P P 21 44 02.8 +1.8
baz=308
DAC **Darwin (Calif)** 74.95 55 *e*P P 21 43 59.1 -2.0
comp=Z,11nm,1.1s
DAC **Darwin (Calif)** 74.95 55 *e*P P 21 43 59.1 -2.0
DAC pmax pmax
comp=Z,11nm,1.1s
SPUT **South Promonto** 74.96 49 *e*P P 21 44 01.6 +0.5
comp=Z,14nm,1.3s
BLS5 **Blasjo** 74.97 338 *e*P P 21 44 01.4 +0.8
MPMC **Manual Prospec** 75.15 56 P P 21 44 03.9 +1.6
baz=308
HWUT **Hardware Ranch** 75.29 48 *e*P P 21 44 05.3 +2.4
comp=Z,17nm,1.3s
FURC **Furnace Creek,** 75.30 55 P P 21 44 05.0 +2.2
baz=308
TPNV **Topopah Spring** 75.39 54 *e*P P 21 44 05.6 +2.0
comp=Z,25nm,1.1s
TPNV **Topopah Spring** 75.39 54 P P 21 44 05.8 +2.2
baz=308
DUG **Dugway, Tooele** 75.45 50 *e*P P 21 44 05.6 +1.7
comp=Z,17nm,1.1s
DUG **Dugway, Tooele** 75.45 50 *e*P P 21 44 05.6 +1.7
DUG pmax pmax
comp=Z,17nm,1.1s
DUG **Dugway, Tooele** 75.45 50 P P 21 44 05.8 +1.8
baz=310
KIS **Kishinev** 75.48 319 *e*P P 21 44 02.0 -1.8
KIS *e*L L 22 11 36.0
KIS LRM MLR 22 19 44.0
comp=Z,500nm,18.0s
KIS **Kishinev** 75.48 319 *e*P P 21 44 02.0 -1.8
KIS *e* 21 44 23.0
KIS *e* 21 44 27.0
KIS MLR MLR
comp=Z,500nm,18.0s
EDW2 **Edwards Air Fo** 75.54 57 P P 21 44 06.2 +1.8
baz=308
BSD **Bornholm Skovb** 75.67 332⇑ *i*P P 21 44 04.6 0.0
comp=Z,35nm,1.0s
BSD **Bornholm Skovb** 75.67 332⇑ *i*P P 21 44 04.6 0.0
BSD pmax pmax
comp=Z,35nm,1.0s
BW06 **Boulder Array** 75.68 46 *e*P P 21 44 06.4 +1.1
comp=Z,32nm,1.7s
BW06 **Boulder Array** 75.68 46 P P 21 44 06.3 +1.1
baz=311
PD31 **Pinedale Array** 75.68 46 *e*P P 21 44 06.7 +1.4
comp=Z,29nm,1.7s
PDAR **Pinedale Array** 75.68 46 P P 21 44 06.4 +1.1
comp=Z,3.0nm,0.8s,baz=266,slow=2.7,SNR=28
TCUT **Toone Canyon** 75.69 48 *e*P P 21 44 08.1 +2.7
comp=Z,81nm,1.7s
BEL **Belsk** 75.81 327 *e*P P 21 44 06.3 +0.8
BEL **Belsk** 75.81 327 *e*P P 21 44 06.3 +0.8
LVV **L'vov** 75.83 324 *e*P P 21 44 06.0 +0.3
LVV *e*S S 21 53 49.1 +4.7
LVV MLR MLR
comp=N,200nm,16.0s
LVV MLR MLR
comp=E,300nm,16.0s
LVV MLR MLR
comp=Z,300nm,16.0s
PSUT **Pine Spring** 75.88 52 *e*P P 21 44 08.7 +2.2
comp=Z,16nm,1.2s
JLU **Jordanelle** 76.00 49 *e*P P 21 44 09.3 +2.1
comp=Z,11nm,1.2s
GSC **Goldstone, Bar** 76.05 56 *e*P P 21 44 10.7 +3.4
comp=Z,15nm,1.3s
GSC **Goldstone, Bar** 76.05 56 P P 21 44 09.0 +1.6
baz=309
COP **Copenhagen** 76.11 333 *i* P P 21 44 07.8 +0.7
comp=Z,24nm,0.8s
COP **Copenhagen** 76.11 333 *i* P P 21 44 07.8 +0.7
COP pmax pmax
comp=Z,24nm,0.8s
GKP **Gorka Klasztor** 76.19 329 *e*P P 21 44 08.0 +0.3
GKP **Gorka Klasztor** 76.19 329 *e*P P 21 44 08.0 +0.3
MPU **Maple Canyon** 76.27 49 *e*P P 21 44 10.9 +2.3
comp=Z,15nm,1.1s
SHPR **Sheep Range** 76.34 54 *e*P P 21 44 11.5 +2.4
comp=Z,16nm,1.1s
TUQ **Turquoise Moun** 76.53 55 P P 21 44 11.9 +1.8
baz=309
KWP **Kalwaria Pacla** 76.57 324 *e*P P 21 44 10.8 +0.8
KWP **Kalwaria Pacla** 76.57 324 *e*P P 21 44 10.7 +0.8
comp=Z,676nm,1.1s
KWP **Kalwaria Pacla** 76.57 324 *e*P P 21 44 10.7 +0.8
KWP pmax pmax
comp=Z,676nm,1.1s
MUD **Monsted U'grnd** 76.58 335 *i* P P 21 44 09.0 -0.8
MUD **Monsted U'grnd** 76.58 335 *e*P P 21 44 09.0 -0.8
CCUT **Cedar City** 76.80 52 *e*P P 21 44 14.0 +2.3
comp=Z,15nm,1.1s
ILGA **Ilgaz** 76.81 313 *e*P P 21 44 13.4 +1.7
comp=Z,37nm,1.0s
BUR08 **Bucovina Ar. S** 76.82 322 *e*P P 21 44 12.1 +0.6
comp=Z,19nm,1.0s
BURAR **Bucovina Array** 76.83 322⇑ *i*P P 21 44 12.0 +0.4
BIZ **Bicaz** 76.88 321⇓ *i*P P 21 44 12.3 +0.6
TESR **Tescani** 76.90 320⇑ *i*P P 21 44 12.2 +0.3
MSU **Marysvale** 76.91 51 *e*P P 21 44 15.0 +2.7
TMUT **Trail Mountain** 76.98 50 *e*P P 21 44 15.3 +2.5
comp=Z,111nm,1.1s
CFR **Carcaliu** 77.07 318⇑ *i*P P 21 44 12.7 -0.1
GMRC **Granite Mounta** 77.11 56 P P 21 44 14.9 +1.5
baz=309
P17A **Butcher Ranch,** 77.14 49 *e*P P 21 44 15.8 +2.2
comp=Z,37nm,1.3s
PETR **Petresti** 77.16 319⇑ *i*P P 21 44 14.9 +1.6
MTPU **Mount Pierson** 77.20 51 *e*P P 21 44 16.9 +2.7
comp=Z,15nm,1.1s
LCMT **Little Creek M** 77.22 53 *e*P P 21 44 16.5 +2.6
comp=Z,19nm,1.1s
ODBI **Odobesti** 77.22 319⇑ *i*P P 21 44 15.4 +1.8
Q16A **Castle Valley** 77.25 50 *e*P P 21 44 16.5 +2.3
Q16A *e*PcP **pP** 21 44 30.1 +2.9
ULM **Lac du Bonnet** 77.29 34 *e*P P 21 44 14.4 +0.5
ULM **Lac du Bonnet** 77.29 34 P P 21 44 14.2 +0.2
comp=Z,8.6nm,0.8s,baz=316,slow=7.0,SNR=18
VRI **Vrincioaia** 77.31 320⇓ *i*P P 21 44 15.5 +1.3
PFO **Pinyon Flats O** 77.33 57 P P 21 44 15.9 +1.2
baz=309
PFO **Pinyon Flats O** 77.33 57 LR LR 22 10 26.5
comp=Z,114nm,19.9s,baz=311,slow=29
MDND **Maddock** 77.35 37 *e*P P 21 44 16.1 +1.8
MDND *e*PcP **pP** 21 44 29.2 +1.8
MDND **Maddock** 77.35 37 P P 21 44 16.2 +1.8
baz=316
PLOR **Plostina** 77.36 320⇓ *i*P P 21 44 14.9 +0.4
BELC **Belle Mtn. Jos** 77.38 56 P P 21 44 16.0 +1.1
baz=309
OJC **Ojcow** 77.42 326 *e*P P 21 44 15.3 +0.7
OJC **Ojcow** 77.42 326 *e*P P 21 44 15.4 +0.7
comp=Z,47nm,1.0s
OJC **Ojcow** 77.42 326 *e*P P 21 44 15.4 +0.7
TIRR **Tirgusor** 77.42 318⇓ *i*P P 21 44 14.7 -0.1
K22A **Casper** 77.43 45 P P 21 44 16.8 +1.7
baz=312
KNB **Kanab** 77.47 52 *e*P P 21 44 18.0 +2.6
comp=Z,23nm,1.2s
UZH **Uzhgorod** 77.48 324 *e*P P 21 44 13.4 -1.6
UZH *i* 21 44 28.8
UZH *i* 21 44 35.0
SRU **San Rafael Swe** 77.50 50 *e*P P 21 44 17.3 +1.7
comp=Z,12nm,0.8s
SRU **San Rafael Swe** 77.50 50 *e*P P 21 44 17.3 +1.7
SRU pmax pmax
comp=Z,12nm,0.8s
TLB **Topalu** 77.53 318⇑ *i*P P 21 44 15.8 +0.4
ARCR **ARCALIA** 77.62 322⇑ *i*P P 21 44 16.4 +0.5
OZUR 77.62 320⇑ *i*P P 21 44 17.2 +1.3
BR131 **Keskin Array S** 77.72 312 *e*P P 21 44 17.1 +0.4
comp=Z,12nm,1.1s
BR131 **Keskin Array S** 77.72 312 P P 21 44 16.9 +0.2
BRTR **Keskin Array B** 77.72 312 P P 21 44 16.9 +0.2
comp=Z,5.0nm,0.8s,baz=90,slow=3.7,SNR=22
BRTR PP PP 21 47 13.0 +1.1
comp=Z,1.8nm,0.9s,baz=72,slow=4.0,SNR=3.7
BRTR LR LR 22 23 04.9
comp=Z,116nm,18.9s,baz=50,slow=39
TRPA **Tarpa** 77.73 323⇑ *e*P P 21 44 17.0 +0.6
NIE **Niedzica** 77.80 325 *e*P P 21 44 18.0 +1.2
NIE **Niedzica** 77.80 325 *e*P P 21 44 18.0 +1.2
IRM **Iron Mountain** 77.83 56 P P 21 44 18.9 +1.6
baz=310
DOPR **Dopca** 77.91 320⇑ *i*P P 21 44 18.7 +1.2
ISR **Istrita** 77.93 319⇑ *i*P P 21 44 18.8 +1.1
MLR **Muntele Rosu** 77.97 320 *e*P P 21 44 18.2 +0.2
comp=Z,23nm,1.3s
MLR **Muntele Rosu** 77.97 320⇓ *i*P P 21 44 18.5 +0.5
MLR **Muntele Rosu** 77.97 320 *e*P P 21 44 18.2 +0.2
MLR pmax pmax
comp=Z,23nm,1.3s
ICOR **Ion Corvin** 77.98 318⇑ *i*P P 21 44 18.9 +1.0
RUE **Ruedersdorf** 78.14 331 *e*P P 21 44 19.7 +1.1
comp=Z,33nm,0.9s,baz=36,slow=5.3
RUE **Ruedersdorf** 78.14 331 *e*P P 21 44 18.4 -0.2
BR231 **Keskin MP Arra** 78.14 312 *e*P P 21 44 20.1 +1.0
comp=Z,25nm,1.0s
O20A **White River Ci** 78.16 48 *e*P P 21 44 20.6 +1.3
O20A *e*PcP **pP** 21 44 33.9 +1.7
BSEG **Bad Segeberg** 78.24 333 *e*P P 21 44 20.2 +1.1
comp=Z,36nm,1.1s,baz=36,slow=5.3
CJR **Cluj-Napoca** 78.25 322⇓ *i*P P 21 44 20.5 +1.1
LANS **Liptovska Anna** 78.36 326 *e*P P 21 44 21.3 +1.3
LANS **Liptovska Anna** 78.36 326 *e*P P 21 44 21.3 +1.3
PDMCI **Parker Dam,Lak** 78.38 55 P P 21 44 22.1 +1.8
baz=310
OKC **Ostrava-Krasne** 78.41 327 *e*P P 21 44 20.8 +0.6
OKC *ex* x 21 44 35.3
OKC AMS AMS 22 21 30.0
comp=Z,300nm,14.5s
OKC **Ostrava-Krasne** 78.41 327 *e*P P 21 44 20.8 +0.6
OKC *e* 21 44 35.3
OKC MLR MLR
comp=Z,300nm,14.5s
KSP **Ksiaz** 78.42 328 *e*P P 21 44 21.1 +0.8
KSP **Ksiaz** 78.42 328 *e*P P 21 44 21.0 +0.8
VOIR 78.45 320⇓ *i*P P 21 44 21.3 +0.7
ARR **Arges** 78.71 320⇓ *i*P P 21 44 23.3 +1.3
MORC **Moravsky Berou** 78.72 327 *e*P P 21 44 22.0 0.0
comp=Z,20nm,0.9s
MORC **Moravsky Berou** 78.72 327⇑ *i*P P 21 44 21.9 0.0
MORC **Moravsky Berou** 78.72 327 *e*P P 21 44 22.0 0.0
MORC pmax pmax
comp=Z,20nm,0.9s
MORC **Moravsky Berou** 78.72 327 *e*P P 21 44 22.5 +0.6
PV09 **Paradox Valley** 78.72 49 *e*P P 21 44 24.7 +2.1
AGMN **Agassiz Nation** 78.74 35 *e*P P 21 44 22.6 +0.6
comp=Z,9.2nm,0.8s
AGMN **Agassiz Nation** 78.74 35 P P 21 44 22.7 +0.6
baz=318
PV21 **Cone Mtn., Par** 78.78 49 *e*P P 21 44 24.9 +2.1
comp=Z,24nm,1.1s
DPC **Dobruska-Polom** 78.79 328 *e*P P 21 44 23.5 +1.2
DPC *ex* x 21 44 37.2
DPC AMS AMS 22 21 50.0
comp=Z,300nm,17.2s
DPC **Dobruska-Polom** 78.79 328 *e*P P 21 44 23.5 +1.2
DPC *e* 21 44 37.2
DPC MLR MLR
comp=Z,300nm,17.2s
UPC **Upice** 78.79 328 *e*P P 21 44 23.2 +0.9
UPC *e*PCP **PcP** 21 44 29.5 -1.5
UPC AMS AMS 22 21 50.0
comp=Z,400nm,15.6s
UPC **Upice** 78.79 328 *e*P P 21 44 23.2 +0.9
UPC *e* 21 44 29.5
UPC MLR MLR
comp=Z,400nm,15.6s
KRLC **Kraliky** 78.81 328 *e*P P 21 44 23.3 +0.9
KRLC *ex* x 21 44 36.4
KRLC **Kraliky** 78.81 328 *e*P P 21 44 23.3 +0.9
KRLC *e* 21 44 36.4
PV23 **Carpenter Ridg** 78.83 49 *e*P P 21 44 25.1 +2.1
comp=Z,26nm,1.0s
HLG **Helgoland** 78.87 335 *e*P P 21 44 23.5 +0.9
baz=36,slow=5.3
PV14 **Lion Creek, Pa** 78.87 49 *e*P P 21 44 25.3 +2.0
comp=Z,40nm,1.2s
PV20 **West Nyswonger** 78.92 49 *e*P P 21 44 25.7 +2.2
comp=Z,32nm,1.1s
PV04 **Paradox Valley** 78.93 49 *e*P P 21 44 25.3 +1.8
comp=Z,26nm,1.1s
N23A **Red Feather La** 78.94 46 *e*P P 21 44 25.9 +2.2
comp=Z,23nm,1.1s
N23A **Red Feather La** 78.94 46 P P 21 44 25.6 +2.0
baz=313
PV17 **East Wray Mesa** 78.97 49 *e*P P 21 44 25.9 +2.1
comp=Z,34nm,1.0s
PV16 **Nyswonger Mesa** 78.98 49 *e*P P 21 44 25.8 +2.0
comp=Z,20nm,1.0s
PV11 **David Mesa, Pa** 79.01 49 *e*P P 21 44 26.1 +2.2
comp=Z,37nm,1.2s
PV05 **Paradox Valley** 79.02 50 *e*P P 21 44 26.3 +2.3
comp=Z,47nm,1.2s
PV12 **Saucer Basin,** 79.04 49 *e*P P 21 44 26.3 +2.2
comp=Z,37nm,1.4s
PV03 **Paradox Valley** 79.05 49 *e*P P 21 44 26.2 +2.0
comp=Z,28nm,1.3s
PSZ **Piszkesteto** 79.09 325 *e*P P 21 44 24.0 0.0
comp=Z,27nm,1.1s
PSZ **Piszkesteto** 79.09 325⇓ *i*P P 21 44 24.8 +0.8
PSZ **Piszkesteto** 79.09 325 *e*P P 21 44 24.0 0.0
PSZ pmax pmax
comp=Z,27nm,1.1s
PSZ **Piszkesteto** 79.09 325⇑ *e*P P 21 44 24.1 0.0
VYHS **Vyhne** 79.13 325 *e*P P 21 44 25.0 +0.8
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS **Vyhne** 79.13 325 *e*P P 21 44 25.0 +0.8
VYHS *e*PP **PP** 21 47 20.2 -3.0
HUMR **Humele** 79.13 320⇓ *i*P P 21 44 24.5 +0.3
PV13 **Radium Mtn., P** 79.13 49 *e*P P 21 44 26.7 +2.0
comp=Z,42nm,1.3s
PV02 **Paradox Valley** 79.15 49 *e*P P 21 44 27.3 +2.5
PV01 **Paradox Valley** 79.30 49 *e*P P 21 44 27.6 +2.0
WUAZ **Wupatki** 79.33 53 *e*P P 21 44 27.7 +2.0
comp=Z,15nm,1.0s
WUAZ **Wupatki** 79.33 53 P P 21 44 28.1 +2.3
baz=311
BRG **Berggiesshubel** 79.34 330 *e*P P 21 44 25.6 +0.4
comp=Z,17nm,1.0s
comp=N,330nm,17.3s
comp=E,103nm,16.6s
comp=Z,413nm,13.7s
BRG **Berggiesshubel** 79.34 330 *e*P P 21 44 26.0 +0.8
comp=Z,17nm,1.0s,baz=36,slow=5.3
BRG **Berggiesshubel** 79.34 330 *e*P P 21 44 25.6 +0.4
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=N,330nm,17.3s
BRG MLR MLR
comp=E,103nm,16.6s
BRG MLR MLR
comp=Z,413nm,13.7s
Y14A **Wickenburg** 79.34 55 *e*P P 21 44 27.6 +2.0
JAVC **Velka Javorina** 79.36 326 *e*P P 21 44 27.1 +1.6
PVCC **Panska Ves** 79.36 329 *e*P P 21 44 26.3 +0.9
PVCC AMS AMS 22 22 10.0
comp=Z,400nm,20.7s
PVCC **Panska Ves** 79.36 329 *e*P P 21 44 26.3 +0.9
PVCC MLR MLR
comp=Z,400nm,20.7s
CLL **Collm** 79.36 330 *e*P P 21 44 25.4 +0.1
comp=Z,32nm,1.0s
CLL **Collm** 79.36 330 *e*P P 21 44 25.9 +0.5
comp=Z,31nm,1.0s,baz=36,slow=5.3
CLL **Collm** 79.36 330⇑ *i*P P 21 44 25.2 -0.1
comp=Z,31nm,1.0s
CLL *e*PcP **PcP** 21 44 32.0 -1.4
CLL *e* 21 44 37.0

CLL e(pP) **sP** **21 44 43.0 -0.6**
CLL eS **S** **21 54 22.0 -0.5**
CLL e(sS) 21 54 56.0
CLL e(SS) 21 59 18.0
CLL eSSS SSS 22 03 00.0
CLL e 22 04 06.0
CLL LmH 22 20 00.0
comp=Z,200nm,21.0s
CLL LmV 22 24 00.0
comp=Z,200nm,19.3s
CLL Collm 79.36 330⇑ *i*P **P** **21 44 25.2 -0.1**
CLL e 21 44 32.0
CLL e*PP **pP** **21 44 37.0 -1.5**
CLL eS **S** **21 54 22.0 -0.5**
CLL pmax pmax
comp=Z,31nm,1.0s
VRAC Vranov 79.47 327⇑ *i*P **P** **21 44 27.2 +1.2**
VRAC Vranov 79.47 327 eP **P** **21 44 26.9 +0.9**
NRDL Niedersach Rie 79.48 332 eP **P** **21 44 26.8 +0.9**
comp=Z,13nm,1.0s,baz=36,slow=5.3
SMCO Snowmass 79.52 48 eP **P** **21 44 29.0 +2.0**
FBE Freiberg 79.53 330 eP **P** **21 44 27.3 +1.0**
comp=Z,33nm,1.1s,baz=36,slow=5.3
ASSE Asse, Remlinge 79.58 332 eP **P** **21 44 27.3 +0.9**
comp=Z,20nm,1.1s,baz=36,slow=5.3
GZR Gura Zlata 79.60 321⇑ *i*P **P** **21 44 27.3 +0.4**
SMOL Smolenice 79.73 326 eP **P** **21 44 28.8 +1.4**
SMOL Smolenice 79.73 326 eP **P** **21 44 28.8 +1.4**
KRUC Moravsky 79.75 327 eP **P** **21 44 28.2 +0.7**
GOPC GO Pecny, Ondr 79.75 328 eP **P** **21 44 28.5 +1.0**
GOPC ex x 21 44 41.8
GOPC AMS AMS 22 22 20.0
comp=Z,300nm,19.6s
GOPC GO Pecny, Ondr 79.75 328 eP **P** **21 44 28.5 +1.0**
GOPC e 21 44 41.8
GOPC MLR MLR
comp=Z,300nm,19.6s
PRU Pruhonice 79.79 329 eP **P** **21 44 28.5 +0.8**
PRU ePCP **PcP** **21 44 33.7 -1.6**
PRU ex x 21 44 42.4
PRU AMS AMS 22 22 20.0
comp=Z,500nm,20.4s
PRU Pruhonice 79.79 329 eP **P** **21 44 28.5 +0.8**
PRU e 21 44 33.7
PRU e 21 44 42.4
PRU MLR MLR
comp=Z,500nm,20.4s
VLAD Vladila 79.80 320⇓ *i*P **P** **21 44 28.4 +0.5**
ISCO Idaho Springs 79.87 46 eP **P** **21 44 30.4 +1.6**
comp=Z,3.8nm,0.9s
ISCO Idaho Springs 79.87 46 eP **P** **21 44 30.4 +1.6**
ISCO pmax pmax
comp=Z,4.0nm,0.9s
ISCO Idaho Springs 79.87 46 P **P** **21 44 30.7 +2.0**
baz=313
MODS Modra-Piesok 79.90 326 eP **P** **21 44 29.5 +1.1**
MODS pmax pmax
comp=Z,21nm,1.2s
MODS Modra-Piesok 79.90 326 eP **P** **21 44 29.5 +1.1**
NEUB Neuenburg 79.91 331 eP **P** **21 44 29.1 +0.7**
comp=Z,51nm,1.2s,baz=36,slow=5.3
CLZ Clausthal 79.92 332 eP **P** **21 44 29.5 +1.1**
comp=Z,37nm,1.1s,baz=36,slow=5.3
TREC Trest 79.95 328 eP **P** **21 44 29.3 +0.7**
TREC ex x 21 44 43.3
TREC AMS AMS 22 22 20.0
comp=Z,400nm,18.3s
TREC Trest 79.95 328 eP **P** **21 44 29.3 +0.7**
TREC e 21 44 43.3
TREC MLR MLR
comp=Z,400nm,18.3s
MVCO Mesa Verde 79.95 50 eP **P** **21 44 31.1 +2.0**
comp=Z,17nm,1.0s
MVCO Mesa Verde 79.95 50 P **P** **21 44 31.1 +2.0**
baz=312
BZS Buzias 79.99 322⇓ *i*P **P** **21 44 29.0 +0.1**
X16A Lo Mia Camp, P 80.01 54 eP **P** **21 44 31.8 +2.3**
HERR Herculane 80.15 321⇑ *i*P **P** **21 44 30.5 +0.8**
RAYN Ar Rayn 80.27 292 eP **P** **21 44 30.7 -0.2**
comp=Z,22nm,1.2s
RAYN Ar Rayn 80.27 292 *i* P **P** **21 44 30.6 -0.2**
SNR=17
RAYN Ar Rayn 80.27 292 eP **P** **21 44 30.7 -0.2**
RAYN pmax pmax
comp=Z,22nm,1.2s
TANN Tannenbergstha 80.28 330 eP **P** **21 44 31.2 +0.8**
comp=Z,20nm,1.1s,baz=36,slow=5.3
GTTG Gvttingen 80.31 332 eP **P** **21 44 31.4 +0.9**
comp=Z,47nm,1.1s,baz=36,slow=5.3
PLN Plauen 80.34 330 eP **P** **21 44 31.5 +0.8**
comp=Z,16nm,1.2s,baz=36,slow=5.3
GUNZ Gunzen 80.37 330 eP **P** **21 44 31.9 +1.0**
comp=Z,20nm,1.2s,baz=36,slow=5.3
WERN Wernitzgruen 80.41 330 eP **P** **21 44 32.2 +1.1**
comp=Z,19nm,1.0s,baz=36,slow=5.3
MOX Moxa 80.42 331 eP **P** **21 44 31.9 +0.7**
comp=Z,18nm,1.1s,baz=36,slow=5.3
MOX eL L 22 21 16.2
comp=Z,178nm,20.5s
NKC Novy Kostel 80.43 330 eP **P** **21 44 31.7 +0.5**
NKC Novy Kostel 80.43 330 eP **P** **21 44 31.7 +0.5**
IBBN Ibbenburen 80.47 334 eP **P** **21 44 32.0 +0.7**
comp=Z,30nm,1.0s,baz=36,slow=5.3
MDVR Moldovita 80.56 321⇑ *i*P **P** **21 44 32.1 +0.1**
S22A 4UR Ranch, Cre 80.58 49 eP **P** **21 44 34.9 +2.3**
S22A 4UR Ranch, Cre 80.58 49 P **P** **21 44 34.9 +2.3**
baz=313
SOP Sopron 80.74 326⇑ eP **P** **21 44 33.1 +0.2**
MANZ Manzenberg 80.76 330 eP **P** **21 44 33.8 +0.8**
comp=Z,16nm,0.9s,baz=36,slow=5.3
CONA Conrad Observa 80.85 327 eP **P** **21 44 34.7 +1.1**
comp=Z,21nm,1.1s,SNR=9.5
KHC Kasperske Hory 80.85 329 eP **P** **21 44 34.0 +0.5**
comp=Z,11nm,1.1s
KHC Kasperske Hory 80.85 329 eP **P** **21 44 34.3 +0.8**
KHC ex x 21 44 47.7
KHC AMS AMS 22 23 00.0
comp=Z,400nm,16.7s
KHC Kasperske Hory 80.85 329 eP **P** **21 44 34.3 +0.8**
KHC e 21 44 47.7
KHC MLR MLR
comp=Z,400nm,16.7s
UBBA Unterbreizbach 80.89 332 eP **P** **21 44 34.1 +0.6**
comp=Z,20nm,1.5s,baz=36,slow=5.3
ROTZ Rotzenmuhle 80.89 330 eP **P** **21 44 34.9 +1.2**
comp=Z,25nm,1.2s,baz=36,slow=5.3
GEC2 GERESS Array S 81.03 328 eP **P** **21 44 35.1 +0.6**
GEC2 GERESS Array S 81.03 328 eP **P** **21 44 35.1 +0.6**
comp=Z,14nm,1.1s,baz=36,slow=5.3
GEC2 GERESS Array S 81.03 328 eP **P** **21 44 35.1 +0.6**
GERES GERESS Array B 81.03 328 P **P** **21 44 34.7 +0.1**
comp=Z,4.8nm,0.8s,baz=36,slow=5.0,SNR=34
GERES LR LR 22 23 37.2
comp=Z,381nm,19.6s,baz=44,slow=38
GEA0 GERESS Array S 81.04 328 eP **P** **21 44 34.6 0.0**
RAR Rarotonga 81.09 127 LR LR 22 15 06.6
comp=Z,180nm,19.7s,baz=307,slow=32
WET Wettzell 81.12 329 eP **P** **21 44 36.1 +1.1**
comp=Z,18nm,1.1s,baz=36,slow=5.3
FRGS Fruska Gora 81.19 323⇑ *i*P **P** **21 44 35.5 +0.2**
GRA1 Grafenberg Arr 81.34 330 eP **P** **21 44 36.9 +0.9**
comp=Z,48nm,1.0s
GRF Grafenberg Arr 81.34 330 eP **P** **21 44 37.3 +1.2**
comp=Z,53nm,1.1s,baz=36,slow=5.3
GRF eL L 22 21 31.8
comp=Z,213nm,20.8s
GRF Grafenberg Arr 81.34 330 eP **P** **21 44 36.9 +0.9**
GRF pmax pmax
comp=Z,48nm,1.0s
GRFO Grafenberg 81.34 330 eP **P** **21 44 36.7 +0.7**
comp=Z,43nm,1.0s
GRFO Grafenberg 81.34 330 eP **P** **21 44 36.7 +0.7**
GRFO pmax pmax
comp=Z,43nm,1.0s
SDCO Great Sand Dun 81.34 48 eP **P** **21 44 37.9 +1.3**
comp=Z,13nm,1.3s
SDCO Great Sand Dun 81.34 48 P **P** **21 44 38.2 +1.6**
baz=314
BUG Bochum--Univer 81.35 333 eP **P** **21 44 36.5 +0.5**
comp=Z,25nm,1.1s,baz=36,slow=5.3
VTS Vitosha 81.39 319⇑ *i*P **P** **21 44 37.5 +0.9**
ARSA Arzberg 81.52 326 eP **P** **21 44 37.8 +0.7**
comp=Z,12nm,1.2s
MOA Molln 81.58 327 eP **P** **21 44 38.2 +0.8**
comp=Z,11nm,1.1s

ECSD EROS Data Cent 81.78 39 eP **P** **21 44 39.4 +0.8**
ECSD EROS Data Cent 81.78 39 P **P** **21 44 39.2 +0.7**
baz=318
DIVS Divibare 81.89 322 eP **P** **21 44 39.3 +0.2**
comp=Z,15nm,1.0s
DIVS Divibare 81.89 322⇑ *i*P **P** **21 44 39.1 -0.1**
TNS Taunus Mts 81.94 332 eP **P** **21 44 40.0 +0.7**
comp=Z,12nm,0.9s,baz=36,slow=5.3
AHRW Bad Neuenahr-A 82.17 333 eP **P** **21 44 41.2 +0.8**
comp=Z,33nm,1.1s,baz=36,slow=5.3
PERS Pernice 82.17 326 *i* P **P** **21 44 40.9 +0.4**
SOKA Soboth 82.17 326 *i* P **P** **21 44 41.1 +0.5**
comp=Z,48nm,1.1s,SNR=27
RJOB Jochberg 82.28 328 eP **P** **21 44 42.3 +1.2**
comp=Z,30nm,1.0s,baz=36,slow=5.3
F38A Pierce - Schro 82.29 35 P **P** **21 44 41.9 +0.8**
baz=321
BBLS Lazići 82.35 322⇑ *i*P **P** **21 44 42.1 +0.6**
T25A Trinidad 82.39 48 eP **P** **21 44 43.6 +1.5**
T25A Trinidad 82.39 48 P **P** **21 44 43.6 +1.5**
baz=314
HAPS Han Pijesak,Bl 82.40 322⇑ *i*P **P** **21 44 41.6 -0.3**
BEBN Eben Emael 82.44 334⇑ eP **P** **21 44 41.6 -0.1**
MEM Membach 82.49 334⇑ eP **P** **21 44 41.4 -0.6**
comp=Z,18nm,1.1s
OBKA Obir 82.51 326 eP **P** **21 44 42.5 +0.2**
comp=Z,8.8nm,0.8s
FUR Furstenfeldbru 82.55 329 eP **P** **21 44 43.4 +1.0**
comp=Z,43nm,1.1s,baz=36,slow=5.3
KBA Koreinsper 82.57 327 eP **P** **21 44 43.2 +0.4**
comp=Z,19nm,0.9s,SNR=12
STIP Stip 82.59 319 *i* P **P** **21 44 42.1 -0.6**
CRES Cresnjev 82.66 326⇑ *i*P **P** **21 44 42.8 -0.2**
VAY Valandovo 82.67 319 *i* P **P** **21 44 43.7 +0.5**
TASM ASL Pad, Albuq 82.70 50 P **P** **21 44 46.0 +2.2**
baz=314
TASM ASL Pad, Albuq 82.70 50 P **P** **21 44 45.9 +2.2**
baz=314
ANMO Albuquerque 82.70 50 eP **P** **21 44 45.9 +2.2**
comp=Z,16nm,1.1s
ANMO Albuquerque 82.70 50 eP **P** **21 44 45.9 +2.2**
ANMO pmax pmax
comp=Z,16nm,1.1s
ANMO Albuquerque 82.70 50 P **P** **21 44 46.1 +2.4**
baz=314
BLY Banja Luka 82.71 324 eP **P** **21 44 42.4 -0.9**
MYKA Terra Mystica 82.81 327 *i* P **P** **21 44 43.6 -0.3**
comp=Z,6.8nm,0.5s,SNR=6.1
STU Stuttgart 82.86 331 eP **P** **21 44 45.0 +1.0**
comp=Z,31nm,0.8s
STU Stuttgart 82.86 331 eP **P** **21 44 44.9 +0.8**
comp=Z,35nm,0.8s,baz=36,slow=5.3
STU Stuttgart 82.86 331 eP **P** **21 44 45.0 +1.0**
STU pmax pmax
comp=Z,31nm,0.8s
BCLA Clavier 82.89 334⇓ P **P** **21 44 43.5 -0.6**
BCLA ⇓pP **sP** **21 45 02.2 0.0**
LJU Ljubljana 82.89 326⇑ *i*P **P** **21 44 44.1 -0.1**
VISS Visnje 82.94 326 *i* P **P** **21 44 44.3 -0.3**
SCHQ Schefferville 82.98 16 eP **P** **21 44 45.4 +0.8**
SCHQ Schefferville 82.98 16 P **P** **21 44 44.8 +0.2**
comp=Z,8.6nm,0.8s,baz=346,slow=3.7,SNR=10.0
BOJS Bojci 83.00 325 *i* P **P** **21 44 44.7 -0.1**
WATA Walderalm 83.09 329 eP **P** **21 44 45.8 +0.3**
comp=Z,10nm,0.9s
BNM Barren Site 83.14 51 eP **P** **21 44 47.9 +1.8**
E41A Kenton 83.15 33 P **P** **21 44 46.4 +0.8**
baz=323
SNF Seneffe 83.16 334⇑ P **P** **21 44 45.5 0.0**
CEY Cerknica 83.17 326⇑ *i*P **P** **21 44 45.4 -0.3**
ABTA Abfaltersbach 83.18 328 eP **P** **21 44 45.7 -0.1**
comp=Z,12nm,1.0s,SNR=5.9
JAVS Javornik 83.21 326 *i* P **P** **21 44 45.2 -0.8**
WLF Walferdange 83.23 333 eP **P** **21 44 46.7 +0.8**
comp=Z,76nm,2.2s,baz=36,slow=5.3
WLF Walferdange 83.23 333⇓ P **P** **21 44 47.8 +1.9**
comp=Z,9.8nm,1.1s
MOTA Moosalm 83.28 329 *i* P **P** **21 44 46.7 +0.3**
comp=Z,23nm,0.9s,SNR=25
RETA Reutte 83.30 329 eP **P** **21 44 47.0 +0.6**
comp=Z,30nm,1.0s,SNR=11
KRUS Krusevo 83.31 319 *i* P **P** **21 44 46.7 +0.1**
SQTA Sankt Quirin 83.33 329 eP **P** **21 44 47.0 +0.4**
comp=Z,17nm,1.0s,SNR=7.5
UBR Ueerruh 83.40 330 eP **P** **21 44 47.5 +0.6**
comp=Z,20nm,1.4s,baz=36,slow=5.3
BRY Bratogost 83.49 322 eP **P** **21 44 46.6 -1.0**
PDG Podgorica 83.50 321 eP **P** **21 44 47.6 +0.2**
H39A Augusta 83.55 35 P **P** **21 44 48.7 +1.0**
baz=321
BFO Black Forest 83.55 331 eP **P** **21 44 47.8 +0.2**
comp=Z,53nm,1.6s
BFO Black Forest 83.55 331 eP **P** **21 44 48.3 +0.6**
comp=Z,41nm,1.4s,baz=36,slow=5.3
BFO Black Forest 83.55 331 *i* P **P** **21 44 48.2 +0.6**
G40A Rib Lake 83.56 34 P **P** **21 44 48.3 +0.5**
baz=322
LIT Litokhoron 83.61 318 eP **P** **21 44 48.1 0.0**
comp=Z,28nm,0.9s
LIT Litokhoron 83.61 318 eP **P** **21 44 48.1 0.0**
LIT pmax pmax
comp=Z,28nm,0.9s
URZ Urewera 83.65 153 LR LR 22 20 15.3
comp=Z,118nm,19.1s,baz=331,slow=34
F41A Three Lakes 83.67 33 P **P** **21 44 49.0 +0.7**
baz=323
FNA Florina 83.68 319 eP **P** **21 44 48.8 +0.3**
comp=Z,15nm,1.1s
FNA Florina 83.68 319 eP **P** **21 44 48.8 +0.3**
FNA pmax pmax
comp=Z,15nm,1.1s
FETA Feichten 83.69 329 eP **P** **21 44 48.5 0.0**
comp=Z,21nm,1.0s,SNR=10
DRME Dracevica, Mon 83.72 321 eP **P** **21 44 48.8 +0.2**
DAVA Damuels 83.81 330 eP **P** **21 44 49.6 +0.4**
comp=Z,29nm,0.9s,SNR=13
ECH Echery 84.08 332 eP **P** **21 44 50.8 +0.5**
comp=Z,16nm,1.1s
ECH Echery 84.08 332 eP **P** **21 44 50.8 +0.5**
ECH pmax pmax
comp=Z,17nm,1.1s
I39A Houston 84.08 36 eP **P** **21 44 50.9 +0.5**
I39A Houston 84.08 36 P **P** **21 44 50.8 +0.4**
baz=321
FUORN Ofenpass-Fuorn 84.20 329 eP **P** **21 44 51.9 +0.6**
H41A Junction City 84.32 34 P **P** **21 44 52.1 +0.5**
baz=322
G42A Mountain 84.35 33 P **P** **21 44 52.5 +0.8**
baz=323
J39A Decorah 84.40 36 P **P** **21 44 52.6 +0.6**
baz=321
I40A Norwalk 84.46 35 P **P** **21 44 53.0 +0.6**
baz=322
MATQ Matagami 84.62 25 P **P** **21 44 53.1 +0.1**
baz=330
PMOR Pomariorio Ree 84.63 114 eT T 23 18 13.9
comp=Z,90nm,0.2s
G43A Wallace 84.65 33 P **P** **21 44 54.0 +0.8**
baz=324
D46A Sault St. Mari 84.79 30 P **P** **21 44 54.3 +0.4**
baz=326
J40A Soldiers Grove 84.80 36 P **P** **21 44 54.6 +0.5**
baz=322
K39A Oelwein 84.81 37 P **P** **21 44 54.2 +0.1**
baz=321
D47A Chapleau 85.00 29 P **P** **21 44 55.2 +0.2**
baz=327
E46A Sault Ste Mari 85.11 30 P **P** **21 44 56.3 +0.7**
baz=326
J41A Loganville 85.15 35 P **P** **21 44 56.1 +0.3**
baz=322
K40A Colesburg 85.16 36 P **P** **21 44 56.4 +0.6**
baz=322
PPT Papeete 85.20 117 LR LR 22 15 23.2
comp=Z,195nm,21.4s,baz=332,slow=30
PPT2 Papeete2 85.22 117 eLR LR 22 11 54.0
comp=Z,420nm,22.8s
PPT2 Papeete2 85.22 117 eT T 23 18 57.8
comp=Z,35nm,0.3s
PAE Paea 85.26 117 eT T 23 19 00.7
comp=Z,5.1nm,0.3s
TIAR Tiarei 85.35 117 eT T 23 19 07.7
comp=Z,14nm,0.3s
JFWS Jewell Farm 85.40 36 P **P** **21 44 57.6 +0.6**
baz=322
F46A Macinaw City C 85.42 31 P **P** **21 44 57.8 +0.7**
baz=326

E47A Iron Bridge 85.44 30 P **P** **21 44 57.5 +0.3**
baz=327
LSQQ Lebel-sur-Quev 85.44 25 P **P** **21 44 57.3 +0.2**
baz=331
D49A Beulah Townshi 85.47 28 P **P** **21 44 57.5 +0.2**
baz=328
CHGQ Chibougamau 85.50 23 P **P** **21 44 57.3 -0.1**
baz=333
AMTX Amarillo 85.54 48 P **P** **21 44 59.4 +1.3**
baz=316
TVO Taravao 85.57 117 eT T 23 19 15.3
comp=Z,1.6nm,0.3s
SENIN Lac Senin/Sane 85.57 330 eP **P** **21 44 58.5 +0.3**
comp=Z,18nm,0.9s
J42A Columbus 85.58 35 P **P** **21 44 58.7 +0.8**
baz=323
MNTX Cornudas Mount 85.59 52 eP **P** **21 44 59.8 +1.5**
comp=Z,6.6nm,0.8s
MNTX Cornudas Mount 85.59 52 P **P** **21 44 59.7 +1.5**
baz=314
K41A Shullsburg 85.61 36 P **P** **21 44 58.4 +0.3**
baz=322
L40A Anamosa 85.62 37 P **P** **21 44 58.7 +0.6**
baz=322
M39A Webster 85.63 38 P **P** **21 44 58.9 +0.7**
baz=321
G46A Petoskey 85.76 31 P **P** **21 44 59.7 +0.9**
baz=326
E48A Lockeyer 85.84 29 P **P** **21 44 59.3 +0.2**
baz=327
M40A Post Highland 85.99 37 P **P** **21 45 00.3 +0.3**
baz=322
VLDQ Val d'Or 86.11 25 eP **P** **21 45 00.1 -0.3**
TAOE Nuku Hiva Isla 86.22 105 eLR LR 22 12 18.2
comp=Z,494nm,28.6s
TAOE Nuku Hiva Isla 86.22 105 eT T 23 20 15.8
comp=Z,137nm,0.3s
GLMI Grayling 86.26 31 P **P** **21 45 02.4 +1.1**
baz=326
N40A Mertquake, Sal 86.37 38 P **P** **21 45 02.3 +0.5**
baz=322
D53A Lac Vacive, Po 86.92 26 P **P** **21 45 04.8 +0.3**
baz=330
N42A Yates City 87.14 37 P **P** **21 45 06.1 +0.5**
baz=322
M43A Waltham Townsh 87.15 36 P **P** **21 45 06.3 +0.6**
baz=323
D54A Lac Fusel, La 87.21 25 P **P** **21 45 06.3 +0.4**
baz=331
O41A Passleys Farm, 87.30 38 P **P** **21 45 07.5 +1.0**
baz=322
P41A Barry, Barry 87.56 38 P **P** **21 45 08.6 +0.9**
baz=322
M44A Midewin, Midew 87.60 35 P **P** **21 45 08.5 +0.6**
baz=324
E54A Lac Daplat, Po 87.66 26 P **P** **21 45 08.1 +0.1**
baz=331
J48A Bridge Port 87.86 32 P **P** **21 45 09.8 +0.8**
baz=326
P42A Winchester 87.97 38 eP **P** **21 45 10.7 +1.0**
P42A Winchester 87.97 38 P **P** **21 45 10.5 +0.8**
baz=322
K48A Perry 88.14 32 P **P** **21 45 12.1 +1.7**
baz=326
N45A Kentland 88.28 35 P **P** **21 45 12.2 +1.1**
baz=324
TX31 Lajitas Ar. Si 88.30 53 eP **P** **21 45 12.8 +1.3**
TXAR Lajitas Array 88.30 53 P **P** **21 45 12.4 +0.9**
comp=Z,1.3nm,0.7s,baz=293,slow=3.8,SNR=18
L47A Sherwood 88.37 33 P **P** **21 45 12.3 +0.9**
baz=326
Q42A Golden Eagle 88.41 38 P **P** **21 45 12.6 +0.9**
baz=322
R41A Rosebud 88.48 39 P **P** **21 45 12.9 +0.8**
baz=322
O45A Potomac 88.66 36 P **P** **21 45 14.0 +1.1**
baz=324
M47A Cromwell 88.69 34 P **P** **21 45 14.0 +1.0**
baz=325
TRQ Mont Tremblant 88.72 24 eP **P** **21 45 13.7 +0.6**
L48A N Adams 88.72 33 P **P** **21 45 14.4 +1.3**
baz=326
CCM Cathedral Cave 88.74 39 eP **P** **21 45 14.0 +0.7**
comp=Z,66nm,0.7s
CCM Cathedral Cave 88.74 39 eP **P** **21 45 14.0 +0.7**
CCM pmax pmax
comp=Z,66nm,0.7s
CCM Cathedral Cave 88.74 39 P **P** **21 45 14.5 +1.2**
baz=322
HHAR Hobbs 88.75 42 eP **P** **21 45 14.2 +0.8**
comp=Z,13nm,1.1s
R42A Luebbering 88.78 39 P **P** **21 45 14.5 +1.0**
baz=322
Q43A New Douglas 88.79 38 P **P** **21 45 14.1 +0.5**
baz=323
SFIN Lafayette 88.84 35 P **P** **21 45 14.3 +0.6**
baz=324
S41A Jillco Farms, 88.86 40 P **P** **21 45 14.5 +0.6**
baz=322
L49A Milan 88.86 32 P **P** **21 45 15.3 +1.5**
baz=326
P44A Sand Creek, Wi 88.88 37 P **P** **21 45 14.9 +1.0**
baz=323
N47A Urbana 89.05 34 P **P** **21 45 15.5 +0.8**
baz=325
ALFO Alfred 89.13 25 P **P** **21 45 15.5 +0.6**
baz=332
Q44A Meyer Farm, Va 89.14 37 P **P** **21 45 16.5 +1.3**
baz=323
S42A Caledonia 89.18 39 P **P** **21 45 16.6 +1.1**
baz=322
P45A Graceland, Par 89.23 36 P **P** **21 45 16.8 +1.2**
baz=324
U40A Yellville 89.25 41 P **P** **21 45 16.6 +0.8**
baz=321
K51A Iona Station 89.26 31 P **P** **21 45 17.7 +2.1**
baz=328
TBI Tubuai 89.26 121 eLR LR 22 13 47.2
comp=Z,303nm,23.8s
TBI Tubuai 89.26 121 eT T 23 23 59.2
comp=Z,63nm,0.3s
M49A Liberty Center 89.30 33 P **P** **21 45 16.8 +1.0**
baz=326
H55A Tweed 89.30 27 P **P** **21 45 16.6 +0.8**
baz=331
N48A Decatur 89.36 34 P **P** **21 45 17.0 +0.8**
baz=326
I55A Frankford 89.42 27 P **P** **21 45 17.4 +1.1**
baz=330
T42A Van Buren 89.62 40 P **P** **21 45 18.4 +1.0**
baz=322
W39A Magazine 89.66 43 P **P** **21 45 18.6 +0.9**
baz=320
N49A Columbus Grove 89.67 33 eP **P** **21 45 18.7 +1.1**
N49A Columbus Grove 89.67 33 P **P** **21 45 18.7 +1.1**
baz=326
S43A Fulton Ridge, 89.69 39 P **P** **21 45 18.8 +1.0**
baz=322
OLIL Olney 89.71 37 eP **P** **21 45 19.3 +1.5**
U41A Viola 89.73 41 P **P** **21 45 18.7 +0.7**
baz=321
O48A Farmland 89.80 34 P **P** **21 45 19.0 +0.7**
baz=326
JCT Junction City 89.81 50 eP **P** **21 45 19.4 +0.8**
comp=Z,33nm,0.6s
JCT Junction City 89.81 50 eP **P** **21 45 19.4 +0.8**
JCT pmax pmax
comp=Z,33nm,0.6s
Q46A CEJHS Indians, 89.82 36 P **P** **21 45 19.7 +1.4**
baz=324
PECO Prince Edward 89.91 27 P **P** **21 45 19.2 +0.6**
baz=331
P47A Martinsville 89.94 35 P **P** **21 45 19.7 +0.8**
baz=325
T43A Greenville 89.97 39 P **P** **21 45 19.9 +0.8**
baz=322
S44A Carbondale 89.99 38 P **P** **21 45 20.2 +1.0**
baz=323
SIUC Southern Illin 89.99 38 eP **P** **21 45 20.5 +1.3**
PBMO Poplar Bluff 90.14 40 eP **P** **21 45 21.1 +1.3**
O49A Covington 90.21 34 P **P** **21 45 21.0 +0.9**
baz=326
N50A Nevada 90.23 33 P **P** **21 45 21.4 +1.2**
baz=327
MIAR Mount Ida 90.27 43 eP **P** **21 45 21.5 +1.0**
comp=Z,11nm,0.9s
MIAR Mount Ida 90.27 43 eP **P** **21 45 21.5 +1.0**
MIAR pmax pmax

	comp=Z,11nm,0.9s							
MIAR	**Mount Ida**	**90.27**	**43**	P		**P**	**21 45 21.8**	**+1.2**
	baz=320							
Q47A	**Bedord North L**	**90.31**	**36**	P		**P**	**21 45 21.9**	**+1.2**
	baz=325							
O50A	**Cable**	**90.55**	**33**	P		**P**	**21 45 22.9**	**+1.1**
	baz=326							
K55A	**Perry**	**90.56**	**28**	P		**P**	**21 45 22.5**	**+0.8**
	baz=330							
P49A	**Miami Univ. Ec**	**90.58**	**34**	P		**P**	**21 45 22.9**	**+1.0**
	baz=326							
ACSO	**Alum Creek Sta**	**90.75**	**33**	*e*P		**P**	**21 45 23.9**	**+1.2**
ACSO	**Alum Creek Sta**	**90.75**	**33**	P		**P**	**21 45 23.7**	**+1.1**
	baz=327							
R47A	**Wooly Knot Far**	**90.79**	**36**	P		**P**	**21 45 23.5**	**+0.6**
	baz=325							
O53A	**New Philadelph**	**91.47**	**32**	P		**P**	**21 45 26.9**	**+0.9**
	baz=328							
S48A	**Wiedeman Farm,**	**91.52**	**36**	P		**P**	**21 45 27.2**	**+1.0**
	baz=325							
T47A	**Sharon Grove**	**91.58**	**37**	P		**P**	**21 45 27.4**	**+0.9**
	baz=324							
Q51A	**Peebles**	**91.60**	**34**	*e*P		**P**	**21 45 27.7**	**+1.1**
Q51A	**Peebles**	**91.60**	**34**	P		**P**	**21 45 27.6**	**+0.9**
	baz=327							
S49A	**Springfield**	**91.77**	**36**	P		**P**	**21 45 28.7**	**+1.2**
	baz=325							
P54A	**Burton**	**92.31**	**32**	P		**P**	**21 45 30.6**	**+0.6**
	baz=329							
V47A	**Nunnelly**	**92.32**	**38**	P		**P**	**21 45 30.8**	**+0.8**
	baz=324							
U49A	**Red Boiling Sp**	**92.58**	**37**	P		**P**	**21 45 32.4**	**+1.1**
	baz=325							
T50A	**Nancy**	**92.60**	**36**	P		**P**	**21 45 32.2**	**+0.9**
	baz=326							
W48A	**Pulaski**	**93.15**	**38**	P		**P**	**21 45 34.6**	**+0.7**
	baz=324							
KEST	**Kesra**	**93.50**	**323**	LR		LR	22 31 45.2	
	comp=Z,106nm,18.1s,baz=326,slow=38							
X49A	**Woodville**	**93.95**	**38**	P		**P**	**21 45 38.2**	**+0.6**
	baz=325							
Z50A	**Ashland**	**95.17**	**39**	*e*P		**P**	**21 45 44.2**	**+1.0**
ES06	**SONSECA Array**	**95.44**	**334**	*e*P		**P**	**21 45 44.0**	**-0.4**
ESDC	**Sonseca Array**	**95.45**	**334**	P		**P**	**21 45 43.6**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=10,slow=4.4,SNR=5.4							
ESDC				LR		LR	22 34 05.7	
	comp=Z,226nm,18.4s,baz=205,slow=39							
TORD	**Torodi Ar. Bea**	**116.06**	**316**	PKP		**PKPdf**	**21 51 02.0**	**-1.0**
	comp=Z,1.6nm,1.0s,baz=360,slow=3.4,SNR=7.5							
TORD				PP		**PP**	**21 51 59.9**	**-7.2**
	comp=Z,1.7nm,1.0s,baz=18,slow=6.1,SNR=6.5							
DBIC	**Dimbokro**	**124.94**	**319**	PKP		**PKPdf**	**21 51 19.2**	**-0.9**
	comp=Z,3.3nm,1.0s,baz=346,slow=8.3,SNR=3.5							
SNAA	**Sanae**	**143.11**	**198**	PKP		PKPab	21 51 48.2	+0.4
VNA2	**Neumayer--Watz**	**144.68**	**197**	PKP		**PKPab**	**21 51 50.5**	**-3.3**
	baz=35,slow=6.6							
VNA3	**Neumayer Olymp**	**144.93**	**195**	PKP		**PKPab**	**21 51 53.1**	**-1.6**
LPAZ	**La Paz**	**145.04**	**58**	PKPbc		**PKPab**	**21 51 58.0**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=280,slow=6.3,SNR=8.9							
BDFB	**Brasilia**	**154.78**	**23**	PKPbc		**PKPbc**	**21 52 21.6**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=312,slow=14,SNR=4.0							
BDFB				PKPab		**PKPab**	**21 52 37.0**	**+0.7**
	comp=Z,1.7nm,0.4s,baz=252,slow=3.2,SNR=5.6							
CPUP	**Villa Florida**	**159.21**	**57**	PKPab		**PKPab**	**21 52 55.8**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=271,slow=3.1,SNR=2.8							

IDC 12 21:33:19.6±3.5, 6.94S×148.70E, h0km, mb4.2/2, mb1 4.4/3, mb1mx3.7/35, mbtmp4.1/3, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/35, Error ellipse: s-maj=109.6km s-min=44.7km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.01**	**226**	P	P	21 37 42.8	-0.4
	0.5nm,0.3s,baz=52,slow=11,SNR=20						
ASAR	**Alice Springs**	**21.88**	**219**	P	P	21 38 15.2	+0.9
	3.4nm,0.5s,baz=53,slow=9.6,SNR=77						
FITZ	**Fitzroy Crossi**	**25.06**	**242**	P	P	21 38 45.5	-0.5
	3.7nm,0.4s,baz=66,slow=10,SNR=23						
TGY	**Tagaytay City**	**34.59**	**307**	LR	LR	21 54 16.8	
	comp=Z,119nm,19.7s,baz=224,slow=36						
TORD	**Torodi Ar. Bea**	**146.96**	**283**	PKPbc	PKPbc	21 53 04.6	-0.7
	0.7nm,0.6s,baz=78,slow=3.9,SNR=3.4						

UCR 12 21:35:28.7±2.2, 8.74N×82.40W, h8km±5km, MD3.8, ML3.6, MW3.7(UPA), 6C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBS2		**0.26**	**282**	⇑*i*P	Pg	21 35 33.7	-0.3
TBS2				*i* S	Sg	21 35 37.2	-0.3
BRU2	**Volcan**	**0.29**	**280**	⇑*i*P	Pg	21 35 35.1	+0.6
	baz=99,slow=2.8						
BRU2				AMP		21 35 35.4	
	comp=Z,12μm,0.3s						
BRU2				*i* S	Sg	21 35 39.5	+1.1
DVD	**David**	**0.31**	**189**	⇓*i*P	Pg	21 35 35.5	+0.7
DVD				*i* S	Sb	21 35 40.6	-1.0
EDSV	**San Vito**	**0.57**	**278**	⇓*e*P	Pg	21 35 39.7	0.0
EDSV				*e*S	Sb	21 35 49.6	+0.3
PTJ1	**Puerto Jimnez**	**0.91**	**257**	⇑*e*P	Pg	21 35 45.3	-1.0
PTJ1				*e*S	Sg	21 35 58.3	+0.1
DRK0	**Durika**	**0.98**	**302**	⇑*e*P	Pg	21 35 46.2	-1.4
DRK0				*i* S	Sg	21 35 59.8	-0.6
EDLM	**Las Mercedes**	**1.29**	**295**	*e*P	Pn	21 35 52.4	-0.7
EDDO	**Dominical**	**1.53**	**290**	*e*P	Pb	21 35 57.0	-0.3
LCR2	**La Lucha 2**	**1.87**	**302**	⇑*e*P	Pn	21 36 00.1	-1.0
PNME	**Penonome**	**2.07**	**97**	⇑*e*P	Pn	21 36 04.2	+0.5
PNME				*e*S	Sn	21 36 30.0	+0.4
HDC	**Heredia**	**2.10**	**307**	⇓*e*P	Pn	21 36 05.5	+1.2
HDC				*i* S	Sb	21 36 33.9	+0.3
AZU	**Azuero**	**2.31**	**114**	*e*P	Pn	21 36 07.1	+0.1
AZU				AMP		21 36 08.1	
	comp=Z,246nm,0.1s						
AZU				*i* S	Sn	21 36 36.0	+0.5
PINA	**Piqa, Costa Ab**	**2.37**	**77**	*e*P	Pn	21 36 08.1	+0.3
ZANG	**Zanguenga, Cho**	**2.51**	**85**	*e*P	Pn	21 36 09.5	-0.4
ZANG				*i* S	Sn	21 36 39.8	-0.9
BCIP	**Isla Barro Col**	**2.57**	**80**	⇓*e*P	Pn	21 36 10.8	+0.2
BCIP				AMP		21 36 13.3	
	comp=Z,572nm,0.1s						
BCIP				*i* S	Sn	21 36 41.4	-0.6
FRIJ	**El Hiral**	**2.69**	**80**	*e*P	Pn	21 36 12.6	+0.4
UPA	**Univ. de Panam**	**2.84**	**85**	*e*P	Pn	21 36 13.4	-1.0
UPA				*i* S	Sn	21 36 49.1	+0.3
ARE1	**Arenal 1**	**2.85**	**307**	*e*P	Pn	21 36 16.8	+2.2
JTS	**JuntasAbangare**	**2.95**	**302**	*e*P	Pn	21 36 15.8	0.0
UPD2	**Meteti**	**4.34**	**92**	*e*P	Pn	21 36 33.9	-1.1
UPD2				*e*S	Sn	21 37 25.1	-0.7

IDC 12 22:06:33.6±1.7, 10.79S×165.63E, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/41, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=53.6km s-min=30.4km az=128.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.24**	**176**	Pn	Pn	22 09 15.8	0.0
	0.6nm,0.3s,baz=324,slow=19,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**29.11**	**2**	T	T	22 42 58.1	
	baz=181,slow=76,SNR=46						
H11S3	**WAKE ISLAND Hy**	**29.12**	**2**	T	T	22 42 32.3	
	baz=181,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.13**	**2**	T	T	22 42 59.4	
	baz=181,slow=76,SNR=43						
H11N1	**WAKE ISLAND Hy**	**30.34**	**2**	T	T	22 44 03.7	
	baz=182,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**30.34**	**2**	T	T	22 44 29.8	
	baz=182,slow=76,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**30.35**	**2**	T	T	22 44 30.9	
	baz=182,slow=76,SNR=9.1						
WRA	**Warramunga Arr**	**31.46**	**249**	P	P	22 12 57.4	+0.2
	3.1nm,0.9s,baz=81,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**32.81**	**243**	P		22 13 08.8	-0.3
	1.2nm,0.7s,baz=64,slow=10,SNR=8.0						
ILAR	**Eielson Array**	**83.31**	**19**	P	P	22 19 02.0	0.0
	0.2nm,0.5s,baz=221,slow=5.2,SNR=2.9						

TAP 12 22:07:16.7, 23.80N×121.68E, h41km±1km, ML1.7, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng**	**0.13**	**328**	P	Pn	22 07 24.3	+0.7
	baz=327						
ENLB				*e*S	Sn	22 07 29.1	+0.7
	baz=327						
ESL	**Shilin**	**0.22**	**274**	P	Pn	22 07 24.7	+0.4
	baz=274						
ESL				*e*S	Sn	22 07 30.3	+0.7
	baz=274						
EGFH	**Guangfu**	**0.26**	**241**	P	Pn	22 07 25.3	+0.6
	baz=240						
EGFH				*e*S	Sn	22 07 31.0	+0.8
	baz=240						
TWD	**Chiawan**	**0.29**	**346**	*e*P	Pn	22 07 25.4	+0.4
	baz=347						
TWD				*e*S	Sn	22 07 30.6	-0.2
	baz=347						
HGSD	**Ruisui**	**0.38**	**217**	P	Pn	22 07 26.5	+0.5
	baz=217						
HGSD				*e*S	Sn	22 07 34.2	+1.7
	baz=217						
NACB	**Ninganchiao**	**0.38**	**349**	*e*P	Pn	22 07 26.6	+0.5
	baz=348						
NACB				*e*S	Sn	22 07 33.0	+0.5
	baz=348						
EHY	**Hungye**	**0.43**	**228**	*e*P	Pn	22 07 26.1	-0.6
	baz=227						
EHY				*e*S	Sn	22 07 33.6	0.0
	baz=227						
ETLH	**Xiulin Townshi**	**0.45**	**337**	*e*S	Sn	22 07 34.5	+0.4
	baz=336						
OWD	**Renai**	**0.48**	**289**	P	Pn	22 07 28.2	+0.8
	baz=289						
OWD				S	Sn	22 07 35.5	+0.6
	baz=289						
VWDT	**VWDT**	**0.49**	**265**	P	Pn	22 07 28.2	+0.8
	baz=265						
VWDT				*e*S	Sn	22 07 35.7	+0.8
	baz=265						
WHF	**Hehuan Shan**	**0.51**	**313**	P	Pn	22 07 27.6	-0.5
	baz=313						
CHGB	**Renai**	**0.53**	**300**	P	Pn	22 07 28.9	+0.8
	baz=299						
CHGB				*e*S	Sn	22 07 37.4	+1.2
	baz=299						
YULB	**Yu-li**	**0.53**	**221**	P	Pn	22 07 27.8	-0.1
	baz=220						
YULB				S	Sn	22 07 35.7	-0.2
	baz=220						
TWF1	**Yuli**	**0.56**	**218**	P	Pn	22 07 28.2	-0.1
	baz=217						
TWF1				S	Sn	22 07 35.9	-0.7
	baz=217						
NANB	**Nanao**	**0.63**	**6**	*e*S	Sn	22 07 39.4	+1.2
	baz=6.0						
TWT	**Tachien**	**0.64**	**315**	*e*S	Sn	22 07 40.2	+1.4
	baz=313						
TDCB	**Techi**	**0.66**	**314**	*e*P	Pn	22 07 30.4	+0.7
	baz=313						
SSLB	**Suanglung**	**0.66**	**269**	⇓*e*P	Pn	22 07 30.4	+0.7
	baz=269						
NNSB	**Datong**	**0.68**	**337**	*e*P	Pn	22 07 30.9	+0.8
	baz=337						
NNSB				*e*S	Sn	22 07 40.7	+1.0
	baz=337						
FULB	**Fuli**	**0.69**	**211**	*e*P	Pn	22 07 30.2	+0.1
	baz=210						
FULB				S	Sn	22 07 41.4	+1.7
	baz=210						
SMLT	**Sun Moon Lake**	**0.71**	**277**	*e*P	Pn	22 07 31.4	+0.9
	baz=276						
TYC	**Yuchr**	**0.76**	**278**	*e*P	Pn	22 07 31.7	+0.7
	baz=278						
TYC				*e*S	Sn	22 07 42.2	+1.0
	baz=278						
WHYT	**Xinyi Township**	**0.76**	**263**	*e*P	Pn	22 07 32.4	+1.4
	baz=262						
NDT	**Datong Townshi**	**0.81**	**350**	*e*P	Pn	22 07 31.2	-0.6
	baz=349						
NDT				*e*S	Sn	22 07 43.0	+0.3
	baz=349						
WHP	**Taichung City**	**0.82**	**306**	*e*P	Pn	22 07 31.2	-0.7
	baz=305						
ALS	**Alishan**	**0.85**	**250**	*e*P	Pn	22 07 32.5	0.0
	baz=250						
YHNB	**Yeheng**	**0.91**	**343**	*e*P	Pn	22 07 34.2	+1.1
	baz=342						
YHNB				*e*S	Sn	22 07 46.1	+0.9
	baz=342						
NSK	**Sanguang**	**0.92**	**342**	*e*S	Sn	22 07 46.1	+0.7
	baz=342						

IDC 12 22:11:04.8±10.0, 13.87S×166.98E, h110km±97km, mb3.6/3, mb1 3.8/4, mb1mx3.4/38, mbtmp4.0/4, ML3.3/1, Error ellipse: s-maj=102.8km s-min=45.8km az=167.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.18**	**184**	P	Pn	22 13 00.8	0.0
	0.4nm,0.3s,baz=323,slow=20,SNR=3.0						
DZM				S	Sn	22 14 26.2	-5.5
	0.3nm,0.3s,baz=66,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**29.35**	**228**	P	P	22 16 57.2	-0.2
	2.5nm,0.7s,baz=35,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**31.77**	**255**	P	P	22 17 19.2	+0.3
	0.4nm,0.4s,baz=84,slow=8.7,SNR=9.3						
ASAR	**Alice Springs**	**32.73**	**248**	P	P	22 17 27.1	-0.3
	0.9nm,0.4s,baz=78,slow=8.9,SNR=14						
ARCES	**ARCESS Array B**	**119.35**	**345**	PKP	PKPdf	22 29 40.5	-0.2
	1.8nm,0.8s,baz=62,slow=2.1,SNR=5.1						

KRSC 12 22:15:17.6±10.0, 49.74N×156.88E, h16km±10km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.42**	**324**	*e*P	Pn	22 15 42.1	-0.7
ALID				*e*S	Sn	22 16 00.5	-0.7
KDTR	**Khodutka, Kamc**	**2.21**	**20**	*e*P	Pb	22 15 55.8	-1.3
KDTR				*e*S	Sb	22 16 24.1	-0.1
ASAK	**Asacha**	**2.73**	**13**	*e*P	Pb	22 16 03.4	-2.6
MTVR	**Mutnovka**	**2.87**	**16**	*e*P	Pb	22 16 05.7	-2.8
MTVR				*e*S	Sb	22 16 41.0	-2.4
RUS	**Russkaya**	**2.89**	**20**	*e*P	Pn	22 16 04.9	+2.0
RUS				*e*S	Sn	22 16 39.5	+2.2
DALK	**Dalny**	**3.50**	**19**	*e*P	Pn	22 16 14.0	+2.7
DALK				*e*S	Sn	22 16 55.9	+3.6
UGLR	**Uglovaya**	**3.68**	**19**	*e*P	Pn	22 16 17.5	+3.6
AVH	**Avacha**	**3.72**	**18**	*e*P	Pn	22 16 18.2	+3.8
KOK	**Koryaka**	**3.73**	**16**	*e*P	Pn	22 16 18.4	+3.9
SMAR	**Somma**	**3.73**	**18**	*e*P	Pb	22 16 19.3	-3.8
KRER	**Koryakskii**	**3.76**	**17**	*e*S	Sb	22 17 04.5	-4.5
SDLR	**Sedlovina**	**3.76**	**19**	*e*P	Pn	22 16 17.4	+2.4
SPN	**Mys Shipunski**	**3.90**	**29**	*e*S	Sn	22 17 04.8	+2.7
GNL	**Ganaly**	**4.02**	**9**	*e*P	Pn	22 16 22.9	+4.4

*SOME **12** 22:18:43.5, 41.92N×71.93E, h15km*
*KRNET **12** 22:18:43.1±0.1, 41.90N×71.98E, h14km, mb2.6*
*NNC **12** 22:18:44.2±1.8, 42.03N×71.90E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=17.4km s-min=5.1km az=12.0*
ISC 12 22:18:42.0±1.1, 41.97N±0.03×72.00E±0.02, h6km±10km, n36, σ1°18/59, 24C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.17**	**190**	⇓*i*P	Pg	22 18 45.6	**+0.1**
	baz=79						
ARK				⇓*i*S	Sg	22 18 48.2	**+0.4**
	baz=79						
ARSB	**Arslanbob**	**0.98**	**131**	⇑*i*P	Pg	22 19 00.6	**-0.1**
	baz=27						
ARSB				⇑*i*S	Sb	22 19 14.1	**-0.6**
	baz=27						
DZA	**Taraz**	**1.05**	**332**	*e*P	Pn	22 19 03.2	**-0.2**
	13nm,0.1s						
DZA				*e*S	Sn	22 19 17.2	**-1.1**
	47nm,0.2s						
MRKS	**Merke**	**1.19**	**49**	P	Pn	22 19 06.6	**+1.2**
	4.1nm,0.1s						
MRKS				S	Sn	22 19 23.7	**+1.7**
	11nm,0.2s						
MRKS	**Merke**	**1.19**	**49**	*e*P	Pn	22 19 06.5	**+1.2**
	4.9nm,0.2s						
MRKS				*e*S	Sn	22 19 23.4	**+1.3**
	12nm,0.3s						
AML	**Almayashu**	**1.27**	**82**	P	Pg	22 19 07.4	**+1.0**
	SNR=19						
AML	**Almayashu**	**1.27**	**82**	⇑*i*P	Pg	22 19 07.3	**+0.9**
	baz=79						
AML				⇑*i*S	Sn	22 19 25.2	**+0.9**
	baz=79						
EKS2	**Erkin-Say**	**1.49**	**62**	P	Pg	22 19 12.6	**+2.1**
	SNR=8.0						
EKS2	**Erkin-Say**	**1.49**	**62**	⇑*i*P	Pg	22 19 11.8	**+1.3**
	baz=60						
EKS2				⇑*i*P	Sg	22 19 32.1	**+2.3**
	baz=60						
KK31	**Karatay Array**	**1.58**	**316**	⇑P	Pg	22 19 12.2	**-0.2**
	0.8nm,0.2s,baz=143,slow=17,SNR=32						
KK31				⇑S	Sb	22 19 31.7	**-0.3**
	4.6nm,0.5s,baz=144,slow=30,SNR=8.5						
ARLS	**Aral**	**1.74**	**93**	⇑*i*P	Pg	22 19 15.5	**+0.2**
	baz=90						
ARLS				⇑*i*S	Sg	22 19 39.2	**+1.4**
	baz=90						
CHM	**Chimkent**	**1.82**	**282**	*e*P	Pb	22 19 16.4	**+0.7**
	34nm,0.3s						
CHM				*e*S	Sb	22 19 39.6	**+0.8**
	61nm,0.3s						
UCH	**Uchtor**	**1.89**	**81**	P	Pg	22 19 19.2	**+1.0**
	SNR=19						
UCH	**Uchtor**	**1.89**	**81**	⇑*i*P	Pg	22 19 18.5	**+0.3**
	baz=79						
UCH				⇑*i*S	Sg	22 19 44.1	**+1.4**
	baz=79						
AAK	**Ala-Archa**	**1.97**	**69**	P	Pg	22 19 21.4	**+1.7**
	SNR=10						
AAK	**Ala-Archa**	**1.97**	**69**	⇓Pn	Pg	22 19 21.1	**+1.4**
	2.0nm,0.3s						
AAK				⇑Lg	Lg	22 19 48.9	
	5.3nm,0.6s						
AAK	**Ala-Archa**	**1.97**	**69**	⇑*i*P	Pg	22 19 19.8	**+0.1**
	baz=68						
AAK				⇑*i*S	Sg	22 19 46.2	**+1.0**
	baz=68						
BTK	**Batken**	**2.11**	**206**	⇑*i*P	Pb	22 19 19.6	**-1.1**
	baz=6.0						
BTK				⇑*i*S	Sb	22 19 46.7	**-0.5**
	baz=6.0						
USP	**Ospenovka**	**2.25**	**54**	P	Sg	22 19 56.2	**+1.8**
	SNR=18						
USP	**Ospenovka**	**2.25**	**54**	⇑*i*P	Pg	22 19 24.3	**-0.9**
	baz=53						
USP				⇑*i*S	Sg	22 19 53.5	**-0.9**
	baz=53						
CHMS	**Chumysh**	**2.28**	**62**	P	Pg	22 19 25.7	**0.0**
	SNR=6.5						
CHMS	**Chumysh**	**2.28**	**62**	⇑*i*P	Pg	22 19 24.4	**-1.3**
	baz=61						
CHMS				⇑*i*S	Sg	22 19 53.7	**-1.5**
	baz=61						
KBK	**Karagaybulak**	**2.29**	**72**	P	Pg	22 19 26.8	**+0.9**
	SNR=5.9						
KBK	**Karagaybulak**	**2.29**	**72**	⇑*i*P	Pg	22 19 24.8	**-1.1**
	baz=70						
KBK				⇑*i*S	Sg	22 19 54.5	**-1.1**
	baz=70						
KZA	**Kyzart**	**2.42**	**86**	P	Pg	22 19 27.9	**-0.5**
	SNR=23						
KZA	**Kyzart**	**2.42**	**86**	⇓*i*P	Pb	22 19 26.1	**-0.2**
	baz=85						
KZA				⇓*i*S	Sb	22 19 57.3	**+0.8**
	baz=85						
TKM2	**Tokmak 2**	**2.83**	**69**	P	Sg	22 20 12.9	**+0.1**
	SNR=8.8						
TKM2	**Tokmak 2**	**2.83**	**69**	⇑Pg	Pg	22 19 36.0	**-0.2**
	1.4nm,0.5s						
TKM2				⇓Lg	Lg	22 20 13.5	
	7.6nm,0.8s						
BOOM	**Boomskoye usch**	**2.97**	**79**	⇓*i*P	Pb	22 19 33.1	**-2.4**
	baz=77						
BOOM				⇓*i*S	Sb	22 20 09.7	**-2.4**
	baz=77						
KST	**Kastek**	**3.12**	**69**	Pg	Pg	22 19 41.5	**-0.2**
	2.8nm,0.3s						
KST				Lg	Lg	22 20 22.8	
	11nm,0.5s						
KST	**Kastek**	**3.12**	**69**	*e*P	Pg	22 19 41.6	**-0.2**
	2.8nm,0.3s						
KST				*e*S	Sg	22 20 22.9	**+0.7**
	11nm,0.5s						
TNSS	**Tian-Shan**	**3.81**	**72**	*e*P	Pg	22 19 54.2	**-0.7**
	1.2nm,0.1s						
TNSS				*e*S	Sg	22 20 45.1	**+0.7**
	4.4nm,0.4s						
MDOK	**Medeo**	**3.91**	**71**	Pg	Pg	22 19 56.3	**-0.7**
	0.9nm,0.3s						
MDOK				Lg	Lg	22 20 48.0	
	4.8nm,0.7s						
MDOK	**Medeo**	**3.91**	**71**	*e*P	Pg	22 19 55.4	**-1.6**
	0.9nm,0.3s						
MDOK				*e*S	Sg	22 20 46.8	**-0.9**
	4.8nm,0.7s						
CHKK	**Chushkaly**	**4.12**	**61**	*e*P	Pg	22 19 58.7	**-2.2**
	0.5nm,0.1s						
CHKK				*e*S	Sg	22 20 52.4	**-1.8**
	5.2nm,0.3s						
KURS	**Kuram**	**4.79**	**69**	*e*P	Pg	22 20 12.8	**-1.0**
	0.4nm,0.2s						
KURS				*e*S	Sg	22 21 16.4	**+0.6**
	1.5nm,0.6s						

IDC 12 22:37:05.7±4.3, 7.38S×148.06E, h0km, mb3.5/1, mb1 3.8/2, mb1mx3.3/33, mbtmp3.5/2, ML3.1/1, Error ellipse: s-maj=175.8km s-min=49.2km az=118.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.25**	**225**	P	Pn	22 41 19.4	-1.2
	0.1nm,0.3s,baz=47,slow=11,SNR=2.3						
ASAR	**Alice Springs**	**21.14**	**218**	P	P	22 41 51.6	-0.8
	1.3nm,0.5s,baz=48,slow=10.0,SNR=21						
TORD	**Torodi Ar. Bea**	**146.44**	**283**	PKPbc	PKPbc	22 56 50.1	+0.3
	0.5nm,0.7s,baz=72,slow=3.3,SNR=3.8						

*IDC **12** 22:44:45.9±1.5, 55.68N×153.74W, h0km, mb3.8/7, mb1 3.9/10, mb1mx3.6/56, mbtmp3.7/10, ML3.4/3, Error ellipse: s-maj=31.1km s-min=24.9km az=168.0*
*ISCJB **12** 22:44:52.2±1.0, 56.39N±0.07×153.74W±0.07, h28km±6km, mb3.8/7, Error ellipse: s-maj=11.0km s-min=6.6km az=5.9*
*NEIC **12** 22:44:55.1±0.0, 56.46N×153.85W, h17km, ML3.3(AEIC), After AEIC.*
ISC 12 22:44:52.6±1.6, 56.34N±0.09×153.79W±0.05, h26km±9km, n42, σ1°44/49, mb3.9/7, Kodiak Island region

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

SVW2	Sparrevohn	4.87	350	P		Pn	22 46 04.0	0.0
SPCP	Crater Peak Br	5.02	9	P		Pn	22 46 06.3	+0.1
RC01	Rabbit Creek A	5.21	22	P		Pn	22 46 09.6	+0.9
PWL	Port Wells	5.36	30	P		Pn	22 46 11.2	+0.5
SUA	Susitna One	5.38	16	P		Pn	22 46 11.8	+0.7
KNK	Knik Glacier	5.79	26	P		Pn	22 46 17.2	+0.5
EYAK	Cordova Ski Ar	5.97	42	P		Pn	22 46 20.2	+1.1
SCM	Sheep Creek Mo	6.44	28	P		Pn	22 46 26.8	+1.1
KLU	Klutina	6.58	35	P		Pn	22 46 29.0	+1.4
TT01	Tatalina	6.69	351	P		Pn	22 46 29.3	+0.3
KHIT	Khitrov Hills	6.90	49	P		Pn	22 46 33.3	+1.3
BALM	Baldy	7.59	47	P		Pn	22 46 43.0	+1.5
RIDG	Independ'e Rid	8.66	27	P		Pn	22 46 56.4	+0.3
ILAR	Eielson Array	9.11	19	Pn		Pn	22 47 03.4	+1.2
	0.3nm,0.3s,baz=200,slow=13,SNR=14							
ILAR				Sn		Sn	22 48 37.0	-6.7
	0.1nm,0.3s,baz=210,slow=29,SNR=2.9							
INK	Inuvik	15.14	30	Pn		P	22 48 28.0	-1.3
	0.1nm,0.3s,baz=231,slow=8.6,SNR=2.6							
YKA	Yellowknife Ar	20.60	56	P		Pn	22 49 33.1	+1.5
	0.8nm,0.7s,baz=270,slow=11,SNR=11							
PDAR	Pinedale Array	31.15	97	P		P	22 51 05.8	-3.4
	0.2nm,0.4s,baz=317,slow=9.9,SNR=4.0							
ARCES	ARCESS Array B	54.43	0	P		P	22 54 17.4	+0.6
	3.7nm,0.9s,baz=16,slow=10,SNR=2.5							
SONM	Songino Array	56.65	307	P		P	22 54 34.1	+0.9
	1.0nm,0.8s,baz=47,slow=6.8,SNR=9.1							
ZALV	Zalesovo Beam	60.10	324	P		P	22 54 58.0	+1.1
	0.7nm,0.6s,baz=52,slow=6.1,SNR=3.2							
FINES	FINESS Array B	62.56	0	P		P	22 55 14.5	+1.1
	1.4nm,0.9s,baz=4.6,slow=8.6,SNR=3.9							
MKAR	Makanchi Array	67.05	322	P		P	22 55 43.4	+0.4
	0.3nm,0.5s,baz=32,slow=6.5,SNR=4.7							
AAK	Ala-Archa	73.31	325	P		P	22 56 23.2	+1.5
	0.2nm,0.3s,baz=315,slow=4.3,SNR=3.2							

MAN 12 22:57:19.8, 6.79N×126.26E, h22km, mb4.3, ML3.1, MS2.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.16	358	eP		Pb	22 57 25.6	+0.4
MATI				eS		Sb	22 57 29.3	+0.4
KCP	Kidapawan	1.19	281	ǁ iP		Pn	22 57 41.1	0.0
KCP				i S		Sb	22 57 56.4	-0.2
BUKP	Musuan	1.61	312	eP		Pn	22 57 46.7	-0.3
BUKP				eS		Sb	22 58 08.2	-0.6

*IDC **12** 23:08:43.1±2.9, 12.78N×90.80W, h57km±23km, mb3.5/7, mb1 3.7/10, mb1mx3.5/36, mbtmp3.8/10, ML3.3/3, MS3.0/2, Ms1 3.0/2, ms1mx2.5/25, Error ellipse: s-maj=28.6km s-min=17.4km az=64.0*

ISC 12 23:08:41.6±1.1, 13.0N±0.1×90.8W±0.1, h33km, n10, σ1§56/12, mb4.0/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APG	El Apazote	2.05	9	P		Pb	23 09 16.9	-1.5
	10nm,0.3s,baz=163,slow=7.2,SNR=77							
APG				S		Sb	23 09 45.5	+2.0
	23nm,0.3s,baz=126,slow=19,SNR=18							
APG				LR		LR	23 10 04.5	
	comp=Z,143nm,20.0s,baz=198,slow=36							
CMIG	Matias Romero	5.70	317	P		Pn	23 10 05.3	+1.3
	1.0nm,0.3s,baz=136,slow=14,SNR=8.5							
CMIG				S		Sn	23 11 05.5	-2.7
	0.6nm,0.3s,baz=177,slow=18,SNR=2.2							
JTS	JuntasAbangare	6.31	114	P		Pn	23 10 12.8	+0.4
	0.5nm,0.3s,baz=6.0,slow=19,SNR=4.4							
JTS				S		Sn	23 11 21.8	-1.6
	1.0nm,0.3s,baz=259,slow=12,SNR=3.9							
SDV	Santo Domingo	20.20	100	P		P	23 13 14.8	+0.7
	2.2nm,0.5s,baz=283,slow=14,SNR=4.1							
TXAR	Lajitas Array	20.20	326	P		Pn	23 13 17.1	+1.2
	1.7nm,0.8s,baz=152,slow=12,SNR=16							
TKL	Tuckaleechee C	23.46	14	P		P	23 13 49.0	+0.7
	7.4nm,0.9s,baz=189,slow=7.4,SNR=3.8							
TKL				LR		LR	23 22 52.9	
	comp=Z,89nm,21.0s,baz=205,slow=36							
ULM	Lac du Bonnet	37.41	355	P		P	23 15 50.5	-0.9
	1.1nm,0.5s,baz=180,slow=7.1,SNR=2.9							
SCHQ	Schefferville	45.79	19	P		P	23 16 59.4	-0.6
	3.2nm,0.6s,baz=235,slow=7.2,SNR=9.0							
YKA	Yellowknife Ar	52.30	346	P		P	23 17 50.3	+0.6
	0.2nm,0.6s,baz=139,slow=8.2,SNR=5.1							
ILAR	Eielson Array	64.25	337	P		P	23 19 14.3	+1.1
	0.5nm,1.0s,baz=117,slow=5.2,SNR=4.3							

*ISCJB **12** 23:19:05.6±0.7, 17.73N±0.05×145.90E±0.08, h161km±7km, mb4.1/35, Error ellipse: s-maj=11.9km s-min=7.7km az=176.7*

*NEIC **12** 23:19:06.0±0.2, 17.77N×145.93E, mb4.4/17, Error ellipse: s-maj=8.0km s-min=5.2km az=91.0*

*IDC **12** 23:19:06.1±0.6, 17.74N×146.00E, h148km±5km, mb3.8/19, mb1 3.8/21, mb1mx3.7/41, mbtmp4.2/21, Error ellipse: s-maj=15.7km s-min=7.6km az=96.0*

ISC 12 23:19:06.4±0.6, 17.75N±0.06×146.0E±0.1, h153km±5km, h153km:pP-P, n68, σ0§89/71, mb4.1/35, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SARN	Sarigan	1.06	190	ePn		Pn	23 19 31.3	-0.7
ANA2	Anatahan	1.42	190	ePn		Pn	23 19 34.5	-1.0
GUMO	Guam	4.27	195	P		Pn	23 20 11.4	+1.1
	33nm,0.3s,baz=292,slow=6.8,SNR=14							
GUMO				S		Sn	23 20 59.0	-1.0
	74nm,0.3s,baz=311,slow=22,SNR=8.2							
PATS	Pohnpei	16.21	130	ePn		Pn	23 22 45.7	+0.1
	170nm,1.2s							
H11S3	WAKE ISLAND Hy	19.71	85	T		T	23 44 14.1	
	baz=272,slow=75,SNR=18							
H11S1	WAKE ISLAND Hy	19.72	85	T		T	23 44 14.2	
	baz=272,slow=75,SNR=22							
H11S2	WAKE ISLAND Hy	19.73	85	T		T	23 44 14.7	
	baz=272,slow=75,SNR=17							
H11N1	WAKE ISLAND Hy	19.91	81	T		T	23 44 29.6	
	baz=267,slow=74,SNR=27							
H11N2	WAKE ISLAND Hy	19.92	81	T		T	23 44 33.4	
	baz=267,slow=74,SNR=24							
H11N3	WAKE ISLAND Hy	19.93	81	T		T	23 44 30.9	
	baz=267,slow=74,SNR=22							
MJAR	Matsushiro Arr	19.94	341	P		Pn	23 23 28.4	-1.3
	0.2nm,0.3s,baz=167,slow=9.6,SNR=7.1							
MAJO	Matsushiro	19.94	341	eP		Pn	23 23 28.4	-1.4
SIJI	Sorong	23.49	220	P		P	23 24 04.8	+2.2
	14nm,0.4s,baz=21,slow=14,SNR=6.7							
KSRS	Korea Array	25.23	325	P		P	23 24 18.0	-0.1
	1.1nm,0.6s,baz=145,slow=9.6,SNR=3.4							
KSAR	Wonju Array Be	25.25	325	P		P	23 24 18.0	-0.3
ASAJ	Asahikawa	26.44	355	P		P	23 24 29.9	+1.0
	9.7nm,0.9s,baz=262,slow=6.5,SNR=5.1							
CTA	Charters Tower	37.60	180	P		P	23 26 06.5	0.0
	1.4nm,0.3s,baz=15,slow=12,SNR=3.4							
WRAB	Tennant Creek	39.15	197	eP		P	23 26 19.3	0.0
	2.5nm,0.7s							
WB2	Warramunga Arr	39.16	197	eP		P	23 26 19.7	+0.3
WR1	Warramunga Arr	39.16	197	eP		P	23 26 18.6	-0.8
	25nm,1.5s							
WR1				eScP		ScP	23 31 59.3	-0.9
WRA	Warramunga Arr	39.16	197	P		P	23 26 18.6	-0.8
	2.6nm,0.8s,baz=7.3,slow=9.2,SNR=27							
WRA				ScP		ScP	23 31 59.3	-0.9
	0.5nm,0.9s,baz=27,slow=4.9,SNR=3.3							
AS31	Alice Springs	42.81	196	eP		P	23 26 48.9	-0.5
	3.9nm,1.6s							
ASAR	Alice Springs	42.82	196	P		P	23 26 48.9	-0.5
	0.5nm,0.3s,baz=24,slow=6.6,SNR=11							
SONA0	Songino Array	44.04	322	eP		P	23 26 58.8	-0.3
SONA0				epP		pP	23 27 32.5	+0.6
SONM	Songino Array	44.04	322	P		P	23 26 58.8	-0.3
	0.3nm,0.5s,baz=135,slow=8.2,SNR=4.7							
SONM				pP		pP	23 27 32.5	+0.6
	0.6nm,0.6s,baz=138,slow=7.6,SNR=3.3							
DZM	Mont Dzumac	44.36	152	P		P	23 27 02.2	+0.4
	7.4nm,0.7s,baz=322,slow=18,SNR=3.4							
CM01	Chiang Mai Arr	44.59	278	eP		P	23 27 04.8	+1.1
CMAR	Chiang Mai Arr	44.60	279	P		P	23 27 06.0	+2.2
	2.9nm,0.7s,baz=73,slow=7.0,SNR=13							
SEY	Seymchan	45.36	4	P		P	23 27 10.0	+1.0
	0.6nm,0.3s,baz=197,slow=6.6,SNR=4.5							
SEY				pP		pP	23 27 43.4	+1.3
	1.1nm,0.4s,baz=197,slow=17,SNR=2.5							
STKA	Stephens Creek	49.52	185	P		P	23 27 41.2	-0.3
	3.3nm,0.7s,baz=354,slow=7.3,SNR=7.5							
ZALV	Zalesovo Beam	58.92	323	eP		P	23 28 48.4	-1.0
ZALV	Zalesovo Beam	58.92	323	P		P	23 28 48.2	-1.2
	0.5nm,0.3s,baz=103,slow=6.5,SNR=3.5							
ZAA1	Zalesovo Array	58.92	323	eP		P	23 28 48.2	-1.2
MK01	Makanchi Array	59.29	314	eP		P	23 28 51.8	-0.3
MK32	Makanchi Array	59.30	314	eP		P	23 28 52.1	0.0
MKAR	Makanchi Array	59.30	314	P		P	23 28 52.1	0.0
	0.4nm,0.4s,baz=90,slow=7.7,SNR=16							
MAKZ	Makanchi	59.52	314	eP		P	23 28 53.1	-0.5
	1.2nm,0.8s							
KDAK	Kodiak Island	60.01	33	P		P	23 28 57.9	+1.2
	5.6nm,0.7s,baz=278,slow=7.1,SNR=3.7							
IM3	Indian Mountai	61.98	24	eP		P	23 29 09.9	0.0
BPAW	Bear Paw Mtn.	62.49	26	eP		P	23 29 14.1	+0.7
	7.2nm,0.8s							
NRIK	Noril'sk	62.59	340	P		P	23 29 13.4	-0.4
	1.3nm,0.4s,baz=74,slow=9.8,SNR=4.3							
MLY	Manley	62.86	25	eP		P	23 29 15.6	-0.2
	6.8nm,1.0s							
DHY	Denali Highway	63.79	28	eP		P	23 29 21.6	-0.5
	32nm,1.9s							
IL1	Eielson Array	64.38	26	eP		P	23 29 25.2	-0.5
IL1				epP		pP	23 30 00.3	-0.6
ILAR	Eielson Array	64.38	26	P		P	23 29 25.1	-0.6
	0.6nm,0.5s,baz=248,slow=6.1,SNR=10							
ILAR				pP		pP	23 30 00.4	-0.6
	2.4nm,0.8s,baz=258,slow=5.1,SNR=11							
ILB	Eielson Array	64.38	26	eP		P	23 29 25.1	-0.6
	6.4nm,1.3s							
LTZ	Lake Taylor	64.92	159	eP		P	23 29 29.0	-0.5
	14nm,1.1s							
BRVK	Borovoye	67.43	321	eP		P	23 29 45.0	-0.4
INK	Inuvik	70.14	23	P		P	23 30 01.9	0.0
	1.3nm,0.7s,baz=253,slow=6.8,SNR=7.7							
INK				pP		pP	23 30 37.8	+0.1
	2.0nm,0.7s,baz=263,slow=5.5,SNR=5.9							
ARU	Arti	73.98	325	eP		P	23 30 24.1	-0.9
YKA	Yellowknife Ar	78.70	28	P		P	23 30 51.8	+0.3
	1.3nm,0.7s,baz=288,slow=5.5,SNR=16							
YKB5	Yellowknife Ar	78.70	28	eP		P	23 30 51.6	+0.1
B08A	Colville Reser	80.00	42	eP		P	23 30 59.4	+0.5
	28nm,1.8s							
PINE	Pine Mountain	80.11	47	eP		P	23 31 00.5	+0.8
	6.9nm,0.7s							
RES	Resolute Bay	80.28	14	eP		P	23 31 00.4	+0.6
	16nm,1.9s							
CMB	Columbia Colle	82.06	53	eP		P	23 31 09.8	-0.2
	4.1nm,1.0s							
BMO	Blue Mountains	82.32	45	eP		P	23 31 11.9	+0.6
	3.8nm,1.2s							
ARA0	ARCESS Array S	83.47	342	eP		P	23 31 15.6	-0.9
ARCES	ARCESS Array B	83.47	342	P		P	23 31 15.6	-0.9
	3.2nm,0.8s,baz=62,slow=6.3,SNR=3.9							
ELK	Elko	85.05	49	eP		P	23 31 26.9	+1.5
	1.9nm,0.8s							
HRY	Holter Researc	85.34	42	eP		P	23 31 27.9	+1.4
FFC	Flin Flon	87.75	33	eP		P	23 31 37.8	-0.1
	0.8nm,0.3s							
FIA0	FINESS Array S	87.85	335	eP		P	23 31 36.3	-2.0
FINES	FINESS Array B	87.85	335	P		P	23 31 36.3	-2.0
	0.7nm,0.4s,baz=42,slow=3.1,SNR=8.3							
LCO	Las Campanas	144.66	115	ePKPdf		PKPdf	23 38 26.2	+0.4
LVC	Limon Verde	146.96	104	ePKPbc		PKPab	23 38 33.6	-0.4
LPAZ	La Paz	147.39	93	ePKPbc		PKPbc	23 38 34.5	+0.7
LPAZ	La Paz	147.39	93	PKPbc		PKiKP	23 38 35.3	-0.6
	1.9nm,0.6s,baz=247,slow=2.7,SNR=6.7							

*IDC **12** 23:53:48.2±0.5, 2.78S×139.03E, h0km, mb4.4/14, mb1 4.6/16, mb1mx4.4/27, mbtmp4.4/16, ML4.5/2, MS4.0/23, Ms1 4.0/23, ms1mx3.9/34, Error ellipse: s-maj=13.5km s-min=11.7km az=5.0*

*BJI **12** 23:53:51.6, 3.12S×139.29E, h51km, mb4.8/35, mB5.1/25, Ms4.6/11, Ms7 4.3/10*

*ISCJB **12** 23:53:52.7±0.2, 2.92S±0.03×139.07E±0.04, h46km, mb4.7/45, MS4.0/23, Error ellipse: s-maj=5.4km s-min=4.9km az=4.6*

*MOS **12** 23:53:52.1±0.8, 2.89S×139.02E, h42km, mb4.8/18, Error ellipse: s-maj=13.0km s-min=7.1km az=106.2*

*NEIC **12** 23:53:54.0±0.8, 2.86S×139.04E, h42km±8km, mb4.8/25, Error ellipse: s-maj=6.9km s-min=5.5km az=78.0*

*DJA **12** 23:53:54.6±0.3, 3°S±5'×13°9E±°, h44km±7km, M4.9/14, mb4.8/14, mB5.3/7, MLv5.1/6, Mw(mB)4.7/7*

*GCMT **12** 23:53:55.0±0.4, 2.60S±0.03×139.07E±0.03, h44km±1km, MW4.8/47, Moment Tensor Solution. s30,c38; s47,c65; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.96±.16; $M_{\theta\theta}$-2.04±.09; $M_{\phi\phi}$0.08±.13; $M_{r\theta}$-1.08±.09; $M_{r\phi}$0.29±.07; $M_{\theta\phi}$0.68±.13; Best double couple: M_o2.39100×10^{16} NP1:ϕs85.00000°, δ31.00000°, λ67.00000°. NP2: ϕs85.00000°, δ31.00000°, λ67.00000°. Principal axes: T 2.3870, Plg71.0000°, Azm230.0000°; N 0.0090, Plg12.0000°, Azm104.0000°; P -2.3960, Plg15.0000°, Azm11.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 23:53:54.3±0.4, 2.96S±0.05×139.06E±0.05, h46km, n143, σ1§62/139, mb4.7/45, MS4.0/23, 6C, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	Genyem	1.17	72	P		Pn	23 54 13.3	-0.9
JAY	Jayapura	1.70	75	P		Pn	23 54 19.9	-1.7
JAY	Jayapura	1.70	75	Pg		Pn	23 54 20.1	-1.5
	259nm,0.3s,baz=244,slow=9.4,SNR=133							
JAY				Lg		Lg	23 54 41.1	
	151nm,0.3s,baz=191,slow=19,SNR=5.1							
JAY				LR		LR	23 55 01.4	
	comp=Z,2μm,20.7s,baz=192,slow=43							
SRPI	Serui, Papua	3.02	291	P		Pn	23 54 39.4	-0.3
BAKI	Biak	3.44	301	P		Pn	23 54 46.5	+1.1
RKPI	Ransiki, Papua	5.09	286	P		Pn	23 55 09.7	+1.6
FAKI	Fak Fak	6.80	270	ePn		Pn	23 55 32.5	+0.8
FAKI	Fak Fak	6.80	270	P		Pn	23 55 33.2	+1.6
SIJI	Sorong	8.06	285	Pn		Pn	23 55 49.9	+0.9
	8.4nm,0.3s,baz=82,slow=19,SNR=21							
SIJI				Sn		Sn	23 57 16.2	-2.7
	5.0nm,0.3s,baz=127,slow=20,SNR=6.5							
SIJI				LR		LR	23 59 19.5	
	comp=Z,921nm,21.8s,baz=80,slow=42							
BNDI	Bandanaira	9.27	260	P		Pn	23 56 13.4	+8.0
COEN	Coen	11.65	160	ePn		Pn	23 56 40.5	+2.4
NLAI	Namlea	11.95	268	P		Pn	23 56 43.6	+1.5
MTN	Manton Dam	12.57	218	ePn		Pn	23 56 50.9	+0.3
SANI	Sanana	13.09	274	P		Pn	23 56 56.5	-1.3
SOEI	Soe	16.17	245	ePn		P	23 57 40.2	-1.1
	211nm,1.1s							
SOEI	Soe	16.17	245	P		Pn	23 57 39.8	+1.1
LUWI	Luwuk	16.39	276	P		Pn	23 57 40.7	-0.6
DAV	Davao City (W)	16.75	307	LR		LR	00 04 46.8	
	comp=Z,206nm,18.1s,baz=142,slow=40							
BATI	Baumata	16.89	244	Pn		P	23 57 52.6	+3.5
	26nm,0.3s,baz=112,slow=2.2,SNR=12							
GUMO	Guam	17.43	19	LR		LR	00 04 08.2	
	comp=Z,297nm,18.0s,baz=173,slow=36							
WRAB	Tennant Creek	17.48	195	ePn		Pn	23 57 54.7	-0.2
	94nm,1.4s							
WRAB	Tennant Creek	17.48	195	ceP		Pn	23 57 53.7	-1.2
WRAB				pmax	pmax			
	comp=Z,60nm,2.5s							
WB2	Warramunga Arr	17.49	195	ePn		Pn	23 57 54.7	-0.3
	comp=Z,70nm,1.2s							
WRA	Warramunga Arr	17.49	195	P		Pn	23 57 54.4	-0.6
	comp=Z,2.4nm,0.3s,baz=16,slow=13,SNR=54							
WRA				S		Sn	00 01 01.3	-7.8
	baz=4.3,slow=24,SNR=3.0							
WRA				LR		LR	00 05 20.4	
	comp=Z,2μm,19.0s,baz=20,slow=39							
APSI	Ampana	17.52	276	P		Pn	23 57 54.5	-0.9
EDFI	Ende, Flores	18.20	251	P		Pn	23 58 05.4	+1.5
CTA	Charters Tower	18.41	158	P		Pn	23 58 07.9	+1.6
	comp=Z,0.6nm,0.3s,baz=334,slow=16,SNR=2.6							
CTA				LR		LR	00 05 55.5	
	comp=Z,2μm,18.2s,baz=328,slow=39							
CTAO	Charters Tower	18.41	158	eP		Pn	23 58 06.7	+0.4
CTAO	Charters Tower	18.41	158	eP		Pn	23 58 06.7	+0.4
BNSI	Bone	18.97	265	P		Pn	23 58 19.2	+6.1
TTSI	Tana Toraja	19.22	269	P		Pn	23 58 19.2	+3.2
SPSI	Sidrap Palu	19.28	266	P		Pn	23 58 19.9	+3.1
PCI	Palu	19.32	276	P		Pn	23 58 17.8	+0.5
MPSI	Mapaga	19.43	279	P		Pn	23 58 19.1	+0.5
FITZ	Fitzroy Crossi	19.98	220	eP		P	23 58 23.3	+0.3
	comp=Z,29nm,1.0s							
FITZ				S		S	00 02 00.6	-4.8
FITZ	Fitzroy Crossi	19.98	220	P		P	23 58 23.7	+0.6
	comp=Z,6.6nm,0.6s,baz=34,slow=10,SNR=16							
FITZ				S		S	00 02 00.6	-4.8
	comp=Z,9.5nm,0.8s,baz=131,slow=14,SNR=3.9							
FITZ				LR		LR	00 06 58.3	
	comp=Z,929nm,19.1s,baz=37,slow=39							
AS01	Alice Springs	21.16	193	eP		P	23 58 36.7	+0.8
AS31	Alice Springs	21.18	193	eP		P	23 58 37.2	+1.3
	comp=Z,16nm,0.5s							
ASAR	Alice Springs	21.18	193	P		P	23 58 37.4	+1.4
	comp=Z,18nm,0.7s,baz=24,slow=10,SNR=38							
ASAR				S		S	00 02 30.2	+1.0
	comp=Z,2.2nm,0.8s,baz=16,slow=24,SNR=2.7							
ASAR				LR		LR	00 07 35.3	
	comp=Z,1μm,19.3s,baz=11,slow=39							
TGY	Tagaytay City	24.71	314	P		P	23 59 11.5	0.0
	comp=Z,125nm,0.3s,baz=98,slow=7.1,SNR=7.9							
TGY				LR		LR	00 09 00.8	
	comp=Z,240nm,20.8s,baz=163,slow=37							
KMMI	Kalianget	25.32	260	P		P	23 59 21.5	+4.5
JAGI	Jajag, Banyuwa	25.37	256	P		P	23 59 34.3	+17
MBWA	Marble Bar	26.10	225	eP		P	23 59 24.3	+0.3
STKA	Stephens Creek	28.86	176	P		P	23 59 49.9	+1.3
	comp=Z,1.4nm,0.4s,baz=330,slow=10,SNR=4.2							
JCJ	Chichijima	30.04	6	LR		LR	00 10 19.6	
	comp=Z,153nm,19.5s,baz=134,slow=33							
MDSI	Maura Dua	34.84	266	P		P	00 00 41.5	+0.2
LHSI	Lahat	35.48	268	P		P	00 00 48.4	+1.5
MJAR	Matsushiro Arr	39.31	359	LR		LR	00 15 22.2	
	comp=Z,150nm,20.3s,baz=120,slow=33							
NJ2	Nanjing	39.76	333	eP		P	00 01 21.5	-1.3
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
PSI	Prapat	40.53	278	eP		P	00 01 28.3	-1.3
	comp=Z,30nm,1.3s							
PSI	Prapat	40.53	278	eP		P	00 01 28.3	-1.3
PSI				pmax	pmax			
	comp=Z,30nm,1.3s							
PSI	Prapat	40.53	278	P		P	00 01 28.6	-1.0
	comp=Z,8.8nm,0.8s,baz=181,slow=1.4,SNR=11							
PSI				LR		LR	00 20 00.2	
	comp=Z,120nm,20.1s,baz=91,slow=39							
KSRS	Korea Array	41.52	347	LR		LR	00 17 54.6	
	comp=Z,109nm,18.4s,baz=154,slow=35							
GSI	Gunungsitoli	41.69	275	eP		P	00 01 37.9	-1.1
	comp=Z,46nm,1.5s							
GSI	Gunungsitoli	41.69	275	P		P	00 01 39.4	+0.4
COCO	West Island	42.79	255	i P		P	00 01 44.1	-3.8
CMAR	Chiang Mai Arr	44.87	300	i P		P	00 02 05.9	+1.3
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
CMAR	Chiang Mai Arr	44.87	300	P		P	00 02 04.2	-0.3
	comp=Z,0.7nm,0.3s,baz=116,slow=6.9,SNR=6.1							
CMAR				LR		LR	00 22 07.4	
	comp=Z,47nm,18.3s,baz=117,slow=38							
KMI	Kunming	44.95	311	P		P	00 02 06.2	+0.8
KMI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
KMI				pmax	pmax			
	comp=Z,110nm,5.3s							
XAN	Xi'an	46.48	325	P		P	00 02 16.6	-0.6
XAN				pP	pP		00 02 30.3	+0.4
XAN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
XAN				LR	LR			
	comp=Z,130nm,21.7s							
XAN				LR	LR			
	comp=Z,130nm,19.5s							
XAN				LR	LR			
	comp=Z,200nm,17.9s							
XAN	Xi'an	46.48	325	eP		P	00 02 17.4	+0.3
	comp=Z,9.7nm,1.0s							
XAN	Xi'an	46.48	325	eP		P	00 02 17.4	+0.3
XAN				pmax	pmax			
	comp=Z,10.0nm,1.0s							
USRK	Ussuriysk Ar.	47.38	353	P		P	00 02 22.6	-1.2
	comp=Z,4.2nm,0.8s,baz=176,slow=5.5,SNR=4.7							
USRK				LR		LR	00 19 01.5	
	comp=Z,189nm,21.7s,baz=156,slow=32							
CD2	Chengdu	47.60	318	P		P	00 02 25.3	-0.7
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
BJT	Baijiatuau	47.65	336	eP		P	00 02 26.0	-0.1
	comp=Z,13nm,0.8s							
BJT	Baijiatuau	47.65	336	eP		P	00 02 26.0	-0.1
BJT				pmax	pmax			
	comp=Z,13nm,0.8s							
DCZ	Deep Cove	48.97	154	eP		P	00 02 37.9	+1.7
	comp=Z,42nm,1.4s							
RPZ	Rata Peaks	49.49	150	eP		P

	comp=Z,6.4nm,1.0s							
MA2	**Magadan**	**63.03**	**7**	*ce*P	**P**	**00 04 16.5**	**+0.1**
MA2				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MOY	**Mondy**	**63.29**	**335**	*e*P	**P**	**00 04 19.3**	**+0.8**
MOY				pmax	pmax			
	comp=Z,12nm,1.3s							
BOD	**Bodaibo**	**63.85**	**345**	*e*P	**P**	**00 04 21.4**	**-0.4**
BOD				pmax	pmax			
	comp=Z,6.0nm,2.1s							
WMQ	**Urumqi**	**65.42**	**322**	*e*P	**P**	**00 04 32.7**	**+0.2**
WMQ				pP	pP	00 04 45.2	-0.7
WMQ				sP	sP	00 04 51.4	+0.2
WMQ				pmax	pmax			
	comp=Z,24nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,220nm,6.1s							
WMQ				LR	LR			
	comp=Z,130nm,23.1s							
SEY	**Seymchan**	**66.49**	**7**	*ce*P	**P**	**00 04 39.2**	**+0.3**
MK01	**Makanchi Array**	**70.19**	**322**	*e*P	**P**	**00 05 02.2**	**-0.2**
MK31	**Makanchi Array**	**70.20**	**322**	*e*P	**P**	**00 05 01.9**	**-0.6**
	comp=Z,14nm,1.5s							
MK31	**Makanchi Array**	**70.20**	**322**	*e*P	**P**	**00 05 01.9**	**-0.6**
MK31				pmax	pmax			
	comp=Z,14nm,1.5s							
MKAR	**Makanchi Array**	**70.20**	**322**	P	**P**	**00 05 02.4**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=95,slow=9.2,SNR=84							
MKAR				LR	LR	00 35 12.9		
	comp=Z,58nm,21.2s,baz=106,slow=36							
MAKZ	**Makanchi**	**70.40**	**322**	*e*P	**P**	**00 05 03.0**	**-0.7**
	comp=Z,7.5nm,0.8s							
MAKZ	**Makanchi**	**70.40**	**322**	*e*P	**P**	**00 05 03.0**	**-0.7**
MAKZ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
PPT2	**Papeete2**	**71.35**	**107**	*e*LR	LR	00 27 06.5		
	comp=Z,174nm,27.0s							
KSH	**Kashi**	**71.51**	**313**	P	**P**	**00 05 11.9**	**+1.2**
KSH				sP	PcP	00 05 30.5	+0.5
KSH				S	**S**	**00 14 24.1**	**-2.4**
KSH				SS	**SS**	**00 19 01.6**	**-0.8**
KSH				pmax	pmax			
	comp=Z,140nm,5.7s							
KDJ	**Kajisay**	**71.59**	**316**	*e*P	**P**	**00 05 10.4**	**-0.8**
	comp=Z,13nm,1.6s							
KDJ	**Kajisay**	**71.59**	**316**	*e*P	**P**	**00 05 10.4**	**-0.8**
KDJ				pmax	pmax			
	comp=Z,13nm,1.6s							
TBI	**Tubuai**	**71.83**	**113**	*e*LR	LR	00 27 20.6		
	comp=Z,124nm,31.8s							
NRN	**Naryn**	**72.16**	**315**	*e*P	**P**	**00 05 15.1**	**+0.2**
	comp=Z,5.8nm,1.4s							
NRN	**Naryn**	**72.16**	**315**	*e*P	**P**	**00 05 15.1**	**+0.2**
NRN				pmax	pmax			
	comp=Z,6.0nm,1.4s							
ZALV	**Zalesovo Beam**	**72.33**	**330**	*i* P	**P**	**00 05 14.8**	**-0.3**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.4s							
ZALV	**Zalesovo Beam**	**72.33**	**330**	P	**P**	**00 05 13.7**	**-1.5**
	comp=Z,1.5nm,0.4s,baz=108,slow=6.4,SNR=11							
ZALV				LR	LR	00 39 19.9		
	comp=Z,52nm,18.1s,baz=68,slow=38							
KZA	**Kyzart**	**72.91**	**316**	P	**P**	**00 05 20.3**	**+0.8**
	SNR=12							
UCH	**Uchtor**	**73.48**	**316**	P	**P**	**00 05 23.4**	**+0.6**
	SNR=8.7							
AAK	**Ala-Archa**	**73.63**	**316**	*e*P	**P**	**00 05 22.8**	**-0.5**
	comp=Z,5.2nm,1.2s							
AAK	**Ala-Archa**	**73.63**	**316**	*ce*P	**P**	**00 05 22.7**	**-0.6**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
USP	**Ospenovka**	**73.84**	**317**	P	**P**	**00 05 24.4**	**0.0**
	SNR=9.7							
AML	**Almayashu**	**74.02**	**315**	P	**P**	**00 05 26.4**	**+0.5**
	SNR=8.8							
KURK	**Kurchatov**	**74.12**	**325**	*e*P	**P**	**00 05 24.7**	**-1.1**
KURK	**Kurchatov**	**74.12**	**325**	*i* P	**P**	**00 05 25.5**	**-0.3**
KURK				pmax	pmax			
	comp=Z,8.0nm,1.1s							
EKS2	**Erkin-Say**	**74.14**	**316**	P	**P**	**00 05 26.6**	**+0.4**
	SNR=5.7							
TIXI	**Tiksi**	**74.77**	**357**	*e*P	**P**	**00 05 28.8**	**-0.4**
	comp=Z,17nm,2.0s							
TIXI	**Tiksi**	**74.77**	**357**	*ce*P	**P**	**00 05 27.7**	**-1.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VNDA	**Vanda**	**75.50**	**175**	*e*P	**P**	**00 05 34.9**	**+1.6**
	comp=Z,8.2nm,0.7s							
VNDA	**Vanda**	**75.50**	**175**	*e*P	**P**	**00 05 34.9**	**+1.6**
VNDA				pmax	pmax			
	comp=Z,8.0nm,0.7s							
VNDA	**Vanda**	**75.50**	**175**	P	**P**	**00 05 35.1**	**+1.8**
	comp=Z,8.9nm,0.8s,baz=324,slow=6.7,SNR=75							
VNDA				LR	LR	00 39 08.3		
	comp=Z,348nm,18.6s,baz=16,slow=36							
BRVK	**Borovoye**	**79.79**	**325**	*e*P	**P**	**00 05 56.7**	**-0.9**
BRVK	**Borovoye**	**79.79**	**325**	*e*P	**P**	**00 05 56.7**	**-0.9**
NRIK	**Noril'sk**	**80.06**	**344**	P	**P**	**00 05 57.2**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=129,slow=8.6,SNR=4.8							
NRIK				LR	LR	00 42 09.1		
	comp=Z,67nm,20.4s,baz=152,slow=36							
KDAK	**Kodiak Island**	**81.14**	**30**	*i* P	**P**	**00 06 05.8**	**+1.0**
GEYT	**Alibeck**	**84.67**	**308**	P	**P**	**00 06 23.9**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=114,slow=6.6,SNR=7.9							
GYA0B	**ALIBECK ARRAY**	**84.67**	**308**	*e*P	**P**	**00 06 23.1**	**-0.5**
	comp=Z,15nm,1.4s							
ABKAR	**Akbulak array**	**85.14**	**320**	*e*P	**P**	**00 06 24.7**	**-0.9**
	comp=Z,8.3nm,1.4s							
WRH	**Wood River Hil**	**85.33**	**25**	*e*P	**P**	**00 06 25.6**	**-0.6**
	comp=Z,6.3nm,1.0s							
CCB	**Clear Creek Bu**	**85.50**	**24**	*e*P	**P**	**00 06 26.1**	**-0.9**
	comp=Z,5.5nm,0.8s							
HDA	**Harding Lake**	**85.79**	**25**	*e*P	**P**	**00 06 30.1**	**+1.6**
IL1	**Eielson Array**	**85.92**	**24**	*e*P	**P**	**00 06 27.2**	**-2.0**
ILAR	**Eielson Array**	**85.92**	**24**	P	**P**	**00 06 27.8**	**-1.4**
	comp=Z,4.3nm,0.8s,baz=262,slow=4.3,SNR=23							
ILAR				LR	LR	00 41 06.2		
	comp=Z,49nm,20.3s,baz=246,slow=33							
ILB	**Eielson Array**	**85.92**	**24**	*e*P	**P**	**00 06 28.7**	**-0.5**
	comp=Z,4.8nm,0.9s							
EGAK	**Eagle**	**88.31**	**25**	*e*P	**P**	**00 06 40.9**	**+0.1**
	comp=Z,8.7nm,1.3s							
ARCES	**ARCESS Array B**	**100.86**	**341**	P	**Pdif**	**00 07 37.0**	**-1.1**
ARCES	**ARCESS Array B**	**100.86**	**341**	P	**Pdif**	**00 07 37.0**	**-1.1**
	comp=Z,3.7nm,0.9s,baz=64,slow=8.4,SNR=6.9							
SCHQ	**Schefferville**	**124.17**	**18**	PKP	**PKPdf**	**00 12 47.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=359,slow=7.7,SNR=3.5							
PLCA	**Paso Flores**	**128.79**	**151**	PKP	**PKiKP**	**00 12 59.4**	**+1.4**
	comp=Z,2.1nm,1.1s,baz=192,slow=3.6,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**136.66**	**286**	*e*PKPdf	**PKPdf**	**00 13 12.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**136.66**	**286**	PKP	**PKiKP**	**00 13 13.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=74,slow=2.2,SNR=8.7							
DBIC	**Dimbokro**	**143.87**	**277**	PKP	PKPbc	00 13 23.6	+0.1	
	comp=Z,3.3nm,0.7s,baz=58,slow=0.8,SNR=7.5							
CPUP	**Villa Florida**	**146.84**	**152**	PKPbc	**PKPbc**	**00 13 32.3**	**0.0**
	comp=Z,2.1nm,0.8s,baz=248,slow=3.4,SNR=4.9							
LPAZ	**La Paz**	**147.01**	**126**	*e*PKPbc	**PKPab**	**00 13 35.5**	**+0.1**
LPAZ	**La Paz**	**147.01**	**126**	PKPbc	**PKPab**	**00 13 35.2**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=148,slow=2.1,SNR=7.2							

ISCJB ***12*** *23:57:35.1±1.4,33.80N±0.04×35.69E±0.08, h23km±12km, Error ellipse: s-maj=11.6km s-min=6.7km az=161.5*
GRAL ***12*** *23:57:35.3±0.3,33.81N×35.80E, h20km±2km, MD2.8*
NSSC ***12*** *23:57:36.6±0.7,33.71N×35.71E, h11km±4km, ML1.2*

ISC 12 23:57:34.1±1.2, 33.85N±0.06×35.8E±0.1, h26km±12km, n10, σ0.80/16, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.11**	**300**	*e*P	**Pb**	**23 57 39.5**	**+0.4**
BHL				*e*S	**Sb**	**23 57 42.6**	**+0.1**
DQRL	**Deir Qamar**	**0.22**	**230**	*e*P	**Pb**	**23 57 40.3**	**+0.1**
BEYL	**Beirut**	**0.23**	**276**	*e*P	**Pb**	**23 57 40.7**	**+0.5**
QRWL	**Qaraoun**	**0.31**	**194**	*e*P	**Pb**	**23 57 41.1**	**-0.3**
QRWL				*e*S	**Sb**	**23 57 45.5**	**-0.8**
RCY	**Rachaya**	**0.35**	**171**	*e*P	**Pb**	**23 57 41.8**	**-0.3**
RCY				*e*S	**Sb**	**23 57 46.4**	**-1.1**
HWQ	**Hawqa**	**0.45**	**18**	*e*P	**Pn**	**23 57 44.2**	**-0.8**
BRBR	**Barbar**	**0.46**	**161**	*e*P	**Pb**	**23 57 44.0**	**+0.2**
BRBR				*e*S	**Sb**	**23 57 49.2**	**-1.2**
BRBR				AML	AML	23 57 53.9	
	comp=E,32nm,0.5s						
BRBR				AML	AML	23 57 59.6	
	comp=N,15nm,0.5s						
SHBL	**Chebaa**	**0.50**	**183**	*e*P	**Pb**	**23 57 44.1**	**-0.3**
QASN	**Qassioun**	**0.52**	**127**	*e*P	**Pn**	**23 57 47.2**	**+1.2**
QASN				*e*S	**Sn**	**23 57 53.7**	**-0.3**
QASN				AML	AML	23 57 56.4	
	comp=N,22nm,0.3s						
QASN				AML	AML	23 57 57.0	
	comp=E,72nm,0.5s						
TOTH	**TOTAH**	**0.73**	**131**	*e*P	**Pn**	**23 57 49.9**	**+1.1**
TOTH				*e*S	**Sn**	**23 57 59.7**	**+0.6**
TOTH				AML	AML	23 58 06.0	
	comp=E,8.2nm,0.6s						
TOTH				AML	AML	23 58 13.5	
	comp=N,5.5nm,0.6s						

ISN ***13*** *00:05:12.3±0.9,36.78N×43.38E, h0km±4km*
ISK ***13*** *00:05:20.1,36.92N×43.34E, h5km, ML2.7/8*
DDA ***13*** *00:05:23.1,37.05N×43.47E, h7km, ML2.7*

ISC 13 00:05:16.2±1.1, 36.62N±0.03×43.43E±0.04, h7km±10km, n18, σ1.07/29, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.34**	**230**	*e*Pg	**Pg**	**00 05 22.0**	**-0.7**
MSL				*e*Sg	**Sg**	**00 05 28.1**	**+0.9**
CUKT	**Cukurca**	**0.65**	**13**	PG	**Pg**	**00 05 28.5**	**-0.2**
CUKT				SG	**Sg**	**00 05 35.8**	**-1.3**
CUKT	**Cukurca**	**0.65**	**13**	*i* P	**Pg**	**00 05 28.8**	**+0.1**
CUKT				*i* S	**Sb**	**00 05 38.6**	**-0.5**
SIRT	**Sirnak**	**1.19**	**318**	PG	**Pn**	**00 05 38.4**	**-0.9**
SIRT				SG	**Sb**	**00 05 53.3**	**-1.4**
YOVA	**Hakkari_Yksek**	**1.19**	**35**	*i* P	**Pn**	**00 05 39.2**	**-0.2**
YOVA				IAML_P			
	comp=Z,2μm,0.3s						
SIRN	**Sirnak**	**1.20**	**318**	*i* P	**Pn**	**00 05 39.0**	**-0.5**
SIRN				*i* S	**Sg**	**00 05 55.6**	**+0.8**
SIRN				IAML_P			
	comp=Z,2μm,0.2s						
IKRK	**Kirkuk**	**1.42**	**148**	*e*Pn	**Pb**	**00 05 42.0**	**-1.0**
IKRK				*e*Sn	**Sg**	**00 06 03.5**	**+1.7**
GEVA	**Gevas**	**1.72**	**350**	*i* P	**Pg**	**00 05 49.3**	**+0.1**
GEVA				*i* S	**Sg**	**00 06 12.7**	**+1.2**
GEVA				IAML_P			
	comp=Z,883nm,0.4s						
AKDM	**Akdamar-Van**	**1.75**	**348**	PN	**Pb**	**00 05 48.4**	**-0.3**
SRTM	**Siirt_Merkez**	**1.83**	**319**	*i* P	**Pb**	**00 05 50.3**	**+0.3**
SRTM				*i* S	**Sg**	**00 06 15.0**	**+0.1**
VANB	**Van**	**1.98**	**359**	PN	**Pn**	**00 05 50.5**	**+0.3**
GURO	**Guroymak-BITLI**	**2.23**	**331**	PN	**Pb**	**00 05 55.5**	**-1.4**
SVAN	**Silvan-Diyarba**	**2.35**	**311**	PN	**Pb**	**00 05 57.8**	**-1.0**
SVAN	**Silvan-Diyarba**	**2.35**	**311**	*i* P	**Pb**	**00 05 59.4**	**+0.5**
SVAN				*i* S	**Sb**	**00 06 28.2**	**+0.1**
SVAN				IAML_P			
	comp=Z,187nm,0.2s						
AGRB	**Hanur-Agry**	**2.98**	**353**	PN	**Pn**	**00 06 06.0**	**+2.0**
BNGB	**Bingl**	**3.22**	**318**	PN	**Pn**	**00 06 09.8**	**+2.5**
IBDR	**Badra**	**4.06**	**149**	*e*Pn	**Pn**	**00 06 19.0**	**+0.4**
IBDR				*e*Sn	**Sn**	**00 07 07.0**	**+0.6**
RTB	**Rutbah**	**4.40**	**217**	*e*Pn	**Pn**	**00 06 24.0**	**+0.5**
RTB				*e*Sn	**Sn**	**00 07 14.0**	**-1.0**

MEX 13 00:09:34.5±0.4, 18.24N×99.65W, h7km±1km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.21**	**43**	*i* P	Pg	00 09 38.3	-0.4
PLIG				*i* S	Sg	00 09 41.6	+0.1
MEIG	**Mezcala**	**0.31**	**175**	*i* P	Pg	00 09 40.1	-0.5
MEIG				*i* S	Sg	00 09 45.1	+0.2
ARIG	**Puente Sto Nin**	**0.66**	**274**	*e*P	Pg	00 09 46.3	-1.0
ARIG				*e*S	Sg	00 09 55.3	-0.7
MAVM	**Malinalco, Edo**	**0.73**	**12**	*i* P	Pg	00 09 47.2	-1.4
MAVM				*i* S	Sg	00 09 56.9	-1.2
YAIG	**Yautepec**	**0.83**	**42**	*e*P	Pg	00 09 49.1	-1.5
YAIG				*e*S	Sg	00 10 00.0	-1.3
TLIG	**Tlapa**	**1.23**	**123**	*e*P	Pg	00 09 54.3	-3.9
TLIG				*i* S	Sg	00 10 10.2	-4.0
PPM	**Popocatepetl**	**1.27**	**50**	*e*P	Pg	00 09 55.0	-4.0
PPM				*i* S	Sg	00 10 11.0	-4.5
CAIG	**El Cayaco**	**1.32**	**206**	*e*P	Pn	00 09 55.4	-4.0
CAIG				*i* S	Sb	00 10 11.6	-5.2
ZIIG	**Zihuatanejo**	**1.84**	**250**	*i* P	Pn	00 10 03.0	-3.5
ZIIG				*i* S	Sn	00 10 25.4	-4.6
TPIG	**Tehuac#an**	**2.18**	**85**	*i* P	Pn	00 10 08.1	-3.3
TPIG				*i* S	Sn	00 10 34.0	-4.8

ISCJB ***13*** *00:12:18.3±0.4,37.69N±0.04×72.54E±0.05, h119km, mb3.6/3, Error ellipse: s-maj=6.0km s-min=4.7km az=143.9*
IDC ***13*** *00:12:19.0±4.4,37.74N×72.68E, h104km±31km, mb3.3/3, mb1 3.3/9, mb1mx3.1/42, mbtmp3.7/9, Error ellipse: s-maj=55.9km s-min=26.3km az=143.0*
NNC ***13*** *00:12:25.6±1.7,38.24N×72.20E, h174km±32km, mb2.9, mpv3.8, Error ellipse: s-maj=17.5km s-min=11.3km az=172.0*

ISC 13 00:12:19.6±0.8, 37.77N±0.07×72.53E±0.06, h119km, n31, σ1.76/36, mb3.5/3, 7C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.45**	**11**	P	**Pn**	**00 13 26.2**	**+0.8**
	SNR=31						
UCH	**Uchtor**	**4.71**	**18**	P	**Pn**	**00 13 30.0**	**+1.0**
	SNR=13						
EKS2	**Erkin-Say**	**4.98**	**11**	P	**Pn**	**00 13 33.5**	**+1.2**
	SNR=33						
AAK	**Ala-Archa**	**5.09**	**17**	P	**Pn**	**00 13 35.2**	**+1.4**
	SNR=27						
AAK	**Ala-Archa**	**5.09**	**17**	⇑P	**Pn**	**00 13 35.1**	**+1.2**
	9.0nm,0.5s						
AAK				⇓S	**Sn**	**00 14 30.8**	**-0.9**
	43nm,0.9s						
AAK	**Ala-Archa**	**5.09**	**17**	P	**Pn**	**00 13 34.9**	**+1.1**
	3.9nm,0.3s,baz=176,slow=7.1,SNR=100						
AAK				S	**Sn**	**00 14 29.7**	**-2.0**
	1.5nm,0.3s,baz=327,slow=23,SNR=20						
CHMS	**Chumysh**	**5.50**	**17**	P	**Pn**	**00 13 40.3**	**+1.2**
	SNR=8.9						
KK31	**Karatay Array**	**5.55**	**345**	P	**Pn**	**00 13 40.8**	**+0.9**
	16nm,0.4s,baz=162,slow=14,SNR=224						
KK31				⇑S	**Sn**	**00 14 38.3**	**-4.1**
	13nm,0.5s,baz=169,slow=23,SNR=14						
TKM2	**Tokmak 2**	**5.66**	**24**	⇓P	**Pn**	**00 13 43.8**	**+2.3**
	1.6nm,0.5s						
TKM2				⇑S	**Sn**	**00 14 47.5**	**+2.1**
	12nm,0.8s						
USP	**Ospenovka**	**5.70**	**15**	P	**Pn**	**00 13 42.5**	**+0.7**
	SNR=9.4						
GEYT	**Alibeck**	**11.40**	**275**	P	**Pn**	**00 14 59.2**	**+0.4**
	1.4nm,0.3s,baz=96,slow=10,SNR=15						
GEYT				S	**Sn**	**00 17 01.4**	**-2.8**
	1.8nm,0.3s,baz=155,slow=21,SNR=11						
GYA0B	**ALIBECK ARRAY**	**11.40**	**275**	⇑P	**Pn**	**00 14 59.7**	**+1.0**
GYA0B				⇑S	**Sn**	**00 17 03.6**	**-0.6**
MKAR	**Makanchi Array**	**11.55**	**36**	P	**Pn**	**00 14 59.6**	**-1.2**
	0.1nm,0.3s,baz=186,slow=23,SNR=5.1						
PYUN	**Piuthan**	**13.03**	**135**	*e*P	**Pn**	**00 15 19.0**	**-1.5**
	29nm,0.6s						
DANN	**Dangsing**	**13.29**	**132**	*e*P	**Pn**	**00 15 22.6**	**-1.3**
	24nm,0.4s						
KOLN	**Koldanda**	**13.63**	**134**	*e*P	**Pn**	**00 15 27.1**	**-1.1**
	7.5nm,0.4s						
GKN	**Gorkha**	**14.07**	**130**	*e*P	**Pn**	**00 15 33.1**	**-0.7**
	23nm,0.5s						
KKN	**Kakani**	**14.62**	**129**	*e*P	**Pn**	**00 15 38.7**	**-2.1**
	8.5nm,0.4s						
DMN	**Daman**	**14.64**	**130**	*e*P	**Pn**	**00 15 39.9**	**-1.2**
	7.6nm,0.4s						
AB31	**Akbulak array**	**14.65**	**326**	S	Sn	00 18 13.7	-8.7
	2.0nm,0.5s,baz=141,slow=23,SNR=10						
PKIN	**Phulchoki**	**14.84**	**129**	*e*P	**Pn**	**00 15 41.4**	**-2.3**
	6.0nm,0.4s						
PKI	**Pulchoki**	**14.85**	**129**	*e*P	**Pn**	**00 15 41.6**	**-2.3**
	8.8nm,0.5s						
GUN	**Gumba**	**14.90**	**127**	*e*P	**Pn**	**00 15 43.6**	**-0.9**
	11nm,0.4s						
JIRN	**Jiri**	**15.27**	**127**	*e*P	**Pn**	**00 15 47.5**	**-1.7**
	16nm,0.4s						
BVAR	**Borovoye Array**	**15.33**	**355**	P	**Pn**	**00 15 48.3**	**-1.0**
	0.2nm,0.3s,baz=171,slow=11,SNR=7.5						
AKTO	**Aktyubinsk**	**16.36**	**325**	⇑P	**Pn**	**00 15 59.2**	**-2.9**
	6.3nm,1.1s						
AKTO				⇑S	Sn	00 18 55.1	-8.7
	3.0nm,0.8s						
AKTO	**Aktyubinsk**	**16.36**	**325**	P	**Pn**	**00 16 03.6**	**+1.4**
	0.7nm,0.3s,baz=129,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**18.26**	**24**	P	**P**	**00 16 22.4**	**-1.2**
	0.2nm,0.3s,baz=208,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**37.13**	**325**	P	**P**	**00 19 20.3**	**+2.0**
	2.0nm,0.9s,baz=106,slow=6.8,SNR=4.6						
NOA	**NORSAR Array B**	**44.12**	**322**	P	**P**	**00 20 17.5**	**+1.7**
	0.2nm,0.4s,baz=94,slow=7.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**66.96**	**269**	P	**P**	**00 23 01.8**	**+2.1**
	0.3nm,0.4s,baz=55,slow=5.4,SNR=14						

IDC 13 00:13:29.6±3.1, 32.66S×178.99W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=70.7km s-min=46.5km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.43**	**209**	Pn	Pn	00 15 05.1	-0.5
	0.9nm,0.3s,baz=162,slow=20,SNR=2.0						
URZ				Sn	Sn	00 16 14.9	-4.8
	1.1nm,0.3s,baz=150,slow=20,SNR=3.7						
ASAR	**Alice Springs**	**42.20**	**270**	P	P	00 21 24.9	+0.4
	0.4nm,0.6s,baz=108,slow=7.5,SNR=4.6						
WRA	**Warramunga Arr**	**43.40**	**275**	P	P	00 21 33.8	-0.5
	0.3nm,0.4s,baz=115,slow=7.9,SNR=8.9						
FINES	**FINESS Array B**	**146.94**	**338**	PKPbc	PKPbc	00 33 12.5	-0.8
	2.0nm,0.9s,baz=49,slow=3.6,SNR=4.7						

IDC 13 00:49:41.8±3.2, 6.97S×148.92E, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.6/34, mbtmp4.0/3, ML3.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/38, Error ellipse: s-maj=101.4km s-min=43.6km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**11.19**	**103**	LR	LR	00 55 48.0	
	comp=Z,161nm,18.1s,baz=319,slow=33						
WRA	**Warramunga Arr**	**19.14**	**226**	P	P	00 54 06.4	-0.3
	0.2nm,0.3s,baz=52,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**21.99**	**219**	P	P	00 54 38.1	+0.5
	2.6nm,0.6s,baz=53,slow=9.1,SNR=23						
FITZ	**Fitzroy Crossi**	**25.23**	**242**	P	P	00 55 09.7	+0.1
	6.3nm,0.8s,baz=82,slow=9.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**147.17**	**283**	PKPbc	PKPbc	01 09 27.0	-1.0
	1.9nm,1.0s,baz=67,slow=2.8,SNR=10						

IDC 13 00:51:55.0±3.3, 6.97S×148.73E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.4/34, mbtmp3.6/3, ML3.2/1, Error ellipse: s-maj=103.3km s-min=43.9km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.00**	**226**	P	Pn	00 56 18.9	-0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**21.87**	**219**	P	P	00 56 50.1	+0.5
	0.7nm,0.5s,baz=56,slow=9.3,SNR=3.3						
FITZ	**Fitzroy Crossi**	**25.07**	**242**	P	P	00 57 21.0	-0.4
	1.3nm,0.4s,baz=52,slow=10.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**146.99**	**283**	PKPbc	PKPdf	01 11 39.8	+1.0
	0.5nm,1.0s,baz=66,slow=2.3,SNR=4.5						

IDC ***13*** *00:54:35.4±0.9,4.16S×151.96E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/35, mbtmp3.7/7, Error ellipse: s-maj=30.6km s-min=23.0km az=106.0*
ISCJB ***13*** *00:54:39.4±0.8,4.25S±0.1×151.95E±0.2, h33km, mb3.6/7, Error ellipse: s-maj=24.8km s-min=19.5km az=14.6*

ISC 13 00:54:41.2±0.9, 4.25S±0.2×152.06E±0.2, h35km, n8, σ1.28/8, mb3.6/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**22.61**	**143**	P	**P**	**00 59 39.3**	**+0.1**
	14nm,1.1s,baz=180,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**25.24**	**226**	P	**P**	**00 59 44.6**	**-1.0**
	0.8nm,0.8s,baz=49,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.05**	**220**	P	**P**	**01 00 11.4**	**-0.2**
	0.4nm,0.8s,baz=57,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**65.41**	**328**	P	**P**	**01 05 20.4**	**-0.1**
	0.9nm,1.0s,baz=148,slow=8.7,SNR=4.5						
MKAR	**Makanchi Array**	**79.36**	**319**	P	**P**	**01 06 44.5**	**+0.8**
	0.4nm,0.8s,baz=114,slow=7.5,SNR=4.6						
ILAR	**Eielson Array**	**81.93**	**22**	P	**P**	**01 06 55.1**	**-1.8**
	0.2nm,0.6s,baz=244,slow=5.4,SNR=5.0						
NVAR	**Mina Array Bea**	**92.36**	**52**	P	**P**	**01 07 49.3**	**+0.6**
	0.2nm,0.3s,baz=256,slow=5.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.36**	**289

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	baz=9.0						
WHF	Hehuan Shan baz=221	0.27	221	⇑iP	Pg	00 59 47.9	+0.1
WHF	baz=221			iS	Sg	00 59 51.8	+0.3
ENA	Nanau baz=73	0.27	73	⇑P	Pg	00 59 47.3	-0.4
ENA	baz=73			S	Sg	00 59 50.8	-0.5
TWT	Tachien baz=241	0.27	249	⇑iP	Pb	00 59 48.4	-1.1
TWT	baz=241			S	Sb	00 59 52.5	-1.8
NANB	Nanao baz=73	0.28	74	⇑P	Pg	00 59 47.3	-0.5
NANB	baz=73			eS	Sg	00 59 51.3	-0.2
TDCB	Techi baz=242	0.29	251	⇑P	Pb	00 59 48.5	-1.3
TDCB	baz=242			S	Sg	00 59 52.3	+0.4
TWD	Chiawan baz=155	0.30	155	P	Pg	00 59 48.4	+0.3
TWD	baz=155			eS	Sg	00 59 52.1	0.0
YHNB	Yeheng baz=345	0.33	347	⇑P	Pg	00 59 49.1	+0.3
YHNB	baz=345			S	Sg	00 59 53.1	0.0
NSK	Sanguang baz=332	0.34	345	⇑iP	Pg	00 59 49.3	+0.3
NSK	baz=332			S	Sg	00 59 53.6	+0.2
CHGB	Renai baz=223	0.39	222	⇑P	Pg	00 59 50.0	+0.1
CHGB	baz=223			S	Sg	00 59 55.3	+0.3
HWA	Hwalien baz=161	0.40	160	eP	Pb	00 59 50.7	-0.7
HWA	baz=161			eS	Sb	00 59 56.5	-1.2
TWE	Neicheng baz=38	0.42	27	⇑iP	Pg	00 59 50.5	+0.1
TWE	baz=38			eS	Sg	00 59 55.5	-0.3
NWLT	Wulai baz=357	0.43	6	eP	Pg	00 59 50.6	0.0
NWLT	baz=357			eS	Sg	00 59 55.9	-0.4
SLBB	Yuanshan baz=33	0.43	22	⇑P	Pg	00 59 50.8	+0.1
SLBB	baz=33			eS	Sg	00 59 56.6	+0.1
TWC	Suao baz=54	0.44	54	⇑P	Pg	00 59 50.4	-0.5
TWC	baz=54			S	Sg	00 59 56.6	0.0
ENLB	Shoufeng baz=153	0.46	163	eP	Pg	00 59 51.5	+0.3
OWD	Renai baz=214	0.47	213	⇑P	Pg	00 59 51.2	-0.2
WHP	Taichung City baz=260	0.47	261	⇑iP	Pb	00 59 52.3	-0.5
WHP	baz=260			eS	Sb	00 59 58.5	-1.4
ILA	Ilan baz=41	0.49	33	eP	Pg	00 59 51.3	-0.5
ILA	baz=41			eS	Sg	00 59 58.7	+0.4
NSTT	Nanjuang baz=304	0.50	304	⇑iP	Pb	00 59 52.9	-0.4
NSTT	baz=304			S	Sb	00 59 59.4	-1.3
ESL	Shilin baz=172	0.53	182	⇑iP	Pg	00 59 52.6	0.0
WLTB	Daxi baz=339	0.53	340	eP	Pb	00 59 54.0	+0.2
WLTB	baz=339			eS	Sb	01 00 01.2	-0.4
NTC	Toucheng baz=44	0.61	34	eP	Pg	00 59 53.8	-0.2
NHDH	Xindian Distri baz=17	0.61	6	eP	Pg	00 59 54.2	+0.1
SBCB	Hsinchu baz=315	0.61	316	eP	Pb	00 59 55.5	+0.3
SBCB	baz=315			eS	Sb	01 00 05.3	+1.3
TATO	Taipei baz=13	0.62	3	eP	Pb	00 59 54.6	-0.7
TATO	baz=13			eS	Sg	01 00 02.4	0.0
TWQ1	Liyutan baz=269	0.62	270	⇑iP	Pb	00 59 55.7	+0.3
TWQ1	baz=269			eS	Sb	01 00 04.0	-0.2
NMLH	Miaoli baz=296	0.63	287	eP	Pb	00 59 55.9	+0.3
NMLH	baz=296			eS	Sb	01 00 04.8	+0.2
NSY	Sanyi baz=276	0.64	276	⇑P	Pb	00 59 56.3	+0.7
NSY	baz=276			eS	Sb	01 00 05.0	+0.3
TWA	Mucha baz=10.0	0.64	10	⇑P	Pg	00 59 54.9	+0.3
TWA	baz=10.0			S	Sg	01 00 03.1	+0.2
EOS1	EOS1 baz=62	0.64	72	⇑P	Pg	00 59 54.6	-0.1
EOS1	baz=62			eS	Sb	01 00 04.5	-0.3
EGS	baz=42	0.66	41	⇑iP	Pg	00 59 54.8	-0.1
VWDT	VWDT baz=212	0.66	206	⇑P	Pg	00 59 54.6	-0.4
VWDT	baz=212			eS	Sg	01 00 04.0	+0.4
NCUH	Zhongli baz=336	0.66	338	eP	Pb	00 59 56.4	+0.3
NCU	National Centr baz=337	0.66	338	eP	Pb	00 59 56.7	+0.7
EGFH	Guangfu baz=184	0.68	182	eP	Pg	00 59 55.2	-0.1
EGFH	baz=184			eS	Sb	01 00 05.2	-0.6
TAP	Taipei baz=3.0	0.69	4	eP	Pb	00 59 56.3	-0.1
SMLT	Sun Moon Lake baz=236	0.69	228	⇑iP	Pb	00 59 55.8	-0.7
PTSB	Yuanli baz=277	0.69	278	P	Pn	00 59 57.5	-0.8
PTSB	baz=277			S	Sb	01 00 06.8	+0.6
TIPB	Shuangxi baz=15	0.70	28	⇑P	Pg	00 59 55.5	-0.4
TIPB	baz=15			eS	Sg	01 00 03.7	-1.3
TYC	Yuchr baz=239	0.70	231	⇑iP	Pb	00 59 56.0	-0.7
SSLB	Suanglung baz=220	0.72	219	⇑P	Pg	00 59 55.8	-0.4
SSLB	baz=220			eS	Sb	01 00 06.3	-0.9
TCU	Taichung baz=254	0.74	254	eP	Pn	00 59 58.3	-0.7
TCU	baz=254			eS	Sn	01 00 09.8	-0.6
WDJ	Dajia District baz=269	0.74	270	eP	Pn	00 59 58.5	-0.5
TWS1	Kuangyinshan baz=7.0	0.75	357	⇑P	Pb	00 59 58.0	+0.5
TWS1	baz=7.0			S	Sb	01 00 07.7	-0.2
NWF	Wu-fen Shan baz=21	0.78	22	⇑iP	Pg	00 59 57.2	0.0
NWF	baz=21			eS	Sg	01 00 07.3	0.0
WFSB	Wu-fen Shan baz=21	0.78	22	⇑P	Pg	00 59 57.3	+0.1
WFSB	baz=21			eS	Sg	01 00 07.3	0.0
YM01	YM01 baz=6.0	0.80	7	⇑P	Pb	00 59 58.3	-0.1
YM01	baz=6.0			S	Sg	01 00 08.0	-0.1
YM04	YM04 baz=18	0.80	5	eP	Pb	00 59 58.0	-0.5
NTST	Danshui baz=12	0.81	360	eP	Pb	00 59 58.7	+0.1
YM05	YM05 baz=6.0	0.82	7	⇑P	Pb	00 59 58.5	-0.2
YM05	baz=6.0			S	Sg	01 00 08.4	-0.3
YM11	YM11 baz=7.0	0.82	7	eP	Pb	00 59 58.6	-0.2
ANP	Anpu baz=18	0.83	4	⇑P	Pb	00 59 58.9	-0.2
YM08	YM08 baz=7.0	0.84	8	eP	Pb	00 59 58.6	-0.5
YM08	baz=7.0			eS	Sg	01 00 08.8	-0.6
WJS	Zhushan baz=232	0.85	232	eP	Pn	00 59 59.8	-0.7
WNT	Mingjian baz=236	0.85	236	eP	Pn	01 00 00.2	-0.2
EHY	Hungye baz=173	0.85	188	eP	Pg	00 59 58.3	-0.3
WHYT	Xinyi Township baz=221	0.85	220	eP	Pg	00 59 57.8	-0.9
HGSD	Ruisui baz=190	0.85	182	⇑P	Pb	00 59 58.9	-0.4
WCHH	Zhanghua baz=251	0.86	252	eP	Pn	01 00 00.7	0.0
YULB	Yu-li baz=177	0.96	189	eP	Pg	01 00 00.3	-0.5
YULB	baz=177			eS	Sb	01 00 13.8	-0.3
TWF1	Yuli baz=180	1.00	188	⇓P	Pg	01 00 01.1	-0.4
TWF1	baz=180			eS	Sb	01 00 15.3	+0.1
ALS	Alishan baz=223	1.03	216	⇑P	Pg	01 00 01.8	-0.2
WGK	Gukeng baz=231	1.05	231	eP	Pn	01 00 03.9	+0.6
RLNB	Erlin baz=245	1.10	246	⇓eP	Pn	01 00 04.8	+0.9
RLNB	baz=245			S	Sn	01 00 20.7	+1.4
FULB	Fuli baz=189	1.16	187	eP	Pn	01 00 05.2	+0.5
FULB	baz=189			eS	Sn	01 00 21.9	+1.2
CHN2	Minshiung baz=242	1.21	228	eP	Pn	01 00 06.5	+1.1
CHY	Chiayi baz=243	1.27	228	eP	Pg	01 00 07.3	+0.7
TPUB	Ta-pu baz=217	1.29	216	P	Pg	01 00 06.7	-0.3
TPUB	baz=217			eS	Sn	01 00 25.2	+1.2
STYT	Tauyuan baz=197	1.34	209	eP	Pg	01 00 07.8	-0.3
STYT	baz=197			eS	Sn	01 00 28.0	+2.6
JYNG	Yonagunijimaku	1.36	85	P	Pn	01 00 07.6	+0.1
JYNG				eS	Sb	01 00 25.0	-0.5
PCYT	Pengchaiyu baz=6.0	1.39	24	eP	Pn	01 00 07.4	-0.5
YOJ	Yonaguni jima baz=76	1.42	85	eP	Pn	01 00 08.2	-0.1
YOJ	Yonaguni jima	1.42	85	P	Pn	01 00 08.5	+0.2
YOJ				S	Sg	01 00 27.7	-0.3
SNST	Tainan City baz=218	1.43	218	eP	Pg	01 00 09.9	+0.3
SLGT	Liugui baz=199	1.54	209	eP	Pg	01 00 11.8	-0.1
TWG	Pinlang baz=200	1.56	193	eP	Pb	01 00 10.9	-0.5
TWGBT	Beinan baz=200	1.56	193	eP	Pn	01 00 10.5	+0.2
MASBT	Mashibuluo baz=205	1.89	204	eP	Pg	01 00 17.7	-0.8
PNG	Penghu baz=246	1.91	246	eP	Pb	01 00 16.7	-0.6
PTTC	Pingtan baz=304	1.91	307	eP	Pb	01 00 16.5	-0.8
PHUB	P'eng-hu baz=244	1.92	245	eP	Pn	01 00 14.9	-0.2
VWUC	VWUC baz=286	1.93	290	eP	Pn	01 00 14.4	-1.0
WDGT	Dungji baz=236	1.97	237	eP	Pb	01 00 17.0	-1.3
EAST	Anshuo baz=180	2.04	196	⇓eP	Pb	01 00 19.8	+0.3
IRIF	Iriomote-Funau	2.07	90	P	Pn	01 00 17.4	+0.1
IRIF				eS	Sn	01 00 43.7	+0.4
VCHM	Qimei baz=238	2.18	239	eP	Pn	01 00 19.6	+0.9
PTMZ	Houxiangcun baz=284	2.23	288	eP	Pn	01 00 19.0	-0.5
JKRS	Kuro-shima	2.33	92	P	Pn	01 00 21.8	+1.0
JKRS				eS	Sn	01 00 51.0	+1.3
JIJ	Ishigaki jima	2.45	89	P	Pn	01 00 23.2	+0.7
JIJ				eS	Sn	01 00 54.0	+1.4
JISG	Ishigakijimahi	2.61	84	P	Pn	01 00 24.9	+0.2
JISG				eS	Sn	01 00 57.0	+0.4
LYJJ	Jianjiangzhen baz=324	2.67	325	eP	Pn	01 00 24.9	-0.6

TAP ***13*** *01:00:19.7, 24°.35N×121°.47E, h8km, ML3.9, C*
ISCJB ***13*** *01:00:20.2±0.2, 24°.357N±0°.010×121°.49E±0°.01, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.4km az=33.1*
JMA ***13*** *01:00:20.2, 24°.35N×121°.48E, h5km, M3.5*
ISC 13 01:00:20.2±0.8**, 24°.35N**±0°.01×**121°.47E**±0°.01**, h8**km±6km**,**
n104, σ**0s.60**/156**, 31C-2D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNSB	Datong baz=316	0.11	313	⇓P	Pg	01 00 22.8	-0.1
NNSB	baz=316			S	Sg	01 00 24.6	-0.2
NNS	Nan Shan baz=318	0.13	314	⇓iP	Pg	01 00 23.0	-0.1
NNS	baz=318			iS	Sg	01 00 24.9	-0.2
ETLH	Xiulin Townshi baz=184	0.14	177	⇑eP	Pg	01 00 23.6	+0.3
ETLH	baz=184			eS	Sg	01 00 26.1	+0.6
NACB	Ninganchiao baz=147	0.21	148	⇑P	Pg	01 00 24.5	+0.1
NACB	baz=147			S	Sg	01 00 27.4	+0.2
NDT	Datong Townshi baz=8.0	0.25	8	⇑iP	Pg	01 00 25.3	0.0
NDT	baz=8.0			S	Sg	01 00 28.5	-0.2
ENA	Nanau baz=73	0.26	72	⇑iP	Pg	01 00 25.2	-0.1
ENA	baz=73			S	Sg	01 00 29.8	+1.0
NANB	Nanao baz=73	0.26	73	⇑P	Pg	01 00 25.1	-0.3
NANB	baz=73			S	Sg	01 00 29.8	+0.8
WHF	Hehuan Shan baz=221	0.28	223	⇑iP	Pg	01 00 25.8	-0.1
WHF	baz=221			S	Sg	01 00 29.7	0.0
TWT	Tachien baz=241	0.29	250	⇑iP	Pg	01 00 26.3	+0.3
TWT	baz=241			eS	Sg	01 00 30.0	+0.1
TWD	Chiawan baz=155	0.29	158	eP	Pg	01 00 26.4	+0.4
TWD	baz=155			S	Sg	01 00 30.4	+0.5
TDCB	Techi baz=242	0.30	251	⇑P	Pg	01 00 26.3	+0.1
TDCB	baz=242			S	Sg	01 00 30.3	-0.1
YHNB	Yeheng baz=345	0.33	344	⇑P	Pg	01 00 26.9	+0.2
YHNB	baz=345			S	Sg	01 00 31.1	-0.1
NSK	Sanguang baz=332	0.34	342	⇑P	Pg	01 00 27.0	+0.1
NSK	baz=332			S	Sg	01 00 31.3	-0.2
HWA	Hwalien baz=154	0.39	162	eP	Pb	01 00 28.5	-0.9
CHGB	Renai baz=223	0.40	224	⇑P	Pg	01 00 27.9	-0.2
CHGB	baz=223			S	Sg	01 00 33.0	-0.4
TWE	Neicheng baz=38	0.41	25	⇑iP	Pg	01 00 28.3	+0.1
TWE	baz=38			S	Sg	01 00 33.8	+0.2
NWLT	Wulai baz=357	0.42	3	⇑P	Pg	01 00 28.6	+0.1
NWLT	baz=357			eS	Sg	01 00 34.0	-0.1
SLBB	Yuanshan baz=33	0.43	20	⇑P	Pg	01 00 28.7	+0.1
SLBB	baz=33			S	Sg	01 00 34.4	+0.2
TWC	Suao baz=54	0.43	53	⇑iP	Pg	01 00 28.2	-0.3
TWC	baz=54			eS	Sg	01 00 34.6	+0.4
ENLB	Shoufeng baz=156	0.46	165	eP	Pb	01 00 29.8	-0.8
OWD	Renai baz=214	0.48	215	⇑P	Pg	01 00 29.2	-0.4
ILA	Ilan baz=42	0.48	31	eP	Pg	01 00 29.4	-0.2
WHP	Taichung City baz=260	0.49	262	⇑iP	Pb	01 00 30.2	-0.9
WHP	baz=260			S	Sg	01 00 35.9	-0.2
NSTT	Nanjuang baz=303	0.51	303	⇑iP	Pb	01 00 30.8	-0.7
NSTT	baz=303			S	Sg	01 00 37.3	+0.4
ESL	Shilin baz=172	0.54	184	⇑iP	Pg	01 00 30.5	-0.1
WLTB	Daxi baz=338	0.54	338	eP	Pb	01 00 31.3	-0.6
WLTB	baz=338			eS	Sb	01 00 39.0	-0.9
NTC	Toucheng baz=43	0.60	33	⇑P	Pg	01 00 31.3	-0.4
NTC	baz=43			eS	Sg	01 00 39.6	0.0
NHDH	Xindian Distri baz=17	0.61	4	eP	Pg	01 00 32.2	+0.2
NHDH	baz=17			eS	Sg	01 00 40.3	+0.3
TATO	Taipei baz=13	0.62	1	⇑P	Pb	01 00 32.6	-0.7
TATO	baz=13			S	Sg	01 00 40.0	-0.4
SBCB	Hsinchu baz=314	0.63	315	eP	Pb	01 00 34.3	+0.9
EOS1	EOS1 baz=62	0.63	72	eP	Pb	01 00 32.7	-0.7
EOS1	baz=62			eS	Sb	01 00 42.8	+0.4
TWA	Mucha baz=10.0	0.64	9	⇑iP	Pg	01 00 32.7	+0.3
TWA	baz=10.0			S	Sg	01 00 40.8	0.0
TWQ1	Liyutan baz=269	0.64	270	⇑iP	Pb	01 00 33.4	-0.2
EGS	baz=42	0.65	40	P	Pg	01 00 32.6	-0.1
NMLH	Miaoli baz=296	0.65	287	eP	Pb	01 00 34.1	+0.3
NMLH	baz=296			eS	Sb	01 00 42.9	-0.2
NSY	Sanyi baz=275	0.65	276	⇑iP	Pb	01 00 34.1	+0.3
VWDT	VWDT baz=212	0.67	207	⇑P	Pg	01 00 32.6	-0.5
VWDT	baz=212			eS	Sg	01 00 42.2	+0.4
NCUH	Zhongli baz=336	0.67	337	eP	Pb	01 00 35.0	+0.8
NCU	National Centr baz=337	0.67	337	eP	Pb	01 00 34.5	+0.3
EGFH	Guangfu baz=184	0.68	184	eP	Pg	01 00 32.8	-0.5
EGFH	baz=184			eS	Sg	01 00 42.8	+0.6
TAP	Taipei baz=14	0.69	2	eP	Pb	01 00 33.8	-0.6
TAP	baz=14			eS	Sg	01 00 43.0	+0.6
TIPB	Shuangxi baz=14	0.70	27	⇑iP	Pg	01 00 33.4	-0.3
TIPB	baz=14			S	Sg	01 00 42.0	-0.7
SMLT	Sun Moon Lake baz=228	0.70	229	P	Pg	01 00 33.6	-0.1
SMLT	baz=228			eS	Sg	01 00 43.0	+0.1
PTSB	Yuanli baz=277	0.71	278	⇑iP	Pb	01 00 35.4	+0.6
PTSB	baz=277			S	Sb	01 00 44.8	0.0
TYC	Yuchr baz=239	0.72	232	⇑iP	Pg	01 00 33.8	-0.2
SSLB	Suanglung baz=220	0.73	220	⇑P	Pg	01 00 33.6	-0.7
SSLB	baz=220			eS	Sg	01 00 44.5	+0.5
TWS1	Kuangyinshan baz=9.0	0.75	356	eP	Pb	01 00 35.7	+0.2
TCU	Taichung baz=253	0.76	255	eP	Pb	01 00 36.0	+0.4
WDJ	Dajia District baz=269	0.76	270	⇑eP	Pn	01 00 36.6	-0.6
NWF	Wu-fen Shan baz=22	0.77	21	eP	Pg	01 00 35.0	-0.1
WFSB	Wu-fen Shan baz=21	0.77	21	eP	Pg	01 00 35.1	0.0
WFSB	baz=21			eS	Sg	01 00 45.3	+0.2
YM01	YM01 baz=6.0	0.80	6	P	Pb	01 00 36.0	-0.3
YM01	baz=6.0			S	Sg	01 00 46.1	+0.2
YM04	YM04 baz=17	0.80	4	eP	Pb	01 00 36.2	-0.2
NTST	Danshui baz=12	0.81	358	eP	Pb	01 00 36.7	+0.1
YM05	YM05 baz=6.0	0.81	6	P	Pb	01 00 36.5	-0.1
YM05	baz=6.0			eS	Sg	01 00 46.4	-0.1
YM11	YM11 baz=6.0	0.82	6	eP	Pb	01 00 36.6	-0.1
ANP	Anpu baz=18	0.83	3	eP	Pb	01 00 36.6	-0.4
YM08	YM08 baz=7.0	0.84	7	⇑P	Pb	01 00 36.7	-0.4
YM08	baz=7.0			eS	Sb	01 00 47.9	-0.7
EHY	Hungye baz=184	0.85	189	eP	Pg	01 00 36.7	+0.1
EHY	baz=184			eS	Sb	01 00 48.2	-0.7
HGSD	Ruisui baz=190	0.86	183	eP	Pg	01 00 36.4	-0.3
WJS	Zhushan baz=227	0.86	232	eP	Pb	01 00 37.2	-0.2
WJS	baz=227			eS	Sn	01 00 50.3	-1.1
WNT	Mingjian baz=231	0.86	237	eP	Pb	01 00 37.7	+0.3
WNT	baz=231			eS	Sn	01 00 51.2	-0.2
WHYT	Xinyi Township baz=221	0.86	221	eP	Pb	01 00 37.4	-0.1
WCHH	Zhanghua baz=251	0.88	252	eP	Pn	01 00 38.6	-0.2
WCHH	baz=251			eS	Sn	01 00 52.7	+0.9
YULB	Yu-li baz=178	0.97	190	eP	Pg	01 00 38.4	-0.4
YULB	baz=178			eS	Sg	01 00 51.5	+0.1
TWF1	Yuli baz=182	1.01	189	eP	Pg	01 00 39.2	-0.4
WGK	Gukeng baz=231	1.06	232	eP	Pn	01 00 41.5	+0.1
WGK	baz=231			eS	Sn	01 00 58.4	+1.9
RLNB	Erlin baz=245	1.12	246	eP	Pn	01 00 42.0	-0.1

RLNB				*e*S		**Sn**	**01 00 58.4**	**+0.8**
	baz=245							
FULB	**Fuli**	**1.16**	**188**	*e*P		**Pn**	**01 00 43.0**	**+0.2**
	baz=174							
WTCT	**Ta-ch'eng**	**1.19**	**246**	*e*P		**Pb**	**01 00 42.9**	**-0.2**
	baz=245							
CHN2	**Minshiung**	**1.23**	**228**	*e*P		**Pn**	**01 00 44.3**	**+0.7**
	baz=242							
ELDTW	**Lidau**	**1.23**	**200**	*e*P		**Pg**	**01 00 43.4**	**-0.4**
	baz=190							
CHY	**Chiayi**	**1.28**	**229**	*e*P		**Pg**	**01 00 44.9**	**0.0**
	baz=242							
TPUB	**Ta-pu**	**1.30**	**217**	*e*P		**Pn**	**01 00 44.5**	**-0.1**
	baz=217							
TPUB				*e*S		**Sn**	**01 01 03.4**	**+1.1**
	baz=217							
JYNG	**Yonagunijimaku**	**1.34**	**85**	P		**Pb**	**01 00 45.6**	**-0.1**
JYNG				*e*S		**Sb**	**01 01 02.5**	**-0.5**
WSF	**Szhu**	**1.35**	**238**	*e*P		**Pb**	**01 00 45.5**	**-0.1**
	baz=237							
WSF				*e*S		**Sn**	**01 01 05.0**	**+1.7**
	baz=237							
STYT	**Tauyuan**	**1.35**	**209**	*e*P		**Pg**	**01 00 46.5**	**+0.4**
	baz=197							
STYT				*e*S		**Sn**	**01 01 06.0**	**+2.3**
	baz=197							
PCYT	**Pengchaiyu**	**1.38**	**23**	*e*P		**Pb**	**01 00 46.1**	**-0.2**
	baz=6.0							
YOJ	**Yonaguni jima**	**1.41**	**85**	*e*P		**Pn**	**01 00 46.1**	**0.0**
	baz=74							
YOJ				*e*S		**Sg**	**01 01 05.6**	**+0.2**
	baz=74							
YOJ	**Yonaguni jima**	**1.41**	**85**	P		**Pb**	**01 00 46.4**	**-0.3**
YOJ				*e*S		**Sb**	**01 01 04.6**	**-0.2**
SNST	**Tainan City**	**1.44**	**219**	*e*P		**Pg**	**01 00 47.9**	**+0.1**
	baz=218							
SLGT	**Liugui**	**1.55**	**209**	*e*P		**Pg**	**01 00 49.6**	**-0.3**
	baz=199							
TWG	**Pinlang**	**1.57**	**194**	*e*P		**Pb**	**01 00 48.9**	**-0.6**
	baz=176							
TWGBT	**Beinan**	**1.57**	**193**	*e*P		**Pn**	**01 00 48.3**	**-0.1**
	baz=176							
SCLT	**Jiali**	**1.66**	**225**	*e*P		**Pb**	**01 00 51.1**	**+0.2**
	baz=240							
ECL	**Taimali**	**1.81**	**195**	*e*P		**Pb**	**01 00 53.2**	**-0.3**
	baz=179							
MASBT	**Mashibuluo**	**1.90**	**204**	*e*P		**Pb**	**01 00 55.5**	**+0.5**
	baz=204							
PTTC	**Pingtan**	**1.92**	**307**	*e*P		**Pn**	**01 00 52.9**	**-0.3**
	baz=304							
PHUB	**P'eng-hu**	**1.93**	**245**	*e*P		**Pn**	**01 00 54.2**	**+0.9**
	baz=243							
SSPT	**Xinbi**	**2.04**	**204**	*e*P		**Pg**	**01 00 58.4**	**-0.8**
	baz=223							
EAST	**Anshuo**	**2.04**	**196**	*e*P		**Pb**	**01 00 57.5**	**-0.1**
	baz=180							
IRIF	**Iriomote-Funau**	**2.06**	**90**	P		**Pn**	**01 00 55.9**	**+0.8**
SCZT	**Fangliau**	**2.12**	**202**	*e*P		**Pb**	**01 00 58.1**	**-0.8**
	baz=219							
VCHM	**Qimei**	**2.19**	**239**	*e*P		**Pn**	**01 00 56.8**	**-0.1**
	baz=238							
PTMZ	**Houxiangcun**	**2.25**	**288**	*e*P		**Pn**	**01 00 56.3**	**-1.4**
	baz=284							
JKRS	**Kuro-shima**	**2.32**	**92**	P		**Pn**	**01 00 59.9**	**+1.3**
JKRS				S		**Sn**	**01 01 28.3**	**+1.0**
JJ	**Ishigaki jima**	**2.43**	**89**	*e*S		**Sn**	**01 01 29.0**	**-1.2**
TWK1	**Hengchun**	**2.47**	**195**	*e*P		**Pb**	**01 01 03.0**	**-2.0**
	baz=179							
TWKBT	**Hengchun**	**2.48**	**194**	*e*P		**Pb**	**01 01 02.9**	**-2.1**
	baz=179							
JISG	**Ishigakijimahi**	**2.59**	**84**	*e*S		**Sn**	**01 01 34.9**	**+0.7**
LYJJ	**Jianjiangzhen**	**2.68**	**325**	*e*P		**Pn**	**01 01 03.1**	**-0.6**
	baz=324							
KNM	**Kinmen**	**2.77**	**272**	*e*P		**Pn**	**01 01 05.8**	**+0.9**
	baz=268							
AXDP	**Jialang**	**3.24**	**280**	*e*P		**Pn**	**01 01 11.0**	**-0.3**
	baz=276							
ZPLA	**Ao Xicun**	**3.43**	**264**	*e*P		**Pn**	**01 01 13.1**	**-0.8**
	baz=264							

IDC ***13*** *01:01:31.5±0.6,6.6˚49S×148.37˚E,h0km,mb4.1/12, mb1 4.3/14,mb1mx4.2/29,mbtmp4.1/14,ML4.0/2,MS4.4/17, Ms1 4.4/17,ms1mx4.2/28,Error ellipse: s-maj=21.8km s-min=14.1km az=98.0*

NEIC ***13*** *01:01:32.8±0.4,6.58S×148.37E,h10km,mb4.8/26,Error ellipse: s-maj=10.6km s-min=8.0km az=123.0*

GCMT ***13*** *01:01:33.8±0.2,6.75S±0.02×148.77E±0.01,h12km, MW4.8/81,Moment Tensor Solution. s28,c30; s81,c119; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.91±.08; Mθθ1.38±.07; Mϕϕ-2.30±.07; Mrθ-0.15±.21; Mθϕ1.43±.07; Mϕr0.50±.23; Best double couple: M₀2.36700×10¹⁶ NP1:ϕs206.00000°,δ85.00000°,λ-174.00000°. NP2: ϕs116.00000°,δ84.00000°,λ-5.00000°. Principal axes: T 1.8710, Plg1.0000°, Azm341.0000°; N 0.9860, Plg82.0000°, Azm242.0000°; P -2.8640, Plg8.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***13*** *01:01:35.2±0.3,6.77S±0.04×148.60E±0.05,h46km, mb4.7/41,MS4.4/21 Error ellipse: s-maj=7.8km s-min=5.1km az=14.1*

ISC 13 01:01:37.5±0.4,6.71S±0.05×148.58E±0.07,h46km,n107, σ1s89/103,mb4.8/41,MS4.4/22,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RABL	**Rabaul**	**4.36**	**55**	*e*Pn		**Pn**	**01 02 42.4**	**+1.0**
HNR	**Honiara**	**11.58**	**104**	LR		LR	01 07 39.1	
	comp=Z,2μm,21.0s,baz=306,slow=31							
MTSU	**Mount Surprise**	**12.09**	**200**	P		**Pn**	**01 04 27.0**	**-0.3**
	baz=13,SNR=7.7							
CTA	**Charters Tower**	**13.49**	**189**	Pn		**Pn**	**01 04 47.3**	**+0.9**
	0.2nm,0.3s,baz=350,slow=12,SNR=2.8							
QIS	**Mount Isa**	**16.28**	**211**	P		**Pn**	**01 05 23.6**	**+0.4**
	baz=17,SNR=4.4							
KDU	**Kakadu**	**16.94**	**248**	P		**Pn**	**01 05 30.9**	**-0.5**
	baz=18,SNR=6.3							
SIJI	**Sorong**	**18.22**	**288**	LR		LR	01 14 42.6	
	comp=Z,3μm,19.3s,baz=90,slow=44							
MTN	**Manton Dam**	**18.23**	**249**	*e*Pn		**P**	**01 05 44.9**	**-2.2**
	31nm,1.3s							
EIDS	**Eidsvold**	**18.71**	**173**	P		**P**	**01 05 49.7**	**-2.5**
	baz=19							
EIDS	**Eidsvold**	**18.71**	**173**	*e*P		**Pn**	**01 05 54.8**	**+1.7**
	58nm,1.3s							
WB0	**Warramunga Arr**	**18.93**	**225**	P		**Pn**	**01 05 56.0**	**+0.2**
	baz=20							
WC3	**Warramunga Arr**	**19.07**	**225**	*e*P		**P**	**01 05 54.6**	**-1.7**
	14nm,0.8s							
WB2	**Warramunga Arr**	**19.07**	**225**	*e*P		**Pn**	**01 05 57.0**	**-0.4**
WR1	**Warramunga Arr**	**19.08**	**225**	*e*P		**P**	**01 05 55.7**	**-0.7**
	50nm,1.4s							
WR1				*e*Sn		**S**	**01 09 35.1**	**+4.5**
WRA	**Warramunga Arr**	**19.08**	**225**	P		**P**	**01 05 55.7**	**-0.7**
	0.9nm,0.3s,baz=51,slow=11,SNR=28							
WRA				S		**S**	**01 09 35.1**	**+4.4**
	0.1nm,0.3s,baz=13,slow=26,SNR=4.9							
RMQ	**Roma**	**19.67**	**180**	P		**P**	**01 06 02.2**	**-0.6**
	baz=20,SNR=4.7							
GUMO	**Guam**	**20.50**	**350**	LR		LR	01 12 28.1	
	comp=Z,766nm,21.7s,baz=163,slow=32							
KNRA	**Kununurra**	**21.36**	**244**	P		**P**	**01 06 21.6**	**+0.4**
	baz=22,SNR=8.2							
AS01	**Alice Springs**	**21.95**	**218**	*e*P		**P**	**01 06 25.8**	**-1.7**
AS31	**Alice Springs**	**21.98**	**218**	*e*P		**P**	**01 06 27.0**	**-0.8**
	8.0nm,0.8s							
AS31				*e*S		**S**	**01 10 30.4**	**+2.5**
ASAR	**Alice Springs**	**21.98**	**218**	P		**P**	**01 06 27.2**	**-0.6**
	18nm,0.6s,baz=52,slow=10.0,SNR=51							
ASAR				S		**S**	**01 10 30.4**	**+2.4**
	2.8nm,0.9s,baz=33,slow=22,SNR=3.9							
DZM	**Mont Dzumac**	**23.04**	**133**	*e*P		**P**	**01 06 42.3**	**+3.2**
	18nm,1.3s							
DZM	**Mont Dzumac**	**23.04**	**133**	P		**P**	**01 06 42.3**	**+3.2**
	15nm,0.9s,baz=192,slow=12,SNR=3.2							
DZM				LR		LR	01 15 02.3	
	comp=Z,2μm,18.6s,baz=338,slow=35							
ARMA	**Armidale**	**23.76**	**173**	P		**P**	**01 06 42.1**	**-3.8**
	baz=24							
ARMA	**Armidale**	**23.76**	**173**	*e*P		**P**	**01 06 44.4**	**-1.5**
	46nm,1.3s							
SOEI	**Soe**	**24.25**	**261**	*e*P		**P**	**01 06 50.3**	**-0.3**
	47nm,0.9s							
CMSA	**Cobar Meteorol**	**24.85**	**186**	P		**P**	**01 06 54.3**	**-1.4**
	baz=26							
BATI	**Baumata**	**24.88**	**260**	P		**P**	**01 06 55.3**	**-1.0**
	52nm,0.6s,baz=9.1,slow=0.8,SNR=9.3							
BATI				LR		LR	01 18 24.1	
	comp=Z,1μm,19.5s,baz=110,slow=41							
FITZ	**Fitzroy Crossi**	**25.06**	**241**	P		**P**	**01 06 57.4**	**-0.5**
	baz=26,SNR=41							
FITZ	**Fitzroy Crossi**	**25.06**	**241**	*e*P		**P**	**01 06 57.5**	**-0.3**
	75nm,1.0s							
FITZ	**Fitzroy Crossi**	**25.06**	**241**	P		**P**	**01 06 57.3**	**-0.5**
	36nm,0.7s,baz=89,slow=8.8,SNR=49							
STKA	**Stephens Creek**	**25.87**	**194**	P		**P**	**01 07 04.5**	**-0.6**
	baz=27,SNR=3.6							
STKA	**Stephens Creek**	**25.87**	**194**	*e*P		**P**	**01 07 06.7**	**+1.6**
	7.6nm,1.5s							
STKA	**Stephens Creek**	**25.87**	**194**	P		**P**	**01 07 05.8**	**+0.7**
	5.8nm,0.7s,baz=11,slow=8.2,SNR=8.5							
STKA				LR		LR	01 18 08.9	
	comp=Z,2μm,18.6s,baz=9.2,slow=38							
MMRI	**Maumere**	**26.17**	**264**	*e*P		**P**	**01 07 09.8**	**+1.8**
	84nm,0.7s							
LHI	**Lord Howe Isla**	**26.56**	**160**	*e*P		**P**	**01 07 08.8**	**-2.4**
	138nm,1.1s							
WRKA	**Warakurna**	**26.62**	**225**	P		**P**	**01 07 11.2**	**-0.8**
	baz=28,SNR=45							
DAV	**Davao City (W)**	**26.72**	**300**	LR		LR	01 18 01.4	
	comp=Z,336nm,18.1s,baz=57,slow=38							
BBOO	**Buckleboo**	**28.46**	**203**	*e*P		**P**	**01 07 26.6**	**-1.7**
	36nm,1.4s							
KAPI	**Kappang**	**28.72**	**272**	*e*P		**P**	**01 07 26.8**	**-4.0**
	11nm,0.8s							
FORT	**Forrest**	**30.72**	**216**	*e*P		**P**	**01 07 47.5**	**-0.8**
	26nm,0.8s							
WAKE	**Wake Island**	**31.37**	**34**	*e*P		**P**	**01 07 55.0**	**+0.8**
	351nm,1.5s							
MBWA	**Marble Bar**	**31.38**	**240**	*e*P		**P**	**01 07 54.3**	**0.0**
	19nm,0.9s							
JAGI	**Jajag, Banyuwa**	**34.16**	**265**	*e*P		**P**	**01 08 18.5**	**-0.2**
	18nm,0.9s							
MEEK	**Meekatharra**	**34.72**	**232**	P		**P**	**01 08 23.4**	**-0.1**
	baz=36,SNR=4.3							
GIRL	**Giralia**	**36.67**	**241**	*e*P		**P**	**01 08 37.6**	**-2.5**
	111nm,1.1s							
UGM	**Wanagama**	**37.76**	**266**	*e*P		**P**	**01 08 45.3**	**-4.2**
	83nm,1.5s							
MORW	**Morawa**	**37.90**	**230**	*e*P		**P**	**01 08 49.2**	**-1.3**
	42nm,1.4s							
KLBR	**Kellerberrin**	**37.96**	**225**	P		**P**	**01 08 50.2**	**-0.9**
	baz=39,SNR=7.4							
URZ	**Urewera**	**40.66**	**145**	LR		LR	01 25 06.0	
	comp=Z,1μm,18.0s,baz=352,slow=34							
THZ	**Tophouse**	**41.05**	**152**	*e*P		**P**	**01 09 16.0**	**-0.6**
	10nm,1.1s							
FOZ	**Fox Glacier**	**41.15**	**156**	*e*P		**P**	**01 09 15.3**	**-2.0**
	17nm,1.4s							
RPZ	**Rata Peaks**	**41.80**	**155**	LR		LR	01 26 57.6	
	comp=Z,1μm,18.2s,baz=326,slow=36							
KHZ	**Kahutara**	**41.85**	**152**	*e*P		**P**	**01 09 22.2**	**-0.9**
	10nm,1.1s							
PYZ	**Puysegur Point**	**42.30**	**161**	*e*P		**P**	**01 09 23.2**	**-3.5**
	56nm,1.3s							
QZH	**Quanzhou**	**42.92**	**318**	*e*P		P	01 09 38.8	+6.8
QZH				S		**S**	**01 15 54.8**	**+0.9**
QZH				LR		LR		
	comp=N,260nm,17.7s							
QZH				LR		LR		
	comp=E,320nm,16.6s							
QZH				LR		LR		
	comp=Z,430nm,18.8s							
MJAR	**Matsushiro Arr**	**44.11**	**348**	P		**P**	**01 09 40.1**	**-1.3**
	2.4nm,0.7s,baz=163,slow=7.0,SNR=3.3							
MJAR				LR		LR	01 26 17.0	
	comp=Z,203nm,22.0s,baz=155,slow=34							
MAJO	**Matsushiro**	**44.11**	**348**	*e*P		**P**	**01 09 40.1**	**-1.3**
QIZ	**Qiongzhong**	**45.95**	**305**	P		**P**	**01 10 00.3**	**+4.0**
QIZ				S		**S**	**01 16 42.8**	**+4.7**
QIZ				LR		LR		
	comp=N,200nm,18.6s							
QIZ				LR		LR		
	comp=E,290nm,18.6s							
QIZ				LR		LR		
	comp=Z,370nm,18.2s							
NJ2	**Nanjing**	**47.84**	**325**	*e*P		**P**	**01 10 13.0**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
KSRS	**Korea Array**	**47.98**	**338**	P		**P**	**01 10 10.2**	**-1.7**
	1.4nm,0.7s,baz=152,slow=8.7,SNR=4.4							
KS15	**Wonju Array Si**	**47.99**	**338**	*e*P		**P**	**01 10 10.2**	**-1.7**
	30nm,1.3s							
RAR	**Rarotonga**	**51.92**	**112**	LR		LR	01 29 38.4	
	comp=Z,102nm,18.6s,baz=276,slow=32							
GYA	**Guiyang**	**52.33**	**311**	*e*P		**P**	**01 10 48.0**	**+2.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KMI	**Kunming**	**54.67**	**307**	P		**P**	**01 11 06.0**	**+3.5**
KMI				pmax		pmax		
	comp=Z,15nm,0.5s							
KMI				pmax		pmax		
	comp=Z,120nm,4.5s							
KMI				LR		LR		
	comp=N,290nm,18.0s							
KMI				LR		LR		
	comp=E,280nm,20.2s							
KMI				LR		LR		
	comp=Z,280nm,22.0s							
CMAR	**Chiang Mai Arr**	**54.97**	**298**	LR		LR	01 35 40.0	
	comp=Z,136nm,19.4s,baz=0.0,slow=38							
XAN	**Xi'an**	**55.23**	**320**	P		**P**	**01 11 08.2**	**+2.0**
XAN				pP		pwP	01 11 22.3	+0.1
XAN				S		**S**	**01 18 49.1**	**+2.5**
XAN				pmax		pmax		
	comp=Z,5.0nm,1.5s							
XAN				LR		LR		
	comp=N,190nm,17.8s							
XAN				LR		LR		
	comp=E,220nm,15.3s							
XAN				LR		LR		
	comp=Z,370nm,20.8s							
CD2	**Chengdu**	**56.89**	**314**	P		**P**	**01 11 18.6**	**+0.5**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**58.27**	**328**	*e*P		**P**	**01 11 30.7**	**+3.0**
HHC				sP		pwP	01 11 54.6	+9.0
HHC				S		**S**	**01 19 22.4**	**-4.2**
HHC				sS		sS	01 19 59.7	+12
HHC				pmax		pmax		
	comp=Z,14nm,1.1s							
HHC				pmax		pmax		
	comp=Z,190nm,6.3s							
HHC				LR		LR		
	comp=N,350nm,15.0s							
HHC				LR		LR		
	comp=E,330nm,14.8s							
HHC				LR		LR		
	comp=Z,670nm,14.8s							
PETK	**Petropavlovsk-**	**60.09**	**6**	P		**P**	**01 11 39.8**	**-0.1**
	1.1nm,0.4s,baz=159,slow=4.3,SNR=3.2							
PEA1	**Petropavlovsk-**	**60.10**	**6**	*e*P		**P**	**01 11 39.8**	**-0.1**
PPT	**Papeete**	**61.19**	**106**	LR		LR	01 35 28.1	
	comp=Z,157nm,18.8s,baz=308,slow=33							
GTA	**Gaotai**	**64.29**	**320**	*e*P		P	01 12 15.5	+7.0
GTA				pP		sP	01 12 23.1	-1.6
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
SONA0	**Songino Array**	**65.79**	**330**	*e*P		**P**	**01 12 16.9**	**-1.2**
SONM	**Songino Array**	**65.79**	**330**	P		**P**	**01 12 16.9**	**-1.2**
	0.5nm,0.9s,baz=152,slow=6.5,SNR=3.3							
VNDA	**Vanda**	**71.12**	**177**	P		**P**	**01 12 53.5**	**+2.8**
	1.1nm,0.7s,baz=326,slow=6.0,SNR=7.0							
VNDA				LR		LR	01 42 58.2	
	comp=Z,237nm,18.1s,baz=251,slow=35							
WMQ	**Urumqi**	**74.35**	**319**	*e*P		**P**	**01 13 12.9**	**+2.3**
WMQ				pP		pwP	01 13 27.9	+0.1
WMQ				sP		sP	01 13 35.2	+7.7
WMQ				pmax		pmax		
	comp=Z,23nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,340nm,4.3s							
WMQ				LR		LR		
	comp=N,280nm,24.3s							
WMQ				LR		LR		
	comp=E,220nm,22.1s							
WMQ				LR		LR		
	comp=Z,230nm,15.5s							
MK32	**Makanchi Array**	**79.04**	**320**	*e*P		**P**	**01 13 35.4**	**-1.5**
MKAR	**Makanchi Array**	**79.04**	**320**	P		**P**	**01 13 35.4**	**-1.5**
	0.4nm,0.6s,baz=99,slow=7.5,SNR=4.5							
ZALV	**Zalesovo Beam**	**80.45**	**327**	P		**P**	**01 13 42.3**	**-2.0**
	0.4nm,0.4s,baz=107,slow=5.0,SNR=3.6							
ZAA1	**Zalesovo Array**	**80.45**	**327**	*e*P		**P**	**01 13 42.3**	**-2.1**
KSH	**Kashi**	**81.02**	**312**	*e*P		**P**	**01 13 49.2**	**+1.3**
KSH				pP		sP	01 14 06.5	+1.7
KSH				S		**S**	**01 23 50.6**	**-3.4**
KSH				pmax		pmax		
	comp=Z,100nm,5.5s							
ILAR	**Eielson Array**	**85.52**	**23**	P		**P**	**01 14 09.1**	**-1.3**
	1.0nm,0.8s,baz=258,slow=4.9,SNR=9.2							
ILB	**Eielson Array**	**85.52**	**23**	*e*P		**P**	**01 14 09.1**	**-1.3**
	3.4nm,1.1s							
NRIK	**Noril'sk**	**86.43**	**342**	LR		LR	01 54 07.6	
	comp=Z,138nm,18.9s,baz=100,slow=37							
BBB	**Bella Bella**	**91.16**	**38**	LR		LR	01 46 16.5	
	comp=Z,64nm,20.7s,baz=290,slow=30							
NV01	**Mina Array Sit**	**96.56**	**52**	*e*P		**P**	**01 15 03.6**	**+0.6**
NVAR	**Mina Array Bea**	**96.56**	**52**	P		**P**	**01 15 03.6**	**+0.6**
	0.2nm,0.5s,baz=298,slow=4.0,SNR=5.8							
NVAR				LR		LR	01 55 03.8	
	comp=Z,183nm,18.2s,baz=258,slow=33							
PD31	**Pinedale Array**	**103.23**	**48**	*e*Pdif		**Pdif**	**01 15 32.9**	**+0.2**
PDAR	**Pinedale Array**	**103.23**	**48**	Pdiff		**Pdif**	**01 15 32.9**	**+0.2**
	0.1nm,0.4s,baz=255,slow=6.4,SNR=3.0							
VYHS	**Vyhne**	**120.60**	**324**	*e*PKP		**PKPdf**	**01 20 23.8**	**-0.6**
CLL	**Collm**	**122.39**	**329**	*e*PKPdf		**PKiKP**	**01 20 28.0**	**+0.1**
CLL				*i*			01 20 36.6	
CLL				Lm		MLR	02 16 00.0	
	comp=N,100nm,19.3s							
CLL				Lm		MLR	02 16 00.0	
	comp=E,100nm,19.4s							
CLL				Lm		MLR	02 16 00.0	
	comp=Z,200nm,20.1s							
GEC2	**GERESS Array S**	**123.38**	**326**	*e*PKPdf		**PKiKP**	**01 20 30.4**	**+0.3**
GERES	**GERESS Array B**	**123.38**	**326**	PKP		**PKiKP**	**01 20 30.4**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=80,slow=1.5,SNR=11							
GEA0	**GERESS Array S**	**123.38**	**326**	*e*PKPdf		**PKiKP**	**01 20 30.1**	**0.0**
SOKA	**Soboth**	**123.73**	**323**	PKiKP		**PKiKP**	**01 20 31.0**	**+0.1**
	comp=Z,1.2nm,0.8s							
ABTA	**Abfaltersbach**	**125.18**	**324**	*e*PKiKP		**PKPdf**	**01 20 33.3**	**-0.1**
	comp=Z,1.3nm,0.8s							
MOTA	**Moosalm**	**125.66**	**326**	*e*PKiKP		**PKiKP**	**01 20 34.7**	**0.0**
	comp=Z,2.0nm,0.6s							
SQTA	**Sankt Quirin**	**125.67**	**325**	*e*PKPdf		**PKPdf**	**01 20 33.7**	**-0.6**
	comp=Z,4.2nm,1.3s							
FETA	**Feichten**	**126.05**	**325**	PKiKP		**PKiKP**	**01 20 35.8**	**+0.3**
	comp=Z,2.9nm,0.8s							
LPAZ	**La Paz**	**137.08**	**123**	PKP		**PKiKP**	**01 20 59.8**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=277,slow=8.1,SNR=2.9							
TOA0	**Torodi Ar. Sit**	**146.78**	**284**	*e*PKPdf		**PKPbc**	**01 21 14.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc		**PKPbc**	**01 21 14.9**	**-0.7**
	comp=Z,6.9nm,0.8s,baz=350,slow=6.0,SNR=46							
TOA1	**Torodi Ar. Sit**	**146.79**	**284**	*e*PKPdf		**PKPbc**	**01 21 14.9**	**-0.7**
PTGA	**Pitinga**	**150.57**	**103**	*e*PKPbc		**PKiKP**	**01 21 26.3**	**0.0**
BDFB	**Brasilia**	**152.37**	**144**	PKPbc		**PKPbc**	**01 21 29.9**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=183,slow=8.0,SNR=3.3							
DBIC	**Dimbokro**	**153.62**	**271**	PKPbc		**PKiKP**	**01 21 33.8**	**+1.3**
	comp=Z,2.4nm,0.8s,baz=99,slow=2.4,SNR=4.2							

IDC 13 01:17:26.8±63.0,21.18S×178.68W,h0km,mb4.3/3, mb1 4.5/3,mb1mx3.8/32,mbtmp4.3/3,Error ellipse: s-maj=1139.0km s-min=159.8km az=84.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**36.92**	**245**	P		P	01 24 36.0	-1.6
	1.5nm,0.4s,baz=90,slow=10,SNR=4.4							
ASAR	**Alice Springs**	**43.75**	**258**	P		P	01 25 34.4	0.0
	1.9nm,0.5s,baz=99,slow=7.0,SNR=20							
WRA	**Warramunga Arr**	**43.88**	**263**	P		P	01 25 36.2	+0.8
	2.2nm,0.3s,baz=92,slow=8.5,SNR=99							

MOS ***13*** *01:23:21.6±2.5,49.54N×156.86E,h47km,mb4.2/1,Error ellipse: s-maj=31.1km s-min=5.5km az=81.2*

KRSC ***13*** *01:23:21.6±10.0,49.54N×156.86E,h47km±10km,ML4.5*

IDC ***13*** *01:23:25.6±6.4,49.84N×155.69E,h123km±43km,mb3.1/7, mb1 3.4/8,mb1mx3.1/38,mbtmp3.4/8,Error ellipse: s-maj=71.4km s-min=21.2km az=180.0*

ISC 13 01:23:20.3±3.5,49.3N±0.2×156.5E±0.1,h62km±28km,n49, σ1s44/55,mb3.5/8,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SKR	**Severo-Kuril's**	**1.37**	**349**	*e*P		**Pn**	**01 23 43.2**	**0.0**
SKR				*e*S		**Sn**	**01 23 58.6**	**-1.8**
SKR	**Severo-Kuril's**	**1.37**	**349**	*e*PN		**Pn**	**01 23 45.9**	**+2.7**
SKR				*e*S		**Sn**	**01 23 58.2**	**-2.2**
SKR				pmax		pmax		
	comp=Z,72nm,0.3s							
SKR				smax		smax		
	comp=E,353nm,0.3s							
SKR				smax		smax		
	comp=N,316nm,0.3s							
PAU	**Pauzhetka**	**2.13**	**5**	*e*P		**Pn**	**01 23 54.2**	**+0.7**
PAU				*e*S		**Sn**	**01 24 18.1**	**-0.8**
PAU	**Pauzhetka**	**2.13**	**5**	PN		**Pn**	**01 23 54.2**	**+0.7**
PAU				S		**Sn**	**01 24 18.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**2.66**	**21**	*e*P		**Pn**	**01 24 01.4**	**+0.7**
KDTR				*e*S		**Sn**	**01 24 30.6**	**-1.1**
KDTR	**Khodutka, Kamc**	**2.66**	**21**	PN		**Pn**	**01 24 01.4**	**+0.7**

comp=N,12nm,1.1s,baz=330,slow=22,SNR=9.1

YKA	Yellowknife Ar	47.47	39	P	P	01 31 47.7	-0.6
	comp=N,0.2nm,0.5s,baz=297,slow=7.6,SNR=3.8							
MKAR	Makanchi Array	47.80	297	P	P	01 31 45.4	-5.8
	comp=N,0.1nm,0.5s,baz=54,slow=9.7,SNR=2.4							
NVAR	Mina Array Bea	59.23	66	P	P	01 33 16.2	+1.0
	comp=N,0.2nm,0.6s,baz=293,slow=7.8,SNR=2.7							
FINES	FINESS Array B	62.65	336	P	P	01 33 30.6	-7.1
	comp=N,0.4nm,0.4s,baz=31,slow=8.9,SNR=4.7							
TXAR	Lajitas Array	74.25	63	P	P	01 34 50.2	-0.5
	comp=N,0.4nm,0.6s,baz=306,slow=4.6,SNR=6.0							

IDC ***13*** *01:29:29.0±0.7,51°.84N×173°.39W, h0km, mb3.9/13, mb1 4.2/15, mb1mx3.9/52, mbtmp3.9/15, ML3.8/2, MS3.6/3, Ms1 3.6/3, ms1mx3.1/42, Error ellipse: s-maj=24.5km s-min=14.9km az=172.0*

NEIC ***13*** *01:29:30.9±2.5,51°.85N×173°.52W, h8km±5km, mb4.1/39, ML4.0(AEIC), Error ellipse: s-maj=12.8km s-min=4.6km az=175.0*

ISCJB ***13*** *01:29:31.6±1.0,51°.91N±0°.07×173°.51W±0°.04, h24km±7km, mb4.1/27, MS3.6/2, Error ellipse: s-maj=11.3km s-min=3.5km az=165.7*

AEIC ***13*** *01:29:32.3±0.0,52°.00N×173°.54W, h22km*

ISC 13 01:29:32.3±1.9, 51°.92N±0°.10×173°.55W±0°.04, h17km±10km, n93, σ1°36/95, mb4.1/27, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	Korovin Flat P	0.49	317	*e*Pg	Pg	01 29 41.9	-0.2
KOSE	Korovin Southe	0.53	324	*e*Pg	Pg	01 29 42.4	-0.4
KOKI	Mount Kliuchef	0.57	316	*e*Pg	Pg	01 29 43.4	-0.2
KONE	Korovin Northe	0.59	324	*e*Pg	Pg	01 29 43.3	-0.7
KOWE	Korovin West	0.62	316	*e*Pg	Pg	01 29 44.2	-0.3
GSMY	Great Sitkin M	1.55	276	*e*Pn	Pn	01 29 58.2	-0.9
GSTR	Great Sitkin T	1.56	277	*e*Pn	Pn	01 29 59.5	+0.3
GSTR				*e*Sn	Sn	01 30 17.6	-1.4
GSTD	Great Sitkin T	1.61	276	*e*Pn	Pn	01 29 58.9	-1.0
GSTD				*e*Sn	Sn	01 30 19.9	-0.4
ETKA	Kagalaska Isla	1.77	269	*e*Pn	Pn	01 30 01.9	-0.2
ADAG	Mount Adagdak	1.89	273	*e*Pn	Pn	01 30 04.0	+0.3
KIWB	Kanaga Island	2.23	270	*e*Pn	Pn	01 30 05.6	-2.8
KIWB				*e*Sn	Sn	01 30 35.1	-0.4
KIKV	Kanaga Island	2.24	270	*e*Pn	Pn	01 30 08.6	+0.1
TAFP	Tanaga Falls P	2.75	271	*e*Pn	Pn	01 30 16.0	+0.5
TAFP				*e*Sn	Sn	01 30 50.5	+2.3
TASE	Tanaga Southea	2.78	270	*e*Pn	Pn	01 30 16.5	+0.5
NIKH	Nikolski High	3.06	68	*e*Pn	Pn	01 30 19.5	-0.3
NIKH				*e*Sn	Sn	01 30 55.6	-0.4
OKTU	Okmok Mt. Tuli	3.66	64	*e*Pn	Pn	01 30 27.6	-0.5
MSW	Makushin Switc	4.56	61	*e*Pn	Pn	01 30 39.7	-0.7
UNV	Unalaska Valle	4.69	63	*e*Pn	Pn	01 30 42.2	+0.1
AKUT	Akutan	5.19	62	*e*Pn	Pn	01 30 51.1	+2.0
SPIA	Saint Paul Isl	5.61	19	*e*Pn	Pn	01 30 54.9	+0.2
SPIA				*e*Sn	Sn	01 31 57.3	-1.4
GAMB	Gambell	11.93	4	*e*Pn	Pn	01 32 22.0	+0.7
KDAK	Kodiak Island	13.40	56	Pn	Pn	01 32 41.0	-0.4
	0.3nm,0.3s,baz=225,slow=7.1,SNR=3.4						
BRLK	Bradley Lake	14.90	49	*e*Pn	Pn	01 33 01.5	-0.3
SEW	Seward	15.70	49	*e*Pn	Pn	01 33 10.6	-1.7
	19nm,1.2s						
PPLA	Purkeypile	15.82	38	*e*Pn	Pn	01 33 15.2	+1.1
	5.4nm,0.8s						
KNK	Knik Glacier	16.64	45	*e*Pn	P	01 33 26.0	-0.8
	14nm,1.2s						
TRF	Thorofare Moun	16.85	38	*e*Pn	P	01 33 28.9	-0.3
	25nm,1.4s						
BPAW	Bear Paw Mtn.	16.95	35	*e*Pn	P	01 33 32.6	+2.4
	14nm,1.1s						
IM3	Indian Mountai	17.28	28	*e*Pn	P	01 33 35.3	+1.5
SCM	Sheep Creek Mo	17.30	45	*e*Pn	Pn	01 33 32.2	-0.6
	29nm,1.4s						
RND	Reindeer	17.38	39	*e*Pn	P	01 33 34.7	-0.3
	5.7nm,1.0s						
MLY	Manley	17.60	33	*e*Pn	P	01 33 37.0	-0.4
	10nm,1.2s						
DHY	Denali Highway	17.81	41	*e*Pn	Pn	01 33 38.8	-0.3
	4.6nm,0.7s						
WRH	Wood River Hil	18.21	37	*e*Pn	P	01 33 45.4	+1.3
	5.5nm,0.9s						
CCB	Clear Creek Bu	18.41	36	*e*P	Pn	01 33 48.0	+1.6
	6.8nm,1.1s						
MDM	Murphy Dome	18.43	35	*e*P	Pn	01 33 47.5	+0.9
	8.8nm,0.9s						
HDA	Harding Lake	18.61	38	*e*P	Pn	01 33 48.8	0.0
	16nm,1.2s						
ILAR	Eielson Array	18.81	37	P	P	01 33 49.5	-1.1
	0.4nm,0.3s,baz=231,slow=9.0,SNR=22						
ILAR				PcP	PcP	01 38 17.4	+0.5
	0.0nm,0.3s,baz=259,slow=3.6,SNR=5.2						
ILAR				LR	LR	01 40 47.8	
	comp=Z,145nm,20.4s,baz=260,slow=36						
ILB	Eielson Array	18.81	37	*e*P	P	01 33 49.9	-0.8
	7.4nm,1.1s						
ILB				*e*PcP	PcP	01 38 17.4	+0.5
IL1	Eielson Array	18.82	37	*e*P	P	01 33 48.9	-1.8
RIDG	Independ'e Rid	19.13	41	*e*P	P	01 33 54.0	-0.2
	13nm,1.1s						
DOT	Dot Lake	19.41	41	*e*P	Pn	01 33 58.8	+0.4
	5.7nm,1.1s						
SCRK	Sand Creek	19.57	41	*e*P	P	01 33 58.3	-0.8
	6.1nm,0.6s						
PRP	Porcupine Dome	19.69	36	*e*P	Pn	01 34 02.7	+0.8
	4.9nm,1.0s						
TOLK	Toolik Lake Re	20.31	25	*e*P	Pn	01 34 10.1	+1.1
	18nm,0.9s						
FYU	Fort Yukon	20.34	33	*e*P	Pn	01 34 10.5	+1.2
	29nm,1.2s						
EGAK	Eagle	21.02	40	*e*P	P	01 34 13.6	-1.1
	16nm,0.8s						
SEY	Seymchan	21.11	315	P	P	01 34 17.4	+1.7
	7.6nm,0.8s,baz=110,slow=10,SNR=37						
MA2	Magadan	21.27	305	*e*P	P	01 34 19.6	+2.1
	11nm,1.3s						
MA2	Magadan	21.27	305	P	P	01 34 18.9	+1.5
	2.6nm,0.3s,baz=178,slow=16,SNR=3.8						
DAWY	Dawson	21.49	42	*e*P	P	01 34 23.3	+3.6
	8.9nm,1.1s						
HYT	Haines Junctio	21.60	52	*e*P	P	01 34 22.4	+1.3
	9.7nm,1.3s						
EPYK	Eagle Plains	23.32	38	*e*P	P	01 34 40.9	+1.9
	13nm,1.2s						
INK	Inuvik	25.16	34	*e*P	P	01 34 56.4	+0.3
	4.2nm,0.9s						
INK	Inuvik	25.16	34	P	P	01 34 54.1	-2.0
	4.0nm,1.0s,baz=223,slow=13,SNR=9.8						
YKA	Yellowknife Ar	32.47	48	P	P	01 36 00.4	-0.8
	0.2nm,0.4s,baz=274,slow=8.1,SNR=8.3						
YKA				PcP	PcP	01 38 46.9	-0.9
	1.2nm,0.8s,baz=285,slow=3.1,SNR=11						
YKB5	Yellowknife Ar	32.47	48	*e*P	P	01 36 00.4	-0.8
YKB5				*e*PcP	PcP	01 38 46.5	-1.3
B08A	Colville Reser	34.26	74	*e*P	P	01 36 16.8	-0.2
	9.1nm,1.4s						
H11N2	WAKE ISLAND Hy	35.58	213	T	T	02 14 15.2	
	baz=21,slow=76,SNR=2710						
H11N3	WAKE ISLAND Hy	35.59	213	T	T	02 14 13.7	
	baz=21,slow=76,SNR=4164						
H11N1	WAKE ISLAND Hy	35.60	213	T	T	02 14 14.5	
	baz=21,slow=76,SNR=3348						
USRK	Ussuriysk Ar.	36.45	280	PcP	PcP	01 38 58.9	-0.6
	2.3nm,0.9s,baz=95,slow=4.4,SNR=4.3						
H11S1	WAKE ISLAND Hy	36.79	212	T	T	02 15 45.4	
	baz=20,slow=76,SNR=1287						
H11S2	WAKE ISLAND Hy	36.80	212	T	T	02 15 47.5	
	baz=20,slow=76,SNR=1317						
H11S3	WAKE ISLAND Hy	36.80	212	T	T	02 15 46.7	
	baz=20,slow=76,SNR=652						
MJAR	Matsushiro Arr	37.09	265	LR	LR	01 50 51.5	
	comp=Z,25nm,20.7s,baz=135,slow=34						
WVOR	Wild Horse Val	37.69	82	*e*P	P	01 36 50.6	+4.0
	2.3nm,0.9s						
MCMT	McKenzie Canyo	39.89	75	*e*P	P	01 37 05.1	-0.1
NV01	Mina Array Sit	40.25	87	*e*P	P	01 37 08.1	-0.1
NV01				*e*PcP	PcP	01 39 11.4	-0.4
NVAR	Mina Array Bea	40.25	87	P	P	01 37 08.1	-0.1
	0.6nm,0.8s,baz=283,slow=9.1,SNR=4.7						
NVAR				PcP	PcP	01 39 11.4	-0.4
	0.7nm,0.6s,baz=310,slow=2.4,SNR=6.6						
YHH	Holmes Hill	41.10	74	*e*P	P	01 37 15.6	+0.3
	4.1nm,1.0s						
BW06	Boulder Array	43.02	76	*e*P	P	01 37 30.7	-0.1
	8.7nm,1.5s						
PD31	Pinedale Array	43.02	76	*e*P	P	01 37 30.7	-0.1
	7.4nm,1.4s						
PDAR	Pinedale Array	43.02	76	*e*P	P	01 37 30.3	-0.5
PDAR	Pinedale Array	43.02	76	P	P	01 37 29.4	-1.5
	1.4nm,0.6s,baz=288,slow=3.9,SNR=13						
U15A	North Rim	45.22	85	*e*P	P	01 37 52.0	+3.4
	1.6nm,0.8s						
O20A	White River Ci	45.38	78	*e*P	P	01 37 52.7	+3.0
	5.0nm,0.8s						
PV13	Radium Mtn., P	46.25	81	*e*P	P	01 38 00.2	+3.5
	4.8nm,1.0s						
ULM	Lac du Bonnet	46.62	60	P	P	01 38 00.0	+0.9
	1.9nm,0.5s,baz=320,slow=6.4,SNR=4.6						
TX31	Lajitas Ar. Si	55.34	85	*e*P	P	01 39 06.8	+1.6
TXAR	Lajitas Array	55.34	85	P	P	01 39 04.1	-1.1
	0.6nm,0.7s,baz=306,slow=5.9,SNR=8.4						
MK32	Makanchi Array	62.20	311	*e*P	P	01 39 54.2	+1.7
MKAR	Makanchi Array	62.20	311	P	P	01 39 54.2	+1.7
	0.3nm,0.7s,baz=57,slow=5.3,SNR=3.1						
NB200	NORSAR Array S	67.33	357	*e*P	P	01 40 24.8	-0.8
NOA	NORSAR Array B	67.33	357	P	P	01 40 24.8	-0.8
	0.7nm,0.9s,baz=3.9,slow=6.6,SNR=2.5						
CM31	Chiang Mai Arr	74.18	280	*e*P	P	01 41 07.6	-0.4
	5.4nm,0.4s						
CMAR	Chiang Mai Arr	74.18	280	P	P	01 41 07.6	-0.4
	0.7nm,0.4s,baz=30,slow=7.3,SNR=5.6						
GERES	GERESS Array B	79.42	355	LR	LR	02 15 49.4	
	comp=Z,130nm,21.3s,baz=86,slow=35						
WR1	Warramunga Arr	84.74	228	*e*P	P	01 42 03.4	-1.8
	11nm,1.4s						
WRA	Warramunga Arr	84.74	228	P	P	01 42 03.4	-1.8
	0.8nm,0.6s,baz=32,slow=6.0,SNR=4.6						
AS31	Alice Springs	88.17	227	*e*P	P	01 42 21.6	-0.4
	4.1nm,1.5s						
ASAR	Alice Springs	88.17	227	P	P	01 42 21.6	-0.4
	2.4nm,0.8s,baz=30,slow=4.7,SNR=11						
TORD	Torodi Ar. Bea	115.07	5	PKP	PKiKP	01 48 09.8	-2.7
	0.2nm,0.5s,baz=79,slow=0.8,SNR=3.1						

IDC ***13*** *01:52:58.4±1.2, 32°.33N×132°.28E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/32, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=34.3km s-min=14.4km az=46.0*

NIED ***13*** *01:53:00, 32°.40N×132°.20E, h26km, Mw3.7 Best double couple: M0=4.72000×10^14 NP1:ϕs=345.00000°, δ11.00000°, λ=123.00000°. NP2:ϕs=199.00000°, δ81.00000°, λ=84.00000°.*

JMA ***13*** *01:53:02.9, 32°.43N×132°.16E, h27km±1km, MJ3.7*

JMA Felt II J1.

ISC 13 01:53:00.9±1.5, 32°.38N±0°.06×132°.23E±0°.05, h17km±10km, n15, σ0°52/22, mb3.5/4, 2C-6D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSKE	Saikikamae	0.50	326	⇓P	Pb	01 53 12.0	+0.8
JSKE				S	Sb	01 53 18.4	+0.2
JHHC	Hyugahichiya	0.51	277	⇓P	Pb	01 53 12.0	+0.7
JHHC				S	Sb	01 53 18.4	0.0
JTSN	Tsuno	0.63	258	⇓P	Pn	01 53 14.3	-0.8
JTSN				S	Sb	01 53 22.6	+0.6
JTO	Tosashimizu	0.68	45	⇓P	Pn	01 53 16.1	+0.4
JTO				S	Sn	01 53 25.4	-0.6
JKIT	Kitakata	0.70	290	P	Pb	01 53 14.9	+0.3
JKIT				S	Sg	01 53 23.7	-0.2
JUS	Usuki	0.79	329	⇑P	Sb	01 53 16.9	-0.4
JUS				S	Sb	01 53 26.4	-0.3
UWA2	Uwa jima 2	0.89	22	⇓P	Pn	01 53 18.7	0.0
UWA2				S	Sg	01 53 29.9	-0.2
JTZ	Takazaki	1.08	244	⇑P	Pg	01 53 21.9	+0.1
JKU	Kubokawa	1.16	37	⇓P	Pg	01 53 23.0	-0.3
JNU	Nakatsue	1.36	303	Pg	Pb	01 53 25.8	-0.1
	129nm,0.3s,baz=71,slow=3.4,SNR=656						
JNU				Lg	Lg	01 53 43.6	
	151nm,0.3s,baz=276,slow=14,SNR=8.6						
JNU				LR	LR	01 54 11.4	
	comp=Z,324nm,18.5s,baz=166,slow=52						
KSRS	Korea Array	6.17	326	Pn	Pn	01 54 32.0	+0.8
	0.2nm,0.3s,baz=149,slow=14,SNR=2.8						
SONM	Songino Array	24.91	316	P	P	01 58 22.5	-0.6
	0.5nm,0.6s,baz=119,slow=10.0,SNR=2.4						
WRA	Warramunga Arr	52.07	177	P	P	02 02 10.3	+0.4
	0.5nm,0.6s,baz=352,slow=8.4,SNR=5.1						
ASAR	Alice Springs	55.76	178	P	P	02 02 36.1	-0.7
	0.5nm,0.6s,baz=8.3,slow=9.5,SNR=6.3						
YKA	Yellowknife Ar	71.49	27	P	P	02 04 20.7	+0.5
	0.1nm,0.3s,baz=298,slow=6.0,SNR=5.1						

IDC 13 02:17:49.0±3.3, 6°.75S×148°.27E, h0km, mb4.1/2, mb1 4.1/3, mb1mx3.6/38, mbtmp3.9/3, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/35, Error ellipse: s-maj=100.0km s-min=43.7km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	11.87	104	LR	LR	02 24 31.2	
	comp=Z,122nm,20.2s,baz=302,slow=34						
WRA	Warramunga Arr	18.84	225	P	P	02 22 10.4	-0.3
	0.3nm,0.3s,baz=49,slow=11,SNR=12						
ASAR	Alice Springs	21.76	218	P	P	02 22 42.8	+0.3
	2.3nm,0.6s,baz=58,slow=9.7,SNR=20						
BATI	Baumata	24.57	260	LR	LR	02 34 23.6	
	comp=Z,113nm,18.9s,baz=304,slow=40						
FITZ	Fitzroy Crossi	24.77	241	P	P	02 23 13.1	+0.3
	4.0nm,0.4s,baz=48,slow=8.1,SNR=15						
TORD	Torodi Ar. Bea	146.49	284	PKPbc	PKPdf	02 37 32.1	+0.1
	0.5nm,0.6s,baz=82,slow=3.4,SNR=6.9						

NNC 13 02:18:20.4±7.0, 38°.78N×73°.80E, h0km, mb3.8, mpv3.3, 4C-2D, Error ellipse: s-maj=53.4km s-min=36.9km az=162.0, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	Ala-Archa	3.88	8	⇓P	Pn	02 19 23.2	+1.7
AAK				⇑S	Sn	02 20 10.9	+3.0
	4.8nm,0.8s						
TKM2	Tokmak 2	4.35	18	⇑P	Pn	02 19 26.3	-1.6
TKM2				⇓S	Sn	02 20 19.4	0.0
	2.2nm,0.5s						
KK31	Karatay Array	4.98	331	⇑P	Pn	02 19 36.4	0.0
	2.3nm,0.5s,baz=135,slow=11,SNR=66						
KK31				⇑S	Sn	02 20 35.1	+0.3
	0.9nm,0.3s,baz=140,slow=24,SNR=8.9						

ISCJB ***13*** *02:36:06.8±2.2, 8°.0N±0°.3×104°.5W±0°.5, h10km, mb3.7/7, MS3.6/4, Error ellipse: s-maj=89.3km s-min=21.0km az=149.3*

IDC ***13*** *02:36:07.2±2.6, 8°.04N×104°.41W, h0km, mb3.7/7, mb1 4.1/7, mb1mx3.7/31, mbtmp3.8/7, MS3.6/7, Ms1 3.6/7, ms1mx3.3/34, Error ellipse: s-maj=109.0km s-min=26.6km az=59.0*

ISC 13 02:36:08.9±2.6, 8°.1N±0°.4×104°.4W±0°.6, h10km, n12, σ0°98/7, mb3.8/7, MS3.6/4, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	12.87	45	LR	LR	02 42 42.7	
	comp=Z,339nm,21.1s,baz=202,slow=31						
APG	El Apazote	15.24	62	LR	LR	02 44 03.9	
	comp=Z,264nm,21.6s,baz=272,slow=31						
LPIG	La Paz	16.93	341	LR	LR	02 44 47.8	
	comp=Z,76nm,21.9s,baz=181,slow=31						
TXAR	Lajitas Array	21.16	2	P	P	02 40 55.1	+0.7
	1.9nm,0.9s,baz=180,slow=12,SNR=13						
TXAR				LR	LR	02 48 25.9	
	comp=Z,225nm,18.7s,baz=0.0,slow=35						
ATAH	Atahualpa	29.97	120	LR	LR	02 51 37.9	
	comp=Z,152nm,20.1s,baz=233,slow=31						
PDAR	Pinedale Array	34.86	353	P	P	02 43 00.8	+0.2
	1.5nm,1.0s,baz=171,slow=8.2,SNR=7.4						
NEW	Newport	41.49	347	P	P	02 43 57.3	+1.1
	1.4nm,0.6s,baz=169,slow=8.9,SNR=4.1						
ULM	Lac du Bonnet	42.63	8	LR	LR	03 00 57.2	
	comp=Z,56nm,21.1s,baz=130,slow=35						
LPAZ	La Paz	43.25	124	P	P	02 44 11.8	+0.2
	2.1nm,1.0s,baz=317,slow=4.5,SNR=4.9						
LPAZ				LR	LR	03 00 10.7	
	comp=Z,83nm,18.9s,baz=77,slow=33						
YKA	Yellowknife Ar	54.83	354	P	P	02 45 37.9	-1.1
	0.5nm,1.0s,baz=164,slow=6.8,SNR=3.8						
INK	Inuvik	63.19	348	P	P	02 46 36.1	-0.9
	1.2nm,0.8s,baz=133,slow=7.5,SNR=6.5						
ILAR	Eielson Array	63.98	341	P	P	02 46 42.6	+0.3
	0.8nm,1.0s,baz=131,slow=5.7,SNR=4.0						

MEX 13 02:38:35.4±0.3, 14°.20N×92°.26W, h58km±18km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		0.70	360	*i* P	Pn	02 38 48.6	-0.9
THIG				*i* S	Sn	02 38 57.7	-2.1
PCIG		1.75	328	*i* P	Pn	02 39 02.5	-1.0
PCIG				*e*S	Sn	02 39 22.6	-2.2
CCIG	Comitan	2.07	3	*i* P	Pn	02 39 05.7	-2.2
CCIG				*i* S	Sn	02 39 31.2	-1.6

IDC ***13*** *02:53:29.8±1.4, 6°.71S×148°.78E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/33, mbtmp3.9/5, ML3.7/1, Error ellipse: s-maj=59.8km s-min=24.9km az=123.0*

ISCJB ***13*** *02:53:35.5±1.5, 6°.8S±0°.3×148°.7E±0°.3, h53km, mb3.9/4, Error ellipse: s-maj=56.4km s-min=23.9km az=34.7*

ISC 13 02:53:37.0±1.5, 6°.8S±0°.3×148°.7E±0°.4, h53km, n6, σ0°54/6, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.14	225	P	P	02 57 55.4	-0.6
	0.2nm,0.3s,baz=51,slow=11,SNR=9.4						
ASAR	Alice Springs	22.02	219	P	P	02 58 27.0	-0.2
	2.9nm,0.6s,baz=53,slow=9.5,SNR=34						
FITZ	Fitzroy Crossi	25.15	241	P	P	02 58 57.8	+0.3
	3.6nm,0.5s,baz=51,slow=12,SNR=14						
STKA	Stephens Creek	25.86	194	P	P	02 59 04.0	+0.2
	9.0nm,0.8s,baz=356,slow=15,SNR=3.6						
ILAR	Eielson Array	85.51	23	P	P	03 06 08.7	-0.2
	0.3nm,0.9s,baz=242,slow=4.9,SNR=3.0						
TORD	Torodi Ar. Bea	146.91	284	PKPbc	PKPbc	03 13 15.1	+0.5
	3.1nm,0.7s,baz=53,slow=2.9,SNR=24						

IDC ***13*** *03:07:02.8±0.5, 8°.62S×132°.03W, h0km, mb4.9/18, mb1 5.1/18, mb1mx5.0/35, mbtmp4.9/18, MS4.6/4, Ms1 4.7/4, ms1mx4.2/34, Error ellipse: s-maj=18.7km s-min=13.8km az=115.0*

NEIC ***13*** *03:07:04.5±0.2, 8°.80S×131°.92W, h10km, mb5.5/299, MS5.3/299, Error ellipse: s-maj=6.5km s-min=4.3km az=83.0*

GCMT ***13*** *03:07:08.5±0.3, 8°.49S±0°.03×132°.02W±0°.02, h31km±1km, MW5.2/60, Moment Tensor Solution. s43,c56; s60,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.48±.37; Mθθ=0.21±.28; Mφφ=5.69±.24; Mrθ=-2.29±.34; Mrφ=1.89±.18; Mθφ=3.16±.31; Best double couple: Mo7.05500×10^16 NP1:ϕs172.00000°, δ61.00000°, λ=-117.00000°. NP2: ϕs38.00000°, δ39.00000°, λ=-51.00000°. Principal axes: T 6.7630, Plg12.0000°, Azm281.0000°; N 0.5820, Plg23.0000°, Azm186.0000°; P -7.3470, Plg63.0000°, Azm37.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISCJB ***13*** *03:07:16.1±1.8, 8°.85S±0°.03×131°.83W±0°.04, h131km±16km, mb5.2/365 Error ellipse: s-maj=6.7km s-min=5.4km az=0.1*

ISC 13 03:07:05.4±1.0, 8°.63S±0°.07×132°.05W±0°.08, h17km±6km, n1095, σ1°06/1023, mb5.5/365, MS5.4/333, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAOE	Nuku Hiva Isla	8.01	268	*e*Pn	Pn	03 08 55.1	-6.0
	1μm,0.2s						
TAOE				*e*Sn	Sn	03 10 13.2	-18
	2μm,0.2s						
RKT	Rikitea	14.68	191	*e*P	Pn	03 10 33.7	+1.3
	71nm,0.3s						
RKT				*e*Sn	Sn	03 13 01.0	-14
	14nm,0.3s						
RKT				*e*LR	LR	03 13 45.4	
	comp=Z,2μm,30.2s						
RKT	Rikitea	14.68	191	*e*T	T	03 23 53.2	
	3.3nm,0.3s						
VAH	Vaihoa	16.59	245	*e*Pn	Pn	03 10 52.9	-4.4
	81nm,0.5s						
VAH				*e*Sn	Sn	03 13 42.3	-19
	91nm,0.8s						
PMOR	Pomariorio Ree	16.74	246	*e*Pn	Pn	03 10 53.2	-6.1
	82nm,0.4s						
PMOR				*e*Sn	Sn	03 13 45.9	-19
	34nm,0.4s						
TIAR	Tiarei	19.02	240	*e*P	Pn	03 11 28.4	+0.9
	33nm,1.1s						
TVO	Taravao	19.04	240	*e*P	Pn	03 11 28.7	+1.0
	27nm,1.0s						
PPT	Papeete	19.23	241	LR	LR	03 16 51.0	
	comp=Z,1μm,18.1s,baz=70,slow=30						
PPT2	Papeete2	19.23	241	*e*P	Pn	03 11 30.8	+0.7
	71nm,1.2s						
PPT2				*e*LR	LR	03 15 58.0	
	comp=Z,2μm,22.8s						
PAE	Paea	19.27	240	*e*P	Pn	03 11 31.3	+0.9
	13nm,1.0s						
TBI	Tubuai	22.19	227	*e*P	P	03 12 02.3	+1.3
	103nm,1.1s						
TBI				*e*LQ	LQ	03 16 20.2	
	2μm,27.2s						
TBI				*e*LR	LR	03 17 16.7	
	comp=Z,2μm,26.0s						
RPN	Rapa Nui	28.29	133	LR	LR	03 21 19.7	
	comp=Z,614nm,21.0s,baz=309,slow=30						
RAR	Rarotonga	29.50	242	LR	LR	03 21 53.2	
	comp=Z,751nm,18.2s,baz=72,slow=30						
NPOC	North of Pu'u	35.94	321	PFAKE		03 14 20.0	+15
NPOC				LR	LR		
	comp=Z,3μm,18.0

XPFO **Pion Flat** 44.55 19 *e*P P 03 15 18.4 +1.8
comp=Z,34nm,1.1s
XPFO LR LR
comp=Z,2µm,21.0s
PASC Pasadena Art C 44.55 16 *e*P P 03 15 18.8 +2.3
comp=Z,79nm,1.5s
PASC LR LR
comp=Z,1µm,20.0s
GLA Glamis 44.58 21 *e*P P 03 15 19.2 +2.4
comp=Z,68nm,1.4s
GLA LR LR
comp=Z,1µm,21.0s
GLA Glamis 44.58 21 P P 03 15 18.7 +1.9
baz=204,SNR=9.3
DECC Green Verdugo 44.59 16 P P 03 15 18.5 +1.7
baz=199
MWC Mount Wilson 44.64 17 *e*P P 03 15 19.4 +2.0
comp=Z,64nm,1.1s
MWC *e*PcP PcP 03 17 00.1 +0.1
113A Mohawk Valley, 44.71 22 *e*P P 03 15 20.0 +2.2
comp=Z,56nm,1.6s
113A LR LR
comp=Z,1µm,21.0s
BFSC Mount Baldy Ra 44.77 17 P P 03 15 20.2 +1.9
baz=200,SNR=24
PKM Mcpherson Peak 44.81 14 P P 03 15 20.5 +1.7
baz=197
OSI Osito Audit: C 44.83 16 P P 03 15 20.6 +1.9
baz=198
BC3 Big Chuckawall 44.91 20 P P 03 15 21.3 +1.8
baz=203,SNR=11
BBRC Big Bear Solar 45.01 18 P P 03 15 22.7 +2.3
baz=201,SNR=6.7
BELC Belle Mtn. Jos 45.05 19 P P 03 15 22.6 +1.9
baz=202,SNR=34
SMMC Simmler 45.17 14 P P 03 15 23.5 +2.1
baz=196,SNR=6.9
EDW2 Edwards Air Fo 45.27 16 P P 03 15 23.8 +1.5
baz=199,SNR=16
ARVC Arvin 45.28 15 P P 03 15 23.8 +1.5
baz=198
Y12C Blythe 45.32 21 *e*P P 03 15 24.9 +2.3
comp=Z,47nm,1.2s
Y12C Blythe 45.32 21 P P 03 15 24.5 +1.9
baz=204,SNR=12
319A Douglas 45.37 28 *e*P P 03 15 24.7 +1.5
comp=Z,45nm,1.2s
319A LR LR
comp=Z,1µm,19.0s
IRM Iron Mountain 45.48 20 P P 03 15 25.7 +1.8
baz=203,SNR=31
TUC Tucson 45.49 26 *e*P P 03 15 25.4 +1.3
comp=Z,13nm,0.8s
TUC LR LR
comp=Z,600nm,20.0s
TUC Tucson 45.49 26 P P 03 15 25.4 +1.3
baz=210
PAGB Antelope Grade 45.51 13 *e*P P 03 15 26.4 +2.3
comp=Z,60nm,1.0s
RRX Edison Barstow 45.55 17 P P 03 15 25.8 +1.3
baz=201
HEC Hector,Ludlow 45.71 18 P P 03 15 27.3 +1.6
baz=202,SNR=27
ISA Isabella, Lake 45.88 15 *e*P P 03 15 29.0 +1.9
comp=Z,29nm,1.0s
ISA LR LR
comp=Z,1µm,21.0s
ISA Isabella, Lake 45.88 15 P P 03 15 28.9 +1.8
baz=198,SNR=25
GMRC Granite Mounta 45.88 19 P P 03 15 28.9 +1.7
baz=202,SNR=17
VES Vestal, Richgr 45.89 15 P P 03 15 28.7 +1.6
baz=198,SNR=15
LRMC Laurel Mtn Rad 45.92 16 P P 03 15 29.2 +1.7
baz=200,SNR=31
PDMCI Parker Dam,Lak 45.95 21 P P 03 15 29.0 +1.4
baz=205,SNR=5.3
GSC Goldstone, Bar 46.01 17 *e*P P 03 15 29.8 +1.6
comp=Z,31nm,1.0s
GSC Goldstone, Bar 46.01 17 P P 03 15 29.7 +1.5
baz=201,SNR=23
Y14A Wickenburg 46.04 22 *e*P P 03 15 29.8 +1.5
comp=Z,52nm,1.4s
Y14A *e*PcP PcP 03 17 04.7 -0.1
Y14A LR LR
comp=Z,1µm,18.0s
LNIG Linares 46.04 43 *e*P P 03 15 28.7 +0.3
comp=Z,22nm,1.0s
LNIG LR LR
comp=Z,500nm,19.0s
NEE2 Needles Airpor 46.21 20 P P 03 15 31.0 +1.3
baz=204
SAO San Andreas Ge 46.24 12 *e*P P 03 15 31.9 +2.1
comp=Z,51nm,0.9s
SAO LR LR
comp=Z,2µm,21.0s
VOG Valley Oaks Go 46.27 14 P P 03 15 31.5 +1.4
baz=197
LDFC Landfair 46.33 19 *e*P P 03 15 33.4 +2.7
comp=Z,52nm,1.1s
TUQ Turquoise Moun 46.40 18 P P 03 15 33.0 +1.7
baz=202,SNR=30
MPMC Manual Prospec 46.52 16 P P 03 15 33.9 +1.7
baz=200,SNR=48
TX31 Lajitas Ar. Si 46.61 35 *e*P P 03 15 34.1 +1.1
TX31 *e*PcP PcP 03 17 06.3 -0.6
TXAR Lajitas Array 46.61 35 P P 03 15 33.6 +0.6
comp=Z,10.0nm,0.8s,baz=206,slow=9.9,SNR=76
TXAR PcP PcP 03 17 06.2 -0.8
comp=Z,5.8nm,1.1s,baz=191,slow=6.0,SNR=6.7
CCIG Comitan 46.62 58 *e*P P 03 15 34.1 +0.8
comp=Z,24nm,1.1s
DAC Darwin (Calif) 46.70 16 *e*P P 03 15 35.5 +1.8
comp=Z,42nm,1.0s
CWC Cottonwood Cre 46.72 16 P P 03 15 35.6 +1.8
baz=199
SHOC Shoshone, Teco 46.72 18 P P 03 15 35.2 +1.5
baz=201,SNR=16
W13A Hualapai Mount 46.76 21 *e*P P 03 15 35.9 +1.7
comp=Z,21nm,1.2s
W13A LR LR
comp=Z,1µm,21.0s
121A Cookes Peak, D 47.03 28 P P 03 15 37.4 +1.1
baz=213,SNR=9.0
X16A Lo Mia Camp, P 47.06 23 *e*P P 03 15 38.0 +1.4
comp=Z,18nm,1.2s
FURC Furnace Creek, 47.08 17 P P 03 15 38.0 +1.6
baz=200,SNR=23
TIN Tinemaha, Big 47.26 15 P P 03 15 39.9 +1.9
baz=198,SNR=9.4
MCCM Marconi Confer 47.31 10 PFAKE 03 15 50.0 +12
MCCM LR LR
comp=Z,3µm,20.0s
GRAC Grapevine Rang 47.43 16 P P 03 15 41.1 +1.9
baz=200,SNR=14
MNTX Cornudas Mount 47.53 31 *e*P P 03 15 40.9 +0.8
comp=Z,36nm,1.4s
MNTX *e*PcP PcP 03 17 09.1 -0.9
MNTX Cornudas Mount 47.53 31 P P 03 15 40.9 +0.8
baz=217,SNR=27
MDPB Devils Postpil 47.60 14 *e*P P 03 15 42.8 +2.0
comp=Z,33nm,0.9s
MDPB LR LR
comp=Z,2µm,21.0s
OMMB Old Mammoth Mi 47.60 14 *e*P P 03 15 42.7 +1.9
comp=Z,23nm,0.9s
OMMB LR LR
comp=Z,2µm,20.0s
SHPR Sheep Range 47.62 18 *e*P P 03 15 42.8 +1.9
comp=Z,34nm,0.9s
SHPR LR LR
comp=Z,1µm,22.0s
MLAC Mammoth, Mammo 47.65 14 P P 03 15 43.0 +1.9
baz=197,SNR=10
CMB Columbia Colle 47.69 12 *e*P P 03 15 43.1 +1.9
comp=Z,53nm,1.1s
CMB LR LR
comp=Z,2µm,19.0s
TPNV Topopah Spring 47.70 17 *e*P P 03 15 43.6 +2.1
comp=Z,64nm,1.0s
TPNV LR LR
comp=Z,2µm,18.0s
TPNV Topopah Spring 47.70 17 P P 03 15 43.6 +2.1
baz=201,SNR=60
X18A Snowflake 47.76 25 *e*P P 03 15 43.6 +1.6
comp=Z,36nm,1.0s
X18A LR LR
comp=Z,2µm,22.0s

GDXM Geysers 47.98 10 *e*P P 03 15 46.2 +2.7
comp=Z,28nm,1.0s
GDXM LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 48.05 23 *e*P P 03 15 45.8 +1.6
comp=Z,67nm,1.1s
WUAZ LR LR
comp=Z,1µm,19.0s
WUAZ Wupatki 48.05 23 P P 03 15 45.8 +1.6
baz=208,SNR=41
HOPS Hopland Field 48.11 9 *e*P P 03 15 47.0 +2.6
comp=Z,53nm,1.0s
HOPS LR LR
comp=Z,4µm,20.0s
WAKR Walker 48.34 13 *e*P P 03 15 48.7 +2.2
comp=Z,50nm,1.3s
WAKR LR LR
comp=Z,2µm,18.0s
W18A Petrified Fore 48.35 25 PFAKE 03 16 00.0 +13
W18A LR LR
comp=Z,1µm,19.0s
W18A Petrified Fore 48.35 25 P P 03 15 47.6 +1.0
baz=210,SNR=5.4
833A Chaparral WMA, 48.43 39 *e*P P 03 15 48.1 +1.1
comp=Z,30nm,1.0s
833A *e*PcP PcP 03 17 13.1 -0.2
833A Chaparral WMA, 48.43 39 P P 03 15 47.7 +0.7
baz=225,SNR=5.9
AFDM Forest Hills D 48.45 12 *e*P P 03 15 49.0 +2.0
comp=Z,104nm,1.4s
AFDM LR LR
comp=Z,3µm,22.0s
GDL2 Guadalupe Moun 48.45 32 *e*P P 03 15 48.4 +1.1
U15A North Rim 48.52 21 *e*P P 03 15 49.5 +1.6
comp=Z,50nm,1.6s
U15A LR LR
comp=Z,1µm,18.0s
NV01 Mina Array Sit 48.54 14 *e*P P 03 15 49.0 +1.0
NV01 *e*PcP PcP 03 17 13.5 -0.3
NVAR Mina Array Bea 48.54 14 P P 03 15 49.6 +1.6
comp=Z,36nm,0.7s,baz=203,slow=11,SNR=262
NVAR PcP PcP 03 17 13.5 -0.3
comp=Z,1.9nm,0.7s,baz=203,slow=5.7,SNR=3.2
NV11 Mina Array Sit 48.58 15 *e*P P 03 15 50.3 +2.1
comp=Z,5.0nm,1.0s
NV11 LR LR
comp=Z,200nm,20.0s
RYN Ryan 48.68 14 *e*P P 03 15 50.9 +1.9
comp=Z,70nm,1.4s
RYN LR LR
comp=Z,3µm,20.0s
Y22D IRIS PASSCAL I 48.71 28 *e*P P 03 15 51.5 +2.3
comp=Z,72nm,1.1s
Y22D LR LR
comp=Z,1µm,21.0s
Y22D IRIS PASSCAL I 48.71 28 P P 03 15 50.7 +1.5
baz=214
KCPM Cahto Peak 48.71 9 *e*P P 03 15 52.0 +2.8
comp=Z,89nm,0.9s
KCPM LR LR
comp=Z,5µm,20.0s
LCMT Little Creek M 48.71 20 *e*P P 03 15 50.9 +1.6
comp=Z,48nm,1.0s
LCMT LR LR
comp=Z,1µm,21.0s
RUBR Rubicon Trail 48.71 12 *e*P P 03 15 51.9 +2.6
comp=Z,92nm,0.9s
RUBR LR LR
comp=Z,3µm,22.0s
LENM Lemitar 48.76 28 *e*P P 03 15 51.0 +1.3
YERR Yerington 48.85 13 *e*P P 03 15 52.3 +1.9
comp=Z,51nm,0.9s
YERR LR LR
comp=Z,4µm,22.0s
KVTX Kingsville 48.86 41 PFAKE 03 16 00.0 +10
KVTX LR LR
comp=Z,5µm,21.0s
KNB Kanab 48.86 20 *e*P P 03 15 52.0 +1.6
comp=Z,32nm,1.2s
KNB LR LR
comp=Z,2µm,19.0s
PNTR Pine Nut 48.87 13 *e*P P 03 15 52.5 +2.0
comp=Z,86nm,0.8s
PNTR LR LR
comp=Z,3µm,22.0s
LAZ Ladron 48.88 28 *e*P P 03 15 52.0 +1.4
LAZ *e*PcP PcP 03 17 14.7 -0.4
BNM Barren Site 48.91 28 *e*P P 03 15 52.2 +1.3
ORV Oroville 48.93 11 *e*P P 03 15 52.6 +1.9
comp=Z,34nm,0.9s
ORV LR LR
comp=Z,3µm,21.0s
VCNR Virginia City 49.05 13 *e*P P 03 15 53.9 +2.0
comp=Z,44nm,0.9s
VCNR LR LR
comp=Z,3µm,22.0s
CCUT Cedar City 49.16 20 *e*P P 03 15 54.6 +1.8
comp=Z,31nm,1.0s
CCUT LR LR
comp=Z,2µm,19.0s
KVN Kaiserville 49.18 14 *e*P P 03 15 54.6 +1.7
comp=Z,65nm,1.2s
KVN LR LR
comp=Z,3µm,21.0s
R11A Troy Canyon, C 49.20 17 *e*P P 03 15 54.7 +1.7
comp=Z,48nm,0.9s
R11A LR LR
comp=Z,1µm,19.0s
R11A Troy Canyon, C 49.20 17 P P 03 15 54.7 +1.7
baz=201,SNR=97
KMRM Mail Ridge 49.22 8 *e*P P 03 15 55.6 +2.6
comp=Z,78nm,0.9s
KMRM LR LR
comp=Z,4µm,21.0s
SZCU Shurtz Canyon 49.29 20 *e*P P 03 15 55.6 +1.8
comp=Z,34nm,1.0s
SZCU LR LR
comp=Z,1µm,21.0s
MSVF Nonsavu 49.29 254 *e*P P 03 16 01.3 +7.3
comp=Z,49nm,1.0s
O02D Mt. Diablo Mer 49.31 9 P P 03 15 56.2 +2.5
baz=192,SNR=36
PKCU Pink Cliffs 49.42 21 *e*P P 03 15 57.2 +2.4
comp=Z,24nm,1.3s
PKCU LR LR
comp=Z,2µm,22.0s
BEKR Beckworth 49.45 12 *e*P P 03 15 56.7 +1.7
comp=Z,46nm,0.9s
BEKR LR LR
comp=Z,3µm,22.0s
PAHR Pah Rah Range 49.51 13 *e*P P 03 15 57.0 +1.8
comp=Z,54nm,1.0s
PAHR LR LR
comp=Z,4µm,19.0s
O03E Paynes Creek 49.59 10 P P 03 15 57.0 +1.1
baz=193,SNR=11
ANMO Albuquerque 49.64 28 *e*P P 03 15 57.6 +1.1
comp=Z,40nm,1.2s
ANMO LR LR
comp=Z,1µm,20.0s
ANMO Albuquerque 49.64 28 P P 03 15 57.6 +1.1
baz=214
JCT Junction City 49.71 37 *e*P P 03 15 56.0 -0.9
comp=Z,66nm,1.4s
JCT LR LR
comp=Z,900nm,21.0s
JCT Junction City 49.71 37 P P 03 15 57.4 +0.6
baz=223,SNR=9.2
WDC Whiskeytown Da 49.75 9 *e*P P 03 15 58.8 +1.9
comp=Z,143nm,1.5s
WDC LR LR
comp=Z,3µm,19.0s
JCC Jacoby Creek, 49.76 8 PFAKE 03 16 10.0 +13
JCC LR LR
comp=Z,4µm,18.0s
TGUH Tegucigalpa,Un 49.82 63 *e*P P 03 15 58.8 +0.9
comp=Z,54nm,1.1s
TGUH LR LR
comp=Z,600nm,20.0s
KHMM Horse Mountain 49.85 8 *e*P P 03 16 00.5 +2.6
comp=Z,70nm,1.2s
KHMM LR LR
comp=Z,5µm,18.0s
PSUT Pine Spring 49.89 19 *e*P P 03 16 00.2 +1.8
comp=Z,48nm,0.9s
PSUT LR LR
comp=Z,2µm,22.0s
MTPU Mount Pierson 50.00 21 *e*P P 03 16 01.6 +2.3
comp=Z,26nm,1.2s
N02D Trinity Center 50.10 9 P P 03 16 02.0 +2.2
baz=192,SNR=57
TCRU Three Creeks R 50.42 20 *e*P P 03 16 05.0 +2.6
comp=Z,36nm,0.9s
TCRU LR LR
comp=Z,1µm,18.0s
MSU Marysvale 50.43 20 *e*P P 03 16 04.6 +2.2
KRMB Red Mountain 50.47 8 *e*P P 03 16 04.9 +2.4
comp=Z,47nm,1.0s
M02C Callahan 50.49 9 P P 03 16 04.9 +2.2
baz=191,SNR=39
JTS JuntasAbangare 50.51 69 *e*P P 03 16 04.4 +1.2
comp=Z,35nm,1.0s
JTS LR LR
comp=Z,500nm,20.0s
MVCO Mesa Verde 50.66 24 *e*P P 03 16 05.3 +1.1
comp=Z,17nm,1.0s
MVCO *e*PcP PcP 03 17 20.6 -0.9
MVCO Mesa Verde 50.66 24 P P 03 16 05.3 +1.1
baz=210,SNR=14
MSTX Muleshoe 50.66 32 *e*P P 03 16 04.4 +0.2
comp=Z,60nm,1.1s
MSTX LR LR
comp=Z,1µm,20.0s
MSTX Muleshoe 50.66 32 P P 03 16 04.4 +0.2
baz=218,SNR=23
BMN Battle Mountai 50.70 15 *e*P P 03 16 05.9 +1.6
comp=Z,58nm,1.0s
BMN LR LR
comp=Z,3µm,21.0s
YBH Yreka Blue Hor 50.84 9 *e*P P 03 16 07.0 +1.7
comp=Z,39nm,1.1s
YBH LR LR
comp=Z,5µm,19.0s
M04C Macdoel 51.03 10 P P 03 16 08.6 +1.8
baz=193,SNR=79
L02E Cave Junction 51.13 8 P P 03 16 09.3 +1.9
baz=190,SNR=14
Q16A Castle Valley 51.14 21 *e*P P 03 16 09.8 +2.1
comp=Z,25nm,1.1s
Q16A LR LR
comp=Z,2µm,21.0s
PV05 Paradox Valley 51.17 23 *e*P P 03 16 10.7 +2.6
comp=Z,51nm,1.0s
HDC Heredia 51.19 70 PFAKE 03 16 20.0 +12
HDC LR LR
comp=Z,500nm,20.0s
435B Jarrell 51.27 39 *e*P P 03 16 09.7 +1.1
comp=Z,40nm,1.0s
435B LR LR
comp=Z,1µm,20.0s
435B Jarrell 51.27 39 P P 03 16 09.3 +0.6
baz=226,SNR=5.3
PV13 Radium Mtn., P 51.35 23 *e*P P 03 16 10.8 +1.4
comp=Z,71nm,1.0s
ABTX Abilene, Hawle 51.36 35 *e*P P 03 16 09.7 +0.4
comp=Z,60nm,1.4s
ABTX LR LR
comp=Z,900nm,22.0s
ABTX Abilene, Hawle 51.36 35 P P 03 16 09.3 0.0
baz=222,SNR=11
L04D Klamath Falls 51.38 9 P P 03 16 10.8 +1.3
baz=192,SNR=28
PV17 East Wray Mesa 51.40 23 *e*P P 03 16 11.1 +1.4
comp=Z,59nm,1.0s
PV17 LR LR
comp=Z,2µm,20.0s
PV19 Morning Glory 51.42 23 *e*P P 03 16 11.8 +1.9
comp=Z,51nm,0.9s
PV03 Paradox Valley 51.42 23 *e*P P 03 16 11.2 +1.3
comp=Z,73nm,1.0s
PV03 LR LR
comp=Z,1µm,21.0s
PV02 Paradox Valley 51.42 24 *e*P P 03 16 11.4 +1.4
comp=Z,70nm,1.0s
MOD Modoc Plateau 51.43 11 *e*P P 03 16 11.1 +1.3
comp=Z,84nm,0.9s
MOD LR LR
comp=Z,4µm,21.0s
PV01 Paradox Valley 51.43 24 *e*P P 03 16 11.3 +1.3
comp=Z,38nm,1.1s
PV16 Nyswonger Mesa 51.45 23 *e*P P 03 16 11.5 +1.4
comp=Z,46nm,0.9s
PV11 David Mesa, Pa 51.45 23 *e*P P 03 16 11.5 +1.4
comp=Z,66nm,1.0s
PV20 West Nyswonger 51.45 23 *e*P P 03 16 11.6 +1.5
comp=Z,48nm,0.9s
PV20 LR LR
comp=Z,1µm,21.0s
PV10 Paradox Valley 51.45 23 *e*P P 03 16 11.3 +1.1
comp=Z,36nm,1.0s
PV14 Lion Creek, Pa 51.46 23 *e*P P 03 16 11.6 +1.4
comp=Z,75nm,0.9s
PV14 LR LR
comp=Z,2µm,18.0s
TMUT Trail Mountain 51.46 21 *e*P P 03 16 12.3 +2.0
comp=Z,21nm,0.9s
TMUT LR LR
comp=Z,2µm,20.0s
PV12 Saucer Basin, 51.49 23 *e*P P 03 16 11.9 +1.5
comp=Z,109nm,0.9s
PV12 LR LR
comp=Z,2µm,21.0s
ELK Elko 51.52 16 *e*P P 03 16 12.2 +1.6
comp=Z,137nm,1.8s
ELK LR LR
comp=Z,4µm,20.0s
PV04 Paradox Valley 51.52 23 *e*P P 03 16 12.1 +1.5
comp=Z,75nm,0.9s
PV09 Paradox Valley 51.52 23 *e*P P 03 16 12.2 +1.4
PV23 Carpenter Ridg 51.53 23 *e*P P 03 16 12.2 +1.4
comp=Z,75nm,0.9s
SRU San Rafael Swe 51.54 21 *e*P P 03 16 11.8 +1.1
comp=Z,34nm,0.9s
SRU LR LR
comp=Z,1µm,18.0s
PV21 Cone Mtn., Par 51.64 23 *e*P P 03 16 13.0 +1.5
comp=Z,86nm,0.9s
PV21 LR LR
comp=Z,2µm,22.0s
PV15 Paradox Valley 51.64 24 *e*P P 03 16 12.9 +1.3
comp=Z,53nm,1.0s
K02D Willamette Mer 51.65 8 P P 03 16 13.4 +2.1
baz=190,SNR=41
PV07 Paradox Valley 51.66 23 *e*P P 03 16 13.0 +1.4
comp=Z,52nm,0.9s
HUMO Hull Mountain 51.66 9 *e*P P 03 16 13.0 +1.6
comp=Z,75nm,1.3s
HUMO LR LR
comp=Z,7µm,19.0s
DUG Dugway, Tooele 51.74 19 *e*P P 03 16 13.9 +1.7
comp=Z,33nm,1.0s
DUG LR LR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 51.74 19 P P 03 16 13.8 +1.7
baz=204,SNR=32
NLU North Lily Min 51.76 20 *e*P P 03 16 14.4 +2.0
comp=Z,48nm,1.1s
NLU LR LR
comp=Z,2µm,22.0s
ESPN Las Esperanzas 51.78 67 *e*P P 03 16 12.8 +0.2
comp=Z,50nm,0.9s
ESPN LR LR
comp=Z,400nm,19.0s
P17A Butcher Ranch, 51.78 21 PFAKE 03 16 30.0 +17
P17A LR LR
comp=Z,1µm,18.0s
HKT Hockley 51.81 41 *e*P P 03 16 13.3 +0.8
comp=Z,94nm,1.9s
HKT LR LR
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 51.81 25 *e*P P 03 16 14.3 +1.3
comp=Z,20nm,1.0s
S22A LR LR
comp=Z,2µm,20.0s
S22A 4UR Ranch, Cre 51.81 25 P P 03 16 14.2 +1.3
baz=212,SNR=22
K04D Chiloquin, OR 51.87 10 P P 03 16 14.6 +1.6
baz=193,SNR=8.6
AMTX Amarillo 51.94 32 *e*P P 03 16 14.1 +0.4
comp=Z,40nm,1.2s
AMTX LR LR
comp=Z,1µm,20.0s
AMTX Amarillo 51.94 32 P P 03 16 14.0 +0.3
baz=219
MPU Maple Canyon 51.96 20 *e*P P 03 16 16.0 +2.1
comp=Z,36nm,1.2s

MPU				LR	LR			
	comp=Z,2µm,19.0s							
J01E	**Myrtle Point**	**52.07**	**8**	P	**P**	**03 16 15.9 +1.6**		
	baz=190							
P18A	**Preston Nutter**	**52.10**	**21**	*eP*	**P**	**03 16 16.4 +1.4**		
	comp=Z,56nm,1.1s							
P18A				LR	LR			
	comp=Z,1µm,19.0s							
WHTX	**Lake Whitney,**	**52.19**	**38**	*eP*	**P**	**03 16 16.3 +0.8**		
	comp=Z,135nm,1.6s							
WHTX				LR	LR			
	comp=Z,1µm,22.0s							
WHTX	**Lake Whitney,**	**52.19**	**38**	P	**P**	**03 16 15.8 +0.3**		
	baz=225,SNR=11							
WVOR	**Wild Horse Val**	**52.28**	**13**	*eP*	**P**	**03 16 17.7 +1.6**		
	comp=Z,79nm,1.1s							
WVOR				LR	LR			
	comp=Z,4µm,20.0s							
BGU	**Big Grassy Mou**	**52.34**	**18**	*eP*	**P**	**03 16 17.9 +1.4**		
	comp=Z,21nm,0.9s							
BGU				LR	LR			
	comp=Z,2µm,22.0s							
T25A	**Trinidad**	**52.38**	**28**	*eP*	**P**	**03 16 18.1 +1.0**		
	comp=Z,56nm,1.3s							
T25A				LR	LR			
	comp=Z,1µm,18.0s							
T25A	**Trinidad**	**52.38**	**28**	P	**P**	**03 16 17.9 +0.8**		
	baz=215,SNR=24							
SDCO	**Great Sand Dun**	**52.39**	**27**	*eP*	**P**	**03 16 18.3 +1.1**		
	comp=Z,13nm,1.0s							
SDCO				LR	LR			
	comp=Z,700nm,20.0s							
SDCO	**Great Sand Dun**	**52.39**	**27**	P	**P**	**03 16 18.3 +1.1**		
	baz=214,SNR=13							
J04D	**Umpqua Nationa**	**52.41**	**9**	P	**P**	**03 16 18.6 +1.4**		
	baz=192,SNR=17							
CTU	**Camp Tracy**	**52.53**	**19**	*eP*	**P**	**03 16 20.2 +2.1**		
	comp=Z,52nm,1.5s							
CTU				LR	LR			
	comp=Z,2µm,21.0s							
JLU	**Jordanelle**	**52.55**	**20**	*eP*	**P**	**03 16 20.3 +2.0**		
	comp=Z,57nm,0.9s							
JLU				LR	LR			
	comp=Z,1µm,19.0s							
J05D	**Fort Rock, OR**	**52.60**	**10**	P	**P**	**03 16 20.2 +1.7**		
	baz=193,SNR=73							
I03D	**Drain, OR**	**52.68**	**8**	P	**P**	**03 16 20.0 +1.1**		
	baz=190,SNR=8.7							
SPUT	**South Promonto**	**52.86**	**18**	*eP*	**P**	**03 16 22.0 +1.5**		
	comp=Z,43nm,1.0s							
SPUT				LR	LR			
	comp=Z,2µm,19.0s							
I04A	**Tendick Farm,**	**52.91**	**9**	P	**P**	**03 16 21.6 +1.0**		
	baz=192,SNR=14							
SMCO	**Snowmass**	**52.97**	**24**	*eP*	**P**	**03 16 23.2 +1.6**		
	comp=Z,96nm,0.8s							
SMCO				LR	LR			
	comp=Z,2µm,20.0s							
I02D	**Swisshome**	**53.01**	**7**	P	**P**	**03 16 22.8 +1.5**		
	baz=190							
TCUT	**Toone Canyon**	**53.03**	**19**	*eP*	**P**	**03 16 23.7 +1.9**		
	comp=Z,78nm,0.9s							
TCUT				LR	LR			
	comp=Z,3µm,22.0s							
PINE	**Pine Mountain**	**53.14**	**10**	*eP*	**P**	**03 16 24.1 +1.5**		
	comp=Z,99nm,0.9s							
PINE				LR	LR			
	comp=Z,5µm,21.0s							
HVU	**Hansel Valley**	**53.19**	**18**	*eP*	**P**	**03 16 24.2 +1.2**		
	comp=Z,43nm,0.9s							
HVU				LR	LR			
	comp=Z,2µm,22.0s							
J08A	**Circle Bar Ran**	**53.20**	**12**	*eP*	**P**	**03 16 24.6 +1.8**		
	comp=Z,130nm,1.3s							
J08A				LR	LR			
	comp=Z,5µm,20.0s							
O20A	**White River Ci**	**53.28**	**23**	*eP*	**P**	**03 16 25.1 +1.3**		
	comp=Z,226nm,1.9s							
O20A				LR	LR			
	comp=Z,2µm,18.0s							
O20A	**White River Ci**	**53.28**	**23**	P	**P**	**03 16 25.0 +1.3**		
	baz=210,SNR=18							
WMOK	**Wichita Mounta**	**53.40**	**34**	*eP*	**P**	**03 16 23.9 -0.5**		
WMOK				LR	LR			
	comp=Z,900nm,21.0s							
WMOK	**Wichita Mounta**	**53.40**	**34**	P	**P**	**03 16 23.9 -0.5**		
	baz=222,SNR=13							
HWUT	**Hardware Ranch**	**53.42**	**19**	*eP*	**P**	**03 16 25.9 +1.3**		
	comp=Z,21nm,0.9s							
HWUT				LR	LR			
	comp=Z,3µm,22.0s							
Q24A	**Divide**	**53.55**	**26**	*eP*	**P**	**03 16 27.5 +1.7**		
	comp=Z,39nm,1.1s							
Q24A				LR	LR			
	comp=Z,1µm,18.0s							
Q24A	**Divide**	**53.55**	**26**	P	**P**	**03 16 27.0 +1.2**		
	baz=213,SNR=13							
COR	**Corvallis**	**53.56**	**8**	*eP*	**P**	**03 16 27.5 +2.2**		
	comp=Z,140nm,1.2s							
COR				LR	LR			
	comp=Z,4µm,20.0s							
H04D	**Lebanon**	**53.57**	**8**	P	**P**	**03 16 26.5 +1.1**		
	baz=191,SNR=7.2							
I05D	**Terrebonne, OR**	**53.61**	**10**	P	**P**	**03 16 27.3 +1.5**		
	baz=193,SNR=29							
I07A	**Izee**	**53.69**	**11**	*eP*	**P**	**03 16 27.9 +1.5**		
	comp=Z,52nm,1.0s							
I07A				LR	LR			
	comp=Z,6µm,18.0s							
NATX	**Nacogdoches**	**53.76**	**40**	*eP*	**P**	**03 16 28.2 +1.2**		
	comp=Z,54nm,1.1s							
NATX				LR	LR			
	comp=Z,800nm,21.0s							
NATX	**Nacogdoches**	**53.76**	**40**	P	**P**	**03 16 27.6 +0.5**		
	baz=228							
H04A	**Detroit Lake**	**53.81**	**9**	*eP*	**P**	**03 16 28.1 +0.8**		
	comp=Z,86nm,1.1s							
H04A				LR	LR			
	comp=Z,4µm,21.0s							
ISCO	**Idaho Springs**	**54.05**	**25**	*eP*	**P**	**03 16 30.9 +1.4**		
	comp=Z,23nm,0.9s							
ISCO				LR	LR			
	comp=Z,1µm,20.0s							
ISCO	**Idaho Springs**	**54.05**	**25**	P	**P**	**03 16 30.7 +1.2**		
	baz=213,SNR=25							
OTAV	**Otavalo**	**54.12**	**83**	*eP*	**P**	**03 16 31.9 +1.4**		
	comp=Z,18nm,1.2s							
OTAV	**Otavalo**	**54.12**	**83**	*eP*	**P**	**03 16 32.1 +1.6**		
G03D	**McMinnville, O**	**54.18**	**8**	P	**P**	**03 16 30.8 +0.9**		
	baz=190							
URZ	**Urewera**	**54.30**	**229**	P	**P**	**03 16 31.8 +0.9**		
	comp=Z,5.7nm,1.0s,baz=354,slow=10,SNR=2.0							
HLID	**Hailey**	**54.37**	**16**	*eP*	**P**	**03 16 33.1 +1.6**		
	comp=Z,80nm,0.9s							
HLID				LR	LR			
	comp=Z,9µm,21.0s							
HLID	**Hailey**	**54.37**	**16**	P	**P**	**03 16 33.0 +1.6**		
	baz=201,SNR=121							
G05D	**Wamic, OR**	**54.49**	**9**	P	**P**	**03 16 33.2 +1.0**		
	baz=193,SNR=6.8							
U32A	**Winter Ranch,**	**54.49**	**33**	*eP*	**P**	**03 16 33.5 +1.1**		
	comp=Z,44nm,1.1s							
U32A				LR	LR			
	comp=Z,2µm,22.0s							
AHID	**Auburn Hatcher**	**54.61**	**19**	*eP*	**P**	**03 16 34.3 +1.0**		
	comp=Z,38nm,1.4s							
AHID				LR	LR			
	comp=Z,3µm,20.0s							
KSCO	**Kaye Shedlock'**	**54.72**	**28**	*eP*	**P**	**03 16 35.1 +1.0**		
	comp=Z,45nm,1.0s							
KSCO				LR	LR			
	comp=Z,1µm,19.0s							
KSCO	**Kaye Shedlock'**	**54.72**	**28**	P	**P**	**03 16 34.7 +0.5**		
	baz=216,SNR=7.7							
N23A	**Red Feather La**	**54.84**	**24**	*eP*	**P**	**03 16 36.3 +1.2**		
	comp=Z,36nm,0.8s							
N23A				LR	LR			
	comp=Z,2µm,21.0s							
N23A	**Red Feather La**	**54.84**	**24**	P	**P**	**03 16 36.3 +1.2**		
	baz=212,SNR=26							
BMO	**Blue Mountains**	**54.88**	**13**	*eP*	**P**	**03 16 35.9 +0.8**		
	comp=Z,71nm,1.6s							
BMO				LR	LR			
	comp=Z,6µm,22.0s							
G08A	**Pilot Rock**	**54.95**	**11**	*eP*	**P**	**03 16 36.8 +1.1**		
	comp=Z,76nm,1.4s							
G08A				LR	LR			
	comp=Z,4µm,18.0s							
RWWY	**Rawlins**	**55.02**	**23**	*eP*	**P**	**03 16 37.4 +1.0**		
	comp=Z,50nm,1.0s							
RWWY				LR	LR			
	comp=Z,2µm,21.0s							
BKZ	**Black Stump Fm**	**55.05**	**228**	*eP*	P	03 16 42.8 +6.3		
	comp=Z,36nm,1.5s							
BKZ				LR	LR			
	comp=Z,1µm,19.0s							
F04D	**Rainier, OR**	**55.06**	**8**	P	**P**	**03 16 37.3 +1.1**		
	baz=191							
F05D	**White Salmon**	**55.09**	**9**	P	**P**	**03 16 37.5 +1.0**		
	baz=192,SNR=9.7							
BW06	**Boulder Array**	**55.12**	**20**	*eP*	**P**	**03 16 37.5 +0.4**		
	comp=Z,115nm,1.6s							
BW06				LR	LR			
	comp=Z,2µm,20.0s							
BW06	**Boulder Array**	**55.12**	**20**	P	**P**	**03 16 37.4 +0.4**		
	baz=207,SNR=55							
PD31	**Pinedale Array**	**55.12**	**20**	*eP*	**P**	**03 16 37.5 +0.5**		
	comp=Z,104nm,1.6s							
PDAR	**Pinedale Array**	**55.12**	**20**	*eP*	**P**	**03 16 36.6 -0.4**		
PDAR	**Pinedale Array**	**55.12**	**20**	P	**P**	**03 16 37.5 +0.5**		
	comp=Z,16nm,0.8s,baz=200,slow=6.1,SNR=123							
REDW	**Red Top Meadow**	**55.23**	**19**	*eP*	**P**	**03 16 38.7 +0.9**		
	comp=Z,114nm,1.4s							
REDW				LR	LR			
	comp=Z,4µm,20.0s							
X37A	**Clayton**	**55.25**	**37**	*eP*	**P**	**03 16 38.0 +0.1**		
	comp=Z,54nm,1.0s							
X37A				LR	LR			
	comp=Z,1µm,19.0s							
TPAW	**Teton Pass**	**55.31**	**19**	*eP*	**P**	**03 16 38.6 +0.2**		
	comp=Z,65nm,1.2s							
SNOW	**Snow King Moun**	**55.35**	**19**	*eP*	**P**	**03 16 39.8 +1.1**		
	comp=Z,98nm,1.4s							
SNOW				LR	LR			
	comp=Z,4µm,19.0s							
F07A	**Phinny Hill Vi**	**55.36**	**10**	*eP*	**P**	**03 16 39.5 +1.1**		
	comp=Z,118nm,1.7s							
F07A				LR	LR			
	comp=Z,6µm,18.0s							
PHWY	**Pilot Hill**	**55.38**	**24**	*eP*	**P**	**03 16 39.9 +0.9**		
	comp=Z,108nm,1.8s							
PHWY				LR	LR			
	comp=Z,2µm,22.0s							
FXWY	**Fox Creek**	**55.42**	**18**	*eP*	**P**	**03 16 40.3 +1.1**		
	comp=Z,41nm,0.8s							
LOHW	**Long Hollow**	**55.53**	**19**	*eP*	**P**	**03 16 41.0 +1.1**		
	comp=Z,81nm,1.2s							
LOHW				LR	LR			
	comp=Z,3µm,19.0s							
E04D	**Cinebar**	**55.59**	**8**	P	**P**	**03 16 40.6 +0.5**		
	baz=191							
MOOW	**Moose Ponds**	**55.61**	**19**	*eP*	**P**	**03 16 41.6 +1.0**		
	comp=Z,67nm,1.0s							
MOOW				LR	LR			
	comp=Z,3µm,19.0s							
IMW	**Indian Meadow**	**55.68**	**18**	*eP*	**P**	**03 16 42.3 +1.2**		
	comp=Z,55nm,0.9s							
IMW				LR	LR			
	comp=Z,3µm,20.0s							
LON	**Longmire**	**55.89**	**8**	*eP*	**P**	**03 16 43.0 +0.8**		
	comp=Z,32nm,1.1s							
LON				LR	LR			
	comp=Z,7µm,19.0s							
HAWA	**Hanford**	**55.91**	**10**	*eP*	**P**	**03 16 43.3 +1.0**		
	comp=Z,49nm,1.0s							
HAWA				LR	LR			
	comp=Z,5µm,22.0s							
FLWY	**Flagg Ranch**	**55.92**	**18**	*eP*	**P**	**03 16 44.1 +1.4**		
	comp=Z,115nm,1.5s							
FLWY				LR	LR			
	comp=Z,3µm,19.0s							
Z41A	**Richland Creek**	**55.93**	**40**	*eP*	**P**	**03 16 43.5 +0.8**		
	comp=Z,61nm,1.0s							
Z41A				LR	LR			
	comp=Z,1µm,21.0s							
Z41A	**Richland Creek**	**55.93**	**40**	P	**P**	**03 16 43.2 +0.4**		
	baz=229,SNR=8.7							
TUL1	**Leonard**	**55.93**	**35**	*eP*	**P**	**03 16 42.9 +0.1**		
	comp=Z,75nm,0.8s							
TUL1				LR	LR			
	comp=Z,1µm,21.0s							
TUL1	**Leonard**	**55.93**	**35**	P	**P**	**03 16 42.8 +0.1**		
	baz=225,SNR=24							
CBKS	**Cedar Bluff**	**55.96**	**30**	*eP*	**P**	**03 16 42.8 -0.1**		
	comp=Z,79nm,0.9s							
CBKS				LR	LR			
	comp=Z,1µm,19.0s							
CBKS	**Cedar Bluff**	**55.96**	**30**	P	**P**	**03 16 42.8 -0.1**		
	baz=219,SNR=24							
F10A	**Beach Ranch, E**	**55.96**	**12**	*eP*	**P**	**03 16 43.5 +0.6**		
	comp=Z,22nm,0.9s							
F10A				LR	LR			
	comp=Z,7µm,18.0s							
MCMT	**McKenzie Canyo**	**55.96**	**16**	*eP*	**P**	**03 16 44.3 +1.2**		
WLAR	**White Oak Lake**	**56.02**	**39**	*eP*	**P**	**03 16 43.9 +0.5**		
	comp=Z,79nm,1.1s							
WLAR				LR	LR			
	comp=Z,1µm,20.0s							
YPP	**Pitchstone Pla**	**56.06**	**18**	*eP*	**P**	**03 16 45.7 +1.8**		
	comp=Z,26nm,1.3s							
YPP				LR	LR			
	comp=Z,10µm,20.0s							
HIZ	**Hauiti**	**56.06**	**229**	PFAKE		03 17 00.0 +16		
HIZ				LR	LR			
	comp=Z,600nm,20.0s							
E08A	**Dider Farm, El**	**56.09**	**11**	*eP*	**P**	**03 16 44.3 +0.6**		
	comp=Z,52nm,1.3s							
E08A				LR	LR			
	comp=Z,5µm,20.0s							
K22A	**Casper**	**56.11**	**23**	*eP*	**P**	**03 16 44.7 +0.6**		
	comp=Z,189nm,1.7s							
K22A				*eP*cP	**PcP**	**03 17 41.7 -0.3**		
K22A				LR	LR			
	comp=Z,4µm,21.0s							
K22A	**Casper**	**56.11**	**23**	P	**P**	**03 16 44.6 +0.5**		
	baz=210,SNR=25							
D04E	**Lakebay**	**56.17**	**8**	P	**P**	**03 16 46.0 +1.8**		
	baz=191,SNR=9.5							
YFT	**Old Faithful**	**56.21**	**18**	*eP*	**P**	**03 16 47.5 +2.6**		
	comp=Z,56nm,1.0s							
YFT				LR	LR			
	comp=Z,9µm,20.0s							
H17A	**Grant Village**	**56.24**	**18**	*eP*	**P**	**03 16 47.3 +2.2**		
	comp=Z,25nm,1.1s							
H17A				LR	LR			
	comp=Z,12µm,20.0s							
H17A	**Grant Village**	**56.24**	**18**	P	**P**	**03 16 46.8 +1.7**		
	baz=205,SNR=14							
NLWA	**Neilton Lookou**	**56.25**	**7**	*eP*	**P**	**03 16 46.6 +1.8**		
	comp=Z,93nm,1.3s							
NLWA				LR	LR			
	comp=Z,8µm,18.0s							
E09A	**Wood Farm, Sta**	**56.29**	**12**	*eP*	**P**	**03 16 45.7 +0.7**		
	comp=Z,60nm,0.9s							
E09A				LR	LR			
	comp=Z,6µm,21.0s							
D05A	**Enumclaw**	**56.29**	**8**	*eP*	**P**	**03 16 46.2 +1.2**		
	comp=Z,74nm,1.0s							
D05A				LR	LR			
	comp=Z,6µm,18.0s							
SOTA	**Rioblanco**	**56.29**	**82**	*eP*	**P**	**03 16 46.0 -0.4**		
SOTA	**Rioblanco**	**56.29**	**82**	*eP*	**P**	**03 16 46.0 -0.4**		
MIAR	**Mount Ida**	**56.30**	**38**	*eP*	**P**	**03 16 45.2 -0.2**		
	comp=Z,24nm,0.9s							
MIAR				LR	LR			
	comp=Z,1µm,20.0s							
MIAR	**Mount Ida**	**56.30**	**38**	P	**P**	**03 16 45.1 -0.3**		
	baz=227,SNR=15							
POPC	**Popayan, Colom**	**56.31**	**81**	*eP*	**P**	**03 16 44.6 -1.5**		
POPC	**Popayan, Colom**	**56.31**	**81**	*eP*	**P**	**03 16 44.6 -1.5**		
YMR	**Madison River**	**56.37**	**18**	*eP*	**P**	**03 16 47.8 +1.9**		
	comp=Z,91nm,1.0s							
YHB	**Horse Butte**	**56.37**	**18**	*eP*	**P**	**03 16 47.8 +1.8**		
	comp=Z,40nm,1.0s							
YHB				LR	LR			
	comp=Z,4µm,20.0s							
QLMT	**Earthquake Lak**	**56.38**	**18**	*eP*	**P**	**03 16 47.9 +1.9**		
LKWY	**Lake**	**56.45**	**18**	*eP*	**P**	**03 16 49.0 +2.4**		
	comp=Z,37nm,1.0s							
LKWY				LR	LR			
	comp=Z,10µm,18.0s							
D03D	**Eldon**	**56.48**	**7**	P	**P**	**03 16 47.3 +0.9**		
	baz=190,SNR=6.4							
YNR	**Norris Junctio**	**56.50**	**18**	*eP*	**P**	**03 16 49.3 +2.4**		
	comp=Z,32nm,1.1s							
YNR				LR	LR			
	comp=Z,7µm,19.0s							
YHH	**Holmes Hill**	**56.51**	**18**	*eP*	**P**	**03 16 48.8 +1.7**		
	comp=Z,90nm,1.2s							
YHH				LR	LR			
	comp=Z,6µm,20.0s							
DLMT	**Dillon**	**56.52**	**16**	*eP*	**P**	**03 16 48.1 +1.1**		
	comp=Z,31nm,1.3s							
DLMT				LR	LR			
	comp=Z,4µm,20.0s							
OGNE	**Ogallala**	**56.55**	**27**	*eP*	**P**	**03 16 47.8 +0.5**		
	comp=Z,68nm,0.8s							
OGNE				LR	LR			
	comp=Z,2µm,21.0s							
OGNE	**Ogallala**	**56.55**	**27**	P	**P**	**03 16 47.6 +0.5**		
	baz=216,SNR=10							
LTY	**Liberty**	**56.55**	**9**	*eP*	**P**	**03 16 46.5 -0.5**		
	comp=Z,44nm,1.1s							
LTY				LR	LR			
	comp=Z,5µm,20.0s							
W39A	**Magazine**	**56.61**	**37**	*eP*	**P**	**03 16 47.9 +0.2**		
	comp=Z,63nm,1.7s							
W39A				LR	LR			
	comp=Z,900nm,20.0s							
W39A	**Magazine**	**56.61**	**37**	P	**P**	**03 16 47.6 0.0**		
	baz=227,SNR=6.1							
D08A	**Wollman Farm,**	**56.66**	**11**	*eP*	**P**	**03 16 48.2 +0.4**		
	comp=Z,34nm,1.1s							
D08A				LR	LR			
	comp=Z,6µm,20.0s							
X40A	**Basin Creek Fa**	**56.72**	**39**	*eP*	**P**	**03 16 48.4 0.0**		
	comp=Z,22nm,1.3s							
X40A				LR	LR			
	comp=Z,1µm,20.0s							
X40A	**Basin Creek Fa**	**56.72**	**39**	P	**P**	**03 16 47.9 -0.4**		
	baz=228							
VBMS	**Vicksburg**	**56.75**	**42**	*eP*	**P**	**03 16 49.4 +0.8**		
	comp=Z,54nm,1.1s							
VBMS	**Vicksburg**	**56.75**	**42**	P	**P**	**03 16 48.9 +0.3**		
	baz=231							
YOTC	**Yotoco, Valle**	**56.94**	**80**	*eP*	**P**	**03 16 50.0 -0.5**		
YOTC	**Yotoco, Valle**	**56.94**	**80**	*eP*	**P**	**03 16 50.0 -0.5**		
CCAR	**Cane Creek**	**57.01**	**40**	*eP*	**P**	**03 16 51.5 +1.1**		
	comp=Z,89nm,1.3s							
BOZ	**Bozeman (W)**	**57.01**	**17**	*eP*	**P**	**03 16 49.6 -0.9**		
	comp=Z,46nm,1.4s							
BOZ				LR	LR			
	comp=Z,8µm,22.0s							
BOZ	**Bozeman (W)**	**57.01**	**17**	P	**P**	**03 16 51.1 +0.7**		
	baz=204							
FLOC	**Florencia**	**57.12**	**82**	*eP*	**P**	**03 16 50.6 -1.0**		
FLOC	**Florencia**	**57.12**	**82**	*eP*	**P**	**03 16 50.6 -1.0**		
C06D	**Leavenworth**	**57.17**	**9**	P	**P**	**03 16 51.4 0.0**		
	baz=193							
UALR	**University of**	**57.21**	**39**	*eP*	**P**	**03 16 52.1 +0.2**		
	comp=Z,35nm,1.2s							
UALR				LR	LR			
	comp=Z,1µm,21.0s							
HHAR	**Hobbs**	**57.26**	**36**	*eP*	**P**	**03 16 52.2 0.0**		
	comp=Z,41nm,0.9s							
HHAR				LR	LR			
	comp=Z,1µm,19.0s							
RLMT	**Red Lodge**	**57.31**	**19**	*eP*	**P**	**03 16 53.8 +1.1**		
	comp=Z,74nm,1.1s							
RLMT				LR	LR			
	comp=Z,10µm,19.0s							
RLMT	**Red Lodge**	**57.31**	**19**	P	**P**	**03 16 53.6 +1.0**		
	baz=207,SNR=33							
B05A	**Bryant**	**57.33**	**8**	P	**P**	**03 16 52.9 +0.5**		
	baz=191,SNR=5.8							
145A	**Houston Renfro**	**57.38**	**42**	P	**P**	**03 16 53.4 +0.3**		
	baz=232							
C09A	**Chrisman Ranch**	**57.50**	**11**	*eP*	**P**	**03 16 54.6 +1.0**		
	comp=Z,33nm,1.2s							
C09A				LR	LR			
	comp=Z,7µm,20.0s							
MSO	**Missoula**	**57.53**	**15**	*eP*	**P**	**03 16 55.2 +1.2**		
	comp=Z,118nm,1.0s							
MSO				LR	LR			
	comp=Z,7µm,19.0s							
MSO	**Missoula**	**57.53**	**15**	P	**P**	**03 16 55.1 +1.1**		
	baz=201,SNR=129							
W41B	**Gary Mavity, V**	**57.53**	**38**	*eP*	**P**	**03 16 54.6 +0.5**		
	comp=Z,52nm,1.4s							
W41B				LR	LR			
	comp=Z,1µm,21.0s							
W41B	**Gary Mavity, V**	**57.53**	**38**	P	**P**	**03 16 54.1 0.0**		
	baz=228,SNR=6.5							
PGC	**Sidney**	**57.54**	**7**	*eP*	**P**	**03 16 55.2 +1.4**		
	comp=Z,55nm,0.9s							
PGC				LR	LR			
	comp=Z,6µm,22.0s							
WHAR	**Wooly Hollow**	**57.59**	**38**	*eP*	**P**	**03 16 54.6 +0.1**		
	comp=Z,20nm,1.0s							
B06A	**Marblemount**	**57.66**	**8**	*eP*	**P**	**03 16 55.2 +0.5**		
	comp=Z,22nm,1.0s							
B06A				LR	LR			
	comp=Z,6µm,19.0s							
A04D	**Lummi Island**	**57.70**	**7**	P	**P**	**03 16 55.9 +0.9**		
	baz=191							
GCMT	**Greycliff**	**57.78**	**18**	*eP*	**P**	**03 16 56.6 +0.7**		
KSU1	**Kansas State U**	**57.78**	**32**	PFAKE		03 17 10.0 +14		
KSU1				LR	LR			
	comp=Z,2µm,19.0s							
DBBC	**Dabeiba**	**57.79**	**76**	*eP*	**P**	**03 16 56.6 +0.1**		
DBBC	**Dabeiba**	**57.79**	**76**	*eP*	**P**	**03 16 56.6 +0.1**		
B08A	**Colville Reser**	**57.84**	**10**	*eP*	**P**	**03 16 56.2 +0.1**		
	comp=Z,18nm,1.0s							
B08A				LR	LR			
	comp=Z,8µm,21.0s							
U40A	**Yellville**	**57.95**	**37**	P	**P**	**03 16 56.9 -0.2**		
	baz=227,SNR=35							
X43A	**Marvell**	**57.96**	**40**	*eP*	**P**	**03 16 58.2 +1.0**		
	comp=Z,94nm,0.9s							
X43A				LR	LR			
	comp=Z,2µm,20.0s							
X43A	**Marvell**	**57.96**	**40**	P	**P**	**03 16 57.6 +0.4**		
	baz=230,SNR=6.8							
HRY	**Holter Researc**	**57.98**	**16**	*eP*	**P**	**03 16 58.4 +1.2**		
NEW	**Newport**	**58.16**	**12**	*eP*	**P**	**03 16 59.2 +0.8**		
	comp=Z,77nm,1.0s							
NEW				LR	LR			
	comp=Z,5µm,20.0s							
NEW	**Newport**	**58.16**	**12**	P	**P**	**03 16 59.1 +0.8**		
	baz=197,SNR=36							
HELC	**Santa Helena**	**58.24**	**77**	*eP*	**P**	**03 16 59.9 0.0**		
HELC	**Santa Helena**	**58.24**	**77**	*eP*	**P**	**03 16 59.9 0.0**		
PRAC	**Prado**	**58.30**	**80**	*eP*	**P**	**03 16 59.3 -0.7**		
PRAC	**Prado**	**58.30**	**80**	*eP*	**P**	**03 16 59.3 -0.7**		
RSSD	**Black Hills**	**58.31**	**23**	*eP*	**P**	**03 16 59.6 -0.1**		
	comp=Z,54nm,1.3s							
RSSD				LR	LR			
	comp=Z,8µm,19.0s							
RSSD	**Black Hills**	**58.31**	**23**	P	**P**	**03 16 59.5 -0.3**		
	baz=213							
THZ	**Tophouse**	**58.48**	**226**	*eP*	P	03 17 05.9 +5.1		
	comp=Z,61nm,1.8s							
BRAL	**Brewton**	**58.50**	**45**	*eP*	**P**	**03 17 01.7 +0.8**		
	comp=Z,219nm,1.7s							
BRAL	**Brewton**	**58.50**	**45**	P	**P**	**03 17 01.3 +0.4**		
	baz=235							
349A	**Repton**	**58.50**	**45**	P	**P**	**03 17 01.2 +0.3**		
	baz=235							
U41A	**Viola**	**58.51**	**38**	P	**P**	**03 17 00.8 -0.1**		
	baz=228,SNR=23							
147A	**Livingston**	**58.53**	**43**	*eP*	**P**	**03 17 01.7 +0.5**		
	com

baz=231,SNR=11
249A Camden 58.91 44 P P 03 17 04.0 +0.2
baz=234,SNR=14
U42A Revenden 58.92 38 P P 03 17 03.8 -0.1
baz=229,SNR=17
MET Memphis--Engin 58.95 40 PFAKE 03 17 20.0 +16
MET LR LR
comp=Z,2µm,20.0s
W44A Shelby Farms P 59.03 40 P P 03 17 04.7 +0.1
baz=230
T41A Mountain View 59.06 37 P P 03 17 04.8 -0.1
baz=228,SNR=30
ROSC El Rosal 59.10 79 eP P 03 17 07.8 +1.8
comp=Z,17nm,1.3s
ROSC El Rosal 59.10 79 P P 03 17 06.3 +0.3
comp=Z,7.8nm,0.9s,baz=221,slow=2.4,SNR=8.2
451A Vernon 59.11 47 P P 03 17 06.2 +1.0
baz=236
350A Dozier 59.14 45 P P 03 17 05.7 +0.3
baz=235
552A Lynn Haven 59.18 47 P P 03 17 07.7 +2.0
baz=237
ZARC Zaragoza, Cauc 59.21 76 eP P 03 17 05.9 -0.4
ZARC Zaragoza, Cauc 59.21 76 eP P 03 17 05.9 -0.4
PTBC PUERTO BERRIO, 59.36 77 eP P 03 17 05.9 -1.4
PTBC PUERTO BERRIO, 59.36 77 eP P 03 17 05.9 -1.4
GNAR Gosnell 59.43 39 eP P 03 17 08.2 +0.9
comp=Z,74nm,1.1s
GNAR LR LR
comp=Z,1µm,21.0s
S41A Jillco Farms, 59.44 37 P P 03 17 07.2 -0.2
baz=228,SNR=34
U43A Rector 59.45 39 P P 03 17 07.5 0.0
baz=229
T42A Van Buren 59.46 38 eP P 03 17 07.0 -0.5
comp=Z,36nm,1.0s
T42A LR LR
comp=Z,1µm,18.0s
T42A Van Buren 59.46 38 P P 03 17 07.2 -0.3
baz=228
X46A Booneville 59.46 41 P P 03 17 07.2 -0.4
baz=232,SNR=7.5
149A Jones 59.50 44 P P 03 17 07.7 -0.2
baz=234,SNR=27
250A Grady 59.51 45 eP P 03 17 08.3 +0.3
comp=Z,194nm,1.4s
250A LR LR
comp=Z,2µm,19.0s
250A Grady 59.51 45 P P 03 17 07.8 -0.2
baz=235,SNR=6.0
351A Pinckard 59.58 46 P P 03 17 08.6 +0.1
baz=236,SNR=5.6
LRAL Lakeview Retre 59.61 44 eP P 03 17 08.7 0.0
comp=Z,46nm,1.4s
LRAL LR LR
comp=Z,1µm,19.0s
LRAL Lakeview Retre 59.61 44 P P 03 17 08.0 -0.7
baz=234
WALA Waterton Lakes 59.62 14 eP P 03 17 09.2 +0.7
comp=Z,47nm,0.8s
CHIC Chingaza 59.62 79 eP P 03 17 09.9 +0.3
CHIC Chingaza 59.62 79 eP P 03 17 09.9 +0.3
452A Marianna 59.65 47 P P 03 17 08.5 -0.4
baz=236
LLLB Lillooet 59.66 7 eP P 03 17 09.1 +0.5
comp=Z,40nm,1.4s
LLLB LR LR
comp=Z,8µm,20.0s
PBMO Poplar Bluff 59.70 38 eP P 03 17 08.8 -0.3
comp=Z,61nm,1.3s
PBMO LR LR
comp=Z,2µm,20.0s
LAO LASA Array 59.70 20 eP P 03 17 09.5 +0.5
comp=Z,40nm,0.9s
LAO LR LR
comp=Z,8µm,19.0s
LAO LASA Array 59.70 20 P P 03 17 09.3 +0.2
baz=210,SNR=12
EGMT Eagleton 59.76 17 eP P 03 17 10.7 +1.2
comp=Z,71nm,1.0s
EGMT LR LR
comp=Z,12µm,20.0s
EGMT Eagleton 59.76 17 P P 03 17 10.5 +1.0
baz=205,SNR=38
HALT Halls 59.82 40 PFAKE 03 17 20.0 +10
HALT LR LR
comp=Z,1µm,20.0s
553A Crawfordville 59.84 48 P P 03 17 11.3 +1.0
baz=237
X47A Russelville 59.91 42 P P 03 17 10.2 -0.6
baz=232,SNR=35
W46A Michie 59.95 41 P P 03 17 10.1 -0.8
baz=232,SNR=9.6
V45A Humboldt 59.95 40 P P 03 17 10.5 -0.5
baz=231
U44A Portageville 59.98 39 P P 03 17 11.1 0.0
baz=230
T43A Greenville 59.98 38 P P 03 17 10.3 -0.8
baz=229,SNR=15
Y48A Jasper 60.01 43 P P 03 17 10.6 -0.8
baz=233,SNR=10
Z49A Columbiana 60.02 44 P P 03 17 10.9 -0.6
baz=234,SNR=9.3
150A Eclectic 60.03 45 P P 03 17 11.5 -0.1
baz=235,SNR=24
PARMO Parma 60.04 39 PFAKE 03 17 20.0 +8.5
PARMO LR LR
comp=Z,1µm,20.0s
CCM Cathedral Cave 60.05 37 eP P 03 17 10.9 -0.7
comp=Z,49nm,1.1s
CCM LR LR
comp=Z,1µm,21.0s
CCM Cathedral Cave 60.05 37 P P 03 17 10.9 -0.7
baz=228
PLAL Pickwick Lake 60.05 41 eP P 03 17 10.9 -0.8
comp=Z,37nm,1.4s
PLAL LR LR
comp=Z,1µm,18.0s
GLAT Glass 60.08 39 PFAKE 03 17 20.0 +8.2
GLAT LR LR
comp=Z,1µm,20.0s
S42A Caledonia 60.12 37 P P 03 17 11.5 -0.6
baz=228,SNR=29
R41A Rosebud 60.13 36 P P 03 17 11.3 -0.8
baz=228,SNR=27
251A Midway 60.17 45 P P 03 17 11.9 -0.7
baz=236,SNR=16
352A Blakely 60.18 46 eP P 03 17 12.7 +0.1
comp=Z,60nm,0.9s
352A Blakely 60.18 46 P P 03 17 12.3 -0.3
baz=236,SNR=5.8
059Z Ave Maria 60.18 53 P P 03 17 13.1 +0.4
baz=242
453A Whigham 60.27 47 P P 03 17 13.1 -0.1
baz=237
SMLC San Martn de 60.30 75 eP P 03 17 11.2 -2.5
SMLC San Martn de 60.30 75 eP P 03 17 11.2 -2.5
554A Perry 60.33 48 P P 03 17 13.3 -0.4
baz=238
RPZ Rata Peaks 60.38 224 eP P 03 17 20.5 +6.6
RPZ Rata Peaks 60.38 224 P P 03 17 15.0 +1.2
comp=Z,6.0nm,0.7s,baz=31,slow=5.9,SNR=3.8
061Z Ochoppi 60.38 54 P P 03 17 15.9 +1.8
baz=242
T44A Benton 60.41 38 P P 03 17 13.6 -0.4
baz=230
X48A Hartselle 60.41 42 eP P 03 17 13.5 -0.7
comp=Z,49nm,1.0s
X48A LR LR
comp=Z,900nm,21.0s
X48A Hartselle 60.41 42 P P 03 17 13.3 -0.8
baz=233,SNR=13
S43A Fulton Ridge, 60.43 38 P P 03 17 13.6 -0.6
baz=229,SNR=27
U45A Rockin P Farm, 60.46 40 P P 03 17 14.1 -0.3
baz=231,SNR=6.5
R42A Luebbering 60.46 37 P P 03 17 13.5 -0.9
baz=228,SNR=8.0
Z50A Ashland 60.47 44 eP P 03 17 14.2 -0.4
comp=Z,54nm,1.3s
Z50A LR LR
comp=Z,900nm,19.0s
Z50A Ashland 60.47 44 P P 03 17 13.6 -1.0
baz=235,SNR=11
151A Opelika 60.47 45 P P 03 17 14.0 -0.6
baz=236,SNR=6.4
FVM French Village 60.48 37 eP P 03 17 14.4 -0.2
comp=Z,101nm,0.9s
Y49A Blount Mountai 60.49 43 eP P 03 17 14.2 -0.5
comp=Z,25nm,0.9s
Y49A LR LR
comp=Z,1µm,19.0s
Y49A Blount Mountai 60.49 43 P P 03 17 13.9 -0.8
baz=234
857A Zephyrhills 60.50 51 P P 03 17 15.7 +0.9
baz=240
V46A Holladay 60.53 40 P P 03 17 13.8 -1.1
baz=232,SNR=7.7
W47A Westpoint 60.53 41 P P 03 17 14.1 -0.8
baz=232,SNR=18
958A Wauchula 60.53 52 P P 03 17 14.4 -0.7
baz=241
RUSC La Rusia 60.54 78 eP P 03 17 15.2 -0.8
RUSC La Rusia 60.54 78 eP P 03 17 15.2 -0.8
252A Lumpkin 60.60 46 P P 03 17 14.8 -0.6
baz=236
BARC Barichara 60.60 77 eP P 03 17 15.2 -0.9
BARC Barichara 60.60 77 eP P 03 17 15.2 -0.9
353A Camilla 60.61 47 P P 03 17 15.0 -0.5
baz=237
Q41A Truxton 60.65 36 P P 03 17 15.2 -0.5
baz=228,SNR=18
454A Quitman 60.70 48 P P 03 17 16.0 -0.1
baz=238
SUSD Miller 60.70 27 P P 03 17 15.6 -0.3
baz=218,SNR=10.0
059A Moore Haven 60.71 53 P P 03 17 16.3 0.0
baz=241
U46A Springville 60.83 40 P P 03 17 16.8 -0.1
baz=231,SNR=7.4
LCO Las Campanas 60.84 118 eP P 03 17 17.9 +0.3
comp=Z,27nm,1.0s
W48A Pulaski 60.89 42 P P 03 17 16.9 -0.6
baz=233,SNR=12
GO04 Tololo Observa 60.90 120 eP P 03 17 17.9 0.0
comp=Z,27nm,0.9s
060Z West Palm Beac 60.91 53 P P 03 17 17.6 -0.1
baz=242
WVT Waverly 60.91 40 eP P 03 17 17.2 -0.3
comp=Z,96nm,1.8s
WVT LR LR
comp=Z,1µm,21.0s
WVT Waverly 60.91 40 P P 03 17 16.9 -0.7
baz=232
V47A Nunnelly 60.93 41 P P 03 17 16.8 -0.8
baz=232,SNR=6.4
X49A Woodville 60.93 43 P P 03 17 17.1 -0.5
baz=234,SNR=13
T45A Paducah 60.95 39 PFAKE 03 17 30.0 +12
T45A LR LR
comp=Z,1µm,18.0s
T45A Paducah 60.95 39 P P 03 17 17.2 -0.6
baz=231
Y50A Piedmont 60.97 43 P P 03 17 17.6 -0.4
baz=235,SNR=8.5
R43A Red Bud 60.97 37 P P 03 17 17.5 -0.4
baz=229,SNR=8.7
152A Waverly Hall 60.98 45 eP P 03 17 17.6 -0.4
comp=Z,51nm,1.0s
152A LR LR
comp=Z,1µm,20.0s
152A Waverly Hall 60.98 45 P P 03 17 17.7 -0.4
baz=236,SNR=14
S44A Carbondale 61.00 38 P P 03 17 17.9 -0.2
baz=230,SNR=5.4
Z51A Franklin 61.02 44 P P 03 17 17.8 -0.6
baz=235
Q42A Golden Eagle 61.03 36 P P 03 17 17.7 -0.6
baz=228,SNR=16
DWPF Disney Wildern 61.03 51 P P 03 17 19.0 +0.5
baz=241
SIUC Southern Illin 61.04 38 eP P 03 17 18.6 +0.3
comp=Z,96nm,1.0s
SIUC LR LR
comp=Z,1µm,20.0s
253A Americus 61.06 46 eP P 03 17 18.4 -0.2
comp=Z,116nm,1.3s
253A LR LR
comp=Z,1µm,20.0s
253A Americus 61.06 46 P P 03 17 17.8 -0.8
baz=237
ROC1 El Roble 61.10 123 eP P 03 17 19.7 +0.4
comp=Z,21nm,0.8s
TIGA Tifton 61.11 47 P P 03 17 18.1 -0.9
baz=238
455A Stateville 61.16 48 P P 03 17 19.8 +0.5
baz=238
PB11 IPOC Station P 61.21 108 eP P 03 17 20.0 -0.1
comp=Z,16nm,0.8s
ECSD EROS Data Cent 61.23 29 eP P 03 17 19.0 -0.5
comp=Z,81nm,0.9s
ECSD LR LR
comp=Z,7µm,20.0s
ECSD EROS Data Cent 61.23 29 P P 03 17 19.0 -0.5
baz=220,SNR=48
P41A Barry, Barry 61.23 35 P P 03 17 19.2 -0.4
baz=227,SNR=17
W49A Belvidere 61.32 42 P P 03 17 19.7 -0.6
baz=234,SNR=9.3
V48A Smith Brothers 61.33 41 eP P 03 17 19.7 -0.6
comp=Z,9.5nm,0.8s
V48A LR LR
comp=Z,800nm,19.0s
V48A Smith Brothers 61.33 41 P P 03 17 19.4 -0.9
baz=233
X50B Fort Payne 61.35 43 P P 03 17 19.7 -0.9
baz=234,SNR=6.0
PB01 IPOC Station P 61.39 109 eP P 03 17 22.0 +0.7
comp=Z,28nm,1.2s
PEL Peldehue 61.40 123 eP P 03 17 21.5 +0.5
comp=Z,46nm,0.9s
S45A Carrier Mills 61.41 38 P P 03 17 20.7 -0.1
baz=230,SNR=5.1
657A Interlachen 61.43 50 P P 03 17 20.8 -0.3
baz=240
Y51A Rockmart 61.43 44 P P 03 17 20.3 -0.8
baz=235
T46A Princeton 61.43 39 P P 03 17 20.6 -0.5
baz=231,SNR=11
U47A Clarksville 61.45 40 P P 03 17 20.6 -0.5
baz=232,SNR=15
R44A Waltonville 61.46 38 P P 03 17 20.6 -0.5
baz=230,SNR=6.3
Z52A Williamson 61.48 45 P P 03 17 20.8 -0.6
baz=236,SNR=8.2
Q43A New Douglas 61.54 37 P P 03 17 21.1 -0.6
baz=229,SNR=12
P42A Winchester 61.59 36 eP P 03 17 21.1 -0.9
comp=Z,62nm,0.9s
P42A LR LR
comp=Z,1µm,18.0s
P42A Winchester 61.59 36 P P 03 17 21.4 -0.6
baz=228,SNR=16
153A Fort Valley 61.59 46 P P 03 17 21.2 -1.0
baz=237
SCIA State Center 61.59 32 eP P 03 17 22.3 +0.2
comp=Z,69nm,0.9s
SCIA LR LR
comp=Z,2µm,21.0s
SCIA State Center 61.59 32 P P 03 17 21.4 -0.6
baz=224
254A Abbeville 61.60 47 P P 03 17 21.6 -0.6
baz=238,SNR=7.1
SWET Sewanee 61.60 42 eP P 03 17 22.0 -0.3
comp=Z,58nm,0.9s
O41A Passleys Farm, 61.63 35 P P 03 17 21.8 -0.5
baz=227,SNR=26
557A Orange Park 61.75 49 P P 03 17 22.8 -0.5
baz=240
N40A Mertquake, Sal 61.76 34 P P 03 17 22.3 -0.9
baz=226,SNR=9.8
M39A Webster 61.85 33 P P 03 17 22.7 -1.1
baz=226,SNR=6.7
T47A Sharon Grove 61.90 40 eP P 03 17 24.1 -0.1
comp=Z,54nm,0.8s
T47A LR LR
comp=Z,1µm,18.0s
T47A Sharon Grove 61.90 40 P P 03 17 23.7 -0.5
baz=232,SNR=19
Q44A Meyer Farm, Va 61.92 37 eP P 03 17 24.2 -0.1
comp=Z,142nm,0.9s
Q44A LR LR
comp=Z,2µm,22.0s
Q44A Meyer Farm, Va 61.92 37 P P 03 17 24.1 -0.1
baz=230,SNR=18
DGMT Dagmar 61.93 21 eP P 03 17 25.1 +0.8
comp=Z,172nm,0.9s
DGMT LR LR
comp=Z,7µm,20.0s
DGMT Dagmar 61.93 21 P P 03 17 24.9 +0.7
baz=211,SNR=40
V49A McMinnville 61.94 42 P P 03 17 23.7 -0.9
baz=234,SNR=13
S46A Don Dixon Farm 61.94 39 P P 03 17 24.3 -0.1
baz=231,SNR=12
X51A Calhoun 61.95 43 eP P 03 17 24.1 -0.4
comp=Z,35nm,1.0s
X51A Calhoun 61.95 43 P P 03 17 23.8 -0.8
baz=235
GO06 Curarrehue 61.97 130 eP P 03 17 25.2 +0.4
comp=Z,20nm,1.4s
U48A Cassie Pea, Po 61.97 41 P P 03 17 24.0 -0.7
baz=233,SNR=23
R45A Skylar, Fairfi 61.98 38 P P 03 17 24.5 -0.2
baz=230,SNR=23
W50A Signal Mountai 62.01 42 eP P 03 17 24.3 -0.7
comp=Z,34nm,0.8s
W50A Signal Mountai 62.01 42 P P 03 17 24.3 -0.7
baz=234,SNR=8.2
N41A Harden Midland 62.05 35 eP P 03 17 24.7 -0.4
comp=Z,152nm,0.9s
N41A LR LR
comp=Z,2µm,22.0s
N41A Harden Midland 62.05 35 P P 03 17 24.4 -0.7
baz=227,SNR=11
154A Montrose 62.09 46 eP P 03 17 25.3 -0.2
comp=Z,68nm,0.9s
154A LR LR
comp=Z,1µm,18.0s
154A Montrose 62.09 46 P P 03 17 24.9 -0.6
baz=237
Y52A Lilburn 62.10 44 eP P 03 17 25.3 -0.3
comp=Z,46nm,1.4s
Y52A Lilburn 62.10 44 P P 03 17 25.0 -0.6
baz=236
P43A Skaggs, Pawnee 62.10 36 P P 03 17 24.6 -0.8
baz=229
Z53A Monticello 62.12 45 P P 03 17 24.7 -1.0
baz=237,SNR=13
O42A Bath 62.14 35 P P 03 17 24.9 -0.8
baz=228
USIN University of 62.15 39 eP P 03 17 26.2 +0.3
comp=Z,224nm,0.8s
USIN LR LR
comp=Z,1µm,18.0s
M40A Post Highland 62.16 34 P P 03 17 25.0 -0.8
baz=226,SNR=11
255A Hazlehurst 62.18 47 P P 03 17 25.6 -0.5
baz=238
GOGA Godfrey 62.26 45 eP P 03 17 26.2 -0.5
comp=Z,49nm,1.2s
GOGA Godfrey 62.26 45 P P 03 17 25.4 -1.3
baz=237,SNR=8.6
W51A Cleveland 62.35 43 P P 03 17 26.5 -0.7
baz=235,SNR=6.4
OLIL Olney 62.37 38 eP P 03 17 27.3 +0.1
comp=Z,104nm,1.0s
OLIL LR LR
comp=Z,4µm,22.0s
L39A Vinton 62.39 33 P P 03 17 26.4 -0.9
baz=226,SNR=15
R46A Gibon Southern 62.40 39 P P 03 17 27.2 -0.3
baz=231,SNR=9.1
S47A Hartford 62.41 39 P P 03 17 27.6 0.0
baz=232,SNR=22
V50A Pikevile 62.42 42 P P 03 17 26.9 -0.8
baz=234,SNR=5.7
T48A Bowling Green 62.42 40 P P 03 17 27.2 -0.5
baz=233,SNR=13
Y53A Monroe 62.42 45 P P 03 17 27.0 -0.8
baz=236,SNR=6.2
Q45A Warren Harvey, 62.43 38 P P 03 17 27.6 -0.1
baz=230,SNR=13
U49A Red Boiling Sp 62.46 41 P P 03 17 27.4 -0.6
baz=233,SNR=6.3
P44A Sand Creek, Wi 62.52 37 P P 03 17 27.7 -0.5
baz=230,SNR=22
155A Kite 62.55 46 P P 03 17 27.7 -0.9
baz=238,SNR=6.0
N42A Yates City 62.59 35 P P 03 17 28.0 -0.8
baz=228,SNR=13
Z54A Sparta 62.61 46 P P 03 17 28.1 -0.9
baz=237,SNR=5.5
X52A Dahlonega 62.62 44 P P 03 17 28.8 -0.4
baz=236,SNR=13
256A Glennville 62.63 47 P P 03 17 29.6 +0.4
baz=238
O43A Sugar Creek Fa 62.64 36 P P 03 17 28.5 -0.6
baz=229,SNR=5.4
M41A Milan 62.67 34 P P 03 17 28.4 -0.8
baz=227,SNR=9.0
LPAZ La Paz 62.68 104 eP P 03 17 31.0 +0.5
comp=Z,23nm,1.4s
LPAZ La Paz 62.68 104 P P 03 17 31.0 +0.5
comp=Z,6.1nm,0.8s,baz=282,slow=5.6,SNR=17
CPCT Cooper Cave 62.68 43 eP P 03 17 29.2 -0.3
comp=Z,27nm,1.0s
L40A Anamosa 62.77 33 eP P 03 17 29.5 -0.4
comp=Z,90nm,1.0s
L40A LR LR
comp=Z,3µm,18.0s
L40A Anamosa 62.77 33 P P 03 17 29.4 -0.5
baz=226,SNR=12
HDIL Hopedale 62.83 36 eP P 03 17 30.3 -0.1
comp=Z,244nm,1.6s
HDIL LR LR
comp=Z,2µm,18.0s
HDIL Hopedale 62.83 36 P P 03 17 29.8 -0.5
baz=229
K39A Oelwein 62.85 32 P P 03 17 29.4 -1.0
baz=226,SNR=8.1
MLZ Mavora Lakes 62.87 223 eP P 03 17 36.6 +5.9
comp=Z,27nm,1.1s
W52A Murphy 62.88 43 eP P 03 17 30.4 -0.4
comp=Z,47nm,1.0s
W52A Murphy 62.88 43 P P 03 17 30.4 -0.4
baz=236,SNR=9.1
PLCA Paso Flores 62.91 131 eP P 03 17 31.7 +0.7
comp=Z,24nm,0.9s
PLCA Paso Flores 62.91 131 P P 03 17 30.8 -0.2
comp=Z,17nm,0.8s,baz=301,slow=6.3,SNR=30
PLCA Paso Flores 62.91 131 eP P 03 17 31.6 +0.6
S48A Wiedeman Farm, 62.97 40 P P 03 17 30.8 -0.5
baz=233,SNR=20
T49A Edmonton 62.97 41 eP P 03 17 30.8 -0.6
comp=Z,57nm,1.0s
T49A LR LR
comp=Z,2µm,20.0s
T49A Edmonton 62.97 41 P P 03 17 30.8 -0.6
baz=233,SNR=14
X53A Estanollee 62.98 44 P P 03 17 31.2 -0.2
baz=236,SNR=7.9
V51A Loudon 62.99 42 eP P 03 17 31.0 -0.5
comp=Z,49nm,1.0s
V51A Loudon 62.99 42 P P 03 17 30.7 -0.8
baz=235,SNR=5.7
Q46A CEJHS Indians, 63.00 38 P P 03 17 31.1 -0.4
baz=231
U50A Jamestown 63.02 42 P P 03 17 31.0 -0.8
baz=234,SNR=6.7
O44A Mansfield 63.05 36 P P 03 17 31.3 -0.5
baz=230,SNR=11
Y54A Tignall 63.05 45 P P 03 17 31.3 -0.6
baz=237,SNR=8.2
R47A Wooly Knot Far 63.06 39 P P 03 17 31.8 -0.1
baz=232,SNR=26
P45A Graceland, Par 63.08 37 eP P 03 17 31.9 -0.1
comp=Z,94nm,0.8s
P45A LR LR
comp=Z,1µm,20.0s
P45A Graceland, Par 63.08 37 P P 03 17 31.7 -0.3
baz=230,SNR=18
Z55A Blythe 63.10 46 P P 03 17 31.5 -0.8
baz=238
WHZ Wether Hill Ro 63.13 223 eP P 03 17 38.4 +6.0
comp=Z,50nm,1.3s
MDND Maddock 63.14 24 eP P 03 17 32.5 +0.2
comp=Z,123nm,1.0s
MDND Maddock 63.14 24 P P 03 17 32.0 -0.3
baz=216,SNR=7.6
N43A Stutzman Famil 63.15 35 P P 03 17 32.0 -0.5
baz=229,SNR=14
M42A Sheffield 63.16 35 P P 03 17 32.0 -0.5
baz=228,SNR=12

WCI	**Wyandotte Cave** comp=Z,63nm,0.8s	**63.16**	**39**	*e*P		**P**	**03 17 32.4**	**-0.2**
WCI	comp=Z,1µm,20.0s			LR		LR		
WCI	**Wyandotte Cave** baz=232	**63.16**	**39**	P		**P**	**03 17 32.2**	**-0.4**
L41A	**Preston** baz=227,SNR=29	**63.17**	**34**	P		**P**	**03 17 32.2**	**-0.4**
K40A	**Colesburg** baz=226,SNR=18	**63.25**	**33**	P		**P**	**03 17 32.6**	**-0.5**
257A	**Skidaway Islan** baz=239	**63.26**	**48**	P		**P**	**03 17 34.1**	**+0.8**
TKL	**Tuckaleechee C** comp=Z,21nm,0.8s	**63.30**	**43**	*e*P		**P**	**03 17 33.2**	**-0.4**
T50A	**Nancy** baz=234,SNR=11	**63.37**	**41**	P		**P**	**03 17 33.3**	**-0.8**
J39A	**Decorah** baz=225,SNR=12	**63.39**	**32**	P		**P**	**03 17 33.1**	**-0.9**
W53A	**Cullowhee** baz=236,SNR=11	**63.44**	**44**	P		**P**	**03 17 34.2**	**-0.4**
P46A	**Rosedale** baz=231	**63.46**	**38**	P		**P**	**03 17 34.3**	**-0.2**
BG3	**Lake Jocassee** comp=Z,58nm,1.1s	**63.50**	**44**	*e*P		**P**	**03 17 35.1**	**+0.1**
Q47A	**Bedord North L** baz=232,SNR=12	**63.51**	**39**	P		**P**	**03 17 34.7**	**-0.3**
V52A	**Sevierville** comp=Z,60nm,1.0s	**63.52**	**43**	*e*P		**P**	**03 17 33.9**	**-1.1**
V52A	**Sevierville** baz=236,SNR=9.8	**63.52**	**43**	P		**P**	**03 17 34.3**	**-0.7**
R48A	**Northridge Ran** baz=233,SNR=14	**63.53**	**39**	P		**P**	**03 17 34.5**	**-0.5**
S49A	**Springfield** baz=233,SNR=17	**63.53**	**40**	P		**P**	**03 17 34.0**	**-1.1**
U51A	**La Follette** baz=235	**63.54**	**42**	P		**P**	**03 17 34.4**	**-0.8**
O45A	**Potomac** baz=230	**63.55**	**37**	P		**P**	**03 17 34.2**	**-0.9**
HODGE	**Hodges** comp=Z,51nm,1.0s	**63.55**	**45**	*e*P		**P**	**03 17 34.8**	**-0.4**
L42A	**Oliver, Polo** comp=Z,168nm,0.8s	**63.58**	**34**	*e*P		**P**	**03 17 34.7**	**-0.6**
L42A	comp=Z,2µm,22.0s			LR		LR		
L42A	**Oliver, Polo** baz=228,SNR=25	**63.58**	**34**	P		**P**	**03 17 34.6**	**-0.6**
BLO	**Bloomington** comp=Z,62nm,1.1s	**63.60**	**38**	*e*P		**P**	**03 17 35.5**	**+0.1**
BLO	comp=Z,3µm,22.0s			LR		LR		
M43A	**Waltham Townsh** baz=229,SNR=10	**63.60**	**35**	P		**P**	**03 17 34.9**	**-0.6**
SDV	**Santo Domingo** comp=Z,11nm,0.9s	**63.60**	**76**	*e*P		**P**	**03 17 35.7**	**-0.5**
SDV	**Santo Domingo**	**63.60**	**76**	*e*P		**P**	**03 17 32.8**	**-3.4**
K41A	**Shullsburg** baz=227,SNR=14	**63.63**	**33**	P		**P**	**03 17 35.3**	**-0.3**
157A	**Early Branch** baz=239	**63.64**	**47**	P		**P**	**03 17 35.6**	**-0.2**
X54A	**Belton** baz=237,SNR=7.8	**63.64**	**45**	P		**P**	**03 17 35.7**	**-0.2**
N44A	**Piper City** baz=230	**63.66**	**36**	P		**P**	**03 17 35.2**	**-0.6**
Y55A	**Saluda** baz=236,SNR=6.1	**63.68**	**45**	P		**P**	**03 17 35.7**	**-0.4**
Z56A	**Williston** baz=238,SNR=5.0	**63.70**	**46**	P		**P**	**03 17 35.8**	**-0.5**
I39A	**Houston** comp=Z,92nm,0.8s	**63.85**	**32**	*e*P		**P**	**03 17 36.5**	**-0.6**
I39A	comp=Z,6µm,19.0s			LR		LR		
I39A	**Houston** baz=225,SNR=25	**63.85**	**32**	P		**P**	**03 17 36.3**	**-0.7**
JFWS	**Jewell Farm** comp=Z,194nm,1.4s	**63.87**	**33**	*e*P		**P**	**03 17 37.0**	**-0.2**
JFWS	comp=Z,4µm,21.0s			LR		LR		
JFWS	**Jewell Farm** baz=227,SNR=13	**63.87**	**33**	P		**P**	**03 17 36.5**	**-0.7**
R49A	**Shelbyville** baz=233,SNR=22	**63.91**	**40**	P		**P**	**03 17 36.9**	**-0.6**
T51A	**Gray** baz=235,SNR=24	**63.92**	**42**	P		**P**	**03 17 37.0**	**-0.7**
Q48A	**North Vernon** baz=232,SNR=11	**63.94**	**39**	P		**P**	**03 17 37.0**	**-0.7**
J40A	**Soldiers Grove** baz=226,SNR=9.7	**63.94**	**32**	P		**P**	**03 17 37.1**	**-0.5**
TZTN	**Tazewell** comp=Z,175nm,1.8s	**63.95**	**42**	*e*P		**P**	**03 17 37.8**	**-0.1**
TZTN	**Tazewell** baz=235,SNR=6.7	**63.95**	**42**	P		**P**	**03 17 37.4**	**-0.5**
P47A	**Martinsville** baz=232	**63.95**	**38**	P		**P**	**03 17 37.1**	**-0.7**
V53A	**Saluda** comp=Z,74nm,1.5s	**63.95**	**43**	*e*P		**P**	**03 17 37.8**	**-0.2**
V53A	**Saluda** baz=236	**63.95**	**43**	P		**P**	**03 17 37.2**	**-0.7**
U52A	**Thorn Hill** baz=236	**63.98**	**42**	P		**P**	**03 17 37.4**	**-0.7**
Y56A	**Pelion** baz=238	**63.99**	**46**	P		**P**	**03 17 37.6**	**-0.6**
SFIN	**Lafayette** comp=Z,48nm,0.8s	**64.00**	**37**	*e*P		**P**	**03 17 37.8**	**-0.3**
SFIN	comp=Z,1µm,19.0s			LR		LR		
SFIN	**Lafayette** baz=231,SNR=10	**64.00**	**37**	P		**P**	**03 17 37.7**	**-0.4**
H38A	**Maiden Rock** baz=224,SNR=16	**64.04**	**31**	P		**P**	**03 17 37.7**	**-0.5**
S50A	**Richmond** baz=234,SNR=8.5	**64.04**	**41**	P		**P**	**03 17 37.6**	**-0.8**
N45A	**Kentland** baz=230	**64.06**	**36**	P		**P**	**03 17 38.0**	**-0.4**
W54A	**Cherokee Point** baz=237,SNR=7.1	**64.06**	**44**	P		**P**	**03 17 38.4**	**-0.2**
M44A	**Midewin, Midew** comp=Z,134nm,1.5s	**64.09**	**36**	*e*P		**P**	**03 17 38.6**	**-0.1**
M44A	comp=Z,2µm,21.0s			LR		LR		
M44A	**Midewin, Midew** baz=230	**64.09**	**36**	P		**P**	**03 17 37.9**	**-0.8**
X55A	**Gracelyn & Ava** baz=238	**64.12**	**45**	P		**P**	**03 17 38.5**	**-0.5**
Z57A	**Bowman** baz=239	**64.17**	**47**	P		**P**	**03 17 38.5**	**-0.8**
SPMN	**Marine on St.** comp=Z,123nm,0.8s	**64.17**	**30**	*e*P		**P**	**03 17 38.7**	**-0.5**
SPMN	comp=Z,7µm,19.0s			LR		LR		
SPMN	**Marine on St.** baz=224,SNR=39	**64.17**	**30**	P		**P**	**03 17 38.5**	**-0.6**
PAULI	**Pauline** comp=Z,44nm,0.9s	**64.18**	**45**	*e*P		**P**	**03 17 39.1**	**-0.2**
L43A	**Garden Prairie** baz=229,SNR=18	**64.21**	**34**	P		**P**	**03 17 39.1**	**-0.4**
158A	**Hollywood** baz=240	**64.25**	**47**	P		**P**	**03 17 39.3**	**-0.5**
K42A	**Prairie Point,** baz=228,SNR=8.9	**64.27**	**34**	P		**P**	**03 17 39.2**	**-0.6**
J41A	**Loganville** baz=227,SNR=6.8	**64.31**	**33**	P		**P**	**03 17 39.2**	**-0.8**
I40A	**Norwalk** baz=226,SNR=8.3	**64.34**	**32**	P		**P**	**03 17 39.5**	**-0.8**
R50A	**Paris** baz=234,SNR=25	**64.44**	**40**	P		**P**	**03 17 40.1**	**-0.9**
NHSC	**New Hope** baz=239	**64.45**	**47**	P		**P**	**03 17 40.7**	**-0.4**
P48A	**Milroy** baz=232,SNR=10	**64.45**	**39**	P		**P**	**03 17 40.2**	**-0.9**
O47A	**Sheridan** baz=232,SNR=7.1	**64.47**	**38**	P		**P**	**03 17 40.3**	**-0.8**
U53A	**Fall Branch** baz=236	**64.50**	**43**	P		**P**	**03 17 42.1**	**+0.6**
Q49A	**Aurora** baz=233,SNR=19	**64.50**	**39**	P		**P**	**03 17 41.1**	**-0.4**
N46A	**Monticello** baz=231	**64.54**	**37**	P		**P**	**03 17 41.0**	**-0.6**
H39A	**Augusta** baz=225,SNR=20	**64.55**	**31**	P		**P**	**03 17 41.0**	**-0.6**
M45A	**Boilermakers S** baz=230	**64.55**	**36**	P		**P**	**03 17 41.4**	**-0.2**
X56A	**White Oak** baz=238,SNR=5.2	**64.55**	**45**	P		**P**	**03 17 41.1**	**-0.7**
V54A	**Nebo** baz=237,SNR=6.8	**64.60**	**44**	P		**P**	**03 17 42.0**	**-0.2**
G38A	**Ridgeland** baz=225,SNR=32	**64.60**	**30**	P		**P**	**03 17 41.1**	**-0.9**
F37A	**Hinrichs Farm,** baz=224,SNR=14	**64.62**	**30**	P		**P**	**03 17 41.4**	**-0.7**
T52A	**Hallie** baz=236	**64.64**	**42**	P		**P**	**03 17 41.8**	**-0.6**
L44A	**Lake County Fo** baz=229	**64.68**	**35**	P		**P**	**03 17 42.1**	**-0.4**
KMSC	**Kings Mountain** comp=Z,96nm,1.5s	**64.68**	**45**	*e*P		**P**	**03 17 42.5**	**-0.2**
KMSC	**Kings Mountain** baz=238,SNR=5.2	**64.68**	**45**	P		**P**	**03 17 42.0**	**-0.6**
J42A	**Columbus** baz=228,SNR=18	**64.75**	**33**	P		**P**	**03 17 42.6**	**-0.4**
Y57A	**Sumter** baz=239	**64.76**	**46**	P		**P**	**03 17 42.4**	**-0.8**
K43A	**Burlington** comp=Z,212nm,1.1s	**64.78**	**34**	*e*P		**P**	**03 17 43.1**	**-0.1**
K43A	comp=Z,2µm,21.0s			LR		LR		
K43A	**Burlington** baz=229,SNR=9.7	**64.78**	**34**	P		**P**	**03 17 42.7**	**-0.4**
Z58A	**St. Stephen** baz=240	**64.83**	**47**	P		**P**	**03 17 42.1**	**-1.5**
I41A	**Arkdale** comp=Z,51nm,1.0s	**64.85**	**32**	*e*P		**P**	**03 17 43.3**	**-0.3**
I41A	comp=Z,6µm,19.0s			LR		LR		
I41A	**Arkdale** baz=227,SNR=5.3	**64.85**	**32**	P		**P**	**03 17 42.9**	**-0.7**
T53A	**Wise** baz=236	**64.87**	**42**	P		**P**	**03 17 43.0**	**-0.9**
S52A	**Salyersville** baz=235	**64.90**	**41**	P		**P**	**03 17 43.5**	**-0.6**
R51A	**Hillsboro** baz=234,SNR=10	**64.92**	**41**	P		**P**	**03 17 42.9**	**-1.2**
P49A	**Miami Univ. Ec** baz=233,SNR=20	**64.93**	**39**	P		**P**	**03 17 43.5**	**-0.7**
H40A	**Chili** baz=226,SNR=6.2	**64.97**	**32**	P		**P**	**03 17 43.6**	**-0.7**
Q50A	**Georgetown** baz=234,SNR=14	**64.99**	**40**	P		**P**	**03 17 43.6**	**-1.0**
G39A	**Holcombe** baz=225,SNR=34	**65.03**	**31**	P		**P**	**03 17 43.9**	**-0.9**
AGMN	**Agassiz Nation** comp=Z,118nm,0.8s	**65.05**	**26**	*e*P		**P**	**03 17 44.2**	**-0.5**
AGMN	**Agassiz Nation** baz=220,SNR=69	**65.05**	**26**	P		**P**	**03 17 44.1**	**-0.7**
M46A	**Old House Fiel** comp=Z,84nm,1.2s	**65.09**	**36**	*e*P		**P**	**03 17 45.0**	**-0.2**
M46A	comp=Z,2µm,18.0s			LR		LR		
M46A	**Old House Fiel** baz=231,SNR=5.2	**65.09**	**36**	P		**P**	**03 17 44.5**	**-0.7**
U54A	**Nelsons Funny** baz=237,SNR=8.6	**65.09**	**43**	P		**P**	**03 17 45.0**	**-0.4**
O48A	**Fairland** baz=232,SNR=18	**65.10**	**38**	P		**P**	**03 17 44.3**	**-0.9**
V55A	**Taylorsville** baz=237,SNR=7.9	**65.14**	**44**	P		**P**	**03 17 45.4**	**-0.2**
N47A	**Urbana** baz=232,SNR=11	**65.15**	**37**	P		**P**	**03 17 44.5**	**-1.1**
F38A	**Pierce - Schro** baz=224,SNR=12	**65.15**	**30**	P		**P**	**03 17 44.6**	**-0.9**
Z59A	**Georgetown, SC** baz=240	**65.17**	**47**	P		**P**	**03 17 46.2**	**+0.3**
J43A	**Natural Harves** baz=228,SNR=26	**65.18**	**34**	P		**P**	**03 17 45.6**	**-0.2**
X57A	**Johnson Farm,** baz=239,SNR=6.5	**65.20**	**46**	P		**P**	**03 17 45.8**	**-0.2**
W56A	**Indian Trail** baz=238	**65.20**	**45**	P		**P**	**03 17 45.5**	**-0.6**
Y58A	**Scranton** baz=239	**65.22**	**47**	P		**P**	**03 17 45.7**	**-0.5**
I42A	**Draeger Farm,** comp=Z,144nm,0.9s	**65.25**	**33**	*e*P		**P**	**03 17 45.9**	**-0.3**
I42A	comp=Z,6µm,19.0s			LR		LR		
I42A	**Draeger Farm,** baz=228,SNR=19	**65.25**	**33**	P		**P**	**03 17 45.9**	**-0.3**
H41A	**Junction City** comp=Z,101nm,0.9s	**65.35**	**32**	*e*P		**P**	**03 17 46.2**	**-0.6**
H41A	comp=Z,6µm,21.0s			LR		LR		
H41A	**Junction City** baz=227,SNR=21	**65.35**	**32**	P		**P**	**03 17 46.2**	**-0.6**
M47A	**Cromwell** baz=232	**65.49**	**37**	P		**P**	**03 17 46.6**	**-1.2**
Q51A	**Peebles** comp=Z,105nm,1.1s	**65.50**	**40**	*e*P		**P**	**03 17 47.3**	**-0.6**
Q51A	comp=Z,2µm,20.0s			LR		LR		
Q51A	**Peebles** baz=234,SNR=19	**65.50**	**40**	P		**P**	**03 17 47.1**	**-0.8**
L46A	**Eue Claire** baz=231	**65.50**	**36**	P		**P**	**03 17 47.0**	**-0.8**
G40A	**Rib Lake** comp=Z,50nm,0.8s	**65.51**	**31**	*e*P		**P**	**03 17 47.4**	**-0.5**
G40A	comp=Z,6µm,18.0s			LR		LR		
G40A	**Rib Lake** baz=226,SNR=11	**65.51**	**31**	P		**P**	**03 17 47.3**	**-0.5**
N48A	**Decatur** baz=232,SNR=8.4	**65.54**	**38**	P		**P**	**03 17 47.0**	**-1.1**
P50A	**Jamestown** baz=234,SNR=18	**65.55**	**39**	P		**P**	**03 17 47.3**	**-0.9**
T54A	**Tazewell** baz=237,SNR=6.2	**65.55**	**43**	P		**P**	**03 17 47.9**	**-0.5**
R52A	**Catlettsburg** baz=235,SNR=7.8	**65.55**	**41**	P		**P**	**03 17 47.3**	**-1.0**
O49A	**Covington** comp=Z,159nm,1.4s	**65.56**	**39**	*e*P		**P**	**03 17 47.6**	**-0.7**
O49A	comp=Z,2µm,19.0s			LR		LR		
O49A	**Covington** baz=233,SNR=18	**65.56**	**39**	P		**P**	**03 17 47.5**	**-0.7**
F39A	**Loretta** baz=225,SNR=17	**65.59**	**30**	P		**P**	**03 17 47.5**	**-0.9**
U55A	**TA2, Sparta** baz=237,SNR=13	**65.61**	**43**	P		**P**	**03 17 48.5**	**-0.3**
W57A	**Gilead** baz=239,SNR=5.3	**65.62**	**45**	P		**P**	**03 17 48.1**	**-0.7**
I43A	**Langenfeld Bro** baz=228,SNR=25	**65.66**	**33**	P		**P**	**03 17 48.7**	**-0.2**
E38A	**The Farm, Brul**	**65.77**	**29**	PFAKE			03 18 00.0	+11
E38A	comp=Z,6µm,19.0s			LR		LR		
E38A	**The Farm, Brul** baz=224,SNR=6.1	**65.77**	**29**	P		**P**	**03 17 48.8**	**-0.7**
X58A	**Rowland** baz=239	**65.78**	**46**	P		**P**	**03 17 49.4**	**-0.4**
H42A	**Shiocton** comp=Z,108nm,1.0s	**65.87**	**33**	*e*P		**P**	**03 17 50.0**	**-0.2**
H42A	comp=Z,7µm,20.0s			LR		LR		
H42A	**Shiocton** baz=228,SNR=10	**65.87**	**33**	P		**P**	**03 17 49.8**	**-0.4**
SDDR	**Presa de Saban** comp=Z,32nm,0.9s	**65.87**	**65**	*e*P		**P**	**03 17 51.3**	**+0.5**
P51A	**Williamsport** comp=Z,77nm,1.0s	**65.94**	**40**	*e*P		**P**	**03 17 50.0**	**-0.7**
P51A	comp=Z,2µm,21.0s			LR		LR		
P51A	**Williamsport** baz=234,SNR=10	**65.94**	**40**	P		**P**	**03 17 49.8**	**-0.9**
O50A	**Cable** baz=234,SNR=24	**65.97**	**39**	P		**P**	**03 17 50.1**	**-0.8**
G41A	**Antigo** baz=227,SNR=9.4	**66.00**	**32**	P		**P**	**03 17 50.4**	**-0.7**
F40A	**Park Falls** baz=226,SNR=12	**66.00**	**31**	P		**P**	**03 17 50.5**	**-0.5**
R53A	**Hurricane** baz=236,SNR=5.3	**66.00**	**41**	P		**P**	**03 17 50.6**	**-0.5**
N49A	**Columbus Grove** comp=Z,64nm,0.9s	**66.09**	**38**	*e*P		**P**	**03 17 51.0**	**-0.7**
N49A	comp=Z,2µm,21.0s			LR		LR		
N49A	**Columbus Grove** baz=233,SNR=9.7	**66.09**	**38**	P		**P**	**03 17 51.0**	**-0.7**
E39A	**Mellen** baz=226,SNR=12	**66.10**	**30**	P		**P**	**03 17 50.8**	**-0.8**
M48A	**Edgerton**	**66.10**	**37**	PFAKE			03 18 00.0	+8.3
M48A	comp=Z,3µm,21.0s			LR		LR		
M48A	**Edgerton** baz=232	**66.10**	**37**	P		**P**	**03 17 50.8**	**-1.0**
T55A	**Pulaski** baz=237,SNR=8.1	**66.11**	**43**	P		**P**	**03 17 51.6**	**-0.3**
L47A	**Sherwood** baz=232,SNR=11	**66.11**	**37**	P		**P**	**03 17 50.9**	**-0.9**
Q52A	**Bidwell** baz=235,SNR=9.2	**66.15**	**41**	P		**P**	**03 17 51.0**	**-1.1**
K46A	**Dorr** baz=231	**66.22**	**36**	P		**P**	**03 17 51.8**	**-0.6**
H43A	**Windswept, Lux** comp=Z,108nm,0.8s	**66.25**	**33**	*e*P		**P**	**03 17 52.4**	**-0.2**
H43A	comp=Z,4µm,19.0s			LR		LR		
H43A	**Windswept, Lux** baz=229,SNR=6.5	**66.25**	**33**	P		**P**	**03 17 52.0**	**-0.7**
X59A	**McDuffie Farm,** baz=240	**66.31**	**46**	P		**P**	**03 17 53.1**	**-0.1**
J45A	**Montague** baz=230	**66.34**	**35**	P		**P**	**03 17 52.6**	**-0.6**
F41A	**Three Lakes** comp=Z,126nm,0.9s	**66.39**	**31**	*e*P		**P**	**03 17 53.5**	**-0.1**
F41A	comp=Z,5µm,21.0s			LR		LR		
F41A	**Three Lakes** baz=227,SNR=26	**66.39**	**31**	P		**P**	**03 17 53.4**	**-0.1**
BLA	**Blacksburg** comp=Z,56nm,1.0s	**66.41**	**43**	*e*P		**P**	**03 17 53.5**	**-0.4**
BLA	comp=Z,2µm,19.0s			LR		LR		
BLA	**Blacksburg** baz=238,SNR=5.8	**66.41**	**43**	P		**P**	**03 17 53.5**	**-0.4**
G42A	**Mountain** comp=Z,112nm,0.9s	**66.41**	**32**	*e*P		**P**	**03 17 53.4**	**-0.3**
G42A	comp=Z,5µm,20.0s			LR		LR		
G42A	**Mountain** baz=228,SNR=13	**66.41**	**32**	P		**P**	**03 17 53.2**	**-0.4**
ACSO	**Alum Creek Sta** comp=Z,64nm,0.9s	**66.42**	**39**	*e*P		**P**	**03 17 53.5**	**-0.3**
ACSO	comp=Z,2µm,18.0s			LR		LR		
ACSO	**Alum Creek Sta** baz=234,SNR=12	**66.42**	**39**	P		**P**	**03 17 53.0**	**-0.8**
E40A	**Wakefield** baz=226,SNR=7.9	**66.47**	**30**	P		**P**	**03 17 53.9**	**-0.2**
ULM	**Lac du Bonnet** comp=Z,80nm,1.0s	**66.54**	**24**	*e*P		**P**	**03 17 53.2**	**-1.1**
ULM	**Lac du Bonnet** comp=Z,53nm,0.9s,baz=224,slow=6.9,SNR=75	**66.54**	**24**	P		**P**	**03 17 53.4**	**-1.0**
M49A	**Liberty Center** baz=233,SNR=9.6	**66.54**	**38**	P		**P**	**03 17 54.1**	**-0.4**
R54A	**Victor** baz=237,SNR=7.2	**66.55**	**42**	P		**P**	**03 17 54.2**	**-0.5**
L48A	**N Adams** baz=232,SNR=7.5	**66.55**	**37**	P		**P**	**03 17 54.0**	**-0.6**
Q53A	**Leroy** baz=236,SNR=8.9	**66.57**	**41**	P		**P**	**03 17 54.3**	**-0.5**
O51A	**Pataskala** baz=235,SNR=23	**66.61**	**39**	P		**P**	**03 17 54.3**	**-0.8**
P52A	**Corning** baz=235,SNR=8.4	**66.61**	**40**	P		**P**	**03 17 54.1**	**-1.0**
COWI	**Conover** comp=Z,166nm,0.9s	**66.62**	**31**	*e*P		**P**	**03 17 55.2**	**+0.2**
COWI	comp=Z,6µm,18.0s			LR		LR		
N50A	**Nevada** baz=234,SNR=7.6	**66.63**	**39**	P		**P**	**03 17 54.7**	**-0.5**
S55A	**Lewisburg** baz=237,SNR=8.0	**66.65**	**43**	P		**P**	**03 17 55.2**	**-0.2**
K47A	**Vermontville** baz=232,SNR=7.5	**66.66**	**36**	P		**P**	**03 17 54.5**	**-0.8**
J46A	**Howard City** baz=231,SNR=12	**66.71**	**35**	P		**P**	**03 17 55.3**	**-0.3**
EYMN	**Ely** comp=Z,31nm,0.8s	**66.75**	**28**	*e*P		**P**	**03 17 55.1**	**-0.7**
EYMN	comp=Z,5µm,18.0s			LR		LR		
EYMN	**Ely** baz=224,SNR=6.8	**66.75**	**28**	P		**P**	**03 17 55.0**	**-0.8**
I45A	**Fountain** baz=230	**66.81**	**34**	P		**P**	**03 17 55.8**	**-0.4**
G43A	**Wallace** comp=Z,127nm,0.8s	**66.81**	**32**	*e*P		**P**	**03 17 56.1**	**-0.1**
G43A	comp=Z,4µm,18.0s			LR		LR		
G43A	**Wallace** baz=228,SNR=12	**66.81**	**32**	P		**P**	**03 17 55.8**	**-0.4**
DLBC	**Dease Lake** comp=Z,89nm,0.9s	**66.86**	**1**	*e*P		**P**	**03 17 57.2**	**+0.9**
F42A	**Maple Grove Fa** baz=228,SNR=6.4	**66.91**	**32**	P		**P**	**03 17 55.9**	**-0.9**
E41A	**Kenton** baz=227,SNR=14	**66.96**	**31**	P		**P**	**03 17 56.4**	**-0.7**
P53A	**Whipple** comp=Z,116nm,1.2s	**67.01**	**41**	*e*P		**P**	**03 17 57.6**	**0.0**
P53A	comp=Z,2µm,20.0s			LR		LR		
P53A	**Whipple** baz=236,SNR=12	**67.01**	**41**	P		**P**	**03 17 57.1**	**-0.5**
L49A	**Milan** baz=233,SNR=10	**67.05**	**37**	P		**P**	**03 17 57.5**	**-0.3**
HNR	**Honiara**	**67.06**	**263**	PFAKE			03 18 10.0	+12
HNR	comp=Z,4µm,20.0s			LR		LR		
M50A	**Fremont** comp=Z,181nm,0.9s	**67.06**	**38**	*e*P		**P**	**03 17 57.9**	**0.0**
M50A	comp=Z,4µm,22.0s			LR		LR		
M50A	**Fremont** baz=234,SNR=18	**67.06**	**38**	P		**P**	**03 17 57.7**	**-0.2**
O52A	**Adamsville** comp=Z,58nm,0.9s	**67.08**	**40**	*e*P		**P**	**03 17 57.2**	**-0.8**
O52A	comp=Z,2µm,21.0s			LR		LR		
O52A	**Adamsville** baz=235,SNR=13	**67.08**	**40**	P		**P**	**03 17 57.2**	**-0.8**
Q54A	**Coxs Mills** baz=237,SNR=9.4	**67.09**	**41**	P		**P**	**03 17 57.9**	**-0.2**
J47A	**Sunmer** baz=232,SNR=11	**67.11**	**36**	P		**P**	**03 17 57.9**	**-0.3**
CNNC	**Cliffs of the**	**67.15**	**46**	PFAKE			03 18 10.0	+11
CNNC	comp=Z,2µm,18.0s			LR		LR		
R55A	**Marlinton** baz=237	**67.18**	**42**	P		**P**	**03 17 58.4**	**-0.4**
I46A	**Reed City** baz=231,SNR=5.0	**67.19**	**35**	P		**P**	**03 17 57.9**	**-0.7**
N51A	**Ashland** comp=Z,113nm,0.8s	**67.19**	**39**	*e*P		**P**	**03 17 58.5**	**-0.3**
N51A	comp=Z,4µm,21.0s			LR		LR		
N51A	**Ashland** baz=235,SNR=18	**67.19**	**39**	P		**P**	**03 17 58.3**	**-0.5**
AAM	**Ann Arbor** comp=Z,52nm,0.7s	**67.23**	**37**	*e*P		**P**	**03 17 58.9**	**0.0**
AAM	comp=Z,5µm,21.0s			LR		LR		
AAM	**Ann Arbor** baz=233,SNR=5.9	**67.23**	**37**	P		**P**	**03 17 58.7**	**-0.2**
K48A	**Perry** baz=232,SNR=13	**67.25**	**36**	P		**P**	**03 17 58.8**	**-0.3**
H45A	**Beulah** baz=230	**67.29**	**34**	P		**P**	**03 17 59.0**	**-0.3**
F43A	**Flat Rock, Esc** baz=229,SNR=22	**67.46**	**32**	P		**P**	**03 18 00.0**	**-0.3**
E42A	**Champion** baz=228	**67.47**	**31**	P		**P**	**03 17 59.7**	**-0.7**
PLIO	**Pelee Island,** baz=234,SNR=5.9	**67.52**	**38**	P		**P**	**03 18 00.5**	**-0.3**
O53A	**New Philadelph** baz=236,SNR=8.7	**67.55**	**40**	P		**P**	**03 18 00.4**	**-0.6**
M51A	**Elyria** baz=235,SNR=6.9	**67.55**	**39**	P		**P**	**03 18 00.6**	**-0.4**
N52A	**McGinn's Farm,** baz=235,SNR=6.1	**67.56**	**39**	P		**P**	**03 18 00.7**	**-0.4**
D41A	**Chassel**	**67.56**	**31**	PFAKE			03 18 10.0	+9.1
D41A	comp=Z,5µm,20.0s			LR		LR		
D41A	**Chassel** baz=227	**67.56**	**31**	P		**P**	**03 18 00.7**	**-0.2**
L50A	**Kingsville** baz=234,SNR=6.8	**67.58**	**38**	P		**P**	**03 18 00.3**	**-0.9**
Q55A	**Buckhannon** baz=237,SNR=12	**67.59**	**42**	P		**P**	**03 18 01.2**	**-0.2**
K49A	**Clarkson** baz=233,SNR=7.0	**67.63**	**37**	P		**P**	**03 18 01.4**	**-0.1**
P54A	**Burton** baz=237,SNR=14	**67.66**	**41**	P		**P**	**03 18 01.7**	**-0.1**
H46A	**Fife Lake** baz=231,SNR=8.6	**67.70**	**34**	P		**P**	**03 18 01.5**	**-0.4**
J48A	**Bridge Port** baz=234,SNR=6.4	**67.75**	**36**	P		**P**	**03 18 02.3**	**+0.1**
G45A	**Suttons Bay** baz=230	**67.77**	**34**	P		**P**	**03 18 01.9**	**-0.3**

I47A **Gladwin** 67.77 35 P P 03 18 02.0 -0.3
baz=232,SNR=5.6
C40A **Isle Royale Na** 67.86 30 PFAKE 03 18 20.0 +17
C40A LR LR
comp=Z,6µm,18.0s
C40A **Isle Royale Na** 67.86 30 P P 03 18 01.8 -0.9
baz=226
E43A **Lone Tree Farm** 67.91 32 eP P 03 18 03.1 -0.1
comp=Z,96nm,0.8s
E43A LR LR
comp=Z,6µm,19.0s
E43A **Lone Tree Farm** 67.91 32 P P 03 18 02.6 -0.5
baz=229,SNR=8.3
SKAG **Skagway** 67.92 358 eP P 03 18 04.4 +1.6
comp=Z,189nm,1.4s
F44A **Big Bay de Noc** 67.95 33 P P 03 18 03.0 -0.4
baz=229,SNR=12
FFC **Flin Flon** 67.98 18 eP P 03 18 03.1 -0.3
comp=Z,9.9nm,1.0s
FFC LR LR
comp=Z,6µm,19.0s
P55A **Reedsville** 68.03 41 P P 03 18 03.9 -0.2
baz=237,SNR=14
O54A **Avella** 68.04 40 P P 03 18 04.0 -0.1
baz=236,SNR=18
N53A **Lisbon** 68.09 40 P P 03 18 04.1 -0.3
baz=236,SNR=15
MCWV **Mont Chateau** 68.10 41 eP P 03 18 04.8 +0.3
comp=Z,41nm,1.0s
MCWV LR LR
comp=Z,1µm,19.0s
MCWV **Mont Chateau** 68.10 41 P P 03 18 04.4 -0.1
baz=237,SNR=8.8
J49A **Marlette** 68.16 36 P P 03 18 04.6 -0.2
baz=233,SNR=5.8
M52A **Chesterland** 68.18 39 P P 03 18 04.8 -0.1
baz=235,SNR=6.5
GLMI **Grayling** 68.21 34 eP P 03 18 05.5 +0.5
comp=Z,172nm,0.8s
GLMI LR LR
comp=Z,4µm,19.0s
GLMI **Grayling** 68.21 34 P P 03 18 05.0 -0.1
baz=231,SNR=10
F45A **CMU Biological** 68.25 33 P P 03 18 03.7 -1.6
baz=230
H47A **Mio** 68.30 35 P P 03 18 05.5 -0.1
baz=232,SNR=7.8
I48A **Sherman Twp** 68.33 35 P P 03 18 05.8 -0.1
baz=232,SNR=6.8
G46A **Petoskey** 68.38 34 P P 03 18 05.4 -0.7
baz=231,SNR=10
R58B **Mineral** 68.52 44 eP P 03 18 07.4 +0.3
comp=Z,60nm,1.1s
R58B LR LR
comp=Z,2µm,20.0s
R58B **Mineral** 68.52 44 P P 03 18 07.4 +0.3
baz=239,SNR=6.7
M53A **WI Miller and** 68.55 39 P P 03 18 07.0 -0.3
baz=236,SNR=8.0
E44A **Grand Marais A** 68.64 32 PFAKE 03 18 20.0 +12
E44A LR LR
comp=Z,5µm,18.0s
E44A **Grand Marais A** 68.64 32 P P 03 18 07.0 -0.6
baz=230
I49A **Point Hope** 68.69 36 P P 03 18 08.2 +0.1
baz=233,SNR=9.0
N54A **Moraine State** 68.71 40 eP P 03 18 08.6 +0.2
comp=Z,87nm,0.9s
N54A LR LR
comp=Z,3µm,21.0s
N54A **Moraine State** 68.71 40 P P 03 18 08.4 +0.1
baz=237,SNR=13
F46A **Macinaw City C** 68.72 34 P P 03 18 08.2 0.0
baz=231,SNR=13
O55A **Ligonier** 68.75 41 P P 03 18 08.5 0.0
baz=237,SNR=18
K51A **Iona Station** 68.76 38 P P 03 18 08.4 -0.1
baz=235,SNR=11
G47A **Hillman** 68.85 34 P P 03 18 09.4 +0.3
baz=232,SNR=13
H48A **Harrisville** 68.86 35 P P 03 18 09.7 +0.5
baz=233,SNR=5.8
E45A **Wooded Hills,** 68.86 33 P P 03 18 09.2 +0.1
baz=230,SNR=10
CBN **Corbin Frederi** 68.99 44 eP P 03 18 10.7 +0.6
comp=Z,113nm,1.1s
CBN LR LR
comp=Z,2µm,20.0s
CBN **Corbin Frederi** 68.99 44 P P 03 18 10.4 +0.4
baz=240
ALLY **Alegheny Colle** 68.99 39 eP P 03 18 10.1 +0.1
comp=Z,76nm,1.0s
ALLY LR LR
comp=Z,3µm,22.0s
TRQA **Tornquist** 69.05 127 eP P 03 18 10.6 0.0
comp=Z,27nm,1.0s
L53A **Girard** 69.09 39 P P 03 18 10.5 -0.1
baz=236,SNR=8.1
WHY **Whitehorse** 69.11 359 eP P 03 18 11.2 +0.8
comp=Z,190nm,1.6s
ELFO **Elginfield** 69.15 37 P P 03 18 11.0 +0.1
baz=235,SNR=12
M54A **Oil Creek Stat** 69.22 40 eP P 03 18 11.2 -0.3
comp=Z,47nm,0.8s
M54A LR LR
comp=Z,3µm,21.0s
M54A **Oil Creek Stat** 69.22 40 P P 03 18 11.3 -0.1
baz=237,SNR=7.9
N55A **Marion Center** 69.26 40 P P 03 18 11.5 -0.2
baz=237,SNR=9.1
O56A **Blue Knob Stat** 69.26 41 eP P 03 18 12.0 +0.2
comp=Z,71nm,0.8s
O56A LR LR
comp=Z,3µm,21.0s
O56A **Blue Knob Stat** 69.26 41 P P 03 18 11.8 +0.1
baz=238,SNR=16
K52A **Tillsonburg** 69.28 38 P P 03 18 11.4 -0.3
baz=235,SNR=7.1
E46A **Sault Ste Mari** 69.34 33 P P 03 18 11.9 -0.1
baz=231,SNR=15
ERPA **Erie** 69.35 39 eP P 03 18 12.6 +0.3
comp=Z,75nm,0.8s
ERPA LR LR
comp=Z,3µm,21.0s
ERPA **Erie** 69.35 39 P P 03 18 11.9 -0.3
baz=236
HYT **Haines Junctio** 69.37 357 eP P 03 18 13.2 +1.1
comp=Z,105nm,1.1s
BASO **Ashfield** 69.41 36 P P 03 18 12.1 -0.5
baz=234
HMT **Hamilton** 69.43 354 eP P 03 18 13.6 +1.2
comp=Z,357nm,1.1s
I51A **Listowel** 69.67 37 P P 03 18 14.3 +0.1
baz=235
BRCO **Bruce Peninsul** 69.68 36 P P 03 18 14.3 +0.1
baz=234
J52A **Paris** 69.68 38 P P 03 18 14.0 -0.2
baz=235,SNR=5.5
M55A **Ridgway** 69.77 40 P P 03 18 14.6 -0.2
baz=237,SNR=11
BWLO **Walkerton** 69.78 37 P P 03 18 15.2 +0.3
baz=235
D46A **Sault St. Mari** 69.81 33 P P 03 18 14.5 -0.5
baz=231,SNR=6.7
SSPA **Standing Stone** 69.89 41 eP P 03 18 15.6 0.0
comp=Z,96nm,1.4s
SSPA LR LR
comp=Z,2µm,22.0s
SSPA **Standing Stone** 69.89 41 P P 03 18 15.4 -0.1
baz=238
F48A **Evansville** 69.94 34 P P 03 18 15.5 -0.3
baz=233
E47A **Iron Bridge** 69.95 34 P P 03 18 15.6 -0.2
baz=232,SNR=12
SDMD **Soldier's Deli** 69.95 43 eP P 03 18 16.5 +0.5
comp=Z,17nm,1.0s
TYNO **Tyneside** 69.96 38 P P 03 18 15.6 -0.4
baz=236,SNR=7.7
BMRO **Meriville Lake** 70.01 36 P P 03 18 16.4 +0.1
baz=234
BMRM **Bremner River** 70.08 354 PFAKE 03 18 30.0 +14
BMRM LR LR
comp=Z,300nm,18.0s
ACTO **Acton** 70.13 37 P P 03 18 17.0 0.0
baz=236
TOBO **Tobermory, Bru** 70.20 35 P P 03 18 17.4 0.0
baz=234
F49A **Sandfield** 70.22 35 P P 03 18 17.4 -0.1
baz=233
I52A **Shelburne** 70.32 37 P P 03 18 17.8 -0.4
baz=235
L55A **Hinsdale** 70.35 39 P P 03 18 18.2 -0.2
baz=237,SNR=12
D47A **Chapleau** 70.42 33 P P 03 18 18.1 -0.6
baz=232
PAGS **Pennsylvania G** 70.44 42 PFAKE 03 18 30.0 +11
PAGS LR LR
comp=Z,3µm,21.0s
STCO **Saint Catharin** 70.45 38 P P 03 18 18.7 -0.3
baz=236
I53A **Kortright Cn E** 70.54 37 P P 03 18 19.4 0.0
baz=236
TORO **Toronto--Lesli** 70.57 38 P P 03 18 19.3 -0.4
baz=236
MVL **Millersville** 70.58 42 eP P 03 18 20.3 +0.5
comp=Z,40nm,1.0s
E48A **Lockeyer** 70.58 34 P P 03 18 19.7 0.0
baz=233,SNR=5.1
MEDO **Medina** 70.87 39 P P 03 18 21.0 -0.5
baz=237,SNR=5.4
K55A **Perry** 70.87 39 P P 03 18 21.0 -0.6
baz=238,SNR=5.8
PKRO **Pickering** 70.93 38 P P 03 18 21.6 -0.3
baz=236,SNR=7.9
MMNY **Mt. Morris Dam** 70.98 39 PFAKE 03 18 30.0 +7.8
MMNY LR LR
comp=Z,4µm,20.0s
KLBO **Killbear Provi** 71.03 36 P P 03 18 22.3 -0.2
baz=235,SNR=5.2
DRWO **Darlington Wes** 71.08 38 P P 03 18 22.6 -0.2
baz=237,SNR=5.6
CUPR **Culebra, Puert** 71.10 67 PFAKE 03 18 40.0 +17
CUPR LR LR
comp=Z,1µm,19.0s
DRCO **St. Marys Ceme** 71.10 38 P P 03 18 22.5 -0.4
baz=237
D48A **Paudash Townsh** 71.19 34 P P 03 18 22.6 -0.8
baz=233,SNR=10
WLVO **Wesleyville** 71.31 38 P P 03 18 24.0 -0.2
baz=237,SNR=5.7
J55A **Hilton** 71.32 39 P P 03 18 23.8 -0.4
baz=238
SADO **Sadowa** 71.33 37 eP P 03 18 24.1 -0.1
comp=Z,59nm,1.0s
SADO LR LR
comp=Z,4µm,21.0s
E50A **Wahnapitae** 71.34 35 P P 03 18 24.3 0.0
baz=234,SNR=9.5
N59A **State Game Lan** 71.42 42 eP P 03 18 24.7 -0.2
comp=Z,28nm,0.8s
N59A LR LR
comp=Z,4µm,19.0s
N59A **State Game Lan** 71.42 42 P P 03 18 24.9 0.0
baz=240
D49A **Beulah Townshi** 71.50 34 P P 03 18 24.5 -0.7
baz=234
LUPA **Lehigh Univers** 71.52 42 eP P 03 18 26.0 +0.4
comp=Z,4.7nm,1.0s
LUPA LR LR
comp=Z,300nm,19.0s
F51A **Arnstein** 71.53 36 P P 03 18 24.9 -0.6
baz=235,SNR=7.3
BUKO **Buck Lake** 71.55 36 P P 03 18 24.8 -0.8
baz=236,SNR=7.1
KSPA **Keystone Colle** 71.74 41 eP P 03 18 27.1 +0.3
comp=Z,27nm,0.8s
KSPA LR LR
comp=Z,5µm,21.0s
F52A **Sundridge** 71.80 36 P P 03 18 26.7 -0.4
baz=236
G53A **Haliburton** 71.83 37 P P 03 18 26.9 -0.4
baz=236,SNR=12
I55A **Frankford** 71.91 38 P P 03 18 27.1 -0.6
baz=238
BINY **Binghamton** 71.92 40 eP P 03 18 28.1 +0.1
comp=Z,87nm,0.8s
BINY LR LR
comp=Z,5µm,19.0s
BINY **Binghamton** 71.92 40 P P 03 18 28.0 +0.1
baz=239,SNR=13
BRNJ **Basking Ridge** 72.10 42 PFAKE 03 18 40.0 +11
BRNJ LR LR
comp=Z,5µm,18.0s
DELO **Deloro Mine** 72.11 38 P P 03 18 28.6 -0.4
baz=237,SNR=5.5
E51A **G1948 Merrick** 72.11 35 P P 03 18 28.7 -0.3
baz=235,SNR=7.5
PECO **Prince Edward** 72.18 38 P P 03 18 28.8 -0.5
baz=238,SNR=6.4
PTGA **Pitinga** 72.18 88 eP P 03 18 29.0 -1.1
comp=Z,14nm,0.8s
YKA **Yellowknife Ar** 72.19 8 P P 03 18 28.9 -0.1
comp=Z,17nm,0.7s,baz=189,slow=6.2,SNR=378
YKB5 **Yellowknife Ar** 72.19 8 eP P 03 18 27.6 -1.4
BANO **Bancroft** 72.19 37 P P 03 18 29.4 -0.1
baz=237,SNR=9.3
YKW3 **Yellowknife Ar** 72.25 8 eP P 03 18 28.4 -1.0
comp=Z,38nm,0.8s
ODNJ **Ogdensburg** 72.27 42 PFAKE 03 18 40.0 +10
ODNJ LR LR
comp=Z,4µm,20.0s
H55A **Tweed** 72.39 38 P P 03 18 30.2 -0.5
baz=238,SNR=6.2
E52A **Mattawa** 72.45 36 P P 03 18 30.8 -0.2
baz=236,SNR=9.3
D51A **Lot 18 Range I** 72.50 35 P P 03 18 31.0 -0.2
baz=235,SNR=13
CPUP **Villa Florida** 72.57 115 eP P 03 18 32.3 +0.2
comp=Z,19nm,1.0s
CPUP **Villa Florida** 72.57 115 P P 03 18 32.3 +0.2
comp=Z,12nm,0.9s,baz=280,slow=6.3,SNR=17
CPUP **Villa Florida** 72.57 115 eP P 03 18 32.8 +0.7
ALGO **Algonquin Park** 72.62 36 P P 03 18 31.4 -0.6
baz=237,SNR=5.4
PAL **Palisades** 72.69 42 eP P 03 18 32.8 +0.3
comp=Z,112nm,1.1s
PAL LR LR
comp=Z,5µm,20.0s
PAL **Palisades** 72.69 42 P P 03 18 32.5 0.0
baz=241,SNR=5.0
PLVO **Plevna** 72.71 37 eP P 03 18 32.7 +0.2
comp=Z,118nm,1.3s
PLVO LR LR
comp=Z,6µm,20.0s
PLVO **Plevna** 72.71 37 P P 03 18 32.6 0.0
baz=238,SNR=13
PEMO **Pembroke** 72.95 37 P P 03 18 33.7 -0.2
baz=237,SNR=11
H56A **Elgin** 72.97 38 P P 03 18 33.9 -0.2
baz=238,SNR=11
D52A **ZEK Kipawa Sen** 72.98 35 P P 03 18 33.9 -0.2
baz=236,SNR=14
G55A **Calabogie** 73.04 37 P P 03 18 34.2 -0.3
baz=238,SNR=10
E53A **Dumoine, Ponti** 73.08 36 P P 03 18 34.8 +0.1
baz=237
E54A **Lac Daplat, Po** 73.39 36 P P 03 18 36.3 -0.3
baz=237,SNR=20
D53A **Lac Vacive, Po** 73.44 35 P P 03 18 36.9 0.0
baz=237
YLE **Yale** 73.48 42 PFAKE 03 18 50.0 +13
YLE LR LR
comp=Z,4µm,21.0s
F55A **Otter Lake** 73.56 37 P P 03 18 37.4 -0.2
baz=238,SNR=6.9
TRY **Troy** 73.67 41 eP P 03 18 39.2 +0.9
comp=Z,60nm,1.2s
TRY LR LR
comp=Z,4µm,20.0s
FCC **Fort Churchill** 73.80 20 eP P 03 18 37.9 -0.7
comp=Z,92nm,1.6s
ORIO **Orleans, Innes** 73.87 38 P P 03 18 38.8 -0.6
baz=239
ARMA **Armidale** 73.91 241 eP P 03 18 47.0 +6.8
comp=Z,37nm,1.1s
NCB **Newcomb** 73.92 39 eP P 03 18 39.9 +0.2
comp=Z,33nm,0.8s
NCB LR LR
comp=Z,4µm,21.0s
ACCN **Adirondack Com** 73.99 40 eP P 03 18 40.1 0.0
comp=Z,34nm,0.8s
ACCN LR LR
comp=Z,4µm,22.0s
LONY **Lake Ozonia** 74.02 39 eP P 03 18 40.3 0.0
comp=Z,96nm,1.0s
LONY LR LR
comp=Z,4µm,22.0s
LONY **Lake Ozonia** 74.02 39 P P 03 18 40.1 -0.2
baz=240,SNR=25
ILAR **Eielson Array** 74.04 353 LR LR 03 42 26.8
comp=Z,1µm,21.4s,baz=1.5,slow=29
D54A **Lac Fusel, La** 74.08 36 P P 03 18 39.9 -0.7
baz=238,SNR=14
VLDQ **Val d'Or** 74.14 35 eP P 03 18 39.6 -1.3
comp=Z,53nm,1.1s
AQDB **Aquidauana** 74.30 109 eP P 03 18 42.6 +0.2
QUA2 **Belchertown** 74.32 42 PFAKE 03 18 50.0 +7.9
QUA2 LR LR
comp=Z,4µm,20.0s
ALFO **Alfred** 74.34 38 P P 03 18 41.9 -0.1
baz=239,SNR=11
BRYW **Bryant College** 74.69 42 PFAKE 03 19 00.0 +16
BRYW LR LR
comp=Z,4µm,18.0s
FRNY **Flat Rock** 74.74 39 eP P 03 18 44.6 +0.1
comp=Z,52nm,1.1s
FRNY LR LR
comp=Z,4µm,20.0s
TRQ **Mont Tremblant** 74.84 37 eP P 03 18 44.7 -0.4
LSQQ **Lebel-sur-Quev** 74.92 34 P P 03 18 44.9 -0.5
baz=237
HRV **Adam Dziewonsk** 74.94 42 PFAKE 03 19 00.0 +14
HRV LR LR
comp=Z,4µm,21.0s
HRV **Adam Dziewonsk** 74.94 42 P P 03 18 45.8 +0.1
baz=243
MATQ **Matagami** 74.95 33 P P 03 18 44.9 -0.7
baz=236,SNR=20
VT1 **Waterbury** 75.02 40 eP P 03 18 46.6 +0.4
comp=Z,38nm,1.0s
VT1 LR LR
comp=Z,4µm,20.0s
HNH **Hanover** 75.02 40 eP P 03 18 46.9 +0.7
comp=Z,60nm,1.1s
HNH LR LR
comp=Z,4µm,20.0s
WES **Weston** 75.05 42 PFAKE 03 19 00.0 +14
WES LR LR
comp=Z,4µm,20.0s
BCX **Boston College** 75.12 42 PFAKE 03 19 00.0 +13
BCX LR LR
comp=Z,4µm,19.0s
FFD **Franklin Falls** 75.32 41 PFAKE 03 19 00.0 +12
FFD LR LR
comp=Z,5µm,20.0s
RABL **Rabaul** 75.34 268 PFAKE 03 19 00.0 +11
RABL LR LR
comp=Z,2µm,20.0s
LBNH **Lisbon** 75.50 40 eP P 03 18 49.6 +0.7
comp=Z,94nm,1.6s
LBNH LR LR
comp=Z,5µm,20.0s
LBNH **Lisbon** 75.50 40 P P 03 18 49.3 +0.4
baz=242
PLTB **Pedras Altas** 75.71 121 eP P 03 18 48.1 -2.4
SBA **Scott Base** 75.72 191 eP P 03 18 56.2 +6.6
comp=Z,31nm,1.4s
CPSB **Cacapava Do Su** 75.89 119 eP P 03 18 49.8 -1.7
LATQ **La Tuque** 76.47 37 P P 03 18 53.9 -0.5
baz=241,SNR=11
VNDA **Vanda** 76.54 192 eP P 03 18 55.7 +1.4
comp=Z,18nm,1.0s
VNDA **Vanda** 76.54 192 P P 03 18 54.9 +0.6
comp=Z,7.6nm,0.9s,baz=58,slow=4.8,SNR=29
CHGQ **Chibougamau** 76.82 34 P P 03 18 55.4 -0.9
baz=239,SNR=19
WVL **Waterville** 77.10 41 eP P 03 18 58.4 +0.4
comp=Z,56nm,1.0s
WVL LR LR
comp=Z,8µm,21.0s
C2SB **Chapadao do Su** 77.11 107 eP P 03 18 56.1 -2.5
ITAB **Concordia** 77.18 116 eP P 03 18 56.7 -2.2
PKME **Peaks-Kenny Pk** 77.64 40 PFAKE 03 19 10.0 +9.1
PKME LR LR
comp=Z,7µm,21.0s
PKME **Peaks-Kenny Pk** 77.64 40 P P 03 19 00.8 -0.1
baz=244
EMMW **East Machias** 78.58 41 PFAKE 03 19 20.0 +14
EMMW LR LR
comp=Z,9µm,19.0s
PQI **Presque Isle** 79.05 39 eP P 03 19 08.6 -0.1
comp=Z,58nm,1.0s
PQI LR LR
comp=Z,7µm,19.0s
GGN **Saint George** 79.15 41 PFAKE 03 19 20.0 +11
GGN LR LR
comp=Z,6µm,20.0s
CTAO **Charters Tower** 79.33 251 PFAKE 03 19 20.0 +9.1
CTAO LR LR
comp=Z,2µm,21.0s
ITRB **Iturama** 79.36 108 eP P 03 19 07.9 -3.2
MANU **Manus Island** 80.39 269 PFAKE 03 19 30.0 +13
MANU LR LR
comp=Z,4µm,19.0s
BATG **Bathurst New B** 80.52 39 eP P 03 19 16.5 -0.2
comp=Z,49nm,0.8s
LMN **Caledonia Moun** 80.75 41 eP P 03 19 17.5 -0.5
comp=Z,71nm,0.9s
LMN LR LR
comp=Z,6µm,22.0s
HAL **Halifax** 81.10 42 eP P 03 19 20.1 +0.3
comp=Z,68nm,0.9s
HAL LR LR
comp=Z,5µm,20.0s
QSPA **South Pole Qui** 81.42 180 eP P 03 19 21.9 +0.6
comp=Z,36nm,1.4s
BDFB **Brasilia** 82.02 105 eP P 03 19 26.3 +0.8
BDFB **Brasilia** 82.02 105 P P 03 19 25.9 +0.4
comp=Z,37nm,0.9s,baz=257,slow=4.6,SNR=40
GBN **Guysborough** 82.75 42 eP P 03 19 28.8 +0.3
comp=Z,54nm,0.9s
GBN LR LR
comp=Z,6µm,19.0s
SCHQ **Schefferville** 83.21 32 eP P 03 19 29.4 -1.3
comp=Z,45nm,0.9s
SCHQ **Schefferville** 83.21 32 P P 03 19 29.6 -1.2
comp=Z,30nm,0.8s,baz=256,slow=4.2,SNR=34
PETK **Petropavlovsk-** 85.27 325 P P 03 19 41.3 +0.1
comp=Z,24nm,0.9s,baz=102,slow=6.1,SNR=3.3
PEA1 **Petropavlovsk-** 85.27 325 eP P 03 19 41.3 +0.1
JANB **Januaria** 85.63 104 eP P 03 19 37.6 -6.4
MCI8 **Montes Claros** 85.79 106 eP P 03 19 39.0 -5.7
MCI6 **Montes Claros** 85.80 106 eP P 03 19 38.2 -6.6
MCI9 **Montes Claros** 85.81 106 eP P 03 19 39.2 -5.6
RES **Resolute Bay** 86.23 9 eP P 03 19 44.2 -1.3
comp=Z,62nm,0.9s
DUB01 **Friburgo-RJ** 86.51 112 eP P 03 19 41.7 -6.5
DRLN **Deer Lake** 86.56 39 eP P 03 19 46.8 -0.9
comp=Z,94nm,0.8s
SJMB **Sao Joao De Ma** 88.09 109 eP P 03 19 48.7 -7.1
BSFB **Barra de Sao F** 88.39 109 eP P 03 19 50.3 -6.9
RIB01 **Linhares ES** 88.74 109 eP P 03 19 51.6 -7.3
AS01 **Alice Springs** 90.21 246 eP P 03 20 05.2 -0.5
AS01 ePcP sP 03 20 10.9 -0.3
AS31 **Alice Springs** 90.25 246 eP P 03 20 05.6 -0.4
comp=Z,3.7nm,1.4s
ASAR **Alice Springs** 90.25 246 P P 03 20 05.6 -0.4
comp=Z,1.6nm,0.8s,baz=103,slow=4.5,SNR=11
WR0 **Warramunga Arr** 90.27 250 PFAKE 03 20 20.0 +14
WR0 LR LR
comp=Z,2µm,22.0s
WR7 **Warramunga Arr** 90.33 250 PFAKE 03 20 20.0 +14
WR7 LR LR
comp=Z,2µm,22.0s
WR6 **Warramunga Arr** 90.35 250 PFAKE 03 20 20.0 +14
WR6 LR LR
comp=Z,2µm,22.0s
WR5 **Warramunga Arr** 90.37 250 PFAKE 03 20 20.0 +13
WR5 LR LR
comp=Z,2µm,22.0s
WR4 **Warramunga Arr** 90.39 250 PFAKE 03 20 20.0 +13
WR4 LR LR
comp=Z,2µm,22.0s
WR3 **Warramunga Arr** 90.41 250 PFAKE 03 20 20.0 +13
WR3 LR LR
comp=Z,2µm,22.0s
WC3 **Warramunga Arr** 90.42 250 PFAKE 03 20 20.0 +13
WC3 LR LR
comp=Z,3µm,22.0s
WB0 **Warramunga Arr** 90.44 250 PFAKE 03 20 20.0 +13
WB0 LR LR
comp=Z,1µm,19.0s

WC2	**Warramunga Arr**	**90.44**	**250**	PFAKE			03 20 20.0	+13
WC2				LR	LR			
	comp=Z,3μm,22.0s							
WR2	**Warramunga Arr**	**90.44**	**250**	PFAKE			03 20 20.0	+13
WR2				LR	LR			
	comp=Z,2μm,22.0s							
WB8	**Warramunga Arr**	**90.44**	**250**	PFAKE			03 20 20.0	+13
WB8				LR	LR			
	comp=Z,2μm,22.0s							
WB9	**Warramunga Arr**	**90.44**	**250**	PFAKE			03 20 20.0	+13
WB9				LR	LR			
	comp=Z,5μm,22.0s							
WB5	**Warramunga Arr**	**90.44**	**250**	PFAKE			03 20 20.0	+13
WB5				LR	LR			
	comp=Z,2μm,22.0s							
WB2	**Warramunga Arr**	**90.45**	**250**	*e*P	**P**		**03 20 07.3**	**+0.5**
WRAB	**Tennant Creek**	**90.45**	**250**	PFAKE			03 20 20.0	+13
WRAB				LR	LR			
	comp=Z,3μm,22.0s							
WR1	**Warramunga Arr**	**90.46**	**250**	*e*P	**P**		**03 20 07.2**	**+0.3**
	comp=Z,62nm,1.9s							
WRA	**Warramunga Arr**	**90.46**	**250**	P	**P**		**03 20 07.2**	**+0.3**
	comp=Z,4.0nm,1.1s,baz=91,slow=4.7,SNR=9.7							
TULEG	**Thule**	**92.33**	**12**	*e*P	**P**		**03 20 12.8**	**-1.5**
	comp=Z,145nm,1.5s							
FORT	**Forrest**	**94.03**	**238**	PFAKE			03 20 30.0	+6.8
FORT				LR	LR			
	comp=Z,2μm,21.0s							
IVI	**Ivigtut**	**94.56**	**29**	PFAKE			03 20 40.0	+15
IVI				LR	LR			
	comp=Z,4μm,20.0s							
JOW	**Kunigami**	**102.44**	**296**	PFAKE			03 21 10.0	+8.9
JOW				LR	LR			
	comp=Z,1μm,18.0s							
FIA0	**FINESS Array S**	**124.87**	**13**	*e*PKPdf	**PKPdf**		**03 26 02.7**	**-1.5**
FINES	**FINESS Array B**	**124.87**	**13**	PKP	**PKPdf**		**03 26 02.7**	**-1.5**
	comp=Z,7.1nm,0.9s,baz=117,slow=0.6,SNR=3.8							
DBIC	**Dimbokro**	**127.66**	**88**	*e*PKPdf	**PKPdf**		**03 26 10.2**	**-0.8**
DBIC	**Dimbokro**	**127.66**	**88**	PKP	**PKPdf**		**03 26 09.4**	**-1.5**
	comp=Z,7.4nm,1.0s,baz=150,slow=2.7,SNR=6.4							
CLL	**Collm**	**128.67**	**27**	*e*PKPdf	**PKiKP**		**03 26 13.0**	**+0.6**
KOWA	**Kowa**	**128.84**	**78**	PFAKE			03 26 20.0	+6.2
KOWA				LR	LR			
	comp=Z,1μm,19.0s							
CM31	**Chiang Mai Arr**	**129.62**	**287**	*e*PKPdf	**PKPdf**		**03 26 15.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**129.62**	**287**	PKP	**PKPdf**		**03 26 15.1**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=170,slow=0.5,SNR=4.7							
TOC5	**Torodi Ar. Sit**	**134.39**	**80**	PFAKE			03 26 40.0	+15
TOC5				LR	LR			
	comp=Z,2μm,18.0s							
TOC7	**Torodi Ar. Sit**	**134.39**	**80**	PFAKE			03 26 40.0	+15
TOC7				LR	LR			
	comp=Z,2μm,18.0s							
TOB5	**Torodi Ar. Sit**	**134.39**	**80**	PFAKE			03 26 40.0	+15
TOB5				LR	LR			
	comp=Z,2μm,18.0s							
TOB4	**Torodi Ar. Sit**	**134.40**	**80**	PFAKE			03 26 40.0	+15
TOB4				LR	LR			
	comp=Z,2μm,20.0s							
TOA1	**Torodi Ar. Sit**	**134.41**	**80**	*e*PKPdf	**PKPdf**		**03 26 22.3**	**-1.4**
TOA1				LR	LR			
	comp=Z,2μm,18.0s							
TOA3	**Torodi Ar. Sit**	**134.41**	**80**	PFAKE			03 26 40.0	+15
TOA3				LR	LR			
	comp=Z,2μm,21.0s							
TOA0	**Torodi Ar. Sit**	**134.41**	**80**	*e*PKPdf	**PKPdf**		**03 26 22.5**	**-1.2**
TOA0				LR	LR			
	comp=Z,2μm,20.0s							
TORD	**Torodi Ar. Bea**	**134.41**	**80**	PKP	**PKPdf**		**03 26 22.3**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=328,slow=2.8,SNR=10							
TOC4	**Torodi Ar. Sit**	**134.41**	**80**	PFAKE			03 26 40.0	+15
TOC4				LR	LR			
	comp=Z,2μm,18.0s							
TOC1	**Torodi Ar. Sit**	**134.41**	**80**	PFAKE			03 26 40.0	+15
TOC1				LR	LR			
	comp=Z,2μm,19.0s							
TOB3	**Torodi Ar. Sit**	**134.42**	**80**	PFAKE			03 26 40.0	+15
TOB3				LR	LR			
	comp=Z,2μm,18.0s							
TOB2	**Torodi Ar. Sit**	**134.42**	**80**	PFAKE			03 26 40.0	+15
TOB2				LR	LR			
	comp=Z,2μm,18.0s							
TOC2	**Torodi Ar. Sit**	**134.43**	**80**	PFAKE			03 26 40.0	+15
TOC2				LR	LR			
	comp=Z,2μm,20.0s							
TOC3	**Torodi Ar. Sit**	**134.43**	**80**	PFAKE			03 26 40.0	+15
TOC3				LR	LR			
	comp=Z,2μm,18.0s							
AKASG	**Malin Array Be**	**135.28**	**17**	PKP	**PKPdf**		**03 26 22.9**	**-1.4**
	comp=Z,4.0nm,0.8s,baz=339,slow=2.5,SNR=4.2							
AKASG				PP	**PP**		**03 28 56.0**	**-3.5**
	comp=Z,2.9nm,0.7s,baz=327,slow=6.3,SNR=6.9							
AKBB	**Malin Array Si**	**135.28**	**17**	*e*PKPdf	**PKPdf**		**03 26 22.9**	**-1.4**
AKBB				*e*PP	**PP**		**03 28 56.0**	**-3.5**
TAM	**Tamanrasset**	**136.97**	**66**	*e*PKPpre	PKPpre		03 26 16.3	
TAM	**Tamanrasset**	**136.97**	**66**	*e*P	PKPpre		03 26 16.3	
BOSA	**Boshof**	**136.97**	**150**	PKP	**PKPdf**		**03 26 28.0**	**-0.3**
	comp=Z,8.5nm,1.0s,baz=154,slow=6.0,SNR=6.6							
TSUM	**Tsumeb**	**139.25**	**133**	*e*PKPdf	**PKPdf**		**03 26 32.7**	**-0.1**
TSUM				LR	LR			
	comp=Z,1μm,20.0s							
KSH	**Kashi**	**140.33**	**325**	PKP	**PKPdf**		**03 26 32.9**	**-1.2**
KSH				PP	**PP**		**03 29 36.0**	**+4.4**
KSH				AMB	AMB			
	comp=Z,100nm,5.2s							
ILGA	**Ilgaz**	**145.33**	**19**	*e*PKPbc	**PKPbc**		**03 26 42.8**	**0.0**
NIL	**Nilore**	**145.89**	**321**	*e*PKPdf	**PKPab**		**03 26 47.0**	**+2.0**
ANTO	**Ankara**	**146.07**	**21**	*e*PKPdf	**PKPdf**		**03 26 44.2**	**+0.1**
BR231	**Keskin MP Arra**	**146.09**	**21**	*e*PKPdf	**PKPdf**		**03 26 44.7**	**+0.5**
BR101	**Keskin Array S**	**146.50**	**20**	*e*PKPdf	**PKPdf**		**03 26 44.7**	**-0.3**
BR101				*e*PP	**PP**		**03 30 06.5**	**-1.8**
BR131	**Keskin Array S**	**146.50**	**20**	*e*PKPdf	**PKPdf**		**03 26 45.0**	**0.0**
BRTR	**Keskin Array B**	**146.50**	**20**	PKPbc	**PKPdf**		**03 26 44.7**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=48,slow=2.1,SNR=5.6							
BRTR				PP	**PP**		**03 30 06.5**	**-1.8**
	comp=Z,4.0nm,1.2s,baz=298,slow=6.2,SNR=4.6							
HYB	**Hyderabad**	**148.97**	**289**	*i* P	**PKPbc**		**03 26 52.5**	**-1.0**
LSZ	**Lusaka**	**149.22**	**140**	*e*PKPbc	**PKPbc**		**03 26 54.6**	**+0.2**
LSZ				LR	LR			
	comp=Z,2μm,20.0s							
CSS	**Mathiatis**	**150.57**	**25**	*e*PKPbc	**PKPbc**		**03 26 56.5**	**-0.5**

*BGR **13** 03:12:49.9±0.0, 59.75N×163.68E, h14km, mb6.0, mB_BB6.2, Ms5.3*

*IDC **13** 03:12:50.9±0.3, 60.14N×163.52E, h0km, mb5.3/46, mb1 5.4/49, mb1mx5.4/55, mbtmp5.3/49, ML5.8/2, MS5.4/42, Ms1 5.4/42, ms1mx5.4/52, Error ellipse: s-maj=9.4km s-min=7.3km az=165.0*

*BJI **13** 03:12:50.7, 60.20N×163.40E, h10km, mb5.6/82, mB5.9/73, Ms6.2/94, Ms7 6.0/88*

*ISCJB **13** 03:12:51.4±0.5, 60.26N±0.01×163.52E±0.02, h12km±3km, mb5.6/702, MS5.7/707, Error ellipse: s-maj=2.3km s-min=1.4km az=159.9*

*NEIC **13** 03:12:52.2±2.0, 60.23N×163.40E, h5km±1km, mb5.7/604, MS5.6/690, MW5.8, MW5.8, Error ellipse: s-maj=10.8km s-min=9.2km az=166.0, Moment Tensor Solution. s109 Moment tensor: Scale 10^17^Nm; Mrr3.12; Mθθ0.27; Mφφ-3.39; Mrθ-0.73; Mθφ3.26; Mφr-2.72; Best double couple: M0 5.40000×10^17^ NP1:φ179.00000°, δ66.00000°, λ127.00000°. NP2:φ297.00000°, δ43.00000°, λ36.00000°. Principal axes: T 4.9500, Plg53.0000°, Azm135.0000°; N 0.8200, Plg34.0000°, Azm342.0000°; P -5.7700, Plg13.0000°, Azm243.0000°;*

*MOS **13** 03:12:52.9±1.0, 60.26N×163.40E, h21km, mb5.9/129, MS5.7/138 Error ellipse: s-maj=7.1km s-min=2.9km az=79.7*

MOS Felt (V-VI) Ossora; (V) at Ilpyrskiy; (IV-V) at Tymlat, Karaga, Kostroma (IV) at Vyvenka, Korf, Tilichiki; (III-IV) at Lesnoi; (III) at Ivashka, Khailino, Palana, Talovka; (II-III) at Ledyanoe.

*KRSC **13** 03:12:52.9±10.0, 60.08N×163.47E, h24km±10km, ML6.2, FELT [felt] at GMS Chemurnaut; [V-VI] at Ossora; [V] at Ilpyrskiy; [IV-V] at Tymlat, Karaga, Kostroma; [IV] at Vivenka, Korf, Tilichiki; [III-IV] at Lesnay; [III] at Ivashka, Khailino, Palana, Talovka; [II-III] at Ledyanoe.*

*NEIC **13** 03:12:53.0±0.0, 60.31N×163.16E, h15km, Moment Tensor Solution. s86 Moment tensor: Scale 10^17^Nm; Mrr3.97; Mθθ-0.58; Mφφ-3.39; Mrθ-0.48; Mθφ2.96; Mφr-4.25;*

Best double couple: M0 6.40000×10^17^ NP1:φ173.00000°, δ68.00000°, λ115.00000°. NP2:φ301.00000°, δ33.00000°, λ43.00000°. Principal axes: T 6.3400, Plg58.0000°, Azm119.0000°; N 0.0900, Plg23.0000°, Azm343.0000°; P -6.4300, Plg19.0000°, Azm244.0000°;

*GCMT **13** 03:12:55.2±0.1, 60.23N±0.01×163.61E±0.01, h12km, MW5.8/123, Moment Tensor Solution. s109,c229; s123,c382; Duration: 1s9 Moment tensor: Scale 10^17^ Nm; Mrr4.13±.05; Mθθ0.43±.05; Mφφ-4.57±.04; Mrθ-0.44±.13; Mθφ4.04±.04; Mφr-2.60±.12; Best double couple: M0 6.33000×10^17^ NP1:φ176.00000°, δ62.00000°, λ124.00000°. NP2:φ301.00000°, δ43.00000°, λ44.00000°. Principal axes: T 5.4580, Plg58.0000°, Azm135.0000°; N 1.7400, Plg30.0000°, Azm339.0000°; P -7.2020, Plg11.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 13 03:12:52.7±0.4, 60.11N±0.02×163.51E±0.02, h10km±2km, h10km:pP-P, n2299, σ1963/2393, mb5.7/733, MS5.7/711, 142C-30D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
OSSR	**Ossora**	**0.89**	**195**	P		**Pg**	**03 13 08.1**	**-1.6**	
OSSR				S		**Sg**	**03 13 20.3**	**-1.0**	
OSSR	**Ossora**	**0.89**	**195**	PN		**Pg**	**03 13 08.1**	**-1.6**	
OSSR				S		**Sg**	**03 13 20.3**	**-1.0**	
TILK	**Tilichiki**	**1.36**	**74**	P		**Pn**	**03 13 17.1**	**-0.6**	
TILK				*e*S		**Sg**	**03 13 36.9**	**+0.6**	
TILK	**Tilichiki**	**1.36**	**74**	PN		**Pn**	**03 13 17.1**	**-0.6**	
TILK				S		**Sg**	**03 13 36.9**	**+0.6**	
PALN	**Palana**	**2.07**	**242**	*e*P		**Pn**	**03 13 26.3**	**-1.2**	
PALN				S		**Sn**	**03 13 52.9**	**-0.4**	
PALN	**Palana**	**2.07**	**242**	PN		**Pn**	**03 13 26.3**	**-1.2**	
PALN				S		**Sn**	**03 13 52.9**	**-0.4**	
KMSK	**Kamenskaya**	**2.70**	**28**	*e*P		**Pn**	**03 13 35.6**	**-0.5**	
KMSK				S		**Sb**	**03 14 13.2**	**-1.0**	
KMSK	**Kamenskaya**	**2.70**	**28**	PN		**Pn**	**03 13 35.6**	**-0.5**	
KMSK				S		**Sb**	**03 14 13.2**	**-1.0**	
SRKR	**Sorokina**	**3.67**	**201**	*e*P		**Pn**	**03 13 50.9**	**+1.3**	
SRKR	**Sorokina**	**3.67**	**201**	PN		**Pn**	**03 13 50.9**	**+1.3**	
SMKR	**Semkarok**	**3.69**	**198**	*e*P		**Pn**	**03 13 51.4**	**+1.5**	
SMKR	**Semkarok**	**3.69**	**198**	PN		**Pn**	**03 13 51.4**	**+1.5**	
BDR	**Baidarnaya**	**3.75**	**200**	*e*P		**Pn**	**03 13 51.6**	**+1.0**	
BDR	**Baidarnaya**	**3.75**	**200**	PN		**Pn**	**03 13 51.6**	**+1.0**	
KBG	**Krutoberegovo**	**3.89**	**187**	*e*P		**Pn**	**03 13 54.3**	**+1.9**	
KBG	**Krutoberegovo**	**3.89**	**187**	PN		**Pn**	**03 13 54.3**	**+1.9**	
KBTR	**Krutoberegovo**	**3.93**	**186**	*e*P		**Pn**	**03 13 53.3**	**+0.3**	
KBTR				S		**Sn**	**03 14 41.5**	**+2.4**	
KBTR	**Krutoberegovo**	**3.93**	**186**	PN		**Pn**	**03 13 53.3**	**+0.3**	
KLY	**Klyuchi**	**4.09**	**203**	*e*P		**Pn**	**03 13 56.0**	**+0.7**	
KLY	**Klyuchi**	**4.09**	**203**	PN		**Pn**	**03 13 56.0**	**+0.7**	
CIRR	**Tsirk**	**4.26**	**201**	*e*P		**Pn**	**03 14 00.0**	**+2.3**	
CIRR	**Tsirk**	**4.26**	**201**	PN		**Pn**	**03 14 00.0**	**+2.3**	
SRDR	**Sredinnyy**	**4.30**	**209**	*e*P		**Pn**	**03 14 00.6**	**+2.5**	
SRDR	**Sredinnyy**	**4.30**	**209**	PN		**Pn**	**03 14 00.6**	**+2.5**	
LGNR	**Loginova**	**4.30**	**202**	P		**Pn**	**03 14 00.4**	**+2.0**	
LGNR	**Loginova**	**4.30**	**202**	PN		**Pn**	**03 14 00.4**	**+2.0**	
ZLN	**Zelenaya**	**4.34**	**200**	P		**Pn**	**03 14 01.6**	**+2.8**	
ZLN	**Zelenaya**	**4.34**	**200**	PN		**Pn**	**03 14 01.6**	**+2.8**	
BZGR	**Bezymyannyi-Gr**	**4.44**	**201**	*e*P		**Pn**	**03 14 02.8**	**+2.7**	
BZGR	**Bezymyannyi-Gr**	**4.44**	**201**	PN		**Pn**	**03 14 02.8**	**+2.7**	
BZWR	**Bezymyannyi-We**	**4.45**	**202**	*e*P		**Pn**	**03 14 03.3**	**+2.9**	
BZWR	**Bezymyannyi-We**	**4.45**	**202**	PN		**Pn**	**03 14 03.3**	**+2.9**	
KIRR	**Kirishev**	**4.49**	**203**	*e*P		**Pn**	**03 14 03.3**	**+2.4**	
KIRR	**Kirishev**	**4.49**	**203**	PN		**Pn**	**03 14 03.3**	**+2.4**	
KOZ	**Kozyrevsk**	**4.50**	**207**	*e*P		**Pn**	**03 14 03.0**	**+2.2**	
KOZ	**Kozyrevsk**	**4.50**	**207**	PN		**Pn**	**03 14 03.0**	**+2.2**	
KPT	**Kopyto**	**4.50**	**204**	*e*P		**Pb**	**03 14 07.4**	**-4.4**	
KPT	**Kopyto**	**4.50**	**204**	PN		**Pb**	**03 14 07.4**	**-4.4**	
ESO	**Esso**	**4.91**	**213**	*e*P		**Pn**	**03 14 09.3**	**+2.8**	
ESO	**Esso**	**4.91**	**213**	PN		**Pn**	**03 14 09.3**	**+2.8**	
BKI	**Bering**	**5.09**	**164**	*e*P		**Pn**	**03 14 08.7**	**-0.2**	
BKI				*e*S		**Sn**	**03 15 06.1**	**-1.6**	
BKI	**Bering**	**5.09**	**164**	PN		**Pn**	**03 14 08.7**	**-0.2**	
TUMR	**Tumrok**	**5.16**	**202**	P		**Pn**	**03 14 14.3**	**+4.2**	
TUMR	**Tumrok**	**5.16**	**202**	PN		**Pn**	**03 14 12.9**	**+2.8**	
TUMD	**Tumrok D**	**5.19**	**200**	P		**Pn**	**03 14 12.9**	**+2.5**	
KZV	**Kizimen**	**5.30**	**200**	P		**Pn**	**03 14 15.3**	**+3.4**	
KZV	**Kizimen**	**5.30**	**200**	PN		**Pn**	**03 14 15.3**	**+3.4**	
SEY	**Seymchan**	**6.03**	**303**	*ce*PN		**Pn**	**03 14 21.4**	**-0.4**	
SEY	**Seymchan**	**6.03**	**303**	Pn		**Pn**	**03 14 21.1**	**-0.8**	
	7.0nm,0.3s,baz=118,slow=11,SNR=107								
SEY				Lg		Lg	03 16 01.4		
	65nm,0.3s,baz=153,slow=6.0,SNR=5.1								
MA2	**Magadan**	**6.45**	**271**	*e*Pn		**Pn**	**03 14 26.7**	**-0.8**	
MA2				*e*Sn		**Sn**	**03 15 37.3**	**-3.8**	
MA2	**Magadan**	**6.45**	**271**	*ce*PN		**Pn**	**03 14 26.6**	**-1.0**	
MA2				pmax	pmax				
	comp=Z,379nm,1.0s								
MA2	**Magadan**	**6.45**	**271**	Pn		**Pn**	**03 14 26.7**	**-0.8**	
	comp=Z,48nm,0.3s,baz=74,slow=14,SNR=183								
MA2				Sn		**Sn**	**03 15 39.7**	**-1.4**	
	comp=Z,39nm,0.3s,baz=135,slow=5.7,SNR=3.8								
MA2				Lg	Lg		03 16 15.6		
	comp=Z,71nm,0.3s,baz=353,slow=17,SNR=2.8								
MA2				LR	LR		03 16 57.3		
	comp=Z,37μm,18.4s,baz=88,slow=38								
KII	**Karymskiy**	**6.47**	**202**	*e*P		**Pn**	**03 14 32.4**	**+4.3**	
KII	**Karymskiy**	**6.47**	**202**	PN		**Pn**	**03 14 32.4**	**+4.3**	
GNL	**Ganaly**	**7.11**	**208**	*i* P		**Pn**	**03 14 41.3**	**+4.5**	
GNL	**Ganaly**	**7.11**	**208**	PN		**Pn**	**03 14 41.3**	**+4.5**	
SPN	**Mys Shipunski**	**7.28**	**197**	P		**Pn**	**03 14 40.0**	**+0.9**	
SPN	**Mys Shipunski**	**7.28**	**197**	PN		**Pn**	**03 14 40.0**	**+0.9**	
SDLR	**Sedlovina**	**7.30**	**202**	*e*P		**Pn**	**03 14 43.3**	**+3.9**	
SDLR	**Sedlovina**	**7.30**	**202**	PN		**Pn**	**03 14 43.3**	**+3.9**	
KRER	**Koryakskii**	**7.30**	**203**	*e*P		**Pn**	**03 14 43.3**	**+3.8**	
KRER	**Koryakskii**	**7.30**	**203**	PN		**Pn**	**03 14 43.3**	**+3.8**	
SMAR	**Somma**	**7.33**	**203**	*e*P		**Pn**	**03 14 44.6**	**+4.7**	
SMAR	**Somma**	**7.33**	**203**	PN		**Pn**	**03 14 44.6**	**+4.7**	
KOK	**Koryaka**	**7.34**	**204**	*i* P		Pn	03 14 44.7	+4.8	
KOK	**Koryaka**	**7.34**	**204**	PN		Pn	03 14 44.7	+4.8	
AVH	**Avacha**	**7.34**	**203**	*e*P		Pn	03 14 44.8	+4.9	
AVH	**Avacha**	**7.34**	**203**	PN		Pn	03 14 44.8	+4.9	
UGLR	**Uglovaya**	**7.38**	**202**	P		Pn	03 14 45.8	+5.3	
UGLR	**Uglovaya**	**7.38**	**202**	PN		Pn	03 14 45.8	+5.3	
DALK	**Dalny**	**7.56**	**202**	*e*P		**Pn**	**03 14 45.8**	**+3.0**	
DALK	**Dalny**	**7.56**	**202**	PN		**Pn**	**03 14 45.8**	**+3.0**	
PET	**Petropavlovsk**	**7.59**	**203**	*e*Pn		**Pn**	**03 14 46.9**	**+3.7**	
PET				*e*Sn		**Sn**	**03 16 02.1**	**-7.1**	
PET	**Petropavlovsk**	**7.59**	**203**	*e*P		**Pn**	**03 14 47.3**	**+4.1**	
PET	**Petropavlovsk**	**7.59**	**203**	*ci* PN		**Pn**	**03 14 47.0**	**+3.8**	
PET				pmax	pmax				
	comp=Z,279nm,1.1s								
PET				pmax	pmax				
	comp=Z,8μm,12.8s								
PET				MLR	MLR				
	comp=Z,47μm,15.0s								
PET				MLR	MLR				
	comp=Z,49μm,15.0s								
PEA1	**Petropavlovsk-**	**7.71**	**207**	*e*Pn		**Pn**	**03 14 45.6**	**+0.8**	
I44RU	**PETROPAVLOVSK-**	**7.71**	**207**	*i*			04 00 36.2		
	baz=26,slow=337,SNR=0.6								
PETK	**Petropavlovsk-**	**7.71**	**207**	*e*Pn		**Pn**	**03 14 49.0**	**+4.1**	
PETK				*e*Sn		**Sn**	**03 16 05.0**	**-7.2**	
PETK	**Petropavlovsk-**	**7.71**	**207**	*e*PN		**Pn**	**03 14 49.0**	**+4.1**	
PETK	**Petropavlovsk-**	**7.71**	**207**	Pn		**Pn**	**03 14 45.6**	**+0.7**	
	comp=Z,2.3nm,0.3s,baz=61,slow=13,SNR=46								
KRMR	**Karymshinskiy**	**7.88**	**205**	*e*P		Pn	03 14 52.2	+5.0	
KRMR	**Karymshinskiy**	**7.88**	**205**	PN		Pn	03 14 52.2	+5.0	
APC	**Apacha**	**8.01**	**209**	*e*P		Pn	03 14 54.0	+5.1	
APC	**Apacha**	**8.01**	**209**	PN		Pn	03 14 54.0	+5.1	
RUS	**Russkaya**	**8.18**	**202**	*e*P		**Pn**	**03 14 53.7**	**+2.4**	
RUS	**Russkaya**	**8.18**	**202**	PN		**Pn**	**03 14 53.7**	**+2.4**	
MTVR	**Mutnovka**	**8.19**	**203**	*e*P		**Pn**	**03 14 55.8**	**+4.1**	
MTVR	**Mutnovka**	**8.19**	**203**	PN		**Pn**	**03 14 55.8**	**+4.1**	
ASAK	**Asacha**	**8.35**	**204**	*e*P		Pn	03 14 58.8	+5.1	
ASAK	**Asacha**	**8.35**	**204**	PN		Pn	03 14 58.8	+5.1	
KDTR	**Khodutka, Kamc**	**8.85**	**202**	*e*P		**Pn**	**03 15 04.4**	**+3.8**	
KDTR	**Khodutka, Kamc**	**8.85**	**202**	PN		**Pn**	**03 15 04.4**	**+3.8**	
SMY	**Shemya**	**9.43**	**137**	*e*Pn		**Pn**	**03 15 07.9**	**-0.5**	
SMY	**Shemya**	**9.43**	**137**	*e*PN		**Pn**	**03 15 07.9**	**-0.5**	
PAU	**Pauzhetka**	**9.44**	**206**	*e*P		Pn	03 15 13.4	+4.8	
PAU	**Pauzhetka**	**9.44**	**206**	PN		Pn	03 15 13.4	+4.8	
SKR	**Severo-Kuril's**	**10.33**	**207**	*e*P		**Pn**	**03 15 25.1**	**+4.3**	
SKR	**Severo-Kuril's**	**10.33**	**207**	*e*PN		**Pn**	**03 15 23.3**	**+2.5**	
SKR				*e*S		Sn	03 17 30.8	+14	
SKR				pmax	pmax				
	comp=Z,10μm,7.3s								
SKR				pmax	pmax				
	comp=Z,6μm,8.5s								
SKR				MLR	MLR				
	comp=Z,58μm,15.0s								
SKR				MLR	MLR				
	comp=Z,66μm,15.0s								
GAMB	**Gambell**	**12.20**	**62**	*e*Pn		**Pn**	**03 15 46.7**	**+0.5**	
GAMB				*e*Sn		**Sn**	**03 17 54.4**	**-7.6**	
KIWB	**Kanaga Island**	**13.58**	**119**	*e*Pn		**Pn**	**03 16 05.1**	**0.0**	
GSTR	**Great Sitkin T**	**13.89**	**116**	*e*Pn		**Pn**	**03 16 07.5**	**-2.0**	
GSTR				*e*Sn		**Sn**	**03 18 39.4**	**-4.2**	
SPIA	**Saint Paul Isl**	**13.94**	**91**	*e*Pn		**Pn**	**03 16 11.2**	**+1.2**	
NKL	**Nikolayevsk**	**14.31**	**251**	*e*P		**Pn**	**03 16 16.0**	**+0.9**	
NKL				pmax	pmax				
	comp=N,4μm,9.0s								
NKL				pmax	pmax				
	comp=E,5μm,9.0s								
NKL				pmax	pmax				
	comp=Z,7μm,8.0s								
NKL				pmax	pmax				
	comp=N,13nm,1.0s								
NKL				pmax	pmax				
	comp=E,110nm,1.0s								
NKL				pmax	pmax				
	comp=Z,220nm,1.0s								
NKL				MLR	MLR				
	comp=N,21μm,16.0s								
NKL				MLR	MLR				
	comp=E,24μm,16.0s								
NKL				MLR	MLR				
	comp=Z,44μm,16.0s								
TYV	**Tymovskoe**	**14.95**	**241**	*e*P		**Pn**	**03 16 26.0**	**+2.2**	
TYV				*e*S		**Sn**	**03 19 17.5**	**+8.2**	
TYV				pmax	pmax				
	comp=Z,7μm,4.7s								
TYV				pmax	pmax				
	comp=Z,106nm,1.9s								
TYV				smax	smax				
	comp=N,5μm,7.2s								
ANM	**Nome**	**15.02**	**59**	*e*Pn		**Pn**	**03 16 26.5**	**+1.7**	
	comp=N,337nm,1.3s								
ANM				*e*Sn		Sn	03 18 57.6	-13	
ANM	**Nome**	**15.02**	**59**	*e*P		**Pn**	**03 16 26.5**	**+1.7**	
ANM				pmax	pmax				
	comp=Z,337nm,1.3s								
YAK	**Yakutsk**	**16.37**	**291**	*c i*P		**P**	**03 16 44.7**	**-0.4**	
YAK				*e*S		**Sn**	**03 19 49.1**	**+5.4**	
YAK				pmax	pmax				
	comp=Z,3μm,0.9s								
YAK				pmax	pmax				
	comp=E,1μm,1.1s								
YAK				pmax	pmax				
	comp=N,484nm,1.0s								
YAK				pmax	pmax				
	comp=Z,3μm,0.9s								
YAK				pmax	pmax				
	comp=E,855nm,0.6s								
YAK				pmax	pmax				
	comp=N,1μm,0.9s								
YAK				smax	smax				
	comp=N,10μm,4.3s								
YAK				smax	smax				
	comp=E,3μm,2.0s								
YAK				MLR	MLR				
	comp=Z,65μm,17.0s								
YAK				MLR	MLR				
	comp=E,57μm,17.0s								
RDOG	**Red Dog Mine**	**16.49**	**47**	*e*Pn		**Pn**	**03 16 44.4**	**+0.6**	
	comp=E,288nm,1.0s								
UGL	**Uglegorsk**	**16.53**	**238**	*e*P		**P**	**03 16 46.4**	**-0.6**	
UGL				*e*S		**S**	**03 19 56.9**	**-2.8**	
UGL				pmax	pmax				
	comp=E,6μm,7.0s								
UGL				pmax	pmax				
	comp=Z,10μm,7.1s								
UGL				pmax	pmax				
	comp=N,6μm,10.0s								
UGL				pmax	pmax				
	comp=Z,594nm,0.8s								
UGL				pmax	pmax				
	comp=N,276nm,0.9s						

SDPT Sand Point 19.64 88 *e*P Pn 03 17 24.3 +1.8
comp=E,1µm,1.4s
SVW2 Sparrevohn 19.88 69 *e*P Pn 03 17 25.2 -0.2
comp=E,154nm,1.0s
IM3 Indian Mountai 19.91 55 *e*P P 03 17 23.5 -0.5
CHGN Chignik 20.22 84 *e*P P 03 17 28.4 +0.9
comp=E,923nm,1.1s
CHGN LR LR
comp=Z,13µm,18.0s
ASAJ Asahikawa 20.38 228 P P 03 17 29.1 -0.2
comp=Z,109nm,0.8s,baz=28,slow=7.5,SNR=50
ASAJ S Sn 03 21 18.9 -1.8
comp=Z,6.9nm,1.0s,baz=337,slow=13,SNR=1.7
ASAJ LR LR 03 26 11.6
comp=Z,17µm,20.6s,baz=59,slow=39
ZEA Zeya 20.58 268 *e*P P 03 17 31.0 -0.4
ZEA *e*S S 03 21 19.0 -2.3
ZEA pmax pmax
comp=E,94nm,1.2s
ZEA pmax pmax
comp=Z,250nm,1.2s
ZEA pmax pmax
comp=Z,4µm,8.0s
ZEA pmax pmax
comp=N,2µm,7.0s
ZEA pmax pmax
comp=E,2µm,7.0s
ZEA smax smax
comp=E,12µm,11.0s
ZEA smax smax
comp=Z,12µm,11.0s
ZEA smax smax
comp=N,14µm,8.0s
ZEA MLR MLR
comp=Z,35µm,10.0s
ZEA MLR MLR
comp=E,16µm,11.0s
ZEA MLR MLR
comp=N,28µm,10.0s
CAST Castle Rocks 20.94 62 *e*P P 03 17 36.3 +1.0
comp=N,264nm,0.8s
CAST *e*S Sn 03 21 31.3 -2.7
CAST LR LR
comp=Z,16µm,20.0s
PPLA Purkeypile 21.00 63 *e*P P 03 17 37.2 +1.1
comp=Z,791nm,1.4s
PPLA LR LR
comp=Z,21µm,20.0s
KLR Kul'dur 21.13 253 *c i*P P 03 17 38.2 +0.8
KLR Kul'dur 21.13 253 P P 03 17 38.1 +0.7
comp=Z,101nm,0.7s,baz=51,slow=10,SNR=110
KLR S S 03 21 33.4 +1.3
comp=Z,2.1nm,0.6s,baz=67,slow=13,SNR=1.8
KLR LR LR 03 26 24.9
comp=Z,24µm,19.4s,baz=49,slow=38
MLY Manley 21.25 57 *e*P P 03 17 39.8 +1.2
comp=Z,306nm,1.0s
MLY LR LR
comp=Z,15µm,22.0s
COLD Coldfoot 21.26 51 *e*P P 03 17 39.5 +0.8
comp=Z,126nm,0.8s
COLD *e*S S 03 21 30.4 -4.0
COLD LR LR
comp=Z,15µm,18.0s
BPAW Bear Paw Mtn. 21.29 60 *e*P P 03 17 39.8 +0.7
comp=Z,391nm,1.1s
BPAW LR LR
comp=Z,20µm,19.0s
RSO Redoubt South 21.39 70 *e*P P 03 17 41.6 +1.3
TOLK Toolik Lake Re 21.46 47 *e*P P 03 17 41.0 +0.1
comp=Z,689nm,1.0s
TOLK *e*S S 03 21 39.7 +1.1
TOLK LR LR
comp=Z,30µm,18.0s
TOLK Toolik Lake Re 21.46 47 P P 03 17 41.2 +0.4
baz=270
TOLK S S 03 21 38.3 -0.3
baz=270
TRF Thorofare Moun 21.72 61 *e*P P 03 17 44.7 +0.8
comp=Z,370nm,0.8s
TRF LR LR
comp=Z,17µm,20.0s
BWN Browne 21.93 59 *e*P P 03 17 47.7 +1.8
comp=Z,896nm,1.0s
BWN LR LR
comp=Z,14µm,20.0s
ERM Erimo 22.01 224 *e*P P 03 17 47.1 +0.3
comp=Z,122nm,1.3s
ERM LR LR
comp=Z,25µm,19.0s
ERM Erimo 22.01 224 *ce*P P 03 17 50.8 +4.0
TEY Ternei 22.02 239‖ *e*P P 03 17 47.9 +0.9
TEY *e* 03 17 53.1
TEY *e* 03 18 10.9
TEY *e*S S 03 21 44.9 -4.8
TEY pmax pmax
comp=Z,70nm,1.0s
TEY pmax pmax
comp=E,20nm,1.1s
TEY pmax pmax
comp=N,30nm,0.8s
TEY MLR MLR
comp=E,16µm,16.0s
TEY MLR MLR
comp=N,14µm,15.0s
SUA Susitna One 22.02 67 *e*P P 03 17 48.3 +1.3
comp=N,338nm,1.2s
SUA LR LR
comp=Z,22µm,20.0s
HOM Homer 22.19 71 PFAKE 03 18 00.0 +11
HOM LR LR
comp=Z,14µm,18.0s
SII Sitkinak Islan 22.20 80 *e*P P 03 17 50.6 +1.7
comp=Z,450nm,1.2s
SII LR LR
comp=Z,14µm,18.0s
MCK McKinley 22.25 60 *e*P P 03 17 50.2 +0.9
comp=Z,332nm,1.0s
MCK LR LR
comp=Z,18µm,19.0s
MDM Murphy Dome 22.31 57 *e*P P 03 17 49.9 -0.1
comp=Z,572nm,1.4s
MDM LR LR
comp=Z,10µm,20.0s
RND Reindeer 22.36 61 *e*P P 03 17 50.2 -0.5
comp=Z,161nm,0.9s
RND LR LR
comp=Z,20µm,21.0s
KDAK Kodiak Island 22.46 77 *e*P P 03 17 49.0 -2.6
KDAK *ep*P P 03 17 51.4 -0.2
KDAK *e*S S 03 21 58.6 +0.9
KDAK LR LR
comp=Z,20µm,19.0s
KDAK Kodiak Island 22.46 77 *i* P P 03 17 51.3 -0.2
KDAK Kodiak Island 22.46 77 P P 03 17 50.5 -1.1
comp=Z,28nm,0.6s,baz=280,slow=6.1,SNR=28
KDAK S S 03 21 58.6 +0.9
comp=Z,16nm,1.2s,baz=180,slow=9.1,SNR=2.7
KDAK LR LR 03 28 16.7
comp=Z,21µm,18.0s,baz=294,slow=41
WRH Wood River Hil 22.46 58 *e*P P 03 17 51.6 0.0
comp=Z,360nm,1.0s
WRH LR LR
comp=Z,15µm,18.0s
I53US FAIRBANKS INFR 22.48 57 *i* 05 34 30.0
baz=280,slow=339,SNR=0.3
TCOL CIGO, UAF Yank 22.48 57 P P 03 17 51.9 +0.1
baz=281
COLA College 22.49 57 *e*P P 03 17 51.9 +0.1
comp=Z,356nm,0.9s
COLA LR LR
comp=Z,16µm,19.0s
COLA College 22.49 57 *c i*P P 03 17 51.7 -0.1
COLA College 22.49 57 *e*P P 03 17 51.2 -0.5
BRLK Bradley Lake 22.51 71 *e*P P 03 17 53.0 +0.8
comp=Z,72nm,0.9s
BRLK LR LR
comp=Z,19µm,19.0s
CCB Clear Creek Bu 22.55 57 *e*P P 03 17 52.4 -0.1
comp=Z,550nm,1.2s
CCB LR LR
comp=Z,21µm,19.0s
RC01 Rabbit Creek A 22.60 67 *e*P P 03 17 54.0 +0.9
comp=Z,71nm,1.0s
RC01 LR LR
comp=Z,21µm,20.0s
POKR Poker Plat Res 22.62 56 P P 03 17 53.3 0.0
baz=281
PMR Palmer 22.72 66 *e*P P 03 17 56.7 +2.4
comp=Z,62nm,1.0s
PMR LR LR
comp=Z,22µm,20.0s
PMR Palmer 22.72 66 *e*P P 03 17 56.7 +2.4
PMR pmax pmax
comp=Z,62nm,1.0s
PMR MLR MLR
comp=Z,22µm,20.0s
IL1 Eielson Array 22.91 57 *e*P P 03 17 55.2 -1.1
ILAR Eielson Array 22.91 57 P P 03 17 55.9 -0.4
comp=Z,23nm,0.7s,baz=266,slow=8.5,SNR=258
ILAR S S 03 22 06.7 +0.8
comp=Z,4.4nm,1.1s,baz=300,slow=12,SNR=2.8
ILAR LR LR 03 28 11.0
comp=Z,11µm,19.4s,baz=306,slow=40
ILB Eielson Array 22.91 57 *e*P P 03 17 55.9 -0.4
comp=Z,385nm,1.4s
ILB *e*S S 03 22 06.7 +0.8
HDA Harding Lake 22.96 58 *e*P P 03 17 56.5 -0.3
comp=Z,233nm,1.0s
HDA LR LR
comp=Z,14µm,18.0s
HDA Harding Lake 22.96 58 P P 03 17 56.5 -0.3
baz=283
SML Sawmill 23.02 65 *e*P P 03 17 56.7 -0.8
comp=Z,334nm,1.2s
SML LR LR
comp=Z,21µm,18.0s
SML Sawmill 23.02 65 *e*P P 03 17 56.7 -0.8
SML pmax pmax
comp=Z,334nm,1.2s
SML MLR MLR
comp=Z,21µm,18.0s
SEW Seward 23.06 69 *e*P P 03 17 57.4 -0.5
comp=Z,92nm,0.8s
SEW LR LR
comp=Z,17µm,20.0s
KNK Knik Glacier 23.09 66 *e*P P 03 17 58.2 +0.1
comp=Z,199nm,1.1s
KNK LR LR
comp=Z,22µm,20.0s
DHY Denali Highway 23.09 61 *e*P P 03 17 58.2 -0.2
comp=Z,228nm,1.0s
DHY LR LR
comp=Z,20µm,18.0s
FYU Fort Yukon 23.27 52 *e*P P 03 17 59.8 -0.1
comp=Z,480nm,1.3s
PRP Porcupine Dome 23.33 55 *e*P P 03 18 00.7 -0.1
comp=Z,284nm,0.9s
PRP LR LR
comp=Z,20µm,19.0s
SCM Sheep Creek Mo 23.47 64 *e*P P 03 18 01.6 -0.5
comp=Z,377nm,1.0s
SCM LR LR
comp=Z,17µm,19.0s
SCM Sheep Creek Mo 23.47 64 *e*P P 03 18 01.6 -0.5
SCM pmax pmax
comp=Z,377nm,1.0s
SCM MLR MLR
comp=Z,17µm,19.0s
PAX Paxson 23.96 61 *e*P P 03 18 05.4 -1.4
comp=Z,181nm,1.1s
PAX LR LR
comp=Z,17µm,22.0s
PAX Paxson 23.96 61 *e*P P 03 18 05.4 -1.4
PAX pmax pmax
comp=Z,181nm,1.1s
PAX MLR MLR
comp=Z,17µm,22.0s
RIDG Independ'e Rid 24.02 59 *e*P P 03 18 04.9 -2.5
comp=Z,285nm,1.0s
RIDG LR LR
comp=Z,16µm,19.0s
KLU Klutina 24.21 65 *e*P P 03 18 08.6 -0.6
comp=Z,214nm,0.9s
HARP HAARP 24.26 62 *e*P P 03 18 10.3 +0.7
comp=Z,323nm,1.2s
SCRK Sand Creek 24.32 58 *e*P P 03 18 08.4 -1.9
comp=Z,163nm,1.0s
SCRK LR LR
comp=Z,11µm,19.0s
DOT Dot Lake 24.38 59 *e*P P 03 18 08.8 -1.9
comp=Z,313nm,1.1s
DOT LR LR
comp=Z,12µm,20.0s
DIV Divide 24.40 65 *e*P P 03 18 10.5 -0.5
comp=Z,167nm,1.0s
DIV LR LR
comp=Z,22µm,19.0s
EYAK Cordova Ski Ar 24.62 67 *e*P P 03 18 12.5 -0.3
comp=Z,425nm,1.0s
EYAK LR LR
comp=Z,52µm,19.0s
USA0B Ussuriysk Arra 24.71 244 *e*P P 03 18 14.3 +0.5
comp=Z,135nm,0.9s
USA0B LR LR
comp=Z,16µm,20.0s
USRK Ussuriysk Ar. 24.71 244 P P 03 18 12.4 -1.4
comp=Z,104nm,0.8s,baz=34,slow=9.5,SNR=35
USRK S S 03 22 36.9 +1.6
comp=Z,2.9nm,0.8s,baz=65,slow=17,SNR=2.5
USRK LR LR 03 28 35.3
comp=Z,16µm,20.7s,baz=33,slow=38
MENT Mentasta 24.73 61 *e*P P 03 18 13.3 -0.5
comp=Z,204nm,1.0s
BOD Bodaibo 25.15 287 *e*P P 03 18 16.9 -0.7
BOD pmax pmax
comp=Z,231nm,1.5s
EGAK Eagle 25.30 56 *e*P P 03 18 17.3 -1.6
comp=Z,275nm,1.0s
MDJ Mudanjiang 25.49 248 P P 03 18 22.3 +1.5
MDJ pP sP 03 18 25.4 +0.4
MDJ PP PnPn 03 19 02.8 +6.9
MDJ S S 03 22 51.8 +4.0
MDJ sS sS 03 22 59.0 +6.3
MDJ pmax pmax
comp=Z,20nm,0.7s
MDJ pmax pmax
comp=Z,3µm,6.1s
MDJ LR LR
comp=Z,19µm,14.4s
MDJ LR LR
comp=Z,14µm,14.4s
MDJ LR LR
comp=Z,25µm,16.7s
MDJ Mudanjiang 25.49 248 *e*P P 03 18 22.3 +1.5
comp=Z,75nm,0.9s
MDJ LR LR
comp=Z,17µm,19.0s
VLA Vladivostok 25.61 243 *i* P P 03 18 24.8 +2.9
DAWY Dawson 26.24 57 *e*P P 03 18 26.9 -0.6
comp=Z,249nm,1.4s
EPYK Eagle Plains 26.66 51 *e*P P 03 18 30.8 -0.4
comp=Z,70nm,0.7s
EPYK Eagle Plains 26.66 51 P P 03 18 30.9 -0.3
baz=286
HIA Hailar 27.01 266 *e*P P 03 18 36.7 +2.1
comp=Z,54nm,0.9s
HIA LR LR
comp=Z,10µm,20.0s
HIA Hailar 27.01 266 *e*P P 03 18 36.7 +2.1
HIA pmax pmax
comp=Z,54nm,0.9s
HIA MLR MLR
comp=Z,10µm,20.0s
PCA Pinnacle 27.31 65 *e*P P 03 18 37.5 +0.2
comp=Z,201nm,1.1s
INK Inuvik 27.36 46 *e*P P 03 18 37.1 -0.4
comp=Z,92nm,1.0s
INK LR LR
comp=Z,28µm,18.0s
INK Inuvik 27.36 46 *e*P P 03 18 37.1 -0.4
INK pmax pmax
comp=Z,92nm,1.0s
INK MLR MLR
comp=Z,28µm,18.0s
INK Inuvik 27.36 46 P P 03 18 36.1 -1.4
comp=Z,24nm,0.8s,baz=287,slow=8.1,SNR=82
INK LR LR 03 30 59.6
comp=Z,24µm,18.5s,baz=280,slow=40
CN2 Changchun 28.05 252 *e*P P 03 18 42.0 -1.9
CN2 *e*S S 03 23 24.3 -3.9
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 LR LR
comp=Z,22µm,14.0s
CN2 LR LR
comp=Z,12µm,14.0s
CN2 LR LR
comp=Z,22µm,16.0s
HYT Haines Junctio 28.24 63 *e*P P 03 18 46.3 +0.6
comp=Z,55nm,1.0s
CIT Chita 28.40 276 *e*P P 03 18 45.9 -1.1
CIT *e* 03 19 40.6
CIT *e* 03 19 56.2
CIT pmax pmax
comp=Z,219nm,1.4s
MJB9 Matsu-Tunnel 28.62 226 *e*P P 03 18 49.5 +0.4
comp=Z,62nm,0.9s
MJB9 LR LR
comp=Z,18µm,21.0s
MAJO Matsushiro 28.62 226 *e*P P 03 18 49.4 +0.4
comp=Z,59nm,0.8s
MAJO *e*PcP PcP 03 21 59.6 -0.1
MAJO *e*S S 03 23 39.9 +2.5
MAJO LR LR
comp=Z,18µm,22.0s
MAJO Matsushiro 28.62 226 *e*P P 03 18 49.4 +0.4
MAJO *e* 03 21 59.6
MAJO *e*S S 03 23 39.9 +2.5
MAJO pmax pmax
comp=Z,59nm,0.8s
MAJO MLR MLR
comp=Z,18µm,22.0s
MAJO Matsushiro 28.62 226 *e*P P 03 18 48.8 -0.2
MAT Matsushiro 28.62 226 P P 03 18 48.2 -0.9
MAT S S 03 23 35.4 -2.0
MJAR Matsushiro Arr 28.62 226 P P 03 18 49.3 +0.2
comp=Z,28nm,0.8s,baz=8.5,slow=8.0,SNR=23
MJAR PcP PcP 03 21 59.6 -0.1
comp=Z,8.4nm,0.9s,baz=29,slow=1.8,SNR=4.7
MJAR S S 03 23 39.9 +2.5
comp=Z,0.9nm,0.6s,baz=7.7,slow=16,SNR=2.5
MJAR LR LR 03 30 34.3
comp=Z,18µm,20.4s,baz=35,slow=37
WHY Whitehorse 29.48 62 *e*P P 03 18 57.4 +0.8
comp=Z,57nm,1.0s
WHY LR LR
comp=Z,12µm,19.0s
SKAG Skagway 29.83 64 *e*P P 03 19 00.6 +1.1
comp=Z,89nm,1.0s
SKAG LR LR
comp=Z,20µm,20.0s
INU Inuyama 30.12 227 *e*P P 03 19 02.5 +0.2
comp=Z,67nm,1.2s
INU LR LR
comp=Z,12µm,20.0s
SNY Shenyang 30.45 251 ⇑P P 03 19 04.6 -0.5
SNY S S 03 24 01.4 -4.4
SNY pmax pmax
comp=Z,45nm,1.8s
SNY pmax pmax
comp=Z,2µm,5.5s
SNY LR LR
comp=Z,21µm,17.7s
SNY LR LR
comp=Z,28µm,18.6s
SNY LR LR
comp=Z,29µm,15.7s
BESE Bessie Mountai 30.47 65 *e*P P 03 19 06.3 +1.0
comp=Z,173nm,1.4s
BESE LR LR
comp=Z,17µm,19.0s
JIS Juneau Island 30.84 66 *e*P P 03 19 10.3 +1.9
comp=Z,92nm,0.9s
JIS LR LR
comp=Z,12µm,18.0s
SIT Sitka 31.03 68 *e*P P 03 19 11.9 +1.8
comp=Z,92nm,0.8s
SIT LR LR
comp=Z,9µm,20.0s
SIT Sitka 31.03 68 *e*P P 03 19 11.9 +1.8
SIT pmax pmax
comp=Z,92nm,0.8s
SIT MLR MLR
comp=Z,9µm,20.0s
JHJ Hachijo jima 2 31.18 221 LR LR 03 32 59.9
comp=Z,4µm,19.9s,baz=84,slow=39
NRIK Noril'sk 31.54 319 P P 03 19 14.4 -0.1
comp=Z,41nm,0.8s,baz=81,slow=9.1,SNR=32
NRIK LR LR 03 31 57.6
comp=Z,3µm,21.1s,baz=72,slow=36
KS01 Wonju Array Si 31.97 241 *e*P P 03 19 17.2 -1.4
KS01 *e*PcP PcP 03 22 08.4 +0.1
KSRS Korea Array 31.98 241 P P 03 19 18.5 -0.1
comp=Z,23nm,0.8s,baz=30,slow=8.2,SNR=13
KSRS PcP PcP 03 22 08.0 -0.4
comp=Z,11nm,0.9s,baz=36,slow=2.4,SNR=9.5
KSRS LR LR 03 32 40.1
comp=Z,11µm,18.5s,baz=60,slow=37
KS15 Wonju Array Si 32.00 241 *e*P P 03 19 21.9 +3.1
comp=Z,63nm,1.0s
KS15 *e*PcP PcP 03 22 08.0 -0.5
DLBC Dease Lake 32.72 63 *e*P P 03 19 26.7 +1.6
comp=Z,89nm,0.9s
DLBC *e*PcP PcP 03 22 12.3 +2.1
DLBC LR LR
comp=Z,19µm,18.0s
WRAK Wrangell Islan 32.76 68 *e*P P 03 19 27.1 +1.8
comp=Z,55nm,0.8s
WRAK LR LR
comp=Z,10µm,21.0s
IRK Irkutsk 32.85 283 *e*P P 03 19 25.9 -0.3
IRK pmax pmax
comp=Z,194nm,2.7s
CRAG Craig 32.93 69 PFAKE 03 19 40.0 +13
CRAG LR LR
comp=Z,12µm,20.0s
TJN Taejon 33.12 241 *ce*P P 03 19 32.2 +3.5
TLY Talaya 33.50 283 *e*P P 03 19 32.6 +0.7
comp=Z,94nm,1.2s
TLY LR LR
comp=Z,24µm,19.0s
TLY Talaya 33.50 283 *c i*P P 03 19 32.2 +0.3
TLY *e* 03 20 43.8
TLY *e* 03 22 16.4
TLY *e*S S 03 24 51.4 -2.0
TLY pmax pmax
comp=Z,258nm,1.5s
TLY MLR MLR
comp=Z,40µm,12.0s
TLY Talaya 33.50 283 P P 03 19 32.6 +0.7
SNR=35
TLY P P 03 19 32.6 +0.7
SNR=35
DL2 Dalian 33.66 250 P P 03 19 34.4 +1.1
DL2 PP PP 03 20 48.8 -0.5
DL2 S S 03 24 57.9 +1.9
DL2 pmax pmax
comp=Z,170nm,0.9s
DL2 pmax pmax
comp=Z,1µm,4.7s
DL2 LR LR
comp=Z,11µm,17.4s
DL2 LR LR
comp=Z,13µm,16.1s
DL2 LR LR
comp=Z,14µm,12.4s
ULN Ulaanbaatar 34.28 275 *e*P P 03 19 39.4 +0.5
comp=Z,76nm,1.0s
ULN *e*PcP PcP 03 22 12.7 -2.3
ULN LR LR
comp=Z,14µm,19.0s
ULN Ulaanbaatar 34.28 275 *c i*P P 03 19 39.3 +0.4
ULN pmax pmax
comp=Z,52nm,1.0s
ULN MLR MLR
comp=Z,12µm,19.0s
ULN Ulaanbaatar 34.28 275 P P 03 19 39.4 +0.5
SNR=38
ULN P P 03 19 39.4 +0.5
SNR=38
JNU Nakatsue 34.44 233 *e*P P 03 19 42.1 +1.9
comp=Z,66nm,0.9s
JNU Nakatsue 34.44 233 LR LR 03 34 45.8
comp=Z,6µm,20.2s,baz=41,slow=38
ZAK Zakamensk 34.50 281 *e*P P 03 19 40.5 -0.2
ZAK *e* 03 22 15.5
ZAK pmax pmax
comp=Z,38nm,1.1s
DIB Dawson Inlet, 34.57 72 *e*P P 03 19 42.5 +1.4
comp=Z,54nm,1.0s
DIB LR LR

comp=Z,7µm,19.0s
SONA0 Songino Array 34.63 275 *e*P **P** **03 19 42.4 +0.5**
SONA0 *e*PcP **PcP** **03 22 15.8 -0.1**
SONM Songino Array 34.63 275 P **P** **03 19 42.4 +0.5**
comp=Z,9.3nm,0.7s,baz=46,slow=8.1,SNR=34
SONM PcP **PcP** **03 22 15.8 -0.1**
comp=Z,20nm,0.7s,baz=21,slow=0.6,SNR=15
SONM LR LR 03 34 15.9
comp=Z,10µm,21.4s,baz=46,slow=37
MOY Mondy 34.80 285 *e*P **P** **03 19 43.7 +0.4**
MOY pmax pmax
comp=Z,211nm,3.5s
BJI Beijing 35.39 257 P **P** **03 19 48.0 -0.3**
BJI S **S** **03 25 16.1 -6.5**
BJI pmax pmax
comp=Z,25nm,1.1s
BJI LR LR
comp=Z,580nm,14.6s
BJI LR LR
comp=Z,2µm,15.2s
BJI LR LR
comp=Z,5µm,22.2s
BJT Baijiatuau 35.41 257 *e*P **P** **03 19 48.3 -0.2**
comp=Z,139nm,0.9s
BJT LR LR
comp=Z,9µm,18.0s
BJT Baijiatuau 35.41 257 *e*P **P** **03 19 48.3 -0.2**
BJT pmax pmax
comp=Z,139nm,0.9s
BJT MLR MLR
comp=Z,9µm,18.0s
RES Resolute Bay 36.13 26 PFAKE 03 20 10.0 +16
RES LR LR
comp=Z,7µm,20.0s
YKW3 Yellowknife Ar 36.89 50 *e*P **P** **03 20 00.5 -0.3**
comp=Z,38nm,0.8s
YKW3 LR LR
comp=Z,2µm,21.0s
YKA Yellowknife Ar 36.93 50 P **P** **03 20 00.7 -0.5**
comp=Z,17nm,0.6s,baz=304,slow=8.5,SNR=85
YKA PcP **PcP** **03 22 21.6 -0.6**
comp=Z,5.3nm,0.6s,baz=311,slow=3.8,SNR=9.2
YKA PKiKP **PKiKP** **03 29 38.4 -1.0**
comp=Z,0.6nm,0.7s,baz=282,slow=1.3,SNR=5.0
YKB5 Yellowknife Ar 36.93 50 *e*P **P** **03 20 00.4 -0.8**
YKB5 *e*PcP **PcP** **03 22 21.6 -0.6**
HHC Hu-ho-hao-te 37.05 263 *e*P **P** **03 20 02.8 +0.2**
HHC pP sP 03 20 07.9 +1.0
HHC PP **PP** **03 21 33.1 +6.3**
HHC S **S** **03 25 45.8 -2.4**
HHC pmax pmax
comp=Z,45nm,1.0s
HHC pmax pmax
comp=Z,2µm,5.4s
HHC LR LR
comp=Z,18µm,13.2s
HHC LR LR
comp=Z,18µm,13.9s
HHC LR LR
comp=Z,13µm,12.7s
BBB Bella Bella 37.28 71 PFAKE 03 20 20.0 +16
BBB LR LR
comp=Z,10µm,21.0s
TIA Tai'an 37.95 252 P **P** **03 20 09.9 -0.3**
TIA PP **PnPn** **03 21 39.9 +1.9**
TIA S **S** **03 26 04.1 +2.2**
TIA pmax pmax
comp=Z,13nm,0.7s
TIA pmax pmax
comp=Z,470nm,3.6s
TIA LR LR
comp=Z,7µm,17.8s
TIA LR LR
comp=Z,8µm,17.8s
TIA LR LR
comp=Z,2µm,12.8s
BTO Baotou 38.00 264 *e*P **P** **03 20 10.3 -0.4**
BTO SS SS 03 28 41.1 -8.1
TIY Taiyuan 39.03 258 *e*P **P** **03 20 18.3 -1.0**
TIY PP **PnPn** **03 21 53.1 +2.1**
TIY S **S** **03 26 22.3 +4.0**
TIY SS **SnSn** **03 29 03.6 -5.7**
TIY pmax pmax
comp=Z,67nm,0.9s
TIY pmax pmax
comp=Z,870nm,3.9s
TIY LR LR
comp=Z,16µm,12.5s
TIY LR LR
comp=Z,10µm,10.8s
TIY LR LR
comp=Z,7µm,16.6s
TULEG Thule 39.67 17 PFAKE 03 20 40.0 +16
TULEG LR LR
comp=Z,7µm,20.0s
KBS Kingsbay 40.18 352 *e*P **P** **03 20 29.1 +0.7**
comp=Z,161nm,1.2s
KBS LR LR
comp=Z,6µm,18.0s
KBS Kingsbay 40.18 352 *e*P **P** **03 20 29.1 +0.7**
KBS pmax pmax
comp=Z,161nm,1.2s
KBS MLR MLR
comp=Z,6µm,18.0s
KBS Kingsbay 40.18 352 *e*P **P** **03 20 28.8 +0.4**
SSE Sheshan 40.31 243 P **P** **03 20 27.3 -2.7**
SSE PP **PP** **03 22 09.8 +7.2**
SSE S **S** **03 26 38.1 +0.7**
SSE pmax pmax
comp=Z,340nm,3.5s
SSE LR LR
comp=Z,6µm,13.4s
SSE Sheshan 40.31 243 PFAKE 03 20 40.0 +10
SSE LR LR
comp=Z,7µm,20.0s
SPA0 Spitsbergen Ar 40.52 350 *e*P **P** **03 20 31.5 +0.2**
comp=Z,373nm,1.0s
SPA0 Spitsbergen Ar 40.52 350 *e*P **P** **03 20 31.4 +0.2**
SPITS Spitsbergen Ar 40.52 350 P **P** **03 20 31.4 +0.2**
comp=Z,40nm,0.4s,baz=68,slow=7.3,SNR=104
NJ2 Nanjing 40.56 247 *e*P **P** **03 20 31.9 -0.1**
NJ2 PP **PP** **03 22 07.5 +2.2**
NJ2 S **S** **03 26 42.4 +1.3**
NJ2 pmax pmax
comp=Z,120nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,4.9s
NJ2 LR LR
comp=Z,18µm,16.7s
NJ2 LR LR
comp=Z,18µm,16.7s
NJ2 LR LR
comp=Z,19µm,17.2s
WAKE Wake Island 40.84 175 PFAKE 03 20 50.0 +16
WAKE LR LR
comp=Z,5µm,20.0s
ZAA1 Zalesovo Array 40.87 298 *e*P **P** **03 20 33.4 -0.9**
ZAA1 *e*PcP **PcP** **03 22 34.6 -0.2**
ZAA0 Zalesovo Array 40.87 298 *e*P **P** **03 20 33.6 -0.8**
comp=Z,26nm,0.8s
ZAA0 *e*PP **PP** **03 22 12.5 +4.3**
ZAA0 LR LR
comp=Z,8µm,18.0s
ZALV Zalesovo Beam 40.87 298 *e*P **P** **03 20 32.8 -1.5**
ZALV Zalesovo Beam 40.87 298 P **P** **03 20 33.4 -0.9**
comp=Z,14nm,0.8s,baz=36,slow=6.2,SNR=17
ZALV PcP **PcP** **03 22 34.6 -0.2**
comp=Z,18nm,0.8s,baz=86,slow=2.8,SNR=5.4
ZALV LR LR 03 38 25.6
comp=Z,6µm,18.3s,baz=29,slow=38
NVS Novosibirsk 40.98 300 ⇓*i*P **P** **03 20 35.0 -0.2**
NVS *i* 03 22 12.0
NVS *e*S **S** **03 26 51.7 +4.9**
NVS pmax pmax
comp=Z,102nm,1.3s
NVS pmax pmax
comp=N,35nm,0.8s
NVS pmax pmax
comp=E,47nm,0.7s
NVS pmax pmax
comp=Z,82nm,1.5s
NVS pmax pmax
comp=N,51nm,1.7s
NVS pmax pmax
comp=E,45nm,1.5s
NVS smax smax
comp=N,43nm,2.0s
NVS smax smax
comp=E,4.0nm,1.2s
JOW Kunigami 41.05 232 PFAKE 03 20 50.0 +14
JOW LR LR
comp=Z,4µm,21.0s
HOPEN Hopen 41.13 346 *e*P **P** **03 20 36.5 +0.3**
LLLB Lillooet 41.26 69 *e*P **P** **03 20 39.0 +1.4**
comp=Z,75nm,1.1s
LLLB LR LR
comp=Z,8µm,20.0s
HSPB Hornsund (broa 41.68 350 P **P** **03 20 40.6 -0.1**
HSPB S **S** **03 26 55.4 -1.4**
HSPB Hornsund (broa 41.68 350 *e*P **P** **03 20 41.1 +0.4**
PGC Sidney 41.87 72 *e*P **P** **03 20 43.5 +1.0**
comp=Z,71nm,1.0s
A04D Lummi Island 42.17 71 P **P** **03 20 45.8 +0.8**
baz=314
B05A Bryant 42.78 71 P **P** **03 20 50.4 +0.4**
baz=315
D03D Eldon 42.82 73 P **P** **03 20 50.6 +0.2**
baz=315
B06A Marblemount 42.89 71 *e*P **P** **03 20 51.6 +0.8**
comp=Z,72nm,1.0s
B06A LR LR
comp=Z,6µm,19.0s
KULLO Kullorsuaq 42.91 15⇑*i*P **P** **03 20 50.4 -0.4**
comp=Z,90nm,0.9s
comp=Z,10µm,15.0s
KULLO Kullorsuaq 42.91 15⇑*i*P **P** **03 20 50.4 -0.4**
KULLO pmax pmax
comp=Z,90nm,0.9s
KULLO MLR MLR
comp=Z,10µm,15.0s
D04E Lakebay 43.23 73 P **P** **03 20 53.1 -0.5**
baz=316
DAG Danmarks Havn 43.37 1⇑*i*P **P** **03 20 53.7 -0.7**
comp=Z,6µm,15.0s
DAG Danmarks Havn 43.37 1⇑*i*P **P** **03 20 53.7 -0.7**
DAG MLR MLR
comp=Z,6µm,15.0s
C06D Leavenworth 43.59 71 P **P** **03 20 56.5 -0.1**
baz=316
C06D S **S** **03 27 26.4 +0.8**
baz=316
D05A Enumclaw 43.59 72 *e*P **P** **03 20 58.1 +1.5**
comp=Z,114nm,1.3s
D05A LR LR
comp=Z,6µm,18.0s
XAN Xi'an 43.67 259 P **P** **03 20 56.4 -1.1**
XAN PP **PcP** **03 22 41.9 -2.6**
XAN S **S** **03 27 26.8 -0.4**
XAN SS **SS** **03 30 31.6 -10**
XAN pmax pmax
comp=Z,40nm,1.3s
XAN pmax pmax
comp=Z,1µm,7.7s
XAN LR LR
comp=Z,15µm,15.2s
XAN LR LR
comp=Z,19µm,14.7s
XAN LR LR
comp=Z,14µm,13.5s
XAN Xi'an 43.67 259 *e*P **P** **03 20 59.8 +2.3**
comp=Z,39nm,1.0s
XAN LR LR
comp=Z,8µm,19.0s
XAN Xi'an 43.67 259 *e*P **P** **03 20 59.8 +2.3**
XAN pmax pmax
comp=Z,39nm,1.0s
XAN MLR MLR
comp=Z,8µm,19.0s
E04D Cinebar 43.77 73 P **P** **03 20 58.1 +0.1**
baz=316
F04D Rainier, OR 43.90 74 P **P** **03 20 59.0 -0.1**
baz=316
WHN Wuhan 43.92 250 P **P** **03 20 59.6 +0.2**
WHN PP **PP** **03 22 40.3 -1.2**
WHN S **S** **03 27 27.5 -3.2**
WHN LR LR
comp=Z,12µm,13.5s
WHN LR LR
comp=Z,28µm,12.6s
WHN LR LR
comp=Z,21µm,13.2s
LON Longmire 43.99 73 *e*P **P** **03 21 01.1 +1.2**
comp=Z,24nm,1.0s
LON LR LR
comp=Z,7µm,19.0s
LON Longmire 43.99 73 *e*P **P** **03 21 01.1 +1.2**
LON pmax pmax
comp=Z,24nm,1.0s
LON MLR MLR
comp=Z,7µm,19.0s
GTA Gaotai 44.01 272⇑P **P** **03 21 00.3 +0.1**
GTA PP **PcP** **03 22 44.0 -1.6**
GTA PcP **PP** **03 22 48.5 +6.1**
GTA S **S** **03 27 32.1 0.0**
GTA pmax pmax
comp=Z,29nm,1.9s
GTA pmax pmax
comp=Z,1µm,5.6s
GTA LR LR
comp=Z,11µm,19.0s
GTA LR LR
comp=Z,13µm,17.5s
GTA LR LR
comp=Z,25µm,16.5s
B08A Colville Reser 44.02 69 *e*P **P** **03 21 00.1 0.0**
comp=Z,28nm,1.0s
B08A LR LR
comp=Z,8µm,21.0s
LTY Liberty 44.17 71 *e*P **P** **03 21 01.9 +0.5**
comp=Z,50nm,1.1s
LTY LR LR
comp=Z,5µm,20.0s
G03D McMinnville, O 44.41 75 P **P** **03 21 03.8 +0.6**
baz=317
LZH Lanzhou 44.56 265⇑P **P** **03 21 04.8 +0.1**
LZH pP sP 03 21 09.1 +0.1
LZH PP **PP** **03 22 50.0 +1.5**
LZH S **S** **03 27 38.8 -1.5**
LZH SS **SS** **03 30 51.3 -8.3**
LZH pmax pmax
comp=Z,240nm,1.2s
LZH pmax pmax
comp=Z,2µm,6.5s
LZH LR LR
comp=Z,40µm,15.2s
LZH LR LR
comp=Z,51µm,15.2s
LZH LR LR
comp=Z,28µm,17.4s
F05D White Salmon 44.79 73 P **P** **03 21 06.7 +0.5**
baz=317
COR Corvallis 44.84 76 *e*P **P** **03 21 10.9 +4.3**
comp=Z,91nm,0.9s
COR LR LR
comp=Z,4µm,21.0s
C09A Chrisman Ranch 44.91 69 *e*P **P** **03 21 07.5 +0.4**
comp=Z,26nm,0.9s
C09A LR LR
comp=Z,7µm,20.0s
I02D Swisshome 44.93 77 P **P** **03 21 07.9 +0.6**
baz=318
NEW Newport 45.12 68 *e*P **P** **03 21 09.2 +0.4**
comp=Z,16nm,0.8s
NEW LR LR
comp=Z,5µm,20.0s
NEW Newport 45.12 68 *e*P **P** **03 21 09.2 +0.4**
NEW pmax pmax
comp=Z,16nm,0.8s
NEW MLR MLR
comp=Z,5µm,20.0s
NEW Newport 45.12 68 P **P** **03 21 08.7 -0.1**
baz=316
D08A Wollman Farm, 45.15 70 *e*P **P** **03 21 09.4 +0.3**
comp=Z,42nm,0.9s
D08A LR LR
comp=Z,6µm,20.0s
H04D Lebanon 45.16 76 P **P** **03 21 09.7 +0.5**
baz=318
SARN Sarigan 45.22 204 PFAKE 03 21 20.0 +10
SARN LR LR
comp=Z,2µm,18.0s
YOJ Yonaguni jima 45.29 236 PFAKE 03 21 20.0 +10
YOJ LR LR
comp=Z,7µm,20.0s
H04A Detroit Lake 45.31 75 *e*P **P** **03 21 10.8 +0.4**
comp=Z,32nm,1.0s
H04A LR LR
comp=Z,4µm,21.0s
G05D Wamic, OR 45.33 74 P **P** **03 21 11.3 +0.7**
baz=317
HAWA Hanford 45.34 71 *e*P **P** **03 21 11.0 +0.5**
comp=Z,50nm,1.3s
HAWA LR LR
comp=Z,5µm,22.0s
ZSN Zaisan 45.37 291*c i*P **P** **03 21 09.7 -1.1**
ZSN *i* S **S** **03 27 52.0 +0.7**
ZSN pmax pmax
comp=Z,201nm,0.9s
ZSN smax smax
comp=E,284nm,5.1s
ZSN MLR MLR
comp=Z,8µm,11.0s
ZSN Zaisan 45.37 291⇑*i*P **P** **03 21 09.7 -1.1**
comp=Z,202nm,0.9s
ZSN *i* S **S** **03 27 52.1 +0.7**
comp=Z,284nm,5.1s
ZSN *e*LR LR 03 39 55.1
comp=Z,8µm,11.1s
I03D Drain, OR 45.48 77 P **P** **03 21 12.2 +0.6**
baz=318
TATO Taipei 45.48 238 *e*P **P** **03 21 15.5 +3.6**
comp=Z,259nm,1.4s
TATO LR LR
comp=Z,7µm,22.0s
TATO Taipei 45.48 238 P **P** **03 21 12.1 +0.2**
E08A Dider Farm, El 45.49 71 *e*P **P** **03 21 11.7 -0.1**
comp=Z,29nm,1.0s
E08A LR LR
comp=Z,5µm,20.0s
F07A Phinny Hill Vi 45.51 72 *e*P **P** **03 21 12.9 +1.0**
comp=Z,60nm,1.0s
F07A LR LR
comp=Z,6µm,18.0s
J01E Myrtle Point 45.59 78 P **P** **03 21 13.0 +0.4**
baz=318,SNR=6.6
KEBM Edson Butte 45.61 78 *e*P P 03 21 17.7 +4.9
comp=Z,45nm,0.9s
YHNB Yeheng 45.80 238 PFAKE 03 21 30.0 +16
YHNB LR LR
comp=Z,7µm,19.0s
KURK Kurchatov 45.86 298 *e*P **P** **03 21 14.2 -0.4**
comp=Z,194nm,0.8s
KURK LR LR
comp=Z,3µm,22.0s
KURK Kurchatov 45.86 298 P **P** **03 21 15.0 +0.4**
KURK 03 22 51.5
KURK S **S** **03 27 59.9 +1.6**
KURK Kurchatov 45.86 298 P **P** **03 21 14.3 -0.3**
SNR=135
I04A Tendick Farm, 45.86 76 P **P** **03 21 15.1 +0.3**
baz=318,SNR=7.9
E09A Wood Farm, Sta 45.91 70 *e*P **P** **03 21 15.3 +0.3**
comp=Z,50nm,1.0s
E09A LR LR
comp=Z,6µm,21.0s
KURBB Kurchatov Arra 45.96 298 P **P** **03 21 15.0 -0.5**
comp=Z,138nm,0.8s,baz=44,slow=7.7,SNR=296
KURBB PcP **PcP** **03 22 51.5 -0.5**
comp=Z,16nm,0.8s,baz=49,slow=3.5,SNR=4.6
KURBB S **S** **03 27 59.9 0.0**
comp=Z,0.7nm,0.8s,baz=149,slow=24,SNR=2.1
I05D Terrebonne, OR 45.98 75 P **P** **03 21 16.0 +0.2**
baz=318,SNR=6.9
KEKH Kekaha 46.01 129 *e*P **P** **03 21 19.1 +3.0**
comp=Z,190nm,1.2s
WALA Waterton Lakes 46.02 65 *e*P **P** **03 21 16.2 +0.1**
comp=Z,40nm,0.8s
K02D Willamette Mer 46.07 78 P **P** **03 21 17.1 +0.6**
baz=319,SNR=12
NACB Ninganchiao 46.14 238 PFAKE 03 21 30.0 +13
NACB LR LR
comp=Z,9µm,22.0s
G08A Pilot Rock 46.42 72 *e*P **P** **03 21 19.5 +0.3**
J04D Umpqua Nationa 46.42 76 P **P** **03 21 20.0 +0.6**
baz=318,SNR=25
ENH Enshi 46.47 255 *e*P **P** **03 21 19.4 -0.3**
comp=Z,91nm,0.8s
ENH LR LR
comp=Z,4µm,18.0s
HUMO Hull Mountain 46.48 78 *e*P **P** **03 21 20.4 +0.7**
comp=Z,16nm,0.8s
HUMO LR LR
comp=Z,7µm,19.0s
L02E Cave Junction 46.50 78 P **P** **03 21 20.6 +0.8**
baz=319,SNR=5.3
PINE Pine Mountain 46.58 75 *e*P **P** **03 21 21.3 +0.7**
comp=Z,74nm,0.9s
WMQ Urumqi 46.68 285 P **P** **03 21 21.9 +0.6**
WMQ PcP **PcP** **03 22 56.8 +2.0**
WMQ PP **PP** **03 23 14.8 +4.1**
WMQ S **S** **03 28 11.1 +0.6**
WMQ ScS **ScS** **03 31 14.8 -1.1**
WMQ pmax pmax
comp=Z,560nm,1.1s
WMQ pmax pmax
comp=Z,4µm,4.3s
WMQ LR LR
comp=Z,58µm,14.3s
WMQ LR LR
comp=Z,39µm,14.3s
WMQ LR LR
comp=Z,25µm,19.1s
WMQ Urumqi 46.68 285 *e*P **P** **03 21 21.8 +0.5**
comp=Z,180nm,0.8s
WMQ LR LR
comp=Z,11µm,18.0s
F10A Beach Ranch, E 46.73 70 *e*P **P** **03 21 21.6 -0.1**
comp=Z,37nm,0.9s
F10A LR LR
comp=Z,7µm,18.0s
SUMG Summit 46.74 9 *e*P **P** **03 21 21.6 -0.1**
comp=Z,232nm,1.4s
SUMG LR LR
comp=Z,5µm,20.0s
SUMG Summit 46.74 9⇑*i*P **P** **03 21 21.6 -0.1**
comp=Z,295nm,1.1s
comp=Z,17µm,16.0s
SUMG Summit 46.74 9⇑*i*P **P** **03 21 21.6 -0.1**
SUMG pmax pmax
comp=Z,300nm,1.1s
SUMG MLR MLR
comp=Z,17µm,16.0s
SSLB Suanglung 46.75 238 *e*P **P** **03 21 22.4 +0.4**
comp=Z,43nm,1.0s
SSLB LR LR
comp=Z,8µm,20.0s
QZH Quanzhou 46.77 242⇑*i*P **P** **03 21 21.3 -0.7**
QZH PP **PP** **03 23 10.9 -0.9**
QZH S **S** **03 28 07.4 -4.4**
QZH SS **ScS** **03 31 25.3 +8.7**
QZH pmax pmax
comp=Z,840nm,8.5s
QZH LR LR
comp=Z,7µm,15.2s
QZH LR LR
comp=Z,10µm,14.2s
QZH LR LR
comp=Z,6µm,11.8s
KEV Kevo 46.77 341 *e*P **P** **03 21 20.9 -0.6**
comp=Z,51nm,0.8s
KEV LR LR
comp=Z,4µm,20.0s
KEV Kevo 46.77 341 *e*P **P** **03 21 21.0 -0.6**
KEV pmax pmax
comp=Z,51nm,0.8s
KEV MLR MLR
comp=Z,4µm,20.0s
KEV Kevo 46.77 341 *e*P **P** **03 21 20.8 -0.7**
J05D Fort Rock, OR 46.81 76 P **P** **03 21 23.1 +0.7**
baz=319,SNR=36
KRMB Red Mountain 46.83 79 *e*P **P** **03 21 23.6 +1.1**
comp=Z,47nm,0.9s
OPA Opana 46.95 128 *e*P **P** **03 21 25.2 +1.7**
comp=Z,299nm,1.1s
FCC Fort Churchill 46.95 44 *e*P **P** **03 21 22.4 -0.7**
comp=Z,122nm,1.4s
FCC LR LR
comp=Z,6µm,20.0s
FCC Fort Churchill 46.95 44 *e*P **P** **03 21 22.4 -0.7**
FCC pmax pmax

comp=Z,121nm,1.4s
FCC MLR MLR

comp=Z,6µm,20.0s
YULB Yu-li 46.96 238 *e*P **P 03 21 22.7 -0.8**
comp=Z,63nm,1.0s
YULB LR LR

comp=Z,4µm,21.0s
LVZ Lovozero 46.98 336 *e*P **P 03 21 22.6 -0.7**
comp=Z,129nm,1.0s
LVZ LR LR

comp=Z,2µm,20.0s
LVZ Lovozero 46.98 336 ǁ *i*P **P 03 21 21.6 -1.7**
LVZ pmax pmax

comp=Z,238nm,1.7s
FFC Flin Flon 46.99 52 *e*P **P 03 21 23.0 -0.4**
comp=Z,142nm,1.4s
FFC Flin Flon 46.99 52 *i*P **P 03 21 23.0 -0.4**
MK31 Makanchi Array 47.05 292 *e*P **P 03 21 23.0 -1.0**
comp=Z,52nm,0.9s
MK31 Makanchi Array 47.05 292 *i*P **P 03 21 22.5 -1.5**
MK31 pmax pmax

comp=Z,56nm,0.8s
MK32 Makanchi Array 47.05 292 *e*P **P 03 21 22.9 -1.1**
MK32 *e*S **S 03 28 16.2 +0.6**
MKAR Makanchi Array 47.05 292 P **P 03 21 22.9 -1.1**
comp=Z,42nm,0.8s,baz=51,slow=7.1,SNR=168
MKAR S **S 03 28 16.2 +0.6**
comp=Z,1.0nm,0.8s,baz=271,slow=20,SNR=2.3
MKAR LR LR 03 42 12.5

comp=Z,7µm,18.5s,baz=34,slow=37
I07A Izee 47.05 74 *e*P **P 03 21 24.9 +0.6**
comp=Z,18nm,1.1s
K04D Chiloquin, OR 47.05 77 P **P 03 21 24.8 +0.5**
baz=319
MK01 Makanchi Array 47.06 292 *e*P **P 03 21 22.1 -2.0**
L04D Klamath Falls 47.09 77 P **P 03 21 25.2 +0.6**
baz=319,SNR=43
MAKZ Makanchi 47.18 292 *e*P **P 03 21 23.8 -1.3**
comp=Z,118nm,1.3s
MAKZ *e*PcP **PcP 03 22 53.0 -3.5**
MAKZ LR LR

comp=Z,10µm,18.0s
MAKZ Makanchi 47.18 292 *e*P **P 03 21 23.8 -1.3**
MAKZ *e* 03 22 53.0
MAKZ pmax pmax

comp=Z,118nm,1.3s
MAKZ MLR MLR

comp=Z,10µm,18.0s
KIP Kipapa 47.18 128 *e*P **P 03 21 26.9 +1.6**
comp=Z,543nm,1.3s
KIP Kipapa 47.18 128 *ce*P **P 03 21 26.2 +0.9**
KIP pmax pmax

comp=Z,736nm,1.7s
ARA0 ARCESS Array S 47.21 341 *e*P **P 03 21 24.1 -0.9**
ARCES ARCESS Array B 47.21 341 *e*P **P 03 21 24.1 -0.9**
ARCES *e*PcP **PcP 03 22 56.9 +0.8**
ARCES ARCESS Array B 47.21 341 P **P 03 21 24.1 -0.9**
comp=Z,48nm,0.8s,baz=41,slow=6.1,SNR=20
ARE0 ARCESS Array S 47.21 341 *e*P **P 03 21 24.6 -0.4**
comp=Z,5.8nm,1.0s
ARE0 *e*PcP **PcP 03 22 56.9 +0.8**
ARE0 LR LR

comp=Z,200nm,18.0s
ARE0 ARCESS Array S 47.21 341 *e*P **P 03 21 24.2 -0.8**
YBH Yreka Blue Hor 47.26 78 *e*P **P 03 21 26.8 +1.0**
comp=Z,38nm,0.8s
YBH LR LR

comp=Z,5µm,19.0s
YBH Yreka Blue Hor 47.26 78 *e*P **P 03 21 26.8 +1.0**
YBH pmax pmax

comp=Z,38nm,0.8s
YBH MLR MLR

comp=Z,5µm,19.0s
JCC Jacoby Creek, 47.30 80 *e*P **P 03 21 30.1 +4.1**
comp=Z,63nm,1.1s
TPUB Ta-pu 47.32 238 *e*P **P 03 21 26.8 +0.4**
comp=Z,71nm,1.1s
TPUB LR LR

comp=Z,12µm,22.0s
KHMM Horse Mountain 47.41 80 *e*P **P 03 21 28.6 +1.5**
comp=Z,72nm,1.0s
KHMM *e*PcP **PcP 03 22 57.3 -0.2**
M02C Callahan 47.45 79 P **P 03 21 28.0 +0.7**
baz=320,SNR=16
BMO Blue Mountains 47.53 71 *e*P **P 03 21 28.0 +0.1**
comp=Z,43nm,1.1s
BMO LR LR

comp=Z,6µm,22.0s
BMO Blue Mountains 47.53 71 *e*P **P 03 21 28.0 +0.1**
BMO pmax pmax

comp=Z,43nm,1.1s
BMO MLR MLR

comp=Z,6µm,22.0s
TWG Pinlang 47.56 238 *e*P **P 03 21 31.6 +3.3**
comp=Z,391nm,1.2s
TWG LR LR

comp=Z,21µm,21.0s
MSO Missoula 47.64 67 *e*P **P 03 21 28.5 -0.3**
comp=Z,44nm,1.1s
MSO LR LR

comp=Z,7µm,19.0s
MSO Missoula 47.64 67 P **P 03 21 28.4 -0.3**
baz=318,SNR=15
M04C Macdoel 47.65 77 P **P 03 21 29.2 +0.3**
baz=320,SNR=22
BVAR Borovoye Array 47.68 305 P **P 03 21 28.3 -0.6**
comp=Z,61nm,0.7s,baz=52,slow=7.7,SNR=115
BVAR PcP **PcP 03 22 57.7 -0.4**
comp=Z,35nm,0.7s,baz=62,slow=3.5,SNR=5.4
BRVK Borovoye 47.70 305 *e*P **P 03 21 28.6 -0.4**
comp=Z,84nm,0.8s
BRVK LR LR

comp=Z,12µm,18.0s
BRVK Borovoye 47.70 305 *c i*P **P 03 21 28.6 -0.4**
BRVK pmax pmax

comp=Z,287nm,1.9s
BRVK MLR MLR

comp=Z,9µm,15.0s
BRVK Borovoye 47.70 305 P **P 03 21 28.5 -0.4**
SNR=82
N02D Trinity Center 47.84 79 P **P 03 21 31.2 +0.9**
baz=320,SNR=28
KMRM Mail Ridge 47.91 80 *e*P **P 03 21 32.7 +1.8**
comp=Z,66nm,0.8s
KTK1 Kautokeino 48.04 342 *e*P **P 03 21 30.6 -0.8**
J08A Circle Bar Ran 48.09 73 *e*P **P 03 21 29.1 -3.2**
comp=Z,43nm,0.9s
J08A *e*PcP **PcP 03 22 56.2 -3.6**
TRO Tromso 48.10 344 *e*P **P 03 21 31.0 -0.8**
WDC Whiskeytown Da 48.22 79 *e*P **P 03 21 33.7 +0.5**
comp=Z,34nm,1.0s
WDC LR LR

comp=Z,5µm,18.0s
WDC Whiskeytown Da 48.22 79 *e*P **P 03 21 33.7 +0.5**
WDC pmax pmax

comp=Z,34nm,1.0s
WDC MLR MLR

comp=Z,5µm,18.0s
KHLH Kahului Airpor 48.29 126 *e*P **P 03 21 36.3 +2.5**
comp=Z,157nm,1.1s
MOD Modoc Plateau 48.31 76 *e*P **P 03 21 34.4 +0.3**
comp=Z,41nm,0.7s
O02D Mt. Diablo Mer 48.40 80 P **P 03 21 35.7 +1.0**
baz=320,SNR=18
GUMO Guam 48.43 205 LR LR 03 42 08.6
comp=Z,3µm,19.9s,baz=22,slow=36
HLK Haleakala 48.49 126 *e*P **P 03 21 39.0 +3.3**
comp=Z,207nm,1.2s
HLK *e*PcP **PcP 03 22 58.2 -3.5**
SVE Sverdlovsk 48.58 314 *de*P **P 03 21 35.7 0.0**
SVE *e* 03 23 30.1
SVE *e*S **S 03 28 39.9 +3.0**
SVE pmax pmax

comp=Z,192nm,0.9s
SVE MLR MLR

comp=Z,10µm,17.0s
ILULI Ilulissat 48.60 16 *e*P **P 03 21 34.4 -1.3**
comp=Z,74nm,0.8s
ILULI *e*PcP **PcP 03 23 00.7 -0.4**
ILULI LR LR

comp=Z,5µm,20.0s
ILULI Ilulissat 48.60 16 *i*P **P 03 21 34.7 -1.0**
comp=Z,6µm,15.0s
ILULI Ilulissat 48.60 16 *e*P **P 03 21 34.4 -1.3**
ILULI *e* 03 23 00.7
ILULI pmax pmax

comp=Z,74nm,0.8s
ILULI MLR MLR

comp=Z,5µm,20.0s
EGMT Eagleton 48.65 63 *e*P **P 03 21 36.2 -0.4**
comp=Z,67nm,0.8s
EGMT *e*PcP **PcP 03 22 58.7 -3.0**
EGMT LR LR

comp=Z,12µm,20.0s
EGMT Eagleton 48.65 63 P **P 03 21 36.1 -0.4**
baz=318,SNR=37
HRY Holter Researc 48.69 66 *e*P **P 03 21 37.2 +0.3**
WVOR Wild Horse Val 48.71 74 *e*P **P 03 21 37.4 +0.3**
comp=Z,41nm,0.8s
WVOR Wild Horse Val 48.71 74 *e*P **P 03 21 37.4 +0.3**
WVOR pmax pmax

comp=Z,41nm,0.8s
CD2 Chengdu 48.76 261 P **P 03 21 36.8 -0.7**
CD2 PcP **PcP 03 23 00.8 -1.5**
CD2 PP **PP 03 23 29.4 -1.0**
CD2 S **S 03 28 34.1 -6.0**
CD2 pmax pmax

comp=Z,140nm,1.0s
CD2 pmax pmax

comp=Z,2µm,6.9s
CD2 LR LR

comp=Z,24µm,14.8s
CD2 LR LR

comp=Z,18µm,11.5s
O03E Paynes Creek 48.80 79 P **P 03 21 37.6 -0.2**
baz=320,SNR=38
MHA Mahukona 49.14 126 *e*P **P 03 21 43.2 +2.8**
DLMT Dillon 49.35 68 *e*P **P 03 21 42.6 +0.6**
comp=Z,35nm,0.9s
DLMT LR LR

comp=Z,4µm,20.0s
HPAH Hawaii Prepara 49.36 126 *e*P **P 03 21 43.5 +1.3**
comp=Z,96nm,1.0s
TMCR Tamitsa 49.41 332 *e*P **P 03 21 41.1 -0.9**
TMCR pmax pmax

comp=Z,233nm,0.9s
GDXM Geysers 49.45 81 *e*P **P 03 21 44.4 +1.6**
comp=Z,68nm,1.4s
ORV Oroville 49.52 79 *e*P **P 03 21 43.1 0.0**
comp=Z,41nm,1.1s
ORV Oroville 49.52 79 *e*P **P 03 21 43.1 0.0**
ORV pmax pmax

comp=Z,41nm,1.1s
ARU Arti 49.62 315 *e*P **P 03 21 43.2 -0.6**
comp=Z,135nm,0.9s
ARU LR LR

comp=Z,6µm,19.0s
ARU Arti 49.62 315 *c i*P **P 03 21 43.1 -0.6**
ARU *e* 03 23 03.8
ARU *e* 03 23 38.6
ARU PPP PPP 03 24 32.9
ARU S **S 03 28 51.4 -0.1**
ARU 03 31 32.3
ARU SS **SS 03 32 22.0 -0.9**
ARU SSS SSS 03 33 47.5
ARU pmax pmax

comp=Z,129nm,0.9s
ARU MLR MLR

comp=Z,6µm,17.0s
BOZ Bozeman (W) 49.62 67 *e*P **P 03 21 44.3 +0.2**
comp=Z,24nm,0.9s
BOZ LR LR

comp=Z,8µm,22.0s
BOZ Bozeman (W) 49.62 67 *e*P **P 03 21 44.3 +0.2**
BOZ pmax pmax

comp=Z,24nm,0.9s
BOZ MLR MLR

comp=Z,8µm,22.0s
BOZ Bozeman (W) 49.62 67 P **P 03 21 44.2 +0.1**
baz=319,SNR=20
MCMT McKenzie Canyo 49.64 68 *e*P **P 03 21 44.0 -0.3**
SCO Scoresbysund 49.64 2 *e*P **P 03 21 43.8 +0.2**
comp=Z,171nm,1.4s
SCO LR LR

comp=Z,4µm,18.0s
SCO Scoresbysund 49.64 2 ⇧ *i*P **P 03 21 43.7 0.0**
comp=Z,170nm,1.4s
comp=Z,4µm,15.0s
SCO Scoresbysund 49.64 2 ⇧ *i*P **P 03 21 43.7 0.0**
SCO pmax pmax

comp=Z,170nm,1.4s
SCO MLR MLR

comp=Z,4µm,15.0s
POHA Pohakuloa 49.67 126 *e*P **P 03 21 45.6 +0.8**
comp=Z,97nm,0.8s
BEKR Beckworth 49.83 78 *e*P **P 03 21 45.8 0.0**
comp=Z,33nm,1.1s
HMH Humu'ula Sheep 49.83 126 *e*P **P 03 21 49.0 +2.9**
comp=Z,75nm,1.1s
MLOA Mauna Loa Obse 49.86 126 *e*P **P 03 21 49.4 +3.0**
comp=Z,244nm,1.4s
HLID Hailey 49.87 70 *e*P **P 03 21 46.1 0.0**
comp=Z,19nm,0.8s
HLID LR LR

comp=Z,9µm,19.0s
HLID Hailey 49.87 70 P **P 03 21 45.9 -0.1**
baz=320,SNR=27
MWH Moku'aweowe 49.89 126 *e*P **P 03 21 49.6 +2.8**
comp=Z,226nm,1.2s
MLH Mauna Loa 49.97 126 *e*P **P 03 21 48.3 +1.2**
comp=Z,133nm,1.0s
MLH Mauna Loa 49.97 126 *e*P **P 03 21 48.3 +1.2**
MLH pmax pmax

comp=Z,133nm,1.0s
AIN Ainahou 50.05 126 *e*P **P 03 21 49.2 +1.6**
comp=Z,398nm,1.3s
UWB Uwekahuna B 50.08 126 PFAKE 03 22 00.0 +12
UWB LR LR

comp=Z,4µm,20.0s
KHU Kahuku 50.10 126 *e*P **P 03 21 49.1 +1.1**
comp=Z,307nm,1.2s
KHU Kahuku 50.10 126 *e*P **P 03 21 49.1 +1.1**
KHU pmax pmax

comp=Z,307nm,1.2s
KKO Keanakako'i 50.11 126 PFAKE 03 22 00.0 +12
KKO LR LR

comp=Z,3µm,20.0s
PUH Pauahi 50.15 126 *e*P **P 03 21 49.1 +0.9**
comp=Z,238nm,1.0s
TDK Taldyqorghan 50.19 293 *e*P **P 03 21 47.7 -0.5**
TDK *i*S **S 03 28 58.3 -1.5**
TDK smax smax

comp=E,912nm,5.4s
TDK Taldyqorghan 50.19 293 *e*P **P 03 21 47.8 -0.5**
comp=E,802nm,0.7s
TDK *i*S **S 03 28 58.4 -1.5**

comp=E,912nm,5.4s
TDK *e*LR LR 03 42 59.4

comp=E,29µm,11.1s
AFDM Forest Hills D 50.24 79 *e*P **P 03 21 48.6 -0.1**
comp=E,57nm,1.4s
QLMT Earthquake Lak 50.30 67 *e*P **P 03 21 49.6 +0.3**
GCMT Greycliff 50.37 65 *e*P **P 03 21 50.5 +0.7**
PAHR Pah Rah Range 50.44 77 *e*P **P 03 21 50.5 +0.2**
comp=E,44nm,1.1s
PAHR LR LR

comp=Z,5µm,20.0s
OTUK Ortayu 50.44 300 P **P 03 21 49.4 -0.7**
OTUK pmax pmax

comp=Z,112nm,0.9s
YHB Horse Butte 50.47 67 *e*P **P 03 21 51.3 +0.7**
comp=Z,38nm,1.0s
YHB LR LR

comp=Z,4µm,20.0s
RUBR Rubicon Trail 50.56 78 *e*P **P 03 21 52.6 +1.3**
comp=Z,44nm,0.9s
YHH Holmes Hill 50.60 67 *e*P **P 03 21 52.0 +0.3**
comp=Z,31nm,0.9s
YHH LR LR

comp=Z,6µm,20.0s
VCNR Virginia City 50.62 78 *e*P **P 03 21 49.8 -2.0**
comp=Z,24nm,0.8s
YMR Madison River 50.63 67 *e*P **P 03 21 52.4 +0.6**
comp=Z,50nm,1.2s
YMR LR LR

comp=Z,6µm,18.0s
YNR Norris Junctio 50.73 67 *e*P **P 03 21 54.0 +1.4**
comp=Z,22nm,0.9s
YNR LR LR

comp=Z,7µm,19.0s
GZH Guangzhou 50.73 246 P P 03 21 47.6 -4.9
GZH PP **PP 03 23 44.4 -4.0**
GZH ScP **ScP 03 27 05.5 +0.1**
GZH S S 03 28 54.4 -13
GZH Guangzhou 50.73 246 SS SS 03 32 27.1 -15
GZH pmax pmax

comp=Z,1µm,5.6s
GZH LR LR

comp=N,6µm,19.0s
GZH LR LR

comp=E,12µm,19.4s
SFJD Kangerlussuaq 50.74 17 *e*P **P 03 21 51.2 -0.7**
comp=E,150nm,1.4s
SFJD LR LR

comp=Z,5µm,20.0s
SFJD Kangerlussuaq 50.74 17 *i*P **P 03 21 51.3 -0.7**
comp=Z,67nm,1.1s
comp=Z,6µm,16.0s
SFJD Kangerlussuaq 50.74 17 *i*P **P 03 21 51.3 -0.7**
SFJD pmax pmax

comp=Z,67nm,1.1s
SFJD MLR MLR

comp=Z,6µm,16.0s
SFJD Kangerlussuaq 50.74 17 *e*P **P 03 21 51.2 -0.7**
DGMT Dagmar 50.75 59 *e*P **P 03 21 52.9 +0.4**
comp=Z,60nm,0.8s
DGMT LR LR

comp=Z,8µm,21.0s
DGMT Dagmar 50.75 59 P **P 03 21 52.2 -0.3**
baz=320,SNR=14
PNTR Pine Nut 50.81 78 *e*P **P 03 21 53.9 +0.7**
comp=Z,51nm,0.8s
YFT Old Faithful 50.86 67 *e*P **P 03 21 55.6 +2.0**
comp=Z,50nm,1.1s
YFT LR LR

comp=Z,9µm,20.0s
BMN Battle Mountai 50.93 75 *e*P **P 03 21 53.0 -1.0**
comp=Z,55nm,1.5s
BMN Battle Mountai 50.93 75 *e*P **P 03 21 53.0 -1.0**
BMN pmax pmax

comp=Z,55nm,1.5s
KIRV Kirov 50.94 322 P **P 03 21 53.4 -0.2**
comp=Z,91nm,0.7s,baz=32,slow=3.8,SNR=16
PDGK Podgornoye 50.96 291 P **P 03 21 53.8 -0.4**
PDGK pmax pmax

comp=Z,137nm,1.0s
LKWY Lake 50.97 67 *e*P **P 03 21 56.0 +1.5**
comp=Z,49nm,0.9s
LKWY LR LR

comp=Z,10µm,18.0s
LKWY Lake 50.97 67 *e*P **P 03 21 56.0 +1.5**
LKWY pmax pmax

comp=Z,49nm,0.9s
LKWY MLR MLR

comp=Z,10µm,18.0s
YPP Pitchstone Pla 51.01 67 *e*P **P 03 21 56.5 +1.7**
comp=Z,16nm,0.9s
GYA Guiyang 51.01 255 ⇧ *i*P **P 03 21 54.4 -0.4**
GYA pP sP 03 22 00.6 +1.5
GYA PP **PP 03 23 53.6 +2.5**
GYA S **S 03 29 11.8 -0.1**
GYA SS **SS 03 32 43.3 -3.2**
GYA pmax pmax

comp=Z,80nm,0.9s
GYA pmax pmax

comp=Z,790nm,6.6s
GYA LR LR

comp=Z,9µm,14.8s
GYA LR LR

comp=Z,10µm,17.0s
GYA LR LR

comp=Z,11µm,17.5s
H17A Grant Village 51.02 67 *e*P **P 03 21 56.6 +1.7**
comp=Z,45nm,1.0s
H17A Grant Village 51.02 67 P **P 03 21 56.3 +1.5**
baz=320,SNR=22
YERR Yerington 51.06 78 *e*P **P 03 21 55.6 +0.5**
comp=Z,50nm,1.1s
RLMT Red Lodge 51.07 65 *e*P **P 03 21 55.7 +0.6**
comp=Z,76nm,0.9s
RLMT LR LR

comp=Z,10µm,19.0s
RLMT Red Lodge 51.07 65 P **P 03 21 55.7 +0.6**
baz=320,SNR=49
FLWY Flagg Ranch 51.21 67 *e*P **P 03 21 57.2 +1.0**
comp=Z,63nm,0.9s
FLWY LR LR

comp=Z,3µm,20.0s
KPKS Kokpek 51.23 292 *e*P **P 03 21 54.8 -1.4**
KPKS *e*S **S 03 29 14.4 -0.1**
KPKS pmax pmax

comp=Z,766nm,0.9s
KPKS smax smax

comp=E,420nm,5.9s
KPKS MLR MLR

comp=Z,13µm,13.0s
KPKS Kokpek 51.23 292 *e*P **P 03 21 54.8 -1.4**
comp=Z,766nm,0.9s
KPKS *e*S **S 03 29 14.4 -0.1**
KPKS *e*LR LR 03 43 35.3

comp=Z,13µm,12.7s
LAO LASA Array 51.23 62 *e*P **P 03 21 56.5 +0.3**
comp=Z,51nm,0.9s
LAO LR LR

comp=Z,8µm,19.0s
LAO LASA Array 51.23 62 P **P 03 21 56.5 +0.3**
baz=320,SNR=16
IMW Indian Meadow 51.24 68 *e*P **P 03 21 57.2 +0.7**
comp=Z,27nm,0.8s
IMW LR LR

comp=Z,3µm,20.0s
CMB Columbia Colle 51.24 79 *e*P **P 03 21 56.7 +0.4**
comp=Z,16nm,0.8s
CMB LR LR

comp=Z,6µm,19.0s
CMB Columbia Colle 51.24 79 *e*P **P 03 21 56.7 +0.4**
CMB pmax pmax

comp=Z,16nm,0.8s
CMB MLR MLR

comp=Z,6µm,19.0s
UZB Uzunbulak 51.32 291 *e*P **P 03 21 54.5 -2.4**
UZB *i*S **S 03 29 15.8 0.0**
UZB pmax pmax

comp=Z,471nm,0.9s
UZB smax smax

comp=E,446nm,5.1s
UZB MLR MLR

comp=Z,16µm,11.0s
UZB Uzunbulak 51.32 291 *e*P **P 03 21 54.5 -2.4**
comp=Z,471nm,0.9s
UZB *i*S **S 03 29 15.8 0.0**

comp=Z,446nm,5.1s
UZB *e*LR LR 03 43 31.7

comp=Z,16µm,11.4s
WAKR Walker 51.34 78 *e*P **P 03 21 57.9 +0.7**
comp=Z,40nm,1.1s
FXWY Fox Creek 51.40 68 *e*P **P 03 21 58.1 +0.5**
comp=Z,28nm,0.9s
MOOW Moose Ponds 51.44 68 *e*P **P 03 21 58.4 +0.5**
comp=Z,15nm,0.9s
MOOW LR LR

comp=Z,3µm,19.0s
TPAW Teton Pass 51.55 68 *e*P **P 03 21 58.6 -0.1**
comp=Z,34nm,0.9s
KVN Kaiserville 51.57 77 *e*P **P 03 21 59.5 +0.6**
comp=Z,24nm,0.8s
KVN LR LR

comp=Z,3µm,20.0s
KVN Kaiserville 51.57 77 *e*P **P 03 21 59.5 +0.6**
KVN pmax pmax

comp=Z,24nm,0.8s
KVN MLR MLR

comp=Z,3µm,20.0s
ZHN Zhinishke 51.58 291 *e*P **P 03 21 57.2 -1.6**
ZHN pmax pmax

comp=Z,261nm,1.0s
ZHN MLR MLR

comp=Z,11µm,11.0s
ZHN Zhinishke 51.58 291 *e*P **P 03 21 57.2 -1.6**
comp=Z,261nm,1.0s
ZHN *e*LR LR 03 43 51.9

comp=Z,11µm,11.4s
LOHW Long Hollow 51.61 68 *e*P **P 03 21 59.8 +0.6**
comp=Z,32nm,0.9s
LOHW LR LR

comp=Z,3µm,19.0s
ELK Elko 51.64 73 *e*P **P 03 21 59.8 +0.3**
comp=Z,28nm,0.9s
ELK Elko 51.64 73 *e*P **P 03 21 59.8 +0.3**
ELK pmax pmax

comp=Z,28nm,0.9s
SNOW Snow King Moun 51.66 68 *e*P **P 03 22 01.0 +1.4**
comp=Z,25nm,1.0s
SNOW LR LR
comp=Z,4µm,19.0s
SATY Saty 51.67 291 *e*P **P 03 21 57.6 -2.0**
SATY *e*S **S 03 29 19.2 -1.5**
SATY pmax pmax
comp=Z,471nm,1.1s
SATY smax smax
comp=E,671nm,5.1s
SATY MLR MLR
comp=Z,18µm,11.0s
SATY Saty 51.67 291 *e*P **P 03 21 57.6 -2.0**
comp=Z,471nm,1.1s
SATY *e*S **S 03 29 19.2 -1.5**
comp=Z,671nm,5.1s
SATY *e*LR LR 03 43 55.7
comp=Z,18µm,11.2s
REDW Red Top Meadow 51.69 68 *e*P **P 03 22 00.3 +0.5**
comp=Z,61nm,1.4s
REDW LR LR
comp=Z,5µm,18.0s
RYN Ryan 51.69 77 *e*P **P 03 22 00.3 +0.5**
comp=Z,22nm,0.8s
RYN LR LR
comp=Z,7µm,20.0s
SAO San Andreas Ge 51.71 81 *e*P **P 03 22 00.7 +0.9**
comp=Z,60nm,1.3s
SAO LR LR
comp=Z,5µm,20.0s
SAO San Andreas Ge 51.71 81 *e*P **P 03 22 00.7 +0.9**
SAO pmax pmax
comp=Z,60nm,1.3s
SAO MLR MLR
comp=Z,5µm,20.0s
CHKK Chushkaly 51.72 293 ⇓ *i*P **P 03 21 57.8 -1.9**
CHKK pmax pmax
comp=Z,278nm,0.9s
CHKK Chushkaly 51.72 293 ⇓ *i*P **P 03 21 57.9 -1.9**
comp=Z,278nm,0.9s
KLMR Klimovskoe 51.86 329 *e*P **P 03 21 59.3 -1.2**
KLMR pmax pmax
comp=Z,165nm,0.9s
KLMR Klimovskoe 51.86 329 *e*P **P 03 21 59.3 -1.2**
KLMR AMP 03 22 04.7
comp=Z,165nm,0.9s
MOR8 Moi Rana 51.95 345 *e*P **P 03 21 58.9 -2.3**
NV01 Mina Array Sit 51.95 77 *e*P **P 03 22 01.7 -0.2**
NVAR Mina Array Bea 51.95 77 P **P 03 22 02.2 +0.4**
comp=Z,19nm,0.7s,baz=309,slow=7.1,SNR=39
NVAR LR LR 03 44 05.1
comp=Z,6µm,19.0s,baz=329,slow=36
KUU Kurty 51.99 294 *e*P **P 03 22 00.2 -1.5**
KUU *e*S **S 03 29 24.1 -0.6**
KUU pmax pmax
comp=Z,184nm,0.9s
KUU smax smax
comp=E,342nm,6.6s
KUU MLR MLR
comp=Z,5µm,12.0s
KUU Kurty 51.99 294 *e*P **P 03 22 00.3 -1.5**
comp=Z,184nm,0.9s
KUU *e*S **S 03 29 24.1 -0.6**
comp=Z,342nm,6.6s
KUU *e*LR LR 03 43 36.3
comp=Z,5µm,11.5s
HVU Hansel Valley 52.01 71 *e*P **P 03 22 02.7 +0.6**
comp=Z,33nm,0.9s
HVU LR LR
comp=Z,8µm,19.0s
HVU Hansel Valley 52.01 71 *e*P **P 03 22 02.7 +0.6**
HVU pmax pmax
comp=Z,33nm,0.9s
HVU MLR MLR
comp=Z,8µm,19.0s
NV11 Mina Array Sit 52.03 77 *e*P **P 03 22 02.9 +0.6**
comp=Z,2.4nm,1.2s
NV11 LR LR
comp=Z,500nm,19.0s
AHID Auburn Hatcher 52.03 69 PFAKE 03 22 10.0 +7.7
AHID LR LR
comp=Z,7µm,18.0s
PRZ Przheval'sk 52.12 291 *e*P **P 03 22 04.0 +1.0**
comp=Z,197nm,1.0s
PRZ LR LR
comp=Z,10µm,18.0s
PRZ Przheval'sk 52.12 291 *e*P **P 03 22 04.0 +1.0**
PRZ pmax pmax
comp=Z,197nm,1.0s
PRZ MLR MLR
comp=Z,10µm,18.0s
BTLS Baital 52.14 296 *e*P **P 03 22 00.8 -2.0**
BTLS *e*S **S 03 29 24.4 -2.4**
BTLS pmax pmax
comp=Z,625nm,1.0s
BTLS smax smax
comp=E,353nm,5.4s
BTLS MLR MLR
comp=Z,9µm,13.0s
BTLS Baital 52.14 296 *e*P **P 03 22 00.8 -2.0**
comp=Z,625nm,1.0s
BTLS *e*S **S 03 29 24.4 -2.4**
comp=Z,353nm,5.4s
BTLS *e*LR LR 03 44 13.6
comp=Z,9µm,13.2s
MDPB Devils Postpil 52.20 79 *e*P **P 03 22 04.8 +1.1**
comp=Z,77nm,1.2s
MDPB LR LR
comp=Z,4µm,19.0s
MDOK Medeo 52.22 292 *e*P **P 03 22 02.1 -1.6**
MDOK *e*S **S 03 29 24.6 -3.7**
MDOK pmax pmax
comp=Z,335nm,1.0s
MDOK MLR MLR
comp=Z,12µm,12.0s
MDOK Medeo 52.22 292 *e*P **P 03 22 02.1 -1.6**
comp=Z,335nm,1.0s
MDOK *e*S **S 03 29 24.6 -3.7**
comp=Z,561nm,9.5s
MDOK *e*LR LR 03 44 10.3
comp=Z,12µm,12.3s
AAA Alma-Ata 52.25 293 *e*P **P 03 22 02.3 -1.5**
AAA *e*S **S 03 29 21.4 -7.1**
AAA pmax pmax
comp=Z,600nm,3.7s
AAA smax smax
comp=N,500nm,7.7s
AAA MLR MLR
comp=Z,5µm,15.0s
AAA Alma-Ata 52.25 293 *e*P **P 03 22 03.4 -0.4**
comp=Z,257nm,0.7s
AAA *e*S **S 03 29 32.9 +4.4**
comp=Z,333nm,7.6s
AAA *e*LR LR 03 44 16.4
comp=Z,4µm,14.7s
OMMB Old Mammoth Mi 52.25 79 *e*P **P 03 22 05.3 +1.1**
comp=Z,44nm,1.2s
OMMB LR LR
comp=Z,5µm,19.0s
MLAC Mammoth, Mammo 52.32 79 P **P 03 22 05.9 +1.3**
baz=322,SNR=7.2
TNSS Tian-Shan 52.37 292 *e*P **P 03 22 04.0 -1.0**
TNSS pmax pmax
comp=Z,162nm,0.9s
TNSS Tian-Shan 52.37 292 *e*P **P 03 22 04.1 -1.0**
comp=Z,162nm,0.9s
SPUT South Promonto 52.53 71 *e*P **P 03 22 06.9 +0.9**
comp=Z,34nm,1.1s
MTBS Maitube 52.54 293 *e*P **P 03 22 04.7 -1.2**
MTBS pmax pmax
comp=Z,328nm,1.0s
MTBS Maitube 52.54 293 *e*P **P 03 22 04.7 -1.2**
comp=Z,328nm,1.0s
BGU Big Grassy Mou 52.55 71 *e*P **P 03 22 06.8 +0.7**
comp=Z,14nm,0.9s
BGU LR LR
comp=Z,4µm,21.0s
HWUT Hardware Ranch 52.72 70 *e*P **P 03 22 08.2 +0.8**
comp=Z,43nm,1.1s
HWUT LR LR
comp=Z,4µm,18.0s
BW06 Boulder Array 52.75 67 *e*P **P 03 22 07.8 +0.1**
comp=Z,49nm,0.9s
BW06 LR LR
comp=Z,5µm,19.0s
BW06 Boulder Array 52.75 67 P **P 03 22 07.7 +0.1**
baz=321,SNR=44
PD31 Pinedale Array 52.75 67 *e*P **P 03 22 07.8 +0.1**
comp=Z,45nm,0.9s
PDAR Pinedale Array 52.75 67 *e*P **P**
PDAR Pinedale Array 52.75 67 P **P 03 22 07.7 +0.1**
comp=Z,11nm,0.6s,baz=321,slow=2.8,SNR=88
PDAR LR LR 03 45 53.7
comp=Z,4µm,19.2s,baz=348,slow=38
ULM Lac du Bonnet 52.82 52 *e*P **P 03 22 07.7 -0.1**
comp=Z,201nm,1.4s
ULM Lac du Bonnet 52.82 52 P **P 03 22 07.7 -0.1**
comp=Z,38nm,0.8s,baz=324,slow=8.3,SNR=29
ULM S **S 03 29 35.1 -0.7**
comp=Z,0.8nm,0.6s,baz=217,slow=20,SNR=2.0
ULM LR LR 03 47 14.6
comp=Z,4µm,19.2s,baz=353,slow=39
KDJ Kajisay 52.97 292 *e*P **P 03 22 10.3 +1.1**
comp=Z,96nm,0.8s
KDJ LR LR
comp=Z,11µm,19.0s
KDJ Kajisay 52.97 292 *e*P **P 03 22 10.3 +1.1**
KDJ pmax pmax
comp=Z,96nm,0.8s
KDJ MLR MLR
comp=Z,11µm,19.0s
TARG Taragay, Kyrgy 52.99 291 *e*P **P 03 22 10.0 +0.4**
comp=Z,64nm,0.8s
TARG LR LR
comp=Z,9µm,19.0s
TIN Tinemaha, Big 53.07 78 P **P 03 22 11.0 +1.0**
baz=322,SNR=6.1
TKM2 Tokmak 2 53.08 293 P **P 03 22 10.1 0.0**
SNR=74
TKM2 Tokmak 2 53.08 293 P **P 03 22 09.8 -0.3**
TKM2 pmax pmax
comp=Z,115nm,0.9s
VOG Valley Oaks Go 53.08 80 P **P 03 22 10.1 +0.2**
baz=323
PAGB Antelope Grade 53.12 81 *e*P **P 03 22 11.8 +1.6**
comp=Z,98nm,1.3s
PAGB LR LR
comp=Z,3µm,22.0s
TCUT Toone Canyon 53.17 70 *e*P **P 03 22 12.0 +1.2**
comp=Z,43nm,0.9s
TCUT LR LR
comp=Z,9µm,19.0s
MDND Maddock 53.18 57 *e*P **P 03 22 11.6 +1.1**
comp=Z,131nm,0.9s
MDND LR LR
comp=Z,10µm,20.0s
MDND Maddock 53.18 57 P **P 03 22 11.2 +0.6**
baz=322,SNR=11
DUG Dugway, Tooele 53.23 72 *e*P **P 03 22 11.6 +0.5**
comp=Z,33nm,0.9s
DUG LR LR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 53.23 72 *e*P **P 03 22 11.6 +0.5**
DUG pmax pmax
comp=Z,33nm,0.9s
DUG MLR MLR
comp=Z,4µm,20.0s
DUG Dugway, Tooele 53.23 72 P **P 03 22 11.4 +0.3**
baz=322,SNR=40
ULHL Ulahol 53.31 292 P **P 03 22 12.1 +0.3**
SNR=47
USP Ospenovka 53.31 294 P **P 03 22 11.5 -0.1**
SNR=127
CTU Camp Tracy 53.34 71 *e*P **P 03 22 12.6 +0.6**
comp=Z,36nm,1.0s
CTU LR LR
comp=Z,5µm,21.0s
R11A Troy Canyon, C 53.34 75 *e*P **P 03 22 12.1 +0.1**
comp=Z,34nm,1.4s
R11A LR LR
comp=Z,4µm,20.0s
R11A Troy Canyon, C 53.34 75 P **P 03 22 12.3 +0.3**
baz=322,SNR=24
CHMS Chumysh 53.41 294 P **P 03 22 12.2 -0.1**
SNR=53
GRAC Grapevine Rang 53.54 78 P **P 03 22 14.1 +0.7**
baz=323
JLU Jordanelle 53.55 71 *e*P **P 03 22 14.4 +0.7**
comp=Z,21nm,1.0s
JLU LR LR
comp=Z,6µm,20.0s
SMMC Simmler 53.58 81 P **P 03 22 14.7 +1.0**
baz=323,SNR=19
KBK Karagaybulak 53.59 294 P **P 03 22 14.1 +0.4**
SNR=60
ANGG Ammassalik, Gr 53.60 11 *e*P **P 03 22 12.1 -1.1**
comp=Z,75nm,0.9s
ANGG LR LR
comp=Z,8µm,18.0s
FRU Bishkek 53.60 294 *e*P **P 03 22 13.0 -0.7**
FRU *e*S **S 03 29 47.0 +0.2**
VES Vestal, Richgr 53.61 80 P **P 03 22 13.9 +0.1**
baz=323,SNR=18
FRU1 Bishkek 53.61 294 *e*P **P 03 22 14.9 +1.1**
comp=Z,311nm,0.9s
FRU1 LR LR
comp=Z,4µm,18.0s
FRU1 Bishkek 53.61 294 *e*P **P 03 22 15.0 +1.1**
FRU1 pmax pmax
comp=Z,311nm,0.9s
FRU1 MLR MLR
comp=Z,4µm,18.0s
CWC Cottonwood Cre 53.63 79 P **P 03 22 14.9 +0.8**
baz=323
SMPP San Manuel, Pa 53.68 234 *e*P **P 03 22 13.4 -1.0**
NLU North Lily Min 53.77 72 *e*P **P 03 22 15.7 +0.5**
comp=Z,41nm,0.9s
NLU LR LR
comp=Z,6µm,21.0s
AAK Ala-Archa 53.81 294 P **P 03 22 15.7 +0.3**
SNR=160
AAK Ala-Archa 53.81 294 *e*P **P 03 22 15.6 +0.2**
comp=Z,222nm,0.8s
AAK *e*S **S 03 29 50.2 +0.3**
AAK LR LR
comp=Z,8µm,18.0s
AAK Ala-Archa 53.81 294 *i* P **P 03 22 15.7 +0.3**
SNR=378
AAK Ala-Archa 53.81 294 *i* P **P 03 22 15.7 +0.3**
SNR=378
AAK Ala-Archa 53.81 294 P **P 03 22 15.8 +0.3**
SNR=109
AAK Ala-Archa 53.81 294 P **P 03 22 15.8 +0.3**
comp=Z,179nm,0.8s,baz=104,slow=3.7,SNR=154
AAK S **S 03 29 50.2 +0.3**
comp=Z,0.4nm,0.3s,baz=3.5,slow=19,SNR=1.5
AAK LR LR 03 45 17.3
comp=Z,6µm,19.0s,baz=25,slow=36
NSS Namsos 53.84 345 *e*P **P 03 22 14.1 -1.0**
KZA Kyzart 53.90 293 P **P 03 22 16.8 +0.4**
SNR=130
MPU Maple Canyon 53.93 71 *e*P **P 03 22 17.0 +0.7**
comp=Z,46nm,1.3s
MPU LR LR
comp=Z,6µm,21.0s
DAC Darwin (Calif) 54.00 79 *e*P **P 03 22 17.7 +0.8**
comp=Z,85nm,1.5s
DAC LR LR
comp=Z,6µm,19.0s
PKM Mcpherson Peak 54.01 81 P **P 03 22 17.9 +0.9**
baz=323,SNR=22
PSUT Pine Spring 54.03 74 *e*P **P 03 22 17.8 +0.7**
comp=Z,26nm,0.9s
PSUT LR LR
comp=Z,4µm,18.0s
KMI Kunming 54.04 258 P **P 03 22 16.8 -0.6**
KMI pP sP 03 22 23.8 +2.1
KMI sP pP 03 22 25.9 +5.4
KMI PP **PP 03 24 20.5 +1.9**
KMI S **S 03 29 52.3 -1.2**
KMI SS **SS 03 33 34.1 -0.5**
KMI pmax pmax
comp=Z,79nm,1.0s
KMI pmax pmax
comp=Z,1µm,6.1s
KMI LR LR
comp=Z,12µm,16.1s
KMI LR LR
comp=Z,8µm,15.1s
KMI LR LR
comp=Z,10µm,14.2s
KMI Kunming 54.04 258 *e*P **P 03 22 20.1 +2.8**
comp=Z,64nm,0.9s
KMI LR LR
comp=Z,6µm,19.0s
ISA Isabella, Lake 54.05 80 *e*P **P 03 22 17.2 +0.1**
comp=Z,71nm,1.4s
ISA LR LR
comp=Z,4µm,20.0s
ISA Isabella, Lake 54.05 80 *e*P **P 03 22 17.2 +0.1**
ISA pmax pmax
comp=Z,71nm,1.4s
ISA MLR MLR
comp=Z,4µm,20.0s
ISA Isabella, Lake 54.05 80 P **P 03 22 17.2 +0.1**
baz=323,SNR=30
NRN Naryn 54.06 292 *e*P **P 03 22 17.8 +0.4**
comp=Z,99nm,0.9s
NRN LR LR
comp=Z,11µm,22.0s
EKS2 Erkin-Say 54.12 294 P **P 03 22 18.0 +0.4**
SNR=144
UCH Uchtor 54.12 294 P **P 03 22 18.1 0.0**
SNR=54
TPNV Topopah Spring 54.12 77 *e*P **P 03 22 18.3 +0.5**
comp=Z,107nm,1.4s
TPNV LR LR
comp=Z,5µm,18.0s
TPNV Topopah Spring 54.12 77 P **P 03 22 18.4 +0.6**
baz=323,SNR=49
RSSD Black Hills 54.20 63 *e*P **P 03 22 18.4 +0.1**
comp=Z,54nm,0.8s
RSSD LR LR
comp=Z,9µm,20.0s
RSSD Black Hills 54.20 63 P **P 03 22 18.2 -0.1**
baz=322
FURC Furnace Creek, 54.20 78 P **P 03 22 19.2 +1.1**
baz=323,SNR=44
MPMC Manual Prospec 54.22 79 P **P 03 22 19.5 +0.9**
baz=323,SNR=48
K22A Casper 54.23 65 *e*P **P 03 22 18.9 +0.4**
comp=Z,47nm,0.9s
K22A LR LR
comp=Z,7µm,19.0s
K22A Casper 54.23 65 P **P 03 22 18.1 -0.4**
baz=322
ARVC Arvin 54.30 80 P **P 03 22 18.9 0.0**
baz=323
SCZP Santa Cruz 54.33 235 *e*P P 03 22 25.7 +6.5
AGMN Agassiz Nation 54.37 54 *e*P **P 03 22 19.1 -0.1**
comp=Z,79nm,0.8s
AGMN LR LR
comp=Z,9µm,19.0s
AGMN Agassiz Nation 54.37 54 P **P 03 22 18.8 -0.4**
baz=323,SNR=51
SBC Santa Barbara 54.41 82 P **P 03 22 20.4 +0.8**
baz=323
FIA1 FINESS Array S 54.42 336 *e*P **P 03 22 18.2 -1.1**
FIA0 FINESS Array S 54.42 336 *e*P **P 03 22 18.1 -1.3**
FIA0 FINESS Array S 54.42 336 *e*P **P 03 22 18.1 -1.3**
FINES FINESS Array B 54.42 336 P **P 03 22 18.1 -1.2**
comp=Z,54nm,0.9s,baz=25,slow=6.9,SNR=44
FINES LR LR 03 49 01.2
comp=Z,5µm,19.5s,baz=32,slow=40
POLP Polilio Island 54.46 232 *e*P P 03 22 28.1 +8.0
AKTO Aktyubinsk 54.56 311 P **P 03 22 20.1 -0.4**
comp=Z,55nm,0.8s,baz=41,slow=7.9,SNR=58
AKTO LR LR 03 48 18.8
comp=Z,10µm,18.3s,baz=34,slow=39
AML Almayashu 54.57 294 P **P 03 22 21.7 +0.4**
SNR=100
LRMC Laurel Mtn Rad 54.59 79 P **P 03 22 21.5 +0.4**
baz=323,SNR=68
PVCP Virac 54.64 229 *e*P **P 03 22 20.9 -0.5**
TCRU Three Creeks R 54.65 73 *e*P **P 03 22 23.3 +1.6**
comp=Z,28nm,0.9s
TCRU LR LR
comp=Z,5µm,21.0s
RWWY Rawlins 54.68 67 *e*P **P 03 22 21.9 +0.1**
comp=Z,32nm,1.0s
TMUT Trail Mountain 54.70 71 *e*P **P 03 22 23.1 +1.1**
comp=Z,29nm,0.9s
TMUT LR LR
comp=Z,4µm,20.0s
OSI Osito Audit: C 54.76 81 PFAKE 03 22 40.0 +18
OSI LR LR
comp=Z,3µm,21.0s
OSI Osito Audit: C 54.76 81 P **P 03 22 22.2 -0.1**
baz=324
AB31 Akbulak array 54.77 309 P **P 03 22 21.2 -0.9**
AB31 pmax pmax
comp=Z,76nm,0.8s
ABKAR Akbulak array 54.77 309 *e*P **P 03 22 21.7 -0.3**
comp=Z,82nm,0.8s
P17A Butcher Ranch, 54.78 71 *e*P **P 03 22 23.2 +0.7**
comp=Z,32nm,1.2s
P17A LR LR
comp=Z,6µm,22.0s
SCZ2 Santa Cruz Isl 54.81 82 P **P 03 22 23.0 +0.4**
baz=324
MSU Marysvale 54.85 73 *e*P **P 03 22 24.2 +1.1**
MSU Marysvale 54.85 73 *e*P **P 03 22 24.3 +1.1**
P18A Preston Nutter 54.89 70 *e*P **P 03 22 24.6 +1.1**
comp=Z,47nm,1.3s
P18A LR LR
comp=Z,6µm,20.0s
EDW2 Edwards Air Fo 54.91 80 P **P 03 22 24.0 +0.6**
baz=323,SNR=65
SHOC Shoshone, Teco 54.94 78 P **P 03 22 24.5 +0.9**
baz=323,SNR=24
BLG Laguna Peak, P 55.00 81 P **P 03 22 24.5 +0.5**
baz=324,SNR=10
SHPR Sheep Range 55.01 76 *e*P **P 03 22 24.8 +0.6**
comp=Z,68nm,1.5s
SHPR LR LR
comp=Z,4µm,20.0s
Q16A Castle Valley 55.01 72 *e*P **P 03 22 25.2 +1.0**
comp=Z,41nm,1.1s
Q16A LR LR
comp=Z,4µm,21.0s
PUL Pulkovo 55.04 333 *e*P **P 03 22 23.1 -0.7**
PUL IAmb IAmb 03 22 27.2
comp=Z,138nm,0.7s
DZA Taraz 55.04 296 *e*P **P 03 22 23.4 -0.8**
DZA pmax pmax
comp=Z,334nm,0.7s
DZA MLR MLR
comp=Z,8µm,11.0s
DZA Taraz 55.04 296 *e*P **P 03 22 23.4 -0.8**
comp=Z,334nm,0.7s
DZA *e*LR LR 03 45 47.6
comp=Z,8µm,11.5s
CCUT Cedar City 55.05 74 *e*P **P 03 22 25.4 +0.8**
comp=Z,28nm,1.2s
CCUT LR LR
comp=Z,3µm,19.0s
SZCU Shurtz Canyon 55.15 74 *e*P **P 03 22 26.0 +0.8**
comp=Z,86nm,1.4s
SZCU LR LR
comp=Z,3µm,18.0s
GSC Goldstone, Bar 55.16 79 *e*P **P 03 22 26.1 +0.9**
comp=Z,77nm,0.9s
GSC LR LR
comp=Z,4µm,20.0s
GSC Goldstone, Bar 55.16 79 *e*P **P 03 22 26.1 +0.9**
GSC pmax pmax
comp=Z,77nm,0.9s
GSC MLR MLR
comp=Z,4µm,20.0s
GSC Goldstone, Bar 55.16 79 P **P 03 22 26.2 +0.9**
baz=323,SNR=90
SRU San Rafael Swe 55.17 71 *e*P **P 03 22 26.0 +0.7**
comp=Z,91nm,1.1s
SRU LR LR
comp=Z,5µm,22.0s
SRU San Rafael Swe 55.17 71 *e*P **P 03 22 26.0 +0.7**
SRU pmax pmax
comp=Z,91nm,1.1s
SRU MLR MLR
comp=Z,5µm,22.0s
MTPU Mount Pierson 55.22 73 *e*P **P 03 22 27.1 +1.2**
comp=Z,27nm,1.0s
MTPU LR LR
comp=Z,4µm,21.0s
KK31 Karatay Array 55.24 297 *e*P **P 03 22 25.3 -0.3**
comp=Z,189nm,0.9s
KK31 Karatay Array 55.24 297 P **P 03 22 25.1 -0.5**
KK31 pmax pmax
comp=Z,158nm,0.9s
KKAR Karatay Array 55.24 297 *e*P **P 03 22 25.3 -0.3**
comp=Z,189nm,0.9s
KKAR Karatay Array 55.24 297 *e*P **P 03 22 25.3 -0.3**

KKAR pmax pmax
comp=Z,189nm,0.9s
DECC Green Verdugo 55.24 81 P **P** **03 22 26.4 +0.7**
baz=324,SNR=7.2
TBLU Trondheim 55.29 346 *eP* **P** **03 22 24.6 -1.0**
PASC Pasadena Art C 55.38 81 *eP* **P** **03 22 27.5 +0.8**
comp=Z,141nm,1.5s
PASC LR LR
comp=Z,4µm,22.0s
MWC Mount Wilson 55.41 80 *eP* **P** **03 22 27.9 +0.8**
comp=Z,128nm,1.3s
MWC LR LR
comp=Z,4µm,22.0s
MWC Mount Wilson 55.41 80 *eP* **P** **03 22 27.9 +0.8**
MWC pmax pmax
comp=Z,128nm,1.3s
MWC MLR MLR
comp=Z,4µm,22.0s
RRX Edison Barstow 55.41 79 P **P** **03 22 27.8 +0.8**
baz=324
BORG Borgarnes 55.41 3 PFAKE 03 22 40.0 +14
BORG LR LR
comp=Z,4µm,19.0s
BORG Borgarnes 55.41 3 *i* P P 03 22 32.4 +6.0
TGY Tagaytay City 55.43 233 P **P** **03 22 28.1 +0.8**
comp=Z,160nm,0.3s,baz=145,slow=8.6,SNR=6.9
O20A White River Ci 55.43 69 *eP* **P** **03 22 27.5 +0.3**
comp=Z,65nm,0.9s
O20A LR LR
comp=Z,3µm,20.0s
O20A White River Ci 55.43 69 P **P** **03 22 27.5 +0.3**
baz=323,SNR=25
AUQP San Andres 55.45 231 *eP* P 03 22 36.0 +8.7
SNCC San Nicolas Is 55.46 82 *eP* **P** **03 22 30.2 +2.9**
comp=Z,52nm,0.8s
SNCC San Nicolas Is 55.46 82 P **P** **03 22 27.8 +0.5**
baz=324
TUQ Turquoise Moun 55.49 78 P **P** **03 22 28.6 +1.0**
baz=323,SNR=55
LCMT Little Creek M 55.53 75 *eP* **P** **03 22 28.9 +1.0**
comp=Z,71nm,1.3s
LCMT LR LR
comp=Z,3µm,18.0s
KSH Kashi 55.59 290⇑ *i* P **P** **03 22 32.0 +3.7**
KSH PcP **PcP** **03 23 30.6 +2.7**
KSH S **S** **03 30 15.8 +2.0**
KSH ScS **ScS** **03 32 15.8 -1.6**
KSH pmax pmax
comp=Z,73nm,1.3s
KSH pmax pmax
comp=Z,1µm,4.0s
KSH LR LR
comp=Z,10µm,17.9s
BFSC Mount Baldy Ra 55.59 80 P **P** **03 22 29.2 +0.8**
baz=324,SNR=29
PKCU Pink Cliffs 55.64 74 *eP* **P** **03 22 30.4 +1.4**
comp=Z,90nm,1.4s
PKCU LR LR
comp=Z,3µm,21.0s
FMP Fort Macarthur 55.70 81 P **P** **03 22 29.0 +0.1**
baz=324
KNB Kanab 55.73 74 *eP* **P** **03 22 30.7 +1.3**
comp=Z,94nm,1.2s
KNB LR LR
comp=Z,4µm,19.0s
KNB Kanab 55.73 74 *eP* **P** **03 22 30.7 +1.3**
KNB pmax pmax
comp=Z,94nm,1.2s
KNB MLR MLR
comp=Z,4µm,19.0s
HEC Hector,Ludlow 55.77 79 P **P** **03 22 30.5 +0.9**
baz=324,SNR=54
PHWY Pilot Hill 55.79 66 *eP* **P** **03 22 30.0 +0.1**
comp=Z,7.2nm,0.8s
PHWY LR LR
comp=Z,5µm,20.0s
CIS Catalina Islan 55.89 81 P **P** **03 22 30.9 +0.5**
baz=324
N23A Red Feather La 55.89 66 *eP* **P** **03 22 30.9 +0.3**
comp=Z,25nm,0.8s
N23A LR LR
comp=Z,6µm,20.0s
N23A Red Feather La 55.89 66 P **P** **03 22 30.8 +0.2**
baz=323,SNR=16
BBRC Big Bear Solar 55.94 80 P **P** **03 22 31.7 +0.7**
baz=324
LSA Lhasa 56.03 271 P **P** **03 22 32.1 +0.1**
LSA S **S** **03 30 21.5 +0.9**
LSA pmax pmax
comp=Z,40nm,0.7s
LSA LR LR
comp=Z,2µm,13.3s
LSA LR LR
comp=Z,2µm,13.3s
LSA LR LR
comp=Z,6µm,14.0s
LSA Lhasa 56.03 271 *eP* **P** **03 22 32.2 +0.2**
comp=Z,55nm,0.7s
LSA LR LR
comp=Z,5µm,18.0s
LSA Lhasa 56.03 271 *eP* **P** **03 22 32.2 +0.2**
LSA pmax pmax
comp=Z,55nm,0.7s
LSA MLR MLR
comp=Z,5µm,18.0s
GMRC Granite Mounta 56.14 78 P **P** **03 22 33.2 +0.9**
baz=324,SNR=69
SUSD Miller 56.16 59 P **P** **03 22 31.7 -0.5**
baz=324
SCI2 San Clemente I 56.16 82 P **P** **03 22 32.8 +0.5**
baz=324
LDFC Landfair 56.17 77 *eP* **P** **03 22 33.1 +0.6**
comp=Z,123nm,0.9s
LDFC LR LR
comp=Z,3µm,19.0s
IUG luzhnay 56.22 297 *eP* **P** **03 22 30.9 -1.8**
IUG *eS* **S** **03 30 22.8 +0.7**
IUG pmax pmax
comp=Z,422nm,1.1s
IUG smax smax
comp=E,714nm,5.5s
IUG luzhnay 56.22 297 *eP* **P** **03 22 30.9 -1.8**
comp=E,422nm,1.1s
IUG *eS* **S** **03 30 22.9 +0.7**
IUG eLR LR 03 46 41.7
CHM Chimkent 56.27 297 *eP* **P** **03 22 32.6 -0.4**
CHM pmax pmax
comp=Z,781nm,0.9s
CHM Chimkent 56.27 297 *eP* **P** **03 22 32.7 -0.4**
comp=Z,781nm,0.9s
MOL Molde 56.27 347 *eP* **P** **03 22 32.1 -0.6**
PV09 Paradox Valley 56.31 70 *eP* **P** **03 22 34.2 +0.5**
MURC Murrieta 56.33 80 P **P** **03 22 34.0 +0.4**
baz=324,SNR=17
PV21 Cone Mtn., Par 56.34 70 *eP* **P** **03 22 34.5 +0.7**
comp=Z,40nm,0.9s
PV21 LR LR
comp=Z,7µm,20.0s
EYMN Ely 56.39 51 *eP* **P** **03 22 31.8 -2.0**
comp=Z,100nm,1.2s
EYMN LR LR
comp=Z,5µm,18.0s
EYMN Ely 56.39 51 P **P** **03 22 33.2 -0.6**
baz=325
PV23 Carpenter Ridg 56.41 70 *eP* **P** **03 22 34.9 +0.6**
comp=Z,64nm,0.7s
PV10 Paradox Valley 56.45 70 *eP* **P** **03 22 36.1 +1.5**
comp=Z,107nm,1.0s
PV10 LR LR
comp=Z,7µm,22.0s
U15A North Rim 56.46 74 *eP* **P** **03 22 35.8 +1.0**
comp=Z,75nm,1.0s
U15A LR LR
comp=Z,3µm,22.0s
PV14 Lion Creek, Pa 56.46 70 *eP* **P** **03 22 35.6 +0.9**
comp=Z,54nm,0.9s
PV14 LR LR
comp=Z,8µm,20.0s
PV04 Paradox Valley 56.50 70 *eP* **P** **03 22 35.5 +0.6**
comp=Z,60nm,1.0s
PV04 LR LR
comp=Z,8µm,20.0s
PV20 West Nyswonger 56.52 70 *eP* **P** **03 22 35.9 +0.8**
comp=Z,66nm,1.0s
PV20 LR LR
comp=Z,6µm,20.0s
PV19 Morning Glory 56.53 70 *eP* **P** **03 22 35.6 +0.5**
comp=Z,63nm,0.9s
PV19 LR LR
comp=Z,6µm,21.0s
PV16 Nyswonger Mesa 56.56 70 *eP* **P** **03 22 35.3 -0.1**
comp=Z,86nm,1.0s
PV16 LR LR
comp=Z,6µm,20.0s
PV17 East Wray Mesa 56.57 70 *eP* **P** **03 22 36.0 +0.6**
comp=Z,108nm,0.8s
PV17 LR LR
comp=Z,8µm,22.0s
IVI Ivigtut 56.57 18 *eP* **P** **03 22 34.1 -0.7**
comp=Z,68nm,0.8s
IVI LR LR
comp=Z,4µm,20.0s
OTRP Odiongan 56.58 231 *eP* **P** **03 22 35.6 +0.1**
PV07 Paradox Valley 56.59 70 *eP* **P** **03 22 36.2 +0.7**
comp=Z,71nm,0.8s
PV07 LR LR
comp=Z,8µm,20.0s
PV11 David Mesa, Pa 56.59 70 *eP* **P** **03 22 36.2 +0.6**
comp=Z,105nm,0.8s
PV11 LR LR
comp=Z,8µm,21.0s
BELC Belle Mtn. Jos 56.60 79 P **P** **03 22 35.9 +0.3**
baz=324,SNR=33
DOMB Dombas 56.61 346 *eP* **P** **03 22 34.2 -0.9**
PV12 Saucer Basin, 56.61 70 *eP* **P** **03 22 36.3 +0.5**
comp=Z,56nm,0.8s
PV12 LR LR
comp=Z,9µm,20.0s
PV03 Paradox Valley 56.64 70 *eP* **P** **03 22 36.4 +0.4**
comp=Z,53nm,0.9s
PV03 LR LR
comp=Z,6µm,20.0s
NEE2 Needles Airpor 56.66 77 P **P** **03 22 36.7 +0.8**
baz=324
PV05 Paradox Valley 56.66 71 *eP* **P** **03 22 36.8 +0.7**
comp=Z,88nm,0.9s
PV05 LR LR
comp=Z,5µm,20.0s
PFO Pinyon Flats O 56.69 80 *eP* **P** **03 22 36.6 +0.4**
comp=Z,41nm,1.1s
PFO LR LR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 56.69 80 *eP* **P** **03 22 36.6 +0.4**
PFO pmax pmax
comp=Z,41nm,1.1s
PFO MLR MLR
comp=Z,4µm,18.0s
PFO Pinyon Flats O 56.69 80 P **P** **03 22 36.6 +0.4**
baz=324,SNR=31
XPFO Pion Flat 56.69 80 *eP* **P** **03 22 36.6 +0.4**
comp=Z,40nm,1.0s
XPFO LR LR
comp=Z,4µm,18.0s
AKN Aaknes 56.72 347 *eP* **P** **03 22 35.3 -0.6**
PV02 Paradox Valley 56.73 70 *eP* **P** **03 22 37.2 +0.6**
comp=Z,60nm,1.1s
PV02 LR LR
comp=Z,6µm,20.0s
PV13 Radium Mtn., P 56.73 70 *eP* **P** **03 22 37.2 +0.6**
comp=Z,79nm,0.9s
PV13 LR LR
comp=Z,6µm,21.0s
PV15 Paradox Valley 56.74 70 *eP* **P** **03 22 37.3 +0.6**
comp=Z,122nm,0.8s
PV15 LR LR
comp=Z,8µm,20.0s
W13A Hualapai Mount 56.75 76 *eP* **P** **03 22 37.7 +0.9**
comp=Z,31nm,0.9s
W13A LR LR
comp=Z,6µm,18.0s
SMCO Snowmass 56.78 68 *eP* **P** **03 22 37.6 +0.4**
comp=Z,25nm,0.9s
SMCO LR LR
comp=Z,4µm,19.0s
MOS Moscow 56.79 327 *eP* **P** **03 22 34.7 -1.7**
MOS *e* 03 23 31.5
MOS *e* 03 24 41.4
MOS *eS* **S** **03 30 26.1 -2.9**
MOS *eSS* **SS** **03 34 17.4 +1.4**
MOS pmax pmax
comp=Z,125nm,0.7s
MOS pmax pmax
comp=Z,100nm,0.8s
MOS MLR MLR
comp=N,6µm,15.0s
MOS MLR MLR
comp=Z,7µm,15.0s
SJMP San Jose 56.84 232 *eP* **P** **03 22 37.9 +0.6**
PV01 Paradox Valley 56.87 70 *eP* **P** **03 22 38.2 +0.6**
comp=Z,48nm,0.9s
PV01 LR LR
comp=Z,7µm,20.0s
IRM Iron Mountain 56.89 78 P **P** **03 22 38.8 +1.2**
baz=324,SNR=106
ISCO Idaho Springs 56.91 67 *eP* **P** **03 22 38.9 +0.9**
comp=Z,28nm,1.1s
ISCO LR LR
comp=Z,8µm,21.0s
ISCO Idaho Springs 56.91 67 *eP* **P** **03 22 38.9 +0.9**
ISCO pmax pmax
comp=Z,28nm,1.1s
ISCO MLR MLR
comp=Z,8µm,21.0s
ISCO Idaho Springs 56.91 67 P **P** **03 22 38.8 +0.9**
baz=324,SNR=21
109C Camp Elliot, M 56.95 81 P **P** **03 22 38.3 +0.4**
baz=324
CPE Camp Elliot 56.95 81 *eP* **P** **03 22 39.1 +1.2**
comp=Z,66nm,1.3s
CPE LR LR
comp=Z,2µm,21.0s
VSU Vasula 57.01 335 *c i* P **P** **03 22 37.2 -0.8**
VSU pmax pmax
comp=Z,394nm,1.0s
VSU MLR MLR
comp=Z,8µm,16.0s
VSU Vasula 57.01 335 *eP* **P** **03 22 37.1 -0.8**
VSU lAmb lAmb 03 22 41.7
comp=Z,314nm,0.9s
NRS Narsarsuaq 57.02 16 *eP* **P** **03 22 36.6 -1.3**
comp=Z,71nm,1.2s
NRS LR LR
comp=Z,6µm,18.0s
NRS Narsarsuaq 57.02 16 *i* P **P** **03 22 36.2 -1.8**
comp=Z,46nm,1.0s
comp=Z,8µm,17.0s
NRS Narsarsuaq 57.02 16 *i* P **P** **03 22 36.2 -1.8**
NRS pmax pmax
comp=Z,46nm,1.0s
NRS MLR MLR
comp=Z,8µm,17.0s
NC303 NORSAR Array S 57.10 344 *eP* **P** **03 22 37.7 -0.9**
comp=Z,96nm,0.8s
NC204 NORSAR Array S 57.13 345 *eP* **P** **03 22 38.1 -0.8**
comp=Z,100nm,0.8s
BC3 Big Chuckawall 57.15 79 P **P** **03 22 40.0 +0.5**
baz=324,SNR=23
NC405 NORSAR Array S 57.16 344 *eP* **P** **03 22 38.3 -0.7**
comp=Z,141nm,0.9s
PDMCI Parker Dam,Lak 57.27 77 P **P** **03 22 40.8 +0.7**
baz=324,SNR=31
NB201 NORSAR Array S 57.28 344 *eP* **P** **03 22 39.2 -0.7**
comp=Z,209nm,1.1s
MONP2 Monument Peak 57.28 80 P **P** **03 22 41.2 +0.6**
baz=324,SNR=17
NB2 NORSAR Subarra 57.30 344 P **P** **03 22 39.2 -0.9**
comp=Z,134nm,1.4s,baz=17,slow=7.4
NB2 NORSAR Subarra 57.30 344 P **P** **03 22 39.2 -0.9**
baz=17,slow=7.4
NB200 NORSAR Array S 57.30 344 *eP* **P** **03 22 39.0 -1.1**
NOA NORSAR Array B 57.30 344 P **P** **03 22 39.0 -1.1**
NOA NORSAR Array B 57.30 344 P **P** **03 22 39.0 -1.1**
comp=Z,69nm,0.9s,baz=16,slow=7.1,SNR=105
NOA LR LR 03 51 49.4
comp=Z,2µm,18.4s,baz=5.0,slow=41
C40A Isle Royale Na 57.32 50 PFAKE 03 22 50.0 +10
C40A LR LR
comp=Z,6µm,18.0s
C40A Isle Royale Na 57.32 50 P **P** **03 22 38.9 -1.4**
baz=326
BAR Barrett 57.33 80 *eP* **P** **03 22 41.2 +0.6**
comp=Z,19nm,0.9s
BAR LR LR
comp=Z,3µm,21.0s
NBO00 NORSAR Array S 57.37 345 *eP* **P** **03 22 39.8 -0.7**
comp=Z,113nm,1.1s
E38A The Farm, Brul 57.46 52 *eP* **P** **03 22 40.8 -0.6**
comp=Z,142nm,0.9s
E38A LR LR
comp=Z,6µm,19.0s
E38A The Farm, Brul 57.46 52 P **P** **03 22 40.7 -0.7**
baz=325,SNR=15
Y12C Blythe 57.52 78 *eP* **P** **03 22 43.0 +1.0**
comp=Z,99nm,1.1s
Y12C LR LR
comp=Z,3µm,22.0s
Y12C Blythe 57.52 78 P **P** **03 22 42.9 +1.0**
baz=324,SNR=25
NAO01 NORSAR Array S 57.53 345 *eP* **P** **03 22 40.6 -1.1**
comp=Z,72nm,0.8s
BTK Batken 57.54 295 *eP* **P** **03 22 42.2 +0.1**
comp=Z,210nm,0.8s
BTK LR LR
comp=Z,6µm,19.0s
BTK Batken 57.54 295 *eP* **P** **03 22 42.2 +0.1**
BTK pmax pmax
comp=Z,210nm,0.8s
BTK MLR MLR
comp=Z,6µm,19.0s
SWSC Sam W. Stewart 57.55 80 P **P** **03 22 42.7 +0.6**
baz=324,SNR=13
NC602 NORSAR Array S 57.55 344 *eP* **P** **03 22 40.5 -1.2**
comp=Z,68nm,1.0s
NC602 NORSAR Array S 57.55 344 *eP* **P** **03 22 40.5 -1.2**
MSLP Maasin 57.56 227 *eP* **P** **03 22 41.2 -1.2**
OGNE Ogallala 57.62 63 *eP* **P** **03 22 43.5 +0.8**
comp=Z,77nm,1.0s
OGNE LR LR
comp=Z,7µm,21.0s
OGNE Ogallala 57.62 63 P **P** **03 22 42.8 +0.1**
baz=324
BUSP Coron 57.62 233 *eP* **P** **03 22 45.1 +2.3**
OBN Obninsk 57.63 327 *eP* **P** **03 22 41.8 -0.6**
comp=Z,85nm,0.9s
OBN LR LR
comp=Z,8µm,18.0s
OBN Obninsk 57.63 327⇓ *i* P **P** **03 22 42.0 -0.3**
OBN Obninsk 57.63 327 *c i* P **P** **03 22 41.4 -1.0**
OBN *e**SP **sP** **03 22 46.7 0.0**
OBN *e* 03 23 37.7
OBN *i* 03 24 49.7
OBN *eS* **S** **03 30 38.1 -1.9**
OBN *e* 03 32 28.0
OBN *i* SS **SS** **03 34 30.0 +0.8**
OBN pmax pmax
comp=Z,198nm,1.7s
OBN MLR MLR
comp=Z,7µm,17.0s
OBN Obninsk 57.63 327 P **P** **03 22 41.3 -1.0**
comp=Z,15nm,0.8s,baz=188,slow=5.4,SNR=11
WUAZ Wupatki 57.63 74 *eP* **P** **03 22 44.0 +1.1**
comp=Z,101nm,1.1s
WUAZ LR LR
comp=Z,3µm,20.0s
WUAZ Wupatki 57.63 74 P **P** **03 22 44.0 +1.1**
baz=324,SNR=42
IKP In-Ko-Pah, Jac 57.63 80 P **P** **03 22 43.5 +0.6**
baz=324,SNR=16
MVCO Mesa Verde 57.64 71 *eP* **P** **03 22 43.4 +0.3**
comp=Z,19nm,0.8s
MVCO LR LR
comp=Z,5µm,20.0s
MVCO Mesa Verde 57.64 71 P **P** **03 22 43.4 +0.3**
baz=324,SNR=18
ECSD EROS Data Cent 57.73 58 *eP* **P** **03 22 42.9 -0.4**
comp=Z,63nm,0.8s
ECSD LR LR
comp=Z,14µm,19.0s
ECSD EROS Data Cent 57.73 58 P **P** **03 22 42.9 -0.4**
baz=325,SNR=42
F37A Hinrichs Farm, 57.75 54 P **P** **03 22 43.0 -0.5**
baz=325,SNR=12
HYA Hoyanger 57.80 347 *eP* **P** **03 22 43.1 -0.3**
Q24A Divide 57.80 67 *eP* **P** **03 22 45.4 +1.1**
comp=Z,25nm,0.9s
Q24A LR LR
comp=Z,6µm,20.0s
Q24A Divide 57.80 67 P **P** **03 22 45.0 +0.8**
baz=324,SNR=9.9
F38A Pierce - Schro 57.86 53 P **P** **03 22 44.3 +0.1**
baz=325,SNR=69
GLA Glamis 57.94 79 *eP* **P** **03 22 46.0 +1.0**
comp=Z,64nm,1.0s
GLA LR LR
comp=Z,3µm,20.0s
GLA Glamis 57.94 79 *eP* **P** **03 22 46.0 +1.0**
GLA pmax pmax
comp=Z,64nm,1.0s
GLA MLR MLR
comp=Z,3µm,20.0s
GLA Glamis 57.94 79 P **P** **03 22 45.9 +0.9**
baz=324,SNR=13
GUIM Jordan 57.95 229 *eP* **P** **03 22 44.9 -0.2**
S22A 4UR Ranch, Cre 58.00 69 *eP* **P** **03 22 46.7 +1.1**
comp=Z,46nm,0.8s
S22A LR LR
comp=Z,5µm,20.0s
S22A 4UR Ranch, Cre 58.00 69 P **P** **03 22 46.8 +1.1**
baz=324,SNR=81
E39A Mellen 58.04 52 P **P** **03 22 44.3 -1.1**
baz=326
SPMN Marine on St. 58.09 54 *eP* **P** **03 22 45.6 -0.1**
comp=Z,45nm,0.8s
SPMN LR LR
comp=Z,7µm,19.0s
SPMN Marine on St. 58.09 54 P **P** **03 22 45.3 -0.4**
baz=325,SNR=12
Y14A Wickenburg 58.12 77 *eP* **P** **03 22 47.2 +1.0**
comp=Z,80nm,1.5s
Y14A LR LR
comp=Z,3µm,22.0s
D41A Chassel 58.25 50 PFAKE 03 23 00.0 +13
D41A LR LR
comp=Z,5µm,20.0s
D41A Chassel 58.25 50 P **P** **03 22 45.5 -1.4**
baz=326
F39A Loretta 58.28 52 P **P** **03 22 46.9 -0.2**
baz=326,SNR=23
OSL Oslo 58.43 344 *eP* **P** **03 22 47.5 -0.4**
X16A Lo Mia Camp, P 58.49 75 *eP* **P** **03 22 50.5 +1.5**
comp=Z,45nm,1.3s
X16A LR LR
comp=Z,4µm,19.0s
G38A Ridgeland 58.52 53 P **P** **03 22 48.1 -0.6**
baz=326,SNR=18
ASK Askoy 58.57 348 *eP* **P** **03 22 48.6 -0.3**
F40A Park Falls 58.59 52 P **P** **03 22 48.6 -0.7**
baz=326,SNR=16
E41A Kenton 58.59 51 P **P** **03 22 48.7 -0.6**
baz=326
SCHQ Schefferville 58.60 31 *eP* **P** **03 22 48.1 -1.1**
comp=Z,143nm,1.4s
SCHQ LR LR
comp=Z,6µm,21.0s
SCHQ Schefferville 58.60 31 P **P** **03 22 48.0 -1.2**
comp=Z,35nm,0.7s,baz=357,slow=7.5,SNR=20
SCHQ LR LR 03 50 10.3
comp=Z,6µm,20.9s,baz=338,slow=38
SCHQ PKP2bc 03 52 38.6
comp=Z,6.9nm,0.9s,baz=202,slow=2.4,SNR=6.2
SDCO Great Sand Dun 58.62 68 *eP* **P** **03 22 50.8 +0.8**
comp=Z,29nm,1.0s
SDCO LR LR
comp=Z,700nm,18.0s
SDCO Great Sand Dun 58.62 68 P **P** **03 22 50.9 +0.9**
baz=324,SNR=46
GAR Garm 58.62 294 PFAKE 03 23 00.0 +10
GAR LR LR
comp=Z,24µm,18.0s
BER Bergen 58.65 348 *eP* **P** **03 22 49.2 -0.2**
ENPP El Nido 58.66 233 *eP* **P** **03 22 49.1 -0.9**
113A Mohawk Valley, 58.69 78 *eP* **P** **03 22 50.6 +0.5**
comp=Z,74nm,1.5s
G39A Holcombe 58.70 53 P **P** **03 22 49.1 -0.9**
baz=326,SNR=15
SLIT Slitere, Latvi 58.70 337 *eP* **P** **03 22 48.2 -1.6**
SLIT lAmb lAmb 03 22 53.0
comp=Z,788nm,0.9s
W18A Petrified Fore 58.74 73 *eP* **P** **03 22 52.2 +1.5**
comp=Z,78nm,1.4s
W18A LR LR

comp=Z,4µm,18.0s
W18A Petrified Fore 58.74 73 P P 03 22 51.6 +0.9
baz=324,SNR=15
H38A Maiden Rock 58.75 54 P P 03 22 50.2 -0.2
baz=326
COWI Conover 58.82 51 eP P 03 22 50.1 -0.8
comp=Z,26nm,0.9s
COWI LR LR
comp=Z,6µm,18.0s
KONO Kongsberg 58.86 345 eP P 03 22 50.7 -0.2
comp=Z,91nm,0.8s
KONO LR LR
comp=Z,3µm,18.0s
KONO Kongsberg 58.86 345 ceP P 03 22 50.3 -0.6
KONO pmax pmax
comp=Z,236nm,1.7s
KONO Kongsberg 58.86 345 eP P 03 22 50.4 -0.5
KSCO Kaye Shedlock' 58.91 65 eP P 03 22 52.8 +1.0
comp=Z,119nm,1.1s
KSCO LR LR
comp=Z,8µm,20.0s
KSCO Kaye Shedlock' 58.91 65 P P 03 22 52.2 +0.4
baz=325
BGNE Belgrade 58.96 60 eP P 03 22 52.0 0.0
comp=Z,218nm,1.0s
BGNE LR LR
comp=Z,6µm,20.0s
BGNE Belgrade 58.96 60 P P 03 22 51.9 0.0
baz=325,SNR=12
ODD1 Odda 58.97 347 eP P 03 22 51.3 -0.4
E42A Champion 59.02 50 P P 03 22 51.1 -1.2
baz=327
TARA Tarawa 59.05 169 PFAKE 03 23 10.0 +17
TARA LR LR
comp=Z,7µm,19.0s
SHL Shillong 59.06 268 eP P 03 22 51.3 -1.7
comp=Z,31nm,1.0s
SHL Shillong 59.06 268 eP P 03 22 51.3 -1.7
SHL pmax pmax
comp=Z,31nm,1.0s
SHL Shillong 59.06 268 eP P 03 22 50.5 -2.5
SHL eS S 03 31 04.0 +4.1
G40A Rib Lake 59.10 52 eP P 03 22 52.8 -0.1
comp=Z,117nm,1.2s
G40A LR LR
comp=Z,6µm,18.0s
G40A Rib Lake 59.10 52 P P 03 22 52.1 -0.7
baz=326,SNR=13
X18A Snowflake 59.12 74 eP P 03 22 54.6 +1.3
comp=Z,164nm,1.5s
X18A LR LR
comp=Z,4µm,20.0s
F41A Three Lakes 59.14 51 eP P 03 22 52.7 -0.4
comp=Z,49nm,1.0s
F41A LR LR
comp=Z,5µm,21.0s
F41A Three Lakes 59.14 51 P P 03 22 52.3 -0.8
baz=326
H39A Augusta 59.15 53 P P 03 22 52.7 -0.5
baz=326
LPSR Galich'ya Gora 59.17 324 eP P 03 22 52.0 -1.2
LPSR e*SP pP 03 22 55.9 -0.5
LPSR eS S 03 31 00.3 0.0
LPSR pmax pmax
comp=Z,50nm,0.7s
LPSR MLR MLR
comp=Z,9µm,15.0s
E43A Lone Tree Farm 59.42 49 eP P 03 22 54.3 -0.7
comp=Z,68nm,1.2s
E43A LR LR
comp=Z,6µm,19.0s
E43A Lone Tree Farm 59.42 49 P P 03 22 53.6 -1.4
baz=327
CHGR Chuyangaron 59.42 295 PFAKE 03 23 10.0 +15
CHGR LR LR
comp=Z,24µm,18.0s
BLS5 Blasjo 59.47 347 eP P 03 22 54.8 -0.4
F42A Maple Grove Fa 59.50 50 P P 03 22 53.5 -2.0
baz=327
G41A Antigo 59.55 52 P P 03 22 55.0 -0.9
baz=327
VRH Novokhopyorsk 59.55 322 eP P 03 22 54.1 -1.7
VRH e*SP pP 03 22 58.6 -0.4
VRH eS S 03 31 05.0 -0.2
VRH pmax pmax
comp=Z,40nm,0.6s
VRH MLR MLR
comp=Z,9µm,12.0s
H40A Chili 59.56 53 P P 03 22 55.6 -0.4
baz=326,SNR=12
BUKP Musuan 59.57 226 eP P 03 22 56.1 -0.4
IZAR Zarasai 59.61 334 eP P 03 22 55.5 -0.6
IZAR IAmb IAmb 03 23 00.8
comp=Z,69nm,1.1s
T25A Trinidad 59.62 68 eP P 03 22 57.6 +0.9
comp=Z,57nm,1.2s
T25A LR LR
comp=Z,6µm,20.0s
T25A Trinidad 59.62 68 P P 03 22 57.0 +0.2
baz=325,SNR=15
E44A Grand Marais A 59.62 48 PFAKE 03 23 10.0 +14
E44A LR LR
comp=Z,5µm,18.0s
E44A Grand Marais A 59.62 48 P P 03 22 55.3 -1.0
baz=327
I39A Houston 59.74 54 eP P 03 22 56.8 -0.5
comp=Z,40nm,0.8s
I39A LR LR
comp=Z,6µm,19.0s
I39A Houston 59.74 54 P P 03 22 56.3 -1.0
baz=326,SNR=11
F43A Flat Rock, Esc 59.81 50 P P 03 22 56.2 -1.5
baz=327
G42A Mountain 59.81 51 eP P 03 22 57.4 -0.4
comp=Z,150nm,1.5s
G42A LR LR
comp=Z,5µm,20.0s
G42A Mountain 59.81 51 P P 03 22 56.8 -1.0
baz=327
214A Organ Pipe Nat 59.82 78 P P 03 22 58.8 +0.8
baz=325,SNR=23
H41A Junction City 59.85 52 eP P 03 22 57.8 -0.2
comp=Z,112nm,1.0s
H41A LR LR
comp=Z,6µm,21.0s
H41A Junction City 59.85 52 P P 03 22 57.4 -0.7
baz=327,SNR=17
MATQ Matagami 59.87 41 P P 03 22 56.3 -1.7
baz=330
IDID Didziasalis 59.90 333 eP P 03 22 57.5 -0.6
IDID IAmb IAmb 03 23 02.9
comp=Z,71nm,1.0s
VORR Voronezh 59.91 324 eP P 03 22 56.0 -2.3
VORR pmax pmax
comp=Z,250nm,1.6s
F44A Big Bay de Noc 59.97 49 P P 03 22 57.0 -1.8
baz=327
IIGN Ignalina 59.98 333 eP P 03 22 58.3 -0.5
IIGN IAmb IAmb 03 23 03.5
comp=Z,71nm,0.9s
I40A Norwalk 60.07 53 P P 03 22 58.7 -0.9
baz=326,SNR=12
D46A Sault St. Mari 60.09 47 P P 03 22 57.8 -1.8
baz=328,SNR=11
G43A Wallace 60.09 50 eP P 03 22 59.0 -0.6
comp=Z,56nm,0.9s
G43A LR LR
comp=Z,4µm,18.0s
G43A Wallace 60.09 50 P P 03 22 57.6 -2.0
baz=327
J39A Decorah 60.09 54 P P 03 22 58.0 -1.7
baz=326
E45A Wooded Hills, 60.12 48 P P 03 22 59.6 -0.2
baz=328
GUN Gumba 60.13 275 eP P 03 22 59.8 -0.8
comp=Z,688nm,1.0s
DAV Davao City (W) 60.13 225 PFAKE 03 23 10.0 +10
DAV LR LR
comp=Z,4µm,22.0s
DAV Davao City (W) 60.13 225 ‖ iP P 03 23 00.9 +0.6
DAV Davao City (W) 60.13 225 LR LR 03 51 36.8
comp=Z,2µm,18.5s,baz=49,slow=39
JIRN Jiri 60.19 274 eP P 03 23 00.0 -1.0
comp=Z,412nm,1.3s
PAGZ Pagadian 60.21 227 eP P 03 22 58.3 -2.4
I41A Arkdale 60.23 53 eP P 03 23 00.2 -0.4
comp=Z,96nm,1.1s
I41A LR LR
comp=Z,7µm,18.0s
I41A Arkdale 60.23 53 P P 03 22 59.6 -1.0
baz=327
NACGM Naroch 60.27 333 eP P 03 23 02.0 +1.3
NACGM eP P 03 23 02.0 +1.3
NACGM ePPP PPP 03 26 40.0
NACGM ePsP 03 29 22.0
NACGM eS S 03 31 14.0 -0.3
NACGM ePS PnS 03 31 30.0 +3.3
NACGM eSS SS 03 35 20.0 +9.4
NACGM eSSS SSS 03 37 40.0
NACGM eLQ LQ 03 42 12.0
NACGM eLR LR 03 49 22.0
NACGM LRM MLR 03 52 34.0
comp=E,6.8nm,15.0s
NACGM LRM MLR 03 52 50.0
comp=Z,15nm,16.0s
NACGM LRM MLR 03 52 55.0
comp=N,12nm,14.0s
PBUR Paburg 60.27 336 eP P 03 22 59.8 -0.9
PBUR IAmb IAmb 03 23 04.9
comp=Z,231nm,1.0s
D47A Chapleau 60.29 46 P P 03 22 59.2 -1.8
baz=328
VSR Storozhevoye 60.32 323 eP P 03 23 00.0 -1.1
VSR e*SP pP 03 23 04.0 -0.3
VSR eS S 03 31 12.6 -2.5
VSR pmax pmax
comp=Z,40nm,0.8s
VSR MLR MLR
comp=Z,8µm,13.0s
KCP Kidapawan 60.37 225 ‖ eP P 03 23 02.3 +0.4
CBKS Cedar Bluff 60.38 63 eP P 03 23 01.5 -0.3
comp=Z,79nm,0.9s
CBKS LR LR
comp=Z,6µm,21.0s
CBKS Cedar Bluff 60.38 63 eP P 03 23 01.5 -0.3
CBKS pmax pmax
comp=Z,79nm,0.9s
CBKS MLR MLR
comp=Z,6µm,21.0s
CBKS Cedar Bluff 60.38 63 P P 03 23 01.5 -0.3
baz=325,SNR=20
SKNT Sakolnakorn 60.38 252 P P 03 23 02.0 0.0
comp=Z,16nm,1.2s
MICGM Minsk 60.38 332 eP P 03 23 01.0 -0.5
MICGM eP P 03 23 01.0 -0.5
MICGM PM 03 23 04.0
comp=Z,0.9nm,1.0s
MICGM PM 03 23 05.0
comp=N,0.5nm,1.5s
MICGM eS S 03 31 16.0 +0.2
MICGM eSS SS 03 35 30.0 +18
MICGM eLQ LQ 03 47 00.0
MICGM eLR LR 03 51 04.0
MICGM LRM MLR 03 57 14.0
comp=Z,23nm,10.0s
MNK Minsk 60.38 332 eP P 03 23 01.0 -0.5
MNK eS S 03 31 16.0 +0.2
H42A Shiocton 60.39 52 eP P 03 23 01.1 -0.6
comp=Z,168nm,1.3s
H42A LR LR
comp=Z,7µm,20.0s
H42A Shiocton 60.39 52 P P 03 23 00.6 -1.1
baz=327
E46A Sault Ste Mari 60.43 47 P P 03 23 00.2 -1.7
baz=328
J40A Soldiers Grove 60.44 54 P P 03 23 00.8 -1.2
baz=327
SNART Snartemo 60.44 346 eP P 03 23 01.4 -0.4
ANMO Albuquerque 60.44 71 eP P 03 23 03.0 +0.5
comp=Z,20nm,0.9s
ANMO LR LR
comp=Z,3µm,21.0s
ANMO Albuquerque 60.44 71 ceP P 03 23 03.0 +0.5
ANMO pmax pmax
comp=Z,39nm,1.7s
ANMO MLR MLR
comp=Z,3µm,18.0s
ANMO Albuquerque 60.44 71 P P 03 23 02.3 -0.2
baz=325
TUC Tucson 60.52 76 eP P 03 23 03.8 +1.0
comp=Z,54nm,1.4s
TUC LR LR
comp=Z,2µm,21.0s
TUC Tucson 60.52 76 eP P 03 23 03.8 +1.0
TUC pmax pmax
comp=Z,53nm,1.4s
TUC MLR MLR
comp=Z,2µm,21.0s
TUC Tucson 60.52 76 P P 03 23 03.9 +1.1
baz=325
KKN Kakani 60.53 275 eP P 03 23 02.5 -0.7
comp=Z,134nm,0.9s
K39A Oelwein 60.54 55 P P 03 23 01.4 -1.4
baz=326
F45A CMU Biological 60.56 49 P P 03 23 01.1 -1.7
baz=328
IPIL Ipil 60.56 228 eP P 03 23 02.7 -0.5
LAZ Ladron 60.56 72 eP P 03 23 04.2 +0.9
RAMN Ramite 60.56 273 eP P 03 23 02.3 -1.1
comp=Z,350nm,0.9s
PKI Pulchoki 60.65 275 eP P 03 23 03.0 -1.1
comp=Z,164nm,0.9s
PKIN Phulchoki 60.65 275 eP P 03 23 02.9 -1.1
comp=Z,123nm,0.9s
D48A Paudash Townsh 60.65 45 P P 03 23 01.3 -2.2
baz=329,SNR=7.7
SCIA State Center 60.66 56 PFAKE 03 23 20.0 +16
SCIA LR LR
comp=Z,4µm,20.0s
SCIA State Center 60.66 56 P P 03 23 02.2 -1.4
baz=326
GKN Gorkha 60.68 276 eP P 03 23 03.2 -0.9
comp=Z,553nm,1.2s
LSQQ Lebel-sur-Quev 60.69 41 P P 03 23 02.0 -1.7
baz=330
H43A Windswept, Lux 60.72 51 eP P 03 23 07.1 +3.2
comp=Z,140nm,1.3s
H43A LR LR
comp=Z,4µm,19.0s
H43A Windswept, Lux 60.72 51 P P 03 23 01.5 -2.4
baz=327
D49A Beulah Townshi 60.73 45 P P 03 23 01.7 -2.3
baz=329
E47A Iron Bridge 60.74 47 P P 03 23 02.0 -2.0
baz=328,SNR=9.4
I42A Draeger Farm, 60.75 52 PFAKE 03 23 20.0 +16
I42A LR LR
comp=Z,6µm,18.0s
I42A Draeger Farm, 60.75 52 P P 03 23 03.5 -0.7
baz=327,SNR=10
J41A Loganville 60.75 53 P P 03 23 03.2 -1.0
baz=327
F46A Macinaw City C 60.77 48 P P 03 23 02.5 -1.8
baz=328,SNR=10
DMN Daman 60.77 275 eP P 03 23 04.1 -0.7
CHGQ Chibougamau 60.78 39 P P 03 23 02.5 -1.8
baz=331,SNR=14
DANN Dangsing 60.83 277 eP P 03 23 04.8 -0.5
comp=Z,359nm,0.9s
LENM Lemitar 60.84 72 eP P 03 23 06.1 +1.0
K40A Colesburg 60.85 54 P P 03 23 03.5 -1.4
baz=327
LPM Los Pinos Moun 60.88 71 eP P 03 23 09.1 +3.7
Y22D IRIS PASSCAL I 60.94 72 eP P 03 23 07.7 +1.9
comp=Z,63nm,1.0s
Y22D LR LR
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 60.94 72 P P 03 23 07.1 +1.3
baz=325
L39A Vinton 60.98 55 P P 03 23 04.7 -1.1
baz=327
DDMP Don Marcelino, 60.99 224 eP P 03 23 08.4 +2.3
BNM Barren Site 61.01 71 eP P 03 23 07.3 +0.9
SKMP Bagumbayan, Su 61.01 226 eP P 03 23 06.3 +0.1
JFWS Jewell Farm 61.04 54 eP P 03 23 05.1 -1.0
comp=Z,26nm,0.8s
JFWS LR LR
comp=Z,5µm,19.0s
JFWS Jewell Farm 61.04 54 eP P 03 23 05.1 -1.0
JFWS pmax pmax
comp=Z,25nm,0.8s
JFWS MLR MLR
comp=Z,5µm,19.0s
JFWS Jewell Farm 61.04 54 P P 03 23 04.7 -1.5
baz=327
G45A Suttons Bay 61.05 49 P P 03 23 04.8 -1.4
baz=328
I43A Langenfeld Bro 61.06 52 P P 03 23 05.2 -1.1
baz=327
G46A Petoskey 61.11 49 P P 03 23 04.8 -1.8
baz=328,SNR=24
E48A Lockeyer 61.12 46 P P 03 23 04.5 -2.1
baz=329
LAMP Lampang 61.15 257 P P 03 23 07.1 -0.1
comp=Z,44nm,0.8s,comp=Z,269nm
J42A Columbus 61.15 53 P P 03 23 05.8 -1.1
baz=327
CMMT Chiang Mai 61.23 257 P P 03 23 07.0 -0.8
comp=Z,49nm,1.2s,comp=Z,1µm
CHTO Chiang Mai 61.23 257 eP P 03 23 07.0 -0.7
comp=Z,71nm,1.2s
CHTO LR LR
comp=Z,8µm,20.0s
CHTO Chiang Mai 61.23 257 eP P 03 23 07.0 -0.7
CHTO pmax pmax
comp=Z,71nm,1.2s
CHTO MLR MLR
comp=Z,8µm,20.0s
CHTO Chiang Mai 61.23 257 P P 03 23 07.0 -0.7
SNR=28
CHTO P P 03 23 07.0 -0.7
SNR=28
CHTO Chiang Mai 61.23 257 P P 03 23 07.1 -0.7
comp=Z,221nm,1.5s,comp=Z,5µmcomp=Z,9µm
CHTO Chiang Mai 61.23 257 eP P 03 23 07.0 -0.7
H45A Beulah 61.25 50 P P 03 23 06.1 -1.4
baz=328
K41A Shullsburg 61.27 54 P P 03 23 06.4 -1.3
baz=327
L40A Anamosa 61.35 55 eP P 03 23 07.2 -1.1
comp=Z,27nm,0.7s
L40A LR LR
comp=Z,8µm,19.0s
L40A Anamosa 61.35 55 P P 03 23 06.9 -1.4
baz=327
VLDQ Val d'Or 61.35 42 eP P 03 23 05.8 -2.3
comp=Z,45nm,0.8s
UTTA Uttaradit 61.37 255 P P 03 23 08.4 -0.2
comp=Z,18nm,0.8s,comp=Z,152nm
J43A Natural Harves 61.38 52 P P 03 23 07.3 -1.2
baz=327
KOLN Koldanda 61.39 276 eP P 03 23 08.2 -0.8
comp=Z,410nm,1.0s
PYUN Piuthan 61.42 277 eP P 03 23 08.5 -0.7
comp=Z,518nm,1.0s
M39A Webster 61.44 56 P P 03 23 07.2 -1.7
baz=327
BATP Bataraza 61.49 234 eP P 03 23 09.6 +0.1
F48A Evansville 61.51 47 P P 03 23 07.1 -2.2
baz=329
K42A Prairie Point, 61.51 53 P P 03 23 08.1 -1.2
baz=327,SNR=16
KSU1 Kansas State U 61.53 61 PFAKE 03 23 20.0 +10
KSU1 LR LR
comp=Z,8µm,19.0s
CM31 Chiang Mai Arr 61.54 257 eP P 03 23 09.3 -0.5
comp=Z,20nm,0.8s
CM31 Chiang Mai Arr 61.54 257 P P 03 23 09.6 -0.2
SNR=14
CMAR Chiang Mai Arr 61.54 257 iP P 03 23 09.3 -0.5
CMAR pmax pmax
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 61.54 257 P P 03 23 09.4 -0.4
comp=Z,9.6nm,0.8s,baz=7.9,slow=7.3,SNR=20
CMAR LR LR 03 50 44.9
comp=Z,5µm,20.8s,baz=52,slow=37
CM01 Chiang Mai Arr 61.56 257 eP P 03 23 08.9 -1.0
D51A Lot 18 Range I 61.58 44 P P 03 23 07.9 -1.8
baz=330,SNR=9.5
G47A Hillman 61.61 48 P P 03 23 08.2 -1.8
baz=328
GLMI Grayling 61.62 49 eP P 03 23 09.0 -1.2
comp=Z,200nm,0.9s
GLMI LR LR
comp=Z,4µm,19.0s
GLMI Grayling 61.62 49 P P 03 23 08.9 -1.2
baz=328,SNR=13
L41A Preston 61.64 54 P P 03 23 08.8 -1.3
baz=327,SNR=9.6
H46A Fife Lake 61.64 49 P P 03 23 08.8 -1.4
baz=328,SNR=9.0
E50A Wahnapitae 61.68 45 P P 03 23 08.2 -2.2
baz=329
I45A Fountain 61.68 50 P P 03 23 09.2 -1.2
baz=328
F49A Sandfield 61.77 46 P P 03 23 09.0 -2.1
baz=329
M40A Post Highland 61.78 56 P P 03 23 09.7 -1.5
baz=327
121A Cookes Peak, D 61.78 73 P P 03 23 12.5 +1.0
baz=326,SNR=19
SUW Suwalki 61.89 335 eP P 03 23 10.4 -1.4
SUW LMZ LR 03 53 18.1
comp=Z,8µm,16.9s
SUW Suwalki 61.89 335 eP P 03 23 09.4 -2.3
comp=Z,249nm,1.0s
SUW LR LR
comp=Z,6µm,18.0s
SUW Suwalki 61.89 335 eP P 03 23 09.4 -2.3
SUW pmax pmax
comp=Z,249nm,1.0s
SUW MLR MLR
comp=Z,6µm,18.0s
KLNR Kaliningrad 61.95 337 ciP P 03 23 11.1 -1.0
KLNR pmax pmax
comp=Z,198nm,1.0s
KLNR MLR MLR
comp=Z,3µm,16.0s
H47A Mio 61.97 48 P P 03 23 10.9 -1.5
baz=329
K43A Burlington 61.98 53 eP P 03 23 11.9 -0.6
comp=Z,170nm,1.3s
K43A LR LR
comp=Z,6µm,18.0s
K43A Burlington 61.98 53 P P 03 23 11.4 -1.1
baz=328
D52A ZEK Kipawa Sen 62.01 43 P P 03 23 10.7 -1.9
baz=330,SNR=10.0
319A Douglas 62.01 75 eP P 03 23 14.2 +1.2
comp=Z,146nm,1.4s
319A LR LR
comp=Z,4µm,19.0s
MUD Monsted U'grnd 62.02 344 iP P 03 23 12.4 -0.1
comp=Z,4µm,13.0s
MUD Monsted U'grnd 62.02 344 iP P 03 23 12.4 -0.1
MUD MLR MLR
comp=Z,4µm,13.0s
E51A G1948 Merrick 62.02 44 P P 03 23 10.8 -1.9
baz=330
L42A Oliver, Polo 62.03 54 eP P 03 23 11.7 -1.2
comp=Z,116nm,1.3s
L42A LR LR
comp=Z,6µm,19.0s
L42A Oliver, Polo 62.03 54 P P 03 23 11.1 -1.8
baz=327
SUKH Sukhothai 62.04 256 P P 03 23 16.8 +3.6
comp=Z,8.2nm,1.0s
I46A Reed City 62.06 50 P P 03 23 09.2 -3.8
baz=328
J45A Montague 62.12 51 P P 03 23 11.3 -2.2
baz=328
D53A Lac Vacive, Po 62.16 43 P P 03 23 12.5 -1.2
baz=330
PBKT Sadao Pong 62.17 254 P P 03 23 13.9 -0.1
comp=Z,41nm,0.8s,comp=Z,1µm
N40A Mertquake, Sal 62.19 56 P P 03 23 12.0 -1.9
baz=327
M41A Milan 62.20 55 P P 03 23 10.7 -3.3
baz=327
H48A Harrisville 62.21 48 P P 03 23 11.6 -2.4
baz=329
L43A Garden Prairie 62.25 53 P P 03 23 11.3 -3.0
baz=328
CHAI Chaiyaphum 62.26 253 P P 03 23 14.5 -0.2
comp=Z,17nm,1.1s,comp=Z,152nm
COP Copenhagen 62.29 342 iP P 03 23 15.1 +0.8
comp=Z,74nm,1.1s
comp=Z,3µm,15.0s
COP Copenhagen 62.29 342 eP P 03 23 15.1 +0.8
COP pmax pmax
comp=Z,74nm,1.1s

COP MLR MLR
comp=Z,3µm,15.0s
I47A Gladwin 62.35 49 P P 03 23 11.1 -3.8
baz=329
F51A Arnstein 62.39 45 P P 03 23 12.6 -2.6
baz=330
TOBO Tobermory, Bru 62.42 46 P P 03 23 13.5 -2.0
baz=329
BSD Bornholm Skovb 62.43 340⇑ *i*P P 03 23 14.2 -1.1
comp=Z,24nm,0.7s
comp=Z,3µm,14.0s
BSD Bornholm Skovb 62.43 340⇑ *i*P P 03 23 14.2 -1.1
BSD pmax pmax
comp=Z,24nm,0.7s
BSD MLR MLR
comp=Z,3µm,14.0s
D54A Lac Fusel, La 62.45 42 P P 03 23 14.3 -1.3
baz=331,SNR=24
M42A Sheffield 62.46 54 P P 03 23 13.6 -2.1
baz=328
J46A Howard City 62.49 50 P P 03 23 14.8 -1.1
baz=328
I48A Sherman Twp 62.51 48 P P 03 23 14.1 -1.9
baz=329
E52A Mattawa 62.52 44 P P 03 23 14.2 -1.9
baz=330,SNR=9.5
L44A Lake County Fo 62.59 53 P P 03 23 15.1 -1.5
baz=328
N41A Harden Midland 62.63 56 *e*P P 03 23 16.6 -0.3
comp=Z,63nm,1.0s
N41A LR LR
comp=Z,10µm,18.0s
N41A Harden Midland 62.63 56 P P 03 23 15.5 -1.4
baz=327
U32A Winter Ranch, 62.71 64 *e*P P 03 23 17.3 -0.3
comp=Z,75nm,1.0s
U32A LR LR
comp=Z,6µm,20.0s
F52A Sundridge 62.72 44 P P 03 23 15.7 -1.7
baz=330,SNR=7.5
AMTX Amarillo 62.73 67 *e*P P 03 23 17.6 -0.2
comp=Z,53nm,0.7s
AMTX LR LR
comp=Z,6µm,19.0s
AMTX Amarillo 62.73 67 P P 03 23 17.4 -0.3
baz=326
KLBO Killbear Provi 62.78 45 P P 03 23 16.1 -1.8
baz=330
E53A Dumoine, Ponti 62.78 43 P P 03 23 16.2 -1.6
baz=331
M43A Waltham Townsh 62.80 54 P P 03 23 16.4 -1.5
baz=328
KBL Kabul 62.85 292 *e*P P 03 23 17.5 -1.2
comp=Z,318nm,0.9s
KBL LR LR
comp=Z,6µm,19.0s
KBL Kabul 62.85 292 *e*P P 03 23 17.5 -1.2
KBL pmax pmax
comp=Z,318nm,0.9s
KBL MLR MLR
comp=Z,6µm,19.0s
N42A Yates City 62.87 55 P P 03 23 15.7 -2.7
baz=328
J47A Sumner 62.90 50 P P 03 23 17.3 -1.3
baz=329
E54A Lac Daplat, Po 62.90 43 P P 03 23 17.0 -1.6
baz=331,SNR=14
MSTX Muleshoe 62.98 69 *e*P P 03 23 19.3 -0.1
comp=Z,64nm,0.8s
MSTX LR LR
comp=Z,8µm,20.0s
MSTX Muleshoe 62.98 69 P P 03 23 19.2 -0.2
baz=326,SNR=40
BUKO Buck Lake 62.99 45 P P 03 23 17.5 -1.8
baz=330,SNR=7.8
K46A Dorr 62.99 51 P P 03 23 18.0 -1.3
baz=328
ALGO Algonquin Park 63.02 44 P P 03 23 16.8 -2.6
baz=331
I49A Point Hope 63.05 48 P P 03 23 18.1 -1.6
baz=329
BMRO Meriville Lake 63.08 46 P P 03 23 18.1 -1.7
baz=330
O41A Passleys Farm, 63.12 56 P P 03 23 18.8 -1.3
baz=328
N43A Stutzman Famil 63.13 54 P P 03 23 18.7 -1.5
baz=328
HSIG 63.14 78 *e*P P 03 23 21.2 +0.8
comp=Z,141nm,1.5s
HSIG LR LR
comp=Z,2µm,20.0s
M44A Midewin, Midew 63.20 53 *e*P P 03 23 20.0 -0.7
comp=Z,141nm,1.4s
M44A LR LR
comp=Z,6µm,18.0s
M44A Midewin, Midew 63.20 53 P P 03 23 19.5 -1.2
baz=328
CPRX Cap Rock 63.24 70 *e*P P 03 23 23.0 +1.7
J48A Bridge Port 63.24 49 P P 03 23 19.7 -1.2
baz=329
RGN Rugen 63.24 341 *e*P P 03 23 21.1 +0.4
comp=Z,291nm,1.0s
RGN LR LR
comp=Z,2µm,19.0s
RGN Rugen 63.24 341 *e*P P 03 23 20.6 -0.1
comp=Z,320nm,1.1s,baz=15,slow=6.3
RGN *e*pP **sP 03 23 24.7 -0.4**
baz=15,slow=6.3
MANU Manus Island 63.24 198 *e*P P 03 23 24.2 +3.0
comp=Z,56nm,0.9s
MANU LR LR
comp=Z,4µm,19.0s
BRCO Bruce Peninsul 63.30 47 P P 03 23 19.7 -1.6
baz=330
K47A Vermontville 63.31 50 P P 03 23 19.8 -1.6
baz=329
L46A Eue Claire 63.37 51 P P 03 23 20.4 -1.4
baz=328
O42A Bath 63.38 55 P P 03 23 20.4 -1.5
baz=328
HDIL Hopedale 63.40 54 *e*P P 03 23 21.2 -0.9
comp=Z,82nm,1.1s
HDIL LR LR
comp=Z,5µm,18.0s
HDIL Hopedale 63.40 54 P P 03 23 20.7 -1.3
baz=328
BASO Ashfield 63.41 47 P P 03 23 20.3 -1.7
baz=330
P41A Barry, Barry 63.42 56 P P 03 23 21.0 -1.1
baz=328,SNR=15
J49A Marlette 63.43 48 P P 03 23 20.7 -1.4
baz=329
UMPA Umpang Tak 63.51 256 P P 03 23 24.7 +1.7
comp=Z,23nm,1.0s,comp=Z,1µm
LATQ La Tuque 63.51 39 P P 03 23 21.6 -1.0
baz=332,SNR=22
M45A Boilermakers S 63.52 53 P P 03 23 21.6 -1.2
baz=328
K48A Perry 63.53 49 P P 03 23 21.6 -1.3
baz=329
PEMO Pembroke 63.54 43 P P 03 23 20.9 -2.0
baz=331,SNR=12
AKASG Malin Array Be 63.54 329 P P 03 23 21.6 -1.1
comp=Z,63nm,0.7s,baz=27,slow=7.2,SNR=46
AKASG PKP2bc 03 52 20.6
comp=Z,0.3nm,0.3s,baz=231,slow=2.1,SNR=4.8
AKASG LR LR 03 54 51.6
comp=Z,7µm,18.3s,baz=15,slow=40
AKBB Malin Array Si 63.54 329 *e*P P 03 23 21.6 -1.2
comp=Z,92nm,0.9s
AKBB LR LR
comp=Z,9µm,18.0s
AKBB Malin Array Si 63.54 329 *e*P P 03 23 21.6 -1.2
AKBB pmax pmax
comp=Z,92nm,0.9s
AKBB MLR MLR
comp=Z,9µm,18.0s
G53A Haliburton 63.55 44 P P 03 23 21.1 -1.8
baz=331,SNR=16
KIEV Kiev 63.55 329 *e*P P 03 23 21.3 -1.5
comp=Z,98nm,1.0s
KIEV LR LR
comp=Z,8µm,18.0s
KIEV Kiev 63.55 329 *i* P P 03 23 21.7 -1.1
SNR=13
KIEV Kiev 63.55 329 *i* P P 03 23 21.7 -1.1
SNR=13
KIEV Kiev 63.55 329*c i*P P 03 23 21.7 -1.1

KIEV pmax pmax
comp=Z,93nm,0.9s
KIEV MLR MLR
comp=Z,8µm,17.0s
AK11 Malin Array Si 63.58 329 *e*P P 03 23 21.6 -1.4
KDM Kudat 63.59 234 P P 03 23 27.6 +4.1
MNTX Cornudas Mount 63.62 72 *e*P P 03 23 24.2 +0.6
comp=Z,82nm,1.4s
MNTX LR LR
comp=Z,3µm,20.0s
MNTX Cornudas Mount 63.62 72 P P 03 23 23.9 +0.3
baz=326,SNR=46
O43A Sugar Creek Fa 63.62 55 P P 03 23 22.0 -1.5
baz=328
LAWE Loch Awe, Argy 63.65 353 *e*P P 03 23 22.7 -0.6
EAB Aberfoyle 63.65 352 *e*P P 03 23 22.7 -0.7
SADO Sadowa 63.67 45 PFAKE 03 23 40.0 +16
SADO LR LR
comp=Z,4µm,21.0s
N44A Piper City 63.67 54 P P 03 23 22.4 -1.4
baz=326
GDL2 Guadalupe Moun 63.69 71 *e*P P 03 23 24.6 +0.4
F55A Otter Lake 63.71 42 P P 03 23 22.3 -1.6
baz=331,SNR=11
UTHA Uthaitani 63.78 255 P P 03 23 25.0 +0.2
comp=Z,20nm,1.1s,comp=Z,167nm
GKP Gorka Klasztor 63.78 338 *e*P P 03 23 23.4 -0.9
GKP *e*S **S 03 32 01.1 +2.3**
GKP LMZ LR 03 54 40.8
comp=Z,6µm,19.9s
GKP Gorka Klasztor 63.78 338 *e*P P 03 23 23.4 -0.9
GKP *e*S **S 03 32 01.1 +2.3**
GKP MLR MLR
comp=Z,6µm,19.9s
NDI New Delhi 63.79 282 *e*P P 03 23 23.0 -1.7
P42A Winchester 63.79 56 *e*P P 03 23 23.8 -0.8
comp=Z,72nm,1.3s
P42A LR LR
comp=Z,7µm,18.0s
P42A Winchester 63.79 56 P P 03 23 23.2 -1.3
baz=328
ESY Stoneypath 63.80 351 *e*P P 03 23 23.6 -0.8
K49A Clarkson 63.80 49 P P 03 23 23.8 -0.9
baz=329,SNR=20
L47A Sherwood 63.83 51 P P 03 23 23.8 -1.0
baz=329,SNR=13
I51A Listowel 63.83 47 P P 03 23 23.4 -1.4
baz=330
M46A Old House Fiel 63.86 52 *e*P P 03 23 24.5 -0.5
comp=Z,175nm,1.3s
M46A LR LR
comp=Z,8µm,18.0s
M46A Old House Fiel 63.86 52 P P 03 23 23.9 -1.1
baz=329
SRAK Srakaew 63.87 252 P P 03 23 26.3 +1.0
comp=Z,113nm,0.9s,comp=Z,897nm
N45A Kentland 63.88 53 P P 03 23 23.6 -1.5
baz=328
BANO Bancroft 63.88 44 P P 03 23 23.2 -1.9
baz=331,SNR=8.8
SRIG Santa Rosalia 63.91 80 PFAKE 03 23 40.0 +14
SRIG LR LR
comp=Z,2µm,18.0s
Q41A Truxton 63.95 57 P P 03 23 24.5 -1.1
baz=328,SNR=31
TRQ Mont Tremblant 63.96 41 *e*P P 03 23 24.4 -1.3
PGBU Glenifferbraes 64.03 352 *e*P P 03 23 25.4 -0.5
PGBU IAmb IAmb 03 23 30.1
comp=Z,806nm,2.0s
O44A Mansfield 64.08 54 P P 03 23 24.8 -1.7
baz=328
P43A Skaggs, Pawnee 64.08 55 P P 03 23 25.0 -1.5
baz=328
G55A Calabogie 64.09 43 P P 03 23 24.8 -1.7
baz=331,SNR=13
AAM Ann Arbor 64.14 49 *e*P P 03 23 25.9 -0.9
comp=Z,60nm,0.9s
AAM LR LR
comp=Z,5µm,21.0s
AAM Ann Arbor 64.14 49 *e*P P 03 23 25.9 -0.9
AAM pmax pmax
comp=Z,60nm,0.9s
AAM MLR MLR
comp=Z,5µm,21.0s
AAM Ann Arbor 64.14 49 P P 03 23 25.0 -1.9
baz=329
N46A Monticello 64.14 52 P P 03 23 25.1 -1.8
baz=329
L48A N Adams 64.15 50 P P 03 23 26.0 -0.9
baz=329,SNR=17
PLVO Plevna 64.16 43 *e*P P 03 23 25.6 -1.3
comp=Z,50nm,1.2s
PLVO LR LR
comp=Z,6µm,20.0s
PLVO Plevna 64.16 43 P P 03 23 25.0 -1.9
baz=331
WMOK Wichita Mounta 64.18 65 *e*P P 03 23 27.0 -0.2
comp=Z,90nm,0.9s
WMOK LR LR
comp=Z,10µm,18.0s
WMOK Wichita Mounta 64.18 65 *e*P P 03 23 27.0 -0.2
WMOK pmax pmax
comp=Z,90nm,0.9s
WMOK MLR MLR
comp=Z,10µm,18.0s
WMOK Wichita Mounta 64.18 65 P P 03 23 26.9 -0.3
baz=327,SNR=44
M47A Cromwell 64.19 51 P P 03 23 25.5 -1.7
baz=329
ELFO Elginfield 64.25 47 P P 03 23 26.1 -1.5
baz=330
L49A Milan 64.26 50 P P 03 23 26.6 -1.1
baz=329,SNR=12
Q42A Golden Eagle 64.28 56 P P 03 23 27.0 -0.8
baz=328,SNR=11
O45A Potomac 64.30 54 P P 03 23 26.2 -1.7
baz=328
BSEG Bad Segeberg 64.30 343 *e*P P 03 23 27.6 -0.1
comp=Z,340nm,2.1s,baz=15,slow=6.3
BSEG *e*pP **sP 03 23 31.6 -0.5**
baz=15,slow=6.3
ORHO Orleans, Herit 64.31 42 P P 03 23 26.9 -1.0
baz=332
ORIO Orleans, Innes 64.33 42 P P 03 23 26.3 -1.7
baz=332,SNR=18
I53A Kortright Cn E 64.33 46 P P 03 23 26.4 -1.7
baz=330
ACTO Acton 64.35 46 P P 03 23 26.7 -1.5
baz=330
ALFO Alfred 64.38 42 P P 03 23 26.9 -1.4
baz=332,SNR=13
PKRO Pickering 64.39 45 P P 03 23 26.8 -1.7
baz=331
DELO Deloro Mine 64.42 44 P P 03 23 27.1 -1.6
baz=331,SNR=9.1
M48A Edgerton 64.43 51 *e*P P 03 23 28.2 -0.6
comp=Z,42nm,0.8s
M48A LR LR
comp=Z,4µm,18.0s
M48A Edgerton 64.43 51 P P 03 23 27.7 -1.1
baz=329
ESK Eskdalemuir 64.44 352 *e*P P 03 23 28.4 -0.2
comp=Z,58nm,0.9s
ESK LR LR
comp=Z,2µm,18.0s
ESK Eskdalemuir 64.44 352 *e*P P 03 23 27.6 -1.0
ESK Eskdalemuir 64.44 352 *i* P P 03 23 28.9 +0.3
SFIN Lafayette 64.44 53 *e*P P 03 23 27.9 -1.0
comp=Z,50nm,1.2s
SFIN LR LR
comp=Z,6µm,18.0s
SFIN Lafayette 64.44 53 P P 03 23 28.1 -0.7
baz=329
BEL Belsk 64.44 335 *e*P P 03 23 28.5 -0.2
BEL LMZ LR 03 55 53.0
comp=Z,5µm,18.8s
BEL Belsk 64.44 335 *e*P P 03 23 28.5 -0.2
BEL MLR MLR
comp=Z,5µm,18.8s
R41A Rosebud 64.44 57 P P 03 23 27.6 -1.3
baz=328,SNR=18
J52A Paris 64.52 47 P P 03 23 27.7 -1.6
baz=330,SNR=9.0
TUL1 Leonard 64.54 62 *e*P P 03 23 29.2 -0.4
comp=Z,41nm,1.0s
TUL1 LR LR
comp=Z,12µm,21.0s

TUL1 Leonard 64.54 62 P P 03 23 28.9 -0.7
baz=327
H55A Tweed 64.55 44 P P 03 23 27.7 -1.8
baz=331,SNR=8.5
N47A Urbana 64.57 52 P P 03 23 28.1 -1.6
baz=329,SNR=17
K51A Iona Station 64.58 48 P P 03 23 27.1 -2.7
baz=330
DRWO Darlington Wes 64.60 45 P P 03 23 28.3 -1.5
baz=331
P44A Sand Creek, Wi 64.60 55 P P 03 23 28.4 -1.5
baz=328
Q43A New Douglas 64.60 56 P P 03 23 28.4 -1.6
baz=328
DRCO St. Marys Ceme 64.60 45 P P 03 23 27.8 -2.1
baz=331
SDKM Sandakan 64.61 233 P P 03 23 33.4 +3.1
KKM Kota Kinabalu 64.63 234 *e*P P 03 23 32.1 +1.6
comp=Z,64nm,1.2s
KKM LR LR
comp=Z,900nm,20.0s
KKM Kota Kinabalu 64.63 234 P P 03 23 32.1 +1.6
BHH Howats Hill 64.66 352 *e*P P 03 23 29.0 -1.1
I55A Frankford 64.66 44 P P 03 23 28.2 -2.1
baz=331
WLVO Wesleyville 64.67 45 P P 03 23 28.4 -1.8
baz=331
L50A Kingsville 64.68 49 P P 03 23 27.8 -2.7
baz=330
CCM Cathedral Cave 64.70 57 *e*P P 03 23 29.3 -1.3
comp=Z,76nm,1.3s
CCM LR LR
comp=Z,13µm,20.0s
CCM Cathedral Cave 64.70 57 *e*P P 03 23 29.3 -1.3
CCM pmax pmax
comp=Z,76nm,1.3s
CCM MLR MLR
comp=Z,13µm,20.0s
CCM Cathedral Cave 64.70 57 P P 03 23 28.8 -1.9
baz=328
R42A Luebbering 64.70 57 P P 03 23 29.1 -1.5
baz=328,SNR=18
RABL Rabaul 64.72 193 PFAKE 03 23 40.0 +9.1
RABL LR LR
comp=Z,2µm,20.0s
M49A Liberty Center 64.73 50 P P 03 23 28.2 -2.5
baz=330
MAK Makhachkala 64.75 313 *e*P P 03 23 26.0 -4.8
MAK *e* 03 25 47.8
MAK *e*S **S 03 32 03.8 -7.2**
MAK *e*SS **SS 03 36 16.6 -4.6**
MAK pmax pmax
comp=Z,223nm,1.4s
MAK MLR MLR
comp=Z,19µm,16.0s
EDMD Edmundbyers 64.83 351 *e*P P 03 23 30.2 -0.9
H56A Elgin 64.83 43 P P 03 23 28.7 -2.6
baz=332
K52A Tillsonburg 64.83 47 P P 03 23 29.9 -1.5
baz=330
N48A Decatur 64.85 51 P P 03 23 30.0 -1.5
baz=329,SNR=11
CLGH Cloghs, Cushen 64.86 353 *e*P P 03 23 30.6 -0.8
TYNO Tyneside 64.86 46 P P 03 23 29.9 -1.7
baz=331
GEYT Alibeck 64.87 303 P P 03 23 31.7 -0.1
comp=Z,81nm,0.9s,baz=354,slow=4.5,SNR=51
GEYT LR LR 03 54 49.4
comp=Z,6µm,19.2s,baz=50,slow=39
GYA0B ALIBECK ARRAY 64.87 303 *e*P P 03 23 31.8 0.0
comp=Z,122nm,0.9s
GYA0B LR LR
comp=Z,7µm,22.0s
S41A Jillco Farms, 64.89 58 P P 03 23 30.6 -1.2
baz=328,SNR=22
P45A Graceland, Par 64.90 54 *e*P P 03 23 30.9 -1.0
comp=Z,26nm,0.8s
P45A LR LR
comp=Z,4µm,19.0s
P45A Graceland, Par 64.90 54 P P 03 23 30.5 -1.4
baz=329
Q44A Meyer Farm, Va 64.91 55 *e*P P 03 23 35.5 +3.5
comp=Z,40nm,1.1s
Q44A LR LR
comp=Z,9µm,19.0s
Q44A Meyer Farm, Va 64.91 55 P P 03 23 30.6 -1.3
baz=328
O47A Sheridan 64.93 52 P P 03 23 30.3 -1.8
baz=329
JAY Jayapura 64.94 205 P P 03 23 32.1 -0.2
comp=Z,27nm,0.8s,baz=337,slow=12,SNR=5.6
JAY LR LR 03 50 41.2
comp=Z,2µm,20.1s,baz=6.0,slow=35
IDGL Inch Island, C 64.94 354 *e*P P 03 23 27.2 -4.7
PLIO Pelee Island, 65.00 49 P P 03 23 30.9 -1.6
baz=330
STCO Saint Catharin 65.02 46 P P 03 23 31.0 -1.6
baz=331
HHAR Hobbs 65.04 60 *e*P P 03 23 31.5 -1.3
comp=Z,71nm,0.7s
HHAR LR LR
comp=Z,6µm,21.0s
P46A Rosedale 65.04 54 P P 03 23 31.4 -1.4
baz=329
R43A Red Bud 65.07 56 P P 03 23 31.5 -1.5
baz=328,SNR=11
FVM French Village 65.11 57 *e*P P 03 23 31.6 -1.7
comp=Z,58nm,0.6s
FVM LR LR
comp=Z,8µm,18.0s
FVM French Village 65.11 57 *e*P P 03 23 31.6 -1.7
FVM pmax pmax
comp=Z,58nm,0.6s
FVM MLR MLR
comp=Z,8µm,18.0s
N49A Columbus Grove 65.12 51 *e*P P 03 23 32.4 -0.9
comp=Z,40nm,0.9s
N49A LR LR
comp=Z,3µm,19.0s
N49A Columbus Grove 65.12 51 P P 03 23 32.0 -1.3
baz=330,SNR=9.5
S42A Caledonia 65.13 57 P P 03 23 32.0 -1.4
baz=328,SNR=18
M50A Fremont 65.15 50 *e*P P 03 23 32.4 -1.0
comp=Z,34nm,0.8s
M50A LR LR
comp=Z,4µm,22.0s
M50A Fremont 65.15 50 P P 03 23 31.6 -1.8
baz=330
PECO Prince Edward 65.15 44 P P 03 23 31.1 -2.3
baz=332
KESW Keswick, Cumbr 65.15 351 *e*P P 03 23 32.0 -1.3
KESW IAmb IAmb 03 23 38.1
comp=Z,103nm,1.1s
RUE Ruedersdorf 65.16 340 *e*P P 03 23 32.8 -0.5
comp=Z,127nm,1.1s,baz=15,slow=6.3
RUE *e*pP **pP 03 23 36.9 +0.4**
baz=15,slow=6.3
RUE Ruedersdorf 65.16 340 *e*P P 03 23 32.5 -0.8
RUE IAmb IAmb 03 23 36.9
comp=Z,121nm,1.2s
GROC Groznyy 65.16 314 *e*P P 03 23 32.1 -1.4
GROC *e* 03 24 05.1
GROC *e* 03 25 59.7
GROC *e*S **S 03 32 15.9 -0.2**
GROC pmax pmax
comp=Z,73nm,1.0s
Q45A Warren Harvey, 65.27 55 P P 03 23 32.3 -2.0
baz=329
MEDO Medina 65.31 45 P P 03 23 32.9 -1.6
baz=331
O48A Farmland 65.31 52 P P 03 23 32.9 -1.6
baz=329,SNR=31
T41A Mountain View 65.34 58 P P 03 23 33.3 -1.5
baz=328,SNR=22
LONY Lake Ozonia 65.37 42 *e*P P 03 23 33.3 -1.6
comp=Z,110nm,1.5s
LONY LR LR
comp=Z,4µm,22.0s
LONY Lake Ozonia 65.37 42 P P 03 23 33.3 -1.6
baz=332,SNR=9.9
TNTI Ternate 65.41 220 PFAKE 03 23 50.0 +15
TNTI LR LR
comp=Z,1µm,21.0s
TNTI Ternate 65.41 220 P P 03 23 35.2 -0.2
OLIL Olney 65.44 55 *e*P P 03 23 34.5 -0.8
comp=Z,48nm,1.3s

OLIL LR LR
comp=Z,7µm,18.0s
R44A Waltonville 65.44 56 P **P 03 23 34.0 -1.4**
baz=329,SNR=13
J55A Hilton 65.45 45 P **P 03 23 32.9 -2.4**
baz=331
U40A Yellville 65.45 60 P **P 03 23 34.2 -1.3**
baz=328,SNR=19
Q46A CEJHS Indians, 65.49 54 P **P 03 23 34.2 -1.5**
baz=329
FRNY Flat Rock 65.51 41 *e*P **P 03 23 34.3 -1.4**
comp=Z,36nm,0.6s
FRNY LR LR
comp=Z,4µm,20.0s
MOQ Mont Orford 65.52 40 *e*P **P 03 23 35.1 -0.8**
P47A Martinsville 65.53 53 P **P 03 23 34.2 -1.8**
baz=329,SNR=11
M51A Elyria 65.53 49 P **P 03 23 34.3 -1.6**
baz=330
ABTX Abilene, Hawle 65.54 67 *e*P **P 03 23 35.7 -0.5**
comp=Z,58nm,0.9s
ABTX LR LR
comp=Z,6µm,20.0s
ABTX Abilene, Hawle 65.54 67 P **P 03 23 35.9 -0.3**
baz=327,SNR=16
TSM Tawau 65.57 232 P **P 03 23 36.8 +0.4**
KIV Kislovodsk 65.59 317 *e*P **P 03 23 38.4 +2.0**
comp=Z,367nm,1.5s
KIV LR LR
comp=Z,8µm,18.0s
KIV Kislovodsk 65.59 317⇑ *i*P **P 03 23 36.5 +0.1**
KIV Kislovodsk 65.59 317 *i* P **P 03 23 36.6 +0.2**
SNR=16
KIV Kislovodsk 65.59 317 *i* P **P 03 23 36.6 +0.2**
SNR=16
KIV Kislovodsk 65.59 317 *e*P **P 03 23 36.7 +0.2**
KIV pmax pmax
comp=Z,156nm,1.1s
KIV MLR MLR
comp=Z,7µm,17.0s
KIV Kislovodsk 65.59 317 P **P 03 23 36.2 -0.1**
SNR=14
S43A Fulton Ridge, 65.60 57 P **P 03 23 35.2 -1.3**
baz=328,SNR=13
PQI Presque Isle 65.61 36 *e*P **P 03 23 35.4 -1.0**
comp=Z,17nm,0.9s
PQI LR LR
comp=Z,7µm,19.0s
LVV L'vov 65.62 332 *e*P **P 03 23 35.4 -1.0**
LVV *e* 03 26 06.1
LVV *e*PPP PPP 03 27 37.6
LVV *e*S **S 03 32 17.2 -4.3**
LVV *e*PS **PnS 03 32 37.5 -2.5**
LVV *e*SS **SS 03 36 33.2 -1.1**
LVV *e*SSS SSS 03 39 23.7
LVV MLR MLR
comp=N,4µm,14.0s
LVV MLR MLR
comp=E,4µm,14.0s
LVV MLR MLR
comp=Z,2µm,14.0s
KNTN Kanton 65.63 153 PFAKE 03 23 50.0 +13
KNTN LR LR
comp=Z,3µm,20.0s
BATG Bathurst New B 65.63 35 *e*P **P 03 23 35.9 -0.6**
comp=Z,108nm,1.5s
T42A Van Buren 65.63 58 *e*P **P 03 23 35.4 -1.3**
comp=Z,83nm,1.2s
T42A LR LR
comp=Z,12µm,20.0s
T42A Van Buren 65.63 58 P **P 03 23 35.4 -1.3**
baz=328
N50A Nevada 65.65 50 P **P 03 23 35.1 -1.6**
baz=330
M52A Chesterland 65.66 48 P **P 03 23 34.6 -2.2**
baz=330
ERPA Erie 65.67 47 *e*P **P 03 23 35.5 -1.3**
comp=Z,71nm,0.7s
ERPA LR LR
comp=Z,4µm,21.0s
ERPA Erie 65.67 47 P **P 03 23 35.2 -1.6**
baz=331
NCK Nalchik 65.68 316 *i* P **P 03 23 37.0 +0.1**
NCK pmax pmax
comp=Z,41nm,0.8s
NCK MLR MLR
comp=Z,5µm,17.0s
GMM Mts of Mourne 65.69 353 *e*P **P 03 23 35.5 -1.2**
O49A Covington 65.69 51 *e*P **P 03 23 35.8 -1.3**
comp=Z,134nm,1.4s
O49A LR LR
comp=Z,5µm,20.0s
O49A Covington 65.69 51 P **P 03 23 35.6 -1.4**
baz=330,SNR=14
BLO Bloomington 65.70 53 *e*P **P 03 23 35.9 -1.2**
comp=Z,40nm,1.1s
BLO LR LR
comp=Z,7µm,18.0s
BLO Bloomington 65.70 53 *e*P **P 03 23 35.9 -1.2**
BLO pmax pmax
comp=Z,40nm,1.1s
BLO MLR MLR
comp=Z,7µm,18.0s
WIM Isle of Man 65.70 352 *e*P **P 03 23 36.2 -0.7**
L53A Girard 65.71 47 P **P 03 23 35.8 -1.3**
baz=331
KBZ Khabaz 65.72 317 P **P 03 23 37.4 +0.3**
comp=Z,58nm,0.8s,baz=44,slow=5.1,SNR=28
KBZ LR LR 03 54 18.1
comp=Z,5µm,18.0s,baz=37,slow=38
NRDL Niedersach Rie 65.73 343 *e*P **P 03 23 36.6 -0.4**
comp=Z,68nm,1.1s,baz=15,slow=6.3
NRDL *e*pP **pP 03 23 40.6 +0.5**
baz=15,slow=6.3
R45A Skylar, Fairfi 65.74 55 P **P 03 23 35.5 -1.8**
baz=329
SIJI Sorong 65.76 216 P **P 03 23 37.0 -0.6**
comp=Z,69nm,0.8s,baz=13,slow=7.7,SNR=16
SIJI LR LR 03 48 49.3
comp=Z,1µm,21.1s,baz=12,slow=33
N51A Ashland 65.82 49 *e*P **P 03 23 36.4 -1.4**
comp=Z,76nm,0.7s
N51A LR LR
comp=Z,5µm,19.0s
N51A Ashland 65.82 49 P **P 03 23 36.3 -1.5**
baz=330,SNR=14
K55A Perry 65.83 45 P **P 03 23 36.1 -1.7**
baz=331,SNR=8.6
X37A Clayton 65.83 63 *e*P **P 03 23 37.7 -0.3**
comp=Z,45nm,0.9s
X37A LR LR
comp=Z,8µm,20.0s
SIUC Southern Illin 65.84 56 *e*P **P 03 23 37.0 -1.0**
comp=Z,37nm,0.8s
S44A Carbondale 65.84 56 P **P 03 23 36.7 -1.3**
baz=329
U41A Viola 65.86 59 P **P 03 23 36.8 -1.3**
baz=328
MMNY Mt. Morris Dam 65.88 45 *e*P **P 03 23 36.7 -1.5**
comp=Z,45nm,0.8s
MMNY LR LR
comp=Z,4µm,18.0s
P48A Milroy 65.89 52 P **P 03 23 36.8 -1.5**
baz=329,SNR=17
T43A Greenville 65.93 57 P **P 03 23 37.4 -1.1**
baz=328
Q47A Bedord North L 65.94 53 P **P 03 23 37.2 -1.4**
baz=329
PHET Kaeng Krachan 65.97 253 P **P 03 23 42.9 +3.8**
comp=Z,17nm,0.8s,comp=Z,173nm
ASSE Asse, Remlinge 66.00 342 *e*P **P 03 23 38.3 -0.4**
comp=Z,156nm,1.4s,baz=15,slow=6.3
ASSE *e*pP **pP 03 23 42.4 +0.5**
baz=15,slow=6.3
M53A WI Miller and 66.01 48 P **P 03 23 37.8 -1.2**
baz=331,SNR=15
O50A Cable 66.01 51 P **P 03 23 37.6 -1.4**
baz=330,SNR=9.7
ALLY Alegheny Colle 66.02 47 *e*P **P 03 23 37.8 -1.3**
comp=Z,78nm,0.8s
ALLY LR LR
comp=Z,6µm,18.0s
W39A Magazine 66.02 61 *e*P **P 03 23 38.6 -0.6**
comp=Z,48nm,0.9s
W39A LR LR
comp=Z,6µm,19.0s
W39A Magazine 66.02 61 P **P 03 23 38.5 -0.7**
baz=328,SNR=14

DRLN Deer Lake 66.03 28 *e*P **P 03 23 38.0 -1.0**
comp=Z,77nm,1.4s
DRLN LR LR
comp=Z,7µm,22.0s
NCB Newcomb 66.06 42 *e*P **P 03 23 38.4 -1.0**
comp=Z,74nm,1.5s
NCB LR LR
comp=Z,4µm,21.0s
KWP Kalwaria Pacla 66.10 333 *e*P **P 03 23 39.8 +0.3**
KWP *e*S **S 03 32 29.4 +2.0**
KWP LMZ LR 03 57 12.5
comp=Z,7µm,16.1s
KWP Kalwaria Pacla 66.10 333 *e*P **P 03 23 39.7 +0.3**
comp=Z,4µm,1.0s
KWP LR LR
comp=Z,33µm,20.0s
KWP Kalwaria Pacla 66.10 333 *e*P **P 03 23 39.8 +0.3**
KWP *e*S **S 03 32 29.4 +2.0**
KWP MLR MLR
comp=Z,7µm,16.1s
P49A Miami Univ. Ec 66.11 52 P **P 03 23 38.2 -1.4**
baz=330,SNR=20
R46A Gibon Southern 66.12 55 P **P 03 23 38.1 -1.7**
baz=329
PBMO Poplar Bluff 66.13 58 *e*P **P 03 23 38.9 -0.9**
comp=Z,59nm,1.1s
PBMO LR LR
comp=Z,14µm,20.0s
S45A Carrier Mills 66.14 56 P **P 03 23 38.4 -1.5**
baz=329
U42A Revenden 66.15 58 P **P 03 23 38.5 -1.4**
baz=328
N52A McGinn's Farm, 66.17 49 P **P 03 23 38.4 -1.7**
baz=330,SNR=9.9
L55A Hinsdale 66.17 46 P **P 03 23 38.6 -1.5**
baz=331,SNR=14
OJC Ojcow 66.17 335 *e*P **P 03 23 39.7 -0.2**
OJC *e*S **S 03 32 28.4 +0.1**
OJC LMZ LR 03 54 00.1
comp=Z,5µm,20.1s
OJC Ojcow 66.17 335 *e*P **P 03 23 39.8 -0.2**
comp=Z,228nm,1.1s
OJC Ojcow 66.17 335 *e*P **P 03 23 39.7 -0.2**
OJC *e*S **S 03 32 28.4 +0.1**
OJC MLR MLR
comp=Z,5µm,20.1s
ACSO Alum Creek Sta 66.18 50 *e*P **P 03 23 39.2 -0.9**
comp=Z,64nm,1.0s
ACSO LR LR
comp=Z,4µm,18.0s
ACSO Alum Creek Sta 66.18 50 P **P 03 23 38.9 -1.3**
baz=330
ZEI Tsey 66.20 316 *e*P **P 03 23 39.5 -1.0**
ZEI pmax pmax
comp=Z,83nm,0.9s
NEY Neytrino 66.20 317 *i* P **P 03 23 41.1 +0.7**
NEY pmax pmax
comp=Z,6.0nm,0.7s
NEY MLR MLR
comp=Z,4µm,18.0s
T44A Benton 66.22 57 P **P 03 23 38.5 -1.9**
baz=329
LBWR Ladybower, Pea 66.22 350 *e*P **P 03 23 39.6 -0.6**
LBWR IAmb IAmb 03 23 43.7
comp=Z,78nm,0.9s
Q48A North Vernon 66.22 53 P **P 03 23 39.0 -1.4**
baz=330
VT1 Waterbury 66.23 41 *e*P **P 03 23 40.1 -0.3**
comp=Z,116nm,1.3s
VT1 LR LR
comp=Z,4µm,20.0s
IBBN Ibbenburen 66.25 344 *e*P **P 03 23 40.0 -0.4**
comp=Z,425nm,1.9s,baz=15,slow=6.3
IBBN *e*pP **pP 03 23 44.1 +0.5**
baz=15,slow=6.3
USIN University of 66.27 55 *e*P **P 03 23 39.1 -1.6**
comp=Z,42nm,0.6s
USIN LR LR
comp=Z,8µm,19.0s
KSP Ksiaz 66.28 338 *e*P **P 03 23 39.8 -0.8**
KSP *e*S **S 03 32 33.9 +4.4**
KSP LMZ LR 03 58 08.5
comp=Z,6µm,16.2s
KSP Ksiaz 66.28 338 *e*P **P 03 23 39.8 -0.8**
KSP *e*S **S 03 32 33.9 +4.4**
M54A Oil Creek Stat 66.32 47 *e*P **P 03 23 39.5 -1.5**
comp=Z,73nm,0.6s
M54A LR LR
comp=Z,4µm,18.0s
M54A Oil Creek Stat 66.32 47 P **P 03 23 39.6 -1.5**
baz=331,SNR=19
CLZ Clausthal 66.32 342 *e*P **P 03 23 40.7 -0.2**
comp=Z,163nm,1.3s,baz=15,slow=6.3
CLZ *e*pP **sP 03 23 44.8 -0.5**
baz=15,slow=6.3
O51A Pataskala 66.40 50 P **P 03 23 40.0 -1.5**
baz=330,SNR=10
P50A Jamestown 66.40 51 P **P 03 23 40.3 -1.3**
baz=330,SNR=15
TX31 Lajitas Ar. Si 66.40 72 *e*P **P 03 23 42.0 +0.2**
TXAR Lajitas Array 66.40 72 P **P 03 23 42.1 +0.2**
comp=Z,9.4nm,0.7s,baz=315,slow=4.8,SNR=39
TXAR PKP2bc 03 52 13.5
comp=Z,0.8nm,0.9s,baz=139,slow=7.8,SNR=4.3
CLL Collm 66.42 340 *e*P **P 03 23 40.3 -1.2**
comp=Z,122nm,1.1s
CLL LR LR
comp=Z,2µm,20.0s
CLL Collm 66.42 340 *e*P **P 03 23 40.5 -1.0**
comp=Z,125nm,1.1s,baz=15,slow=6.3
CLL *e*pP **pP 03 23 44.5 -0.1**
baz=15,slow=6.3
CLL Collm 66.42 340⇑ *i*P **P 03 23 40.3 -1.2**
comp=Z,31nm,0.9s
CLL *i* Pmax 03 23 44.2
comp=Z,125nm,1.1s
CLL *e*S **S 03 32 30.0 -1.1**
CLL *e*SS **SS 03 36 48.0 +1.4**
CLL *e*SSS SSS 03 39 55.0
CLL *e*SSSS 03 40 43.0
CLL *e*PKPPKPdf 03 52 16.0
comp=Z,72nm,2.4s
CLL Collm 66.42 340⇑ *i*P **P 03 23 40.3 -1.2**
CLL *i* 03 23 44.2
CLL *e*S **S 03 32 30.0 -1.1**
CLL pmax pmax
comp=Z,125nm,1.1s
WME Myndd Eilian 66.43 352 *e*P **P 03 23 41.3 -0.2**
R47A Wooly Knot Far 66.45 54 P **P 03 23 40.4 -1.5**
baz=329
U43A Rector 66.48 58 P **P 03 23 41.0 -1.1**
baz=329
S46A Don Dixon Farm 66.49 55 P **P 03 23 40.6 -1.5**
baz=329
PKME Peaks-Kenny Pk 66.49 38 PFAKE 03 23 50.0 +8.0
PKME LR LR
comp=Z,7µm,21.0s
PKME Peaks-Kenny Pk 66.49 38 P **P 03 23 41.1 -1.0**
baz=334
Q49A Aurora 66.49 52 P **P 03 23 40.5 -1.6**
baz=330
N53A Lisbon 66.50 48 P **P 03 23 40.9 -1.3**
baz=331,SNR=11
PARMO Parma 66.51 57 PFAKE 03 23 50.0 +7.7
PARMO LR LR
comp=Z,11µm,18.0s
ANN Anapa 66.56 321 *e*P **P 03 23 41.4 -1.1**
ANN *e*S **S 03 32 29.3 -3.7**
ANN pmax pmax
comp=Z,87nm,1.3s
STNC Stoke 66.57 351 *e*P **P 03 23 41.8 -0.6**
LBNH Lisbon 66.58 40 *e*P **P 03 23 42.2 -0.4**
comp=Z,190nm,1.4s
LBNH LR LR
comp=Z,5µm,20.0s
LBNH Lisbon 66.58 40 P **P 03 23 42.0 -0.6**
baz=334,SNR=8.9
WHAR Wooly Hollow 66.59 60 *e*P **P 03 23 41.9 -0.9**
comp=Z,64nm,1.1s
WHAR LR LR
comp=Z,10µm,19.0s
WCI Wyandotte Cave 66.60 54 *e*P **P 03 23 42.0 -0.8**
WCI LR LR
comp=Z,4µm,20.0s
WCI Wyandotte Cave 66.60 54 *e*P **P 03 23 42.0 -0.8**
WCI MLR MLR
comp=Z,4µm,20.0s

WCI Wyandotte Cave 66.60 54 P **P 03 23 41.5 -1.4**
baz=329
R48A Northridge Ran 66.62 53 P **P 03 23 41.8 -1.1**
baz=330
UPC Upice 66.65 338 *e*P **P 03 23 42.7 -0.3**
UPC *e*S **S 03 32 36.5 +2.5**
UPC AMS AMS 03 58 10.0
comp=Z,5µm,13.9s
UPC Upice 66.65 338 *e*P **P 03 23 42.7 -0.3**
UPC *e*S **S 03 32 36.5 +2.5**
UPC MLR MLR
comp=Z,5µm,13.9s
MIAR Mount Ida 66.66 61 *e*P **P 03 23 42.8 -0.5**
comp=Z,47nm,1.1s
MIAR LR LR
comp=Z,7µm,20.0s
MIAR Mount Ida 66.66 61 *e*P **P 03 23 42.8 -0.5**
MIAR pmax pmax
comp=Z,47nm,1.1s
MIAR MLR MLR
comp=Z,7µm,20.0s
MIAR Mount Ida 66.66 61 P **P 03 23 42.7 -0.5**
baz=328
T45A Paducah 66.67 56 PFAKE 03 24 00.0 +17
T45A LR LR
comp=Z,4µm,20.0s
T45A Paducah 66.67 56 P **P 03 23 41.8 -1.5**
baz=329
BRG Berggiesshubel 66.67 340 *e*P **P 03 23 42.1 -1.0**
comp=Z,13nm,1.0s
BRG *i* 03 23 46.0
comp=Z,57nm,1.1s
BRG PP **PP 03 26 06.0 -3.2**
BRG S **S 03 32 32.0 -2.3**
BRG SS **SS 03 36 48.0 -2.6**
BRG *e*PKPPKP 03 52 17.1
comp=Z,19nm,1.7s
comp=N,5µm,13.6s
comp=E,3µm,11.7s
comp=Z,6µm,15.2s
BRG Berggiesshubel 66.67 340 *e*P **P 03 23 42.3 -0.9**
comp=Z,176nm,1.9s,baz=15,slow=6.3
BRG *e*pP **pP 03 23 46.3 0.0**
baz=15,slow=6.3
BRG Berggiesshubel 66.67 340 *e*P **P 03 23 42.1 -1.0**
BRG *i* 03 23 46.0
BRG 03 26 06.0
BRG S **S 03 32 32.0 -2.3**
BRG SS **SS 03 36 48.0 -2.6**
BRG pmax pmax
comp=Z,13nm,1.0s
BRG MLR MLR
comp=N,5µm,13.6s
BRG MLR MLR
comp=E,3µm,11.7s
BRG MLR MLR
comp=Z,6µm,15.2s
GTTG Gvttingen 66.67 342 *e*P **P 03 23 42.8 -0.3**
comp=Z,111nm,1.4s,baz=15,slow=6.3
GTTG *e*pP **sP 03 23 46.8 -0.7**
baz=15,slow=6.3
U44A Portageville 66.67 57 P **P 03 23 42.3 -1.0**
baz=329
N54A Moraine State 66.68 48 *e*P **P 03 23 41.9 -1.5**
comp=Z,62nm,0.7s
N54A LR LR
comp=Z,6µm,18.0s
N54A Moraine State 66.68 48 P **P 03 23 42.0 -1.3**
baz=331,SNR=14
IGLA Glengowla, Co 66.68 355 *e*P P 03 23 36.3 -6.8
M55A Ridgway 66.68 46 P **P 03 23 41.9 -1.5**
baz=331,SNR=17
WACR West Acre 66.68 349 *e*P **P 03 23 43.2 +0.1**
WACR IAmb IAmb 03 23 47.0
comp=Z,193nm,1.1s
DSB Dublin 66.71 353 *e*P **P 03 23 38.7 -4.6**
DSB Dublin 66.71 353 *e*P **P 03 23 46.3 +3.0**
comp=Z,69nm,0.9s
DSB LR LR
comp=Z,2µm,20.0s
W41B Gary Mavity, V 66.71 60 *e*P **P 03 23 42.8 -0.8**
comp=Z,184nm,1.4s
W41B LR LR
comp=Z,11µm,18.0s
W41B Gary Mavity, V 66.71 60 P **P 03 23 42.6 -1.0**
baz=328,SNR=25
WTSB Winterswijk 66.72 345 *e*P **P 03 23 42.7 -0.7**
comp=Z,127nm,0.9s
NEUB Neuenburg 66.72 341 *e*P **P 03 23 42.6 -0.8**
comp=Z,91nm,1.1s,baz=15,slow=6.3
NEUB *e*pP **pP 03 23 46.7 +0.1**
baz=15,slow=6.3
O52A Adamsville 66.72 49 *e*P **P 03 23 42.0 -1.5**
comp=Z,57nm,1.0s
O52A LR LR
comp=Z,5µm,19.0s
O52A Adamsville 66.72 49 P **P 03 23 42.1 -1.5**
baz=330,SNR=12
FBE Freiberg 66.73 340 *e*P **P 03 23 43.0 -0.5**
comp=Z,194nm,1.6s,baz=15,slow=6.3
FBE *e*pP **pP 03 23 47.0 +0.4**
baz=15,slow=6.3
DPC Dobruska-Polom 66.74 338 *e*P **P 03 23 43.3 -0.3**
DPC *e*pP **sP 03 23 47.5 -0.6**
DPC *e*PP **PP 03 26 02.5 -7.4**
DPC *e*S **S 03 32 36.5 +1.2**
DPC *e*SS **SS 03 36 50.1 -1.7**
DPC AMS AMS 03 58 10.0
comp=Z,3µm,15.4s
DPC Dobruska-Polom 66.74 338 *e*P **P 03 23 43.3 -0.3**
DPC *e* 03 23 47.5
DPC *e*S **S 03 32 36.5 +1.2**
DPC *e*SS **SS 03 36 50.1 -1.7**
DPC MLR MLR
comp=Z,3µm,15.4s
PVMO Portageville 66.75 57 PFAKE 03 24 00.0 +16
PVMO LR LR
comp=Z,12µm,19.0s
ACCN Adirondack Com 66.77 42 *e*P **P 03 23 43.0 -0.8**
comp=Z,86nm,1.4s
ACCN LR LR
comp=Z,4µm,22.0s
P51A Williamsport 66.80 51 *e*P **P 03 23 42.1 -2.0**
comp=Z,56nm,0.6s
P51A LR LR
comp=Z,4µm,22.0s
P51A Williamsport 66.80 51 P **P 03 23 42.5 -1.5**
baz=330,SNR=17
NIE Niedzica 66.83 335 *e*P **P 03 23 44.3 +0.1**
NIE *e*S **S 03 32 39.1 +2.8**
NIE LMZ LR 03 54 52.2
comp=Z,2µm,20.4s
NIE Niedzica 66.83 335 *e*P **P 03 23 44.3 +0.1**
NIE *e*S **S 03 32 39.1 +2.8**
NIE MLR MLR
comp=Z,2µm,20.4s
TBLG Delisi 66.83 314 *e*P **P 03 23 44.6 +0.3**
comp=Z,172nm,0.9s
TBLG Delisi 66.83 314 *e*P **P 03 23 44.6 +0.3**
TBLG pmax pmax
comp=Z,172nm,0.9s
TBLG Delisi 66.83 314 *i* P **P 03 23 45.2 +0.9**
TBLG IAML_P
comp=Z,1µm,0.4s
O53A New Philadelph 66.84 49 P **P 03 23 42.8 -1.5**
baz=331,SNR=17
CWF Charnwood Fore 66.85 350 *e*P **P 03 23 43.8 -0.3**
CWF IAmb IAmb 03 23 49.0
comp=Z,219nm,1.5s
FOEL Foel Wylfa 66.85 351 *e*P **P 03 23 43.3 -1.0**
FOEL IAmb IAmb 03 23 47.8
comp=Z,88nm,1.0s
OKC Ostrava-Krasne 66.88 336 *e*P **P 03 23 44.1 -0.3**
OKC *e*S **S 03 32 39.4 +2.6**
OKC AMS AMS 03 57 30.0
comp=Z,4µm,15.4s
OKC Ostrava-Krasne 66.88 336 *e*P **P 03 23 44.1 -0.3**
OKC *e*S **S 03 32 39.4 +2.6**
OKC MLR MLR
comp=Z,4µm,15.4s
PVCC Panska Ves 66.89 339 *e*P **P 03 23 43.9 -0.6**
PVCC *e*pP **pP 03 23 47.8 0.0**
PVCC *e*S **S 03 32 37.0 0.0**
PVCC AMS AMS 03 57 30.0
comp=Z,4µm,15.3s
PVCC Panska Ves 66.89 339 *e*P **P 03 23 43.9 -0.6**

PVCC *e* 03 23 47.8
PVCC *eS* **S** **03 32 37.0 0.0**
PVCC MLR MLR
comp=Z,4µm,15.3s
S47A Hartford 66.91 54 P **P** **03 23 43.4 -1.4**
baz=329
SOC Sochi 66.91 319 *d iP* **P** **03 23 45.3 +0.5**
SOC *ePPP* PPP 03 27 46.8
SOC *eS* **S** **03 32 38.5 +1.1**
SOC *eSSS* SSS 03 39 48.7
SOC pmax pmax
comp=Z,121nm,1.5s
SOC MLR MLR
comp=Z,4µm,14.0s
KRLC Kraliky 66.92 337 *eP* **P** **03 23 44.3 -0.5**
KRLC *epP* **pP** **03 23 48.4 +0.4**
KRLC Kraliky 66.92 337 *eP* **P** **03 23 44.3 -0.5**
KRLC *e* 03 23 48.4
HNH Hanover 66.94 41 *eP* **P** **03 23 44.8 -0.1**
comp=Z,124nm,1.5s
HNH LR LR
comp=Z,4µm,20.0s
T46A Princeton 66.96 55 P **P** **03 23 44.0 -1.2**
baz=329
Q50A Georgetown 66.99 52 P **P** **03 23 43.8 -1.5**
baz=330,SNR=13
GNAR Gosnell 66.99 58 *eP* **P** **03 23 45.5 +0.1**
comp=Z,110nm,0.9s
GNAR LR LR
comp=Z,11µm,19.0s
R49A Shelbyville 67.00 53 P **P** **03 23 43.3 -2.1**
baz=330
UALR University of 67.01 60 *eP* **P** **03 23 45.1 -0.4**
comp=Z,26nm,0.9s
UALR LR LR
comp=Z,8µm,18.0s
WVL Waterville 67.01 38 PFAKE 03 24 00.0 +15
WVL LR LR
comp=Z,8µm,21.0s
P52A Corning 67.02 50 P **P** **03 23 43.7 -1.8**
baz=330
BINY Binghamton 67.03 44 *eP* **P** **03 23 43.9 -1.7**
comp=Z,74nm,1.3s
BINY LR LR
comp=Z,5µm,19.0s
BINY Binghamton 67.03 44 P **P** **03 23 43.9 -1.7**
baz=332
X40A Basin Creek Fa 67.04 61 *eP* **P** **03 23 45.2 -0.5**
comp=Z,44nm,1.0s
X40A LR LR
comp=Z,6µm,21.0s
X40A Basin Creek Fa 67.04 61 P **P** **03 23 45.1 -0.6**
baz=328,SNR=18
GLAT Glass 67.04 57 PFAKE 03 24 00.0 +14
GLAT LR LR
comp=Z,12µm,18.0s
KIS Kishinev 67.05 328⇑ *iP* **P** **03 23 44.0 -1.6**
comp=Z,360nm,1.5s
KIS Kishinev 67.05 328 *i* PcP **PcP** **03 24 11.0 -2.8**
KIS Kishinev 67.05 328 *e*PP PP 03 26 12.0 -0.7
KIS *eS* **S** **03 32 35.0 -4.0**
comp=Z,1µm,8.0s
KIS Kishinev 67.05 328⇑ *iP* **P** **03 23 44.0 -1.6**
KIS *i* 03 23 53.0
KIS *i* 03 24 11.0
KIS *e* 03 26 12.0
KIS *eS* **S** **03 32 35.0 -4.0**
KIS *e*PS 03 32 55.0
KIS pmax pmax
comp=Z,360nm,1.5s
KIS pmax pmax
comp=Z,900nm,6.0s
KIS smax smax
comp=N,1µm,8.0s
MORC Moravsky Berou 67.05 337 *eP* **P** **03 23 45.3 -0.4**
comp=N,101nm,1.1s
MORC LR LR
comp=Z,3µm,18.0s
MORC Moravsky Berou 67.05 337⇑ *iP* **P** **03 23 45.5 -0.1**
MORC Moravsky Berou 67.05 337 *eP* **P** **03 23 45.3 -0.4**
MORC pmax pmax
comp=Z,101nm,1.1s
MORC MLR MLR
comp=Z,3µm,18.0s
MORC Moravsky Berou 67.05 337⇑ *iP* **P** **03 23 45.2 -0.4**
HBAR Harrisburg 67.07 58 *eP* **P** **03 23 48.4 +2.5**
comp=Z,92nm,1.1s
HBAR LR LR
comp=Z,9µm,19.0s
WHTX Lake Whitney, 67.08 66 *eP* **P** **03 23 45.8 -0.2**
comp=Z,44nm,0.8s
WHTX LR LR
comp=Z,6µm,19.0s
WHTX Lake Whitney, 67.08 66 P **P** **03 23 45.5 -0.5**
baz=328,SNR=17
Q51A Peebles 67.08 51 *eP* **P** **03 23 44.6 -1.3**
comp=Z,42nm,0.9s
Q51A LR LR
comp=Z,4µm,20.0s
Q51A Peebles 67.08 51 P **P** **03 23 44.5 -1.5**
baz=330,SNR=11
UZH Uzhgorod 67.13 333⇑ *iP* **P** **03 23 45.3 -0.8**
UZH *e* 03 23 55.1
UZH *e* 03 24 19.0
UZH *eS* **S** **03 32 36.4 -3.5**
UZH *eSS* **SS** **03 36 57.3 -0.5**
UZH MLR MLR
comp=Z,900nm,14.0s
BUG Bochum--Univer 67.17 344 *eP* **P** **03 23 45.6 -0.6**
comp=Z,500nm,2.1s,baz=15,slow=6.3
BUG *epP* **pP** **03 23 49.6 +0.2**
baz=15,slow=6.3
S48A Wiedeman Farm, 67.19 54 P **P** **03 23 45.5 -1.1**
baz=330,SNR=7.9
U45A Rockin P Farm, 67.19 57 P **P** **03 23 45.5 -1.1**
baz=329
HLM1 Long Mynd 67.19 351 *eP* **P** **03 23 45.2 -1.2**
HLM1 IAmb IAmb 03 23 46.2
comp=Z,55nm,1.1s
N55A Marion Center 67.20 47 P **P** **03 23 45.3 -1.4**
baz=331,SNR=20
O54A Avella 67.21 48 P **P** **03 23 45.4 -1.4**
baz=331,SNR=9.9
LANS Liptovska Anna 67.26 335 *eP* **P** **03 23 47.4 +0.5**
LANS Liptovska Anna 67.26 335 *eP* **P** **03 23 47.4 +0.5**
JCT Junction City 67.27 68 *eP* **P** **03 23 46.9 -0.4**
comp=Z,47nm,0.7s
JCT LR LR
comp=Z,5µm,19.0s
JCT Junction City 67.27 68 *eP* **P** **03 23 46.9 -0.4**
JCT pmax pmax
comp=Z,47nm,0.7s
JCT MLR MLR
comp=Z,5µm,19.0s
JCT Junction City 67.27 68 P **P** **03 23 46.9 -0.4**
baz=328,SNR=23
LMN Caledonia Moun 67.28 34 PFAKE 03 24 00.0 +13
LMN LR LR
comp=Z,6µm,22.0s
MOX Moxa 67.29 341 *eP* **P** **03 23 46.5 -0.5**
comp=Z,201nm,1.8s,baz=15,slow=6.3
MOX *epP* **pP** **03 23 50.6 +0.3**
baz=15,slow=6.3
MOX *eL* L 03 54 02.3
comp=Z,2µm,21.4s
HALT Halls 67.33 57 PFAKE 03 24 00.0 +13
HALT LR LR
comp=Z,12µm,19.0s
T47A Sharon Grove 67.33 55 *eP* **P** **03 23 46.6 -0.9**
comp=Z,49nm,0.8s
T47A LR LR
comp=Z,7µm,19.0s
T47A Sharon Grove 67.33 55 P **P** **03 23 46.6 -0.9**
baz=329,SNR=15
R50A Paris 67.34 52 P **P** **03 23 46.6 -1.0**
baz=330,SNR=21
TRY Troy 67.35 42 PFAKE 03 24 00.0 +12
TRY LR LR
comp=Z,4µm,19.0s
PLN Plauen 67.35 341 *eP* **P** **03 23 47.0 -0.4**
comp=Z,194nm,1.8s,baz=15,slow=6.3
PLN *epP* **pP** **03 23 51.1 +0.4**
baz=15,slow=6.3
FFD Franklin Falls 67.36 40 *eP* **P** **03 23 47.6 0.0**
comp=Z,44nm,0.6s
FFD LR LR
comp=Z,5µm,20.0s
GGN Saint George 67.36 36 PFAKE 03 24 00.0 +12
GGN LR LR
comp=Z,6µm,20.0s
TANN Tannenbergstha 67.37 340 *eP* **P** **03 23 47.2 -0.4**
comp=Z,326nm,1.7s,baz=15,slow=6.3
TANN *epP* **pP** **03 23 51.3 +0.4**
baz=15,slow=6.3
UBBA Unterbreizbach 67.37 342 *eP* **P** **03 23 47.1 -0.4**
comp=Z,96nm,1.4s,baz=15,slow=6.3
UBBA *epP* **pP** **03 23 51.1 +0.5**
baz=15,slow=6.3
BUR08 Bucovina Ar. S 67.38 331 *eP* **P** **03 23 47.4 -0.4**
comp=Z,78nm,0.9s
PRAR RAŠCA 67.39 330⇓ *iP* **P** **03 23 47.6 -0.1**
S49A Springfield 67.39 53 P **P** **03 23 46.7 -1.1**
baz=330,SNR=9.2
BURAR Bucovina Array 67.40 331⇑ *iP* **P** **03 23 47.5 -0.4**
PRU Pruhonice 67.42 339 *eP* **P** **03 23 47.5 -0.4**
PRU *epP* **pP** **03 23 51.2 +0.1**
PRU *ePP* **PP** **03 26 16.7 +1.0**
PRU *eS* **S** **03 32 44.1 +0.8**
PRU *eSS* **SS** **03 37 05.6 +3.5**
PRU AMS AMS 03 57 00.0
comp=Z,3µm,17.8s
PRU Pruhonice 67.42 339 *eP* **P** **03 23 47.5 -0.4**
PRU *e* 03 23 51.2
PRU *e* 03 26 16.7
PRU *eS* **S** **03 32 44.1 +0.8**
PRU *eSS* **SS** **03 37 05.6 +3.5**
PRU MLR MLR
comp=Z,3µm,17.8s
FAKI Fak Fak 67.43 214 *eP* **P** **03 23 48.1 -0.2**
comp=Z,66nm,0.9s
FAKI LR LR
comp=Z,3µm,21.0s
FAKI Fak Fak 67.43 214 P **P** **03 23 51.3 +3.0**
U46A Springville 67.43 56 P **P** **03 23 47.3 -0.8**
baz=329,SNR=11
P53A Whipple 67.44 49 *eP* **P** **03 23 51.4 +3.3**
comp=Z,67nm,1.2s
P53A LR LR
comp=Z,6µm,19.0s
P53A Whipple 67.44 49 P **P** **03 23 46.7 -1.5**
baz=331
SIM Simferopol' 67.44 324 *ceP* **P** **03 23 47.3 -0.8**
SIM *eS* **S** **03 32 45.0 +1.3**
SIM pmax pmax
comp=Z,161nm,3.1s
SIM pmax pmax
comp=Z,130nm,8.2s
GUNZ Gunzen 67.44 340 *eP* **P** **03 23 47.7 -0.3**
comp=Z,190nm,1.6s,baz=15,slow=6.3
GUNZ *epP* **pP** **03 23 51.8 +0.5**
baz=15,slow=6.3
GOPC GO Pecny, Ondr 67.44 339 *eP* **P** **03 23 47.3 -0.8**
GOPC *epP* **pP** **03 23 51.5 +0.2**
GOPC *ePP* **PP** **03 26 09.1 -6.9**
GOPC *eS* **S** **03 32 46.0 +2.3**
GOPC *eSS* **SS** **03 37 05.8 +3.2**
GOPC AMS AMS 04 03 00.0
comp=Z,4µm,13.5s
GOPC GO Pecny, Ondr 67.44 339 *eP* **P** **03 23 47.3 -0.8**
GOPC *e* 03 23 51.5
GOPC *eS* **S** **03 32 46.0 +2.3**
GOPC *eSS* **SS** **03 37 05.8 +3.2**
GOPC MLR MLR
comp=Z,4µm,13.5s
HPIG 67.45 75 *eP* **P** **03 23 49.8 +1.2**
comp=Z,61nm,1.2s
HPIG LR LR
comp=Z,3µm,21.0s
WERN Wernitzgruen 67.51 340 *eP* **P** **03 23 48.2 -0.3**
comp=Z,360nm,2.1s,baz=15,slow=6.3
WERN *epP* **sP** **03 23 52.2 -0.7**
baz=15,slow=6.3
T48A Bowling Green 67.52 54 P **P** **03 23 47.6 -1.1**
baz=330
NKC Novy Kostel 67.55 340 *eP* **P** **03 23 48.2 -0.5**
NKC *epP* **pP** **03 23 52.0 0.0**
NKC *eS* **S** **03 32 45.6 +0.7**
NKC AMS AMS 03 59 30.0
comp=Z,5µm,13.9s
NKC Novy Kostel 67.55 340 *eP* **P** **03 23 48.2 -0.5**
NKC *e* 03 23 52.0
NKC *eS* **S** **03 32 45.6 +0.7**
NKC MLR MLR
comp=Z,5µm,13.9s
EMMW East Machias 67.55 37 PFAKE 03 24 00.0 +11
EMMW LR LR
comp=Z,9µm,19.0s
TRPA Tarpa 67.55 333⇑ *iP* **P** **03 23 48.9 +0.2**
TRPA Tarpa 67.55 333⇑ *eP* **P** **03 23 48.1 -0.6**
Q52A Bidwell 67.56 50 P **P** **03 23 47.0 -1.9**
baz=331
O55A Ligonier 67.59 47 P **P** **03 23 47.3 -1.8**
baz=331,SNR=8.1
WLAR White Oak Lake 67.59 61 *eP* **P** **03 23 49.2 0.0**
comp=Z,156nm,1.5s
WLAR LR LR
comp=Z,8µm,18.0s
IWEX Carrickbyrne, 67.60 354 *eP* P 03 23 43.9 -5.1
R51A Hillsboro 67.62 52 P **P** **03 23 48.2 -1.1**
baz=330,SNR=23
V45A Humboldt 67.63 57 P **P** **03 23 48.2 -1.2**
baz=329
KSPA Keystone Colle 67.67 44 *eP* **P** **03 23 48.1 -1.5**
comp=Z,25nm,0.8s
KSPA LR LR
comp=Z,5µm,19.0s
P54A Burton 67.68 49 P **P** **03 23 48.3 -1.4**
baz=331,SNR=8.9
VRAC Vranov 67.69 337⇑ *iP* **P** **03 23 49.5 -0.1**
VRAC Vranov 67.69 337⇑ *iP* **P** **03 23 49.5 -0.1**
LEOM Leova 67.69 328⇑ *iP* **P** **03 23 49.1 -0.5**
MCH1 Michaelchurch 67.72 351 *eP* **P** **03 23 49.0 -0.8**
MCH1 IAmb IAmb 03 23 54.6
comp=Z,355nm,2.1s
U47A Clarksville 67.73 55 P **P** **03 23 49.1 -0.9**
baz=330
SSPA Standing Stone 67.73 46 *eP* **P** **03 23 48.4 -1.6**
comp=Z,119nm,1.4s
SSPA LR LR
comp=Z,6µm,19.0s
SSPA Standing Stone 67.73 46 P **P** **03 23 48.3 -1.6**
baz=332
EPOS Posof 67.74 316 *i* P P 03 23 54.8 +4.6
MET Memphis--Engin 67.75 58 PFAKE 03 24 00.0 +10
MET LR LR
comp=Z,8µm,20.0s
BMR Baia Mare 67.76 332⇑ *iP* **P** **03 23 50.4 +0.4**
WVT Waverly 67.77 56 *eP* **P** **03 23 49.4 -0.9**
comp=Z,70nm,1.0s
WVT LR LR
comp=Z,4µm,20.0s
WVT Waverly 67.77 56 *eP* **P** **03 23 49.4 -0.9**
WVT pmax pmax
comp=Z,70nm,1.0s
WVT MLR MLR
comp=Z,4µm,20.0s
WVT Waverly 67.77 56 P **P** **03 23 49.0 -1.3**
baz=329
W44A Shelby Farms P 67.78 58 P **P** **03 23 49.9 -0.5**
baz=329
O56A Blue Knob Stat 67.81 47 *eP* **P** **03 23 49.3 -1.2**
comp=Z,56nm,0.9s
O56A LR LR
comp=Z,3µm,21.0s
O56A Blue Knob Stat 67.81 47 P **P** **03 23 48.9 -1.6**
baz=332
BIZ Bicaz 67.81 330⇓ *iP* **P** **03 23 50.0 -0.4**
S50A Richmond 67.83 53 P **P** **03 23 49.6 -1.1**
baz=330,SNR=12
MANZ Manzenberg 67.84 341 *eP* **P** **03 23 50.0 -0.6**
comp=Z,146nm,1.8s,baz=15,slow=6.3
MANZ *epP* **pP** **03 23 54.1 +0.3**
baz=15,slow=6.3
X43A Marvell 67.86 59 *eP* **P** **03 23 50.9 +0.1**
comp=Z,112nm,1.3s
X43A LR LR
comp=Z,8µm,18.0s
X43A Marvell 67.86 59 P **P** **03 23 50.0 -0.8**
baz=329
MONM Monmouth 67.86 351 *eP* **P** **03 23 49.9 -0.7**
MONM IAmb IAmb 03 23 54.7
comp=Z,262nm,1.4s
MCWV Mont Chateau 67.87 48 *eP* **P** **03 23 50.0 -0.8**
comp=Z,26nm,1.1s
MCWV LR LR
comp=Z,3µm,18.0s
MCWV Mont Chateau 67.87 48 P **P** **03 23 49.3 -1.6**
baz=331
T49A Edmonton 67.87 54 *eP* **P** **03 23 50.3 -0.6**
comp=Z,43nm,1.0s
T49A LR LR
comp=Z,5µm,20.0s
T49A Edmonton 67.87 54 P **P** **03 23 49.8 -1.2**
baz=330,SNR=9.5
STRD Stroud 67.87 350 *eP* **P** **03 23 50.2 -0.5**
STRD IAmb IAmb 03 23 55.6
comp=Z,239nm,1.2s
RSBS Rosebush, Pemb 67.89 352 *eP* **P** **03 23 50.5 -0.3**
RSBS IAmb IAmb 03 23 55.5
comp=Z,197nm,2.0s
JAVC Velka Javorina 67.90 336⇑ *iP* **P** **03 23 51.7 +0.7**
TREC Trest 67.91 338 *eP* **P** **03 23 50.6 -0.4**
TREC *eS* **S** **03 32 52.4 +3.1**
TREC AMS AMS 03 59 00.0
comp=Z,6µm,14.8s
TREC Trest 67.91 338 *eP* **P** **03 23 50.6 -0.4**
TREC *eS* **S** **03 32 52.4 +3.1**
TREC MLR MLR
comp=Z,6µm,14.8s
Q53A Leroy 67.93 50 P **P** **03 23 50.0 -1.3**
baz=331,SNR=10.0
V46A Holladay 67.93 56 P **P** **03 23 50.4 -0.9**
baz=329
R52A Catlettsburg 67.95 51 P **P** **03 23 49.7 -1.8**
baz=331
KRUC Moravsky 67.96 337⇑ *iP* **P** **03 23 50.9 -0.4**
U48A Cassie Pea, Po 67.97 55 P **P** **03 23 50.4 -1.2**
baz=330
CCAR Cane Creek 67.98 60 *eP* **P** **03 23 52.2 +0.5**
comp=Z,230nm,1.5s
CCAR LR LR
comp=Z,8µm,18.0s
HGN Heimansgroeve 68.01 345 *eP* **P** **03 23 50.6 -0.9**
comp=Z,340nm,1.8s
HGN *eS* **S** **03 32 55.1 +4.9**
P55A Reedsville 68.01 48 P **P** **03 23 50.4 -1.4**
baz=331
BEBN Eben Emael 68.01 345 ⇑P **P** **03 23 49.7 -1.8**
BEBN ⇑pP **pP** **03 23 54.5 -0.3**
BEBN ⇑sP **sP** **03 23 56.0 +0.1**
VYHS Vyhne 68.01 335 *eP* **P** **03 23 51.6 -0.1**
VYHS pmax pmax
comp=Z,177nm,1.9s
VYHS Vyhne 68.01 335 *eP* **P** **03 23 51.6 -0.1**
VYHS *ePP* **PP** **03 26 23.1 +2.1**
VYHS *eS* **S** **03 32 53.1 +2.6**
VYHS *eSS* SS 03 38 19.6 +68
VYHS *eL* L 03 57 30.4
435B Jarrell 68.04 66 *eP* **P** **03 23 52.0 -0.1**
comp=Z,43nm,0.9s
435B LR LR
comp=Z,7µm,20.0s
435B Jarrell 68.04 66 P **P** **03 23 51.7 -0.4**
baz=328
ROTZ Rotzenmuhle 68.04 340 *eP* **P** **03 23 51.5 -0.3**
comp=Z,154nm,1.6s,baz=15,slow=6.3
ROTZ *epP* **sP** **03 23 55.5 -0.7**
baz=15,slow=6.3
BIR Birlad 68.04 329⇓ *iP* **P** **03 23 52.5 +0.6**
TESR Tescani 68.07 329⇑ *iP* **P** **03 23 51.5 -0.5**
AHRW Bad Neuenahr-A 68.07 344 *eP* **P** **03 23 51.7 -0.3**
comp=Z,138nm,1.5s,baz=15,slow=6.3
AHRW *epP* **sP** **03 23 55.7 -0.6**
baz=15,slow=6.3
Q54A Coxs Mills 68.08 49 P **P** **03 23 50.4 -1.8**
baz=331
Z41A Richland Creek 68.09 61 *eP* **P** **03 23 52.7 +0.3**
comp=Z,134nm,1.5s
Z41A LR LR
comp=Z,8µm,20.0s
Z41A Richland Creek 68.09 61 P **P** **03 23 52.2 -0.2**
baz=329
ARCR ARCALIA 68.10 331⇑ *iP* **P** **03 23 53.0 +0.8**
SWN1 Swindon 68.10 350 *eP* **P** **03 23 51.5 -0.6**
SWN1 IAmb IAmb 03 23 56.4
comp=Z,571nm,1.4s
MEM Membach 68.15 345 ⇑P **P** **03 23 51.7 -0.7**
MEM ⇑pP **pP** **03 23 55.5 -0.2**
comp=Z,117nm,1.1s
EAK Akyaka 68.15 315 *i* P **P** **03 23 53.2 +0.4**
EAK IAML_P
comp=Z,32nm,0.1s
V47A Nunnelly 68.16 56 P **P** **03 23 51.5 -1.3**
baz=330,SNR=9.6
UCC Uccle 68.17 346 *eP* **P** **03 23 52.1 -0.5**
comp=Z,34nm,0.9s
UCC LR LR
comp=Z,2µm,18.0s
UCC Uccle 68.17 346 *eP* **P** **03 23 52.1 -0.5**
UCC pmax pmax
comp=Z,34nm,0.9s
UCC MLR MLR
comp=Z,2µm,18.0s
UCC Uccle 68.17 346 ⇑P **P** **03 23 51.6 -1.0**
UCC ⇑pP **pP** **03 23 55.1 -0.7**
BCA Borcka 68.17 317⇑ *iP* **P** **03 23 51.3 -1.5**
TNS Taunus Mts 68.19 343 *eP* **P** **03 23 52.3 -0.5**
comp=Z,71nm,1.2s,baz=15,slow=6.3
TNS *epP* **pP** **03 23 56.3 +0.3**
baz=15,slow=6.3
QUA2 Belchertown 68.19 41 PFAKE 03 24 00.0 +7.1
QUA2 LR LR
comp=Z,4µm,20.0s
VAL Valentia 68.19 356 *eP* P 03 23 47.7 -5.0
GNI Garni 68.22 314 *eP* **P** **03 23 54.7 +1.5**
comp=Z,168nm,1.1s
GNI LR LR
comp=Z,9µm,19.0s
GNI Garni 68.22 314 *i* P **P** **03 23 54.1 +0.8**
SNR=9.8
GNI Garni 68.22 314 *i* P **P** **03 23 54.1 +0.8**
SNR=9.8
GNI Garni 68.22 314 *c iP* **P** **03 23 54.4 +1.1**
GNI MLR MLR
comp=Z,23µm,19.0s
GNI Garni 68.22 314 P **P** **03 23 53.9 +0.7**
SNR=8.2
GNI P P **03 23 53.9 +0.7**
SNR=8.2
T50A Nancy 68.22 53 P **P** **03 23 52.1 -1.0**
baz=330,SNR=13
R53A Hurricane 68.23 50 P **P** **03 23 51.9 -1.3**
baz=331,SNR=13
N59A State Game Lan 68.24 45 *eP* **P** **03 23 51.9 -1.4**
comp=Z,30nm,0.6s
N59A LR LR
comp=Z,4µm,20.0s
N59A State Game Lan 68.24 45 P **P** **03 23 51.5 -1.7**
baz=333,SNR=8.3
HRV Adam Dziewonsk 68.25 41 *eP* **P** **03 23 53.0 -0.2**
comp=Z,85nm,1.1s
HRV LR LR
comp=Z,4µm,21.0s
HRV Adam Dziewonsk 68.25 41 P **P** **03 23 51.9 -1.3**
baz=334
GRA1 Grafenberg Arr 68.27 341 *eP* **P** **03 23 53.0 -0.2**
comp=Z,135nm,1.2s
GRA1 LR LR
comp=Z,2µm,22.0s
GRF Grafenberg Arr 68.27 341 *eP* **P** **03 23 53.1 -0.2**
comp=Z,348nm,1.8s,baz=15,slow=6.3
GRF *epP* **sP** **03 23 57.2 -0.5**
baz=15,slow=6.3
GRF *eL* L 03 54 31.6
comp=Z,2µm,20.9s
GRF Grafenberg Arr 68.27 341 *eP* **P** **03 23 53.0 -0.2**
GRF pmax pmax
comp=Z,135nm,1.2s
GRF MLR MLR
comp=Z,2µm,22.0s
GRFO Grafenberg 68.28 341 *eP* **P** **03 23 53.0 -0.2**
comp=Z,101nm,1.1s
GRFO LR LR
comp=Z,2µm,18.0s
SMOL Smolenice 68.28 336 *eP* **P** **03 23 54.2 +0.9**
SMOL Smolenice 68.28 336 *eP* **P** **03 23 54.2 +0.9**
U49A Red Boiling Sp 68.28 54 P **P** **03 23 52.3 -1.2**
baz=330,SNR=9.8

ARTV Artvin 68.30 316 *i* P P 03 23 53.4 -0.4
ARTV IAML_P
comp=Z,423nm,0.1s
PSZ Piszkesteto 68.34 335 *e*P P 03 23 53.8 0.0
comp=Z,98nm,1.0s
PSZ LR LR
comp=Z,4µm,20.0s
PSZ Piszkesteto 68.34 335⇑ *i*P P 03 23 54.1 +0.3
PSZ Piszkesteto 68.34 335⇑ *e*P P 03 23 53.1 -0.7
S52A Salyersville 68.35 52 P P 03 23 52.6 -1.4
baz=331
Q55A Buckhannon 68.36 49 P P 03 23 52.9 -1.1
baz=331,SNR=7.4
W46A Michie 68.39 57 P P 03 23 52.7 -1.6
baz=330
LTVH Ltavrtes, Hu 68.40 333⇑ *e*P P 03 23 54.0 0.0
DAGI Agillar 68.40 316 *i* P P 03 23 53.2 -1.1
DAGI IAML_P
comp=Z,167nm,0.9s
KHC Kasperske Hory 68.42 339 *e*P P 03 23 53.4 -0.8
comp=Z,39nm,1.3s
KHC LR LR
comp=Z,1µm,19.0s
KHC Kasperske Hory 68.42 339 *e*P P 03 23 53.9 -0.3
KHC *ex* x 03 24 05.0
KHC *e*PP **PP** 03 26 18.8 -5.7
KHC *e*S **S** 03 32 55.5 +0.1
KHC *e*SS **SS** 03 37 07.5 -10
KHC Kasperske Hory 68.42 339 *e*P P 03 23 53.9 -0.3
KHC *e*S **S** 03 32 55.5 +0.1
BCLA Clavier 68.42 345 ⇑P P 03 23 53.3 -0.9
BCLA ⇑pP **pP** 03 23 57.0 -0.5
comp=Z,46nm,1.7s
BCLA ⇑PP **PP** 03 26 22.9 -1.6
WES Weston 68.44 41 *e*P P 03 23 54.1 -0.2
comp=Z,118nm,1.2s
WES LR LR
comp=Z,4µm,20.0s
MODS Modra-Piesok 68.44 337 *e*P P 03 23 54.7 +0.3
MODS pmax pmax
comp=Z,107nm,1.1s
MODS Modra-Piesok 68.44 337 *e*P P 03 23 54.7 +0.3
MODS *e*PP **PP** 03 26 24.9 +0.2
MODS *e*S **S** 03 32 50.5 -5.2
MODS *e*SS **SS** 03 37 25.9 +7.8
MODS *e*L L 03 56 04.4
SNF Seneffe 68.47 346 ⇑P P 03 23 53.5 -0.9
SNF ⇓pP **pP** 03 23 57.6 -0.1
OXF Oxford 68.49 58 *e*P P 03 23 54.0 -0.8
comp=Z,145nm,1.3s
OXF LR LR
comp=Z,8µm,18.0s
OXF Oxford 68.49 58 *e*P P 03 23 54.0 -0.8
OXF pmax pmax
comp=Z,145nm,1.3s
OXF MLR MLR
comp=Z,8µm,18.0s
OXF Oxford 68.49 58 P P 03 23 54.0 -0.8
baz=329,SNR=12
ODNJ Ogdensburg 68.50 44 PFAKE 03 24 10.0 +15
ODNJ LR LR
comp=Z,5µm,19.0s
PAGS Pennsylvania G 68.51 46 *e*P P 03 23 53.4 -1.5
PAGS LR LR
comp=Z,4µm,18.0s
V48A Smith Brothers 68.52 55 *e*P P 03 23 53.8 -1.2
comp=Z,29nm,0.9s
V48A LR LR
comp=Z,8µm,19.0s
V48A Smith Brothers 68.52 55 P P 03 23 53.8 -1.2
baz=330,SNR=12
WET Wettzell 68.53 340 *e*P P 03 23 54.8 -0.1
comp=Z,301nm,1.9s,baz=15,slow=6.3
WET *e*pP **sP** 03 23 58.8 -0.5
baz=15,slow=6.3
DBAD Bademkaya 68.53 316 *i* P P 03 23 56.1 +1.0
DBAD IAML_P
comp=Z,652nm,0.5s
BCX Boston College 68.53 41 *e*P P 03 23 54.9 0.0
comp=Z,163nm,1.4s
BCX LR LR
comp=Z,4µm,19.0s
NATX Nacogdoches 68.54 64 *e*P P 03 23 55.7 +0.5
comp=Z,95nm,1.1s
NATX LR LR
comp=Z,4µm,19.0s
NATX Nacogdoches 68.54 64 P P 03 23 55.1 -0.1
baz=328
GBN Guysborough 68.60 32 *e*P P 03 23 55.3 0.0
comp=Z,185nm,1.4s
GIUM Giurgiulesti 68.61 328⇑ *i*P P 03 23 55.8 +0.4
W47A Westpoint 68.62 56 P P 03 23 54.4 -1.3
baz=330
T51A Gray 68.63 53 P P 03 23 54.6 -1.1
baz=330
CJR Cluj-Napoca 68.63 332⇑ *i*P P 03 23 55.8 +0.2
VRI Vrincioaia 68.65 329⇑ *i*P P 03 23 56.1 +0.4
PETR Petresti 68.65 329⇑ *i*P P 03 23 56.1 +0.4
PLAL Pickwick Lake 68.65 57 *e*P P 03 23 54.5 -1.4
comp=Z,43nm,1.1s
PLAL LR LR
comp=Z,7µm,19.0s
LUPA Lehigh Univers 68.66 44 *e*P P 03 23 54.6 -1.2
comp=Z,2.7nm,0.8s
LUPA LR LR
comp=Z,400nm,20.0s
ODBI Odobesti 68.66 329⇑ *i*P P 03 23 56.4 +0.7
LUWI Luwuk 68.66 224 PFAKE 03 24 10.0 +14
LUWI LR LR
comp=Z,1µm,20.0s
GEC2 GERESS Array S 68.67 339 *e*P P 03 23 55.2 -0.7
comp=Z,71nm,1.1s
GEC2 LR LR
comp=Z,3µm,21.0s
GEC2 GERESS Array S 68.67 339 *e*P P 03 23 55.4 -0.5
comp=Z,69nm,1.1s,baz=15,slow=6.3
GEC2 *e*pP **pP** 03 23 59.4 +0.3
baz=15,slow=6.3
GEC2 GERESS Array S 68.67 339 *e*P P 03 23 55.2 -0.7
GEC2 pmax pmax
comp=Z,71nm,1.1s
GEC2 MLR MLR
comp=Z,3µm,21.0s
GERES GERESS Array B 68.67 339 P P 03 23 55.2 -0.7
comp=Z,28nm,0.9s,baz=27,slow=4.5,SNR=80
GERES LR LR 03 57 39.4
comp=Z,3µm,19.1s,baz=18,slow=39
OZUR 68.67 330⇓ *i*P P 03 23 56.7 +0.8
GEA0 GERESS Array S 68.68 339 *e*P P 03 23 54.5 -1.4
PLOR Plostina 68.68 329⇓ *i*P P 03 23 55.4 -0.5
IGDI IGDIR 68.70 314 *i* P P 03 23 57.2 +1.0
IGDI IAML_P
comp=Z,244nm,0.6s
R54A Victor 68.72 50 P P 03 23 55.1 -1.2
baz=331,SNR=8.0
TLCR 68.73 327⇓ *i*P P 03 23 55.7 -0.4
HAL Halifax 68.74 34 *e*P P 03 23 55.7 -0.5
comp=Z,141nm,1.4s
HAL LR LR
comp=Z,5µm,20.0s
HAL Halifax 68.74 34 *e*P P 03 23 55.7 -0.5
HAL pmax pmax
comp=Z,141nm,1.4s
HAL MLR MLR
comp=Z,5µm,20.0s
U50A Jamestown 68.75 54 P P 03 23 55.6 -0.9
baz=330,SNR=13
DRGR 68.77 332⇑ *i*P P 03 23 56.2 -0.3
SRO Srobarova 68.77 336 *e*P P 03 23 56.9 +0.5
SRO Srobarova 68.77 336 *e*P P 03 23 56.9 +0.5
BRYW Bryant College 68.78 41 PFAKE 03 24 10.0 +13
BRYW LR LR
comp=Z,4µm,18.0s
X46A Booneville 68.80 57 P P 03 23 55.5 -1.3
baz=330
PAL Palisades 68.80 43 *e*P P 03 23 55.8 -0.9
comp=Z,117nm,1.3s
PAL LR LR
comp=Z,5µm,20.0s
PAL Palisades 68.80 43 *e*P P 03 23 55.8 -0.9
PAL pmax pmax
comp=Z,117nm,1.3s
PAL MLR MLR
comp=Z,5µm,20.0s
PAL Palisades 68.80 43 P P 03 23 54.6 -2.0
baz=333

DOU Dourbes 68.83 346 ⇑P P 03 23 55.8 -0.9
DOU ⇑pP **pP** 03 23 59.6 -0.4
comp=Z,31nm,1.3s
DOU ⇑sP **sP** 03 24 01.2 +0.1
MVL Millersville 68.84 45 *e*P P 03 23 56.6 -0.4
comp=Z,15nm,0.9s
MVL LR LR
comp=Z,5µm,20.0s
YLE Yale 68.86 42 PFAKE 03 24 10.0 +13
YLE LR LR
comp=Z,6µm,19.0s
V49A McMinnville 68.88 55 P P 03 23 56.1 -1.2
baz=330
T52A Hallie 68.89 52 P P 03 23 56.7 -0.6
baz=331
DOPR Dopca 68.89 330⇑ *i*P P 03 23 57.7 +0.5
CFR Carcaliu 68.92 328⇑ *i*P P 03 23 57.0 -0.3
BUD Budapest 68.93 335⇑ *e*P P 03 23 57.1 -0.3
R55A Marlinton 68.97 49 P P 03 23 56.4 -1.5
baz=332,SNR=7.2
CPNY Central Park 68.98 43 PFAKE 03 24 10.0 +12
CPNY LR LR
comp=Z,5µm,19.0s
MDB Medias 68.98 331⇓ *i*P P 03 23 57.5 -0.2
W48A Pulaski 68.99 56 P P 03 23 56.8 -1.1
baz=330
GRER 69.04 329⇑ *i*P P 03 23 59.0 +0.9
WLF Walferdange 69.05 344 *e*P P 03 23 58.0 -0.1
comp=Z,378nm,1.4s
WLF LR LR
comp=Z,11µm,19.0s
WLF Walferdange 69.05 344 *e*P P 03 23 57.8 -0.3
comp=Z,95nm,1.4s,baz=15,slow=6.3
WLF *e*pP **pP** 03 24 01.9 +0.5
baz=15,slow=6.3
WLF Walferdange 69.05 344 *e*P P 03 23 58.0 -0.1
WLF pmax pmax
comp=Z,378nm,1.4s
WLF MLR MLR
comp=Z,11µm,19.0s
WLF Walferdange 69.05 344 ⇓P P 03 23 57.6 -0.5
WLF ⇑pP **pP** 03 24 01.8 +0.5
comp=Z,48nm,1.8s
U51A La Follette 69.11 53 P P 03 23 57.6 -1.2
baz=331
X47A Russelville 69.14 57 P P 03 23 57.4 -1.5
baz=330,SNR=13
CONA Conrad Observa 69.15 337 *e*P P 03 23 59.0 +0.1
comp=Z,92nm,1.0s,SNR=42
TZTN Tazewell 69.15 53 *e*P P 03 23 58.6 -0.4
comp=Z,158nm,1.5s
TZTN LR LR
comp=Z,6µm,20.0s
TZTN Tazewell 69.15 53 P P 03 23 56.3 -2.6
baz=331
T53A Wise 69.17 52 P P 03 23 58.2 -1.0
baz=331,SNR=13
SDMD Soldier's Deli 69.19 46 *e*P P 03 23 58.0 -1.1
comp=Z,15nm,0.9s
SDMD LR LR
comp=Z,3µm,19.0s
MLR Muntele Rosu 69.20 329 *e*P P 03 23 58.9 -0.3
comp=Z,85nm,1.0s
MLR LR LR
comp=Z,6µm,20.0s
MLR Muntele Rosu 69.20 329⇑ *i*P P 03 23 59.7 +0.4
MLR Muntele Rosu 69.20 329 *e*P P 03 23 58.9 -0.3
MLR pmax pmax
comp=Z,85nm,1.0s
MLR MLR MLR
comp=Z,6µm,20.0s
CSKK Cskako 69.21 336 *e*P P 03 23 59.0 -0.1
SOP Sopron 69.25 337⇑ *e*P P 03 23 59.1 -0.3
S55A Lewisburg 69.27 50 P P 03 23 58.4 -1.3
baz=332
833A Chaparral WMA, 69.27 69 *e*P P 03 23 59.9 +0.1
comp=Z,38nm,1.0s
833A LR LR
comp=Z,5µm,20.0s
833A Chaparral WMA, 69.27 69 P P 03 23 59.6 -0.2
baz=328
V50A Pikevile 69.28 54 P P 03 23 58.8 -1.0
baz=330
W49A Belvidere 69.29 55 P P 03 23 58.8 -1.0
baz=330
SWET Sewanee 69.34 55 *e*P P 03 23 58.9 -1.3
comp=Z,34nm,0.7s
SWET LR LR
comp=Z,8µm,18.0s
U52A Thorn Hill 69.36 52 P P 03 23 59.4 -0.9
baz=331,SNR=8.4
HNR Honiara 69.37 184 PFAKE 03 24 10.0 +10
HNR LR LR
comp=Z,4µm,20.0s
HNR Honiara 69.37 184 LR LR 03 51 30.4
comp=Z,3µm,19.5s,baz=11,slow=33
ISR Istrita 69.39 329⇓ *i*P P 03 24 01.2 +0.8
CLDR Caldiran 69.40 314 *i* P P 03 24 02.5 +1.7
CLDR IAML_P
comp=Z,1µm,0.8s
HARR Harsova 69.42 328⇑ *i*P P 03 23 59.7 -0.8
V51A Loudon 69.47 54 *e*P P 03 23 59.9 -1.1
comp=Z,35nm,0.9s
V51A LR LR
comp=Z,5µm,20.0s
V51A Loudon 69.47 54 P P 03 23 59.4 -1.5
baz=331
VOIR 69.47 330⇓ *i*P P 03 24 01.6 +0.7
T54A Tazewell 69.48 51 P P 03 24 00.2 -0.9
baz=331,SNR=7.3
STU Stuttgart 69.49 342 PFAKE 03 24 10.0 +9.2
STU LR LR
comp=Z,2µm,19.0s
STU Stuttgart 69.49 342 *e*P P 03 24 00.0 -0.8
comp=Z,68nm,1.1s,baz=15,slow=6.3
STU *e*pP **pP** 03 24 04.1 0.0
baz=15,slow=6.3
TLB Topalu 69.49 328⇑ *i*P P 03 24 00.4 -0.5
SIRR Siria 69.51 333⇑ *i*P P 03 24 00.4 -0.6
TIRR Tirgusor 69.51 327 *e*P P 03 24 01.0 0.0
comp=Z,36nm,0.9s
TIRR Tirgusor 69.51 327⇑ *i*P P 03 24 01.3 +0.3
TIRR Tirgusor 69.51 327 *e*P P 03 24 01.0 0.0
TIRR pmax pmax
comp=Z,36nm,0.9s
MOA Molln 69.53 338 *e*pP P 03 24 00.5 -0.6
comp=Z,88nm,1.3s,SNR=30
SBUM Sibu 69.53 236 *e*P P 03 24 01.9 +0.4
comp=Z,143nm,1.0s
SBUM LR LR
comp=Z,3µm,21.0s
SBUM Sibu 69.53 236 P P 03 24 02.4 +1.0
X48A Hartselle 69.54 56 *e*P P 03 24 02.3 +1.0
comp=Z,44nm,1.4s
X48A LR LR
comp=Z,6µm,18.0s
X48A Hartselle 69.54 56 P P 03 23 59.7 -1.7
baz=330
HKT Hockley 69.54 66 *e*P P 03 24 01.2 -0.1
comp=Z,64nm,1.3s
HKT LR LR
comp=Z,6µm,19.0s
HKT Hockley 69.54 66 *e*P P 03 24 01.2 -0.1
HKT pmax pmax
comp=Z,64nm,1.3s
HKT MLR MLR
comp=Z,6µm,19.0s
DEV Deva 69.58 332⇑ *i*P P 03 24 01.8 +0.4
SECR 69.59 329⇑ *i*P P 03 24 01.9 +0.3
W50A Signal Mountai 69.61 55 *e*P P 03 24 00.8 -1.1
comp=Z,41nm,1.1s
W50A LR LR
comp=Z,7µm,19.0s
W50A Signal Mountai 69.61 55 P P 03 24 00.7 -1.1
baz=330
AMBH Ambrzfalva 69.64 333⇑ *e*P P 03 24 02.0 +0.3
ARR Arges 69.64 330⇑ *i*P P 03 24 02.5 +0.6
AMRR Amara 69.66 328⇓ *i*P P 03 24 02.7 +0.8
MTUR Matau 69.67 330⇓ *i*P P 03 24 02.3 +0.2
CCA1 Carnmenellis 69.69 352 *e*P P 03 24 00.5 -1.5
U53A Fall Branch 69.69 52 P P 03 24 01.4 -1.0
baz=331
CPCT Cooper Cave 69.71 54 *e*P P 03 24 01.5 -0.9
comp=Z,19nm,0.8s
CPCT LR LR
comp=Z,6µm,19.0s

T55A Pulaski 69.73 50 P P 03 24 01.5 -1.1
baz=332
V52A Sevierville 69.74 53 *e*P P 03 24 01.6 -1.1
comp=Z,58nm,1.3s
V52A LR LR
comp=Z,6µm,19.0s
V52A Sevierville 69.74 53 P P 03 24 01.4 -1.2
baz=331
FUR Furstenfeldbru 69.75 341 *e*P P 03 24 01.9 -0.5
comp=Z,271nm,1.8s,baz=15,slow=6.3
FUR *e*pP **pP** 03 24 06.0 +0.3
baz=15,slow=6.3
SNOP Sinop 69.77 321 PFAKE 03 24 10.0 +7.4
SNOP LR LR
comp=Z,3µm,20.0s
MFTR Murfatlar 69.77 327⇓ *i*P P 03 24 02.9 +0.3
LOT Lotru 69.78 331⇑ *i*P P 03 24 02.3 -0.5
X49A Woodville 69.78 56 P P 03 24 01.5 -1.4
baz=330
BLA Blacksburg 69.79 50 *e*P P 03 24 02.1 -0.9
comp=Z,56nm,0.9s
BLA LR LR
comp=Z,5µm,20.0s
BLA Blacksburg 69.79 50 *e*P P 03 24 02.1 -0.9
BLA pmax pmax
comp=Z,56nm,0.9s
BLA MLR MLR
comp=Z,5µm,20.0s
BLA Blacksburg 69.79 50 P P 03 24 01.6 -1.3
baz=332,SNR=7.9
TKL Tuckaleechee C 69.83 53 *e*P P 03 24 02.3 -0.9
comp=Z,43nm,1.3s
TKL LR LR
comp=Z,5µm,18.0s
TKL Tuckaleechee C 69.83 53 *e*P P 03 24 02.3 -0.9
TKL pmax pmax
comp=Z,43nm,1.3s
TKL MLR MLR
comp=Z,5µm,18.0s
U54A Nelsons Funny 69.85 51 P P 03 24 02.5 -0.9
baz=331,SNR=8.7
ARSA Arzberg 69.86 337 *i* P P 03 24 03.3 +0.1
comp=Z,31nm,1.1s,SNR=19
W51A Cleveland 69.87 54 P P 03 24 02.0 -1.4
baz=331
SULR 69.88 329⇑ *i*P P 03 24 03.7 +0.4
145A Houston Renfro 69.90 59 P P 03 24 03.4 -0.2
baz=330
Y48A Jasper 69.95 57 P P 03 24 02.4 -1.5
baz=330
VBMS Vicksburg 69.98 60 *e*P P 03 24 06.8 +2.8
comp=Z,90nm,1.1s
VBMS LR LR
comp=Z,7µm,19.0s
VBMS Vicksburg 69.98 60 P P 03 24 02.3 -1.8
baz=329
ICOR Ion Corvin 69.99 328⇑ *i*P P 03 24 04.1 +0.1
BFO Black Forest 70.05 343 *e*P P 03 24 02.8 -1.5
comp=Z,37nm,1.0s
BFO LR LR
comp=Z,2µm,19.0s
BFO Black Forest 70.05 343 *e*P P 03 24 03.4 -0.9
comp=Z,53nm,1.1s,baz=15,slow=6.3
BFO *e*pP **pP** 03 24 07.5 -0.1
baz=15,slow=6.3
BFO Black Forest 70.05 343 *i* P P 03 24 03.6 -0.7
CBN Corbin Frederi 70.06 47 *e*P P 03 24 03.7 -0.8
comp=Z,88nm,1.3s
CBN LR LR
comp=Z,3µm,21.0s
CBN Corbin Frederi 70.06 47 P P 03 24 02.9 -1.6
baz=332
GZR Gura Zlata 70.07 332⇑ *i*P P 03 24 04.4 -0.2
RASA Rasa 70.07 328⇓ *i*P P 03 24 04.0 -0.5
R58B Mineral 70.09 48 *e*P P 03 24 04.0 -0.7
comp=Z,85nm,1.4s
R58B LR LR
comp=Z,7µm,18.0s
R58B Mineral 70.09 48 P P 03 24 03.1 -1.6
baz=332
X50B Fort Payne 70.11 55 P P 03 24 03.5 -1.4
baz=330
ADCV BITLIS_Adilcev 70.13 314 *i* P P 03 24 06.7 +1.5
ADCV IAML_P
comp=Z,45nm,0.1s
BZS Buzias 70.13 333⇑ *i*P P 03 24 04.4 -0.4
TVAN Van 70.13 314 *i* P P 03 24 07.8 +2.6
TVAN IAML_P
comp=Z,115nm,0.5s
KELT Kelkit 70.14 318 *i* P P 03 24 06.9 +1.6
KELT IAML_P
comp=Z,812nm,0.4s
U55A TA2, Sparta 70.17 51 P P 03 24 04.1 -1.3
baz=332
V53A Saluda 70.21 52 *e*P P 03 24 04.5 -1.0
comp=Z,65nm,1.4s
V53A LR LR
comp=Z,5µm,20.0s
V53A Saluda 70.21 52 P P 03 24 04.6 -1.0
baz=331
MORH Mrgy, Hungar 70.22 335⇑ *i*P P 03 24 04.6 -0.8
MORH Mrgy, Hungar 70.22 335⇑ *e*P P 03 24 04.1 -1.3
W52A Murphy 70.26 54 *e*P P 03 24 05.1 -0.7
comp=Z,52nm,1.1s
W52A LR LR
comp=Z,6µm,19.0s
W52A Murphy 70.26 54 P P 03 24 04.6 -1.2
baz=331
PSN Preselentsi 70.29 327 *i* P P 03 24 22.1 +16
Y49A Blount Mountai 70.31 56 *e*P P 03 24 05.1 -1.1
comp=Z,26nm,0.6s
Y49A LR LR
comp=Z,6µm,18.0s
Y49A Blount Mountai 70.31 56 P P 03 24 04.8 -1.4
baz=330
ECH Echery 70.33 343 *e*P P 03 24 05.1 -1.0
comp=Z,63nm,1.1s
ECH LR LR
comp=Z,1µm,19.0s
ECH Echery 70.33 343 *e*P P 03 24 05.1 -1.0
ECH pmax pmax
comp=Z,63nm,1.1s
ECH MLR MLR
comp=Z,1µm,19.0s
HUMR Humele 70.34 330⇓ *i*P P 03 24 05.4 -0.7
X51A Calhoun 70.34 55 *e*P P 03 24 05.4 -0.9
comp=Z,55nm,1.1s
X51A LR LR
comp=Z,6µm,19.0s
X51A Calhoun 70.34 55 P P 03 24 04.3 -2.0
baz=331
TRTT Trang 70.35 251 P P 03 24 10.2 +3.6
comp=Z,10nm,1.5s,comp=Z,453nm
BEHE Becsehely 70.36 336⇑ *i*P P 03 24 06.3 0.0
BEHE Becsehely 70.36 336⇑ *e*P P 03 24 06.0 -0.2
SGRR Singureni 70.37 329⇑ *i*P P 03 24 06.2 -0.1
UBR Ueberruh 70.41 341 *e*P P 03 24 06.0 -0.6
comp=Z,117nm,1.3s,baz=15,slow=6.3
UBR *e*pP **pP** 03 24 10.1 +0.3
baz=15,slow=6.3
KBA Koelnbreinsper 70.44 339 *e*P P 03 24 07.1 +0.2
comp=Z,204nm,1.5s,SNR=58
V54A Nebo 70.45 52 P P 03 24 05.9 -1.1
baz=331,SNR=9.9
HAVZ Havza 70.46 321 *i* P P 03 24 07.7 +0.7
HAVZ IAML_P
comp=Z,25nm,0.4s
RETA Reutte 70.49 341 *e*pP P 03 24 06.4 -0.7
comp=Z,58nm,1.9s
KOGS Kog 70.49 337 *e*P P 03 24 06.7 -0.3
WATA Walderalm 70.50 340 *e*pP P 03 24 06.5 -0.7
comp=Z,22nm,0.7s,SNR=26
SKLT Songkhla 70.50 250 P P 03 24 12.2 +4.8
comp=Z,39nm,1.3s,comp=Z,1µm
W53A Cullowhee 70.50 53 P P 03 24 06.4 -1.0
baz=331
SOKA Soboth 70.51 338 *e*P P 03 24 07.0 -0.2
comp=Z,20nm,0.9s,SNR=32
PERS Pernice 70.53 337 *e*P P 03 24 07.1 -0.3
147A Livingston 70.55 58 *e*P P 03 24 06.8 -0.8
comp=Z,142nm,1.3s
147A LR LR
comp=Z,8µm,20.0s
147A Livingston 70.55 58 P P 03 24 06.5 -1.1
baz=330
WTTA Wattenberg 70.56 340 *i* P P 03 24 07.8 +0.1
comp=Z,27nm,0.4s

Y50A	**Piedmont**	70.57	56	P		**P**	03 24 06.4	-1.2		
	baz=330									
MOTA	**Moosalm**	70.57	340	*ep*P		**P**	03 24 07.0	-0.7		
	comp=Z,44nm,1.0s,SNR=25									
HERR	**Herculane**	70.64	332⇑	*i*P		**P**	03 24 07.2	-0.7		
SRE	**Strehaia**	70.65	331⇑	*i*P		**P**	03 24 08.5	+0.4		
SQTA	**Sankt Quirin**	70.67	340	*ep*P		**P**	03 24 08.0	-0.3		
	comp=Z,86nm,1.0s,SNR=33									
V55A	**Taylorsville**	70.67	51	P		**P**	03 24 07.2	-1.1		
	baz=332									
X52A	**Dahlonega**	70.70	54	P		**P**	03 24 06.9	-1.7		
	baz=331									
BG3	**Lake Jocassee**	70.75	53	*ep*P		**P**	03 24 08.3	-0.5		
	comp=Z,55nm,1.3s									
BG3				LR		LR				
	comp=Z,5μm,18.0s									
OBKA	**Obir**	70.76	338	*ep*P		**P**	03 24 08.3	-0.5		
	comp=Z,177nm,1.1s,SNR=60									
LRAL	**Lakeview Retre**	70.78	57	*ep*P		**P**	03 24 07.4	-1.6		
	comp=Z,62nm,1.4s									
LRAL				LR		LR				
	comp=Z,9μm,18.0s									
LRAL	**Lakeview Retre**	70.78	57	P		**P**	03 24 07.4	-1.6		
	baz=330,SNR=11									
KAGI	**orum-Kargı**	70.79	322	*i*P		**P**	03 24 09.8	+0.8		
KAGI				IAML_P						
	comp=Z,24nm,0.4s									
MYKA	**Terra Mystica**	70.81	339	*ep*P		**P**	03 24 08.6	-0.5		
	comp=Z,76nm,1.7s,SNR=8.0									
DAVA	**Damuels**	70.83	341	*ep*P		**P**	03 24 08.3	-0.9		
	comp=Z,52nm,1.7s,SNR=8.2									
Y51A	**Rockmart**	70.83	55	P		**P**	03 24 08.9	-0.5		
	baz=331									
Z49A	**Columbiana**	70.84	57	P		**P**	03 24 07.6	-1.8		
	baz=330									
MDVR	**Moldovita**	70.90	332⇑	*i*P		**P**	03 24 08.5	-1.1		
ABTA	**Abfaltersbach**	70.91	339	*ep*P		**P**	03 24 09.1	-0.5		
	comp=Z,87nm,1.0s,SNR=41									
FETA	**Feichten**	70.95	341	*ep*P		**P**	03 24 09.6	-0.4		
	comp=Z,78nm,1.0s,SNR=38									
KTGM	**Kuala Trenggan**	70.95	246	P		**P**	03 24 14.7	+4.5		
PRD	**Provadia**	70.95	328	*i*P		**P**	03 24 09.7	-0.1		
W54A	**Cherokee Point**	70.96	52	P		**P**	03 24 08.6	-1.4		
	baz=331									
TNCL	**Tunceli-Merkez**	70.97	317	*i*P		**P**	03 24 11.7	+1.4		
TNCL				IAML_P						
	comp=Z,15nm,0.4s									
FRGS	**Fruska Gora**	70.97	334⇑	*i*P		**P**	03 24 09.6	-0.4		
VLAD	**Vladila**	70.98	330⇓	*i*P		**P**	03 24 10.3	+0.3		
PELI	**Kastamonı-Ara**	71.01	323	*i*P		**P**	03 24 11.9	+1.5		
PELI				IAML_P						
	comp=Z,434nm,0.8s									
X53A	**Estanollee**	71.03	53	P		**P**	03 24 09.6	-0.9		
	baz=331,SNR=8.4									
Z50A	**Ashland**	71.04	56	*ep*		**P**	03 24 09.1	-1.5		
	comp=Z,74nm,1.2s									
Z50A				LR		LR				
	comp=Z,4μm,20.0s									
Z50A	**Ashland**	71.04	56	P		**P**	03 24 09.0	-1.6		
	baz=330,SNR=13									
ZIMR		71.06	329⇓	*i*P		**P**	03 24 09.7	-0.8		
PUNG	**Punghina**	71.08	331⇑	*i*P		**P**	03 24 10.4	-0.2		
ILGA	**Ilgaz**	71.11	322	*ep*		**P**	03 24 12.4	+1.3		
	comp=Z,119nm,0.9s									
ILGA				LR		LR				
	comp=Z,2μm,22.0s									
ILGA	**Ilgaz**	71.11	322	*i*P		**P**	03 24 12.5	+1.3		
ILGA				IAML_P						
	comp=Z,109nm,0.1s									
ZAG	**Zagreb**	71.14	337⇑	*i*P		**P**	03 24 10.8	-0.2		
SRTM	**Siirt_Merkez**	71.14	315	*i*P		**P**	03 24 12.3	+1.0		
SRTM				IAML_P						
	comp=Z,24nm,0.5s									
CLF	**Chambon-Foret**	71.15	347	*ep*		**P**	03 24 10.8	-0.2		
	comp=Z,312nm,1.4s									
CLF				LR		LR				
	comp=Z,3μm,19.0s									
CADS	**Cadrg**	71.19	338	*i*P		**P**	03 24 10.0	-1.3		
KEMA	**Kemaliye**	71.19	318	*i*P		**P**	03 24 12.4	+0.9		
KEMA				IAML_P						
	comp=Z,218nm,0.4s									
CUKT	**Cukurca**	71.19	313	*i*P		**P**	03 24 12.5	+0.9		
CUKT				IAML_P						
	comp=Z,66nm,0.5s									
KSM	**Kuching**	71.21	238	*ep*		**P**	03 24 10.6	-1.2		
	comp=Z,89nm,1.1s									
KSM				LR		LR				
	comp=Z,2μm,21.0s									
KSM	**Kuching**	71.21	238	P		**P**	03 24 12.2	+0.4		
LJU	**Ljubljana**	71.22	338	*ep*		**P**	03 24 10.8	-0.7		
LJU				ePP		**PP**	03 26 51.3	+2.7		
LJU				eS		**S**	03 33 26.6	-1.7		
LJU				*e*			03 41 40.0			
LJU	**Ljubljana**	71.22	338	*ep*		**P**	03 24 10.4	-1.0		
149A	**Jones**	71.24	57	P		**P**	03 24 10.3	-1.5		
	baz=330,SNR=13									
CRES	**Cresnjev**	71.25	337⇑	*i*P		**P**	03 24 10.5	-1.1		
KMSC	**Kings Mountain**	71.25	52	*ep*		**P**	03 24 10.9	-0.9		
	comp=Z,124nm,1.4s									
KMSC				LR		LR				
	comp=Z,6μm,18.0s									
KMSC	**Kings Mountain**	71.25	52	P		**P**	03 24 10.5	-1.3		
	baz=332									
SVAN	**Silvan-Diyarba**	71.26	315	*i*P		**P**	03 24 13.0	+1.1		
SVAN				IAML_P						
	comp=Z,360nm,0.9s									
Y52A	**Lilburn**	71.28	54	*ep*		**P**	03 24 11.3	-0.7		
	comp=Z,55nm,1.3s									
Y52A				LR		LR				
	comp=Z,8μm,19.0s									
Y52A	**Lilburn**	71.28	54	P		**P**	03 24 10.8	-1.2		
	baz=331									
Z51A	**Franklin**	71.30	55	P		**P**	03 24 10.1	-2.0		
	baz=331									
HANI	**Diyarbakir_Han**	71.30	316	*i*P		**P**	03 24 13.5	+1.3		
HANI				IAML_P						
	comp=Z,54nm,0.3s									
PAULI	**Pauline**	71.34	52	*ep*		**P**	03 24 14.9	+2.5		
	comp=Z,53nm,1.3s									
PAULI				LR		LR				
	comp=Z,7μm,19.0s									
X54A	**Belton**	71.36	53	P		**P**	03 24 11.1	-1.4		
	baz=331									
SIRT	**Sirnak**	71.39	314	*ep*		**P**	03 24 12.8	0.0		
	comp=Z,190nm,1.1s									
SIRT				LR		LR				
	comp=Z,15μm,19.0s									
FUORN	**Ofenpass-Fuorn**	71.41	341	*ep*		**P**	03 24 12.7	-0.3		
	comp=Z,47nm,1.2s									
FUORN				LR		LR				
	comp=Z,2μm,20.0s									
COAL	**Corum-Alaca**	71.44	321	*i*P		**P**	03 24 14.5	+1.5		
COAL				IAML_P						
	comp=Z,424nm,0.8s									
BTMN	**Batman**	71.46	315	*i*P		**P**	03 24 14.3	+1.2		
BTMN				IAML_P						
	comp=Z,197nm,0.6s									
Y53A	**Monroe**	71.48	54	P		**P**	03 24 11.7	-1.5		
	baz=331									
CEY	**Cerknica**	71.53	338⇑	*i*P		**P**	03 24 12.2	-1.2		
W56A	**Indian Trail**	71.55	51	P		**P**	03 24 12.4	-1.2		
	baz=332									
150A	**Eclectic**	71.56	56	P		**P**	03 24 12.4	-1.3		
	baz=331									
BOJS	**Bojanci**	71.59	337	*i*P		**P**	03 24 13.2	-0.6		
249A	**Camden**	71.64	58	P		**P**	03 24 13.0	-1.2		
	baz=330									
HODGE	**Hodges**	71.68	53	*ep*		**P**	03 24 13.6	-0.8		
	comp=Z,43nm,1.3s									
HODGE				LR		LR				
	comp=Z,4μm,21.0s									
Z52A	**Williamson**	71.72	55	P		**P**	03 24 13.4	-1.2		
	baz=331									
X55A	**Gracelyn & Ava**	71.72	52	P		**P**	03 24 13.3	-1.3		
	baz=332									
W57A	**Gilead**	71.76	51	P		**P**	03 24 13.8	-1.1		
	baz=332									
BCAM	**Yenicaga**	71.83	323	*i*P		**P**	03 24 15.5	+0.2		
BCAM				IAML_P						
	comp=Z,208nm,0.9s									
Y54A	**Tignall**	71.83	53	P		**P**	03 24 14.4	-0.9		
	baz=331,SNR=9.0									
GOGA	**Godfrey**	71.91	54	PFAKE			03 24 30.0	+14		
GOGA				LR		LR				
	comp=Z,9μm,19.0s									
GOGA	**Godfrey**	71.91	54	P		**P**	03 24 14.6	-1.2		
	baz=331									
RIY	**Rijeka**	71.92	338	*ep*		**P**	03 24 14.2	-1.4		
151A	**Opelika**	71.92	56	P		**P**	03 24 14.6	-1.3		
	baz=331									
BLY	**Banja Luka**	71.93	335	*ep*		**P**	03 24 18.9	+3.2		
	comp=Z,15nm,1.0s									
BLY				LR		LR				
	comp=Z,4μm,18.0s									
BLY	**Banja Luka**	71.93	335⇓	*i*P		**P**	03 24 15.1	-0.6		
BLY	**Banja Luka**	71.93	335⇑	*i*P		**P**	03 24 15.4	-0.3		
X56A	**White Oak**	71.94	52	P		**P**	03 24 14.5	-1.4		
	baz=332									
DIVS	**Divibare**	71.94	333	*ep*		**P**	03 24 15.3	-0.6		
	comp=Z,61nm,1.0s									
DIVS				LR		LR				
	comp=Z,2μm,22.0s									
DIVS	**Divibare**	71.94	333⇑	*i*P		**P**	03 24 15.1	-0.8		
Z53A	**Monticello**	71.98	54	P		**P**	03 24 14.9	-1.4		
	baz=331									
250A	**Grady**	72.00	57	*ep*		**P**	03 24 15.4	-1.0		
	comp=Z,132nm,1.4s									
250A				LR		LR				
	comp=Z,7μm,19.0s									
250A	**Grady**	72.00	57	P		**P**	03 24 15.1	-1.3		
	baz=331									
DELI	**KIRIKKALE**	72.01	322	*i*P		**P**	03 24 16.9	+0.5		
DELI				IAML_P						
	comp=Z,314nm,0.8s									
JSC	**Jenkinsville**	72.03	52	*ep*		**P**	03 24 20.2	+3.7		
	comp=Z,18nm,1.0s									
JSC				LR		LR				
	comp=Z,7μm,19.0s									
152A	**Waverly Hall**	72.05	55	*ep*		**P**	03 24 15.6	-1.1		
	comp=Z,33nm,1.3s									
152A				LR		LR				
	comp=Z,7μm,20.0s									
152A	**Waverly Hall**	72.05	55	P		**P**	03 24 15.0	-1.7		
	baz=331									
Y55A	**Saluda**	72.10	53	P		**P**	03 24 16.0	-0.9		
	baz=332									
SENIN	**Lac Senin/Sane**	72.12	343	*ep*		**P**	03 24 16.7	-0.5		
	comp=Z,44nm,1.4s									
SENIN				LR		LR				
	comp=Z,2μm,20.0s									
KULM	**Kulim**	72.13	249	*ep*		**P**	03 24 15.7	-1.6		
	comp=Z,53nm,1.3s									
KULM				LR		LR				
	comp=Z,8μm,18.0s									
KULM	**Kulim**	72.13	249	P		**P**	03 24 16.7	-0.6		
LNIG	**Linares**	72.14	71	*ep*		**P**	03 24 16.4	-0.9		
	comp=Z,21nm,1.1s									
LNIG				LR		LR				
	comp=Z,3μm,21.0s									
MARD	**Mardin**	72.15	315	*i*P		**P**	03 24 18.8	+1.5		
MARD				IAML_P						
	comp=Z,81nm,0.2s									
349A	**Repton**	72.15	58	P		**P**	03 24 16.8	-0.5		
	baz=330,SNR=8.1									
HAPS	**Han Pijesak,BI**	72.18	334	*ep*		**P**	03 24 16.0	-1.4		
CDAG	**Cicekdag**	72.21	321	*i*P		**P**	03 24 18.3	+0.6		
CDAG				IAML_P						
	comp=Z,616nm,0.8s									
SIRC	**Yozgat**	72.22	320	*i*P		**P**	03 24 18.9	+1.1		
SIRC				IAML_P						
	comp=Z,413nm,1.1s									
SILT	**Sile**	72.23	325⇓	*i*P		**P**	03 24 16.7	-0.9		
448A	**Bay Minette**	72.23	59	P		**P**	03 24 16.4	-1.3		
	baz=330									
251A	**Midway**	72.26	56	P		**P**	03 24 16.6	-1.4		
	baz=331,SNR=15									
BBLS	**Lazići**	72.29	334⇑	*i*P		**P**	03 24 17.9	-0.1		
KLYT	**Kilyos**	72.30	326⇑	*i*P		**P**	03 24 16.8	-1.2		
Z54A	**Sparta**	72.32	54	P		**P**	03 24 15.8	-2.5		
	baz=332									
X57A	**Johnson Farm,**	72.33	51	P		**P**	03 24 16.3	-2.0		
	baz=332									
BR101	**Keskin Array S**	72.34	322	*ep*		**P**	03 24 18.3	-0.2		
BR131	**Keskin Array S**	72.34	322	*ep*		**P**	03 24 18.4	-0.1		
	comp=Z,57nm,1.1s									
BR131	**Keskin Array S**	72.34	322	P		**P**	03 24 18.3	-0.1		
	SNR=31									
BRTR	**Keskin Array B**	72.34	322	P		**P**	03 24 18.3	-0.2		
	comp=Z,22nm,0.9s,baz=62,slow=3.8,SNR=34									
BRTR				LR		LR	04 02 17.5			
	comp=Z,2μm,18.1s,baz=60,slow=41									
W59A	**Clinton**	72.34	49	P		**P**	03 24 17.0	-1.4		
	baz=333									
BRAL	**Brewton**	72.37	58	*ep*		**P**	03 24 18.8	+0.2		
	comp=Z,174nm,1.1s									
BRAL				LR		LR				
	comp=Z,7μm,18.0s									
BRAL	**Brewton**	72.37	58	P		**P**	03 24 17.8	-0.8		
	baz=331									
PHSR	**Pinarhisar**	72.38	327⇑	*i*P		**P**	03 24 18.3	-0.2		
PGB	**Panagyurishte**	72.40	330	*i*P		**P**	03 24 17.8	-0.9		
350A	**Dozier**	72.46	57	P		**P**	03 24 18.4	-0.7		
	baz=331									
ZAIG	**Zacatecas**	72.46	75	*ep*		**P**	03 24 20.2	+0.6		
	comp=Z,70nm,1.3s									
ZAIG				LR		LR				
	comp=Z,3μm,21.0s									
ANTO	**Ankara**	72.47	322	*ep*		**P**	03 24 20.0	+0.8		
	comp=Z,74nm,0.9s									
ANTO				LR		LR				
	comp=Z,2μm,21.0s									
ANTO	**Ankara**	72.47	322	*ep*		**P**	03 24 20.0	+0.8		
ANTO				pmax		pmax				
	comp=Z,74nm,0.9s									
ANTO				MLR		MLR				
	comp=Z,2μm,21.0s									
CNNC	**Cliffs of the**	72.49	49	PFAKE			03 24 30.0	+11		
CNNC				LR		LR				
	comp=Z,6μm,22.0s									
CNNC	**Cliffs of the**	72.49	49	P		**P**	03 24 18.3	-0.9		
	baz=333									
BR231	**Keskin MP Arra**	72.50	322	*ep*		**P**	03 24 20.1	+0.7		
	comp=Z,81nm,1.0s									
X58A	**Rowland**	72.54	50	P		**P**	03 24 18.0	-1.6		
	baz=332									
HYB	**Hyderabad**	72.57	275	*i*P		**P**	03 24 18.0	-2.0		
	comp=Z,85nm,1.0s									
HYB				eS		**S**	03 33 40.0	-4.6		
HYB				*e*			03 34 18.0			
VTS	**Vitosha**	72.57	330⇑	*i*P		**P**	03 24 19.3	-0.5		
VTS	**Vitosha**	72.57	330	*i*P		**P**	03 24 19.1	-0.7		
Y57A	**Sumter**	72.61	51	P		**P**	03 24 19.0	-1.0		
	baz=332									
252A	**Lumpkin**	72.62	56	P		**P**	03 24 18.8	-1.3		
	baz=331									
449A	**Pace**	72.66	58	P		**P**	03 24 19.9	-0.4		
	baz=331									
IPM	**Ipoh**	72.67	248	*ep*		**P**	03 24 19.7	-0.9		
	comp=Z,45nm,1.1s									
IPM				LR		LR				
	comp=Z,6μm,18.0s									
PLD	**Plovdiv**	72.68	329	*i*P		P	03 24 05.9	-14		
W60A	**Pink Hill**	72.72	49	P		**P**	03 24 19.3	-1.4		
	baz=333									
154A	**Montrose**	72.75	54	*ep*		**P**	03 24 22.0	+1.1		
	comp=Z,182nm,1.5s									
154A				LR		LR				
	comp=Z,10μm,19.0s									
154A	**Montrose**	72.75	54	P		**P**	03 24 19.4	-1.4		
	baz=332									
KIRS	**Kırehir-Merke**	72.80	321	*i*P		**P**	03 24 21.0	-0.1		
KIRS				IAML_P						
	comp=Z,170nm,0.5s									
AVNS	**Nevsehir-Avano**	72.80	320	*i*P		**P**	03 24 22.3	+1.1		
AVNS				IAML_P						
	comp=Z,526nm,0.8s									
PLE	**Pljevlja**	72.81	333⇑	*i*P		**P**	03 24 21.5	+0.3		
X59A	**McDuffie Farm,**	72.81	50	P		**P**	03 24 20.0	-1.1		
	baz=333									
253A	**Americus**	72.82	55	*ep*		**P**	03 24 23.7	+2.5		
	comp=Z,165nm,1.4s									
253A				LR		LR				
	comp=Z,5μm,20.0s									
253A	**Americus**	72.82	55	P		**P**	03 24 20.1	-1.2		
	baz=331									
Z56A	**Williston**	72.83	53	P		**P**	03 24 20.0	-1.3		
	baz=332									
YLV	**Yalova**	72.85	325⇑	*i*P		**P**	03 24 20.7	-0.7		
450A	**Crestview**	72.89	58	P		**P**	03 24 21.3	-0.3		
	baz=331									
351A	**Pinckard**	72.89	57	P		**P**	03 24 20.7	-1.0		
	baz=331									
Y58A	**Scranton**	72.99	51	P		**P**	03 24 21.6	-0.6		
	baz=332									
352A	**Blakely**	73.00	56	*ep*		**P**	03 24 26.0	+3.7		
	comp=Z,58nm,0.9s									
352A				LR		LR				
	comp=Z,7μm,18.0s									
352A	**Blakely**	73.00	56	P		**P**	03 24 20.9	-1.4		
	baz=331									
155A	**Kite**	73.01	54	P		**P**	03 24 21.2	-1.1		
	baz=332									
X60A	**Albert Glenn T**	73.04	49	P		**P**	03 24 20.8	-1.7		
	baz=333									
RZN	**Rozhen**	73.07	329	*i*P		**P**	03 24 22.1	-0.7		
KKUL	**Konya-Kulu**	73.08	322	*i*P		**P**	03 24 23.1	+0.3		
KKUL				IAML_P						
	comp=Z,140nm,0.7s									
Z57A	**Bowman**	73.12	52	P		**P**	03 24 22.0	-1.0		
	baz=332									
IVA	**Berane**	73.13	333⇑	*i*P		**P**	03 24 22.9	-0.1		
SAIM	**ADANA**	73.16	319	*i*P		**P**	03 24 24.5	+1.2		
SAIM				IAML_P						
	comp=Z,72nm,0.1s									
254A	**Abbeville**	73.26	55	P		**P**	03 24 22.6	-1.3		
	baz=332									
YAHY	**KAYSERI_Yahyal**	73.28	320	*i*P		**P**	03 24 24.3	+0.2		
YAHY				IAML_P						
	comp=Z,322nm,0.5s									
KKB	**Krupnik**	73.32	330	*i*P		**P**	03 24 23.8	-0.3		
RDO	**Rodhopi**	73.36	328	P		**P**	03 24 24.3	0.0		
PVY	**Plav**	73.38	333⇑	*i*P		**P**	03 24 24.4	-0.2		
NKY	**Niksic**	73.39	334⇑	*i*P		**P**	03 24 24.3	-0.3		
BRY	**Bratogost**	73.40	334⇑	*i*P		**P**	03 24 25.4	+0.7		
BRY	**Bratogost**	73.40	334⇑	*i*P		**P**	03 24 23.4	-1.3		
451A	**Vernon**	73.40	57	PFAKE			03 24 40.0	+15		
451A				LR		LR				
	comp=Z,8μm,20.0s									
451A	**Vernon**	73.40	57	P		**P**	03 24 24.5	-0.2		
	baz=331									
353A	**Camilla**	73.40	56	P		**P**	03 24 24.8	+0.1		
	baz=331									
MMB	**Musomiste**	73.42	330	*i*P		**P**	03 24 23.4	-1.3		
KAPI	**Kappang**	73.42	226	P		**P**	03 24 24.1	-0.8		
ANDN	**Andirin**	73.43	319	*i*P		**P**	03 24 25.5	+0.6		
ANDN				IAML_P						
	comp=Z,248nm,0.7s									
Z58A	**St. Stephen**	73.43	51	P		**P**	03 24 23.9	-0.9		
	baz=332									
NKME	**Niksic**	73.44	334⇑	*i*P		**P**	03 24 25.2	+0.4		
Y60A	**Bolivia**	73.46	50	P		**P**	03 24 24.0	-1.0		
	baz=333									
ALN	**Alexandroupoli**	73.46	328	*ep*		**P**	03 24 25.0	+0.1		
	comp=Z,34nm,1.0s									
ALN				LR		LR				
	comp=Z,4μm,19.0s									
NHSC	**New Hope**	73.49	52	PFAKE			03 24 40.0	+15		
NHSC				LR		LR				
	comp=Z,6μm,18.0s									
NHSC	**New Hope**	73.49	52	P		**P**	03 24 24.2	-1.0		
	baz=332									
BNI	**Bardonecchia**	73.50	343	*ep*		**P**	03 24 25.1	-0.2		
	comp=Z,62nm,1.1s									
BNI				LR		LR				
	comp=Z,3μm,20.0s									
SSB	**Saint Sauveur**	73.57	345	*ep*		**P**	03 24 25.0	-0.6		
	comp=Z,91nm,1.5s									
SSB				LR		LR				
	comp=Z,2μm,22.0s									
SSB	**Saint Sauveur**	73.57	345	*ep*		**P**	03 24 25.0	-0.6		
SSB				pmax		pmax				
	comp=Z,91nm,1.5s									
SSB				MLR		MLR				
	comp=Z,2μm,22.0s									
BKSI	**Bulukumba**	73.58	225	P		P	03 24 33.3	+7.5		
TIGA	**Tifton**	73.58	55	*ep*		**P**	03 24 25.3	-0.5		
	comp=Z,57nm,0.8s									
TIGA				LR		LR				
	comp=Z,5μm,19.0s									
TIGA	**Tifton**	73.58	55	P		**P**	03 24 24.6	-1.2		
	baz=332									
NVR	**Nevrokopi**	73.61	329	P		**P**	03 24 25.5	-0.3		
255A	**Hazlehurst**	73.61	54	*ep*		**P**	03 24 25.1	-0.8		
	comp=Z,134nm,1.2s									
255A				LR		LR				
	comp=Z,9μm,20.0s									
255A	**Hazlehurst**	73.61	54	P		**P**	03 24 25.0	-1.0		
	baz=332									
STON	**Ston**	73.61	334	*ep*		**P**	03 24 24.0	-1.7		
TREB	**Trebinje**	73.62	334	*ep*		**P**	03 24 24.7	-1.1		
PDG	**Podgorica**	73.69	333	*ep*		**P**	03 24 25.1	-1.1		
TTG	**Podgorica**	73.69	333⇑	*i*P		**P**	03 24 26.5	+0.3		
STIP	**Stip**	73.70	331	*i*P		**P**	03 24 24.8	-1.5		
Z59A	**Georgetown, SC**	73.72	51	P		**P**	03 24 25.7	-0.8		
	baz=333									
MYKOM	**Kota Tinggi**	73.75	244	*ep*		**P**	03 24 27.3	+0.3		
	comp=Z,34nm,1.0s									
MYKOM				LR		LR				
	comp=Z,3μm,18.0s									
453A	**Whigham**	73.79	56	*ep*		**P**	03

MLSI	Meulaboh, Aceh	75.03	252	P	P	03 24 34.7	+0.3		
ISP	Isparta	75.05	323	PFAKE		03 24 50.0	+16		
ISP				LR	LR				
	comp=Z,2µm,20.0s								
PSI	Prapat	75.12	249	eP	P	03 24 33.8	-1.3		
	comp=Z,27nm,0.9s								
PSI				LR	LR				
	comp=Z,5µm,20.0s								
PSI	Prapat	75.12	249	eP	P	03 24 33.8	-1.3		
PSI				pmax	pmax				
	comp=Z,27nm,0.9s								
PSI				MLR	MLR				
	comp=Z,5µm,20.0s								
LIT	Litokhoron	75.13	330	eP	P	03 24 34.4	-0.3		
	comp=Z,26nm,0.9s								
LIT				LR	LR				
	comp=Z,5µm,18.0s								
457A	Yulee	75.13	54	P	P	03 24 34.1	-0.7		
	baz=332								
NEST	Nestorio	75.19	331	P	P	03 24 34.6	-0.5		
556A	Lake Butler	75.33	55	P	P	03 24 35.4	-0.6		
	baz=332								
ERMK	Ermenek	75.40	321	i P	P	03 24 36.8	+0.2		
ERMK				IAML_P					
	comp=Z,68nm,0.1s								
655A	Horseshoe Beac	75.41	56	P	P	03 24 36.0	-0.4		
	baz=332								
KPRO	Kipourio	75.55	331	P	P	03 24 36.5	-0.7		
557A	Orange Park	75.59	54	P	P	03 24 36.8	-0.7		
	baz=332								
COEN	Coen	75.61	200	eP	P	03 24 37.8	+0.3		
	comp=Z,90nm,1.3s								
COEN				LR	LR				
	comp=Z,2µm,20.0s								
XOR	Xorichti	75.64	329	P	P	03 24 37.0	-0.7		
MOIG	Morelia	75.75	75	eP	P	03 24 39.7	+0.9		
	comp=Z,102nm,0.9s								
MOIG				LR	LR				
	comp=Z,4µm,21.0s								
656A	Willston	75.83	55	PFAKE		03 24 50.0	+11		
656A				LR	LR				
	comp=Z,4µm,19.0s								
656A	Willston	75.83	55	P	P	03 24 37.7	-1.1		
	baz=332								
SHME	Shamm	75.91	298	P	P	03 24 37.9	-1.4		
SHME	Shamm	75.91	298	P	P	03 24 37.9	-1.4		
657A	Interlachen	75.92	55	P	P	03 24 38.5	-0.8		
	baz=332								
BANOM	Banah	75.94	298	P	P	03 24 37.9	-1.7		
JAN	Janina	75.95	331	P	P	03 24 39.5	+0.1		
MATE	Matera	75.95	335	⇑i P	P	03 24 38.3	-1.0		
AGG	Agios Georgios	76.19	330	eP	P	03 24 39.8	-1.0		
	comp=Z,20nm,0.8s								
AGG				LR	LR				
	comp=Z,4µm,20.0s								
AGG	Agios Georgios	76.19	330	eP	P	03 24 39.8	-1.0		
AGG				pmax	pmax				
	comp=Z,20nm,0.8s								
AGG				MLR	MLR				
	comp=Z,4µm,20.0s								
EDFI	Ende, Flores	76.22	223	P	P	03 24 41.2	0.0		
658A	Bunnell	76.31	54	PFAKE		03 24 50.0	+8.5		
658A				LR	LR				
	comp=Z,9µm,19.0s								
SOEI	Soe	76.31	220	eP	P	03 24 43.3	+1.6		
	comp=Z,69nm,1.2s								
SOEI	Soe	76.31	220	P	P	03 24 41.7	0.0		
BKNI	Bangkinang	76.33	246	PFAKE		03 24 50.0	+8.2		
BKNI				LR	LR				
	comp=Z,4µm,18.0s								
BKNI	Bangkinang	76.33	246	P	P	03 24 42.0	+0.2		
MDH	Madha	76.49	297	P	P	03 24 40.4	-2.2		
MDH	Madha	76.49	297	P	P	03 24 40.4	-2.2		
MDH	Madha	76.49	297	P	P	03 24 40.6	-2.0		
MDH				P	P	03 24 40.6	-2.0		
SNSI	Sinabang, Aceh	76.69	251	P	P	03 24 44.2	+0.4		
CSS	Mathiatis	76.80	320	eP	P	03 24 44.1	-0.2		
	comp=Z,98nm,1.3s								
CSS				LR	LR				
	comp=Z,2µm,20.0s								
BATI	Baumata	76.93	220	P	P	03 24 45.2	+0.1		
BATI	Baumata	76.93	220	P	P	03 24 45.7	+0.6		
	comp=Z,63nm,0.7s,baz=55,slow=4.8,SNR=3.8								
BATI				LR	LR	03 55 34.1			
	comp=Z,817nm,21.4s,baz=10,slow=33								
HATD	Hatta, Dubai	76.97	297	i P	P	03 24 44.0	-1.4		
	SNR=6.0								
HATD	Hatta, Dubai	76.97	297	i P	P	03 24 44.0	-1.4		
	SNR=6.0								
HATD	Hatta, Dubai	76.97	297	P	P	03 24 43.7	-1.6		
HATD				P	P	03 24 43.7	-1.6		
BHL	Bhannes	77.00	318	eP	P	03 24 44.7	-0.8		
UNM	Universidad Na	77.02	74	PFAKE		03 25 00.0	+14		
UNM				LR	LR				
	comp=Z,3µm,19.0s								
NAZ	Nazwa, Dubai	77.04	298	P	P	03 24 44.2	-1.5		
NAZ	Nazwa, Dubai	77.04	298	P	P	03 24 44.2	-1.5		
NAZ	Nazwa, Dubai	77.04	298	P	P	03 24 45.5	-0.2		
NAZ				P	P	03 24 45.5	-0.2		
GSI	Gunungsitoli	77.07	249	eP	P	03 24 44.6	-1.4		
	comp=Z,84nm,1.2s								
GSI				LR	LR				
	comp=Z,7µm,20.0s								
GSI	Gunungsitoli	77.07	249	P	P	03 24 45.7	-0.3		
ASHO	Ashiyiah	77.13	297	P	P	03 24 44.7	-1.6		
ASHO	Ashiyiah	77.13	297	P	P	03 24 44.7	-1.6		
ASHO	Ashiyiah	77.13	297	P	P	03 24 44.6	-1.6		
ASHO				P	P	03 24 44.6	-1.6		
BIDO	Bidbid	77.20	295	P	P	03 24 45.7	-1.0		
MTN	Manton Dam	77.21	212	eP	P	03 24 46.7	+0.1		
	comp=Z,142nm,0.9s								
DQRL	Deir Qamar	77.21	318	eP	P	03 24 46.0	-0.8		
FAQ	Al Faqa, Dubai	77.28	298	P	P	03 24 45.4	-1.7		
FAQ	Al Faqa, Dubai	77.28	298	P	P	03 24 45.4	-1.7		
FAQ	Al Faqa, Dubai	77.28	298	P	P	03 24 46.5	-0.6		
FAQ				P	P	03 24 46.5	-0.6		
QRWL	Qaraoun	77.32	317	eP	P	03 24 46.9	-0.5		
SOHO	SOHO	77.39	296	P	P	03 24 45.8	-1.9		
	SNR=6.9								
SOHO				P	P	03 24 45.8	-1.9		
	SNR=6.9								
DWPF	Disney Wildern	77.39	55	PFAKE		03 25 00.0	+12		
DWPF				LR	LR				
	comp=Z,4µm,20.0s								
DWPF	Disney Wildern	77.39	55	P	P	03 24 47.3	-0.4		
	baz=333								
957A	Wimauma	77.45	56	PFAKE		03 25 00.0	+12		
957A				LR	LR				
	comp=Z,6µm,20.0s								
KMMI	Kalianget	77.46	231	P	P	03 24 50.7	+2.6		
ASUD	Al Ashush, Dub	77.50	298	P	P	03 24 46.9	-1.4		
ASUD	Al Ashush, Dub	77.50	298	P	P	03 24 46.9	-1.4		
ASUD	Al Ashush, Dub	77.50	298	P	P	03 24 47.7	-0.6		
ASUD				P	P	03 24 47.7	-0.6		
859A	Kempfer Cattle	77.66	55	P	P	03 24 48.5	-0.6		
	baz=333								
PLAI	Plampang	77.67	226	P	P	03 24 54.7	+5.5		
JLN	Jalan Bani Buh	77.80	293	P	P	03 24 49.4	-0.6		
JLN				P	P	03 24 49.4	-0.6		
SANT	Santorini	77.86	327	PFAKE		03 25 00.0	+10		
SANT				LR	LR				
	comp=Z,4µm,19.0s								
LVIG	Laguna Verde	78.00	71	PFAKE		03 25 00.0	+8.8		
LVIG				LR	LR				
	comp=Z,2µm,19.0s								
ITM	Ithomi	78.03	330	eP	P	03 24 54.0	+2.8		
	comp=Z,48nm,0.9s								
ITM				LR	LR				
	comp=Z,4µm,20.0s								
PGAV	Gavieira, Arco	78.06	354	eP	P	03 24 51.0	-0.3		
	comp=Z,205nm,1.9s								
PGAV				eS	S	03 34 47.4	+2.3		
PGAV	Gavieira, Arco	78.06	354	eLR	LR	03 50 37.3			
	comp=Z,2µm,18.0s								
PBRG	Braganca	78.13	353	eP	P	03 24 51.3	-0.4		
	comp=Z,110nm,1.6s								
959A	Okeechobee	78.14	55	P	P	03 24 51.8	0.0		
	baz=333								
KARP	Karpathos	78.15	325	PFAKE		03 25 00.0	+8.2		
KARP				LR	LR				
	comp=Z,4µm,19.0s								
058A	Arcadia	78.17	56	P	P	03 24 51.8	-0.2		
	baz=333								
PCAB	Cabril	78.30	354	eP	P	03 24 52.2	-0.4		
	comp=Z,104nm,1.6s								
CEL	Celeste	78.42	335	PFAKE		03 25 00.0	+6.7		
CEL				LR	LR				
	comp=Z,3µm,19.0s								
MSVF	Nonsavu	78.46	166	eP	P	03 24 57.1	+3.5		
	comp=Z,66nm,1.2s								
MSVF	Nonsavu	78.46	166	eP	P	03 24 57.1	+3.5		
MSVF				pmax	pmax				
	comp=Z,66nm,1.2s								
059A	Moore Haven	78.52	55	PFAKE		03 25 10.0	+16		
059A				LR	LR				
	comp=Z,4µm,19.0s								
POLO	Lamas de Olo	78.62	353	eP	P	03 24 54.4	-0.1		
	comp=Z,42nm,1.4s								
SISI	Saibi	78.68	247	P	P	03 24 56.0	+1.1		
	comp=Z,42nm,1.6s,comp=Z,1µm								
JAGI	Jajag, Banyuwa	78.69	230	PFAKE		03 25 10.0	+15		
JAGI				LR	LR				
	comp=Z,900nm,20.0s								
PVRL	Vila Real	78.72	353	eP	P	03 24 54.6	-0.3		
	comp=Z,164nm,1.6s								
NGJI	Ngawi	78.74	233	P	P	03 25 03.0	+7.8		
060A	Indiantown	78.78	55	PFAKE		03 25 10.0	+15		
060A				LR	LR				
	comp=Z,6µm,19.0s								
MVO	Moncorvo	78.79	353	eP	P	03 24 55.0	-0.3		
	comp=Z,150nm,2.0s								
MVO				eS	S	03 34 54.1	+1.3		
MVO	Moncorvo	78.79	353	eLR	LR	03 51 05.1			
	comp=Z,2µm,18.0s								
TLIG	Tlapa	78.83	74	eP	P	03 24 57.2	+1.2		
	comp=Z,66nm,1.1s								
TLIG				LR	LR				
	comp=Z,3µm,18.0s								
SMRI	Semarang	78.86	234	PFAKE		03 25 10.0	+14		
SMRI				LR	LR				
	comp=Z,2µm,20.0s								
LHSI	Lahat	78.89	242	P	P	03 24 57.6	+1.5		
	comp=Z,85nm,0.9s								
MAHO	Mahon	78.90	344	i P	P	03 24 57.0	+1.2		
MAHO				i S	S	03 34 56.1	+2.3		
PTO	Porto	78.90	354	eP	P	03 24 55.0	-0.8		
MDSI	Maura Dua	79.19	241	P	P	03 24 55.4	-2.3		
PWJI	Pagerwojo	79.20	232	P	P	03 24 55.1	-2.6		
PVIS	Viseu	79.28	353	eP	P	03 24 57.6	-0.4		
	comp=Z,122nm,1.2s								
UCM	Universidad Co	79.35	350	⇑i P	P	03 24 57.9	-0.4		
UCM				i S	SKSac	03 35 19.2	+4.7		
WOJI	Wonogiri, Jawa	79.38	233	P	P	03 24 57.6	-1.1		
	comp=Z,74nm,1.5s								
MHTO	MHTO	79.47	294	P	P	03 24 58.1	-1.2		
MHTO	SNR=7.3								
				P	P	03 24 58.1	-1.2		
	SNR=7.3								
MTE	Manteigas	79.58	353	eP	P	03 24 59.4	-0.3		
	comp=Z,141nm,2.0s								
MTE	Manteigas	79.58	353	eS	S	03 35 06.3	+5.0		
MTE	Manteigas	79.58	353	eLR	LR	03 51 04.7			
	comp=Z,2µm,18.0s								
MTE	Manteigas	79.58	353	eP	P	03 24 59.2	-0.5		
	comp=Z,69nm,1.0s								
MTE				LR	LR				
	comp=Z,3µm,21.0s								
061Z	Ochoppi	79.59	56	PFAKE		03 25 10.0	+10		
061Z				LR	LR				
	comp=Z,4µm,18.0s								
PCJI	Pacitan	79.60	233	P	P	03 25 02.8	+2.9		
UGM	Wanagama	79.61	234	eP	P	03 24 59.5	-0.5		
	comp=Z,259nm,1.5s								
UGM				LR	LR				
	comp=Z,2µm,21.0s								
UGM	Wanagama	79.61	234	P	P	03 25 02.3	+2.3		
MNAI	Manna	79.62	242	PFAKE		03 25 10.0	+10		
MNAI				LR	LR				
	comp=Z,3µm,20.0s								
CLTB	Caltabellotta	79.63	336	eP	P	03 25 00.4	+0.4		
	comp=Z,34nm,0.5s								
CLTB				LR	LR				
	comp=Z,4µm,18.0s								
KPJI	Karang Pucung	79.73	235	P	P	03 25 01.3	+0.7		
	comp=Z,40nm,1.1s								
COI	Coimbra	79.82	354	eP	P	03 25 01.0	+0.1		
	comp=Z,210nm,1.6s								
PCAS	Casmilo, Conde	79.98	354	eP	P	03 25 01.4	-0.4		
	comp=Z,153nm,2.3s								
ES06	SONSECA Array	80.04	350	eP	P	03 25 01.4	-0.8		
ESDC	Sonseca Array	80.04	350	P	P	03 25 01.5	-0.7		
	comp=Z,19nm,0.7s,baz=2.9,slow=5.8,SNR=71								
ESLA	Sonseca Array	80.04	350	eP	P	03 25 01.5	-0.7		
	comp=Z,35nm,0.9s								
ESLA				LR	LR				
	comp=Z,3µm,19.0s								
MYIG	Mrida	80.05	65	PFAKE		03 25 10.0	+7.6		
MYIG				LR	LR				
	comp=Z,2µm,20.0s								
PCBR	Castelo Branco	80.13	353	eP	P	03 25 02.1	-0.5		
	comp=Z,130nm,2.1s								
PALK	Pallekele	80.15	267	eP	P	03 25 02.1	-1.0		
	comp=Z,45nm,1.1s								
PALK				LR	LR				
	comp=Z,4µm,22.0s								
PALK	Pallekele	80.15	267	i P	P	03 25 02.2	-0.9		
	SNR=12								
PALK	Pallekele	80.15	267	i P	P	03 25 02.2	-0.9		
	SNR=12								
PALK	Pallekele	80.15	267	eP	P	03 25 02.1	-1.0		
PALK				pmax	pmax				
	comp=Z,45nm,1.1s								
PALK				MLR	MLR				
	comp=Z,4µm,22.0s								
PAB	San Pablo	80.20	350	eP	P	03 25 02.7	-0.3		
	comp=Z,71nm,1.2s								
PAB				LR	LR				
	comp=Z,3µm,19.0s								
CISI	Cisompet, Garu	80.40	236	PFAKE		03 25 20.0	+16		
CISI				LR	LR				
	comp=Z,2µm,20.0s								
PMRV	Marv??o	80.54	353	eP	P	03 25 07.7	+2.9		
	comp=Z,110nm,1.7s								
PMRV	Marv??o	80.54	353	eLR	LR	03 49 30.0			
	comp=Z,2µm,20.0s								
PMTG	Montargil	80.94	353	eP	P	03 25 06.3	-0.6		
	comp=Z,77nm,1.6s								
PMTG	Montargil	80.94	353	eS	S	03 35 23.2	+7.7		
PESTR	Estremoz	81.11	353	eP	P	03 25 07.3	-0.5		
	comp=Z,84nm,1.8s								
PESTR	Estremoz	81.11	353	eS	S	03 35 23.8	+6.6		
PESTR	Estremoz	81.11	353	eP	P	03 25 07.3	-0.5		
	comp=Z,19nm,0.9s								
PESTR				LR	LR				
	comp=Z,1µm,21.0s								
PMAFR	Mafra	81.11	354	eS	S	03 35 24.3	+7.0		
CTA	Charters Tower	81.14	196	P	P	03 25 07.7	-0.3		
	comp=Z,21nm,0.8s,baz=7.3,slow=8.2,SNR=12								
CTAO	Charters Tower	81.14	196	eP	P	03 25 08.1	+0.1		
	comp=Z,90nm,1.5s								
CTAO				LR	LR				
	comp=Z,2µm,21.0s								
CTAO	Charters Tower	81.14	196	eP	P	03 25 08.1	+0.1		
CTAO				pmax	pmax				
	comp=Z,90nm,1.5s								
CTAO				MLR	MLR				
	comp=Z,2µm,21.0s								
LIS	Lisbon	81.34	354	eP	P	03 25 09.1	0.0		
LIS				eS	S	03 35 19.0	-0.6		
LIS				AMS	AMS	04 06 20.4			
	comp=E,2µm,22.3s								
LIS	Lisbon	81.34	354	eP	P	03 25 09.1	0.0		
LIS				eS	S	03 35 19.0	-0.6		
TEIG	Tepich	81.35	64	PFAKE		03 25 20.0	+11		
TEIG				LR	LR				
	comp=Z,4µm,19.0s								
CART	Cartagena	81.82	348	PFAKE		03 25 20.0	+8.4		
CART				LR	LR				
	comp=Z,1µm,20.0s								
CART	Cartagena	81.82	348	⇑i P	P	03 25 12.5	+0.9		
CART				i S	S	03 35 30.7	+6.1		
TAOE	Nuku Hiva Isla	81.84	124	eLR	LR	03 50 48.8			
	comp=Z,3µm,24.0s,baz=334								
DZM	Mont Dzumac	81.91	177	eP	P	03 25 12.7	+0.6		
	comp=Z,156nm,1.2s								
DZM	Mont Dzumac	81.91	177	eLR	LR	03 50 56.0			
	comp=Z,2µm,22.1s								
DZM	Mont Dzumac	81.91	177	eP	P	03 25 12.9	+0.7		
	comp=Z,78nm,1.3s								
DZM	Mont Dzumac	81.91	177	LR	LR	04 00 38.2			
	comp=Z,1µm,18.6s,baz=20,slow=35								
PNCL	Nicolau / Gran	81.92	354	eP	P	03 25 11.9	-0.2		
PNCL	Nicolau / Gran	81.92	354	eS	S	03 35 32.9	+7.4		
PBEJ	Beja	81.96	353	eP	P	03 25 13.3	+0.9		
	comp=Z,83nm,1.9s								
KEST	Kesra	82.16	339	eP	P	03 25 13.9	+0.3		
	comp=Z,83nm,1.4s								
KEST				LR	LR				
	comp=Z,2µm,21.0s								
KEST	Kesra	82.16	339	P	P	03 25 13.5	-0.1		
	comp=Z,23nm,0.9s,baz=63,slow=2.2,SNR=13								
KEST				LR	LR	04 07 19.2			
	comp=Z,1µm,19.4s,baz=338,slow=40								
MESJ	Messejana	82.17	353	eP	P	03 25 13.4	0.0		
MESJ				eS	S	03 35 27.5	-0.7		
MESJ				AMS	AMS	04 11 28.4			
	comp=Z,2µm,19.5s								
MESJ	Messejana	82.17	353	eP	P	03 25 14.2	+0.8		
	comp=Z,74nm,2.1s								
MESJ	Messejana	82.17	353	eP	P	03 25 13.4	0.0		
MESJ				eS	S	03 35 27.5	-0.7		
PVAQ	Vaqueiros	82.57	353	eS	S	03 35 38.7	+6.4		
RAYN	Ar Rayn	82.67	305	eP	P	03 25 15.2	-1.2		
	comp=Z,44nm,1.0s								
RAYN				LR	LR				
	comp=Z,3µm,18.0s								
RAYN	Ar Rayn	82.67	305	i P	P	03 25 15.0	-1.3		
	SNR=47								
RAYN	Ar Rayn	82.67	305	i P	P	03 25 15.0	-1.3		
	SNR=47								
RAYN	Ar Rayn	82.67	305	eP	P	03 25 15.2	-1.2		
RAYN				pmax	pmax				
	comp=Z,44nm,1.0s								
RAYN				MLR	MLR				
	comp=Z,3µm,18.0s								
MORF	Marmelete	82.72	354	eP	P	03 25 16.3	-0.1		
MORF				eS	S	03 35 33.2	-0.8		
MORF				AMS	AMS	04 09 43.5			
	comp=Z,2µm,15.6s								
MORF	Marmelete	82.72	354	eP	P	03 25 17.2	+0.8		
	comp=Z,156nm,1.9s								
MORF	Marmelete	82.72	354	eS	S	03 35 41.3	+7.3		
MORF	Marmelete	82.72	354	eP	P	03 25 16.3	-0.1		
MORF				eS	S	03 35 33.2	-0.8		
PBDV	Barranco-do-Ve	82.75	353	eS	S	03 35 41.3	+7.1		
PFVI	Vila Bisbo	82.91	354	eS	S	03 35 41.3	+5.6		
PFVI	Vila Bisbo	82.91	354	PFAKE		03 25 30.0	+13		
PFVI				LR	LR				
	comp=Z,2µm,19.0s								
EMAL	Malaga-Limoner	82.97	350	⇑i P	P	03 25 17.3	-0.3		
EMAL	Malaga-Limoner	82.97	350	i PP	PP	03 28 32.8	+5.4		
CCIG	Comitan	83.00	70	eP	P	03 25 19.2	+0.9		
	comp=Z,91nm,0.9s								
CCIG				LR	LR				
	comp=Z,2µm,20.0s								
WB0	Warramunga Arr	83.04	207	PFAKE		03 25 30.0	+12		
WB0				LR	LR				
	comp=Z,1µm,19.0s								
WB9	Warramunga Arr	83.07	207	PFAKE		03 25 30.0	+12		
WB9				LR	LR				
	comp=Z,5µm,22.0s								
WB8	Warramunga Arr	83.09	207	PFAKE		03 25 30.0	+12		
WB8				LR	LR				
	comp=Z,2µm,22.0s								
MNCI	Minicoy	83.11	275	eP	P	03 25 19.7	+1.1		
	comp=Z,88nm,1.2s								
WB6	Warramunga Arr	83.13	207	PFAKE		03 25 30.0	+12		
WB6				LR	LR				
	comp=Z,3µm,22.0s								
WB5	Warramunga Arr	83.15	207	PFAKE		03 25 30.0	+11		
WB5				LR	LR				
	comp=Z,2µm,22.0s								
WB4	Warramunga Arr	83.18	207	PFAKE		03 25 30.0	+11		
WB4				LR	LR				
	comp=Z,2µm,22.0s								
WR0	Warramunga Arr	83.19	207	PFAKE		03 25 30.0	+11		
WR0				LR	LR				
	comp=Z,2µm,22.0s								
WR9	Warramunga Arr	83.20	207	PFAKE		03 25 30.0	+11		
WR9				LR	LR				
	comp=Z,2µm,22.0s								
WB3	Warramunga Arr	83.20	207	PFAKE		03 25 30.0	+11		
WB3				LR	LR				
	comp=Z,2µm,22.0s								
WC2	Warramunga Arr	83.20	207	PFAKE		03 25 30.0	+11		
WC2				LR	LR				
	comp=Z,3µm,22.0s								
WR7	Warramunga Arr	83.20	207	PFAKE		03 25 30.0	+11		
WR7				LR	LR				
	comp=Z,2µm,22.0s								
WC1	Warramunga Arr	83.20	208	PFAKE		03 25 30.0	+11		
WC1				LR	LR				
	comp=Z,2µm,22.0s								
WR6	Warramunga Arr	83.21	207	PFAKE		03 25 30.0	+11		
WR6				LR	LR				
	comp=Z,2µm,22.0s								
WR5	Warramunga Arr	83.21	207	PFAKE		03 25 30.0	+11		
WR5				LR	LR				
	comp=Z,2µm,22.0s								
WRAB	Tennant Creek	83.21	207	eP	P	03 25 18.3	-0.6		
	comp=Z,134nm,1.1s								
WRAB				LR	LR				
	comp=Z,3µm,22.0s								
WRAB	Tennant Creek	83.21	207	eP	P	03 25 18.3	-0.6		
WRAB				pmax	pmax				
	comp=Z,134nm,1.1s								
WRAB				MLR	MLR				
	comp=Z,3µm,22.0s								
WR4	Warramunga Arr	83.21	207	PFAKE		03 25 30.0	+11		
WR4				LR	LR				
	comp=Z,2µm,22.0s								
WR3	Warramunga Arr	83.22	207	PFAKE		03 25 30.0	+11		
WR3				LR	LR				
	comp=Z,2µm,22.0s								
WB2	Warramunga Arr	83.22	207	eP	P	03 25 18.6	-0.4		
WR2	Warramunga Arr	83.22	207	PFAKE		03 25 30.0	+11		
WR2				LR	LR				
	comp=Z,2µm,22.0s								
WR1	Warramunga Arr	83.22	208	eP	P	03 25 18.4	-0.6		
	comp=Z,91nm,0.9s								
WR1				LR	LR				
	comp=Z,2µm,22.0s								
WRA	Warramunga Arr	83.22	208	i P	P	03 25 18.3	-0.6		
WRA				pmax	pmax				
	comp=Z,71nm,0.9s								
WRA	Warramunga Arr	83.22	208	P	P	03 25 18.4	-0.6		
	comp=Z,69nm,0.8s,baz=18,slow=5.8,SNR=89								
WRA				LR	LR	04 05 14.6			
	comp=Z,634nm,18.9s,baz=10.0,slow=38								
WC3	Warramunga Arr	83.23	207	PFAKE		03 25 30.0	+11		
WC3				LR	LR				
	comp=Z,3µm,22.0s								
WC4	Warramunga Arr	83.24	207	PFAKE		03 25 30.0	+11		
WC4				LR	LR				
	comp=Z,2µm,22.0s								
SFS	San Fernando	83.40	352	PFAKE		03 25 30.0	+10		
SFS				LR	LR				
	comp=Z,1µm,19.0s								
DMTO	DMTO	83.70	295	P	P	03 25

comp=Z,3µm,22.8s,baz=336
TIAR Tiarei 86.24 136 *e*P **P 03 25 35.0 +0.8**
comp=Z,62nm,1.6s
IFR Ifrane 86.25 351 *e*P P 03 25 21.8 -13
IFR *i* S **S 03 36 07.7 -1.8**
PAE Paea 86.26 136 *e*P **P 03 25 34.9 +0.7**
comp=Z,25nm,1.4s
RAR Rarotonga 86.37 146 P **P 03 25 34.9 +0.2**
comp=Z,18nm,1.1s,baz=79,slow=9.9,SNR=3.2
TVO Taravao 86.48 136 *e*P **P 03 25 36.5 +1.0**
comp=Z,48nm,1.5s
AVE Averroes 86.64 352 ||*i*P **P 03 25 39.9 +3.7**
AVE *i* SKS **SKSac 03 36 02.6 -0.2**
AS01 Alice Springs 86.90 207 *e*P **P 03 25 35.9 -1.4**
AS31 Alice Springs 86.91 207 *e*P **P 03 25 37.1 -0.3**
comp=Z,7.5nm,0.8s
ASAR Alice Springs 86.91 207 P **P 03 25 36.8 -0.7**
comp=Z,16nm,0.8s,baz=12,slow=4.4,SNR=41
ASAR PKKPbc **PKKPbc 03 43 30.9 +1.7**
comp=Z,0.5nm,0.5s,baz=189,slow=1.7,SNR=4.3
ASAR LR LR 04 08 15.3
comp=Z,945nm,18.6s,baz=12,slow=38
TGUH Tegucigalpa,Un 87.20 67 *e*P **P 03 25 39.7 +0.6**
comp=Z,105nm,0.8s
TGUH LR LR
comp=Z,3µm,19.0s
GTBY Guantanamo Bay 87.26 54 PFAKE 03 25 50.0 +11
GTBY LR LR
comp=Z,7µm,19.0s
GRTK Grand Turk 87.39 49 PFAKE 03 25 50.0 +10
GRTK LR LR
comp=Z,3µm,20.0s
MBWA Marble Bar 88.45 220 *e*P **P 03 25 45.0 +0.2**
COCO West Island 89.29 244 PFAKE 03 26 00.0 +11
COCO LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 89.62 51 *e*P **P 03 25 51.2 +0.6**
comp=Z,61nm,1.4s
SDDR LR LR
comp=Z,4µm,20.0s
ESPN Las Esperanzas 90.19 65 *e*P **P 03 25 52.1 -1.2**
comp=Z,149nm,1.5s
ESPN LR LR
comp=Z,2µm,20.0s
ARMA Armidale 90.72 190 *e*P **P 03 25 56.6 +1.3**
comp=Z,86nm,1.4s
ARMA LR LR
comp=Z,2µm,22.0s
DAMY Dhamar 91.12 302 PFAKE 03 26 10.0 +12
DAMY LR LR
comp=Z,4µm,22.0s
LHI Lord Howe Isla 91.36 184 PFAKE 03 26 10.0 +12
LHI LR LR
comp=Z,2µm,19.0s
TBI Tubuai 91.56 138 *e*P **P 03 26 00.3 +1.0**
comp=Z,183nm,1.3s
TBI Tubuai 91.56 138 *e*S **S 03 36 54.5 -4.4**
comp=Z,607nm,26.8s
TBI Tubuai 91.56 138 *e*LQ LQ 03 51 30.3
comp=Z,1µm,35.2s
TBI *e*LR LR 03 55 20.8
comp=Z,2µm,23.2s,baz=333
JTS JuntasAbangare 91.57 66 PFAKE 03 26 10.0 +10
JTS LR LR
comp=Z,2µm,21.0s
MPR Mayaguez 91.89 47 PFAKE 03 26 10.0 +8.9
MPR LR LR
comp=Z,3µm,22.0s
CRPR Cabo Rojo, PR 92.09 47 PFAKE 03 26 10.0 +8.0
CRPR LR LR
comp=Z,2µm,21.0s
HDC Heredia 92.21 66 PFAKE 03 26 10.0 +7.2
HDC LR LR
comp=Z,2µm,22.0s
CBYP Canovanas 92.31 46 PFAKE 03 26 10.0 +6.9
CBYP LR LR
comp=Z,3µm,22.0s
SJG San Juan 92.35 47 PFAKE 03 26 10.0 +6.8
SJG LR LR
comp=Z,2µm,19.0s
HUMP Col San Antoni 92.43 46 PFAKE 03 26 10.0 +6.4
HUMP LR LR
comp=Z,2µm,19.0s
STVI Saint Thomas 92.56 45 PFAKE 03 26 20.0 +16
STVI LR LR
comp=Z,3µm,20.0s
MTP Monte Pirata 92.58 46 PFAKE 03 26 20.0 +16
MTP LR LR
comp=Z,2µm,20.0s
STKA Stephens Creek 93.41 199 *e*P **P 03 26 09.8 +2.2**
comp=Z,16nm,1.5s
STKA LR LR
comp=Z,400nm,19.0s
STKA Stephens Creek 93.41 199 P **P 03 26 07.5 -0.2**
comp=Z,19nm,1.1s,baz=33,slow=3.4,SNR=9.0
STKA LR LR 04 10 18.3
comp=Z,1µm,18.7s,baz=357,slow=37
SMRT St. Maarten 93.50 44 PFAKE 03 26 20.0 +11
SMRT LR LR
comp=Z,3µm,20.0s
SEUS St. Eustatius 94.05 44 PFAKE 03 26 20.0 +8.9
SEUS LR LR
comp=Z,3µm,19.0s
ATD Arta Tunnel 94.50 302 PFAKE 03 26 20.0 +6.7
ATD LR LR
comp=Z,3µm,21.0s
BCIP Isla Barro Col 94.87 62 PFAKE 03 26 30.0 +15
BCIP LR LR
comp=Z,1µm,21.0s
OUZ Omahuta 95.34 172 PFAKE 03 26 30.0 +14
OUZ LR LR
comp=Z,2µm,19.0s
TAM Tamanrasset 95.46 340 PFAKE 03 26 30.0 +12
TAM LR LR
comp=Z,1µm,20.0s
CAN Canberra 95.83 192 PFAKE 03 26 30.0 +11
CAN LR LR
comp=Z,2µm,20.0s
DGAR Diego Garcia 96.90 267 PFAKE 03 26 40.0 +16
DGAR LR LR
comp=Z,3µm,19.0s
FDF Fort de France 97.24 43 PFAKE 03 26 40.0 +14
FDF LR LR
comp=Z,2µm,21.0s
TOO Toolangi 98.45 194 PFAKE 03 26 40.0 +9.5
TOO LR LR
comp=Z,2µm,20.0s
SVB Belmont 98.56 44 PFAKE 03 26 40.0 +8.3
SVB LR LR
comp=Z,2µm,22.0s
FURI Furi 98.61 305 PFAKE 03 26 40.0 +7.7
FURI LR LR
comp=Z,3µm,20.0s
URZ Urewera 98.65 169 PFAKE 03 26 40.0 +8.7
URZ LR LR
comp=Z,2µm,18.0s
HIZ Hauiti 98.71 171 PFAKE 03 26 40.0 +8.4
HIZ LR LR
comp=Z,2µm,18.0s
SDV Santo Domingo 99.04 54 PFAKE 03 26 50.0 +16
SDV LR LR
comp=Z,5µm,21.0s
GRGR Grenville 99.48 45 PFAKE 03 26 50.0 +14
GRGR LR LR
comp=Z,3µm,22.0s
BKZ Black Stump Fm 99.50 170 PFAKE 03 26 50.0 +15
BKZ LR LR
comp=Z,2µm,19.0s
NWAO Narrogin (SRO) 100.20 218 PFAKE 03 26 50.0 +12
NWAO LR LR
comp=Z,2µm,19.0s
ROSC El Rosal 101.14 59 PFAKE 03 26 50.0 +6.4
ROSC LR LR
comp=Z,400nm,19.0s
SNZO South Karori 101.48 171 PFAKE 03 27 00.0 +16
SNZO LR LR
comp=Z,2µm,20.0s
THZ Tophouse 101.81 173 PFAKE 03 27 00.0 +15
THZ LR LR
comp=Z,2µm,21.0s
KHZ Kahutara 102.50 172 PFAKE 03 27 00.0 +12
KHZ LR LR
comp=Z,3µm,22.0s
OXZ Oxford 103.31 174 PFAKE 03 27 00.0 +8.1
OXZ LR LR
comp=Z,2µm,19.0s

LBZ Lake Benmore 104.28 175 PFAKE 03 27 10.0 +14
LBZ LR LR
comp=Z,3µm,21.0s
WKZ Wanaka 104.67 176 PFAKE 03 27 10.0 +12
WKZ LR LR
comp=Z,3µm,18.0s
KOWA Kowa 104.98 347 PFAKE 03 27 10.0 +10
KOWA LR LR
comp=Z,900nm,21.0s
TOC1 Torodi Ar. Sit 105.52 342 PFAKE 03 31 30.0 +14
TOC1 LR LR
comp=Z,2µm,19.0s
TOC2 Torodi Ar. Sit 105.53 342 PFAKE 03 31 30.0 +14
TOC2 LR LR
comp=Z,2µm,20.0s
TOC7 Torodi Ar. Sit 105.53 342 PFAKE 03 31 30.0 +14
TOC7 LR LR
comp=Z,2µm,18.0s
TOB2 Torodi Ar. Sit 105.53 342 PFAKE 03 31 30.0 +14
TOB2 LR LR
comp=Z,2µm,18.0s
TOA1 Torodi Ar. Sit 105.54 342 *e*PKiKP **PKiKP 03 31 16.1 +0.1**
TOA1 *e*PKKPbc **PKKPbc 03 42 39.7 +2.0**
TOA1 LR LR
comp=Z,2µm,18.0s
TOB5 Torodi Ar. Sit 105.54 342 PFAKE 03 31 30.0 +14
TOB5 LR LR
comp=Z,2µm,18.0s
TOA2 Torodi Ar. Sit 105.54 342 PFAKE 03 31 30.0 +14
TOA2 LR LR
comp=Z,2µm,19.0s
TOA0 Torodi Ar. Sit 105.54 342 PFAKE 03 31 30.0 +14
TOA0 LR LR
comp=Z,2µm,20.0s
TORD Torodi Ar. Bea 105.54 342 PKiKP **PKiKP 03 31 16.1 +0.1**
comp=Z,3.4nm,1.1s,baz=3.6,slow=3.2,SNR=3.8
TORD PKKPbc **PKKPbc 03 42 39.7 +2.0**
comp=Z,1.5nm,1.0s,baz=169,slow=3.4,SNR=6.0
TOA3 Torodi Ar. Sit 105.55 342 PFAKE 03 31 30.0 +14
TOA3 LR LR
comp=Z,2µm,21.0s
TOC3 Torodi Ar. Sit 105.55 342 PFAKE 03 31 30.0 +14
TOC3 LR LR
comp=Z,2µm,18.0s
TOB3 Torodi Ar. Sit 105.55 342 PFAKE 03 31 30.0 +14
TOB3 LR LR
comp=Z,2µm,18.0s
TOB4 Torodi Ar. Sit 105.55 342 PFAKE 03 31 30.0 +14
TOB4 LR LR
comp=Z,2µm,20.0s
TOC5 Torodi Ar. Sit 105.56 342 PFAKE 03 31 30.0 +14
TOC5 LR LR
comp=Z,2µm,18.0s
TOC4 Torodi Ar. Sit 105.57 342 PFAKE 03 31 30.0 +14
TOC4 LR LR
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 108.25 302 *e*PKiKP **PKiKP 03 31 22.3 +0.9**
KMBO LR LR
comp=Z,2µm,20.0s
KMBO Kilima Mbogo 108.25 302 PKiKP **PKiKP 03 31 22.3 +0.9**
comp=Z,0.9nm,0.4s,baz=24,slow=20,SNR=5.4
PTGA Pitinga 111.99 48 PFAKE 03 31 40.0 +12
PTGA LR LR
comp=Z,2µm,21.0s
ABPO Ambohimpanom 119.35 283 PFAKE 03 31 50.0 +7.8
ABPO LR LR
comp=Z,2µm,19.0s
LPAZ La Paz 122.67 63 *e*PKPdf **PKPdf 03 31 48.8 -0.4**
LPAZ La Paz 122.67 63 PKiKP **PKPdf 03 31 48.0 -1.2**
LPAZ La Paz 122.67 63 PKP **PKPdf 03 31 48.0 -1.2**
comp=Z,1.8nm,0.8s,baz=32,slow=11,SNR=7.4
LPAZ La Paz 122.67 63 *e*P **PKiKP 03 31 49.5 +0.1**
RCBR Riachuelo 123.87 23 *e*P **PKiKP 03 31 53.0 +1.9**
LSZ Lusaka 124.78 304 *e*PKPdf **PKPdf 03 31 52.2 -0.4**
LSZ LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 124.78 304 *e*PKIKP **PKPdf 03 31 52.2 -0.4**
LSZ MLR MLR
comp=Z,2µm,20.0s
ASCN Ascension 127.92 357 PFAKE 03 32 10.0 +11
ASCN LR LR
comp=Z,67µm,22.0s
GO02 Mina Guanaco 129.68 70 PFAKE 03 32 10.0 +7.3
GO02 LR LR
comp=Z,900nm,20.0s
BDFB Brasilia 130.04 41 *e*PKPdf **PKPdf 03 32 02.6 0.0**
BDFB LR LR
comp=Z,2µm,20.0s
BDFB Brasilia 130.04 41 PKP **PKPdf 03 32 02.4 -0.3**
comp=Z,11nm,1.0s,baz=26,slow=1.0,SNR=13
JANB Januaria 130.65 36 *e*P **PKiKP 03 32 06.6 +2.0**
GO03 Copiap 131.43 73 *e*PKPdf **PKiKP 03 32 05.8 0.0**
GO03 LR LR
comp=Z,1µm,18.0s
AQDB Aquidauana 131.67 53 *e*P **PKiKP 03 32 07.8 +1.3**
MCI9 Montes Claros 132.32 37 *e*P **PKiKP 03 32 09.5 +1.6**
MCI6 Montes Claros 132.43 37 *e*P **PKiKP 03 32 09.5 +1.3**
TSUM Tsumeb 132.46 314 PFAKE 03 32 20.0 +12
TSUM LR LR
comp=Z,1µm,20.0s
PMNB Patos De Minas 133.26 41 *e*P **PKiKP 03 32 11.7 +1.8**
LBTB Lobatse 134.53 301 *e*PKPdf **PKPdf 03 32 11.3 +0.4**
TRCB Terra Rica 134.97 50 *e*P **PKiKP 03 32 13.7 +0.5**
SJMB Sao Joao De Ma 135.01 34 *e*P **PKiKP 03 32 14.8 +1.5**
BSFB Barra de Sao F 135.23 34 *e*P **PKiKP 03 32 15.1 +1.4**
BSCB Bom Sucesso 136.09 40 *e*P **PKiKP 03 32 17.2 +1.7**
CPUP Villa Florida 136.21 58 *e*PKPdf **PKPdf 03 32 13.9 +0.1**
CPUP Villa Florida 136.21 58 PKP **PKPdf 03 32 11.0 -2.8**
comp=Z,6.2nm,0.9s,baz=324,slow=4.1,SNR=8.7
CPUP Villa Florida 136.21 58 *e*P **PKiKP 03 32 17.2 +1.7**
RCLB Rio Claro- Sao 136.50 44 *e*P **PKiKP 03 32 17.6 +1.3**
PTGB Pitanga 136.92 51 *e*P **PKiKP 03 32 18.1 +0.9**
VNDA Vanda 137.38 181 *e*PKPpre PKPpre 03 32 07.8
VNDA *e*PKPdf **PKiKP 03 32 15.3 -1.0**
VNDA Vanda 137.38 181 *e*PKIKP PKPpre 03 32 07.8
VNDA *e* 03 32 15.3
VNDA Vanda 137.38 181 PKhKP PKPpre 03 32 06.7
comp=Z,1.8nm,0.7s,baz=18,slow=2.8,SNR=8.8
VNDA PKP **PKiKP 03 32 15.3 -1.0**
comp=Z,3.0nm,0.7s,baz=337,slow=5.8,SNR=16
SPB Sao Paulo 137.61 44 *e*PKPpre PKPpre 03 32 05.8
BOSA Boshof 137.81 299 PKhKP PKPpre 03 32 09.4
comp=Z,4.0nm,0.8s,baz=54,slow=4.6,SNR=6.3
BOSA PKP **PKPdf 03 32 16.6 -0.3**
comp=Z,6.1nm,0.6s,baz=58,slow=1.5,SNR=7.2
BOSA Boshof 137.81 299 *e*P **PKiKP 03 32 19.1 +0.3**
DUB01 Friburgo-RJ 137.86 37 *e*P **PKiKP 03 32 20.1 +1.0**
ESAR Angra dos Reis 138.09 40 *e*P **PKiKP 03 32 21.3 +1.9**
ITAB Concordia 139.15 52 *e*P **PKiKP 03 32 22.4 +1.0**
GO06 Curarrehue 140.48 84 *e*PKPdf **PKPdf 03 32 22.2 +0.8**
CNLB Canela 141.51 52 *e*P **PKiKP 03 32 27.1 +0.8**
PLCA Paso Flores 141.81 84 *e*PKPpre PKPpre 03 32 19.0
PLCA Paso Flores 141.81 84 *e*PKIKP PKPpre 03 32 19.0
PLCA Paso Flores 141.81 84 PKhKP PKPpre 03 32 17.0
comp=Z,4.5nm,0.9s,baz=11,slow=5.4,SNR=5.8
PLCA Paso Flores 141.81 84 *e*P **PKiKP 03 32 26.3 -0.4**
SUR Sutherland 142.98 302 *e*PKPdf **PKPdf 03 32 27.1 +0.9**
SUR LR LR
comp=Z,2µm,20.0s
TRQA Tornquist 143.95 73 *e*PKPpre PKPbc 03 32 25.0 -0.4
TRQA Tornquist 143.95 73 *e*PKIKP PKPbc 03 32 25.0 -0.4
MAW Mawson 146.60 223 PKPbc **PKPab 03 32 33.2 -0.6**
comp=Z,66nm,1.0s,baz=353,slow=1.6,SNR=5.9
GO09 Cerro Castillo 148.22 99 *e*PKPdf **PKPbc 03 32 36.6 -1.1**
QSPA South Pole Qui 149.87 180 *e*PKPdf **PKPdf 03 32 35.3 -1.2**
QSPA *e*PKPbc **PKPbc 03 32 40.5 -0.9**
QSPA South Pole Qui 149.87 180 PKPbc **PKPbc 03 32 40.5 -0.9**
comp=Z,110nm,0.8s,baz=264,slow=0.9,SNR=123
GO10 Punta Arenas 149.98 101 *e*PKPbc **PKiKP 03 32 43.1 +0.2**
SYO Syowa Base 155.24 226 *e*pPKPdf pPKPdf 03 32 49.8 +2.1
SNAA Sanae 167.17 200 P **PKPdf 03 32 55.2 -1.7**
SNAA Sanae 167.17 200 PKP **PKPab 03 34 00.3 -1.4**
SNAA Sanae 167.17 200 *e*PKPdf **PKPdf 03 32 57.5 +0.5**
SNAA *e*PKPab **PKPab 03 34 00.5 -1.2**
SNAA Sanae 167.17 200 *e*PKIKP **PKPdf 03 32 57.5 +0.5**
SNAA *e* 03 34 00.5
VNA3 Neumayer Olymp 168.48 191 P **PKPdf 03 32 55.3 -2.5**
VNA2 Neumayer--Watz 168.52 195 P **PKPdf 03 32 56.3 -1.6**
VNA1 Neumayer--Stat 168.89 194 P **PKPdf 03 32 57.7 -0.3**

MAN 13 03:14:04.8, 18.29N×120.61E, h16km, mb3.9, ML2.7, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
APYP	**Conner**	**0.74**	**125**	*e*P		Pg	03 14 18.6	-0.6
APYP				*e*S		Sn	03 14 31.4	-0.1
CVP	**Callao Caves**	**1.29**	**116**	*e*P		Pn	03 14 27.0	-1.2
CVP				*i* S		Sn	03 14 45.3	+0.1
SGCP	**Mt. Cagua**	**1.37**	**92**	*e*P		Pn	03 14 29.2	-0.1
SGCP				*e*S		Sb	03 14 47.5	+0.2
CAUP	**Cauayan**	**1.77**	**139**	*e*P		Pb	03 14 36.6	-0.3
SMPP	**San Manuel, Pa**	**2.12**	**178**	*e*P		Pn	03 14 39.0	-0.7
SMPP				*e*S		Sn	03 15 07.1	+1.3

IDC 13 03:20:01.7±4.5, 5.38S×132.30E, h0km, mb4.0/1, mb1 3.8/3, mb1mx3.5/41, mbtmp3.6/3, ML3.2/2, Error ellipse: s-maj=289.1km s-min=31.8km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**14.61**	**172**	P		Pn	03 23 28.5	-1.4
	0.1nm,0.3s,baz=352,slow=13,SNR=4.4							
ASAR	**Alice Springs**	**18.25**	**175**	P		P	03 24 17.2	+0.4
	0.2nm,0.3s,baz=3.5,slow=9.8,SNR=13							
MKAR	**Makanchi Array**	**68.16**	**325**	P		P	03 31 03.8	0.0
	1.0nm,0.6s,baz=115,slow=8.1,SNR=5.3							

DJA 13 03:20:45.9±0.9, 2.7N×4.7×12.3E±.5°, h10km±7km, M4.5/8, mb4.7/4, mB5.4/1, MLv4.5/8, Mw(mB)4.8/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KMSI	**Cibinong**	**1.18**	**143**	P		Pb	03 21 08.1	-0.3
KMSI				S		Sb	03 21 23.6	-0.1
LUWI	**Luwuk**	**2.59**	**191**	P		Pn	03 21 27.5	-0.4
LUWI				S		Sn	03 22 01.0	+1.5
LUWI	**Luwuk**	**2.59**	**191**	P		Pn	03 21 28.7	+0.8
APSI	**Ampana**	**2.91**	**214**	P		Pn	03 21 32.6	+0.3
APSI				S		Sn	03 22 07.8	+0.5
APSI	**Ampana**	**2.91**	**214**	P		Pb	03 21 35.1	-2.8
PCI	**Palu**	**4.19**	**235**	P		Pb	03 21 55.0	-4.8
TTSI	**Tana Toraja**	**5.70**	**217**	P		Pn	03 22 09.9	-0.8
TTSI				S		Sn	03 23 17.2	+1.0
TTSI	**Tana Toraja**	**5.70**	**217**	P		Pn	03 22 13.6	+2.9
SPSI	**Sidrap Palu**	**6.47**	**213**	P		Pn	03 22 21.7	+0.4
	16nm,1.0s							
SPSI				S		Sn	03 23 36.5	+1.2
	16nm,1.0s							
SPSI	**Sidrap Palu**	**6.47**	**213**	P		Pn	03 22 17.9	-3.4
BNSI	**Bone**	**6.68**	**208**	P		Pn	03 22 24.0	-0.1
BNSI				S		Sn	03 23 40.9	+0.6
BNSI	**Bone**	**6.68**	**208**	P		Pn	03 22 26.2	+2.1

*ISCJB **13** 03:26:12.1±2.0, 60.1N±0.3×163.3E±0.2, h10km, mb3.7/6, Error ellipse: s-maj=49.0km s-min=14.1km az=173.0*
*IDC **13** 03:26:12.4±1.9, 60.12N×163.42E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.5/52, mbtmp3.6/8, ML4.7/1, Error ellipse: s-maj=43.8km s-min=15.9km az=172.0*
ISC 13 03:26:13.5±1.9, 60.0N±0.3×163.4E±0.1, h10km, n8, σ0 26/8, mb3.8/6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SEY	**Seymchan**	**6.02**	**304**	Pn		**Pn**	**03 27 42.6**	**+0.2**
	0.4nm,0.3s,baz=17,slow=19,SNR=2.8							
SEY				Lg		Lg	03 29 21.3	
	2.5nm,0.3s,baz=47,slow=8.9,SNR=5.6							
MA2	**Magadan**	**6.39**	**271**	Pn		**Pn**	**03 27 47.6**	**0.0**
	1.5nm,0.3s,baz=98,slow=17,SNR=3.1							
ILAR	**Eielson Array**	**23.00**	**57**	P		**P**	**03 31 18.2**	**+0.3**
	1.1nm,0.9s,baz=265,slow=7.0,SNR=9.7							
YKA	**Yellowknife Ar**	**37.02**	**50**	P		**P**	**03 33 22.6**	**0.0**
	0.5nm,0.7s,baz=300,slow=9.4,SNR=4.1							
MKAR	**Makanchi Array**	**47.02**	**292**	P		**P**	**03 34 44.8**	**+0.2**
	0.5nm,0.6s,baz=36,slow=7.1,SNR=4.0							
FINES	**FINESS Array B**	**54.47**	**336**	P		**P**	**03 35 40.5**	**+0.1**
	0.7nm,0.7s,baz=56,slow=8.5,SNR=2.7							
NOA	**NORSAR Array B**	**57.35**	**344**	P		**P**	**03 36 00.9**	**-0.2**
	0.8nm,0.7s,baz=16,slow=7.1,SNR=3.0							
AKASG	**Malin Array Be**	**63.57**	**329**	P		**P**	**03 36 43.3**	**-0.4**
	0.7nm,0.5s,baz=28,slow=7.6,SNR=3.2							

IDC 13 03:37:42.0±1.4, 7.08S×129.10E, h214km±19km, mb2.9/1, mb1 3.3/6, mb1mx3.0/45, mbtmp3.8/6, Error ellipse: s-maj=23.4km s-min=12.9km az=113.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BATI	**Baumata**	**6.21**	**240**	P		Pn	03 39 13.9	+1.7
	5.1nm,0.3s,baz=66,slow=10.0,SNR=2.4							
BATI				S		S	03 40 22.6	-1.1
	19nm,0.3s,baz=73,slow=19,SNR=10							
SIJI	**Sorong**	**6.54**	**19**	P		Pn	03 39 18.0	+1.5
	1.8nm,0.3s,baz=242,slow=22,SNR=7.8							
SIJI				S		S	03 40 30.7	-0.8
	1.8nm,0.3s,baz=253,slow=19,SNR=4.0							
FITZ	**Fitzroy Crossi**	**11.46**	**197**	P		Pn	03 40 19.5	-0.3
	1.0nm,0.3s,baz=27,slow=14,SNR=23							
FITZ				S		S	03 42 19.2	-7.3
	0.8nm,0.3s,baz=128,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**13.76**	**159**	P		Pn	03 40 47.5	-1.1
	0.7nm,0.3s,baz=339,slow=13,SNR=38							
WRA				S		S	03 43 09.7	-11
	2.0nm,0.3s,baz=333,slow=23,SNR=9.6							
ASAR	**Alice Springs**	**17.13**	**165**	P		P	03 41 27.9	+0.4
	0.1nm,0.3s,baz=345,slow=11,SNR=7.0							
ASAR				S		S	03 44 30.2	-4.8
	0.2nm,0.3s,baz=352,slow=27,SNR=2.9							
MKAR	**Makanchi Array**	**67.80**	**327**	P		P	03 48 16.8	-0.2
	0.2nm,0.4s,baz=121,slow=7.2,SNR=4.8							

IDC 13 03:37:44.9±3.1, 34.94N×82.20E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.2/56, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=69.6km s-min=28.1km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MKAR	**Makanchi Array**	**11.84**	**0**	Pn		Pn	03 40 35.4	+0.5
	0.1nm,0.3s,baz=182,slow=13,SNR=4.3							
BVAR	**Borovoye Array**	**19.92**	**339**	P		P	03 42 18.1	+0.1
	baz=182,slow=8.7,SNR=2.6							
SONM	**Songino Array**	**22.15**	**47**	P		P	03 42 42.3	+0.1
	0.6nm,0.8s,baz=244,slow=9.5,SNR=3.7							
CMAR	**Chiang Mai Arr**	**22.16**	**134**	P		P	03 42 42.4	0.0
	1.5nm,0.3s,baz=318,slow=10,SNR=4.3							

DJA 13 03:38:25.0±0.3, 0.5S×2.5×12.4E±.5°, h54km±16km, M4.5/12, mb4.9/5, mB4.9/4, MLv4.3/12, Mw(mB)4.2/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KMSI	**Cibinong**	**1.02**	**338**	P		Pn	03 38 42.6	-0.6
KMSI				S		Sn	03 38 56.5	-0.1
LUWI	**Luwuk**	**1.73**	**248**	P		Pn	03 38 53.4	+0.7
LUWI				S		Sn	03 39 15.0	+1.4
SANI	**Sanana**	**2.32**	**136**	P		Pn	03 39 01.6	+0.9
SANI				S		Sn	03 39 28.8	+0.7
APSI	**Ampana**	**2.77**	**259**	P		Pn	03 39 07.0	0.0
APSI				S		Sn	03 39 39.7	+0.5
TNTI	**Ternate**	**3.21**	**69**	P		Pn	03 39 12.6	-0.3
TNTI				S		Sn	03 39 49.7	-0.3
NLAI	**Namlea**	**3.94**	**136**	P		Pn	03 39 23.5	+0.5
NLAI				S		Sn	03 40 08.4	+0.5
KDI	**Kendari**	**3.96**	**206**	P		Pn	03 39 23.1	-0.2
KDI				S		Sn	03 40 08.5	0.0
MPSI	**Mapaga**	**4.53**	**279**	P		Pn	03 39 30.8	-0.3
MPSI				S		Sn	03 40 23.2	+0.7
TTSI	**Tana Toraja**	**5.26**	**240**	P		Pn	03 39 41.6	+0.5
	138nm,0.4s,2µm							
TTSI				S		Sn	03 40 40.7	+0.2
	138nm,0.4s,2µm							
SPSI	**Sidrap Palu**	**5.81**	**232**	P		Pn	03 39 49.0	+0.3
SPSI				S		Sn	03 40 54.6	+0.5
BNSI	**Bone**	**5.84**	**227**	P		Pn	03 39 49.8	+0.8
BNSI				S		Sn	03 40 54.9	+0.2
BKSI	**Bulukumba**	**6.49**	**221**	P		Pn	03 39 58.4	+0.5
BKSI				S		Sn	03 41 10.9	+0.2

IDC 13 03:46:34.4±3.5, 6°88'S×148°77'E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/39, mbtmp3.6/3, ML3.4/1, MS4.2/1, Ms1 4.2/1, ms1mx3.3/34, Error ellipse: s-maj=107.9km s-min=45.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**226**	P	Pn	03 50 59.4	-0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**21.96**	**219**	P	P	03 51 30.4	+0.3
	1.3nm,0.5s,baz=55,slow=9.2,SNR=9.5						
FITZ	**Fitzroy Crossi**	**25.14**	**242**	P	P	03 52 00.9	-0.6
	4.1nm,0.7s,baz=81,slow=7.5,SNR=7.1						
TGY	**Tagaytay City**	**34.60**	**307**	LR	LR	04 07 02.2	
	comp=Z,351nm,19.7s,baz=194,slow=36						
TORD	**Torodi Ar. Bea**	**147.00**	**284**	PKPbc	PKPbc	04 06 19.6	-0.7
	1.2nm,1.0s,baz=60,slow=3.3,SNR=6.3						

*ISCJB **13** 03:51:55.7±0.3, 24°17N±0°01×121°84E±0°01, h7km±2km, mb3.8/17, Error ellipse: s-maj=2.4km s-min=1.7km az=28.6*
*TAP **13** 03:51:55.7, 24°17N×121°81E, h10km, ML4.4, C*
*JMA **13** 03:51:56.1±0.1, 24°15N×121°72E, h15km±2km, M3.9*
*BJI **13** 03:51:56.7, 24°20N×121°82E, h15km, mb4.0/3, ML4.0/7*
*IDC **13** 03:52:07.2±4.4, 24°14N×121°85E, h117km±42km, mb3.6/16, mb1 3.7/17, mb1mx3.6/50, mbtmp3.9/17, Error ellipse: s-maj=18.5km s-min=14.8km az=76.0*

ISC 13 03:51:55.6±0.9, 24°17N±0°01×121°84E±0°02, h11km±5km, n143, σ0°88/202, mb3.9/17, 16C-27D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.22**	**271**	⇓P	**Pg**	**03 52 00.2**	**-0.1**
	baz=272						
NACB				S	**Sg**	**03 52 03.3**	**-0.2**
	baz=272						
TWD	**Chiawan**	**0.24**	**248**	⇑*i*P	**Pg**	**03 52 00.4**	**-0.2**
	baz=253						
TWD				*i*S	**Sg**	**03 52 04.1**	**+0.2**
	baz=253						
NANB	**Nanao**	**0.27**	**342**	⇓P	**Pg**	**03 52 01.4**	**+0.3**
	baz=344						
NANB				S	**Sg**	**03 52 05.1**	**+0.3**
	baz=344						
ENA	**Nanau**	**0.27**	**341**	⇓*i*P	**Pg**	**03 52 01.3**	**+0.2**
	baz=344						
ENA				S	**Sg**	**03 52 05.3**	**+0.4**
	baz=344						
HWA	**Hwalien**	**0.29**	**228**	*e*P	**Pb**	**03 52 02.6**	**-0.2**
	baz=239						
ETLH	**Xiulin Townshi**	**0.33**	**276**	P	**Pg**	**03 52 02.0**	**-0.2**
	baz=272						
ETLH				*e*S	**Sg**	**03 52 06.4**	**-0.3**
	baz=272						
ENLB	**Shoufeng**	**0.34**	**219**	⇓P	**Pb**	**03 52 04.0**	**+0.3**
	baz=230						
ENLB				*e*S	**Sb**	**03 52 10.8**	**+1.7**
	baz=230						
TWC	**Suao**	**0.44**	**1**	⇓*i*P	**Pb**	**03 52 04.8**	**-0.5**
	baz=355						
TWC				S	**Sg**	**03 52 10.6**	**+0.6**
	baz=355						
EOS1	**EOS1**	**0.46**	**35**	⇓P	**Pb**	**03 52 06.4**	**+0.7**
	baz=21						
NNSB	**Datong**	**0.49**	**302**	⇓P	**Pg**	**03 52 05.3**	**+0.1**
	baz=304						
NNSB				S	**Sg**	**03 52 11.3**	**-0.4**
	baz=304						
NNS	**Nan Shan**	**0.50**	**302**	⇓*i*P	**Pg**	**03 52 05.5**	**0.0**
	baz=305						
NNS				S	**Sg**	**03 52 11.8**	**-0.3**
	baz=305						
ESL	**Shilin**	**0.51**	**226**	⇑*i*P	**Pg**	**03 52 05.7**	**+0.1**
	baz=236						
ESL				S	**Sb**	**03 52 13.7**	**-0.4**
	baz=236						
NDT	**Datong Townshi**	**0.52**	**325**	⇓*i*P	**Pb**	**03 52 06.3**	**-0.5**
	baz=327						
NDT				*e*S	**Sb**	**03 52 13.7**	**-0.7**
	baz=327						
WHF	**Hehuan Shan**	**0.53**	**267**	⇑*i*P	**Pg**	**03 52 05.7**	**-0.2**
	baz=270						
WHF				*e*S	**Sg**	**03 52 12.2**	**-0.8**
	baz=270						
TWE	**Neicheng**	**0.57**	**344**	⇓*i*P	**Pb**	**03 52 07.2**	**-0.4**
	baz=344						
TWE				*e*S	**Sg**	**03 52 14.7**	**+0.4**
	baz=344						
ILA	**Ilan**	**0.60**	**352**	*e*P	**Pb**	**03 52 07.8**	**-0.3**
	baz=345						
ILA				*e*S	**Sb**	**03 52 16.6**	**+0.1**
	baz=345						
SLBB	**Yuanshan**	**0.61**	**342**	⇓*i*P	**Pb**	**03 52 08.2**	**-0.1**
	baz=343						
SLBB				*e*S	**Sb**	**03 52 16.6**	**-0.3**
	baz=343						
TWT	**Tachien**	**0.61**	**278**	*e*P	**Pg**	**03 52 07.8**	**+0.3**
	baz=284						
CHGB	**Renai**	**0.62**	**260**	⇑P	**Pg**	**03 52 07.7**	**0.0**
	baz=254						
CHGB				*e*S	**Sg**	**03 52 15.1**	**-0.8**
	baz=254						
EGFH	**Guangfu**	**0.63**	**217**	*e*P	**Pg**	**03 52 08.3**	**+0.5**
	baz=237						
EGFH				*e*S	**Sb**	**03 52 18.7**	**+1.4**
	baz=237						
TDCB	**Techi**	**0.63**	**278**	P	**Pg**	**03 52 07.9**	**+0.1**
	baz=279						
TDCB				*e*S	**Sg**	**03 52 14.1**	**-2.1**
	baz=279						
OWD	**Renai**	**0.64**	**251**	P	**Pb**	**03 52 08.7**	**-0.2**
	baz=252						
OWD				*e*S	**Sg**	**03 52 17.4**	**+0.8**
	baz=252						
YHNB	**Yeheng**	**0.65**	**320**	⇓P	**Pb**	**03 52 08.7**	**-0.3**
	baz=321						
YHNB				S	**Sg**	**03 52 17.0**	**+0.1**
	baz=321						
NSK	**Sanguang**	**0.67**	**319**	⇓*i*P	**Pg**	**03 52 08.9**	**+0.3**
	baz=320						
NSK				*e*S	**Sg**	**03 52 16.8**	**-0.6**
	baz=320						
EGS		**0.68**	**7**	⇓*i*P	**Pb**	**03 52 09.5**	**+0.1**
	baz=8.0						
NWLT	**Wulai**	**0.68**	**333**	⇓*e*P	**Pb**	**03 52 09.3**	**-0.2**
	baz=333						
NWLT				*e*S	**Sg**	**03 52 17.8**	**+0.2**
	baz=333						
NTC	**Toucheng**	**0.68**	**359**	⇓*e*P	**Pb**	**03 52 09.4**	**0.0**
	baz=359						
VWDT	**VWDT**	**0.76**	**237**	*e*P	**Pg**	**03 52 10.4**	**+0.1**
	baz=247						
VWDT				S	**Sb**	**03 52 21.3**	**+0.1**
	baz=247						
HGSD	**Ruisui**	**0.78**	**209**	⇓*e*P	**Pg**	**03 52 11.0**	**+0.4**
	baz=201						
HGSD				*e*S	**Sb**	**03 52 23.1**	**+1.5**
	baz=201						
TIPB	**Shuangxi**	**0.80**	**359**	⇓*i*P	**Pb**	**03 52 11.5**	**+0.1**
	baz=357						
TIPB				*e*S	**Sg**	**03 52 20.8**	**-0.7**
	baz=357						
EHY	**Hungye**	**0.81**	**216**	*e*P	**Pg**	**03 52 10.7**	**-0.6**
	baz=216						
WHP	**Taichung City**	**0.82**	**278**	⇑*i*P	**Pb**	**03 52 11.8**	**-0.1**
	baz=280						
WHP				*e*S	**Sb**	**03 52 22.8**	**-0.3**
	baz=280						
NHDH	**Xindian Distri**	**0.84**	**340**	⇓*e*P	**Pb**	**03 52 12.5**	**+0.3**
	baz=340						
TWA	**Mucha**	**0.84**	**344**	⇓*i*P	**Pb**	**03 52 12.3**	**+0.1**
	baz=336						
TATO	**Taipei**	**0.86**	**338**	⇓P	**Pb**	**03 52 12.8**	**+0.3**
	baz=338						
TATO				S	**Sg**	**03 52 23.3**	**-0.2**
	baz=338						
WLTB	**Daxi**	**0.86**	**322**	*e*P	**Pn**	**03 52 13.5**	**-0.2**
	baz=323						
WLTB				*e*S	**Sn**	**03 52 25.0**	**-1.2**
	baz=323						
NSTT	**Nanjuang**	**0.89**	**301**	⇓P	**Pb**	**03 52 13.5**	**+0.4**
	baz=303						
NSTT				S	**Sg**	**03 52 23.9**	**-0.5**
	baz=303						
SSLB	**Suanglung**	**0.90**	**245**	⇑P	**Pg**	**03 52 12.7**	**-0.2**
	baz=256						
SSLB				S	**Sg**	**03 52 24.3**	**-0.2**
	baz=256						
NWF	**Wu-fen Shan**	**0.90**	**357**	⇓*i*P	**Pn**	**03 52 13.8**	**-0.4**
	baz=346						
NWF				*e*S	**Sb**	**03 52 25.6**	**+0.3**
	baz=346						
WFSB	**Wu-fen Shan**	**0.90**	**357**	⇓P	**Pn**	**03 52 13.8**	**-0.4**
	baz=348						
WFSB				S	**Sb**	**03 52 25.3**	**+0.2**
	baz=348						
SMLT	**Sun Moon Lake**	**0.91**	**252**	P	**Pb**	**03 52 13.5**	**+0.2**
	baz=254						
SMLT				*e*S	**Sb**	**03 52 26.1**	**+0.7**
	baz=254						
TAP	**Taipei**	**0.92**	**341**	*e*P	**Pn**	**03 52 13.9**	**-0.4**
	baz=333						
YULB	**Yu-li**	**0.92**	**213**	*e*P	**Pg**	**03 52 12.6**	**-0.7**
	baz=227						
YULB				*e*S	**Sg**	**03 52 25.1**	**-0.2**
	baz=227						
TYC	**Yuchr**	**0.94**	**254**	⇓P	**Pb**	**03 52 13.9**	**+0.1**
	baz=256						
TYC				*e*S	**Sg**	**03 52 26.0**	**+0.1**
	baz=256						
TWF1	**Yuli**	**0.95**	**211**	*e*P	**Pg**	**03 52 13.8**	**-0.2**
	baz=224						
TWQ1	**Liyutan**	**0.99**	**280**	*e*P	**Pn**	**03 52 15.2**	**-0.2**
	baz=284						
NCUH	**Zhongli**	**0.99**	**323**	*e*P	**Pn**	**03 52 15.9**	**+0.5**
	baz=325						
NCU	**National Centr**	**0.99**	**323**	P	**Pn**	**03 52 15.9**	**+0.4**
	baz=324						
NCU				*e*S	**Sn**	**03 52 30.3**	**+0.8**
	baz=324						
SBCB	**Hsinchu**	**0.99**	**309**	⇑P	**Pn**	**03 52 15.9**	**+0.4**
	baz=310						
SBCB				S	**Sn**	**03 52 28.8**	**-0.7**
	baz=310						
YM01	**YM01**	**1.00**	**346**	P	**Pn**	**03 52 15.9**	**+0.3**
	baz=331						
TWS1	**Kuangyinshan**	**1.00**	**338**	*e*P	**Pn**	**03 52 15.6**	**+0.1**
	baz=337						
TWS1				*e*S	**Sn**	**03 52 30.6**	**+0.9**
	baz=337						
NSY	**Sanyi**	**1.01**	**284**	*e*P	**Pn**	**03 52 16.1**	**+0.4**
	baz=286						
NSY				*e*S	**Sn**	**03 52 29.5**	**-0.5**
	baz=286						
YM04	**YM04**	**1.02**	**344**	*e*P	**Pn**	**03 52 15.8**	**0.0**
	baz=344						
WHYT	**Xinyi Township**	**1.02**	**243**	*e*P	**Pn**	**03 52 15.8**	**0.0**
	baz=246						
YM05	**YM05**	**1.02**	**346**	*e*P	**Pn**	**03 52 15.8**	**-0.1**
	baz=331						
YM11	**YM11**	**1.02**	**346**	P	**Pn**	**03 52 15.9**	**0.0**
	baz=331						
NMLH	**Miaoli**	**1.02**	**291**	*e*P	**Pn**	**03 52 16.4**	**+0.5**
	baz=301						
YM08	**YM08**	**1.04**	**347**	*e*P	**Pg**	**03 52 15.8**	**+0.2**
	baz=331						
JYNG	**Yonagunijimaku**	**1.05**	**74**	P	**Pn**	**03 52 17.2**	**+1.0**
NTST	**Danshui**	**1.05**	**340**	*e*P	**Pn**	**03 52 16.8**	**+0.6**
	baz=340						
ANP	**Anpu**	**1.05**	**344**	*e*P	**Pn**	**03 52 16.1**	**-0.2**
	baz=344						
TCU	**Taichung**	**1.06**	**269**	⇑P	**Pn**	**03 52 17.3**	**+0.9**
	baz=272						
TCU				*e*S	**Sn**	**03 52 31.9**	**+0.7**
	baz=272						
PTSB	**Yuanli**	**1.07**	**285**	⇑P	**Pn**	**03 52 17.4**	**+0.9**
	baz=287						
PTSB				S	**Sn**	**03 52 30.9**	**-0.5**
	baz=287						
WJS	**Zhushan**	**1.07**	**251**	⇑P	**Pn**	**03 52 17.0**	**+0.4**
	baz=255						
WJS				*e*S	**Sn**	**03 52 31.4**	**0.0**
	baz=255						
FULB	**Fuli**	**1.09**	**207**	*e*P	**Pb**	**03 52 15.0**	**-1.4**
	baz=227						
WNT	**Mingjian**	**1.10**	**255**	⇑P	**Pn**	**03 52 17.4**	**+0.6**
	baz=254						
WNT				*e*S	**Sn**	**03 52 33.6**	**+1.6**
	baz=254						
YOJ	**Yonaguni jima**	**1.11**	**75**	⇓P	**Pg**	**03 52 17.9**	**+1.0**
	baz=62						
YOJ				*e*S	**Sn**	**03 52 34.2**	**+1.9**
	baz=62						
YOJ	**Yonaguni jima**	**1.11**	**75**	P	**Pg**	**03 52 18.1**	**+1.2**
YOJ				*e*S	**Sn**	**03 52 34.5**	**+2.3**
WDJ	**Dajia District**	**1.11**	**279**	⇑P	**Pn**	**03 52 17.9**	**+0.9**
	baz=284						
CHKT	**Chengkung**	**1.15**	**202**	*e*P	**Pb**	**03 52 16.9**	**-0.6**
	baz=185						
ALS	**Alishan**	**1.15**	**235**	*e*P	**Pb**	**03 52 17.5**	**-0.2**
	baz=229						
ALS				*e*S	**Sn**	**03 52 33.6**	**-0.2**
	baz=229						
WCHH	**Zhanghua**	**1.17**	**266**	*e*P	**Pg**	**03 52 18.8**	**+0.7**
	baz=269						
WCHH				*e*S	**Sn**	**03 52 37.1**	**+3.2**
	baz=269						
ELDTW	**Lidau**	**1.23**	**218**	*e*P	**Pn**	**03 52 18.1**	**-0.8**
	baz=211						
ELDTW				*e*S	**Sn**	**03 52 35.6**	**0.0**
	baz=211						
WGK	**Gukeng**	**1.27**	**248**	*e*P	**Pg**	**03 52 20.1**	**+0.3**
	baz=252						
RLNB	**Erlin**	**1.38**	**259**	⇑P	**Pb**	**03 52 21.7**	**+0.3**
	baz=263						
RLNB				*e*S	**Sg**	**03 52 41.0**	**+0.9**
	baz=263						
CHN2	**Minshiung**	**1.40**	**243**	*e*P	**Pg**	**03 52 22.7**	**+0.2**
	baz=249						
CHN2				*e*S	**Sg**	**03 52 44.3**	**+3.6**
	baz=249						
TPUB	**Ta-pu**	**1.41**	**232**	*e*P	**Pb**	**03 52 22.3**	**+0.4**
	baz=226						
TPUB				S	**Sg**	**03 52 41.1**	**+0.2**
	baz=226						
STYT	**Tauyuan**	**1.41**	**225**	⇑*i*P	**Pb**	**03 52 21.8**	**-0.2**
	baz=230						
STYT				*e*S	**Sn**	**03 52 40.0**	**+0.1**
	baz=230						
WTCT	**Ta-ch'eng**	**1.46**	**258**	*e*P	**Pn**	**03 52 22.3**	**+0.5**
	baz=263						
CHY	**Chiayi**	**1.46**	**243**	*e*P	**Pb**	**03 52 23.0**	**+0.3**
	baz=248						
PCYT	**Pengchaiyu**	**1.47**	**8**	⇑P	**Pb**	**03 52 23.0**	**+0.1**
	baz=3.0						
TWGBT	**Beinan**	**1.52**	**208**	*e*P	**Pn**	**03 52 20.7**	**-1.9**
	baz=211						
TWG	**Pinlang**	**1.52**	**208**	*e*P	**Pn**	**03 52 21.2**	**-1.5**
	baz=211						
SNST	**Tainan City**	**1.55**	**233**	*e*P	**Pb**	**03 52 24.8**	**+0.4**
	baz=238						
WLGB	**Puzi**	**1.57**	**244**	*e*P	**Pb**	**03 52 24.6**	**0.0**
	baz=250						
WLGB				*e*S	**Sg**	**03 52 46.5**	**+0.4**
	baz=250						
WSF	**Szhu**	**1.57**	**251**	*e*P	**Pb**	**03 52 24.5**	**-0.2**
	baz=256						
WSF				*e*S	**Sg**	**03 52 47.5**	**+1.3**
	baz=256						
SLGT	**Liugui**	**1.60**	**223**	*e*P	**Pn**	**03 52 24.3**	**+0.4**
	baz=228						
IRIF	**Iriomote-Funau**	**1.73**	**84**	P	**Pb**	**03 52 26.7**	**-0.7**
IRIF				*e*S	**Sg**	**03 52 50.8**	**-0.5**
ECL	**Taimali**	**1.77**	**208**	*e*P	**Pn**	**03 52 26.1**	**+0.1**
	baz=197						
HATJ	**Hateruma jima**	**1.80**	**93**	P	**Pb**	**03 52 27.8**	**-0.7**
SSD	**Sandimen**	**1.80**	**218**	*e*P	**Pn**	**03 52 27.2**	**+0.7**
	baz=237						
SCLT	**Jiali**	**1.81**	**237**	*e*P	**Pb**	**03 52 28.8**	**+0.2**
	baz=243						
SGLT	**Jiouru**	**1.90**	**221**	*e*P	**Pb**	**03 52 31.4**	**+1.1**
	baz=209						
MASBT	**Mashibuluo**	**1.91**	**216**	*e*P	**Pn**	**03 52 28.7**	**+0.7**
	baz=222						
MASBT				*e*S	**Sb**	**03 52 54.0**	**-0.2**
	baz=222						
JKRS	**Kuro-shima**	**1.98**	**88**	P	**Pb**	**03 52 30.7**	**-0.9**
EAST	**Anshuo**	**2.00**	**207**	*e*P	**Pb**	**03 52 31.2**	**-0.8**
	baz=200						
TAW	**Tawu**	**2.00**	**206**	*e*P	**Pn**	**03 52 30.5**	**+1.2**
	baz=209						
SSPT	**Xinbi**	**2.05**	**215**	*e*P	**Pb**	**03 52 32.2**	**-0.6**
	baz=219						
JIJ	**Ishigaki jima**	**2.11**	**84**	P	**Pn**	**03 52 31.8**	**+1.0**
JIJ				*e*S	**Sb**	**03 52 58.9**	**-1.2**
LAY	**Lan-yu**	**2.14**	**187**	*e*P	**Pn**	**03 52 30.0**	**-1.3**
	baz=190						
PNG	**Penghu**	**2.18**	**254**	*e*P	**Pn**	**03 52 31.4**	**-0.3**
	baz=260						
PHUB	**P'eng-hu**	**2.18**	**253**	*e*P	**Pn**	**03 52 31.9**	**+0.1**
	baz=259						
PHUB				*e*S	**Sn**	**03 53 00.2**	**+1.5**
	baz=259						
WDGT	**Dungji**	**2.19**	**246**	*e*P	**Pn**	**03 52 32.2**	**+0.2**
	baz=252						
WLCH	**Liuqiu**	**2.26**	**217**	*e*P	**Pb**	**03 52 34.8**	**-1.5**
	baz=221						
TWP	**Hsiaoliuchiu**	**2.27**	**217**	*e*P	**Pb**	**03 52 36.8**	**+0.3**
	baz=221						
JISG	**Ishigakijimahi**	**2.29**	**79**	P	**Pn**	**03 52 34.0**	**+0.7**
JISG				*e*S	**Sb**	**03 53 03.5**	**-1.7**
PTTC	**Pingtan**	**2.30**	**306**	⇑*e*P	**Pn**	**03 52 33.1**	**-0.3**
	baz=308						
VWUC	**VWUC**	**2.32**	**291**	*e*P	**Pn**	**03 52 33.6**	**-0.1**
	baz=295						
VCHM	**Qimei**	**2.41**	**247**	*e*P	**Pn**	**03 52 35.4**	**+0.5**
	baz=237						
TWK1	**Hengchun**	**2.41**	**203**	*e*P	**Pn**	**03 52 34.6**	**-0.3**
	baz=195						
TWKBT	**Hengchun**	**2.41**	**203**	*e*P	**Pn**	**03 52 34.3**	**-0.7**
	baz=195						
MATB	**Ma-tsu**	**2.61**	**319**	*e*P	**Pn**	**03 52 37.2**	**-0.5**
	baz=320						
PTMZ	**Houxiangcun**	**2.62**	**290**	*e*P	**Pn**	**03 52 37.8**	**-0.1**
	baz=294						
JTJ	**Tarama**	**2.65**	**79**	P	**Pn**	**03 52 39.6**	**+1.4**
LYJJ	**Jianjiangzhen**	**3.02**	**322**	*e*P	**Pn**	**03 52 43.9**	**+0.5**
	baz=322						
QZH	**Quanzhou**	**3.06**	**285**	⇓*i*Pn	**Pn**	**03 52 43.9**	**+0.1**
QZH				Sn	**Sn**	**03 53 19.9**	**-0.5**
QZH				smax	smax		
	comp=N,220nm,0.8s						
QZH				smax	smax		
	comp=E,200nm,0.7s						
KNM	**Kinmen**	**3.12**	**275**	*e*P	**Pn**	**03 52 46.8**	**+2.1**
	baz=281						
XPSS	**Dashiqiu**	**3.12**	**332**	*e*P	**Pn**	**03 52 44.8**	**0.0**
	baz=331						
MHZQ	**Yeshan**	**3.19**	**308**	*e*P	**Pn**	**03 52 45.3**	**-0.4**
	baz=311						
AXDP	**Jialang**	**3.60**	**282**	*e*P	**Pn**	**03 52 51.5**	**+0.2**
	baz=287						
ZPLA	**Ao Xicun**	**3.75**	**267**	*e*P	**Pn**	**03 52 53.3**	**0.0**
	baz=274						
ZZJH	**Jiuhuzhen**	**3.85**	**275**	*e*P	**Pn**	**03 52 55.0**	**+0.3**
	baz=281						
GZH	**Guangzhou**	**7.87**	**264**	P	**Pn**	**03 53 46.3**	**-3.6**
KSRS	**Korea Array**	**14.23**	**20**	P	**P**	**03 55 24.3**	**-0.1**
	0.4nm,0.3s,baz=205,slow=11,SNR=5.2						
USRK	**Ussuriysk Ar.**	**21.64**	**20**	P	**P**	**03 56 48.0**	**+2.2**
	2.1nm,0.7s,baz=202,slow=15,SNR=3.5						
CMAR	**Chiang Mai Arr**	**22.06**	**259**	P	**P**	**03 56 52.8**	**+2.1**
	0.9nm,0.4s,baz=62,slow=8.2,SNR=4.5						
GTA	**Gaotai**	**24.02**	**314**	*e*P	P	03 57 18.1	+7.5
GTA				pP	sP	03 57 22.3	+7.3
GTA				sP	pP	03 57 25.1	+11
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KLR	**Kul'dur**	**26.20**	**15**	P	**P**	**03 57 31.4**	**+1.2**
	comp=Z,2.1nm,0.5s,baz=214,slow=7.4,SNR=13						
SONM	**Songino Array**	**26.61**	**336**	P	**P**	**03 57 35.0**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=154,slow=10.0,SNR=13						
WMQ	**Urumqi**	**34.10**	**314**	*e*P	**P**	**03 58 42.9**	**+2.6**
MKAR	**Makanchi Array**	**38.76**	**316**	P	**P**	**03 59 20.6**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=100,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**40.58**	**327**	P	**P**	**03 59 34.2**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=109,slow=7.7,SNR=14						
KURBB	**Kurchatov Arra**	**42.50**	**320**	P	**P**	**03 59 51.2**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=109,slow=7.2,SNR=7.5						
WRA	**Warramunga Arr**	**45.51**	**163**	P	**P**	**04 00 13.8**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=345,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**48.97**	**165**	P	**P**	**04 00 43.0**	**+0.8**
	comp=Z,1.2nm,1.1s,baz=332,slow=6.1,SNR=4.4						
GEYT	**Alibeck**	**55.32**	**300**	P	**P**	**04 01 30.0**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=60,slow=3.5,SNR=2.7						
ILAR	**Eielson Array**	**68.95**	**27**	P	**P**	**04 02 59.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=297,slow=7.4,SNR=11						
FINES	**FINESS Array B**	**71.76**	**330**	P	**P**	**04 03 16.5**	**-1.1**
	comp=Z,1.4nm,0.8s,baz=106,slow=6.2,SNR=3.8						
AKASG	**Malin Array Be**	**73.28**	**318**	P	**P**	**04 03 25.5**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=63,slow=6.7,SNR=4.3						
BRTR	**Keskin Array B**	**73.66**	**307**	P	**P**	**04 03 28.3**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=123,slow=8.9,SNR=5.6						
NB2	**NORSAR Subarra**	**78.52**	**332**	P	**P**	**04 03 55.6**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=58,slow=5.6						
NOA	**NORSAR Array B**	**78.52**	**332**	P	**P**	**04 03 55.5**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=65,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**82.75**	**23**	P	**P**	**04 04 18.6**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=313,slow=5.0,SNR=24						

*NEIC **13** 03:56:36.2±0.0, 15°86N×96°28W, h39km, MD4.1(MEX), After MEX.*

MEX 13 03:56:36.2±0.4, 15°86N×96°28W, h39km±3km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.19**	**119**	*e*P	Pn	03 56 41.8	-2.5
HUIG				*e*S	Sn	03 56 46.4	-4.4
HUIG	**Huatulco**	**0.19**	**119**	*e*P	Pn	03 56 41.8	-2.5
HUIG				*e*S	Sn	03 56 46.4	-4.4
PANG	**Puerto Angel**	**0.27**	**223**	*e*P	Pn	03 56 42.8	-1.5
PANG				*i*S	Sn	03 56 48.4	-2.1
VHO	**Vista Hermosa**	**1.28**	**340**	*e*P	Pn	03 56 56.0	-1.8
VHO				*e*S	Sn	03 57 11.6	-2.1
VHO	**Vista Hermosa**	**1.28**	**340**	*e*P	Pn	03 56 56.0	-1.8
VHO				*e*S	Sn	03 57 11.6	-2.1
CMIG	**Matias Romero**	**1.81**	**48**	*i*P	Pn	03 57 02.9	-2.0
CMIG				*e*S	Sn	03 57 24.9	-1.9
CMIG	**Matias Romero**	**1.81**	**48**	*i*P	Pn	03 57 02.9	-2.0
CMIG				*e*S	Sn	03 57 24.9	-1.9
PNIG	**Pinotepa**	**1.85**	**287**	*e*P	Pn	03 57 03.5	-1.9
PNIG				*i*S	Sn	03 57 25.4	-2.2
PNIG	**Pinotepa**	**1.85**	**287**	*e*P	Pn	03 57 03.5	-1.9
PNIG				*i*S	Sn	03 57 25.4	-2.2
TLIG	**Tlapa**	**2.76**	**308**	*i*P	Pn	03 57 16.7	-1.4
TLIG				*e*S	Sn	03 57 48.1	-2.2
TLIG	**Tlapa**	**2.76**	**308**	*i*P	Pn	03 57 16.7	-1.4
TLIG				*e*S	Sn	03 57 48.1	-2.2
PCIG		**2.96**	**93**	*e*P	Pn	03 57 19.2	-1.5
PCIG				*i*S	Sn	03 57 53.6	-1.3
**PC

MJAR	**Matsushiro Arr**	**3.07**	**264**	Pn	**Pn**	03 59 43.6	+1.6
	0.7nm,0.3s,baz=89,slow=14,SNR=34							
MJAR				Sn	**Sb**	04 00 23.5	-2.2
	0.7nm,0.3s,baz=81,slow=17,SNR=6.7							
MAJO	**Matsushiro**	**3.08**	**264**	*e*Sn	**Sb**	04 00 23.5	-2.2
MAT	**Matsushiro**	**3.08**	**264**	P	**Pn**	03 59 43.3	+1.2
MAT				*e*S	**Sn**	04 00 19.8	+1.5
JHJ	**Hachijo jima 2**	**4.22**	**206**	Pn	**Pn**	03 59 58.5	+0.8
	13nm,0.3s,baz=21,slow=8.6,SNR=5.0							
JHJ				Sn	**Sn**	04 00 48.0	+1.5
	19nm,0.3s,baz=73,slow=19,SNR=3.0							
INU	**Inuyama**	**4.33**	**250**	*e*Pg	**Pb**	04 00 08.3	-1.8
ASAJ	**Asahikawa**	**7.19**	**3**	Pn	**Pn**	04 00 38.2	-0.3
	1.8nm,0.3s,baz=192,slow=12,SNR=11							
ASAJ				Sn	**Sn**	04 01 58.2	-1.4
	0.9nm,0.3s,baz=288,slow=20,SNR=3.2							
CBIJ	**Chichi jima**	**9.81**	**179**	*e*Pn	**Pn**	04 01 12.7	-1.9
CBIJ				*e*Sn	**Sn**	04 03 02.0	-2.2
JCJ	**Chichijima**	**9.81**	**179**	Pn	**Pn**	04 01 12.7	-1.9
	3.3nm,0.3s,baz=266,slow=19,SNR=3.4							
JCJ				Sn	**Sn**	04 03 02.0	-2.2
	3.8nm,0.3s,baz=286,slow=20,SNR=2.2							
H11N2	**WAKE ISLAND Hy**	**27.69**	**121**	T	T	04 33 41.3		
	baz=314,slow=76,SNR=51							
H11N1	**WAKE ISLAND Hy**	**27.70**	**121**	T	T	04 33 42.1		
	baz=314,slow=76,SNR=52							
H11N3	**WAKE ISLAND Hy**	**27.71**	**121**	T	T	04 33 42.8		
	baz=314,slow=76,SNR=57							
SONA0	**Songino Array**	**28.23**	**304**	*e*P	**P**	04 04 48.1	+1.9
SONM	**Songino Array**	**28.23**	**304**	P	**P**	04 04 48.1	+1.9
	0.6nm,0.6s,baz=140,slow=7.7,SNR=3.8							
H11S1	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	04 34 30.3		
	baz=316,slow=76,SNR=26							
H11S3	**WAKE ISLAND Hy**	**28.41**	**124**	T	T	04 34 30.4		
	baz=316,slow=76,SNR=22							
H11S2	**WAKE ISLAND Hy**	**28.43**	**124**	T	T	04 34 31.5		
	baz=316,slow=76,SNR=23							
CHTO	**Chiang Mai**	**41.73**	**256**	*e*P	**P**	04 06 40.3	-2.1
	3.3nm,0.6s							
ZAA1	**Zalesovo Array**	**42.33**	**312**	*e*P	**P**	04 06 50.1	+3.2
ZALV	**Zalesovo Beam**	**42.33**	**312**	P	**P**	04 06 50.1	+3.2
	0.4nm,0.5s,baz=95,slow=8.7,SNR=3.2							
MK01	**Makanchi Array**	**44.57**	**302**	*e*P	**P**	04 07 06.0	+0.8
MK32	**Makanchi Array**	**44.57**	**302**	*e*P	**P**	04 07 06.0	+0.8
MKAR	**Makanchi Array**	**44.57**	**302**	P	**P**	04 07 06.0	+0.8
	0.7nm,0.9s,baz=90,slow=7.6,SNR=4.4							
KURK	**Kurchatov**	**46.37**	**308**	*e*P	**P**	04 07 20.0	+0.7
	4.7nm,0.8s							
ILAR	**Eielson Array**	**49.33**	**32**	P	**P**	04 07 42.7	+0.7
	0.4nm,0.7s,baz=277,slow=7.4,SNR=4.7							
ILB	**Eielson Array**	**49.33**	**32**	*e*P	**P**	04 07 42.7	+0.7
	6.3nm,1.5s							
INK	**Inuvik**	**54.26**	**27**	*e*P	**P**	04 08 19.7	+1.0
	1.9nm,0.6s							
INK	**Inuvik**	**54.26**	**27**	P	**P**	04 08 19.7	+1.0
	0.4nm,0.5s,baz=309,slow=6.8,SNR=5.1							
WB2	**Warramunga Arr**	**57.03**	**189**	*e*P	**P**	04 08 39.5	+0.4
	49nm,1.4s							
WR1	**Warramunga Arr**	**57.03**	**189**	*e*P	**P**	04 08 39.8	+0.7
	6.6nm,1.2s							
WRA	**Warramunga Arr**	**57.03**	**189**	P	**P**	04 08 39.8	+0.7
	0.7nm,0.4s,baz=6.3,slow=6.9,SNR=19							
AS31	**Alice Springs**	**60.76**	**189**	*e*P	**P**	04 09 05.6	+0.6
	1.0nm,0.9s							
ASAR	**Alice Springs**	**60.76**	**189**	P	**P**	04 09 05.6	+0.6
	0.4nm,0.5s,baz=12,slow=6.0,SNR=4.4							
YKA	**Yellowknife Ar**	**63.66**	**30**	P	**P**	04 09 24.9	+0.9
	0.1nm,0.6s,baz=305,slow=6.9,SNR=3.5							
YKB5	**Yellowknife Ar**	**63.66**	**30**	*e*P	**P**	04 09 24.9	+0.9
AKASG	**Malin Array Be**	**74.66**	**323**	P	**P**	04 10 34.0	+1.6
	0.4nm,0.5s,baz=47,slow=5.6,SNR=2.9							
AKBB	**Malin Array Si**	**74.66**	**323**	*e*P	**P**	04 10 34.0	+1.6
	2.8nm,1.0s							
NV01	**Mina Array Sit**	**74.67**	**53**	*e*P	**P**	04 10 34.0	+1.0
NVAR	**Mina Array Bea**	**74.67**	**53**	P	**P**	04 10 34.0	+1.0
	0.3nm,0.6s,baz=305,slow=6.5,SNR=3.3							
LPAZ	**La Paz**	**146.33**	**60**	PKPbc	**PKiKP**	04 18 35.2	-3.0
	0.6nm,0.7s,baz=64,slow=2.3,SNR=3.6							

KRSC 13 04:08:11.7±10.0, 59.42N×164.23E, h81km±10km, ML4.5, FELT [III] at Vivenka., Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.62**	**255**	*e*P	Pn	04 08 27.1	+0.6
OSSR				*e*S	Sn	04 08 38.7	+1.1
TILK	**Tilichiki**	**1.41**	**42**	*e*P	Pn	04 08 37.2	+1.4
TILK				*e*S	Sn	04 08 56.5	+2.4
PALN	**Palana**	**2.21**	**263**	*e*P	Pn	04 08 48.3	+2.0
PALN				*e*S	Sn	04 09 15.7	+2.8
KMSK	**Kamenskaya**	**3.21**	**17**	*e*P	Pn	04 09 01.7	+2.0
KMSK				*e*S	Sn	04 09 39.6	+2.8

SJA 13 04:16:54.8±0.7, 31.64S×69.59W, h113km±5km, ML2.8, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.30**	**124**	*i* P	Pn	04 17 12.4	+1.1
RTLS				IAML		04 17 12.5	
	comp=Z,516nm,0.2s						
RTLS				*i* S	Sn	04 17 25.1	+1.4
AUSP	**Uspallata**	**0.61**	**164**	*i* P	Pn	04 17 14.4	+1.3
AUSP				*i* S	Sn	04 17 28.3	+1.4
RTCV	**Cerro Valdivia**	**0.92**	**105**	*i* P	Pn	04 17 16.8	+1.3
RTCV				*i* S	Sn	04 17 32.3	+1.1
RTLL	**Cerro Villicun**	**1.00**	**72**	*i* P	Pn	04 17 16.9	+0.7
ACCO	**Cerro Coronel**	**1.14**	**23**	*i* P	Pn	04 17 19.2	+1.1
AMOG	**MOGNA**	**1.17**	**54**	*i* P	Pn	04 17 19.1	+1.1
MRA	**San Martin**	**3.38**	**104**	*i* P	Pn	04 17 46.9	+0.9
MRA				IAML		04 18 25.0	
	comp=Z,8.4nm,0.3s						

*NEIC **13** 04:17:15.5±0.0, 16.99N×95.13W, h122km, MD4.0(MEX), After MEX.*

MEX 13 04:17:15.5±0.6, 16.99N×95.13W, h122km±6km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.25**	**67**	*i* P	Pn	04 17 31.2	-1.3
CMIG				*i* S	Sn	04 17 43.1	-2.2
CMIG	**Matias Romero**	**0.25**	**67**	*i* P	Pn	04 17 31.2	-1.3
CMIG				*i* S	Sn	04 17 43.1	-2.2
HUIG	**Huatulco**	**1.54**	**218**	*e*P	Pn	04 17 41.6	-1.9
HUIG				*e*S	Sn	04 18 03.7	-1.1
HUIG	**Huatulco**	**1.54**	**218**	*e*P	Pn	04 17 41.6	-1.9
HUIG				*e*S	Sn	04 18 03.7	-1.1
VHO	**Vista Hermosa**	**1.54**	**273**	*i* P	Pn	04 17 42.8	-0.9
VHO				*i* S	Sn	04 18 03.2	-1.9
VHO	**Vista Hermosa**	**1.54**	**273**	*i* P	Pn	04 17 42.8	-0.9
VHO				*i* S	Sn	04 18 03.2	-1.9
PNIG	**Pinotepa**	**2.94**	**259**	*e*P	Pn	04 17 58.4	-2.7
PNIG				*e*S	Sn	04 18 34.3	-1.8
PNIG	**Pinotepa**	**2.94**	**259**	*e*P	Pn	04 17 58.4	-2.7
PNIG				*e*S	Sn	04 18 34.3	-1.8
TLIG	**Tlapa**	**3.33**	**280**	*e*P	Pn	04 18 05.2	-1.2
TLIG				*i* S	Sn	04 18 43.6	-2.1
TLIG	**Tlapa**	**3.33**	**280**	*e*P	Pn	04 18 05.2	-1.2
TLIG				*i* S	Sn	04 18 43.6	-2.1

KRSC 13 04:31:34.5±10.0, 59.23N×164.59E, h68km±10km, ML4.0, FELT [III] at Ilpyrskiy., Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.79**	**273**	*e*P	Pn	04 31 51.5	+1.3
OSSR				*e*S	Sn	04 32 03.4	+1.5
TILK	**Tilichiki**	**1.46**	**32**	*e*P	Pn	04 32 00.3	+1.6
TILK				*e*S	Sn	04 32 19.3	+2.3
PALN	**Palana**	**2.39**	**269**	*e*P	Pn	04 32 13.4	+2.2
PALN				*e*S	Sn	04 32 42.2	+2.8

IDC 13 04:38:13.1±2.2, 2.88S×134.44E, h0km, mb3.7/2, mb1 4.0/5, mb1mx3.6/38, mbtmp3.8/5, ML3.5/3, Error ellipse: s-maj=56.1km s-min=23.0km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.75**	**302**	Pn	Pn	04 39 13.7	+1.4
	3.4nm,0.3s,baz=229,slow=22,SNR=9.3						
SIJI				Sn	Sn	04 39 56.8	-0.4
	7.9nm,0.3s,baz=152,slow=23,SNR=9.2						
WRA	**Warramunga Arr**	**16.95**	**180**	Pn	Pn	04 42 10.8	-1.1
	0.2nm,0.3s,baz=360,slow=12,SNR=18						
FITZ	**Fitzroy Crossi**	**17.41**	**209**	P	Pn	04 42 16.0	-1.5
	0.1nm,0.3s,baz=32,slow=13,SNR=3.0						
ASAR	**Alice Springs**	**20.67**	**181**	P	Pn	04 42 55.9	-1.1
	6.4nm,0.6s,baz=5.9,slow=11,SNR=48						
MKAR	**Makanchi Array**	**67.37**	**324**	P	P	04 49 10.0	-0.2
	0.2nm,0.5s,baz=115,slow=6.5,SNR=2.7						

*MOS **13** 04:38:44.6±1.9, 50.59N×157.76E, h40km, mb4.2/1, Error ellipse: s-maj=27.1km s-min=5.5km az=84.8*

KRSC 13 04:38:44.7±10.0, 50.59N×157.76E, h40km±10km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.05**	**276**	*e*P	Pn	04 39 03.9	+1.0
SKR				*e*S	Sn	04 39 16.7	+0.4
SKR	**Severo-Kuril's**	**1.05**	**276**	PN	Pn	04 39 03.9	+1.0
SKR				S	Sn	04 39 16.7	+0.4
PAU	**Pauzhetka**	**1.06**	**326**	*e*P	Pn	04 39 04.5	+1.5
PAU				*e*S	Sn	04 39 17.8	+1.2
PAU	**Pauzhetka**	**1.06**	**326**	PN	Pn	04 39 04.5	+1.5
PAU				S	Sn	04 39 17.8	+1.2
KDTR	**Khodutka, Kamc**	**1.23**	**9**	*e*P	Pn	04 39 06.6	+1.2
KDTR				*e*S	Sn	04 39 21.7	+0.9
KDTR	**Khodutka, Kamc**	**1.23**	**9**	PN	Pn	04 39 06.6	+1.2
KDTR				S	Sn	04 39 21.7	+0.9
ALID	**Alaid**	**1.43**	**282**	*e*P	Pn	04 39 09.8	+1.5
ASAK	**Asacha**	**1.79**	**3**	*e*P	Pn	04 39 15.1	+1.9
ASAK	**Asacha**	**1.79**	**3**	PN	Pn	04 39 15.1	+1.9
RUS	**Russkaya**	**1.90**	**14**	*e*P	Pn	04 39 16.0	+1.4
RUS				*e*S	Sn	04 39 37.9	+0.7
RUS	**Russkaya**	**1.90**	**14**	PN	Pn	04 39 16.0	+1.4
RUS				S	Sn	04 39 37.9	+0.7
MTVR	**Mutnovka**	**1.91**	**8**	*e*P	Pn	04 39 16.7	+1.9
MTVR				*e*S	Sn	04 39 39.5	+1.8
MTVR	**Mutnovka**	**1.91**	**8**	PN	Pn	04 39 16.7	+1.9
MTVR				S	Sn	04 39 39.5	+1.8
KRMR	**Karymshinskiy**	**2.25**	**6**	*e*P	Pn	04 39 22.1	+2.7
KRMR				*e*S	Sn	04 39 49.8	+3.9
KRMR	**Karymshinskiy**	**2.25**	**6**	PN	Pn	04 39 22.1	+2.7
KRMR				S	Sn	04 39 49.8	+3.9
APC	**Apacha**	**2.37**	**351**	*e*P	Pn	04 39 23.4	+2.5
APC				*e*S	Sn	04 39 53.3	+4.6
APC	**Apacha**	**2.37**	**351**	PN	Pn	04 39 23.4	+2.5
APC				S	Sn	04 39 53.3	+4.6
PET	**Petropavlovsk**	**2.50**	**12**	*e*P	Pn	04 39 26.1	+3.4
PET				*e*S	Sn	04 39 54.1	+2.2
PET	**Petropavlovsk**	**2.50**	**12**	*e*PN	Pn	04 39 25.5	+2.8
PET				*e*S	Sn	04 39 53.8	+1.9
PET				smax	smax		
	comp=N,166nm,0.8s						
PET				smax	smax		
	comp=E,186nm,0.5s						
DALK	**Dalny**	**2.52**	**14**	*e*P	Pn	04 39 25.3	+2.3
DALK				*e*S	Sn	04 39 54.3	+1.9
DALK	**Dalny**	**2.52**	**14**	PN	Pn	04 39 25.3	+2.3
DALK				S	Sn	04 39 54.3	+1.9
UGLR	**Uglovaya**	**2.70**	**14**	*e*P	Pn	04 39 29.3	+3.6
UGLR	**Uglovaya**	**2.70**	**14**	PN	Pn	04 39 29.3	+3.6
AVH	**Avacha**	**2.74**	**12**	*e*P	Pn	04 39 29.9	+3.7
AVH				*e*S	Sn	04 40 04.2	+6.1
AVH	**Avacha**	**2.74**	**12**	PN	Pn	04 39 29.9	+3.7
AVH				S	Sn	04 40 04.2	+6.1
SMAR	**Somma**	**2.75**	**13**	*e*P	Pn	04 39 30.0	+3.6
SMAR	**Somma**	**2.75**	**13**	PN	Pn	04 39 30.0	+3.6
KOK	**Koryaka**	**2.76**	**11**	*e*P	Pn	04 39 30.1	+3.7
KOK				*e*S	Sn	04 40 03.7	+5.2
KOK	**Koryaka**	**2.76**	**11**	PN	Pn	04 39 30.1	+3.7
KOK				S	Sn	04 40 03.7	+5.2
SDLR	**Sedlovina**	**2.78**	**14**	*e*P	Pn	04 39 29.0	+2.3
SDLR	**Sedlovina**	**2.78**	**14**	PN	Pn	04 39 29.0	+2.3
KRER	**Koryakskii**	**2.78**	**12**	*e*P	Pn	04 39 30.4	+3.5
KRER				*e*S	Sn	04 40 03.6	+4.3
KRER	**Koryakskii**	**2.78**	**12**	PN	Pn	04 39 30.4	+3.5
KRER				S	Sn	04 40 03.6	+4.3
KRX	**Arik**	**2.82**	**11**	*e*P	Pn	04 39 31.1	+3.7
KRX	**Arik**	**2.82**	**11**	PN	Pn	04 39 31.1	+3.7
SPN	**Mys Shipunski**	**2.87**	**28**	*e*P	Pn	04 39 30.7	+2.8
SPN	**Mys Shipunski**	**2.87**	**28**	PN	Pn	04 39 30.7	+2.8
GNL	**Ganaly**	**3.11**	**2**	*e*P	Pn	04 39 35.4	+4.1
GNL	**Ganaly**	**3.11**	**2**	PN	Pn	04 39 35.4	+4.1

IDC 13 04:44:47.8±3.1, 4.98S×133.18E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.4/31, mbtmp3.5/4, ML3.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/32, Error ellipse: s-maj=133.3km s-min=29.7km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**10.77**	**241**	LR	LR	04 52 28.5	
	comp=Z,284nm,21.5s,baz=350,slow=43						
WRA	**Warramunga Arr**	**14.91**	**176**	Pn	Pn	04 48 19.1	-1.0
	0.1nm,0.3s,baz=351,slow=13,SNR=2.9						
WRA				Sn	Sn	04 51 00.3	-5.9
	0.0nm,0.3s,baz=6.3,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi**	**14.98**	**209**	Pn	Pn	04 48 21.5	+0.6
	0.1nm,0.3s,baz=28,slow=12,SNR=2.5						
FITZ				Sn	Sn	04 51 02.2	-5.5
	0.1nm,0.3s,baz=106,slow=10,SNR=1.4						
ASAR	**Alice Springs**	**18.59**	**178**	P	P	04 49 06.7	-0.1
	0.1nm,0.3s,baz=1.9,slow=10,SNR=8.1						
MKAR	**Makanchi Array**	**68.34**	**325**	P	P	04 55 51.1	0.0
	0.6nm,0.6s,baz=111,slow=7.9,SNR=6.8						

KRSC 13 04:52:08.1±10.0, 59.10N×164.68E, h73km±10km, ML4.2, FELT [III] at Ilpyrskiy., Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.85**	**281**	*e*P	Pn	04 52 26.6	+1.8
OSSR				*e*S	Sn	04 52 38.7	+1.5
TILK	**Tilichiki**	**1.54**	**28**	*e*P	Pn	04 52 35.5	+1.9
TILK				*e*S	Sn	04 52 54.7	+1.8
PALN	**Palana**	**2.43**	**272**	*e*P	Pn	04 52 47.2	+1.7
PALN				*e*S	Sn	04 53 17.2	+3.0

*IDC **13** 05:14:24.9±1.6, 6.85S×148.55E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/32, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=56.3km s-min=27.0km az=121.0*

*ISCJB **13** 05:14:30.4±1.5, 6.9S±0.3×148.4E±0.3, h47km, mb3.9/4, Error ellipse: s-maj=55.0km s-min=23.5km az=35.4*

ISC 13 05:14:31.9±1.5, 6.9S±0.3×148.4E±0.4, h47km, n6, σ0s35/6, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.86**	**225**	P	**P**	**05 18 48.0**	**-0.3**
	0.4nm,0.3s,baz=52,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.76**	**218**	P	**P**	**05 19 19.7**	**0.0**
	2.7nm,0.5s,baz=54,slow=9.2,SNR=29						
FITZ	**Fitzroy Crossi**	**24.86**	**241**	P	**P**	**05 19 50.3**	**+0.1**
	4.8nm,0.4s,baz=66,slow=9.1,SNR=15						
STKA	**Stephens Creek**	**25.68**	**194**	P	**P**	**05 19 57.5**	**0.0**
	1.9nm,0.5s,baz=359,slow=10,SNR=7.1						
ILAR	**Eielson Array**	**85.73**	**23**	P	**P**	**05 27 05.4**	**-0.2**
	0.4nm,1.0s,baz=264,slow=4.4,SNR=1.7						
TORD	**Torodi Ar. Bea**	**146.69**	**283**	PKPbc	**PKPdf**	**05 34 08.4**	**+0.5**
	1.2nm,0.8s,baz=106,slow=3.1,SNR=7.5						

MEX 13 05:17:11.3±0.6, 19.52N×102.32W, h2km±5km, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URUA	**Uruapan**	**0.25**	**112**	*e*P	Pg	05 17 15.7	-0.4
URUA				*i* S	Sg	05 17 20.1	+0.6
MOIG	**Morelia**	**1.08**	**81**	*e*P	Pg	05 17 29.6	-2.4
MOIG				*e*S	Sg	05 17 43.7	-2.3
EZ5V		**1.21**	**269**	*e*P	Pg	05 17 31.5	-3.0
EZ5V				*e*S	Sg	05 17 47.6	-2.6
IGIG	**Irapuato, Guan**	**1.54**	**37**	*e*P	Pn	05 17 35.8	-4.3
IGIG				*i* S	Sn	05 17 55.8	-5.1
MMIG	**Aquila**	**1.56**	**219**	*e*P	Pn	05 17 36.9	-3.2
MMIG				*i* S	Sn	05 17 55.5	-5.4
R15V		**1.61**	**258**	*e*P	Pn	05 17 37.9	-2.9
R15V				*i* S	Sn	05 17 57.3	-4.9
CJM	**Chamela**	**2.57**	**270**	*i* P	Pn	05 17 50.8	-3.2
CJM				*i* S	Sn	05 18 21.7	-4.2

IDC 13 05:25:23.2±3.4, 6.91S×148.35E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/41, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=101.6km s-min=45.5km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.78**	**225**	P	Pn	05 29 44.6	0.0
	0.2nm,0.3s,baz=51,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**21.68**	**218**	P	P	05 30 16.4	+0.6
	1.3nm,0.7s,baz=54,slow=9.3,SNR=10						
FITZ	**Fitzroy Crossi**	**24.77**	**241**	P	P	05 30 47.0	+0.1
	4.1nm,0.8s,baz=73,slow=7.4,SNR=8.8						
TORD	**Torodi Ar. Bea**	**146.61**	**283**	PKPbc	PKPdf	05 45 06.3	-0.1
	0.6nm,0.9s,baz=65,slow=3.6,SNR=4.6						

*KRAR **13** 05:38:07.1±0.1, 53.75N×90.96E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 13 05:38:10.6±4.1, 53.22N×90.67E, h0km, mb1 2.5/3, mb1mx2.5/47, mbtmp2.5/3, ML1.9/3, Error ellipse: s-maj=40.2km s-min=26.6km az=33.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.56**	**284**	*i*		06 04 00.0	
	baz=96,slow=351,SNR=1.3						
ZALV	**Zalesovo Beam**	**3.56**	**284**	Pn	Pn	05 39 08.6	+1.5
	0.2nm,0.3s,baz=98,slow=15,SNR=3.2						
ZALV				Lg	Lg	05 40 01.8	
	0.4nm,0.3s,baz=93,slow=28,SNR=4.3						
KURBB	**Kurchatov Arra**	**7.94**	**256**	Pn	Pn	05 40 07.8	+0.6
	0.0nm,0.3s,baz=66,slow=15,SNR=3.2						
KURBB				Sn	Sn	05 41 36.1	-1.6
	0.0nm,0.3s,baz=66,slow=28,SNR=2.9						
KURBB				Lg	Lg	05 42 23.5	
	0.0nm,0.3s,baz=74,slow=32,SNR=2.8						
MKAR	**Makanchi Array**	**8.39**	**223**	Pn	Pn	05 40 13.5	0.0
	0.0nm,0.3s,baz=40,slow=10,SNR=2.9						

*IDC **13** 05:38:37.4±2.0, 59.15N×163.90E, h0km, mb3.2/4, mb1 3.5/6, mb1mx3.3/43, mbtmp3.3/6, ML4.3/2, Error ellipse: s-maj=49.4km s-min=13.3km az=178.0*

*MOS **13** 05:38:42.4±2.3, 59.57N×164.04E, h92km, mb4.3/1, Error ellipse: s-maj=30.6km s-min=21.2km az=74.0*

*KRSC **13** 05:38:42.4±10.0, 59.57N×164.04E, h92km±10km, ML4.6, FELT [III] at Ilpyrskiy, Vivenka.*

*ISCJB **13** 05:38:44.9±0.6, 59.95N±0.08×163.49E±0.10, h33km, mb3.1/4, Error ellipse: s-maj=12.2km s-min=5.9km az=160.5*

ISC 13 05:38:46.2±0.9, 59.79N±0.05×163.74E±0.05, h35km, n15, σ2s08/23, mb3.1/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.65**	**213**	*e*P	**Pn**	**05 38 59.2**	**+0.4**
OSSR				*e*S	**Sn**	**05 39 11.2**	**+3.4**
OSSR	**Ossora**	**0.65**	**213**	PN	**Pn**	**05 38 59.2**	**+0.4**
OSSR				S	**Sn**	**05 39 11.2**	**+3.4**
TILK	**Tilichiki**	**1.37**	**60**	*e*P	**Pn**	**05 39 07.9**	**-0.9**
TILK				*e*S	**Sn**	**05 39 26.7**	**+1.0**
TILK	**Tilichiki**	**1.37**	**60**	PN	**Pn**	**05 39 07.9**	**-0.9**
TILK				S	**Sn**	**05 39 26.7**	**+1.0**
PALN	**Palana**	**2.05**	**252**	*e*P	**Pn**	**05 39 18.1**	**-0.1**
PALN	**Palana**	**2.05**	**252**	PN	**Pn**	**05 39 18.1**	**-0.1**
KMSK	**Kamenskaya**	**2.94**	**23**	*e*P	**Pn**	**05 39 31.7**	**+1.4**
KMSK				*e*S	**Sn**	**05 40 07.3**	**+3.0**
KMSK	**Kamenskaya**	**2.94**	**23**	PN	**Pn**	**05 39 31.7**	**+1.4**
KMSK				S	**Sn**	**05 40 07.3**	**+3.0**
SEY	**Seymchan**	**6.30**	**305**	Pn	**Pn**	**05 40 15.2**	**-1.3**
	0.6nm,0.3s,baz=126,slow=15,SNR=5.7						
SEY				Sn	**Sn**	**05 41 32.0**	**+4.8**
	0.9nm,0.3s,baz=30,slow=20,SNR=2.4						
SEY				Lg	Lg	05 41 49.6	
	1.1nm,0.3s,baz=25,slow=21,SNR=4.1						
MA2	**Magadan**	**6.58**	**274**	Pn	**Pn**	**05 40 17.6**	**-2.6**
	1.3nm,0.3s,baz=62,slow=15,SNR=3.5						
MA2				Sn	**Sn**	**05 41 33.0**	**-0.9**
	1.2nm,0.3s,baz=178,slow=18,SNR=4.3						
MA2				Lg	Lg	05 42 08.9	
	0.7nm,0.3s,baz=323,slow=20,SNR=2.6						
ILAR	**Eielson Array**	**22.99**	**56**	P	**P**	**05 43 45.7**	**-1.7**
	0.3nm,0.6s,baz=270,slow=8.0,SNR=5.9						
YKA	**Yellowknife Ar**	**37.04**	**50**	P	**P**	**05 45 51.4**	**-0.8**
	0.1nm,0.6s,baz=299,slow=7.7,SNR=3.2						
KURK	**Kurchatov**	**46.11**	**298**	P	**P**	**05 47 06.6**

	2.3nm,0.8s								
KURBB				⇑Lg	Lg	06 02 15.3			
	9.0nm,0.7s								
KURBB	**Kurchatov Arra**	**4.96**	**218**	Pn	Pn	06 00 19.4	-0.1		
	0.0nm,0.3s,baz=38,slow=13,SNR=3.3								
KURBB				Lg	Lg	06 01 40.9			
	0.1nm,0.3s,baz=43,slow=33,SNR=4.9								
MK31	**Makanchi Array**	**7.85**	**185**	⇑Pn	Pn	06 01 07.5	+8.2		
	0.7nm,0.6s,baz=15,slow=12,SNR=3.5								
MK31				⇑Sn	Sb	06 02 42.1	-13		
	0.4nm,0.5s,baz=331,slow=16,SNR=6.7								
MK31				⇑Lg	Lg	06 03 28.5			
	1.0nm,0.5s,baz=334,slow=27,SNR=3.9								
MKAR	**Makanchi Array**	**7.85**	**185**	Pn	Pn	06 00 59.8	+0.6		
	0.1nm,0.3s,baz=15,slow=13,SNR=8.2								
BVAR	**Borovoye Array**	**7.85**	**264**	Pn	Pn	06 00 58.6	-0.6		
	0.1nm,0.3s,baz=70,slow=13,SNR=3.6								
BVAR				Sn	Sn	06 02 25.3	-3.4		
	0.1nm,0.3s,baz=77,slow=25,SNR=2.6								

ISCJB ***13*** *06:01:01.4±0.3,67.18N±0.02×20.71E±0.07,h0km, Error ellipse: s-maj=3.9km s-min=2.7km az=3.6*
HEL ***13*** *06:01:03.0±0.0,67.19N×20.69E,h0km,ML2.1, ML2.6(UPP),Confirmed Induced event*
NAO ***13*** *06:01:03.0±0.8,67.15N×21.00E,ML2.6*
BER ***13*** *06:01:05.5±3.0,67.14N×20.93E,h0km,ML1.8, ML2.6(NAO),Suspected explosion*

ISC 13 06:01:01.5±0.7,67.15N±0.02×20.67E±0.02,h0km,n44, σ1§09/73,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MASU	**Masugnsbyn**	**0.60**	**59**	*i*	P	**Pg**		**06 01 13.4**	**+0.4**
MASU				*i*	S	**Sg**		**06 01 21.4**	**+0.6**
RATU	**Laukkuluspa**	**0.79**	**329**	*i*	P	**Pg**		**06 01 16.7**	**+0.1**
KUA	**Kurravaara**	**0.82**	**351**	*i*	P	**Pg**		**06 01 16.9**	**-0.3**
ERTU	**Ertsjaerv**	**0.85**	**134**	*e*	P	**Pg**		**06 01 18.3**	**+0.5**
ERTU				*e*	S	**Sg**		**06 01 29.7**	**+1.0**
SALU	**Saltoluokta**	**0.87**	**286**	*i*	P	**Pg**		**06 01 18.6**	**+0.5**
NIKU	**Nikkaluokta**	**0.95**	**320**	*e*	P	**Pg**		**06 01 19.8**	**0.0**
PAJU	**Pajala**	**0.96**	**97**	*e*	P	**Pg**		**06 01 20.1**	**+0.1**
HARU	**Harads**	**1.00**	**173**	*e*	P	**Pb**		**06 01 21.2**	**-0.4**
LANU	**Lannavaara**	**1.03**	**29**	*e*	P	**Pg**		**06 01 20.8**	**-0.5**
LANU				*e*	S	**Sg**		**06 01 33.9**	**-0.8**
KALU	**Kalix**	**1.69**	**139**	*e*	P	**Pb**		**06 01 33.1**	**-0.2**
KALU				*e*	S	**Sb**		**06 01 55.4**	**+0.3**
SJUU	**Sjulsmark**	**1.69**	**167**	*e*	P	**Pb**		**06 01 33.5**	**0.0**
HEF	**Hetta**	**1.70**	**41**	*e*	P	**Pn**		**06 01 32.6**	**+0.2**
HEF				*e*	S	**Sn**		**06 01 54.1**	**-0.7**
HEF	**Hetta**	**1.70**	**41**	*e*	P	**Pn**		**06 01 32.4**	**0.0**
HEF				*e*	S	**Sn**		**06 01 53.7**	**-1.2**
HEF				MSG				06 01 59.0	
	comp=Z,11nm,0.2s								
TOF	**Tornio**	**1.81**	**125**	*e*	P	**Pb**		**06 01 35.3**	**-0.2**
TOF				*e*	S	**Sb**		**06 01 59.1**	**+0.4**
TOF				MSG				06 02 01.7	
	comp=Z,5.6nm,0.1s								
KIF	**Kilpisjarvi**	**1.86**	**1**	Pn		**Pb**		**06 01 36.0**	**-0.4**
KIF				Sn		**Sg**		**06 02 01.1**	**-0.2**
KIF	**Kilpisjarvi**	**1.86**	**1**	Pn		**Pb**		**06 01 36.0**	**-0.4**
KIF				*e*	S	**Sn**		**06 01 59.2**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**1**	*e*	P	**Pb**		**06 01 35.7**	**-0.6**
KIF				*e*	S	**Sg**		**06 02 01.1**	**-0.2**
KTK1	**Kautokeino**	**2.10**	**26**	*e*	P	**Pb**		**06 01 39.6**	**-0.8**
KTK1				*e*	S	**Sn**		**06 02 05.1**	**+0.4**
KTK1				IAML				06 02 08.1	
	comp=Z,68nm,0.4s								
RNF	**Rovaniemi**	**2.18**	**102**	*e*	P	**Pb**		**06 01 40.4**	**-1.3**
RNF				*e*	SG	**Sb**		**06 02 09.8**	**+0.6**
STEI	**Steigen**	**2.23**	**293**	*e*	P	**Pb**		**06 01 42.1**	**-0.5**
STEI				*e*	S	**Sg**		**06 02 12.3**	**-0.6**
STEI				IAML				06 02 15.9	
	comp=Z,26nm,0.4s								
SGF	**Sodankyl**	**2.29**	**80**	*e*	PB	**Pb**		**06 01 42.6**	**-1.1**
SGF				*e*	SG	**Sb**		**06 02 12.8**	**+0.3**
BURU	**Burvik**	**2.60**	**173**	*e*	P	**Pn**		**06 01 46.8**	**+2.1**
BURU				*e*	S	**Sn**		**06 02 18.6**	**+1.8**
MOR8	**Moi Rana**	**2.67**	**251**	*e*	P	**Pn**		**06 01 47.3**	**+1.6**
MOR8				IAML				06 02 24.5	
	comp=Z,18nm,0.4s								
OUL	**Oulu**	**2.97**	**132**	*e*	P	**Pn**		**06 01 49.8**	**-0.1**
OUL				*e*	SG	**Sb**		**06 02 34.5**	**+2.5**
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn		**Pn**		**06 01 50.9**	**+0.7**
	baz=212,slow=14								
ARA0				Sn		**Sn**		**06 02 27.1**	**+0.4**
	baz=211,slow=28								
ARA0	**ARCESS Array S**	**2.99**	**35**	Pn		**Pn**		**06 01 50.9**	**+0.7**
	baz=212,slow=14								
ARA0				Sn		**Sn**		**06 02 27.1**	**+0.4**
	baz=211,slow=28								
ARE0	**ARCESS Array S**	**2.99**	**35**	*e*	P	**Pn**		**06 01 51.4**	**+1.2**
ARE0				*e*	S	**Sn**		**06 02 26.7**	**+0.1**
ARE0				IAML				06 02 33.9	
	comp=Z,0.4nm,0.4s								
ARE0	**ARCESS Array S**	**2.99**	**35**	*e*	P	**Pn**		**06 01 51.0**	**+0.9**
ARE0				*e*	S	**Sn**		**06 02 27.4**	**+0.7**
UMAU	**Umeaa**	**3.28**	**180**	*e*	P	**Pn**		**06 01 56.0**	**+1.9**
UMAU				*e*	S	**Sn**		**06 02 35.3**	**+1.5**
KEV	**Kevo**	**3.51**	**39**	Pn		**Pn**		**06 01 57.4**	**+0.2**
KEV				Sn		**Sn**		**06 02 39.1**	**-0.2**
KEV	**Kevo**	**3.51**	**39**	Pn		**Pn**		**06 01 57.4**	**+0.2**
KEV				Sn		**Sn**		**06 02 39.1**	**-0.2**
MSF	**Maaselka**	**3.57**	**107**	MSG				06 03 00.1	
	comp=Z,6.0nm,0.3s								
KU6	**Riekki**	**3.85**	**103**	MSG				06 03 04.2	
	comp=Z,7.4nm,0.4s								
VAF	**Ylistaro**	**4.21**	**167**	MSG				06 03 20.1	
	comp=Z,2.8nm,0.2s								
APA0	**Apatity Array**	**4.78**	**79**	Pn		**Pn**		**06 02 14.8**	**+0.1**
APA0	**Apatity Array**	**4.78**	**79**	Pn		**Pn**		**06 02 14.8**	**+0.1**
FIA0	**FINESS Array S**	**6.19**	**155**	Pn		**Pn**		**06 02 36.0**	**+1.9**
	baz=348,slow=14								
FIA0				Sn		**Sn**		**06 03 44.7**	**-0.8**
	baz=341,slow=22								
FIA0				Lg		Lg		06 04 16.1	
	baz=346,slow=37								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn		**Pn**		**06 02 36.0**	**+1.9**
	baz=348,slow=14								
FIA0				Sn		**Sn**		**06 03 44.7**	**-0.8**
	baz=341,slow=22								
FIA0				Sg		**Sg**		**06 04 16.1**	**-4.1**
	baz=346,slow=37								
NRA0	**NORESS Array S**	**7.58**	**216**	Pn		**Pn**		**06 02 54.8**	**+1.6**
	baz=27,slow=16								
NRA0				Sn		**Sn**		**06 04 19.5**	**-0.2**
	baz=47,slow=22								
NRA0				Lg		Lg		06 05 02.4	
	baz=26,slow=28								
NRA0	**NORESS Array S**	**7.58**	**216**	Pn		**Pn**		**06 02 54.8**	**+1.6**
	baz=27,slow=16								
NRA0				Sn		**Sn**		**06 04 19.5**	**-0.2**
	baz=47,slow=22								
NRA0				Sg		**Sg**		**06 05 02.4**	**-2.3**
	baz=26,slow=28								
HFS	**Hagfors**	**7.69**	**207**	Pn		**Pn**		**06 02 54.9**	**+0.3**
	baz=13,slow=14								
HFS				Sn		**Sn**		**06 04 21.9**	**-0.5**
	baz=17,slow=28								
HFS				Lg		Lg		06 05 05.2	
	baz=30,slow=28								
HFS	**Hagfors**	**7.69**	**207**	Pn		**Pn**		**06 02 54.9**	**+0.3**
	baz=13,slow=14								
HFS				Sn		**Sn**		**06 04 21.9**	**-0.5**
	baz=17,slow=28								
HFS				Sg		**Sg**		**06 05 05.2**	**-3.1**
	baz=30,slow=28								
SPA0	**Spitsbergen Ar**	**11.15**	**355**	Pn		**Pn**		**06 03 41.8**	**-0.2**
	baz=166,slow=12								
SPA0	**Spitsbergen Ar**	**11.15**	**355**	Pn		**Pn**		**06 03 41.8**	**-0.2**
	baz=166,slow=12								

IDC 13 06:02:53.9±2.5,6.14S×130.29E,h146km±33km,mb3.6/1, mb1 3.5/5,mb1mx3.2/39,mbtmp3.9/5,Error ellipse: s-maj=65.4km s-min=19.6km az=87.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SIJI	**Sorong**	**5.32**	**11**	P		Pn		06 04 11.9	+0.3
	3.5nm,0.3s,baz=239,slow=19,SNR=24								
SIJI				S		Sn		06 05 08.3	-4.0
	12nm,0.3s,baz=275,slow=23,SNR=13								
FITZ	**Fitzroy Crossi**	**12.72**	**200**	P		Pn		06 05 48.4	-1.3
	0.7nm,0.3s,baz=32,slow=14,SNR=18								
FITZ				S		Sn		06 08 00.9	-9.5
	1.0nm,0.3s,baz=299,slow=19,SNR=6.8								
WRA	**Warramunga Arr**	**14.28**	**164**	P		Pn		06 06 09.3	-0.2
	0.4nm,0.3s,baz=346,slow=11,SNR=17								
WRA				S		Sn		06 08 38.5	-9.3
	1.3nm,0.3s,baz=336,slow=22,SNR=10								
ASAR	**Alice Springs**	**17.77**	**169**	P		Pn		06 06 52.2	-0.1
	0.3nm,0.3s,baz=350,slow=9.3,SNR=13								
ASAR				S		S		06 10 03.2	-5.0
	0.2nm,0.3s,baz=347,slow=24,SNR=4.6								
MKAR	**Makanchi Array**	**67.67**	**326**	P		P		06 13 35.2	-0.1
	0.7nm,0.4s,baz=124,slow=7.2,SNR=16								

GII ***13*** *06:22:40.7±0.0,38.02N×44.75E,h10km,mb5.1/1, MD5.1/1*
AZER ***13*** *06:22:47.4±2.5,35.58N×42.09E,h30km,ml5.1/4,ms3.6/8, Error ellipse: s-maj=39.4km s-min=19.2km az=145.0*
DDA ***13*** *06:22:58.7,36.57N×43.34E,h4km±2km,ML4.8*
ISN ***13*** *06:22:59.1±1.2,36.73N×43.36E,h0km±5km,ML4.3*
IDC ***13*** *06:22:59.6±0.7,36.57N×43.32E,h0km,mb4.2/24, mb1 4.3/35,mb1mx4.2/50,mbtmp4.2/35,ML3.8/9,MS3.9/35, Ms1 3.9/35,ms1mx3.8/52,Error ellipse: s-maj=14.3km s-min=9.6km az=153.0*
MOS ***13*** *06:23:00.2±1.1,36.65N×43.37E,h10km,mb4.5/30,Error ellipse: s-maj=6.2km s-min=3.8km az=106.4*
TEH ***13*** *06:23:01.0,36.64N×43.37E,h7km,ML4.4*
NEIC ***13*** *06:23:04.4±1.2,36.68N×43.34E,h28km±8km,mb4.3/44, MN4.3(TEH),Error ellipse: s-maj=6.9km s-min=3.9km az=171.0*
ISK ***13*** *06:23:05.1,36.88N×43.28E,h6km,ML5.0/22*
DSN ***13*** *06:23:10.1±0.8,35.13N×43.23E,h15km,mb4.9/2,Error ellipse: s-maj=55.8km s-min=7.2km az=38.0*

ISC 13 06:23:02.0±0.7,36.61N±0.02×43.29E±0.02,h14km±4km, n456,σ2§25/504,mb4.4/83,MS3.9/33,51C-33D,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
MSL	**Mosul**	**0.26**	**215**	*e*	P	**Pg**		**06 23 06.9**	**-0.5**
MSL				*e*	Sg	**Sb**		**06 23 13.0**	**+0.3**
CUKT	**Cukurca**	**0.69**	**22**		PG	**Pg**		**06 23 13.7**	**-1.7**
CUKT					SG	**Sg**		**06 23 22.5**	**-2.0**
CUKT	**Cukurca**	**0.69**	**22**	⇓*i*	P	**Pg**		**06 23 12.2**	**-3.2**
CUKT				*i*	S	**Sg**		**06 23 23.6**	**-0.9**
SIRT	**Sirnak**	**1.12**	**323**		PG	**Pb**		**06 23 22.9**	**-0.4**
SIRT					SG	**Sb**		**06 23 37.7**	**-0.1**
SIRT	**Sirnak**	**1.12**	**323**	*e*	Pb	**Pb**		**06 23 22.5**	**-0.8**
SIRT				*e*	Sn	**Sn**		**06 23 38.4**	**-0.3**
SIRT	**Sirnak**	**1.12**	**323**	*e*	Pg	**Pb**		**06 23 22.9**	**-0.4**
SIRN	**Sirnak**	**1.13**	**322**	⇓*i*	P	**Pb**		**06 23 22.9**	**-0.6**
SIRN				*i*	S	**Sn**		**06 23 39.3**	**+0.4**
SIRN				IAML_P					
	comp=Z,217μm,0.1s								
YOVA	**Hakkari_Yksek**	**1.26**	**39**	⇓*i*	P	**Pn**		**06 23 23.1**	**-2.3**
YOVA				*i*	S	**Sn**		**06 23 43.5**	**+1.2**
IKRK	**Kirkuk**	**1.48**	**145**	*e*	Pn	**Pn**		**06 23 28.0**	**-0.2**
IKRK				*e*	Sn	**Sg**		**06 23 49.0**	**-0.6**
BASK	**Baskale_VAN**	**1.55**	**21**	*i*	P	**Pn**		**06 23 29.0**	**-0.4**
GEVA	**Gevas**	**1.71**	**354**	⇓*i*	P	**Pb**		**06 23 32.6**	**-0.8**
GEVA				*i*	S	**Sg**		**06 23 57.1**	**0.0**
GEVA				IAML_P					
	comp=Z,86μm,0.5s								
AKDM	**Akdamar-Van**	**1.73**	**352**	Pn		**Pb**		**06 23 33.7**	**-0.1**
AKDM				SN		**Sb**		**06 23 54.8**	**-0.7**
SRTM	**Siirt_Merkez**	**1.76**	**322**	⇑*i*	P	**Pn**		**06 23 32.9**	**+0.7**
SRTM				*i*	S	**Sg**		**06 23 59.8**	**+1.2**
TVAN	**Van**	**1.92**	**3**	⇑*i*	P	**Pb**		**06 23 36.8**	**-0.1**
TVAN				*i*	S	**Sg**		**06 24 03.0**	**-0.7**
TVAN				IAML_P					
	comp=Z,34μm,0.3s								
MAHB	**Mahabad**	**1.95**	**85**	*e*	Pn	**Pn**		**06 23 35.1**	**+0.3**
MAHB					IAMB	IAmb		06 24 09.0	
	comp=Z,0.0nm,0.8s								
VANB	**Van**	**1.98**	**2**	PN		**Pn**		**06 23 35.9**	**+0.6**
VANB				SN		**Sn**		**06 23 58.7**	**-1.3**
VANB	**Van**	**1.98**	**2**	*e*	Pn	**Pn**		**06 23 35.5**	**+0.2**
BTMN	**Batman**	**2.06**	**309**	⇑*i*	P	**Pn**		**06 23 37.0**	**+0.7**
BTMN				*i*	S	**Sg**		**06 24 07.3**	**-0.9**
MARD	**Mardin**	**2.13**	**290**	⇑*i*	P	**Pn**		**06 23 38.7**	**+1.3**
MARD				*i*	S	**Sb**		**06 24 07.3**	**+0.4**
MARD				IAML_P					
	comp=Z,42μm,0.2s								
GURO	**Guroymak-BITLI**	**2.18**	**333**	PN		**Pb**		**06 23 40.4**	**-1.0**
GURO	**Guroymak-BITLI**	**2.18**	**333**	*e*	Pn	**Pn**		**06 23 39.2**	**+1.2**
ADCV	**BITLIS_Adilcev**	**2.24**	**349**	⇑*i*	P	**Pb**		**06 23 40.8**	**-1.6**
ADCV				*i*	S	**Sg**		**06 24 13.5**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.27**	**313**	PN		**Pb**		**06 23 42.5**	**-0.3**
SVAN	**Silvan-Diyarba**	**2.27**	**313**	⇑*i*	P	**Pn**		**06 23 39.8**	**+0.6**
SVAN				*i*	S	**Sg**		**06 24 13.7**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.27**	**313**	*e*	Pn	**Pb**		**06 23 42.5**	**-0.3**
VMUR	**Van-Muradiye**	**2.39**	**5**	⇑*i*	P	**Pn**		**06 23 42.3**	**+1.3**
VMUR				*i*	S	**Sg**		**06 24 16.7**	**-2.1**
IAZR	**Azarshahr**	**2.40**	**63**	*e*	Pn	**Pn**		**06 23 41.9**	**+0.7**
IAZR					IAMB	IAmb		06 24 24.1	
	comp=Z,52μm,0.6s								
CLDR	**Caldiran**	**2.58**	**11**	PN		**Pb**		**06 23 45.7**	**-2.5**
CLDR	**Caldiran**	**2.58**	**11**	⇑*i*	P	**Pn**		**06 23 45.0**	**+1.4**
CLDR				*i*	S	**Sg**		**06 24 23.2**	**-1.7**
CLDR	**Caldiran**	**2.58**	**11**	*e*	Pn	**Pn**		**06 23 44.9**	**+1.3**
MLAZ	**Malazgirt-MUS**	**2.59**	**347**	PN		**Pb**		**06 23 45.9**	**-2.5**
ITBZ	**Tabriz**	**2.79**	**54**	*e*	Pn	**Pn**		**06 23 46.4**	**-0.1**
ITBZ					IAMB	IAmb		06 24 33.3	
	comp=N,6μm,0.4s								
IMRD	**Marand**	**2.84**	**42**	*e*	Pn	**Pn**		**06 23 47.3**	**+0.1**
DIYA	**Diyarbakir**	**2.85**	**298**	⇑*i*	P	**Pn**		**06 23 47.5**	**+0.4**
DIYA				*i*	S	**Sb**		**06 24 28.9**	**+1.4**
HANI	**Diyarbakir_Han**	**2.92**	**309**	⇑*i*	P	**Pn**		**06 23 48.2**	**+0.1**
HANI				*i*	S	**Sg**		**06 24 35.5**	**-0.3**
AGRB	**Hanur-Agry**	**2.97**	**356**	PN		**Pn**		**06 23 51.3**	**+2.3**
AGRB	**Hanur-Agry**	**2.97**	**356**	*e*	Pn	**Pb**		**06 23 51.6**	**-3.3**
IBST	**Bostanabad**	**3.08**	**68**	*e*	Pn	**Pn**		**06 23 50.8**	**+0.4**
IBST					IAMB	IAmb		06 24 49.2	
	comp=N,6μm,0.6s								
NAX	**Nakhchivan**	**3.10**	**34**	*e*	Pn	**Pn**		**06 23 52.2**	**+1.6**
NAX	**Nakhchivan**	**3.10**	**34**	⇑*i*	P	**Pn**		**06 23 52.2**	**+1.6**
NAX				⇓*i*	S	**Sg**		**06 24 46.0**	**+4.4**
BNGB	**Bingl**	**3.15**	**320**	PN		**Pb**		**06 23 54.8**	**-3.1**
ORD	**Ordubad**	**3.15**	**42**	*e*	Pn	**Pn**		**06 23 52.5**	**+1.1**
ORD	**Ordubad**	**3.15**	**42**	⇓*i*	P	**Pn**		**06 23 52.5**	**+1.1**
ORD				⇓*i*	S	**Sg**		**06 24 48.7**	**+5.4**
BINT	**Bingol**	**3.17**	**316**	*e*	Pn	**Pn**		**06 23 54.6**	**+3.0**
SBZ	**Shahbuz**	**3.31**	**32**	*e*	Pn	**Pn**		**06 23 54.7**	**+1.2**
SBZ	**Shahbuz**	**3.31**	**32**	⇓*i*	P	**Pn**		**06 23 54.8**	**+1.2**
SBZ				⇓*i*	S	**Sg**		**06 24 51.4**	**+3.2**
IGDI	**IGDIR**	**3.31**	**11**	*i*	P	**Pn**		**06 23 55.0**	**+1.5**
IGDI				*i*	S	**Sg**		**06 24 51.5**	**+3.1**
HYR	**Heyderabad**	**3.34**	**21**	*e*	Pn	**Pn**		**06 23 55.9**	**+2.0**
HYR	**Heyderabad**	**3.34**	**21**	⇓*i*	P	**Pn**		**06 23 56.0**	**+2.0**
HYR				⇓*i*	S	**Sg**		**06 24 50.4**	**+1.1**
ILIN	**Lien**	**3.43**	**118**	*e*	Pn	**Pn**		**06 23 56.8**	**+1.5**
ILIN					IAMB	IAmb		06 25 06.9	
	comp=Z,5μm,0.7s								
BHD	**Baghdad**	**3.45**	**165**	*e*	Pn	**Pn**		**06 23 57.0**	**+1.6**
BHD				*e*	Sn	**Sn**		**06 24 37.5**	**+1.5**
TASB	**TASBURUN-IGDIR**	**3.45**	**12**	PN		**Pn**		**06 23 58.3**	**+2.9**
ECAT	**Cat-ERZURUM**	**3.50**	**329**	*i*	P	**Pb**		**06 24 03.6**	**-0.4**
ECAT				*i*	S	**Sg**		**06 24 51.9**	**-2.7**
IGHG	**Ghaleghazi**	**3.51**	**129**	*e*	Pn	**Pn**		**06 23 58.3**	**+1.9**
IGHG					IAMB	IAmb		06 25 15.3	
	comp=Z,15μm,1.2s								
KOPR	**Koprukoy-ERZUR**	**3.56**	**342**	PN		**Pn**		**06 24 00.1**	**+3.1**
IVIS	**Veis**	**3.57**	**125**	*e*	Pn	**Pn**		**06 23 59.1**	**+2.0**
IVIS					IAMB	IAmb		06 25 11.8	
	comp=Z,5μm,0.6s								
HOMI	**Horasan**	**3.60**	**343**	*i*	P	**Pb**		**06 24 03.9**	**-1.7**
HOMI				*i*	S	**Sg**		**06 24 58.5**	**+0.9**
HOMI				IAML_P					
	comp=Z,4μm,0.3s								
URFA	**Urfa**	**3.67**	**284**	PN		**Pb**		**06 24 04.1**	**-2.7**
URFA	**Urfa**	**3.67**	**284**	*e*	Pn	**Pb**		**06 24 04.0**	**-2.7**
ISRB	**Sarab**	**3.70**	**70**	*e*	Pn	**Pn**		**06 24 00.1**	**+1.1**
ISRB					IAMB	IAmb		06 24 14.5	
	comp=Z,4μm,0.8s								
GNI	**Garni**	**3.71**	**17**	PN		**Pn**		**06 24 02.2**	**+3.1**
GNI	**Garni**	**3.71**	**17**	*e*	Pn	**Pn**		**06 23 57.7**	**-1.4**
GNI				*e*	Pn	Pb		06 24 01.3	-6.2
GNI				*e*	Pb	**Pb**		**06 24 07.8**	**+0.3**
GNI				*e*	Sn	**Sn**		**06 24 40.2**	**-2.6**
GNI	**Garni**	**3.71**	**17**	*ce*	P	**Pn**		**06 23 56.5**	**-2.6**
GNI					pmax	pmax			
	comp=Z,4μm,1.7s								
GNI	**Garni**	**3.71**	**17**	*e*	Pn	**Pn**		**06 24 02.9**	**+3.8**
GNI	**Garni**	**3.71**	**17**	*e*	Pn	**Pn**		**06 24 01.3**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=239,slow=10.0,SNR=3.1								
GNI					Pg	**Pb**		**06 24 07.8**	**+0.3**
	comp=Z,8.6nm,0.3s,baz=196,slow=7.5,SNR=19								
GNI					LR	LR		06 25 52.0	
	comp=Z,4μm,20.6s,baz=228,slow=46								
SURC	**SANLIURFA_SURC**	**3.77**	**275**	*i*	P	**Pn**		**06 24 01.6**	**+1.8**
KCHF	**Cheshme Sefid,**	**3.85**	**126**	*e*	Pn	**Pn**		**06 24 02.4**	**+1.4**
KCHF					IAMB	IAmb		06 25 48.5	
	comp=N,0.0nm,1.3s								
TNCL	**Tunceli-Merkez**	**3.88**	**311**	*i*	P	**Pn**		**06 24 02.8**	**+1.4**
TNCL				*i*	S	**Sg**		**06 25 03.2**	**-3.4**
ELZG	**Elazig**	**3.91**	**300**	*i*	P	**Pn**		**06 24 04.5**	**+2.7**
SENK	**Senkaya-Erzuru**	**4.01**	**350**	PN		**Pn**		**06 24 06.3**	**+3.0**
SENK	**Senkaya-Erzuru**	**4.01**	**350**	*e*	Pn	**Pn**		**06 24 06.6**	**+3.3**
EAK	**Akyaka**	**4.08**	**3**	*i*	P	**Pn**		**06 24 07.8**	**+3.7**
EAK				*i*	S	**Sg**		**06 25 19.1**	**+6.1**
ATAB	**Bozova**	**4.09**	**284**	*i*	P	**Pn**		**06 24 04.2**	**+0.1**
ERZN	**Erzincan**	**4.09**	**318**	PN		**Pn**		**06 24 08.4**	**+4.1**
IBDR	**Badra**	**4.11**	**147**	*e*	Pn	**Pn**		**06 24 05.0**	**+0.6**
IBDR				*e*	Sn	**Sn**		**06 24 53.0**	**+0.7**
IKOM	**Komasi**	**4.22**	**124**	*e*	Pn	**Pn**		**06 24 07.2**	**+1.1**
HSRG	**Sareghieh**	**4.27**	**107**	*e*	Pn	**Pn**		**06 24 08.8**	**+1.9**
IBZA	**Bozab**	**4.29**	**118**	*e*	Pn	**Pn**		**06 24 08.9**	**+1.7**
RTB	**Rutbah**	**4.33**	**215**	*e*	Pn	**Pn**		**06 24 10.5**	**+2.9**
RTB				*e*	Sn	**Sn**		**06 24 59.5**	**+1.6**
LRK	**Lerik**	**4.49**	**62**	*e*	Pn	**Pn**		**06 24 10.6**	**+0.7**
LRK	**Lerik**	**4.49**	**62**	⇑*i*	P	**Pn**		**06 24 10.6**	**+0.7**
	SNR=7.8								
LRK				⇓*i*	S	**Sg**		**06 25 20.2**	**-6.1**
BAYT	**Aydıntepe-Bayb**	**4.51**	**328**	PN		**Pn**		**06 24 14.2**	**+4.1**
BAYT	**Aydıntepe-Bayb**	**4.51**	**328**	*e*	Pn	**Pn**		**06 24 14.1**	**+4.0**
GDB	**GEDABAY**	**4.54**	**24**	*e*	Pn	**Pn**		**06 24 12.5**	**+2.1**
GDB	**GEDABAY**	**4.54**	**24**	⇓*i*	P	**Pn**		**06 24 12.5**	**+2.1**
GDB				⇑*i*	S	**Sg**		**06 25 21.3**	**-6.4**
GANJ	**Ganja**	**4.68**	**30**	*e*	Pn	**Pn**		**06 24 13.5**	**+1.3**
GANJ	**Ganja**	**4.68**	**30**	⇑*i*	P	**Pn**		**06 24 13.6**	**+1.3**
QZX	**Qazax, Azerbai**	**4.73**	**19**	*e*	Pn	**Pn**		**06 24 13.9**	**+1.0**
QZX	**Qazax, Azerbai**	**4.73**	**19**	⇑*i*	P	**Pn**		**06 24 14.0**	**+1.0**
QZX				⇓*i*	S	**Sb**		**06 25 26.5**	**+4.9**
BRDA	**Brd**	**4.76**	**39**	*e*	Pn	**Pn**		**06 24 17.3**	**+4.1**
BRDA	**Brd**	**4.76**	**39**	⇓*i*	P	**Pn**		**06 24 17.4**	**+4.1**
ASTR	**Astara**	**4.78**	**64**	*e*	Pn	**Pn**		**06 24 15.0**	**+1.4**
ASTR	**Astara**	**4.78**	**64**	⇑*i*	P	**Pn**		**06 24 15.1**	**+1.4**
	SNR=3.0								
ASTR				⇓*i*	S	**Sb**		**06 25 23.6**	**+0.5**
GLBA	**Clilabad**	**4.81**	**55**	*

KVAR LR LR 06 28 22.2
comp=Z,1μm,19.4s,baz=104,slow=44
HSUJ Al Zarqa 7.39 235 P Pn 06 24 59.6 +10
comp=Z,326nm,1.7s
HSUJ Al Zarqa 7.39 235 P Pn 06 24 59.5 +10
MMA0B Mount Meron ar 7.41 243 Pn **Pn** **06 24 52.6 +2.7**
MMAI Mount Meron Ar 7.41 243 Pn **Pn** **06 24 52.5 +2.6**
comp=Z,8.4nm,0.3s,baz=68,slow=14,SNR=18
MMAI Lg Lg 06 26 54.7
comp=Z,11nm,0.3s,baz=64,slow=16,SNR=4.3
MMAI LR LR 06 28 05.3
comp=Z,864nm,20.0s,baz=110,slow=41
SOC Sochi 7.48 340 *e*P **Pn** **06 24 47.5 -3.2**
SOC *e* 06 26 13.2
SOC pmax pmax
comp=Z,36nm,1.0s
SOC MLR MLR
comp=Z,665nm,10.0s
JHBN Jahan bin 7.50 123 *e*Pn **Pn** **06 24 51.4 +0.1**
HNTI Hanita 7.54 245 Pn **Pn** **06 24 54.3 +2.7**
IKLH Kolahrood 7.55 113 *e*Pn **Pn** **06 24 52.7 +0.7**
IKLH IAMB IAmb 06 27 35.4
comp=Z,878nm,1.0s
ROKH ROKH 7.68 121 *e*Pn **Pn** **06 24 56.5 +2.8**
ZNGN Zangian 7.69 123 *e*Pn **Pn** **06 24 55.2 +1.2**
KRSH Karshahi 7.70 107 *e*Pn **Pn** **06 24 55.2 +1.3**
BLGI Bet Lehem HaGe 7.71 242 Pn **Pn** **06 24 56.7 +2.8**
MMLI Mount Malkishu 7.71 240 Pn **Pn** **06 24 56.7 +2.7**
HMDT Nahal Hemdat 7.75 238 Pn **Pn** **06 24 57.8 +3.4**
HMDT Sn **Sb** **06 26 43.7 -4.6**
OFRI `Ofer 7.92 242 Pn **Pn** **06 24 59.7 +2.9**
WALJ Wala 7.99 233 P **Pn** **06 24 59.8 +2.1**
comp=Z,89nm,0.5s
WALJ Wala 7.99 233 P **Pn** **06 24 57.9 +0.2**
SWQJ Swaqa 8.04 230 P Pb 06 25 15.7 -5.6
comp=Z,539nm,1.5s
SWQJ Swaqa 8.04 230 P **Pn** **06 25 00.8 +2.2**
SLTI Sal'it 8.09 240 Pn **Pn** **06 25 02.4 +3.3**
BR101 Keskin Array S 8.21 295 *e*Pn **Pn** **06 25 02.5 +1.6**
BR131 Keskin Array S 8.21 295 *e*Pn **Pn** **06 25 02.4 +1.5**
BRTR Keskin Array B 8.21 295 Pn **Pn** **06 25 02.5 +1.6**
comp=Z,0.4nm,0.3s,baz=113,slow=12,SNR=12
DSI Dead Sea 8.26 235 Pn **Pn** **06 25 04.8 +3.3**
IZEF Zefreh 8.31 114 *e*Pn **Pn** **06 25 02.5 +0.1**
GHAJ Ghor Haditha 8.31 233 Pn **Pn** **06 25 05.2 +3.0**
IGAR Gharneh 8.35 118 IAMB IAmb 06 25 09.4
comp=Z,414nm,0.3s
IGAR *e*Pn **Pn** **06 25 03.0 +0.1**
LISJ El Lisan 8.41 233 P Pn **06 25 01.0 -2.5**
MZDA Masada 8.44 234 Pn **Pn** **06 25 07.5 +3.6**
YTIR Yattir 8.57 235 Pn **Pn** **06 25 09.1 +3.3**
JDRJ Daraweish 8.65 229 P Pn 06 24 59.3 -7.6
ILGA Ilgaz 8.69 304 *e*Pn **Pn** **06 25 11.4 +3.9**
ANTO Ankara 8.88 295 *e*Pn **Pn** **06 25 11.7 +1.8**
ANTO Ankara 8.88 295 *e*P **Pn** **06 25 11.7 +1.8**
BR231 Keskin MP Arra 8.88 294 *e*Pn **Pn** **06 25 13.9 +3.9**
HSNJ Maan 8.97 227 P **Pn** **06 25 12.7 +1.4**
ZFRI Zfri 9.07 231 Pn **Pn** **06 25 16.5 +4.0**
PRNI Paran 9.31 230 Pn **Pn** **06 25 20.1 +4.2**
HRFI Mount Harif 9.52 229 Pn **Pn** **06 25 23.1 +4.4**
AQBJ Aqaba 9.73 228 P **Pn** **06 25 23.6 +2.0**
MBRI Mt Berech 9.77 228 Pn **Pn** **06 25 25.9 +3.7**
EIL Elat 9.83 228 Pn **Pn** **06 25 27.7 +4.7**
EIL Elat 9.83 228 Pn **Pn** **06 25 27.0 +4.0**
comp=Z,0.5nm,0.3s,baz=38,slow=12,SNR=2.8
EIL Lg Lg 06 28 11.1
comp=Z,1.7nm,0.3s,baz=163,slow=20,SNR=3.2
EIL LR LR 06 29 18.8
comp=Z,795nm,20.9s,baz=40,slow=39
IKAZ Kazeroun 9.88 131 *e*Pn **Pn** **06 25 26.6 +2.6**
IPAR Pars 10.59 127 *e*Pn **Pn** **06 25 36.3 +2.6**
GEYT Alibeck 11.89 79 Pn **Pn** **06 25 51.4 +0.2**
comp=Z,0.5nm,0.3s,baz=300,slow=12,SNR=4.8
GYA0B ALIBECK ARRAY 11.89 79 *e*Pn **Pn** **06 25 48.9 -2.3**
RAYN Ar Rayn 13.18 171 *e*Pn **Pn** **06 26 05.7 -3.2**
RAYN Ar Rayn 13.18 171 *e*P **Pn** **06 26 05.7 -3.2**
TLB Topalu 14.04 309⇑ *i*P **P** **06 26 28.7 +0.4**
APE Apeiranthos 14.23 277 *e*P **Pn** **06 26 23.1 -0.1**
CFR Carcaliu 14.29 311⇑ *i*P **P** **06 26 31.3 +0.3**
VRH Novokhopyorsk 14.63 356 *e*P **Pn** **06 26 27.9 -0.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
SZH Strazhica 14.87 302 *i* P **Pn** **06 26 34.0 +2.2**
VSR Storozhevoye 14.90 350 *i* P **Pn** **06 26 30.6 -1.5**
IDI Anoyia 14.96 270 Pn **Pn** **06 26 33.5 +0.3**
comp=Z,0.3nm,0.3s,baz=80,slow=15,SNR=2.7
SHME Shamm 15.20 130 P **Pn** **06 26 32.3 -4.0**
ISR Istrita 15.24 309⇑ *i*P **P** **06 26 42.0 +0.3**
BANOM Banah 15.38 130 *i* P **Pn** **06 26 34.3 -4.5**
SNR=21
VRI Vrincioaia 15.49 312⇑ *i*P **P** **06 26 44.7 +0.3**
MSFE Esma-Masafi 15.72 132 P **Pn** **06 26 39.2 -3.9**
MSFE S Sn 06 29 24.5 -13
MLR Muntele Rosu 15.78 310 *e*Pn **Pn** **06 26 44.6 +0.7**
comp=Z,12nm,1.1s
MLR *e*Pn **P** **06 26 46.9 -0.9**
MLR Muntele Rosu 15.78 310⇑ *i*P **P** **06 26 50.8 +3.0**
MLR Muntele Rosu 15.78 310 *e*P **Pn** **06 26 44.6 +0.7**
MLR pmax pmax
comp=Z,12nm,1.1s
MLR Muntele Rosu 15.78 310 Pn **P** **06 26 46.9 -0.9**
comp=Z,0.1nm,0.3s,baz=116,slow=14,SNR=2.5
ASUD Al Ashush, Dub 15.80 136 P **Pn** **06 26 38.8 -5.3**
MDH Madha 15.84 132 P **Pn** **06 26 40.4 -4.3**
TESR Tescani 15.88 314⇑ *i*P **P** **06 26 50.5 +1.8**
PGB Panagyurishte 15.88 298 *i* P **P** **06 26 47.3 -1.5**
HATD Hatta, Dubai 16.10 133 P **Pn** **06 26 44.7 -3.3**
HATD S Sn 06 29 32.3 -14
ASHO Ashiyiah 16.17 134 *i* P **Pn** **06 26 44.7 -4.2**
SNR=15
OZUR 16.17 311⇑ *i*P **P** **06 26 54.1 +2.1**
LPSR Galich'ya Gora 16.28 350 *e*P **Pn** **06 26 50.8 +0.7**
LPSR pmax pmax
comp=Z,50nm,1.1s
VOIR 16.32 308⇑ *i*P **P** **06 26 55.0 +1.3**
DOPR Dopca 16.35 310⇑ *i*P **P** **06 26 56.2 +2.2**
BIZ Bicaz 16.42 314⇑ *i*P **P** **06 26 56.9 +2.1**
KKB Krupnik 16.50 295 *i* P **P** **06 26 55.8 +0.1**
ARR Arges 16.55 308⇓ *i*P **P** **06 26 57.8 +1.5**
VTS Vitosha 16.56 297⇑ *i*P **P** **06 26 57.7 +1.2**
VTS Vitosha 16.56 297 *i* P **Pn** **06 26 54.0 0.0**
LIT Litokhoron 16.68 288 *e*Pn **P** **06 26 57.0 -0.7**
comp=Z,23nm,1.0s
LIT Litokhoron 16.68 288 *e*P **P** **06 26 57.0 -0.7**
LIT pmax pmax
comp=Z,23nm,1.0s
BURAR Bucovina Array 17.30 315⇑ *i*P **P** **06 27 06.0 +1.5**
BUR08 Bucovina Ar. S 17.32 315 *e*Pn **P** **06 27 04.7 -0.1**
comp=Z,10nm,1.1s
AKASG Malin Array Be 17.33 329 P **Pn** **06 27 03.4 -0.1**
comp=Z,0.4nm,0.3s,baz=133,slow=12,SNR=19
AKASG LR LR 06 34 44.8
comp=Z,315nm,20.8s,baz=145,slow=41
AKBB Malin Array Si 17.33 329 *e*Pn **Pn** **06 27 03.5 +0.1**
comp=Z,13nm,1.1s
AKBB Malin Array Si 17.33 329 *e*P **Pn** **06 27 03.5 +0.1**
AKBB pmax pmax
comp=Z,13nm,1.1s
KIEV Kiev 17.34 329 *e*Pn **Pn** **06 27 03.5 0.0**
comp=Z,13nm,1.1s
KIEV Kiev 17.34 329⇓ *i*P **Pn** **06 27 03.8 +0.4**
KIEV Kiev 17.34 329 *e*P **Pn** **06 27 02.1 -1.3**
AK11 Malin Array Si 17.34 329 *e*Pn **Pn** **06 27 02.5 -1.0**
AKTO Aktyubinsk 17.42 33 P **Pn** **06 27 04.3 -0.2**
comp=Z,0.4nm,0.3s,baz=222,slow=10,SNR=14
AKTO LR LR 06 34 56.3
comp=Z,196nm,19.5s,baz=222,slow=41
ABKAR Akbulak array 17.51 39 *e*Pn **Pn** **06 27 05.6 0.0**
comp=Z,4.3nm,1.1s
FNA Florina 17.60 290 *e*Pn **Pn** **06 27 06.8 0.0**
comp=Z,24nm,1.1s
FNA Florina 17.60 290 *e*P **Pn** **06 27 06.9 0.0**
FNA pmax pmax
comp=Z,24nm,1.1s
GZR Gura Zlata 17.76 306⇑ *i*P **P** **06 27 11.3 +1.7**
MDVR Moldovita 18.25 303⇑ *i*P **P** **06 27 17.7 +2.7**
DRGR 18.38 310⇑ *i*P **P** **06 27 18.2 +1.8**
BZS Buzias 18.60 306⇓ *i*P **Pn** **06 27 20.3 +1.2**
OBN Obninsk 19.07 348 *e*P **P** **06 27 22.6 -1.3**
comp=Z,28nm,0.5s
OBN Obninsk 19.07 348 *de*P **P** **06 27 22.8 -1.1**
OBN *i* S **Sn** **06 30 54.5 -3.4**
OBN pmax pmax
comp=Z,57nm,1.7s
OBN MLR MLR
comp=Z,207nm,21.0s
OBN Obninsk 19.07 348 P **Pn** **06 27 24.2 -0.4**
comp=Z,1.6nm,0.3s,baz=91,slow=3.2,SNR=6.9
OBN LR LR 06 35 00.7
comp=Z,63nm,21.7s,baz=164,slow=38
TRPA Tarpa 19.11 314⇑ *i*P **Pn** **06 27 26.3 +1.1**
TRPA Tarpa 19.11 314⇓ *e*P **Pn** **06 27 26.1 +0.9**
TRPA Sn **S** **06 31 08.1 +7.5**
LVV L'vov 19.20 319 *e*P **Pn** **06 27 27.0 +0.7**
DIVS Divibare 19.23 300 *e*P **P** **06 27 24.0 -1.8**
comp=Z,14nm,1.1s
UZH Uzhgorod 19.50 315 *e*P **Pn** **06 27 30.4 +0.5**
MOS Moscow 19.52 350 *e*P **P** **06 27 27.9 -0.8**
KWP Kalwaria Pacla 19.80 318 *e*P **Pn** **06 27 35.6 +2.2**
KWP Kalwaria Pacla 19.80 318 *e*P **Pn** **06 27 32.9 -0.5**
comp=Z,106nm,0.9s
KWP Kalwaria Pacla 19.80 318 *e*P **Pn** **06 27 32.9 -0.5**
KWP pmax pmax
comp=Z,106nm,0.9s
CHGR Chuyangaron 20.57 76 *e*P **P** **06 27 40.6 +0.1**
comp=Z,17nm,0.9s
PSZ Piszkesteto 20.59 311 *e*P **P** **06 27 41.1 +0.5**
comp=Z,18nm,1.1s
PSZ Piszkesteto 20.59 311⇑ *i*P **P** **06 27 41.3 +0.7**
PSZ Piszkesteto 20.59 311 *e*P **P** **06 27 41.1 +0.5**
PSZ pmax pmax
comp=Z,18nm,1.1s
PSZ Piszkesteto 20.59 311⇓ *e*P **P** **06 27 41.0 +0.5**
PSZ Sn Sn 06 31 36.0 +1.2
MORH Mrgy, Hungar 20.75 305⇑ *e*P **P** **06 27 41.1 -1.2**
MORH Sn Sn 06 31 42.0 +3.4
NIE Niedzica 21.03 315 *e*P **P** **06 27 48.0 +2.7**
NIE Niedzica 21.03 315 *e*P **P** **06 27 48.0 +2.7**
MATE Matera 21.13 289⇑ *i*P **P** **06 27 47.1 +0.8**
LANS Liptovska Anna 21.38 313 *e*P **P** **06 27 51.1 +2.0**
LANS Liptovska Anna 21.38 313 *e*P **P** **06 27 51.1 +2.0**
GAR Garm 21.46 75 *e*P **P** **06 27 51.2 +1.1**
comp=Z,17nm,1.1s
GAR Garm 21.46 75 *e*P **P** **06 27 51.2 +1.1**
GAR pmax pmax
comp=Z,17nm,1.1s
VYHS Vyhne 21.48 311 *e*P **P** **06 27 52.3 +2.2**
VYHS pmax pmax
comp=Z,19nm,1.7s
VYHS Vyhne 21.48 311 *e*P **P** **06 27 52.3 +2.2**
OJC Ojcow 21.70 316 *e*P **P** **06 27 53.0 +0.5**
OJC Ojcow 21.70 316 *e*P **P** **06 27 52.9 +0.4**
comp=Z,13nm,1.0s
OJC Ojcow 21.70 316 *e*P **P** **06 27 52.9 +0.4**
OJC pmax pmax
comp=Z,13nm,1.0s
KK31 Karatay Array 21.82 64 *e*P **P** **06 27 54.4 +0.5**
comp=Z,13nm,0.9s
KK31 Karatay Array 21.82 64 *e*P **P** **06 27 54.4 +0.5**
KK31 pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 21.82 64 *e*P **P** **06 27 54.6 +0.7**
comp=Z,13nm,0.9s
BTK Batken 21.83 73 *e*P **P** **06 27 54.5 +0.4**
comp=Z,7.9nm,0.6s
BTK Batken 21.83 73 *e*P **P** **06 27 54.5 +0.4**
BTK pmax pmax
comp=Z,8.0nm,0.6s
SUW Suwalki 22.29 328 *e*P **P** **06 27 58.7 0.0**
SUW Suwalki 22.29 328 *e*P **P** **06 27 59.3 +0.6**
comp=Z,69nm,1.1s
SUW Suwalki 22.29 328 *e*P **P** **06 27 58.7 0.0**
JAVC Velka Javorina 22.33 311 *e*P **P** **06 28 01.7 +2.4**
ARU Arti 22.34 23 *e*P **P** **06 27 57.7 -1.5**
comp=Z,18nm,1.0s
ARU Arti 22.34 23 *c i*P **P** **06 27 58.1 -1.1**
ARU 06 28 19.5
ARU S **S** **06 32 03.5 -0.8**
ARU pmax pmax
comp=Z,46nm,1.7s
ARU MLR MLR
comp=Z,594nm,18.0s
KIRV Kirov 22.35 8 P **P** **06 27 58.0 -1.3**
comp=Z,16nm,0.4s,baz=218,slow=4.4,SNR=7.3
KIRV LR LR 06 37 49.5
comp=Z,816nm,21.1s,baz=210,slow=40
MODS Modra-Piesok 22.38 310 *e*P **P** **06 28 01.7 +1.9**
MODS pmax pmax
comp=Z,26nm,1.3s
MODS Modra-Piesok 22.38 310 *e*P **P** **06 28 01.7 +1.9**
OKC Ostrava-Krasne 22.46 314 *e*P **P** **06 28 02.7 +2.1**
OKC *e*S Sn 06 32 16.0 -3.6
OKC Ostrava-Krasne 22.46 314 *e*P **P** **06 28 02.7 +2.1**
MORC Moravsky Berou 22.79 313 *e*P **P** **06 28 04.2 0.0**
comp=Z,7.4nm,1.1s
MORC Moravsky Berou 22.79 313⇑ *i*P **P** **06 28 01.4 -2.8**
MORC Moravsky Berou 22.79 313 *e*P **P** **06 28 04.2 0.0**
MORC pmax pmax
comp=Z,7.0nm,1.1s
MORC Moravsky Berou 22.79 313 *e*P **P** **06 28 05.5 +1.3**
CONA Conrad Observa 23.11 308 *e*P **P** **06 28 08.5 +0.9**
comp=Z,15nm,1.3s
ARSA Arzberg 23.12 306 *e*P **P** **06 28 08.4 +0.9**
comp=Z,13nm,1.2s
VRAC Vranov 23.16 312 *e*P **P** **06 28 10.1 +2.2**
VRAC Vranov 23.16 312 P **P** **06 28 08.5 +0.6**
comp=Z,2.9nm,0.5s,baz=106,slow=8.3,SNR=6.9
VRAC LR LR 06 38 49.9
comp=Z,172nm,18.8s,baz=117,slow=41
KRUC Moravsky 23.18 311 *e*P **P** **06 28 10.4 +2.2**
SOKA Soboth 23.28 304 *e*P **P** **06 28 11.5 +2.2**
comp=Z,14nm,1.4s
SVE Sverdlovsk 23.33 24 *e*P **P** **06 28 09.7 +0.1**
SVE *e*S **S** **06 32 20.9 -0.8**
SVE pmax pmax
comp=Z,31nm,1.5s
OBKA Obir 23.56 304 *e*P **P** **06 28 13.8 +1.8**
comp=Z,24nm,1.7s
MOZS Mozjanca 23.57 303 *e*P **P** **06 28 13.1 +0.9**
DPC Dobruska-Polom 23.74 314 *e*P **P** **06 28 14.2 +0.4**
DPC *e*S **S** **06 32 32.7 +4.1**
DPC Dobruska-Polom 23.74 314 *e*P **P** **06 28 14.2 +0.4**
DPC *e*S **S** **06 32 32.7 +4.1**
TREC Trest 23.82 311 *e*P **P** **06 28 15.6 +1.1**
TREC Trest 23.82 311 *e*P **P** **06 28 15.6 +1.1**
GORS Gorjuse 23.88 303 *i* P **P** **06 28 15.9 +0.7**
KSP Ksiaz 23.97 315 *e*P **P** **06 28 16.9 +1.1**
KSP Ksiaz 23.97 315 *e*P **P** **06 28 17.0 +1.1**
UPC Upice 23.99 314 *e*P **P** **06 28 16.8 +0.7**
UPC *e*S Sn 06 32 45.3 -11
UPC Upice 23.99 314 *e*P **P** **06 28 16.8 +0.7**
KLNR Kaliningrad 23.99 326⇑ *i*P **P** **06 28 16.5 +0.5**
KLNR pmax pmax
comp=Z,11nm,1.1s
CADS Cadrg 24.04 303 *i* P **P** **06 28 17.2 +0.6**
MOA Molln 24.11 307 *e*P **P** **06 28 18.5 +1.3**
comp=Z,24nm,1.3s
MYKA Terra Mystica 24.19 304 *e*P **P** **06 28 20.3 +2.2**
comp=Z,3.2nm,0.6s
KLMR Klimovskoe 24.38 356 *e*P **P** **06 28 14.7 -4.8**
KLMR pmax pmax
comp=Z,23nm,1.3s
KLMR Klimovskoe 24.38 356 *e*P **P** **06 28 14.7 -4.8**
KLMR AMP 06 28 19.8
comp=Z,23nm,1.3s
VSU Vasula 24.42 339 *ce*P **P** **06 28 21.0 +1.1**
VSU pmax pmax
comp=Z,40nm,0.9s
GOPC GO Pecny, Ondr 24.48 312 *e*P **P** **06 28 21.2 +0.6**
GOPC *e*S S 06 32 51.3 +11
GOPC AMS AMS 06 40 20.0
comp=Z,200nm,16.8s
GOPC GO Pecny, Ondr 24.48 312 *e*P **P** **06 28 21.2 +0.6**
GOPC MLR MLR
comp=Z,200nm,16.8s
KBA Koelnbreinsper 24.50 305 *e*P **P** **06 28 21.7 +0.7**
comp=Z,25nm,1.1s
PRU Pruhonice 24.65 312 *e*P **P** **06 28 23.8 +1.7**
PRU *e*S S 06 32 55.4 +12
PRU AMS AMS 06 40 20.0
comp=Z,200nm,16.9s
PRU Pruhonice 24.65 312 *e*P **P** **06 28 23.8 +1.7**
PRU MLR MLR
comp=Z,200nm,16.9s
AAK Ala-Archa 24.69 66 *e*P P 06 28 14.5 -8.3
comp=Z,26nm,0.6s
AAK Ala-Archa 24.69 66 *e*P P 06 28 14.5 -8.3
AAK pmax pmax
comp=Z,26nm,0.6s
AAK Ala-Archa 24.69 66 LR LR 06 40 09.0
comp=Z,314nm,20.0s,baz=270,slow=42
GEA0 GERESS Array S 24.77 309 *e*P **P** **06 28 22.7 -0.6**
GEC2 GERESS Array S 24.77 309 *e*P **P** **06 28 24.0 +0.7**
comp=Z,7.1nm,1.1s
GEC2 GERESS Array S 24.77 309 *e*P **P** **06 28 24.0 +0.7**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 24.77 309 P **P** **06 28 23.3 0.0**
comp=Z,2.8nm,0.7s,baz=112,slow=10,SNR=21
GERES LR LR 06 39 03.6
comp=Z,129nm,19.4s,baz=110,slow=39
FRU1 Bishkek 24.80 66 *e*P **P** **06 28 18.0 -5.7**
comp=Z,24nm,0.6s
FRU1 Bishkek 24.80 66 *e*P **P** **06 28 18.0 -5.7**
FRU1 pmax pmax
comp=Z,24nm,0.6s
PVCC Panska Ves 24.84 313 *e*P **P** **06 28 25.4 +1.6**
PVCC AMS AMS 06 41 10.0
comp=Z,200nm,15.2s
PVCC Panska Ves 24.84 313 *e*P **P** **06 28 25.4 +1.6**
PVCC MLR MLR
comp=Z,200nm,15.2s
KHC Kasperske Hory 24.94 309 *e*P **P** **06 28 25.5 +0.7**
comp=Z,2.6nm,1.1s
KHC Kasperske Hory 24.94 309 *e*P **P** **06 28 25.4 +0.6**
KHC *e*S **S** **06 32 54.7 +6.9**
KHC Kasperske Hory 24.94 309 *e*P **P** **06 28 25.4 +0.6**
KHC *e*S **S** **06 32 54.7 +6.9**
ABTA Abfaltersbach 24.98 304 *e*P **P** **06 28 26.7 +1.5**
comp=Z,6.5nm,0.9s
BRVK Borovoye 25.02 40 *e*P **P** **06 28 24.5 -0.9**
comp=Z,6.9nm,0.8s
BRVK Borovoye 25.02 40 *c i*P **P** **06 28 25.2 -0.2**
BRVK pmax pmax
comp=Z,16nm,1.7s
BRVK pmax pmax
comp=Z,19nm,1.7s
BVAR Borovoye Array 25.06 41 P **P** **06 28 25.5 -0.2**
comp=Z,2.6nm,0.7s,baz=232,slow=9.2,SNR=17
BVAR LR LR 06 39 48.0
comp=Z,180nm,18.5s,baz=322,slow=40
BRG Berggiesshubel 25.34 313 *e*P **P** **06 28 28.6 +0.3**
comp=Z,19nm,1.4s
BRG S **S** **06 33 02.0 +7.9**
comp=N,130nm,20.3s
comp=E,159nm,16.0s
comp=Z,196nm,14.1s
BRG Berggiesshubel 25.34 313 *e*P **P** **06 28 28.6 +0.3**
BRG S **S** **06 33 02.0 +7.9**
BRG pmax pmax
comp=Z,19nm,1.4s
BRG MLR MLR
comp=N,130nm,20.3s
BRG MLR MLR
comp=E,159nm,16.0s
BRG MLR MLR
comp=Z,196nm,14.1s
KSH Kashi 25.82 74 P **P** **06 28 32.3 -0.7**
KSH pP sP 06 28 41.4 +2.3
KSH PP **PnPn** **06 29 11.9 +2.1**
KSH S **S** **06 32 57.9 -4.2**
KSH sS pS 06 33 04.8 -2.0
KSH SS **SnSn** **06 33 59.8 +2.1**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,150nm,4.2s
KSH LR LR
comp=N,160nm,10.6s
KSH LR LR
comp=E,130nm,9.7s
KSH LR LR
comp=Z,87nm,13.1s
SQTA Sankt Quirin 25.95 304 *e*P **P** **06 28 34.5 +0.4**
comp=Z,4.8nm,0.5s
NKC Novy Kostel 26.00 311 *e*P **P** **06 28 34.9 +0.5**
NKC Novy Kostel 26.00 311 *e*P **P** **06 28 34.9 +0.5**
MOTA Moosalm 26.05 304 *e*P **P** **06 28 35.1 +0.1**
comp=Z,4.4nm,0.5s
CLL Collm 26.06 314 *e*P **P** **06 28 32.1 -2.7**
comp=Z,7.0nm,1.0s
CLL Collm 26.06 314 *i* P **P** **06 28 34.8 0.0**
comp=Z,10.0nm,1.1s
CLL *i* (pP) **sP** **06 28 43.8 +2.9**
CLL *e*S **S** **06 33 04.0 -1.4**
CLL *e*SSS SSS 06 34 18.0
CLL Collm 26.06 314 *i* P **P** **06 28 34.8 0.0**
CLL *i* 06 28 43.8
CLL *e*S **S** **06 33 04.0 -1.4**
CLL pmax pmax
comp=Z,10.0nm,1.1s
FETA Feichten 26.23 304 *e*P **P** **06 28 36.7 +0.1**
comp=Z,7.2nm,0.9s
GRA1 Grafenberg Arr 26.58 310 *e*P **P** **06 28 40.7 +1.1**
comp=Z,12nm,1.0s
GRF Grafenberg Arr 26.58 310 *e*P **P** **06 28 40.7 +1.1**
GRF pmax pmax
comp=Z,12nm,1.0s
GRFO Grafenberg 26.58 310 *e*P **P** **06 28 40.8 +1.2**
comp=Z,15nm,1.1s
GRFO Grafenberg 26.58 310 *e*P **P** **06 28 40.8 +1.2**
GRFO pmax pmax
comp=Z,15nm,1.1s
DAVOX Davos/Dischmat 26.76 303 P **P** **06 28 41.4 -0.1**
comp=Z,2.3nm,0.6s,baz=90,slow=13,SNR=4.4
DAVA Damuels 26.85 304 P **P** **06 28 42.4 +0.2**
comp=Z,3.2nm,0.5s
FIA0 FINESS Array S 27.12 342 *e*P **P** **06 28 44.0 -0.3**
FIA0 FINESS Array S 27.12 342 *e*P **P** **06 28 44.0 -0.3**
FINES FINESS Array B 27.12 342 *i* P **P** **06 28 46.7 +2.4**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 27.12 342 P **P** **06 28 44.0 -0.3**
comp=Z,2.8nm,0.6s,baz=147,slow=12,SNR=10
FINES LR LR 06 40 26.5
comp=Z,339nm,19.7s,baz=135,slow=38
KEST Kesra 27.34 278 *e*P **P** **06 28 49.7 +3.0**
comp=Z,36nm,1.1s
KEST Kesra 27.34 278 P **P** **06 28 47.0 +0.4**
comp=Z,26nm,1.1s,baz=353,slow=5.5,SNR=8.5
BNI Bardonecchia 28.76 299 *e*P **P** **06 28 59.5 +0.2**
comp=Z,6.6nm,1.1s
BNI Bardonecchia 28.76 299 *e*P **P** **06 28 59.5 +0.2**
BNI pmax pmax
comp=Z,7.0nm,1.1s
KURBB Kurchatov Arra 28.80 50 P **P** **06 28 59.6 +0.2**
comp=Z,2.1nm,0.2s,baz=262,slow=9.2,SNR=19
KURK Kurchatov 28.88 50 *e*P **P** **06 29 00.8 +0.7**
comp=Z,4.4nm,0.8s
KURK Kurchatov 28.88 50 *c i*P **P** **06 29 00.5 +0.4**
KURK pmax pmax
comp=Z,6.0nm,1.0s
HFS Hagfors 30.20 331 P **P** **06 29 11.6 -0.2**
comp=Z,5.1nm,0.7s,baz=128,slow=9.6,SNR=11
HFS LR LR 06 42 44.4
comp=Z,208nm,18.6s,baz=129,slow=39
MAKZ Makanchi 30.35 58 *e*P **P** **06 29 13.9 +0.6**
comp=Z,2.2nm,0.8s
MAKZ Makanchi 30.35 58 *e*P **P** **06 29 13.9 +0.6**
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 30.56 58 *e*P **P** **06 29 15.6 +0.5**
comp=Z,1.6nm,0.8s
MK31 Makanchi Array 30.56 58 *e*P **P** **06 29 15.6 +0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK32 Makanchi Array 30.56 58 *e*P **P** **06 29 15.2 +0.1**
MKAR Makanchi Array 30.56 58 P **P** **06 29 15.2 +0.1**
comp=Z,1.5nm,0.7s,baz=260,slow=5.8,SNR=14
MKAR LR LR 06 43 52.7
comp=Z,214nm,18.8s,baz=266,slow=41
MK01 Makanchi Array 30.57 58 *e*P **P** **06 29 15.3 +0.1**
NB2 NORSAR Subarra 31.73 331 P **P** **06 29 24.2 -1.1**
comp=Z,0.7nm,0.6s,baz=126,slow=9.3
NB200 NORSAR Array S 31.73 331 *e*P **P** **06 29 23.9 -1.4**
NOA NORSAR Array B 31.73 331 P **P** **06 29 23.9 -1.4**
comp=Z,0.8nm,0.6s,baz=127,slow=8.7,SNR=5.9
NOA LR LR 06 43 21.4
comp=Z,169nm,19.6s,baz=120,slow=38
NVS Novosibirsk 32.73 43 *e*P **P** **06 29 34.6 +0.5**
ZALV Zalesovo Beam 33.38 45 *e*P **P** **06 29 39.1 -0.6**
ZALV Zalesovo Beam 33.38 45 P **P** **06 29 39.3 -0.5**
comp=Z,1.9nm,0.7s,baz=252,slow=9.3,SNR=6.3

ZALV					LR	LR	06 45 29.9		
	comp=Z,204nm,19.3s,baz=250,slow=40								
ZAA1	**Zalesovo Array**	**33.38**	**45**	*e*P	**P**	**06 29 39.3**	**-0.5**		
WMQ	**Urumqi**	**34.33**	**64**	*e*P	**P**	**06 29 49.6**	**+1.3**		
WMQ				pmax	pmax				
	comp=Z,13nm,0.7s								
WMQ				LR	LR				
	comp=N,250nm,32.5s								
WMQ				LR	LR				
	comp=E,310nm,38.1s								
WMQ				LR	LR				
	comp=Z,220nm,29.7s								
ARA0	**ARCESS Array S**	**34.38**	**349**	*e*P	**P**	**06 29 48.2**	**-0.1**		
ARCES	**ARCESS Array B**	**34.38**	**349**	P	**P**	**06 29 48.2**	**0.0**		
	comp=Z,5.4nm,0.8s,baz=149,slow=8.1,SNR=10								
TAM	**Tamanrasset**	**35.34**	**258**	*e*P	**P**	**06 29 59.2**	**+1.9**		
	comp=Z,6.6nm,1.1s								
TAM	**Tamanrasset**	**35.34**	**258**	*e*P	**P**	**06 29 59.2**	**+1.9**		
TAM				pmax	pmax				
	comp=Z,7.0nm,1.1s								
ES06	**SONSECA Array**	**36.95**	**289**	*e*P	**P**	**06 30 11.1**	**+0.3**		
ESDC	**Sonseca Array**	**36.96**	**289**	P	**P**	**06 30 10.9**	**+0.1**		
	comp=Z,3.4nm,0.9s,baz=71,slow=8.3,SNR=10.0								
KMBO	**Kilima Mbogo**	**37.96**	**190**	LR	LR	06 46 05.8			
	comp=Z,322nm,18.2s,baz=336,slow=37								
NRIK	**Noril'sk**	**40.57**	**22**	P	**P**	**06 30 41.2**	**+0.6**		
	comp=Z,1.1nm,0.3s,baz=243,slow=6.5,SNR=7.5								
NRIK				LR	LR	06 51 24.3			
	comp=Z,468nm,19.6s,baz=226,slow=42								
TOA1	**Torodi Ar. Sit**	**43.91**	**249**	*e*P	**P**	**06 31 08.1**	**-0.4**		
TOA0	**Torodi Ar. Sit**	**43.91**	**249**	*e*P	**P**	**06 31 08.2**	**-0.3**		
TOA0				*e*P	**P**	**06 31 08.8**	**+0.2**		
TORD	**Torodi Ar. Bea**	**43.91**	**249**	P	**P**	**06 31 08.1**	**-0.4**		
	comp=Z,2.9nm,0.9s,baz=51,slow=8.5,SNR=12								
TORD				LR	LR	06 50 04.4			
	comp=Z,57nm,21.5s,baz=295,slow=37								
ZAK	**Zakamensk**	**44.46**	**52**	*e*P	**P**	**06 31 12.0**	**-0.6**		
ZAK				*e*		06 32 52.5			
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.9s								
SONA0	**Songino Array**	**46.84**	**55**	*e*P	**P**	**06 31 31.0**	**-0.6**		
SONA0				*e*PcP	**PcP**	**06 33 05.5**	**+1.1**		
SONM	**Songino Array**	**46.84**	**55**	P	**P**	**06 31 31.0**	**-0.6**		
	comp=Z,0.2nm,0.4s,baz=258,slow=7.2,SNR=3.1								
SONM				PcP	**PcP**	**06 33 05.5**	**+1.1**		
	comp=Z,0.3nm,0.5s,baz=276,slow=2.1,SNR=3.7								
SONM				LR	LR	06 54 07.5			
	comp=Z,202nm,18.8s,baz=324,slow=40								
ULN	**Ulaanbaatar**	**47.27**	**55**	*d*P	**P**	**06 31 35.7**	**+0.7**		
ULN				pmax	pmax				
	comp=Z,9.0nm,1.9s								
LZH	**Lanzhou**	**48.04**	**72**	*e*P	**P**	**06 31 40.3**	**-0.8**		
LZH				pP	pP	06 31 43.5	-2.1		
LZH				sP	sP	06 31 45.0	-2.4		
LZH				*e*PP	**PP**	**06 33 31.4**	**-1.7**		
LZH				pmax	pmax				
	comp=Z,15nm,1.3s								
LZH				pmax	pmax				
	comp=Z,76nm,6.2s								
CD2	**Chengdu**	**49.88**	**78**	P	**P**	**06 31 52.9**	**-2.2**		
CD2				pmax	pmax				
	comp=Z,5.0nm,0.5s								
BOD	**Bodaibo**	**49.92**	**41**	*e*P	**P**	**06 31 54.6**	**-0.4**		
BOD				pmax	pmax				
	comp=Z,9.0nm,1.1s								
CMAR	**Chiang Mai Arr**	**51.85**	**95**	P	**P**	**06 32 08.9**	**-1.1**		
	comp=Z,1.5nm,0.3s,baz=293,slow=8.2,SNR=11								
CMAR				LR	LR	06 56 33.7			
	comp=Z,63nm,19.4s,baz=256,slow=39								
HHC	**Hu-ho-hao-te**	**52.20**	**63**	*e*P	**P**	**06 32 11.1**	**-1.5**		
HHC				pmax	pmax				
	comp=Z,8.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,110nm,7.3s								
DBIC	**Dimbokro**	**53.00**	**248**	P	**P**	**06 32 18.4**	**-0.2**		
	comp=Z,3.1nm,0.9s,baz=22,slow=5.4,SNR=4.0								
DBIC				LR	LR	06 56 37.0			
	comp=Z,108nm,18.4s,baz=48,slow=38								
TIXI	**Tiksi**	**54.35**	**23**	*e*P	**P**	**06 32 27.8**	**+0.1**		
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.7s								
TIXI	**Tiksi**	**54.35**	**23**	LR	LR	07 00 03.4			
	comp=Z,223nm,20.1s,baz=256,slow=41								
SRAK	**Srakaew**	**56.77**	**97**	P	P	06 32 50.9	+5.0		
	comp=Z,16nm,0.9s								
KLR	**Kul'dur**	**62.45**	**48**	*i*P	**P**	**06 33 24.2**	**-0.4**		
KLR	**Kul'dur**	**62.45**	**48**	LR	LR	07 03 32.5			
	comp=Z,122nm,18.4s,baz=282,slow=39								
USRK	**Ussuriysk Ar.**	**64.81**	**53**	LR	LR	07 03 56.8			
	comp=Z,94nm,19.9s,baz=294,slow=38								
KSRS	**Korea Array**	**65.20**	**61**	LR	LR	07 05 42.5			
	comp=Z,67nm,18.7s,baz=322,slow=39								
SEY	**Seymchan**	**65.94**	**28**	P	**P**	**06 33 47.8**	**+0.5**		
	comp=Z,3.8nm,0.7s,baz=286,slow=7.0,SNR=18								
BOSA	**Boshof**	**67.06**	**197**	LR	LR	07 02 47.7			
	comp=Z,114nm,19.8s,baz=36,slow=36								
MA2	**Magadan**	**67.16**	**32**	*i*P	**P**	**06 33 56.0**	**+0.9**		
MA2				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SCHQ	**Schefferville**	**71.09**	**325**	*e*P	**P**	**06 34 19.3**	**-0.3**		
	comp=Z,4.7nm,0.8s								
SCHQ	**Schefferville**	**71.09**	**325**	P	**P**	**06 34 19.3**	**-0.3**		
	comp=Z,3.3nm,0.6s,baz=41,slow=5.5,SNR=9.2								
MJAR	**Matsushiro Arr**	**72.76**	**57**	LR	LR	07 09 22.2			
	comp=Z,103nm,19.1s,baz=305,slow=38								
TOLK	**Toolik Lake Re**	**74.62**	**5**	*e*P	**P**	**06 34 41.4**	**+0.9**		
	comp=Z,3.4nm,0.8s								
INK	**Inuvik**	**75.37**	**359**	*e*P	**P**	**06 34 44.3**	**-0.3**		
	comp=Z,1.8nm,1.1s								
INK	**Inuvik**	**75.37**	**359**	*e*P	**P**	**06 34 44.3**	**-0.3**		
INK				pmax	pmax				
	comp=Z,2.0nm,1.1s								
INK	**Inuvik**	**75.37**	**359**	LR	LR	07 10 31.8			
	comp=Z,85nm,21.7s,baz=350,slow=38								
IM3	**Indian Mountai**	**76.89**	**7**	*e*P	**P**	**06 34 53.3**	**0.0**		
EPYK	**Eagle Plains**	**77.35**	**0**	*e*P	**P**	**06 34 56.0**	**0.0**		
	comp=Z,5.0nm,1.1s								
MDM	**Murphy Dome**	**78.36**	**5**	*e*P	**P**	**06 35 01.4**	**-0.2**		
	comp=Z,3.9nm,1.1s								
ILAR	**Eielson Array**	**78.63**	**4**	P	**P**	**06 35 03.1**	**0.0**		
	comp=Z,0.6nm,0.8s,baz=337,slow=5.3,SNR=8.7								
BPAW	**Bear Paw Mtn.**	**78.99**	**6**	*e*P	**P**	**06 35 05.9**	**+0.8**		
	comp=Z,6.0nm,1.2s								
YKW3	**Yellowknife Ar**	**79.58**	**350**	*e*P	**P**	**06 35 07.4**	**-0.8**		
	comp=Z,2.9nm,1.1s								
SCRK	**Sand Creek**	**79.58**	**3**	*e*P	**P**	**06 35 09.2**	**+0.8**		
	comp=Z,6.7nm,1.2s								
DAWY	**Dawson**	**79.64**	**1**	*e*P	**P**	**06 35 09.4**	**+0.8**		
	comp=Z,2.5nm,1.0s								
YKA	**Yellowknife Ar**	**79.64**	**350**	P	**P**	**06 35 08.2**	**-0.4**		
	comp=Z,1.0nm,0.8s,baz=20,slow=5.9,SNR=16								
YKB5	**Yellowknife Ar**	**79.64**	**350**	*e*P	**P**	**06 35 06.8**	**-1.8**		
DOT	**Dot Lake**	**79.91**	**3**	*e*P	**P**	**06 35 10.8**	**+0.7**		
	comp=Z,7.2nm,1.1s								
FFC	**Flin Flon**	**84.26**	**341**	*i*P	**P**	**06 35 34.0**	**+1.0**		
KDAK	**Kodiak Island**	**85.02**	**8**	LR	LR	07 16 39.1			
	comp=Z,130nm,19.9s,baz=343,slow=38								
ULM	**Lac du Bonnet**	**86.31**	**335**	P	**P**	**06 35 42.8**	**-0.6**		
	comp=Z,2.5nm,0.8s,baz=16,slow=4.6,SNR=5.0								
BBB	**Bella Bella**	**91.26**	**355**	LR	LR	07 20 60.0			
	comp=Z,66nm,19.3s,baz=324,slow=38								
PDAR	**Pinedale Array**	**97.21**	**340**	LR	LR	07 21 26.0			
	comp=Z,53nm,18.7s,baz=24,slow=36								

ISK ***13*** *06:23:09.2, 36.42N×28.90E, h18km, ML2.3/11*
ISCJB ***13*** *06:23:10.3±0.7, 36.42N±0.05×28.93E±0.04, h20km±7km, Error ellipse: s-maj=9.0km s-min=5.5km az=11.1*
DDA ***13*** *06:23:10.2, 36.46N×28.89E, h7km±4km, ML2.5*
ISC 13 06:23:09.7±1.2, 36.44N±0.04×28.91E±0.03, h14km±10km, n21, σ0s48/29, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.24**	**35**	PG	**Pg**	**06 23 15.4**	**+0.5**
FETY				SG	**Sb**	**06 23 20.1**	**+0.1**
FETY	**Fethiye**	**0.24**	**35**	*i* P	**Pb**	**06 23 15.9**	**0.0**
DALY	**Dalyan (Mula)**	**0.43**	**331**	PG	**Pg**	**06 23 18.5**	**+0.2**
DALY				SG	**Sb**	**06 23 25.6**	**+0.1**
DALY	**Dalyan (Mula)**	**0.43**	**331**	*i* P	**Pb**	**06 23 18.7**	**-0.4**
DALY				*i* S	**Sb**	**06 23 25.3**	**-0.2**
DALY				IAML_P			
	comp=Z,3μm,0.2s						
TURN	**Turunc**	**0.50**	**330**	PG	**Pn**	**06 23 22.2**	**-0.2**
TURN	**Turunc**	**0.50**	**330**	*i* P	**Pn**	**06 23 22.0**	**-0.4**
TURN				*i* S	**Sn**	**06 23 31.9**	**+1.0**
TURN				IAML_P			
	comp=Z,1μm,0.1s						
AKAS	**Kas**	**0.60**	**110**	PG	**Pg**	**06 23 21.5**	**+0.1**
AKAS				SG	**Sb**	**06 23 30.5**	**+0.2**
AKAS	**Kas**	**0.60**	**110**	*i* P	**Pb**	**06 23 22.3**	**+0.3**
AKAS				*i* S	**Sn**	**06 23 32.8**	**-0.6**
AKAS				IAML_P			
	comp=Z,1μm,0.1s						
MRSB	**Marmaris-Mugla**	**0.64**	**296**	PG	**Pg**	**06 23 22.3**	**+0.1**
ARG	**Arkhangelos**	**0.67**	**251**	PG	**Pg**	**06 23 22.8**	**0.0**
ELL	**Elmali**	**0.86**	**69**	PG	**Pg**	**06 23 26.5**	**+0.1**
YER	**Yerkesik**	**0.86**	**324**	PG	**Pb**	**06 23 26.4**	**0.0**
GOLH	**Golhisar**	**0.95**	**33**	*i* P	**Pn**	**06 23 28.6**	**-0.2**
GOLH				IAML_P			
	comp=Z,441nm,0.2s						
TAVA	**DENIZLI_Tavas**	**1.03**	**0**	*i* P	**Pb**	**06 23 28.8**	**-0.5**
DATC	**Datca-Mugla**	**1.06**	**288**	PG	**Pb**	**06 23 29.7**	**0.0**
DAT	**Datca**	**1.11**	**286**	PN	**Pb**	**06 23 30.3**	**-0.5**
DAT	**Datca**	**1.11**	**286**	*i* P	**Pn**	**06 23 31.1**	**+0.1**
DAT				*i* S	**Sn**	**06 23 47.4**	**+1.3**
DAT				IAML_P			
	comp=Z,217nm,0.2s						
KORT	**Korkueli**	**1.28**	**64**	PN	**Pn**	**06 23 32.9**	**-0.4**
BODT	**Bodrum**	**1.43**	**296**	PN	**Pn**	**06 23 34.9**	**-0.3**
AYDN	**Tasoluk**	**1.47**	**326**	*i* P	**Pb**	**06 23 37.2**	**+0.3**
AYDN				*i* S	**Sg**	**06 23 56.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**1.71**	**332**	PN	**Pn**	**06 23 38.4**	**-0.8**

SOME ***13*** *06:26:29.2, 39.97N×76.97E, h10km*
KRNET ***13*** *06:26:32.4±0.1, 40.13N×77.00E, mb3.4*
NNC ***13*** *06:26:32.6±1.1, 40.10N×77.09E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=8.1km s-min=6.6km az=144.0*
ISC 13 06:26:35.4±1.8, 40.20N±0.08×77.01E±0.04, h10km, n60, σ1s52/89, 27C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.45**	**329**	*e*P	**Pn**	**06 27 01.1**	**-1.0**
NRN				*i*S	**Sb**	**06 27 22.0**	**+0.5**
	baz=29						
TARG	**Taragay, Kyrgy**	**1.65**	**21**	*i*P	**Pn**	**06 27 04.3**	**-0.5**
TARG				*i*S	**Sg**	**06 27 28.3**	**-0.2**
	baz=20						
KDJ	**Kajisay**	**1.94**	**4**	*i*P	**Pb**	**06 27 10.1**	**-0.9**
KDJ				*i*S	**Sg**	**06 27 36.9**	**-0.8**
	baz=4.0						
ULHL	**Ulahol**	**2.13**	**345**	P	**Pb**	**06 27 13.4**	**-0.8**
	SNR=15						
ULHL	**Ulahol**	**2.13**	**345**	*i*P	**Pb**	**06 27 12.6**	**-1.6**
ULHL				*i*S	**Sb**	**06 27 41.6**	**+0.8**
	baz=45						
KZA	**Kyzart**	**2.30**	**325**	P	**Pb**	**06 27 15.6**	**-1.7**
	SNR=70						
BOOM	**Boomskoye usch**	**2.43**	**341**	*i*P	**Pn**	**06 27 16.7**	**+1.3**
BOOM				*i*S	**Sb**	**06 27 49.0**	**-0.4**
	baz=42						
ARLS	**Aral**	**2.62**	**310**	*i*P	**Pn**	**06 27 19.4**	**+1.4**
ARLS				*i*S	**Sb**	**06 27 53.3**	**-1.7**
	baz=12						
UCH	**Uchtor**	**2.77**	**318**	P	**Pb**	**06 27 22.5**	**-2.7**
	SNR=12						
UCH	**Uchtor**	**2.77**	**318**	*e*P	**Pn**	**06 27 21.6**	**+1.3**
UCH				*i*S	**Sn**	**06 27 56.6**	**+2.6**
	baz=19						
TNSS	**Tian-Shan**	**2.84**	**359**	Pg	**Pb**	**06 27 26.4**	**-0.1**
	18nm,0.2s						
TNSS				Lg	Lg	06 28 06.9	
	39nm,0.6s						
TNSS	**Tian-Shan**	**2.84**	**359**	*e*P	**Pb**	**06 27 26.4**	**-0.1**
	18nm,0.2s						
TNSS				*i*S	**Sg**	**06 28 06.9**	**+0.2**
	39nm,0.6s						
IZV	**Izvestkoviy**	**2.85**	**354**	Pg	**Pb**	**06 27 26.3**	**-0.3**
	14nm,0.2s						
IZV				Lg	Lg	06 28 06.7	
	59nm,0.3s						
IZV	**Izvestkoviy**	**2.85**	**354**	*e*P	**Pb**	**06 27 26.3**	**-0.3**
	14nm,0.2s						
IZV				*e*S	**Sg**	**06 28 06.7**	**-0.4**
	59nm,0.3s						
KBK	**Karagaybulak**	**2.91**	**328**	P	**Pb**	**06 27 24.7**	**-2.8**
	SNR=18						
KBK	**Karagaybulak**	**2.91**	**328**	*i*P	**Pn**	**06 27 23.5**	**+1.6**
KBK				*i*S	**Sb**	**06 28 00.5**	**-2.6**
	baz=29						
TKM2	**Tokmak 2**	**2.92**	**339**	P	**Pb**	**06 27 24.7**	**-3.0**
	SNR=26						
TKM2	**Tokmak 2**	**2.92**	**339**	Pn	**Pn**	**06 27 23.7**	**+1.6**
	7.0nm,0.3s						
TKM2				Lg	Lg	06 28 09.3	
	25nm,0.5s						
TKM2	**Tokmak 2**	**2.92**	**339**	*i*P	**Pn**	**06 27 24.0**	**+1.8**
TKM2				*i*S	**Sb**	**06 28 01.2**	**-2.4**
	baz=40						
KST	**Kastek**	**2.95**	**345**	Pg	**Pb**	**06 27 28.3**	**+0.1**
	21nm,0.6s						
KST				Lg	Lg	06 28 10.2	
	55nm,0.8s						
KST	**Kastek**	**2.95**	**345**	*e*P	**Pb**	**06 27 28.3**	**+0.1**
	21nm,0.6s						
KST				*i*S	**Sg**	**06 28 10.2**	**0.0**
	55nm,0.8s						
MTBS	**Maitube**	**2.96**	**352**	Pg	**Pb**	**06 27 28.3**	**-0.1**
	4.9nm,0.1s						
MTBS				Lg	Lg	06 28 10.3	
	46nm,0.7s						
MTBS	**Maitube**	**2.96**	**352**	*e*P	**Pb**	**06 27 28.3**	**-0.1**
	4.9nm,0.1s						
MTBS				*i*S	**Sg**	**06 28 10.3**	**-0.4**
	46nm,0.7s						
MDOK	**Medeo**	**2.96**	**1**	Pg	**Pb**	**06 27 27.9**	**-0.5**
	7.2nm,0.5s						
MDOK				Lg	Lg	06 28 10.2	
	52nm,0.6s						
MDOK	**Medeo**	**2.96**	**1**	Pg	**Pb**	**06 27 28.4**	**-0.1**
	12nm,0.5s						
MDOK				Lg	Lg	06 28 10.2	
	63nm,0.6s						
MDOK	**Medeo**	**2.96**	**1**	*e*P	**Pb**	**06 27 28.4**	**-0.1**
	12nm,0.5s						
MDOK				*e*S	**Sg**	**06 28 10.2**	**-0.6**
	63nm,0.6s						
AAA	**Alma-Ata**	**3.01**	**359**	Pg	**Pb**	**06 27 29.8**	**+0.6**
	46nm,0.1s						
AAA				Lg	Lg	06 28 12.8	
	108nm,0.3s						
AAA	**Alma-Ata**	**3.01**	**359**	*e*P	**Pb**	**06 27 29.8**	**+0.6**
	46nm,0.1s						
AAA				*e*S	**Sg**	**06 28 12.8**	**+0.6**
	108nm,0.3s						
KOTS	**Kotyrbulak**	**3.04**	**1**	Pg	**Pb**	**06 27 29.5**	**-0.2**
	12nm,0.5s						
KOTS				Lg	Lg	06 28 12.2	
	113nm,0.6s						
KOTS	**Kotyrbulak**	**3.04**	**1**	*e*P	**Pb**	**06 27 29.5**	**-0.2**
	12nm,0.5s						
KOTS				*e*S	**Sg**	**06 28 12.2**	**-0.8**
	113nm,0.6s						
SATY	**Saty**	**3.05**	**20**	Pg	**Pb**	**06 27 29.7**	**-0.1**
	15nm,0.5s						
SATY				Lg	Lg	06 28 12.4	
	38nm,0.4s						
SATY	**Saty**	**3.05**	**20**	*e*P	**Pb**	**06 27 29.7**	**-0.1**
	15nm,0.5s						
SATY				*e*S	**Sg**	**06 28 12.4**	**-0.9**
	38nm,0.4s						
AAK	**Ala-Archa**	**3.08**	**323**	P	**Pn**	**06 27 26.8**	**+2.4**
	SNR=16						
AAK	**Ala-Archa**	**3.08**	**323**	Pn	**Pn**	**06 27 26.3**	**+1.9**
	4.5nm,0.3s						
AAK				Lg	Lg	06 28 12.8	
	33nm,0.7s						
AML	**Almayashu**	**3.16**	**309**	P	**Pn**	**06 27 27.8**	**+2.1**
	SNR=17						
AML	**Almayashu**	**3.16**	**309**	*i*P	**Pn**	**06 27 26.9**	**+1.3**
	baz=10.0						
AML				*i*S	**Sn**	**06 28 06.8**	**+3.2**
	baz=10.0						
ARSB	**Arslanbob**	**3.26**	**292**	*i*P	**Pn**	**06 27 27.5**	**+0.8**
	baz=93						
ARSB				*i*S	**Sn**	**06 28 08.0**	**+2.4**
	baz=93						
CHMS	**Chumysh**	**3.27**	**330**	P	**Pn**	**06 27 29.6**	**+2.8**
	SNR=6.8						
UZB	**Uzynbulak**	**3.31**	**26**	Pg	**Pb**	**06 27 34.4**	**0.0**
	6.2nm,0.6s						
UZB				Lg	Lg	06 28 20.7	
	15nm,0.5s						
UZB	**Uzynbulak**	**3.31**	**26**	*e*P	**Pb**	**06 27 34.4**	**0.0**
	6.2nm,0.6s						
UZB				*e*S	**Sg**	**06 28 20.7**	**-1.2**
	15nm,0.5s						
KURS	**Kuram**	**3.40**	**14**	Pg	**Pb**	**06 27 36.0**	**+0.1**
	8.8nm,1.4s						
KURS				Lg	Lg	06 28 23.1	
	20nm,1.1s						
KURS	**Kuram**	**3.40**	**14**	*i*P	**Pb**	**06 27 36.0**	**+0.1**
	8.1nm,0.6s						
KURS				*i*S	**Sg**	**06 28 23.1**	**-1.6**
	15nm,0.6s						
EKS2	**Erkin-Say**	**3.46**	**316**	P	**Pn**	**06 27 32.1**	**+2.6**
	SNR=15						
KTBS	**Karatobe**	**3.52**	**356**	Pg	**Pb**	**06 27 37.9**	**0.0**
	8.4nm,0.4s						
KTBS				Lg	Lg	06 28 27.0	
	52nm,0.6s						
KTBS	**Karatobe**	**3.52**	**356**	*e*P	**Pb**	**06 27 37.9**	**0.0**
	8.4nm,0.4s						
KTBS				*e*S	**Sg**	**06 28 27.0**	**-1.6**
	52nm,0.6s						
PDGK	**Podgornoye**	**3.64**	**30**	Pg	**Pb**	**06 27 39.7**	**-0.3**
	6.3nm,0.6s						
PDGK				Lg	Lg	06 28 29.1	
	37nm,0.7s						
PDGK	**Podgornoye**	**3.64**	**30**	*e*P	**Pn**	**06 27 32.9**	**+0.9**
	baz=29						
PDGK				*e*S	**Sn**	**06 28 17.6**	**+2.5**
	baz=29						
CHKK	**Chushkaly**	**3.66**	**360**	Pg	**Pb**	**06 27 40.3**	**+0.1**
	7.5nm,0.3s						
CHKK				Lg	Lg	06 28 30.9	
	69nm,0.3s						
CHKK	**Chushkaly**	**3.66**	**360**	*e*P	**Pb**	**06 27 40.3**	**+0.1**
	7.5nm,0.4s						
CHKK				*e*S	**Sg**	**06 28 30.9**	**-1.9**
	70nm,0.3s						
KUU	**Kurty**	**3.73**	**353**	Pg	**Pb**	**06 27 41.5**	**+0.1**
	4.5nm,0.2s						
KUU				Lg	Lg	06 28 32.9	
	20nm,0.3s						
KUU	**Kurty**	**3.73**	**353**	*e*P	**Pb**	**06 27 41.5**	**+0.1**
	4.5nm,0.2s						
KUU				*i*S	**Sg**	**06 28 32.9**	**-2.3**
	20nm,0.3s						
MRKS	**Merke**	**3.81**	**313**	Pg	**Pb**	**06 27 43.1**	**+0.2**
	8.0nm,0.3s						
MRKS				Lg	Lg	06 28 35.7	
	6.9nm,0.3s						
MRKS	**Merke**	**3.81**	**313**	*e*P	**Pb**	**06 27 43.4**	**+0.5**
	8.0nm,0.3s						
MRKS				*i*S	**Sg**	**06 28 35.7**	**-2.2**
	6.9nm,0.3s						
ARXS	**Arharly**	**4.06**	**8**	Pg	**Pb**	**06 27 46.9**	**-0.2**
	6.3nm,0.4s						
ARXS				Lg	Lg	06 28 42.1	
	29nm,0.7s						
ARXS	**Arharly**	**4.06**	**8**	*e*P	**Pb**	**06 27 46.9**	**-0.2**
	6.3nm,0.4s						
ARXS				*e*S	**Sg**	**06 28 42.1**	**-3.7**
	29nm,0.7s						
KTMS	**Ketmen**	**4.10**	**37**	Pg	**Pb**	**06 27 47.4**	**-0.4**
	2.5nm,0.3s						
KTMS				Lg	Lg	06 28 43.1	
	12nm,0.2s						
KTMS	**Ketmen**	**4.10**	**37**	*e*P	**Pb**	**06 27 47.4**	**-0.4**
	2.5nm,0.3s						
KTMS				*e*S	**Sg**	**06 28 43.1**	**-4.0**
	12nm,0.2s						
DJR	**Jarkent**	**4.62**	**26**	Pg	**Pb**	**06 27 57.1**	**+0.4**
	1.2nm,0.6s						
DJR				Lg	Lg	06 28 59.8	
	3.9nm,0.5s						
DJR	**Jarkent**	**4.62**	**26**	*e*P	**Pb**	**06 27 57.1**	**+0.4**
	1.2nm,0.6s						
DJR				*e*S	**Sg**	**06 28 59.8**	**-4.0**
	3.9nm,0.5s						
KK31	**Karatay Array**	**5.67**	**303**	Pn	**Pn**	**06 27 57.8**	**-1.9**
	3.1nm,0.8s,baz=293,slow=10,SNR=64						
KK31				*i*Lg	Lg	06 29 36.8	
	2.7nm,0.6s,baz=124,slow=26						

IDC ***13*** *06:46:00.5±1.0, 56.11S×27.11W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, Error ellipse: s-maj=44.8km s-min=32.8km az=88.0*
ISC 13 06:46:09.0±1.0, 56.1S±0.2×27.1W±0.3, h63km, n7, σ0s76/7, mb3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**46.48**	**183**	P	**P**	**06 54 29.5**	**+0.4**
	0.6nm,0.6s,baz=179,slow=6.0,SNR=5.3						
LPAZ	**La Paz**	**50.45**	**305**	P	**P**	**06 55 01.4**	**+0.4**
	0.7nm,0.4s,baz=106,slow=6.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**73.12**	**29**	P	**P**	**06 57 33.1**	**+0.6**
	0.5nm,0.4s,baz=201,slow=6.4,SNR=11						
YKA	**Yellowknife Ar**	**136.26**	**318**	PKP	**PKPdf**	**07 05 20.8**	**-0.9**
	0.1nm,0.5s,baz=114,slow=3.0,SNR=3.6						
INK	**Inuvik**	**145.89**	**321**	PKPbc	**PKPdf**	**07 05 38.6**	**-0.1**
	0.9nm,0.6s,baz=89,slow=3.2,SNR=7.8						
ILAR	**Eielson Array**	**150.20**	**312**	PKPbc	**PKPbc**	**07 05 50.5**	**-0.7**
	0.6nm,0.7s,baz=142,slow=2.8,SNR=9.1						
SONM	**Songino Array**	**150.71**	**87**	PKPbc	**PKPbc**	**07 05 52.6**	**-0.5**
	0.3nm,0.4s,baz=231,slow=4.8,SNR=3.8	

SEY				Lg		Lg	07 11 30.7	
	2.4nm,0.3s,baz=165,slow=12,SNR=3.6							
MA2	**Magadan**	**6.45**	**271**	Pn		**Pn**	**07 09 55.3**	**-0.5**
	1.5nm,0.3s,baz=77,slow=13,SNR=9.5							
MA2				Sn		**Sn**	**07 11 08.2**	**-1.2**
	1.1nm,0.3s,baz=180,slow=19,SNR=2.5							
MA2				Lg		Lg	07 11 43.6	
	1.2nm,0.3s,baz=162,slow=20,SNR=4.3							
TIXI	**Tiksi**	**17.92**	**324**	P		**Pn**	**07 12 29.6**	**-0.2**
	0.2nm,0.3s,baz=90,slow=8.1,SNR=4.9							
TIXI				LR		LR	07 20 28.4	
	comp=Z,23nm,19.2s,baz=47,slow=41							
KLR	**Kul'dur**	**21.13**	**253**	P		**P**	**07 13 05.4**	**-0.2**
	2.5nm,0.7s,baz=38,slow=12,SNR=8.2							
KLR				LR		LR	07 20 50.7	
	comp=Z,83nm,20.4s,baz=305,slow=36							
ILAR	**Eielson Array**	**22.91**	**57**	P		**P**	**07 13 24.6**	**+0.1**
	1.0nm,0.9s,baz=277,slow=9.8,SNR=14							
USRK	**Ussuriysk Ar.**	**24.72**	**244**	LR		LR	07 23 52.8	
	comp=Z,58nm,20.4s,baz=71,slow=38							
BOD	**Bodaibo**	**25.15**	**287**	*eP*		**P**	**07 13 45.9**	**+0.1**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.8s							
INK	**Inuvik**	**27.36**	**46**	P		**P**	**07 14 06.5**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=309,slow=6.8,SNR=5.1							
MJAR	**Matsushiro Arr**	**28.63**	**226**	LR		LR	07 25 26.7	
	comp=Z,57nm,21.1s,baz=20,slow=36							
KSRS	**Korea Array**	**31.98**	**241**	LR		LR	07 28 25.8	
	comp=Z,24nm,18.0s,baz=40,slow=38							
SONM	**Songino Array**	**34.64**	**275**	P		**P**	**07 15 11.0**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=62,slow=10.0,SNR=2.2							
YKA	**Yellowknife Ar**	**36.92**	**50**	P		**P**	**07 15 30.1**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=301,slow=8.3,SNR=10.0							
KURK	**Kurchatov**	**45.86**	**298**	P		**P**	**07 16 43.8**	**+1.0**
KURBB	**Kurchatov Arra**	**45.97**	**298**	P		**P**	**07 16 43.8**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=45,slow=7.9,SNR=13							
MKAR	**Makanchi Array**	**47.05**	**292**	P		**P**	**07 16 52.0**	**-0.3**
MKAR	**Makanchi Array**	**47.05**	**292**	P		**P**	**07 16 52.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=51,slow=7.0,SNR=8.9							
ARCES	**ARCESS Array B**	**47.21**	**341**	P		**P**	**07 16 53.9**	**+0.6**
	comp=Z,4.1nm,1.0s,baz=37,slow=7.9,SNR=3.3							
BVAR	**Borovoye Array**	**47.68**	**305**	P		**P**	**07 16 57.5**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=51,slow=7.8,SNR=5.2							
GUMO	**Guam**	**48.43**	**205**	LR		LR	07 37 13.9	
	comp=Z,24nm,20.8s,baz=116,slow=36							
NVAR	**Mina Array Bea**	**51.95**	**77**	P		**P**	**07 17 31.5**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=316,slow=7.8,SNR=3.9							
PDAR	**Pinedale Array**	**52.74**	**67**	P		**P**	**07 17 37.6**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=336,slow=3.3,SNR=3.6							
FINES	**FINESS Array B**	**54.42**	**336**	P		**P**	**07 17 48.1**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=26,slow=11,SNR=3.1							
AKTO	**Aktyubinsk**	**54.56**	**311**	LR		LR	07 42 40.6	
	comp=Z,42nm,18.4s,baz=47,slow=38							
NOA	**NORSAR Array B**	**57.30**	**344**	P		**P**	**07 18 09.4**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=21,slow=6.3,SNR=2.5							
NOA				LR		LR	07 43 25.3	
	comp=Z,7.0nm,20.7s,baz=255,slow=37							
CMAR	**Chiang Mai Arr**	**61.54**	**257**	LR		LR	07 49 25.0	
	comp=Z,48nm,19.8s,baz=184,slow=40							
DZM	**Mont Dzumac**	**81.92**	**177**	LR		LR	07 49 07.9	
	comp=Z,362nm,21.6s,baz=310,slow=30							

ISK ***13*** *07:10:08.8, 39.80N×42.90E, h11km, ML2.3/3*
ISCJB ***13*** *07:10:09.3±0.6, 39.81N±0.03×42.90E±0.05, h7km±7km, Error ellipse: s-maj=7.1km s-min=4.6km az=157.8*
DDA ***13*** *07:10:09.8, 39.79N×42.91E, h7km±1km, ML2.5*

ISC 13 07:10:09.5±1.1, 39.79N±0.03×42.90E±0.04, h12km±10km, n13, σ0s35/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.23**	**161**	PG	**Pg**	**07 10 14.4**	**0.0**
AGRB				SG	**Sg**	**07 10 18.1**	**+0.3**
TUTA	**Tutak**	**0.39**	**189**	*i* P	**Pb**	**07 10 18.3**	**-0.2**
TUTA				*i* S	**Sb**	**07 10 24.2**	**-0.4**
MLAZ	**Malazgirt-MUS**	**0.70**	**203**	PG	**Pg**	**07 10 23.1**	**0.0**
MLAZ				SG	**Sb**	**07 10 33.5**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**0.83**	**284**	PG	**Pg**	**07 10 25.2**	**-0.3**
KOPR				SG	**Sb**	**07 10 37.2**	**+0.2**
SENK	**Senkaya-Erzuru**	**0.88**	**332**	PG	**Pg**	**07 10 25.9**	**-0.5**
SENK				SG	**Sb**	**07 10 38.5**	**0.0**
VMIR	**Van-Muradiye**	**0.96**	**147**	*i* P	**Pb**	**07 10 28.0**	**0.0**
ADCV	**BITLIS_Adilcev**	**0.99**	**188**	*i* P	**Pg**	**07 10 28.3**	**-0.3**
CLDR	**Caldiran**	**1.02**	**129**	PG	**Pg**	**07 10 29.0**	**-0.2**
CLDR	**Caldiran**	**1.02**	**129**	*i* P	**Pn**	**07 10 29.8**	**0.0**
CLDR				IAML_P			
	comp=Z,755nm,0.1s						
EAK	**Akyaka**	**1.05**	**31**	*i* P	**Pn**	**07 10 30.8**	**+0.7**
EAK				IAML_P			
	comp=Z,762nm,0.2s						
TASB	**TASBURUN-IGDIR**	**1.05**	**79**	PG	**Pg**	**07 10 29.2**	**-0.5**
GURO	**Guroymak-BITLI**	**1.41**	**209**	PN	**Pn**	**07 10 35.2**	**+0.2**
AKDM	**Akdamar-Van**	**1.46**	**177**	PN	**Pn**	**07 10 35.9**	**+0.1**

IDC 13 07:31:34.2±3.4, 6.76S×147.66E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=96.9km s-min=45.2km az=119.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.41**	**223**	P	Pn	07 35 51.0	0.0
	0.2nm,0.3s,baz=48,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**21.38**	**217**	P	P	07 36 23.0	-0.6
	1.3nm,0.5s,baz=49,slow=7.7,SNR=22						
FITZ	**Fitzroy Crossi**	**24.24**	**240**	P	P	07 36 52.9	-0.3
	1.1nm,0.3s,baz=61,slow=11,SNR=7.3						
TORD	**Torodi Ar. Bea**	**145.91**	**283**	PKPbc	PKPbc	07 51 16.7	-0.1
	0.2nm,0.5s,baz=72,slow=4.7,SNR=1.6						

MEX 13 07:39:49.1±0.4, 14.99N×93.05W, h72km±8km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.73**	**347**	*eP*	Pn	07 40 02.9	-1.6
PCIG				*i* S	Sn	07 40 14.1	-1.8
THIG		**0.76**	**96**	*eP*	Pn	07 40 03.8	-1.0
THIG				*eS*	Sn	07 40 14.5	-1.9
CCIG	**Comitan**	**1.55**	**34**	*i* P	Pn	07 40 13.9	-1.1
CCIG				*i* S	Sn	07 40 32.9	-1.7

IDC ***13*** *07:49:33.0±3.0, 31.34N×140.62E, h38km±27km, mb3.6/8, mb1 3.7/9, mb1mx3.5/36, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=43.1km s-min=14.6km az=72.0*
JMA ***13*** *07:49:33.6±0.2, 31.84N×141.14E, h14km, M3.8*

ISC 13 07:49:33.0±0.8, 31.4N±0.1×140.8E±0.2, h35km, n20, σ1s40/18, mb3.8/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.38**	**321**	P	**Pn**	**07 49 57.6**	**+1.8**
JAOM				S	**Sn**	**07 50 14.7**	**+1.9**
JHCJ	**Hachijojimakas**	**1.88**	**334**	S	**Sn**	**07 50 24.0**	**-1.0**
JHJ2	**Mitsune**	**1.90**	**335**	P	**Pn**	**07 50 03.6**	**+0.7**
JHJ2				S	**Sn**	**07 50 24.7**	**-1.0**
JHJ	**Hachijo jima 2**	**1.92**	**334**	Pn	**Pn**	**07 50 02.9**	**-0.4**
	26nm,0.3s,baz=270,slow=20,SNR=8.6						
JHJ				Sn	**Sn**	**07 50 24.8**	**-1.3**
	89nm,0.3s,baz=74,slow=23,SNR=12						
JCJ	**Chichijima**	**4.45**	**164**	Pn	**Pn**	**07 50 38.1**	**+0.1**
	2.7nm,0.3s,baz=351,slow=19,SNR=5.7						
JCJ				Sn	**Sn**	**07 51 27.9**	**-0.6**
	9.7nm,0.3s,baz=288,slow=20,SNR=3.6						
MJAR	**Matsushiro Arr**	**5.57**	**338**	Pn	**Pn**	**07 50 56.5**	**+3.1**
	0.3nm,0.3s,baz=37,slow=16,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**26.19**	**110**	T	T	08 22 15.0	
	baz=306,slow=74,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**26.20**	**110**	T	T	08 22 12.9	
	baz=306,slow=74,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**26.21**	**110**	T	T	08 22 13.7	
	baz=306,slow=74,SNR=4.0						
H11S3	**WAKE ISLAND Hy**	**26.69**	**113**	T	T	08 23 48.3	
	baz=304,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**26.69**	**113**	T	T	08 23 48.1	
	baz=304,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	08 24 04.6	
	baz=304,slow=75,SNR=6.5						
SONM	**Songino Array**	**30.85**	**312**	P	**P**	**07 55 46.5**	**+0.6**
	0.9nm,0.7s,baz=112,slow=8.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**45.49**	**317**	P	**P**	**07 57 47.2**	**-1.5**
	0.6nm,0.5s,baz=108,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**46.87**	**307**	P	**P**	**07 57 58.2**	**-1.5**
	0.6nm,0.5s,baz=90,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**51.41**	**188**	P	**P**	**07 58 33.6**	**-0.9**
	0.6nm,0.5s,baz=5.0,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**55.14**	**188**	P	**P**	**07 59 01.2**	**-0.8**
	0.4nm,0.8s,baz=16,slow=13,SNR=6.6						
FINES	**FINESS Array B**	**73.57**	**333**	P	**P**	**08 01 02.3**	**+0.2**
	0.6nm,0.4s,baz=29,slow=4.4,SNR=3.8						
NOA	**NORSAR Array B**	**79.19**	**338**	P	**P**	**08 01 33.0**	**-1.0**
	1.5nm,1.0s,baz=27,slow=7.0,SNR=3.1						
TXAR	**Lajitas Array**	**93.98**	**52**	P	**P**	**08 02 48.3**	**+0.6**
	0.3nm,0.6s,baz=306,slow=2.1,SNR=2.8						

IDC 13 08:01:60.0±5.8, 16.88S×167.36E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/27, mbtmp3.7/4, ML3.0/1, Error ellipse: s-maj=115.1km s-min=40.3km az=42.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.23**	**189**	Pn	Pn	08 03 21.1	+1.5
	0.5nm,0.3s,baz=347,slow=12,SNR=1.5						
DZM				Sn	Sn	08 04 15.3	-5.5
	0.1nm,0.3s,baz=122,slow=20,SNR=1.1						
WRA	**Warramunga Arr**	**31.45**	**259**	P	P	08 08 24.1	+0.6
	0.2nm,0.7s,baz=96,slow=9.0,SNR=5.8						
ASAR	**Alice Springs**	**32.04**	**252**	P	P	08 08 27.9	-0.7
	1.1nm,0.5s,baz=81,slow=9.2,SNR=21						
VNDA	**Vanda**	**60.72**	**181**	P	P	08 12 12.6	-0.3
	1.2nm,1.0s,baz=338,slow=7.5,SNR=3.2						

BJI ***13*** *08:05:39.0, 62.60N×151.10W, h84km, mb5.2/54, mB5.1/33, Ms4.6/7, Ms7 4.4/4*
MOS ***13*** *08:05:41.0±0.8, 62.66N×151.50W, h85km, mb5.0/47, Error ellipse: s-maj=10.2km s-min=4.4km az=100.3*
ISCJB ***13*** *08:05:42.0±0.1, 62.61N±0.01×151.31W±0.03, h96km±1km, mb4.6/217, Error ellipse: s-maj=2.2km s-min=1.8km az=40.7*
NEIC ***13*** *08:05:43.3±0.0, 62.56N×151.22W, h87km, mb4.4/144, MW4.7, ML4.8(AEIC), Moment Tensor Solution. s76 Moment tensor: Scale 10^16Nm; Mrr 1.01; Mθθ-1.23; Mφφ 0.22; Mrθ 0.37; Mrφ -0.15; Mθφ 0.71; Best double couple: Mo 1.40000×10^16 NP1: φ289.00000°, δ40.00000°, λ134.00000°. NP2: φ57.00000°, δ62.00000°, λ59.00000°. Principal axes: T 1.4500, Plg60.0000°, Azm281.0000°; N -0.0100, Plg27.0000°, Azm73.0000°; P -1.3400, Plg12.0000°, Azm169.0000°; After AEIC.*
NEIC Felt [II] at Anchorage and Palmer. Also felt at Girdwood, Minto, Talkeetna, Trapper Creek and Wasilla.
AEIC ***13*** *08:05:43.3, 62.56N×151.22W, h87km, ML4.8, MB4.4(NEIC), MW4.7(USGS)*
IDC ***13*** *08:05:43.6±0.4, 62.66N×151.43W, h96km±3km, mb4.3/32, mb1 4.4/35, mb1mx4.3/39, mbtmp4.6/35, MS3.4/18, Ms1 3.5/18, ms1mx3.2/45, Error ellipse: s-maj=11.6km s-min=7.3km az=26.0*
GCMT ***13*** *08:05:44.3±0.3, 62.52N±0.03×151.14W±0.05, h99km±4km, MW4.8/74, Moment Tensor Solution. s19,c20; s74,c94; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.33±.08; Mθθ-1.22±.09; Mφφ-0.10±.10; Mrθ 0.24±.07; Mrφ -0.90±.12; Mθφ 0.88±.06; Best double couple: Mo 1.80600×10^16 NP1: φ38.00000°, δ61.00000°, λ63.00000°. NP2: φ265.00000°, δ39.00000°, λ130.00000°. Principal axes: T 1.7540, Plg63.0000°, Azm262.0000°; N 0.1060, Plg24.0000°, Azm52.0000°; P -1.8570, Plg12.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 08:05:42.5±0.3, 62.58N±0.03×151.24W±0.03, h89km±2km, h89km:pP-P, n788, σ1s28/898, mb4.6/217, 27C-4D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.54**	**306**	*e*Pn	**Pn**	**08 05 58.9**	**+1.3**
PPLA				*e*Sn	**Sn**	**08 06 09.3**	**+0.5**
HUR	**Hurricane**	**0.84**	**61**	*e*Pn	**Pn**	**08 06 01.3**	**+1.0**
HUR				*e*Sn	**Sn**	**08 06 15.1**	**+1.4**
CAST	**Castle Rocks**	**0.92**	**336**	*e*Pn	**Pn**	**08 06 02.0**	**+0.7**
CAST				*e*Sn	**Sn**	**08 06 15.4**	**+0.1**
TRF	**Thorofare Moun**	**0.97**	**26**	*e*Pn	**Pn**	**08 06 03.2**	**+1.2**
TRF				*e*Sn	**Sn**	**08 06 17.1**	**+0.6**
RND	**Reindeer**	**1.37**	**52**	*e*Pn	**Pn**	**08 06 07.6**	**+1.0**
RND				*e*Sn	**Sn**	**08 06 25.8**	**+1.0**
CHUM	**Lake Minchumin**	**1.39**	**340**	*e*Pn	**Pn**	**08 06 07.9**	**+1.2**
CHUM				*e*Sn	**Sn**	**08 06 26.5**	**+1.4**
SPCP	**Crater Peak Br**	**1.39**	**198**	P	**Pn**	**08 06 07.2**	**+0.2**
PMR	**Palmer**	**1.41**	**134**	*e*Pn	**Pn**	**08 06 07.2**	**+0.2**
PMR				*e*Sn	**Sn**	**08 06 26.1**	**+0.7**
PMR	**Palmer**	**1.41**	**134**	*e*P	**Pn**	**08 06 07.2**	**+0.2**
PMR				*e*		08 06 26.1	
SPCN	**Chakachatna No**	**1.43**	**198**	P	**Pn**	**08 06 08.0**	**+0.6**
SPWE	**Spurr West**	**1.45**	**206**	P	**Pn**	**08 06 08.1**	**+0.3**
SPCR	**Spurr Chakacha**	**1.46**	**199**	P	**Pn**	**08 06 08.0**	**+0.2**
CKL	**Chakachamna La**	**1.49**	**201**	P	**Pn**	**08 06 08.4**	**+0.3**
FIB	**Fire Island**	**1.51**	**160**	*e*Pn	**Pn**	**08 06 09.7**	**+1.4**
FIB	**Fire Island**	**1.51**	**160**	*e*P	**Pn**	**08 06 09.7**	**+1.4**
BPAW	**Bear Paw Mtn.**	**1.53**	**4**	*e*Pn	**Pn**	**08 06 09.4**	**+0.9**
BPAW				*e*Sn	**Sn**	**08 06 28.5**	**+0.3**
MCK	**McKinley**	**1.56**	**41**	*e*Pn	**Pn**	**08 06 10.3**	**+1.4**
MCK				*e*Sn	**Sn**	**08 06 30.2**	**+1.3**
MCK	**McKinley**	**1.56**	**41**	*e*P	**Pn**	**08 06 10.3**	**+1.4**
MCK				*e*		08 06 30.2	
SML	**Sawmill**	**1.57**	**118**	*e*Pn	**Pn**	**08 06 09.8**	**+0.6**
SML	**Sawmill**	**1.57**	**118**	*e*P	**Pn**	**08 06 09.8**	**+0.6**
RC01	**Rabbit Creek A**	**1.66**	**154**	*e*Pn	**Pn**	**08 06 10.1**	**-0.2**
KNK	**Knik Glacier**	**1.76**	**131**	*e*Pn	**Pn**	**08 06 12.0**	**+0.4**
KNK				*e*Pn	Pn	08 06 12.6	+1.0
KNK				*e*Sn	**Sn**	**08 06 35.3**	**+1.7**
BWN	**Browne**	**1.78**	**26**	*e*Pn	**Pn**	**08 06 13.3**	**+1.4**
BWN				*e*Sn	**Sn**	**08 06 36.0**	**+1.9**
DHY	**Denali Highway**	**1.84**	**73**	*e*Pn	**Pn**	**08 06 13.3**	**+0.6**
DHY				*e*Sn	**Sn**	**08 06 35.1**	**-0.6**
NKA	**Nikishka**	**1.85**	**180**	*e*Pn	**Pn**	**08 06 15.5**	**+2.9**
SCM	**Sheep Creek Mo**	**1.98**	**111**	*e*Pn	**Pn**	**08 06 14.5**	**0.0**
SCM				*e*Pn	Pn	08 06 14.9	+0.4
SCM				*e*Sn	**Sn**	**08 06 40.1**	**+1.2**
SCM	**Sheep Creek Mo**	**1.98**	**111**	*e*P	**Pn**	**08 06 14.5**	**0.0**
SCM				*e*		08 06 40.1	
RDJH	**Redoubt Jeurge**	**2.13**	**201**	P	**Pn**	**08 06 17.0**	**+0.5**
SLKM	**Skilak Lake**	**2.14**	**166**	*e*Pn	**Pn**	**08 06 16.2**	**-0.3**
SLKM	**Skilak Lake**	**2.14**	**166**	*e*P	**Pn**	**08 06 16.2**	**-0.3**
RDN	**Redoubt North**	**2.20**	**200**	*e*Pn	**Pn**	**08 06 17.8**	**+0.4**
PWL	**Port Wells**	**2.22**	**140**	*e*Pn	**Pn**	**08 06 17.1**	**-0.4**
TT01	**Tatalina**	**2.22**	**281**	*e*Pn	**Pn**	**08 06 18.1**	**+0.5**
NEA	**Nenana**	**2.22**	**25**	*e*Pn	**Pn**	**08 06 18.2**	**+0.7**
RDWB	**Redoubt West**	**2.24**	**201**	*e*Pn	**Pn**	**08 06 18.4**	**+0.5**
RSO	**Redoubt South**	**2.25**	**199**	*e*Pn	**Pn**	**08 06 18.2**	**0.0**
RED	**Redoubt Volcan**	**2.29**	**199**	P	**Pn**	**08 06 19.3**	**+0.7**
WRH	**Wood River Hil**	**2.36**	**35**	*e*Pn	**Pn**	**08 06 20.3**	**+0.9**
MLY	**Manley**	**2.47**	**5**	*e*Pn	**Pn**	**08 06 21.8**	**+0.9**
SVW2	**Sparrevohn**	**2.54**	**236**	*e*Pn	**Pn**	**08 06 22.1**	**+0.3**
CCB	**Clear Creek Bu**	**2.58**	**35**	*e*Pn	**Pn**	**08 06 23.0**	**+0.7**
CCB				*e*Pn	Pn	08 06 23.1	+0.8
CCB				*e*Sn	**Sn**	**08 06 50.1**	**-2.7**
SEW	**Seward**	**2.63**	**160**	*e*Pn	**Pn**	**08 06 23.0**	**-0.1**
SEW				*e*Sn	**Sn**	**08 06 57.2**	**+3.1**
PS10	**TAPS Pump St10**	**2.64**	**69**	*e*Pn	**Pn**	**08 06 24.8**	**+1.7**
HDA	**Harding Lake**	**2.66**	**45**	*e*Pn	**Pn**	**08 06 24.2**	**+0.9**
HDA				*e*Sn	**Sn**	**08 06 54.6**	**-0.1**
PAX	**Paxson**	**2.68**	**79**	*e*Pn	**Pn**	**08 06 25.8**	**+2.0**
PAX				*e*Sn	**Sn**	**08 06 57.7**	**+2.2**
JPK	**Jack Peak**	**2.69**	**123**	*e*Pn	**Pn**	**08 06 23.6**	**-0.2**
ILW	**Iliamna West**	**2.69**	**201**	*e*Pn	**Pn**	**08 06 24.8**	**+0.7**
IVE	**Iliamna Volcan**	**2.71**	**199**	P	**Pn**	**08 06 24.9**	**+0.7**
MDM	**Murphy Dome**	**2.73**	**28**	*e*Pn	**Pn**	**08 06 25.6**	**+1.1**
KLU	**Klutina**	**2.74**	**111**	*e*Pn	**Pn**	**08 06 24.3**	**-0.2**
PS11	**TAPS Pump St11**	**2.74**	**98**	*e*Pn	**Pn**	**08 06 25.6**	**+1.2**
TCOL	**CIGO, UAF Yank**	**2.75**	**32**	P	**Pn**	**08 06 25.8**	**+1.2**
	baz=214,SNR=1000						
I53US	**FAIRBANKS INFR**	**2.75**	**32**	P	**Pn**	**08 06 26.1**	**+1.5**
	baz=195,slow=14						
I53US				S	**Sn**	**08 06 57.9**	**+1.0**
	baz=200,slow=43						
I53US				*i*		08 22 50.0	
	baz=214,slow=334,SNR=0.9						
COLA	**College**	**2.75**	**32**	*e*Pn	**Pn**	**08 06 25.7**	**+1.2**
COLA	**College**	**2.75**	**32**	*e*P	**Pn**	**08 06 25.7**	**+1.2**
VMT	**TAPS Tl Valdez**	**2.76**	**121**	*e*Pn	**Pn**	**08 06 24.6**	**-0.1**
ILS	**Iliamna Low So**	**2.78**	**199**	P	**Pn**	**08 06 25.9**	**+0.8**
PS08	**TAPS Pump Stn8**	**2.79**	**43**	*e*Pn	**Pn**	**08 06 26.2**	**+1.1**
HARP	**HAARP**	**2.83**	**91**	*e*Pn	**Pn**	**08 06 27.0**	**+1.2**
BRLK	**Bradley Lake**	**2.83**	**176**	*e*Pn	**Pn**	**08 06 26.5**	**+0.7**
BRLK				*e*Pn	Pn	08 06 27.0	+1.2
IL1	**Eielson Array**	**2.93**	**40**	*e*Pn	**Pn**	**08 06 27.5**	**+0.5**
IL1				*e*Sn	**Sn**	**08 06 56.2**	**-5.1**
ILAR	**Eielson Array**	**2.93**	**40**	P	**Pn**	**08 06 28.0**	**+0.9**
	171nm,0.3s,baz=223,slow=14,SNR=7209						
ILAR				S	**Sn**	**08 07 00.0**	**-1.3**
	330nm,0.3s,baz=230,slow=16,SNR=20						
ILAR				LR	LR	08 07 35.6	
	comp=Z,1μm,21.9s,baz=87,slow=38						
ILB	**Eielson Array**	**2.93**	**40**	*e*Pn	**Pn**	**08 06 27.9**	**+0.9**
ILB				*e*Sn	**Sn**	**08 07 00.0**	**-1.3**
HOM	**Homer**	**2.94**	**184**	*e*Pn	**Pn**	**08 06 27.9**	**+0.7**
HOM				*e*Pn	Pn	08 06 28.3	+1.1
DIV	**Divide**	**2.98**	**117**	*e*Pn	**Pn**	**08 06 27.1**	**-0.6**
POKR	**Poker Plat Res**	**3.05**	**32**	P	**Pn**	**08 06 29.9**	**+1.2**
	baz=215,SNR=1000						
PS12	**TAPS Pump St12**	**3.08**	**108**	*e*Pn	**Pn**	**08 06 29.1**	**0.0**
RIDG	**Independ'e Rid**	**3.13**	**65**	*e*Pn	**Pn**	**08 06 31.3**	**+1.6**
PDB	**Pedro Bay**	**3.15**	**208**	*e*Pn	**Pn**	**08 06 30.9**	**+0.9**
PDB	**Pedro Bay**	**3.15**	**208**	*e*P	**Pn**	**08 06 30.9**	**+0.9**
GCSA	**Galena City Sc**	**3.32**	**313**	*e*Pn	**Pn**	**08 06 33.3**	**+1.1**
EYAK	**Cordova Ski Ar**	**3.33**	**125**	*e*Pn	**Pn**	**08 06 32.2**	**-0.2**
PS06	**TAPS Pump Stn6**	**3.35**	**11**	*e*Pn	**Pn**	**08 06 34.0**	**+1.4**
AUL	**Augustine Lava**	**3.38**	**199**	P	**Pn**	**08 06 34.4**	**+1.2**
AUW	**Augustine West**	**3.40**	**200**	P	**Pn**	**08 06 34.5**	**+1.1**
AUJK	**Augustine Jueg**	**3.41**	**199**	P	**Pn**	**08 06 34.5**	**+1.0**
DOT	**Dot Lake**	**3.43**	**69**	*e*Pn	**Pn**	**08 06 34.8**	**+0.9**
MENT	**Mentasta**	**3.48**	**81**	*e*Pn	**Pn**	**08 06 35.7**	**+1.2**
SCRK	**Sand Creek**	**3.56**	**64**	*e*Pn	**Pn**	**08 06 36.7**	**+1.0**
IM3	**Indian Mountai**	**3.58**	**343**	*e*Pn	**Pn**	**08 06 36.9**	**+1.1**
PRP	**Porcupine Dome**	**3.87**	**38**	*e*Pn	**Pn**	**08 06 40.7**	**+0.9**
PRP				*e*Pn	Pn	08 06 40.8	+1.0
MID	**Middleton Isla**	**3.96**	**141**	*e*Pn	**Pn**	**08 06 41.3**	**+0.3**
MID	**Middleton Isla**	**3.96**	**141**	*e*P	**Pn**	**08 06 41.3**	**+0.3**
FONW	**Fourpeaked Sta**	**3.98**	**200**	P	**Pn**	**08 06 42.0**	**+0.6**
HMT	**Hamilton**	**4.04**	**121**	*e*Pn	**Pn**	**08 06 41.6**	**-0.4**
HMT				*e*Pn	Pn	08 06 43.5	+1.4
MCARA	**McCarthy VSAT**	**4.06**	**104**	*e*Pn	**Pn**	**08 06 42.7**	**+0.4**
NICHA	**Nichawak Mount**	**4.21**	**121**	*e*Pn	**Pn**	**08 06 44.4**	**0.0**
PS05	**TAPS Pump Stn5**	**4.25**	**3**	*e*Pn	**Pn**	**08 06 46.5**	**+1.6**
BCA3	**Beaver Creek A**	**4.37**	**79**	*e*Pn	**Pn**	**08 06 46.9**	**+0.4**
KHIT	**Khitrov Hills**	**4.39**	**116**	*e*Pn	**Pn**	**08 06 46.5**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.42**	**203**	P	**Pn**	**08 06 47.5**	**+0.3**
BALM	**Baldy**	**4.50**	**106**	*e*Pn	**Pn**	**08 06 48.0**	**-0.4**
BALM				*e*Pn	Pn	08 06 48.1	-0.3
BALM	**Baldy**	**4.50**	**106**	*e*P	**Pn**	**08 06 48.0**	**-0.4**
KIAG	**Kiagna River**	**4.54**	**108**	*e*Pn	**Pn**	**08 06 48.2**	**-0.7**
COLD	**Coldfoot**	**4.69**	**5**	*e*Pn	**Pn**	**08 06 52.5**	**+1.8**
KELA	**Mount Kelaz**	**4.71**	**210**	P

comp=Z,5.2nm,0.5s,baz=261,slow=10,SNR=51
RES PcP **PcP** **08 14 23.4 -1.3**
comp=Z,2.4nm,0.6s,baz=260,slow=5.0,SNR=2.5
RES S **S** **08 14 35.9 -1.2**
comp=Z,2.5nm,0.7s,baz=276,slow=19,SNR=1.8
B08A Colville Reser 22.70 114 *eP* **P** **08 10 37.5 +1.0**
comp=Z,9.0nm,1.0s
E04D Cinebar 22.81 121 P **P** **08 10 39.2 +1.5**
baz=325
LON Longmire 22.95 120 *eP* **P** **08 10 41.1 +1.9**
comp=Z,4.6nm,0.9s
LON Longmire 22.95 120 *eP* **P** **08 10 41.1 +1.9**
LON pmax pmax
comp=Z,5.0nm,0.9s
LTY Liberty 23.01 118 *eP* **P** **08 10 41.3 +1.6**
comp=Z,14nm,1.4s
G03D McMinnville, O 23.66 124 P **P** **08 10 46.9 +1.3**
baz=327
NEW Newport 23.72 111 *eP* **P** **08 10 47.9 +1.7**
comp=Z,24nm,1.6s
NEW pP **pP** **08 11 07.8 +2.4**
NEW Newport 23.72 111 *eP* **P** **08 10 47.9 +1.7**
NEW *PP **pP** **08 11 07.8 +2.4**
NEW pmax pmax
comp=Z,24nm,1.6s
NEW Newport 23.72 111 P **P** **08 10 46.9 +0.7**
baz=320,SNR=5.8
NEW Newport 23.72 111 P **P** **08 10 47.7 +1.5**
comp=Z,3.8nm,0.8s,baz=295,slow=5.3,SNR=7.1
NEW pP **pP** **08 11 07.8 +2.4**
comp=Z,13nm,0.8s,baz=321,slow=11,SNR=12
F05D White Salmon 23.80 121 P **P** **08 10 48.0 +1.1**
baz=325
D08A Wollman Farm, 23.89 115 *eP* **P** **08 10 49.2 +1.5**
comp=Z,6.6nm,0.8s
HAWA Hanford 24.17 117 *eP* **P** **08 10 52.9 +2.7**
comp=Z,10nm,1.3s
E08A Dider Farm, El 24.29 117 *eP* **P** **08 10 53.5 +2.3**
comp=Z,20nm,1.3s
I02D Swisshome 24.38 127 P **P** **08 10 52.3 +0.3**
baz=329
G05D Wamic, OR 24.39 121 P **P** **08 10 53.2 +1.0**
baz=326
F07A Phinny Hill Vi 24.41 119 *eP* **P** **08 10 53.8 +1.5**
comp=Z,24nm,1.1s
H04D Lebanon 24.44 124 P **P** **08 10 54.1 +1.5**
baz=328
E09A Wood Farm, Sta 24.65 115 *eP* **P** **08 10 55.8 +1.3**
comp=Z,8.2nm,1.1s
I03D Drain, OR 24.91 126 P **P** **08 10 57.5 +0.6**
baz=329
SEY Seymchan 25.11 296 P **P** **08 10 58.0 -0.5**
comp=Z,29nm,0.8s,baz=87,slow=8.4,SNR=84
I05D Terrebonne, OR 25.13 123 P **P** **08 10 59.6 +0.6**
baz=327
J01E Myrtle Point 25.16 128 P **P** **08 11 00.5 +1.4**
baz=330
I04A Tendick Farm, 25.18 125 P **P** **08 11 00.7 +1.2**
baz=328
KEBM Edson Butte 25.26 129 *eP* **P** **08 11 01.2 +1.0**
comp=Z,20nm,1.1s
G08A Pilot Rock 25.30 118 *eP* **P** **08 11 02.0 +1.4**
comp=Z,7.6nm,1.3s
F10A Beach Ranch, E 25.46 115 *eP* **P** **08 11 02.9 +0.9**
comp=Z,6.8nm,1.2s
K02D Willamette Mer 25.66 128 P **P** **08 11 05.0 +1.1**
baz=330,SNR=6.6
PINE Pine Mountain 25.75 123 *eP* **P** **08 11 07.2 +2.5**
comp=Z,6.9nm,0.9s
J04D Umpqua Nationa 25.77 125 P **P** **08 11 05.9 +0.9**
baz=329
HUMO Hull Mountain 26.00 127 *eP* **P** **08 11 07.0 +0.2**
comp=Z,5.5nm,0.8s
J05D Fort Rock, OR 26.07 124 P **P** **08 11 08.6 +1.0**
baz=328
I07A Izee 26.07 120 *eP* **P** **08 11 07.7 +0.1**
comp=Z,4.9nm,0.8s
L02E Cave Junction 26.15 128 P **P** **08 11 09.0 +0.8**
baz=331
FFC Flin Flon 26.20 85 *eP* **P** **08 11 10.7 +2.2**
comp=Z,6.0nm,0.9s
FFC Flin Flon 26.20 85 *eP* **P** **08 11 10.7 +2.2**
FFC pmax pmax
comp=Z,6.0nm,0.9s
MSO Missoula 26.20 110 *eP* **P** **08 11 09.9 +1.2**
comp=Z,3.0nm,0.8s
MSO Missoula 26.20 110 P **P** **08 11 09.2 +0.5**
baz=321
BMO Blue Mountains 26.33 116 *eP* **P** **08 11 11.6 +1.7**
comp=Z,3.0nm,0.9s
BMO Blue Mountains 26.33 116 *eP* **P** **08 11 11.6 +1.7**
BMO pmax pmax
comp=Z,3.0nm,0.9s
K04D Chiloquin, OR 26.43 125 P **P** **08 11 11.1 +0.3**
baz=329
L04D Klamath Falls 26.57 127 P **P** **08 11 12.6 +0.4**
baz=330
YBH Yreka Blue Hor 26.85 128 *eP* **P** **08 11 17.4 +2.9**
comp=Z,6.5nm,0.9s
YBH Yreka Blue Hor 26.85 128 *eP* **P** **08 11 17.4 +2.9**
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 26.85 128 P **P** **08 11 16.9 +2.3**
comp=Z,4.2nm,0.8s,baz=316,slow=3.0,SNR=16
M02C Callahan 27.09 128 P **P** **08 11 17.7 +0.9**
baz=331
M04C Macdoel 27.12 126 P **P** **08 11 18.2 +1.2**
baz=330
EGMT Eagleton 27.16 103 *eP* **P** **08 11 18.3 +1.0**
comp=Z,6.9nm,0.7s
EGMT Eagleton 27.16 103 P **P** **08 11 17.8 +0.6**
baz=318
HRY Holter Researc 27.22 107 *eP* **P** **08 11 18.1 +0.3**
MA2 Magadan 27.39 290 *eP* **P** **08 11 18.4 -0.7**
comp=Z,22nm,1.5s
MA2 PcP **PcP** **08 14 34.3 -1.1**
MA2 Magadan 27.39 290 *eP* **P** **08 11 18.4 -0.7**
MA2 08 14 34.3
MA2 pmax pmax
comp=Z,22nm,1.5s
MA2 Magadan 27.39 290 P **P** **08 11 18.8 -0.3**
comp=Z,4.0nm,0.5s,baz=49,slow=9.9,SNR=10
MA2 PcP **PcP** **08 14 34.3 -1.1**
comp=Z,3.0nm,0.8s,baz=212,slow=14,SNR=3.3
FCC Fort Churchill 27.46 72 *eP* **P** **08 11 21.0 +1.3**
comp=Z,5.8nm,0.7s
FCC Fort Churchill 27.46 72 *eP* **P** **08 11 21.0 +1.3**
FCC pmax pmax
comp=Z,6.0nm,0.7s
N02D Trinity Center 27.51 128 P **P** **08 11 21.6 +1.2**
baz=332,SNR=11
MOD Modoc Plateau 27.60 124 *eP* **P** **08 11 22.5 +1.2**
comp=Z,8.6nm,1.4s
WVOR Wild Horse Val 27.80 121 *eP* **P** **08 11 25.3 +2.3**
comp=Z,4.7nm,1.1s
WDC Whiskeytown Da 27.92 129 *eP* **P** **08 11 26.4 +2.4**
comp=Z,5.0nm,0.9s
PEA1 Petropavlovsk- 28.04 274 *eP* **P** **08 11 24.3 -0.7**
PETK Petropavlovsk- 28.04 274 *eP* **P** **08 11 24.6 -0.4**
PETK Petropavlovsk- 28.04 274 *eP* **P** **08 11 24.6 -0.4**
PETK Petropavlovsk- 28.04 274 P **P** **08 11 24.3 -0.7**
comp=Z,13nm,0.8s,baz=85,slow=9.4,SNR=14
BOZ Bozeman (W) 28.17 109 *eP* **P** **08 11 28.2 +1.8**
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 28.17 109 *eP* **P** **08 11 28.2 +1.8**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 28.17 109 P **P** **08 11 26.3 -0.1**
baz=321
O02D Mt. Diablo Mer 28.18 129 P **P** **08 11 27.1 +0.7**
baz=332
MCMT McKenzie Canyo 28.24 111 *eP* **P** **08 11 27.7 +0.5**
O03E Paynes Creek 28.44 128 P **P** **08 11 29.6 +0.9**
baz=332,SNR=7.5
HLID Hailey 28.59 114 *eP* **P** **08 11 30.0 -0.2**
comp=Z,2.3nm,1.0s
HLID Hailey 28.59 114 P **P** **08 11 30.5 +0.3**
baz=325
QLMT Earthquake Lak 28.86 109 *eP* **P** **08 11 34.4 +1.8**
YHH Holmes Hill 29.14 109 *eP* **P** **08 11 36.3 +1.1**
comp=Z,3.3nm,1.0s
ORV Oroville 29.20 128 *eP* **P** **08 11 36.7 +1.4**
comp=Z,2.5nm,0.9s
ORV Oroville 29.20 128 *eP* **P** **08 11 36.7 +1.4**
ORV pmax pmax
comp=Z,3.0nm,0.9s
BEKR Beckworth 29.34 126 *eP* **P** **08 11 37.6 +0.7**
comp=Z,3.2nm,0.7s
RLMT Red Lodge 29.58 106 P **P** **08 11 38.6 -0.4**
baz=321
LAO LASA Array 29.75 101 *eP* **P** **08 11 41.8 +1.5**
comp=Z,10nm,1.3s
LAO *epP* **pP** **08 12 03.0 +2.5**
LAO LASA Array 29.75 101 P **P** **08 11 41.1 +0.8**
baz=319
FLWY Flagg Ranch 29.77 109 *eP* **P** **08 11 41.6 +0.9**
comp=Z,3.7nm,0.8s
IMW Indian Meadow 29.81 110 *eP* **P** **08 11 43.3 +2.2**
comp=Z,5.1nm,1.0s
PAHR Pah Rah Range 29.85 125 *eP* **P** **08 11 43.4 +2.1**
comp=Z,9.4nm,1.6s
AFDM Forest Hills D 29.92 128 *eP* **P** **08 11 43.0 +1.1**
comp=Z,15nm,1.6s
TIXI Tiksi 29.94 321 *eP* **P** **08 11 41.0 -0.6**
comp=Z,3.0nm,0.8s
TIXI *eP* **P** **08 11 41.4 -0.2**
TIXI *ePcP* **PcP** **08 14 40.3 -1.4**
TIXI Tiksi 29.94 321 *eP* **P** **08 11 41.0 -0.6**
TIXI *e* 08 14 40.3
TIXI pmax pmax
comp=Z,3.0nm,0.8s
TIXI Tiksi 29.94 321 P **P** **08 11 41.4 -0.2**
comp=Z,2.8nm,0.7s,baz=72,slow=6.0,SNR=9.0
TIXI PcP **PcP** **08 14 40.3 -1.4**
comp=Z,5.2nm,0.6s,baz=33,slow=2.3,SNR=6.8
FXWY Fox Creek 29.98 110 *eP* **P** **08 11 44.2 +1.6**
comp=Z,1.8nm,0.8s
TPAW Teton Pass 30.13 110 *eP* **P** **08 11 45.1 +1.1**
comp=Z,15nm,1.6s
LOHW Long Hollow 30.19 110 *eP* **P** **08 11 46.2 +1.8**
comp=Z,2.3nm,0.8s
SNOW Snow King Moun 30.24 110 *eP* **P** **08 11 46.6 +1.8**
comp=Z,7.6nm,1.4s
PNTR Pine Nut 30.31 126 *eP* **P** **08 11 47.3 +1.9**
comp=Z,6.4nm,0.9s
YERR Yerington 30.53 126 *eP* **P** **08 11 48.7 +1.3**
comp=Z,3.9nm,0.9s
ELK Elko 30.59 119 *eP* **P** **08 11 50.5 +2.6**
comp=Z,3.6nm,1.0s
ELK Elko 30.59 119 *eP* **P** **08 11 50.5 +2.6**
ELK pmax pmax
comp=Z,4.0nm,1.0s
HVU Hansel Valley 30.75 114 *eP* **P** **08 11 51.0 +1.8**
comp=Z,3.9nm,1.1s
HVU Hansel Valley 30.75 114 *eP* **P** **08 11 51.0 +1.8**
HVU pmax pmax
comp=Z,4.0nm,1.1s
KVN Kaiserville 30.91 124 *eP* **P** **08 11 52.1 +1.5**
comp=Z,13nm,1.6s
KVN Kaiserville 30.91 124 *eP* **P** **08 11 52.2 +1.5**
KVN pmax pmax
comp=Z,13nm,1.6s
RYN Ryan 31.12 125 *eP* **P** **08 11 55.1 +2.6**
comp=Z,3.3nm,0.8s
SPUT South Promonto 31.27 115 *eP* **P** **08 11 55.2 +1.3**
comp=Z,3.3nm,0.9s
BW06 Boulder Array 31.32 110 *eP* **P** **08 11 56.3 +2.0**
comp=Z,7.9nm,1.4s
BW06 Boulder Array 31.32 110 P **P** **08 11 55.0 +0.7**
baz=324
PD31 Pinedale Array 31.32 110 *eP* **P** **08 11 55.4 +1.1**
comp=Z,7.1nm,1.4s
PD31 *ePcP* **PcP** **08 14 45.6 -0.6**
PDAR Pinedale Array 31.32 110 P **P** **08 11 56.1 +1.7**
comp=Z,0.9nm,0.5s,baz=305,slow=2.9,SNR=15
PDAR pP **pP** **08 12 17.1 +2.4**
comp=Z,4.1nm,0.7s,baz=348,slow=4.1,SNR=9.5
PDAR PcP **PcP** **08 14 45.6 -0.6**
comp=Z,1.0nm,0.7s,baz=48,slow=1.3,SNR=4.0
PDAR ScP **ScP** **08 18 20.4 -0.4**
comp=Z,1.0nm,0.7s,baz=85,slow=1.3,SNR=8.3
PDAR LR LR 08 24 48.9
comp=Z,90nm,21.9s,baz=344,slow=36
NV01 Mina Array Sit 31.37 125 *eP* **P** **08 11 56.8 +2.0**
NV01 *ePcP* **PcP** **08 14 47.2 +0.8**
NVAR Mina Array Bea 31.37 125 P **P** **08 11 56.9 +2.0**
comp=Z,2.9nm,0.6s,baz=318,slow=8.4,SNR=28
NVAR pP **pP** **08 12 17.3 +2.1**
comp=Z,6.0nm,0.7s,baz=318,slow=8.7,SNR=9.8
NVAR PcP **PcP** **08 14 46.9 +0.6**
comp=Z,1.9nm,0.6s,baz=292,slow=2.3,SNR=6.2
NVAR ScP **ScP** **08 18 19.8 -1.1**
comp=Z,2.4nm,0.9s,baz=309,slow=3.5,SNR=8.5
NV11 Mina Array Sit 31.43 125 *eP* **P** **08 11 57.2 +2.0**
comp=Z,0.3nm,0.9s
MDPB Devils Postpil 31.78 127 *eP* **P** **08 12 00.5 +2.0**
comp=Z,9.6nm,1.4s
OMMB Old Mammoth Mi 31.83 127 *eP* **P** **08 11 58.4 -0.5**
comp=Z,5.6nm,1.0s
ULM Lac du Bonnet 31.95 87 P **P** **08 12 01.2 +1.8**
comp=Z,2.8nm,0.9s,baz=340,slow=11,SNR=4.9
ULM pP **pP** **08 12 21.2 +1.3**
comp=Z,8.2nm,1.0s,baz=303,slow=9.0,SNR=5.8
ULM PcP **PcP** **08 14 47.4 0.0**
comp=Z,1.9nm,0.6s,baz=349,slow=8.5,SNR=3.0
DUG Dugway, Tooele 32.05 116 *eP* **P** **08 12 02.8 +2.1**
comp=Z,2.7nm,0.8s
DUG Dugway, Tooele 32.05 116 *eP* **P** **08 12 02.8 +2.1**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 32.05 116 P **P** **08 12 00.8 +0.1**
baz=327
CTU Camp Tracy 32.08 114 *eP* **P** **08 12 02.6 +1.7**
comp=Z,13nm,1.5s
R11A Troy Canyon, C 32.50 121 *eP* **P** **08 12 06.6 +2.0**
comp=Z,6.1nm,1.4s
R11A Troy Canyon, C 32.50 121 P **P** **08 12 05.6 +1.0**
baz=330,SNR=8.6
NLU North Lily Min 32.56 116 *eP* **P** **08 12 06.3 +1.2**
comp=Z,3.8nm,1.1s
RSSD Black Hills 32.71 102 *eP* **P** **08 12 08.7 +2.3**
comp=Z,5.8nm,0.6s
RSSD Black Hills 32.71 102 *eP* **P** **08 12 08.7 +2.3**
RSSD pmax pmax
comp=Z,6.0nm,0.6s
RSSD Black Hills 32.71 102 P **P** **08 12 07.3 +0.9**
baz=321
GRAC Grapevine Rang 32.99 125 P **P** **08 12 09.1 +0.4**
baz=332
PSUT Pine Spring 33.03 119 *eP* **P** **08 12 10.0 +0.7**
comp=Z,6.5nm,1.4s
PAGB Antelope Grade 33.05 130 *eP* **P** **08 12 10.4 +1.2**
comp=Z,14nm,0.9s
PAGB *epP* **pP** **08 12 32.3 +2.7**
CWC Cottonwood Cre 33.21 126 P **P** **08 12 11.6 +0.8**
baz=332
AGMN Agassiz Nation 33.34 89 P **P** **08 12 11.2 -0.4**
baz=316
VES Vestal, Richgr 33.37 128 P **P** **08 12 11.8 -0.2**
baz=334
TPNV Topopah Spring 33.45 124 *eP* **P** **08 12 14.7 +1.8**
comp=Z,3.2nm,0.8s
TPNV Topopah Spring 33.45 124 *eP* **P** **08 12 14.7 +1.8**
TPNV pmax pmax
comp=Z,3.0nm,0.8s
TPNV Topopah Spring 33.45 124 P **P** **08 12 12.8 -0.1**
baz=331
SMMC Simmler 33.51 130 P **P** **08 12 13.2 -0.1**
baz=334
DAC Darwin (Calif) 33.53 126 *eP* **P** **08 12 16.4 +2.8**
comp=Z,6.4nm,1.3s
DAC Darwin (Calif) 33.53 126 *eP* **P** **08 12 16.5 +2.8**
DAC pmax pmax
comp=Z,6.0nm,1.3s
P18A Preston Nutter 33.60 114 *eP* **P** **08 12 16.1 +1.7**
comp=Z,3.3nm,0.8s
FURC Furnace Creek, 33.64 125 P **P** **08 12 14.8 +0.5**
baz=332
MSU Marysvale 33.73 117 *eP* **P** **08 12 18.2 +2.8**
ISA Isabella, Lake 33.75 128 *eP* **P** **08 12 17.5 +2.1**
comp=Z,4.3nm,1.0s
ISA Isabella, Lake 33.75 128 *eP* **P** **08 12 17.5 +2.1**
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA Isabella, Lake 33.75 128 P **P** **08 12 15.9 +0.5**
baz=333
MPMC Manual Prospec 33.77 126 P **P** **08 12 16.7 +1.0**
baz=332,SNR=7.1
Q16A Castle Valley 33.81 116 *eP* **P** **08 12 18.6 +2.6**
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 33.92 115 *eP* **P** **08 12 19.4 +2.4**
comp=Z,8.2nm,0.9s
SRU San Rafael Swe 33.92 115 *eP* **P** **08 12 19.4 +2.4**
SRU pmax pmax
comp=Z,8.0nm,0.9s
PKM Mcpherson Peak 33.96 130 P **P** **08 12 17.4 0.0**
baz=334
O20A White River Ci 34.04 111 P **P** **08 12 18.5 +0.5**
baz=326
CCUT Cedar City 34.07 119 *eP* **P** **08 12 20.8 +2.4**
comp=Z,3.7nm,0.8s
MTPU Mount Pierson 34.13 118 *eP* **P** **08 12 21.5 +2.5**
comp=Z,8.6nm,1.6s
MTPU *epP* **pP** **08 12 36.4 -3.1**
SZCU Shurtz Canyon 34.15 119 *eP* **P** **08 12 21.8 +2.8**
comp=Z,3.8nm,0.8s
LRMC Laurel Mtn Rad 34.21 127 P **P** **08 12 20.6 +1.2**
baz=333,SNR=5.9
SHPR Sheep Range 34.27 123 *eP* **P** **08 12 23.1 +3.2**
comp=Z,4.9nm,1.4s
SHOC Shoshone, Teco 34.37 124 P **P** **08 12 20.9 +0.2**
baz=332
N23A Red Feather La 34.42 108 P **P** **08 12 22.1 +0.7**
baz=324
LCMT Little Creek M 34.58 120 *eP* **P** **08 12 25.2 +2.5**
comp=Z,4.6nm,1.1s
LCMT *epP* **pP** **08 12 39.6 -3.5**
YAK Yakutsk 34.61 305 *eP* **P** **08 12 20.4 -2.0**
YAK *e*PP **pP** **08 12 38.4 -4.7**
YAK *eS* **S** **08 17 43.5 -1.3**
YAK *e*SS **sS** **08 18 14.0 -6.7**
YAK *eSS* **SnSn** **08 20 03.4 -1.9**
YAK pmax pmax
comp=Z,189nm,0.9s
YAK pmax pmax
comp=N,38nm,1.1s
YAK pmax pmax
comp=E,84nm,1.2s
YAK pmax pmax
comp=Z,46nm,0.4s
YAK smax smax
comp=E,168nm,1.8s
EDW2 Edwards Air Fo 34.62 128 P **P** **08 12 23.3 +0.3**
baz=334
GSC Goldstone, Bar 34.69 126 *eP* **P** **08 12 25.8 +2.2**
comp=E,9.9nm,1.1s
GSC *epP* **pP** **08 12 43.6 -0.4**
GSC Goldstone, Bar 34.69 126 *eP* **P** **08 12 25.8 +2.2**
GSC *e*PP **pP** **08 12 43.6 -0.4**
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone, Bar 34.69 126 P **P** **08 12 24.5 +0.9**
baz=333
KNB Kanab 34.75 119 *eP* **P** **08 12 26.9 +2.7**
comp=Z,5.5nm,0.8s
KNB Kanab 34.75 119 *eP* **P** **08 12 26.9 +2.7**
KNB pmax pmax
comp=Z,6.0nm,0.8s
SUSD Miller 34.78 97 P **P** **08 12 23.7 -0.5**
baz=320
TUQ Turquoise Moun 34.91 124 P **P** **08 12 25.8 +0.3**
baz=332
BLG Laguna Peak, P 34.93 129 P **P** **08 12 27.1 +1.6**
baz=335
PV09 Paradox Valley 35.02 114 *eP* **P** **08 12 28.5 +1.9**
PV21 Cone Mtn., Par 35.03 113 *eP* **P** **08 12 28.9 +2.2**
comp=Z,3.9nm,0.7s
PV23 Carpenter Ridg 35.11 113 *eP* **P** **08 12 29.0 +1.6**
comp=Z,5.3nm,0.7s
PV14 Lion Creek, Pa 35.17 114 *eP* **P** **08 12 29.6 +1.7**
comp=Z,19nm,1.6s
PV04 Paradox Valley 35.20 113 *eP* **P** **08 12 29.8 +1.7**
comp=Z,5.9nm,1.0s
PV16 Nyswonger Mesa 35.27 113 *eP* **P** **08 12 30.8 +2.1**
comp=Z,3.7nm,0.7s
PV17 East Wray Mesa 35.28 114 *eP* **P** **08 12 29.4 +0.7**
comp=Z,7.4nm,1.1s
PV11 David Mesa, Pa 35.30 113 *eP* **P** **08 12 30.8 +1.9**
comp=Z,7.1nm,0.6s
BFSC Mount Baldy Ra 35.32 128 P **P** **08 12 29.9 +0.9**
baz=334
PV03 Paradox Valley 35.34 113 *eP* **P** **08 12 31.1 +1.7**
comp=Z,3.1nm,1.0s
PV05 Paradox Valley 35.39 114 *eP* **P** **08 12 29.9 +0.2**
comp=Z,6.5nm,0.8s
PV13 Radium Mtn., P 35.44 113 *eP* **P** **08 12 31.5 +1.4**
comp=Z,9.6nm,1.1s
U15A North Rim 35.47 119 *eP* **P** **08 12 32.8 +2.3**
comp=Z,7.8nm,1.5s
SNCC San Nicolas Is 35.54 131 P **P** **08 12 31.7 +0.9**
baz=335
PV01 Paradox Valley 35.56 113 *eP* **P** **08 12 32.9 +1.7**
comp=Z,7.3nm,1.0s
BBRC Big Bear Solar 35.57 127 P **P** **08 12 32.2 +0.9**
baz=333
GMRC Granite Mounta 35.58 125 P **P** **08 12 32.3 +1.0**
baz=332
EYMN Ely 35.61 86 P **P** **08 12 32.3 +1.0**
baz=317
NKL Nikolayevsk 35.74 287 *i* P **P** **08 12 32.0 -0.2**
NKL pmax pmax
comp=E,13nm,0.9s
NKL pmax pmax
comp=Z,49nm,0.9s
CIS Catalina Islan 35.80 129 P **P** **08 12 34.5 +1.5**
baz=335
MURC Murrieta 36.06 127 P **P** **08 12 36.2 +0.9**
baz=334
SCI2 San Clemente I 36.13 130 P **P** **08 12 37.1 +1.3**
baz=335
BELC Belle Mtn. Jos 36.15 126 P **P** **08 12 37.4 +1.3**
baz=333
PFO Pinyon Flats O 36.33 127 P **P** **08 12 38.5 +0.9**
baz=334
IRM Iron Mountain 36.34 124 P **P** **08 12 38.0 +0.4**
baz=333
Q24A Divide 36.35 109 P **P** **08 12 38.0 0.0**
baz=326
MVCO Mesa Verde 36.37 114 *eP* **P** **08 12 39.8 +1.7**
comp=Z,3.4nm,0.8s
MVCO Mesa Verde 36.37 114 P **P** **08 12 38.2 +0.1**
baz=328
ECSD EROS Data Cent 36.40 95 *eP* **P** **08 12 39.3 +1.2**
comp=Z,16nm,1.6s
ECSD EROS Data Cent 36.40 95 P **P** **08 12 38.2 +0.2**
baz=321,SNR=5.1
TYV Tymovskoe 36.43 283 *eP* **P** **08 12 38.6 +0.4**
TYV pmax pmax
comp=Z,21nm,0.6s
E38A The Farm, Brul 36.57 87 P **P** **08 12 38.9 -0.5**
baz=318
PDMCI Parker Dam,Lak 36.59 123 P **P** **08 12 40.4 +0.7**
baz=332
WUAZ Wupatki 36.63 119 *eP* **P** **08 12 42.8 +2.5**
comp=Z,7.7nm,0.8s
WUAZ Wupatki 36.63 119 P **P** **08 12 40.4 +0.2**
baz=330,SNR=7.8
S22A 4UR Ranch, Cre 36.63 112 *eP* **P** **08 12 42.9 +2.5**
comp=Z,2.3nm,0.8s
S22A 4UR Ranch, Cre 36.63 112 P **P** **08 12 40.5 +0.1**
baz=327
BC3 Big Chuckawall 36.66 125 P **P** **08 12 40.8 +0.4**
baz=333
C40A Isle Royale Na 36.72 84 P **P** **08 12 40.9 +0.3**
baz=317
F37A Hinrichs Farm, 36.73 89 P **P** **08 12 40.8 +0.1**
baz=319
109C Camp Elliot, M 36.73 128 P **P** **08 12 41.3 +0.4**
baz=334
F38A Pierce - Schro 36.90 88 P **P** **08 12 41.7 -0.5**
baz=318
Y12C Blythe 36.93 124 *eP* **P** **08 12 44.3 +1.7**
comp=Z,9.3nm,1.2s
Y12C Blythe 36.93 124 P **P** **08 12 43.4 +0.8**
baz=333
MONP2 Monument Peak 36.98 127 P **P** **08 12 44.5 +1.2**
baz=334
SPMN Marine on St. 37.03 90 P **P** **08 12 43.6 +0.4**
baz=319
SWSC Sam W. Stewart 37.17 126 P **P** **08 12 45.4 +0.9**
baz=334
SDCO Great Sand Dun 37.21 110 P **P** **08 12 45.5 +0.3**
baz=327
IKP In-Ko-Pah, Jac 37.31 127 P **P** **08 12 46.8 +0.9**
baz=334
Y14A Wickenburg 37.36 122 *eP* **P** **08 12 48.9 +2.6**
comp=Z,2.5nm,0.5s
F39A Loretta 37.38 88 P **P** **08 12 46.4 +0.1**
baz=319
X16A Lo Mia Camp, P 37.56 120 *eP* **P** **08 12 50.4 +2.3**
comp=Z,3.9nm,0.8s
D41A Chassel 37.61 84 P **P** **08 12 48.1 -0.1**

baz=318
SUMG Summit 37.70 27 *e*P P 08 12 50.2 +1.1
comp=Z,5.8nm,0.6s
SUMG Summit 37.70 27 *i* P P 08 12 50.2 +1.1
comp=Z,13nm,0.6s
SUMG Summit 37.70 27 *e*P P 08 12 50.2 +1.1
SUMG pmax pmax
comp=Z,6.0nm,0.6s
F40A Park Falls 37.74 87 P P 08 12 49.4 0.0
baz=319
DAG Danmarks Havn 37.77 16⇑ *i*P P 08 12 49.1 -0.1
comp=Z,5.9nm,0.5s
DAG Danmarks Havn 37.77 16⇑ *e*P P 08 12 49.1 -0.1
DAG pmax pmax
comp=Z,4.0nm,0.5s
X18A Snowflake 38.07 118 *e*P P 08 12 55.0 +2.6
comp=Z,4.9nm,0.8s
X18A *e*pP pP 08 13 11.8 -1.3
H39A Augusta 38.14 89 P P 08 12 53.0 +0.2
baz=320
KBS Kingsbay 38.37 5 *e*P P 08 12 54.3 +0.1
CBKS Cedar Bluff 38.88 103 P P 08 13 00.1 +1.1
baz=325
ANMO Albuquerque 39.16 114 *e*P P 08 13 03.5 +1.9
comp=Z,7.7nm,1.6s
ANMO *e*S S 08 18 50.2 -4.7
ANMO Albuquerque 39.16 114⇑ *e*P P 08 13 02.2 +0.6
ANMO pmax pmax
comp=Z,5.0nm,1.6s
ANMO Albuquerque 39.16 114 P P 08 13 02.7 +1.1
baz=329
214A Organ Pipe Nat 39.19 123 P P 08 13 02.7 +1.1
baz=333
YSS Yuzh-Sakhalins 39.22 278 *e*P P 08 13 01.7 +0.1
comp=Z,26nm,1.0s
YSS Yuzh-Sakhalins 39.22 278 *e*P P 08 13 01.1 -0.5
YSS pmax pmax
comp=Z,20nm,0.7s
SPA0 Spitsbergen Ar 39.27 4 *e*P P 08 13 02.0 +0.2
comp=Z,33nm,1.3s
GRNR Gornyy 39.29 287⇑ *i*P P 08 13 04.6 +2.4
GRNR pmax pmax
comp=Z,50nm,0.3s
K39A Oelwein 39.38 92 P P 08 13 03.0 -0.1
baz=321
TUC Tucson 39.67 121 *e*P P 08 13 06.1 +0.5
comp=Z,1.8nm,0.8s
TUC Tucson 39.67 121 *e*P P 08 13 06.1 +0.5
TUC pmax pmax
comp=Z,2.0nm,0.8s
TUC Tucson 39.67 121 P P 08 13 07.0 +1.4
baz=332
J41A Loganville 39.74 90 P P 08 13 06.9 +0.8
baz=321
BNM Barren Site 39.77 114 *e*P P 08 13 07.1 +0.4
L39A Vinton 39.78 92 P P 08 13 06.8 +0.4
baz=322
D46A Sault St. Mari 39.82 81 P P 08 13 07.5 +0.9
baz=318
F45A CMU Biological 40.05 83 P P 08 13 09.1 +0.6
baz=319
E46A Sault Ste Mari 40.09 82 P P 08 13 09.2 +0.3
baz=319
J42A Columbus 40.19 89 P P 08 13 10.3 +0.6
baz=321
L40A Anamosa 40.19 92 P P 08 13 10.6 +0.8
baz=322
M39A Webster 40.21 93 P P 08 13 10.7 +0.8
baz=322
E47A Iron Bridge 40.49 81 P P 08 13 11.4 -0.8
baz=319
L41A Preston 40.52 91 P P 08 13 11.8 -0.7
baz=322
MATQ Matagami 40.58 73 P P 08 13 12.9 -0.1
baz=317
D48A Paudash Townsh 40.62 79 P P 08 13 13.1 -0.2
baz=318
121A Cookes Peak, D 40.69 117 P P 08 13 15.4 +1.2
baz=331
L42A Oliver, Polo 40.96 91 P P 08 13 15.5 -0.6
baz=322
M41A Milan 41.05 92 P P 08 13 16.1 -0.7
baz=322
ZEA Zeya 41.09 297 *e*P P 08 13 16.6 -0.4
ZEA pmax pmax
comp=Z,35nm,1.0s
319A Douglas 41.09 120 *e*P P 08 13 19.0 +1.6
comp=Z,4.7nm,0.8s
LSQQ Lebel-sur-Quev 41.39 73 P P 08 13 19.1 -0.4
baz=318
I46A Reed City 41.41 85 P P 08 13 19.9 +0.1
baz=320
SCHQ Schefferville 41.49 60 *e*P P 08 13 21.7 +1.4
comp=Z,9.0nm,0.8s
SCHQ pP pP 08 13 43.0 +1.6
SCHQ *e*PcP PcP 08 15 15.3 -0.9
SCHQ ScP ScP 08 18 56.1 -1.7
SCHQ Schefferville 41.49 60 P P 08 13 21.6 +1.2
comp=Z,7.5nm,0.7s,baz=301,slow=7.2,SNR=27
SCHQ pP pP 08 13 43.0 +1.6
comp=Z,6.4nm,0.8s,baz=321,slow=7.9,SNR=3.6
SCHQ PcP PcP 08 15 15.3 -0.9
comp=Z,2.1nm,0.5s,baz=296,slow=6.4,SNR=2.4
SCHQ ScP ScP 08 18 56.1 -1.7
comp=Z,4.4nm,1.0s,baz=147,slow=18,SNR=3.0
MSTX Muleshoe 41.58 110 *e*P P 08 13 22.7 +1.3
comp=Z,11nm,0.9s
MSTX Muleshoe 41.58 110 P P 08 13 21.6 +0.2
baz=329
I47A Gladwin 41.78 84 P P 08 13 22.2 -0.6
baz=320
D51A Lot 18 Range I 41.79 77 P P 08 13 22.4 -0.4
baz=319
CHGQ Chibougamau 41.91 71 P P 08 13 24.1 +0.4
baz=318
NRIK Norilʹsk 41.96 333 P P 08 13 24.2 +0.3
comp=Z,5.2nm,0.5s,baz=58,slow=6.0,SNR=14
NRIK pP pP 08 13 46.6 +1.3
comp=Z,6.2nm,0.6s,baz=40,slow=6.8,SNR=3.9
NRIK ScP ScP 08 18 58.7 -0.6
comp=Z,2.0nm,0.7s,baz=297,slow=2.3,SNR=3.6
NRIK LR LR 08 32 22.7
comp=Z,49nm,20.7s,baz=42,slow=38
P41A Barry, Barry 42.16 94 P P 08 13 26.2 +0.4
baz=323
D52A ZEK Kipawa Sen 42.31 76 P P 08 13 27.3 +0.3
baz=319
MNTX Cornudas Mount 42.41 115 *e*P P 08 13 29.7 +1.6
comp=Z,2.6nm,0.8s
MNTX Cornudas Mount 42.41 115 P P 08 13 29.1 +1.0
baz=331
KLR Kulʹdur 42.47 289 *c i*P P 08 13 27.9 -0.4
KLR Kulʹdur 42.47 289 LR LR 08 32 32.9
comp=Z,59nm,18.6s,baz=280,slow=38
D53A Lac Vacive, Po 42.55 76 P P 08 13 30.1 +1.1
baz=319
Q41A Truxton 42.66 95 P P 08 13 30.9 +0.9
baz=324
J48A Bridge Port 42.67 84 P P 08 13 34.2 +4.2
baz=321
WMOK Wichita Mounta 42.69 106 P P 08 13 30.8 +0.5
baz=327
E52A Mattawa 42.72 77 P P 08 13 30.9 +0.5
baz=319
ERM Erimo 42.81 273 *i* P P 08 13 30.1 -1.0
ERM pmax pmax
comp=Z,24nm,0.9s
D54A Lac Fusel, La 42.96 75 P P 08 13 32.0 -0.3
baz=319
BASO Ashfield 43.09 82 P P 08 13 32.9 -0.5
baz=321
E53A Dumoine, Ponti 43.09 76 P P 08 13 33.6 +0.2
baz=320
BOD Bodaibo 43.26 309 *e*P P 08 13 34.0 -0.6
BOD pmax pmax
comp=Z,27nm,1.2s
E54A Lac Daplat, Po 43.27 76 P P 08 13 35.2 +0.4
baz=320
Q43A New Douglas 43.38 93 P P 08 13 36.2 +0.5
baz=324
L48A N Adams 43.43 86 P P 08 13 36.6 +0.5
baz=322
S41A Jillco Farms, 43.53 96 P P 08 13 37.3 +0.3
baz=325
HHAR Hobbs 43.59 100 *e*P P 08 13 37.4 -0.1
comp=Z,6.1nm,0.6s
G53A Haliburton 43.62 78 P P 08 13 38.3 +0.6
baz=320
R43A Red Bud 43.80 94 P P 08 13 39.8 +0.6
baz=324
FVM French Village 43.81 95 *e*P P 08 13 40.6 +1.3
comp=Z,15nm,0.4s
FVM French Village 43.81 95 *e*P P 08 13 40.6 +1.3
FVM pmax pmax
comp=Z,15nm,0.4s
S42A Caledonia 43.82 95 P P 08 13 39.9 +0.6
baz=324
PEMO Pembroke 43.82 77 P P 08 13 39.2 0.0
baz=320
T41A Mountain View 43.96 97 P P 08 13 40.7 +0.2
baz=325
O47A Sheridan 43.97 89 P P 08 13 40.9 +0.3
baz=323
P46A Rosedale 43.99 90 P P 08 13 40.6 0.0
baz=323
N48A Decatur 44.01 87 P P 08 13 41.5 +0.7
baz=322
U40A Yellville 44.02 98 P P 08 13 41.0 0.0
baz=326
Q45A Warren Harvey, 44.13 92 P P 08 13 41.7 0.0
baz=324
T42A Van Buren 44.28 96 P P 08 13 43.5 +0.5
baz=325
S43A Fulton Ridge, 44.31 95 P P 08 13 43.9 +0.6
baz=325
N49A Columbus Grove 44.35 87 P P 08 13 43.7 +0.2
baz=322
PLIO Pelee Island, 44.41 85 P P 08 13 44.0 0.0
baz=322
O48A Farmland 44.42 88 P P 08 13 44.3 +0.1
baz=323
U41A Viola 44.46 98 P P 08 13 44.6 +0.1
baz=325
TRQ Mont Tremblant 44.61 74 *e*P P 08 13 47.2 +1.6
T43A Greenville 44.61 95 P P 08 13 46.1 +0.5
baz=325
H55A Tweed 44.72 78 P P 08 13 47.2 +0.9
baz=321
PBMO Poplar Bluff 44.79 96 *e*P P 08 13 47.5 +0.4
comp=Z,30nm,0.6s
O49A Covington 44.86 87 P P 08 13 48.7 +1.2
baz=323
ALFO Alfred 44.92 75 P P 08 13 48.2 +0.3
baz=320
P48A Milroy 44.94 89 P P 08 13 49.2 +1.0
baz=323
N50A Nevada 44.95 86 P P 08 13 49.2 +1.0
baz=323
R46A Gibon Southern 44.98 92 P P 08 13 49.1 +0.6
baz=324
U43A Rector 45.14 96 P P 08 13 49.9 0.0
baz=325,SNR=6.4
MIAR Mount Ida 45.19 101 P P 08 13 51.0 +0.8
baz=327
TX31 Lajitas Ar. Si 45.19 115 *e*P P 08 13 52.2 +1.8
TX31 *e*P P 08 13 52.7 +2.2
TXAR Lajitas Array 45.19 115 P P 08 13 52.5 +2.0
comp=Z,1.5nm,0.5s,baz=323,slow=5.6,SNR=16
TXAR pP pP 08 14 11.3 -0.4
comp=Z,3.7nm,0.5s,baz=324,slow=5.3,SNR=11
TXAR ScP ScP 08 19 13.9 +0.6
comp=Z,0.9nm,0.8s,baz=186,slow=2.5,SNR=4.4
TXAR LR LR 08 33 59.5
comp=Z,112nm,21.3s,baz=0.0,slow=37
Q48A North Vernon 45.22 90 P P 08 13 51.2 +0.8
baz=324
O50A Cable 45.22 87 P P 08 13 50.6 +0.2
baz=323
W41B Gary Mavity, V 45.28 99 P P 08 13 51.9 +0.9
baz=326
J55A Hilton 45.43 79 P P 08 13 51.1 -0.9
baz=322
ACSO Alum Creek Sta 45.45 86 P P 08 13 52.8 +0.5
baz=323
WCI Wyandotte Cave 45.52 91 P P 08 13 53.7 +0.8
baz=324
M53A WI Miller and 45.56 83 P P 08 13 53.8 +0.7
baz=322
P50A Jamestown 45.57 87 P P 08 13 53.4 +0.1
baz=323
O51A Pataskala 45.69 86 P P 08 13 54.7 +0.5
baz=323
T46A Princeton 45.75 93 P P 08 13 55.1 +0.4
baz=325
S47A Hartford 45.77 92 P P 08 13 54.9 +0.2
baz=324
LONY Lake Ozonia 45.83 76 P P 08 13 54.4 -0.8
baz=321
JCT Junction City 45.86 110 *e*P P 08 13 57.1 +1.5
comp=Z,8.3nm,0.6s
JCT Junction City 45.86 110 *e*P P 08 13 57.1 +1.5
JCT pmax pmax
comp=Z,8.0nm,0.6s
JCT Junction City 45.86 110 P P 08 13 55.9 +0.3
baz=330
M54A Oil Creek Stat 45.97 82 P P 08 13 56.6 +0.3
baz=322
N53A Lisbon 45.98 84 P P 08 13 57.2 +0.7
baz=323
R49A Shelbyville 45.99 90 P P 08 13 57.1 +0.6
baz=324
O52A Adamsville 46.07 85 P P 08 13 56.9 -0.3
baz=323
S48A Wiedeman Farm, 46.10 91 P P 08 13 57.4 0.0
baz=324
T47A Sharon Grove 46.16 93 P P 08 13 58.1 +0.2
baz=325
USRK Ussuriysk Ar. 46.21 284 P P 08 13 57.5 -0.7
comp=Z,2.6nm,0.6s,baz=27,slow=6.0,SNR=5.8
USRK LR LR 08 33 32.3
comp=Z,44nm,18.4s,baz=20,slow=36
Q51A Peebles 46.25 88 P P 08 13 58.8 +0.3
baz=324
N54A Moraine State 46.25 83 P P 08 13 59.2 +0.7
baz=323
O53A New Philadelph 46.25 85 P P 08 13 59.1 +0.5
baz=323
P52A Corning 46.32 86 P P 08 13 59.6 +0.5
baz=323
S49A Springfield 46.35 90 P P 08 13 60.0 +0.6
baz=324
T48A Bowling Green 46.39 92 P P 08 14 00.5 +0.8
baz=325
R50A Paris 46.39 89 P P 08 14 00.2 +0.6
baz=324
M55A Ridgway 46.41 82 P P 08 14 00.5 +0.7
baz=322
HPIG 46.48 118 *e*P P 08 14 02.5 +1.8
comp=Z,4.3nm,1.1s
U47A Clarksville 46.52 93 P P 08 14 00.7 +0.1
baz=325
WVT Waverly 46.52 94 P P 08 14 01.4 +0.7
baz=325
V46A Holladay 46.66 94 P P 08 14 02.3 +0.5
baz=326
O54A Avella 46.69 84 P P 08 14 02.1 +0.1
baz=323
R51A Hillsboro 46.72 88 P P 08 14 02.8 +0.6
baz=324
P53A Whipple 46.78 86 P P 08 14 02.6 -0.1
baz=324
T49A Edmonton 46.79 91 P P 08 14 02.8 0.0
baz=325
Q52A Bidwell 46.80 87 P P 08 14 01.8 -1.0
baz=324
U48A Cassie Pea, Po 46.81 92 P P 08 14 02.8 -0.2
baz=325
S50A Richmond 46.85 90 P P 08 14 02.9 -0.3
baz=324
N55A Marion Center 46.85 82 P P 08 14 03.2 -0.1
baz=323
V47A Nunnelly 46.91 94 P P 08 14 03.9 +0.1
baz=325
MDJ Mudanjiang 46.95 286 P P 08 14 03.4 -0.6
MDJ pP pP 08 14 24.1 -1.6
MDJ pmax pmax
comp=Z,19nm,1.0s
MDJ pmax pmax
comp=Z,190nm,3.7s
MDJ Mudanjiang 46.95 286 *e*P P 08 14 03.9 -0.1
comp=Z,15nm,0.8s
W46A Michie 47.09 95 P P 08 14 05.6 +0.5
baz=326
P54A Burton 47.11 85 P P 08 14 05.9 +0.7
baz=323
OXF Oxford 47.13 97 *e*P P 08 14 06.6 +1.1
comp=Z,87nm,0.5s
OXF Oxford 47.13 97 *e*P P 08 14 06.6 +1.1
OXF pmax pmax
comp=Z,87nm,0.5s
OXF Oxford 47.13 97 P P 08 14 05.5 0.0
baz=326
U49A Red Boiling Sp 47.16 92 P P 08 14 06.5 +0.8
baz=325
O55A Ligonier 47.16 83 P P 08 14 06.0 +0.3
baz=323
T50A Nancy 47.18 91 P P 08 14 06.6 +0.8
baz=325
Q53A Leroy 47.22 86 P P 08 14 06.7 +0.6
baz=324
V48A Smith Brothers 47.31 93 P P 08 14 07.8 +1.0
baz=326
W47A Westpoint 47.35 94 P P 08 14 08.1 +0.9
baz=326
MCWV Mont Chateau 47.35 84 P P 08 14 08.1 +0.9
baz=324
Q54A Coxs Mills 47.44 85 P P 08 14 08.6 +0.8
baz=324
R53A Hurricane 47.45 87 P P 08 14 08.7 +0.8
baz=324
O56A Blue Knob Stat 47.45 83 P P 08 14 08.9 +0.9
baz=323
X46A Booneville 47.47 96 P P 08 14 08.6 +0.5
baz=326
SSPA Standing Stone 47.47 82 P P 08 14 08.4 +0.3
baz=323
P55A Reedsville 47.48 84 P P 08 14 09.1 +0.9
baz=324
HIA Hailar 47.55 297 *e*P P 08 14 08.2 -0.4
comp=Z,30nm,0.8s
HIA Hailar 47.55 297 *e*P P 08 14 08.2 -0.4
HIA pmax pmax
comp=Z,30nm,0.8s
T51A Gray 47.64 90 P P 08 14 10.6 +1.2
baz=325
V49A McMinnville 47.71 92 P P 08 14 11.2 +1.3
baz=325
W48A Pulaski 47.75 94 P P 08 14 10.8 +0.5
baz=326
X47A Russelville 47.84 95 P P 08 14 11.7 +0.7
baz=326
S53A Williamson 47.90 88 P P 08 14 12.0 +0.5
baz=324
R54A Victor 48.02 86 P P 08 14 12.4 +0.1
baz=324
ARA0 ARCESS Array S 48.15 2 *e*P P 08 14 12.3 -0.6
ARA0 *e*pP pP 08 14 36.2 +1.1
ARA0 *e*PcP PcP 08 15 38.3 -0.5
ARCES ARCESS Array B 48.15 2 P P 08 14 12.3 -0.6
comp=Z,8.2nm,0.8s,baz=11,slow=8.0,SNR=16
ARCES pP pP 08 14 36.2 +1.1
comp=Z,7.5nm,0.7s,baz=354,slow=11,SNR=4.5
ARCES PcP PcP 08 15 38.3 -0.5
comp=Z,3.9nm,0.5s,baz=357,slow=3.1,SNR=7.3
V50A Pikevile 48.16 92 P P 08 14 13.5 0.0
baz=326
TZTN Tazewell 48.16 90 P P 08 14 13.7 +0.2
baz=325
X48A Hartselle 48.27 94 P P 08 14 14.6 +0.3
baz=326
V51A Loudon 48.40 91 P P 08 14 15.9 +0.7
baz=325
W50A Signal Mountai 48.45 92 P P 08 14 16.5 +0.8
baz=326
X49A Woodville 48.55 94 P P 08 14 17.1 +0.7
baz=326
S55A Lewisburg 48.57 86 P P 08 14 17.0 +0.4
baz=324
T54A Tazewell 48.66 88 P P 08 14 18.0 +0.7
baz=325
Y48A Jasper 48.66 95 P P 08 14 17.3 0.0
baz=326
T55A Pulaski 48.98 87 P P 08 14 20.5 +0.7
baz=325
U54A Nelsons Funny 48.98 88 P P 08 14 20.2 +0.4
baz=325
Y49A Blount Mountai 49.05 94 P P 08 14 20.8 +0.5
baz=326
BLA Blacksburg 49.07 86 P P 08 14 21.2 +0.7
baz=325
W52A Murphy 49.18 91 P P 08 14 21.8 +0.5
baz=326
X51A Calhoun 49.18 92 P P 08 14 22.2 +0.9
baz=326
V53A Saluda 49.22 90 P P 08 14 22.4 +0.8
baz=325
Y50A Piedmont 49.34 94 P P 08 14 23.0 +0.5
baz=326
U55A TA2, Sparta 49.36 88 P P 08 14 23.0 +0.3
baz=325
CN2 Changchun 49.42 289 *e*P P 08 14 22.6 -0.4
CN2 pmax pmax
comp=Z,20nm,0.5s
MJAR Matsushiro Arr 49.49 273 P P 08 14 23.5 -0.1
comp=Z,4.2nm,0.6s,baz=5.0,slow=6.9,SNR=11
MJAR LR LR 08 36 39.6
comp=Z,17nm,19.9s,baz=130,slow=38
V54A Nebo 49.53 89 P P 08 14 24.2 +0.2
baz=325
Z49A Columbiana 49.55 95 P P 08 14 24.2 +0.2
baz=327
X52A Dahlonega 49.60 91 P P 08 14 25.0 +0.5
baz=326
Y51A Rockmart 49.64 93 P P 08 14 24.7 -0.1
baz=326
CBN Corbin Frederi 49.66 83 P P 08 14 25.5 +0.6
baz=324
Z50A Ashland 49.78 94 *e*P P 08 14 26.6 +0.8
comp=Z,43nm,0.6s
Z50A Ashland 49.78 94 P P 08 14 26.2 +0.4
baz=327
149A Jones 49.92 96 P P 08 14 26.9 0.0
baz=327
X53A Estanollee 49.95 91 P P 08 14 27.0 -0.1
baz=326
Z51A Franklin 50.07 94 P P 08 14 29.2 +1.1
baz=327
Y52A Lilburn 50.13 92 *e*P P 08 14 31.2 +2.7
comp=Z,29nm,1.3s
Y52A Lilburn 50.13 92 P P 08 14 29.6 +1.1
baz=326
150A Eclectic 50.27 95 P P 08 14 30.0 +0.4
baz=327
249A Camden 50.29 96 P P 08 14 29.9 +0.2
baz=327
X54A Belton 50.35 90 P P 08 14 30.4 +0.3
baz=326
Y53A Monroe 50.36 92 P P 08 14 30.3 +0.1
baz=326
Z52A Williamson 50.53 93 P P 08 14 31.7 +0.3
baz=327
151A Opelika 50.66 94 P P 08 14 32.8 +0.4
baz=327
250A Grady 50.69 96 P P 08 14 33.7 +1.0
baz=327
W56A Indian Trail 50.69 88 P P 08 14 32.5 -0.1
baz=326
X55A Gracelyn & Ava 50.76 90 P P 08 14 34.3 +1.1
baz=326
LNIG Linares 50.86 113 *e*P P 08 14 35.4 +1.3
comp=Z,3.0nm,0.9s
Z54A Sparta 51.22 92 P P 08 14 37.2 +0.6
baz=327
TLY Talaya 51.79 310 *e*P P 08 14 41.5 +0.7
comp=Z,7.4nm,0.7s
TLY Talaya 51.79 310 *e*P P 08 14 41.4 +0.7
TLY pmax pmax
comp=Z,18nm,0.8s
MOY Mondy 52.73 312 *e*P P 08 14 49.1 +1.3
MOY pmax pmax
comp=Z,31nm,1.4s
ZAK Zakamensk 53.00 309 *e*P P 08 14 49.4 -0.3
ZAK pmax pmax
comp=Z,6.0nm,1.0s
TMCR Tamitsa 53.37 355 *e*P P 08 14 51.4 -0.7
KS01 Wonju Array Si 53.45 282 *e*P P 08 14 53.4 +0.3
KSRS Korea Array 53.45 282 P P 08 14 54.0 +0.9
comp=Z,14nm,0.6s,baz=30,slow=6.8,SNR=38
KSRS LR LR 08 38 32.1
comp=Z,36nm,18.9s,baz=56,slow=37
KS15 Wonju Array Si 53.48 282 *e*P P 08 14 54.0 +0.6
comp=Z,23nm,0.9s
KSAR Wonju Array Be 53.48 282 P P 08 14 54.0 +0.7
KSAR Wonju Array Be 53.48 282 P P 08 14 54.0 +0.7

ULN	**Ulaanbaatar**	**53.69**	**305**	*e*P		**P**	**08 14 55.5**	**+0.5**
	comp=Z,22nm,0.7s								
ULN	**Ulaanbaatar**	**53.69**	**305**	*c e*P		**P**	**08 14 55.7**	**+0.8**
ULN					pmax	pmax			
	comp=Z,18nm,0.6s								
SONA0	**Songino Array**	**53.97**	**306**	*e*P		**P**	**08 14 57.9**	**+1.0**
SONM	**Songino Array**	**53.97**	**306**	P		**P**	**08 14 57.9**	**+1.0**
	comp=Z,24nm,0.8s,baz=30,slow=7.0,SNR=165								
SONM				LR		LR	08 37 31.9		
	comp=Z,64nm,18.1s,baz=22,slow=35								
NVS	**Novosibirsk**	**55.42**	**325**	*i* P		**P**	**08 15 06.5**	**-0.6**
JNU	**Nakatsue**	**55.69**	**277**	LR		LR	08 38 59.2		
	comp=Z,14nm,20.9s,baz=32,slow=36								
ZAA1	**Zalesovo Array**	**55.79**	**324**	*e*P		**P**	**08 15 09.3**	**-0.4**
ZAA0	**Zalesovo Array**	**55.79**	**324**	*e*P		**P**	**08 15 09.7**	**0.0**
	comp=Z,26nm,0.7s								
ZALV	**Zalesovo Beam**	**55.79**	**324**	*e*P		**P**	**08 15 09.2**	**-0.6**
ZALV	**Zalesovo Beam**	**55.79**	**324**	P		**P**	**08 15 09.3**	**-0.4**
	comp=Z,24nm,0.6s,baz=27,slow=6.7,SNR=40								
ZALV				ScP		**ScP**	**08 19 56.4**	**-1.8**	
	comp=Z,0.4nm,0.4s,baz=26,slow=7.0,SNR=2.4								
NB2	**NORSAR Subarra**	**55.98**	**10**	P		**P**	**08 15 10.0**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=351,slow=7.4								
NB200	**NORSAR Array S**	**55.98**	**10**	*e*P		**P**	**08 15 10.1**	**-1.0**
NB200				*ep*P		**pP**	**08 15 33.9**	**-0.5**
NOA	**NORSAR Array B**	**55.98**	**10**	P		**P**	**08 15 10.1**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=352,slow=7.1,SNR=6.6								
NOA				pP		**pP**	**08 15 33.9**	**-0.5**	
	comp=Z,2.0nm,0.9s,baz=350,slow=7.2,SNR=2.6								
NOA				LR		LR	08 42 18.0		
	comp=Z,8.4nm,18.1s,baz=195,slow=39								
FIA1	**FINESS Array S**	**56.27**	**2**	*e*P		**P**	**08 15 12.3**	**-0.8**
FIA0	**FINESS Array S**	**56.28**	**2**	*e*P		**P**	**08 15 12.4**	**-0.7**
FIA0				*ep*P		**pP**	**08 15 36.8**	**+0.9**
FIA0				*e*PcP		**PcP**	**08 16 08.9**	**-0.5**
FIA0	**FINESS Array S**	**56.28**	**2**	*e*P		**P**	**08 15 12.4**	**-0.7**
FIA0				*e**PP		**pP**	**08 15 36.8**	**+0.9**
FIA0				*e*			08 16 08.9		
FINES	**FINESS Array B**	**56.28**	**2**	*i* P		**P**	**08 15 12.6**	**-0.5**
FINES				pmax	pmax				
	comp=Z,6.0nm,0.6s								
FINES	**FINESS Array B**	**56.28**	**2**	P		**P**	**08 15 12.4**	**-0.7**
	comp=Z,6.4nm,0.6s,baz=11,slow=7.7,SNR=22								
FINES				pP		**pP**	**08 15 36.8**	**+0.9**	
	comp=Z,3.4nm,0.7s,baz=12,slow=9.9,SNR=3.2								
FINES				PcP		**PcP**	**08 16 08.9**	**-0.5**	
	comp=Z,2.0nm,0.6s,baz=15,slow=6.0,SNR=2.6								
BJI	**Beijing**	**56.50**	**293**	P		**P**	**08 15 15.1**	**+0.1**
BJI				pmax	pmax				
	comp=Z,19nm,1.1s								
BJT	**Baijiatuan**	**56.52**	**293**	*e*P		**P**	**08 15 15.6**	**+0.5**
	comp=Z,22nm,0.6s								
BJT	**Baijiatuan**	**56.52**	**293**	*e*P		**P**	**08 15 15.6**	**+0.5**
BJT				pmax	pmax				
	comp=Z,22nm,0.6s								
KLMR	**Klimovskoe**	**56.61**	**354**	*e*P		**P**	**08 15 14.6**	**-0.9**
KLMR				*e*			08 16 09.2		
KLMR				pmax	pmax				
	comp=Z,50nm,1.4s								
KLMR	**Klimovskoe**	**56.61**	**354**	*e*P		**P**	**08 15 14.6**	**-0.9**
KLMR				AMP			08 15 17.1		
	comp=Z,50nm,1.4s								
KLMR				*e*PcP		**PcP**	**08 16 09.2**	**-1.6**	
HHC	**Hu-ho-hao-te**	**57.75**	**297**	*e*P		**P**	**08 15 23.8**	**-0.2**
HHC				pmax	pmax				
	comp=Z,19nm,1.1s								
HHC				pmax	pmax				
	comp=Z,69nm,4.7s								
SVE	**Sverdlovsk**	**58.38**	**340**	*d* iP		**P**	**08 15 28.3**	**+0.4**
SVE				pmax	pmax				
	comp=Z,50nm,0.9s								
ARU	**Arti**	**59.08**	**341**	*e*P		**P**	**08 15 32.1**	**-0.6**
	comp=Z,42nm,0.7s								
ARU	**Arti**	**59.08**	**341**	*c* iP		**P**	**08 15 32.5**	**-0.3**
ARU				*PP		**pP**	**08 15 50.9**	**-4.8**
ARU				S		**S**	**08 23 35.7**	**+3.3**
ARU				SS		**SS**	**08 27 28.6**	**+2.0**
ARU				pmax	pmax				
	comp=Z,46nm,0.8s								
VSU	**Vasula**	**59.27**	**1⇑**	*e*P		**P**	**08 15 33.9**	**-0.2**
VSU				pmax	pmax				
	comp=Z,52nm,0.7s								
TIY	**Taiyuan**	**60.03**	**295**	*e*P		P	08 15 46.0	+6.3	
TIY				pP		pP	08 15 59.3	-3.2	
TIY				S		**S**	**08 23 50.6**	**+5.2**	
TIY				sS		pS	08 24 13.3	+2.8	
TIY	**Taiyuan**	**60.03**	**295**	SS		SS	08 27 53.1	+10	
TIY				pmax	pmax				
	comp=Z,240nm,3.7s								
TIY				LR		LR			
	comp=N,160nm,4.6s								
TIY				LR		LR			
	comp=E,120nm,4.2s								
TIY				LR		LR			
	comp=Z,210nm,4.7s								
BRVK	**Borovoye**	**60.16**	**333**	*e*P		**P**	**08 15 40.0**	**-0.3**
	comp=Z,29nm,1.0s								
BRVK	**Borovoye**	**60.16**	**333**	*c* iP		**P**	**08 15 39.8**	**-0.5**
BRVK				pmax	pmax				
	comp=Z,28nm,1.0s								
BRVK				pmax	pmax				
	comp=Z,47nm,1.7s								
BVA0	**Borovoye Array**	**60.17**	**332**	P		**P**	**08 15 39.7**	**-0.7**
BVA0				pmax	pmax				
	comp=Z,21nm,0.8s								
KURK	**Kurchatov**	**60.36**	**326**	*e*P		**P**	**08 15 41.2**	**-0.5**
	comp=Z,19nm,0.9s								
KURK	**Kurchatov**	**60.36**	**326**	P		**P**	**08 15 40.8**	**-0.9**
KURK				pmax	pmax				
	comp=Z,14nm,0.6s								
CCIG	**Comitan**	**61.62**	**110**	*e*P		**P**	**08 15 51.4**	**+0.5**
	comp=Z,36nm,0.4s								
MOS	**Moscow**	**61.81**	**354**	*e*P		**P**	**08 15 50.9**	**-0.5**
MOS				pmax	pmax				
	comp=Z,41nm,0.6s								
NJ2	**Nanjing**	**62.04**	**286**	*e*P		**P**	**08 15 54.8**	**+1.5**
NJ2				pmax	pmax				
	comp=Z,29nm,0.8s								
OBN	**Obninsk**	**62.48**	**355**	*c* iP		**P**	**08 15 55.8**	**0.0**
OBN				*e**PP		**pP**	**08 16 16.3**	**-2.6**
OBN							08 16 36.0		
OBN				pmax	pmax				
	comp=Z,33nm,0.6s								
OBN				MLR		MLR			
	comp=Z,37nm,17.0s								
MK31	**Makanchi Array**	**62.93**	**322**	*e*P		**P**	**08 15 58.3**	**-0.8**
	comp=Z,16nm,0.9s								
MK31	**Makanchi Array**	**62.93**	**322**	*i* P		**P**	**08 15 58.1**	**-1.0**
MK31				pmax	pmax				
	comp=Z,6.0nm,0.5s								
MK32	**Makanchi Array**	**62.93**	**322**	*e*P		**P**	**08 15 58.2**	**-0.8**
MK32				*ep*P		**pP**	**08 16 22.1**	**+0.1**
MK32				*e*PP		**PP**	**08 18 15.1**	**-2.8**
MKAR	**Makanchi Array**	**62.93**	**322**	P		**P**	**08 15 58.2**	**-0.8**
	comp=Z,15nm,0.4s,baz=35,slow=6.6,SNR=252								
MKAR				pP		**pP**	**08 16 22.1**	**0.0**	
	comp=Z,2.8nm,0.5s,baz=36,slow=5.4,SNR=2.3								
MKAR				PP		**PP**	**08 18 15.1**	**-2.8**	
	comp=Z,1.5nm,0.8s,baz=39,slow=9.3,SNR=2.6								
MKAR				LR		LR	08 44 37.0		
	comp=Z,44nm,18.1s,baz=278,slow=37								
MK01	**Makanchi Array**	**62.95**	**322**	*e*P		**P**	**08 15 58.2**	**-1.0**
KLNR	**Kaliningrad**	**62.96**	**6**	*i* P		**P**	**08 15 57.2**	**-1.8**
KLNR				pmax	pmax				
	comp=Z,18nm,0.9s								
MAKZ	**Makanchi**	**63.01**	**322**	*e*P		**P**	**08 15 58.9**	**-0.7**
	comp=Z,26nm,0.5s								
MAKZ	**Makanchi**	**63.01**	**322**	*e*P		**P**	**08 15 58.9**	**-0.7**
MAKZ				pmax	pmax				
	comp=Z,26nm,0.5s								
GTA	**Gaotai**	**63.63**	**305**	⇑P		**P**	**08 16 04.5**	**+0.6**
GTA				pmax	pmax				
	comp=Z,49nm,0.8s								
GTA				pmax	pmax				
	comp=Z,91nm,6.2s								
GTA				LR		LR			
	comp=Z,71nm,17.8s								
GTA				LR		LR			
	comp=Z,150nm,18.7s								
WMQ	**Urumqi**	**63.98**	**316**	P		**P**	**08 16 06.8**	**+0.8**
WMQ				pP		pP	08 16 29.5	+0.6	
WMQ				sP		PcP	08 16 41.4	+0.6	
WMQ				pmax	pmax				
	comp=Z,38nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,200nm,5.7s								
WMQ				LR		LR			
	comp=Z,110nm,23.7s								
WMQ				LR		LR			
	comp=Z,180nm,25.3s								
OTUK	**Ortayu**	**64.21**	**329**	P		**P**	**08 16 07.0**	**-0.4**
OTUK				pmax	pmax				
	comp=Z,21nm,0.6s								
XAN	**Xi'an**	**64.64**	**295**	P		**P**	**08 16 09.5**	**-1.0**
XAN				pP		pP	08 16 32.3	-1.0	
XAN				pmax	pmax				
	comp=Z,9.0nm,1.0s								
XAN	**Xi'an**	**64.64**	**295**	*e*P		**P**	**08 16 10.1**	**-0.4**
	comp=Z,18nm,1.3s								
XAN	**Xi'an**	**64.64**	**295**	*e*P		**P**	**08 16 10.1**	**-0.4**
XAN				pmax	pmax				
	comp=Z,18nm,1.3s								
LPSR	**Galich'ya Gora**	**64.88**	**353**	*e*P		**P**	**08 16 11.0**	**-0.6**
LPSR				pmax	pmax				
	comp=Z,20nm,0.9s								
LZH	**Lanzhou**	**64.95**	**300**	⇑P		**P**	**08 16 13.0**	**+0.4**
LZH				pP		pP	08 16 37.3	+1.6	
LZH				sP		sP	08 16 47.0	+1.3	
LZH				PP		**PP**	**08 18 40.3**	**+4.3**	
LZH				pmax	pmax				
	comp=Z,42nm,1.0s								
LZH				pmax	pmax				
	comp=Z,120nm,7.6s								
CLL	**Collm**	**65.77**	**11**	*e*P		**P**	**08 16 17.0**	**-0.4**
	comp=Z,4.0nm,0.6s								
CLL	**Collm**	**65.77**	**11**	*e*P		**P**	**08 16 17.0**	**-0.4**
CLL				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AB31	**Akbulak array**	**65.78**	**338**	*i* P		**P**	**08 16 17.2**	**-0.4**
AB31				pmax	pmax				
	comp=Z,15nm,0.7s								
ABKAR	**Akbulak array**	**65.78**	**338**	*e*P		**P**	**08 16 17.2**	**-0.3**
	comp=Z,23nm,0.8s								
VRH	**Novokhopyorsk**	**66.09**	**351**	*e*P		**P**	**08 16 18.2**	**-1.3**
VRH				pmax	pmax				
	comp=Z,9.0nm,0.5s								
VSR	**Storozhevoye**	**66.25**	**353**	*c* iP		**P**	**08 16 19.8**	**-0.7**
VSR				pmax	pmax				
	comp=Z,38nm,0.6s								
BRG	**Berggiesshubel**	**66.28**	**10**	*e*P		**P**	**08 16 20.4**	**-0.3**
	comp=Z,4.2nm,0.9s								
BRG	**Berggiesshubel**	**66.28**	**10**	*e*P		**P**	**08 16 20.4**	**-0.3**
BRG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
PDGK	**Podgornoye**	**66.90**	**322**	P		**P**	**08 16 24.7**	**-0.3**
PDGK				pmax	pmax				
	comp=Z,35nm,1.0s								
DPC	**Dobruska-Polom**	**66.98**	**9**	*e*P		**P**	**08 16 25.6**	**+0.3**
DPC				*ep*P		**pP**	**08 16 50.2**	**+1.5**
DPC	**Dobruska-Polom**	**66.98**	**9**	*e*P		**P**	**08 16 25.6**	**+0.3**
DPC				*e*			08 16 50.2		
AKASG	**Malin Array Be**	**67.06**	**360**	P		**P**	**08 16 25.0**	**-0.7**
	comp=Z,6.0nm,0.4s,baz=2.4,slow=6.3,SNR=37								
AKASG				pP		**pP**	**08 16 49.3**	**+0.3**	
	comp=Z,6.8nm,0.6s,baz=2.6,slow=6.4,SNR=3.4								
AKASG				LR		LR	08 47 21.2		
	comp=Z,19nm,18.2s,baz=215,slow=37								
AKBB	**Malin Array Si**	**67.06**	**360**	*e*P		**P**	**08 16 25.1**	**-0.6**
	comp=Z,16nm,0.8s								
AKBB				*ep*P		**pP**	**08 16 49.3**	**+0.3**	
AKBB	**Malin Array Si**	**67.06**	**360**	*e*P		**P**	**08 16 25.1**	**-0.6**
AKBB				*e**PP		**pP**	**08 16 49.3**	**+0.3**	
AKBB				pmax	pmax				
	comp=Z,16nm,0.8s								
KIEV	**Kiev**	**67.07**	**360**	*e*P		**P**	**08 16 25.1**	**-0.6**
	comp=Z,16nm,0.8s								
KIEV	**Kiev**	**67.07**	**360**	⇓ *i* P		**P**	**08 16 25.1**	**-0.6**
KIEV	**Kiev**	**67.07**	**360**	*e*P		**P**	**08 16 25.1**	**-0.6**
KIEV				pmax	pmax				
	comp=Z,16nm,0.8s								
AK11	**Malin Array Si**	**67.08**	**360**	*e*P		**P**	**08 16 24.8**	**-1.0**
KRLC	**Kraliky**	**67.29**	**8**	*e*P		**P**	**08 16 27.4**	**+0.2**
KRLC	**Kraliky**	**67.29**	**8**	*e*P		**P**	**08 16 27.4**	**+0.2**
GOPC	**GO Pecny, Ondr**	**67.30**	**10**	*e*P		**P**	**08 16 27.5**	**+0.2**
GOPC	**GO Pecny, Ondr**	**67.30**	**10**	*e*P		**P**	**08 16 27.5**	**+0.2**
MORC	**Moravsky Berou**	**67.63**	**8**	*e*P		**P**	**08 16 29.5**	**+0.1**
	comp=Z,4.1nm,0.7s								
MORC	**Moravsky Berou**	**67.63**	**8**	⇑ *i* P		**P**	**08 16 28.9**	**-0.5**
MORC	**Moravsky Berou**	**67.63**	**8**	*e*P		**P**	**08 16 29.5**	**+0.1**
MORC				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MORC	**Moravsky Berou**	**67.63**	**8**	*e*P		**P**	**08 16 29.2**	**-0.2**
KHC	**Kasperske Hory**	**67.98**	**11**	*e*P		**P**	**08 16 32.0**	**+0.4**
	comp=Z,1.6nm,0.6s								
KHC	**Kasperske Hory**	**67.98**	**11**	*e*P		**P**	**08 16 31.9**	**+0.4**
KHC	**Kasperske Hory**	**67.98**	**11**	*e*P		**P**	**08 16 31.9**	**+0.4**
VRAC	**Vranov**	**68.04**	**9**	*e*P		**P**	**08 16 32.1**	**+0.2**
SSLB	**Suanglung**	**68.17**	**280**	*e*P		**P**	**08 16 32.1**	**-1.1**
	comp=Z,9.1nm,0.7s								
GEC2	**GERESS Array S**	**68.27**	**11**	*e*P		**P**	**08 16 33.2**	**-0.3**
	comp=Z,2.2nm,0.8s								
GEC2	**GERESS Array S**	**68.27**	**11**	*e*P		**P**	**08 16 33.2**	**-0.3**
GEC2				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**68.27**	**11**	P		**P**	**08 16 33.2**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=355,slow=5.6,SNR=10								
GERES				pP		**PcP**	**08 16 58.1**	**-0.5**	
	comp=Z,0.7nm,0.6s,baz=334,slow=5.6,SNR=2.3								
GEA0	**GERESS Array S**	**68.28**	**11**	*e*P		**P**	**08 16 33.3**	**-0.2**
USP	**Ospenovka**	**68.32**	**326**	P		**P**	**08 16 34.0**	**+0.2**
	SNR=9.9								
TKM2	**Tokmak 2**	**68.35**	**325**	P		**P**	**08 16 34.5**	**+0.3**
	SNR=31								
TKM2	**Tokmak 2**	**68.35**	**325**	P		**P**	**08 16 34.2**	**0.0**
TKM2				pmax	pmax				
	comp=Z,28nm,1.0s								
LANS	**Liptovska Anna**	**68.37**	**7**	*e*P		**P**	**08 16 34.5**	**+0.5**
LANS	**Liptovska Anna**	**68.37**	**7**	*e*P		**P**	**08 16 34.5**	**+0.5**
CHMS	**Chumysh**	**68.50**	**325**	P		**P**	**08 16 35.2**	**+0.3**
	SNR=11								
JAVC	**Velka Javorina**	**68.56**	**8**	*e*P		**P**	**08 16 36.3**	**+1.1**
KDJ	**Kajisay**	**68.66**	**323**	*e*P		**P**	**08 16 37.3**	**+1.2**
	comp=Z,24nm,0.9s								
KDJ	**Kajisay**	**68.66**	**323**	*e*P		**P**	**08 16 37.3**	**+1.2**
KDJ				pmax	pmax				
	comp=Z,24nm,0.9s								
KBK	**Karagaybulak**	**68.77**	**325**	P		**P**	**08 16 37.1**	**+0.3**
	SNR=28								
TARG	**Taragay, Kyrgy**	**68.86**	**323**	*e*P		**P**	**08 16 38.2**	**+0.6**
	comp=Z,15nm,1.1s								
AAK	**Ala-Archa**	**68.91**	**326**	P		**P**	**08 16 37.9**	**+0.3**
	SNR=23								
AAK	**Ala-Archa**	**68.91**	**326**	*e*P		**P**	**08 16 37.9**	**+0.3**
	comp=Z,24nm,0.9s								
AAK	**Ala-Archa**	**68.91**	**326**	*i* P		**P**	**08 16 37.7**	**+0.1**
AAK				pmax	pmax				
	comp=Z,27nm,0.9s								
VYHS	**Vyhne**	**68.99**	**7**	*e*P		**P**	**08 16 37.8**	**0.0**
VYHS				pmax	pmax				
	comp=Z,2.0nm,0.9s								
VYHS	**Vyhne**	**68.99**	**7**	*e*P		**P**	**08 16 37.8**	**0.0**
MODS	**Modra-Piesok**	**69.01**	**8**	*e*P		**P**	**08 16 38.3**	**+0.3**
MODS				pmax	pmax				
	comp=Z,4.0nm,0.8s								
MODS	**Modra-Piesok**	**69.01**	**8**	*e*P		**P**	**08 16 38.3**	**+0.3**
UZH	**Uzhgorod**	**69.01**	**5**	*e*P		**P**	**08 16 39.0**	**+1.1**
UZH				*e*			08 17 00.1		
EKS2	**Erkin-Say**	**69.07**	**326**	P		**P**	**08 16 39.0**	**+0.4**
	SNR=39								
KZA	**Kyzart**	**69.23**	**325**	P		**P**	**08 16 40.3**	**+0.3**
	SNR=16								
UCH	**Uchtor**	**69.29**	**325**	P		**P**	**08 16 40.7**	**+0.4**
	SNR=5.8								
CONA	**Conrad Observa**	**69.36**	**9**	*e*P		**P**	**08 16 40.4**	**+0.2**
	comp=Z,4.6nm,0.7s								
KK31	**Karatay Array**	**69.47**	**329**	*e*P		**P**	**08 16 40.5**	**-0.4**
	comp=Z,16nm,0.9s								
KK31	**Karatay Array**	**69.47**	**329**	*i* P		**P**	**08 16 40.1**	**-0.8**
KK31				pmax	pmax				
	comp=Z,16nm,1.0s								
KKAR	**Karatay Array**	**69.47**	**329**	*e*P		**P**	**08 16 40.5**	**-0.4**
	comp=Z,16nm,0.9s								
KKAR	**Karatay Array**	**69.47**	**329**	*e*P		**P**	**08 16 40.5**	**-0.4**
KKAR				pmax	pmax				
	comp=Z,16nm,0.9s								
CD2	**Chengdu**	**69.50**	**298**	⇑ *i* P		**P**	**08 16 42.6**	**+1.3**
CD2				pmax	pmax				
	comp=Z,50nm,0.8s								
TRPA	**Tarpa**	**69.52**	**4⇑**	*i* P		**P**	**08 16 41.3**	**+0.2**
AML	**Almayashu**	**69.59**	**326**	P		**P**	**08 16 42.7**	**+0.6**
	SNR=35								
NRN	**Naryn**	**69.63**	**324**	*e*P		**P**	**08 16 42.9**	**+0.6**
	comp=Z,17nm,0.9s								
NRN	**Naryn**	**69.63**	**324**	*e*P		**P**	**08 16 42.9**	**+0.6**
NRN				pmax	pmax				
	comp=Z,17nm,0.9s								
KBA	**Koelnbreinsper**	**70.00**	**11**	*e*P		**P**	**08 16 44.6**	**+0.3**
	comp=Z,7.6nm,0.6s								
BUR08	**Bucovina Ar. S**	**70.08**	**3**	*e*P		**P**	**08 16 44.7**	**0.0**
	comp=Z,6.3nm,0.6s								
BURAR	**Bucovina Array**	**70.11**	**3⇑**	*i*P		**P**	**08 16 44.6**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**70.14**	**13**	*e*P		**P**	**08 16 45.9**	**+0.6**
	comp=Z,18nm,1.3s								
ABTA	**Abfaltersbach**	**70.25**	**12**	*e*P		**P**	**08 16 45.1**	**-0.5**
	comp=Z,1.7nm,0.7s								
SOKA	**Soboth**	**70.54**	**10**	*e*P		**P**	**08 16 48.0**	**+0.6**
	comp=Z,2.2nm,0.5s								
OBKA	**Obir**	**70.66**	**10**	*e*P		**P**	**08 16 48.2**	**0.0**
	comp=Z,19nm,1.1s								
BIZ	**Bicaz**	**70.81**	**2⇓**	*i*P		**P**	**08 16 49.2**	**+0.2**
DRGR		**70.87**	**4⇑**	*i*P		**P**	**08 16 48.9**	**-0.5**
KSH	**Kashi**	**71.42**	**323**	P		**P**	**08 16 56.0**	**+3.0**
KSH				PcP		**pP**	**08 17 15.5**	**-0.9**
KSH				S		**S**	**08 26 09.3**	**+5.3**
KSH				SS		**SS**	**08 30 45.8**	**+6.8**
KSH				pmax	pmax				
	comp=Z,24nm,0.9s								
KSH				pmax	pmax				
	comp=Z,140nm,5.4s								
DOPR	**Dopca**	**71.77**	**2⇑**	*i*P		**P**	**08 16 55.8**	**+1.0**
VRI	**Vrincioaia**	**71.89**	**1⇑**	*i*P		**P**	**08 16 55.3**	**-0.2**
PLOR	**Plostina**	**71.90**	**2⇑**	*i*P		**P**	**08 16 56.1**	**+0.5**
GOF	**Gofitskoye**	**72.10**	**349⇑**	*i*P		**P**	**08 16 56.5**	**-0.2**
GOF				pmax	pmax				
	comp=Z,40nm,0.7s								
MLR	**Muntele Rosu**	**72.25**	**2**	*e*P		**P**	**08 16 58.2**	**+0.4**
	comp=Z,3.7nm,0.8s								
MLR	**Muntele Rosu**	**72.25**	**2⇓**	*i*P		**P**	**08 16 57.9**	**+0.1**
GZR	**Gura Zlata**	**72.27**	**4⇑**	*i*P		**P**	**08 16 57.5**	**-0.3**
BTK	**Batken**	**72.28**	**327**	*e*P		**P**	**08 16 58.1**	**+0.1**
	comp=Z,33nm,1.1s								
BTK	**Batken**	**72.28**	**327**	*e*P		**P**	**08 16 58.1**	**+0.1**
BTK				pmax	pmax				
	comp=Z,33nm,1.1s								
VOIR		**72.29**	**3⇑**	*i*P		**P**	**08 16 58.9**	**+0.9**
CFR	**Carcaliu**	**72.59**	**0⇑**	*i*P		**P**	**08 16 58.8**	**-0.8**
TLB	**Topalu**	**73.18**	**1⇑**	*i*P		**P**	**08 17 03.0**	**-0.1**
KIV	**Kislovodsk**	**73.22**	**350**	*e*P		**P**	**08 17 03.4**	**-0.2**
KIV				pmax	pmax				
	comp=Z,49nm,1.0s								
GAR	**Garm**	**73.40**	**327**	*e*P		**P**	**08 17 04.7**	**0.0**
	comp=Z,90nm,1.2s								
GAR	**Garm**	**73.40**	**327**	*e*P		**P**	**08 17 04.7**	**0.0**
GAR				pmax	pmax				
	comp=Z,90nm,1.2s								
KBZ	**Khabaz**	**73.43**	**349**	P		**P**	**08 17 05.0**	**+0.4**
	comp=Z,7.8nm,0.7s,baz=344,slow=5.7,SNR=19								
KBZ				pP		**pP**	**08 17 29.4**	**+1.0**	
	comp=Z,4.7nm,0.7s,baz=338,slow=5.4,SNR=3.1								
CHGR	**Chuyangaron**	**74.01**	**328**	*e*P		**P**	**08 17 08.1**	**-0.1**
	comp=Z,126nm,0.8s								
ESDC	**Sonseca Array**	**74.75**	**26**	P		**P**	**08 17 11.9**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=344,slow=6.4,SNR=7.0								
ES06	**SONSECA Array**	**74.75**	**26**	*e*P		**P**	**08 17 12.7**	**+0.2**
KMI	**Kunming**	**75.02**	**296**	P		**P**	**08 17 17.3**	**+2.9**
KMI				pmax	pmax				
	comp=Z,12nm,0.6s								
KMI				pmax	pmax				
	comp=Z,120nm,4.2s								
LSA	**Lhasa**	**75.50**	**307**	*e*P		**P**	**08 17 19.3**	**+1.8**
	comp=Z,12nm,0.8s								
LSA	**Lhasa**	**75.50**	**307**	*e*P		**P**	**08 17 19.3**	**+1.8**
LSA				pmax	pmax				
	comp=Z,12nm,0.8s								
DIKM	**Dikmen**	**75.98**	**355⇑**	*i*P		**P**	**08 17 19.8**	**+0.4**
GEYT	**Alibeck**	**77.08**	**337**	P		**P**	**08 17 25.8**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=285,slow=2.3,SNR=6.9								
GEYT				LR		LR	08 57 47.0		
	comp=Z,30nm,18.2s,baz=245,slow=41								
ANTO	**Ankara**	**77.84**	**357**	*e*P		**P**	**08 17 30.7**	**+0.7**
	comp=Z,20nm,1.0s								
BR101	**Keskin Array S**	**77.96**	**356**	*e*P		**P**	**08 17 30.1**	**-0.6**
BR101				*ep*P		**pP**	**08 17 55.5**	**+1.1**
BR131	**Keskin Array S**	**77.96**	**356**	*e*P		**P**	**08 17 30.9**	**+0.1**
	comp=Z,8.7nm,1.0s								
BRTR	**Keskin Array B**	**77.96**	**356**	P		**P**	**08 17 30.

HUIG			*i* S	Sn	08 23 23.0	-2.2
VHO	**Vista Hermosa**	**1.90 274**	*e*P	Pn	08 23 04.9	-1.4
VHO			*i* S	Sn	08 23 27.4	-1.8
PNIG	**Pinotepa**	**3.29 261**	*i* P	Pn	08 23 23.4	-1.6
PNIG			*i* S	Sn	08 24 01.1	-1.8
TLIG	**Tlapa**	**3.70 280**	*i* P	Pn	08 23 29.5	-1.3
TLIG			*i* S	Sn	08 24 12.3	-0.9

JMA ***13*** *08:22:52.7±0.2, 33.°42N×138.°43E, h291km, M3.1*
ISCJB ***13*** *08:22:53.9±0.7, 33.°64N±0.°08×138.°39E±0.°08, h291km, mb3.0/7, Error ellipse: s-maj=12.3km s-min=8.4km az=150.5*
IDC ***13*** *08:22:55.1±2.0, 33.°57N×138.°20E, h282km±21km, mb2.9/7, mb1 3.0/8, mb1mx2.8/54, mbtmp3.5/8, Error ellipse: s-maj=33.4km s-min=18.8km az=74.0*

ISC 13 08:22:55.3±0.9, 33.°7N±0.°1×138.°38E±0.°08, h291km, n18, σ1§21/22, mb3.1/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**1.56**	**298**	P	**Pn**	**08 23 36.8**	**-1.1**
JNY	**Yasuok**	**1.73**	**346**	P	**Pn**	**08 23 39.0**	**-0.2**
JAO	**Obara**	**1.83**	**330**	P	**Pn**	**08 23 39.5**	**-0.4**
BSO4	**Boso 4**	**2.08**	**51**	*e*S	**S**	**08 24 19.3**	**+0.6**
BSO3	**Boso 3**	**2.09**	**57**	P	**Pn**	**08 23 40.8**	**-0.8**
BSO3				*e*S	**S**	**08 24 16.9**	**-1.6**
JHU	**Hanno**	**2.29**	**19**	P	**Pn**	**08 23 43.4**	**-0.2**
JHU				*e*S	**S**	**08 24 20.0**	**-2.2**
JYTA	**Yamagatataniai**	**2.34**	**325**	P	**Pn**	**08 23 43.4**	**-0.7**
BSO1	**Boso 1**	**2.36**	**65**	P	**Pn**	**08 23 42.7**	**-1.0**
BSO1				S	**S**	**08 24 22.1**	**-0.2**
JRY	**Ryogami san**	**2.37**	**10**	P	**Pn**	**08 23 45.0**	**+0.6**
MJAR	**Matsushiro Arr**	**2.86**	**357**	P	**Pn**	**08 23 48.9**	**0.0**
	0.2nm,0.3s,baz=186,slow=9.0,SNR=5.8						
JAG	**Ashikaga**	**2.88**	**18**	P	**Pn**	**08 23 48.6**	**-0.5**
JAG				S	**S**	**08 24 29.0**	**-3.1**
SONM	**Songino Array**	**27.82**	**310**	P	**P**	**08 28 19.2**	**+1.0**
	0.3nm,0.5s,baz=116,slow=9.9,SNR=2.3						
MKAR	**Makanchi Array**	**43.89**	**305**	P	**P**	**08 30 33.4**	**-0.1**
	0.4nm,0.5s,baz=90,slow=8.4,SNR=7.5						
KURBB	**Kurchatov Arra**	**46.19**	**310**	P	**P**	**08 30 51.3**	**0.0**
	0.4nm,0.4s,baz=96,slow=7.9,SNR=2.9						
FITZ	**Fitzroy Crossi**	**52.90**	**195**	P	**P**	**08 31 40.6**	**-1.4**
	1.6nm,0.9s,baz=0.0,slow=6.1,SNR=1.7						
WRA	**Warramunga Arr**	**53.46**	**185**	P	**P**	**08 31 46.4**	**+0.3**
	0.2nm,0.3s,baz=360,slow=7.4,SNR=5.5						
ILAR	**Eielson Array**	**53.64**	**31**	P	**P**	**08 31 48.7**	**+1.9**
	0.2nm,0.9s,baz=265,slow=7.8,SNR=1.8						
AKASG	**Malin Array Be**	**75.41**	**322**	P	**P**	**08 34 07.6**	**+0.5**
	0.5nm,0.5s,baz=46,slow=7.9,SNR=1.8						

IDC ***13*** *08:38:44.2±2.2, 59.°42N×163.°74E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/48, mbtmp3.4/7, ML4.5/1, MS3.0/4, Ms1 3.0/4, ms1mx2.7/36, Error ellipse: s-maj=51.0km s-min=13.7km az=175.0*
ISCJB ***13*** *08:38:47.9±0.5, 60.°13N±0.°05×163.°36E±0.°08, h10km, mb3.5/5, MS2.9/3, Error ellipse: s-maj=7.4km s-min=5.3km az=149.9*
KRSC ***13*** *08:38:50.0±10.0, 59.°93N×163.°63E, h62km±10km, ML4.7, FELT [II] at Ilpyrskiy.*

ISC 13 08:38:49.3±0.7, 59.°99N±0.°06×163.°57E±0.°05, h10km, n19, σ1§89/17, mb3.5/5, MS3.0/3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.79**	**200**	*e*P	**Pg**	**08 39 05.1**	**+0.6**
OSSR				*e*S	**Sb**	**08 39 17.2**	**+1.4**
TILK	**Tilichiki**	**1.36**	**69**	*e*P	**Pn**	**08 39 13.5**	**-0.8**
TILK				*e*S	**Sb**	**08 39 33.1**	**+0.8**
PALN	**Palana**	**2.05**	**245**	*e*P	**Pn**	**08 39 23.6**	**-0.2**
PALN				*e*S	**Sn**	**08 39 50.6**	**+1.3**
KMSK	**Kamenskaya**	**2.79**	**26**	*e*P	**Pn**	**08 39 35.3**	**+1.3**
BKI	**Bering**	**4.97**	**164**	*e*P	**Pn**	**08 40 05.4**	**+1.5**
SEY	**Seymchan**	**6.12**	**304**	Pn	**Pn**	**08 40 18.9**	**-0.8**
	0.2nm,0.3s,baz=125,slow=19,SNR=6.1						
SEY				Sn	**Sn**	**08 41 34.5**	**+4.8**
	0.4nm,0.3s,baz=17,slow=23,SNR=1.5						
SEY				Lg	Lg	08 41 55.3	
	0.7nm,0.3s,baz=11,slow=23,SNR=3.6						
MA2	**Magadan**	**6.48**	**272**	Pn	**Pn**	**08 40 23.4**	**-1.3**
	0.8nm,0.3s,baz=85,slow=17,SNR=6.8						
MA2				Pg	Pb	08 40 29.1	-13
	0.9nm,0.3s,baz=69,slow=14,SNR=13						
MA2				Sn	**Sn**	**08 41 35.5**	**-3.1**
	0.9nm,0.3s,baz=175,slow=17,SNR=4.8						
MA2				Lg	Lg	08 42 02.1	
	0.1nm,0.3s,baz=117,slow=2.1,SNR=4.3						
PETK	**Petropavlovsk-**	**7.62**	**208**	LR	LR	08 43 56.7	
	comp=Z,68nm,19.7s,baz=34,slow=44						
ASAJ	**Asahikawa**	**20.32**	**228**	LR	LR	08 52 08.0	
	comp=Z,40nm,20.2s,baz=82,slow=40						
ILAR	**Eielson Array**	**22.95**	**57**	P	**P**	**08 43 51.7**	**-1.5**
	0.8nm,0.9s,baz=266,slow=7.1,SNR=6.5						
MJAR	**Matsushiro Arr**	**28.57**	**226**	LR	LR	08 56 20.3	
	comp=Z,36nm,21.0s,baz=80,slow=37						
KSRS	**Korea Array**	**31.95**	**241**	LR	LR	08 59 52.8	
	comp=Z,31nm,20.0s,baz=110,slow=40						
YKA	**Yellowknife Ar**	**36.98**	**50**	P	**P**	**08 45 57.5**	**-0.8**
	0.4nm,0.8s,baz=299,slow=8.1,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**40.29**	**175**	T	T	09 28 11.7	
	baz=358,slow=76,SNR=4.7						
H11N3	**WAKE ISLAND Hy**	**40.30**	**175**	T	T	09 28 12.3	
	baz=358,slow=76,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**40.30**	**175**	T	T	09 28 04.4	
	baz=358,slow=76,SNR=3.9						
MKAR	**Makanchi Array**	**47.12**	**292**	P	**P**	**08 47 20.1**	**-1.1**
	0.3nm,0.6s,baz=45,slow=8.3,SNR=4.5						
NOA	**NORSAR Array B**	**57.42**	**344**	P	**P**	**08 48 38.4**	**+0.9**
	0.8nm,0.8s,baz=16,slow=7.2,SNR=2.1						
AKASG	**Malin Array Be**	**63.66**	**330**	P	**P**	**08 49 19.4**	**-0.7**
	0.2nm,0.3s,baz=28,slow=6.3,SNR=2.3						

IDC 13 08:45:52.8±3.0, 9.°42N×126.°28E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/38, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=222.9km s-min=28.9km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.23**	**165**	P	P	08 52 04.8	-0.6
	0.4nm,0.6s,baz=345,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**33.71**	**167**	P	P	08 52 36.5	+0.5
	0.8nm,0.5s,baz=351,slow=7.2,SNR=17						
SONM	**Songino Array**	**41.82**	**340**	LR	LR	09 11 33.8	
	comp=Z,53nm,19.0s,baz=32,slow=37						
MKAR	**Makanchi Array**	**52.71**	**323**	P	P	08 55 09.2	-0.1
	0.1nm,0.6s,baz=123,slow=10,SNR=1.7						

ISK ***13*** *08:46:35.9, 38.°93N×29.°44E, h4km, ML1.9/6*
ISCJB ***13*** *08:46:37.8±0.7, 39.°09N±0.°04×29.°06E±0.°04, h5km±9km, Error ellipse: s-maj=8.1km s-min=4.2km az=147.7*
DDA ***13*** *08:46:37.1, 39.°13N×29.°07E, h7km±2km, ML2.7*

ISC 13 08:46:37.7±0.9, 39.°01N±0.°04×29.°15E±0.°03, h13km±6km, n15, σ1§82/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHAP	**Saphane-Kutahy**	**0.06**	**81**	PG	**Pg**	**08 46 40.6**	**+0.3**
SHAP				SG	**Sg**	**08 46 43.8**	**+1.6**
GEDZ	**Gediz**	**0.20**	**81**	PG	**Pg**	**08 46 39.0**	**-3.3**
GEDZ				SG	**Sg**	**08 46 41.2**	**-4.2**
GDZ	**Gediz**	**0.27**	**74**	*i* P	**Pg**	**08 46 44.1**	**+0.7**
GDZ				*i* S	**Sg**	**08 46 49.3**	**+2.1**
GDZ				IAML_P			
	comp=Z,6μm,0.1s						
USAK	**Uak-Merkez**	**0.32**	**199**	*i* P	**Pb**	**08 46 46.2**	**+0.9**
USAK				*i* S	**Sb**	**08 46 51.6**	**+1.1**
USAK				IAML_P			
	comp=Z,3μm,0.1s						
TVSB	**Tavsanli**	**0.50**	**29**	PG	**Pg**	**08 46 46.6**	**-1.0**
KULA	**Kula-Manisa**	**0.63**	**218**	PG	**Pb**	**08 46 50.6**	**-0.1**
KHAL	**Karahalli**	**0.70**	**157**	*i* P	**Pn**	**08 46 53.7**	**+0.2**
KHAL				*i* S	**Sn**	**08 47 03.9**	**-0.3**
MANT	**Manisa**	**0.70**	**222**	*i* P	**Pb**	**08 46 51.9**	**0.0**
MANT				*i* S	**Sg**	**08 47 00.7**	**+0.2**
AKHS	**Akhisar**	**1.05**	**263**	*i* P	**Pg**	**08 46 56.6**	**-1.3**
AKHS				*i* S	**Sg**	**08 47 10.2**	**-1.5**
BALB	**Balikesir**	**1.17**	**303**	PN	**Pn**	**08 47 03.3**	**+3.5**
STEP	**BALIKESIR_Sava**	**1.17**	**288**	*i* P	**Pg**	**08 46 58.1**	**-2.1**
STEP				*i* S	**Sg**	**08 47 13.7**	**-1.8**
STEP				IAML_P			
	comp=Z,478nm,0.1s						
BORA	**Eskisehir**	**1.33**	**49**	*i* P	**Pn**	**08 47 02.3**	**+0.2**
BORA				*i* S	**Sn**	**08 47 20.5**	**+0.7**
BORA				IAML_P			
	comp=Z,1μm,0.1s						
YLV	**Yalova**	**1.56**	**6**	PN	**Pn**	**08 47 06.4**	**+1.1**
ARMT	**Armutlu**	**1.57**	**352**	PN	**Pn**	**08 47 06.2**	**+0.9**
GULT	**Gulveren**	**1.77**	**36**	PN	**Pn**	**08 47 07.4**	**-0.7**

IDC 13 08:51:47.3±1.6, 54.°62N×83.°70E, h0km, mb1 2.6/3, mb1mx2.5/45, mbtmp2.6/3, ML2.3/3, Error ellipse: s-maj=15.7km s-min=9.8km az=14.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**135**	*i*		08 57 25.0	
	baz=316,slow=308,SNR=6.6						
ZALV	**Zalesovo Beam**	**0.94**	**135**	Pg	Pg	08 52 04.0	-1.4
	1.3nm,0.3s,baz=323,slow=18,SNR=20						
ZALV				Lg	Lg	08 52 19.3	
	2.9nm,0.3s,baz=313,slow=30,SNR=23						
ZALV				Rg	Rg	08 52 24.1	
	5.6nm,0.4s,baz=321,slow=23,SNR=24						
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn	Pn	08 53 04.6	-0.2
	0.0nm,0.3s,baz=40,slow=14,SNR=2.7						
KURBB				Lg	Lg	08 54 30.7	
	0.1nm,0.3s,baz=33,slow=29,SNR=3.1						
MKAR	**Makanchi Array**	**7.89**	**187**	Pn	Pn	08 53 44.0	+0.8
	0.0nm,0.3s,baz=10,slow=13,SNR=3.3						
MKAR				Lg	Lg	08 55 58.9	
	0.0nm,0.3s,baz=23,slow=27,SNR=3.8						
BVAR	**Borovoye Array**	**8.04**	**264**	Pn	Pn	08 53 44.3	-0.9
	0.1nm,0.3s,baz=71,slow=14,SNR=2.6						

IDC ***13*** *09:02:15.8±4.8, 0.°19N×123.°78E, h140km±44km, mb3.6/10, mb1 3.8/11, mb1mx3.5/39, mbtmp4.0/11, MS3.4/2, Ms1 3.4/2, ms1mx2.6/39, Error ellipse: s-maj=48.8km s-min=11.9km az=63.0*
ISCJB ***13*** *09:02:16.6±0.5, 0.°10S±0.°05×123.°52E±0.°07, h157km, mb3.7/10, Error ellipse: s-maj=10.3km s-min=5.0km az=26.9*
DJA ***13*** *09:02:18.0±0.4, 0.°S±3.°×12.°4E±°, h117km±7km, M4.4/8, mb4.6/3, mB4.7/3, MLv4.3/8, Mw(mB)3.9/3*

ISC 13 09:02:17.5±0.5, 0.°15S±0.°06×123.°63E±0.°07, h157km, n25, σ2§17/35, mb3.8/10, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.24**	**224**	P	**Pn**	**09 02 42.2**	**-2.8**
LUWI				S	**Sn**	**09 03 00.7**	**-5.4**
SANI	**Sanana**	**3.02**	**129**	P	**Pn**	**09 03 03.5**	**-1.9**
SANI				S	**Sn**	**09 03 38.2**	**-4.3**
TTSI	**Tana Toraja**	**4.78**	**233**	P	**Pn**	**09 03 27.4**	**-0.7**
TTSI				S	**Sn**	**09 04 22.1**	**-1.1**
SPSI	**Sidrap Palu**	**5.41**	**225**	P	**Pn**	**09 03 36.0**	**-0.5**
SPSI				S	**Sn**	**09 04 36.8**	**-1.5**
BNSI	**Bone**	**5.50**	**220**	P	**Pn**	**09 03 38.3**	**+0.6**
BNSI				S	**Sn**	**09 04 40.8**	**+0.4**
DDMP	**Don Marcelino,**	**6.55**	**18**	*e*P	**Pn**	**09 03 54.2**	**+2.6**
SKMP	**Bagumbayan, Su**	**6.68**	**8**	*e*P	**Pn**	**09 03 51.7**	**-1.7**
KCP	**Kidapawan**	**7.25**	**12**	*i*P	**Pn**	**09 04 01.6**	**+0.5**
PAGZ	**Pagadian**	**7.95**	**358**	*e*P	**Pn**	**09 04 11.7**	**+1.5**
BUKP	**Musuan**	**8.10**	**10**	*e*P	**Pn**	**09 04 13.3**	**+1.0**
MSLP	**Maasin**	**10.29**	**7**	*e*P	**Pn**	**09 04 42.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**17.95**	**174**	P	**Pn**	**09 06 18.0**	**+0.6**
	0.8nm,0.3s,baz=1.2,slow=7.3,SNR=13						
WRA	**Warramunga Arr**	**22.29**	**153**	P	**P**	**09 07 03.4**	**+1.2**
	2.9nm,0.4s,baz=335,slow=10,SNR=75						
WRA				PcP	**PcP**	**09 10 52.6**	**+0.4**
	0.4nm,0.6s,baz=335,slow=2.0,SNR=4.5						
ASAR	**Alice Springs**	**25.42**	**158**	P	**P**	**09 07 33.2**	**+2.5**
	0.6nm,0.5s,baz=328,slow=7.6,SNR=16						
ASAR				PcP	**PcP**	**09 11 00.1**	**+1.1**
	0.8nm,0.4s,baz=344,slow=2.2,SNR=8.1						
ASAR				LR	LR	09 18 25.1	
	comp=Z,78nm,18.5s,baz=172,slow=38						
CMAR	**Chiang Mai Arr**	**30.50**	**309**	P	**P**	**09 08 15.9**	**-0.2**
	1.0nm,0.5s,baz=129,slow=8.3,SNR=5.8						
STKA	**Stephens Creek**	**35.84**	**153**	P	**P**	**09 09 04.4**	**+2.2**
	5.3nm,0.5s,baz=333,slow=8.8,SNR=18						
STKA				PcP	**PcP**	**09 11 27.0**	**+0.7**
	1.2nm,0.4s,baz=333,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**50.09**	**345**	P	**P**	**09 10 55.0**	**-1.6**
	0.3nm,0.5s,baz=161,slow=8.7,SNR=4.8						
SONM				PcP	**PcP**	**09 12 13.1**	**-0.8**
	0.5nm,0.7s,baz=163,slow=5.6,SNR=3.2						
MKAR	**Makanchi Array**	**59.07**	**328**	P	**P**	**09 11 59.9**	**-1.3**
	0.4nm,0.3s,baz=124,slow=8.7,SNR=16						
MKAR				PcP	**PcP**	**09 12 46.9**	**-1.4**
	0.4nm,0.4s,baz=138,slow=3.4,SNR=6.4						
URZ	**Urewera**	**61.96**	**134**	LR	LR	09 38 32.4	
	comp=Z,36nm,20.1s,baz=180,slow=35						
ZALV	**Zalesovo Beam**	**62.71**	**335**	P	**P**	**09 12 23.5**	**-2.1**
	0.7nm,0.7s,baz=142,slow=7.3,SNR=3.7						
ZALV				sP	**pP**	**09 13 08.5**	**+5.6**
	0.8nm,0.6s,baz=134,slow=8.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**63.41**	**330**	P	**P**	**09 12 27.8**	**-2.5**
	0.6nm,0.2s,baz=136,slow=5.0,SNR=5.1						
VNDA	**Vanda**	**80.02**	**172**	P	**P**	**09 14 10.4**	**+1.5**
	0.8nm,0.6s,baz=303,slow=8.2,SNR=7.9						
ILAR	**Eielson Array**	**89.91**	**25**	P	**P**	**09 14 56.5**	**-2.0**
	0.1nm,0.4s,baz=275,slow=4.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**121.06**	**285**	PKP	**PKPdf**	**09 20 51.9**	**-0.6**
	0.4nm,0.6s,baz=89,slow=2.6,SNR=3.8						
SCHQ	**Schefferville**	**124.82**	**7**	PKP	**PKiKP**	**09 20 59.2**	**+0.1**
	2.0nm,0.9s,baz=245,slow=4.0,SNR=3.7						

IDC 13 09:19:11.3±1.9, 4.°23S×144.°51E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.5/43, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=30.3km s-min=26.2km az=54.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.16**	**294**	Pn	Pn	09 20 16.9	+0.8
	1.4nm,0.3s,baz=131,slow=18,SNR=5.4						
JAY				Lg	Lg	09 21 24.2	
	2.3nm,0.3s,baz=125,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**18.49**	**212**	P	P	09 23 29.0	-0.1
	0.1nm,0.3s,baz=33,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.86**	**207**	P	P	09 24 07.0	+1.2
	3.8nm,0.8s,baz=32,slow=11,SNR=21						
FITZ	**Fitzroy Crossi**	**23.04**	**232**	P	P	09 24 16.9	-1.5
	2.3nm,0.6s,baz=42,slow=9.8,SNR=6.4						
ILAR	**Eielson Array**	**84.86**	**24**	P	P	09 31 47.5	-0.2
	0.3nm,0.8s,baz=235,slow=6.3,SNR=2.1						

ISCJB ***13*** *09:22:03.0±0.4, 64.°78N±0.°02×30.°81E±0.°08, h0km, Error ellipse: s-maj=5.0km s-min=3.4km az=4.8*
UPP ***13*** *09:22:03.5±2.7, 64.°70N×31.°02E, h0km, ML1.8, Suspected explosion*
HEL ***13*** *09:22:04.4±0.2, 64.°81N×30.°88E, h0km, ML2.3, Explosion*
KOLA ***13*** *09:22:05.3, 64.°77N×30.°64E, h0km*
NAO ***13*** *09:22:06.5±1.6, 64.°81N×30.°52E, ML2.4*
IDC ***13*** *09:22:07.1±1.9, 64.°74N×30.°28E, h0km, mb1 3.0/3, mb1mx2.8/47, mbtmp2.9/3, ML2.3/3, Error ellipse: s-maj=28.8km s-min=8.5km az=102.0*
BER ***13*** *09:22:08.2±3.2, 64.°83N×30.°13E, h0km, ML2.4(NAO), Suspected explosion*

ISC 13 09:22:04.3±0.9, 64.°78N±0.°03×30.°87E±0.°04, h0km, n52, σ1§62/76, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.32**	**342**	*e*P	**Pg**	**09 22 27.9**	**-1.6**
KU6				*e*SN	**Sb**	**09 22 46.7**	**-0.5**
MSF	**Maaselka**	**1.37**	**327**	*e*P	**Pg**	**09 22 28.5**	**-2.0**
MSF				*e*S	**Sg**	**09 22 45.5**	**-2.7**
JOF	**Joensuu**	**1.88**	**174**	*e*P	**Pn**	**09 22 37.8**	**+0.2**
JOF				*e*S	**Sn**	**09 23 00.1**	**-1.8**
OUL	**Oulu**	**2.14**	**280**	*e*P	**Pn**	**09 22 41.2**	**+0.1**
OUL				*e*S	**Sn**	**09 23 07.8**	**-0.5**
OUF	**Merijarvi**	**2.68**	**264**	*e*P	**Pn**	**09 22 48.6**	**0.0**
OUF				*e*S	**Sn**	**09 23 21.2**	**-0.5**
OUF				MSG		09 23 26.3	
	comp=Z,14nm,0.2s						

RNF	**Rovaniemi**	**2.72**	**315**	*e*P	**Pn**	**09 22 49.5**	**+0.4**
RNF				*e*S	**Sn**	**09 23 22.5**	**-0.2**
SUF	**Sumiainen**	**2.95**	**228**	MSG		09 23 35.8	
	comp=Z,6.7nm,0.2s						
APA0	**Apatity Array**	**2.97**	**16**	Pn	**Pn**	**09 22 53.5**	**+1.0**
	baz=211,slow=14						
APA0				Sn	**Sn**	**09 23 31.6**	**+2.8**
APA0	**Apatity Array**	**2.97**	**16**	P	**Pn**	**09 22 53.5**	**+1.0**
APA0				S	**Sn**	**09 23 29.5**	**+0.8**
APA0	**Apatity Array**	**2.97**	**16**	Pn	**Pn**	**09 22 53.5**	**+1.0**
	baz=211,slow=14						
APA0				Sn	**Sn**	**09 23 31.6**	**+2.8**
APA	**Apatity**	**2.98**	**19**	P	**Pn**	**09 22 53.8**	**+1.0**
APA				S	**Sn**	**09 23 30.1**	**+0.9**
VRF	**Varrio**	**3.02**	**351**	*e*P	**Pn**	**09 22 53.9**	**+0.6**
TOF	**Tornio**	**3.03**	**298**	*e*P	**Pn**	**09 22 54.0**	**+0.6**
SGF	**Sodankyl**	**3.21**	**328**	*e*P	**Pn**	**09 22 55.5**	**-0.3**
KALU	**Kalix**	**3.33**	**292**	P	**Pn**	**09 22 57.9**	**+0.3**
KALU				S	**Sn**	**09 23 40.0**	**+2.3**
KALU	**Kalix**	**3.33**	**292**	*e*P	**Pn**	**09 22 58.2**	**+0.7**
KAF	**Kangasniemi**	**3.37**	**220**	*e*P	**Pn**	**09 22 59.6**	**+1.5**
KEF	**Keuruu**	**3.76**	**228**	*e*P	**Pn**	**09 23 04.9**	**+1.5**
PAJU	**Pajala**	**3.90**	**309**	P	**Pn**	**09 23 05.0**	**-0.4**
SJUU	**Sjulsmark**	**3.98**	**285**	P	**Pn**	**09 23 06.2**	**-0.2**
SJUU				S	**Sn**	**09 23 53.2**	**-0.5**
FIA0	**FINESS Array S**	**3.99**	**215**	Pn	**Pn**	**09 23 07.2**	**+0.6**
	baz=31,slow=12						
FIA0				Pg	**Pb**	**09 23 16.3**	**+0.9**
	baz=14,slow=18						
FIA0				Sn	**Sn**	**09 23 53.6**	**-0.4**
	baz=37,slow=22						
FIA0				Lg	Lg	09 24 07.8	
	baz=24,slow=28						
FIA0	**FINESS Array S**	**3.99**	**215**	Pn	**Pn**	**09 23 07.2**	**+0.6**
	baz=31,slow=12						
FIA0				Pg	**Pb**	**09 23 16.3**	**+0.9**
	baz=14,slow=18						
FIA0				Sn	**Sn**	**09 23 53.6**	**-0.4**
	baz=37,slow=22						
FIA0				Sg	**Sb**	**09 24 07.8**	**+3.6**
	baz=24,slow=28						
FIA0	**FINESS Array S**	**3.99**	**215**	*e*P	**Pn**	**09 23 07.5**	**+0.9**
FINES	**FINESS Array B**	**3.99**	**215**	Pn	**Pn**	**09 23 07.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=32,slow=14,SNR=13						
FINES				Sn	**Sn**	**09 23 53.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=31,slow=16,SNR=6.4						
FINES				Lg	Lg	09 24 05.7	
	comp=Z,2.2nm,0.3s,baz=25,slow=25,SNR=15						
FINES				Rg	Rg	09 24 26.2	
	comp=Z,72nm,1.2s,baz=34,slow=24,SNR=11						
ERTU	**Ertsjaerv**	**4.01**	**300**	P	**Pn**	**09 23 07.0**	**+0.2**
ERTU	**Ertsjaerv**	**4.01**	**300**	*e*P	**Pn**	**09 23 07.0**	**+0.2**
VAF	**Ylistaro**	**4.02**	**248**	*e*P	**Pn**	**09 23 07.2**	**+0.3**
HARU	**Harads**	**4.35**	**293**	P	**Pn**	**09 23 11.7**	**+0.2**
VJF	**Virojoki**	**4.52**	**201**	*e*P	**Pn**	**09 23 14.4**	**+0.5**
UMAU	**Umeaa**	**4.52**	**263**	*e*SG	**Sb**	**09 24 23.6**	**+4.2**
HEF	**Hetta**	**4.54**	**325**	*e*P	**Pn**	**09 23 14.9**	**-0.6**
LILU	**Lilltraesk**	**4.70**	**281**	P	**Pn**	**09 23 16.0**	**-0.3**
PVF	**Pernaja**	**4.84**	**211**	*e*P	**Pn**	**09 23 18.0**	**-0.1**
LANU	**Lannavaara**	**4.85**	**317**	P	**Pn**	**09 23 17.9**	**-0.5**
LANU	**Lannavaara**	**4.85**	**317**	*e*P	**Pn**	**09 23 17.6**	**-0.7**
SVAU	**Svanoeiden**	**4.87**	**272**	P	**Pn**	**09 23 18.2**	**-0.4**
ARA0	**ARCESS Array S**	**5.21**	**339**	Pn	**Pn**	**09 23 22.9**	**-0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 24 20.8**	**-3.3**
	baz=158,slow=28						
ARA0				Lg	Lg	09 24 43.5	
	baz=153,slow=37						
ARA0	**ARCESS Array S**	**5.21**	**339**	Pn	**Pn**	**09 23 22.9**	**-0.4**
	baz=154,slow=14						
ARA0				Sn	**Sn**	**09 24 20.8**	**-3.3**
	baz=158,slow=28						
ARA0				Sg	**Sb**	**09 24 43.5**	**+4.3**
	baz=153,slow=37						
ARCES	**ARCESS Array B**	**5.21**	**339**	Pn	**Pn**	**09 23 22.6**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=157,slow=13,SNR=94						
ARCES				Sn	**Sn**	**09 24 22.4**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=159,slow=24,SNR=6.0						
ARCES				Lg	Lg	09 24 43.6	
	comp=Z,1.2nm,0.3s,baz=153,slow=33,SNR=14						
ARE0	**ARCESS Array S**	**5.21**	**339**	*e*P	**Pn**	**09 23 22.9**	**-0.4**
KEV	**Kevo**	**5.22**	**345**	*e*P	**Pn**	**09 23 23.1**	**-0.3**
KUA	**Kurravaara**	**5.30**	**312**	P	**Pn**	**09 23 25.2**	**+0.6**
KLMR	**Klimovskoe**	**5.59**	**131**	*i* P

IUG	**Iuzhnay** 14nm,0.2s	**1.67**	**163**	P		**Pg**	**09 35 53.6**	**+1.2**
IUG				S		**Sg**	**09 36 16.1**	**+2.1**
	27nm,0.5s							
MRKS	**Merke** 3.6nm,0.6s	**2.99**	**108**	Pg		**Pb**	**09 36 14.2**	**-0.5**
MRKS				Lg		Lg	09 36 51.7	
	6.0nm,0.6s							
EKS2	**Erkin-Say** baz=11	**3.40**	**107**	⇑*i*P		**Pb**	**09 36 21.2**	**-0.4**
EKS2				⇑*i*S		**Sb**	**09 37 04.8**	**+1.2**
	baz=11							
AML	**Almayashu** baz=18	**3.56**	**115**	⇑*i*P		**Pb**	**09 36 24.1**	**-0.4**
AML				⇑*i*S		**Sb**	**09 37 09.7**	**+1.2**
	baz=18							
BTLS	**Baital** 7.8nm,0.5s	**3.60**	**67**	Pg		**Pg**	**09 36 29.3**	**0.0**
BTLS				Lg		Lg	09 37 17.4	
	3.8nm,0.5s							
USP	**Ospenovka** baz=0.0	**3.77**	**95**	⇑*i*P		**Pb**	**09 36 25.5**	**-2.3**
USP				⇑*i*S		**Sb**	**09 37 12.5**	**-1.5**
	baz=0.0							
BTK	**Batken** baz=60	**3.84**	**163**	⇓*i*P		**Pb**	**09 36 27.8**	**-1.2**
BTK				⇓*i*S		**Sb**	**09 37 16.6**	**+0.5**
	baz=60							
AAK	**Ala-Archa** 3.4nm,0.6s	**3.91**	**105**	⇑Pg		**Pb**	**09 36 31.4**	**+1.1**
AAK				⇑Lg		Lg	09 37 19.7	
	5.2nm,0.8s							
AAK	**Ala-Archa** baz=8.0	**3.91**	**105**	⇑*i*P		**Pb**	**09 36 28.3**	**-2.0**
AAK				⇑*i*S		**Sb**	**09 37 17.2**	**-1.0**
	baz=8.0							
TKM2	**Tokmak 2** 2.0nm,0.7s	**4.62**	**98**	⇓Pg		**Pb**	**09 36 43.2**	**+0.8**
TKM2				⇑Lg		Lg	09 37 41.9	
	5.3nm,0.9s							
KST	**Kastek** 2.5nm,0.3s	**4.86**	**96**	Pg		**Pb**	**09 36 48.2**	**+1.7**
KST				Lg		Lg	09 37 50.4	
	4.9nm,0.9s							
KUU	**Kurty** 1.2nm,0.4s	**5.05**	**86**	Pg		**Pb**	**09 36 51.5**	**+1.8**
KUU				Lg		Lg	09 37 55.6	
	3.7nm,0.3s							
IZV	**Izvestkoviy** 1.5nm,0.2s	**5.33**	**95**	Pg		**Pb**	**09 36 55.1**	**+0.6**
IZV				Lg		Lg	09 38 02.4	
	5.1nm,0.5s							
AB31	**Akbulak array** 0.5nm,0.5s,baz=30,slow=14,SNR=12	**8.52**	**314**	⇓Pn		**Pn**	**09 37 23.6**	**-1.3**
AB31				Pg		Pg	09 37 32.5	-31
	1.1nm,0.5s,baz=29,slow=14,SNR=14							
AB31				⇑Sn		Sn	09 38 02.5	-59
	0.6nm,0.4s,baz=40,slow=8.7,SNR=5.6							
AB31				⇓Lg		Lg	09 38 11.7	
	2.3nm,0.5s,baz=24,slow=25,SNR=6.7							
MK31	**Makanchi Array** 1.2nm,0.6s,baz=247,slow=14,SNR=15	**9.61**	**67**	⇑Pn		**Pn**	**09 37 40.6**	**+0.7**
MK31				⇑Sn		**Sn**	**09 39 30.6**	**+2.0**
	1.0nm,1.0s,baz=31,slow=20,SNR=6.0							

ISC 13 09:36:26.9±1.2, 49°54N±0°.07×18°01E±0°.04, h0km, n5, σ0s42/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.38**	**309**	*e*PG		**Pg**	**09 36 33.7**	**-0.5**
MORC				*e*SG		**Sg**	**09 36 39.7**	**+0.5**
VRAC	**Vranov**	**0.95**	**257**	*e*PG		**Pb**	**09 36 46.4**	**+0.2**
VRAC				*e*SG		**Sb**	**09 36 59.1**	**-0.3**
LANS	**Liptovska Anna**	**1.03**	**112**	*e*PG		**Pb**	**09 36 47.9**	**+0.3**
LANS				*e*SG		**Sb**	**09 37 01.9**	**+0.2**
KRUC	**Moravsky**	**1.16**	**246**	*e*PG		**Pg**	**09 36 48.8**	**-0.2**
KRUC				*e*SG		**Sb**	**09 37 05.7**	**+0.4**
VYHS	**Vyhne**	**1.18**	**152**	*e*PG		**Pg**	**09 36 49.2**	**-0.3**
VYHS				*e*SG		**Sb**	**09 37 05.5**	**-0.5**

*ISCJB **13** 09:38:14.9±0.7, 50°.24N±0°.04×19°.21E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=3.1km az=12.2*
*PRU **13** 09:38:16.4±0.0, 50°.23N×19°.24E, h0km*

ISC 13 09:38:16.3±0.9, 50°.19N±0°.04×19°.29E±0°.03, h0km, n16, σ2s06/27, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHZP	**Chorzow**	**0.22**	**299**	*e*Pg		**Pg**	**09 38 24.2**	**+3.8**
CHZP				*e*Sg		**Sg**	**09 38 29.1**	**+5.8**
OJC	**Ojcow**	**0.33**	**84**	*e*Pg		**Pg**	**09 38 23.1**	**+0.5**
OJC				*e*Sg		**Sg**	**09 38 27.4**	**+0.5**
OKC	**Ostrava-Krasne**	**0.81**	**245**	*e*PG		**Pb**	**09 38 32.7**	**-0.6**
OKC				*e*SG		**Sg**	**09 38 43.3**	**+0.8**
	comp=Z,23nm,0.5s							
NIE	**Niedzica**	**1.01**	**139**	*e*Pg		**Pg**	**09 38 36.3**	**+0.6**
NIE				*e*Sg		**Sg**	**09 38 50.6**	**+1.9**
LANS	**Liptovska Anna**	**1.04**	**174**	*e*PG		**Pg**	**09 38 37.0**	**+0.7**
LANS				*e*SG		**Sg**	**09 38 51.8**	**+2.0**
MORC	**Moravsky Berou**	**1.20**	**251**	*e*PG		**Pb**	**09 38 39.9**	**0.0**
MORC				*e*SG		**Sb**	**09 38 55.6**	**-0.4**
KRLC	**Kraliky**	**1.62**	**267**	*e*PG		**Pn**	**09 38 45.2**	**-0.9**
KRLC				*e*SG		**Sn**	**09 39 06.5**	**-1.2**
	comp=Z,5.9nm,0.5s							
JAVC	**Velka Javorina**	**1.70**	**219**	*e*PN		**Pg**	**09 38 52.1**	**+3.3**
JAVC				*e*SG		**Sg**	**09 39 12.1**	**+1.3**
VYHS	**Vyhne**	**1.72**	**190**	*e*PN		**Pn**	**09 38 47.1**	**-0.4**
VYHS				*e*SN		**Sn**	**09 39 09.3**	**-0.9**
VYHS				*e*LG		Lg	09 39 15.6	
DPC	**Dobruska-Polom**	**1.91**	**276**	*e*PG		**Pn**	**09 38 49.8**	**-0.4**
DPC				*e*SG		**Sb**	**09 39 15.5**	**-1.0**
VRAC	**Vranov**	**1.96**	**244**	*e*SG		**Sb**	**09 39 17.6**	**-0.1**
KSP	**Ksiaz**	**2.02**	**290**	*e*Pg		**Pg**	**09 38 54.5**	**-0.6**
KSP				*e*Sg		**Sg**	**09 39 21.5**	**+0.2**
KRUC	**Moravsky**	**2.19**	**240**	*e*SG		**Sg**	**09 39 26.7**	**0.0**
PRU	**Pruhonice** comp=Z,4.5nm,0.5s	**3.06**	**268**	*e*SG		**Sg**	**09 39 52.0**	**-2.7**
BRG	**Berggiesshubel** 4.2nm,0.5s	**3.48**	**283**	SG		**Sg**	**09 40 05.2**	**-2.8**
KHC	**Kasperske Hory** 4.7nm,0.6s	**3.86**	**256**	*e*SG		**Sg**	**09 40 16.9**	**-3.3**

JSN 13 09:38:28.6±3.1, 19°.12N×79°.83W, h0km±194km, MD4.4, 3C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MBJ	**Montego Bay**	**2.00**	**111**	⇑*i*P		Pn	09 39 03.3	-0.4
MBJ				*i* S		Sn	09 39 25.9	-3.6
CVJ	**Coleyville**	**2.35**	**112**	*i* P		Pn	09 39 07.1	-1.5
MCJ	**Malvern**	**2.36**	**120**	⇑*i*P		Pn	09 39 05.1	-3.6
MCJ				*i* S		Sn	09 39 38.2	-0.1
BBJ	**Bamboo Saint A**	**2.54**	**106**	⇑*i*P		Pn	09 39 10.9	-0.2
STH	**Stony Hill**	**3.05**	**109**	⇓*i*P		Pn	09 39 16.8	-1.3
GWJ	**Greenwich**	**3.12**	**109**	⇓*i*P		Pn	09 39 18.1	-1.2
HOJ	**Hope**	**3.13**	**110**	*i* PA			09 39 18.7	
CMJ	**Castle Mountai**	**3.42**	**106**	*i* P		Pn	09 39 22.9	-0.4

DJA 13 09:43:31.4±0.5, 8°S±4'×107°9E±°, h10km, M3.9/7, MLv3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KPJI	**Karang Pucung**	**1.01**	**353**	P		Pn	09 43 52.3	+0.7
KPJI				S		Sb	09 44 04.6	+0.3
CISI	**Cisompet, Garu**	**1.46**	**302**	P		Pn	09 43 57.3	-0.6
CISI				S		Sn	09 44 14.9	-2.2
UGM	**Wanagama**	**1.51**	**74**	P		Pn	09 43 58.7	+0.1
UGM				S		Sn	09 44 17.1	-1.2
WOJI	**Wonogiri, Jawa**	**1.91**	**75**	P		Pn	09 44 04.0	-0.1
PCJI	**Pacitan**	**2.10**	**86**	P		Pn	09 44 07.9	+1.3
PCJI				S		Sn	09 44 31.5	-1.4
PWJI	**Pagerwojo**	**2.73**	**84**	P		Pn	09 44 16.5	+1.1
PWJI				S		Sn	09 44 47.0	-1.5

IDC 13 09:44:31.5±4.2, 6°.83S×148°.32E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/32, mbtmp3.6/3, ML3.1/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/29, Error ellipse: s-maj=127.8km s-min=51.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=48,slow=10,SNR=4.6	**18.81**	**225**	P		P	09 48 52.4	-0.6
ASAR	**Alice Springs** 1.1nm,0.7s,baz=52,slow=9.4,SNR=14	**21.72**	**218**	P		P	09 49 24.4	-0.2
DZM	**Mont Dzumac** comp=Z,140nm,20.2s,baz=53,slow=30	**23.14**	**133**	LR		LR	09 56 10.3	
FITZ	**Fitzroy Crossi** 3.3nm,0.6s,baz=84,slow=8.8,SNR=9.7	**24.78**	**241**	P		P	09 49 55.2	-0.1
TORD	**Torodi Ar. Bea** 0.7nm,0.9s,baz=62,slow=3.4,SNR=3.3	**146.56**	**283**	PKPbc		PKPbc	10 04 15.9	-0.2

*IDC **13** 09:51:02.5±1.0, 1°.01N×91°.99E, h0km, mb3.8/10, mb1 3.9/12, mb1mx3.7/42, mbtmp3.8/12, ML3.8/2, MS3.0/1, Ms1 3.2/1, ms1mx2.5/52, Error ellipse: s-maj=34.8km s-min=17.5km az=51.0*
*NEIC **13** 09:51:04.0±0.3, 1°.02N×92°.02E, h10km, mb4.2/5, Error ellipse: s-maj=7.6km s-min=5.3km az=215.0*
*ISCJB **13** 09:51:05.8±0.6, 1°.10N±0°.08×92°.13E±0°.07, h33km, mb4.0/12, Error ellipse: s-maj=12.1km s-min=8.8km az=39.2*

ISC 13 09:51:08.0±0.8, 1°.1N±0°.1×92°.1E±0°.1, h35km, n33, σ0s54/29, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**5.49**	**88**	*e*Pn		**Pn**	**09 52 26.9**	**-0.4**
LHMI	**Lhok Sumawe**	**6.36**	**50**	*e*Pn		**Pn**	**09 52 38.6**	**-0.7**
PSI	**Prapat**	**7.04**	**76**	*e*Pn		**Pn**	**09 52 47.9**	**-0.8**
PSI	**Prapat** 1.6nm,0.3s,baz=180,slow=19,SNR=2.8	**7.04**	**76**	Pn		**Pn**	**09 52 49.0**	**+0.2**
KULM	**Kulim**	**9.51**	**64**	*e*Pn		**Pn**	**09 53 22.3**	**-0.2**
PALK	**Pallekele** 0.5nm,0.3s,baz=117,slow=3.5,SNR=1.4	**12.90**	**299**	Sn		Sn	09 56 21.6	-10
CM31	**Chiang Mai Arr** 3.3nm,0.8s	**18.53**	**21**	*e*P		**Pn**	**09 55 22.3**	**+0.3**
CMAR	**Chiang Mai Arr** 0.1nm,0.3s,baz=213,slow=9.7,SNR=3.5	**18.53**	**21**	P		**Pn**	**09 55 22.3**	**+0.3**
CMAR						LR	10 02 39.4	
	comp=Z,44nm,18.5s,baz=199,slow=37							
SBUM	**Sibu** 28nm,2.0s	**20.17**	**86**	*e*P		**P**	**09 55 40.4**	**+0.8**
H08S2	**Diego Garcia H** baz=65	**21.38**	**246**	T		T	10 17 59.5	
H08S3	**Diego Garcia H** baz=65	**21.39**	**246**	T		T	10 17 51.9	
H08S1	**Diego Carcia H** baz=65	**21.40**	**246**	T		T	10 17 56.3	
FITZ	**Fitzroy Crossi** 9.7nm,1.3s	**38.12**	**122**	*e*P		**P**	**09 58 23.9**	**-0.1**
FITZ	**Fitzroy Crossi** 3.3nm,1.0s,baz=283,slow=12,SNR=2.8	**38.12**	**122**	P		**P**	**09 58 24.2**	**+0.2**
MK32	**Makanchi Array**	**46.32**	**351**	*e*P		**P**	**09 59 30.4**	**0.0**
MKAR	**Makanchi Array** 0.7nm,0.6s,baz=162,slow=8.0,SNR=8.5	**46.32**	**351**	P		**P**	**09 59 30.4**	**0.0**
WR1	**Warramunga Arr** 59nm,2.0s	**46.38**	**119**	*e*P		**P**	**09 59 30.4**	**-0.9**
WRA	**Warramunga Arr** 1.4nm,0.8s,baz=298,slow=8.6,SNR=9.1	**46.38**	**119**	P		**P**	**09 59 30.4**	**-0.9**
WRAB	**Tennant Creek**	**46.39**	**119**	*e*P		**P**	**09 59 31.3**	**-0.1**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=297,slow=7.7,SNR=3.2	**47.49**	**124**	P		**P**	**09 59 40.2**	**+0.2**
AS31	**Alice Springs** 1.6nm,1.2s	**47.49**	**124**	*e*P		**P**	**09 59 39.3**	**-0.7**
GEYT	**Alibeck** 1.6nm,0.6s,baz=106,slow=11,SNR=2.2	**48.15**	**324**	P		**P**	**09 59 44.6**	**-0.2**
SONA0	**Songino Array**	**48.19**	**13**	*e*P		**P**	**09 59 45.8**	**+0.7**
SONM	**Songino Array** 0.7nm,0.7s,baz=193,slow=5.9,SNR=4.1	**48.19**	**13**	P		**P**	**09 59 45.8**	**+0.7**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=169,slow=7.3,SNR=6.3	**53.02**	**355**	P		**P**	**10 00 20.8**	**-0.5**
ZAA1	**Zalesovo Array**	**53.03**	**355**	*e*P		**P**	**10 00 20.8**	**-0.5**
BR101	**Keskin Array S**	**65.45**	**314**	*e*P		**P**	**10 01 47.3**	**-0.4**
BRTR	**Keskin Array B** 0.5nm,0.5s,baz=134,slow=7.3,SNR=4.0	**65.45**	**314**	P		**P**	**10 01 47.3**	**-0.4**
GEC2	**GERESS Array S** 5.5nm,1.3s	**81.54**	**319**	*e*P		**P**	**10 03 22.0**	**-0.2**
GERES	**GERESS Array B** 0.3nm,0.2s,baz=112,slow=4.4,SNR=4.6	**81.54**	**319**	P		**P**	**10 03 22.8**	**+0.6**
VNDA	**Vanda**	**86.74**	**168**	*e*P		**P**	**10 03 48.7**	**+0.7**
VNDA	**Vanda** 0.3nm,0.7s,baz=284,slow=4.2,SNR=1.7	**86.74**	**168**	P		**P**	**10 03 48.1**	**+0.2**
TXAR	**Lajitas Array** 0.6nm,0.8s,baz=336,slow=2.7,SNR=4.0	**146.20**	**25**	PKPbc		**PKPbc**	**10 10 45.5**	**-0.1**

*ISCJB **13** 09:53:10.8±0.3, 24°.20N±0°.02×122°.28E±0°.01, h32km±2km, Error ellipse: s-maj=2.8km s-min=2.1km az=161.2*
*JMA **13** 09:53:10.5, 24°.14N×122°.26E, h43km±2km, M2.1*
*TAP **13** 09:53:10.5, 24°.20N×122°.27E, h33km±1km, ML2.8, C*

ISC 13 09:53:10.2±1.0, 24°.19N±0°.02×122°.28E±0°.02, h28km±10km, n69, σ0s72/125, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
EOS1	**EOS1** baz=339	**0.38**	**339**	P		**Pn**	**09 53 19.3**	**-0.5**
EOS1				S		**Sn**	**09 53 26.3**	**+0.1**
	baz=339							
NANB	**Nanao** baz=295	**0.54**	**296**	P		**Pb**	**09 53 21.3**	**+0.1**
NANB				S		**Sb**	**09 53 29.3**	**+0.6**
	baz=295							
ENA	**Nanau** baz=295	**0.55**	**296**	*i* P		**Pb**	**09 53 21.4**	**+0.1**
ENA				*i* S		**Sb**	**09 53 29.6**	**+0.7**
	baz=295							
TWC	**Suao** baz=317	**0.57**	**317**	*i* P		**Pb**	**09 53 21.5**	**-0.2**
TWC				*e*S		**Sb**	**09 53 29.8**	**+0.2**
	baz=317							
NACB	**Ninganchiao** baz=267	**0.63**	**268**	P		**Pb**	**09 53 22.7**	**+0.1**
NACB				S		**Sn**	**09 53 32.1**	**-0.2**
	baz=267							
TWD	**Chiawan** baz=258	**0.64**	**260**	*e*P		**Pn**	**09 53 23.4**	**0.0**
TWD				S		**Sn**	**09 53 32.4**	**-0.1**
	baz=258							
HWA	**Hwalien** baz=249	**0.65**	**251**	*e*S		**Sn**	**09 53 34.1**	**+1.2**
JYNG	**Yonagunijimaku**	**0.66**	**67**	P		**Pn**	**09 53 24.0**	**+0.3**
JYNG				S		**Sn**	**09 53 33.5**	**+0.4**
ENLB	**Shoufeng** baz=243	**0.68**	**245**	*e*P		**Pn**	**09 53 24.4**	**+0.4**
ENLB				S		**Sn**	**09 53 34.3**	**+0.6**
	baz=243							
YOJ	**Yonaguni jima** baz=68	**0.72**	**68**	P		**Pn**	**09 53 24.3**	**-0.2**
YOJ				S		**Sn**	**09 53 35.3**	**+0.7**
	baz=68							
YOJ	**Yonaguni jima**	**0.72**	**68**	P		**Pn**	**09 53 24.7**	**+0.2**
YOJ				S		**Sn**	**09 53 34.9**	**+0.3**
ETLH	**Xiulin Townshi** baz=270	**0.73**	**271**	P		**Pb**	**09 53 24.4**	**0.0**
ETLH				S		**Sb**	**09 53 34.7**	**+0.6**
	baz=270							
TWE	**Neicheng** baz=313	**0.77**	**313**	P		**Pn**	**09 53 25.2**	**0.0**
TWE				*e*S		**Sn**	**09 53 35.9**	**+0.1**
	baz=313							
NTC	**Toucheng** baz=328	**0.78**	**328**	*i* P		**Pn**	**09 53 25.4**	**+0.2**
NTC				*i* S		**Sn**	**09 53 35.5**	**-0.5**
	baz=328							
NDT	**Datong Townshi** baz=300	**0.81**	**300**	*i* P		**Pb**	**09 53 25.6**	**-0.1**
NDT				*e*S		**Sn**	**09 53 37.0**	**+0.1**
	baz=300							
NNSB	**Datong** baz=285	**0.85**	**286**	P		**Pb**	**09 53 26.2**	**-0.3**
NNSB				*e*S		**Sb**	**09 53 37.8**	**+0.2**
	baz=285							
ESL	**Shilin** baz=242	**0.86**	**244**	*e*P		**Pb**	**09 53 26.7**	**+0.1**
ESL				*e*S		**Sb**	**09 53 37.9**	**+0.1**
	baz=242							
NNS	**Nan Shan** baz=286	**0.86**	**287**	*i* P		**Pb**	**09 53 26.4**	**-0.3**
NNS				*e*S		**Sn**	**09 53 38.6**	**+0.2**
	baz=286							

TIPB	**Shuangxi** baz=332	**0.88**	**332**	P		**Pn**	**09 53 26.7**	**0.0**
TIPB				S		**Sb**	**09 53 38.1**	**-0.3**
	baz=332							
NWLT	**Wulai** baz=309	**0.92**	**310**	*i* P		**Pn**	**09 53 27.6**	**+0.4**
NWLT				*e*S		**Sn**	**09 53 40.1**	**+0.5**
	baz=309							
WHF	**Hehuan Shan** baz=266	**0.93**	**267**	*i* P		**Pb**	**09 53 27.7**	**-0.3**
WHF				S		**Sb**	**09 53 39.9**	**-0.2**
	baz=266							
EGFH	**Guangfu** baz=235	**0.94**	**236**	*e*P		**Pb**	**09 53 28.0**	**+0.1**
EGFH				*e*S		**Sb**	**09 53 40.0**	**0.0**
	baz=235							
YHNB	**Yeheng** baz=299	**0.95**	**300**	P		**Pb**	**09 53 27.8**	**-0.4**
YHNB				*e*S		**Sb**	**09 53 39.8**	**-0.7**
	baz=299							
NSK	**Sanguang** baz=299	**0.97**	**300**	P		**Pb**	**09 53 28.2**	**-0.3**
NSK				*e*S		**Sn**	**09 53 41.0**	**+0.1**
	baz=299							
WFSB	**Wu-fen Shan** baz=332	**0.99**	**333**	P		**Pb**	**09 53 27.8**	**-0.9**
WFSB				S		**Sn**	**09 53 41.1**	**-0.1**
	baz=332							
TWA	**Mucha** baz=321	**1.01**	**321**	*e*S		**Sn**	**09 53 42.6**	**+0.8**
CHGB	**Renai** baz=261	**1.02**	**263**	P		**Pb**	**09 53 28.9**	**-0.5**
CHGB				*e*S		**Sb**	**09 53 42.6**	**+0.1**
	baz=261							
TDCB	**Techi** baz=272	**1.03**	**274**	*e*P		**Pb**	**09 53 28.8**	**-0.7**
TDCB				*e*S		**Sb**	**09 53 42.2**	**-0.5**
	baz=272							
NHDH	**Xindian Distri** baz=318	**1.03**	**318**	S		**Sn**	**09 53 43.4**	**+1.1**
OWD	**Renai** baz=256	**1.04**	**257**	*i* P		**Pb**	**09 53 29.1**	**-0.5**
OWD				S		**Sb**	**09 53 42.1**	**-0.9**
	baz=256							
HGSD	**Ruisui** baz=227	**1.05**	**229**	P		**Pn**	**09 53 29.3**	**+0.3**
HGSD				*e*S		**Sn**	**09 53 43.8**	**+1.1**
	baz=227							
TATO	**Taipei** baz=317	**1.06**	**317**	P		**Pn**	**09 53 30.0**	**+0.8**
TATO				*e*S		**Sn**	**09 53 43.9**	**+0.8**
	baz=317							
EHY	**Hungye** baz=230	**1.11**	**232**	P		**Pn**	**09 53 29.5**	**-0.4**
EHY				*e*S		**Sb**	**09 53 43.5**	**-1.4**
	baz=230							
VWDT	**VWDT** baz=246	**1.13**	**247**	P		**Pb**	**09 53 31.2**	**0.0**
VWDT				*e*S		**Sb**	**09 53 45.4**	**0.0**
	baz=246							
WLTB	**Daxi** baz=304	**1.14**	**305**	*e*S		**Sn**	**09 53 47.3**	**+2.2**
YM01	**YM01** baz=325	**1.15**	**326**	P		**Pb**	**09 53 31.2**	**-0.2**
YM01				*e*S		**Sb**	**09 53 45.5**	**-0.6**
	baz=325							
YM11	**YM11** baz=326	**1.16**	**327**	*e*P		**Pn**	**09 53 30.8**	**+0.1**
YM11				*e*S		**Sn**	**09 53 46.9**	**+1.2**
	baz=326							
YM05	**YM05** baz=326	**1.17**	**326**	*e*P		**Pn**	**09 53 30.4**	**-0.3**
YM05				*e*S		**Sb**	**09 53 45.9**	**-0.7**
	baz=326							
YM04	**YM04** baz=324	**1.17**	**325**	*e*P		**Pn**	**09 53 31.0**	**+0.2**
YM04				*e*S		**Sb**	**09 53 45.8**	**-0.9**
	baz=324							
YM08	**YM08** baz=327	**1.17**	**328**	*e*S		**Sb**	**09 53 45.8**	**-1.0**
YULB	**Yu-li** baz=227	**1.20**	**229**	P		**Pn**	**09 53 30.6**	**-0.5**
YULB				*e*S		**Sb**	**09 53 45.8**	**-1.7**
	baz=227							
WHP	**Taichung City** baz=273	**1.22**	**274**	P		**Pb**	**09 53 32.5**	**-0.2**
WHP				S		**Sb**	**09 53 47.9**	**-0.3**
	baz=273							
TWF1	**Yuli** baz=226	**1.23**	**227**	P		**Pn**	**09 53 31.5**	**0.0**
TWF1				*e*S		**Sn**	**09 53 47.0**	**-0.2**
	baz=226							
NSTT	**Nanjuang** baz=290	**1.25**	**291**	P		**Pb**	**09 53 32.6**	**-0.4**
SSLB	**Suanglung** baz=251	**1.28**	**252**	P		**Pb**	**09 53 33.3**	**-0.3**
SSLB				*e*S		**Sn**	**09 53 49.1**	**+0.6**
	baz=251							
SMLT	**Sun Moon Lake** baz=255	**1.30**	**257**	*e*P		**Pb**	**09 53 34.7**	**+0.6**
SMLT				*e*S		**Sn**	**09 53 49.8**	**+0.7**
	baz=255							
IRIF	**Iriomote-Funau**	**1.33**	**84**	P		**Pn**	**09 53 33.4**	**+0.5**
IRIF				S		**Sn**	**09 53 49.5**	**-0.2**
TYC	**Yuchr** baz=256	**1.33**	**258**	*e*P		**Pb**	**09 53 34.7**	**+0.1**
TYC				*e*S		**Sn**	**09 53 50.6**	**+0.9**
	baz=256							
FULB	**Fuli** baz=221	**1.34**	**223**	P		**Pn**	**09 53 32.8**	**-0.3**
FULB				*e*S		**Sn**	**09 53 49.8**	**-0.2**
	baz=221							
WHYT	**Xinyi Township** baz=248	**1.40**	**250**	*e*P		**Pb**	**09 53 35.8**	**+0.1**
WHYT				*e*S		**Sb**	**09 53 53.2**	**+0.1**
	baz=248							
HATJ	**Hateruma jima**	**1.40**	**95**	P		**Pb**	**09 53 35.1**	**-0.6**
HATJ				S		**Sb**	**09 53 53.5**	**+0.3**
YUS	**Yu-Shan** baz=239	**1.40**	**240**	S		**Sn**	**09 53 51.6**	**-0.5**
WJS	**Zhushan** baz=254	**1.47**	**256**	*e*P		**Pb**	**09 53 37.1**	**+0.2**
WJS				*e*S		**Sb**	**09 53 55.7**	**+0.6**
	baz=254							
JKRS	**Kuro-shima**	**1.58**	**88**	P		**Pn**	**09 53 37.5**	**+1.2**
JKRS				S		**Sb**	**09 53 57.8**	**-0.5**
WDLH	**Douliu** baz=252	**1.67**	**253**	*e*S		**Sb**	**09 54 01.5**	**+0.5**
JIJ	**Ishigaki jima**	**1.71**	**84**	P		**Pn**	**09 53 38.8**	**+0.7**
JIJ				S		**Sn**	**09 53 58.8**	**-0.2**
TPUB	**Ta-pu** baz=239	**1.75**	**240**	*e*S		**Sb**	**09 54 02.5**	**-0.8**
TWGBT	**Beinan** baz=218	**1.76**	**219**	S		**Sn**	**09 53 59.6**	**-0.6**
TWG	**Pinlang** baz=218	**1.76**	**219**	S		**Sn**	**09 53 59.2**	**-1.1**
JISG	**Ishigakijimahi**	**1.89**	**78**	P		**Pn**	**09 53 41.4**	**+0.8**
JISG				S		**Sn**	**09 54 03.7**	**+0.1**
SLGT	**Liugui** baz=231	**1.92**	**232**	P		**Pn**	**09 53 42.5**	**+1.5**
SLGT				*e*S		**Sb**	**09 54 07.9**	**-0.1**
	baz=231							
SSD	**Sandimen** baz=225	**2.09**	**227**	*e*S		**Sn**	**09 54 10.3**	**+1.9**
MASBT	**Mashibuluo** baz=223	**2.18**	**224**	*e*P		**Pb**	**09 53 47.3**	**-1.7**
MASBT				*e*S		**Sb**	**09 54 13.9**	**-1.7**
	baz=223							
JTJ	**Tarama**	**2.25**	**78**	P		**Pn**	**09 53 46.7**	**+1.1**
JTJ				*e*S		**Sn**	**09 54 13.2**	**+0.7**
PHUB	**P'eng-hu** baz=254	**2.

ISC 13 09:57:12.8±1.5, 45°19N±0°05×14°24E±0°08, h7km, n5, σ1s07/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KNDS	Knezji Dol	0.35	16	*i* Pg		Pg	09 57 19.6	-0.1
KNDS				*i* Sg		Sb	09 57 26.5	-0.9
SKDS	Skadanscina	0.40	336	*i* Pg		Pg	09 57 20.7	+0.2
SKDS				*i* Sg		Sb	09 57 28.3	-0.1
GBRS	Gornja Briga	0.53	49	*i* Pg		Pg	09 57 22.3	-0.7
NVLJ	Novalja	0.77	144	*e*Pg		Pg	09 57 26.2	-1.3
NVLJ				Sg		Sg	09 57 36.9	-0.5
UDBI	Udbina	1.27	121	*e*Pn		Pg	09 57 38.1	+1.1
UDBI				Sn		Sn	09 57 55.9	+1.6

IDC 13 10:10:33.2±3.4, 6°98S×148°62E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, ML2.9/1, Error ellipse: s-maj=111.3km s-min=45.2km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	Warramunga Arr	18.92	226	P		Pn	10 14 56.1	-0.2
	0.0nm,0.3s,baz=53,slow=11,SNR=4.0							
ASAR	Alice Springs	21.80	219	P		P	10 15 28.5	+1.5
	0.7nm,0.7s,baz=57,slow=9.2,SNR=5.3							
FITZ	Fitzroy Crossi	24.97	242	P		P	10 15 58.3	-0.4
	2.5nm,0.8s,baz=39,slow=9.9,SNR=3.4							
TORD	Torodi Ar. Bea	146.89	283	PKPbc		PKPdf	10 30 17.2	+0.4
	0.6nm,1.0s,baz=72,slow=4.7,SNR=2.2							

IDC 13 10:23:38.8±1.2, 29°.10N×142°.85E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/40, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=42.4km s-min=20.6km az=84.0

ISCJB 13 10:23:41.7±1.2, 29°.07N±0°.06×142°.7E±0°.3, h35km, mb3.7/4, Error ellipse: s-maj=36.0km s-min=9.3km az=180.0

ISC 13 10:23:43.9±1.2, 29°.04N±0°.08×142°.6E±0°.3, h35km, n6, σ1s28/8, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JCJ	Chichijima	1.98	192	Pn		Pn	10 24 15.3	+0.4
	2.5nm,0.3s,baz=112,slow=19,SNR=5.2							
JCJ				Sn		Sn	10 24 36.8	-1.6
	8.3nm,0.3s,baz=259,slow=21,SNR=5.6							
MJAR	Matsushiro Arr	8.36	335	Pn		Pn	10 25 41.4	-1.2
	0.1nm,0.3s,baz=159,slow=11,SNR=6.3							
SONM	Songino Array	33.63	314	P		P	10 30 21.9	+0.8
	0.9nm,0.7s,baz=100,slow=6.8,SNR=4.9							
WRA	Warramunga Arr	49.35	190	P		P	10 32 29.9	0.0
	1.0nm,0.7s,baz=12,slow=8.4,SNR=11							
WRA				PcP		PcP	10 33 53.8	+1.7
	0.4nm,0.8s,baz=6.8,slow=3.7,SNR=2.8							
MKAR	Makanchi Array	49.57	308	P		P	10 32 31.8	+0.4
	0.4nm,0.6s,baz=93,slow=8.9,SNR=2.8							
YKA	Yellowknife Ar	70.25	29	P		P	10 34 52.4	-0.7
	0.3nm,0.7s,baz=295,slow=6.5,SNR=5.1							

IDC 13 10:33:20.3±1.0, 5°.04S×152°.83E, h0km, mb4.0/11, mb1 4.2/11, mb1mx3.9/38, mbtmp4.0/11, MS3.0/2, Ms1 3.0/2, ms1mx2.6/36, Error ellipse: s-maj=37.4km s-min=18.3km az=122.0

ISCJB 13 10:33:25.3±0.5, 5°.09S±0°.06×152°.78E±0°.09, h43km, mb4.2/18, MS2.6/1, Error ellipse: s-maj=12.7km s-min=8.3km az=9.7

NEIC 13 10:33:28.7±1.7, 5°.04S×152°.71E, h57km±13km, mb4.2/5, Error ellipse: s-maj=19.4km s-min=7.9km az=116.0

ISC 13 10:33:26.9±0.8, 5°10S±0°.10×152°.7E±0°.1, h43km, n38, σ0s98/37, mb4.2/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RABL	Rabaul	1.07	327	*e*Pn		Pn	10 33 46.4	+0.9
RABL				*e*Sn		Sn	10 33 59.1	-0.1
HNR	Honiara	8.34	121	LR		LR	10 39 00.8	
	comp=Z,120nm,19.7s,baz=292,slow=41							
GUMO	Guam	20.14	337	LR		LR	10 44 11.8	
	comp=Z,34nm,21.8s,baz=111,slow=32							
SAUI	Saumlaki	21.49	261	*e*P		P	10 38 10.5	-1.7
	339nm,1.6s							
WR1	Warramunga Arr	23.21	229	*e*P		P	10 38 30.0	-0.3
	23nm,1.4s							
WRA	Warramunga Arr	23.21	229	P		P	10 38 30.0	-0.3
	4.5nm,0.9s,baz=53,slow=9.8,SNR=23							
AS01	Alice Springs	25.86	223	*e*P		P	10 38 56.5	+1.7
AS31	Alice Springs	25.89	223	*e*P		P	10 38 56.6	+1.6
	2.7nm,1.4s							
ASAR	Alice Springs	25.89	223	P		P	10 38 55.6	+0.6
	0.9nm,0.5s,baz=58,slow=8.6,SNR=21							
FITZ	Fitzroy Crossi	29.47	242	*e*P		P	10 39 27.1	+0.1
	3.7nm,1.0s							
FITZ	Fitzroy Crossi	29.47	242	P		P	10 39 26.6	-0.4
	3.3nm,0.6s,baz=51,slow=7.3,SNR=12							
FORT	Forrest	34.52	219	*e*P		P	10 40 12.5	+1.3
	19nm,0.8s							
KLR	Kul'dur	57.11	344	P		P	10 43 09.2	+0.2
	0.4nm,0.5s,baz=156,slow=7.2,SNR=4.9							
CM01	Chiang Mai Arr	57.93	295	*e*P		P	10 43 16.6	+1.4
CM31	Chiang Mai Arr	57.95	295	*e*P		P	10 43 16.2	+0.7
	6.7nm,0.4s							
CMAR	Chiang Mai Arr	57.95	295	P		P	10 43 16.2	+0.7
	2.4nm,0.8s,baz=108,slow=5.2,SNR=12							
PETK	Petropavlovsk-	58.14	4	P		P	10 43 15.3	-0.8
	1.2nm,0.5s,baz=170,slow=8.8,SNR=4.9							
PEA1	Petropavlovsk-	58.14	4	*e*P		P	10 43 15.3	-0.8
SONA0	Songino Array	66.55	328	*e*P		P	10 44 11.6	-1.1
SONM	Songino Array	66.55	328	P		P	10 44 11.6	-1.1
	0.3nm,0.4s,baz=121,slow=6.1,SNR=3.2							
GAMB	Gambell	73.68	16	*e*P		P	10 44 57.4	+1.6
	5.2nm,1.2s							
RDOG	Red Dog Mine	79.28	16	*e*P		P	10 45 29.0	+1.5
	9.3nm,0.7s							
MK32	Makanchi Array	80.51	319	*e*P		P	10 45 34.9	+0.3
MKAR	Makanchi Array	80.51	319	P		P	10 45 34.9	+0.3
	0.5nm,0.7s,baz=89,slow=7.9,SNR=5.6							
IM3	Indian Mountai	80.68	19	*e*P		P	10 45 36.5	+1.4
ZALV	Zalesovo Beam	81.37	326	P		P	10 45 38.4	-0.6
	1.3nm,0.6s,baz=112,slow=6.9,SNR=5.6							
ZAA1	Zalesovo Array	81.37	326	*e*P		P	10 45 38.4	-0.6
IL1	Eielson Array	82.45	22	*e*P		P	10 45 44.3	-0.2
ILAR	Eielson Array	82.45	22	P		P	10 45 43.5	-1.0
	1.9nm,0.7s,baz=251,slow=5.6,SNR=24							
ILB	Eielson Array	82.45	22	*e*P		P	10 45 43.5	-1.0
	2.1nm,0.8s							
YKA	Yellowknife Ar	95.72	28	P		P	10 46 48.0	0.0
YKA	Yellowknife Ar	95.72	28	P		P	10 46 48.0	0.0
	0.2nm,0.6s,baz=274,slow=4.0,SNR=4.4							
YKB5	Yellowknife Ar	95.72	28	*e*P		P	10 46 48.4	+0.5
GEC2	GERESS Array S	124.28	328	*e*PKPdf		PKPdf	10 52 20.5	-0.8
GERES	GERESS Array B	124.28	328	PKP		PKPdf	10 52 20.5	-0.8
	0.5nm,0.6s,baz=60,slow=5.8,SNR=3.3							
TORD	Torodi Ar. Bea	150.34	288	PKPbc		PKPbc	10 53 13.3	-1.4
	1.9nm,0.6s,baz=72,slow=2.9,SNR=14							
TOA1	Torodi Ar. Sit	150.34	288	*e*PKPbc		PKPbc	10 53 13.3	-1.4
BDFB	Brasilia	150.90	135	PKPbc		PKiKP	10 53 16.8	+0.1
	2.8nm,0.6s,baz=181,slow=2.5,SNR=3.8							

IDC 13 10:40:27.6±0.9, 24°.14N×121°.82E, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.5/36, mbtmp3.4/8, MS2.9/2, Ms1 2.9/2, ms1mx2.5/41, Error ellipse: s-maj=41.3km s-min=18.9km az=74.0

ISCJB 13 10:40:30.4±0.3, 24°.17N±0°.01×121°.82E±0°.01, h5km±2km, mb3.3/8, MS3.0/1, Error ellipse: s-maj=2.4km s-min=1.7km az=31.6

JMA 13 10:40:30.0±0.1, 24°.16N×121°.80E, h0km, M3.2

TAP 13 10:40:30.2, 24°.17N×121°.80E, h11km, ML3.8, B

ISC 13 10:40:30.5±0.8, 24°16N±0°.02×121°81E±0°.02, h13km±5km, n123, σ0s92/176, mb3.4/8, 2C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
NACB	Ninganchiao	0.20	274	⇓P		Pg	10 40 34.5	-0.3
	baz=274							
NACB				S		Sg	10 40 37.5	-0.3
	baz=274							
TWD	Chiawan	0.21	248	⇓*i*P		Pg	10 40 35.0	-0.1
	baz=253							
TWD				S		Sg	10 40 38.4	+0.2
	baz=253							
HWA	Hwalien	0.26	226	*e*P		Pb	10 40 36.8	-0.3
	baz=235							
NANB	Nanao	0.27	349	⇓P		Pg	10 40 35.8	-0.4
	baz=346							
NANB				S		Sg	10 40 40.0	0.0
	baz=346							
ENA	Nanau	0.28	347	⇓*i*P		Pg	10 40 35.8	-0.4
	baz=346							
ENA				S		Sg	10 40 40.0	-0.1
	baz=346							
ETLH	Xiulin Townshi	0.30	279	*e*P		Pg	10 40 36.1	-0.7
	baz=280							
ENLB	Shoufeng	0.32	217	⇓P		Pb	10 40 38.5	+0.5
	baz=230							
ENLB				*e*S		Sb	10 40 44.6	+1.5
	baz=230							
TWC	Suao	0.45	5	⇓*i*P		Pg	10 40 39.1	-0.3
	baz=357							
TWC				S		Sg	10 40 45.6	+0.2
	baz=357							
NNSB	Datong	0.47	305	⇓P		Pg	10 40 39.7	-0.1
	baz=305							
NNSB				S		Sg	10 40 46.1	-0.1
	baz=305							
EOS1	EOS1	0.49	37	⇓*e*P		Pb	10 40 40.6	-0.3
	baz=23							
ESL	Shilin	0.49	225	*e*P		Pg	10 40 40.3	+0.2
	baz=236							
ESL				*e*S		Sb	10 40 48.3	+0.3
	baz=236							
NNS	Nan Shan	0.49	305	⇓*i*P		Pg	10 40 39.9	-0.2
	baz=306							
NNS				*i* S		Sg	10 40 46.4	-0.2
	baz=306							
WHF	Hehuan Shan	0.50	269	P		Pg	10 40 40.2	-0.1
	baz=270							
WHF				S		Sg	10 40 47.3	+0.2
	baz=270							
NDT	Datong Townshi	0.52	329	⇓*i*P		Pg	10 40 40.7	0.0
	baz=328							
NDT				*i* S		Sg	10 40 48.2	+0.6
	baz=328							
TWE	Neicheng	0.57	347	⇓*i*P		Pg	10 40 41.7	-0.1
	baz=346							
TWE				S		Sg	10 40 49.2	-0.2
	baz=346							
TWT	Tachien	0.58	279	⇓*i*P		Pg	10 40 42.2	-0.6
	baz=279							
TWT				*e*S		Sg	10 40 49.4	-0.4
	baz=279							
CHGB	Renai	0.59	261	⇓P		Pg	10 40 42.2	+0.1
	baz=254							
CHGB				S		Sg	10 40 50.2	+0.4
	baz=254							
EGFH	Guangfu	0.60	216	*e*P		Pb	10 40 42.9	0.0
	baz=216							
TDCB	Techi	0.60	279	⇓P		Pg	10 40 42.3	+0.1
	baz=280							
TDCB				S		Sg	10 40 50.1	-0.2
	baz=280							
ILA	Ilan	0.61	355	*e*P		Pg	10 40 42.0	-0.4
	baz=345							
OWD	Renai	0.61	251	*e*P		Pg	10 40 42.5	0.0
	baz=252							
OWD				*e*S		Sg	10 40 51.0	+0.3
	baz=252							
YHNB	Yeheng	0.64	322	⇓P		Pg	10 40 43.2	+0.1
	baz=322							
YHNB				S		Sg	10 40 51.5	-0.1
	baz=322							
NSK	Sanguang	0.66	322	⇓*i*P		Pg	10 40 43.4	0.0
	baz=321							
NSK				S		Sg	10 40 51.8	-0.3
	baz=321							
NWLT	Wulai	0.68	336	⇓P		Pg	10 40 43.5	-0.1
	baz=335							
NWLT				S		Sg	10 40 52.2	-0.3
	baz=335							
EGS		0.69	9	⇓*e*P		Pg	10 40 43.8	-0.1
	baz=9.0							
NTC	Toucheng	0.69	2	*e*P		Pg	10 40 43.5	-0.5
VWDT	VWDT	0.73	237	⇓P		Pb	10 40 45.0	-0.2
	baz=239							
VWDT				*e*S		Sb	10 40 55.5	+0.4
	baz=239							
HGSD	Ruisui	0.75	208	*e*P		Pb	10 40 46.0	+0.5
	baz=200							
HGSD				*e*S		Sn	10 40 58.8	+0.7
	baz=200							
EHY	Hungye	0.79	215	*e*P		Pg	10 40 45.7	-0.1
	baz=216							
WHP	Taichung City	0.80	279	⇓*i*P		Pb	10 40 46.4	+0.1
	baz=280							
WHP				S		Sb	10 40 56.8	-0.2
	baz=280							
TIPB	Shuangxi	0.81	1	⇓*i*P		Pg	10 40 46.0	-0.1
	baz=358							
TIPB				*e*S		Sg	10 40 55.2	-1.7
	baz=358							
NHDH	Xindian Distri	0.84	342	*e*P		Pg	10 40 46.7	-0.1
	baz=341							
TWA	Mucha	0.84	346	P		Pg	10 40 46.7	-0.1
	baz=335							
TWA				*e*S		Sg	10 40 58.0	+0.1
	baz=335							
WLTB	Daxi	0.86	324	P		Pb	10 40 47.8	+0.5
	baz=323							
WLTB				*e*S		Sb	10 40 59.9	+1.3
	baz=323							
TATO	Taipei	0.86	340	P		Pb	10 40 47.4	0.0
	baz=339							
TATO				S		Sg	10 40 57.9	-0.6
	baz=339							
SSLB	Suanglung	0.86	245	⇓P		Pb	10 40 47.2	-0.2
	baz=256							
SSLB				S		Sg	10 40 58.6	+0.1
	baz=256							
NSTT	Nanjuang	0.87	303	P		Pb	10 40 47.8	+0.2
	baz=303							
NSTT				S		Sb	10 40 59.3	+0.1
	baz=303							
SMLT	Sun Moon Lake	0.88	252	⇑P		Pb	10 40 47.8	+0.1
	baz=254							
SMLT				S		Sg	10 40 59.1	+0.2
	baz=254							
YULB	Yu-li	0.90	212	*e*P		Pg	10 40 47.2	-0.6
	baz=224							
TYC	Yuchr	0.91	254	⇓P		Pb	10 40 47.9	-0.2
	baz=256							
TYC				*e*S		Sg	10 40 59.7	-0.1
	baz=256							
NWF	Wu-fen Shan	0.91	358	⇓*i*P		Pb	10 40 48.3	+0.1
	baz=349							
NWF				*e*S		Sg	10 40 59.0	-1.0
	baz=349							
WFSB	Wu-fen Shan	0.91	358	⇓P		Pb	10 40 48.2	+0.1
	baz=349							
WFSB				S		Sg	10 40 59.3	-0.6
	baz=349							
TWF1	Yuli	0.93	210	*e*P		Pg	10 40 48.3	-0.2
	baz=222							
TWQ1	Liyutan	0.96	281	*e*P		Pn	10 40 50.3	+0.5
	baz=284							
SBCB	Hsinchu	0.98	310	*e*P		Pb	10 40 50.4	+1.0
	baz=311							
NCUH	Zhongli	0.98	325	*e*P		Pb	10 40 50.4	+0.9
	baz=325							
NCU	National Centr	0.99	325	P		Pb	10 40 50.2	+0.7
	baz=325							
NCU				*e*S		Sb	10 41 04.5	+2.1
	baz=325							
WHYT	Xinyi Township	0.99	242	*e*P		Pb	10 40 49.7	+0.2
	baz=245							
NSY	Sanyi	0.99	285	⇑P		Pn	10 40 50.9	+0.8
	baz=287							
NSY				*e*S		Sb	10 41 04.6	+2.1
	baz=287							
NMLH	Miaoli	1.00	292	*e*P		Pn	10 40 51.2	+0.9
	baz=293							
NMLH				*e*S		Sb	10 41 03.9	+1.0
	baz=293							
TWS1	Kuangyinshan	1.00	339	*e*P		Pb	10 40 50.6	+0.9
	baz=338							
TWS1				*e*S		Sn	10 41 05.1	+0.7
	baz=338							
YM01	YM01	1.01	348	*e*P		Pb	10 40 50.3	+0.4
	baz=331							
YM04	YM04	1.02	346	*e*P		Pb	10 40 50.5	+0.4
	baz=344							
YM05	YM05	1.02	348	*e*P		Pb	10 40 50.5	+0.3
	baz=345							
YM05				*e*S		Sb	10 41 05.2	+1.6
	baz=345							
YM11	YM11	1.02	348	*e*P		Pb	10 40 50.3	+0.1
	baz=332							
TCU	Taichung	1.03	270	*e*P		Pn	10 40 51.7	+0.9
	baz=272							
WJS	Zhushan	1.04	251	*e*P		Pb	10 40 51.1	+0.6
	baz=254							
WJS				*e*S		Sb	10 41 06.0	+2.0
	baz=254							
YM08	YM08	1.04	349	*e*P		Pg	10 40 50.3	-0.3
	baz=333							
NTST	Danshui	1.05	342	*e*P		Pb	10 40 51.4	+0.8
	baz=341							
ANP	Anpu	1.06	346	*e*P		Pb	10 40 51.1	+0.3
	baz=344							
ANP				*e*S		Sb	10 41 06.1	+1.6
	baz=344							
FULB	Fuli	1.07	206	*e*P		Pg	10 40 50.7	-0.3
	baz=226							
FULB				*e*S		Sn	10 41 08.0	+2.0
	baz=226							
WNT	Mingjian	1.07	255	*e*P		Pn	10 40 51.9	+0.7
	baz=250							
JYNG	Yonagunijimaku	1.08	74	P		Pn	10 40 52.1	+0.8
JYNG				S		Sg	10 41 05.2	-0.1
WDJ	Dajia District	1.08	280	*e*P		Pn	10 40 52.4	+1.0
	baz=283							
ALS	Alishan	1.12	235	*e*P		Pb	10 40 52.4	+0.4
	baz=238							
CHKT	Chengkung	1.13	201	*e*P		Pg	10 40 51.1	-1.1
	baz=184							
YOJ	Yonaguni jima	1.14	74	*e*P		Pb	10 40 52.7	+0.6
	baz=60							
YOJ	Yonaguni jima	1.14	74	P		Pb	10 40 52.9	+0.9
YOJ				S		Sg	10 41 07.4	+0.2
WCHH	Zhanghua	1.15	266	*e*P		Pn	10 40 53.5	+1.2
	baz=269							
ELDTW	Lidau	1.21	217	*e*P		Pg	10 40 52.3	-1.5
	baz=205							
WGK	Gukeng	1.23	248	*e*P		Pn	10 40 54.3	+0.8
	baz=251							
WDLH	Douliu	1.25	248	*e*P		Pb	10 40 54.5	+0.5
	baz=252							
RLNB	Erlin	1.35	259	*e*P		Pb	10 40 56.4	+0.7
	baz=263							
RLNB				*e*S		Sn	10 41 14.9	+2.0
	baz=263							
CHN2	Minshiung	1.37	243	*e*P		Pb	10 40 57.4	+1.4
	baz=247							
TPUB	Ta-pu	1.38	232	*e*P		Pg	10 40 54.9	-2.1
	baz=224							
TPUB				*e*S		Sb	10 41 14.9	+1.2
	baz=224							
STYT	Tauyuan	1.38	224	*e*P		Pg	10 40 55.5	-1.6
	baz=217							
STYT				*e*S		Sn	10 41 15.5	+1.7
	baz=217							
WTCT	Ta-ch'eng	1.43	258	*e*P		Pn	10 40 57.1	+1.0
	baz=262							
WTCT				*e*S		Sn	10 41 18.2	+3.4
	baz=262							
CHY	Chiayi	1.43	243	*e*P		Pb	10 40 58.0	+1.0
	baz=247							
PCYT	Pengchaiyu	1.48	9	*e*P		Pn	10 40 57.7	+0.8
	baz=5.0							
TWGBT	Beinan	1.49	207	*e*P		Pn	10 40 57.7	+0.6
	baz=209							
TWG	Pinlang	1.49	207	*e*P		Pn	10 40 58.1	+1.1
	baz=209							
WLGB	Puzi	1.54	244	*e*P		Pg	10 40 59.4	-0.7
	baz=248							
WLGB				*e*S		Sg	10 41 21.1	+1.0
	baz=248							
WSF	Szhu	1.54	251	*e*P		Pn	10 40 57.1	-0.6
	baz=254							
SGST	Jiashian	1.55	227	*e*P		Pg	10 40 59.9	-0.4
	baz=213							
SLGT	Liugui	1.58	223	*e*P		Pb	10 41 00.1	+0.5
	baz=213							
CHN8	Yiju	1.67	241	*e*P		Pn	10 41 00.8	+1.3
	baz=245							
ECL	Taimali	1.74	207	*e*P		Pn	10 40 60.0	-0.5
	baz=196							
IRIF	Iriomote-Funau	1.76	84	P		Pn	10 41 01.7	+0.9
IRIF				S		Sn	10 41 25.3	+2.2
SSD	Sandimen	1.77	218	*e*P		Pn	10 41 01.8	+0.9
	baz=221							
SSD				*e*S		Sg	10 41 27.1	-0.4
	baz=221							
HATJ	Hateruma jima	1.83	93	P		Pn	10 41 02.6	+1.0
HATJ				*e*S		Sn	10 41 26.8	+2.1
MASBT	Mashibuluo	1.88	215	*e*P		Pn	10 41 02.8	+0.4
	baz=219							
MASBT				*e*S		Sb	10 41 29.3	+1.1
	baz=219							
EAST	Anshuo	1.98	207	*e*P		Pn	10 41 05.2	+1.4
	baz=197							
JKRS	Kuro-shima	2.01	87	P		Pn	10 41 05.4	+1.2
SSPT	Xinbi	2.02	215	*e*P		Pb	10 41 06.5	-0.6
	baz=218							
JIJ	Ishigaki jima	2.14	84	P		Pn	10 41 06.5	+0.5
JIJ				S		Sn	10 41 33.7	+1.3
PHUB	P'eng-hu	2.15	253	*e*P		Pn	10 41 06.3	+0.3
	baz=257							
PHUB				*e*S		Sn	10 41 34.3	+1.7
	baz=257							
PNG	Penghu	2.15	255	*e*P		Pn	10 41 05.8	-0.2
	baz=258							
WDGT	Dungji	2.16	246	*e*P		Pn	10 41 07.0	+0.8
	baz=249							
PTTC	Pingtan	2.28	306	*e*P		Pn	10 41 07.7	-0.2
	baz=307							
VWUC	VWUC	2.30	292	*e*P		Pn	10 41 08.0	-0.1
	baz=294							
JISG	Ishigakijimahi	2.32	79	P		Pn	10 41 09.1	+0.7
JISG				S		Sn	10 41 37.7	+0.8
VCHM	Qimei	2.38	247	*e*P		Pn	10 41 09.4	+0.2
	baz=235							
TWK1	Hengchun	2.39	203	*e*P		Pn	10 41 11.6	+2.2
	baz=193							
TWKBT	Hengchun	2.39	203	*e*P		Pn	10 41 10.3	+0.9
	baz=193							
PTMZ	Houxiangcun	2.60	290	*e*P		Pn	10 41 12.2	-0.1
	baz=293							
MATB	Ma-tsu	2.60	320	*e*P		Pn	10 41 12.4	+0.1
	baz=318							
JTJ	Tarama	2.68	79	P		Pn	10 41 16.3	+2.9
LYJJ	Jianjiangzhen	3.02	323	*e*P		Pn	10 41 18.2	+0.2
	baz=322							
KNM	Kinmen	3.09	275	*e*P		Pn	10 41 21.3	+2.3
	baz=279							
XPSS	Dashiqiu	3.12	332	*e*P		Pn	10 41 19.9	+0.5
	baz=331							
KNMB	Chin-men Tao	3.13	276	*e*P		Pn	10 41 19.9	+0.3
	baz=280							
MHZQ	Yeshan	3.17	308	*e*P		Pn	10 41 20.7	+0.5
	baz=309							
AXDP	Jialang	3.57	283	*e*P		Pn	10 41 26.1	+0.4
	baz=286							
ZPLA	Ao Xicun	3.72	267	*e*P		Pn	10 41 27.9	+0.2
	baz=272							
KSRS	Korea Array	14.25	20	LR		LR	10 50 12.8	
	comp=Z,23nm,18.2s,baz=115,slow=41							
KLR	Kul'dur	26.21	15	P		P	10 46 04.6	-0.4
	0.5nm,0.5s,baz=186,slow=4.4,SNR=4.6							
KLR				LR		LR	10 57 48.5	
	comp=Z,36nm,

*GUC **13** 10:45:51.7±0.6, 31°.32S×69°.22W, h129km±30km, ML3.3*
*ISCJB **13** 10:45:52.3±0.8, 31°.36S±0°.03×69°.06W±0°.05, h112km±7km, Error ellipse: s-maj=6.9km s-min=4.7km az=177.2*
*SJA **13** 10:45:52.0±0.6, 31°.37S×69°.10W, h104km±2km, ML3.3, MW3.3*

ISC 13 10:45:53.2±1.7, 31°.35S±0°.03×69°.08W±0°.05, h105km±12km, n19, σ0°61/33, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.48**	**202**	*eP*		**Pn**	**10 46 09.5**	**-0.3**
RTLS				*eS*		**Sn**	**10 46 22.2**	**+0.1**
RTLS				IAML			10 46 23.4	
	comp=Z,1μm,0.2s							
RTLL	**Cerro Villicun**	**0.52**	**88**	*eP*		**Pn**	**10 46 09.1**	**-0.6**
RTLL				*eS*		**Sn**	**10 46 22.1**	**+0.1**
AMOG	**MOGNA**	**0.65**	**51**	*eP*		**Pn**	**10 46 10.4**	**-0.3**
RTCV	**Cerro Valdivia**	**0.69**	**138**	*eP*		**Pn**	**10 46 10.7**	**-0.3**
RTCV				*eS*		**Sn**	**10 46 24.4**	**0.0**
ACCO	**Cerro Coronel**	**0.76**	**1**	*eP*		**Pn**	**10 46 12.0**	**0.0**
ACCO				*eS*		**Sn**	**10 46 27.3**	**+1.3**
CFA	**Coronel Fontan**	**0.77**	**109**	*eP*		**Pn**	**10 46 11.1**	**-0.5**
CFA				*eS*		**Sn**	**10 46 25.3**	**-0.3**
AUSP	**Uspallata**	**0.91**	**197**	*eP*		**Pn**	**10 46 13.1**	**-0.2**
AUSP				*eS*		**Sn**	**10 46 28.6**	**+0.1**
ACDV	**Cuesta del Vie**	**1.18**	**358**	*eP*		**Pn**	**10 46 16.4**	**+0.3**
ACDV				*eS*		**Sn**	**10 46 34.0**	**+0.6**
ACDV				IAML			10 46 34.8	
	comp=Z,261nm,0.4s							
AROD	**Rodeo**	**1.23**	**344**	*eP*		**Pn**	**10 46 17.1**	**+0.2**
AROD				*eS*		**Sn**	**10 46 35.6**	**+1.0**
ARCO	**CERRO ARCO**	**1.49**	**175**	*eP*		**Pn**	**10 46 19.6**	**-0.1**
ARCO				*i* P			10 46 19.9	
ARCO				IAML			10 46 20.0	
	comp=Z,228nm,0.4s							
CMCH	**Combarbala**	**1.65**	**276**	*eP*		**Pn**	**10 46 21.1**	**-0.5**
CMCH				*eS*		**Sn**	**10 46 43.1**	**-0.1**
CMCH				IAML			10 46 44.5	
	comp=E,2μm,0.5s							
AAGR	**Agrelo**	**1.74**	**173**	*eP*		**Pn**	**10 46 22.5**	**-0.3**
ACAN	**Cantantal**	**1.86**	**120**	*eP*		**Pn**	**10 46 23.9**	**-0.3**
GO04	**Tololo Observa**	**1.89**	**308**	*eP*		**Pn**	**10 46 24.2**	**-0.6**
GO04				*i* S		**Sn**	**10 46 49.0**	**+0.2**
GO04				IAML			10 46 53.5	
	comp=N,1μm,0.4s							
FCH	**Farellones**	**2.22**	**207**	*eP*		**Pn**	**10 46 29.4**	**+0.3**
FCH				*eS*		**Sn**	**10 46 58.3**	**+1.7**
FCH				IAML			10 47 04.7	
	comp=E,81nm,0.2s							
PEL	**Peldehue**	**2.24**	**217**	*eP*		**Pn**	**10 46 29.0**	**-0.1**
PEL				*i* S		**Sn**	**10 46 56.8**	**+0.2**
PEL				IAML			10 46 57.8	
	comp=E,58nm,0.3s							
ROCH	**El Roble**	**2.30**	**225**	*eP*		**Pn**	**10 46 29.1**	**-0.9**
ROCH				*i* S		**Sn**	**10 46 57.8**	**-0.4**
ROCH				IAML			10 46 58.9	
	comp=N,90nm,0.3s							
LMEL	**Las Melosas**	**2.66**	**201**	*eP*		**Pn**	**10 46 35.6**	**+0.8**
LMEL				IAML			10 47 18.4	
	comp=N,48nm,0.5s							
LCO	**Las Campanas**	**2.72**	**329**	*eP*		**Pn**	**10 46 35.1**	**-0.6**
LCO				*eS*		**Sn**	**10 47 07.5**	**-0.7**
LCO				IAML			10 47 10.2	
	comp=E,167nm,0.3s							

KRSC 13 10:49:17.2±10.0, 59°.84N×163°.82E, h54km±10km, ML4.4, FELT [II] at Ilpyrskiy., Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.70**	**214**	*eP*		Pn	10 49 31.0	-0.1
OSSR				*eS*		Sn	10 49 43.1	+1.9
TILK	**Tilichiki**	**1.31**	**61**	*eP*		Pn	10 49 39.6	+0.5
TILK				*eS*		Sn	10 49 58.4	+2.8
PALN	**Palana**	**2.10**	**251**	*eP*		Pn	10 49 51.2	+1.3
PALN				*eS*		Sn	10 50 18.8	+3.9
KMSK	**Kamenskaya**	**2.88**	**23**	*eP*		Pn	10 50 04.0	+3.5
KBTR	**Krutoberegovo**	**3.68**	**189**	*eP*		Pn	10 50 15.4	+4.0
BKI	**Bering**	**4.79**	**165**	*eP*		Pn	10 50 30.6	+4.0

*SOME **13** 10:56:12.9, 40°.10N×77°.55E, h20km*
*KRNET **13** 10:56:14.5±0.1, 40°.27N×77°.39E, h1km, mb3.2*
*NNC **13** 10:56:15.5±1.4, 40°.30N×77°.54E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=10.0km s-min=7.9km az=160.0*

ISC 13 10:56:19.0±1.9, 40°.35N±0°.08×77°.48E±0°.04, h10km, n56, σ1°69/82, 21C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.40**	**10**	⇑*iP*		**Pn**	**10 56 42.7**	**-2.3**
	baz=12							
TARG				⇑*iS*		**Sn**	**10 57 03.3**	**-0.5**
	baz=12							
NRN	**Naryn**	**1.56**	**314**	⇑*iP*		**Pn**	**10 56 44.1**	**-3.0**
	baz=17							
NRN				⇑*iS*		**Sn**	**10 57 06.1**	**-1.5**
	baz=17							
KDJ	**Kajisay**	**1.80**	**353**	⇑*iP*		**Pn**	**10 56 50.0**	**-0.2**
	baz=55							
KDJ				⇑*iS*		**Sb**	**10 57 15.1**	**+0.4**
	baz=55							
ULHL	**Ulahol**	**2.12**	**334**	P		**Pn**	**10 56 55.1**	**+0.4**
	SNR=28							
ULHL	**Ulahol**	**2.12**	**334**	⇑*iP*		**Pn**	**10 56 54.6**	**0.0**
	baz=37							
ULHL				⇑*iS*		**Sb**	**10 57 23.5**	**-0.4**
	baz=37							
KZA	**Kyzart**	**2.42**	**316**	P		**Pn**	**10 56 58.8**	**-0.1**
	SNR=23							
KZA	**Kyzart**	**2.42**	**316**	⇓*iP*		**Pn**	**10 56 58.1**	**-0.8**
	baz=19							
KZA				⇓*iS*		**Sn**	**10 57 29.8**	**+1.1**
	baz=19							
BOOM	**Boomskoye usch**	**2.44**	**332**	⇓*iP*		**Pn**	**10 56 58.7**	**-0.3**
	baz=34							
BOOM				⇓*iS*		**Sn**	**10 57 31.2**	**+2.3**
	baz=34							
TNSS	**Tian-Shan**	**2.72**	**352**	Pg		**Pb**	**10 57 06.8**	**-1.1**
	53nm,0.4s							
TNSS				Lg		Lg	10 57 45.6	
	32nm,0.4s							
TNSS	**Tian-Shan**	**2.72**	**352**	*eP*		**Pb**	**10 57 06.8**	**-1.1**
	53nm,0.4s							
TNSS				*eS*		**Sg**	**10 57 45.6**	**-0.7**
	32nm,0.4s							
IZV	**Izvestkoviy**	**2.77**	**347**	Pg		**Pb**	**10 57 07.1**	**-1.5**
	17nm,0.4s							
IZV				Lg		Lg	10 57 46.5	
	101nm,0.6s							
IZV	**Izvestkoviy**	**2.77**	**347**	*eP*		**Pb**	**10 57 07.1**	**-1.5**
	17nm,0.4s							
IZV				*eS*		**Sb**	**10 57 46.1**	**+3.6**
	101nm,0.6s							
SATY	**Saty**	**2.80**	**14**	Pg		**Pb**	**10 57 07.9**	**-1.2**
	21nm,0.4s							
SATY				Lg		Lg	10 57 47.8	
	72nm,0.5s							
SATY	**Saty**	**2.80**	**14**	*eP*		**Pb**	**10 57 07.9**	**-1.2**
	21nm,0.4s							
SATY				⇑*iS*		**Sg**	**10 57 47.8**	**-1.0**
	72nm,0.5s							
ARLS	**Aral**	**2.83**	**303**	⇓*iP*		**Pn**	**10 57 03.3**	**-1.1**
	baz=6.0							
ARLS				⇓*iS*		**Sn**	**10 57 39.1**	**+0.5**
	baz=6.0							
MDOK	**Medeo**	**2.83**	**354**	Pg		**Pb**	**10 57 08.0**	**-1.7**
MDOK				⇑Lg		Lg	10 57 48.2	
MDOK	**Medeo**	**2.83**	**354**	Pg		**Pb**	**10 57 08.7**	**-1.0**
	13nm,0.4s							
MDOK				Lg		Lg	10 57 48.8	
	59nm,0.5s							
MDOK	**Medeo**	**2.83**	**354**	*eP*		**Pb**	**10 57 08.7**	**-1.0**
	13nm,0.4s							
MDOK				*eS*		**Sg**	**10 57 48.8**	**-1.1**
	59nm,0.5s							
KNDC	**Almaty**	**2.89**	**352**	⇓Pg		**Pb**	**10 57 07.6**	**-3.1**
KNDC				⇓Lg		Lg	10 57 48.5	
KOTS	**Kotyrbulak**	**2.90**	**355**	Pg		**Pb**	**10 57 09.9**	**-0.9**
	18nm,0.3s							
KOTS				Lg		Lg	10 57 51.1	
	253nm,0.4s							
KOTS	**Kotyrbulak**	**2.90**	**355**	*eP*		**Pb**	**10 57 09.9**	**-0.9**
	18nm,0.3s							
KOTS				*eS*		**Sg**	**10 57 51.1**	**-0.9**
	253nm,0.4s							
UCH	**Uchtor**	**2.92**	**311**	P		**Pn**	**10 57 06.0**	**+0.1**
	SNR=9.7							
UCH	**Uchtor**	**2.92**	**311**	⇓*iP*		**Pn**	**10 57 05.3**	**-0.6**
	baz=13							
UCH				⇓*iS*		**Sn**	**10 57 42.5**	**+1.2**
	baz=13							
KST	**Kastek**	**2.92**	**338**	Pg		**Pb**	**10 57 10.2**	**-1.1**
	11nm,0.6s							
KST				Lg		Lg	10 57 51.2	
	35nm,0.6s							
KST	**Kastek**	**2.92**	**338**	*eP*		**Pb**	**10 57 10.2**	**-1.1**
	11nm,0.6s							
KST				⇓*iS*		**Sg**	**10 57 51.2**	**-1.7**
	35nm,0.6s							
TKM2	**Tokmak 2**	**2.94**	**332**	P		**Pn**	**10 57 06.3**	**+0.5**
	SNR=15							
TKM2	**Tokmak 2**	**2.94**	**332**	⇓Pn		**Pn**	**10 57 05.6**	**-0.3**
TKM2				⇓Pg		**Pb**	**10 57 09.6**	**-1.9**
	4.2nm,0.5s							
TKM2				⇓Lg		Lg	10 57 50.4	
	29nm,1.1s							
KBK	**Karagaybulak**	**2.99**	**321**	P		**Pb**	**10 57 10.8**	**-1.7**
	SNR=7.5							
KBK	**Karagaybulak**	**2.99**	**321**	⇑*eP*		**Pn**	**10 57 05.6**	**-1.0**
	baz=23							
KBK				⇑*iS*		**Sn**	**10 57 44.5**	**+1.9**
	baz=23							
UZB	**Uzynbulak**	**3.02**	**22**	Pg		**Pn**	**10 57 07.8**	**+0.7**
	4.6nm,0.2s							
UZB				Lg		Lg	10 57 48.7	
	14nm,0.6s							
UZB	**Uzynbulak**	**3.02**	**22**	*eP*		**Pn**	**10 57 08.0**	**+0.9**
	4.6nm,0.2s							
UZB				*eS*		**Sb**	**10 57 47.7**	**-2.4**
	14nm,0.6s							
KURS	**Kuram**	**3.18**	**9**	Pg		**Pb**	**10 57 15.0**	**-0.6**
	7.6nm,0.5s							
KURS				Lg		Lg	10 57 59.2	
	18nm,0.7s							
KURS	**Kuram**	**3.18**	**9**	*eP*		**Pb**	**10 57 14.7**	**-0.9**
	7.6nm,0.5s							
KURS				*eS*		**Sg**	**10 57 59.2**	**-1.9**
	18nm,0.7s							
AAK	**Ala-Archa**	**3.21**	**317**	⇑Pn		**Pn**	**10 57 08.1**	**-1.5**
AAK				⇑Pg		**Pb**	**10 57 14.2**	**-1.9**
	3.8nm,0.5s							
AAK				⇑Lg		Lg	10 57 57.6	
	32nm,0.8s							
AAK	**Ala-Archa**	**3.21**	**317**	⇑*iP*		**Pn**	**10 57 09.0**	**-0.6**
	baz=18							
AAK				⇑*iS*		**Sn**	**10 57 50.2**	**+2.3**
	baz=18							
PDGK	**Podgornoye**	**3.33**	**26**	Pg		**Pn**	**10 57 13.9**	**+2.6**
	3.3nm,0.4s							
PDGK				Lg		Lg	10 57 56.5	
	11nm,0.6s							
PDGK	**Podgornoye**	**3.33**	**26**	⇓Pn		**Pn**	**10 57 11.4**	**+0.1**
	0.8nm,0.5s							
PDGK				⇑Pg		**Pb**	**10 57 16.9**	**-1.4**
	5.4nm,0.6s							
PDGK				⇓Lg		Lg	10 58 03.5	
	40nm,0.8s							
PDGK	**Podgornoye**	**3.33**	**26**	⇑*iP*		**Pn**	**10 57 11.0**	**-0.3**
	baz=26							
PDGK				⇑*iS*		**Sn**	**10 57 53.6**	**+2.6**
	baz=26							
CHMS	**Chumysh**	**3.35**	**323**	P		**Sb**	**10 58 00.0**	**+0.8**
	SNR=7.6							
AML	**Almayashu**	**3.37**	**303**	P		**Pn**	**10 57 11.9**	**-0.1**
	SNR=12							
KTBS	**Karatobe**	**3.42**	**350**	Pg		**Pb**	**10 57 18.3**	**-1.3**
	4.5nm,0.5s							
KTBS				Lg		Lg	10 58 05.3	
	49nm,0.5s							
KTBS	**Karatobe**	**3.42**	**350**	*eP*		**Pb**	**10 57 18.3**	**-1.3**
	4.5nm,0.5s							
KTBS				*eS*		**Sb**	**10 58 05.3**	**+4.1**
	49nm,0.5s							
CHKK	**Chushkaly**	**3.52**	**354**	Pg		**Pb**	**10 57 20.5**	**-0.9**
	7.0nm,0.5s							
CHKK				Lg		Lg	10 58 09.7	
	102nm,0.4s							
CHKK	**Chushkaly**	**3.52**	**354**	*eP*		**Pb**	**10 57 20.7**	**-0.7**
	7.0nm,0.5s							
CHKK				*eS*		**Sg**	**10 58 09.7**	**-2.4**
	102nm,0.4s							
KUU	**Kurty**	**3.65**	**347**	Pg		**Pb**	**10 57 21.9**	**-1.5**
	3.2nm,0.3s							
KUU				Lg		Lg	10 58 10.5	
	28nm,0.3s							
KUU	**Kurty**	**3.65**	**347**	*eP*		**Pb**	**10 57 21.6**	**-1.8**
	3.2nm,0.3s							
KUU				*eS*		**Sb**	**10 58 11.1**	**+3.4**
	28nm,0.3s							
USP	**Ospenovka**	**3.67**	**324**	P		**Sb**	**10 58 12.3**	**+3.7**
	SNR=12							
KTMS	**Ketmen**	**3.76**	**34**	Pg		**Pb**	**10 57 24.2**	**-1.4**
	3.1nm,0.3s							
KTMS				Lg		Lg	10 58 14.9	
	13nm,0.6s							
KTMS	**Ketmen**	**3.76**	**34**	*eP*		**Pb**	**10 57 23.9**	**-1.7**
	3.1nm,0.3s							
KTMS				*eS*		**Sb**	**10 58 14.9**	**+3.6**
	13nm,0.6s							
ARXS	**Arharly**	**3.87**	**4**	Pg		**Pb**	**10 57 27.5**	**+0.1**
	3.6nm,0.5s							
ARXS				Lg		Lg	10 58 20.0	
	24nm,0.6s							
ARXS	**Arharly**	**3.87**	**4**	*eP*		**Pb**	**10 57 27.2**	**-0.2**
	3.6nm,0.5s							
ARXS				*eS*		**Sg**	**10 58 20.6**	**-2.7**
	24nm,0.6s							
MRKS	**Merke**	**3.99**	**308**	Pg		**Pb**	**10 57 28.9**	**-0.6**
	2.7nm,0.3s							
MRKS				Lg		Lg	10 58 21.0	
	6.8nm,0.6s							
MRKS	**Merke**	**3.99**	**308**	*eP*		**Pb**	**10 57 27.4**	**-2.1**
	2.7nm,0.3s							
MRKS				*eS*		**Sb**	**10 58 21.0**	**+3.1**
	7.1nm,0.6s							
KK31	**Karatay Array**	**5.90**	**300**	⇑Pg		**Pb**	**10 58 03.3**	**+1.4**
	0.4nm,0.5s,baz=130,slow=15,SNR=4.6							
KK31				⇓Lg		Lg	10 59 23.1	
	1.3nm,0.6s,baz=109,slow=28,SNR=6.4							
OTUK	**Ortayu**	**8.71**	**337**	⇓Lg		Lg	11 00 52.7	
	5.6nm,1.0s							
KURK	**Kurchatov**	**10.40**	**4**	⇓Lg		Lg	11 01 48.6	
	3.4nm,1.1s							

IDC 13 10:59:53.4±2.1, 2°.61S×138°.21E, h0km, mb3.1/2, mb1 3.5/3, mb1mx3.2/32, mbtmp3.2/3, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/19, Error ellipse: s-maj=210.9km s-min=30.3km az=105.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.64**	**192**	P		Pn	11 04 00.4	-0.3
	0.1nm,0.3s,baz=14,slow=12,SNR=9.5							
FITZ	**Fitzroy Crossi**	**19.72**	**218**	LR		LR	11 13 37.6	
	comp=Z,48nm,19.0s,baz=144,slow=42							
ASAR	**Alice Springs**	**21.34**	**191**	P		P	11 04 42.6	+0.3
	0.2nm,0.4s,baz=10,slow=11,SNR=5.2							
ILAR	**Eielson Array**	**85.95**	**25**	P		P	11 12 35.2	-0.1
	0.3nm,0.9s,baz=243,slow=4.0,SNR=3.8							

*ISCJB **13** 11:11:59.8±0.4, 42°.68N±0°.03×75°.69E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.5km az=148.6*
*NNC **13** 11:11:59.8±0.3, 42°.67N×75°.68E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=1.7km s-min=1.3km az=150.0, Suspected Mining explosion.*
*SOME **13** 11:11:59.1, 42°.65N×75°.68E*
*KNET **13** 11:11:59.5±0.2, 42°.68N×75°.67E, h13km±3km, ml1.3, Error ellipse: s-maj=1.9km s-min=1.5km az=73.0*

ISC 13 11:11:59.0±0.9, 42°.64N±0°.03×75°.67E±0°.02, h0km, n26, σ0°66/41, 13C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.28**	**350**	⇑P		**Pg**	**11 12 04.9**	**+0.5**
	17nm,0.1s,SNR=157							
TKM2				⇑S		**Sg**	**11 12 08.9**	**+0.7**
	101nm,0.2s							
TKM2	**Tokmak 2**	**0.28**	**350**	⇑P		**Pg**	**11 12 04.9**	**+0.5**
	5.2nm,0.2s							
TKM2				⇑S		**Sg**	**11 12 08.7**	**+0.6**
	31nm,0.3s							
KST	**Kastek**	**0.46**	**28**	P		**Pg**	**11 12 08.0**	**+0.3**
	30nm,0.3s							
KST				S		**Sg**	**11 12 14.5**	**+0.8**
	32nm,0.5s							
KBK	**Karagaybulak**	**0.53**	**272**	⇓P		**Pb**	**11 12 10.5**	**-0.8**
	8.2nm,0.1s,SNR=5.9							
KBK				⇓S		**Sb**	**11 12 19.2**	**-0.4**
	40nm,0.4s							
ULHL	**Ulahol**	**0.58**	**133**	⇑P		**Pb**	**11 12 11.6**	**-0.6**
	8.6nm,0.2s,SNR=8.3							
ULHL				⇓S		**Sb**	**11 12 20.5**	**-0.5**
	14nm,0.4s							
KZA	**Kyzart**	**0.64**	**209**	⇑P		**Pb**	**11 12 13.5**	**+0.2**
	10nm,0.2s,SNR=18							
KZA				⇑S		**Sb**	**11 12 23.8**	**+0.8**
	11nm,0.4s							
MTBS	**Maitube**	**0.74**	**49**	P		**Pg**	**11 12 13.6**	**+0.4**
	10.0nm,0.2s							
MTBS				S		**Sg**	**11 12 23.8**	**+0.9**
	28nm,0.3s							
IZV	**Izvestkoviy**	**0.80**	**60**	P		**Pg**	**11 12 14.9**	**+0.6**
	7.1nm,0.1s							
IZV				S		**Sb**	**11 12 26.1**	**-1.2**
	10nm,0.2s							
AAK	**Ala-Archa**	**0.86**	**270**	⇑P		**Pb**	**11 12 16.6**	**-0.4**
	3.5nm,0.3s,SNR=7.6							
AAK				⇓S		**Sb**	**11 12 28.8**	**-0.4**
	5.9nm,0.3s							
AAK	**Ala-Archa**	**0.86**	**270**	⇑P		**Pb**	**11 12 16.6**	**-0.4**
	1.2nm,0.3s							
AAK				⇑S		**Sb**	**11 12 28.8**	**-0.4**
	2.2nm,0.3s							
UCH	**Uchtor**	**0.95**	**245**	⇓P		**Pb**	**11 12 18.2**	**-0.3**
	2.4nm,0.3s,SNR=5.7							
USP	**Ospenovka**	**1.06**	**307**	⇓P		**Pg**	**11 12 19.3**	**0.0**
	2.5nm,0.1s,SNR=9.9							
MDOK	**Medeo**	**1.14**	**62**	Pg		**Pg**	**11 12 21.0**	**+0.2**
	5.8nm,0.2s							
MDOK				Lg		Lg	11 12 37.2	
	4.4nm,0.3s							
KOTS	**Kotyrbulak**	**1.22**	**60**	P		**Pb**	**11 12 22.7**	**-0.3**
	4.0nm,0.2s							
KOTS				S		**Sb**	**11 12 38.9**	**-0.4**
	16nm,0.4s							
KTBS	**Karatobe**	**1.30**	**34**	P		**Pg**	**11 12 23.6**	**-0.4**
	7.5nm,0.2s							
KTBS				S		**Sb**	**11 12 41.6**	**-0.1**
	12nm,0.2s							
KUU	**Kurty**	**1.34**	**21**	P		**Pg**	**11 12 24.1**	**-0.7**
	3.8nm,0.2s							
KUU				S		**Sg**	**11 12 40.9**	**-1.3**
	6.3nm,0.2s							
AML	**Almayashu**	**1.55**	**251**	P		**Pb**	**11 12 29.5**	**+0.8**
	SNR=5.1							
CHKK	**Chushkaly**	**1.55**	**38**	P		**Pn**	**11 12 28.0**	**+0.2**
	3.9nm,0.2s							
CHKK				S		**Sg**	**11 12 49.1**	**+0.3**
	24nm,0.2s							
MRKS	**Merke**	**1.80**	**274**	P		**Pg**	**11 12 33.4**	**-0.1**
	9.8nm,0.3s							
MRKS				S		**Sg**	**11 12 58.5**	**+1.7**
	13nm,0.3s							
SATY	**Saty**	**2.06**	**77**	Pg		**Pg**	**11 12 38.3**	**-0.1**
	11nm,0.2s							
SATY				Lg		Lg	11 13 08.7	
	12nm,0.5s							
ARXS	**Arharly**	**2.22**	**44**	Pg		**Pb**	**11 12 40.1**	**0.0**
	5.4nm,0.3s							
ARXS				Lg		Lg	11 13 09.5	
	11nm,0.3s							
UZB	**Uzynbulak**	**2.52**	**77**	Pg		**Pb**	**11 12 45.5**	**+0.4**
	4.5nm,0.2s							
UZB				Lg		Lg	11 13 19.7	
	4.0nm,0.3s							
BTLS	**Baital**	**2.67**	**335**	Pg		**Pb**	**11 12 48.1**	**+0.5**
	2.5nm,0.3s							
BTLS				Lg		Lg	11 13 22.4	
	2.8nm,0.2s							
PDGK	**Podgornoye**	**2.89**	**75**	Pg		**Pb**	**11 12 51.3**	**-0.2**
	1.3nm,0.2s							
PDGK				Lg		Lg	11 13 30.2	
	2.2nm,0.8s							
PDGK	**Podgornoye**	**2.89**	**75**	⇑Pg		**Pb**	**11 12 51.3**	**-0.2**
	1.9nm,0.6s							
PDGK				⇑Lg		Lg	11 13 31.3	
	5.9nm,0.8s							
KK31	**Karatay Array**	**3.82**	**279**	⇓Pg		**Pg**	**11 13 10.6**	**-1.5**
	0.4nm,0.3s,baz=94,slow=17,SNR=12							
KK31				⇑Lg		Lg	11 14 00.7	
	0.7nm,0.5s,baz=96,slow=22,SNR=4.2							

*DJA **13** 11:28:44.9±3.0, 6°.5S±26°.×14°.8E±3°.1, h10km, M4.9/6, mb4.9/6*
*NEIC **13** 11:28:46.2±0.2, 6°.01S×148°.24E, h10km, mb5.1/45, Error ellipse: s-maj=7.9km s-min=5.0km az=113.0*
*MOS **13** 11:28:48.3±0.9, 5°.99S×148°.10E, h33km, mb4.7/13, Error ellipse: s-maj=12.8km s-min=7.2km az=92.1*
*BJI **13** 11:28:51.7, 6°.10S×148°.20E, h72km, mb4.8/34, mB4.9/23, Ms4.8/10, Ms7 4.5/8*
*ISCJB **13** 11:28:51.3±0.2, 6°.08S±0°.03×148°.15E±0°.04, h60km, mb4.8/79, MS4.0/22, Error ellipse: s-maj=6.2km s-min=3.9km az=21.6*
*IDC **13** 11:28:54.4±2.2, 6°.06S×148°.16E, h75km±19km, mb4.3/18, mb1 4.4/22, mb1mx4.3/32, mbtmp4.5/22, MS3.8/23, Ms1 3.8/23, ms1mx3.7/37, Error ellipse: s-maj=13.3km s-min=9.6km az=108.0*
*GCMT **13** 11:28:54.2±0.3, 6°.25S±0°.02×148°.32E±0°.02, h50km±2km, MW5.0/51, Moment Tensor Solution. s51,c69; s44,c59; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.82±.14; $M_{\theta\theta}$-3.30±.10; $M_{\phi\phi}$0.48±.11; $M_{r\theta}$1.34±.16; $M_{\theta\phi}$0.20±.12; $M_{\phi r}$-0.27±.12; Best double couple: $M_0$3.35800×10^{16} NP1:ϕ_s97.00000°, δ57.00000°, λ95.00000°. NP2: ϕ_s268.00000°, δ33.00000°, λ83.00000°. Principal axes: T 3.1190, Plg77.0000°, Azm23.0000°; N 0.4790, Plg4.0000°, Azm274.0000°; P -3.5960, Plg12.0000°, Azm184.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 11:28:52.9±0.3, 6°.16S±0°.05×148°.17E±0°.06, h60km, n168, σ1°48/173, mb4.8/79, MS3.9/23, 12C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**4.17**	**349**	Pn		**Pn**	**11 29 52.9**	**-1.1**
RABL	**Rabaul**	**4.43**	**64**	*e*Pn		**Pn**	**11 29 57.2**	**-0.5**
JAY	**Jayapura**	**8.28**	**296**	P		**Pn**	**11 30 51.9**	**+1.5**
	0.8nm,0.3s,baz=127,slow=10,SNR=3.3							
JAY				LR		L

WRA	**Warramunga Arr**	**19.19**	**223**	P	**P**	**11 33 12.4**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=51,slow=11,SNR=131						
WRA				S	**S**	**11 36 41.1**	**-5.3**
	baz=43,slow=21,SNR=5.8						
WRA				PcP	**PcP**	**11 37 34.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=32,slow=1.7,SNR=11						
WRA				LR	LR	11 41 12.8	
	comp=Z,454nm,21.6s,baz=50,slow=38						
EIDS	**Eidsvold**	**19.30**	**172**	P	**P**	**11 33 15.9**	**+2.8**
	baz=20,SNR=3.2						
GUMO	**Guam**	**19.89**	**351**	*e*P	**P**	**11 33 19.0**	**-0.6**
	comp=Z,440nm,1.5s						
GUMO	**Guam**	**19.89**	**351**	*e*P	**P**	**11 33 19.0**	**-0.6**
GUMO				pmax	pmax		
	comp=Z,440nm,1.5s						
GUMO	**Guam**	**19.89**	**351**	LR	LR	11 41 04.3	
	comp=Z,260nm,18.8s,baz=149,slow=37						
RMQ	**Roma**	**20.22**	**178**	P	**P**	**11 33 25.4**	**+2.3**
	baz=20,SNR=13						
KNRA	**Kununurra**	**21.25**	**242**	P	**P**	**11 33 35.3**	**+1.0**
	baz=21,SNR=22						
AS01	**Alice Springs**	**22.14**	**217**	*e*P	**P**	**11 33 44.6**	**+0.8**
AS01				*e*S	**S**	**11 37 40.0**	**-4.3**
AS31	**Alice Springs**	**22.16**	**217**	*e*P	**P**	**11 33 44.4**	**+0.3**
	comp=Z,8.7nm,0.6s						
ASAR	**Alice Springs**	**22.16**	**217**	P	**P**	**11 33 44.9**	**+0.8**
	comp=Z,9.6nm,0.4s,baz=54,slow=9.1,SNR=334						
ASAR				PcP	**PcP**	**11 37 39.4**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=41,slow=2.7,SNR=10						
ASAR				S	**S**	**11 37 45.8**	**+0.9**
	comp=Z,10nm,0.9s,baz=32,slow=21,SNR=10						
ASAR				LR	LR	11 43 17.6	
	comp=Z,490nm,22.0s,baz=40,slow=39						
DZM	**Mont Dzumac**	**23.71**	**134**	P	**P**	**11 33 58.8**	**-0.8**
	comp=Z,42nm,1.3s,baz=38,slow=10.0,SNR=6.0						
SOEI	**Soe**	**23.93**	**260**	*e*P	**P**	**11 34 01.7**	**-0.1**
	comp=Z,48nm,0.9s						
SOEI	**Soe**	**23.93**	**260**	P	**P**	**11 34 00.2**	**-1.6**
ARMA	**Armidale**	**24.35**	**173**	P	**P**	**11 34 07.1**	**+1.7**
	baz=25,SNR=3.8						
ARMA	**Armidale**	**24.35**	**173**	*e*P	**P**	**11 34 05.5**	**+0.1**
	comp=Z,95nm,2.0s						
BATI	**Baumata**	**24.58**	**259**	P	**P**	**11 34 11.4**	**+3.8**
BATI	**Baumata**	**24.58**	**259**	P	**P**	**11 34 08.2**	**+0.6**
	comp=Z,59nm,0.6s,baz=143,slow=1.8,SNR=7.0						
FITZ	**Fitzroy Crossi**	**24.98**	**240**	P	**P**	**11 34 12.4**	**+1.2**
	baz=25,SNR=66						
FITZ	**Fitzroy Crossi**	**24.98**	**240**	*e*P	**P**	**11 34 12.3**	**+1.2**
	comp=Z,229nm,1.8s						
FITZ				S	**S**	**11 38 31.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.98**	**240**	P	**P**	**11 34 12.0**	**+0.8**
	comp=Z,39nm,0.7s,baz=56,slow=8.3,SNR=90						
FITZ				S	**S**	**11 38 31.7**	**+0.8**
	comp=Z,5.1nm,0.9s,baz=276,slow=22,SNR=3.3						
MMRI	**Maumere**	**25.83**	**263**	*e*P	**P**	**11 34 18.7**	**-0.3**
	comp=Z,102nm,1.1s						
STKA	**Stephens Creek**	**26.31**	**193**	P	**P**	**11 34 25.5**	**+2.4**
	baz=26,SNR=7.3						
STKA	**Stephens Creek**	**26.31**	**193**	P	**P**	**11 34 24.7**	**+1.6**
	comp=Z,7.8nm,0.8s,baz=322,slow=7.4,SNR=10						
STKA				LR	LR	11 46 18.3	
	comp=Z,839nm,18.5s,baz=31,slow=40						
EDFI	**Ende, Flores**	**26.38**	**263**	P	**P**	**11 34 22.1**	**-1.9**
WRKA	**Warakurna**	**26.73**	**223**	P	**P**	**11 34 27.8**	**+0.7**
	baz=27,SNR=107						
FORT	**Forrest**	**30.92**	**215**	*e*P	**P**	**11 35 03.8**	**-0.4**
	comp=Z,44nm,1.2s						
MBWA	**Marble Bar**	**31.31**	**239**	*e*P	**P**	**11 35 08.0**	**+0.3**
	comp=Z,28nm,1.4s						
MSVF	**Nonsavu**	**31.36**	**114**	*e*P	**P**	**11 35 07.3**	**-0.9**
	comp=Z,85nm,1.6s						
MSVF	**Nonsavu**	**31.36**	**114**	*e*P	**P**	**11 35 07.3**	**-0.9**
MSVF				pmax	pmax		
	comp=Z,85nm,1.6s						
JAGI	**Jajag, Banyuwa**	**33.81**	**264**	*e*P	**P**	**11 35 28.2**	**-1.5**
	comp=Z,52nm,0.7s						
MEEK	**Meekatharra**	**34.74**	**231**	P	**P**	**11 35 38.8**	**+1.2**
	baz=35,SNR=26						
MORW	**Morawa**	**37.94**	**229**	P	**P**	**11 36 06.6**	**+1.7**
	baz=38						
KLBR	**Kellerberrin**	**38.06**	**224**	P	**P**	**11 36 06.4**	**+0.5**
	baz=38,SNR=4.8						
BLDU	**Ballidu**	**38.26**	**227**	P	**P**	**11 36 08.2**	**+0.7**
	baz=38						
NWAO	**Narrogin (SRO)**	**39.20**	**223**	P	**P**	**11 36 14.8**	**-0.5**
NWAO	**Narrogin (SRO)**	**39.20**	**223**	P	**P**	**11 36 14.8**	**-0.5**
THZ	**Tophouse**	**41.72**	**152**	*e*P	**P**	**11 36 36.3**	**+0.2**
	comp=Z,10nm,1.0s						
XMIS	**Christmas Isla**	**42.26**	**261**	*e*P	**P**	**11 36 41.2**	**+0.3**
	comp=Z,63nm,0.8s						
MJAR	**Matsushiro Arr**	**43.49**	**348**	P	**P**	**11 36 49.3**	**-1.2**
	comp=Z,9.3nm,0.9s,baz=178,slow=8.4,SNR=14						
MJAR				LR	LR	11 54 18.9	
	comp=Z,106nm,18.3s,baz=175,slow=35						
MAJO	**Matsushiro**	**43.49**	**348**	*e*P	**P**	**11 36 49.9**	**-0.5**
	comp=Z,136nm,2.0s						
MAJO	**Matsushiro**	**43.49**	**348**	*i* P	**P**	**11 36 50.1**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,59nm,1.9s						
MAT	**Matsushiro**	**43.49**	**348**	P	**P**	**11 36 49.9**	**-0.6**
MJB9	**Matsu-Tunnel**	**43.50**	**348**	*e*P	**P**	**11 36 50.4**	**-0.1**
	comp=Z,32nm,1.3s						
NJ2	**Nanjing**	**47.16**	**325**	*e*P	**P**	**11 37 19.0**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
KSRS	**Korea Array**	**47.33**	**338**	P	**P**	**11 37 19.9**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=146,slow=9.1,SNR=6.7						
KSRS				LR	LR	11 54 54.1	
	comp=Z,114nm,20.0s,baz=154,slow=33						
KSAR	**Wonju Array Be**	**47.33**	**338**	P	**P**	**11 37 19.9**	**-0.9**
KSAR	**Wonju Array Be**	**47.33**	**338**	P	**P**	**11 37 19.9**	**-0.9**
GYA	**Guiyang**	**51.66**	**311**	*e*P	**P**	**11 37 56.4**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**52.21**	**345**	*e*P	**P**	**11 37 58.3**	**+0.6**
	comp=Z,12nm,0.7s						
USRK	**Ussuriysk Ar.**	**52.21**	**345**	P	**P**	**11 37 57.7**	**-0.1**
	comp=Z,9.2nm,0.6s,baz=177,slow=6.9,SNR=20						
USRK				LR	LR	11 57 09.9	
	comp=Z,74nm,20.6s,baz=172,slow=32						
RAR	**Rarotonga**	**52.50**	**112**	P	**P**	**11 38 01.0**	**+0.7**
RAR	**Rarotonga**	**52.50**	**112**	P	**P**	**11 38 01.0**	**+0.7**
RAR	**Rarotonga**	**52.50**	**112**	P	**P**	**11 38 01.0**	**+0.7**
	comp=Z,3.9nm,0.5s,baz=260,slow=11,SNR=5.6						
YSS	**Yuzh-Sakhalins**	**53.10**	**355**	*e*P	**P**	**11 38 06.3**	**+2.1**
KMI	**Kunming**	**54.02**	**307**	P	**P**	**11 38 13.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,14nm,0.5s						
KMI				pmax	pmax		
	comp=Z,69nm,5.6s						
CMAR	**Chiang Mai Arr**	**54.35**	**298**	P	**P**	**11 38 13.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=118,slow=5.9,SNR=3.2						
CMAR				LR	LR	12 03 28.1	
	comp=Z,47nm,19.1s,baz=137,slow=38						
XAN	**Xi'an**	**54.55**	**320**	P	**P**	**11 38 13.8**	**-1.4**
XAN				pP	pP	11 38 34.8	+4.1
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CD2	**Chengdu**	**56.22**	**314**	P	**P**	**11 38 27.8**	**+0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
KLR	**Kul'dur**	**56.99**	**347**	*c i*P	**P**	**11 38 31.4**	**-0.9**
KLR	**Kul'dur**	**56.99**	**347**	LR	LR	12 01 09.3	
	comp=Z,62nm,21.0s,baz=230,slow=34						
HHC	**Hu-ho-hao-te**	**57.59**	**328**	*e*P	**P**	**11 38 38.0**	**+1.2**
HHC				sP	sP	11 39 04.1	+4.8
HHC				S	**S**	**11 46 33.1**	**+2.6**
HHC				sS	sS	11 46 59.4	+2.6
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,6.7s						
HHC				LR	LR		
	comp=Z,210nm,14.1s						
HHC				LR	LR		
	comp=Z,150nm,13.7s						
HHC				LR	LR		
	comp=Z,240nm,14.5s						
LZH	**Lanzhou**	**59.09**	**319**	*e*P	**P**	**11 38 50.0**	**+2.5**
LZH				pP	sP	11 39 08.1	-1.8
LZH				sP	pP	11 39 16.3	+13
LZH				*e*PP	**PP**	**11 41 04.3**	**+5.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,8.0s						
LZH				LR	LR		
	comp=Z,370nm,15.6s						
LZH				LR	LR		
	comp=Z,380nm,15.3s						
LZH				LR	LR		
	comp=Z,500nm,18.2s						
PETK	**Petropavlovsk-**	**59.59**	**7**	*e*P	**P**	**11 38 50.7**	**+0.3**
PETK	**Petropavlovsk-**	**59.59**	**7**	*e*P	**P**	**11 38 50.7**	**+0.3**
PETK	**Petropavlovsk-**	**59.59**	**7**	P	**P**	**11 38 50.2**	**-0.2**
	comp=Z,12nm,0.7s,baz=180,slow=8.3,SNR=14						
PETK				LR	LR	12 00 54.7	
	comp=Z,151nm,21.9s,baz=188,slow=32						
HIA	**Hailar**	**60.51**	**339**	*c i*P	**P**	**11 38 56.1**	**-0.7**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PPT2	**Papeete2**	**61.74**	**107**	*e*LR	LR	11 57 40.8	
	comp=Z,146nm,25.2s						
ZEA	**Zeya**	**62.23**	**346**	*e*P	**P**	**11 39 07.8**	**-0.4**
ZEA				pmax	pmax		
	comp=Z,36nm,1.2s						
TBI	**Tubuai**	**62.24**	**113**	*e*LR	LR	11 57 45.2	
	comp=Z,136nm,31.2s						
GTA	**Gaotai**	**63.61**	**320**	*e*P	**P**	**11 39 19.8**	**+1.9**
GTA				pP	pP	11 39 36.4	+2.4
GTA				sP	sP	11 39 47.6	+6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,59nm,5.4s						
GTA				LR	LR		
	comp=Z,81nm,18.7s						
GTA				LR	LR		
	comp=Z,130nm,18.7s						
ULN	**Ulaanbaatar**	**64.81**	**331**	*e*P	**P**	**11 39 25.6**	**0.0**
	comp=Z,2.9nm,0.6s						
ULN	**Ulaanbaatar**	**64.81**	**331**	*ce*P	**P**	**11 39 25.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.5s						
SONM	**Songino Array**	**65.11**	**330**	P	**P**	**11 39 27.3**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=148,slow=6.2,SNR=12						
SONM				LR	LR	12 06 32.9	
	comp=Z,191nm,21.5s,baz=150,slow=35						
MA2	**Magadan**	**65.56**	**1**	*e*P	**P**	**11 39 30.0**	**0.0**
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**65.56**	**1**	*ce*P	**P**	**11 39 29.9**	**-0.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MA2	**Magadan**	**65.56**	**1**	LR	LR	12 04 26.9	
	comp=Z,50nm,21.6s,baz=170,slow=33						
ZAK	**Zakamensk**	**68.34**	**331**	*e*P	**P**	**11 39 46.5**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
TLY	**Talaya**	**69.03**	**332**	*e*P	**P**	**11 39 52.4**	**+0.2**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.8s						
TLY				MLR	MLR		
	comp=Z,195nm,17.0s						
BOD	**Bodaibo**	**69.50**	**341**	*e*P	**P**	**11 39 53.7**	**-1.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s						
VNDA	**Vanda**	**71.69**	**177**	P	**P**	**11 40 08.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=332,slow=7.4,SNR=19						
VNDA				LR	LR	12 08 13.9	
	comp=Z,130nm,18.4s,baz=190,slow=33						
WMQ	**Urumqi**	**73.67**	**319**	*e*P	**P**	**11 40 21.9**	**+1.5**
WMQ				pP	pP	11 40 40.0	+3.0
WMQ				sP	sP	11 40 49.8	+6.2
WMQ				pmax	pmax		
	comp=Z,21nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,280nm,5.1s						
WMQ				LR	LR		
	comp=Z,85nm,34.7s						
WMQ				LR	LR		
	comp=Z,140nm,22.1s						
WMQ				LR	LR		
	comp=Z,120nm,20.5s						
MK01	**Makanchi Array**	**78.35**	**320**	*e*P	**P**	**11 40 45.3**	**-1.7**
MK31	**Makanchi Array**	**78.36**	**320**	*e*P	**P**	**11 40 45.6**	**-1.4**
MK31	**Makanchi Array**	**78.36**	**320**	*e*P	**P**	**11 40 45.6**	**-1.4**
MKAR	**Makanchi Array**	**78.36**	**320**	*ce*P	**P**	**11 40 51.5**	**+4.5**
MKAR	**Makanchi Array**	**78.36**	**320**	P	**P**	**11 40 45.3**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=98,slow=8.0,SNR=12						
MAKZ	**Makanchi**	**78.57**	**320**	*e*P	**P**	**11 40 46.9**	**-1.2**
	comp=Z,14nm,1.8s						
MAKZ	**Makanchi**	**78.57**	**320**	*e*P	**P**	**11 40 46.9**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,14nm,1.8s						
TIXI	**Tiksi**	**78.69**	**354**	⇑*i*P	**P**	**11 40 48.7**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.1s						
TIXI	**Tiksi**	**78.69**	**354**	LR	LR	12 16 28.4	
	comp=Z,30nm,19.3s,baz=173,slow=36						
KDAK	**Kodiak Island**	**79.50**	**28**	*ce*P	**P**	**11 40 54.4**	**+1.5**
ZALV	**Zalesovo Beam**	**79.77**	**328**	P	**P**	**11 40 52.2**	**-2.3**
	comp=Z,2.5nm,0.6s,baz=117,slow=5.3,SNR=12						
ZALV				LR	LR	12 15 05.9	
	comp=Z,91nm,21.7s,baz=70,slow=35						
KSH	**Kashi**	**80.35**	**312**	P	**P**	**11 40 58.3**	**+0.2**
KSH				S	**S**	**11 50 54.5**	**-5.1**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,56nm,5.4s						
RDOG	**Red Dog Mine**	**81.56**	**17**	*e*P	**P**	**11 41 04.3**	**+0.5**
	comp=Z,12nm,0.7s						
KURK	**Kurchatov**	**82.03**	**323**	⇑*i*P	**P**	**11 41 04.7**	**-1.9**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.4s						
AAK	**Ala-Archa**	**82.28**	**314**	⇑*i*P	**P**	**11 41 07.2**	**-1.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
RC01	**Rabbit Creek A**	**82.36**	**26**	*e*P	**P**	**11 41 07.6**	**-0.5**
	comp=Z,25nm,1.2s						
KNK	**Knik Glacier**	**83.06**	**26**	*e*P	**P**	**11 41 10.8**	**-0.9**
	comp=Z,16nm,1.1s						
IM3	**Indian Mountai**	**83.23**	**20**	*e*P	**P**	**11 41 12.2**	**-0.4**
BPAW	**Bear Paw Mtn.**	**83.28**	**23**	*e*P	**P**	**11 41 12.4**	**-0.5**
	comp=Z,9.5nm,1.2s						
SML	**Sawmill**	**83.29**	**25**	*e*P	**P**	**11 41 12.7**	**-0.3**
	comp=Z,25nm,0.9s						
SML	**Sawmill**	**83.29**	**25**	*e*P	**P**	**11 41 12.7**	**-0.3**
SML				pmax	pmax		
	comp=Z,25nm,0.9s						
SCM	**Sheep Creek Mo**	**83.73**	**26**	*e*P	**P**	**11 41 13.9**	**-1.4**
	comp=Z,20nm,1.0s						
SCM	**Sheep Creek Mo**	**83.73**	**26**	*e*P	**P**	**11 41 13.9**	**-1.4**
SCM				pmax	pmax		
	comp=Z,20nm,1.0s						
RND	**Reindeer**	**83.79**	**24**	*e*P	**P**	**11 41 14.2**	**-1.4**
	comp=Z,14nm,0.8s						
RND	**Reindeer**	**83.79**	**24**	*e*P	**P**	**11 41 14.2**	**-1.4**
RND				pmax	pmax		
	comp=Z,14nm,0.8s						
QSPA	**South Pole Qui**	**83.81**	**180**	*e*P	**P**	**11 41 15.9**	**+0.2**
	comp=Z,15nm,0.7s						
DIV	**Divide**	**84.11**	**26**	*e*P	**P**	**11 41 16.9**	**-0.3**
	comp=Z,17nm,0.9s						
KLU	**Klutina**	**84.19**	**26**	*e*P	**P**	**11 41 17.9**	**+0.2**
	comp=Z,20nm,1.1s						
WRH	**Wood River Hil**	**84.58**	**23**	*e*P	**P**	**11 41 17.4**	**-2.0**
	comp=Z,15nm,1.3s						
CCB	**Clear Creek Bu**	**84.76**	**23**	*e*P	**P**	**11 41 18.4**	**-1.9**
	comp=Z,8.4nm,1.0s						
COLA	**College**	**84.85**	**23**	*e*P	**P**	**11 41 20.1**	**-0.7**
	comp=Z,8.6nm,0.8s						
COLA	**College**	**84.85**	**23**	⇑*i*P	**P**	**11 41 19.8**	**-0.9**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HDA	**Harding Lake**	**84.99**	**23**	*e*P	**P**	**11 41 19.6**	**-1.9**
	comp=Z,10nm,1.4s						
COLD	**Coldfoot**	**85.08**	**20**	*e*P	**P**	**11 41 20.9**	**-1.0**
	comp=Z,1.8nm,0.7s						
IL1	**Eielson Array**	**85.17**	**23**	*e*P	**P**	**11 41 19.8**	**-2.6**
ILAR	**Eielson Array**	**85.17**	**23**	P	**P**	**11 41 20.1**	**-2.3**
	comp=Z,5.5nm,0.8s,baz=250,slow=4.7,SNR=64						
ILAR				LR	LR	12 12 54.5	
	comp=Z,47nm,20.4s,baz=223,slow=31						
ILB	**Eielson Array**	**85.17**	**23**	*e*P	**P**	**11 41 20.5**	**-1.9**
KK31	**Karatay Array**	**85.23**	**314**	*e*P	**P**	**11 41 22.0**	**-1.2**
KK31	**Karatay Array**	**85.23**	**314**	*e*P	**P**	**11 41 22.0**	**-1.2**
KKAR	**Karatay Array**	**85.23**	**314**	*e*P	**P**	**11 41 21.9**	**-1.3**
	comp=Z,4.1nm,1.1s						
KKAR	**Karatay Array**	**85.23**	**314**	*e*P	**P**	**11 41 21.9**	**-1.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.1s						
RIDG	**Independ'e Rid**	**85.56**	**24**	*e*P	**P**	**11 41 24.5**	**0.0**
	comp=Z,17nm,1.2s						
MENT	**Mentasta**	**85.72**	**25**	*e*P	**P**	**11 41 24.7**	**-0.5**
	comp=Z,8.1nm,1.0s						
NRIK	**Noril'sk**	**85.79**	**342**	LR	LR	12 19 45.0	
	comp=Z,36nm,19.1s,baz=147,slow=36						
DOT	**Dot Lake**	**85.84**	**24**	*e*P	**P**	**11 41 25.3**	**-0.5**
	comp=Z,15nm,1.1s						
TOLK	**Toolik Lake Re**	**85.97**	**19**	*e*P	**P**	**11 41 26.2**	**-0.1**
	comp=Z,3.3nm,0.6s						
SCRK	**Sand Creek**	**86.00**	**24**	*e*P	**P**	**11 41 25.8**	**-0.9**
	comp=Z,15nm,1.7s						
EGAK	**Eagle**	**87.44**	**24**	*e*P	**P**	**11 41 33.6**	**+0.1**
	comp=Z,9.2nm,1.1s						
BVAR	**Borovoye Array**	**87.58**	**324**	LR	LR	12 16 55.4	
	comp=Z,10nm,21.5s,baz=84,slow=33						
BRVK	**Borovoye**	**87.65**	**324**	*c i*P	**P**	**11 41 33.4**	**-1.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BRVK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
HYT	**Haines Junctio**	**87.78**	**28**	*e*P	**P**	**11 41 35.8**	**+0.4**
	comp=Z,22nm,0.9s						
DAWY	**Dawson**	**87.93**	**25**	*e*P	**P**	**11 41 35.7**	**-0.2**
	comp=Z,18nm,1.2s						
EPYK	**Eagle Plains**	**89.69**	**23**	*e*P	**P**	**11 41 43.8**	**-0.4**
	comp=Z,4.6nm,0.8s						
ABKAR	**Akbulak array**	**93.46**	**319**	*e*P	**P**	**11 41 60.0**	**-2.0**
	comp=Z,1.9nm,0.8s						
GEYT	**Alibeck**	**93.78**	**308**	LR	LR	12 27 03.6	
	comp=Z,33nm,19.8s,baz=170,slow=37						
AKTO	**Aktyubinsk**	**94.80**	**320**	LR	LR	12 23 18.7	
	comp=Z,28nm,21.9s,baz=74,slow=34						
ARU	**Arti**	**94.87**	**326**	*i* P	**P**	**11 42 07.3**	**-1.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.9s						
NVAR	**Mina Array Bea**	**96.55**	**52**	P	**P**	**11 42 17.1**	**+0.4**
	comp=Z,9.9nm,1.1s,baz=270,slow=4.4,SNR=3.9						
YKA	**Yellowknife Ar**	**98.77**	**28**	P	**P**	**11 42 25.2**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=271,slow=4.9,SNR=5.6						
BOSA	**Boshof**	**115.10**	**235**	PKP	**PKiKP**	**11 47 27.9**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=149,slow=3.7,SNR=3.3						
PLCA	**Paso Flores**	**121.35**	**146**	PKIKP	**PKPdf**	**11 47 40.0**	**+0.1**
PLCA	**Paso Flores**	**121.35**	**146**	PKP	**PKPdf**	**11 47 40.0**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=269,slow=3.1,SNR=9.1						
CLL	**Collm**	**121.71**	**329**	*e*PKIKP	**PKPdf**	**11 47 38.0**	**-2.1**
GERES	**GERESS Array B**	**122.69**	**326**	PKP	**PKPdf**	**11 47 40.8**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=90,slow=1.3,SNR=5.6						
LPAZ	**La Paz**	**137.72**	**122**	PKP	**PKPdf**	**11 48 11.2**	**-1.1**
	comp=Z,4.0nm,0.8s,baz=198,slow=5.0,SNR=8.5						
CPUP	**Villa Florida**	**139.32**	**144**	PKIKP	**PKPdf**	**11 48 14.0**	**-0.2**
CPUP	**Villa Florida**	**139.32**	**144**	PKP	**PKPdf**	**11 48 13.9**	**-0.2**
	comp=Z,3.6nm,0.9s,baz=17,slow=2.1,SNR=4.3						
SDV	**Santo Domingo**	**141.45**	**84**	*e*PKPdf	**PKPdf**	**11 48 18.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**146.26**	**284**	PKPbc	**PKPdf**	**11 48 26.2**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=63,slow=4.1,SNR=18						
BDFB	**Brasilia**	**153.05**	**144**	PKP	**PKPdf**	**11 48 37.8**	**+0.3**
	comp=Z,3.1nm,0.6s,baz=156,slow=3.2,SNR=5.0						
BDFB				PKPbc	**PKPbc**	**11 48 44.4**	**-0.5**
	comp=Z,9.6nm,0.8s,baz=207,slow=2.4,SNR=11						
BDFB				PKPab	**pPKPdf**	**11 48 56.1**	**+1.4**
	comp=Z,4.2nm,0.6s,baz=180,slow=1.0,SNR=3.1						
DBIC	**Dimbokro**	**153.19**	**273**	PKP	**PKPdf**	**11 48 38.0**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=0.0,slow=4.0,SNR=2.0						
DBIC				PKPbc	**PKPbc**	**11 48 44.9**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=107,slow=5.0,SNR=4.7						

KRSC 13 11:35:43.7±10.0, 59°25N×164°69E, h65km±10km, ML4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.84**	**271**		*e*P		Pn	11 36 00.8	+0.9
OSSR					*e*S		Sn	11 36 13.2	+1.4
TILK	**Tilichiki**	**1.41**	**31**		*e*P		Pn	11 36 09.2	+2.0
TILK					*e*S		Sn	11 36 27.9	+3.1
PALN	**Palana**	**2.44**	**268**		*e*P		Pn	11 36 22.8	+1.7
PALN					*e*S		Sn	11 36 53.4	+3.6
KMSK	**Kamenskaya**	**3.31**	**12**		*e*P		Pn	11 36 34.8	+1.8

ISCJB ***13*** *11:48:20.3±0.5, 20°.3N±0°.1×94°.81E±0°.09, h100km, mb3.7/7, Error ellipse: s-maj=18.9km s-min=4.1km az=40.2*

IDC ***13*** *11:48:22.9±4.1, 20°.38N×95°.09E, h92km±29km, mb3.5/7, mb1 3.6/8, mb1mx3.2/39, mbtmp3.8/8, Error ellipse: s-maj=56.4km s-min=15.2km az=61.0*

ISC 13 11:48:21.8±0.8, 20°.2N±0°.1×94°.7E±0°.1, h100km, n27, σ1§87/34, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.23**	**109**		P		**Pn**	**11 49 22.6**	**-1.5**
	71nm,0.8s,2µm								
CMMT	**Chiang Mai**	**4.23**	**109**		P		**Pn**	**11 49 22.5**	**-1.6**
	18nm,0.8s,638nm								
CMAR	**Chiang Mai Arr**	**4.36**	**113**		P		**Pn**	**11 49 24.3**	**-1.6**
	2.4nm

OSSR	**Ossora**	**0.75**	**204**	*e*P		**Pn**	**11 59 02.1**	**-1.3**
OSSR				*e*S		**Sn**	**11 59 14.3**	**+0.8**
OSSR	**Ossora**	**0.75**	**204**	PN		**Pn**	**11 59 02.1**	**-1.3**
OSSR				S		**Sn**	**11 59 14.3**	**+0.8**
TILK	**Tilichiki**	**1.35**	**67**	*e*P		**Pn**	**11 59 10.8**	**-0.8**
TILK				*e*S		**Sn**	**11 59 29.5**	**+1.3**
TILK	**Tilichiki**	**1.35**	**67**	PN		**Pn**	**11 59 10.8**	**-0.8**
TILK				S		**Sn**	**11 59 29.5**	**+1.3**
PALN	**Palana**	**2.06**	**247**	*e*P		**Pn**	**11 59 22.5**	**+1.1**
PALN				*e*S		**Sn**	**11 59 49.1**	**+3.3**
PALN	**Palana**	**2.06**	**247**	PN		**Pn**	**11 59 22.5**	**+1.1**
PALN				S		**Sn**	**11 59 49.1**	**+3.3**
KMSK	**Kamenskaya**	**2.82**	**25**	*e*P		**Pn**	**11 59 33.5**	**+1.6**
KMSK	**Kamenskaya**	**2.82**	**25**	PN		**Pn**	**11 59 33.5**	**+1.6**
BKI	**Bering**	**4.91**	**164**	*e*P		**Pn**	**12 00 02.3**	**+1.8**
BKI	**Bering**	**4.91**	**164**	PN		**Pn**	**12 00 02.3**	**+1.8**
MA2	**Magadan**	**6.52**	**272**	Pn		**Pn**	**12 00 21.1**	**-1.5**
	0.8nm,0.3s,baz=86,slow=15,SNR=13							
MA2				Sn		**Sn**	**12 01 31.9**	**-3.7**
	1.3nm,0.3s,baz=243,slow=3.3,SNR=5.3							
MA2				Lg		Lg	12 02 04.6	
	baz=335,slow=18,SNR=3.6							
KLR	**Kul'dur**	**21.14**	**254**	P		**P**	**12 03 32.1**	**+1.2**
	0.8nm,0.6s,baz=61,slow=12,SNR=5.4							
ILAR	**Eielson Array**	**22.95**	**57**	P		**P**	**12 03 49.8**	**-0.3**
	0.7nm,0.8s,baz=274,slow=7.9,SNR=8.9							
YKA	**Yellowknife Ar**	**36.98**	**50**	P		**P**	**12 05 52.4**	**-2.4**
	0.4nm,0.8s,baz=304,slow=8.1,SNR=6.6							
KURK	**Kurchatov**	**46.00**	**298**	P		**P**	**12 07 08.7**	**0.0**
KURBB	**Kurchatov Arra**	**46.10**	**298**	P		**P**	**12 07 08.7**	**-0.8**
	0.7nm,0.5s,baz=44,slow=8.0,SNR=8.3							
MKAR	**Makanchi Array**	**47.17**	**292**	P		**P**	**12 07 16.8**	**-1.3**
	0.2nm,0.5s,baz=35,slow=7.5,SNR=4.3							
BVAR	**Borovoye Array**	**47.83**	**306**	P		**P**	**12 07 22.3**	**-0.7**
	0.4nm,0.5s,baz=84,slow=5.9,SNR=2.8							
NVAR	**Mina Array Bea**	**51.92**	**77**	P		**P**	**12 07 55.7**	**+1.2**
	0.2nm,0.8s,baz=292,slow=4.8,SNR=2.3							
PDAR	**Pinedale Array**	**52.75**	**67**	P		**P**	**12 08 00.7**	**+0.1**
	0.2nm,0.6s,baz=337,slow=5.9,SNR=3.6							
FINES	**FINESS Array B**	**54.61**	**337**	LR		LR	12 33 35.2	
	comp=Z,64nm,21.8s,baz=46,slow=38							
WRA	**Warramunga Arr**	**83.11**	**208**	P		**P**	**12 11 11.2**	**+0.2**
	0.5nm,0.9s,baz=14,slow=5.7,SNR=3.3							

IDC 13 12:06:51.7±9.4, 13°.39S×166°.85E, h202km±104km, mb3.3/5, mb1 3.5/6, mb1mx3.2/44, mbtmp3.9/6, Error ellipse: s-maj=96.9km s-min=30.3km az=151.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.64**	**182**	P		Pn	12 08 53.6	+0.3
	0.2nm,0.3s,baz=70,slow=15,SNR=2.6							
STKA	**Stephens Creek**	**29.57**	**227**	P		P	12 12 38.0	+0.3
	1.2nm,0.4s,baz=68,slow=11,SNR=4.1							
WRA	**Warramunga Arr**	**31.78**	**254**	P		P	12 12 57.0	-0.2
	0.3nm,0.6s,baz=85,slow=8.9,SNR=6.5							
ASAR	**Alice Springs**	**32.79**	**247**	P		P	12 13 05.6	-0.5
	1.3nm,0.5s,baz=75,slow=9.2,SNR=27							
ILAR	**Eielson Array**	**85.39**	**18**	P		P	12 19 04.8	-1.0
	0.3nm,1.0s,baz=238,slow=6.3,SNR=4.1							
MKAR	**Makanchi Array**	**95.96**	**317**	P		P	12 19 56.8	+1.1
	0.2nm,0.4s,baz=96,slow=4.6,SNR=3.2							

KRSC 13 12:10:16.7±10.0, 59°.85N×163°.82E, h51km±10km, ML4.1, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OSSR	**Ossora**	**0.72**	**213**	*e*P		Pn	12 10 30.4	-0.2
OSSR				*e*S		Sn	12 10 42.3	+1.5
TILK	**Tilichiki**	**1.31**	**62**	*e*P		Pn	12 10 39.0	+0.5
TILK				*e*S		Sn	12 10 57.9	+3.0
PALN	**Palana**	**2.11**	**250**	*e*P		Pn	12 10 51.2	+1.8
PALN				*e*S		Sn	12 11 19.0	+4.6
BKI	**Bering**	**4.81**	**165**	*e*P		Pn	12 11 31.0	+4.6

NEIC ***13*** *12:11:03.3±0.3, 6°.73S×148°.69E, h10km, mb5.0/34, Error ellipse: s-maj=7.2km s-min=5.1km az=91.0*

ISCJB ***13*** *12:11:07.4±0.2, 6°.89S±0°.03×148°.56E±0°.04, h47km, mb4.7/57, MS4.5/29, Error ellipse: s-maj=5.9km s-min=4.6km az=16.2*

GCMT ***13*** *12:11:07.3±0.3, 6°.81S±0°.02×148°.79E±0°.01, h12km, MW4.9/69, Moment Tensor Solution. s19,c19; s69,c99; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.64±.10; Mθθ 1.19±.08; Mϕϕ -2.84±.07; Mrθ -0.76±.30; Mrϕ 0.26±.08; Mθϕ 1.49±.23; Best double couple: M0 2.88900×10^16 NP1: ϕs 334.00000°, δ57.00000°, λ63.00000°. NP2: ϕs 207.00000°, δ35.00000°, λ137.00000°. Principal axes: T 2.4370, Plg59.0000°, Azm205.0000°; N 0.8930, Plg25.0000°, Azm345.0000°; P -3.3400, Plg17.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***13*** *12:11:08.1±3.0, 6°.79S×148°.51E, h45km±27km, mb4.2/18, mb1 4.3/21, mb1mx4.2/43, mbtmp4.4/21, ML4.2/3, MS4.5/27, Ms1 4.5/27, ms1mx4.4/40 Error ellipse: s-maj=17.4km s-min=11.6km az=102.0*

BJI ***13*** *12:11:08.3, 6°.76S×149°.04E, h67km, mb4.7/23, mB5.1/23, Ms4.8/14, Ms7 4.6/14*

ISC 13 12:11:09.0±0.3, 6°.89S±0°.05×148°.55E±0°.05, h47km, n139, σ1 9 69/127, mb4.8/57, MS4.5/30, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**4.49**	**53**	*e*Pn		**Pn**	**12 12 14.1**	**-0.4**
MANU	**Manus Island**	**4.96**	**346**	*e*Pn		**Pn**	**12 12 23.5**	**+2.5**
COEN	**Coen**	**8.79**	**217**	*e*Pn		**Pn**	**12 13 15.2**	**+1.6**
HNR	**Honiara**	**11.56**	**103**	*e*Pn		**Pn**	**12 13 52.1**	**+0.7**
HNR	**Honiara**	**11.56**	**103**	LR		LR	12 17 11.1	
	comp=Z,3μm,20.5s,baz=278,slow=31							
MTSU	**Mount Surprise**	**11.91**	**200**	P		**Pn**	**12 13 57.3**	**+1.0**
	baz=12,SNR=12							
CTA	**Charters Tower**	**13.31**	**189**	P		**Pn**	**12 14 14.0**	**-1.3**
	1.2nm,0.3s,baz=348,slow=6.7,SNR=2.4							
CTA				LR		LR	12 19 41.9	
	comp=Z,3μm,18.2s,baz=10,slow=38							
CTAO	**Charters Tower**	**13.31**	**189**	*e*Pn		**Pn**	**12 14 16.0**	**+0.6**
QIS	**Mount Isa**	**16.12**	**212**	P		**Pn**	**12 14 53.6**	**+1.2**
	baz=16,SNR=10							
KDU	**Kakadu**	**16.85**	**249**	P		**Pn**	**12 15 02.3**	**+0.6**
	baz=17,SNR=3.3							
MTN	**Manton Dam**	**18.15**	**250**	P		**Pn**	**12 15 19.3**	**+1.6**
	baz=18,SNR=4.4							
SIJI	**Sorong**	**18.25**	**288**	P		**P**	**12 15 16.9**	**-1.7**
	0.3nm,0.3s,baz=70,slow=15,SNR=2.2							
SIJI				LR		LR	12 24 46.4	
	comp=Z,3μm,18.5s,baz=98,slow=45							
EIDS	**Eidsvold**	**18.53**	**173**	P		**Pn**	**12 15 22.9**	**+0.6**
	baz=18							
EIDS	**Eidsvold**	**18.53**	**173**	*e*P		**Pn**	**12 15 23.2**	**+0.9**
	29nm,1.1s							
WRAB	**Tennant Creek**	**18.92**	**225**	*e*P		**Pn**	**12 15 27.7**	**+0.6**
	24nm,1.0s							
WRA	**Warramunga Arr**	**18.94**	**225**	P		**P**	**12 15 26.2**	**0.0**
	1.1nm,0.3s,baz=50,slow=11,SNR=35							
WRA				S		**Sn**	**12 18 51.4**	**-7.2**
	0.0nm,0.3s,baz=51,slow=22,SNR=2.4							
WRA				PcP		**PcP**	**12 19 50.1**	**-0.8**
	baz=28,slow=1.3,SNR=2.6							
WRA				LR		LR	12 23 44.5	
	comp=Z,1μm,20.0s,baz=50,slow=40							
RMQ	**Roma**	**19.49**	**179**	P		**P**	**12 15 32.9**	**+0.7**
	baz=20,SNR=5.1							
KNRA	**Kununurra**	**21.26**	**244**	P		**P**	**12 15 50.8**	**-0.6**
	baz=21,SNR=13							
AS31	**Alice Springs**	**21.82**	**219**	*e*P		**P**	**12 15 57.7**	**+0.2**
	9.8nm,1.0s							
ASAR	**Alice Springs**	**21.82**	**219**	P		**P**	**12 15 57.6**	**+0.1**
	16nm,0.8s,baz=54,slow=9.2,SNR=80							
ASAR				S		**S**	**12 19 55.0**	**-1.3**
	1.3nm,0.9s,baz=22,slow=26,SNR=2.6							
TNTI	**Ternate**	**22.47**	**289**	*e*P		**P**	**12 16 04.5**	**0.0**
	62nm,1.4s							
DZM	**Mont Dzumac**	**22.93**	**133**	*e*LR		LR	12 21 43.5	
	comp=Z,4μm,22.2s							
DZM	**Mont Dzumac**	**22.93**	**133**	P		**P**	**12 16 09.3**	**-0.1**
	7.4nm,0.8s,baz=247,slow=11,SNR=3.1							
DZM				LR		LR	12 23 50.5	
	comp=Z,4μm,19.0s,baz=325,slow=33							
ARMA	**Armidale**	**23.58**	**173**	P		**P**	**12 16 15.7**	**+0.1**
	baz=24,SNR=5.2							
ARMA	**Armidale**	**23.58**	**173**	*e*P		**P**	**12 16 14.7**	**-0.9**
	52nm,1.4s							
SARN	**Sarigan**	**23.60**	**353**	*e*P		**P**	**12 16 14.1**	**-1.7**
	342nm,1.6s							
SOEI	**Soe**	**24.19**	**262**	*e*P		**P**	**12 16 22.4**	**+0.9**
	73nm,1.0s							
CMSA	**Cobar Meteorol**	**24.67**	**186**	P		**P**	**12 16 25.9**	**+0.5**
	baz=25,SNR=6.2							
BATI	**Baumata**	**24.83**	**261**	P		**P**	**12 16 27.6**	**+0.4**
	52nm,0.6s,baz=192,slow=1.5,SNR=8.4							
BATI				LR		LR	12 29 04.6	
	comp=Z,3μm,19.5s,baz=100,slow=43							
FITZ	**Fitzroy Crossi**	**24.95**	**241**	P		**P**	**12 16 28.5**	**+0.3**
	baz=25,SNR=35							
FITZ	**Fitzroy Crossi**	**24.95**	**241**	*e*P		**P**	**12 16 28.2**	**+0.1**
	60nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.95**	**241**	P		**P**	**12 16 27.9**	**-0.3**
	34nm,0.8s,baz=79,slow=7.2,SNR=36							
FITZ				LR		LR	12 26 42.2	
	comp=Z,876nm,20.7s,baz=65,slow=37							
STKA	**Stephens Creek**	**25.69**	**194**	P		**P**	**12 16 35.1**	**+0.4**
	baz=26,SNR=5.2							
STKA	**Stephens Creek**	**25.69**	**194**	P		**P**	**12 16 34.4**	**-0.4**
	18nm,1.1s,baz=357,slow=8.0,SNR=10							
STKA				LR		LR	12 27 26.8	
	comp=Z,2μm,18.3s,baz=7.2,slow=38							
MMRI	**Maumere**	**26.13**	**264**	*e*P		**P**	**12 16 40.1**	**+1.1**
	78nm,1.0s							
LUWI	**Luwuk**	**26.36**	**282**	*e*P		**P**	**12 16 41.3**	**+0.3**
	84nm,1.0s							
LHI	**Lord Howe Isla**	**26.40**	**159**	*e*P		**P**	**12 16 40.9**	**-0.3**
	184nm,1.3s							
WRKA	**Warakurna**	**26.48**	**225**	P		**P**	**12 16 42.0**	**0.0**
	baz=26,SNR=14							
HTT	**Hallett**	**27.88**	**197**	P		**P**	**12 16 53.7**	**-0.8**
	baz=28							
FORT	**Forrest**	**30.56**	**216**	*e*P		**P**	**12 17 17.7**	**-0.5**
	21nm,0.8s							
MBWA	**Marble Bar**	**31.27**	**240**	*e*P		**P**	**12 17 25.7**	**+1.0**
	26nm,1.0s							
MEEK	**Meekatharra**	**34.59**	**232**	P		**P**	**12 17 54.5**	**+0.8**
	baz=35,SNR=18							
KKM	**Kota Kinabalu**	**34.73**	**291**	*e*P		**P**	**12 17 54.8**	**-0.3**
	40nm,1.3s							
SBUM	**Sibu**	**37.43**	**283**	*e*P		**P**	**12 18 17.9**	**-0.2**
	12nm,0.9s							
SBUM	**Sibu**	**37.43**	**283**	P		**P**	**12 18 19.2**	**+1.2**
KLBR	**Kellerberrin**	**37.82**	**225**	P		**P**	**12 18 21.2**	**+0.1**
	baz=38,SNR=18							
NWAO	**Narrogin (SRO)**	**38.94**	**224**	P		**P**	**12 18 31.1**	**+0.5**
	9.5nm,1.0s,baz=59,slow=5.9,SNR=2.9							
KSM	**Kuching**	**39.06**	**281**	*e*P		**P**	**12 18 32.3**	**+0.5**
	20nm,1.0s							
KSM	**Kuching**	**39.06**	**281**	P		**P**	**12 18 32.8**	**+1.0**
CISI	**Cisompet, Garu**	**40.41**	**266**	*e*P		**P**	**12 18 44.0**	**+1.0**
	125nm,1.1s							
RPZ	**Rata Peaks**	**41.65**	**155**	LR		LR	12 36 09.4	
	comp=Z,1μm,18.4s,baz=325,slow=36							
MJAR	**Matsushiro Arr**	**44.28**	**348**	P		**P**	**12 19 12.0**	**-2.2**
	4.0nm,1.1s,baz=151,slow=7.7,SNR=4.5							
MJAR				LR		LR	12 37 02.4	
	comp=Z,395nm,18.1s,baz=200,slow=35							
MYKOM	**Kota Tinggi**	**45.44**	**279**	*e*P		**P**	**12 19 25.3**	**+1.5**
	26nm,1.2s							
KGM	**Kluang**	**46.00**	**279**	P		**P**	**12 19 29.8**	**+1.6**
QIZ	**Qiongzhong**	**46.03**	**305**	P		**P**	**12 19 29.8**	**+1.5**
QIZ				S		**S**	**12 26 13.3**	**+2.8**
QIZ				LR		LR		
	comp=N,280nm,15.7s							
QIZ				LR		LR		
	comp=E,380nm,17.1s							
QIZ				LR		LR		
	comp=Z,450nm,18.0s							
KTGM	**Kuala Trenggan**	**46.92**	**284**	P		**P**	**12 19 36.5**	**+1.0**
NJ2	**Nanjing**	**47.98**	**326**	*e*P		**P**	**12 19 43.9**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KSRS	**Korea Array**	**48.14**	**338**	P		**P**	**12 19 42.3**	**-2.1**
	3.6nm,0.8s,baz=152,slow=9.3,SNR=5.2							
KSRS				LR		LR	12 40 34.4	
	comp=Z,406nm,18.2s,baz=158,slow=37							
KSAR	**Wonju Array Be**	**48.15**	**338**	P		**P**	**12 19 42.3**	**-2.1**
IPM	**Ipoh**	**48.76**	**282**	*e*P		**P**	**12 19 50.3**	**+0.6**
	12nm,0.9s							
IPM	**Ipoh**	**48.76**	**282**	P		**P**	**12 19 50.6**	**+0.9**
KULM	**Kulim**	**49.31**	**283**	P		**P**	**12 19 54.1**	**+0.2**
TRTT	**Trang**	**50.87**	**286**	P		P	12 20 17.1	+11
CHAI	**Chaiyaphum**	**51.36**	**297**	P		**P**	**12 20 12.1**	**+2.8**
	2.0nm,0.8s							
GSI	**Gunungsitoli**	**51.52**	**277**	*e*P		**P**	**12 20 10.7**	**+0.2**
	19nm,1.1s							
RAR	**Rarotonga**	**51.88**	**111**	LR		LR	12 40 49.2	
	comp=Z,126nm,18.1s,baz=273,slow=34							
GYA	**Guiyang**	**52.43**	**311**	*e*P		**P**	**12 20 20.0**	**+2.8**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PBKT	**Sadao Pong**	**52.52**	**297**	*e*P		**P**	**12 20 18.7**	**+0.8**
USRK	**Ussuriysk Ar.**	**53.01**	**345**	P		**P**	**12 20 20.1**	**-1.0**
	2.2nm,0.7s,baz=196,slow=9.8,SNR=4.2							
USRK				LR		LR	12 42 27.2	
	comp=Z,299nm,18.6s,baz=146,slow=36							
UTTA	**Uttaradit**	**53.34**	**298**	P		**P**	**12 20 28.4**	**+4.5**
	1.6nm,0.9s							
UMPA	**Umpang Tak**	**54.27**	**296**	P		**P**	**12 20 34.1**	**+3.3**
KMI	**Kunming**	**54.76**	**307**	P		**P**	**12 20 36.8**	**+2.3**
KMI				pmax		pmax		
	comp=Z,19nm,0.5s							
KMI				pmax		pmax		
	comp=Z,130nm,4.8s							
CMAR	**Chiang Mai Arr**	**55.03**	**298**	P		**P**	**12 20 35.5**	**-0.7**
	0.8nm,0.6s,baz=122,slow=5.5,SNR=9.2							
CMAR				LR		LR	12 46 44.3	
	comp=Z,167nm,18.6s,baz=124,slow=39							
CD2	**Chengdu**	**57.00**	**314**	P		**P**	**12 20 49.8**	**-0.4**
CD2				pmax		pmax		
	comp=Z,18nm,0.6s							
KLR	**Kul'dur**	**57.79**	**347**	P		**P**	**12 20 52.2**	**-3.1**
	2.4nm,1.1s,baz=153,slow=9.0,SNR=2.7							
HHC	**Hu-ho-hao-te**	**58.40**	**328**	*e*P		**P**	**12 21 01.5**	**+1.6**
HHC				pP		pP	12 21 13.6	+1.6
HHC				S		**S**	**12 28 55.9**	**-3.8**
HHC				pmax		pmax		
	comp=Z,6.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,170nm,7.8s							
HHC				LR		LR		
	comp=N,320nm,14.2s							
HHC				LR		LR		
	comp=E,400nm,15.7s							
HHC				LR		LR		
	comp=Z,640nm,16.8s							
LZH	**Lanzhou**	**59.89**	**319**	*e*P		**P**	**12 21 13.5**	**+3.1**
LZH				pP		sP	12 21 31.4	+4.1
LZH				sP		pwP	12 21 39.3	+12
LZH				*e*PP		**PP**	**12 23 28.8**	**+5.7**
LZH				pmax		pmax		
	comp=Z,23nm,1.3s							
LZH				pmax		pmax		
	comp=Z,95nm,8.1s							
LZH				LR		LR		
	comp=N,380nm,15.2s							
LZH				LR		LR		
	comp=E,380nm,15.3s							
LZH				LR		LR		
	comp=Z,500nm,18.1s							
PETK	**Petropavlovsk-**	**60.27**	**6**	P		**P**	**12 21 10.7**	**-1.7**
	2.8nm,0.7s,baz=176,slow=8.4,SNR=4.7							
PETK				LR		LR	12 43 38.7	
	comp=Z,255nm,22.0s,baz=184,slow=32							
PPT	**Papeete**	**61.17**	**106**	LR		LR	12 42 10.6	
	comp=Z,239nm,21.1s,baz=273,slow=30							
PPT2	**Papeete2**	**61.17**	**106**	*e*S		**S**	**12 29 40.2**	**+4.2**
	202nm,28.2s							
PPT2				*e*LR		LR	12 39 31.0	
	comp=Z,418nm,22.2s							
TBI	**Tubuai**	**61.60**	**113**	*e*S		**S**	**12 29 46.0**	**+4.7**
	269nm,25.5s							
TBI				*e*LR		LR	12 39 44.0	
	comp=Z,289nm,22.8s							
BRDH	**Bariadhala**	**62.94**	**300**	LR		LR	12 50 54.1	
	comp=Z,116nm,18.7s,baz=151,slow=38							
SHL	**Shillong**	**63.79**	**303**	*e*P		**P**	**12 21 38.0**	**+1.1**
GTA	**Gaotai**	**64.41**	**320**	*e*P		**P**	**12 21 40.9**	**+0.3**
GTA				pmax		pmax		
	comp=Z,120nm,5.2s							
GTA				LR		LR		
	comp=N,250nm,18.4s							
GTA				LR		LR		
	comp=E,260nm,20.0s							
GTA				LR		LR		
	comp=Z,280nm,18.1s							
SONM	**Songino Array**	**65.93**	**330**	P		**P**	**12 21 48.6**	**-1.7**
	1.2nm,0.9s,baz=224,slow=4.2,SNR=4.5							
SONM				LR		LR	12 53 02.4	
	comp=Z,304nm,18.6s,baz=124,slow=38							
MA2	**Magadan**	**66.28**	**1**	*e*P		**P**	**12 21 49.8**	**-2.3**
	3.6nm,1.1s							
PALK	**Pallekele**	**69.12**	**280**	*e*P		**P**	**12 22 12.0**	**+0.9**
	13nm,1.1s							
PALK	**Pallekele**	**69.12**	**280**	P		**P**	**12 22 10.1**	**-0.9**
	7.2nm,0.9s,baz=121,slow=5.8,SNR=4.5							
VNDA	**Vanda**	**70.94**	**177**	P		**P**	**12 22 20.1**	**-0.8**
	4.2nm,1.1s,baz=328,slow=6.4,SNR=6.7							
HYB	**Hyderabad**	**73.22**	**290**	*i* P		**P**	**12 22 35.0**	**-0.7**
WMQ	**Urumqi**	**74.47**	**319**	*e*P		**P**	**12 22 43.6**	**+1.0**
WMQ				pP		sP	12 23 00.6	+0.4
WMQ				sP		pwP	12 23 09.8	+11
WMQ				pmax		pmax		
	comp=Z,12nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,320nm,7.3s							
WMQ				LR		LR		
	comp=N,320nm,25.3s							
WMQ				LR		LR		
	comp=E,250nm,21.5s							
WMQ				LR		LR		
	comp=Z,320nm,19.5s							
MKAR	**Makanchi Array**	**79.16**	**320**	P		**P**	**12 23 06.7**	**-2.2**
	1.4nm,0.8s,baz=105,slow=6.0,SNR=9.2							
MAKZ	**Makanchi**	**79.37**	**320**	*e*P		**P**	**12 23 08.4**	**-1.6**
	6.9nm,1.4s							
KDAK	**Kodiak Island**	**79.96**	**28**	LR		LR	12 50 03.2	
	comp=Z,191nm,21.9s,baz=239,slow=29							
ZALV	**Zalesovo Beam**	**80.58**	**328**	P		**P**	**12 23 13.5**	**-2.9**
	1.5nm,0.7s,baz=104,slow=6.2,SNR=7.3							
ZALV				LR		LR	12 59 06.8	
	comp=Z,468nm,20.6s,baz=72,slow=36							
KSH	**Kashi**	**81.12**	**312**	P		**P**	**12 23 20.8**	**+1.0**
KSH				pP		sP	12 23 41.1	+3.6
KSH				S		**S**	**12 33 24.1**	**-2.2**
KSH				sS		sS	12 33 59.6	+12
KSH				pmax		pmax		
	comp=Z,130nm,5.5s							
KURK	**Kurchatov**	**82.84**	**323**	*e*P		**P**	**12 23 28.2**	**-0.2**
	12nm,1.6s							
AAK	**Ala-Archa**	**83.06**	**314**	*e*P		**P**	**12 23 30.1**	**+0.1**
	9.6nm,1.6s							
QSPA	**South Pole Qui**	**83.08**	**180**	*e*P		**P**	**12 23 29.7**	**+0.1**
	24nm,1.5s							
ARSB	**Arslanbob**	**83.80**	**313**	*e*P		**P**	**12 23 33.2**	**-0.5**
	13nm,1.2s							
RND	**Reindeer**	**84.30**	**24**	*e*P		**P**	**12 23 36.0**	**+0.3**
	12nm,0.8s							
GAR	**Garm**	**85.24**	**310**	*e*P		**P**	**12 23 39.6**	**-1.4**
	16nm,1.4s							
CCB	**Clear Creek Bu**	**85.28**	**23**	*e*P		**P**	**12 23 40.6**	**+0.2**
	4.4nm,1.2s							
HDA	**Harding Lake**	**85.51**	**23**	*e*P		**P**	**12 23 42.7**	**+1.1**
	4.7nm,0.8s							
KKAR	**Karatay Array**	**86.01**	**314**	*e*P		**P**	**12 23 43.3**	**-1.3**
	8.8nm,1.1s							
CHGR	**Chuyangaron**	**86.05**	**310**	*e*P		**P**	**12 23 43.4**	**-1.7**
	18nm,1.2s							
NRIK	**Noril'sk**	**86.59**	**342**	LR		LR	13 04 48.1	
	comp=Z,186nm,18.4s,baz=112,slow=37							
BVAR	**Borovoye Array**	**88.39**	**324**	LR		LR	13 04 33.7	
	comp=Z,122nm,20.1s,baz=86,slow=36							
SYO	**Syowa Base**	**90.29**	**200**	||*i* pP		pP	12 24 24.6	+7.6
M02C	**Callahan**	**93.45**	**49**	P		**P**	**12 24 21.6**	**+1.8**
	baz=264							
YBH	**Yreka Blue Hor**	**93.59**	**49**	LR		LR	12 58 46.4	
	comp=Z,440nm,21.8s,baz=276,slow=31							
ABKAR	**Akbulak array**	**94.26**	**319**	*e*P		**P**	**12 24 21.0**	**-2.2**
	4.1nm,1.2s							
AKTO	**Aktyubinsk**	**95.60**	**320**	LR		LR	13 11 37.6	
	comp=Z,94nm,18.2s,baz=85,slow=38							
NVAR	**Mina Array Bea**	**96.69**	**52**	P		**P**	**12 24 33.9**	**-1.0**
	0.9nm,0.6s,baz=252,slow=6.2,SNR=8.7							
NVAR				LR		LR	13 05 30.6	
	comp=Z,378nm,18.1s,baz=287,slow=34							
LRMC	**Laurel Mtn Rad**	**97.01**	**55**	P		Pdif	12 24 37.0	+0.6
	baz=266							
MPMC	**Manual Prospec**	**97.20**	**55**	P		Pdif	12 24 37.7	+0.4
	baz=267							
FURC	**Furnace Creek,**	**97.73**	**54**	P		Pdif	12 24 39.9	+0.5
	baz=267							
PFO	**Pinyon Flats O**	**97.92**	**57**	LR		LR	13 04 29.5	
	comp=Z,470nm,18.3s,baz=266,slow=33							
SHOC	**Shoshone, Teco**	**98.18**	**55**	P		Pdif	12 24 42.2	+0.8
	baz=267							
TPNV	**Topopah Spring**	**98.25**	**54**	P		Pdif	12 24 42.4	+0.6
	baz=268							
ELK	**Elko**	**99.15**	**50**	LR		LR	13 02 04.0	
	comp=Z,271nm,

BRRC eS Sn 12 12 48.4 +0.3
BRRC i 12 12 53.0
comp=N,11µm,0.2s
RUSC La Rusia 0.94 181 ⇓ *i*P Pn 12 12 33.8 +0.7
RUSC eS Sn 12 12 52.3 +0.1
RUSC i 12 12 55.7
comp=N,5µm,0.7s
TAMC Tame, Arauca 1.32 107 ⇑ *i*P Pn 12 12 38.4 +2.3
TAMC eS Sn 12 12 58.9 +1.5
PTBC PUERTO BERRIO, 1.42 258 ⇓ eP Pn 12 12 36.5 -0.4
PTBC eS Sn 12 12 57.4 -1.7
PTBC i 12 13 02.6
comp=N,4µm,0.3s
OCAC Ocana 1.42 350 eP Pn 12 12 38.0 +0.9
OCAC eS Sn 12 12 59.5 +0.1
OCAC i 12 13 04.0
comp=Z,2µm,0.2s
CTAU Tausa, Cundina 1.89 211 eP Pn 12 12 44.8 +2.2
CTAU eS Sn 12 13 09.4 +0.2
ZARC Zaragoza, Cauc 1.90 290 eP Pn 12 12 42.3 +0.2
ZARC eS Sn 12 13 07.5 -0.8
ZARC i 12 13 15.3
comp=N,4µm,0.2s
CTAB Cerro Tablazo, 2.14 212 eP Pn 12 12 47.3 +1.9
SMLC San Martn de 2.19 333 eP Pn 12 12 46.0 +0.4
SMLC eS Sn 12 13 14.4 -0.2
SMLC i 12 13 22.3
comp=N,3µm,0.3s
ROSC El Rosal 2.34 212 ⇓ *i*P Pn 12 12 49.6 +1.9
ROSC eS Sn 12 13 19.5 +1.1
ROSC i 12 13 24.6
comp=Z,5µm,0.4s
ROSC El Rosal 2.34 212 P Pn 12 12 49.6 +1.9
comp=Z,174nm,0.3s,baz=82,slow=9.5,SNR=424
ROSC LR LR 12 13 07.7
comp=Z,36nm,21.2s,baz=272,slow=26
ROSC S Sn 12 13 19.4 +1.1
comp=Z,515nm,0.3s,baz=49,slow=13,SNR=9.0
HELC Santa Helena 2.53 255 eP Pn 12 12 50.1 0.0
HELC eS Sn 12 13 21.7 -0.7
HELC i 12 13 28.2
comp=N,1µm,0.4s
UREC San Jos de Ur 2.61 291 eP Pn 12 12 49.8 -0.9
UREC eS Sn 12 13 21.5 -2.1
UREC i 12 13 31.6
comp=Z,1µm,0.1s
VILC Villavicencio, 2.78 193 ⇑ eP Pn 12 12 53.2 +0.3
VILC eS Sn 12 13 26.7 -0.8
VILC i 12 13 37.8
comp=Z,3µm,0.5s
RREF El Recreo 2.98 230 eP Pn 12 12 56.0 +0.2
RREF eS Sn 12 13 32.5 -0.2
RREF i 12 13 42.1
comp=Z,2µm,0.6s
CODC Agustn Codazz 3.10 353 eP Pn 12 12 57.2 +0.4
CODC eS Sn 12 13 33.9 -0.8
CODC i 12 13 47.0
comp=Z,994nm,0.8s
DBBC Dabeiba 3.13 273 ⇑ *i*P Pn 12 12 57.3 +0.1
DBBC eS Sn 12 13 33.6 -1.7
DBBC i 12 13 42.5
comp=Z,1µm,0.5s
SDV Santo Domingo 3.15 50 ePn Pn 12 12 59.5 +1.9
SDV eSn Sn 12 13 37.3 +1.3
SDV Santo Domingo 3.15 50 P Pn 12 12 59.3 +1.7
comp=Z,196nm,0.3s,baz=233,slow=11,SNR=781
SDV S Sn 12 13 36.7 +0.7
comp=Z,81nm,0.3s,baz=256,slow=23,SNR=7.1
ANIL Santa Ana 3.29 225 eP Pn 12 13 00.3 +0.8
ANIL eS Sn 12 13 38.5 -0.8
PRAC Prado 3.59 210 eP Pn 12 13 03.1 0.0
PRAC eS Sn 12 13 44.9 -1.0
PRAC i 12 13 50.7
comp=Z,2µm,0.6s
SJCC San Jacinto, C 3.69 326 eP Pn 12 13 03.8 -0.6
SJCC eS Sn 12 13 44.4 -3.9
GUVC San Jose del G 4.28 174 eP Pn 12 13 11.8 -0.3
GUVC eS Sn 12 14 00.7 -1.3
GUVC i 12 14 05.7
comp=Z,684nm,0.4s
YOTC Yotoco, Valle 4.33 229 ⇑ *i*P Pn 12 13 12.0 -0.7
YOTC i 12 14 16.4
comp=Z,429nm,0.9s
SMRC Santa Marta, M 4.45 345 eP Pn 12 13 14.6 +0.4
SMRC eS Sn 12 14 02.0 -3.9
SMRC i 12 14 07.7
comp=Z,365nm,0.2s
BETC Betania 4.76 210 eP Pn 12 13 17.3 -1.1
MARP Paez Belalcaza 4.90 216 eP Pn 12 13 20.4 -0.1
MARP i 12 14 21.7
comp=Z,242nm,0.6s
URIC Uribia, Colomb 4.95 12 eP Pn 12 13 20.2 -0.6
URIC i 12 14 21.7
comp=Z,138nm,0.7s
MALC Bahia Malaga 5.09 237 ⇑ *i*P Pn 12 13 24.1 +1.3
MALC i 12 13 26.5
comp=Z,390nm,0.7s
PCON Cinco Dias 5.58 217 eP Pn 12 13 30.6 +0.9
PCON i 12 15 10.6
comp=Z,190nm,0.3s
POPC Popayan, Colom 5.58 220 ⇑ *i*P Pn 12 13 29.3 -0.1
FLOC Florencia 5.82 206 eP Pn 12 13 32.3 -0.2
FLOC eS Sn 12 14 35.3 -3.2
FLOC i 12 14 42.6
comp=Z,176nm,0.6s
SOTA Rioblanco 5.86 217 ⇑ eP Pn 12 13 34.5 +1.1
BCIP Isla Barro Col 7.10 289 ePn Pn 12 13 47.8 -1.6
OTAV Otavalo 8.48 220 ePn Pn 12 14 07.1 -1.1
HOJ Hope 11.67 342 *i* P Pn 12 14 53.2 +3.2
GWJ Greenwich 11.73 343 *i* P Pn 12 14 54.0 +3.2
STH Stony Hill 11.76 342 *i* P Pn 12 14 54.1 +3.0
STH *i* S Sn 12 16 54.8 -6.4
MCJ Malvern 11.91 338 *i* P Pn 12 14 55.9 +2.7
MTDJ Mount Denham 12.13 339 ePn Pn 12 14 57.7 +1.6
comp=Z,105nm,0.8s
BBJ Bamboo Saint A 12.19 341 *i* P Pn 12 15 00.4 +3.6
BBJ *i* S Sn 12 17 07.4 -4.2
SDDR Presa de Saban 12.20 8 ePn Pn 12 14 58.6 +1.7
JTS JuntasAbangare 12.25 287 P Pn 12 14 58.9 +1.4
comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=3.1
MPR Mayaguez 12.70 27 ePn Pn 12 15 03.6 +0.3
MPR eSn Sn 12 17 16.8 -7.0
SJG San Juan 13.08 30 ePn Pn 12 15 08.9 +0.8
SJG San Juan 13.08 30 P Pn 12 15 06.9 -1.3
comp=Z,1.8nm,0.3s,baz=221,slow=12,SNR=3.9
CBYP Canovanas 13.36 31 ePn Pn 12 15 12.0 +0.2
MTP Monte Pirata 13.38 33 ePn Pn 12 15 11.7 -0.3
CDVI St. Croix 13.54 36 ePn Pn 12 15 14.6 +0.6
FSCY Frank Sound, G 14.70 328 ePn Pn 12 15 29.4 +0.8
ATAH Atahualpa 14.86 201 P Pn 12 15 28.6 -2.6
comp=Z,0.2nm,0.3s,baz=58,slow=9.5,SNR=1.9
PTGA Pitinga 15.07 119 ePn P 12 15 33.5 -1.5
comp=Z,9.4nm,0.9s
PTGA eSn Sn 12 18 13.8 -7.3
PTGA Pitinga 15.07 119 P P 12 15 32.8 -2.2
comp=Z,0.3nm,0.3s,baz=308,slow=15,SNR=10
APG El Apazote 18.91 297 P P 12 16 18.7 +1.4
comp=Z,0.8nm,0.3s,baz=86,slow=7.2,SNR=4.7
TEIG Tepich 19.87 314 eP Pn 12 16 32.2 +1.5
comp=Z,32nm,0.7s
060A Indiantown 21.25 342 P P 12 16 44.4 +2.1
baz=160
LPAZ La Paz 23.49 168 P P 12 17 04.0 -0.8
comp=Z,1.3nm,0.6s,baz=350,slow=12,SNR=4.8
CMIG Matias Romero 23.63 298 LR LR 12 27 23.1
comp=Z,114nm,19.0s,baz=242,slow=38
658A Bunnell 23.76 342 eP P 12 17 07.1 +0.7
comp=Z,129nm,1.0s
658A Bunnell 23.76 342 P P 12 17 08.6 +2.1
baz=159
657A Interlachen 24.10 341 P P 12 17 11.9 +2.3
baz=158
656A Willston 24.13 339 P P 12 17 12.0 +2.2
baz=156
655A Horseshoe Beac 24.52 338 P P 12 17 15.3 +1.9
baz=155
556A Lake Butler 24.66 340 P P 12 17 16.9 +2.2
baz=157
555A McAlpin 24.97 339 P P 12 17 19.5 +2.1
baz=156
455A Stateville 25.55 340 P P 12 17 24.8 +2.1
baz=156
553A Crawfordville 25.57 337 P P 12 17 25.2 +2.3
baz=153
357A Townsend 25.70 343 P P 12 17 25.9 +1.8
baz=160
454A Quitman 25.74 339 P P 12 17 25.8 +1.4
baz=155
356A Blackshear 25.80 342 P P 12 17 26.8 +1.9
baz=159
257A Skidaway Islan 26.09 344 *e*P P 12 17 27.9 +0.3
comp=Z,165nm,0.9s
255A Hazlehurst 26.46 342 P P 12 17 33.6 +2.7
baz=159
353A Camilla 26.53 338 P P 12 17 34.0 +2.5
baz=154
352A Blakely 26.91 337 P P 12 17 37.3 +2.3
baz=153
155A Kite 27.11 342 P P 12 17 38.9 +2.3
baz=159
253A Americus 27.14 339 P P 12 17 39.0 +2.1
baz=155
Z57A Bowman 27.27 346 P P 12 17 40.7 +2.6
baz=163
154A Montrose 27.30 341 P P 12 17 40.5 +2.1
baz=158
252A Lumpkin 27.30 338 P P 12 17 40.8 +2.4
baz=154
BRAL Brewton 27.52 333 P P 12 17 42.2 +1.8
baz=149
251A Midway 27.64 337 P P 12 17 43.5 +2.0
baz=153
Z54A Sparta 27.79 342 P P 12 17 44.8 +2.0
baz=159
250A Grady 27.89 335 P P 12 17 45.6 +2.0
baz=151
152A Waverly Hall 27.90 339 *e*P P 12 17 44.6 +0.9
comp=Z,20nm,0.8s
152A Waverly Hall 27.90 339 P P 12 17 45.7 +1.9
baz=151,SNR=5.5
151A Opelika 28.00 338 P P 12 17 46.6 +2.0
baz=153
Z53A Monticello 28.06 341 P P 12 17 47.2 +2.0
baz=157
GOGA Godfrey 28.15 341 P P 12 17 48.0 +2.0
baz=158
Y55A Saluda 28.17 344 P P 12 17 48.1 +2.0
baz=161
Z52A Williamson 28.26 340 P P 12 17 49.3 +2.3
baz=156
150A Eclectic 28.34 336 P P 12 17 49.4 +1.8
baz=152
X56A White Oak 28.49 346 P P 12 17 50.9 +2.0
baz=163
Y53A Monroe 28.60 341 P P 12 17 52.0 +2.1
baz=158
X55A Gracelyn & Ava 28.62 345 P P 12 17 51.9 +1.9
baz=162
149A Jones 28.64 335 P P 12 17 52.3 +2.0
baz=151
Y52A Lilburn 28.76 341 P P 12 17 53.4 +2.1
baz=157
Z50A Ashland 28.87 337 *e*P P 12 17 54.4 +2.1
comp=Z,21nm,0.7s
Z50A Ashland 28.87 337 P P 12 17 54.4 +2.1
baz=153,SNR=7.8
Z49A Columbiana 29.06 336 P P 12 17 56.2 +2.2
baz=152,SNR=6.6
LRAL Lakeview Retre 29.11 335 *e*P P 12 17 54.7 +0.3
comp=Z,11nm,0.8s
LRAL Lakeview Retre 29.11 335 P P 12 17 56.5 +2.1
baz=151
Y51A Rockmart 29.13 339 P P 12 17 56.6 +2.0
baz=155
KMSC Kings Mountain 29.18 346 P P 12 17 57.0 +1.9
baz=163
W54A Cherokee Point 29.34 345 P P 12 17 58.8 +2.3
baz=161
147A Livingston 29.35 333 *e*P P 12 17 56.8 +0.3
comp=Z,21nm,0.9s
147A Livingston 29.35 333 P P 12 17 58.4 +1.9
baz=148
Y50A Piedmont 29.37 338 P P 12 17 58.8 +2.1
baz=154
X52A Dahlonega 29.39 342 P P 12 17 58.8 +1.9
baz=158
Y49A Blount Mountai 29.59 337 *e*P P 12 18 00.0 +1.3
comp=Z,17nm,0.6s
Y49A Blount Mountai 29.59 337 P P 12 18 00.6 +1.8
baz=152,SNR=5.1
X51A Calhoun 29.66 340 P P 12 18 01.2 +1.9
baz=156
W53A Cullowhee 29.69 343 P P 12 18 01.8 +2.0
baz=159
V55A Taylorsville 29.83 347 P P 12 18 03.0 +2.2
baz=164
X50B Fort Payne 29.85 339 P P 12 18 02.8 +1.8
baz=154
W52A Murphy 29.85 342 *e*P P 12 18 03.0 +2.0
comp=Z,25nm,0.9s
W52A Murphy 29.85 342 P P 12 18 03.3 +2.3
baz=158
V54A Nebo 29.94 345 P P 12 18 04.1 +2.3
baz=162
Y48A Jasper 29.94 336 P P 12 18 03.4 +1.6
baz=151
VBMS Vicksburg 30.04 329 *e*P P 12 18 03.3 +0.6
comp=Z,40nm,0.6s
VBMS Vicksburg 30.04 329 P P 12 18 04.6 +1.9
baz=144
V53A Saluda 30.06 344 P P 12 18 05.0 +2.1
baz=160
X49A Woodville 30.14 338 P P 12 18 05.4 +1.8
baz=153
W51A Cleveland 30.18 341 P P 12 18 06.1 +2.2
baz=156
CPCT Cooper Cave 30.36 341 *e*P P 12 18 06.8 +1.3
comp=Z,11nm,0.8s
X48A Hartselle 30.36 337 *e*P P 12 18 05.8 +0.3
comp=Z,26nm,0.8s
X48A Hartselle 30.36 337 P P 12 18 07.4 +1.9
baz=152,SNR=7.7
W50A Signal Mountai 30.40 340 *e*P P 12 18 07.1 +1.3
comp=Z,12nm,0.6s
W50A Signal Mountai 30.40 340 P P 12 18 07.9 +2.1
baz=155
U55A TA2, Sparta 30.42 347 P P 12 18 08.5 +2.4
baz=164
V52A Sevierville 30.44 343 P P 12 18 08.4 +2.2
baz=159
U54A Nelsons Funny 30.61 346 P P 12 18 10.0 +2.3
baz=163,SNR=5.3
SWET Sewanee 30.63 339 *e*P P 12 18 09.0 +1.1
comp=Z,13nm,1.0s
V51A Loudon 30.64 342 *e*P P 12 18 09.2 +1.3
comp=Z,26nm,0.9s
V51A Loudon 30.64 342 P P 12 18 10.1 +2.2
baz=158
U53A Fall Branch 30.65 345 P P 12 18 10.0 +1.9
baz=161
W49A Bledere 30.66 338 P P 12 18 09.7 +1.6
baz=154
X47A Russelville 30.75 336 P P 12 18 10.6 +1.7
baz=150
V50A Pikevile 30.75 341 P P 12 18 10.9 +2.0
baz=156
U52A Thorn Hill 30.89 344 P P 12 18 12.0 +1.8
baz=160
W48A Pulaski 30.93 338 P P 12 18 12.4 +1.9
baz=152,SNR=5.8
T55A Pulaski 30.95 348 P P 12 18 13.1 +2.3
baz=165
BLA Blacksburg 30.97 349 *e*P P 12 18 12.4 +1.5
comp=Z,51nm,1.5s
LNIG Linares 31.00 308 *e*P P 12 18 10.6 -0.6
comp=Z,6.1nm,0.8s
U51A La Follette 31.07 343 P P 12 18 13.7 +1.9
baz=158
T54A Tazewell 31.07 347 P P 12 18 13.9 +2.1
baz=163
TZTN Tazewell 31.09 344 *e*P P 12 18 11.4 -0.4
comp=Z,54nm,1.6s
TZTN Tazewell 31.09 344 P P 12 18 13.8 +1.9
baz=159
V49A McMinnville 31.11 340 P P 12 18 14.0 +1.9
baz=155
T53A Wise 31.23 345 P P 12 18 15.2 +2.0
baz=162
PLAL Pickwick Lake 31.24 336 *e*P P 12 18 14.2 +1.0
comp=Z,24nm,0.9s
W47A Westpoint 31.28 337 P P 12 18 15.4 +1.8
baz=151,SNR=7.7
U50A Jamestown 31.35 342 P P 12 18 16.2 +2.0
baz=157
OXF Oxford 31.40 334 *e*P P 12 18 13.8 -0.8
comp=Z,43nm,1.5s
V48A Smith Brothers 31.42 338 *e*P P 12 18 15.8 +1.0
comp=Z,34nm,0.8s
V48A Smith Brothers 31.42 338 P P 12 18 16.9 +2.1
baz=153,SNR=13
W46A Michie 31.49 336 P P 12 18 16.7 +1.3
baz=150
S55A Lewisburg 31.53 349 P P 12 18 18.0 +2.2
baz=166
T51A Gray 31.59 343 P P 12 18 18.5 +2.2
baz=159,SNR=7.4
U49A Red Boiling Sp 31.75 340 P P 12 18 19.4 +1.8
baz=155
V47A Nunnelly 31.76 337 P P 12 18 19.5 +1.8
baz=152,SNR=14
S53A Williamson 31.79 346 P P 12 18 20.3 +2.2
baz=163
R55A Marlinton 31.95 349 P P 12 18 21.7 +2.2
baz=167
NATX Nacogdoches 31.96 324 *e*P P 12 18 20.0 +0.4
NATX Nacogdoches 31.96 324 P P 12 18 20.8 +1.2
baz=136
V46A Holladay 31.97 336 P P 12 18 21.3 +1.8
baz=151
U48A Cassie Pea, Po 32.00 339 P P 12 18 21.8 +1.9
baz=154,SNR=7.6
R54A Victor 32.02 348 P P 12 18 22.7 +2.6
baz=165
WVT Waverly 32.14 337 *e*P P 12 18 22.1 +1.0
comp=Z,36nm,1.1s
WVT Waverly 32.14 337 P P 12 18 22.5 +1.4
baz=152
T49A Edmonton 32.20 341 P P 12 18 23.7 +2.1
baz=156
U47A Clarksville 32.21 338 P P 12 18 23.6 +1.9
baz=153
V45A Humboldt 32.26 335 P P 12 18 23.4 +1.3
baz=149
R53A Hurricane 32.37 347 P P 12 18 25.2 +2.1
baz=163
S50A Richmond 32.39 343 P P 12 18 25.4 +2.2
baz=159
U46A Springville 32.48 337 P P 12 18 26.0 +2.0
baz=151
T48A Bowling Green 32.49 340 P P 12 18 25.9 +1.8
baz=155
ZAIG Zacatecas 32.52 302 *e*P P 12 18 25.7 +0.7
comp=Z,4.4nm,1.1s
T47A Sharon Grove 32.63 339 *e*P P 12 18 26.1 +0.8
comp=Z,21nm,0.6s
T47A Sharon Grove 32.63 339 P P 12 18 26.9 +1.5
baz=153,SNR=7.2
Q55A Buckhannon 32.64 350 P P 12 18 27.5 +2.1
baz=167
R51A Hillsboro 32.74 345 P P 12 18 28.0 +1.7
baz=160
S49A Springfield 32.75 342 P P 12 18 28.2 +1.8
baz=157,SNR=6.3
Q54A Coxs Mills 32.77 349 P P 12 18 28.8 +2.3
baz=166
Q53A Leroy 32.78 348 P P 12 18 28.9 +2.2
baz=164
833A Chaparral WMA, 32.82 314 *e*P P 12 18 27.4 +0.3
comp=Z,8.8nm,0.6s
833A Chaparral WMA, 32.82 314 P P 12 18 26.9 -0.2
baz=126
HBAR Harrisburg 32.83 333 *e*P P 12 18 28.2 +1.1
comp=Z,69nm,0.8s
S48A Wiedeman Farm, 32.88 341 P P 12 18 28.9 +1.4
baz=156,SNR=5.3
R50A Paris 32.93 344 P P 12 18 30.2 +2.3
baz=159,SNR=8.0
T46A Princeton 32.97 338 P P 12 18 29.8 +1.5
baz=152,SNR=7.3
X40A Basin Creek Fa 33.02 329 *e*P P 12 18 29.1 +0.4
comp=Z,12nm,0.8s
X40A Basin Creek Fa 33.02 329 P P 12 18 29.5 +0.8
baz=142,SNR=8.6
Q52A Bidwell 33.05 347 P P 12 18 30.9 +2.0
baz=163
S47A Hartford 33.10 340 P P 12 18 30.8 +1.4
baz=154,SNR=8.5
435B Jarrell 33.10 319 *e*P P 12 18 30.4 +0.8
comp=Z,17nm,0.8s
435B Jarrell 33.10 319 P P 12 18 30.3 +0.8
baz=131
R49A Shelbyville 33.18 342 P P 12 18 32.0 +1.9
baz=158
MCWV Mont Chateau 33.24 350 P P 12 18 32.6 +1.9
baz=168
W41B Gary Mavity, V 33.27 331 *e*P P 12 18 31.9 +0.9
comp=Z,18nm,1.3s
W41B Gary Mavity, V 33.27 331 P P 12 18 31.8 +0.9
baz=144
P54A Burton 33.30 350 P P 12 18 33.1 +2.0
baz=166
Q50A Georgetown 33.36 344 P P 12 18 33.6 +2.0
baz=160,SNR=6.0
P53A Whipple 33.36 348 P P 12 18 33.6 +1.9
baz=165
Q51A Peebles 33.37 345 P P 12 18 33.8 +2.1
baz=161
WHAR Wooly Hollow 33.38 331 *e*P P 12 18 32.3 +0.4
comp=Z,13nm,0.8s
U43A Rector 33.40 334 P P 12 18 33.3 +1.3
baz=148
MIAR Mount Ida 33.44 328 *e*P P 12 18 33.0 +0.6
comp=Z,39nm,1.8s
MIAR Mount Ida 33.44 328 P P 12 18 32.9 +0.4
baz=141
S46A Don Dixon Farm 33.47 339 P P 12 18 33.9 +1.2
baz=153,SNR=8.0
WCI Wyandotte Cave 33.47 341 *e*P P 12 18 34.7 +2.0
comp=Z,21nm,0.7s
WCI Wyandotte Cave 33.47 341 P P 12 18 34.2 +1.6
baz=156
R48A Northridge Ran 33.50 342 P P 12 18 34.5 +1.7
baz=156
R47A Wooly Knot Far 33.61 341 P P 12 18 35.2 +1.3
baz=155
O56A Blue Knob Stat 33.65 352 P P 12 18 36.6 +2.4
baz=170
P52A Corning 33.66 347 P P 12 18 36.2 +2.0
baz=164
T44A Benton 33.67 336 P P 12 18 35.8 +1.4
baz=149
O55A Ligonier 33.70 351 P P 12 18 36.5 +1.9
baz=169
USIN University of 33.70 339 *e*P P 12 18 36.4 +1.7
comp=Z,51nm,0.9s
P51A Williamsport 33.73 346 P P 12 18 36.7 +1.9
baz=162
U42A Revenden 33.76 333 P P 12 18 36.1 +1.0
baz=146,SNR=6.5
PBMO Poplar Bluff 33.76 334 *e*P P 12 18 36.8 +1.7
comp=Z,31nm,0.8s
Q49A Aurora 33.76 343 P P 12 18 37.1 +1.9
baz=158
S45A Carrier Mills 33.79 338 P P 12 18 36.3 +0.9
baz=151
WHTX Lake Whitney, 33.82 321 P P 12 18 36.4 +0.7
baz=133
O54A Avella 33.84 350 P P 12 18 37.4 +1.5
baz=167
R46A Gibon Southern 33.87 339 P P 12 18 37.3 +1.3
baz=154
SSPA Standing Stone 33.93 353 P P 12 18 38.7 +2.1
baz=171
Q48A North Vernon 33.94 342 P P 12 18 38.2 +1.5
baz=157
T43A Greenville 33.96 335 P P 12 18 38.0 +1.2
baz=148,SNR=8.8
N59A State Game Lan 34.02 356 P P 12 18 39.4 +2.0
baz=175
P50A Jamestown 34.03 345 P P 12 18 39.4 +2.0
baz=161
PAL Palisades 34.03 359 P P 12 18 38.8 +1.4
baz=178
W39A Magazine 34.06 329 *e*P P 12 18 38.8 +1.1
comp=Z,23nm,0.8s
W39A Magazine 34.06 329 P P 12 18 38.7 +0.9
baz=141,SNR=8.0
O52A Adamsville 34.06 348 P P 12 18 39.6 +1.9
baz=164
S44A Carbondale 34.06 337 P P 12 18 38.8 +1.0

baz=150,SNR=8.3
U41A Viola 34.06 332 P P 12 18 38.5 +0.7
baz=145,SNR=13
O53A New Philadelph 34.06 349 P P 12 18 39.5 +1.8
baz=165
SIUC Southern Illin 34.06 337 eP P 12 18 39.1 +1.3
comp=Z,32nm,0.7s
Q47A Bedord North L 34.16 341 P P 12 18 40.1 +1.6
baz=156,SNR=8.7
N55A Marion Center 34.21 352 P P 12 18 41.0 +1.9
baz=169
R45A Skylar, Fairfi 34.22 338 P P 12 18 40.3 +1.3
baz=152,SNR=9.3
O51A Pataskala 34.26 347 P P 12 18 41.0 +1.6
baz=163
T42A Van Buren 34.26 334 P P 12 18 40.4 +0.9
baz=147
S43A Fulton Ridge, 34.28 336 P P 12 18 40.9 +1.3
baz=149
P48A Milroy 34.34 343 P P 12 18 41.9 +1.8
baz=158
ACSO Alum Creek Sta 34.42 347 eP P 12 18 43.2 +2.4
comp=Z,18nm,0.9s
ACSO Alum Creek Sta 34.42 347 P P 12 18 42.9 +2.1
baz=162
R44A Waltonville 34.48 337 P P 12 18 42.4 +1.1
baz=151
O50A Cable 34.49 346 P P 12 18 43.3 +1.9
baz=161,SNR=7.3
U40A Yellville 34.51 331 P P 12 18 42.6 +0.9
baz=144,SNR=24
N53A Lisbon 34.53 350 P P 12 18 43.8 +2.0
baz=166
N54A Moraine State 34.54 351 P P 12 18 44.0 +2.1
baz=168
P47A Martinsville 34.62 342 P P 12 18 44.0 +1.5
baz=156
N52A McGinn's Farm, 34.70 348 P P 12 18 45.1 +1.9
baz=165
Q45A Warren Harvey, 34.71 339 P P 12 18 44.5 +1.2
baz=153
O49A Covington 34.71 345 P P 12 18 45.2 +1.9
baz=160
S42A Caledonia 34.75 335 P P 12 18 44.3 +0.6
baz=148,SNR=9.4
FVM French Village 34.78 336 eP P 12 18 45.5 +1.6
comp=Z,27nm,0.8s
R43A Red Bud 34.83 336 P P 12 18 44.4 +0.1
baz=150,SNR=5.1
M55A Ridgway 34.86 352 P P 12 18 46.3 +1.7
baz=170
N51A Ashland 34.94 348 P P 12 18 46.9 +1.6
baz=164
N50A Nevada 34.97 347 P P 12 18 47.4 +1.9
baz=162
HHAR Hobbs 34.98 330 eP P 12 18 46.4 +0.6
comp=Z,10.0nm,0.7s
O48A Farmland 35.00 344 P P 12 18 47.1 +1.3
baz=159
S41A Jillco Farms, 35.01 334 P P 12 18 46.7 +0.7
baz=146,SNR=11
M54A Oil Creek Stat 35.02 351 eP P 12 18 48.5 +2.5
comp=Z,37nm,1.2s
M54A Oil Creek Stat 35.02 351 P P 12 18 48.0 +2.0
baz=168
Q44A Meyer Farm, Va 35.03 338 P P 12 18 46.7 +0.7
baz=152
P46A Rosedale 35.03 341 P P 12 18 47.5 +1.5
baz=155,SNR=8.3
P45A Graceland, Par 35.13 340 eP P 12 18 48.0 +1.0
comp=Z,33nm,1.0s
P45A Graceland, Par 35.13 340 P P 12 18 47.9 +1.0
baz=154,SNR=7.0
CCM Cathedral Cave 35.18 335 eP P 12 18 47.6 +0.2
comp=Z,44nm,0.7s
CCM Cathedral Cave 35.18 335 P P 12 18 48.3 +0.9
baz=148
R42A Luebbering 35.18 335 P P 12 18 48.4 +1.0
baz=148,SNR=11
O47A Sheridan 35.27 342 P P 12 18 49.2 +1.1
baz=157,SNR=5.9
M51A Elyria 35.30 348 P P 12 18 50.0 +1.7
baz=164
BINY Binghamton 35.31 356 P P 12 18 50.1 +1.7
baz=175
Q43A New Douglas 35.32 337 P P 12 18 49.2 +0.7
baz=150
M52A Chesterland 35.34 349 P P 12 18 50.6 +1.9
baz=166
N49A Columbus Grove 35.37 345 P P 12 18 50.3 +1.4
baz=161
P44A Sand Creek, Wi 35.38 339 P P 12 18 49.9 +0.9
baz=153
R41A Rosebud 35.44 335 P P 12 18 50.4 +0.7
baz=148,SNR=16
L55A Hinsdale 35.52 353 P P 12 18 52.2 +1.9
baz=171
N48A Decatur 35.52 344 P P 12 18 51.5 +1.2
baz=159
HRV Adam Dziewonsk 35.55 2 P P 12 18 52.4 +2.0
baz=182
M50A Fremont 35.55 347 P P 12 18 52.2 +1.8
baz=163
Q42A Golden Eagle 35.62 336 P P 12 18 51.9 +0.8
baz=149
ABTX Abilene, Hawle 35.63 320 eP P 12 18 52.4 +1.1
comp=Z,19nm,0.9s
ABTX Abilene, Hawle 35.63 320 P P 12 18 52.0 +0.7
baz=130
TUL1 Leonard 35.66 327 eP P 12 18 51.2 -0.2
comp=Z,16nm,0.7s
TUL1 Leonard 35.66 327 P P 12 18 51.4 -0.1
baz=139
ERPA Erie 35.67 351 P P 12 18 52.5 +1.0
baz=168
SFIN Lafayette 35.69 341 eP P 12 18 52.6 +0.9
comp=Z,40nm,0.6s
SFIN Lafayette 35.69 341 P P 12 18 52.8 +1.2
baz=156,SNR=8.6
LCO Las Campanas 35.71 176 eP P 12 18 46.2 -6.0
comp=Z,26nm,0.5s
N47A Urbana 35.73 344 P P 12 18 53.3 +1.3
baz=158
PLIO Pelee Island, 35.79 348 P P 12 18 54.5 +2.0
baz=164
M49A Liberty Center 35.84 346 P P 12 18 54.6 +1.7
baz=161
P43A Skaggs, Pawnee 35.86 338 P P 12 18 53.9 +0.8
baz=151
O44A Mansfield 35.94 340 P P 12 18 54.2 +0.4
baz=153
Q41A Truxton 35.94 336 P P 12 18 54.6 +0.8
baz=148,SNR=6.7
K55A Perry 36.02 354 P P 12 18 56.1 +1.6
baz=171
M48A Edgerton 36.03 345 P P 12 18 55.9 +1.3
baz=160
N46A Monticello 36.05 342 P P 12 18 56.1 +1.4
baz=156,SNR=5.2
L50A Kingsville 36.11 348 P P 12 18 56.7 +1.5
baz=163
P42A Winchester 36.12 337 eP P 12 18 55.5 +0.1
comp=Z,25nm,1.2s
P42A Winchester 36.12 337 P P 12 18 56.1 +0.7
baz=150
L49A Milan 36.39 347 P P 12 18 59.3 +1.7
baz=162
N44A Piper City 36.40 341 P P 12 18 58.8 +1.1
baz=154
M46A Old House Fiel 36.41 343 P P 12 18 59.2 +1.5
baz=157
K52A Tillsonburg 36.43 350 P P 12 18 59.5 +1.6
baz=167
P41A Barry, Barry 36.48 336 P P 12 18 58.8 +0.4
baz=149
MEDO Medina 36.49 353 P P 12 18 59.8 +1.4
baz=171
TXAR Lajitas Array 36.50 312 P P 12 18 59.6 +0.8
comp=Z,4.1nm,0.7s,baz=127,slow=9.1,SNR=34
TXAR PcP PcP 12 21 19.4 0.0
comp=Z,1.0nm,0.6s,baz=136,slow=6.5,SNR=5.2
WMOK Wichita Mounta 36.50 323 eP P 12 18 58.6 -0.2
comp=Z,8.3nm,0.8s
WMOK Wichita Mounta 36.50 323 P P 12 18 58.6 -0.2
baz=134,SNR=8.7
J55A Hilton 36.52 354 P P 12 19 00.2 +1.5
baz=172
O42A Bath 36.55 338 P P 12 18 59.9 +0.9
baz=151
HDIL Hopedale 36.58 339 eP P 12 18 59.8 +0.5
comp=Z,27nm,0.6s
HDIL Hopedale 36.58 339 P P 12 18 59.5 +0.3
baz=152
TYNO Tyneside 36.61 352 P P 12 19 01.2 +1.8
baz=168
L47A Sherwood 36.62 345 P P 12 19 00.7 +1.2
baz=159
O41A Passleys Farm, 36.79 337 P P 12 19 02.0 +1.0
baz=150
J52A Paris 36.84 351 P P 12 19 02.9 +1.5
baz=168
N43A Stutzman Famil 36.88 339 P P 12 19 02.5 +0.7
baz=153
L46A Eue Claire 36.95 344 P P 12 19 03.4 +1.1
baz=158
N42A Yates City 37.09 338 P P 12 19 03.8 +0.3
baz=151
K48A Perry 37.13 346 P P 12 19 05.0 +1.1
baz=162
ACTO Acton 37.14 352 P P 12 19 05.8 +1.9
baz=168
WLVO Wesleyville 37.24 354 P P 12 19 06.4 +1.7
baz=171
N41A Harden Midland 37.29 337 P P 12 19 05.2 -0.1
baz=150
J49A Marlette 37.44 348 P P 12 19 07.6 +1.1
baz=163
I51A Listowel 37.48 351 P P 12 19 08.6 +1.8
baz=167
J48A Bridge Port 37.52 347 P P 12 19 07.0 -0.1
baz=164
LONY Lake Ozonia 37.66 358 P P 12 19 10.0 +1.7
baz=177
H56A Elgin 37.71 356 P P 12 19 10.3 +1.5
baz=175
N40A Mertquake, Sal 37.72 337 P P 12 19 09.8 +0.9
baz=149
H55A Tweed 37.74 355 P P 12 19 10.6 +1.6
baz=173
DELO Deloro Mine 37.75 355 P P 12 19 10.3 +1.3
baz=172
M41A Milan 37.75 338 P P 12 19 08.8 -0.3
baz=151
BWLO Walkerton 37.80 350 P P 12 19 11.1 +1.6
baz=167
I49A Point Hope 37.94 349 P P 12 19 11.8 +1.2
baz=164
L42A Oliver, Polo 37.99 340 P P 12 19 11.2 +0.1
baz=152
M40A Post Highland 38.14 337 P P 12 19 12.3 -0.1
baz=149
PLVO Plevna 38.22 355 P P 12 19 14.5 +1.5
baz=173
BANO Bancroft 38.27 354 P P 12 19 14.6 +1.1
baz=172
L41A Preston 38.35 339 P P 12 19 13.9 -0.2
baz=151
AMTX Amarillo 38.38 321 eP P 12 19 15.7 +1.1
comp=Z,24nm,1.0s
AMTX Amarillo 38.38 321 P P 12 19 15.0 +0.4
baz=130
G55A Calabogie 38.40 356 P P 12 19 15.9 +1.4
baz=174
G53A Haliburton 38.45 354 P P 12 19 16.6 +1.7
baz=171
M39A Webster 38.46 337 P P 12 19 15.2 +0.1
baz=148
MSTX Muleshoe 38.51 319 eP P 12 19 15.7 0.0
comp=Z,17nm,1.0s
MSTX Muleshoe 38.51 319 P P 12 19 15.9 +0.2
baz=128,SNR=6.7
I46A Reed City 38.52 346 P P 12 19 17.0 +1.5
baz=160
L40A Anamosa 38.60 338 P P 12 19 16.1 -0.1
baz=150
ALFO Alfred 38.68 358 P P 12 19 17.4 +0.7
baz=177
K41A Shullsburg 38.75 340 P P 12 19 17.4 0.0
baz=152
BUKO Buck Lake 38.85 353 P P 12 19 19.5 +1.3
baz=170
PEMO Pembroke 38.87 355 P P 12 19 19.6 +1.3
baz=173
L39A Vinton 38.95 337 P P 12 19 19.5 +0.4
baz=149
JFWS Jewell Farm 39.00 340 eP P 12 19 20.2 +0.7
comp=Z,41nm,0.6s
JFWS Jewell Farm 39.00 340 P P 12 19 19.8 +0.3
baz=152,SNR=6.3
MNTX Cornudas Mount 39.00 314 eP P 12 19 20.6 +0.8
comp=Z,10nm,0.8s
MNTX Cornudas Mount 39.00 314 P P 12 19 20.6 +0.8
baz=123,SNR=23
K40A Colesburg 39.12 339 P P 12 19 20.5 0.0
baz=151
F52A Sundridge 39.19 353 P P 12 19 22.3 +1.2
baz=170
I43A Langenfeld Bro 39.20 343 P P 12 19 21.6 +0.4
baz=156
ALGO Algonquin Park 39.21 354 P P 12 19 22.4 +1.2
baz=172
SCIA State Center 39.24 336 P P 12 19 22.1 +0.6
baz=147
J41A Loganville 39.32 340 P P 12 19 22.4 +0.2
baz=153
K39A Oelwein 39.40 338 P P 12 19 22.5 -0.4
baz=150
I42A Draeger Farm, 39.44 342 P P 12 19 23.8 +0.7
baz=155
F49A Sandfield 39.55 350 P P 12 19 25.2 +1.1
baz=166
J40A Soldiers Grove 39.59 340 P P 12 19 24.7 +0.2
baz=152
E53A Dumoine, Ponti 39.60 355 P P 12 19 26.3 +1.9
baz=173
E52A Mattawa 39.60 354 P P 12 19 25.5 +1.0
baz=171
E54A Lac Daplat, Po 39.61 356 P P 12 19 25.8 +1.3
baz=173
F48A Evansville 39.72 350 P P 12 19 26.5 +1.1
baz=165
J39A Decorah 39.88 339 P P 12 19 26.6 -0.2
baz=150
I41A Arkdale 39.89 341 P P 12 19 27.3 +0.4
baz=153
CBKS Cedar Bluff 39.91 327 P P 12 19 27.3 +0.1
baz=136
E51A G1948 Merrick 39.94 353 P P 12 19 28.8 +1.6
baz=170
I40A Norwalk 39.99 340 P P 12 19 27.8 +0.1
baz=152
E50A Wahnapitae 39.99 352 P P 12 19 28.8 +1.1
baz=168
F46A Macinaw City C 40.09 347 P P 12 19 29.7 +1.2
baz=162
F45A CMI Biological 40.18 346 P P 12 19 29.7 +0.5
baz=161
D52A ZEK Kipawa Sen 40.26 354 P P 12 19 31.8 +1.9
baz=172
I39A Houston 40.27 339 eP P 12 19 30.4 +0.3
comp=Z,17nm,0.6s
I39A Houston 40.27 339 P P 12 19 30.1 +0.1
baz=151
E48A Lockeyer 40.27 350 P P 12 19 31.6 +1.6
baz=165,SNR=5.6
D54A Lac Fusel, La 40.29 356 P P 12 19 31.5 +1.4
baz=174
D53A Lac Vacive, Po 40.30 355 P P 12 19 31.7 +1.5
baz=173
H41A Junction City 40.32 342 P P 12 19 31.9 +1.5
baz=154
G43A Wallace 40.33 344 P P 12 19 31.6 +1.2
baz=157
LATQ La Tuque 40.40 0 P P 12 19 33.2 +2.2
baz=180
E47A Iron Bridge 40.44 349 P P 12 19 32.8 +1.4
baz=164
D51A Lot 18 Range I 40.47 353 P P 12 19 32.7 +1.1
baz=170
G42A Mountain 40.52 343 P P 12 19 32.8 +0.7
baz=156
E46A Sault Ste Mari 40.56 348 P P 12 19 33.5 +1.2
baz=163
H40A Chili 40.56 341 P P 12 19 32.9 +0.5
baz=153
F44A Big Bay de Noc 40.67 346 P P 12 19 34.1 +0.8
baz=159
G41A Antigo 40.72 342 P P 12 19 34.3 +0.6
baz=155
D48A Paudash Townsh 40.89 351 P P 12 19 36.5 +1.5
baz=167,SNR=5.3
H39A Augusta 40.91 340 P P 12 19 35.7 +0.4
baz=152
D49A Beulah Townshi 40.91 351 P P 12 19 36.4 +1.1
baz=167
D47A Chapleau 40.99 350 P P 12 19 36.9 +1.0
baz=165
D46A Sault St. Mari 41.01 349 P P 12 19 36.9 +0.9
baz=163
BGNE Belgrade 41.03 331 eP P 12 19 36.4 +0.1
comp=Z,49nm,1.3s
BGNE Belgrade 41.03 331 P P 12 19 35.9 -0.4
baz=140
G40A Rib Lake 41.08 342 P P 12 19 37.4 +0.7
baz=154
F41A Three Lakes 41.17 343 P P 12 19 38.0 +0.6
baz=155
H38A Maiden Rock 41.25 339 P P 12 19 38.3 +0.2
baz=150
G39A Holcombe 41.41 341 P P 12 19 40.0 +0.7
baz=152,SNR=6.8
T25A Trinidad 41.52 321 eP P 12 19 42.5 +1.9
comp=Z,13nm,1.1s
T25A Trinidad 41.52 321 P P 12 19 42.2 +1.6
baz=129,SNR=5.3
G38A Ridgeland 41.53 340 P P 12 19 40.6 +0.2
baz=151
ANMO Albuquerque 41.54 317 eP P 12 19 42.4 +1.5
comp=Z,8.0nm,1.4s
ANMO Albuquerque 41.54 317 P P 12 19 41.9 +1.1
baz=125
F40A Park Falls 41.64 342 P P 12 19 41.9 +0.7
baz=154
KSCO Kaye Shedlock' 41.67 325 P P 12 19 42.5 +0.8
baz=133
LAZ Ladron 41.71 316 eP P 12 19 43.8 +1.6
319A Douglas 41.72 311 eP P 12 19 44.3 +2.1
comp=Z,10nm,0.9s
E41A Kenton 41.79 343 P P 12 19 43.5 +1.0
baz=156
F39A Loretta 41.88 341 P P 12 19 43.6 +0.4
baz=153
SPMN Marine on St. 41.91 339 P P 12 19 43.6 +0.2
baz=150
ECSD EROS Data Cent 42.16 334 eP P 12 19 45.5 0.0
comp=Z,24nm,1.4s
ECSD EROS Data Cent 42.16 334 P P 12 19 45.2 -0.2
baz=144,SNR=7.8
E39A Mellen 42.18 342 P P 12 19 46.7 +1.1
baz=154
LSQQ Lebel-sur-Quev 42.21 356 P P 12 19 47.2 +1.5
baz=174
F38A Pierce - Schro 42.23 340 P P 12 19 46.3 +0.3
baz=152,SNR=5.1
SDCO Great Sand Dun 42.57 321 eP P 12 19 50.9 +1.6
comp=Z,6.7nm,0.8s
SDCO Great Sand Dun 42.57 321 P P 12 19 50.8 +1.6
baz=128,SNR=17
CHGQ Chibougamau 42.95 359 P P 12 19 53.6 +1.9
baz=178
MATQ Matagami 42.95 356 P P 12 19 53.0 +1.2
baz=173,SNR=5.7
Q24A Divide 43.12 323 P P 12 19 54.7 +1.1
baz=130
TUC Tucson 43.28 311 eP P 12 19 56.2 +1.4
comp=Z,5.4nm,0.9s
TUC Tucson 43.28 311 P P 12 19 55.9 +1.0
baz=118
S22A 4UR Ranch, Cre 43.41 320 eP P 12 19 57.8 +1.7
comp=Z,9.4nm,1.1s
S22A 4UR Ranch, Cre 43.41 320 P P 12 19 57.6 +1.6
baz=127,SNR=13
X18A Snowflake 43.75 314 eP P 12 20 00.8 +2.2
comp=Z,6.6nm,0.8s
SUSD Miller 43.75 333 P P 12 19 58.2 -0.1
baz=141,SNR=13
EYMN Ely 43.87 342 eP P 12 19 59.7 +0.4
comp=Z,30nm,0.6s
EYMN Ely 43.87 342 P P 12 19 59.6 +0.4
baz=153,SNR=8.6
W18A Petrified Fore 43.90 315 P P 12 20 01.0 +1.2
baz=121
ISCO Idaho Springs 43.93 323 eP P 12 20 01.6 +1.4
comp=Z,11nm,1.0s
ISCO Idaho Springs 43.93 323 P P 12 20 01.5 +1.4
baz=130,SNR=10
MVCO Mesa Verde 44.18 318 eP P 12 20 03.6 +1.4
comp=Z,19nm,1.3s
MVCO Mesa Verde 44.18 318 P P 12 20 03.2 +1.1
baz=124,SNR=5.8
SMCO Snowmass 44.36 322 eP P 12 20 05.4 +1.7
comp=Z,3.5nm,0.8s
214A Organ Pipe Nat 44.66 309 P P 12 20 07.1 +1.3
baz=116,SNR=5.5
PV01 Paradox Valley 44.76 319 eP P 12 20 08.7 +2.0
comp=Z,8.6nm,0.8s
X16A Lo Mia Camp, P 44.76 313 eP P 12 20 08.1 +1.4
comp=Z,5.0nm,0.9s
PV15 Paradox Valley 44.82 320 eP P 12 20 09.3 +2.2
comp=Z,26nm,0.9s
N23A Red Feather La 44.82 324 eP P 12 20 08.6 +1.4
comp=Z,12nm,1.0s
N23A Red Feather La 44.82 324 P P 12 20 08.6 +1.4
baz=130,SNR=7.5
PV02 Paradox Valley 44.90 319 eP P 12 20 09.8 +1.9
comp=Z,9.0nm,0.7s
PV13 Radium Mtn., P 44.93 319 eP P 12 20 09.6 +1.6
comp=Z,13nm,0.7s
PV07 Paradox Valley 44.98 320 eP P 12 20 10.2 +1.9
comp=Z,18nm,1.3s
PV03 Paradox Valley 45.00 319 eP P 12 20 10.2 +1.7
comp=Z,5.4nm,0.7s
PV12 Saucer Basin, 45.01 319 eP P 12 20 10.2 +1.5
comp=Z,8.7nm,0.7s
PV11 David Mesa, Pa 45.04 319 eP P 12 20 10.6 +1.7
comp=Z,14nm,0.9s
PV16 Nyswonger Mesa 45.08 319 eP P 12 20 10.8 +1.7
comp=Z,9.6nm,1.0s
PV17 East Wray Mesa 45.09 319 eP P 12 20 11.1 +1.8
comp=Z,6.8nm,0.8s
PV04 Paradox Valley 45.12 320 eP P 12 20 11.1 +1.6
comp=Z,28nm,2.0s
PV19 Morning Glory 45.12 319 eP P 12 20 12.4 +2.9
comp=Z,9.7nm,1.2s
PV14 Lion Creek, Pa 45.18 319 eP P 12 20 11.4 +1.4
comp=Z,5.4nm,0.8s
PV23 Carpenter Ridg 45.22 320 eP P 12 20 12.1 +1.8
comp=Z,9.6nm,1.1s
WUAZ Wupatki 45.25 315 eP P 12 20 12.4 +1.9
comp=Z,20nm,0.9s
WUAZ Wupatki 45.25 315 P P 12 20 12.1 +1.6
baz=120,SNR=19
PV21 Cone Mtn., Par 45.26 320 eP P 12 20 12.2 +1.5
comp=Z,5.8nm,0.7s
AGMN Agassiz Nation 45.63 339 eP P 12 20 13.5 +0.4
comp=Z,13nm,0.6s
AGMN Agassiz Nation 45.63 339 P P 12 20 13.5 +0.4
baz=147,SNR=6.0
Y14A Wickenburg 45.68 312 eP P 12 20 15.1 +1.3
comp=Z,9.4nm,0.8s
O20A White River Ci 45.72 322 eP P 12 20 15.9 +1.8
comp=Z,8.3nm,1.0s
O20A White River Ci 45.72 322 P P 12 20 15.5 +1.3
baz=127
RSSD Black Hills 45.96 329 eP P 12 20 16.7 +0.7
comp=Z,6.8nm,1.1s
RSSD Black Hills 45.96 329 P P 12 20 17.0 +1.1
baz=135
K22A Casper 46.29 326 P P 12 20 19.5 +1.0
baz=131
U15A North Rim 46.35 315 eP P 12 20 20.9 +1.7
comp=Z,10nm,1.0s
SRU San Rafael Swe 46.57 319 eP P 12 20 22.2 +1.4
comp=Z,10nm,0.9s
GLA Glamis 46.67 310 P P 12 20 22.6 +1.1
baz=115
P18A Preston Nutter 46.68 320 eP P 12 20 23.4 +1.6
comp=Z,9.4nm,1.1s
MDND Maddock 46.70 336 eP P 12 20 22.4 +1.0
comp=Z,59nm,1.0s
MDND Maddock 46.70 336 P P 12 20 22.2 +0.7
baz=142
Y12C Blythe 46.73 311 P P 12 20 23.2 +1.2
baz=116
Q16A Castle Valley 46.88 319 eP P 12 20 24.6 +1.4

	comp=Z,21nm,1.9s					
P17A	**Butcher Ranch,** comp=Z,12nm,0.9s	46.91 320	*e*P	P	12 20 25.0	+1.6
KNB	**Kanab** comp=Z,14nm,0.9s	47.01 316	*e*P	P	12 20 26.3	+2.0
MTPU	**Mount Pierson** comp=Z,7.7nm,1.1s	47.09 317	*e*P	P	12 20 26.5	+1.4
TMUT	**Trail Mountain** comp=Z,7.8nm,1.1s	47.11 319	*e*P	P	12 20 26.6	+1.4
ULM	**Lac du Bonnet** comp=Z,16nm,0.5s,baz=144,slow=7.8,SNR=35	47.29 340	P	P	12 20 25.8	-0.2
LCMT	**Little Creek M** comp=Z,12nm,0.9s	47.30 315	*e*P	P	12 20 28.3	+1.8
MSU	**Marysvale**	47.33 318	*e*P	P	12 20 28.4	+1.6
SWSC	**Sam W. Stewart** baz=114	47.37 309	P	P	12 20 28.1	+1.3
IRM	**Iron Mountain** baz=115	47.37 311	P	P	12 20 28.5	+1.5
BC3	**Big Chuckawall** baz=115	47.40 310	P	P	12 20 28.1	+0.9
SZCU	**Shurtz Canyon** comp=Z,5.1nm,0.7s	47.48 316	*e*P	P	12 20 29.3	+1.3
TCRU	**Three Creeks R** comp=Z,17nm,0.9s	47.56 318	*e*P	P	12 20 30.5	+1.9
CCUT	**Cedar City** comp=Z,3.4nm,0.9s	47.65 316	*e*P	P	12 20 30.9	+1.6
MPU	**Maple Canyon** comp=Z,11nm,1.0s	47.78 320	*e*P	P	12 20 31.6	+1.4
MONP2	**Monument Peak** baz=113	47.83 309	P	P	12 20 31.2	+0.5
BELC	**Belle Mtn. Jos** baz=114	47.95 310	P	P	12 20 32.2	+0.7
JLU	**Jordanelle** comp=Z,5.4nm,1.0s	47.99 320	*e*P	P	12 20 33.2	+1.4
GMRC	**Granite Mounta** baz=115	48.03 311	P	P	12 20 33.0	+0.9
NLU	**North Lily Min** comp=Z,8.2nm,1.0s	48.03 319	*e*P	P	12 20 33.7	+1.6
BW06	**Boulder Array** comp=Z,11nm,1.2s	48.10 324	*e*P	P	12 20 33.2	+0.6
BW06	**Boulder Array** baz=128,SNR=12	48.10 324	P	P	12 20 33.1	+0.4
PDAR	**Pinedale Array** comp=Z,2.7nm,0.6s,baz=122,slow=8.4,SNR=34	48.10 324	P	P	12 20 33.1	+0.5
SCHQ	**Schefferville** comp=Z,8.2nm,0.6s,baz=187,slow=7.4,SNR=9.3	48.12 5	P	P	12 20 32.5	+0.1
PFO	**Pinyon Flats O** baz=114	48.14 310	P	P	12 20 33.9	+0.9
TCUT	**Toone Canyon** comp=Z,28nm,0.7s	48.25 321	*e*P	P	12 20 35.3	+1.5
SHPR	**Sheep Range** comp=Z,7.9nm,1.2s	48.42 314	*e*P	P	12 20 36.9	+1.7
PSUT	**Pine Spring** comp=Z,4.7nm,0.8s	48.48 317	*e*P	P	12 20 37.3	+1.8
TUQ	**Turquoise Moun** baz=116	48.50 312	P	P	12 20 36.8	+1.1
HEC	**Hector,Ludlow** baz=115	48.55 311	P	P	12 20 37.4	+1.4
DUG	**Dugway, Tooele** comp=Z,4.9nm,0.8s	48.64 319	*e*P	P	12 20 38.3	+1.6
DUG	**Dugway, Tooele** baz=122,SNR=7.3	48.64 319	P	P	12 20 37.9	+1.2
MURC	**Murrieta** baz=113	48.70 309	P	P	12 20 38.5	+1.3
BBRC	**Big Bear Solar** baz=114	48.76 310	P	P	12 20 38.9	+1.1
LAO	**LASA Array** comp=Z,17nm,1.4s	48.85 330	*e*P	P	12 20 38.7	+0.6
LAO	**LASA Array** baz=134	48.85 330	P	P	12 20 38.4	+0.3
SPUT	**South Promonto** comp=Z,3.7nm,0.9s	49.01 321	*e*P	P	12 20 40.6	+1.1
GSC	**Goldstone, Bar** comp=Z,5.9nm,0.8s	49.10 312	*e*P	P	12 20 41.5	+1.3
GSC	**Goldstone, Bar** baz=115,SNR=7.4	49.10 312	P	P	12 20 41.2	+1.0
DGMT	**Dagmar** comp=Z,51nm,0.6s	49.16 333	*e*P	P	12 20 41.4	+1.0
DGMT	**Dagmar** baz=137,SNR=12	49.16 333	P	P	12 20 41.6	+1.1
BGU	**Big Grassy Mou** comp=Z,12nm,0.7s	49.17 320	*e*P	P	12 20 41.7	+1.0
REDW	**Red Top Meadow** comp=Z,14nm,0.8s	49.22 324	*e*P	P	12 20 41.9	+0.7
SNOW	**Snow King Moun** comp=Z,12nm,1.0s	49.22 324	*e*P	P	12 20 42.4	+1.2
LOHW	**Long Hollow** comp=Z,6.9nm,0.7s	49.22 324	*e*P	P	12 20 41.9	+0.7
BFSC	**Mount Baldy Ra** baz=113	49.31 310	P	P	12 20 43.3	+1.4
TPAW	**Teton Pass** comp=Z,6.6nm,0.7s	49.35 324	*e*P	P	12 20 42.3	+0.1
MOOW	**Moose Ponds** comp=Z,5.5nm,0.8s	49.38 324	*e*P	P	12 20 43.1	+0.7
TPNV	**Topopah Spring** comp=Z,6.9nm,1.0s	49.40 314	*e*P	P	12 20 44.5	+1.9
TPNV	**Topopah Spring** baz=117,SNR=9.0	49.40 314	P	P	12 20 44.0	+1.5
RLMT	**Red Lodge** baz=130	49.40 327	P	P	12 20 43.2	+0.7
HVU	**Hansel Valley** comp=Z,4.3nm,0.8s	49.47 321	*e*P	P	12 20 44.2	+1.2
FXWY	**Fox Creek** comp=Z,21nm,1.9s	49.48 324	*e*P	P	12 20 43.7	+0.6
FLWY	**Flagg Ranch** comp=Z,12nm,1.5s	49.56 325	*e*P	P	12 20 44.9	+1.2
R11A	**Troy Canyon, C** comp=Z,4.3nm,0.9s	49.57 316	*e*P	P	12 20 45.0	+1.1
R11A	**Troy Canyon, C** baz=118,SNR=9.3	49.57 316	P	P	12 20 44.9	+1.0
IMW	**Indian Meadow** comp=Z,6.8nm,0.6s	49.59 324	*e*P	P	12 20 44.8	+0.8
FURC	**Furnace Creek,** baz=116	49.63 313	P	P	12 20 45.5	+1.4
H17A	**Grant Village** baz=128	49.68 325	P	P	12 20 46.1	+1.5
EDW2	**Edwards Air Fo** baz=114	49.81 311	P	P	12 20 46.5	+0.8
LRMC	**Laurel Mtn Rad** baz=114	49.82 311	P	P	12 20 46.7	+0.9
MPMC	**Manual Prospec** baz=115	49.92 312	P	P	12 20 47.5	+1.0
YMR	**Madison River** comp=Z,5.5nm,0.6s	50.07 325	*e*P	P	12 20 49.3	+1.8
YHH	**Holmes Hill** comp=Z,4.3nm,0.8s	50.07 325	*e*P	P	12 20 49.9	+2.2
GRAC	**Grapevine Rang** baz=116	50.23 313	P	P	12 20 50.0	+1.3
YHB	**Horse Butte** comp=Z,18nm,1.5s	50.25 325	*e*P	P	12 20 51.0	+2.1
SNCC	**San Nicolas Is** baz=111	50.38 308	P	P	12 20 51.3	+1.5
QLMT	**Earthquake Lak**	50.43 325	*e*P	P	12 20 52.5	+2.2
ISA	**Isabella, Lake** baz=114	50.49 311	P	P	12 20 51.8	+1.1
ELK	**Elko** comp=Z,2.5nm,0.8s	50.51 319	*e*P	P	12 20 51.9	+1.0
CWC	**Cottonwood Cre** baz=115	50.51 312	P	P	12 20 52.2	+1.3
ARVC	**Arvin** baz=113	50.54 310	P	P	12 20 52.3	+1.2
SCZ2	**Santa Cruz Isl** baz=111	50.73 309	P	P	12 20 53.3	+0.8
BOZ	**Bozeman (W)** comp=Z,5.7nm,0.8s	51.00 326	*e*P	P	12 20 55.5	+1.0
BOZ	**Bozeman (W)** baz=127,SNR=9.6	51.00 326	P	P	12 20 55.4	+0.9
VES	**Vestal, Richgr** baz=113	51.01 311	P	P	12 20 55.7	+1.2
MCMT	**McKenzie Canyo**	51.24 324	*e*P	P	12 20 57.9	+1.5
DLMT	**Dillon** comp=Z,6.1nm,1.0s	51.41 325	*e*P	P	12 20 59.0	+1.5
HLID	**Hailey** comp=Z,4.9nm,0.8s	51.46 322	*e*P	P	12 20 58.8	+0.8
HLID	**Hailey** baz=123,SNR=13	51.46 322	P	P	12 20 58.7	+0.8
SMMC	**Simmler** baz=112	51.50 310	P	P	12 20 59.0	+0.8
NVAR	**Mina Array Bea** comp=Z,3.0nm,0.8s,baz=123,slow=6.6,SNR=17	51.51 315	P	P	12 20 59.6	+1.1
NVAR	comp=Z,1.0nm,0.6s,baz=140,slow=4.3,SNR=4.9		PcP	PcP	12 22 10.4	-0.1
EGMT	**Eagleton** comp=Z,12nm,1.3s	51.53 329	*e*P	P	12 20 59.0	+0.8
EGMT	**Eagleton** baz=131	51.53 329	P	P	12 20 59.0	+0.8
KVN	**Kaiserville** comp=Z,4.5nm,0.9s	51.64 315	*e*P	P	12 21 00.5	+1.1
OMMB	**Old Mammoth Mi** comp=Z,8.8nm,1.4s	51.67 313	*e*P	P	12 21 01.2	+1.4
MDPB	**Devils Postpil** comp=Z,6.6nm,1.0s	51.73 313	*e*P	P	12 21 01.7	+1.5
RYN	**Ryan** comp=Z,2.7nm,0.8s	51.76 315	*e*P	P	12 21 01.4	+1.2
HRY	**Holter Researc**	51.79 327	*e*P	P	12 21 01.3	+1.0
YERR	**Yerington** comp=Z,8.8nm,1.0s	52.41 315	*e*P	P	12 21 06.6	+1.5
PNTR	**Pine Nut** comp=Z,6.1nm,0.8s	52.71 315	*e*P	P	12 21 08.9	+1.5
PAHR	**Pah Rah Range** comp=Z,3.4nm,0.8s	52.83 316	*e*P	P	12 21 09.2	+1.1
VCNR	**Virginia City** comp=Z,6.6nm,1.0s	52.84 315	*e*P	P	12 21 09.9	+1.7
MSO	**Missoula** baz=126	53.02 326	P	P	12 21 10.2	+0.9
FFC	**Flin Flon** comp=Z,14nm,1.4s	53.09 339	*e*P	P	12 21 09.7	+0.2
WVOR	**Wild Horse Val** comp=Z,10nm,1.0s	53.55 319	*e*P	P	12 21 14.1	+0.8
BEKR	**Beckworth** comp=Z,5.2nm,1.1s	53.57 315	*e*P	P	12 21 14.6	+1.1
J08A	**Circle Bar Ran** comp=Z,9.0nm,1.1s	53.89 320	*e*P	P	12 21 16.4	+0.7
FCC	**Fort Churchill** comp=Z,21nm,1.3s	54.27 347	*e*P	P	12 21 18.0	0.0
F10A	**Beach Ranch, E** comp=Z,6.9nm,0.6s	54.44 323	*e*P	P	12 21 19.9	+0.3
I07A	**Izee** comp=Z,6.0nm,0.8s	54.89 320	*e*P	P	12 21 24.1	+1.1
G08A	**Pilot Rock** comp=Z,13nm,0.8s	55.14 322	*e*P	P	12 21 25.6	+0.9
E09A	**Wood Farm, Sta** comp=Z,8.0nm,0.9s	55.27 323	*e*P	P	12 21 26.2	+0.7
M04C	**Macdoel** baz=115	55.40 317	P	P	12 21 27.3	+0.7
O02D	**Mt. Diablo Mer** baz=113	55.40 315	P	P	12 21 25.8	-0.8
NEW	**Newport** comp=Z,9.3nm,1.4s	55.62 326	*e*P	P	12 21 28.4	+0.4
NEW	**Newport** baz=123	55.62 326	P	P	12 21 28.0	0.0
J05D	**Fort Rock, OR** baz=116,SNR=9.8	55.64 319	P	P	12 21 29.2	+0.9
N02D	**Trinity Center** baz=114	55.66 316	P	P	12 21 28.3	-0.2
PINE	**Pine Mountain** comp=Z,18nm,0.9s	55.68 319	*e*P	P	12 21 30.0	+1.3
K04D	**Chiloquin, OR** baz=116	55.70 318	P	P	12 21 29.5	+0.8
L04D	**Klamath Falls** baz=115	55.90 317	P	P	12 21 30.3	+0.1
M02C	**Callahan** baz=114	55.93 316	P	P	12 21 30.4	0.0
YBH	**Yreka Blue Hor** comp=Z,2.9nm,0.6s	55.97 317	*e*P	P	12 21 29.9	-0.8
C09A	**Chrisman Ranch** comp=Z,11nm,0.8s	56.02 325	*e*P	P	12 21 31.9	+1.1
I05D	**Terrebonne, OR** baz=117	56.18 320	P	P	12 21 33.4	+1.3
J04D	**Umpqua Nationa** baz=116	56.20 318	P	P	12 21 33.3	+0.9
KHMM	**Hoe Mountain** comp=Z,14nm,1.0s	56.34 315	*e*P	P	12 21 35.0	+1.7
G05D	**Wamic, OR** baz=118	56.58 321	P	P	12 21 36.2	+1.3
I04A	**Tendick Farm,** baz=116	56.63 319	P	P	12 21 36.2	+0.9
B08A	**Colville Reser** comp=Z,8.2nm,0.9s	56.91 325	*e*P	P	12 21 37.6	+0.4
F05D	**White Salmon** baz=118	56.97 321	P	P	12 21 37.9	+0.4
K02D	**Willamette Mer** baz=114	57.01 317	P	P	12 21 38.7	+0.7
I03D	**Drain, OR** baz=115	57.21 318	P	P	12 21 40.0	+0.7
J01E	**Myrtle Point** baz=114	57.38 318	P	P	12 21 41.4	+1.0
I02D	**Swisshome** baz=114	57.71 319	P	P	12 21 43.9	+1.2
D04E	**Lakebay** baz=117	58.37 322	P	P	12 21 48.1	+0.9
LLLB	**Lillooet** comp=Z,16nm,1.1s	59.49 326	*e*P	P	12 21 55.5	+0.5
YKA	**Yellowknife Ar** comp=Z,11nm,0.6s,baz=131,slow=6.7,SNR=230	63.27 340	P	P	12 22 20.3	+0.2
DLBC	**Dease Lake** comp=Z,14nm,1.2s	67.34 331	*e*P	P	12 22 47.8	+1.3
SUMG	**Summit** comp=Z,11nm,0.7s	68.96 11	*e*P	P	12 22 57.3	+0.5
SUMG	**Summit** comp=Z,28nm,0.7s	68.96 11	*i* P	P	12 22 57.1	+0.3
INK	**Inuvik** comp=Z,4.5nm,0.7s	73.03 340	*e*P	P	12 23 21.3	+0.4
EPYK	**Eagle Plains** baz=112	73.39 338	P	P	12 23 23.7	+0.6
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.3s,baz=284,slow=5.8,SNR=4.0	73.68 78	P	P	12 23 24.3	-1.4
EGAK	**Eagle** comp=Z,15nm,1.4s	74.60 336	*e*P	P	12 23 31.6	+1.5
DOT	**Dot Lake** comp=Z,9.1nm,0.7s	75.52 334	*e*P	P	12 23 37.0	+1.6
SCRK	**Sand Creek** comp=Z,7.4nm,1.1s	75.57 335	*e*P	P	12 23 37.2	+1.5
DAG	**Danmarks Havn** comp=Z,3.6nm,0.7s	75.63 11	*i* P	P	12 23 35.4	-0.3
RIDG	**Independ'e Rid** comp=Z,12nm,1.0s	75.88 334	*e*P	P	12 23 38.6	+1.1
PRP	**Porcupine Dome** comp=Z,5.2nm,0.7s	76.57 336	*e*P	P	12 23 42.3	+0.8
HDA	**Harding Lake** baz=102	76.93 335	P	P	12 23 43.5	+0.2
ILAR	**Eielson Array** comp=Z,1.7nm,0.7s,baz=114,slow=4.9,SNR=22	76.97 335	P	P	12 23 43.3	-0.3
POKR	**Poker Plat Res** baz=101	77.27 335	P	P	12 23 45.9	+0.7
MDM	**Murphy Dome** comp=Z,6.6nm,1.0s	77.57 335	*e*P	P	12 23 47.7	+0.8
BPAW	**Bear Paw Mtn.** comp=Z,12nm,1.3s	78.61 334	*e*P	P	12 23 53.2	+0.6
COLD	**Coldfoot** comp=Z,2.9nm,0.8s	78.76 337	*e*P	P	12 23 55.1	+1.8
TOLK	**Toolik Lake Re** baz=100	78.76 339	P	P	12 23 54.1	+0.7
NOA	**NORSAR Array B** comp=Z,0.9nm,0.7s,baz=269,slow=5.3,SNR=3.4	81.29 29	P	P	12 24 07.9	+0.8
GERES	**GERESS Array B** comp=Z,0.3nm,0.4s,baz=309,slow=6.2,SNR=2.8	82.77 42	P	P	12 24 15.0	-0.2
ARCES	**ARCESS Array B** comp=Z,4.6nm,0.8s,baz=356,slow=5.2,SNR=5.1	86.64 20	P	P	12 24 32.1	-1.9
GAMB	**Gambell** comp=Z,3.7nm,0.8s	87.73 334	*e*P	P	12 24 40.6	+1.4
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=229,slow=1.6,SNR=4.1	116.64 14	PKP	PKPdf	12 30 32.9	-1.1
MKAR	**Makanchi Array** comp=Z,0.4nm,0.4s,baz=312,slow=2.5,SNR=3.1	122.29 20	PKP	PKPdf	12 30 44.4	-0.8
SONM	**Songino Array** comp=Z,0.3nm,0.5s,baz=356,slow=1.2,SNR=3.5	125.56 0	PKP	PKPdf	12 30 51.5	0.0
KSH	**Kashi**	125.71 29	*e*PKP	PKiKP	12 30 52.8	+0.3
KSH			PP	PP	12 32 52.4	+7.4
KSH	comp=Z,120nm,5.8s		AMB	AMB		
CD2	**Chengdu**	142.35 4	PKP	PKPdf	12 31 20.9	-2.3
ASAR	**Alice Springs** comp=Z,1.1nm,0.5s,baz=118,slow=3.3,SNR=22	149.17 234	PKPbc	PKPdf	12 31 35.5	+0.6
WRA	**Warramunga Arr** comp=Z,1.7nm,0.5s,baz=106,slow=2.8,SNR=33	150.40 241	PKPbc	PKPdf	12 31 39.3	+2.4
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.5s,baz=331,slow=3.2,SNR=5.7	153.66 17	PKPbc	PKPbc	12 31 48.3	-1.5

MEX 13 12:15:50.8±0.6, 17.11N×100.15W, h39km±6km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	0.13	242	*i* P	Pn	12 15 55.9	-2.9
CAIG				*i* S	Sn	12 16 00.8	-4.3
ACP2	**Acapulco**	0.34	134	*i* P	Pn	12 15 57.7	-1.8
ACP2				*i* S	Sn	12 16 03.7	-2.0
MEIG	**Mezcala**	0.95	32	*e*P	Pn	12 16 05.3	-2.5
MEIG				*i* S	Sn	12 16 17.4	-2.8
ZIIG	**Zihuatanejo**	1.35	292	*e*P	Pn	12 16 12.3	-0.9
ZIIG				*e*S	Sn	12 16 27.7	-2.2
PLIG	**Platanillo**	1.41	26	*e*P	Pn	12 16 12.6	-1.6
PLIG				*e*S	Sn	12 16 29.8	-1.8
TLIG	**Tlapa**	1.57	73	*e*P	Pn	12 16 15.0	-1.4
TLIG				*i* S	Sn	12 16 33.5	-2.0
PNIG	**Pinotepa**	2.06	110	*i* P	Pn	12 16 21.5	-1.5
PNIG				*i* S	Sn	12 16 44.9	-2.6

IDC 13 12:28:25.9±48.0, 17.66S×177.74W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/39, mbtmp4.2/3, MS4.5/1, Ms1 4.5/1, ms1mx3.3/28, Error ellipse: s-maj=889.4km s-min=163.9km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 2.9nm,0.8s,baz=49,slow=9.3,SNR=3.5	39.31	241	P	P	12 35 56.7	-0.2
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=95,slow=7.5,SNR=18	45.31	259	P	P	12 36 45.5	-0.5
WRA	comp=Z,496nm,19.3s,baz=40,slow=34			LR	LR	12 53 54.4	
ASAR	**Alice Springs** 5.7nm,0.6s,baz=88,slow=8.4,SNR=122	45.47	254	P	P	12 36 47.5	+0.2

IDC 13 12:33:05.0±3.0, 20.73S×177.95W, h480km±32km, mb3.6/16, mb1 3.8/17, mb1mx3.6/39, mbtmp4.4/17, Error ellipse: s-maj=18.5km s-min=15.0km az=172.0
NEIC 13 12:33:07.7±0.5, 20.63S×178.07W, h500km±6km, mb4.2/55, Error ellipse: s-maj=8.8km s-min=5.1km az=127.0
ISCJB 13 12:33:09.4±0.2, 20.72S±0.06×178.20W±0.07, h534km, mb4.1/68, Error ellipse: s-maj=9.5km s-min=5.3km az=39.7

ISC 13 12:33:10.3±0.4, 20.7S±0.1×178.12W±0.09, h534km, n143, σ1§11/140, mb4.2/68, 7C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	4.64	308	*e*P	P	12 34 32.9	-3.4
NIUE	**Niue**	7.87	80	*e*P	P	12 35 00.3	-5.9
NIUE				*e*S	S	12 36 38.1	-3.1
OUZ	**Omahuta** 8.2nm,0.8s	16.25	205	*e*P	P	12 36 31.0	-1.5
MXZ	**Matakaoa Point** 40nm,1.3s	17.14	190	*e*P	P	12 36 41.1	+0.2
URZ	**Urewera** 11nm,0.6s	18.03	192	*e*P	P	12 36 45.6	-3.5
URZ	**Urewera** 1.2nm,0.3s,baz=290,slow=2.4,SNR=12	18.03	192	P	P	12 36 44.1	-4.9
BKZ	**Black Stump Fm** 16nm,1.6s	19.03	193	*e*P	P	12 36 55.4	-2.8
BFZ	**Birch Farm** 75nm,1.7s	20.54	192	*e*P	P	12 37 10.7	-1.1
THZ	**Tophouse** 14nm,1.3s	22.38	198	*e*P	P	12 37 27.6	-0.9
LTZ	**Lake Taylor** 13nm,1.3s	23.50	198	*e*P	P	12 37 38.7	+0.2
OXZ	**Oxford** 8.9nm,0.5s	24.07	198	*e*P	P	12 37 42.4	-1.1
RPZ	**Rata Peaks** 5.3nm,0.7s	24.71	199	*e*P	P	12 37 49.9	+0.7
RPZ	**Rata Peaks** 2.0nm,0.5s,baz=60,slow=14,SNR=2.2	24.71	199	P	P	12 37 47.3	-1.9
FOZ	**Fox Glacier** 33nm,1.7s	24.95	201	*e*P	P	12 37 49.9	-1.3
DCZ	**Deep Cove** 47nm,1.7s	27.57	203	*e*P	P	12 38 14.1	-0.2
WHZ	**Wether Hill Ro** 20nm,1.3s	27.66	201	*e*P	P	12 38 15.4	+0.3
CTA	**Charters Tower** 3.0nm,0.4s,baz=91,slow=10,SNR=6.8	33.37	265	P	P	12 39 04.3	-0.3
CTAO	**Charters Tower** 21nm,1.4s	33.37	265	*e*P	P	12 39 04.9	+0.3
JAY	**Jayapura** 12nm,0.8s,baz=179,slow=3.2,SNR=4.1	43.98	289	P	P	12 40 29.9	-0.8
AS01	**Alice Springs**	44.34	257	*e*P	P	12 40 33.5	+0.2
AS31	**Alice Springs** 1.9nm,0.6s	44.38	257	*e*P	P	12 40 33.7	+0.1
ASAR	**Alice Springs** 5.0nm,0.5s,baz=91,slow=8.3,SNR=59	44.38	257	P	P	12 40 33.7	+0.1
ASAR	4.2nm,0.5s,baz=104,slow=3.9,SNR=24			PcP	PcP	12 42 06.9	+0.9
WB2	**Warramunga Arr**	44.46	262	*e*P	P	12 40 33.7	-0.6
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=96,slow=7.7,SNR=61	44.47	262	P	P	12 40 33.4	-0.9
WRA	2.8nm,0.9s,baz=97,slow=3.4,SNR=7.3			PcP	PcP	12 42 07.0	+0.7
FITZ	**Fitzroy Crossi** 0.9nm,0.3s,baz=100,slow=6.3,SNR=5.2	52.90	263	P	P	12 41 37.0	+0.2
SIJI	**Sorong** 3.1nm,0.4s,baz=93,slow=9.5,SNR=3.0	53.17	285	P	P	12 41 38.7	-0.2
MJAR	**Matsushiro Arr** 0.7nm,0.4s,baz=154,slow=5.5,SNR=2.9	70.26	324	P	P	12 43 29.7	-0.2
YBH	**Yreka Blue Hor** 4.3nm,0.7s	80.47	39	*e*P	P	12 44 28.1	+1.4
WAKR	**Walker** 7.7nm,1.7s	80.53	43	*e*P	P	12 44 28.0	+0.8
PNTR	**Pine Nut** 6.0nm,0.8s	80.76	42	*e*P	P	12 44 29.4	+0.9
YERR	**Yerington** 5.4nm,0.9s	80.93	43	*e*P	P	12 44 30.2	+1.0
RYN	**Ryan** 1.2nm,0.8s	81.18	43	*e*P	P	12 44 32.2	+1.7
NV01	**Mina Array Sit**	81.21	43	*e*P	P	12 44 31.7	+0.9
NVAR	**Mina Array Bea** 2.7nm,0.8s,baz=225,slow=8.8,SNR=18	81.21	43	P	P	12 44 30.8	0.0
NV11	**Mina Array Sit** 0.2nm,0.8s	81.30	43	*e*P	P	12 44 32.2	+1.0
KVN	**Kaiserville** 3.0nm,0.8s	81.69	43	*e*P	P	12 44 33.8	+0.6
TPNV	**Topopah Spring** 5.3nm,1.1s	81.72	46	*e*P	P	12 44 33.7	+0.4
COR	**Corvallis** 99nm,1.5s	81.93	36	*e*P	P	12 44 40.4	+6.4
MOD	**Modoc Plateau** 4.7nm,0.9s	82.00	40	*e*P	P	12 44 35.2	+0.6
W13A	**Hualapai Mount** 2.8nm,1.0s	82.35	48	*e*P	P	12 44 37.0	+0.4
PINE	**Pine Mountain** 7.4nm,0.8s	82.77	38	*e*P	P	12 44 39.1	+0.6
TUC	**Tucson** 3.0nm,0.8s	83.16	52	*e*P	P	12 44 41.2	+0.6
WVOR	**Wild Horse Val** 6.9nm,1.3s	83.31	40	*e*P	P	12 44 42.0	+0.8
X16A	**Lo Mia Camp, P** 3.7nm,1.1s	83.72	50	*e*P	P	12 44 43.8	+0.3
I07A	**Izee** 6.1nm,1.0s	83.77	38	*e*P	P	12 44 43.8	+0.4
LCMT	**Little Creek M** 3.7nm,1.0s	83.79	47	*e*P	P	12 44 44.8	+1.1
CCUT	**Cedar City** 1.6nm,0.9s	83.99	46	*e*P	P	12 44 45.8	+1.0
U15A	**North Rim** 4.7nm,0.8s	84.14	48	*e*P	P	12 44 46.8	+1.2
GAMB	**Gambell** 6.5nm,0.7s	84.29	3	*e*P	P	12 44 46.0	+0.7
G08A	**Pilot Rock** 6.9nm,1.1s	84.80	37	*e*P	P	12 44 49.0	+0.6
BMO	**Blue Mountains** 1.4nm,0.8s	85.50	39	*e*P	P	12 44 52.3	+0.5
GO07	**Milladeo Hill,** 222nm,0.9s	86.13	135	*e*P	P	12 44 58.1	+3.2
F10A	**Beach Ranch, E** 8.6nm,0.8s	86.19	38	*e*P	P	12 44 55.3	+0.2
TMUT	**Trail Mountain** 3.4nm,1.0s	86.34	46	*e*P	P	12 44 57.2	+1.0
TRF	**Thorofare Moun** 9.3nm,0.6s	86.62	12	*e*P	P	12 44 55.7	-1.1
RND	**Reindeer** 11nm,0.7s	86.87	13	*e*P	P	12 44 57.7	-0.1
MNTX	**Cornudas Mount** 3.7nm,1.0s	86.93	55	*e*P	P	12 44 59.0	+0.2
TX31	**Lajitas Ar. Si** 1.4nm,0.8s	87.23	57	*e*P	P	12 45 01.1	+0.7
TXAR	**Lajitas Array** 1.3nm,0.7s,baz=215,slow=6.2,SNR=11	87.23	57	P	P	12 45 00.9	+0.5
NEW	**Newport** 0.8nm,0.4s,baz=210,slow=8.1,SNR=2.5	87.56	36	P	P	12 45 01.1	-0.3
MENT	**Mentasta** 8.3nm,1.3s	87.61	15	*e*P	P	12 45 06.2	+4.9
WRH	**Wood River Hil** 8.1nm,0.7s	87.97	13	*e*P	P	12 45 02.2	-0.7
DOT	**Dot Lake** 4.7nm,1.0s	88.13	14	*e*P	P	12 45 04.0	+0.3
MCMT	**McKenzie Canyo**	88.14	40	*e*P	P	12 45 05.0	+0.5
HDA	**Harding Lake** 9.4nm,0.6s	88.15	13	*e*P	P	12 45 03.3	-0.4
CCB	**Clear Creek Bu** 12nm,0.5s	88.18	13	*e*P	P	12 45 03.2	-0.6

IM3	**Indian Mountai**	**88.32**	**10**	*e*P		**P**	**12 45 04.5**	**0.0**
MDM	**Murphy Dome** 8.6nm,0.9s	**88.37**	**12**	*e*P		**P**	**12 45 04.2**	**-0.6**
COLA	**College** 12nm,0.7s	**88.38**	**12**	*e*P		**P**	**12 45 04.2**	**-0.5**
IL1	**Eielson Array**	**88.48**	**13**	*e*P		**P**	**12 45 04.7**	**-0.5**
ILAR	**Eielson Array** 2.2nm,0.4s,baz=214,slow=5.4,SNR=45	**88.48**	**13**	P		**P**	**12 45 04.6**	**-0.7**
ILB	**Eielson Array** 3.3nm,0.6s	**88.48**	**13**	*e*P		**P**	**12 45 04.6**	**-0.7**
REDW	**Red Top Meadow** 3.6nm,1.0s	**88.62**	**42**	*e*P		**P**	**12 45 07.2**	**+0.5**
IMW	**Indian Meadow** 3.6nm,0.9s	**88.83**	**42**	*e*P		**P**	**12 45 08.0**	**+0.2**
LOHW	**Long Hollow** 10nm,1.6s	**88.90**	**42**	*e*P		**P**	**12 45 07.7**	**-0.3**
FLWY	**Flagg Ranch** 4.2nm,0.9s	**89.08**	**42**	*e*P		**P**	**12 45 09.9**	**+1.1**
PD31	**Pinedale Array** 2.4nm,0.8s	**89.14**	**43**	*e*P		**P**	**12 45 09.4**	**+0.2**
PDAR	**Pinedale Array** 1.6nm,0.6s,baz=209,slow=3.2,SNR=20	**89.14**	**43**	P		**P**	**12 45 09.4**	**+0.2**
BOZ	**Bozeman (W)** 3.2nm,0.8s	**89.27**	**40**	*e*P		**P**	**12 45 10.5**	**+0.9**
DAWY	**Dawson** 5.3nm,0.7s	**89.63**	**16**	*e*P		**P**	**12 45 10.6**	**-0.1**
EGAK	**Eagle**	**89.78**	**15**	*e*P		**P**	**12 45 11.5**	**+0.3**
CM01	**Chiang Mai Arr**	**90.03**	**290**	*e*P		**P**	**12 45 16.1**	**+2.6**
COLD	**Coldfoot** 1.4nm,1.0s	**90.04**	**11**	*e*P		**P**	**12 45 12.8**	**+0.3**
CMAR	**Chiang Mai Arr** 2.2nm,0.8s,baz=131,slow=2.8,SNR=14	**90.06**	**290**	P		**P**	**12 45 15.0**	**+1.3**
CMMT	**Chiang Mai** 5.0nm,0.8s	**90.19**	**290**	P		**P**	**12 45 17.0**	**+2.7**
CHTO	**Chiang Mai** 3.3nm,0.7s	**90.19**	**290**	*e*P		**P**	**12 45 15.9**	**+1.6**
CHTO	**Chiang Mai** 21nm,0.8s	**90.19**	**290**	P		**P**	**12 45 17.3**	**+3.0**
INK	**Inuvik** 1.0nm,0.8s,baz=221,slow=4.8,SNR=5.8	**94.44**	**15**	P		**P**	**12 45 31.1**	**-1.5**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=245,slow=4.6,SNR=4.3	**96.69**	**25**	P		**P**	**12 45 42.1**	**-0.7**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=146,slow=1.7,SNR=7.8	**110.54**	**321**	PKiKP		**PKiKP**	**12 50 41.3**	**-0.5**
MKAR	**Makanchi Array** 1.2nm,0.6s,baz=62,slow=0.7,SNR=16	**111.22**	**313**	PKiKP		**PKiKP**	**12 50 43.0**	**-0.3**
KURBB	**Kurchatov Arra** 1.4nm,0.6s,baz=91,slow=1.9,SNR=11	**114.08**	**317**	PKiKP		PKPdf	12 50 48.2	-0.4
NIL	**Nilore**	**116.29**	**298**	*e*PKPdf		**PKiKP**	**12 50 56.5**	**+3.0**
BVAR	**Borovoye Array** 3.9nm,0.4s,baz=150,slow=1.2,SNR=27	**119.12**	**320**	PKP		**PKPdf**	**12 50 58.2**	**-0.1**
BRVK	**Borovoye**	**119.18**	**320**	*e*PKPdf		**PKiKP**	**12 50 58.5**	**+0.1**
ABKAR	**Akbulak array**	**126.12**	**317**	*e*PKPdf		**PKPdf**	**12 51 11.9**	**+0.1**
AKTO	**Aktyubinsk** 2.6nm,0.7s,baz=84,slow=2.9,SNR=10	**127.10**	**318**	PKP		**PKiKP**	**12 51 14.3**	**0.0**
GEYT	**Alibeck** 1.6nm,0.4s,baz=116,slow=3.1,SNR=3.9	**128.77**	**303**	PKP		**PKPdf**	**12 51 16.7**	**-0.6**
ARCES	**ARCESS Array B** 1.2nm,0.5s,baz=346,slow=1.9,SNR=10.0	**129.04**	**350**	PKP		**PKiKP**	**12 51 17.2**	**-0.4**
FINES	**FINESS Array B** 0.7nm,0.3s,baz=17,slow=1.5,SNR=9.6	**135.88**	**344**	PKhKP		PKPpre	12 51 26.6	
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.6s,baz=27,slow=4.0	**139.11**	**353**	PKP		PKPpre	12 51 30.1	
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=26,slow=3.9,SNR=4.4	**139.11**	**353**	PKhKP		PKPpre	12 51 27.1	
HFS	**Hagfors** comp=Z,2.2nm,0.3s,baz=64,slow=3.4,SNR=15	**139.67**	**351**	PKhKP		PKPpre	12 51 29.1	
AKASG	**Malin Array Be** comp=Z,3.4nm,0.6s,baz=43,slow=4.3,SNR=66	**143.09**	**331**	PKP		PKPab	12 51 40.8	-0.1
AKBB	**Malin Array Si**	**143.09**	**331**	*e*PKPpre		PKPpre	12 51 40.4	
KIEV	**Kiev**	**143.10**	**331**	*e*PKPpre		PKPpre	12 51 40.5	
AK11	**Malin Array Si**	**143.13**	**331**	*e*PKPpre		PKPpre	12 51 41.0	
EKA	**Eskdalemuir Ar** comp=Z,2.0nm,0.4s,baz=327,slow=2.5,SNR=11	**145.16**	**5**	PKPbc		**PKPdf**	**12 51 46.2**	**-0.5**
KWP	**Kalwaria Pacla**	**146.67**	**335**	*e*PKPbc		**PKPbc**	**12 51 52.5**	**+0.4**
BR131	**Keskin Array S**	**146.86**	**312**	*e*PKPbc		**PKPbc**	**12 51 53.6**	**+0.5**
BRTR	**Keskin Array B** comp=Z,4.2nm,0.5s,baz=137,slow=4.8,SNR=23	**146.86**	**312**	PKPbc		**PKPbc**	**12 51 53.4**	**+0.3**
BUR08	**Bucovina Ar. S**	**147.12**	**330**	*e*PKPbc		**PKiKP**	**12 51 55.1**	**-0.2**
CLL	**Collm**	**148.18**	**347**	*e*PKPbc		**PKiKP**	**12 51 56.5**	**-0.6**
CLL	**Collm** comp=Z,21nm,0.8s	**148.18**	**347**	*i* PKPbc		**PKiKP**	**12 51 56.6**	**-0.6**
CLL	comp=Z,200nm,18.4s			Lm		MLR	13 56 00.0	
CLL	comp=Z,100nm,20.3s			Lm		MLR	15 32 00.0	
DPC	**Dobruska-Polom**	**148.23**	**342**	*e*PKP		**PKiKP**	**12 51 57.3**	**-0.1**
DPC				*e*PKPab		**PKPab**	**12 52 02.4**	**+1.2**
MLR	**Muntele Rosu**	**148.29**	**327**	*e*PKPbc		**PKiKP**	**12 51 57.1**	**-0.6**
KRLC	**Kraliky**	**148.34**	**342**	*e*PKP		**PKiKP**	**12 51 57.2**	**-0.4**
BRG	**Berggiesshubel** comp=Z,10nm,0.6s	**148.38**	**345**	*i* PKP		**PKPbc**	**12 51 56.8**	**+0.4**
BRG	comp=Z,5.4nm,0.7s			*i*			12 52 02.6	
MORC	**Moravsky Berou**	**148.38**	**341**	*e*PKP		**PKiKP**	**12 51 57.5**	**-0.2**
PVCC	**Panska Ves**	**148.54**	**344**	*e*PKP		**PKiKP**	**12 51 57.9**	**0.0**
PRU	**Pruhonice**	**149.04**	**344**	*e*PKP		**PKiKP**	**12 51 58.8**	**-0.2**
PRU				*ex*		x	12 52 05.4	
GOPC	**GO Pecny, Ondr**	**149.05**	**344**	*e*PKP		**PKiKP**	**12 51 58.7**	**-0.4**
VRAC	**Vranov**	**149.08**	**341**	*e*PKP		**PKiKP**	**12 51 59.2**	**+0.1**
VRAC	**Vranov** comp=Z,2.2nm,0.3s,baz=333,slow=4.5,SNR=3.2	**149.08**	**341**	PKPbc		**PKPbc**	**12 51 58.4**	**+0.2**
JAVC	**Velka Javorina**	**149.14**	**339**	*e*PKP		**PKiKP**	**12 52 00.5**	**+1.2**
NKC	**Novy Kostel**	**149.31**	**347**	*e*PKP		**PKiKP**	**12 51 59.8**	**+0.2**
KRUC	**Moravsky**	**149.36**	**341**	*e*PKP		**PKiKP**	**12 51 59.7**	**0.0**
KHC	**Kasperske Hory**	**150.08**	**345**	*e*PKPbc		**PKiKP**	**12 52 01.8**	**+0.6**
KHC				*e*PKPab		**PKPab**	**12 52 09.6**	**+0.8**
KHC	**Kasperske Hory**	**150.08**	**345**	*e*PKP		**PKiKP**	**12 52 01.6**	**+0.4**
KHC				*e*PKPab		**PKPab**	**12 52 09.5**	**+0.7**
GEC2	**GERESS Array S**	**150.31**	**344**	*e*PKPbc		**PKiKP**	**12 52 01.6**	**-0.1**
GERES	**GERESS Array B** comp=Z,2.9nm,0.6s,baz=45,slow=2.1,SNR=20	**150.31**	**344**	PKPbc		**PKiKP**	**12 52 01.7**	**-0.1**
GERES	comp=Z,0.8nm,0.5s,baz=23,slow=5.9,SNR=4.2			PKPab		**PKPab**	**12 52 10.4**	**+0.5**
GEA0	**GERESS Array S**	**150.32**	**344**	*e*PKPbc		**PKiKP**	**12 52 01.8**	**0.0**
CONA	**Conrad Observa** comp=Z,6.3nm,0.6s	**150.53**	**341**	*e*PKiKP		**PKiKP**	**12 52 02.9**	**+0.6**
MOA	**Molln** comp=Z,2.5nm,0.5s	**151.07**	**343**	*e*PKPbc		**PKiKP**	**12 52 03.6**	**+0.3**
SOKA	**Soboth** comp=Z,1.4nm,0.4s	**151.90**	**341**	*e*PKPbc		**PKiKP**	**12 52 05.1**	**0.0**
KBA	**Koelnbreinsper** comp=Z,5.3nm,0.9s	**152.03**	**343**	*e*PKiKP		**PKiKP**	**12 52 05.9**	**+0.4**
OBKA	**Obir** comp=Z,10nm,1.4s	**152.20**	**341**	*e*PKPbc		**PKiKP**	**12 52 06.1**	**+0.3**
WTTA	**Wattenberg** comp=Z,5.6nm,0.6s	**152.29**	**346**	*e*PKiKP		**PKiKP**	**12 52 06.5**	**+0.4**
MYKA	**Terra Mystica** comp=Z,3.5nm,0.6s	**152.36**	**342**	*i* PKPbc		**PKPbc**	**12 52 05.7**	**-0.2**
ABTA	**Abfaltersbach** comp=Z,5.9nm,0.6s	**152.56**	**344**	*e*PKPbc		**PKiKP**	**12 52 06.4**	**-0.1**
DAVOX	**Davos/Dischmat** comp=Z,3.5nm,0.6s,baz=256,slow=2.4,SNR=5.5	**153.13**	**348**	PKPbc		**PKiKP**	**12 52 08.5**	**+0.7**
TOA0	**Torodi Ar. Sit**	**172.54**	**179**	*e*PKPdf		**PKPdf**	**12 52 18.0**	**-0.8**
TOA0				*e*PKPab		**PKPab**	**12 53 46.5**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,0.8s,baz=338,slow=0.7,SNR=5.8	**172.54**	**179**	PKP		**PKPdf**	**12 52 17.9**	**-0.9**
TORD	comp=Z,0.3nm,0.5s,baz=145,slow=5.3,SNR=2.6			PKPab		**PKPab**	**12 53 46.4**	**-1.1**

IDC 13 12:34:23.8±3.6, 6.98S×148.81E, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.5/45, mbtmp3.8/3, ML3.4/1, Error ellipse: s-maj=100.2km s-min=48.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=52,slow=11,SNR=5.2	**19.06**	**226**	P	P	P	12 38 48.2	+0.3
ASAR	**Alice Springs** 2.1nm,0.6s,baz=54,slow=9.1,SNR=20	**21.92**	**219**	P	P	P	12 39 19.4	+0.4
FITZ	**Fitzroy Crossi** 4.0nm,0.7s,baz=83,slow=8.1,SNR=8.8	**25.14**	**242**	P	P	P	12 39 50.4	-0.5
TORD	**Torodi Ar. Bea** 0.2nm,0.5s,baz=66,slow=2.7,SNR=2.1	**147.07**	**283**	PKPbc	PKPbc	PKPbc	12 54 09.1	-0.8

IDC 13 12:40:56.2±0.7, 6.86S×148.60E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/48, mbtmp4.2/15, ML4.1/2, MS4.0/11, Ms1 4.0/11, ms1mx3.8/26, Error ellipse: s-maj=19.6km s-min=10.9km az=123.0
NEIC 13 12:40:58.1±0.4, 6.75S×148.60E, h10km, mb4.7/17, Error ellipse: s-maj=9.5km s-min=7.5km az=100.0
ISCJB 13 12:41:02.4±0.4, 6.94S±0.05×148.47E±0.05, h47km, mb4.5/26, MS4.1/12, Error ellipse: s-maj=7.8km s-min=6.7km az=15.3
BJI 13 12:41:03.3, 6.64S×148.97E, h55km, mb4.6/15, mB4.9/6, Ms4.7/4, Ms7 4.4/4

ISC 13 12:41:04.1±0.4, 6.94S±0.07×148.55E±0.07, h47km, n58, σ1§44/55, mb4.7/26, MS4.1/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.52**	**53**	*e*Pn		**Pn**	**12 42 12.2**	**+2.1**
COEN	**Coen**	**8.74**	**217**	*e*Pn		**Pn**	**12 43 08.8**	**+0.7**
HNR	**Honiara**	**11.55**	**103**	*e*Pn		**Pn**	**12 43 48.8**	**+2.3**
HNR	**Honiara** comp=Z,1μm,18.3s,baz=297,slow=33	**11.55**	**103**	LR	LR	LR	12 47 14.5	
CTA	**Charters Tower** baz=348,slow=9.3,SNR=2.0	**13.25**	**189**	Pn		**Pn**	**12 44 08.3**	**-1.4**
CTAO	**Charters Tower**	**13.25**	**189**	*e*Pn		**Pn**	**12 44 11.4**	**+1.6**
FAKI	**Fak Fak** 24nm,0.9s	**16.72**	**283**	*e*Pn		**P**	**12 44 57.5**	**+0.5**
MTN	**Manton Dam** 56nm,1.4s	**18.12**	**250**	*e*P		**Pn**	**12 45 12.8**	**+0.2**
SIJI	**Sorong** 0.5nm,0.3s,baz=122,slow=8.4,SNR=2.7	**18.26**	**289**	P		**P**	**12 45 11.9**	**-2.1**
EIDS	**Eidsvold** 38nm,1.4s	**18.48**	**173**	*e*P		**Pn**	**12 45 16.7**	**-0.1**
WRAB	**Tennant Creek** 17nm,1.0s	**18.88**	**225**	*e*P		**P**	**12 45 20.5**	**-0.3**
WB2	**Warramunga Arr**	**18.89**	**225**	*e*P		**P**	**12 45 20.5**	**-0.3**
WRA	**Warramunga Arr** 0.8nm,0.3s,baz=51,slow=11,SNR=25	**18.89**	**225**	P		**P**	**12 45 20.8**	**-0.1**
WRA	baz=48,slow=21,SNR=4.6			S		**S**	**12 48 54.5**	**+1.2**
GUMO	**Guam** 206nm,1.1s	**20.72**	**350**	*e*P		**P**	**12 45 40.7**	**-0.1**
GUMO	**Guam** comp=Z,244nm,19.3s,baz=160,slow=37	**20.72**	**350**	LR	LR	LR	12 53 42.7	
AS01	**Alice Springs**	**21.75**	**219**	*e*P		**P**	**12 45 51.9**	**+0.1**
AS31	**Alice Springs** 6.0nm,0.6s	**21.78**	**219**	*e*P		**P**	**12 45 52.2**	**+0.1**
ASAR	**Alice Springs** 10nm,0.6s,baz=51,slow=9.7,SNR=134	**21.78**	**219**	P		**P**	**12 45 52.1**	**0.0**
ASAR	1.7nm,0.8s,baz=35,slow=22,SNR=5.7			S		**S**	**12 49 54.4**	**+3.8**
DZM	**Mont Dzumac** 21nm,1.1s	**22.90**	**133**	*e*P		**P**	**12 46 03.0**	**-1.2**
DZM	**Mont Dzumac** 7.4nm,0.8s,baz=307,slow=20,SNR=3.2	**22.90**	**133**	P		**P**	**12 46 02.5**	**-1.7**
ARMA	**Armidale** 30nm,1.3s	**23.53**	**173**	*e*P		**P**	**12 46 10.2**	**0.0**
SOEI	**Soe**	**24.18**	**262**	*e*P		**P**	**12 46 14.3**	**-2.2**
SOEI				*ep*P		**pP**	**12 46 28.2**	**+0.3**
BATI	**Baumata** 18nm,0.6s,baz=180,slow=17,SNR=2.5	**24.81**	**261**	P		**P**	**12 46 20.1**	**-2.1**
FITZ	**Fitzroy Crossi** 52nm,1.0s	**24.92**	**241**	*e*P		**P**	**12 46 23.3**	**+0.2**
FITZ	**Fitzroy Crossi** 24nm,0.6s,baz=90,slow=8.0,SNR=30	**24.92**	**241**	P		**P**	**12 46 21.5**	**-1.6**
STKA	**Stephens Creek** 4.4nm,1.0s	**25.64**	**194**	*e*P		**P**	**12 46 29.7**	**+0.2**
STKA	**Stephens Creek** 8.6nm,0.8s,baz=3.7,slow=9.0,SNR=7.4	**25.64**	**194**	P		**P**	**12 46 28.8**	**-0.6**
STKA	comp=Z,775nm,18.2s,baz=9.2,slow=39			LR	LR	LR	12 57 37.9	
MMRI	**Maumere** 54nm,0.7s	**26.12**	**265**	*e*P		**P**	**12 46 36.8**	**+2.9**
LHI	**Lord Howe Isla** 155nm,1.3s	**26.35**	**159**	*e*P		**P**	**12 46 35.4**	**-0.5**
MBWA	**Marble Bar** 27nm,1.3s	**31.24**	**240**	*e*P		**P**	**12 47 18.8**	**-0.8**
TGY	**Tagaytay City** comp=Z,184nm,18.3s,baz=164,slow=39	**34.47**	**307**	LR	LR	LR	13 03 09.4	
CISI	**Cisompet, Garu** 54nm,1.0s	**40.40**	**267**	*e*P		**P**	**12 48 37.0**	**-1.2**
NJ2	**Nanjing**	**48.02**	**326**	*e*P		**P**	**12 49 40.0**	**+1.3**
NJ2	comp=Z,12nm,0.5s			pmax	pmax			
RAR	**Rarotonga** comp=Z,74nm,20.2s,baz=260,slow=31	**51.86**	**111**	LR	LR	LR	13 08 06.6	
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=120,slow=5.6,SNR=3.0	**55.05**	**298**	P		**P**	**12 50 32.0**	**+0.4**
CMAR	comp=Z,73nm,18.7s,baz=147,slow=38			LR	LR	LR	13 16 08.8	
CD2	**Chengdu**	**57.03**	**314**	P		**P**	**12 50 45.5**	**-0.1**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**58.44**	**328**	*e*P		**P**	**12 50 56.6**	**+1.2**
HHC	comp=Z,8.0nm,1.0s			pmax	pmax			
LZH	**Lanzhou**	**59.92**	**319**	*e*P		**P**	**12 51 06.8**	**+1.0**
LZH				pP	pwP		12 51 21.3	-0.9
LZH				sP	sP		12 51 27.3	+4.2
LZH				*e*PP		**PP**	**12 53 21.8**	**+3.3**
LZH	comp=Z,21nm,1.3s			pmax	pmax			
LZH	comp=Z,73nm,8.2s			pmax	pmax			
LZH	comp=N,210nm,15.6s			LR	LR			
LZH	comp=E,220nm,15.4s			LR	LR			
LZH	comp=Z,370nm,18.3s			LR	LR			
PPT	**Papeete** comp=Z,105nm,20.8s,baz=306,slow=31	**61.16**	**106**	LR	LR	LR	13 12 14.7	
SONM	**Songino Array** 0.6nm,1.0s,baz=167,slow=7.3,SNR=3.6	**65.97**	**330**	P		**P**	**12 51 44.8**	**-0.9**
VNDA	**Vanda** comp=Z,222nm,19.0s,baz=173,slow=33	**70.89**	**177**	LR	LR	LR	13 19 44.9	
WMQ	**Urumqi**	**74.50**	**319**	*e*P		**P**	**12 52 39.3**	**+1.4**
WMQ				pP	sP		12 52 54.8	-0.8
WMQ				sP	pwP		12 53 00.6	+6.1
WMQ	comp=Z,19nm,0.7s			pmax	pmax			
WMQ	comp=N,200nm,19.7s			LR	LR			
WMQ	comp=E,170nm,22.7s			LR	LR			
WMQ	comp=Z,170nm,22.7s			LR	LR			
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=104,slow=7.4,SNR=6.4	**79.20**	**320**	P		**P**	**12 53 03.0**	**-1.2**
ZALV	**Zalesovo Beam** 0.6nm,0.6s,baz=104,slow=6.3,SNR=4.2	**80.62**	**328**	P		**P**	**12 53 10.6**	**-1.2**
ZALV	comp=Z,190nm,20.6s,baz=70,slow=36			LR	LR	LR	13 28 38.2	
KSH	**Kashi**	**81.15**	**312**	*e*P		**P**	**12 53 14.8**	**-0.3**
QSPA	**South Pole Qui** 12nm,1.4s	**83.03**	**180**	*e*P		**P**	**12 53 24.1**	**-0.3**
ILAR	**Eielson Array** 0.5nm,1.0s,baz=243,slow=4.0,SNR=2.9	**85.74**	**23**	P		**P**	**12 53 35.4**	**-2.6**
KK31	**Karatay Array** 6.5nm,1.2s	**86.04**	**314**	*e*P		**P**	**12 53 39.5**	**-0.4**
KKAR	**Karatay Array** 6.5nm,1.2s	**86.04**	**314**	*e*P		**P**	**12 53 39.3**	**-0.6**
BVAR	**Borovoye Array** 0.7nm,0.8s,baz=166,slow=6.9,SNR=4.2	**88.43**	**324**	P		**P**	**12 53 48.5**	**-2.7**
NVAR	**Mina Array Bea** 0.6nm,0.8s,baz=244,slow=6.5,SNR=4.0	**96.73**	**52**	P		**P**	**12 54 30.0**	**-0.2**
NVAR	comp=Z,183nm,18.4s,baz=251,slow=34			LR	LR	LR	13 35 15.1	
YKA	**Yellowknife Ar** comp=Z,9.0nm,18.1s,baz=272,slow=36	**99.28**	**28**	LR	LR	LR	13 40 18.1	
PDAR	**Pinedale Array** 0.7nm,1.0s,baz=270,slow=4.1,SNR=3.8	**103.41**	**48**	Pdiff		**Pdif**	**12 54 58.3**	**-1.7**
GERES	**GERESS Array B** 0.7nm,0.6s,baz=309,slow=4.3,SNR=3.4	**123.55**	**326**	PKP		**PKiKP**	**12 59 56.8**	**-0.1**
LPAZ	**La Paz** 1.2nm,0.8s,baz=160,slow=3.5,SNR=3.9	**136.99**	**123**	PKP		**PKiKP**	**13 00 24.4**	**-1.1**
TORD	**Torodi Ar. Bea** 2.6nm,0.7s,baz=49,slow=4.5,SNR=16	**146.81**	**283**	PKPbc		**PKPdf**	**13 00 40.3**	**0.0**
PTGA	**Pitinga**	**150.55**	**104**	*e*PKPab		**PKPab**	**13 00 59.0**	**+0.3**
BDFB	**Brasilia** 2.0nm,0.4s,baz=102,slow=9.3,SNR=3.1	**152.20**	**144**	PKPbc		**PKPbc**	**13 00 53.5**	**-2.3**

DJA 13 12:42:34.0±1.0, 5°N±5°×9°6E±°, h10km, M3.7/5, MLv3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.75**	**142**	P	P	Pg	12 42 47.6	-0.9
MLSI				S	Sg		12 42 57.3	-1.0
LHMI	**Lhok Sumawe**	**1.07**	**70**	P	Pg		12 42 52.8	-1.8
TPTI		**2.01**	**142**	P	Pn		12 43 07.6	-0.5
TPTI				S	Sb		12 43 34.8	-1.1
KCSI	**Kotacane, Aceh**	**2.26**	**126**	P	Pb		12 43 13.6	-1.3
KCSI				S	Sb		12 43 42.3	-0.7
SNSI	**Sinabang, Aceh**	**2.46**	**171**	P	Pn		12 43 14.5	+0.2

ISCJB 13 12:46:36.9±0.3, 55.40N±0.03×135.01W±0.06, h10km, Error ellipse: s-maj=5.7km s-min=2.4km az=148.1
NEIC 13 12:46:38.9±0.0, 55.44N×134.96W, h15km, ML3.5(OTT), ML3.5(AEIC), After AEIC.
PGC 13 12:46:40.8±3.6, 55.40N×134.73W, h20km, ML3.5/11, ML3.5/11, 187km Sse of Sitka, Ak Southeastern Alaska

ISC 13 12:46:38.7±0.9, 55.44N±0.03×134.86W±0.05, h10km, n57, σ1§66/86, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**0.99**	**87**	P	P	**Pn**	**12 46 58.2**	**-0.4**
CRAG				S	S	**Sn**	**12 47 12.1**	**-0.5**
SIT	**Sitka**	**1.64**	**351**	P	P	**Pn**	**12 47 06.6**	**-1.0**
WRAK	**Wrangell Islan**	**1.72**	**54**	P	P	**Pn**	**12 47 09.2**	**+0.5**
WRAK				S	S	**Sb**	**12 47 31.4**	**-0.7**
NDB	**Naden**	**1.86**	**142**	Pn	Pn	**Pn**	**12 47 10.3**	**-0.3**
NDB				Sn	Sn	**Sn**	**12 47 33.9**	**-0.2**
MASB	**Masset**	**2.18**	**130**	P	P	**Pn**	**12 47 15.8**	**+0.9**
MASB	**Masset**	**2.18**	**130**	Pn	Pn	**Pb**	**12 47 17.9**	**-0.2**
MASB				Sn	Sg	**Sg**	**12 47 46.7**	**-1.9**
DIB	**Dawson Inlet,**	**2.64**	**147**	Pn	Pn	**Pn**	**12 47 20.5**	**-0.8**
DIB				Sn	Sn	**Sn**	**12 47 51.9**	**-1.4**
DIB				Sg	Sb	**Sb**	**12 47 59.8**	**+1.3**
MOBC	**Moresby Island**	**2.85**	**142**	Pn	Pn	**Pn**	**12 47 23.9**	**-0.4**
MOBC				Sn	Sn	**Sn**	**12 47 56.7**	**-2.0**
MOBC				Sg	Sb	**Sb**	**12 48 06.4**	**+1.7**
JIS	**Juneau Island**	**2.86**	**5**	P	Pn	**Pn**	**12 47 24.7**	**+0.5**
JIS				S	Sn	**Sn**	**12 48 00.9**	**+2.2**
RUBB	**Prince Rupert**	**2.89**	**111**	Pn	Pn	**Pn**	**12 47 24.8**	**+0.1**
RUBB				Sg	Sg	**Sg**	**12 48 09.0**	**-2.3**
HG1B	**Mitchell Dam**	**2.98**	**146**	Pn	Pn	**Pn**	**12 47 25.9**	**0.0**
HG1B				Sn	Sn	**Sn**	**12 48 01.8**	**+0.2**
HG1B				Sg	Sb	**Sb**	**12 48 10.8**	**+2.6**
BESE	**Bessie Mountai**	**3.15**	**0**	P	P	**Pn**	**12 47 28.6**	**+0.2**
BESE	**Bessie Mountai**	**3.15**	**0**	Pn	Pn	**Pn**	**12 47 28.4**	**0.0**
BESE				Sn	Sn	**Sn**	**12 48 05.2**	**-0.9**
BESE				Sg	Sb	**Sb**	**12 48 15.5**	**+2.3**
BNB	**Barry Inlet**	**3.40**	**146**	P	Pn	**Pn**	**12 47 32.0**	**+0.1**
BNB	**Barry Inlet**	**3.40**	**146**	Pn	Pn	**Pn**	**12 47 30.9**	**-0.9**
BNB				Sg	Sb	**Sb**	**12 48 22.3**	**+1.8**
HG3B	**Hotspring**	**3.50**	**143**	Pn	Pn	**Pn**	**12 47 32.5**	**-0.7**
HG3B				Sg	Sb	**Sb**	**12 48 24.1**	**+0.8**
HG4B	**Hotspring**	**3.83**	**144**	Pn	Pn	**Pn**	**12 47 37.1**	**-0.5**
HG4B				Sn	Sn	**Sn**	**12 48 22.8**	**+0.2**
HG4B				Sg	Sb	**Sb**	**12 48 34.3**	**+1.7**
DLBC	**Dease Lake**	**4.01**	**39**	P	Pn	**Pn**	**12 47 41.6**	**+1.5**
DLBC	**Dease Lake**	**4.01**	**39**	Pn	Pn	**Pn**	**12 47 41.5**	**+1.3**
DLBC				Sn	Sn	**Sn**	**12 48 27.2**	**0.0**
DLBC				Sg	Sg	**Sg**	**12 48 44.9**	**-2.4**
SKAG	**Skagway**	**4.04**	**357**	P	Pn	**Pn**	**12 47 41.4**	**+0.8**
PNL	**Peninsula**	**4.89**	**332**	P	Pn	**Pn**	**12 47 52.4**	**+0.1**
PNL	**Peninsula**	**4.89**	**332**	Pn	Pn	**Pn**	**12 47 52.2**	**-0.1**
BBB	**Bella Bella**	**5.16**	**126**	Pn	Pn	**Pn**	**12 47 56.4**	**+0.6**
BBB				Sn	Sn	**Sn**	**12 48 55.9**	**+0.5**
BBB				Sg	Sg	**Sg**	**12 49 19.6**	**-4.6**
WHY	**Whitehorse**	**5.24**	**360**	P	Pn	**Pn**	**12 47 58.1**	**+1.0**
WHY	**Whitehorse**	**5.24**	**360**	Pn	Pn	**Pn**	**12 47 57.8**	**+0.7**
WHY				Sn	Sn	**Sn**	**12 48 56.3**	**-1.2**
WHY				Sg	Sg	**Sg**	**12 49 20.4**	**-6.3**
YUK7	**Dusty Glacier**	**5.40**	**343**	Pn	Pn	**Pn**	**12 48 00.1**	**+0.7**
PCA	**Pinnacle**	**5.49**	**331**	P	Pn	**Pn**	**12 48 00.4**	**-0.1**
PCA	**Pinnacle**	**5.49**	**331**	Pn	Pn	**Pn**	**12 48 00.1**	**-0.5**
HYT	**Haines Junctio**	**5.58**	**347**	Pn	Pn	**Pn**	**12 48 03.2**	**+1.4**
HYT				Sg	Sg	**Sg**	**12 49 35.4**	**-2.3**
SAMH	**Samovar Hills**	**5.67**	**328**	P	Pn	**Pn**	**12 48 04.4**	**+1.4**
SAMH	**Samovar Hills**	**5.67**	**328**	Pn	Pn	**Pn**	**12 48 04.4**	**+1.4**
YUK6	**Outpost Mounta**	**5.82**	**343**	Pn	Pn	**Pn**	**12 48 05.8**	**+0.6**
YUK6				Sg	Sg	**Sg**	**12 49 47.6**	**+2.1**
YUK5	**Granite Creek**	**5.92**	**346**	Pn	Pn	**Pn**	**12 48 08.1**	**+1.6**
YUK5				Sg	Sg	**Sg**	**12 49

0.2nm,0.8s,baz=258,slow=7.3,SNR=2.1
WRA **Warramunga Arr 55.93 186** P **P** **12 59 36.7 -0.2**
0.2nm,0.3s,baz=1.1,slow=7.5,SNR=7.4

IDC 13 13:06:16.5±2.6, 31°23'S×177°36'W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.7/29, mbtmp3.8/3, ML2.9/1, Error ellipse: s-maj=66.6km s-min=35.6km az=120.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.36**	**211**	Pn	Pn	13 08 19.0	0.0
	0.2nm,0.3s,baz=336,slow=20,SNR=5.3						
URZ				Sn	Sn	13 09 55.8	+1.7
	0.3nm,0.3s,baz=75,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**43.62**	**268**	P	P	13 14 22.9	0.0
	0.5nm,0.6s,baz=106,slow=7.0,SNR=9.5						
ASAR				PcP	PcP	13 16 08.9	-1.5
	0.2nm,0.5s,baz=123,slow=4.2,SNR=4.3						
WRA	**Warramunga Arr**	**44.69**	**273**	P	P	13 14 31.4	-0.1
	0.8nm,0.5s,baz=112,slow=7.8,SNR=20						
FINES	**FINESS Array B**	**146.11**	**340**	PKPbc	PKPbc	13 25 57.6	-0.2
	1.2nm,0.4s,baz=51,slow=4.3,SNR=11						

*IDC **13** 13:12:43.7±1.4, 6°66'S×148°59'E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/30, mbtmp4.0/6, ML3.9/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/32, Error ellipse: s-maj=57.4km s-min=22.5km az=117.0*
*NEIC **13** 13:12:45.8±0.5, 6°62'S×148°47'E, h10km, mb4.3/5, Error ellipse: s-maj=18.8km s-min=8.4km az=127.0*
*ISCJB **13** 13:12:48.4±0.7, 6°7'S±0°.1×148°5'E±0°.1, h46km, mb4.2/7, MS3.3/3, Error ellipse: s-maj=20.2km s-min=9.4km az=38.2*
ISC 13 13:12:50.2±0.8, 6°7'S±0°.1×148°5'E±0°.2, h46km, n25, σ0s55/22, mb4.0/7, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.39**	**56**	*e*Pn	**Pn**	**13 13 54.7**	**+0.3**
COEN	**Coen**	**8.94**	**216**	*e*Pn	**Pn**	**13 14 57.6**	**+0.8**
SIJI	**Sorong**	**18.17**	**288**	LR	LR	13 24 25.4	
	comp=Z,125nm,18.5s,baz=23,slow=38						
MTN	**Manton Dam**	**18.20**	**249**	*e*P	**Pn**	**13 16 59.3**	**-0.3**
	104nm,1.7s						
WRAB	**Tennant Creek**	**19.05**	**225**	*e*P	**P**	**13 17 08.8**	**+0.1**
WB2	**Warramunga Arr**	**19.05**	**225**	*e*P	**P**	**13 17 08.4**	**-0.5**
WR1	**Warramunga Arr**	**19.06**	**225**	*e*P	**P**	**13 17 08.0**	**-0.9**
	21nm,1.5s						
WRA	**Warramunga Arr**	**19.06**	**225**	P	**P**	**13 17 08.0**	**-0.9**
	0.4nm,0.3s,baz=52,slow=11,SNR=22						
AS01	**Alice Springs**	**21.93**	**218**	*e*P	**P**	**13 17 39.8**	**-0.2**
AS31	**Alice Springs**	**21.96**	**218**	*e*P	**P**	**13 17 40.2**	**-0.1**
	3.2nm,0.5s						
ASAR	**Alice Springs**	**21.96**	**218**	P	**P**	**13 17 40.4**	**0.0**
	6.7nm,0.7s,baz=54,slow=9.5,SNR=149						
BATI	**Baumata**	**24.84**	**260**	LR	LR	13 29 44.8	
	comp=Z,178nm,18.0s,baz=132,slow=41						
FITZ	**Fitzroy Crossi**	**25.03**	**241**	*e*P	**P**	**13 18 10.4**	**+0.2**
	13nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.03**	**241**	P	**P**	**13 18 10.2**	**-0.1**
	6.4nm,0.3s,baz=52,slow=9.2,SNR=30						
FITZ				LR	LR	13 27 32.5	
	comp=Z,79nm,18.6s,baz=100,slow=35						
STKA	**Stephens Creek**	**25.88**	**194**	*e*P	**P**	**13 18 17.2**	**-0.6**
	10nm,1.9s						
STKA	**Stephens Creek**	**25.88**	**194**	P	**P**	**13 18 17.6**	**-0.2**
	3.6nm,0.8s,baz=24,slow=12,SNR=3.8						
DAV	**Davao City (W)**	**26.67**	**300**	*e*P	**P**	**13 18 25.2**	**+0.1**
	226nm,0.5s						
DAV	**Davao City (W)**	**26.67**	**300**	LR	LR	13 30 02.4	
	comp=Z,46nm,20.2s,baz=6.5,slow=39						
MK32	**Makanchi Array**	**79.00**	**320**	*e*P	**P**	**13 24 49.6**	**+0.2**
MKAR	**Makanchi Array**	**79.00**	**320**	P	**P**	**13 24 49.6**	**+0.2**
	0.2nm,0.6s,baz=98,slow=8.0,SNR=4.8						
ILAR	**Eielson Array**	**85.52**	**23**	P	**P**	**13 25 22.5**	**-0.5**
	0.2nm,0.7s,baz=231,slow=6.9,SNR=3.8						
GERES	**GERESS Array B**	**123.33**	**326**	PKP	**PKiKP**	**13 31 43.7**	**+0.9**
	0.3nm,0.4s,baz=84,slow=4.0,SNR=3.7						
TOA0	**Torodi Ar. Sit**	**146.74**	**284**	*e*PKPdf	**PKPdf**	**13 32 25.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**146.74**	**284**	PKPbc	**PKPbc**	**13 32 28.3**	**0.0**
	2.5nm,0.8s,baz=26,slow=3.5,SNR=15						
TOA1	**Torodi Ar. Sit**	**146.74**	**284**	*e*PKPbc	**PKPbc**	**13 32 28.3**	**0.0**

JSN 13 13:18:47.0±1.5, 18°22N×76°09W, h0km±22km, MD3.6, 3C-3D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YHJ	**Yallahs**	**0.50**	**230**	⇓*i*P	Pg	13 18 57.5	+0.8
GWJ	**Greenwich**	**0.63**	**257**	⇑*i*P	Pg	13 18 58.3	-0.7
HOJ	**Hope**	**0.66**	**252**	⇓*i*P	Pg	13 18 59.7	-0.1
STH	**Stony Hill**	**0.70**	**259**	⇑*i*P	Pg	13 18 59.6	-0.8
MCJ	**Malvern**	**1.55**	**259**	⇑*i*P	Pn	13 19 14.7	-1.3
MCJ				⇓*i*S	Sn	13 19 34.5	-2.3
MBJ	**Montego Bay**	**1.70**	**277**	*i* S	Sn	13 19 39.1	-1.3

STR 13 13:18:50.2±0.8, 49°N±3°×±°, h4km±3km, M1.0/7, MLv1.0/7, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUBF	**Surbourg**	**0.09**	**275**	P		13 18 52.5	
SUBF				Pg	Pg	13 18 52.4	+0.4
SUBF				Sg	Sg	13 18 54.3	+0.9

LVSN 13 13:22:52.0±3.0, 58°89N×23°30E, h0km±88km, ML1.8, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**1.37**	**203**	*e*P	Pg	13 23 15.6	-2.6
SLIT				*e*S	Sb	13 23 36.5	-0.1
SLIT				AML	AML	13 23 37.3	
	comp=Z,50nm,0.5s						
SLIT				AML	AML	13 23 37.5	
	comp=E,100nm,0.4s						
SLIT				AML	AML	13 23 37.6	
	comp=N,112nm,0.5s						
VSU	**Vasula**	**1.85**	**102**	*e*P	Pn	13 23 25.2	+0.3
VSU				*e*S	Sg	13 23 50.9	-0.4
RAF	**Rauma**	**2.27**	**341**	AML	AML	13 23 34.7	
	comp=E,3.2nm,0.6s						
RAF				AML	AML	13 24 19.9	
	comp=Z,2.9nm,0.8s						

IDC 13 13:26:36.0±947.0, 53°75N×2°69E, h0km, Error ellipse: s-maj=444.5km s-min=163.8km az=109.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**8.47**	**121**	*i*		14 15 20.0	
	baz=311,slow=326,SNR=1.3						
I43RU	**DUBNA INFRASON1**	**9.79**	**67**	*i*		15 31 00.0	
	baz=278,slow=332,SNR=1.0						
I31KZ	**AKTYUBINSK INF**	**33.45**	**73**	*i*		16 54 23.2	
	baz=298,slow=260,SNR=2.9						

*MOS **13** 13:36:11.3±0.0, 42°57N×41°09E, h12km, MPVA3.5*
NORS 13 13:36:12.4±0.0, 42°51N×41°18E, h4km, MPVA3.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARXR	**Arkhyz**	**1.06**	**4**	*i* Pg	Pg	13 36 32.2	-0.5
ARXR				*i* Sg	Sg	13 36 46.6	+0.2
NEY	**Neytrino**	**1.36**	**56**	*e*Pg	Pn	13 36 38.2	-0.1
NEY				*e*Sg	Sn	13 36 56.8	-0.1
RPOR	**Krasnaya Polya**	**1.36**	**331**	*e*Pg	Pn	13 36 37.8	-0.6
RPOR				*e*Sg	Sg	13 36 55.5	-0.8
SOC	**Sochi**	**1.52**	**316**	*e*Pg	Pn	13 36 38.6	-1.8
SOC				*i* Sg	Sn	13 36 58.9	-1.7
SHA1	**Shidzhatmaz**	**1.64**	**41**	*e*Pg	Pg	13 36 43.9	0.0
SHA1				*i* Sg	Sg	13 37 07.1	+2.0
GUZR	**Guzeripl'**	**1.68**	**333**	*i* Pg	Pn	13 36 42.0	-0.7
GUZR				*i* Sg	Sn	13 37 04.2	-0.5
DIGR	**Digorskoe uzhe**	**1.81**	**77**	*e*Pg	Pb	13 36 45.6	-0.8
DIGR				*e*Sg	Sg	13 37 11.2	+0.6
KIV	**Kislovodsk**	**1.82**	**37**	*e*Pg	Pb	13 36 46.5	+0.1
KIV				*e*Sg	Sg	13 37 11.7	+0.9
KIV0	**Kislovodsk Arr**	**1.82**	**37**	*e*Pg	Pb	13 36 46.6	+0.2
KIV0				*i* Sg	Sg	13 37 11.7	+0.7
LZRR	**Lazarevskoye**	**1.94**	**318**	*e*Pg	Pn	13 36 46.3	+0.2
LZRR				*i* Sg	Sb	13 37 12.1	-0.8
ZEI	**Tsey**	**2.03**	**81**	*e*Pg	Pb	13 36 49.2	-0.8
ZEI				*e*Sg	Sb	13 37 16.5	+0.8
LACR	**Lac**	**2.32**	**81**	*e*Pn	Pg	13 36 56.6	-0.3
LACR				*e*Sn	Sb	13 37 25.4	+1.3

*ISCJB **13** 13:36:23.8±0.4, 24°.00N±0°.02×122°.29E±0°.02, h18km±5km, Error ellipse: s-maj=3.9km s-min=2.4km az=147.4*
*JMA **13** 13:36:23.9±0.1, 23°.98N×122°.29E, h21km±4km, M2.4*
*TAP **13** 13:36:24.7, 24°.08N×122°.23E, h20km, ML2.6, D*
ISC 13 13:36:23.4±1.1, 24°.00N±0°.03×122°.26E±0°.02, h19km±3km, n46, σ0s51/77, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	**EOS1**	**0.56**	**347**	P	**Pg**	**13 36 34.3**	**-0.4**
	baz=348						
EOS1				S	**Sg**	**13 36 41.7**	**-0.5**
	baz=348						
NANB	**Nanao**	**0.63**	**312**	*e*P	**Pb**	**13 36 35.7**	**-0.1**
	baz=319						
NANB				*e*S	**Sb**	**13 36 44.6**	**+0.3**
	baz=319						
NACB	**Ninganchiao**	**0.64**	**286**	*e*P	**Pg**	**13 36 36.6**	**+0.6**
	baz=262						
ENA	**Nanau**	**0.64**	**312**	*e*P	**Pb**	**13 36 35.7**	**-0.2**
	baz=318						
ENA				*e*S	**Sg**	**13 36 45.8**	**+1.1**
	baz=318						
TWC	**Suao**	**0.71**	**328**	P	**Pb**	**13 36 36.5**	**-0.7**
	baz=334						
TWC				S	**Sb**	**13 36 45.0**	**-1.6**
	baz=334						
ETLH	**Xiulin Townshi**	**0.74**	**286**	*e*P	**Pg**	**13 36 38.2**	**+0.2**
	baz=266						
ETLH				*e*S	**Sn**	**13 36 49.1**	**-0.7**
	baz=266						
JYNG	**Yonagunijimaku**	**0.77**	**54**	P	**Pb**	**13 36 38.0**	**-0.2**
JYNG				*e*S	**Sb**	**13 36 48.2**	**0.0**
ESL	**Shilin**	**0.78**	**256**	*e*S	**Sn**	**13 36 50.7**	**0.0**
	baz=240						
YOJ	**Yonaguni jima**	**0.82**	**56**	*e*P	**Pb**	**13 36 38.9**	**-0.1**
	baz=60						
YOJ				*e*S	**Sb**	**13 36 50.1**	**+0.3**
	baz=60						
YOJ	**Yonaguni jima**	**0.82**	**56**	P	**Pb**	**13 36 39.0**	**-0.1**
YOJ				S	**Sg**	**13 36 50.4**	**-0.1**
TWE	**Neicheng**	**0.90**	**323**	*e*P	**Pg**	**13 36 41.1**	**+0.1**
	baz=329						
TWE				*e*S	**Sb**	**13 36 52.4**	**+0.3**
	baz=329						
NDT	**Datong Townshi**	**0.91**	**311**	*e*P	**Pb**	**13 36 41.0**	**+0.4**
	baz=321						
NDT				*e*S	**Sb**	**13 36 52.5**	**+0.1**
	baz=321						
NNSB	**Datong**	**0.91**	**298**	P	**Pg**	**13 36 41.1**	**-0.1**
	baz=295						
NNSB				*e*S	**Sb**	**13 36 52.7**	**+0.2**
	baz=295						
HGSD	**Ruisui**	**0.92**	**237**	*e*P	**Pn**	**13 36 41.1**	**-0.2**
	baz=233						
HGSD				*e*S	**Sn**	**13 36 53.5**	**-0.5**
	baz=233						
NNS	**Nan Shan**	**0.92**	**299**	*e*P	**Pg**	**13 36 41.3**	**-0.1**
	baz=295						
NNS				*e*S	**Sg**	**13 36 54.0**	**+0.3**
	baz=295						
WHF	**Hehuan Shan**	**0.92**	**279**	*e*P	**Pg**	**13 36 41.4**	**-0.1**
	baz=263						
WHF				*e*S	**Sg**	**13 36 53.7**	**-0.1**
	baz=263						
NTC	**Toucheng**	**0.94**	**335**	*e*S	**Sb**	**13 36 53.3**	**+0.2**
	baz=348						
SLBB	**Yuanshan**	**0.94**	**323**	P	**Pb**	**13 36 41.5**	**+0.2**
	baz=328						
SLBB				*e*S	**Sg**	**13 36 54.3**	**0.0**
	baz=328						
EHY	**Hungye**	**0.99**	**240**	*e*S	**Sn**	**13 36 55.9**	**0.0**
	baz=226						
OWD	**Renai**	**0.99**	**268**	*e*P	**Pb**	**13 36 42.3**	**+0.2**
	baz=264						
OWD				*e*S	**Sb**	**13 36 55.2**	**+0.3**
	baz=264						
CHGB	**Renai**	**1.00**	**274**	*e*P	**Pb**	**13 36 42.4**	**+0.2**
	baz=257						
CHGB				*e*S	**Sg**	**13 36 56.0**	**-0.1**
	baz=257						
NWLT	**Wulai**	**1.04**	**318**	*e*P	**Pn**	**13 36 43.2**	**+0.1**
	baz=322						
NWLT				*e*S	**Sb**	**13 36 56.9**	**+0.8**
	baz=322						
TIPB	**Shuangxi**	**1.05**	**338**	*e*P	**Pb**	**13 36 42.8**	**-0.1**
	baz=337						
TIPB				*e*S	**Sb**	**13 36 55.4**	**-0.9**
	baz=337						
YHNB	**Yeheng**	**1.05**	**310**	*e*P	**Pb**	**13 36 43.1**	**+0.1**
	baz=307						
YHNB				*e*S	**Sb**	**13 36 56.7**	**+0.3**
	baz=307						
VWDT	**VWDT**	**1.06**	**257**	*e*P	**Pg**	**13 36 43.6**	**-0.3**
	baz=240						
VWDT				*e*S	**Sg**	**13 36 58.0**	**+0.2**
	baz=240						
NSK	**Sanguang**	**1.06**	**309**	*e*P	**Pg**	**13 36 43.9**	**-0.2**
	baz=307						
NSK				*e*S	**Sn**	**13 36 57.9**	**+0.1**
	baz=307						
YULB	**Yu-li**	**1.07**	**236**	*e*P	**Pn**	**13 36 43.3**	**-0.1**
	baz=249						
YULB				*e*S	**Sn**	**13 36 57.3**	**-0.6**
	baz=249						
TWF1	**Yuli**	**1.10**	**234**	*e*S	**Sg**	**13 36 58.9**	**-0.2**
	baz=248						
NWF	**Wu-fen Shan**	**1.15**	**338**	*e*S	**Sb**	**13 36 59.5**	**+0.1**
	baz=336						
WFSB	**Wu-fen Shan**	**1.15**	**338**	*e*S	**Sb**	**13 36 58.9**	**-0.5**
	baz=336						
FULB	**Fuli**	**1.19**	**228**	*e*P	**Pn**	**13 36 44.8**	**-0.3**
	baz=211						
FULB				*e*S	**Sn**	**13 37 00.5**	**-0.4**
	baz=211						
WHP	**Taichung City**	**1.23**	**283**	*e*P	**Pg**	**13 36 47.6**	**+0.3**
	baz=268						
NSTT	**Nanjuang**	**1.31**	**299**	*e*S	**Sb**	**13 37 04.8**	**+0.9**
	baz=297						
WHYT	**Xinyi Township**	**1.33**	**257**	*e*S	**Sb**	**13 37 05.2**	**+0.8**
	baz=243						
IRIF	**Iriomote-Funau**	**1.38**	**76**	P	**Pb**	**13 36 48.1**	**-0.5**
IRIF				S	**Sb**	**13 37 05.7**	**-0.2**
ELDTW	**Lidau**	**1.40**	**235**	*e*P	**Pn**	**13 36 47.9**	**-0.2**
	baz=219						
ELDTW				*e*S	**Sn**	**13 37 04.9**	**-1.2**
	baz=219						
HATJ	**Hateruma jima**	**1.41**	**87**	P	**Pb**	**13 36 49.3**	**+0.2**
TWGBT	**Beinan**	**1.60**	**223**	*e*S	**Sn**	**13 37 10.4**	**-0.6**
	baz=222						
TWG	**Pinlang**	**1.60**	**223**	*e*S	**Sn**	**13 37 10.2**	**-0.8**
	baz=222						
JKRS	**Kuro-shima**	**1.61**	**81**	P	**Pb**	**13 36 53.3**	**+0.7**
JKRS				S	**Sb**	**13 37 13.1**	**+0.5**
TPUB	**Ta-pu**	**1.65**	**245**	*e*P	**Pb**	**13 36 53.5**	**+0.3**
	baz=244						
TPUB				*e*S	**Sb**	**13 37 14.8**	**+1.1**
	baz=244						
JIJ	**Ishigaki jima**	**1.75**	**78**	P	**Pn**	**13 36 53.2**	**+0.4**
JIJ				S	**Sn**	**13 37 14.3**	**-0.4**
SLGT	**Liugui**	**1.79**	**236**	*e*P	**Pb**	**13 36 55.5**	**-0.1**
	baz=224						
SLGT				*e*S	**Sb**	**13 37 17.7**	**0.0**
	baz=224						
JISG	**Ishigakijimahi**	**1.96**	**72**	P	**Pn**	**13 36 56.6**	**+1.0**
JISG				*e*S	**Sn**	**13 37 18.7**	**-1.0**
MASBT	**Mashibuluo**	**2.04**	**228**	*e*S	**Sb**	**13 37 24.1**	**-0.8**
	baz=218						
JTJ	**Tarama**	**2.31**	**74**	S	**Sn**	**13 37 28.9**	**+0.4**

MEX 13 13:39:09.4±0.6, 19°44N×104°87W, h7km±8km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.17**	**291**	*i* P	Pg	13 39 12.7	-0.3
CJM				*i* S	Sg	13 39 15.4	+0.1
R15V		**0.88**	**107**	*i* P	Pg	13 39 24.7	-1.7
R15V				*e*S	Sg	13 39 36.7	-1.2
EZ5V		**1.20**	**88**	*i* P	Pg	13 39 29.8	-2.7
EZ5V				*i* S	Sg	13 39 44.2	-3.9

IDC 13 13:45:10.6±698.0, 54°66N×2°25E, h0km, Error ellipse: s-maj=338.1km s-min=120.9km az=116.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**9.18**	**125**	*i*		14 37 10.0	
	baz=315,slow=320,SNR=1.0						
I48TN	**KESRA INFRASON1**	**9.49**	**163**	*i*		15 49 10.0	
	baz=345,slow=390,SNR=0.3						
I43RU	**DUBNA INFRASON1**	**9.69**	**70**	*i*		15 49 20.0	
	baz=278,slow=335,SNR=0.8						
I31KZ	**AKTYUBINSK INF**	**33.43**	**74**	*i*		17 10 35.0	
	baz=300,slow=367,SNR=2.5						

*ISCJB **13** 13:45:52.6±0.4, 37°.02N±0°.04×71°.48E±0°.05, h106km, mb3.7/2, Error ellipse: s-maj=6.2km s-min=4.7km az=43.5*
*IDC **13** 13:45:53.1±3.8, 36°.96N×71°.69E, h101km±35km, mb3.5/2, mb1 3.5/9, mb1mx3.1/50, mbtmp3.8/9, Error ellipse: s-maj=33.3km s-min=27.7km az=166.0*
*NNC **13** 13:45:59.0±3.2, 37°.53N×71°.41E, h148km±82km, mb3.0, mpv3.8, Error ellipse: s-maj=37.1km s-min=15.5km az=165.0*
ISC 13 13:45:53.8±0.8, 37°.19N±0°.07×71°.51E±0°.06, h106km, n35, σ2s20/42, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.21**	**18**	P	**Pn**	**13 47 12.2**	**+2.4**
	SNR=55						
UCH	**Uchtor**	**5.53**	**24**	P	**Pn**	**13 47 16.5**	**+2.3**
	SNR=24						
KZA	**Kyzart**	**5.67**	**29**	P	**Pn**	**13 47 17.8**	**+1.9**
	SNR=8.8						
EKS2	**Erkin-Say**	**5.73**	**17**	P	**Pn**	**13 47 19.5**	**+2.9**
	SNR=26						
AAK	**Ala-Archa**	**5.90**	**22**	P	**Pn**	**13 47 21.7**	**+2.8**
	SNR=28						
AAK	**Ala-Archa**	**5.90**	**22**	⇑P	**Pn**	**13 47 21.3**	**+2.5**
	6.9nm,0.4s						
AAK				⇑S	**Sn**	**13 48 24.1**	**-1.1**
	24nm,0.6s						
AAK	**Ala-Archa**	**5.90**	**22**	P	**Pn**	**13 47 21.5**	**+2.7**
	4.5nm,0.3s,baz=197,slow=19,SNR=67						
AAK				S	**Sn**	**13 48 24.2**	**-1.1**
	3.6nm,0.3s,baz=110,slow=12,SNR=15						
KK31	**Karatay Array**	**5.95**	**353**	⇑P	**Pn**	**13 47 22.2**	**+2.8**
	8.3nm,0.3s,baz=176,slow=12,SNR=279						
KK31				S	**Sn**	**13 48 25.8**	**-0.5**
	14nm,0.5s,baz=170,slow=19,SNR=9.9						
KBK	**Karagaybulak**	**6.06**	**25**	P	**Pn**	**13 47 23.9**	**+2.8**
	SNR=10						
CHMS	**Chumysh**	**6.31**	**22**	P	**Pn**	**13 47 26.7**	**+2.4**
	SNR=14						
USP	**Ospenovka**	**6.48**	**20**	P	**Pn**	**13 47 28.9**	**+2.2**
	SNR=11						
TKM2	**Tokmak 2**	**6.52**	**27**	P	**Pn**	**13 47 29.6**	**+2.3**
	SNR=11						
TKM2	**Tokmak 2**	**6.52**	**27**	⇓P	**Pn**	**13 47 29.4**	**+2.1**
	3.3nm,0.6s						
TKM2				⇑S	**Sn**	**13 48 38.6**	**-1.7**
	6.1nm,0.7s						
MDOK	**Medeo**	**7.31**	**34**	⇓P	**Pn**	**13 47 41.8**	**+3.8**
	2.4nm,0.6s						
GEYT	**Alibeck**	**10.66**	**278**	P	**Pn**	**13 48 25.0**	**+1.5**
	2.4nm,0.3s,baz=105,slow=10,SNR=14						
GEYT				S	**Sn**	**13 50 19.2**	**-1.5**
	1.3nm,0.3s,baz=88,slow=15,SNR=5.6						
GYA0B	**ALIBECK ARRAY**	**10.66**	**278**	⇑P	**Pn**	**13 48 25.1**	**+1.7**
GYA0B				⇑S	**Sn**	**13 50 20.7**	**-0.1**
OTUK	**Ortayu**	**11.06**	**3**	⇓P	**Pn**	**13 48 28.4**	**-0.3**
	0.9nm,0.5s						
MK31	**Makanchi Array**	**12.49**	**36**	⇑P	**Pn**	**13 48 49.2**	**+1.5**
	0.6nm,0.7s,baz=218,slow=9.8,SNR=4.1						
MKAR	**Makanchi Array**	**12.49**	**36**	P	**Pn**	**13 48 48.0**	**+0.3**
	0.1nm,0.3s,baz=222,slow=14,SNR=4.3						
PYUN	**Piuthan**	**13.24**	**130**	*e*P	**Pn**	**13 48 56.2**	**-1.7**
	9.7nm,0.3s						
DANN	**Dangsing**	**13.55**	**127**	*e*P	**Pn**	**13 49 00.9**	**-1.1**
	13nm,0.3s						
KOLN	**Koldanda**	**13.86**	**129**	*e*P	**Pn**	**13 49 04.5**	**-1.4**
	7.3nm,0.4s						
KURBB	**Kurchatov Arra**	**14.34**	**18**	P	**P**	**13 49 15.0**	**-0.5**
	0.1nm,0.3s,baz=207,slow=11,SNR=7.5						
GKN	**Gorkha**	**14.35**	**126**	*e*P	**Pn**	**13 49 11.0**	**-1.2**
	11nm,0.3s						
KKN	**Kakani**	**14.91**	**125**	*e*P	**Pn**	**13 49 17.6**	**-1.8**
DMN	**Daman**	**14.92**	**126**	*e*P	**Pn**	**13 49 18.5**	**-1.0**
	6.6nm,0.3s						
PKIN	**Phulchoki**	**15.13**	**125**	*e*P	**Pn**	**13 49 20.6**	**-1.6**
PKI	**Pulchoki**	**15.14**	**125**	*e*P	**Pn**	**13 49 20.7**	**-1.7**
	7.4nm,0.4s						
GUN	**Gumba**	**15.23**	**123**	*e*P	**Pn**	**13 49 21.6**	**-1.9**
JIRN	**Jiri**	**15.60**	**123**	*e*P	**Pn**	**13 49 26.7**	**-1.5**
	31nm,0.4s						
BVAR	**Borovoye Array**	**15.85**	**358**	P	**P**	**13 49 32.0**	**-0.3**
	0.1nm,0.3s,baz=167,slow=14,SNR=5.6						
AKTO	**Aktyubinsk**	**16.40**	**328**	P	**P**	**13 49 39.7**	**+1.3**
	0.2nm,0.3s,baz=56,slow=18,SNR=2.4						
AKTO				S	**Sn**	**13 52 32.5**	**-6.8**
	0.1nm,0.3s,baz=108,slow=20,SNR=3.9						
ZALV	**Zalesovo Beam**	**19.11**	**25**	P	**P**	**13 50 08.3**	**+0.2**
	0.4nm,0.3s,baz=209,slow=11,SNR=7.2						
ARCES	**ARCESS Array B**	**40.66**	**337**	P	**P**	**13 53 25.6**	**+2.4**
	2.8nm,0.9s,baz=119,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**82.01**	**122**	P	**P**	**13 58 01.0**	**-1.3**
	0.5nm,1.0s,baz=326,slow=5.0,SNR=3.6						

*NEIC **13** 13:52:42.2±0.0, 60°.11N×141°.08W, h10km, ML2.5(OTT), ML2.6(AEIC), After AEIC.*
PGC 13 13:52:43.2, 60°.15N×141°.05W, h4km, ML2.5/10, **129km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAMH	**Samovar Hills**	**0.14**	**98**	P	Pg	13 52 45.5	-0.5
SAMH				S	Sg	13 52 48.7	+0.9
SAMH	**Samovar Hills**	**0.14**	**98**	P	Sg	13 52 45.5	-0.5
SAMH				S	Sg	13 52 48.5	+0.7
RKAV	**Rock Avalanche**	**0.21**	**316**	P	Pg	13

HMT	**Hamilton**	**1.61**	**278**	P	Pn	13 53 10.2	-2.2
YUK2	**White River**	**1.65**	**4**	P	Pn	13 53 12.3	-0.6
YUK2	**White River**	**1.65**	**4**	Pn	Pn	13 53 12.3	-0.6
YUK2				Sg	Sb	13 53 35.5	+0.2
YUK3	**Moose Creek**	**1.66**	**10**	P	Pn	13 53 12.3	-0.9
YUK3	**Moose Creek**	**1.66**	**10**	Pn	Pn	13 53 12.3	-0.9
YUK3				Sg	Sb	13 53 35.5	-0.2
YUK4	**Talbot Arm**	**1.69**	**44**	P	Pb	13 53 14.9	+0.1
YUK4	**Talbot Arm**	**1.69**	**44**	Pn	Pb	13 53 15.1	+0.2
YUK4				Sg	Sg	13 53 40.2	+3.0
YUK5	**Granite Creek**	**1.86**	**57**	Pn	Pn	13 53 15.3	-0.6
YUK5				Sg	Sb	13 53 41.8	+0.4
HYT	**Haines Junctio**	**1.88**	**67**	P	Pn	13 53 15.3	-0.9
HYT	**Haines Junctio**	**1.88**	**67**	Pn	Pn	13 53 14.9	-1.3
HYT				Sg	Sn	13 53 41.1	+0.6
BVCY	**Beaver Creek**	**2.28**	**2**	Pn	Pn	13 53 21.7	+0.2
BVCY				Sg	Sb	13 53 52.5	-0.8
DIV	**Divide**	**2.52**	**295**	Pn	Pn	13 53 22.7	-2.2
DIV				Sg	Sn	13 53 57.1	+0.9
KLU	**Klutina**	**2.74**	**302**	P	Pn	13 53 26.4	-1.5
BCA3	**Beaver Creek A**	**2.95**	**354**	P	Pn	13 53 30.0	-0.8
HARP	**HAARP**	**3.01**	**321**	Pn	Pn	13 53 33.8	+2.2
WHY	**Whitehorse**	**3.11**	**78**	P	Pn	13 53 31.4	-1.6
WHY	**Whitehorse**	**3.11**	**78**	Pn	Pn	13 53 31.4	-1.6
WHY				Sn	Sn	13 54 10.2	-0.4
WHY				Sg	Sb	13 54 18.3	+1.1
PAX	**Paxson**	**3.53**	**325**	Pn	Pn	13 53 42.2	+3.4
DOT	**Dot Lake**	**3.79**	**339**	Pn	Pn	13 53 42.6	+0.3
DOT				Sn	Sn	13 54 28.4	+1.0
DAWY	**Dawson**	**4.01**	**11**	P	Pn	13 53 45.2	-0.1
DAWY	**Dawson**	**4.01**	**11**	Pn	Pn	13 53 45.1	-0.3
DAWY				Sn	Sn	13 54 31.4	-1.4
DAWY				Sg	Sg	13 54 47.5	-4.3

MEX 13 13:53:29.9±0.3, 17.00°N×94.88°W, h54km±3km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.09**	**354**	*i* P	Pn	13 53 36.8	-1.5
CMIG				*i* S	Sn	13 53 42.4	-1.9
TUIG	**Tuzandepetl**	**1.11**	**23**	*i* P	Pn	13 53 47.4	-1.9
TUIG				*i* S	Sn	13 54 01.9	-1.7
HUIG	**Huatulco**	**1.71**	**224**	*eP*	Pn	13 53 55.9	-1.4
HUIG				*eS*	Sn	13 54 15.8	-2.2
VHO	**Vista Hermosa**	**1.78**	**272**	*i* P	Pn	13 53 57.1	-1.4
VHO				*i* S	Sn	13 54 18.0	-2.1
PCIG		**2.05**	**129**	*i* P	Pn	13 54 01.1	-0.9
PCIG				*i* S	Sn	13 54 23.6	-2.7

*ISCJB **13** 13:54:11.6±0.9, 41.6°S±0.1°×88.5°E±0.2°, h10km, mb4.1/8, MS4.0/22, Error ellipse: s-maj=22.3km s-min=17.6km az=1.1*

*IDC **13** 13:54:12.6±1.3, 41.72°S×88.55°E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/55, mbtmp3.9/5, MS3.9/22, Ms1 3.9/22, ms1mx3.7/43, Error ellipse: s-maj=37.7km s-min=32.0km az=99.0*

*NEIC **13** 13:54:13.7±0.7, 41.67°S×88.55°E, h10km, mb4.4/1, Error ellipse: s-maj=19.6km s-min=15.9km az=87.0*

ISC 13 13:54:13.3±1.1, 41.7°S±0.2°×88.5°E±0.3, h10km, n41, σ0.6°70/15, mb4.0/8, MS4.0/22, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**21.21**	**80**	T	T	14 20 38.8	
	baz=243,slow=74,SNR=127						
H01W3	**Cape Leeuwin H**	**21.22**	**80**	T	T	14 20 40.4	
	baz=243,slow=74,SNR=126						
H01W1	**Cape Leeuwin H**	**21.23**	**80**	T	T	14 20 41.2	
	baz=243,slow=74,SNR=150						
NWAO	**Narrogin (SRO)**	**24.41**	**78**	LR	LR	14 06 58.2	
	comp=Z,326nm,21.2s,baz=210,slow=31						
MAW	**Mawson**	**29.47**	**200**	LR	LR	14 09 30.9	
	comp=Z,292nm,21.0s,baz=36,slow=31						
H08S2	**Diego Garcia H**	**36.71**	**333**	T	T	14 40 11.4	
	baz=160,slow=76,SNR=184						
H08S1	**Diego Carcia H**	**36.72**	**333**	T	T	14 40 11.9	
	baz=160,slow=76,SNR=109						
H08S3	**Diego Garcia H**	**36.73**	**333**	T	T	14 40 16.4	
	baz=160,slow=76,SNR=192						
H08N1	**Diego Carcia H**	**38.44**	**331**	T	T	14 42 31.4	
	baz=140,slow=75,SNR=8.6						
H08N3	**Diego Garcia H**	**38.45**	**331**	T	T	14 42 30.6	
	baz=140,slow=75,SNR=12						
H08N2	**Diego Garcia H**	**38.46**	**331**	T	T	14 42 28.2	
	baz=140,slow=75,SNR=6.1						
FITZ	**Fitzroy Crossi**	**39.44**	**65**	LR	LR	14 16 40.9	
	comp=Z,102nm,19.0s,baz=236,slow=34						
ASAR	**Alice Springs**	**41.72**	**79**	P	**P**	**14 02 03.2**	**+0.7**
	1.7nm,0.8s,baz=226,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**14 03 58.3**	**-0.7**
	1.0nm,0.8s,baz=216,slow=3.1,SNR=7.7						
ASAR				LR	LR	14 17 23.7	
	comp=Z,315nm,19.7s,baz=236,slow=33						
AS31	**Alice Springs**	**41.73**	**79**	*eP*	**P**	**14 02 01.9**	**-0.7**
	5.0nm,1.8s						
AS01	**Alice Springs**	**41.76**	**79**	*eP*	**P**	**14 02 02.2**	**-0.7**
STKA	**Stephens Creek**	**43.08**	**95**	LR	LR	14 16 20.1	
	comp=Z,206nm,19.8s,baz=212,slow=31						
WR1	**Warramunga Arr**	**44.33**	**75**	*eP*	**P**	**14 02 23.8**	**+0.1**
	79nm,2.0s						
WRA	**Warramunga Arr**	**44.33**	**75**	P	**P**	**14 02 23.8**	**+0.1**
	3.3nm,1.0s,baz=231,slow=8.2,SNR=12						
WRA				LR	LR	14 19 19.4	
	comp=Z,158nm,18.1s,baz=110,slow=34						
PSI	**Prapat**	**45.26**	**15**	LR	LR	14 18 29.0	
	comp=Z,222nm,18.6s,baz=213,slow=32						
VNDA	**Vanda**	**46.14**	**163**	*eP*	**P**	**14 02 37.3**	**0.0**
VNDA	**Vanda**	**46.14**	**163**	LR	LR	14 18 28.0	
	comp=Z,130nm,20.6s,baz=221,slow=32						
QSPA	**South Pole Qui**	**48.50**	**180**	P	**P**	**14 02 56.1**	**+0.2**
	3.6nm,1.0s,baz=272,slow=6.0,SNR=4.7						
BOSA	**Boshof**	**52.23**	**263**	LR	LR	14 21 20.5	
	comp=Z,191nm,19.1s,baz=188,slow=31						
RPZ	**Rata Peaks**	**58.26**	**122**	LR	LR	14 23 40.0	
	comp=Z,119nm,19.8s,baz=220,slow=30						
CM31	**Chiang Mai Arr**	**60.59**	**11**	*eP*	**P**	**14 04 23.7**	**-0.3**
	2.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**60.59**	**11**	P	**P**	**14 04 25.1**	**+1.1**
	0.3nm,0.3s,baz=210,slow=6.3,SNR=4.4						
CMAR				LR	LR	14 29 38.3	
	comp=Z,46nm,18.5s,baz=208,slow=35						
BRDH	**Bariadhala**	**64.07**	**3**	LR	LR	14 31 02.3	
	comp=Z,232nm,18.1s,baz=184,slow=34						
GEYT	**Alibeck**	**83.91**	**336**	LR	LR	14 39 05.4	
	comp=Z,37nm,21.7s,baz=155,slow=32						
MK32	**Makanchi Array**	**88.24**	**356**	*eP*	**P**	**14 07 03.8**	**-0.3**
MKAR	**Makanchi Array**	**88.24**	**356**	P	**P**	**14 07 03.8**	**-0.3**
	0.2nm,0.4s,baz=176,slow=3.8,SNR=2.9						
MKAR				LR	LR	14 46 30.4	
	comp=Z,50nm,18.1s,baz=206,slow=36						
SONM	**Songino Array**	**90.51**	**12**	LR	LR	14 48 16.5	
	comp=Z,38nm,19.3s,baz=180,slow=36						
GNI	**Garni**	**90.58**	**328**	LR	LR	14 43 04.7	
	comp=Z,79nm,20.5s,baz=146,slow=32						
BRTR	**Keskin Array B**	**95.08**	**321**	LR	LR	14 47 05.1	
	comp=Z,23nm,18.5s,baz=103,slow=33						
ZALV	**Zalesovo Beam**	**95.28**	**358**	LR	LR	14 49 01.5	
	comp=Z,49nm,19.1s,baz=257,slow=34						
BVAR	**Borovoye Array**	**95.59**	**349**	LR	LR	14 46 49.8	
	comp=Z,49nm,21.2s,baz=198,slow=33						
IDI	**Anoyia**	**96.20**	**313**	LR	LR	14 45 19.7	
	comp=Z,33nm,18.1s,baz=62,slow=32						
TORD	**Torodi Ar. Bea**	**96.23**	**282**	LR	LR	14 47 39.9	
	comp=Z,74nm,19.6s,baz=300,slow=33						
DBIC	**Dimbokro**	**96.86**	**273**	LR	LR	14 47 39.8	
	comp=Z,77nm,18.0s,baz=142,slow=33						
RES	**Resolute Bay**	**146.84**	**2**	PKPbc	**PKiKP**	**14 13 56.9**	**-0.1**
	1.4nm,0.6s,baz=22,slow=4.0,SNR=7.8						
NV01	**Mina Array Sit**	**159.29**	**90**	*e*PKPab	**PKPab**	**14 18 48.8**	**-0.6**
NVAR	**Mina Array Bea**	**159.29**	**90**	PKPab	**PKPab**	**14 14 50.8**	**+1.4**
	0.4nm,0.6s,baz=229,slow=7.2,SNR=4.4						

*IDC **13** 14:03:15.5±0.8, 9.50°N×126.26°E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.7/44, mbtmp3.8/11, ML3.3/1, MS3.1/3, Ms1 3.1/3, ms1mx2.7/50, Error ellipse: s-maj=39.7km s-min=16.5km az=69.0*

*MAN **13** 14:03:16.3, 9.79°N×126.88°E, h1km, mb4.9, ML3.8, MS3.8*

*NEIC **13** 14:03:17.1±0.3, 9.51°N×126.26°E, h10km, mb4.5/1, Error ellipse: s-maj=15.8km s-min=7.0km az=71.0*

ISC 13 14:03:17.7±1.7, 9.77N±0.04°×126.82E±0.06°, h14km±10km, n39, σ1.996/45, mb3.9/12, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.31**	**271**	*eP*	**Pn**	**14 03 41.1**	**-0.6**
BUTP	**Butuan**	**1.43**	**236**	*eP*	**Pn**	**14 03 42.7**	**-0.6**
BUTP				*eS*	**Sg**	**14 04 04.8**	**+1.1**
MSLP	**Maasin**	**1.97**	**281**	*eP*	**Pn**	**14 03 51.5**	**+0.8**
MSLP				*eS*	**Sg**	**14 04 22.9**	**+1.9**
BESP	**Borongan**	**2.28**	**323**	*eP*	**Pb**	**14 03 57.1**	**-1.5**
BESP				*eS*	**Sg**	**14 04 30.6**	**-0.3**
PLP	**Palo**	**2.29**	**308**	*eP*	**Pn**	**14 03 56.0**	**+0.9**
CGP	**Cagayan de Oro**	**2.47**	**238**	*iP*	**Pn**	**14 03 58.9**	**+1.2**
CGP				*eS*	**Sb**	**14 04 32.4**	**0.0**
BUKP	**Musuan**	**2.56**	**223**	*eP*	**Pn**	**14 04 00.8**	**+1.9**
BUKP				*eS*	**Sb**	**14 04 33.9**	**-1.0**
MATI	**Mati**	**2.86**	**191**	*eP*	**Pg**	**14 04 12.4**	**-0.1**
MATI				*eS*	Sg	14 05 02.2	+1.3
LLP	**Lapu-Lapu**	**2.87**	**281**	*eP*	**Pn**	**14 04 05.3**	**+2.2**
LLP				*eS*	**Sb**	**14 04 43.1**	**-0.6**
TBP	**Tagbilaran**	**2.92**	**269**	*eP*	**Pn**	**14 04 05.4**	**+1.6**
DAV	**Davao City (W)**	**2.95**	**205**	LR	LR	14 04 26.6	
	comp=Z,45nm,21.0s,baz=294,slow=28						
KCP	**Kidapawan**	**3.23**	**212**	*eP*	**Pb**	**14 04 13.9**	**-1.1**
KCP				*i* S	**Sb**	**14 04 58.4**	**+4.2**
CTBH	**Cotabato--PC H**	**3.59**	**225**	*iP*	**Pn**	**14 04 16.8**	**+3.8**
DCPH	**Dipolog City**	**3.62**	**251**	*eP*	**Pb**	**14 04 19.6**	**-2.0**
PAGZ	**Pagadian**	**3.90**	**241**	*eP*	**Pb**	**14 04 22.5**	**-3.8**
PAGZ				*eS*	**Sn**	**14 05 07.4**	**+4.5**
GUIM	**Jordan**	**4.25**	**282**	*eP*	**Pn**	**14 04 24.8**	**+2.6**
RCP	**Roxas**	**4.39**	**294**	*eP*	**Pn**	**14 04 26.7**	**+2.6**
PVCP	**Virac**	**4.62**	**326**	*eP*	**Pb**	**14 04 39.3**	**+0.7**
SIJI	**Sorong**	**11.45**	**157**	Pn	**Pn**	**14 06 00.8**	**-0.3**
	0.2nm,0.3s,baz=307,slow=20,SNR=1.9						
BATI	**Baumata**	**20.09**	**189**	LR	LR	14 17 17.9	
	comp=Z,124nm,18.2s,baz=192,slow=43						
CMAR	**Chiang Mai Arr**	**28.35**	**291**	P	**P**	**14 09 08.1**	**-3.6**
	0.4nm,0.6s,baz=105,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**30.43**	**166**	P	**P**	**14 09 29.0**	**-1.0**
	0.4nm,0.8s,baz=342,slow=9.0,SNR=2.7						
WR1	**Warramunga Arr**	**30.43**	**166**	*eP*	**P**	**14 09 29.1**	**-1.0**
ASAR	**Alice Springs**	**33.94**	**168**	P	**P**	**14 09 59.5**	**-1.3**
	0.3nm,1.0s,baz=352,slow=7.1,SNR=3.3						
ASAR				PcP	**PcP**	**14 12 38.0**	**-1.3**
	0.2nm,0.6s,baz=0.8,slow=3.2,SNR=3.0						
HNR	**Honiara**	**38.09**	**119**	LR	LR	14 26 31.6	
	comp=Z,940nm,20.3s,baz=236,slow=36						
SONA0	**Songino Array**	**41.68**	**339**	*eP*	**P**	**14 11 05.8**	**-0.3**
SONM	**Songino Array**	**41.68**	**339**	P	**P**	**14 11 05.8**	**-0.3**
	0.5nm,0.5s,baz=157,slow=12,SNR=4.4						
PETK	**Petropavlovsk-**	**49.87**	**24**	P	**P**	**14 12 14.2**	**+3.6**
	3.2nm,0.9s,baz=216,slow=4.1,SNR=3.8						
PEA1	**Petropavlovsk-**	**49.88**	**24**	*eP*	**P**	**14 12 14.2**	**+3.6**
ZALV	**Zalesovo Beam**	**55.33**	**331**	P	**P**	**14 12 50.6**	**-0.3**
	0.4nm,0.3s,baz=134,slow=8.4,SNR=3.0						
ZAA1	**Zalesovo Array**	**55.33**	**331**	*eP*	**P**	**14 12 50.6**	**-0.4**
KURK	**Kurchatov**	**56.79**	**325**	*eP*	**P**	**14 13 00.6**	**-0.9**
	6.2nm,0.6s						
KURBB	**Kurchatov Arra**	**56.80**	**325**	P	**P**	**14 13 01.1**	**-0.4**
	0.6nm,0.5s,baz=123,slow=6.8,SNR=4.9						
BRVK	**Borovoye**	**62.46**	**325**	*eP*	**P**	**14 13 40.3**	**-0.3**
	1.9nm,0.5s						
ARA0	**ARCESS Array S**	**84.85**	**340**	*eP*	**P**	**14 15 52.4**	**+0.6**
ARCES	**ARCESS Array B**	**84.85**	**340**	P	**P**	**14 15 52.4**	**+0.6**
	2.1nm,0.7s,baz=75,slow=6.6,SNR=6.0						
FIA0	**FINESS Array S**	**86.59**	**332**	*eP*	**P**	**14 16 00.3**	**-0.2**
FINES	**FINESS Array B**	**86.59**	**332**	P	**P**	**14 16 00.3**	**-0.2**
	1.3nm,0.5s,baz=56,slow=5.2,SNR=7.9						
FINES				LR	LR	14 57 08.1	
	comp=Z,49nm,20.4s,baz=222,slow=37						
AKASG	**Malin Array Be**	**87.30**	**321**	P	**P**	**14 16 02.6**	**-1.6**
	0.5nm,0.5s,baz=60,slow=5.6,SNR=2.3						

IDC 13 14:03:19.9±3.4, 6.57S×148.85E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/34, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=97.7km s-min=45.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.37**	**225**	P	P	14 07 47.7	+0.3
	0.2nm,0.3s,baz=51,slow=11,SNR=14						
ASAR	**Alice Springs**	**22.21**	**219**	P	P	14 08 19.5	+0.8
	0.6nm,0.5s,baz=55,slow=9.5,SNR=23						
FITZ	**Fitzroy Crossi**	**25.37**	**241**	P	P	14 08 48.4	-0.7
	3.5nm,0.8s,baz=50,slow=7.8,SNR=10						
TORD	**Torodi Ar. Bea**	**147.01**	**284**	PKPbc	PKPbc	14 23 04.9	-0.8
	0.5nm,0.4s,baz=57,slow=3.5,SNR=7.5						

*IDC **13** 14:06:14.6±11.0, 39.45N×141.44E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.2/40, mbtmp3.4/3, ML2.2/1, Error ellipse: s-maj=235.6km s-min=42.2km az=99.0*

*ISCJB **13** 14:06:15.7±1.2, 38.87N±0.05°×142.0E±0.1°, h57km±6km, mb3.3/2, Error ellipse: s-maj=16.2km s-min=7.7km az=9.2*

*JMA **13** 14:06:16.8±0.1, 38.89N×141.98E, h49km±1km, M3.2*

JMA Felt I J1.

ISC 13 14:06:15.9±1.9, 38.88N±0.05°×142.0E±0.1, h49km±10km, n20, σ0.887/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.36**	**305**	P	**Pn**	**14 06 26.1**	**+0.6**
OFUJ				S	**Sn**	**14 06 32.4**	**0.0**
JKMT	**Kesennumamotoy**	**0.45**	**262**	P	**Pn**	**14 06 26.9**	**+0.4**
JKMT				*i* S	**Sn**	**14 06 33.7**	**-0.4**
JMK	**Ichinoseki**	**0.65**	**277**	P	**Pn**	**14 06 29.2**	**+0.2**
JMK				S	**Sn**	**14 06 37.9**	**-0.4**
JIO	**Ouri**	**0.69**	**233**	P	**Pn**	**14 06 29.7**	**+0.2**
JIO				S	**Sn**	**14 06 38.6**	**-0.6**
JOM	**Ohasama**	**0.84**	**316**	P	**Pn**	**14 06 31.9**	**+0.5**
JOM				S	**Sn**	**14 06 42.5**	**-0.3**
JOU	**Okura**	**1.20**	**245**	P	**Pn**	**14 06 36.5**	**+0.2**
JOU				S	**Sn**	**14 06 51.3**	**-0.1**
JRG	**Rokugo**	**1.21**	**296**	P	**Pn**	**14 06 36.8**	**+0.3**
JRG				S	**Sn**	**14 06 52.9**	**+1.0**
JYK	**Kaneyama**	**1.32**	**272**	P	**Pn**	**14 06 38.2**	**+0.3**
JMM	**Marumori**	**1.41**	**225**	P	**Pn**	**14 06 39.2**	**0.0**
JMM				S	**Sn**	**14 06 56.2**	**-0.4**
JANG	**Nango**	**1.55**	**345**	P	**Pn**	**14 06 41.9**	**+0.8**
MJAR	**Matsushiro Arr**	**3.83**	**234**	Pn	**Pn**	**14 07 15.0**	**+2.6**
	0.2nm,0.3s,baz=38,slow=12,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.72**	**125**	T	T	14 42 34.6	
	baz=317,slow=75,SNR=34						
H11N1	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	14 42 36.6	
	baz=317,slow=75,SNR=56						
H11N3	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	14 42 37.4	
	baz=317,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy**	**29.50**	**126**	T	T	14 43 32.9	
	baz=318,slow=76,SNR=38						
H11S3	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	14 43 32.8	
	baz=318,slow=76,SNR=44						
H11S2	**WAKE ISLAND Hy**	**29.51**	**127**	T	T	14 43 33.9	
	baz=318,slow=76,SNR=33						
ZALV	**Zalesovo Beam**	**41.07**	**311**	P	**P**	**14 13 52.6**	**-1.8**
	0.3nm,0.4s,baz=90,slow=7.2,SNR=2.6						
MKAR	**Makanchi Array**	**43.59**	**301**	P	**P**	**14 14 15.1**	**-0.1**
	0.4nm,0.6s,baz=77,slow=7.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.28**	**307**	P	**P**	**14 14 28.4**	**-0.1**
	baz=80,slow=8.2						

IDC 13 14:11:22.0±1.9, 6.74S×148.98E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/36, mbtmp3.6/5, ML3.7/1, MS3.5/5, Ms1 3.5/5, ms1mx3.1/29, Error ellipse: s-maj=71.2km s-min=24.2km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**18.61**	**288**	LR	LR	14 24 08.5	
	comp=Z,66nm,18.4s,baz=84,slow=41						
WRA	**Warramunga Arr**	**19.35**	**226**	P	P	14 15 48.5	-0.8
	0.2nm,0.3s,baz=51,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.21**	**219**	P	P	14 16 20.6	+0.3
	1.8nm,0.4s,baz=54,slow=9.3,SNR=86						
FITZ	**Fitzroy Crossi**	**25.40**	**241**	P	P	14 16 51.1	-0.2
	4.5nm,0.5s,baz=74,slow=10,SNR=13						
FITZ				LR	LR	14 28 49.1	
	comp=Z,74nm,19.1s,baz=144,slow=41						
RAO	**Raoul Island**	**38.40**	**130**	LR	LR	14 30 24.6	
	comp=Z,180nm,19.7s,baz=164,slow=30						
MJAR	**Matsushiro Arr**	**44.22**	**348**	LR	LR	14 36 27.0	
	comp=Z,24nm,18.7s,baz=255,slow=34						
MKAR	**Makanchi Array**	**79.32**	**320**	P	P	14 23 29.9	+0.3
	0.0nm,0.3s,baz=108,slow=4.7,SNR=1.7						
ILAR	**Eielson Array**	**85.39**	**23**	P	P	14 24 00.2	-0.7
	0.1nm,0.8s,baz=235,slow=3.2,SNR=2.7						
NRIK	**Noril'sk**	**86.58**	**342**	LR	LR	15 05 07.3	
	comp=Z,47nm,18.1s,baz=176,slow=37						
TORD	**Torodi Ar. Bea**	**147.18**	**284**	PKPbc	PKPbc	14 31 08.7	+0.4
	0.5nm,0.6s,baz=63,slow=2.8,SNR=4.4						

ISK 13 14:16:50.7, 40.01N×33.14E, h19km, ML2.0/6, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.31**	**247**	PG	Pb	14 16 58.0	+0.3
LOD				SG	Sb	14 17 03.2	+0.8
AFSR	**Afar-Bala (An**	**0.56**	**185**	PG	Pg	14 17 02.4	+0.3
KULU	**Kulu**	**0.97**	**186**	PG	Pg	14 17 09.9	+0.3
SERE	**Sereflikochisa**	**1.11**	**163**	PN	Pb	14 17 11.8	+0.4
YAYX	**Yaylak**	**1.19**	**154**	PN	Pb	14 17 12.9	+0.2
SVRH	**Sivrihisar-ESK**	**1.37**	**246**	PN	Pb	14 17 15.4	-0.3

*ISK **13** 14:25:47.2, 35.62N×32.13E, h14km, ML2.8/11*

*NIC **13** 14:25:50.3±0.2, 35.59N×32.48E, h50km, ML3.0*

*DDA **13** 14:25:53.6, 35.44N×32.85E, h48km±4km, ML3.0*

ISC 13 14:25:51.6±2.6, 35.50N±0.05°×32.3E±0.2, h45km±23km, n22, σ1.900/22, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alefka**	**0.41**	**148**	P	**Pn**	**14 26 00.9**	**-0.6**
	baz=347						
ALFC				S	**Sn**	**14 26 09.2**	**+0.7**
AKDN	**Akdeniz- Kıbrı**	**0.56**	**111**	PG	Pn	14 26 02.3	-1.0
AKDN				SG	**Sn**	**14 26 13.2**	**+1.6**
LEF	**Lefka**	**0.59**	**130**	PG	Pn	14 26 02.6	-1.2
LEF	**Lefka**	**0.59**	**130**	*i* P	**Pn**	**14 26 03.6**	**-0.2**
LEF				*i* S	**Sn**	**14 26 12.4**	**0.0**
LEF				IAML_P			
	comp=Z,2μm,0.1s						
PPCY	**Paphos**	**0.61**	**179**	P	Pn	14 26 04.1	+0.1
	baz=8.0						
MAMC	**Mammari**	**0.79**	**114**	P	Pn	14 26 04.7	-1.7
	baz=304						
BOZY	**Bozyazi-Mersin**	**0.80**	**41**	PG	Pn	14 26 04.0	-2.5
BOZY				SG	**Sn**	**14 26 16.2**	**-1.1**
SZAC	**Souni**	**0.87**	**149**	P	**Pn**	**14 26 07.1**	**-0.4**
	baz=338						
SZAC				S	**Sn**	**14 26 19.6**	**+0.5**
CSS	**Mathiatis**	**0.98**	**123**	P	Pn	14 26 07.5	-1.4
	baz=311						
CSS				S	**Sn**	**14 26 19.9**	**-1.7**
LFK	**Lefkose**	**1.00**	**102**	PN	**Pn**	**14 26 09.9**	**+0.6**
ALAN	**Alanya-ANTALYA**	**1.08**	**347**	PG	Pn	14 26 05.8	-4.6
BERE	**Bereket-Mersin**	**1.11**	**40**	PN	**Pn**	**14 26 09.7**	**-1.2**
AKK2	**Akkuyu-Mersin**	**1.17**	**57**	PN	**Pn**	**14 26 11.3**	**-0.3**
AKKU	**Akkuyu-Mersin**	**1.19**	**56**	PN	Pn	14 26 10.8	-1.0
GULN	**MERSIN_Gulnar**	**1.20**	**55**	*i* P	**Pn**	**14 26 11.2**	**-0.7**
GULN				*i* S	**Sn**	**14 26 27.4**	**+0.4**
GULN				IAML_P			
	comp=Z,969nm,0.1s						
YESI	**Yesilovacik-Me**	**1.27**	**56**	PN	**Pn**	**14 26 12.2**	**-0.7**
TEVE	**Tevekalti-Mers**	**1.30**	**44**	PN	**Pn**	**14 26 12.4**	**-1.0**
IKL	**Isikli**	**1.32**	**56**	PN	**Pn**	**14 26 13.0**	**-0.6**
KEBE	**Keben-Mersin**	**1.46**	**49**	PN	**Pn**	**14 26 15.1**	**-0.5**
KIZK	**Mersin**	**1.76**	**56**	PN	**Pn**	**14 26 19.3**	**-0.4**
KIZK	**Mersin**	**1.76**	**56**	*i* P	**Pn**	**14 26 19.1**	**-0.5**
KERG	**Konya-Eregli**	**2.39**	**37**	*i* P	**Pn**	**14 26 30.3**	**+1.9**
KERG				*i* S	**Sn**	**14 26 57.8**	**+1.1**
KERG				IAML_P			
	comp=Z,157nm,0.1s						

*IDC **13** 14:49:25.6±0.7, 2.82S×129.41E, h0km, mb4.4/12, mb1 4.5/15, mb1mx4.2/40, mbtmp4.4/15, ML4.1/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/44, Error ellipse: s-maj=22.5km s-min=14.6km az=72.0*

*ISCJB **13** 14:49:28.2±0.2, 2.88S±0.03°×129.33E±0.03°, h28km, mb4.6/54, MS3.6/6, Error ellipse: s-maj=4.9km s-min=4.3km az=32.8*

*MOS **13** 14:49:28.8±0.8, 2.76S×129.68E, h33km, mb4.8/23, Error

	comp=Z,58nm,20.2s,baz=113,slow=37						
PPBI	**Pangkal Pinang**	**23.20**	**271**	P	**P**	**14 54 39.6**	**+4.6**
	comp=Z,13nm,1.1s						
MDSI	**Maura Dua**	**25.16**	**266**	P	**P**	**14 54 56.6**	**+3.3**
	comp=Z,6.9nm,0.7s						
PDSI	**Padang**	**28.93**	**273**	P	**P**	**14 55 28.7**	**+1.4**
	comp=Z,19nm,0.9s						
MNSI	**Mandailing Nat**	**29.98**	**277**	P	**P**	**14 55 37.8**	**+1.3**
	comp=Z,14nm,0.7s						
SISI	**Saibi**	**30.27**	**272**	P	**P**	**14 55 40.2**	**+1.1**
	comp=Z,15nm,1.5s						
PSI	**Prapat**	**30.93**	**280**	*e*P	**P**	**14 55 44.7**	**-0.3**
	comp=Z,12nm,0.7s						
PSI	**Prapat**	**30.93**	**280**	*e*P	**P**	**14 55 44.7**	**-0.3**
PSI				pmax	pmax		
	comp=Z,12nm,0.7s						
PSI	**Prapat**	**30.93**	**280**	P	**P**	**14 55 44.4**	**-0.6**
	comp=Z,9.4nm,0.7s,baz=177,slow=2.3,SNR=11						
STKA	**Stephens Creek**	**31.06**	**160**	P	**P**	**14 55 46.4**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=344,slow=7.8,SNR=3.2						
STKA				LR	LR	15 10 59.8	
	comp=Z,95nm,19.6s,baz=5.2,slow=42						
GSI	**Gunungsitoli**	**32.03**	**277**	*e*P	**P**	**14 55 53.5**	**-1.1**
	comp=Z,13nm,0.9s						
GSI	**Gunungsitoli**	**32.03**	**277**	P	**P**	**14 55 54.6**	**0.0**
	comp=Z,16nm,0.9s						
NJ2	**Nanjing**	**36.14**	**345**	*e*P	**P**	**14 56 30.5**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,12nm,0.7s						
CM01	**Chiang Mai Arr**	**36.65**	**306**	*e*P	**P**	**14 56 33.4**	**-1.2**
CMAR	**Chiang Mai Arr**	**36.68**	**306**	*ce*P	**P**	**14 56 36.5**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.68**	**306**	P	**P**	**14 56 36.0**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=135,slow=7.3,SNR=12						
CMAR				LR	LR	15 13 20.9	
	comp=Z,40nm,19.2s,baz=168,slow=39						
CMMT	**Chiang Mai**	**36.87**	**307**	P	**P**	**14 56 38.1**	**+1.6**
	comp=Z,8.0nm,1.3s						
CHTO	**Chiang Mai**	**36.87**	**307**	*e*P	**P**	**14 56 35.0**	**-1.5**
	comp=Z,5.7nm,0.8s						
CHTO	**Chiang Mai**	**36.87**	**307**	*e*P	**P**	**14 56 35.0**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CHTO	**Chiang Mai**	**36.87**	**307**	P	**P**	**14 56 38.1**	**+1.6**
	comp=Z,36nm,1.0s						
KMI	**Kunming**	**37.96**	**319**	P	**P**	**14 56 48.1**	**+2.2**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
KMI				pmax	pmax		
	comp=Z,190nm,4.8s						
XAN	**Xi'an**	**41.46**	**334**	P	P	14 57 20.4	+5.7
XAN				pP	pP	14 57 24.6	+1.5
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CD2	**Chengdu**	**41.52**	**326**	P	**P**	**14 57 14.8**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
LZH	**Lanzhou**	**45.50**	**331**	*e*P	**P**	**14 57 49.5**	**+2.1**
LZH				pP	sP	14 57 59.6	+0.5
LZH				sP	pP	14 58 03.8	+8.0
LZH				*e*PP	**PP**	**14 59 36.5**	**+2.3**
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
LZH				pmax	pmax		
	comp=Z,72nm,5.4s						
LZH				LR	LR		
	comp=Z,220nm,13.5s						
LZH				LR	LR		
	comp=Z,220nm,14.0s						
LZH				LR	LR		
	comp=Z,350nm,17.0s						
HHC	**Hu-ho-hao-te**	**46.46**	**341**	*e*P	**P**	**14 57 56.6**	**+1.8**
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.9s						
LSA	**Lhasa**	**48.83**	**314**	*e*P	**P**	**14 58 13.8**	**0.0**
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**48.83**	**314**	*e*P	**P**	**14 58 13.8**	**0.0**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
RAMN	**Ramite**	**50.79**	**309**	*e*P	**P**	**14 58 29.1**	**+0.6**
	comp=Z,63nm,0.8s						
JIRN	**Jiri**	**51.45**	**309**	*e*P	**P**	**14 58 33.8**	**+0.2**
	comp=Z,28nm,0.8s						
GUN	**Gumba**	**51.81**	**309**	*e*P	**P**	**14 58 36.5**	**+0.2**
	comp=Z,37nm,0.8s						
PKI	**Pulchoki**	**52.01**	**309**	*e*P	**P**	**14 58 37.4**	**-0.4**
	comp=Z,9.5nm,0.7s						
PKIN	**Phulchoki**	**52.03**	**309**	*e*P	**P**	**14 58 37.4**	**-0.4**
KKN	**Kakani**	**52.22**	**309**	*e*P	**P**	**14 58 39.1**	**-0.1**
	comp=Z,24nm,0.9s						
DMN	**Daman**	**52.27**	**308**	*e*P	**P**	**14 58 39.7**	**+0.1**
	comp=Z,32nm,1.0s						
GKN	**Gorkha**	**52.82**	**309**	*e*P	**P**	**14 58 43.5**	**-0.1**
	comp=Z,40nm,0.9s						
KOLN	**Koldanda**	**53.52**	**308**	*e*P	**P**	**14 58 49.2**	**+0.4**
	comp=Z,61nm,0.9s						
DANN	**Dangsing**	**53.67**	**309**	*e*P	**P**	**14 58 50.1**	**+0.1**
	comp=Z,64nm,0.8s						
PYUN	**Piuthan**	**54.16**	**308**	*e*P	**P**	**14 58 53.7**	**+0.3**
	comp=Z,70nm,1.0s						
URZ	**Urewera**	**55.99**	**135**	P	**P**	**14 59 05.7**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=222,slow=15,SNR=1.4						
WMQ	**Urumqi**	**59.62**	**326**	*e*P	**P**	**14 59 32.8**	**+1.1**
WMQ				pP	sP	14 59 43.1	-0.5
WMQ				sP	pP	14 59 48.3	+7.9
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				LR	LR		
	comp=Z,72nm,23.1s						
WMQ				LR	LR		
	comp=Z,45nm,24.9s						
PETK	**Petropavlovsk-**	**60.66**	**19**	P	**P**	**14 59 37.0**	**-1.6**
	comp=Z,3.9nm,0.8s,baz=265,slow=7.1,SNR=5.2						
PDGK	**Podgornoye**	**64.17**	**322**	P	**P**	**15 00 02.2**	**-0.2**
PDGK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MK01	**Makanchi Array**	**64.44**	**326**	*e*P	**P**	**15 00 03.5**	**-0.5**
MK31	**Makanchi Array**	**64.45**	**326**	*e*P	**P**	**15 00 03.4**	**-0.8**
	comp=Z,3.8nm,0.9s						
MK31	**Makanchi Array**	**64.45**	**326**	*e*P	**P**	**15 00 03.7**	**-0.4**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**64.45**	**326**	*ce*P	**P**	**15 00 04.4**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**64.45**	**326**	P	**P**	**15 00 04.3**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=122,slow=8.3,SNR=44						
MA2	**Magadan**	**64.52**	**12**	*ce*P	**P**	**15 00 04.5**	**+0.3**
MA2				pmax	pmax		
	comp=Z,5.0nm,2.5s						
KSH	**Kashi**	**64.58**	**317**	P	**P**	**15 00 06.3**	**+1.1**
KSH				pP	sP	15 00 16.3	-1.0
KSH				S	**S**	**15 08 39.6**	**-3.7**
KSH				sS	sS	15 08 56.4	-1.3
KSH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KSH				pmax	pmax		
	comp=Z,91nm,5.3s						
MAKZ	**Makanchi**	**64.64**	**326**	*e*P	**P**	**15 00 04.7**	**-0.6**
	comp=Z,10.0nm,1.3s						
MAKZ	**Makanchi**	**64.64**	**326**	P	**P**	**15 00 04.3**	**-1.0**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KDJ	**Kajisay**	**65.02**	**320**	*e*P	**P**	**15 00 09.2**	**+1.1**
	comp=Z,8.2nm,1.0s						
KDJ	**Kajisay**	**65.02**	**320**	*e*P	**P**	**15 00 09.2**	**+1.1**
KDJ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NRN	**Naryn**	**65.45**	**318**	*e*P	**P**	**15 00 10.8**	**-0.3**
	comp=Z,25nm,0.3s						
NRN	**Naryn**	**65.45**	**318**	*e*P	**P**	**15 00 10.8**	**-0.3**
NRN				pmax	pmax		
	comp=Z,25nm,0.3s						
KZA	**Kyzart**	**66.25**	**319**	P	**P**	**15 00 17.4**	**+1.0**
	SNR=6.8						
TKM2	**Tokmak 2**	**66.42**	**320**	P	**P**	**15 00 17.5**	**+0.3**
	SNR=8.3						
TKM2	**Tokmak 2**	**66.42**	**320**	P	**P**	**15 00 16.8**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
UCH	**Uchtor**	**66.81**	**319**	P	**P**	**15 00 21.1**	**+1.2**
	SNR=6.7						
AAK	**Ala-Archa**	**67.01**	**319**	*e*P	**P**	**15 00 20.6**	**-0.2**
	comp=Z,3.7nm,0.9s						
AAK	**Ala-Archa**	**67.01**	**319**	*ce*P	**P**	**15 00 20.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
USP	**Ospenovka**	**67.30**	**320**	P	**P**	**15 00 22.8**	**+0.3**
	SNR=8.3						
AML	**Almayashu**	**67.31**	**318**	P	**P**	**15 00 23.8**	**+0.8**
	SNR=9.1						
EKS2	**Erkin-Say**	**67.49**	**319**	P	**P**	**15 00 24.7**	**+0.9**
	SNR=8.6						
ZAA0	**Zalesovo Array**	**67.63**	**333**	*e*P	**P**	**15 00 23.1**	**-1.2**
	comp=Z,19nm,1.5s						
ZALV	**Zalesovo Beam**	**67.63**	**333**	*e*P	**P**	**15 00 23.2**	**-1.1**
ZALV	**Zalesovo Beam**	**67.63**	**333**	*i* P	**P**	**15 00 24.0**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ZALV	**Zalesovo Beam**	**67.63**	**333**	P	**P**	**15 00 24.0**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=108,slow=4.8,SNR=18						
GAR	**Garm**	**68.33**	**314**	*e*P	**P**	**15 00 27.8**	**-1.5**
	comp=Z,12nm,1.1s						
GAR	**Garm**	**68.33**	**314**	*e*P	**P**	**15 00 27.8**	**-1.5**
GAR				pmax	pmax		
	comp=Z,12nm,1.1s						
KURK	**Kurchatov**	**68.69**	**328**	*e*P	**P**	**15 00 30.9**	**-0.2**
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**68.69**	**328**	*ce*P	**P**	**15 00 31.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,22nm,1.3s						
NVS	**Novosibirsk**	**68.91**	**333**	⇓ *i* P	**P**	**15 00 32.2**	**-0.1**
NVS				*i*		15 01 03.3	
NVS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.4s						
KK31	**Karatay Array**	**69.84**	**318**	*e*P	**P**	**15 00 38.2**	**-0.2**
	comp=E,5.0nm,1.1s						
KK31	**Karatay Array**	**69.84**	**318**	*e*P	**P**	**15 00 38.2**	**-0.2**
KK31				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**69.84**	**318**	*e*P	**P**	**15 00 38.2**	**-0.2**
	comp=Z,5.0nm,1.1s						
KKAR	**Karatay Array**	**69.84**	**318**	*e*P	**P**	**15 00 38.2**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OTUK	**Ortayu**	**70.95**	**324**	P	**P**	**15 00 45.0**	**-0.1**
OTUK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
BVA0	**Borovoye Array**	**74.26**	**327**	P	**P**	**15 01 04.3**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BVAR	**Borovoye Array**	**74.26**	**327**	P	**P**	**15 01 04.0**	**-0.6**
BVAR	**Borovoye Array**	**74.26**	**327**	P	**P**	**15 01 04.0**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=127,slow=6.1,SNR=22						
BRVK	**Borovoye**	**74.33**	**327**	*e*P	**P**	**15 01 04.1**	**-0.9**
	comp=Z,7.7nm,1.0s						
BRVK	**Borovoye**	**74.33**	**327**	*ce*P	**P**	**15 01 05.5**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,13nm,1.7s						
TIXI	**Tiksi**	**74.40**	**360**	*e*P	**P**	**15 01 05.1**	**0.0**
	comp=Z,3.8nm,1.0s						
TIXI	**Tiksi**	**74.40**	**360**	*ce*P	**P**	**15 01 05.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
VNDA	**Vanda**	**76.59**	**173**	P	**P**	**15 01 18.0**	**+0.4**
VNDA	**Vanda**	**76.59**	**173**	P	**P**	**15 01 17.9**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=330,slow=7.4,SNR=4.9						
LPH	**Laupahoehoe**	**77.17**	**69**	*e*P	**P**	**15 01 22.4**	**+0.5**
NRIK	**Noril'sk**	**77.43**	**346**	P	**P**	**15 01 21.7**	**-0.7**
	comp=Z,1.6nm,0.4s,baz=133,slow=7.2,SNR=6.0						
AB31	**Akbulak array**	**78.90**	**321**	*i* P	**P**	**15 01 30.8**	**-0.1**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ABKAR	**Akbulak array**	**78.90**	**321**	*e*P	**P**	**15 01 30.6**	**-0.4**
	comp=Z,4.1nm,0.8s						
AKTO	**Aktyubinsk**	**80.44**	**322**	P	**P**	**15 01 38.8**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ARU	**Arti**	**81.89**	**328**	*d i* P	**P**	**15 01 46.9**	**+0.1**
ARU						15 04 51.7	
ARU				S	**S**	**15 12 01.2**	**+2.6**
ARU				SS	**SS**	**15 17 16.7**	**-0.7**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.6s						
RAYN	**Ar Rayn**	**85.50**	**294**	*e*P	**P**	**15 02 06.7**	**+0.5**
	comp=Z,6.0nm,0.9s						
RAYN	**Ar Rayn**	**85.50**	**294**	*e*P	**P**	**15 02 06.7**	**+0.5**
RAYN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SYO	**Syowa Base**	**87.24**	**201**	⇑ *e*X	**P**	**15 02 10.4**	**-3.2**
KVAR	**Kislovodsk Arr**	**89.56**	**314**	LR	LR	15 45 26.1	
	comp=Z,23nm,19.7s,baz=78,slow=38						
KIV	**Kislovodsk**	**89.57**	**314**	*e*P	**P**	**15 02 25.8**	**+0.4**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
ARCES	**ARCESS Array B**	**97.52**	**340**	P	**P**	**15 03 00.5**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=72,slow=9.6,SNR=2.7						

IDC 13 14:52:54.6±6.8, **19.05N**×**146.26E**, **h166**km±37km, **mb3.2/4, mb1 3.4/5, mb1mx3.1/38, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/15**, **Error ellipse: s-maj=123.0km s-min=23.3km az=80.0**, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.59**	**194**	P	Pn	14 54 15.5	-0.7
	5.1nm,0.3s,baz=343,slow=14,SNR=4.1						
GUMO				S	Sn	14 55 21.2	+1.1
	3.5nm,0.3s,baz=10,slow=19,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**19.35**	**88**	T	T	15 18 00.7	
	baz=276,slow=74,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**19.36**	**88**	T	T	15 18 07.7	
	baz=276,slow=74,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**19.37**	**88**	T	T	15 18 05.8	
	baz=276,slow=74,SNR=4.7						
TGY	**Tagaytay City**	**24.75**	**262**	LR	LR	15 07 53.5	
	comp=Z,34nm,18.4s,baz=4.0,slow=36						
WRA	**Warramunga Arr**	**40.48**	**197**	P	P	15 00 17.1	-0.2
	1.1nm,0.4s,baz=19,slow=8.8,SNR=9.7						
FITZ	**Fitzroy Crossi**	**42.11**	**210**	P	P	15 00 30.2	-0.4
	2.3nm,1.0s,baz=9.7,slow=11,SNR=3.9						
ASAR	**Alice Springs**	**44.13**	**196**	P	P	15 00 46.8	0.0
	0.3nm,0.5s,baz=15,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**58.60**	**314**	P	P	15 02 34.2	+0.1
	0.2nm,0.7s,baz=84,slow=7.2,SNR=2.4						

*ISCJB **13** 14:53:31.2±0.6, 17.8S±0.2×178.7W±0.1, h550km, mb3.7/12, Error ellipse: s-maj=25.8km s-min=12.0km az=149.4*

*IDC **13** 14:53:33.2±2.9, 17.89S×178.71W, h561km±32km, mb3.3/12, mb1 3.5/13, mb1mx3.3/39, mbtmp4.2/13, Error ellipse: s-maj=26.1km s-min=13.7km az=149.0*

ISC 13 14:53:32.2±0.7, **17.9S**±0.2×**178.7W**±0.1, **h550**km, **n15**, σ**1**§**11/18, mb3.8**/12, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.56**	**251**	P	**P**	**14 56 37.2**	**-0.1**
	0.3nm,0.3s,baz=120,slow=20,SNR=3.1						
CTA	**Charters Tower**	**33.16**	**260**	P	P	14 59 24.0	+0.1
	3.4nm,0.8s,baz=90,slow=7.1,SNR=3.4						
STKA	**Stephens Creek**	**38.39**	**241**	P	P	15 00 07.2	+0.3
	2.0nm,0.8s,baz=69,slow=6.0,SNR=4.8						
WRA	**Warramunga Arr**	**44.35**	**260**	P	P	15 00 54.0	-0.3
	1.0nm,0.5s,baz=95,slow=7.0,SNR=17						
WRA				PcP	**PcP**	15 02 25.3	-1.0
	0.7nm,0.8s,baz=93,slow=3.4,SNR=4.2						
ASAR	**Alice Springs**	**44.52**	**254**	P	P	15 00 56.2	+0.7
	11nm,0.5s,baz=89,slow=7.9,SNR=182						
ASAR				PcP	**PcP**	15 02 26.7	-0.1
	0.5nm,0.4s,baz=105,slow=3.9,SNR=5.3						
ASAR				S	**S**	15 06 50.9	-0.5
	0.6nm,0.9s,baz=91,slow=13,SNR=3.6						
QSPA	**South Pole Qui**	**72.18**	**180**	P	P	15 04 01.5	+0.1
	3.1nm,0.8s,baz=17,slow=19,SNR=5.2						
PETK	**Petropavlovsk-**	**73.57**	**345**	P	P	15 04 09.7	+0.4
	4.4nm,0.9s,baz=142,slow=7.3,SNR=2.2						
NVAR	**Mina Array Bea**	**79.60**	**44**	P	P	15 04 43.0	+0.1
	1.0nm,0.6s,baz=219,slow=9.3,SNR=5.2						
ILAR	**Eielson Array**	**85.92**	**13**	P	P	15 05 12.4	-1.3
	0.5nm,0.5s,baz=220,slow=5.1,SNR=4.7						
TXAR	**Lajitas Array**	**86.22**	**58**	P	P	15 05 17.0	+0.9
	1.2nm,0.8s,baz=213,slow=6.3,SNR=7.6						
PDAR	**Pinedale Array**	**87.53**	**44**	P	P	15 05 21.8	-0.3
	0.5nm,0.5s,baz=227,slow=3.7,SNR=7.6						
SNAA	**Sanae**	**90.64**	**179**	P	P	15 05 35.0	-0.9
	2.4nm,1.0s,baz=107,slow=17,SNR=5.0						
YKA	**Yellowknife Ar**	**94.42**	**25**	P	P	15 05 52.1	-1.0
	0.3nm,1.0s,baz=230,slow=4.0,SNR=4.0						
BRTR	**Keskin Array B**	**144.55**	**315**	PKP	**PKPdf**	15 12 06.7	-0.1
	1.3nm,0.9s,baz=103,slow=2.7,SNR=5.9						
GERES	**GERESS Array B**	**147.50**	**345**	PKPbc	**PKPdf**	15 12 14.8	+3.5
	1.4nm,0.5s,baz=15,slow=3.9,SNR=12						

*IDC **13** 14:54:17.1±0.6, 58.40S×24.80W, h0km, mb4.4/9, mb1 4.5/11, mb1mx4.3/26, mbtmp4.5/11, ML5.3/2, MS3.8/4, Ms1 3.7/4, ms1mx3.4/25, Error ellipse: s-maj=23.3km s-min=16.3km az=71.0*

*NEIC **13** 14:54:18.8±0.2, 58.44S×24.81W, h10km, mb4.6/9, Error ellipse: s-maj=11.2km s-min=8.4km az=62.0*

*ISCJB **13** 14:54:19.4±0.5, 58.47S±0.07×24.78W±0.2, h28km, mb4.5/12, MS3.7/3, Error ellipse: s-maj=16.1km s-min=8.6km az=154.6*

ISC 13 14:54:21.4±0.5, **58.46S**±0.09×**24.9W**±0.1, **h28**km, **n59**, σ**0**§**61/50, mb4.5/12, MS3.6/3, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.07**	**157**	P	**Pn**	**14 57 38.0**	**-0.4**
VNA3	**Neumayer Olymp**	**14.29**	**160**	P	**Pn**	**14 57 40.6**	**-0.8**
VNA3				S	Sn	15 00 03.1	-16
VNA2	**Neumayer--Watz**	**14.47**	**157**	P	**Pn**	**14 57 42.7**	**-1.2**
	baz=324,slow=12						
VNA2				S	Sn	15 00 10.2	-13
	baz=294,slow=13						
SNAA	**Sanae**	**16.01**	**155**	P	**Pn**	**14 58 03.5**	**-0.8**
SNAA	**Sanae**	**16.01**	**155**	*e*Pn	**Pn**	**14 58 03.2**	**-1.0**
	11nm,0.7s						
SNAA				Sn	Sn	15 00 44.8	-16
SNAA	**Sanae**	**16.01**	**155**	Pn	**Pn**	**14 58 03.6**	**-0.6**
	4.4nm,0.3s,baz=320,slow=15,SNR=168						
SNAA				Sn	Sn	15 00 44.8	-16
	0.2nm,0.3s,baz=333,slow=18,SNR=2.6						
SNAA				LR	LR	15 03 19.5	
	comp=Z,309nm,21.6s,baz=350,slow=34						
PMSA	**Palmer Station**	**19.40**	**235**	P	**Pn**	**14 58 45.9**	**-0.1**
	22nm,0.3s,baz=69,slow=8.6,SNR=19						
QSPA	**South Pole Qui**	**31.78**	**180**	P	**P**	**15 00 43.6**	**+0.6**
	3.3nm,0.8s,baz=193,slow=1.4,SNR=12						
PLCA	**Paso Flores**	**33.70**	**281**	*e*P	**P**	**15 00 59.2**	**-0.6**
	6.0nm,0.9s						
PLCA	**Paso Flores**	**33.70**	**281**	P	**P**	**15 00 59.4**	**-0.5**
	4.9nm,0.8s,baz=165,slow=11,SNR=6.5						
MAW	**Mawson**	**37.46**	**141**	*e*P	**P**	**15 01 31.6**	**-0.1**
	116nm,1.8s						
MAW	**Mawson**	**37.46**	**141**	P	**P**	**15 01 31.8**	**+0.1**
MAW	**Mawson**	**37.46**	**141**	P	**P**	**15 01 31.8**	**+0.1**
	16nm,0.9s,baz=288,slow=19,SNR=2.4						
MAW				LR	LR	15 15 04.2	
	comp=Z,225nm,18.7s,baz=199,slow=33						
CPUP	**Villa Florida**	**39.36**	**311**	*e*P	**P**	**15 01 47.3**	**-0.7**
	24nm,1.6s						
CPUP	**Villa Florida**	**39.36**	**311**	LR	LR	15 16 37.4	
	comp=Z,90nm,20.5s,baz=193,slow=34						
VNDA	**Vanda**	**44.21**	**182**	*e*P	**P**	**15 02 28.4**	**+1.1**
	10nm,1.3s						
VNDA	**Vanda**	**44.21**	**182**	P	**P**	**15 02 28.3**	**+1.1**
	5.1nm,1.1s,baz=186,slow=6.5,SNR=11						
BOSA	**Boshof**	**45.44**	**71**	LR	LR	15 17 03.0	
	comp=Z,84nm,21.6s,baz=198,slow=30						
BDFB	**Brasilia**	**46.09**	**328**	P	**P**	**15 02 44.0**	**+1.1**
	6.7nm,0.8s,baz=135,slow=7.1,SNR=7.1						
H10S2	**ASCENSION HYDR**	**50.01**	**13**	T	T	15 57 33.8	
	baz=187,slow=75,SNR=17						
H10S3	**ASCENSION HYDR**	**50.01**	**13**	T	T	15 57 34.0	
	baz=187,slow=75,SNR=15						
H10S1	**ASCENSION HYDR**	**50.02**	**13**	T	T	15 57 35.0	
	baz=187,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**51.12**	**13**	T	T	15 58 55.8	
	baz=181,slow=72,SNR=5.3						
H10N3	**ASCENSION HYDR**	**51.13**	**13**	T	T	15 58 53.5	
	baz=181,slow=72,SNR=8.3						
H10N2	**ASCENSION HYDR**	**51.14**	**13**	T	T	15 58 54.1	
	baz=181,slow=72,SNR=8.0						
LPAZ	**La Paz**	**52.80**	**304**	*e*P	**P**	**15 03 34.0**	**-0.7**
	14nm,1.9s						
LPAZ	**La Paz**	**52.80**	**304**	P	**P**	**15 03 34.2**	**-0.4**
	1.1nm,0.4s,baz=102,slow=6.3,SNR=9.1						
DBIC	**Dimbokro**	**66.89**	**22**	*e*P	**P**	**15 05 10.2**	**-0.5**
	15nm,1.5s						
DBIC	**Dimbokro**	**66.89**	**22**	P	**P**	**15 05 10.2**	**-0.5**
	1.9nm,0.7s,baz=162,slow=11,SNR=3.8						
TORD	**Torodi Ar. Bea**	**74.59**	**27**	P	**P**	**15 05 57.8**	**+0.2**
	3.2nm,0.8s,baz=207,slow=5.3,SNR=16						
TOA1	**Torodi Ar. Sit**	**74.59**	**27**	*e*P	**P**	**15 05 57.8**	**+0.2**
THZ	**Tophouse**	**79.05**	**193**	*e*P	**P**	**15 06 22.6**	**0.0**
	22nm,1.5s						
ASAR	**Alice Springs**	**96.29**	**160**	P	**P**	**15 07 46.5**	**-0.6**
	0.8nm,0.8s,baz=180,slow=3.3,SNR=5.8						
AS31	**Alice Springs**	**96.29**	**160**	*e*P	**P**	**15 07 46.7**	**-0.5**
	3.7nm,1.6s						
PD31	**Pinedale Array**	**122.67**	**299**	*e*PKPdf	**PKiKP**	**15 13 14.0**	**+0.1**
PDAR	**Pinedale Array**	**122.67**	**299**	PKP	**PKPdf**	**15 13 13.5**	**-0.2**
	0.1nm,0.4s,baz=116,slow=6.8,SNR=3.9						
CM01	**Chiang Mai Arr**	**123.02**	**110**	*e

BKSI				S	**Sn**	**15 02 55.3**	**-3.9**
JAGI	**Jajag, Banyuwa**	**5.12**	**285**	P	**Pn**	**15 02 14.8**	**-0.2**
BNSI	**Bone**	**5.46**	**10**	P	**Pn**	**15 02 21.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**10.36**	**143**	Pn	**Pn**	**15 03 28.3**	**+1.4**
	0.4nm,0.3s,baz=331,slow=19,SNR=11						
FITZ				Sn	**Sn**	**15 05 17.4**	**-4.5**
	0.6nm,0.3s,baz=195,slow=21,SNR=7.8						
SIJI	**Sorong**	**14.96**	**54**	Pn	**Pn**	**15 04 31.3**	**+1.5**
	0.5nm,0.3s,baz=161,slow=23,SNR=4.0						
WRA	**Warramunga Arr**	**17.78**	**126**	P	**Pn**	**15 05 05.0**	**-0.6**
	0.2nm,0.3s,baz=304,slow=14,SNR=10						
WRA				S	Sn	15 08 12.4	-11
	0.1nm,0.3s,baz=296,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**19.70**	**136**	P	**P**	**15 05 28.2**	**+1.0**
	0.1nm,0.3s,baz=317,slow=9.8,SNR=10						
MKAR	**Makanchi Array**	**65.25**	**333**	P	**P**	**15 11 38.7**	**-0.2**
	0.2nm,0.3s,baz=139,slow=7.5,SNR=4.0						

MAN 13 15:07:42.9, 8.46N×126.05E, h14km, mb3.7, ML2.4, MS1.9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.41**	**131**	*e*P	Pg	15 07 50.6	-0.6
BIPH				*e*S	Sn	15 08 00.1	-1.8
BUTP	**Butuan**	**0.66**	**320**	*e*P	Pg	15 07 55.4	-0.4
BUTP				*e*S	Sn	15 08 09.1	+1.0
BUKP	**Musuan**	**1.14**	**240**	*e*P	Pb	15 08 03.2	-1.2
BUKP				*e*S	Sn	15 08 23.1	+3.3
CGP	**Cagayan de Oro**	**1.34**	**270**	*e*P	Pn	15 08 05.3	-2.0
CGP				*e*S	Sg	15 08 25.8	-0.5
DMPH	**Davao City--Mi**	**1.47**	**201**	*e*P	Pg	15 08 21.0	+10

IDC ***13*** *15:12:10.9±0.7, 35.66N×34.60W, h0km, mb3.9/20, mb1 4.1/20, mb1mx4.0/42, mbtmp3.9/20, MS3.6/23, Ms1 3.6/23, ms1mx3.5/42, Error ellipse: s-maj=20.1km s-min=14.6km az=0.0*

ISCJB ***13*** *15:12:11.7±0.5, 35.66N±0.09×34.69W±0.07, h17km, mb4.1/28, MS3.6/23, Error ellipse: s-maj=13.3km s-min=8.4km az=9.1*

NEIC ***13*** *15:12:12.3±0.3, 35.64N×34.66W, h10km, mb4.5/12, Error ellipse: s-maj=8.3km s-min=5.2km az=189.0*

ISC 13 15:12:13.4±0.6, 35.6N±0.1×34.63W±0.09, h17km, n58, σ0.9 66/50, mb4.2/30, MS3.8/23, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACI	**Morro de la Ar**	**17.04**	**111**	*e*Pn	**P**	**15 16 12.8**	**0.0**
	37nm,1.0s						
ESDC	**Sonseca Array**	**24.55**	**71**	P	**P**	**15 17 32.4**	**+0.1**
	4.3nm,1.0s,baz=274,slow=9.5,SNR=9.0						
ESDC				LR	LR	15 24 44.1	
	comp=Z,63nm,21.6s,baz=280,slow=31						
ES06	**SONSECA Array**	**24.56**	**71**	*e*P	**P**	**15 17 32.4**	**+0.1**
EKA	**Eskdalemuir Ar**	**29.19**	**38**	P	**P**	**15 18 12.4**	**-1.3**
	0.9nm,0.6s,baz=235,slow=8.5,SNR=3.2						
SCHQ	**Schefferville**	**29.32**	**321**	LR	LR	15 28 43.7	
	comp=Z,222nm,21.5s,baz=131,slow=34						
GERES	**GERESS Array B**	**37.51**	**54**	P	**P**	**15 19 26.1**	**-0.2**
	0.6nm,0.6s,baz=276,slow=5.2,SNR=5.0						
MOA	**Molln**	**37.87**	**56**	*i* pP	**P**	**15 19 30.6**	**+1.4**
	3.9nm,0.8s						
OBKA	**Obir**	**38.07**	**58**	*i* pP	**P**	**15 19 32.5**	**+1.4**
	18nm,0.8s						
NB2	**NORSAR Subarra**	**38.47**	**34**	P	**P**	**15 19 34.8**	**+0.6**
	comp=Z,4.1nm,1.2s,baz=252,slow=8.6						
NB200	**NORSAR Array S**	**38.47**	**34**	*e*P	**P**	**15 19 33.1**	**-1.1**
NOA	**NORSAR Array B**	**38.47**	**34**	P	**P**	**15 19 33.1**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=252,slow=8.6,SNR=3.9						
NOA				LR	LR	15 32 17.2	
	comp=Z,78nm,21.9s,baz=250,slow=31						
ARSA	**Arzberg**	**38.72**	**57**	*i* P	**P**	**15 19 37.0**	**+0.5**
	comp=Z,5.7nm,1.1s						
TOA1	**Torodi Ar. Sit**	**39.61**	**115**	*e*P	**P**	**15 19 43.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**39.61**	**115**	P	**P**	**15 19 43.8**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=312,slow=8.0,SNR=4.1						
TORD				LR	LR	15 35 17.2	
	comp=Z,225nm,18.9s,baz=320,slow=35						
DBIC	**Dimbokro**	**39.71**	**129**	*e*P	**P**	**15 19 44.3**	**-0.7**
	comp=Z,11nm,1.3s						
DBIC	**Dimbokro**	**39.71**	**129**	P	**P**	**15 19 44.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=202,slow=11,SNR=3.2						
DBIC				LR	LR	15 33 40.3	
	comp=Z,132nm,20.1s,baz=272,slow=32						
SIUC	**Southern Illin**	**43.31**	**290**	*e*P	**P**	**15 20 12.6**	**-1.7**
	comp=Z,22nm,1.0s						
FIA0	**FINESS Array S**	**45.56**	**36**	*e*P	**P**	**15 20 32.3**	**+0.4**
FINES	**FINESS Array B**	**45.56**	**36**	P	**P**	**15 20 32.3**	**+0.4**
	comp=Z,3.1nm,1.0s,baz=259,slow=9.1,SNR=4.1						
FINES				LR	LR	15 36 24.0	
	comp=Z,104nm,21.5s,baz=230,slow=32						
ULM	**Lac du Bonnet**	**45.87**	**308**	LR	LR	15 38 44.0	
	comp=Z,304nm,20.2s,baz=122,slow=35						
ARA0	**ARCESS Array S**	**46.71**	**25**	*e*P	**P**	**15 20 40.8**	**-0.2**
ARCES	**ARCESS Array B**	**46.71**	**25**	P	**P**	**15 20 40.8**	**-0.2**
	comp=Z,7.3nm,1.0s,baz=284,slow=16,SNR=5.1						
KIEV	**Kiev**	**47.47**	**51**	*e*P	**P**	**15 20 47.5**	**+0.4**
	comp=Z,5.0nm,0.8s						
AKASG	**Malin Array Be**	**47.47**	**51**	P	**P**	**15 20 47.3**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=274,slow=7.3,SNR=15						
AKASG				LR	LR	15 39 07.6	
	comp=Z,18nm,18.9s,baz=275,slow=34						
AKBB	**Malin Array Si**	**47.47**	**51**	*e*P	**P**	**15 20 47.4**	**+0.3**
	comp=Z,5.5nm,0.8s						
IDI	**Anoyia**	**47.81**	**72**	LR	LR	15 41 58.1	
	comp=Z,13nm,18.6s,baz=292,slow=37						
RES	**Resolute Bay**	**48.20**	**342**	*e*P	**P**	**15 20 53.5**	**+1.1**
	comp=Z,10nm,1.8s						
RES	**Resolute Bay**	**48.20**	**342**	P	**P**	**15 20 53.2**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=83,slow=8.8,SNR=5.9						
OBN	**Obninsk**	**51.27**	**44**	LR	LR	15 43 14.5	
	comp=Z,17nm,18.2s,baz=172,slow=36						
BDFB	**Brasilia**	**52.55**	**196**	LR	LR	15 40 25.9	
	comp=Z,134nm,20.0s,baz=263,slow=32						
BR101	**Keskin Array S**	**53.00**	**64**	*e*P	**P**	**15 21 29.6**	**+0.3**
BRTR	**Keskin Array B**	**53.00**	**64**	P	**P**	**15 21 29.6**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=282,slow=6.1,SNR=7.7						
BRTR				LR	LR	15 41 36.9	
	comp=Z,23nm,20.3s,baz=274,slow=33						
YKA	**Yellowknife Ar**	**54.58**	**326**	P	**P**	**15 21 40.7**	**+0.4**
	comp=Z,2.1nm,1.0s,baz=77,slow=7.2,SNR=16						
YKA				LR	LR	15 45 10.6	
	comp=Z,9.1nm,18.0s,baz=68,slow=36						
YKB5	**Yellowknife Ar**	**54.58**	**326**	*e*P	**P**	**15 21 40.5**	**+0.2**
PD31	**Pinedale Array**	**56.74**	**302**	*e*P	**P**	**15 21 56.5**	**0.0**
	comp=Z,3.3nm,1.4s						
PDAR	**Pinedale Array**	**56.74**	**302**	P	**P**	**15 21 56.2**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=44,slow=6.6,SNR=3.4						
PDAR				LR	LR	15 46 31.3	
	comp=Z,152nm,18.5s,baz=62,slow=36						
KIRV	**Kirov**	**57.43**	**38**	LR	LR	15 45 17.1	
	comp=Z,102nm,19.6s,baz=191,slow=35						
TXAR	**Lajitas Array**	**57.51**	**285**	P	**P**	**15 22 02.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=79,slow=6.5,SNR=6.1						
TXAR				LR	LR	15 46 26.9	
	comp=Z,51nm,18.7s,baz=0.0,slow=36						
KBZ	**Khabaz**	**58.19**	**56**	P	**P**	**15 22 07.2**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=302,slow=6.4,SNR=13						
INK	**Inuvik**	**60.55**	**335**	*e*P	**P**	**15 22 22.4**	**+0.2**
	comp=Z,4.6nm,1.1s						
INK	**Inuvik**	**60.55**	**335**	P	**P**	**15 22 22.9**	**+0.6**
	comp=Z,1.5nm,1.0s,baz=5.2,slow=4.8,SNR=4.4						
LPAZ	**La Paz**	**60.62**	**217**	*e*P	**P**	**15 22 24.4**	**+0.3**
LPAZ	**La Paz**	**60.62**	**217**	P	**P**	**15 22 25.1**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=12,slow=6.8,SNR=6.1						
LPAZ				LR	LR	15 45 37.3	
	comp=Z,72nm,19.7s,baz=100,slow=33						
KVN	**Kaiserville**	**64.14**	**301**	*e*P	**P**	**15 22 47.7**	**+0.6**
	comp=Z,5.5nm,1.2s						
NV01	**Mina Array Sit**	**64.56**	**300**	*e*P	**P**	**15 22 49.2**	**-0.7**
NVAR	**Mina Array Bea**	**64.56**	**300**	P	**P**	**15 22 49.7**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=76,slow=6.7,SNR=4.5						
NVAR				LR	LR	15 51 33.8	
	comp=Z,140nm,18.2s,baz=317,slow=37						
ABKAR	**Akbulak array**	**66.69**	**45**	*e*P	**P**	**15 23 02.9**	**-0.2**
ABKAR				*e*PcP	**PcP**	**15 23 31.4**	**-0.8**
ILAR	**Eielson Array**	**66.93**	**334**	LR	LR	15 48 58.9	
	comp=Z,42nm,21.0s,baz=118,slow=33						
NRIK	**Noril'sk**	**67.15**	**19**	LR	LR	15 52 50.9	
	comp=Z,26nm,18.6s,baz=86,slow=36						
BVAR	**Borovoye Array**	**70.44**	**38**	LR	LR	15 53 27.3	
	comp=Z,60nm,18.5s,baz=286,slow=35						
KURK	**Kurchatov**	**75.92**	**37**	*e*P	**P**	**15 23 59.2**	**+0.4**
	comp=Z,3.8nm,1.2s						

ZAA1	**Zalesovo Array**	**76.63**	**32**	*e*P	**P**	**15 24 03.0**	**+0.1**
ZALV	**Zalesovo Beam**	**76.64**	**32**	P	**P**	**15 24 03.0**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=309,slow=7.5,SNR=3.7						
ZALV				LR	LR	15 56 42.6	
	comp=Z,45nm,20.5s,baz=250,slow=35						
MK31	**Makanchi Array**	**80.32**	**38**	*e*P	**P**	**15 24 23.8**	**+0.3**
	comp=Z,4.7nm,1.8s						
MK32	**Makanchi Array**	**80.32**	**38**	*e*P	**P**	**15 24 23.9**	**+0.5**
MKAR	**Makanchi Array**	**80.32**	**38**	P	**P**	**15 24 23.9**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=297,slow=5.3,SNR=9.2						
MKAR				LR	LR	16 00 29.3	
	comp=Z,36nm,18.3s,baz=279,slow=36						
MK01	**Makanchi Array**	**80.34**	**38**	*e*P	**P**	**15 24 23.9**	**+0.3**
NRN	**Naryn**	**80.41**	**46**	*e*P	**P**	**15 24 25.1**	**+0.6**
	comp=Z,2.4nm,0.8s						

NIED ***13*** *15:13:00, 41.40N×143.40E, h29km, Mw3.8 Best double couple: M0=4.74000×10^14 NP1:φs=332.00000°, δ27.00000°, λ=-110.00000°. NP2:φs=174.00000°, δ65.00000°, λ=-80.00000°.*

ISCJB ***13*** *15:13:52.7±0.8, 41.38N±0.04×143.52E±0.06, h44km±7km, mb3.7/12, Error ellipse: s-maj=9.9km s-min=4.6km az=39.6*

JMA ***13*** *15:13:53.8±0.1, 41.45N×143.44E, h55km±3km, M3.6*

IDC ***13*** *15:13:55.2±0.8, 41.35N×143.52E, h51km±7km, mb3.4/12, mb1 3.7/15, mb1mx3.5/41, mbtmp3.7/15, MS2.6/3, Ms1 2.6/3, ms1mx2.5/37, Error ellipse: s-maj=18.0km s-min=10.2km az=84.0*

ISC 13 15:13:53.4±0.8, 41.42N±0.04×143.50E±0.05, h33km±4km, n36, σ0.8 89/44, mb3.8/12, 8C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JEM	**Erimo**	**0.65**	**337**	↑P	**Pn**	**15 14 06.3**	**+0.1**
JEM				*e*S	**Sn**	**15 14 15.4**	**+0.1**
JTHR	**Tokachihiroo**	**0.88**	**350**	↑P	**Pb**	**15 14 09.8**	**-0.4**
JTHR				*e*S	**Sn**	**15 14 21.9**	**+0.8**
JNBK	**Urakawa-nobuka**	**1.02**	**327**	P	**Pb**	**15 14 12.1**	**-0.5**
JNBK				*e*S	**Sb**	**15 14 25.0**	**-0.7**
JCH	**Churui**	**1.20**	**355**	↑P	**Pn**	**15 14 14.0**	**+0.2**
JCH				*e*S	**Sn**	**15 14 29.1**	**+0.2**
JOB	**Onbets**	**1.50**	**9**	↑P	**Pn**	**15 14 18.5**	**+0.5**
JBT2	**Biratori 2**	**1.60**	**328**	P	**Pn**	**15 14 20.6**	**+1.3**
JARK	**Aomorirokkasho**	**1.66**	**256**	P	**Pn**	**15 14 20.3**	**+0.1**
JARK				*e*S	**Sn**	**15 14 39.8**	**-0.6**
JAK	**Akkeshi**	**1.81**	**29**	↑P	**Pn**	**15 14 22.5**	**+0.3**
JAK				*e*S	**Sn**	**15 14 43.9**	**0.0**
JANG	**Nango**	**1.83**	**236**	↑P	**Pn**	**15 14 22.0**	**-0.6**
JOT	**Ohata**	**1.85**	**270**	↑P	**Pn**	**15 14 23.0**	**+0.3**
JOT				*e*S	**Sn**	**15 14 44.6**	**-0.3**
JFR	**Furan**	**1.87**	**339**	P	**Pn**	**15 14 23.1**	**+0.1**
JAR	**Ashorobuto**	**1.88**	**6**	P	**Pn**	**15 14 23.4**	**+0.2**
JAR				*e*S	**Sn**	**15 14 45.9**	**0.0**
JKB	**Kayabe**	**1.91**	**285**	P	**Pn**	**15 14 24.1**	**+0.5**
JKB				*e*S	**Sn**	**15 14 46.4**	**0.0**
JTM	**Tenmabayashi**	**1.95**	**252**	↑P	**Pn**	**15 14 24.5**	**+0.4**
JTM				*e*S	**Sn**	**15 14 47.6**	**+0.2**
ASAJ	**Asahikawa**	**2.77**	**346**	P	**Pn**	**15 14 36.9**	**+1.4**
	1.9nm,0.3s,baz=206,slow=18,SNR=36						
ASAJ				S	**Sb**	**15 15 12.6**	**-3.2**
	4.8nm,0.3s,baz=358,slow=13,SNR=4.6						
ASAJ				LR	LR	15 16 06.7	
	comp=Z,68nm,18.5s,baz=174,slow=46						
MAT	**Matsushiro**	**6.38**	**222**	P	**Pn**	**15 15 26.0**	**+0.9**
MJAR	**Matsushiro Arr**	**6.38**	**222**	P	**Pn**	**15 15 25.4**	**+0.2**
	0.2nm,0.3s,baz=28,slow=12,SNR=20						
MJAR				LR	LR	15 18 30.9	
	comp=Z,60nm,19.6s,baz=350,slow=44						
USRK	**Ussuriysk Ar.**	**8.91**	**292**	P	**Pn**	**15 16 02.5**	**+2.8**
	0.1nm,0.3s,baz=151,slow=36,SNR=2.3						
USRK				LR	LR	15 19 08.4	
	comp=Z,48nm,21.4s,baz=122,slow=35						
SONM	**Songino Array**	**26.98**	**296**	P	**P**	**15 19 32.4**	**+0.3**
	0.4nm,0.6s,baz=76,slow=6.1,SNR=2.2						
H11N2	**WAKE ISLAND Hy**	**29.38**	**130**	T	T	15 51 06.8	
	baz=323,slow=75,SNR=133						
H11N1	**WAKE ISLAND Hy**	**29.39**	**130**	T	T	15 51 08.6	
	baz=323,slow=75,SNR=147						
H11N3	**WAKE ISLAND Hy**	**29.40**	**130**	T	T	15 51 08.5	
	baz=323,slow=75,SNR=116						
H11S1	**WAKE ISLAND Hy**	**30.24**	**132**	T	T	15 52 13.4	
	baz=325,slow=76,SNR=165						
H11S3	**WAKE ISLAND Hy**	**30.25**	**132**	T	T	15 52 07.9	
	baz=325,slow=76,SNR=121						
H11S2	**WAKE ISLAND Hy**	**30.26**	**132**	T	T	15 52 05.5	
	baz=325,slow=76,SNR=121						
ZALV	**Zalesovo Beam**	**40.30**	**309**	P	**P**	**15 21 27.4**	**+0.2**
	0.8nm,0.5s,baz=60,slow=5.7,SNR=2.9						
MKAR	**Makanchi Array**	**43.30**	**299**	P	**P**	**15 21 52.4**	**+0.4**
	0.3nm,0.6s,baz=88,slow=10,SNR=6.1						
MKAR				pP	**sP**	**15 22 04.9**	**0.0**
	0.6nm,0.7s,baz=87,slow=8.5,SNR=4.8						
INK	**Inuvik**	**49.76**	**29**	P	**P**	**15 22 43.0**	**+0.9**
	4.6nm,1.1s,baz=297,slow=8.6,SNR=9.7						
RES	**Resolute Bay**	**57.95**	**15**	P	**P**	**15 23 42.0**	**+0.1**
	1.7nm,0.8s,baz=314,slow=5.5,SNR=8.3						
YKA	**Yellowknife Ar**	**59.22**	**32**	P	**P**	**15 23 51.0**	**+0.1**
	0.2nm,0.6s,baz=302,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**61.64**	**190**	P	**P**	**15 24 06.8**	**-1.0**
	0.4nm,0.5s,baz=7.1,slow=6.8,SNR=17						
WRA				pP	**sP**	**15 24 21.0**	**+0.1**
	0.8nm,0.6s,baz=6.8,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**65.37**	**190**	P	**P**	**15 24 32.8**	**+0.3**
	0.4nm,0.8s,baz=11,slow=5.6,SNR=6.7						
ASAR				pP	**sP**	**15 24 46.9**	**+1.4**
	0.4nm,0.8s,baz=8.7,slow=8.7,SNR=3.0						
FINES	**FINESS Array B**	**65.69**	**332**	P	**P**	**15 24 33.5**	**-0.6**
	1.2nm,0.5s,baz=45,slow=7.5,SNR=9.5						
NVAR	**Mina Array Bea**	**71.11**	**55**	P	**P**	**15 25 07.8**	**-0.9**
	0.5nm,0.7s,baz=226,slow=9.4,SNR=4.2						
PDAR	**Pinedale Array**	**73.47**	**47**	P	**P**	**15 25 22.5**	**-0.3**
	0.5nm,0.5s,baz=246,slow=1.2,SNR=5.6						
TXAR	**Lajitas Array**	**86.19**	**54**	P	**P**	**15 26 31.8**	**+0.1**
	0.4nm,0.7s,baz=318,slow=1.7,SNR=4.9						

IDC ***13*** *15:18:30.1±16.0, 57.07S×27.06W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.5/20, mbtmp3.8/1, Error ellipse: s-maj=1035.0km s-min=73.3km az=142.0*

ISC 13 15:18:27.7±1.5, 58.5S±0.2×24.8W±0.6, h10km, n6, σ0.6 6/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.04**	**157**	P	**Pn**	**15 21 47.1**	**+0.8**
VNA2	**Neumayer--Watz**	**14.44**	**157**	P	**Pn**	**15 21 51.2**	**-0.5**
	baz=317,slow=15						
SNAA	**Sanae**	**15.98**	**155**	P	**Pn**	**15 22 11.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**74.61**	**27**	P	**P**	**15 30 06.8**	**+0.1**
	0.4nm,0.5s,baz=203,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**138.83**	**315**	PKP	**PKPdf**	**15 37 52.6**	**+0.2**
	0.1nm,0.6s,baz=133,slow=2.0,SNR=2.9						
ILAR	**Eielson Array**	**152.66**	**308**	PKPbc	**PKPbc**	**15 38 22.6**	**-0.2**
	0.5nm,0.6s,baz=108,slow=2.9,SNR=8.6						

ISK ***13*** *15:21:51.9, 38.73N×43.35E, h13km, ML1.9/4*

DDA ***13*** *15:21:53.1, 38.71N×43.40E, h7km±5km, ML2.6*

ISC 13 15:21:52.1±1.2, 38.71N±0.05×43.43E±0.08, h27km±9km, n7, σ0.8 27/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.12**	**195**	PG	**Pb**	**15 21 57.2**	**-0.1**
VANB				SG	**Sb**	**15 22 01.0**	**+0.2**
VMUR	**Van-Muradiye**	**0.30**	**22**	*i* P	**Pn**	**15 22 01.0**	**0.0**
VMUR				*i* S	**Sn**	**15 22 06.7**	**0.0**
VMUR				IAML_P			
	comp=Z,1μm,0.1s						
GEVA	**Gevas**	**0.49**	**216**	*i* P	**Pb**	**15 22 02.6**	**+0.2**
GEVA				*i* S	**Sn**	**15 22 11.4**	**+0.2**
GEVA				IAML_P			
	comp=Z,645nm,0.1s						
AKDM	**Akdamar-Van**	**0.52**	**223**	PG	**Pb**	**15 22 02.2**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.56**	**281**	*i* P	**Pb**	**15 22 03.5**	**-0.1**
ADCV				*i* S	**Sn**	**15 22 13.0**	**0.0**
ADCV				IAML_P			
	comp=Z,434nm,0.1s						
AGRB	**Hanur-Agry**	**0.93**	**339**	PG	**Pb**	**15 22 09.6**	**-0.2**
AGRB				SG	**Sn**	**15 22 22.4**	**+0.2**
GURO	**Guroymak-BITLI**	**1.10**	**262**	PG	**Pb**	**15 22 12.6**	**-0.1**

ATH ***13*** *15:23:43.6, 35.85N×27.08E, h29km±3km, ML2.4/3, Error ellipse: s-maj=5.2km s-min=1.2km az=119.0*

ISCJB ***13*** *15:23:44.3±1.1, 35.88N±0.04×27.04E±0.04, h8km±9km, Error ellipse: s-maj=6.9km s-min=4.3km az=150.7*

THE ***13*** *15:23:44.5, 35.88N×27.08E, h13km±2km, ML2.2/6, Error ellipse: s-maj=2.7km s-min=0.8km az=146.0*

DDA ***13*** *15:23:44.6, 35.91N×27.10E, h3km±2km, ML2.5*

ISC 13 15:23:44.6±1.0, 35.83N±0.04×27.09E±0.03, h24km±11km, n17, σ1.9 73/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.29**	**169**	P	**Pb**	**15 23 51.0**	**-0.5**
KARP				S	**Sb**	**15 23 56.8**	**+0.7**
KARP	**Karpathos**	**0.29**	**169**	P	**Pb**	**15 23 51.0**	**-0.5**
KARP				S	**Sb**	**15 23 56.8**	**+0.7**
KARP				AML	AML	15 23 58.2	
	comp=E,864μm,0.1s						
KARP				AML	AML	15 23 58.3	
	comp=N,964μm,0.1s						
ARG	**Arkhangelos**	**0.92**	**65**	P	**Pb**	**15 24 01.5**	**-0.4**
ARG				S	**Sn**	**15 24 14.3**	**-0.2**
ARG	**Arkhangelos**	**0.92**	**65**	P	**Pb**	**15 24 01.8**	**-0.1**
ARG				S	**Sn**	**15 24 14.4**	**0.0**
ARG				AML	AML	15 24 16.7	
	comp=N,254μm,0.4s						
ARG				AML	AML	15 24 17.6	
	comp=E,463μm,0.3s						
DAT	**Datca**	**0.98**	**23**	*i* P	**Pn**	**15 24 03.0**	**+0.2**
DAT				*i* S	**Sn**	**15 24 16.7**	**+0.6**
DAT				IAML_P			
	comp=Z,179nm,0.2s						
ZKR	**Zakros**	**1.01**	**225**	P	**Pb**	**15 24 03.8**	**+0.4**
ZKR				S	**Sn**	**15 24 17.3**	**+0.6**
ZKR	**Zakros**	**1.01**	**225**	P	**Pb**	**15 24 03.8**	**+0.4**
ZKR				S	**Sn**	**15 24 18.3**	**+1.6**
STIA	**Sitia Lasithi**	**1.03**	**233**	P	**Pb**	**15 24 03.8**	**0.0**
ANAF	**Anafi Island**	**1.19**	**296**	P	**Pn**	**15 24 05.6**	**-0.1**
ANAF				S	**Sn**	**15 24 20.7**	**-0.5**
ANAF	**Anafi Island**	**1.19**	**296**	P	**Pb**	**15 24 05.8**	**-0.7**
ANAF				S	**Sn**	**15 24 21.7**	**+0.6**
ANAF				AML	AML	15 24 23.1	
	comp=N,1020μm,0.4s						
ANAF				AML	AML	15 24 24.7	
	comp=E,1024μm,0.3s						
BDRM	**Kayabasi**	**1.26**	**13**	*i* S	**Sb**	**15 24 23.3**	**-0.2**
NPS	**Neapolis**	**1.33**	**245**	P	**Pn**	**15 24 07.4**	**-0.3**
NPS				S	**Sb**	**15 24 25.7**	**+0.1**
NPS	**Neapolis**	**1.33**	**245**	P	**Pn**	**15 24 07.3**	**-0.3**
NPS				S	**Sb**	**15 24 25.8**	**+0.2**
AMGA	**Amorgos Island**	**1.39**	**316**	P	**Pn**	**15 24 06.9**	**-1.6**
AMGA				S	**Sn**	**15 24 25.4**	**-0.7**
TURN	**Turunc**	**1.60**	**49**	*i* P	**Pn**	**15 24 09.0**	**-2.3**
TURN				*i* S	**Sn**	**15 24 27.3**	**-3.9**
TURN				IAML_P			
	comp=Z,406nm,0.1s						
FETY	**Fethiye**	**1.80**	**63**	*i* P	**Pb**	**15 24 18.3**	**+1.4**
FETY				*i* S	**Sb**	**15 24 38.3**	**-0.6**
FETY				IAML_P			
	comp=Z,790nm,0.2s						
TAVA	**DENIZLI_Tavas**	**2.19**	**41**	*i* P	Pb	15 24 52.2	+29
TAVA				*i* S	**Sb**	**15 24 57.3**	**+6.9**

IDC ***13*** *15:33:16.8±10.0, 23.80S×179.99W, h423km±100km, mb3.5/6, mb1 3.6/7, mb1mx3.2/28, mbtmp4.4/7, Error ellipse: s-maj=79.9km s-min=27.2km az=43.0*

ISC 13 15:33:21.0±3.4, 23.9S±0.3×179.6W±0.5, h518km, n8, σ0.9 48/8, mb4.1/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.56**	**190**	P	**P**	**15 36 25.8**	**-0.3**
	2.1nm,0.3s,baz=288,slow=3.4,SNR=18						
RPZ	**Rata Peaks**	**21.17**	**199**	P	**P**	**15 37 29.7**	**+0.6**
	4.6nm,0.5s,baz=347,slow=1.8,SNR=7.8						
CTA	**Charters Tower**	**31.82**	**270**	P	**P**	**15 39 03.2**	**+0.1**
	4.5nm,0.5s,baz=91,slow=11,SNR=18						
ASAR	**Alice Springs**	**42.37**	**261**	P	**P**	**15 40 29.8**	**+0.1**
	1.3nm,0.8s,baz=94

	baz=327								
YM11	**YM11**	**0.51 317**	*e*P	**Pn**	**15 52 00.3 +0.1**
	baz=328								
YM11			*e*S	**Sn**	**15 52 10.0 -0.7**
	baz=328								
YM05	**YM05**	**0.51 316**	*e*P	**Pn**	**15 52 00.3 +0.1**
	baz=327								
YM05			*e*S	**Sn**	**15 52 10.1 -0.7**
	baz=327								
YM08	**YM08**	**0.52 320**	*e*P	**Pn**	**15 51 60.0 -0.2**
	baz=329								
YM08			*e*S	**Sn**	**15 52 09.7 -1.0**
	baz=329								
YM04	**YM04**	**0.52 313**	*e*P	**Pn**	**15 52 00.3 +0.1**
	baz=324								
YM04			*e*S	**Sn**	**15 52 10.0 -0.8**
	baz=324								
YHNB	**Yeheng**	**0.54 257**	*e*P	**Pn**	**15 52 00.7 +0.2**
	baz=259								
YHNB			*e*S	**Sn**	**15 52 10.9 -0.3**
	baz=259								
ANP	**Anpu**	**0.56 315**	*e*P	**Pn**	**15 52 00.7 +0.1**
	baz=326								
ANP			*e*S	**Sn**	**15 52 10.8 -0.6**
	baz=326								
NSK	**Sanguang**	**0.56 258**	P	**Pn**	**15 52 00.8 +0.2**
	baz=259								
NSK			*e*S	**Sn**	**15 52 11.1 -0.3**
	baz=259								
TWS1	**Kuangyinshan**	**0.58 302**	*e*P	**Pn**	**15 52 01.1 +0.5**
	baz=314								
TWS1			*e*S	**Sn**	**15 52 11.9 +0.3**
	baz=314								
NTST	**Danshui**	**0.59 309**	*e*P	**Pn**	**15 52 01.2 +0.4**
	baz=319								
NTST			*e*S	**Sn**	**15 52 11.7 -0.1**
	baz=319								
NNSB	**Datong**	**0.64 235**	P	**Pn**	**15 52 01.9 +0.6**
	baz=239								
NNSB			*e*S	**Sn**	**15 52 13.0 +0.2**
	baz=239								
NNS	**Nan Shan**	**0.64 237**	P	**Pn**	**15 52 01.8 +0.4**
	baz=240								
NNS			S	**Sn**	**15 52 13.1 +0.3**
	baz=240								
WLTB	**Daxi**	**0.64 275**	*e*P	**Pn**	**15 52 01.9 +0.7**
	baz=278								
WLTB			*e*S	**Sn**	**15 52 13.7 +1.1**
	baz=278								
NACB	**Ninganchiao**	**0.70 208**	*e*P	**Pn**	**15 52 01.5 -0.4**
	baz=215								
NACB			*e*S	**Sn**	**15 52 12.9 -0.8**
	baz=215								
NCU	**National Centr**	**0.72 284**	*e*P	**Pn**	**15 52 02.6 +0.5**
	baz=278								
NCU			*e*S	**Sn**	**15 52 15.1 +1.0**
	baz=278								
NCUH	**Zhongli**	**0.72 284**	*e*P	**Pn**	**15 52 02.5 +0.4**
	baz=278								
NCUH			*e*S	**Sn**	**15 52 14.6 +0.5**
	baz=278								
ETLH	**Xiulin Townshi**	**0.73 217**	*e*P	**Pn**	**15 52 02.1 -0.1**
	baz=222								
ETLH			*e*S	**Sn**	**15 52 13.6 -0.7**
	baz=222								
TWD	**Chiawan**	**0.78 205**	*e*P	**Pn**	**15 52 02.2 -0.5**
	baz=211								
TWD			*e*S	**Sn**	**15 52 14.0 -1.2**
	baz=211								
SBCB	**Hsinchu**	**0.88 270**	*e*P	**Pn**	**15 52 04.3 +0.5**
	baz=272								
SBCB			*e*S	**Sn**	**15 52 17.4 +0.2**
	baz=272								
NSTT	**Nanjuang**	**0.88 260**	*e*P	**Pn**	**15 52 04.1 +0.2**
	baz=260								
NSTT			*e*S	**Sn**	**15 52 17.1 -0.1**
	baz=260								
TWT	**Tachien**	**0.89 233**	*e*P	**Pn**	**15 52 05.2 +1.1**
	baz=232								
TWT			*e*S	**Sn**	**15 52 18.5 +0.9**
	baz=232								
WHF	**Hehuan Shan**	**0.90 224**	*e*P	**Pn**	**15 52 04.9 +0.4**
	baz=216								
WHF			*e*S	**Sn**	**15 52 18.3 0.0**
	baz=216								
TDCB	**Techi**	**0.91 234**	*e*P	**Pn**	**15 52 05.2 +0.9**
	baz=233								
TDCB			*e*S	**Sn**	**15 52 18.3 +0.5**
	baz=233								
JYNG	**Yonagunijimaku**	**0.96 111**	S	**Sn**	**15 52 18.6 -0.1**
YOJ	**Yonaguni jima**	**1.01 109**	P	**Pn**	**15 52 05.5 +0.2**
YOJ			S	**Sn**	**15 52 19.6 -0.2**
CHGB	**Renai**	**1.02 224**	*e*P	**Pn**	**15 52 06.4 +0.7**
	baz=215								
CHGB			*e*S	**Sn**	**15 52 20.6 +0.2**
	baz=215								
WHP	**Taichung City**	**1.05 241**	*e*P	**Pn**	**15 52 06.7 +0.8**
	baz=250								
WHP			*e*S	**Sn**	**15 52 21.2 +0.3**
	baz=250								
ESL	**Shilin**	**1.09 206**	*e*P	**Pn**	**15 52 05.1 -1.2**
	baz=203								
NMLH	**Miaoli**	**1.09 257**	*e*P	**Pn**	**15 52 06.6 +0.4**
	baz=257								
NMLH			*e*S	**Sn**	**15 52 21.4 -0.1**
	baz=257								
OWD	**Renai**	**1.10 221**	*e*P	**Pn**	**15 52 06.8 +0.2**
	baz=213								
OWD			*e*S	**Sn**	**15 52 21.3 -0.6**
	baz=213								
NSY	**Sanyi**	**1.15 251**	*e*P	**Pn**	**15 52 07.8 +0.7**
	baz=251								
NSY			*e*S	**Sn**	**15 52 23.4 +0.6**
	baz=251								
TWQ1	**Liyutan**	**1.17 248**	*e*P	**Pn**	**15 52 07.7 +0.5**
	baz=247								
TWQ1			*e*S	**Sn**	**15 52 23.4 +0.2**
	baz=247								
PTSB	**Yuanli**	**1.19 253**	*e*S	**Sn**	**15 52 23.6 -0.1**
	baz=262								
EGFH	**Guangfu**	**1.22 203**	*e*P	**Pn**	**15 52 07.8 -0.1**
	baz=206								
EGFH			*e*S	**Sn**	**15 52 23.0 -1.3**
	baz=206								
VWDT	**VWDT**	**1.27 216**	*e*P	**Pn**	**15 52 09.0 +0.5**
	baz=208								
VWDT			*e*S	**Sn**	**15 52 26.1 +0.6**
	baz=208								
WDJ	**Dajia District**	**1.28 250**	*e*P	**Pn**	**15 52 08.9 +0.4**
	baz=250								
WDJ			*e*S	**Sn**	**15 52 25.3 -0.3**
	baz=250								
SMLT	**Sun Moon Lake**	**1.32 227**	*e*P	**Pn**	**15 52 10.1 +0.8**
	baz=234								
SMLT			*e*S	**Sn**	**15 52 28.4 +1.6**
	baz=234								
TCU	**Taichung**	**1.33 241**	*e*S	**Sn**	**15 52 26.2 -0.6**
	baz=240								
TYC	**Yuchr**	**1.34 229**	P	**Pn**	**15 52 09.9 +0.6**
	baz=235								
TYC			*e*S	**Sn**	**15 52 27.4 +0.5**
	baz=235								
SSLB	**Suanglung**	**1.36 223**	*e*P	**Pn**	**15 52 10.2 +0.6**
	baz=231								
SSLB			*e*S	**Sn**	**15 52 27.9 +0.5**
	baz=231								
HGSD	**Ruisui**	**1.38 201**	*e*P	**Pn**	**15 52 09.8 -0.2**
	baz=206								
HGSD			*e*S	**Sn**	**15 52 28.8 +0.9**
	baz=206								
EHY	**Hungye**	**1.41 204**	*e*P	**Pn**	**15 52 08.8 -1.4**
	baz=201								
WCHH	**Zhanghua**	**1.46 241**	*e*S	**Sn**	**15 52 29.3 -0.4**
	baz=240								
WNT	**Mingjian**	**1.48 232**	*e*P	**Pn**	**15 52 11.7 +0.6**
	baz=241								
WNT			*e*S	**Sn**	**15 52 30.7 +0.7**
	baz=241								
WJS	**Zhushan**	**1.48 229**	*e*P	**Pn**	**15 52 11.5 +0.4**
	baz=239								
WJS			*e*S	**Sn**	**15 52 30.6 +0.4**
	baz=239								
WHYT	**Xinyi Township**	**1.49 223**	*e*P	**Pn**	**15 52 12.0 +0.8**
	baz=230								
WHYT			*e*S	**Sn**	**15 52 31.5 +1.1**
	baz=230								
YULB	**Yu-li**	**1.52 203**	*e*P	**Pn**	**15 52 10.5 -1.2**
	baz=201								
YULB			*e*S	**Sn**	**15 52 29.1 -2.0**
	baz=201								
TWF1	**Yuli**	**1.56 203**	*e*P	**Pn**	**15 52 11.8 -0.3**
	baz=205								
YUS	**Yu-Shan**	**1.59 215**	*e*S	**Sn**	**15 52 33.8 +0.4**
	baz=206								
ALS	**Alishan**	**1.66 220**	*e*P	**Pn**	**15 52 14.8 +1.1**
	baz=227								
ALS			*e*S	**Sn**	**15 52 36.5 +1.9**
	baz=227								
IRIF	**Iriomote-Funau**	**1.68 105**	P	**Pn**	**15 52 13.9 +0.2**
IRIF			S	**Sn**	**15 52 34.4 -0.3**
WGK	**Gukeng**	**1.68 229**	*e*P	**Pn**	**15 52 14.3 +0.5**
	baz=237								
WGK			*e*S	**Sn**	**15 52 35.7 +0.8**
	baz=237								
WDLH	**Douliu**	**1.70 230**	*e*P	**Pn**	**15 52 14.6 +0.6**
	baz=238								
WDLH			*e*S	**Sn**	**15 52 35.5 +0.3**
	baz=238								
FULB	**Fuli**	**1.70 201**	*e*P	**Pn**	**15 52 14.8 +0.8**
	baz=204								
FULB			*e*S	**Sn**	**15 52 35.5 +0.2**
	baz=204								
RLNB	**Erlin**	**1.71 239**	*e*P	**Pn**	**15 52 14.4 +0.3**
	baz=237								
RLNB			*e*S	**Sn**	**15 52 35.5 0.0**
	baz=237								
CHKT	**Chengkung**	**1.77 198**	*e*S	**Sn**	**15 52 34.7 -2.2**
	baz=194								
ELDTW	**Lidau**	**1.81 208**	*e*P	**Pn**	**15 52 15.5 -0.2**
	baz=197								
ELDTW			*e*S	**Sn**	**15 52 37.8 -0.3**
	baz=197								
CHY	**Chiayi**	**1.90 228**	*e*P	**Pn**	**15 52 17.4 +0.7**
	baz=235								
CHY			*e*S	**Sn**	**15 52 40.3 +0.3**
	baz=235								
TPUB	**Ta-pu**	**1.92 219**	*e*P	**Pn**	**15 52 17.7 +0.8**
	baz=217								
TPUB			*e*S	**Sn**	**15 52 42.4 +1.9**
	baz=217								
JKRS	**Kuro-shima**	**1.95 106**	S	**Sn**	**15 52 41.2 +0.1**
WSF	**Szhu**	**1.96 234**	*e*S	**Sn**	**15 52 41.7 +0.4**
	baz=233								
STYT	**Tauyuan**	**1.96 214**	*e*P	**Pn**	**15 52 18.8 +1.3**
	baz=202								
STYT			*e*S	**Sn**	**15 52 44.2 +2.7**
	baz=202								
JIJ	**Ishigaki jima**	**2.04 102**	P	**Pn**	**15 52 18.9 +0.5**
JIJ			*e*S	**Sn**	**15 52 42.6 -0.6**
SNST	**Tainan City**	**2.06 221**	*e*P	**Pn**	**15 52 20.2 +1.5**
	baz=218								
TWG	**Pinlang**	**2.12 203**	*e*P	**Pn**	**15 52 19.5 -0.2**
	baz=189								
TWG			*e*S	**Sn**	**15 52 43.1 -2.2**
	baz=189								
TWGBT	**Beinan**	**2.12 202**	*e*P	**Pn**	**15 52 19.5 -0.1**
	baz=189								
TWGBT			*e*S	**Sn**	**15 52 42.6 -2.7**
	baz=189								
JISG	**Ishigakijimahi**	**2.15 95**	P	**Pn**	**15 52 20.9 +1.0**
JISG			*e*S	**Sn**	**15 52 47.2 +1.3**
SLGT	**Liugui**	**2.16 214**	*e*P	**Pn**	**15 52 21.2 +1.1**
	baz=222								
SLGT			*e*S	**Sn**	**15 52 47.1 +1.0**
	baz=222								
VWUC	**VWUC**	**2.29 275**	*e*P	**Pn**	**15 52 21.2 -0.5**
	baz=275								
VWUC			*e*S	**Sn**	**15 52 46.6 -2.5**
	baz=275								
ECL	**Taimali**	**2.37 203**	*e*P	**Pn**	**15 52 22.6 -0.3**
	baz=191								
ECL			*e*S	**Sn**	**15 52 48.9 -2.3**
	baz=191								
SSD	**Sandimen**	**2.37 211**	*e*P	**Pn**	**15 52 24.8 +1.9**
	baz=208								
SSD			*e*S	**Sn**	**15 52 52.9 +1.7**
	baz=208								
MASBT	**Mashibuluo**	**2.49 209**	*e*P	**Pn**	**15 52 25.9 +1.5**
	baz=206								
MASBT			*e*S	**Sn**	**15 52 55.1 +1.2**
	baz=206								
JTJ	**Tarama**	**2.50 93**	S	**Sn**	**15 52 56.1 +1.8**
PHUB	**P'eng-hu**	**2.52 240**	*e*S	**Sn**	**15 52 52.0 -2.8**
	baz=238								
EAST	**Anshuo**	**2.61 203**	*e*P	**Pn**	**15 52 27.8 +1.7**
	baz=191								
EAST			*e*S	**Sn**	**15 52 56.1 -0.8**
	baz=191								
LYJJ	**Jianjiangzhen**	**2.64 312**	*e*P	**Pn**	**15 52 26.4 -0.2**
	baz=314								
LAY	**Lan-yu**	**2.77 188**	*e*P	**Pn**	**15 52 27.2 -1.0**
	baz=184								
LAY			*e*S	**Sn**	**15 52 56.2 -4.6**
	baz=184								
KNMB	**Chin-men Tao**	**3.26 265**	*e*P	**Pn**	**15 52 33.9 -1.0**
	baz=263								

*IDC **13** 15:54:07.0±0.9, 6.77S×148.59E, h0km, mb4.0/8, mb1 4.3/9, mb1mx3.9/38, mbtmp4.0/9, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/32, Error ellipse: s-maj=33.8km s-min=14.4km az=117.0*
*NEIC **13** 15:54:09.2±0.4, 6.60S×148.50E, h10km, mb4.4/9, Error ellipse: s-maj=14.0km s-min=7.1km az=124.0*
*ISCJB **13** 15:54:12.0±0.5, 6.76S±0.07×148.58E±0.08, h46km, mb4.0/9, MS3.7/2, Error ellipse: s-maj=13.4km s-min=7.8km az=35.2*

ISC 13 15:54:13.8±0.6, 6.72S±0.09×148.6E±0.1, h46km, n32, σ0.69/31, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.37**	**55**	*e*Pn	**Pn**	**15 55 18.2**	**+0.4**
COEN	**Coen**	**8.93**	**216**	*e*Pn	**Pn**	**15 56 19.8**	**-0.6**
CTAO	**Charters Tower**	**13.47**	**189**	*e*Pn	**Pn**	**15 57 23.4**	**+0.9**
FAKI	**Fak Fak**	**16.69**	**282**	*e*P	**P**	**15 58 07.1**	**+0.7**
	73nm,1.6s						
MTN	**Manton Dam**	**18.22**	**249**	*e*P	**Pn**	**15 58 24.5**	**+1.1**
	157nm,1.9s						
EIDS	**Eidsvold**	**18.70**	**173**	*e*P	**Pn**	**15 58 29.2**	**0.0**
	51nm,1.6s						
WRAB	**Tennant Creek**	**19.05**	**225**	*e*P	**P**	**15 58 32.7**	**+0.3**
	14nm,1.1s						
WB2	**Warramunga Arr**	**19.06**	**225**	*e*P	**Pn**	**15 58 33.5**	**0.0**
WR1	**Warramunga Arr**	**19.07**	**225**	*e*P	**P**	**15 58 31.9**	**-0.7**
	13nm,1.1s						
WR1				*e*		16 06 55.3	
WRA	**Warramunga Arr**	**19.07**	**225**	P	**P**	**15 58 31.9**	**-0.7**
	0.5nm,0.3s,baz=52,slow=11,SNR=23						
WRA				LR	LR	16 06 55.3	
	comp=Z,176nm,18.2s,baz=110,slow=40						
AS01	**Alice Springs**	**21.93**	**218**	*e*P	**P**	**15 59 03.3**	**-0.3**
AS31	**Alice Springs**	**21.96**	**218**	*e*P	**P**	**15 59 03.5**	**-0.3**
	4.7nm,0.8s						
ASAR	**Alice Springs**	**21.96**	**218**	P	**P**	**15 59 03.7**	**-0.2**
	8.2nm,0.7s,baz=46,slow=10.0,SNR=121						
ASAR				S	**S**	**16 03 04.5**	**+0.5**
	0.8nm,0.9s,baz=31,slow=24,SNR=4.0						
FITZ	**Fitzroy Crossi**	**25.05**	**241**	*e*P	**P**	**15 59 34.1**	**+0.1**
	24nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.05**	**241**	P	**P**	**15 59 34.5**	**+0.6**
	27nm,0.8s,baz=84,slow=7.9,SNR=37						
STKA	**Stephens Creek**	**25.86**	**194**	*e*P	**P**	**15 59 40.5**	**-0.6**
	11nm,1.8s						
STKA	**Stephens Creek**	**25.86**	**194**	P	**P**	**15 59 40.8**	**-0.4**
	3.9nm,0.7s,baz=6.6,slow=12,SNR=7.5						
URZ	**Urewera**	**40.66**	**145**	LR	LR	16 18 06.8	
	comp=Z,118nm,18.3s,baz=320,slow=36						
LPH	**Laupahoehoe**	**61.16**	**63**	*e*P	**P**	**16 04 24.5**	**+0.5**
SONA0	**Songino Array**	**65.80**	**330**	*e*P	**P**	**16 04 54.9**	**+0.6**
SONM	**Songino Array**	**65.80**	**330**	P	**P**	**16 04 54.9**	**+0.6**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=3.6						
VNDA	**Vanda**	**71.11**	**177**	*e*P	**P**	**16 05 27.5**	**+0.6**
VNDA	**Vanda**	**71.11**	**177**	P	**P**	**16 05 25.8**	**-1.1**
	1.2nm,0.8s,baz=336,slow=5.7,SNR=4.7						
MK32	**Makanchi Array**	**79.05**	**320**	*e*P	**P**	**16 06 12.0**	**-1.2**
MKAR	**Makanchi Array**	**79.05**	**320**	P	**P**	**16 06 12.0**	**-1.2**
	0.2nm,0.5s,baz=127,slow=4.5,SNR=3.1						
ILAR	**Eielson Array**	**85.53**	**23**	P	**P**	**16 06 45.9**	**-0.8**
	0.3nm,0.9s,baz=243,slow=4.8,SNR=3.1						
ILB	**Eielson Array**	**85.53**	**23**	*e*P	**P**	**16 06 45.4**	**-1.3**
	14nm,1.8s						
GEYT	**Alibeck**	**94.44**	**308**	LR	LR	16 52 52.7	
	comp=Z,20nm,19.9s,baz=5.0,slow=37						
NVAR	**Mina Array Bea**	**96.58**	**52**	P	**P**	**16 07 39.4**	**+0.2**
	0.4nm,0.7s,baz=266,slow=7.0,SNR=3.2						
GERES	**GERESS Array B**	**123.38**	**326**	PKP	**PKiKP**	**16 13 06.9**	**+0.6**
	0.7nm,0.7s,baz=54,slow=2.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc	**PKPbc**	**16 13 52.0**	**+0.1**
	4.1nm,0.9s,baz=15,slow=4.5,SNR=20						
TOA1	**Torodi Ar. Sit**	**146.78**	**284**	*e*PKPbc	**PKPbc**	**16 13 52.0**	**+0.1**

IDC 13 16:00:32.6±2.4, 43.37S×40.30E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.6/34, mbtmp3.9/3, ML3.6/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/37, Error ellipse: s-maj=85.9km s-min=58.4km az=64.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.05**	**316**	P	P	16 04 56.6	+0.1
	0.1nm,0.3s,baz=131,slow=9.4,SNR=6.2						
BOSA				LR	LR	16 10 47.4	
	comp=Z,83nm,20.2s,baz=204,slow=32						
H01W2	**Cape Leeuwin H**	**56.18**	**108**	T	T	17 10 46.8	
	baz=238,slow=75,SNR=7.8						
H01W3	**Cape Leeuwin H**	**56.19**	**108**	T	T	17 10 47.8	
	baz=238,slow=75,SNR=8.8						
H01W1	**Cape Leeuwin H**	**56.20**	**108**	T	T	17 10 46.3	
	baz=238,slow=75,SNR=10						
TORD	**Torodi Ar. Bea**	**66.39**	**318**	P	P	16 11 23.3	-0.1
	1.2nm,0.9s,baz=150,slow=6.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**81.67**	**55**	LR	LR	16 45 40.6	
	comp=Z,44nm,18.1s,baz=201,slow=33						
BRTR	**Keskin Array B**	**82.93**	**355**	P	P	16 12 59.2	+0.1
	0.6nm,0.8s,baz=182,slow=4.3,SNR=3.3						
DAVOX	**Davos/Dischmat**	**93.72**	**340**	LR	LR	16 58 09.0	
	comp=Z,30nm,18.6s,baz=262,slow=37						
TXAR	**Lajitas Array**	**148.04**	**256**	PKPbc	PKPbc	16 20 19.5	-0.7
	0.5nm,0.7s,baz=134,slow=5.4,SNR=7.6						

*ISCJB **13** 16:01:16.1±0.6, 36.64N±0.04×71.16E±0.08, h100km, mb3.5/3, Error ellipse: s-maj=9.8km s-min=5.0km az=152.7*
*IDC **13** 16:01:18.5±5.3, 36.84N×71.23E, h66km±33km, mb3.3/3, mb1 3.5/10, mb1mx3.2/47, mbtmp3.7/10, ML3.6/6, Error ellipse: s-maj=69.8km s-min=22.3km az=145.0*
*NNC **13** 16:01:24.9±3.0, 37.23N×71.06E, h131km±47km, mb3.3, mpv3.9, Error ellipse: s-maj=24.5km s-min=16.5km az=18.0*

ISC 13 16:01:17.5±0.9, 36.78N±0.08×71.12E±0.07, h100km, n35, σ2.26/40, mb3.5/3, 3C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.70**	**20**	P	**Pn**	**16 02 41.9**	**+1.8**
	SNR=42						
UCH	**Uchtor**	**6.04**	**25**	P	**Pn**	**16 02 46.9**	**+2.2**
	SNR=10.0						
KZA	**Kyzart**	**6.18**	**30**	P	**Pn**	**16 02 48.4**	**+1.9**
	SNR=7.4						
EKS2	**Erkin-Say**	**6.22**	**18**	P	**Pn**	**16 02 49.4**	**+2.6**
	SNR=5.8						
KK31	**Karatay Array**	**6.33**	**356**	⇓P	**Pn**	**16 02 50.2**	**+1.9**
	7.6nm,0.3s,baz=194,slow=16,SNR=314						
KK31				⇓S	**Sn**	**16 03 57.2**	**-1.9**
	9.8nm,0.6s,baz=195,slow=27,SNR=6.1						
AAK	**Ala-Archa**	**6.40**	**23**	P	**Pn**	**16 02 51.7**	**+2.4**
	SNR=7.9						
AAK	**Ala-Archa**	**6.40**	**23**	⇑P	**Pn**	**16 02 51.5**	**+2.2**
	5.6nm,0.4s						
AAK				⇑S	**Sn**	**16 04 00.9**	**-0.1**
	22nm,0.8s						
AAK	**Ala-Archa**	**6.40**	**23**	P	**Pn**	**16 02 51.1**	**+1.8**
	3.6nm,0.3s,baz=181,slow=6.2,SNR=13						
AAK				S	**Sn**	**16 04 01.0**	**+0.1**
	2.1nm,0.3s,baz=305,slow=21,SNR=14						
KBK	**Karagaybulak**	**6.57**	**25**	P	**Pn**	**16 02 54.0**	**+2.4**
	SNR=6.5						
CHMS	**Chumysh**	**6.81**	**23**	P	**Pn**	**16 02 56.8**	**+2.0**
	SNR=6.8						
USP	**Ospenovka**	**6.98**	**21**	P	**Pn**	**16 02 58.6**	**+1.5**
	SNR=13						
TKM2	**Tokmak 2**	**7.03**	**28**	P	**Pn**	**16 02 59.5**	**+1.6**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.03**	**28**	⇑P	**Pn**	**16 02 59.6**	**+1.6**
	2.8nm,0.5s						
TKM2				⇓S	**Sn**	**16 04 14.5**	**-1.9**
	2.9nm,0.6s						
GEYT	**Alibeck**	**10.42**	**280**	P	**Pn**	**16 03 45.0**	**+1.2**
	0.6nm,0.3s,baz=106,slow=14,SNR=4.9						
GEYT				S	**Sn**	**16 05 36.5**	**-2.1**
	2.6nm,0.3s,baz=135,slow=16,SNR=10						
MK31	**Makanchi Array**	**13.01**	**36**	⇓P	**Pn**	**16 04 21.1**	**+2.7**
	1.0nm,0.9s,baz=224,slow=14,SNR=8.4						
MKAR	**Makanchi Array**	**13.01**	**36**	P	**Pn**	**16 04 18.5**	**+0.1**
	0.0nm,0.3s,baz=221,slow=13,SNR=9.4						
PYUN	**Piuthan**	**13.23**	**127**	*e*P	**Pn**	**16 04 19.3**	**-2.3**
	20nm,0.4s						
DANN	**Dangsing**	**13.56**	**125**	*e*P	**Pn**	**16 04 23.5**	**-2.5**
	9.2nm,0.2s						
KOLN	**Koldanda**	**13.85**	**127**	*e*P	**Pn**	**16 04 27.7**	**-1.9**
	5.6nm,0.3s						
GKN	**Gorkha**	**14.37**	**124**	*e*P	**Pn**	**16 04 34.0**	**-2.4**
	16nm,0.3s						
KURBB	**Kurchatov Arra**	**14.83**	**19**	P	**Pn**	**16 04 42.9**	**+1.1**
	baz=207,slow=11,SNR=4.2						
AB31	**Akbulak array**	**14.89**	**330**	P	**Pn**	**16 04 42.9**	**+0.3**
	1.7nm,0.4s,baz=137,slow=13,SNR=97						
AB31				⇓S	**Sn**	**16 07 21.5**	**-5.2**
	0.5nm,0.3s,baz=144,slow=23,SNR=6.4						
DMN	**Daman**	**14.94**	**124**	*e*P	**Pn**	**16 04 41.3**	**-2.4**
	8.5nm,0.3s						
PKIN	**Phulchoki**	**15.16**	**123**	*e*P	**Pn**	**16 04 44.7**	**-1.8**
	5.3nm,0.3s						
PKI	**Pulchoki**	**15.17**	**123**	*e*P	**Pn**	**16 04 44.8**	**-1.9**
	5.8nm,0.3s						
GUN	**Gumba**	**15.27**	**121**	*e*P	**Pn**	**16 04 45.5**	**-2.5**
	5.5nm,0.3s						
JIRN	**Jiri**	**15.64**	**121**	*e*P	**Pn**	**16 04 50.2**	**-2.5**
	15nm,0.3s						
BVAR	**Borovoye Array**	**16.25**	**358**	P	**Pn**	**16 05 00.2**	**+0.5**
	0.3nm,0.3s,baz=155,slow=12,SNR=5.5						
RAMN	**Ramite**	**16.38**	**122**	*e*P	**Pn**	**16 05 00.7**	**-1.0**
AKTO	**Aktyubinsk**	**16.59**	**329**	⇓P	**P**	**16 05 06.8**	**+2.2**
	1.7nm,0.5s						
AKTO				⇓S	**Sn**	**16 08 03.4**	**-4.3**
	2.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.59**	**329**	P	**P**	**16 05 05.4**	**+0.8**
	0.6nm,0.3s,baz=137,slow=12,SNR=7.6						
ZALV	**Zalesovo Beam**	**19.62**	**25**	P	**Pn**	**16 05 39.0**	**-1.0**
	0.4nm,0.3s,baz=209,slow=9.6,SNR=6.8						
BRTR	**Keskin Array B**	**29.44**	**287**	P	P	16 07 17.3	+5.5
	0.6nm,0.6s,baz=108,slow=9.7,SNR=5.8						
FINES	**FINESS Array B**	**37.31**	**326**	P	P	16 08 24.5	+4.9
	0.8nm,0.8s,baz=108,slow=13,SNR=2.5						
NOA	**NORSAR Array B**	**44.22**	**323**	P	**P**	**16 09 20.1**	**+3.7**
	0.4nm,0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**6.30**	**165**	P	**P**	**16 10 06.2**	**+1.1**
GLKZ				S	**S**	**16 11 30.7**	**+3.0**
OUZ	**Omahuta**	**13.32**	**204**	P	**P**	**16 11 18.0**	**+1.9**
WCZ	**Waipu Caves**	**13.70**	**200**	P	**P**	**16 11 22.2**	**+2.1**
KUZ	**Kuaotunu**	**14.07**	**195**	P	**P**	**16 11 24.8**	**+0.9**
WIAZ	**Waiheke Island**	**14.27**	**197**	P	**P**	**16 11 27.3**	**+1.4**
MBAZ	**Motutapu North**	**14.31**	**197**	P	**P**	**16 11 28.9**	**+2.5**
MXZ	**Matakaoa Point**	**14.44**	**186**	P	**P**	**16 11 28.4**	**+0.7**
ETAZ	**East Tamaki Re**	**14.47**	**197**	P	**P**	**16 11 29.6**	**+1.6**
WTAZ	**Waiatarua**	**14.55**	**198**	P	**P**	**16 11 30.2**	**+1.3**
MKAZ	**Moumakai**	**14.55**	**196**	P	**P**	**16 11 29.9**	**+1.0**
AWAZ	**Awhitu Peninsu**	**14.65**	**198**	P	**P**	**16 11 30.8**	**+0.8**
WMGZ	**Waiomatatini S**	**14.68**	**186**	P	**P**	**16 11 30.7**	**+0.5**
HAZ	**Te Kaha**	**14.69**	**188**	P	**P**	**16 11 28.8**	**-1.4**
PKGZ	**Pakihiroa**	**14.78**	**187**	P	**P**	**16 11 31.6**	**+0.3**
RUGZ	**Raukumara Rang**	**14.91**	**188**	P	**P**	**16 11 33.1**	**+0.4**
PUZ	**Puketiti**	**14.95**	**186**	P	**P**	**16 11 33.1**	**+0.1**
TOZ	**Tahuroa Road**	**15.07**	**194**	P	**P**	**16 11 34.1**	**-0.1**
TWGZ	**Tauwhareparae**	**15.08**	**187**	P	**P**	**16 11 33.7**	**-0.7**
URZ	**Urewera**	**15.27**	**189**	P	**P**	**16 11 33.3**	**-3.0**
	5.9nm,0.3s,baz=278,slow=3.8,SNR=36						
URZ				S	**S**	**16 14 10.1**	**-4.3**
	0.5nm,0.3s,baz=140,slow=20,SNR=5.8						
URZ	**Urewera**	**15.27**	**189**	P	**P**	**16 11 33.2**	**-3.1**
URZ				S	**S**	**16 14 10.9**	**-3.5**
MWZ	**Matawai**	**15.29**	**188**	P	**P**	**16 11 34.7**	**-1.9**
MWZ				S	**S**	**16 14 14.0**	**-0.9**
RAGZ	**Rawiri**	**15.46**	**188**	P	**P**	**16 11 37.9**	**-0.5**
RIGZ	**Rimuhau**	**15.63**	**187**	P	**P**	**16 11 38.6**	**-1.4**
TLZ	**Tolley Road**	**15.63**	**194**	P	**P**	**16 11 40.5**	**+0.4**
MTHZ	**Maungataniwha**	**15.89**	**190**	P	**P**	**16 11 40.4**	**-2.3**
RAHZ	**Arahi**	**15.92**	**189**	P	**P**	**16 11 40.5**	**-2.5**
KNZ	**Kokohu**	**15.95**	**187**	P	**P**	**16 11 41.2**	**-2.0**
RPZ	**Rata Peaks**	**21.84**	**198**	P	**P**	**16 12 37.0**	**+0.1**
	14nm,0.6s,baz=311,slow=1.0,SNR=9.6						
STKA	**Stephens Creek**	**35.17**	**247**	P	**P**	**16 14 33.2**	**+0.4**
	2.1nm,0.8s,baz=111,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**42.34**	**260**	P	**P**	**16 15 30.9**	**-0.1**
	1.5nm,0.6s,baz=94,slow=8.2,SNR=9.5						
WRA	**Warramunga Arr**	**42.65**	**265**	P	**P**	**16 15 32.1**	**-1.2**
	1.8nm,0.6s,baz=92,slow=8.5,SNR=23						
NVAR	**Mina Array Bea**	**84.10**	**44**	P	**P**	**16 19 58.8**	**+0.5**
	0.4nm,0.7s,baz=221,slow=7.7,SNR=3.8						
AKASG	**Malin Array Be**	**144.46**	**328**	PKP	**PKPdf**	**16 26 57.9**	**-0.6**
	1.0nm,0.4s,baz=45,slow=4.2,SNR=7.2						
BRTR	**Keskin Array B**	**147.28**	**308**	PKPbc	**PKPbc**	**16 27 06.7**	**-0.4**
	0.4nm,0.6s,baz=127,slow=7.9,SNR=3.8						

*ISCJB **13** 16:24:16.9±0.7, 23°.90N±0°.02×122°.83E±0°.02, h8km±5km, Error ellipse: s-maj=3.7km s-min=2.5km az=167.5*
*TAP **13** 16:24:18.0, 24°.00N×122°.87E, h23km, ML2.7, D*
*JMA **13** 16:24:18.5±0.2, 24°.00N×122°.85E, h20km±3km, M2.6*

ISC 13 16:24:17.5±1.4, **23°.93N**±0°.03×**122°.85E**±0°.02, **h19**km±4km, **n64**, σ0°**77**/104, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.53**	**10**	P	**Pb**	**16 24 27.6**	**-0.5**
JYNG				S	**Sb**	**16 24 33.8**	**-1.5**
YOJ	**Yonaguni jima**	**0.55**	**16**	P	**Pb**	**16 24 28.0**	**-0.5**
	baz=14						
YOJ				*e*S	**Sb**	**16 24 34.8**	**-1.2**
	baz=14						
YOJ	**Yonaguni jima**	**0.55**	**16**	P	**Pb**	**16 24 28.1**	**-0.4**
YOJ				S	**Sb**	**16 24 34.5**	**-1.5**
HATJ	**Hateruma jima**	**0.89**	**82**	P	**Pb**	**16 24 34.3**	**+0.1**
HATJ				S	**Sg**	**16 24 46.8**	**+0.2**
EOS1	**EOS1**	**0.90**	**313**	*i* P	**Pb**	**16 24 34.5**	**+0.1**
	baz=309						
EOS1				S	**Sb**	**16 24 46.5**	**+0.4**
	baz=309						
IRIF	**Iriomote-Funau**	**0.90**	**63**	P	**Pb**	**16 24 34.6**	**+0.1**
IRIF				S	**Sb**	**16 24 46.6**	**+0.4**
JKRS	**Kuro-shima**	**1.11**	**74**	P	**Pb**	**16 24 38.5**	**+0.5**
JKRS				*e*S	**Sg**	**16 24 54.0**	**+0.4**
NANB	**Nanao**	**1.12**	**297**	P	**Pn**	**16 24 37.8**	**-0.4**
	baz=301						
NANB				*e*S	**Sb**	**16 24 52.0**	**-0.4**
	baz=301						
ENA	**Nanau**	**1.13**	**296**	P	**Pn**	**16 24 37.8**	**-0.4**
	baz=301						
ENA				*e*S	**Sb**	**16 24 52.4**	**-0.2**
	baz=301						
TWC	**Suao**	**1.14**	**307**	*e*P	**Pn**	**16 24 38.2**	**-0.1**
	baz=303						
TWC				*e*S	**Sb**	**16 24 52.0**	**-0.9**
	baz=303						
TWD	**Chiawan**	**1.15**	**278**	*e*P	**Pn**	**16 24 38.6**	**0.0**
	baz=274						
NACB	**Ninganchiao**	**1.17**	**282**	*e*P	**Pn**	**16 24 38.9**	**0.0**
	baz=279						
JIJ	**Ishigaki jima**	**1.26**	**70**	P	**Pb**	**16 24 40.7**	**0.0**
JIJ				*e*S	**Sn**	**16 24 57.0**	**+0.5**
ETLH	**Xiulin Townshi**	**1.28**	**283**	*e*P	**Pn**	**16 24 40.5**	**+0.1**
	baz=279						
ESL	**Shilin**	**1.30**	**265**	*e*P	**Pn**	**16 24 40.0**	**-0.6**
	baz=262						
NTC	**Toucheng**	**1.31**	**315**	*e*P	**Pb**	**16 24 42.0**	**+0.5**
	baz=312						
NTC				*e*S	**Sn**	**16 24 57.5**	**-0.1**
	baz=312						
EGFH	**Guangfu**	**1.32**	**259**	*e*P	**Pn**	**16 24 41.0**	**+0.1**
	baz=256						
EGFH				*e*S	**Sn**	**16 24 58.7**	**+0.6**
	baz=256						
TWE	**Neicheng**	**1.33**	**307**	*e*P	**Pb**	**16 24 41.9**	**0.0**
	baz=303						
TWE				*e*S	**Sn**	**16 24 58.2**	**-0.1**
	baz=303						
HGSD	**Ruisui**	**1.37**	**252**	*e*P	**Pn**	**16 24 41.1**	**-0.5**
	baz=249						
HGSD				*e*S	**Sn**	**16 24 58.5**	**-0.8**
	baz=249						
NDT	**Datong Townshi**	**1.39**	**299**	*e*P	**Pb**	**16 24 43.0**	**+0.2**
	baz=296						
NDT				*e*S	**Sb**	**16 25 00.2**	**0.0**
	baz=296						
TIPB	**Shuangxi**	**1.40**	**318**	*e*P	**Pb**	**16 24 42.9**	**-0.1**
	baz=315						
TIPB				*e*S	**Sb**	**16 25 00.6**	**+0.2**
	baz=315						
NNSB	**Datong**	**1.43**	**291**	*e*P	**Pb**	**16 24 43.4**	**-0.1**
	baz=288						
NNSB				*e*S	**Sb**	**16 25 01.8**	**+0.4**
	baz=288						
NNS	**Nan Shan**	**1.44**	**291**	*e*P	**Pb**	**16 24 43.7**	**-0.1**
	baz=288						
NNS				*e*S	**Sn**	**16 25 01.6**	**+0.6**
	baz=288						
EHY	**Hungye**	**1.46**	**254**	*e*P	**Pn**	**16 24 42.9**	**+0.1**
	baz=251						
EHY				*e*S	**Sn**	**16 25 00.9**	**-0.5**
	baz=251						
WHF	**Hehuan Shan**	**1.46**	**279**	*e*P	**Pn**	**16 24 43.5**	**+0.2**
	baz=276						
JISG	**Ishigakijimahi**	**1.49**	**64**	P	**Pn**	**16 24 43.8**	**+0.6**
JISG				*e*S	**Sn**	**16 25 01.7**	**-0.4**
NWLT	**Wulai**	**1.49**	**305**	*e*P	**Pb**	**16 24 44.9**	**+0.4**
	baz=302						
NWLT				*e*S	**Sb**	**16 25 02.9**	**-0.2**
	baz=302						
WFSB	**Wu-fen Shan**	**1.50**	**320**	*e*P	**Pn**	**16 24 43.7**	**+0.4**
	baz=317						
YULB	**Yu-li**	**1.52**	**250**	*e*P	**Pn**	**16 24 43.7**	**0.0**
	baz=234						
YULB				*e*S	**Sn**	**16 25 02.6**	**-0.3**
	baz=234						
OWD	**Renai**	**1.53**	**271**	*e*P	**Pn**	**16 24 44.7**	**+0.8**
	baz=268						
TWF1	**Yuli**	**1.53**	**248**	*e*P	**Pn**	**16 24 44.0**	**+0.1**
	baz=246						
TWF1				*e*S	**Sn**	**16 25 02.4**	**-0.8**
	baz=246						
YHNB	**Yeheng**	**1.53**	**299**	*e*P	**Pb**	**16 24 45.4**	**0.0**
	baz=305						
YHNB				*e*S	**Sn**	**16 25 04.0**	**+0.7**
	baz=305						
CHGB	**Renai**	**1.54**	**275**	*e*P	**Pn**	**16 24 44.7**	**+0.6**
	baz=272						
NSK	**Sanguang**	**1.55**	**299**	*e*P	**Pb**	**16 24 45.5**	**-0.1**
	baz=306						
NSK				*e*S	**Sb**	**16 25 04.9**	**+0.1**
	baz=306						
TWA	**Mucha**	**1.56**	**313**	*e*P	**Pg**	**16 24 47.0**	**-0.5**
	baz=323						
TWT	**Tachien**	**1.56**	**282**	*e*P	**Pb**	**16 24 46.4**	**+0.6**
	baz=279						
VWDT	**VWDT**	**1.57**	**264**	*e*P	**Pn**	**16 24 45.1**	**+0.7**
	baz=261						
TDCB	**Techi**	**1.58**	**282**	*e*P	**Pn**	**16 24 45.6**	**+1.1**
	baz=279						
NHDH	**Xindian Distri**	**1.58**	**311**	*e*P	**Pb**	**16 24 47.1**	**+0.9**
	baz=318						
NHDH				*e*S	**Sb**	**16 25 05.8**	**0.0**
	baz=318						
CHKT	**Chengkung**	**1.59**	**239**	*e*P	**Pn**	**16 24 44.3**	**-0.3**
	baz=224						
CHKT				*e*S	**Sn**	**16 25 02.8**	**-1.8**
	baz=224						
TATO	**Taipei**	**1.62**	**310**	*e*P	**Pb**	**16 24 47.7**	**+0.9**
	baz=307						
WLTB	**Daxi**	**1.72**	**303**	*e*P	**Pb**	**16 24 49.1**	**+0.7**
	baz=300						
SSLB	**Suanglung**	**1.74**	**266**	*e*P	**Pn**	**16 24 47.6**	**+0.9**
	baz=263						
WHP	**Taichung City**	**1.77**	**282**	*e*P	**Pb**	**16 24 49.3**	**-0.2**
	baz=267						
SMLT	**Sun Moon Lake**	**1.78**	**269**	*e*P	**Pn**	**16 24 48.3**	**+1.0**
	baz=266						
TYC	**Yuchr**	**1.82**	**270**	*e*P	**Pn**	**16 24 48.7**	**+1.0**
	baz=267						
NSTT	**Nanjuang**	**1.82**	**293**	*e*P	**Pb**	**16 24 50.5**	**+0.2**
	baz=290						
ELDTW	**Lidau**	**1.83**	**247**	*e*P	**Pn**	**16 24 48.0**	**-0.1**
	baz=245						
ELDTW				*e*S	**Sn**	**16 25 09.8**	**-1.0**
	baz=245						
JTJ	**Tarama**	**1.84**	**67**	P	**Pb**	**16 24 49.7**	**-0.8**
JTJ				*e*S	**Sb**	**16 25 13.8**	**+0.8**
WHYT	**Xinyi Township**	**1.84**	**263**	*e*P	**Pn**	**16 24 49.5**	**+1.4**
	baz=261						
ALS	**Alishan**	**1.92**	**258**	*e*P	**Pn**	**16 24 50.9**	**+1.5**
	baz=256						
ALS				*e*S	**Sn**	**16 25 13.0**	**-0.1**
	baz=256						
TWQ1	**Liyutan**	**1.94**	**283**	*e*P	**Pb**	**16 24 53.0**	**+0.8**
	baz=268						
TWQ1				*e*S	**Sb**	**16 25 16.5**	**+0.5**
	baz=268						
WJS	**Zhushan**	**1.94**	**267**	*e*P	**Pb**	**16 24 52.2**	**0.0**
	baz=265						
WJS				*e*S	**Sb**	**16 25 18.0**	**+1.9**
	baz=265						
TWGBT	**Beinan**	**1.96**	**236**	*e*P	**Pn**	**16 24 49.6**	**-0.1**
	baz=225						
TWGBT				*e*S	**Sn**	**16 25 13.3**	**-0.5**
	baz=225						
TWG	**Pinlang**	**1.97**	**236**	*e*P	**Pn**	**16 24 50.0**	**+0.2**
	baz=225						
TWG				*e*S	**Sn**	**16 25 12.9**	**-1.0**
	baz=225						
STYT	**Tauyuan**	**2.06**	**249**	*e*P	**Pn**	**16 24 52.6**	**+1.4**
	baz=236						
TPUB	**Ta-pu**	**2.13**	**253**	*e*P	**Pb**	**16 24 54.4**	**-1.1**
	baz=242						
TPUB				*e*S	**Sb**	**16 25 20.5**	**-0.9**
	baz=242						
WDLH	**Douliu**	**2.13**	**264**	*e*P	**Pb**	**16 24 54.4**	**-1.1**
	baz=261						
SLGT	**Liugui**	**2.22**	**246**	*e*P	**Pn**	**16 24 55.1**	**+1.7**
	baz=235						
SLGT				*e*S	**Sn**	**16 25 21.9**	**+1.6**
	baz=235						
SNST	**Tainan City**	**2.27**	**252**	*e*P	**Pb**	**16 24 57.1**	**-0.8**
	baz=250						
SNST				*e*S	**Sb**	**16 25 24.6**	**-0.9**
	baz=250						
RLNB	**Erlin**	**2.28**	**270**	*e*P	**Pb**	**16 24 56.8**	**-1.2**
	baz=267						
SSD	**Sandimen**	**2.35**	**240**	*e*P	**Pn**	**16 24 57.3**	**+2.3**
	baz=231						
EAST	**Anshuo**	**2.40**	**230**	*e*P	**Pn**	**16 24 56.1**	**+0.3**
	baz=240						
EAST				*e*S	**Sn**	**16 25 25.0**	**+0.4**
	baz=240						
MASBT	**Mashibuluo**	**2.42**	**238**	*e*P	**Pn**	**16 24 57.2**	**+1.2**
	baz=229						
MASBT				*e*S	**Sn**	**16 25 26.4**	**+1.2**
	baz=229						

*ISCJB **13** 16:30:40.5±0.9, 38°.78N±0°.04×142°.12E±0°.10, h62km±5km, mb3.6/7, Error ellipse: s-maj=13.1km s-min=6.5km az=16.2*
*IDC **13** 16:30:41.8±3.0, 38°.84N×142°.29E, h64km±25km, mb3.4/7, mb1 3.5/10, mb1mx3.2/43, mbtmp3.7/10, ML2.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/43, Error ellipse: s-maj=40.7km s-min=17.2km az=73.0*
*JMA **13** 16:30:42.3, 38°.79N×142°.03E, h54km±1km, M3.7*
JMA Felt I J1.

ISC 13 16:30:41.2±1.4, **38°.81N**±0°.05×**142°.2E**±0°.1, **h50**km±9km, **n24**, σ1°**45**/35, **mb3.8**/7, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.48**	**305**	P	**Pn**	**16 30 52.9**	**+0.8**
OFUJ				S	**Sn**	**16 31 00.4**	**+0.4**
JKMT	**Kesennumamotoy**	**0.54**	**271**	P	**Pn**	**16 30 53.2**	**+0.3**
JKMT				S	**Sn**	**16 31 00.8**	**-0.6**
JIO	**Ouri**	**0.73**	**242**	P	**Pn**	**16 30 55.3**	**0.0**
JIO				S	**Sn**	**16 31 04.5**	**-1.1**
JMK	**Ichinoseki**	**0.76**	**281**	P	**Pn**	**16 30 55.7**	**+0.1**
JMK				S	**Sn**	**16 31 05.4**	**-0.7**
JOM	**Ohasama**	**0.95**	**315**	P	**Pn**	**16 30 58.9**	**+0.6**
JOM				S	**Sn**	**16 31 10.9**	**+0.1**
JOU	**Okura**	**1.26**	**250**	P	**Pn**	**16 31 02.3**	**-0.1**
JOU				S	**Sn**	**16 31 17.1**	**-1.1**
JRG	**Rokugo**	**1.33**	**297**	P	**Pn**	**16 31 03.4**	**0.0**
JRG				S	**Sn**	**16 31 19.7**	**-0.3**
JYK	**Kaneyama**	**1.42**	**275**	P	**Pn**	**16 31 04.4**	**-0.1**
JYK				*e*S	**Sn**	**16 31 21.2**	**-0.9**
JMM	**Marumori**	**1.43**	**229**	P	**Pn**	**16 31 04.5**	**-0.2**
JMM				S	**Sn**	**16 31 21.2**	**-1.2**
JANG	**Nango**	**1.64**	**342**	P	**Pn**	**16 31 08.3**	**+0.7**
JANG				*e*S	**Sn**	**16 31 28.4**	**+0.8**
JYS	**Shirataka**	**1.75**	**251**	P	**Pn**	**16 31 09.5**	**+0.4**
JYS				S	**Sn**	**16 31 29.8**	**-0.4**
MJAR	**Matsushiro Arr**	**3.87**	**235**	P	**Pn**	**16 31 39.5**	**+1.3**
	0.2nm,0.3s,baz=40,slow=11,SNR=16						
MAT	**Matsushiro**	**3.87**	**236**	P	**Pn**	**16 31 42.3**	**+4.1**
MAT				*e*S	**Sn**	**16 32 27.9**	**+5.5**
ASAJ	**Asahikawa**	**5.32**	**3**	P	**Pn**	**16 31 57.9**	**0.0**
	0.9nm,0.3s,baz=204,slow=8.8,SNR=15						
USRK	**Ussuriysk Ar.**	**9.34**	**308**	P	**Pn**	**16 32 55.2**	**+2.1**
	0.3nm,0.3s,baz=113,slow=14,SNR=6.1						
JNU	**Nakatsue**	**10.76**	**242**	LR	LR	16 37 52.5	
	comp=Z,36nm,19.5s,baz=168,slow=40						
SONM	**Songino Array**	**27.34**	**301**	P	**P**	**16 36 21.3**	**-0.1**
	0.3nm,0.6s,baz=98,slow=6.2,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.19**	**311**	P	**P**	**16 38 19.2**	**-1.4**
	1.0nm,0.5s,baz=90,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**43.71**	**301**	P	**P**	**16 38 40.9**	**-0.3**
	0.3nm,0.4s,baz=87,slow=12,SNR=8.0						
KURBB	**Kurchatov Arra**	**45.40**	**307**	P	**P**	**16 38 54.1**	**-0.5**
	1.8nm,0.6s,baz=82,slow=8.2,SNR=14						
BVAR	**Borovoye Array**	**49.84**	**311**	P	**P**	**16 39 28.6**	**-0.3**
	0.4nm,0.5s,baz=64,slow=9.8,SNR=4.6						
BVAR				*p*P	**pP**	**16 39 42.6**	**+0.1**
	0.4nm,0.5s,baz=64,slow=7.5,SNR=4.3						
INK	**Inuvik**	**52.54**	**28**	LR	LR	17 04 02.5	
	comp=Z,35nm,18.5s,baz=66,slow=38						
WRA	**Warramunga Arr**	**58.90**	**189**	P	**P**	**16 40 33.9**	**-1.1**
	0.6nm,0.5s,baz=6.7,slow=7.7,SNR=20						
ASAR	**Alice Springs**	**62.63**	**189**	P	**P**	**16 41 00.3**	**-0.1**
	0.3nm,0.6s,baz=2.2,slow=6.5,SNR=10.0						

*DDA **13** 16:41:32.8, 38°.76N×43°.27E, h7km±2km, ML2.5*
*ISK **13** 16:41:32.9, 38°.75N×43°.34E, h7km, ML1.9/3*
*ISCJB **13** 16:41:33.6±0.7, 38°.76N±0°.04×43°.28E±0°.07, h10km±7km, Error ellipse: s-maj=10.3km s-min=4.9km az=25.7*

ISC 13 16:41:33.2±1.3, **38°.75N**±0°.04×**43°.31E**±0°.06, **h9**km±14km, **n6**, σ0°**50**/12, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.32**	**40**	*i* P	**Pb**	**16 41 40.7**	**-0.4**
VMUR				*i* S	**Sb**	**16 41 46.9**	**+0.5**
VMUR				IAML_P			
	comp=Z,2μm,0.1s						
GEVA	**Gevas**	**0.47**	**205**	*i* P	**Pg**	**16 41 42.7**	**+0.3**
GEVA				*i* S	**Sb**	**16 41 50.2**	**-0.8**
GEVA				IAML_P			
	comp=Z,1μm,0.2s						
CLDR	**Caldiran**	**0.62**	**50**	PG	**Pg**	**16 41 44.9**	**-0.3**
CLDR				SG	**Sg**	**16 41 53.7**	**+0.4**
CLDR	**Caldiran**	**0.62**	**50**	*i* P	**Pb**	**16 41 45.9**	**-0.4**
CLDR				*i* S	**Sb**	**16 41 54.9**	**-0.2**
CLDR				IAML_P			
	comp=Z,914nm,0.1s						
AGRB	**Hanur-Agry**	**0.87**	**343**	PG	**Pb**	**16 41 50.1**	**-0.4**
AGRB				SG	**Sb**	**16 42 02.3**	**+0.1**
CUKT	**Cukurca**	**1.51**	**171**	PN	**Pn**	**16 42 01.1**	**+0.6**
CUKT				SN	**Sg**	**16 42 21.7**	**-0.1**

MEX 13 17:00:01.3±0.3, **14°.26N×92°.63W**, **h10**km, **MD3.6**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.54**	**338**	*e*P	Pn	17 00 25.4	-3.5
PCIG				*i* S	Sn	17 00 43.8	-5.2
CCIG	**Comitan**	**2.06**	**13**	*i* P	Pn	17 00 32.9	-3.3
CCIG				*i* S	Sn	17 00 58.2	-3.9

IDC 13 17:00:12.7±3.5, **6°.42S×148°.87E**, **h0**km, **mb3.4**/2, **mb1 3.5**/3, **mb1mx3.2**/45, **mbtmp3.3**/3, **ML2.9**/1, **MS3.6**/1, **Ms1 3.6**/1, **ms1mx2.7**/17, **Error ellipse: s-maj=107.3km s-min=46.9km az=117.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**18.41**	**287**	LR	LR	17 12 35.1	
	comp=Z,169nm,18.1s,baz=326,slow=40						
WRA	**Warramunga Arr**	**19.50**	**225**	P	P	17 04 42.1	+0.6
	0.2nm,0.3s,baz=51,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.39**	**218**	P	P	17 05 13.4	+0.5
	0.2nm,0.7s,baz=54,slow=9.0,SNR=6.4						
FITZ	**Fitzroy Crossi**	**25.46**	**241**	P	P	17 05 42.0	-0.6
	2.9nm,0.9s,baz=50,slow=7.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**147.00**	**284**	PKPbc	PKPbc	17 19 57.7	-0.8
	0.4nm,0.5s,baz=59,slow=3.2,SNR=3.5						

IDC 13 17:05:28.4±3.6, **6°.65S×148°.60E**, **h0**km, **mb3.9**/2, **mb1 4.0**/3, **mb1mx3.5**/44, **mbtmp3.8**/3, **ML3.6**/1, **Error ellipse: s-maj=105.1km s-min=47.4km az=118.0**, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.14**	**225**	P	P	17 09 53.5	+0.1
	0.2nm,0.3s,baz=50,slow=10,SNR=11						
ASAR	**Alice Springs**	**22.05**	**218**	P	P	17 10 24.8	-0.1
	1.7nm,0.5s,baz=54,slow=9.2,SNR=62						
FITZ	**Fitzroy Crossi**	**25.11**	**241**	P	P	17 10 54.8	-0.4
	2.3nm,0.7s,baz=63,slow=6.6,SNR=10						
TORD	**Torodi Ar. Bea**	**146.79**	**284**	PKPbc	PKPbc	17 25 13.2	-0.4
	1.0nm,1.0s,baz=83,slow=3.1,SNR=4.2						

*IDC **13** 17:07:26.2±0.7, 1°.36N×126°.37E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/41, mbtmp3.9/12, ML3.6/2, Error ellipse: s-maj=40.0km s-min=13.7km az=73.0*
*DJA **13** 17:07:29.8±0.9, 1°.N±10°×12°.6E±°, h10km, M4.4/7, mb4.9/1, mB4.8/1, MLv4.2/7, Mw(mB)4.1/1*
*ISCJB **13** 17:07:30.8±0.4, 1°.32N±0°.05×126°.40E±0°.08, h47km, mb4.1/16, Error ellipse: s-maj=11.4km s-min=6.3km az=159.7*
*NEIC **13** 17:07:33.7±0.8, 1°.34N×126°.55E, h58km±8km, mb4.4/6, Error ellipse: s-maj=11.3km s-min=5.7km az=67.0*

ISC 13 17:07:32.8±0.6, **1°.27N**±0°.07×**126°.46E**±0°.07, **h47**km, **n34**, σ0°**99**/34, **mb4.2**/16, **1C-1D, Northern Moluca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.03**	**119**	*e*Pn	**Pn**	**17 07 51.4**	**+0.5**
TNTI	**Ternate**	**1.03**	**119**	P	**Pn**	**17 07 51.7**	**+0.8**
SANI	**Sanana**	**3.33**	**188**	P	**Pn**	**17 08 22.1**	**-0.4**
LUWI	**Luwuk**	**4.35**	**238**	*e*Pn	**Pn**	**17 08 39.1**	**+2.7**
LUWI	**Luwuk**	**4.35**	**238**	P	**Pn**	**17 08 35.3**	**-1.1**
SIJI	**Sorong**	**5.25**	**114**	Pn	**Pn**	**17 08 48.2**	**-0.6**
	0.3nm,0.3s,baz=302,slow=19,SNR=2.2						
APSI	**Ampana**	**5.28**	**246**	P	**Pn**	**17 08 48.8**	**-0.4**
KCP	**Kidapawan**	**5.86**	**347**	*e*P	Pn	17 09 03.6	+6.4
CTBH	**Cotabato--PC H**	**6.31**	**340**	*i*P	**Pn**	**17 09 05.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**19.27**	**182**	P	**P**	**17 11 53.5**	**0.0**
	0.4nm,0.3s,baz=0.8,slow=11,SNR=5.8						
WRAB	**Tennant Creek**	**22.45**	**160**	*e*P	**P**	**17 12 28.6**	**+0.6**
	51nm,1.8s						
WR1	**Warramunga Arr**	**22.45**	**160**	*e*P	**P**	**17 12 28.4**	**+0.3**
	36nm,1.6s						
WRA	**Warramunga Arr**	**22.45**	**160**	P	**P**	**17 12 28.4**	**+0.3**
	5.2nm,0.5s,baz=338,slow=11,SNR=41						
WB2	**Warramunga Arr**	**22.46**	**160**	*e*P	**P**	**17 12 27.7**	**-0.4**
AS31	**Alice Springs**	**25.82**	**164**	*e*P	**P**	**17 13 00.2**	**+0.3**
	1.5nm,0.6s						
ASAR	**Alice Springs**	**25.82**	**164**	P	**P**	**17 13 00.5**	**+0.6**
	1.5nm,0.5s,baz=343,slow=7.6,SNR=33						
ASAR				PcP	**PcP**	**17 16 30.4**	**+1.8**
	0.2nm,0.5s,baz=347,slow=2.1,SNR=4.4						
AS01	**Alice Springs**	**25.84**	**164**	*e*P	**P**	**17 13 00.6**	**+0.6**
STKA	**Stephens Creek**	**35.95**	**158**	P	**P**	**17 14 29.7**	**+0.7**
	3.3nm,0.8s,baz=307,slow=11,SN

IKRK				*e*Sn		**Sg**	**17 21 14.0**	**+2.5**
SRTM	**Siirt_Merkez**	**1.88**	**321**	*i* P		**Pb**	**17 21 02.3**	**+0.3**
SRTM				*i* S		**Sg**	**17 21 27.7**	**-0.2**
SRTM				IAML_P				
	comp=Z,918nm,0.2s							
BTMN	**Batman**	**2.18**	**309**	*i* P		**Pb**	**17 21 08.6**	**+1.4**
BTMN				*i* S		**Sb**	**17 21 35.8**	**+1.5**
BTMN				IAML_P				
	comp=Z,286nm,0.3s							
SVAN	**Silvan-Diyarba**	**2.39**	**313**	PN		**Pb**	**17 21 10.2**	**-0.5**
SVAN				SN		**Sn**	**17 21 36.7**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.39**	**313**	*i* P		**Pg**	**17 21 13.6**	**+0.1**
SVAN				*i* S		**Sb**	**17 21 41.8**	**+1.6**
SVAN				IAML_P				
	comp=Z,489nm,0.3s							
CLDR	**Caldiran**	**2.62**	**8**	PN		**Pb**	**17 21 12.8**	**-1.9**
AGRB	**Hanur-Agry**	**3.04**	**354**	PN		**Pn**	**17 21 18.3**	**+2.5**
BHD	**Baghdad**	**3.36**	**166**	*e*Pn		**Pn**	**17 21 20.0**	**0.0**
BHD				*e*Sn		**Sn**	**17 22 03.0**	**+3.1**
RTB	**Rutbah**	**4.35**	**217**	*e*Pn		**Pn**	**17 21 32.0**	**-1.7**
RTB				*e*Sn		**Sn**	**17 22 24.0**	**-0.4**

*ISCJB **13** 17:23:53.5±1.4, 9.64N±0.05×85.90W±0.06, h2km±9km, mb3.1/3, Error ellipse: s-maj=9.6km s-min=8.2km az=35.1*
*UCR **13** 17:23:56.7±1.6, 9.72N×85.89W, h19km±10km, MD4.0*
*IDC **13** 17:23:57.5±4.4, 11.15N×84.42W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.3/3, Error ellipse: s-maj=103.2km s-min=11.6km az=108.0*

ISC 13 17:23:57.3±2.3, 9.77N±0.08×85.82W±0.08, h15km±11km, n23, σ0 973/35, mb3.2/3, 6C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLVR	**Palo Verde**	**0.73**	**39**	⇑*i*P		**Pg**		**17 24 11.9**	**+0.2**
PLVR				*e*S		**Sn**		**17 24 24.3**	**-0.1**
NY14	**Universidad de**	**0.92**	**18**	*i* P		**Pb**		**17 24 14.9**	**0.0**
JTS	**JuntasAbangare**	**0.99**	**59**	Pg		**Pb**		**17 24 15.7**	**-0.5**
	27nm,0.3s,baz=130,slow=3.4,SNR=44								
JTS				LR		LR		17 24 16.2	
	comp=Z,40nm,20.5s,baz=188,slow=19								
JTS				Lg		Lg		17 24 31.5	
	61nm,0.3s,baz=6.0,slow=19,SNR=16								
JTS	**JuntasAbangare**	**0.99**	**59**	⇑*i*P		**Pb**		**17 24 15.8**	**-0.5**
JTS				*e*S		**Sn**		**17 24 31.1**	**+0.5**
LAPC	**Finca la Perla**	**1.06**	**21**	*i* P		**Pb**		**17 24 16.5**	**-0.9**
LAPC				*i* S		**Sg**		**17 24 32.3**	**+0.6**
COLC	**Colonia**	**1.07**	**34**	*i* P		**Pb**		**17 24 17.1**	**-0.6**
LIM1	**Limonal**	**1.08**	**31**	*i* P		**Pb**		**17 24 17.1**	**-0.6**
LIM1				*i* S		**Sn**		**17 24 33.5**	**+0.8**
GPS2	**Hotel Rincn d**	**1.08**	**25**	*e*P		**Pb**		**17 24 16.5**	**-1.2**
GPS2				*i* P		**Pn**		**17 24 17.3**	**-0.7**
GPS2				*i* S		**Sn**		**17 24 33.6**	**+0.8**
CUI	**Cuipilapa**	**1.09**	**36**	*i* P		**Pb**		**17 24 17.3**	**-0.6**
CUI				⇑*i*P		**Pn**		**17 24 17.5**	**-0.7**
CUI				*i* S		**Sn**		**17 24 33.6**	**+0.6**
BUEV	**Buena Vista**	**1.10**	**21**	*e*P		**Pb**		**17 24 17.4**	**-0.7**
BUEV				*e*S		**Sn**		**17 24 34.1**	**+0.9**
GB1A	**Borinquen Arri**	**1.12**	**21**	⇑*e*P		**Pb**		**17 24 17.8**	**-0.7**
GB1A				*i* P		**Pb**		**17 24 17.8**	**-0.7**
HORNC	**Hornillas**	**1.13**	**34**	*i* P		**Pb**		**17 24 17.8**	**-0.7**
MESS	**Mesas**	**1.14**	**32**	*i* P		**Pn**		**17 24 17.9**	**-0.9**
MESS				⇑*i*P		**Pb**		**17 24 18.2**	**-0.6**
ACAL	**Aguas Claras**	**1.15**	**42**	*i* P		**Pn**		**17 24 18.4**	**-0.6**
AMAS	**Alto Masis**	**1.16**	**44**	*i* P		**Pn**		**17 24 18.3**	**-0.9**
ARE1	**Arenal 1**	**1.28**	**57**	*e*P		**Pn**		**17 24 20.5**	**-0.2**
CEDE	**Laguna Cedeo**	**1.31**	**57**	⇑*e*P		**Pn**		**17 24 21.2**	**+0.1**
HDC	**Heredia**	**1.69**	**82**	*e*P		**Pn**		**17 24 26.8**	**+0.3**
LCR2	**La Lucha 2**	**1.79**	**91**	*e*P		**Pn**		**17 24 27.5**	**-0.3**
LCR2				*e*S		**Sn**		**17 24 50.3**	**-0.2**
ACON	**Acoyapa**	**2.27**	**16**	*e*P		**Pn**		**17 24 33.8**	**-0.6**
TXAR	**Lajitas Array**	**25.66**	**322**	P		**P**		**17 29 27.3**	**+0.5**
	0.3nm,0.6s,baz=140,slow=9.9,SNR=4.0								
NVAR	**Mina Array Bea**	**40.77**	**320**	P		**P**		**17 31 39.6**	**+1.4**
	0.3nm,0.6s,baz=141,slow=9.1,SNR=3.0								
ILAR	**Eielson Array**	**69.10**	**336**	P		**P**		**17 35 01.4**	**-1.2**
	0.2nm,0.6s,baz=111,slow=5.1,SNR=3.6								

*IDC **13** 17:46:57.4±5.9, 7.99N×82.53W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, ML4.6/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/40, Error ellipse: s-maj=171.3km s-min=49.2km az=30.0*
*ISCJB **13** 17:46:58.5±0.7, 7.49N±0.05×82.84W±0.03, h44km±10km, mb3.6/3, Error ellipse: s-maj=9.8km s-min=4.5km az=23.8*
*UCR **13** 17:46:59.1±2.0, 7.52N×82.81W, h31km±7km, MD3.6, ML4.7, MW4.1(UPA)*

ISC 13 17:47:00.3±2.5, 7.58N±0.09×82.81W±0.05, h33km±14km, n39, σ1 900/49, mb3.5/3, 5C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.92**	**22**	⇑*i*P		**Pn**		**17 47 16.2**	**-0.8**
DVD				AMP				17 47 16.4	
	comp=Z,6μm,0.2s								
DVD				*i* S		**Sb**		**17 47 29.8**	**0.0**
PTJ1	**Puerto Jimnez**	**1.07**	**333**	*i* P		**Pn**		**17 47 18.0**	**-1.0**
PTJ1				AMP				17 47 18.9	
	comp=Z,153μm,0.5s								
PTJ1				*e*S		**Sb**		**17 47 33.9**	**-0.2**
BRU2	**Volcan**	**1.21**	**5**	⇑*i*P		**Pn**		**17 47 20.9**	**-0.3**
BRU2				*e*S		**Sb**		**17 47 38.0**	**-0.2**
TBS2		**1.21**	**7**	*i* P		**Pn**		**17 47 21.6**	**+0.4**
TBS2				AMP				17 47 22.0	
	comp=Z,3μm,0.1s								
TBS2				*e*S		**Sb**		**17 47 38.8**	**+0.5**
EDSV	**San Vito**	**1.24**	**352**	*e*P		**Pn**		**17 47 20.5**	**-1.1**
EDPN	**Palmar Norte**	**1.52**	**335**	*e*P		**Pn**		**17 47 24.3**	**-0.9**
EDLM	**Las Mercedes**	**1.86**	**335**	*e*P		**Pn**		**17 47 27.5**	**-2.5**
EDDO	**Dominical**	**1.96**	**328**	⇑*i*P		**Pn**		**17 47 30.5**	**-0.8**
LCR2	**La Lucha 2**	**2.45**	**331**	⇑*i*P		**Pn**		**17 47 38.1**	**-0.2**
AZU	**Azuero**	**2.52**	**85**	*e*P		**Pn**		**17 47 38.1**	**-0.8**
AZU				*e*S		**Sn**		**17 48 08.2**	**-0.4**
HDC	**Heredia**	**2.73**	**332**	⇑*i*P		**Pn**		**17 47 42.5**	**+0.5**
HDC				*i* S		**Sn**		**17 48 16.3**	**+2.2**
ZANG	**Zanguenga, Cho**	**3.21**	**65**	*e*P		**Pn**		**17 47 49.2**	**+0.6**
BCIP	**Isla Barro Col**	**3.33**	**62**	*e*P		**Pn**		**17 47 51.5**	**+1.3**
BCIP				*e*S		**Sn**		**17 48 27.5**	**-1.2**
JTS	**JuntasAbangare**	**3.43**	**322**	Pn		**Pn**		**17 47 50.8**	**-0.8**
	comp=Z,69nm,0.3s,baz=212,slow=4.4,SNR=95								
JTS				Sn		**Sn**		**17 48 31.0**	**-0.1**
	comp=Z,44nm,0.3s,baz=116,slow=22,SNR=18								
JTS				LR		LR		17 49 16.4	
	comp=Z,155nm,20.1s,baz=112,slow=42								
JTS	**JuntasAbangare**	**3.43**	**322**	*e*P		**Pn**		**17 47 50.8**	**-0.8**
JTS				*e*S		**Sn**		**17 48 31.4**	**+0.3**
ARE1	**Arenal 1**	**3.43**	**327**	*e*P		**Pn**		**17 47 52.4**	**+0.8**
CEDE	**Laguna Cedeo**	**3.44**	**327**	*e*P		**Pn**		**17 47 52.4**	**+0.6**
FRIJ	**El Hiral**	**3.46**	**62**	*e*P		**Pn**		**17 47 52.0**	**+0.1**
UPA	**Univ. de Panam**	**3.52**	**67**	*e*P		**Pn**		**17 47 53.1**	**+0.3**
UPA				*e*S		**Sn**		**17 48 34.4**	**+1.0**
PLVR	**Palo Verde**	**3.73**	**318**	*e*P		**Pn**		**17 47 54.6**	**-1.2**
ACAL	**Aguas Claras**	**3.75**	**324**	*i* P		**Pn**		**17 47 56.0**	**-0.1**
CUI	**Cuipilapa**	**3.84**	**323**	*e*P		**Pn**		**17 47 58.0**	**+0.8**
COLC	**Colonia**	**3.87**	**322**	*i* P		**Pn**		**17 47 58.3**	**+0.6**
HORNC	**Hornillas**	**3.90**	**323**	*i* P		**Pn**		**17 47 57.3**	**-0.8**
MESS	**Mesas**	**3.93**	**323**	*i* P		**Pn**		**17 47 58.5**	**0.0**
MESS				*e*P		**Pn**		**17 47 59.5**	**+1.1**
MESS				*i* S		**Sn**		**17 48 43.1**	**-0.4**
LAPC	**Finca la Perla**	**4.09**	**321**	*i* P		**Pn**		**17 48 01.2**	**+0.5**
YOTC	**Yotoco, Valle**	**7.35**	**119**	*e*P		Pn		17 48 52.9	+7.3
YOTC	**Yotoco, Valle**	**7.35**	**119**	*e*P		Pn		17 48 52.9	+7.3
SJCC	**San Jacinto, C**	**7.88**	**72**	*e*P		**Pn**		**17 48 52.9**	**+0.1**
SJCC	**San Jacinto, C**	**7.88**	**72**	*e*P		**Pn**		**17 48 52.9**	**+0.1**
POPC	**Popayan, Colom**	**7.89**	**129**	*e*P		**Pn**		**17 48 55.1**	**+1.9**
POPC	**Popayan, Colom**	**7.89**	**129**	*e*P		**Pn**		**17 48 55.1**	**+1.9**
SOTA	**Rioblanco**	**8.21**	**131**	*e*P		**Pn**		**17 48 56.8**	**-0.9**
SOTA	**Rioblanco**	**8.21**	**131**	*e*P		**Pn**		**17 48 56.8**	**-0.9**
PTBC	**PUERTO BERRIO,**	**8.35**	**97**	*e*P		**Pn**		**17 49 00.9**	**+1.6**
PTBC	**PUERTO BERRIO,**	**8.35**	**97**	*e*P		**Pn**		**17 49 00.9**	**+1.6**
ULM	**Lac du Bonnet**	**43.91**	**348**	P		**P**		**17 55 02.7**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=179,slow=10.0,SNR=5.3								
YKA	**Yellowknife Ar**	**59.52**	**344**	P		**P**		**17 57 00.5**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=142,slow=6.4,SNR=4.1								
ILAR	**Eielson Array**	**72.30**	**336**	P		**P**		**17 58 22.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=101,slow=4.7,SNR=3.7								

*DJA **13** 17:47:06.5±1.3, 5.7N±5.9×4.4E±., h20km±13km, M4.1/8, mb4.1/5, mB4.8/2, MLv4.1/8, Mw(mB)4.1/2*

*NEIC **13** 17:47:08.2±0.6, 5.12N×94.07E, h35km, mb4.3/4, Error ellipse: s-maj=18.9km s-min=6.5km az=56.0*
*ISCJB **13** 17:47:09.6±1.5, 5.13N±0.09×94.32E±0.1, h63km±15km, mb4.0/11, Error ellipse: s-maj=25.7km s-min=10.4km az=155.4*
*IDC **13** 17:47:09.6±1.6, 5.20N×94.21E, h44km±9km, mb3.6/7, mb1 3.7/9, mb1mx3.5/40, mbtmp3.8/9, ML4.1/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/45, Error ellipse: s-maj=50.7km s-min=16.1km az=54.0*

ISC 13 17:47:09.4±1.0, 5.15N±0.09×94.2E±0.1, h45km±8km, h45km: pP-P, n42, σ0 967/44, mb4.0/11, MS3.2/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**2.42**	**111**	P			**Pn**	**17 47 46.4**	**-0.1**
LHMI	**Lhok Sumawe**	**2.79**	**88**	P			**Pn**	**17 47 51.1**	**-0.5**
SNSI	**Sinabang, Aceh**	**3.49**	**141**	P			**Pn**	**17 48 01.2**	**0.0**
TPTI		**3.56**	**122**	P			**Pn**	**17 48 01.8**	**-0.4**
KCSI	**Kotacane, Aceh**	**3.96**	**114**	P			**Pn**	**17 48 08.4**	**+0.7**
GSI	**Gunungsitoli**	**5.13**	**138**	*e*Pn			**Pn**	**17 48 23.4**	**-0.4**
GSI	**Gunungsitoli**	**5.13**	**138**	P			**Pn**	**17 48 23.7**	**-0.1**
	11nm,0.7s,0.1nm								
PSI	**Prapat**	**5.31**	**116**	*e*Pn			**Pn**	**17 48 27.1**	**+0.8**
PSI	**Prapat**	**5.31**	**116**	P			**Pn**	**17 48 27.2**	**+0.9**
	1.8nm,0.3s,baz=360,slow=18,SNR=5.6								
PSI				LR			LR	17 50 42.9	
	comp=Z,80nm,20.5s,baz=220,slow=40								
PBSI	**Pulau Batu**	**6.62**	**141**	P			**Pn**	**17 48 44.4**	**+0.2**
	16nm,1.5s,0.1nm								
PALK	**Pallekele**	**13.53**	**280**	S			Sn	17 52 36.2	-12
	0.2nm,0.3s,baz=108,slow=3.2,SNR=3.4								
PALK				LR			LR	17 55 25.0	
	comp=Z,68nm,18.4s,baz=116,slow=36								
UTTA	**Uttaradit**	**14.00**	**26**	P			**P**	**17 50 33.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**14.03**	**19**	P			**Pn**	**17 50 26.4**	**+0.7**
	0.6nm,0.3s,baz=212,slow=13,SNR=19								
CHTO	**Chiang Mai**	**14.36**	**19**	P			**P**	**17 50 35.4**	**-0.8**
CMMT	**Chiang Mai**	**14.36**	**19**	P			**P**	**17 50 35.4**	**-0.8**
RAMN	**Ramite**	**22.84**	**342**	*e*P			**P**	**17 52 09.8**	**+0.6**
PKI	**Pulchoki**	**23.80**	**340**	*e*P			**P**	**17 52 19.0**	**+0.4**
	6.5nm,0.8s								
PKIN	**Phulchoki**	**23.81**	**340**	*e*P			**P**	**17 52 18.9**	**+0.3**
	2.6nm,0.5s								
GUN	**Gumba**	**23.96**	**342**	*e*P			**P**	**17 52 18.8**	**-1.3**
	4.0nm,0.4s								
KOLN	**Koldanda**	**24.63**	**337**	*e*P			**P**	**17 52 27.2**	**+1.1**
	7.4nm,0.8s								
H08S3	**Diego Garcia H**	**25.07**	**240**	T			T	18 18 06.5	
	baz=60,slow=76,SNR=38								
H08S2	**Diego Garcia H**	**25.07**	**240**	T			T	18 18 24.5	
	baz=60,slow=76,SNR=54								
H08S1	**Diego Garcia H**	**25.08**	**240**	T			T	18 18 14.0	
	baz=60,slow=76,SNR=37								
DANN	**Dangsing**	**25.09**	**338**	*e*P			**P**	**17 52 30.7**	**+0.4**
	7.9nm,0.5s								
PYUN	**Piuthan**	**25.16**	**336**	*e*P			**P**	**17 52 32.2**	**+1.3**
	9.7nm,0.5s								
MK01	**Makanchi Array**	**42.71**	**348**	*e*P			**P**	**17 55 02.0**	**0.0**
MK31	**Makanchi Array**	**42.73**	**348**	*e*P			**P**	**17 55 02.2**	**0.0**
	2.1nm,0.6s								
MK32	**Makanchi Array**	**42.73**	**348**	*e*P			**P**	**17 55 02.7**	**+0.5**
MKAR	**Makanchi Array**	**42.73**	**348**	P			**P**	**17 55 02.7**	**+0.5**
	2.6nm,0.5s,baz=166,slow=8.2,SNR=42								
MKAR				pP			**pP**	**17 55 14.7**	**+0.3**
	0.7nm,0.6s,baz=154,slow=8.7,SNR=4.3								
MAKZ	**Makanchi**	**42.81**	**348**	*e*P			**P**	**17 55 02.6**	**-0.2**
	3.2nm,0.6s								
SONA0	**Songino Array**	**43.80**	**12**	*e*P			**P**	**17 55 09.6**	**-1.4**
SONA0				*e*pP		**pP**		**17 55 22.1**	**-0.8**
SONA0				*e*PP		**PcP**		**17 56 57.2**	**+0.2**
SONA0				*e*				17 57 11.9	
SONM	**Songino Array**	**43.80**	**12**	P			**P**	**17 55 09.6**	**-1.4**
	0.6nm,0.7s,baz=193,slow=7.8,SNR=5.8								
SONM				pP			**pP**	**17 55 22.1**	**-0.8**
	0.7nm,0.8s,baz=194,slow=9.3,SNR=4.1								
SONM				PcP			**PcP**	**17 56 57.2**	**+0.2**
	0.3nm,0.5s,baz=203,slow=2.8,SNR=3.9								
SONM				pPcP				17 57 11.9	
	0.3nm,0.5s,baz=183,slow=4.0,SNR=3.1								
SONM				LR			LR	18 13 50.0	
	comp=Z,28nm,18.4s,baz=150,slow=37								
WR1	**Warramunga Arr**	**46.72**	**123**	*e*P			**P**	**17 55 34.3**	**-0.2**
	37nm,1.8s								
WRA	**Warramunga Arr**	**46.72**	**123**	P			**P**	**17 55 34.3**	**-0.2**
	0.3nm,0.3s,baz=306,slow=8.3,SNR=25								
ASAR	**Alice Springs**	**48.21**	**128**	P			**P**	**17 55 45.9**	**-0.1**
	0.3nm,0.7s,baz=301,slow=7.9,SNR=12								
ZALV	**Zalesovo Beam**	**49.24**	**353**	P			**P**	**17 55 53.5**	**+0.2**
	1.9nm,0.4s,baz=182,slow=7.2,SNR=12								
ZALV				pP			**pP**	**17 56 05.9**	**+0.3**
	1.1nm,0.6s,baz=169,slow=8.5,SNR=3.8								
ZALV				LR			LR	18 20 16.6	
	comp=Z,26nm,18.3s,baz=70,slow=40								
ZAA1	**Zalesovo Array**	**49.24**	**353**	*e*P			**P**	**17 55 53.5**	**+0.1**
ZAA1				*e*pP		**pP**		**17 56 05.9**	**+0.3**
GUMO	**Guam**	**50.66**	**77**	LR			LR	18 19 42.9	
	comp=Z,16nm,18.3s,baz=119,slow=39								
ABKAR	**Akbulak array**	**52.62**	**332**	*e*P			**P**	**17 56 19.3**	**+0.5**
	10nm,2.0s								
FIA0	**FINESS Array S**	**75.11**	**333**	*e*P			**P**	**17 58 46.0**	**-0.5**
FINES	**FINESS Array B**	**75.11**	**333**	P			**P**	**17 58 46.0**	**-0.5**
	0.9nm,0.8s,baz=183,slow=8.4,SNR=3.1								
GERES	**GERESS Array B**	**79.85**	**319**	P			**P**	**17 59 13.9**	**+0.4**
	0.2nm,0.5s,baz=64,slow=3.1,SNR=4.4								

*DDA **13** 17:47:37.6, 40.15N×34.35E, h7km±1km, ML2.7*
*ISCJB **13** 17:47:38.6±0.9, 40.13N±0.06×34.37E±0.04, h7km±7km, Error ellipse: s-maj=10.0km s-min=5.2km az=163.8*
*ISK **13** 17:47:38.6, 40.09N×34.38E, h5km, ML2.0/5*

ISC 13 17:47:38.1±1.4, 40.15N±0.07×34.37E±0.04, h9km±12km, n10, σ0 978/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DELI	**KIRIKKALE**	**0.37**	**246**	*i* P			**Pb**	**17 47 46.2**	**-0.7**
DELI				*i* S			**Sg**	**17 47 51.2**	**+0.8**
DELI				IAML_P					
	comp=Z,17μm,0.1s								
COAL	**Corum-Alaca**	**0.49**	**77**	*i* P			**Pg**	**17 47 48.0**	**+0.4**
COAL				*i* S			**Sb**	**17 47 55.8**	**-0.5**
COAL				IAML_P					
	comp=Z,172nm,0.1s								
CDAG	**Cicekdag**	**0.52**	**179**	*i* P			**Pg**	**17 47 48.2**	**-0.1**
CDAG				*i* S			**Sb**	**17 47 56.4**	**-0.9**
CDAG				IAML_P					
	comp=Z,2μm,0.1s								
YOZ	**Yozgat**	**0.89**	**124**	PG			**Pg**	**17 47 55.3**	**0.0**
YOZ				SG			**Sb**	**17 48 07.4**	**-0.5**
KIRS	**Kırehir-Merke**	**1.07**	**199**	*i* P			**Pb**	**17 47 58.9**	**0.0**
KIRS				IAML_P					
	comp=Z,154nm,0.1s								
AFSR	**Afar-Bala (An**	**1.22**	**235**	PN			**Pg**	**17 48 00.9**	**-0.6**
AFSR				SN			**Sn**	**17 48 18.9**	**+0.8**
YAYX	**Yaylak**	**1.28**	**200**	PN			**Pn**	**17 48 02.6**	**+0.3**
KULU	**Kulu**	**1.53**	**224**	PN			**Pg**	**17 48 06.8**	**-0.6**
SVSK	**Karacayir**	**2.03**	**96**	PN			**Pb**	**17 48 14.1**	**-1.1**
SULT	**Sultanhani-AKS**	**2.06**	**199**	PN			**Pn**	**17 48 14.1**	**+1.2**

*ISN **13** 17:49:41.4±1.2, 36.74N×43.41E, h2km±5km, ML3.1*
*DDA **13** 17:49:44.4, 36.63N×43.38E, h10km±1km, ML3.6*
*ISK **13** 17:49:47.7, 36.85N×43.32E, h5km, ML3.1/10*

ISC 13 17:49:44.1±1.2, 36.63N±0.03×43.41E±0.03, h11km±10km, n24, σ1 946/38, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.33**	**227**	*e*Pg			**Pb**	**17 49 51.3**	**-0.7**
MSL				*e*Sg			**Sb**	**17 49 56.2**	**-1.1**
CUKT	**Cukurca**	**0.64**	**14**	PG			**Pg**	**17 49 56.9**	**+0.3**
CUKT				SG			**Sg**	**17 50 05.5**	**+0.4**
SIRT	**Sirnak**	**1.17**	**319**	PG			**Pg**	**17 50 06.4**	**-0.2**
SIRT				SG			**Sn**	**17 50 21.9**	**-0.6**
SIRN	**Sırnak**	**1.18**	**318**	*i* P			**Pg**	**17 50 07.0**	**+0.2**
SIRN				*i* S			**Sn**	**17 50 24.0**	**+1.3**
SIRN				IAML_P					
	comp=Z,13μm,0.3s								
YOVA	**Hakkari_Yksek**	**1.19**	**36**	*i* P			**Pg**	**17 50 07.7**	**+0.7**
YOVA				*i* S			**Sn**	**17 50 24.4**	**+1.2**
YOVA				IAML_P					
	comp=Z,6μm,0.3s								
IKRK	**Kirkuk**	**1.44**	**148**	*e*Pn			**Pn**	**17 50 10.0**	**0.0**
IKRK				*e*Sn			**Sg**	**17 50 31.0**	**+0.7**
GEVA	**Gevas**	**1.71**	**351**	*i* P			**Pg**	**17 50 17.5**	**+0.6**
GEVA				*i* S			**Sg**	**17 50 41.3**	**+2.3**
GEVA				IAML_P					
	comp=Z,4μm,0.4s								
AKDM	**Akdamar-Van**	**1.73**	**349**	PN			**Pg**	**17 50 17.1**	**-0.3**
AKDM				SN			**Sb**	**17 50 38.1**	**+0.2**
SRTM	**Siirt_Merkez**	**1.81**	**319**	*i* P			**Pb**	**17 50 17.2**	**0.0**
SRTM				*i* S			**Sg**	**17 50 43.7**	**+1.4**
SRTM				IAML_P					
	comp=Z,5μm,0.2s								
VANB	**Van**	**1.97**	**360**	PN			**Pb**	**17 50 19.2**	**-0.8**
BTMN	**Batman**	**2.12**	**307**	*i* P			**Pb**	**17 50 22.4**	**-0.2**
BTMN				*i* S			**Sg**	**17 50 51.5**	**-0.9**
BTMN				IAML_P					
	comp=Z,459nm,0.2s								
GURO	**Guroymak-BITLI**	**2.21**	**331**	PN			**Pb**	**17 50 23.9**	**-0.3**
MARD	**Mardin**	**2.22**	**289**	*i* P			**Pb**	**17 50 23.4**	**-0.8**
MARD				*i* S			**Sb**	**17 50 52.9**	**+1.2**
MARD				IAML_P					
	comp=Z,1μm,0.2s								
SVAN	**Silvan-Diyarba**	**2.33**	**312**	PN			**Pb**	**17 50 25.9**	**-0.2**
CLDR	**Caldiran**	**2.54**	**9**	PN			**Pb**	**17 50 28.8**	**-1.1**
AGRB	**Hanur-Agry**	**2.96**	**354**	PN			**Pb**	**17 50 34.5**	**-2.5**
HANI	**Diyarbakir_Han**	**2.99**	**308**	*i* P			**Pg**	**17 50 40.4**	**-0.9**
HANI				IAML_P					
	comp=Z,776nm,0.3s								
BNGB	**Bingl**	**3.20**	**318**	PN			**Pb**	**17 50 38.2**	**-2.8**
TASB	**TASBURUN-IGDIR**	**3.42**	**11**	PN			**Pb**	**17 50 41.4**	**-3.2**
BHD	**Baghdad**	**3.44**	**166**	*e*Pn			**Pn**	**17 50 38.0**	**+0.4**
BHD				*e*Sn			**Sn**	**17 51 19.0**	**+0.7**
GNI	**Garni**	**3.67**	**16**	PN			**Pb**	**17 50 45.2**	**-3.8**
URFA	**Urfa**	**3.76**	**284**	PN			**Pb**	**17 50 47.7**	**-2.8**
IBDR	**Badra**	**4.07**	**149**	*e*Pn			**Pn**	**17 50 48.0**	**+1.7**
IBDR				*e*Sn			**Sn**	**17 51 34.0**	**+0.1**
RTB	**Rutbah**	**4.40**	**216**	*e*Pn			**Pn**	**17 50 52.0**	**+1.1**
RTB				*e*Sn			**Sn**	**17 51 42.0**	**-0.1**

IDC 13 17:52:48.6±7.3, 19.43S×178.15W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/32, mbtmp4.0/2, Error ellipse: s-maj=318.5km s-min=61.7km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.62**	**261**	P			P	18 01 03.4	+0.2
	0.9nm,0.6s,baz=95,slow=8.1,SNR=22								
ASAR	**Alice Springs**	**44.64**	**256**	P			P	18 01 02.9	-0.4
	2.1nm,0.7s,baz=92,slow=8.7,SNR=36								
BRTR	**Keskin Array B**	**146.01**	**313**	PKPbc		PKPdf		18 12 30.0	-0.1
	0.4nm,0.6s,baz=48,slow=2.1,SNR=2.6								

*ISCJB **13** 18:02:27.0±0.3, 67.08N±0.02×20.99E±0.06, h0km, Error ellipse: s-maj=3.2km s-min=2.6km az=172.2*
*UPP **13** 18:02:27.7±0.1, 67.08N×20.91E, h0km, ML2.0, Explosion*
*HEL **13** 18:02:28.4±0.1, 67.08N×20.93E, h0km, ML2.1, ML2.0(UPP), Explosion*
*NAO **13** 18:02:28

KEV	**Kevo**	**3.50**	**37**	*e*P		**Pn**	**18 03 23.7**	**+0.2**
KU6	**Riekki**	**3.74**	**102**	*e*P		**Pn**	**18 03 27.4**	**+0.8**
VAF	**Ylistaro**	**4.12**	**169**	*e*P		**Pn**	**18 03 32.9**	**+1.0**
HEMU	**Hemsoen**	**4.59**	**197**	*e*P		**Pn**	**18 03 42.4**	**+4.1**
	baz=17							
APA0	**Apatity Array**	**4.70**	**78**	Sn		**Sn**	**18 04 33.6**	**-1.3**
APA0				Lg		Lg	18 04 49.1	
APA0	**Apatity Array**	**4.70**	**78**	Sn		**Sn**	**18 04 33.6**	**-1.3**
APA0				Sg		**Sb**	**18 04 49.1**	**+1.2**
FIA0	**FINESS Array S**	**6.09**	**156**	Pn		**Pn**	**18 03 59.7**	**+0.9**
	baz=352,slow=14							
FIA0				Sn		**Sn**	**18 05 08.7**	**-0.4**
	baz=349,slow=28							
FIA0	**FINESS Array S**	**6.09**	**156**	Pn		**Pn**	**18 03 59.7**	**+0.9**
	baz=352,slow=14							
FIA0				Sn		**Sn**	**18 05 08.7**	**-0.4**
	baz=349,slow=28							
FINES	**FINESS Array B**	**6.09**	**156**	Pn		**Pn**	**18 03 59.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=7.1							
FINES				Sn		**Sn**	**18 05 08.0**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=24,SNR=7.2							
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn		**Pn**	**18 04 15.8**	**-1.2**
	baz=25,slow=14							
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn		**Pn**	**18 04 15.8**	**-1.2**
	baz=25,slow=14							
NOA	**NORSAR Array B**	**7.40**	**220**	Pn		**Pn**	**18 04 17.8**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=37,slow=9.2,SNR=3.3							
NRA0	**NORESS Array S**	**7.58**	**217**	Pn		**Pn**	**18 04 19.2**	**-0.2**
NRA0	**NORESS Array S**	**7.58**	**217**	Pn		**Pn**	**18 04 19.2**	**-0.2**

UCR 13 18:02:36.3±2.0, 7.47N×82.83W, h29km±8km, MD3.1, ML3.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**1.03**	**21**	*e*P	Pn	18 02 54.5	-0.3
DVD				AMP		18 02 54.8	
	comp=Z,852nm,0.4s						
PTJ1	**Puerto Jimnez**	**1.16**	**336**	*e*S	Sn	18 03 11.8	+0.4
BRU2	**Volcan**	**1.32**	**6**	*i* S	Sb	18 03 17.2	0.0
EDDO	**Dominical**	**2.05**	**330**	*e*P	Pn	18 03 05.5	-3.3
EDDO				*e*S	Sn	18 03 32.6	-0.8
AZU	**Azuero**	**2.55**	**83**	*e*S	Sn	18 03 46.2	+0.4
JTS	**JuntasAbangare**	**3.50**	**323**	*e*P	Pn	18 03 30.2	+1.4
JTS				*e*S	Sn	18 04 09.5	+0.1

*IDC **13** 18:04:11.3±1.2, 3.90S×133.52E, h0km, mb3.5/3, mb1 4.2/9, mb1mx3.9/29, mbtmp4.0/9, ML4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/26, Error ellipse: s-maj=28.1km s-min=22.4km az=79.0*
*ISCJB **13** 18:04:13.2±0.4, 3.98S±0.03×133.60E±0.06, h33km, mb3.5/3, Error ellipse: s-maj=8.3km s-min=4.6km az=175.3*
*NEIC **13** 18:04:13.3±0.5, 3.81S×133.51E, h10km, mb4.0/4, Error ellipse: s-maj=10.8km s-min=8.4km az=79.0*
*DJA **13** 18:04:14.5±0.8, 4.5S×13.3E±, h10km, ML4.5/6, mb4.6/2, mB4.8/2, MLv4.4/6, Mw(mB)4.1/2*

ISC 13 18:04:14.4±0.7, 4.00S±0.05×133.53E±0.06, h35km, n26, σ2s94/32, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**0.37**	**27**	P	**Pn**	**18 04 20.2**	**-3.1**
KMPI				S	**Sn**	**18 04 25.1**	**-4.3**
FAKI	**Fak Fak**	**1.67**	**310**	*e*Pn	**Pn**	**18 04 40.7**	**-0.5**
FAKI	**Fak Fak**	**1.67**	**310**	P	**Pn**	**18 04 40.8**	**-0.4**
RKPI	**Ransiki, Papua**	**2.55**	**15**	P	**Pn**	**18 04 54.8**	**+1.5**
BNDI	**Bandanaira**	**3.66**	**262**	P	**Pn**	**18 05 11.1**	**+2.6**
SIJI	**Sorong**	**3.84**	**324**	Pn	**Pn**	**18 05 10.5**	**-0.6**
	3.3nm,0.3s,baz=114,slow=4.2,SNR=36						
SIJI				Sn	**Sn**	**18 05 50.5**	**-4.6**
	17nm,0.3s,baz=90,slow=12,SNR=4.4						
SWI	**Sorong**	**3.85**	**324**	P	**Pn**	**18 05 11.0**	**-0.2**
NLAI	**Namlea**	**6.46**	**276**	P	**Pn**	**18 05 49.7**	**+2.5**
JAY	**Jayapura**	**7.31**	**79**	Pn	**Pn**	**18 05 59.9**	**+1.1**
	0.7nm,0.3s,baz=304,slow=16,SNR=3.2						
MTN	**Manton Dam**	**9.11**	**195**	*e*Pn	**Pn**	**18 06 27.2**	**+3.8**
BATI	**Baumata**	**11.57**	**237**	Pn	**Pn**	**18 06 59.6**	**+2.3**
	3.4nm,0.3s,baz=270,slow=20,SNR=4.4						
DAV	**Davao City (W)**	**13.56**	**324**	LR	LR	18 13 04.1	
	comp=Z,66nm,20.1s,baz=286,slow=40						
WR1	**Warramunga Arr**	**15.87**	**177**	*e*Pn	**Pn**	**18 07 55.6**	**+0.4**
	75nm,1.9s						
WR1				*e*Sn	**Sn**	**18 10 48.3**	**-1.9**
WRA	**Warramunga Arr**	**15.87**	**177**	Pn	**Pn**	**18 07 55.6**	**+0.4**
	0.7nm,0.3s,baz=354,slow=13,SNR=28						
WRA				Sn	**Sn**	**18 10 48.3**	**-1.9**
	0.7nm,0.3s,baz=354,slow=24,SNR=6.3						
WB2	**Warramunga Arr**	**15.87**	**177**	*e*Pn	**Pn**	**18 07 54.5**	**-0.8**
WC3	**Warramunga Arr**	**15.89**	**177**	*e*Pn	**Pn**	**18 07 55.9**	**+0.4**
	11nm,0.7s						
FITZ	**Fitzroy Crossi**	**16.00**	**208**	*e*Pn	**Pn**	**18 07 56.4**	**-0.6**
	13nm,1.3s						
FITZ				Sn	**Sn**	**18 10 46.3**	**-7.2**
FITZ	**Fitzroy Crossi**	**16.00**	**208**	Pn	**Pn**	**18 07 57.4**	**+0.4**
	1.1nm,0.3s,baz=39,slow=11,SNR=21						
FITZ				Sn	**Sn**	**18 10 46.3**	**-7.2**
	0.7nm,0.3s,baz=201,slow=14,SNR=5.5						
AS01	**Alice Springs**	**19.56**	**179**	*e*P	**Pn**	**18 08 43.2**	**+2.4**
AS31	**Alice Springs**	**19.56**	**179**	*e*P	**Pn**	**18 08 44.2**	**+3.3**
	2.8nm,0.6s						
ASAR	**Alice Springs**	**19.56**	**179**	P	**Pn**	**18 08 43.2**	**+2.4**
	0.7nm,0.3s,baz=2.7,slow=10,SNR=75						
ASAR				S	**S**	**18 12 15.4**	**-3.1**
	0.2nm,0.3s,baz=357,slow=27,SNR=4.5						
CMAR	**Chiang Mai Arr**	**40.73**	**304**	P	**P**	**18 11 52.8**	**+0.5**
	0.2nm,0.7s,baz=139,slow=7.0,SNR=3.2						
MK01	**Makanchi Array**	**67.72**	**325**	*e*P	**P**	**18 15 09.3**	**+0.9**
MK32	**Makanchi Array**	**67.74**	**325**	*e*P	**P**	**18 15 11.4**	**+2.9**
MKAR	**Makanchi Array**	**67.74**	**325**	P	**P**	**18 15 11.4**	**+2.9**
	0.7nm,0.8s,baz=106,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**89.15**	**25**	P	**P**	**18 17 07.3**	**+1.3**
	0.7nm,1.0s,baz=249,slow=6.5,SNR=3.2						

IDC 13 18:11:18.9±3.5, 6.89S×148.85E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/29, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=100.8km s-min=47.6km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**226**	P	P	18 15 43.9	-0.2
	0.2nm,0.3s,baz=52,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.02**	**219**	P	P	18 16 16.1	+0.9
	1.3nm,0.6s,baz=54,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**25.22**	**242**	P	P	18 16 46.4	-0.3
	1.2nm,0.3s,baz=52,slow=6.6,SNR=6.7						
TORD	**Torodi Ar. Bea**	**147.09**	**284**	PKPbc	PKPdf	18 31 03.9	+1.0
	0.5nm,0.6s,baz=48,slow=2.1,SNR=3.8						

IDC 13 18:17:35.0±6.0, 21.55S×170.14E, h130km±36km, mb3.5/3, mb1 3.7/4, mb1mx3.3/31, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.8/20, Error ellipse: s-maj=136.2km s-min=36.9km az=157.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.48**	**261**	P	Pn	18 18 28.9	+0.9
	12nm,0.3s,baz=126,slow=20,SNR=7.9						
DZM				S	Sn	18 19 08.8	-0.1
	55nm,0.3s,baz=62,slow=21,SNR=9.8						
CTA	**Charters Tower**	**22.38**	**269**	P	P	18 22 23.7	+1.0
	19nm,1.3s,baz=90,slow=15,SNR=3.2						
CTA				LR	LR	18 29 33.5	
	comp=Z,143nm,20.1s,baz=219,slow=32						
ASAR	**Alice Springs**	**33.47**	**259**	P	P	18 24 02.1	+0.1
	0.9nm,0.6s,baz=94,slow=9.6,SNR=19						
WRA	**Warramunga Arr**	**33.48**	**266**	P	P	18 24 01.6	-0.5
	0.3nm,0.5s,baz=98,slow=7.9,SNR=7.5						
ARCES	**ARCESS Array B**	**127.51**	**345**	PKP	PKPdf	18 36 23.2	-0.7
	0.8nm,0.5s,baz=64,slow=2.1,SNR=7.0						
EKA	**Eskdalemuir Ar**	**145.90**	**353**	PKPbc	PKPdf	18 36 57.8	-0.3
	1.9nm,0.6s,baz=359,slow=3.3,SNR=5.9						
GERES	**GERESS Array B**	**146.92**	**331**	PKPbc	PKPbc	18 37 02.0	-0.3
	1.4nm,0.6s,baz=31,slow=3.0,SNR=12						
DAVOX	**Davos/Dischmat**	**150.17**	**332**	PKPbc	PKPbc	18 37 10.1	-0.7
	baz=37,slow=5.1						

*ISCJB **13** 18:22:08.0±0.4, 7.40N±0.04×82.88W±0.04, h14km, mb4.1/8, MS3.4/8, Error ellipse: s-maj=6.8km s-min=2.8km az=135.4*
*IDC **13** 18:22:07.3±1.0, 7.43N×82.94W, h0km, mb4.0/7, mb1 4.3/11, mb1mx4.0/38, mbtmp4.2/11, ML4.4/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/38, Error ellipse: s-maj=33.9km s-min=16.7km az=53.0*
*UCR **13** 18:22:09.2±3.7, 7.55N×82.89W, h0km±12km, MD4.6, mb4.7(NEIC)*
*NEIC **13** 18:22:10.3±2.2, 7.36N×82.94W, h22km±17km, mb4.7/2, Error ellipse: s-maj=13.0km s-min=6.6km az=55.0*

ISC 13 18:22:08.9±0.7, 7.47N±0.06×82.80W±0.06, h14km, n78, σ1s75/81, mb4.0/8, MS3.4/8, 7C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**1.17**	**335**	*e*P	**Pn**	**18 22 29.1**	**-1.8**
PTJ1				*e*S	**Sb**	**18 22 46.1**	**+0.1**
BRU2	**Volcan**	**1.32**	**5**	*e*P	**Pn**	**18 22 33.1**	**0.0**
BRU2				*e*S	**Sb**	**18 22 50.3**	**-0.2**
EDSV	**San Vito**	**1.35**	**353**	*e*P	**Pn**	**18 22 32.5**	**-1.0**
EDPN	**Palmar Norte**	**1.62**	**336**	*e*P	**Pn**	**18 22 36.7**	**-0.4**
EDPN				*e*S	**Sn**	**18 22 57.5**	**-0.3**
EDBA	**Buenos Aires**	**1.75**	**344**	*e*P	**Pn**	**18 22 39.5**	**+0.7**
EDLM	**Las Mercedes**	**1.96**	**337**	*i*P	**Pn**	**18 22 42.2**	**+0.4**
EDDO	**Dominical**	**2.06**	**329**	*i*P	**Pn**	**18 22 43.0**	**-0.2**
AZU	**Azuero**	**2.53**	**82**	*e*P	**Pn**	**18 22 50.7**	**+1.2**
AZU				*e*S	**Sn**	**18 23 17.4**	**-2.7**
AZU				*i*		18 23 29.1	
	comp=Z,3μm,0.6s						
AZU	**Azuero**	**2.53**	**82**	*e*P	**Pn**	**18 22 50.5**	**+1.0**
LCR2	**La Lucha 2**	**2.55**	**332**	*i*P	**Pn**	**18 22 50.3**	**+0.2**
PNME	**Penonome**	**2.65**	**67**	*e*P	**Pn**	**18 22 53.2**	**+2.0**
SJS	**Escuela Geolog**	**2.75**	**333**	*e*S	**Sb**	**18 23 29.1**	**-2.5**
HDC	**Heredia**	**2.83**	**333**	*e*Pn	**Pn**	**18 22 54.9**	**+1.1**
HDC	**Heredia**	**2.83**	**333**	*i*P	**Pn**	**18 22 55.0**	**+1.1**
PINA	**Pinga, Costa Ab**	**3.24**	**57**	*e*P	**Pn**	**18 23 01.7**	**+2.4**
ZANG	**Zanenga, Cho**	**3.26**	**63**	*e*P	**Pn**	**18 23 01.3**	**+1.7**
BCIP	**Isla Barro Col**	**3.38**	**60**	*e*Pn	**Pn**	**18 23 04.2**	**+2.9**
BCIP	**Isla Barro Col**	**3.38**	**60**	*e*P	**Pn**	**18 23 03.4**	**+2.1**
FORC	**Fortuna**	**3.51**	**328**	*i* P	**Pn**	**18 23 05.7**	**+2.6**
FORC				*i* S	**Sn**	**18 23 44.6**	**+0.3**
FRIJ	**El Hiral**	**3.51**	**60**	*e*P	**Pn**	**18 23 04.8**	**+1.8**
CASO	**Castillo**	**3.51**	**327**	*i* P	**Pn**	**18 23 05.9**	**+2.8**
JTS	**JuntasAbangare**	**3.52**	**323**	*e*Pn	**Pn**	**18 23 04.2**	**+1.0**
JTS				Sn	**Sn**	**18 23 42.6**	**-2.1**
JTS	**JuntasAbangare**	**3.52**	**323**	Pn	**Pn**	**18 23 03.0**	**-0.2**
	comp=Z,139nm,0.3s,baz=208,slow=4.5,SNR=264						
JTS				Sn	**Sn**	**18 23 42.6**	**-2.1**
	comp=Z,61nm,0.3s,baz=128,slow=6.9,SNR=5.3						
JTS	**JuntasAbangare**	**3.52**	**323**	*e*P	**Pn**	**18 23 04.2**	**+1.0**
ARE1	**Arenal 1**	**3.53**	**328**	*e*P	**Pn**	**18 23 04.9**	**+1.6**
CEDE	**Laguna Cedeo**	**3.54**	**328**	*e*P	**Pn**	**18 23 05.0**	**+1.5**
UPA	**Univ. de Panam**	**3.57**	**65**	*e*P	**Pn**	**18 23 04.8**	**+0.9**
UPA	**Univ. de Panam**	**3.57**	**65**	*e*P	**Pn**	**18 23 04.7**	**+0.9**
AMAS	**Alto Masis**	**3.80**	**325**	*i* P	**Pn**	**18 23 08.6**	**+1.4**
AMAS				*i* S	**Sn**	**18 23 49.8**	**-2.0**
PLVR	**Palo Verde**	**3.81**	**319**	*e*P	**Pn**	**18 23 07.2**	**-0.1**
ACAL	**Aguas Claras**	**3.84**	**325**	*i* P	**Pn**	**18 23 08.3**	**+0.6**
PTEN	**Parque Tenorio**	**3.88**	**326**	*i* P	**Pn**	**18 23 10.2**	**+1.9**
CUI	**Cuipilapa**	**3.94**	**324**	*i* P	**Pn**	**18 23 10.1**	**+1.1**
COLC	**Colonia**	**3.97**	**323**	*i* P	**Pn**	**18 23 10.8**	**+1.5**
MESS	**Mesas**	**4.02**	**324**	*i* P	**Pn**	**18 23 10.7**	**+0.5**
MESS				*e*P	**Pn**	**18 23 11.3**	**+1.2**
NY14	**Universidad de**	**4.16**	**320**	*i* P	**Pn**	**18 23 13.5**	**+1.5**
LAPC	**Finca la Perla**	**4.18**	**322**	*i* P	**Pn**	**18 23 12.7**	**+0.3**
UPD2	**Meteti**	**4.86**	**77**	*e*P	**Pn**	**18 23 24.0**	**+2.4**
ESPN	**Las Esperanzas**	**4.92**	**345**	*e*Pn	**Pn**	**18 23 22.9**	**+0.4**
ESPN	**Las Esperanzas**	**4.92**	**343**	*e*P	**Pn**	**18 23 23.7**	**+1.2**
CONN	**Concepcion**	**4.93**	**326**	*e*P	**Pn**	**18 23 24.0**	**+1.3**
ACON	**Acoyapa**	**5.05**	**333**	*e*P	**Pn**	**18 23 25.9**	**+1.8**
ACON				*e*S	**Sn**	**18 24 22.7**	**+0.3**
SOLC	**Bahia Solano**	**5.50**	**103**	*e*P	**Pn**	**18 23 30.1**	**-0.2**
COPN	**Copaltepe**	**5.99**	**322**	*e*P	**Pn**	**18 23 38.6**	**+1.4**
MATN	**Matagalpa**	**6.24**	**331**	*e*P	**Pn**	**18 23 42.2**	**+1.5**
DBBC	**Dabeiba**	**6.55**	**93**	*e*P	**Pn**	**18 23 46.3**	**+1.3**
DBBC				*e*S	**Sn**	**18 24 53.3**	**-6.3**
YOTC	**Yotoco, Valle**	**7.30**	**118**	*e*P	**Pn**	**18 23 56.1**	**+0.9**
HELC	**Santa Helena**	**7.33**	**100**	*e*P	**Pn**	**18 23 59.3**	**+3.4**
POPC	**Popayan, Colom**	**7.82**	**128**	*e*P	**Pn**	**18 24 05.9**	**+3.3**
SOTA	**Rioblanco**	**8.13**	**130**	*e*P	**Pn**	**18 24 08.2**	**+1.2**
PCON	**Cinco Dias**	**8.17**	**128**	*e*P	**Pn**	**18 24 11.2**	**+3.6**
MARP	**Paez Belalcaza**	**8.22**	**124**	*e*P	**Pn**	**18 24 10.2**	**+2.1**
OTAV	**Otavalo**	**8.39**	**149**	*e*Pn	**Pn**	**18 24 10.4**	**-0.1**
PRAC	**Prado**	**8.71**	**115**	*e*P	**Pn**	**18 24 17.2**	**+2.5**
ROSC	**El Rosal**	**8.83**	**107**	LR	LR	18 27 05.2	
	comp=Z,132nm,19.4s,baz=292,slow=33						
APG	**El Apazote**	**10.61**	**316**	Pn	**Pn**	**18 24 41.8**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=330,slow=20,SNR=4.5						
SDV	**Santo Domingo**	**12.13**	**82**	Pn	**Pn**	**18 25 03.8**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=286,slow=15,SNR=2.9						
SDV				Sn	**Sn**	**18 27 14.4**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=95,slow=17,SNR=4.2						
ATAH	**Atahualpa**	**15.16**	**163**	LR	LR	18 31 04.2	
	comp=Z,284nm,19.0s,baz=335,slow=35						
SJG	**San Juan**	**19.36**	**55**	P	**Pn**	**18 26 36.8**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=276,slow=7.7,SNR=7.1						
PTGA	**Pitinga**	**24.19**	**109**	P	**P**	**18 27 26.8**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=294,slow=11,SNR=5.1						
LPAZ	**La Paz**	**27.71**	**148**	P	**P**	**18 27 58.8**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=342,slow=8.0,SNR=5.1						
LPAZ				LR	LR	18 39 60.0	
	comp=Z,78nm,18.8s,baz=295,slow=39						
TKL	**Tuckaleechee C**	**28.07**	**358**	LR	LR	18 38 01.9	
	comp=Z,110nm,21.0s,baz=196,slow=34						
BDFB	**Brasilia**	**41.41**	**124**	LR	LR	18 47 35.1	
	comp=Z,122nm,18.0s,baz=235,slow=37						
ROC1	**El Roble**	**41.75**	**165**	*e*P	**P**	**18 29 56.1**	**-2.0**
	comp=Z,16nm,0.7s						
PDAR	**Pinedale Array**	**42.32**	**331**	LR	LR	18 49 22.1	
	comp=Z,40nm,20.0s,baz=169,slow=39						
ULM	**Lac du Bonnet**	**44.02**	**348**	*e*P	**P**	**18 30 16.5**	**+0.5**
	comp=Z,5.0nm,0.6s						
ULM	**Lac du Bonnet**	**44.02**	**348**	P	**P**	**18 30 16.3**	**+0.3**
	comp=Z,5.6nm,0.7s,baz=162,slow=7.1,SNR=9.7						
PLCA	**Paso Flores**	**49.27**	**168**	P	**P**	**18 30 57.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=337,slow=6.1,SNR=3.8						
YKA	**Yellowknife Ar**	**59.63**	**344**	P	**P**	**18 32 12.5**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=135,slow=7.2,SNR=12						
INK	**Inuvik**	**69.31**	**342**	P	**P**	**18 33 15.2**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=153,slow=7.1,SNR=8.1						
IL1	**Eielson Array**	**72.40**	**336**	*e*P	**P**	**18 33 35.3**	**+0.9**
ILAR	**Eielson Array**	**72.40**	**336**	P	**P**	**18 33 35.8**	**+1.4**
	comp=Z,1.3nm,1.1s,baz=92,slow=3.1,SNR=6.9						
KDAK	**Kodiak Island**	**72.99**	**328**	LR	LR	19 09 23.2	
	comp=Z,33nm,18.1s,baz=114,slow=39						
NOA	**NORSAR Array B**	**85.47**	**29**	LR	LR	19 11 13.1	
	comp=Z,6.3nm,19.0s,baz=255,slow=34						
DAVOX	**Davos/Dischmat**	**86.45**	**43**	LR	LR	19 12 52.4	
	comp=Z,14nm,19.0s,baz=260,slow=35						
HFS	**Hagfors**	**86.81**	**30**	LR	LR	19 09 22.7	
	comp=Z,13nm,20.3s,baz=204,slow=33						
GAR	**Garm**	**127.47**	**26**	*e*PKPdf	**PKPdf**	**18 41 11.6**	**-2.5**
ASAR	**Alice Springs**	**141.30**	**241**	PKP	**PKPdf**	**18 41 39.5**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=129,slow=3.8,SNR=3.1						

*DRS **13** 18:24:52.3±0.0, 40.47N×48.24E, h9km*
*IDC **13** 18:25:01.3±1.6, 40.81N×48.49E, h0km, mb3.2/2, mb1 3.2/5, mb1mx3.1/39, mbtmp3.1/5, ML2.9/2, Error ellipse: s-maj=27.6km s-min=14.2km az=166.0*

ISC 13 18:25:03.0±2.4, 40.87N±0.08×48.77E±0.07, h4km±15km, n15, σ1s19/22, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**1.21**	**344**	*i* Pg	**Pn**	**18 25 25.7**	**-1.0**
DRN				*e*Sg	**Sb**	**18 25 42.2**	**-0.1**
URKR	**Urkarakh**	**1.55**	**327**	*e*Pg	**Pn**	**18 25 30.7**	**-0.9**
URKR				*e*Sg	**Sn**	**18 25 50.6**	**-1.6**
KMKR	**Kumukh**	**1.78**	**316**	*e*Pg	**Pn**	**18 25 33.0**	**-1.8**
KMKR				*e*Sg	**Sn**	**18 25 57.5**	**-0.5**
DDFL	**Dedoflistskaro**	**2.08**	**287**	P	**Pn**	**18 25 38.7**	**-0.2**
DDFL				S	**Sn**	**18 26 05.2**	**-0.1**
LGD	**Lagodekhi**	**2.13**	**298**	P	**Pn**	**18 25 39.3**	**-0.2**
LGD				S	**Sb**	**18 26 09.1**	**0.0**
KRNR	**Karanay**	**2.40**	**325**	*e*Pn	**Pb**	**18 25 47.5**	**+0.6**
KRNR				*e*Sn	**Sb**	**18 26 19.0**	**+2.1**
DBC	**Dubki**	**2.59**	**327**	*i* Pn	**Pg**	**18 25 52.5**	**-0.2**
DBC				*i* Sn	**Sb**	**18 26 23.0**	**+0.7**
BTNK	**Botanikuri**	**3.10**	**287**	P	Pn	18 25 47.7	-5.1
BTNK				S	**Sn**	**18 26 32.3**	**+2.0**
GNI	**Garni**	**3.15**	**258**	Pn	**Pn**	**18 25 52.4**	**-1.2**
	0.7nm,0.3s,baz=21,slow=14,SNR=3.2						
GNI				Lg	Lg	18 26 36.2	
	1.8nm,0.3s,baz=133,slow=19,SNR=3.0						
TRLG	**Trialeti**	**3.58**	**282**	P	**Pn**	**18 25 58.2**	**-1.4**
KBZ	**Khabaz**	**5.21**	**305**	Pg	**Pb**	**18 26 34.7**	**+0.1**
	0.1nm,0.3s,baz=147,slow=17,SNR=3.3						
KVAR	**Kislovodsk Ar**	**5.45**	**306**	Pn	**Pn**	**18 26 25.1**	**-0.1**
	baz=144,slow=17,SNR=2.2						
BVAR	**Borovoye Array**	**19.03**	**43**	P	**Pn**	**18 29 28.1**	**+1.5**
	0.1nm,0.3s,baz=211,slow=13,SNR=3.8						
MKAR	**Makanchi Array**	**24.77**	**65**	P	**P**	**18 30 26.4**	**+0.6**
	0.2nm,0.6s,baz=263,slow=7.4,SNR=2.7						
FINES	**FINESS Array B**	**24.79**	**334**	P	**P**	**18 30 24.3**	**-1.4**
	0.8nm,0.6s,baz=131,slow=9.5,SNR=4.7						

*IDC **13** 18:28:11.3±0.8, 40.18N×34.29E, h0km, mb3.4/4, mb1 3.4/8, mb1mx3.2/37, mbtmp3.3/8, ML3.4/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/35, Error ellipse: s-maj=20.5km s-min=7.1km az=135.0*
*DDA **13** 18:28:11.9, 40.12N×34.38E, h19km±1km, ML4.1*
*ISK **13** 18:28:11.2, 40.11N×34.35E, h6km, MS3.7/21*

ISC 13 18:28:13.0±1.0, 40.12N±0.02×34.39E±0.02, h10km±8km, n86, σ1s34/115, mb3.3/4, 21C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DELI	**KIRIKKALE**	**0.38**	**251**	*i* P	**Pg**	**18 28 20.7**	**+0.1**
DELI				*i* S	**Sg**	**18 28 25.8**	**+0.1**
DELI				IAML_P			
	comp=Z,183μm,0.1s						
COAL	**Corum-Alaca**	**0.47**	**74**	*i* P	**Pg**	**18 28 22.4**	**+0.1**
COAL				*i* S	**Sg**	**18 28 29.5**	**+0.9**
COAL				IAML_P			
	comp=Z,12μm,0.1s						
CDAG	**Cicekdag**	**0.50**	**182**	*i* P	**Pg**	**18 28 22.9**	**+0.2**
CDAG				*i* S	**Sb**	**18 28 30.9**	**-0.4**
CDAG				IAML_P			
	comp=Z,76μm,0.1s						
CTAK	**Corum_Osmancik**	**0.61**	**30**	*i* P	Pg	18 28 11.4	-13
CTAK				*i* S	Sg	18 28 21.1	-12
CTAK				IAML_P			
	comp=Z,26μm,0.2s						
BRTR	**Keskin Array B**	**0.70**	**236**	Pg	**Pg**	**18 28 24.9**	**-1.7**
	comp=Z,305nm,0.3s,baz=65,slow=16,SNR=8777						
BRTR				LR	LR	18 28 27.4	
	comp=Z,378nm,19.8s,baz=209,slow=24						
BRTR				Lg	Lg	18 28 34.1	
	comp=Z,426nm,0.3s,baz=66,slow=27,SNR=56						
ELDT	**Eldivan**	**0.82**	**297**	*i* P	**Pg**	**18 28 28.3**	**-0.6**
ELDT				*i* S	**Sb**	**18 28 40.2**	**-0.6**
ELDT				IAML_P			
	comp=Z,17μm,0.2s						
YOZ	**Yozgat**	**0.86**	**124**	PG	**Pg**	**18 28 28.9**	**-0.7**
TOS	**Tosya**	**0.95**	**343**	PG	**Pg**	**18 28 30.3**	**-1.1**
SIRC	**Yozgat**	**0.98**	**143**	*i* P	**Pg**	**18 28 31.4**	**-0.4**
SIRC				*i* S	**Sb**	**18 28 45.1**	**-0.1**
SIRC				IAML_P			
	comp=Z,13μm,0.1s						
KAGI	**orum-Kargı**	**1.02**	**4**	*i* P	**Pg**	**18 28 32.3**	**-0.3**
KAGI				*i* S	**Sg**	**18

KONT	**Konya--Tatoy**	**2.69**	**217**	PN	**Pn**	**18 28 56.9 +0.5**
KOZT	**Kozan**	**2.87**	**157**	PN	**Pn**	**18 28 59.9 +1.1**
KARA	**Karaisali**	**2.90**	**169**	PN	**Pn**	**18 29 00.5 +1.2**
GULT	**Gulveren**	**2.98**	**277**	PN	**Pn**	**18 29 01.0 +0.5**
SHUT	**Suhut-Afyon**	**3.36**	**243**	PN	**Pn**	**18 29 06.4 +0.6**
CAVI	**Cavuskoy**	**3.49**	**273**	PN	**Pn**	**18 29 08.3 +1.0**
SILT	**Sile**	**3.76**	**287**	⇓*i*P	**Pn**	**18 29 13.7 +2.7**
YLV	**Yalova**	**3.86**	**278**	⇓*i*P	**Pn**	**18 29 15.7 +3.2**
YLV	**Yalova**	**3.86**	**278**	S	**Sn**	**18 30 01.8 +3.8**
KTUT	**Trabzon**	**4.18**	**76**	⇑*i*P	**Pb**	**18 29 24.7 -2.0**
TIRR	**Tirgusor**	**6.20**	**316**	⇑*i*P	**Pn**	**18 29 44.5 0.0**
TLB	**Topalu**	**6.48**	**316**	⇑*i*P	**Pn**	**18 29 48.4 0.0**
TLCR		**6.52**	**323**	⇑*i*P	**Pn**	**18 29 48.2 -0.7**
CFR	**Carcaliu**	**6.84**	**320**	⇑*i*P	**Pn**	**18 29 52.5 -0.8**
MMAI	**Mount Meron Ar**	**7.14**	**173**	Pn	**Pn**	**18 29 58.2 +0.6**
	comp=Z,1.5nm,0.3s,baz=359,slow=13,SNR=9.6					
KVAR	**Kislovodsk Arr**	**7.27**	**56**	Pn	**Pn**	**18 30 00.3 +0.9**
	baz=270,slow=18,SNR=1.9					
PLOR	**Plostina**	**8.06**	**318**	⇓*i*P	**Pn**	**18 30 10.9 +0.8**
MLR	**Muntele Rosu**	**8.20**	**314**	⇑*i*P	**Pn**	**18 30 12.7 +0.5**
TESR	**Tescani**	**8.52**	**321**	⇑*i*P	**Pn**	**18 30 16.0 -0.4**
VOIR		**8.68**	**311**	⇓*i*P	**Pn**	**18 30 19.9 +1.2**
IDI	**Anoyia**	**8.94**	**240**	LR	LR	18 34 24.3
	comp=Z,31nm,20.7s,baz=108,slow=42					
BURAR	**Bucovina Array**	**9.99**	**322**	⇑*i*P	**Pn**	**18 30 36.3 -0.4**
AKASG	**Malin Array Be**	**11.18**	**343**	Pn	**Pn**	**18 30 50.0 -2.8**
	comp=Z,0.6nm,0.3s,baz=156,slow=13,SNR=2.6					
AKTO	**Aktyubinsk**	**19.48**	**50**	P	**Pn**	**18 32 41.0 -0.2**
	comp=Z,0.1nm,0.3s,baz=260,slow=10,SNR=2.9					
NOA	**NORSAR Array B**	**25.34**	**333**	P	**P**	**18 33 38.0 -1.9**
	comp=Z,0.3nm,0.7s,baz=141,slow=6.8,SNR=2.4					
MKAR	**Makanchi Array**	**34.95**	**63**	P	**P**	**18 35 06.2 +1.0**
	comp=Z,0.3nm,0.7s,baz=272,slow=7.9,SNR=4.1					
ZALV	**Zalesovo Beam**	**36.25**	**50**	P	**P**	**18 35 17.6 +1.5**
	comp=Z,0.5nm,0.5s,baz=215,slow=9.6,SNR=3.1					
TORD	**Torodi Ar. Bea**	**39.31**	**236**	P	**P**	**18 35 42.5 +0.1**
	comp=Z,0.7nm,0.8s,baz=39,slow=9.3,SNR=4.8					

KRSC 13 18:35:18.6±10.0, 59°16N×164°74E, h53km±10km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.87**	**277**	*e*P	Pn	18 35 35.7	+1.1
OSSR				*e*S	Sn	18 35 47.8	+1.4
TILK	**Tilichiki**	**1.47**	**28**	*e*P	Pn	18 35 44.3	+1.6
TILK				*e*S	Sn	18 36 03.2	+2.4
PALN	**Palana**	**2.46**	**270**	*e*P	Pn	18 35 59.4	+3.2
KMSK	**Kamenskaya**	**3.39**	**12**	*e*P	Pn	18 36 12.2	+3.3

*MAN **13** 18:49:26.9, 14°.88N×119°.99E, h50km, mb5.2, ML4.2, MS4.3*
*NEIC **13** 18:49:27.9±5.7, 15°.22N×120°.34E, h70km±60km, mb4.3/18, Error ellipse: s-maj=33.4km s-min=10.2km az=210.0*
*ISCJB **13** 18:49:28.5±0.5, 14°.90N±0°.05×120°.20E±0°.05, h104km±6km, mb4.2/33, Error ellipse: s-maj=7.8km s-min=7.7km az=37.6*
*IDC **13** 18:49:30.6±0.6, 14°.88N×120°.40E, h113km±7km, mb3.7/15, mb1 3.8/15, mb1mx3.6/58, mbtmp4.0/15, MS2.9/4, Ms1 3.0/4, ms1mx2.7/27, Error ellipse: s-maj=21.6km s-min=13.4km az=61.0*

ISC 13 18:49:29.4±0.8, 14°.92N±0°.04×120°.16E±0°.06, h97km±8km, n67, σ1§73/75, mb4.2/33, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.10**	**137**	P	**Pn**	**18 49 50.4**	**-0.5**
	554nm,0.3s,baz=337,slow=1.2,SNR=36						
TGY				S	**Sn**	**18 50 08.0**	**+0.9**
	481nm,0.3s,baz=95,slow=23,SNR=16						
TGY				LR	LR	18 50 22.7	
	comp=Z,173nm,20.8s,baz=301,slow=56						
TGY	**Tagaytay City**	**1.10**	**137**	⇓*e*P	**Pn**	**18 49 50.4**	**-0.5**
TGY				*i* S	**Sn**	**18 50 09.8**	**+2.8**
BOLP	**Bolinao**	**1.48**	**351**	*e*P	Pn	18 49 51.9	-3.4
BOLP				*e*S	**Sn**	**18 50 11.4**	**-3.4**
POLP	**Polilio Island**	**1.73**	**96**	*e*P	**Pn**	**18 49 57.8**	**-0.6**
POLP				*e*S	**Sn**	**18 50 21.1**	**+0.6**
BOAC	**Boac**	**2.18**	**131**	*e*P	**Pn**	**18 50 04.2**	**-0.1**
GQP	**Guinayangan**	**2.43**	**114**	⇑*e*P	**Pn**	**18 50 07.0**	**-0.5**
GQP				*e*S	**Sn**	**18 50 37.0**	**+0.2**
CAUP	**Cauayan**	**2.57**	**38**	*e*P	**Pn**	**18 50 08.4**	**-1.1**
CAUP				*e*S	**Sn**	**18 50 34.2**	**-6.0**
SJMP	**San Jose**	**2.61**	**159**	*e*P	**Pn**	**18 50 09.7**	**-0.3**
SJMP				*e*S	Sn	18 50 31.9	-9.2
BUSP	**Coron**	**2.90**	**179**	*e*P	**Pn**	**18 50 11.9**	**-1.9**
BUSP				*e*S	**Sn**	**18 50 44.1**	**-3.8**
PALP	**Palanan**	**3.05**	**45**	*e*P	**Pn**	**18 50 15.3**	**-0.4**
PALP				*e*S	Sn	18 50 59.9	+8.4
OTRP	**Odiongan**	**3.12**	**144**	*e*P	**Pn**	**18 50 18.2**	**+1.5**
OTRP				*e*S	**Sn**	**18 50 47.7**	**-5.5**
ENPP	**El Nido**	**3.76**	**191**	*e*P	**Pn**	**18 50 23.6**	**-1.7**
ENPP				*e*S	**Sn**	**18 51 04.4**	**-4.2**
CUYO	**Cuyo Island**	**4.13**	**168**	*e*P	**Pn**	**18 50 29.6**	**-0.8**
DAV	**Davao City (W)**	**9.44**	**145**	LR	LR	18 55 17.7	
	comp=Z,45nm,21.2s,baz=130,slow=37						
SBUM	**Sibu**	**14.66**	**213**	*e*Pn	**P**	**18 52 55.8**	**+0.1**
KSM	**Kuching**	**16.53**	**217**	*e*Pn	**P**	**18 53 20.1**	**+3.7**
	6.6nm,0.7s						
CM01	**Chiang Mai Arr**	**20.61**	**283**	*e*P	**P**	**18 54 02.5**	**+1.5**
CM31	**Chiang Mai Arr**	**20.63**	**283**	*e*P	**P**	**18 54 02.9**	**+1.7**
	16nm,1.1s						
CMAR	**Chiang Mai Arr**	**20.63**	**283**	P	**P**	**18 54 03.4**	**+2.1**
	11nm,1.0s,baz=96,slow=9.1,SNR=59						
CMAR				LR	LR	19 01 12.0	
	comp=Z,30nm,21.9s,baz=144,slow=34						
CMMT	**Chiang Mai**	**20.66**	**284**	P	**P**	**18 54 04.2**	**+2.5**
CHTO	**Chiang Mai**	**20.67**	**284**	*e*P	**P**	**18 54 02.9**	**+1.2**
	2.7nm,0.9s						
CHTO	**Chiang Mai**	**20.67**	**284**	P	**P**	**18 54 04.2**	**+2.5**
CD2	**Chengdu**	**21.90**	**319**	P	**P**	**18 54 14.5**	**-0.3**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
KSRS	**Korea Array**	**23.48**	**16**	LR	LR	19 03 46.2	
	comp=Z,27nm,18.2s,baz=220,slow=36						
LZH	**Lanzhou**	**25.64**	**328**	⇓P	**P**	**18 54 51.5**	**+1.3**
LZH				pP	pP	18 55 11.5	0.0
LZH				sP	sP	18 55 21.8	-0.9
LZH				PP	**PnPn**	**18 55 35.3**	**+2.9**
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
LZH				pmax	pmax		
	comp=Z,46nm,4.9s						
HHC	**Hu-ho-hao-te**	**26.90**	**345**	*e*P	**P**	**18 55 00.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.8s						
JIRN	**Jiri**	**33.98**	**298**	*e*P	**P**	**18 56 04.7**	**+0.4**
	comp=Z,9.2nm,0.5s						
GUN	**Gumba**	**34.31**	**298**	*e*P	**P**	**18 56 07.3**	**+0.1**
	comp=Z,9.1nm,0.6s						
PKI	**Pulchoki**	**34.63**	**297**	*e*P	**P**	**18 56 09.6**	**-0.3**
	comp=Z,3.8nm,0.6s						
PKIN	**Phulchoki**	**34.64**	**297**	*e*P	**P**	**18 56 09.5**	**-0.4**
	comp=Z,2.4nm,0.5s						
SONM	**Songino Array**	**34.75**	**344**	P	**P**	**18 56 09.6**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=160,slow=9.9,SNR=4.7						
GKN	**Gorkha**	**35.40**	**297**	*e*P	**P**	**18 56 15.9**	**-0.4**
KLR	**Kul'dur**	**35.51**	**13**	P	**P**	**18 56 16.8**	**0.0**
	comp=Z,4.4nm,0.7s,baz=234,slow=6.7,SNR=18						
DANN	**Dangsing**	**36.23**	**298**	*e*P	**P**	**18 56 23.4**	**-0.2**
	comp=Z,7.6nm,0.5s						
PYUN	**Piuthan**	**36.83**	**297**	*e*P	**P**	**18 56 28.2**	**-0.4**
	comp=Z,5.0nm,0.6s						
WRA	**Warramunga Arr**	**37.34**	**158**	P	**P**	**18 56 30.9**	**-1.8**
	comp=Z,1.4nm,0.6s,baz=332,slow=10,SNR=20						
WRA				LR	LR	19 14 22.4	
	comp=Z,35nm,18.9s,baz=190,slow=40						
WMQ	**Urumqi**	**39.93**	**323**	*e*P	**P**	**18 56 56.4**	**+2.3**
WMQ				sP	pP	18 57 25.8	+9.4
WMQ				pmax	pmax		
	comp=Z,18nm,0.9s						
WMQ				LR	LR		
	comp=N,62nm,20.3s						
WMQ				LR	LR		
	comp=E,76nm,22.9s						
WMQ				LR	LR		
	comp=Z,41nm,19.7s						
ASAR	**Alice Springs**	**40.63**	**160**	P	**P**	**18 56 58.8**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=338,slow=6.7,SNR=50						
MKAR	**Makanchi Array**	**44.75**	**323**	P	**P**	**18 57 34.4**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=109,slow=7.8,SNR=5.4						
MKAR				PcP	**PcP**	**18 59 14.6**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=100,slow=3.7,SNR=3.8						
KSH	**Kashi**	**45.71**	**311**	*e*P	**P**	**18 57 42.6**	**+1.6**
ZALV	**Zalesovo Beam**	**47.74**	**332**	P	**P**	**18 57 56.7**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=119,slow=7.8,SNR=3.5						
KURK	**Kurchatov**	**48.89**	**326**	*e*P	**P**	**18 58 06.2**	**+0.8**
	comp=Z,10nm,1.6s						
GAR	**Garm**	**49.75**	**309**	*e*P	**P**	**18 58 12.4**	**+0.2**
	comp=Z,5.2nm,1.1s						
KK31	**Karatay Array**	**50.76**	**314**	*e*P	**P**	**18 58 20.9**	**+1.2**
	comp=Z,1.9nm,0.8s						
KKAR	**Karatay Array**	**50.76**	**314**	*e*P	**P**	**18 58 20.9**	**+1.2**
	comp=Z,1.9nm,0.8s						
BRVK	**Borovoye**	**54.55**	**325**	*e*P	**P**	**18 58 47.2**	**-0.2**
	comp=Z,2.0nm,0.9s						
TIXI	**Tiksi**	**56.95**	**3**	*e*P	**P**	**18 59 03.2**	**-1.0**
	comp=Z,1.1nm,0.5s						
GEYT	**Alibeck**	**59.01**	**305**	P	**P**	**18 59 20.7**	**+1.5**
	comp=Z,1.7nm,0.7s,baz=259,slow=0.7,SNR=3.4						
ABKAR	**Akbulak array**	**59.48**	**319**	*e*P	**P**	**18 59 22.8**	**+0.5**
	comp=Z,1.3nm,0.6s						
AKTO	**Aktyubinsk**	**60.95**	**320**	P	**P**	**18 59 33.5**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=116,slow=8.7,SNR=4.1						
IM3	**Indian Mountai**	**74.91**	**25**	*e*P	**P**	**19 00 59.7**	**+0.2**
KDAK	**Kodiak Island**	**76.06**	**33**	P	**P**	**19 01 04.5**	**-1.6**
	comp=Z,6.2nm,0.7s,baz=225,slow=1.4,SNR=6.3						
BPAW	**Bear Paw Mtn.**	**76.21**	**27**	*e*P	**P**	**19 01 07.0**	**+0.1**
	comp=Z,5.8nm,0.7s						
RND	**Reindeer**	**77.23**	**27**	*e*P	**P**	**19 01 12.0**	**-0.8**
	comp=Z,4.6nm,0.6s						
MDM	**Murphy Dome**	**77.30**	**26**	*e*P	**P**	**19 01 12.7**	**-0.3**
	comp=Z,4.6nm,1.0s						
ARCES	**ARCESS Array B**	**77.77**	**339**	P	**P**	**19 01 15.3**	**-0.2**
	comp=Z,5.5nm,1.1s,baz=46,slow=3.5,SNR=5.7						
ILAR	**Eielson Array**	**77.89**	**26**	P	**P**	**19 01 15.1**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=259,slow=6.3,SNR=7.3						
DHY	**Denali Highway**	**77.95**	**28**	*e*P	**P**	**19 01 16.4**	**-0.4**
	comp=Z,11nm,1.5s						
RIDG	**Independ'e Rid**	**78.95**	**27**	*e*P	**P**	**19 01 21.6**	**-0.6**
	comp=Z,17nm,1.5s						
SCRK	**Sand Creek**	**79.28**	**27**	*e*P	**P**	**19 01 23.4**	**-0.6**
	comp=Z,24nm,2.0s						
EGAK	**Eagle**	**80.29**	**25**	*e*P	**P**	**19 01 29.0**	**-0.4**
	comp=Z,3.2nm,0.8s						
INK	**Inuvik**	**82.16**	**21**	P	**P**	**19 01 38.8**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=294,slow=5.7,SNR=12						
NB2	**NORSAR Subarra**	**85.95**	**333**	P	**P**	**19 01 58.2**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**85.95**	**333**	P	**P**	**19 01 57.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=66,slow=4.9,SNR=6.1						
RES	**Resolute Bay**	**87.92**	**9**	*e*P	**P**	**19 02 07.4**	**-0.4**
	comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**91.86**	**22**	P	**P**	**19 02 26.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=311,slow=4.4,SNR=9.0						
TXAR	**Lajitas Array**	**118.97**	**44**	PKP	**PKPdf**	**19 08 06.3**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=305,slow=3.2,SNR=2.3						

TAP 13 18:50:21.9, 24°29N×121°44E, h8km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETLH	**Xiulin Townshi**	**0.09**	**157**	*e*P	Pg	18 50 24.9	+0.6
	baz=158						
ETLH				*e*S	Sg	18 50 26.4	+0.4
	baz=158						
NNSB	**Datong**	**0.14**	**338**	*e*P	Pg	18 50 25.7	+0.6
	baz=338						
NNSB				*e*S	Sg	18 50 27.8	+0.5
	baz=338						
NNS	**Nan Shan**	**0.16**	**337**	P	Pg	18 50 25.9	+0.6
	baz=339						
NNS				S	Sg	18 50 28.3	+0.6
	baz=339						
NACB	**Ninganchiao**	**0.18**	**130**	*e*P	Pg	18 50 26.4	+0.7
	baz=130						
NACB				*e*S	Sg	18 50 28.9	+0.7
	baz=130						
WHF	**Hehuan Shan**	**0.22**	**228**	*e*P	Pg	18 50 26.9	+0.5
	baz=217						
WHF				S	Sg	18 50 30.4	+0.8
	baz=217						
TWD	**Chiawan**	**0.25**	**146**	*e*P	Pg	18 50 27.1	+0.2
	baz=145						
TWD				*e*S	Sg	18 50 31.8	+1.4
	baz=145						
TDCB	**Techi**	**0.26**	**261**	*e*P	Pg	18 50 27.4	+0.2
	baz=256						
TDCB				*e*S	Sg	18 50 31.7	+1.0
	baz=256						
ENA	**Nanau**	**0.30**	**64**	P	Pg	18 50 28.3	+0.4
	baz=64						
ENA				*e*S	Sg	18 50 32.5	+0.6
	baz=64						
NANB	**Nanao**	**0.31**	**64**	*e*P	Pg	18 50 28.1	+0.1
	baz=64						
NANB				*e*S	Sg	18 50 32.0	-0.2
	baz=64						
NDT	**Datong Townshi**	**0.32**	**12**	*e*P	Pg	18 50 28.4	+0.2
	baz=11						
NDT				*e*S	Sg	18 50 33.2	+0.8
	baz=11						
CHGB	**Renai**	**0.34**	**227**	*e*P	Pg	18 50 29.2	+0.5
	baz=227						
CHGB				*e*S	Sb	18 50 35.2	-0.8
	baz=227						
YHNB	**Yeheng**	**0.38**	**351**	*e*S	Sg	18 50 34.8	+0.4
	baz=341						
NSK	**Sanguang**	**0.39**	**349**	*e*P	Pg	18 50 29.7	+0.1
	baz=340						
OWD	**Renai**	**0.42**	**216**	*e*P	Pg	18 50 30.5	+0.5
	baz=217						
OWD				*e*S	Sg	18 50 36.2	+0.6
	baz=217						
WHP	**Taichung City**	**0.45**	**268**	*e*P	Pg	18 50 31.4	+0.7
	baz=268						
WHP				*e*S	Sb	18 50 38.6	-0.6
	baz=268						
ESL	**Shilin**	**0.48**	**181**	*e*P	Pg	18 50 31.7	+0.6
	baz=181						
ESL				*e*S	Sb	18 50 39.2	-0.5
	baz=181						
TWC	**Suao**	**0.49**	**50**	*e*P	Pg	18 50 31.5	+0.1
	baz=50						
SSLB	**Suanglung**	**0.67**	**222**	*e*P	Pg	18 50 35.2	+0.3
	baz=222						
SSLB				*e*S	Sb	18 50 45.5	+0.1
	baz=222						

*ISCJB **13** 18:57:10.8±1.0, 26°.2N±0°.2×44°.8W±0°.2, h12km, mb3.8/9, MS3.2/1, Error ellipse: s-maj=28.8km s-min=22.2km az=144.3*
*IDC **13** 18:57:10.7±1.2, 26°.08N×44°.84W, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/58, mbtmp3.7/9, MS3.3/1, Ms1 3.3/1, ms1mx2.7/27, Error ellipse: s-maj=34.1km s-min=25.9km az=153.0*

ISC 13 18:57:12.4±1.1, 26°.1N±0°.2×44°.8W±0°.2, h12km, n10, σ0§85/9, mb3.9/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SDV	**Santo Domingo**	**29.86**	**240**	LR	LR	19 15 04.8	
	comp=Z,52nm,18.8s,baz=301,slow=36						
LPAZ	**La Paz**	**47.83**	**211**	P	**P**	**19 05 51.0**	**+0.2**
	1.3nm,0.8s,baz=36,slow=13,SNR=4.8						
PDAR	**Pinedale Array**	**54.65**	**305**	P	**P**	**19 06 41.4**	**-0.1**
	1.4nm,1.1s,baz=72,slow=9.7,SNR=5.7						
YKA	**Yellowknife Ar**	**57.88**	**329**	P	**P**	**19 07 03.5**	**-0.4**
	0.5nm,0.8s,baz=96,slow=7.6,SNR=6.1						
FINES	**FINESS Array B**	**58.34**	**32**	P	**P**	**19 07 08.2**	**+1.0**
	1.4nm,0.8s,baz=297,slow=9.1,SNR=2.5						
AKASG	**Malin Array Be**	**60.36**	**45**	P	**P**	**19 07 21.5**	**+0.2**
	0.2nm,0.4s,baz=271,slow=7.3,SNR=3.6						
BRTR	**Keskin Array B**	**65.36**	**56**	P	**P**	**19 07 55.0**	**0.0**
	0.6nm,0.8s,baz=261,slow=5.7,SNR=4.3						
INK	**Inuvik**	**65.57**	**336**	P	**P**	**19 07 55.7**	**+0.1**
	1.0nm,0.8s,baz=66,slow=8.6,SNR=4.1						
ILAR	**Eielson Array**	**71.66**	**334**	P	**P**	**19 08 34.5**	**+0.8**
	0.7nm,0.8s,baz=74,slow=4.2,SNR=6.2						
MKAR	**Makanchi Array**	**93.17**	**33**	P	**P**	**19 10 25.1**	**-1.6**
	0.2nm,0.5s,baz=299,slow=1.5,SNR=3.8						

*ISCJB **13** 18:57:47.7±0.6, 26°.2N±0°.1×44°.8W±0°.1, h12km, mb4.0/14, Error ellipse: s-maj=17.3km s-min=13.7km az=11.0*
*IDC **13** 18:57:47.7±0.8, 26°.11N×44°.77W, h0km, mb3.8/11, mb1 4.1/11, mb1mx3.7/58, mbtmp3.8/11, Error ellipse: s-maj=23.3km s-min=22.3km az=177.0*
*NEIC **13** 18:57:49.3±0.3, 26°.11N×44°.79W, h10km, mb4.5/6, Error ellipse: s-maj=10.2km s-min=7.8km az=189.0*

ISC 13 18:57:49.6±0.7, 26°.1N±0°.1×44°.8W±0°.1, h12km, n23, σ0§51/23, mb4.2/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOA1	**Torodi Ar. St**	**45.41**	**97**	*e*P	**P**	**19 06 08.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**45.42**	**97**	P	**P**	**19 06 08.3**	**-0.3**
	0.3nm,0.7s,baz=285,slow=5.5,SNR=2.8						
LPAZ	**La Paz**	**47.87**	**211**	P	**P**	**19 06 28.0**	**-0.3**
	2.7nm,0.9s,baz=336,slow=6.9,SNR=4.9						
NB200	**NORSAR Array S**	**51.17**	**31**	*e*P	**P**	**19 06 52.1**	**-0.2**
NOA	**NORSAR Array B**	**51.17**	**31**	P	**P**	**19 06 52.1**	**-0.2**
	0.8nm,0.8s,baz=255,slow=7.7,SNR=3.3						
BW06	**Boulder Array**	**54.66**	**305**	*e*P	**P**	**19 07 19.0**	**+0.3**
	5.8nm,1.2s						
PD31	**Pinedale Array**	**54.66**	**305**	*e*P	**P**	**19 07 19.5**	**+0.8**
	5.5nm,1.2s						
PDAR	**Pinedale Array**	**54.66**	**305**	*e*P	**P**	**19 07 18.6**	**-0.1**
PDAR	**Pinedale Array**	**54.66**	**305**	P	**P**	**19 07 19.6**	**+0.8**
	2.3nm,1.0s,baz=77,slow=9.3,SNR=10						
YKA	**Yellowknife Ar**	**57.88**	**329**	P	**P**	**19 07 40.7**	**-0.3**
	1.1nm,0.8s,baz=95,slow=7.8,SNR=12						
YKB5	**Yellowknife Ar**	**57.88**	**329**	*e*P	**P**	**19 07 40.5**	**-0.5**
NEW	**Newport**	**59.47**	**312**	*e*P	**P**	**19 07 52.6**	**+0.1**
	4.7nm,0.9s						
AKASG	**Malin Array Be**	**60.31**	**45**	P	**P**	**19 07 57.3**	**-0.8**
	0.8nm,0.5s,baz=273,slow=6.1,SNR=4.9						
AKBB	**Malin Array Si**	**60.31**	**45**	*e*P	**P**	**19 07 58.1**	**-0.1**
	5.1nm,1.2s						
BR101	**Keskin Array S**	**65.31**	**56**	*e*P	**P**	**19 08 32.2**	**+0.4**
BRTR	**Keskin Array B**	**65.31**	**56**	P	**P**	**19 08 32.2**	**+0.4**
	0.6nm,0.6s,baz=275,slow=6.1,SNR=4.2						
INK	**Inuvik**	**65.56**	**336**	*e*P	**P**	**19 08 32.6**	**-0.1**
	3.0nm,0.9s						
INK	**Inuvik**	**65.56**	**336**	P	**P**	**19 08 32.0**	**-0.7**
	1.8nm,0.8s,baz=64,slow=8.3,SNR=7.1						
PLCA	**Paso Flores**	**70.68**	**200**	P	**P**	**19 09 05.5**	**+0.2**
	0.6nm,0.5s,baz=32,slow=8.5,SNR=3.3						
IL1	**Eielson Array**	**71.65**	**334**	*e*P	**P**	**19 09 10.4**	**-0.5**
ILAR	**Eielson Array**	**71.65**	**334**	P	**P**	**19 09 11.3**	**+0.5**
	1.6nm,0.9s,baz=68,slow=4.9,SNR=11						
ILB	**Eielson Array**	**71.65**	**334**	*e*P	**P**	**19 09 10.7**	**-0.1**
	4.7nm,1.0s						
BVAR	**Borovoye Array**	**83.24**	**33**	P	**P**	**19 10 16.9**	**+1.1**
	0.5nm,0.8s,baz=325,slow=2.3,SNR=3.8						

*KRNET **13** 19:26:46.6±0.1, 40°.76N×71°.11E, h11km, mb2.6*
*SOME **13** 19:26:47.3, 40°.63N×70°.98E, h15km*
*ISCJB **13** 19:26:49.0±0.5, 40°.68N±0°.03×71°.15E±0°.04, h10km, Error ellipse: s-maj=5.0km s-min=3.9km az=18.0*
*NNC **13** 19:26:48.4±2.3, 40°.74N×71°.14E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=19.2km s-min=8.1km az=19.0*

ISC 13 19:26:47.8±0.9, 40°.74N±0°.03×71°.08E±0°.03, h10km, n21, σ1§52/38, 17C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.71**	**196**	⇑*i*P	**Pg**	**19 27 00.7**	**-0.8**
	baz=98						
BTK				⇑*i*S	**Sb**	**19 27 10.7**	**-1.5**
	baz=98						
ARK	**Arkit**	**1.25**	**32**	⇓*i*P	**Pn**	**19 27 09.8**	**-1.7**
	baz=33						
ARK				⇓*i*S	**Sb**	**19 27 26.7**	**-1.1**
	baz=33						
DRK	**Karamyk**	**1.37**	**156**	⇓*e*P	**Pg**	**19 27 13.1**	**-1.1**
	baz=57						
DRK				⇓*i*S	**Sg**	**19 27 32.1**	**0.0**
	baz=57						
ARSB	**Arslanbob**	**1.55**	**67**	⇑*i*P	**Pn**	**19 27 15.4**	**-0.3**
	baz=68						
ARSB				⇑*i*S	**Sb**	**19 27 35.8**	**-0.8**
	baz=68						
IUG	**Iuzhnay**	**1.61**	**331**	P	**Pb**	**19 27 17.4**	**-0.3**
	45nm,0.1s						
IUG				S	**Sg**	**19 27 39.2**	**-0.5**
	66nm,0.3s						
IUG	**Iuzhnay**	**1.61**	**331**	*e*P	**Pb**	**19 27 17.4**	**-0.3**
	45nm,0.1s						
IUG				*e*S	**Sg**	**19 27 39.2**	**-0.5**
	66nm,0.3s						
CHM	**Chimkent**	**1.93**	**325**	*e*P	**Pg**	**19 27 24.5**	**-0.4**
	40nm,0.2s						
CHM				*e*S	**Sg**	**19 27 51.3**	**+1.4**
	186nm,0.3s						
DZA	**Taraz**	**2.16**	**5**	Pg	**

COAL				*i* S		**Sb**	**19 30 58.8**	**+0.4**
COAL				IAML_P				
	comp=Z,94nm,0.1s							
CDAG	**Cicekdag**	**0.58**	**179**	*i* P		**Pg**	**19 30 51.3**	**-0.2**
CDAG				*i* S		**Sg**	**19 30 59.4**	**+0.4**
CDAG				IAML_P				
	comp=Z,664nm,0.1s							
YOZ	**Yozgat**	**0.93**	**127**	PG		**Pg**	**19 30 57.8**	**-0.3**
AFSR	**Afar-Bala (An**	**1.25**	**233**	PN		**Pn**	**19 31 03.9**	**-0.2**
YAYX	**Yaylak**	**1.33**	**199**	PN		**Pb**	**19 31 05.4**	**-0.2**
SERE	**Serefiikochisa**	**1.40**	**206**	PN		**Pb**	**19 31 06.5**	**-0.3**
KULU	**Kulu**	**1.56**	**223**	PN		**Pn**	**19 31 08.8**	**+0.3**
SVSK	**Karacayir**	**2.04**	**97**	PN		**Pn**	**19 31 14.5**	**-0.5**

GCG ***13*** *19:33:59.9, 12.35N×93.24W, h14km, MD4.5*
MEX ***13*** *19:34:22.6±0.6, 13.40N×92.26W, h15km±65km, MD4.3*
GCMT ***13*** *19:34:23.6±0.8, 13.58N±0.04×92.58W±0.05, h20km±1km, MW4.8/65, Moment Tensor Solution. s31,c41; s65,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr1.48±.14; Mθθ-1.15±.10; Mφφ-0.33±.11; Mrθ0.18±.17; Mrφ0.54±.07; Mθφ-1.57±.23; Best double couple: Mo2.07200×10^{16} NP1:φs151.00000°,δ89.00000°,λ113.00000°. NP2: φs281.00000°,δ31.00000°,λ45.00000°. Principal axes: T 2.3910, Plg60.0000°, Azm94.0000°; N -0.6370, Plg21.0000°, Azm322.0000°; P -1.7540, Plg21.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISCJB ***13*** *19:34:24.1±0.2, 13.89N±0.03×91.75W±0.02, h28km, mb4.7/176, MS3.9/15 Error ellipse: s-maj=4.5km s-min=2.5km az=24.2*
UCR ***13*** *19:34:26.5±1.8, 13.35N×91.75W, h36km±999km, MD4.1, ML4.0, mb4.6(NEIC)*
NEIC ***13*** *19:34:27.9±0.6, 13.80N×91.68W, h54km±5km, mb4.6/185, MD4.3(MEX), Error ellipse: s-maj=5.6km s-min=3.4km az=207.0*
IDC ***13*** *19:34:31.3±2.4, 13.82N×91.51W, h85km±19km, mb4.0/14, mb1 4.2/16, mb1mx4.0/37, mbtmp4.3/16, MS3.8/16, Ms1 3.8/16, ms1mx3.6/35, Error ellipse: s-maj=27.1km s-min=11.9km az=53.0*

ISC 13 19:34:24.7±0.5, 13.71N±0.06×91.88W±0.05, h28km, n567, σ1935/571, mb4.7/179, MS3.9/15, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.24**	**54**		*eP*		**Pb**	**19 34 49.1**	**+1.4**
THIG		**1.25**	**342**		*eP*		**Pn**	**19 34 46.1**	**-0.2**
THIG					*eSn*		**Sn**	**19 35 03.2**	**+1.1**
THIG		**1.25**	**342**		*eP*		**Pn**	**19 34 46.1**	**-0.2**
THIG					*eS*		**Sn**	**19 35 03.2**	**+1.1**
PCG	**Pacaya**	**1.41**	**61**		*eP*		**Pb**	**19 34 51.1**	**+0.7**
IXG	**Ixpaco**	**1.45**	**71**		*eP*		**Pb**	**19 34 50.7**	**-0.5**
NBG	**Las Nubes**	**1.72**	**59**		*eP*		**Pb**	**19 34 56.3**	**+0.5**
APG	**El Apazote**	**1.88**	**47**	P			**Pb**	**19 34 58.4**	**-0.1**
	60nm,0.3s,baz=340,slow=22,SNR=508								
RTR	**El Retiro**	**2.17**	**85**		*eP*		**Pn**	**19 34 59.8**	**+0.6**
CEVE	**Cerro Verde**	**2.19**	**87**		*eP*		**Pn**	**19 34 59.9**	**+0.3**
CEVE					IAML			19 35 38.5	
	comp=Z,2μm,0.4s								
SBLS	**San Blas**	**2.19**	**86**		*eP*		**Pn**	**19 34 59.8**	**+0.2**
SNJE	**San Jose**	**2.21**	**86**		*eP*		**Pn**	**19 35 00.1**	**+0.4**
PCIG		**2.37**	**327**		*ePn*		**Pn**	**19 34 59.8**	**-1.9**
PCIG					*eSn*		**Sn**	**19 35 27.6**	**-2.2**
PCIG		**2.37**	**327**		*eP*		**Pn**	**19 34 59.8**	**-1.9**
PCIG					*eS*		**Sn**	**19 35 27.6**	**-2.2**
MRL	**Marmol**	**2.51**	**57**		*eP*		**Pb**	**19 35 07.6**	**-1.6**
BOQS	**Boqueron**	**2.52**	**89**		*eP*		**Pn**	**19 35 04.8**	**+0.8**
CCIG	**Comitan**	**2.57**	**354**		*ePn*		**Pn**	**19 35 08.4**	**+3.8**
CCIG					*eSn*		**Sn**	**19 35 38.5**	**+3.5**
CCIG	**Comitan**	**2.57**	**354**		*eP*		**Pn**	**19 35 05.4**	**+0.8**
CCIG					*i* S		**Sn**	**19 35 38.5**	**+3.5**
LOMA	**San Marcos**	**2.63**	**91**		*eP*		**Pn**	**19 35 06.0**	**+0.7**
LOMA					IAML			19 35 53.0	
	comp=Z,1μm,0.5s								
LFRS	**El Faro**	**2.74**	**92**		*eP*		**Pn**	**19 35 07.8**	**+0.9**
PAVA	**Las Pavas**	**2.86**	**90**		*eP*		**Pn**	**19 35 09.3**	**+0.7**
VICT	**Victoria**	**3.15**	**85**		*eP*		**Pn**	**19 35 13.3**	**+0.6**
LCND	**La Caada**	**3.90**	**95**		*eP*		**Pn**	**19 35 23.4**	**+0.7**
CNCH	**Conchagua**	**3.96**	**96**		*eP*		**Pn**	**19 35 23.6**	**-0.1**
CMIG	**Matias Romero**	**4.44**	**320**		*eP*		**Pn**	**19 35 27.8**	**-2.4**
CMIG					*i* S		**Sn**	**19 36 17.9**	**-3.0**
CMIG					*eSn*		Sb	19 36 29.6	-5.5
CMIG	**Matias Romero**	**4.44**	**320**		*eP*		Pn	19 35 27.8	-2.4
CMIG					*i* S		**Sn**	**19 36 17.9**	**-3.0**
CMIG	**Matias Romero**	**4.44**	**320**	P			**Pn**	**19 35 29.8**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=131,slow=9.0,SNR=18								
CMIG					S		**Sn**	**19 36 29.5**	**+8.6**
	comp=Z,7.9nm,0.3s,baz=99,slow=19,SNR=2.7								
CMIG					LR		LR	19 37 31.8	
	comp=Z,764nm,21.8s,baz=150,slow=39								
TGUH	**Tegucigalpa,Un**	**4.48**	**85**		*ePn*		**Pn**	**19 35 31.6**	**+0.8**
TGUH	**Tegucigalpa,Un**	**4.48**	**85**		*eP*		**Pn**	**19 35 31.1**	**+0.3**
HUIG	**Huatulco**	**4.58**	**297**		*eP*		Pn	19 35 26.5	-5.6
HUIG					*i* S		Sn	19 36 16.4	-8.0
HUIG	**Huatulco**	**4.58**	**297**		*i* P		Pn	19 35 26.5	-5.6
HUIG					*i* S		Sn	19 36 16.4	-8.0
MOMN	**Momotombo**	**5.36**	**103**		*eP*		**Pn**	**19 35 42.8**	**-0.1**
MOMN					*eS*		**Sn**	**19 36 38.9**	**-4.9**
COPN	**Copaltepe**	**5.37**	**106**		*eP*		**Pn**	**19 35 42.7**	**-0.4**
COPN					*eS*		**Sn**	**19 36 39.3**	**-4.8**
MATN	**Matagalpa**	**5.84**	**97**		*eP*		**Pn**	**19 35 49.5**	**-0.2**
TEIG	**Tepich**	**7.33**	**28**		*ePn*		**Pn**	**19 36 11.3**	**+1.3**
MYIG	**Mrida**	**7.49**	**16**		*ePn*		**Pn**	**19 36 12.2**	**+0.1**
TLIG	**Tlapa**	**7.50**	**302**		*ePn*		**Pn**	**19 36 13.7**	**+1.3**
ESPN	**Las Esperanzas**	**7.54**	**101**		*ePn*		**Pn**	**19 36 12.7**	**-0.1**
JTS	**JuntasAbangare**	**7.58**	**116**		*ePn*		**Pn**	**19 36 14.3**	**+0.8**
JTS					*e*			19 36 15.0	
JTS					S		**Sn**	**19 37 44.0**	**+5.5**
JTS	**JuntasAbangare**	**7.58**	**116**	P			**Pn**	**19 36 15.1**	**+1.6**
	comp=Z,2.1nm,0.3s,baz=5.7,slow=17,SNR=3.5								
JTS					S		**Sn**	**19 37 44.0**	**+5.5**
	comp=Z,1.5nm,0.3s,baz=229,slow=20,SNR=1.7								
MOIG	**Morelia**	**10.71**	**305**		*ePn*		**Pn**	**19 37 00.6**	**+4.0**
LNIG	**Linares**	**13.23**	**328**		*ePn*		**Pn**	**19 37 33.5**	**+2.8**
ZAIG	**Zacatecas**	**13.57**	**313**		*ePn*		**Pn**	**19 37 38.0**	**+2.4**
833A	**Chaparral WMA,**	**16.13**	**335**		*ePn*		**Pn**	**19 38 09.8**	**+0.3**
	comp=Z,35nm,1.0s								
HKT	**Hockley**	**16.57**	**348**		*ePn*		**Pn**	**19 38 14.4**	**-0.6**
	comp=Z,71nm,2.0s								
DBBC	**Dabeiba**	**16.78**	**112**		*eP*		**P**	**19 38 19.7**	**-0.2**
DBBC	**Dabeiba**	**16.78**	**112**		*eP*		**P**	**19 38 19.7**	**-0.2**
857A	**Zephyrhills**	**17.04**	**30**	P			**Pn**	**19 38 22.0**	**+1.0**
	baz=213								
451A	**Vernon**	**17.75**	**18**	P			**Pn**	**19 38 30.4**	**+0.6**
	baz=199								
JCT	**Junction City**	**18.22**	**338**		*eP*		**Pn**	**19 38 35.0**	**-0.6**
	comp=Z,10nm,0.8s								
JCT	**Junction City**	**18.22**	**338**	P			**Pn**	**19 38 37.5**	**+1.8**
	baz=154								
555A	**McAlpin**	**18.29**	**25**		*eP*		**P**	**19 38 42.2**	**+5.8**
	comp=Z,115nm,1.0s								
556A	**Lake Butler**	**18.42**	**27**	P			**P**	**19 38 37.6**	**-0.3**
	baz=210								
454A	**Quitman**	**18.55**	**23**	P			**Pn**	**19 38 40.2**	**+0.6**
	baz=205								
PTBC	**PUERTO BERRIO,**	**18.56**	**111**		*eP*		**Pn**	**19 38 41.0**	**+1.1**
PTBC	**PUERTO BERRIO,**	**18.56**	**111**		*eP*		**Pn**	**19 38 41.0**	**+1.1**
OTAV	**Otavalo**	**18.87**	**134**		*eP*		**Pn**	**19 38 47.2**	**+3.1**
	comp=Z,7.5nm,1.2s								
WHTX	**Lake Whitney,**	**18.90**	**345**		*eP*		**P**	**19 38 43.2**	**+0.1**
	comp=Z,36nm,1.4s								
WHTX	**Lake Whitney,**	**18.90**	**345**	P			**Pn**	**19 38 45.3**	**+1.5**
	baz=162								
353A	**Camilla**	**18.91**	**21**	P			**P**	**19 38 43.4**	**+0.1**
	baz=203								
SOTA	**Rioblanco**	**18.98**	**126**		*eP*		**Pn**	**19 38 48.4**	**+2.9**
SOTA	**Rioblanco**	**18.98**	**126**		*eP*		**Pn**	**19 38 48.4**	**+2.9**
TXAR	**Lajitas Array**	**19.00**	**327**	P			**Pn**	**19 38 47.5**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=152,slow=11,SNR=49								
TXAR					LR		LR	19 47 17.9	
	comp=Z,53nm,20.0s,baz=0.0,slow=40								
TX31	**Lajitas Ar. Si**	**19.00**	**327**		*eP*		**P**	**19 38 45.7**	**+1.3**
	comp=Z,20nm,1.0s								
147A	**Livingston**	**19.16**	**9**		*eP*		**P**	**19 38 44.9**	**-1.1**
	comp=Z,84nm,1.3s								
TIGA	**Tifton**	**19.21**	**22**	P			**P**	**19 38 47.2**	**+0.6**
	baz=205								
252A	**Lumpkin**	**19.34**	**19**	P			**P**	**19 38 47.6**	**-0.3**
	baz=201								
ROSC	**El Rosal**	**19.43**	**115**		*eP*		**P**	**19 38 50.0**	**+0.5**
	comp=Z,36nm,1.4s								
ROSC	**El Rosal**	**19.43**	**115**	P			**Pn**	**19 38 52.1**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=5.6,slow=22,SNR=5.0								
Z41A	**Richland Creek**	**19.48**	**358**		*eP*		**P**	**19 38 50.1**	**+0.7**
	comp=Z,28nm,0.8s								
PRAC	**Prado**	**19.50**	**119**		*eP*		**Pn**	**19 38 51.6**	**+0.4**
PRAC	**Prado**	**19.50**	**119**		*eP*		**Pn**	**19 38 51.6**	**+0.4**
150A	**Eclectic**	**19.55**	**15**	P			**P**	**19 38 50.7**	**+0.4**
	baz=197								
151A	**Opelika**	**19.66**	**17**	P			**P**	**19 38 51.6**	**+0.1**
	baz=199								
LRAL	**Lakeview Retre**	**19.74**	**12**		*eP*		**P**	**19 38 51.6**	**-0.7**
	comp=Z,12nm,0.9s								
LRAL	**Lakeview Retre**	**19.74**	**12**	P			**P**	**19 38 52.7**	**+0.4**
	baz=194								
254A	**Abbeville**	**19.78**	**22**	P			**P**	**19 38 53.2**	**+0.5**
	baz=205								
WLAR	**White Oak Lake**	**19.92**	**357**		*eP*		**P**	**19 38 52.1**	**-2.1**
	comp=Z,92nm,1.5s								
152A	**Waverly Hall**	**19.97**	**18**		*eP*		**P**	**19 38 55.3**	**+0.5**
	comp=Z,27nm,0.8s								
152A	**Waverly Hall**	**19.97**	**18**	P			**P**	**19 38 54.5**	**-0.4**
	baz=200								
Z49A	**Columbiana**	**20.00**	**13**	P			**P**	**19 38 55.2**	**+0.1**
	baz=195								
CHIC	**Chingaza**	**20.04**	**115**		*eP*		**Pn**	**19 38 59.0**	**+0.9**
CHIC	**Chingaza**	**20.04**	**115**		*eP*		**Pn**	**19 38 59.0**	**+0.9**
FLOC	**Florencia**	**20.07**	**126**		*eP*		**Pn**	**19 38 58.3**	**+0.3**
FLOC	**Florencia**	**20.07**	**126**		*eP*		**Pn**	**19 38 58.3**	**+0.3**
ABTX	**Abilene, Hawle**	**20.12**	**341**		*eP*		**P**	**19 38 57.5**	**+1.0**
	comp=Z,56nm,1.3s								
ABTX	**Abilene, Hawle**	**20.12**	**341**	P			**P**	**19 38 58.2**	**+1.7**
	baz=157,SNR=6.0								
Z50A	**Ashland**	**20.20**	**15**		*eP*		**P**	**19 38 56.0**	**-1.4**
	comp=Z,20nm,1.1s								
Z50A	**Ashland**	**20.20**	**15**	P			**P**	**19 38 56.4**	**-0.9**
	baz=196								
LPIG	**La Paz**	**20.25**	**303**		LR		LR	19 46 49.1	
	comp=Z,197nm,19.7s,baz=142,slow=36								
154A	**Montrose**	**20.45**	**22**		*eP*		**P**	**19 38 59.5**	**-0.6**
	comp=Z,84nm,1.1s								
154A	**Montrose**	**20.45**	**22**	P			**P**	**19 39 00.3**	**+0.2**
	baz=205								
Z52A	**Williamson**	**20.55**	**18**	P			**P**	**19 39 01.7**	**+0.6**
	baz=200								
Y48A	**Jasper**	**20.56**	**11**	P			**P**	**19 39 01.8**	**+0.6**
	baz=193								
Y49A	**Blount Mountai**	**20.66**	**13**		*eP*		**P**	**19 39 03.0**	**+0.7**
	comp=Z,82nm,1.8s								
Y49A	**Blount Mountai**	**20.66**	**13**	P			**P**	**19 39 03.0**	**+0.7**
	baz=195								
155A	**Kite**	**20.69**	**23**	P			**P**	**19 39 02.8**	**+0.2**
	baz=206								
X40A	**Basin Creek Fa**	**20.70**	**358**		*eP*		**P**	**19 39 03.3**	**+0.5**
	comp=Z,34nm,1.5s								
X40A	**Basin Creek Fa**	**20.70**	**358**	P			**P**	**19 39 04.3**	**+1.6**
	baz=177								
X43A	**Marvell**	**20.73**	**2**		*eP*		**P**	**19 39 01.1**	**-2.0**
	comp=Z,36nm,0.6s								
MIAR	**Mount Ida**	**20.80**	**356**		*eP*		**P**	**19 39 03.2**	**-0.6**
	comp=Z,29nm,1.2s								
MIAR	**Mount Ida**	**20.80**	**356**	P			**P**	**19 39 04.8**	**+1.0**
	baz=175								
OXF	**Oxford**	**20.83**	**6**		*eP*		**P**	**19 39 06.3**	**+2.2**
	comp=Z,50nm,1.0s								
OXF	**Oxford**	**20.83**	**6**	P			**P**	**19 39 04.4**	**+0.3**
	baz=186								
Y50A	**Piedmont**	**20.85**	**14**	P			**P**	**19 39 04.2**	**-0.2**
	baz=196								
Z53A	**Monticello**	**20.90**	**20**	P			**P**	**19 39 05.0**	**+0.2**
	baz=203,SNR=6.2								
X46A	**Booneville**	**20.96**	**8**	P			**P**	**19 39 06.6**	**+1.0**
	baz=188								
UALR	**University of**	**20.97**	**359**		*eP*		**P**	**19 39 05.3**	**-0.3**
	comp=Z,25nm,0.8s								
X37A	**Clayton**	**21.02**	**352**		*eP*		**P**	**19 39 06.7**	**+0.4**
	comp=Z,95nm,1.6s								
Y51A	**Rockmart**	**21.03**	**16**	P			**P**	**19 39 06.7**	**+0.4**
	baz=198								
X47A	**Russelville**	**21.03**	**9**	P			**P**	**19 39 07.0**	**+0.7**
	baz=190								
GOGA	**Godfrey**	**21.05**	**20**		*eP*		**P**	**19 39 06.1**	**-0.4**
	comp=Z,23nm,0.9s								
GOGA	**Godfrey**	**21.05**	**20**	P			**P**	**19 39 06.5**	**0.0**
	baz=203,SNR=5.5								
X48A	**Hartselle**	**21.11**	**11**		*eP*		**P**	**19 39 06.8**	**-0.3**
	comp=Z,26nm,0.9s								
X48A	**Hartselle**	**21.11**	**11**	P			**P**	**19 39 07.5**	**+0.3**
	baz=193								
Z54A	**Sparta**	**21.11**	**21**	P			**P**	**19 39 07.0**	**-0.1**
	baz=205								
BANI	**BANI**	**21.19**	**74**		*eP*		**P**	**19 39 07.8**	**-0.5**
Y52A	**Lilburn**	**21.28**	**18**		*eP*		**P**	**19 39 09.1**	**+0.1**
	comp=Z,21nm,0.8s								
Y52A	**Lilburn**	**21.28**	**18**	P			**P**	**19 39 08.7**	**-0.3**
	baz=201,SNR=5.4								
X49A	**Woodville**	**21.31**	**13**	P			**P**	**19 39 09.7**	**+0.4**
	baz=194								
SDV	**Santo Domingo**	**21.37**	**101**		*eP*		**P**	**19 39 08.7**	**-1.7**
	comp=Z,12nm,0.8s								
SDV	**Santo Domingo**	**21.37**	**101**	P			**P**	**19 39 08.8**	**-1.5**
	comp=Z,6.2nm,0.7s,baz=287,slow=6.4,SNR=9.1								
SDV					LR		LR	19 48 51.0	
	comp=Z,185nm,18.5s,baz=312,slow=41								
W41B	**Gary Mavity, V**	**21.37**	**359**		*eP*		**P**	**19 39 09.1**	**-0.8**
	comp=Z,76nm,1.9s								
W41B	**Gary Mavity, V**	**21.37**	**359**	P			**P**	**19 39 10.3**	**+0.3**
	baz=178								
X50B	**Fort Payne**	**21.41**	**14**	P			**P**	**19 39 10.8**	**+0.3**
	baz=196								
Y53A	**Monroe**	**21.42**	**19**	P			**P**	**19 39 10.0**	**-0.5**
	baz=202								
PLAL	**Pickwick Lake**	**21.45**	**9**		*eP*		**P**	**19 39 09.6**	**-1.2**
	comp=Z,97nm,1.8s								
W39A	**Magazine**	**21.46**	**356**		*eP*		**P**	**19 39 11.1**	**+0.2**
	comp=Z,68nm,1.8s								
W39A	**Magazine**	**21.46**	**356**	P			**P**	**19 39 11.6**	**+0.7**
	baz=174								
CLNB	**Carlsbad**	**21.48**	**331**		*eP*		**P**	**19 39 13.1**	**+1.7**
WHAR	**Wooly Hollow**	**21.49**	**359**		*eP*		**P**	**19 39 11.6**	**+0.4**
	comp=Z,25nm,1.3s								
W46A	**Michie**	**21.56**	**8**	P			**P**	**19 39 12.2**	**+0.2**
	baz=189								
GDL2	**Guadalupe Moun**	**21.66**	**330**		*eP*		**P**	**19 39 15.3**	**+2.0**
X51A	**Calhoun**	**21.71**	**16**	P			**P**	**19 39 13.3**	**-0.4**
	baz=198								
Y54A	**Tignall**	**21.73**	**21**	P			**P**	**19 39 13.2**	**-0.6**
	baz=204								
MNTX	**Cornudas Mount**	**21.77**	**328**		*eP*		**P**	**19 39 15.5**	**+1.1**
	comp=Z,17nm,0.8s								
MNTX	**Coudas Mount**	**21.77**	**328**	P			**P**	**19 39 15.5**	**+1.1**
	baz=142,SNR=36								
W47A	**Westpoint**	**21.79**	**9**	P			**P**	**19 39 14.5**	**0.0**
	baz=191								
W48A	**Pulaski**	**21.79**	**11**	P			**P**	**19 39 14.6**	**+0.1**
	baz=192								
WMOK	**Wichita Mounta**	**21.84**	**345**		*eP*		**P**	**19 39 14.2**	**-0.8**
	comp=Z,15nm,1.0s								
WMOK	**Wichita Mounta**	**21.84**	**345**	P			**P**	**19 39 15.3**	**+0.2**
	baz=161,SNR=12								
W49A	**Belvidere**	**21.91**	**12**	P			**P**	**19 39 15.6**	**-0.1**
	baz=194								
X52A	**Dahlonega**	**22.02**	**18**	P			**P**	**19 39 16.2**	**-0.8**
	baz=201								
SWET	**Sewanee**	**22.07**	**13**		*eP*		**P**	**19 39 17.9**	**+0.3**
	comp=Z,16nm,0.7s								
V45A	**Humboldt**	**22.09**	**6**	P			**P**	**19 39 18.0**	**+0.3**
	baz=187								
X53A	**Estanollee**	**22.11**	**19**	P			**P**	**19 39 17.9**	**0.0**
	baz=202								
W50A	**Signal Mountai**	**22.20**	**14**		*eP*		**P**	**19 39 18.8**	**-0.2**
	comp=Z,29nm,1.0s								
HODGE	**Hodges**	**22.21**	**21**		*eP*		**P**	**19 39 19.2**	**+0.2**
	comp=Z,26nm,1.1s								
V46A	**Holladay**	**22.25**	**8**	P			**P**	**19 39 18.9**	**-0.6**
	baz=189								
W51A	**Cleveland**	**22.30**	**16**	P			**P**	**19 39 19.5**	**-0.4**
	baz=198								
V47A	**Nunnelly**	**22.37**	**9**	P			**P**	**19 39 20.4**	**-0.3**
	baz=191								
TUL1	**Leonard**	**22.38**	**352**		*eP*		**P**	**19 39 17.6**	**-3.2**
	comp=Z,29nm,1.2s								
V48A	**Smith Brothers**	**22.40**	**11**		*eP*		**P**	**19 39 21.0**	**0.0**
	comp=Z,16nm,0.7s								
V48A	**Smith Brothers**	**22.40**	**11**	P			**P**	**19 39 20.6**	**-0.4**
	baz=192								
X54A	**Belton**	**22.46**	**21**	P			**P**	**19 39 20.4**	**-1.2**
	baz=204								
MSTX	**Muleshoe**	**22.46**	**336**		*eP*		**P**	**19 39 22.0**	**+0.1**
	comp=Z,26nm,0.9s								
MSTX	**Muleshoe**	**22.46**	**336**	P			**P**	**19 39 22.2**	**+0.4**
	baz=151,SNR=11								
W52A	**Murphy**	**22.46**	**17**		*eP*		**P**	**19 39 21.9**	**+0.1**
	comp=Z,37nm,1.4s								
HHAR	**Hobbs**	**22.55**	**356**		*eP*		**P**	**19 39 22.1**	**-0.6**
	comp=Z,50nm,1.9s								
U40A	**Yellville**	**22.57**	**358**	P			**P**	**19 39 21.9**	**-0.9**
	baz=177								
U43A	**Rector**	**22.60**	**3**	P			**P**	**19 39 22.6**	**-0.5**
	baz=183								
V49A	**McMinnville**	**22.61**	**13**	P			**P**	**19 39 22.4**	**-0.9**
	baz=195								
WVT	**Waverly**	**22.62**	**9**		*eP*		**P**	**19 39 23.1**	**-0.2**
	comp=Z,19nm,0.8s								
WVT	**Waverly**	**22.62**	**9**	P			**P**	**19 39 22.5**	**-0.8**
	baz=190								
CPCT	**Cooper Cave**	**22.64**	**16**		*eP*		**P**	**19 39 24.1**	**+0.6**
	comp=Z,14nm,0.7s								
BG3	**Lake Jocassee**	**22.68**	**19**		*eP*		**P**	**19 39 24.6**	**+0.6**
	comp=Z,19nm,1.0s								
V50A	**Pikevile**	**22.70**	**14**	P			**P**	**19 39 24.3**	**0.0**
	baz=197								
AMTX	**Amarillo**	**22.86**	**339**		*eP*		**P**	**19 39 26.2**	**+0.1**
	comp=Z,44nm,0.7s								
AMTX	**Amarillo**	**22.86**	**339**	P			**P**	**19 39 26.3**	**+0.3**
	baz=154								
PARMO	**Parma**	**22.93**	**4**		*eP*		**P**	**19 39 25.4**	**-1.2**
	comp=Z,112nm,0.9s								
U47A	**Clarksville**	**23.00**	**9**	P			**P**	**19 39 26.7**	**-0.6**
	baz=191								
PBMO	**Poplar Bluff**	**23.01**	**3**		*eP*		**P**	**19 39 25.8**	**-1.6**
	comp=Z,31nm,0.9s								
W54A	**Cherokee Point**	**23.01**	**21**	P			**P**	**19 39 26.2**	**-1.3**
	baz=204								
V51A	**Loudon**	**23.01**	**16**		*eP*		**P**	**19 39 27.6**	**+0.1**
	comp=Z,18nm,0.9s								
TKL	**Tuckaleechee C**	**23.04**	**17**		*eP*		**P**	**19 39 27.1**	**-0.6**
	comp=Z,38nm,0.9s								
TKL	**Tuckaleechee C**	**23.04**	**17**	P			**P**	**19 39 27.7**	**-0.1**
	comp=Z,24nm,0.8s,baz=187,slow=11,SNR=17								
TKL					LR		LR	19 49 38.7	
	comp=Z,602nm,19.5s,baz=254,slow=40								
U48A	**Cassie Pea, Po**	**23.20**	**11**	P			**P**	**19 39 28.4**	**-0.9**
	baz=193								
T42A	**Van Buren**	**23.23**	**2**		*eP*		**P**	**19 39 29.4**	**-0.2**
	comp=Z,10nm,0.8s								
T42A	**Van Buren**	**23.23**	**2**	P			**P**	**19 39 29.4**	**-0.2**
	baz=181								
V52A	**Sevierville**	**23.26**	**17**		*eP*		**P**	**19 39 29.5**	**-0.5**
	comp=Z,20nm,0.9s								
V52A	**Sevierville**	**23.26**	**17**	P			**P**	**19 39 29.9**	**-0.1**
	baz=200								
T43A	**Greenville**	**23.32**	**3**	P			**P**	**19 39 29.9**	**-0.6**
	baz=183								
V53A	**Saluda**	**23.34**	**19**		*eP*		**P**	**19 39 30.1**	**-0.7**
	comp=Z,80nm,1.9s								
V53A	**Saluda**	**23.34**	**19**	P			**P**	**19 39 29.9**	**-0.9**
	baz=202								
HSIG		**23.34**	**314**		*eP*		**P**	**19 39 31.2**	**+0.3**
	comp=Z,33nm,1.8s								
U49A	**Red Boiling Sp**	**23.35**	**12**	P			**P**	**19 39 30.1**	**-0.8**
	baz=195								
KMSC	**Kings Mountain**	**23.36**	**22**		*eP*		**P**	**19 39 30.5**	**-0.4**
	comp=Z,33nm,1.1s								
KMSC	**Kings Mountain**	**23.36**	**22**	P			**P**	**19 39 30.1**	**-0.9**
	baz=206								
T44A	**Benton**	**23.37**	**5**	P			**P**	**19 39 30.4**	**-0.6**
	baz=185								
T45A

TASM	ASL Pad, Albuq baz=144	24.91	331	P		P		19 39 46.9	+1.2
WCI	Wyandotte Cave comp=Z,44nm,0.8s	24.91	10	eP		P		19 39 44.5	-0.9
WCI	Wyandotte Cave baz=192	24.91	10	P		P		19 39 44.6	-0.9
R47A	Wooly Knot Far baz=192	24.94	10	P		P		19 39 45.1	-0.6
T54A	Tazewell baz=204	25.01	20	P		P		19 39 46.0	-0.3
SJG	San Juan comp=Z,597nm,19.0s,baz=262,slow=40	25.11	77	LR		LR		19 50 49.8	
Q42A	Golden Eagle baz=183	25.13	2	P		P		19 39 47.3	0.0
OLIL	Olney comp=Z,48nm,0.8s	25.14	7	eP		P		19 39 46.4	-1.1
Q41A	Truxton baz=181	25.15	1	P		P		19 39 47.6	+0.1
V59A	Middlesex baz=212	25.15	27	P		P		19 39 46.9	-0.7
R48A	Northridge Ran baz=193	25.16	11	P		P		19 39 46.6	-1.0
R49A	Shelbyville baz=195	25.19	12	P		P		19 39 46.3	-1.6
Q43A	New Douglas baz=184	25.20	4	P		P		19 39 47.2	-0.8
Q44A	Meyer Farm, Va comp=Z,32nm,0.9s	25.22	5	eP		P		19 39 47.2	-0.9
Q44A	Meyer Farm, Va baz=186	25.22	5	P		P		19 39 47.8	-0.3
Q45A	Warren Harvey, baz=188	25.30	7	P		P		19 39 48.7	-0.1
T55A	Pulaski baz=206	25.33	21	P		P		19 39 48.3	-0.9
TUC	Tucson comp=Z,7.1nm,0.9s	25.33	320	eP		P		19 39 49.0	-0.4
TUC	Tucson baz=132	25.33	320	P		P		19 39 50.8	+1.5
R50A	Paris baz=197	25.37	14	P		P		19 39 48.5	-1.0
BLA	Blacksburg baz=206	25.54	22	P		P		19 39 50.0	-1.2
R51A	Hillsboro baz=198	25.57	15	P		P		19 39 51.1	-0.3
Q47A	Bedord North L baz=192	25.58	10	P		P		19 39 50.9	-0.5
Q48A	North Vernon baz=193	25.70	11	P		P		19 39 52.1	-0.3
P42A	Winchester baz=183	25.81	3	P		P		19 39 52.8	-0.6
P44A	Sand Creek, Wi baz=187	25.81	6	P		P		19 39 53.7	+0.2
P41A	Barry, Barry baz=181	25.87	1	P		P		19 39 53.5	-0.6
T25A	Trinidad comp=Z,12nm,0.9s	25.88	337	eP		P		19 39 54.1	-0.3
T25A	Trinidad baz=151	25.88	337	P		P		19 39 56.0	+1.6
Q49A	Aurora baz=195	25.94	13	P		P		19 39 53.8	-0.8
P45A	Graceland, Par baz=189	25.97	7	P		P		19 39 54.2	-0.7
Q50A	Georgetown baz=197	25.99	14	P		P		19 39 54.3	-0.9
S55A	Lewisburg baz=206	26.01	21	P		P		19 39 55.1	-0.4
R53A	Hurricane baz=202	26.05	18	P		P		19 39 55.2	-0.6
P46A	Rosedale baz=190	26.13	8	P		P		19 39 55.3	-1.1
P47A	Martinsville baz=192	26.14	10	P		P		19 39 55.8	-0.7
P48A	Milroy baz=194	26.27	11	P		P		19 39 56.4	-1.3
Q51A	Peebles comp=Z,24nm,0.8s	26.32	15	eP		P		19 39 57.0	-1.1
Q51A	Peebles baz=198	26.32	15	P		P		19 39 57.4	-0.8
X18A	Snowflake comp=Z,12nm,1.3s	26.40	325	eP		P		19 39 58.3	-0.9
214A	Organ Pipe Nat baz=128	26.41	317	P		P		19 40 00.3	+1.3
Q52A	Bidwell baz=201	26.55	17	P		P		19 39 59.4	-0.8
R55A	Marlinton baz=206	26.60	21	P		P		19 39 59.8	-0.9
Q53A	Leroy baz=202	26.67	18	P		P		19 40 00.8	-0.4
O45A	Potomac baz=189	26.68	7	P		P		19 40 00.8	-0.6
W18A	Petrified Fore comp=Z,8.4nm,0.8s	26.72	326	eP		P		19 40 01.3	-0.8
P51A	Williamsport baz=199	26.82	15	P		P		19 40 01.5	-1.2
SDCO	Great Sand Dun comp=Z,25nm,1.9s	26.83	336	eP		P		19 40 02.6	-0.5
SDCO	Great Sand Dun baz=149,SNR=6.2	26.83	336	P		P		19 40 04.0	+0.9
HDIL	Hopedale comp=Z,24nm,0.8s	26.84	4	eP		P		19 40 02.1	-0.6
HDIL	Hopedale baz=185	26.84	4	P		P		19 40 01.4	-1.3
O47A	Sheridan baz=192	26.89	10	P		P		19 40 01.6	-1.7
SFIN	Lafayette comp=Z,30nm,1.1s	26.89	8	eP		P		19 40 02.5	-0.7
SFIN	Lafayette baz=190	26.89	8	P		P		19 40 02.1	-1.1
ABVI	Anegada Island comp=Z,163nm,0.5s	26.90	76	eP		P		19 40 01.3	-2.2
N41A	Harden Midland baz=182	26.91	2	P		P		19 40 02.2	-1.2
KSCO	Kaye Shedlock' comp=Z,13nm,0.9s	26.93	341	eP		P		19 40 02.6	-1.2
Q54A	Coxs Mills baz=204	27.00	19	P		P		19 40 03.9	-0.3
O48A	Farmland baz=194	27.09	11	P		P		19 40 03.9	-1.2
R58B	Mineral comp=Z,36nm,1.4s	27.17	25	eP		P		19 40 05.0	-0.8
R58B	Mineral baz=211	27.17	25	P		P		19 40 04.3	-1.5
N44A	Piper City baz=188	27.18	6	P		P		19 40 04.9	-0.9
X16A	Lo Mia Camp, P comp=Z,11nm,1.2s	27.18	323	eP		P		19 40 07.0	+0.8
N43A	Stutzman Famil baz=185	27.23	4	P		P		19 40 05.9	-0.4
Q55A	Buckhannon baz=205	27.26	20	P		P		19 40 06.1	-0.6
N45A	Kentland baz=189	27.30	7	P		P		19 40 06.0	-0.9
O50A	Cable baz=197	27.31	14	P		P		19 40 05.8	-1.3
S22A	4UR Ranch, Cre comp=Z,11nm,1.0s	27.39	334	eP		P		19 40 09.4	+1.3
S22A	4UR Ranch, Cre baz=147,SNR=10	27.39	334	P		P		19 40 09.7	+1.5
ACSO	Alum Creek Sta comp=Z,40nm,1.5s	27.55	15	eP		P		19 40 06.6	-2.5
ACSO	Alum Creek Sta baz=198	27.55	15	P		P		19 40 07.8	-1.4
O51A	Pataskala baz=199	27.56	15	P		P		19 40 08.2	-1.1
M41A	Milan baz=182	27.58	2	P		P		19 40 09.4	-0.1
P54A	Burton baz=204	27.67	19	P		P		19 40 10.1	-0.2
N48A	Decatur baz=194	27.70	11	P		P		19 40 09.3	-1.2
MVCO	Mesa Verde comp=Z,26nm,1.0s	27.71	331	eP		P		19 40 13.0	+2.1
MVCO	Mesa Verde baz=143,SNR=6.9	27.71	331	P		P		19 40 12.4	+1.4
M43A	Waltham Townsh baz=186	27.74	5	P		P		19 40 10.4	-0.4
O52A	Adamsville baz=201	27.74	17	P		P		19 40 10.3	-0.6
Y14A	Wickenburg comp=Z,10nm,0.3s	27.80	320	eP		P		19 40 13.1	+1.5
WUAZ	Wupatki comp=Z,10nm,0.9s	27.92	324	eP		P		19 40 15.3	+2.5
WUAZ	Wupatki baz=136	27.92	324	P		P		19 40 14.5	+1.8
O54A	Avella baz=204	28.23	19	P		P		19 40 14.5	-0.8
L40A	Anamosa baz=181	28.25	1	P		P		19 40 14.7	-0.7
L42A	Oliver, Polo baz=184	28.25	3	P		P		19 40 14.7	-0.7
L41A	Preston baz=182	28.28	2	P		P		19 40 14.5	-1.2
N52A	McGinn's Farm, baz=201	28.43	16	P		P		19 40 15.6	-1.5
PV01	Paradox Valley comp=Z,18nm,1.3s	28.48	332	eP		P		19 40 20.2	+2.3
O55A	Ligonier baz=206	28.61	20	P		P		19 40 17.4	-1.2
PV15	Paradox Valley comp=Z,18nm,1.4s	28.61	332	eP		P		19 40 21.3	+2.3
PV02	Paradox Valley comp=Z,29nm,1.3s	28.62	332	eP		P		19 40 20.0	+1.0
PV13	Radium Mtn., P comp=Z,28nm,1.2s	28.62	331	eP		P		19 40 19.4	+0.3
M50A	Fremont baz=198	28.64	14	P		P		19 40 18.1	-0.8
SMCO	Snowmass comp=Z,10.0nm,1.4s	28.65	335	eP		P		19 40 18.1	-1.5
ISCO	Idaho Springs comp=Z,3.2nm,1.0s	28.66	338	eP		P		19 40 19.1	-0.3
N53A	Lisbon baz=202	28.67	18	P		P		19 40 17.6	-1.6
PV03	Paradox Valley comp=Z,20nm,1.1s	28.71	331	eP		P		19 40 20.4	+0.6
PV12	Saucer Basin, comp=Z,39nm,1.2s	28.74	332	eP		P		19 40 20.5	+0.4
PDMCI	Parker Dam,Lak baz=130	28.75	319	P		P		19 40 21.0	+1.0
PV11	David Mesa, Pa comp=Z,60nm,1.5s	28.76	331	eP		P		19 40 21.8	+1.6
PV07	Paradox Valley comp=Z,19nm,1.2s	28.77	332	eP		P		19 40 22.2	+1.8
PV17	East Wray Mesa comp=Z,22nm,1.1s	28.78	331	eP		P		19 40 22.0	+1.6
PV16	Nyswonger Mesa comp=Z,26nm,1.2s	28.79	331	eP		P		19 40 21.4	+0.9
PV19	Morning Glory comp=Z,23nm,1.3s	28.82	331	eP		P		19 40 21.0	+0.2
SDMD	Soldier's Deli comp=Z,30nm,1.7s	28.83	25	eP		P		19 40 18.7	-1.9
PV20	West Nyswonger comp=Z,40nm,1.6s	28.84	331	eP		P		19 40 22.1	+1.2
PV04	Paradox Valley comp=Z,27nm,1.2s	28.85	332	eP		P		19 40 22.9	+1.8
L48A	N Adams baz=195	28.86	12	P		P		19 40 18.9	-2.0
PV14	Lion Creek, Pa comp=Z,23nm,1.1s	28.89	331	eP		P		19 40 22.2	+0.7
O56A	Blue Knob Stat comp=Z,42nm,1.6s	28.92	21	eP		P		19 40 19.7	-1.8
O56A	Blue Knob Stat baz=207	28.92	21	P		P		19 40 20.5	-0.9
PV23	Carpenter Ridg comp=Z,18nm,1.0s	28.95	331	eP		P		19 40 22.0	0.0
PV21	Cone Mtn., Par comp=Z,15nm,1.4s	29.02	332	eP		P		19 40 22.4	-0.2
PV09	Paradox Valley	29.04	331	eP		P		19 40 24.9	+2.0
N54A	Moraine State comp=Z,16nm,0.8s	29.07	19	eP		P		19 40 21.4	-1.3
N54A	Moraine State baz=204	29.07	19	P		P		19 40 22.0	-0.8
U15A	North Rim comp=Z,12nm,1.1s	29.09	325	eP		P		19 40 24.8	+1.4
W13A	Hualapai Mount comp=Z,8.8nm,1.3s	29.11	321	eP		P		19 40 24.1	+0.6
BC3	Big Chuckawall baz=127	29.20	317	P		P		19 40 25.6	+1.5
N55A	Marion Center baz=206	29.23	20	P		P		19 40 22.7	-1.5
IRM	Iron Mountain baz=128	29.31	318	P		P		19 40 26.8	+1.8
K46A	Dorr baz=192	29.35	9	P		P		19 40 24.7	-0.4
MONP2	Monument Peak baz=124	29.41	315	P		P		19 40 26.7	+0.6
SSPA	Standing Stone baz=208	29.48	22	P		P		19 40 25.4	-1.1
J39A	Decorah baz=180	29.52	0	P		P		19 40 26.4	-0.3
NNA	Nana comp=Z,56nm,19.9s,baz=311,slow=34	29.57	149	LR		LR		19 51 25.7	
BELC	Belle Mtn. Jos baz=127	29.77	317	P		P		19 40 30.6	+1.3
KNB	Kanab comp=Z,8.2nm,1.0s	29.81	325	eP		P		19 40 30.2	+0.7
K49A	Clarkson baz=196	29.87	13	P		P		19 40 28.8	-1.0
M55A	Ridgway baz=206	29.92	20	P		P		19 40 29.4	-0.8
LCMT	Little Creek M comp=Z,6.1nm,1.1s	30.04	324	eP		P		19 40 31.4	-0.2
I42A	Draeger Farm, baz=185	30.18	4	P		P		19 40 32.0	-0.6
SRU	San Rafael Swe comp=Z,8.4nm,1.2s	30.18	330	eP		P		19 40 34.4	+1.5
MTPU	Mount Pierson comp=Z,33nm,1.8s	30.21	327	eP		P		19 40 32.7	-0.6
Q16A	Castle Valley comp=Z,17nm,1.1s	30.35	329	eP		P		19 40 34.9	+0.5
SZCU	Shurtz Canyon comp=Z,16nm,1.2s	30.37	325	eP		P		19 40 35.9	+1.4
P18A	Preston Nutter comp=Z,26nm,1.7s	30.46	331	eP		P		19 40 36.2	+0.8
J49A	Marlette baz=196	30.48	13	P		P		19 40 33.8	-1.4
CCUT	Cedar City comp=Z,14nm,1.0s	30.49	325	eP		P		19 40 37.0	+1.3
N59A	State Game Lan baz=212	30.54	24	P		P		19 40 34.5	-1.2
MSU	Marysvale	30.55	328	eP		P		19 40 36.0	-0.1
P17A	Butcher Ranch, comp=Z,14nm,1.2s	30.57	331	eP		P		19 40 36.9	+0.6
TMUT	Trail Mountain comp=Z,7.1nm,0.9s	30.66	330	eP		P		19 40 39.1	+1.9
L55A	Hinsdale baz=206	30.67	20	P		P		19 40 35.9	-1.0
ELFO	Elginfield baz=200	30.75	15	P		P		19 40 36.3	-1.3
SHPR	Sheep Range comp=Z,9.3nm,1.4s	30.82	322	eP		P		19 40 37.9	-0.6
TYNO	Tyneside baz=203	31.05	17	P		P		19 40 39.0	-1.3
K55A	Perry baz=206	31.28	20	P		P		19 40 41.4	-0.9
PAL	Palisades baz=2	31.39	27	P		P		19 40 42.1	-1.2
MPU	Maple Canyon comp=Z,12nm,1.2s	31.43	330	eP		P		19 40 43.0	-0.9
PSUT	Pine Spring comp=Z,6.9nm,1.0s	31.46	326	eP		P		19 40 44.7	+0.5
G39A	Holcombe baz=181	31.48	1	P		P		19 40 42.4	-1.6
BINY	Binghamton comp=Z,26nm,0.8s	31.55	23	eP		P		19 40 43.9	-0.8
BINY	Binghamton baz=210	31.55	23	P		P		19 40 44.5	-0.2
LRMC	Laurel Mtn Rad baz=126	31.77	318	P		P		19 40 47.0	+0.2
TPNV	Topopah Spring comp=Z,12nm,1.4s	31.77	321	eP		P		19 40 47.2	+0.3
TPNV	Topopah Spring baz=130	31.77	321	P		P		19 40 47.5	+0.7
JLU	Jordanelle comp=Z,14nm,1.6s	31.80	331	eP		P		19 40 47.2	+0.1
I52A	Shelburne baz=202	31.87	16	P		P		19 40 46.1	-1.3
MPMC	Manual Prospec baz=127,SNR=5.9	31.99	319	P		P		19 40 50.1	+1.2
CTU	Camp Tracy comp=Z,8.6nm,1.1s	32.01	331	eP		P		19 40 47.8	-1.1
RSSD	Black Hills comp=Z,16nm,1.8s	32.04	343	eP		P		19 40 49.0	-0.2
RSSD	Black Hills baz=157	32.04	343	P		P		19 40 49.2	0.0
F38A	Pierce - Schro baz=180	32.14	360	P		P		19 40 48.8	-1.0
DUG	Dugway, Tooele comp=Z,7.6nm,1.3s	32.14	329	eP		P		19 40 51.5	+1.4
TCUT	Toone Canyon comp=Z,69nm,1.4s	32.18	332	eP		P		19 40 50.8	+0.3
R11A	Troy Canyon, C comp=Z,4.9nm,1.0s	32.31	324	eP		P		19 40 54.1	+2.5
R11A	Troy Canyon, C baz=133	32.31	324	P		P		19 40 53.3	+1.7
ISA	Isabella, Lake baz=125	32.40	317	P		P		19 40 53.3	+1.0
GRAC	Grapevine Rang baz=129	32.49	320	P		P		19 40 55.4	+2.4
CWC	Cottonwood Cre baz=127	32.60	319	P		P		19 40 55.8	+1.6
HWUT	Hardware Ranch comp=Z,5.6nm,0.9s	32.64	332	eP		P		19 40 56.2	+1.7
PECO	Prince Edward baz=207	32.71	20	P		P		19 40 54.0	-0.7
PD31	Pinedale Array comp=Z,7.8nm,1.4s	32.73	336	eP		P		19 40 54.5	-0.8
PDAR	Pinedale Array	32.73	336	eP		P		19 40 55.5	+0.2
PDAR	Pinedale Array comp=Z,1.7nm,0.9s,baz=118,slow=5.7,SNR=10	32.73	336	P		P		19 40 56.1	+0.9
BW06	Boulder Array comp=Z,8.4nm,1.4s	32.73	336	eP		P		19 40 55.1	-0.2
BW06	Boulder Array baz=147	32.73	336	P		P		19 40 55.4	+0.1
I55A	Frankford baz=206	32.73	19	P		P		19 40 53.6	-1.4
E38A	The Farm, Brul baz=180	32.79	0	P		P		19 40 53.4	-2.0
SADO	Sadowa comp=Z,9.1nm,0.8s,baz=250,slow=6.4,SNR=3.8	32.80	17	P		P		19 40 54.2	-1.3
BGU	Big Grassy Mou comp=Z,5.2nm,0.9s	32.81	330	eP		P		19 40 56.2	+0.3
SPUT	South Promonto comp=Z,12nm,1.2s	32.82	331	eP		P		19 40 56.9	+0.8
PKM	Mcpherson Peak baz=123	32.87	315	P		P		19 40 57.3	+0.8
TRY	Troy comp=Z,31nm,1.0s	32.91	25	eP		P		19 40 56.8	+0.2
DELO	Deloro Mine baz=206	33.02	19	P		P		19 40 56.5	-1.1
H55A	Tweed baz=206	33.19	19	P		P		19 40 57.4	-1.6
G53A	Haliburton baz=204	33.27	17	P		P		19 40 58.3	-1.4
HVU	Hansel Valley comp=Z,16nm,1.2s	33.34	331	eP		P		19 41 02.0	+1.4
BUKO	Buck Lake baz=202	33.35	16	P		P		19 40 59.5	-0.9
AHID	Auburn Hatcher comp=Z,15nm,1.2s	33.37	334	eP		P		19 41 01.8	+0.9
BANO	Bancroft baz=205	33.38	18	P		P		19 40 59.4	-1.3
E47A	Iron Bridge baz=195	33.43	11	P		P		19 40 59.4	-1.6
H56A	Elgin baz=208	33.53	20	P		P		19 41 01.3	-0.7
HRV	Adam Dziewonsk baz=217	33.64	28	P		P		19 41 01.3	-1.7
PLVO	Plevna baz=206	33.66	19	P		P		19 41 01.6	-1.6
F51A	Arnstein baz=201	33.66	15	P		P		19 41 02.0	-1.1
F52A	Sundridge baz=202	33.70	16	P		P		19 41 02.1	-1.3
D46A	Sault St. Mari baz=194	33.72	10	P		P		19 41 02.4	-1.2
NCB	Newcomb comp=Z,14nm,0.8s	33.73	23	eP		P		19 41 02.2	-1.5
REDW	Red Top Meadow comp=Z,31nm,1.1s	33.75	335	eP		P		19 41 05.5	+1.3
SNOW	Snow King Moun comp=Z,18nm,0.9s	33.80	335	eP		P		19 41 06.0	+1.4
ELK	Elko comp=Z,3.2nm,0.8s	33.80	327	eP		P		19 41 06.3	+1.7
LOHW	Long Hollow comp=Z,25nm,1.5s	33.86	335	eP		P		19 41 06.4	+1.3
NV11	Mina Array Sit comp=Z,0.6nm,0.9s	33.88	321	eP		P		19 41 06.8	+1.5
OMMB	Old Mammoth Mi comp=Z,8.8nm,1.3s	33.90	320	eP		P		19 41 05.7	+0.1
TPAW	Teton Pass comp=Z,21nm,1.2s	33.90	335	eP		P		19 41 06.1	+0.6
E50A	Wahnapitae baz=199	33.93	14	P		P		19 41 03.3	-2.1
MDPB	Devils Postpil comp=Z,5.4nm,1.1s	33.96	319	eP		P		19 41 06.2	+0.1
NV01	Mina Array Sit	33.97	321	eP		P		19 41 08.3	+2.2
G55A	Calabogie baz=207	33.97	19	P		P		19 41 04.6	-1.1
NVAR	Mina Array Bea comp=Z,7.1nm,0.8s,baz=132,slow=7.8,SNR=26	33.97	321	P		P		19 41 07.2	+1.1
NVAR	comp=Z,0.5nm,0.6s,baz=151,slow=3.9,SNR=5.1				PcP	PcP		19 43 45.5	+1.5
NVAR	comp=Z,154nm,21.4s,baz=132,slow=35				LR	LR		19 54 30.6	
MOOW	Moose Ponds comp=Z,4.1nm,1.0s	34.03	335	eP		P		19 41 06.0	-0.6
D47A	Chapleau baz=195	34.04	11	P		P		19 41 04.0	-2.4
FXWY	Fox Creek comp=Z,5.3nm,1.1s	34.05	335	eP		P		19 41 07.3	+0.5
LONY	Lake Ozonia comp=Z,17nm,0.8s	34.15	22	eP		P		19 41 06.5	-0.9
LONY	Lake Ozonia baz=211	34.15	22	P		P		19 41 05.7	-1.7
PEMO	Pembroke baz=206	34.18	18	P		P		19 41 06.2	-1.4
ALGO	Algonquin Park baz=204	34.19	17	P		P		19 41 06.2	-1.5
RYN	Ryan comp=Z,5.4nm,1.2s	34.23	321	eP		P		19 41 09.2	+0.9
IMW	Indian Meadow comp=Z,3.7nm,0.8s	34.23	335	eP		P		19 41 08.0	-0.4
KVN	Kaiserville comp=Z,9.3nm,1.1s	34.24	322	eP		P		19 41 08.9	+0.4
E52A	Mattawa baz=203	34.33	16	P		P		19 41 07.6	-1.2
E51A	G1948 Merrick baz=201	34.34	15	P		P		19 41 07.0	-1.9
ORIO	Orleans, Innes baz=208	34.54	20	P		P		19 41 08.7	-2.0
D49A	Beulah Townshi baz=198	34.59	13	P		P		19 41 09.5	-1.7
F55A	Otter Lake baz=207	34.60	19	P		P		19 41 09.8	-1.4
RLMT	Red Ledge baz=149	34.62	338	P		P		19 41 12.5	+0.8
MDND	Maddock comp=Z,52nm,1.6s	34.63	351	eP		P		19 41 10.1	-1.5
MDND	Maddock baz=166	34.63	351	P		P		19 41 11.2	-0.4
YFT	Old Faithful comp=Z,14nm,1.5s	34.65	336	eP		P		19 41 12.1	+0.2
BMN	Battle Mountai comp=Z,7.4nm,1.0s	34.65	325	eP		P		19 41 13.1	+1.2
E53A	Dumoine, Ponti baz=204	34.69	17	P		P		19 41 10.1	-1.9
PTGA	Pitinga comp=Z,15nm,0.9s	34.72	112	eP		P		19 41 13.1	+0.4
LBNH	Lisbon baz=215	34.88	25	P		P		19 41 12.1	-1.5
YMR	Madison River comp=Z,6.7nm,0.9s	34.88	336	eP		P		19 41 13.2	-0.7
E54A	Lac Daplat, Po baz=205,SNR=5.1	34.88	18	P		P		19 41 12.1	-1.6
D51A	Lot 18 Range I baz=201	34.88	15	P		P		19 41 12.1	-1.6
YERR	Yerington comp=Z,9.2nm,1.1s	34.89	321	eP		P		19 41 15.3	+1.3
ALFO	Alfred baz=209	34.91	21	P		P		19 41 12.7	-1.2
YHH	Holmes Hill comp=Z,6.7nm,1.5s	34.93	336	eP		P		19 41 14.5	0.0
D52A	ZEK Kipawa Sen baz=203	35.03	16	P		P		19 41 13.8	-1.2
PNTR	Pine Nut comp=Z,11nm,0.9s	35.17	321	eP		P		19 41 14.9	-1.6
QLMT	Earthquake Lak	35.20	336	eP		P		19 41 16.1	-0.6
D53A	Lac Vacive, Po baz=204	35.32	17	P		P		19 41 16.8	-0.6
PAHR	Pah Rah Range comp=Z,11nm,1.3s	35.43	322	eP		P		19 41 15.9	-2.7
HLID	Hailey comp=Z,8.1nm,1.0s	35.48	331	eP		P		19 41 19.7	+0.6
HLID	Hailey baz=140,SNR=14	35.48	331	P		P		19 41 20.3	+1.2
D54A	Lac Fusel, La baz=206	35.69	18	P		P		19 41 19.4	-1.2
MCMT	McKenzie Canyo	35.78	334	eP		P		19 41 24.0	+2.2
BOZ	Bozeman (W) comp=Z,7.2nm,1.3s	35.91	336	eP		P		19 41 23.9	+1.2
DLMT	Dillon comp=Z,8.0nm,0.6s	36.11	335	eP		P		19 41 26.5	+2.1
DGMT	Dagmar baz=159	36.13	346	P		P		19 41 24.2	-0.2

ULM	**Lac du Bonnet**	**36.58**	**356**	P		**P**	19 41 25.0	-3.2
	comp=Z,2.3nm,0.7s,baz=160,slow=9.5,SNR=5.1							
ULM				LR		LR	19 59 04.7	
	comp=Z,125nm,18.8s,baz=198,slow=40							
PKME	**Peaks-Kenny Pk**	**36.82**	**27**	P		**P**	19 41 29.3	-1.0
	baz=218							
LATQ	**La Tuque**	**37.16**	**22**	P		**P**	19 41 31.6	-1.5
	baz=211							
LSQQ	**Lebel-sur-Quev**	**37.32**	**16**	P		**P**	19 41 32.7	-1.8
	baz=204							
J08A	**Circle Bar Ran**	**37.35**	**327**	*e*P		**P**	19 41 36.1	+1.1
	comp=Z,38nm,1.2s							
MOD	**Modoc Plateau**	**37.37**	**324**	*e*P		**P**	19 41 37.0	+1.8
	comp=Z,7.2nm,1.0s							
BMO	**Blue Mountains**	**37.83**	**330**	*e*P		**P**	19 41 39.2	+0.3
	comp=Z,17nm,1.6s							
MSO	**Missoula**	**37.84**	**335**	*e*P		**P**	19 41 39.5	+0.4
	comp=Z,8.9nm,1.0s							
MSO	**Missoula**	**37.84**	**335**	P		**P**	19 41 40.0	+0.9
	baz=143							
LPAZ	**La Paz**	**37.94**	**141**	*e*P		**P**	19 41 40.1	-0.7
LPAZ	**La Paz**	**37.94**	**141**	P		**P**	19 41 39.2	-1.5
	comp=Z,0.9nm,0.8s,baz=326,slow=7.3,SNR=2.4							
M04C	**Macdoel**	**38.18**	**323**	P		**P**	19 41 42.4	+0.3
	baz=128							
I07A	**Izee**	**38.39**	**327**	*e*P		**P**	19 41 44.8	+1.1
	comp=Z,8.0nm,1.0s							
F10A	**Beach Ranch, E**	**38.62**	**331**	*e*P		**P**	19 41 46.1	+0.5
	comp=Z,17nm,0.8s							
L04D	**Klamath Falls**	**38.72**	**323**	P		**P**	19 41 47.4	+0.8
	baz=128							
CHGQ	**Chibougamau**	**38.84**	**18**	P		**P**	19 41 45.6	-1.6
	baz=208							
PINE	**Pine Mountain**	**38.96**	**326**	*e*P		**P**	19 41 49.5	+0.9
	comp=Z,9.4nm,0.9s							
J04D	**Umpqua Nationa**	**39.25**	**324**	P		**P**	19 41 52.7	+1.7
	baz=129							
E09A	**Wood Farm, Sta**	**39.45**	**331**	*e*P		**P**	19 41 53.5	+1.1
	comp=Z,18nm,1.6s							
L02E	**Cave Junction**	**39.45**	**322**	P		**P**	19 41 53.6	+1.1
	baz=126							
I04A	**Tendick Farm,**	**39.77**	**325**	P		**P**	19 41 55.3	+0.1
	baz=129							
G05D	**Wamic, OR**	**40.12**	**327**	P		**P**	19 41 59.3	+1.1
	baz=132							
H04A	**Detroit Lake**	**40.22**	**326**	*e*P		**P**	19 41 60.0	+1.1
	comp=Z,12nm,0.8s							
I03D	**Drain, OR**	**40.24**	**324**	P		**P**	19 41 59.4	+0.4
	baz=128							
J01E	**Myrtle Point**	**40.25**	**323**	P		**P**	19 41 60.0	+0.9
	baz=127							
NEW	**Newport**	**40.30**	**334**	P		**P**	19 42 00.1	+0.5
	baz=140							
C09A	**Chrisman Ranch**	**40.46**	**332**	*e*P		**P**	19 42 01.8	+1.0
	comp=Z,17nm,1.0s							
LON	**Longmire**	**41.40**	**329**	*e*P		**P**	19 42 08.5	-0.1
	comp=Z,11nm,0.9s							
SIV	**San Ignacio**	**42.41**	**133**	P		**P**	19 42 16.3	-0.9
	comp=Z,4.9nm,0.8s,baz=317,slow=7.9,SNR=10							
LLLB	**Lillooet**	**44.13**	**333**	*e*P		**P**	19 42 33.0	+2.3
	comp=Z,18nm,1.2s							
FCC	**Fort Churchill**	**45.00**	**358**	*e*P		**P**	19 42 36.5	-0.9
	comp=Z,8.1nm,0.8s							
SCHQ	**Schefferville**	**45.45**	**20**	*e*P		**P**	19 42 39.1	-2.0
	comp=Z,24nm,0.8s							
SCHQ	**Schefferville**	**45.45**	**20**	P		**P**	19 42 39.5	-1.6
	comp=Z,24nm,0.8s,baz=222,slow=6.1,SNR=20							
SCHQ				LR		LR	20 02 44.7	
	comp=Z,714nm,19.9s,baz=202,slow=37							
YKA	**Yellowknife Ar**	**51.33**	**347**	P		**P**	19 43 26.2	-0.1
	comp=Z,8.0nm,0.7s,baz=148,slow=7.5,SNR=115							
YKA			PcP			**PcP**	19 44 41.1	+0.3
	comp=Z,1.0nm,0.8s,baz=144,slow=3.9,SNR=5.4							
YKB5	**Yellowknife Ar**	**51.33**	**347**	*e*P		**P**	19 43 25.7	-0.6
YKW3	**Yellowknife Ar**	**51.39**	**347**	*e*P		**P**	19 43 26.4	-0.3
	comp=Z,7.4nm,0.7s							
CPUP	**Villa Florida**	**52.09**	**140**	LR		LR	20 06 55.6	
	comp=Z,69nm,20.1s,baz=210,slow=37							
BDFB	**Brasilia**	**52.27**	**122**	LR		LR	20 04 15.0	
	comp=Z,72nm,18.3s,baz=276,slow=34							
DLBC	**Dease Lake**	**52.96**	**336**	*e*P		**P**	19 43 38.4	-0.3
	comp=Z,16nm,1.1s							
PLCA	**Paso Flores**	**57.67**	**161**	LR		LR	20 02 53.4	
	comp=Z,109nm,18.7s,baz=242,slow=30							
EPYK	**Eagle Plains**	**60.44**	**341**	P		**P**	19 44 31.4	-0.1
	baz=128							
INK	**Inuvik**	**60.74**	**344**	*e*P		**P**	19 44 33.9	+0.4
	comp=Z,13nm,0.9s							
RES	**Resolute Bay**	**60.99**	**359**	*e*P		**P**	19 44 33.8	-1.3
	comp=Z,3.4nm,0.8s							
EGAK	**Eagle**	**61.02**	**338**	*e*P		**P**	19 44 36.4	+0.9
	comp=Z,6.7nm,1.1s							
DOT	**Dot Lake**	**61.53**	**336**	*e*P		**P**	19 44 39.3	+0.3
	comp=Z,8.6nm,0.9s							
SCRK	**Sand Creek**	**61.66**	**337**	*e*P		**P**	19 44 41.1	+1.1
	comp=Z,6.6nm,0.6s							
PAX	**Paxson**	**61.77**	**335**	*e*P		**P**	19 44 40.4	-0.3
	comp=Z,10nm,0.3s							
HDA	**Harding Lake**	**63.01**	**336**	*e*P		**P**	19 44 49.7	+0.9
	comp=Z,88nm,0.8s							
IL1	**Eielson Array**	**63.15**	**337**	*e*P		**P**	19 44 49.6	-0.2
ILAR	**Eielson Array**	**63.15**	**337**	P		**P**	19 44 49.9	+0.1
	comp=Z,2.0nm,0.8s,baz=163,slow=4.7,SNR=21							
ILB	**Eielson Array**	**63.15**	**337**	*e*P		**P**	19 44 50.0	+0.2
	comp=Z,207nm,0.3s							
RND	**Reindeer**	**63.34**	**335**	*e*P		**P**	19 44 52.1	+0.9
	comp=Z,87nm,0.4s							
POKR	**Poker Flat Res**	**63.51**	**337**	P		**P**	19 44 52.5	+0.3
	baz=116							
TRF	**Thorofare Moun**	**63.95**	**335**	*e*P		**P**	19 44 55.5	+0.3
	comp=Z,52nm,0.6s							
BPAW	**Bear Paw Mtn.**	**64.48**	**335**	*e*P		**P**	19 44 58.6	0.0
	comp=Z,174nm,0.4s							
COLD	**Coldfoot**	**65.44**	**339**	*e*P		**P**	19 45 05.8	+1.0
	comp=Z,9.8nm,1.3s							
TOLK	**Toolik Lake Re**	**65.83**	**340**	*e*P		**P**	19 45 08.1	+0.8
	comp=Z,8.3nm,0.9s							
TOLK	**Toolik Lake Re**	**65.83**	**340**	P		**P**	19 45 07.8	+0.6
	baz=116,SNR=8.2							
IM3	**Indian Mountai**	**66.27**	**337**	*e*P		**P**	19 45 09.8	-0.3
ESDC	**Sonseca Array**	**79.80**	**52**	P		**P**	19 46 27.8	-3.0
	comp=Z,0.7nm,0.6s,baz=281,slow=7.0,SNR=4.3							
NB200	**NORSAR Array S**	**84.34**	**28**	*e*P		**P**	19 46 52.6	-1.6
NOA	**NORSAR Array B**	**84.34**	**28**	P		**P**	19 46 52.6	-1.6
	comp=Z,0.6nm,0.8s,baz=291,slow=4.9,SNR=3.3							
NOA				LR		LR	20 22 40.6	
	comp=Z,49nm,21.1s,baz=290,slow=34							
DBIC	**Dimbokro**	**85.56**	**84**	P		**P**	19 46 58.5	-2.6
	comp=Z,1.9nm,0.8s,baz=299,slow=8.1,SNR=3.2							
DBIC				LR		LR	20 22 47.4	
	comp=Z,56nm,18.9s,baz=238,slow=34							
TORD	**Torodi Ar. Bea**	**90.33**	**76**	LR		LR	20 25 18.5	
	comp=Z,43nm,20.1s,baz=285,slow=34							
TIXI	**Tiksi**	**90.56**	**348**	*e*P		**P**	19 47 23.6	-0.2
	comp=Z,7.7nm,0.8s							
MK32	**Makanchi Array**	**119.55**	**5**	*e*PKPdf		**PKPdf**	19 53 11.7	-0.4
MKAR	**Makanchi Array**	**119.55**	**5**	PKP		**PKPdf**	19 53 11.7	-0.4
	comp=Z,0.3nm,0.7s,baz=38,slow=2.2,SNR=4.6							
BOSA	**Boshof**	**120.13**	**115**	PKP		**PKPdf**	19 53 12.9	-0.8
	comp=Z,2.7nm,0.9s,baz=315,slow=1.4,SNR=3.2							
KSH	**Kashi**	**125.85**	**12**	*e*PKP		**PKiKP**	19 53 26.8	+1.9
KSH				PP		**PP**	19 55 22.6	+6.8
KSH				AMB		AMB		
	comp=Z,46nm,7.4s							
LZH	**Lanzhou**	**128.29**	**344**	*e*PKP		**PKPdf**	19 53 27.3	-2.0
LZH				pPKP		sPKPdf	19 53 49.1	+7.6
LZH				sPKP			19 53 58.3	
LZH				LR		LR		
	comp=N,75nm,18.0s							
LZH				LR		LR		
	comp=E,68nm,18.1s							
LZH				LR		LR		
	comp=Z,92nm,20.2s							
CD2	**Chengdu**	**133.16**	**341**	PKP		**PKPdf**	19 53 35.8	-2.7
WR1	**Warramunga Arr**	**135.44**	**255**	*e*PKPdf		**PKPdf**	19 53 42.0	-0.9
WRA	**Warramunga Arr**	**135.44**	**255**	PKP		**PKPdf**	19 53 42.0	-0.9
	comp=Z,0.3nm,0.7s,baz=26,slow=0.6,SNR=4.6							
ASAR	**Alice Springs**	**135.68**	**250**	PKP		**PKPdf**	19 53 43.5	+0.1
	comp=Z,0.6nm,0.9s,baz=116,slow=4.2,SNR=3.5							
CM31	**Chiang Mai Arr**	**146.30**	**341**	*e*PKPdf		**PKPdf**	19 54 02.8	+0.3
CMAR	**Chiang Mai Arr**	**146.30**	**341**	PKPbc		**PKPdf**	19 54 03.2	+0.7
	comp=Z,5.2nm,0.8s,baz=340,slow=3.0,SNR=31							
HYB	**Hyderabad**	**147.66**	**17**	*i* PKP		**PKPdf**	19 54 07.0	+2.1

*IDC **13** 19:35:45.7±1.9, 6.°63S×148.°44E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.8/29, mbtmp3.9/6, ML3.9/1, MS3.7/1,*

Ms1 3.7/1, ms1mx2.9/32, Error ellipse: s-maj=63.0km s-min=22.1km az=103.0

*NEIC **13** 19:35:48.4±0.5, 6.°61S×148.°16E, h10km, mb4.4/4, Error ellipse: s-maj=18.4km s-min=8.4km az=124.0*

*ISCJB **13** 19:35:50.8±0.7, 6.°7S±0.°1×148.°3E±0.°1, h46km, mb3.8/6, MS3.5/1, Error ellipse: s-maj=23.2km s-min=10.6km az=34.5*

ISC 13 19:35:52.6±0.9, 6.°7S±0.°1×148.°3E±0.°2, h46km, n17, σ0s59/18, mb3.9/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.58**	**57**	*e*Pn			**Pn**	19 36 59.5	0.0
WR1	**Warramunga Arr**	**18.89**	**224**	*e*P			**P**	19 40 09.1	-0.4
	58nm,1.9s								
WRA	**Warramunga Arr**	**18.89**	**224**	P			**P**	19 40 09.1	-0.4
	0.4nm,0.3s,baz=52,slow=11,SNR=17								
AS01	**Alice Springs**	**21.79**	**218**	*e*P			**P**	19 40 40.4	-0.4
AS31	**Alice Springs**	**21.82**	**218**	*e*P			**P**	19 40 41.4	+0.2
	3.2nm,0.8s								
ASAR	**Alice Springs**	**21.82**	**218**	P			**P**	19 40 41.2	0.0
	4.6nm,0.6s,baz=53,slow=9.3,SNR=100								
ASAR				S			**S**	19 44 39.7	-0.3
	1.9nm,1.0s,baz=30,slow=23,SNR=5.4								
ASAR				LR			LR	19 50 55.7	
	comp=Z,189nm,18.7s,baz=56,slow=41								
FITZ	**Fitzroy Crossi**	**24.83**	**241**	*e*P			**P**	19 41 11.0	+0.2
	13nm,0.9s								
FITZ	**Fitzroy Crossi**	**24.83**	**241**	P			**P**	19 41 11.6	+0.8
	7.4nm,0.5s,baz=47,slow=8.3,SNR=31								
STKA	**Stephens Creek**	**25.82**	**193**	*e*P			**P**	19 41 20.0	+0.3
	13nm,1.9s								
STKA	**Stephens Creek**	**25.82**	**193**	P			**P**	19 41 20.1	+0.5
	2.6nm,0.7s,baz=14,slow=11,SNR=6.0								
SONA0	**Songino Array**	**65.64**	**330**	*e*P			**P**	19 46 33.1	+0.9
SONM	**Songino Array**	**65.64**	**330**	P			**P**	19 46 33.1	+0.9
	0.4nm,1.1s,baz=150,slow=4.3,SNR=2.2								
MK32	**Makanchi Array**	**78.86**	**320**	*e*P			**P**	19 47 50.2	-0.8
MKAR	**Makanchi Array**	**78.86**	**320**	P			**P**	19 47 50.2	-0.8
	0.2nm,0.6s,baz=95,slow=8.5,SNR=3.5								
GERES	**GERESS Array B**	**123.21**	**326**	PKP			**PKPdf**	19 54 44.2	-0.4
	0.4nm,0.5s,baz=64,slow=3.1,SNR=5.3								
TORD	**Torodi Ar. Bea**	**146.51**	**284**	PKPbc			**PKPbc**	19 55 29.4	-0.6
	3.1nm,0.8s,baz=69,slow=2.7,SNR=20								
TOA1	**Torodi Ar. Sit**	**146.51**	**284**	*e*PKPdf			**PKPbc**	19 55 29.4	-0.6

*SOF **13** 19:37:59.6, 45.°54N×26.°26E, h2km*

*ISCJB **13** 19:38:04.8±0.4, 45.°41N±0.°01×26.°42E±0.°02, h12km±2km, mb2.8/1, Error ellipse: s-maj=2.3km s-min=2.1km az=158.9*

*SIGU **13** 19:38:04.3, 45.°40N×26.°34E, h18km, mb2.9*

*BUC **13** 19:38:04.3±0.2, 45.°39N×26.°43E, h13km±2km, MD3.6/7, Error ellipse: s-maj=2.7km s-min=2.1km az=107.0*

*IDC **13** 19:38:12.7±3.4, 45.°74N×27.°84E, h0km, mb3.1/1, mb1 3.2/4, mb1mx3.0/31, mbtmp3.1/4, ML2.7/3, Error ellipse: s-maj=74.9km s-min=13.8km az=78.0*

ISC 13 19:38:04.4±1.0, 45.°38N±0.°01×26.°43E±0.°01, h12km±8km, n135, σ0s84/173, 70C-30D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ISR	**Istrita**	**0.28**	**164**	↓P			**Pb**	19 38 11.2	-0.1
ISR				*i* S			**Sb**	19 38 16.4	+0.4
ISR	**Istrita**	**0.28**	**164**	↓P			**Pb**	19 38 11.2	-0.1
MLR	**Muntele Rosu**	**0.36**	**288**	↓P			**Pg**	19 38 11.4	-0.2
MLR				*i* S			**Sb**	19 38 17.6	-0.9
MLR	**Muntele Rosu**	**0.36**	**288**	↓P			**Pb**	19 38 11.4	-0.2
GRER		**0.38**	**90**	↓P			**Pb**	19 38 14.1	+1.0
GRER				*i* S			**Sb**	19 38 19.1	+0.1
GRER		**0.38**	**90**	↓P			**Pb**	19 38 14.1	+1.0
SECR		**0.43**	**217**	↑P			**Pb**	19 38 13.5	-0.5
SECR				*i* S			**Sb**	19 38 20.4	-0.1
SECR		**0.43**	**217**	↑P			**Pb**	19 38 13.5	-0.5
PLOR	**Plostina**	**0.49**	**18**	↑P			**Pg**	19 38 14.2	+0.2
PLOR				*i* S			**Sb**	19 38 22.3	0.0
PLOR	**Plostina**	**0.49**	**18**	↑P			**Pg**	19 38 14.2	+0.2
VRI	**Vrincioaia**	**0.53**	**23**	↑P			**Pg**	19 38 14.8	+0.1
VRI				*i* S			**Sb**	19 38 23.3	+0.1
VRI	**Vrincioaia**	**0.53**	**23**	↑P			**Pg**	19 38 14.8	+0.1
PLAR	**PLOIESTI**	**0.55**	**212**	↑P			**Pb**	19 38 15.9	-0.1
PLAR				*i* S			**Sb**	19 38 24.8	+1.0
PLAR	**PLOIESTI**	**0.55**	**212**	↑P			**Pb**	19 38 15.9	-0.1
ODBI	**Odobesti**	**0.58**	**49**	↑P			**Pb**	19 38 17.9	-0.6
ODBI				*i* S			**Sb**	19 38 24.7	0.0
ODBI	**Odobesti**	**0.58**	**49**	↑P			**Pb**	19 38 17.9	-0.6
PGOR	**Pogoanele**	**0.61**	**140**	↑P			**Pb**	19 38 16.8	-0.3
PGOR				*i* S			**Sb**	19 38 26.3	+0.6
PGOR	**Pogoanele**	**0.61**	**140**	↑P			**Pb**	19 38 16.8	-0.3
PETR	**Petresti**	**0.66**	**58**	*i* S			**Sb**	19 38 27.1	+0.2
PETR	**Petresti**	**0.66**	**58**	S			**Sb**	19 38 27.1	+0.2
SULR		**0.72**	**190**	↓P			**Pb**	19 38 18.8	0.0
SULR				*i* S			**Sn**	19 38 30.5	-0.8
SULR		**0.72**	**190**	↓P			**Pb**	19 38 18.8	0.0
OZUR		**0.84**	**328**	↓P			**Pb**	19 38 20.9	-0.1
OZUR				*i* S			**Sn**	19 38 33.7	-0.9
OZUR		**0.84**	**328**	↓P			**Pb**	19 38 20.9	-0.1
DOPR	**Dopca**	**0.94**	**309**	↓P			**Pg**	19 38 22.3	-0.1
DOPR				*i* S			**Sn**	19 38 36.8	0.0
DOPR	**Dopca**	**0.94**	**309**	↓P			**Pg**	19 38 22.3	-0.1
LEHL	**Lehliu**	**0.95**	**163**	↑P			**Pg**	19 38 22.8	+0.1
LEHL				*i* S			**Sn**	19 38 37.1	+0.1
LEHL	**Lehliu**	**0.95**	**163**	↑P			**Pg**	19 38 22.8	+0.1
VOIR		**0.98**	**274**	↑P			**Pb**	19 38 22.6	-0.7
VOIR				*i* S			**Sn**	19 38 37.4	-0.5
VOIR		**0.98**	**274**	↑P			**Pb**	19 38 22.6	-0.7
AMRR	**Amara**	**1.00**	**140**	↑P			**Pb**	19 38 23.4	-0.3
AMRR				*i* S			**Sn**	19 38 39.2	+0.8
AMRR	**Amara**	**1.00**	**140**	↑P			**Pb**	19 38 23.4	-0.3
BUC1	**Bucharest**	**1.07**	**196**	↑P			**Pb**	19 38 24.7	-0.2
BUC1				*i* S			**Sn**	19 38 40.3	+0.2
BUC1	**Bucharest**	**1.07**	**196**	↑P			**Pb**	19 38 24.7	-0.2
TESR	**Tescani**	**1.14**	**8**	↑P			**Pn**	19 38 25.9	-0.3
TESR	**Tescani**	**1.14**	**8**	↑P			**Pn**	19 38 25.9	-0.3
GOLR		**1.17**	**243**	↓P			**Pg**	19 38 26.9	0.0
GOLR				*i* S			**Sn**	19 38 43.8	+1.2
GOLR		**1.17**	**243**	↓P			**Pg**	19 38 26.9	0.0
SGRR	**Singureni**	**1.21**	**196**	↓P			**Pn**	19 38 26.5	-0.6
SGRR				*i* S			**Sg**	19 38 43.4	+0.2
SGRR	**Singureni**	**1.21**	**196**	↓P			**Pn**	19 38 26.5	-0.6
BIR	**Birlad**	**1.22**	**43**	↓P			**Pg**	19 38 26.9	+0.9
BIR	**Birlad**	**1.22**	**43**	↓P			**Pg**	19 38 28.6	+0.9
CFR	**Carcaliu**	**1.22**	**99**	↓P			**Pg**	19 38 26.4	-0.9
CFR				*i* S			**Sg**	19 38 43.6	-0.1
CFR	**Carcaliu**	**1.22**	**99**	↓P			**Pn**	19 38 26.4	-0.9
GIUM	**Giurgiulesti**	**1.25**	**85**	↑P			**Pg**	19 38 28.6	+0.1
GIUM	**Giurgiulesti**	**1.25**	**85**	↑P			**Pg**	19 38 28.6	+0.1
ARR	**Arges**	**1.27**	**270**	↑P			**Pb**	19 38 28.3	0.0
ARR				*i* S			**Sg**	19 38 46.3	+1.1
ARR	**Arges**	**1.27**	**270**	↑P			**Pb**	19 38 28.3	0.0
HARR	**Harsova**	**1.27**	**123**	↑P			**Pn**	19 38 27.7	-0.2
HARR	**Harsova**	**1.27**	**123**	↑P			**Pn**	19 38 27.7	-0.2
RASA	**Rasa**	**1.27**	**156**	↑P			**Pn**	19 38 27.9	-0.1
RASA				*i* S			**Sg**	19 38 45.9	+0.5
RASA	**Rasa**	**1.27**	**156**	↑P			**Pn**	19 38 27.9	-0.1
HUMR	**Humele**	**1.34**	**231**	↑P			**Pn**	19 38 28.6	-0.3
HUMR				*i* S			**Sg**	19 38 48.3	+0.8
HUMR	**Humele**	**1.34**	**231**	↑P			**Pn**	19 38 28.6	-0.3
TLB	**Topalu**	**1.39**	**124**	↓P			**Pn**	19 38 29.5	-0.1
TLB				*i* S			**Sg**	19 38 48.9	-0.3
TLB	**Topalu**	**1.39**	**124**	↓P			**Pn**	19 38 29.5	-0.1
JOSR	**Joseni**	**1.47**	**335**	↑P			**Pg**	19 38 32.3	-0.3
JOSR	**Joseni**	**1.47**	**335**	↑P			**Pg**	19 38 32.3	-0.3
CVDA	**Cernavoda**	**1.55**	**132**	↑P			**Pb**	19 38 32.5	-0.5
CVDA				*i* S			**Sg**	19 38 53.7	-0.5
CVDA	**Cernavoda**	**1.55**	**132**	↑P			**Pb**	19 38 32.5	-0.5
BIZ	**Bicaz**	**1.57**	**352**	↓P			**Pb**	19 38 32.6	-0.8
BIZ	**Bicaz**	**1.57**	**352**	↓P			**Pb**	19 38 32.6	-0.8
GIRR	**Girov**	**1.57**	**2**	↑P			**Pn**	19 38 32.4	+0.2
GIRR	**Girov**	**1.57**	**2**	↑P			**Pn**	19 38 32.4	+0.2
ICOR	**Ion Corvin**	**1.60**	**142**	↑P			**Pb**	19 38 33.5	-0.3
ICOR				*i* S			**Sn**	19 38 53.3	+0.3
ICOR	**Ion Corvin**	**1.60**	**142**	↑P			**Pb**	19 38 33.5	-0.3
LEOM	**Leova**	**1.67**	**49**	↑P			**Pn**	19 38 33.1	-0.4
LEOM				*i* S			**Sb**	19 38 55.7	-0.4
LEOM	**Leova**	**1.67**	**49**	↑P			**Pn**	19 38 33.1	-0.4
TIRR	**Tirgusor**	**1.68**	**123**	↑P			**Pn**	19 38 33.2	-0.4
TIRR				*i* S			**Sb**	19 38 56.8	+0.4
TIRR	**Tirgusor**	**1.68**	**123**	↑P			**Pn**	19 38 33.2	-0.4
TLCR		**1.69**	**96**	↓P			**Pb**	19 38 34.8	-0.7
TLCR				*i* S			**Sb**	19 38 57.6	+0.9
TLCR		**1.69**	**96**	↓P			**Pb**	19 38 34.8	-0.7
MFTR	**Murfatlar**	**1.86**	**130**	↑P			**Pb**	19 38 37.7	-0.6
MFTR				*i* S			**Sb**	19 39 01.4	-0.1
MFTR	**Murfatlar**	**1.86**	**130**	↑P			**Pb**	19 38 37.7	-0.6
LOT	**Lotru**	**1.88**	**273**	↓P			**Pb**	19 38 37.7	-1.0
LOT				*i* S			**Sb**	19 39 02.3	+0.1
LOT	**Lotru**	**1.88**	**273**	↓P			**Pb**	19 38 37.7	-1.0
ZIMR		**1.89**	**204**	*i* S			**Sb**	19 39 01.8	-0.5
ZIMR		**1.89**	**204**	S			**Sb**	19 39 01.8	-0.5
PRAR	**RASCA**	**1.98**	**356**	↑P			**Pn**	19 38 38.5	+0.7
PRAR	**RASCA**	**1.98**	**356**	↑P			**Pn**	19 38 38.5	+0.7
PSN	**Preselentsi**	**2.11**	**143**	P			**Pn**	19 38 39.0	-0.5
PSN	**Preselentsi**	**2.11**	**143**	P			**Pb**	19 38 41.4	-1.2
SZH	**Strazhica**	**2.15**	**190**	P			**Pn**	19 38 38.6	-1.4
ARCR	**ARCALIA**	**2.23**	**320**	↓P			**Pn**	19 38 41.2	0.0
ARCR				*i* S			**Sn**	19 39 09.9	+1.2
ARCR	**ARCALIA**	**2.23**	**320**	↓P			**Pn**	19 38 41.2	0.0
MILM	**Milestii Mici**	**2.26**	**46**	↑P			**Pn**	19 38 42.5	+1.0
MILM	**Milestii Mici**	**2.26**	**46**	↑P			**Pn**	19 38 42.5	+1.0
PRD	**Provadia**	**2.29**	**162**	P			**Pn**	19 38 42.9	+0.9
PVL	**Pavlikeni**	**2.31**	**200**	P			**Pb**	19 38 46.4	+0.5
CJR	**Cluj-Napoca**	**2.38**	**305**	↑P			**Pn**	19 38 43.2	-0.1
CJR	**Cluj-Napoca**	**2.38**	**305**	↑P			**Pn**	19 38 43.2	-0.1
BURAR	**Bucovina Array**	**2.38**	**340**	↑P			**Pn**	19 38 43.8	+0.4
BURAR	**Bucovina Array**	**2.38**	**340**	↑P			**Pn**	19 38 43.8	+0.4
SRE	**Strehaia**	**2.40**	**254**	↑P			**Pn**	19 38 44.4	+0.9
SRE				*i* S			**Sn**	19 39 14.4	+1.5
SRE	**Strehaia**	**2.40**	**254**	↑P			**Pn**	19 38 44.4	+0.9
DEV	**Deva**	**2.53**	**283**	↑P			**Pn**	19 38 46.7	+1.5
DEV	**Deva**	**2.53**	**283**	↑P			**Pn**	19 38 46.7	+1.5
GZR	**Gura Zlata**	**2.58**	**272**	↑P			**Pn**	19 38 47.6	+1.6
GZR	**Gura Zlata**	**2.58**	**272**	↑P			**Pn**	19 38 47.6	+1.6
MPEP	**Malo Peshtene**	**2.80**	**225**	Pg			**Pb**	19 38 55.5	+1.2
HERR	**Herculane**	**2.89**	**261**	↑P			**Pn**	19 38 49.9	-0.3
HERR	**Herculane**	**2.89**	**261**	↑P			**Pn**	19 38 49.9	-0.3
JMB	**Yambol**	**2.92**	**178**	P			**Pn**	19 38 50.1	-0.5
DRGR		**2.95**	**

$M_{\theta\theta}$0.34±.09; $M_{\phi\phi}$-3.39±.08; $M_{r\theta}$0.01±.07; $M_{r\phi}$0.44±.07; M_{rr}0.44±.07; Best double couple: M_w3.27600×10^{16} NP1:ϕ_s355.00000°,δ49.00000°,λ92.00000°. NP2: ϕ_s172.00000°,δ41.00000°,λ88.00000°. Principal axes: T 3.0810, Plg86.0000°, Azm281.0000°; N 0.3920, Plg1.0000°, Azm174.0000°; P -3.4710, Plg4.0000°, Azm83.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 13 20:02:56.9±0.5, 35.52N±0.04×140.21E±0.04, h62km±4km, h61km:pP-P, n590, σ1§46/618, mb4.8/266, 58C-23D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.10**	**185**	⇑P			**Pn**	**20 03 08.1**	**+2.0**
JCN				S			**Sn**	**20 03 16.4**	**+3.7**
JSMT	**Sammumatsuo**	**0.23**	**56**	P			**Pn**	**20 03 08.5**	**+1.8**
TOK	**Tokyo**	**0.41**	**295**	P			**Pn**	**20 03 09.1**	**+1.1**
BSO3	**Boso 3**	**0.75**	**161**	⇑P			**Pn**	**20 03 13.4**	**+1.8**
JOD2	**Odawara 2**	**0.95**	**255**	⇓P			**Pn**	**20 03 14.6**	**+0.2**
JOD2				S			**Sn**	**20 03 27.0**	**-0.4**
JIM2	**Oshima 3**	**1.02**	**219**	P			**Pn**	**20 03 15.5**	**+0.2**
JIM2				S			**Sn**	**20 03 29.2**	**+0.3**
BSO1	**Boso 1**	**1.06**	**144**	⇑P			**Pn**	**20 03 16.6**	**+1.3**
JAG	**Ashikaga**	**1.10**	**326**	⇓P			**Pn**	**20 03 16.1**	**-0.2**
JAG				*e*S			**Sn**	**20 03 29.9**	**-0.8**
JRY	**Ryogami san**	**1.18**	**296**	⇓P			**Pn**	**20 03 17.8**	**+0.4**
JRY				*e*S			**Sn**	**20 03 33.0**	**+0.4**
JFNN	**Fujinakano**	**1.29**	**256**	P			**Pn**	**20 03 19.2**	**+0.4**
JFNN				*e*S			**Sn**	**20 03 35.3**	**+0.1**
JYN	**Shimob**	**1.36**	**270**	⇓P			**Pn**	**20 03 20.0**	**+0.2**
JYN				S			**Sn**	**20 03 36.9**	**-0.1**
MJAR	**Matsushiro Arr**	**1.92**	**303**	P			**Pn**	**20 03 27.4**	**0.0**
	32nm,0.3s,baz=126,slow=15,SNR=703								
MJAR				S			**Sn**	**20 03 50.8**	**+0.4**
	50nm,0.3s,baz=226,slow=22,SNR=10								
MAJO	**Matsushiro**	**1.92**	**303**	*e*Pn			**Pn**	**20 03 27.7**	**+0.3**
MAJO				*e*Sn			**Sn**	**20 03 50.8**	**+0.3**
MAJO	**Matsushiro**	**1.92**	**303**	*d i*P			**Pn**	**20 03 27.8**	**+0.4**
MAT	**Matsushiro**	**1.92**	**303**	P			**Pn**	**20 03 27.8**	**+0.4**
MAT				S			**Sn**	**20 03 50.1**	**-0.4**
MJB9	**Matsu-Tunnel**	**1.93**	**303**	*e*Pn			**Pn**	**20 03 27.6**	**+0.2**
JHJ	**Hachijo jima 2**	**2.42**	**189**	P			**Pn**	**20 03 35.5**	**+1.4**
	351nm,0.3s,baz=357,slow=10.0,SNR=81								
JHJ				S			**Sn**	**20 04 02.9**	**+0.4**
	679nm,0.3s,baz=160,slow=23,SNR=15								
JHJ				LR			LR	20 04 23.4	
	comp=Z,785nm,21.9s,baz=275,slow=36								
JHJ2	**Mitsune**	**2.42**	**188**	*e*Pn			**Pn**	**20 03 35.2**	**+1.1**
INU	**Inuyama**	**2.61**	**267**	*e*Pn			**Pn**	**20 03 36.8**	**0.0**
ERM	**Erimo**	**6.89**	**19**	*i* P			**Pn**	**20 04 35.3**	**+0.1**
JNU	**Nakatsue**	**8.08**	**255**	*e*Pn			**Pn**	**20 04 51.7**	**0.0**
JNU	**Nakatsue**	**8.08**	**255**	P			**Pn**	**20 04 53.4**	**+1.7**
	1.8nm,0.3s,baz=44,slow=6.5,SNR=11								
JNU				LR			LR	20 08 20.8	
	comp=Z,940nm,20.2s,baz=66,slow=40								
CBIJ	**Chichi jima**	**8.56**	**168**	*e*Pn			**Pn**	**20 04 56.5**	**-1.6**
CBIJ				*e*Sn			**Sn**	**20 06 27.4**	**-5.8**
JCJ	**Chichijima**	**8.56**	**168**	P			**Pn**	**20 04 56.5**	**-1.6**
	69nm,0.3s,baz=32,slow=7.3,SNR=51								
JCJ				S			**Sn**	**20 06 27.4**	**-5.8**
	27nm,0.3s,baz=294,slow=19,SNR=4.1								
ASAJ	**Asahikawa**	**8.78**	**11**	P			**Pn**	**20 05 00.2**	**-1.0**
	2.5nm,0.3s,baz=276,slow=22,SNR=4.0								
ASAJ				S			**Sn**	**20 06 33.4**	**-5.2**
	3.9nm,0.3s,baz=108,slow=22,SNR=6.6								
YUK	**Yuzh-Kuril'sk**	**9.55**	**25**	*e*P			**Pn**	**20 05 15.4**	**+3.8**
YUK				*e*S			**Sn**	**20 06 49.9**	**-7.4**
YUK				pmax		pmax			
	comp=Z,85nm,0.5s								
YUK				pmax		pmax			
	comp=N,34nm,0.4s								
YUK				pmax		pmax			
	comp=E,22nm,0.2s								
SHO	**Shikotan**	**9.78**	**29**	*e*P			**Pn**	**20 05 17.4**	**+2.7**
SHO				*i* S			Sn	20 06 52.8	-10
SHO				pmax		pmax			
	comp=Z,27nm,0.6s								
SHO				pmax		pmax			
	comp=E,17nm,0.2s								
SHO				pmax		pmax			
	comp=N,11nm,0.5s								
TEY	**Ternei**	**9.90**	**345**	⇑*e*P			**Pn**	**20 05 20.6**	**+4.2**
TEY				pmax		pmax			
	comp=Z,20nm,1.0s								
TEY				pmax		pmax			
	comp=N,10.0nm,1.1s								
MSHR	**Mys Shultsa**	**9.96**	**318**	*i* P			**Pn**	**20 05 17.9**	**+0.7**
KSRS	**Korea Array**	**10.08**	**285**	P			**Pn**	**20 05 22.0**	**+3.1**
	comp=N,0.8nm,0.3s,baz=101,slow=14,SNR=49								
KSRS				LR			LR	20 09 04.4	
	comp=N,970nm,21.3s,baz=114,slow=36								
KS01	**Wonju Array Si**	**10.11**	**285**	*e*Pn			**Pn**	**20 05 19.1**	**-0.2**
KS15	**Wonju Array Si**	**10.11**	**285**	*e*Pn			**Pn**	**20 05 21.3**	**+2.0**
KSAR	**Wonju Array Be**	**10.11**	**285**	P			**Pn**	**20 05 22.0**	**+2.7**
KSAR	**Wonju Array Be**	**10.11**	**285**	P			**Pn**	**20 05 22.0**	**+2.7**
TJN	**Taejon**	**10.45**	**278**	*i* P			**Pn**	**20 05 26.8**	**+2.8**
USA0B	**Ussuriysk Arra**	**10.73**	**326**	*e*Pn			**Pn**	**20 05 29.4**	**+1.8**
USRK	**Ussuriysk Ar.**	**10.73**	**326**	P			**Pn**	**20 05 29.4**	**+1.7**
	comp=N,0.3nm,0.3s,baz=139,slow=12,SNR=15								
KUR	**Kuril'sk**	**11.32**	**29**	*e*P			**Pn**	**20 05 40.5**	**+4.8**
KUR				*e*S			**Sn**	**20 07 31.7**	**-8.8**
KUR				pmax		pmax			
	comp=Z,22nm,0.5s								
YSS	**Yuzh-Sakhalins**	**11.59**	**9**	*e*Pn			**Pn**	**20 05 37.9**	**-1.5**
YSS	**Yuzh-Sakhalins**	**11.59**	**9**	⇑*e*P			**Pn**	**20 05 37.9**	**-1.5**
YSS				*e*S			**Sn**	**20 07 42.6**	**-4.4**
YSS				pmax		pmax			
	comp=Z,20nm,0.9s								
YSS				pmax		pmax			
	comp=N,20nm,0.6s								
YSS				pmax		pmax			
	comp=E,20nm,1.0s								
YSS				smax		smax			
	comp=N,40nm,1.3s								
YSS				MLR		MLR			
	comp=Z,400nm,15.0s								
MDJ	**Mudanjiang**	**12.19**	**321**	P			**Pn**	**20 05 50.0**	**+2.4**
MDJ				sP		P	20 06 08.9	+11	
MDJ				pmax		pmax			
	comp=Z,79nm,1.0s								
MDJ				pmax		pmax			
	comp=Z,210nm,3.8s								
MDJ	**Mudanjiang**	**12.19**	**321**	*e*Pn			**Pn**	**20 05 48.3**	**+0.7**
CN2	**Changchun**	**14.05**	**311**	*e*P			**P**	**20 06 16.0**	**-2.8**
CN2				*e*S			**Sn**	**20 08 45.6**	**-1.5**
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=Z,260nm,14.0s								
CN2				LR		LR			
	comp=Z,380nm,14.0s								
KLR	**Kul'dur**	**15.05**	**338**	*i* P			**Pn**	**20 06 22.7**	**-3.1**
KLR	**Kul'dur**	**15.05**	**338**	P			**Pn**	**20 06 23.2**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=130,slow=13,SNR=11								
DL2	**Dalian**	**15.19**	**288**	P			**P**	**20 06 31.3**	**-0.1**
DL2				pP			**pP**	**20 06 42.9**	**-1.5**
DL2				S			**Sn**	**20 09 18.0**	**+3.2**
DL2				pmax		pmax			
	comp=Z,78nm,0.8s								
DL2				LR		LR			
	comp=Z,370nm,17.9s								
DL2				LR		LR			
	comp=Z,490nm,19.6s								
DL2				LR		LR			
	comp=Z,710nm,19.9s								
TYV	**Tymovskoe**	**15.44**	**6**	*e*P			**Pn**	**20 06 27.7**	**-3.1**
TYV				pmax		pmax			
	comp=Z,200nm,3.6s								
TYV				pmax		pmax			
	comp=Z,11nm,0.9s								
GRNR	**Gornyy**	**15.49**	**351**	*e*P			Pn	20 06 14.0	-17
NJ2	**Nanjing**	**18.08**	**265**	*e*P			**P**	**20 07 03.5**	**0.0**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
TIA	**Tai'an**	**18.72**	**279**	P			**P**	**20 07 10.3**	**-0.2**
TIA				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BJI	**Beijing**	**19.51**	**291**	P			**P**	**20 07 18.6**	**-0.5**
BJI				pmax		pmax			
	comp=Z,11nm,1.3s								
BJT	**Baijiatuao**	**19.51**	**290**	*e*P			**P**	**20 07 18.4**	**-0.7**
	comp=Z,51nm,0.9s								
BJT	**Baijiatuau**	**19.51**	**290**	*e*P			**P**	**20 07 18.4**	**-0.7**
BJT				pmax		pmax			
	comp=Z,51nm,0.9s								
HIA	**Hailar**	**20.34**	**319**	*e*P			**P**	**20 07 25.6**	**-2.5**
	comp=Z,19nm,0.9s								
HIA	**Hailar**	**20.34**	**319**	*e*P			**P**	**20 07 25.6**	**-2.5**
HIA				pmax		pmax			
	comp=Z,19nm,0.9s								
ZEA	**Zeya**	**20.36**	**337**	*e*P			**P**	**20 07 25.4**	**-2.8**
ZEA				pmax		pmax			
	comp=E,21nm,0.8s								
ZEA				pmax		pmax			
	comp=N,59nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,76nm,1.0s								
ZEA				MLR		MLR			
	comp=Z,300nm,12.0s								
ZEA				MLR		MLR			
	comp=N,200nm,14.0s								
WHN	**Wuhan**	**22.21**	**264**	P			**P**	**20 07 48.8**	**+0.5**
WHN				LR		LR			
	comp=N,1μm,15.3s								
HHC	**Hu-ho-hao-te**	**23.09**	**292**	*e*P			**P**	**20 07 56.4**	**-1.1**
HHC				pP		pP	20 08 09.3	-1.8	
HHC				sP		sP	20 08 20.8	+2.0	
HHC				S		**S**	**20 12 02.8**	**-1.0**	
HHC				sS		Sn	20 12 25.4	+0.5	
HHC				pmax		pmax			
	comp=N,13nm,0.8s								
HHC				pmax		pmax			
	comp=N,130nm,6.3s								
HHC				LR		LR			
	comp=N,200nm,9.8s								
HHC				LR		LR			
	comp=N,230nm,9.8s								
HHC				LR		LR			
	comp=N,460nm,10.6s								
MA2	**Magadan**	**25.04**	**13**	*e*P			**P**	**20 08 15.6**	**+0.6**
	comp=N,20nm,0.8s								
MA2	**Magadan**	**25.04**	**13**	*ce*P			**P**	**20 08 15.3**	**+0.2**
MA2				pmax		pmax			
	comp=Z,22nm,0.8s								
MA2	**Magadan**	**25.04**	**13**	P			**P**	**20 08 15.9**	**+0.8**
	comp=Z,22nm,0.8s,baz=193,slow=9.7,SNR=31								
MA2				LR		LR	20 19 29.3		
	comp=Z,64nm,18.2s,baz=194,slow=39								
XAN	**Xi'an**	**25.69**	**276**	P			**P**	**20 08 20.5**	**-0.8**
XAN				pP		pP	20 08 36.0	-0.2	
XAN				S		**S**	**20 12 48.0**	**+2.4**	
XAN				sS		sS	20 13 10.3	-0.9	
XAN				pmax		pmax			
	comp=Z,11nm,1.2s								
XAN				pmax		pmax			
	comp=Z,190nm,3.5s								
XAN				LR		LR			
	comp=Z,260nm,21.6s								
XAN				LR		LR			
	comp=Z,280nm,20.1s								
XAN	**Xi'an**	**25.69**	**276**	*e*P			**P**	**20 08 19.2**	**-2.0**
	comp=Z,27nm,1.4s								
XAN	**Xi'an**	**25.69**	**276**	*e*P			**P**	**20 08 19.3**	**-2.0**
XAN				pmax		pmax			
	comp=Z,27nm,1.4s								
ENH	**Enshi**	**26.26**	**267**	*e*P			**P**	**20 08 24.9**	**-1.6**
	comp=Z,31nm,1.0s								
GZH	**Guangzhou**	**26.41**	**249**	*e*P			**P**	**20 08 24.3**	**-3.5**
YAK	**Yakutsk**	**27.36**	**349**	*e*P			**P**	**20 08 35.2**	**-0.7**
YAK				*e**PP			**pP**	**20 08 49.3**	**-1.6**
YAK				*e*				20 09 23.5	
YAK				*e*				20 11 52.7	
YAK				*e*S			**S**	**20 13 12.4**	**+1.2**
YAK				pmax		pmax			
	comp=Z,251nm,1.0s								
YAK				pmax		pmax			
	comp=N,220nm,1.3s								
YAK				pmax		pmax			
	comp=E,58nm,1.5s								
YAK				pmax		pmax			
	comp=Z,23nm,0.4s								
YAK				smax		smax			
	comp=N,147nm,2.3s								
YAK				smax		smax			
	comp=E,647nm,4.1s								
SONA0	**Songino Array**	**27.87**	**307**	*e*P			**P**	**20 08 39.9**	**-1.0**
SONM	**Songino Array**	**27.87**	**307**	P			**P**	**20 08 39.9**	**-1.0**
	comp=E,5.4nm,0.8s,baz=106,slow=8.6,SNR=28								
SONM				LR		LR	20 20 07.3		
	comp=E,358nm,19.8s,baz=111,slow=37								
H11N2	**WAKE ISLAND Hy 28.27**	**117**		T		T		20 38 34.4	
	baz=308,slow=75,SNR=100								
H11N1	**WAKE ISLAND Hy 28.28**	**117**		T		T		20 38 26.0	
	baz=308,slow=75,SNR=100								
H11N3	**WAKE ISLAND Hy 28.29**	**117**		T		T		20 38 37.9	
	baz=308,slow=75,SNR=82								
BOD	**Bodaibo**	**28.33**	**330**	*e*P			**P**	**20 08 44.4**	**-0.2**
BOD				pmax		pmax			
	comp=Z,25nm,0.9s								
H11S3	**WAKE ISLAND Hy 28.91**	**119**		T		T		20 38 55.5	
	baz=311,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy 28.91**	**119**		T		T		20 39 03.5	
	baz=311,slow=75,SNR=53								
H11S2	**WAKE ISLAND Hy 28.93**	**119**		T		T		20 39 02.5	
	baz=311,slow=75,SNR=32								
LZH	**Lanzhou**	**29.40**	**282**	*e*P			**P**	**20 08 55.0**	**+0.4**
LZH				pP		pP	20 09 11.6	+1.9	
LZH				sP		sP	20 09 20.1	+3.2	
LZH				pmax		pmax			
	comp=Z,23nm,1.1s								
LZH				pmax		pmax			
	comp=Z,95nm,4.9s								
LZH				LR		LR			
	comp=Z,320nm,13.5s								
LZH				LR		LR			
	comp=Z,340nm,13.4s								
LZH				LR		LR			
	comp=Z,510nm,16.7s								
GYA	**Guiyang**	**30.03**	**262**	⇑*i*P			**P**	**20 08 58.4**	**-1.8**
GYA				pP		pP	20 09 18.3	+3.0	
GYA				PP		**PnPn**	**20 10 00.3**	**+1.1**	
GYA				S		**S**	**20 13 51.0**	**-3.1**	
GYA				sS		sS	20 14 22.8	+2.9	
GYA				SS		**SnSn**	**20 15 31.4**	**0.0**	
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,110nm,4.8s								
GYA				LR		LR			
	comp=Z,420nm,15.8s								
GYA				LR		LR			
	comp=Z,450nm,16.0s								
GYA				LR		LR			
	comp=Z,390nm,16.2s								
ZAK	**Zakamensk**	**30.48**	**311**	*e*P			**P**	**20 09 02.9**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TLY	**Talaya**	**30.63**	**313**	*e*P			**P**	**20 09 04.3**	**-0.8**
	comp=Z,3.7nm,0.9s								
TLY	**Talaya**	**30.63**	**313**	*e*P			**P**	**20 09 04.1**	**-1.0**
TLY				*e*				20 10 22.2	
TLY				*e*S			**S**	**20 14 05.7**	**+2.8**
TLY				pmax		pmax			
	comp=Z,16nm,1.4s								
TLY				MLR		MLR			
	comp=Z,281nm,16.0s								
CD2	**Chengdu**	**30.73**	**272**	P			**P**	**20 09 04.0**	**-2.3**
CD2				pmax		pmax			
	comp=Z,20nm,0.6s								
CD2				LR		LR			
	comp=Z,580nm,7.4s								
CD2				LR		LR			
	comp=Z,580nm,15.3s								
GTA	**Gaotai**	**32.11**	**289**	⇓P			**P**	**20 09 18.6**	**+0.1**
GTA				pP		pP	20 09 32.0	-1.6	
GTA				PcP		**PcP**	**20 12 08.0**	**+1.6**	
GTA				S		**S**	**20 14 25.4**	**-1.2**	
GTA				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,31nm,5.2s								
GTA				LR		LR			
	comp=Z,200nm,20.6s								
GTA				LR		LR			
	comp=Z,190nm,20.9s								
GTA				LR		LR			
	comp=Z,270nm,21.0s								
KMI	**Kunming**	**33.79**	**263**	P			**P**	**20 09 34.6**	**+1.3**
KMI				pmax		pmax			
	comp=Z,18nm,0.8s								
KMI				pmax		pmax			
	comp=Z,120nm,4.6s								
KMI				LR		LR			
	comp=Z,200nm,7.3s								
KMI				LR		LR			
	comp=Z,260nm,8.1s								
KMI				LR		LR			
	comp=Z,250nm,12.4s								
TIXI	**Tiksi**	**36.69**	**354**	*e*P			**P**	**20 09 57.0**	**-0.4**
	comp=Z,8.9nm,0.7s								
TIXI	**Tiksi**	**36.69**	**354**	*e*P			**P**	**20 09 56.1**	**-1.3**
TIXI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
TIXI	**Tiksi**	**36.69**	**354**	P			**P**	**20 09 57.3**	**-0.1**
	comp=Z,5.9nm,0.7s,baz=146,slow=7.1,SNR=30								
SKNT	**Sakolnakorn**	**37.10**	**250**	P			**P**	**20 10 01.7**	**+0.2**
	comp=Z,4.4nm,1.0s								
CHAI	**Chaiyaphum**	**39.27**	**250**	P			**P**	**20 10 19.7**	**-0.1**
	comp=Z,7.5nm,1.3s,comp=Z,71nm								
UTTA	**Uttaradit**	**39.31**	**254**	P			**P**	**20 10 20.9**	**+0.8**
	comp=Z,4.2nm,0.9s,comp=Z,46nm								
PBKT	**Sadao Pong**	**39.66**	**252**	*e*P			**P**	**20 10 22.0**	**-1.0**
	comp=Z,22nm,1.1s								
PBKT	**Sadao Pong**	**39.66**	**252**	P			**P**	**20 10 23.1**	**+0.1**
	comp=Z,19nm,1.1s								
CMMT	**Chiang Mai**	**39.98**	**256**	P			**P**	**20 10 27.6**	**+1.9**
	comp=Z,3.5nm,1.1s								
CHTO	**Chiang Mai**	**39.98**	**256**	*e*P			**P**	**20 10 24.2**	**-1.5**
	comp=Z,6.4nm,1.2s								
CHTO	**Chiang Mai**	**39.98**	**256**	*e*P			**P**	**20 10 24.2**	**-1.5**
CHTO				pmax		pmax			
	comp=Z,6.0nm,1.2s								
CHTO	**Chiang Mai**	**39.98**	**256**	P			**P**	**20 10 27.7**	**+2.0**
	comp=Z,20nm,1.0s								
CM31	**Chiang Mai Arr**	**40.18**	**256**	*e*P			**P**	**20 10 26.6**	**-0.7**
	comp=Z,5.2nm,1.1s								
CM31				*e*PcP			**PcP**	**20 12 31.9**	**+1.3**
CMAR	**Chiang Mai Arr**	**40.18**	**256**	*ce*P			**P**	**20 10 28.5**	**+1.2**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**40.18**	**256**	P			**P**	**20 10 26.6**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=50,slow=7.2,SNR=12								
CMAR				PcP			**PcP**	**20 12 31.9**	**+1.3**
	comp=Z,1.7nm,1.0s,baz=31,slow=1.8,SNR=8.5								
CMAR				LR		LR		20 28 43.9	
	comp=Z,102nm,19.9s,baz=64,slow=39								
CM01	**Chiang Mai Arr**	**40.19**	**256**	*e*P			**P**	**20 10 26.2**	**-1.2**
CM01				*e*PcP			**PcP**	**20 12 31.5**	**+0.9**
SRAK	**Srakaew**	**40.39**	**248**	P			**P**	**20 10 26.2**	**-2.8**
	comp=Z,28nm,0.9s								
WMQ	**Urumqi**	**40.68**	**298**	*e*P			**P**	**20 10 32.8**	**+1.5**
WMQ				pP		pP	20 10 49.8	+3.0	
WMQ				sP		sP	20 11 00.0	+6.0	
WMQ				pmax		pmax			
	comp=Z,59nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,380nm,4.3s								
WMQ				LR		LR			
	comp=Z,390nm,21.3s								
WMQ				LR		LR			
	comp=Z,200nm,23.3s								
WMQ				LR		LR			
	comp=Z,260nm,23.3s								
WMQ	**Urumqi**	**40.68**	**298**	*e*P			**P**	**20 10 31.0**	**-0.3**
	comp=Z,31nm,0.9s								
WMQ	**Urumqi**	**40.68**	**298**	*e*P			**P**	**20 10 31.0**	**-0.3**
WMQ				pmax		pmax			
	comp=Z,31nm,0.9s								
LSA	**Lhasa**	**41.40**	**276**	*e*P			**P**	**20 10 37.4**	**-0.4**
	comp=Z,15nm,1.3s								
LSA	**Lhasa**	**41.40**	**276**	*e*P			**P**	**20 10 37.4**	**-0.4**
LSA				pmax		pmax			
	comp=Z,15nm,1.3s								
UTHA	**Uthaitani**	**41.44**	**252**	P			**P**	**20 10 40.7**	**+3.0**
	comp=Z,2.4nm,1.0s								
ZAA0	**Zalesovo Array**	**42.24**	**314**	*e*P			**P**	**20 10 43.4**	**-0.4**
	comp=Z,29nm,1.0s								
ZAA1	**Zalesovo Array**	**42.24**	**314**	*e*P			**P**	**20 10 44.1**	**+0.3**
ZAA1				*e*PcP			**PcP**	**20 12 36.5**	**-0.2**
ZALV	**Zalesovo Beam**	**42.24**	**314**	*e*P			**P**	**20 10 43.1**	**-0.7**
ZALV				PcP			**PcP**	**20 12 36.5**	**-0.2**
ZALV	**Zalesovo Beam**	**42.24**	**314**	*e*P			**P**	**20 10 43.1**	**-0.7**
ZALV								20 12 36.5	
ZALV	**Zalesovo Beam**	**42.24**	**314**	P			**P**	**20 10 44.1**	**+0.3**
	comp=Z,20nm,0.9s,baz=94,slow=6.4,SNR=68								
ZALV				PcP			**PcP**	**20 12 36.5**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=95,slow=2.8,SNR=4.5								
PHET	**Kaeng Krachan**	**42.90**	**249**	P			**P**	**20 10 54.4**	**+4.8**
	comp=Z,3.7nm,0.7s								
NVS	**Novosibirsk**	**43.20**	**315**	⇑*i*P			**P**	**20 10 51.8**	**+0.2**
NVS				*i*				20 12 40.7	
NVS				pmax		pmax			
	comp=Z,26nm,0.9s								
NVS				pmax		pmax			
	comp=N,2.0nm,0.6s								
NVS				pmax		pmax			
	comp=E,31nm,1.1s								
MK01	**Makanchi Array**	**44.12**	**303**	*e*P			**P**	**20 10 59.2**	**+0.1**
MK31	**Makanchi Array**	**44.12**	**303**	*e*P			**P**	**20 10 59.3**	**+0.2**
	comp=E,23nm,0.9s								
MK31	**Makanchi Array**	**44.12**	**303**	*i* P			**P**	**20 10 59.2**	**+0.1**
MK31				pmax		pmax			
	comp=Z,25nm,0.9s								
MK32	**Makanchi Array**	**44.12**	**303**	*e*P			**P**	**20 10 59.5**	**+0.3**
MKAR	**Makanchi Array**	**44.12**	**303**	P			**P**	**20 10 59.5**	**+0.3**
	comp=Z,24nm,1.0s,baz=91,slow=9.4,SNR=144								
MKAR				LR		LR	20 29 49.8		
	comp=Z,187nm,20.6s,baz=82,slow=37								
NRIK	**Noril'sk**	**44.25**	**336**	P			**P**	**20 11 00.0**	**+0.2**
	comp=Z,29nm,1.0s,baz=111,slow=9.4,SNR=26								
NRIK				PcP			**PP**	**20 12 44.4**	**+0.7**
	comp=Z,9.0nm,1.0s,baz=99,slow=2.9,SNR=4.6								
MAKZ	**Makanchi**	**44.33**	**303**	*e*P			**P**	**20 11 00.8**	**0.0**
	comp=Z,28nm,1.0s								
MAKZ	**Makanchi**	**44.33**	**303**	*e*

comp=Z,131nm,0.9s
TKM2 Tokmak 2 49.51 299 P P 20 11 42.5 +1.1
SNR=33
TKM2 Tokmak 2 49.51 299 P P 20 11 42.3 +0.8
TKM2 pmax pmax
comp=Z,29nm,1.0s
NRN Naryn 49.60 297 eP P 20 11 42.5 +0.2
comp=Z,7.2nm,0.9s
NRN Naryn 49.60 297 eP P 20 11 42.5 +0.2
NRN pmax pmax
comp=Z,7.0nm,0.9s
SUA Susitna One 49.66 36 eP P 20 11 44.2 +2.0
comp=Z,15nm,1.2s
KZA Kyzart 49.97 298 P P 20 11 47.0 +1.7
SNR=11
KBK Karagaybulak 50.04 299 P P 20 11 46.4 +0.9
SNR=25
CHMS Chumysh 50.09 300 P P 20 11 46.5 +0.9
SNR=7.4
KSH Kashi 50.15 295 P P 20 11 50.8 +4.5
KSH pP sP 20 12 10.0 +0.7
KSH PP PP 20 13 49.3 +7.5
KSH S S 20 18 57.3 +3.7
KSH sS sS 20 19 29.8 +9.2
KSH pmax pmax
comp=Z,7.0nm,0.9s
KSH pmax pmax
comp=Z,92nm,3.8s
PSI Prapat 50.18 239 LR LR 20 33 30.0
comp=Z,74nm,18.8s,baz=83,slow=36
USP Ospenovka 50.20 300 P P 20 11 47.5 +1.0
SNR=18
FRU1 Bishkek 50.23 299 eP P 20 11 47.3 +0.5
comp=Z,29nm,1.1s
FRU1 Bishkek 50.23 299 eP P 20 11 47.3 +0.5
FRU1 pmax pmax
comp=Z,29nm,1.1s
TOLK Toolik Lake Re 50.26 27 eP P 20 11 48.3 +1.7
comp=Z,16nm,1.4s
AAK Ala-Archa 50.37 299 P P 20 11 48.9 +0.9
SNR=9.5
AAK Ala-Archa 50.37 299 eP P 20 11 48.0 +0.1
comp=Z,9.9nm,0.9s
AAK Ala-Archa 50.37 299 ceP P 20 11 48.1 +0.1
AAK pmax pmax
comp=Z,15nm,1.3s
UCH Uchtor 50.46 299 P P 20 11 50.6 +1.6
SNR=10
RND Reindeer 50.48 33 eP P 20 11 49.7 +1.4
comp=Z,14nm,1.2s
RND Reindeer 50.48 33 eP P 20 11 49.7 +1.4
RND pmax pmax
comp=Z,14nm,1.2s
OTUK Ortayu 50.54 307 P P 20 11 48.7 -0.3
OTUK pmax pmax
comp=Z,30nm,1.0s
MDM Murphy Dome 50.72 31 eP P 20 11 51.5 +1.4
comp=Z,16nm,1.0s
WRH Wood River Hil 50.79 32 eP P 20 11 52.3 +1.7
comp=Z,8.9nm,1.1s
EKS2 Erkin-Say 50.87 299 P P 20 11 52.5 +0.8
SNR=11
COLA College 50.88 32 i P P 20 11 53.2 +2.0
COLA pmax pmax
comp=Z,5.0nm,1.0s
BVA0 Borovoye Array 50.89 313 P P 20 11 50.8 -0.7
BVA0 pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 50.94 313 eP P 20 11 51.7 -0.2
comp=Z,8.4nm,0.8s
BRVK Borovoye 50.94 313 ceP P 20 11 52.4 +0.5
BRVK pmax pmax
comp=Z,15nm,1.3s
AML Almayashu 51.07 299 P P 20 11 54.4 +0.9
SNR=37
HDA Harding Lake 51.28 32 eP P 20 11 54.5 +0.2
comp=Z,11nm,1.0s
ILAR Eielson Array 51.29 32 P P 20 11 54.9 +0.5
comp=Z,4.1nm,0.9s,baz=272,slow=6.2,SNR=29
ILB Eielson Array 51.29 32 eP P 20 11 54.7 +0.4
comp=Z,12nm,1.1s
IL1 Eielson Array 51.30 32 eP P 20 11 54.5 +0.1
ARSB Arslanbob 51.81 298 eP P 20 11 59.2 +0.4
comp=Z,49nm,1.4s
KLU Klutina 51.96 36 eP P 20 11 59.8 +0.3
comp=Z,14nm,1.2s
GSI Gunungsitoli 52.19 239 eP P 20 11 57.2 -4.4
comp=Z,16nm,0.8s
DOT Dot Lake 52.60 33 eP P 20 12 05.0 +0.8
comp=Z,20nm,1.7s
SCRK Sand Creek 52.61 33 eP P 20 12 05.2 +0.9
comp=Z,13nm,1.1s
MENT Mentasta 52.83 34 eP P 20 12 07.5 +1.7
comp=Z,10nm,1.1s
KK31 Karatay Array 53.05 301 eP P 20 12 08.0 +0.2
comp=Z,22nm,1.1s
KK31 Karatay Array 53.05 301 i P P 20 12 07.8 0.0
KK31 pmax pmax
comp=Z,19nm,1.1s
KKAR Karatay Array 53.05 301 eP P 20 12 07.7 -0.1
comp=Z,22nm,1.1s
KKAR Karatay Array 53.05 301 eP P 20 12 07.7 -0.1
KKAR pmax pmax
comp=Z,22nm,1.1s
EGAK Eagle 53.74 31 eP P 20 12 13.5 +1.1
comp=Z,11nm,1.3s
BTK Batken 53.77 297 eP P 20 12 10.0 -3.1
BTK Batken 53.77 297 eP P 20 12 10.0 -3.1
GAR Garm 54.48 296 eP P 20 12 17.7 -0.7
comp=Z,23nm,1.0s
GAR Garm 54.48 296 eP P 20 12 17.7 -0.7
GAR pmax pmax
comp=Z,23nm,1.0s
FITZ Fitzroy Crossi 55.08 197 eP P 20 12 22.9 +0.3
comp=Z,31nm,1.4s
EPYK Eagle Plains 55.32 29 eP P 20 12 25.9 +1.9
comp=Z,33nm,1.5s
WRAB Tennant Creek 55.42 187 ceP P 20 12 23.2 -1.9
WRAB pmax pmax
comp=Z,25nm,1.7s
WB2 Warramunga Arr 55.43 187 eP P 20 12 24.3 -0.8
WR1 Warramunga Arr 55.43 187 eP P 20 12 24.8 -0.4
comp=Z,65nm,1.8s
WRA Warramunga Arr 55.43 187 i P P 20 12 24.7 -0.4
WRA pmax pmax
comp=Z,4.0nm,0.3s
WRA Warramunga Arr 55.43 187 P P 20 12 24.8 -0.4
comp=Z,2.9nm,0.3s,baz=1.2,slow=7.7,SNR=177
SVE Sverdlovsk 55.65 319⇓ eP P 20 12 26.9 +0.5
SVE pmax pmax
comp=Z,22nm,1.0s
HYT Haines Junctio 56.09 36 eP P 20 12 32.4 +2.8
comp=Z,7.7nm,0.8s
INK Inuvik 56.18 27 eP P 20 12 31.3 +1.4
comp=Z,5.5nm,0.8s
INK Inuvik 56.18 27 eP P 20 12 31.3 +1.4
INK pmax pmax
comp=Z,5.0nm,0.8s
ARU Arti 56.86 319 eP P 20 12 34.4 -0.6
comp=Z,25nm,0.9s
ARU Arti 56.86 319 c i P P 20 12 34.9 -0.1
ARU 20 13 27.2
ARU 20 14 40.7
ARU S S 20 20 25.2 +1.5
ARU SS SS 20 24 10.7 -1.4
ARU pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 57.06 291 eP P 20 12 35.9 -1.1
comp=Z,13nm,1.1s
KBL Kabul 57.06 291 eP P 20 12 35.9 -1.1
KBL pmax pmax
comp=Z,13nm,1.1s
HYB Hyderabad 57.19 269 i P P 20 12 38.0 +0.1
AB31 Akbulak array 58.18 311 P P 20 12 43.7 -0.7
AB31 pmax pmax
comp=Z,21nm,1.0s
ABKAR Akbulak array 58.18 311 eP P 20 12 43.7 -0.6
comp=Z,22nm,1.0s
AS01 Alice Springs 59.16 187 eP P 20 12 50.7 -0.7
AS31 Alice Springs 59.16 187 eP P 20 12 51.4 0.0
comp=Z,1.6nm,0.6s
ASAR Alice Springs 59.16 187 P P 20 12 51.5 +0.1
comp=Z,1.2nm,0.4s,baz=13,slow=12,SNR=27
ASAR LR LR 20 38 10.2
comp=Z,54nm,20.4s,baz=310,slow=36
DZM Mont Dzumac 62.44 152 eLR LR 20 31 59.4
comp=Z,237nm,31.7s

LVZ Lovozero 63.10 336 ceP P 20 13 19.0 +1.4
LVZ pmax pmax
comp=Z,16nm,1.3s
TMCR Tamitsa 63.61 331 eP P 20 13 21.0 +0.1
TMCR pmax pmax
comp=Z,63nm,1.1s
GEYT Alibeck 63.72 299 P P 20 13 21.9 -0.3
comp=Z,2.2nm,0.6s,baz=29,slow=3.4,SNR=7.4
GEYT LR LR 20 42 48.5
comp=Z,96nm,19.1s,baz=280,slow=38
GYA0B ALIBECK ARRAY 63.72 299 eP P 20 13 22.4 +0.1
comp=Z,8.8nm,0.9s
RES Resolute Bay 64.31 14 eP P 20 13 25.9 +0.6
comp=Z,10nm,1.1s
RES Resolute Bay 64.31 14 eP P 20 13 25.9 +0.6
RES pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 64.52 328 eP P 20 13 25.7 -1.3
KLMR pmax pmax
comp=Z,23nm,1.1s
KLMR Klimovskoe 64.52 328 eP P 20 13 25.7 -1.3
KLMR AMP 20 13 27.9
comp=Z,23nm,1.1s
ARA0 ARCESS Array S 65.07 339 eP P 20 13 30.7 +0.3
ARCES ARCESS Array B 65.07 339 P P 20 13 30.7 +0.3
comp=Z,8.3nm,1.1s,baz=57,slow=6.4,SNR=12
YKW3 Yellowknife Ar 65.57 29 eP P 20 13 34.3 +0.6
comp=Z,7.1nm,1.4s
YKA Yellowknife Ar 65.61 29 P P 20 13 34.3 +0.4
comp=Z,2.0nm,0.9s,baz=297,slow=6.4,SNR=25
YKB5 Yellowknife Ar 65.61 29 eP P 20 13 34.3 +0.3
TULEG Thule 66.73 7 eP P 20 13 40.8 -0.2
comp=Z,21nm,1.1s
FORT Forrest 66.93 191 eP P 20 13 42.4 -0.3
comp=Z,114nm,1.9s
STKA Stephens Creek 67.05 179 eP P 20 13 43.4 0.0
comp=Z,12nm,2.0s
STKA Stephens Creek 67.05 179 P P 20 13 43.4 0.0
comp=Z,1.2nm,0.6s,baz=3.5,slow=5.5,SNR=5.3
DAG Danmarks Havn 67.20 355⇑ i P P 20 13 44.3 +0.4
comp=Z,17nm,1.1s
DAG Danmarks Havn 67.20 355⇑ i P P 20 13 44.3 +0.4
DAG pmax pmax
comp=Z,21nm,1.1s
MOS Moscow 67.89 323 eP P 20 13 47.8 -0.8
MOS e 20 14 12.6
MOS e 20 16 16.3
MOS pmax pmax
comp=Z,43nm,1.1s
VRH Novokhopyorsk 68.05 318 eP P 20 13 48.7 -1.0
VRH pmax pmax
comp=Z,20nm,0.8s
OBN Obninsk 68.73 323 d i P P 20 13 54.0 +0.2
OBN *SP pP 20 14 14.0 +3.5
OBN 20 14 23.0
OBN S S 20 22 54.0 +1.8
OBN pmax pmax
comp=Z,40nm,1.4s
OBN MLR MLR
comp=Z,96nm,17.0s
LPSR Galich'ya Gora 68.84 320 eP P 20 13 53.8 -0.8
LPSR pmax pmax
comp=Z,40nm,0.9s
VSR Storozhevoye 69.43 319 c i P P 20 13 58.0 -0.3
VSR pmax pmax
comp=Z,42nm,1.0s
FIA1 FINESS Array S 69.70 332 eP P 20 13 59.4 -0.4
FIA0 FINESS Array S 69.70 332 eP P 20 14 00.1 +0.4
FIA0 FINESS Array S 69.70 332 eP P 20 14 00.2 +0.4
FINES FINESS Array B 69.70 332 P P 20 14 00.1 +0.4
comp=Z,16nm,0.9s,baz=63,slow=8.8,SNR=36
FINES LR LR 20 46 26.6
comp=Z,75nm,18.8s,baz=46,slow=37
LTY Liberty 70.41 46 eP P 20 14 05.7 +1.2
comp=Z,11nm,1.3s
B08A Colville Reser 70.60 44 eP P 20 14 06.0 +0.4
comp=Z,20nm,1.4s
H04A Detroit Lake 70.83 48 eP P 20 14 09.6 +2.5
comp=Z,18nm,1.3s
KBZ Khabaz 71.15 311 LR LR 20 48 28.2
comp=Z,72nm,20.1s,baz=32,slow=38
VSU Vasula 71.27 329 deP P 20 14 09.9 +0.6
VSU pmax pmax
comp=Z,78nm,1.3s
VSU Vasula 71.27 329 eP P 20 14 09.6 +0.3
VSU lAmb lAmb 20 14 11.2
comp=Z,55nm,0.9s
C09A Chrisman Ranch 71.50 44 eP P 20 14 12.2 +1.2
comp=Z,21nm,1.3s
HAWA Hanford 71.53 46 eP P 20 14 12.4 +1.2
comp=Z,16nm,1.4s
D08A Wollman Farm, 71.53 45 eP P 20 14 12.7 +1.5
comp=Z,13nm,1.2s
GNI Garni 71.83 307 eP P 20 14 13.7 +0.4
comp=Z,13nm,1.0s
GNI Garni 71.83 307 ceP P 20 14 14.0 +0.7
GNI pmax pmax
comp=Z,85nm,1.3s
KHMM Horse Mountain 71.84 53 eP P 20 14 13.5 +0.2
comp=Z,34nm,1.8s
NEW Newport 71.89 43 eP P 20 14 14.2 +0.8
comp=Z,14nm,1.2s
NEW Newport 71.89 43 eP P 20 14 14.2 +0.8
NEW pmax pmax
comp=Z,14nm,1.2s
NEW Newport 71.89 43 P P 20 14 15.7 +2.2
comp=Z,6.1nm,1.0s,baz=302,slow=6.2,SNR=7.6
YBH Yreka Blue Hor 72.04 51 eP P 20 14 15.4 +0.9
comp=Z,8.7nm,1.3s
YBH Yreka Blue Hor 72.04 51 eP P 20 14 15.4 +0.9
YBH pmax pmax
comp=Z,9.0nm,1.3s
YBH Yreka Blue Hor 72.04 51 P P 20 14 17.2 +2.7
comp=Z,4.6nm,1.1s,baz=290,slow=2.9,SNR=6.9
PINE Pine Mountain 72.06 49 eP P 20 14 16.9 +2.2
comp=Z,26nm,1.3s
SUMG Summit 72.20 360 eP P 20 14 15.9 +0.6
comp=Z,19nm,1.0s
SUMG Summit 72.20 360 i P P 20 14 16.5 +1.3
comp=Z,52nm,1.0s
SUMG Summit 72.20 360 i P P 20 14 16.5 +1.3
SUMG pmax pmax
comp=Z,52nm,1.0s
E09A Wood Farm, Sta 72.27 45 eP P 20 14 17.4 +1.8
comp=Z,25nm,1.3s
G08A Pilot Rock 72.45 47 eP P 20 14 18.1 +1.2
comp=Z,8.8nm,1.4s
WDC Whiskeytown Da 72.76 52 eP P 20 14 20.1 +1.5
comp=Z,5.5nm,1.1s
WDC Whiskeytown Da 72.76 52 eP P 20 14 20.1 +1.5
WDC pmax pmax
comp=Z,6.0nm,1.1s
I07A Izee 72.78 48 eP P 20 14 19.4 +0.5
comp=Z,23nm,2.0s
F10A Beach Ranch, E 73.10 45 eP P 20 14 20.4 -0.3
comp=Z,5.2nm,1.0s
WALA Waterton Lakes 73.21 41 eP P 20 14 22.4 +1.0
comp=Z,14nm,0.7s
IDID Didziasalis 73.22 327 eP P 20 14 21.4 +0.4
IDID lAmb lAmb 20 14 23.1
comp=Z,8.0nm,0.8s
IIGN Ignalina 73.42 327 eP P 20 14 22.8 +0.5
IIGN lAmb lAmb 20 14 24.4
comp=Z,12nm,1.1s
MOD Modoc Plateau 73.47 50 eP P 20 14 24.0 +1.0
comp=Z,6.6nm,1.2s
SCO Scoresbysund 73.52 354 eP P 20 14 23.4 +0.9
comp=Z,18nm,1.2s
SCO Scoresbysund 73.52 354 i P P 20 14 24.0 +1.4
comp=Z,17nm,1.2s
SCO Scoresbysund 73.52 354 i P P 20 14 24.0 +1.4
SCO pmax pmax
comp=Z,17nm,1.2s
BMO Blue Mountains 73.67 46 eP P 20 14 25.4 +1.3
comp=Z,11nm,1.2s
BMO Blue Mountains 73.67 46 eP P 20 14 25.4 +1.3
BMO pmax pmax
comp=Z,11nm,1.2s
J08A Circle Bar Ran 73.81 48 eP P 20 14 25.5 +0.6
comp=Z,7.6nm,1.0s
MSO Missoula 74.48 43 eP P 20 14 30.0 +1.2
comp=Z,14nm,1.4s
BEKR Beckworth 74.55 52 eP P 20 14 29.9 +0.5
comp=Z,10.0nm,1.0s
SIRT Sirnak 74.76 305 eP P 20 14 30.4 -0.1
comp=Z,63nm,1.1s
AKASG Malin Array Be 74.90 322 P P 20 14 30.8 -0.1
comp=Z,52nm,1.2s,baz=48,slow=6.3,SNR=48
AKASG LR LR 20 50 18.7
comp=Z,118nm,18.1s,baz=50,slow=38
AKBB Malin Array Si 74.90 322 eP P 20 14 30.6 -0.4
comp=Z,24nm,0.9s
KIEV Kiev 74.91 322 eP P 20 14 29.6 -1.4
comp=Z,25nm,1.0s
KIEV Kiev 74.91 322 i P P 20 14 30.5 -0.5
KIEV pmax pmax
comp=Z,23nm,1.0s
AK11 Malin Array Si 74.94 322 eP P 20 14 30.2 -1.0
NC405 NORSAR Array S 74.99 337 eP P 20 14 30.9 -0.4
comp=Z,37nm,1.2s
NC303 NORSAR Array S 75.02 337 eP P 20 14 29.8 -1.6
comp=Z,21nm,1.1s
NC204 NORSAR Array S 75.17 337 eP P 20 14 31.9 -0.5
comp=Z,25nm,1.0s
NB201 NORSAR Array S 75.17 337 eP P 20 14 32.8 +0.4
comp=Z,45nm,1.3s
NB2 NORSAR Subarra 75.21 337 P P 20 14 32.5 -0.1
comp=Z,28nm,1.1s,baz=39,slow=5.9
NB2 NORSAR Subarra 75.21 337 P P 20 14 32.5 -0.1
baz=39,slow=5.9
NB200 NORSAR Array S 75.21 337 eP P 20 14 32.8 +0.1
NOA NORSAR Array B 75.21 337 P P 20 14 32.8 +0.1
comp=Z,12nm,1.0s,baz=39,slow=5.7,SNR=21
NOA LR LR 20 50 46.4
comp=Z,50nm,20.7s,baz=50,slow=38
FFC Flin Flon 75.50 32 eP P 20 14 34.1 -0.3
comp=Z,14nm,1.1s
FFC Flin Flon 75.50 32 i P P 20 14 35.7 +1.3
CMB Columbia Colle 75.55 54 eP P 20 14 36.1 +1.1
comp=Z,15nm,1.5s
CMB Columbia Colle 75.55 54 eP P 20 14 36.1 +1.1
CMB pmax pmax
comp=Z,15nm,1.5s
SUW Suwalki 75.64 327 eP P 20 14 35.5 +0.4
SUW Suwalki 75.64 327 eP P 20 14 34.9 -0.2
comp=Z,49nm,1.1s
SUW Suwalki 75.64 327 eP P 20 14 35.5 +0.4
SIM Simferopol' 75.72 315 ceP P 20 14 36.4 +0.6
SIM pmax pmax
comp=Z,18nm,0.9s
YERR Yerington 75.76 52 eP P 20 14 36.9 +0.5
comp=Z,17nm,1.4s
FCC Fort Churchill 75.79 26 eP P 20 14 36.4 +0.5
comp=Z,22nm,1.3s
FCC Fort Churchill 75.79 26 eP P 20 14 36.4 +0.5
FCC pmax pmax
comp=Z,22nm,1.3s
WAKR Walker 75.90 53 eP P 20 14 36.5 -0.8
comp=Z,16nm,1.7s
LRM Limekiln Ridge 75.91 43 eP P 20 14 36.1 -1.1
HLID Hailey 76.12 46 eP P 20 14 38.4 +0.1
comp=Z,7.4nm,1.3s
BMN Battle Mountai 76.22 50 eP P 20 14 41.4 +2.5
comp=Z,16nm,1.3s
BMN Battle Mountai 76.22 50 eP P 20 14 41.4 +2.5
BMN pmax pmax
comp=Z,16nm,1.3s
KVN Kaiserville 76.46 52 eP P 20 14 42.2 +1.8
comp=Z,15nm,1.3s
KVN Kaiserville 76.46 52 eP P 20 14 42.2 +1.8
KVN pmax pmax
comp=Z,15nm,1.3s
BOZ Bozeman (W) 76.51 43 eP P 20 14 42.2 +1.7
comp=Z,12nm,1.1s
BOZ Bozeman (W) 76.51 43 eP P 20 14 42.2 +1.7
BOZ pmax pmax
comp=Z,12nm,1.1s
NV01 Mina Array Sit 76.68 52 eP P 20 14 43.3 +1.6
NVAR Mina Array Bea 76.68 52 P P 20 14 43.5 +1.9
comp=Z,3.9nm,1.0s,baz=286,slow=5.8,SNR=17
NVAR LR LR 20 40 46.2
comp=Z,73nm,20.7s,baz=290,slow=30
NV11 Mina Array Sit 76.77 52 eP P 20 14 43.7 +1.6
comp=Z,1.0nm,1.4s
QLMT Earthquake Lak 77.08 44 eP P 20 14 45.6 +1.8
ELK Elko 77.27 49 eP P 20 14 46.5 +1.5
comp=Z,14nm,1.4s
ELK Elko 77.27 49 eP P 20 14 46.5 +1.5
ELK pmax pmax
comp=Z,14nm,1.4s
ELK Elko 77.27 49 P P 20 14 47.1 +2.1
comp=Z,2.5nm,0.9s,baz=292,slow=3.4,SNR=8.7
YHH Holmes Hill 77.44 44 eP P 20 14 47.6 +1.7
comp=Z,12nm,1.5s
YMR Madison River 77.44 44 eP P 20 14 45.9 0.0
comp=Z,14nm,1.4s
YNR Norris Junctio 77.58 44 eP P 20 14 49.6 +3.0
comp=Z,12nm,1.3s
YPP Pitchstone Pla 77.78 44 eP P 20 14 50.3 +2.5
comp=Z,10nm,1.4s
H17A Grant Village 77.83 44 eP P 20 14 51.1 +3.1
comp=Z,19nm,1.1s
IMW Indian Meadow 77.93 44 eP P 20 14 50.5 +1.8
comp=Z,9.3nm,1.1s
FLWY Flagg Ranch 77.95 44 eP P 20 14 51.3 +2.6
comp=Z,24nm,1.5s
LVV L'vov 78.03 324 eP P 20 14 48.8 +0.1
FXWY Fox Creek 78.04 45 eP P 20 14 50.7 +1.5
comp=Z,5.8nm,1.3s
RLMT Red Lodge 78.11 43 eP P 20 14 51.5 +1.9
comp=Z,14nm,1.4s
MOOW Moose Ponds 78.14 44 eP P 20 14 51.5 +1.8
comp=Z,12nm,1.5s
HVU Hansel Valley 78.15 47 eP P 20 14 49.2 -0.5
comp=Z,8.0nm,1.1s
HVU Hansel Valley 78.15 47 eP P 20 14 49.3 -0.5
HVU pmax pmax
comp=Z,8.0nm,1.1s
TPAW Teton Pass 78.18 45 eP P 20 14 50.0 +0.1
comp=Z,6.3nm,1.1s
BEL Belsk 78.18 326 eP P 20 14 50.5 +1.0
BEL Belsk 78.18 326 eP P 20 14 50.5 +1.0
ILGA Ilgaz 78.28 312 eP P 20 14 51.2 +0.7
comp=Z,18nm,1.1s
LOHW Long Hollow 78.30 44 eP P 20 14 52.4 +1.8
comp=Z,5.7nm,1.3s
REDW Red Top Meadow 78.31 45 eP P 20 14 52.0 +1.3
comp=Z,5.8nm,1.1s
BSD Bornholm Skovb 78.32 331 i P P 20 14 49.9 -0.2
comp=Z,33nm,1.1s
BSD Bornholm Skovb 78.32 331 i P P 20 14 49.9 -0.2
BSD pmax pmax
comp=Z,33nm,1.1s
DAC Darwin (Calif) 78.38 54 eP P 20 14 52.9 +1.8
comp=Z,5.0nm,1.1s
DAC Darwin (Calif) 78.38 54 eP P 20 14 52.9 +1.8
DAC pmax pmax
comp=Z,5.0nm,1.1s
R11A Troy Canyon, C 78.47 51 eP P 20 14 52.9 +1.4
comp=Z,14nm,1.4s
BGU Big Grassy Mou 78.51 48 eP P 20 14 52.9 +1.2
comp=Z,7.2nm,1.3s
PRAR RASCA 78.54 321⇓ i P P 20 14 52.8 +1.2
GKP Gorka Klasztor 78.72 329 eP P 20 14 52.9 +0.5
GKP Gorka Klasztor 78.72 329 eP P 20 14 52.9 +0.5
KWP Kalwaria Pacla 78.79 324 eP P 20 14 54.0 +1.0
KWP Kalwaria Pacla 78.79 324 eP P 20 14 53.9 +1.0
comp=Z,488nm,1.0s
KWP Kalwaria Pacla 78.79 324 eP P 20 14 53.9 +1.0
KWP pmax pmax
comp=Z,488nm,1.0s
TPNV Topopah Spring 78.86 53 eP P 20 14 55.5 +1.8
comp=Z,18nm,1.4s
TESR Tescani 78.87 320⇑ i P P 20 14 54.4 +1.0
BIZ Bicaz 78.88 320⇑ i P P 20 14 54.3 +0.9
BUR08 Bucovina Ar. S 78.88 321 eP P 20 14 53.8 +0.2
comp=Z,10nm,1.0s
BURAR Bucovina Array 78.89 321⇑ i P P 20 14 54.3 +0.7
BURAR Bucovina Array 78.89 321 ⇑ P P 20 14 54.3 +0.7
CFR Carcaliu 78.93 318 ‖ i P P 20 14 54.2 +0.5
CFR Carcaliu 78.93 318 ‖ P P 20 14 54.2 +0.5
HWUT Hardware Ranch 78.97 47 eP P 20 14 55.3 +1.0
comp=Z,10nm,1.1s
PETR Petresti 79.07 319⇑ i P P 20 14 55.1 +0.6
DUG Dugway, Tooele 79.08 48 eP P 20 14 55.2 +0.3
comp=Z,16nm,1.3s
DUG Dugway, Tooele 79.08 48 eP P 20 14 55.2 +0.3
DUG pmax pmax
comp=Z,16nm,1.3s
BR101 Keskin Array S 79.12 311 eP P 20 14 56.0 +0.9
BR131 Keskin Array S 79.12 311 eP P 20 14 55.3 +0.2
comp=Z,12nm,1.1s
BRTR Keskin Array B 79.12 311 P P 20 14 56.0 +0.9

comp=Z,5.7nm,1.0s,baz=94,slow=3.7,SNR=27
ODBI Odobesti 79.14 319⇑ iP P 20 14 56.5 +1.6
VRI Vrincioaia 79.25 319⇑ iP P 20 14 56.9 +1.4
VRI Vrincioaia 79.25 319 ⇑P P 20 14 56.9 +1.4
PLOR Plostina 79.30 319⇑ iP P 20 14 57.1 +1.3
PLOR Plostina 79.30 319 ⇑P P 20 14 57.1 +1.3
TLB Topalu 79.36 318⇑ iP P 20 14 57.1 +1.0
TLB Topalu 79.36 318 ⇑P P 20 14 57.1 +1.0
TCUT Toone Canyon 79.37 47 eP P 20 14 56.6 +0.1
comp=Z,30nm,1.4s
MUD Monsted U'grnd 79.42 335 i P P 20 14 57.2 +1.1
comp=Z,29nm,1.1s
MUD Monsted U'grnd 79.42 335 i P P 20 14 57.2 +1.1
MUD pmax pmax
comp=Z,29nm,1.1s
BW06 Boulder Array 79.42 45 eP P 20 14 57.6 +0.8
comp=Z,10nm,1.5s
PD31 Pinedale Array 79.42 45 eP P 20 14 56.3 -0.5
comp=Z,8.4nm,1.5s
PDAR Pinedale Array 79.42 45 eP P 20 14 57.3 +0.5
PDAR Pinedale Array 79.42 45 P P 20 14 57.9 +1.1
comp=Z,0.8nm,0.6s,baz=298,slow=3.2,SNR=11
PSUT Pine Spring 79.45 50 eP P 20 14 58.4 +1.5
comp=Z,14nm,1.4s
GSC Goldstone, Bar 79.47 54 eP P 20 14 58.6 +1.6
comp=Z,8.0nm,1.3s
OZUR 79.60 320⇓ iP P 20 14 59.0 +1.6
JLU Jordanelle 79.66 47 eP P 20 14 58.9 +0.7
comp=Z,6.6nm,1.1s
UZH Uzhgorod 79.67 323⇑ iP P 20 14 59.0 +1.3
UZH i 20 15 16.9
NLU North Lily Min 79.68 48 eP P 20 14 57.9 -0.3
comp=Z,8.3nm,1.2s
ARCR ARCALIA 79.68 321⇑ iP P 20 14 59.8 +2.0
OJC Ojcow 79.75 326 eP P 20 14 58.7 +0.6
OJC Ojcow 79.75 326 eP P 20 14 58.2 +0.1
comp=Z,34nm,1.1s
OJC Ojcow 79.75 326 eP P 20 14 58.7 +0.6
SHPR Sheep Range 79.83 52 eP P 20 14 59.6 +0.6
comp=Z,16nm,1.4s
DOPR Dopca 79.89 320⇑ iP P 20 15 01.0 +2.0
TRPA Tarpa 79.89 323⇓ iP P 20 15 00.2 +1.3
TRPA Tarpa 79.89 323⇓ eP P 20 14 59.1 +0.2
MLR Muntele Rosu 79.91 319 eP P 20 15 00.2 +1.0
comp=Z,5.5nm,1.0s
MLR Muntele Rosu 79.91 319⇑ iP P 20 15 00.3 +1.0
MLR Muntele Rosu 79.91 319 ⇑P P 20 15 00.3 +1.0
MPU Maple Canyon 79.91 48 eP P 20 15 01.2 +1.7
comp=Z,23nm,1.4s
NIE Niedzica 80.08 325 eP P 20 15 00.9 +1.0
NIE Niedzica 80.08 325 eP P 20 15 01.0 +1.0
SECR 80.14 319⇑ iP P 20 15 02.8 +2.5
CJR Cluj-Napoca 80.32 321⇑ iP P 20 15 03.1 +1.8
CJR Cluj-Napoca 80.32 321 ⇑P P 20 15 03.1 +1.8
RAYN Ar Rayn 80.33 292 eP P 20 15 00.3 -1.4
comp=Z,11nm,1.1s
RAYN Ar Rayn 80.33 292 eP P 20 15 00.3 -1.4
RAYN pmax pmax
comp=Z,11nm,1.1s
CCUT Cedar City 80.35 51 eP P 20 15 04.1 +2.2
comp=Z,11nm,1.4s
VOIR 80.42 320⇑ iP P 20 15 03.2 +1.3
VOIR 80.42 320 ⇑P P 20 15 03.2 +1.3
SZCU Shurtz Canyon 80.50 50 eP P 20 15 04.1 +1.4
comp=Z,7.1nm,1.2s
MSU Marysvale 80.50 49 eP P 20 15 05.1 +2.4
TMUT Trail Mountain 80.61 48 eP P 20 15 05.9 +2.5
comp=Z,11nm,1.2s
LANS Liptovska Anna 80.66 325 eP P 20 15 04.9 +1.8
LANS Liptovska Anna 80.66 325 eP P 20 15 04.9 +1.8
ARR Arges 80.68 320⇓ iP P 20 15 04.9 +1.6
PFO Pinyon Flats O 80.69 55 eP P 20 15 04.2 +0.6
comp=Z,18nm,1.4s
PFO Pinyon Flats O 80.69 55 eP P 20 15 04.3 +0.6
PFO pmax pmax
comp=Z,18nm,1.4s
XPFO Pion Flat 80.70 55 eP P 20 15 03.9 +0.2
comp=Z,22nm,1.4s
DRGR 80.71 322⇓ iP P 20 15 04.3 +0.8
DRGR 80.71 322 ⇓P P 20 15 04.3 +0.8
LCMT Little Creek M 80.75 51 eP P 20 15 05.0 +1.1
comp=Z,14nm,1.2s
OKC Ostrava-Krasne 80.78 326 eP P 20 15 04.6 +1.0
OKC Ostrava-Krasne 80.78 326 eP P 20 15 04.6 +1.0
P17A Butcher Ranch, 80.79 48 eP P 20 15 05.9 +1.7
comp=Z,24nm,1.3s
MTPU Mount Pierson 80.79 50 eP P 20 15 06.0 +1.6
comp=Z,16nm,1.4s
Q16A Castle Valley 80.87 48 eP P 20 15 05.9 +1.3
comp=Z,26nm,1.5s
KSP Ksiaz 80.87 328 eP P 20 15 04.9 +0.8
KSP Ksiaz 80.87 328 eP P 20 15 04.9 +0.8
BSEG Bad Segeberg 80.97 333 eP P 20 15 05.4 +0.9
comp=Z,14nm,1.0s,baz=38,slow=5.1
P18A Preston Nutter 80.99 47 eP P 20 15 07.2 +1.8
comp=Z,16nm,1.3s
KNB Kanab 81.02 51 eP P 20 15 07.1 +1.7
comp=Z,22nm,1.2s
HUMR Humele 81.06 319⇓ iP P 20 15 04.9 -0.3
MORC Moravsky Berou 81.09 326 eP P 20 15 05.5 +0.2
comp=Z,11nm,1.0s
MORC Moravsky Berou 81.09 326⇑ iP P 20 15 05.6 +0.2
MORC Moravsky Berou 81.09 326 ⇑P P 20 15 05.6 +0.2
MORC Moravsky Berou 81.09 326 eP P 20 15 06.2 +0.8
SRU San Rafael Swe 81.14 48 eP P 20 15 07.2 +1.2
comp=Z,17nm,1.4s
KRLC Kraliky 81.22 327 eP P 20 15 06.9 +0.9
KRLC Kraliky 81.22 327 eP P 20 15 06.9 +0.9
DPC Dobruska-Polom 81.22 327 eP P 20 15 07.0 +0.9
DPC Dobruska-Polom 81.22 327 eP P 20 15 07.0 +0.9
UPC Upice 81.24 328 eP P 20 15 07.0 +0.9
UPC Upice 81.24 328 eP P 20 15 07.0 +0.9
ULM Lac du Bonnet 81.30 33 eP P 20 15 06.4 0.0
comp=Z,20nm,1.5s
ULM Lac du Bonnet 81.30 33 eP P 20 15 06.4 0.0
ULM pmax pmax
comp=Z,20nm,1.5s
ULM Lac du Bonnet 81.30 33 P P 20 15 06.1 -0.3
comp=Z,3.2nm,0.9s,baz=240,slow=7.0,SNR=4.6
PSZ Piszkesteto 81.32 324 eP P 20 15 06.7 +0.1
comp=Z,19nm,1.1s
PSZ Piszkesteto 81.32 324⇑ iP P 20 15 08.3 +1.6
PSZ Piszkesteto 81.32 324 ⇑P P 20 15 08.3 +1.6
PSZ Piszkesteto 81.32 324⇓ eP P 20 15 07.1 +0.4
VYHS Vyhne 81.42 325 eP P 20 15 07.9 +0.8
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 81.42 325 eP P 20 15 07.9 +0.8
W13A Hualapai Mount 81.50 53 eP P 20 15 08.9 +0.8
comp=Z,6.6nm,1.4s
PHSR Pinarhisar 81.56 316⇓ iP P 20 15 08.9 +1.0
RSSD Black Hills 81.61 41 eP P 20 15 08.9 +0.5
comp=Z,14nm,1.6s
RSSD Black Hills 81.61 41 eP P 20 15 08.9 +0.5
RSSD pmax pmax
comp=Z,14nm,1.6s
GZR Gura Zlata 81.63 321⇓ iP P 20 15 09.1 +0.7
GZR Gura Zlata 81.63 321 ⇓P P 20 15 09.1 +0.7
JAVC Velka Javorina 81.69 326 eP P 20 15 10.4 +1.8
U15A North Rim 81.71 51 eP P 20 15 10.4 +1.2
comp=Z,22nm,1.6s
VLAD Vladila 81.72 319⇑ iP P 20 15 09.3 +0.6
PVCC Panska Ves 81.85 328 eP P 20 15 10.4 +1.1
PVCC Panska Ves 81.85 328 eP P 20 15 10.4 +1.1
BRG Berggiesshubel 81.86 329 eP P 20 15 09.7 +0.4
comp=Z,11nm,1.1s
BRG Berggiesshubel 81.86 329 eP P 20 15 10.1 +0.8
comp=Z,11nm,1.1s,baz=38,slow=5.1
BRG Berggiesshubel 81.86 329 eP P 20 15 09.7 +0.4
BRG pmax pmax
comp=Z,11nm,1.1s
VRAC Vranov 81.86 327⇑ iP P 20 15 10.0 +0.6
VRAC Vranov 81.86 327 ⇑P P 20 15 10.0 +0.6
VRAC Vranov 81.86 327 eP P 20 15 10.4 +1.0
CLL Collm 81.92 330 eP P 20 15 09.3 -0.4
comp=Z,16nm,1.0s
CLL Collm 81.92 330 eP P 20 15 10.2 +0.5
comp=Z,19nm,1.1s,baz=38,slow=5.1
CLL Collm 81.92 330 i P P 20 15 09.1 -0.6
comp=Z,19nm,1.1s
CLL i 20 15 19.6
CLL e(PP) 20 18 23.0
CLL LmV 20 56 00.0
comp=Z,100nm,19.8s
CLL Collm 81.92 330 i P P 20 15 09.1 -0.6
CLL pmax pmax
comp=Z,19nm,1.1s
FBE Freiberg 82.07 329 eP P 20 15 11.4 +1.0
comp=Z,35nm,1.4s,baz=38,slow=5.1
BZS Buzias 82.07 322⇑ iP P 20 15 10.3 -0.3
BZS Buzias 82.07 322 ⇑P P 20 15 10.3 -0.3
KRUC Moravsky 82.13 327 eP P 20 15 11.3 +0.5
NRDL Niedersach Rie 82.17 332 eP P 20 15 11.4 +0.6
comp=Z,22nm,1.7s,baz=38,slow=5.1
HERR Herculane 82.17 321⇑ iP P 20 15 09.7 -1.4
GOPC GO Pecny, Ondr 82.21 328 eP P 20 15 11.3 +0.1
GOPC GO Pecny, Ondr 82.21 328 eP P 20 15 11.3 +0.1
MODS Modra-Piesok 82.23 326 eP P 20 15 12.8 +1.4
MODS pmax pmax
comp=Z,12nm,1.1s
MODS Modra-Piesok 82.23 326 eP P 20 15 12.8 +1.4
RETH Rethem/Aller, 82.26 332 eP P 20 15 12.1 +0.8
comp=Z,20nm,1.2s,baz=38,slow=5.1
PRU Pruhonice 82.26 328 eP P 20 15 12.2 +0.7
PRU Pruhonice 82.26 328 eP P 20 15 12.2 +0.7
TREC Trest 82.36 327 eP P 20 15 12.9 +0.8
TREC Trest 82.36 327 eP P 20 15 12.9 +0.8
PV09 Paradox Valley 82.37 48 eP P 20 15 14.5 +1.8
PV21 Cone Mtn., Par 82.43 48 eP P 20 15 14.2 +1.3
comp=Z,20nm,1.3s
PV23 Carpenter Ridg 82.48 48 eP P 20 15 14.4 +1.2
comp=Z,27nm,1.2s
NEUB Neuenburg 82.50 330 eP P 20 15 13.4 +0.8
comp=Z,23nm,1.1s,baz=38,slow=5.1
PV10 Paradox Valley 82.51 48 eP P 20 15 15.8 +2.4
comp=Z,52nm,1.4s
PV14 Lion Creek, Pa 82.52 48 eP P 20 15 14.6 +1.2
comp=Z,32nm,1.3s
CLZ Clausthal 82.57 331 eP P 20 15 14.0 +0.9
comp=Z,23nm,1.3s,baz=38,slow=5.1
PV20 West Nyswonger 82.57 48 eP P 20 15 15.3 +1.7
comp=Z,45nm,1.4s
PV04 Paradox Valley 82.58 48 eP P 20 15 15.3 +1.7
comp=Z,30nm,1.3s
PV19 Morning Glory 82.58 48 eP P 20 15 15.3 +1.7
comp=Z,24nm,1.3s
PV17 East Wray Mesa 82.62 48 eP P 20 15 15.5 +1.7
comp=Z,46nm,1.3s
PV16 Nyswonger Mesa 82.62 48 eP P 20 15 14.2 +0.3
comp=Z,35nm,1.4s
PV11 David Mesa, Pa 82.66 48 eP P 20 15 14.1 0.0
comp=Z,35nm,1.3s
PV05 Paradox Valley 82.66 48 eP P 20 15 15.6 +1.5
comp=Z,40nm,1.3s
PV12 Saucer Basin, 82.69 48 eP P 20 15 16.3 +2.0
comp=Z,36nm,1.4s
N23A Red Feather La 82.69 44 eP P 20 15 16.0 +1.7
comp=Z,17nm,1.2s
PV03 Paradox Valley 82.70 48 eP P 20 15 15.7 +1.4
comp=Z,25nm,1.3s
PV13 Radium Mtn., P 82.78 48 eP P 20 15 16.2 +1.5
comp=Z,33nm,1.3s
Y14A Wickenburg 82.79 53 eP P 20 15 16.4 +1.8
comp=Z,12nm,1.4s
PV02 Paradox Valley 82.80 48 eP P 20 15 15.6 +0.8
comp=Z,23nm,1.3s
TANN Tannenbergstha 82.82 329 eP P 20 15 15.1 +0.6
baz=38,slow=5.1
WUAZ Wupatki 82.86 51 eP P 20 15 16.8 +1.7
comp=Z,14nm,1.1s
PV15 Paradox Valley 82.87 48 eP P 20 15 14.7 -0.5
comp=Z,17nm,1.3s
PLN Plauen 82.89 330 eP P 20 15 15.7 +0.9
baz=38,slow=5.1
PV01 Paradox Valley 82.95 48 eP P 20 15 16.3 +0.7
comp=Z,20nm,1.3s
WERN Wernitzgruen 82.95 329 eP P 20 15 16.0 +0.8
comp=Z,15nm,1.4s,baz=38,slow=5.1
GTTG Gvttingen 82.96 331 eP P 20 15 16.0 +0.9
comp=Z,202nm,2.9s,baz=38,slow=5.1
NKC Novy Kostel 82.97 329 eP P 20 15 15.9 +0.7
NKC Novy Kostel 82.97 329 eP P 20 15 15.9 +0.7
MOX Moxa 83.00 330 eP P 20 15 15.9 +0.6
baz=38,slow=5.1
MORH Mrgy, Hungar 83.13 323 eP P 20 15 05.1 -11
CONA Conrad Observa 83.20 326 i PcP P 20 15 18.1 +1.6
comp=Z,17nm,1.4s,SNR=9.0
SMCO Snowmass 83.22 46 eP P 20 15 18.9 +1.7
comp=Z,14nm,1.5s
VTS Vitosha 83.28 319⇑ iP P 20 15 18.1 +1.0
VTS Vitosha 83.28 319 ⇑P P 20 15 18.1 +1.0
MANZ Manzenberg 83.30 329 eP P 20 15 17.7 +0.8
baz=38,slow=5.1
KHC Kasperske Hory 83.32 328 eP P 20 15 15.3 -1.7
comp=Z,6.5nm,1.2s
KHC Kasperske Hory 83.32 328 eP P 20 15 17.8 +0.8
KHC ex x 20 15 27.9
KHC epP **pP 20 15 35.5 +1.3**
KHC Kasperske Hory 83.32 328 eP P 20 15 17.8 +0.8
KHC e 20 15 35.5
ROTZ Rotzenmuhle 83.42 329 eP P 20 15 18.6 +1.1
baz=38,slow=5.1
GEC2 GERESS Array S 83.48 328 eP P 20 15 17.2 -0.7
comp=Z,6.5nm,1.0s
GEC2 GERESS Array S 83.48 328 eP P 20 15 18.5 +0.5
baz=38,slow=5.1
GEC2 GERESS Array S 83.48 328 eP P 20 15 17.3 -0.7
GEC2 pmax pmax
comp=Z,7.0nm,1.0s
GERES GERESS Array B 83.48 328 P P 20 15 17.8 -0.2
comp=Z,1.6nm,0.7s,baz=39,slow=5.3,SNR=16
GERES LR LR 20 54 04.9
comp=Z,63nm,19.7s,baz=52,slow=37
GEA0 GERESS Array S 83.49 328 eP P 20 15 18.0 0.0
X16A Lo Mia Camp, P 83.51 52 eP P 20 15 20.5 +2.1
comp=Z,12nm,1.1s
UBBA Unterbreizbach 83.51 331 eP P 20 15 18.4 +0.6
baz=38,slow=5.1
WET Wettzell 83.61 328 eP P 20 15 19.5 +1.0
baz=38,slow=5.1
ARSA Arzberg 83.85 326 i PcP P 20 15 20.8 +1.1
comp=Z,13nm,1.5s
GRA1 Grafenberg Arr 83.89 329 eP P 20 15 19.0 -0.9
comp=Z,34nm,1.3s
GRF Grafenberg Arr 83.89 329 eP P 20 15 21.0 +1.1
baz=38,slow=5.1
GRF Grafenberg Arr 83.89 329 eP P 20 15 19.0 -0.9
GRF pmax pmax
comp=Z,34nm,1.3s
GRFO Grafenberg 83.89 329 eP P 20 15 18.9 -1.0
comp=Z,38nm,1.4s
DIVS Divibare 83.96 321 eP P 20 15 20.3 -0.2
comp=Z,17nm,1.1s
MOA Molln 83.98 327 i PcP P 20 15 21.3 +0.9
comp=Z,14nm,1.1s,SNR=5.5
S22A 4UR Ranch, Cre 84.24 47 eP P 20 15 24.1 +1.8
comp=Z,18nm,1.4s
X18A Snowflake 84.39 51 eP P 20 15 24.6 +1.6
comp=Z,10nm,1.3s
PMOR Pomariorio Ree 84.48 113 eT T 21 48 00.5
comp=Z,4.8nm,0.2s
PERS Pernice 84.50 326 i P P 20 15 23.4 +0.3
SOKA Soboth 84.50 326 i PcP P 20 15 23.5 +0.4
comp=Z,26nm,1.2s,SNR=12
PPT Papeete 84.84 116 LR LR 20 55 16.1
comp=Z,44nm,18.6s,baz=320,slow=37
PPT2 Papeete2 84.85 116 eLR LR 20 42 03.2
comp=Z,367nm,32.0s
AHRW Bad Neuenahr-A 84.87 332 eP P 20 15 25.5 +0.7
baz=38,slow=5.1
KBA Koelnbreinsper 84.97 327 i PcP P 20 15 27.6 +2.0
comp=Z,5.5nm,0.9s
SDCO Great Sand Dun 85.03 46 eP P 20 15 28.1 +1.8
comp=Z,8.7nm,1.3s
FUR Furstenfeldbru 85.05 328 eP P 20 15 26.6 +0.8
baz=38,slow=5.1
MYKA Terra Mystica 85.18 326 i P P 20 15 26.6 0.0
comp=Z,2.6nm,0.6s
MEM Membach 85.22 333 ⇓P P 20 15 26.8 +0.3
MEM Membach 85.22 333 ⇓pP pP 20 15 45.1 +1.3
TUC Tucson 85.26 53 eP P 20 15 27.6 +0.4
comp=Z,4.8nm,1.1s
TUC Tucson 85.26 53 eP P 20 15 27.6 +0.4
TUC pmax pmax
comp=Z,5.0nm,1.1s
STU Stuttgart 85.44 330 eP P 20 15 28.4 +0.7
baz=38,slow=5.1
CEY Cerknica 85.48 325 i P P 20 15 27.7 -0.3
ABTA Abfaltersbach 85.59 327 i P P 20 15 28.3 -0.3
comp=Z,8.2nm,1.1s
MOTA Moosalm 85.75 328 i PcP P 20 15 30.9 +1.4
comp=Z,4.1nm,0.9s
RETA Reutte 85.79 328 i PcP P 20 15 30.5 +0.9
comp=Z,8.7nm,1.1s
SQTA Sankt Quirin 85.80 328 i PcP P 20 15 30.2 +0.5
comp=Z,9.3nm,1.4s
WLF Walferdange 85.93 332 eP P 20 15 30.6 +0.4
baz=38,slow=5.1
WLF Walferdange 85.93 332 ⇑P P 20 15 30.5 +0.4
WLF ⇑pP **pP 20 15 47.4 0.0**
T25A Trinidad 86.08 46 eP P 20 15 32.2 +0.8
comp=Z,11nm,1.1s
BFO Black Forest 86.14 330 eP P 20 15 30.9 -0.3
comp=Z,22nm,1.3s
BFO Black Forest 86.14 330 eP P 20 15 31.7 +0.4
baz=38,slow=5.1
BFO Black Forest 86.14 330 i P P 20 15 32.1 +0.9
FETA Feichten 86.17 328 i P P 20 15 29.8 -1.7
comp=Z,11nm,1.4s
ANMO Albuquerque 86.31 49 eP P 20 15 33.3 +0.8
comp=Z,9.3nm,1.3s
ANMO Albuquerque 86.31 49 eP P 20 15 33.3 +0.8
ANMO pmax pmax
comp=Z,9.0nm,1.3s
DAVA Damuels 86.32 329 i PcP P 20 15 33.0 +0.7
comp=Z,14nm,1.4s
FUORN Ofenpass-Fuorn 86.68 328 eP P 20 15 34.0 -0.2
comp=Z,15nm,1.0s
TBI Tubuai 88.60 120 eLR LR 20 43 41.4
comp=Z,154nm,33.0s
TX31 Lajitas Ar. Si 91.82 52 eP P 20 15 59.4 +0.8
TXAR Lajitas Array 91.82 52 P P 20 15 59.9 +1.4
comp=Z,3.1nm,1.1s,baz=298,slow=2.7,SNR=16
TXAR LR LR 20 51 31.5
comp=Z,38nm,21.6s,baz=0.0,slow=32
TOA1 Torodi Ar. Sit 117.69 313 ePKPdf PKPdf 20 21 36.7 +0.1
TOA0 Torodi Ar. Sit 117.69 313 ePKPdf PKPdf 20 21 35.7 -1.0
TORD Torodi Ar. Bea 117.69 313 PKP PKPdf 20 21 36.7 +0.1
comp=Z,0.4nm,0.5s,baz=358,slow=1.8,SNR=4.4
LPAZ La Paz 148.29 60 ePKPdf PKPdf 20 22 34.7 +0.7
LPAZ La Paz 148.29 60 PKPbc PKPdf 20 22 35.5 +1.5
comp=Z,2.4nm,0.8s,baz=321,slow=2.5,SNR=7.5
MNMC Minye Minye 149.06 66 ePKPbc PKiKP 20 22 40.4 +0.3
PB11 IPOC Station P 149.39 67 ePKPbc PKiKP 20 22 40.9 +0.2
LVC Limon Verde 151.60 71 PKPbc PKPbc 20 22 44.5 -0.5
comp=Z,4.6nm,1.0s,baz=271,slow=5.3,SNR=2.1
SIV San Ignacio 152.81 50 PKPbc PKiKP 20 22 47.9 +0.3
comp=Z,2.2nm,0.9s,baz=0.0,slow=3.0,SNR=4.8

DDA ***13*** *20:11:40.3, 36.˚64N×43.˚39E, h10km±2km, ML2.8*
ISN ***13*** *20:11:40.2±0.3, 36.˚70N×43.˚27E, h19km, ML2.3*
ISK ***13*** *20:11:42.9, 36.˚90N×43.˚39E, h5km, ML2.3/6*
ISC 13 20:11:38.9±1.4, 36.59N±0.03×43.41E±0.05, h3km±12km,
n13, σ0.87/21, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSL	**Mosul**	**0.31**	**233**	**ePg**		**Pb**	**20 11 47.0**	**0.0**
	baz=24							
MSL				*e*Sg		**Sb**	**20 11 52.0**	**-0.4**
CUKT	**Cukurca**	**0.68**	**13**	PG		**Pg**	**20 11 51.7**	**-0.2**
CUKT	**Cukurca**	**0.68**	**13**	*i* P		**Pb**	**20 11 52.5**	**-0.9**
CUKT				*i* S		**Sb**	**20 12 03.3**	**+0.1**
CUKT				IAML_P				
	comp=Z,1μm,0.1s							
SIRT	**Sirnak**	**1.20**	**320**	PG		**Pn**	**20 12 02.4**	**-0.2**
SIRT				SG		**Sg**	**20 12 17.2**	**-0.2**
SIRN	**Sırnak**	**1.21**	**319**	*i* P		**Pn**	**20 12 03.7**	**+0.9**
SIRN				*i* S		**Sn**	**20 12 19.0**	**-0.8**
SIRN				IAML_P				
	comp=Z,1μm,0.2s							
IKRK	**Kirkuk**	**1.40**	**147**	*e*Pn		**Pg**	**20 12 05.0**	**-0.7**
IKRK				*e*Sn		**Sn**	**20 12 26.0**	**+1.6**
GEVA	**Gevas**	**1.75**	**351**	*i* P		**Pg**	**20 12 13.0**	**+0.7**
GEVA				*i* S		**Sg**	**20 12 36.5**	**+1.5**
GEVA				IAML_P				
	comp=Z,300nm,0.3s							
AKDM	**Akdamar-Van**	**1.77**	**349**	PN		**Pb**	**20 12 11.7**	**-0.4**
SRTM	**Siirt_Merkez**	**1.84**	**320**	*i* P		**Pg**	**20 12 13.9**	**-0.2**
SRTM				*i* S		**Sg**	**20 12 39.4**	**+1.5**
SRTM				IAML_P				
	comp=Z,778nm,0.2s							
VANB	**Van**	**2.00**	**359**	PN		**Pn**	**20 12 13.6**	**-0.1**
BTMN	**Batman**	**2.15**	**308**	*i* P		**Pg**	**20 12 20.2**	**+0.2**
BTMN				*i* S		**Sg**	**20 12 47.5**	**-0.4**
BTMN				IAML_P				
	comp=Z,96nm,0.2s							
GURO	**Guroymak-BITLI**	**2.25**	**331**	PN		**Pb**	**20 12 18.9**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.35**	**312**	PN		**Pb**	**20 12 21.4**	**-0.6**

MOS ***13*** *20:13:23.0±2.0, 44.˚63N×41.˚62E, h9km, mb4.1/1, Error ellipse: s-maj=8.7km s-min=5.0km az=126.6*
NORS ***13*** *20:13:24.1±0.0, 44.˚32N×41.˚75E, h3km, MPVA4.5*
ISC 13 20:13:23.6±1.0, 44.48N±0.02×41.70E±0.02, h9km±8km,
n74, σ1.926/128, 10C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NVNR	**Nevinnomyssk**	**0.24**	**54**	*i* Pg		**Pg**	**20 13 27.9**	**-0.5**
NVNR				*i* Sg		**Sg**	**20 13 30.9**	**-0.7**
KIV	**Kislovodsk**	**0.88**	**126**	*e*P		**Pg**	**20 13 41.2**	**+0.7**
KIV	**Kislovodsk**	**0.88**	**126**	⇑*i*PG		**Pg**	**20 13 41.2**	**+0.7**
KIV				*i* S		**Sn**	**20 13 53.3**	**-1.9**
KIV	**Kislovodsk**	**0.88**	**126**	*e*Pg		**Pb**	**20 13 41.0**	**-0.1**
KIV0	**Kislovodsk Arr**	**0.89**	**125**	*i* Pg		**Pb**	**20 13 41.2**	**0.0**
KIV0				*e*Sg		**Sg**	**20 13 53.1**	**+1.0**
BEYR	**Belyy Ugol+**	**0.93**	**119**	⇑*i*PG		**Pb**	**20 13 42.0**	**+0.1**
BEYR				*i* S		**Sg**	**20 13 54.4**	**+0.9**
BEYR	**Belyy Ugol+**	**0.93**	**119**	*i* Pg		**Pb**	**20 13 42.0**	**+0.1**
BEYR				*i* Sg		**Sg**	**20 13 54.4**	**+0.9**
ARXR	**Arkhyz**	**0.96**	**199**	*e*Pg		**Pn**	**20 13 43.0**	**-0.4**
ARXR				*e*Sg		**Sn**	**20 13 57.7**	**+0.5**
SHA1	**Shidzhatmaz**	**1.01**	**136**	⇑*i*PG		**Pn**	**20 13 43.8**	**-0.3**
SHA1				*e*S		**Sn**	**20 13 57.8**	**-0.8**
SHA1	**Shidzhatmaz**	**1.01**	**136**	*i* Pg		**Pn**	**20 13 43.8**	**-0.3**
SHA1				*i* Pg		**Pn**	**20 13 43.8**	**-0.3**
SHA1				*i* Sg		**Sn**	**20 13 57.7**	**-0.8**
SHA1				*e*Sg		**Sn**	**20 13 57.8**	**-0.8**
PYA1	**Pyatigorsk**	**1.09**	**112**	⇑*i*PG		**Pb**	**20 13 44.5**	**-0.1**
PYA1				*e*S		**Sg**	**20 13 59.0**	**+0.4**
PYA1	**Pyatigorsk**	**1.09**	**112**	*i* Pg		**Pb**	**20 13 44.5**	**-0.1**
PYA1				*e*Sg		**Sg**	**20 13 59.0**	**+0.4**
GOF	**Gofitskoye**	**1.12**	**58**	⇓*i*PG		**Pn**	**20 13 45.0**	**-0.5**
GOF				*e*S		**Sb**	**20 14 00.0**	**+0.2**
GOF				pmax	pmax			
	comp=Z,240nm,0.5s							
GOF				smax	smax			
	comp=E,1μm,0.5s							
GOF	**Gofitskoye**	**1.12**	**58**	*e*Pg		**Pn**	**20 13 45.0**	**-0.5**
GOF				*e*Sg		**Sb**	**20 14 00.1**	**+0.2**
DOMR	**Dombai**	**1.18**	**182**	*ce*PG		**Pg**	**20 13 47.0**	**+0.7**
DOMR				pmax	pmax			
	comp=Z,928nm,0.6s							
DOMR	**Dombai**	**1.18**	**182**	*e*Pg		**Pg**	**20 13 47.1**	**+0.8**
DOMR				*e*Sg		**Sg**	**20 14 03.4**	**+1.7**
GUZR	**Guzeripl'**	**1.23**	**248**	*e*Pg		**Pn**	**20 13 46.7**	**-0.3**
GUZR				*i* Sg		**Sg**	**20 14 03.5**	**+0.4**
RPOR	**Krasnaya Polya**	**1.29**	**234**	⇑*i*PG		**Pb**	**20 13 48.1**	**+0.1**
RPOR				*i* S		**Sg**	**20 14 05.8**	**+0.8**
RPOR	**Krasnaya Polya**	**1.29**	**234**	*i* Pg		**Pb**	**20 13 48.1**	**+0.1**
RPOR				*i* Sg		**Sg**	**20 14 05.5**	**+0.5**
KBTC	**Kuba-Taba**	**1.40**	**117**	⇑*i*PG		**Pg**	**20 13 50.8**	**+0.4**
KBTC				*e*S		**Sg**	**20 14 10.7**	**+2.2**
KBTC	**Kuba-Taba**	**1.40**	**117**	*i* Pg		**Pg**	**20 13 50.8**	**+0.4**
KBTC				*e*Sg		**Sg**	**20 14 10.5**	**+2.0**
NEY	**Neytrino**	**1.43**	**148**	*e*PG		**Pg**	**20 13 50.7**	**-0.4**
NEY	**Neytrino**	**1.43**	**148**	*e*Pg		**Pg**	**20 13 50.7**	**-0.4**
NEY				*e*Sg		**Sg**	**20 14 10.3**	**+0.6**
ERBR	**Yeremizino-Bor**	**1.51**	**326**	⇓*i*PG		**Pn**	**20 13 51.2**	**+0.5**
ERBR				*e*S		**Sn**	**20 14 12.3**	**+1.8**
ERBR	**Yeremizino-Bor**	**1.51**	**326**	*i* Pg		**Pn**	**20 13 51.2**	**+0.5**
ERBR				*e*Sg		**Sn**	**20 14 12.3**	**+1.8**
SOC	**Sochi**	**1.68**	**239**	*e*PN		**Pn**	**20 13 53.9**	**+0.8**
SOC				*e*			20 14 18.4	
SOC				pmax	pmax			
	comp=Z,17nm,0.2s							
SOC				smax	smax			
	comp=N,138nm,0.3s							
SOC				smax	smax			
	comp=E,137nm,0.3s							
SOC	**Sochi**	**1.68**	**239**	*e*Pg		**Pb**	**20 13 54.4**	**-0.3**
SOC				*e*Sg		**Sg**	**20 14 17.3**	**-0.3**

NCK	**Nalchik**	**1.69**	**125**	*e*PN	**Pg**	**20 13 55.9**	**0.0**
NCK				*e*S	**Sg**	**20 14 19.6**	**+1.9**
NCK	**Nalchik**	**1.69**	**125**	*i* Pg	**Pg**	**20 13 55.9**	**0.0**
NCK				*i* Sg	**Sg**	**20 14 19.6**	**+1.9**
LZRR	**Lazarevskoye**	**1.75**	**253**	*e*Pg	**Pb**	**20 13 56.1**	**+0.3**
LZRR				*e*Sg	**Sg**	**20 14 19.7**	**-0.1**
LSNR	**Lesken**	**1.95**	**127**	*e*PN	**Pb**	**20 13 59.4**	**+0.2**
LSNR				pmax	pmax		
	comp=Z,49nm,0.4s						
LSNR	**Lesken**	**1.95**	**127**	*i* Pg	**Pb**	**20 13 59.5**	**+0.2**
LSNR				*e*Sg	**Sg**	**20 14 26.9**	**+0.7**
KGUR	**Krasnodar**	**1.98**	**287**	*e*Pg	**Pn**	**20 13 58.4**	**+1.2**
KGUR				*e*Sg	**Sb**	**20 14 25.8**	**+1.4**
PRTR	**Priterechnaya**	**2.00**	**110**	*ce*PN	**Pb**	**20 14 00.9**	**+0.9**
PRTR				pmax	pmax		
	comp=Z,215nm,0.6s						
PRTR	**Priterechnaya**	**2.00**	**110**	*e*Pg	**Pb**	**20 14 01.0**	**+0.9**
PRTR				*e*Sg	**Sg**	**20 14 29.5**	**+1.7**
DIGR	**Digorskoe uzhe**	**2.09**	**138**	*e*PN	**Pb**	**20 14 02.1**	**+0.4**
DIGR				pmax	pmax		
	comp=Z,88nm,0.2s						
DIGR	**Digorskoe uzhe**	**2.09**	**138**	*e*Pg	**Pb**	**20 14 01.9**	**+0.3**
DIGR				*e*Sg	**Sg**	**20 14 28.9**	**-1.7**
KORR	**Kora**	**2.21**	**128**	*e*PN	**Pb**	**20 14 03.7**	**+0.1**
KORR				pmax	pmax		
	comp=Z,41nm,0.2s						
KORR	**Kora**	**2.21**	**128**	*e*Pg	**Pb**	**20 14 03.8**	**+0.1**
KORR				*e*Sg	**Sb**	**20 14 31.1**	**0.0**
ARNR	**Ardon**	**2.28**	**124**	*e*PN	**Pb**	**20 14 04.9**	**+0.1**
ARNR				*e*S	**Sg**	**20 14 36.4**	**-0.3**
ARNR	**Ardon**	**2.28**	**124**	*e*Pn	**Pb**	**20 14 04.7**	**-0.1**
ARNR				*e*Sn	**Sb**	**20 14 31.1**	**-2.0**
TRKR	**Terskaya**	**2.31**	**108**	*e*PN	**Pb**	**20 14 06.2**	**+0.8**
TRKR				*e*S	**Sg**	**20 14 38.0**	**+0.1**
TRKR	**Terskaya**	**2.31**	**108**	*e*Pn	**Pb**	**20 14 06.2**	**+0.8**
TRKR				*e*Sn	**Sg**	**20 14 38.0**	**+0.1**
ZEI	**Tsey**	**2.33**	**136**	*e*PN	**Pb**	**20 14 05.6**	**-0.2**
ZEI				*e*S	**Sg**	**20 14 37.3**	**-1.0**
ZEI				pmax	pmax		
	comp=Z,51nm,0.2s						
ZEI				smax	smax		
	comp=E,450nm,0.3s						
ZEI	**Tsey**	**2.33**	**136**	*e*Pn	**Pb**	**20 14 04.8**	**-0.9**
ZEI				*e*Sn	**Sb**	**20 14 32.4**	**-2.2**
BTKR	**Batakoyurt**	**2.33**	**117**	*e*PN	**Pb**	**20 14 07.1**	**+1.3**
BTKR				*e*S	**Sg**	**20 14 41.7**	**+3.2**
BTKR	**Batakoyurt**	**2.33**	**117**	*e*Pn	**Pb**	**20 14 04.7**	**-1.1**
BTKR				*e*Sn	**Sb**	**20 14 34.3**	**-0.4**
LACR	**Lac**	**2.51**	**130**	*ce*PN	**Pb**	**20 14 07.5**	**-1.3**
LACR	**Lac**	**2.51**	**130**	*e*Pn	**Pg**	**20 14 10.8**	**-0.8**
LACR				*e*Sn	**Sg**	**20 14 43.6**	**-0.4**
VLKR	**Vladikavkaz**	**2.59**	**122**	*e*PN	**Pg**	**20 14 14.3**	**+1.1**
VLKR				*e*S	**Sg**	**20 14 48.2**	**+1.5**
VLKR	**Vladikavkaz**	**2.59**	**122**	*e*Pn	**Pg**	**20 14 14.3**	**+1.1**
VLKR				*e*Sn	**Sg**	**20 14 48.2**	**+1.5**
GUDG	**Gudauri**	**2.85**	**134**	*i* P	**Pn**	**20 14 09.4**	**0.0**
GUDG				*i* S	**Sg**	**20 14 55.5**	**+0.3**
BCA	**Borcka**	**3.03**	**181**	*e*P	**Pb**	**20 14 16.9**	**-0.7**
ANN	**Anapa**	**3.06**	**278**	PN	**Pb**	**20 14 17.1**	**-1.0**
ANN				*e*		20 14 55.4	
ANN	**Anapa**	**3.06**	**278**	*e*Pn	**Pn**	**20 14 15.8**	**+3.8**
ANN				*e*Sn	**Sb**	**20 14 53.0**	**-2.5**
GROC	**Groznyy**	**3.23**	**112**	*e*PN	**Pn**	**20 14 14.1**	**-0.3**
GROC				*e*S	**Sn**	**20 14 55.2**	**+2.3**
GROC				pmax	pmax		
	comp=Z,30nm,1.3s						
GROC				smax	smax		
	comp=N,51nm,0.5s						
GROC	**Groznyy**	**3.23**	**112**	*e*Pn	**Pb**	**20 14 18.0**	**-3.1**
GROC				*e*Sn	**Sb**	**20 14 56.1**	**-4.4**
TRLG	**Trialeti**	**3.42**	**148**	P	**Pb**	**20 14 26.2**	**+1.7**
TRLG				S	**Sg**	**20 15 14.3**	**+0.8**
CHOM	**Cayeli-Rize**	**3.44**	**192**	*e*P	**Pn**	**20 14 20.1**	**+2.7**
DVE	**Vedeno**	**3.55**	**114**	*e*Pn	**Pn**	**20 14 21.2**	**+2.3**
DVE				*e*Sn	**Sn**	**20 15 04.4**	**+3.4**
DBC	**Dubki**	**4.00**	**110**	*e*Pn	**Pn**	**20 14 26.3**	**+1.3**
DBC				*e*Sn	**Sn**	**20 15 13.6**	**+1.6**
BAYT	**Aydıntepe-Bayb**	**4.24**	**196**	*e*P	Pb	20 14 33.2	-5.1
SUDU	**Sudak**	**4.79**	**277**	*e*PN	**Pn**	**20 14 37.5**	**+1.6**
SUDU				*e*S	**Sn**	**20 15 30.6**	**-0.9**
SUDU	**Sudak**	**4.79**	**277**	*e*Pn	**Pn**	**20 14 37.5**	**+1.6**
SUDU				*e*Sn	**Sn**	**20 15 30.6**	**-0.9**
KVT	**Kavak**	**5.36**	**233**	*e*P	**Pn**	**20 14 43.8**	**0.0**
DIKM	**Dikmen**	**5.50**	**241**	*i* P	**Pn**	**20 14 44.7**	**-0.8**
SEV	**Sevastopol'**	**5.74**	**274**	*e*P	**Pn**	**20 14 47.9**	**-1.0**
SEV				*e*S	**Sn**	**20 15 54.4**	**-0.4**
SEV	**Sevastopol'**	**5.74**	**274**	*e*Pn	**Pn**	**20 14 47.9**	**-1.0**
SEV				*e*Sn	**Sn**	**20 15 54.4**	**-0.4**
VSR	**Storozhevoye**	**6.96**	**347**	*d*P	**Pn**	**20 15 04.3**	**-1.2**
VSR	**Storozhevoye**	**6.96**	**347**	*e*Pn	**Pn**	**20 15 04.3**	**-1.2**
KIEV	**Kiev**	**10.47**	**311**	*i* P	**Pn**	**20 15 52.1**	**-1.7**
OBN	**Obninsk**	**11.15**	**345**	*e*P	**Pn**	**20 16 01.3**	**-1.6**
OBN				S	**Sn**	**20 18 08.0**	**+0.4**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**20.59**	**55**	*i* P	**P**	**20 18 02.5**	**-0.2**
AAK	**Ala-Archa**	**23.76**	**83**	*i* P	**P**	**20 18 37.6**	**+1.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						

*IDC **13** 20:24:34.4±9.5, 8.°79S×117.°59E, h94km±111km, mb2.8/2, mb1 3.1/4, mb1mx3.0/33, mbtmp3.3/4, ML3.3/2, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=235.2km s-min=40.8km az=46.0*

*ISCJB **13** 20:24:35.6±0.7, 8.°8S±0.°2×117.°71E±0.°07, h116km±6km, mb3.0/2, Error ellipse: s-maj=28.4km s-min=8.1km az=18.8*

*DJA **13** 20:24:38.9±0.4, 9.°S±9.°×11.°8E±.°, h87km±5km, M3.1/6, MLv3.1/6*

ISC 13 20:24:35.8±1.1, **8.°8S**±0.°2×**117.°8E**±0.°1, **h114**km±8km, **n10, σ1§26/11, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.03**	**174**	P	**Pn**	**20 24 51.6**	**+0.2**
PLAI				S	**Sn**	**20 25 02.4**	**-0.8**
DNP	**Denpasar**	**2.54**	**273**	S	**Sn**	**20 25 46.3**	**-0.3**
SRBI	**Singaraja**	**2.63**	**286**	P	**Pn**	**20 25 17.3**	**+0.2**
SRBI				S	**Sn**	**20 25 48.5**	**-0.3**
WSI	**Waingapu**	**2.64**	**109**	P	Pn	20 25 22.7	+5.5
JAGI	**Jajag, Banyuwa**	**3.60**	**275**	P	**Pn**	**20 25 29.4**	**-0.5**
EDFI	**Ende, Flores**	**3.87**	**90**	P	Pn	20 25 38.0	+4.4
FITZ	**Fitzroy Crossi**	**11.99**	**141**	P	**Pn**	**20 27 23.9**	**+0.8**
	0.1nm,0.3s,baz=326,slow=11,SNR=2.8						
FITZ				S	Sn	20 29 26.1	-9.1
	0.1nm,0.3s,baz=155,slow=19,SNR=4.2						
FITZ				LR	LR	20 33 11.1	
	comp=Z,47nm,19.6s,baz=268,slow=43						
WRA	**Warramunga Arr**	**19.48**	**126**	P	**Pn**	**20 28 55.8**	**-0.5**
	0.1nm,0.3s,baz=304,slow=12,SNR=22						
WRA				S	**S**	**20 32 25.4**	**-2.6**
	0.0nm,0.3s,baz=314,slow=25,SNR=3.1						
ASAR	**Alice Springs**	**21.37**	**136**	P	**P**	**20 29 15.8**	**+1.5**
	0.3nm,0.5s,baz=310,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**63.73**	**334**	P	**P**	**20 34 55.6**	**+0.2**
	0.2nm,0.5s,baz=130,slow=6.3,SNR=3.8						

*SJA **13** 20:45:15.4±0.7, 32.°92S×70.°52W, h10km, ML1.9, MW2.5*

ISC 13 20:45:17.0±1.4, **33.°03S**±0.°05×**70.°41W**±0.°04, **h9**km±12km, **n11, σ1§69/18, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**0.26**	**243**	*e*P	**Pn**	**20 45 25.6**	**-1.5**
PEL				*i* S	**Sb**	**20 45 30.8**	**+2.2**
FCH	**Farellones**	**0.32**	**162**	*e*P	**Pg**	**20 45 22.9**	**-0.4**
FCH				*e*S	**Sg**	**20 45 26.1**	**-1.6**
CLCH	**Cerro Calan**	**0.38**	**196**	*e*P	**Pb**	**20 45 26.2**	**+0.1**
ROCH	**El Roble**	**0.51**	**276**	*e*P	**Pn**	**20 45 31.4**	**+0.7**
LMEL	**Las Melosas**	**0.84**	**168**	*e*P	**Pg**	**20 45 32.6**	**-0.5**
AUSP	**Uspallata**	**1.18**	**47**	*e*P	**Pn**	**20 45 38.7**	**-1.3**
AUSP				*e*S	**Sn**	**20 45 55.6**	**-0.6**
ARCO	**CERRO ARCO**	**1.25**	**82**	*e*P	**Pn**	**20 45 39.2**	**-1.7**
ARCO				IAML		20 45 44.3	
	comp=Z,21nm,0.2s						
ARCO				*e*S	**Sg**	**20 45 59.7**	**+2.3**
AAGR	**Agrelo**	**1.33**	**93**	*e*P	**Pg**	**20 45 42.8**	**+0.4**
AAGR				*e*S	**Sg**	**20 46 02.5**	**+2.8**
ASAL	**Salagasta**	**1.39**	**72**	*e*P	**Pn**	**20 45 42.2**	**-0.5**
ASAL				*e*S	**Sg**	**20 46 03.8**	**+1.9**
RTLS	**Leoncito**	**1.54**	**38**	*e*P	**Pg**	**20 45 44.9**	**-1.7**
RTLS				IAML		20 45 50.8	
	comp=Z,13nm,0.2s						
RFA	**San Rafael**	**2.37**	**138**	*e*P	**Pb**	**20 45 58.9**	**-1.0**
RFA				*e*S	**Sb**	**20 46 31.2**	**+1.7**

*ISCJB **13** 20:51:47.6±0.8, 24.°59S±0.°08×177.°3W±0.°1, h153km, mb3.8/7, Error ellipse: s-maj=18.0km s-min=10.4km az=14.9*

*IDC **13** 20:51:49.1±3.9, 24.°59S×177.°31W, h157km±37km, mb3.6/7, mb1 3.9/9, mb1mx3.7/32, mbtmp4.1/9, MS3.2/2, Ms1 3.2/2, ms1mx2.7/26, Error ellipse: s-maj=48.5km s-min=19.7km az=165.0*

ISC 13 20:51:48.1±0.7, **24.°6S**±0.°1×**177.°3W**±0.°2, **h153**km, **n28, σ1§24/29, mb3.8/7, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.62**	**187**	P	**Pn**	**20 52 58.3**	**+1.7**
	128nm,0.3s,baz=352,slow=23,SNR=3.7						
URZ	**Urewera**	**14.39**	**198**	S	**Sn**	**20 57 42.0**	**-2.3**
	0.5nm,0.3s,baz=348,slow=19,SNR=3.1						
URZ				LR	LR	21 00 32.5	
	comp=Z,65nm,19.3s,baz=114,slow=36						
DZM	**Mont Dzumac**	**15.16**	**276**	P	**P**	**20 55 16.3**	**+0.3**
	0.4nm,0.3s,baz=79,slow=18,SNR=5.3						
PPT	**Papeete**	**26.76**	**80**	LR	LR	21 07 58.1	
	comp=Z,56nm,18.1s,baz=175,slow=36						
STKA	**Stephens Creek**	**36.76**	**249**	P	**P**	**20 58 41.0**	**0.0**
	1.1nm,0.6s,baz=100,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**44.36**	**261**	P	**P**	**20 59 44.3**	**+0.8**
	2.0nm,0.5s,baz=96,slow=7.0,SNR=28						
WRA	**Warramunga Arr**	**44.83**	**266**	P	**P**	**20 59 46.9**	**-0.4**
	1.6nm,0.3s,baz=102,slow=8.3,SNR=42						
NVAR	**Mina Array Bea**	**83.59**	**43**	P	**P**	**21 04 00.2**	**+0.7**
	0.7nm,0.6s,baz=224,slow=8.5,SNR=5.3						
PDAR	**Pinedale Array**	**91.52**	**43**	P	**P**	**21 04 38.6**	**+1.0**
	0.2nm,0.4s,baz=203,slow=3.9,SNR=2.8						
CMAR	**Chiang Mai Arr**	**92.11**	**289**	P	**P**	**21 04 41.7**	**+1.2**
	0.9nm,0.9s,baz=132,slow=3.8,SNR=5.3						
ILAR	**Eielson Array**	**92.19**	**13**	P	**P**	**21 04 38.5**	**-1.3**
	0.4nm,0.6s,baz=218,slow=5.7,SNR=4.7						
MKAR	**Makanchi Array**	**114.48**	**312**	PKP	PKPdf	21 10 09.2	-0.6
	0.3nm,0.5s,baz=212,slow=1.6,SNR=9.1						
AAK	**Ala-Archa**	**119.33**	**306**	PKP	**PKiKP**	**21 10 22.7**	**+3.2**
	0.7nm,0.5s,baz=157,slow=5.2,SNR=4.9						
AKTO	**Aktyubinsk**	**130.55**	**316**	PKP	**PKPdf**	**21 10 40.3**	**-0.2**
	0.6nm,0.7s,baz=127,slow=5.1,SNR=3.6						
GEYT	**Alibeck**	**131.48**	**300**	PKP	**PKPdf**	**21 10 41.7**	**-1.0**
	0.7nm,0.4s,baz=174,slow=1.4,SNR=3.2						
ARCES	**ARCESS Array B**	**133.10**	**349**	PKhKP	PKPpre	21 10 37.8	
	3.0nm,1.0s,baz=74,slow=1.3,SNR=3.5						
ARCES				PKP	**PKPdf**	**21 10 44.8**	**+0.1**
	1.9nm,0.8s,baz=46,slow=2.3,SNR=11						
FINES	**FINESS Array B**	**139.91**	**343**	PKhKP	PKPpre	21 10 50.9	
	0.5nm,0.3s,baz=56,slow=4.8,SNR=7.6						
FINES				PKP	**PKPdf**	**21 10 58.5**	**+0.9**
	1.4nm,0.4s,baz=98,slow=4.0,SNR=17						
NB2	**NORSAR Subarra**	**143.16**	**353**	PKPdf	**PKPdf**	**21 11 00.4**	**-3.0**
	comp=Z,0.3nm,0.5s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**143.16**	**353**	PKP	**PKPdf**	**21 11 03.7**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=17,slow=4.3,SNR=3.9						
AKASG	**Malin Array Be**	**146.91**	**329**	PKPbc	**PKPbc**	**21 11 11.2**	**-1.1**
	comp=Z,6.9nm,0.4s,baz=43,slow=4.5,SNR=42						
ASF	**Jabal al Asfar**	**149.11**	**292**	PKPbc	**PKiKP**	**21 11 19.7**	**-0.3**
	comp=Z,4.3nm,0.6s,baz=63,slow=4.2,SNR=9.2						
BRTR	**Keskin Array B**	**150.00**	**308**	PKPbc	**PKPbc**	**21 11 20.4**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=134,slow=3.9,SNR=7.9						
MMAI	**Mount Meron Ar**	**150.26**	**294**	PKPbc	**PKiKP**	**21 11 22.9**	**+0.6**
	comp=Z,8.7nm,0.5s,baz=76,slow=7.8,SNR=25						
EIL	**Elat**	**150.94**	**287**	PKPbc	**PKPbc**	**21 11 22.9**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=53,slow=5.1,SNR=2.6						
CLL	**Collm**	**152.23**	**346**	*i* PKPbc	**PKPbc**	**21 11 25.5**	**+0.1**
	comp=Z,9.0nm,0.8s						
CLL				*i* PKPab	**PKPab**	**21 11 34.8**	**-0.9**
	comp=Z,7.0nm,1.2s						
CLL				*i*		21 12 08.8	
BRG	**Berggiesshubel**	**152.41**	**345**	*i* PKP	**PKiKP**	**21 11 26.1**	**0.0**
	comp=Z,5.3nm,0.6s						
GERES	**GERESS Array B**	**154.34**	**343**	PKP	**PKPdf**	**21 11 20.4**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=272,slow=4.8,SNR=2.2						
GERES				PKPbc	**PKiKP**	**21 11 30.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=26,slow=3.4,SNR=4.3						
GERES				PKPab	**PKPab**	**21 11 44.5**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=3.6,slow=4.3,SNR=5.2						
CONA	**Conrad Observa**	**154.53**	**339**	*i* PKPab	**PKPab**	**21 11 45.8**	**+0.1**

*ATH **13** 21:05:41.8, 39.°71N×25.°62E, h29km±1km, ML1.9/1, Error ellipse: s-maj=2.6km s-min=1.3km az=241.0*

*ISK **13** 21:05:41.8, 39.°70N×25.°65E, h8km, ML2.3/12*

*ISCJB **13** 21:05:42.9±0.5, 39.°73N±0.°03×25.°63E±0.°04, h16km±7km, Error ellipse: s-maj=5.8km s-min=4.2km az=27.6*

*DDA **13** 21:05:46.6, 39.°86N×26.°04E, h7km±2km, ML2.6*

ISC 13 21:05:42.0±1.4, **39.°72N**±0.°03×**25.°63E**±0.°03, **h8**km±12km, **n33, σ0§72/40, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOZC	**Bozcaada**	**0.35**	**69**	PG	**Pg**	**21 05 48.9**	**+0.1**
BOZC				SG	**Sb**	**21 05 54.4**	**-1.6**
BOZC	**Bozcaada**	**0.35**	**69**	*i* P	**Pg**	**21 05 49.2**	**+0.5**
BOZC				*i* S	**Sb**	**21 05 54.9**	**-1.1**
LIA	**Limnos Island**	**0.39**	**298**	P	**Pb**	**21 05 50.9**	**-0.2**
LIA				S	**Sb**	**21 05 56.7**	**-0.6**
LIA				AML	AML	21 05 56.9	
	comp=N,359μm,0.5s						
LIA				AML	AML	21 05 57.5	
	comp=E,350μm,0.4s						
EFSA	**Agios Efstrati**	**0.53**	**251**	P	**Pb**	**21 05 54.0**	**+0.5**
SIGR	**SIGRI**	**0.53**	**161**	PG	**Pg**	**21 05 52.4**	**+0.1**
SIGR	**SIGRI**	**0.53**	**161**	P	**Pg**	**21 05 52.3**	**0.0**
EZN	**Ezine**	**0.54**	**78**	PG	**Pg**	**21 05 52.4**	**-0.1**
PRK	**Paraskevi**	**0.68**	**133**	P	**Pb**	**21 05 56.0**	**0.0**
BAYC	**CANAKKALE_Bayr**	**0.70**	**88**	*i* P	**Pg**	**21 05 55.4**	**-0.1**
BAYC				*i* S	**Sb**	**21 06 05.4**	**-0.9**
BAYC				IAML_P			
	comp=Z,1μm,0.1s						
SMTH	**Samothraki Isl**	**0.76**	**354**	P	**Pg**	**21 05 57.0**	**+0.5**
SMTH				S	**Sb**	**21 06 07.8**	**0.0**
AYVA	**Ayvalik**	**0.91**	**116**	*i* P	**Pn**	**21 06 00.4**	**-0.6**
AYVA				*i* S	**Sn**	**21 06 13.7**	**-0.7**
AYVA				IAML_P			
	comp=Z,232nm,0.1s						
GELI	**Tayfur-Gelibol**	**0.94**	**43**	PG	**Pb**	**21 06 00.3**	**-0.1**
LPK	**Lapseki**	**1.08**	**53**	PN	**Pb**	**21 06 03.0**	**0.0**
ENEZ	**Enez**	**1.09**	**21**	PN	**Pn**	**21 06 03.4**	**-0.1**
THAS	**Thassos island**	**1.13**	**322**	P	**Pg**	**21 06 03.4**	**-0.3**
ERIK	**Erikli-Kesan**	**1.17**	**35**	PN	**Pn**	**21 06 04.5**	**0.0**
ALN	**Alexandroupoli**	**1.22**	**15**	PN	**Pn**	**21 06 05.3**	**0.0**
ALN	**Alexandroupoli**	**1.22**	**15**	P	**Pb**	**21 06 04.8**	**-0.4**
ZEDA	**zmir-Bergama**	**1.35**	**123**	*i* P	**Pg**	**21 06 09.1**	**+1.3**
ZEDA				*i* S	**Sn**	**21 06 27.3**	**+2.2**
ZEDA				IAML_P			
	comp=Z,341nm,0.1s						
CHOS	**Chios island**	**1.37**	**166**	PN	**Pn**	**21 06 07.0**	**-0.4**
CHOS	**Chios island**	**1.37**	**166**	P	**Pn**	**21 06 06.3**	**-1.1**
OUR	**Ouranopolis**	**1.41**	**296**	P	**Pn**	**21 06 07.7**	**-0.2**
RDO	**Rodhopi**	**1.43**	**357**	PN	**Pb**	**21 06 08.9**	**+0.1**
RDO	**Rodhopi**	**1.43**	**357**	P	**Pn**	**21 06 07.3**	**-0.8**
KRBG	**Karabiga-Canak**	**1.44**	**62**	PN	**Pb**	**21 06 08.6**	**-0.5**
PAIG	**Paliouri**	**1.52**	**279**	P	**Pn**	**21 06 09.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.53**	**50**	PN	**Pn**	**21 06 09.9**	**+0.3**
URLA	**Izmir**	**1.55**	**151**	PN	**Pn**	**21 06 09.9**	**+0.1**
MRMT	**Marmara Adasi**	**1.74**	**59**	PN	**Pn**	**21 06 12.9**	**+0.3**
EDC	**Edincik**	**1.82**	**69**	PN	**Pn**	**21 06 13.9**	**+0.3**
SBT4	**Kumbag-Tekirda**	**1.83**	**52**	PN	**Pn**	**21 06 14.2**	**+0.7**
EDRB	**Edirne**	**2.29**	**21**	PN	**Pn**	**21 06 20.9**	**+0.9**
CTKS	**Kestanelik-??a**	**2.67**	**54**	PN	**Pn**	**21 06 26.2**	**+1.1**

*ISCJB **13** 21:16:29.0±0.6, 38.°96N±0.°06×43.°70E±0.°07, h12km±6km, Error ellipse: s-maj=12.0km s-min=6.5km az=135.6*

*ISK **13** 21:16:28.3, 38.°94N×43.°73E, h8km, ML2.2/7*

*DDA **13** 21:16:29.1, 39.°05N×43.°65E, h7km±5km, ML2.5*

ISC 13 21:16:29.0±1.0, **38.°97N**±0.°05×**43.°70E**±0.°05, **h12**km±8km, **n12, σ0§57/15, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.10**	**281**	*i* P	**Pg**	**21 16 31.6**	**-0.6**
VMUR				*i* S	**Sg**	**21 16 34.9**	**+0.5**
VMUR				IAML_P			
	comp=Z,6μm,0.1s						
CLDR	**Caldiran**	**0.24**	**44**	PG	**Pg**	**21 16 33.6**	**-0.6**
CLDR				SG	**Sg**	**21 16 37.9**	**+0.1**
CLDR	**Caldiran**	**0.24**	**44**	*i* P	**Pg**	**21 16 33.9**	**-0.3**
CLDR				*i* S	**Sg**	**21 16 39.0**	**+1.2**
CLDR				IAML_P			
	comp=Z,7μm,0.2s						
VANB	**Van**	**0.45**	**213**	PG	**Pb**	**21 16 38.5**	**-0.4**
TVAN	**Van**	**0.50**	**208**	*i* P	**Pg**	**21 16 39.0**	**+0.2**
TVAN				IAML_P			
	comp=Z,2μm,0.2s						
AGRB	**Hanur-Agry**	**0.82**	**318**	PG	**Pb**	**21 16 45.1**	**-0.1**
AKDM	**Akdamar-Van**	**0.85**	**222**	PG	**Pg**	**21 16 44.7**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.91**	**281**	PG	**Pb**	**21 16 46.9**	**+0.1**
GURO	**Guroymak-BITLI**	**1.37**	**253**	PN	**Pn**	**21 16 54.3**	**+0.3**
GNI	**Garni**	**1.43**	**34**	PN	**Pb**	**21 16 55.4**	**-0.2**
CUKT	**Cukurca**	**1.72**	**182**	PN	**Pn**	**21 16 59.0**	**+0.1**
SIRT	**Sirnak**	**1.77**	**215**	PN	**Pn**	**21 16 59.8**	**+0.3**

*NEIC **13** 21:17:54.2±0.0, 17.°84N×101.°19W, h57km, MD4.0(MEX), After MEX.*

MEX 13 21:17:54.2±0.6, **17.°84N×101.°19W, h57**km±6km, **MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.35**	**228**	*i* P	Pn	21 18 02.8	-1.7
ZIIG				*i* S	Sn	21 18 10.3	-1.6
ZIIG	**Zihuatanejo**	**0.35**	**228**	*i* P	Pn	21 18 02.8	-1.7
ZIIG				*i* S	Sn	21 18 10.3	-1.6
ARIG	**Puente Sto Nin**	**0.91**	**61**	*e*P	Pn	21 18 09.2	-1.9
ARIG				*i* S	Sn	21 18 21.2	-2.3
ARIG	**Puente Sto Nin**	**0.91**	**61**	*e*P	Pn	21 18 09.2	-1.9
ARIG				*i* S	Sn	21 18 21.2	-2.3
CAIG	**El Cayaco**	**1.19**	**132**	*e*P	Pn	21 18 13.0	-1.6
CAIG				*i* S	Sn	21 18 28.4	-1.4
CAIG	**El Cayaco**	**1.19**	**132**	*e*P	Pn	21 18 13.0	-1.6
CAIG				*i* S	Sn	21 18 28.4	-1.4
MEIG	**Mezcala**	**1.50**	**87**	*e*P	Pn	21 18 17.4	-1.5
MEIG				*e*S	Sn	21 18 35.0	-2.4
MEIG	**Mezcala**	**1.50**	**87**	*e*P	Pn	21 18 17.4	-1.5
MEIG				*e*S	Sn	21 18 35.0	-2.4
PLIG	**Platanillo**	**1.70**	**71**	*e*P	Pn	21 18 20.2	-1.4
PLIG				*i* S	Sn	21 18 40.9	-1.4
PLIG	**Platanillo**	**1.70**	**71**	*e*P	Pn	21 18 20.2	-1.4
PLIG				*i* S	Sn	21 18 40.9	-1.4
MOIG	**Morelia**	**1.82**	**0**	*e*Pn	Pn	21 18 22.3	-1.1
MOIG				*e*Sn	Sn	21 18 36.6	-9.0
YAIG	**Yautepec**	**2.26**	**63**	*e*P	Pn	21 18 28.0	-1.3
YAIG				*i* S	Sn	21 18 54.6	-1.5
YAIG	**Yautepec**	**2.26**	**63**	*e*P	Pn	21 18 28.0	-1.3
YAIG				*i* S	Sn	21 18 54.6	-1.5
PNIG	**Pinotepa**	**3.27**	**116**	*e*P	Pn	21 18 42.1	-0.8
PNIG				*i* S	Sn	21 19 19.9	-0.8
PNIG	**Pinotepa**	**3.27**	**116**	*e*P	Pn	21 18 42.1	-0.8
PNIG				*i* S	Sn	21 19 19.9	-0.8

IDC 13 21:19:49.3±5.1, **30.°11S×178.°27W, h0**km, **mb3.5/2, mb1 3.7/2, mb1mx3.5/37, mbtmp3.5/2, Error ellipse: s-maj=303.2km s-min=70.7km az=167.0, Kermadec Islands**

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

QRWL	**Qaraoun**	**7.71**	**214**	*eP*	**Pb**	**21**	**28**	**58.3 -1.3**
SHBL	**Chebaa**	**7.85**	**213**	*eP*	**Pb**	**21**	**28**	**59.8 -2.3**

KRSC ***13*** *21:26:57.6±10.0, 50.60N×157.78E, h48km±10km, ML4.8, FELT [II] at Severo-Kurilsk.*
MOS ***13*** *21:26:58.3±1.1, 50.58N×157.38E, h49km, mb4.0/4, Error ellipse: s-maj=13.8km s-min=4.0km az=80.9*
MOS Felt (II) Severo-Kuril'sk.
ISCJB ***13*** *21:26:59.8±0.8, 50.65N±0.06×157.52E±0.08, h64km±5km, mb3.8/18, Error ellipse: s-maj=11.9km s-min=5.4km az=140.7*
IDC ***13*** *21:26:59.8±0.8, 50.70N×157.44E, h42km±6km, mb3.5/15, mb1 3.7/16, mb1mx3.6/42, mbtmp3.7/16, ML2.9/1, MS2.8/7, Ms1 2.8/7, ms1mx2.7/32, Error ellipse: s-maj=18.2km s-min=13.6km az=135.0*

ISC 13 21:26:59.5±0.9, 50.60N±0.07×157.60E±0.05, h45km±7km, n93,σ1°36/109, mb3.8/19, MS2.8/3, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.94**	**276**	*eP*	**Pn**	**21 27 16.5**	**+0.3**
SKR				*eS*	**Sn**	**21 27 29.1**	**+0.5**
SKR	**Severo-Kuril's**	**0.94**	**276**	*i* PN	**Pn**	**21 27 16.6**	**+0.3**
SKR				*eS*	**Sn**	**21 27 29.1**	**+0.5**
SKR	comp=Z,1μm,0.4s			pmax	pmax		
SKR	comp=N,50μm,0.6s			smax	smax		
SKR	comp=E,36μm,0.6s			smax	smax		
PAU	**Pauzhetka**	**1.00**	**331**	*eP*	**Pn**	**21 27 17.7**	**+0.6**
PAU				*eS*	**Sn**	**21 27 31.0**	**+0.9**
PAU	**Pauzhetka**	**1.00**	**331**	PN	**Pn**	**21 27 17.7**	**+0.6**
PAU				S	**Sn**	**21 27 31.0**	**+0.9**
KDTR	**Khodutka, Kamc**	**1.25**	**14**	*eP*	**Pn**	**21 27 19.9**	**-0.6**
KDTR				*eS*	**Sn**	**21 27 35.0**	**-1.1**
KDTR	**Khodutka, Kamc**	**1.25**	**14**	PN	**Pn**	**21 27 19.9**	**-0.6**
KDTR				S	**Sn**	**21 27 35.0**	**-1.1**
ALID	**Alaid**	**1.33**	**283**	*eP*	**Pn**	**21 27 22.6**	**+0.9**
ASAK	**Asacha**	**1.80**	**6**	*eP*	**Pn**	**21 27 28.2**	**+0.1**
ASAK	**Asacha**	**1.80**	**6**	PN	**Pn**	**21 27 28.2**	**+0.1**
MTVR	**Mutnovka**	**1.93**	**11**	*eP*	**Pn**	**21 27 30.0**	**+0.1**
MTVR				*eS*	**Sn**	**21 27 52.6**	**-0.3**
MTVR	**Mutnovka**	**1.93**	**11**	PN	**Pn**	**21 27 30.0**	**+0.1**
MTVR				S	**Sn**	**21 27 52.6**	**-0.3**
RUS	**Russkaya**	**1.93**	**17**	*i* P	**Pn**	**21 27 29.3**	**-0.4**
RUS				*eS*	**Sn**	**21 27 51.8**	**-0.9**
RUS	**Russkaya**	**1.93**	**17**	PN	**Pn**	**21 27 29.3**	**-0.4**
RUS				S	**Sn**	**21 27 51.8**	**-0.9**
GRL	**Gorelyy**	**1.98**	**8**	*i* P	**Pn**	**21 27 31.4**	**+0.8**
GRL				*eS*	**Sn**	**21 27 54.8**	**+0.5**
GRL	**Gorelyy**	**1.98**	**8**	PN	**Pn**	**21 27 31.4**	**+0.8**
GRL				S	**Sn**	**21 27 54.8**	**+0.5**
KRMR	**Karymshinskiy**	**2.26**	**8**	*eP*	**Pn**	**21 27 35.6**	**+1.3**
KRMR				*eS*	**Sn**	**21 28 02.6**	**+1.7**
KRMR	**Karymshinskiy**	**2.26**	**8**	PN	**Pn**	**21 27 35.6**	**+1.3**
KRMR				S	**Sn**	**21 28 02.6**	**+1.7**
APC	**Apacha**	**2.35**	**354**	*eP*	**Pn**	**21 27 36.7**	**+1.2**
APC	**Apacha**	**2.35**	**354**	PN	**Pn**	**21 27 36.7**	**+1.2**
PETK	**Petropavlovsk-** comp=E,13nm,0.3s,baz=144,slow=17,SNR=88	**2.52**	**1**	P	**Pn**	**21 27 38.8**	**+0.9**
PETK	comp=E,143nm,20.4s,baz=228,slow=42			LR	LR	21 28 41.6	
PET	**Petropavlovsk**	**2.52**	**15**	*i* P	**Pn**	**21 27 37.6**	**-0.2**
PET				*eS*	**Sn**	**21 28 07.1**	**-0.1**
PET	**Petropavlovsk**	**2.52**	**15**	*e*PN	**Pn**	**21 27 37.9**	**+0.1**
PET				*eS*	**Sn**	**21 28 07.1**	**-0.1**
PET	comp=Z,140nm,0.3s			pmax	pmax		
PET	comp=N,819nm,0.5s			smax	smax		
PET	comp=E,946nm,0.5s			smax	smax		
DALK	**Dalny**	**2.54**	**16**	*e*P	**Pn**	**21 27 38.6**	**+0.4**
DALK				*eS*	**Sn**	**21 28 07.7**	**-0.1**
DALK	**Dalny**	**2.54**	**16**	PN	**Pn**	**21 27 38.6**	**+0.4**
DALK				S	**Sn**	**21 28 07.7**	**-0.1**
UGLR	**Uglovaya**	**2.73**	**16**	*i* P	**Pn**	**21 27 41.8**	**+1.0**
UGLR	**Uglovaya**	**2.73**	**16**	PN	**Pn**	**21 27 41.8**	**+1.0**
AVH	**Avacha**	**2.77**	**14**	*i* P	**Pn**	**21 27 43.4**	**+2.1**
AVH	**Avacha**	**2.77**	**14**	PN	**Pn**	**21 27 43.4**	**+2.1**
SMAR	**Somma**	**2.77**	**15**	*i* P	**Pn**	**21 27 43.4**	**+1.9**
SMAR	**Somma**	**2.77**	**15**	PN	**Pn**	**21 27 43.4**	**+1.9**
KOK	**Koryaka**	**2.78**	**13**	*i* P	**Pn**	**21 27 43.5**	**+2.0**
KOK	**Koryaka**	**2.78**	**13**	PN	**Pn**	**21 27 43.5**	**+2.0**
NLC	**Nalytchevo**	**2.80**	**22**	*e*P	**Pn**	**21 27 42.5**	**+0.9**
NLC	**Nalytchevo**	**2.80**	**22**	PN	**Pn**	**21 27 42.5**	**+0.9**
SDLR	**Sedlovina**	**2.80**	**16**	*e*P	**Pn**	**21 27 42.3**	**+0.4**
SDLR	**Sedlovina**	**2.80**	**16**	PN	**Pn**	**21 27 42.3**	**+0.4**
KRER	**Koryakskii**	**2.80**	**14**	*e*P	**Pn**	**21 27 43.5**	**+1.5**
KRER	**Koryakskii**	**2.80**	**14**	PN	**Pn**	**21 27 43.5**	**+1.5**
KRX	**Arik**	**2.84**	**13**	*e*P	**Pn**	**21 27 44.1**	**+1.7**
KRX				*eS*	**Sn**	**21 28 18.3**	**+2.8**
KRX	**Arik**	**2.84**	**13**	PN	**Pn**	**21 27 44.1**	**+1.7**
KRX				S	**Sn**	**21 28 18.3**	**+2.8**
GNL	**Ganaly**	**3.11**	**4**	*i* P	**Pn**	**21 27 47.9**	**+1.8**
GNL	**Ganaly**	**3.11**	**4**	PN	**Pn**	**21 27 47.9**	**+1.8**
KII	**Karymskiy**	**3.63**	**18**	*e*P	**Pn**	**21 27 55.4**	**+2.3**
KII	**Karymskiy**	**3.63**	**18**	PN	**Pn**	**21 27 55.4**	**+2.3**
MKZ	**Mys Kozlova**	**4.70**	**31**	*e*P	**Pn**	**21 28 07.4**	**-0.3**
MKZ	**Mys Kozlova**	**4.70**	**31**	PN	**Pn**	**21 28 07.4**	**-0.3**
KZV	**Kizimen**	**4.81**	**19**	*e*P	**Pn**	**21 28 11.7**	**+2.3**
KZV	**Kizimen**	**4.81**	**19**	PN	**Pn**	**21 28 11.7**	**+2.3**
TUMD	**Tumrok D**	**4.92**	**19**	*e*P	**Pn**	**21 28 12.0**	**+1.2**
TUMR	**Tumrok**	**4.94**	**17**	*e*P	**Pn**	**21 28 13.6**	**+2.4**
TUMR	**Tumrok**	**4.94**	**17**	PN	**Pn**	**21 28 12.0**	**+0.8**
ZLN	**Zelenaya**	**5.76**	**18**	*e*P	**Pn**	**21 28 23.4**	**+1.0**
ZLN	**Zelenaya**	**5.76**	**18**	PN	**Pn**	**21 28 23.4**	**+1.0**
KBTR	**Krutoberegovo**	**6.43**	**27**	*e*P	**Pn**	**21 28 31.8**	**+0.3**
KBTR	**Krutoberegovo**	**6.43**	**27**	PN	**Pn**	**21 28 31.8**	**+0.3**
SRKR	**Sorokina**	**6.43**	**18**	*e*P	**Pn**	**21 28 33.5**	**+2.0**
SRKR	**Sorokina**	**6.43**	**18**	PN	**Pn**	**21 28 33.5**	**+2.0**
MA2	**Magadan** comp=E,54nm,20.7s,baz=178,slow=36	**9.81**	**339**	LR	LR	21 32 52.6	
YSS	**Yuzh-Sakhalins**	**10.45**	**255**	*e*PN	**Pn**	**21 29 24.2**	**-2.3**
YSS	comp=Z,10.0nm,0.5s			pmax	pmax		
ASAJ	**Asahikawa** comp=Z,30nm,21.1s,baz=134,slow=34	**12.05**	**243**	LR	LR	21 33 53.3	
KLR	**Kul'dur**	**16.68**	**275**	*i* P	**Pn**	**21 30 46.7**	**-3.0**
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=62,slow=12,SNR=6.2	**16.68**	**275**	P	**P**	**21 30 54.2**	**+2.6**
KLR	comp=Z,55nm,19.1s,baz=103,slow=37			LR	LR	21 37 08.9	
YAK	**Yakutsk**	**19.07**	**318**	*eP*	**P**	**21 31 17.5**	**-0.3**
YAK	comp=Z,48nm,0.9s			pmax	pmax		
TIXI	**Tiksi**	**24.78**	**339**	*i* P	**P**	**21 32 14.9**	**-1.6**
TIXI	**Tiksi** comp=Z,0.6nm,0.4s,baz=136,slow=12,SNR=4.9	**24.78**	**339**	P	**P**	**21 32 15.4**	**-1.1**
TIXI	comp=Z,29nm,19.0s,baz=112,slow=42			LR	LR	21 44 04.7	
COLA	**College**	**31.28**	**42**	*i* P	**P**	**21 33 11.5**	**-3.1**
COLA	comp=Z,1.0nm,0.8s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=349,slow=76,SNR=94	**31.67**	**163**	T	T	22 07 03.8	
H11N3	**WAKE ISLAND Hy** baz=349,slow=76,SNR=80	**31.69**	**163**	T	T	22 07 04.9	
H11N1	**WAKE ISLAND Hy** baz=349,slow=76,SNR=79	**31.69**	**163**	T	T	22 06 58.4	
ILAR	**Eielson Array** comp=Z,0.4nm,0.5s,baz=254,slow=7.1,SNR=5.0	**31.69**	**42**	P	**P**	**21 33 18.3**	**0.0**
ILAR	comp=Z,1.1nm,0.7s,baz=262,slow=7.2,SNR=10			pP	**pP**	**21 33 30.2**	**+0.1**
ULN	**Ulaanbaatar**	**32.60**	**285**	*i* P	**P**	**21 33 25.0**	**-1.6**
ULN	comp=Z,1.0nm,1.0s			pmax	pmax		
H11S1	**WAKE ISLAND Hy** baz=350,slow=76,SNR=86	**32.83**	**164**	T	T	22 08 27.0	
H11S3	**WAKE ISLAND Hy** baz=350,slow=76,SNR=118	**32.84**	**164**	T	T	22 08 27.8	
H11S2	**WAKE ISLAND Hy** baz=350,slow=76,SNR=47	**32.85**	**164**	T	T	22 08 27.7	
SONM	**Songino Array** comp=Z,0.4nm,0.4s,baz=69,slow=8.1,SNR=5.2	**33.02**	**286**	P	**P**	**21 33 30.4**	**+0.2**
SONM	comp=Z,20nm,19.7s,baz=24,slow=41			LR	LR	21 49 29.1	
INK	**Inuvik** comp=Z,0.4nm,0.2s,baz=273,slow=5.9,SNR=3.8	**36.80**	**35**	P	**P**	**21 34 02.9**	**+0.6**
INK				pP	**pP**	**21 34 14.8**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=277,slow=7.2,SNR=3.0						
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,baz=298,slow=7.7,SNR=8.3	**46.06**	**40**	P	**P**	**21 35 19.0**	**+0.8**
YKA	comp=Z,1.0nm,0.7s,baz=298,slow=7.9,SNR=10			pP	**pP**	**21 35 30.4**	**-0.2**
KURK	**Kurchatov**	**47.75**	**303**	P	**P**	**21 35 31.1**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,0.9nm,0.4s,baz=60,slow=7.2,SNR=20	**47.85**	**302**	P	**P**	**21 35 31.1**	**-1.2**
MKAR	**Makanchi Array**	**47.86**	**296**	*i* P	**P**	**21 35 34.2**	**+1.7**
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=65,slow=7.4,SNR=18	**47.86**	**296**	P	**P**	**21 35 31.4**	**-1.1**
ARU	**Arti**	**54.19**	**317**	*e i* P	**P**	**21 36 17.6**	**-2.2**
ARU						21 37 20.3	
ARU						21 38 17.7	
ARU				S	**S**	**21 43 51.1**	**-2.1**
ARU	comp=Z,9.0nm,2.9s			pmax	pmax		
ARCES	**ARCESS Array B**	**55.17**	**341**	P	**P**	**21 36 28.0**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,3.7nm,0.9s,baz=49,slow=8.4,SNR=3.6	**55.17**	**341**	P	**P**	**21 36 28.0**	**+1.2**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.6s,baz=25,slow=7.2,SNR=9.4	**56.14**	**257**	P	**P**	**21 36 36.0**	**+1.6**
NVAR	**Mina Array Bea** comp=Z,0.5nm,0.5s,baz=295,slow=6.7,SNR=2.4	**58.10**	**67**	pP	pP	21 37 01.9	+1.0
PDAR	**Pinedale Array** comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=5.0	**60.13**	**58**	P	**P**	**21 37 02.9**	**+0.6**
FINES	**FINESS Array B** comp=Z,0.7nm,0.6s,baz=65,slow=11,SNR=4.1	**61.78**	**336**	P	**P**	**21 37 11.0**	**-1.9**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.7s,baz=106,slow=4.6,SNR=2.9	**65.49**	**343**	P	**P**	**21 37 36.9**	**-0.5**
NOA	comp=Z,8.8nm,19.7s,baz=190,slow=40			LR	LR	22 10 00.5	
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=310,slow=4.5,SNR=7.5	**73.08**	**64**	P	**P**	**21 38 26.1**	**+1.2**
WRA	**Warramunga Arr** comp=Z,0.9nm,1.0s,baz=18,slow=6.3,SNR=6.4	**73.17**	**203**	P	**P**	**21 38 25.8**	**+0.6**
ASAR	**Alice Springs** comp=Z,0.6nm,0.9s,baz=185,slow=21,SNR=3.5	**76.85**	**202**	P	**P**	**21 38 48.1**	**+1.7**
ASAR	comp=Z,0.5nm,0.6s,baz=16,slow=5.4,SNR=4.0			pP	**PcP**	**21 38 59.2**	**+1.8**
PLCA	**Paso Flores** comp=Z,1.2nm,0.7s,baz=332,slow=5.8,SNR=2.9	**145.49**	**92**	PKPbc	**PKPbc**	**21 46 32.3**	**+0.2**

ISK ***13*** *21:28:09.3, 34.40N×32.25E, h13km, ML3.1/16*
GII ***13*** *21:28:11.3±0.0, 34.40N×32.23E, h15km, MD2.8/4*
NIC ***13*** *21:28:11.9±0.2, 34.47N×32.04E, h25km, ML3.3*

ISC 13 21:28:10.7±1.7, 34.44N±0.03×32.27E±0.05, h10km±12km, n49,σ0°61/68, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPCY	**Paphos** baz=211	**0.44**	**8**	P	**Pb**	**21 28 21.1**	**+0.5**
SZAC	**Souni** baz=247	**0.59**	**58**	P	**Pn**	**21 28 24.9**	**-0.3**
SZAC				S	**Sn**	**21 28 35.4**	**+0.5**
ALFC	**Alefka** baz=214	**0.76**	**21**	P	**Pb**	**21 28 26.1**	**+0.1**
ALFC				S	**Sb**	**21 28 37.5**	**+1.0**
LEF	**Lefka**	**0.85**	**37**	PG	**Pb**	**21 28 27.5**	**0.0**
LEF				SG	**Sb**	**21 28 38.8**	**-0.1**
CSS	**Mathiatis**	**1.02**	**59**	PG	**Pg**	**21 28 30.0**	**-0.3**
CSS				SG	**Sn**	**21 28 44.9**	**-0.5**
CSS	**Mathiatis** baz=245	**1.02**	**59**	P	**Pn**	**21 28 31.0**	**0.0**
CSS				S	**Sn**	**21 28 46.0**	**+0.6**
CSS	**Mathiatis**	**1.02**	**59**	Pg	**Pb**	**21 28 30.6**	**+0.2**
CSS				Sg	**Sn**	**21 28 45.6**	**+0.2**
AKDN	**Akdeniz- Kıbrı**	**1.03**	**34**	PG	**Pg**	**21 28 30.4**	**-0.1**
MAMC	**Mammari** baz=234	**1.07**	**47**	P	**Pn**	**21 28 31.7**	**0.0**
AKIN	**Akıncılar- Kıb**	**1.14**	**60**	PN	**Pg**	**21 28 31.9**	**-0.7**
LFK	**Lefkose**	**1.33**	**51**	PN	**Pn**	**21 28 34.9**	**-0.5**
PHNC	**Paralimni** baz=252	**1.56**	**68**	P	**Pn**	**21 28 38.9**	**+0.5**
EREN	**Erenkoy**	**1.90**	**55**	PN	**Pn**	**21 28 42.9**	**-0.2**
AKKU	**Akkuyu-Mersin**	**2.01**	**31**	PN	**Pn**	**21 28 44.6**	**0.0**
BERE	**Bereket-Mersin**	**2.05**	**22**	PN	**Pn**	**21 28 45.2**	**-0.2**
YESI	**Yesilovacik-Me**	**2.08**	**32**	PN	**Pn**	**21 28 45.7**	**+0.1**
IKL	**Isikli**	**2.13**	**32**	PN	**Pn**	**21 28 46.3**	**0.0**
TEVE	**Tevekalti-Mers**	**2.21**	**25**	PN	**Pn**	**21 28 47.4**	**0.0**
KEBE	**Keben-Mersin**	**2.32**	**30**	PN	**Pn**	**21 28 49.1**	**+0.1**
KIZK	**Mersin**	**2.54**	**36**	PN	**Pn**	**21 28 51.9**	**-0.1**
HNTI	**Hanita**	**2.77**	**118**	Pn	**Pn**	**21 28 55.5**	**+0.3**
HNTI				Sn	**Sn**	**21 29 28.0**	**-0.7**
AKAS	**Kas**	**2.81**	**310**	PN	**Pn**	**21 28 55.7**	**-0.2**
OFRI	**`Ofer**	**2.91**	**128**	Pn	**Pn**	**21 28 57.7**	**+0.7**
MMA0B	**Mount Meron ar**	**2.98**	**118**	Pn	**Pn**	**21 28 57.7**	**-0.3**
BLGI	**Bet Lehem HaGe**	**2.98**	**124**	Pn	**Pn**	**21 28 58.1**	**+0.1**
BLGI				Sn	**Sn**	**21 29 33.4**	**-0.3**
KORT	**Korkueli**	**2.99**	**329**	PN	**Pn**	**21 28 58.3**	**0.0**
ELL	**Elmali**	**3.00**	**321**	PN	**Pn**	**21 28 58.3**	**-0.1**
MERS	**Mersin**	**3.04**	**37**	PN	**Pn**	**21 28 59.2**	**+0.4**
GEM	**Giv'at Ha'Em**	**3.08**	**113**	Pn	**Pn**	**21 28 59.9**	**+0.5**
KSDI	**Kefar Szold**	**3.09**	**113**	Pn	**Pn**	**21 28 59.5**	**0.0**
KSDI				Sn	**Sn**	**21 29 34.6**	**-1.8**
NATI	**Neve Ativ**	**3.12**	**111**	Pn	**Pn**	**21 28 59.9**	**0.0**
NATI				Sn	**Sn**	**21 29 36.1**	**-1.0**
SLTI	**Sal'it**	**3.20**	**133**	Pn	**Pn**	**21 29 01.7**	**+0.7**
SLTI				Sn	**Sn**	**21 29 37.6**	**-1.5**
KSHT	**Keshet**	**3.29**	**115**	Pn	**Pn**	**21 29 03.0**	**+0.6**
MMLI	**Mount Malkishu**	**3.31**	**126**	PN	**Pn**	**21 29 02.4**	**-0.2**
MMLI	**Mount Malkishu**	**3.31**	**126**	Pn	**Pn**	**21 29 03.0**	**+0.4**
MMLI				Sn	**Sn**	**21 29 41.4**	**-0.6**
FETY	**Fethiye**	**3.40**	**311**	PN	**Pn**	**21 29 03.4**	**-0.3**
HMDT	**Nahal Hemdat**	**3.49**	**128**	Pn	**Pn**	**21 29 06.0**	**+0.9**
HMDT				Sn	**Sn**	**21 29 45.7**	**-0.8**
KARA	**Karaisali**	**3.61**	**38**	PN	**Pn**	**21 29 07.4**	**+0.7**
AMAZ	**Amatzia**	**3.66**	**142**	Pn	**Pn**	**21 29 08.0**	**+0.7**
AMAZ				Sn	**Sn**	**21 29 50.1**	**-0.4**
DSI	**Dead Sea**	**3.88**	**137**	Pn	**Pn**	**21 29 10.6**	**+0.2**
YTIR	**Yattir**	**3.90**	**141**	Pn	**Pn**	**21 29 11.1**	**+0.4**
YTIR				Sn	**Sn**	**21 29 56.7**	**+0.2**
KZIT	**Kziot**	**3.96**	**152**	Pn	**Pn**	**21 29 12.0**	**+0.5**
KZIT				Sn	**Sn**	**21 29 56.7**	**-1.2**
MZDA	**Masada**	**4.07**	**139**	Pn	**Pn**	**21 29 13.4**	**+0.5**
MZDA				Sn	**Sn**	**21 29 59.7**	**-0.8**
GHAJ	**Ghor Haditha**	**4.18**	**138**	Pn	**Pn**	**21 29 15.5**	**+1.0**
KOZT	**Kozan**	**4.18**	**43**	PN	**Pn**	**21 29 15.4**	**+0.8**
PRNI	**Paran**	**4.69**	**150**	Pn	**Pn**	**21 29 22.2**	**+0.6**
KRMI	**Paran Flat**	**4.79**	**154**	Pn	**Pn**	**21 29 23.9**	**+1.0**
KRMI				Sn	**Sn**	**21 30 18.1**	**-0.4**
MBRI	**Mt Berech**	**5.15**	**153**	Pn	**Pn**	**21 29 28.8**	**+0.9**
EIL	**Elat**	**5.28**	**154**	Pn	**Pn**	**21 29 30.3**	**+0.7**
EIL				Sn	**Sn**	**21 30 30.4**	**-0.1**

UCR 13 21:51:16.6±1.9, 7.52N×82.79W, h31km±8km, MD4.1, ML3.2, 2C-1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.97**	**20**	*i* P	Pn	21 51 33.9	-0.2
DVD				*i* S	Sb	21 51 47.3	-0.1
BRU2	**Volcan**	**1.27**	**4**	*i* P	Pn	21 51 38.6	+0.2
BRU2				*i* S	Sb	21 51 55.8	-0.4
EDPN	**Palmar Norte**	**1.58**	**335**	*e*P	Pn	21 51 41.4	-1.2
DRK0	**Durika**	**1.79**	**345**	*e*P	Pn	21 51 46.2	+0.6
EDDO	**Dominical**	**2.03**	**328**	*e*P	Pn	21 51 47.8	-0.8
AZU	**Azuero** baz=256,slow=9.3	**2.50**	**84**	*i* P	Pn	21 51 56.6	+1.4
AZU	comp=Z,161nm,0.1s			AMP		21 51 57.6	
AZU				*i* S	Sn	21 52 25.5	+0.8
LCR2	**La Lucha 2**	**2.52**	**332**	*e*P	Pn	21 51 55.2	-0.4
PNME	**Penonome**	**2.62**	**68**	*e*P	Pn	21 51 56.8	0.0
HDC	**Heredia**	**2.80**	**332**	*e*P	Pn	21 51 59.3	-0.1
HDC				*i* S	Sn	21 52 32.4	+0.3
ZANG	**Zanguenga, Cho**	**3.22**	**63**	*e*P	Pn	21 52 05.6	+0.5
ZANG				*e*S	Sn	21 52 42.2	-0.3
BCIP	**Isla Barro Col** baz=238,slow=5.6	**3.35**	**60**	*i* P	Pn	21 52 08.3	+1.5
BCIP				*e*S	Sn	21 52 47.4	+1.9
JTS	**JuntasAbangare**	**3.49**	**322**	*e*P	Pn	21 52 08.4	-0.4
CEDE	**Laguna Cedeo**	**3.51**	**327**	*e*P	Pn	21 52 11.5	+2.4
UPA	**Univ. de Panam**	**3.53**	**65**	*e*P	Pn	21 52 09.4	+0.1
UPA				*e*S	Sn	21 52 49.8	-0.3
PLVR	**Palo Verde**	**3.79**	**318**	*e*P	Pn	21 52 13.9	+0.9

IDC 13 22:08:21.2±3.9, 4.37S×153.45E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.3/27, mbtmp3.4/2, Error ellipse: s-maj=189.8km s-min=47.8km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=53,slow=9.7,SNR=11	**24.21**	**229**	P	P	22 13 41.0	+1.1
ASAR	**Alice Springs** 0.1nm,0.3s,baz=66,slow=7.5,SNR=3.1	**26.90**	**223**	P	P	22 14 03.3	-0.9
TORD	**Torodi Ar. Bea** 0.6nm,0.8s,baz=100,slow=2.6,SNR=3.2	**150.78**	**289**	PKPbc	PKPbc	22 28 16.2	-0.5

ISCJB ***13*** *22:19:55.4±0.2, 7.29S±0.04×120.35E±0.04, h603km±3km, mb4.3/45, Error ellipse: s-maj=6.9km s-min=3.9km az=139.6*
KLM ***13*** *22:19:55.4, 7.25S×120.63E, h604km, mb4.6*
IDC ***13*** *22:19:56.1±0.8, 7.22S×120.51E, h597km±9km, mb3.6/13, mb1 3.7/16, mb1mx3.5/38, mbtmp4.6/16, Error ellipse: s-maj=19.5km s-min=6.5km az=57.0*
DJA ***13*** *22:19:56.6±0.2, 7.5±3.3°×12.0E±°, h586km±2km, M4.4/24, mB4.9/7, mb4.5/24, MLv4.5/17, Mw(mB)4.2/7*
NEIC ***13*** *22:19:56.2±0.3, 7.27S×120.29E, h593km±4km, mb4.4/24, Error ellipse: s-maj=7.4km s-min=4.3km az=50.0*

ISC 13 22:19:55.8±0.5, 7.30S±0.05×120.35E±0.06, h592km±6km, n132,σ1°35/151, mb4.3/45, 1C, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.96**	**137**	P	**P**	**22 21 08.7**	**-0.6**
EDFI				S	**S**	**22 22 06.6**	**-2.5**
BKSI	**Bulukumba**	**1.98**	**354**	P	**P**	**22 21 10.8**	**+1.5**
MMRI	**Maumere**	**2.29**	**125**	*e*P	**P**	**22 21 10.9**	**+0.2**
MMRI				*e*S	**S**	**22 22 08.7**	**-2.9**
MMRI	**Maumere**	**2.29**	**125**	P	**P**	**22 21 10.6**	**0.0**
MMRI				S	**S**	**22 22 10.1**	**-1.4**
KAPI	**Kappang**	**2.35**	**345**	*e*P	**P**	**22 21 13.3**	**+2.3**
KAPI				*e*S	**S**	**22 22 09.7**	**-2.3**
WSI	**Waingapu**	**2.35**	**181**	P	**P**	**22 21 11.9**	**+1.0**
WSI				S	**S**	**22 22 10.5**	**-1.5**
BBSI	**Bau Bau**	**2.85**	**51**	P	**P**	**22 21 15.6**	**+2.1**
BNSI	**Bone**	**2.89**	**355**	P	**P**	**22 21 15.7**	**+2.0**
BASI	**Baing, Sumba**	**2.91**	**176**	P	**P**	**22 21 15.6**	**+1.8**
BASI				S	**S**	**22 22 18.1**	**+0.9**
PLAI	**Plampang**	**2.96**	**239**	P	**P**	**22 21 14.9**	**+0.8**
PLAI				S	**S**	**22 22 16.7**	**-1.1**
SPSI	**Sidrap Palu**	**3.36**	**350**	P	**P**	**22 21 18.1**	**+1.6**
KDI	**Kendari**	**4.02**	**34**	P	**P**	**22 21 22.2**	**+1.4**
BATI	**Baumata**	**4.37**	**132**	P	**P**	**22 21 24.5**	**+1.2**
BATI	**Baumata** 134nm,0.3s,baz=304,slow=3.3,SNR=104	**4.37**	**132**	P	**P**	**22 21 24.6**	**+1.3**
BATI				S	**S**	**22 22 32.9**	**-1.9**
SOEI	**Soe**	**4.58**	**122**	*e*P	**P**	**22 21 25.8**	**+0.8**
SOEI				*e*S	**S**	**22 22 35.0**	**-2.9**
SOEI	**Soe**	**4.58**	**122**	P	**P**	**22 21 26.0**	**+0.9**
JAGI	**Jajag, Banyuwa**	**6.25**	**259**	*e*P	**P**	**22 21 38.0**	**-0.7**
JAGI				*e*S	**S**	**22 22 58.1**	**-4.7**
APSI	**Ampana** 56nm,1.0s,600nm0.2nm	**6.48**	**12**	P	**P**	**22 21 42.7**	**+1.9**
LUWI	**Luwuk**	**6.67**	**21**	*e*P	**P**	**22 21 42.8**	**+0.3**
LUWI	**Luwuk** 97nm,0.9s,2μm0.3nm	**6.67**	**21**	P	**P**	**22 21 44.3**	**+1.8**
BLJI	**Banyuglugur** 98nm,0.5s,0.3nm	**6.71**	**266**	P	**P**	**22 21 43.9**	**+1.1**
SANI	**Sanana** 150nm,0.7s,1μm0.5nm	**7.67**	**47**	P	**P**	**22 21 51.9**	**+0.2**
MTKI	**Muara Teweh, K** 165nm,0.7s,2.1nm	**8.33**	**319**	P	**P**	**22 21 59.3**	**+1.2**
PWJI	**Pagerwojo** 25nm,0.8s,0.2nm	**8.50**	**265**	P	**P**	**22 22 03.4**	**+3.8**
UGM	**Wanagama**	**9.76**	**266**	*e*P	**P**	**22 22 11.8**	**-0.3**
KPJI	**Karang Pucung** 74nm,0.6s,892nm	**11.32**	**269**	P	**P**	**22 22 28.7**	**+1.0**
TSM	**Tawau**	**11.78**	**348**	P	**P**	**22 22 33.4**	**+1.1**
FITZ	**Fitzroy

SKNT	**Sakolnakorn**	**29.05 326**	P		**P**	**22 25 09.8**	**-0.1**
	11nm,0.8s							
BBOO	**Buckleboo**	**29.28 152**	*e*P		**P**	**22 25 13.1**	**+1.4**
	15nm,1.1s							
CHAI	**Chaiyaphum**	**29.36 322**	P		**P**	**22 25 13.1**	**+0.5**
	5.6nm,0.6s,71nm							
PBKT	**Sadao Pong**	**30.50 321**	*e*P		**P**	**22 25 22.6**	**+0.3**
	3.7nm,0.8s							
PBKT	**Sadao Pong**	**30.50 321**	P		**P**	**22 25 22.9**	**+0.6**
	6.0nm,0.7s							
UTHA	**Uthaitani**	**30.73 318**	P		**P**	**22 25 25.1**	**+0.7**
	4.1nm,0.8s							
STKA	**Stephens Creek**	**31.47 144**	*e*P		**P**	**22 25 31.7**	**+1.2**
	1.4nm,0.4s							
STKA	**Stephens Creek**	**31.47 144**	P		**P**	**22 25 32.1**	**+1.6**
	4.2nm,0.3s,baz=330,slow=8.7,SNR=16							
STKA			PcP		**PcP**	**22 28 05.0**	**0.0**
	2.1nm,0.4s,baz=25,slow=2.1,SNR=4.4							
STKA			S		**S**	**22 29 56.5**	**-1.4**
	4.5nm,0.8s,baz=356,slow=12,SNR=6.0							
UTTA	**Uttaradit**	**31.65 322**	P		**P**	**22 25 32.8**	**+0.7**
	2.5nm,0.6s							
LAMP	**Lampang**	**32.80 322**	P		**P**	**22 25 44.5**	**+2.6**
	4.7nm,0.8s							
CM01	**Chiang Mai Arr**	**33.14 321**	*e*P		**P**	**22 25 45.0**	**+0.2**
CM31	**Chiang Mai Arr**	**33.18 321**	*e*P		**P**	**22 25 45.2**	**+0.1**
	6.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**33.18 321**	P		**P**	**22 25 45.9**	**+0.8**
	3.3nm,0.7s,baz=146,slow=6.8,SNR=26							
CMAR			ScP		**ScP**	**22 30 58.5**	**-0.5**
	0.7nm,0.3s,baz=160,slow=2.9,SNR=4.3							
CMMT	**Chiang Mai**	**33.44 321**	P		**P**	**22 25 47.6**	**+0.3**
	11nm,0.8s							
CHTO	**Chiang Mai**	**33.45 321**	*e*P		**P**	**22 25 47.6**	**+0.3**
	6.4nm,0.6s							
CHTO	**Chiang Mai**	**33.45 321**	P		**P**	**22 25 47.6**	**+0.3**
	46nm,0.8s							
KMI	**Kunming**	**36.50 333**	P		**P**	**22 26 14.5**	**+1.7**
KMI			pmax		pmax			
	comp=Z,11nm,0.7s							
KMI			pmax		pmax			
	comp=Z,120nm,4.7s							
CD2	**Chengdu**	**41.18 338**	P		**P**	**22 26 49.8**	**-0.4**
CD2			pmax		pmax			
	comp=Z,30nm,0.7s							
XAN	**Xi'an**	**42.52 346**	P		**P**	**22 26 59.8**	**-0.8**
XAN			pmax		pmax			
	comp=Z,12nm,0.8s							
LZH	**Lanzhou**	**45.86 341**	⇑P		**P**	**22 27 28.0**	**+1.6**
LZH			pP		pwP	22 29 13.3	-0.6
LZH			sP		PP	22 29 25.0	+1.4
LZH			sP		sP	22 30 16.8	-0.1
LZH			pmax		pmax			
	comp=Z,20nm,1.3s							
LZH			pmax		pmax			
	comp=Z,52nm,5.6s							
LSA	**Lhasa**	**46.27 324**	*e*P		**P**	**22 27 30.1**	**+0.1**
	comp=Z,14nm,0.6s							
RAMN	**Ramite**	**47.20 317**	*e*P		**P**	**22 27 36.8**	**0.0**
	comp=Z,30nm,0.6s							
JIRN	**Jiri**	**47.95 318**	*e*P		**P**	**22 27 42.0**	**-0.5**
	comp=Z,29nm,0.5s							
GUN	**Gumba**	**48.32 318**	*e*P		**P**	**22 27 44.7**	**-0.5**
	comp=Z,32nm,0.7s							
PKI	**Pulchoki**	**48.41 317**	*e*P		**P**	**22 27 45.0**	**-0.9**
	comp=Z,29nm,0.5s							
PKIN	**Phulchoki**	**48.42 317**	*e*P		**P**	**22 27 45.0**	**-0.9**
	comp=Z,22nm,0.4s							
HHC	**Hu-ho-hao-te**	**48.59 351**	*e*P		**P**	**22 27 50.8**	**+4.2**
HHC			pmax		pmax			
	comp=Z,6.0nm,1.0s							
HHC			pmax		pmax			
	comp=Z,140nm,5.8s							
DMN	**Daman**	**48.64 317**	*e*P		**P**	**22 27 46.8**	**-0.7**
	comp=Z,11nm,0.5s							
KKN	**Kakani**	**48.64 317**	*e*P		**P**	**22 27 46.8**	**-0.6**
	comp=Z,7.2nm,0.4s							
GKN	**Gorkha**	**49.21 317**	*e*P		**P**	**22 27 50.9**	**-0.6**
	comp=Z,25nm,0.4s							
KOLN	**Koldanda**	**49.77 316**	*e*P		**P**	**22 27 55.0**	**-0.7**
	comp=Z,23nm,0.6s							
DANN	**Dangsing**	**50.03 317**	*e*P		**P**	**22 27 57.1**	**-0.6**
	comp=Z,80nm,0.5s							
GTA	**Gaotai**	**50.22 339**	P		**P**	**22 27 59.3**	**+0.6**
GTA			pmax		pmax			
	comp=Z,6.0nm,0.8s							
PYUN	**Piuthan**	**50.40 316**	*e*P		**P**	**22 27 59.8**	**-0.5**
	comp=Z,33nm,0.5s							
USRK	**Ussuriysk Ar.**	**52.33 11**	P		**P**	**22 28 11.9**	**-1.6**
	comp=Z,1.7nm,0.5s,baz=195,slow=7.0,SNR=4.3							
SONM	**Songino Array**	**56.26 349**	P		**P**	**22 28 40.9**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=167,slow=8.4,SNR=22							
WMQ	**Urumqi**	**58.84 333**	*e*P		**P**	**22 29 00.8**	**+2.1**
KSH	**Kashi**	**62.06 322**	P		**P**	**22 29 20.1**	**0.0**
KSH			PcP		**PcP**	**22 29 53.5**	**0.0**
KSH			S		S	22 36 50.4	-10
KSH			pmax		pmax			
	comp=Z,6.0nm,0.6s							
KSH			pmax		pmax			
	comp=Z,74nm,5.7s							
MK01	**Makanchi Array**	**63.56 332**	*e*P		**P**	**22 29 29.1**	**-0.3**
MK31	**Makanchi Array**	**63.58 332**	*e*P		**P**	**22 29 29.5**	**0.0**
	comp=Z,5.2nm,0.7s							
MKAR	**Makanchi Array**	**63.58 332**	P		**P**	**22 29 29.5**	**0.0**
	comp=Z,7.1nm,0.6s,baz=142,slow=7.5,SNR=126							
MAKZ	**Makanchi**	**63.74 332**	*e*P		**P**	**22 29 30.6**	**+0.1**
	comp=Z,3.6nm,0.8s							
KBL	**Kabul**	**63.85 314**	*e*P		**P**	**22 29 31.4**	**-0.3**
	comp=Z,5.0nm,0.6s							
AAK	**Ala-Archa**	**64.87 324**	*e*P		**P**	**22 29 38.0**	**+0.1**
	comp=Z,3.4nm,0.7s							
AAK	**Ala-Archa**	**64.87 324**	P		**P**	**22 29 38.4**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=127,slow=5.0,SNR=23							
CHGR	**Chuyangaron**	**65.90 318**	*e*P		**P**	**22 29 44.0**	**-0.3**
	comp=Z,5.4nm,0.7s							
ZALV	**Zalesovo Beam**	**67.95 338**	P		**P**	**22 29 55.4**	**-1.0**
	comp=Z,2.8nm,0.4s,baz=142,slow=5.2,SNR=12							
KURBB	**Kurchatov Arra**	**68.06 333**	P		**P**	**22 29 56.7**	**-0.5**
	comp=Z,2.0nm,0.7s,baz=146,slow=5.4,SNR=11							
KURK	**Kurchatov**	**68.08 333**	*e*P		**P**	**22 29 56.8**	**-0.5**
	comp=Z,27nm,0.8s							
VNDA	**Vanda**	**73.45 171**	P		**P**	**22 30 26.9**	**-1.4**
	comp=Z,4.1nm,0.7s,baz=324,slow=6.5,SNR=25							
BOSA	**Boshof**	**90.99 241**	P		**P**	**22 31 58.9**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=110,slow=4.6,SNR=8.2							
YKA	**Yellowknife Ar**	**112.10 24**	PKiKP		**PKiKP**	**22 37 23.8**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=304,slow=1.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**119.46 281**	PKP		**PKPdf**	**22 37 38.5**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=55,slow=1.6,SNR=10.0							
TXAR	**Lajitas Array**	**133.19 56**	PKP		**PKiKP**	**22 38 07.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=46,slow=3.6,SNR=4.0							
TKL	**Tuckaleechee C**	**144.15 35**	PKP	PKPbc		22 38 25.2	0.0
	comp=Z,3.1nm,0.4s,baz=159,slow=3.9,SNR=10							
CMIG	**Matias Romero**	**144.28 71**	PKP		**PKPab**	**22 38 26.6**	**+0.1**
	comp=Z,8.9nm,0.9s,baz=285,slow=5.1,SNR=6.3							
CPUP	**Villa Florida**	**146.49 184**	PKPbc		**PKPbc**	**22 38 32.7**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=229,slow=5.2,SNR=6.6							
LPAZ	**La Paz**	**155.11 160**	PKPab		**PKPab**	**22 39 12.1**	**+0.2**
	comp=Z,3.0nm,0.6s,baz=203,slow=3.5,SNR=12							

IDC ***13*** *22:32:45.0±0.7, 42°.51N×79°.73E, h0km, mb4.0/15, mb1 4.1/23, mb1mx4.0/47, mbtmp4.0/23, ML4.0/8, MS3.3/11, Ms1 3.3/11, ms1mx3.0/40, Error ellipse: s-maj=12.7km s-min=9.8km az=159.0*

BJI ***13*** *22:32:45.0, 42°.63N×79°.48E, h20km, mb4.2/12, mB4.3/12, ML4.6/10, Ms4.0/10, Ms7 3.7/9*

KRNET ***13*** *22:32:46.8±0.1, 42°.57N×79°.70E, h9km, mb5.2*

SOME ***13*** *22:32:46.8, 42°.60N×79°.58E, h5km, MS3.7*

NNC ***13*** *22:32:47.2±0.6, 42°.60N×79°.63E, h0km, mb5.3, mpv5.0, Error ellipse: s-maj=3.9km s-min=2.3km az=132.0*

MOS ***13*** *22:32:47.2±1.2, 42°.59N×79°.73E, h23km, mb4.5/10, Error ellipse: s-maj=6.7km s-min=5.7km az=81.7*

MOS Felt (IV) Echkili-Tash; (III-IV) at Ken-Suu, Djyrgalan; (III) at Almaty; (II-III) at Tup, Karakol.

NEIC ***13*** *22:32:51.1±0.5, 42.63N×79.65E, h42km±5km, mb4.1/10, Error ellipse: s-maj=6.5km s-min=4.3km az=147.0*

ISC 13 22:32:45.9±1.1, 42°.58N±0.02×79.71E±0.02, h4km±6km, n221, σ1§82/297, mb4.2/25, MS3.4/11, 56C-41D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzunbulak**	**0.76**	**319**	P	**Pb**	**22 33 01.4**	**-0.4**
	3μm,0.2s						
UZB				S	**Sb**	**22 33 11.6**	**-0.9**
	15μm,0.4s						
UZB	**Uzunbulak**	**0.76**	**319**	*e*P	**Pb**	**22 33 01.4**	**-0.4**
	baz=20						
UZB				*e*S	**Sb**	**22 33 11.6**	**-0.9**
	baz=20						
UZB	**Uzunbulak**	**0.76**	**319**	*e*P	**Pb**	**22 33 01.4**	**-0.4**
	3μm,0.2s						
UZB				*e*S	**Sb**	**22 33 11.6**	**-0.9**
	15μm,0.4s						
PDGK	**Podgornoye**	**0.76**	**348**	P	**Pb**	**22 33 01.7**	**-0.2**
	228nm,0.3s						
PDGK				S	**Sb**	**22 33 12.0**	**-0.6**
	7μm,0.7s						
PDGK	**Podgornoye**	**0.76**	**348**	⇓P	**Pb**	**22 33 01.5**	**-0.4**
	429nm,0.6s						
PDGK				⇑S	**Sb**	**22 33 12.0**	**-0.6**
	16μm,0.8s						
PDGK	**Podgornoye**	**0.76**	**348**	⇓*i*P	**Pg**	**22 33 01.3**	**+0.7**
	baz=49						
PDGK				⇓*i*S	**Sb**	**22 33 12.1**	**-0.6**
	baz=49						
PRZ	**Przheval'sk**	**0.97**	**265**	*e*Pg	**Pg**	**22 33 04.9**	**+0.3**
PRZ	**Przheval'sk**	**0.97**	**265**	*e*PG	**Pg**	**22 33 04.9**	**+0.3**
PRZ	**Przheval'sk**	**0.97**	**265**	⇑*i*P	**Pg**	**22 33 04.9**	**+0.3**
	baz=65						
PRZ				⇑*i*S	**Sg**	**22 33 17.9**	**+0.7**
	baz=65						
KTMS	**Ketmen**	**0.98**	**29**	P	**Pb**	**22 33 05.9**	**+0.3**
	343nm,0.2s						
KTMS				S	**Sb**	**22 33 19.5**	**+0.5**
	2μm,0.3s						
KTMS	**Ketmen**	**0.98**	**29**	*e*P	**Pb**	**22 33 05.9**	**+0.3**
	baz=28						
KTMS				*e*S	**Sb**	**22 33 19.5**	**+0.5**
	baz=28						
KTMS	**Ketmen**	**0.98**	**29**	*e*P	**Pb**	**22 33 05.9**	**+0.3**
	343nm,0.2s						
KTMS				*e*S	**Sb**	**22 33 19.5**	**+0.5**
	2μm,0.3s						
SATY	**Saty**	**1.07**	**297**	P	**Pg**	**22 33 06.3**	**-0.1**
	3μm,0.4s						
SATY				S	**Sg**	**22 33 20.2**	**-0.1**
	7μm,0.1s						
SATY	**Saty**	**1.07**	**297**	⇑*i*P	**Pg**	**22 33 06.3**	**-0.1**
	3μm,0.4s						
SATY				*e*S	**Sg**	**22 33 20.2**	**-0.1**
	7μm,0.1s						
KURS	**Kuram**	**1.45**	**309**	P	**Pb**	**22 33 13.6**	**+0.2**
	2μm,0.7s						
KURS				S	**Sg**	**22 33 32.6**	**+0.1**
	6μm,0.6s						
KURS	**Kuram**	**1.45**	**309**	⇑*i*P	**Pb**	**22 33 13.6**	**+0.2**
	baz=10.0						
KURS				⇓*i*S	**Sg**	**22 33 32.5**	**+0.1**
	baz=10.0						
KURS	**Kuram**	**1.45**	**309**	⇑*i*P	**Pb**	**22 33 13.6**	**+0.2**
	2μm,0.7s						
KURS				⇓*i*S	**Sg**	**22 33 32.6**	**+0.1**
	6μm,0.6s						
DJR	**Jarkent**	**1.75**	**2**	P	**Pb**	**22 33 19.2**	**+0.5**
	541nm,0.2s						
DJR				S	**Sg**	**22 33 42.9**	**+0.7**
	2μm,0.5s						
DJR	**Jarkent**	**1.75**	**2**	*e*P	**Pb**	**22 33 19.2**	**+0.5**
	541nm,0.2s						
DJR				*e*S	**Sg**	**22 33 42.9**	**+0.7**
	2μm,0.5s						
MNBS	**Baschi**	**1.77**	**328**	P	**Pb**	**22 33 19.5**	**+0.4**
	382nm,0.3s						
MNBS				S	**Sg**	**22 33 42.7**	**-0.2**
	3μm,0.4s						
MNBS	**Baschi**	**1.77**	**328**	*e*P	**Pb**	**22 33 19.5**	**+0.4**
	baz=29						
MNBS				*e*S	**Sg**	**22 33 42.8**	**-0.2**
	baz=29						
MNBS	**Baschi**	**1.77**	**328**	*e*P	**Pb**	**22 33 19.5**	**+0.4**
	382nm,0.3s						
MNBS				*e*S	**Sg**	**22 33 42.7**	**-0.2**
	3μm,0.4s						
KDJ	**Kajisay**	**1.93**	**257**	*e*Pn	**Pb**	**22 33 22.2**	**+0.6**
KDJ	**Kajisay**	**1.93**	**257**	*e*PN	**Pb**	**22 33 22.3**	**+0.6**
KDJ	**Kajisay**	**1.93**	**257**	⇑*i*P	**Pb**	**22 33 22.2**	**+0.6**
	baz=57						
KDJ				⇑*i*S	**Sg**	**22 33 47.3**	**-0.5**
	baz=57						
KOTS	**Kotyrbulak**	**2.02**	**290**	P	**Pb**	**22 33 23.0**	**-0.2**
	2μm,0.3s						
KOTS				S	**Sb**	**22 33 48.9**	**+0.2**
	34μm,0.2s						
KOTS	**Kotyrbulak**	**2.02**	**290**	*e*P	**Pb**	**22 33 23.0**	**-0.2**
	baz=90						
KOTS				*e*S	**Sb**	**22 33 48.9**	**+0.2**
	baz=90						
KOTS	**Kotyrbulak**	**2.02**	**290**	*e*P	**Pb**	**22 33 23.0**	**-0.2**
	2μm,0.3s						
KOTS				*e*S	**Sb**	**22 33 48.9**	**+0.2**
	34μm,0.2s						
MDOK	**Medeo**	**2.04**	**287**	⇓Pn	**Pb**	**22 33 23.0**	**-0.6**
MDOK				⇑Lg	Lg	22 33 49.6	
MDOK	**Medeo**	**2.04**	**287**	Pg	**Pb**	**22 33 23.1**	**-0.4**
	3μm,0.5s						
MDOK				Lg	Lg	22 33 49.9	
	7μm,0.6s						
MDOK	**Medeo**	**2.04**	**287**	⇓*i*P	**Pb**	**22 33 23.2**	**-0.4**
	baz=88						
MDOK				⇓*e*S	**Sb**	**22 33 49.9**	**+0.5**
	baz=88						
MDOK	**Medeo**	**2.04**	**287**	⇓*i*P	**Pb**	**22 33 23.1**	**-0.4**
	3μm,0.5s						
MDOK				*e*S	**Sb**	**22 33 49.9**	**+0.5**
	7μm,0.6s						
TNSS	**Tian-Shan**	**2.08**	**284**	Pg	**Pb**	**22 33 23.9**	**-0.6**
	3μm,0.5s						
TNSS				Lg	Lg	22 33 50.6	
	5μm,0.3s						
TNSS	**Tian-Shan**	**2.08**	**284**	⇑*i*P	**Pb**	**22 33 23.9**	**-0.6**
	baz=84						
TNSS				⇑*i*S	**Sb**	**22 33 50.6**	**-0.2**
	baz=84						
TNSS	**Tian-Shan**	**2.08**	**284**	⇑*i*P	**Pb**	**22 33 23.9**	**-0.6**
	3μm,0.5s						
TNSS				⇑*i*S	**Sb**	**22 33 50.6**	**-0.2**
	5μm,0.3s						
KNDC	**Almaty**	**2.11**	**288**	⇑Pn	**Pn**	**22 33 22.9**	**+0.8**
KNDC				⇑Lg	Lg	22 33 52.4	
ARXS	**Arharly**	**2.13**	**321**	Pg	**Pb**	**22 33 25.0**	**-0.1**
	2μm,0.5s						
ARXS				Lg	Lg	22 33 52.3	
	14μm,0.5s						
ARXS	**Arharly**	**2.13**	**321**	*e*P	**Pb**	**22 33 25.1**	**-0.1**
	2μm,0.5s						
ARXS				*e*S	**Sb**	**22 33 52.4**	**+0.5**
	14μm,0.5s						
AAA	**Alma-Ata**	**2.15**	**288**	Pg	**Pb**	**22 33 25.5**	**+0.1**
	2μm,0.3s						
AAA				Lg	Lg	22 33 54.4	
	7μm,0.4s						
AAA	**Alma-Ata**	**2.15**	**288**	*e*PN	**Pb**	**22 33 25.5**	**+0.1**
AAA				*e*S	**Sg**	**22 33 54.4**	**-0.4**
AAA				pmax	pmax		
	comp=Z,2μm,0.3s						
AAA				smax	smax		
	comp=N,7μm,0.4s						
AAA	**Alma-Ata**	**2.15**	**288**	*e*P	**Pb**	**22 33 25.5**	**+0.1**
	baz=88						
AAA				*e*S	**Sg**	**22 33 54.4**	**-0.4**
	baz=88						
IZV	**Izvestkoviy**	**2.32**	**282**	Pg	**Pb**	**22 33 27.4**	**-1.1**
IZV				Lg	Lg	22 33 56.5	
IZV	**Izvestkoviy**	**2.32**	**282**	*e*P	**Pb**	**22 33 27.4**	**-1.1**
IZV				*e*S	**Sb**	**22 33 56.5**	**-1.0**
CHKK	**Chushkaly**	**2.36**	**304**	Pg	**Pb**	**22 33 29.1**	**+0.1**
	comp=N,930nm,0.5s						
CHKK				Lg	Lg	22 33 59.5	
	comp=N,4μm,0.3s						
CHKK	**Chushkaly**	**2.36**	**304**	*e*P	**Pb**	**22 33 29.1**	**+0.1**
	baz=4.0						
CHKK				*e*S	**Sb**	**22 33 59.4**	**+1.0**
	baz=4.0						
CHKK	**Chushkaly**	**2.36**	**304**	*e*P	**Pb**	**22 33 29.1**	**+0.1**
	comp=N,930nm,0.5s						
CHKK				*e*S	**Sb**	**22 33 59.5**	**+1.0**
	comp=N,4μm,0.3s						
MTBS	**Maitube**	**2.47**	**284**	Pg	**Pb**	**22 33 30.6**	**-0.3**
	comp=N,3μm,0.3s						
MTBS				Lg	Lg	22 34 02.8	
	comp=N,7μm,0.3s						
MTBS	**Maitube**	**2.47**	**284**	⇑*i*P	**Pb**	**22 33 30.6**	**-0.3**
	baz=84						
MTBS				⇓*i*S	**Sb**	**22 34 02.7**	**+1.0**
	baz=84						
MTBS	**Maitube**	**2.47**	**284**	⇑*i*P	**Pb**	**22 33 30.6**	**-0.3**
	comp=N,3μm,0.3s						
MTBS				⇓*i*S	**Sb**	**22 34 02.8**	**+1.0**
	comp=N,7μm,0.3s						
KTBS	**Karatobe**	**2.48**	**298**	Pg	**Pb**	**22 33 30.6**	**-0.5**
	comp=N,671nm,0.5s						
KTBS				Lg	Lg	22 34 01.9	
	comp=N,6μm,0.2s						
KTBS	**Karatobe**	**2.48**	**298**	*e*P	**Pb**	**22 33 30.6**	**-0.5**
	baz=97						
KTBS				*e*S	**Sb**	**22 34 01.9**	**-0.2**
	baz=97						
KTBS	**Karatobe**	**2.48**	**298**	*e*P	**Pb**	**22 33 30.6**	**-0.5**
	comp=N,671nm,0.5s						
KTBS				*e*S	**Sb**	**22 34 01.9**	**-0.2**
	comp=N,6μm,0.2s						
ULHL	**Ulahol**	**2.59**	**264**	P	**Pn**	**22 33 30.1**	**+1.4**
	SNR=409						
ULHL	**Ulahol**	**2.59**	**264**	⇓*i*P	**Pb**	**22 33 31.2**	**-1.8**
	baz=64						
ULHL				⇓*i*S	**Sb**	**22 34 04.5**	**-0.7**
	baz=64						
TDK	**Taldyqorghan**	**2.60**	**339**	Pg	**Pb**	**22 33 33.5**	**+0.5**
	comp=N,764nm,0.4s						
TDK				Lg	Lg	22 34 07.6	
	comp=N,15μm,0.6s						
TDK	**Taldyqorghan**	**2.60**	**339**	*e*P	**Pb**	**22 33 33.5**	**+0.5**
	comp=N,764nm,0.5s						
TDK				*e*S	**Sg**	**22 34 07.6**	**-1.8**
	comp=N,15μm,0.6s						
KAPS	**Kapalarasan**	**2.71**	**355**	Pg	**Pb**	**22 33 35.9**	**+0.8**
	comp=N,135nm,0.2s						
KAPS				Lg	Lg	22 34 11.2	
	comp=N,4μm,0.6s						
KAPS	**Kapalarasan**	**2.71**	**355**	*e*P	**Pb**	**22 33 35.9**	**+0.8**
	comp=N,135nm,0.2s						
KAPS				*e*S	**Sg**	**22 34 11.2**	**-1.9**
	comp=N,4μm,0.6s						
BOOM	**Boomskoye usch**	**2.79**	**269**	⇑*i*P	**Pb**	**22 33 34.3**	**-2.0**
	baz=70						
BOOM				⇑*i*S	**Sb**	**22 34 08.3**	**-2.6**
	baz=70						
KUU	**Kurty**	**2.79**	**299**	Pg	**Pb**	**22 33 36.0**	**-0.3**
	comp=N,471nm,0.6s						
KUU				Lg	Lg	22 34 11.2	
	comp=N,3μm,0.2s						
KUU	**Kurty**	**2.79**	**299**	*e*P	**Pb**	**22 33 36.0**	**-0.3**
	baz=99						
KUU				⇓*i*S	**Sb**	**22 34 11.2**	**+0.4**
	baz=99						
KUU	**Kurty**	**2.79**	**299**	*e*P	**Pb**	**22 33 36.0**	**-0.3**
	comp=N,471nm,0.6s						
KUU				⇓*i*S	**Sb**	**22 34 11.2**	**+0.4**
	comp=N,3μm,0.2s						
KST	**Kastek**	**2.79**	**281**	Pg	**Pb**	**22 33 36.4**	**-0.1**
	comp=N,2μm,0.5s						
KST				Lg	Lg	22 34 12.3	
	comp=N,5μm,0.7s						
KST	**Kastek**	**2.79**	**281**	*e*P	**Pb**	**22 33 36.4**	**-0.1**
	baz=81						
KST				⇓*i*S	**Sb**	**22 34 12.3**	**+1.2**
	baz=81						
KST	**Kastek**	**2.79**	**281**	*e*P	**Pb**	**22 33 36.4**	**-0.1**
	comp=N,2μm,0.5s						
KST				⇓*i*S	**Sb**	**22 34 12.3**	**+1.2**
	comp=N,5μm,0.7s						
NRN	**Naryn**	**2.99**	**249**	*e*Pn	**Pn**	**22 33 36.7**	**+2.3**
NRN				*e*Sg	**Sb**	**22 34 19.0**	**+2.1**
NRN	**Naryn**	**2.99**	**249**	*e*PN	**Pn**	**22 33 36.7**	**+2.3**
NRN				*e*		22 34 19.0	
NRN	**Naryn**	**2.99**	**249**	⇑*i*P	**Pb**	**22 33 37.6**	**-2.3**
	baz=49						
NRN				⇑*i*S	**Sb**	**22 34 14.2**	**-2.7**
	baz=49						
TKM2	**Tokmak 2**	**3.05**	**278**	P	**Pn**	**22 33 37.5**	**+2.5**
	SNR=118						
TKM2	**Tokmak 2**	**3.05**	**278**	⇑Pn	**Pn**	**22 33 37.4**	**+2.5**
	comp=N,382nm,0.5s						
TKM2				⇑Lg	Lg	22 34 23.0	
	comp=N,987nm,0.3s						
TKM2	**Tokmak 2**	**3.05**	**278**	⇑*i*P	**Pn**	**22 33 37.4**	**+2.4**
	baz=78						
TKM2				⇑*i*S	**Sn**	**22 34 15.1**	**+3.1**
	baz=78						
KZA	**Kyzart**	**3.34**	**263**	P	**Pn**	**22 33 41.8**	**+2.5**
	SNR=306						
KZA	**Kyzart**	**3.34**	**263**	⇑*i*P	**Pn**	**22 33 41.8**	**+2.5**
	baz=63						
KZA				⇑*i*S	**Sn**	**22 34 22.4**	**+2.8**
	baz=63						
KBK	**Karagaybulak**	**3.51**	**273**	P	**Pn**	**22 33 43.8**	**+2.4**
	SNR=348						
KBK	**Karagaybulak**	**3.51**	**273**	⇑*i*P	**Pn**	**22 33 44.0**	**+2.6**
	baz=73						
KBK				⇑*i*S	**Sn**	**22 34 26.4**	**+2.9**
	baz=73						
CHMS	**Chumysh**	**3.67**	**278**	P	**Pn**	**22 33 45.4**	**+1.9**
	SNR=385						
CHMS	**Chumysh**	**3.67**	**278**	⇑*i*P	**Pn**	**22 33 46.2**	**+2.7**
	baz=78						
CHMS				⇑*i*S	**Sn**	**22 34 30.1**	**+2.9**
	baz=78						
FRU1	**Bishkek**	**3.75**	**275**	*e*Pn	**Pn**	**22 33 46.8**	**+2.2**
FRU1	**Bishkek**	**3.75**	**275**	*e*PN	**Pn**	**22 33 46.8**	**+2.2**
FRU1	**Bishkek**	**3.75**	**275**	⇑*i*P	**Pn**	**22 33 47.2**	**+2.6**
	baz=75						
FRU1				⇑*i*S	**Sn**	**22 34 31.8**	**+2.6**
	baz=75						
FRU	**Bishkek**	**3.76**	**276**	*e*PN	**Pb**	**22 33 52.0**	**-0.9**
FRU				*e*S	**Sb**	**22 34 38.0**	**-0.7**
FRU				smax	smax		
	comp=E,4μm,1.8s						
AAK	**Ala-Archa**	**3.85**	**273**	P	**Pn**	**22 33 48.0**	**+1.9**
	SNR=84						
AAK	**Ala-Archa**	**3.85**	**273**	*e*Pn	**Pn**	**22 33

baz=66
AML ⇓*i*S **Sn** **22 34 49.6 +2.0**
baz=66
MAKZ Makanchi **4.53 20** *e*Pn **Pn** **22 33 57.5 +2.3**
MAKZ Makanchi **4.53 20** ⇓Pn **Pn** **22 33 57.4 +2.3**
comp=Z,31nm,0.6s
MAKZ ⇑Lg Lg 22 35 09.9
comp=Z,182nm,1.0s
MAKZ Makanchi **4.53 20** *e*PN **Pn** **22 33 57.5 +2.3**
MK01 Makanchi Array **4.58 23** *e*Pn **Pn** **22 33 57.9 +2.0**
MK31 Makanchi Array **4.60 23** *e*Pn **Pn** **22 33 58.3 +2.1**
MK31 Makanchi Array **4.60 23** ⇓Pn **Pn** **22 33 58.5 +2.3**
comp=Z,23nm,0.3s,baz=204,slow=12,SNR=5573
MK31 ⇑Lg Lg 22 35 13.2
comp=Z,76nm,0.5s,baz=207,slow=27,SNR=5.0
MK31 Makanchi Array **4.60 23** *e*PN **Pn** **22 33 58.3 +2.1**
MKAR Makanchi Array **4.60 23** *i* PN **Pn** **22 33 58.2 +2.0**
MKAR pmax pmax
comp=Z,60nm,0.3s
MKAR Makanchi Array **4.60 23** Pn **Pn** **22 33 59.0 +2.9**
comp=Z,53nm,0.3s,baz=194,slow=12,SNR=5060
MKAR Lg Lg 22 35 11.9
comp=Z,28nm,0.3s,baz=199,slow=26,SNR=7.1
BTLS Baital **4.78 303** Pg **Pb** **22 34 13.4 +3.2**
comp=Z,178nm,0.5s
BTLS Lg Lg 22 35 15.2
comp=Z,125nm,0.8s
BTLS Baital **4.78 303** *e*P **Pb** **22 34 13.4 +3.2**
baz=3.0
BTLS *e*S **Sg** **22 35 15.2 -4.1**
baz=3.0
BTLS Baital **4.78 303** *e*P **Pb** **22 34 13.4 +3.2**
comp=Z,178nm,0.5s
BTLS *e*S **Sg** **22 35 15.2 -4.1**
comp=Z,125nm,0.8s
MRKS Merke **4.78 274** Pg **Pb** **22 34 11.7 +1.4**
comp=Z,467nm,0.3s
MRKS Lg Lg 22 35 12.8
comp=Z,782nm,0.5s
MRKS Merke **4.78 274** *e*P **Pb** **22 34 11.7 +1.4**
baz=74
MRKS ⇓*i*S **Sb** **22 35 12.8 +4.6**
baz=74
MRKS Merke **4.78 274** *e*P **Pb** **22 34 11.7 +1.4**
comp=Z,467nm,0.3s
MRKS ⇓*i*S **Sb** **22 35 12.8 +4.6**
comp=Z,782nm,0.5s
ARSB Arslanbob **5.17 258** *e*Pn **Pn** **22 34 06.3 +2.1**
ARSB Arslanbob **5.17 258** ⇑*i*P **Pn** **22 34 07.3 +3.1**
baz=58
ARSB ⇑*i*S **Sn** **22 35 05.6 +1.3**
baz=58
WMQ Urumqi **5.97 75** *e*Pn **Pn** **22 34 16.8 +1.7**
WMQ Sn **Sn** **22 35 27.9 +4.0**
WMQ smax smax
comp=Z,590nm,1.3s
WMQ smax smax
comp=Z,640nm,0.9s
WMQ LR LR
comp=Z,1μm,18.3s
WMQ LR LR
comp=Z,1μm,15.7s
WMQ LR LR
comp=Z,880nm,27.5s
WMQ Urumqi **5.97 75** *e*Pn **Pn** **22 34 18.7 +3.6**
WMQ *e*S **Sn** **22 35 22.1 -1.8**
WMQ Urumqi **5.97 75** *e*PN **Pn** **22 34 18.7 +3.6**
ZSN Zaisan **6.09 35** Pg **Pb** **22 34 36.7 +4.2**
comp=Z,29nm,1.0s
ZSN Lg Lg 22 35 55.3
comp=Z,108nm,1.0s
ZSN Zaisan **6.09 35** *e*P **Pb** **22 34 36.7 +4.2**
comp=Z,29nm,1.0s
ZSN *e*S **Sg** **22 35 55.3 -6.0**
comp=Z,342nm,2.5s
DZA Taraz **6.18 276** *e*P **Pg** **22 34 41.5 -2.7**
comp=Z,233nm,0.5s
DZA *e*S **Sg** **22 36 04.4 +0.2**
comp=Z,664nm,0.4s
KK31 Karatay Array **6.78 278** *e*Pn **Pn** **22 34 27.5 +1.3**
KK31 Karatay Array **6.78 278** ⇓Pn **Pn** **22 34 26.7 +0.5**
comp=Z,1.4nm,0.4s,baz=86,slow=14,SNR=47
KK31 ⇑Pg Pg 22 34 50.8 -5.0
comp=Z,48nm,0.6s,baz=93,slow=16,SNR=51
KK31 ⇓Lg Lg 22 36 20.9
comp=Z,77nm,0.4s,baz=96,slow=28,SNR=8.4
KK31 Karatay Array **6.78 278** *e*PN **Pn** **22 34 27.5 +1.3**
KKAR Karatay Array **6.78 278** *e*Pn **Pn** **22 34 27.5 +1.3**
KKAR Karatay Array **6.78 278** *e*PN **Pn** **22 34 27.5 +1.3**
BTK Batken **7.15 252** *e*Pn **Pn** **22 34 32.3 +1.0**
BTK Batken **7.15 252** *e*PN **Pn** **22 34 32.3 +1.0**
OTUK Ortayu **7.67 320** ⇓Pn **Pn** **22 34 39.2 +0.7**
comp=Z,45nm,0.9s
OTUK ⇓Lg Lg 22 36 49.3
comp=Z,444nm,0.9s
SEM Semipalatinsk **7.84 3** Pg **Pg** **22 35 12.9 -3.1**
comp=Z,27nm,0.4s
SEM Lg Lg 22 36 58.0
comp=Z,257nm,0.6s
GAR Garm **7.97 246** *e*Pn **Pn** **22 34 45.5 +2.9**
GAR Garm **7.97 246** *e*P **Pn** **22 34 45.5 +2.9**
KURBB Kurchatov Arra **8.08 355** ⇓Pn **Pn** **22 34 46.2 +2.2**
comp=Z,4.6nm,0.5s
KURBB ⇓Pg Pb 22 35 13.2 +6.8
comp=Z,25nm,0.9s
KURBB ⇑Lg Lg 22 37 03.5
comp=Z,838nm,0.8s
KURBB Kurchatov Arra **8.08 355** Pn **Pn** **22 34 44.5 +0.5**
comp=Z,0.2nm,0.3s,baz=197,slow=23,SNR=38
KURBB Lg Lg 22 37 00.4
comp=Z,3.1nm,0.3s,baz=189,slow=29,SNR=21
KURK Kurchatov **8.17 355** *e*Pn **Pn** **22 34 46.3 +1.2**
KURK *e*S **Sn** **22 36 18.7 +0.8**
KURK Kurchatov **8.17 355** *i* P **Pn** **22 34 47.4 +2.2**
CHGR Chuyangaron **8.93 247** *e*Pn **Pn** **22 34 57.8 +2.2**
BHK Bhakra **11.45 194** *ex* **Sn** **22 37 38.0 -0.5**
ZAA0 Zalesovo Array **11.87 15** *e*Pn **Pn** **22 35 35.6 -0.2**
ZAA0 Zalesovo Array **11.87 15** ⇑Pn **Pn** **22 35 35.9 +0.2**
comp=Z,11nm,1.0s
ZAA0 ⇓Sn **Sn** **22 37 51.0 +2.4**
comp=Z,6.1nm,1.0s
ZAA0 ⇓Lg Lg 22 39 03.8
comp=Z,7.2nm,0.8s
ZALV Zalesovo Beam **11.87 15** Pn **Pn** **22 35 35.6 -0.2**
comp=Z,1.8nm,0.3s,baz=198,slow=12,SNR=38
ZALV Sn **Sn** **22 37 45.8 -2.7**
comp=Z,1.1nm,0.3s,baz=212,slow=19,SNR=4.9
ZALV Lg Lg 22 39 05.2
comp=Z,0.7nm,0.3s,baz=197,slow=24,SNR=2.9
ZALV LR LR 22 40 31.1
comp=Z,108nm,18.3s,baz=252,slow=39
BVA0 Borovoye Array **12.17 332** Pn **Pn** **22 35 39.9 0.0**
comp=Z,9.6nm,1.1s,baz=146,slow=15,SNR=19
BVA0 Sn **Sn** **22 37 59.1 +3.2**
comp=Z,0.5nm,0.3s,baz=142,slow=24,SNR=3.5
BVA0 ⇓Lg Lg 22 39 11.8
comp=Z,90nm,0.9s,baz=137,slow=27,SNR=5.0
BVAR Borovoye Array **12.17 332** Pn **Pn** **22 35 39.7 -0.2**
comp=Z,0.5nm,0.3s,baz=147,slow=14,SNR=12
BVAR Sn **Sn** **22 37 50.6 -5.3**
comp=Z,1.6nm,0.3s,baz=134,slow=20,SNR=4.4
BVAR Lg Lg 22 39 12.4
comp=Z,2.9nm,0.3s,baz=128,slow=28,SNR=7.1
BRVK Borovoye **12.23 332** *e*Pn **Pn** **22 35 40.8 0.0**
BRVK *e*S **Sn** **22 37 53.6 -3.9**
BRVK Borovoye **12.23 332** *ce*P Pn 22 35 46.3 +5.5
BRVK pmax pmax
comp=Z,6.0nm,0.8s
NVS Novosibirsk **12.49 9** *e*P **Pn** **22 35 45.5 +1.3**
NVS *e*S **Sn** **22 37 56.6 -7.0**
DANN Dangsing **14.58 166** *e*P **Pn** **22 36 10.0 -3.2**
comp=Z,20nm,0.5s
PYUN Piuthan **14.69 168** *e*P Pn 22 36 09.5 -5.2
comp=Z,9.6nm,0.5s
GKN Gorkha **15.09 163** *e*P **Pn** **22 36 17.5 -2.5**
comp=Z,22nm,0.7s
KOLN Koldanda **15.11 167** *e*P **Pn** **22 36 16.0 -4.4**
comp=Z,24nm,0.9s
AB31 Akbulak array **15.27 303** Pn **Pn** **22 36 22.5 +0.4**
comp=Z,12nm,0.8s,baz=110,slow=14,SNR=54
AB31 ⇑Lg Lg 22 40 51.1
comp=Z,10nm,0.8s,baz=107,slow=11,SNR=2.9
ABKAR Akbulak array **15.27 303** *e*Pn **Pn** **22 36 20.1 -2.0**
comp=Z,3.6nm,0.7s
GUN Gumba **15.47 159** *e*P **Pn** **22 36 24.8 -0.5**
comp=Z,15nm,0.5s
GTA Gaotai **15.51 95** *e*P **Pn** **22 36 23.8 -1.7**
GTA pP pP 22 36 31.8 -0.4
GTA sP sP 22 36 34.3 +1.1
GTA S **Sn** **22 39 15.1 -2.6**
GTA pmax pmax
comp=Z,2.0nm,1.2s
GTA pmax pmax
comp=Z,49nm,5.6s
GTA LR LR
comp=Z,230nm,14.0s
GTA LR LR
comp=Z,210nm,14.3s
GTA LR LR
comp=Z,200nm,14.9s
DMN Daman **15.57 162** *e*P **Pn** **22 36 24.1 -2.4**
comp=Z,26nm,0.9s
PKIN Phulchoki **15.67 161** *e*P **Pn** **22 36 25.8 -2.0**
comp=Z,14nm,0.7s
PKI Pulchoki **15.68 161** *e*P **Pn** **22 36 25.5 -2.4**
comp=Z,18nm,0.7s
JIRN Jiri **15.79 158** *e*P **Pn** **22 36 29.2 -0.3**
comp=Z,22nm,0.5s
LSA Lhasa **15.81 141** *e*Pn **Pn** **22 36 31.9 +2.1**
comp=Z,6.9nm,0.8s
LSA Lhasa **15.81 141** *e*P **Pn** **22 36 31.9 +2.1**
LSA pmax pmax
comp=Z,7.0nm,0.8s
RAMN Ramite **16.58 158** *e*P **Pn** **22 36 36.8 -2.7**
comp=Z,27nm,0.7s
AKTO Aktyubinsk **16.83 305** ⇑Pn **P** **22 36 44.4 -0.1**
comp=Z,7.0nm,0.7s
AKTO ⇓Lg Lg 22 41 47.2
comp=Z,20nm,1.1s
AKTO Aktyubinsk **16.83 305** Pn **Pn** **22 36 41.4 -0.9**
comp=Z,0.5nm,0.3s,baz=102,slow=11,SNR=12
AKTO LR LR 22 43 22.6
comp=Z,100nm,21.0s,baz=116,slow=38
MOY Mondy **17.05 50** *e*P **P** **22 36 48.6 +1.6**
MOY pmax pmax
comp=Z,20nm,3.5s
GEYT Alibeck **17.11 261** P **Pn** **22 36 45.5 -0.4**
comp=Z,0.4nm,0.3s,baz=51,slow=5.7,SNR=4.8
GEYT LR LR 22 43 56.8
comp=Z,72nm,20.0s,baz=80,slow=39
ZAK Zakamensk **17.96 56** *e*P **P** **22 36 57.1 +0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk **18.75 326** *e*P **Pn** **22 37 07.7 +1.7**
SVE *e*S **S** **22 40 39.9 +0.5**
ARU Arti **19.39 323** *e*P **Pn** **22 37 13.6 -0.2**
comp=Z,10nm,0.8s
ARU *e*S Sn 22 40 40.0 -11
ARU Arti **19.39 323** *d* P **Pn** **22 37 13.7 0.0**
ARU S **S** **22 40 54.1 +1.8**
ARU pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array **19.48 65** P **P** **22 37 14.4 +0.7**
comp=Z,1.3nm,0.3s,baz=263,slow=11,SNR=44
SONM LR LR 22 44 30.8
comp=Z,21nm,21.8s,baz=268,slow=36
SHL Shillong **19.71 146** *e*P **P** **22 37 16.0 -0.5**
comp=Z,8.9nm,0.8s
SHL Shillong **19.71 146** *e*P **P** **22 37 16.0 -0.5**
SHL pmax pmax
comp=Z,9.0nm,0.8s
LZH Lanzhou **19.73 101** *e*P **Pn** **22 37 18.0 -0.1**
LZH pP sP 22 37 20.6 +0.7
LZH *e*PP **PnPn** **22 37 37.3 +5.7**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,200nm,4.6s
LZH LR LR
comp=Z,620nm,13.6s
LZH LR LR
comp=Z,440nm,13.0s
LZH LR LR
comp=Z,470nm,15.7s
ULN Ulaanbaatar **19.92 65** *e*P **P** **22 37 19.1 +0.4**
comp=Z,4.3nm,0.9s
ULN Ulaanbaatar **19.92 65** *ce*P **P** **22 37 18.2 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.7s
HHC Hu-ho-hao-te **23.77 83** *e*P **P** **22 38 01.3 +1.8**
HHC S **S** **22 42 17.8 +2.3**
HHC SS Sn 22 43 02.3 +25
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,83nm,6.9s
HHC LR LR
comp=Z,250nm,9.2s
HHC LR LR
comp=Z,170nm,10.6s
HHC LR LR
comp=Z,140nm,9.8s
GROC Groznyy **24.76 283** *e*P **P** **22 38 08.7 +0.3**
GROC *e* 22 38 38.8
GROC pmax pmax
comp=Z,10.0nm,0.9s
GNI Garni **26.24 277** *e*P **P** **22 38 21.8 -0.4**
comp=Z,27nm,1.0s
GNI Garni **26.24 277** *i* P **P** **22 38 22.4 +0.3**
GNI pmax pmax
comp=Z,18nm,1.0s
GNI Garni **26.24 277** P **P** **22 38 23.2 +1.1**
comp=Z,4.0nm,0.8s,baz=323,slow=20,SNR=2.4
BOD Bodaibo **26.36 43** *e*P **P** **22 38 22.8 0.0**
BOD pmax pmax
comp=Z,6.0nm,1.7s
GOF Gofitskoye **26.43 288** *e*P P 22 38 39.1 +16
GOF pmax pmax
comp=Z,20nm,0.6s
KBZ Khabaz **26.74 285** P **P** **22 38 26.6 +0.2**
comp=Z,0.7nm,0.7s,baz=144,slow=4.6,SNR=2.0
KIV Kislovodsk **26.85 286** *e*P **P** **22 38 30.0 +2.5**
KIV pmax pmax
comp=Z,11nm,0.9s
KIV MLR MLR
comp=Z,78nm,15.0s
NRIK Noril'sk **27.13 6** P **P** **22 38 29.6 0.0**
comp=Z,2.1nm,0.5s,baz=171,slow=8.5,SNR=3.4
CMAR Chiang Mai Arr **29.07 140** P **P** **22 38 47.7 +0.3**
comp=Z,0.6nm,0.3s,baz=321,slow=8.4,SNR=5.6
CMAR LR LR 22 51 32.7
comp=Z,39nm,20.4s,baz=234,slow=39
KLMR Klimovskoe **30.22 321** P P 22 38 51.4 -5.8
KLMR pmax pmax
comp=Z,6.0nm,1.3s
KLMR Klimovskoe **30.22 321** P P 22 38 51.5 -5.7
KLMR AMP 22 39 07.3
comp=Z,6.0nm,1.2s
OBN Obninsk **30.52 309** ⇓*e*P **P** **22 38 58.4 -1.5**
OBN *e* 22 39 04.8
OBN S **S** **22 43 58.0 -3.7**
OBN SSS SSS 22 46 03.0
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,33nm,17.0s
RAYN Ar Rayn **34.08 247** *e*P **P** **22 39 30.6 -0.9**
comp=Z,1.9nm,0.8s
RAYN Ar Rayn **34.08 247** *e*P **P** **22 39 30.6 -0.9**
RAYN pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S **34.48 281** *e*P **P** **22 39 35.8 +0.9**
comp=Z,2.6nm,0.8s
BRTR Keskin Array B **34.48 281** *ce*P **P** **22 39 35.7 +0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR Keskin Array B **34.48 281** P **P** **22 39 36.0 +1.1**
comp=Z,2.5nm,0.7s,baz=101,slow=9.4,SNR=20
KLR Kul'dur **36.21 61** *i* P **P** **22 39 48.5 -1.0**
KLR Kul'dur **36.21 61** LR LR 22 55 52.2
comp=Z,36nm,20.4s,baz=285,slow=38
FINES FINESS Array B **36.71 320** *ce*P **P** **22 39 53.7 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B **36.71 320** P **P** **22 39 53.3 -0.3**
comp=Z,0.7nm,0.5s,baz=90,slow=9.5,SNR=7.3
FINES LR LR 22 55 50.3
comp=Z,46nm,18.0s,baz=272,slow=38
KSRS Korea Array **36.88 61** LR LR 22 56 30.3
comp=Z,67nm,18.4s,baz=290,slow=39
TIXI Tiksi **37.59 23** *ce*P **P** **22 40 01.0 +0.1**
TIXI pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi **37.59 23** P **P** **22 40 01.1 +0.1**
comp=Z,7.7nm,0.7s,baz=268,slow=5.5,SNR=20
ARCES ARCESS Array B **38.46 333** P **P** **22 40 07.9 -0.5**
comp=Z,0.7nm,0.7s,baz=93,slow=11,SNR=2.9
NB2 NORSAR Subarra **43.88 319** P **P** **22 40 52.3 -0.9**
comp=Z,0.4nm,0.5s,baz=83,slow=8.6
NOA NORSAR Array B **43.88 319** P **P** **22 40 52.5 -0.6**
comp=Z,0.4nm,0.4s,baz=84,slow=8.0,SNR=5.7
NOA LR LR 22 59 53.6
comp=Z,35nm,19.6s,baz=65,slow=37
ASAJ Asahikawa **44.76 66** LR LR 23 01 06.1
comp=Z,54nm,18.8s,baz=256,slow=38
CLL Collm **44.91 305** *e*P P 22 41 09.0 +7.6
GERES GERESS Array B **45.21 302** P **P** **22 41 04.7 +0.7**
comp=Z,0.3nm,0.6s,baz=40,slow=7.8,SNR=2.7
BILL Bilibino **50.11 29** ⇓*e*P **P** **22 41 42.4 +0.8**
BILL *e* 22 41 51.8
BILL 22 43 02.0
BILL *e* 22 43 37.5
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,87nm,20.0s
KEST Kesra **53.56 288** LR LR 23 10 22.3
comp=Z,65nm,18.7s,baz=298,slow=42
IM3 Indian Mountai **64.21 21** *e*P **P** **22 43 20.9 -0.4**
INK Inuvik **66.66 13** P **P** **22 43 37.0 -0.2**
INK Inuvik **66.66 13** P **P** **22 43 37.0 -0.2**
comp=Z,1.6nm,0.4s,baz=349,slow=12,SNR=6.6
IL1 Eielson Array **66.95 20** *e*P **P** **22 43 37.8 -1.2**
ILAR Eielson Array **66.95 20** P **P** **22 43 38.8 -0.3**
comp=Z,2.0nm,0.9s,baz=311,slow=4.5,SNR=17
ILB Eielson Array **66.95 20** *e*P **P** **22 43 39.4 +0.4**
comp=Z,2.9nm,1.0s
KDAK Kodiak Island **70.90 27** *ce*P **P** **22 44 03.8 +0.1**
TOA0 Torodi Ar. Sit **72.43 272** *e*P **P** **22 44 12.6 -1.0**
TORD Torodi Ar. Bea **72.43 272** P **P** **22 44 12.2 -1.4**
comp=Z,0.5nm,0.6s,baz=53,slow=5.1,SNR=6.0
YKA Yellowknife Ar **74.64 7** P **P** **22 44 25.4 -0.4**
comp=Z,1.7nm,0.7s,baz=344,slow=5.7,SNR=31
YKB5 Yellowknife Ar **74.64 7** *e*P **P** **22 44 24.6 -1.3**
ASAR Alice Springs **82.70 131** P **P** **22 45 10.1 -0.7**
comp=Z,0.2nm,0.4s,baz=304,slow=4.1,SNR=3.1
FFC Flin Flon **83.06 1** *e*P **P** **22 45 11.8 -0.5**
comp=Z,2.8nm,1.1s
FFC Flin Flon **83.06 1** *ce*P **P** **22 45 12.2 0.0**

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*ROM **13** 22:34:50.0±0.2, 43.992N±0.010×7.59E±0.01, h10km±1km, ML2.2/14*
*ISCJB **13** 22:34:50.1±0.3, 44.01N±0.02×7.55E±0.02, h11km±2km, Error ellipse: s-maj=2.9km s-min=2.8km az=157.7*
*GEN **13** 22:34:50.6, 44.01N×7.59E, h2km±1km, MI1.8*
*LDG **13** 22:34:51.1±0.1, 44.00N×7.60E, h2km, Md2.9/3, Ml2.7/20, Error ellipse: s-maj=1.3km s-min=1.2km az=117.0*
ISC 13 22:34:50.5±0.8, 44.00N±0.02×7.58E±0.02, h7km±5km, n53, σ1°49/88, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAOF	**Saorge**	**0.02**	**229**	P	**Pg**	**22 34 51.5**	**-0.4**
SAOF				S	**Sg**	**22 34 52.0**	**-0.8**
SBF	**Sospel**	**0.17**	**217**	*e*Pg	**Pg**	**22 34 54.4**	**+0.4**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**22 34 57.5**	**+1.1**
	439nm,0.2s						
MGRO	**Montegrosso**	**0.17**	**76**	P	**Pg**	**22 34 54.1**	**+0.1**
MGRO				S	**Sg**	**22 34 56.6**	**+0.1**
NEGI	**Seborga**	**0.18**	**149**	P	**Pg**	**22 34 54.3**	**+0.2**
NEGI				S	**Sg**	**22 34 57.2**	**+0.6**
NEGI	**Seborga**	**0.18**	**149**	*i* P	**Pg**	**22 34 54.3**	**+0.2**
NEGI				S	**Sg**	**22 34 57.2**	**+0.6**
NEGI				AML	AML		
	comp=E,2415μm,0.4s						
NEGI				AML	AML		
	comp=N,2530μm,1.1s						
NEGI				AML	AML		
	comp=E,2415μm,0.4s						
NEGI				AML	AML		
	comp=N,2530μm,1.1s						
NEGI				AML	AML		
	comp=N,2530μm,1.1s						
NEGI				AML	AML		
	comp=E,2415μm,0.4s						
IMI	**Imperia**	**0.25**	**111**	P	**Pg**	**22 34 55.4**	**0.0**
IMI				S	**Sg**	**22 34 58.9**	**+0.2**
IMI	**Imperia**	**0.25**	**111**	P	**Pg**	**22 34 55.4**	**0.0**
IMI				S	**Sg**	**22 34 59.2**	**+0.5**
ENR	**Entracque**	**0.25**	**334**	P	**Pg**	**22 34 55.9**	**+0.4**
ENR				S	**Sg**	**22 34 59.1**	**+0.2**
ENR	**Entracque**	**0.25**	**334**	P	**Pg**	**22 34 56.0**	**+0.4**
ENR				S	**Sg**	**22 34 59.7**	**+0.7**
ENR				AML	AML		
	comp=E,453μm,1.0s						
ENR				AML	AML		
	comp=N,631μm,1.4s						
ENR				AML	AML		
	comp=E,453μm,1.0s						
ENR				AML	AML		
	comp=N,631μm,1.4s						
ENR				AML	AML		
	comp=E,453μm,1.0s						
ENR				AML	AML		
	comp=N,631μm,1.4s						
STV	**Sant Anna di V**	**0.30**	**324**	P	**Pg**	**22 34 56.9**	**+0.3**
STV				S	**Sg**	**22 35 00.7**	**+0.1**
STV	**Sant Anna di V**	**0.30**	**324**	P	**Pg**	**22 34 56.8**	**+0.3**
STV				S	**Sg**	**22 35 01.1**	**+0.6**
STV				AML	AML		
	comp=E,454μm,0.2s						
STV				AML	AML		
	comp=N,286μm,0.7s						
STV				AML	AML		
	comp=E,454μm,0.2s						
STV				AML	AML		
	comp=N,286μm,0.7s						
STV				AML	AML		
	comp=N,286μm,0.7s						
STV				AML	AML		
	comp=E,454μm,0.2s						
GBOS	**Grotte di Boss**	**0.31**	**38**	P	**Pg**	**22 34 56.8**	**+0.2**
GBOS				S	**Sg**	**22 35 00.8**	**+0.1**
RORO	**Rocca Rossa**	**0.37**	**72**	P	**Pg**	**22 34 57.8**	**+0.1**
RORO				S	**Sg**	**22 35 02.9**	**+0.3**
RORO	**Rocca Rossa**	**0.37**	**72**	P	**Pg**	**22 34 57.8**	**+0.1**
RORO				AML	AML		
	comp=E,316μm,1.1s						
RORO				AML	AML		
	comp=N,290μm,1.2s						
RORO				AML	AML		
	comp=E,316μm,1.1s						
RORO				AML	AML		
	comp=N,290μm,1.2s						
RORO				AML	AML		
	comp=N,290μm,1.2s						
RORO				AML	AML		
	comp=E,316μm,1.1s						
DOI	**San Damiano**	**0.56**	**335**	P	**Pg**	**22 35 01.4**	**+0.2**
DOI				AML	AML		
	comp=E,255μm,0.3s						
DOI				AML	AML		
	comp=N,374μm,0.2s						
DOI				AML	AML		
	comp=N,374μm,0.2s						
DOI				AML	AML		
	comp=E,255μm,0.3s						
FINB	**Finale Ligure**	**0.57**	**72**	P	**Pg**	**22 35 01.7**	**+0.2**
FINB				AML	AML		
	comp=E,190μm,0.7s						
FINB				AML	AML		
	comp=N,214μm,1.3s						
FINB				AML	AML		
	comp=E,190μm,0.7s						
FINB				AML	AML		
	comp=N,214μm,1.3s						
FINB				AML	AML		
	comp=N,214μm,1.3s						
FINB				AML	AML		
	comp=E,190μm,0.7s						
PZZ	**Stroppo**	**0.60**	**327**	P	**Pg**	**22 35 02.5**	**+0.3**
PZZ				S	**Sg**	**22 35 10.6**	**+0.5**
PZZ	**Stroppo**	**0.60**	**327**	P	**Pg**	**22 35 02.6**	**+0.3**
PZZ				AML	AML		
	comp=E,332μm,0.2s						
PZZ				AML	AML		

	comp=N,414μm,0.5s								
PZZ					AML	AML			
	comp=E,332μm,0.2s								
PZZ					AML	AML			
	comp=N,414μm,0.5s								
FRF	**La Foret Royal**	**0.80**	**237**	*e*Pg		**Pg**	**22**	**35**	**06.4 +0.5**
	SNR=1.0								
FRF	**La Foret Royal**	**0.80**	**237**	*e*Pn		**Pb**	**22**	**35**	**07.8 +1.0**
FRF				*e*Sg		**Sg**	**22**	**35**	**17.1 +0.7**
FRF				*e*Sn		**Sb**	**22**	**35**	**20.1 +2.3**
	comp=N,78nm,0.2s,SNR=1.0								
PCP	**Piancastagn**	**0.88**	**52**	P		**Pg**	**22**	**35**	**07.5 +0.1**
PCP				AML	AML				
	comp=E,172μm,1.4s								
PCP				AML	AML				
	comp=N,188μm,1.4s								
PCP				AML	AML				
	comp=N,188μm,1.4s								
PCP				AML	AML				
	comp=E,172μm,1.4s								
MBDF	**Montbardon**	**0.93**	**322**	*e*Pg		**Pg**	**22**	**35**	**08.3 0.0**
MBDF				*e*Sg		**Sg**	**22**	**35**	**21.3 +0.9**
	comp=E,59nm,0.4s								
ROTM	**Rocchetta Tana**	**1.01**	**33**	P		**Pg**	**22**	**35**	**09.9 -0.1**
ROTM				AML	AML				
	comp=E,501μm,0.6s								
ROTM				AML	AML				
	comp=N,679μm,0.4s								
ROTM				AML	AML				
	comp=N,679μm,0.4s								
ROTM				AML	AML				
	comp=E,501μm,0.6s								
LMR	**La Mourre**	**1.02**	**230**	*e*Pg		**Pg**	**22**	**35**	**10.2 +0.1**
	SNR=1.0								
LMR				*e*Sg		**Sg**	**22**	**35**	**23.7 +0.4**
LMR				*e*Sn		**Sb**	**22**	**35**	**25.1 +1.0**
	comp=E,108nm,0.3s,SNR=1.0								
RRL	**Rocca Remolon**	**1.08**	**329**	P		**Pg**	**22**	**35**	**10.7 -0.5**
RRL				AML	AML				
	comp=E,89μm,0.8s								
RRL				AML	AML				
	comp=N,94μm,1.0s								
RRL				AML	AML				
	comp=N,94μm,1.0s								
RRL				AML	AML				
	comp=E,89μm,0.8s								
MONC	**Moncucco Torin**	**1.10**	**13**	AML	AML				
	comp=E,280μm,0.5s								
MONC				AML	AML				
	comp=E,280μm,0.5s								
MONC				AML	AML				
	comp=N,208μm,1.4s								
MONC				AML	AML				
	comp=N,208μm,1.4s								
RSP	**Reno Superiore**	**1.17**	**349**	AML	AML				
	comp=E,48μm,1.6s								
RSP				AML	AML				
	comp=E,48μm,1.6s								
RSP				AML	AML				
	comp=N,51μm,1.6s								
RSP				AML	AML				
	comp=N,51μm,1.6s								
SMRF	**Simiane la Rot**	**1.45**	**270**	*e*Pn		**Pb**	**22**	**35**	**18.4 +0.7**
	SNR=1.0								
SMRF				*e*Sg		**Sb**	**22**	**35**	**37.3 +1.0**
	comp=N,132nm,0.4s								
SMRF				*e*S		**Sg**	**22**	**35**	**38.8 +1.9**
	comp=N,126nm,0.4s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**1.52**	**308**	*e*Pn		**Pn**	**22**	**35**	**18.3 +0.1**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**1.52**	**308**	*e*Pg		**Pb**	**22**	**35**	**19.6 +0.5**
ORIF				*e*Sn		**Sn**	**22**	**35**	**37.4 -0.9**
	comp=N,12nm,0.2s								
LPG	**La Plagne**	**1.61**	**339**	*e*Pn		**Pn**	**22**	**35**	**19.4 -0.2**
	SNR=1.0								
LPG	**La Plagne**	**1.61**	**339**	*e*Pg		**Pb**	**22**	**35**	**21.5 +0.8**
LPG				*e*Sn		**Sn**	**22**	**35**	**39.5 -1.2**
	comp=N,4.5nm,0.2s,SNR=1.0								
LPG				*e*Sg		**Sg**	**22**	**35**	**42.9 +0.7**
	comp=N,12nm,0.4s								
LPL	**La Plagne**	**1.63**	**339**	*e*Pn		**Pn**	**22**	**35**	**19.7 -0.1**
	SNR=1.0								
LPL	**La Plagne**	**1.63**	**339**	*e*P		**Pb**	**22**	**35**	**21.2 +0.2**
LPL				*e*Sn		**Sn**	**22**	**35**	**39.3 -1.9**
	comp=N,6.7nm,0.3s								
LPL				*e*Sg		**Sg**	**22**	**35**	**43.4 +0.5**
	comp=N,14nm,0.5s								
PGF	**Pioggiola**	**1.79**	**144**	*e*Pn		**Pn**	**22**	**35**	**19.7 -2.1**
	SNR=1.0								
PGF				*e*Sn		**Sn**	**22**	**35**	**41.2 -3.6**
	comp=N,19nm,0.3s,SNR=1.0								
VIVF	**Saint-Julien-l**	**2.25**	**293**	*e*Pn		**Pn**	**22**	**35**	**28.4 +0.2**
	SNR=1.0								
VIVF				*e*Sn		**Sn**	**22**	**35**	**54.6 -1.6**
	comp=N,3.8nm,0.2s								
VIVF				*e*Sg		**Sg**	**22**	**36**	**02.7 0.0**
	comp=N,2.9nm,0.2s								
LASF	**Ste Croix**	**2.68**	**273**	*e*Pn		**Pn**	**22**	**35**	**35.2 +1.1**
	SNR=1.0								
LASF				*e*Sn		**Sn**	**22**	**36**	**04.6 -2.3**
	comp=N,2.5nm,0.2s,SNR=1.0								
CABF	**La Chapelle**	**2.81**	**339**	*e*Pn		**Pn**	**22**	**35**	**35.8 -0.2**
	SNR=1.0								
DAVA	**Damuels**	**3.66**	**25**	*i* Pn		**Pn**	**22**	**35**	**51.5 +3.9**
	comp=N,2.0nm,0.5s								
DAVA				*i* Sn		**Sb**	**22**	**36**	**36.2 -4.0**
	comp=N,4.6nm,0.5s								
SMF	**Signal de Mont**	**3.73**	**316**	*e*Pn		**Pn**	**22**	**35**	**48.8 +0.3**
	SNR=1.0								
SMF				*e*Sn		**Sn**	**22**	**36**	**30.4 -2.3**
	comp=N,2.2nm,0.3s,SNR=1.0								
FETA	**Feichten**	**3.75**	**35**	*e*Pn		**Pn**	**22**	**35**	**51.6 +2.7**
	comp=N,0.7nm,0.3s								
FETA				Sn		**Sb**	**22**	**36**	**38.5 -4.2**
	comp=N,0.5nm,0.3s								
HINF	**Hinteralfeld**	**3.85**	**353**	*e*Pn		**Pn**	**22**	**35**	**50.0 -0.2**
MTLF	**Montolieu**	**3.94**	**262**	*e*Pn		**Pn**	**22**	**35**	**51.1 -0.3**
	SNR=1.0								
MTLF				*e*Sn		**Sn**	**22**	**36**	**35.5 -2.4**
	comp=N,1.6nm,0.3s								
CAF	**Calviac**	**4.05**	**285**	*e*Pn		**Pn**	**22**	**35**	**52.9 0.0**
	SNR=1.0								
AVF	**Avril sur Loir**	**4.08**	**315**	*e*Pn		**Pn**	**22**	**35**	**53.3 +0.1**
	SNR=1.0								
HAU	**Haudompre**	**4.10**	**348**	*e*Pn		**Pn**	**22**	**35**	**53.4 -0.1**
SQTA	**Sankt Quirin**	**4.11**	**37**	*e*Pn		**Pn**	**22**	**35**	**57.5 +3.8**
	comp=N,1.3nm,0.3s								
SQTA				*i* Sn		**Sn**	**22**	**36**	**47.5 +5.4**
	comp=N,0.4nm,0.2s								
MOTA	**Moosalm**	**4.16**	**35**	*e*Pn		**Pn**	**22**	**35**	**58.1 +3.6**
	comp=N,0.6nm,0.3s								
LOR	**Lormes**	**4.18**	**323**	*e*Pn		**Pn**	**22**	**35**	**54.7 0.0**
	baz=142,SNR=1.0								
LOR				*e*Sn		**Sn**	**22**	**36**	**42.2 -1.6**
	comp=N,1.2nm,0.2s,SNR=1.0								
SSF	**Saint Saulge**	**4.19**	**318**	*e*Pn		**Pn**	**22**	**35**	**54.8 0.0**
	SNR=1.0								
SSF				*e*Sn		**Sn**	**22**	**36**	**41.6 -2.4**
	comp=N,0.9nm,0.3s								
BGF	**Bois d'Agland**	**4.21**	**309**	*e*Pn		**Pn**	**22**	**35**	**55.0 0.0**
	SNR=1.0								
TCF	**Toulx Ste Croi**	**4.43**	**303**	*e*Pn		**Pn**	**22**	**35**	**58.1 0.0**
RJF	**Les Rejaudoux**	**4.52**	**289**	*e*Pn		**Pn**	**22**	**35**	**58.5 -0.8**

MEX 13 22:57:12.5±0.4, 15°59.9N×94°33.3W, h28km±12km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.07**	**84**	*i* P	Pn	22 57 29.4	-2.3
PCIG				*i* S	Sn	22 57 42.0	-3.6
CMIG	**Matias Romero**	**1.59**	**340**	*i* P	Pn	22 57 36.7	-2.1
CMIG				*i* S	Sn	22 57 55.2	-3.2

*SOME **13** 22:58:57.6, 42°.60N×79°.72E, h10km*
*KRNET **13** 22:58:58.9±0.1, 42°.61N×79°.62E, h13km, mb2.2*
*NNC **13** 22:58:59.0±1.6, 42°.63N×79°.69E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=9.8km s-min=6.7km az=131.0*
ISC 13 22:58:57.2±1.7, 42°.57N±0°.05×79°.69E±0°.06, h14km±10km, n21, σ0°80/41, 14C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzunbulak**	**0.76**	**320**	P	**Pg**	**22**	**59**	**12.4 +0.4**
	3.5nm,0.1s							
UZB				S	**Sg**	**22**	**59**	**22.3 +0.3**
	11nm,0.1s							
UZB	**Uzunbulak**	**0.76**	**320**	*e*P	**Pg**	**22**	**59**	**12.0 0.0**
	baz=21							
UZB				*e*S	**Sb**	**22**	**59**	**22.5 -0.1**
	baz=21							
UZB	**Uzunbulak**	**0.76**	**320**	*e*P	**Pg**	**22**	**59**	**12.0 0.0**
	3.5nm,0.1s							
UZB				*e*S	**Sb**	**22**	**59**	**22.5 -0.1**
	11nm,0.3s							
PDGK	**Podgornoye**	**0.78**	**349**	P	**Pb**	**22**	**59**	**12.9 +0.3**
	0.4nm,0.1s							
PDGK				S	**Sb**	**22**	**59**	**23.2 +0.2**
	3.2nm,0.1s							
PDGK	**Podgornoye**	**0.78**	**349**	⇑P	**Pb**	**22**	**59**	**13.0 +0.3**
	0.2nm,0.2s							
PDGK				⇑S	**Sb**	**22**	**59**	**22.8 -0.2**
	6.7nm,0.8s							
PDGK	**Podgornoye**	**0.78**	**349**	⇓*i*P	**Pb**	**22**	**59**	**12.8 +0.3**
	baz=52							
PDGK				⇓*i*S	**Sb**	**22**	**59**	**23.2 +0.2**
	baz=52							
PRZ	**Przheval'sk**	**0.95**	**265**	⇑*i*P	**Pg**	**22**	**59**	**16.5 +0.8**
	baz=62							
PRZ				⇑*i*S	**Sb**	**22**	**59**	**28.7 +0.5**
	baz=62							
KTMS	**Ketmen**	**1.01**	**29**	P	**Pn**	**22**	**59**	**17.2 +0.2**
	1.7nm,0.1s							
KTMS				S	**Sn**	**22**	**59**	**30.5 -0.6**
	2.4nm,0.2s							
SATY	**Saty**	**1.06**	**298**	P	**Pg**	**22**	**59**	**18.4 +0.6**
	2.9nm,0.2s							
SATY				S	**Sn**	**22**	**59**	**32.6 +0.1**
	7.2nm,0.1s							
SATY	**Saty**	**1.06**	**298**	*e*P	**Pb**	**22**	**59**	**17.7 +0.2**
	1.8nm,0.2s							
SATY				*e*S	**Sn**	**22**	**59**	**32.5 +0.1**
	7.2nm,0.1s							
KPKS	**Kokpek**	**1.16**	**321**	*e*P	**Pb**	**22**	**59**	**19.3 +0.2**
	baz=21							
KPKS				*e*S	**Sn**	**22**	**59**	**34.9 0.0**
	baz=21							
KPKS	**Kokpek**	**1.16**	**321**	*e*P	**Pb**	**22**	**59**	**19.3 +0.2**
	3.7nm,0.2s							
KPKS				*e*S	**Sn**	**22**	**59**	**34.8 0.0**
	7.1nm,0.3s							
DJR	**Jarkent**	**1.77**	**2**	*e*P	**Pb**	**22**	**59**	**29.9 +0.5**
	0.6nm,0.2s							
DJR				*e*S	**Sg**	**22**	**59**	**53.7 -0.4**
	1.4nm,0.2s							
MNBS	**Baschi**	**1.78**	**329**	P	**Pb**	**22**	**59**	**30.8 +1.2**
	0.9nm,0.1s							
MNBS				S	**Sg**	**22**	**59**	**53.9 -0.5**
	10nm,0.1s							
KDJ	**Kajisay**	**1.91**	**258**	⇑*i*P	**Pg**	**22**	**59**	**33.8 0.0**
	baz=56							
KDJ				⇑*i*S	**Sg**	**22**	**59**	**58.5 -0.1**
	baz=56							
MDOK	**Medeo**	**2.03**	**288**	⇑Pn	**Pb**	**22**	**59**	**34.5 +0.5**
	1.2nm,0.5s							
MDOK				⇓Sn	**Sb**	**23**	**00**	**01.2 +2.1**
	2.9nm,0.6s							
ULHL	**Ulahol**	**2.57**	**264**	⇑*i*P	**Pb**	**22**	**59**	**43.4 +0.2**
	baz=63							
ULHL				⇑*i*S	**Sb**	**23**	**00**	**15.8 +1.0**
	baz=63							
KAPS	**Kapalarasan**	**2.73**	**355**	*e*P	**Pb**	**22**	**59**	**46.8 +1.0**
	0.2nm,0.1s							
KAPS				*e*S	**Sg**	**23**	**00**	**22.4 -2.5**
	2.8nm,0.4s							
BOOM	**Boomskoye usch**	**2.77**	**270**	⇑*i*P	**Pb**	**22**	**59**	**46.4 -0.2**
	baz=69							
BOOM				⇑*i*S	**Sb**	**23**	**00**	**20.5 0.0**
	baz=69							
TKM2	**Tokmak 2**	**3.03**	**278**	⇓Pg	**Pg**	**22**	**59**	**54.2 -1.2**
	1.4nm,0.9s							
TKM2				⇑Lg	Lg	23	00	32.0
	0.8nm,0.4s							
TKM2	**Tokmak 2**	**3.03**	**278**	⇑*i*P	**Pb**	**22**	**59**	**49.5 -1.6**
	baz=77							
TKM2				⇑*i*S	**Sb**	**23**	**00**	**26.5 -1.6**
	baz=77							

*IDC **13** 23:09:00.7±1.0, 39°.23N×23°.37E, h0km, mb3.5/9, mb1 3.6/14, mb1mx3.5/44, mbtmp3.5/14, ML3.6/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/40, Error ellipse: s-maj=18.9km s-min=13.6km az=107.0*
*ISK **13** 23:09:00.5, 39°.20N×23°.46E, h10km, ML3.8/39*
*ISCJB **13** 23:09:01.1±0.3, 39°.222N±0°.009×23°.49E±0°.01, h11km±2km, mb3.4/9, MS2.8/3, Error ellipse: s-maj=1.7km s-min=1.5km az=24.1*
*ATH **13** 23:09:01.1, 39°.19N×23°.47E, h15km±1km, ML3.7/39, Error ellipse: s-maj=1.3km s-min=0.7km az=39.0*
*THE **13** 23:09:01.6, 39°.20N×23°.49E, h12km, ML3.6/52, Error ellipse: s-maj=0.5km s-min=0.3km az=99.0*
ISC 13 23:09:01.6±0.7, 39°.20N±0°.01×23°.44E±0°.01, h11km±3km, n268, σ1s05/340, mb3.5/9, MS2.7/3, 15C-16D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKIA	**Skiathos**	**0.04**	**150**	P	**Pg**	**23**	**09**	**03.3 -0.5**
SKIA				S	**Sg**	**23**	**09**	**04.7 -0.7**
SKIA	**Skiathos**	**0.04**	**150**	P	**Pg**	**23**	**09**	**03.3 -0.5**
SKIA				S	**Sg**	**23**	**09**	**04.6 -0.7**
SKIA				AML	AML	23	09	04.7
SKIA				AML	AML	23	09	05.2
NEO	**Neokhori**	**0.20**	**302**	P	**Pb**	**23**	**09**	**06.3 -1.0**
NEO				S	**Sb**	**23**	**09**	**09.4 +0.4**
NEO	**Neokhori**	**0.20**	**302**	P	**Pb**	**23**	**09**	**06.4 -1.0**
NEO				S	**Sb**	**23**	**09**	**09.6 +0.6**
NEO				AML	AML	23	09	10.4
NEO				AML	AML	23	09	10.7
XOR	**Xorichti**	**0.26**	**311**	P	**Pb**	**23**	**09**	**07.2 -1.0**
XOR				S	**Sb**	**23**	**09**	**11.6 -1.1**
XOR	**Xorichti**	**0.26**	**311**	P	**Pb**	**23**	**09**	**07.3 -1.0**
XOR				S	**Sb**	**23**	**09**	**11.3 -1.4**
XOR				AML	AML	23	09	11.7
	comp=E,63686μm,0.2s							
XOR				AML	AML	23	09	12.1
	comp=N,90764μm,0.3s							
ALNA	**Alonissos**	**0.33**	**99**	P	**Pg**	**23**	**09**	**07.9 -0.5**
ALNA				AML	AML	23	09	12.8
	comp=E,38158μm,0.4s							
ALNA				AML	AML	23	09	14.8
	comp=N,30484μm,0.4s							
AOS	**Alonnisos**	**0.34**	**95**	PG	**Pg**	**23**	**09**	**07.4 -1.1**
AOS				SG	**Sg**	**23**	**09**	**12.3 -0.8**
AOS	**Alonnisos**	**0.34**	**95**	P	**Pg**	**23**	**09**	**07.6 -0.9**
AOS				S	**Sg**	**23**	**09**	**12.0 -1.1**
AOS	**Alonnisos**	**0.34**	**95**	P	**Pg**	**23**	**09**	**07.8 -0.7**
AOS				S	**Sg**	**23**	**09**	**12.3 -0.8**
AOS				AML	AML	23	09	13.7
	comp=N,27516μm,0.3s							
AOS				AML	AML	23	09	13.8
	comp=E,24946μm,0.3s							
SMIA	**Simia**	**0.37**	**210**	P	**Pg**	**23**	**09**	**09.2 +0.2**
SMIA				S	**Sb**	**23**	**09**	**15.2 -0.7**
SMIA	**Simia**	**0.37**	**210**	P	**Pg**	**23**	**09**	**09.2 +0.2**
SMIA				S	**Sg**	**23**	**09**	**13.9 0.0**
SMIA				AML	AML	23	09	17.7
SMIA				AML	AML	23	09	20.3
	comp=E,98229μm,0.4s							
FYTO	**Fytoko, Volos**	**0.44**	**298**	P	**Pb**	**23**	**09**	**10.6 -0.8**
FYTO				S	**Sb**	**23**	**09**	**17.2 -0.8**
FYTO	**Fytoko, Volos**	**0.44**	**298**	P	**Pb**	**23**	**09**	**10.8 -0.6**
FYTO				S	**Sb**	**23**	**09**	**17.3 -0.8**
MRKA	**Markates**	**0.51**	**167**	P	**Pg**	**23**	**09**	**11.2 -0.3**
MRKA				S	**Sg**	**23**	**09**	**18.5 +0.3**
MRKA	**Markates**	**0.51**	**167**	P	**Pg**	**23**	**09**	**10.5 -1.0**
MRKA				S	**Sg**	**23**	**09**	**18.0 -0.3**
MRKA				AML	AML	23	09	18.9
	comp=N,31049μm,0.3s							
MRKA				AML	AML	23	09	19.1
	comp=E,20658μm,0.3s							
ATAL	**Atalanti**	**0.60**	**213**	P	**Pg**	**23**	**09**	**13.4 0.0**
ATAL				S	**Sb**	**23**	**09**	**22.1 -0.5**
ATAL	**Atalanti**	**0.60**	**213**	P	**Pg**	**23**	**09**	**13.4 0.0**
ATAL				AML	AML	23	09	23.9
	comp=N,23657μm,0.5s							
ATAL				AML	AML	23	09	23.9
	comp=E,22077μm,0.4s							
PAIG	**Paliouri**	**0.75**	**14**	P	**Pb**	**23**	**09**	**16.5 -0.2**
PAIG				S	**Sn**	**23**	**09**	**27.8 -1.7**
PAIG	**Paliouri**	**0.75**	**14**	P	**Pb**	**23**	**09**	**16.5 -0.2**
PAIG				S	**Sb**	**23**	**09**	**27.0 +0.1**
PAIG				AML	AML	23	09	28.1
	comp=N,12200μm,0.5s							
PAIG				AML	AML	23	09	30.1
	comp=E,7566μm,0.4s							
EREA	**Eretria**	**0.87**	**154**	P	**Pb**	**23**	**09**	**17.5 -1.2**
EREA				S	**Sg**	**23**	**09**	**30.6 +0.9**
EREA	**Eretria**	**0.87**	**154**	P	**Pb**	**23**	**09**	**17.7 -1.0**
EREA				AML	AML	23	09	32.1
	comp=E,21863μm,0.4s							
EREA				AML	AML	23	09	32.8
	comp=N,27043μm,0.4s							
AGG	**Agios Georgios**	**0.88**	**259**	PG	**Pg**	**23**	**09**	**18.2 -0.5**
AGG				SG	**Sn**	**23**	**09**	**30.9 -1.9**
AGG	**Agios Georgios**	**0.88**	**259**	P	**Pg**	**23**	**09**	**18.2 -0.5**
AGG				S	**Sn**	**23**	**09**	**31.5 -1.3**
AGG	**Agios Georgios**	**0.88**	**259**	P	**Pg**	**23**	**09**	**18.5 -0.2**
AGG				AML	AML	23	09	34.2
	comp=E,8277μm,0.4s							
AGG				AML	AML	23	09	35.0
	comp=N,9468μm,0.5s							
SKY	**Skiros Island**	**0.92**	**110**	P	**Pb**	**23**	**09**	**18.8 -0.8**
SKY				S	**Sb**	**23**	**09**	**31.2 -0.6**
SKY	**Skiros Island**	**0.92**	**110**	P	**Pb**	**23**	**09**	**18.0 -1.6**
SKY				AML	AML	23	09	32.2
	comp=N,16751μm,0.2s							
SKY				AML	AML	23	09	34.2
	comp=E,18733μm,0.2s							
LRSO	**Larissa Observ**	**0.94**	**300**	P	**Pn**	**23**	**09**	**19.8 -0.9**
LRSO				S	**Sn**	**23**	**09**	**34.3 +0.2**
LRSO	**Larissa Observ**	**0.94**	**300**	P	**Pn**	**23**	**09**	**20.1 -0.6**
VIL2	**Platees**	**0.99**	**188**	P	**Pb**	**23**	**09**	**20.9 +0.1**
VIL2				AML	AML	23	09	38.2
	comp=N,18860μm,0.6s							
VIL2				AML	AML	23	09	39.3
	comp=E,26411μm,0.6s							
PROD	**Prodromos**	**1.03**	**204**	P	**Pb**	**23**	**09**	**20.0 -1.4**
PROD				S	**Sn**	**23**	**09**	**36.3 -0.1**
PROD	**Prodromos**	**1.03**	**204**	P	**Pb**	**23**	**09**	**20.8 -0.7**
PROD				AML	AML	23	09	40.6
	comp=E,7736μm,0.3s							
PROD				AML	AML	23	09	40.6
	comp=N,7138μm,0.4s							
VILL	**Villia**	**1.04**	**186**	P	**Pb**	**23**	**09**	**20.7 -0.9**
VILL				S	**Sg**	**23**	**09**	**36.1 +0.9**
DSF	**Desfina**	**1.06**	**223**	P	**Pb**	**23**	**09**	**21.2 -0.8**
DSF				S	**Sn**	**23**	**09**	**37.2 0.0**
DSF	**Desfina**	**1.06**	**223**	P	**Pb**	**23**	**09**	**21.6 -0.4**
DSF				AML	AML	23	09	41.5
	comp=E,8304μm,0.5s							
DSF				AML	AML	23	09	42.3
	comp=N,6206μm,0.3s							
LIT	**Litokhoron**	**1.16**	**321**	P	**Pn**	**23**	**09**	**23.2 -0.6**
LIT				S	**Sn**	**23**	**09**	**40.3 +0.6**
LIT	**Litokhoron**	**1.16**	**321**	P	**Pn**	**23**	**09**	**23.4 -0.5**
LIT				AML	AML	23	09	42.7
	comp=N,14137μm,0.5s							
LIT				AML	AML	23	09	44.3
	comp=E,8292μm,0.3s							
THL	**Klokotos Trika**	**1.17**	**289**	P	**Pb**	**23**	**09**	**23.1 -0.6**
THL				S	**Sn**	**23**	**09**	**40.5 +0.8**
THL	**Klokotos Trika**	**1.17**	**289**	P	**Pg**	**23**	**09**	**23.7 -0.4**
THL				AML	AML	23	09	44.7
	comp=E,2748μm,0.6s							
THL				AML	AML	23	09	46.6
	comp=N,2503μm,0.8s							
PLG	**Polygyros**	**1.17**	**0**	P	**Pn**	**23**	**09**	**22.0 -2.0**
PLG				S	**Sb**	**23**	**09**	**38.2 -0.9**
PLG	**Polygyros**	**1.17**	**0**	P	**Pn**	**23**	**09**	**22.9 -1.1**
PLG				AML	AML	23	09	38.9
	comp=E,5236μm,0.7s							
PLG				AML	AML	23	09	39.6
	comp=N,4335μm,0.6s							
OUR	**Ouranopolis**	**1.21**	**20**	PN	**Pn**	**23**	**09**	**23.9 -0.5**
OUR	**Ouranopolis**	**1.21**	**20**	P	**Pn**	**23**	**09**	**23.5 -0.9**
OUR				S	**Sb**	**23**	**09**	**39.7 -0.4**
OUR	**Ouranopolis**	**1.21**	**20**	P	**Pn**	**23**	**09**	**23.5 -0.9**
OUR				AML	AML	23	09	44.1
	comp=N,4846μm,0.4s							
OUR				AML	AML	23	09	44.8
	comp=E,3997μm,0.7s							
LTK	**Loutraki**	**1.23**	**198**	P	**Pn**	**23**	**09**	**24.2 -0.6**
LTK				S	**Sg**	**23**	**09**	**41.8 +0.5**
LTK	**Loutraki**	**1.23**	**198**	P	**Pn**	**23**	**09**	**24.7 -0.1**
LTK				AML	AML	23	09	46.2
	comp=N,5961μm,0.5s							
LTK				AML	AML	23	09	49.1
	comp=E,8912μm,0.5s							
ATH	**Athens Observa**	**1.24**	**170**	P	**Pn**	**23**	**09**	**24.2 -0.7**
ATH				S	**Sb**	**23**	**09**	**40.4 -0.7**
ATH	**Athens Observa**	**1.24**	**170**	P	**Pn**	**23**	**09**	**24.8 -0.1**
ATH				AML	AML	23	09	45.3
	comp=E,7213μm,0.3s							
ATH				AML	AML	23	09	45.7
	comp=N,6813μm,0.5s							
ATHU	**Athens Univers**	**1.26**	**168**	P	**Pn**	**23**	**09**	**24.4 -0.7**
ATHU				S	**Sb**	**23**	**09**	**40.4 -1.2**
ATHU	**Athens Univers**	**1.26**	**168**	P	**Pn**	**23**	**09**	**24.7 -0.5**
ATHU				AML	AML	23	09	45.0
	comp=N,2472μm,0.7s							
ATHU				AML	AML	23	09	46.7
	comp=E,1656μm,0.6s							
LOUT	**Loutraki**	**1.26**	**197**	P	**Pn**	**23**	**09**	**24.6 -0.6**
LOUT				S	**Sb**	**23**	**09**	**41.4 -0.3**
LOUT	**Loutraki**	**1.26**	**197**	P	**Pn**	**23**	**09**	**25.1 -0.1**
KALE	**Kalithea**	**1.30**	**232**	P	**Pb**	**23**	**09**	**25.8 -0.3**
KALE				S	**Sg**	**23**	**09**	**43.6 +0.1**
KALE	**Kalithea**	**1.30**	**232**	P	**Pb**	**23**	**09**	**26.0 0.0**
KALE				AML	AML	23	09	47.0
	comp=N,3063μm,0.3s							
KALE				AML	AML	23	09	51.2
	comp=E,4314μm,0.8s							
EVR	**Evrytania**	**1.30**	**258**	P	**Pb**	**23**	**09**	**25.9 -0.3**
EVR	**Evrytania**	**1.30**	**258**	P	**Pg**	**23**	**09**	**26.7 0.0**
EVR				AML	AML	23	09	53.6
	comp=N,1455μm,0.7s							
EVR				AML	AML	23	09	56.2
	comp=E,1654μm,0.8s							
SERG	**Sergoula**	**1.34**

GUR	**Goura**	**1.53 215**	P	Pn	**23 09 28.9**	**0.0**
GUR			S	Sg	**23 09 50.3**	**-0.5**
GUR	**Goura**	**1.53 215**	P	Pd	**23 09 29.4**	**-0.6**
GUR			AML	AML	23 09 54.5	
	comp=E,5552μm,0.6s					
GUR			AML	AML	23 09 56.4	
	comp=N,8476μm,0.5s					
KLV	**Kalavryta, Ach**	**1.53 222**	P	Pb	**23 09 29.3**	**-0.8**
KLV			S	Sb	**23 09 49.4**	**-0.1**
KLV	**Kalavryta, Ach**	**1.53 222**	P	Pb	**23 09 29.2**	**-0.8**
KLV			AML	AML	23 09 56.5	
	comp=N,2089μm,0.6s					
KLV			AML	AML	23 09 57.1	
	comp=E,1486μm,0.7s					
EPID	**Epidavros**	**1.60 189**	P	Pn	**23 09 30.4**	**+0.5**
EPID			AML	AML	23 09 58.1	
	comp=E,2745μm,0.3s					
EPID			AML	AML	23 09 58.4	
	comp=N,2185μm,0.4s					
PVO	**Paravola**	**1.60 249**	P	Pb	**23 09 30.3**	**-0.9**
PVO	**Paravola**	**1.60 249**	P	Pb	**23 09 31.0**	**-0.2**
SOH	**Sokhos**	**1.62 358**	P	Pn	**23 09 29.9**	**-0.3**
SOH			S	Sn	**23 09 50.3**	**-0.8**
DID	**Didima**	**1.70 186**	P	Pn	**23 09 30.7**	**-0.5**
DID			S	Sn	**23 09 52.4**	**-0.5**
DID	**Didima**	**1.70 186**	P	Pn	**23 09 31.0**	**-0.2**
DID			AML	AML	23 09 53.1	
	comp=N,3625μm,0.4s					
DID			AML	AML	23 10 01.6	
	comp=E,2710μm,0.4s					
KZN	**Kozani**	**1.70 311**	P	Pb	**23 09 31.6**	**-1.3**
KZN			S	Sb	**23 09 52.9**	**-1.4**
KZN	**Kozani**	**1.70 311**	P	Pb	**23 09 31.8**	**-1.1**
KZN			AML	AML	23 10 03.0	
	comp=E,3859μm,0.8s					
KZN			AML	AML	23 10 05.8	
	comp=N,2606μm,0.8s					
THAS	**Thassos island**	**1.71 35**	P	Pn	**23 09 29.7**	**-1.7**
THAS			S	Sn	**23 09 52.8**	**-0.4**
KPRO	**Kipourio**	**1.77 296**	P	Pb	**23 09 33.0**	**-1.2**
KPRO			S	Sb	**23 09 54.8**	**-1.7**
KPRO	**Kipourio**	**1.77 296**	P	Pb	**23 09 33.1**	**-1.2**
KPRO			AML	AML	23 10 12.2	
	comp=N,3273μm,0.8s					
KPRO			AML	AML	23 10 14.5	
	comp=E,2388μm,0.9s					
MEV	**Metsovon**	**1.81 290**	P	Pb	**23 09 33.5**	**-1.3**
KRND	**KRANIDI**	**1.83 187**	P	Pn	**23 09 32.6**	**-0.3**
KRND			S	Sn	**23 09 55.6**	**-0.4**
DRO	**Drossia**	**1.84 228**	P	Pn	**23 09 33.9**	**+0.8**
DRO	**Drossia**	**1.84 228**	P	Pb	**23 09 34.0**	**-1.3**
DRO			AML	AML	23 10 09.9	
	comp=N,2081μm,0.5s					
DRO			AML	AML	23 10 11.0	
	comp=E,2775μm,0.7s					
SIGR	**SIGRI**	**1.88 89**	PN	Pn	**23 09 33.4**	**-0.2**
SIGR	**SIGRI**	**1.88 89**	P	Pn	**23 09 33.6**	**0.0**
SIGR	**SIGRI**	**1.88 89**	P	Pn	**23 09 34.2**	**+0.6**
SIGR			AML	AML	23 10 07.0	
	comp=N,2378μm,0.7s					
SIGR			AML	AML	23 10 07.1	
	comp=E,1560μm,0.7s					
TRIP	**Tripoli**	**1.91 209**	P	Pn	**23 09 34.7**	**+0.7**
TRIP			S	Sn	**23 09 58.0**	**-0.1**
TRIP	**Tripoli**	**1.91 209**	P	Pn	**23 09 34.8**	**+0.7**
TRIP			AML	AML	23 10 09.6	
	comp=N,1033μm,0.5s					
TRIP			AML	AML	23 10 15.2	
	comp=E,1405μm,0.9s					
SRS	**Serrai**	**1.92 3**	P	Pn	**23 09 33.6**	**-0.6**
SRS			S	Sn	**23 09 56.8**	**-1.6**
RLS	**Riolos of Patr**	**1.92 234**	P	Pn	**23 09 33.4**	**-0.8**
KAVA	**Kavala**	**1.98 24**	P	Pn	**23 09 33.6**	**-1.4**
KAVA			S	Sn	**23 09 58.4**	**-1.3**
KNT	**Kendrikon**	**2.00 348**	PN	Pn	**23 09 35.6**	**+0.2**
KNT	**Kendrikon**	**2.00 348**	P	Pn	**23 09 35.6**	**+0.2**
KNT			S	Sn	**23 10 00.0**	**-0.4**
VLX	**Vlachokerasia**	**2.01 205**	P	Pn	**23 09 36.1**	**+0.6**
VLX	**Vlachokerasia**	**2.01 205**	P	Pn	**23 09 36.4**	**+0.9**
PENT	**Pentalofos**	**2.04 300**	P	Pn	**23 09 36.0**	**+0.1**
SMTH	**Samothraki Isl**	**2.05 51**	P	Pn	**23 09 33.8**	**-2.2**
SMTH			S	Sn	**23 10 00.9**	**-0.6**
JAN	**Janina**	**2.06 284**	P	Pn	**23 09 35.0**	**-1.1**
JAN			S	Sb	**23 10 03.7**	**-0.9**
JAN	**Janina**	**2.06 284**	P	Pb	**23 09 38.4**	**-0.6**
BOZC	**Bozcaada**	**2.12 72**	PN	Pn	**23 09 36.9**	**0.0**
BOZC	**Bozcaada**	**2.12 72**	*i* P	Pn	**23 09 37.0**	**+0.1**
BOZC			*i* S	Sg	**23 10 11.2**	**+1.4**
BOZC			IAML_P			
	comp=Z,512nm,0.2s					
AMT	**Artemida-Makis**	**2.15 220**	P	Pn	**23 09 38.7**	**+1.3**
AMT			S	Sb	**23 10 05.5**	**-1.7**
AMT	**Artemida-Makis**	**2.15 220**	P	Pn	**23 09 38.7**	**+1.3**
AMT			AML	AML	23 10 15.1	
	comp=N,2070μm,0.6s					
AMT			AML	AML	23 10 18.7	
	comp=E,1953μm,0.6s					
NVR	**Nevrokopi**	**2.17 8**	P	Pn	**23 09 37.0**	**-0.7**
SERI	**Serifos**	**2.19 158**	P	Pn	**23 09 37.3**	**-0.7**
SERI			S	Sn	**23 10 04.9**	**-0.2**
CHOS	**Chios island**	**2.20 111**	PN	Pn	**23 09 38.2**	**+0.1**
CHOS	**Chios island**	**2.20 111**	P	Pn	**23 09 37.7**	**-0.4**
CHOS			S	Sn	**23 10 03.9**	**-1.4**
PRK	**Paraskevi**	**2.20 88**	P	Pn	**23 09 39.2**	**+1.2**
PRK			AML	AML	23 10 15.8	
	comp=E,2950μm,0.9s					
PRK			AML	AML	23 10 16.9	
	comp=N,2375μm,0.8s					
NEST	**Nestorio**	**2.21 304**	P	Pb	**23 09 39.5**	**-2.1**
NEST			S	Sb	**23 10 07.4**	**-1.5**
LKD2	**Lefkada island**	**2.21 260**	P	Pb	**23 09 41.5**	**0.0**
VAY	**Valandovo**	**2.22 343**	*i* Pn	Pn	**23 09 39.1**	**+0.7**
FNA	**Florina**	**2.24 316**	P	Pn	**23 09 39.1**	**+0.4**
FNA			S	Sn	**23 10 06.9**	**+0.5**
EVGI	**Lefkada island**	**2.25 256**	P	Pb	**23 09 42.7**	**+0.5**
EZN	**Ezine**	**2.32 73**	PN	Pn	**23 09 39.8**	**+0.2**
ITM	**Ithomi**	**2.34 211**	P	Pn	**23 09 41.5**	**+1.5**
ITM	**Ithomi**	**2.34 211**	P	Pn	**23 09 41.2**	**+1.2**
IGT	**Igoumenitsa**	**2.43 279**	P	Pb	**23 09 44.6**	**-0.8**
BIA	**Bitola**	**2.44 319**	*i* Pn	Pg	**23 09 48.2**	**-0.2**
VLS	**Valsamata**	**2.45 246**	P	Pb	**23 09 43.4**	**-2.3**
BAYC	**CANAKKALE_Bayr**	**2.46 76**	*i* P	Pn	**23 09 41.3**	**-0.4**
BAYC			*i* S	Sg	**23 10 21.9**	**+1.1**
BAYC			IAML_P			
	comp=Z,1μm,0.2s					
VLI	**Veliai**	**2.51 189**	P	Pn	**23 09 41.7**	**-0.6**
VLI	**Veliai**	**2.51 189**	P	Pn	**23 09 42.5**	**+0.2**
RDO	**Rodhopi**	**2.52 39**	PN	Pn	**23 09 41.1**	**-1.4**
RDO	**Rodhopi**	**2.52 39**	P	Pn	**23 09 40.9**	**-1.6**
AYVA	**Ayvalik**	**2.52 86**	*i* P	Pn	**23 09 43.3**	**+0.8**
AYVA			*i* S	Sg	**23 10 22.0**	**-0.7**
AYVA			IAML_P			
	comp=Z,402nm,0.1s					
ENEZ	**Enez**	**2.59 53**	PN	Pn	**23 09 43.6**	**+0.2**
URLA	**Izmir**	**2.60 108**	PN	Pn	**23 09 44.1**	**+0.5**
ALN	**Alexandroupoli**	**2.62 49**	PN	Pn	**23 09 42.7**	**-1.1**
ALN	**Alexandroupoli**	**2.62 49**	P	Pn	**23 09 42.2**	**-1.6**
ALN			S	Sn	**23 10 14.7**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.62 62**	PN	Pn	**23 09 43.5**	**-0.4**
PYL	**PYLOS**	**2.66 211**	P	Pn	**23 09 46.4**	**+2.0**
STIP	**Stip**	**2.67 339**	*i* Pn	Pn	**23 09 44.9**	**+0.4**
APE	**Apeiranthos**	**2.69 142**	PN	Pn	**23 09 44.4**	**-0.4**
APE	**Apeiranthos**	**2.69 142**	*ij* P	Pg	**23 09 53.0**	**-0.2**
APE	**Apeiranthos**	**2.69 142**	S	Sg	**23 10 26.4**	**-1.7**
APE	**Apeiranthos**	**2.69 142**	P	Pn	**23 09 44.5**	**-0.4**
APE			S	Sn	**23 10 16.6**	**-0.8**
APE	**Apeiranthos**	**2.69 142**	P	Pn	**23 09 44.6**	**-0.3**
SRN	**Sarande**	**2.75 285**	P	Pb	**23 09 48.8**	**-1.9**
ERIK	**Erikli-Kesan**	**2.78 57**	PN	Pn	**23 09 45.2**	**-0.8**
LPK	**Lapseki**	**2.81 64**	PN	Pn	**23 09 46.4**	**-0.1**
ZEDA	**zmir-Bergama**	**2.84 94**	*i* P	Pn	**23 09 46.8**	**0.0**
ZEDA			IAML_P			
	comp=Z,858nm,0.2s					
KDZ	**Kurdzhali**	**2.88 31**	PN	Pn	**23 09 49.1**	**+1.7**
KTHR	**Kythira**	**2.95 187**	P	Pn	**23 09 48.8**	**+0.4**
KESN	**Edirne-Kesan**	**2.97 56**	*i* P	Pn	**23 09 48.3**	**-0.7**
KESN			*i* S	Sg	**23 10 39.2**	**+2.1**
KESN			IAML_P			
	comp=Z,294nm,0.2s					
AMGA	**Amorgos Island**	**3.06 140**	P	Pn	**23 09 49.9**	**+0.1**
PLD	**Plovdiv**	**3.06 18**	PN	Pn	**23 09 50.4**	**+0.6**
CMBO	**Columbo, Santo**	**3.14 150**	P	Pn	**23 09 50.6**	**-0.3**
THR5	**Thira Island,**	**3.16 151**	P	Pn	**23 09 51.1**	**-0.2**
THR2	**Thira island,**	**3.17 150**	P	Pn	**23 09 51.4**	**0.0**
THT2	**Imerovigli**	**3.17 150**	P	Pn	**23 09 51.6**	**+0.1**
THR3	**Thira Island,**	**3.19 150**	P	Pn	**23 09 51.9**	**+0.3**
KRBG	**Karabiga-Canak**	**3.20 67**	PN	Pn	**23 09 52.3**	**+0.5**
THR6	**Thira Island,**	**3.23 151**	P	Pn	**23 09 52.6**	**+0.3**
RKY	**Sarkoy-Tekirda**	**3.23 61**	PN	Pn	**23 09 52.9**	**+0.6**
SANT	**Santorini**	**3.24 150**	PN	Pn	**23 09 53.0**	**+0.5**
SANT	**Santorini**	**3.24 150**	*ij* P	Pg	**23 10 02.2**	**-1.6**
SANT	**Santorini**	**3.24 150**	S	Sg	**23 10 45.4**	**-0.4**
SANT	**Santorini**	**3.24 150**	P	Pn	**23 09 51.4**	**-1.1**
BALY	**Balya**	**3.28 79**	*i* P	Pn	**23 09 54.8**	**+1.9**
BALY			*i* S	Sg	**23 10 50.7**	**+3.8**
BALY			IAML_P			
	comp=Z,88nm,0.1s					
STEP	**BALIKESIR_Sava**	**3.32 86**	*i* P	Pn	**23 09 56.4**	**+2.8**
STEP			IAML_P			
	comp=Z,856nm,0.3s					
PHP	**Peshkopia**	**3.38 318**	P	Pn	**23 09 55.0**	**+0.7**
ANAF	**Anafi Island**	**3.38 146**	P	Pn	**23 09 54.6**	**+0.2**
GONE	**Gonen-Balikesi**	**3.38 74**	PN	Pn	**23 09 55.1**	**+0.8**
VTS	**Vitosha**	**3.39 357**	*ij* P	Pn	**23 09 55.6**	**+1.0**
VTS	**Vitosha**	**3.39 357**	P	Pn	**23 09 55.0**	**+0.4**
AKHS	**Akhisar**	**3.42 94**	*i* P	Pn	**23 09 56.4**	**+1.5**
AKHS			IAML_P			
	comp=Z,369nm,0.2s					
BALB	**Balikesir**	**3.46 81**	PN	Pn	**23 09 56.0**	**+0.6**
MRMT	**Marmara Adasi**	**3.49 65**	PN	Pn	**23 09 56.3**	**+0.5**
SBT4	**Kumbag-Tekirda**	**3.54 61**	PN	Pn	**23 09 57.1**	**+0.8**
EDC	**Edincik**	**3.59 70**	PN	Pn	**23 09 57.9**	**+0.7**
EDRB	**Edirne**	**3.65 43**	PN	Pn	**23 09 58.8**	**+0.8**
EDRB	**Edirne**	**3.65 43**	P	Pn	**23 09 57.0**	**-1.0**
AYDB	**Zeytinkoy-Aydi**	**3.70 108**	PN	Pn	**23 09 59.6**	**+0.7**
BODT	**Bodrum**	**3.72 124**	PN	Pn	**23 09 59.8**	**+0.8**
IMMV	**Iera Moni Meta**	**3.76 173**	P	Pn	**23 09 59.6**	**+0.1**
KIRK	**Kırklareli**	**3.80 46**	*i* P	Pn	**23 09 59.8**	**-0.2**
KIRK			IAML_P			
	comp=Z,111nm,0.2s					
CRLT	**Corlu**	**3.81 58**	PN	Pn	**23 10 01.3**	**+1.1**
DURS	**Dursunbey**	**3.92 83**	*i* P	Pn	**23 10 03.4**	**+1.6**
DURS			IAML_P			
	comp=Z,256nm,0.2s					
IDI	**Anoyia**	**4.07 163**	Pn	Pn	**23 10 04.1**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=324,slow=14,SNR=23					
IDI			Sn	Sn	**23 10 48.7**	**-2.8**
	comp=Z,2.8nm,0.3s,baz=298,slow=18,SNR=2.5					
DAT	**Datca**	**4.09 126**	PN	Pn	**23 10 04.9**	**+0.7**
KULA	**Kula-Manisa**	**4.13 98**	PN	Pn	**23 10 05.5**	**+0.8**
SLVT	**Silivri**	**4.18 59**	PN	Pn	**23 10 06.2**	**+1.0**
MDNY	**Mudanya-Bursa**	**4.35 73**	PN	Pn	**23 10 08.9**	**+1.3**
CTKS	**Kestanelik-??a**	**4.38 61**	PN	Pn	**23 10 09.2**	**+1.2**
ARMT	**Armutlu**	**4.39 70**	PN	Pn	**23 10 09.4**	**+1.3**
DRME	**Dracevica, Mon**	**4.40 314**	*e*Pn	Pn	**23 10 09.9**	**+1.6**
PDG	**Podgorica**	**4.53 317**	*e*Pn	Pn	**23 10 12.0**	**+2.0**
BUY	**Buyukada**	**4.66 67**	PN	Pn	**23 10 13.3**	**+1.4**
TURN	**Turunc**	**4.69 118**	PN	Pn	**23 10 10.9**	**-1.4**
ISK	**Istanbul-Kandi**	**4.69 65**	PN	Pn	**23 10 13.6**	**+1.3**
KAVV	**Kandilli-Istan**	**4.69 65**	PN	Pn	**23 10 13.7**	**+1.4**
KLYT	**Kilyos**	**4.75 63**	PN	Pn	**23 10 14.7**	**+1.6**
DALY	**Dalyan (Mula)**	**4.75 118**	PN	Pn	**23 10 14.7**	**+1.6**
YLV	**Yalova**	**4.76 71**	PN	Pn	**23 10 14.6**	**+1.2**
VLAD	**Vladila**	**4.85 8**	*ij* P	Pn	**23 10 14.8**	**+0.3**
PUNG	**Punghina**	**5.09 356**	*ij* P	Pn	**23 10 17.5**	**-0.2**
SILT	**Sile**	**5.13 66**	PN	Pn	**23 10 19.6**	**+1.2**
TREB	**Trebinje**	**5.22 314**	*e*Pn	Pn	**23 10 21.8**	**+2.3**
BAI	**Bari**	**5.38 293**	*e*Pn	Pn	**23 10 23.5**	**+1.8**
MATE	**Matera**	**5.38 288**	*ij* P	Pn	**23 10 23.9**	**+2.2**
SG1	**Sgolgore (BA)**	**5.44 290**	*ij* Pn	Pn	**23 10 24.3**	**+1.6**
HUMR	**Humele**	**5.45 12**	*ij* P	Pn	**23 10 22.6**	**-0.1**
DIVS	**Divibare**	**5.54 333**	*e*Pn	Pn	**23 10 25.0**	**+1.0**
GULT	**Gulveren**	**5.58 75**	PN	Pn	**23 10 26.4**	**+1.8**
STON	**Ston**	**5.68 311**	*e*Pn	Pn	**23 10 26.7**	**+0.8**
STON	**Ston**	**5.68 312**	*e*Pn	Pn	**23 10 25.8**	**-0.1**
MDVR	**Moldovita**	**5.72 348**	*ij* P	Pn	**23 10 26.6**	**+0.1**
HERR	**Herculane**	**5.73 353**	*ij* P	Pn	**23 10 26.0**	**-0.5**
SULR		**5.86 20**	*ij* P	Pn	**23 10 28.7**	**+0.3**
ICOR	**Ion Corvin**	**5.90 32**	*ij* P	Pn	**23 10 28.8**	**-0.1**
HAPS	**Han Pijesak,Bl**	**5.93 327**	*e*Pn	Pn	**23 10 30.2**	**+0.8**
MTUR	**Matau**	**6.14 11**	*ij* P	Pn	**23 10 33.5**	**+1.2**
GZR	**Gura Zlata**	**6.21 356**	*ij* P	Pn	**23 10 32.4**	**-0.8**
VOIR		**6.35 10**	*ij* P	Pn	**23 10 35.6**	**+0.5**
TLB	**Topalu**	**6.38 31**	*ij* P	Pn	**23 10 35.6**	**+0.1**
TIRR	**Tirgusor**	**6.43 34**	*ij* P	Pn	**23 10 35.1**	**-1.1**
FRGS	**Fruska Gora**	**6.54 337**	*e*Pn	Pn	**23 10 36.5**	**-1.2**
BZS	**Buzias**	**6.55 349**	*ij* P	Pn	**23 10 37.6**	**-0.3**
MLR	**Muntele Rosu**	**6.55 16**	*ij* P	Pn	**23 10 39.0**	**+1.0**
MLR	**Muntele Rosu**	**6.55 16**	Pn	Pn	**23 10 38.6**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=188,slow=4.2,SNR=26					
MLR			Sn	Sn	**23 11 51.5**	**-1.2**
	baz=191,slow=16,SNR=2.2					
MLR			Lg	Lg	23 12 29.0	
	baz=99,slow=19,SNR=1.7					
MLR			LR	LR	23 13 37.1	
	comp=Z,92nm,19.0s,baz=216,slow=42					
DEV	**Deva**	**6.69 357**	*ij* P	Pn	**23 10 40.1**	**+0.3**
MDB	**Medias**	**6.97 5**	*ij* P	Pn	**23 10 43.7**	**+0.1**
PLOR	**Plostina**	**7.06 19**	*ij* P	Pn	**23 10 46.5**	**+1.7**
ODBI	**Odobesti**	**7.08 21**	*ij* P	Pn	**23 10 45.5**	**+0.4**
VRI	**Vrincioaia**	**7.09 19**	*ij* P	Pn	**23 10 46.8**	**+1.5**
OZUR		**7.11 17**	*ij* P	Pn	**23 10 46.1**	**+0.6**
TLCR		**7.19 32**	*ij* P	Pn	**23 10 46.6**	**0.0**
BLY	**Banja Luka**	**7.24 322**	*e*Pn	Pn	**23 10 49.6**	**+2.3**
DRGR		**7.61 356**	*ij* P	Pn	**23 10 51.5**	**-0.9**
TESR	**Tescani**	**7.68 17**	*ij* P	Pn	**23 10 54.2**	**+0.9**
UDBI	**Udbina**	**7.82 315**	*i* Pn	Pn	**23 10 56.6**	**+1.3**
UDBI			Sn	Sn	**23 12 21.2**	**-2.6**
MORH	**Mrgy, Hungar**	**7.85 335**	*e*Pn	Pn	**23 10 54.1**	**-1.5**
BRTR	**Keskin Array B**	**7.91 83**	Pn	Pn	**23 10 59.6**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=265,slow=11,SNR=6.7					
BIZ	**Bicaz**	**7.98 13**	*ij* P	Pn	**23 10 58.3**	**+0.9**
NVLJ	**Novalja**	**8.34 313**	*i* Pn	Pn	**23 11 02.3**	**0.0**
NVLJ			Sn	Sn	**23 12 32.7**	**-3.7**
PRAR	**RASCA**	**8.41 13**	*ij* P	Pn	**23 11 04.4**	**+1.1**
BURAR	**Bucovina Array**	**8.51 8**	*ij* P	Pn	**23 11 05.4**	**+0.6**
CRES	**Cresnjev**	**8.86 321**	*e*Pn	Pn	**23 11 10.1**	**+0.5**
CEY	**Cerknica**	**9.33 317**	*e*Pn	Pn	**23 11 15.0**	**-0.9**
SOKA	**Soboth**	**9.68 323**	*e*Pn	Pn	**23 11 23.5**	**+2.6**
	comp=Z,1.3nm,0.5s					
VYHS	**Vyhne**	**9.87 342**	*e*PN	Pn	23 11 17.6	-5.7
ABTA	**Abfaltersbach**	**10.99 317**	*e*Pn	Pn	**23 11 39.2**	**+0.4**
	comp=Z,1.1nm,0.4s					
ABTA			*i* Sn	Sn	**23 13 37.7**	**-4.1**
	comp=Z,2.1nm,0.5s					
VRAC	**Vranov**	**11.23 336**	LR	LR	23 16 48.2	
	comp=Z,50nm,18.0s,baz=150,slow=42					
MMAI	**Mount Meron Ar**	**11.47 119**	Pn	Pn	**23 11 45.0**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=306,slow=11,SNR=4.9					
GERES	**GERESS Array B**	**11.91 327**	LR	LR	23 17 10.3	
	comp=Z,63nm,20.6s,baz=229,slow=41					
AKASG	**Malin Array Be**	**12.20 18**	Pn	Pn	**23 11 53.9**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=199,slow=13,SNR=2.8					
DAVOX	**Davos/Dischmat**	**12.48 312**	LR	LR	23 17 44.0	
	comp=Z,68nm,21.2s,baz=144,slow=42					
KBZ	**Khabaz**	**15.27 67**	Pn	P	**23 12 43.4**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=303,slow=11,SNR=3.9					
ESDC	**Sonseca Array**	**21.15 280**	P	P	**23 13 47.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=75,slow=11,SNR=7.5					
HFS	**Hagfors**	**21.84 347**	P	P	**23 13 55.6**	**+1.9**
	comp=Z,1.4nm,0.7s,baz=141,slow=9.3,SNR=4.5					
HFS			LR	LR	23 21 41.6	
	comp=Z,32nm,21.4s,baz=236,slow=35					
FINES	**FINESS Array B**	**22.33 3**	P	P	**23 13 59.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=178,slow=15,SNR=3.2					
FINES			LR	LR	23 23 30.7	
	comp=Z,76nm,18.2s,baz=219,slow=39					
NOA	**NORSAR Array B**	**23.15 345**	P	P	**23 14 08.2**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=151,slow=11,SNR=3.7					
NOA			LR	LR	23 23 45.4	
	comp=Z,15nm,18.5s,baz=245,slow=38					
EKA	**Eskdalemuir Ar**	**24.00 321**	P	P	**23 14 15.9**	**0.0**
	comp=Z,1.8nm,0.6s,baz=114,slow=9.6,SNR=5.4					
TORD	**Torodi Ar. Bea**	**32.29 222**	P	P	**23 15 30.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=31,slow=8.8,SNR=5.9					
MKAR	**Makanchi Array**	**42.82 60**	P	P	**23 17 00.6**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=269,slow=7.0,SNR=22					
SONM	**Songino Array**	**58.04 52**	P	P	**23 18 57.3**	**+2.7**
	comp=Z,0.5nm,1.0s,baz=258,slow=5.9,SNR=3.9					
YKA	**Yellowknife Ar**	**73.19 341**	P	P	**23 20 31.9**	**0.0**
	comp=Z,0.2nm,0.6s,baz=34,slow=4.6,SNR=5.3					

IDC 13 23:26:16.3±1.1, 28.88N×140.90E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.5/52, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=39.3km s-min=18.8km az=70.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.10**	**147**	Pn	Pn	23 26 53.0	+0.3
	133nm,0.3s,baz=300,slow=23,SNR=182						
JCJ				Sn	Sn	23 27 15.7	-3.9
	272nm,0.3s,baz=289,slow=23,SNR=18						
JHJ	**Hachijo jima 2**	**4.34**	**347**	Pn	Pn	23 27 23.2	-0.3
	6.6nm,0.3s,baz=234,slow=19,SNR=2.1						
JHJ				Sn	Sn	23 28 10.2	-4.5
	22nm,0.3s,baz=159,slow=17,SNR=4.9						
MJAR	**Matsushiro Arr**	**7.97**	**344**	Pn	Pn	23 28 12.8	-0.7
	0.4nm,0.3s,baz=156,slow=11,SNR=7.3						
MJAR				Sn	Sn	23 29 39.4	-5.0
	0.3nm,0.3s,baz=198,slow=32,SNR=4.9						
KLR	**Kul'dur**	**21.50**	**343**	P	P	23 31 06.5	-0.1
	1.6nm,0.5s,baz=152,slow=8.0,SNR=9.8						
H11N2	**WAKE ISLAND Hy**	**25.33**	**105**	T	T	23 57 21.9	
	baz=296,slow=75,SNR=18						
H11N1	**WAKE ISLAND Hy**	**25.34**	**105**	T	T	23 57 20.4	
	baz=296,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**25.35**	**105**	T	T	23 57 22.4	
	baz=296,slow=75,SNR=19						
MKAR	**Makanchi Array**	**48.48**	**308**	P	P	23 35 01.4	+0.6
	0.4nm,0.9s,baz=91,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**48.95**	**188**	P	P	23 35 04.1	-0.3
	0.5nm,0.6s,baz=13,slow=8.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**50.99**	**313**	P	P	23 35 20.2	+0.4
	0.4nm,0.7s,baz=90,slow=7.1,SNR=3.2						
ILAR	**Eielson Array**	**56.71**	**29**	P	P	23 36 01.6	+0.3
	0.8nm,1.0s,baz=289,slow=8.4,SNR=4.7						
KBZ	**Khabaz**	**75.97**	**312**	P	P	23 38 04.5	-0.7
	0.6nm,0.8s,baz=128,slow=17,SNR=2.3						
BRTR	**Keskin Array B**	**83.97**	**312**	P	P	23 38 52.0	+3.3
	0.3nm,0.5s,baz=45,slow=4.3,SNR=2.6						

NIED ***I3*** *23:32:00, 38.60N×142.40E, h41km, Mw3.7 Best double couple: M0 3.57000×10^14 NP1:φs 341.00000°, δ 24.00000°, λ 50.00000°. NP2:φs 204.00000°, δ 72.00000°, λ 106.00000°.*

IDC ***I3*** *23:32:09.5±2.4, 38.82N×143.09E, h0km, mb3.8/6, mb1 3.8/8, mb1mx3.5/50, mbtmp3.7/8, ML2.8/2, MS2.5/2, Ms1 2.5/2, ms1mx2.3/35, Error ellipse: s-maj=64.7km s-min=24.8km az=72.0*

JMA ***I3*** *23:32:17.9±0.1, 38.63N×142.42E, h40km±2km, M3.9*

ISCJB ***I3*** *23:32:18.1±1.3, 38.61N±0.05×142.4E±0.1, h58km±8km, mb3.8/6, Error ellipse: s-maj=17.5km s-min=7.7km az=14.7*

ISC 13 23:32:16.9±1.5, 38.60N±0.07×142.5E±0.2, h37km±3km, n29, σ1§49/30, mb3.8/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.81**	**307**	P	Pn	**23 32 32.1**	**+0.3**
OFUJ				S	Sn	**23 32 42.0**	**-0.6**
JKMT	**Kesennumamotoy**	**0.83**	**285**	P	Pn	**23 32 32.3**	**+0.2**
JKMT				S	Sn	**23 32 42.5**	**-0.7**
JIKH	**Ishinomakikobu**	**0.86**	**251**	P	Pn	**23 32 33.0**	**+0.5**
JIKH				S	Sn	**23 32 43.5**	**-0.4**
JIO	**Ouri**	**0.92**	**261**	P	Pn	**23 32 33.6**	**+0.4**
JIO				S	Sn	**23 32 44.7**	**-0.5**
JMK	**Ichinoseki**	**1.06**	**290**	P	Pn	**23 32 35.7**	**+0.5**
JMK				S	Sn	**23 32 48.6**	**-0.2**
JOM	**Ohasama**	**1.29**	**313**	P	Pn	**23 32 39.0**	**+0.7**
JOM				S	Sn	**23 32 54.6**	**+0.3**
JTH	**Tanohata**	**1.43**	**340**	P	Pn	**23 32 40.9**	**+0.6**
JOU	**Okura**	**1.46**	**261**	P	Pn	**23 32 41.6**	**+0.8**
JOU				*e*S	Sn	**23 32 58.4**	**-0.2

baz=321,slow=75,SNR=33
LPAZ La Paz 47.86 211 P **P 23 50 34.7 0.0**
1.4nm,0.7s,baz=6.9,slow=6.7,SNR=8.3
NOA NORSAR Array B 51.18 31 P **P 23 51 00.2 +1.2**
0.3nm,0.6s,baz=253,slow=7.8,SNR=3.1
TXAR Lajitas Array 51.68 288 P **P 23 51 03.0 -0.3**
0.2nm,0.7s,baz=94,slow=10,SNR=2.5
PDAR Pinedale Array 54.60 305 P **P 23 51 25.8 +1.0**
0.3nm,0.8s,baz=69,slow=11,SNR=3.1
YKA Yellowknife Ar 57.83 329 P **P 23 51 46.3 -0.9**
0.6nm,0.9s,baz=94,slow=7.9,SNR=6.6
AKASG Malin Array Be 60.34 45 P **P 23 52 03.9 -1.0**
0.1nm,0.3s,baz=275,slow=5.6,SNR=4.2
BRTR Keskin Array B 65.35 56 P **P 23 52 38.7 +0.1**
0.7nm,0.7s,baz=243,slow=5.1,SNR=5.7
INK Inuvik 65.51 336 P **P 23 52 38.5 -0.4**
0.9nm,0.8s,baz=71,slow=8.0,SNR=4.8
ILAR Eielson Array 71.61 334 P **P 23 53 17.2 +0.2**
0.5nm,0.7s,baz=81,slow=4.8,SNR=6.5

MEX 13 23:55:38.6±0.3, 16°33N×98°27W, h12km±1km, MD3.5,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
PNIG	**Pinotepa**	**0.15**	**64**	*i* P		Pg	23 55 41.7		-0.6
PNIG				*i* S		Sg	23 55 44.3		-0.6

KRNET 14 00:09:55.5±0.1, 41°.39N×72°.09E, h20km, mb2.5
SOME 14 00:09:56.6, 41°.50N×72°.15E, h0km
ISCJB 14 00:09:57.5±0.5, 41°.39N±0°.03×72°.11E±0°.03, h10km, Error ellipse: s-maj=4.7km s-min=3.8km az=1.2
NNC 14 00:09:59.6±2.6, 41°.58N×72°.05E, h0km, mb3.1, mpv3.0, Error ellipse: s-maj=27.2km s-min=8.7km az=175.0
ISC 14 00:09:56.0±0.9, 41°.43N±0°.04×72°.12E±0°.02, h10km, n31,
σ1s42/54, 22C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
ARK	**Arkit**	**0.39**	**343**	⇑*i* P		**Pg**	**00 10 03.9**		**+0.1**
	baz=48								
ARK				⇑*i* S		**Sb**	**00 10 09.7**		**-1.5**
	baz=48								
ARSB	**Arslanbob**	**0.66**	**99**	⇓*i* P		**Pg**	**00 10 08.0**		**-0.8**
	baz=95								
ARSB				⇓*i* S		**Sg**	**00 10 17.7**		**+0.2**
	baz=95								
AML	**Almayashu**	**1.37**	**59**	P		**Pn**	**00 10 21.4**		**-0.2**
	SNR=13								
AML	**Almayashu**	**1.37**	**59**	⇑*i* P		**Pn**	**00 10 21.1**		**-0.6**
	baz=58								
AML				⇑*i* S		**Sg**	**00 10 40.7**		**+0.4**
	baz=58								
MRKS	**Merke**	**1.55**	**32**	P		**Pb**	**00 10 25.1**		**+0.1**
	10nm,0.2s								
MRKS				S		**Sg**	**00 10 46.1**		**0.0**
	21nm,0.3s								
MRKS	**Merke**	**1.55**	**32**	*e*P		**Pb**	**00 10 25.1**		**+0.1**
	3.3nm,0.1s								
MRKS				*e*S		**Sg**	**00 10 45.9**		**-0.2**
	9.6nm,0.4s								
ARLS	**Aral**	**1.71**	**75**	⇑*i* P		**Pb**	**00 10 27.5**		**-0.2**
	baz=73								
ARLS				⇑*i* S		**Sg**	**00 10 51.4**		**+0.4**
	baz=73								
IUG	**Iuzhnay**	**1.72**	**295**	P		**Pg**	**00 10 28.1**		**-0.9**
	25nm,0.2s								
IUG				S		**Sg**	**00 10 50.9**		**-0.4**
	73nm,0.3s								
IUG	**Iuzhnay**	**1.72**	**295**	*e*P		**Pg**	**00 10 28.1**		**-0.9**
	25nm,0.2s								
IUG				*e*S		**Sg**	**00 10 50.9**		**-0.4**
	73nm,0.3s								
EKS2	**Erkin-Say**	**1.75**	**45**	P		**Pb**	**00 10 28.5**		**+0.2**
	SNR=12								
EKS2	**Erkin-Say**	**1.75**	**45**	⇑*i* P		**Pb**	**00 10 27.3**		**-1.0**
	baz=44								
EKS2				⇑*i* S		**Sb**	**00 10 51.0**		**+0.7**
	baz=44								
DRK	**Karamyk**	**1.96**	**187**	⇑*i* P		**Pn**	**00 10 30.1**		**+0.5**
	baz=87								
DRK				⇑*i* S		**Sb**	**00 10 55.4**		**-1.2**
	baz=87								
UCH	**Uchtor**	**1.96**	**65**	P		**Pb**	**00 10 32.7**		**+0.6**
	SNR=10.0								
UCH	**Uchtor**	**1.96**	**65**	⇓*i* P		**Pb**	**00 10 31.5**		**-0.6**
	baz=64								
UCH				⇓*i* S		**Sg**	**00 10 58.2**		**-0.9**
	baz=64								
KK31	**Karatay Array**	**2.06**	**325**	⇓Pn		**Pg**	**00 10 34.1**		**-1.3**
	0.5nm,0.2s,baz=145,slow=16,SNR=4.4								
KK31				Sn		**Sg**	**00 11 00.5**		**-1.6**
	3.9nm,0.3s,baz=141,slow=31,SNR=16								
AAK	**Ala-Archa**	**2.14**	**55**	P		**Pg**	**00 10 36.0**		**-1.2**
	SNR=8.4								
AAK	**Ala-Archa**	**2.14**	**55**	⇑Pn		**Pb**	**00 10 35.8**		**+0.7**
	4.8nm,0.4s								
AAK				⇓Sn		**Sg**	**00 11 03.8**		**-1.2**
	1.8nm,0.5s								
AAK	**Ala-Archa**	**2.14**	**55**	⇑*i* P		**Pb**	**00 10 34.2**		**-0.9**
	baz=54								
AAK				⇑*i* S		**Sb**	**00 11 01.8**		**0.0**
	baz=54								
KZA	**Kyzart**	**2.43**	**73**	⇑*e*P		**Pb**	**00 10 38.4**		**-1.7**
	baz=73								
KZA				⇑*i* S		**Sb**	**00 11 09.4**		**-0.9**
	baz=73								
KBK	**Karagaybulak**	**2.44**	**59**	P		**Pb**	**00 10 40.8**		**+0.6**
	SNR=6.7								
KBK	**Karagaybulak**	**2.44**	**59**	⇑*i* P		**Pb**	**00 10 38.4**		**-1.7**
	baz=58								
KBK				⇑*i* S		**Sb**	**00 11 09.1**		**-1.2**
	baz=58								
CHMS	**Chumysh**	**2.51**	**50**	⇑*i* P		**Pn**	**00 10 38.6**		**+1.7**
	baz=50								
CHMS				⇑*i* S		**Sb**	**00 11 10.5**		**-1.7**
	baz=50								
USP	**Ospenovka**	**2.55**	**43**	P		**Pb**	**00 10 43.2**		**+1.3**
	SNR=5.6								
USP	**Ospenovka**	**2.55**	**43**	⇓*i* P		**Pn**	**00 10 39.5**		**+2.0**
	baz=43								
USP				⇓*i* S		**Sb**	**00 11 11.8**		**-1.5**
	baz=43								
NRN	**Naryn**	**2.92**	**89**	⇑*i* P		**Pn**	**00 10 45.0**		**+2.2**
	baz=88								
NRN				⇑*i* S		**Sn**	**00 11 21.0**		**+2.9**
	baz=88								
TKM2	**Tokmak 2**	**2.99**	**59**	⇓Pn		**Pb**	**00 10 50.0**		**+0.6**
	0.8nm,0.4s								
TKM2				⇑Sn		**Sg**	**00 11 29.6**		**-2.3**
	2.7nm,0.7s								
TKM2	**Tokmak 2**	**2.99**	**59**	⇓*i* P		**Pn**	**00 10 45.5**		**+1.8**
	baz=58								
TKM2				⇓*i* S		**Sn**	**00 11 22.3**		**+2.7**
	baz=58								
KST	**Kastek**	**3.28**	**59**	Pg		**Pg**	**00 10 57.0**		**-1.9**
	1.6nm,0.3s								
KST				Lg		Lg	00 11 40.4		
	2.9nm,0.4s								
KST	**Kastek**	**3.28**	**59**	*e*P		**Pg**	**00 10 57.0**		**-1.9**
	1.4nm,0.1s								
KST				*e*S		**Sg**	**00 11 40.3**		**-1.1**
	3.9nm,0.5s								
KUU	**Kurty**	**3.97**	**50**	Pg		**Pb**	**00 11 08.3**		**+2.2**
	1.8nm,0.5s								
KUU				Lg		Lg	00 11 59.6		
	2.9nm,0.5s								
KUU	**Kurty**	**3.97**	**50**	*e*P		**Pb**	**00 11 08.2**		**+2.1**
	0.6nm,0.4s								
KUU				*e*S		**Sg**	**00 11 59.7**		**-3.8**
	2.4nm,0.4s								

NEIC 14 00:16:08.6±1.6, 27°.41N×140°.01E, h373km±12km, mb4.1/25, Error ellipse: s-maj=20.8km s-min=14.4km az=182.0
ISCJB 14 00:16:12.2±0.3, 27°.97N±0°.03×140°.02E±0°.05, h400km, mb4.0/54, Error ellipse: s-maj=6.0km s-min=4.6km az=172.7
IDC 14 00:16:13.1±1.1, 27°.91N×139°.91E, h394km±10km, mb3.5/23, mb1 3.7/28, mb1mx3.6/41, mbtmp4.3/28, Error ellipse: s-maj=13.5km s-min=11.9km az=57.0
JMA 14 00:16:13.1±0.3, 28°.11N×140°.64E, h410km±5km, M4.4

MOS 14 00:16:13.7±1.0, 28°.29N×139°.80E, h394km, mb4.0/18, Error ellipse: s-maj=15.1km s-min=6.9km az=114.5
ISC 14 00:16:14.0±0.5, 28°.07N±0°.06×140°.12E±0°.07, h400km,
n127, σ1s70/144, mb4.1/54, 8C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
CBIJ	**Chichi jima**	**2.08**	**117**	P		**Pn**	**00 17 08.5**		**-2.0**
CBIJ				S		**S**	**00 17 51.6**		**-4.5**
JCJ	**Chichijima**	**2.08**	**117**	P		**Pn**	**00 17 09.0**		**-1.6**
	224nm,0.3s,baz=13,slow=1.7,SNR=110								
JCJ				S		**S**	**00 17 52.0**		**-4.1**
	357nm,0.3s,baz=311,slow=21,SNR=19								
JHHJ	**Haha-jima-NKT**	**2.33**	**128**	P		**Pn**	**00 17 10.4**		**-1.8**
JHHJ				S		**S**	**00 17 55.6**		**-3.6**
JHJ2	**Mitsune**	**5.03**	**357**	*e*Pn		**Pn**	**00 17 37.7**		**+1.5**
JHJ2				*e*S		**S**	**00 18 39.1**		**-4.1**
JHJ	**Hachijo jima 2**	**5.04**	**357**	P		**Pn**	**00 17 36.8**		**+0.4**
	15nm,0.3s,baz=41,slow=11,SNR=5.7								
JHJ				S		**S**	**00 18 40.2**		**-3.1**
	40nm,0.3s,baz=75,slow=20,SNR=4.2								
JMKN	**Mikurajimanish**	**5.82**	**356**	P		**Pn**	**00 17 44.0**		**-0.6**
TK02	**Tokai 2**	**6.20**	**342**	P		**Pn**	**00 17 50.5**		**+2.0**
BSO3	**Boso 3**	**6.72**	**3**	P		**P**	**00 17 55.0**		**+0.2**
BSO3				S		**S**	**00 19 14.3**		**-1.7**
BSO4	**Boso 4**	**6.90**	**2**	*e*S		**S**	**00 19 18.6**		**-1.4**
JOD2	**Odawara 2**	**7.22**	**353**	P		**P**	**00 18 00.7**		**0.0**
JOD2				*e*S		**S**	**00 19 26.0**		**-0.9**
JAO	**Obara**	**7.58**	**342**	P		**P**	**00 18 05.6**		**+1.0**
INU	**Inuyama**	**7.72**	**341**	*e*Pn		**P**	**00 18 07.2**		**+1.0**
JHU	**Hanno**	**7.79**	**355**	P		**Pn**	**00 18 06.1**		**-0.4**
JRY	**Ryogami san**	**7.99**	**353**	P		**Pn**	**00 18 08.9**		**+0.1**
JRY				*e*S		**S**	**00 19 40.8**		**-2.1**
JAG	**Ashikaga**	**8.35**	**356**	P		**Pn**	**00 18 11.8**		**-1.1**
JHO	**Hitachi**	**8.53**	**2**	P		**P**	**00 18 15.1**		**0.0**
MJAR	**Matsushiro Arr**	**8.60**	**350**	P		**Pn**	**00 18 14.9**		**-0.8**
	0.6nm,0.3s,baz=165,slow=11,SNR=15								
MJAR				S		**S**	**00 19 53.6**		**-2.1**
	0.3nm,0.3s,baz=88,slow=29,SNR=5.1								
MAJO	**Matsushiro**	**8.60**	**350**	*e*Pn		**Pn**	**00 18 15.5**		**-0.4**
MAJO				*e*S		S	00 19 23.9		-32
MAJO	**Matsushiro**	**8.60**	**350**	*i* P		**Pn**	**00 18 15.4**		**-0.4**
MAT	**Matsushiro**	**8.60**	**350**	P		**Pn**	**00 18 14.9**		**-0.9**
MAT				S		**S**	**00 19 52.6**		**-3.1**
MJB9	**Matsu-Tunnel**	**8.61**	**350**	*e*Pn		**Pn**	**00 18 15.8**		**0.0**
JHS	**Saijyo**	**9.13**	**321**	P		**Pn**	**00 18 24.4**		**+2.5**
JNU	**Nakatsue**	**9.42**	**305**	*e*Pn		**Pn**	**00 18 26.5**		**+1.2**
KSRS	**Korea Array**	**13.87**	**315**	P		**P**	**00 19 14.2**		**+0.1**
	0.5nm,0.3s,baz=126,slow=10.0,SNR=11								
USA0B	**Ussuriysk Arra**	**17.37**	**340**	*e*P		**P**	**00 19 52.9**		**+1.2**
	25nm,0.7s								
USA0B	**Ussuriysk Arra**	**17.37**	**340**	*e*P		**P**	**00 19 52.9**		**+1.2**
USA0B				pmax		pmax			
	comp=Z,25nm,0.7s								
USRK	**Ussuriysk Ar.**	**17.37**	**340**	P		**P**	**00 19 52.4**		**+0.7**
	comp=Z,1.9nm,0.3s,baz=164,slow=11,SNR=30								
MDJ	**Mudanjiang**	**18.53**	**336**	*e*P		**P**	**00 20 06.0**		**+2.0**
	comp=Z,8.7nm,0.7s								
KLR	**Kul'dur**	**22.09**	**345**	*i* P		**P**	**00 20 35.1**		**-2.2**
KLR	**Kul'dur**	**22.09**	**345**	P		**P**	**00 20 38.7**		**+1.4**
	comp=Z,22nm,0.6s,baz=164,slow=7.6,SNR=136								
HHC	**Hu-ho-hao-te**	**26.64**	**306**	*e*P		**P**	**00 21 18.0**		**-0.3**
HHC				pmax		pmax			
	comp=Z,11nm,1.0s								
HHC				pmax		pmax			
	comp=Z,100nm,7.0s								
XAN	**Xi'an**	**27.31**	**290**	P		**P**	**00 21 23.1**		**-1.1**
XAN				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ZEA	**Zeya**	**27.34**	**343**	*e*P		**P**	**00 21 25.1**		**+1.0**
ZEA				pmax		pmax			
	comp=N,42nm,0.8s								
ZEA				pmax		pmax			
	comp=Z,54nm,0.7s								
LZH	**Lanzhou**	**31.62**	**294**	*e*P		**P**	**00 21 58.6**		**-3.4**
LZH				pP		pP	00 23 03.6		-10
LZH				PP		**pwP**	**00 23 18.3**		**-1.7**
LZH				sP		sP	00 23 53.4		-6.4
LZH				pmax		pmax			
	comp=Z,21nm,1.1s								
LZH				pmax		pmax			
	comp=Z,82nm,4.9s								
CD2	**Chengdu**	**31.69**	**284**	P		P	00 21 57.0		-5.5
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
MA2	**Magadan**	**32.34**	**10**	*e*P		**P**	**00 22 09.5**		**+1.8**
	comp=Z,157nm,1.0s								
MA2	**Magadan**	**32.34**	**10**	*i* P		**P**	**00 22 09.0**		**+1.4**
MA2				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MA2	**Magadan**	**32.34**	**10**	P		**P**	**00 22 09.1**		**+1.5**
	comp=Z,4.7nm,0.5s,baz=206,slow=14,SNR=7.1								
ULN	**Ulaanbaatar**	**32.35**	**317**	*e*P		**P**	**00 22 08.0**		**-0.2**
	comp=Z,4.1nm,0.8s								
ULN	**Ulaanbaatar**	**32.35**	**317**	*ce*P		**P**	**00 22 06.4**		**-1.8**
ULN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**32.74**	**316**	P		**P**	**00 22 10.8**		**-0.7**
	comp=Z,2.4nm,0.6s,baz=128,slow=8.3,SNR=26								
GTA	**Gaotai**	**35.11**	**299**	*e*P		**P**	**00 22 30.3**		**-1.4**
GTA				pP		pP	00 22 34.6		-70
TLY	**Talaya**	**36.03**	**321**	*i* P		**P**	**00 22 38.3**		**-0.8**
CMAR	**Chiang Mai Arr**	**38.86**	**265**	P		**P**	**00 23 02.3**		**-0.6**
	comp=Z,0.4nm,0.4s,baz=70,slow=5.2,SNR=3.2								
HNR	**Honiara**	**41.93**	**150**	*e*P		P	00 23 18.0		-10
	comp=Z,160nm,0.6s								
BILL	**Bilibino**	**42.94**	**14**	*e*P		**P**	**00 23 37.1**		**+2.0**
	comp=Z,8.5nm,1.0s								
BILL	**Bilibino**	**42.94**	**14**	*e*P		**P**	**00 23 35.4**		**+0.3**
BILL				pmax		pmax			
	comp=Z,5.0nm,0.9s								
TIXI	**Tiksi**	**44.07**	**355**	*e*P		**P**	**00 23 44.5**		**+0.7**
	comp=Z,6.5nm,0.6s								
TIXI	**Tiksi**	**44.07**	**355**	*ce*P		**P**	**00 23 42.8**		**-1.1**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TIXI	**Tiksi**	**44.07**	**355**	P		**P**	**00 23 44.7**		**+0.8**
	comp=Z,4.3nm,0.5s,baz=175,slow=6.6,SNR=8.6								
WMQ	**Urumqi**	**44.52**	**305**	*e*P		**P**	**00 23 48.3**		**+0.4**
RAMN	**Ramite**	**47.15**	**282**	*e*P		**P**	**00 24 07.6**		**-1.1**
JIRN	**Jiri**	**47.34**	**283**	*e*P		**P**	**00 24 09.6**		**-0.7**
	comp=Z,26nm,0.6s								
GUN	**Gumba**	**47.54**	**283**	*e*P		**P**	**00 24 11.1**		**-0.7**
	comp=Z,27nm,0.8s								
ZALV	**Zalesovo Beam**	**47.55**	**319**	P		**P**	**00 24 09.8**		**-1.1**
	comp=Z,0.7nm,0.4s,baz=109,slow=7.4,SNR=4.8								
ZALV				PcP		**PcP**	**00 25 32.7**		**-0.8**
	comp=Z,0.7nm,0.5s,baz=128,slow=2.4,SNR=3.6								
PKI	**Pulchoki**	**48.03**	**283**	*e*P		**P**	**00 24 14.8**		**-0.7**
PKIN	**Phulchoki**	**48.04**	**283**	*e*P		**P**	**00 24 14.8**		**-0.7**
	comp=Z,3.4nm,0.5s								
WRA	**Warramunga Arr**	**48.05**	**187**	*ce*P		**P**	**00 24 19.3**		**+4.1**
WRA	**Warramunga Arr**	**48.05**	**187**	P		**P**	**00 24 13.0**		**-2.3**
	comp=Z,0.3nm,0.3s,baz=4.5,slow=7.7,SNR=9.2								
WRA				ScP		**ScP**	**00 28 50.3**		**-1.0**
	comp=Z,0.6nm,0.9s,baz=352,slow=4.8,SNR=3.0								
MK31	**Makanchi Array**	**48.44**	**309**	*e*P		**P**	**00 24 15.8**		**-2.1**
	comp=Z,1.4nm,1.0s								
MK31	**Makanchi Array**	**48.44**	**309**	*e*P		**P**	**00 24 15.8**		**-2.1**
MK31				pmax		pmax			
	comp=Z,1.0nm,1.0s								
MKAR	**Makanchi Array**	**48.44**	**309**	P		**P**	**00 24 17.1**		**-0.7**
	comp=Z,1.3nm,0.6s,baz=88,slow=9.7,SNR=21								
MKAR				PcP		**pP**	**00 25 36.5**		**0.0**
	comp=Z,0.7nm,0.8s,baz=87,slow=4.3,SNR=5.2								
MKAR				ScP		**ScP**	**00 28 52.1**		**-0.7**
	comp=Z,0.5nm,0.7s,baz=81,slow=5.5,SNR=7.0								
GKN	**Gorkha**	**48.59**	**284**	*e*P		**P**	**00 24 18.3**		**-1.2**
MAKZ	**Makanchi**	**48.65**	**309**	*e*P		**P**	**00 24 18.7**		**-0.8**
	comp=Z,1.2nm,0.7s								
MAKZ	**Makanchi**	**48.65**	**309**	*e*P		**P**	**00 24 18.7**		**-0.8**
MAKZ				pmax		pmax			
	comp=Z,1.0nm,0.7s								
DANN	**Dangsing**	**49.26**	**284**	*e*P		**P**	**00 24 23.8**		**-0.8**
	comp=Z,19nm,0.8s								
KOLN	**Koldanda**	**49.54**	**284**	*e*P		**P**	**00 24 25.5**		**-1.1**
PYUN	**Piuthan**	**49.98**	**284**	*e*P		**P**	**00 24 28.9**		**-1.0**
KURK	**Kurchatov**	**50.99**	**314**	*e*P		**P**	**00 24 35.6**		**-1.1**
	comp=Z,4.3nm,0.9s								
KURK	**Kurchatov**	**50.99**	**314**	*ce*P		**P**	**00 24 35.1**		**-1.6**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KURBB	**Kurchatov Arra**	**51.05**	**314**	P		**P**	**00 24 36.0**		**-1.1**
	comp=Z,2.7nm,0.5s,baz=92,slow=7.5,SNR=24								
NRIK	**Noril'sk**	**51.08**	**339**	P		**P**	**00 24 37.5**		**+0.4**
	comp=Z,11nm,0.5s,baz=108,slow=10.0,SNR=23								
PRZ	**Przheval'sk**	**51.34**	**303**	*e*P		**P**	**00 24 39.6**		**-0.1**
	comp=Z,5.5nm,0.6s								
PRZ	**Przheval'sk**	**51.34**	**303**	*e*P		**P**	**00 24 39.6**		**-0.1**
PRZ				pmax		pmax			
	comp=Z,6.0nm,0.6s								
NRN	**Naryn**	**53.23**	**302**	*e*P		**P**	**00 24 53.1**		**-0.4**
	comp=Z,2.6nm,1.0s								
NRN	**Naryn**	**53.23**	**302**	*e*P		**P**	**00 24 53.2**		**-0.4**
NRN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
KSH	**Kashi**	**53.50**	**300**	P		**P**	**00 24 57.6**		**+2.3**
KSH				PP		**PP**	**00 27 06.3**		**+5.6**
KSH				S		**S**	**00 32 03.5**		**+6.7**
KSH				pmax		pmax			
	comp=Z,32nm,5.2s								
AAK	**Ala-Archa**	**54.19**	**304**	*e*P		**P**	**00 24 59.5**		**-0.7**
	comp=Z,0.8nm,0.4s								
AAK	**Ala-Archa**	**54.19**	**304**	*e*P		**P**	**00 24 59.6**		**-0.7**
AAK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KDAK	**Kodiak Island**	**54.70**	**37**	*ce*P		**P**	**00 25 05.0**		**+1.7**
BPAW	**Bear Paw Mtn.**	**55.93**	**30**	*e*P		**P**	**00 25 14.7**		**+2.7**
	comp=Z,10nm,0.8s								
BRVK	**Borovoye**	**56.15**	**317**	*e*P		**P**	**00 25 13.5**		**-0.1**
	comp=Z,6.5nm,0.9s								
BRVK	**Borovoye**	**56.15**	**317**	*i* P		**P**	**00 25 11.5**		**-2.1**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KK31	**Karatay Array**	**57.02**	**305**	*e*P		**P**	**00 25 19.6**		**-0.3**
	comp=Z,5.5nm,0.7s								
KK31	**Karatay Array**	**57.02**	**305**	*e*P		**P**	**00 25 19.6**		**-0.3**
KK31				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KKAR	**Karatay Array**	**57.02**	**305**	*e*P		**P**	**00 25 19.6**		**-0.3**
	comp=Z,5.5nm,0.7s								
KKAR	**Karatay Array**	**57.02**	**305**	*e*P		**P**	**00 25 19.6**		**-0.3**
KKAR				pmax		pmax			
	comp=Z,6.0nm,0.7s								
ILAR	**Eielson Array**	**57.75**	**29**	P		**P**	**00 25 25.2**		**+0.7**
	comp=Z,0.6nm,0.7s,baz=267,slow=4.8,SNR=5.2								
GAR	**Garm**	**57.92**	**300**	*e*P		**P**	**00 25 25.8**		**-0.5**
	comp=Z,6.7nm,0.6s								
GAR	**Garm**	**57.92**	**300**	*e*P		**P**	**00 25 25.8**		**-0.5**
GAR				pmax		pmax			
	comp=Z,7.0nm,0.6s								
CHGR	**Chuyangaron**	**58.87**	**300**	*e*P		**P**	**00 25 32.4**		**-0.4**
	comp=Z,15nm,0.6s								
EPYK	**Eagle Plains**	**61.92**	**27**	*e*P		**P**	**00 25 54.6**		**+2.1**
	comp=Z,7.8nm,0.6s								
ARU	**Arti**	**62.53**	**322**	*e*P		**P**	**00 25 55.4**		**-1.3**
	comp=Z,5.8nm,0.9s								
ARU	**Arti**	**62.53**	**322**	*c i*P		**P**	**00 25 55.0**		**-1.6**
ARU							00 26 26.3		
ARU				S		**S**	**00 33 50.4**		**-1.3**
ARU				SS		**SS**	**00 37 58.4**		**-5.3**
ARU				pmax		pmax			
	comp=Z,15nm,1.5s								
INK	**Inuvik**	**62.91**	**25**	P		**P**	**00 25 59.5**		**+0.6**
	comp=Z,1.0nm,0.8s,baz=299,slow=8.2,SNR=5.3								
ABKAR	**Akbulak array**	**63.10**	**314**	*e*P		**P**	**00 25 59.5**		**-1.0**
	comp=Z,3.0nm,0.7s								
KLMR	**Klimovskoe**	**70.82**	**329**	*e*P		**P**	**00 26 46.8**		**-1.5**
KLMR				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KLMR	**Klimovskoe**	**70.82**	**329**	*e*P		**P**	**00 26 46.9**		**-1.4**
KLMR				AMP			00 26 48.4		
	comp=Z,5.0nm,0.9s								
RES	**Resolute Bay**	**71.54**	**13**	*e*P		**P**	**00 26 53.5**		**+1.2**
	comp=Z,3.9nm,0.8s								
RES	**Resolute Bay**	**71.54**	**13**	*e*P		**P**	**00 26 53.5**		**+1.2**
RES				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARCES	**ARCESS Array B**	**72.02**	**340**	P		**P**	**00 26 55.5**		**+0.3**
	comp=Z,6.4nm,0.6s,baz=69,slow=8.7,SNR=59								
YKA	**Yellowknife Ar**	**72.16**	**28**	P		**P**	**00 26 57.1**		**+1.0**
	comp=Z,2.1nm,0.6s,baz=295,slow=5.8,SNR=32								
YKB5	**Yellowknife Ar**	**72.16**	**28**	*e*P		**P**	**00 26 57.1**		**+1.0**
OBN	**Obninsk**	**74.68**	**325**	*e*P		**P**	**00 27 09.8**		**-1.0**
OBN				pmax		pmax			
	comp=Z,6.0nm,0.7s								
KBZ	**Khabaz**	**76.00**	**312**	P		**P**	**00 27 18.1**		**-0.3**
	comp=Z,2.4nm,0.8s,baz=99,slow=4.1,SNR=8.3								
KIV	**Kislovodsk**	**76.04**	**312**	*e*P		**P**	**00 27 19.7**		**+0.9**
KIV				pmax		pmax			
	comp=Z,8.0nm,1.1s								
FIA1	**FINESS Array S**	**76.26**	**333**	*e*P		**P**	**00 27 18.9**		**-0.7**
FINES	**FINESS Array B**	**76.26**	**333**	P		**P**	**00 27 19.4

ZIIG	**Zihuatanejo**	**2.40**	**112**	*e*P	Pn	00 45 54.4	-3.2
ZIIG				*e*S	Sn	00 46 22.4	-4.3
MOIG	**Morelia**	**2.72**	**65**	*e*P	Pn	00 45 59.2	-3.1
MOIG				*i* S	Sn	00 46 30.5	-4.5
MOIG	**Morelia**	**2.72**	**65**	*e*P	Pn	00 45 59.2	-3.1
MOIG				*i* S	Sn	00 46 30.5	-4.5
ZAIG	**Zacatecas**	**4.38**	**15**	*e*Pn	Pn	00 46 26.9	+1.7

ISN **14** *00:45:28.3±0.3,36°.71N×43°.25E,h19km,ML2.2*
DDA **14** *00:45:29.0,36°.69N×43°.37E,h7km±6km,ML2.8*
ISC 14 00:45:28.6±1.1,36°.64N±0°.03×43°.38E±0°.04,h12km±11km, n12,σ0s92/21,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.32**	**221**	*e*Pg	**Pg**	**00 45 35.0**	**-0.2**
	baz=20						
MSL				*e*Sg	**Sg**	**00 45 40.0**	**+0.4**
CUKT	**Cukurca**	**0.63**	**17**	P	**Pg**	**00 45 39.9**	**-1.0**
CUKT				S	**Sg**	**00 45 47.9**	**-1.4**
CUKT	**Cukurca**	**0.63**	**17**	*i* P	**Pg**	**00 45 40.0**	**-1.0**
CUKT				*i* S	**Sg**	**00 45 49.3**	**0.0**
CUKT				IAML_P			
	comp=Z,1μm,0.1s						
SIRT	**Sirnak**	**1.14**	**319**	P	**Pn**	**00 45 49.9**	**-0.6**
SIRT				S	**Sb**	**00 46 04.3**	**-0.7**
SIRN	**Sırnak**	**1.15**	**318**	*i* P	**Pb**	**00 45 50.4**	**-0.1**
SIRN				*i* S	**Sg**	**00 46 07.1**	**+1.4**
SIRN				IAML_P			
	comp=Z,831nm,0.1s						
YOVA	**Hakkari_Yksek**	**1.19**	**38**	*i* P	**Pg**	**00 45 52.4**	**+0.8**
YOVA				*i* S	**Sg**	**00 46 08.4**	**+1.2**
YOVA				IAML_P			
	comp=Z,641nm,0.1s						
IKRK	**Kirkuk**	**1.47**	**148**	*e*Pn	**Pn**	**00 45 55.0**	**+0.1**
IKRK				*e*Sn	**Sb**	**00 46 14.0**	**-0.4**
GEVA	**Gevas**	**1.68**	**351**	*i* P	**Pg**	**00 46 00.8**	**-0.2**
GEVA				*i* S	**Sg**	**00 46 24.6**	**+1.7**
AKDM	**Akdamar-Van**	**1.71**	**350**	*e*P	**Pb**	**00 46 00.1**	**0.0**
SRTM	**Siirt_Merkez**	**1.77**	**320**	*i* P	**Pb**	**00 46 01.8**	**+0.7**
SRTM				*i* S	**Sg**	**00 46 26.7**	**+0.9**
SRTM				IAML_P			
	comp=Z,347nm,0.3s						
VANB	**Van**	**1.95**	**0**	*e*P	**Pn**	**00 46 02.2**	**+0.6**
SVAN	**Silvan-Diyarba**	**2.29**	**312**	*e*P	**Pb**	**00 46 09.4**	**-0.6**

ISN **14** *00:53:28.1±1.2,36°.82N×43°.41E,h0km±4km,ML2.9*
DDA **14** *00:53:33.1,36°.66N×43°.40E,h7km±3km,ML3.5*
ISK **14** *00:53:38.4,36°.97N×43°.35E,h5km,ML3.0/12*
ISC 14 00:53:33.2±1.2,36°.59N±0°.03×43°.40E±0°.04,h7km±10km, n23,σ1s44/35,Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.30**	**232**	*e*Pg	**Pg**	**00 53 39.5**	**+0.4**
MSL				*e*Sg	**Sg**	**00 53 45.4**	**+2.3**
CUKT	**Cukurca**	**0.68**	**14**	PG	**Pg**	**00 53 45.3**	**-1.1**
CUKT	**Cukurca**	**0.68**	**14**	*i* P	**Pg**	**00 53 45.9**	**-0.5**
CUKT				*i* S	**Sg**	**00 53 54.4**	**-0.8**
CUKT				IAML_P			
	comp=Z,9μm,0.2s						
SIRT	**Sirnak**	**1.19**	**320**	PG	**Pb**	**00 53 56.0**	**-0.2**
SIRT				SG	**Sb**	**00 54 10.5**	**-1.4**
SIRN	**Sırnak**	**1.20**	**319**	*i* P	**Pb**	**00 53 55.6**	**-0.7**
SIRN				*i* S	**Sb**	**00 54 11.1**	**-1.1**
SIRN				IAML_P			
	comp=Z,7μm,0.2s						
YOVA	**Hakkari_Yksek**	**1.23**	**35**	*i* P	**Pn**	**00 53 56.5**	**-0.5**
YOVA				*i* S	**Sb**	**00 54 13.5**	**+0.6**
YOVA				IAML_P			
	comp=Z,5μm,0.3s						
IKRK	**Kirkuk**	**1.41**	**147**	*e*Pn	**Pn**	**00 53 58.0**	**-1.2**
IKRK				*e*Sn	**Sn**	**00 54 20.0**	**+2.0**
GEVA	**Gevas**	**1.74**	**351**	*i* P	**Pb**	**00 54 06.2**	**+0.5**
GEVA				*i* S	**Sg**	**00 54 29.7**	**+0.4**
GEVA				IAML_P			
	comp=Z,3μm,0.4s						
AKDM	**Akdamar-Van**	**1.77**	**349**	PN	**Pb**	**00 54 05.9**	**-0.2**
AKDM				SN	**Sn**	**00 54 26.2**	**-1.1**
SRTM	**Siirt_Merkez**	**1.83**	**320**	*i* P	**Pn**	**00 54 05.8**	**+0.6**
SRTM				*i* S	**Sg**	**00 54 31.6**	**-0.6**
SRTM				IAML_P			
	comp=Z,2μm,0.2s						
TVAN	**Van**	**1.94**	**0**	*i* P	**Pn**	**00 54 08.1**	**+1.3**
VANB	**Van**	**2.00**	**360**	PN	**Pn**	**00 54 08.1**	**+0.5**
GURO	**Guroymak-BITLI**	**2.24**	**331**	PN	**Pb**	**00 54 13.3**	**-0.8**
SVAN	**Silvan-Diyarba**	**2.35**	**312**	PN	**Pb**	**00 54 15.8**	**-0.1**
CLDR	**Caldiran**	**2.58**	**9**	PN	**Pn**	**00 54 17.8**	**+2.1**
MLAZ	**Malazgirt-MUS**	**2.64**	**345**	PN	**Pn**	**00 54 18.3**	**+2.0**
AGRB	**Hanur-Agry**	**3.00**	**354**	PN	**Pn**	**00 54 23.5**	**+2.1**
BNGB	**Bingl**	**3.23**	**319**	PN	**Pb**	**00 54 27.9**	**-3.0**
BHD	**Baghdad**	**3.41**	**166**	*e*Pn	**Pn**	**00 54 27.0**	**+0.3**
BHD				*e*Sn	**Sn**	**00 55 08.0**	**+0.7**
TASB	**TASBURUN-IGDIR**	**3.46**	**11**	PN	**Pn**	**00 54 30.5**	**+3.0**
GNI	**Garni**	**3.71**	**16**	PN	**Pn**	**00 54 34.2**	**+3.1**
IBDR	**Badra**	**4.04**	**148**	*e*Pn	**Pn**	**00 54 35.0**	**-0.5**
IBDR				*e*Sn	**Sn**	**00 55 23.0**	**-0.1**
RTB	**Rutbah**	**4.37**	**217**	*e*Pn	**Pn**	**00 54 40.0**	**0.0**
RTB				*e*Sn	**Sn**	**00 55 31.0**	**-0.1**

IDC **14** *00:54:43.3±8.2,30°.90S×179°.51W,h288km±84km,mb2.8/2, mb1 3.2/4,mb1mx3.0/21,mbtmp3.8/4,Error ellipse: s-maj=76.2km s-min=36.7km az=7.0*
WEL **14** *00:54:54.0±1.4,31°.5S×14°.17°9E±2°.1,h33km,ML5.3/10*
ISC 14 00:54:43.7±0.9,31°.07S±0°.10×179°.0W±0°.2,h350km,n73, σ2s22/80,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.02**	**27**	P	**Pn**	**00 55 39.2**	**+4.0**
GLKZ				S	**S**	**00 56 10.7**	**-5.8**
RAO	**Raoul Island**	**2.03**	**27**	S	**S**	**00 56 11.8**	**-4.8**
	169nm,0.3s,baz=150,slow=22,SNR=5.2						
RIZ	**Raoul Island**	**2.03**	**27**	P	**Pn**	**00 55 39.5**	**+4.3**
RIZ				S	**S**	**00 56 13.1**	**-3.6**
MXZ	**Matakaoa Point**	**6.86**	**198**	P	**Pn**	**00 56 27.1**	**+2.8**
MXZ				S	**S**	**00 57 44.0**	**-2.0**
WMGZ	**Waiomatatini S**	**7.07**	**197**	P	**Pn**	**00 56 29.0**	**+2.3**
HAZ	**Te Kaha**	**7.19**	**201**	P	**Pn**	**00 56 31.7**	**+3.7**
PKGZ	**Pakihiroa**	**7.22**	**199**	P	**Pn**	**00 56 32.9**	**+4.3**
PUZ	**Puketiti**	**7.35**	**197**	P	**Pn**	**00 56 33.4**	**+3.4**
RUGZ	**Raukumara Rang**	**7.41**	**201**	P	**Pn**	**00 56 34.8**	**+3.9**
TWGZ	**Tauwhareparae**	**7.52**	**199**	P	**Pn**	**00 56 36.3**	**+4.3**
MWZ	**Matawai**	**7.80**	**201**	P	**Pn**	**00 56 38.8**	**+3.5**
TKGZ	**Te Karaka**	**7.80**	**199**	P	**Pn**	**00 56 39.0**	**+3.6**
URZ	**Urewera**	**7.86**	**203**	P	**Pn**	**00 56 35.4**	**-0.7**
	2.3nm,0.3s,baz=270,slow=4.9,SNR=37						
URZ				S	**S**	**00 58 04.5**	**-3.1**
	8.8nm,0.3s,baz=38,slow=18,SNR=13						
URZ	**Urewera**	**7.86**	**203**	P	**Pn**	**00 56 37.9**	**+1.9**
RAGZ	**Rawiri**	**7.98**	**201**	P	**Pn**	**00 56 41.1**	**+3.6**
TOZ	**Tahuroa Road**	**8.06**	**213**	P	**P**	**00 56 41.1**	**-0.3**
RIGZ	**Rimuhau**	**8.07**	**199**	P	**P**	**00 56 42.8**	**+1.2**
MUGZ	**Murupara**	**8.18**	**204**	P	**P**	**00 56 42.6**	**-0.1**
RTZ	**Ruatahuna**	**8.23**	**203**	P	**P**	**00 56 42.2**	**-1.1**
KNZ	**Kokohu**	**8.39**	**198**	P	**P**	**00 56 46.4**	**+1.4**
MTHZ	**Maungataniwha**	**8.49**	**203**	P	**P**	**00 56 46.4**	**+0.2**
TLZ	**Tolley Road**	**8.54**	**210**	P	**P**	**00 56 49.3**	**+2.6**
WHHZ	**Waihua**	**8.57**	**200**	P	**P**	**00 56 49.2**	**+2.1**
MRHZ	**Matea Rd**	**8.62**	**205**	P	**P**	**00 56 47.6**	**-0.1**
NMHZ	**Naumai**	**8.72**	**202**	P	**P**	**00 56 49.4**	**+0.6**
NMHZ	**Naumai**	**8.72**	**202**	P	**P**	**00 56 49.2**	**+0.4**
WATZ	**Wairara**	**8.77**	**208**	P	**P**	**00 56 51.5**	**+2.1**
ARHZ	**Aropaoanui**	**8.81**	**201**	P	**P**	**00 56 50.6**	**+0.9**
ARHZ	**Aropaoanui**	**8.81**	**201**	P	**P**	**00 56 49.7**	**-0.1**
BKZ	**Black Stump Fm**	**8.89**	**203**	P	**P**	**00 56 50.0**	**-0.6**
BKZ	**Black Stump Fm**	**8.89**	**203**	P	**P**	**00 56 49.5**	**-1.2**
HIZ	**Hauiti**	**8.99**	**213**	P	**P**	**00 56 54.6**	**+2.9**
MCHZ	**McNeill Hill**	**9.07**	**202**	P	**P**	**00 56 53.6**	**+0.9**
MCHZ	**McNeill Hill**	**9.07**	**202**	P	**P**	**00 56 52.8**	**+0.1**
KWHZ	**Kaweka Forest**	**9.14**	**203**	P	**P**	**00 56 52.6**	**-0.9**
KWHZ	**Kaweka Forest**	**9.14**	**203**	P	**Pn**	**00 56 51.2**	**-0.2**
KWHZ				S	**S**	**00 58 33.0**	**-2.8**
CKHZ	**Cape Kidnapper**	**9.15**	**200**	P	**P**	**00 56 54.3**	**+0.8**
CKHZ	**Cape Kidnapper**	**9.15**	**200**	P	**P**	**00 56 54.4**	**+0.8**
OTVZ	**Oturere**	**9.19**	**207**	P	**P**	**00 56 54.5**	**+0.4**
TWVZ	**Taurewa**	**9.20**	**208**	P	**P**	**00 56 55.1**	**+0.9**
FWVZ	**Far West T-bar**	**9.31**	**207**	P	**P**	**00 56 54.6**	**-1.0**
BHHZ	**Black Hill Sta**	**9.33**	**204**	P	**P**	**00 56 55.4**	**-0.2**
BHHZ	**Black Hill Sta**	**9.33**	**204**	P	**P**	**00 56 55.1**	**-0.4**
KAHZ	**Kahuranaki**	**9.34**	**200**	P	**P**	**00 56 54.6**	**-1.0**
KRHZ	**Kereru**	**9.36**	**203**	P	**Pn**	**00 56 53.3**	**-0.5**
KRHZ	**Kereru**	**9.36**	**203**	P	**Pn**	**00 56 53.0**	**-0.8**
KRHZ				S	**S**	**00 58 34.4**	**-6.0**
MOVZ	**Moawhango**	**9.37**	**206**	P	**P**	**00 56 55.8**	**-0.2**
MOVZ	**Moawhango**	**9.37**	**206**	P	**P**	**00 56 55.7**	**-0.2**
PXZ	**Pawanui**	**9.56**	**200**	P	**P**	**00 56 59.3**	**+1.3**
PXZ	**Pawanui**	**9.56**	**200**	P	**P**	**00 56 59.1**	**+1.0**
PNHZ	**Pukenui**	**9.66**	**203**	P	**Pn**	**00 56 57.2**	**-0.2**
PNHZ	**Pukenui**	**9.66**	**203**	P	**Pn**	**00 56 57.4**	**-0.1**
WPHZ	**Waipukurau**	**9.72**	**201**	P	**P**	**00 57 01.5**	**+1.7**
WPHZ	**Waipukurau**	**9.72**	**201**	P	**P**	**00 57 01.5**	**+1.7**
PRWZ	**Pori Road**	**9.85**	**200**	P	**P**	**00 57 00.3**	**-0.9**
PRWZ	**Pori Road**	**10.31**	**202**	P	**P**	**00 57 07.1**	**+0.6**
BFZ	**Birch Farm**	**10.34**	**201**	P	**Pn**	**00 57 05.2**	**-0.4**
BFZ	**Birch Farm**	**10.34**	**201**	P	**Pn**	**00 57 04.9**	**-0.7**
MRZ	**Mangatainoka R**	**10.54**	**203**	P	**P**	**00 57 08.8**	**-0.2**
MRZ	**Mangatainoka R**	**10.54**	**203**	P	**P**	**00 57 08.7**	**-0.2**
TMWZ	**Te Maipa**	**10.84**	**201**	P	**P**	**00 57 13.5**	**+1.2**
RPZ	**Rata Peaks**	**14.89**	**209**	P	**Pn**	**00 57 59.4**	**+0.4**
	0.5nm,0.3s,baz=142,slow=2.0,SNR=3.6						
RPZ				S	**S**	**01 00 32.6**	**-4.6**
	0.7nm,0.3s,baz=78,slow=23,SNR=6.6						
ASAR	**Alice Springs**	**42.25**	**268**	P	**P**	**01 02 06.7**	**+2.7**
	0.3nm,0.6s,baz=109,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**43.30**	**273**	P	**P**	**01 02 12.7**	**+0.3**
	0.2nm,0.3s,baz=111,slow=8.1,SNR=9.1						
FINES	**FINESS Array B**	**145.48**	**339**	PKPbc	**PKiKP**	**01 13 45.4**	**+1.6**
	4.5nm,0.7s,baz=57,slow=3.8,SNR=20						
NB2	**NORSAR Subarra1**	**149.28**	**350**	PKP	**PKPab**	**01 13 56.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**149.28**	**350**	PKPbc	**PKPab**	**01 13 56.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=14,slow=4.1,SNR=8.5						

MEX 14 01:14:54.4±0.4,16°.33N×98°.24W,h12km±1km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.13**	**60**	*i* P	Pg	01 14 57.0	-0.8
PNIG				*i* S	Sg	01 14 59.6	-0.5
VHO	**Vista Hermosa**	**1.63**	**63**	*i* P	Pn	01 15 18.9	-4.1
VHO				*e*S	Sn	01 15 38.9	-5.1
CAIG	**El Cayaco**	**2.07**	**291**	*e*P	Pn	01 15 25.4	-3.6
CAIG				*i* S	Sn	01 15 50.0	-4.6
HUIG	**Huatulco**	**2.13**	**105**	*i* P	Pn	01 15 26.0	-3.7
HUIG				*i* S	Sn	01 15 51.1	-4.9

WEL 14 01:26:34.6,37°.5S±8°.1×17°.7E±1°.1,h266km±9km,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZ	**Kuaotunu**	**1.26**	**260**	P	Pn	01 27 12.5	-0.2
HAZ	**Te Kaha**	**1.30**	**161**	P	Pn	01 27 12.5	-0.4
HAZ				S	S	01 27 41.1	-2.2
MXZ	**Matakaoa Point**	**1.33**	**141**	P	Pn	01 27 12.9	-0.2
MXZ				S	S	01 27 41.4	-2.2
RUGZ	**Raukumara Rang**	**1.47**	**167**	P	Pn	01 27 13.4	-0.9
GRZ	**Great Barrier**	**1.48**	**280**	P	Pn	01 27 13.9	-0.3
PKGZ	**Pakihiroa**	**1.51**	**155**	P	Pn	01 27 14.5	+0.1
WMGZ	**Waiomatatini S**	**1.58**	**145**	P	Pn	01 27 15.0	+0.1
WMGZ				S	S	01 27 45.0	-1.9
WMGZ	**Waiomatatini S**	**1.58**	**145**	P	S	01 27 40.4	-6.5
WIAZ	**Waiheke Island**	**1.73**	**261**	P	Pn	01 27 16.6	+0.5
PUZ	**Puketiti**	**1.73**	**153**	P	Pn	01 27 16.0	-0.1
PUZ	**Puketiti**	**1.73**	**153**	P	S	01 27 41.2	-7.8
URZ	**Urewera**	**1.73**	**184**	P	Pn	01 27 16.0	-0.1
URZ				S	S	01 27 46.9	-2.1
TWGZ	**Tauwhareparae**	**1.74**	**161**	P	Pn	01 27 16.8	+0.6
TWGZ				S	S	01 27 49.3	+0.1
TWGZ	**Tauwhareparae**	**1.74**	**161**	P	S	01 27 47.0	-2.2
MKAZ	**Moumakai**	**1.78**	**250**	P	Pn	01 27 17.4	+0.9
TARZ	**Mount Tarawera**	**1.81**	**199**	P	Pn	01 27 18.0	+1.2
MWZ	**Matawai**	**1.82**	**173**	P	Pn	01 27 16.9	+0.1
TOZ	**Tahuroa Road**	**1.85**	**229**	P	Pn	01 27 18.3	+1.3
MBAZ	**Motutapu North**	**1.92**	**262**	P	Pn	01 27 18.3	+0.7
ETAZ	**East Tamaki Re**	**1.92**	**256**	P	Pn	01 27 18.1	+0.4
TKGZ	**Te Karaka**	**1.97**	**166**	P	Pn	01 27 18.1	+0.1
TKGZ	**Te Karaka**	**1.97**	**166**	P	S	01 27 47.4	-5.0
RAGZ	**Rawiri**	**1.97**	**177**	P	Pn	01 27 18.6	+0.5
MUGZ	**Murupara**	**1.99**	**191**	P	Pn	01 27 18.4	+0.2
CNGZ	**Carnagh Statio**	**2.09**	**159**	P	Pn	01 27 19.6	+0.5
RTZ	**Ruatahuna**	**2.10**	**186**	P	Pn	01 27 19.1	-0.1
AWAZ	**Awhitu Peninsu**	**2.17**	**255**	P	Pn	01 27 20.6	+0.8
RIGZ	**Rimuhau**	**2.21**	**170**	P	Pn	01 27 20.5	+0.3
RIGZ	**Rimuhau**	**2.21**	**170**	P	S	01 27 51.1	-5.4
SNGZ	**Shannon Statio**	**2.25**	**178**	P	Pn	01 27 21.0	+0.4
SNGZ	**Shannon Statio**	**2.25**	**178**	P	S	01 27 55.5	-1.7
MTHZ	**Maungataniwha**	**2.35**	**188**	P	Pn	01 27 21.8	+0.3
RAHZ	**Arahi**	**2.39**	**183**	P	Pn	01 27 22.3	+0.5
RAHZ	**Arahi**	**2.39**	**183**	P	S	01 27 57.9	-1.5
MRHZ	**Matea Rd**	**2.40**	**196**	P	Pn	01 27 22.2	+0.2
WCZ	**Waipu Caves**	**2.43**	**283**	P	Pn	01 27 22.5	+0.3
PRGZ	**Paritu Road**	**2.44**	**169**	P	Pn	01 27 23.1	+0.8
PRGZ	**Paritu Road**	**2.44**	**169**	P	S	01 27 54.9	-5.4
WATZ	**Wairara**	**2.49**	**209**	P	Pn	01 27 24.5	+1.7
KNZ	**Kokohu**	**2.51**	**173**	P	Pn	01 27 23.1	+0.1
WHHZ	**Waihua**	**2.55**	**181**	P	Pn	01 27 24.0	+0.7
WHHZ	**Waihua**	**2.55**	**181**	P	S	01 28 00.8	-1.3
NMHZ	**Naumai**	**2.59**	**188**	P	Pn	01 27 25.9	+2.0
NMHZ	**Naumai**	**2.59**	**188**	P	S	01 28 03.8	+0.7
MHGZ	**Mahia Peninsul**	**2.67**	**169**	P	Pn	01 27 25.3	+0.7
BKZ	**Black Stump Fm**	**2.71**	**193**	P	Pn	01 27 24.6	-0.4
ARHZ	**Aropaoanui**	**2.74**	**184**	P	Pn	01 27 26.1	+0.8
HIZ	**Hauiti**	**2.76**	**223**	P	Pn	01 27 28.1	+2.6
WTVZ	**West Tongariro**	**2.91**	**207**	P	Pn	01 27 28.1	+1.0
TWVZ	**Taurewa**	**2.92**	**209**	P	Pn	01 27 28.7	+1.4
MCHZ	**McNeill Hill**	**2.95**	**189**	P	Pn	01 27 27.7	+0.3
NGZ	**Ngauruhoe**	**2.96**	**206**	P	Pn	01 27 28.6	+1.0
KWHZ	**Kaweka Forest**	**2.97**	**193**	P	Pn	01 27 27.7	0.0
TUVZ	**Tukino**	**3.02**	**204**	P	Pn	01 27 29.3	+1.0
FWVZ	**Far West T-bar**	**3.04**	**206**	P	Pn	01 27 29.4	+0.8
BHHZ	**Black Hill Sta**	**3.11**	**197**	P	Pn	01 27 29.7	-0.5
MOVZ	**Moawhango**	**3.11**	**202**	P	Pn	01 27 29.4	+0.2
CKHZ	**Cape Kidnapper**	**3.13**	**183**	P	Pn	01 27 29.6	+0.2
KRHZ	**Kereru**	**3.19**	**192**	P	Pn	01 27 29.8	-0.3
VRZ	**Vera Road**	**3.27**	**217**	P	Pn	01 27 33.3	+2.5
KAHZ	**Kahuranaki**	**3.28**	**185**	P	Pn	01 27 31.1	+0.1
PNHZ	**Pukenui**	**3.48**	**194**	P	Pn	01 27 32.6	-0.6
PXZ	**Pawanui**	**3.51**	**185**	P	Pn	01 27 33.0	-0.4
PXZ	**Pawanui**	**3.51**	**185**	P	S	01 28 15.4	-5.1
TSZ	**Takapari Road**	**3.67**	**196**	P	Pn	01 27 34.7	-0.6
PKE	**Pukeiti**	**3.72**	**223**	P	Pn	01 27 40.0	+4.2
PRHZ	**Porangahau**	**3.77**	**187**	P	Pn	01 27 36.0	-0.3
KHEZ	**Kahui Hut**	**3.77**	**222**	P	Pn	01 27 39.9	+3.4
DVHZ	**Dannevirke**	**3.87**	**193**	P	Pn	01 27 36.3	-1.1
ANWZ	**Angora Road**	**3.98**	**189**	P	Pn	01 27 38.1	-0.6
PRWZ	**Pori Road**	**4.15**	**194**	P	Pn	01 27 40.3	-0.4
BFZ	**Birch Farm**	**4.23**	**191**	P	Pn	01 27 40.5	-1.1
MRZ	**Mangatainoka R**	**4.33**	**197**	P	Pn	01 27 41.4	-1.4
HOWZ	**Holdsworth Sta**	**4.57**	**197**	P	Pn	01 27 44.9	-0.8
OGWZ	**Otaki Gorge**	**4.59**	**200**	P	Pn	01 27 44.5	-1.3
TMWZ	**Te Maipa**	**4.70**	**193**	P	Pn	01 27 46.6	-0.6
KIW	**Kapiti Island**	**4.70**	**202**	P	Pn	01 27 46.1	-1.2
MTW	**Mount Morrison**	**4.83**	**196**	P	Pn	01 27 47.6	-1.1
CAW	**Cannon Point**	**4.89**	**200**	P	Pn	01 27 48.1	-1.3
DUWZ	**D'Urville Isla**	**5.01**	**210**	P	Pn	01 27 50.2	-0.7
TRWZ	**Traveller**	**5.02**	**194**	P	Pn	01 27 50.6	-0.4
PAWZ	**Paruwai Farm**	**5.06**	**196**	P	Pn	01 27 51.0	-0.4
MSWZ	**Moikau Station**	**5.13**	**197**	P	Pn	01 27 51.5	-0.8
BHW	**Baring Head**	**5.22**	**200**	P	Pn	01 27 52.5	-0.9
TCW	**Tory Channel**	**5.23**	**206**	P	Pn	01 27 52.9	-0.5
PLWZ	**Palliser**	**5.27**	**197**	P	Pn	01 27 52.8	-1.3
TUWZ	**Tuamarina**	**5.54**	**207**	P	Pn	01 27 56.6	-0.7
NNZ	**Nelson**	**5.58**	**212**	P	Pn	01 27 57.2	-0.5
QRZ	**Quartz Range**	**5.67**	**219**	P	Pn	01 27 58.0	-0.9
BSWZ	**Blackbirch Sta**	**5.81**	**206**	P	Pn	01 28 01.0	+0.4
THZ	**Tophouse**	**6.23**	**212**	P	Pn	01 28 04.6	-1.2
KHZ	**Kahutara**	**6.55**	**205**	P	Pn	01 28 08.6	-1.0
DSZ	**Denniston Nort**	**6.72**	**217**	P	Pn	01 28 10.3	-1.6
LTZ	**Lake Taylor**	**7.34**	**210**	P	Pn	01 28 17.7	-1.9
AMCZ	**Amberley**	**7.53**	**207**	P	Pn	01 28 20.3	-1.6
INZ	**Inchbonnie**	**7.65**	**214**	P	Pn	01 28 22.2	-1.2
OKCZ	**Okains Bay**	**7.88**	**203**	P	Pn	01 28 25.5	-0.7
OXZ	**Oxford**	**7.89**	**209**	P	Pn	01 28 24.5	-1.9
MQZ	**McQueen's Vall**	**7.99**	**205**	P	Pn	01 28 26.0	-1.6
AKCZ	**Akaroa Harbour**	**8.06**	**203**	P	Pn	01 28 27.9	-0.6
ODZ	**Otahua Downs**	**9.88**	**208**	P	Pn	01 28 50.7	-0.5
JCZ	**Jackson Bay**	**9.93**	**218**	P	Pn	01 28 50.0	-2.1
WKZ	**Wanaka**	**10.38**	**214**	P	Pn	01 28 55.7	-2.0

ISCJB **14** *01:44:16.8±0.3,24°.39N±0°.01×121°.99E±0°.02,h17km±4km, Error ellipse: s-maj=3.3km s-min=2.0km az=23.4*
JMA **14** *01:44:16.6±0.1,24°.34N×121°.88E,h42km±3km,M2.6*
TAP **14** *01:44:16.5,24°.41N×121°.92E,h26km,ML3.4,C*
ISC 14 01:44:16.5±1.0,24°.39N±0°.02×121°.95E±0°.02,h15km±8km, n74,σ0s72/130,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NANB	**Nanao**	**0.18**	**282**	P	**Pb**	**01 44 21.9**	**+0.3**
	baz=276						
NANB				S	**Sb**	**01 44 25.5**	**+0.5**
	baz=276						
ENA	**Nanau**	**0.19**	**282**	*i* P	**Pb**	**01 44 21.9**	**+0.1**
	baz=275						
ENA				*i* S	**Sb**	**01 44 25.5**	**+0.3**
	baz=275						
EOS1	**EOS1**	**0.23**	**46**	*e*P	**Pb**	**01 44 23.2**	**+0.8**
	baz=49						
EOS1				*e*S	**Sb**	**01 44 28.6**	**+2.2**
	baz=49						
TWC	**Suao**	**0.24**	**338**	*i* P	**Pb**	**01 44 22.5**	**0.0**
	baz=345						
TWC				*i* S	**Sb**	**01 44 26.4**	**-0.1**
	baz=345						
NACB	**Ninganchiao**	**0.39**	**236**	P	**Pb**	**01 44 25.1**	**0.0**
	baz=235						
NACB				S	**Sb**	**01 44 31.5**	**+0.7**
	baz=235						
ILA	**Ilan**	**0.41**	**334**	P	**Pb**	**01 44 25.4**	**-0.2**
	baz=331						
ILA				S	**Sb**	**01 44 31.9**	**+0.2**
	baz=331						
TWE	**Neicheng**	**0.42**	**323**	*i* P	**Pb**	**01 44 25.3**	**-0.3**
	baz=325						
TWE				*i* S	**Sg**	**01 44 30.9**	**+0.4**
	baz=325						
TWD	**Chiawan**	**0.44**	**226**	*i* P	**Pb**	**01 44 26.1**	**0.0**
	baz=224						
TWD				*i* S	**Sb**	**01 44 33.7**	**+1.2**
	baz=224						
NDT	**Datong Townshi**	**0.45**	**298**	*i* P	**Pb**	**01 44 25.7**	**-0.4**
	baz=297						
NDT				*i* S	**Sb**	**01 44 32.2**	**-0.5**
	baz=297						
EGS		**0.45**	**359**	P	**Pb**	**01 44 26.2**	**-0.1**
	baz=4.0						
SLBB	**Yuanshan**	**0.46**	**322**	P	**Pb**	**01 44 26.3**	**-0.1**
	baz=323						
SLBB				S	**Sb**	**01 44 32.5**	**-

TWS1				S		Sn	01 44 45.8	-0.5	
	baz=337								
YM08	**YM08**	**0.86**	**338**	*eP*		**Pn**	**01 44 34.2**	**+0.1**	
	baz=339								
EGFH	**Guangfu**	**0.86**	**214**	*eP*		**Pg**	**01 44 32.5**	**-0.7**	
	baz=225								
NSTT	**Nanjuang**	**0.89**	**286**	*i* P		**Pb**	**01 44 34.1**	**+0.4**	
	baz=285								
NSTT				S		**Sb**	**01 44 46.1**	**+0.6**	
	baz=285								
NTST	**Danshui**	**0.89**	**330**	P		**Pn**	**01 44 34.4**	**-0.2**	
	baz=341								
NTST				S		**Sb**	**01 44 46.5**	**+1.0**	
	baz=341								
NCUH	**Zhongli**	**0.90**	**310**	*eP*		**Pb**	**01 44 34.0**	**+0.2**	
	baz=296								
NCUH				*eS*		**Sn**	**01 44 46.9**	**-0.5**	
	baz=296								
WHP	**Taichung City**	**0.92**	**263**	P		**Pb**	**01 44 34.6**	**+0.4**	
	baz=261								
WHP				S		**Sn**	**01 44 47.3**	**-0.8**	
	baz=261								
VWDT	**VWDT**	**0.97**	**229**	*eP*		**Pb**	**01 44 34.3**	**-0.7**	
	baz=227								
VWDT				*eS*		**Sg**	**01 44 48.1**	**+0.2**	
	baz=227								
YOJ	**Yonaguni jima**	**0.97**	**86**	*eS*		**Sg**	**01 44 48.6**	**+0.5**	
HGSD	**Ruisui**	**1.01**	**208**	*eP*		**Pb**	**01 44 35.1**	**-0.6**	
	baz=197								
HGSD				*eS*		**Sn**	**01 44 50.5**	**+0.3**	
	baz=197								
NMLH	**Miaoli**	**1.06**	**278**	*eS*		**Sn**	**01 44 51.8**	**+0.3**	
	baz=277								
TWQ1	**Liyutan**	**1.07**	**268**	*eP*		**Pb**	**01 44 36.3**	**-0.4**	
	baz=267								
TWQ1				*eS*		**Sn**	**01 44 52.3**	**+0.7**	
	baz=267								
NSY	**Sanyi**	**1.08**	**272**	*eP*		**Pn**	**01 44 37.9**	**+0.7**	
	baz=270								
NSY				*eS*		**Sn**	**01 44 53.9**	**+2.0**	
	baz=270								
SMLT	**Sun Moon Lake**	**1.08**	**242**	P		**Pb**	**01 44 36.9**	**-0.1**	
	baz=228								
SMLT				*eS*		**Sg**	**01 44 51.6**	**+0.1**	
	baz=228								
SSLB	**Suanglung**	**1.09**	**237**	*eP*		**Pb**	**01 44 36.2**	**-0.9**	
	baz=226								
SSLB				*eS*		**Sb**	**01 44 50.4**	**-0.7**	
	baz=226								
TYC	**Yuchr**	**1.10**	**244**	P		**Pb**	**01 44 36.9**	**-0.4**	
	baz=229								
TYC				S		**Sn**	**01 44 53.5**	**+1.0**	
	baz=229								
YULB	**Yu-li**	**1.16**	**211**	*eP*		**Pb**	**01 44 36.5**	**-1.7**	
	baz=209								
YULB				*eS*		**Sb**	**01 44 52.7**	**-0.4**	
	baz=209								
TCU	**Taichung**	**1.18**	**259**	*eS*		**Sn**	**01 44 56.3**	**+1.9**	
	baz=256								
TWF1	**Yuli**	**1.19**	**210**	*eP*		**Pn**	**01 44 36.3**	**-2.4**	
	baz=219								
WDJ	**Dajia District**	**1.19**	**268**	*eS*		**Sg**	**01 44 55.6**	**+0.6**	
	baz=267								
WHYT	**Xinyi Township**	**1.21**	**236**	*eP*		**Pn**	**01 44 38.9**	**-0.1**	
	baz=234								
WHYT				*eS*		**Sg**	**01 44 56.8**	**+1.1**	
	baz=234								
WNT	**Mingjian**	**1.26**	**246**	*eP*		**Pg**	**01 44 40.9**	**+0.1**	
	baz=244								
WNT				*eS*		**Sg**	**01 44 58.9**	**+1.7**	
	baz=244								
FULB	**Fuli**	**1.33**	**207**	*eP*		**Pn**	**01 44 39.8**	**-0.8**	
	baz=218								
ALS	**Alishan**	**1.36**	**230**	P		**Pn**	**01 44 41.1**	**-0.2**	
	baz=217								
ALS				S		**Sg**	**01 45 01.5**	**+0.9**	
	baz=217								
WDLH	**Douliu**	**1.46**	**242**	*eS*		**Sg**	**01 45 03.7**	**0.0**	
	baz=240								
ELDTW	**Lidau**	**1.47**	**216**	*eP*		**Pn**	**01 44 41.1**	**-1.5**	
	baz=203								
RLNB	**Erlin**	**1.53**	**251**	*eS*		**Sb**	**01 45 04.6**	**+0.8**	
	baz=249								
IRIF	**Iriomote-Funau**	**1.63**	**92**	P		**Pn**	**01 44 44.5**	**-0.2**	
IRIF				*eS*		**Sn**	**01 45 05.4**	**0.0**	
STYT	**Tauyuan**	**1.64**	**222**	*eP*		**Pb**	**01 44 45.8**	**-0.7**	
	baz=220								
SNST	**Tainan City**	**1.76**	**229**	*eP*		**Pn**	**01 44 47.1**	**+0.6**	
	baz=227								
SNST				*eS*		**Sb**	**01 45 11.2**	**+0.6**	
	baz=227								
SLGT	**Liugui**	**1.83**	**221**	*eP*		**Pb**	**01 44 48.6**	**-1.1**	
	baz=220								
SLGT				*eS*		**Sb**	**01 45 13.1**	**+0.6**	
	baz=220								
JIJ	**Ishigaki jima**	**2.00**	**90**	*eS*		**Sn**	**01 45 13.2**	**-1.5**	
SSD	**Sandimen**	**2.03**	**217**	*eP*		**Pn**	**01 44 51.1**	**+0.9**	
	baz=224								
MASBT	**Mashibuluo**	**2.14**	**215**	*eP*		**Pn**	**01 44 52.8**	**+1.0**	
	baz=214								
MASBT				*eS*		**Sn**	**01 45 19.8**	**+1.7**	
	baz=214								
JISG	**Ishigakijimahi**	**2.17**	**84**	S		**Sn**	**01 45 18.0**	**-0.7**	
EAST	**Anshuo**	**2.24**	**207**	*eP*		**Pn**	**01 44 53.9**	**+0.7**	
	baz=198								
AXDP	**Jialang**	**3.65**	**279**	*eP*		**Pn**	**01 45 11.3**	**-1.2**	
	baz=275								
AXDP				*eS*		**Sn**	**01 45 53.4**	**-2.0**	
	baz=275								

ISCJB ***14*** *01:53:19.7±0.2, 24°.41N±0°.01×121°.99E±0°.02, h26km±2km, mb3.4/5, MS2.9/3, Error ellipse: s-maj=2.5km s-min=1.8km az=21.1*

JMA ***14*** *01:53:19.1±0.1, 24°.34N×121°.95E, h29km, M3.3*

TAP ***14*** *01:53:19.4, 24°.41N×121°.92E, h27km, ML4.0, B*

IDC ***14*** *01:53:29.4±7.2, 24°.23N×121°.71E, h127km±69km, mb3.1/5, mb1 3.3/6, mb1mx3.1/53, mbtmp3.6/6, MS2.9/5, Ms1 2.9/5, ms1mx2.7/22, Error ellipse: s-maj=44.1km s-min=22.2km az=65.0*

ISC 14 01:53:19.4±0.8, 24°.38N±0°.02×121°.97E±0°.02, h27km±5km, n120, σ0 83/205, mb3.4/5, MS2.9/3, 4C-22D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NANB	**Nanao**	**0.20**	**284**	⇓P			**Pb**	**01 53 24.9**	**-0.3**
	baz=277								
NANB				S			**Sb**	**01 53 28.7**	**-0.6**
	baz=277								
ENA	**Nanau**	**0.21**	**283**	*i*P			**Pb**	**01 53 25.0**	**-0.4**
	baz=276								
ENA				S			**Sb**	**01 53 28.7**	**-0.7**
	baz=276								
EOS1	**EOS1**	**0.22**	**41**	⇓P			**Pb**	**01 53 26.2**	**+0.7**
	baz=53								
EOS1				S			**Sb**	**01 53 31.6**	**+1.9**
	baz=53								
TWC	**Suao**	**0.25**	**335**	⇓*i*P			**Pb**	**01 53 25.5**	**-0.4**
	baz=344								
TWC				*i* S			**Sb**	**01 53 29.5**	**-0.9**
	baz=344								
NACB	**Ninganchiao**	**0.40**	**239**	⇓P			**Pb**	**01 53 28.1**	**+0.1**
	baz=236								
NACB				S			**Sn**	**01 53 34.8**	**-1.2**
	baz=236								
ILA	**Ilan**	**0.43**	**333**	P			**Pb**	**01 53 28.6**	**0.0**
	baz=330								
ILA				S			**Sb**	**01 53 34.9**	**+0.1**
	baz=330								
TWE	**Neicheng**	**0.44**	**321**	⇓*i*P			**Pb**	**01 53 28.3**	**-0.3**
	baz=325								
TWE				S			**Sb**	**01 53 34.3**	**-0.6**
	baz=325								
ENTT	**Nioudou**	**0.45**	**305**	P			**Pb**	**01 53 28.7**	**-0.2**
	baz=306								
ENTT				*eS*			**Sb**	**01 53 34.9**	**-0.4**
	baz=306								
TWD	**Chiawan**	**0.45**	**229**	⇓*i*P			**Pb**	**01 53 29.1**	**+0.2**
	baz=225								
TWD				S			**Sn**	**01 53 36.7**	**-0.7**
	baz=225								
EGS		**0.46**	**356**	⇓*i*P			**Pb**	**01 53 29.2**	**+0.1**
	baz=3.0								
EGS				*eS*			**Sb**	**01 53 35.4**	**-0.2**
	baz=3.0								
NDT	**Datong Townshi**	**0.47**	**298**	P			**Pb**	**01 53 29.1**	**-0.1**
	baz=298								
NDT				S			**Sb**	**01 53 35.2**	**-0.7**
	baz=298								
ETLH	**Xiulin Townshi**	**0.47**	**249**	*i* P			**Pb**	**01 53 29.4**	**+0.1**
	baz=247								
ETLH				S			**Sn**	**01 53 37.0**	**-1.1**
	baz=247								
SLBB	**Yuanshan**	**0.48**	**321**	⇓P			**Pb**	**01 53 29.3**	**-0.1**
	baz=323								
SLBB				S			**Sb**	**01 53 36.0**	**-0.1**
	baz=323								
NTC	**Toucheng**	**0.49**	**345**	*eP*			**Pb**	**01 53 29.1**	**-0.4**
	baz=350								
NTC				*eS*			**Sb**	**01 53 36.4**	**+0.1**
	baz=350								
HWA	**Hwalien**	**0.52**	**220**	*eP*			**Pn**	**01 53 30.7**	**-0.3**
	baz=213								
HWA				*eS*			**Sn**	**01 53 40.1**	**+1.1**
	baz=213								
NNSB	**Datong**	**0.54**	**275**	P			**Pb**	**01 53 30.0**	**-0.3**
	baz=276								
NNSB				S			**Sb**	**01 53 37.5**	**-0.3**
	baz=276								
NNS	**Nan Shan**	**0.55**	**276**	⇓*i*P			**Pb**	**01 53 30.3**	**-0.2**
	baz=277								
NNS				*eS*			**Sb**	**01 53 38.1**	**0.0**
	baz=277								
NWLT	**Wulai**	**0.58**	**313**	P			**Pb**	**01 53 30.7**	**-0.3**
	baz=314								
NWLT				*eS*			**Sb**	**01 53 38.5**	**-0.5**
	baz=314								
ENLB	**Shoufeng**	**0.58**	**215**	P			**Pn**	**01 53 31.5**	**-0.4**
	baz=210								
ENLB				*eS*			**Sn**	**01 53 41.4**	**+0.9**
	baz=210								
TIPB	**Shuangxi**	**0.60**	**348**	⇓P			**Pb**	**01 53 31.2**	**-0.2**
	baz=356								
TIPB				*eS*			**Sb**	**01 53 38.6**	**-1.0**
	baz=356								
YHNB	**Yeheng**	**0.61**	**298**	⇑P			**Pb**	**01 53 31.2**	**-0.4**
	baz=298								
YHNB				S			**Sb**	**01 53 39.4**	**-0.5**
	baz=298								
NSK	**Sanguang**	**0.63**	**298**	⇑P			**Pb**	**01 53 31.5**	**-0.4**
	baz=298								
NSK				S			**Sb**	**01 53 39.7**	**-0.6**
	baz=298								
WHF	**Hehuan Shan**	**0.68**	**250**	⇓*i*P			**Pb**	**01 53 33.0**	**0.0**
	baz=253								
WHF				S			**Sn**	**01 53 43.0**	**-0.6**
	baz=253								
TWA	**Mucha**	**0.69**	**330**	*eP*			**Pb**	**01 53 32.9**	**-0.1**
	baz=325								
TWA				S			**Sb**	**01 53 41.9**	**-0.2**
	baz=325								
NHDH	**Xindian Distri**	**0.71**	**325**	*eP*			**Pb**	**01 53 33.3**	**+0.2**
	baz=320								
NHDH				S			**Sb**	**01 53 42.2**	**-0.3**
	baz=320								
NWF	**Wu-fen Shan**	**0.71**	**346**	⇓*i*P			**Pb**	**01 53 33.3**	**+0.1**
	baz=343								
NWF				S			**Sb**	**01 53 42.5**	**-0.1**
	baz=343								
WFSB	**Wu-fen Shan**	**0.71**	**346**	⇓P			**Pb**	**01 53 33.4**	**+0.2**
	baz=342								
WFSB				S			**Sb**	**01 53 42.7**	**+0.2**
	baz=342								
TWT	**Tachien**	**0.73**	**260**	*eP*			**Pn**	**01 53 33.9**	**-0.3**
	baz=257								
TWT				S			**Sn**	**01 53 44.7**	**+0.2**
	baz=257								
TATO	**Taipei**	**0.74**	**324**	P			**Pb**	**01 53 33.8**	**+0.2**
	baz=321								
TATO				S			**Sb**	**01 53 43.1**	**-0.2**
	baz=321								
ESL	**Shilin**	**0.74**	**221**	P			**Pb**	**01 53 33.3**	**-0.4**
	baz=230								
ESL				*eS*			**Sn**	**01 53 44.8**	**+0.1**
	baz=230								
TDCB	**Techi**	**0.75**	**260**	⇓P			**Pn**	**01 53 34.2**	**-0.1**
	baz=258								
TDCB				S			**Sb**	**01 53 43.9**	**+0.1**
	baz=258								
CHGB	**Renai**	**0.79**	**246**	⇓P			**Pn**	**01 53 34.7**	**-0.3**
	baz=243								
CHGB				S			**Sn**	**01 53 45.5**	**-0.5**
	baz=243								
WLTB	**Daxi**	**0.80**	**306**	*eP*			**Pn**	**01 53 35.5**	**+0.5**
	baz=306								
WLTB				S			**Sn**	**01 53 46.1**	**+0.1**
	baz=306								
OWD	**Renai**	**0.84**	**240**	*eP*			**Pn**	**01 53 35.5**	**-0.1**
	baz=225								
OWD				*eS*			**Sn**	**01 53 47.1**	**0.0**
	baz=225								
YM01	**YM01**	**0.84**	**335**	⇓*eP*			**Pn**	**01 53 35.8**	**+0.2**
	baz=348								
YM01				S			**Sb**	**01 53 46.9**	**+0.4**
	baz=348								
YM07	**YM07**	**0.85**	**338**	*eP*			**Pn**	**01 53 36.1**	**+0.4**
	baz=340								
YM07				*eS*			**Sb**	**01 53 46.8**	**+0.1**
	baz=340								
YM11	**YM11**	**0.86**	**336**	⇓*eP*			**Pn**	**01 53 36.0**	**+0.1**
	baz=349								
YM11				*eS*			**Sb**	**01 53 47.4**	**+0.4**
	baz=349								
YM05	**YM05**	**0.86**	**335**	P			**Pn**	**01 53 36.0**	**+0.1**
	baz=348								
YM05				S			**Sb**	**01 53 47.2**	**+0.2**
	baz=348								
EGFH	**Guangfu**	**0.86**	**215**	*eP*			**Pb**	**01 53 35.3**	**-0.5**
	baz=225								
EGFH				*eS*			**Sn**	**01 53 48.3**	**+0.8**
	baz=225								
YM04	**YM04**	**0.86**	**333**	*eP*			**Pn**	**01 53 36.0**	**+0.1**
	baz=335								
YM04				S			**Sb**	**01 53 46.9**	**-0.1**
	baz=335								
TWS1	**Kuangyinshan**	**0.88**	**325**	P			**Pn**	**01 53 36.4**	**+0.4**
	baz=337								
TWS1				*eS*			**Sn**	**01 53 49.2**	**+1.4**
	baz=337								
YM08	**YM08**	**0.88**	**337**	⇑P			**Pn**	**01 53 36.1**	**+0.1**
	baz=350								
YM08				*eS*			**Sb**	**01 53 47.2**	**-0.1**
	baz=350								
YM03	**YM03**	**0.89**	**334**	*eP*			**Pn**	**01 53 36.6**	**+0.4**
	baz=336								
YM03				*eS*			**Sb**	**01 53 48.0**	**+0.3**
	baz=336								
JYNG	**Yonagunijimaku**	**0.89**	**85**	P			**Pb**	**01 53 34.8**	**-1.5**
JYNG				S			**Sb**	**01 53 46.1**	**-1.7**
ANP	**Anpu**	**0.90**	**333**	*eP*			**Pb**	**01 53 36.5**	**0.0**
	baz=335								
ANP				*eS*			**Sb**	**01 53 48.0**	**-0.1**
	baz=335								
LIOB	**Emei**	**0.91**	**287**	*eP*			**Pb**	**01 53 36.3**	**-0.2**
	baz=286								
LIOB				*eS*			**Sn**	**01 53 48.4**	**-0.2**
	baz=286								
NTST	**Danshui**	**0.91**	**329**	*eP*			**Pn**	**01 53 36.7**	**+0.3**
	baz=340								
NTST				*eS*			**Sn**	**01 53 48.8**	**0.0**
	baz=340								
NSTT	**Nanjuang**	**0.92**	**286**	*eP*			**Pn**	**01 53 37.0**	**+0.5**
	baz=285								
NSTT				S			**Sn**	**01 53 48.6**	**-0.2**
	baz=285								
NCU	**National Centr**	**0.92**	**310**	*eP*			**Pn**	**01 53 37.0**	**+0.4**
	baz=296								
NCU				*eS*			**Sn**	**01 53 49.8**	**+0.8**
	baz=296								
NCUH	**Zhongli**	**0.92**	**310**	*eP*			**Pn**	**01 53 36.9**	**+0.3**
	baz=296								
NCUH				*eS*			**Sn**	**01 53 50.1**	**+1.2**
	baz=296								
WHP	**Taichung City**	**0.94**	**264**	*eP*			**Pn**	**01 53 37.5**	**+0.6**
	baz=262								
WHP				S			**Sn**	**01 53 50.0**	**+0.5**
	baz=262								
TWY	**Chenhua**	**0.95**	**340**	*eP*			**Pn**	**01 53 38.3**	**+1.3**
	baz=342								
TWY				*eS*			**Sn**	**01 53 50.0**	**+0.2**
	baz=342								
YOJ	**Yonaguni jima**	**0.95**	**85**	*eP*			**Pn**	**01 53 37.7**	**+0.7**
	baz=79								
YOJ				*eS*			**Sn**	**01 53 51.1**	**+1.3**
	baz=79								
YOJ	**Yonaguni jima**	**0.95**	**85**	P			**Pn**	**01 53 37.8**	**+0.7**
YOJ				S			**Sn**	**01 53 51.0**	**+1.2**
VWDT	**VWDT**	**0.98**	**231**	⇓P			**Pb**	**01 53 37.4**	**-0.3**
	baz=228								
VWDT				*eS*			**Sn**	**01 53 50.8**	**+0.5**
	baz=228								
SBCB	**Hsinchu**	**0.98**	**295**	*eP*			**Pn**	**01 53 37.4**	**0.0**
	baz=294								
SBCB				*eS*			**Sn**	**01 53 51.5**	**+1.0**
	baz=294								
HGSD	**Ruisui**	**1.01**	**209**	*eP*			**Pn**	**01 53 37.6**	**-0.2**
	baz=198								
HGSD				*eS*			**Sn**	**01 53 53.7**	**+2.4**
	baz=198								
EHY	**Hungye**	**1.05**	**214**	*eP*			**Pn**	**01 53 37.2**	**-1.2**
	baz=211								
EHY				*eS*			**Sn**	**01 53 54.2**	**+2.0**
	baz=211								
NMLH	**Miaoli**	**1.08**	**279**	*eP*			**Pb**	**01 53 40.5**	**+1.0**
	baz=276								
TWQ1	**Liyutan**	**1.09**	**269**	*eP*			**Pb**	**01 53 40.4**	**+0.8**
	baz=267								
TWQ1				*eS*			**Sn**	**01 53 54.5**	**+1.3**
	baz=267								
SMLT	**Sun Moon Lake**	**1.09**	**243**	⇑P			**Pb**	**01 53 39.7**	**0.0**
	baz=233								
SMLT				*eS*			**Sn**	**01 53 55.0**	**+1.6**
	baz=233								
SSLB	**Suanglung**	**1.10**	**238**	⇓P			**Pn**	**01 53 39.1**	**+0.1**
	baz=227								
SSLB				*eS*			**Sb**	**01 53 52.9**	**-0.8**
	baz=227								
NSY	**Sanyi**	**1.10**	**272**	*eP*			**Pb**	**01 53 40.2**	**+0.4**
	baz=270								
NSY				*eS*			**Sn**	**01 53 54.2**	**+0.8**
	baz=270								
TYC	**Yuchr**	**1.12**	**245**	P			**Pb**	**01 53 40.0**	**-0.1**
	baz=231								
TYC				*eS*			**Sn**	**01 53 55.2**	**+1.4**
	baz=231								
PTSB	**Yuanli**	**1.15**	**274**	*eP*			**Pb**	**01 53 40.8**	**+0.1**
	baz=272								
PTSB				*eS*			**Sb**	**01 53 56.2**	**+1.0**
	baz=272								
YULB	**Yu-li**	**1.16**	**212**	*eP*			**Pn**	**01 53 38.8**	**-1.1**
	baz=210								
YULB				*eS*			**Sb**	**01 53 56.7**	**+1.3**
	baz=210								
TWF1	**Yuli**	**1.19**	**211**	*eP*			**Pn**	**01 53 39.5**	**-0.9**
	baz=220								
TCU	**Taichung**	**1.20**	**259**	*eP*			**Pb**	**01 53 42.0**	**+0.6**
	baz=255								
WDJ	**Dajia District**	**1.21**	**269**	*eP*			**Pb**	**01 53 42.2**	**+0.5**
	baz=267								
WDJ				*eS*			**Sb**	**01 53 58.6**	**+1.7**
	baz=267								
WHYT	**Xinyi Township**	**1.23**	**236**	*eP*			**Pb**	**01 53 41.9**	**0.0**
	baz=234								
WHYT				*eS*			**Sb**	**01 53 58.6**	**+1.3**
	baz=234								
PCYT	**Pengchaiyu**	**1.25**	**4**	*eP*			**Pn**	**01 53 40.1**	**-1.0**
	baz=7.0								
WJS	**Zhushan**	**1.26**	**244**	*eP*			**Pb**	**01 53 42.4**	**-0.1**
	baz=229								
WNT	**Mingjian**	**1.27**	**247**	*eP*			**Pb**	**01 53 43.1**	**+0.4**
	baz=244								
WNT				*eS*			**Sb**	**01 54 00.8**	**+2.1**
	baz=244								
YUS	**Yu-Shan**	**1.28**	**227**	⇓P			**Pb**	**01 53 42.5**	**-0.7**
	baz=224								
YUS				*eS*			**Sb**	**01 53 59.5**	**+0.1**
	baz=224								
FULB	**Fuli**	**1.33**	**208**	*eP*			**Pb**	**01 53 42.8**	**-0.8**
	baz=219								
FULB				*eS*			**Sb**	**01 54 01.9**	**+1.6**
	baz=219								
ALS	**Alishan**	**1.37**	**231**	⇓*i*P			**Pb**	**01 53 44.1**	**-0.5**
	baz=218								
CHKT	**Chengkung**	**1.39**	**204**	*eP*			**Pb**	**01 53 44.1**	**-0.6**
	baz=188								
CHN5	**Tsauling**	**1.41**	**237**	*eP*			**Pb**	**01 53 45.4**	**+0.3**
	baz=234								
CHN5				*eS*			**Sb**	**01 54 03.0**	**+0.2**
	baz=234								
WGK	**Gukeng**	**1.46**	**242**	*eP*			**Pb**	**01 53 45.6**	**-0.2**
	baz=239								
ELDTW	**Lidau**	**1.47**	**216**	*eP*			**Pn**	**01 53 44.9**	**+0.6**
	baz=214								
ELDTW				*eS*			**Sb**	**01 54 04.3**	**-0.2**
	baz=214								
WDLH	**Douliu**	**1.48**	**243**	*eP*			**Pb**	**01 53 45.8**	**-0.4**
	baz=239								
RLNB	**Erlin**	**1.55**	**252**	*eP*			**Pb**	**01 53 46.5**	**-0.8**
	baz=249								
RLNB				*eS*			**Sb**	**01 54 06.3**	**-0.2**
	baz=249								
CHN2	**Minshiung**	**1.60**	**239**	*eP*			**Pb**	**01 53 47.7**	**-0.7**
	baz=224								
IRIF	**Iriomote-Funau**	**1.61**	**91**	P			**Pn**	**01 53 47.0**	**+1.0**
IRIF				*eS*			**Sn**	**01 54 06.8**	**+0.9**
CHN4	**Tsaushan**	**1.62**	**231**	*eP*			**Pb**	**01 53 48.8**	**+0.1**
	baz=229								
CHN4				*eS*			**Sb**	**01 54 11.1**	**+2.4**
	baz=229								
TPUB	**Ta-pu**	**1.63**	**229**	*eP*			**Pb**	**01 53 48.0**	**-0.8**
	baz=227								
TPUB				*eS*			**Sb**	**01 54 08.1**	**-0.9**
	baz=227								
STYT	**Tauyuan**	**1.64**	**223**	*eP*			**Pb**	**01 53 48.0**	**-1.0**
	baz=211								
STYT				*eS*			**Sb**	**01 54 09.2**	**-0.1**
	baz=211								
WTP	**Ta-pu**	**1.68**	**228**	*eP*			**Pb**	**01 53 49.5**	**-0.1**
	baz=226								
WTP				*eS*			**Sb**	**01 54 12.6**	**+2.3**
	baz=226								
TWK	**Hsinying**	**1.75**	**231**	*eP*			**Pb**	**01 53 50.3**	**-0.6**
	baz=229								
TWK				*eS*			**Sb**	**01 54 14.2**	**+1.8**
	baz=229								
TWGBT	**Beinan**	**1.75**	**208**	*eP*			**Pn**	**01 53 47.3**	**-0.8**
	baz=207								
TWGBT				*eS*			**Sb**	**01 54 11.4**	**-1.1**
	baz=207								
TWG	**Pinlang**	**1.76**	**208**	*eP*			**Pn**	**01 53 48.9**	**+0.8**
	baz=195								
WSF	**Szhu**	**1.76**	**246**	*eP*			**Pn**	**01 53 49.2**	**+1.1**
	baz=243								
WSF				*eS*			**Sb**	**01 54 11.3**	**-1.3**
	baz=243								
SNST	**Tainan City**	**1.77**	**230**	*eP*			**Pb**	**01 53 50.5**	**-0.8**
	baz=228								
SNST				*eS*			**Sb**	**01 54 14.3**	**+1.2**
	baz=228								
CHN1	**Nanshi**	**1.77**	**228**	*eP*			**Pb**	**01 53 51.1**	**-0.2**
	baz=227								
CHN1				*eS*			**Sb**	**01 54 15.6**	**+2.4**
	baz=227								
SGST	**Jiashian**	**1.81**	**225**	*eP*			**Pb**	**01 53 51.6**	**-0.3**
	baz=211								
SGST				*eS*			**Sb**	**01 54 15.6**	**+1.5**
	baz=211								
SLGT	**Liugui**	**1.84**	**222**	*eP*			**Pb**	**01 53 51.0**	**-1.4**
	baz=220								
JKRS	**Kuro-shima**	**1.87**	**94**	P			**Pn**	**01 53 51.3**	**+1.7**
JKRS

XPSS	**Dashiqiu**	**3.00**	**328**	*eP*	**Pn**	**01 54 04.8**	**-0.5**
	baz=327							
XPSS				*eS*	**Sn**	**01 54 40.0**	**-0.4**
	baz=327							
MHZQ	**Yeshan**	**3.16**	**303**	*eP*	**Pn**	**01 54 07.3**	**-0.1**
	baz=302							
KNMB	**Chin-men Tao**	**3.26**	**272**	*eP*	**Pn**	**01 54 08.8**	**0.0**
	baz=266							
AXDP	**Jialang**	**3.67**	**279**	*eP*	**Pn**	**01 54 14.8**	**+0.4**
	baz=273							
ZPLA	**Ao Xicun**	**3.88**	**264**	*eP*	**Pn**	**01 54 17.5**	**+0.2**
	baz=258							
JNU	**Nakatsue**	**11.70**	**40**	LR	LR	02 00 49.2		
	comp=Z,28nm,21.2s,baz=170,slow=37							
KSRS	**Korea Array**	**13.99**	**20**	P	**P**	**01 56 44.9**	**+1.4**
	0.2nm,0.3s,baz=200,slow=12,SNR=6.8							
KSRS				LR	LR	02 03 06.2		
	comp=Z,51nm,18.4s,baz=242,slow=41							
KLR	**Kul'dur**	**25.97**	**15**	LR	LR	02 09 50.3		
	comp=Z,20nm,20.6s,baz=150,slow=38							
SONM	**Songino Array**	**26.47**	**336**	P	**P**	**01 58 54.7**	**+0.3**
	0.8nm,0.6s,baz=146,slow=8.2,SNR=7.1							
SONM				LR	LR	02 10 54.3		
	comp=Z,35nm,18.8s,baz=60,slow=39							
MKAR	**Makanchi Array**	**38.70**	**315**	P	**P**	**02 00 40.7**	**-0.3**
	0.4nm,0.5s,baz=107,slow=9.8,SNR=9.3							
ZALV	**Zalesovo Beam**	**40.47**	**327**	P	**P**	**02 00 54.9**	**-0.7**
	0.8nm,0.6s,baz=102,slow=6.8,SNR=4.2							
WRA	**Warramunga Arr**	**45.67**	**164**	P	**P**	**02 01 36.7**	**-1.3**
	0.3nm,0.7s,baz=346,slow=8.7,SNR=5.4							
WRA				LR	LR	02 22 54.2		
	comp=Z,26nm,19.5s,baz=105,slow=39							
YKA	**Yellowknife Ar**	**82.51**	**23**	P	**P**	**02 05 38.9**	**-0.5**
	0.2nm,0.6s,baz=315,slow=4.5,SNR=3.2							

IDC 14 01:55:42.6±6.1, 18°.98S×177°.24W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/32, mbtmp3.7/2, Error ellipse: s-maj=284.5km s-min=59.1km az=147.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.54**	**260**	P	P	02 04 04.5	0.0
	0.3nm,0.3s,baz=96,slow=7.6,SNR=25						
ASAR	**Alice Springs**	**45.58**	**255**	P	P	02 04 04.5	-0.4
	0.6nm,0.4s,baz=92,slow=8,SNR=9.5						
AKASG	**Malin Array Be**	**142.02**	**333**	PKP	PKPdf	02 15 13.8	-2.8
	1.8nm,0.7s,baz=43,slow=4.1,SNR=9.7						
BRTR	**Keskin Array B**	**146.32**	**314**	PKPbc	PKPbc	02 15 25.4	-0.4
	0.7nm,0.8s,baz=123,slow=4.8,SNR=5.8						

IDC 14 02:25:57.1±1.1, 58°.45S×25°.12W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/23, mbtmp3.9/3, Error ellipse: s-maj=42.4km s-min=33.8km az=112.0
ISCJB 14 02:25:59.3±1.1, 58°.6S±0°.1×25°.0W±0°.4, h28km, mb3.8/3, Error ellipse: s-maj=34.4km s-min=15.4km az=150.7

ISC 14 02:26:01.2±1.0, 58°.6S±0°.2×25°.0W±0°.2, h28km, n9, σ0s66/9, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.02**	**157**	P	**Pn**	**02 29 17.2**	**-0.4**
VNA3	**Neumayer Olymp**	**14.22**	**160**	P	**Pn**	**02 29 19.9**	**-0.5**
SNAA	**Sanae**	**15.96**	**154**	P	**Pn**	**02 29 42.8**	**-0.6**
PLCA	**Paso Flores**	**33.64**	**282**	P	**P**	**02 32 38.9**	**-0.3**
	2.5nm,1.1s,baz=120,slow=12,SNR=3.2						
VNDA	**Vanda**	**44.11**	**182**	P	**P**	**02 34 07.4**	**+1.1**
	0.9nm,0.9s,baz=180,slow=6.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**74.71**	**27**	P	**P**	**02 37 38.3**	**+0.3**
	0.8nm,0.5s,baz=200,slow=6.4,SNR=16						
YKA	**Yellowknife Ar**	**138.81**	**315**	PKP	**PKPdf**	**02 45 23.1**	**+0.1**
	0.1nm,0.4s,baz=131,slow=2.3,SNR=4.7						
SONM	**Songino Array**	**149.64**	**89**	PKPbc	**PKPbc**	**02 45 47.0**	**-0.1**
	0.4nm,0.5s,baz=248,slow=2.7,SNR=3.5						
ILAR	**Eielson Array**	**152.63**	**308**	PKPbc	**PKPbc**	**02 45 52.8**	**-0.5**
	1.3nm,0.6s,baz=116,slow=2.1,SNR=10						

ISCJB 14 02:37:03.5±1.2, 30°.6N±0°.3×41°.9W±0°.1, h15km, mb3.6/12, MS3.5/13, Error ellipse: s-maj=37.6km s-min=14.2km az=3.5
IDC 14 02:37:03.0±1.5, 30°.57N×41°.87W, h0km, mb3.6/12, mb1 3.9/12, mb1mx3.7/33, mbtmp3.6/12, MS3.5/13, Ms1 3.5/13, ms1mx3.3/32, Error ellipse: s-maj=46.4km s-min=17.5km az=4.0

ISC 14 02:37:05.4±1.4, 30°.6N±0°.3×41°.9W±0°.1, h15km, n26, σ0s71/12, mb3.7/12, MS3.4/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.29**	**246**	LR	LR	02 49 17.8	
	comp=Z,62nm,21.2s,baz=63,slow=29						
SCHQ	**Schefferville**	**30.11**	**331**	LR	LR	02 54 32.1	
	comp=Z,96nm,21.5s,baz=15,slow=35						
ESDC	**Sonseca Array**	**32.12**	**63**	P	**P**	**02 43 32.5**	**+0.3**
	0.6nm,0.8s,baz=257,slow=10.0,SNR=3.2						
ROSC	**El Rosal**	**39.85**	**237**	LR	LR	03 01 17.4	
	comp=Z,44nm,18.3s,baz=42,slow=36						
DBIC	**Dimbokro**	**42.05**	**117**	LR	LR	03 00 17.3	
	comp=Z,88nm,18.8s,baz=292,slow=33						
TORD	**Torodi Ar. Bea**	**43.68**	**104**	P	**P**	**02 45 09.5**	**-0.4**
	1.4nm,1.0s,baz=310,slow=9.3,SNR=6.8						
TORD				LR	LR	03 01 45.8	
	comp=Z,55nm,21.2s,baz=310,slow=34						
ULM	**Lac du Bonnet**	**44.49**	**312**	LR	LR	03 02 43.3	
	comp=Z,21nm,21.3s,baz=115,slow=35						
GERES	**GERESS Array B**	**45.42**	**50**	P	**P**	**02 45 23.9**	**+0.4**
	0.4nm,0.7s,baz=266,slow=5.2,SNR=3.5						
NOA	**NORSAR Array B**	**46.05**	**33**	P	**P**	**02 45 27.0**	**-1.2**
	0.8nm,1.1s,baz=254,slow=7.9,SNR=2.4						
BDFB	**Brasilia**	**46.31**	**188**	LR	LR	03 02 40.0	
	comp=Z,109nm,20.3s,baz=251,slow=33						
H10N2	**ASCENSION HYDR**	**46.33**	**141**	T	T	03 34 59.9	
	baz=327,slow=75,SNR=36						
H10N3	**ASCENSION HYDR**	**46.34**	**141**	T	T	03 35 00.3	
	baz=327,slow=75,SNR=41						
H10N1	**ASCENSION HYDR**	**46.35**	**141**	T	T	03 35 05.2	
	baz=327,slow=75,SNR=31						
H10S1	**ASCENSION HYDR**	**47.17**	**142**	T	T	03 36 12.2	
	baz=327,slow=75,SNR=23						
H10S3	**ASCENSION HYDR**	**47.18**	**142**	T	T	03 36 04.6	
	baz=327,slow=75,SNR=28						
H10S2	**ASCENSION HYDR**	**47.19**	**142**	T	T	03 36 04.9	
	baz=327,slow=75,SNR=28						
TXAR	**Lajitas Array**	**52.95**	**285**	P	**P**	**02 46 21.4**	**-0.1**
	0.4nm,0.8s,baz=54,slow=7.9,SNR=3.9						
TXAR				LR	LR	03 06 20.5	
	comp=Z,28nm,21.3s,baz=0.0,slow=33						
FINES	**FINESS Array B**	**53.18**	**34**	LR	LR	03 04 53.3	
	comp=Z,36nm,20.8s,baz=108,slow=31						
PDAR	**Pinedale Array**	**54.31**	**303**	P	**P**	**02 46 31.5**	**+0.1**
	0.7nm,0.7s,baz=77,slow=9.3,SNR=7.9						
PDAR				LR	LR	03 08 36.1	
	comp=Z,119nm,18.9s,baz=104,slow=35						
AKASG	**Malin Array Be**	**55.38**	**47**	P	**P**	**02 46 38.2**	**-0.5**
	0.5nm,0.5s,baz=280,slow=6.2,SNR=3.7						
YKA	**Yellowknife Ar**	**55.47**	**327**	P	**P**	**02 46 38.6**	**-0.5**
	0.3nm,0.7s,baz=85,slow=7.2,SNR=4.6						
YKA				LR	LR	03 10 17.2	
	comp=Z,7.1nm,18.2s,baz=72,slow=36						
BRTR	**Keskin Array B**	**60.76**	**59**	P	**P**	**02 47 17.4**	**+0.6**
	0.7nm,0.9s,baz=282,slow=7.2,SNR=3.9						
NVAR	**Mina Array Bea**	**61.83**	**300**	P	**P**	**02 47 23.8**	**-0.4**
	0.3nm,0.6s,baz=69,slow=5.0,SNR=2.8						
NVAR				LR	LR	03 12 53.4	
	comp=Z,115nm,20.1s,baz=155,slow=35						
ILAR	**Eielson Array**	**68.82**	**334**	P	**P**	**02 48 09.8**	**+1.1**
	1.5nm,1.0s,baz=59,slow=4.4,SNR=7.0						
KMBO	**Kilima Mbogo**	**81.21**	**97**	LR	LR	03 25 38.3	
	comp=Z,68nm,18.3s,baz=104,slow=36						
ZALV	**Zalesovo Beam**	**84.06**	**28**	P	**P**	**02 49 35.9**	**+0.6**
	0.3nm,0.3s,baz=297,slow=7.6,SNR=2.9						

BJI 14 02:48:06.1, 18°.83N×146°.27E, h196km, mb4.7/55, mB4.8/36
ISCJB 14 02:48:11.0±0.4, 19°.07N±0°.02×145°.43E±0°.02, h185km±3km, mb4.7/311, Error ellipse: s-maj=3.5km s-min=3.2km az=138.2
MOS 14 02:48:12.7±1.0, 19°.08N×145°.32E, h206km, mb4.8/76, Error ellipse: s-maj=9.3km s-min=5.0km az=104.2

GCMT 14 02:48:12.4±0.4, 19°.06N±0°.02×145°.69E±0°.03, h192km±3km, MW5.0/79, Moment Tensor Solution. s27,c29; s79,c103; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.25±.15; Mθθ=2.38±.17; Mφφ=-2.14±.20; Mrθ=2.98±.13; Mrφ=-1.58±.20; Mθφ=-1.67±.13; Best double couple: M=4.39500×10^16 NP1:φs=63.00000°, δ88.00000°, λ=-129.00000°. NP2:φs=331.00000°, δ39.00000°, λ=-3.00000°. Principal axes: T 4.3530, Plg32.0000°, Azm185.0000°; N 0.0770, Plg39.0000°, Azm65.0000°; P -4.4360, Plg35.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
IDC 14 02:48:12.0±0.5, 19°.05N×145°.51E, h190km±3km, mb4.3/28, mb1 4.5/33, mb1mx4.4/37, mbtmp4.8/33, MS3.4/5, Ms1 3.4/5, ms1mx3.0/28 Error ellipse: s-maj=11.5km s-min=7.2km az=85.0
NEIC 14 02:48:13.4±2.1, 19°.02N×145°.45E, h195km±4km, mb4.8/259, Error ellipse: s-maj=13.0km s-min=10.4km az=83.0
NEIC Felt at Chalan Kanoa, Saipan.

ISC 14 02:48:12.2±0.3, 19°.08N±0°.03×145°.55E±0°.05, h191km±2km, h192km; pP-P, n619, σ1s39/707, mb4.7/315, 16C-7D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.38**	**175**	*e*Pn	**Pn**	**02 48 54.0**	**-0.3**
SARN				*e*Sn	**Sn**	**02 49 23.5**	**-3.6**
ANA2	**Anatahan**	**2.73**	**177**	*e*Pn	**Pn**	**02 48 57.8**	**-0.5**
ANA2				*e*Sn	**Sn**	**02 49 31.7**	**-2.5**
GUMO	**Guam**	**5.50**	**187**	*e*Pn	**Pn**	**02 49 34.0**	**+1.1**
GUMO				*e*Sn	**Sn**	**02 50 33.7**	**-2.9**
GUMO	**Guam**	**5.50**	**187**	*e*P	**Pn**	**02 49 34.0**	**+1.1**
GUMO				*e*		02 50 33.7	
GUMO	**Guam**	**5.50**	**187**	P	**Pn**	**02 49 33.7**	**+0.7**
	11nm,0.3s,baz=17,slow=11,SNR=4.7						
GUMO				S	**Sn**	**02 50 33.6**	**-3.0**
	33nm,0.3s,baz=234,slow=19,SNR=4.1						
GUMO				LR	LR	02 50 34.4	
	comp=Z,181nm,18.5s,baz=64,slow=26						
JHHJ	**Haha-jima-NKT**	**8.13**	**338**	P	**Pn**	**02 50 06.7**	**-0.4**
JHHJ				*e*S	**Sn**	**02 51 33.8**	**-4.7**
CBIJ	**Chichi jima**	**8.55**	**339**	*e*Pn	**Pn**	**02 50 12.9**	**+0.2**
CBIJ				*e*Sn	**Sn**	**02 51 44.3**	**-4.3**
CBIJ	**Chichi jima**	**8.55**	**339**	P	**Pn**	**02 50 12.4**	**-0.3**
CBIJ				*e*S	**Sn**	**02 51 42.8**	**-5.9**
JCJ	**Chichijima**	**8.55**	**339**	P	**Pn**	**02 50 12.9**	**+0.2**
	30nm,0.3s,baz=313,slow=22,SNR=22						
JCJ				S	**Sn**	**02 51 44.3**	**-4.4**
	90nm,0.3s,baz=305,slow=22,SNR=23						
JCJ				LR	LR	02 53 27.9	
	comp=Z,263nm,18.4s,baz=121,slow=37						
JHJ	**Hachijo jima 2**	**14.90**	**341**	P	**P**	**02 51 35.0**	**+0.5**
	16nm,0.3s,baz=40,slow=17,SNR=3.2						
JHJ				S	**S**	**02 54 16.6**	**-3.4**
	7.3nm,0.3s,baz=60,slow=20,SNR=2.4						
JHJ				LR	LR	02 56 09.1	
	comp=Z,276nm,21.1s,baz=288,slow=32						
JKN2	**Miekioku**	**17.21**	**333**	P	**Pn**	**02 52 03.1**	**+1.8**
JNY	**Yasuok**	**17.58**	**339**	P	**Pn**	**02 52 05.8**	**0.0**
JOW	**Kunigami**	**17.66**	**299**	*e*P	**Pn**	**02 52 08.0**	**+1.2**
	91nm,0.8s						
JOW	**Kunigami**	**17.66**	**299**	P	**Pn**	**02 52 07.5**	**+0.7**
JOW	**Kunigami**	**17.66**	**299**	P	**Pn**	**02 52 08.6**	**+1.7**
	3.0nm,0.3s,baz=149,slow=12,SNR=19						
JAO	**Obara**	**17.71**	**337**	P	**P**	**02 52 06.4**	**+0.9**
JTO	**Tosashimizu**	**17.85**	**323**	P	**Pn**	**02 52 08.9**	**0.0**
JRY	**Ryogami san**	**17.86**	**342**	P	**Pn**	**02 52 08.2**	**-0.8**
INU	**Inuyama**	**17.88**	**337**	*e*P	**Pn**	**02 52 08.3**	**-0.9**
	108nm,1.1s						
JAG	**Ashikaga**	**18.09**	**344**	P	**Pn**	**02 52 10.8**	**-0.9**
MJAR	**Matsushiro Arr**	**18.55**	**341**	P	**P**	**02 52 14.9**	**+0.3**
	0.6nm,0.3s,baz=173,slow=11,SNR=84						
MJAR				S	**S**	**02 55 35.3**	**-0.7**
	0.2nm,0.3s,baz=29,slow=25,SNR=7.4						
MAJO	**Matsushiro**	**18.55**	**341**	*e*P	**P**	**02 52 15.2**	**+0.6**
	67nm,0.7s						
MAJO				*e*S	**S**	**02 55 35.3**	**-0.8**
MAJO	**Matsushiro**	**18.55**	**341**	*i* P	**P**	**02 52 14.8**	**+0.2**
MAT	**Matsushiro**	**18.55**	**341**	P	**P**	**02 52 15.1**	**+0.5**
MAT				S	**S**	**02 55 35.6**	**-0.5**
MJB9	**Matsu-Tunnel**	**18.56**	**341**	*e*P	**P**	**02 52 15.3**	**+0.6**
	68nm,0.7s						
JKE	**Kume jima 2**	**18.74**	**296**	P	**Pn**	**02 52 18.5**	**-0.9**
JNU	**Nakatsue**	**19.18**	**320**	*e*P	**Pn**	**02 52 23.2**	**-1.4**
	114nm,1.5s						
JNU	**Nakatsue**	**19.18**	**320**	P	**P**	**02 52 23.0**	**+1.6**
	1.9nm,0.3s,baz=120,slow=2.9,SNR=8.2						
JHS	**Saijyo**	**19.31**	**328**	P	**P**	**02 52 23.5**	**+0.7**
WAKE	**Wake Island**	**19.94**	**86**	*e*P	**P**	**02 52 27.7**	**-2.0**
	375nm,1.2s						
H11S3	**WAKE ISLAND Hy**	**20.03**	**88**	T	T	03 13 38.8	
	baz=276,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**20.04**	**88**	T	T	03 14 04.1	
	baz=276,slow=74,SNR=2.6						
H11S2	**WAKE ISLAND Hy**	**20.04**	**88**	T	T	03 13 39.5	
	baz=276,slow=74,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**20.15**	**85**	T	T	03 14 06.2	
	baz=275,slow=74,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**20.15**	**85**	T	T	03 14 18.5	
	baz=275,slow=74,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**20.16**	**85**	T	T	03 14 00.2	
	baz=275,slow=74,SNR=3.9						
MANU	**Manus Island**	**21.07**	**175**	*e*P	**P**	**02 52 39.8**	**-1.9**
	137nm,0.8s						
YOJ	**Yonaguni jima**	**21.59**	**288**	*e*P	**P**	**02 52 48.5**	**+1.4**
	464nm,0.8s						
YOJ	**Yonaguni jima**	**21.59**	**288**	*e*P	**P**	**02 52 48.5**	**+1.4**
YOJ				pmax	pmax		
	comp=Z,464nm,0.8s						
YOJ	**Yonaguni jima**	**21.59**	**288**	P	**P**	**02 52 48.4**	**+1.3**
JAY	**Jayapura**	**21.98**	**193**	P	**P**	**02 52 51.3**	**+0.2**
JAY	**Jayapura**	**21.98**	**193**	P	**P**	**02 52 51.0**	**-0.1**
	comp=Z,62nm,1.0s,baz=352,slow=6.9,SNR=9.1						
BAKI	**Biak**	**22.18**	**206**	P	**P**	**02 52 57.9**	**+4.9**
GENI	**Genyem**	**22.18**	**194**	P	**P**	**02 52 54.2**	**+1.2**
NACB	**Ninganchiao**	**22.82**	**287**	*e*P	**P**	**02 52 59.3**	**+0.5**
	comp=Z,559nm,1.5s						
ERM	**Erimo**	**22.95**	**355**	*e*P	**P**	**02 53 00.0**	**+0.3**
	comp=Z,71nm,1.0s						
ERM	**Erimo**	**22.95**	**355**	*i* P	**P**	**02 53 01.0**	**+1.3**
ERM				pmax	pmax		
	comp=Z,46nm,0.9s						
YULB	**Yu-li**	**23.00**	**285**	*e*P	**P**	**02 53 01.3**	**+0.9**
	comp=Z,87nm,0.7s						
TATO	**Taipei**	**23.04**	**289**	*e*P	**P**	**02 53 01.5**	**+0.7**
	comp=Z,432nm,1.4s						
TATO	**Taipei**	**23.04**	**289**	P	**P**	**02 53 02.8**	**+2.0**
YHNB	**Yeheng**	**23.09**	**288**	*e*P	**P**	**02 53 02.9**	**+1.6**
	comp=Z,553nm,0.8s						
TWG	**Pinlang**	**23.15**	**284**	*e*P	**P**	**02 53 02.2**	**+0.5**
	comp=Z,289nm,0.7s						
SSLB	**Sunglung**	**23.35**	**286**	*e*P	**P**	**02 53 05.2**	**+1.5**
	comp=Z,238nm,0.8s						
TJN	**Taejon**	**23.51**	**321**	*ce*P	**P**	**02 53 04.1**	**-0.7**
TPUB	**Ta-pu**	**23.60**	**285**	*e*P	**P**	**02 53 05.5**	**-0.4**
	comp=Z,123nm,0.8s						
KSRS	**Korea Array**	**23.93**	**324**	P	**P**	**02 53 09.2**	**+0.5**
	comp=Z,64nm,0.8s,baz=145,slow=9.0,SNR=157						
KSRS				pP	**pwP**	**02 53 46.6**	**-2.1**
	comp=Z,20nm,0.8s,baz=146,slow=8.8,SNR=2.9						
KSRS				ScP	**ScP**	**03 00 03.5**	**-2.6**
	comp=Z,1.3nm,0.7s,baz=120,slow=4.8,SNR=4.6						
KS15	**Wonju Array Si**	**23.94**	**323**	*e*P	**P**	**02 53 09.2**	**+0.4**
	comp=Z,87nm,0.8s						
KS15				*e*ScP	**ScP**	**03 00 03.5**	**-2.7**
KS01	**Wonju Array Si**	**23.96**	**324**	*e*P	**P**	**02 53 08.1**	**-0.9**
SIJI	**Sorong**	**24.29**	**217**	P	**P**	**02 53 11.9**	**-0.3**
	comp=Z,13nm,1.0s,baz=17,slow=13,SNR=5.4						
ASAJ	**Asahikawa**	**25.08**	**355**	P	**P**	**02 53 21.1**	**+2.1**
	comp=Z,39nm,0.9s,baz=231,slow=14,SNR=9.5						
FAKI	**Fak Fak**	**25.48**	**212**	*e*P	**P**	**02 53 22.0**	**-0.9**
	comp=Z,38nm,1.1s						
QZH	**Quanzhou**	**25.64**	**288**	*i* P	**P**	**02 53 25.5**	**+1.2**
QZH				pmax	pmax		
	comp=Z,83nm,0.7s						
KUR	**Kuril'sk**	**26.15**	**4**	*de*P	**P**	**02 53 30.7**	**+2.1**
VLA	**Vladivostok**	**26.59**	**337**	*i* P	**P**	**02 53 33.6**	**+1.0**
VLA				pmax	pmax		
	comp=Z,36nm,1.0s						
TEY	**Ternei**	**26.93**	**346**	*e*P	**P**	**02 53 34.6**	**-1.0**
TEY				pmax	pmax		
	comp=Z,20nm,1.6s						
NJ2	**Nanjing**	**27.24**	**304**	*e*P	**P**	**02 53 40.0**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**27.50**	**339**	P	**P**	**02 53 41.2**	**+0.5**
	comp=Z,26nm,0.8s,baz=153,slow=8.9,SNR=35						
USA0B	**Ussuriysk Arra**	**27.50**	**339**	*e*P	**P**	**02 53 41.7**	**+1.0**
	comp=Z,28nm,0.8s						
USA0B	**Ussuriysk Arra**	**27.50**	**339**	*e*P	**P**	**02 53 41.7**	**+1.0**
USA0B				pmax	pmax		
	comp=Z,28nm,0.8s						
YSS	**Yuzh-Sakhalins**	**27.89**	**356**	*e*P	**P**	**02 53 45.7**	**+1.5**
	comp=Z,83nm,1.3s						
YSS	**Yuzh-Sakhalins**	**27.89**	**356**	*i**e*P	**P**	**02 53 45.5**	**+1.4**
YSS				*e*		02 54 26.7	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s						
MDJ	**Mudanjiang**	**28.73**	**336**	P	**P**	**02 53 52.5**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,13nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,300nm,4.0s						
SNY	**Shenyang**	**29.38**	**325**	*i*P	**P**	**02 53 56.9**	**-0.5**
SNY				pmax	pmax		
	comp=Z,29nm,0.9s						
WHN	**Wuhan**	**30.43**	**298**	*e*P	P	02 54 13.9	+7.1
KKM	**Kota Kinabalu**	**31.36**	**249**	*e*P	**P**	**02 54 16.2**	**+0.9**
	comp=Z,31nm,0.6s						
TYV	**Tymovskoe**	**31.80**	**357**	*e*P	**P**	**02 54 20.0**	**+1.5**
TYV				pmax	pmax		
	comp=Z,37nm,1.5s						
TYV				pmax	pmax		
	comp=Z,500nm,5.0s						
KLR	**Kul'dur**	**32.06**	**343**	*d* P	**P**	**02 54 21.1**	**+0.2**
GRNR	**Gornyy**	**32.44**	**349**	*e*P	**P**	**02 54 24.7**	**+0.6**
GRNR				pmax	pmax		
	comp=Z,29nm,1.0s						
BJT	**Baijiatuan**	**32.75**	**316**	*e*P	**P**	**02 54 28.0**	**+1.0**
	comp=Z,85nm,1.5s						
BJT	**Baijiatuan**	**32.75**	**316**	*e*P	**P**	**02 54 28.0**	**+1.0**
BJT				pmax	pmax		
	comp=Z,85nm,1.5s						
BJI	**Beijing**	**32.76**	**316**	P	**P**	**02 54 27.4**	**+0.4**
BJI				pmax	pmax		
	comp=Z,23nm,1.5s						
COEN	**Coen**	**32.91**	**184**	*e*P	**P**	**02 54 27.6**	**-1.0**
	comp=Z,25nm,1.3s						
QIZ	**Qiongzhong**	**33.71**	**276**	*e*P	**P**	**02 54 37.8**	**+2.2**
	comp=Z,39nm,1.0s						
SPSI	**Sidrap Palu**	**34.18**	**231**	P	**P**	**02 54 40.2**	**+0.6**
BNSI	**Bone**	**34.23**	**230**	P	**P**	**02 54 41.2**	**+1.2**
MTN	**Manton Dam**	**34.76**	**205**	*e*P	**P**	**02 54 44.8**	**+0.3**
	comp=Z,33nm,0.8s						
PEA0B	**Petropavlovsk-**	**35.25**	**13**	*e*P	**P**	**02 54 50.0**	**+1.7**
	comp=Z,134nm,1.3s						
PEA0B	**Petropavlovsk-**	**35.25**	**13**	*e*P	**P**	**02 54 50.1**	**+1.7**
PEA0B				pmax	pmax		
	comp=Z,134nm,1.3s						
PETK	**Petropavlovsk-**	**35.25**	**13**	*e*P	**P**	**02 54 50.0**	**+1.7**
PETK	**Petropavlovsk-**	**35.25**	**13**	*e*P	**P**	**02 54 50.0**	**+1.7**
PETK	**Petropavlovsk-**	**35.25**	**13**	P	**P**	**02 54 50.2**	**+1.9**
	comp=Z,22nm,0.7s,baz=184,slow=10,SNR=13						
PEA1	**Petropavlovsk-**	**35.26**	**13**	*e*P	**P**	**02 54 50.2**	**+1.9**
XAN	**Xi'an**	**35.77**	**302**	P	**P**	**02 54 57.8**	**+4.7**
XAN				pmax	pmax		
	comp=Z,9.0nm,1.3s						
HHC	**Hu-ho-hao-te**	**36.23**	**314**	*e*P	**P**	**02 54 59.0**	**+2.0**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
GYA	**Guiyang**	**36.49**	**289**	*i* P	**P**	**02 55 01.6**	**+2.2**
GYA				pP	pwP	02 55 42.8	-0.1
GYA				PP	**PnPn**	**02 56 32.0**	**+3.0**
GYA				S	**S**	**03 00 28.4**	**+1.1**
GYA				sS	sS	03 01 41.6	+5.0
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
SBUM	**Sibu**	**36.55**	**247**	*e*P	**P**	**02 55 01.0**	**+1.1**
	comp=Z,34nm,0.7s						
HIA	**Hailar**	**36.56**	**331**	*e*P	**P**	**02 54 59.9**	**+0.3**
	comp=Z,30nm,0.8s						
HIA	**Hailar**	**36.56**	**331**	*i* P	**P**	**02 54 59.3**	**-0.2**
HIA				pmax	pmax		
	comp=Z,28nm,0.9s						
ZEA	**Zeya**	**37.36**	**342**	*e*P	**P**	**02 55 06.6**	**+0.4**
ZEA				pmax	pmax		
	comp=N,44nm,0.9s						
ZEA				pmax	pmax		
	comp=Z,51nm,0.8s						
KSM	**Kuching**	**38.69**	**247**	*e*P	**P**	**02 55 18.6**	**+0.7**
	comp=Z,19nm,0.8s						
CTAO	**Charters Tower**	**38.93**	**179**	*e*P	**P**	**02 55 18.4**	**-1.3**
	comp=Z,26nm,1.5s						
CTAO	**Charters Tower**	**38.93**	**179**	*e*P	**P**	**02 55 18.4**	**-1.3**
CTAO				pmax	pmax		
	comp=Z,27nm,1.5s						
PLAI	**Plampang**

SUKH **Sukhothai** 43.53 276 P P 02 55 59.1 +1.8
comp=Z,8.5nm,0.9s
UGM **Wanagama** 43.72 235 *eP* P 02 55 58.9 +0.1
comp=Z,288nm,1.5s
AS01 **Alice Springs** 43.97 195 *eP* P 02 56 00.0 -0.6
CMMT **Chiang Mai** 43.97 278 P P 02 56 02.4 +1.6
comp=Z,15nm,1.2s
CHTO **Chiang Mai** 43.97 278 *eP* P 02 56 02.4 +1.6
comp=Z,22nm,1.3s
CHTO **Chiang Mai** 43.97 278 *eP* P 02 56 02.4 +1.6
CHTO pmax pmax
comp=Z,22nm,1.3s
CHTO **Chiang Mai** 43.97 278 P P 02 56 01.8 +0.9
SNR=8.0
CHTO **Chiang Mai** 43.97 278 P P 02 56 02.5 +1.6
comp=Z,66nm,1.3s
AS31 **Alice Springs** 43.98 195 *eP* P 02 56 00.6 -0.1
comp=Z,2.9nm,0.5s
AS31 *e*ScP **ScP** 03 01 14.2 -2.5
ASAR **Alice Springs** 43.98 195 P P 02 56 00.1 -0.6
comp=Z,4.7nm,0.6s,baz=8.7,slow=6.7,SNR=41
ASAR ScP **ScP** 03 01 14.2 -2.5
comp=Z,1.0nm,0.9s,baz=15,slow=3.0,SNR=6.6
CM01 **Chiang Mai Arr** 44.02 277 *eP* P 02 56 02.5 +1.4
CM31 **Chiang Mai Arr** 44.03 277 *eP* P 02 56 02.5 +1.2
comp=Z,44nm,1.1s
CM31 *e*PcP **PcP** 02 57 42.8 -0.6
CM31 **Chiang Mai Arr** 44.03 277 P P 02 56 03.4 +2.1
SNR=9.7
CMAR **Chiang Mai Arr** 44.03 277 *i* P P 02 56 03.2 +2.0
CMAR pmax pmax
comp=Z,20nm,0.9s
CMAR **Chiang Mai Arr** 44.03 277 P P 02 56 02.5 +1.2
comp=Z,20nm,0.9s,baz=66,slow=6.8,SNR=79
CMAR PcP **PcP** 02 57 42.8 -0.6
comp=Z,3.0nm,0.8s,baz=81,slow=3.2,SNR=4.1
GTA **Gaotai** 44.20 307 P P 02 56 03.0 +0.5
GTA pP pwP 02 56 48.3 +0.7
GTA sP sP 02 57 09.6 +5.6
GTA PcP **PcP** 02 57 44.0 +0.2
GTA ScP **ScP** 03 01 16.8 -0.8
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,110nm,4.8s
MYKOM **Kota Tinggi** 44.28 252 *eP* P 02 56 05.9 +2.6
comp=Z,62nm,0.7s
YAK **Yakutsk** 44.32 349 *eP* P 02 56 02.2 -0.6
YAK *e**PP **pwP** 02 56 46.0 -0.5
YAK *eS* **S** 03 02 22.2 +0.2
YAK pmax pmax
comp=Z,660nm,0.8s
YAK pmax pmax
comp=N,221nm,1.0s
YAK pmax pmax
comp=E,61nm,0.9s
YAK smax smax
comp=N,196nm,2.2s
YAK smax smax
comp=E,487nm,2.8s
PHET **Kaeng Krachan** 44.47 269 P P 02 56 07.1 +2.4
comp=E,11nm,1.0s,comp=E,136nm
UMPA **Umpang Tak** 44.48 274 P P 02 56 07.3 +2.4
comp=E,15nm,1.2s
BOD **Bodaibo** 45.10 337 *eP* P 02 56 08.5 -0.6
BOD pmax pmax
comp=Z,17nm,1.4s
SKLT **Songkhla** 45.19 261 P P 02 56 12.9 +2.4
comp=Z,53nm,1.1s,comp=Z,860nm
CISI **Cisompet, Garu** 45.64 238 *eP* P 02 56 13.9 -0.1
comp=Z,31nm,0.6s
DZM **Mont Dzumac** 45.72 152 *eP* P 02 56 12.7 -1.8
comp=Z,80nm,1.2s
ZAK **Zakamensk** 45.76 323 *eP* P 02 56 14.2 -0.3
ZAK pmax pmax
comp=Z,9.0nm,1.0s
ZAK pmax pmax
comp=Z,6.0nm,1.1s
IPM **Ipoh** 45.77 257 *eP* P 02 56 16.6 +1.5
comp=Z,46nm,0.9s
KULM **Kulim** 45.82 259 *eP* P 02 56 17.9 +2.4
comp=Z,54nm,0.8s
TRTT **Trang** 45.84 262 P P 02 56 18.0 +2.4
comp=Z,10nm,1.2s
MARNC **Mare, Loyalty** 45.93 150 *eP* P 02 56 14.2 -1.8
comp=Z,106nm,1.5s
TLY **Talaya** 46.17 325 *eP* P 02 56 17.8 +0.1
comp=Z,4.9nm,0.9s
TLY **Talaya** 46.17 325 *eP* P 02 56 18.1 +0.5
TLY *eS* **S** 03 02 47.4 -1.6
TLY pmax pmax
comp=Z,31nm,1.2s
TLY MLR MLR
comp=Z,107nm,14.0s
TLY **Talaya** 46.17 325 P P 02 56 17.7 +0.1
SNR=5.8
OUENC **Ouen Island, N** 46.20 152 *eP* P 02 56 17.9 -0.2
comp=Z,29nm,0.8s
PINNC **Pines Island,** 46.64 152 *eP* P 02 56 21.7 +0.2
comp=Z,69nm,1.2s
MBWA **Marble Bar** 47.31 214 *eP* P 02 56 26.0 -0.7
comp=Z,9.8nm,0.6s
MOY **Mondy** 47.63 324 *eP* P 02 56 28.7 -0.3
MOY pmax pmax
comp=Z,33nm,3.0s
PSI **Prapat** 48.35 256 *eP* P 02 56 36.0 +0.8
comp=Z,48nm,1.1s
PSI **Prapat** 48.35 256 *eP* P 02 56 36.0 +0.8
PSI pmax pmax
comp=Z,48nm,1.1s
KCSI **Kotacane, Aceh** 49.14 258 P P 02 56 42.1 +1.1
ARMA **Armidale** 49.56 173 *eP* P 02 56 43.8 -0.2
comp=Z,26nm,1.4s
TPTI 49.78 258 P P 02 56 46.4 +0.6
SHL **Shillong** 49.79 288 *eP* P 02 56 47.3 +1.3
comp=Z,16nm,0.5s
SHL **Shillong** 49.79 288 *eP* P 02 56 47.3 +1.3
SHL pmax pmax
comp=Z,16nm,0.5s
SHL **Shillong** 49.79 288 *eP* P 02 56 47.0 +1.0
SISI **Saibi** 49.92 251 P P 02 56 47.0 +0.2
GSI **Gunungsitoli** 50.18 255 *eP* P 02 56 49.8 +1.0
comp=Z,115nm,0.7s
LSA **Lhasa** 50.27 293 *eP* P 02 56 52.4 +2.5
comp=Z,14nm,0.7s
BILL **Bilibino** 50.67 10 *eP* P 02 56 53.2 +1.5
comp=Z,57nm,1.1s
BILL **Bilibino** 50.67 10 *de*P P 02 56 52.7 +1.0
BILL *e**PP **pwP** 02 57 35.8 -1.6
BILL *e* 02 58 05.7
BILL *e* 02 58 51.8
BILL pmax pmax
comp=Z,60nm,1.1s
STKA **Stephens Creek** 50.81 184 *eP* P 02 56 52.4 -0.8
comp=Z,3.7nm,1.4s
STKA **Stephens Creek** 50.81 184 *eP* P 02 56 52.4 -0.8
STKA pmax pmax
comp=Z,4.0nm,1.4s
STKA **Stephens Creek** 50.81 184 P P 02 56 51.8 -1.4
comp=Z,2.0nm,0.4s,baz=7.1,slow=7.8,SNR=7.0
AKUT **Akutan** 50.94 35 *eP* P 02 56 54.7 +0.9
comp=Z,68nm,1.1s
KEKH **Kekaha** 51.12 77 *eP* P 02 56 53.9 -1.9
comp=Z,112nm,1.3s
GIRL **Giralia** 51.53 218 *eP* P 02 57 00.4 +1.7
comp=Z,100nm,1.3s
FORT **Forrest** 52.35 199 *eP* P 02 57 04.9 +0.4
comp=Z,82nm,1.4s
GAMB **Gambell** 53.16 22 *eP* P 02 57 11.6 +1.6
comp=Z,28nm,1.2s
TIXI **Tiksi** 53.48 354 *eP* P 02 57 12.3 +0.1
comp=Z,8.9nm,1.0s
TIXI **Tiksi** 53.48 354 *ce*P P 02 57 10.5 -1.8
TIXI pmax pmax
comp=Z,7.0nm,1.0s
WMQ **Urumqi** 53.95 311 P P 02 57 17.5 +1.2
WMQ pP pP 02 57 59.5 +1.2
WMQ pmax pmax
comp=Z,67nm,1.3s
WMQ pmax pmax
comp=Z,360nm,4.1s
WMQ LR LR
comp=Z,200nm,22.3s
WMQ LR LR
comp=Z,75nm,27.3s
WMQ LR LR
comp=Z,95nm,23.9s

WMQ **Urumqi** 53.95 311 *eP* P 02 57 18.0 +1.7
comp=Z,32nm,1.1s
WMQ **Urumqi** 53.95 311 *eP* P 02 57 18.0 +1.7
WMQ pmax pmax
comp=Z,32nm,1.1s
SDPT **Sand Point** 54.24 35 *eP* P 02 57 18.2 +0.1
comp=Z,70nm,0.8s
RAMN **Ramite** 54.41 290 *eP* P 02 57 20.5 +0.4
JIRN **Jiri** 54.72 291 *eP* P 02 57 23.0 +0.5
comp=Z,47nm,0.6s
GUN **Gumba** 54.97 291 *eP* P 02 57 24.9 +0.6
comp=Z,43nm,0.7s
PKI **Pulchoki** 55.41 291 *eP* P 02 57 27.5 +0.1
comp=Z,22nm,0.7s
PKIN **Phulchoki** 55.42 291 *eP* P 02 57 27.3 -0.1
comp=Z,17nm,0.6s
KKN **Kakani** 55.51 291 *eP* P 02 57 28.2 +0.2
comp=Z,27nm,0.9s
DMN **Daman** 55.68 291 *eP* P 02 57 29.6 +0.4
GKN **Gorkha** 56.06 291 *eP* P 02 57 32.1 +0.3
comp=Z,71nm,0.9s
DANN **Dangsing** 56.80 292 *eP* P 02 57 37.6 +0.4
comp=Z,82nm,0.6s
KOLN **Koldanda** 56.99 291 *eP* P 02 57 38.3 -0.1
comp=Z,24nm,0.8s
PYUN **Piuthan** 57.50 292 *eP* P 02 57 42.0 0.0
comp=Z,54nm,1.1s
ZAA0 **Zalesovo Array** 57.63 322 *eP* P 02 57 41.6 -0.5
comp=Z,8.1nm,0.6s
ZAA0 *ep*P **pP** 02 58 24.0 -0.7
ZAA1 **Zalesovo Array** 57.63 322 *eP* P 02 57 41.6 -0.6
ZAA1 *ep*P **pP** 02 58 23.4 -1.2
ZALV **Zalesovo Beam** 57.63 322 *eP* P 02 57 41.0 -1.1
ZALV *ep*P **pP** 02 58 23.4 -1.3
ZALV **Zalesovo Beam** 57.63 322 P P 02 57 41.6 -0.6
comp=Z,11nm,0.7s,baz=105,slow=7.1,SNR=37
ZALV pP **pP** 02 58 23.4 -1.2
comp=Z,6.6nm,0.9s,baz=104,slow=6.3,SNR=3.1
ZALV LR LR 03 23 33.9
comp=Z,34nm,19.0s,baz=70,slow=37
SII **Sitkinak Islan** 57.98 35 *eP* P 02 57 46.9 +2.3
comp=Z,96nm,0.9s
MK01 **Makanchi Array** 58.09 314 *eP* P 02 57 45.2 -0.4
MK01 *ep*P **pwP** 02 58 32.8 +0.1
MK31 **Makanchi Array** 58.09 314 *eP* P 02 57 45.8 +0.2
comp=Z,10nm,1.2s
MK31 *ep*P **pwP** 02 58 31.3 -1.6
MK31 **Makanchi Array** 58.09 314 *i* P P 02 57 45.5 -0.1
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK32 **Makanchi Array** 58.09 314 *eP* P 02 57 45.5 0.0
MK32 *ep*P **pP** 02 58 29.1 +1.0
MKAR **Makanchi Array** 58.09 314 P P 02 57 45.5 0.0
comp=Z,3.8nm,0.5s,baz=90,slow=8.7,SNR=49
MKAR pP **pP** 02 58 29.1 +1.0
comp=Z,2.7nm,0.7s,baz=88,slow=8.5,SNR=3.1
MAKZ **Makanchi** 58.31 314 *eP* P 02 57 47.4 +0.3
comp=Z,19nm,1.3s
MAKZ **Makanchi** 58.31 314 *eP* P 02 57 47.4 +0.3
MAKZ pmax pmax
comp=Z,19nm,1.3s
RDOG **Red Dog Mine** 58.52 20 *eP* P 02 57 50.1 +2.0
comp=Z,27nm,1.2s
RDOG *ep*P **PcP** 02 58 37.6 +1.3
SVW2 **Sparrevohn** 58.56 29 *eP* P 02 57 50.6 +2.0
comp=Z,19nm,0.9s
NVS **Novosibirsk** 58.72 323 *eP* P 02 57 48.6 -1.1
NVS *e* 02 58 30.7
NVS pmax pmax
comp=Z,12nm,1.3s
NVS pmax pmax
comp=N,8.0nm,1.7s
NVS pmax pmax
comp=E,6.0nm,1.0s
KDAK **Kodiak Island** 59.12 33 *ce*P P 02 57 53.7 +1.3
PDGK **Podgornoye** 59.85 310 P P 02 57 58.5 +0.6
PDGK pmax pmax
comp=Z,13nm,0.7s
BRLK **Bradley Lake** 60.44 31 *eP* P 02 58 02.2 +0.7
comp=Z,30nm,0.8s
PPLA **Purkeypile** 60.63 28 *eP* P 02 58 04.6 +1.8
comp=Z,32nm,1.4s
PRZ **Przheval'sk** 60.63 309 *eP* P 02 58 05.5 +2.3
comp=Z,33nm,0.9s
KURK **Kurchatov** 60.89 318 *eP* P 02 58 04.3 -0.3
comp=Z,28nm,1.2s
KURK **Kurchatov** 60.89 318 *ce*P P 02 58 03.8 -0.8
KURK pmax pmax
comp=Z,18nm,1.1s
KURK **Kurchatov** 60.89 318 P P 02 58 04.0 -0.6
SNR=11
IM3 **Indian Mountai** 60.93 24 *eP* P 02 58 05.7 +1.1
IM3 *ePcP* **PcP** 02 58 46.7 +0.6
TARG **Taragay, Kyrgy** 61.08 308 *eP* P 02 58 07.7 +1.2
comp=Z,11nm,0.9s
NRIK **Noril'sk** 61.20 340 P P 02 58 06.5 +0.1
comp=Z,46nm,0.8s,baz=113,slow=8.0,SNR=34
RC01 **Rabbit Creek A** 61.30 30 *eP* P 02 58 07.8 +0.6
comp=Z,29nm,0.7s
BPAW **Bear Paw Mtn.** 61.48 27 *eP* P 02 58 09.9 +1.6
comp=Z,35nm,0.8s
KDJ **Kajisay** 61.54 308 *eP* P 02 58 11.8 +2.4
comp=Z,17nm,0.9s
TRF **Thorofare Moun** 61.61 27 *eP* P 02 58 09.9 +0.5
comp=Z,36nm,1.0s
PMR **Palmer** 61.69 30 *eP* P 02 58 10.3 +0.6
comp=Z,30nm,1.1s
PMR **Palmer** 61.69 30 *eP* P 02 58 10.3 +0.6
PMR pmax pmax
comp=Z,30nm,1.1s
KNK **Knik Glacier** 61.97 30 *eP* P 02 58 13.2 +1.6
comp=Z,32nm,0.8s
SML **Sawmill** 62.11 29 *eP* P 02 58 13.7 +1.1
comp=Z,72nm,1.1s
RND **Reindeer** 62.23 28 *eP* P 02 58 13.1 -0.3
comp=Z,14nm,0.8s
RND **Reindeer** 62.23 28 *eP* P 02 58 13.1 -0.3
RND pmax pmax
comp=Z,14nm,0.8s
ULHL **Ulahol** 62.24 308 P P 02 58 14.9 +0.9
SNR=7.7
NRN **Naryn** 62.44 307 *eP* P 02 58 16.4 +0.9
comp=Z,9.9nm,1.0s
NRN **Naryn** 62.44 307 *eP* P 02 58 16.4 +0.9
NRN pmax pmax
comp=Z,10.0nm,1.0s
KSH **Kashi** 62.53 305 P P 02 58 18.8 +2.9
KSH PcP **PcP** 02 58 55.6 +2.3
KSH pP pwP 02 59 04.6 +0.9
KSH S **S** 03 06 26.0 -2.4
KSH pmax pmax
comp=Z,11nm,0.8s
KSH pmax pmax
comp=Z,100nm,5.0s
SCM **Sheep Creek Mo** 62.58 30 *eP* P 02 58 17.2 +1.4
comp=Z,51nm,0.9s
SCM **Sheep Creek Mo** 62.58 30 *eP* P 02 58 17.2 +1.4
SCM pmax pmax
comp=Z,51nm,0.9s
TKM2 **Tokmak 2** 62.70 309 P P 02 58 17.8 +0.7
SNR=18
TKM2 **Tokmak 2** 62.70 309 P P 02 58 17.8 +0.7
TKM2 pmax pmax
comp=Z,10.0nm,0.9s
WRH **Wood River Hil** 62.80 27 *eP* P 02 58 17.6 +0.6
comp=Z,14nm,0.8s
MDM **Murphy Dome** 62.85 26 *eP* P 02 58 18.2 +0.7
comp=Z,16nm,0.6s
CCB **Clear Creek Bu** 62.96 26 *eP* P 02 58 18.7 +0.7
comp=Z,20nm,1.4s
CCB *ePcP* **PcP** 02 58 54.4 +0.1
KZA **Kyzart** 62.98 308 P P 02 58 20.3 +1.1
SNR=14
COLA **College** 62.99 26 *di*P P 02 58 17.8 -0.5
COLA pmax pmax
comp=Z,8.0nm,0.9s
KLU **Klutina** 63.18 30 *eP* P 02 58 21.8 +2.0
comp=Z,32nm,1.3s
KBK **Karagaybulak** 63.18 309 P P 02 58 21.3 +1.0
SNR=11
POKR **Poker Plat Res** 63.22 26 P P 02 58 19.9 +0.1
baz=257
HDA **Harding Lake** 63.27 27 *eP* P 02 58 20.5 +0.4
comp=Z,16nm,1.0s
HDA **Harding Lake** 63.27 27 P P 02 58 20.0 -0.2
baz=258

TOLK **Toolik Lake Re** 63.29 22 *eP* P 02 58 22.3 +2.0
comp=Z,23nm,0.6s
TOLK **Toolik Lake Re** 63.29 22 P P 02 58 21.9 +1.6
baz=254
IL1 **Eielson Array** 63.37 26 *eP* P 02 58 19.7 -1.1
ILAR **Eielson Array** 63.37 26 P P 02 58 20.4 -0.5
comp=Z,10nm,0.7s,baz=259,slow=4.9,SNR=81
ILAR pP **pP** 02 59 04.8 +0.4
comp=Z,0.6nm,0.7s,baz=223,slow=36,SNR=1.8
ILB **Eielson Array** 63.37 26 *eP* P 02 58 20.4 -0.5
comp=Z,22nm,1.0s
ILB *ep*P **pP** 02 59 04.8 +0.4
FRU **Bishkek** 63.42 309 *eP* P 02 58 22.0 +0.4
USP **Ospenovka** 63.49 309 P P 02 58 22.4 +0.3
SNR=6.3
AAK **Ala-Archa** 63.52 309 P P 02 58 23.5 +1.1
SNR=5.9
AAK **Ala-Archa** 63.52 309 *eP* P 02 58 22.6 +0.2
comp=Z,6.6nm,1.0s
AAK **Ala-Archa** 63.52 309 *de*P P 02 58 22.1 -0.3
AAK pmax pmax
comp=Z,8.0nm,1.0s
UCH **Uchtor** 63.52 308 P P 02 58 23.3 +0.5
SNR=22
PAX **Paxson** 63.64 28 *eP* P 02 58 23.9 +1.2
comp=Z,18nm,0.6s
PAX **Paxson** 63.64 28 *eP* P 02 58 23.9 +1.2
PAX pmax pmax
comp=Z,18nm,0.6s
HARP **HAARP** 63.69 29 *eP* P 02 58 24.8 +1.8
comp=Z,35nm,0.6s
EKS2 **Erkin-Say** 64.05 309 P P 02 58 26.4 +0.6
SNR=7.5
RIDG **Independ'e Rid** 64.05 28 *eP* P 02 58 26.2 +0.9
comp=Z,29nm,0.8s
AML **Almayashu** 64.13 308 P P 02 58 27.3 +0.6
SNR=18
DOT **Dot Lake** 64.38 28 *eP* P 02 58 28.0 +0.6
comp=Z,18nm,0.8s
FYU **Fort Yukon** 64.41 24 *eP* P 02 58 29.7 +2.2
comp=Z,38nm,1.1s
SCRK **Sand Creek** 64.46 27 *eP* P 02 58 29.4 +1.2
comp=Z,25nm,1.1s
ARSB **Arslanbob** 64.71 307 *eP* P 02 58 30.3 +0.1
comp=Z,18nm,0.9s
OTUK **Ortayu** 64.89 315 P P 02 58 31.1 0.0
OTUK pmax pmax
comp=Z,8.0nm,0.7s
EGAK **Eagle** 65.79 27 *eP* P 02 58 37.7 +1.2
comp=Z,17nm,1.5s
BVA0 **Borovoye Array** 66.09 320 P P 02 58 38.2 -0.4
BVA0 pmax pmax
comp=Z,19nm,0.5s
BRVK **Borovoye** 66.15 320 *eP* P 02 58 38.2 -0.8
comp=Z,24nm,0.6s
BRVK **Borovoye** 66.15 320 *di*P P 02 58 38.5 -0.5
BRVK pmax pmax
comp=Z,24nm,0.7s
BRVK **Borovoye** 66.15 320 P P 02 58 38.7 -0.3
SNR=10
KK31 **Karatay Array** 66.41 309 *eP* P 02 58 41.0 +0.1
comp=Z,22nm,0.9s
KK31 **Karatay Array** 66.41 309 *i* P P 02 58 41.2 +0.3
KK31 pmax pmax
comp=Z,17nm,0.9s
KKAR **Karatay Array** 66.41 309 *eP* P 02 58 41.0 +0.2
comp=Z,22nm,0.9s
KKAR **Karatay Array** 66.41 309 *eP* P 02 58 41.1 +0.2
KKAR pmax pmax
comp=Z,22nm,0.9s
DAWY **Dawson** 66.48 28 *eP* P 02 58 42.1 +1.1
comp=Z,9.2nm,0.8s
GAR **Garm** 66.95 305 *eP* P 02 58 44.6 +0.1
comp=Z,38nm,1.1s
GAR **Garm** 66.95 305 *eP* P 02 58 44.6 +0.1
GAR pmax pmax
comp=Z,38nm,1.1s
HYT **Haines Junctio** 67.18 31 *eP* P 02 58 47.8 +2.3
comp=Z,20nm,0.9s
EPYK **Eagle Plains** 67.77 25 *eP* P 02 58 50.3 +1.3
comp=Z,37nm,1.4s
EPYK **Eagle Plains** 67.77 25 P P 02 58 49.8 +0.7
baz=267
CHGR **Chuyangaron** 67.89 305 *eP* P 02 58 50.4 0.0
comp=Z,52nm,1.0s
WHY **Whitehorse** 68.46 31 *eP* P 02 58 55.7 +2.2
comp=Z,20nm,1.2s
KBL **Kabul** 68.55 300 *eP* P 02 58 54.7 0.0
comp=Z,16nm,0.8s
KBL **Kabul** 68.55 300 *eP* P 02 58 54.7 0.0
KBL pmax pmax
comp=Z,16nm,0.8s
INK **Inuvik** 69.08 23 *eP* P 02 58 57.6 +0.6
comp=Z,15nm,0.8s
INK **Inuvik** 69.08 23 *eP* P 02 58 57.6 +0.6
INK pmax pmax
comp=Z,15nm,0.8s
DLBC **Dease Lake** 71.05 34 *eP* P 02 59 11.4 +2.1
comp=Z,22nm,1.1s
ARU **Arti** 72.67 324 *eP* P 02 59 18.4 -0.5
comp=Z,12nm,0.9s
ARU **Arti** 72.67 324 *di*P P 02 59 18.3 -0.6
ARU *e**PP **pP** 03 00 03.2 -0.3
ARU 03 01 59.8
ARU S **S** 03 08 29.4 +1.3
ARU SS **SS** 03 13 10.2 -0.9
ARU pmax pmax
comp=Z,14nm,0.9s
AB31 **Akbulak array** 72.96 317 *eP* P 02 59 19.9 -0.8
AB31 pmax pmax
comp=Z,4.0nm,0.5s
ABKAR **Akbulak array** 72.96 317 *eP* P 02 59 20.1 -0.6
comp=Z,8.9nm,0.7s
GEYT **Alibeck** 76.56 306 P P 02 59 42.2 +0.5
comp=Z,7.9nm,0.9s,baz=50,slow=2.3,SNR=15
GYA0B **ALIBECK ARRAY** 76.56 306 *eP* P 02 59 42.6 +1.0
comp=Z,17nm,1.3s
D03D **Eldon** 77.07 44 P P 02 59 46.4 +2.1
baz=284
LLLB **Lillooet** 77.09 41 *eP* P 02 59 46.6 +2.3
comp=Z,8.6nm,0.9s
D04E **Lakebay** 77.37 44 P P 02 59 47.5 +1.5
baz=284
I02D **Swisshome** 77.40 48 P P 02 59 47.9 +1.7
baz=284
G03D **McMinnville, O** 77.53 46 P P 02 59 48.1 +1.2
baz=284
B05A **Bryant** 77.54 43 P P 02 59 48.1 +1.2
baz=285
J01E **Myrtle Point** 77.57 49 P P 02 59 48.9 +1.8
baz=284
E04D **Cinebar** 77.66 45 P P 02 59 48.3 +0.7
baz=285
YKW3 **Yellowknife Ar** 77.69 28 *eP* P 02 59 46.9 -0.5
comp=Z,14nm,0.6s
YKA **Yellowknife Ar** 77.72 28 P P 02 59 47.6 +0.1
comp=Z,10nm,0.5s,baz=290,slow=5.5,SNR=156
YKA pP **pP** 03 00 32.9 +0.1
comp=Z,1.7nm,0.7s,baz=290,slow=5.6,SNR=2.3
YKB5 **Yellowknife Ar** 77.72 28 *eP* P 02 59 47.1 -0.4
YKB5 *ep*P **pP** 03 00 32.9 +0.1
I03D **Drain, OR** 77.85 48 P P 02 59 49.4 +0.8
baz=285
K02D **Willamette Mer** 77.88 49 P P 02 59 49.7 +0.7
baz=285
D05A **Enumclaw** 77.88 44 *eP* P 02 59 51.5 +2.8
comp=Z,22nm,0.8s
L02E **Cave Junction** 78.06 49 P P 02 59 50.4 +0.5
baz=285
H04D **Lebanon** 78.06 47 P P 02 59 50.4 +0.5
baz=285
LON **Longmire** 78.12 45 *eP* P 02 59 51.9 +1.7
comp=Z,5.7nm,0.8s
LON **Longmire** 78.12 45 *eP* P 02 59 51.9 +1.7
LON pmax pmax
comp=Z,6.0nm,0.8s
HOPEN **Hopen** 78.28 348 *eP* P 02 59 51.2 +0.8
KHMM **Horse Mountain** 78.30 51 *eP* P 02 59 54.2 +2.8
comp=Z,11nm,0.9s
H04A **Detroit Lake** 78.40 47 *eP* P 02 59 53.1 +1.4
comp=Z,14nm,0.9s
HUMO **Hull Mountain** 78.41 49 *eP* P 02 59 54.0 +2.2
comp=Z,11nm,1.1s
I04A **Tendick Farm,** 78.48 48 P P 02 59 53.6 +1.4
baz=285
F05D **White Salmon** 78.58 45 P P 02 59 53.6 +1.0
baz=286

LTY	Liberty	78.73	44	eP	P	02 59 54.5	+0.9
	comp=Z,11nm,0.8s						
SPA0	Spitsbergen Ar	78.77	351	eP	P	02 59 53.1	0.0
M02C	Callahan	78.80	50	P	P	02 59 55.8	+1.7
	baz=286,SNR=6.0						
YBH	Yreka Blue Hor	78.82	50	eP	P	02 59 56.5	+2.4
	comp=Z,11nm,1.0s						
J04D	Umpqua Nationa	78.84	48	P	P	02 59 55.6	+1.2
	baz=286,SNR=9.2						
G05D	Wamic, OR	78.85	46	P	P	02 59 55.3	+1.2
	baz=286						
KBS	Kingsbay	78.89	352	eP	P	02 59 53.7	0.0
L04D	Klamath Falls	78.98	49	P	P	02 59 56.3	+1.2
	baz=286,SNR=8.6						
N02D	Trinity Center	79.02	50	P	P	02 59 56.8	+1.5
	baz=286,SNR=5.4						
I05D	Terrebonne, OR	79.08	47	P	P	02 59 56.5	+1.0
	baz=286						
RES	Resolute Bay	79.09	14	eP	P	02 59 55.7	+0.9
	comp=Z,10nm,0.9s						
RES				epP	pwP	03 00 44.5	+1.1
RES	Resolute Bay	79.09	14	eP	P	02 59 55.7	+0.9
RES				e*PP	pwP	03 00 44.5	+1.1
RES				pmax	pmax		
	comp=Z,10.0nm,0.9s						
O02D	Mt. Diablo Mer	79.18	51	P	P	02 59 57.6	+1.4
	baz=286						
WDC	Whiskeytown Da	79.25	51	eP	P	02 59 58.5	+2.1
	comp=Z,12nm,1.4s						
WDC	Whiskeytown Da	79.25	51	eP	P	02 59 58.5	+2.1
WDC				pmax	pmax		
	comp=Z,12nm,1.4s						
K04D	Chiloquin, OR	79.26	49	P	P	02 59 57.5	+0.9
	baz=286,SNR=5.8						
B08A	Colville Reser	79.29	43	eP	P	02 59 57.4	+0.8
	comp=Z,14nm,0.8s						
M04C	Macdoel	79.43	49	P	P	02 59 58.6	+1.1
	baz=286,SNR=20						
J05D	Fort Rock, OR	79.44	48	P	P	02 59 59.0	+1.4
	baz=286						
PINE	Pine Mountain	79.51	47	eP	P	02 59 59.7	+1.7
	comp=Z,29nm,0.8s						
F07A	Phinny Hill Vi	79.60	45	eP	P	03 00 00.3	+2.2
	comp=Z,8.2nm,0.8s						
HSPB	Hornsund (broa	79.70	350	eP	P	02 59 58.7	+0.6
HAWA	Hanford	79.72	44	eP	P	03 00 00.9	+2.0
	comp=Z,13nm,0.8s						
O03E	Paynes Creek	79.87	51	P	P	03 00 00.2	+0.3
	baz=286,SNR=9.6						
D08A	Wollman Farm,	79.93	44	eP	P	03 00 01.4	+1.5
	comp=Z,13nm,0.9s						
C09A	Chrisman Ranch	80.13	43	eP	P	03 00 02.3	+1.3
	comp=Z,12nm,0.8s						
ORV	Oroville	80.30	52	eP	P	03 00 03.3	+1.2
	comp=Z,8.8nm,1.0s						
ORV	Oroville	80.30	52	eP	P	03 00 03.3	+1.2
ORV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TMCR	Tamitsa	80.36	335	eP	P	03 00 00.0	-1.8
TMCR				pmax	pmax		
	comp=Z,26nm,0.9s						
I07A	Izee	80.42	47	eP	P	03 00 04.5	+1.8
G08A	Pilot Rock	80.43	45	eP	P	03 00 04.0	+1.2
	comp=Z,4.1nm,0.9s						
MOD	Modoc Plateau	80.50	49	eP	P	03 00 04.6	+1.3
	comp=Z,9.2nm,0.8s						
E09A	Wood Farm, Sta	80.61	44	eP	P	03 00 05.0	+1.5
	comp=Z,15nm,0.8s						
NEW	Newport	80.73	42	eP	P	03 00 05.5	+1.3
	comp=Z,12nm,0.8s						
NEW				epP	pwP	03 00 55.5	+1.9
NEW	Newport	80.73	42	eP	P	03 00 05.5	+1.3
NEW				e*PP	pwP	03 00 55.5	+1.9
NEW				pmax	pmax		
	comp=Z,12nm,0.8s						
NEW	Newport	80.73	42	P	P	03 00 05.3	+1.1
	baz=288						
AFDM	Forest Hills D	80.87	52	eP	P	03 00 06.9	+1.7
	comp=Z,7.6nm,1.0s						
KLMR	Klimovskoe	81.05	332	eP	P	03 00 03.8	-1.8
KLMR				e		03 03 13.6	
KLMR				pmax	pmax		
	comp=Z,17nm,1.3s						
KLMR	Klimovskoe	81.05	332	eP	P	03 00 03.9	-1.7
KLMR				AMP		03 00 05.4	
	comp=Z,17nm,1.3s						
KLMR				ePP	PP	03 03 13.6	+0.8
BEKR	Beckworth	81.06	51	eP	P	03 00 07.5	+1.2
	comp=Z,12nm,0.8s						
MHTO	MHTO	81.20	289	P	P	03 00 05.8	-1.3
J08A	Circle Bar Ran	81.35	47	eP	P	03 00 09.2	+1.5
	comp=Z,8.9nm,0.8s						
F10A	Beach Ranch, E	81.38	44	eP	P	03 00 09.0	+1.2
	comp=Z,6.3nm,1.1s						
RUBR	Rubicon Trail	81.45	52	eP	P	03 00 10.8	+2.3
	comp=Z,11nm,0.8s						
WVOR	Wild Horse Val	81.52	48	eP	P	03 00 09.9	+1.3
	comp=Z,8.6nm,0.8s						
WVOR	Wild Horse Val	81.52	48	eP	P	03 00 09.9	+1.3
WVOR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMB	Columbia Colle	81.58	53	eP	P	03 00 10.3	+1.3
	comp=Z,9.5nm,0.8s						
CMB	Columbia Colle	81.58	53	eP	P	03 00 10.3	+1.3
CMB				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BMO	Blue Mountains	81.68	46	eP	P	03 00 10.3	+0.9
	comp=Z,10nm,0.9s						
BMO	Blue Mountains	81.68	46	eP	P	03 00 10.3	+0.9
BMO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
VCNR	Virginia City	81.75	51	eP	P	03 00 12.3	+2.3
	comp=Z,8.4nm,1.0s						
PAHR	Pah Rah Range	81.82	51	eP	P	03 00 11.9	+1.6
	comp=Z,8.3nm,1.0s						
PNTR	Pine Nut	81.85	52	eP	P	03 00 12.2	+1.7
	comp=Z,17nm,0.7s						
DQM	DQM	81.89	288	P	P	03 00 06.2	-4.6
UMQ	Umm Al-Quwin	81.89	294	P	P	03 00 08.4	-2.3
ARA0	ARCESS Array S	82.09	342	eP	P	03 00 10.7	-0.2
ARCES	ARCESS Array B	82.09	342	P	P	03 00 10.7	-0.2
	comp=Z,9.3nm,0.7s,baz=73,slow=6.7,SNR=33						
ARE0	ARCESS Array S	82.09	342	eP	P	03 00 11.2	+0.4
	comp=Z,1.6nm,1.0s						
ARE0	ARCESS Array S	82.09	342	eP	P	03 00 11.9	+1.0
YERR	Yerington	82.15	52	eP	P	03 00 13.4	+1.3
	comp=Z,13nm,0.9s						
WAKR	Walker	82.15	52	eP	P	03 00 14.3	+2.2
	comp=Z,9.0nm,0.8s						
TULEG	Thule	82.36	8	eP	P	03 00 12.1	-0.1
	comp=Z,13nm,0.7s						
PAGB	Antelope Grade	82.39	55	eP	P	03 00 16.2	+3.0
	comp=Z,9.1nm,0.9s						
MDPB	Devils Postpil	82.69	53	eP	P	03 00 16.6	+1.6
	comp=Z,5.4nm,0.9s						
OMMB	Old Mammoth Mi	82.75	53	eP	P	03 00 17.5	+2.1
	comp=Z,3.4nm,0.8s						
RYN	Ryan	82.79	52	eP	P	03 00 17.1	+1.8
	comp=Z,11nm,0.9s						
RYN				epP	pwP	03 01 05.9	+0.6
KVN	Kaiserville	82.97	51	eP	P	03 00 17.6	+1.3
	comp=Z,10nm,0.8s						
KVN	Kaiserville	82.97	51	eP	P	03 00 17.6	+1.3
KVN				pmax	pmax		
	comp=Z,11nm,0.8s						
PKM	Mcpherson Peak	82.98	56	P	P	03 00 17.5	+1.1
	baz=288						
NV01	Mina Array Sit	83.02	52	eP	P	03 00 17.6	+0.9
NV01				epP	pP	03 01 02.3	0.0
NVAR	Mina Array Bea	83.02	52	P	P	03 00 17.8	+1.2
	comp=Z,14nm,0.7s,baz=266,slow=5.8,SNR=113						
NVAR				pP	pP	03 01 02.3	0.0
	comp=Z,4.8nm,0.8s,baz=270,slow=6.3,SNR=2.0						
KTK1	Kautokeino	83.05	342	eP	P	03 00 16.5	+0.7
NV11	Mina Array Sit	83.13	52	eP	P	03 00 18.6	+1.5
	comp=Z,0.7nm,0.8s						
VES	Vestal, Richgr	83.25	55	P	P	03 00 17.6	+0.1
	baz=289						
VRH	Novokhopyorsk	83.66	322	eP	P	03 00 16.1	-3.2
VRH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ISA	Isabella, Lake	83.78	55	P	P	03 00 20.7	+0.3
	baz=289						
CWC	Cottonwood Cre	83.83	54	P	P	03 00 21.2	+0.5
	baz=289						
TRO	Tromso	83.86	344	eP	P	03 00 19.4	-0.6
TRO				epP	pP	03 01 08.9	+2.3
DAG	Danmarks Havn	83.88	356	i P	P	03 00 19.6	-0.3
	comp=Z,4.7nm,0.7s						
DAG	Danmarks Havn	83.88	356	i P	P	03 00 19.6	-0.3
DAG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
HLID	Hailey	84.07	46	eP	P	03 00 23.5	+1.7
	comp=Z,5.5nm,0.9s						
HLID	Hailey	84.07	46	P	P	03 00 22.8	+1.0
	baz=291						
GRAC	Grapevine Rang	84.19	53	P	P	03 00 23.6	+1.2
	baz=290						
DAC	Darwin (Calif)	84.25	54	eP	P	03 00 26.3	+3.4
	comp=Z,4.4nm,0.9s						
EDW2	Edwards Air Fo	84.41	55	P	P	03 00 24.5	+1.0
	baz=289						
MPMC	Manual Prospec	84.41	54	P	P	03 00 24.6	+0.9
	baz=290,SNR=14						
LRMC	Laurel Mtn Rad	84.45	55	P	P	03 00 24.4	+0.6
	baz=289,SNR=7.8						
ELK	Elko	84.48	49	eP	P	03 00 25.4	+1.4
	comp=Z,8.9nm,0.8s						
ELK				epP	pwP	03 01 14.8	+0.8
ELK	Elko	84.48	49	eP	P	03 00 25.4	+1.4
ELK				e*PP	pwP	03 01 14.9	+0.8
ELK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CIS	Catalina Islan	84.56	57	P	P	03 00 24.6	+0.3
	baz=289						
LRM	Limekiln Ridge	84.56	43	eP	P	03 00 25.7	+1.4
HRY	Holter Researc	84.63	42	eP	P	03 00 25.6	+1.2
MCMT	McKenzie Canyo	84.67	44	eP	P	03 00 26.3	+1.4
LPSR	Galich'ya Gora	84.69	324	eP	P	03 00 23.1	-1.3
LPSR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FURC	Furnace Creek,	84.75	53	P	P	03 00 25.7	+0.7
	baz=290						
OBN	Obninsk	84.88	327	eP	P	03 00 25.1	-0.2
OBN				e*PP	pP	03 01 11.7	+0.5
OBN				e		03 03 44.4	
OBN				pmax	pmax		
	comp=Z,15nm,2.1s						
TPNV	Topopah Spring	85.05	53	eP	P	03 00 27.8	+1.0
	comp=Z,11nm,0.7s						
TPNV	Topopah Spring	85.05	53	eP	P	03 00 27.8	+1.0
TPNV				pmax	pmax		
	comp=Z,11nm,0.7s						
TPNV	Topopah Spring	85.05	53	P	P	03 00 27.8	+1.0
	baz=290						
R11A	Troy Canyon, C	85.06	51	eP	P	03 00 27.6	+0.7
	comp=Z,11nm,1.4s						
R11A	Troy Canyon, C	85.06	51	P	P	03 00 27.8	+1.0
	baz=290						
VSR	Storozhevoye	85.13	323	i P	P	03 00 24.9	-1.8
VSR				pmax	pmax		
	comp=Z,12nm,0.5s						
BOZ	Bozeman (W)	85.18	43	eP	P	03 00 28.3	+1.0
	comp=Z,8.8nm,0.7s						
BOZ				epP	pwP	03 01 16.6	-0.5
BOZ	Bozeman (W)	85.18	43	eP	P	03 00 28.3	+1.0
BOZ				e*PP	pwP	03 01 16.6	-0.5
BOZ				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BOZ	Bozeman (W)	85.18	43	P	P	03 00 28.1	+0.8
	baz=292						
GSC	Goldstone, Bar	85.18	54	eP	P	03 00 29.0	+1.6
	comp=Z,3.4nm,0.7s						
GSC	Goldstone, Bar	85.18	54	eP	P	03 00 29.0	+1.6
GSC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GSC	Goldstone, Bar	85.18	54	P	P	03 00 28.4	+1.0
	baz=290,SNR=5.9						
SHOC	Shoshone, Teco	85.39	54	P	P	03 00 28.8	+0.5
	baz=290						
KULLO	Kullorsuaq	85.42	6	i P	P	03 00 28.5	+0.8
	comp=Z,17nm,0.9s						
KULLO	Kullorsuaq	85.42	6	i P	P	03 00 28.5	+0.8
KULLO				pmax	pmax		
	comp=Z,17nm,0.9s						
EGMT	Eagleton	85.43	41	eP	P	03 00 29.5	+1.1
	comp=Z,11nm,1.1s						
EGMT	Eagleton	85.43	41	P	P	03 00 28.9	+0.6
	baz=294						
ZEI	Tsey	85.44	314	eP	P	03 00 26.9	-1.8
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MURC	Murrieta	85.45	56	P	P	03 00 29.4	+0.6
	baz=290						
QLMT	Earthquake Lak	85.60	44	eP	P	03 00 31.5	+2.0
KBZ	Khabaz	85.77	315	P	P	03 00 29.1	-0.9
	comp=Z,2.6nm,0.8s,baz=9.7,slow=7.3,SNR=8.9						
YHB	Horse Butte	85.79	44	eP	P	03 00 32.8	+2.4
	comp=Z,16nm,0.8s						
TUQ	Turquoise Moun	85.81	54	P	P	03 00 31.1	+0.5
	baz=290						
KIV	Kislovodsk	85.83	315	eP	P	03 00 31.1	+0.7
KIV				pmax	pmax		
	comp=Z,13nm,1.0s						
HVU	Hansel Valley	85.84	47	eP	P	03 00 32.5	+1.9
	comp=Z,17nm,1.2s						
YMR	Madison River	85.97	44	eP	P	03 00 33.9	+2.6
	comp=Z,21nm,0.8s						
YMR				epP	pP	03 01 18.9	+1.5
BGU	Big Grassy Mou	85.98	48	eP	P	03 00 32.8	+1.5
	comp=Z,4.6nm,0.9s						
YHH	Holmes Hill	86.00	44	eP	P	03 00 33.7	+2.2
	comp=Z,7.8nm,0.8s						
YHH				epP	pP	03 01 18.7	+1.0
STEI	Steigen	86.00	343	eP	P	03 00 30.0	-0.6
SHPR	Sheep Range	86.02	53	eP	P	03 00 33.6	+2.0
	comp=Z,5.7nm,0.9s						
PFO	Pinyon Flats O	86.03	56	eP	P	03 00 33.2	+1.5
	comp=Z,4.8nm,1.0s						
PFO	Pinyon Flats O	86.03	56	P	P	03 00 32.3	+0.6
	baz=290						
XPFO	Pion Flat	86.03	56	eP	P	03 00 33.2	+1.5
	comp=Z,5.2nm,1.0s						
YFT	Old Faithful	86.14	44	eP	P	03 00 35.8	+3.6
	comp=Z,9.0nm,0.8s						
YNR	Norris Junctio	86.14	44	eP	P	03 00 35.5	+3.3
	comp=Z,16nm,0.9s						
YNR				epP	pwP	03 01 20.8	-1.4
YPP	Pitchstone Pla	86.23	44	eP	P	03 00 35.8	+3.1
	comp=Z,5.0nm,1.2s						
GMRC	Granite Mounta	86.24	55	P	P	03 00 33.5	+0.8
	baz=291,SNR=5.4						
SPUT	South Promonto	86.25	48	eP	P	03 00 33.9	+1.2
	comp=Z,8.1nm,1.0s						
BELC	Belle Mtn. Jos	86.25	55	P	P	03 00 33.4	+0.6
	baz=290						
PSUT	Pine Spring	86.26	51	eP	P	03 00 34.4	+1.6
	comp=Z,9.2nm,1.0s						
IMW	Indian Meadow	86.29	45	eP	P	03 00 34.5	+1.6
	comp=Z,7.0nm,0.8s						
IMW				epP	pP	03 01 20.0	+0.8
MONP2	Monument Peak	86.31	57	P	P	03 00 33.7	+0.5
	baz=290						
FXWY	Fox Creek	86.33	45	eP	P	03 00 34.9	+1.8
	comp=Z,5.0nm,1.0s						
FXWY				epP	pP	03 01 20.1	+0.8
H17A	Grant Village	86.33	44	eP	P	03 00 36.3	+3.2
	comp=Z,6.9nm,0.8s						
H17A				epP	pP	03 01 20.9	+1.6
H17A	Grant Village	86.33	44	P	P	03 00 35.6	+2.4
	baz=293						
FLWY	Flagg Ranch	86.38	45	eP	P	03 00 35.2	+2.0
	comp=Z,11nm,0.8s						
FLWY				epP	pP	03 01 20.8	+1.3
LKWY	Lake	86.38	44	eP	P	03 00 36.4	+3.0
	comp=Z,7.9nm,0.9s						
DUG	Dugway, Tooele	86.40	49	eP	P	03 00 34.5	+1.1
	comp=Z,9.1nm,0.8s						
DUG	Dugway, Tooele	86.40	49	eP	P	03 00 34.5	+1.1
DUG				pmax	pmax		
	comp=Z,9.0nm,0.8s						
DUG	Dugway, Tooele	86.40	49	P	P	03 00 34.1	+0.7
	baz=292						
TPAW	Teton Pass	86.44	45	eP	P	03 00 34.5	+0.8
	comp=Z,4.6nm,0.8s						
MOOW	Moose Ponds	86.47	45	eP	P	03 00 34.7	+0.9
	comp=Z,4.2nm,0.9s						
MOOW				epP	pP	03 01 20.5	+0.5
FIA1	FINESS Array S	86.48	335	eP	P	03 00 31.5	-1.6
FIA1				eP	P	03 00 31.6	-1.4
FIA0	FINESS Array S	86.48	335	eP	P	03 00 31.1	-1.9
FIA0				epP	pP	03 01 20.8	+1.1
FIA0	FINESS Array S	86.48	335	eP	P	03 00 31.2	-1.9
FIA0				e*PP	pP	03 01 20.8	+1.1
FINES	FINESS Array B	86.48	335	ceP	P	03 00 31.3	-1.8
FINES				pmax	pmax		
	comp=Z,7.0nm,0.4s						
FINES	FINESS Array B	86.48	335	P	P	03 00 31.1	-1.9
	comp=Z,7.3nm,0.4s,baz=72,slow=4.8,SNR=129						
FINES				pP	pP	03 01 20.8	+1.1
	comp=Z,3.0nm,0.7s,baz=72,slow=6.2,SNR=2.3						
REDW	Red Top Meadow	86.55	45	eP	P	03 00 35.8	+1.6
	comp=Z,3.2nm,0.9s						
LDFC	Landfair	86.56	54	eP	P	03 00 36.3	+2.1
	comp=Z,21nm,1.0s						
LOHW	Long Hollow	86.62	45	eP	P	03 00 36.1	+1.6
	comp=Z,5.2nm,1.1s						
IKP	In-Ko-Pah, Jac	86.64	57	P	P	03 00 35.7	+1.1
	baz=290						
HWUT	Hardware Ranch	86.75	47	eP	P	03 00 36.2	+1.1
	comp=Z,6.2nm,0.8s						
BC3	Big Chuckawall	86.80	56	P	P	03 00 35.9	+0.5
	baz=291						
FFC	Flin Flon	86.85	32	eP	P	03 00 35.8	+0.8
	comp=Z,16nm,0.9s						
FFC	Flin Flon	86.85	32	ceP	P	03 00 35.9	+0.8
IRM	Iron Mountain	86.86	55	P	P	03 00 36.4	+0.8
	baz=291,SNR=5.8						
RLMT	Red Lodge	86.90	43	eP	P	03 00 37.6	+1.8
	comp=Z,4.1nm,0.6s						
RLMT	Red Lodge	86.90	43	P	P	03 00 37.0	+1.2
	baz=294,SNR=5.4						
CTU	Camp Tracy	86.97	48	eP	P	03 00 37.7	+1.5
	comp=Z,5.3nm,0.8s						
CCUT	Cedar City	86.98	51	eP	P	03 00 38.4	+2.0
	comp=Z,5.8nm,0.8s						
NLU	North Lily Min	87.02	49	eP	P	03 00 37.8	+1.3
	comp=Z,7.3nm,1.0s						
TCUT	Toone Canyon	87.04	47	eP	P	03 00 38.4	+1.8
	comp=Z,12nm,0.7s						
SZCU	Shurtz Canyon	87.17	51	eP	P	03 00 39.1	+1.8
	comp=Z,4.4nm,0.8s						
JLU	Jordanelle	87.21	48	eP	P	03 00 39.0	+1.6
	comp=Z,8.5nm,0.8s						
LCMT	Little Creek M	87.27	52	eP	P	03 00 39.5	+1.8
	comp=Z,5.5nm,0.9s						
MPU	Maple Canyon	87.31	49	eP	P	03 00 39.3	+1.5
	comp=Z,5.2nm,0.9s						
MOR8	Moi Rana	87.46	342	eP	P	03 00 36.7	-1.1
Y12C	Blythe	87.49	55	eP	P	03 00 40.3	+1.7
	comp=Z,6.0nm,0.9s						
Y12C	Blythe	87.49	55	P	P	03 00 39.8	+1.2
	baz=291						
W13A	Hualapai Mount	87.49	54	eP	P	03 00 40.6	+1.8
	comp=Z,5.8nm,0.8s						
MSU	Marysvale	87.49	50	eP	P	03 00 40.7	+1.9
MSU	Marysvale	87.49	50	eP	P	03 00 40.7	+1.9
GLA	Glamis	87.50	56	P	P	03 00 39.6	+0.9
	baz=291						
KNB	Kanab	87.58	52	eP	P	03 00 40.9	+1.7
	comp=Z,15nm,1.0s						
KNB	Kanab	87.58	52	eP	P	03 00 40.9	+1.7
KNB				pmax	pmax		
	comp=Z,15nm,1.0s						
PDMCI	Parker Dam,Lak	87.58	55	P	P	03 00 40.4	+1.4
	baz=291						
BW06	Boulder Array	87.66	45	P	P	03 00 40.0	+0.5
	baz=294						
PD31	Pinedale Array	87.66	45	eP	P	03 00 40.0	+0.5
	comp=Z,1.4nm,0.9s						
PD31				epP	pP	03 01 25.9	0.0
PDAR	Pinedale Array	87.66	45	eP	P	03 00 39.4	-0.1
PDAR				epP	pwP	03 01 31.4	+1.8
PDAR	Pinedale Array	87.66	45	P	P	03 00 39.3	-0.3
	comp=Z,0.9nm,0.6s,baz=186,slow=0.6,SNR=17						
PDAR				pP	pP	03 01 25.9	0.0
	comp=Z,0.7nm,0.8s,baz=307,slow=5.4,SNR=2.7						
MTPU	Mount Pierson	87.67	51	eP	P	03 00 39.8	0.0
	comp=Z,4.0nm,0.9s						
PKCU	Pink Cliffs	87.80	51	eP	P	03 00 43.2	+2.8
	comp=Z,4.4nm,0.9s						
TMUT	Trail Mountain	87.89	49	eP	P	03 00 42.7	+2.0
	comp=Z,6.2nm,0.9s						
Q16A	Castle Valley	88.06	49	eP	P	03 00 43.3	+1.8
	comp=Z,9.3nm,1.0s						
P17A	Butcher Ranch,	88.16	49	eP	P	03 00 43.8	+2.0
	comp=Z,5.2nm,0.9s						
LAO	LASA Array	88.17	41	eP	P	03 00 42.6	+1.0
	comp=Z,6.3nm,0.8s						
LAO	LASA Array	88.17	41	P	P	03 00 42.6	+1.0
	baz=296						
U15A	North Rim	88.20	52	eP	P	03 00 43.8	+1.6
	comp=Z,6.4nm,0.9s						
FCC	Fort Churchill	88.39	27	eP	P	03 00 42.5	+0.3
	comp=Z,10nm,0.9s						
FCC	Fort Churchill	88.39	27	eP	P	03 00 42.5	+0.3
FCC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
P18A	Preston Nutter	88.44	48	eP	P	03 00 45.0	+1.7
	comp=Z,2.7nm,0.9s						
SRU	San Rafael Swe	88.45	49	eP	P	03 00 44.3	+1.1
	comp=Z,5.7nm,0.7s						
SIRT	Sirnak	88.49	309	eP	P	03 00 43.3	0.0
	comp=Z,15nm,1.0s						
SUMG	Summit	88.53	1	eP	P	03 00 43.5	+0.3
	comp=Z,14nm,1.2s						
SUMG	Summit	88.53	1	i P	P	03 00 43.8	+0.6
	comp=Z,17nm,0.8s						
SUMG	Summit	88.53	1	i P	P	03 00 43.8	+0.6
SUMG				pmax	pmax		
	comp=Z,17nm,0.8s						
Y14A	Wickenburg	88.60	55	eP	P	03 00 44.8	+0.9
	comp=Z,12nm,0.8s						
WUAZ	Wupatki	89.24	53	eP	P	03 00 48.8	+1.9
	comp=Z,11nm,0.9s						
WUAZ	Wupatki	89.24	53	P	P	03 00 48.2	+1.3
	baz=293,SNR=14						
NSS	Namsos	89.36	342	eP	P	03 00 45.6	-1.1
214A	Organ Pipe Nat	89.49	56	P	P	03 00 49.3	+1.2
	baz=292						
IZAR	Zarasai	89.64	330	eP	P	03 00 47.3	-0.9
IZAR				IAmb	IAmb	03 00 49.3	
	comp=Z,8.3nm,0.6s						
O20A	White River Ci	89.64	47	P	P	03 00 49.6	+0.8
	baz=295						
IDID	Didziasalis	89.65	330	eP	P	03 00 47.3	-0.9
IDID				IAmb	IAmb	03 00 48.6	
	comp=Z,6.9nm,0.8s						
PV09	Paradox Valley	89.69	49	eP	P	03 00 50.7	+1.5
K22A	Casper	89.74	45	P	P	03 00 50.0	+0.9
	baz=296						
PV21	Cone Mtn., Par	89.78	49	eP	P	03 00 50.9	+1.3
	comp=Z,9.0nm,0.6s						
ISAL	Salakas	89.79	330	eP	P	03 00 48.1	-0.8
ISAL				IAmb	IAmb	03 00 50.1	
	comp=Z,4.7nm,0.8s						
PV23	Carpenter Ridg	89.80	49	eP	P	03 00 51.2	+1.5
PV23				epP	pP	03 01 36.8	+0.6
PV14	Lion Creek, Pa	89.82	49	eP	P	03 00

X18A	**Snowflake**	**90.70**	**53**	*e*P		**P**	**03 00 55.8**	**+1.9**
	comp=Z,3.4nm,0.9s								
N23A	**Red Feather La**	**90.90**	**46**	*e*P		**P**	**03 00 56.9**	**+2.1**
	comp=Z,13nm,0.9s								
N23A				*e*pP		**pP**	**03 01 41.5**	**+0.2**
N23A	**Red Feather La**	**90.90**	**46**	P		**P**	**03 00 55.5**	**+0.8**
	baz=296,SNR=5.8								
AKASG	**Malin Array Be**	**90.91**	**325**	P		**P**	**03 00 52.3**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=51,slow=5.0,SNR=3.0								
AKBB	**Malin Array Si**	**90.91**	**325**	*e*P		**P**	**03 00 52.3**	**-1.9**
	comp=Z,3.6nm,1.3s								
AKBB	**Malin Array Si**	**90.91**	**325**	*e*P		**P**	**03 00 52.3**	**-1.9**
AKBB				pmax		pmax			
	comp=Z,4.0nm,1.3s								
SMCO	**Snowmass**	**90.94**	**48**	*e*P		**P**	**03 00 56.5**	**+1.4**
	comp=Z,4.4nm,0.8s								
SMCO				*e*pP		**pP**	**03 01 41.8**	**+0.2**
TUC	**Tucson**	**90.94**	**55**	*e*P		**P**	**03 00 56.9**	**+2.0**
	comp=Z,3.6nm,0.9s								
TUC	**Tucson**	**90.94**	**55**	P		**P**	**03 00 55.8**	**+0.9**
	baz=293								
RAYN	**Ar Rayn**	**91.28**	**295**	*e*P		**P**	**03 00 55.6**	**-1.0**
	comp=Z,3.6nm,0.9s								
RAYN	**Ar Rayn**	**91.28**	**295**	*e*P		**P**	**03 00 55.6**	**-1.0**
RAYN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ISCO	**Idaho Springs**	**91.61**	**47**	*e*P		**P**	**03 01 00.1**	**+2.0**
	comp=Z,2.9nm,0.8s								
ISCO				*e*pP		**pP**	**03 01 45.1**	**+0.5**
ISCO	**Idaho Springs**	**91.61**	**47**	P		**P**	**03 00 58.9**	**+0.8**
	baz=296								
S22A	**4UR Ranch, Cre**	**91.66**	**49**	*e*P		**P**	**03 01 00.1**	**+1.7**
	comp=Z,4.1nm,0.9s								
S22A	**4UR Ranch, Cre**	**91.66**	**49**	P		**P**	**03 00 58.9**	**+0.6**
	baz=296,SNR=5.4								
SUW	**Suwalki**	**92.09**	**330**	*e*P		**P**	**03 00 58.4**	**-1.2**
	comp=Z,28nm,1.0s								
SUW	**Suwalki**	**92.09**	**330**	*e*P		**P**	**03 00 58.4**	**-1.2**
SUW				pmax		pmax			
	comp=Z,28nm,1.0s								
DOMB	**Dombas**	**92.10**	**341**	*e*P		**P**	**03 00 59.7**	**+0.2**
NB2	**NORSAR Subarra**	**92.17**	**340**	P		**P**	**03 00 57.7**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=45,slow=5.1								
NB2	**NORSAR Subarra**	**92.17**	**340**	P		**P**	**03 00 57.7**	**-2.2**
	baz=45,slow=5.1								
NB200	**NORSAR Array S**	**92.17**	**340**	*e*P		**P**	**03 00 58.0**	**-1.8**
NB200				*e*PP		**PP**	**03 04 41.0**	**-0.9**
NOA	**NORSAR Array B**	**92.17**	**340**	P		**P**	**03 00 58.0**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=46,slow=4.5,SNR=6.3								
NOA				PP		**PP**	**03 04 41.0**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=38,slow=7.3,SNR=3.8								
NC602	**NORSAR Array S**	**92.28**	**339**	*e*P		**P**	**03 01 00.5**	**+0.2**
Q24A	**Divide**	**92.31**	**47**	P		**P**	**03 01 02.4**	**+1.0**
	baz=297								
ULM	**Lac du Bonnet**	**92.37**	**34**	P		**P**	**03 01 01.3**	**+0.4**
	comp=Z,4.1nm,0.8s,baz=281,slow=4.2,SNR=8.9								
SDCO	**Great Sand Dun**	**92.60**	**49**	*e*P		**P**	**03 01 03.9**	**+1.2**
	comp=Z,3.3nm,1.1s								
SDCO	**Great Sand Dun**	**92.60**	**49**	P		**P**	**03 01 03.2**	**+0.5**
	baz=297								
ANMO	**Albuquerque**	**93.14**	**51**	*e*P		**P**	**03 01 07.0**	**+1.9**
	comp=Z,6.5nm,1.3s								
ANMO				*e*pP		**pP**	**03 01 52.5**	**+0.9**
ANMO	**Albuquerque**	**93.14**	**51**	P		**P**	**03 01 06.6**	**+1.4**
	baz=296								
AGMN	**Agassiz Nation**	**93.46**	**36**	P		**P**	**03 01 06.4**	**+0.4**
	baz=304								
T25A	**Trinidad**	**93.65**	**49**	P		**P**	**03 01 07.2**	**-0.3**
	baz=297								
BR101	**Keskin Array S**	**93.74**	**314**	*e*P		**P**	**03 01 05.8**	**-1.9**
BR101				*e*pP		**pP**	**03 01 54.7**	**+0.5**
BR131	**Keskin Array S**	**93.74**	**314**	*e*P		**P**	**03 01 06.4**	**-1.3**
	comp=Z,2.2nm,0.7s								
BRTR	**Keskin Array B**	**93.74**	**314**	*ce*P		**P**	**03 01 06.4**	**-1.3**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**93.74**	**314**	P		**P**	**03 01 05.9**	**-1.9**
	comp=Z,2.1nm,0.7s,baz=93,slow=3.0,SNR=18								
BRTR				pP		**pP**	**03 01 54.7**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=325,slow=36,SNR=2.1								
BUR08	**Bucovina Ar. S**	**94.80**	**324**	*e*P		**P**	**03 01 11.8**	**-0.6**
	comp=Z,5.2nm,1.5s								
BLS5	**Blasjo**	**94.94**	**340**	*e*P		**P**	**03 01 12.7**	**+0.1**
MNTX	**Cornudas Mount**	**95.36**	**54**	P		**P**	**03 01 16.0**	**+0.9**
	baz=296								
VYHS	**Vyhne**	**97.67**	**327**	*e*P		Pdif	03 01 25.3	+0.1
VYHS	**Vyhne**	**97.67**	**327**	*e*P		Pdif	03 01 25.3	+0.1
TXAR	**Lajitas Array**	**97.74**	**55**	P		Pdif	03 01 26.8	+0.8
	comp=Z,0.1nm,0.4s,baz=289,slow=2.8,SNR=2.7								
BRG	**Berggiesshubel**	**98.42**	**331**	*e*PP		**PP**	**03 05 31.8**	**+1.4**
CLL	**Collm**	**98.53**	**332**	*e*Pdif		**P**	**03 01 27.0**	**-1.9**
CLL				*e*PP		**PP**	**03 05 31.0**	**-0.2**
CLL	**Collm**	**98.53**	**332**	*e*P		**P**	**03 01 27.0**	**-1.9**
CLL				*e*			03 05 31.0	
PRU	**Pruhonice**	**98.76**	**330**	*e*PP		**PP**	**03 05 33.9**	**+0.9**
NKC	**Novy Kostel**	**99.55**	**332**	*e*PP		**PP**	**03 05 39.3**	**+0.3**
KHC	**Kasperske Hory**	**99.81**	**330**	*e*PP		**PP**	**03 05 41.5**	**+0.5**
GEC2	**GERESS Array S**	**99.95**	**330**	*e*Pdif		**Pdif**	**03 01 34.1**	**-1.4**
	comp=Z,3.0nm,1.3s								
GEC2	**GERESS Array S**	**99.95**	**330**	*e*P		**Pdif**	**03 01 34.1**	**-1.4**
GEC2				pmax		pmax			
	comp=Z,3.0nm,1.3s								
GERES	**GERESS Array B**	**99.95**	**330**	P		**Pdif**	**03 01 34.1**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=76,slow=8.2,SNR=3.6								
LSZ	**Lusaka**	**120.30**	**263**	*e*PKPdf		**PKiKP**	**03 06 42.3**	**+0.7**
LSZ	**Lusaka**	**120.30**	**263**	*e*PKiKP		**PKiKP**	**03 06 42.3**	**+0.7**
TOA1	**Torodi Ar. Sit**	**132.10**	**309**	*e*PKPdf		**PKPdf**	**03 07 03.1**	**-0.9**
TOA0	**Torodi Ar. Sit**	**132.10**	**309**	*e*PKPdf		**PKPdf**	**03 07 03.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**132.10**	**309**	PKP		**PKPdf**	**03 07 03.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=41,slow=0.8,SNR=10								
DBIC	**Dimbokro**	**141.20**	**308**	PKhKP		PKPpre	03 07 14.6		
	comp=Z,1.8nm,0.6s,baz=29,slow=2.7,SNR=5.8								
PB11	**IPOC Station P**	**146.83**	**97**	*e*PKPdf		**PKPab**	**03 07 34.0**	**-0.5**
LVC	**Limon Verde**	**147.65**	**102**	PKPbc		**PKPbc**	**03 07 36.0**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=323,slow=5.0,SNR=6.2								
LPAZ	**La Paz**	**147.82**	**90**	*e*PKPdf		**PKPdf**	**03 07 33.9**	**+0.9**
LPAZ	**La Paz**	**147.82**	**90**	*e*PKiKP		**PKPdf**	**03 07 33.9**	**+0.9**
LPAZ	**La Paz**	**147.82**	**90**	PKPbc		**PKiKP**	**03 07 37.2**	**-0.8**
	comp=Z,2.6nm,0.6s,baz=339,slow=3.3,SNR=9.8								
LPAZ				pPKPbc		**pPKPbc**	**03 08 24.0**	**-0.6**
	comp=Z,4.6nm,0.9s,baz=20,slow=6.8,SNR=4.2								
PTGA	**Pitinga**	**149.04**	**57**	*e*PKPbc		**PKPbc**	**03 07 38.7**	**0.0**
PTGA	**Pitinga**	**149.04**	**57**	PKPbc		**PKPbc**	**03 07 39.1**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=338,slow=1.1,SNR=12								

NEIC ***14*** *02:54:29.9±0.0, 18°.37N×102°.59W, h10km, MD4.0(MEX), After MEX.*

MEX 14 02:54:29.9±0.6, 18°.37N×102°.59W, h10km, MD4.0, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.72**	**264**	*i* P	Pg	02 54 42.0	-1.8
MMIG				*i* S	Sg	02 54 52.4	-0.9
MMIG	**Aquila**	**0.72**	**264**	*i* P	Pg	02 54 42.0	-1.8
MMIG				*i* S	Sg	02 54 52.4	-0.9
URUA	**Uruapan**	**1.16**	**25**	*e*P	Pb	02 54 45.6	-6.5
URUA				*i* S	Sg	02 55 00.2	-7.0
ZIIG	**Zihuatanejo**	**1.31**	**125**	*i* P	Pn	02 54 50.6	-3.6
ZIIG				*e*S	Sb	02 55 07.3	-4.2
ZIIG	**Zihuatanejo**	**1.31**	**125**	*i* P	Pn	02 54 50.6	-3.6
ZIIG				*e*S	Sb	02 55 07.3	-4.2
EZ5V		**1.46**	**319**	*e*P	Pn	02 54 52.8	-3.8
EZ5V				*e*S	Sn	02 55 11.4	-4.6
R15V		**1.54**	**301**	*e*P	Pn	02 54 53.8	-3.7
R15V				*i* S	Sn	02 55 12.6	-5.1
MOIG	**Morelia**	**1.86**	**45**	*e*P	Pn	02 54 58.4	-3.6
MOIG	**Morelia**	**1.86**	**45**	*e*P	Pn	02 54 58.4	-3.6
ARIG	**Puente Sto Nin**	**2.13**	**92**	*e*P	Pn	02 55 02.9	-2.7
ARIG	**Puente Sto Nin**	**2.13**	**92**	*e*P	Pn	02 55 02.9	-2.7
CAIG	**El Cayaco**	**2.57**	**120**	*i* P	Pn	02 55 07.8	-3.9
CAIG				*e*S	Sn	02 55 38.8	-4.3
CAIG	**El Cayaco**	**2.57**	**120**	*i* P	Pn	02 55 07.8	-3.9
CAIG				*e*S	Sn	02 55 38.8	-4.3
CJM	**Chamela**	**2.58**	**296**	*e*P	Pn	02 55 08.2	-3.6
CJM				*i* S	Sn	02 55 39.2	-4.1
CJM	**Chamela**	**2.58**	**296**	*e*P	Pn	02 55 08.2	-3.6
CJM				*i* S	Sn	02 55 39.2	-4.1
PLIG	**Platanillo**	**2.93**	**89**	*i* P	Pn	02 55 14.0	-2.7
PLIG				*i* S	Sn	02 55 47.8	-4.3
PLIG	**Platanillo**	**2.93**	**89**	*i* P	Pn	02 55 14.0	-2.7
PLIG				*i* S	Sn	02 55 47.8	-4.3
YAIG	**Yautepec**	**3.38**	**81**	*i* P	Pn	02 55 19.6	-3.3
YAIG				*e*S	Sn	02 55 59.6	-3.5
YAIG	**Yautepec**	**3.38**	**81**	*i* P	Pn	02 55 19.6	-3.3
YAIG				*e*S	Sn	02 55 59.6	-3.5
TLIG	**Tlapa**	**3.91**	**101**	*i* P	Pn	02 55 27.2	-3.0
TLIG				*i* S	Sn	02 56 12.3	-4.0
TLIG	**Tlapa**	**3.91**	**101**	*i* P	Pn	02 55 27.2	-3.0
TLIG				*i* S	Sn	02 56 12.3	-4.0

IDC ***14*** *03:28:17.2±2.6, 2°.96N×125°.44E, h94km±26km, mb3.6/7, mb1 3.8/8, mb1mx3.5/43, mbtmp4.0/8, Error ellipse: s-maj=48.2km s-min=12.1km az=63.0*

ISCJB ***14*** *03:28:19.6±0.5, 2°.94N±0°.04×125°.77E±0°.09, h129km, mb3.7/6, Error ellipse: s-maj=13.7km s-min=4.6km az=165.8*

MAN ***14*** *03:28:23.0, 3°.08N×125°.47E, h90km, mb5.2, ML4.1, MS4.2*

DJA ***14*** *03:28:23.8±0.9, 2°.N±7°×12°.6E±°, h173km±7km, M4.3/6, mb4.5/1, mB4.4/1, MLv4.2/6, Mw(mB)3.5/1*

ISC 14 03:28:20.1±0.7, 2°.95N±0°.05×125°.66E±0°.09, h129km, n19, σ2°.61/25, mb3.9/6, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.76**	**142**	P	**Pn**	**03 29 03.3**	**-0.3**
TNTI				S	**Sn**	**03 29 35.2**	**-1.9**
DDMP	**Don Marcelino,**	**3.13**	**1**	*e*P	**Pn**	**03 29 08.5**	**0.0**
DDMP				*e*S	**Sn**	**03 29 42.5**	**-3.4**
MATI	**Mati**	**4.02**	**9**	*e*P	**Pn**	**03 29 21.9**	**+1.8**
MATI				*e*S	**Sn**	**03 30 07.3**	**+0.7**
KCP	**Kidapawan**	**4.07**	**352**	*e*P	**Pn**	**03 29 22.5**	**+1.6**
KCP				*i* S	Sn	03 30 17.9	+10
DMPH	**Davao City--Mi**	**4.11**	**358**	*e*P	**Sn**	**03 30 02.3**	**-6.6**
BUKP	**Musuan**	**4.93**	**353**	*e*P	**Pn**	**03 29 34.0**	**+1.6**
BUKP				*e*S	**Sn**	**03 30 29.6**	**+0.9**
SANI	**Sanana**	**4.98**	**176**	P	**Pn**	**03 29 32.4**	**-0.5**
SANI				S	**Sn**	**03 30 23.8**	**-5.8**
PAGZ	**Pagadian**	**5.37**	**335**	*e*P	**Pn**	**03 29 39.6**	**+1.4**
PAGZ				*e*S	**Sn**	**03 30 37.6**	**-1.4**
APSI	**Ampana**	**5.55**	**226**	P	Pn	03 29 47.3	+6.4
IPIL	**Ipil**	**5.71**	**328**	*e*P	**Pn**	**03 29 44.9**	**+2.1**
SIJI	**Sorong**	**6.77**	**124**	P	**Pn**	**03 29 56.3**	**-0.7**
	2.6nm,0.3s,baz=300,slow=23,SNR=5.2						
KDI	**Kendari**	**7.50**	**204**	P	**Pn**	**03 30 09.4**	**+2.5**
FITZ	**Fitzroy Crossi**	**20.91**	**180**	P	**P**	**03 32 53.2**	**+0.7**
	8.9nm,0.6s,baz=12,slow=8.3,SNR=26						
WRA	**Warramunga Arr**	**24.29**	**160**	P	**P**	**03 33 26.3**	**+0.6**
	2.4nm,0.4s,baz=334,slow=11,SNR=26						
WRA				S	**S**	**03 37 40.6**	**+5.0**
	1.4nm,0.9s,baz=344,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**27.65**	**164**	P	**P**	**03 33 56.9**	**+0.9**
	0.9nm,0.5s,baz=343,slow=7.2,SNR=20						
CMAR	**Chiang Mai Arr**	**30.36**	**302**	P	**P**	**03 34 18.0**	**-2.1**
	1.0nm,0.3s,baz=117,slow=9.6,SNR=2.7						
STKA	**Stephens Creek**	**37.80**	**158**	P	**P**	**03 35 25.4**	**+1.4**
	1.7nm,0.6s,baz=346,slow=5.3,SNR=4.7						
SONM	**Songino Array**	**47.70**	**343**	P	**P**	**03 36 43.8**	**-0.1**
	0.2nm,0.5s,baz=160,slow=4.6,SNR=2.4						
MKAR	**Makanchi Array**	**57.59**	**326**	P	**P**	**03 37 56.9**	**+0.3**
	0.3nm,0.4s,baz=115,slow=7.9,SNR=7.4						

KRSC 14 03:31:10.6±10.0, 54°.85N×164°.39E, h47km±10km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.98**	**68**	*e*P	**Pn**	03 31 29.8	+1.9
BKI				*e*S	Sn	03 31 42.1	+1.5
MKZ	**Mys Kozlova**	**1.57**	**260**	P	Pn	03 31 37.9	+1.9
KBTR	**Krutoberegovo**	**1.63**	**327**	*e*P	Pn	03 31 37.6	+0.8
KBTR				*e*S	Sn	03 31 57.0	+0.5
KZV	**Kizimen**	**2.38**	**278**	P	Pn	03 31 49.7	+2.5
SMKR	**Semkarok**	**2.40**	**318**	P	Pn	03 31 50.6	+3.2
SMKR				S	Sn	03 32 20.7	+5.1
TUMR	**Tumrok**	**2.48**	**282**	*e*P	Pn	03 31 51.7	+3.2
SDLR	**Sedlovina**	**3.61**	**246**	*e*P	Pn	03 32 06.9	+2.9
UGLR	**Uglovaya**	**3.67**	**246**	*e*P	Pn	03 32 08.4	+3.5
AVH	**Avacha**	**3.69**	**247**	*e*P	Pn	03 32 09.0	+3.9
GNL	**Ganaly**	**3.95**	**256**	*e*P	Pn	03 32 12.7	+4.0

IDC 14 03:36:07.3±4.3, 7°.17S×148°.66E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/33, mbtmp3.4/3, ML3.1/1, Error ellipse: s-maj=155.2km s-min=48.1km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.82**	**226**	P	P	03 40 28.3	-0.5
	0.1nm,0.3s,baz=56,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**21.67**	**219**	P	P	03 41 00.8	+1.0
	0.6nm,0.5s,baz=55,slow=9.2,SNR=9.8						
FITZ	**Fitzroy Crossi**	**24.91**	**242**	P	P	03 41 31.7	-0.6
	0.8nm,0.4s,baz=73,slow=11,SNR=6.2						
TORD	**Torodi Ar. Bea**	**146.96**	**283**	PKPbc	PKPbc	03 55 52.2	-0.8
	0.2nm,0.6s,baz=90,slow=2.3,SNR=3.8						

MOS ***14*** *03:45:44.8±1.2, 7°.63N×82°.63W, h10km, mb5.2/49, MS4.6/4, Error ellipse: s-maj=11.5km s-min=4.7km az=111.5*

IDC ***14*** *03:45:44.1±0.5, 7°.56N×82°.65W, h0km, mb4.6/24, mb1 4.9/28, mb1mx4.7/42, mbtmp4.7/28, ML4.7/4, MS4.1/24, Ms1 4.1/24, ms1mx4.0/35, Error ellipse: s-maj=23.7km s-min=9.7km az=58.0*

ISCJB ***14*** *03:45:45.7±0.1, 7°.67N±0°.02×82°.63W±0°.02, h14km, mb5.0/344, MS4.3/31, Error ellipse: s-maj=3.2km s-min=1.9km az=37.9*

NEIC ***14*** *03:45:46.6±0.2, 7°.54N×82°.69W, h10km, mb5.0/297, MD5.2(UCR), Error ellipse: s-maj=4.8km s-min=3.5km az=216.0*

NEIC Felt [III] at Boquete. Also felt at Boca Chica, Gariche, Los Naranjos, Potrerillos Arriba and Volcan. Felt at Buenos Aires, Cajon, General, Guadalupe, Heredia, La Virgen, Mercedes, Piedades, Puerto Cortes, Quepos, San Rafael and Santiago, Costa Rica.

BJI ***14*** *03:45:46.6, 7°.60N×82°.80W, h10km, mB5.4/5, Ms5.2/5, Ms7 4.9/5*

UCR ***14*** *03:45:48.8±1.8, 7°.59N×82°.76W, h28km±7km, MD4.3, ML5.0, mb5.0(NEIC)*

GCMT ***14*** *03:45:50.6±0.2, 7°.52N±0°.01×82°.83W±0°.01, h28km, MW5.2/95, Moment Tensor Solution. s54,c72; s95,c175; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.57±.16; Mθθ-2.04±.12; Mφφ 1.47±.14; Mrθ-2.25±.21; Mθφ6.59±.11; Mφr-0.92±.23; Best double couple: Mo7.25700×10^16 NP1:φ264.00000°, δ84.00000°, λ19.00000°. NP2: φs172.00000°, δ71.00000°, λ174.00000°. Principal axes: T 7.2110, Plg18.0000°, Azm129.0000°; N 0.0940, Plg70.0000°, Azm280.0000°; P -7.3020, Plg9.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:45:46.5±0.3, 7°.53N±0°.04×82°.82W±0°.05, h14km, n1158, σ1°.43/1168, mb5.0/344, MS4.2/31, 7C-4D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**1.26**	**6**	*e*P	**Pn**	**03 46 09.7**	**-0.3**
BRU2				*e*S	**Sb**	**03 46 26.4**	**-0.1**
EDSV	**San Vito**	**1.29**	**353**	*e*P	**Pn**	**03 46 10.2**	**-0.1**
EDPN	**Palmar Norte**	**1.56**	**336**	*e*P	**Pn**	**03 46 12.3**	**-1.5**
EDBA	**Buenos Aires**	**1.68**	**345**	*e*P	**Pn**	**03 46 16.0**	**+0.4**
EDLM	**Las Mercedes**	**1.90**	**337**	*e*P	**Pn**	**03 46 18.5**	**-0.1**
EDDO	**Dominical**	**2.00**	**329**	*e*P	**Pn**	**03 46 19.5**	**-0.5**
LCR2	**La Lucha 2**	**2.49**	**332**	*e*P	**Pn**	**03 46 26.9**	**+0.1**
AZU	**Azuero**	**2.54**	**84**	*e*P	**Pn**	**03 46 28.3**	**+0.9**
AZU	**Azuero**	**2.54**	**84**	*e*P	**Pn**	**03 46 28.3**	**+0.9**
AZU	**Azuero**	**2.54**	**84**	*e*P	**Pn**	**03 46 27.3**	**-0.1**
HDC	**Heredia**	**2.77**	**333**	*e*Pn	**Pn**	**03 46 30.8**	**+0.2**
HDC				*e*Sn	**Sn**	**03 47 04.0**	**0.0**
HDC	**Heredia**	**2.77**	**333**	*e*P	**Pn**	**03 46 31.4**	**+0.8**
TRT1	**Tortuguero**	**3.17**	**344**	*e*P	**Pn**	**03 46 36.1**	**+0.1**
ZANG	**Zanguenga, Cho**	**3.25**	**64**	*e*P	**Pn**	**03 46 37.3**	**+0.1**
BCIP	**Isla Barro Col**	**3.37**	**61**	*e*Pn	**Pn**	**03 46 39.4**	**+0.6**
BCIP				*e*Sn	**Sn**	**03 47 18.4**	**-0.3**
BCIP	**Isla Barro Col**	**3.37**	**61**	*e*P	**Pn**	**03 46 39.1**	**+0.3**
BCIP	**Isla Barro Col**	**3.37**	**61**	*e*P	**Pn**	**03 46 39.1**	**+0.3**
BCIP	**Isla Barro Col**	**3.37**	**61**	*e*P	**Pn**	**03 46 39.3**	**+0.4**
FORC	**Fortuna**	**3.44**	**328**	*i* P	**Pn**	**03 46 42.2**	**+2.4**
JTS	**JuntasAbangare**	**3.46**	**323**	*e*Pn	**Pn**	**03 46 39.4**	**-0.6**
JTS				*e*Sn	**Sn**	**03 47 19.4**	**-1.5**
JTS	**JuntasAbangare**	**3.46**	**323**	*c* *i* P	**Pn**	**03 46 39.3**	**-0.7**
JTS	**JuntasAbangare**	**3.46**	**323**	Pn	**Pn**	**03 46 39.5**	**-0.5**
	404nm,0.3s,baz=187,slow=3.9,SNR=371						
JTS				Sn	**Sn**	**03 47 19.6**	**-1.2**
	1µm,0.3s,baz=47,slow=21,SNR=23						
JTS				LR	LR	03 47 22.4	
	comp=Z,2µm,19.1s,baz=170,slow=28						
JTS	**JuntasAbangare**	**3.46**	**323**	*e*P	**Pn**	**03 46 40.8**	**+0.7**
ARE1	**Arenal 1**	**3.46**	**327**	*e*P	**Pn**	**03 46 41.1**	**+1.0**
CEDE	**Laguna Cedeo**	**3.48**	**328**	*e*P	**Pn**	**03 46 41.4**	**+1.1**
UPA	**Univ. de Panam**	**3.56**	**66**	*e*P	**Pn**	**03 46 41.9**	**+0.4**
PLVR	**Palo Verde**	**3.75**	**318**	*e*P	**Pn**	**03 46 44.0**	**-0.2**
PTEN	**Parque Tenorio**	**3.82**	**326**	*i* P	**Pn**	**03 46 45.3**	**+0.3**
CUI	**Cuipilapa**	**3.87**	**324**	*e*P	**Pn**	**03 46 46.8**	**+1.0**
LIM1	**Limonal**	**3.96**	**323**	*i* P	**Pn**	**03 46 46.0**	**-1.0**
MESS	**Mesas**	**3.96**	**324**	*e*P	**Pn**	**03 46 47.2**	**+0.3**
MESS				*i* P	**Pn**	**03 46 47.7**	**+0.7**
MESS				*i* S	**Sn**	**03 47 31.5**	**-1.7**
GPS2	**Hotel Rincn d**	**4.06**	**322**	*e*P	**Pn**	**03 46 49.5**	**+1.1**
GPS3	**Bodega del ICE**	**4.07**	**322**	*i* P	**Pn**	**03 46 48.8**	**+0.3**
NY14	**Universidad de**	**4.09**	**319**	*i* P	**Pn**	**03 46 49.6**	**+0.9**
LAPC	**Finca la Perla**	**4.12**	**322**	*i* P	**Pn**	**03 46 49.3**	**+0.4**
GB1A	**Borinquen Arri**	**4.14**	**322**	*i* P	**Pn**	**03 46 50.9**	**+1.4**
BUAI	**Buenos Aires**	**4.15**	**324**	*i* P	**Pn**	**03 46 48.8**	**-0.7**
ESPN	**Las Esperanzas**	**4.86**	**343**	*e*Pn	**Pn**	**03 47 00.2**	**+0.9**
ESPN				*e*Sn	**Sn**	**03 47 56.2**	**+0.8**
ESPN	**Las Esperanzas**	**4.86**	**343**	*e*P	**Pn**	**03 47 00.0**	**+0.8**
CONN	**Concepcion**	**4.87**	**326**	*e*P	**Pn**	**03 46 59.9**	**+0.5**
ACON	**Acoyapa**	**4.98**	**332**	*e*P	**Pn**	**03 47 01.8**	**+0.8**
SOLC	**Bahia Solano**	**5.53**	**103**	*e*P	**Pn**	**03 47 06.6**	**-1.9**
SOLC	**Bahia Solano**	**5.53**	**103**	*e*P	**Pn**	**03 47 06.6**	**-1.9**
PRVC	**Isla de Provid**	**5.99**	**14**	*e*P	**Pn**	**03 47 14.3**	**-0.4**
PRVC	**Isla de Provid**	**5.99**	**14**	*e*P	**Pn**	**03 47 14.3**	**-0.4**
MOMN	**Momotombo**	**6.08**	**323**	*e*P	**Pn**	**03 47 17.0**	**+1.0**
MATN	**Matagalpa**	**6.17**	**331**	*i* P	**Pn**	**03 47 18.3**	**+0.9**
CNGN	**Cerro Negro**	**6.24**	**323**	*e*P	**Pn**	**03 47 19.6**	**+1.3**
CNGN				*e*S	**Sn**	**03 48 30.3**	**+0.7**
TEL3	**Telica 3**	**6.39**	**322**	*e*P	**Pn**	**03 47 21.9**	**+1.6**
MALC	**Bahia Malaga**	**6.48**	**122**	*e*P	**Pn**	**03 47 21.3**	**-0.3**
MALC				*e*P	**Pn**	**03 47 21.7**	**+0.1**
MALC	**Bahia Malaga**	**6.48**	**122**	*e*P	**Pn**	**03 47 21.3**	**-0.3**
MALC				*e*P	**Pn**	**03 47 21.7**	**+0.1**
DBBC	**Dabeiba**	**6.58**	**94**	*e*P	**Pn**	**03 47 22.7**	**-0.3**
DBBC	**Dabeiba**	**6.58**	**94**	*e*P	**Pn**	**03 47 22.7**	**-0.3**
CRIN	**San Cristobal**	**6.61**	**321**	*e*P	**Pn**	**03 47 24.7**	**+1.3**
TUMC	**Tumaco**	**6.98**	**144**	*e*P	**Pn**	**03 47 29.4**	**+0.9**
TUMC	**Tumaco**	**6.98**	**144**	*e*P	**Pn**	**03 47 29.4**	**+0.9**
UREC	**San Jos de Ur**	**7.23**	**88**	*e*P	**Pn**	**03 47 32.3**	**+0.4**
UREC	**San Jos de Ur**	**7.23**	**88**	*e*P	**Pn**	**03 47 32.3**	**+0.4**
YOTC	**Yotoco, Valle**	**7.34**	**118**	*e*P	**Pn**	**03 47 30.9**	**-2.7**

comp=Z,63nm,0.8s
AGP **Aguadilla** 18.70 53 eP Pn 03 50 09.8 +4.7
comp=Z,744nm,1.1s
059Z **Ave Maria** 18.75 4 P Pn 03 50 06.4 +0.8
baz=184
OBIP **Obispado Ponce** 18.94 55 eP Pn 03 50 07.9 -0.1
comp=Z,204nm,1.2s
EMPR **Esperanza - Ma** 19.23 54 eP Pn 03 50 13.2 +1.8
comp=Z,458nm,0.4s
SJG **San Juan** 19.34 55 eP Pn 03 50 13.6 +0.8
SJG **San Juan** 19.34 55 P P 03 50 12.3 +0.5
comp=Z,3.7nm,0.3s,baz=261,slow=8.1,SNR=22
059A **Moore Haven** 19.40 5 eP Pn 03 50 13.6 +0.2
comp=Z,102nm,0.9s
059A **Moore Haven** 19.40 5 P Pn 03 50 13.4 0.0
baz=185
058A **Arcadia** 19.45 3 P Pn 03 50 13.9 0.0
baz=183
060A **Indiantown** 19.54 7 eP Pn 03 50 21.0 +5.9
comp=Z,234nm,1.0s
060A **Indiantown** 19.54 7 P Pn 03 50 15.2 +0.1
baz=187
HUMP **Col San Antoni** 19.61 56 eP Pn 03 50 15.6 -0.3
comp=Z,120nm,1.0s
CBYP **Canovanas** 19.66 55 eP Pn 03 50 16.5 -0.3
comp=Z,269nm,1.2s
MTP **Monte Pirata** 19.83 56 eP Pn 03 50 18.2 -0.4
comp=Z,212nm,1.0s
959A **Okeechobee** 19.97 5 P Pn 03 50 19.6 -0.7
baz=185
958A **Wauchula** 19.97 3 P P 03 50 19.4 +0.8
baz=183
957A **Wimauma** 20.04 2 P Pn 03 50 20.5 -0.6
baz=181
CUPR **Culebra, Puert** 20.15 56 eP P 03 50 21.2 +0.6
comp=Z,548nm,1.5s
NNA **Nana** 20.28 163 ceP Pn 03 50 23.1 -0.9
NNA **Nana** 20.28 163 P P 03 50 21.3 -0.7
comp=Z,11nm,0.7s,baz=320,slow=9.5,SNR=5.8
NNA LR LR 03 57 46.5
comp=Z,885nm,19.0s,baz=316,slow=36
CDVI **St. Croix** 20.32 58 eP Pn 03 50 23.6 -0.8
comp=Z,234nm,1.0s
STVI **Saint Thomas** 20.45 57 eP P 03 50 24.4 +0.6
comp=Z,150nm,1.0s
859A **Kempfer Cattle** 20.50 5 P P 03 50 25.0 +0.7
baz=185
DWPF **Disney Wildern** 20.51 4 eP Pn 03 50 29.1 +2.5
comp=Z,153nm,0.8s
DWPF **Disney Wildern** 20.51 4 P Pn 03 50 26.3 -0.3
baz=184
DWPF **Disney Wildern** 20.51 4 eP Pn 03 50 27.9 +1.3
858A **St. Cloud** 20.62 4 P P 03 50 26.6 +1.1
baz=184,SNR=5.1
857A **Zephyrhills** 20.64 1 P P 03 50 26.4 +0.6
baz=181
757A **Oxford** 21.31 2 P P 03 50 33.6 +0.6
baz=182,SNR=8.7
GRGR **Grenville** 21.35 76 eP P 03 50 34.9 +1.3
comp=Z,265nm,1.1s
758A **Lake Helen** 21.38 4 P P 03 50 33.8 +0.1
baz=184,SNR=6.3
MOIG **Morelia** 21.52 306 eP P 03 50 39.5 +3.9
comp=Z,67nm,1.0s
656A **Willston** 21.73 1 eP P 03 50 38.1 +0.7
comp=Z,146nm,1.1s
656A **Willston** 21.73 1 P P 03 50 38.2 +0.7
baz=180
658A **Bunnell** 21.83 4 eP P 03 50 40.6 +2.0
comp=Z,204nm,1.2s
658A **Bunnell** 21.83 4 P P 03 50 39.1 +0.6
baz=184
655A **Horseshoe Beac** 21.87 359 P P 03 50 40.1 +1.1
baz=178
SMRT **St. Maarten** 21.89 60 eP P 03 50 41.2 +1.8
comp=Z,105nm,1.1s
657A **Interlachen** 21.96 2 P P 03 50 40.0 0.0
baz=182,SNR=15
SVB **Belmont** 21.96 73 eP P 03 50 40.1 -0.1
comp=Z,128nm,0.9s
556A **Lake Butler** 22.36 1 P P 03 50 44.2 -0.1
baz=181,SNR=7.1
557A **Orange Park** 22.39 2 P P 03 50 44.7 +0.1
baz=182,SNR=12
554A **Perry** 22.45 358 P P 03 50 45.2 -0.1
baz=177
555A **McAlpin** 22.48 360 eP P 03 50 46.6 +1.1
comp=Z,482nm,1.9s
555A **McAlpin** 22.48 360 P P 03 50 45.9 +0.4
baz=179
553A **Crawfordville** 22.59 356 P P 03 50 47.8 +1.1
baz=176
552A **Lynn Haven** 22.61 354 P P 03 50 47.4 +0.5
baz=173
457A **Yulee** 23.00 3 P P 03 50 51.8 +0.7
baz=183
454A **Quitman** 23.08 358 P P 03 50 52.3 +0.4
baz=178,SNR=6.3
456A **Hilliard** 23.09 2 eP P 03 50 53.2 +1.2
comp=Z,136nm,1.0s
456A **Hilliard** 23.09 2 P P 03 50 52.6 +0.6
baz=182,SNR=6.7
455A **Stateville** 23.09 360 P P 03 50 52.6 +0.5
baz=179
451A **Vernon** 23.13 354 eP P 03 50 52.4 0.0
comp=Z,214nm,1.2s
451A **Vernon** 23.13 354 P P 03 50 52.8 +0.5
baz=172
453A **Whigham** 23.25 357 eP P 03 50 54.6 +1.1
comp=Z,185nm,1.3s
453A **Whigham** 23.25 357 P P 03 50 54.7 +1.1
baz=176
452A **Marianna** 23.31 355 P P 03 50 55.1 +1.0
baz=174
450A **Crestview** 23.42 352 P P 03 50 56.9 +1.6
baz=170
449A **Pace** 23.48 350 P P 03 50 57.3 +1.5
baz=169
LNIG **Linares** 23.48 319 eP P 03 50 57.1 +1.1
comp=Z,41nm,1.0s
356A **Blackshear** 23.68 1 P P 03 50 58.3 +0.5
baz=181
355A **Pearson** 23.69 360 P P 03 50 58.4 +0.5
baz=180,SNR=5.4
353A **Camilla** 23.73 357 P P 03 50 59.0 +0.7
baz=176,SNR=7.1
448A **Bay Minette** 23.75 349 P P 03 50 59.1 +0.6
baz=167
351A **Pinckard** 23.77 354 P P 03 50 59.1 +0.4
baz=173,SNR=12
TIGA **Tifton** 23.80 358 eP P 03 50 58.2 -0.8
comp=Z,155nm,1.3s
TIGA **Tifton** 23.80 358 P P 03 50 59.3 +0.3
baz=178,SNR=9.1
357A **Townsend** 23.81 3 P P 03 50 59.8 +0.7
baz=183
BRAL **Brewton** 23.85 351 P P 03 50 59.9 +0.4
baz=169
352A **Blakely** 23.91 356 eP P 03 51 01.3 +1.3
comp=Z,416nm,1.8s
352A **Blakely** 23.91 356 P P 03 50 59.6 -0.4
baz=175,SNR=6.8
350A **Dozier** 24.00 353 P P 03 51 00.4 -0.4
baz=171,SNR=8.0
349A **Repton** 24.05 351 P P 03 51 01.7 +0.3
baz=169,SNR=8.0
PTGA **Pitinga** 24.23 109 eP P 03 51 02.5 -0.7
comp=Z,40nm,1.0s
PTGA **Pitinga** 24.23 109 P P 03 51 03.2 -0.1
comp=Z,19nm,0.7s,baz=295,slow=12,SNR=30
PTGA LR LR 04 00 37.2
comp=Z,685nm,19.6s,baz=298,slow=37
PTGA **Pitinga** 24.23 109 eP P 03 51 02.7 -0.6
255A **Hazlehurst** 24.28 1 eP P 03 51 03.9 +0.4
comp=Z,334nm,1.8s
255A **Hazlehurst** 24.28 1 P P 03 51 03.3 -0.1
baz=180
ZAIG **Zacatecas** 24.30 311 eP P 03 51 07.5 +3.4
comp=Z,80nm,1.9s
254A **Abbeville** 24.30 359 P P 03 51 04.2 +0.5
baz=179,SNR=15
256A **Glennville** 24.34 2 P P 03 51 04.6 +0.5
baz=182,SNR=10
257A **Skidaway Islan** 24.38 4 P P 03 51 04.3 0.0
baz=184
252A **Lumpkin** 24.41 356 P P 03 51 05.1 +0.4
baz=175,SNR=9.1
253A **Americus** 24.44 357 eP P 03 51 05.7 +0.7
comp=Z,479nm,1.6s
253A **Americus** 24.44 357 P P 03 51 04.5 -0.5
baz=177,SNR=8.3
250A **Grady** 24.54 353 eP P 03 51 05.9 +0.1
comp=Z,67nm,1.0s
250A **Grady** 24.54 353 P P 03 51 06.4 +0.6
baz=172,SNR=7.4
251A **Midway** 24.56 355 P P 03 51 06.4 +0.3
baz=174,SNR=8.3
249A **Camden** 24.65 351 P P 03 51 07.9 +1.0
baz=170,SNR=21
154A **Montrose** 24.96 359 eP P 03 51 11.0 +1.4
comp=Z,284nm,0.9s
154A **Montrose** 24.96 359 P P 03 51 10.0 +0.4
baz=179,SNR=23
155A **Kite** 24.97 1 P P 03 51 10.2 +0.5
baz=180,SNR=33
151A **Opelika** 24.98 355 P P 03 51 10.5 +0.6
baz=174,SNR=15
153A **Fort Valley** 25.01 358 P P 03 51 10.4 +0.3
baz=177,SNR=15
156A **Sylvania** 25.03 3 P P 03 51 10.9 +0.6
baz=183,SNR=14
152A **Waverly Hall** 25.08 356 eP P 03 51 11.2 +0.5
comp=Z,126nm,1.1s
152A **Waverly Hall** 25.08 356 P P 03 51 10.9 +0.1
baz=175,SNR=38
157A **Early Branch** 25.08 4 P P 03 51 11.3 +0.6
baz=184,SNR=8.9
150A **Eclectic** 25.13 354 P P 03 51 11.7 +0.5
baz=172,SNR=30
158A **Hollywood** 25.20 5 P P 03 51 11.5 -0.3
baz=186
149A **Jones** 25.22 352 P P 03 51 11.9 -0.1
baz=170,SNR=10
RGRS **Roger Stewart** 25.37 5 eP P 03 51 14.7 +1.4
comp=Z,877nm,0.7s
HKT **Hockley** 25.43 333 eP P 03 51 12.7 -1.2
comp=Z,18nm,1.3s
HKT **Hockley** 25.43 333 eP P 03 51 12.7 -1.2
HKT pmax pmax
comp=Z,18nm,1.3s
147A **Livingston** 25.53 349 eP P 03 51 15.4 +0.7
comp=Z,100nm,1.0s
147A **Livingston** 25.53 349 P P 03 51 15.1 +0.3
baz=167
NHSC **New Hope** 25.57 5 eP P 03 51 16.4 +1.3
comp=Z,264nm,1.0s
NHSC **New Hope** 25.57 5 P P 03 51 15.5 +0.4
baz=186,SNR=5.5
Z55A **Blythe** 25.57 1 P P 03 51 15.6 +0.4
baz=181,SNR=6.0
Z52A **Williamson** 25.58 357 P P 03 51 15.3 0.0
baz=176,SNR=28
Z54A **Sparta** 25.58 360 P P 03 51 15.4 +0.2
baz=180,SNR=25
VBMS **Vicksburg** 25.59 345 eP P 03 51 16.9 +1.6
comp=Z,95nm,1.3s
VBMS **Vicksburg** 25.59 345 P P 03 51 14.7 -0.6
baz=162
Z53A **Monticello** 25.63 359 P P 03 51 15.9 +0.2
baz=178,SNR=21
LRAL **Lakeview Retre** 25.67 352 eP P 03 51 17.1 +1.0
comp=Z,106nm,1.4s
LRAL **Lakeview Retre** 25.67 352 P P 03 51 16.8 +0.6
baz=170,SNR=20
Z56A **Williston** 25.70 3 P P 03 51 17.0 +0.6
baz=183,SNR=7.5
Z57A **Bowman** 25.72 4 P P 03 51 17.1 +0.6
baz=184,SNR=6.0
Z51A **Franklin** 25.75 355 P P 03 51 16.7 -0.2
baz=174
Z50A **Ashland** 25.76 354 eP P 03 51 17.6 +0.6
comp=Z,90nm,1.3s
Z50A **Ashland** 25.76 354 P P 03 51 17.4 +0.5
baz=173,SNR=16
GOGA **Godfrey** 25.76 359 eP P 03 51 17.8 +0.9
comp=Z,88nm,0.9s
GOGA **Godfrey** 25.76 359 eP P 03 51 17.8 +0.9
GOGA pmax pmax
comp=Z,88nm,0.9s
GOGA **Godfrey** 25.76 359 P P 03 51 17.1 +0.2
baz=178,SNR=24
Z49A **Columbiana** 25.77 353 P P 03 51 17.5 +0.5
baz=171,SNR=18
Z59A **Georgetown, SC** 25.80 7 P P 03 51 18.1 +0.9
baz=188
145A **Houston Renfro** 25.81 346 P P 03 51 16.8 -0.5
baz=163
Z58A **St. Stephen** 25.83 6 P P 03 51 18.3 +0.8
baz=186,SNR=6.9
833A **Chaparral WMA,** 25.94 325 eP P 03 51 20.5 +1.9
comp=Z,34nm,0.8s
833A **Chaparral WMA,** 25.94 325 P P 03 51 18.7 +0.1
baz=140,SNR=9.1
Y56A **Pelion** 26.17 3 P P 03 51 20.3 -0.3
baz=183,SNR=12
Y54A **Tignall** 26.20 0 P P 03 51 21.0 +0.1
baz=180,SNR=22
Y53A **Monroe** 26.21 359 P P 03 51 20.9 -0.1
baz=178,SNR=19
Y52A **Lilburn** 26.23 358 eP P 03 51 22.1 +0.9
comp=Z,97nm,0.8s
Y52A **Lilburn** 26.23 358 P P 03 51 20.7 -0.5
baz=177,SNR=38
Y55A **Saluda** 26.30 2 P P 03 51 21.6 -0.2
baz=182,SNR=17
Y51A **Rockmart** 26.32 356 P P 03 51 22.1 0.0
baz=175,SNR=12
Y50A **Piedmont** 26.37 355 P P 03 51 22.6 +0.2
baz=173,SNR=12
Y49A **Blount Mountai** 26.41 353 eP P 03 51 22.9 +0.1
comp=Z,26nm,1.1s
Y49A **Blount Mountai** 26.41 353 P P 03 51 22.5 -0.3
baz=172
Y58A **Scranton** 26.41 6 P P 03 51 22.5 -0.3
baz=187
Y57A **Sumter** 26.45 5 P P 03 51 23.3 +0.2
baz=185
NATX **Nacogdoches** 26.52 337 eP P 03 51 24.1 +0.3
comp=Z,18nm,0.8s
NATX **Nacogdoches** 26.52 337 P P 03 51 24.3 +0.5
baz=153
Y48A **Jasper** 26.56 352 P P 03 51 25.9 +1.8
baz=170,SNR=11
HODGE **Hodges** 26.58 1 eP P 03 51 25.2 +0.9
comp=Z,100nm,1.1s
JSC **Jenkinsville** 26.66 3 eP P 03 51 26.2 +1.1
comp=Z,66nm,1.1s
JSC **Jenkinsville** 26.66 3 eP P 03 51 26.2 +1.1
JSC pmax pmax
comp=Z,66nm,1.1s
X55A **Gracelyn & Ava** 26.83 2 P P 03 51 27.6 +1.0
baz=182,SNR=16
X53A **Estanollee** 26.85 359 P P 03 51 26.9 +0.2
baz=179
X56A **White Oak** 26.89 3 P P 03 51 27.6 +0.5
baz=184,SNR=12
X54A **Belton** 26.89 1 P P 03 51 27.3 +0.2
baz=181,SNR=10
X57A **Johnson Farm,** 26.92 5 P P 03 51 27.7 +0.3
baz=186
X50B **Fort Payne** 26.93 355 P P 03 51 27.8 +0.3
baz=174
435B **Jarrell** 26.95 331 eP P 03 51 28.0 +0.3
comp=Z,26nm,0.8s
435B **Jarrell** 26.95 331 P P 03 51 27.5 -0.2
baz=146
X52A **Dahlonega** 26.96 358 P P 03 51 28.0 +0.1
baz=177,SNR=9.0
X51A **Calhoun** 26.97 356 eP P 03 51 27.8 -0.1
comp=Z,26nm,1.0s
X51A **Calhoun** 26.97 356 P P 03 51 28.2 +0.3
baz=175
X49A **Woodville** 27.05 354 P P 03 51 28.4 -0.1
baz=172,SNR=7.1
X48A **Hartselle** 27.07 352 eP P 03 51 28.9 +0.2
comp=Z,19nm,1.1s
X48A **Hartselle** 27.07 352 P P 03 51 28.4 -0.4
baz=170,SNR=6.2
X58A **Rowland** 27.09 6 P P 03 51 29.0 +0.2
baz=187
PAULI **Pauline** 27.18 2 eP P 03 51 30.8 +1.1
comp=Z,79nm,1.3s
X59A **McDuffie Farm,** 27.19 8 P P 03 51 29.5 -0.3
baz=189
Z41A **Richland Creek** 27.22 341 eP P 03 51 30.2 +0.1
comp=Z,45nm,1.0s
Z41A **Richland Creek** 27.22 341 P P 03 51 29.1 -1.0
baz=158,SNR=5.1
X47A **Russelville** 27.26 351 P P 03 51 30.2 -0.3
baz=169,SNR=10.0
X60A **Albert Glenn T** 27.29 9 P P 03 51 30.6 -0.1
baz=190
BG3 **Lake Jocassee** 27.33 360 eP P 03 51 32.4 +1.2
comp=Z,66nm,1.0s
X46A **Booneville** 27.42 350 P P 03 51 31.8 0.0
baz=167
W54A **Cherokee Point** 27.43 1 P P 03 51 32.5 +0.5
baz=181,SNR=8.6
W52A **Murphy** 27.45 358 eP P 03 51 33.1 +0.9
comp=Z,108nm,1.7s
W52A **Murphy** 27.45 358 P P 03 51 32.7 +0.5
baz=177,SNR=7.1
W53A **Cullowhee** 27.51 359 P P 03 51 33.2 +0.4
baz=179,SNR=13
KMSC **Kings Mountain** 27.52 3 eP P 03 51 33.7 +0.9
comp=Z,42nm,0.9s
KMSC **Kings Mountain** 27.52 3 P P 03 51 33.1 +0.4
baz=183,SNR=9.6
CCAR **Cane Creek** 27.53 344 eP P 03 51 33.7 +0.8
comp=Z,105nm,1.5s
OXF **Oxford** 27.53 348 eP P 03 51 34.1 +1.2
comp=Z,50nm,1.1s
OXF **Oxford** 27.53 348 eP P 03 51 34.1 +1.2
OXF pmax pmax
comp=Z,50nm,1.1s
OXF **Oxford** 27.53 348 P P 03 51 31.9 -0.9
baz=166,SNR=6.1
W56A **Indian Trail** 27.55 4 P P 03 51 32.8 -0.3
baz=184,SNR=11
W51A **Cleveland** 27.56 357 P P 03 51 33.2 +0.1
baz=176,SNR=6.3
W57A **Gilead** 27.62 5 P P 03 51 33.8 +0.2
baz=186,SNR=9.2
W50A **Signal Mountai** 27.64 356 eP P 03 51 34.0 +0.2
comp=Z,25nm,0.9s
W50A **Signal Mountai** 27.64 356 P P 03 51 33.9 0.0
baz=174,SNR=7.9
W49A **Belvidere** 27.64 354 P P 03 51 33.8 0.0
baz=172
SWET **Sewanee** 27.70 355 eP P 03 51 34.7 +0.2
comp=Z,23nm,0.9s
WLAR **White Oak Lake** 27.72 341 eP P 03 51 35.0 +0.5
comp=Z,70nm,1.5s
W48A **Pulaski** 27.74 353 P P 03 51 34.7 0.0
baz=171,SNR=11
PLAL **Pickwick Lake** 27.75 351 eP P 03 51 35.1 +0.3
comp=Z,20nm,1.2s
LPAZ **La Paz** 27.77 148 eP P 03 51 36.0 +0.1
comp=Z,7.3nm,0.9s
LPAZ **La Paz** 27.77 148 eP P 03 51 36.0 +0.1
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ **La Paz** 27.77 148 P P 03 51 34.9 -1.1
comp=Z,3.9nm,0.8s,baz=341,slow=8.8,SNR=14
LPAZ LR LR 04 03 11.1
comp=Z,233nm,19.5s,baz=309,slow=38
LPAZ **La Paz** 27.77 148 eP P 03 51 35.1 -0.8
W59A **Clinton** 27.80 8 P P 03 51 35.8 +0.5
baz=189
JCT **Junction City** 27.83 327 eP P 03 51 36.3 +0.6
comp=Z,29nm,1.4s
JCT **Junction City** 27.83 327 eP P 03 51 36.3 +0.6
JCT pmax pmax
comp=Z,29nm,1.4s
JCT **Junction City** 27.83 327 P P 03 51 34.3 -1.4
baz=142
X43A **Marvell** 27.87 346 eP P 03 51 38.4 +2.5
comp=Z,33nm,1.0s
X43A **Marvell** 27.87 346 P P 03 51 35.2 -0.7
baz=162
WHTX **Lake Whitney,** 27.90 333 eP P 03 51 35.8 -0.4
comp=Z,15nm,0.9s
WHTX **Lake Whitney,** 27.90 333 P P 03 51 35.5 -0.7
baz=148,SNR=6.2
W47A **Westpoint** 27.94 352 P P 03 51 36.1 -0.4
baz=170,SNR=15
W46A **Michie** 27.94 350 P P 03 51 34.8 -1.7
baz=168
CNNC **Cliffs of the** 27.95 9 P P 03 51 34.6 -2.0
baz=190
V53A **Saluda** 28.01 0 eP P 03 51 38.2 +1.0
comp=Z,22nm,1.0s
V53A **Saluda** 28.01 0 P P 03 51 37.6 +0.4
baz=180,SNR=6.7
TKL **Tuckaleechee C** 28.01 358 eP P 03 51 37.3 +0.1
comp=Z,47nm,1.2s
TKL **Tuckaleechee C** 28.01 358 P P 03 51 35.2 -1.9
comp=Z,42nm,1.3s,baz=168,slow=9.5,SNR=9.2
V50A **Pikeville** 28.09 356 P P 03 51 38.1 +0.2
baz=175,SNR=5.0
V54A **Nebo** 28.13 2 P P 03 51 38.5 +0.3
baz=182,SNR=7.1
V51A **Loudon** 28.18 357 eP P 03 51 39.5 +0.9
comp=Z,50nm,1.2s
V51A **Loudon** 28.18 357 P P 03 51 38.9 +0.2
baz=176,SNR=6.6
V52A **Sevierville** 28.19 359 eP P 03 51 39.4 +0.6
comp=Z,38nm,1.1s
V52A **Sevierville** 28.19 359 P P 03 51 39.2 +0.4
baz=178,SNR=7.0
V55A **Taylorsville** 28.23 3 P P 03 51 39.4 +0.3
baz=183
V49A **McMinnville** 28.25 355 P P 03 51 39.1 -0.1
baz=173,SNR=7.7
V48A **Smith Brothers** 28.32 353 eP P 03 51 39.9 0.0
comp=Z,34nm,0.8s
V48A **Smith Brothers** 28.32 353 P P 03 51 39.5 -0.4
baz=171,SNR=20
X40A **Basin Creek Fa** 28.37 342 eP P 03 51 40.0 -0.3
comp=Z,45nm,1.8s
X40A **Basin Creek Fa** 28.37 342 P P 03 51 39.8 -0.6
baz=159
V47A **Nunnelly** 28.49 352 P P 03 51 40.9 -0.6
baz=170,SNR=13
UALR **University of** 28.50 343 eP P 03 51 41.2 -0.3
comp=Z,25nm,0.8s
V46A **Holladay** 28.55 351 P P 03 51 40.6 -1.4
baz=169,SNR=11
V45A **Humboldt** 28.64 350 P P 03 51 41.4 -1.4
baz=167
MIAR **Mount Ida** 28.65 341 eP P 03 51 42.5 -0.4
comp=Z,20nm,1.1s
MIAR **Mount Ida** 28.65 341 eP P 03 51 42.5 -0.4
MIAR pmax pmax
comp=Z,20nm,1.1s
MIAR **Mount Ida** 28.65 341 P P 03 51 41.9 -1.0
baz=157,SNR=9.7
U53A **Fall Branch** 28.70 0 P P 03 51 43.1 -0.3
baz=180,SNR=16
U52A **Thorn Hill** 28.73 359 P P 03 51 43.6 -0.1
baz=179,SNR=8.9
U51A **La Follette** 28.74 358 P P 03 51 43.4 -0.3
baz=177
HBAR **Harrisburg** 28.80 347 eP P 03 51 46.5 +2.3
comp=Z,78nm,0.3s
U50A **Jamestown** 28.81 357 P P 03 51 44.2 -0.1
baz=176,SNR=7.1
WVT **Waverly** 28.83 352 eP P 03 51 43.9 -0.6
comp=Z,21nm,0.8s
WVT **Waverly** 28.83 352 eP P 03 51 43.9 -0.6
WVT pmax pmax
comp=Z,21nm,0.8s
WVT **Waverly** 28.83 352 P P 03 51 43.6 -0.9
baz=169
W41B **Gary Mavity, V** 28.84 344 eP P 03 51 44.3 -0.3
comp=Z,28nm,1.0s
W41B **Gary Mavity, V** 28.84 344 P P 03 51 43.2 -1.4
baz=160
U54A **Nelsons Funny** 28.87 2 P P 03 51 45.5 +0.6
baz=182,SNR=10.0
U55A **TA2, Sparta** 28.89 3 P P 03 51 45.3 +0.2
baz=183,SNR=11
TZTN **Tazewell** 28.89 359 eP P 03 51 45.8 +0.8
comp=Z,55nm,1.1s
TZTN **Tazewell** 28.89 359 P P 03 51 44.6 -0.4
baz=178,SNR=8.7
WHAR **Wooly Hollow** 28.96 344 eP P 03 51 45.3 -0.3
comp=Z,26nm,0.8s
U49A **Red Boiling Sp** 28.98 355 P P 03 51 45.6 -0.1
baz=174,SNR=10
HPIG 29.03 314 eP P 03 51 50.1 +3.5
comp=Z,45nm,1.9s
U48A **Cassie Pea, Po** 29.05 354 P P 03 51 45.4 -1.0
baz=172,SNR=7.5

GNAR Gosnell 29.06 348 eP P 03 51 48.2 +1.8
comp=Z,62nm,1.1s
U46A Springville 29.11 351 P P 03 51 46.2 -0.8
baz=169,SNR=13
U45A Rockin P Farm, 29.19 350 P P 03 51 47.8 +0.1
baz=168
UTMT University of 29.21 350 eP P 03 51 49.0 +1.3
comp=Z,94nm,0.9s
UTMT ePcP PcP 03 54 55.5 +0.5
GLAT Glass 29.21 349 eP P 03 51 49.2 +1.4
comp=Z,46nm,0.9s
TX31 Lajitas Ar. Si 29.25 321 eP P 03 51 50.1 +1.7
TXAR Lajitas Array 29.25 321 P P 03 51 48.9 +0.6
comp=Z,3.1nm,0.9s,baz=135,slow=10,SNR=28
X37A Clayton 29.31 339 eP P 03 51 48.6 -0.1
comp=Z,33nm,1.7s
T51A Gray 29.32 358 P P 03 51 48.0 -0.8
baz=178
W39A Magazine 29.32 341 eP P 03 51 48.6 -0.2
comp=Z,24nm,1.1s
W39A Magazine 29.32 341 P P 03 51 48.3 -0.5
baz=157,SNR=8.4
T53A Wise 29.32 0 P P 03 51 48.9 0.0
baz=180,SNR=5.7
T50A Nancy 29.41 357 P P 03 51 49.3 -0.3
baz=176,SNR=5.8
T54A Tazewell 29.42 2 P P 03 51 50.0 +0.2
baz=182,SNR=13
ABTX Abilene, Hawle 29.46 330 P P 03 51 50.0 -0.2
baz=144
T55A Pulaski 29.51 3 P P 03 51 51.4 +0.8
baz=184,SNR=11
U44A Portageville 29.51 349 P P 03 51 50.4 -0.1
baz=166
MNMC Minye Minye 29.53 154 eP P 03 51 51.7 +0.6
comp=Z,35nm,0.9s
U43A Rector 29.53 348 P P 03 51 50.1 -0.6
baz=164,SNR=6.3
T49A Edmonton 29.54 356 eP P 03 51 50.8 0.0
comp=Z,108nm,1.9s
T49A Edmonton 29.54 356 P P 03 51 50.7 -0.1
baz=174,SNR=6.7
T47A Sharon Grove 29.58 353 eP P 03 51 50.5 -0.7
comp=Z,36nm,1.1s
T47A Sharon Grove 29.58 353 P P 03 51 50.2 -0.9
baz=171,SNR=11
T48A Bowling Green 29.62 354 P P 03 51 50.9 -0.5
baz=173,SNR=11
BLA Blacksburg 29.63 4 eP P 03 51 52.3 +0.7
comp=Z,54nm,0.8s
BLA Blacksburg 29.63 4 eP P 03 51 52.3 +0.7
BLA pmax pmax
comp=Z,54nm,0.8s
BLA Blacksburg 29.63 4 P P 03 51 51.3 -0.3
baz=184,SNR=9.7
PARMO Parma 29.68 349 eP P 03 51 53.7 +1.7
comp=Z,63nm,1.0s
T46A Princeton 29.74 352 P P 03 51 51.5 -1.0
baz=170,SNR=18
T45A Paducah 29.83 351 P P 03 51 52.4 -0.9
baz=168
U41A Viola 29.86 345 P P 03 51 52.5 -1.2
baz=162,SNR=7.9
PBMO Poplar Bluff 29.93 348 eP P 03 51 55.4 +1.2
comp=Z,14nm,0.8s
S53A Williamson 30.02 1 P P 03 51 54.7 -0.4
baz=181
S50A Richmond 30.05 358 P P 03 51 54.8 -0.4
baz=177,SNR=8.1
PB11 IPOC Station P 30.06 155 eP P 03 51 56.0 +0.4
comp=Z,27nm,0.7s
T44A Benton 30.06 349 P P 03 51 54.6 -0.8
baz=166
U40A Yellville 30.12 344 P P 03 51 55.0 -1.0
baz=160,SNR=14
S48A Wiedeman Farm, 30.14 355 P P 03 51 55.2 -0.8
baz=173,SNR=8.8
S47A Hartford 30.16 354 P P 03 51 55.4 -0.8
baz=172,SNR=11
S55A Lewisburg 30.18 4 P P 03 51 57.1 +0.6
baz=184,SNR=10
T43A Greenville 30.19 348 P P 03 51 55.9 -0.7
baz=165,SNR=6.9
S49A Springfield 30.20 356 P P 03 51 56.3 -0.3
baz=175,SNR=14
T42A Van Buren 30.32 347 eP P 03 51 56.5 -1.1
comp=Z,32nm,0.8s
T42A Van Buren 30.32 347 P P 03 51 57.1 -0.6
baz=163
S46A Don Dixon Farm 30.35 352 P P 03 51 57.2 -0.6
baz=170
HHAR Hobbs 30.37 342 eP P 03 51 57.5 -0.7
comp=Z,13nm,1.2s
S45A Carrier Mills 30.46 351 P P 03 51 58.4 -0.5
baz=168
T41A Mountain View 30.49 346 P P 03 51 58.3 -0.8
baz=162,SNR=12
R54A Victor 30.56 3 P P 03 52 00.1 +0.3
baz=183,SNR=10
S44A Carbondale 30.59 350 P P 03 51 58.8 -1.2
baz=167,SNR=6.9
SIUC Southern Illin 30.61 350 eP P 03 52 01.2 +1.0
comp=Z,57nm,1.3s
USIN University of 30.62 352 eP P 03 52 00.5 +0.2
comp=Z,51nm,0.8s
S43A Fulton Ridge, 30.62 349 P P 03 51 59.3 -1.0
baz=166,SNR=11
R58B Mineral 30.63 8 eP P 03 52 01.2 +0.9
comp=Z,34nm,1.4s
R58B Mineral 30.63 8 P P 03 51 59.8 -0.6
baz=189
R51A Hillsboro 30.64 359 P P 03 52 00.5 0.0
baz=178,SNR=21
TUL1 Leonard 30.64 339 eP P 03 51 59.4 -1.2
comp=Z,12nm,0.8s
TUL1 Leonard 30.64 339 P P 03 51 59.3 -1.2
baz=154
R50A Paris 30.65 358 P P 03 52 00.2 -0.3
baz=177,SNR=9.7
R52A Catlettsburg 30.67 0 P P 03 52 00.5 -0.2
baz=180
R53A Hurricane 30.68 1 P P 03 52 00.9 +0.1
baz=181,SNR=10
R49A Shelbyville 30.70 356 P P 03 52 00.3 -0.7
baz=175,SNR=12
R55A Marlinton 30.71 4 P P 03 52 01.3 +0.1
baz=185,SNR=7.6
WCI Wyandotte Cave 30.72 355 eP P 03 52 01.1 -0.1
comp=Z,33nm,0.8s
WCI Wyandotte Cave 30.72 355 eP P 03 52 01.1 -0.1
WCI pmax pmax
comp=Z,33nm,0.8s
WCI Wyandotte Cave 30.72 355 P P 03 52 00.4 -0.8
baz=173
WMOK Wichita Mounta 30.80 334 eP P 03 52 01.1 -0.9
comp=Z,6.4nm,0.9s
WMOK Wichita Mounta 30.80 334 eP P 03 52 01.1 -0.9
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK Wichita Mounta 30.80 334 P P 03 52 00.6 -1.4
baz=148,SNR=6.4
R47A Wooly Knot Far 30.81 354 P P 03 52 00.3 -1.7
baz=173,SNR=8.8
R46A Gibon Southern 30.84 353 P P 03 52 01.1 -1.1
baz=171,SNR=6.5
R48A Northridge Ran 30.86 355 P P 03 52 01.9 -0.5
baz=174
CBN Corbin Frederi 30.93 8 P P 03 52 02.0 -1.0
baz=190
S42A Caledonia 30.96 348 P P 03 51 01.8 -1.5
baz=164,SNR=6.7
S41A Jillco Farms, 31.00 346 P P 03 52 02.2 -1.5
baz=162,SNR=8.9
R45A Skylar, Fairfi 31.02 352 P P 03 52 03.0 -0.9
baz=169,SNR=12
FVM French Village 31.09 348 eP P 03 52 04.6 +0.1
comp=Z,26nm,1.0s
FVM French Village 31.09 348 eP P 03 52 04.6 +0.1
FVM pmax pmax
comp=Z,26nm,1.0s
R44A Waltonville 31.10 350 P P 03 52 03.7 -0.9
baz=168,SNR=6.3
Q50A Georgetown 31.19 358 P P 03 52 04.7 -0.7
baz=178
Q53A Leroy 31.21 2 P P 03 52 05.7 +0.1
baz=182,SNR=20
R43A Red Bud 31.28 349 P P 03 52 06.9 +0.8
baz=166,SNR=12

Q52A Bidwell 31.30 1 P P 03 52 06.2 -0.1
baz=181,SNR=22
CCM Cathedral Cave 31.33 347 eP P 03 52 05.9 -0.7
comp=Z,49nm,0.8s
CCM Cathedral Cave 31.33 347 eP P 03 52 05.9 -0.7
CCM pmax pmax
comp=Z,49nm,0.8s
CCM Cathedral Cave 31.33 347 P P 03 52 06.5 -0.1
baz=164
Q51A Peebles 31.36 359 eP P 03 52 07.1 +0.2
comp=Z,87nm,0.9s
Q51A Peebles 31.36 359 P P 03 52 06.5 -0.3
baz=179,SNR=19
Q54A Coxs Mills 31.37 3 P P 03 52 06.5 -0.3
baz=184,SNR=11
Q48A North Vernon 31.37 356 P P 03 52 06.2 -0.7
baz=174,SNR=6.3
Q49A Aurora 31.39 357 P P 03 52 06.7 -0.4
baz=176,SNR=8.7
Q55A Buckhannon 31.43 4 P P 03 52 08.4 +1.0
baz=185,SNR=27
OLIL Olney 31.43 352 eP P 03 52 07.0 -0.4
comp=Z,53nm,0.8s
Q47A Bedord North L 31.44 355 P P 03 52 06.6 -0.9
baz=173,SNR=15
R42A Luebbering 31.45 348 P P 03 52 07.8 +0.1
baz=164,SNR=12
R41A Rosebud 31.59 347 P P 03 52 07.9 -1.0
baz=164,SNR=18
Q45A Warren Harvey, 31.60 352 P P 03 52 08.2 -0.6
baz=170,SNR=21
Q46A CEJHS Indians, 31.62 353 P P 03 52 08.4 -0.7
baz=171
BLO Bloomington 31.68 355 eP P 03 52 09.0 -0.6
comp=Z,38nm,0.8s
BLO Bloomington 31.68 355 eP P 03 52 09.0 -0.6
BLO pmax pmax
comp=Z,38nm,0.8s
Q44A Meyer Farm, Va 31.73 351 eP P 03 52 09.6 -0.5
comp=Z,36nm,0.9s
Q44A Meyer Farm, Va 31.73 351 P P 03 52 09.2 -0.9
baz=168,SNR=7.7
SIV San Ignacio 31.78 137 P P 03 52 09.9 -0.9
comp=Z,9.8nm,0.8s,baz=321,slow=9.2,SNR=46
SIV LR LR 04 04 27.3
comp=Z,396nm,20.2s,baz=302,slow=36
P51A Williamsport 31.82 360 eP P 03 52 11.1 +0.3
comp=Z,38nm,0.7s
P51A Williamsport 31.82 360 P P 03 52 10.0 -0.8
baz=179
P53A Whipple 31.84 2 eP P 03 52 11.9 +0.8
comp=Z,98nm,0.8s
P53A Whipple 31.84 2 P P 03 52 11.4 +0.4
baz=182,SNR=22
P48A Milroy 31.88 356 P P 03 52 10.0 -1.3
baz=175,SNR=11
Q43A New Douglas 31.88 350 P P 03 52 11.1 -0.3
baz=167
P49A Miami Univ. Ec 31.91 357 P P 03 52 10.6 -1.1
baz=176,SNR=6.4
MNTX Cornudas Mount 31.95 322 eP P 03 52 13.2 +1.1
comp=Z,19nm,1.1s
MNTX Cornudas Mount 31.95 322 P P 03 52 12.8 +0.7
baz=134,SNR=24
P50A Jamestown 31.95 359 P P 03 52 11.6 -0.4
baz=178,SNR=8.8
P55A Reedsville 31.95 4 P P 03 52 12.5 +0.4
baz=185,SNR=9.3
P47A Martinsville 31.97 355 P P 03 52 11.3 -0.9
baz=173,SNR=8.6
P52A Corning 31.97 1 P P 03 52 11.5 -0.7
baz=181,SNR=6.3
P54A Burton 32.00 3 P P 03 52 10.8 -1.7
baz=184
Q42A Golden Eagle 32.01 349 P P 03 52 12.1 -0.4
baz=165,SNR=9.1
MCWV Mont Chateau 32.10 4 eP P 03 52 14.3 +1.0
comp=Z,34nm,1.2s
MCWV Mont Chateau 32.10 4 P P 03 52 13.7 +0.3
baz=185,SNR=7.6
MSTX Muleshoe 32.12 328 eP P 03 52 14.4 +0.7
comp=Z,16nm,1.2s
MSTX Muleshoe 32.12 328 P P 03 52 13.0 -0.8
baz=140,SNR=5.9
P45A Graceland, Par 32.16 353 eP P 03 52 13.0 -0.9
comp=Z,38nm,0.7s
P45A Graceland, Par 32.16 353 P P 03 52 13.0 -0.9
baz=171,SNR=11
P46A Rosedale 32.19 354 P P 03 52 13.1 -1.0
baz=172,SNR=6.1
Q41A Truxton 32.19 348 P P 03 52 13.2 -0.9
baz=164,SNR=12
SDMD Soldier's Deli 32.20 9 eP P 03 52 15.2 +1.1
comp=Z,13nm,0.9s
P44A Sand Creek, Wi 32.22 352 P P 03 52 13.2 -1.2
baz=169,SNR=5.5
AMTX Amarillo 32.28 330 P P 03 52 14.2 -0.9
baz=143
O52A Adamsville 32.46 1 eP P 03 52 16.9 +0.5
comp=Z,88nm,1.2s
O52A Adamsville 32.46 1 P P 03 52 16.4 -0.1
baz=182,SNR=9.5
O51A Pataskala 32.48 0 P P 03 52 16.2 -0.5
baz=180,SNR=14
O50A Cable 32.49 359 P P 03 52 16.4 -0.3
baz=178,SNR=14
P43A Skaggs, Pawnee 32.53 350 P P 03 52 16.7 -0.4
baz=167,SNR=11
O49A Covington 32.55 358 eP P 03 52 16.9 -0.4
comp=Z,132nm,1.5s
O49A Covington 32.55 358 P P 03 52 16.6 -0.7
baz=177,SNR=8.6
ACSO Alum Creek Sta 32.56 360 eP P 03 52 17.4 0.0
comp=Z,119nm,1.0s
ACSO Alum Creek Sta 32.56 360 P P 03 52 16.8 -0.5
baz=180,SNR=18
O54A Avella 32.59 3 P P 03 52 17.6 0.0
baz=184,SNR=14
O53A New Philadelph 32.61 2 P P 03 52 17.0 -0.8
baz=183,SNR=9.1
P42A Winchester 32.62 349 eP P 03 52 17.9 0.0
comp=Z,17nm,0.8s
P42A Winchester 32.62 349 P P 03 52 16.4 -1.6
baz=166,SNR=5.8
O48A Farmland 32.66 357 P P 03 52 17.2 -1.0
baz=176,SNR=8.9
O55A Ligonier 32.69 5 P P 03 52 17.6 -1.0
baz=185,SNR=7.2
Q47A Sheridan 32.70 355 P P 03 52 17.5 -1.1
baz=174
O56A Blue Knob Stat 32.82 6 eP P 03 52 20.5 +0.8
comp=Z,46nm,0.9s
O56A Blue Knob Stat 32.82 6 P P 03 52 19.4 -0.3
baz=188,SNR=8.6
MVL Millersville 32.85 9 eP P 03 52 21.3 +1.4
comp=Z,38nm,1.0s
P41A Barry, Barry 32.85 348 P P 03 52 19.0 -0.9
baz=165,SNR=6.9
O45A Potomac 32.87 353 P P 03 52 18.8 -1.3
baz=171
O44A Mansfield 32.88 352 P P 03 52 18.8 -1.3
baz=169,SNR=7.0
LVC Limon Verde 32.91 156 eP P 03 52 22.5 +1.5
LVC Limon Verde 32.91 156 eP P 03 52 22.5 +1.5
LVC Limon Verde 32.91 156 P P 03 52 20.1 -0.9
comp=Z,12nm,1.0s,baz=315,slow=8.7,SNR=8.2
LVC Limon Verde 32.91 156 eP P 03 52 21.7 +0.8
SFIN Lafayette 32.93 354 eP P 03 52 19.6 -1.0
comp=Z,22nm,0.7s
SFIN Lafayette 32.93 354 P P 03 52 19.4 -1.2
baz=172
PAGS Pennsylvania G 33.01 9 eP P 03 52 22.4 +1.1
comp=Z,42nm,0.9s
N50A Nevada 33.10 360 P P 03 52 21.2 -0.9
baz=179,SNR=9.6
O43A Sugar Creek Fa 33.13 351 P P 03 52 21.0 -1.3
baz=168,SNR=6.3
N52A McGinn's Farm, 33.16 2 P P 03 52 21.9 -0.7
baz=182
O42A Bath 33.17 350 P P 03 52 21.3 -1.3
baz=167
N53A Lisbon 33.18 3 P P 03 52 22.5 -0.4
baz=183,SNR=5.4
O41A Passleys Farm, 33.24 349 P P 03 52 21.8 -1.5
baz=165,SNR=13
N48A Decatur 33.25 357 P P 03 52 22.2 -1.1
baz=176,SNR=5.5
N51A Ashland 33.25 1 eP P 03 52 23.0 -0.4
comp=Z,84nm,0.8s
N51A Ashland 33.25 1 P P 03 52 22.5 -0.9
baz=181,SNR=8.0
SSPA Standing Stone 33.26 7 eP P 03 52 24.3 +0.9
comp=Z,45nm,1.0s
SSPA Standing Stone 33.26 7 P P 03 52 23.1 -0.4
baz=189
N49A Columbus Grove 33.27 358 eP P 03 52 22.4 -1.2
comp=Z,53nm,1.2s
N49A Columbus Grove 33.27 358 P P 03 52 22.9 -0.6
baz=177
N55A Marion Center 33.29 5 P P 03 52 23.6 -0.2
baz=187,SNR=8.3
N47A Urbana 33.31 356 P P 03 52 22.3 -1.6
baz=175
N54A Moraine State 33.39 4 eP P 03 52 25.1 +0.5
comp=Z,44nm,0.8s
N54A Moraine State 33.39 4 P P 03 52 23.0 -1.6
baz=185,SNR=7.0
HDIL Hopedale 33.39 351 eP P 03 52 23.7 -0.9
comp=Z,51nm,0.7s
HDIL Hopedale 33.39 351 P P 03 52 23.3 -1.3
baz=168,SNR=12
N46A Monticello 33.41 355 P P 03 52 22.4 -2.4
baz=173
N45A Kentland 33.44 354 P P 03 52 22.9 -2.1
baz=171
N44A Piper City 33.46 353 P P 03 52 23.8 -1.4
baz=170,SNR=5.8
LUPA Lehigh Univers 33.60 10 eP P 03 52 23.2 -3.2
comp=Z,3.6nm,1.0s
M51A Elyria 33.67 1 P P 03 52 25.1 -1.9
baz=181
M50A Fremont 33.73 360 P P 03 52 25.7 -1.9
baz=179
N43A Stutzman Famil 33.75 351 P P 03 52 26.1 -1.6
baz=168,SNR=7.6
N42A Yates City 33.78 350 P P 03 52 26.4 -1.6
baz=167,SNR=11
M47A Cromwell 33.78 356 P P 03 52 26.4 -1.6
baz=175,SNR=5.3
N41A Harden Midland 33.81 349 eP P 03 52 26.8 -1.5
comp=Z,75nm,1.0s
N41A Harden Midland 33.81 349 P P 03 52 26.7 -1.6
baz=165,SNR=9.0
M49A Liberty Center 33.82 358 P P 03 52 27.0 -1.3
baz=178
M53A WI Miller and 33.82 3 P P 03 52 27.7 -0.7
baz=184
N59A State Game Lan 33.84 10 eP P 03 52 29.8 +1.2
comp=Z,25nm,1.0s
N59A State Game Lan 33.84 10 P P 03 52 27.5 -1.0
baz=192
M48A Edgerton 33.86 357 P P 03 52 27.3 -1.3
baz=176
M46A Old House Fiel 33.88 355 P P 03 52 27.4 -1.4
baz=174
M52A Chesterland 33.90 2 P P 03 52 28.1 -0.9
baz=182
M45A Boilermakers S 33.95 354 P P 03 52 27.6 -1.8
baz=172
M54A Oil Creek Stat 33.95 4 P P 03 52 29.1 -0.4
baz=185
M55A Ridgway 33.99 5 P P 03 52 29.8 -0.1
baz=187,SNR=7.6
121A Cookes Peak, D 34.01 320 P P 03 52 32.8 +2.5
baz=132,SNR=15
PLIO Pelee Island, 34.08 0 P P 03 52 29.5 -1.1
baz=180
N40A Mertquake, Sal 34.12 348 P P 03 52 29.3 -1.7
baz=164
M43A Waltham Townsh 34.20 352 P P 03 52 29.9 -1.8
baz=169
319A Douglas 34.24 317 eP P 03 52 35.7 +3.4
comp=Z,43nm,1.0s
PAL Palisades 34.27 12 P P 03 52 31.7 -0.5
baz=196
L48A N Adams 34.30 358 P P 03 52 30.8 -1.7
baz=177
M42A Sheffield 34.34 351 P P 03 52 31.4 -1.5
baz=168
L53A Girard 34.36 3 P P 03 52 31.6 -1.4
baz=184
L47A Sherwood 34.37 357 P P 03 52 31.9 -1.2
baz=176
L50A Kingsville 34.37 0 P P 03 52 31.2 -1.9
baz=180
M41A Milan 34.40 350 P P 03 52 31.6 -1.7
baz=166,SNR=7.0
L49A Milan 34.45 359 P P 03 52 32.1 -1.7
baz=178
KSPA Keystone Colle 34.46 9 eP P 03 52 35.0 +1.1
comp=Z,42nm,0.9s
M40A Post Highland 34.61 348 P P 03 52 33.6 -1.6
baz=164,SNR=8.7
AAM Ann Arbor 34.64 359 P P 03 52 34.5 -0.9
baz=178
L55A Hinsdale 34.73 6 P P 03 52 36.0 -0.3
baz=187,SNR=9.1
M39A Webster 34.81 348 P P 03 52 35.4 -1.6
baz=163,SNR=13
L42A Oliver, Polo 34.87 351 eP P 03 52 36.0 -1.3
comp=Z,47nm,1.0s
L42A Oliver, Polo 34.87 351 P P 03 52 35.8 -1.6
baz=168,SNR=7.4
ANMO Albuquerque 34.87 325 eP P 03 52 39.5 +1.7
comp=Z,6.6nm,0.8s
ANMO Albuquerque 34.87 325 c iP P 03 52 39.5 +1.7
ANMO pmax pmax
comp=Z,19nm,1.7s
ANMO Albuquerque 34.87 325 P P 03 52 37.5 -0.3
baz=136
ANMO Albuquerque 34.87 325 P P 03 52 38.6 +0.7
comp=Z,6.7nm,0.8s,baz=147,slow=7.3,SNR=18
LAZ Ladron 34.88 323 eP P 03 52 40.2 +2.3
L43A Garden Prairie 34.91 352 P P 03 52 35.8 -1.9
baz=170
GO02 Mina Guanaco 34.96 159 eP P 03 52 39.9 +1.2
comp=Z,30nm,1.5s
K47A Vermontville 35.05 357 P P 03 52 37.1 -1.9
baz=176
BINY Binghamton 35.05 9 eP P 03 52 40.0 +0.9
comp=Z,44nm,1.1s
BINY Binghamton 35.05 9 P P 03 52 38.4 -0.7
baz=192
L41A Preston 35.07 350 P P 03 52 37.0 -2.1
baz=166,SNR=5.7
K51A Iona Station 35.07 2 P P 03 52 37.3 -1.8
baz=182
K46A Dorr 35.11 356 P P 03 52 37.0 -2.5
baz=175
K49A Clarkson 35.12 359 P P 03 52 38.3 -1.2
baz=179,SNR=6.4
K48A Perry 35.15 358 P P 03 52 38.5 -1.4
baz=178,SNR=5.3
K52A Tillsonburg 35.16 3 P P 03 52 38.9 -1.0
baz=183
L40A Anamosa 35.19 349 eP P 03 52 39.0 -1.1
comp=Z,49nm,0.9s
L40A Anamosa 35.19 349 P P 03 52 38.7 -1.5
baz=165,SNR=12
K55A Perry 35.31 6 P P 03 52 40.2 -1.0
baz=188
L39A Vinton 35.40 348 P P 03 52 41.0 -1.0
baz=164
T25A Trinidad 35.41 330 eP P 03 52 43.8 +1.3
comp=Z,15nm,1.1s
T25A Trinidad 35.41 330 P P 03 52 43.3 +0.8
baz=141,SNR=8.3
SCIA State Center 35.45 347 eP P 03 52 42.3 -0.2
comp=Z,53nm,0.8s
SCIA State Center 35.45 347 P P 03 52 41.3 -1.2
baz=162,SNR=6.4
SALV Santo Antonio 35.55 131 eP P 03 52 42.8 -0.8
K41A Shullsburg 35.55 350 P P 03 52 42.9 -0.5
baz=167
K42A Prairie Point, 35.58 352 P P 03 52 42.5 -1.0
baz=169,SNR=5.3
J47A Sunmer 35.61 357 P P 03 52 41.4 -2.4
baz=176
J52A Paris 35.63 3 P P 03 52 42.1 -1.8
baz=184
J49A Marlette 35.69 360 P P 03 52 42.0 -2.5
baz=179
MEDO Medina 35.70 5 P P 03 52 43.1 -1.5
baz=187
J46A Howard City 35.76 356 P P 03 52 43.3 -1.8
baz=175

K40A **Colesburg** 35.79 349 P P 03 52 43.4 -1.9
baz=166,SNR=11
TUC **Tucson** 35.83 317 eP P 03 52 48.6 +2.7
comp=Z,15nm,1.0s
TUC **Tucson** 35.83 317 eP P 03 52 48.6 +2.7
TUC pmax pmax
comp=Z,15nm,1.0s
JFWS **Jewell Farm** 35.84 351 eP P 03 52 44.6 -1.2
comp=Z,25nm,0.8s
JFWS **Jewell Farm** 35.84 351 eP P 03 52 44.6 -1.2
JFWS pmax pmax
comp=Z,25nm,0.8s
JFWS **Jewell Farm** 35.84 351 P P 03 52 43.9 -1.9
baz=167,SNR=6.4
K39A **Oelwein** 35.94 349 P P 03 52 44.0 -2.6
baz=164,SNR=12
ACTO **Acton** 36.02 3 P P 03 52 45.3 -2.0
baz=184
J43A **Natural Harves** 36.05 353 P P 03 52 45.0 -2.5
baz=170
KSCO **Kaye Shedlock'** 36.06 333 eP P 03 52 48.5 +0.6
comp=Z,14nm,0.8s
KSCO **Kaye Shedlock'** 36.06 333 P P 03 52 46.7 -1.2
baz=145
J42A **Columbus** 36.07 352 P P 03 52 45.8 -1.9
baz=169
I51A **Listowel** 36.17 2 P P 03 52 47.2 -1.4
baz=183
J41A **Loganville** 36.25 351 P P 03 52 46.5 -2.7
baz=168,SNR=5.8
I47A **Gladwin** 36.38 358 P P 03 52 48.9 -1.5
baz=177
J40A **Soldiers Grove** 36.40 350 P P 03 52 48.7 -1.8
baz=166,SNR=8.4
SDCO **Great Sand Dun** 36.43 329 eP P 03 52 52.4 +1.1
comp=Z,17nm,1.3s
SDCO **Great Sand Dun** 36.43 329 P P 03 52 51.7 +0.4
baz=140,SNR=14
PKRO **Pickering** 36.44 5 P P 03 52 49.6 -1.3
baz=186
I52A **Shelburne** 36.47 3 P P 03 52 49.8 -1.4
baz=184
BWLO **Walkerton** 36.48 2 P P 03 52 49.6 -1.6
baz=183
J39A **Decorah** 36.51 349 P P 03 52 49.4 -2.1
baz=165,SNR=6.6
I43A **Langenfeld Bro** 36.51 354 P P 03 52 49.4 -2.1
baz=171
I42A **Draeger Farm,** 36.61 353 eP P 03 52 51.6 -0.7
comp=Z,38nm,0.9s
I42A **Draeger Farm,** 36.61 353 P P 03 52 50.2 -2.2
baz=170,SNR=6.1
PECO **Prince Edward** 36.62 7 P P 03 52 50.9 -1.5
baz=190
X18A **Snowflake** 36.68 321 eP P 03 52 56.4 +3.1
comp=Z,37nm,1.2s
I55A **Frankford** 36.82 6 P P 03 52 52.4 -1.7
baz=188
I40A **Norwalk** 36.86 351 P P 03 52 53.0 -1.5
baz=167
I41A **Arkdale** 36.91 352 eP P 03 52 53.6 -1.3
comp=Z,34nm,1.1s
I41A **Arkdale** 36.91 352 P P 03 52 54.2 -0.7
baz=168,SNR=5.9
H46A **Fife Lake** 36.93 357 P P 03 52 53.0 -2.0
baz=176
W18A **Petrified Fore** 36.94 322 eP P 03 52 58.6 +3.1
comp=Z,71nm,1.0s
W18A **Petrified Fore** 36.94 322 P P 03 52 58.1 +2.6
baz=132,SNR=13
H47A **Mio** 36.95 358 P P 03 52 53.1 -2.2
baz=178
BMRO **Meriville Lake** 36.95 2 P P 03 52 53.6 -1.6
baz=182
I39A **Houston** 36.98 350 eP P 03 52 53.9 -1.6
comp=Z,38nm,0.9s
I39A **Houston** 36.98 350 P P 03 52 53.4 -2.1
baz=165
214A **Organ Pipe Nat** 37.01 315 P P 03 52 56.4 +0.5
baz=124
H48A **Harrisville** 37.03 359 P P 03 52 54.1 -1.8
baz=179
S22A **4UR Ranch, Cre** 37.12 328 eP P 03 52 58.8 +1.6
comp=Z,12nm,1.3s
S22A **4UR Ranch, Cre** 37.12 328 P P 03 52 58.0 +0.8
baz=138,SNR=10.0
DELO **Deloro Mine** 37.12 6 P P 03 52 56.0 -0.7
baz=188
GLMI **Grayling** 37.19 358 P P 03 52 56.3 -0.9
baz=177
Q24A **Divide** 37.20 331 eP P 03 52 59.0 +1.2
comp=Z,19nm,1.2s
Q24A **Divide** 37.20 331 P P 03 52 57.5 -0.3
baz=141,SNR=5.5
H55A **Tweed** 37.20 7 P P 03 52 56.3 -1.1
baz=189
H56A **Elgin** 37.36 8 P P 03 52 58.4 -0.3
baz=190,SNR=5.4
OGNE **Ogallala** 37.42 336 eP P 03 52 59.9 +0.5
comp=Z,58nm,0.9s
OGNE **Ogallala** 37.42 336 P P 03 52 59.2 -0.2
baz=147,SNR=7.6
H41A **Junction City** 37.42 352 P P 03 52 57.3 -1.9
baz=169
G45A **Suttons Bay** 37.45 357 P P 03 52 58.0 -1.5
baz=175
G47A **Hillman** 37.51 359 P P 03 52 58.5 -1.5
baz=178
H40A **Chili** 37.53 351 P P 03 52 58.4 -1.8
baz=167
X16A **Lo Mia Camp, P** 37.55 319 eP P 03 53 04.0 +3.2
comp=Z,11nm,0.8s
TOBO **Tobermory, Bru** 37.57 2 P P 03 52 58.5 -1.9
baz=182
G53A **Haliburton** 37.63 5 P P 03 52 59.7 -1.3
baz=187
LONY **Lake Ozonia** 37.64 10 P P 03 52 59.7 -1.4
baz=193
MVCO **Mesa Verde** 37.65 326 eP P 03 53 03.3 +1.7
comp=Z,99nm,1.9s
MVCO **Mesa Verde** 37.65 326 P P 03 53 02.3 +0.8
baz=135,SNR=12
G46A **Petoskey** 37.69 358 P P 03 53 00.0 -1.5
baz=176
VT1 **Waterbury** 37.70 12 eP P 03 53 02.5 +0.8
comp=Z,64nm,1.2s
PLVO **Plevna** 37.70 7 eP P 03 53 01.4 -0.2
comp=Z,47nm,1.0s
PLVO **Plevna** 37.70 7 P P 03 53 01.0 -0.6
baz=189,SNR=7.7
H39A **Augusta** 37.73 350 P P 03 53 00.2 -1.7
baz=166
KLBO **Killbear Provi** 37.75 3 P P 03 53 00.5 -1.5
baz=184
G43A **Wallace** 37.82 354 P P 03 53 00.8 -1.8
baz=172
G42A **Mountain** 37.88 354 eP P 03 53 01.8 -1.4
comp=Z,26nm,0.8s
G42A **Mountain** 37.88 354 P P 03 53 00.8 -2.4
baz=171,SNR=5.3
BUKO **Buck Lake** 37.89 4 P P 03 53 01.3 -1.8
baz=185
H38A **Maiden Rock** 37.91 349 P P 03 53 01.5 -1.8
baz=164,SNR=7.1
G41A **Antigo** 37.94 353 P P 03 53 01.7 -2.0
baz=170
G55A **Calabogie** 37.95 7 P P 03 53 02.5 -1.2
baz=190,SNR=8.2
ECSD **EROS Data Cent** 38.03 344 eP P 03 53 03.1 -1.4
comp=Z,20nm,1.1s
ECSD **EROS Data Cent** 38.03 344 P P 03 53 02.4 -2.0
baz=157,SNR=12
ISCO **Idaho Springs** 38.08 331 eP P 03 53 06.0 +0.8
comp=Z,25nm,1.8s
ISCO **Idaho Springs** 38.08 331 eP P 03 53 06.0 +0.8
ISCO pmax pmax
comp=Z,25nm,1.8s
ISCO **Idaho Springs** 38.08 331 P P 03 53 04.7 -0.5
baz=141,SNR=5.7
F45A **CMU Biological** 38.08 357 P P 03 53 02.9 -1.9
baz=176
F49A **Sandfield** 38.10 1 P P 03 53 03.2 -1.7
baz=181
113A **Mohawk Valley,** 38.13 315 eP P 03 53 08.3 +2.8
comp=Z,15nm,1.3s
G40A **Rib Lake** 38.14 352 eP P 03 53 04.2 -1.1
comp=Z,26nm,1.1s
G40A **Rib Lake** 38.14 352 P P 03 53 03.6 -1.7
baz=168,SNR=7.0
F46A **Macinaw City C** 38.14 358 P P 03 53 03.8 -1.5
baz=177
WUAZ **Wupatki** 38.21 321 eP P 03 53 09.3 +3.1
comp=Z,41nm,1.1s
WUAZ **Wupatki** 38.21 321 P P 03 53 08.6 +2.4
baz=130,SNR=22
F52A **Sundridge** 38.24 4 P P 03 53 04.7 -1.5
baz=185
SMCO **Snowmass** 38.27 329 eP P 03 53 08.4 +1.4
comp=Z,7.7nm,0.9s
Y14A **Wickenburg** 38.29 318 eP P 03 53 09.6 +2.7
comp=Z,14nm,0.9s
G39A **Holcombe** 38.31 350 P P 03 53 05.0 -1.7
baz=166,SNR=8.9
ORIO **Orleans, Innes** 38.31 8 P P 03 53 06.2 -0.5
baz=192,SNR=5.0
G38A **Ridgeland** 38.31 350 P P 03 53 04.6 -2.2
baz=165,SNR=8.6
PEMO **Pembroke** 38.31 6 P P 03 53 05.4 -1.3
baz=189
F51A **Arnstein** 38.34 3 P P 03 53 05.0 -1.9
baz=184
PV01 **Paradox Valley** 38.34 326 eP P 03 53 09.4 +1.9
comp=Z,7.1nm,1.1s
F44A **Big Bay de Noc** 38.43 356 P P 03 53 05.9 -1.8
baz=174
PV15 **Paradox Valley** 38.45 327 eP P 03 53 10.4 +2.1
comp=Z,14nm,0.9s
F41A **Three Lakes** 38.45 353 eP P 03 53 06.4 -1.5
comp=Z,18nm,0.8s
F41A **Three Lakes** 38.45 353 P P 03 53 05.9 -2.1
baz=170
PV02 **Paradox Valley** 38.49 326 eP P 03 53 10.7 +2.0
comp=Z,25nm,1.4s
PV13 **Ranum Mtn., P** 38.50 326 eP P 03 53 10.6 +1.9
comp=Z,20nm,1.1s
ALGO **Algonquin Park** 38.50 5 P P 03 53 06.9 -1.4
baz=187,SNR=7.5
AQDB **Aquidauana** 38.55 137 eP P 03 53 08.1 -0.9
F55A **Otter Lake** 38.57 7 P P 03 53 07.8 -1.1
baz=190,SNR=5.1
ALFO **Alfred** 38.57 9 P P 03 53 08.7 -0.2
baz=192,SNR=9.6
PV03 **Paradox Valley** 38.58 326 eP P 03 53 11.1 +1.7
comp=Z,15nm,1.0s
PV12 **Saucer Basin,** 38.60 326 eP P 03 53 11.5 +1.9
comp=Z,23nm,1.0s
PV07 **Paradox Valley** 38.61 327 eP P 03 53 11.5 +1.9
comp=Z,23nm,1.3s
PV11 **David Mesa, Pa** 38.63 326 eP P 03 53 11.6 +1.8
comp=Z,17nm,0.9s
PV16 **Nyswonger Mesa** 38.66 326 eP P 03 53 11.8 +1.7
comp=Z,50nm,1.7s
PV17 **East Wray Mesa** 38.66 326 eP P 03 53 11.7 +1.7
comp=Z,83nm,1.9s
PV19 **Morning Glory** 38.70 326 eP P 03 53 12.2 +1.8
comp=Z,49nm,1.8s
PV20 **West Nyswonger** 38.71 326 eP P 03 53 12.6 +2.1
comp=Z,11nm,0.9s
PV04 **Paradox Valley** 38.71 326 eP P 03 53 12.2 +1.7
comp=Z,20nm,1.1s
E46A **Sault Ste Mari** 38.72 358 P P 03 53 08.9 -1.2
baz=186
F40A **Park Falls** 38.76 352 P P 03 53 09.2 -1.4
baz=168,SNR=7.6
PV14 **Lion Creek, Pa** 38.76 326 eP P 03 53 12.6 +1.6
comp=Z,12nm,0.9s
E52A **Mattawa** 38.78 5 P P 03 53 09.2 -1.5
baz=186
E47A **Iron Bridge** 38.78 359 P P 03 53 09.1 -1.6
baz=179,SNR=5.7
E50A **Wahnapitae** 38.79 2 P P 03 53 08.9 -1.8
baz=183
COWI **Conover** 38.81 353 eP P 03 53 10.7 -0.3
comp=Z,16nm,0.8s
E48A **Lockeyer** 38.81 1 P P 03 53 09.3 -1.6
baz=181,SNR=5.8
PV21 **Cone Mtn., Par** 38.87 327 eP P 03 53 13.6 +1.7
comp=Z,5.0nm,1.0s
F39A **Loretta** 38.88 351 P P 03 53 10.4 -1.2
baz=167,SNR=5.4
PV09 **Paradox Valley** 38.91 326 eP P 03 53 14.0 +1.7
E51A **G1948 Merrick** 38.97 4 P P 03 53 11.1 -1.2
baz=185,SNR=9.3
F37A **Hinrichs Farm,** 38.99 349 P P 03 53 11.4 -1.0
baz=164
E42A **Champion** 39.01 354 P P 03 53 11.1 -1.5
baz=172
GLA **Glamis** 39.03 315 eP P 03 53 15.3 +2.2
comp=Z,17nm,0.8s
GLA **Glamis** 39.03 315 eP P 03 53 15.3 +2.2
GLA pmax pmax
comp=Z,17nm,0.8s
E54A **Lac Daplat, Po** 39.06 6 P P 03 53 11.4 -1.6
baz=189
F38A **Pierce - Schro** 39.08 350 P P 03 53 11.0 -2.2
baz=166,SNR=7.3
N23A **Red Feather La** 39.09 332 eP P 03 53 14.8 +1.1
comp=Z,9.6nm,1.1s
N23A **Red Feather La** 39.09 332 P P 03 53 13.7 0.0
baz=142
E41A **Kenton** 39.15 353 P P 03 53 12.1 -1.7
baz=170
PHWY **Pilot Hill** 39.19 333 eP P 03 53 15.3 +0.8
comp=Z,5.9nm,1.1s
TRQ **Mont Tremblant** 39.20 9 eP P 03 53 14.1 -0.2
Y12C **Blythe** 39.21 316 eP P 03 53 17.4 +2.9
comp=Z,13nm,0.9s
Y12C **Blythe** 39.21 316 P P 03 53 16.1 +1.6
baz=124
D46A **Sault St. Mari** 39.23 359 P P 03 53 12.9 -1.6
baz=178
E40A **Wakefield** 39.25 352 P P 03 53 12.9 -1.7
baz=169
PDMCI **Parker Dam,Lak** 39.27 317 P P 03 53 16.8 +1.9
baz=126
E39A **Mellen** 39.27 352 P P 03 53 12.2 -2.6
baz=168
U15A **North Rim** 39.36 321 eP P 03 53 18.7 +2.7
comp=Z,47nm,1.4s
PKME **Peaks-Kenny Pk** 39.38 15 P P 03 53 15.1 -0.6
baz=201
D47A **Chapleau** 39.38 360 P P 03 53 14.2 -1.5
baz=179
C2SB **Chapadao do Su** 39.46 132 eP P 03 53 16.0 -0.7
D52A **ZEK Kipawa Sen** 39.49 5 P P 03 53 14.9 -1.6
baz=187,SNR=7.4
D48A **Paudash Townsh** 39.51 1 P P 03 53 15.1 -1.7
baz=181,SNR=8.6
D51A **Lot 18 Range I** 39.53 4 P P 03 53 15.3 -1.6
baz=185
W13A **Hualapai Mount** 39.56 318 eP P 03 53 20.5 +2.8
comp=Z,11nm,1.0s
D50A **G1974 Best Tow** 39.58 3 P P 03 53 16.3 -1.1
baz=184
D49A **Beulah Townshi** 39.62 2 P P 03 53 16.1 -1.6
baz=182,SNR=7.3
O20A **White River Ci** 39.63 329 eP P 03 53 19.6 +1.4
comp=Z,24nm,1.4s
O20A **White River Ci** 39.63 329 P P 03 53 17.1 -1.0
baz=138
E38A **The Farm, Brul** 39.65 351 eP P 03 53 16.6 -1.4
comp=Z,15nm,0.8s
E38A **The Farm, Brul** 39.65 351 P P 03 53 16.3 -1.6
baz=166
D53A **Lac Vacive, Po** 39.65 5 P P 03 53 16.3 -1.6
baz=188
BC3 **Big Chuckawall** 39.80 315 P P 03 53 21.0 +1.5
baz=123
D54A **Lac Fusel, La** 39.83 7 P P 03 53 18.3 -1.2
baz=189,SNR=11
IRM **Iron Mountain** 39.87 316 P P 03 53 22.2 +2.2
baz=124,SNR=5.8
PKCU **Pink Cliffs** 40.03 322 eP P 03 53 24.4 +2.8
comp=Z,61nm,1.2s
KNB **Kanab** 40.07 322 eP P 03 53 24.6 +2.8
comp=Z,30nm,1.2s
MONP2 **Monument Peak** 40.08 314 P P 03 53 21.2 -0.7
baz=122
SRU **San Rafael Swe** 40.12 326 eP P 03 53 23.8 +1.6
comp=Z,76nm,1.8s
SRU **San Rafael Swe** 40.12 326 eP P 03 53 23.8 +1.6
SRU pmax pmax
comp=Z,77nm,1.8s
LCMT **Little Creek M** 40.32 321 eP P 03 53 26.8 +2.9
comp=Z,25nm,1.4s
P18A **Preston Nutter** 40.33 327 eP P 03 53 25.6 +1.6
comp=Z,40nm,1.9s
MTPU **Mount Pierson** 40.34 323 eP P 03 53 26.4 +2.2
comp=Z,16nm,1.3s
Q16A **Castle Valley** 40.35 325 eP P 03 53 26.8 +2.7
comp=Z,32nm,1.6s
BELC **Belle Mtn. Jos** 40.37 315 P P 03 53 26.8 +2.5
baz=123,SNR=9.6
XPFO **Pion Flat** 40.48 315 eP P 03 53 27.9 +2.7
comp=Z,10nm,1.0s
PFO **Pinyon Flats O** 40.48 315 eP P 03 53 27.9 +2.7
comp=Z,8.7nm,1.0s
PFO **Pinyon Flats O** 40.48 315 eP P 03 53 27.9 +2.7
PFO pmax pmax
comp=Z,9.0nm,1.0s
PFO **Pinyon Flats O** 40.48 315 P P 03 53 26.4 +1.2
baz=122,SNR=6.6
P17A **Butcher Ranch,** 40.49 326 eP P 03 53 26.9 +1.6
comp=Z,11nm,1.0s
109C **Camp Elliot, M** 40.57 313 P P 03 53 27.4 +1.7
baz=121
GMRC **Granite Mounta** 40.57 317 P P 03 53 28.2 +2.3
baz=124,SNR=5.4
SZCU **Shurtz Canyon** 40.60 322 eP P 03 53 28.9 +2.6
comp=Z,21nm,1.2s
C40A **Isle Royale Na** 40.60 353 P P 03 53 24.6 -1.2
baz=170
TMUT **Trail Mountain** 40.63 325 eP P 03 53 28.2 +1.7
comp=Z,28nm,1.8s
LATQ **La Tuque** 40.63 10 P P 03 53 25.8 -0.2
baz=195
MSU **Marysvale** 40.65 324 eP P 03 53 28.7 +2.0
MSU **Marysvale** 40.65 324 eP P 03 53 28.7 +2.0
VLDQ **Val d'Or** 40.70 6 eP P 03 53 26.2 -0.4
comp=Z,34nm,1.1s
CCUT **Cedar City** 40.74 322 eP P 03 53 30.4 +3.0
comp=Z,13nm,1.2s
K22A **Casper** 40.74 333 eP P 03 53 27.9 +0.6
comp=Z,22nm,1.0s
K22A **Casper** 40.74 333 P P 03 53 26.8 -0.5
baz=142,SNR=8.8
RSSD **Black Hills** 40.89 337 eP P 03 53 29.4 +0.9
comp=Z,15nm,0.9s
RSSD **Black Hills** 40.89 337 eP P 03 53 29.4 +0.9
RSSD pmax pmax
comp=Z,15nm,0.9s
RSSD **Black Hills** 40.89 337 P P 03 53 28.9 +0.3
baz=147
EYMN **Ely** 40.95 351 eP P 03 53 27.8 -0.9
comp=Z,9.5nm,0.8s
EYMN **Ely** 40.95 351 P P 03 53 26.8 -1.9
baz=167
MURC **Murrieta** 41.00 314 P P 03 53 31.0 +1.6
baz=121
HEC **Hector,Ludlow** 41.06 316 P P 03 53 30.6 +0.7
baz=124
TUQ **Turquoise Moun** 41.12 317 P P 03 53 31.6 +1.1
baz=124,SNR=13
LMN **Caledonia Moun** 41.23 19 eP P 03 53 32.0 +0.9
comp=Z,32nm,0.9s
SHPR **Sheep Range** 41.23 319 eP P 03 53 34.5 +3.1
comp=Z,15nm,1.3s
MPU **Maple Canyon** 41.36 326 eP P 03 53 34.1 +1.7
comp=Z,35nm,1.6s
BDFB **Brasilia** 41.46 124 LR LR 04 11 13.3
comp=Z,838nm,19.4s,baz=279,slow=37
NLU **North Lily Min** 41.56 326 eP P 03 53 36.1 +2.0
comp=Z,16nm,1.5s
SHOC **Shoshone, Teco** 41.61 318 P P 03 53 36.1 +1.7
baz=125,SNR=6.7
GSC **Goldstone, Bar** 41.64 317 eP P 03 53 37.2 +2.5
GSC **Goldstone, Bar** 41.64 317 eP P 03 53 37.2 +2.5
GSC **Goldstone, Bar** 41.64 317 P P 03 53 36.2 +1.5
baz=123,SNR=11
BFSC **Mount Baldy Ra** 41.66 315 P P 03 53 36.4 +1.5
baz=122
PSUT **Pine Spring** 41.66 323 eP P 03 53 37.4 +2.4
comp=Z,20nm,1.0s
JLU **Jordanelle** 41.67 327 eP P 03 53 36.6 +1.6
comp=Z,37nm,1.9s
LSQQ **Lebel-sur-Quev** 41.68 6 P P 03 53 32.6 -2.1
baz=188
CPUP **Villa Florida** 41.78 145 eP P 03 53 33.7 -2.1
comp=Z,23nm,1.9s
CPUP **Villa Florida** 41.78 145 P P 03 53 33.7 -2.1
comp=Z,3.2nm,0.8s,baz=337,slow=12,SNR=4.5
CPUP LR LR 04 13 34.0
comp=Z,334nm,20.8s,baz=323,slow=40
CPUP **Villa Florida** 41.78 145 eP P 03 53 34.6 -1.1
ITRB **Iturama** 41.88 131 eP P 03 53 36.4 -0.4
CTU **Camp Tracy** 41.89 327 eP P 03 53 38.7 +1.9
comp=Z,10nm,0.9s
TCUT **Toone Canyon** 42.01 327 eP P 03 53 39.5 +1.7
comp=Z,27nm,0.9s
AGMN **Agassiz Nation** 42.11 347 eP P 03 53 36.9 -1.3
comp=Z,46nm,1.5s
AGMN **Agassiz Nation** 42.11 347 P P 03 53 35.5 -2.7
baz=160,SNR=10.0
DUG **Dugway, Tooele** 42.14 325 eP P 03 53 40.9 +2.1
comp=Z,17nm,1.3s
DUG **Dugway, Tooele** 42.14 325 eP P 03 53 40.9 +2.1
DUG pmax pmax
comp=Z,17nm,1.3s
DUG **Dugway, Tooele** 42.14 325 P P 03 53 39.0 +0.2
baz=132,SNR=12
TPNV **Topopah Spring** 42.20 319 eP P 03 53 42.5 +3.2
TPNV **Topopah Spring** 42.20 319 eP P 03 53 42.5 +3.2
TPNV **Topopah Spring** 42.20 319 P P 03 53 39.2 -0.1
baz=126,SNR=9.1
EDW2 **Edwards Air Fo** 42.23 315 P P 03 53 41.0 +1.5
baz=122,SNR=5.5
BW06 **Boulder Array** 42.26 330 eP P 03 53 39.9 +0.1
comp=Z,17nm,1.4s
BW06 **Boulder Array** 42.26 330 P P 03 53 39.3 -0.5
baz=138,SNR=12
PD31 **Pinedale Array** 42.26 330 eP P 03 53 40.2 +0.4
comp=Z,15nm,1.3s
PDAR **Pinedale Array** 42.26 330 eP P 03 53 39.3 -0.5
PDAR **Pinedale Array** 42.26 330 P P 03 53 40.2 +0.4
comp=Z,5.8nm,1.1s,baz=134,slow=8.5,SNR=30
PDAR LR LR 04 16 15.8
comp=Z,138nm,19.2s,baz=142,slow=43
MATQ **Matagami** 42.31 5 P P 03 53 38.3 -1.5
baz=187
FURC **Furnace Creek,** 42.33 318 P P 03 53 40.7 +0.6
baz=124
LRMC **Laurel Mtn Rad** 42.34 316 P P 03 53 42.2 +1.8
baz=123,SNR=8.1
HWUT **Hardware Ranch** 42.44 328 eP P 03 53 42.4 +1.2
comp=Z,11nm,0.9s
MPMC **Manual Prospec** 42.52 317 P P 03 53 43.8 +1.8
baz=123,SNR=9.0
R11A **Troy Canyon, C** 42.61 321 eP P 03 53 44.9 +2.2
comp=Z,39nm,1.4s
R11A **Troy Canyon, C** 42.61 321 P P 03 53 43.6 +0.9
baz=128,SNR=28
MDND **Maddock** 42.64 343 eP P 03 53 42.1 -0.4
comp=Z,191nm,1.5s
MDND **Maddock** 42.64 343 P P 03 53 39.8 -2.7
baz=155,SNR=6.8
SPUT **South Promonto** 42.70 327 eP P 03 53 44.9 +1.6
comp=Z,41nm,1.6s
DAC **Darwin (Calif)** 42.71 317 eP P 03 53 47.9 +4.4
comp=Z,9.0nm,1.2s
DAC **Darwin (Calif)** 42.71 317 eP P 03 53 47.9 +4.4
DAC pmax pmax
comp=Z,9.0nm,1.2s
BGU **Big Grassy Mou** 42.76 326 eP P 03 53 45.6 +1.7
comp=Z,31nm,1.4s
CHGQ **Chibougamau** 42.83 8 P P 03 53 42.6 -1.5
baz=192
GRAC **Grapevine Rang** 42.96 318 P P 03 53 46.8 +1.5
baz=124,SNR=7.4
ISA **Isabella, Lake** 42.98 316 eP P 03 53 48.4 +2.8
comp=Z,7.3nm,1.0s
ISA **Isabella, Lake** 42.98 316 eP P 03 53 48.4 +2.8
ISA pmax pmax
comp=Z,7.0nm,1.0s
ISA **Isabella, Lake** 42.98 316 P P 03 53 47.8 +2.2
baz=122,SNR=5.9
CWC **Cottonwood Cre** 43.13 317 P P 03 53 48.0 +1.1
baz=123
HVU **Hansel Valley** 43.20 327 eP P 03 53 48.5 +1.1
comp=Z,25nm,1.7s
HVU **Hansel Valley** 43.20 327 eP P 03 53 48.5 +1.1
HVU pmax pmax
comp=Z,25nm,1.7s
REDW **Red Top Meadow** 43.33 330 eP P 03 53 49.1 +0.6
comp=Z,23nm,1.0s

SNOW Snow King Moun 43.36 330 eP P 03 53 49.9 +1.1
comp=Z,46nm,1.8s
LOHW Long Hollow 43.40 330 eP P 03 53 49.4 +0.4
comp=Z,27nm,1.8s
TPAW Teton Pass 43.48 330 eP P 03 53 49.6 -0.1
comp=Z,6.7nm,0.8s
VES Vestal, Richgr 43.49 316 P P 03 53 51.0 +1.4
baz=122,SNR=6.6
PKM Mcpherson Peak 43.52 314 P P 03 53 51.5 +1.4
baz=120
MOOW Moose Ponds 43.57 331 eP P 03 53 50.8 +0.4
comp=Z,6.6nm,0.9s
FXWY Fox Creek 43.62 330 eP P 03 53 51.1 +0.2
comp=Z,15nm,1.7s
IMW Indian Meadow 43.77 330 eP P 03 53 52.5 +0.4
comp=Z,9.0nm,0.8s
FLWY Flagg Ranch 43.79 331 eP P 03 53 53.1 +0.9
comp=Z,16nm,1.0s
SMMC Simmler 43.86 315 P P 03 53 52.9 +0.2
baz=120
LAO LASA Array 43.88 337 eP P 03 53 52.5 -0.2
comp=Z,59nm,1.6s
LAO LASA Array 43.88 337 P P 03 53 52.1 -0.5
baz=145,SNR=8.6
ELK Elko 43.90 324 eP P 03 53 54.9 +1.7
comp=Z,18nm,0.9s
ELK Elko 43.90 324 eP P 03 53 54.9 +1.7
ELK pmax pmax
comp=Z,18nm,0.9s
RLMT Red Lodge 43.91 333 P P 03 53 52.0 -1.1
baz=140,SNR=8.4
ULM Lac du Bonnet 43.96 348 eP P 03 53 51.1 -2.0
comp=Z,57nm,0.7s
ULM Lac du Bonnet 43.96 348 eP P 03 53 51.1 -2.0
ULM pmax pmax
comp=Z,57nm,0.7s
ULM Lac du Bonnet 43.96 348 P P 03 53 52.6 -0.5
comp=Z,50nm,0.7s,baz=158,slow=8.0,SNR=101
ULM LR LR 04 12 35.8
comp=Z,254nm,21.8s,baz=142,slow=37
H17A Grant Village 43.97 331 eP P 03 53 57.0 +3.4
comp=Z,4.6nm,0.9s
H17A Grant Village 43.97 331 P P 03 53 55.2 +1.5
baz=138
YPP Pitchstone Pla 43.98 331 eP P 03 53 55.1 +1.3
comp=Z,8.1nm,1.2s
LKWY Lake 44.01 332 eP P 03 53 55.7 +1.7
comp=Z,8.9nm,1.2s
LKWY Lake 44.01 332 eP P 03 53 55.7 +1.7
LKWY pmax pmax
comp=Z,9.0nm,1.2s
YFT Old Faithful 44.13 331 eP P 03 53 57.3 +2.3
comp=Z,14nm,1.1s
PAGB Antelope Grade 44.25 315 eP P 03 53 58.3 +2.5
comp=Z,27nm,1.2s
NV11 Mina Array Sit 44.29 319 eP P 03 53 58.7 +2.5
comp=Z,1.2nm,1.1s
NV11 eS S 04 00 24.4 -5.6
YMR Madison River 44.35 331 eP P 03 53 57.9 +1.2
comp=Z,14nm,1.0s
NV01 Mina Array Sit 44.38 319 eP P 03 53 59.3 +2.3
NVAR Mina Array Bea 44.38 319 P P 03 53 58.4 +1.4
comp=Z,5.4nm,0.7s,baz=126,slow=6.8,SNR=43
NVAR LR LR 04 13 15.4
comp=Z,302nm,19.0s,baz=110,slow=37
OMMB Old Mammoth Mi 44.38 318 eP P 03 53 59.7 +2.5
comp=Z,11nm,1.2s
YHH Holmes Hill 44.39 331 eP P 03 53 58.3 +1.2
comp=Z,7.4nm,1.1s
MDPB Devils Postpil 44.45 318 eP P 03 54 00.2 +2.6
comp=Z,12nm,0.8s
YHB Horse Butte 44.53 331 eP P 03 53 59.8 +1.8
comp=Z,8.7nm,1.0s
GCMT Greycliff 44.60 333 eP P 03 53 59.1 +0.5
KVN Kaiserville 44.61 320 eP P 03 54 01.0 +2.2
comp=Z,28nm,2.0s
KVN Kaiserville 44.61 320 eP P 03 54 01.0 +2.2
KVN pmax pmax
comp=Z,38nm,2.0s
DGMT Dagmar 44.63 340 eP P 03 53 59.0 +0.3
comp=Z,35nm,1.0s
DGMT Dagmar 44.63 340 P P 03 53 58.3 -0.3
baz=149,SNR=7.9
RYN Ryan 44.64 319 eP P 03 54 01.5 +2.5
comp=Z,7.8nm,1.1s
QLMT Earthquake Lak 44.70 331 eP P 03 54 01.4 +2.0
BMN Battle Mountai 44.88 322 eP P 03 54 02.8 +1.9
comp=Z,53nm,0.9s
WAKR Walker 45.16 319 eP P 03 54 05.5 +2.3
comp=Z,8.7nm,0.8s
YERR Yerington 45.30 319 eP P 03 54 06.8 +2.5
comp=Z,6.5nm,0.8s
HLID Hailey 45.30 328 eP P 03 54 05.4 +1.1
comp=Z,6.6nm,0.9s
HLID Hailey 45.30 328 P P 03 54 05.2 +1.0
baz=133,SNR=13
BOZ Bozeman (W) 45.36 332 eP P 03 54 01.8 -2.8
comp=Z,26nm,1.3s
BOZ Bozeman (W) 45.36 332 eP P 03 54 01.8 -2.8
BOZ pmax pmax
comp=Z,26nm,1.3s
BOZ Bozeman (W) 45.36 332 P P 03 54 04.2 -0.4
baz=138,SNR=5.6
MCMT McKenzie Canyo 45.39 330 eP P 03 54 06.4 +1.4
PNTR Pine Nut 45.59 319 eP P 03 54 09.3 +2.7
comp=Z,7.0nm,0.8s
DLMT Dillon 45.65 331 eP P 03 54 08.2 +1.3
comp=Z,8.8nm,1.0s
VCNR Virginia City 45.74 319 eP P 03 54 10.2 +2.4
comp=Z,14nm,1.4s
PAHR Pah Rah Range 45.80 320 eP P 03 54 10.0 +1.8
comp=Z,22nm,1.4s
HRY Holter Researc 46.28 333 eP P 03 54 12.4 +0.5
EGMT Eagleton 46.38 335 eP P 03 54 13.1 +0.6
comp=Z,12nm,0.9s
EGMT Eagleton 46.38 335 P P 03 54 12.5 0.0
baz=142,SNR=8.2
BEKR Beckworth 46.51 320 eP P 03 54 15.7 +1.8
comp=Z,8.2nm,1.0s
DRLN Deer Lake 46.72 23 eP P 03 54 15.7 +0.6
comp=Z,37nm,1.0s
WVOR Wild Horse Val 46.94 324 eP P 03 54 18.3 +1.2
comp=Z,93nm,1.2s
WVOR Wild Horse Val 46.94 324 eP P 03 54 18.3 +1.2
WVOR pmax pmax
comp=Z,93nm,1.2s
ORV Oroville 47.08 319 eP P 03 54 20.5 +2.4
comp=Z,9.4nm,0.9s
ORV Oroville 47.08 319 eP P 03 54 20.5 +2.4
ORV pmax pmax
comp=Z,9.0nm,0.9s
MSO Missoula 47.35 331 eP P 03 54 20.5 +0.3
MSO Missoula 47.35 331 P P 03 54 20.0 -0.3
baz=136,SNR=5.3
J08A Circle Bar Ran 47.41 325 eP P 03 54 21.0 +0.2
comp=Z,23nm,1.1s
MOD Modoc Plateau 47.62 322 eP P 03 54 23.1 +0.6
comp=Z,46nm,1.9s
O03E Paynes Creek 47.67 319 P P 03 54 23.2 +0.4
baz=122
BMO Blue Mountains 47.72 327 eP P 03 54 23.1 0.0
comp=Z,13nm,1.2s
BMO Blue Mountains 47.72 327 eP P 03 54 23.1 0.0
BMO pmax pmax
comp=Z,13nm,1.2s
O02D Mt. Diablo Mer 48.25 319 P P 03 54 26.9 -0.3
baz=121
F10A Beach Ranch, E 48.41 328 eP P 03 54 28.8 +0.4
comp=Z,9.9nm,1.0s
I07A Izee 48.45 325 eP P 03 54 29.4 +0.7
comp=Z,14nm,0.9s
M04C Macdoel 48.51 321 P P 03 54 30.7 +1.4
baz=124,SNR=8.0
N02D Trinity Center 48.62 320 P P 03 54 29.7 -0.4
baz=122
KMRM Mail Ridge 48.88 318 eP P 03 54 34.7 +2.7
comp=Z,16nm,0.9s
SCHQ Schefferville 48.88 12 eP P 03 54 30.9 -0.8
comp=Z,47nm,1.3s
SCHQ Schefferville 48.88 12 P P 03 54 30.3 -1.5
comp=Z,18nm,1.1s,baz=208,slow=7.6,SNR=9.0
SCHQ LR LR 04 17 23.4
comp=Z,224nm,19.1s,baz=184,slow=39
G08A Pilot Rock 48.90 326 eP P 03 54 32.9 +0.7
comp=Z,64nm,1.9s
K04D Chiloquin, OR 48.92 322 P P 03 54 32.5 +0.1
baz=124
M02C Callahan 48.93 320 P P 03 54 32.3 -0.2
baz=122
WALA Waterton Lakes 48.96 333 eP P 03 54 32.9 +0.2
comp=Z,6.6nm,1.0s
J05D Fort Rock, OR 48.98 323 P P 03 54 33.6 +0.6
baz=125
YBH Yreka Blue Hor 49.02 321 eP P 03 54 33.1 -0.1
comp=Z,4.1nm,1.0s
YBH Yreka Blue Hor 49.02 321 eP P 03 54 33.1 -0.1
YBH pmax pmax
comp=Z,4.0nm,1.0s
L04D Klamath Falls 49.03 321 P P 03 54 33.6 +0.2
baz=123,SNR=12
PINE Pine Mountain 49.11 324 eP P 03 54 35.0 +1.1
comp=Z,17nm,0.9s
KHMM Horse Mountain 49.23 319 eP P 03 54 37.1 +2.3
comp=Z,16nm,0.8s
E09A Wood Farm, Sta 49.24 328 eP P 03 54 35.5 +0.8
comp=Z,26nm,1.1s
PLCA Paso Flores 49.34 168 eP P 03 54 35.2 -0.3
comp=Z,10.0nm,0.7s
PLCA Paso Flores 49.34 168 eP P 03 54 35.2 -0.3
PLCA pmax pmax
comp=Z,10.0nm,0.7s
PLCA Paso Flores 49.34 168 P P 03 54 35.1 -0.3
comp=Z,9.1nm,0.8s,baz=2.9,slow=8.7,SNR=16
PLCA LR LR 04 11 14.1
comp=Z,217nm,19.3s,baz=9.5,slow=31
PLCA Paso Flores 49.34 168 eP P 03 54 35.4 0.0
TRQA Tornquist 49.34 158 eP P 03 54 35.3 -0.2
comp=Z,40nm,1.5s
J04D Umpqua Nationa 49.48 323 P P 03 54 37.3 +0.4
baz=124,SNR=19
FFC Flin Flon 49.51 346 eP P 03 54 36.0 -0.6
comp=Z,15nm,0.8s
FFC Flin Flon 49.51 346 ceP P 03 54 36.2 -0.3
I05D Terrebonne, OR 49.66 324 P P 03 54 38.3 +0.3
E08A Dider Farm, El 49.71 328 eP P 03 54 39.6 +1.3
comp=Z,18nm,1.2s
L02E Cave Junction 49.81 321 P P 03 54 39.2 0.0
baz=122
NEW Newport 49.90 331 eP P 03 54 40.0 +0.3
comp=Z,9.1nm,1.2s
NEW Newport 49.90 331 eP P 03 54 40.0 +0.3
NEW pmax pmax
comp=Z,9.0nm,1.2s
NEW Newport 49.90 331 P P 03 54 39.6 -0.1
baz=133
HAWA Hanford 49.90 327 eP P 03 54 40.6 +0.9
comp=Z,20nm,1.3s
I04A Tendick Farm, 49.98 323 P P 03 54 40.8 +0.4
baz=124
D08A Wollman Farm, 50.00 328 eP P 03 54 41.7 +1.2
comp=Z,14nm,1.1s
K02D Willamette Mer 50.14 321 P P 03 54 42.1 +0.4
baz=122
C09A Chrisman Ranch 50.16 329 eP P 03 54 43.4 +1.7
comp=Z,6.9nm,0.9s
G05D Wamic, OR 50.18 325 P P 03 54 43.0 +1.2
baz=126,SNR=18
H04A Detroit Lake 50.35 324 eP P 03 54 43.9 +0.7
comp=Z,19nm,0.8s
I03D Drain, OR 50.49 322 P P 03 54 44.6 +0.5
baz=123
J01E Myrtle Point 50.55 321 P P 03 54 45.9 +1.2
baz=122,SNR=5.1
H04D Lebanon 50.58 324 P P 03 54 45.2 +0.3
baz=124
F05D White Salmon 50.65 326 P P 03 54 47.0 +1.6
baz=127,SNR=11
KEBM Edson Butte 50.65 321 eP P 03 54 48.5 +3.0
comp=Z,68nm,1.3s
I02D Swisshome 51.01 323 P P 03 54 48.8 +0.7
baz=123,SNR=5.3
LTY Liberty 51.05 327 eP P 03 54 49.6 +1.1
comp=Z,32nm,1.3s
B08A Colville Reser 51.06 329 eP P 03 54 49.0 +0.5
comp=Z,9.6nm,1.1s
G03D McMinnville, O 51.28 324 P P 03 54 51.5 +1.4
baz=124
LON Longmire 51.36 326 eP P 03 54 49.3 -1.5
comp=Z,16nm,0.9s
LON Longmire 51.36 326 eP P 03 54 49.3 -1.5
LON pmax pmax
comp=Z,16nm,0.9s
C06D Leavenworth 51.59 328 P P 03 54 53.4 +1.0
baz=129
F04D Rainier, OR 51.64 325 P P 03 54 54.0 +1.2
baz=125
E04D Cinebar 51.66 326 P P 03 54 53.3 +0.3
baz=126
D05A Enumclaw 51.72 327 eP P 03 54 54.7 +1.3
comp=Z,51nm,1.1s
FCC Fort Churchill 51.84 353 eP P 03 54 52.7 -1.3
comp=Z,33nm,1.3s
FCC Fort Churchill 51.84 353 eP P 03 54 52.7 -1.3
FCC pmax pmax
comp=Z,33nm,1.3s
D04E Lakebay 52.14 326 P P 03 54 57.3 +0.8
baz=126
B05A Bryant 52.43 328 P P 03 54 59.1 +0.5
baz=128
D03D Elton 52.53 327 P P 03 54 59.9 +0.5
baz=126,SNR=7.4
NLWA Neilton Lookou 52.87 326 eP P 03 55 02.9 +0.9
comp=Z,48nm,1.1s
A04D Lummi Island 53.03 328 P P 03 55 03.5 +0.5
baz=127
LLLB Lillooet 53.78 330 eP P 03 55 09.7 +1.0
comp=Z,23nm,1.2s
BBB Bella Bella 57.86 329 P P 03 55 39.1 +1.3
comp=Z,15nm,0.8s,baz=65,slow=14,SNR=3.8
YKA Yelowknife Ar 59.56 344 P P 03 55 48.8 -0.6
comp=Z,15nm,1.1s,baz=136,slow=7.1,SNR=106
YKA LR LR 04 22 56.9
comp=Z,21nm,18.6s,baz=130,slow=37
YKB5 Yellowknife Ar 59.56 344 eP P 03 55 48.1 -1.4
YKW3 Yellowknife Ar 59.62 344 eP P 03 55 48.5 -1.3
comp=Z,23nm,1.1s
DLBC Dease Lake 62.29 334 eP P 03 56 10.0 +1.8
comp=Z,31nm,1.1s
DLBC Dease Lake 62.29 334 P P 03 56 09.8 +1.6
comp=Z,12nm,0.8s,baz=149,slow=5.3,SNR=5.1
WHY Whitehorse 65.57 335 eP P 03 56 30.6 +0.8
comp=Z,9.9nm,1.3s
RES Resolute Bay 67.47 357 eP P 03 56 40.2 -1.3
comp=Z,15nm,1.0s
RES Resolute Bay 67.47 357 eP P 03 56 40.2 -1.3
RES pmax pmax
comp=Z,15nm,1.0s
DAWY Dawson 69.08 337 eP P 03 56 52.2 +0.4
comp=Z,14nm,1.0s
TGL Tana Glacier 69.10 333 eP P 03 56 53.9 +1.7
comp=Z,25nm,1.0s
EPYK Eagle Plains 69.23 340 eP P 03 56 52.9 +0.1
comp=Z,57nm,1.3s
EPYK Eagle Plains 69.23 340 P P 03 56 53.3 +0.5
baz=121,SNR=17
INK Inuvik 69.25 342 eP P 03 56 53.5 +0.7
comp=Z,86nm,1.3s
INK Inuvik 69.25 342 eP P 03 56 53.5 +0.7
INK pmax pmax
comp=Z,86nm,1.3s
TULEG Thule 69.39 3 eP P 03 56 51.8 -1.8
comp=Z,36nm,1.3s
EGAK Eagle 70.08 337 eP P 03 56 58.8 +0.7
comp=Z,23nm,1.0s
SUMG Summit 70.27 13 eP P 03 56 58.1 -1.4
comp=Z,41nm,0.9s
SUMG Summit 70.27 13 iP P 03 56 58.7 -0.8
comp=Z,118nm,1.0s
SUMG Summit 70.27 13 iP P 03 56 58.7 -0.8
SUMG pmax pmax
comp=Z,120nm,1.0s
MENT Mentasta 70.35 335 eP P 03 57 01.1 +1.4
comp=Z,26nm,1.4s
PPT Papeete 70.47 248 LR LR 04 22 16.9
comp=Z,195nm,18.7s,baz=84,slow=31
KLU Klutina 70.77 333 eP P 03 57 03.7 +1.3
comp=Z,15nm,1.1s
DOT Dot Lake 70.77 336 eP P 03 57 03.5 +1.2
comp=Z,31nm,1.0s
SCRK Sand Creek 70.87 336 eP P 03 57 04.5 +1.5
comp=Z,13nm,1.1s
PAX Paxson 71.10 335 eP P 03 57 05.3 +0.9
comp=Z,35nm,1.5s
PAX Paxson 71.10 335 eP P 03 57 05.3 +0.9
PAX pmax pmax
comp=Z,35nm,1.5s
RIDG Independ'e Rid 71.12 335 eP P 03 57 06.0 +1.5
comp=Z,40nm,1.2s
KNK Knik Glacier 71.89 333 eP P 03 57 10.7 +1.6
comp=Z,34nm,1.0s
SML Sawmill 71.96 333 eP P 03 57 10.5 +1.0
comp=Z,52nm,1.3s
SML Sawmill 71.96 333 eP P 03 57 10.5 +1.0
SML pmax pmax
comp=Z,52nm,1.3s
HDA Harding Lake 72.23 336 eP P 03 57 11.5 +0.5
comp=Z,37nm,1.0s
HDA Harding Lake 72.23 336 P P 03 57 11.0 0.0
baz=110
IL1 Eielson Array 72.33 336 eP P 03 57 10.8 -0.8
ILAR Eielson Array 72.33 336 P P 03 57 12.1 +0.5
comp=Z,8.7nm,0.9s,baz=112,slow=4.3,SNR=57
ILAR LR LR 04 30 57.8
comp=Z,177nm,20.8s,baz=108,slow=38
ILB Eielson Array 72.33 336 eP P 03 57 12.3 +0.7
comp=Z,36nm,1.4s
RC01 Rabbit Creek A 72.38 332 eP P 03 57 13.6 +1.6
comp=Z,34nm,1.1s
BRLK Bradley Lake 72.56 331 eP P 03 57 14.6 +1.5
comp=Z,50nm,1.1s
CCB Clear Creek Bu 72.66 336 eP P 03 57 13.9 +0.4
comp=Z,24nm,1.6s
POKR Poker Flat Res 72.67 336 P P 03 57 13.4 -0.3
baz=110
RND Reindeer 72.69 334 eP P 03 57 14.9 +1.0
comp=Z,41nm,1.1s
RND Reindeer 72.69 334 eP P 03 57 14.9 +1.0
RND pmax pmax
comp=Z,41nm,1.1s
WRH Wood River Hil 72.72 336 eP P 03 57 14.8 +0.9
comp=Z,10.0nm,1.0s
COLA College 72.76 336 diP P 03 57 14.4 +0.3
COLA pmax pmax
comp=Z,14nm,1.2s
SUA Susitna One 72.95 332 eP P 03 57 16.7 +1.2
comp=Z,18nm,1.0s
TRF Thorofare Moun 73.32 334 eP P 03 57 18.5 +0.8
comp=Z,40nm,1.6s
RSO Redoubt South 73.64 331 eP P 03 57 20.6 +0.9
BPAW Bear Paw Mtn. 73.81 335 eP P 03 57 21.1 +0.7
comp=Z,19nm,1.0s
PESTR Estremoz 73.82 52 eP P 03 57 21.4 +0.4
comp=Z,21nm,1.1s
PPLA Purkeypile 73.99 334 eP P 03 57 22.3 +0.6
comp=Z,70nm,1.6s
COLD Coldfoot 74.43 338 eP P 03 57 25.6 +1.6
comp=Z,29nm,1.5s
TOLK Toolik Lake Re 74.66 340 eP P 03 57 26.3 +1.0
comp=Z,40nm,1.9s
TOLK Toolik Lake Re 74.66 340 P P 03 57 24.6 -0.8
baz=109
IM3 Indian Mountai 75.44 336 eP P 03 57 29.7 -0.1
ESDC Sonseca Array 76.67 51 P P 03 57 37.9 +0.5
comp=Z,8.8nm,0.9s,baz=277,slow=5.6,SNR=23
ESDC LR LR 04 27 23.5
comp=Z,146nm,20.5s,baz=280,slow=33
ESLA Sonseca Array 76.67 51 eP P 03 57 38.4 +0.9
comp=Z,56nm,1.5s
ES06 SONSECA Array 76.67 51 eP P 03 57 37.9 +0.4
DAG Danmarks Havn 76.93 12 iP P 03 57 36.4 -1.7
DAG Danmarks Havn 76.93 12 iP P 03 57 36.4 -1.7
DAG pmax pmax
comp=Z,71nm,1.0s
TIC Toumodi 77.11 85 ePKP2 P 03 57 48.8 +8.5
LIC Lamto 77.15 85 ePKP2 P 03 57 47.0 +6.5
comp=Z,34nm,1.0s
DBIC Dimbokro 77.27 85 LR LR 04 31 00.5
comp=Z,105nm,19.2s,baz=243,slow=35
KIC Kosan Boka 77.42 85 ePKP2 P 03 57 47.6 +5.5
comp=Z,36nm,1.2s
GAMB Gambell 82.81 333 eP P 03 58 11.6 +1.5
comp=Z,14nm,1.2s
TOA1 Torodi Ar. Sit 83.01 78 eP P 03 58 11.1 -1.1
TOA0 Torodi Ar. Sit 83.01 78 eP P 03 58 10.3 -1.9
TORD Torodi Ar. Bea 83.01 78 P P 03 58 11.1 -1.1
comp=Z,0.6nm,0.6s,baz=302,slow=4.2,SNR=10
TORD LR LR 04 33 45.0
comp=Z,81nm,20.4s,baz=300,slow=35
NB2 NORSAR Subarra 85.43 29 P P 03 58 22.8 -0.8
comp=Z,31nm,1.4s,baz=275,slow=4.8
NB2 NORSAR Subarra 85.43 29 P P 03 58 22.8 -0.8
baz=275,slow=4.8
NB200 NORSAR Array S 85.43 29 eP P 03 58 23.2 -0.4
NOA NORSAR Array B 85.43 29 P P 03 58 23.2 -0.4
comp=Z,5.4nm,1.0s,baz=276,slow=4.8,SNR=14
NOA LR LR 04 35 08.3
comp=Z,58nm,19.1s,baz=270,slow=35
TAM Tamanrasset 85.61 68 eP P 03 58 26.8 +1.3
comp=Z,13nm,1.3s
TAM Tamanrasset 85.61 68 eP P 03 58 26.8 +1.3
TAM pmax pmax
comp=Z,13nm,1.3s
NC405 NORSAR Array S 85.66 29 eP P 03 58 24.8 0.0
comp=Z,34nm,1.5s
DAVA Damuels 86.36 43 eP P 03 58 29.0 +0.3
comp=Z,12nm,1.1s
FETA Feichten 86.97 43 iP P 03 58 31.9 +0.2
comp=Z,8.4nm,1.2s
NKC Novy Kostel 87.63 40 eP P 03 58 35.0 +0.3
NKC ex x 03 59 00.9
NKC Novy Kostel 87.63 40 eP P 03 58 35.0 +0.3
CLL Collm 87.81 39 eP P 03 58 35.3 -0.2
comp=Z,28nm,1.7s
CLL Collm 87.81 39 ||iP P 03 58 35.0 -0.4
comp=Z,27nm,1.8s
CLL ePP PP 04 01 59.0 -2.1
CLL eS S 04 09 23.0 +5.2
CLL eSS SS 04 15 02.0 -2.3
CLL LmV 04 37 00.0
comp=Z,100nm,20.2s
CLL Collm 87.81 39 ||iP P 03 58 35.0 -0.4
CLL eS S 04 09 23.0 +5.2
CLL pmax pmax
comp=Z,27nm,1.8s
BRG Berggiesshubel 88.47 39 eP P 03 58 38.6 0.0
comp=Z,17nm,1.6s
comp=N,153nm,15.6s
comp=E,98nm,14.8s
comp=Z,229nm,16.6s
BRG Berggiesshubel 88.47 39 eP P 03 58 38.6 0.0
BRG pmax pmax
comp=Z,17nm,1.6s
BRG MLR MLR
comp=N,153nm,15.6s
BRG MLR MLR
comp=E,98nm,14.8s
BRG MLR MLR
comp=Z,229nm,16.6s
KHC Kasperske Hory 88.54 41 eP P 03 58 39.2 +0.2
comp=Z,9.2nm,1.7s
KHC Kasperske Hory 88.54 41 eP P 03 58 38.9 -0.1
KHC epP pP 03 58 43.1 +0.1
KHC ex x 03 59 05.6
KHC AMS AMS 04 29 10.0
comp=Z,300nm,22.2s
KHC Kasperske Hory 88.54 41 eP P 03 58 38.9 -0.1
KHC e 03 58 43.1
KHC MLR MLR
comp=Z,300nm,22.2s
GEC2 GERESS Array S 88.67 41 eP P 03 58 38.2 -1.5
comp=Z,14nm,1.8s
GEC2 GERESS Array S 88.67 41 eP P 03 58 38.2 -1.5
GEC2 pmax pmax
comp=Z,14nm,1.8s
GERES GERESS Array B 88.67 41 P P 03 58 38.2 -1.5
comp=Z,1.3nm,1.0s,baz=290,slow=4.0,SNR=8.4
GERES LR LR 04 38 36.4
comp=Z,41nm,18.1s,baz=288,slow=36
GEA0 GERESS Array S 88.67 41 eP P 03 58 38.6 -1.0
PRU Pruhonice 89.00 40 eP P 03 58 41.2 +0.1
PRU Pruhonice 89.00 40 eP P 03 58 41.2 +0.1
GOPC GO Pecny, Ondr 89.17 40 AMS AMS 04 35 30.0
comp=Z,200nm,20.0s
ARA0 ARCSS Array S 89.30 20 eP P 03 58 41.2 -0.9
ARCES ARCESS Array B 89.30 20 P P 03 58 41.2 -0.9
comp=Z,2.6nm,1.0s,baz=306,slow=7.7,SNR=3.0
TREC Trest 89.74 40 AMS AMS 04 29 30.0
comp=Z,300nm,33.1s
UPC Upice 89.83 39 eP P 03 58 45.3 +0.3
UPC Upice 89.83 39 eP P 03 58 45.3 +0.3
KRLC Kraliky 90.40 39 eP P 03 58 48.5 +0.8
KRLC ex x 03 59 11.7

KRLC	**Kraliky**	**90.40**	**39**	*e*P		**P**	**03 58 48.5**	**+0.8**
BILL	**Bilibino**	**90.72**	**339**	*e*P		**P**	**03 58 49.9**	**+1.2**
	comp=Z,26nm,1.4s							
BILL	**Bilibino**	**90.72**	**339**	*de*P		**P**	**03 58 49.5**	**+0.8**
BILL				*e*			03 58 57.4	
BILL				*e*			04 02 23.4	
BILL				*e*PPP	PPP		04 04 21.5	
BILL				pmax	pmax			
	comp=Z,22nm,1.4s							
OKC	**Ostrava-Krasne**	**91.32**	**39**	AMS	AMS		04 34 30.0	
	comp=Z,200nm,28.0s							
VYHS	**Vyhne**	**92.07**	**41**	*e*P		**P**	**03 58 55.9**	**+0.4**
VYHS	**Vyhne**	**92.07**	**41**	*e*P		**P**	**03 58 55.9**	**+0.4**
FIA0	**FINESS Array S**	**92.30**	**27**	*e*P		**P**	**03 58 54.3**	**-1.9**
FIA0	**FINESS Array S**	**92.30**	**27**	*e*P		**P**	**03 58 54.3**	**-1.9**
FINES	**FINESS Array B**	**92.30**	**27**	P		**P**	**03 58 54.3**	**-1.9**
	comp=Z,3.2nm,1.0s,baz=280,slow=13,SNR=5.0							
FINES				LR	LR		04 35 47.6	
	comp=Z,63nm,21.4s,baz=276,slow=33							
APA	**Apatity**	**92.75**	**20**	⇑*i*P		**P**	**03 58 59.1**	**+1.0**
APA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
APA				MLR	MLR			
	comp=Z,300nm,17.0s							
AKASG	**Malin Array Be**	**97.83**	**37**	LR	LR		04 40 39.5	
	comp=Z,86nm,20.9s,baz=280,slow=34							
TIXI	**Tiksi**	**98.27**	**350**	⇑*e*P		**P**	**03 59 22.7**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.5s							
KLMR	**Klimovskoe**	**98.40**	**25**	*e*P		**P**	**03 59 22.3**	**-1.7**
KLMR				*e*			04 03 22.9	
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
KLMR	**Klimovskoe**	**98.40**	**25**	*e*P		**P**	**03 59 22.4**	**-1.6**
KLMR				AMP			03 59 40.2	
	comp=Z,11nm,1.4s							
KLMR				*e*PP		**PP**	**04 03 22.9**	**-0.8**
NVL	**N'lazarevskaya**	**98.60**	**160**	*e*P		Pdif	03 59 25.8	+1.2
NVL				pmax	pmax			
	comp=Z,4.0nm,0.6s							
OBN	**Obninsk**	**99.96**	**31**	*e*P		**Pdif**	**03 59 29.5**	**-1.6**
OBN				*e*			04 03 42.9	
OBN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
OBN				MLR	MLR			
	comp=Z,110nm,20.0s							
KMBO	**Kilima Mbogo**	**119.95**	**87**	*i*PKIKP		**PKiKP**	**04 04 38.2**	**0.0**
SONA0	**Songino Array**	**124.28**	**352**	*e*PKPdf		**PKPdf**	**04 04 44.0**	**-1.4**
SONM	**Songino Array**	**124.28**	**352**	PKIKP		**PKPdf**	**04 04 44.0**	**-1.4**
SONM	**Songino Array**	**124.28**	**352**	PKP		**PKPdf**	**04 04 44.0**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=49,slow=1.9,SNR=2.8							
MK32	**Makanchi Array**	**124.32**	**12**	*e*PKPdf		**PKPdf**	**04 04 44.0**	**-1.3**
MKAR	**Makanchi Array**	**124.32**	**12**	PKP		**PKPdf**	**04 04 44.0**	**-1.3**
	comp=Z,0.1nm,0.4s,baz=298,slow=3.1,SNR=2.8							
AAK	**Ala-Archa**	**125.96**	**21**	*c i*PKIKP		**PKiKP**	**04 04 50.7**	**+1.5**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.7s							
KSRS	**Korea Array**	**126.82**	**329**	PKP		**PKPdf**	**04 04 48.4**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=16,slow=1.5,SNR=3.2							
KS15	**Wonju Array Si**	**126.85**	**329**	*e*PKPdf		**PKPdf**	**04 04 48.4**	**-2.0**
WMQ	**Urumqi**	**128.17**	**9**	*e*PKP		**PKiKP**	**04 04 54.3**	**+0.8**
WMQ				LR	LR			
	comp=Z,430nm,18.3s							
WMQ				LR	LR			
	comp=Z,330nm,22.1s							
WMQ				LR	LR			
	comp=Z,440nm,24.3s							
KSH	**Kashi**	**129.24**	**21**	*e*PKP		**PKPdf**	**04 04 55.0**	**-0.1**
KSH				PP		**PP**	**04 07 07.6**	**+5.2**
KSH				AMB	AMB			
	comp=Z,73nm,6.0s							
HHC	**Hu-ho-hao-te**	**130.07**	**346**	*e*PKP		**PKPdf**	**04 04 51.8**	**-4.8**
HHC				AMB	AMB			
	comp=Z,79nm,8.6s							
HHC				LR	LR			
	comp=Z,180nm,22.0s							
HHC				LR	LR			
	comp=Z,180nm,17.6s							
HHC				LR	LR			
	comp=Z,230nm,19.0s							
NJ2	**Nanjing**	**135.53**	**333**	*e*PKP		**PKiKP**	**04 05 09.3**	**+0.7**
LZH	**Lanzhou**	**136.17**	**352**	*e*PKP		**PKPdf**	**04 05 03.9**	**-4.4**
LZH				LR	LR			
	comp=Z,95nm,18.0s							
LZH				LR	LR			
	comp=Z,68nm,18.1s							
LZH				LR	LR			
	comp=Z,120nm,20.2s							
WHN	**Wuhan**	**138.72**	**337**	PKP		**PKiKP**	**04 05 15.3**	**+0.2**
CD2	**Chengdu**	**141.26**	**351**	PKP		**PKPdf**	**04 05 16.4**	**-1.3**
AS31	**Alice Springs**	**141.31**	**241**	*e*PKPpre	PKPpre		04 05 12.2	
AS31				*e*PKPdf		**PKPdf**	**04 05 16.9**	**-1.0**
ASAR	**Alice Springs**	**141.31**	**241**	PKhKP	PKPpre		04 05 12.2	
	comp=Z,0.6nm,0.8s,baz=77,slow=1.7,SNR=5.1							
ASAR				PKP		**PKPdf**	**04 05 16.9**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=95,slow=2.3,SNR=5.4							
WB2	**Warramunga Arr**	**141.94**	**247**	*e*PKPdf		**PKPdf**	**04 05 17.5**	**-1.6**
WR1	**Warramunga Arr**	**141.95**	**247**	*e*PKPpre	PKPpre		04 05 12.9	
WR1				*e*PKPdf		**PKPdf**	**04 05 19.2**	**+0.1**
WRA	**Warramunga Arr**	**141.95**	**247**	PKhKP	PKPpre		04 05 12.9	
	comp=Z,0.9nm,0.9s,baz=110,slow=3.5,SNR=4.6							
WRA				PKP		**PKPdf**	**04 05 19.2**	**+0.1**
	comp=Z,2.0nm,1.1s,baz=102,slow=3.5,SNR=4.6							
GYA	**Guiyang**	**144.98**	**345**	*e*PKP	PKPbc		04 05 24.0	+0.4
GYA				PKPab		**PKPdf**	**04 05 25.4**	**+1.0**
GYA				AMB	AMB			
	comp=Z,120nm,8.2s							
KMI	**Kunming**	**147.10**	**351**	PKPbc		**PKPdf**	**04 05 28.3**	**+0.1**
HYB	**Hyderabad**	**149.13**	**36**	*i*PKP		**PKPbc**	**04 05 34.0**	**-1.6**
CM31	**Chiang Mai Arr**	**154.12**	**356**	*e*PKPbc		**PKPbc**	**04 05 44.9**	**-2.1**
CMAR	**Chiang Mai Arr**	**154.12**	**356**	PKPbc		**PKPbc**	**04 05 44.9**	**-2.1**
	comp=Z,1.3nm,0.3s,baz=349,slow=0.9,SNR=2.5							

MEX 14 03:58:04.1±0.6, 16°09N×97°53W, h16km±6km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.65**	**298**	*e*P	Pg		03 58 14.4	-2.5
PNIG				*i* S	Sg		03 58 22.9	-2.7
VHO	**Vista Hermosa**	**1.24**	**38**	*e*P	Pn		03 58 23.9	-3.0
VHO				*i* S	Sb		03 58 37.8	-5.2
HUIG	**Huatulco**	**1.40**	**103**	*i* P	Pn		03 58 25.3	-3.7
HUIG				*i* S	Sn		03 58 42.0	-5.2
TLIG	**Tlapa**	**1.77**	**326**	*i* P	Pn		03 58 30.1	-4.1
TLIG				*i* S	Sn		03 58 51.6	-4.9

IDC 14 04:03:37.2±5.1, 6°09S×132°44E, h0km, mb3.4/1, mb1 3.4/3, mb1mx3.3/19, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=327.7km s-min=32.8km az=75.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**13.89**	**173**	Pn	Pn		04 06 53.9	-1.7
	0.1nm,0.3s,baz=352,slow=13,SNR=5.2							
WRA				Sn	Sn		04 09 19.8	-11
	0.1nm,0.3s,baz=351,slow=23,SNR=4.1							
ASAR	**Alice Springs**	**17.53**	**176**	P	P		04 07 44.5	0.0
	0.2nm,0.3s,baz=353,slow=11,SNR=5.7							
MKAR	**Makanchi Array**	**68.82**	**326**	P	P		04 14 43.5	0.0
	0.2nm,0.4s,baz=133,slow=7.7,SNR=5.2							

ISN 14 04:19:13.4±1.4, 36°72N×43°34E, h0km±6km, ML2.8
ISK 14 04:19:16.4, 36°77N×43°36E, h5km, ML2.8/8
ISC 14 04:19:15.2±1.3, 36°65N±0°03×43°41E±0°04, h1km±11km, n21, σ0s97/33, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSL	**Mosul**	**0.34**	**225**	*e*Pg		**Pg**	**04 19 21.1**	**-0.7**
MSL				*e*Sg		**Sg**	**04 19 26.3**	**+0.1**
CUKT	**Cukurca**	**0.62**	**15**	PG		**Pg**	**04 19 26.8**	**-0.4**
CUKT				SG		**Sg**	**04 19 35.9**	**+0.6**
CUKT	**Cukurca**	**0.62**	**15**	*i* P		**Pg**	**04 19 26.1**	**-1.1**
CUKT				IAML_P				
	comp=Z,7μm,0.1s							
SIRT	**Sirnak**	**1.15**	**318**	PG		**Pg**	**04 19 36.9**	**-0.5**
SIRT				SG		**Sg**	**04 19 52.6**	**+0.3**
SIRN	**Sirnak**	**1.16**	**317**	*i* P		**Pg**	**04 19 37.9**	**+0.3**
SIRN				*i* S		**Sg**	**04 19 53.4**	**+0.8**
SIRN				IAML_P				
	comp=Z,12μm,0.3s							
YOVA	**Hakkari_Yksek**	**1.18**	**37**	*i* P		**Pb**	**04 19 38.7**	**+0.2**
YOVA				*i* S		**Sn**	**04 19 55.0**	**-0.7**
YOVA				IAML_P				
	comp=Z,5μm,0.1s							
IKRK	**Kirkuk**	**1.45**	**148**	*e*Pn		**Pn**	**04 19 42.0**	**-0.6**
IKRK				*e*Sn		**Sn**	**04 20 03.5**	**+1.2**
GEVA	**Gevas**	**1.69**	**351**	*i* P		**Pn**	**04 19 46.4**	**+0.4**
GEVA				IAML_P				
	comp=Z,2μm,0.3s							
AKDM	**Akdamar-Van**	**1.71**	**349**	PN		**Pn**	**04 19 46.9**	**+0.5**
SRTM	**Siirt_Merkez**	**1.79**	**319**	*i* P		**Pn**	**04 19 46.1**	**-1.3**
SRTM				*i* S		**Sg**	**04 20 13.3**	**+0.5**
SRTM				IAML_P				
	comp=Z,2μm,0.2s							
VANB	**Van**	**1.95**	**360**	PN		**Pn**	**04 19 49.1**	**-0.4**
VANB				SN		**Sn**	**04 20 12.2**	**-2.4**
BTMN	**Batman**	**2.11**	**307**	*i* P		**Pn**	**04 19 53.4**	**+1.6**
BTMN				*i* S		**Sb**	**04 20 21.6**	**+0.5**
BTMN				IAML_P				
	comp=Z,317nm,0.2s							
GURO	**Guroymak-BITLI**	**2.19**	**331**	PN		**Pn**	**04 19 53.4**	**+0.5**
SVAN	**Silvan-Diyarba**	**2.31**	**311**	PN		**Pn**	**04 19 55.3**	**+0.8**
SVAN	**Silvan-Diyarba**	**2.31**	**311**	*i* P		**Pb**	**04 19 56.9**	**-0.9**
SVAN				*i* S		**Sb**	**04 20 27.7**	**+0.8**
SVAN				IAML_P				
	comp=Z,602nm,0.3s							
CLDR	**Caldiran**	**2.53**	**9**	PN		**Pn**	**04 19 58.9**	**+1.3**
MLAZ	**Malazgirt-MUS**	**2.58**	**345**	PN		**Pn**	**04 19 58.9**	**+0.6**
AGRB	**Hanur-Agry**	**2.94**	**354**	PN		**Pn**	**04 20 04.2**	**+0.9**
BNGB	**Bingl**	**3.19**	**318**	PN		**Pn**	**04 20 08.0**	**+1.4**
BHD	**Baghdad**	**3.46**	**166**	*e*Pn		**Pn**	**04 20 11.0**	**+0.8**
BHD				*e*Sn		**Sn**	**04 20 52.0**	**+0.2**
RTB	**Rutbah**	**4.42**	**216**	*e*Pn		**Pn**	**04 20 24.0**	**+0.6**
RTB				*e*Sn		**Sn**	**04 21 14.0**	**-1.5**

IDC 14 04:19:38.1±2.2, 15°84N×94°51W, h0km, mb3.0/2, mb1 3.8/5, mb1mx3.5/37, mbtmp3.5/5, ML3.8/3, Error ellipse: s-maj=46.7km s-min=18.9km az=40.0
ISCJB 14 04:19:39.4±0.6, 15°54N±0°06×94°66W±0°03, h40km, Error ellipse: s-maj=8.3km s-min=3.7km az=11.8
NEIC 14 04:19:39.0±0.0, 15°39N×94°67W, h16km, mb4.2/9, MD4.3(MEX), After MEX.
MEX 14 04:19:39.0±0.4, 15°39N×94°67W, h16km±4km, MD4.3
ISC 14 04:19:41.0±0.9, 15°54N±0°07×94°67W±0°03, h40km, n35, σ2s35/51, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HUIG	**Huatulco**	**1.40**	**280**	*e*Pn	Pn		**04 20 00.9**	**-3.1**
HUIG				*e*Sn	Sn		**04 20 17.0**	**-4.3**
HUIG	**Huatulco**	**1.40**	**280**	*i* P	Pn		**04 20 00.9**	**-3.1**
HUIG				*e*S	Sn		**04 20 17.0**	**-4.3**
PCIG		**1.41**	**83**	*e*Pn	Pn		**04 20 00.7**	**-3.5**
PCIG				*e*Sn	Sn		**04 20 17.3**	**-4.2**
PCIG		**1.41**	**83**	*e*P	Pn		**04 20 00.7**	**-3.5**
PCIG				*e*S	Sn		**04 20 17.3**	**-4.2**
CMIG	**Matias Romero**	**1.56**	**353**	*e*P	Pn		**04 20 04.6**	**-1.7**
CMIG				*e*S	Sn		**04 20 24.2**	**-1.0**
CMIG	**Matias Romero**	**1.56**	**353**	Pn	Pn		**04 20 04.5**	**-1.7**
	172nm,0.3s,baz=156,slow=14,SNR=3821							
CMIG				Sn	Sn		**04 20 24.0**	**-1.3**
	373nm,0.3s,baz=354,slow=9.2,SNR=33							
VHO	**Vista Hermosa**	**2.50**	**308**	*e*Pn	Pn		**04 20 17.9**	**-1.4**
VHO				*e*Sn	Sn		**04 20 48.1**	**-0.6**
VHO	**Vista Hermosa**	**2.50**	**308**	*i* P	Pn		**04 20 17.9**	**-1.4**
VHO				*i* S	Sn		**04 20 48.1**	**-0.6**
CCIG	**Comitan**	**2.55**	**73**	*e*Pn	Pn		**04 20 18.4**	**-1.6**
CCIG				*e*Sn	Sn		**04 20 47.4**	**-2.5**
CCIG				*e*Sn	Sn		04 20 49.9	0.0
CCIG	**Comitan**	**2.55**	**73**	*e*P	Pn		**04 20 17.2**	**-2.8**
CCIG				*i* S	Sn		**04 20 47.4**	**-2.5**
PNIG	**Pinotepa**	**3.43**	**285**	*e*Pn	Pn		**04 20 30.1**	**-1.9**
PNIG				*e*Sn	Sn		**04 21 09.8**	**-1.7**
PNIG	**Pinotepa**	**3.43**	**285**	*e*P	Pn		**04 20 30.1**	**-1.9**
PNIG				*i* S	Sn		**04 21 09.8**	**-1.7**
APG	**El Apazote**	**4.10**	**97**	Pn	Pn		**04 20 41.5**	**+0.2**
	4.9nm,0.3s,baz=291,slow=14,SNR=16							
APG				Sn	Sn		**04 21 29.0**	**+0.9**
	20nm,0.3s,baz=341,slow=18,SNR=8.2							
TLIG	**Tlapa**	**4.24**	**299**	*e*Pn	Pn		**04 20 43.8**	**+0.6**
TLIG				*e*Sn	Sn		**04 21 31.9**	**+0.2**
TLIG	**Tlapa**	**4.24**	**299**	*e*P	Pn		**04 20 42.1**	**-1.2**
TLIG				*i* S	Sn		**04 21 31.2**	**-0.4**
MOIG	**Morelia**	**7.46**	**304**	*e*Pn	Pn		**04 21 30.6**	**+3.2**
TEIG	**Tepich**	**7.67**	**52**	*e*Pn	Pn		**04 21 30.1**	**-0.2**
TEIG				*e*Sn	Sn		**04 22 56.1**	**+0.3**
LNIG	**Linares**	**10.34**	**335**	*e*Pn	Pn		**04 22 09.0**	**+2.1**
ZAIG	**Zacatecas**	**10.36**	**315**	*e*Pn	Pn		**04 22 10.1**	**+2.8**
JTS	**JuntasAbangare**	**10.81**	**118**	Pn	Pn		**04 22 15.8**	**+2.5**
	1.0nm,0.3s,baz=287,slow=18,SNR=3.1							
833A	**Chaparral WMA,**	**13.46**	**342**	*e*Pn	Pn		**04 22 51.7**	**+2.3**
TXAR	**Lajitas Array**	**16.04**	**330**	Pn	Pn		**04 23 24.9**	**+1.1**
	0.1nm,0.3s,baz=145,slow=13,SNR=11							
TX31	**Lajitas Ar. Si**	**16.04**	**330**	*e*Pn	**P**		**04 23 26.3**	**-0.5**
WHTX	**Lake Whitney,**	**16.58**	**352**	*e*Pn	**P**		**04 23 31.6**	**-0.9**
	14nm,1.0s							
ABTX	**Abilene, Hawle**	**17.60**	**346**	*e*Pn	**P**		**04 23 45.2**	**+1.3**
	8.0nm,0.6s							
MIAR	**Mount Ida**	**18.96**	**3**	*e*P	Pn		**04 23 59.7**	**-0.1**
	18nm,1.7s							
X37A	**Clayton**	**18.98**	**358**	*e*P	Pn		**04 23 60.0**	**-0.1**
	34nm,1.6s							
X37A				*e*Sn	Sn		**04 27 24.8**	**-6.9**
WMOK	**Wichita Mounta**	**19.48**	**350**	*e*P	**P**		**04 24 04.7**	**+0.2**
	3.6nm,0.8s							
AMTX	**Amarillo**	**20.27**	**343**	*e*P	**P**		**04 24 14.1**	**+0.8**
	8.8nm,0.6s							
GOGA	**Godfrey**	**20.48**	**28**	*e*P	Pn		04 24 17.1	-0.7
	25nm,1.4s							
SDCO	**Great Sand Dun**	**24.11**	**339**	*e*P	**P**		**04 24 54.5**	**+1.2**
HDIL	**Hopedale**	**25.37**	**10**	*e*P	**P**		**04 25 05.8**	**+1.4**
	80nm,1.9s							
NVAR	**Mina Array Bea**	**30.87**	**322**	P	**P**		**04 25 55.4**	**+1.5**
	0.1nm,0.5s,baz=134,slow=10,SNR=2.5							
WALA	**Waterton Lakes**	**36.95**	**339**	*e*P	**P**		**04 26 48.2**	**+1.9**
	9.3nm,0.6s							
YKA	**Yellowknife Ar**	**48.97**	**348**	P	**P**		**04 28 22.3**	**-0.9**
	0.2nm,0.6s,baz=159,slow=6.7,SNR=3.4							

IDC 14 04:21:55.2±2.0, 32°26S×178°77W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.8/27, mbtmp4.0/3, ML3.7/1, Error ellipse: s-maj=58.7km s-min=36.8km az=137.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
URZ	**Urewera**	**6.87**	**208**	Pn	Pn		04 23 36.2	-1.0
	1.6nm,0.3s,baz=272,slow=4.6,SNR=21							
URZ				Sn	Sn		04 24 48.9	-7.2
	2.5nm,0.3s,baz=199,slow=22,SNR=6.3							
ASAR	**Alice Springs**	**42.39**	**269**	P	P		04 29 51.4	-0.3
	1.0nm,0.5s,baz=106,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**43.55**	**275**	P	P		04 30 01.1	+0.1
	1.6nm,0.5s,baz=114,slow=8.1,SNR=45							
FINES	**FINESS Array B**	**146.64**	**338**	PKPbc	PKPbc		04 41 37.7	-0.4
	0.9nm,0.5s,baz=46,slow=4.0,SNR=9.5							
NOA	**NORSAR Array B**	**150.47**	**350**	PKPbc	PKPbc		04 41 47.5	-0.6
	0.5nm,0.7s,baz=19,slow=4.0,SNR=2.7							

SJA 14 04:50:11.4±0.6, 21°21S×66°55W, h213km±10km, ML3.1, MW2.9
GUC 14 04:50:12.5±0.4, 21°30S×66°96W, h238km±11km, ML3.6
ISCJB 14 04:50:13.0±1.2, 21°32S±0.06×66°67W±0°05, h209km±12km, Error ellipse: s-maj=9.7km s-min=6.2km az=27.3
ISC 14 04:50:12.3±2.9, 21°31S±0°07×66°63W±0°07, h214km±25km, n20, σ0s80/35, 3C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
YJA	**Yavi**	**1.35**	**130**	*e*P	Pn		**04 50 46.9**	**+0.4**
YJA				*e*S	Sn		**04 51 12.4**	**-0.9**
HJA	**Humahuaca**	**2.20**	**149**	*e*P	Pn		**04 50 54.5**	**+0.1**
HJA				IAML			04 50 54.9	
	comp=Z,64nm,0.4s							
HJA				*e*S	Sn		**04 51 27.1**	**-0.2**
PB09	**IPOC Station P**	**2.48**	**258**	*e*P	Pn		**04 50 57.6**	**+0.5**
PB09				*e*S	Sn		**04 51 31.9**	**-0.1**
PB08	**IPOC Station P**	**2.63**	**296**	*e*P	Pn		**04 50 59.8**	**+0.8**
PB08				*e*S	Sn		**04 51 35.6**	**+0.2**
PB01	**IPOC Station P**	**2.68**	**275**	*e*P	Pn		**04 50 59.9**	**+0.6**
PB01				*e*S	Sn		**04 51 35.5**	**-0.4**
PB01				IAML			04 51 37.7	
	comp=N,126nm,0.3s							
PB03	**IPOC Station P**	**3.00**	**255**	*e*P	Pn		**04 51 03.4**	**+0.6**
PB03	**IPOC Station P**	**3.00**	**255**	*e*P	Pn		**04 51 03.2**	**+0.4**
PB03				*e*S	Sn		**04 51 41.8**	**-0.6**
PB03				IAML			04 51 43.1	
	comp=E,129nm,0.1s							
PB02	**IPOC Station P**	**3.05**	**269**	*e*P	Pn		**04 51 03.8**	**+0.4**
PB02	**IPOC Station P**	**3.05**	**269**	*i* P	Pn		**04 51 03.7**	**+0.4**
PB02				*e*S	Sn		**04 51 42.6**	**-0.7**
PB07	**IPOC Station P**	**3.06**	**262**	*e*P	Pn		**04 51 04.1**	**+0.5**
PB07	**IPOC Station P**	**3.06**	**262**	*e*P	Pn		**04 51 04.1**	**+0.5**
PB07				*i* S	Sn		**04 51 43.2**	**-0.6**
PB07				IAML			04 51 43.9	
	comp=N,82nm,0.3s							
PB06	**IPOC Station P**	**3.06**	**242**	*e*P	Pn		**04 51 04.6**	**+1.0**
PB06	**IPOC Station P**	**3.06**	**242**	*e*P	Pn		**04 51 04.4**	**+0.8**
PB06				⇑*e*S	Sn		**04 51 43.9**	**0.0**
PB06				IAML			04 51 44.8	
	comp=E,50nm,0.2s							
PB11	**IPOC Station P**	**3.23**	**298**	*e*P	Pn		**04 51 06.1**	**+0.6**
PB11				*e*S	Sn		**04 51 47.0**	**-0.2**
PB15	**IPOC Station P**	**3.24**	**234**	*e*P	Pn		**04 51 06.9**	**+1.1**
PB15	**IPOC Station P**	**3.24**	**234**	*e*P	Pn		**04 51 06.8**	**+1.0**
PB15				*i* S	Sn		**04 51 48.1**	**+0.4**
PB04	**IPOC Station P**	**3.43**	**252**	*e*P	Pn		**04 51 07.9**	**0.0**
PB04				*e*S	Sn		**04 51 50.5**	**-1.0**
MNMC	**Minye Minye**	**3.53**	**307**	⇑*i*P	Pn		**04 51 10.4**	**+1.1**
MNMC				*e*S	Sn		**04 51 54.3**	**+0.4**
PB05	**IPOC Station P**	**3.65**	**244**	⇑*i*P	Pn		**04 51 10.4**	**-0.1**
PB05				*i* S	Sn		**04 51 54.6**	**-1.8**
PSGC	**Pisagua**	**3.69**	**297**	*e*P	Pn		**04 51 10.3**	**-0.7**
PSGC				*e*S	Sn		**04 51 55.0**	**-2.2**
PSGC				IAML			04 51 58.5	
	comp=N,50nm,0.1s							

IDC 14 04:54:56.0±1.1, 40°18N×53°03E, h0km, mb3.4/7, mb1 3.6/16, mb1mx3.5/50, mbtmp3.5/16, ML3.5/7, MS3.4/1, Ms1 3.4/1, ms1mx2.4/35, Error ellipse: s-maj=19.7km s-min=8.4km az=3.0
ISCJB 14 04:54:59.3±0.3, 40°40N±0°04×53°30E±0°03, h33km, mb3.5/5, MS3.3/1, Error ellipse: s-maj=5.9km s-min=3.3km az=176.0
AZER 14 04:55:02.5±1.5, 40°16N×53°31E, h50km, ml4.0/13, Error ellipse: s-maj=16.3km s-min=9.3km az=119.0
NNC 14 04:55:06.3±6.5, 40°68N×53°98E, h31km±82km, mb3.9, Error ellipse: s-maj=53.3km s-min=27.0km az=62.0
THR 14 04:55:09.8, 39°36N×53°50E, h15km, ML3.4
ISC 14 04:55:00.8±0.7, 40°46N±0°06×53°38E±0°04, h35km, n45, σ2s45/55, mb3.7/5, 14C-14D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NDR	**Nardaran**	**2.59**	**274**	⇓S	Sn		**04 56 11.8**	**+1.5**
GOBA	**Gobu**	**2.78**	**270**	⇑S	Sn		**04 56 17.3**	**+2.2**
ATGJ	**Altiaghaj**	**3.40**	**278**	⇓P	Pn		**04 55 53.9**	**+2.5**
	SNR=3.2							
ATGJ				⇑S	Sn		**04 56 34.7**	**+4.1**
MRVT	**Maraveh tapeh**	**3.50**	**142**	*e*AML	AML		04 56 37.2	
	comp=N,129nm,0.3s							
MRVT				*e*AML	AML		04 56 37.2	
	comp=E,167nm,0.2s							
MRVT	**Maraveh tapeh**	**3.50**	**142**	*e*Pn	Pn		**04 55 54.1**	**+1.3**
PQL	**Pirkuli**	**3.66**	**277**	P	Pn		**04 55 57.0**	**+2.1**
	SNR=3.5							
QUBA	**Quba, Azerbaij**	**3.81**	**285**	⇑S	Sn		**04 56 43.7**	**+3.2**
LKRN	**Lenkeran, Azer**	**3.96**	**245**	⇑S	Sn		**04 56 43.9**	**-0.3**
QSAR	**Qusar**	**4.01**	**287**	⇓S	Sn		**04 56 48.2**	**+2.7**
ASTR	**Astara**	**4.03**	**243**	⇑P	Pn		**04 55 58.9**	**-1.0**
	SNR=8.3							
ASTR				⇓S	Sn		**04 56 44.3**	**-1.5**
GLBA	**Ciilabad**	**4.03**	**254**	P	Pn		**04 55 59.7**	**-0.2**
	SNR=5.6							
GLBA				⇓S	Sn		**04 56 45.4**	**-0.4**
XNQ	**Khinaliq**	**4.04**	**282**	P	Pn		**04 56 01.4**	**+1.2**
	SNR=23							
XNQ				⇑S	Sn		**04 56 49.0**	**+2.6**
BJRD	**Bojnurd**	**4.17**	**130**	*e*Pn	Pn		**04 56 05.7**	**+3.6**
LRK	**Lerik**	**4.30**	**247**	P	Pn		**04 56 02.7**	**-1.1**
	SNR=25							
LRK				⇑S	Sn		**04 56 50.0**	**-2.8**

KEST Kesra 34.70 277 LR LR 05 18 30.9
comp=E,55nm,18.5s,baz=323,slow=41

ISCJB 14 05:20:43.8±0.6, 37°.21N±0°.04×28°.22E±0°.05, h10km±7km, Error ellipse: s-maj=7.4km s-min=5.3km az=137.7
DDA 14 05:20:43.9, 37°.21N×28°.22E, h7km±1km, ML2.6
ISK 14 05:20:43.7, 37°.21N×28°.21E, h8km, ML1.9/7
ISC 14 05:20:44.0±1.0, 37°.21N±0°.03×28°.22E±0°.04, h10km±8km, n13, σ0s34/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.09**	**145**	PG	**Pg**	**05 20 46.5**	**0.0**
YER				SG	**Sg**	**05 20 48.3**	**0.0**
TURN	**Turunc**	**0.45**	**137**	PG	**Pg**	**05 20 52.4**	**-0.4**
TURN				SG	**Sg**	**05 20 59.0**	**+0.2**
TURN	**Turunc**	**0.45**	**137**	*i* P	**Pg**	**05 20 52.7**	**-0.1**
TURN				*i* S	**Sg**	**05 20 59.0**	**+0.2**
TURN				IAML_P			
	comp=Z,2μm,0.1s						
DALY	**Dalyan (Mula)**	**0.52**	**138**	PG	**Pb**	**05 20 54.6**	**-0.6**
DALY	**Dalyan (Mula)**	**0.52**	**138**	*i* P	**Pb**	**05 20 54.8**	**-0.4**
DALY				IAML_P			
	comp=Z,456nm,0.2s						
AYDN	**Tasoluk**	**0.53**	**329**	*i* P	**Pb**	**05 20 55.0**	**-0.3**
AYDN				*i* S	**Sg**	**05 21 01.7**	**+0.4**
AYDN				IAML_P			
	comp=Z,2μm,0.1s						
TAVA	**DENIZLI_Tavas**	**0.61**	**65**	*i* P	**Pb**	**05 20 56.6**	**-0.2**
TAVA				*i* S	**Sg**	**05 21 04.1**	**+0.2**
TAVA				IAML_P			
	comp=Z,393nm,0.1s						
DAT	**Datca**	**0.70**	**227**	PG	**Pb**	**05 20 57.9**	**-0.4**
BODT	**Bodrum**	**0.74**	**259**	PG	**Pg**	**05 20 58.2**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**0.78**	**341**	PG	**Pg**	**05 20 58.9**	**-0.2**
FETY	**Fethiye**	**0.90**	**129**	PG	**Pb**	**05 21 01.8**	**+0.2**
ARG	**Arkhangelos**	**0.99**	**184**	PG	**Pb**	**05 21 03.6**	**+0.4**
KULA	**Kula-Manisa**	**1.35**	**15**	PN	**Pn**	**05 21 09.2**	**+0.3**

ISK 14 05:21:45.5, 37°.39N×36°.88E, h2km, ML1.6/6
ISCJB 14 05:21:46.6±0.7, 37°.30N±0°.06×36°.81E±0°.04, h1km±8km, Error ellipse: s-maj=9.4km s-min=5.7km az=0.9
DDA 14 05:21:47.5, 37°.33N×36°.90E, h6km, ML2.5
ISC 14 05:21:46.9±1.0, 37°.37N±0°.05×36°.87E±0°.04, h7km±7km, n12, σ1s19/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCB	**Kahramanmara**	**0.05**	**131**	*i* P	**Pg**	**05 21 48.6**	**+0.2**
HCB				*i* S	**Sg**	**05 21 50.0**	**+0.5**
HCB				IAML_P			
	comp=Z,54μm,0.1s						
KMRS	**Kahramanmaras**	**0.13**	**12**	PG	**Pg**	**05 21 48.6**	**-1.2**
GAZ	**Gaziantep**	**0.34**	**126**	PG	**Pg**	**05 21 53.1**	**-0.5**
GAZ				SG	**Sb**	**05 21 58.9**	**-2.2**
ANDN	**Andirin**	**0.46**	**297**	*i* P	**Pg**	**05 21 55.4**	**-0.5**
ANDN				IAML_P			
	comp=Z,834nm,0.2s						
GZT	**Gaziantep**	**0.56**	**92**	*i* P	**Pb**	**05 21 58.9**	**-0.2**
GZT				IAML_P			
	comp=Z,420nm,0.1s						
KOZT	**Kozan**	**0.83**	**278**	PG	**Pg**	**05 22 02.7**	**-0.2**
SAIM	**ADANA**	**0.86**	**314**	*i* P	**Pn**	**05 22 05.4**	**-0.2**
SAIM				IAML_P			
	comp=Z,421nm,0.1s						
CEYT	**Ceyhan**	**0.96**	**248**	PG	**Pg**	**05 22 05.3**	**-0.1**
ELBS	**KAHRAMANMARAS**	**0.97**	**13**	*i* P	**Pn**	**05 22 07.5**	**+0.3**
ELBS				*i* S	**Sn**	**05 22 21.8**	**+0.5**
ELBS				IAML_P			
	comp=Z,234nm,0.1s						
AKCD	**Akcadag**	**1.24**	**42**	*i* P	**Pn**	**05 22 12.7**	**+1.8**
AKCD				*i* S	**Sn**	**05 22 30.4**	**+2.4**
AKCD				IAML_P			
	comp=Z,393nm,0.2s						
DARE	**Darende-Malaty**	**1.29**	**22**	PN	**Pg**	**05 22 11.0**	**-0.7**
URFA	**Urfa**	**1.56**	**87**	PN	**Pn**	**05 22 14.9**	**-0.3**

ISCJB 14 05:33:17.7±1.3, 17°.81N±0°.03×120°.75E±0°.04, h2km±8km, mb3.7/13, Error ellipse: s-maj=6.1km s-min=5.8km az=151.3
MAN 14 05:33:18.5, 17°.83N×120°.79E, h10km, mb4.9, ML3.8, MS3.8
MAN INTENSITY III - DOLORES ABRA.
IDC 14 05:33:31.2±2.6, 17°.39N×121°.06E, h131km±26km, mb3.3/15, mb1 3.5/16, mb1mx3.4/45, mbtmp3.8/16, Error ellipse: s-maj=27.4km s-min=14.9km az=63.0
ISC 14 05:33:18.8±1.8, 17°.82N±0°.05×120°.80E±0°.06, h6km±11km, n28, σ2s00/30, mb3.7/13, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.42**	**85**	*e*P	**Pg**	**05 33 27.4**	**+0.5**
APYP				*e*S	**Sb**	**05 33 33.8**	**-1.4**
CVP	**Callao Caves**	**0.98**	**97**	⇓*i*P	**Pg**	**05 33 36.5**	**-1.0**
CVP				*i* S	**Sg**	**05 33 50.4**	**+0.2**
SGCP	**Mt. Cagua**	**1.25**	**70**	*e*P	**Pn**	**05 33 42.0**	**-0.8**
SGCP				*e*S	**Sn**	**05 33 59.5**	**-0.4**
CAUP	**Cauayan**	**1.31**	**132**	*e*P	**Pn**	**05 33 42.9**	**-0.6**
CAUP				*e*S	**Sg**	**05 34 02.6**	**+1.7**
BOLP	**Bolinao**	**1.67**	**211**	*e*P	**Pn**	**05 33 48.2**	**-0.2**
BOLP				*e*S	**Sn**	**05 34 08.0**	**-2.2**
SMPP	**San Manuel, Pa**	**1.67**	**184**	*e*P	**Pn**	**05 33 45.8**	**-2.7**
SMPP				*e*S	**Sn**	**05 34 06.2**	**-4.1**
BALP	**Baler**	**2.20**	**160**	*e*P	**Pn**	**05 33 56.1**	**+0.3**
BALP				*e*S	**Sn**	**05 34 24.1**	**+0.8**
POLP	**Polilio Island**	**3.26**	**160**	*e*P	**Pn**	**05 34 11.5**	**+1.0**
POLP				*e*S	**Sn**	**05 34 52.8**	**+3.2**
TGY	**Tagaytay City**	**3.70**	**178**	P	**Pb**	**05 34 22.5**	**-2.1**
	50nm,0.3s,baz=274,slow=6.3,SNR=9.4						
TGY				S	**Sb**	**05 35 13.3**	**+3.5**
	76nm,0.3s,baz=173,slow=21,SNR=2.2						
KSRS	**Korea Array**	**20.54**	**16**	P	Pn	05 38 02.1	+2.1
	0.8nm,0.6s,baz=201,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**20.79**	**275**	P	Pn	05 38 04.2	+1.0
	1.9nm,0.7s,baz=92,slow=8.4,SNR=13						
SONM	**Songino Array**	**32.17**	**342**	P	**P**	**05 39 49.5**	**+2.0**
	0.6nm,0.6s,baz=160,slow=10,SNR=5.3						
WRA	**Warramunga Arr**	**39.81**	**160**	P	P	05 40 47.0	-6.0
	0.3nm,0.4s,baz=340,slow=9.3,SNR=5.4						
MKAR	**Makanchi Array**	**42.85**	**321**	P	**P**	**05 41 20.8**	**+3.1**
	0.9nm,0.8s,baz=113,slow=9.3,SNR=9.6						
ASAR	**Alice Springs**	**43.17**	**162**	P	P	05 41 15.2	-5.3
	0.7nm,0.4s,baz=343,slow=8.1,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**43.51**	**82**	T	T	06 26 49.9	
	baz=277,slow=74,SNR=14						
H11S1	**WAKE ISLAND Hy**	**43.52**	**82**	T	T	06 26 51.9	
	baz=277,slow=74,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**43.53**	**82**	T	T	06 26 51.6	
	baz=277,slow=74,SNR=6.9						
KURBB	**Kurchatov Arra**	**46.88**	**324**	P	**P**	**05 41 52.2**	**+2.5**
	1.5nm,0.6s,baz=121,slow=8.2,SNR=12						
BVAR	**Borovoye Array**	**52.48**	**324**	P	**P**	**05 42 33.7**	**+1.4**
	0.4nm,0.4s,baz=120,slow=8.2,SNR=2.2						
AKTO	**Aktyubinsk**	**59.17**	**319**	P	**P**	**05 43 22.1**	**+1.7**
	0.4nm,0.4s,baz=106,slow=12,SNR=2.4						
ILAR	**Eielson Array**	**75.03**	**26**	P	**P**	**05 44 58.6**	**-2.3**
	0.3nm,0.6s,baz=288,slow=7.1,SNR=3.3						
ARCES	**ARCESS Array B**	**75.30**	**339**	P	**P**	**05 45 03.2**	**+0.8**
	4.6nm,1.1s,baz=54,slow=6.2,SNR=4.9						
BRTR	**Keskin Array B**	**76.70**	**308**	P	**P**	**05 45 09.6**	**-1.6**
	0.2nm,0.3s,baz=94,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**76.76**	**331**	P	**P**	**05 45 12.4**	**+1.6**
	0.8nm,0.7s,baz=55,slow=7.2,SNR=4.8						
NB2	**NORSAR Subarra**	**83.67**	**333**	P	**P**	**05 45 47.0**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=65,slow=5.1						
NOA	**NORSAR Array B**	**83.67**	**333**	P	**P**	**05 45 46.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=65,slow=4.8,SNR=6.2						
YKA	**Yellowknife Ar**	**88.95**	**22**	P	**P**	**05 46 13.5**	**-0.6**
	comp=Z,0.2nm,0.7s,baz=304,slow=4.8,SNR=3.6						

NNC 14 05:44:31.0±7.3, 54°.15N×87°.49E, h0km, mb3.8, mpv3.4, 6C-2D, Error ellipse: s-maj=57.2km s-min=50.7km az=164.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.42**	**241**	⇑Pn	Pn	05 46 07.6	+0.9
	2.6nm,1.0s						
KURK				⇑Sn	Sn	05 47 23.5	+2.9
	1.2nm,1.1s						
KURK				⇓Lg	Lg	05 47 59.2	
	3.3nm,1.2s						
KURBB	**Kurchatov Arra**	**6.52**	**241**	⇑Pn	Pn	05 46 09.2	+1.1
	3.4nm,0.8s						
KURBB				⇓Sn	Sn	05 47 20.8	-2.4
	2.3nm,0.7s						
KURBB				⇑Lg	Lg	05 47 58.4	
	2.5nm,0.7s						
MK31	**Makanchi Array**	**8.07**	**206**	Pn	Pn	05 46 25.0	-4.4
	baz=192,slow=18,SNR=5.6						
MK31				⇑Sn	Sn	05 48 03.9	+2.5
	0.8nm,0.8s						
MK31				⇑Lg	Lg	05 48 47.8	
	1.5nm,1.0s,baz=30,slow=28,SNR=3.9						

RSNC 14 06:04:47.7±0.8, 6°.80N×73°.12W, h142km±4km, ML2.4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**197**	*e*P	Pn	06 05 06.9	-0.5
BARC				*e*S	Sn	06 05 21.9	-0.4
BARC				*i*		06 05 24.1	
	comp=Z,49nm,0.3s						
BARC	**Barichara**	**0.22**	**197**	*e*P	Pn	06 05 06.9	-0.5
BARC				*e*S	Sn	06 05 21.9	-0.4
BARC				*i*		06 05 24.1	
	comp=Z,49nm,0.3s						
BRRC	**Barranca, Sant**	**0.66**	**297**	*e*P	Pn	06 05 08.8	-0.3
BRRC				*e*S	Sn	06 05 25.4	0.0
BRRC				*i*		06 05 29.2	
	comp=N,92nm,0.2s						
BRRC	**Barranca, Sant**	**0.66**	**297**	*e*P	Pn	06 05 08.8	-0.3
BRRC				*e*S	Sn	06 05 25.4	0.0
BRRC				*i*		06 05 29.2	
	comp=N,92nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**38**	*e*P	Pn	06 05 09.7	-0.1
PAMC				*e*S	Sn	06 05 26.6	0.0
PAMC				*i*		06 05 27.7	
	comp=N,46nm,0.4s						
PAMC	**Pamplona, Colo**	**0.68**	**38**	*e*P	Pn	06 05 09.7	-0.1
PAMC				*e*S	Sn	06 05 26.6	0.0
PAMC				*i*		06 05 27.7	
	comp=N,46nm,0.4s						
RUSC	**La Rusia**	**0.90**	**178**	*e*P	Pn	06 05 11.0	-0.5
RUSC				*e*S	Sn	06 05 29.1	-0.5
RUSC				*i*		06 05 30.4	
	comp=N,17nm,0.2s						
RUSC	**La Rusia**	**0.90**	**178**	*e*P	Pn	06 05 11.0	-0.5
RUSC				*e*S	Sn	06 05 29.1	-0.5
RUSC				*i*		06 05 30.4	
	comp=N,17nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	06 05 13.9	-1.3
PTBC				*e*S	Sn	06 05 34.4	-1.6
PTBC				*i*		06 05 39.8	
	comp=N,32nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.35**	**259**	*e*P	Pn	06 05 13.9	-1.3
PTBC				*e*S	Sn	06 05 35.2	-0.8
PTBC				*i*		06 05 39.8	
	comp=N,32nm,0.5s						
TAMC	**Tame, Arauca**	**1.37**	**105**	*e*P	Pn	06 05 15.2	-0.1
TAMC				*e*S	Sn	06 05 35.3	-1.0
TAMC				*i*		06 05 37.4	
	comp=N,30nm,0.6s						
OCAC	**Ocana**	**1.44**	**352**	*e*P	Pn	06 05 15.4	-0.8
OCAC				*e*S	Sn	06 05 36.6	-1.4
OCAC				*i*		06 05 39.9	
	comp=N,108nm,0.4s						
OCAC	**Ocana**	**1.44**	**352**	*e*P	Pn	06 05 15.4	-0.8
OCAC				*e*S	Sn	06 05 36.9	-1.1
OCAC				*i*		06 05 39.9	
	comp=N,108nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	*e*P	Pn	06 05 20.9	+0.2
ZARC				*e*S	Sn	06 05 45.2	-0.8
ZARC				*i*		06 05 51.2	
	comp=N,39nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**292**	*e*P	Pn	06 05 20.9	+0.2
ZARC				*e*S	Sn	06 05 45.2	-0.8
ZARC				*i*		06 05 51.2	
	comp=N,39nm,0.3s						
SMLC	**San Martn de**	**2.20**	**335**	*e*P	Pn	06 05 24.3	-0.5
SMLC				*e*S	Sn	06 05 51.3	-2.0
SMLC				*i*		06 05 58.5	
	comp=N,33nm,0.1s						
CHIC	**Chingaza**	**2.24**	**196**	*e*P	Pn	06 05 25.0	-0.7
CHIC				*e*S	Sn	06 05 54.2	-0.6
CHIC				*i*		06 06 00.5	
	comp=N,12nm,0.5s						
CHIC	**Chingaza**	**2.24**	**196**	*e*P	Pn	06 05 25.0	-0.7
CHIC				*e*S	Sn	06 05 54.2	-0.6
CHIC				*i*		06 06 00.5	
	comp=N,12nm,0.5s						
HELC	**Santa Helena**	**2.47**	**256**	*e*P	Pn	06 05 29.4	+0.9
HELC				*e*S	Sn	06 05 59.9	+0.1
HELC				*i*		06 06 05.1	
	comp=N,11nm,0.4s						
HELC	**Santa Helena**	**2.47**	**256**	*e*P	Pn	06 05 30.6	+2.1
HELC				*e*S	Sn	06 05 59.9	+0.1
HELC				*i*		06 06 05.1	
	comp=N,11nm,0.4s						
PRAC	**Prado**	**3.54**	**210**	*e*P	Pn	06 05 41.5	-0.2
PRAC				*e*S	Sn	06 06 22.9	-0.8
PRAC				*i*		06 06 28.6	
	comp=N,5.4nm,0.4s						
PRAC	**Prado**	**3.54**	**210**	*e*P	Pn	06 05 41.5	-0.2
PRAC				*e*S	Sn	06 06 22.9	-0.8
PRAC				*i*		06 06 28.6	
	comp=N,5.4nm,0.4s						

KRSC 14 06:13:44.6±10.0, 59°.83N×163°.64E, h52km±10km, ML3.9, FELT [II] at Ilpyrskiy., Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.65**	**207**	*e*P	Pn	06 13 58.2	+0.4
OSSR				*e*S	Sn	06 14 09.4	+2.2
TILK	**Tilichiki**	**1.40**	**63**	*e*P	Pn	06 14 07.9	+0.2
TILK				*e*S	Sn	06 14 27.3	+2.3
PALN	**Palana**	**2.02**	**250**	*e*P	Pn	06 14 17.3	+1.2
PALN				S	Sn	06 14 43.1	+3.0
KMSK	**Kamenskaya**	**2.93**	**24**	*e*P	Pn	06 14 31.8	+3.2
KMSK				*e*S	Sn	06 15 07.6	+5.2
BKI	**Bering**	**4.80**	**164**	P	Pn	06 14 58.9	+4.6

NNC 14 06:14:25.8±2.6, 53°.69N×90°.43E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=27.4km s-min=17.9km az=175.0, Suspected Mining explosion.
ASRS 14 06:14:18.1, 53°.77N×90°.98E, M3.3, 5C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**8.18**	**253**	⇑Pn	Pn	06 16 20.7	+2.7
	4.3nm,0.8s						
KURK				⇑Sn	Sn	06 17 51.4	+0.4
	24nm,0.8s						
KURK				⇓Lg	Lg	06 18 38.0	
	42nm,0.9s						
KURBB	**Kurchatov Arra**	**8.28**	**253**	⇓Pn	Pn	06 16 22.3	+3.1
	11nm,0.8s						
KURBB				⇑Sn	Sn	06 17 53.7	+0.4
	114nm,1.3s						
KURBB				⇓Lg	Lg	06 18 40.4	
	144nm,1.3s						
MK31	**Makanchi Array**	**8.93**	**222**	Pn	Pn	06 16 32.6	+4.4
	0.3nm,0.3s,baz=32,slow=12,SNR=42						
MK31				⇑Sn	Sn	06 18 12.4	+3.0
	8.0nm,0.9s,baz=48,slow=26,SNR=3.7						
MK31				⇑Lg	Lg	06 18 54.9	
	20nm,1.0s,baz=31,slow=26,SNR=3.8						

BJI 14 06:14:26.4, 67°.70N×142°.60E, h5km, mb4.6/38, mB4.9/28, Ms4.7/19, Ms7 4.4/18
MOS 14 06:14:28.5±0.9, 67°.63N×142°.70E, h13km, mb4.8/31, Error ellipse: s-maj=14.0km s-min=5.8km az=92.6
IDC 14 06:14:28.3±0.5, 67°.61N×142°.78E, h0km, mb4.2/28, mb1 4.4/31, mb1mx4.3/43, mbtmp4.2/31, ML3.1/2, MS3.5/26, Ms1 3.5/26, ms1mx3.4/51, Error ellipse: s-maj=13.5km s-min=10.5km az=152.0
ISCJB 14 06:14:28.5±0.1, 67°.63N±0°.03×142°.65E±0°.05, h10km, mb4.5/134, MS3.7/27, Error ellipse: s-maj=3.8km s-min=2.8km az=161.0
YARS 14 06:14:29.7±0.2, 67°.59N±0°.01×142°.73E±0°.03, h10km±3km
NEIC 14 06:14:30.2±0.1, 67°.64N×142°.60E, h10km, mb4.6/95, Error ellipse: s-maj=3.8km s-min=2.5km az=166.0
ISC 14 06:14:29.9±0.3, 67°.60N±0°.03×142°.61E±0°.03, h10km, n271, σ1s15/281, mb4.5/134, MS3.6/27, 27C-6D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.17**	**168**	*e*P	**Pb**	**06 14 50.4**	**-1.7**
MOMR				Pmax		06 14 50.4	
	comp=Z,2μm,0.6s						
MOMR				*e*S	**Sb**	**06 15 06.0**	**-1.3**
MOMR				Smax		06 15 06.0	
	comp=N,8μm,0.6s						
YBGR	**Belaya Gora**	**1.64**	**54**	*i* P	**Pn**	**06 14 57.6**	**-1.1**
YBGR				Pmax		06 14 57.6	
	comp=Z,3μm,0.5s						
YBGR				*e*S	**Sb**	**06 15 20.5**	**-0.2**
YBGR				Smax		06 15 20.5	
	comp=N,6μm,0.4s						
DEPR	**Deputatskiy**	**2.06**	**332**	*e*P	**Pn**	**06 15 04.9**	**+0.4**
DEPR				*e*P	**Pb**	**06 15 06.9**	**-0.4**
DEPR				Pmax		06 15 06.9	
	comp=Z,280nm,0.4s						
DEPR				*e*S	**Sg**	**06 15 35.2**	**-0.7**
DEPR				Smax		06 15 35.2	
	comp=E,4μm,0.7s						
BTGS	**Batagay**	**3.05**	**275**	*e*P	**Pn**	**06 15 19.2**	**+1.1**
BTGS				*e*P	**Pb**	**06 15 24.7**	**+0.5**
BTGS				Pmax		06 15 24.7	
	comp=Z,435nm,0.3s						
BTGS				*e*S	**Sg**	**06 16 05.5**	**-2.2**
BTGS				Smax		06 16 05.5	
	comp=N,5μm,0.8s						
TIXI	**Tiksi**	**6.28**	**316**	*e*Pn	**Pn**	**06 16 03.3**	**+1.0**
TIXI				*e*Sn	**Sn**	**06 17 11.3**	**-2.7**
TIXI				Lg	Lg	06 17 41.4	
TIXI	**Tiksi**	**6.28**	**316**	*de*P	**Pn**	**06 16 03.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,60nm,0.7s						
TIXI	**Tiksi**	**6.28**	**316**	Pn	**Pn**	**06 16 03.9**	**+1.5**
	comp=Z,15nm,0.3s,baz=147,slow=16,SNR=156						
TIXI				Sn	**Sn**	**06 17 10.7**	**-3.3**
	comp=Z,33nm,0.3s,baz=42,slow=3.9,SNR=9.1						
TIXI				Lg	Lg	06 17 41.4	
	comp=Z,28nm,0.3s,baz=38,slow=19,SNR=7.9						
TIXI				LR	LR	06 18 24.7	
	comp=Z,269nm,18.6s,baz=144,slow=38						
YAK	**Yakutsk**	**7.84**	**231**	*e*P	Pn	06 16 10.8	-13
YAK				pmax	pmax		
	comp=Z,76nm,0.4s						
YAK				pmax	pmax		
	comp=Z,311nm,0.7s						
MA2	**Magadan**	**8.83**	**152**	⇓*e*P	**Pn**	**06 16 39.3**	**+1.9**
MA2				pmax	pmax		
	comp=Z,34nm,1.7s						
MA2	**Magadan**	**8.83**	**152**	Pn	**Pn**	**06 16 38.9**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=344,slow=14,SNR=2.9						
MA2				Lg	Lg	06 19 08.2	
	comp=Z,1.4nm,0.3s,baz=70,slow=18,SNR=8.2						
MA2				LR	LR	06 20 17.0	
	comp=Z,366nm,20.0s,baz=332,slow=40						
BILL	**Bilibino**	**8.94**	**76**	*e*Pn	**Pn**	**06 16 40.2**	**+1.4**
BILL	**Bilibino**	**8.94**	**76**	*e*P	**Pn**	**06 16 38.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,381nm,13.0s						
ZEA	**Zeya**	**15.74**	**215**	*e*P	**Pn**	**06 18 11.5**	**+0.2**
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
ZEA				MLR	MLR		
	comp=N,1μm,8.0s						
ZEA				MLR	MLR		
	comp=Z,2μm,8.0s						
BOD	**Bodaibo**	**16.20**	**247**	*e*P	**Pn**	**06 18 13.2**	**-4.0**
BOD				pmax	pmax		
	comp=Z,27nm,1.1s						
PEA0B	**Petropavlovsk-**	**16.26**	**146**	*e*Pn	**Pn**	**06 18 19.4**	**+1.2**
	comp=Z,165nm,1.6s						
PETK	**Petropavlovsk-**	**16.26**	**146**	*e*Pn	**Pn**	**06 18 19.2**	**+1.1**
PETK	**Petropavlovsk-**	**16.26**	**146**	*e*P	**Pn**	**06 18 19.2**	**+1.1**
PETK	**Petropavlovsk-**	**16.26**	**146**	Pn	**Pn**	**06 18 19.5**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=312,slow=6.7,SNR=3.4						
PETK				LR	LR	06 25 27.7	
	comp=Z,107nm,20.5s,baz=326,slow=41						
GRNR	**Gornyy**	**17.17**	**193**	*e*P	**Pn**	**06 18 27.5**	**-2.1**
GAMB	**Gambell**	**18.84**	**80**	*e*P	**Pn**	**06 18 50.7**	**+0.7**
	comp=Z,15nm,0.8s						
KLR	**Kul'dur**	**19.23**	**202**	⇓*i*P	**Pn**	**06 18 55.6**	**+0.8**
KLR	**Kul'dur**	**19.23**	**202**	P	**P**	**06 18 54.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=354,slow=8.7,SNR=13						
KLR				Lg	Lg	06 24 39.9	
	comp=Z,0.2nm,0.3s,baz=116,slow=16,SNR=6.2						
KLR				LR	LR	06 26 38.5	
	comp=Z,189nm,21.1s,baz=359,slow=38						
NRIK	**Noril'sk**	**19.71**	**300**	P	**Pn**	**06 19 01.6**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=75,slow=8.4,SNR=9.8						
NRIK				Lg	Lg	06 24 52.2	
	comp=Z,0.5nm,0.3s,baz=357,slow=23,SNR=3.5						
NRIK				LR	LR	06 27 01.3	
	comp=Z,222nm,21.3s,baz=36,slow=38						
RDOG	**Red Dog Mine**	**20.01**	**63**	*e*P	**P**	**06 19 02.8**	**+0.5**
	comp=Z,26nm,1.0s						
YSS	**Yuzh-Sakhalins**	**20.71**	**180**	*e*P	Pn	06 19 11.4	-0.9
	comp=Z,27nm,1.3s						
YSS	**Yuzh-Sakhalins**	**20.71**	**180**	*e*P	Pn	06 19 11.4	-0.9
YSS				pmax	pmax		
	comp=Z,27nm,1.3s						
ANM	**Nome**	**20.78**	**74**	*e*P	Pn	06 19 11.7	-1.3
	comp=Z,57nm,1.6s						
ANM	**Nome**	**20.78**	**74**	*e*P	Pn	06 19 11.7	-1.4
ANM				pmax	pmax		
	comp=Z,57nm,1.6s						
SMY	**Shemya**	**21.26**	**119**	*e*P	**P**	**06 19 15.2**	**-0.6**
	comp=Z,152nm,1.4s						
SMY	**Shemya**	**21.26**	**119**	*e*P	**P**	**06 19 15.2**	**-0.6**
SMY				pmax	pmax		
	comp=Z,152nm,1.4s						
HIA	**Hailar**	**21.69**	**224**	*e*P	**P**	**06 19 21.8**	**+1.2**
HIA	**Hailar**	**21.69**	**224**	⇑*e*P	**P**	**06 19 21.7**	**+1.1**
HIA				pmax	pmax		
	comp=Z,20nm,1.0s						
ASAJ	**Asahikawa**	**23.54**	**180**	LR	LR	06 29 02.2	
	comp=Z,107nm,18.1s,baz=244,slow=37						

comp=Z,5.7nm,0.9s
CAST Castle Rocks 26.24 68 *e*P P 06 20 04.4 -0.2
comp=Z,10nm,0.7s
SVW2 Sparrevohn 26.45 74 *e*P P 06 20 05.8 -0.8
comp=Z,6.8nm,0.8s
MDM Murphy Dome 26.64 63 *e*P P 06 20 08.5 +0.3
comp=Z,9.3nm,0.8s
FYU Fort Yukon 26.68 58 *e*P P 06 20 08.6 +0.1
comp=Z,50nm,1.3s
ULN Ulaanbaatar 26.77 240 *e*P P 06 20 10.4 +0.7
COLA College 26.82 62 *e*P P 06 20 10.1 +0.4
comp=Z,18nm,1.0s
COLA College 26.82 62*c i*P P 06 20 09.5 -0.2
COLA pmax pmax
comp=Z,12nm,0.9s
TRF Thorofare Moun 26.85 66 *e*P P 06 20 10.3 0.0
comp=Z,14nm,0.9s
CCB Clear Creek Bu 26.97 63 *e*P P 06 20 10.9 -0.3
comp=Z,5.2nm,1.0s
WRH Wood River Hil 26.98 63 *e*P P 06 20 11.2 0.0
comp=Z,4.9nm,0.9s
SONM Songino Array 27.02 241 P P 06 20 14.0 +2.1
SONM Songino Array 27.02 241 P P 06 20 14.0 +2.1
comp=Z,2.7nm,0.8s,baz=35,slow=8.3,SNR=9.4
SONM Lg Lg 06 28 43.6
comp=Z,0.7nm,1.1s,baz=25,slow=15,SNR=3.7
SONM LR LR 06 31 28.0
comp=Z,175nm,20.7s,baz=24,slow=38
MCK McKinley 27.15 65 *e*P P 06 20 13.0 +0.2
comp=Z,11nm,0.8s
MCK McKinley 27.15 65 *e*P P 06 20 13.0 +0.2
MCK pmax pmax
comp=Z,11nm,0.8s
IL1 Eielson Array 27.21 62 *e*P P 06 20 13.2 -0.1
ILAR Eielson Array 27.21 62 P P 06 20 13.1 -0.2
comp=Z,8.8nm,0.8s,baz=297,slow=7.9,SNR=83
ILAR LR LR 06 30 59.2
comp=Z,79nm,20.7s,baz=305,slow=36
ILB Eielson Array 27.21 62 *e*P P 06 20 13.4 +0.1
comp=Z,9.7nm,0.8s
PRP Porcupine Dome 27.21 60 *e*P P 06 20 12.8 -0.6
comp=Z,16nm,1.1s
RND Reindeer 27.38 66 *e*P P 06 20 15.8 +0.8
comp=Z,15nm,1.5s
RND Reindeer 27.38 66 *e*P P 06 20 15.8 +0.8
RND pmax pmax
comp=Z,15nm,1.5s
HDA Harding Lake 27.41 63 *e*P P 06 20 16.0 +0.9
comp=Z,8.0nm,1.1s
UNV Unalaska Valle 27.46 95 *e*P P 06 20 16.0 +0.3
comp=Z,58nm,1.2s
RSO Redoubt South 27.91 73 *e*P P 06 20 20.7 +0.8
SUA Susitna One 27.98 70 *e*P P 06 20 20.0 -0.3
comp=Z,11nm,0.7s
INK Inuvik 29.23 49 P P 06 20 31.2 0.0
comp=Z,0.7nm,0.7s,baz=295,slow=12,SNR=5.7
INK LR LR 06 34 01.9
comp=Z,112nm,18.8s,baz=318,slow=40
KDAK Kodiak Island 29.85 77 LR LR 06 33 48.5
comp=Z,213nm,18.6s,baz=332,slow=39
ZAA0 Zalesovo Array 30.03 272 *e*P P 06 20 38.9 +0.4
comp=Z,5.0nm,0.9s
ZALV Zalesovo Beam 30.03 272 *e*P P 06 20 39.0 +0.5
ZALV Zalesovo Beam 30.03 272 *e*P P 06 20 39.0 +0.5
ZALV Zalesovo Beam 30.03 272 P P 06 20 39.3 +0.8
comp=Z,1.1nm,0.5s,baz=47,slow=6.3,SNR=3.5
ZALV LR LR 06 34 15.6
comp=Z,24nm,22.0s,baz=68,slow=40
MJAR Matsushiro Arr 31.21 187 LR LR 06 32 55.8
comp=Z,53nm,20.6s,baz=15,slow=36
KSRS Korea Array 31.32 203 P P 06 20 49.8 -0.1
comp=Z,0.5nm,0.4s,baz=350,slow=9.3,SNR=3.9
KSRS LR LR 06 35 04.3
comp=Z,41nm,20.5s,baz=24,slow=39
KSAR Wonju Array Be 31.33 203 P P 06 20 49.8 -0.3
KSAR Wonju Array Be 31.33 203 P P 06 20 49.8 -0.3
HHC Hu-ho-hao-te 31.69 228 *e*P P 06 20 50.3 -3.1
HHC S S 06 25 57.8 -4.9
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.8s
HHC LR LR
comp=Z,460nm,10.1s
HHC LR LR
comp=Z,320nm,9.7s
HHC LR LR
comp=Z,600nm,12.1s
RES Resolute Bay 33.30 24 *e*P P 06 21 07.2 +0.2
comp=Z,8.7nm,1.5s
RES Resolute Bay 33.30 24 *e*P P 06 21 07.2 +0.2
RES pmax pmax
comp=Z,9.0nm,1.5s
KURK Kurchatov 34.93 274*de*P P 06 21 23.5 +2.1
KURK pmax pmax
comp=Z,16nm,1.4s
ARCES ARCESS Array B 36.56 328 P P 06 21 35.1 0.0
comp=Z,2.4nm,0.7s,baz=50,slow=11,SNR=6.3
ARCES PcP **PcP 06 23 58.1 0.0**
comp=Z,2.1nm,0.6s,baz=27,slow=4.1,SNR=12
GTA Gaotai 36.69 242 *e*P P 06 21 37.3 +0.6
GTA pP sP 06 21 41.8 +0.6
GTA sP pP 06 21 44.3 +4.4
GTA pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 36.73 267 P P 06 21 36.9 0.0
comp=Z,5.3nm,0.7s,baz=25,slow=5.7,SNR=14
MKAR PP **PP 06 22 59.2 -1.1**
comp=Z,3.9nm,0.8s,baz=54,slow=11,SNR=3.8
MKAR LR LR 06 38 30.0
comp=Z,55nm,20.1s,baz=21,slow=39
MK01 Makanchi Array 36.74 267 *e*P P 06 21 36.9 -0.1
WMQ Urumqi 37.18 259 *e*P P 06 21 43.3 +2.5
WMQ LR LR
comp=Z,710nm,13.1s
WMQ LR LR
comp=Z,610nm,10.9s
WMQ LR LR
comp=Z,190nm,12.9s
ARU Arti 37.81 296*d i*P P 06 21 46.0 +0.1
ARU S **S 06 27 37.5 +1.3**
ARU SS **SnSn 06 30 11.0 -5.0**
ARU pmax pmax
comp=Z,4.0nm,1.0s
NJ2 Nanjing 38.22 214 *e*P P 06 21 51.0 +1.4
NJ2 pmax pmax
comp=Z,14nm,0.6s
LZH Lanzhou 38.40 235 *e*P P 06 21 50.1 -1.2
LZH pP sP 06 21 57.0 +1.2
LZH sP pP 06 22 00.6 +6.1
LZH PP **PnPn 06 23 21.6 +0.9**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.3s
LZH LR LR
comp=Z,560nm,14.6s
LZH LR LR
comp=Z,420nm,11.4s
LZH LR LR
comp=Z,520nm,14.5s
YKA Yellowknife Ar 38.86 46 P P 06 21 54.4 -0.2
comp=Z,1.9nm,0.7s,baz=321,slow=8.1,SNR=35
AKTO Aktyubinsk 42.85 291 P P 06 22 27.5 -0.1
comp=Z,4.0nm,0.6s,baz=47,slow=8.1,SNR=14
AKTO LR LR 06 42 38.6
comp=Z,150nm,18.2s,baz=30,slow=39
ABKAR Akbulak array 43.13 288 *e*P P 06 22 30.3 +0.4
comp=Z,6.8nm,0.8s
AAK Ala-Archa 43.22 270 *e*P P 06 22 32.7 +1.8
comp=Z,9.9nm,0.6s
AAK Ala-Archa 43.22 270*de*P P 06 22 32.4 +1.5
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 43.22 270 P P 06 22 31.8 +0.8
comp=Z,8.8nm,0.6s,baz=6.2,slow=0.5,SNR=13
CD2 Chengdu 43.23 232 P P 06 22 30.9 -0.1
CD2 pmax pmax
comp=Z,30nm,0.5s
FIA1 FINESS Array S 43.30 321 *e*P P 06 22 31.6 +0.5
FINES FINESS Array B 43.30 321 P P 06 22 31.3 +0.2
comp=Z,3.2nm,0.4s,baz=32,slow=9.3,SNR=39
FINES LR LR 06 46 33.3
comp=Z,42nm,18.7s,baz=62,slow=44
KSH Kashi 45.34 267 P P 06 22 55.3 +7.4
KSH PP PP 06 24 43.3 +10
KSH S S 06 29 39.5 +11
KSH sS sS 06 29 46.8 +13
KSH pmax pmax
comp=Z,100nm,5.8s
KSH LR LR
comp=Z,190nm,8.9s
KSH LR LR
comp=Z,160nm,10.4s
KSH LR LR
comp=Z,210nm,10.5s
OBN Obninsk 45.96 310 *e*P P 06 22 51.9 -0.5
OBN *e* 06 24 37.6
OBN pmax pmax
comp=Z,9.0nm,0.4s
OBN MLR MLR
comp=Z,68nm,15.0s
OBN Obninsk 45.96 310 LR LR 06 45 22.2
comp=Z,12nm,19.1s,baz=3.0,slow=40
NB2 NORSAR Subarra 46.88 330 P P 06 22 59.3 -0.3
comp=Z,5.9nm,0.8s,baz=24,slow=7.9
NOA NORSAR Array B 46.88 330 P P 06 22 59.5 -0.2
comp=Z,2.9nm,0.7s,baz=24,slow=7.8,SNR=12
NOA LR LR 06 45 39.9
comp=Z,27nm,19.3s,baz=15,slow=40
FCC Fort Churchill 47.26 36 *e*P P 06 23 01.6 -1.0
comp=Z,15nm,1.4s
FCC Fort Churchill 47.26 36 *e*P P 06 23 01.6 -1.0
FCC pmax pmax
comp=Z,15nm,1.4s
LPSR Galich'ya Gora 47.42 306 *e*P P 06 23 02.8 -1.1
LPSR pmax pmax
comp=Z,9.0nm,0.6s
VRH Novokhopyorsk 47.75 303 *e*P P 06 23 08.2 +1.8
VRH pmax pmax
comp=Z,10.0nm,0.8s
GAR Garm 47.95 272 *e*P P 06 23 09.7 +1.3
comp=Z,15nm,0.8s
GAR Garm 47.95 272 *e*P P 06 23 09.7 +1.3
GAR pmax pmax
comp=Z,15nm,0.8s
VSR Storozhevoye 48.54 305⇑*e*P P 06 23 11.5 -1.1
VSR pmax pmax
comp=Z,7.0nm,0.5s
CHGR Chuyangaron 48.70 272 *e*P P 06 23 15.1 +1.0
comp=Z,28nm,0.7s
FFC Flin Flon 48.93 44 *e*P P 06 23 15.1 -0.5
comp=Z,7.8nm,0.8s
FFC Flin Flon 48.93 44 *i*P P 06 23 15.0 -0.5
KMI Kunming 48.96 230 P P 06 23 18.3 +1.9
KMI pmax pmax
comp=Z,15nm,0.6s
B08A Colville Reser 49.28 61 *e*P P 06 23 18.8 +0.4
comp=Z,7.4nm,1.4s
KLNR Kaliningrad 50.82 321⇑*e*P P 06 23 28.7 -1.1
KLNR pmax pmax
comp=Z,19nm,0.5s
AKASG Malin Array Be 51.97 312 P P 06 23 37.9 -0.6
comp=Z,2.5nm,0.5s,baz=30,slow=8.3,SNR=6.9
AKBB Malin Array Si 51.97 312 *e*P P 06 23 38.5 0.0
comp=Z,19nm,1.6s
AKBB Malin Array Si 51.97 312 *e*P P 06 23 38.5 0.0
AKBB pmax pmax
comp=Z,19nm,1.6s
GUN Gumba 51.97 250 *e*P P 06 23 40.5 +1.3
comp=Z,12nm,0.4s
KIEV Kiev 51.98 312 *e*P P 06 23 38.5 -0.1
comp=Z,3.1nm,0.6s
KIEV Kiev 51.98 312⇑*i*P P 06 23 38.3 -0.3
KIEV Kiev 51.98 312⇑⇑P P 06 23 38.3 -0.3
AK11 Malin Array Si 52.00 312 *e*P P 06 23 38.3 -0.5
G08A Pilot Rock 52.08 62 *e*P P 06 23 39.8 +0.2
comp=Z,1.5nm,0.8s
JIRN Jiri 52.08 250 *e*P P 06 23 41.5 +1.4
comp=Z,38nm,0.6s
KKN Kakani 52.29 251 *e*P P 06 23 42.5 +1.0
comp=Z,34nm,0.7s
GKN Gorkha 52.33 251 *e*P P 06 23 42.8 +1.1
comp=Z,25nm,0.4s
DANN Dangsing 52.34 252 *e*P P 06 23 43.3 +1.4
comp=Z,24nm,0.5s
PKI Pulchoki 52.45 250 *e*P P 06 23 43.8 +1.0
comp=Z,7.7nm,0.4s
DMN Daman 52.52 251 *e*P P 06 23 44.5 +1.3
comp=Z,7.2nm,0.4s
RAMN Ramite 52.58 249 *e*P P 06 23 44.4 +0.7
comp=Z,26nm,0.9s
PINE Pine Mountain 52.71 65 *e*P P 06 23 44.8 +0.3
comp=Z,6.2nm,0.9s
PYUN Piuthan 52.84 253 *e*P P 06 23 46.1 +0.5
comp=Z,33nm,1.0s
KOLN Koldanda 52.92 252 *e*P P 06 23 47.3 +1.2
comp=Z,41nm,1.1s
GEYT Alibeck 53.53 282 P P 06 23 51.6 +1.4
comp=Z,1.8nm,0.4s,baz=357,slow=5.9,SNR=6.5
GEYT LR LR 06 50 00.1
comp=Z,46nm,20.4s,baz=35,slow=40
KIV Kislovodsk 53.76 298 *e*P P 06 23 53.0 +1.0
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,114nm,17.0s
KBZ Khabaz 53.89 298 P P 06 23 53.8 +1.0
comp=Z,5.8nm,0.8s,baz=41,slow=8.7,SNR=16
KBZ LR LR 06 48 12.1
comp=Z,56nm,19.5s,baz=20,slow=38
MCMT McKenzie Canyo 54.51 58 *e*P P 06 23 58.4 +0.7
ULM Lac du Bonnet 54.58 42 P P 06 23 56.0 -1.7
comp=Z,3.0nm,0.7s,baz=322,slow=5.1,SNR=7.7
ULM LR LR 06 49 14.1
comp=Z,63nm,19.5s,baz=332,slow=38
MOD Modoc Plateau 54.60 65 *e*P P 06 23 58.6 +0.4
comp=Z,9.0nm,1.4s
ANN Anapa 54.75 303 *e*P P 06 23 52.9 -6.1
ANN *e**PP pP 06 23 55.9 -6.4
ANN *e* 06 25 59.6
ANN *e*S S 06 31 30.0 -9.0
ANN pmax pmax
comp=Z,48nm,1.4s
OJC Ojcow 54.94 319 *e*P P 06 24 00.8 +0.5
OJC Ojcow 54.94 319 *e*P P 06 24 00.8 +0.5
WDC Whiskeytown Da 54.98 68 *e*P P 06 24 01.0 +0.2
comp=Z,4.0nm,1.0s
WDC Whiskeytown Da 54.98 68 *e*P P 06 24 01.0 +0.2
WDC pmax pmax
comp=Z,4.0nm,1.0s
HLID Hailey 55.13 60 *e*P P 06 24 01.5 -0.6
YHH Holmes Hill 55.19 56 *e*P P 06 24 03.5 +0.9
comp=Z,3.9nm,0.9s
RLMT Red Lodge 55.39 55 *e*P P 06 24 05.1 +1.1
comp=Z,7.7nm,0.8s
LKWY Lake 55.53 56 *e*P P 06 24 06.5 +1.4
comp=Z,6.5nm,0.8s
LKWY Lake 55.53 56 *e*P P 06 24 06.5 +1.4
LKWY pmax pmax
comp=Z,7.0nm,0.8s
NIE Niedzica 55.55 318 *e*P P 06 24 05.7 +0.8
NIE Niedzica 55.55 318 *e*P P 06 24 05.6 +0.8
CLL Collm 55.55 324 *e*P P 06 24 05.0 +0.3
comp=Z,9.5nm,0.7s
CLL Collm 55.55 324 *i*P P 06 24 04.6 -0.1
comp=Z,6.0nm,0.8s
CLL *i*pP **pP 06 24 06.9 -1.2**
comp=Z,11nm,0.8s
CLL Collm 55.55 324 *i*P P 06 24 04.6 -0.1
CLL *i* 06 24 06.9
CLL pmax pmax
comp=Z,6.0nm,0.8s
H17A Grant Village 55.63 56 *e*P P 06 24 07.9 +2.1
comp=Z,6.0nm,1.1s
YPP Pitchstone Pla 55.67 56 *e*P P 06 24 07.9 +1.8
comp=Z,4.1nm,1.1s
DPC Dobruska-Polom 55.67 321 *e*P P 06 24 06.4 +0.7
DPC *e*pP **pP 06 24 08.8 -0.2**
DPC Dobruska-Polom 55.67 321 *e*P P 06 24 06.4 +0.7
DPC *e* 06 24 08.8
BRG Berggiesshubel 55.74 323 *e*P P 06 24 05.8 -0.3
comp=Z,2.3nm,0.7s
BRG Berggiesshubel 55.74 323 *e*P P 06 24 05.8 -0.3
BRG pmax pmax
comp=Z,2.0nm,0.7s
UZH Uzhgorod 55.75 316 *e*P P 06 24 08.6 +2.4
UZH *e* 06 24 13.3
KRLC Kraliky 55.82 321 *e*P P 06 24 07.6 +0.8
KRLC *e*pP **pP 06 24 09.8 -0.3**
KRLC Kraliky 55.82 321 *e*P P 06 24 07.6 +0.8
KRLC *e* 06 24 09.8
BUR08 Bucovina Ar. S 55.86 314 *e*P P 06 24 07.7 +0.5
comp=Z,9.4nm,1.5s
FLWY Flagg Ranch 55.87 57 *e*P P 06 24 08.8 +1.4
comp=Z,5.6nm,0.7s
BURAR Bucovina Array 55.88 313⇑*i*P P 06 24 07.3 0.0
BURAR Bucovina Array 55.88 313⇑⇑P P 06 24 07.3 0.0
MORC Moravsky Berou 55.91 320 *e*P P 06 24 07.6 +0.2
comp=Z,5.2nm,0.7s
MORC Moravsky Berou 55.91 320⇑*i*P P 06 24 08.1 +0.7
MORC Moravsky Berou 55.91 320⇑⇑P P 06 24 08.1 +0.7
MORC Moravsky Berou 55.91 320 *e*P P 06 24 07.9 +0.5
MORC *e* 06 24 10.1
SCHQ Schefferville 55.92 20 P P 06 24 06.0 -1.4
comp=Z,3.4nm,0.6s,baz=344,slow=6.3,SNR=11
IMW Indian Meadow 55.96 57 *e*P P 06 24 08.6 +0.4
comp=Z,2.3nm,1.0s
LANS Liptovska Anna 56.01 318 *e*P P 06 24 09.8 +1.7
LANS Liptovska Anna 56.01 318 *e*P P 06 24 09.8 +1.7
LAMP Lampang 56.11 231 P P 06 24 12.0 +2.9
comp=Z,6.6nm,0.7s
TRPA Tarpa 56.14 316⇑*i*P P 06 24 09.5 +0.5
MOOW Moose Ponds 56.16 57 *e*P P 06 24 10.0 +0.5
comp=Z,2.7nm,0.8s
FXWY Fox Creek 56.16 57 *e*P P 06 24 10.8 +1.3
comp=Z,3.5nm,1.2s
TPAW Teton Pass 56.32 57 *e*P P 06 24 11.2 +0.4
comp=Z,5.6nm,0.9s
LOHW Long Hollow 56.32 57 *e*P P 06 24 11.2 +0.5
comp=Z,4.1nm,1.1s
CMAR Chiang Mai Arr 56.37 232*ce*P P 06 24 13.1 +2.1
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 56.37 232 P P 06 24 10.9 -0.1
comp=Z,1.0nm,0.3s,baz=3.0,slow=9.3,SNR=6.7
CMAR LR LR 06 51 01.8
comp=Z,78nm,19.2s,baz=5.5,slow=39
BEKR Beckworth 56.38 67 *e*P P 06 24 10.9 -0.2
comp=Z,5.9nm,1.2s
REDW Red Top Meadow 56.47 57 *e*P P 06 24 12.2 +0.5
comp=Z,5.8nm,1.0s
UTTA Uttaradit 56.57 230 P P 06 24 14.1 +1.7
comp=Z,2.2nm,0.6s,comp=Z,66nm
VYHS Vyhne 56.77 319 *e*P P 06 24 14.2 +0.6
VYHS pmax pmax
comp=Z,63nm,3.1s
VYHS Vyhne 56.77 319 *e*P P 06 24 14.2 +0.6
PSZ Piszkesteto 57.03 318⇑*i*P P 06 24 16.4 +0.9
PSZ Piszkesteto 57.03 318⇑⇑P P 06 24 16.4 +0.9
VRI Vrincioaia 57.05 311⇑*i*P P 06 24 14.3 -1.3
VRI Vrincioaia 57.05 311⇑⇑P P 06 24 14.3 -1.3
HVU Hansel Valley 57.26 59 *e*P P 06 24 17.8 +0.5
comp=Z,4.3nm,0.8s
HVU Hansel Valley 57.26 59 *e*P P 06 24 17.8 +0.5
HVU pmax pmax
comp=Z,4.0nm,0.8s
CFR Carcaliu 57.27 310⇑*i*P P 06 24 17.3 +0.2
CFR Carcaliu 57.27 310⇑⇑P P 06 24 17.3 +0.2
DRGR 57.33 315⇑*i*P P 06 24 17.8 +0.2
DRGR 57.33 315⇑⇑P P 06 24 17.8 +0.2
ELK Elko 57.37 62 *e*P P 06 24 18.9 +0.7
comp=Z,2.2nm,1.0s
ELK Elko 57.37 62 *e*P P 06 24 18.9 +0.7
ELK pmax pmax
comp=Z,2.0nm,1.0s
BW06 Boulder Array 57.42 56 *e*P P 06 24 18.6 +0.2
comp=Z,2.9nm,0.9s
PD31 Pinedale Array 57.42 56 *e*P P 06 24 18.8 +0.3
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 57.42 56 P P 06 24 18.6 +0.1
comp=Z,2.1nm,0.7s,baz=8.3,slow=2.4,SNR=30
PDAR LR LR 06 51 48.6
comp=Z,83nm,18.7s,baz=334,slow=39
PBKT Sadao Pong 57.56 229 *e*P P 06 24 20.5 +1.1
comp=Z,5.5nm,1.0s
PBKT Sadao Pong 57.56 229 P P 06 24 22.7 +3.3
YERR Yerington 57.56 66 *e*P P 06 24 20.0 +0.5
comp=Z,7.2nm,1.2s
MLR Muntele Rosu 57.62 312 *e*P P 06 24 20.4 +0.6
comp=Z,5.2nm,0.7s
MLR Muntele Rosu 57.62 312⇑*i*P P 06 24 21.0 +1.3
MLR Muntele Rosu 57.62 312⇑⇑P P 06 24 21.0 +1.3
GERES GERESS Array B 57.70 323 P P 06 24 20.3 +0.1
comp=Z,1.7nm,0.7s,baz=35,slow=7.2,SNR=9.9
GEA0 GERESS Array S 57.70 323 *e*P P 06 24 20.4 +0.2
KVN Kaiserville 57.90 65 *e*P P 06 24 22.4 +0.5
comp=Z,2.9nm,0.8s
KVN Kaiserville 57.90 65 *e*P P 06 24 22.4 +0.5
KVN pmax pmax
comp=Z,3.0nm,0.8s
WAKR Walker 57.92 67 *e*P P 06 24 22.6 +0.6
comp=Z,3.0nm,0.8s
VOIR 57.92 313⇑*i*P P 06 24 22.9 +1.1
VOIR 57.92 313⇑⇑P P 06 24 22.9 +1.1
ARR Arges 58.10 313⇑*i*P P 06 24 24.2 +1.2
RYN Ryan 58.13 66 *e*P P 06 24 24.1 +0.7
comp=Z,3.6nm,1.1s
NV01 Mina Array Sit 58.38 66 *e*P P 06 24 25.5 +0.2
NVAR Mina Array Bea 58.38 66 P P 06 24 25.9 +0.6
comp=Z,2.4nm,0.8s,baz=317,slow=5.8,SNR=17
K22A Casper 58.48 54 *e*P P 06 24 25.7 -0.2
comp=Z,4.4nm,0.8s
GZR Gura Zlata 58.59 314⇑*i*P P 06 24 26.9 +0.4
GZR Gura Zlata 58.59 314⇑⇑P P 06 24 26.9 +0.4
DUG Dugway, Tooele 58.67 60 *e*P P 06 24 27.9 +0.7
comp=Z,3.8nm,0.9s
DUG Dugway, Tooele 58.67 60 *e*P P 06 24 27.9 +0.7
DUG pmax pmax
comp=Z,4.0nm,0.9s
JLU Jordanelle 58.76 59 *e*P P 06 24 28.7 +0.8
comp=Z,5.2nm,0.9s
MDPB Devils Postpil 58.83 67 *e*P P 06 24 29.6 +1.2
comp=Z,4.6nm,0.9s
OMMB Old Mammoth Mi 58.87 67 *e*P P 06 24 28.5 -0.3
comp=Z,2.3nm,0.9s
OMMB *e*PcP **PcP 06 25 21.1 +3.0**
NLU North Lily Min 59.13 60 *e*P P 06 24 31.2 +0.7
comp=Z,5.8nm,0.9s
MPU Maple Canyon 59.23 59 *e*P P 06 24 31.2 +0.1
comp=Z,3.4nm,1.0s
R11A Troy Canyon, C 59.40 63 *e*P P 06 24 32.8 +0.5
comp=Z,4.3nm,1.0s
PSUT Pine Spring 59.82 62 *e*P P 06 24 36.0 +0.7
comp=Z,4.7nm,0.8s
P18A Preston Nutter 60.03 58 *e*P P 06 24 37.2 +0.5
comp=Z,3.8nm,0.9s
Q16A Castle Valley 60.37 60 *e*P P 06 24 39.2 +0.2
comp=Z,6.1nm,1.0s
ECSD EROS Data Cent 60.38 46 *e*P P 06 24 37.3 -1.5
comp=Z,3.8nm,0.8s
MSU Marysvale 60.40 61 *e*P P 06 24 38.7 -0.5
MSU Marysvale 60.40 61 *e*P P 06 24 38.7 -0.5
SRU San Rafael Swe 60.41 59 *e*P P 06 24 39.7 +0.5
comp=Z,3.0nm,0.8s
SRU San Rafael Swe 60.41 59 *e*P P 06 24 39.7 +0.5
SRU pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 60.54 303 P P 06 24 40.3 +0.3
comp=Z,1.4nm,0.7s,baz=30,slow=4.5,SNR=6.0
BRTR LR LR 06 52 40.4
comp=Z,19nm,18.3s,baz=358,slow=38
MTPU Mount Pierson 60.83 61 *e*P P 06 24 43.2 +0.9
comp=Z,8.9nm,1.6s
MTPU *e*S **S 06 32 56.3 -3.3**
SHPR Sheep Range 61.20 64 *e*P P 06 24 45.1 +0.5
comp=Z,3.8nm,1.0s
SMCO Snowmass 61.49 56 *e*P P 06 24 46.9 +0.1
comp=Z,3.5nm,1.0s
PV23 Carpenter Ridg 61.50 58 *e*P P 06 24 46.8 +0.1
comp=Z,5.5nm,0.9s
KNB Kanab 61.54 62 *e*P P 06 24 47.8 +0.9
comp=Z,4.3nm,0.9s
KNB Kanab 61.54 62 *e*P P 06 24 47.8 +0.9
KNB pmax pmax
comp=Z,4.0nm,0.9s
PV14 Lion Creek, Pa 61.57 58 *e*P P 06 24 47.4 +0.3
comp=Z,6.8nm,0.9s
PV16 Nyswonger Mesa 61.66 58 *e*P P 06 24 48.2 +0.4
comp=Z,17nm,1.6s
PV03 Paradox Valley 61.73 58 *e*P P 06 24 49.0 +0.7
comp=Z,5.8nm,1.1s
PV01 Paradox Valley 61.93 58 *e*P P 06 24 49.5 -0.1
comp=Z,4.4nm,1.0s
SDCO Great Sand Dun 63.27 55 *e*P P 06 24 58.9 +0.3
comp=Z,3.2nm,1.1s
HYB Hyderabad 64.23 252 *i*P P 06 25 05.5 +0.7
X18A Snowflake 64.76 61 *e*P P 06 25 08.4 0.0
comp=Z,8.1nm,0.6s

MNTX	**Cornudas Mount**	**68.86**	**58**	*eP*	**P**	**06 25 34.5**	**+0.2**
ES06	**SONSECA Array**	**70.09**	**333**	*eP*	**P**	**06 25 41.5**	**-0.3**
ESDC	**Sonseca Array**	**70.09**	**333**	P	**P**	**06 25 41.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=5.4,slow=6.5,SNR=6.4						
RAYN	**Ar Rayn**	**71.15**	**286**	*eP*	**P**	**06 25 48.8**	**+0.3**
	comp=Z,6.3nm,0.8s						
PSI	**Prapat**	**71.24**	**227**	*eP*	**P**	**06 25 48.5**	**-0.6**
	comp=Z,7.6nm,1.0s						
PSI	**Prapat**	**71.24**	**227**	*eP*	**P**	**06 25 48.5**	**-0.6**
PSI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TX31	**Lajitas Ar. Si**	**71.60**	**57**	*eP*	**P**	**06 25 50.4**	**-0.8**
TXAR	**Lajitas Array**	**71.60**	**57**	P	**P**	**06 25 50.8**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=312,slow=4.2,SNR=6.9						
TXAR				LR	LR	07 00 52.4	
	comp=Z,74nm,18.4s,baz=0.0,slow=39						
JCT	**Junction City**	**71.76**	**54**	*eP*	**P**	**06 25 51.0**	**-1.1**
	comp=Z,6.1nm,0.8s						
JCT	**Junction City**	**71.76**	**54**	*eP*	**P**	**06 25 51.0**	**-1.1**
JCT				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**87.50**	**188**	P	**P**	**06 27 15.7**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=0.9,slow=5.1,SNR=6.2						
ASAR	**Alice Springs**	**91.23**	**188**	P	**P**	**06 27 33.9**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=8.7,slow=4.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**94.65**	**322**	P	**P**	**06 27 49.8**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=335,slow=6.9,SNR=3.3						
VNDA	**Vanda**	**145.37**	**173**	PKPbc	**PKPdf**	**06 34 04.8**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=291,slow=10.0,SNR=3.6						
MAW	**Mawson**	**145.79**	**222**	PKPbc	**PKPdf**	**06 34 06.3**	**-0.3**
	comp=Z,16nm,0.8s,baz=14,slow=8.3,SNR=2.1						
PLCA	**Paso Flores**	**147.58**	**51**	PKPbc	**PKPbc**	**06 34 13.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=9.4,slow=6.5,SNR=6.8						

IDC 14 06:20:55.1±59.0, 22.58S×179.12W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/28, mbtmp3.7/3, Error ellipse: s-maj=1073.0km s-min=163.2km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.98**	**246**	P	P	06 27 57.0	-0.9
	1.3nm,0.8s,baz=72,slow=16,SNR=3.0						
ASAR	**Alice Springs**	**43.07**	**259**	P	P	06 28 56.7	-0.4
	0.2nm,0.4s,baz=90,slow=8.9,SNR=4.6						
WRA	**Warramunga Arr**	**43.33**	**264**	P	P	06 28 59.8	+0.5
	0.8nm,0.4s,baz=100,slow=8.3,SNR=19						

IDC 14 06:28:05.5±2.8, 53.53N×87.83E, h0km, mb1 3.2/3, mb1mx3.0/44, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=26.8km s-min=15.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.83**	**284**	*i*		06 40 18.7	
	baz=100,slow=346,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.83**	**284**	Pn	Pn	06 28 37.2	-1.1
	3.3nm,0.3s,baz=102,slow=14,SNR=25						
ZALV				Lg	Lg	06 29 03.6	
	2.9nm,0.3s,baz=108,slow=23,SNR=11						
KURBB	**Kurchatov Arra**	**6.43**	**247**	Pn	Pn	06 29 41.6	+0.3
	0.1nm,0.3s,baz=62,slow=14,SNR=7.9						
KURBB				Lg	Lg	06 31 26.7	
	0.0nm,0.3s,baz=64,slow=33,SNR=4.8						
MKAR	**Makanchi Array**	**7.62**	**210**	Pn	Pn	06 29 58.7	+1.0
	0.2nm,0.3s,baz=31,slow=13,SNR=5.5						
MKAR				Sn	Sn	06 31 25.1	+0.3
	0.2nm,0.3s,baz=27,slow=29,SNR=5.2						
BVAR	**Borovoye Array**	**10.46**	**274**	Pn	Pn	06 30 36.1	-0.5
	0.2nm,0.3s,baz=93,slow=10,SNR=4.6						

NNC 14 06:31:58.0±1.1, 47.55N×81.65E, h0km, mpv2.6, Error ellipse: s-maj=6.2km s-min=5.6km az=84.0
SOME 14 06:31:58.7, 47.60N×81.22E, h5km
ISC 14 06:31:56.2±1.1, 47.59N±0.04×81.38E±0.06, h13km, n7, σ0s97/12, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.88**	**152**	⇓P	**Pg**	**06 32 13.7**	**+0.6**
	2.3nm,0.3s						
MAKZ				⇑S	**Sg**	**06 32 23.1**	**-1.5**
	3.8nm,0.2s						
MK31	**Makanchi Array**	**1.00**	**142**	⇑P	**Pb**	**06 32 15.7**	**+0.3**
	7.9nm,0.3s,baz=332,slow=16,SNR=7.5						
MK31				⇓S	**Sb**	**06 32 27.0**	**-1.6**
	1.5nm,0.1s,baz=330,slow=28,SNR=18						
ZSN	**Zaisan**	**2.37**	**92**	*eP*	**Pb**	**06 32 39.1**	**+0.4**
	1.2nm,0.2s						
ZSN				*eS*	**Sb**	**06 33 08.6**	**+0.9**
	3.2nm,0.7s						
KAPS	**Kapalarasan**	**2.69**	**212**	*eP*	**Pg**	**06 32 47.9**	**+0.1**
	0.4nm,0.3s						
KAPS				*eS*	**Sg**	**06 33 23.8**	**+1.1**
	11nm,0.3s						
DJR	**Jarkent**	**3.44**	**199**	*eP*	**Pg**	**06 33 01.5**	**-0.5**
	0.3nm,0.2s						
DJR				*eS*	**Sg**	**06 33 46.9**	**+0.4**
	2.4nm,0.3s						
KURBB	**Kurchatov Arra**	**3.57**	**329**	Pg	**Pg**	**06 33 04.7**	**+0.1**
KURBB				⇑Lg	Lg	06 33 57.8	
	22nm,0.7s						
KURK	**Kurchatov**	**3.62**	**331**	Pg	**Pg**	**06 33 04.7**	**-0.8**
KURK				⇑Lg	Lg	06 33 58.0	
	9.3nm,0.6s						

IDC 14 06:50:38.6±1.1, 56.63S×25.74W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/19, mbtmp3.9/3, Error ellipse: s-maj=43.5km s-min=31.7km az=83.0
ISCJB 14 06:50:41.3±1.1, 56.65S×25.78W×0.5, h29km, mb3.9/3, Error ellipse: s-maj=43.6km s-min=15.4km az=158.1
ISC 14 06:50:43.1±1.0, 56.65S×25.82W×0.3, h29km, n8, σ0s94/8, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.99**	**159**	P	**Pn**	**06 54 25.3**	**-0.2**
VNA3	**Neumayer Olymp**	**16.21**	**161**	P	**Pn**	**06 54 27.9**	**-0.4**
SNAA	**Sanae**	**17.92**	**156**	P	**P**	**06 54 51.6**	**+1.4**
VNDA	**Vanda**	**46.04**	**182**	P	**P**	**06 59 02.5**	**-0.8**
	0.7nm,0.7s,baz=162,slow=6.0,SNR=6.6						
LPAZ	**La Paz**	**51.32**	**304**	P	**P**	**06 59 46.0**	**+0.7**
	1.4nm,0.6s,baz=146,slow=6.0,SNR=8.3						
TORD	**Torodi Ar. Bea**	**73.18**	**28**	P	**P**	**07 02 10.4**	**-0.5**
	0.8nm,0.4s,baz=203,slow=6.6,SNR=8.7						
SONM	**Songino Array**	**150.00**	**86**	PKPbc	**PKiKP**	**07 10 31.4**	**+0.7**
	0.2nm,0.6s,baz=219,slow=1.8,SNR=1.6						
ILAR	**Eielson Array**	**151.06**	**311**	PKPab	**PKPab**	**07 10 38.8**	**-0.7**
	0.4nm,0.8s,baz=134,slow=3.9,SNR=4.2						

ISCJB 14 06:55:16.7±0.4, 38.83N±0.02×25.95E±0.03, h9km±3km, Error ellipse: s-maj=3.8km s-min=2.4km az=161.4
ISK 14 06:55:16.0, 38.81N×25.91E, h6km, ML3.5/41
ATH 14 06:55:16.1, 38.86N×25.98E, h30km±1km, ML3.3/6, Error ellipse: s-maj=2.4km s-min=1.3km az=268.0
DDA 14 06:55:16.3, 38.84N×25.98E, h38km, ML3.4
THE 14 06:55:16.9, 38.84N×25.93E, h12km±1km, ML3.3/3, Error ellipse: s-maj=2.6km s-min=0.9km az=80.0
ISC 14 06:55:16.4±1.1, 38.83N±0.02×25.97E±0.02, h8km±10km, n89, σ1s25/111, 10C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.39**	**347**	PG	**Pg**	**06 55 24.6**	**+0.5**
SIGR	**SIGRI**	**0.39**	**347**	P	**Pg**	**06 55 24.6**	**+0.5**
SIGR				S	**Sg**	**06 55 29.4**	**+0.1**
SIGR	**SIGRI**	**0.39**	**347**	P	**Pg**	**06 55 24.6**	**+0.5**
SIGR				S	**Sg**	**06 55 29.6**	**+0.3**
SIGR				AML	AML	06 55 30.5	
	comp=N,8214μm,0.3s						
SIGR				AML	AML	06 55 30.7	
	comp=E,6174μm,0.3s						
PSRA	**Psara**	**0.43**	**228**	P	**Pb**	**06 55 27.0**	**+0.8**
PSRA				S	**Sb**	**06 55 33.1**	**+0.3**
PSRA				AML	AML	06 55 33.7	
	comp=E,28736μm,0.2s						
PSRA				AML	AML	06 55 34.1	
	comp=N,20523μm,0.3s						
CHOS	**Chios island**	**0.44**	**172**	PG	**Pb**	**06 55 26.5**	**-0.1**
CHOS				SG	**Sg**	**06 55 31.6**	**+0.8**
CHOS	**Chios island**	**0.44**	**172**	P	**Pb**	**06 55 26.4**	**-0.1**
CHOS				S	**Sb**	**06 55 32.6**	**-0.7**
CHOS	**Chios island**	**0.44**	**172**	P	**Pb**	**06 55 26.4**	**-0.1**
CHOS				S	**Sb**	**06 55 32.7**	**-0.7**
CHOS				AML	AML	06 55 35.9	
	comp=N,4476μm,0.4s						
CHOS				AML	AML	06 55 38.2	
	comp=E,8277μm,0.3s						
PRK	**Paraskevi**	**0.48**	**29**	P	**Pb**	**06 55 26.9**	**-0.1**
PRK				S	**Sb**	**06 55 33.3**	**-0.9**
PRK	**Paraskevi**	**0.48**	**29**	P	**Pb**	**06 55 26.9**	**-0.1**
PRK				S	**Sb**	**06 55 33.4**	**-0.9**
PRK				AML	AML	06 55 37.7	
	comp=E,8484μm,0.4s						
PRK				AML	AML	06 55 38.1	
	comp=N,8850μm,0.4s						
KRBN	**Karaburun**	**0.51**	**117**	PG	**Pb**	**06 55 26.6**	**-1.0**
CESE	**eme**	**0.56**	**153**	PG	**Pb**	**06 55 27.6**	**-0.8**
CESE				SG	**Sb**	**06 55 36.0**	**-0.5**
FOCM	**Foa**	**0.60**	**101**	PG	**Pb**	**06 55 29.1**	**-0.1**
FOCM				SG	**Sb**	**06 55 37.9**	**+0.1**
GPNR	**Gulpinar-Canak**	**0.64**	**11**	PG	**Pb**	**06 55 29.5**	**-0.3**
URLA	**Izmir**	**0.68**	**133**	PG	**Pb**	**06 55 30.1**	**-0.3**
URLA	**Izmir**	**0.68**	**133**	*i* P	**Pb**	**06 55 30.7**	**+0.3**
URLA				*i* S	**Sb**	**06 55 41.5**	**+1.6**
URLA				IAML_P			
	comp=Z,12μm,0.1s						
ZEY	**zmir**	**0.72**	**145**	*i* P	**Pb**	**06 55 31.1**	**0.0**
ZEY				*i* S	**Sb**	**06 55 42.5**	**+1.4**
ZEY				IAML_P			
	comp=Z,22μm,0.2s						
AYVA	**Ayvalik**	**0.74**	**49**	*i* P	**Pb**	**06 55 31.7**	**+0.3**
AYVA				*i* S	**Sb**	**06 55 40.0**	**-1.6**
AYVA				IAML_P			
	comp=Z,8μm,0.1s						
ZEDA	**zmir-Bergama**	**0.87**	**80**	*i* P	**Pb**	**06 55 33.7**	**-0.1**
ZEDA				*i* S	**Sn**	**06 55 46.9**	**-1.0**
ZEDA				IAML_P			
	comp=Z,11μm,0.2s						
BLCB	**Balcova**	**0.95**	**117**	PG	**Pb**	**06 55 35.3**	**+0.3**
BOZC	**Bozcaada**	**1.01**	**3**	PG	**Pb**	**06 55 35.9**	**-0.3**
BOZC	**Bozcaada**	**1.01**	**3**	*i* P	**Pg**	**06 55 35.8**	**-0.1**
BOZC				*i* S	**Sb**	**06 55 50.0**	**+0.3**
BOZC				IAML_P			
	comp=Z,6μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**1.02**	**26**	*i* P	**Pb**	**06 55 36.2**	**-0.1**
BAYC				IAML_P			
	comp=Z,4μm,0.1s						
EZN	**Ezine**	**1.03**	**15**	PG	**Pb**	**06 55 36.6**	**+0.1**
EFSA	**Agios Efstrati**	**1.04**	**313**	P	**Pg**	**06 55 36.5**	**+0.1**
DGB	**zmir**	**1.05**	**137**	*i* P	**Pn**	**06 55 38.0**	**+0.5**
DGB				*i* S	**Sb**	**06 55 50.6**	**-0.2**
DGB				IAML_P			
	comp=Z,5μm,0.2s						
LIA	**Limnos Island**	**1.23**	**330**	P	**Pg**	**06 55 39.5**	**-0.5**
LIA				S	**Sg**	**06 55 54.5**	**-1.5**
LIA	**Limnos Island**	**1.23**	**330**	P	**Pg**	**06 55 39.4**	**-0.7**
LIA				S	**Sg**	**06 55 54.7**	**-1.3**
LIA				AML	AML	06 55 55.7	
	comp=E,1968μm,0.5s						
LIA				AML	AML	06 55 58.8	
	comp=N,3252μm,0.6s						
SMG	**Samos**	**1.31**	**148**	P	**Pg**	**06 55 39.9**	**-1.5**
SMG				S	**Sb**	**06 55 58.6**	**+0.5**
SMG	**Samos**	**1.31**	**148**	P	**Pg**	**06 55 40.2**	**-1.2**
SMG				S	**Sb**	**06 55 58.2**	**0.0**
SMG				AML	AML	06 56 02.5	
	comp=E,2408μm,0.3s						
SMG				AML	AML	06 56 02.8	
	comp=N,2695μm,0.3s						
TNSA	**Tinos**	**1.44**	**207**	P	**Pn**	**06 55 42.1**	**-0.6**
AKHS	**Akhisar**	**1.44**	**87**	*i* P	**Pb**	**06 55 43.0**	**-0.4**
AKHS				IAML_P			
	comp=Z,2μm,0.3s						
STEP	**BALIKESIR_Sava**	**1.47**	**67**	*i* P	**Pg**	**06 55 43.6**	**-0.9**
STEP				*i* S	**Sn**	**06 56 04.8**	**+2.3**
STEP				IAML_P			
	comp=Z,5μm,0.2s						
BALY	**Balya**	**1.57**	**54**	*i* P	**Pn**	**06 55 44.3**	**-0.3**
BALY				IAML_P			
	comp=Z,1μm,0.1s						
GELI	**Tayfur-Gelibol**	**1.62**	**14**	PN	**Pb**	**06 55 45.9**	**-0.5**
LPK	**Lapseki**	**1.66**	**21**	PN	**Pb**	**06 55 46.9**	**-0.3**
AOS	**Alonnisos**	**1.67**	**283**	PN	**Pn**	**06 55 45.4**	**-0.5**
SMTH	**Samothraki Isl**	**1.68**	**348**	P	**Pn**	**06 55 45.1**	**-0.9**
SMTH				S	**Sn**	**06 56 00.6**	**-1.8**
BALB	**Balikesir**	**1.69**	**61**	PN	**Pn**	**06 55 47.1**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**1.75**	**120**	PN	**Pb**	**06 55 47.9**	**-0.8**
APE	**Apeiranthos**	**1.79**	**191**	PN	**Pn**	**06 55 47.5**	**-0.1**
APE	**Apeiranthos**	**1.79**	**191**	*i* P	**Pn**	**06 55 46.9**	**-0.7**
APE	**Apeiranthos**	**1.79**	**191**	P	**Pn**	**06 55 47.0**	**-0.7**
GONE	**Gonen-Balikesi**	**1.80**	**47**	PN	**Pn**	**06 55 48.1**	**+0.4**
KRBG	**Karabiga-Canak**	**1.87**	**33**	PN	**Pb**	**06 55 49.7**	**-1.1**
ERIK	**Erikli-Kesan**	**1.89**	**13**	PN	**Pn**	**06 55 49.7**	**+0.8**
ENEZ	**Enez**	**1.91**	**4**	PN	**Pn**	**06 55 50.4**	**+1.2**
MANT	**Manisa**	**2.05**	**99**	*i* P	**Pn**	**06 55 50.8**	**-0.6**
MANT				IAML_P			
	comp=Z,280nm,0.1s						
BODT	**Bodrum**	**2.06**	**149**	PN	**Pn**	**06 55 51.8**	**+0.6**
ALN	**Alexandroupoli**	**2.07**	**2**	PN	**Pn**	**06 55 52.3**	**+0.9**
ALN	**Alexandroupoli**	**2.07**	**2**	P	**Pn**	**06 55 51.0**	**-0.4**
ALN	**Alexandroupoli**	**2.07**	**2**	P	**Pn**	**06 55 49.6**	**-1.8**
KESN	**Edirne-Kesan**	**2.07**	**15**	*i* P	**Pn**	**06 55 51.1**	**-0.7**
KESN				IAML_P			
	comp=Z,322nm,0.2s						
RKY	**Sarkoy-Tekirda**	**2.08**	**26**	PN	**Pn**	**06 55 52.5**	**+0.9**
SART	**Tekirdag**	**2.08**	**26**	*i* P	**Pn**	**06 55 51.1**	**-0.5**
SART				IAML_P			
	comp=Z,851nm,0.1s						
DURS	**Dursunbey**	**2.09**	**68**	*i* P	**Pn**	**06 55 51.8**	**0.0**
DURS				*i* S	**Sg**	**06 56 25.4**	**+1.8**
DURS				IAML_P			
	comp=Z,979nm,0.1s						
EDC	**Edincik**	**2.11**	**43**	PN	**Pn**	**06 55 52.9**	**+1.0**
BDRM	**Kayabasi**	**2.11**	**146**	*i* P	**Pg**	**06 55 57.5**	**+0.8**
BDRM				IAML_P			
	comp=Z,1μm,0.2s						
KULA	**Kula-Manisa**	**2.13**	**98**	PN	**Pb**	**06 55 53.5**	**-1.7**
OUR	**Ouranopolis**	**2.15**	**315**	PN	**Pn**	**06 55 52.1**	**-0.4**
MRMT	**Marmara Adasi**	**2.17**	**35**	PN	**Pn**	**06 55 53.8**	**+0.9**
SBT4	**Kumbag-Tekirda**	**2.33**	**31**	PN	**Pn**	**06 55 56.5**	**+1.6**
KCTX	**Karacabey (Bur**	**2.34**	**51**	PN	**Pb**	**06 55 56.7**	**-2.1**
RDO	**Rodhopi**	**2.34**	**352**	PN	**Pn**	**06 55 56.1**	**+1.0**
USAK	**Uak-Merkez**	**2.38**	**92**	*i* P	**Pn**	**06 55 56.6**	**+0.8**
USAK				IAML_P			
	comp=Z,262nm,0.2s						
DAT	**Datca**	**2.45**	**148**	PN	**Pn**	**06 55 57.7**	**+0.9**
YER	**Yerkesik**	**2.49**	**132**	PN	**Pn**	**06 55 57.7**	**+0.5**
GDZ	**Gediz**	**2.75**	**83**	*i* P	**Pn**	**06 56 01.6**	**+0.8**
GDZ				IAML_P			
	comp=Z,83nm,0.1s						
TVSB	**Tavsanli**	**2.78**	**76**	PN	**Pn**	**06 56 03.1**	**+1.8**
AGG	**Agios Georgios**	**2.85**	**275**	PN	**Pn**	**06 56 02.2**	**0.0**
TURN	**Turunc**	**2.85**	**132**	PN	**Pn**	**06 56 01.3**	**-0.9**
DALY	**Dalyan (Mula)**	**2.92**	**133**	PN	**Pn**	**06 56 04.5**	**+1.4**
EDRB	**Edirne**	**3.07**	**11**	PN	**Pn**	**06 56 06.8**	**+1.6**
CTKS	**Kestanelik-??a**	**3.09**	**38**	PN	**Pn**	**06 56 07.7**	**+2.2**
ARG	**Arkhangelos**	**3.12**	**146**	PN	**Pn**	**06 56 07.1**	**+1.3**
YLV	**Yalova**	**3.15**	**55**	PN	**Pn**	**06 56 08.6**	**+2.3**
YLV	**Yalova**	**3.15**	**55**	*i* P	**Pb**	**06 56 13.1**	**+0.5**
BUY	**Buyukada**	**3.15**	**49**	PN	**Pn**	**06 56 08.3**	**+2.0**
CTYL	**Yalikoy Yolu**	**3.19**	**33**	PN	**Pn**	**06 56 08.6**	**+1.9**
BGKT	**Bogazkoy**	**3.19**	**42**	PN	**Pn**	**06 56 08.9**	**+2.1**
KAVV	**Kandilli-Istan**	**3.26**	**46**	PN	**Pn**	**06 56 09.7**	**+1.9**
ISK	**Istanbul-Kandi**	**3.26**	**46**	PN	**Pn**	**06 56 10.0**	**+2.2**
KLYT	**Kilyos**	**3.38**	**43**	⇑*i* P	**Pg**	**06 56 19.6**	**-1.5**
SILT	**Sile**	**3.65**	**49**	⇑*i* P	**Pg**	**06 56 24.2**	**-2.1**
VTS	**Vitosha**	**4.31**	**332**	⇑*i* P	**Pn**	**06 56 26.8**	**+4.5**
MLR	**Muntele Rosu**	**6.66**	**360**	⇑*i* P	**Pn**	**06 56 58.5**	**+3.9**
GZR	**Gura Zlata**	**6.98**	**341**	⇑*i* P	**Pn**	**06 56 57.6**	**-1.3**
PLOR	**Plostina**	**7.04**	**4**	⇑*i* P	**Pn**	**06 57 02.5**	**+2.8**
VRI	**Vrincioaia**	**7.06**	**4**	⇑*i* P	**Pn**	**06 57 02.7**	**+2.7**
BURAR	**Bucovina Array**	**8.80**	**357**	⇑*i* P	Pn	06 57 29.1	+5.2

IDC 14 06:58:46.9±3.9, 4.27N×95.11E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/61, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=116.3km s-min=29.0km az=64.0
DJA 14 06:59:00.7±0.8, 4.1°N±3.3°×9.6°E±°, h30km±6km, M3.2/7, MLv3.2/7

ISC 14 06:58:55.8±1.4, 3.95N±0.04×95.87E±0.06, h13km±10km, n13, σ1s03/15, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.61**	**60**	P	**Pn**	**06 59 12.2**	**+1.9**
MLSI				S	**Sn**	**06 59 20.7**	**+0.6**
TPTI		**1.48**	**118**	P	**Pg**	**06 59 24.2**	**0.0**
TPTI				S	**Sn**	**06 59 41.0**	**-0.3**
SNSI	**Sinabang, Aceh**	**1.60**	**164**	P	**Pg**	**06 59 27.4**	**+0.8**
SNSI				S	**Sg**	**06 59 47.6**	**+0.2**
BSI	**Banda Aceh**	**1.64**	**339**	P	**Pg**	**06 59 27.2**	**-0.1**
BSI				S	**Sb**	**06 59 46.7**	**+0.2**
LHMI	**Lhok Sumawe**	**1.66**	**40**	P	**Pg**	**06 59 28.0**	**+0.3**
LHMI				S	**Sg**	**06 59 48.8**	**-0.5**
KCSI	**Kotacane, Aceh**	**1.94**	**103**	P	**Pb**	**06 59 30.9**	**-0.2**
PSI	**Prapat**	**3.25**	**111**	Pn	**Pb**	**06 59 51.4**	**-2.2**
	1.8nm,0.3s,baz=359,slow=6.1,SNR=11						
PSI				Sn	**Sb**	**07 00 33.7**	**+0.5**
	1.5nm,0.3s,baz=180,slow=15,SNR=5.7						
H08S2	**Diego Garcia H**	**26.02**	**244**	T	T	07 30 16.2	
	baz=62						
H08S3	**Diego Garcia H**	**26.02**	**244**	T	T	07 30 39.3	
	baz=62						
H08S1	**Diego Garcia H**	**26.03**	**244**	T	T	07 30 20.1	
	baz=62						
WRA	**Warramunga Arr**	**44.63**	**124**	P	**P**	**07 07 07.5**	**-1.0**
	0.9nm,0.7s,baz=302,slow=9.2,SNR=9.0						
SONM	**Songino Array**	**44.65**	**10**	P	P	07 06 59.9	-8.4
	0.2nm,0.4s,baz=199,slow=5.7,SNR=3.7						
ASAR	**Alice Springs**	**46.12**	**128**	P	**P**	**07 07 19.7**	**-0.6**
	0.2nm,0.4s,baz=297,slow=8.2,SNR=4.0						

ISK 14 07:01:20.4, 40.53N×35.97E, h6km, ML2.0/7
DDA 14 07:01:22.9, 40.61N×35.63E, h7km±4km, ML2.5
ISC 14 07:01:20.9±1.1, 40.57N±0.03×35.96E±0.03, h17km±11km, n13, σ0s74/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.51**	**119**	PG	**Pg**	**07 01 31.0**	**-0.1**
KVT	**Kavak**	**0.51**	**7**	PG	**Pb**	**07 01 31.7**	**+0.2**
KVT				SG	**Sb**	**07 01 39.1**	**+0.5**
HAVZ	**Havza**	**0.54**	**340**	*i* P	**Pb**	**07 01 32.2**	**+0.4**
HAVZ				*i* S	**Sn**	**07 01 41.0**	**-1.4**
HAVZ				IAML_P			
	comp=Z,2μm,0.2s						
COAL	**Corum-Alaca**	**0.81**	**247**	*i* P	**Pb**	**07 01 35.9**	**-0.6**
COAL				*i* S	**Sb**	**07 01 47.1**	**-0.1**
COAL				IAML_P			
	comp=Z,249nm,0.2s						
SVSK	**Karacayir**	**1.03**	**129**	PG	**Pb**	**07 01 39.9**	**-0.3**
SVSK				SG	**Sb**	**07 01 54.0**	**+0.7**
YOZ	**Yozgat**	**1.05**	**208**	PG	**Pb**	**07 01 40.1**	**-0.6**
RSDY	**Resadiye-TOKAT**	**1.06**	**99**	PG	**Pn**	**07 01 41.0**	**+0.1**
RSDY				SG	**Sg**	**07 01 55.5**	**+0.3**
DIKM	**Dikmen**	**1.20**	**334**	PN	**Pg**	**07 01 44.6**	**+0.5**
SIRC	**Yozgat**	**1.38**	**207**	*i* P	**Pb**	**07 01 46.6**	**+0.3**
SIRC				*i* S	**Sg**	**07 02 05.6**	**0.0**
CDAG	**Cicekdag**	**1.54**	**233**	*i* P	**Pb**	**07 01 49.8**	**+0.8**
CDAG				*i* S	**Sg**	**07 02 10.5**	**-0.3**
SINO	**SINOP_Merkez**	**1.56**	**339**	*i* P	**Pg**	**07 01 50.3**	**-0.5**
SINO				*i* S	**Sg**	**07 02 10.1**	**-1.0**
SINO				IAML_P			
	comp=Z,676nm,0.2s						
SNOP	**Sinop**	**1.56**	**339**	PN	**Pb**	**07 01 49.8**	**+0.6**
DELI	**KIRIKKALE**	**1.66**	**251**	*i* P	**Pb**	**07 01 51.3**	**+0.2**
DELI				*i* S	**Sb**	**07 02 13.6**	**+1.8**
DELI				IAML_P			
	comp=Z,197nm,0.2s						

NNC 14 07:01:44.0±12.0, 37.00N×70.44E, h0km, mb4.1, mpv3.7, 5C, Error ellipse: s-maj=111.0km s-min=89.2km az=171.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.71**	**25**	P	Pn	07 03 11.3	+0.9
	SNR=40						
UCH	**Uchtor**	**6.09**	**30**	P	Pn	07 03 15.3	-0.4
	SNR=7.3						
KK31	**Karatay Array**	**6.09**	**0**	⇑P	Pn	07 03 17.4	+2.1
	1.4nm,0.3s,baz=179,slow=13,SNR=52						
KK31				⇑S	Sn	07 04 29.1	+3.3
	0.7nm,0.3s,baz=185,slow=26,SNR=8.8						
EKS2	**Erkin-Say**	**6.21**	**23**	P	Pn	07 03 17.2	+0.2
	SNR=5.4						
AAK	**Ala-Archa**	**6.43**	**28**	P	Pn	07 03 21.0	+0.8
	SNR=6.0						
AAK	**Ala-Archa**	**6.43**	**28**	⇑P	Pn	07 03 20.5	+0.3
	1.9nm,0.3s						
AAK				⇑S	Sn	07 04 33.6	-0.8
	4.8nm,0.9s						
TKM2	**Tokmak 2**	**7.11**	**32**	P	Pn	07 03 29.

MKAR Makanchi Array 46.32 324 P P 07 29 31.0 -1.7
0.5nm,0.8s,baz=131,slow=7.9,SNR=2.6

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*ISCJB **14** 07:23:13.9±0.4,67.61N±0.04×142.3E±0.1,h10km, mb3.8/20,Error ellipse: s-maj=6.4km s-min=5.8km az=171.9*
*YARS **14** 07:23:14.6±0.2,67.61N±0.01×142.38E±0.03,h11km±3km*
*IDC **14** 07:23:14.1±1.0,67.64N×142.35E,h0km,mb3.8/14, mb1 4.0/16,mb1mx3.7/58,mbtmp3.8/16,ML3.9/1,MS2.7/1, Ms1 2.7/1,ms1mx2.4/41,Error ellipse: s-maj=34.0km s-min=13.7km az=167.0*
*NEIC **14** 07:23:15.3±0.5,67.65N×142.42E,h10km,mb4.1/6,Error ellipse: s-maj=15.8km s-min=6.8km az=166.0*

ISC 14 07:23:15.1±0.6,67.60N±0.05×142.42E±0.04,h10km,n35, σ1s49/41,mb3.9/20,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.18**	**164**	*i* P		**Pn**		**07 23 36.3**	**-1.4**
MOMR				Pmax				07 23 36.3	
	comp=Z,179nm,0.2s								
MOMR				*e*S		**Sb**		**07 23 52.1**	**-0.8**
MOMR				Smax				07 23 52.1	
	comp=N,4μm,0.4s								
YBGR	**Belaya Gora**	**1.70**	**55**	*i* P		**Pn**		**07 23 44.3**	**-0.4**
YBGR				Pmax				07 23 44.3	
	comp=Z,518nm,0.3s								
YBGR				*e*S		**Sn**		**07 24 07.5**	**+1.0**
YBGR				Smax				07 24 07.5	
	comp=N,2μm,0.3s								
DEPR	**Deputatskiy**	**2.02**	**334**	*e*P		**Pn**		**07 23 49.2**	**0.0**
DEPR				*e*P		**Pb**		**07 23 50.4**	**-1.5**
DEPR				Pmax				07 23 50.4	
	comp=Z,93nm,0.2s								
DEPR				*e*S		**Sb**		**07 24 17.3**	**+0.2**
DEPR				Smax				07 24 17.3	
	comp=E,1μm,0.4s								
BTGS	**Batagay**	**2.98**	**275**	*e*P		**Pn**		**07 24 02.3**	**0.0**
BTGS				*e*P		**Pb**		**07 24 07.1**	**-1.0**
BTGS				Pmax				07 24 07.1	
	comp=Z,81nm,0.4s								
BTGS				*e*S		**Sb**		**07 24 46.6**	**+2.2**
BTGS				Smax				07 24 46.6	
	comp=N,2μm,0.5s								
TIXI	**Tiksi**	**6.23**	**317**	*e*Pn		**Pn**		**07 24 46.9**	**0.0**
TIXI				*e*Sn		**Sn**		**07 25 53.8**	**-4.2**
TIXI	**Tiksi**	**6.23**	**317**	Pn		**Pn**		**07 24 47.7**	**+0.8**
	comp=N,5.5nm,0.3s,baz=126,slow=15,SNR=102								
TIXI				Sn		**Sn**		**07 25 53.8**	**-4.2**
	comp=N,8.7nm,0.3s,baz=93,slow=14,SNR=4.2								
TIXI				Lg		Lg		07 26 23.9	
	comp=N,7.6nm,0.3s,baz=42,slow=17,SNR=5.8								
TIXI				LR		LR		07 27 46.3	
	comp=N,68nm,19.4s,baz=92,slow=44								
MA2	**Magadan**	**8.86**	**151**	Lg		Lg		07 27 58.1	
	comp=N,1.3nm,0.3s,baz=77,slow=16,SNR=6.8								
KLR	**Kul'dur**	**19.20**	**202**	Lg		Lg		07 33 23.4	
	comp=N,0.1nm,0.3s,baz=90,slow=20,SNR=2.6								
NRIK	**Noril'sk**	**19.64**	**300**	P		**Pn**		**07 27 44.5**	**-0.3**
	comp=N,0.3nm,0.3s,baz=63,slow=12,SNR=3.9								
NRIK				Lg		Lg		07 33 31.3	
	baz=0.0,slow=20,SNR=2.7								
TOLK	**Toolik Lake Re**	**24.22**	**56**	*e*P		**P**		**07 28 31.9**	**+0.5**
	comp=N,1.6nm,0.8s								
IM3	**Indian Mountai**	**24.23**	**64**	*e*P		**P**		**07 28 32.2**	**+0.7**
SONA0	**Songino Array**	**26.95**	**241**	*e*P		**P**		**07 28 57.7**	**+1.2**
SONM	**Songino Array**	**26.95**	**241**	P		**P**		**07 28 57.7**	**+1.2**
	comp=N,0.4nm,0.7s,baz=19,slow=9.2,SNR=3.5								
ILAR	**Eielson Array**	**27.27**	**62**	P		**P**		**07 28 58.9**	**-0.2**
	comp=N,0.6nm,0.7s,baz=290,slow=8.9,SNR=9.2								
RSO	**Redoubt South**	**27.99**	**73**	*e*P		**P**		**07 29 02.8**	**-3.0**
KURBB	**Kurchatov Arra**	**34.97**	**274**	P		**P**		**07 30 06.8**	**-0.1**
	comp=N,0.6nm,0.2s,baz=40,slow=8.6,SNR=4.6								
BVAR	**Borovoye Array**	**36.14**	**283**	P		**P**		**07 30 16.8**	**-0.2**
	comp=N,0.8nm,0.6s,baz=34,slow=9.0,SNR=5.5								
MK31	**Makanchi Array**	**36.65**	**266**	*e*P		**P**		**07 30 21.0**	**-0.4**
	comp=N,2.1nm,0.8s								
MK32	**Makanchi Array**	**36.65**	**266**	*e*P		**P**		**07 30 21.0**	**-0.4**
MKAR	**Makanchi Array**	**36.65**	**266**	P		**P**		**07 30 21.0**	**-0.4**
	comp=N,2.8nm,0.9s,baz=45,slow=7.6,SNR=14								
MK01	**Makanchi Array**	**36.67**	**266**	*e*P		**P**		**07 30 21.1**	**-0.4**
MAKZ	**Makanchi**	**36.76**	**267**	*e*P		**P**		**07 30 22.7**	**+0.4**
	comp=N,2.6nm,1.1s								
YKA	**Yellowknife Ar**	**38.91**	**46**	P		**P**		**07 30 40.9**	**+0.7**
	comp=N,0.2nm,0.5s,baz=321,slow=8.1,SNR=5.6								
AKTO	**Aktyubinsk**	**42.78**	**290**	P		**P**		**07 31 12.2**	**-0.1**
	comp=N,0.8nm,0.3s,baz=356,slow=4.6,SNR=3.7								
ABKAR	**Akbulak array**	**43.06**	**288**	*e*P		**P**		**07 31 14.4**	**-0.1**
	comp=N,2.1nm,1.0s								
AAK	**Ala-Archa**	**43.14**	**270**	P		**P**		**07 31 16.8**	**+1.3**
	comp=N,1.4nm,0.6s,baz=56,slow=11,SNR=2.9								
NB200	**NORSAR Array S**	**46.84**	**330**	*e*P		**P**		**07 31 43.9**	**-0.7**
NOA	**NORSAR Array B**	**46.84**	**330**	P		**P**		**07 31 43.9**	**-0.7**
	comp=N,1.3nm,0.9s,baz=25,slow=7.9,SNR=3.5								
GAR	**Garm**	**47.88**	**271**	*e*P		**P**		**07 31 57.0**	**+4.0**
	comp=N,5.6nm,0.8s								
CHGR	**Chuyangaron**	**48.62**	**272**	*e*P		**P**		**07 31 59.6**	**+0.9**
	comp=N,7.2nm,0.6s								
GEYT	**Alibeck**	**53.45**	**282**	P		**P**		**07 32 33.8**	**-1.1**
	comp=N,1.3nm,0.6s,baz=24,slow=11,SNR=2.6								
KBZ	**Khabaz**	**53.82**	**298**	P		**P**		**07 32 38.4**	**+0.9**
	comp=N,1.2nm,0.7s,baz=321,slow=9.3,SNR=3.9								
PDAR	**Pinedale Array**	**57.48**	**56**	P		**P**		**07 33 04.5**	**+0.3**
	comp=N,0.3nm,0.7s,baz=344,slow=3.0,SNR=4.7								
GERES	**GERESS Array B**	**57.65**	**322**	P		**P**		**07 33 05.4**	**+0.3**
	comp=N,0.3nm,0.2s,baz=10,slow=11,SNR=2.3								
NVAR	**Mina Array Bea**	**58.45**	**65**	P		**P**		**07 33 12.2**	**+1.2**
	comp=N,0.3nm,0.7s,baz=316,slow=5.0,SNR=2.9								

MEX 14 07:27:38.4±0.4,14.67N×93.01W,h16km±15km,MD3.5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**0.76**	**72**	*e*P		Pg		07 27 50.7	-2.5
THIG				*e*S		Sg		07 28 00.2	-3.0
PCIG		**1.05**	**349**	*i* P		Pb		07 27 54.7	-3.5
PCIG				*e*S		Sb		07 28 07.2	-4.5
CCIG	**Comitan**	**1.81**	**28**	*e*P		Pn		07 28 06.5	-2.6
CCIG				*e*S		Sn		07 28 27.2	-4.6

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*IDC **14** 07:29:20.4±1.7,8.22S×125.39E,h0km,mb3.7/2, mb1 4.0/6,mb1mx3.7/38,mbtmp3.8/6,ML3.7/4,MS2.9/1, Ms1 2.9/1,ms1mx2.4/46,Error ellipse: s-maj=45.6km s-min=25.6km az=68.0*
*DJA **14** 07:29:21.6±2.7,8.5S±16.1×12.5E±1.7,h28km±8km,M3.6/3, MLv3.6/3*

ISC 14 07:29:22.5±1.4,8.5S±0.1×125.46E±0.10,h10km,n9, σ2s08/12,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.72**	**223**	P		**Pn**		**07 29 51.9**	**-0.7**
SOEI				S		Sn		07 30 00.0	-15
BATI	**Baumata**	**2.45**	**226**	P		**Pn**		**07 30 03.9**	**+1.2**
BATI				S		Sn		07 30 16.9	-16
BATI	**Baumata**	**2.45**	**226**	Pn		**Pn**		**07 30 04.5**	**+1.8**
	10nm,0.3s,baz=120,slow=21,SNR=4.4								
BATI				Sn		**Sn**		**07 30 32.5**	**-0.3**
	21nm,0.3s,baz=193,slow=4.0,SNR=5.6								
BATI				LR		LR		07 31 26.9	
	comp=Z,231nm,19.1s,baz=302,slow=48								
EDFI	**Ende, Flores**	**3.74**	**266**	P		Pn		07 30 09.5	-11
FITZ	**Fitzroy Crossi**	**9.54**	**179**	Pn		**Pn**		**07 31 41.1**	**+1.1**
	0.5nm,0.3s,baz=0.0,slow=13,SNR=7.1								
FITZ				Sn		**Sn**		**07 33 25.1**	**-2.3**
	0.5nm,0.3s,baz=137,slow=15,SNR=6.3								
WRA	**Warramunga Arr**	**14.25**	**144**	Pn		**Pn**		**07 32 46.0**	**+1.4**
	0.4nm,0.3s,baz=319,slow=12,SNR=32								
WRA				Sn		**Sn**		**07 35 21.1**	**-1.7**
	0.1nm,0.3s,baz=319,slow=25,SNR=3.3								
ASAR	**Alice Springs**	**17.11**	**153**	P		**P**		**07 33 24.4**	**+0.7**
	0.3nm,0.3s,baz=327,slow=11,SNR=12								
ASAR				S		**Sn**		**07 36 30.2**	**-2.2**
	0.1nm,0.3s,baz=314,slow=20,SNR=3.9								
STKA	**Stephens Creek**	**27.67**	**149**	P		**P**		**07 35 14.1**	**+3.2**
	0.6nm,0.4s,baz=308,slow=12,SNR=1.5								
MKAR	**Makanchi Array**	**67.11**	**329**	P		**P**		**07 40 13.9**	**-2.5**
	0.6nm,0.9s,baz=116,slow=7.4,SNR=4.1								

KRSC 14 07:42:13.3±10.0,59.58N×164.07E,h81km±10km,ML3.5, FELT [II] at Ilpyrskiy.,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.61**	**238**	*e*P		Pn		07 42 28.8	+0.7
OSSR				*e*S		Sn		07 42 40.8	+1.7
TILK	**Tilichiki**	**1.36**	**49**	*e*P		Pn		07 42 37.8	+1.1
TILK				*e*S		Sn		07 42 56.6	+2.2
PALN	**Palana**	**2.16**	**259**	P		Pn		07 42 49.4	+2.1
KMSK	**Kamenskaya**	**3.08**	**19**	P		Pn		07 43 02.5	+2.9
KMSK				S		Sn		07 43 37.5	+2.2

IDC 14 08:03:11.4±3.5,14.78S×174.92W,h0km,mb3.8/4, mb1 4.2/4,mb1mx3.7/27,mbtmp3.8/4,Error ellipse: s-maj=190.9km s-min=29.1km az=146.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.56**	**256**	P		P		08 11 56.5	-0.6
	0.6nm,0.6s,baz=86,slow=7.0,SNR=12								
ASAR	**Alice Springs**	**48.92**	**251**	P		P		08 11 60.0	+0.3
	5.1nm,0.5s,baz=87,slow=8.0,SNR=102								
ILAR	**Eielson Array**	**82.13**	**12**	P		P		08 15 33.6	0.0
	0.2nm,0.5s,baz=201,slow=6.4,SNR=4.5								
PDAR	**Pinedale Array**	**82.79**	**42**	P		P		08 15 38.0	+0.1
	0.2nm,0.5s,baz=237,slow=3.1,SNR=2.0								

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*GRAL **14** 08:07:17.1±0.3,33.88N×35.84E,h8km±5km,MD2.7*
*NSSC **14** 08:07:17.5±0.6,33.68N×36.29E,h31km±5km,ML1.8*

ISC 14 08:07:11.8±2.1,33.90N±0.06×36.05E±0.05,h3km±19km, n8,σ0s84/14,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.33**	**271**	*e*P		**Pb**		**08 07 20.2**	**-0.3**
BHL				*e*S		**Sg**		**08 07 22.5**	**-0.1**
HWQ	**Hawqa**	**0.39**	**347**	*e*P		**Pn**		**08 07 24.7**	**+0.1**
QASN	**Qassioun**	**0.41**	**153**	*e*P		**Pn**		**08 07 24.1**	**-0.6**
QASN				*e*S		**Sb**		**08 07 27.5**	**-0.9**
QASN				AML		AML		08 07 31.6	
	comp=N,721nm,0.2s								
QASN				AML		AML		08 07 33.9	
	comp=E,105nm,0.4s								
RCY	**Rachaya**	**0.44**	**205**	*e*P		**Pn**		**08 07 24.1**	**-1.1**
RCY				*e*S		**Sb**		**08 07 29.2**	**-0.1**
DQRL	**Deir Qamar**	**0.45**	**245**	*e*P		**Pb**		**08 07 22.3**	**-0.1**
DQRL				*e*S		**Sg**		**08 07 26.2**	**0.0**
QRWL	**Qaraoun**	**0.47**	**222**	*e*P		**Pb**		**08 07 23.6**	**+0.8**
BRBR	**Barbar**	**0.49**	**190**	*e*P		**Pn**		**08 07 26.1**	**+0.1**
BRBR				*e*S		**Sb**		**08 07 32.8**	**+1.8**
BRBR				AML		AML		08 07 37.0	
	comp=N,20nm,0.5s								
BRBR				AML		AML		08 07 37.4	
	comp=E,47nm,0.4s								
TOTH	**TOTAH**	**0.62**	**150**	*e*P		**Pb**		**08 07 25.9**	**+0.5**
TOTH				*e*S		**Sg**		**08 07 31.4**	**-0.3**
TOTH				AML		AML		08 07 31.7	
	comp=N,169nm,0.4s								
TOTH				AML		AML		08 07 31.8	
	comp=E,16nm,0.4s								

IDC 14 08:12:11.6±13.0,9.98S×165.82E,h0km,mb3.8/4, mb1 4.0/5,mb1mx3.6/35,mbtmp3.9/5,ML3.8/1,Error ellipse: s-maj=227.8km s-min=53.7km az=50.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.04**	**177**	Pn		Pn		08 15 04.0	-0.7
	0.6nm,0.3s,baz=340,slow=12,SNR=2.8								
CTA	**Charters Tower**	**21.38**	**240**	P		P		08 17 00.5	-0.4
	3.8nm,0.8s,baz=60,slow=14,SNR=1.8								
STKA	**Stephens Creek**	**31.27**	**222**	P		P		08 18 33.5	+0.2
	1.0nm,0.7s,baz=56,slow=11,SNR=1.8								
WRA	**Warramunga Arr**	**31.93**	**248**	P		P		08 18 39.8	+0.5
	0.7nm,0.5s,baz=78,slow=9.1,SNR=14								
ASAR	**Alice Springs**	**33.34**	**242**	P		P		08 18 51.4	-0.3
	0.8nm,0.5s,baz=64,slow=10,SNR=26								

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*SOME **14** 08:25:17.9,49.67N×83.58E,h0km*
*NNC **14** 08:25:23.2±3.5,49.55N×83.36E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=39.5km s-min=12.6km az=63.0, Suspected Mining explosion.*

ISC 14 08:25:16.1±2.1,49.90N±0.10×84.0E±0.1,h0km,n7, σ0s95/11,6C-3D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**2.48**	**283**	*e*P		**Pb**		**08 26 01.6**	**0.0**
	11nm,0.1s								
SEM				*e*S		**Sb**		**08 26 33.2**	**+0.4**
	20nm,0.2s								
ZSN	**Zaisan**	**2.51**	**167**	*e*P		**Pb**		**08 26 01.6**	**-0.5**
	6.0nm,0.4s								
ZSN				*e*S		**Sb**		**08 26 33.3**	**-0.3**
	18nm,0.6s								
MK31	**Makanchi Array**	**3.31**	**201**	⇑Pn		**Pn**		**08 26 10.7**	**+1.4**
	1.8nm,0.6s,baz=23,slow=14,SNR=62								
MK31				⇑Lg		Lg		08 26 52.3	
	5.0nm,0.4s,baz=24,slow=27,SNR=25								
MAKZ	**Makanchi**	**3.38**	**205**	⇓Pn		**Pn**		**08 26 11.3**	**+1.2**
	2.0nm,0.5s								
MAKZ				⇓Lg		Lg		08 26 52.9	
	6.2nm,0.6s								
KURK	**Kurchatov**	**3.56**	**285**	⇑Pg		**Pg**		**08 26 23.7**	**-0.6**
	1.1nm,0.3s								
KURK				⇑Lg		Lg		08 27 07.4	
	4.5nm,0.5s								
KURBB	**Kurchatov Arra**	**3.60**	**284**	⇑Pn		**Pn**		**08 26 13.9**	**+0.8**
	0.4nm,0.2s								
KURBB				⇑Pg		**Pg**		**08 26 23.8**	**-1.2**
	1.8nm,0.3s								
KURBB				⇓Lg		Lg		08 27 09.0	
	6.8nm,0.3s								
KAPS	**Kapalarasan**	**5.59**	**216**	*e*P		**Pb**		**08 26 53.8**	**-0.8**
	0.6nm,0.4s								
KAPS				*e*S		**Sb**		**08 28 02.4**	**+0.2**
	2.4nm,0.8s								

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*SOME **14** 08:32:25.8,42.17N×78.52E,h20km*
*KRNET **14** 08:32:25.4±0.1,42.18N×78.54E,h19km,mb3.7*
*NNC **14** 08:32:27.3±0.7,42.31N×78.53E,h0km,mb3.5,mpv3.5, Error ellipse: s-maj=5.5km s-min=2.4km az=164.0*

ISC 14 08:32:24.8±1.3,42.18N±0.03×78.55E±0.02,h1km±10km, n64,σ0s84/115,22C-20D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.32**	**340**	⇑*i*P		**Pg**		**08 32 31.8**	**+0.8**
	baz=43								
PRZ				⇑*i*S		**Sg**		**08 32 36.6**	**+1.4**
	baz=43								
TARG	**Taragay, Kyrgy**	**0.71**	**231**	⇓*i*P		**Pg**		**08 32 38.6**	**+0.1**
	baz=31								
TARG				⇓*i*S		**Sg**		**08 32 48.2**	**+0.4**
	baz=31								
SATY	**Saty**	**0.88**	**353**	P		**Pg**		**08 32 41.9**	**+0.1**
	54nm,0.1s								
SATY				S		**Sg**		**08 32 53.5**	**+0.2**
	141nm,0.1s								
SATY	**Saty**	**0.88**	**353**	*e*P		**Pg**		**08 32 41.9**	**+0.1**
	54nm,0.1s								
SATY				*e*S		**Sg**		**08 32 53.5**	**+0.2**
	141nm,0.1s								
UZB	**Uzynbulak**	**1.03**	**20**	P		**Pg**		**08 32 44.6**	**0.0**
	15nm,0.1s								
UZB				S		**Sg**		**08 32 58.1**	**+0.2**
	56nm,0.2s								
UZB	**Uzynbulak**	**1.03**	**20**	*e*P		**Pg**		**08 32 44.6**	**0.0**
	baz=20								
UZB				*e*S		**Sg**		**08 32 58.1**	**+0.2**
	baz=20								
UZB	**Uzynbulak**	**1.03**	**20**	*e*P		**Pg**		**08 32 44.6**	**0.0**
	15nm,0.1s								
UZB				*e*S		**Sg**		**08 32 58.1**	**+0.2**
	56nm,0.2s								
KPKS	**Kokpek**	**1.29**	**5**	*e*P		**Pn**		**08 32 49.3**	**-0.8**
	baz=4.0								
KPKS				*e*S		**Sb**		**08 33 06.0**	**-1.1**
	74nm,0.3s								
KURS	**Kuram**	**1.33**	**348**	*e*P		**Pn**		**08 32 50.2**	**-0.5**
	baz=48								
KURS				*e*S		**Sb**		**08 33 07.5**	**-0.9**
	baz=48								
KURS	**Kuram**	**1.33**	**348**	*e*P		**Pn**		**08 32 50.2**	**-0.5**
	9.5nm,0.3s								
KURS				*e*S		**Sb**		**08 33 07.5**	**-0.9**
	28nm,0.4s								
PDGK	**Podgornoye**	**1.34**	**31**	P		**Pn**		**08 32 50.3**	**-0.6**
	9.3nm,0.2s								
PDGK				S		**Sb**		**08 33 07.7**	**-1.0**
	49nm,0.3s								
PDGK	**Podgornoye**	**1.34**	**31**	⇓P		**Pn**		**08 32 50.2**	**-0.7**
	4.6nm,0.3s								
PDGK				⇓S		**Sb**		**08 33 07.6**	**-1.1**
	76nm,0.6s								
PDGK	**Podgornoye**	**1.34**	**31**	⇓*i*P		**Pn**		**08 32 50.0**	**-0.9**
	baz=31								
PDGK				⇓*i*S		**Sb**		**08 33 07.7**	**-1.0**
	baz=31								
TNSS	**Tian-Shan**	**1.46**	**306**	*e*P		**Pn**		**08 32 52.6**	**-0.1**
	baz=7.0								
TNSS				*e*S		**Sb**		**08 33 11.6**	**-0.6**
	baz=7.0								
TNSS	**Tian-Shan**	**1.46**	**306**	*e*P		**Pn**		**08 32 52.6**	**-0.1**
	39nm,0.2s								
TNSS				*e*S		**Sb**		**08 33 11.6**	**-0.6**
	139nm,0.3s								
MDOK	**Medeo**	**1.48**	**312**	⇑P		**Pn**		**08 32 52.4**	**-0.4**
MDOK				⇓S		**Sn**		**08 33 11.5**	**-1.3**
MDOK	**Medeo**	**1.48**	**312**	*e*P		**Pn**		**08 32 52.6**	**-0.2**
	baz=12								
MDOK				*e*S		**Sn**		**08 33 11.7**	**-1.1**
	baz=12								
MDOK	**Medeo**	**1.48**	**312**	*e*P		**Pn**		**08 32 52.6**	**-0.2**
	30nm,0.1s								
MDOK				*e*S		**Sn**		**08 33 11.7**	**-1.1**
	73nm,0.3s								
KOTS	**Kotyrbulak**	**1.49**	**315**	P		**Pb**		**08 32 53.2**	**-0.2**
	32nm,0.2s								
KOTS				S		**Sb**		**08 33 12.7**	**-0.3**
	307nm,0.3s								
KOTS	**Kotyrbulak**	**1.49**	**315**	*e*P		**Pb**		**08 32 53.2**	**-0.2**
	baz=15								
KOTS				*e*S		**Sb**		**08 33 12.7**	**-0.3**
	baz=15								
KOTS	**Kotyrbulak**	**1.49**	**315**	*e*P		**Pb**		**08 32 53.2**	**-0.2**
	31nm,0.2s								
KOTS				*e*S		**Sb**		**08 33 12.7**	**-0.3**
	287nm,0.3s								
AAA	**Alma-Ata**	**1.58**	**311**	P		**Pb**		**08 32 55.0**	**+0.1**
	116nm,0.2s								
AAA				S		**Sg**		**08 33 15.9**	**+0.3**
	445nm,0.3s								
AAA	**Alma-Ata**	**1.58**	**311**	*e*P		**Pb**		**08 32 55.0**	**+0.1**
	baz=11								
AAA				*e*S		**Sg**		**08 33 15.9**	**+0.3**
	baz=11								
ULHL	**Ulahol**	**1.71**	**273**	P		**Pb**		**08 32 56.9**	**-0.3**
	SNR=59								
ULHL	**Ulahol**	**1.71**	**273**	⇓*i*P		**Pb**		**08 32 56.6**	**-0.7**
	baz=73								
ULHL				⇓*i*S		**Sg**		**08 33 19.5**	**-0.3**
	baz=73								
MTBS	**Maitube**	**1.83**	**302**	*e*P		**Pb**		**08 32 58.8**	**-0.3**
	baz=2.0								
MTBS				*e*S		**Sb**		**08 33 22.6**	**+0.1**
	baz=2.0								
MTBS	**Maitube**	**1.83**	**302**	*e*P		**Pb**		**08 32 58.8**	**-0.3**
	27nm,0.2s								
MTBS				*e*S		**Sb**		**08 33 22.7**	**+0.1**
	200nm,0.2s								
KTMS	**Ketmen**	**1.83**	**46**	P		**Pb**		**08 32 59.1**	**-0.2**
	56nm,0.2s								
KTMS				S		**Sb**		**08 33 23.3**	**+0.4**
	156nm,0.2s								
KTMS	**Ketmen**	**1.83**	**46**	*e*P		**Pb**		**08 32 59.1**	**-0.2**
	baz=45								
KTMS				*e*S		**Sb**		**08 33 23.1**	**+0.3**
	baz=45								
KTMS	**Ketmen**	**1.83**	**46**	*e*P		**Pb**		**08 32 59.1**	**-0.2**
	20nm,0.2s								
KTMS				*e*S		**Sb**		**08 33 23.1**	**+0.3**
	156nm,0.2s								
MNBS	**Baschi**	**1.90**	**357**	*e*P		**Pb**		**08 33 00.5**	**0.0**
	88nm,0.2s								
MNBS				*e*S		**Sb**		**08 33 25.4**	**+0.7**
	69nm,0.3s								
BOOM	**Boomskoye usch**	**1.96**	**280**	⇑*i*P		**Pn**		**08 32 59.8**	**+0.4**
	baz=80								
BOOM				⇑*i*S		**Sb**		**08 33 25.7**	**-0.7**
	baz=80								
CHKK	**Chushkaly**	**2.02**	**326**	*e*P		**Pb**		**08 33 02.5**	**0.0**
	32nm,0.2s								
CHKK				*e*S		**Sb**		**08 33 28.7**	**+0.5**
	299nm,0.4s								
NRN	**Naryn**	**2.04**	**249**	⇑*i*P		**Pn**		**08 33 01.4**	**+0.7**
	baz=49								
NRN				⇑*i*S		**Sb**		**08 33 28.1**	**-0.9**
	baz=49								
KTBS	**Karatobe**	**2.05**	**319**	Pg		**Pb**		**08 33 02.8**	**-0.2**
	17nm,0.2s								
KTBS				Lg		Lg		08 33 29.4	
	158nm,0.2s								
KTBS	**Karatobe**	**2.05**	**319**	*e*P		**Pb**		**08 33 02.8**	**-0.2**
	baz=17								
KTBS				*e*S		**Sb**		**08 33 29.4**	**+0.4**
	baz=17								
KTBS	**Karatobe**	**2.05**	**319**	*e*P		**Pb**		**08 33 02.8**	**-0.2**
	17nm,0.2s								
KTBS				*e*S		**Sb**		**08 33 29.4**	**+0.4**
	158nm,0.2s								
KST	**Kastek**	**2.09**	**295**	*e*P		**Pb**		**08 33 03.6**	**-0.1**
	72nm,0.3s								
KST	

baz=72
AAK Ala-Archa 3.03 280 P Pb 08 33 17.6 -2.1
SNR=18
AAK Ala-Archa 3.03 280 ⇓Pn Pb 08 33 17.4 -2.4
5.8nm,0.5s
AAK ⇓Lg Lg 08 33 58.9
39nm,0.6s
AAK Ala-Archa 3.03 280 ⇑*iP* Pn 08 33 15.1 +0.9
baz=80
AAK ⇑*iS* Sn 08 33 51.4 +0.2
baz=80
KAPS Kapalarasan 3.16 10 *e*P Pb 08 33 21.8 -0.1
17nm,0.5s
KAPS *e*S Sb 08 34 02.1 +1.3
28nm,0.5s
ARLS Aral 3.16 266 ⇑*iP* Pn 08 33 16.8 +0.9
baz=66
ARLS ⇑*iS* Sn 08 33 54.7 +0.3
baz=66
USP Ospenovka 3.17 291 ⇓*iP* Pn 08 33 17.0 +1.0
baz=91
USP ⇓*iS* Sn 08 33 54.6 +0.1
baz=91
EKS2 Erkin-Say 3.56 279 P Pb 08 33 30.3 +1.5
SNR=13
AML Almayashu 3.61 271 P Pb 08 33 28.7 -1.0
SNR=17
MAKZ Makanchi 5.24 27 ⇓Pn Pn 08 33 47.4 +3.1
0.4nm,0.3s
MAKZ ⇓Pg Pg 08 34 04.2 -1.0
1.3nm,0.8s
MAKZ ⇓Lg Lg 08 35 08.4
2.4nm,0.5s
MK31 Makanchi Array 5.33 29 Pn Pn 08 33 48.0 +2.4
0.5nm,0.2s,baz=212,slow=13,SNR=48
MK31 ⇑Pg Pg 08 34 04.3 -2.8
0.5nm,0.3s,baz=218,slow=15,SNR=5.1
MK31 Sn Sn 08 34 48.6 +0.8
1.5nm,0.5s,baz=204,slow=20,SNR=6.4
MK31 ⇑Lg Lg 08 35 10.3
1.5nm,0.4s,baz=216,slow=27,SNR=7.3
KK31 Karatay Array 6.00 282 Pg Pg 08 34 15.4 -4.3
1.3nm,0.5s,baz=93,slow=15,SNR=16
KK31 ⇑Lg Lg 08 35 31.2
1.9nm,0.4s,baz=91,slow=29,SNR=7.5

*IDC **14** 08:35:45.4±2.7, 19°55S×175°88W, h176km±23km, mb3.7/13, mb1 4.0/13, mb1mx3.9/21, mbtmp4.2/13, Error ellipse: s-maj=20.8km s-min=13.9km az=138.0*
*ISCJB **14** 08:35:48.5±0.5, 19°74S±0°05×175°84W±0°09, h219km, mb3.8/13, Error ellipse: s-maj=12.7km s-min=6.9km az=14.9*

ISC 14 08:35:50.1±0.5, 19°80S±0°08×175°91W±0°09, h219km, n52, σ1°80/58, mb3.8/13, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	9.60	191	S	S	08 39 44.0	-7.7
RAR	Rarotonga	15.19	98	P	P	08 39 18.0	+4.0
	2.2nm,0.3s,baz=269,slow=6.7,SNR=8.1						
DZM	Mont Dzumac	16.64	259	P	Pn	08 39 33.9	+2.5
	3.4nm,0.3s,baz=81,slow=19,SNR=51						
MXZ	Matakaoa Point	18.41	195	P	P	08 39 50.2	+1.2
KUZ	Kuaotunu	18.41	202	P	P	08 39 50.0	+1.0
WMGZ	Waiomatatini S	18.62	194	P	P	08 39 52.5	+1.1
WIAZ	Waiheke Island	18.66	203	P	Pn	08 39 54.7	-0.1
HAZ	Te Kaha	18.72	196	P	P	08 39 53.6	+1.2
HAZ				S	S	08 43 13.0	-0.7
PKGZ	Pakihiroa	18.77	195	P	P	08 39 53.8	+0.8
PKGZ				S	S	08 43 09.1	-5.7
ETAZ	East Tamaki Re	18.88	203	P	Pn	08 39 58.0	+0.5
PUZ	Puketiti	18.90	194	P	P	08 39 55.6	+1.2
MKAZ	Moumakai	18.93	202	P	P	08 39 56.7	+2.0
RUGZ	Raukumara Rang	18.94	196	P	P	08 39 55.1	+0.1
WTAZ	Waiatarua	18.99	204	P	Pn	08 39 59.9	+1.0
KBAZ	Karaka Road Bo	19.02	203	P	Pn	08 39 59.5	+0.5
TWGZ	Tauwhareparae	19.07	195	P	P	08 39 57.8	+1.5
OPRZ	Ohinepanea	19.14	198	P	P	08 39 58.1	+1.2
MWZ	Matawai	19.33	196	P	P	08 39 58.2	-0.8
KMRZ	Kaimai	19.33	200	P	P	08 39 59.8	+0.8
TKGZ	Te Karaka	19.35	195	P	P	08 40 00.1	+1.0
URZ	Urewera	19.37	197	P	P	08 39 57.2	-2.1
	7.0nm,0.3s,baz=350,slow=4.0,SNR=50						
URZ				S	S	08 43 23.1	-3.4
	0.4nm,0.3s,baz=96,slow=18,SNR=5.1						
URZ	Urewera	19.37	197	P	P	08 39 57.5	-1.9
TOZ	Tahuroa Road	19.37	201	P	P	08 40 01.2	+1.8
RAGZ	Rawiri	19.51	196	P	P	08 39 60.0	-1.0
RIGZ	Rimuhau	19.62	195	P	P	08 40 02.2	0.0
SNGZ	Shannon Statio	19.80	196	P	P	08 40 04.2	+0.1
PRGZ	Paritu Road	19.80	194	P	P	08 40 04.7	+0.7
KNZ	Kokohu	19.95	195	P	P	08 40 05.3	-0.3
MTHZ	Maungataniwha	20.00	197	P	P	08 40 04.6	-1.6
HIZ	Hauiti	20.30	201	P	P	08 40 10.5	+1.2
BKZ	Black Stump Fm	20.39	197	P	P	08 40 08.6	-1.8
RPZ	Rata Peaks	26.23	202	P	P	08 41 06.9	+2.0
	6.9nm,0.6s,baz=304,slow=2.2,SNR=8.5						
STKA	Stephens Creek	39.86	244	P	P	08 43 02.6	-0.1
	1.0nm,0.6s,baz=89,slow=14,SNR=5.1						
ASAR	Alice Springs	46.59	256	P	P	08 43 56.5	-0.1
	14nm,0.7s,baz=90,slow=8.4,SNR=234						
ASAR				ScP	ScP	08 49 04.3	+4.8
	0.9nm,0.9s,baz=103,slow=3.7,SNR=4.5						
ASAR				S	S	08 50 26.8	-2.0
	0.4nm,0.7s,baz=90,slow=15,SNR=3.8						
WRA	Warramunga Arr	46.64	261	P	P	08 43 56.4	-0.6
	3.3nm,0.5s,baz=96,slow=5.8,SNR=93						
WRA				pP	pP	08 44 44.2	+0.9
	1.7nm,0.7s,baz=97,slow=7.4,SNR=3.0						
WRA				ScP	ScP	08 49 04.3	+4.5
	0.6nm,0.9s,baz=90,slow=4.7,SNR=3.9						
WRA				S	S	08 50 29.7	+0.1
	0.7nm,1.1s,baz=91,slow=7.6,SNR=3.4						
VNDA	Vanda	58.79	186	P	P	08 45 26.4	+1.5
	1.8nm,0.8s,baz=9.1,slow=6.4,SNR=12						
MJAR	Matsushiro Arr	70.83	322	P	P	08 46 42.3	-0.8
	1.8nm,0.7s,baz=152,slow=5.4,SNR=4.5						
NVAR	Mina Array Bea	79.18	42	P	P	08 47 30.2	-0.8
	1.5nm,0.7s,baz=224,slow=8.4,SNR=12						
TXAR	Lajitas Array	85.03	57	P	P	08 48 01.1	-0.4
	1.1nm,0.8s,baz=213,slow=8.1,SNR=16						
PDAR	Pinedale Array	87.12	42	P	P	08 48 10.1	-1.5
	0.2nm,0.5s,baz=197,slow=3.1,SNR=3.5						
ILAR	Eielson Array	87.21	12	P	P	08 48 09.8	-1.3
	0.4nm,0.9s,baz=231,slow=6.9,SNR=3.9						
PLCA	Paso Flores	88.32	133	P	P	08 48 17.4	+0.2
	0.9nm,0.7s,baz=282,slow=1.9,SNR=3.8						
SNAA	Sanae	88.64	178	P	P	08 48 17.4	-0.7
VNA3	Neumayer Olymp	88.70	176	P	P	08 48 17.8	-0.6
VNA2	Neumayer--Watz	89.17	176	P	P	08 48 20.1	-0.5
	baz=200,slow=2.9						
CMAR	Chiang Mai Arr	91.73	289	P	P	08 48 34.9	+1.5
	0.7nm,0.3s,baz=112,slow=2.8,SNR=7.1						
YKA	Yellowknife Ar	95.07	24	P	P	08 48 46.3	-1.3
	0.4nm,0.8s,baz=238,slow=4.9,SNR=5.2						
MKAR	Makanchi Array	112.14	313	PKiKP	PKiKP	08 53 57.9	-1.6
	0.1nm,0.5s,baz=76,slow=2.3,SNR=3.4						
ARCES	ARCESS Array B	128.57	351	PKP	PKPdf	08 54 28.1	-2.2
	5.3nm,1.2s,baz=10,slow=1.0,SNR=4.2						
AKASG	Malin Array Be	143.31	333	PKhKP	PKPpre	08 54 54.7	
	1.5nm,0.5s,baz=43,slow=4.1,SNR=7.0						
BRTR	Keskin Array B	147.78	314	PKPbc	PKPbc	08 55 09.6	0.0
	2.0nm,0.8s,baz=134,slow=5.3,SNR=8.6						
GERES	GERESS Array B	150.00	347	PKPbc	PKPbc	08 55 14.4	-0.3
	0.9nm,0.7s,baz=321,slow=1.7,SNR=5.6						

*IDC **14** 08:55:00.3±0.9, 11°95S×72°04W, h0km, mb3.8/5, mb1 4.1/11, mb1mx3.8/42, mbtmp4.0/11, ML3.9/6, MS3.2/5, Ms1 3.2/5, ms1mx3.0/23, Error ellipse: s-maj=26.9km s-min=13.1km az=33.0*
*ISCJB **14** 08:55:03.0±0.5, 11°89S±0°06×71°93W±0°04, h33km, mb4.0/7, MS3.3/1, Error ellipse: s-maj=8.6km s-min=5.1km az=21.2*
*NEIC **14** 08:55:04.2±1.9, 11°89S×72°03W, h27km±15km, mb4.5/4, Error ellipse: s-maj=12.0km s-min=6.7km az=221.0*

ISC 14 08:55:05.5±0.6, 11°87S±0°07×71°94W±0°05, h35km, n27, σ1°54/31, mb3.9/7, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	4.80	268	*e*Pn	Pn	08 56 13.4	-2.1
NNA				*e*Sn	Sn	08 57 10.1	+0.2
NNA	Nana	4.80	268	Pn	Pn	08 56 12.3	-3.1
	7.9nm,0.3s,baz=82,slow=7.8,SNR=15						
NNA				Sn	Sn	08 57 10.1	+0.2
	8.7nm,0.3s,baz=210,slow=20,SNR=2.5						
NNA				LR	LR	08 57 53.8	
	comp=Z,199nm,18.4s,baz=78,slow=37						
LPAZ	La Paz	5.74	140	*e*Pn	Pn	08 56 29.6	+0.8
LPAZ				Lg	Lg	08 58 01.9	
LPAZ	La Paz	5.74	140	Pn	Pn	08 56 29.0	+0.1
	0.7nm,0.3s,baz=313,slow=7.4,SNR=20						
LPAZ				Lg	Lg	08 58 01.9	
	4.7nm,0.3s,baz=211,slow=24,SNR=9.4						
LPAZ				LR	LR	08 58 47.6	
	comp=Z,138nm,20.9s,baz=306,slow=40						
MNMC	Minye Minye	7.56	163	*e*Pn	Pn	08 56 54.0	+0.4
ATAH	Atahualpa	7.92	306	Pn	Pn	08 56 58.3	-0.3
	2.3nm,0.3s,baz=104,slow=7.9,SNR=21						
ATAH				Sn	Sn	08 58 29.6	+2.4
	2.0nm,0.3s,baz=156,slow=20,SNR=2.3						
ATAH				Lg	Lg	08 59 08.4	
	3.1nm,0.3s,baz=273,slow=22,SNR=4.4						
ATAH				LR	LR	09 00 38.3	
	comp=Z,88nm,18.5s,baz=84,slow=43						
LVC	Limon Verde	11.06	165	Lg	Lg	09 00 48.4	
	0.6nm,0.3s,baz=8.2,slow=22,SNR=26						
SIV	San Ignacio	11.31	112	Pn	Pn	08 57 44.3	-0.6
	0.5nm,0.3s,baz=303,slow=10,SNR=13						
SIV				Sn	Sn	08 59 50.3	+0.1
	0.6nm,0.3s,baz=233,slow=19,SNR=2.9						
SIV				Lg	Lg	09 01 01.6	
	2.8nm,0.3s,baz=215,slow=18,SNR=6.3						
OTAV	Otavalo	13.66	331	*e*Pn	Pn	08 58 14.8	-2.5
PTGA	Pitinga	16.24	48	*e*Pn	Pn	08 58 51.6	+0.4
	17nm,0.7s						
PTGA				Sn	Sn	09 01 48.0	-2.3
PTGA				Lg	Lg	09 03 40.9	
PTGA	Pitinga	16.24	48	Pn	Pn	08 58 51.1	0.0
	2.3nm,0.3s,baz=229,slow=14,SNR=24						
PTGA				Sn	Sn	09 01 48.0	-2.3
	0.5nm,0.3s,baz=315,slow=20,SNR=2.7						
PTGA				Lg	Lg	09 03 40.9	
	0.4nm,0.3s,baz=143,slow=20,SNR=3.2						
ROSC	El Rosal	16.77	352	Lg	Lg	09 03 56.3	
	0.4nm,0.3s,baz=49,slow=19,SNR=3.6						
CPUP	Villa Florida	19.91	138	P	P	08 59 33.0	-1.3
	0.1nm,0.3s,baz=315,slow=8.6,SNR=2.2						
CPUP				LR	LR	09 07 40.5	
	comp=Z,113nm,21.8s,baz=284,slow=38						
BDFB	Brasilia	23.53	102	P	P	09 00 14.8	+1.8
	1.6nm,0.4s,baz=262,slow=14,SNR=3.1						
BDFB				Lg	Lg	09 07 23.5	
	7.7nm,1.0s,baz=41,slow=12,SNR=3.9						
BDFB				LR	LR	09 10 59.0	
	comp=Z,108nm,18.7s,baz=266,slow=41						
TXAR	Lajitas Array	51.14	324	P	P	09 04 05.1	-0.2
	0.3nm,0.7s,baz=141,slow=5.8,SNR=4.1						
TX31	Lajitas Ar. Si	51.14	324	*e*P	P	09 04 04.8	-0.6
FVM	French Village	52.53	342	*e*P	P	09 04 16.4	+0.9
	10nm,1.1s						
EYMN	Ely	62.04	345	*e*P	P	09 05 26.6	+4.2
	4.1nm,1.1s						
ULM	Lac du Bonnet	65.31	343	*e*P	P	09 05 44.6	+0.7
	5.4nm,0.9s						
ULM	Lac du Bonnet	65.31	343	P	P	09 05 44.2	+0.3
	3.5nm,0.7s,baz=153,slow=6.8,SNR=5.5						
TOA1	Torodi Ar. Sit	77.14	73	*e*P	P	09 06 57.1	+0.9
TORD	Torodi Ar. Bea	77.14	73	P	P	09 06 57.1	+0.9
	0.6nm,0.7s,baz=262,slow=4.4,SNR=3.0						
YKA	Yellowknife Ar	81.19	341	P	P	09 07 17.4	+0.1
	0.5nm,0.6s,baz=137,slow=5.7,SNR=14						
WR1	Warramunga Arr	139.15	220	*e*PKPdf	PKPdf	09 14 28.7	-0.9
WRA	Warramunga Arr	139.15	220	PKP	PKPdf	09 14 28.7	-0.9
	0.4nm,1.0s,baz=133,slow=2.2,SNR=2.9						
SONA0	Songino Array	144.12	2	*e*PKPdf	PKPdf	09 14 37.2	-0.7
SONM	Songino Array	144.12	2	PKP	PKPdf	09 14 37.2	-0.7
	0.7nm,0.7s,baz=23,slow=1.1,SNR=2.4						

*ISCJB **14** 09:00:59.4±1.4, 52°6N±0°2×33°7W±0°3, h10km, mb3.4/8, MS2.5/1, Error ellipse: s-maj=31.6km s-min=21.0km az=18.5*
*IDC **14** 09:00:59.2±1.4, 52°55N×33°77W, h0km, mb3.4/8, mb1 3.5/9, mb1mx3.3/65, mbtmp3.4/9, ML3.8/1, MS2.7/1, Ms1 2.8/1, ms1mx2.3/37, Error ellipse: s-maj=37.0km s-min=25.3km az=23.0*

ISC 14 09:01:00.8±1.4, 52°6N±0°2×33°8W±0°2, h10km, n12, σ1°07/11, mb3.5/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKA	Eskdalemuir Ar	18.15	69	P	Pn	09 05 12.5	-0.2
	baz=272,slow=22,SNR=3.6						
NOA	NORSAR Array B	25.57	53	LR	LR	09 15 38.9	
	comp=Z,14nm,16.4s,baz=285,slow=34						
FINES	FINESS Array B	32.65	50	P	P	09 07 31.1	-1.4
	2.3nm,1.0s,baz=283,slow=13,SNR=3.6						
AKASG	Malin Array Be	38.03	67	P	P	09 08 20.7	+1.8
	0.1nm,0.3s,baz=306,slow=7.9,SNR=2.5						
YKA	Yellowknife Ar	41.72	316	P	P	09 08 50.1	+0.7
	0.1nm,0.5s,baz=58,slow=8.5,SNR=3.1						
BRTR	Keskin Array B	46.75	78	P	P	09 09 30.5	+0.4
	0.2nm,0.3s,baz=296,slow=7.3,SNR=2.1						
TORD	Torodi Ar. Bea	48.42	131	P	P	09 09 43.0	-0.2
	0.4nm,0.9s,baz=335,slow=6.4,SNR=2.7						
ZALV	Zalesovo Beam	62.22	36	P	P	09 11 21.2	-0.9
	0.3nm,0.4s,baz=318,slow=10,SNR=2.3						
KURBB	Kurchatov Arra	62.42	42	P	P	09 11 23.6	0.0
	0.1nm,0.3s,baz=330,slow=7.0,SNR=2.8						
MKAR	Makanchi Array	66.97	42	P	P	09 11 54.4	+1.0
	0.2nm,0.6s,baz=319,slow=5.6,SNR=3.1						
WRA	Warramunga Arr	146.16	20	PKPbc	PKPdf	09 20 39.4	-0.8
	0.4nm,1.0s,baz=348,slow=3.1,SNR=2.8						
ASAR	Alice Springs	149.66	23	PKPbc	PKPbc	09 20 49.7	-0.9
	0.2nm,0.7s,baz=349,slow=1.9,SNR=2.6						

*BJI **14** 09:09:19.7, 38°75N×122°48W, h5km, mb5.0/8, mB5.3/1, Ms4.7/1, Ms7 4.4/1*
*ISCJB **14** 09:09:23.0±0.3, 38°75N±0°02×122°75W±0°03, h10km, mb4.2/21, MS4.0/22, Error ellipse: s-maj=4.1km s-min=2.0km az=149.7*
*NCEDC **14** 09:09:23.3, 38°81N×122°79W, h2km, MW4.5(BRK)*
*NEIC **14** 09:09:23.3±0.0, 38°81N×122°79W, h2km, MW4.5(BRK), After NCEDC.*
NEIC Felt [V] at Middletown, [IV] at Kelseyville and [III] at Angwin, Calistoga, Cloverdale, Geyserville, Healdsburg, Hidden Valley Lake, Kenwood, Lakeport, Lower Lake, Saint Helena and Santa Rosa. Widely felt as far as San Francisco, Ukiah and Vacaville.
*IDC **14** 09:09:24.2±0.8, 38°78N×122°72W, h0km, mb3.9/17, mb1 4.1/24, mb1mx4.0/62, mbtmp3.9/24, ML3.7/7, MS3.9/30, Ms1 3.9/30, ms1mx3.8/50, Error ellipse: s-maj=13.6km s-min=8.3km az=32.0*

ISC 14 09:09:24.8±0.5, 38°77N±0°05×122°84W±0°05, h10km, n291, σ1°58/275, mb4.1/21, MS4.0/22, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDXM	Geysers	0.05	46	*e*Pg	Pg	09 09 23.9	-3.2
HOPS	Hopland Field	0.28	322	*e*Pg	Pg	09 09 29.4	-1.3
MCCM	Marconi Confer	0.62	183	*e*Pg	Pb	09 09 37.2	-0.7
KCPM	Cahto Peak	1.08	328	*e*Pg	Pg	09 09 43.9	-1.8
ORV	Oroville	1.31	53	*e*Pg	Pn	09 09 44.5	-4.6
O02D	Mt. Diablo Mer	1.41	2	P	Pn	09 09 49.3	-1.3
	baz=180,SNR=1000						
AFDM	Forest Hills D	1.47	82	*e*Pn	Pn	09 09 48.0	-3.4
KMRM	Mail Ridge	1.60	336	*e*Pn	Pn	09 09 51.9	-1.4
O03E	Paynes Creek	1.72	28	P	Pn	09 09 51.9	-3.0
	baz=207,SNR=88						
WDC	Whiskeytown Da	1.82	7	*e*Pn	Pn	09 09 54.4	-1.8
CMB	Columbia Colle	2.07	110	*e*Pn	Pn	09 09 57.9	-1.8
CMB				*e*Sn	Sn	09 10 24.6	-0.9
RUBR	Rubicon Trail	2.12	82	*e*Pn	Pn	09 09 59.3	-1.2
N02D	Trinity Center	2.20	3	P	Pn	09 10 00.0	-1.5
	baz=182,SNR=212						
KHMM	Horse Mountain	2.21	342	*e*Pn	Pn	09 10 01.2	-0.5
BEKR	Beckworth	2.22	60	*e*Pn	Pn	09 10 00.5	-1.4
JCC	Jacoby Creek,	2.24	336	*e*Pn	Pn	09 10 01.8	-0.1
SAO	San Andreas Ge	2.29	151	*e*Pn	Pn	09 10 00.2	-2.5
VCNR	Virginia City	2.54	77	*e*Pn	Pn	09 10 05.3	-1.0
PNTR	Pine Nut	2.55	82	*e*Pn	Pn	09 10 06.2	-0.3
M02C	Callahan	2.62	360	P	Pn	09 10 07.5	+0.2
	baz=179,SNR=13						
WAKR	Walker	2.68	95	*e*Pn	Pn	09 10 08.5	+0.3
YERR	Yerington	2.82	85	*e*Pn	Pn	09 10 09.2	-1.0
PAHR	Pah Rah Range	2.84	70	*e*Pn	Pn	09 10 09.0	-1.4
KRMB	Red Mountain	2.87	344	*e*Pn	Pn	09 10 10.9	+0.2
YBH	Yreka Blue Hor	2.96	2	Pn	Pn	09 10 11.9	-0.1
	1.4nm,0.3s,baz=173,slow=7.1,SNR=42						
YBH				Pg	Pg	09 10 20.6	-1.0
	8.9nm,0.3s,baz=177,slow=11,SNR=46						
YBH				Sn	Sg	09 10 56.8	-3.1
	2.7nm,0.3s,baz=180,slow=12,SNR=3.3						
YBH				Lg	Lg	09 11 03.0	
	3.2nm,0.3s,baz=144,slow=18,SNR=5.6						
YBH				LR	LR	09 11 38.7	
	comp=Z,3μm,19.1s,baz=222,slow=46						
M04C	Macdoel	3.11	14	P	Pn	09 10 13.5	-0.6
	baz=194,SNR=69						
MDPB	Devils Postpil	3.18	110	*e*Pn	Pn	09 10 15.0	-0.1
OMMB	Old Mammoth Mi	3.24	110	*e*Pn	Pn	09 10 16.1	0.0
MLAC	Mammoth, Mammo	3.36	109	P	Pn	09 10 17.1	-0.5
	baz=292						
RYN	Ryan	3.38	91	*e*Pn	Pn	09 10 16.9	-1.0
L02E	Cave Junction	3.43	351	P	Pn	09 10 17.0	-1.4
	baz=169,SNR=11						
L04D	Klamath Falls	3.47	7	P	Pn	09 10 18.0	-1.1
	baz=186,SNR=13						
NV01	Mina Array Sit	3.57	94	*e*Pn	Pn	09 10 18.9	-1.6
NVAR	Mina Array Bea	3.57	94	Pn	Pn	09 10 19.3	-1.2
	7.0nm,0.3s,baz=269,slow=15,SNR=158						
NVAR				Pg	Pb	09 10 28.9	+0.6
	30nm,0.3s,baz=265,slow=18,SNR=63						
NVAR				Lg	Lg	09 11 16.2	
	12nm,0.3s,baz=266,slow=24,SNR=2.8						
NVAR				LR	LR	09 12 05.8	
	comp=Z,3μm,18.9s,baz=274,slow=45						
PAGB	Antelope Grade	3.67	145	*e*Pn	Pn	09 10 20.5	-1.2
VOG	Valley Oaks Go	3.68	131	P	Pn	09 10 20.3	-1.5
	baz=314						
MOD	Modoc Plateau	3.68	31	*e*Pn	Pn	09 10 21.4	-0.6
NV11	Mina Array Sit	3.69	94	*e*Pn	Pn	09 10 20.6	-1.5
KVN	Kaiserville	3.71	84	*e*Pn	Pn	09 10 20.4	-2.0
HUMO	Hull Mountain	3.83	359	*e*Pn	Pn	09 10 26.0	+2.1
K04D	Chiloquin, OR	3.94	12	P	Pn	09 10 25.3	-0.2
	baz=192,SNR=13						
K02D	Willamette Mer	3.97	351	P	Pn	09 10 26.6	+0.8
	baz=170,SNR=10						
TIN	Tinemaha, Big	4.03	114	P	Pn	09 10 24.8	-1.9
	baz=298						
SMMC	Simmler	4.13	146	P	Pn	09 10 26.3	-1.8
	baz=328						
VES	Vestal, Richgr	4.19	133	P	Pn	09 10 26.9	-1.9
	baz=316						
KEBM	Edson Butte	4.25	345	*e*Pn	Pn	09 10 28.4	-1.3
CWC	Cottonwood Cre	4.44	120	P	Pn	09 10 30.8	-1.6
	baz=304						
J01E	Myrtle Point	4.46	350	P	Pn	09 10 31.7	-0.8
	baz=168						
J04D	Umpqua Nationa	4.50	7	P	Pn	09 10 30.9	-2.4
	baz=187,SNR=7.1						
PKM	Mcpherson Peak	4.57	147	P	Pn	09 10 32.3	-1.9
	baz=330						
BMN	Battle Mountai	4.65	67	*e*Pn	Pn	09 10 35.8	+0.6
ISA	Isabella, Lake	4.67	130	*e*Pn	Pn	09 10 35.2	-0.2
ISA	Isabella, Lake	4.67	130	P	Pn	09 10 34.7	-0.8
	baz=314						
J05D	Fort Rock, OR	4.67	15	P	Pn	09 10 35.8	+0.2
	baz=195,SNR=43						
GRAC	Grapevine Rang	4.68	111	P	Pn	09 10 33.8	-1.8
	baz=295						
ARVC	Arvin	4.85	137	P	Pn	09 10 36.3	-1.6
	baz=321						
DAC	Darwin (Calif)	4.86	119	*e*Pn	Pn	09 10 38.7	+0.5
WVOR	Wild Horse Val	4.86	40	*e*Pn	Pn	09 10 37.6	-0.5
I03D	Drain, OR	4.94	356	P	Pn	09 10 39.2	+0.2
	baz=175						
SBC	Santa Barbara	5.00	149	P	Pn	09 10 38.6	-1.3
	baz=332						
I04A	Tendick Farm,	5.03	4	P	Pn	09 10 40.7	+0.3
	baz=183						
MPMC	Manual Prospec	5.05	121	P	Pn	09 10 39.6	-1.2
	baz=305						
PINE	Pine Mountain	5.22	15	*e*Pn	Pn	09 10 44.1	+1.0
LRMC	Laurel Mtn Rad	5.27	127	P	Pn	09 10 43.0	-0.8
	baz=311						
FURC	Furnace Creek,	5.28	114	P	Pn	09 10 42.6	-1.1
	baz=298						
OSI	Osito Audit: C	5.31	140	*e*Pn	Pn	09 10 43.9	-0.3
OSI	Osito Audit: C	5.31	140	P	Pn	09 10 43.2	-1.0
	baz=323						
SCZ2	Santa Cruz Isl	5.42	151	P	Pn	09 10 44.2	-1.6
	baz=333						
EDW2	Edwards Air Fo	5.50	133	P	Pn	09 10 45.8	-1.0
	baz=317						
TPNV	Topopah Spring	5.53	107	*e*Pn	Pn	09 10 48.3	+1.0
TPNV	Topopah Spring	5.53	107	P	Pn	09 10 46.6	-0.7
	baz=292						
TPNV				Sb	Sb	09 12 11.2	+3.3
	baz=292						
BLG	Laguna Peak, P	5.56	146	P	Pn	09 10 46.9	-0.7
	baz=329						
J08A	Circle Bar Ran	5.65	34	*e*Pn	Pn	09 10 50.6	+1.6
I05D	Terrebonne, OR	5.68	11	P	Pn	09 10 47.1	-2.1
	baz=192						
R11A	Troy Canyon, C	5.71	92	*e*Pn	Pn	09 10 49.0	-0.8
R11A	Troy Canyon, C	5.71	92	P	Pn	09 10 47.6	-2.2
	baz=277						
R11A				Sb	Sb	09 12 16.7	+3.6
	baz=277						
H04D	Lebanon	5.75	1	P	Pn	09 10 49.0	-1.2
	baz=180						
DECC	Green Verdugo	5.79	140	P	Pn	09 10 49.7	-1.1
	baz=323						
I07A	Izee	5.87	24	*e*Pn	Pn	09 10 53.9	+1.9
PASC	Pasadena Art C	5.93	139	*e*Pn

IRM Iron Mountain 7.72 124 P **Pn** 09 11 16.3 -1.1
baz=309
SZCU Shurtz Canyon 7.77 96 *e*Pn **Pn** 09 11 16.6 -1.6
LCMT Little Creek M 7.79 100 *e*Pn **Pn** 09 11 21.5 +3.1
MONP2 Monument Peak 7.85 136 P **Pn** 09 11 18.4 -0.9
baz=321
BGU Big Grassy Mou 7.85 71 *e*Pn **Pn** 09 11 19.2 -0.1
BC3 Big Chuckawall 7.86 128 P **Pn** 09 11 18.5 -0.7
baz=313
BAR Barrett 7.88 139 *e*Pn **Pn** 09 11 19.0 -0.5
DUG Dugway, Tooele 7.89 76 *e*Pn **Pn** 09 11 18.6 -1.2
DUG Dugway, Tooele 7.89 76 P **Pn** 09 11 19.4 -0.3
baz=263
HLID Hailey 7.96 50 *e*Pn **Pn** 09 11 20.9 +0.2
HLID Hailey 7.96 50 P **Pn** 09 11 20.5 -0.2
baz=236
HAWA Hanford 8.00 17 *e*Pn **Pn** 09 11 19.4 -1.7
LON Longmire 8.01 5 *e*Pn **Pn** 09 11 19.7 -1.6
W13A Hualapai Mount 8.05 114 *e*Pn **Pn** 09 11 21.5 -0.6
KNB Kanab 8.12 99 *e*Pn **Pn** 09 11 22.9 0.0
TCRU Three Creeks R 8.13 88 *e*Pn Pn 09 11 17.2 -6.0
IKP In-Ko-Pah, Jac 8.20 136 P **Pn** 09 11 23.3 -0.6
baz=321
HVU Hansel Valley 8.26 65 *e*Pn **Pn** 09 11 24.2 -0.7
PDMCI Parker Dam,Lak 8.30 120 P **Pn** 09 11 23.9 -1.4
baz=306
F10A Beach Ranch, E 8.31 28 *e*Pn **Pn** 09 11 24.2 -1.2
MSU Marysvale 8.35 88 *e*Pn **Pn** 09 11 26.4 +0.2
SPUT South Promonto 8.37 69 *e*Pn **Pn** 09 11 29.3 +3.0
Y12C Blythe 8.38 124 P **Pn** 09 11 25.4 -0.9
baz=310
MTPU Mount Pierson 8.40 92 *e*Pn **Pn** 09 11 25.9 -1.1
PKCU Pink Cliffs 8.41 96 *e*Pn **Pn** 09 11 25.4 -1.6
NLU North Lily Min 8.43 79 *e*Pn **Pn** 09 11 25.0 -2.2
D05A Emumclaw 8.44 4 *e*Pn **Pn** 09 11 24.5 -2.5
LTY Liberty 8.63 10 *e*Pn **Pn** 09 11 28.2 -1.6
GLA Glamis 8.65 129 *e*Pn **Pn** 09 11 29.1 -0.9
GLA Glamis 8.65 129 P **Pn** 09 11 29.0 -1.1
baz=314
U15A North Rim 8.70 102 *e*Pn **Pn** 09 11 29.8 -1.1
JLU Jordanelle 8.97 75 *e*Pn **Pn** 09 11 32.1 -2.6
TMUT Trail Mountain 9.07 83 *e*Pn **Pn** 09 11 34.9 -1.2
Q16A Castle Valley 9.11 85 *e*Pn **Pn** 09 11 35.2 -1.4
Y14A Wickenburg 9.28 118 *e*Pn **Pn** 09 11 39.0 +0.2
P17A Butcher Ranch, 9.44 82 *e*Pn **Pn** 09 11 41.2 +0.2
113A Mohawk Valley, 9.50 126 *e*Pn **Pn** 09 11 41.7 +0.1
SRU San Rafael Swe 9.61 84 *e*Pn **Pn** 09 11 40.9 -2.4
WUAZ Wupatki 9.72 106 P **Pn** 09 11 46.5 +1.7
baz=293
P18A Preston Nutter 9.82 81 *e*Pn **Pn** 09 11 45.5 -0.9
TPAW Teton Pass 10.13 58 *e*Pn **Pn** 09 11 48.9 -1.7
FXWY Fox Creek 10.14 58 *e*Pn Pn 09 11 54.9 +4.2
X16A Lo Mia Camp, P 10.14 112 *e*Pn **Pn** 09 11 49.9 -0.8
REDW Red Top Meadow 10.15 59 *e*Pn **Pn** 09 11 51.4 +0.6
NEW Newport 10.36 22 P **Pn** 09 11 55.5 +2.1
baz=206
NEW Newport 10.36 22 Pn Pn 09 11 59.3 +5.9
0.1nm,0.3s,baz=207,slow=13,SNR=6.5
NEW LR LR 09 16 09.1
comp=Z,561nm,22.0s,baz=232,slow=39
MSO Missoula 10.37 36 *e*Pn **Pn** 09 11 52.5 -1.1
MSO Missoula 10.37 36 P **Pn** 09 11 55.2 +1.5
baz=222
214A Organ Pipe Nat 10.64 127 P **Pn** 09 11 58.8 +1.5
baz=313
BOZ Bozeman (W) 10.75 47 P **Pn** 09 12 01.3 +2.3
baz=234
PV23 Carpenter Ridg 10.83 87 *e*Pn **Pn** 09 11 58.1 -2.0
BW06 Boulder Array 10.84 64 *e*Pn **Pn** 09 11 59.0 -1.2
BW06 Boulder Array 10.84 64 P **Pn** 09 12 02.6 +2.4
baz=253
PDAR Pinedale Array 10.84 64 *e*Pn **Pn** 09 11 58.0 -2.2
PDAR Pn Pn 09 12 03.5 +3.3
PDAR Lg Lg 09 15 02.2
PDAR Pinedale Array 10.84 64 Pn **Pn** 09 12 03.5 +3.3
0.1nm,0.3s,baz=243,slow=13,SNR=58
PDAR Lg Lg 09 15 02.2
0.1nm,0.3s,baz=251,slow=19,SNR=2.4
PDAR LR LR 09 16 02.4
comp=Z,416nm,19.8s,baz=258,slow=37
PV12 Saucer Basin, 11.01 88 *e*Pn **Pn** 09 12 03.1 +0.6
PV02 Paradox Valley 11.07 89 *e*Pn **Pn** 09 12 01.6 -1.9
W18A Petrified Fore 11.10 105 P **Pn** 09 12 06.1 +2.3
baz=293
O20A White River Ci 11.38 79 P **Pn** 09 12 09.8 +2.2
baz=268
MVCO Mesa Verde 11.43 93 P **Pn** 09 12 10.0 +1.7
baz=282
TUC Tucson 11.74 120 P **Pn** 09 12 14.8 +2.3
baz=307
RLMT Red Lodge 11.93 54 P **Pn** 09 12 16.4 +1.3
baz=243
GCMT Greycliff 12.01 50 *e*Pn **Pn** 09 12 14.6 -1.5
S22A 4UR Ranch, Cre 12.63 90 P **Pn** 09 12 27.4 +2.6
baz=280
K22A Casper 12.97 67 P **Pn** 09 12 30.9 +1.5
baz=289
N23A Red Feather La 13.16 75 P **Pn** 09 12 34.2 +2.1
baz=266
EGMT Eagleton 13.26 42 P **Pn** 09 12 35.7 +2.7
baz=230
ISCO Idaho Springs 13.39 80 P **Pn** 09 12 37.4 +2.2
baz=271
SDCO Great Sand Dun 13.67 89 P **Pn** 09 12 41.3 +2.3
baz=280
121A Cookes Peak, D 13.73 112 P **Pn** 09 12 42.7 +3.0
baz=302
Q24A Divide 13.79 84 P **Pn** 09 12 42.5 +1.8
baz=275
BBB Bella Bella 13.91 346 LR LR 09 17 54.8
comp=Z,546nm,20.6s,baz=180,slow=37
LAO LASA Array 14.54 52 P **Pn** 09 12 51.6 +1.0
baz=243
T25A Trinidad 14.64 91 P **P** 09 12 54.7 -3.9
baz=282
RSSD Black Hills 15.07 63 *e*Pn **Pn** 09 12 56.6 -1.4
RSSD Black Hills 15.07 63 P **Pn** 09 12 58.6 +0.6
baz=256
KSCO Kaye Shedlock' 15.75 83 P **Pn** 09 13 07.5 +0.7
baz=276
MNTX Cornudas Mount 15.90 111 P **P** 09 13 09.8 -2.7
baz=302
OGNE Ogallala 16.13 76 P **Pn** 09 13 10.8 -0.9
baz=269
DGMT Dagmar 16.59 48 P **Pn** 09 13 16.7 -0.7
baz=241
MSTX Muleshoe 16.85 100 P **Pn** 09 13 20.4 -0.6
baz=293
AMTX Amarillo 17.38 96 P **P** 09 13 27.2 -1.6
baz=289
CBKS Cedar Bluff 18.01 83 P **P** 09 13 35.2 -0.6
baz=277
LPIG La Paz 18.09 140 LR LR 09 20 54.7
comp=Z,1μm,18.4s,baz=333,slow=38
TX31 Lajitas Ar. Si 18.44 115 *e*Pn **Pn** 09 13 40.5 -0.1
TXAR Lajitas Array 18.44 115 Pn **Pn** 09 13 42.9 +2.2
0.1nm,0.3s,baz=297,slow=8.3,SNR=52
TXAR LR LR 09 21 56.1
comp=Z,380nm,18.2s,baz=0.0,slow=41
BGNE Belgrade 19.06 74 P **P** 09 13 46.2 -1.1
baz=270
MDND Maddock 19.13 54 P **P** 09 13 46.4 -1.6
baz=250
WMOK Wichita Mounta 19.68 94 P **Pn** 09 13 54.0 -1.5
baz=289
ABTX Abilene, Hawle 19.79 101 P **P** 09 13 54.7 -0.7
baz=295
DLBC Dease Lake 20.23 349 P Pn 09 14 02.3 +0.5
2.8nm,1.1s,baz=176,slow=15,SNR=2.3
DLBC LR LR 09 22 46.2
comp=Z,601nm,21.1s,baz=173,slow=40
ECSD EROS Data Cent 20.30 67 *e*P **P** 09 13 59.2 -1.5
ECSD EROS Data Cent 20.30 67 P **P** 09 13 59.5 -1.2
baz=265
JCT Junction City 20.65 107 *e*P **P** 09 14 02.9 -1.8
JCT Junction City 20.65 107 P **P** 09 14 04.1 -0.6
baz=300
FFC Flin Flon 21.30 35 *e*P **P** 09 14 09.9 -1.5
FFC *e*Pn **P** 09 14 10.4 -1.0
AGMN Agassiz Nation 21.66 55 P **P** 09 14 13.6 -1.7
baz=254
TUL1 Leonard 21.67 89 P **P** 09 14 14.1 -1.5
baz=286
WHTX Lake Whitney, 21.74 100 P **P** 09 14 15.2 -1.1
baz=295
833A Chaparral WMA, 22.09 111 P **P** 09 14 19.7 -0.5
baz=304
435B Jarrell 22.18 103 P **P** 09 14 20.5 -0.6
baz=298
SKAG Skagway 22.19 343 *e*P **P** 09 14 20.8 -0.2
ULM Lac du Bonnet 22.27 50 P **P** 09 14 20.1 -1.7
9.6nm,0.9s,baz=256,slow=9.8,SNR=17
ULM LR LR 09 22 31.9
comp=Z,215nm,19.8s,baz=262,slow=36
X37A Clayton 22.39 92 *e*P **P** 09 14 21.5 -1.8
G38A Ridgeland 23.82 64 P **P** 09 14 36.1 -1.8
baz=265
U40A Yellville 23.85 86 P **P** 09 14 35.6 -2.6
baz=285
F38A Pierce - Schro 23.88 62 P **P** 09 14 36.2 -2.2
baz=264
HYT Haines Junctio 23.91 342 *e*P **P** 09 14 39.0 +0.3
I39A Houston 23.98 68 P **P** 09 14 37.4 -2.1
baz=269
NATX Nacogdoches 23.99 98 P **P** 09 14 37.2 -2.3
baz=295
YKA Yellowknife Ar 24.28 9 P **P** 09 14 42.9 +0.9
0.3nm,0.8s,baz=192,slow=10.0,SNR=6.0
YKA LR LR 09 25 58.4
comp=Z,55nm,18.4s,baz=200,slow=41
S41A Jillco Farms, 24.42 83 P **P** 09 14 42.1 -1.4
baz=283
T41A Mountain View 24.53 84 P **P** 09 14 42.8 -1.7
baz=284
F39A Loretta 24.54 63 P **P** 09 14 42.4 -2.1
baz=264
J40A Soldiers Grove 24.55 69 P **P** 09 14 42.4 -2.2
baz=270
Q41A Truxton 24.56 80 P **P** 09 14 42.6 -2.2
baz=280
R41A Rosebud 24.56 81 P **P** 09 14 42.8 -2.0
baz=281
P41A Barry, Barry 24.58 78 P **P** 09 14 42.5 -2.4
baz=276
U41A Viola 24.58 86 P **P** 09 14 42.7 -2.3
baz=285
N41A Harden Midland 24.61 75 P **P** 09 14 41.9 -3.2
baz=276
O41A Passleys Farm, 24.65 77 P **P** 09 14 42.8 -2.8
baz=277
CCM Cathedral Cave 24.71 82 P **P** 09 14 44.2 -1.9
baz=282
R42A Lubbering 25.02 81 P **P** 09 14 47.1 -1.8
baz=281
T42A Van Buren 25.05 84 P **P** 09 14 48.1 -1.1
baz=284
J41A Loganville 25.08 69 P **P** 09 14 47.8 -1.6
baz=271
Q42A Golden Eagle 25.10 79 P **P** 09 14 48.1 -1.6
baz=280
S42A Caledonia 25.12 82 P **P** 09 14 48.4 -1.5
baz=282
P42A Winchester 25.14 78 P **P** 09 14 48.3 -1.7
baz=279
L42A Oliver, Polo 25.39 72 P **P** 09 14 51.7 -0.5
baz=274
K42A Prairie Point, 25.58 70 P **P** 09 14 53.0 -0.9
baz=272
R43A Red Bud 25.68 81 P **P** 09 14 53.2 -1.7
baz=282
S43A Fulton Ridge, 25.72 82 P **P** 09 14 53.8 -1.5
baz=283
Q43A New Douglas 25.74 79 P **P** 09 14 54.3 -1.1
baz=280
R44A Waltonville 26.34 80 P **P** 09 15 00.0 -0.9
baz=282
KDAK Kodiak Island 27.10 324 LR LR 09 23 35.6
comp=Z,304nm,21.4s,baz=114,slow=31
FCC Fort Churchill 27.20 33 *e*P **P** 09 15 08.6 +0.1
W47A Westpoint 28.26 86 P **P** 09 15 17.0 -1.1
baz=288
R47A Wooly Knot Far 28.30 79 P **P** 09 15 16.5 -2.0
baz=282
W48A Pulaski 28.81 86 P **P** 09 15 22.1 -1.0
baz=288
X48A Hartselle 28.94 87 P **P** 09 15 21.9 -2.3
baz=289
H47A Mio 29.24 66 P **P** 09 15 25.5 -1.3
baz=272
W49A Belvidere 29.34 86 P **P** 09 15 27.3 -0.5
baz=288
ILAR Eielson Array 29.61 339 P **P** 09 15 31.1 +1.2
2.5nm,1.1s,baz=160,slow=7.7,SNR=11
ILAR LR LR 09 25 54.4
comp=Z,304nm,21.8s,baz=141,slow=33
INK Inuvik 30.17 352 P **P** 09 15 35.4 +0.6
5.3nm,1.2s,baz=156,slow=11,SNR=6.2
SUMG Summit 51.85 22 *i* P **P** 09 18 34.7 +1.5
21nm,0.9s
PETK Petropavlovsk- 54.28 313 LR LR 09 38 45.2
comp=Z,63nm,20.9s,baz=80,slow=32
TIXI Tiksi 59.08 339 P **P** 09 19 25.2 +0.5
1.0nm,0.6s,baz=46,slow=2.6,SNR=3.2
H11N3 WAKE ISLAND Hy 62.74 274 T T 10 27 19.9
baz=54,slow=74,SNR=29
H11N2 WAKE ISLAND Hy 62.74 274 T T 10 27 20.0
baz=54,slow=74,SNR=22
H11N1 WAKE ISLAND Hy 62.76 274 T T 10 27 21.5
baz=54,slow=74,SNR=20
H11S1 WAKE ISLAND Hy 63.58 273 T T 10 28 24.1
baz=55,slow=74,SNR=26
H11S2 WAKE ISLAND Hy 63.59 273 T T 10 28 27.0
baz=55,slow=74,SNR=22
H11S3 WAKE ISLAND Hy 63.60 273 T T 10 28 27.9
baz=55,slow=74,SNR=13
NRIK Nord'sk 69.89 349 LR LR 09 52 16.7
comp=Z,77nm,21.4s,baz=47,slow=37
KLR Kul'dur 70.44 318 LR LR 09 48 30.1
comp=Z,41nm,21.5s,baz=57,slow=33
NB200 NORSAR Array S 73.73 21 *e*P **P** 09 21 00.1 +1.4
NOA NORSAR Array B 73.73 21 P **P** 09 21 00.1 +1.4
1.0nm,0.8s,baz=322,slow=5.9,SNR=3.4
NOA LR LR 09 53 41.0
comp=Z,89nm,20.0s,baz=330,slow=36
MJAR Matsushiro Arr 74.23 304 LR LR 09 47 21.0
comp=Z,60nm,21.9s,baz=55,slow=31
LPAZ La Paz 74.94 126 LR LR 09 53 22.7
comp=Z,77nm,18.1s,baz=296,slow=35
HFS Hagfors 75.17 21 P **P** 09 21 08.6 +1.6
2.8nm,0.9s,baz=337,slow=3.3,SNR=3.8
FIA0 FINESS Array S 76.98 15 *e*P **P** 09 21 18.6 +1.3
FINES FINESS Array B 76.98 15 P **P** 09 21 18.6 +1.3
1.9nm,0.8s,baz=329,slow=6.7,SNR=5.0
FINES LR LR 09 56 30.4
comp=Z,101nm,18.1s,baz=9.0,slow=37
KIRV Kirov 82.79 4 LR LR 10 01 40.6
comp=Z,56nm,20.7s,baz=141,slow=38
SONA0 Songino Array 83.28 329 *e*P **P** 09 21 52.7 +0.9
SONM Songino Array 83.28 329 P **P** 09 21 52.7 +0.9
1.2nm,1.0s,baz=56,slow=3.4,SNR=7.6
ESDC Sonseca Array 83.96 43 P **P** 09 21 55.9 +0.6
0.6nm,0.7s,baz=294,slow=4.7,SNR=3.4
ZAA1 Zalesovo Array 84.61 344 *e*P **P** 09 21 59.9 +1.6
ZALV Zalesovo Beam 84.62 344 P **P** 09 21 59.9 +1.6
0.9nm,0.6s,baz=340,slow=6.8,SNR=4.9
ZALV LR LR 10 03 07.5
comp=Z,95nm,18.6s,baz=70,slow=38
GERES GERESS Array B 84.64 27 P **P** 09 21 59.5 +0.8
0.2nm,0.2s,baz=146,slow=29,SNR=2.7
GERES LR LR 10 03 07.4
comp=Z,91nm,20.2s,baz=321,slow=38
HHC Hu-ho-hao-te 86.49 322 *e*P **P** 09 22 07.6 -0.4
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,130nm,4.9s
AKASG Malin Array Be 87.59 17 P **P** 09 22 14.2 +1.3
0.3nm,0.4s,baz=351,slow=4.2,SNR=2.4
BVAR Borovoye Array 87.86 352 P **P** 09 22 16.2 +1.9
0.7nm,0.8s,baz=53,slow=5.9,SNR=5.4
BVAR LR LR 10 04 23.3
comp=Z,93nm,20.7s,baz=28,slow=38
BDFB Brasilia 88.28 112 LR LR 10 06 29.1
comp=Z,76nm,19.6s,baz=265,slow=39
KURBB Kurchatov Arra 89.02 347 P **P** 09 22 21.7 +2.0
1.0nm,0.9s,baz=14,slow=4.6,SNR=5.9
CPUP Villa Florida 89.11 125 LR LR 10 01 49.8
comp=Z,48nm,21.2s,baz=208,slow=35
NJ2 Nanjing 89.16 312 *e*P **P** 09 22 21.3 +0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
AKTO Aktyubinsk 91.17 359 LR LR 10 07 42.9
comp=Z,91nm,19.5s,baz=356,slow=38
MK32 Makanchi Array 91.90 343 *e*P **P** 09 22 35.6 +2.2
MKAR Makanchi Array 91.90 343 P **P** 09 22 35.6 +2.2
0.1nm,0.4s,baz=16,slow=6.4,SNR=3.0
WMQ Urumqi 93.27 338 *e*P **P** 09 22 40.0 +0.2
WMQ LR LR
comp=N,170nm,25.9s
WMQ LR LR
comp=E,120nm,21.9s
WMQ LR LR
comp=Z,160nm,24.1s
LZH Lanzhou 93.94 324 *e*P P 09 22 36.8 -6.3
LZH pP PcP 09 22 42.0 -1.6
LZH sP pP 09 22 45.8 -0.8
LZH PP **PP** **09 26 26.8 -1.2**
LZH pmax pmax
comp=Z,21nm,1.0s
KBZ Khabaz 96.87 10 LR LR 10 08 13.1
comp=Z,82nm,19.7s,baz=348,slow=36
CD2 Chengdu 98.21 321 P **P** **09 23 00.3 -2.2**
CD2 pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 98.96 18 LR LR 10 11 36.8
comp=Z,62nm,18.5s,baz=61,slow=38
KSH Kashi 100.20 345 *e*P **Pdif** **09 23 12.8 +1.5**

NEIC 14 09:10:09.5±0.0, 38.83N×122.80W, h4km, MW3.9(BRK),
4C-3D, After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**175**		*e*Pg		Pg	09 10 10.2	-0.1
NEG	**NEGU Pad**	**0.02**	**81**	↑	*i*P		Pg	09 10 10.3	0.0
NEG					*i* S		Sg	09 10 11.3	+0.3
AL4	**Aidlin Power P**	**0.03**	**291**	↓	*i*P		Pg	09 10 10.5	+0.1
FUM	**Fumarole**	**0.04**	**168**	↓	*i*P		Pg	09 10 10.5	0.0
FUM					*i* S		Sg	09 10 11.2	+0.1
AL1	**Aidlin Power P**	**0.07**	**279**	↓	*i*P		Pg	09 10 11.2	+0.2
AL2	**Aidlin Power P**	**0.08**	**262**	↑	*i*P		Pg	09 10 11.4	+0.3
HOPS	**Hopland Field**	**0.27**	**308**		*e*Pg		Pg	09 10 15.4	+0.7
MNRC	**McLaughlin Min**	**0.28**	**79**	↑	*i*P		Pg	09 10 15.7	+0.8
CVS	**Carmenet Viney**	**0.55**	**151**	↑	*i*P		Pg	09 10 20.3	+0.3
MCCM	**Marconi Confer**	**0.68**	**186**		*e*Pg		Pb	09 10 23.5	-0.5
KCPM	**Cahto Peak**	**1.05**	**325**		*e*Pn		Pn	09 11 31.7	+0.5
J061	**Lakeshore Driv**	**1.12**	**168**		*e*Pg		Pg	09 10 30.7	-0.2
ORV	**Oroville**	**1.24**	**54**		*e*Pg		Pg	09 10 32.1	-1.2
C055	**Cottonwood Ave**	**1.29**	**155**		*e*Pg		Pg	09 10 33.5	-0.6

NEIC 14 09:10:41.0±0.0, 38.83N×122.80W, h4km, MD3.4(NCEDC),
5C-4D, After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.02**	**174**		*e*Pg		Pg	09 10 41.9	-0.1
GDXM					*e*Sg		Sg	09 10 42.5	-0.1
NEG	**NEGU Pad**	**0.02**	**75**	↑	*i*P		Pg	09 10 42.0	0.0
NEG					*i* S		Sg	09 10 42.9	+0.2
AL4	**Aidlin Power P**	**0.03**	**294**	↓	*i*P		Pg	09 10 42.1	0.0
FUM	**Fumarole**	**0.03**	**167**	↑	*i*P		Pg	09 10 42.0	0.0
RGP	**Ruby Glebe Pro**	**0.05**	**348**	↓	*i*P		Pg	09 10 42.4	+0.1
AL1	**Aidlin Power P**	**0.07**	**281**	↓	*i*P		Pg	09 10 42.7	+0.1
HBW	**Humming Bird W**	**0.07**	**299**	↓	*i*P		Pg	09 10 42.8	+0.2
AL2	**Aidlin Power P**	**0.08**	**264**	↑	*i*P		Pg	09 10 42.9	+0.2
GAXM	**Alexander Vall**	**0.12**	**164**	↑	*i*P		Pg	09 10 43.5	+0.1
HOPS	**Hopland Field**	**0.27**	**308**		*e*Pg		Pb	09 10 47.6	-0.9
CVS	**Carmenet Viney**	**0.55**	**151**	↑	*e*P		Pg	09 10 51.9	+0.4
MCCM	**Marconi Confer**	**0.68**	**186**		*e*Pg		Pb	09 10 54.8	-0.7
WDC	**Whiskeytown Da**	**1.76**	**6**		Pn		Pn	09 11 11.6	-0.7

NEIC 14 09:10:58.6±0.0, 38.83N×122.78W, h2km, MD3.0(NCEDC),
2C-6D, After NCEDC., Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEG	**NEGU Pad**	**0.01**	**60**	↓	*i*P		Pg	09 10 59.2	0.0
GDXM	**Geysers**	**0.02**	**212**		*e*Pg		Pg	09 10 59.3	0.0
GDXM					*e*Sg		Sg	09 10 59.9	+0.1
BRP	**Bottle Rock Po**	**0.03**	**335**	↓	*i*P		Pg	09 10 59.5	+0.1
FUM	**Fumarole**	**0.03**	**191**	↓	*i*P		Pg	09 10 59.5	+0.1
AL4	**Aidlin Power P**	**0.04**	**286**	↓	*i*P		Pg	09 10 59.9	+0.3
RGP	**Ruby Glebe Pro**	**0.06**	**335**	↑	*i*P		Pg	09 11 00.1	+0.2
HBW	**Humming Bird W**	**0.08**	**294**	↓	*i*P		Pg	09 11 00.7	+0.4
AL1	**Aidlin Power P**	**0.08**	**279**	↓	*i*P		Pg	09 11 00.6	+0.3
GAXM	**Alexander Vall**	**0.12**	**170**	↑	*i*P		Pg	09 11 01.1	+0.3
MNRC	**McLaughlin Min**	**0.27**	**79**		*e*P		Pg	09 11 04.8	+1.1
HOPS	**Hopland Field**	**0.28**	**306**		*e*Pg		Pb	09 11 05.4	-1.0
KCPM	**Cahto Peak**	**1.06**	**324**		*e*Pn		Pn	09 11 21.9	+1.3

ISCJB ***14*** *09:16:47.6±0.4, 12.05S±0.05×72.09W±0.07, h10km, mb4.3/16, MS3.5/3, Error ellipse: s-maj=11.1km s-min=6.0km az=146.6*
IDC ***14*** *09:16:47.8±0.7, 12.01S×72.12W, h0km, mb4.0/8, mb1 4.2/14, mb1mx4.0/36, mbtmp4.1/14, ML3.8/6, MS3.5/8, Ms1 3.5/8, ms1mx3.3/28, Error ellipse: s-maj=19.0km s-min=12.0km az=34.0*
NEIC ***14*** *09:16:49.5±0.3, 12.07S×72.10W, h10km, mb4.6/12, Error ellipse: s-maj=10.1km s-min=5.9km az=57.0*

ISC 14 09:16:50.3±0.5, 11.96S±0.06×71.99W±0.07, h10km, n43, σ1.81/44, mb4.6/16, MS3.5/3, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.75**	**269**			Pn	Pn	09 17 57.6	-4.5
	1.8nm,0.3s,baz=122,slow=6.0,SNR=3.1								
NNA						Lg	Lg	09 19 12.2	
	8.0nm,0.3s,baz=45,slow=5.7,SNR=4.2								
LPAZ	**La Paz**	**5.70**	**139**		*e*Pn	**Pn**	**Pn**	**09 18 16.2**	**+0.5**
LPAZ					*e*			09 18 16.4	
LPAZ					Pg	**Pb**	**Pb**	**09 18 31.6**	**+1.3**
LPAZ					*e*Sn	**Sn**	**Sn**	**09 19 23.1**	**+1.5**
LPAZ					Lg	Lg	Lg	09 19 47.9	
LPAZ	**La Paz**	**5.70**	**139**		Pn	**Pn**	**Pn**	**09 18 16.6**	**+0.9**
	0.9nm,0.3s,baz=323,slow=12,SNR=43								
LPAZ					Pg	**Pb**	**Pb**	**09 18 31.6**	**+1.3**
	6.1nm,0.3s,baz=316,slow=17,SNR=26								
LPAZ					Sn	**Sn**	**Sn**	**09 19 23.1**	**+1.5**
	2.9nm,0.3s,baz=342,slow=20,SNR=4.0								
LPAZ					Lg	Lg	Lg	09 19 47.9	
	7.6nm,0.3s,baz=90,slow=19,SNR=7.9								
LPAZ					LR	LR	LR	09 20 44.4	
	comp=Z,515nm,18.9s,baz=338,slow=41								
MNMC	**Minye Minye**	**7.50**	**162**		*e*Pn	**Pn**	**Pn**	**09 18 38.8**	**-1.2**
ATAH	**Atahualpa**	**7.93**	**307**		Pn	Pn	Pn	09 18 43.1	-3.0
	0.2nm,0.3s,baz=112,slow=14,SNR=4.2								
ATAH					Sn	**Sn**	**Sn**	**09 20 20.6**	**+4.4**
	0.5nm,0.3s,baz=127,slow=20,SNR=3.7								
ATAH					LR	LR	LR	09 21 34.6	
	comp=Z,42nm,20.1s,baz=127,slow=36								
PB11	**IPOC Station P**	**8.08**	**164**		*e*Pn	Pn	Pn	09 18 44.6	-3.3
LVC	**Limon Verde**	**10.99**	**165**		LR	LR	LR	09 23 60.0	
	comp=Z,131nm,18.1s,baz=328,slow=39								
SIV	**San Ignacio**	**11.33**	**112**		Pn	**Pn**	**Pn**	**09 19 31.6**	**-0.8**
	1.2nm,0.3s,baz=304,slow=12,SNR=21								
SIV					Sn	**Sn**	**Sn**	**09 21 46.4**	**+7.2**
	1.3nm,0.3s,baz=210,slow=20,SNR=3.8								
SIV					Lg	Lg	Lg	09 22 48.6	
	2.4nm,0.3s,baz=228,slow=19,SNR=7.9								
SIV					LR	LR	LR	09 24 21.5	
	comp=Z,500nm,18.8s,baz=300,slow=40								
OTAV	**Otavalo**	**13.71**	**332**		*e*Pn	**Pn**	**Pn**	**09 20 06.6**	**+1.3**
PTGA	**Pitinga**	**16.33**	**48**		*e*Pn	**Pn**	**Pn**	**09 20 39.3**	**-0.5**
	32nm,1.1s								
PTGA					Sn	**Sn**	**Sn**	**09 23 37.8**	**-3.5**
PTGA					Lg	Lg	Lg	09 25 31.6	
PTGA	**Pitinga**	**16.33**	**48**		Pn	**Pn**	**Pn**	**09 20 39.1**	**-0.8**
	1.7nm,0.3s,baz=228,slow=13,SNR=20								
PTGA					Sn	**Sn**	**Sn**	**09 23 37.8**	**-3.5**
	0.7nm,0.3s,baz=326,slow=22,SNR=2.6								
PTGA					Lg	Lg	Lg	09 25 31.6	
	0.5nm,0.3s,baz=110,slow=24,SNR=3.5								
CPUP	**Villa Florida**	**19.87**	**138**		*e*P	**P**	**P**	**09 21 21.1**	**-0.7**
	6.1nm,0.9s								
CPUP	**Villa Florida**	**19.87**	**138**		P	**P**	**P**	**09 21 21.1**	**-0.7**
	0.2nm,0.3s,baz=318,slow=8.4,SNR=7.2								
CPUP					LR	LR	LR	09 29 27.0	
	comp=Z,134nm,18.1s,baz=332,slow=38								
ROC1	**El Roble**	**20.94**	**178**		*e*P	**P**	**P**	**09 21 31.6**	**-2.0**
	15nm,1.0s								
BDFB	**Brasilia**	**23.56**	**102**		P	**P**	**P**	**09 22 01.4**	**0.0**
	5.7nm,0.7s,baz=250,slow=8.8,SNR=4.0								
BDFB					Lg	Lg	Lg	09 29 13.5	
	5.8nm,0.9s,baz=158,slow=21,SNR=3.0								

BDFB					LR	LR	09 31 55.1				
	comp=Z,176nm,21.4s,baz=290,slow=38										
MDP	**Montagnes des**	**25.64**	**50**	LR	LR	09 33 03.3					
	comp=Z,249nm,20.1s,baz=226,slow=38										
PLCA	**Paso Flores**	**28.69**	**178**	P	**P**	**09 22 46.9**	**-0.8**				
	1.1nm,0.8s,baz=0.0,slow=6.1,SNR=2.1										
USHA	**Ushuaia**	**42.86**	**177**	P	**P**	**09 24 47.8**	**-0.8**				
	1.9nm,0.8s,baz=4.1,slow=19,SNR=2.0										
V48A	**Smith Brothers**	**49.47**	**344**	*e*P	**P**	**09 25 40.8**	**0.0**				
	9.0nm,1.0s										
TXAR	**Lajitas Array**	**51.18**	**324**	P	**P**	**09 25 54.0**	**-0.1**				
	0.4nm,0.8s,baz=147,slow=7.3,SNR=5.1										
PBMO	**Poplar Bluff**	**51.49**	**341**	*e*P	**P**	**09 25 56.1**	**0.0**				
	6.7nm,0.9s										
FVM	**French Village**	**52.60**	**342**	*e*P	**P**	**09 26 04.0**	**-0.3**				
	7.9nm,0.8s										
TUL1	**Leonard**	**52.65**	**336**	*e*P	**P**	**09 26 05.8**	**+1.0**				
	8.1nm,0.9s										
Q44A	**Meyer Farm, Va**	**53.03**	**343**	*e*P	**P**	**09 26 07.3**	**-0.2**				
	22nm,0.9s										
Q24A	**Divide**	**59.35**	**330**	*e*P	**P**	**09 26 53.4**	**+0.2**				
	4.9nm,0.8s										
AGMN	**Agassiz Nation**	**63.62**	**342**	*e*P	**P**	**09 27 21.1**	**-0.3**				
	4.1nm,0.8s										
ULM	**Lac du Bonnet**	**65.38**	**343**	*e*P	**P**	**09 27 32.3**	**-0.5**				
	5.5nm,1.0s										
ULM	**Lac du Bonnet**	**65.38**	**343**	P	P	09 27 30.3	-2.6				
	3.9nm,0.8s,baz=160,slow=4.4,SNR=6.6										
DBIC	**Dimbokro**	**69.27**	**78**	*e*P	**P**	**09 27 57.5**	**-0.8**				
	4.6nm,1.0s										
DBIC	**Dimbokro**	**69.27**	**78**	P	**P**	**09 27 58.6**	**+0.3**				
	2.2nm,0.5s,baz=220,slow=5.6,SNR=3.1										
PPT	**Papeete**	**74.79**	**255**	P	**P**	**09 28 29.7**	**-1.7**				
	24nm,0.8s,baz=78,slow=18,SNR=2.0										
TOA1	**Torodi Ar. Sit**	**77.21**	**73**	*e*P	**P**	**09 28 44.6**	**-0.7**				
TORD	**Torodi Ar. Bea**	**77.21**	**73**	P	**P**	**09 28 44.6**	**-0.7**				
	0.5nm,0.5s,baz=264,slow=5.9,SNR=3.7										
YKA	**Yellowknife Ar**	**81.25**	**341**	P	**P**	**09 29 06.4**	**+0.2**				
	0.8nm,0.7s,baz=136,slow=5.6,SNR=9.4										
YKB5	**Yellowknife Ar**	**81.25**	**341**	*e*P	**P**	**09 29 08.1**	**+1.8**				
NOA	**NORSAR Array B**	**97.09**	**29**	LR	LR	10 09 33.5					
	comp=Z,13nm,21.6s,baz=340,slow=33										
ZAA1	**Zalesovo Array**	**134.24**	**19**	*e*PKPdf	**PKPdf**	**09 36 08.8**	**+0.5**				
ZALV	**Zalesovo Beam**	**134.24**	**19**	PKP	**PKPdf**	**09 36 08.8**	**+0.5**				
	1.7nm,0.6s,baz=298,slow=3.1,SNR=6.2										
ASAR	**Alice Springs**	**136.47**	**216**	PKP	**PKPdf**	**09 36 12.8**	**-0.7**				
	0.3nm,0.7s,baz=107,slow=2.7,SNR=4.0										
WR1	**Warramunga Arr**	**139.06**	**220**	*e*PKPdf	**PKPdf**	**09 36 16.3**	**-1.9**				
WRA	**Warramunga Arr**	**139.06**	**220**	PKP	**PKPdf**	**09 36 16.3**	**-2.0**				
	0.6nm,0.8s,baz=130,slow=1.6,SNR=4.5										
SONA0	**Songino Array**	**144.21**	**2**	*e*PKPdf	**PKPab**	**09 36 25.0**	**+0.4**				
SONM	**Songino Array**	**144.21**	**2**	PKP	**PKPab**	**09 36 25.0**	**+0.4**				
	1.3nm,0.7s,baz=350,slow=3.5,SNR=3.9										

IDC 14 09:32:26.2±16.0, 0°82S×123°46E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/39, mbtmp3.7/3, Error ellipse: s-maj=258.1km s-min=179.7km az=168.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.79**	**151**	P	P	09 37 20.0	+0.1
	1.2nm,0.5s,baz=328,slow=11,SNR=18						
ASAR	**Alice Springs**	**24.87**	**157**	P	P	09 37 50.8	0.0
	1.2nm,0.4s,baz=332,slow=7.8,SNR=38						
STKA	**Stephens Creek**	**35.33**	**153**	P	P	09 39 23.2	-0.1
	0.5nm,0.4s,baz=330,slow=8.1,SNR=3.8						

DJA 14 09:35:33.6±0.7, 9°S×113°×11°4E±°, h56km±25km, M3.5/6, MLv3.5/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.96**	**41**	P	Pn	09 35 50.8	-0.2
JAGI				S	Sn	09 36 04.2	+0.4
SRBI	**Singaraja**	**2.01**	**57**	P	Pn	09 36 06.2	+1.1
PWJI	**Pagerwojo**	**2.06**	**304**	P	Pn	09 36 05.4	-0.5
PWJI				S	Sn	09 36 30.0	-0.4
PCJI	**Pacitan**	**2.52**	**293**	P	Pn	09 36 11.2	-1.0
PCJI				S	Sn	09 36 39.5	-2.2
WOJI	**Wonogiri, Jawa**	**2.90**	**298**	P	Pn	09 36 17.4	0.0
WOJI				S	Sn	09 36 50.8	-0.3
UGM	**Wanagama**	**3.23**	**293**	P	Pn	09 36 21.6	-0.3
UGM				S	Sn	09 36 59.1	0.0
PLAI	**Plampang**	**4.22**	**85**	P	Pn	09 36 35.9	+0.4

IDC 14 09:36:15.4±3.2, 53°76N×88°26E, h0km, mb1 3.3/3, mb1mx3.1/42, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=28.6km s-min=18.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.05**	**277**	*i*		09 49 40.0	
	baz=98,slow=340,SNR=3.4						
ZALV	**Zalesovo Beam**	**2.05**	**277**	Pn	Pb	09 36 52.6	-0.8
	4.3nm,0.3s,baz=95,slow=11,SNR=42						
ZALV				Lg	Lg	09 37 21.0	
	7.8nm,0.3s,baz=96,slow=23,SNR=20						
KURBB	**Kurchatov Arra**	**6.75**	**246**	Pn	Pn	09 37 54.3	-1.4
	0.4nm,0.3s,baz=60,slow=14,SNR=8.8						
KURBB				Lg	Lg	09 39 50.4	
	baz=61,slow=30,SNR=5.1						
MKAR	**Makanchi Array**	**7.95**	**211**	Pn	Pn	09 38 14.3	+2.2
	0.2nm,0.3s,baz=29,slow=12,SNR=4.4						
MKAR				Sn	Sn	09 39 43.5	+0.8
	0.2nm,0.3s,baz=33,slow=22,SNR=4.9						
MKAR				Lg	Lg	09 40 16.8	
	0.4nm,0.3s,baz=313,slow=28,SNR=5.0						

IDC 14 09:40:17.3±2.4, 54°65N×83°48E, h0km, mb1 2.5/2, mb1mx2.5/44, mbtmp2.5/2, ML1.7/2, Error ellipse: s-maj=19.1km s-min=11.0km az=165.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**131**	*i*		09 46 30.6	
	baz=310,slow=312,SNR=8.5						
ZALV	**Zalesovo Beam**	**1.06**	**131**	Pg	Pg	09 40 37.1	-0.3
	3.0nm,0.3s,baz=314,slow=18,SNR=29						
ZALV				Lg	Lg	09 40 52.4	
	2.4nm,0.3s,baz=313,slow=30,SNR=15						
KURBB	**Kurchatov Arra**	**5.04**	**219**	Pn	Pn	09 41 33.6	-0.4
	0.0nm,0.3s,baz=40,slow=14,SNR=2.8						
KURBB				Pg	Pb	09 41 45.3	-0.9
	0.0nm,0.3s,baz=39,slow=15,SNR=2.3						
KURBB				Lg	Lg	09 42 58.0	
	0.0nm,0.3s,baz=31,slow=31,SNR=5.0						
MKAR	**Makanchi Array**	**7.91**	**186**	Pn	Pn	09 42 13.5	0.0
	0.0nm,0.3s,baz=2.5,slow=10,SNR=2.8						
MKAR				Sn	Sn	09 43 42.0	-1.5
	0.1nm,0.3s,baz=0.7,slow=23,SNR=4.7						
MKAR				Lg	Lg	09 44 31.0	
	0.1nm,0.3s,baz=12,slow=28,SNR=3.6						

IDC 14 09:48:43.1±0.5, 7°96S×106°90E, h0km, mb4.5/28, mb1 4.6/29, mb1mx4.5/49, mbtmp4.6/29, ML4.8/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/31, Error ellipse: s-maj=19.4km s-min=11.1km az=47.0

BJI 14 09:48:44.6, 8°10S×106°70E, h18km, mb4.7/29, mB5.0/18, Ms4.4/8, Ms7 4.2/7

NEIC 14 09:48:45.7±1.9, 8°08S×106°75E, h17km±11km, mb4.7/33, Error ellipse: s-maj=7.4km s-min=4.1km az=219.0

MOS 14 09:48:47.2±1.0, 7°76S×107°08E, h33km, mb5.1/29, Error ellipse: s-maj=13.5km s-min=6.6km az=114.5

KLM 14 09:48:49.0, 8°32S×106°61E, h48km, mb4.6

DJA 14 09:48:49.1±0.5, 8°S±6°×10°7E±°, h65km±7km, M5.0/18, mB5.5/8, mb4.9/18, MLv4.9/18, Mw(mB)5.0/8

ISCJB 14 09:48:50.7±0.6, 7°96S±0°05×107°02E±0°04, h73km±4km, mb4.6/82, Error ellipse: s-maj=10.1km s-min=3.9km az=31.1

ISC 14 09:48:47.2±0.8, 8°28S±0°04×106°81E±0°04, h34km±2km, n260, σ1°78/275, mb4.8/82, MS3.8/18, 14C-13D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.23**	**54**	*e*Pn	**Pn**	**09 49 08.0**	**0.0**
CISI				*e*Sn	**Sn**	**09 49 22.7**	**-0.7**
CISI	**Cisompet, Garu**	**1.23**	**54**	P	**Pn**	**09 49 08.0**	**0.0**
CISI				S	**Sn**	**09 49 20.6**	**-2.8**
SKJI	**Sukabumi**	**1.29**	**349**	P	**Pb**	**09 49 10.0**	**-1.0**
SKJI				S	**Sb**	**09 49 29.0**	**+1.7**
TNG	**Tangerang**	**2.10**	**355**	P	**Pn**	**09 49 23.5**	**+3.5**
TNG				P	**Pn**	**09 49 23.4**	**+3.5**
SBJI	**Serang**	**2.25**	**342**	P	**Pb**	**09 49 24.7**	**-2.5**
KPJI	**Karang Pucung**	**2.30**	**66**	P	**Pn**	**09 49 24.8**	**+2.1**
XMIS	**Christmas Isla**	**2.47**	**208**	*e*Pn	**Pn**	**09 49 24.8**	**-0.2**
XMIS				*e*Sn	**Sn**	**09 49 48.8**	**-5.3**
BLSI	**Bandar Lampung**	**3.29**	**332**	P	**Pn**	**09 49 38.4**	**+2.1**
KASI	**Kota Agung**	**3.58**	**320**	P	**Pn**	**09 49 42.3**	**+2.0**
KASI				S	**Sn**	**09 50 24.5**	**+3.2**
UGM	**Wanagama**	**3.69**	**85**	*e*Pn	**Pn**	**09 49 42.8**	**+0.9**
UGM	**Wanagama**	**3.69**	**85**	P	**Pn**	**09 49 43.1**	**+1.2**
SMRI	**Semarang**	**3.80**	**71**	*e*Pn	**Pn**	**09 49 45.8**	**+2.4**
SMRI	**Semarang**	**3.80**	**71**	P	**Pn**	**09 49 46.6**	**+3.3**
KLI	**Kotabumi**	**3.91**	**330**	P	**Pn**	**09 49 48.5**	**+3.6**
WOJI	**Wonogiri, Jawa**	**4.09**	**84**	P	**Pn**	**09 49 47.4**	**0.0**
LWLI	**Liwa**	**4.24**	**320**	P	Pn	09 49 55.0	+5.5
PCJI	**Pacitan**	**4.32**	**89**	P	**Pn**	**09 49 51.7**	**+1.2**
MDSI	**Maura Dua**	**4.59**	**325**	P	**Pn**	**09 49 56.3**	**+2.1**
NGJI	**Ngawi**	**4.69**	**79**	P	**Pb**	**09 50 05.0**	**-3.8**
PWJI	**Pagerwojo**	**4.95**	**87**	P	**Pn**	**09 50 00.4**	**+1.3**
MNAI	**Manna**	**5.46**	**315**	*e*Pn	**Pn**	**09 50 06.6**	**+0.3**
MNAI	**Manna**	**5.46**	**315**	P	**Pn**	**09 50 07.7**	**+1.4**
LHSI	**Lahat**	**5.50**	**323**	P	**Pn**	**09 50 09.8**	**+3.0**
PMBI	**Palembang**	**5.69**	**339**	P	Pn	09 50 15.4	+6.0
PPBI	**Pangkal Pinang**	**6.12**	**354**	P	**Pn**	**09 50 18.3**	**+3.1**
JAGI	**Jajag, Banyuwa**	**7.26**	**92**	*e*Pn	**Pn**	**09 50 34.1**	**+3.1**
JAGI				*e*Sn	**Sn**	**09 51 52.7**	**+0.3**
JAGI	**Jajag, Banyuwa**	**7.26**	**92**	P	**Pn**	**09 50 34.2**	**+3.2**
DSRI	**Dabo**	**8.06**	**344**	P	**Pn**	**09 50 44.5**	**+2.5**
SRBI	**Singaraja**	**8.32**	**89**	P	**Pn**	**09 50 48.4**	**+3.0**
PPSI	**Pulau Pagai**	**8.71**	**309**	P	**Pn**	**09 50 50.2**	**-0.6**
SISI	**Saibi**	**10.34**	**312**	P	**Pn**	**09 51 11.9**	**-1.3**
MYKOM	**Kota Tinggi**	**10.43**	**343**	P	**Pn**	**09 51 18.7**	**+4.3**
PLAI	**Plampang**	**10.86**	**94**	P	**Pn**	**09 51 20.0**	**-0.3**
SBUM	**Sibu**	**11.95**	**27**	*e*Pn	**Pn**	**09 51 34.7**	**-0.4**
BTM	**Bintulu**	**13.01**	**29**	P	**P**	**09 51 56.0**	**-3.7**
GSI	**Gunungsitoli**	**13.25**	**316**	*e*Pn	**Pn**	**09 51 49.9**	**-3.1**
GSI	**Gunungsitoli**	**13.25**	**316**	P	**Pn**	**09 51 50.1**	**-2.9**
TTSI	**Tana Toraja**	**13.94**	**69**	P	**P**	**09 52 13.9**	**+3.8**
KTGM	**Kuala Trenggan**	**14.01**	**345**	P	**Pn**	**09 52 04.5**	**+1.2**
EDFI	**Ende, Flores**	**14.72**	**93**	P	**Pn**	**09 52 10.6**	**-2.6**
KULM	**Kulim**	**14.81**	**335**	*e*Pn	**Pn**	**09 52 12.9**	**-1.5**
KULM	**Kulim**	**14.81**	**335**	P	**Pn**	**09 52 13.1**	**-1.2**
APSI	**Ampana**	**16.49**	**64**	P	**P**	**09 52 38.2**	**-0.2**
BATI	**Baumata**	**16.74**	**98**	P	**P**	**09 52 42.6**	**+1.4**
BATI	**Baumata**	**16.74**	**98**	Pn	**Pn**	**09 52 39.9**	**+0.6**
BATI	3.1nm,0.3s,baz=256,slow=8.3,SNR=1.8			Sn	**Sn**	**09 55 36.3**	**-8.1**
	2.2nm,0.3s,baz=306,slow=19,SNR=2.8						
SOEI	**Soe**	**17.30**	**96**	*e*Pn	**Pn**	**09 52 47.0**	**+0.6**
	67nm,0.7s						
SOEI	**Soe**	**17.30**	**96**	P	**Pn**	**09 52 45.1**	**-1.3**
KDM	**Kudat**	**18.10**	**34**	P	**P**	**09 52 59.6**	**+3.4**
SANI	**Sanana**	**20.07**	**73**	P	**P**	**09 53 16.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.75**	**120**	*e*P	Pn	09 53 27.8	+0.2
	19nm,0.8s						
FITZ				S	S	09 57 03.4	-12
FITZ	**Fitzroy Crossi**	**20.75**	**120**	P	**P**	**09 53 25.4**	**+0.3**
	20nm,0.8s,baz=296,slow=9.5,SNR=18						
FITZ				S	S	09 57 03.4	-12
	2.0nm,0.8s,baz=351,slow=15,SNR=3.1						
FITZ				LR	LR	10 02 57.8	
	comp=Z,128nm,19.1s,baz=307,slow=41						
MTN	**Manton Dam**	**24.33**	**103**	*e*P	**P**	**09 54 03.9**	**+1.9**
	24nm,1.1s						
CHAI	**Chaiyaphum**	**24.50**	**349**	P	**P**	**09 54 01.6**	**-1.9**
	6.4nm,0.8s						
PBKT	**Sadao Pong**	**25.36**	**347**	*e*P	**P**	**09 54 07.9**	**-3.4**
	6.3nm,0.8s						
TGY	**Tagaytay City**	**26.29**	**32**	LR	LR	10 06 44.5	
	comp=Z,80nm,18.1s,baz=186,slow=42						
NWAO	**Narrogin (SRO)**	**26.36**	**160**	LR	LR	10 04 41.2	
	comp=Z,291nm,19.9s,baz=318,slow=36						
UTTA	**Uttaradit**	**26.59**	**347**	P	**P**	**09 54 21.0**	**-1.4**
	2.5nm,0.9s						
QIZ	**Qiongzhong**	**27.30**	**6**	P	**P**	**09 54 29.5**	**+0.7**
QIZ				S	**S**	**09 59 08.8**	**+2.6**
QIZ				LR	LR		
	comp=N,250nm,13.1s						
QIZ				LR	LR		
	comp=Z,290nm,17.0s						
CM01	**Chiang Mai Arr**	**27.64**	**344**	*e*P	**P**	**09 54 29.9**	**-2.0**
CMAR	**Chiang Mai Arr**	**27.68**	**344**	*i* P	**P**	**09 54 30.5**	**-1.7**
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**27.68**	**344**	P	**P**	**09 54 29.9**	**-2.4**
	comp=Z,2.8nm,0.7s,baz=177,slow=8.9,SNR=22						
CMAR				LR	LR	10 06 59.8	
	comp=Z,170nm,18.1s,baz=188,slow=40						
CMMT	**Chiang Mai**	**28.02**	**344**	P	**P**	**09 54 34.4**	**-0.8**
	comp=Z,6.4nm,0.9s						
CHTO	**Chiang Mai**	**28.02**	**344**	*e*P	**P**	**09 54 32.8**	**-2.5**
	comp=Z,4.4nm,0.8s						
CHTO	**Chiang Mai**	**28.02**	**344**	*e*P	**P**	**09 54 32.8**	**-2.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**28.02**	**344**	P	**P**	**09 54 34.5**	**-0.7**
	comp=Z,28nm,0.9s						
WR1	**Warramunga Arr**	**29.05**	**116**	*e*P	**P**	**09 54 45.2**	**+0.7**
	comp=Z,6.0nm,0.6s						
WR1				*e*PcP	**PcP**	**09 57 53.9**	**+1.4**
WRA	**Warramunga Arr**	**29.05**	**116**	P	**P**	**09 54 45.2**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=286,slow=12,SNR=49						
WRA				PcP	**PcP**	**09 57 53.9**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=277,slow=6.6,SNR=2.8						
WRAB	**Tennant Creek**	**29.06**	**116**	*e*P	**P**	**09 54 46.5**	**+1.9**
	comp=Z,6.1nm,0.6s						
WRAB	**Tennant Creek**	**29.06**	**116**	‖ *e*P	**P**	**09 54 46.6**	**+2.0**
WB2	**Warramunga Arr**	**29.06**	**116**	*e*P	**P**	**09 54 46.4**	**+1.7**
AS31	**Alice Springs**	**30.12**	**124**	*e*P	**P**	**09 54 56.6**	**+2.6**
	comp=Z,1.2nm,0.5s						
ASAR	**Alice Springs**	**30.12**	**124**	P	**P**	**09 54 55.4**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=295,slow=8.2,SNR=33						
AS01	**Alice Springs**	**30.16**	**124**	*e*P	**P**	**09 54 55.6**	**+1.3**
PALK	**Pallekele**	**30.27**	**300**	*e*P	**P**	**09 54 54.4**	**-1.0**
	comp=Z,8.1nm,1.1s						
PALK	**Pallekele**	**30.27**	**300**	P	**P**	**09 54 54.4**	**-1.0**
	comp=Z,1.9nm,0.4s,baz=115,slow=19,SNR=2.2						
KMI	**Kunming**	**33.44**	**353**	P	**P**	**09 55 25.9**	**+2.6**
KMI				pP	pP	09 55 33.0	+0.7
KMI				sP	sP	09 55 37.5	+1.0
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI				LR	LR		
	comp=Z,420nm,16.6s						
KMI				LR	LR		
	comp=Z,140nm,14.8s						
KMI				LR	LR		
	comp=Z,460nm,14.8s						
H08S2	**Diego Garcia H**	**33.99**	**269**	T	T	10 31 04.6	
	baz=92,slow=76,SNR=12						
H08S3	**Diego Garcia H**	**34.00**	**269**	T	T	10 31 02.2	
	baz=92,slow=76,SNR=14						
H08S1	**Diego Carcia H**	**34.01**	**269**	T	T	10 31 06.2	
	baz=92,slow=76,SNR=15						
JAY	**Jayapura**	**34.21**	**82**	P	**P**	**09 55 30.0**	**0.0**
JAY	**Jayapura**	**34.21**	**82**	P	**P**	**09 55 29.9**	**0.0**
	comp=Z,22nm,1.0s,baz=288,slow=20,SNR=2.2						
HYB	**Hyderabad**	**37.84**	**313**	*i* P	**P**	**09 56 02.0**	**+1.0**
CD2	**Chengdu**	**39.08**	**356**	P	**P**	**09 56 11.5**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
STKA	**Stephens Creek**	**39.94**	**131**	*e*P	**P**	**09 56 21.8**	**+3.4**
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**39.94**	**131**	P	**P**	**09 56 21.6**	**+3.3**
	comp=Z,4.1nm,0.5s,baz=314,slow=7.7,SNR=16						
STKA				LR	LR	10 13 48.2	
	comp=Z,130nm,20.5s,baz=325,slow=38						
JIRN	**Jiri**	**40.93**	**332**	*e*P	**P**	**09 56 25.4**	**-1.6**
PKIN	**Phulchoki**	**41.24**	**331**	*e*P	**P**	**09 56 28.8**	**-0.6**
GUN	**Gumba**	**41.28**	**331**	*e*P	**P**	**09 56 28.4**	**-1.5**
	comp=Z,15nm,0.6s						
NJ2	**Nanjing**	**41.72**	**15**	*e*P	**P**	**09 56 32.8**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
GKN	**Gorkha**	**41.96**	**330**	*e*P	**P**	**09 56 33.6**	**-1.6**
KOLN	**Koldanda**	**42.30**	**329**	*e*P	**P**	**09 56 36.7**	**-1.3**
	comp=Z,32nm,1.1s						
DANN	**Dangsing**	**42.69**	**329**	*e*P	**P**	**09 56 39.8**	**-1.5**
PYUN	**Piuthan**	**42.88**	**328**	*e*P	**P**	**09 56 41.6**	**-1.1**
	comp=Z,15nm,0.7s						
LZH	**Lanzhou**	**44.22**	**357**	*e*P	**P**	**09 56 55.3**	**+2.0**
LZH				pP	sP	09 57 04.8	-2.0
LZH				sP	pwP	09 57 07.8	+1.2
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,120nm,4.3s						
LZH				LR	LR		
	comp=Z,320nm,13.5s						
LZH				LR	LR		
	comp=Z,340nm,13.4s						
LZH				LR	LR		
	comp=Z,510nm,16.7s						
GTA	**Gaotai**	**47.89**	**353**	*e*P	**P**	**09 57 18.1**	**-4.1**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,58nm,5.4s						
GTA				LR	LR		
	comp=Z,210nm,17.1s						
GTA				LR	LR		
	comp=Z,140nm,16.8s						
GTA				LR	LR		
	comp=Z,180nm,15.6s						
TJN	**Taejon**	**48.44**	**22**↑	*e*P	**P**	**09 57 23.4**	**-2.9**
HHC	**Hu-ho-hao-te**	**49.08**	**5**	*e*P	**P**	**09 57 32.6**	**+1.3**
HHC				sP	pwP	09 57 44.9	+0.3
HHC				S	**S**	**10 04 35.8**	**+1.8**
HHC				sS	sS	10 04 49.0	-1.4
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
KSAR	**Wonju Array Be**	**49.57**	**22**	P	**P**	**09 57 34.1**	**-0.9**
KSAR	**Wonju Array Be**	**49.57**	**22**	P	**P**	**09 57 34.1**	**-0.9**
KSRS	**Korea Array**	**49.60**	**22**	P	**P**	**09 57 34.1**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=204,slow=8.7,SNR=16						
KSRS				LR	LR	10 19 51.3	
	comp=Z,25nm,20.8s,baz=220,slow=38						
KS01	**Wonju Array Si**	**49.61**	**22**	*e*P	**P**	**09 57 33.9**	**-1.3**
MJAR	**Matsushiro Arr**	**53.45**	**31**	LR	LR	10 21 40.9	
	comp=Z,46nm,20.7s,baz=115,slow=37						
CN2	**Changchun**	**54.52**	**17**	*e*P	**P**	**09 58 09.9**	**-1.8**
CN2				*e*PP	**PP**	**10 00 13.8**	**-0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
WMQ	**Urumqi**	**54.68**	**343**	*e*P	**P**	**09 58 14.5**	**+1.6**
WMQ				LR	LR		
	comp=Z,170nm,24.7s						
WMQ				LR	LR		
	comp=Z,110nm,23.5s						
WMQ				LR	LR		
	comp=Z,160nm,23.5s						
KSH	**Kashi**	**55.48**	**331**	P	**P**	**09 58 17.8**	**-1.1**
KSH				sP	pP	09 58 27.5	-0.8
KSH				PP	**PP**	**10 00 23.5**	**+0.3**
KSH				S	**S**	**10 05 55.4**	**-6.5**
KSH				sS	pS	10 06 08.6	-4.5
KSH				pmax	pmax		
	comp=Z,11nm,0.7s						
KSH				pmax	pmax		
	comp=Z,68nm,4.3s						
KBL	**Kabul**	**55.59**	**322**	*e*P	**P**	**09 58 19.5**	**-0.4**
	comp=Z,7.4nm,0.8s						
KBL	**Kabul**	**55.59**	**322**	*e*P	**P**	**09 58 19.5**	**-0.4**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
SONA0	**Songino Array**	**55.87**	**360**	*e*P	**P**	**09 58 21.2**	**-0.3**
SONA0				*e*PcP	**PcP**	**09 59 20.6**	**+0.6**
SONM	**Songino Array**	**55.87**	**360**	P	**P**	**09 58 21.2**	**-0.3**
	comp=Z,3.0nm,0.8s,baz=176,slow=8.4,SNR=14						
SONM				PcP	**PcP**	**09 59 20.6**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=180,slow=3.5,SNR=12						
SONM				LR	LR	10 25 17.0	
	comp=Z,164nm,18.1s,baz=176,slow=40						
ULN	**Ulaanbaatar**	**55.90**	**0**	*e*P	**P**	**09 58 21.5**	**-0.3**
	comp=Z,3.9nm,0.8s						
ULN	**Ulaanbaatar**	**55.90**	**0**	*de*P	**P**	**09 58 21.2**	**-0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TARG	**Taragay, Kyrgy**	**56.43**	**334**	*e*P	**P**	**09 58 25.4**	**-0.6**
	comp=Z,5.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**56.99**	**21**	P	**P**	**09 58 28.0**	**-1.4**
USRK	**Ussuriysk Ar.**	**56.99**	**21**	P	**P**	**

BRVK	**Borovoye**	**68.53**	**337**	*e*P		**P**	09 59 46.3	**+0.2**
	comp=Z,13nm,0.7s							
BRVK	**Borovoye**	**68.53**	**337**	*c i*P		**P**	09 59 46.2	**+0.1**
BRVK				pmax	pmax			
	comp=Z,12nm,0.7s							
AB31	**Akbulak array**	**70.41**	**330**	*i* P		**P**	09 59 57.6	**-0.2**
AB31				pmax	pmax			
	comp=Z,18nm,0.9s							
ABKAR	**Akbulak array**	**70.41**	**330**	*e*P		**P**	09 59 58.1	**+0.3**
	comp=Z,21nm,1.0s							
AKTO	**Aktyubinsk**	**72.12**	**330**	P		**P**	10 00 08.2	**0.0**
	comp=Z,2.6nm,0.6s,baz=134,slow=5.1,SNR=11							
YAK	**Yakutsk**	**72.32**	**11**	*e*P		**P**	10 00 07.3	**-1.7**
YAK				pmax	pmax			
	comp=Z,65nm,0.8s							
YAK				pmax	pmax			
	comp=N,34nm,0.9s							
YAK				pmax	pmax			
	comp=E,23nm,0.9s							
GNI	**Garni**	**74.73**	**315**	*e*P		**P**	10 00 25.7	**+1.7**
GNI				pmax	pmax			
	comp=Z,18nm,1.0s							
VNDA	**Vanda**	**74.75**	**169**	*e*P		**P**	10 00 26.3	**+3.0**
	comp=Z,3.7nm,0.9s							
VNDA	**Vanda**	**74.75**	**169**	*e*P		**P**	10 00 26.3	**+3.0**
VNDA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**74.75**	**169**	P		**P**	10 00 25.7	**+2.4**
	comp=Z,1.8nm,0.7s,baz=305,slow=5.1,SNR=12							
PETK	**Petropavlovsk-**	**74.79**	**29**	P		**P**	10 00 22.9	**-0.9**
	comp=Z,4.6nm,0.9s,baz=207,slow=6.3,SNR=4.6							
PEA1	**Petropavlovsk-**	**74.80**	**29**	*e*P		**P**	10 00 22.9	**-0.9**
SVE	**Sverdlovsk**	**75.09**	**336**	*e*P		**P**	10 00 26.3	**+0.8**
SVE				pmax	pmax			
	comp=Z,36nm,1.3s							
ARU	**Arti**	**75.69**	**335**	*e*P		**P**	10 00 29.3	**+0.4**
	comp=Z,18nm,1.1s							
ARU	**Arti**	**75.69**	**335**	*c i*P		**P**	10 00 29.2	**+0.4**
ARU							10 00 42.0	
ARU							10 03 18.5	
ARU				S		**S**	**10 10 07.8**	**-0.1**
ARU				SS		**SS**	**10 14 51.9**	**-8.2**
ARU				pmax	pmax			
	comp=Z,27nm,1.2s							
MA2	**Magadan**	**76.14**	**21**	*e*P		**P**	10 00 30.7	**-0.7**
MA2				pmax	pmax			
	comp=Z,28nm,2.8s							
ZEI	**Tsey**	**76.41**	**318**	*e*P		**P**	10 00 33.5	**-0.1**
ZEI				pmax	pmax			
	comp=Z,7.0nm,1.0s							
NEY	**Neytrino**	**77.39**	**318**	*e*P		**P**	10 00 41.7	**+2.6**
NEY				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KBZ	**Khabaz**	**77.47**	**318**	P		**P**	10 00 40.6	**+1.3**
	comp=Z,7.8nm,0.9s,baz=166,slow=5.1,SNR=16							
KIV	**Kislovodsk**	**77.70**	**318**	*e*P		**P**	10 00 38.4	**-2.3**
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
NRIK	**Noril'sk**	**78.59**	**353**	P		**P**	10 00 44.5	**-0.4**
	comp=Z,9.6nm,0.8s,baz=150,slow=4.6,SNR=12							
NRIK				LR		LR	10 38 32.1	
	comp=Z,124nm,18.4s,baz=179,slow=38							
KIRV	**Kirov**	**80.94**	**333**	P		**P**	10 00 58.1	**+0.2**
	comp=Z,19nm,0.7s,baz=135,slow=4.9,SNR=5.4							
TIXI	**Tiksi**	**81.09**	**7**	*e*P		**P**	10 00 57.2	**-1.2**
TIXI				*e*P		**P**	**10 00 57.4**	**-1.0**
TIXI	**Tiksi**	**81.09**	**7**	P		**P**	10 00 57.2	**-1.2**
	comp=Z,7.5nm,0.6s,baz=168,slow=2.2,SNR=8.7							
VRH	**Novokhopyorsk**	**81.31**	**325**	*e*P		**P**	10 00 59.9	**-0.1**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
QSPA	**South Pole Qui**	**81.72**	**180**	*e*P		**P**	10 01 04.7	**+2.5**
	comp=Z,5.8nm,1.1s							
BR101	**Keskin Array S**	**82.54**	**312**	*e*P		**P**	10 01 07.4	**+0.4**
BR131	**Keskin Array S**	**82.54**	**312**	*e*P		**P**	10 01 07.3	**+0.4**
	comp=Z,7.4nm,0.8s							
BRTR	**Keskin Array B**	**82.54**	**312**	*i* P		**P**	10 01 07.8	**+0.8**
BRTR				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BRTR	**Keskin Array B**	**82.54**	**312**	P		**P**	10 01 07.4	**+0.4**
	comp=Z,4.9nm,0.8s,baz=131,slow=6.9,SNR=26							
BRTR				LR		LR	10 39 07.7	
	comp=Z,27nm,21.5s,baz=96,slow=37							
VSR	**Storozhevoye**	**82.79**	**324**	*e*P		**P**	10 01 07.5	**-0.3**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
OBN	**Obninsk**	**85.69**	**327**	*e*P		**P**	10 01 23.5	**+1.1**
OBN				*e*			10 04 41.6	
OBN				*e*PPP		PPP	10 06 35.0	
OBN				pmax	pmax			
	comp=Z,23nm,1.3s							
KLMR	**Klimovskoe**	**86.43**	**333**	*e*P		**P**	10 01 25.8	**-0.1**
KLMR				pmax	pmax			
	comp=Z,17nm,1.4s							
KLMR	**Klimovskoe**	**86.43**	**333**	*e*P		**P**	10 01 25.9	**0.0**
KLMR				AMP			10 01 28.0	
	comp=Z,17nm,1.4s							
BILL	**Bilibino**	**86.75**	**19**	*e*P		**P**	10 01 25.4	**-2.0**
BILL				*e*			10 04 41.5	
BILL				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TIRR	**Tirgusor**	**87.56**	**315**	*i*P		**P**	10 01 33.7	**+1.9**
TIRR	**Tirgusor**	**87.56**	**315**	P		**P**	10 01 33.7	**+1.9**
TMCR	**Tamitsa**	**88.37**	**336**	*e*P		**P**	10 01 35.8	**+0.6**
TMCR				pmax	pmax			
	comp=Z,12nm,0.5s							
AKASG	**Malin Array Be**	**88.58**	**322**	*i* P		**P**	10 01 36.5	**0.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.7s							
AKASG	**Malin Array Be**	**88.58**	**322**	P		**P**	10 01 36.6	**0.0**
	comp=Z,0.3nm,0.3s,baz=84,slow=4.9,SNR=6.4							
AKASG				PP		**PP**	10 05 04.8	**-0.4**
	comp=Z,0.3nm,0.3s,baz=89,slow=7.0,SNR=5.6							
AKBB	**Malin Array Si**	**88.58**	**322**	*e*P		**P**	10 01 36.6	**+0.1**
	comp=Z,4.5nm,1.0s							
AKBB				*e*PP		**PP**	10 05 04.8	**-0.4**
AKBB	**Malin Array Si**	**88.58**	**322**	*e*P		**P**	10 01 36.6	**+0.1**
AKBB				*e*			10 05 04.9	
AKBB				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KIEV	**Kiev**	**88.58**	**322**	*e*P		**P**	10 01 36.9	**+0.4**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
VRI	**Vrincioaia**	**89.04**	**316**	*i*P		**P**	10 01 40.7	**+1.8**
VRI	**Vrincioaia**	**89.04**	**316**	P		**P**	10 01 40.7	**+1.8**
PLOR	**Plostina**	**89.09**	**316**	*i*P		**P**	10 01 41.5	**+2.4**
PLOR	**Plostina**	**89.09**	**316**	P		**P**	10 01 41.5	**+2.4**
MLR	**Muntele Rosu**	**89.50**	**316**	*e*P		**P**	10 01 40.4	**-0.7**
	comp=Z,12nm,1.0s							
MLR	**Muntele Rosu**	**89.50**	**316**	*i*P		**P**	10 01 43.5	**+2.4**
MLR	**Muntele Rosu**	**89.50**	**316**	P		**P**	10 01 43.5	**+2.4**
ARR	**Arges**	**90.38**	**316**	*i*P		**P**	10 01 46.5	**+1.3**
BURAR	**Bucovina Array**	**90.43**	**318**	*i*P		**P**	10 01 47.4	**+2.0**
BURAR	**Bucovina Array**	**90.43**	**318**	P		**P**	10 01 47.4	**+2.0**
BUR08	**Bucovina Ar. S**	**90.45**	**318**	*e*P		**P**	10 01 46.6	**+1.1**
	comp=Z,2.5nm,0.8s							
VSU	**Vasula**	**91.84**	**329**	*e*P		**P**	10 01 51.4	**-0.1**
VSU				pmax	pmax			
	comp=Z,27nm,1.0s							
BZS	**Buzias**	**92.51**	**316**	*i*P		**P**	10 01 54.9	**-0.1**
BZS	**Buzias**	**92.51**	**316**	P		**P**	10 01 54.9	**-0.1**
FIA0	**FINESS Array S**	**92.80**	**332**	*e*P		**P**	10 01 55.5	**-0.4**
FIA0	**FINESS Array S**	**92.80**	**332**	*e*P		**P**	10 01 55.5	**-0.4**
FINES	**FINESS Array B**	**92.80**	**332**	P		**P**	10 01 55.5	**-0.4**
	comp=Z,1.3nm,0.8s,baz=94,slow=8.4,SNR=3.6							
ARA0	**ARCESS Array S**	**94.66**	**340**	*e*P		**P**	10 02 04.3	**0.0**
ARCES	**ARCESS Array B**	**94.66**	**340**	P		**P**	10 02 04.3	**0.0**
	comp=Z,2.4nm,0.8s,baz=128,slow=3.5,SNR=12							
VYHS	**Vyhne**	**94.79**	**318**	*e*P		**P**	10 02 08.6	**+3.1**
VYHS	**Vyhne**	**94.79**	**318**	*e*P		**P**	10 02 08.6	**+3.1**
NOA	**NORSAR Array B**	**99.90**	**331**	LR		LR	10 52 57.3	
	comp=Z,34nm,20.1s,baz=190,slow=39							
YKA	**Yellowknife Ar**	**118.12**	**20**	PKP		**PKiKP**	10 07 30.5	**+0.2**
	comp=Z,0.3nm,0.8s,baz=324,slow=1.7,SNR=3.7							
YKB5	**Yellowknife Ar**	**118.12**	**20**	*e*PKPdf		**PKiKP**	10 07 30.6	**+0.2**
NV01	**Mina Array Sit**	**129.57**	**46**	*e*PKPdf		**PKiKP**	10 07 56.1	**+2.0**
NVAR	**Mina Array Bea**	**129.57**	**46**	PKP		**PKiKP**	10 07 56.1	**+2.0**
	comp=Z,0.3nm,0.7s,baz=344,slow=2.9,SNR=3.2							
PD31	**Pinedale Array**	**133.13**	**37**	*e*PKPdf		**PKiKP**	10 08 01.1	**0.0**
PDAR	**Pinedale Array**	**133.13**	**37**	PKP		**PKiKP**	10 08 01.9	**+0.8**
	comp=Z,0.2nm,0.5s,baz=20,slow=2.9,SNR=2.7							
TX31	**Lajitas Ar. Si**	**144.54**	**50**	*e*PKPdf		**PKPdf**	10 08 21.0	**+0.1**
TX31				*e*PKPdf		PKPbc	10 08 21.4	+1.8
TXAR	**Lajitas Array**	**144.54**	**50**	PKP		**PKPdf**	10 08 21.0	**+0.1**
	comp=Z,1.6nm,0.8s,baz=284,slow=1.6,SNR=19							
WMOK	**Wichita Mounta**	**144.71**	**38**	*e*PKPdf		**PKPdf**	10 08 21.1	**+0.1**
WMOK	**Wichita Mounta**	**144.71**	**38**	*e*PKIKP		**PKPdf**	10 08 21.1	**+0.1**
HDIL	**Hopedale**	**144.80**	**22**	*e*PKPdf		**PKPdf**	10 08 20.5	**-0.4**
P42A	**Winchester**	**145.24**	**24**	*e*PKPbc		**PKPdf**	10 08 22.0	**+0.3**
ABTX	**Abilene, Hawle**	**145.54**	**42**	*e*PKPdf		**PKPab**	10 08 23.9	**+1.1**
BDFB	**Brasilia**	**145.55**	**226**	PKPbc		**PKiKP**	10 08 25.2	**-1.8**
	comp=Z,2.3nm,0.6s,baz=181,slow=8.4,SNR=3.8							
TUL1	**Leonard**	**145.62**	**34**	*e*PKPdf		**PKPab**	10 08 23.9	**+0.9**
SFIN	**Lafayette**	**145.71**	**19**	*e*PKPdf		**PKPab**	10 08 23.9	**+0.7**
N49A	**Columbus Grove**	**146.05**	**15**	*e*PKPdf		**PKPab**	10 08 24.6	**+0.2**
CCM	**Cathedral Cave**	**146.16**	**26**	*e*PKPdf		**PKPab**	10 08 24.7	**-0.3**
CCM	**Cathedral Cave**	**146.16**	**26**	*e*PKP2		**PKPab**	10 08 24.7	**-0.3**
P45A	**Graceland, Par**	**146.26**	**20**	*e*PKPdf		**PKPab**	10 08 25.6	**+0.3**
HHAR	**Hobbs**	**146.31**	**31**	*e*PKPdf		**PKPbc**	10 08 25.0	**+0.1**
Q44A	**Meyer Farm, Va**	**146.35**	**23**	*e*PKPdf		**PKPab**	10 08 25.7	**+0.1**
X37A	**Clayton**	**146.82**	**35**	*e*PKPdf		**PKPab**	10 08 27.5	**-0.1**
OLIL	**Olney**	**146.84**	**22**	*e*PKPdf		**PKPbc**	10 08 26.7	**+0.4**
ACSO	**Alum Creek Sta**	**147.00**	**14**	*e*PKPdf		**PKPbc**	10 08 27.1	**+0.4**
T42A	**Van Buren**	**147.08**	**27**	*e*PKPdf		**PKPbc**	10 08 27.7	**+0.7**
O52A	**Adamsville**	**147.37**	**12**	*e*PKPbc		**PKPab**	10 08 28.9	**-0.7**
N59A	**State Game Lan**	**147.42**	**4**	*e*PKPbc		**PKPab**	10 08 29.0	**-0.8**
SSPA	**Standing Stone**	**147.51**	**7**	*e*PKPbc		**PKPbc**	10 08 28.9	**+0.9**
PBMO	**Poplar Bluff**	**147.59**	**26**	*e*PKPbc		**PKPbc**	10 08 29.0	**+0.6**
P51A	**Williamsport**	**147.69**	**14**	*e*PKPdf		**PKPbc**	10 08 27.9	**-0.8**
O56A	**Blue Knob Stat**	**147.79**	**8**	*e*PKPbc		**PKiKP**	10 08 29.9	**-1.0**
MIAR	**Mount Ida**	**147.84**	**33**	*e*PKPbc		**PKPbc**	10 08 29.8	**+0.6**
MIAR	**Mount Ida**	**147.84**	**33**	*e*PKP2		**PKPbc**	10 08 29.8	**+0.6**
WCI	**Wyandotte Cave**	**147.92**	**20**	*e*PKPbc		**PKPbc**	10 08 29.9	**+0.6**
WCI	**Wyandotte Cave**	**147.92**	**20**	*e*PKP2		**PKPbc**	10 08 29.9	**+0.6**
Q51A	**Peebles**	**148.05**	**15**	*e*PKPbc		**PKPbc**	10 08 30.1	**+0.4**
833A	**Chaparral WMA,**	**148.25**	**48**	*e*PKPdf		**PKPdf**	10 08 27.8	**+0.7**
T47A	**Sharon Grove**	**148.75**	**22**	*e*PKPbc		**PKiKP**	10 08 32.5	**-0.4**
WVT	**Waverly**	**149.23**	**24**	*e*PKPbc		**PKiKP**	10 08 33.6	**-0.3**
WVT	**Waverly**	**149.23**	**24**	*e*PKP2		**PKiKP**	10 08 33.6	**-0.3**
S51A	**Beattyville**	**149.29**	**16**	*e*PKPbc		**PKiKP**	10 08 33.6	**-0.5**
OXF	**Oxford**	**149.93**	**27**	*e*PKPbc		**PKiKP**	10 08 35.4	**0.0**
OXF	**Oxford**	**149.93**	**27**	*e*PKP2		**PKiKP**	10 08 35.4	**0.0**
LNIG	**Linares**	**149.97**	**53**	*e*PKPbc		**PKiKP**	10 08 36.2	**+0.3**
V52A	**Sevierville**	**150.96**	**18**	*e*PKPbc		**PKPbc**	10 08 36.6	**-0.3**
X48A	**Hartselle**	**151.00**	**24**	*e*PKPbc		**PKiKP**	10 08 37.5	**-0.1**
V53A	**Saluda**	**151.35**	**16**	*e*PKPbc		**PKiKP**	10 08 39.2	**+0.8**
V53A				*e*PKPab		**sPKPdf**	10 08 44.6	**-1.1**

NNC ***14*** *09:54:49.6±1.7,53.48N×87.62E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=13.6km s-min=10.9km az=9.0, Suspected Mining explosion.*

IDC 14 09:54:47.6±2.6,53.54N×87.84E,h0km,mb1 3.2/3, mb1mx3.0/44,mbtmp3.2/3,ML2.9/3,7C-1D,Error ellipse: s-maj=22.9km s-min=14.0km az=62.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**284**	*i*			10 07 31.2	
	baz=103,slow=355,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.84**	**284**	Pg		Pn	09 55 19.3	-1.1
	3.7nm,0.3s,baz=99,slow=13,SNR=40							
ZALV				Lg		Lg	09 55 46.3	
	4.0nm,0.3s,baz=105,slow=25,SNR=13							
KURK	**Kurchatov**	**6.34**	**247**	↑Pn		Pn	09 56 22.4	+0.2
	1.3nm,0.9s							
KURK				↑Sn		Sn	09 57 35.6	+0.3
	1.1nm,0.7s							
KURK				↑Lg		Lg	09 58 07.1	
	6.2nm,0.9s							
KURBB	**Kurchatov Arra**	**6.44**	**247**	↑Pn		Pn	09 56 23.3	-0.2
	0.7nm,0.3s							
KURBB				↑Sn		Sn	09 57 36.5	-1.1
	5.2nm,0.7s							
KURBB				↑Lg		Lg	09 58 09.6	
	13nm,1.2s							
KURBB	**Kurchatov Arra**	**6.44**	**247**	Pn		Pn	09 56 24.0	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=7.8							
KURBB						Sn	09 57 35.6	-2.1
	0.0nm,0.3s,baz=60,slow=5.5,SNR=3.1							
KURBB						Lg	09 58 13.3	
	0.0nm,0.3s,baz=64,slow=33,SNR=5.0							
MK31	**Makanchi Array**	**7.64**	**210**	↑Pn		Pn	09 56 40.6	+0.6
	0.2nm,0.3s,baz=26,slow=13,SNR=12							
MK31				⇓Sn		Sn	09 58 07.4	+0.2
	3.3nm,1.1s							
MKAR	**Makanchi Array**	**7.64**	**210**	Pn		Pn	09 56 41.0	+0.9
	0.2nm,0.3s,baz=28,slow=13,SNR=14							
MKAR						Sn	09 58 08.7	+1.4
	0.1nm,0.3s,baz=29,slow=23,SNR=6.1							
BVAR	**Borovoye Array**	**10.46**	**274**	Pn		Pn	09 57 18.2	-0.5
	0.2nm,0.3s,baz=78,slow=16,SNR=3.3							

VIE ***14*** *09:54:51.6±0.4,46.15N×13.57E,h10km±3km,mb2.5/1, ml1.4/3,Error ellipse: s-maj=5.0km s-min=1.2km az=77.0*
LJU ***14*** *09:54:51.0,46.15N×13.57E,h14km,ML1.3*

ISC 14 09:54:51.3±1.2,46.14N±0.03×13.58E±0.03,h13km±6km, n16,σ0.943/29,4C-4D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DRE	**Drenchia**	**0.06**	**54**	⇓*e*Pg		**Pg**	**09 54 53.7**	**-0.1**
DRE				*e*Sg		**Sg**	**09 54 55.4**	**-0.3**
ROBS	**Robic**	**0.11**	**335**	⇓*i*Pg		**Pg**	**09 54 54.2**	**-0.2**
ROBS				*i* Sg		**Sg**	**09 54 56.3**	**-0.4**
	comp=Z,21nm,0.1s							
COLI	**Coloredo**	**0.14**	**267**	⇑*e*Pg		**Pg**	**09 54 54.8**	**0.0**
COLI				*e*Sg		**Sg**	**09 54 57.4**	**+0.2**
CADS	**Cadrg**	**0.14**	**52**	⇓*i*Pg		**Pg**	**09 54 54.8**	**0.0**
CADS				*i* Sg		**Sg**	**09 54 57.5**	**+0.1**
	comp=Z,36nm,0.1s							
SABO	**M.te Sabotino**	**0.16**	**175**	⇓*e*Pg		**Pg**	**09 54 55.3**	**+0.2**
SABO				*e*Sg		**Sg**	**09 54 58.4**	**+0.7**
VOJS	**Vojsko**	**0.24**	**117**	⇑*i*Pg		**Pg**	**09 54 56.5**	**+0.1**
VOJS				*i* Sg		**Sg**	**09 55 00.7**	**+0.8**
	comp=Z,12nm,0.1s							
BAD	**Bernadia**	**0.25**	**292**	⇑*e*Pg		**Pg**	**09 54 56.3**	**-0.3**
BAD				*e*Sg		**Sg**	**09 55 00.6**	**+0.4**
PRED	**Cave del Predi**	**0.30**	**358**	⇑*e*Pg		**Pg**	**09 54 57.3**	**-0.2**
PRED				*e*Sg		**Sg**	**09 55 02.1**	**+0.4**
GORS	**Gorjuse**	**0.34**	**59**	*i* Pg		**Pg**	**09 54 58.2**	**0.0**
GORS				*i* Sg		**Sg**	**09 55 03.8**	**+1.0**
	comp=Z,6.0nm,0.1s							
ACOM	**Acomizza, Ital**	**0.41**	**354**	*e*Pg		**Pg**	**09 54 59.4**	**-0.1**
JAVS	**Javornik**	**0.42**	**126**	*i* Pg		**Pg**	**09 54 59.5**	**-0.1**
JAVS				*i* Sg		**Sb**	**09 55 06.5**	**-0.5**
	comp=Z,7.0nm,0.1s							
CRNS	**Crni Vrh**	**0.48**	**97**	*i* Pg		**Pg**	**09 55 00.7**	**0.0**
CRNS				*i* Sg		**Sb**	**09 55 08.3**	**-0.3**
	comp=Z,5.0nm,0.1s							
MYKA	**Terra Mystica**	**0.49**	**5**	*i* Pg		**Pg**	**09 55 01.0**	**0.0**
	comp=Z,0.5nm,0.1s							
MYKA				*e*Sg		**Sb**	**09 55 08.5**	**-0.5**
	comp=Z,1.0nm,0.1s							
SKDS	**Skadanscina**	**0.67**	**153**	*i* Pg		**Pg**	**09 55 03.5**	**-0.8**
SKDS				*i* Sg		**Sb**	**09 55 13.9**	**-0.2**
	comp=Z,3.0nm,0.1s							
OBKA	**Obir**	**0.77**	**61**	Sg		**Sg**	**09 55 16.5**	**+0.3**
	comp=Z,1.1nm,0.1s							
WTTA	**Wattenberg**	**1.75**	**311**	Pg		**Pg**	**09 55 25.4**	**+0.6**
	comp=Z,5.3nm,0.2s							

IDC 14 09:59:01.0±1.7,54.62N×83.72E,h0km,mb1 2.8/3, mb1mx2.7/38,mbtmp2.8/3,ML2.3/3,Error ellipse: s-maj=16.0km s-min=10.2km az=9.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**136**	*i*			10 04 31.6	
	baz=316,slow=317,SNR=4.8							
ZALV	**Zalesovo Beam**	**0.93**	**136**	Pg		Pg	09 59 17.5	-1.3
	4.2nm,0.3s,baz=328,slow=18,SNR=28							
ZALV				Lg		Lg	09 59 33.1	
	7.5nm,0.3s,baz=316,slow=30,SNR=21							
KURBB	**Kurchatov Arra**	**5.10**	**220**	Pn		Pn	10 00 19.6	+1.0
	0.0nm,0.3s,baz=42,slow=14,SNR=3.5							
KURBB				Lg		Lg	10 01 41.3	
	0.0nm,0.3s,baz=40,slow=32,SNR=4.2							
MKAR	**Makanchi Array**	**7.89**	**187**	Pn		Pn	10 00 56.8	-0.1
	0.1nm,0.3s,baz=8.7,slow=10,SNR=4.9							
MKAR				Lg		Lg	10 03 13.6	
	0.1nm,0.3s,baz=1.2,slow=28,SNR=4.0							
BVAR	**Borovoye Array**	**8.05**	**264**	Pn		Pn	10 00 58.2	-0.9
	0.1nm,0.3s,baz=75,slow=12,SNR=2.9							

ISCJB ***14*** *10:00:34.6±0.8,18.5S±0.1×178.0W±0.1,h400km, mb3.8/10,Error ellipse: s-maj=18.8km s-min=17.6km az=39.0*
IDC ***14*** *10:00:36.3±6.0,18.52S×177.93W,h406km±63km, mb3.5/11,mb1 3.6/12,mb1mx3.4/29,mbtmp4.3/12,Error ellipse: s-maj=28.4km s-min=16.2km az=58.0*

ISC 14 10:00:35.8±0.9,18.5S±0.1×177.9W±0.1,h400km,n12, σ1.909/12,mb3.8/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.11**	**254**	P		**P**	**10 03 51.1**	**+1.5**
	0.4nm,0.3s,baz=49,slow=19,SNR=7.1							
URZ	**Urewera**	**20.18**	**191**	P		**P**	**10 04 40.3**	**-1.4**
	3.2nm,0.3s,baz=54,slow=8.7,SNR=10							
CTA	**Charters Tower**	**33.83**	**261**	P		**P**	**10 06 42.7**	**-0.1**
	2.8nm,0.3s,baz=100,slow=11,SNR=7.0							
STKA	**Stephens Creek**	**38.78**	**242**	P		**P**	**10 07 24.4**	**+0.5**
	3.3nm,0.3s,baz=88,slow=10,SNR=16							
JAY	**Jayapura**	**43.53**	**286**	P		**P**	**10 08 02.8**	**+0.4**
	11nm,0.7s,baz=160,slow=7.4,SNR=4.4							
WRA	**Warramunga Arr**	**45.00**	**260**	P		**P**	**10 08 12.2**	**-1.5**
	1.9nm,0.4s,baz=98,slow=6.3,SNR=107							
ASAR	**Alice Springs**	**45.10**	**255**	P		**P**	**10 08 14.0**	**-0.5**
	15nm,0.4s,baz=90,slow=8.5,SNR=328							
VNDA	**Vanda**	**59.91**	**185**	P		**P**	**10 10 01.5**	**+0.7**
	0.5nm,0.7s,baz=358,slow=6.6,SNR=5.3							
MJAR	**Matsushiro Arr**	**68.66**	**323**	P		**P**	**10 10 57.2**	**-0.2**
	2.0nm,1.0s,baz=114,slow=2.9,SNR=2.9							
QSPA	**South Pole Qui**	**71.57**	**180**	P		**P**	**10 11 14.4**	**-0.2**
	2.1nm,0.7s,baz=13,slow=0.6,SNR=14							
TXAR	**Lajitas Array**	**85.90**	**57**	P		**P**	**10 12 33.5**	**+1.3**
	0.4nm,0.8s,baz=222,slow=5.6,SNR=4.4							
ILAR	**Eielson Array**	**86.34**	**13**	P		**P**	**10 12 32.3**	**-1.1**
	0.1nm,0.4s,baz=220,slow=5.5,SNR=5.3							

ISK ***14*** *10:02:19.3,40.50N×34.95E,h6km,ML2.0/5*
DDA ***14*** *10:02:19.5,40.50N×35.18E,h7km±3km,ML2.6*
ISCJB ***14*** *10:02:20.3±0.7,40.53N±0.02×35.13E±0.05,h1km±5km, Error ellipse: s-maj=6.3km s-min=3.6km az=23.7*

ISC 14 10:02:19.7±1.3,40.52N±0.03×35.06E±0.04,h4km±12km, n13,σ0.993/24,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COAL	**Corum-Alaca**	**0.27**	**192**	*i* P		**Pb**	**10 02 26.4**	**-0.7**
COAL				*i* S		**Sb**	**10 02 31.1**	**-1.0**
COAL				IAML_P				
	comp=Z,2μm,0.1s							
HAVZ	**Havza**	**0.75**	**42**	*i* P		**Pg**	**10 02 33.5**	**-0.5**
HAVZ				*i* S		**Sb**	**10 02 44.9**	**-0.9**
HAVZ				IAML_P				
	comp=Z,1μm,0.2s							
YOZ	**Yozgat**	**0.90**	**167**	PG		**Pb**	**10 02 37.6**	**-0.3**
YOZ				SG		**Sb**	**10 02 49.8**	**-0.5**
KVT	**Kavak**	**0.94**	**53**	PG		**Pn**	**10 02 39.1**	**-0.5**
**D

*ISCJB **14** 10:40:20.7±1.2,38.66N±0.06×43.36E±0.07,h42km±10km, Error ellipse: s-maj=10.7km s-min=8.2km az=38.5*
*ISK **14** 10:40:20.4,38.76N×43.30E,h22km,ML1.7/4*
*DDA **14** 10:40:22.3,38.72N×43.21E,h7km,3km,ML2.8*
ISC 14 10:40:20.9±1.0,38.71N±0.03×43.39E±0.06,h31km±9km, n9,∩0§99/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.12**	**180**		**PG**	**Pn**	**10 40 27.3**	**+0.5**
VANB					Sg	**Sb**	**10 40 31.7**	**+1.1**
TVAN	**Van**	**0.19**	**176**	*i* P		**Pn**	**10 40 27.5**	**-0.3**
TVAN				*i* S		**Sn**	**10 40 32.4**	**+0.3**
TVAN				IAML_P				
	comp=Z,8μm,0.2s							
VMUR	**Van-Muradiye**	**0.31**	**27**	*i* P		**Pn**	**10 40 30.2**	**+0.7**
VMUR				*i* S		**Sn**	**10 40 37.4**	**+2.3**
VMUR				IAML_P				
	comp=Z,962nm,0.1s							
AKDM	**Akdamar-Van**	**0.50**	**220**		PG	**Pb**	**10 40 30.9**	**-0.6**
AKDM					SG	**Sb**	**10 40 38.6**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.53**	**280**	*i* P		**Pb**	**10 40 31.7**	**-0.3**
ADCV				*i* S		**Sb**	**10 40 39.1**	**-0.5**
ADCV				IAML_P				
	comp=Z,340nm,0.1s							
CLDR	**Caldiran**	**0.59**	**44**		PG	**Pn**	**10 40 32.6**	**-0.8**
TUTA	**Tutak**	**0.82**	**327**	*i* P		**Pb**	**10 40 37.2**	**+0.3**
TUTA				*i* S		**Sn**	**10 40 48.1**	**+0.4**
TUTA				IAML_P				
	comp=Z,3μm,0.2s							
AGRB	**Hanur-Agry**	**0.91**	**340**		PG	**Pn**	**10 40 37.3**	**-0.5**
AGRB					SG	**Sb**	**10 40 50.1**	**-0.2**
TASB	**TASBURUN-IGDIR**	**1.43**	**27**		PN	**Pb**	**10 40 45.5**	**-1.5**

IDC 14 10:52:11.5±2.1,5.22S×127.22E,h0km,mb3.8/1, mb1 3.6/3,mb1mx3.3/47,mbtmp3.4/3,ML3.2/2,Error ellipse: s-maj=331.5km s-min=31.3km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.19**	**155**		Pn	Pn	10 56 01.6	+1.0
	0.1nm,0.3s,baz=334,slow=13,SNR=10							
ASAR	**Alice Springs**	**19.44**	**161**	P		P	10 56 39.3	-0.4
	0.1nm,0.3s,baz=343,slow=11,SNR=14							
ZALV	**Zalesovo Beam**	**68.79**	**335**	P		P	11 03 17.4	0.0
	0.4nm,0.4s,baz=136,slow=6.5,SNR=2.6							

IDC 14 10:59:39.6±1.9,0.40N×126.23E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.5/45,mbtmp3.6/3,Error ellipse: s-maj=168.9km s-min=25.1km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.72**	**159**	P		P	11 04 32.5	-0.1
	0.9nm,0.5s,baz=338,slow=11,SNR=22							
ASAR	**Alice Springs**	**25.06**	**163**	P		P	11 05 06.0	+0.1
	0.8nm,0.3s,baz=345,slow=12,SNR=25							
MKAR	**Makanchi Array**	**60.02**	**327**	P		P	11 09 48.2	-0.1
	0.2nm,0.3s,baz=121,slow=7.4,SNR=6.4							

*IDC **14** 11:11:39.7±0.8,12.97N×93.31E,h0km,mb3.8/11, mb1 3.9/12,mb1mx3.7/55,mbtmp3.8/12,ML3.3/1,MS2.9/3, Ms1 3.0/3,ms1mx2.6/49,Error ellipse: s-maj=27.1km s-min=17.9km az=57.0*
*ISCJB **14** 11:11:45.7±0.7,13.0N±0.1×93.29E±0.09,h58km, mb3.8/11,MS3.0/1,Error ellipse: s-maj=18.5km s-min=12.3km az=19.9*
ISC 14 11:11:47.5±0.9,13.2N±0.1×93.5E±0.1,h58km,n26, σ1§79/14,mb3.9/11,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PHET	**Kaeng Krachan**	**6.01**	**92**	P		Pn	11 13 20.4	+6.4
	15nm,0.8s,204nm0.1nm							
UMPA	**Umpang Tak**	**6.04**	**59**	P		**Pn**	**11 13 11.5**	**-2.9**
UTHA	**Uthaitani**	**6.27**	**67**	P		**Pn**	**11 13 19.5**	**+2.0**
	3.0nm,0.7s,0.0nm							
TMDB	**BangkokBB_BH_I**	**6.97**	**85**	P		Pn	11 13 32.6	+5.5
	0.0nm,1.0s,0.4nm							
CMAR	**Chiang Mai Arr**	**7.46**	**44**	Pn		**Pn**	**11 13 31.8**	**-2.0**
	0.1nm,0.3s,baz=238,slow=15,SNR=7.1							
CMAR					Sn	Sn	11 14 43.2	-14
	1.0nm,0.3s,baz=236,slow=19,SNR=4.0							
CMAR					LR	LR	11 16 59.6	
	comp=Z,59nm,20.3s,baz=236,slow=42							
CHTO	**Chiang Mai**	**7.71**	**42**	P		Sn	11 14 50.1	-13
CMMT	**Chiang Mai**	**7.71**	**42**	P		Sn	11 14 50.0	-13
PBKT	**Sadao Pong**	**8.01**	**64**	P		Pn	11 13 51.7	+10
	5.1nm,0.8s,2μm							
SRAK	**Srakaew**	**8.38**	**83**	P		Pn	11 13 59.5	+13
PALK	**Pallekele**	**13.85**	**246**	LR		LR	11 19 50.1	
	comp=Z,73nm,18.7s,baz=116,slow=36							
HYB	**Hyderabad**	**14.99**	**288**	*e*P		Pn	11 14 59.0	-17
H08S3	**Diego Garcia H**	**29.34**	**226**	T		T	11 48 42.2	
	baz=42,slow=76,SNR=7.6							
H08S2	**Diego Garcia H**	**29.34**	**226**	T		T	11 48 49.1	
	baz=42,slow=76,SNR=8.1							
H08S1	**Diego Garcia H**	**29.35**	**226**	T		T	11 48 49.0	
	baz=42,slow=76,SNR=6.6							
MKAR	**Makanchi Array**	**34.83**	**347**	P		**P**	**11 18 33.1**	**+0.2**
	1.3nm,0.8s,baz=157,slow=9.2,SNR=9.1							
SONM	**Songino Array**	**36.22**	**15**	P		**P**	**11 18 45.7**	**+0.7**
	0.6nm,0.8s,baz=199,slow=8.5,SNR=3.1							
KSRS	**Korea Array**	**39.10**	**46**	LR		LR	11 37 56.2	
	comp=Z,21nm,18.9s,baz=244,slow=40							
KURBB	**Kurchatov Arra**	**39.30**	**345**	P		**P**	**11 19 10.5**	**-0.3**
	1.1nm,0.7s,baz=162,slow=8.1,SNR=8.9							
GEYT	**Alibeck**	**39.94**	**315**	P		**P**	**11 19 14.9**	**-1.4**
	1.7nm,0.5s,baz=112,slow=1.6,SNR=2.7							
WRA	**Warramunga Arr**	**51.96**	**129**	P		**P**	**11 20 52.2**	**+1.1**
	0.8nm,0.9s,baz=312,slow=7.7,SNR=7.5							
ASAR	**Alice Springs**	**53.88**	**133**	P		**P**	**11 21 04.0**	**-1.3**
	0.1nm,0.6s,baz=316,slow=6.5,SNR=4.4							
BRTR	**Keskin Array B**	**58.56**	**309**	P		**P**	**11 21 38.6**	**0.0**
	1.1nm,0.9s,baz=120,slow=8.5,SNR=4.1							
FINES	**FINESS Array B**	**67.77**	**331**	P		**P**	**11 22 40.6**	**+1.6**
	0.3nm,0.4s,baz=108,slow=7.7,SNR=2.1							
ARCES	**ARCESS Array B**	**70.11**	**340**	P		**P**	**11 22 55.3**	**+1.9**
	2.1nm,0.9s,baz=93,slow=5.6,SNR=4.3							
GERES	**GERESS Array B**	**73.49**	**317**	P		**P**	**11 23 16.1**	**+1.9**
	0.3nm,0.3s,baz=94,slow=6.1,SNR=4.2							
BOSA	**Boshof**	**77.86**	**237**	P		**P**	**11 23 37.5**	**-2.0**
	2.9nm,0.6s,baz=39,slow=4.1,SNR=6.8							

IDC 14 11:13:52.0±2.2,13.13N×67.78E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.4/52,mbtmp3.9/4,ML4.6/1,MS3.3/2, Ms1 3.3/2,ms1mx2.6/54,Error ellipse: s-maj=62.1km s-min=40.7km az=34.0,Arabian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**13.98**	**113**		Pn	Pn	11 17 11.8	+0.1
	3.1nm,0.3s,baz=295,slow=15,SNR=9.4							
GEYT	**Alibeck**	**26.15**	**342**	P		P	11 19 28.9	+0.8
	2.5nm,0.6s,baz=149,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**35.71**	**17**	LR		LR	11 37 02.4	
	comp=Z,23nm,18.5s,baz=184,slow=39							
BRTR	**Keskin Array B**	**40.04**	**318**	P		P	11 21 28.1	-1.0
	0.6nm,0.7s,baz=104,slow=9.2,SNR=3.0							
TORD	**Torodi Ar. Bea**	**64.17**	**278**	P		P	11 24 29.1	+0.1
	0.3nm,0.7s,baz=74,slow=5.1,SNR=4.0							
PETK	**Petropavlovsk-**	**79.58**	**38**	LR		LR	12 04 47.5	
	comp=Z,28nm,18.1s,baz=134,slow=38							

*ISCJB **14** 11:15:08.1±0.7,37.08N±0.05×71.8E±0.1,h109km, mb3.7/3,Error ellipse: s-maj=12.0km s-min=5.8km az=160.1*
*NNC **14** 11:15:15.3±3.0,37.54N×71.48E,h119km±58km,mb3.0, mpv3.6,Error ellipse: s-maj=26.1km s-min=21.0km az=2.0*
*IDC **14** 11:15:16.3±5.2,37.50N×71.81E,h147km±30km,mb3.4/3, mb1 3.4/9,mb1mx3.1/54,mbtmp3.7/9,Error ellipse: s-maj=59.0km s-min=24.3km az=152.0*
ISC 14 11:15:09.0±1.0,37.09N±0.08×71.7E±0.1,h109km,n23, σ1§56/26,mb3.6/3,5C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Arcka**	**5.95**	**20**	⇑P		**Pn**	**11 16 36.5**	**+1.9**
	1.3nm,0.5s							
AAK				S		**Sn**	**11 17 39.6**	**-1.9**
	11nm,0.5s							
AAK	**Ala-Arcka**	**5.95**	**20**	P		**Pn**	**11 16 36.8**	**+2.1**
	1.1nm,0.3s,baz=184,slow=7.6,SNR=8.6							
AAK				S		**Sn**	**11 17 40.0**	**-1.5**
	1.7nm,0.3s,baz=333,slow=23,SNR=22							
KK31	**Karatay Array**	**6.07**	**352**	⇑P		**Pn**	**11 16 36.5**	**+0.2**
	6.1nm,0.3s,baz=174,slow=12,SNR=98							
KK31				S		**Sn**	**11 17 40.3**	**-4.1**
	8.1nm,0.5s,baz=143,slow=14,SNR=15							
TKM2	**Tokmak 2**	**6.55**	**26**	⇓P		**Pn**	**11 16 44.7**	**+1.8**
	2.6nm,0.6s							
TKM2				⇑S		**Sn**	**11 17 55.9**	**-0.4**
	3.4nm,0.7s							
GEYT	**Alibeck**	**10.81**	**279**	P		Pn	11 17 48.0	+7.4
	0.6nm,0.3s,baz=104,slow=15,SNR=2.6							
MKAR	**Makanchi Array**	**12.49**	**36**	P		**Pn**	**11 18 03.5**	**+0.8**
	0.1nm,0.3s,baz=218,slow=14,SNR=7.4							
PYUN	**Piuthan**	**13.07**	**130**	*e*P		**Pn**	**11 18 08.9**	**-1.8**
	11nm,0.3s							
DANN	**Dangsing**	**13.38**	**127**	*e*P		**Pn**	**11 18 13.1**	**-1.7**
	12nm,0.3s							
KOLN	**Koldanda**	**13.69**	**129**	*e*P		**Pn**	**11 18 16.9**	**-1.8**
	9.3nm,0.4s							
GKN	**Gorkha**	**14.18**	**126**	*e*P		**Pn**	**11 18 23.8**	**-1.2**
	9.6nm,0.3s							
KURBB	**Kurchatov Arra**	**14.39**	**18**	P		**P**	**11 18 31.0**	**-0.1**
	0.1nm,0.3s,baz=206,slow=11,SNR=9.3							
AB31	**Akbulak array**	**14.85**	**329**	⇑P		**Pn**	**11 18 31.3**	**-1.9**
	0.7nm,0.4s,baz=164,slow=9.2,SNR=38							
PKI	**Pulchoki**	**14.97**	**125**	*e*P		**Pn**	**11 18 34.6**	**-0.7**
	2.8nm,0.2s							
GUN	**Gumba**	**15.06**	**123**	*e*P		**Pn**	**11 18 35.4**	**-1.0**
JIRN	**Jiri**	**15.43**	**123**	*e*P		**Pn**	**11 18 40.7**	**-0.3**
	12nm,0.3s							
BVAR	**Borovoye Array**	**15.96**	**357**	P		**P**	**11 18 48.6**	**+0.1**
	0.2nm,0.3s,baz=145,slow=11,SNR=4.2							
AKTO	**Aktyubinsk**	**16.56**	**328**	⇑P		**P**	**11 18 56.5**	**+1.4**
	1.7nm,0.6s							
AKTO	**Aktyubinsk**	**16.56**	**328**	P		**P**	**11 18 55.7**	**+0.6**
	0.3nm,0.3s,baz=135,slow=12,SNR=8.0							
AKTO				S		Sn	11 21 48.8	-9.4
	0.2nm,0.3s,baz=216,slow=9.3,SNR=5.3							
ZALV	**Zalesovo Beam**	**19.15**	**24**	P		**P**	**11 19 24.0**	**+0.5**
	0.4nm,0.3s,baz=219,slow=9.8,SNR=5.7							
ARCES	**ARCESS Array B**	**40.81**	**337**	P		**P**	**11 22 40.4**	**+1.1**
	4.8nm,1.1s,baz=104,slow=7.6,SNR=9.7							
NB2	**NORSAR Subarra**	**44.24**	**323**	P		**P**	**11 23 07.7**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.24**	**323**	P		**P**	**11 23 08.0**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=93,slow=7.7,SNR=4.2							
YKA	**Yellowknife Ar**	**80.63**	**3**	P		**P**	**11 27 10.0**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=347,slow=5.4,SNR=5.8							

*DDA **14** 11:28:02.9,42.11N×42.37E,h8km±3km,ML2.6*
*ISCJB **14** 11:28:03.7±0.9,42.06N±0.04×42.53E±0.09,h5km±15km, Error ellipse: s-maj=11.6km s-min=6.1km az=2.9*
*NORS **14** 11:28:03.3±0.0,41.97N×42.55E,h6km,MPVA3.3*
ISC 14 11:28:03.9±1.3,42.04N±0.04×42.49E±0.06,h6km±11km, n9,∩0§69/18,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EPOS	**Posof**	**0.57**	**161**	*i* P		**Pg**	**11 28 18.8**	**0.0**
EPOS				*i* S		**Sb**	**11 28 26.1**	**+1.4**
DBOC	**Borcka**	**0.93**	**222**	*i* P		**Pg**	**11 28 21.1**	**-0.5**
DBOC				*i* S		**Sn**	**11 28 36.4**	**-0.7**
DBOC				IAML_P				
	comp=Z,590nm,0.2s							
ARTV	**Artvin**	**0.95**	**206**	*i* P		**Pg**	**11 28 22.0**	**-0.2**
ARTV				*i* S		**Sb**	**11 28 36.2**	**+0.3**
DAGI	**Agillar**	**1.05**	**204**	*i* P		**Pg**	**11 28 24.2**	**+0.1**
DAGI				*i* S		**Sb**	**11 28 39.2**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.18**	**43**	*e*Pg		**Pg**	**11 28 26.1**	**-0.5**
DIGR				*e*Sg		**Sn**	**11 28 43.0**	**-0.7**
DBAD	**Bademkaya**	**1.18**	**210**	*i* P		**Pg**	**11 28 26.5**	**-0.1**
DBAD				*i* S		**Sn**	**11 28 43.5**	**0.0**
DBAD				IAML_P				
	comp=Z,845nm,0.3s							
NEY	**Neytrino**	**1.22**	**8**	*e*Pg		**Pn**	**11 28 27.4**	**-0.3**
NEY				*e*Sg		**Sn**	**11 28 45.8**	**+1.2**
LACR	**Lac**	**1.55**	**59**	*e*Pg		**Pb**	**11 28 32.5**	**-0.6**
LACR				*e*Sg		**Sg**	**11 28 54.0**	**+0.2**
SHA1	**Shidzhatmaz**	**1.70**	**4**	*e*Pg		**Pg**	**11 28 36.5**	**0.0**
SHA1				*e*Sg		**Sg**	**11 28 59.6**	**+1.0**

*ISCJB **14** 11:33:45.7±0.7,5.35S±0.05×122.14E±0.04,h17km, mb3.1/2,Error ellipse: s-maj=7.7km s-min=6.1km az=15.1*
*IDC **14** 11:33:45.3±1.6,4.84S×123.26E,h0km,mb2.9/2, mb1 3.2/3,mb1mx3.1/48,mbtmp3.0/3,ML2.8/1,Error ellipse: s-maj=228.9km s-min=26.5km az=59.0*
*DJA **14** 11:33:45.9±0.4,5°S×123°2'E,°,h10km,M3.2/7,MLv3.2/7*
ISC 14 11:33:47.0±0.9,5.34S±0.06×122.16E±0.05,h17km,n10, σ1§68/14,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**0.44**	**110**	P		**Pg**	**11 33 56.2**	**+0.3**
KDI	**Kendari**	**1.44**	**19**	P		**Pn**	**11 34 10.9**	**-1.5**
KDI				S		**Sn**	**11 34 30.5**	**-0.5**
BKSI	**Bulukumba**	**2.03**	**270**	P		**Pn**	**11 34 19.4**	**-1.0**
BKSI				S		**Sn**	**11 34 44.7**	**-0.6**
BNSI	**Bone**	**2.25**	**294**	P		**Pn**	**11 34 21.4**	**-2.0**
BNSI				S		**Sn**	**11 34 49.8**	**-0.9**
SPSI	**Sidrap Palu**	**2.74**	**300**	P		**Pn**	**11 34 29.4**	**-0.9**
SPSI				S		**Sn**	**11 35 02.5**	**-0.5**
TTSI	**Tana Toraja**	**3.26**	**314**	P		**Pn**	**11 34 41.0**	**+3.6**
EDFI	**Ende, Flores**	**3.42**	**188**	P		**Pn**	**11 34 40.4**	**+0.7**
WRA	**Warramunga Arr**	**18.74**	**142**	P		**P**	**11 38 03.3**	**-2.0**
	0.0nm,0.3s,baz=319,slow=12,SNR=3.2							
ASAR	**Alice Springs**	**21.45**	**149**	P		**P**	**11 38 34.2**	**-0.5**
	0.2nm,0.6s,baz=327,slow=10,SNR=4.6							
MKAR	**Makanchi Array**	**62.74**	**330**	P		**P**	**11 44 13.2**	**+1.9**
	0.2nm,0.6s,baz=120,slow=8.5,SNR=2.9							

*ISK **14** 11:37:43.9,39.73N×25.53E,h2km,ML2.7/15*
*ATH **14** 11:37:45.4,39.73N×25.59E,h22km±3km,ML2.8/1,Error ellipse: s-maj=3.2km s-min=1.1km az=278.0*
*THE **14** 11:37:45.9,39.75N×25.61E,h7km±3km,ML2.3/3,Error ellipse: s-maj=3.5km s-min=1.0km az=211.0*
*ISCJB **14** 11:37:46.3±0.5,39.73N±0.03×25.59E±0.03,h16km±7km, Error ellipse: s-maj=4.5km s-min=4.4km az=139.3*
ISC 14 11:37:45.5±1.0,39.74N±0.02×25.58E±0.02,h10km±9km, n31,∩0§46/46,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**297**	P		**Pb**	**11 37 53.3**	**-0.5**
LIA				S		**Sg**	**11 37 58.1**	**+1.1**
LIA	**Limnos Island**	**0.34**	**297**	P		**Pb**	**11 37 53.3**	**-0.5**
LIA				S		**Sb**	**11 37 58.4**	**-0.9**
BOZC	**Bozcaada**	**0.38**	**74**	PG		**Pg**	**11 37 53.1**	**+0.1**
BOZC				SG		**Sb**	**11 37 59.7**	**-0.5**
EFSA	**Agios Efstrati**	**0.50**	**247**	P		**Pb**	**11 37 56.9**	**+0.6**
EFSA				S		**Sb**	**11 38 04.1**	**+0.4**
GOKC	**Gokceada-Canak**	**0.53**	**29**	PG		**Pg**	**11 37 55.8**	**0.0**
SIGR	**SIGRI**	**0.57**	**158**	PG		**Pg**	**11 37 56.1**	**-0.5**
SIGR				SG		**Sg**	**11 38 04.7**	**+0.6**
SIGR	**SIGRI**	**0.57**	**158**	P		**Pg**	**11 37 56.2**	**-0.4**
SIGR				S		**Sg**	**11 38 04.3**	**+0.2**
SIGR	**SIGRI**	**0.57**	**158**	P		**Pg**	**11 37 55.7**	**-0.8**
SIGR				S		**Sg**	**11 38 04.2**	**+0.2**
SIGR				AML	AML		11 38 05.0	
	comp=E,1970μm,0.5s							
SIGR				AML	AML		11 38 05.3	
	comp=N,2536μm,0.5s							
EZN	**Ezine**	**0.58**	**81**	PG		**Pg**	**11 37 56.5**	**-0.3**
EZN				SG		**Sg**	**11 38 04.5**	**+0.1**
EZN	**Ezine**	**0.58**	**81**	P		**Pg**	**11 37 56.3**	**-0.5**
EZN				S		**Sg**	**11 38 04.0**	**-0.4**
PRK	**Paraskevi**	**0.73**	**132**	P		**Pb**	**11 38 00.3**	**0.0**
PRK				S		**Sb**	**11 38 10.6**	**+0.4**
PRK	**Paraskevi**	**0.73**	**132**	P		**Pb**	**11 37 59.9**	**-0.3**
PRK				S		**Sb**	**11 38 10.4**	**+0.1**
SMTH	**Samothraki Isl**	**0.73**	**357**	P		**Pb**	**11 38 00.2**	**-0.2**
SMTH	**Samothraki Isl**	**0.73**	**357**	P		**Pg**	**11 37 59.8**	**+0.1**
SMTH				S		**Sb**	**11 38 10.6**	**+0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**46**	PG		**Pg**	**11 38 03.9**	**+0.1**
GELI				SG		**Sn**	**11 38 18.4**	**-0.1**
ENEZ	**Enez**	**1.09**	**24**	PN		**Pb**	**11 38 06.2**	**-0.2**
LPK	**Lapseki**	**1.10**	**55**	PN		**Pb**	**11 38 06.7**	**0.0**
ERIK	**Erikli-Kesan**	**1.17**	**37**	PN		**Pn**	**11 38 08.0**	**0.0**
ALN	**Alexandroupoli**	**1.21**	**17**	PN		**Pn**	**11 38 08.4**	**-0.1**
ALN	**Alexandroupoli**	**1.21**	**17**	P		**Pn**	**11 38 08.1**	**-0.4**
ALN				S		**Sg**	**11 38 24.5**	**0.0**
ALN	**Alexandroupoli**	**1.21**	**17**	P		**Pn**	**11 38 08.0**	**-0.5**
ALN				S		**Sn**	**11 38 25.4**	**+0.5**
OUR	**Ouranopolis**	**1.36**	**296**	PN		**Pn**	**11 38 10.2**	**-0.4**
CHOS	**Chios island**	**1.40**	**165**	PN		**Pn**	**11 38 11.1**	**-0.1**
CHOS	**Chios island**	**1.40**	**165**	P		**Pb**	**11 38 11.6**	**-0.2**
RDO	**Rodhopi**	**1.41**	**359**	PN		**Pn**	**11 38 11.2**	**0.0**
KRBG	**Karabiga-Canak**	**1.47**	**63**	PN		**Pb**	**11 38 12.6**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.55**	**52**	PN		**Pb**	**11 38 13.9**	**-0.4**
URLA	**Izmir**	**1.59**	**150**	PN		**Pn**	**11 38 13.9**	**+0.2**
MRMT	**Marmara Adasi**	**1.77**	**60**	PN		**Pn**	**11 38 16.8**	**+0.6**
SBT4	**Kumbag-Tekirda**	**1.85**	**53**	PN		**Pn**	**11 38 18.2**	**+1.1**
EDC	**Edincik**	**1.85**	**70**	PN		**Pn**	**11 38 18.2**	**+0.8**

MEX 14 11:41:45.5±0.5,16.54N×98.70W,h16km±7km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**105**	*i* P		Pg	11 41 55.0	-1.9
PNIG				*i* S		Sg	11 42 02.2	-2.3
TLIG	**Tlapa**	**1.02**	**7**	*i* P		Pb	11 42 01.7	-3.2
TLIG				*i* S		Sb	11 42 13.5	-4.6
CAIG	**El Cayaco**	**1.58**	**289**	*i* P		Pn	11 42 09.1	-3.7
CAIG				*i* S		Sn	11 42 27.9	-5.1

*ISCJB **14** 11:45:31.9±0.7,6.85N±0.03×73.16W±0.04,h149km±6km, mb3.5/1,Error ellipse: s-maj=7.3km s-min=5.6km az=177.5*
*IDC **14** 11:45:33.6±7.0,6.71N×76.00W,h116km±78km,mb3.3/1, mb1 3.6/2,mb1mx3.0/32,mbtmp3.8/2,ML2.6/1,Error ellipse: s-maj=140.0km s-min=32.3km az=79.0*
*RSNC **14** 11:45:33.3±1.0,6.80N×73.17W,h142km±5km,ML3.5, Mw3.5*
ISC 14 11:45:32.8±1.0,6.86N±0.04×73.15W±0.05,h144km±7km, n23,∩1§14/37,4C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**186**	*i* P		**Pn**	**11 45 52.8**	**-0.2**
BARC				*e*S		**Sn**	**11 46 07.3**	**-0.8**
BARC				*i*			11 46 09.9	
	comp=Z,1μm,0.2s							
BRRC	**Barranca, Sant**	**0.61**	**294**	⇑*i* P		**Pn**	**11 45 54.6**	**+0.5**
BRRC				*e*S		**Sn**	**11 46 10.9**	**+0.6**
BRRC				*i*			11 46 12.2	
	comp=Z,576nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**43**	⇑*i* P		**Pn**	**11 45 55.7**	**+0.7**
PAMC				*i*			11 45 56.0	
	comp=Z,774nm,0.2s							
PAMC				*e*S		**Sn**	**11 46 12.3**	**+0.4**
RUSC	**La Rusia**	**0.96**	**176**	⇑*i* P		**Pn**	**11 45 56.8**	**-0.5**
RUSC				*e*S		**Sn**	**11 46 14.4**	**-1.5**
RUSC				*i*			11 46 16.9	
	comp=N,763nm,0.3s							
PTBC	**PUERTO BERRIO,**	**1.33**	**256**	⇑*i* P		**Pn**	**11 45 59.3**	**-1.0**
PTBC				*e*S		**Sn**	**11 46 20.0**	**-1.1**
PTBC				*i*			11 46 22.5	
	comp=Z,349nm,0.2s							
OCAC	**Ocana**	**1.38**	**353**	*e*P		**Pn**	**11 46 01.0**	**+0.1**
OCAC				*e*S		**Sn**	**11 46 22.3**	**-0.1**
OCAC				*i*			11 46 30.8	
	comp=Z,208nm,0.4s							
TAMC	**Tame, Arauca**	**1.42**	**107**	⇓*i* P		**Pn**	**11 46 01.1**	**0.0**
TAMC				*i*			11 46 01.3	
	comp=Z,483nm,0.1s							
TAMC				*e*S		**Sn**	**11 46 22.1**	**-0.6**
ZARC	**Zaragoza, Cauc**	**1.81**	**291**	*e*P		**Pn**	**11 46 05.5**	**+0.1**
ZARC				*e*S		**Sn**	**11 46 30.8**	**+0.5**
ZARC				*i*			11 46 37.3	
	comp=Z,421nm,0.4s							
CTAU	**Tausa, Cundina**	**1.87**	**208**	*e*P		**Pn**	**11 46 08.7**	**+2.1**
CTAB	**Cerro Tablazo,**	**2.11**	**210**	*e*P		**Pn**	**11 46 10.1**	**+0.7**
SMLC	**San Martn de**	**2.13**	**335**	*e*P		**Pn**	**11 46 09.3**	**0.0**
SMLC				*e*S		**Sn**	**11 46 37.8**	**+0.6**
CHIC	**Chingaza**	**2.29**	**195**	*e*P		**Pn**	**11 46 11.1**	**-0.5**
CHIC				*e*S		**Sn**	**11 46 39.7**	**-1.4**
ROSC	**El Rosal**	**2.32**	**210**	*e*P		**Pn**	**11 46 12.7**	**+0.8**
ROSC				*e*S		**Sn**	**11 46 42.5**	**+0.7**
ROSC				*i*			11 46 48.0	
	comp=Z,180nm,0.6s							
ROSC	**El Rosal**	**2.32**	**210**	P		**Pn**	**11 46 13.3**	**+1.5**
	comp=Z,24nm,

*IDC **14** 12:01:21.3±1.1,3°22S×123°77E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/37, mbtmp3.8/7, ML3.7/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=90.1km s-min=18.5km az=64.0*

*DJA **14** 12:01:24.0±0.3, 4°S±3°×12°3E±°, h10km, M4.2/12, mb4.8/4, mB5.5/1, MLv3.9/12, Mw(mB)5.0/1*

ISC 14 12:01:23.1±0.8,**3°49S**±0°.04×**123°38E**±0°.04,**h10km**,**n20**, σ1§**87**/28,**mb3.9/5**,**Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.89**	**239**	P	**Pg**	**12 01 38.9**	**-1.4**
KDI				S	**Sg**	**12 01 49.1**	**-2.7**
BBSI	**Bau Bau**	**2.14**	**202**	P	**Pn**	**12 02 00.9**	**+2.0**
BBSI				S	**Sn**	**12 02 25.6**	**0.0**
LUWI	**Luwuk**	**2.51**	**346**	P	**Pn**	**12 02 03.9**	**-0.1**
LUWI				S	**Sn**	**12 02 33.9**	**-0.8**
SANI	**Sanana**	**2.98**	**61**	P	**Pn**	**12 02 09.9**	**-0.5**
SANI				S	**Sn**	**12 02 45.4**	**-0.8**
APSI	**Ampana**	**3.09**	**326**	P	**Pn**	**12 02 12.3**	**+0.2**
APSI				S	**Sn**	**12 02 52.9**	**+3.8**
BNSI	**Bone**	**3.39**	**254**	P	**Pn**	**12 02 17.5**	**+1.4**
BNSI				S	**Sn**	**12 02 57.8**	**+1.4**
TTSI	**Tana Toraja**	**3.58**	**277**	P	**Pn**	**12 02 21.3**	**+2.5**
TTSI				S	**Sn**	**12 02 57.2**	**-4.0**
SPSI	**Sidrap Palu**	**3.63**	**262**	P	**Pn**	**12 02 19.6**	**+0.1**
SPSI				S	**Sn**	**12 03 02.3**	**-0.1**
BKSI	**Bulukumba**	**3.72**	**241**	P	**Pn**	**12 02 20.8**	**+0.1**
BKSI				S	**Sn**	**12 03 02.9**	**-1.7**
PCI	**Palu**	**4.37**	**306**	P	**Pn**	**12 02 31.8**	**+2.1**
EDFI	**Ende, Flores** 22nm,0.8s	**5.49**	**198**	P	**Pn**	**12 02 44.0**	**-1.1**
SOEI	**Soe**	**6.28**	**172**	P	**Pn**	**12 02 57.1**	**+1.0**
BATI	**Baumata** comp=Z,226nm,18.5s,baz=255,slow=39	**6.68**	**178**	LR	LR	12 05 49.0	
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=349,slow=10,SNR=14	**14.68**	**171**	Pn	**Pn**	**12 04 55.5**	**+4.4**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=326,slow=11,SNR=21	**19.54**	**148**	P	**P**	**12 05 50.3**	**-0.8**
ASAR	**Alice Springs** 4.9nm,0.6s,baz=333,slow=12,SNR=49	**22.49**	**154**	P	**P**	**12 06 23.4**	**+0.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=133,slow=6.6,SNR=5.5	**32.48**	**313**	P	**P**	**12 07 54.3**	**+0.1**
CMAR	comp=Z,16nm,18.3s,baz=110,slow=37			LR	LR	12 21 29.1	
SONM	**Songino Array** 0.4nm,0.7s,baz=155,slow=6.5,SNR=2.5	**53.24**	**346**	P	**P**	**12 10 41.0**	**-1.0**
MKAR	**Makanchi Array** 0.4nm,0.9s,baz=118,slow=6.0,SNR=3.2	**61.78**	**329**	P	**P**	**12 11 41.8**	**-0.3**
ZALV	**Zalesovo Beam** 1.3nm,0.7s,baz=123,slow=5.3,SNR=6.4	**65.64**	**336**	P	**P**	**12 12 06.2**	**-1.2**

*IDC **14** 12:02:12.1±1.8, 7°45S×155°21E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/33, mbtmp3.5/7, Error ellipse: s-maj=58.0km s-min=25.1km az=128.0*

*ISCJB **14** 12:02:15.7±1.5, 7°4S±0°.3×155°1E±0°.3, h31km, mb3.5/7, Error ellipse: s-maj=53.7km s-min=20.9km az=38.3*

ISC 14 12:02:16.9±1.8,**7°5S**±0°.3×**155°2E**±0°.3,**h31km**,**n7**,σ0§**45**/7, **mb3.5**/7,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=63,slow=9.6,SNR=4.1	**23.71**	**236**	P	**P**	**12 07 26.2**	**-0.2**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=63,slow=8.6,SNR=2.0	**26.00**	**229**	P	**P**	**12 07 47.3**	**0.0**
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=126,slow=4.7,SNR=2.6	**61.18**	**296**	P	**P**	**12 12 29.7**	**+0.6**
SONM	**Songino Array** 0.2nm,0.4s,baz=124,slow=4.2,SNR=2.9	**69.86**	**327**	P	**P**	**12 13 24.4**	**-0.4**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=250,slow=4.0,SNR=5.1	**83.76**	**21**	P	**P**	**12 14 43.1**	**+0.4**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=98,slow=6.2,SNR=4.2	**83.91**	**319**	P	**P**	**12 14 43.5**	**-0.3**
YKA	**Yellowknife Ar** 0.2nm,0.5s,baz=268,slow=4.4,SNR=3.6	**96.68**	**28**	P	**P**	**12 15 43.6**	**-0.2**

IDC 14 12:06:27.0±2.0,**7°42S×155°18E, h0km**,**mb3.6**/6, **mb1 3.8**/6,**mb1mx3.6**/30,**mbtmp3.6**/6,**Error ellipse: s-maj=73.5km s-min=28.3km az=131.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.0nm,0.8s,baz=58,slow=9.5,SNR=5.8	**23.73**	**236**	P	P	12 11 40.4	-0.7
ASAR	**Alice Springs** 0.5nm,0.9s,baz=62,slow=9.4,SNR=3.6	**26.04**	**229**	P	P	12 12 02.7	+0.5
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=113,slow=4.2,SNR=3.7	**61.13**	**296**	P	P	12 16 44.7	+1.0
ILAR	**Eielson Array** 0.1nm,0.5s,baz=243,slow=4.0,SNR=3.1	**83.70**	**21**	P	P	12 18 57.1	-0.4
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=116,slow=3.4,SNR=4.1	**83.84**	**319**	P	P	12 18 57.4	-1.2
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=265,slow=3.9,SNR=4.3	**96.62**	**28**	P	P	12 19 59.3	+0.6

*IDC **14** 12:26:13.0±2.5, 7°33S×107°81E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/48, mbtmp3.7/5, MS3.4/2, Ms1 3.4/2, ms1mx2.8/34, Error ellipse: s-maj=130.6km s-min=23.6km az=51.0*

*DJA **14** 12:26:16.3±0.7, 8°S±8°×107°7E±°, h10km, M3.9/12, MLv3.9/12*

*ISCJB **14** 12:26:18.0±0.7, 8°07S±0°.07×107°24E±0°.04, h62km, mb3.6/4, Error ellipse: s-maj=10.9km s-min=4.4km az=27.2*

ISC 14 12:26:19.7±1.0,**8°0S**±0°.1×**107°26E**±0°.06,**h62km**,**n18**, σ1§**50**/24,**mb3.4**/4,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.71**	**51**	P	**Pn**	**12 26 32.9**	**-1.4**
CISI				S	**Sn**	**12 26 43.1**	**-1.8**
SKJI	**Sukabumi**	**1.21**	**325**	P	**Pn**	**12 26 40.5**	**-0.1**
SKJI				S	**Sn**	**12 26 55.0**	**-1.2**
KPJI	**Karang Pucung**	**1.79**	**68**	P	**Pn**	**12 26 48.6**	**+0.3**
KPJI				S	**Sn**	**12 27 13.9**	**+3.9**
SBJI	**Serang**	**2.18**	**329**	P	**Pn**	**12 26 55.2**	**+1.5**
SBJI				S	**Sn**	**12 27 20.5**	**+0.9**
UGM	**Wanagama**	**3.23**	**89**	P	**Pn**	**12 27 07.2**	**-0.9**
UGM				S	**Sn**	**12 27 45.9**	**+0.4**
SMRI	**Semarang**	**3.29**	**73**	P	**Pn**	**12 27 08.8**	**-0.1**
WOJI	**Wonogiri, Jawa**	**3.63**	**88**	P	**Pn**	**12 27 13.2**	**-0.4**
WOJI				S	**Sn**	**12 27 57.3**	**+2.1**
KASI	**Kota Agung**	**3.69**	**312**	P	**Pn**	**12 27 14.3**	**0.0**
PCJI	**Pacitan**	**3.88**	**93**	P	**Pn**	**12 27 16.8**	**-0.2**
PCJI				S	**Sn**	**12 27 59.0**	**-2.4**
PWJI	**Pagerwojo**	**4.50**	**91**	P	**Pn**	**12 27 25.5**	**+0.1**
PWJI				S	**Sn**	**12 28 19.2**	**+2.7**
MDSI	**Maura Dua**	**4.65**	**319**	P	**Pn**	**12 27 28.3**	**+0.9**
FITZ	**Fitzroy Crossi** 4.1nm,0.8s,baz=285,slow=9.5,SNR=6.7	**20.51**	**121**	P	**P**	**12 30 52.9**	**0.0**
DAV	**Davao City (W)** comp=Z,103nm,21.3s,baz=310,slow=39	**23.62**	**51**	LR	LR	12 41 00.8	
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=292,slow=10,SNR=11	**28.78**	**117**	P	**P**	**12 32 11.5**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.7s,baz=301,slow=9.3,SNR=6.7	**29.91**	**124**	P	**P**	**12 32 21.9**	**-0.1**
STKA	**Stephens Creek** 3.1nm,0.5s,baz=310,slow=6.7,SNR=11	**39.18**	**131**	P	**P**	**12 33 47.8**	**+0.9**
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=148,slow=6.8,SNR=3.6	**58.91**	**340**	P	**P**	**12 36 10.9**	**-1.5**
AKASG	**Malin Array Be** comp=Z,21nm,18.2s,baz=20,slow=39	**88.64**	**322**	LR	LR	13 23 49.1	

KRSC 14 12:36:04.9±10.0,**59°57N×164°04E, h87km**±10km,**ML3.7**, **Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.59**	**238**	*e*P	Pn	12 36 21.0	+1.0
OSSR				*e*S	Sn	12 36 32.6	+1.3
TILK	**Tilichiki**	**1.38**	**49**	*e*P	Pn	12 36 29.9	+1.1
TILK				*e*S	Sn	12 36 49.5	+2.6
PALN	**Palana**	**2.14**	**259**	*e*P	Pn	12 36 40.2	+1.4
PALN				S	Sn	12 37 07.4	+2.7
KMSK	**Kamenskaya**	**3.09**	**19**	P	Pn	12 36 54.1	+2.6
KMSK				S	Sn	12 37 29.3	+1.9

*IDC **14** 12:42:30.3±1.2, 58°.89S×25°.50W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/22, mbtmp3.7/3, Error ellipse: s-maj=88.8km s-min=34.3km az=97.0*

ISC 14 12:42:35.6±1.1,**59°0S**±0°.2×**25°2W**±0°.4,**h35km**,**n10**, σ0§**82**/10,**mb3.7**/3,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.70**	**156**	P	**Pn**	**12 45 46.9**	**-0.2**
VNA3	**Neumayer Olymp**	**13.89**	**159**	P	**Pn**	**12 45 49.1**	**-0.5**
VNA2	**Neumayer--Watz** baz=311,slow=15	**14.10**	**156**	P	**Pn**	**12 45 52.1**	**-0.4**
SNAA	**Sanae**	**15.66**	**153**	P	**Pn**	**12 46 13.4**	**+0.1**
VNDA	**Vanda** 0.5nm,0.6s,baz=188,slow=7.1,SNR=3.4	**43.71**	**182**	P	**P**	**12 50 37.9**	**+1.4**
TORD	**Torodi Ar. Bea** 0.6nm,0.5s,baz=201,slow=6.4,SNR=5.6	**75.12**	**27**	P	**P**	**12 54 14.5**	**+0.7**
ASAR	**Alice Springs** 0.2nm,0.7s,baz=178,slow=3.7,SNR=4.4	**95.89**	**161**	P	**P**	**12 55 57.7**	**-0.8**
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=125,slow=2.3,SNR=9.2	**139.01**	**315**	PKP	**PKPdf**	**13 01 56.1**	**-0.6**
INK	**Inuvik** baz=228,slow=3.1	**148.69**	**317**	PKPbc	**PKPbc**	**13 02 16.4**	**-0.9**
SONM	**Songino Array** 0.5nm,0.8s,baz=180,slow=1.4,SNR=3.8	**149.76**	**90**	PKPbc	**PKPbc**	**13 02 21.0**	**+0.2**

PGC 14 12:45:28.0±0.0,**59°.71N×136°.18W, h5km**,**ML2.0**/7,**86km Wnw of Haines, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.27**	**200**	P	Pg	12 45 33.0	-0.4
PLBC				S	Sg	12 45 36.7	-0.2
WHY	**Whitehorse**	**1.15**	**34**	P	Pg	12 45 48.5	-1.5
WHY				S	Sg	12 46 03.8	-1.2
YUK7	**Dusty Glacier**	**1.28**	**311**	P	Pg	12 45 51.6	-0.9
YUK7				S	Sg	12 46 08.3	-0.7
HYT	**Haines Junctio**	**1.29**	**330**	P	Pg	12 45 51.0	-1.9
HYT				S	Sg	12 46 08.0	-1.6
BESE	**Bessie Mountai**	**1.33**	**148**	P	Pn	12 45 51.7	-1.6
BESE				S	Sg	12 46 09.7	-0.9
YUK6	**Outpost Mounta**	**1.64**	**320**	Pn	Pn	12 45 57.6	-0.2
YUK6				S	Sn	12 46 19.5	+0.1
YUK5	**Granite Creek**	**1.65**	**330**	Pn	Pn	12 45 57.4	-0.3
YUK5				S	Sn	12 46 18.3	-1.0
YUK4	**Talbot Arm**	**2.04**	**324**	Pg	Pb	12 46 05.8	+0.1
YUK4				S	Sb	12 46 31.5	+0.1
DLBC	**Dease Lake**	**3.43**	**109**	Pn	Pn	12 46 21.9	-0.2
DLBC				S	Sb	12 47 14.4	+3.3
DAWY	**Dawson**	**4.62**	**342**	Sg	Sg	12 47 51.8	-4.5

*IDC **14** 12:48:21.1±1.8, 56°.37S×30°.17W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/22, mbtmp4.0/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/19, Error ellipse: s-maj=78.5km s-min=43.7km az=9.0*

ISC 14 12:48:26.4±1.0,**55°7S**±0°.2×**30°5W**±0°.3,**h10km**,**n17**, σ2§**30**/7,**MS3.6**/5,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**18.00**	**158**	P	**Pn**	**12 52 37.3**	**+0.9**
SNAA	**Sanae**	**19.86**	**154**	P	**P**	**12 52 55.5**	**-1.8**
PLCA	**Paso Flores** comp=Z,128nm,18.1s,baz=160,slow=36	**30.08**	**283**	LR	LR	13 06 28.0	
CPUP	**Villa Florida** comp=Z,82nm,20.4s,baz=179,slow=34	**35.19**	**315**	LR	LR	13 08 29.1	
BOSA	**Boshof** comp=Z,83nm,19.8s,baz=192,slow=32	**47.73**	**79**	LR	LR	13 13 55.8	
H10S2	**ASCENSION HYDR** baz=192,slow=75,SNR=4.7	**48.27**	**21**	T	T	13 48 46.2	
H10S3	**ASCENSION HYDR** baz=192,slow=75,SNR=4.3	**48.27**	**21**	T	T	13 48 48.2	
H10S1	**ASCENSION HYDR** baz=192,slow=75,SNR=4.3	**48.28**	**21**	T	T	13 48 49.7	
LPAZ	**La Paz** 2.6nm,0.9s,baz=159,slow=9.2,SNR=6.4	**48.65**	**309**	P	**P**	**12 57 11.3**	**+0.2**
LPAZ	comp=Z,33nm,18.1s,baz=154,slow=40			LR	LR	13 21 29.7	
H10N1	**ASCENSION HYDR** baz=201	**49.38**	**21**	T	T	13 50 11.7	
H10N3	**ASCENSION HYDR** baz=201,slow=74	**49.38**	**21**	T	T	13 50 12.3	
H10N2	**ASCENSION HYDR** baz=201,slow=74	**49.40**	**21**	T	T	13 50 12.8	
TORD	**Torodi Ar. Bea** 1.7nm,1.2s,baz=191,slow=7.4,SNR=3.1	**73.71**	**33**	P	**P**	**12 59 59.8**	**-0.5**
PPT	**Papeete** comp=Z,47nm,18.9s,baz=162,slow=31	**90.86**	**237**	LR	LR	13 35 50.8	
INK	**Inuvik** 1.8nm,1.1s,baz=115,slow=5.2,SNR=4.3	**144.33**	**322**	PKPbc	**PKPab**	**13 07 56.6**	**-2.5**
ILAR	**Eielson Array** 3.1nm,1.1s,baz=127,slow=1.6,SNR=11	**148.47**	**313**	PKPbc	**PKPdf**	**13 08 09.1**	**+0.9**
SONM	**Songino Array** 0.2nm,0.5s,baz=243,slow=0.6,SNR=3.3	**152.59**	**88**	PKPbc	**PKPdf**	**13 08 18.3**	**+3.1**

*ISCJB **14** 12:53:54.0±0.9, 7°.10S±0°.07×130°.06E±0°.09, h104km, mb3.3/1, Error ellipse: s-maj=12.3km s-min=9.4km az=176.1*

*IDC **14** 12:53:56.3±2.3, 7°.02S×130°.03E, h110km±27km, mb3.2/1, mb1 3.5/6, mb1mx3.2/34, mbtmp3.8/6, Error ellipse: s-maj=39.2km s-min=21.5km az=94.0*

ISC 14 12:53:54.5±0.9,**7°.07S**±0°.06×**130°.2E**±0°.1,**h104km**,**n6**, σ3§**54**/10,**Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 2.2nm,0.3s,baz=178,slow=19,SNR=9.4	**6.25**	**10**	P	**Pn**	**12 55 25.5**	**+1.2**
SIJI				S	**Sn**	**12 56 29.8**	**-4.6**
BATI	**Baumata** 2.0nm,0.3s,baz=117,slow=1.7,SNR=3.2	**7.15**	**244**	P	**Pn**	**12 55 38.4**	**+1.8**
BATI	3.4nm,0.3s,baz=148,slow=19,SNR=3.9			S	**Sn**	**12 56 53.4**	**-3.0**
FITZ	**Fitzroy Crossi** 0.5nm,0.3s,baz=30,slow=11,SNR=12	**11.82**	**202**	P	**Pn**	**12 56 39.8**	**0.0**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=342,slow=13,SNR=34	**13.42**	**163**	P	**Pn**	**12 57 02.5**	**+1.6**
WRA	0.8nm,0.3s,baz=336,slow=20,SNR=8.9			S	**Sn**	**12 59 25.1**	**-3.7**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=343,slow=9.5,SNR=42	**16.89**	**168**	P	**P**	**12 57 48.9**	**+3.8**
ASAR	0.1nm,0.3s,baz=0.9,slow=18,SNR=6.1			S	**Sn**	**13 00 47.8**	**-4.7**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=125,slow=6.5,SNR=3.7	**68.38**	**327**	P	**P**	**13 04 45.3**	**+0.3**

*ISCJB **14** 13:12:19.2±0.4, 51°.56N±0°.02×15°.98E±0°.03, h0km, Error ellipse: s-maj=3.3km s-min=2.2km az=13.6*

*PRU **14** 13:12:20.8±0.0, 51°.64N×16°.01E, h0km*

*BGR **14** 13:12:22.0±0.4, 51°.56N×15°.97E, h1km, ML3.2/14, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*

*IDC **14** 13:12:23.0±1.2, 51°.47N×15°.95E, h0km, mb1 3.3/3, mb1mx2.9/42, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=23.0km s-min=9.7km az=129.0*

ISC 14 13:12:19.4±0.8,**51°66N**±0°.03×**16°01E**±0°.02,**h0km**,**n54**, σ1§**17**/100,**5C-2D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.84**	**168**	*i* P*g*	**Pg**	**13 12 35.6**	**+0.3**
KSP				*i*		13 12 38.4	
KSP				*i* S*g*	**Sg**	**13 12 45.8**	**-0.3**
KSP	**Ksiaz**	**0.84**	**168**	*e*P*g*	**Pg**	**13 12 35.7**	**+0.3**
KSP				*e*S*g*	**Sg**	**13 12 45.9**	**-0.3**
UPC	**Upice**	**1.16**	**180**	*e*P*G*	**Pb**	**13 12 42.1**	**-0.1**
UPC	comp=Z,156nm,0.5s			*e*S*G*	**Sg**	**13 12 57.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.33**	**171**	*e*P*G*	**Pg**	**13 12 44.6**	**-0.2**
DPC	comp=Z,97nm,0.6s			*e*S*G*	**Sb**	**13 13 02.7**	**0.0**
DPC	**Dobruska-Polom**	**1.33**	**171**	*e*P*g*	**Pg**	**13 12 44.5**	**-0.2**
DPC				*e*S*g*	**Sg**	**13 13 01.5**	**-0.4**
PVCC	**Panska Ves**	**1.45**	**219**	*e*P*G*	**Pb**	**13 12 47.9**	**+0.6**
BRG	**Berggiesshubel**	**1.52**	**240**	P*G*	**Pg**	**13 12 48.9**	**+0.4**
BRG	252nm,0.6s			S*G*	**Sn**	**13 13 08.4**	**+0.2**
BRG	**Berggiesshubel**	**1.52**	**240**	*e*P*g*	**Pg**	**13 12 48.6**	**+0.1**
BRG				*e*S*g*	**Sn**	**13 13 08.5**	**+0.2**
KRLC	**Kraliky**	**1.66**	**163**	*e*P*G*	**Pn**	**13 12 49.7**	**-0.1**
KRLC	comp=Z,22nm,0.5s			*e*S*G*	**Sn**	**13 13 11.9**	**+0.1**
FBE	**Freiberg**	**1.83**	**247**	*e*P*g*	**Pg**	**13 12 54.8**	**+0.4**
FBE				*e*S*g*	**Sg**	**13 13 18.1**	**+0.1**
GOPC	**GO Pecny, Ondr**	**1.91**	**204**	*e*P*N*	**Pn**	**13 12 53.3**	**+0.1**
GOPC				*e*P*G*	**Pb**	**13 12 54.9**	**-0.2**
GOPC	comp=Z,57nm,0.7s			*e*S*G*	**Sg**	**13 13 20.3**	**-0.5**
CLL	**Collm**	**1.92**	**261**	*e*P*n*	**Pn**	**13 12 53.0**	**-0.2**
CLL				*e*P*g*	**Pg**	**13 12 56.0**	**0.0**
CLL				*i*		13 13 00.4	
CLL				*e*		13 13 17.0	
CLL	comp=Z,60nm,0.3s			*e*S*g*	**Sg**	**13 13 21.0**	**+0.2**
CLL	**Collm**	**1.92**	**261**	*e*P*n*	**Pn**	**13 12 53.4**	**+0.2**
CLL				*e*S*g*	**Sg**	**13 13 21.0**	**+0.2**
PRU	**Pruhonice**	**1.92**	**210**	*e*P*N*	**Pn**	**13 12 53.1**	**-0.1**
PRU				*e*P*G*	**Pb**	**13 12 55.1**	**-0.1**
PRU	comp=Z,64nm,0.6s			*e*S*G*	**Sg**	**13 13 21.5**	**+0.6**
MORC	**Moravsky Berou**	**2.12**	**152**	⇓*i* P	**Pn**	**13 12 56.0**	**-0.2**
MORC				S	**Sg**	**13 13 28.8**	**+1.3**
MORC	**Moravsky Berou**	**2.12**	**152**	*e*P*N*	**Pn**	**13 12 55.9**	**-0.2**
MORC				*e*S*G*	**Sg**	**13 13 26.9**	**-0.6**
MORC	**Moravsky Berou**	**2.12**	**152**	*e*P*n*	**Pn**	**13 12 56.1**	**0.0**
MORC				*e*S*g*	**Sg**	**13 13 27.8**	**+0.3**
OKC	**Ostrava-Krasne**	**2.27**	**143**	*e*P*G*	**Pg**	**13 13 02.5**	**-0.4**
OKC	comp=Z,33nm,0.6s			*e*S*G*	**Sg**	**13 13 33.0**	**+0.6**
OKC	**Ostrava-Krasne**	**2.27**	**143**	*e*P*n*	**Pn**	**13 12 58.4**	**+0.3**
OKC				*e*P*g*	**Pg**	**13 13 03.1**	**+0.2**
OKC				*e*S*g*	**Sg**	**13 13 33.0**	**+0.6**
VRAC	**Vranov**	**2.38**	**171**	*e*P*N*	**Pn**	**13 13 00.0**	**+0.3**
VRAC				*e*S*G*	**Sb**	**13 13 31.8**	**-1.3**
TANN	**Tannenbergstha**	**2.56**	**242**	*e*P*n*	**Pn**	**13 13 02.6**	**+0.4**
TANN				*e*S*g*	**Sg**	**13 13 40.2**	**-1.5**
KRUC	**Moravsky**	**2.61**	**174**	*e*P*N*	**Pn**	**13 13 03.4**	**+0.6**
KRUC				*e*P*G*	**Pb**	**13 13 05.5**	**+0.5**
KRUC				*e*S*G*	**Sb**	**13 13 40.6**	**+0.9**
NKC	**Novy Kostel**	**2.67**	**239**	*e*P*N*	**Pn**	**13 13 04.5**	**+0.9**
NKC	comp=Z,75nm,0.3s			*e*S*G*	**Sg**	**13 13 47.0**	**+1.9**
OJC	**Ojcow**	**2.80**	**120**	*e*P*n*	**Pn**	**13 13 06.3**	**+0.9**
OJC				*e*P*g*	**Pg**	**13 13 14.3**	**+1.4**
OJC				*e*S*g*	**Sg**	**13 13 49.7**	**+0.5**
OJC	**Ojcow**	**2.80**	**120**	*e*P*n*	**Pn**	**13 13 05.6**	**+0.2**
OJC				*e*S*g*	**Sg**	**13 13 49.5**	**+0.4**
MOX	**Moxa**	**2.95**	**252**	*e*P*n*	**Pn**	**13 13 08.2**	**+0.7**
MOX				*e*P*g*	**Pg**	**13 13 16.1**	**+0.3**
MOX				*e*S*g*	**Sg**	**13 13 54.0**	**0.0**
KHC	**Kasperske Hory**	**2.97**	**213**	*e*P*N*	**Pn**	**13 13 07.9**	**+0.1**
KHC				*e*P*G*	**Pb**	**13 13 14.2**	**+1.0**
KHC				*e*S*N*	**Sn**	**13 13 43.0**	**-1.2**
KHC	comp=Z,20nm,0.4s			*e*S*G*	**Sg**	**13 13 55.2**	**+0.4**
MANZ	**Manzenberg**	**2.99**	**237**	*e*P*n*	**Pn**	**13 13 09.1**	**+1.1**
MANZ				*e*S*g*	**Sg**	**13 13 54.9**	**-0.4**
JAVC	**Velka Javorina**	**3.00**	**159**	*e*P*N*	**Pn**	**13 13 09.2**	**+1.0**
ROTZ	**Rotzenmuhle**	**3.07**	**233**	*e*P*n*	**Pn**	**13 13 09.7**	**+0.6**
GEC2	**GERESS Array S**	**3.19**	**209**	*e*P*n*	**Pn**	**13 13 11.9**	**+1.1**
GEC2				*e*S*g*	**Sg**	**13 13 59.0**	**-2.6**
GERES	**GERESS Array B** comp=Z,1.3nm,0.3s,baz=31,slow=13,SNR=26	**3.19**	**209**	Pn	**Pn**	**13 13 11.4**	**+0.7**
GERES	comp=Z,3.5nm,0.3s,baz=28,slow=17,SNR=41			Pg	**Pb**	**13 13 17.5**	**+0.7**
GERES	comp=Z,2.7nm,0.3s,baz=31,slow=19,SNR=6.9			Sn	**Sn**	**13 13 48.6**	**-0.9**
GERES	comp=Z,4.1nm,0.3s,baz=27,slow=32,SNR=6.4			Lg	Lg	13 13 58.9	
WET	**Wettzell**	**3.22**	**220**	*e*P*n*	**Pn**	**13 13 11.9**	**+0.7**
LANS	**Liptovska Anna**	**3.35**	**137**	*e*S*G*	**Sg**	**13 14 06.0**	**-0.8**
MODS	**Modra-Piesok**	**3.39**	**166**	*e*P*G*	**Pg**	**13 13 23.0**	**-1.3**
MODS				*e*S*G*	**Sg**	**13 14 09.0**	**+0.8**
MODS				*e*LG	Lg	13 14 14.5	
CLZ	**Clausthal**	**3.51**	**275**	*e*P*n*	**Pn**	**13 13 17.1**	**+1.9**
CLZ				*e*S*g*	**Sg**	**13 14 12.7**	**+0.7**
BSD	**Bornholm Skovb**	**3.52**	**350**	*i* P	**Pn**	**13 13 16.6**	**+1.3**
BSD				*i* S	**Sn**	**13 13 55.8**	**-1.8**
GRF	**Grafenberg Arr**	**3.63**	**239**	*e*P*n*	**Pn**	**13 13 18.6**	**+1.8**
GRF				*e*S*g*	**Sg**	**13 14 15.0**	**-0.8**
VYHS	**Vyhne**	**3.65**	**149**	*e*P*N*	**Pn**	**13 13 17.2**	**+0.1**
VYHS				*e*P*G*	**Pg**	**13 13 30.1**	**+0.7**
VYHS				*e*S*G*	**Sg**	**13 14 15.2**	**-1.5**
VYHS				*e*LG	Lg	13 14 25.1	
CONA	**Conrad Observa** comp=Z,0.8nm,0.1s	**3.74**	**182**	*e*P*n*	**Pn**	**13 13 19.2**	**+0.8**
CONA	comp=Z,32nm,0.5s			S*g*	**Sg**	**13 14 16.8**	**-2.5**
MOA	**Molln** comp=Z,4.6nm,0.2s	**3.98**	**197**	*e*P*n*	**Pn**	**13 13 22.0**	**+0.4**
MOA	comp=Z,19nm,0.5s			S*g*	**Sg**	**13 14 24.8**	**-2.3**
ARSA	**Arzberg** comp=Z,2.9nm,0.3s	**4.43**	**184**	*e*P*n*	**Pb**	**13 13 40.9**	**+3.0**
ARSA	comp=Z,9.5nm,0.5s			S*g*	**Sg**	**13 14 42.1**	**+0.6**
KBA	**Koelnbreinsper** comp=Z,2.5nm,0.3s	**4.91**	**202**	*i* P*n*	**Pn**	**13 13 35.3**	**+0.8**
KBA	comp=Z,10.0nm,0.5s			S*g*	**Sg**	**13 14 57.6**	**+0.7**
WTTA	**Wattenberg** comp=Z,12nm,0.6s	**5.24**	**215**	*i*

PRGZ			S	**Sn**	**13 20 52.5**	**+0.4**
RTZ	**Ruatahuna**	**3.87 209**	P	**Pn**	**13 20 06.5**	**-0.7**
SNGZ	**Shannon Static**	**3.88 205**	P	**Pn**	**13 20 08.0**	**+0.7**
MKAZ	**Moumakai**	**3.90 241**	P	**Pn**	**13 20 08.7**	**+1.2**
TOZ	**Tahuroa Road**	**4.00 231**	P	**Pn**	**13 20 09.8**	**+1.1**
MHGZ	**Mahia Peninsul**	**4.07 197**	P	**Pn**	**13 20 09.1**	**-0.5**
RAHZ	**Arahi**	**4.09 206**	P	**Pn**	**13 20 10.2**	**+0.2**
MTHZ	**Maungataniwha**	**4.13 209**	P	**Pn**	**13 20 11.0**	**+0.4**
MRHZ	**Matea Rd**	**4.29 213**	P	**Pn**	**13 20 11.9**	**-0.8**
TLZ	**Tolley Road**	**4.36 224**	P	**Pn**	**13 20 14.5**	**+0.9**
ASAR	**Alice Springs** 0.5nm,0.5s,baz=113,slow=8.2,SNR=22	**40.95 274**	P	**P**	**13 26 36.8**	**-0.3**
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=120,slow=7.4,SNR=16	**42.39 279**	P	**P**	**13 26 48.1**	**-0.7**
FINES	**FINESS Array B** 0.7nm,0.5s,baz=46,slow=4.0,SNR=5.4	**148.80 335**	PKPbc	**PKPbc**	**13 38 38.9**	**+0.9**

*IDC **14** 13:28:39.1±1.7,4.4°S×103.3°E,h0km,mb3.6/5,*
mb1 3.8/5,mb1mx3.5/44,mbtmp3.6/5,Error ellipse:
s-maj=120.6km s-min=23.4km az=45.0
*ISCJB **14** 13:28:41.5±0.6,4.3°S±0.0°×103.3°E±0.0°,h24km±5km,*
mb3.6/5,Error ellipse: s-maj=8.3km s-min=6.0km az=27.8
*DJA **14** 13:28:41.6±0.3,4.3°S±2.1°×10.3E±1°,h10km,M3.8/6,MLv3.8/6*
ISC 14 13:28:40.6±1.5,**4.38S**±0.05×**103.37E**±0.05,**h9**km±10km,
n14,σ0 s43/17,mb3.7/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.41**	**272**	P		**Pb**	**13 28 50.1**	**0.0**
MNAI				S		**Sb**	**13 28 56.3**	**-0.2**
LHSI	**Lahat**	**0.57**	**15**	P		**Pb**	**13 28 52.3**	**-0.4**
LHSI				S		**Sg**	**13 28 59.2**	**+0.1**
MDSI	**Maura Dua**	**0.81**	**98**	P		**Pg**	**13 28 56.1**	**-0.1**
MDSI				S		**Sg**	**13 29 07.1**	**+0.3**
LWLI	**Liwa**	**0.93**	**133**	P		**Pb**	**13 28 59.0**	**0.0**
LWLI				S		**Sn**	**13 29 13.0**	**-0.6**
KLI	**Kotabumi**	**1.56**	**108**	P		**Pb**	**13 29 09.5**	**-0.1**
KLI				S		**Sg**	**13 29 31.4**	**+0.7**
KASI	**Kota Agung**	**1.60**	**135**	P		**Pb**	**13 29 10.2**	**-0.1**
KASI				S		**Sg**	**13 29 31.4**	**-0.6**
H08S2	**Diego Garcia H** baz=86,slow=76,SNR=5.4	**30.87**	**262**	T		T	14 07 02.9	
H08S3	**Diego Garcia H** baz=86,slow=76,SNR=5.6	**30.88**	**263**	T		T	14 07 03.5	
H08S1	**Diego Garcia H** baz=86,slow=76,SNR=4.3	**30.89**	**262**	T		T	14 07 04.0	
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=297,slow=9.2,SNR=10	**33.90**	**120**	P		**P**	**13 35 23.7**	**-0.4**
ASAR	**Alice Springs** 0.8nm,0.5s,baz=293,slow=7.7,SNR=31	**35.14**	**126**	P		**P**	**13 35 34.5**	**-0.3**
STKA	**Stephens Creek** 1.0nm,0.7s,baz=282,slow=9.3,SNR=2.9	**45.06**	**132**	P		**P**	**13 36 57.7**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=149,slow=6.8,SNR=3.0	**54.26**	**342**	P		**P**	**13 38 07.4**	**+0.4**
BRTR	**Keskin Array B** 0.3nm,0.5s,baz=108,slow=7.7,SNR=2.1	**77.40**	**312**	P		**P**	**13 40 36.6**	**+0.1**

*KRNET **14** 13:35:23.8±0.1,42.6°66N×79.5°53E,h10km,mb2.3*
*SOME **14** 13:35:24.3,42.6°67N×79.5°52E,h10km*
*NNC **14** 13:35:26.2±2.1,42.7°74N×79.4°48E,h0km,mb2.6,mpv2.4,*
Error ellipse: s-maj=13.4km s-min=4.2km az=132.0
ISC 14 13:35:23.8±2.2,**42.64N**±0.06×**79.52E**±0.07,**h3**km±15km,
n24,σ0 s86/46,8C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 4.4nm,0.1s	**0.63**	**325**	P		**Pg**	**13 35 36.3**	**+0.3**
UZB	6.8nm,0.1s			S		**Sg**	**13 35 44.5**	**+0.4**
UZB	**Uzynbulak** baz=23	**0.63**	**325**	*e*P		**Pg**	**13 35 36.3**	**+0.3**
UZB	baz=23			*e*S		**Sg**	**13 35 44.6**	**+0.5**
UZB	**Uzynbulak** 4.4nm,0.1s	**0.63**	**325**	*e*P		**Pg**	**13 35 36.2**	**+0.3**
UZB	6.8nm,0.1s			*e*S		**Sg**	**13 35 44.5**	**+0.4**
PDGK	**Podgornoye** 1.5nm,0.1s	**0.69**	**358**	P		**Pg**	**13 35 37.2**	**0.0**
PDGK	4.5nm,0.1s			S		**Sg**	**13 35 46.0**	**-0.2**
PDGK	**Podgornoye** 0.4nm,0.2s	**0.69**	**358**	⇑P		**Pg**	**13 35 36.8**	**-0.4**
PDGK	4.0nm,0.4s			⇑S		**Sg**	**13 35 46.3**	**+0.1**
PDGK	**Podgornoye** baz=57	**0.69**	**358**	⇑*i*P		**Pg**	**13 35 36.6**	**-0.6**
PDGK	baz=57			⇑*i*S		**Sb**	**13 35 46.7**	**-2.1**
PRZ	**Przheval'sk** baz=58	**0.84**	**260**	⇓*i*P		**Pg**	**13 35 39.5**	**-0.5**
PRZ	baz=58			⇓*i*S		**Sb**	**13 35 52.2**	**-0.9**
SATY	**Saty** 1.0nm,0.1s	**0.92**	**298**	P		**Pg**	**13 35 41.5**	**0.0**
SATY	10.0nm,0.1s			S		**Sg**	**13 35 53.4**	**-0.1**
SATY	**Saty** 1.0nm,0.1s	**0.92**	**298**	*e*P		**Pg**	**13 35 41.5**	**0.0**
SATY	10.0nm,0.1s			*e*S		**Sg**	**13 35 53.4**	**-0.1**
KPKS	**Kokpek** baz=22	**1.03**	**324**	*e*P		**Pg**	**13 35 43.4**	**-0.3**
KPKS	baz=22			*e*S		**Sg**	**13 35 56.7**	**-0.4**
KPKS	**Kokpek** 3.0nm,0.1s	**1.03**	**324**	*e*P		**Pg**	**13 35 43.4**	**-0.3**
KPKS	6.2nm,0.4s			*e*S		**Sg**	**13 35 56.6**	**-0.4**
KDJ	**Kajisay** baz=54	**1.81**	**255**	⇑*i*P		**Pb**	**13 35 57.5**	**-0.2**
KDJ	baz=54			⇑*i*S		**Sg**	**13 36 22.2**	**+0.3**
KOTS	**Kotyrbulak** 1.7nm,0.5s	**1.87**	**290**	P		**Pg**	**13 35 59.3**	**-0.3**
KOTS	3.6nm,0.2s			S		**Sg**	**13 36 24.4**	**+0.5**
KOTS	**Kotyrbulak** baz=89	**1.87**	**290**	*e*P		**Pg**	**13 35 59.3**	**-0.3**
KOTS	baz=89			*e*S		**Sg**	**13 36 24.4**	**+0.5**
KOTS	**Kotyrbulak** 1.7nm,0.5s	**1.87**	**290**	*e*P		**Pg**	**13 35 59.3**	**-0.3**
KOTS	3.6nm,0.2s			*e*S		**Sg**	**13 36 24.4**	**+0.5**
MDOK	**Medeo** 0.8nm,0.4s	**1.89**	**287**	⇓P		**Pg**	**13 36 00.7**	**+0.6**
MDOK	1.4nm,0.5s			⇓S		**Sg**	**13 36 23.9**	**-0.7**
TNSS	**Tian-Shan** 1.3nm,0.2s	**1.94**	**283**	Pg		**Pg**	**13 36 01.1**	**+0.2**
TNSS	3.2nm,0.4s			Lg		Lg	13 36 27.7	
TNSS	**Tian-Shan** baz=82	**1.94**	**283**	*e*P		**Pg**	**13 36 01.2**	**+0.2**
TNSS	baz=82			*e*S		**Sg**	**13 36 27.7**	**+1.6**
TNSS	**Tian-Shan** 1.3nm,0.2s	**1.94**	**283**	*e*P		**Pg**	**13 36 01.1**	**+0.2**
TNSS	3.2nm,0.4s			*e*S		**Sg**	**13 36 27.7**	**+1.6**
ARXS	**Arharly** 1.1nm,0.2s	**2.00**	**323**	Pg		**Pb**	**13 36 00.9**	**-0.1**
ARXS	4.2nm,0.3s			Lg		Lg	13 36 26.6	
ARXS	**Arharly** 1.1nm,0.2s	**2.00**	**323**	*e*P		**Pb**	**13 36 00.9**	**-0.1**
ARXS	4.2nm,0.3s			*e*S		**Sg**	**13 36 26.9**	**-1.3**
ULHL	**Ulahol** baz=61	**2.46**	**262**	*i* P		**Pb**	**13 36 07.0**	**-1.8**
ULHL	baz=61			*i* S		**Sb**	**13 36 39.1**	**-0.5**
KAPS	**Kapalarasan** 0.9nm,0.3s	**2.65**	**357**	*e*P		**Pb**	**13 36 12.0**	**-0.1**
KAPS	1.4nm,0.3s			*e*S		**Sb**	**13 36 46.0**	**+1.0**
TKM2	**Tokmak 2** baz=77	**2.90**	**277**	⇑*i*P		**Pn**	**13 36 13.0**	**+1.8**
TKM2	baz=77			⇑*i*S		**Sb**	**13 36 49.8**	**-2.6**

IDC 14 13:38:30.6±646.0,**54.45N**×**1.46E,h0km,Error ellipse:**
s-maj=346.8km s-min=178.1km az=109.0,North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I26DE	**FREYUNG INFRAS** baz=312,slow=331,SNR=0.9	**9.45**	**121**	*i*			14 36 30.0	
I43RU	**DUBNA INFRASON** baz=278,slow=334,SNR=0.7	**20.20**	**69**	*i*			15 44 20.0	
I31KZ	**AKTYUBINSK INF** baz=300,slow=330,SNR=0.5	**33.94**	**73**	*i*			17 07 40.0	

*ISCJB **14** 13:48:53.8±0.6,36.4°N±0.1°×136.9°E±0.2°,h300km,mb3.0/2,*
Error ellipse: s-maj=22.6km s-min=18.3km az=15.1
*IDC **14** 13:48:54.6±4.0,36.2°N×136.1°E,h249km±69km,mb2.8/2,*
mb1 3.1/3,mb1mx2.6/58,mbtmp3.5/3,Error ellipse:
s-maj=166.2km s-min=35.3km az=71.0
*JMA **14** 13:48:56.1±0.3,36.2°N×137.0°E,h27km±3km,M2.6*
ISC 14 13:48:55.0±1.1,**36.4N**±0.1×**136.9E**±0.1,**h300**km,**n11,**
σ2 s84/12,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.35**	**120**	P		**Pn**	**13 49 31.5**	**-1.9**
JKG	**Kaga**	**0.50**	**256**	P		**Pn**	**13 49 32.4**	**-1.2**
JYTA	**Yamagatataniai**	**0.82**	**191**	P		**Pn**	**13 49 32.8**	**-1.9**
JYTA				S		**S**	**13 50 00.7**	**-5.5**
JNG	**Nsakai**	**0.94**	**89**	P		**Pn**	**13 49 33.9**	**-1.3**
MAT	**Matsushiro**	**1.04**	**82**	P		**Pn**	**13 49 34.2**	**-1.3**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=256,slow=7.9,SNR=24	**1.04**	**82**	P		**Pn**	**13 49 34.5**	**-1.1**
JWT	**Wachi**	**1.67**	**229**	P		**Pn**	**13 49 38.1**	**-1.3**
JKY	**Yasaka**	**1.67**	**243**	P		**Pn**	**13 49 38.1**	**-1.2**
KLR	**Kul'dur** 0.2nm,0.3s,baz=162,slow=14,SNR=5.7	**13.37**	**345**	P		**P**	**13 51 54.5**	**+0.6**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=359,slow=7.6,SNR=7.9	**56.09**	**183**	P		**P**	**13 58 07.1**	**+3.5**
ASAR	**Alice Springs** 0.3nm,0.6s,baz=360,slow=6.2,SNR=4.3	**59.81**	**183**	P		**P**	**13 58 32.9**	**+3.6**

MAN 14 13:50:20.0,11.02N×125.26E,h86km,mb4.1,ML2.9,
MS2.5,1D,Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.31**	**297**	⇓*e*P		Pn	13 50 34.6	+1.6
PLP				*e*S		Sn	13 50 45.5	+2.8
BESP	**Borongan**	**0.60**	**17**	*e*P		Pn	13 50 36.8	+1.6
BESP				*e*S		Sn	13 50 49.6	+3.2
MSLP	**Maasin**	**0.97**	**204**	*e*P		Pn	13 50 40.6	+1.5
MSLP				*e*S		Sn	13 50 52.2	-1.0

*DDA **14** 13:54:20.3,42.2°N×40.7°E,h8km±2km,ML2.9*
*TIF **14** 13:54:20.6,42.3°N×40.9°E,h21km±2km*
*ISK **14** 13:54:21.1,42.4°N×41.8°E,h22km,ML3.0/7*
*NORS **14** 13:54:22.5±0.0,42.5°N×41.3°E,h5km,MPVA3.6*
*MOS **14** 13:54:23.1±1.0,42.5°N×41.0°E,h7km,mb3.8/1,Error*
ellipse: s-maj=11.7km s-min=8.0km az=56.0
ISC 14 13:54:21.5±1.2,**42.40N**±0.02×**41.04E**±0.03,**h14**km±10km,
n48,σ1 s10/79,7C-3D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.94**	**148**	PG		**Pb**	**13 54 38.6**	**-0.9**
BATM				SG		**Sb**	**13 54 50.9**	**-0.8**
BATM	**Batumi**	**0.94**	**148**	P		**Pb**	**13 54 39.1**	**-0.4**
BATM				S		**Sg**	**13 54 51.9**	**0.0**
DOMR	**Dombai**	**0.99**	**26**	*d*PG		**Pb**	**13 54 39.6**	**-0.9**
DOMR	comp=Z,400nm,0.6s			pmax	pmax			
DOMR	**Dombai**	**0.99**	**26**	*i* Pg		**Pb**	**13 54 39.5**	**-0.9**
DOMR				*i* Sg		**Sb**	**13 54 52.0**	**-1.4**
BCA	**Borcka**	**1.05**	**155**	PG		**Pb**	**13 54 40.4**	**-1.0**
BCA				SG		**Sb**	**13 54 54.6**	**-0.5**
DBOC	**Borcka**	**1.16**	**156**	*i* P		**Pn**	**13 54 42.9**	**-0.4**
DBOC				*i* S		**Sb**	**13 54 57.0**	**-1.1**
ARXR	**Arkhyz**	**1.17**	**9**	*i* Pg		**Pb**	**13 54 42.5**	**-1.0**
ARXR				*i* Sg		**Sb**	**13 54 57.5**	**-1.2**
CHOM	**Cayeli-Rize**	**1.32**	**189**	PN		**Pg**	**13 54 48.5**	**+1.6**
CHAY	**Cayeli-Rize**	**1.34**	**190**	PN		**Pg**	**13 54 48.9**	**+1.8**
ARTV	**Artvin**	**1.39**	**151**	*i* P		**Pn**	**13 54 45.9**	**-0.7**
ARTV				*i* S		**Sn**	**13 55 03.1**	**-1.7**
ARTV	comp=Z,3μm,0.1s			IAML_P				
RPOR	**Krasnaya Polya**	**1.41**	**337**	⇑*i*PG		**Pb**	**13 54 47.2**	**-0.4**
RPOR				*i* S		**Sb**	**13 55 05.0**	**-0.5**
RPOR	**Krasnaya Polya**	**1.41**	**337**	*e*Pg		**Pn**	**13 54 46.5**	**-0.3**
RPOR				*i* Sg		**Sn**	**13 55 04.6**	**-0.6**
DBAD	**Bademkaya**	**1.47**	**160**	*i* P		**Pn**	**13 54 47.0**	**-0.6**
DBAD				*i* S		**Sn**	**13 55 05.6**	**-1.1**
DAGI	**Agillar**	**1.48**	**153**	*i* P		**Pn**	**13 54 47.7**	**0.0**
DAGI				*i* S		**Sn**	**13 55 04.0**	**-2.9**
DAGI	comp=Z,418nm,0.2s			IAML_P				
NEY	**Neytrino**	**1.50**	**55**	⇑*e*PG		**Pn**	**13 54 48.0**	**-0.1**
NEY	comp=Z,47nm,0.7s			pmax	pmax			
NEY	**Neytrino**	**1.50**	**55**	*i* Pg		**Pn**	**13 54 48.0**	**-0.1**
NEY				*i* Sg		**Sn**	**13 55 06.8**	**-0.8**
SOC	**Sochi**	**1.53**	**321**	*e*PG		**Pb**	**13 54 49.2**	**-0.2**
SOC				*e*			13 55 09.2	
SOC	comp=Z,18nm,0.2s			pmax	pmax			
SOC	comp=N,105nm,0.2s			smax	smax			
SOC	comp=E,221nm,0.2s			smax	smax			
SOC	**Sochi**	**1.53**	**321**	*e*Pg		**Pb**	**13 54 49.3**	**-0.2**
SOC				*e*Sg		**Sg**	**13 55 09.2**	**-1.4**
EPOS	**Posof**	**1.55**	**125**	*i* P		**Pn**	**13 54 47.4**	**-1.4**
EPOS				*i* S		**Sb**	**13 55 09.2**	**-0.3**
DDEM	**Demirkent**	**1.60**	**160**	*i* P		**Pn**	**13 54 49.5**	**+0.1**
DDEM				*i* S		**Sn**	**13 55 09.7**	**-0.2**
KTUT	**Trabzon**	**1.70**	**214**	PN		**Pg**	**13 54 56.3**	**+2.1**
GUZR	**Guzeripl'**	**1.73**	**337**	*i* Pg		**Pb**	**13 54 52.3**	**-0.7**
GUZR				*i* Sg		**Sb**	**13 55 14.2**	**-0.3**
SHA1	**Shidzhatmaz**	**1.79**	**41**	⇑*i*PN		**Pb**	**13 54 53.5**	**-0.6**
SHA1				*i* S		**Sb**	**13 55 16.2**	**-0.2**
SHA1	**Shidzhatmaz**	**1.79**	**41**	*e*Pg		**Pb**	**13 54 53.4**	**-0.6**
SHA1				*e*Sg		**Sb**	**13 55 16.3**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.94**	**74**	⇑*i*PN		**Pb**	**13 54 56.4**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.94**	**74**	*e*Pg		**Pb**	**13 54 56.1**	**-0.6**
DIGR				*e*Sg		**Sb**	**13 55 20.9**	**0.0**
LZRR	**Lazarevskoye**	**1.95**	**322**	*e*Pg		**Pb**	**13 54 55.9**	**-0.9**
LZRR				*i* Sg		**Sb**	**13 55 20.5**	**-0.4**
KIV	**Kislovodsk**	**1.97**	**37**	⇓*i*PN		**Pb**	**13 54 56.6**	**-0.5**
KIV				*i* S		**Sb**	**13 55 21.7**	**+0.2**
KIV	**Kislovodsk**	**1.97**	**37**	*i* Pg		**Pb**	**13 54 56.4**	**-0.7**
KIV				*e*Sg		**Sb**	**13 55 21.8**	**+0.4**
KIV0	**Kislovodsk Arr**	**1.97**	**37**	*i* Pg		**Pb**	**13 54 56.6**	**-0.6**
KIV0				*i* Sg		**Sb**	**13 55 21.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.09**	**151**	PN		**Pn**	**13 54 53.8**	**-2.4**
BAYT	**Aydıntepe-Bayb**	**2.12**	**199**	PN		**Pg**	**13 55 00.7**	**-1.4**
ZEI	**Tsey**	**2.15**	**79**	⇑*e*PN		**Pb**	**13 54 58.9**	**-1.4**
ZEI	**Tsey**	**2.15**	**79**	*e*Pg		**Pb**	**13 54 59.0**	**-1.2**
ZEI				*e*Sg		**Sb**	**13 55 27.0**	**+0.1**
NCK	**Nalchik**	**2.17**	**59**	⇓*e*PN		**Pb**	**13 55 00.8**	**+0.2**
NCK	**Nalchik**	**2.17**	**59**	*e*Pg		**Pb**	**13 55 00.8**	**+0.2**
LSNR	**Lesken**	**2.23**	**66**	*e*PN		**Pg**	**13 55 02.6**	**-1.6**
LSNR				*e*S		**Sb**	**13 55 30.0**	**+1.0**
LSNR	**Lesken**	**2.23**	**66**	*e*Pg		**Pb**	**13 55 01.8**	**+0.2**
LSNR				*e*Sg		**Sb**	**13 55 28.0**	**-1.0**
KORR	**Kora**	**2.34**	**72**	*e*PN		**Pb**	**13 55 02.8**	**-0.6**
KORR				*e*S		**Sb**	**13 55 31.9**	**-0.2**
KORR	**Kora**	**2.34**	**72**	*e*Pn		**Pb**	**13 55 02.8**	**-0.6**
KORR				*e*Sn		**Sb**	**13 55 31.9**	**-0.2**
TRLG	**Trialeti**	**2.44**	**110**	P		**Pn**	**13 55 02.5**	**+1.4**
TRLG				S		**Sb**	**13 55 35.8**	**+0.5**
LACR	**Lac**	**2.44**	**79**	*e*PN		**Pb**	**13 55 04.5**	**-0.8**
LACR				*e*S		**Sb**	**13 55 35.3**	**0.0**
LACR	**Lac**	**2.44**	**79**	*e*Pn		**Pb**	**13 55 04.5**	**-0.8**
LACR				*e*Sn		**Sb**	**13 55 35.3**	**0.0**
KELT	**Kelkit**	**2.62**	**211**	*i* P		**Pn**	**13 55 02.5**	**-1.0**
KELT				*i* S		**Sn**	**13 55 35.8**	**+0.5**
TBLG	**Delisi**	**2.84**	**102**	PN		Pn	13 54 58.2	-8.1
GNBR	**Gunib**	**4.39**	**88**	*e*Pn		**Pn**	**13 55 30.5**	**+2.8**
BRVK	**Borovoye**	**22.22**	**51**	⇑*e*P		**P**	**13 59 21.2**	**+3.9**
KURK	**Kurchatov**	**26.91**	**59**	⇑*e*P		**P**	**14 00 03.7**	**+1.9**
KURK	comp=Z,1.0nm,0.9s			pmax	pmax			

IDC 14 13:55:52.5±2.7,**25.11N**×**142.47E,h0km,mb3.8/3,**
mb1 4.0/3,mb1mx3.4/45,mbtmp3.8/3,MS3.7/1,Ms1 3.7/1,
ms1mx2.5/53,Error ellipse: s-maj=238.9km
s-min=20.5km az=87.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 12nm,0.3s,baz=93,slow=23,SNR=16	**1.99**	**353**	Pn		Pn	13 56 27.7	+0.3
JCJ	37nm,0.3s,baz=218,slow=12,SNR=14			Sn		Sn	13 56 53.6	+0.5
BATI	**Baumata** comp=Z,98nm,18.0s,baz=244,slow=37	**39.60**	**210**	LR		LR	14 20 01.6	
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=10,slow=8.6,SNR=53	**45.48**	**191**	P		P	14 04 14.2	+0.5
ASAR	**Alice Springs** 0.2nm,0.6s,baz=9.7,slow=5.3,SNR=9.2	**49.20**	**190**	P		P	14 04 42.2	-0.4
STKA	**Stephens Creek** 1.8nm,1.0s,baz=347,slow=14,SNR=2.9	**56.68**	**181**	P		P	14 05 36.8	-0.8

*IDC **14** 13:57:20.9±1.9,40.1°N×72.4°E,h0km,mb3.8/4,*
mb1 3.5/7,mb1mx3.3/50,mbtmp3.4/7,ML2.6/3,MS3.9/1,
Ms1 3.9/1,ms1mx2.6/42,Error ellipse: s-maj=39.8km
s-min=16.9km az=144.0
*KRNET **14** 13:57:25.9±0.1,40.6°N×72.1°E,h11km,mb3.8*
*SOME **14** 13:57:26.8,40.7°N×72.2°E,h0km*
*NNC **14** 13:57:28.6±1.2,40.8°N×72.1°E,h0km,mb4.3,mpv4.0,*
Error ellipse: s-maj=10.8km s-min=6.1km az=172.0
ISC 14 13:57:24.2±1.4,**40.72N**±0.05×**72.22E**±0.02,**h2**km±9km,
n83,σ1 s40/120,mb3.8/4,30C-14D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARK	**Arkit** baz=52	**1.10**	**350**	⇓*i*P		**Pn**	**13 57 46.9**	**+0.3**
ARK	baz=52			⇓*i*S		**Sn**	**13 58 01.6**	**-0.8**
BTK	**Batken** baz=40	**1.26**	**239**	⇓*i*P		**Pn**	**13 57 49.0**	**+0.2**
BTK	baz=40			⇓*i*S		**Sb**	**13 58 06.0**	**+0.8**
AML	**Almayashu** SNR=292	**1.80**	**38**	P		**Pg**	**13 58 00.5**	**+1.9**
AML	**Almayashu** baz=37	**1.80**	**38**	⇓*i*P		**Pg**	**13 58 00.5**	**+1.9**
AML	baz=37			⇓*i*S		**Sg**	**13 58 25.7**	**+3.8**
ARLS	**Aral** baz=53	**1.96**	**53**	⇑*i*P		**Pg**	**13 58 03.1**	**+1.5**
ARLS	baz=53			⇑*i*S		**Sg**	**13 58 30.0**	**+3.0**
MRKS	**Merke** 77nm,0.2s	**2.16**	**20**	Pg		**Pg**	**13 58 06.6**	**+1.0**
MRKS	152nm,0.3s			Lg		Lg	13 58 33.3	
MRKS	**Merke** 77nm,0.2s	**2.16**	**20**	*e*P		**Pg**	**13 58 05.9**	**+0.3**
MRKS	152nm,0.3s			*e*S		**Sg**	**13 58 34.2**	**+0.6**
IUG	**Iuzhnay** 78nm,0.2s	**2.18**	**312**	*e*P		**Pg**	**13 58 06.5**	**+0.5**
IUG	624nm,0.3s			*e*S		**Sg**	**13 58 35.1**	**+0.9**
EKS2	**Erkin-Say** SNR=69	**2.27**	**30**	P		**Pg**	**13 58 08.7**	**+1.0**
EKS2	**Erkin-Say** baz=30	**2.27**	**30**	⇑*i*P		**Pg**	**13 58 07.7**	**+0.1**
EKS2	baz=30			⇑*i*S		**Sg**	**13 58 37.9**	**+0.9**
DZA	**Taraz** 118nm,0.2s	**2.27**	**343**	*e*P		**Pg**	**13 58 08.4**	**+0.7**
DZA	974nm,0.3s			*e*S		**Sg**	**13 58 37.9**	**+0.7**
UCH	**Uchtor** SNR=120	**2.29**	**48**	P		**Pg**	**13 58 08.0**	**-0.1**
UCH	**Uchtor** baz=48	**2.29**	**48**	⇑*i*P		**Pg**	**13 58 07.7**	**-0.4**
UCH	baz=48			⇑*i*S		**Sg**	**13 58 38.8**	**+1.0**
TAS	**Tashkent** baz=88	**2.30**	**286**	⇑*e*P		**Pb**	**13 58 07.2**	**+0.8**
TAS	baz=88			⇑*i*S		**Sb**	**13 58 35.3**	**0.0**
CHM	**Chimkent** 124nm,0.2s	**2.54**	**310**	*e*P		**Pg**	**13 58 13.4**	**+0.7**
CHM	1μm,0.3s			*e*S		**Sg**	**13 58 46.7**	**+1.1**
AAK	**Ala-Archa** SNR=93	**2.57**	**41**	P		**Pb**	**13 58 11.8**	**+0.8**
AAK	**Ala-Archa** 26nm,0.4s	**2.57**	**41**	Pn		**Pb**	**13 58 11.8**	**+0.8**
AAK	130nm,0.4s			Lg		Lg	13 58 48.4	
AAK	**Ala-Archa** baz=41	**2.57**	**41**	⇓*i*P		**Pb**	**13 58 11.5**	**+0.5**
AAK	baz=41			⇓*i*S		**Sg**	**13 58 45.0**	**-1.6**
KZA	**Kyzart** SNR=79	**2.66**	**58**	P		**Pb**	**13 58 13.3**	**+0.7**
KZA	**Kyzart** baz=58	**2.66**	**58**	⇑*i*P		**Pb**	**13 58 12.9**	**+0.3**
KZA	baz=58			⇑*i*S		**Sb**	**13 58 46.8**	**+1.0**
KK31	**Karatay Array** 8.1nm,0.3s,baz=159,slow=16,SNR=171	**2.71**	**332**	Pn		**Pb**	**13 58 11.6**	**-1.7**
KK31	57nm,0.3s,baz=156,slow=28,SNR=21			Lg		Lg	13 58 49.7	
FRU1	**Bishkek** baz=40	**2.76**	**40**	⇑*i*P		**Pb**	**13 58 14.2**	**-0.1**
FRU1	baz=40			⇑*i*S		**Sb**	**13 58 49.4**	**+0.8**
KBK	**Karagaybulak** SNR=32	**2.82**	**46**	P		**Pb**	**13 58 16.2**	**+1.0**
KBK	**Karagaybulak** baz=45	**2.82**	**46**	⇑*i*P		**Pb**	**13 58 14.9**	**-0.4**
KBK	baz=45			⇑*i*S		**Sb**	**13 58 50.9**	**+0.7**
BRLS	**Borolday** 3.1nm,0.1s	**2.92**	**323**	*e*P		**Pb**	**13 58 17.7**	**+0.8**
BRLS	98nm,0.3s			*e*S		**Sb**	**13 58 54.0**	**+1.0**
NRN	**Naryn** baz=74	**2.95**	**75**	⇓*i*P		**Pb**	**13 58 15.6**	**-1.9**
NRN	baz=74			⇓*i*S		**Sb**	**13 58 52.0**	**-2.1**
CHMS	**Chumysh** SNR=30	**2.96**	**39**	P		**Pg**	**13 58 21.4**	**+0.5**
CHMS	**Chumysh** baz=39	**2.96**	**39**	⇑*i*P		**Pg**	**13 58 17.1**	**-0.6**
CHMS	baz=39			⇑*i*S		**Sb**	**13 58 54.3**	**0.0**
USP	**Ospenovka** SNR=10.0	**3.06**	**33**	P		**Pb**	**13 58 18.2**	**-1.1**
USP	**Ospenovka** baz=33	**3.06**	**33**	⇑*i*P		**Pb**	**13 58 18.3**	**-1.1**
USP	baz=33			⇑*i*S		**Sb**	**13

27nm,0.3s
KST eS **Sg** 13 59 21.9 +1.0
90nm,0.5s
DGS **Degeres** **3.66** **45** Pg **Pg** 13 58 35.1 +0.8
44nm,0.5s
DGS Lg Lg 13 59 21.6
129nm,0.3s
DGS **Degeres** **3.66** **45** *e*P **Pg** **13 58 34.3 +0.1**
44nm,0.5s
DGS eS **Sg** **13 59 23.0 +1.4**
129nm,0.3s
MTBS **Maitube** **3.96** **51** Pg **Pg** **13 58 40.6 +0.6**
11nm,0.3s
MTBS Lg Lg 13 59 31.7
43nm,0.3s
MTBS **Maitube** **3.96** **51** *e*P **Pg** **13 58 40.2 +0.2**
11nm,0.3s
MTBS eS **Sg** **13 59 32.7 +1.3**
43nm,0.3s
KDJ **Kajisay** **3.99** **68**⇑*e*P **Pn** **13 58 30.5 +4.1**
baz=67
KDJ ⇑*i*S **Sn** **13 59 17.9 +4.1**
baz=67
IZV **Izvestkoviy** **4.02** **53** Pg **Pg** **13 58 41.3 +0.2**
11nm,0.2s
IZV Lg Lg 13 59 33.9
51nm,0.7s
IZV **Izvestkoviy** **4.02** **53** *e*P **Pg** **13 58 40.7 -0.4**
11nm,0.2s
IZV eS **Sg** **13 59 33.9 +0.8**
51nm,0.7s
TNSS **Tian-Shan** **4.22** **55** Pg **Pg** **13 58 44.6 -0.5**
14nm,0.2s
TNSS Lg Lg 13 59 38.9
39nm,0.5s
TNSS **Tian-Shan** **4.22** **55** *e*P **Pg** **13 58 44.3 -0.8**
14nm,0.2s
TNSS eS **Sg** **13 59 39.5 -0.3**
39nm,0.5s
KNDC **Almaty** **4.33** **53** ⇓Pg **Pg** **13 58 46.7 -0.5**
22nm,0.6s
KNDC ⇑Lg Lg 13 59 45.8
46nm,0.6s
MDOK **Medeo** **4.35** **54** Pg **Pg** **13 58 46.5 -1.1**
14nm,0.6s
MDOK Lg Lg 13 59 43.9
17nm,0.5s
MDOK **Medeo** **4.35** **54** Pg **Pg** **13 58 48.0 +0.5**
9.6nm,0.3s
MDOK Lg Lg 13 59 44.3
18nm,0.4s
MDOK **Medeo** **4.35** **54** *e*P **Pg** **13 58 46.7 -0.9**
9.6nm,0.3s
MDOK eS **Sg** **13 59 44.3 +0.3**
18nm,0.4s
KUU **Kurty** **4.41** **43** Pg **Pg** **13 58 48.0 -0.5**
10nm,0.3s
KUU Lg Lg 13 59 44.3
43nm,0.6s
KUU **Kurty** **4.41** **43** *e*P **Pg** **13 58 47.2 -1.3**
10nm,0.3s
KUU eS **Sg** **13 59 45.4 -0.3**
43nm,0.6s
KOTS **Kotyrbulak** **4.43** **54** Pg **Pg** **13 58 49.3 +0.3**
12nm,0.5s
KOTS Lg Lg 13 59 46.3
41nm,0.4s
KOTS **Kotyrbulak** **4.43** **54** *e*P **Pg** **13 58 47.9 -1.1**
12nm,0.5s
KOTS eS **Sg** **13 59 46.3 -0.2**
41nm,0.4s
KTBS **Karatobe** **4.47** **46** Pg **Pg** **13 58 49.6 -0.1**
15nm,0.5s
KTBS Lg Lg 13 59 46.9
98nm,0.6s
KTBS **Karatobe** **4.47** **46** *e*P **Pg** **13 58 48.7 -1.1**
15nm,0.5s
KTBS eS **Sg** **13 59 47.5 -0.1**
98nm,0.6s
BTLS **Baital** **4.53** **17** *e*P **Pg** **13 58 49.9 -0.9**
7.1nm,0.5s
BTLS eS **Sg** **13 59 49.2 -0.3**
14nm,0.5s
CHKK **Chushkaly** **4.73** **47** Pg **Pg** **13 58 54.6 -0.1**
4.9nm,0.2s
CHKK Lg Lg 13 59 55.2
46nm,0.3s
CHKK **Chushkaly** **4.73** **47** *e*P **Pg** **13 58 53.5 -1.2**
4.9nm,0.2s
CHKK eS **Sg** **13 59 55.8 -0.2**
46nm,0.3s
PRZ **Przheval'sk** **4.96** **67**⇓*i*P **Pn** **13 58 43.8 +4.0**
baz=67
PRZ ⇓*i*S **Sn** **13 59 41.3 +3.6**
baz=67
SATY **Saty** **5.18** **61** Pg **Pg** **13 59 03.3 -0.1**
13nm,0.4s
SATY Lg Lg 14 00 10.6
26nm,0.4s
SATY **Saty** **5.18** **61** *e*P **Pg** **13 59 02.1 -1.2**
13nm,0.4s
SATY eS **Sg** **14 00 10.6 +0.2**
26nm,0.4s
KURS **Kuram** **5.22** **56** Pg **Pg** **13 59 03.9 -0.2**
4.7nm,0.4s
KURS Lg Lg 14 00 11.6
12nm,0.5s
KURS **Kuram** **5.22** **56** *e*P **Pg** **13 59 02.5 -1.7**
4.7nm,0.4s
KURS eS **Sg** **14 00 11.6 -0.3**
12nm,0.5s
ARXS **Arharly** **5.42** **48** Pg **Pg** **13 59 06.8 -1.2**
19nm,0.6s
ARXS Lg Lg 14 00 16.2
38nm,0.5s
ARXS **Arharly** **5.42** **48** *e*P **Pg** **13 59 06.2 -1.8**
19nm,0.6s
ARXS eS **Sg** **14 00 17.5 -0.8**
38nm,0.5s
UZB **Uzynbulak** **5.62** **62** Pg **Pg** **13 59 10.8 -1.1**
3.8nm,0.4s
UZB Lg Lg 14 00 23.8
11nm,0.5s
UZB **Uzynbulak** **5.62** **62** *e*P **Pg** **13 59 09.7 -2.2**
3.8nm,0.4s
UZB eS **Sg** **14 00 23.8 -1.0**
11nm,0.5s
MNBS **Baschi** **5.68** **52** Pg **Pg** **13 59 11.3 -1.6**
7.8nm,0.6s
MNBS Lg Lg 14 00 25.0
14nm,0.5s
MNBS **Baschi** **5.68** **52** *e*P **Pg** **13 59 10.2 -2.7**
7.8nm,0.6s
MNBS eS **Sg** **14 00 25.0 -1.5**
14nm,0.5s
PDGK **Podgornoye** **6.01** **62** Pg **Pg** **13 59 18.9 -0.4**
PDGK Lg Lg 14 00 35.2
OTUK **Ortayu** **7.53** **1** Pg Pg 13 59 41.9 -6.4
OTUK Lg Lg 14 01 24.1
MK31 **Makanchi Array** **9.48** **47** ⇑Pn **Pn** **13 59 42.5 +0.8**
0.5nm,0.5s,baz=231,slow=14,SNR=3.9
MK31 Lg Lg 14 02 24.5
1.7nm,0.8s,baz=236,slow=30,SNR=3.7
MKAR **Makanchi Array** **9.48** **47** Pn **Pn** **13 59 44.0 +2.4**
0.1nm,0.3s,baz=235,slow=12,SNR=3.7
MKAR Lg Lg 14 02 23.6
0.1nm,0.3s,baz=239,slow=25,SNR=3.4
KURBB **Kurchatov Arra** **10.84** **22** Pn **Pn** **14 00 01.0 +0.8**
0.0nm,0.3s,baz=211,slow=13,SNR=2.5
KURBB Lg Lg 14 03 11.0
0.1nm,0.3s,baz=212,slow=30,SNR=6.7
AB31 **Akbulak array** **12.17** **319** ⇑P **Pn** **14 00 17.4 -1.0**
0.2nm,0.3s,baz=127,slow=13,SNR=3.6
BVAR **Borovoye Array** **12.38** **355** Pn Pn 14 00 25.7 +4.5
0.1nm,0.3s,baz=173,slow=13,SNR=2.2
BVAR Lg Lg 14 03 56.7
0.2nm,0.3s,baz=179,slow=24,SNR=2.7
BRTR **Keskin Array B** **29.32** **281** P **P** **14 03 29.1 +1.0**
1.0nm,0.7s,baz=100,slow=9.5,SNR=5.5
ARCES **ARCESS Array B** **37.67** **335** P **P** **14 04 41.0 +0.7**
1.0nm,0.8s,baz=110,slow=7.8,SNR=3.5
PETK **Petropavlovsk-** **56.32** **46** LR LR 14 31 48.2
comp=Z,92nm,18.6s,baz=44,slow=36
TORD **Torodi Ar. Bea** **66.81** **268** P **P** **14 08 15.6 -1.9**
0.3nm,0.6s,baz=46,slow=6.2,SNR=2.8
INK **Inuvik** **69.59** **10** P **P** **14 08 34.3 +0.2**
0.3nm,0.3s,baz=291,slow=26,SNR=6.8

***IDC 14** 14:02:09.5±2.6,6°.57S×129°.84E,h164km±37km,**mb3.0**/1,*
mb1 2.9**/5,**mb1mx2.8**/35,**mbtmp3.4**/5,**Error ellipse:
s-maj=67.9km s-min=20.3km az=89.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.83**	**14**	P	Pn	14 03 34.4	+0.1
	0.4nm,0.3s,baz=186,slow=19,SNR=5.5						
SIJI				S	Sn	14 04 31.8	-8.9
	0.5nm,0.3s,baz=218,slow=19,SNR=2.6						
FITZ	**Fitzroy Crossi**	**12.17**	**199**	P	Pn	14 04 58.1	+0.5
	0.1nm,0.3s,baz=13,slow=14,SNR=1.9						
FITZ				S	Sn	14 07 01.7	-11
	0.1nm,0.3s,baz=45,slow=2.9,SNR=4.2						
WRA	**Warramunga Arr**	**14.00**	**162**	P	Pn	14 05 19.4	-1.5
	0.0nm,0.3s,baz=343,slow=14,SNR=2.8						
WRA				S	Sn	14 07 44.1	-12
	0.1nm,0.3s,baz=338,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**17.45**	**167**	P	Pn	14 06 02.9	-0.2
	0.1nm,0.3s,baz=348,slow=12,SNR=7.3						
ASAR				S	S	14 09 09.9	-5.3
	0.0nm,0.3s,baz=2.6,slow=28,SNR=2.7						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	14 12 49.5	-0.1
	0.2nm,0.5s,baz=126,slow=7.7,SNR=4.5						

*ISK **14** 14:07:45.2,37°.22N×34°.56E,h8km,ML2.2/9*
*ISCJB **14** 14:07:47.2±0.4,37°.08N±0°.03×34°.65E±0°.03,h10km±5km,*
Error ellipse: s-maj=5.7km s-min=3.8km az=144.2
*DDA **14** 14:07:47.0,37°.12N×34°.62E,h7km±7km,MD2.8*
***ISC 14 14:07:47.1**±1.0,**37°.13N**±0°.04×**34°.62E**±0°.03,**h14**km±8km,*
n17**,σ0**98**/**26**,**Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GULE	**Gulek**	**0.20**	**39**	*i* P	**Pg**	**14 07 51.9**	**+0.2**
GULE				*i* S	**Sg**	**14 07 56.2**	**+1.3**
KARA	**Karaisali**	**0.37**	**69**	PG	**Pg**	**14 07 53.5**	**-1.1**
KARA				SG	**Sg**	**14 07 59.4**	**-0.3**
KERG	**Konya-Eregli**	**0.49**	**306**	*i* P	**Pn**	**14 07 58.2**	**-1.6**
KERG				*i* S	**Sb**	**14 08 06.1**	**+1.6**
AKO	**Adana**	**0.74**	**63**	*i* P	**Pb**	**14 08 00.9**	**-0.9**
AKO				*i* S	**Sb**	**14 08 11.9**	**+0.1**
KIZK	**Mersin**	**0.75**	**211**	PG	**Pg**	**14 08 01.2**	**-0.5**
KIZK				SG	**Sb**	**14 08 13.2**	**+1.2**
KIZK	**Mersin**	**0.75**	**211**	*i* P	**Pg**	**14 08 01.1**	**-0.6**
KIZK				*i* S	**Sn**	**14 08 14.0**	**-0.5**
KRTS	**Karatas**	**0.82**	**132**	PG	**Pb**	**14 08 03.2**	**+0.1**
KRTD	**Karatas-Adana**	**0.83**	**130**	PG	**Pb**	**14 08 03.6**	**+0.3**
YURE	**YUREGIR**	**0.87**	**110**	PG	**Pg**	**14 08 03.6**	**-0.3**
YURE	**YUREGIR**	**0.87**	**110**	*i* P	**Pg**	**14 08 03.0**	**-0.8**
YURE				*i* S	**Sn**	**14 08 18.9**	**+1.5**
CEYT	**Ceyhan**	**0.91**	**97**	PG	**Pg**	**14 08 04.2**	**-0.5**
CEYT				SG	**Sn**	**14 08 18.4**	**0.0**
KEBE	**Keben-Mersin**	**1.00**	**227**	PG	**Pg**	**14 08 05.4**	**-0.9**
KOZT	**Kozan**	**1.02**	**70**	PG	**Pg**	**14 08 05.8**	**-1.1**
YAHY	**KAYSERI_Yahyal**	**1.13**	**31**	*i* P	**Pn**	**14 08 08.2**	**-0.4**
YAHY				*i* S	**Sn**	**14 08 26.1**	**+2.1**
IKL	**Isikli**	**1.16**	**220**	PN	**Pb**	**14 08 08.8**	**-0.1**
AKKU	**Akkuyu-Mersin**	**1.29**	**222**	PN	**Pn**	**14 08 10.8**	**+0.1**
BERE	**Bereket-Mersin**	**1.37**	**236**	PN	**Pn**	**14 08 11.5**	**-0.4**

*KRSC **14** 15:27:09.3±10.0,53°.74N×160°.38E,h80km±10km,ML3.8*
*ISCJB **14** 15:27:10.5±0.5,53°.74N±0°.04×160°.32E±0°.08,h84km±5km,*
mb3.2/3,Error ellipse: s-maj=9.5km s-min=3.1km az=33.6
*IDC **14** 15:27:11.6±6.3,53°.89N×160°.04E,h94km±41km,mb3.1/3,*
mb1 3.3/3,mb1mx2.8/55,mbtmp3.4/3,Error ellipse:
s-maj=64.9km s-min=34.2km az=70.0
***ISC 14 15:27:10.4**±1.0,**53°.74N**±0°.04×**160°.33E**±0°.05,**h82**km±8km,*
n39**,σ1**916**/**59**,**mb3.4**/**3**,**Near east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.60**	**300**	*e*P	**Pn**	**15 27 24.9**	**-0.4**
KII				eS	**Sn**	**15 27 35.5**	**-0.8**
SPN	**Mys Shipunski**	**0.67**	**196**	*e*P	**Pn**	**15 27 26.3**	**+0.4**
SPN				eS	**Sn**	**15 27 37.9**	**+0.5**
NLC	**Nalytchevo**	**0.82**	**226**	*e*P	**Pn**	**15 27 27.8**	**+0.4**
NLC				eS	**Sn**	**15 27 40.7**	**+0.6**
SDLR	**Sedlovina**	**0.98**	**242**	*e*P	**Pn**	**15 27 29.9**	**+0.5**
SDLR				eS	**Sn**	**15 27 44.5**	**+0.9**
SMAR	**Somma**	**1.03**	**243**	*e*P	**Pn**	**15 27 30.5**	**+0.4**
SMAR				eS	**Sn**	**15 27 45.2**	**+0.4**
KRER	**Koryakskii**	**1.04**	**246**	*e*P	**Pn**	**15 27 30.8**	**+0.6**
KRER				eS	**Sn**	**15 27 45.6**	**+0.6**
UGLR	**Uglovaya**	**1.04**	**240**	*e*P	**Pn**	**15 27 30.8**	**+0.6**
UGLR				eS	**Sn**	**15 27 45.9**	**+0.9**
AVH	**Avacha**	**1.06**	**244**	*e*P	**Pn**	**15 27 31.1**	**+0.7**
AVH				eS	**Sn**	**15 27 46.3**	**+1.0**
KRX	**Arik**	**1.07**	**250**	*e*P	**Pn**	**15 27 30.9**	**+0.4**
KRX				eS	**Sn**	**15 27 46.1**	**+0.5**
KOK	**Koryaka**	**1.10**	**247**	*e*P	**Pn**	**15 27 31.4**	**+0.5**
MKZ	**Mys Kozlova**	**1.16**	**45**	*e*P	**Pn**	**15 27 31.7**	**+0.2**
MKZ				eS	**Sn**	**15 27 47.7**	**+0.4**
DALK	**Dalny**	**1.18**	**234**	*e*P	**Pn**	**15 27 32.4**	**+0.7**
DALK				eS	**Sn**	**15 27 48.7**	**+1.0**
PET	**Petropavlovsk**	**1.23**	**235**	*e*P	**Pn**	**15 27 33.0**	**+0.6**
PET				eS	**Sn**	**15 27 49.9**	**+1.1**
KZV	**Kizimen**	**1.38**	**359**	*e*P	**Pn**	**15 27 34.8**	**+0.5**
KZV				eS	**Sn**	**15 27 52.5**	**+0.2**
GNL	**Ganaly**	**1.42**	**269**	*e*P	**Pn**	**15 27 34.7**	**-0.1**
TUMD	**Tumrok D**	**1.47**	**2**	*e*P	**Pn**	**15 27 35.5**	**+0.1**
TUMD				eS	**Sn**	**15 27 53.6**	**-0.6**
TUMR	**Tumrok**	**1.55**	**356**	*e*P	**Pn**	**15 27 37.5**	**+1.0**
KRMR	**Karymshinskiy**	**1.60**	**236**	*e*P	**Pn**	**15 27 37.8**	**+0.7**
KRMR				eS	**Sn**	**15 27 58.1**	**+0.8**
PETK	**Petropavlovsk-**	**1.69**	**249**	P	**Pn**	**15 27 38.7**	**+0.4**
	16nm,0.3s,baz=73,slow=17,SNR=227						
PETK				S	**Sn**	**15 27 59.4**	**-0.1**
	3.8nm,0.3s,baz=73,slow=16,SNR=4.5						
RUS	**Russkaya**	**1.71**	**221**	*e*P	**Pn**	**15 27 38.9**	**+0.5**
RUS				eS	**Sn**	**15 27 59.9**	**+0.2**
MTVR	**Mutnovka**	**1.81**	**227**	*e*P	**Pn**	**15 27 41.1**	**+1.2**
MTVR				eS	**Sn**	**15 28 04.1**	**+1.9**
ASAK	**Asacha**	**2.00**	**228**	*e*P	**Pn**	**15 27 43.7**	**+1.3**
ASAK				eS	**Sn**	**15 28 07.7**	**+1.0**
APC	**Apacha**	**2.07**	**248**	*e*P	**Pn**	**15 27 44.2**	**+1.0**
APC				eS	**Sn**	**15 28 08.4**	**+0.2**
ZLN	**Zelenaya**	**2.30**	**7**	*e*P	**Pn**	**15 27 47.3**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.37**	**216**	*e*P	**Pn**	**15 27 48.2**	**+1.0**
KDTR				eS	**Sn**	**15 28 15.3**	**-0.1**
ESO	**Esso**	**2.38**	**337**	*e*P	**Pn**	**15 27 47.9**	**+0.5**
KLY	**Klyuchi**	**2.58**	**4**	*e*P	**Pn**	**15 27 51.6**	**+1.5**
KLY				eS	**Sn**	**15 28 23.3**	**+2.7**
KBTR	**Krutoberegovo**	**2.86**	**29**	P	**Pn**	**15 27 54.9**	**+1.1**
KBTR				S	**Sn**	**15 28 29.4**	**+2.2**
KBG	**Krutoberegovo**	**2.87**	**28**	eS	**Sn**	**15 28 30.1**	**+2.7**
BDR	**Baidarnaya**	**2.88**	**10**	P	**Pn**	**15 27 54.1**	**-0.1**
SMKR	**Semkarok**	**2.92**	**12**	*e*P	**Pn**	**15 27 55.9**	**+1.2**
SRKR	**Sorokina**	**2.96**	**9**	*e*P	**Pn**	**15 27 57.5**	**+2.3**
BKI	**Bering**	**3.60**	**64**	S	**Sn**	**15 28 42.3**	**-3.0**
H11N2	**WAKE ISLAND Hy**	**34.32**	**169**	T	T	16 10 28.8	
	baz=353						
H11N3	**WAKE ISLAND Hy**	**34.34**	**169**	T	T	16 10 28.8	
	baz=353,slow=74,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**34.34**	**169**	T	T	16 10 27.7	
	baz=353,slow=74,SNR=10.0						
KURBB	**Kurchatov Arra**	**47.61**	**301**	P	**P**	**15 35 34.5**	**-3.2**
	0.2nm,0.4s,baz=59,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**76.73**	**205**	P	**P**	**15 38 53.0**	**+0.4**
	0.1nm,0.4s,baz=20,slow=6.2,SNR=6.7						
ASAR	**Alice Springs**	**80.41**	**204**	P	**P**	**15 39 13.6**	**+0.9**
	0.6nm,1.0s,baz=12,slow=7.1,SNR=4.2						

*IDC **14** 15:46:23.7±984.0,54°.88N×2°.03E,h0km,Error ellipse:*
s-maj=456.2km s-min=175.4km az=111.0
BER 14 15:47:02.8**±1.5,**60°.45N**×5°.**14E**,**h0**km,**ML1.1**,**Suspected
explosion,Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASK	**Askoy**	**0.04**	**37**	*e*P	Pg	15 47 03.2	-0.4
ASK				eS	Sg	15 47 04.3	+0.1
ASK				IAML		15 47 04.7	
	comp=Z,298nm,0.6s						
BER	**Bergen**	**0.12**	**125**	*e*P	Pg	15 47 04.1	-0.9
BER				eS	Sg	15 47 05.8	-0.7
BER				IAML		15 47 07.1	
	comp=Z,57nm,0.3s						
HYA	**Hoyanger**	**0.88**	**35**	*e*P	Pg	15 47 18.7	-1.0
HYA				eS	Sg	15 47 31.2	+0.1
ODD1	**Odda**	**0.92**	**125**	*e*P	Pg	15 47 18.9	-1.4
ODD1				eS	Sg	15 47 31.8	-0.4
ODD1				IAML		15 47 35.3	
	comp=Z,4.5nm,0.3s						
BLS5	**Blasjo**	**1.22**	**147**	*e*P	Pg	15 47 25.6	-0.6
BLS5				eS	Sg	15 47 41.4	-0.7
BLS5				IAML		15 47 43.4	
	comp=Z,2.8nm,0.4s						
KMY	**Karmoy**	**1.24**	**178**	eS	Sg	15 47 41.6	-1.0
AKN	**Aaknes**	**1.95**	**26**	*e*P	Pn	15 47 35.8	-1.4
AKN				eS	Sn	15 47 58.0	-4.4
AKN				IAML		15 48 04.1	
	comp=Z,3.5nm,0.6s						
I26DE	**FREYUNG INFRAS**	**12.62**	**153**	*i*		16 46 30.0	
	baz=314,slow=329,SNR=0.9						
I43RU	**DUBNA INFRASONI**	**7.03**	**88**	*i*		17 50 00.0	
	baz=279,slow=315,SNR=0.4						
I31KZ	**AKTYUBINSK INF**	**30.82**	**85**	*i*		19 11 56.1	
	baz=300,slow=330,SNR=2.0						

*ARE **14** 15:50:43.0±0.0,15°.80S×71°.85W,h6km*
*ISCJB **14** 15:50:48.9±0.3,15°.87S±0°.04×71°.57W±0°.08,h35km,*
mb4.5/21,MS3.9/10,Error ellipse: s-maj=12.3km
s-min=3.7km az=160.9
*IDC **14** 15:50:48.7±4.4,15°.62S×71°.35W,h22km±28km,mb3.8/9,*
mb1 4.1/12,mb1mx3.9/30,mbtmp4.0/12,ML4.0/2,MS3.8/11,
Ms1 3.7/11,ms1mx3.5/24,Error ellipse: s-maj=26.3km
s-min=17.5km az=72.0
*BJI **14** 15:50:49.0,15°.80S×71°.50W,h16km,Ms4.9/1,Ms7 4.6/1*
*NEIC **14** 15:50:51.6±0.9,15°.92S×71°.66W,h43km±10km,mb4.6/16,*
ML4.5(ARE),Error ellipse: s-maj=13.2km s-min=8.2km
az=77.0
NEIC Felt [III] at Maca.
***ISC 14 15:50:50.8**±0.4,**15°.90S**±0°.06×**71°.71W**±0°.09,**h35**km,**n86**,*
*σ1**971**/84,**mb4.6**/**21**,**MS3.7**/10,**4C**,**Southern Peru***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**3.01**	**154**⇑	*i*P	**Pn**	**15 51 37.6**	**+1.5**
LPAZ	**La Paz**	**3.46**	**97**	*e*Pn	**Pn**	**15 51 46.6**	**+3.8**
LPAZ	**La Paz**	**3.46**	**97**	*e*P	Pn	15 51 52.4	+10
LPAZ	**La Paz**	**3.46**	**97**	Pg	**Pn**	**15 51 46.7**	**+3.9**
	1.0nm,0.3s,baz=269,slow=9.4,SNR=18						
LPAZ				Lg	Lg	15 52 41.9	
	0.6nm,0.3s,baz=3.4,slow=19,SNR=1.4						
MNMC	**Minye Minye**	**3.80**	**148**	*e*Pn	**Pn**	**15 51 48.8**	**+1.7**
MNMC				eSg	Sn	15 52 42.0	+11
MNMC	**Minye Minye**	**3.80**	**148**	*e*P	**Pn**	**15 51 49.3**	**+2.2**
PSGC	**Pisagua**	**3.98**	**158**⇑	*i*P	**Pn**	**15 51 50.3**	**+0.9**
PB11	**IPOC Station P**	**4.31**	**153**	*e*Pn	**Pn**	**15 51 54.9**	**+0.8**
PB11	**IPOC Station P**	**4.31**	**153**	*e*P	**Pn**	**15 51 55.6**	**+1.5**
PB08	**IPOC Station P**	**4.87**	**150**⇑	*i*P	**Pn**	**15 52 03.5**	**+1.5**
PB01	**IPOC Station P**	**5.54**	**158**	*e*Pn	**Pn**	**15 52 11.5**	**+0.6**
PB01				*e*Sn	**Sn**	**15 53 14.0**	**+0.6**
PB01	**IPOC Station P**	**5.54**	**158**	*e*P	**Pn**	**15 52 10.3**	**-0.5**
PB02	**IPOC Station P**	**5.66**	**163**	*e*P	**Pn**	**15 52 13.2**	**+0.6**
PB07	**IPOC Station P**	**6.05**	**164**	*e*P	**Pn**	**15 52 17.6**	**-0.4**
PB09	**IPOC Station P**	**6.32**	**159**	*e*P	**Pn**	**15 52 24.1**	**+2.4**
NNA	**Nana**	**6.32**	**307**	Pn	**Pn**	**15 52 22.8**	**+1.2**
	1.9nm,0.3s,baz=127,slow=8.0,SNR=4.2						
PB03	**IPOC Station P**	**6.39**	**163**	*e*P	**Pn**	**15 52 22.6**	**-0.1**
PB04	**IPOC Station P**	**6.57**	**167**	*e*Pn	**Pn**	**15 52 24.2**	**-1.0**
PB04				*e*Sn	**Sn**	**15 53 38.8**	**-0.2**
PB04	**IPOC Station P**	**6.57**	**167**	*e*P	**Pn**	**15 52 24.4**	**-0.7**
PB05	**IPOC Station P**	**7.06**	**169**	*e*P	**Pn**	**15 52 30.5**	**-1.4**
PB06	**IPOC Station P**	**7.07**	**164**	*e*P	**Pn**	**15 52 30.8**	**-1.2**
LVC	**Limon Verde**	**7.18**	**159**	Pn	**Pn**	**15 52 33.8**	**+0.1**
	8.3nm,0.3s,baz=342,slow=9.3,SNR=55						
LVC				Sn	**Sn**	**15 53 55.0**	**+0.8**
	0.4nm,0.3s,baz=53,slow=15,SNR=2.2						
LVC				LR	LR	15 55 20.7	
	comp=Z,547nm,20.7s,baz=332,slow=37						
PB15	**IPOC Station P**	**7.57**	**164**	*e*P	**Pn**	**15 52 36.4**	**-2.6**
PB10	**IPOC Station P**	**7.65**	**172**	*e*Pn	**Pn**	**15 52 37.9**	**-1.9**
PB10	**IPOC Station P**	**7.65**	**172**	*e*P	**Pn**	**15 52 38.2**	**-1.7**
GO02	**Mina Guanaco**	**9.43**	**168**	*e*Pn	**Pn**	**15 53 03.3**	**-1.2**
GO02				*e*Sn	**Sn**	**15 54 44.6**	**-4.9**
SIV	**San Ignacio**	**10.23**	**92**	Pn	**Pn**	**15 53 15.2**	**-0.1**
	0.5nm,0.3s,baz=278,slow=12,SNR=16						
ATAH	**Atahualpa**	**10.89**	**322**	LR	LR	15 57 46.8	
	comp=Z,802nm,19.4s,baz=167,slow=38						
GO03	**Copiap**	**11.72**	**174**	*e*Pn	**Pn**	**15 53 35.9**	**+0.3**
GO04	**Tololo Observa**	**14.23**	**177**	*e*Pn	**Pn**	**15 54 08.6**	**-1.6**
ROC1	**El Roble**	**17.02**	**178**	*e*Pn	**Pn**	**15 54 46.6**	**+0.2**
	12nm,1.0s						
PEL	**Peldehue**	**17.20**	**177**	*e*Pn	**P**	**15 54 50.0**	**+0.3**
	72nm,1.7s						
OTAV	**Otavalo**	**17.36**	**337**	*e*Pn	**Pn**	**15 54 51.1**	**+0.2**
	18nm,1.5s						
PTGA	**Pitinga**	**19.01**	**39**	*e*P	**P**	**15 55 07.2**	**-2.6**
	7.8nm,0.9s						
PTGA	**Pitinga**	**19.01**	**39**	P	**P**	**15 55 05.4**	**-4.4**
	baz=279,slow=17,SNR=2.5						
GO06	**Currarrehue**	**23.60**	**180**	*e*P	**P**	**15 55 59.2**	**+0.6**
	40nm,1.9s						
PLCA	**Paso Flores**	**24.77**	**178**	*e*P	**P**	**15 56 10.8**	**+1.4**
	17nm,1.0s						
PLCA	**Paso Flores**	**24.77**	**178**	P	**P**	**15 56 12.2**	**+2.8**
	14nm,1.0s,baz=20,slow=11,SNR=18						
LNIG	**Linares**	**48.75**	**326**	*e*P	**P**	**15 59 33.1**	**+0.7**
	7.6nm,1.2s						
ZAIG	**Zacatecas**	**48.88**	**321**	*e*P	**P**	**15 59 35.4**	**+1.6**
	19nm,1.8s						
MIAR	**Mount Ida**	**54.30**	**338**	*e*P	**P**	**16 00 13.9**	**+0.2**
	10nm,1.1s						
TXAR	**Lajitas Array**	**54.54**	**325**	P	**P**	**16 00 14.2**	**-1.5**
	0.4nm,0.6s,baz=152,slow=7.5,SNR=5.5						
TXAR				LR	LR	16 22 48.1	
	comp=Z,52nm,18.3s,baz=0.0,slow=35						
KSPA	**Keystone Colle**	**57.29**	**356**	*e*P	**P**	**16 00 35.0**	**0.0**
	117nm,1.9s						
MSTX	**Muleshoe**	**57.75**	**330**	*e*P	**P**	**16 00 39.6**	**+1.0**
	20nm,1.5s						
SDCO	**Great Sand Dun**	**62.10**	**330**	*e*P	**P**	**16 01 10.1**	**+1.5**
	8.1nm,1.4s						
ECSD	**EROS Data Cent**	**63.57**	**340**	*e*P	**P**	**16 01 18.5**	**+0.6**
	16nm,1.5s						
AGMN	**Agassiz Nation**	**67.44**	**343**	*e*P	**P**	**16 01 43.5**	**+0.7**
	5.3nm,0.8s						
PD31	**Pinedale Array**	**67.95**	**331**	*e*P	**P**	**16 01 47.6**	**+1.1**
	7.7nm,1.8s						
PDAR	**Pinedale Array**	**67.95**	**331**	P	**P**	**16 01 46.9**	**+0.4**
	0.3nm,0.4s,baz=120,slow=5.3,SNR=4.3						
PDAR				LR	LR	16 34 18.9	
	comp=Z,45nm,18.4s,baz=142,slow=38						
ULM	**Lac du Bonnet**	**69.21**	**344**	P	**P**	**16 01 52.2**	**-1.7**
	3.0nm,0.8s,baz=132,slow=5.4,SNR=6.8						
ULM				LR	LR	16 34 16.3	
	comp=Z,44nm,18.7s,baz=132,slow=38						
ELK	**Elko**	**69.33**	**326**	LR	LR	16 33 51

	comp=Z,24nm,21.3s,baz=190,slow=33							
ASAR	**Alice Springs**	**133.38**	**213**	PKP	**PKPdf**	**16 10 03.8**	**-0.4**
	0.4nm,0.7s,baz=132,slow=1.9,SNR=4.7							
WR1	**Warramunga Arr**	**136.13**	**217**	*e*PKPpre	PKPpre	16 10 04.4		
WR1				*e*PKPdf	**PKPdf**	**16 10 09.4**	**+0.1**
WRA	**Warramunga Arr**	**136.13**	**217**	PKhKP	PKPpre	16 10 04.4		
	0.5nm,0.9s,baz=143,slow=2.1,SNR=2.8							
WRA				PKP	**PKPdf**	**16 10 09.4**	**+0.1**
	1.3nm,0.9s,baz=152,slow=1.6,SNR=6.4							
ZAA1	**Zalesovo Array**	**137.84**	**21**	*e*PKPdf	**PKPdf**	**16 10 10.2**	**-1.1**
ZALV	**Zalesovo Beam**	**137.84**	**21**	*e*PKPdf	**PKPdf**	**16 10 10.0**	**-1.4**
ZALV	**Zalesovo Beam**	**137.84**	**21**	PKP	**PKPdf**	**16 10 10.2**	**-1.1**
	0.4nm,0.3s,baz=308,slow=3.5,SNR=2.8							
KURBB	**Kurchatov Arra**	**137.90**	**28**	PKP	**PKPdf**	**16 10 10.4**	**-1.1**
	0.1nm,0.3s,baz=324,slow=2.7,SNR=2.9							
MK32	**Makanchi Array**	**142.37**	**30**	*e*PKPdf	**PKPdf**	**16 10 18.2**	**-1.7**
MKAR	**Makanchi Array**	**142.37**	**30**	PKP	**PKPdf**	**16 10 18.2**	**-1.7**
	0.5nm,0.9s,baz=253,slow=1.5,SNR=0.5							
MJAR	**Matsushiro Arr**	**146.41**	**313**	PKPbc	**PKPdf**	**16 10 26.8**	**-0.5**
	2.7nm,1.0s,baz=72,slow=1.4,SNR=3.7							
MAJO	**Matsushiro**	**146.41**	**313**	*e*PKPdf	**PKPdf**	**16 10 26.8**	**-0.5**
WMQ	**Urumqi**	**147.12**	**28**	*e*PKPbc	**PKPdf**	**16 10 29.1**	**+0.8**
SONA0	**Songino Array**	**148.12**	**2**	*e*PKPbc	**PKPbc**	**16 10 32.8**	**-0.3**
SONM	**Songino Array**	**148.12**	**2**	PKPbc	**PKPbc**	**16 10 32.8**	**-0.3**
	3.8nm,0.9s,baz=321,slow=1.4,SNR=14							
KS01	**Wonju Array Si**	**152.38**	**325**	*e*PKPbc	**PKPbc**	**16 10 43.0**	**-0.6**
KSRS	**Korea Array**	**152.38**	**325**	PKPbc	**PKPbc**	**16 10 43.6**	**+0.1**
	2.6nm,0.9s,baz=14,slow=2.6,SNR=9.1							
HHC	**Hu-ho-hao-te**	**154.98**	**354**	*e*PKPbc	**PKPdf**	**16 10 40.1**	**-0.3**
LZH	**Lanzhou**	**159.51**	**10**	*e*PKP	**PKPdf**	**16 10 42.8**	**-3.6**
LZH				pPKP	pPKPdf	16 10 52.8	-6.6
LZH				sPKP		16 10 56.4		
LZH				LR	LR			
	comp=N,75nm,18.0s							
LZH				LR	LR			
	comp=E,68nm,18.1s							
LZH				LR	LR			
	comp=Z,92nm,20.2s							
NJ2	**Nanjing**	**161.26**	**331**	*e*PKP	**PKPdf**	**16 10 49.8**	**+1.6**
CD2	**Chengdu**	**164.49**	**15**	PKP	**PKPdf**	**16 10 50.4**	**-1.1**

KRSC 14 16:14:25.1±10.0, **53°22N**×**159°95E**, **h72**km±10km, **ML3.6,**
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.13**	**161**	*e*P	Pn	16 14 36.9	+1.2
SPN				*e*S	Sn	16 14 44.6	+1.2
NLC	**Nalytchevo**	**0.37**	**262**	*e*P	Pn	16 14 38.1	+1.1
NLC				*e*S	Sn	16 14 46.7	+1.0
SDLR	**Sedlovina**	**0.64**	**275**	*e*P	Pn	16 14 40.8	+1.1
SDLR				*e*S	Sn	16 14 51.9	+1.5
UGLR	**Uglovaya**	**0.68**	**269**	*e*P	Pn	16 14 41.5	+1.4
UGLR				*e*S	Sn	16 14 53.1	+2.0
SMAR	**Somma**	**0.69**	**274**	*e*P	Pn	16 14 41.4	+1.1
KRER	**Koryakskii**	**0.73**	**277**	*e*P	Pn	16 14 42.2	+1.5
KRER				*e*S	Sn	16 14 53.9	+1.7
AVH	**Avacha**	**0.73**	**274**	*e*P	Pn	16 14 42.2	+1.6
AVH				*e*S	Sn	16 14 54.1	+2.1
DALK	**Dalny**	**0.75**	**256**	*e*P	Pn	16 14 41.8	+1.1
DALK				*e*S	Sn	16 14 53.6	+1.4
KOK	**Koryaka**	**0.79**	**275**	*e*P	Pn	16 14 42.6	+1.3
KOK				*e*S	Sn	16 14 54.6	+1.3
KRX	**Arik**	**0.79**	**280**	*e*P	Pn	16 14 42.6	+1.2
KRX				*e*S	Sn	16 14 54.8	+1.4
PET	**Petropavlovsk**	**0.81**	**256**	*e*P	Pn	16 14 42.6	+1.2
PET				*e*S	Sn	16 14 55.0	+1.6
KRMR	**Karymshinskiy**	**1.17**	**251**	*e*P	Pn	16 14 47.2	+1.4
KRMR				*e*S	Sn	16 15 02.9	+1.6
RUS	**Russkaya**	**1.18**	**228**	*e*P	Pn	16 14 47.0	+1.1
RUS				*e*S	Sn	16 15 02.4	+0.9
GNL	**Ganaly**	**1.29**	**292**	*e*P	Pn	16 14 48.8	+1.3
GNL				*e*S	Sn	16 15 04.7	+0.4
MTVR	**Mutnovka**	**1.30**	**236**	*e*P	Pn	16 14 49.6	+1.9
MTVR				*e*S	Sn	16 15 06.1	+1.4
ASAK	**Asacha**	**1.50**	**237**	*e*P	Pn	16 14 52.3	+2.0
ASAK				S	Sn	16 15 11.9	+2.7
MKZ	**Mys Kozlova**	**1.70**	**38**	*e*P	Pn	16 14 54.2	+1.4
MKZ				*e*S	Sn	16 15 14.4	+0.7
APC	**Apacha**	**1.71**	**261**	*e*P	Pn	16 14 55.1	+2.2
APC				*e*S	Sn	16 15 15.7	+1.7
KDTR	**Khodutka, Kamc**	**1.82**	**220**	*e*P	Pn	16 14 56.0	+1.6
KDTR				*e*S	Sn	16 15 17.1	+0.5
KZV	**Kizimen**	**1.90**	**6**	*e*P	Pn	16 14 58.1	+2.4
TUMD	**Tumrok D**	**2.00**	**7**	*e*P	Pn	16 14 59.1	+2.3
TUMD				*e*S	Sn	16 15 22.2	+1.2
TUMR	**Tumrok**	**2.07**	**3**	*e*P	Pn	16 15 00.6	+2.8

*DDA **14** 16:14:46.7, 37°.29N×35°.75E, h7km±2km, ML2.6*
*ISCJB **14** 16:14:47.6±0.4, 37°.27N±0°.03×35°.69E±0°.03, h10km±4km,*
Error ellipse: s-maj=4.6km s-min=4.2km az=159.8
*ISK **14** 16:14:47.1, 37°.29N×35°.63E, h6km, ML2.3/5*
ISC 14 16:14:47.5±0.9, **37°28N**±0°.03×**35°69E**±0°.03, **h15**km±8km,
n16, σ°**87/25, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.23**	**28**	PG	**Pg**	**16 14 52.4**	**-0.2**
KOZT				SG	**Sg**	**16 14 57.0**	**+0.8**
AKO	**Adana**	**0.27**	**313**	*i* P	**Pb**	**16 14 53.5**	**-0.5**
AKO				*i* S	**Sb**	**16 14 58.5**	**+0.1**
CEYT	**Ceyhan**	**0.27**	**170**	PG	**Pg**	**16 14 53.2**	**-0.1**
CEYT				SG	**Sb**	**16 14 58.1**	**-0.2**
YURE	**YUREGIR**	**0.45**	**186**	PG	**Pg**	**16 14 56.2**	**-0.3**
YURE				SG	**Sb**	**16 15 03.7**	**+0.1**
YURE	**YUREGIR**	**0.45**	**186**	*i* P	**Pb**	**16 14 56.9**	**-0.2**
KARA	**Karaisali**	**0.51**	**268**	PG	**Pg**	**16 14 56.9**	**-0.7**
KARA				SG	**Sg**	**16 15 03.3**	**-1.1**
ANDN	**Andirin**	**0.60**	**60**	*i* P	**Pg**	**16 14 58.8**	**-0.6**
ANDN				*i* S	**Sb**	**16 15 09.5**	**+1.5**
ANDN				IAML_P			
	comp=Z,721nm,0.2s						
GULE	**Gulek**	**0.73**	**271**	*i* P	**Pb**	**16 15 02.4**	**+0.5**
GULE				*i* S	**Sb**	**16 15 13.5**	**+1.7**
GULE				IAML_P			
	comp=Z,920nm,0.2s						
SAIM	**ADANA**	**0.76**	**24**	*i* P	**Pg**	**16 15 01.2**	**-1.2**
YAHY	**KAYSERI_Yahyal**	**0.86**	**342**	*i* P	**Pg**	**16 15 03.5**	**-0.7**
YAHY				*i* S	**Sb**	**16 15 15.5**	**+0.1**
YAHY				IAML_P			
	comp=Z,963nm,0.1s						
HCB	**Kahramanmara**	**0.97**	**86**	*i* P	**Pb**	**16 15 05.9**	**-0.1**
KMRS	**Kahramanmaras**	**0.99**	**76**	PG	**Pn**	**16 15 06.9**	**+0.1**
MERS	**Mersin**	**1.02**	**247**	PG	**Pg**	**16 15 06.1**	**-1.1**
KUZU	**Kuzuini**	**1.22**	**114**	*i* P	**Pg**	**16 15 09.5**	**-1.4**
KERG	**Konya-Eregli**	**1.26**	**277**	*i* P	**Pg**	**16 15 10.6**	**-1.1**
KERG				*i* S	**Sb**	**16 15 27.6**	**+0.6**
KERG				IAML_P			
	comp=Z,132nm,0.1s						
KEBE	**Keben-Mersin**	**1.79**	**243**	PN	**Pn**	**16 15 18.9**	**+1.1**

*IDC **14** 16:15:49.8±4.5, 16°.21S×175°.72W, h0km, mb3.9/4,*
mb1 4.1/4, mb1mx3.7/38, mbtmp3.9/4, Error ellipse:
s-maj=196.0km s-min=35.6km az=137.0
*ISCJB **14** 16:16:33.0±0.8, 16°.1S±0°.1×176°.5W±0°.1, h400km,*
mb4.4/16, Error ellipse: s-maj=15.2km s-min=12.7km
az=35.8
*NEIC **14** 16:16:35.2±0.5, 16°.14S×176°.43W, h410km±7km, mb4.5/10,*
Error ellipse: s-maj=13.1km s-min=12.2km az=68.0
ISC 14 16:16:33.0±0.8, **15°9S**±0°.1×**176°3W**±0°.1, **h400**km, **n25,**
σ1°**40/21, mb4.5**/16, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.70**	**251**	*e*P	Pn	16 18 03.0	+0.5
NIUE	**Niue**	**6.84**	**118**	*e*P	**P**	**16 18 16.3**	**+0.8**
MARNC	**Mare, Loyalty**	**15.84**	**247**	*e*P	**P**	**16 19 53.8**	**-0.8**
	222nm,1.9s						
URZ	**Urewera**	**23.00**	**193**	*e*P	**P**	**16 21 03.1**	**-1.5**
	11nm,1.1s						
BKZ	**Black Stump Fm**	**24.00**	**194**	*e*P	**P**	**16 21 11.9**	**-1.8**
	40nm,1.7s						
THZ	**Tophouse**	**27.38**	**198**	*e*P	**P**	**16 21 43.3**	**-0.4**
	56nm,1.9s						
KWAJ	**Kwajalein Atol**	**29.28**	**326**	*e*P	**P**	**16 22 01.9**	**+1.2**
	754nm,1.4s						
FOZ	**Fox Glacier**	**29.95**	**200**	*e*P	**P**	**16 22 05.7**	**-0.5**
	54nm,1.8s						
MLZ	**Mavora Lakes**	**32.15**	**201**	*e*P	**P**	**16 22 26.0**	**+0.7**
	82nm,1.7s						
WHZ	**Wether Hill Ro**	**32.66**	**201**	*e*P	**P**	**16 22 30.5**	**+0.9**
	201nm,2.0s						
STKA	**Stephens Creek**	**41.36**	**240**	*e*P	**P**	**16 23 42.2**	**+0.1**
	3.7nm,1.6s						
STKA	**Stephens Creek**	**41.36**	**240**	P	**P**	**16 23 41.4**	**-0.7**
	2.1nm,1.0s,baz=80,slow=11,SNR=3.3						
OPA	**Opana**	**41.46**	**26**	*e*P	**P**	**16 23 39.1**	**-3.8**
	316nm,2.0s						
BBOO	**Buckleboo**	**46.14**	**240**	*e*P	**P**	**16 24 19.6**	**0.0**
	41nm,1.6s						
WB2	**Warramunga Arr**	**46.99**	**257**	*e*P	**P**	**16 24 26.1**	**-0.3**
WR1	**Warramunga Arr**	**47.00**	**257**	*e*P	**P**	**16 24 26.2**	**-0.2**
	46nm,1.9s						
WRA	**Warramunga Arr**	**47.00**	**257**	P	**P**	**16 24 26.2**	**-0.2**
	0.5nm,0.2s,baz=97,slow=7.8,SNR=36						
AS01	**Alice Springs**	**47.25**	**252**	*e*P	**P**	**16 24 28.2**	**-0.1**
AS31	**Alice Springs**	**47.29**	**252**	*e*P	**P**	**16 24 29.0**	**+0.4**
	1.6nm,0.5s						
ASAR	**Alice Springs**	**47.29**	**252**	P	**P**	**16 24 28.9**	**+0.2**
	4.2nm,0.5s,baz=88,slow=7.7,SNR=159						
FORT	**Forrest**	**52.69**	**243**	*e*P	**P**	**16 25 08.3**	**-0.2**
	18nm,1.0s						
BMN	**Battle Mountai**	**78.39**	**42**	*e*pP	pP	16 29 27.2	+7.3
ILAR	**Eielson Array**	**83.52**	**12**	P	**P**	**16 28 20.0**	**+3.1**
	0.2nm,0.5s,baz=216,slow=5.4,SNR=4.2						
FVM	**French Village**	**96.45**	**52**	*e*pP	pP	16 30 55.6	+5.5
I42A	**Draeger Farm,**	**99.01**	**47**	*e*pP	pP	16 31 05.2	+3.4

KRSC 14 16:18:03.4±10.0, **60°.19N**×**163°.35E**, **h15**km±10km, **ML3.7,**
Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.96**	**189**	*e*P	Pb	16 18 20.7	-0.9
OSSR				*e*S	Sb	16 18 33.0	-1.1
TILK	**Tilichiki**	**1.41**	**78**	*e*P	Pb	16 18 29.0	-0.4
TILK				*e*S	Sb	16 18 48.0	+0.8
PALN	**Palana**	**2.04**	**239**	*e*P	Pb	16 18 39.4	-0.8
KMSK	**Kamenskaya**	**2.67**	**30**	P	Pn	16 18 47.6	+1.9

*IDC **14** 16:18:38.6±1.3, 52°.62N×132°.56W, h0km, mb3.6/4,*
mb1 3.7/11, mb1mx3.5/46, mbtmp3.5/11, ML2.7/6, MS2.6/1,
Ms1 2.6/1, ms1mx2.2/44, Error ellipse: s-maj=18.1km
s-min=8.1km az=68.0
*PGC **14** 16:18:38.6±2.8, 52°.58N×132°.66W, h27km, ML3.8/16,*
93km southwest of Sandspit, Bc Haida Gwaii Region
ISC 14 16:18:40.6±1.4, **52°65N**±0°.04×**132°43W**±0°.05, **h12**km±8km,
n79, σ2°**01/78, mb3.7/4, Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG1B	**Mitchell Dam**	**0.34**	**32**	P	**Pb**	**16 18 48.6**	**0.0**
HG1B				S	**Sb**	**16 18 55.4**	**+1.4**
BNB	**Barry Inlet**	**0.42**	**99**	P	**Pb**	**16 18 49.7**	**-0.3**
BNB				S	**Sb**	**16 18 56.5**	**+0.3**
DIB	**Dawson Inlet,**	**0.56**	**357**	P	**Pg**	**16 18 50.7**	**-0.8**
DIB				S	**Sg**	**16 18 59.5**	**+0.6**
H02S1	**DAWSON INLET T**	**0.56**	**357**	Pg	**Pg**	**16 18 50.6**	**-0.9**
H02S1				Lg	Lg	16 18 57.3	
MOBC	**Moresby Island**	**0.57**	**29**	P	**Pg**	**16 18 52.1**	**+0.4**
MOBC				S	**Sb**	**16 19 01.8**	**+1.1**
HG3B	**Hotspring**	**0.60**	**96**	P	**Pg**	**16 18 52.5**	**+0.2**
HG3B				S	**Sb**	**16 19 02.7**	**+1.2**
HG4B	**Hotspring**	**0.83**	**115**	P	**Pg**	**16 18 55.1**	**-1.5**
HG4B				S	**Sg**	**16 19 06.6**	**-0.9**
NDB	**Naden**	**1.35**	**347**	Pn	**Pn**	**16 19 01.9**	**-3.4**
MASB	**Masset**	**1.39**	**10**	Pn	**Pn**	**16 19 03.5**	**-2.3**
RUBB	**Prince Rupert**	**2.13**	**37**	Pn	**Pn**	**16 19 14.8**	**-1.1**
RUBB				Sn	**Sn**	**16 19 40.5**	**-1.7**
BBB	**Bella Bella**	**2.68**	**98**	Pn	**Pn**	**16 19 21.9**	**-1.6**
BBB				Sn	**Sn**	**16 19 53.6**	**-2.4**
BBB	**Bella Bella**	**2.68**	**98**	Pn	**Pn**	**16 19 22.0**	**-1.5**
	3.5nm,0.3s,baz=277,slow=6.9,SNR=26						
BBB				Pg	**Pb**	**16 19 29.3**	**+0.8**
	12nm,0.3s,baz=294,slow=15,SNR=26						
BBB				Sn	**Sn**	**16 19 53.8**	**-2.2**
	20nm,0.3s,baz=331,slow=19,SNR=5.4						
BBB				LR	LR	16 20 02.6	
	comp=Z,116nm,20.0s,baz=172,slow=30						
PHC	**Port Hardy**	**3.67**	**120**	Pn	**Pn**	**16 19 33.8**	**-3.2**
PHC				Sn	**Sn**	**16 20 16.4**	**-3.7**
PACB	**Port Alice, BC**	**3.79**	**124**	Pn	**Pn**	**16 19 37.0**	**-1.8**
MAYB	**Maynard**	**3.98**	**122**	Pn	**Pn**	**16 19 38.9**	**-2.6**
TLCB	**Telegraph Cove**	**4.07**	**119**	Pn	**Pn**	**16 19 40.2**	**-2.4**
WOSB	**Woss**	**4.43**	**122**	Pn	**Pn**	**16 19 46.4**	**-1.3**
NCRB	**Newcastle Ridg**	**4.57**	**117**	Pn	**Pn**	**16 19 47.8**	**-1.8**
FSB	**Fort Saint Jam**	**5.17**	**66**	Pn	**Pn**	**16 19 56.0**	**-1.7**
FSB				Sg	**Sg**	**16 21 23.9**	**-2.4**
DLBC	**Dease Lake**	**5.96**	**12**	Pn	**Pn**	**16 20 12.2**	**+3.5**
	0.2nm,0.3s,baz=181,slow=12,SNR=1.7						
DLBC				Lg	Lg	16 21 39.3	
	0.7nm,0.3s,baz=223,slow=15,SNR=3.2						
I04A	**Tendick Farm,**	**11.08**	**139**	P	**Pn**	**16 21 23.0**	**+4.2**
	baz=332						
K02D	**Willamette Mer**	**11.56**	**146**	P	**Pn**	**16 21 29.3**	**+3.8**
	baz=332						
J05D	**Fort Rock, OR**	**11.98**	**137**	P	**Pn**	**16 21 35.3**	**+4.1**
	baz=326,SNR=5.0						
YBH	**Yreka Blue Hor**	**12.75**	**145**	Pn	**Pn**	**16 21 43.8**	**+2.2**
	0.1nm,0.3s,baz=330,slow=11,SNR=5.1						
M02C	**Callahan**	**13.00**	**146**	P	Pn	16 21 50.0	+4.9
	baz=333						
M04C	**Madoel**	**13.02**	**142**	P	**Pn**	**16 21 49.3**	**+3.9**
	baz=330						
MSO	**Missoula**	**13.28**	**109**	P	**Pn**	**16 21 52.1**	**+3.2**
	baz=304						
N02D	**Trinity Center**	**13.42**	**147**	P	**P**	**16 21 55.9**	**-4.4**
	baz=334						
YKA	**Yellowknife Ar**	**13.69**	**37**	Pn	**Pn**	**16 21 53.3**	**-0.9**
	0.0nm,0.3s,baz=224,slow=13,SNR=4.2						
O02D	**Mt. Diablo Mer**	**14.12**	**148**	P	**P**	**16 22 04.9**	**-3.1**
	baz=335						
ILAR	**Eielson Array**	**14.24**	**334**	Pn	**Pn**	**16 22 01.1**	**-0.7**
	0.0nm,0.3s,baz=137,slow=8.6,SNR=3.9						
HLID	**Hailey**	**15.04**	**120**	P	**P**	**16 22 17.5**	**-0.9**
	baz=314						
EGMT	**Eagleton**	**15.18**	**99**	P	**P**	**16 22 17.5**	**-2.2**
	baz=297						
BOZ	**Bozeman (W)**	**15.30**	**109**	P	**P**	**16 22 19.0**	**-2.2**
	baz=306						
ELK	**Elko**	**16.70**	**129**	Pn	**Pn**	**16 22 35.1**	**+0.6**
	1.0nm,0.3s,baz=50,slow=18,SNR=1.9						
NVAR	**Mina Array Bea**	**17.27**	**140**	P	**P**	**16 22 43.5**	**+0.4**
	0.1nm,0.3s,baz=319,slow=11,SNR=8.1						
PDAR	**Pinedale Array**	**18.22**	**114**	P	**P**	**16 22 55.0**	**+1.5**
	0.2nm,0.3s,baz=290,slow=6.1,SNR=6.9						
DUG	**Dugway, Tooele**	**18.31**	**125**	P	**P**	**16 22 56.6**	**+2.1**
	baz=320						
R11A	**Troy Canyon, C**	**18.47**	**134**	P	**Pn**	**16 22 58.6**	**+2.2**
	baz=326,SNR=6.1						
CWC	**Cottonwood Cre**	**19.10**	**142**	P	**Pn**	**16 23 05.4**	**+1.4**
	baz=333						
TPNV	**Topopah Spring**	**19.37**	**138**	P	**Pn**	**16 23 08.6**	**+1.3**
	baz=329,SNR=8.5						
ISA	**Isabella, Lake**	**19.65**	**144**	P	**Pn**	**16 23 11.8**	**+1.2**
	baz=334						
MPMC	**Manual Prospec**	**19.66**	**142**	P	**Pn**	**16 23 12.2**	**+1.4**
	baz=332						
LRMC	**Laurel Mtn Rad**	**20.10**	**143**	P	Pn	16 23 16.6	+0.7
	baz=333						
SHOC	**Shoshone, Teco**	**20.27**	**139**	P	Pn	16 23 18.3	+0.5
	baz=331						
EDW2	**Edwards Air Fo**	**20.52**	**144**	P	Pn	16 23 20.8	-0.1
	baz=334						
GSC	**Goldstone, Bar**	**20.59**	**141**	P	Pn	16 23 21.8	+0.2
	baz=332						
O20A	**White River Ci**	**20.73**	**117**	P	Pn	16 23 22.6	-0.8
	baz=316						
TUQ	**Turquoise Moun**	**20.81**	**139**	P	Pn	16 23 23.9	-0.4
	baz=331						
HEC	**Hector,Ludlow**	**21.18**	**141**	P	**P**	**16 23 27.7**	**+1.9**
	baz=332,SNR=6.3						
BFSC	**Mount Baldy Ra**	**21.22**	**144**	P	**P**	**16 23 27.9**	**+1.7**
	baz=335						
N23A	**Red Feather La**	**21.48**	**113**	P	**P**	**16 23 30.5**	**+1.3**
	baz=313						
GMRC	**Granite Mounta**	**21.49**	**140**	P	**P**	**16 23 31.1**	**+2.0**
	baz=332						
PFO	**Pinyon Flats O**	**22.22**	**143**	P	**P**	**16 23 38.1**	**+1.2**
	baz=334						
IRM	**Iron Mountain**	**22.24**	**139**	P	**P**	**16 23 38.7**	**+1.6**
	baz=332,SNR=5.5						
WUAZ	**Wupatki**	**22.71**	**131**	P	**P**	**16 23 44.6**	**+2.4**
	baz=326						
MONP2	**Monument Peak**	**22.88**	**143**	P	P	**16 23 45.7**	**+1.7**
	baz=334						
IKP	**In-Ko-Pah, Jac**	**23.21**	**143**	P	**P**	**16 23 49.4**	**+2.1**
	baz=334						
S22A	**4UR Ranch, Cre**	**23.23**	**120**	P	**P**	**16 23 49.5**	**+1.8**
	baz=318						
SDCO	**Great Sand Dun**	**23.93**	**118**	P	**P**	**16 23 56.0**	**+1.3**
	baz=318						
214A	**Organ Pipe Nat**	**25.11**	**138**	P	**P**	**16 24 06.4**	**+1.3**
	baz=331,SNR=5.3						
ECSD	**EROS Data Cent**	**25.26**	**96**	P	**P**	**16 24 08.3**	**+2.0**
	baz=304						
Q41A	**Truxton**	**31.36**	**99**	P	**P**	**16 25 01.5**	**+0.7**
	baz=310						
TXAR	**Lajitas Array**	**31.47**	**126**	P	**P**	**16 25 03.6**	**+1.5**
	0.6nm,0.6s,baz=342,slow=7.3,SNR=6.3						
R41A	**Rosebud**	**31.69**	**100**	P	**P**	**16 25 04.7**	**+0.9**
	baz=311						
U40A	**Yellville**	**32.10**	**105**	P	**P**	**16 25 08.6**	**+1.2**
	baz=314						
T41A	**Mountain View**	**32.28**	**103**	P	**P**	**16 25 09.3**	**+0.2**
	baz=312						
S42A	**Caledonia**	**32.38**	**101**	P	**P**	**16 25 10.3**	**+0.5**
	baz=311						
M52A	**Chesterland**	**35.78**	**87**	P	**P**	**16 25 40.4**	**+1.1**
	baz=306						
061Z	**Ochoppi**	**46.72**	**104**	P	**P**	**16 27 10.6**	**+1.3**
	baz=320						
NRIK	**Noril'sk**	**54.86**	**344**	P	**P**	**16 28 10.6**	**+0.5**
	0.6nm,0.4s,baz=40,slow=7.9,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**56.82**	**259**	T	T	17 30 13.2	
	baz=39,slow=76,SNR=81						
H11N3	**WAKE ISLAND Hy**	**56.83**	**259**	T	T	17 30 14.2	
	baz=39,slow=76,SNR=63						
H11N1	**WAKE ISLAND Hy**	**56.84**	**259**	T	T	17 30 13.8	
	baz=39,slow=76,SNR=76						
H11S1	**WAKE ISLAND Hy**	**57.88**	**258**	T	T	17 31 38.0	
	baz=48						
H11S2	**WAKE ISLAND Hy**	**57.89**	**258**	T	T	17 31 38.2	
	baz=48						
H11S3	**WAKE ISLAND Hy**	**57.90**	**258**	T	T	17 31 38.6	
	baz=48						
AKASG	**Malin Array Be**	**75.87**	**12**	P	**P**	**16 30 25.8**	**-0.6**
	0.3nm,0.5s,baz=345,slow=5.8,SNR=2.5						
MKAR	**Makanchi Array**	**76.58**	**336**	P	**P**	**16 30 29.1**	**-1.4**
	0.2nm,0.6s,baz=35,slow=5.8,SNR=2.9						

MEX 14 16:20:22.8±0.4, **16°37N**×**98°26W**, **h14**km±1km, **MD3.5,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.13**	**80**	*e*P	Pg	16 20 25.5	-0.9
PNIG				*i* S	Sg	16 20 28.2	-0.5
TLIG	**Tlapa**	**1.22**	**346**	*i* P	Pn	16 20 41.7	-3.9
TLIG				*i* S	Sb	16 20 56.9	-4.6
HUIG	**Huatulco**	**2.15**	**106**	*i* P	Pn	16 20 55.1	-3.1
HUIG				*i* S	Sn	16 21 20.4	-4.3

*CRAAG **14** 16:58:26.5, 35°.59N×1°.35W, Ml3.8*
*MDD **14** 16:58:27.5±1.2, 35°.45N×1°.34W, h12km±12km, mbLg3.4/29,*
Error ellipse: s-maj=9.9km s-min=5.3km az=155.0,
PRXIMO
*IGIL **14** 16:58:28.5, 35°.45N×1°.34W, h14km, ML2.8*
*INMG **14** 16:58:29.0±1.5, 35°.58N×1°.39W, h20km±8km, ML2.9, Error*
ellipse: s-maj=3.7km s-min=3.5km az=158.0
*CNRM **14** 16:58:36.0, 35°.86N×2°.04W, h30km, ml3.4*
ISC 14 16:58:26.8±1.2, **35°64N**±0°.02×**1°42W**±0°.03, **h15**km±10km,
n84, σ2°**05/141, 4C-2D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OLHC	**Oulhaca**	**0.39**	**180**	P	**Pg**	**16 58 35.0**	**+0.4**
OTSS	**Djebel Tessala**	**0.62**	**124**	P	**Pg**	**16 58 39.0**	**0.0**
USTO	**Oran**	**0.72**	**82**	P	**Pg**	**16 58 41.0**	**+0.2**
ODJA	**Bouhanifia**	**1.08**	**106**	P	**Pb**	**16 58 47.0**	**-0.2**
TAF	**Taforalt**	**1.15**	**225**	P	**Pg**	**16 58 50.1**	**+1.1**
TAF				S	**Sn**	**16 59 06.2**	**+2.2**
MELI	**Melilla**	**1.28**	**255**	⇑P	**Pn**	**16 58 50.4**	**+0.3**
	122nm,0.2s,SNR=18						
MELI				S	**Sb**	**16 59 06.9**	**+0.1**
	230nm,0.1s,SNR=

CHEFC				S	Sn	16 59 54.0	-1.6
EJIF	**Jimena Fronter**	**3.38**	**285**	P	Pn	16 59 21.4	+2.4
	1.6nm,0.2s,SNR=7.9						
EJIF				S	Sn	16 59 58.5	-0.2
	6.1nm,0.2s,SNR=7.9						
LCRM	**LCR**	**3.44**	**236**	P	Pb	16 59 26.1	-1.3
LCRM				S	Sn	17 00 05.0	+4.6
LIJA	**Lijar**	**3.46**	**293**	*e*P	Pb	16 59 25.0	-2.7
LIJA				*e*S	Sn	16 59 59.8	-1.1
FIGM	**Figuig**	**3.50**	**178**	P	Pg	16 59 34.0	+0.3
FIGM				S	Sg	17 00 18.9	-0.2
ALJ	**Aljibe**	**3.54**	**286**	*e*P	Pn	16 59 25.0	+3.8
SICH	**Sidi Chahed**	**3.55**	**246**	P	Pn	16 59 24.8	+3.5
SICH				S	Sn	17 00 02.0	-0.9
EADA	**Adamuz**	**3.57**	**316**	P	Pn	16 59 24.4	+2.7
	0.7nm,0.2s,SNR=16						
EADA				S	Sn	17 00 05.3	+1.7
	11nm,0.3s						
RSA	**Sarsar**	**3.68**	**259**	P	Pn	16 59 25.4	+2.3
RSA				S	Sn	17 00 04.3	-1.8
IFR	**Ifrane**	**3.71**	**236**	*e*P	Pn	16 59 26.4	+2.6
IFR				*e*S	Sn	17 00 12.6	+5.3
ESPR	**Espera**	**3.79**	**290**	P	Pn	16 59 27.1	+2.5
	0.9nm,0.1s,SNR=7.9						
ESPR				S	Sn	17 00 11.0	+2.2
	8.0nm,0.3s,SNR=7.9						
MDT	**Midelt**	**3.86**	**224**	P	Pb	16 59 31.9	-2.7
MDT				S	Sn	17 00 15.0	+4.3
MD31	**MD31**	**3.91**	**226**	P	Pb	16 59 32.2	-3.2
MD31				S	Sn	17 00 15.7	+3.8
ECHE	**Chera**	**3.96**	**5**	P	Pn	16 59 29.8	+2.8
	0.9nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.02**	**308**	P	Pn	16 59 29.6	+1.7
	0.7nm,0.1s,SNR=13						
ECAB				S	Sn	17 00 15.7	+1.0
	7.6nm,0.4s,SNR=8.8						
EIBI	**Ibiza**	**4.04**	**32**	P	Pn	16 59 29.1	+1.0
	28nm,0.3s,SNR=6.9						
EIBI				S	Sn	17 00 12.9	-2.2
	83nm,0.3s						
ESDC	**Sonseca Array**	**4.51**	**334**	P	Pn	16 59 37.8	+3.3
	1.9nm,0.1s,baz=151,slow=13,SNR=14						
PAB	**San Pablo**	**4.54**	**330**	P	Pn	16 59 37.5	+2.5
	3.3nm,0.1s,SNR=7.9						
PAB				S	Sn	17 00 23.3	-4.2
	12nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.72**	**298**	P	Pn	16 59 39.1	+1.7
	2.4nm,0.1s,SNR=13						
EMIN				S	Sn	17 00 31.8	-0.1
	4.1nm,0.2s						
ARF	**Arif**	**4.80**	**210**	P	Pb	16 59 46.2	-4.4
ARF				S	Sb	17 00 43.0	-5.2
ZHG	**ZHG**	**4.83**	**245**	P	Pn	16 59 44.4	+5.4
ZHG				S	Sn	17 00 37.3	+2.7
GOLM	**Goulmima**	**4.90**	**218**	P	Pn	16 59 47.2	+7.2
GOLM				S	Sn	17 00 41.9	+5.3
EGRO	**El Granado**	**5.23**	**293**	P	Pn	16 59 45.3	+0.9
	4.5nm,0.2s,SNR=14						
EGRO				S	Sn	17 00 43.5	-1.0
	6.6nm,0.2s						
ETOS	**Mallorca**	**5.32**	**38**	P	Pn	16 59 47.1	+1.5
	5.9nm,0.3s,SNR=7.9						
ETOS				S	Sn	17 00 44.8	-1.9
	7.6nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.37**	**291**	*e*Pn	Pn	16 59 48.1	+1.8
PVAQ				*e*Sn	Sn	17 00 47.6	-0.2
EBAD	**Badajoz**	**5.44**	**307**	P	Pn	16 59 48.5	+1.2
	1.7nm,0.2s,SNR=12						
EBAD				S	Sn	17 00 49.4	-0.3
	15nm,0.2s,SNR=5.4						
PBDV	**Barranco-do-Ve**	**5.49**	**289**	*e*Pn	Pn	16 59 49.6	+1.7
PBDV				*e*Sn	Sn	17 00 50.2	-0.6
PBDV				A	A	17 00 52.6	
	7.1nm,0.4s						
PBEJ	**Beja**	**5.69**	**297**	*e*Pn	Pn	16 59 54.3	+3.6
PESTR	**Estremoz**	**5.88**	**305**	*e*Pn	Pn	16 59 55.3	+1.9
MESJ	**Messejana**	**5.88**	**294**	*e*P	Pn	16 59 55.4	+2.0
MESJ				*e*S	Sn	17 00 57.9	-2.6
MESJ				AML	AML	17 01 04.0	
	comp=N,10nm,0.4s						
MESJ	**Messejana**	**5.88**	**294**	*e*Pn	Pn	16 59 55.5	+2.1
MESJ				*e*Sn	Sn	17 00 59.8	-0.7
MESJ				A	A	17 01 05.0	
	comp=N,7.2nm,0.4s						
EPOB	**Poblet**	**6.04**	**18**	S	Sn	17 01 02.6	-1.8
	comp=N,5.3nm,0.2s,SNR=7.9						
MORF	**Marmelete**	**6.06**	**288**	*e*P	Pn	16 59 57.0	+1.2
MORF	**Marmelete**	**6.06**	**288**	*e*Pn	Pn	16 59 57.3	+1.5
MORF				*e*Sn	Sn	17 01 04.0	-0.9
MORF				A	A	17 01 30.1	
	comp=N,4.9nm,0.3s						
PMRV	**Marv??o**	**6.07**	**310**	*e*Pn	Pn	16 59 58.1	+2.2
PMRV				*e*Sn	Sn	17 01 08.3	+3.2
PMRV				A	A	17 01 09.3	
	comp=N,7.4nm,0.4s						
PFVI	**Vila Bisbo**	**6.16**	**286**	*e*Pn	Pn	16 59 59.8	+2.7
PFVI				*e*Sn	Sn	17 01 07.8	+0.6
PFVI				A	A	17 01 23.5	
	comp=N,8.4nm,0.5s						
PFVI	**Vila Bisbo**	**6.16**	**286**	P	Pn	16 59 59.1	+2.0
	comp=N,1.5nm,0.1s,SNR=8.5						
PFVI				S	Sn	17 01 06.0	-1.2
	comp=N,13nm,0.4s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.17**	**290**	*e*Pn	Pn	16 59 59.2	+1.8
PTEO				*e*Sn	Sn	17 01 07.8	+0.1
PTEO				A	A	17 01 14.8	
	comp=N,8.9nm,0.6s						
PNCL	**Nicolau / Gran**	**6.21**	**296**	*e*Pn	Pn	16 59 59.7	+1.9
PNCL				*e*Sn	Sn	17 01 06.4	-2.1
PNCL				A	A	17 01 16.2	
	comp=N,4.4nm,0.8s						
PCBR	**Castelo Branco**	**6.37**	**313**	*e*Pn	Pn	17 00 02.7	+2.6
PCBR				*e*Sn	Sn	17 01 12.8	+0.2
PCBR				A	A	17 01 36.8	
	comp=N,7.1nm,0.7s						
PMTG	**Montargil**	**6.41**	**304**	*e*Pn	Pn	17 00 02.7	+2.1
PMTG				*e*Sn	Sn	17 01 12.6	-0.9
PMTG				A	A	17 01 47.3	
	comp=N,6.0nm,0.6s						
OUZM	**OUZ**	**6.50**	**225**	P	Pn	17 00 09.2	+7.3
OUZM				S	Sn	17 01 24.2	+8.3
EMIR	**Miracle**	**6.68**	**19**	S	Sn	17 01 19.4	-0.8
	comp=N,16nm,0.5s						
MTE	**Manteigas**	**6.78**	**316**	*e*Pn	Pn	17 00 08.5	+2.8
MTE				*e*Sn	Sn	17 01 24.6	+1.9
MTE				A	A	17 01 38.0	
	comp=N,14nm,0.6s						
CFON	**Fontmartina**	**6.82**	**25**	P	Pn	17 00 08.2	+1.8
	comp=N,9.0nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**6.96**	**232**	P	Pn	17 00 12.4	+3.9
OUK				S	Sn	17 01 28.9	+1.2
PCAS	**Casmilo, Conde**	**7.12**	**310**	*e*Sn	Sn	17 01 30.5	-0.6
PVIS	**Viseu**	**7.19**	**317**	*e*Pn	Pn	17 00 13.9	+2.6
PVIS				*e*Sn	Sn	17 01 32.8	+0.1
PBRG	**Braganca**	**7.43**	**328**	*e*Pn	Pn	17 00 15.7	+1.1
PVRL	**Vila Real**	**7.49**	**321**	*e*Pn	Pn	17 00 18.3	+2.9
POLO	**Lamas de Olo**	**7.60**	**321**	*e*Pn	Pn	17 00 19.9	+2.9
PGAV	**Gavieira, Arco**	**8.27**	**322**	*e*Pn	Pn	17 00 26.6	+0.3

SFS ***14*** *16:59:12.0, 40°.77N×1°.94W, ML2.8, VALHERMOSO (GUADALAJARA)*
MDD ***14*** *16:59:12.6±0.3, 40°.79N×1°.94W, h0km, mbLg2.7/21, Error ellipse: s-maj=4.3km s-min=2.1km az=178.0, PRXIMO*
INMG ***14*** *16:59:12.4±1.3, 40°.77N×1°.92W, h0km, ML2.6, Error ellipse: s-maj=2.3km s-min=1.6km az=154.0*
LDG ***14*** *16:59:12.8±0.1, 40°.77N×1°.95W, h2km, Ml2.8/10, Error ellipse: s-maj=2.6km s-min=1.8km az=174.0*
ISC 14 16:59:11.2±1.1, 40°.75N±0°.03×1°.91W±0°.02, h6km±9km, n51, σ1ᵍ81/80, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ETOR	**Torete**	**0.13**	**303**	⇑Pg		**Pg**		**16 59 14.4**	**+0.5**
	275nm,0.3s,SNR=18								
ETOR				Lg		Lg		16 59 16.5	
	2µm,0.3s,SNR=5.0								
UCM	**Universidad Co**	**1.11**	**247**	*e*P		**Pn**		**16 59 34.3**	**+1.0**
UCM				*i* S		**Sn**		**16 59 50.2**	**+1.3**
EMOS	**Mosqueruela**	**1.16**	**109**	Pg		**Pb**		**16 59 34.9**	**+1.1**
	1.5nm,0.1s,SNR=20								
EMOS				Lg		Lg		16 59 49.8	
	25nm,0.1s,SNR=5.0								
ECHE	**Chera**	**1.36**	**148**	Pg		**Pb**		**16 59 38.6**	**+1.4**
	4.3nm,0.2s,SNR=7.9								
ECHE				Lg		Lg		16 59 57.8	
	29nm,0.3s,SNR=7.9								
ESAC	**San Caprasio**	**1.46**	**48**	Pg		**Pn**		**16 59 39.0**	**+0.8**
	160nm,0.3s,SNR=32								
ESAC				Lg		Lg		16 59 58.5	
	205nm,0.2s,SNR=5.0								
GUD	**Guadarrama**	**1.71**	**267**	Pg		**Pn**		**16 59 42.5**	**+0.8**
	1.5nm,0.2s,SNR=48								
GUD				Lg		Lg		17 00 06.3	
	37nm,0.3s,SNR=5.0								
ERTA	**Horta de San J**	**1.72**	**82**	Pg		**Pn**		**16 59 43.4**	**+1.7**
	5.7nm,0.2s,SNR=10								
ERTA				Lg		Lg		17 00 05.5	
	54nm,0.3s,SNR=11								
EBR	**Ebro Roquetas**	**1.83**	**87**	Lg		Lg		17 00 10.0	
	239nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**1.90**	**236**	Pg		**Pb**		**16 59 47.8**	**+1.4**
	15nm,0.3s,SNR=7.9								
ESDC				Lg		Lg		17 00 12.5	
	35nm,0.5s,SNR=7.9								
EARA	**Aranguren**	**2.04**	**7**	Pg		**Pb**		**16 59 48.8**	**+0.1**
	4.1nm,0.3s,SNR=7.9								
EARA				Lg		Lg		17 00 15.2	
	38nm,0.2s,SNR=7.9								
IELO	**Elcoad**	**2.15**	**13**	Pn		**Pn**		**16 59 48.3**	**+0.5**
	0.9nm,0.1s,SNR=7.9								
IELO				Pg		**Pb**		**16 59 52.1**	**+1.4**
	3.7nm,0.2s,SNR=7.9								
IELO				Sn		**Sn**		**17 00 15.3**	**+0.5**
	9.9nm,0.2s,SNR=7.9								
EPOB	**Poblet**	**2.34**	**74**	Pn		**Pn**		**16 59 50.5**	**+0.2**
	1.4nm,0.1s,SNR=9.6								
EPOB				Sn		**Sn**		**17 00 19.7**	**+0.2**
	3.5nm,0.2s,SNR=5.0								
ETSF	**Etsaut**	**2.38**	**25**	*e*Pn		**Pn**		**16 59 50.8**	**0.0**
ETSF	**Etsaut**	**2.38**	**25**	*e*Pg		**Pb**		**16 59 56.6**	**+2.1**
ETSF				*e*Sn		**Sn**		**17 00 18.7**	**-1.6**
	5.3nm,0.2s								
ETSF				*e*Sg		**Sg**		**17 00 27.9**	**+0.4**
	18nm,0.3s								
SJPF	**Ste Jean**	**2.42**	**12**	*e*Pn		**Pn**		**16 59 51.5**	**+0.2**
SJPF	**Ste Jean**	**2.42**	**12**	*e*Pg		**Pg**		**16 59 57.5**	**0.0**
SJPF				*e*Sn		**Sn**		**17 00 19.2**	**-2.1**
	6.7nm,0.2s								
SJPF				*e*Sg		**Sb**		**17 00 27.5**	**+2.3**
	9.9nm,0.2s								
ECHI	**Chisagues Biel**	**2.48**	**39**	Pn		**Pn**		**16 59 52.7**	**+0.3**
	0.7nm,0.2s,SNR=7.9								
ECHI				Pg		**Pb**		**16 59 57.4**	**+1.0**
	4.3nm,0.2s,SNR=7.9								
ECHI				Sn		**Sn**		**17 00 22.1**	**-0.9**
	7.0nm,0.2s,SNR=7.9								
EALK	**Alkurruntz**	**2.49**	**7**	Pn		**Pn**		**16 59 53.1**	**+0.8**
	0.5nm,0.1s,SNR=7.7								
EALK				Sn		**Sn**		**17 00 23.5**	**+0.4**
	32nm,0.3s,SNR=8.5								
ATE	**Arette**	**2.50**	**21**	Pn		**Pn**		**16 59 53.4**	**+0.8**
	0.9nm,0.1s,SNR=7.9								
ATE				Sn		**Sn**		**17 00 23.1**	**-0.3**
	9.2nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.73**	**336**	Pn		**Pn**		**16 59 55.1**	**-0.5**
	0.8nm,0.2s,SNR=6.7								
ELAN				Pg		**Pb**		**17 00 02.3**	**+1.8**
	2.8nm,0.2s,SNR=11								
ELAN				Sn		**Sn**		**17 00 23.4**	**-5.6**
	5.1nm,0.2s,SNR=7.9								
ELAN				Lg		Lg		17 00 36.9	
	10nm,0.2s,SNR=5.0								
CSOR	**Sort**	**2.81**	**54**	Pn		**Pn**		**16 59 57.8**	**+1.1**
	1.2nm,0.2s,SNR=7.9								
CSOR				Pg		**Pg**		**17 00 05.3**	**+0.4**
	2.1nm,0.1s,SNR=7.9								
CSOR				Sn		**Sn**		**17 00 31.3**	**+0.3**
	5.6nm,0.2s,SNR=7.9								
CSOR				Lg		Lg		17 00 40.1	
	25nm,0.4s,SNR=7.9								
EPF	**Esparros**	**2.83**	**36**	*e*Pn		**Pn**		**16 59 57.3**	**+0.2**
EPF	**Esparros**	**2.83**	**36**	*e*Pg		**Pb**		**17 00 04.9**	**+2.6**
EPF				*e*Sn		**Sn**		**17 00 29.5**	**-2.1**
	8.6nm,0.2s								
EPF				*e*Sg		**Sg**		**17 00 41.1**	**-1.1**
	8.7nm,0.2s								
EMIR	**Miracle**	**2.84**	**65**	Pn		**Pn**		**16 59 57.8**	**+0.6**
	1.6nm,0.2s,SNR=8.3								
EMIR				Pg		**Pb**		**17 00 04.4**	**+2.1**
	5.7nm,0.4s,SNR=7.9								
EMIR				Sn		**Sn**		**17 00 31.2**	**-0.5**
	5.2nm,0.1s,SNR=7.9								
EMIR				Lg		Lg		17 00 40.5	
	16nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**3.30**	**220**	Lg		Lg		17 00 58.6	
	12nm,0.2s,SNR=7.9								
CLLI	**Llivia**	**3.39**	**58**	Pn		**Pn**		**17 00 05.2**	**+0.4**
	1.2nm,0.2s,SNR=7.5								
CLLI				Pg		**Pb**		**17 00 14.9**	**+3.2**
	1.5nm,0.2s,SNR=7.9								
CLLI				Sn		**Sn**		**17 00 45.5**	**+0.1**
	2.4nm,0.2s,SNR=7.9								
CLLI				Lg		Lg		17 00 59.9	
	1.9nm,0.2s,SNR=5.0								
CFON	**Fontmartina**	**3.43**	**71**	Pn		**Pn**		**17 00 06.1**	**+0.8**
	2.1nm,0.2s,SNR=21								
CFON				Sn		**Sn**		**17 00 46.7**	**+0.3**
	11nm,0.3s,SNR=5.0								
CFON				Lg		Lg		17 00 59.5	
	10nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**3.54**	**317**	Pn		**Pn**		**17 00 08.8**	**+2.0**
	0.3nm,0.2s,SNR=7.9								
EARI				Lg		Lg		17 01 03.1	
	1.8nm,0.3s,SNR=7.9								
PBRG	**Braganca**	**3.79**	**288**	*e*Sg		**Sg**		**17 01 09.7**	**-3.2**
PBRG				A		A		17 01 15.3	
	8.8nm,0.4s								
ECAB	**El Cabril**	**3.81**	**227**	Lg		Lg		17 01 14.4	
	5.5nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**3.82**	**290**	Pn		**Pn**		**17 00 10.4**	**-0.3**
	1.7nm,0.3s,SNR=7.9								
ECAL				Pg		**Pb**		**17 00 21.9**	**+2.8**
	5.8nm,0.4s,SNR=7.9								
ECAL				Lg		Lg		17 01 13.1	
	10nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**3.90**	**278**	*e*Pn		**Pn**		**17 00 12.3**	**+0.6**
MVO	**Moncorvo**	**3.90**	**278**	*e*Sg		**Sg**		**17 01 14.9**	**-1.4**
MVO				A		A		17 01 23.7	
	11nm,0.8s								
MVO	**Moncorvo**	**3.90**	**278**	Pn		**Pn**		**17 00 12.2**	**+0.5**
	2.0nm,0.1s,SNR=6.4								
MVO				Lg		Lg		17 01 15.1	
	15nm,0.4s,SNR=5.0								
SJAF	**Saint Jean de**	**3.99**	**63**	Pn		**Pn**		**17 00 13.5**	**+0.5**
	0.5nm,0.2s,SNR=7.9								
SJAF				Pg		**Pg**		**17 00 26.3**	**-1.4**
	0.4nm,0.1s,SNR=7.9								
SJAF				Sn		**Sn**		**17 00 59.8**	**-0.3**
	1.2nm,0.2s,SNR=7.9								
SJAF				Lg		Lg		17 01 18.0	
	8.0nm,0.6s,SNR=7.9								
MTLF	**Montolieu**	**4.02**	**49**	*e*Pn		**Pn**		**17 00 14.0**	**+0.6**
MTLF	**Montolieu**	**4.02**	**49**	*e*Pg		**Pg**		**17 00 27.5**	**-0.7**
MTLF				*e*Sn		**Sn**		**17 00 58.4**	**-2.4**
	1.2nm,0.2s								
MTLF				*e*Sg		**Sg**		**17 01 18.9**	**-1.4**
	5.4nm,0.4s								
PMRV	**Marv??o**	**4.40**	**254**	*e*Pn		**Pn**		**17 00 19.1**	**+0.5**
PMRV				*e*Sg		**Sg**		**17 01 30.2**	**-2.4**
PMRV				A		A		17 01 38.2	
	11nm,0.5s								
EPON	**Pontenova**	**4.67**	**305**	Pg		**Pb**		**17 00 37.1**	**+3.5**
	2.7nm,0.5s,SNR=7.9								
EPON				Lg		Lg		17 01 38.9	
	3.0nm,0.2s,SNR=7.9								
PESTR	**Estremoz**	**4.76**	**249**	*e*Pn		**Pn**		**17 00 24.1**	**+0.6**
ELOB	**Lobios**	**4.76**	**286**	Pn		**Pn**		**17 00 23.8**	**+0.1**
	0.6nm,0.1s,SNR=7.9								
ELOB				Lg		Lg		17 01 43.3	
	1.7nm,0.2s,SNR=7.9								
CAF	**Calviac**	**5.10**	**34**	*e*Pn		**Pn**		**17 00 28.2**	**0.0**
PMTG	**Montargil**	**5.13**	**253**	*e*Pn		**Pn**		**17 00 29.9**	**+1.2**
LASF	**Ste Croix**	**5.41**	**50**	*e*Pn		**Pn**		**17 00 32.3**	**-0.2**
LASF	**Ste Croix**	**5.41**	**50**	*e*Pg		**Pb**		**17 00 50.7**	**+4.5**
LASF				*e*Sn		**Sn**		**17 01 31.8**	**-3.3**
	1.0nm,0.2s								
LASF				*e*Sg		**Sg**		**17 02 02.2**	**-2.8**
PVAQ	**Vaqueiros**	**5.62**	**235**	*e*Sg		**Sg**		**17 02 08.7**	**-2.8**
LMR	**La Mourre**	**6.78**	**65**	*e*Pn		**Pn**		**17 00 50.9**	**-0.3**
LMR				*e*Sn		**Sn**		**17 02 04.7**	**-4.1**
	0.6nm,0.2s								
FRF	**La Foret Royal**	**6.95**	**63**	*e*Pn		**Pn**		**17 00 53.5**	**-0.1**
FRF				*e*Sn		**Sn**		**17 02 07.9**	**-5.1**
QUIF	**Quistinic**	**7.22**	**353**	*e*Pn		**Pn**		**17 00 55.9**	**-1.4**
QUIF	**Quistinic**	**7.22**	**353**	*e*Pg		Pg		17 01 25.0	-4.5
SBF	**Sospel**	**7.59**	**63**	*e*Pn		**Pn**		**17 01 02.8**	**+0.3**

TAP 14 17:01:07.5, 23°.25N×120°.64E, h12km, ML0.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WTP	**Ta-pu**	**0.02**	**250**	P		Pg		17 01 10.5	+0.7
	baz=230								
WTP				S		Sg		17 01 11.8	+0.4
	baz=230								
TPUB	**Ta-pu**	**0.05**	**354**	P		Pg		17 01 10.8	+0.8
	baz=354								
TPUB				S		Sg		17 01 12.2	+0.5
	baz=354								
STYT	**Tauyuan**	**0.14**	**129**	*e*P		Pb		17 01 12.2	0.0
	baz=127								
STYT				S		Sg		17 01 14.8	+1.1
	baz=127								
ALS	**Alishan**	**0.30**	**31**	*e*S		Sb		17 01 19.5	-0.5
	baz=32								
CHN8	**Yiju**	**0.40**	**283**	S		Sb		17 01 22.3	-0.4
	baz=283								

IDC ***14*** *17:23:56.4±1.3, 1°.07N×125°.15E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/40, mbtmp3.7/5, Error ellipse: s-maj=103.1km s-min=18.9km az=59.0*
ISCJB ***14*** *17:24:09.7±1.0, 0°.09S±0°.08×123°.83E±0°.05, h100km, mb3.5/5, Error ellipse: s-maj=12.1km s-min=6.5km az=2.3*
DJA ***14*** *17:24:11.5±0.6, 0°.5S±4°×12°.4E±°, h95km±18km, M4.0/13, mb3.9/4, mB4.7/2, MLv4.1/13, Mw(mB)3.9/2*
ISC 14 17:24:10.2±0.9, 0°.05S±0°.08×123°.82E±0°.05, h100km, n15, σ1ᵍ81/24, mb3.5/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.44**	**227**	P		P		**17 24 35.9**	**+0.2**
LUWI				S		**Sn**		**17 24 54.8**	**-0.3**
APSI	**Ampana**	**2.33**	**248**	P		**Pn**		**17 24 47.4**	**+0.3**
APSI				S		**Sn**		**17 25 15.6**	**+0.2**
SANI	**Sanana**	**2.94**	**133**	P		**Pn**		**17 24 55.4**	**+0.2**
SANI				S		**Sn**		**17 25 28.0**	**-1.9**
KDI	**Kendari**	**4.06**	**197**	P		**Pn**		**17 25 11.0**	**+0.7**
KDI				S		**Sn**		**17 25 52.2**	**-4.7**
PCI	**Palu**	**4.07**	**258**	P		**Pn**		**17 25 10.7**	**+0.3**
TTSI	**Tana Toraja**	**4.98**	**233**	P		**Pn**		**17 25 23.1**	**+0.3**
TTSI				S		**Sn**		**17 26 16.2**	**-3.0**
BBSI	**Bau Bau**	**5.54**	**193**	P		**Pn**		**17 25 31.8**	**+1.4**
	6.3nm,1.0s,0.2nm								
SPSI	**Sidrap Palu**	**5.61**	**226**	P		**Pn**		**17 25 32.5**	**+1.2**
SPSI				S		**Sn**		**17 26 32.9**	**-1.6**
BNSI	**Bone**	**5.70**	**221**	P		**Pn**		**17 25 33.3**	**+0.9**
	25nm,0.9s,0.1nm								
BNSI				S		**Sn**		**17 26 36.7**	**+0.2**
	25nm,0.9s,0.1nm								
BKSI	**Bulukumba**	**6.41**	**215**	P		**Pn**		**17 25 42.9**	**+0.8**
WRA	**Warramunga Arr**	**22.30**	**153**	P		**P**		**17 28 59.1**	**-0.5**
	1.6nm,0.6s,baz=334,slow=10.0,SNR=22								
WRA				PcP		**PcP**		**17 32 51.3**	**-0.6**
	0.2nm,0.5s,baz=326,slow=2.0,SNR=4.9								
ASAR	**Alice Springs**	**25.44**	**158**	P		**P**		**17 29 33.1**	**+4.2**
	0.4nm,0.6s,baz=353,slow=14,SNR=9.7								
ASAR				PcP		**PcP**		**17 32 58.5**	**-0.2**
	0.4nm,0.4s,baz=350,slow=2.4,SNR=8.8								
CMAR	**Chiang Mai Arr**	**30.59**	**308**	P		**P**		**17 30 15.4**	**+0.5**
	0.4nm,0.8s,baz=132,slow=8.2,SNR=5.5								
STKA	**Stephens Creek**	**35.85**	**154**	P		**P**		**17 31 01.8**	**+1.4**
	0.8nm,0.6s,baz=320,slow=12,SNR=2.8								
MKAR	**Makanchi Array**	**59.09**	**328**	P		**P**		**17 33 57.9**	**-2.2**
	1.2nm,0.6s,baz=126,slow=8.4,SNR=16								

IDC ***14*** *17:24:45.5±1.9, 36°.35N×142°.05E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/38, mbtmp3.6/7, ML2.9/2, MS2.7/3, Ms1 2.7/3, ms1mx2.5/40, Error ellipse: s-maj=36.1km s-min=26.3km az=90.0*
ISCJB ***14*** *17:24:46.2±1.0, 36°.35N±0°.06×142°.11E±0°.09, h19km, mb3.4/5, MS2.8/1, Error ellipse: s-maj=11.7km s-min=6.3km az=38.1*
JMA ***14*** *17:24:50.3±0.3, 36°.36N×141°.74E, h66km, M3.1*
ISC 14 17:24:48.5±1.3, 36°.35N±0°.08×141°.95E±0°.09, h19km, n23, σ1ᵍ38/19, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.09**	**234**	P		**Pg**		**17 25 08.4**	**-1.3**
CHOJ

15nm,0.9s
LVC Limon Verde 29.22 70 LR LR 17 40 15.4
comp=Z,261nm,19.7s,baz=218,slow=30
LPAZ La Paz 33.74 61 *eP* **P 17 32 20.3 -0.5**
LPAZ *epP* **P 17 32 20.6 -0.3**
LPAZ La Paz 33.74 61 P **P 17 32 20.1 -0.7**
4.1nm,0.8s,baz=217,slow=5.2,SNR=16
LPAZ LR LR 17 43 11.7
comp=Z,63nm,21.8s,baz=226,slow=31
CPUP Villa Florida 36.47 86 LR LR 17 45 32.7
comp=Z,97nm,18.9s,baz=228,slow=33
ROSC El Rosal 47.01 34 LR LR 17 50 55.2
comp=Z,100nm,18.2s,baz=236,slow=32
BDFB Brasilia 49.40 79 LR LR 17 53 40.6
comp=Z,134nm,19.1s,baz=249,slow=34
QSPA South Pole Qui 53.72 180 P **P 17 35 00.2 -0.1**
1.8nm,0.8s,baz=113,slow=2.5,SNR=5.3
VNDA Vanda 56.69 195 P **P 17 35 21.4 0.0**
1.2nm,1.0s,baz=144,slow=4.3,SNR=4.0
TXAR Lajitas Array 65.65 355 P **P 17 36 22.2 -0.5**
0.2nm,0.7s,baz=160,slow=5.6,SNR=3.4
NV01 Mina Array Sit 76.73 344 *eP* **P 17 37 29.9 +0.1**
NVAR Mina Array Bea 76.73 344 P **P 17 37 29.9 +0.1**
1.9nm,0.9s,baz=171,slow=7.6,SNR=8.0
KBZ Khabaz 149.94 64 PKPbc **PKiKP 17 45 29.5 +0.1**
4.7nm,1.1s,baz=245,slow=2.1,SNR=7.2
CMAR Chiang Mai Arr 156.25 226 PKPab **PKPab 17 46 00.6 -0.8**
1.0nm,0.9s,baz=172,slow=1.8,SNR=6.8
MK32 Makanchi Array 169.69 356 *e*PKPab **PKPab 17 47 00.8 +1.3**
MKAR Makanchi Array 169.69 356 PKPab **PKPab 17 47 00.8 +1.3**
1.0nm,0.9s,baz=29,slow=3.3,SNR=6.4

*ISCJB **14** 17:36:28.0±0.3, 44.38S±0.02×168.23E±0.04, h11km, mb4.2/10, MS3.5/3, Error ellipse: s-maj=4.6km s-min=2.6km az=35.7*
*WEL **14** 17:36:28.7±0.5, 44.5°S×167.8°E, h5km, ML5.0/20*
*NEIC **14** 17:36:29.0±0.3, 44.45S×168.27E, h10km, mb4.7/3, Error ellipse: s-maj=6.1km s-min=4.3km az=150.0*
*IDC **14** 17:36:31.9±4.6, 44.30S×168.34E, h19km±29km, mb4.0/7, mb1 4.2/9, mb1mx4.0/32, mbtmp4.1/9, ML3.8/2, MS3.6/3, Ms1 3.5/3, ms1mx3.2/25, Error ellipse: s-maj=36.0km s-min=18.3km az=16.0*
ISC 14 17:36:29.5±0.5, 44.45S±0.03×168.29E±0.04, h11km, n123, σ1§58/124, mb4.2/10, MS3.5/3, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.34**	**229**	P	**Pg**	**17 36 35.9**	**-0.5**
MSZ				S	**Sg**	**17 36 40.8**	**-0.2**
JCZ	**Jackson Bay**	**0.52**	**44**	P	**Pg**	**17 36 39.2**	**-0.4**
JCZ				S	**Sg**	**17 36 46.2**	**-0.2**
WKZ	**Wanaka**	**0.64**	**126**	*e*Pg	**Pg**	**17 36 41.9**	**0.0**
WKZ	**Wanaka**	**0.64**	**126**	P	**Pg**	**17 36 42.1**	**+0.2**
WKZ				S	**Sg**	**17 36 50.4**	**0.0**
MLZ	**Mavora Lakes**	**0.93**	**188**	*e*Pg	**Pg**	**17 36 46.0**	**-1.3**
MLZ	**Mavora Lakes**	**0.93**	**188**	P	**Pg**	**17 36 46.4**	**-0.9**
MLZ				S	**Sb**	**17 37 00.3**	**+0.4**
EAZ	**Earnscleugh**	**1.07**	**138**	P	**Pb**	**17 36 49.4**	**-0.6**
DCZ	**Deep Cove**	**1.30**	**218**	*e*Pn	**Pn**	**17 36 51.8**	**-1.7**
DCZ	**Deep Cove**	**1.30**	**218**	P	**Pn**	**17 36 52.0**	**-1.5**
LBZ	**Lake Benmore**	**1.36**	**88**	*e*Pn	**Pn**	**17 36 54.4**	**0.0**
LBZ	**Lake Benmore**	**1.36**	**88**	P	**Pb**	**17 36 54.9**	**0.0**
FOZ	**Fox Glacier**	**1.43**	**51**	*e*Pn	**Pn**	**17 36 54.8**	**-0.5**
FOZ	**Fox Glacier**	**1.43**	**51**	P	**Pn**	**17 36 54.8**	**-0.5**
WHZ	**Wether Hill Ro**	**1.47**	**189**	*e*Pn	**Pn**	**17 36 55.2**	**-0.7**
WHZ	**Wether Hill Ro**	**1.47**	**189**	P	**Pn**	**17 36 55.4**	**-0.4**
ODZ	**Otahua Downs**	**1.78**	**110**	*e*Pn	**Pn**	**17 37 00.3**	**+0.2**
ODZ	**Otahua Downs**	**1.78**	**110**	P	**Pn**	**17 37 00.5**	**+0.4**
TUZ	**Tuapeka**	**1.78**	**148**	P	**Pn**	**17 37 00.8**	**+0.7**
PYZ	**Puysegur Point**	**2.06**	**213**	*e*Pn	**Pn**	**17 37 03.4**	**-0.7**
PYZ	**Puysegur Point**	**2.06**	**213**	P	**Pn**	**17 37 04.0**	**0.0**
RPZ	**Rata Peaks**	**2.12**	**71**	Pn	**Pn**	**17 37 04.9**	**0.0**
	52nm,0.3s,baz=229,slow=6.1,SNR=201						
RPZ				Pg	**Pg**	**17 37 10.9**	**+0.8**
	523nm,0.3s,baz=239,slow=8.7,SNR=113						
RPZ				Lg	Lg	17 37 35.8	
	265nm,0.3s,baz=13,slow=14,SNR=20						
RPZ	**Rata Peaks**	**2.12**	**71**	P	**Pn**	**17 37 05.1**	**+0.2**
SYZ	**Scrubby Hill**	**2.17**	**132**	P	**Pn**	**17 37 06.0**	**+0.5**
HHSZ	**Highcliff Hill**	**2.17**	**132**	P	**Pn**	**17 37 06.9**	**+1.3**
WVZ	**Waitaha Valley**	**2.24**	**53**	P	**Pn**	**17 37 06.0**	**-0.5**
INZ	**Inchbonnie**	**2.87**	**54**	P	**Pn**	**17 37 14.8**	**-0.3**
OXZ	**Oxford**	**2.93**	**69**	*e*Pn	**Pn**	**17 37 15.0**	**-1.0**
OXZ	**Oxford**	**2.93**	**69**	P	**Pn**	**17 37 15.4**	**-0.6**
MQZ	**McQueen's Vall**	**3.23**	**78**	*e*Pn	**Pn**	**17 37 19.5**	**-0.6**
MQZ	**McQueen's Vall**	**3.23**	**78**	P	**Pn**	**17 37 19.3**	**-0.8**
CRLZ	**Canterbury Las**	**3.25**	**76**	*e*Pn	**Pn**	**17 37 20.0**	**-0.3**
CRLZ	**Canterbury Las**	**3.25**	**76**	P	**Pn**	**17 37 21.2**	**+0.9**
LTZ	**Lake Taylor**	**3.33**	**61**	*e*Pn	**Pn**	**17 37 20.4**	**-1.1**
LTZ	**Lake Taylor**	**3.33**	**61**	P	**Pn**	**17 37 20.8**	**-0.8**
AKCZ	**Akaroa Harbour**	**3.37**	**82**	P	**Pn**	**17 37 21.6**	**-0.5**
AMCZ	**Amberley**	**3.40**	**70**	P	**Pn**	**17 37 22.0**	**-0.4**
OKCZ	**Okains Bay**	**3.51**	**80**	P	**Pn**	**17 37 23.8**	**-0.2**
DSZ	**Denniston Nort**	**3.73**	**45**	P	**Pn**	**17 37 27.1**	**+0.1**
THZ	**Tophouse**	**4.31**	**53**	*e*Pn	**Pn**	**17 37 34.2**	**-0.8**
THZ	**Tophouse**	**4.31**	**53**	P	**Pn**	**17 37 34.8**	**-0.3**
THZ				P	**Pn**	**17 37 34.9**	**-0.1**
KHZ	**Kahutara**	**4.33**	**64**	*e*Pn	**Pn**	**17 37 34.4**	**-0.7**
KHZ	**Kahutara**	**4.33**	**64**	P	**Pn**	**17 37 34.6**	**-0.6**
QRZ	**Quartz Range**	**4.78**	**42**	P	**Pn**	**17 37 41.1**	**-0.3**
BSWZ	**Blackbirch Sta**	**4.92**	**58**	P	**Pn**	**17 37 45.8**	**+2.5**
NNZ	**Nelson**	**4.94**	**51**	P	**Pn**	**17 37 44.1**	**+0.5**
CMWZ	**Cape Campbell**	**5.11**	**60**	P	Pn	17 37 52.0	+6.1
TUWZ	**Tuamarina**	**5.13**	**56**	P	**Pn**	**17 37 48.5**	**+2.3**
TCW	**Tory Channel**	**5.46**	**56**	P	**Pn**	**17 37 52.3**	**+1.5**
DUWZ	**D'Urville Isla**	**5.53**	**51**	P	**Pn**	**17 37 52.3**	**+0.6**
SNZO	**South Karori**	**5.66**	**59**	*e*Pn	**Pn**	**17 37 52.9**	**-0.6**
BHW	**Baring Head**	**5.71**	**60**	P	**Pn**	**17 37 56.2**	**+2.1**
BHW				P	**Pn**	**17 37 56.2**	**+2.1**
MSWZ	**Moikau Station**	**5.94**	**62**	P	**Pn**	**17 37 57.5**	**+0.2**
KIW	**Kapiti Island**	**6.05**	**56**	P	**Pn**	**17 37 59.2**	**+0.3**
PAWZ	**Paruwai Farm**	**6.07**	**62**	P	**Pn**	**17 38 03.0**	**+3.9**
OGWZ	**Otaki Gorge**	**6.24**	**57**	P	**Pn**	**17 38 01.9**	**+0.5**
MTW	**Mount Morrison**	**6.24**	**61**	P	**Pn**	**17 38 01.2**	**-0.3**
HOWZ	**Holdsworth Sta**	**6.40**	**59**	P	**Pn**	**17 38 04.3**	**+0.7**
TMWZ	**Te Maipa**	**6.51**	**52**	P	**Pn**	**17 38 06.6**	**+1.4**
NMEZ	**Namu Road**	**6.53**	**42**	P	**Pn**	**17 38 05.8**	**+0.4**
MRZ	**Mangatainoka R**	**6.58**	**57**	P	**Pn**	**17 38 05.2**	**-0.9**
NBEZ	**Newall Road No**	**6.64**	**41**	P	**Pn**	**17 38 07.0**	**0.0**
KHEZ	**Kahui Hut**	**6.69**	**42**	P	**Pn**	**17 38 08.0**	**+0.3**
PREZ	**Palmer Road**	**6.72**	**43**	P	**Pn**	**17 38 09.0**	**+0.9**
LREZ	**Lake Rotokare**	**6.75**	**45**	P	**Pn**	**17 38 09.4**	**+1.0**
PKE	**Pukeiti**	**6.75**	**41**	P	**Pn**	**17 38 08.7**	**+0.1**
WAZ	**Wanganui**	**6.84**	**49**	P	**Pn**	**17 38 11.0**	**+1.3**
POWZ	**Post Office Ro**	**6.86**	**56**	P	Pn	17 38 14.7	+4.8
DREZ	**Durham Road**	**6.86**	**42**	P	**Pn**	**17 38 10.5**	**+0.5**
PRWZ	**Pori Road**	**6.88**	**58**	P	**Pn**	**17 38 10.0**	**-0.3**
BFZ	**Birch Farm**	**6.97**	**60**	*e*Pn	**Pn**	**17 38 12.8**	**+1.2**
BFZ	**Birch Farm**	**6.97**	**60**	P	**Pn**	**17 38 10.0**	**-1.5**
MHEZ	**Mangahewa**	**7.01**	**42**	P	**Pn**	**17 38 13.8**	**+1.8**
TSZ	**Takapari Road**	**7.18**	**55**	P	**Pn**	**17 38 13.2**	**-1.2**
VRZ	**Vera Road**	**7.18**	**44**	P	**Pn**	**17 38 14.9**	**+0.4**
MTVZ	**Mangateitei**	**7.36**	**49**	P	**Pn**	**17 38 18.2**	**+1.3**
PKVZ	**Pokaka**	**7.37**	**48**	P	**Pn**	**17 38 17.4**	**+0.5**
PNHZ	**Pukenui**	**7.42**	**55**	P	**Pn**	**17 38 16.6**	**-1.1**
TRVZ	**Turoa**	**7.47**	**49**	P	**Pn**	**17 38 19.1**	**+0.6**
DRZ	**Dome Shelter**	**7.49**	**49**	P	**Pn**	**17 38 22.1**	**+3.2**
FWVZ	**Far West T-bar**	**7.50**	**49**	P	**Pn**	**17 38 19.2**	**+0.2**
WHVZ	**Whangaehu Hut**	**7.50**	**49**	P	**Pn**	**17 38 19.0**	**0.0**
MOVZ	**Moawhango**	**7.50**	**50**	P	**Pn**	**17 38 20.9**	**+2.0**
TUVZ	**Tukino**	**7.55**	**49**	P	**Pn**	**17 38 20.3**	**+0.8**
TWVZ	**Taurewa**	**7.57**	**47**	P	**Pn**	**17 38 20.9**	**+1.1**
NGZ	**Ngauruhoe**	**7.58**	**49**	P	**Pn**	**17 38 22.0**	**+2.0**
BHHZ	**Black Hill Sta**	**7.62**	**52**	P	**Pn**	**17 38 19.4**	**-1.0**
WTVZ	**West Tongariro**	**7.62**	**48**	P	**Pn**	**17 38 22.1**	**+1.6**
KRVZ	**Karewarewa**	**7.67**	**48**	P	**Pn**	**17 38 23.1**	**+2.0**
HIZ	**Hauiti**	**7.71**	**42**	*e*Pn	**Pn**	**17 38 20.7**	**-0.9**
HIZ	**Hauiti**	**7.71**	**42**	P	**Pn**	**17 38 21.3**	**-0.3**
KATZ	**Kakaramea**	**7.78**	**48**	P	**Pn**	**17 38 24.9**	**+2.1**
WAIZ	**Wairara**	**8.00**	**47**	P	**Pn**	**17 38 28.3**	**+2.7**
BKZ	**Black Stump Fm**	**8.08**	**52**	*e*Pn	**Pn**	**17 38 26.1**	**-0.7**
BKZ	**Black Stump Fm**	**8.08**	**52**	P	**Pn**	**17 38 27.4**	**+0.5**
URZ	**Urewera**	**9.06**	**50**	*e*Pn	**Pn**	**17 38 39.0**	**-1.1**
URZ				Sn	**Sn**	**17 40 15.4**	**-6.8**
URZ	**Urewera**	**9.06**	**50**	Pn	**Pn**	**17 38 38.4**	**-1.7**
	0.6nm,0.3s,baz=242,slow=10,SNR=7.4						
URZ				Sn	**Sn**	**17 40 15.4**	**-6.8**
	2.6nm,0.3s,baz=258,slow=23,SNR=5.5						
OUZ	**Omahuta**	**10.08**	**26**	*e*Pn	**Pn**	**17 38 53.8**	**-0.3**
DZM	**Mont Dzumac**	**22.37**	**355**	*e*P	**P**	**17 41 34.5**	**+6.8**
	6.6nm,0.8s						
DZM				*e*LR	LR	17 47 00.2	
	comp=Z,305nm,29.8s						
DZM	**Mont Dzumac**	**22.37**	**355**	P	**P**	**17 41 28.6**	**+0.9**
	4.0nm,1.1s,baz=201,slow=14,SNR=2.6						
DZM				LR	LR	17 49 36.7	
	comp=Z,212nm,18.4s,baz=172,slow=35						
STKA	**Stephens Creek**	**24.34**	**292**	P	**P**	**17 41 48.3**	**+1.0**
	4.2nm,0.8s,baz=129,slow=11,SNR=8.2						
STKA				LR	LR	17 49 33.8	
	comp=Z,100nm,21.3s,baz=188,slow=32						
AS01	**Alice Springs**	**34.84**	**295**	*e*P	**P**	**17 43 18.2**	**-2.4**
ASAR	**Alice Springs**	**34.87**	**295**	P	**P**	**17 43 20.8**	**0.0**
	2.2nm,1.1s,baz=125,slow=5.5,SNR=9.0						
HNR	**Honiara**	**35.63**	**346**	LR	LR	17 55 12.1	
	comp=Z,93nm,21.2s,baz=201,slow=32						
WRA	**Warramunga Arr**	**37.29**	**300**	P	**P**	**17 43 42.0**	**+0.4**
	2.4nm,0.7s,baz=137,slow=7.7,SNR=19						
WRA				PcP	**PcP**	**17 46 03.1**	**+2.2**
	0.5nm,0.8s,baz=139,slow=3.0,SNR=4.2						
WRAB	**Tennant Creek**	**37.29**	**300**	*e*P	**P**	**17 43 39.1**	**-2.4**
	3.3nm,0.7s						
H01W1	**Cape Leeuwin H**	**42.07**	**264**	T	T	18 28 15.7	
	baz=119,slow=75,SNR=3.7						
H01W2	**Cape Leeuwin H**	**42.08**	**264**	T	T	18 28 20.9	
	baz=119,slow=75,SNR=9.0						
H01W3	**Cape Leeuwin H**	**42.09**	**264**	T	T	18 28 20.3	
	baz=119,slow=75,SNR=5.1						
FITZ	**Fitzroy Crossi**	**44.23**	**293**	P	**P**	**17 44 39.2**	**+0.3**
	2.9nm,0.8s,baz=159,slow=7.4,SNR=4.2						
PPT2	**Papeete2**	**44.26**	**66**	*e*LR	LR	17 57 24.9	
	comp=Z,125nm,23.2s						
QSPA	**South Pole Qui**	**45.68**	**180**	*e*P	**P**	**17 44 50.5**	**+0.5**
	13nm,1.0s						
MBWA	**Marble Bar**	**46.14**	**284**	*e*P	**P**	**17 44 52.1**	**-1.9**
	4.7nm,0.5s						
PLCA	**Paso Flores**	**80.09**	**139**	P	**P**	**17 48 41.0**	**+1.6**
	1.3nm,0.8s,baz=120,slow=4.5,SNR=3.2						
CM01	**Chiang Mai Arr**	**88.81**	**297**	*e*P	**P**	**17 49 23.1**	**-0.4**
H08S2	**Diego Garcia H**	**88.83**	**261**	T	T	19 27 21.9	
	baz=134,slow=76						
H08S1	**Diego Garcia H**	**88.84**	**261**	T	T	19 27 22.7	
	baz=134,slow=76						
H08S3	**Diego Garcia H**	**88.84**	**261**	T	T	19 27 23.7	
	baz=134,slow=76						
CMAR	**Chiang Mai Arr**	**88.84**	**297**	P	**P**	**17 49 25.1**	**+1.5**
	1.2nm,0.7s,baz=156,slow=3.7,SNR=14						
BRTR	**Keskin Array B**	**146.35**	**278**	PKPbc	**PKPbc**	**17 56 10.2**	**+0.1**
	0.9nm,0.8s,baz=136,slow=4.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**146.76**	**204**	PKPbc	**PKPbc**	**17 56 11.7**	**-0.1**
	5.9nm,0.8s,baz=176,slow=3.5,SNR=14						
ARCES	**ARCESS Array B**	**148.64**	**336**	PKPbc	**PKPbc**	**17 56 14.5**	**-0.8**
	1.0nm,0.5s,baz=79,slow=4.7,SNR=3.8						
AKASG	**Malin Array Be**	**151.97**	**298**	PKP	**PKPdf**	**17 56 20.1**	**+2.8**
	0.1nm,0.3s,baz=62,slow=4.3,SNR=2.9						
AKASG				PKPbc	**pPKPbc**	**17 56 26.0**	**-2.0**
	0.2nm,0.3s,baz=69,slow=2.5,SNR=2.9						
FINES	**FINESS Array B**	**152.13**	**321**	PKPbc	**PKPbc**	**17 56 23.6**	**-0.2**
	1.8nm,0.8s,baz=64,slow=8.7,SNR=5.5						

IDC 14 17:45:35.5±1.9, 0.19N×125.61E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=186.2km s-min=24.6km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.76**	**157**	P	P	17 50 28.2	-0.7
	0.7nm,0.4s,baz=335,slow=10,SNR=15						
ASAR	**Alice Springs**	**25.05**	**162**	P	P	17 51 02.2	+0.5
	0.5nm,0.4s,baz=346,slow=11,SNR=15						
MKAR	**Makanchi Array**	**59.85**	**327**	P	P	17 55 42.9	-0.1
	0.2nm,0.6s,baz=146,slow=5.2,SNR=2.7						

*IDC **14** 17:46:30.1±1.6, 1.88S×123.26E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/38, mbtmp3.3/3, Error ellipse: s-maj=277.6km s-min=25.5km az=61.0*
*DJA **14** 17:46:34.2±1.6, 3.3°S×12.2E±, h19km±17km, M3.7/9, MLv3.7/9*
*ISCJB **14** 17:46:35.3±0.7, 2.70S±0.05×121.98E±0.05, h64km±12km, mb3.3/2, Error ellipse: s-maj=9.3km s-min=7.5km az=42.4*
ISC 14 17:46:37.0±1.1, 2.73S±0.04×121.97E±0.05, h51km±18km, n11, σ1§94/17, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.38**	**152**	P	**Pn**	**17 46 58.6**	**-1.3**
KDI				S	**Sn**	**17 47 19.3**	**+2.3**
APSI	**Ampana**	**1.84**	**350**	P	**Pn**	**17 47 03.9**	**-2.2**
APSI				S	**Sn**	**17 47 32.2**	**+4.0**
LUWI	**Luwuk**	**1.86**	**25**	P	**Pn**	**17 47 04.2**	**-2.2**
LUWI				S	**Sn**	**17 47 30.3**	**+1.6**
TTSI	**Tana Toraja**	**2.17**	**262**	P	**Pn**	**17 47 08.7**	**-2.0**
TTSI				S	**Sn**	**17 47 37.2**	**+0.7**
BNSI	**Bone**	**2.49**	**228**	P	**Pn**	**17 47 13.9**	**-1.2**
BNSI				S	**Sn**	**17 47 44.4**	**0.0**
SPSI	**Sidrap Palu**	**2.52**	**241**	P	**Pn**	**17 47 14.7**	**-0.7**
SPSI				S	**Sn**	**17 47 46.4**	**+1.5**
PCI	**Palu**	**2.80**	**310**	P	**Pn**	**17 47 18.9**	**-0.4**
BKSI	**Bulukumba**	**3.17**	**216**	P	**Pn**	**17 47 23.9**	**-0.5**
WRA	**Warramunga Arr**	**20.94**	**146**	P	**P**	**17 51 14.4**	**-1.3**
	0.4nm,0.6s,baz=326,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**23.80**	**152**	P	**P**	**17 51 47.0**	**+1.7**
	0.9nm,0.7s,baz=328,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**60.41**	**330**	P	**P**	**17 56 40.9**	**-0.2**
	0.2nm,0.7s,baz=122,slow=8.2,SNR=2.4						

*IDC **14** 17:49:26.9±5.4, 20.76S×177.05W, h428km±54km, mb3.5/7, mb1 3.6/9, mb1mx3.3/30, mbtmp4.3/9, Error ellipse: s-maj=38.6km s-min=27.6km az=40.0*
*ISCJB **14** 17:49:29.0±1.2, 20.8S±0.2×177.4W±0.1, h450km, mb3.9/8, Error ellipse: s-maj=21.6km s-min=18.1km az=3.2*
ISC 14 17:49:30.1±1.3, 20.8S±0.2×177.5W±0.2, h450km, n10, σ2§16/13, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**15.04**	**262**	P	**P**	**17 52 43.1**	**+1.3**
	1.9nm,0.3s,baz=77,slow=18,SNR=44						
DZM				S	**S**	**17 55 15.6**	**-4.6**
	0.1nm,0.3s,baz=309,slow=13,SNR=10						
URZ	**Urewera**	**18.06**	**194**	P	**P**	**17 53 11.2**	**-2.1**
	1.5nm,0.3s,baz=351,slow=1.7,SNR=12						
URZ				S	S	17 56 35.0	+19
	0.2nm,0.3s,baz=37,slow=15,SNR=2.8						
RPZ	**Rata Peaks**	**24.81**	**200**	P	**P**	**17 54 13.8**	**-0.9**
	1.0nm,0.3s,baz=66,slow=9.7,SNR=3.0						
CTA	**Charters Tower**	**33.96**	**265**	P	**P**	**17 55 36.1**	**+1.4**
	10nm,0.8s,baz=93,slow=11,SNR=9.5						
STKA	**Stephens Creek**	**38.12**	**245**	P	**P**	**17 56 11.6**	**+2.4**
	2.5nm,0.8s,baz=95,slow=12,SNR=5.7						
ASAR	**Alice Springs**	**44.94**	**257**	P	**P**	**17 57 05.6**	**+1.8**
	7.0nm,0.6s,baz=90,slow=8.3,SNR=167						
ASAR				PcP	**PcP**	**17 58 35.7**	**-0.3**
	0.4nm,0.5s,baz=100,slow=4.2,SNR=3.8						
WRA	**Warramunga Arr**	**45.05**	**262**	P	**P**	**17 57 05.4**	**+0.8**
	2.9nm,0.3s,baz=96,slow=7.5,SNR=157						
WRA				PcP	**PcP**	**17 58 35.5**	**-0.9**
	0.3nm,0.5s,baz=96,slow=2.8,SNR=2.6						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	**P**	**17 58 08.5**	**+1.2**
	0.7nm,0.3s,baz=92,slow=4.6,SNR=6.3						
SIJI	**Sorong**	**53.78**	**285**	P	**P**	**17 58 07.7**	**-1.9**
	6.3nm,0.6s,baz=96,slow=10,SNR=5.4						
ILAR	**Eielson Array**	**88.46**	**13**	P	**P**	**18 01 31.9**	**-0.8**
	0.2nm,0.4s,baz=226,slow=5.4,SNR=4.9						

*SOME **14** 18:07:12.9, 41.60N×79.08E, h20km*
*KRNET **14** 18:07:13.1±0.1, 41.68N×79.02E, h12km, mb2.1*
*NNC **14** 18:07:13.3±1.9, 41.66N×78.98E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=13.0km s-min=7.9km az=155.0*
ISC 14 18:07:12.7±2.2, 41.64N±0.07×79.00E±0.06, h6km±12km, n33, σ0§90/56, 11C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.90**	**276**	⇑*iP*	**Pg**	**18 07 30.3**	**+0.3**
	baz=73						
TARG				⇑*iS*	**Sb**	**18 07 43.2**	**-0.2**
	baz=73						
KDJ	**Kajisay**	**1.45**	**291**	⇑*iP*	**Pb**	**18 07 40.1**	**0.0**
	baz=89						
KDJ				⇑*iS*	**Sg**	**18 07 59.5**	**+0.3**
	baz=89						
SATY	**Saty**	**1.49**	**343**	P	**Pg**	**18 07 41.3**	**0.0**
	2.9nm,0.1s						
SATY				S	**Sg**	**18 08 02.1**	**+1.5**
	28nm,0.1s						
SATY	**Saty**	**1.49**	**343**	*e*P	**Pg**	**18 07 41.3**	**0.0**
	2.9nm,0.1s						
SATY				*e*S	**Sg**	**18 08 01.8**	**+1.2**
	28nm,0.1s						
UZB	**Uzynbulak**	**1.51**	**1**	*e*P	**Pb**	**18 07 40.8**	**-0.4**
	1.4nm,0.3s						
UZB				*e*S	**Sg**	**18 08 00.8**	**-0.5**
	9.6nm,0.3s						
PDGK	**Podgornoye**	**1.73**	**12**	P	**Pb**	**18 07 44.5**	**-0.5**
	1.7nm,0.2s						
PDGK				S	**Sg**	**18 08 07.3**	**-1.0**
	3.1nm,0.4s						
PDGK	**Podgornoye**	**1.73**	**12**	⇑P	**Pb**	**18 07 44.7**	**-0.3**
	0.7nm,0.2s						
PDGK				⇓S	**Sb**	**18 08 06.7**	**-0.3**
	3.4nm,0.5s						
PDGK	**Podgornoye**	**1.73**	**12**	⇓*iP*	**Pb**	**18 07 44.4**	**-0.5**
	baz=12						
PDGK				⇓*iS*	**Sb**	**18 08 06.9**	**-0.1**
	baz=12						
KURS	**Kuram**	**1.95**	**342**	Pg	**Pb**	**18 07 48.0**	**-0.7**
	3.3nm,0.4s						
KURS				Lg	Lg	18 08 13.3	
	7.1nm,0.4s						
KURS	**Kuram**	**1.95**	**342**	*e*P	**Pb**	**18 07 48.0**	**-0.7**
	3.3nm,0.4s						
KURS				*e*S	**Sb**	**18 08 13.3**	**0.0**
	7.1nm,0.4s						
TNSS	**Tian-Shan**	**2.07**	**313**	Pg	**Pb**	**18 07 51.1**	**+0.2**
	4.9nm,0.2s						
TNSS				Lg	Lg	18 08 19.2	
	4.7nm,0.4s						
TNSS	**Tian-Shan**	**2.07**	**313**	*e*P	**Pb**	**18 07 51.1**	**+0.2**
	4.9nm,0.2s						
TNSS				*e*S	**Sg**	**18 08 18.8**	**-0.3**
	4.7nm,0.4s						
MDOK	**Medeo**	**2.10**	**317**	Pn	**Pb**	**18 07 50.9**	**-0.4**
	0.5nm,0.4s						
MDOK				⇑Sn	**Sg**	**18 08 19.6**	**-0.6**
	5.7nm,0.6s						
MDOK	**Medeo**	**2.10**	**317**	Pg	**Pb**	**18 07 51.7**	**+0.4**
	1.6nm,0.2s						
MDOK				Lg	Lg	18 08 19.7	
	6.1nm,0.5s						
MDOK	**Medeo**	**2.10**	**317**	*e*P	**Pb**	**18 07 51.7**	**+0.4**
	1.6nm,0.2s						
MDOK				*e*S	**Sg**	**18 08 19.7**	**-0.5**
	6.1nm,0.5s						
KOTS	**Kotyrbulak**	**2.12**	**319**	Pg	**Pb**	**18 07 51.7**	**+0.1**
	4.7nm,0.2s						
KOTS				Lg	Lg	18 08 19.6	
	12nm,0.3s						
KOTS	**Kotyrbulak**	**2.12**	**319**	*e*P	**Pb**	**18 07 51.7**	**+0.1**
	4.7nm,0.2s						
KOTS				*e*S	**Sg**	**18 08 19.6**	**-1.3**
	12nm,0.3s						
ULHL	**Ulahol**	**2.15**	**287**	⇓*iP*	**Pb**	**18 07 51.5**	**-0.6**
	baz=86						
ULHL				⇓*iS*	**Sb**	**18 08 20.0**	**+1.0**
	baz=86						
NRN	**Naryn**	**2.26**	**266**	⇑*eP*	**Pb**	**18 07 54.5**	**+0.4**
	baz=64						
NRN				⇑*iS*	**Sb**	**18 08 24.3**	**+1.9**
	baz=64						
MTBS	**Maitube**	**2.42**	**309**	Pg	**Pb**	**18 07 57.2**	**+0.5**
	4.7nm,0.3s						
MTBS				Lg

	baz=21							
AML	**Almayashu**	**3.03**	**333**	P		**Pg**	**18 09 46.5**	**-0.6**
	SNR=6.0							
AML	**Almayashu**	**3.03**	**333**	⇓*i*P		**Pb**	**18 09 42.9**	**-0.4**
	baz=31							
AML				⇓*i*S		**Sb**	**18 10 22.1**	**+1.6**
	baz=31							
BOOM	**Boomskoye usch**	**3.07**	**6**	⇑*i*P		**Pb**	**18 09 42.1**	**-1.7**
	baz=3.0							
BOOM				⇑*i*S		**Sb**	**18 10 20.6**	**-0.8**
	baz=3.0							
KBK	**Karagaybulak**	**3.25**	**353**	P		**Pb**	**18 09 45.6**	**-1.3**
	SNR=9.5							
KBK	**Karagaybulak**	**3.25**	**353**	⇑*i*P		**Pb**	**18 09 45.2**	**-1.7**
	baz=50							
KBK				⇑*i*S		**Sb**	**18 10 25.9**	**-0.6**
	baz=50							
AAK	**Ala-Archa**	**3.29**	**347**	P		**Pb**	**18 09 45.8**	**-1.8**
	SNR=6.9							
AAK	**Ala-Archa**	**3.29**	**347**	⇑Pg		**Pb**	**18 09 50.2**	**+2.6**
	7.6nm,0.5s							
AAK				⇓Lg		Lg	18 10 34.6	
	9.4nm,0.6s							
AAK	**Ala-Archa**	**3.29**	**347**	⇑*i*P		**Pb**	**18 09 45.8**	**-1.8**
	baz=44							
AAK				⇑*i*S		**Sb**	**18 10 27.6**	**-0.2**
	baz=44							
FRU1	**Bishkek**	**3.44**	**349**	⇑*i*P		**Pb**	**18 09 47.9**	**-2.2**
	baz=47							
FRU1				⇑*i*S		**Sb**	**18 10 30.6**	**-1.3**
	baz=47							
EKS2	**Erkin-Say**	**3.48**	**338**	⇑*i*P		**Pb**	**18 09 49.0**	**-1.8**
	baz=36							
EKS2				⇑*i*S		**Sb**	**18 10 32.4**	**-0.9**
	baz=36							
TKM2	**Tokmak 2**	**3.48**	**1**	⇓Pg		**Pg**	**18 09 56.0**	**+0.2**
	2.0nm,0.3s							
TKM2				⇑Lg		Lg	18 10 39.8	
	5.9nm,0.6s							
TKM2	**Tokmak 2**	**3.48**	**1**	⇓*e*P		**Pb**	**18 09 48.3**	**-2.6**
	baz=58							
TKM2				⇓*i*S		**Sb**	**18 10 31.4**	**-2.0**
	baz=58							
KST	**Kastek**	**3.62**	**5**	Pg		**Pb**	**18 09 53.4**	**+0.2**
	4.2nm,0.3s							
KST				Lg		Lg	18 10 44.6	
	9.6nm,0.7s							
TNSS	**Tian-Shan**	**3.76**	**16**	Pg		**Pb**	**18 09 55.1**	**-0.5**
	4.5nm,0.5s							
TNSS				Lg		Lg	18 10 48.5	
	5.3nm,0.5s							
MDOK	**Medeo**	**3.90**	**17**	Pg		**Pg**	**18 10 05.1**	**+1.4**
	3.3nm,0.7s							
MDOK				Lg		Lg	18 10 52.2	
	7.7nm,0.7s							
KOTS	**Kotyrbulak**	**3.98**	**17**	Pg		**Pb**	**18 09 59.8**	**+0.5**
	6.5nm,0.7s							
KOTS				Lg		Lg	18 10 55.7	
	32nm,0.7s							
SATY	**Saty**	**4.22**	**30**	Pg		**Pb**	**18 10 03.2**	**-0.2**
	2.7nm,0.5s							
SATY				Lg		Lg	18 11 01.9	
	8.5nm,0.5s							
KUU	**Kurty**	**4.50**	**8**	Pg		**Pb**	**18 10 09.0**	**+0.9**
	2.0nm,0.1s							
KUU				Lg		Lg	18 11 11.8	
	3.7nm,0.5s							
CHKK	**Chushkaly**	**4.55**	**14**	Pg		**Pb**	**18 10 10.0**	**+1.1**
	2.6nm,0.2s							
CHKK				Lg		Lg	18 11 13.2	
	8.2nm,0.8s							
UZB	**Uzynbulak**	**4.55**	**34**	Pg		**Pb**	**18 10 09.7**	**+0.6**
	0.9nm,0.4s							
UZB				Lg		Lg	18 11 12.9	
	2.5nm,0.8s							
PDGK	**Podgornoye**	**4.91**	**36**	Pg		**Pb**	**18 10 15.9**	**+0.9**
	0.5nm,0.3s							
PDGK				Lg		Lg	18 11 23.7	
	2.1nm,0.8s							
PDGK	**Podgornoye**	**4.91**	**36**	⇓Pg		**Pg**	**18 10 24.0**	**+1.0**
	1.4nm,0.5s							
PDGK				⇓Lg		Lg	18 11 22.3	
	6.6nm,1.0s							
BTLS	**Baital**	**5.71**	**349**	Pg		**Pb**	**18 10 31.4**	**+2.7**
	1.9nm,0.6s							

*IDC **14** 18:18:38.0±3.3,4.°41N×96.°27E,h15km±20km,mb3.8/17, mb1 4.0/19,mb1mx3.8/47,mbtmp3.9/19,ML4.0/2,MS3.5/14, Ms1 3.6/14,ms1mx3.4/45,Error ellipse: s-maj=24.3km s-min=11.8km az=49.0*

*ISCJB **14** 18:18:39.3±0.2,4.°44N±0.°03×96.°30E±0.°03,h33km, mb4.2/28,MS3.6/10,Error ellipse: s-maj=4.8km s-min=2.9km az=140.2*

*DJA **14** 18:18:40.3±0.4,4.°N±2.°×9.°E±.°,h10km,M4.8/11,mb4.8/7, mB5.2/5,MLv4.9/11,Mw(mB)4.6/5*

*BJI **14** 18:18:40.0,4.°40N×96.°50E,h15km,mb4.4/7,mB4.7/8, Ms4.1/3,Ms7 3.8/3*

*NEIC **14** 18:18:41.5±0.6,4.°45N×96.°39E,h41km±5km,mb4.4/13, Error ellipse: s-maj=6.9km s-min=3.7km az=59.0*

*KLM **14** 18:18:42.4,4.°51N×96.°64E,h7km,mb4.8*

ISC 14 18:18:41.1±0.4,**4.°49N**±0.°03×**96.°30E**±0.°04,**h33**km,**n129, s1°68/124,mb4.2/28,MS3.6/10,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.24**	**154**	P		**Pb**	**18 18 45.1**	**-3.1**
MLSI				S		**Sn**	**18 18 49.3**	**-2.6**
LHMI	**Lhok Sumawe**	**0.98**	**41**	*e*Pn		**Pn**	**18 18 57.6**	**-1.0**
LHMI	**Lhok Sumawe**	**0.98**	**41**	P		**Pn**	**18 18 57.2**	**-1.4**
LHMI				S		**Sn**	**18 19 10.4**	**-1.0**
KCSI	**Kotacane, Aceh**	**1.75**	**123**	P		**Pn**	**18 19 08.7**	**-0.6**
KCSI				S		**Sn**	**18 19 30.3**	**-0.2**
SNSI	**Sinabang, Aceh**	**2.06**	**179**	P		**Pn**	**18 19 14.9**	**+1.4**
SNSI				S		**Sb**	**18 19 41.8**	**-1.4**
PSI	**Prapat**	**3.11**	**122**	*e*Pn		**Pn**	**18 19 28.3**	**+0.3**
PSI				Sn		**Sn**	**18 20 06.0**	**+1.9**
PSI				Lg		Lg	18 20 14.0	
PSI	**Prapat**	**3.11**	**122**	Pn		**Pn**	**18 19 28.8**	**+0.7**
	44nm,0.3s,baz=359,slow=10,SNR=105							
PSI				Sn		**Sn**	**18 20 06.0**	**+1.9**
	29nm,0.3s,baz=1.5,slow=1.7,SNR=4.0							
PSI				Lg		Lg	18 20 14.0	
	112nm,0.3s,baz=0.1,slow=17,SNR=6.0							
PSI				LR		LR	18 20 51.1	
	comp=Z,638nm,18.8s,baz=91,slow=42							
GSI	**Gunungsitoli**	**3.41**	**158**	*e*Pn		**Pn**	**18 19 31.9**	**-0.1**
GSI	**Gunungsitoli**	**3.41**	**158**	P		**Pn**	**18 19 32.0**	**0.0**
CMBY	**CAMPBELL BAY**	**3.44**	**317**	*e*P		**Pn**	**18 19 34.9**	**+2.4**
CMBY				*e*S		**Sb**	**18 20 18.9**	**-4.0**
CMBY				IAML			18 20 38.8	
	comp=E,1μm,0.3s							
CMBY				IAML			18 20 39.3	
	comp=N,1μm,0.3s							
PKDT	**Phuket**	**3.94**	**31**	P		**Pn**	**18 19 42.0**	**+2.6**
KULM	**Kulim**	**4.41**	**79**	*e*Pn		**Pn**	**18 19 44.3**	**-1.5**
KULM	**Kulim**	**4.41**	**79**	P		**Pn**	**18 19 44.6**	**-1.2**
IPM	**Ipoh**	**4.71**	**90**	*e*Pn		**Pn**	**18 19 48.0**	**-2.0**
IPM	**Ipoh**	**4.71**	**90**	P		**Pn**	**18 19 48.6**	**-1.4**
TRTT	**Trang**	**4.74**	**45**	P		**Pn**	**18 19 51.4**	**+1.1**
MNSI	**Mandailing Nat**	**4.92**	**138**	P		**Pn**	**18 19 53.9**	**+1.1**
PBSI	**Pulau Batu**	**4.93**	**156**	P		**Pn**	**18 19 53.6**	**+0.7**
SKLT	**Songkhla**	**5.06**	**58**	P		**Pn**	**18 19 55.2**	**+0.5**
SISI	**Saibi**	**6.41**	**154**	P		**Pn**	**18 20 13.9**	**+0.6**
	comp=N,28nm,0.8s							
SISI				S		Sn	18 20 42.3	-43
	comp=N,28nm,0.8s							
PDSI	**Padang**	**6.79**	**142**	P		**Pn**	**18 20 19.8**	**+1.3**
	comp=N,99nm,0.9s,comp=N,974nm							
KTGM	**Kuala Trenggan**	**6.86**	**83**	P		**Pn**	**18 20 18.4**	**-1.1**
KGM	**Kluang**	**7.43**	**109**	P		**Pn**	**18 20 26.4**	**-0.8**
PBA	**Port Blair**	**7.95**	**334**	*e*P		Pn	18 20 36.0	+1.6
PBA				*e*S		Sn	18 22 06.3	+3.1
MYKOM	**Kota Tinggi**	**8.00**	**109**	*e*Pn		**Pn**	**18 20 32.5**	**-2.6**
MYKOM	**Kota Tinggi**	**8.00**	**109**	P		**Pn**	**18 20 33.8**	**-1.3**
KRJI	**Kerinci**	**8.32**	**142**	P		**Pn**	**18 20 41.0**	**+1.3**
	comp=N,132nm,0.7s,comp=N,1μm							
PHET	**Kaeng Krachan**	**8.99**	**21**	P		Pn	18 20 58.2	+9.4
LHSI	**Lahat**	**10.97**	**139**	P		**Pn**	**18 21 15.7**	**-0.1**
	comp=N,132nm,0.8s,comp=N,1μm							
MNAI	**Manna**	**11.02**	**143**	P		**Pn**	**18 21 17.0**	**+0.4**
	comp=N,165nm,0.9s							
SRAK	**Srakaew**	**11.03**	**31**	P		Pn	18 21 23.5	+6.8
UTHA	**Uthaitani**	**11.43**	**15**	P		**Pn**	**18 21 26.0**	**+3.8**
	comp=N,6.8nm,0.8s,comp=N,71nm							
MDSI	**Maura Dua**	**11.89**	**138**	P		**Pn**	**18 21 26.9**	**-1.6**
UMPA	**Umpang Tak**	**11.92**	**12**	P		Pn	18 21 33.7	+4.9
	comp=N,4.7nm,0.8s							
LWLI	**Liwa**	**12.21**	**141**	P		**Pn**	**18 21 33.9**	**+0.9**
	comp=N,42nm,0.7s,comp=N,37μm							
CHAI	**Chaiyaphum**	**12.65**	**26**	P		P	18 21 58.1	+8.4
PBKT	**Sadao Pong**	**12.86**	**21**	*e*Pn		**Pn**	**18 21 44.1**	**+2.5**
PBKT	**Sadao Pong**	**12.86**	**21**	P		**Pn**	**18 21 44.4**	**+2.8**
	comp=N,24nm,0.7s							
SUKH	**Sukhothai**	**13.32**	**14**	P		P	18 22 02.5	+5.3
UTTA	**Uttaradit**	**13.82**	**17**	P		**P**	**18 22 00.0**	**-2.8**
	comp=N,4.4nm,0.8s,comp=N,46nm							
CM01	**Chiang Mai Arr**	**14.09**	**10**	*e*Pn		**Pn**	**18 21 58.3**	**-0.2**
CM31	**Chiang Mai Arr**	**14.12**	**10**	*e*Pn		**Pn**	**18 21 59.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**14.12**	**10**	Pn		**Pn**	**18 22 00.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=198,slow=14,SNR=22							
CMAR				LR		LR	18 27 50.9	
	comp=N,153nm,18.4s,baz=198,slow=39							
KSM	**Kuching**	**14.31**	**102**	P		**Pn**	**18 22 01.2**	**-0.3**
LAMP	**Lampang**	**14.33**	**13**	P		P	18 22 13.3	+4.9
CHTO	**Chiang Mai**	**14.47**	**10**	*e*Pn		**Pn**	**18 22 03.9**	**+0.1**
CHTO	**Chiang Mai**	**14.47**	**10**	P		**P**	**18 22 08.6**	**-1.5**
	comp=N,48nm,1.2s							
CMMT	**Chiang Mai**	**14.47**	**10**	P		**P**	**18 22 08.6**	**-1.5**
	comp=N,10nm,1.2s							
SKNT	**Sakolnakorn**	**14.52**	**31**	P		**P**	**18 22 11.8**	**+1.2**
PALK	**Pallekele**	**15.76**	**281**	*e*Pn		**P**	**18 22 22.8**	**-1.6**
	comp=N,15nm,0.9s							
PALK				Sn		**Sn**	**18 25 14.6**	**0.0**
PALK	**Pallekele**	**15.76**	**281**	Pn		**P**	**18 22 23.3**	**-1.1**
	comp=N,0.1nm,0.3s,baz=116,slow=12,SNR=2.3							
PALK				Sn		**Sn**	**18 25 14.6**	**0.0**
	comp=N,0.4nm,0.3s,baz=115,slow=13,SNR=3.7							
PALK				LR		LR	18 28 05.8	
	comp=N,170nm,18.6s,baz=117,slow=36							
SBUM	**Sibu**	**16.02**	**97**	P		**Pn**	**18 22 25.5**	**+1.3**
BRDH	**Bariadhala**	**18.64**	**346**	LR		LR	18 31 44.3	
	comp=N,169nm,18.3s,baz=161,slow=42							
BWNR	**Bhubaneshwar**	**18.74**	**328**	*ex*		**P**	**18 22 54.0**	**-3.3**
TRD	**Trivandrum**	**19.62**	**283**	*e*P		**P**	**18 23 06.5**	**-0.6**
TRD				IAmb		IAmb	18 23 09.4	
	comp=Z,36nm,1.5s							
KKM	**Kota Kinabalu**	**19.89**	**85**	P		**Pn**	**18 23 15.7**	**+3.8**
SDKM	**Sandakan**	**20.85**	**86**	P		Pn	18 23 23.2	+0.1
SHL	**Shillong**	**21.39**	**349**	*e*P		**P**	**18 23 26.0**	**-0.2**
SHL	**Shillong**	**21.39**	**349**	*e*P		**P**	**18 23 27.2**	**+1.0**
SHL	**Shillong**	**21.39**	**349**	*e*P		**P**	**18 23 30.0**	**+3.8**
TSM	**Tawau**	**21.51**	**90**	P		**P**	**18 23 27.3**	**-0.2**
HYB	**Hyderabad**	**21.62**	**308**	*i* P		**P**	**18 23 35.5**	**+6.9**
RAMN	**Ramite**	**24.18**	**338**	*e*P		**P**	**18 24 01.8**	**+6.9**
JIRN	**Jiri**	**24.98**	**338**	*e*P		**P**	**18 24 04.7**	**+2.4**
PKI	**Pulchoki**	**25.20**	**337**	*e*P		**P**	**18 24 07.8**	**+3.6**
GUN	**Gumba**	**25.32**	**338**	*e*P		**P**	**18 24 06.4**	**+1.0**
DMN	**Daman**	**25.35**	**336**	*e*P		**P**	**18 24 08.1**	**+2.6**
	comp=Z,3.7nm,0.7s							
LSA	**Lhasa**	**25.55**	**350**	*e*P		**P**	**18 24 07.3**	**-0.3**
	comp=Z,14nm,1.0s							
GKN	**Gorkha**	**25.89**	**336**	*e*P		**P**	**18 24 10.9**	**+0.6**
POO	**Poona**	**26.00**	**304**	*e*P		**P**	**18 24 10.2**	**-1.1**
KOLN	**Koldanda**	**26.12**	**334**	*e*P		**P**	**18 24 13.3**	**+0.8**
	comp=Z,3.6nm,0.4s							
H08S2	**Diego Garcia H**	**26.63**	**243**	T		T	18 51 33.5	
	baz=62,slow=76							
H08S3	**Diego Garcia H**	**26.63**	**243**	T		T	18 51 30.0	
	baz=62,slow=76							
H08S1	**Diego Garcia H**	**26.65**	**243**	T		T	18 51 38.5	
	baz=62,slow=76							
PYUN	**Piuthan**	**26.68**	**333**	*e*P		**P**	**18 24 17.1**	**-0.4**
	comp=Z,5.0nm,0.6s							
XAN	**Xi'an**	**31.66**	**20**	P		P	18 25 09.6	+8.1
XAN				pmax		pmax		
	comp=Z,8.0nm,0.9s							
DHRM	**DHARAMSHALA**	**33.37**	**328**	*e*P		**P**	**18 25 16.2**	**-0.6**
GTA	**Gaotai**	**34.91**	**5**	*e*P		**P**	**18 25 31.8**	**+1.9**
GTA				pP		sP	18 25 44.5	+0.9
GTA				sP		pP	18 25 49.1	+9.4
FITZ	**Fitzroy Crossi**	**36.62**	**129**	*e*P		**P**	**18 25 42.6**	**-2.0**
	comp=Z,17nm,1.4s							
FITZ	**Fitzroy Crossi**	**36.62**	**129**	P		**P**	**18 25 42.4**	**-2.2**
	comp=Z,4.6nm,0.6s,baz=320,slow=8.0,SNR=17							
KSH	**Kashi**	**39.43**	**335**	P		P	18 26 16.3	+8.0
KSH				pP		sP	18 26 19.9	-2.1
KSH				S		S	18 32 20.3	+12
KSH				pmax		pmax		
	comp=Z,94nm,5.0s							
AAK	**Ala-Archa**	**42.65**	**336**	P		**P**	**18 26 34.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=9.2,SNR=2.5							
KSAR	**Wonju Array Be**	**43.70**	**37**	P		**P**	**18 26 43.5**	**+0.4**
KSRS	**Korea Array**	**43.73**	**37**	P		**P**	**18 26 43.5**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=234,slow=8.3,SNR=4.4							
KSRS				LR		LR	18 47 11.7	
	comp=Z,81nm,18.0s,baz=170,slow=39							
MK01	**Makanchi Array**	**43.83**	**346**	*e*P		**P**	**18 26 43.9**	**-0.2**
MK31	**Makanchi Array**	**43.86**	**346**	*e*P		**P**	**18 26 43.9**	**-0.4**
	comp=Z,3.3nm,0.9s							
MK32	**Makanchi Array**	**43.86**	**346**	*e*P		**P**	**18 26 44.3**	**0.0**
MKAR	**Makanchi Array**	**43.86**	**346**	P		**P**	**18 26 44.3**	**0.0**
	comp=Z,6.0nm,0.4s,baz=156,slow=9.0,SNR=14							
MKAR				LR		LR	18 48 49.6	
	comp=Z,48nm,19.1s,baz=158,slow=41							
SONA0	**Songino Array**	**44.05**	**10**	*e*P		**P**	**18 26 46.3**	**+0.3**
SONM	**Songino Array**	**44.05**	**10**	P		**P**	**18 26 46.3**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=190,slow=12,SNR=7.1							
SONM				LR		LR	18 45 06.4	
	comp=Z,91nm,19.5s,baz=182,slow=36							
WR1	**Warramunga Arr**	**44.58**	**124**	*e*P		**P**	**18 26 49.6**	**-0.8**
	comp=Z,26nm,1.1s							
WR1				*e*PcP		**PcP**	**18 28 33.1**	**-0.1**
WR1				*e*ScP		**ScP**	**18 32 24.8**	**+1.6**
WRA	**Warramunga Arr**	**44.58**	**124**	P		**P**	**18 26 49.6**	**-0.8**
	comp=Z,9.6nm,0.6s,baz=302,slow=9.2,SNR=46							
WRA				PcP		**PcP**	**18 28 33.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=315,slow=2.9,SNR=2.8							
WRA				ScP		**ScP**	**18 32 24.7**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=312,slow=3.4,SNR=4.5							
WRAB	**Tennant Creek**	**44.58**	**124**	*e*P		**P**	**18 26 50.2**	**-0.3**
	comp=Z,22nm,0.8s							
WB2	**Warramunga Arr**	**44.59**	**124**	*e*P		**P**	**18 26 49.4**	**-1.1**
	comp=Z,24nm,1.0s							
ASAR	**Alice Springs**	**46.12**	**129**	P		**P**	**18 27 01.6**	**-1.1**
	comp=Z,2.8nm,0.4s,baz=302,slow=7.7,SNR=183							
ASAR				PcP		**PcP**	**18 28 38.5**	**0.0**
	comp=Z,0.9nm,0.8s,baz=316,slow=3.9,SNR=3.1							
ASAR				ScP		**ScP**	**18 32 30.7**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=306,slow=4.4,SNR=5.0							
ASAR				LR		LR	18 46 23.4	
	comp=Z,100nm,19.7s,baz=216,slow=36							
AS31	**Alice Springs**	**46.12**	**129**	*e*P		**P**	**18 27 01.8**	**-0.8**
	comp=Z,2.1nm,0.8s							
AS01	**Alice Springs**	**46.15**	**129**	*e*P		**P**	**18 27 01.2**	**-1.7**
GEYT	**Alibeck**	**48.14**	**319**	LR		LR	18 49 54.2	
	comp=Z,44nm,18.1s,baz=85,slow=39							
MJAR	**Matsushiro Arr**	**49.94**	**45**	LR		LR	18 49 28.3	
	comp=Z,64nm,20.9s,baz=245,slow=37							
ZAA0	**Zalesovo Array**	**50.19**	**351**	*e*P		**P**	**18 27 32.9**	**-0.7**
	comp=Z,3.0nm,0.8s							
ZALV	**Zalesovo Beam**	**50.19**	**351**	*e*P		**P**	**18 27 32.8**	**-0.7**
ZALV	**Zalesovo Beam**	**50.19**	**351**	P		**P**	**18 27 33.1**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=174,slow=7.1,SNR=5.7							
ZAA1	**Zalesovo Array**	**50.20**	**351**	*e*P		**P**	**18 27 33.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**50.48**	**33**	LR		LR	18 49 34.9	
	comp=Z,38nm,20.1s,baz=191,slow=37							
RAYN	**Ar Rayn**	**52.46**	**296**	*e*P		**P**	**18 27 50.8**	**-0.4**
	comp=Z,4.3nm,0.8s							
KLR	**Kul'dur**	**53.77**	**28**	P		**P**	**18 28 00.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=108,slow=6.4,SNR=3.0							
ABKAR	**Abkular array**	**54.21**	**331**	*e*P		**P**	**18 28 03.3**	**-0.2**
	comp=Z,2.5nm,1.0s							
STKA	**Stephens Creek**	**56.23**	**133**	*e*P		**P**	**18 28 17.7**	**-0.8**
	comp=Z,6.8nm,1.9s							
STKA	**Stephens Creek**	**56.23**	**133**	P		**P**	**18 28 17.9**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=307,slow=8.9,SNR=4.9							
KMBO	**Kilima Mbogo**	**59.26**	**266**	*e*P		**P**	**18 28 40.1**	**-0.1**
	comp=Z,4.3nm,1.3s							
KMBO	**Kilima Mbogo**	**59.26**	**266**	P		**P**	**18 28 40.2**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=58,slow=19,SNR=2.1							
KBZ	**Khabaz**	**61.02**	**318**	P		**P**	**18 28 51.0**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=135,slow=2.9,SNR=2.3							
BR101	**Keskin Array S**	**66.26**	**312**	*e*P		**P**	**18 29 26.2**	**-0.2**
BRTR	**Keskin Array B**	**66.26**	**312**	P		**P**	**18 29 26.2**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=148,slow=8.8,SNR=6.3							
OBN	**Obninsk**	**69.37**	**328**	LR		LR	19 04 32.9	
	comp=Z,16nm,20.0s,baz=182,slow=40							
AKASG	**Malin Array Be**	**72.13**	**322**	P		**P**	**18 30 01.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=92,slow=4.1,SNR=3.4							
FIA0	**FINESS Array S**	**76.69**	**332**	*e*P		**P**	**18 30 28.6**	**0.0**
FINES	**FINESS Array B**	**76.69**	**332**	P		**P**	**18 30 28.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=88,slow=7.2,SNR=3.0							
ARA0	**ARCESS Array S**	**79.16**	**340**	*e*P		**P**	**18 30 42.0**	**-0.3**
ARCES	**ARCESS Array B**	**79.16**	**340**	P		**P**	**18 30 42.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=83,slow=7.4,SNR=6.8							
GEA0	**GERESS Array S**	**81.77**	**319**	*e*P		**P**	**18 30 57.0**	**+0.2**
GERES	**GERESS Array B**	**81.77**	**319**	P		**P**	**18 30 57.7**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=120,slow=6.9,SNR=6.3							
HFS	**Hagfors**		**82.44**	**330**	LR	LR	19 10 12.6	
	comp=Z,25nm,19.2s,baz=90,slow=38							
NOA	**NORSAR Array B**	**83.72**	**331**	LR		LR	19 13 06.2	
	comp=Z,34nm,18.4s,baz=100,slow=39							
TORD	**Torodi Ar. Bea**		**93.46**	**283**	P	**P**	**18 31 54.0**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=86,slow=5.1,SNR=2.7							
TOA1	**Torodi Ar. Sit**		**93.46**	**283**	*e*P	**P**	**18 31 54.0**	**-0.2**
NVAR	**Mina Array Bea**		**126.61**	**34**	PKP	**PKPdf**	**18 37 41.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=266,slow=3.6,SNR=2.4							
TXAR	**Lajitas Array**		**141.29**	**28**	PKP	**PKPdf**	**18 38 07.6**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=180,slow=1.5,SNR=3.9							
CPUP	**Villa Florida**		**146.71**	**227**	PKPbc	**PKPbc**	**18 38 19.6**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=135,slow=1.4,SNR=2.2							

*MOS **14** 18:31:30.9±0.0,42.°44N×48.°39E,h10km,MPVA3.8*
*NORS **14** 18:31:31.8±0.0,42.°49N×48.°40E,h10km,MPVA3.8*
*DRS **14** 18:31:31.0±0.0,42.°49N×48.°62E,h15km*

ISC 14 18:31:30.7±2.3,**42.°49N**±0.°06×**48.°56E**±0.°09,**h12**km±11km, **n14,s0°92/28,Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRN	**Derbent**	**0.49**	**200**	*i* Pg		**Pb**	**18 31 41.3**	**+0.1**
DRN				*e*Sg		**Sb**	**18 31 48.2**	**-0.1**
URKR	**Urkarakh**	**0.76**	**245**	*e*Pg		**Pg**	**18 31 45.4**	**0.0**
URKR				*e*Sg		**Sg**	**18 31 54.9**	**-0.5**
MAK	**Makhachkala**	**0.91**	**302**	*e*Pg		**Pn**	**18 31 50.3**	**+1.0**
MAK				*e*Sg		**Sn**	**18 32 01.6**	**-0.7**
KSMR	**Kasumkent**	**0.94**	**200**	*e*Pg		**Pg**	**18 31 48.5**	**-0.4**
KSMR				*e*Sg		**Sg**	**18 32 01.0**	**-0.2**
KMKR	**Kumukh**	**1.14**	**252**	*e*Pg		**Pn**	**18 31 53.0**	**+0.3**
KMKR				*e*Sg		**Sn**	**18 32 08.0**	**-0.3**
GNBR	**Gunib**	**1.19**	**266**	*e*Pg		**Pb**	**18 31 52.6**	**-0.5**
GNBR				*e*Sg		**Sg**	**18 32 08.3**	**-0.6**
XNZR	**Khunzakh**	**1.37**	**273**	*e*Pg		**Pn**	**18 31 55.9**	**+0.1**
XNZR				*e*Sg		**Sb**	**18 32 13.7**	**-0.3**
DBC	**Dubki**	**1.38**	**293**	*e*Pg		**Pn**	**18 31 55.9**	**+0.1**
DBC				*e*Sg		**Sn**	**18 32 14.1**	**+0.1**
BTLR	**Botlikh**	**1.73**	**277**	*e*Pg		**Pb**	**18 32 02.0**	**-0.5**
BTLR				*e*Sg		**Sb**	**18 32 24.5**	**+0.2**
LGD	**Lagodekhi**	**1.84**	**250**	P		**Pb**	**18 32 03.8**	**-0.5**
LGD				S		**Sb**	**18 32 26.8**	**-0.5**
LGD	**Lagodekhi**	**1.84**	**250**	*e*Pg		**Pb**	**18 32 03.8**	**-0.5**
LGD				*e*Sg		**Sb**	**18 32 26.8**	**-0.5**
DDFL	**Dedoflistskaro**	**2.10**	**241**	P		**Pb**	**18 32 08.0**	**-0.7**
DDFL				S		**Sg**	**18 32 41.8

CLDR	**Calderan**	**0.34**	**48**	*i* P	**Pb**	**19 24 09.0**	**+0.1**
CLDR				*i* S	**Sb**	**19 24 14.4**	**+0.2**
CLDR				IAML_P			
	comp=Z,4μm,0.1s						
VANB	**Van**	**0.35**	**206**	PG	**Pb**	**19 24 09.8**	**+0.8**
VANB				SG	**Sn**	**19 24 16.9**	**-1.5**
DYDN	**Diyadin**	**0.63**	**7**	*i* P	**Pb**	**19 24 13.9**	**+0.2**
DYDN				*i* S	**Sb**	**19 24 23.2**	**+0.6**
DYDN				IAML_P			
	comp=Z,631nm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.68**	**261**	*i* P	**Pb**	**19 24 14.5**	**-0.1**
ADCV				*i* S	**Sb**	**19 24 24.6**	**+0.7**
GEVA	**Gevas**	**0.73**	**215**	*i* P	**Pg**	**19 24 14.6**	**-0.6**
GEVA				*i* S	**Sb**	**19 24 26.3**	**+1.0**
GEVA				IAML_P			
	comp=Z,579nm,0.1s						
AKDM	**Akdamar-Van**	**0.76**	**220**	PG	**Pg**	**19 24 15.3**	**-0.3**
AKDM				SG	**Sb**	**19 24 26.9**	**+0.9**
TUTA	**Tutak**	**0.78**	**309**	*i* P	**Pg**	**19 24 15.9**	**-0.1**
AGRB	**Hanur-Agry**	**0.81**	**325**	PG	**Pg**	**19 24 16.4**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.84**	**286**	PG	**Pb**	**19 24 17.5**	**+0.2**
MLAZ				SG	**Sb**	**19 24 29.4**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.18**	**25**	PN	**Pg**	**19 24 23.8**	**+0.1**
GURO	**Guroymak-BITLI**	**1.27**	**254**	PN	**Pb**	**19 24 24.8**	**+0.2**
GNI	**Garni**	**1.52**	**35**	PN	**Pg**	**19 24 30.6**	**+0.5**
SRTM	**Siirt_Merkez**	**1.60**	**235**	*i* P	**Pg**	**19 24 31.4**	**-0.3**
SRTM				IAML_P			
	comp=Z,250nm,0.2s						

TAP 14 19:55:17.6, 24.42N×121.42E, h11km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong**	**0.03**	**291**	P	Pg	19 55 19.9	0.0
	baz=290						
NNSB				S	Sg	19 55 21.4	0.0
	baz=290						
NNS	**Nan Shan**	**0.04**	**300**	P	Pg	19 55 20.2	+0.3
	baz=303						
NNS				S	Sg	19 55 21.8	+0.3
	baz=303						
ETLH	**Xiulin Townshi**	**0.22**	**164**	*e*P	Pg	19 55 22.9	+0.6
	baz=163						
WHF	**Hehuan Shan**	**0.30**	**207**	*e*P	Pb	19 55 25.2	-0.1
	baz=197						
CHGB	**Renai**	**0.42**	**212**	*e*P	Pb	19 55 26.6	-0.6
	baz=211						
CHGB				*e*S	Sb	19 55 32.6	-0.9
	baz=211						

*CRAAG **14** 19:58:07.1, 36.33N×1.96E, Ml3.3*
*ISCJB **14** 19:58:08.5±0.5, 36.41N±0.03×1.86E±0.04, h20km, Error ellipse: s-maj=4.6km s-min=3.9km az=138.8*
*MDD **14** 19:58:09.1±0.8, 36.34N×1.91E, h8km±10km, mb3.9/17, Error ellipse: s-maj=9.2km s-min=4.5km az=166.0, PRXIMO*

ISC 14 19:58:09.0±1.0, 36.34N±0.05×1.92E±0.03, h20km, n36, σ2s08/53, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.32**	**261**	P	**Pb**	**19 58 16.0**	**0.0**
ECHA	**Ech Chlef**	**0.48**	**247**	P	**Pb**	**19 58 18.0**	**-0.8**
ECHF	**Ech Chlef**	**0.50**	**248**	P	**Pb**	**19 58 18.0**	**-1.1**
EANR	**'Ain N'Sour**	**0.77**	**240**	P	**Pb**	**19 58 24.0**	**+0.3**
EANR	**'Ain N'Sour**	**0.77**	**240**	P	**Pb**	**19 58 24.0**	**+0.3**
EMHD	**Djebel Mahouad**	**0.85**	**99**	P	**Pb**	**19 58 25.2**	**+0.1**
EMHD	**Djebel Mahouad**	**0.85**	**99**	P	**Pb**	**19 58 25.2**	**+0.1**
ABA	**Alger-Bouzarea**	**1.01**	**63**	P	**Pb**	**19 58 27.0**	**-0.8**
ABA	**Alger-Bouzarea**	**1.01**	**63**	P	**Pb**	**19 58 27.0**	**-0.8**
ETRT	**Tiaret**	**1.07**	**208**	P	**Pb**	**19 58 28.5**	**-0.4**
ETRT	**Tiaret**	**1.07**	**208**	P	**Pb**	**19 58 28.5**	**-0.4**
OKGL	**Djebel Kef Gue**	**1.07**	**254**	P	**Pb**	**19 58 28.0**	**-0.9**
	38nm,0.2s,SNR=7.9						
OKGL				S	**Sb**	**19 58 42.7**	**+0.2**
	535nm,0.3s,SNR=7.9						
ADJB	**Djebel Djouab**	**1.25**	**98**	P	**Pn**	**19 58 31.2**	**-0.2**
ADJB	**Djebel Djouab**	**1.25**	**98**	P	**Pn**	**19 58 31.2**	**-0.2**
EIBI	**Ibiza**	**2.72**	**351**	P	**Pn**	**19 58 51.8**	**+0.2**
	23nm,0.3s,SNR=8.2						
EIBI				S	**Sn**	**19 59 23.4**	**-0.4**
	98nm,0.5s						
EBEN2	**Beniarda presa**	**2.87**	**325**	P	**Pn**	**19 58 54.0**	**+0.3**
	1.3nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.93**	**302**	P	**Pn**	**19 58 53.4**	**-1.1**
	3.6nm,0.3s,SNR=7.3						
EMUR				S	**Sn**	**19 59 28.3**	**-0.9**
	8.0nm,0.4s						
ENIJ	**Nijar**	**3.37**	**282**	P	**Pn**	**19 59 00.1**	**-0.4**
	4.1nm,0.4s,SNR=7.9						
ENIJ				S	**Sn**	**19 59 38.8**	**-1.2**
	4.0nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.49**	**11**	P	**Pn**	**19 59 02.0**	**-0.2**
	6.9nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**19 59 42.1**	**-0.8**
	200nm,1.3s,SNR=7.9						
ETOB	**Tobarra**	**3.59**	**311**	P	**Pn**	**19 59 04.2**	**+0.7**
	1.6nm,0.2s,SNR=12						
ETOB				S	**Sn**	**19 59 46.6**	**+1.3**
	10nm,0.4s						
EBER	**Berja**	**3.91**	**280**	P	**Pn**	**19 59 07.9**	**-0.1**
	3.1nm,0.4s,SNR=146						
EBER				S	**Sn**	**19 59 53.0**	**-0.4**
	5.9nm,0.5s						
ECHE	**Chera**	**3.96**	**326**	P	**Pn**	**19 59 10.0**	**+1.3**
	2.1nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**19 59 54.2**	**-0.4**
	3.6nm,0.5s,SNR=7.9						
JBK	**JBK**	**4.17**	**243**	P	**Pn**	**19 59 12.2**	**+0.5**
JBK				S	**Sb**	**20 00 18.2**	**+6.3**
EQES	**Quesada**	**4.25**	**292**	P	**Pn**	**19 59 13.8**	**+1.2**
	0.7nm,0.2s,SNR=8.4						
EQES				S	**Sn**	**20 00 00.7**	**-1.0**
	14nm,0.6s						
EMOS	**Mosqueruela**	**4.43**	**336**	P	**Pn**	**19 59 16.5**	**+1.3**
	1.1nm,0.2s,SNR=12						
EMOS				S	**Sn**	**20 00 04.7**	**-1.7**
	8.5nm,0.5s,SNR=7.9						
ELGU	**Los Guajares,**	**4.49**	**278**	P	**Pn**	**19 59 15.8**	**-0.1**
	2.0nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**20 00 06.2**	**-1.4**
	8.9nm,0.3s,SNR=7.9						
EGOR	**Sierra Gorda,**	**4.90**	**281**	P	**Pn**	**19 59 23.7**	**+2.1**
	2.1nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**20 00 21.9**	**+4.1**
	5.0nm,0.5s,SNR=7.9						
FIGM	**Figuig**	**4.95**	**213**	P	**Pn**	**19 59 18.7**	**-3.7**
FIGM				S	**Sb**	**20 00 39.7**	**+5.4**
EMIJ	**Mijas**	**5.39**	**274**	P	**Pn**	**19 59 27.3**	**-1.1**
	1.3nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**20 00 26.2**	**-3.7**
	8.0nm,0.8s,SNR=7.9						
EADA	**Adamuz**	**5.49**	**291**	P	**Pn**	**19 59 29.2**	**-0.5**
	1.1nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.89**	**305**	P	**Pn**	**19 59 35.0**	**-0.2**
	0.9nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**6.10**	**289**	P	**Pn**	**19 59 37.1**	**-1.0**
	5.3nm,0.4s,SNR=7.9						
ECAB				S	**Sn**	**20 00 45.2**	**-2.1**
	2.9nm,0.8s,SNR=7.9						
MD31	**MD31**	**6.50**	**240**	P	**Pn**	**19 59 45.6**	**+2.0**
MD31				S	**Sb**	**20 01 11.5**	**-7.3**
ATE	**Arette**	**7.03**	**344**	P	**Pn**	**19 59 52.7**	**+1.9**
	0.7nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**8.02**	**331**	P	**Pn**	**20 00 06.8**	**+2.5**
	0.8nm,0.2s,SNR=7.7						
EARI	**Arriondas**	**8.85**	**324**	P	**Pn**	**20 00 17.3**	**+1.6**
	2.0nm,0.4s,SNR=7.9						

MEX 14 20:05:16.8±0.6, 17.76N×103.11W, h11km±8km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.57**	**337**	*i* P	Pg	20 05 26.2	-1.7
MMIG				*i* S	Sg	20 05 33.9	-1.6
ZIIG	**Zihuatanejo**	**1.58**	**95**	*e*P	Pn	20 05 40.6	-4.0
ZIIG				*i* S	Sn	20 06 00.3	-4.8
R15V		**1.63**	**330**	*i* P	Pn	20 05 41.9	-3.5
R15V				*e*S	Sn	20 06 02.4	-4.0
EZ5V		**1.77**	**345**	*e*P	Pn	20 05 44.6	-3.0
EZ5V				*i* S	Sn	20 06 05.7	-4.6
CJM	**Chamela**	**2.52**	**314**	*i* P	Pn	20 05 55.3	-2.3
CJM				*i* S	Sn	20 06 24.4	-3.9
MOIG	**Morelia**	**2.64**	**43**	*i* P	Pn	20 05 56.5	-3.0
MOIG				*i* S	Sn	20 06 26.9	-4.7
ANIG	**Ahuacatlan**	**3.53**	**338**	*e*P	Pn	20 06 08.6	-3.1
ANIG				*i* S	Sn	20 06 49.5	-4.1

*ISCJB **14** 20:09:37.3±0.7, 7.65S±0.05×128.60E±0.07, h151km, mb3.2/1, Error ellipse: s-maj=10.6km s-min=7.2km az=18.0*
*IDC **14** 20:09:38.2±1.6, 7.65S×128.61E, h142km±20km, mb3.0/1, mb1 3.3/6, mb1mx3.1/31, mbtmp3.7/6, Error ellipse: s-maj=22.0km s-min=13.8km az=115.0*

ISC 14 20:09:38.5±0.9, 7.72S±0.06×128.64E±0.09, h151km, n6, σ2s39/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.50**	**243**	P	**Pn**	**20 10 59.4**	**+0.8**
	8.8nm,0.3s,baz=330,slow=1.8,SNR=25						
BATI				S	**Sn**	**20 11 60.0**	**-1.2**
	5.5nm,0.3s,baz=91,slow=17,SNR=5.7						
SIJI	**Sorong**	**7.30**	**21**	P	**Pn**	**20 11 23.0**	**+0.4**
	1.0nm,0.3s,baz=207,slow=20,SNR=21						
SIJI				S	**Sn**	**20 12 41.2**	**-3.1**
	0.3nm,0.3s,baz=214,slow=23,SNR=3.1						
FITZ	**Fitzroy Crossi**	**10.72**	**196**	P	**Pn**	**20 12 08.2**	**+0.2**
	0.6nm,0.3s,baz=25,slow=9.8,SNR=38						
FITZ				S	**Sn**	**20 14 02.6**	**-4.0**
	0.6nm,0.3s,baz=309,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**13.34**	**156**	P	**Pn**	**20 12 44.3**	**+2.2**
	0.3nm,0.3s,baz=338,slow=13,SNR=31						
WRA				S	**Sn**	**20 15 07.0**	**-3.0**
	0.7nm,0.3s,baz=331,slow=23,SNR=12						
ASAR	**Alice Springs**	**16.64**	**163**	P	**P**	**20 13 25.0**	**+2.1**
	0.2nm,0.3s,baz=338,slow=11,SNR=12						
ASAR				S	**S**	**20 16 28.1**	**+0.1**
	0.2nm,0.3s,baz=316,slow=19,SNR=5.5						
MKAR	**Makanchi Array**	**68.10**	**328**	P	**P**	**20 20 22.0**	**0.0**
	0.2nm,0.4s,baz=122,slow=7.5,SNR=7.5						

IDC 14 20:16:07.7±1.7, 3.61S×129.23E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.4/29, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=53.2km s-min=27.1km az=86.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.40**	**37**	Pn	Pn	20 17 01.6	-0.4
	2.1nm,0.3s,baz=207,slow=16,SNR=36						
SIJI				Sn	Sn	20 17 38.4	-4.7
	1.3nm,0.3s,baz=210,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**16.98**	**163**	Pn	Pn	20 20 07.0	+0.2
	0.1nm,0.3s,baz=344,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**20.45**	**168**	P	P	20 20 46.8	-0.1
	1.1nm,0.6s,baz=349,slow=10,SNR=18						
MKAR	**Makanchi Array**	**64.99**	**326**	P	P	20 26 49.7	+0.2
	0.2nm,0.7s,baz=123,slow=7.1,SNR=2.5						

IDC 14 20:41:14.1±6.5, 7.65S×126.82E, h184km±75km, mb2.7/2, mb1 3.1/5, mb1mx2.9/33, mbtmp3.5/5, Error ellipse: s-maj=77.4km s-min=25.3km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.02**	**231**	P	Pn	20 42 16.6	+0.9
	7.6nm,0.3s,baz=73,slow=4.1,SNR=11						
BATI				S	Sn	20 43 04.0	0.0
	11nm,0.3s,baz=58,slow=19,SNR=12						
WRA	**Warramunga Arr**	**14.23**	**150**	P	Pn	20 44 26.1	-1.6
	0.2nm,0.3s,baz=325,slow=13,SNR=13						
WRA				S	Sn	20 46 57.9	-8.6
	0.4nm,0.3s,baz=332,slow=20,SNR=10						
ASAR	**Alice Springs**	**17.32**	**158**	P	Pn	20 45 05.1	0.0
	0.5nm,0.3s,baz=337,slow=12,SNR=36						
ASAR				S	S	20 48 08.8	-5.8
	0.0nm,0.3s,baz=317,slow=18,SNR=2.7						
SONM	**Songino Array**	**58.12**	**344**	P	P	20 50 48.2	-0.3
	0.1nm,0.4s,baz=161,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**67.08**	**328**	P	P	20 51 47.6	0.0
	0.2nm,0.5s,baz=121,slow=8.4,SNR=4.0						

*IDC **14** 21:02:40.2±1.4, 1.43S×81.09W, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.8/34, mbtmp4.1/10, ML3.8/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/30, Error ellipse: s-maj=43.2km s-min=17.2km az=66.0*
*IGQ **14** 21:02:41.6±1.0, 1°S±2°×8°1W±°, h10km, M5.0/34, MLv5.0/34*
*NEIC **14** 21:02:45.3±0.8, 1.55S×81.17W, h35km, mb4.2/2, Error ellipse: s-maj=18.9km s-min=9.4km az=78.0*
NEIC Felt at Bahia de Caraquez and Manta.

ISC 14 21:02:43.1±0.6, 1.47S±0.03×80.90W±0.07, h11km, n129, σ1s96/134, mb4.4/10, MS3.3/5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.71**	**188**	P	**Pg**	**21 02 56.1**	**-0.8**
SALI				S	**Sg**	**21 03 07.1**	**+0.8**
ALIBE	**La Libertad**	**0.77**	**176**	P	**Pg**	**21 02 59.1**	**+1.1**
ALIBE				S	**Sb**	**21 03 10.5**	**+1.6**
MORR	**Playas El Morr**	**1.29**	**154**	P	**Pn**	**21 03 06.3**	**-0.7**
AQUE	**Quevedo**	**1.47**	**73**	P	**Pn**	**21 03 10.2**	**+0.6**
MILO	**Milagro-Astudi**	**1.56**	**121**	P	**Pn**	**21 03 08.6**	**-2.2**
MAG1	**Magdalena**	**1.79**	**39**	P	**Pn**	**21 03 14.5**	**+0.5**
COHC	**Cochancay**	**1.92**	**121**	P	**Pn**	**21 03 14.3**	**-1.4**
IGUA	**Igualata**	**2.26**	**90**	P	**Pn**	**21 03 23.0**	**+2.0**
ILLI	**Illinizas Sur**	**2.30**	**71**	P	**Pn**	**21 03 21.2**	**-0.2**
PAST	**Pastocalle**	**2.38**	**71**	P	**Pn**	**21 03 24.1**	**+1.5**
BIL2	**Estacion Bilba**	**2.39**	**90**	P	**Pn**	**21 03 25.3**	**+2.8**
PTGL	**Punta Galera**	**2.40**	**21**	P	**Pb**	**21 03 27.5**	**+1.1**
BBIL	**Ulba Tungurahu**	**2.41**	**89**	P	**Pn**	**21 03 24.1**	**+1.3**
BMAS	**Trigal station**	**2.42**	**91**	P	**Pn**	**21 03 24.3**	**+1.4**
JUI6	**Juive**	**2.43**	**89**	P	**Pn**	**21 03 24.4**	**+1.3**
ARRY	**Arrayan**	**2.44**	**91**	P	**Pn**	**21 03 24.4**	**+1.1**
POND	**Pondoa**	**2.44**	**89**	P	**Pn**	**21 03 25.1**	**+1.7**
PAT1	**Patacocha**	**2.46**	**91**	P	**Pn**	**21 03 24.9**	**+1.3**
BPAT	**Tungurahua Vol**	**2.46**	**91**	P	**Pn**	**21 03 24.7**	**+1.0**
RUN5	**Runtun**	**2.47**	**89**	P	**Pn**	**21 03 25.4**	**+1.7**
BRUN	**Tungurahua Vol**	**2.49**	**89**	P	**Pn**	**21 03 25.1**	**+1.2**
BULB	**Ulba Tungurahu**	**2.49**	**89**	P	**Pn**	**21 03 25.4**	**+1.5**
CAMI	**Rancho Maria**	**2.52**	**72**	P	**Pn**	**21 03 26.3**	**+1.9**
NINA	**Atacazo Ninahu**	**2.52**	**65**	P	**Pn**	**21 03 24.7**	**+0.2**
BNAS	**Cotopaxi Volca**	**2.54**	**72**	P	**Pn**	**21 03 27.2**	**+2.3**
PIS1	**Pisayambo**	**2.54**	**81**	P	**Pn**	**21 03 26.7**	**+1.9**
PISA	**Pisayambo**	**2.54**	**81**	P	**Pn**	**21 03 26.7**	**+1.8**
BMOR	**Cotopaxi Volca**	**2.55**	**73**	P	**Pn**	**21 03 26.5**	**+1.6**
NAS2	**Nasa**	**2.56**	**71**	P	**Pn**	**21 03 27.4**	**+2.3**
BREF	**Cotopaxi Volca**	**2.58**	**72**	P	**Pn**	**21 03 28.4**	**+2.9**
BVC2	**Cotopaxi Volca**	**2.61**	**72**	P	**Pn**	**21 03 27.3**	**+1.5**
BTAM	**Cotopaxi Volca**	**2.62**	**72**	P	**Pn**	**21 03 27.4**	**+1.4**
PITA	**Cotopaxi Volc**	**2.63**	**70**	P	**Pn**	**21 03 27.3**	**+1.4**
VC1	**Cotopaxi 1**	**2.63**	**72**	P	**Pn**	**21 03 27.4**	**+1.4**
TERV	**Terraza Guagua**	**2.63**	**61**	P	**Pn**	**21 03 26.6**	**+0.5**
GGPC	**Guagua Pichinc**	**2.64**	**61**	P	**Pn**	**21 03 26.3**	**+0.2**
PINO	**Pino**	**2.64**	**60**	P	**Pn**	**21 03 25.5**	**-0.7**
COV1	**Cotopaxi Volc**	**2.68**	**72**	P	**Pn**	**21 03 27.9**	**+1.1**
YANA	**Yana**	**2.69**	**60**	P	**Pn**	**21 03 26.3**	**-0.5**
PAC1	**Pacto, Paraso**	**2.73**	**51**	P	**Pn**	**21 03 27.2**	**+0.2**
ANTG	**Antisana-Guama**	**2.81**	**70**	P	**Pn**	**21 03 30.9**	**+2.3**
ANTM	**Antisana-La Mi**	**2.83**	**71**	P	**Pn**	**21 03 30.4**	**+1.6**
PUYO	**Puyo, Santa Ro**	**2.87**	**90**	P	**Pn**	**21 03 31.8**	**+2.8**
ANTS	**Antisana-Sarah**	**2.89**	**70**	P	**Pn**	**21 03 32.1**	**+2.4**
ANTI	**Antisana**	**2.92**	**70**	P	**Pn**	**21 03 32.3**	**+2.3**
OTAV	**Otavalo**	**2.98**	**55**	*e*P	**Pn**	**21 03 31.1**	**+0.4**
OTAV				*e*S	**Sb**	**21 04 13.2**	**0.0**
OTAV	**Otavalo**	**2.98**	**55**	*e*Pn	**Pn**	**21 03 32.6**	**+1.9**
OTAV	**Otavalo**	**2.98**	**55**	P	**Pn**	**21 03 31.5**	**+0.7**
OTAV	**Otavalo**	**2.98**	**55**	*e*P	**Pn**	**21 03 31.1**	**+0.4**
OTAV				*e*S	**Sb**	**21 04 13.2**	**0.0**
OTAV	**Otavalo**	**2.98**	**55**	*e*P	**Pn**	**21 03 31.1**	**+0.4**
OTAV				*e*S	**Sb**	**21 04 13.2**	**0.0**
MCRA	**Macar, Loja**	**3.03**	**162**	P	**Pn**	**21 03 29.8**	**-1.2**
CUSE	**Cuicocha Este**	**3.06**	**55**	P	**Pn**	**21 03 33.6**	**+1.7**
CUSW	**Cuicocha Oeste**	**3.09**	**56**	P	**Pn**	**21 03 34.2**	**+2.0**
CUIC	**Cuicocha-Domo**	**3.09**	**55**	P	**Pn**	**21 03 33.6**	**+1.4**
ARDO	**Archidona, Ten**	**3.13**	**81**	P	**Pn**	**21 03 35.2**	**+2.7**
IMBA	**Imbabura, San**	**3.21**	**57**	P	**Pn**	**21 03 37.4**	**+3.5**
URCU	**Urcuqui**	**3.25**	**54**	P	**Pn**	**21 03 37.0**	**+2.4**
CAYA	**Cayambe**	**3.29**	**62**	P	**Pn**	**21 03 38.2**	**+3.1**
YAHU	**Yahuarcocha**	**3.37**	**57**	P	**Pn**	**21 03 39.3**	**+3.2**
TULM	**Tulcn-Chalpat**	**3.80**	**55**	P	**Pn**	**21 03 44.6**	**+2.6**
CMBC	**Cumbal**	**3.90**	**52**	*e*P	**Pn**	**21 03 45.6**	**+2.2**
CMBC	**Cumbal**	**3.90**	**52**	*e*P	**Pn**	**21 03 45.6**	**+2.2**
CMBC	**Cumbal**	**3.90**	**52**	*e*P	**Pn**	**21 03 45.6**	**+2.2**
TUMC	**Tumaco**	**3.93**	**34**	*e*S	**Sb**	**21 04 41.8**	**+1.7**
TUMC	**Tumaco**	**3.93**	**34**	*e*S	**Sb**	**21 04 41.8**	**+1.7**
TUMC	**Tumaco**	**3.93**	**34**	*e*S	**Sb**	**21 04 41.8**	**+1.7**
GCUF	**Volcan Galeras**	**4.45**	**53**	*e*P	**Pn**	**21 03 53.8**	**+2.7**
GCUF				*e*S	**Sb**	**21 04 53.0**	**-2.6**
GCUF	**Volcan Galeras**	**4.45**	**53**	*e*P	**Pn**	**21 03 53.8**	**+2.7**
GCUF				*e*S	**Sb**	**21 04 53.0**	**-2.6**
GCUF	**Volcan Galeras**	**4.45**	**53**	*e*P	**Pn**	**21 03 53.8**	**+2.7**
GCUF				*e*S	**Sb**	**21 04 53.0**	**-2.6**
CRUC	**La Cruz**	**4.97**	**53**	*e*P	**Pn**	**21 04 00.7**	**+2.6**
CRUC	**La Cruz**	**4.97**	**53**	*e*P	**Pn**	**21 04 00.7**	**+2.6**
CRUC	**La Cruz**	**4.97**	**53**	*e*P	**Pn**	**21 04 00.7**	**+2.6**
GRGC	**Isla de Gorgon**	**5.22**	**32**	*e*P	**Pn**	**21 04 04.9**	**+3.7**
GRGC	**Isla de Gorgon**	**5.22**	**32**	*e*P	**Pn**	**21 04 04.9**	**+3.7**
GRGC	**Isla de Gorgon**	**5.22**	**32**	*e*P	**Pn**	**21 04 04.9**	**+3.7**
SOTA	**Rioblanco**	**5.59**	**50**	*e*P	**Pn**	**21 04 08.0**	**+1.2**
SOTA	**Rioblanco**	**5.59**	**50**	*e*P	**Pn**	**21 04 08.0**	**+1.2**
SOTA	**Rioblanco**	**5.59**	**50**	*e*P	**Pn**	**21 04 08.0**	**+1.2**
POPC	**Popayan, Colom**	**5.81**	**47**	*e*P	**Pn**	**21 04 09.7**	**+0.2**
POPC	**Popayan, Colom**	**5.81**	**47**	*e*P	**Pn**	**21 04 09.7**	**+0.2**
POPC	**Popayan, Colom**	**5.81**	**47**	*e*P	**Pn**	**21 04 09.7**	**+0.2**
PCON	**Cinco Dias**	**5.88**	**50**	*e*P	**Pn**	**21 04 12.5**	**+1.8**
PCON	**Cinco Dias**	**5.88**	**50**	*e*P	**Pn**	**21 04 12.5**	**+1.8**
PCON	**Cinco Dias**	**5.88**	**50**	*e*P	**Pn**	**21 04 12.5**	**+1.8**
ATAH	**Atahualpa**	**6.15**	**156**	Pn	**Pn**	**21 04 15.2**	**+0.8**
	2.1nm,0.3s,baz=5.4,slow=6.9,SNR=8.0						
ATAH				Sn	**Sn**	**21 05 28.7**	**+3.7**
	2.5nm,0.3s,baz=291,slow=11,SNR=3.6						
ATAH				LR	LR	21 07 13.4	
	comp=Z,585nm,21.0s,baz=331,slow=44						
PTLC	**Puerto Leguiza**	**6.32**	**75**	*e*P	**Pn**	**21 04 17.0**	**+0.7**
PTLC	**Puerto Leguiza**	**6.32**	**75**	*e*P	**Pn**	**21 04 17.0**	**+0.7**
PTLC	**Puerto Leguiza**	**6.32**	**75**	*e*P	**Pn**	**21 04 17.0**	**+0.7**
MALC	**Bahia Malaga**	**6.51**	**33**	*e*P	**Pn**	**21 04 22.8**	**+3.8**
MALC	**Bahia Malaga**	**6.51**	**33**	*e*P	**Pn**	**21 04 22.8**	**+3.8**
MALC	**Bahia Malaga**	**6.51**	**33**	*e*P	**Pn**	**21 04 22.8**	**+3.8**
MARP	**Paez Belalcaza**	**6.54**	**49**	*e*P	**Pn**	**21 04 21.1**	**+1.4**
MARP	**Paez Belalcaza**	**6.54**	**49**	*e*P	**Pn**	**21 04 21.1**	**+1.4**
MARP	**Paez Belalcaza**	**6.54**	**49**	*e*P	**Pn**	**21 04 21.1**	**+1.4**
PRAC	**Prado**	**7.92**	**49**	*e*P	**Pn**	**21 04 40.1**	**+1.8**
PRAC	**Prado**	**7.92**	**49**	*e*P	**Pn**	**21 04 40.1**	**+1.8**
PRAC	**Prado**	**7.92**	**49**	*e*P	**Pn**	**21 04 40.1**	**+1.8**
ROSC	**El Rosal**	**9.08**	**46**	Pn	Pn	21 05 01.0	+6.4
	2.4nm,0.3s,baz=205,slow=22,SNR=3.1						
ROSC				LR	LR	21 09 16.8	
	comp=Z,116nm,21.0s,baz=147,slow=43						
VILC	**Villavicencio,**	**9.09**	**52**	*e*P	**Pn**	**21 04 58.0**	**+3.5**
VILC	**Villavicencio,**	**9.09**	**52**	*e*P	**Pn**	**21 04 58.0**	**+3.5**
VILC	**Villavicencio,**	**9.09**	**52**	*e*P	**Pn**	**21 04 58.0**	**+3.5**
NORC	**Norcasia**	**9.23**	**41**	*e*P	**Pn**	**21 04 59.5**	**+3.1**
NORC	**Norcasia**	**9.23**	**41**	*e*P	**Pn**	**21 04 59.5**	**+3.1**
NORC	**Norcasia**	**9.23**	**41**	*e*P	**Pn**	**21 04 59.5**	**+3.1**
CHIC	**Chingaza**	**9.38**	**50**	*e*P	**Pn**	**21 05 00.1**	**+1.3**
CHIC	**Chingaza**	**9.38**	**50**	*e*P	**Pn**	**21 05 00.1**	**+1.3**
CHIC	**Chingaza**	**9.38**	**50**	*e*P	**Pn**	**21 05 00.1**	**+1.3**
NNA	**Nana**	**11.19**	**159**	Pn	Pn	**21 05 24.5**	**+1.2**
	2.7nm,0.3s,baz=323,slow=10,SNR=3.1						
NNA				Sn	**Sn**	**21 07 25.1**	**-3.4**

n83,σ1ᵍ66/132,38C-31D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PQL	**Pirkuli**	**0.11**	**141**	⇑P	**Pg**	**21 33 09.8**	**-0.2**
	SNR=1387						
PQL				⇓S	**Sg**	**21 33 12.4**	**+0.9**
IML	**Ismayilli**	**0.26**	**251**	⇓P	**Pg**	**21 33 13.0**	**+0.3**
	SNR=584						
IML				⇓S	**Sb**	**21 33 18.5**	**-1.5**
ATGJ	**Altiaghaj**	**0.33**	**92**	⇑P	**Pg**	**21 33 13.5**	**-0.6**
ATGJ				⇓S	**Sg**	**21 33 19.2**	**+0.7**
SIZA	**Siyzn**	**0.36**	**56**	⇑P	**Pg**	**21 33 14.5**	**-0.3**
	SNR=1577						
SIZA				⇑S	**Sg**	**21 33 20.4**	**+1.0**
XNQ	**Khinaliq**	**0.40**	**317**	⇑P	**Pg**	**21 33 14.9**	**-0.7**
	SNR=1527						
XNQ				⇑S	**Sg**	**21 33 21.4**	**+0.6**
GBS	**Qobustan**	**0.48**	**135**	⇓P	**Pg**	**21 33 17.9**	**+1.0**
	SNR=195						
GBS				⇓S	**Sb**	**21 33 28.1**	**+1.7**
QUBA	**Quba, Azerbaij**	**0.48**	**359**	⇑P	**Pg**	**21 33 17.2**	**+0.3**
	SNR=49						
QUBA				⇑S	**Sb**	**21 33 25.3**	**-1.1**
QBL	**Gabala**	**0.51**	**278**	⇑P	**Pg**	**21 33 17.3**	**-0.3**
	SNR=422						
QBL				⇑S	**Sb**	**21 33 26.0**	**-1.3**
KDMR	**Kurdemir**	**0.56**	**206**	⇓P	**Pg**	**21 33 19.1**	**+0.7**
	SNR=9.2						
KDMR				⇑S	**Sb**	**21 33 30.3**	**+1.8**
QSAR	**Qusar**	**0.66**	**344**	⇓P	**Pg**	**21 33 20.5**	**0.0**
	SNR=306						
QSAR				⇓S	**Sg**	**21 33 30.1**	**+0.9**
KSMR	**Kasumkent**	**0.78**	**339**	*e*PG	**Pg**	**21 33 23.0**	**+0.3**
KSMR				pmax	pmax		
	comp=Z,146nm,0.4s						
KSMR	**Kasumkent**	**0.78**	**339**	*e*Pg	**Pg**	**21 33 23.0**	**+0.3**
KSMR				*e*Sg	**Sg**	**21 33 30.0**	**-2.8**
ZRD	**Zardab**	**0.86**	**226**	⇓P	**Pg**	**21 33 24.8**	**+0.5**
ZRD				⇑S	**Sn**	**21 33 40.2**	**+0.2**
ALIB	**Äli-Bayra**	**0.99**	**157**	⇓P	**Pn**	**21 33 30.6**	**+1.9**
	SNR=16						
ALIB				⇑S	**Sn**	**21 33 49.7**	**+6.5**
SAAT	**Saatly**	**1.02**	**183**	⇓P	**Pg**	**21 33 27.1**	**-0.1**
SEKA	**Sheki**	**1.04**	**289**	⇓P	**Pg**	**21 33 26.3**	**-1.4**
	SNR=183						
SEKA				⇑S	**Sb**	**21 33 42.8**	**+0.1**
GOBA	**Gobu**	**1.05**	**116**	⇑P	**Pn**	**21 33 29.6**	**+0.1**
	SNR=6.0						
MNGR	**Mingechevir, A**	**1.08**	**265**	⇓P	**Pg**	**21 33 28.3**	**-0.1**
	SNR=11						
MNGR				⇓S	**Sn**	**21 33 45.3**	**-0.1**
DRN	**Derbent**	**1.16**	**354**	⇓*i*PG	**Pn**	**21 33 32.0**	**+1.0**
DRN				*e*		21 33 46.4	
DRN				pmax	pmax		
	comp=Z,107nm,0.6s						
DRN				smax	smax		
	comp=N,275nm,0.7s						
DRN	**Derbent**	**1.16**	**354**	*e*Pg	**Pg**	**21 33 30.0**	**0.0**
DRN				*e*Sg	**Sb**	**21 33 46.1**	**+0.1**
NDR	**Nardaran**	**1.17**	**104**	⇑P	**Pb**	**21 33 30.4**	**-0.2**
	SNR=4.2						
NDR				⇑S	**Sn**	**21 33 50.1**	**+2.6**
BRDA	**Brd**	**1.18**	**239**	⇑P	**Pg**	**21 33 30.2**	**-0.2**
	SNR=17						
BRDA				⇓S	**Sn**	**21 33 49.7**	**+1.9**
URKR	**Urkarakh**	**1.44**	**333**	⇓*i*PG	**Pn**	**21 33 35.1**	**+0.1**
URKR	**Urkarakh**	**1.44**	**333**	*e*Pg	**Pn**	**21 33 34.5**	**-0.5**
URKR				*e*Sg	**Sg**	**21 33 54.4**	**+0.2**
ZKTA	**Zakatala**	**1.61**	**299**	⇑Pn	**Pn**	**21 33 36.4**	**-0.8**
	SNR=222						
ZKTA				⇓Sn	**Sg**	**21 34 00.6**	**+1.2**
GLBA	**Clilabad**	**1.63**	**183**	⇓Pn	**Pn**	**21 33 36.1**	**-1.4**
	SNR=35						
GLBA				⇓Sn	**Sn**	**21 33 58.7**	**-0.4**
KMKR	**Kumukh**	**1.64**	**320**	*e*PN	**Pn**	**21 33 38.0**	**+0.2**
KMKR				pmax	pmax		
	comp=Z,55nm,0.4s						
KMKR	**Kumukh**	**1.64**	**320**	*e*Pg	**Pn**	**21 33 38.0**	**+0.2**
KMKR				*e*Sg	**Sg**	**21 34 01.5**	**+1.1**
GANJ	**Ganja**	**1.67**	**263**	⇑Pn	**Pn**	**21 33 36.5**	**-1.6**
	SNR=29						
GANJ				⇓Sn	**Sn**	**21 33 58.9**	**-1.1**
DDFL	**Dedoflistskaro**	**1.89**	**288**	P	**Pb**	**21 33 42.6**	**-0.3**
DDFL				S	**Sg**	**21 34 10.3**	**+1.9**
GNBR	**Gunib**	**1.90**	**323**	⇑*e*PN	**Pg**	**21 33 44.5**	**+0.3**
GNBR				pmax	pmax		
	comp=Z,74nm,0.6s						
GNBR	**Gunib**	**1.90**	**323**	*e*Pg	**Pb**	**21 33 42.8**	**-0.4**
GNBR				*e*Sg	**Sg**	**21 34 09.3**	**+0.4**
LGD	**Lagodekhi**	**1.95**	**300**	P	**Pb**	**21 33 43.4**	**-0.6**
LGD				S	**Sg**	**21 34 12.7**	**+2.2**
LGD	**Lagodekhi**	**1.95**	**300**	PN	**Pb**	**21 33 43.2**	**-0.8**
LGD				S	**Sg**	**21 34 12.6**	**+2.2**
LGD	**Lagodekhi**	**1.95**	**300**	*e*Pg	**Pb**	**21 33 43.4**	**-0.6**
LGD				*e*Sg	**Sg**	**21 34 12.7**	**+2.2**
ARKR	**Arakani**	**2.06**	**327**	*e*PN	**Pb**	**21 33 46.0**	**+0.1**
ARKR				*e*S	**Sg**	**21 34 16.0**	**+2.0**
ARKR	**Arakani**	**2.06**	**327**	*e*Pg	**Pb**	**21 33 46.0**	**+0.1**
ARKR				*e*Sg	**Sg**	**21 34 16.0**	**+2.0**
GDB	**GEDABAY**	**2.09**	**267**	⇓Pn	**Pn**	**21 33 42.1**	**-1.9**
	SNR=91						
GDB				⇑Sn	**Sn**	**21 34 11.0**	**+0.4**
XNZR	**Khunzakh**	**2.14**	**322**	⇑*e*PN	**Pb**	**21 33 47.3**	**0.0**
XNZR				*e*		21 34 17.8	
XNZR	**Khunzakh**	**2.14**	**322**	*e*Pg	**Pb**	**21 33 47.1**	**-0.2**
XNZR				*e*Sg	**Sb**	**21 34 15.0**	**+0.7**
LKRN	**Lenkeran, Azer**	**2.17**	**174**	⇑Pn	**Pn**	**21 33 44.1**	**-0.8**
LKRN				⇓Sn	**Sn**	**21 34 11.9**	**-0.5**
MAK	**Makhachkala**	**2.21**	**341**	*e*PN	**Pn**	**21 33 45.3**	**-0.1**
MAK				*e*		21 33 51.0	
MAK				*e*		21 34 18.1	
MAK				*e*S	**Sg**	**21 34 22.2**	**+3.4**
MAK				*e*		21 34 28.1	
MAK				pmax	pmax		
	comp=Z,39nm,0.4s						
MAK				smax	smax		
	comp=N,258nm,0.6s						
MAK				smax	smax		
	comp=N,306nm,0.6s						
MAK	**Makhachkala**	**2.21**	**341**	*e*Pg	**Pb**	**21 33 48.1**	**-0.3**
MAK				*e*Sg	**Sb**	**21 34 15.0**	**-1.2**
LRK	**Lerik**	**2.23**	**183**	⇑Pn	**Pn**	**21 33 45.2**	**-0.7**
	SNR=14						
LRK				⇑Sn	**Sb**	**21 34 16.1**	**-1.0**
KRNR	**Karanay**	**2.28**	**329**	*e*PN	**Pb**	**21 33 49.0**	**-0.8**
KRNR				*e*S	**Sg**	**21 34 20.0**	**-1.2**
KRNR	**Karanay**	**2.28**	**329**	*e*Pg	**Pb**	**21 33 49.0**	**-0.8**
KRNR				*e*Sg	**Sg**	**21 34 20.0**	**-1.2**
ASTR	**Astara**	**2.32**	**174**	⇑Pn	**Pn**	**21 33 45.2**	**-1.8**
ASTR				⇑Sn	**Sn**	**21 34 16.9**	**+0.8**
QZX	**Qazax, Azerbai**	**2.38**	**275**	⇑Pn	**Pn**	**21 33 46.8**	**-0.9**
	SNR=61						
QZX				⇓Sn	**Sn**	**21 34 18.2**	**+0.7**
BTLR	**Botlikh**	**2.47**	**317**	⇑*e*PN	**Pb**	**21 33 53.3**	**+0.4**
BTLR				*e*		21 34 27.0	
BTLR				pmax	pmax		
	comp=Z,25nm,0.6s						
BTLR				smax	smax		
	comp=N,24nm,0.8s						
BTLR	**Botlikh**	**2.47**	**317**	*e*Pn	**Pb**	**21 33 53.4**	**+0.5**
DBC	**Dubki**	**2.48**	**330**	⇑*e*PN	**Pb**	**21 33 54.0**	**+1.0**
DBC				*e*		21 34 29.9	
DBC	**Dubki**	**2.48**	**330**	*e*Pn	**Pn**	**21 33 51.1**	**+1.9**
DBC				*e*Sn	**Sn**	**21 34 21.7**	**+1.7**
SBZ	**Shahbuz**	**2.70**	**238**	⇓Pg	**Pn**	**21 33 53.5**	**+1.3**
SBZ				⇑Sg	**Sb**	**21 34 29.3**	**-1.1**
ORD	**Ordubad**	**2.74**	**226**	⇓Pn	**Pn**	**21 33 52.3**	**-0.5**
ORD				⇑Sn	**Sn**	**21 34 27.7**	**+1.2**
NAX	**Nakhchivan**	**2.87**	**235**	⇓Pg	**Pn**	**21 33 56.0**	**+1.5**
NAX				⇑Sg	**Sb**	**21 34 37.0**	**+1.8**
GNI	**Garni**	**2.96**	**257**	*ce*PN	**Pb**	**21 33 59.6**	**-1.7**
GNI	**Garni**	**2.96**	**257**	Pn	**Pb**	**21 33 58.8**	**-2.5**
	comp=N,3.2nm,0.3s,baz=55,slow=10,SNR=19						
GNI	**Garni**	**2.96**	**257**	*e*Pn	**Pb**	**21 33 59.6**	**-1.7**
TBLG	**Delisi**	**2.96**	**288**	P	**Pn**	**21 33 56.4**	**+0.7**
TBLG	**Delisi**	**2.96**	**288**	PN	**Pn**	**21 33 56.4**	**+0.7**
TBLG	**Delisi**	**2.96**	**288**	*e*Pn	**Pn**	**21 33 56.4**	**+0.7**
HYR	**Heyderabad**	**3.02**	**249**	⇓Pg	**Pn**	**21 33 59.5**	**+2.9**
HYR				⇑Sg	**Sb**	**21 34 41.4**	**+1.7**
GROC	**Groznyy**	**3.08**	**320**	*e*PN	**Pn**	**21 33 55.1**	**-2.2**
GROC				*e*		21 34 40.8	
GROC				pmax	pmax		
	comp=Z,25nm,1.6s						
GROC				smax	smax		
	comp=N,51nm,1.1s						
GROC				smax	smax		
	comp=N,143nm,1.3s						
KZRT	**Kazreti**	**3.14**	**281**	P	**Pn**	**21 33 59.9**	**+1.6**
TRLG	**Trialeti**	**3.38**	**283**	P	**Pn**	**21 34 01.2**	**-0.5**
TRLG				S	**Sn**	**21 34 42.9**	**+0.3**
GUDG	**Gudauri**	**3.41**	**299**	P	**Pn**	**21 34 05.2**	**+3.1**
LACR	**Lac**	**3.70**	**303**	⇓*e*PN	**Pb**	**21 34 10.1**	**-3.7**
LACR				pmax	pmax		
	comp=Z,19nm,0.9s						
LACR	**Lac**	**3.70**	**303**	*e*Pn	**Pn**	**21 34 08.0**	**+2.0**
LACR				*e*Sn	**Sn**	**21 34 52.0**	**+1.9**
BTKR	**Batakoyurt**	**3.86**	**312**	*e*Pn	**Pn**	**21 34 09.3**	**+1.2**
ZEI	**Tsey**	**3.93**	**301**	⇓*e*PN	**Pn**	**21 34 12.0**	**+2.8**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
ZEI	**Tsey**	**3.93**	**301**	*e*Pn	**Pn**	**21 34 12.1**	**+2.8**
ZEI				*e*Sn	**Sn**	**21 34 57.0**	**+0.9**
DIGR	**Digorskoe uzhe**	**4.19**	**300**	⇑*e*PN	**Pn**	**21 34 16.2**	**+3.3**
DIGR	**Digorskoe uzhe**	**4.19**	**300**	*e*Pn	**Pn**	**21 34 15.2**	**+2.3**
DIGR				*e*Sn	**Sn**	**21 35 02.7**	**+0.2**
KBZ	**Khabaz**	**5.04**	**306**	Pn	Pb	21 34 31.4	-5.2
	comp=Z,0.1nm,0.3s,baz=218,slow=12,SNR=5.1						
SHA1	**Shidzhatmaz**	**5.19**	**305**	*e*Pn	**Pn**	**21 34 29.6**	**+3.0**
GEYT	**Alibeck**	**8.01**	**108**	Pn	**Pn**	**21 35 01.4**	**-3.7**
	comp=Z,0.4nm,0.3s,baz=287,slow=14,SNR=3.6						
ANN	**Anapa**	**9.03**	**299**	*e*P	**Pn**	**21 35 22.2**	**+3.2**
ANN				*e*S	**Sn**	**21 37 07.5**	**+6.4**
ANN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
OBN	**Obninsk**	**16.30**	**335**	*e*P	**P**	**21 36 59.0**	**-1.6**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRVK	**Borovoye**	**19.13**	**43**	⇓*e*P	**P**	**21 37 30.9**	**-1.0**
BVAR	**Borovoye Array**	**19.17**	**43**	P	**P**	**21 37 30.7**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=236,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**24.70**	**334**	*i* P	**P**	**21 38 31.2**	**+1.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**24.70**	**334**	P	**P**	**21 38 27.4**	**-2.4**
	comp=Z,0.6nm,0.5s,baz=141,slow=9.0,SNR=8.2						
MKAR	**Makanchi Array**	**24.95**	**65**	P	**P**	**21 38 31.1**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=266,slow=9.1,SNR=5.6						

IDC 14 22:23:41.6±5.4,19°.11S×65°.43E,h0km,mb3.6/5, mb1 3.9/5,mb1mx3.5/36,mbtmp3.6/5,Error ellipse: s-maj=151.7km s-min=36.8km az=63.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.29**	**32**	T	T	22 40 12.1	
	baz=211,slow=76,SNR=48						
H08S2	**Diego Garcia H**	**13.30**	**32**	T	T	22 40 10.0	
	baz=211,slow=76,SNR=19						
H08S3	**Diego Garcia H**	**13.31**	**32**	T	T	22 40 08.5	
	baz=211,slow=76,SNR=67						
H08N3	**Diego Garcia H**	**13.80**	**24**	T	T	22 40 48.5	
	baz=203,slow=76,SNR=39						
H08N1	**Diego Garcia H**	**13.81**	**24**	T	T	22 40 45.1	
	baz=203,slow=76,SNR=24						
H08N2	**Diego Garcia H**	**13.82**	**24**	T	T	22 40 43.0	
	baz=203,slow=76,SNR=44						
CMAR	**Chiang Mai Arr**	**49.77**	**43**	P	P	22 32 36.2	0.0
	0.8nm,0.3s,baz=236,slow=6.4,SNR=4.0						
ASAR	**Alice Springs**	**63.38**	**107**	P	P	22 34 13.8	+0.5
	0.7nm,0.7s,baz=264,slow=5.5,SNR=7.5						
WRA	**Warramunga Arr**	**64.50**	**103**	P	P	22 34 20.2	-0.6
	0.3nm,0.8s,baz=193,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	**67.34**	**12**	P	P	22 34 38.7	+0.3
	0.3nm,0.8s,baz=193,slow=8.3,SNR=4.0						
SONM	**Songino Array**	**76.08**	**27**	P	P	22 35 30.7	-0.5
	0.2nm,0.6s,baz=210,slow=5.0,SNR=2.5						

IDC 14 22:34:24.8±1.7,36°.02S×71°.43W,h0km,mb3.4/1, mb1 3.8/3,mb1mx3.5/20,mbtmp3.5/3,ML3.6/2,Error ellipse: s-maj=100.5km s-min=24.4km az=84.0
SJA 14 22:34:58.8±0.6,34°.45S×72°.71W,h49km,ML3.1,MW3.5
GUC 14 22:35:09.1±0.5,34°.82S×71°.84W,h51km±4km,ML3.4

ISC 14 22:34:53.9±1.7,34°.85±0°.1×72°.9W±0°.1,h145km±13km,n16,σ3ᵍ74/19,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.84**	**103**	*e*P	**Pn**	**22 35 17.3**	**+0.4**
GO05				*i* S	Sn	22 35 23.6	-11
CHPI	**Pichilemu**	**0.88**	**61**	*e*P	**Pn**	**22 35 19.8**	**+2.6**
CHPI				*i* S	Sn	22 35 27.3	-7.5
ANTU	**Antumapu**	**2.28**	**57**	*e*P	**Pn**	**22 35 35.2**	**+3.1**
ANTU				*e*S	**Sn**	**22 35 55.1**	**-6.4**
ANTU				IAML		22 35 57.0	
	comp=E,834nm,0.3s						
ROCH	**El Roble**	**2.44**	**41**	IAML		22 36 09.4	
	comp=N,378nm,0.3s						
CLCH	**Cerro Calan**	**2.45**	**55**	*e*P	**Pn**	**22 35 37.1**	**+3.0**
CLCH				*e*S	**Sn**	**22 35 58.9**	**-6.3**
CLCH				IAML		22 36 05.5	
	comp=N,628nm,0.6s						
LMEL	**Las Melosas**	**2.46**	**67**	⇑*e*P	**Pn**	**22 35 36.2**	**+1.7**
LMEL				*e*S	Sn	22 35 57.2	-8.4
LMEL				IAML		22 36 00.4	
	comp=N,897nm,0.2s						
PEL	**Peldehue**	**2.51**	**49**	*e*P	**Pn**	**22 35 39.1**	**+4.2**
PEL				*e*S	**Sn**	**22 36 02.4**	**-4.2**
PEL				IAML		22 36 07.9	
	comp=N,364nm,0.4s						
FCH	**Farellones**	**2.65**	**56**	*e*P	**Pn**	**22 35 40.7**	**+3.7**
FCH				*i* S	**Sn**	**22 36 04.3**	**-5.8**
FCH				IAML		22 36 12.8	
	comp=N,332nm,0.2s						
RFA	**San Rafael**	**3.68**	**90**	*e*P	Pn	22 35 53.5	+3.7
RFA				IAML		22 36 03.0	
	comp=Z,44nm,0.6s						
RFA				*e*S	**Sn**	**22 36 34.0**	**+0.9**
AAGR	**Agrelo**	**3.83**	**64**	*e*P	**Pn**	**22 35 54.1**	**+2.3**
ARCO	**CERRO ARCO**	**3.87**	**60**	*e*P	**Pn**	**22 35 53.7**	**+1.2**
ARCO				IAML		22 36 15.5	
	comp=Z,30nm,0.4s						
ARCO				*e*S	**Sn**	**22 36 39.1**	**+1.2**
AUSP	**Uspallata**	**3.94**	**50**	*e*P	**Pn**	**22 35 54.6**	**+1.1**
RTLS	**Leoncito**	**4.29**	**46**	⇓*e*P	**Pn**	**22 35 59.8**	**+1.8**
RTLS				IAML		22 37 08.7	
	comp=Z,21nm,0.5s						
RTLL	**Cerro Villicun**	**5.12**	**48**	*e*P	**Pn**	**22 36 10.3**	**+1.6**
LPAZ	**La Paz**	**18.96**	**14**	P	P	22 38 58.3	-6.3
	comp=Z,0.1nm,0.3s,baz=185,slow=11,SNR=8.1						
TXAR	**Lajitas Array**	**70.10**	**332**	P	**P**	**22 45 48.9**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=144,slow=7.8,SNR=3.5						

ISCJB 14 22:53:23.7±0.5,67°.57N±0°.04×142°.6E±0°.1,h10km, mb3.5/7,Error ellipse: s-maj=7.6km s-min=6.3km az=176.2
YARS 14 22:53:23.9±0.1,67°.61N±0°.01×142°.57E±0°.02,h6km±2km
IDC 14 22:53:24.3±1.6,67°.81N×142°.23E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.4/45,mbtmp3.6/7,Error ellipse: s-maj=74.4km s-min=18.0km az=159.0

ISC 14 22:53:24.4±0.8,67°.59N±0°.05×142°.67E±0°.05,h10km,n11,σ1ᵍ16/17,mb3.5/7,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.15**	**169**	*e*P	**Pb**	**22 53 44.9**	**-1.4**
MOMR				Pmax		22 53 44.9	
	comp=Z,120nm,0.2s						
MOMR				*e*S	**Sb**	**22 54 00.8**	**-0.4**
MOMR				Smax		22 54 00.8	
	comp=E,602nm,0.3s						
YBGR	**Belaya Gora**	**1.63**	**53**	*e*P	**Pn**	**22 53 52.5**	**-0.5**
YBGR				Pmax		22 53 52.5	
	comp=Z,369nm,0.2s						
YBGR				*e*S	**Sb**	**22 54 15.0**	**0.0**
YBGR				Smax		22 54 15.0	
	comp=E,1μm,0.4s						
DEPR	**Deputatskiy**	**2.08**	**332**	*e*P	**Pn**	**22 53 59.1**	**-0.2**
DEPR				*e*P	**Pb**	**22 54 00.7**	**-1.5**
DEPR				Pmax		22 54 00.7	
	comp=Z,29nm,0.2s						
DEPR				*e*S	**Sb**	**22 54 27.5**	**-0.5**
DEPR				Smax		22 54 27.5	
	comp=E,598nm,0.3s						
BTGS	**Batagay**	**3.07**	**275**	*e*P	**Pn**	**22 54 13.0**	**+0.1**
BTGS				*e*P	**Pb**	**22 54 17.6**	**-1.5**
BTGS				Pmax		22 54 17.6	
	comp=Z,27nm,0.3s						
BTGS				*e*S	**Sb**	**22 54 57.7**	**+1.1**
BTGS				Smax		22 54 57.7	
	comp=E,324nm,0.4s						
SONM	**Songino Array**	**27.03**	**241**	P	**P**	**22 59 07.5**	**+1.0**
	comp=E,0.2nm,0.4s,baz=49,slow=9.8,SNR=2.8						
ILAR	**Eielson Array**	**27.19**	**62**	P	**P**	**22 59 10.3**	**+2.7**
	comp=E,0.6nm,0.9s,baz=293,slow=7.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**35.07**	**274**	P	**P**	**23 00 16.4**	**-0.6**
	comp=E,0.4nm,0.3s,baz=36,slow=8.6,SNR=4.8						
BVAR	**Borovoye Array**	**36.24**	**283**	P	**P**	**23 00 27.1**	**0.0**
	comp=E,0.5nm,0.6s,baz=33,slow=8.6,SNR=4.7						
MKAR	**Makanchi Array**	**36.75**	**267**	P	**P**	**23 00 30.6**	**-0.9**
	comp=E,1.0nm,0.6s,baz=48,slow=7.5,SNR=14						
YKA	**Yellowknife Ar**	**38.85**	**46**	P	**P**	**23 00 49.3**	**+0.2**
	comp=E,0.2nm,0.6s,baz=330,slow=8.7,SNR=3.9						
AAK	**Ala-Archa**	**43.24**	**270**	P	**P**	**23 01 26.6**	**+1.0**
	comp=E,1.1nm,0.5s,baz=13,slow=4.0,SNR=11						

IDC 14 23:15:59.1±2.9,6°.91S×129°.67E,h93km±39km,mb2.7/1, mb1 3.4/5,mb1mx3.2/27,mbtmp3.6/5,Error ellipse: s-maj=69.6km s-min=22.8km az=91.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.21**	**15**	P	Pn	23 17 28.2	-0.1
	1.1nm,0.3s,baz=92,slow=24,SNR=7.5						
SIJI				S	Sn	23 18 31.7	-6.1
	3.4nm,0.3s,baz=221,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**11.80**	**199**	P	Pn	23 18 45.4	+1.1
	0.2nm,0.3s,baz=35,slow=12,SNR=5.1						
FITZ				S	Sn	23 20 50.2	-3.8
	0.3nm,0.3s,baz=288,slow=20,SNR=4.5						
WRA	**Warramunga Arr**	**13.73**	**161**	P	Pn	23 19 08.0	-1.9
	0.4nm,0.3s,baz=341,slow=12,SNR=12						
WRA				S	Sn	23 21 33.9	-7.1
	0.2nm,0.3s,baz=346,slow=25,SNR=4.3						
ASAR	**Alice Springs**	**17.15**	**167**	P	P	23 19 53.5	+0.2
	0.3nm,0.3s,baz=345,slow=10,SNR=14						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	23 26 48.3	+0.1
	0.1nm,0.6s,baz=111,slow=6.5,SNR=3.3						

IDC 14 23:44:25.7±1.9,7°.75S×128°.65E,h0km,mb3.0/1, mb1 3.7/5,mb1mx3.5/44,mbtmp3.5/5,ML3.6/4,Error ellipse: s-maj=52.1km s-min=27.5km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.49**	**243**	Pn	Pn	23 45 50.5	+1.6
	5.3nm,0.3s,baz=12,slow=20,SNR=4.1						
BATI				S	Sn	23 46 48.4	-4.4
	5.2nm,0.3s,baz=319,slow=20,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.69**	**196**	Pn	Pn	23 46 58.2	-2.0
	0.2nm,0.3s,baz=15,slow=13,SNR=8.0						
FITZ				S	Sn	23 48 53.4	-7.4
	0.3nm,0.3s,baz=342,slow=23,SNR=5.9						
WRA	**Warramunga Arr**	**13.31**	**156**	Pn	Pn	23 47 37.5	+1.4
	0.2nm,0.3s,baz=330,slow=14,SNR=6.6						
WRA				S	Sn	23 49 59.6	-5.4
	0.4nm,0.3s,baz=332,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**16.61**	**163**	Pn	Pn	23 48 20.2	+0.1
	0.3nm,0.3s,baz=341,slow=11,SNR=17						
MKAR	**Makanchi Array**	**68.13**	**328**	P	P	23 55 27.5	-0.1
	0.1nm,0.7s,baz=133,slow=6.1,SNR=2.0						

IDC 14 23:53:11.5±4.8,36°.21N×71°.04E,h173km±40km,mb3.1/6, mb1 3.2/10,mb1mx2.9/54,mbtmp3.7/10,Error ellipse: s-maj=47.8km s-min=31.6km az=138.0
ISCJB 14 23:53:16.6±0.6,36°.66N±0°.04×70°.87E±0°.09,h200km, mb3.1/5,Error ellipse: s-maj=10.1km s-min=5.3km az=160.3
NNC 14 23:53:22.8±5.5,37°.08N×70°.94E,h224km±75km,mb2.7, mpv3.7,Error ellipse: s-maj=55.4km s-min=31.1km az=19.0

ISC 14 23:53:16.8±0.8,36°.64N±0°.07×70°.90E±0°.09,h200km,n37,σ1ᵍ27/41,mb3.2/5,5C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.89**	**21**	P	**Pn**	**23 54 43.9**	**+0.9**
	SNR=91						
UCH	**Uchtor**	**6.24**	**26**	P	**Pn**	**23 54 48.4**	**+0.9**
	SNR=36						
KZA	**Kyzart**	**6.39**	**30**	P	**Pn**	**23 54 49.8**	**+0.4**
	SNR=8.0						
EKS2	**Erkin-Say**	**6.41**	**19**	P	**Pn**	**23 54 50.9**	**+1.4**
	SNR=6.8						
KK31	**Karatay Array**	**6.46**	**357**	⇓P	**Pn**	**23 54 53.2**	**+3.2**
	0.9nm,0.4s,baz=181,slow=13,SNR=4.6						
KK31				⇓S	**Sn**	**23 56 00.6**	**-3.3**
	5.8nm,0.5s,baz=188,slow=24,SNR=21						

IDC ***15*** *00:03:55.9±1.9, 30.˚69N×141.˚78E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/43, mbtmp3.7/9, ML3.3/2, MS2.8/3, Ms1 2.8/3, ms1mx2.6/30, Error ellipse: s-maj=90.4km s-min=17.1km az=76.0*

ISCJB ***15*** *00:03:56.4±1.0, 30.˚73N±0.˚06×142.˚2E±0.˚3, h24km, mb3.7/6, Error ellipse: s-maj=36.1km s-min=5.3km az=170.1*

JMA ***15*** *00:03:57.2±0.3, 30.˚76N×142.˚40E, h73km, M3.9*

ISC 15 00:03:58.4±1.1, 30.˚74N±0.˚07×142.˚2E±0.˚2, h24km, n19, σ0s70/17, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**2.69**	**311**	P	**Pn**	**00 04 40.8**	**+0.7**
CBIJ	**Chichi jima**	**3.63**	**180**	*eS*	**Sn**	**00 05 34.6**	**-0.5**
JCJ	**Chichijima**	**3.63**	**180**	Pn	**Pn**	**00 04 54.3**	**+1.2**
	5.7nm,0.3s,baz=299,slow=19,SNR=5.8						
JCJ				Sn	**Sn**	**00 05 34.1**	**-1.0**
	14nm,0.3s,baz=107,slow=19,SNR=6.3						
BSO1	**Boso 1**	**4.04**	**346**	P	**Pn**	**00 04 58.3**	**+0.1**
BSO3	**Boso 3**	**4.29**	**341**	P	**Pn**	**00 05 02.2**	**+0.2**
JOD2	**Odawara 2**	**5.21**	**331**	P	**Pn**	**00 05 15.6**	**+0.8**
JRY	**Ryogami san**	**5.94**	**333**	P	**Pn**	**00 05 25.4**	**+0.6**
JAG	**Ashikaga**	**6.11**	**339**	P	**Pn**	**00 05 27.1**	**-0.1**
MJAR	**Matsushiro Arr**	**6.67**	**331**	Pn	**Pn**	**00 05 35.2**	**+0.3**
	0.2nm,0.3s,baz=158,slow=11,SNR=6.6						
JNU	**Nakatsue**	**9.89**	**287**	LR	LR	00 09 46.8	
	comp=Z,102nm,18.9s,baz=44,slow=37						
KSRS	**Korea Array**	**13.57**	**303**	LR	LR	00 12 13.7	
	comp=Z,37nm,18.3s,baz=130,slow=37						
GUMO	**Guam**	**17.24**	**171**	LR	LR	00 11 57.0	
	comp=Z,22nm,21.6s,baz=165,slow=28						
KLR	**Kul'dur**	**20.09**	**340**	P	**P**	**00 08 30.1**	**-0.1**
	0.7nm,0.6s,baz=143,slow=10,SNR=4.0						
SONM	**Songino Array**	**32.18**	**312**	P	**P**	**00 10 23.7**	**-0.7**
	0.3nm,0.7s,baz=108,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**48.22**	**307**	P	**P**	**00 12 36.0**	**-1.1**
	0.4nm,0.6s,baz=93,slow=9.6,SNR=7.6						
WRA	**Warramunga Arr**	**50.95**	**190**	P	**P**	**00 12 58.2**	**+0.1**
	0.9nm,0.5s,baz=5.5,slow=7.6,SNR=20						
ASAR	**Alice Springs**	**54.67**	**189**	P	**P**	**00 13 25.9**	**+0.4**
	0.4nm,0.5s,baz=3.6,slow=6.3,SNR=9.3						
FINES	**FINESS Array B**	**74.69**	**333**	P	**P**	**00 15 36.5**	**+0.7**
	1.2nm,0.7s,baz=67,slow=6.4,SNR=6.4						
GERES	**GERESS Array B**	**88.40**	**329**	P	**P**	**00 16 48.8**	**+0.3**
	0.4nm,0.5s,baz=353,slow=5.4,SNR=3.8						

BJI ***15*** *00:04:55.5, 52.˚50N×132.˚00W, h5km, mb4.8/38, mB5.1/25, Ms4.8/6, Ms7 4.5/3*

IDC ***15*** *00:04:57.6±0.6, 52.˚36N×132.˚15W, h0km, mb4.3/16, mb1 4.4/23, mb1mx4.2/49, mbtmp4.3/23, ML3.7/8, MS3.5/21, Ms1 3.5/21, ms1mx3.4/38, Error ellipse: s-maj=13.3km s-min=6.7km az=45.0*

MOS ***15*** *00:04:58.4±1.0, 52.˚50N×132.˚07W, h10km, mb4.8/37, Error ellipse: s-maj=12.0km s-min=4.4km az=113.9*

PGC ***15*** *00:04:58.3±3.4, 52.˚31N×132.˚29W, h22km, ML4.3/19, Mw4.5, 109km Sw of Sandspit, Bc Haida Gwaii Region*

NEIC ***15*** *00:05:00.6±0.1, 52.˚47N×132.˚06W, h10km, mb4.5/148, MW4.5(OTT), Error ellipse: s-maj=4.5km s-min=1.5km az=47.0*

ISCJB ***15*** *00:05:01.3±0.4, 52.˚49N±0.˚02×131.˚99W±0.˚03, h32km±2km, mb4.5/109, MS3.7/15, Error ellipse: s-maj=4.4km s-min=1.8km az=139.2*

ISC 15 00:04:59.7±1.2, 52.˚37N±0.˚04×132.˚11W±0.˚04, h11km±7km, n529, σ1s34/522, mb4.6/109, MS3.7/16, 5C-9D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.30**	**46**	P	**Pb**	**00 05 07.3**	**+0.2**
BNB				S	**Sb**	**00 05 12.8**	**+0.7**
HG3B	**Hotspring**	**0.46**	**63**	P	**Pg**	**00 05 09.3**	**+0.7**
HG3B				S	**Sg**	**00 05 16.0**	**+1.2**
HG4B	**Hotspring**	**0.56**	**97**	P	**Pg**	**00 05 09.9**	**-0.8**
HG4B				S	**Sg**	**00 05 16.3**	**-1.9**
HG1B	**Mitchell Dam**	**0.57**	**359**	P	**Pg**	**00 05 10.6**	**-0.1**
HG1B				S	**Sg**	**00 05 19.4**	**+1.1**
MOBC	**Moresby Island**	**0.78**	**6**	P	**Pb**	**00 05 14.3**	**-1.0**
MOBC				S	**Sb**	**00 05 25.3**	**-0.6**
DIB	**Dawson Inlet,**	**0.86**	**345**	*e*Pg	**Pb**	**00 05 14.6**	**-2.1**
DIB				*e*Sg	**Sb**	**00 05 25.9**	**-2.3**
DIB	**Dawson Inlet,**	**0.86**	**345**	P	**Pb**	**00 05 14.5**	**-2.1**
DIB				S	**Sb**	**00 05 25.9**	**-2.3**
H02S1	**DAWSON INLET T**	**0.86**	**345**	Pg	**Pb**	**00 05 14.7**	**-2.0**
H02S1				Lg		00 05 26.1	
MASB	**Masset**	**1.65**	**2**	P	**Pn**	**00 05 27.4**	**-1.2**
NDB	**Naden**	**1.67**	**343**	P	**Pn**	**00 05 26.3**	**-2.5**
RUBB	**Prince Rupert**	**2.26**	**29**	P	**Pn**	**00 05 36.1**	**-0.7**
BBB	**Bella Bella**	**2.46**	**93**	P	**Pn**	**00 05 37.3**	**-2.4**
BBB	**Bella Bella**	**2.46**	**93**	Pn	**Pn**	**00 05 37.1**	**-2.5**
	6.0nm,0.3s,baz=272,slow=8.0,SNR=344						
BBB				Pg	**Pb**	**00 05 42.0**	**-1.8**
	39nm,0.3s,baz=270,slow=16,SNR=64						
BBB				Sn	**Sn**	**00 06 05.8**	**-3.9**
	46nm,0.3s,baz=80,slow=22,SNR=16						
BBB				LR	LR	00 06 50.1	
	comp=Z,3μm,18.2s,baz=334,slow=45						
HOLB	**Holberg**	**3.03**	**123**	P	**Pn**	**00 05 43.3**	**-4.2**
CRAG	**Craig**	**3.17**	**349**	*e*Pn	**Pn**	**00 05 49.9**	**+0.6**
BCBC	**Bella Coola**	**3.28**	**88**	P	**Pn**	**00 05 51.3**	**+0.3**
PHC	**Port Hardy**	**3.36**	**118**	P	**Pn**	**00 05 48.0**	**-4.0**
PACB	**Port Alice, BC**	**3.48**	**122**	P	**Pn**	**00 05 50.3**	**-3.4**
BPBC	**Brooks Peninsu**	**3.51**	**127**	P	**Pn**	**00 05 50.7**	**-3.5**
MAYB	**Maynard**	**3.67**	**121**	P	**Pn**	**00 05 52.2**	**-4.2**
TLCB	**Telegraph Cove**	**3.77**	**117**	P	**Pn**	**00 05 54.2**	**-3.4**
EDB	**Eliza Dome**	**4.01**	**126**	P	**Pn**	**00 05 59.2**	**-1.8**
WRAK	**Wrangell Islan**	**4.06**	**358**	*e*Pn	**Pn**	**00 06 01.8**	**+0.1**
WOSB	**Woss**	**4.12**	**120**	P	**Pn**	**00 05 59.4**	**-3.2**
NCRB	**Newcastle Ridg**	**4.27**	**115**	P	**Pn**	**00 06 01.8**	**-2.8**
CBB	**Campbell River**	**4.84**	**116**	P	**Pn**	**00 06 10.1**	**-2.3**
SIT	**Sitka**	**5.05**	**340**	*e*Pn	**Pn**	**00 06 15.5**	**+0.3**
SIT	**Sitka**	**5.05**	**340**	*e*P	**P**	**00 06 15.5**	**+0.3**
BTB	**Buttle Lake**	**5.08**	**122**	P	**Pn**	**00 06 16.0**	**+0.2**
FSB	**Fort Saint Jam**	**5.11**	**63**	P	**Pn**	**00 06 16.4**	**+0.2**
DLBC	**Dease Lake**	**6.20**	**10**	*e*Pn	**Pn**	**00 06 31.2**	**+0.2**
DLBC	**Dease Lake**	**6.20**	**10**	Pn	**Pn**	**00 06 32.8**	**+1.8**
DLBC	**Dease Lake**	**6.20**	**10**	Pn	**Pn**	**00 06 33.1**	**+2.0**
	2.6nm,0.3s,baz=179,slow=14,SNR=17						
DLBC				Sn	**Sn**	**00 07 39.1**	**-2.7**
	2.3nm,0.3s,baz=204,slow=14,SNR=3.2						
DLBC				Lg	Lg	00 08 10.5	
	4.5nm,0.3s,baz=321,slow=17,SNR=3.3						
BESE	**Bessie Mountai**	**6.42**	**347**	*e*Pn	**Pn**	**00 06 35.1**	**+1.0**
LLLB	**Lillooet**	**6.63**	**101**	*e*Pn	**Pn**	**00 06 37.3**	**+0.4**
PGC	**Sidney**	**6.66**	**121**	*e*Pn	**Pn**	**00 06 38.9**	**+1.6**
SNB	**Saturna Island**	**6.73**	**119**	Pn	**Pn**	**00 06 36.9**	**-1.5**
BMBC	**Bull Mountain**	**6.92**	**54**	Pn	**Pn**	**00 06 41.8**	**+0.9**
D03D	**Eldon**	**7.56**	**126**	P	**Pn**	**00 06 50.8**	**+1.0**
	baz=314						
B05A	**Bryant**	**7.61**	**119**	P	**Pn**	**00 06 50.7**	**+0.4**
	baz=307						
FNBB	**Fort Nelson**	**8.31**	**35**	Pn	**Pn**	**00 06 59.8**	**-0.3**
LON	**Longmire**	**8.74**	**126**	*e*Pn	**Pn**	**00 07 07.8**	**+1.9**
LON	**Longmire**	**8.74**	**126**	*e*P	**Pn**	**00 07 07.8**	**+1.9**
SLEB	**Sale Mountain**	**8.76**	**92**	Pn	**Pn**	**00 07 07.4**	**+1.1**
LTY	**Liberty**	**8.99**	**120**	*e*Pn	**Pn**	**00 07 11.0**	**+1.6**
B08A	**Colville Reser**	**9.10**	**111**	*e*Pn	**Pn**	**00 07 12.2**	**+1.4**
I02D	**Swisshome**	**9.93**	**143**	P	**Pn**	**00 07 24.3**	**+2.1**
	baz=330						
H04D	**Lebanon**	**10.01**	**138**	P	**Pn**	**00 07 25.9**	**+2.6**
	baz=326						
BALM	**Baldy**	**10.34**	**331**	*e*Pn	**Pn**	**00 07 28.7**	**+0.9**
BALM	**Baldy**	**10.34**	**331**	*e*P	**Pn**	**00 07 28.7**	**+0.9**
NEW	**Newport**	**10.43**	**107**	*e*Pn	**Pn**	**00 07 30.3**	**+1.3**
NEW	**Newport**	**10.43**	**107**	P	**Pn**	**00 07 30.6**	**+1.6**
	baz=299						
NEW	**Newport**	**10.43**	**107**	Pn	**Pn**	**00 07 30.2**	**+1.2**
	0.1nm,0.3s,baz=304,slow=11,SNR=7.4						
NEW				Lg	Lg	00 10 26.2	
	0.1nm,0.3s,baz=59,slow=14,SNR=2.9						
I04A	**Tendick Farm,**	**10.75**	**139**	P	**Pn**	**00 07 35.6**	**+2.2**
	baz=327						
E09A	**Wood Farm, Sta**	**10.81**	**117**	*e*Pn	**Pn**	**00 07 34.7**	**+0.5**
G08A	**Pilot Rock**	**11.18**	**124**	*e*Pn	**Pn**	**00 07 40.1**	**+0.7**
K02D	**Willamette Mer**	**11.23**	**146**	P	**Pn**	**00 07 42.5**	**+2.5**
	baz=333						
J04D	**Umpqua Nationa**	**11.33**	**140**	P	**Pn**	**00 07 43.8**	**+2.2**
	baz=328						
PINE	**Pine Mountain**	**11.37**	**135**	*e*Pn	**Pn**	**00 07 44.6**	**+2.6**
HUMO	**Hull Mountain**	**11.55**	**144**	*e*Pn	**Pn**	**00 07 46.6**	**+2.2**
F10A	**Beach Ranch, E**	**11.64**	**117**	*e*Pn	**Pn**	**00 07 45.7**	**0.0**
J05D	**Fort Rock, OR**	**11.65**	**137**	P	**Pn**	**00 07 48.6**	**+2.7**
	baz=326,SNR=8.0						
L02E	**Cave Junction**	**11.73**	**147**	P	**Pn**	**00 07 49.7**	**+2.9**
	baz=334						
I07A	**Izee**	**11.79**	**130**	*e*Pn	**Pn**	**00 07 49.5**	**+1.7**
KLU	**Klutina**	**11.83**	**326**	*e*Pn	**Pn**	**00 07 48.8**	**+0.6**
K04D	**Chiloquin, OR**	**11.99**	**140**	P	**Pn**	**00 07 52.8**	**+2.3**
	baz=328						
WALA	**Waterton Lakes**	**12.00**	**99**	*e*Pn	**Pn**	**00 07 52.5**	**+1.9**
BMO	**Blue Mountains**	**12.33**	**122**	*e*Pn	**Pn**	**00 07 56.0**	**+0.8**
BMO	**Blue Mountains**	**12.33**	**122**	*e*P	**Pn**	**00 07 56.0**	**+0.8**
YBH	**Yreka Blue Hor**	**12.41**	**145**	*e*Pn	**Pn**	**00 07 59.0**	**+2.8**
YBH	**Yreka Blue Hor**	**12.41**	**145**	Pn	**Pn**	**00 07 57.3**	**+1.1**
	0.1nm,0.3s,baz=343,slow=10,SNR=10						
YBH				LR	LR	00 12 08.3	
	comp=Z,110nm,20.0s,baz=327,slow=35						
SCM	**Sheep Creek Mo**	**12.55**	**325**	*e*Pn	**Pn**	**00 07 58.6**	**+0.6**
SCM	**Sheep Creek Mo**	**12.55**	**325**	*e*P	**Pn**	**00 07 58.6**	**+0.6**
M02C	**Callahan**	**12.66**	**146**	P	**Pn**	**00 08 02.8**	**+3.2**
	baz=334						
M04C	**Macdoel**	**12.68**	**143**	P	**Pn**	**00 08 01.6**	**+1.7**
	baz=331,SNR=8.4						
KNK	**Knik Glacier**	**12.69**	**322**	*e*Pn	**Pn**	**00 08 00.4**	**+0.6**
PAX	**Paxson**	**12.77**	**331**	*e*Pn	**Pn**	**00 08 02.3**	**+1.2**
PAX	**Paxson**	**12.77**	**331**	*e*P	**Pn**	**00 08 02.3**	**+1.2**
SML	**Sawmill**	**12.89**	**324**	*e*Pn	**Pn**	**00 08 03.7**	**+1.0**
SML	**Sawmill**	**12.89**	**324**	*e*P	**Pn**	**00 08 03.7**	**+1.0**
KDAK	**Kodiak Island**	**12.90**	**303**	LR	LR	00 11 58.2	
	comp=Z,303nm,18.1s,baz=126,slow=33						
MSO	**Missoula**	**13.01**	**108**	*e*Pn	**Pn**	**00 08 05.7**	**+1.3**
MSO	**Missoula**	**13.01**	**108**	P	**Pn**	**00 08 04.3**	**-0.1**
	baz=302,SNR=8.3						
PMR	**Palmer**	**13.05**	**322**	*e*Pn	**Pn**	**00 08 05.8**	**+1.0**
PMR	**Palmer**	**13.05**	**322**	*e*P	**Pn**	**00 08 05.8**	**+1.0**
N02D	**Trinity Center**	**13.09**	**147**	P	**Pn**	**00 08 08.3**	**+2.9**
	baz=334,SNR=11						
MOD	**Modoc Plateau**	**13.18**	**138**	*e*Pn	**Pn**	**00 08 10.1**	**+3.4**
SCRK	**Sand Creek**	**13.19**	**337**	*e*Pn	**Pn**	**00 08 09.1**	**+2.4**
EGAK	**Eagle**	**13.29**	**343**	*e*Pn	**Pn**	**00 08 09.1**	**+1.2**
DHY	**Denali Highway**	**13.43**	**329**	*e*Pn	**Pn**	**00 08 12.3**	**+2.2**
KMRM	**Mail Ridge**	**13.45**	**151**	*e*Pn	**Pn**	**00 08 13.8**	**+3.4**
WDC	**Whiskeytown Da**	**13.49**	**147**	*e*Pn	**Pn**	**00 08 13.3**	**+2.4**
WDC	**Whiskeytown Da**	**13.49**	**147**	*e*P	**Pn**	**00 08 13.3**	**+2.4**
SUA	**Susitna One**	**13.61**	**319**	*e*Pn	**Pn**	**00 08 12.5**	**+0.1**
O02D	**Mt. Diablo Mer**	**13.78**	**149**	P	**Pn**	**00 08 17.9**	**+3.1**
	baz=336,SNR=6.5						
YKA	**Yellowknife Ar**	**13.79**	**36**	Pn	**Pn**	**00 08 14.8**	**-0.1**
	0.1nm,0.3s,baz=226,slow=12,SNR=104						
YKA				Lg	Lg	00 12 02.7	
	baz=232,slow=22,SNR=3.6						
YKA				LR	LR	00 13 27.4	
	comp=Z,27nm,21.5s,baz=228,slow=37						
YKB5	**Yellowknife Ar**	**13.79**	**36**	*e*Pn	**Pn**	**00 08 13.4**	**-1.5**
YKW3	**Yellowknife Ar**	**13.84**	**36**	*e*Pn	**Pn**	**00 08 14.6**	**-0.8**
RSO	**Redoubt South**	**13.96**	**314**	*e*Pn	**Pn**	**00 08 18.2**	**+0.9**
O03E	**Paynes Creek**	**14.00**	**146**	P	**Pn**	**00 08 20.2**	**+2.3**
	baz=333						
RND	**Reindeer**	**14.14**	**328**	*e*Pn	**Pn**	**00 08 21.3**	**+1.6**
RND	**Reindeer**	**14.14**	**328**	*e*P	**Pn**	**00 08 21.3**	**+1.6**
HDA	**Harding Lake**	**14.31**	**333**	P	**Pn**	**00 08 21.8**	**-0.1**
	baz=140						
HRY	**Holter Researc**	**14.31**	**105**	*e*Pn	**Pn**	**00 08 23.5**	**+1.3**
MCK	**McKinley**	**14.40**	**329**	*e*Pn	**Pn**	**00 08 23.8**	**+0.7**
LRM	**Limekiln Ridge**	**14.43**	**109**	*e*Pn	**Pn**	**00 08 23.3**	**-0.6**
IL1	**Eielson Array**	**14.57**	**334**	*e*Pn	**Pn**	**00 08 25.3**	**-0.2**
ILAR	**Eielson Array**	**14.57**	**334**	P	**Pn**	**00 08 22.0**	**-3.5**
ILAR	**Eielson Array**	**14.57**	**334**	Pn	**Pn**	**00 08 22.0**	**-3.5**
	0.1nm,0.3s,baz=145,slow=11,SNR=11						
ILAR				Lg	Lg	00 12 43.4	
	0.0nm,0.3s,baz=132,slow=29,SNR=4						
ILAR				LR	LR	00 13 39.3	
	comp=Z,182nm,20.5s,baz=166,slow=36						
ILB	**Eielson Array**	**14.57**	**334**	*e*Pn	**Pn**	**00 08 26.5**	**+1.0**
DLMT	**Dillon**	**14.60**	**111**	*e*Pn	**Pn**	**00 08 27.5**	**+1.3**
TRF	**Thorofare Moun**	**14.65**	**326**	*e*Pn	**Pn**	**00 08 27.7**	**+0.9**
WRH	**Wood River Hil**	**14.68**	**332**	*e*Pn	**Pn**	**00 08 28.5**	**+1.5**
CCB	**Clear Creek Bu**	**14.73**	**333**	*e*Pn	**Pn**	**00 08 29.7**	**+2.1**
HLID	**Hailey**	**14.74**	**120**	*e*Pn	**Pn**	**00 08 28.7**	**+0.7**
HLID	**Hailey**	**14.74**	**120**	P	**Pn**	**00 08 28.2**	**+0.1**
	baz=313,SNR=6.7						
MCMT	**McKenzie Canyo**	**14.78**	**113**	*e*Pn	**Pn**	**00 08 29.6**	**+0.9**
COLA	**College**	**14.91**	**333**	*e*P	**Pn**	**00 08 27.8**	**-2.3**
EGMT	**Eagleton**	**14.94**	**98**	*e*Pn	**Pn**	**00 08 32.0**	**+1.3**
EGMT	**Eagleton**	**14.94**	**98**	P	**Pn**	**00 08 30.1**	**-0.6**
	baz=296,SNR=24						
PPLA	**Purkeypile**	**14.98**	**323**	*e*Pn	**Pn**	**00 08 30.1**	**-1.1**
POKR	**Poker Flat Res**	**14.99**	**334**	P	**Pn**	**00 08 31.0**	**-0.2**
	baz=141,SNR=5.4						
BOZ	**Bozeman (W)**	**15.03**	**109**	*e*Pn	**Pn**	**00 08 32.5**	**+0.6**
BOZ	**Bozeman (W)**	**15.03**	**109**	*e*P	**Pn**	**00 08 32.5**	**+0.6**
BOZ	**Bozeman (W)**	**15.03**	**109**	P	**Pn**	**00 08 32.1**	**+0.2**
	baz=304						
MDM	**Murphy Dome**	**15.08**	**333**	*e*Pn	**Pn**	**00 08 33.3**	**+0.8**
	17nm,0.8s						
BPAW	**Bear Paw Mtn.**	**15.31**	**327**	*e*Pn	**Pn**	**00 08 35.4**	**-0.1**
	33nm,0.9s						
PAHR	**Pah Rah Range**	**15.41**	**140**	*e*Pn	**Pn**	**00 08 39.2**	**+2.2**
	28nm,1.5s						
SVW2	**Sparrevohn**	**15.48**	**314**	*e*Pn	**Pn**	**00 08 35.5**	**-2.2**
	36nm,1.0s						
AFDM	**Forest Hills D**	**15.49**	**146**	*e*Pn	**Pn**	**00 08 39.4**	**+1.4**
	10nm,1.1s						
QLMT	**Earthquake Lak**	**15.59**	**111**	*e*Pn	**Pn**	**00 08 40.9**	**+1.6**
BMN	**Battle Mountai**	**15.71**	**134**	*e*Pn	**P**	**00 08 44.5**	**-0.5**
	20nm,1.0s						
BMN	**Battle Mountai**	**15.71**	**134**	*e*P	**P**	**00 08 44.5**	**-0.5**
BMN				*p*max	*p*max		
	comp=Z,20nm,1.0s						
YHB	**Horse Butte**	**15.77**	**111**	*e*Pn	**Pn**	**00 08 43.3**	**+1.6**
	comp=Z,24nm,1.0s						
YHB				*e*PcP	**PcP**	**00 13 40.7**	**-0.3**
CHGN	**Chignik**	**15.79**	**295**	*e*Pn	**Pn**	**00 08 42.0**	**+0.3**
	comp=Z,183nm,1.9s						
PNTR	**Pine Nut**	**15.86**	**142**	*e*Pn	**Pn**	**00 08 44.5**	**+1.5**
	comp=Z,13nm,1.0s						
MLY	**Manley**	**15.87**	**330**	*e*Pn	**P**	**00 08 45.5**	**-0.9**
	comp=Z,62nm,1.3s						
YHH	**Holmes Hill**	**15.94**	**110**	*e*Pn	**Pn**	**00 08 45.0**	**+0.9**
	comp=Z,33nm,1.2s						
YMR	**Madison River**	**15.95**	**110**	*e*Pn	**Pn**	**00 08 45.6**	**+1.5**
	comp=Z,46nm,1.1s						
INK	**Inuvik**	**16.01**	**358**	*e*Pn	**Pn**	**00 08 45.0**	**+0.6**
	comp=Z,18nm,1.4s						
INK	**Inuvik**	**16.01**	**358**	*e*P	**Pn**	**00 08 45.0**	**+0.6**
INK				*p*max	*p*max		
	comp=Z,18nm,1.4s						
INK	**Inuvik**	**16.01**	**358**	Pn	**Pn**	**00 08 41.0**	**-3.4**
	comp=Z,0.0nm,0.3s,baz=166,slow=8.1,SNR=2.0						
INK				Lg	Lg	00 13 21.3	
	comp=Z,0.0nm,0.3s,baz=52,slow=11,SNR=2.4						
INK				LR	LR	00 15 25.0	
	comp=Z,159nm,19.2s,baz=144,slow=39						
GCMT	**Greycliff**	**16.07**	**105**	*e*Pn	**Pn**	**00 08 47.1**	**+1.6**
YNR	**Norris Junctio**	**16.09**	**110**	*e*Pn	**P**	**00 08 48.1**	**-1.1**
	comp=Z,28nm,1.2s						
YERR	**Yerington**	**16.09**	**141**	*e*Pn	**P**	**00 08 48.3**	**-0.9**
	comp=Z,16nm,1.3s						
YFT	**Old Faithful**	**16.15**	**111**	*e*Pn	**P**	**00 08 49.1**	**-0.8**
	comp=Z,13nm,1.0s						
YPP	**Pitchstone Pla**	**16.28**	**111**	*e*Pn	**P**	**00 08 50.4**	**-1.0**
	comp=Z,13nm,1.2s						
H17A	**Grant Village**	**16.33**	**111**	*e*Pn	**P**	**00 08 51.6**	**-0.4**
	comp=Z,32nm,1.3s						
H17A	**Grant Village**	**16.33**	**111**	P	**Pn**	**00 08 50.2**	**+1.2**
	baz=307,SNR=15						
ELK	**Elko**	**16.38**	**129**	*e*Pn	**Pn**	**00 08 50.9**	**+1.3**
	comp=Z,19nm,1.0s						
ELK	**Elko**	**16.38**	**129**	*e*P	**Pn**	**00 08 50.9**	**+1.3**
ELK				*p*max	*p*max		
	comp=Z,19nm,1.0s						
ELK	**Elko**	**16.38**	**129**	Pn	**Pn**	**00 08 50.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=322,slow=8.8,SNR=34						
ELK				LR	LR	00 15 19.6	
	comp=Z,179nm,19.2s,baz=324,slow=38						
IMW	**Indian Meadow**	**16.43**	**113**	*e*Pn	**P**	**00 08 52.4**	**-0.7**
	comp=Z,18nm,1.0s						
WAKR	**Walker**	**16.43**	**143**	*e*Pn	**P**	**00 08 53.3**	**+0.3**
	comp=Z,36nm,1.5s						
FLWY	**Flagg Ranch**	**16.45**	**112**	*e*Pn	**P**	**00 08 52.3**	**-1.0**
	comp=Z,24nm,1.1s						
KVN	**Kaiserville**	**16.48**	**138**	*e*Pn	**P**	**00 08 52.8**	**-0.8**
	comp=Z,15nm,1.0s						
KVN	**Kaiserville**	**16.48**	**138**	*e*P	**P**	**00 08 52.8**	**-0.8**
KVN				*p*max	*p*max		
	comp=Z,15nm,1.0s						
CMB	**Columbia Colle**	**16.51**	**146**	*e*Pn	**P**	**00 08 54.6**	**+0.9**
	comp=Z,17nm,1.6s						
CMB	**Columbia Colle**	**16.51**	**146**	*e*P	**P**	**00 08 54.6**	**+0.9**
CMB				*p*max	*p*max		
	comp=Z,17nm,1.6s						
FXWY	**Fox Creek**	**16.55**	**113**	*e*Pn	**P**	**00 08 53.3**	**-1.0**
	comp=Z,25nm,1.0s						
MOOW	**Moose Ponds**	**16.63**	**113**	*e*Pn	**P**	**00 08 54.5**	**-0.8**
	comp=Z,20nm,1.1s						
RLMT	**Red Lodge**	**16.67**	**107**	*e*Pn	**Pn**	**00 08 54.1**	**+0.8**
	comp=Z,29nm,1.2s						
RLMT	**Red Lodge**	**16.67**	**107**	P	**Pn**	**00 08 53.1**	**-0.2**
	baz=304,SNR=13						
RYN	**Ryan**	**16.68**	**140**	*e*Pn	**P**	**00 08 55.5**	**-0.2**
	comp=Z,16nm,1.1s						
TPAW	**Teton Pass**	**16.68**	**114**	*e*Pn	**P**	**00 08 55.3**	**-0.5**
	comp=Z,54nm,1.1s						
LOHW	**Long Hollow**	**16.80**	**113**	*e*Pn	**P**	**00 08 57.0**	**-0.1**
	comp=Z,29nm,1.2s						
SNOW	**Snow King Moun**	**16.81**	**114**	*e*Pn	**P**	**00 08 56.6**	**-0.7**
	comp=Z,23nm,1.0s						
REDW	**Red Top Meadow**	**16.82**	**114**	*e*Pn	**P**	**00 08 57.4**	**+0.1**
	comp=Z,39nm,1.1s						
HVU	**Hansel Valley**	**16.84**	**121**	*e*Pn	**Pn**	**00 08 56.4**	**+1.0**
	comp=Z,18nm,1.5s						
HVU	**Hansel Valley**	**16.84**	**121**	*e*P	**Pn**	**00 08 56.4**	**+1.0**
HVU				*p*max	*p*max		
	comp=Z,18nm,1.5s						
NV01	**Mina Array Sit**	**16.93**	**140**	*e*Pn	**P**	**00 08 58.0**	**-0.6**
NVAR	**Mina Array Bea**	**16.93**	**140**	Pn	**P**	**00 08 58.6**	**0.0**
	comp=Z,0.1nm,0.3s,baz=317,slow=11,SNR=40						
NVAR				LR	LR	00 15 05.4	
	comp=Z,129nm,20.6s,baz=357,slow=36						
SDPT	**Sand Point**	**16.94**	**291**	*e*Pn	**P**	**00 08 58.2**	**-0.1**
	comp=Z,146nm,1.4s						
NV11	**Mina Array Sit**	**16.99**	**140**	*e*Pn	**P**	**00 08 59.4**	**+0.2**
	comp=Z,1.4nm,1.3s						
AHID	**Auburn Hatcher**	**17.07**	**116**	*e*Pn	**P**	**00 09 00.5**	**+0.4**
	comp=Z,30nm,1.3s						
COLD	**Coldfoot**	**17.34**	**336**	*e*Pn	**Pn**	**00 09 01.8**	**+0.5**
	comp=Z,11nm,1.3s						
SPUT	**South Promonto**	**17.35**	**122**	*e*Pn	**P**	**00 09 03.1**	**-0.1**
	comp=Z,6.7nm,1.1s						
OMMB	**Old Mammoth Mi**	**17.38**	**143**	*e*Pn	**P**	**00 09 04.3**	**+0.7**
	comp=Z,7.7nm,1.3s						
IM3	**Indian Mountai**	**17.44**	**330**	*e*Pn	**Pn**	**00 09 02.6**	**+0.1**
HWUT	**Hardware Ranch**	**17.61**	**

comp=Z,14nm,1.3s
RSSD Black Hills 20.33 103 P P 00 09 36.3 +0.4
baz=304
PKCU Pink Cliffs 20.38 129 eP Pn 00 09 38.8 +0.2
comp=Z,60nm,1.4s
O20A White River Ci 20.43 117 eP Pn 00 09 38.4 -0.7
comp=Z,34nm,1.1s
O20A White River Ci 20.43 117 P P 00 09 37.6 +0.6
baz=315,SNR=14
TUQ Turquoise Moun 20.48 139 P Pn 00 09 39.2 -0.4
baz=331
KNB Kanab 20.48 131 eP Pn 00 09 39.5 -0.2
comp=Z,26nm,1.3s
KNB Kanab 20.48 131 eP Pn 00 09 39.5 -0.2
KNB pmax pmax
comp=Z,26nm,1.3s
HEC Hector Ludlow 20.84 141 P P 00 09 42.7 +1.3
baz=332,SNR=6.0
BFSC Mount Baldy Ra 20.88 145 P Pn 00 09 43.9 -0.4
baz=335
ANM Nome 20.95 319 eP P 00 09 42.7 +0.6
comp=Z,20nm,1.0s
ANM Nome 20.95 319 eP P 00 09 42.7 +0.6
ANM pmax pmax
comp=Z,20nm,1.0s
LDFC Landfair 21.11 138 eP P 00 09 45.9 +1.6
comp=Z,26nm,1.1s
PV09 Paradox Valley 21.14 122 eP P 00 09 46.2 +1.4
GMRC Granite Mounta 21.15 140 P P 00 09 46.0 +1.3
baz=332
PV21 Cone Mtn., Par 21.18 122 eP P 00 09 46.8 +1.7
comp=Z,16nm,1.0s
N23A Red Feather La 21.19 112 eP P 00 09 46.2 +0.9
comp=Z,32nm,1.3s
N23A Red Feather La 21.19 112 P P 00 09 45.5 +0.2
baz=312,SNR=8.3
PHWY Pilot Hill 21.20 111 eP P 00 09 45.8 +0.4
comp=Z,25nm,0.9s
U15A North Rim 21.21 131 eP P 00 09 46.8 +1.4
comp=Z,31nm,1.3s
MDND Maddock 21.22 89 eP P 00 09 46.1 +0.9
comp=Z,64nm,1.1s
MDND Maddock 21.22 89 P P 00 09 45.5 +0.2
baz=295
PV23 Carpenter Ridg 21.24 122 eP P 00 09 47.0 +1.2
comp=Z,28nm,1.0s
PV10 Paradox Valley 21.29 122 eP P 00 09 48.6 +2.3
comp=Z,40nm,1.2s
PV14 Lion Creek, Pa 21.30 122 eP P 00 09 47.5 +1.1
comp=Z,36nm,1.0s
PV04 Paradox Valley 21.34 122 eP P 00 09 48.1 +1.3
comp=Z,27nm,1.1s
PV20 West Nyswonger 21.35 122 eP P 00 09 48.3 +1.4
comp=Z,24nm,1.0s
PV19 Morning Glory 21.36 122 eP P 00 09 48.0 +1.0
comp=Z,28nm,1.1s
PV16 Nyswonger Mesa 21.40 122 eP P 00 09 48.6 +1.1
comp=Z,22nm,1.1s
PV17 East Wray Mesa 21.40 122 eP P 00 09 48.5 +1.1
comp=Z,28nm,1.0s
PV11 David Mesa, Pa 21.43 122 eP P 00 09 49.0 +1.2
comp=Z,22nm,0.9s
PV07 Paradox Valley 21.45 121 eP P 00 09 49.0 +1.0
comp=Z,40nm,1.5s
PV12 Saucer Basin, 21.45 122 eP P 00 09 49.3 +1.3
comp=Z,12nm,0.9s
PV03 Paradox Valley 21.48 122 eP P 00 09 49.3 +1.0
comp=Z,14nm,1.0s
PV05 Paradox Valley 21.48 123 eP P 00 09 49.6 +1.3
comp=Z,26nm,1.1s
PV13 Radium Mtn., P 21.56 122 eP P 00 09 50.3 +1.1
comp=Z,36nm,1.2s
RDOG Red Dog Mine 21.56 328 eP P 00 09 49.5 +0.8
comp=Z,44nm,1.4s
PV02 Paradox Valley 21.57 122 eP P 00 09 50.6 +1.3
comp=Z,24nm,1.2s
PV15 Paradox Valley 21.60 121 eP P 00 09 50.9 +1.2
comp=Z,35nm,1.2s
W13A Hualapai Mount 21.61 136 eP P 00 09 51.0 +1.3
comp=Z,10nm,1.1s
BELC Belle Mtn. Jos 21.71 141 P P 00 09 51.7 +1.1
baz=333
PV01 Paradox Valley 21.71 122 eP P 00 09 52.0 +1.1
comp=Z,26nm,1.2s
SMCO Snowmass 21.80 117 eP P 00 09 52.7 +0.7
comp=Z,32nm,1.0s
PFO Pinyon Flats O 21.88 143 P P 00 09 54.1 +1.6
baz=334
IRM Iron Mountain 21.90 140 P P 00 09 53.5 +0.9
baz=332,SNR=6.1
ISCO Idaho Springs 22.12 114 eP P 00 09 56.3 +1.0
comp=Z,10nm,1.3s
ISCO Idaho Springs 22.12 114 eP P 00 09 56.3 +1.0
ISCO pmax pmax
comp=Z,11nm,1.3s
ISCO Idaho Springs 22.12 114 P P 00 09 55.5 +0.3
baz=314
FCC Fort Churchill 22.19 58 eP P 00 09 56.6 +1.1
comp=Z,17nm,0.8s
WUAZ Wupatki 22.38 131 eP P 00 10 00.0 +2.1
comp=Z,20nm,1.3s
WUAZ Wupatki 22.38 131 P P 00 09 58.6 +0.7
baz=326,SNR=9.9
MVCO Mesa Verde 22.45 123 eP P 00 09 59.5 +0.7
comp=Z,32nm,1.4s
MVCO Mesa Verde 22.45 123 P P 00 09 59.0 +0.2
baz=320,SNR=10
MONP2 Monument Peak 22.54 144 P P 00 10 00.4 +0.7
baz=335
ULM Lac du Bonnet 22.60 81 eP P 00 09 59.0 -1.0
comp=Z,35nm,1.3s
ULM Lac du Bonnet 22.60 81 eP P 00 09 59.0 -1.0
ULM pmax pmax
comp=Z,35nm,1.3s
ULM Lac du Bonnet 22.60 81 P P 00 09 59.5 -0.5
comp=Z,12nm,1.0s,baz=294,slow=9.9,SNR=15
ULM Lg Lg 00 16 48.6
comp=Z,0.9nm,0.4s,baz=326,slow=15,SNR=2.8
ULM LR LR 00 19 05.2
comp=Z,399nm,21.0s,baz=294,slow=38
S22A 4UR Ranch, Cre 22.92 120 eP P 00 10 05.1 +1.3
comp=Z,43nm,1.6s
S22A 4UR Ranch, Cre 22.92 120 P P 00 10 04.6 +0.8
baz=318,SNR=13
Q24A Divide 22.96 115 eP P 00 10 05.3 +1.2
comp=Z,40nm,1.7s
Q24A Divide 22.96 115 P P 00 10 04.4 +0.3
baz=315
GLA Glamis 23.00 140 eP P 00 10 04.5 +0.2
comp=Z,25nm,0.8s
GLA Glamis 23.00 140 eP P 00 10 04.5 +0.2
GLA pmax pmax
comp=Z,25nm,0.8s
X16A Lo Mia Camp, P 23.26 132 eP P 00 10 09.2 +2.1
comp=Z,7.1nm,1.2s
AGMN Agassiz Nation 23.33 86 eP P 00 10 07.0 -0.6
comp=Z,15nm,1.0s
AGMN Agassiz Nation 23.33 86 P P 00 10 07.3 -0.2
baz=294,SNR=5.7
GAMB Gambell 23.42 315 eP P 00 10 08.5 +0.2
comp=Z,86nm,1.7s
OGNE Ogallala 23.42 107 eP P 00 10 09.1 +0.6
comp=Z,19nm,0.8s
OGNE Ogallala 23.42 107 P P 00 10 09.1 +0.6
baz=310
W18A Petrified Fore 23.48 128 eP P 00 10 11.9 +2.5
comp=Z,42nm,1.4s
W18A Petrified Fore 23.48 128 P P 00 10 10.3 +1.0
baz=324
SDCO Great Sand Dun 23.63 118 eP P 00 10 12.1 +1.1
comp=Z,23nm,1.4s
SDCO Great Sand Dun 23.63 118 P P 00 10 11.8 +0.8
baz=317,SNR=12
X18A Snowflake 23.86 130 eP P 00 10 14.9 +1.9
comp=Z,20nm,1.2s
KSCO Kaye Shedlock' 24.34 112 eP P 00 10 19.4 +1.9
comp=Z,25nm,0.8s
KSCO Kaye Shedlock' 24.34 112 P P 00 10 17.6 +0.1
baz=313
T25A Trinidad 24.67 117 eP P 00 10 23.0 +2.4
comp=Z,8.3nm,1.0s
T25A Trinidad 24.67 117 P P 00 10 20.8 +0.3
baz=317
214A Organ Pipe Nat 24.77 138 P P 00 10 22.3 +1.0
baz=331
ECSD EROS Data Cent 25.04 96 eP P 00 10 24.1 +0.5
comp=Z,13nm,0.9s
ECSD EROS Data Cent 25.04 96 P P 00 10 23.3 -0.3
baz=303,SNR=11
ANMO Albuquerque 25.24 123 eP P 00 10 28.2 +2.5
comp=Z,9.3nm,1.4s
ANMO Albuquerque 25.24 123 eP P 00 10 28.2 +2.5
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 25.24 123 P P 00 10 26.5 +0.8
baz=322
ANMO Albuquerque 25.24 123 P P 00 10 26.0 +0.3
comp=Z,2.4nm,0.9s,baz=316,slow=9.9,SNR=7.8
ANMO LR LR 00 20 02.8
comp=Z,86nm,19.3s,baz=238,slow=36
LAZ Ladron 25.33 125 eP P 00 10 27.4 +1.0
TUC Tucson 25.33 134 eP P 00 10 30.8 +4.5
comp=Z,9.4nm,1.5s
TUC Tucson 25.33 134 eP P 00 10 30.8 +4.5
TUC pmax pmax
comp=Z,9.0nm,1.5s
LENM Lemitar 25.60 125 eP P 00 10 29.8 +0.9
BNM Barren Site 25.78 125 eP P 00 10 31.8 +1.1
EYMN Ely 26.14 83 eP P 00 10 35.2 +1.6
comp=Z,41nm,1.0s
EYMN Ely 26.14 83 P P 00 10 32.6 -0.9
baz=295,SNR=12
F37A Hinrichs Farm, 26.46 89 P P 00 10 36.7 +0.3
baz=299
121A Cookes Peak, D 26.52 129 P P 00 10 38.9 +1.6
baz=326
GSTR Great Sitkin T 26.61 287 eP P 00 10 39.3 +1.5
E38A The Farm, Brul 26.70 86 eP P 00 10 40.3 +1.7
comp=Z,14nm,0.9s
E38A The Farm, Brul 26.70 86 P P 00 10 38.8 +0.2
baz=298
F38A Pierce - Schro 26.80 88 P P 00 10 39.9 +0.4
baz=299
RES Resolute Bay 26.96 21 eP P 00 10 42.0 +1.4
comp=Z,6.6nm,1.1s
RES Resolute Bay 26.96 21 eP P 00 10 42.0 +1.4
RES pmax pmax
comp=Z,7.0nm,1.1s
RES Resolute Bay 26.96 21 P P 00 10 41.0 +0.4
comp=Z,1.2nm,0.8s,baz=238,slow=16,SNR=8.0
RES Lg Lg 00 19 10.4
comp=Z,0.9nm,0.9s,baz=347,slow=18,SNR=2.5
H38A Maiden Rock 27.19 90 P P 00 10 43.4 +0.3
baz=301
G38A Ridgeland 27.20 89 P P 00 10 42.6 -0.6
baz=300
E39A Mellen 27.42 86 P P 00 10 44.8 -0.2
baz=298
G39A Holcombe 27.57 88 P P 00 10 46.3 -0.1
baz=300
KSU1 Kansas State U 27.80 104 P P 00 10 48.5 0.0
baz=311
H39A Augusta 27.80 90 P P 00 10 48.5 0.0
baz=301
AMTX Amarillo 27.82 117 P P 00 10 49.3 +0.5
baz=319
I39A Houston 28.09 91 eP P 00 10 51.8 +0.8
comp=Z,8.7nm,0.8s
I39A Houston 28.09 91 P P 00 10 50.8 -0.2
baz=302
J39A Decorah 28.25 92 P P 00 10 52.2 -0.3
baz=303,SNR=5.7
MNTX Cornudas Mount 28.37 126 eP P 00 10 54.8 +1.0
comp=Z,9.3nm,1.3s
MNTX Cornudas Mount 28.37 126 P P 00 10 54.4 +0.7
baz=325
COWI Conover 28.41 85 eP P 00 10 58.8 +4.8
comp=Z,25nm,1.5s
K39A Oelwein 28.49 94 P P 00 10 54.1 -0.6
baz=304
L39A Vinton 28.75 95 P P 00 10 57.1 +0.1
baz=305
J40A Soldiers Grove 28.81 91 P P 00 10 57.3 -0.2
baz=303
K40A Colesburg 28.95 93 P P 00 10 58.6 -0.2
baz=304
L40A Anamosa 29.26 94 P P 00 11 01.6 +0.1
baz=305
JFWS Jewell Farm 29.38 92 P P 00 11 02.7 +0.1
baz=304
M40A Post Highland 29.46 96 P P 00 11 03.1 -0.1
baz=306
WMOK Wichita Mounta 29.54 113 eP P 00 11 05.0 +0.9
comp=Z,20nm,1.6s
WMOK Wichita Mounta 29.54 113 eP P 00 11 05.0 +0.9
WMOK pmax pmax
comp=Z,20nm,1.6s
WMOK Wichita Mounta 29.54 113 P P 00 11 03.9 -0.1
baz=317
L43A Garden Prairie 30.71 92 P P 00 11 13.7 -0.6
baz=305
Q41A Truxton 31.12 99 P P 00 11 17.4 -0.5
baz=309
TX31 Lajitas Ar. Si 31.15 126 eP P 00 11 19.6 +1.2
TXAR Lajitas Array 31.15 126 P P 00 11 19.1 +0.7
comp=Z,1.9nm,0.8s,baz=328,slow=7.5,SNR=25
TXAR LR LR 00 23 54.7
comp=Z,45nm,21.4s,baz=0.0,slow=36
R41A Rosebud 31.45 100 P P 00 11 18.8 -2.0
baz=310,SNR=5.6
CCM Cathedral Cave 31.68 100 eP P 00 11 22.8 -0.1
comp=Z,27nm,1.6s
CCM Cathedral Cave 31.68 100 eP P 00 11 22.8 -0.1
CCM pmax pmax
comp=Z,27nm,1.6s
CCM Cathedral Cave 31.68 100 P P 00 11 22.4 -0.5
baz=310
S41A Jillco Farms, 31.68 102 P P 00 11 22.2 -0.7
baz=311
U40A Yellville 31.84 104 P P 00 11 23.9 -0.5
baz=313,SNR=7.0
S42A Caledonia 32.14 100 P P 00 11 26.0 -1.0
baz=311
U41A Viola 32.41 104 P P 00 11 28.8 -0.5
baz=313
MIAR Mount Ida 32.67 108 eP P 00 11 32.5 +0.9
comp=Z,6.1nm,0.8s
MIAR Mount Ida 32.67 108 eP P 00 11 32.5 +0.9
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR Mount Ida 32.67 108 P P 00 11 31.7 +0.1
baz=315
BILL Bilibino 32.69 322 eP P 00 11 31.8 +0.4
comp=Z,17nm,1.2s
BILL Bilibino 32.69 322 ⇑ *e* iP P 00 11 32.2 +0.7
BILL 00 12 34.8
BILL pmax pmax
comp=Z,22nm,1.7s
BILL MLR MLR
comp=Z,270nm,20.0s
S43A Fulton Ridge, 32.70 100 P P 00 11 31.0 -0.9
baz=311
P45A Graceland, Par 32.88 95 eP P 00 11 34.0 +0.6
comp=Z,48nm,1.4s
P45A Graceland, Par 32.88 95 P P 00 11 32.8 -0.6
baz=308
T43A Greenville 32.89 101 P P 00 11 32.8 -0.7
baz=312
S44A Carbondale 33.12 99 P P 00 11 34.8 -0.7
baz=311
P47A Martinsville 33.81 94 P P 00 11 41.4 -0.1
baz=308
O48A Farmland 34.03 92 P P 00 11 42.6 -0.8
baz=307
M49A Liberty Center 34.03 89 P P 00 11 42.6 -0.8
baz=306
Q47A Bedord North L 34.05 95 P P 00 11 43.4 -0.2
baz=309
R47A Wooly Knot Far 34.39 96 P P 00 11 46.0 -0.6
baz=310
Q48A North Vernon 34.48 94 P P 00 11 46.9 -0.4
baz=309
WCI Wyandotte Cave 34.58 96 P P 00 11 47.9 -0.3
baz=310
V46A Holladay 35.05 101 P P 00 11 51.6 -0.7
baz=312
S48A Wiedeman Farm, 35.09 96 P P 00 11 52.3 -0.3
baz=310,SNR=6.4
OXF Oxford 35.15 103 P P 00 11 52.7 -0.4
baz=314
T48A Bowling Green 35.23 97 P P 00 11 53.6 -0.2
baz=311
S49A Springfield 35.47 95 P P 00 11 55.4 -0.5
baz=310
E54A Lac Daplat, Po 35.49 77 P P 00 11 55.1 -0.8
baz=300
R50A Paris 35.74 94 P P 00 11 57.6 -0.7
baz=309
R51A Hillsboro 36.19 93 P P 00 12 01.4 -0.6
baz=309
W48A Pulaski 36.21 100 P P 00 12 01.4 -0.8
baz=313
T50A Nancy 36.24 96 P P 00 12 01.5 -1.0
baz=311
S51A Beattyville 36.60 94 P P 00 12 03.7 -1.8
baz=310
X48A Hartselle 36.61 101 P P 00 12 05.0 -0.6
baz=314
U50A Jamestown 36.63 97 P P 00 12 05.2 -0.6
baz=311,SNR=5.5
T51A Gray 36.82 95 P P 00 12 06.6 -0.8
baz=311,SNR=6.8
W50A Signal Mountai 37.15 99 P P 00 12 10.2 -0.1
baz=313
U51A La Follette 37.16 96 P P 00 12 10.0 -0.3
baz=311
TRQ Mont Tremblant 37.16 76 eP P 00 12 11.1 +0.8
M55A Ridgway 37.23 85 P P 00 12 10.2 -0.7
baz=306
V51A Loudon 37.33 97 P P 00 12 11.4 -0.4
baz=312
TZTN Tazewell 37.33 95 P P 00 12 11.0 -0.8
baz=311
SCHQ Schefferville 37.56 60 LR LR 00 28 11.8
comp=Z,507nm,18.8s,baz=311,slow=37
V52A Sevierville 37.77 96 eP P 00 12 15.8 +0.3
comp=Z,18nm,0.8s
V52A Sevierville 37.77 96 P P 00 12 15.3 -0.2
baz=312,SNR=7.4
TKL Tuckaleechee C 37.78 97 eP P 00 12 15.4 -0.2
comp=Z,24nm,1.3s
TKL Tuckaleechee C 37.78 97 eP P 00 12 15.4 -0.2
TKL pmax pmax
comp=Z,24nm,1.3s
TKL Tuckaleechee C 37.78 97 P P 00 12 15.2 -0.4
comp=Z,7.7nm,1.0s,baz=307,slow=7.0,SNR=5.1
TKL LR LR 00 27 22.7
comp=Z,170nm,20.5s,baz=317,slow=36
X51A Calhoun 37.85 99 eP P 00 12 16.5 +0.3
comp=Z,12nm,0.8s
X51A Calhoun 37.85 99 P P 00 12 15.9 -0.3
baz=313
R54A Victor 37.85 91 P P 00 12 15.8 -0.4
baz=309
149A Jones 38.05 103 P P 00 12 17.4 -0.5
baz=315
W52A Murphy 38.06 98 eP P 00 12 18.6 +0.6
comp=Z,22nm,1.0s
W52A Murphy 38.06 98 P P 00 12 17.6 -0.4
baz=312
Z50A Ashland 38.11 102 P P 00 12 18.2 -0.2
baz=314
T54A Tazewell 38.20 93 P P 00 12 18.6 -0.6
baz=310
249A Camden 38.29 104 P P 00 12 19.9 -0.1
baz=316
V53A Saluda 38.36 96 eP P 00 12 20.6 +0.1
comp=Z,18nm,0.8s
V53A Saluda 38.36 96 P P 00 12 20.5 0.0
baz=312,SNR=7.2
S55A Lewisburg 38.41 91 P P 00 12 20.4 -0.5
baz=310
W53A Cullowhee 38.47 97 P P 00 12 21.4 -0.2
baz=312,SNR=9.2
150A Eclectic 38.50 102 P P 00 12 21.4 -0.3
baz=315
T55A Pulaski 38.65 92 P P 00 12 22.7 -0.3
baz=310
349A Repton 38.70 105 P P 00 12 23.4 +0.1
baz=316
BLA Blacksburg 38.82 92 P P 00 12 24.4 +0.1
baz=310
X53A Estanollee 38.84 98 P P 00 12 24.2 -0.3
baz=313
MOQ Mont Orford 39.01 76 eP P 00 12 26.5 +0.5
Z52A Williamson 39.06 100 P P 00 12 26.0 -0.4
baz=314
W54A Cherokee Point 39.13 96 P P 00 12 26.6 -0.3
baz=312
V55A Taylorsville 39.21 94 P P 00 12 27.5 -0.1
baz=312
152A Waverly Hall 39.24 101 P P 00 12 27.5 -0.4
baz=315
X54A Belton 39.37 97 P P 00 12 29.1 +0.1
baz=313
SEY Seymchan 39.41 316 P P 00 12 29.1 +0.1
comp=Z,9.4nm,0.8s,baz=82,slow=7.9,SNR=19
Z53A Monticello 39.51 99 P P 00 12 29.7 -0.4
baz=314
Y54A Tignall 39.65 98 P P 00 12 31.2 -0.1
baz=313
HODGE Hodges 39.66 97 eP P 00 12 31.9 +0.6
comp=Z,15nm,1.0s
X55A Gracelyn & Ava 39.88 96 P P 00 12 33.0 -0.2
baz=313,SNR=5.4
Z54A Sparta 39.98 99 P P 00 12 33.8 -0.3
baz=314
Y55A Saluda 40.10 97 P P 00 12 35.2 +0.2
baz=313
X56A White Oak 40.23 96 P P 00 12 35.9 -0.2
baz=313
JSC Jenkinsville 40.23 96 eP P 00 12 36.4 +0.3
comp=Z,14nm,0.9s
JSC Jenkinsville 40.23 96 eP P 00 12 36.4 +0.3
JSC pmax pmax
comp=Z,14nm,0.9s
PETK Petropavlovsk- 40.93 300 P P 00 12 41.4 -0.3
comp=Z,6.7nm,0.7s,baz=70,slow=13,SNR=4.3
MA2 Magadan 41.45 311 *c i* P P 00 12 46.9 +1.0
MA2 pmax pmax
comp=Z,24nm,1.8s
Y58A Scranton 41.46 95 P P 00 12 45.8 -0.4
baz=313
SUMG Summit 42.14 27 eP P 00 12 52.4 +0.5
comp=Z,14nm,1.0s
SUMG Summit 42.14 27 *i* P P 00 12 54.3 +2.4
comp=Z,23nm,1.0s
SUMG Summit 42.14 27 *i* P P 00 12 54.3 +2.4
SUMG pmax pmax
comp=Z,23nm,1.0s
DAG Danmarks Havn 44.56 18 *i* P P 00 13 11.3 +0.5
comp=Z,3.3nm,1.0s
DAG Danmarks Havn 44.56 18 eP P 00 13 11.3 +0.5
DAG pmax pmax
comp=Z,3.0nm,1.0s
NKL Nikolayevsk 49.57 308 eP P 00 13 49.5 -0.6
NRIK Nord'sk 55.18 344 P P 00 14 31.3 -0.3
comp=Z,4.1nm,0.8s,baz=40,slow=6.0,SNR=7.6
KLR Kul'dur 56.39 308 ⇑ *i* P P 00 14 40.5 -0.1
H11N2 WAKE ISLAND Hy 56.96 259 T T 01 16 48.5
baz=39,slow=76,SNR=186
H11N3 WAKE ISLAND Hy 56.96 259 T T 01 16 48.9
baz=39,slow=76,SNR=165
H11N1 WAKE ISLAND Hy 56.98 259 T T 01 16 51.6
baz=39,slow=76,SNR=152
BOD Bodaibo 57.69 325 eP P 00 14 45.5 -4.2
BOD pmax pmax
comp=Z,10.0nm,1.4s
USRK Ussuriysk Ar. 59.77 304 P P 00 15 03.2 -1.1
comp=Z,5.4nm,0.8s,baz=31,slow=7.4,SNR=7.7
MJAR Matsushiro Arr 61.90 294 LR LR 00 42 07.5
comp=Z,17nm,19.9s,baz=155,slow=36
NOA NORSAR Array B 63.21 19 LR LR 00 42 37.0
comp=Z,72nm,21.2s,baz=335,slow=36
CN2 Changchun 63.31 308 eP P 00 15 31.8 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 65.21 11 LR LR 00 44 23.4
comp=Z,44nm,20.2s,baz=0.5,slow=36
TLY Talaya 66.21 326 eP P 00 15 47.9 +0.8
comp=Z,12nm,1.1s
TLY Talaya 66.21 326 *de* P P 00 15 47.4 +0.3
PRGR Permogore 66.33 1 eP P 00 15 46.8 -0.8
PRGR pmax pmax
comp=Z,12nm,1.0s
KS01 Wonju Array Si 66.80 302 eP P 00 15 49.7 -1.3
KSRS Korea Array 66.80 301 P P 00 15 50.3 -0.7
comp=Z,1.6nm,0.7s,baz=45,slow=4.9,SNR=5.9
KSRS LR LR 00 46 06.9
comp=Z,8.8nm,18.8s,baz=70,slow=37
KSAR Wonju Array Be 66.83 302 P P 00 15 50.3 -0.9
KSAR Wonju Array Be 66.83 302 P P 00 15 50.3 -0.9
KLMR Klimovskoe 66.93 4 eP P 00 15 49.5 -1.9

KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 66.93 4 *eP* **P 00 15 49.5 -1.9**
KLMR AMP 00 16 02.7
comp=Z,10.0nm,1.1s
ZAK Zakamensk 67.42 325 *eP* **P 00 15 54.5 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ULN Ulaanbaatar 68.14 321⇓ *eP* **P 00 15 58.2 -1.3**
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 68.41 322 *P* **P 00 16 01.0 -0.2**
comp=Z,2.0nm,1.1s,baz=45,slow=4.4,SNR=13
NVS Novosibirsk 69.20 339 *eP* **P 00 16 04.7 -1.1**
ZALV Zalesovo Beam 69.67 338 *i P* **P 00 16 08.5 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 69.67 338 P **P 00 16 08.1 -0.6**
comp=Z,1.4nm,0.5s,baz=7.0,slow=5.2,SNR=6.7
SVE Sverdlovsk 70.66 353 *eP* **P 00 16 13.3 -1.5**
ARU Arti 71.21 354 *eP* **P 00 16 17.5 -0.6**
comp=Z,7.9nm,0.9s
ARU Arti 71.21 354*d iP* **P 00 16 17.4 -0.6**
ARU 00 18 55.5
ARU S **S 00 25 34.1 -0.5**
ARU pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 72.04 314 *eP* **P 00 16 23.0 -0.5**
HHC pmax pmax
comp=Z,15nm,1.1s
HHC pmax pmax
comp=Z,48nm,7.5s
OBN Obninsk 72.47 7⇓ *eP* **P 00 16 25.1 -0.5**
OBN *e* 00 16 42.8
OBN *e* 00 19 04.3
OBN pmax pmax
comp=Z,11nm,1.1s
OBN MLR MLR
comp=Z,39nm,17.0s
BRVK Borovoye 73.28 346 *eP* **P 00 16 30.6 0.0**
comp=Z,5.4nm,0.9s
BRVK Borovoye 73.28 346⇓ *iP* **P 00 16 29.6 -0.9**
BRVK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 74.06 340 *eP* **P 00 16 34.9 -0.2**
comp=Z,7.7nm,1.1s
KURK Kurchatov 74.06 340 *eP* **P 00 16 34.9 -0.2**
KURK pmax pmax
comp=Z,8.0nm,1.1s
GERES GERESS Array B 75.05 23 LR LR 00 50 08.5
comp=Z,29nm,18.6s,baz=301,slow=36
LPSR Galich'ya Gora 75.13 6 *eP* **P 00 16 40.5 -0.8**
LPSR pmax pmax
comp=Z,5.0nm,0.8s
NJ2 Nanjing 75.68 304 *eP* **P 00 16 46.8 +2.0**
NJ2 pmax pmax
comp=Z,21nm,0.5s
AKASG Malin Array Be 76.10 12 *i P* **P 00 16 46.7 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 76.10 12 P **P 00 16 45.5 -1.3**
comp=Z,0.2nm,0.3s,baz=359,slow=5.9,SNR=7.5
KIEV Kiev 76.10 12⇓ *eP* **P 00 16 47.2 +0.3**
KIEV pmax pmax
comp=Z,7.0nm,1.4s
VSR Storozhevoye 76.53 6⇑ *eP* **P 00 16 49.0 -0.3**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VRH Novokhopyorsk 76.67 4 *eP* **P 00 16 49.3 -0.8**
VRH pmax pmax
comp=Z,10.0nm,1.2s
MK31 Makanchi Array 76.92 337 *eP* **P 00 16 51.2 -0.5**
comp=Z,11nm,1.6s
MK31 Makanchi Array 76.92 337 *eP* **P 00 16 51.2 -0.5**
MK31 pmax pmax
comp=Z,11nm,1.6s
MKAR Makanchi Array 76.92 337 P **P 00 16 51.0 -0.7**
MKAR Makanchi Array 76.92 337 P **P 00 16 51.0 -0.7**
comp=Z,2.2nm,0.8s,baz=34,slow=4.8,SNR=27
MKAR LR LR 00 52 41.2
comp=Z,29nm,19.2s,baz=8.5,slow=37
MK01 Makanchi Array 76.94 336 *eP* **P 00 16 50.8 -1.0**
MAKZ Makanchi 76.98 337 *eP* **P 00 16 51.4 -0.6**
comp=Z,13nm,1.1s
MAKZ Makanchi 76.98 337 *eP* **P 00 16 51.4 -0.6**
MAKZ pmax pmax
comp=Z,13nm,1.1s
GTA Gaotai 78.08 321 *eP* **P 00 16 57.9 -0.5**
GTA pP pP 00 17 01.9 +0.6
GTA sP sP 00 17 05.0 +2.6
GTA pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 78.22 332 *eP* **P 00 16 59.5 +0.5**
WMQ pP pwP 00 17 07.3 +2.1
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ pmax pmax
comp=Z,81nm,3.7s
WMQ LR LR
comp=Z,57nm,14.7s
WMQ LR LR
comp=Z,59nm,25.7s
ABKAR Akbulak array 78.23 352 *eP* **P 00 16 58.6 -0.3**
comp=Z,10nm,1.3s
XAN Xi'an 78.84 312 P **P 00 17 01.6 -1.0**
XAN pP pP 00 17 08.4 +2.9
XAN pmax pmax
comp=Z,10.0nm,1.3s
LZH Lanzhou 79.33 317 *eP* **P 00 17 05.1 -0.3**
LZH pP pP 00 17 10.8 +2.5
LZH sP PcP 00 17 14.0 +0.4
LZH pmax pmax
comp=Z,25nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.8s
LZH LR LR
comp=Z,170nm,17.0s
LZH LR LR
comp=Z,180nm,16.7s
LZH LR LR
comp=Z,220nm,18.2s
KDJ Kajisay 82.52 338 *eP* **P 00 17 23.1 +0.7**
comp=Z,4.4nm,0.9s
AAK Ala-Archa 82.61 341 *eP* **P 00 17 22.8 0.0**
comp=Z,7.3nm,1.3s
AAK Ala-Archa 82.61 341*de* P **P 00 17 22.3 -0.5**
AAK pmax pmax
comp=Z,9.0nm,1.7s
NRN Naryn 83.45 339 *eP* **P 00 17 27.2 -0.1**
comp=Z,12nm,1.7s
NRN Naryn 83.45 339 *eP* **P 00 17 27.2 -0.1**
NRN pmax pmax
comp=Z,12nm,1.7s
CD2 Chengdu 83.80 314 P **P 00 17 28.3 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.5s
NCK Nalchik 84.44 3⇓ *eP* **P 00 17 31.1 -0.9**
KSH Kashi 85.29 339 P **P 00 17 38.4 +2.0**
KSH PP **PP 00 20 57.3 +4.1**
KSH S **S 00 28 07.4 +0.7**
KSH pmax pmax
comp=Z,120nm,5.0s
BTK Batken 85.82 343 *eP* **P 00 17 38.8 -0.2**
comp=Z,7.1nm,1.2s
BTK Batken 85.82 343 *eP* **P 00 17 38.8 -0.2**
BTK pmax pmax
comp=Z,7.0nm,1.2s
GAR Garm 86.94 343 *eP* **P 00 17 44.6 0.0**
comp=Z,18nm,1.1s
GAR Garm 86.94 343 *eP* **P 00 17 44.6 0.0**
GAR pmax pmax
comp=Z,19nm,1.1s
BRTR Keskin Array B 87.45 11 *i P* **P 00 17 47.5 +0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 87.45 11 P **P 00 17 46.8 -0.3**
comp=Z,1.5nm,1.0s,baz=2.3,slow=7.3,SNR=3.9
GNI Garni 87.82 2⇑ *eP* **P 00 17 49.8 +0.9**
GNI pmax pmax
comp=Z,28nm,1.3s
CMAR Chiang Mai Arr 96.73 312 P **P 00 18 29.6 -0.7**
comp=Z,0.6nm,0.3s,baz=2.6,slow=4.3,SNR=6.1
CMAR LR LR 01 05 18.1
comp=Z,19nm,19.1s,baz=160,slow=37
KMBO Kilima Mbogo 128.17 14 *i* PKIKP **PKiKP 00 24 07.5 +0.5**
KMBO pmax pmax

comp=Z,1.0nm,0.4s

IDC ***15*** *00:09:01.3±5.8, 19°.13N×108°.80W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.6/40, mbtmp3.6/6, ML3.2/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/24, Error ellipse: s-maj=109.2km s-min=19.9km az=139.0*
ISCJB ***15*** *00:09:06.9±2.4, 19°.4N±0°.3×109°.1W±0°.2, h33km, mb3.5/4, MS3.1/1, Error ellipse: s-maj=46.4km s-min=6.4km az=142.2*

ISC 15 00:09:07.4±3.7, 19°.2N±0°.4×109°.0W±0°.3, h35km, n11, σ0s72/12, mb3.4/4, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**1.85**	**256**	Pn	**Pn**	**00 09 37.0**	**+0.4**
H06E1				Sn	**Sn**	**00 09 58.0**	**-0.8**
H06E1				T	T	00 11 41.6	
	SNR=24						
H06N1	**SOCORRO T-PHAS**	**1.89**	**259**	Pn	**Pn**	**00 09 37.5**	**+0.4**
H06N1				Sn	**Sn**	**00 09 59.2**	**-0.5**
H06N1				T	T	00 11 36.2	
	SNR=48						
H06S1	**SOCORRO T**	**1.89**	**255**	Pn	**Pn**	**00 09 37.7**	**+0.6**
H06S1				Sn	**Sn**	**00 09 59.2**	**-0.5**
H06S1				T	T	00 11 41.6	
	SNR=77						
TXAR	**Lajitas Array**	**11.18**	**25**	Pn	**Pn**	**00 11 44.8**	**-0.1**
	0.0nm,0.3s,baz=201,slow=13,SNR=9.3						
TXAR				LR	LR	00 15 28.0	
	comp=Z,94nm,19.8s,baz=0.0,slow=35						
CMIG	**Matias Romero**	**13.61**	**97**	LR	LR	00 17 32.6	
	comp=Z,50nm,18.3s,baz=252,slow=38						
NVAR	**Mina Array Bea**	**20.76**	**339**	P	**P**	**00 13 46.2**	**+0.8**
	2.5nm,0.9s,baz=166,slow=12,SNR=12						
ELK	**Elko**	**22.09**	**347**	P	**P**	**00 14 00.3**	**+0.5**
	1.4nm,0.9s,baz=168,slow=10,SNR=4.6						
PDAR	**Pinedale Array**	**23.47**	**359**	P	**P**	**00 14 13.1**	**-0.9**
	1.0nm,0.9s,baz=157,slow=8.0,SNR=5.7						
NEW	**Newport**	**29.70**	**349**	LR	LR	00 25 32.4	
	comp=Z,44nm,20.1s,baz=144,slow=33						
YKA	**Yellowknife Ar**	**43.40**	**356**	P	**P**	**00 17 05.5**	**-0.8**
	0.4nm,0.8s,baz=174,slow=7.9,SNR=5.4						
INK	**Inuvik**	**51.42**	**349**	P	**P**	**00 18 09.2**	**+0.7**
	1.6nm,0.9s,baz=163,slow=6.1,SNR=3.8						

NIED ***15*** *00:21:00, 25°.30N×124°.80E, h92km, Mw4.3 Best double couple: M0 3.25000×10^15 NP1:ϕs161.00000°, δ24.00000°, λ180.00000°. NP2:ϕs252.00000°, δ90.00000°, λ66.00000°.*
BJI ***15*** *00:21:19.8, 25°.17N×124°.95E, h104km, mb4.4/31, mB4.6/24*
ISCJB ***15*** *00:21:20.7±0.2, 25°.23N±0°.03×124°.83E±0°.03, h102km±2km, mb4.5/83, Error ellipse: s-maj=5.2km s-min=3.7km az=147.4*
JMA ***15*** *00:21:21.9±0.1, 25°.29N×124°.78E, h87km±3km, M4.3*
MOS ***15*** *00:21:21.6±1.0, 25°.30N×124°.76E, h109km, mb4.5/26, Error ellipse: s-maj=10.2km s-min=6.0km az=98.2*
NEIC ***15*** *00:21:21.9±0.5, 25°.25N×124°.79E, h97km±4km, mb4.7/49, Error ellipse: s-maj=5.5km s-min=4.2km az=120.0*
IDC ***15*** *00:21:22.1±0.7, 25°.33N×124°.84E, h99km±6km, mb4.0/21, mb1 4.1/23, mb1mx4.1/33, mbtmp4.3/23, MS2.7/2, Ms1 2.7/2, ms1mx2.5/38, Error ellipse: s-maj=16.7km s-min=11.0km az=73.0*

ISC 15 00:21:21.7±0.4, 25°.27N±0°.04×124°.84E±0°.03, h96km±3km, h96km:pP-P, n164, σ1s19/194, mb4.6/82, 13C-3D, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**0.50**	**133**	P	**Pn**	**00 21 37.0**	**-0.1**
JIKM				S	**Sn**	**00 21 48.2**	**-0.4**
JIRB	**Irabujima**	**0.53**	**146**	P	**Pn**	**00 21 36.8**	**-0.5**
JIRB				S	**Sn**	**00 21 47.8**	**-1.1**
JMJ	**Miyako jima 2**	**0.61**	**138**	P	**Pn**	**00 21 37.8**	**-0.2**
JMJ				S	**Sn**	**00 21 49.8**	**-0.3**
JTJ	**Tarama**	**0.64**	**191**	P	**Pn**	**00 21 37.8**	**-0.4**
JTJ				*e*S	**Sn**	**00 21 49.7**	**-0.8**
JOGS	**Gusukube**	**0.72**	**135**	P	**Pn**	**00 21 39.1**	**+0.1**
JOGS				*e*S	**Sn**	**00 21 52.0**	**+0.2**
JISG	**Ishigakijimahi**	**0.83**	**215**	P	**Pn**	**00 21 39.6**	**-0.5**
JISG				S	**Sn**	**00 21 52.6**	**-1.2**
JIJ	**Ishigaki jima**	**1.10**	**215**	P	**Pn**	**00 21 42.4**	**-0.6**
JIJ				S	**Sn**	**00 21 57.1**	**-1.9**
JKRS	**Kuro-shima**	**1.28**	**217**	P	**Pn**	**00 21 44.6**	**-0.4**
JKRS				*e*S	**Sn**	**00 22 01.8**	**-0.8**
IRIF	**Iriomote-Funau**	**1.37**	**228**	P	**Pn**	**00 21 45.7**	**-0.5**
IRIF				*e*S	**Sn**	**00 22 03.9**	**-0.8**
HATJ	**Hateruma jima**	**1.53**	**218**	P	**Pn**	**00 21 47.8**	**-0.4**
HATJ				*e*S	**Sn**	**00 22 07.6**	**-0.6**
YOJ	**Yonaguni jima**	**1.85**	**245**	*e*Pn	**Pn**	**00 21 52.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.85**	**245**	*e*P	**Pn**	**00 21 52.0**	**-0.2**
YOJ	**Yonaguni jima**	**1.85**	**245**	P	**Pn**	**00 21 52.3**	**+0.1**
YOJ				*e*S	**Sn**	**00 22 14.4**	**-0.9**
JYNG	**Yonagunijimaku**	**1.91**	**245**	P	**Pn**	**00 21 53.0**	**+0.1**
JYNG				S	**Sn**	**00 22 16.5**	**-0.2**
JKE	**Kume jima 2**	**2.04**	**59**	P	**Pn**	**00 21 54.8**	**+0.1**
JKE				*e*S	**Sn**	**00 22 20.3**	**+0.4**
TATO	**Taipei**	**3.05**	**265**	*e*Pn	**Pn**	**00 22 08.2**	**+0.1**
NACB	**Ninganchiao**	**3.15**	**250**	*e*Pn	**Pn**	**00 22 09.2**	**-0.2**
YHNB	**Yeheng**	**3.20**	**260**	*e*Pn	**Pn**	**00 22 10.8**	**+0.6**
JOW	**Kunigami**	**3.46**	**63**	*e*Pn	**Pn**	**00 22 13.2**	**-0.3**
JOW				S	**Sn**	**00 22 50.5**	**-3.1**
JOW	**Kunigami**	**3.46**	**63**	S	**Sn**	**00 22 50.5**	**-3.1**
	4.8nm,0.3s,baz=101,slow=17,SNR=5.5						
YULB	**Yu-li**	**3.73**	**241**	*e*Pn	**Pn**	**00 22 15.5**	**-1.8**
SSLB	**Suanglung**	**3.84**	**248**	*e*Pn	**Pn**	**00 22 17.5**	**-1.2**
TWG	**Pinlang**	**4.22**	**235**	*e*Pn	**Pn**	**00 22 21.2**	**-2.7**
TPUB	**Ta-pu**	**4.31**	**244**	*e*Pn	**Pn**	**00 22 25.2**	**0.0**
NJ2	**Nanjing**	**8.56**	**323**	*e*P	**Pn**	**00 23 24.0**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
JNU	**Nakatsue**	**9.43**	**33**	LR	LR	00 27 26.3	
	comp=Z,35nm,21.1s,baz=205,slow=39						
TJN	**Taejon**	**11.28**	**10**⇓	*e*P	**Pn**	**00 24 00.0**	**+0.2**
KS15	**Wonju Array Si**	**12.41**	**11**	*e*Pn	**Pn**	**00 24 17.7**	**+2.8**
KSAR	**Wonju Array Be**	**12.41**	**11**	P	**Pn**	**00 24 17.1**	**+2.2**
KSAR	**Wonju Array Be**	**12.41**	**11**	P	**Pn**	**00 24 17.1**	**+2.2**
KSRS	**Korea Array**	**12.43**	**11**	P	**Pn**	**00 24 17.1**	**+1.9**
	0.3nm,0.3s,baz=190,slow=13,SNR=32						
KSRS				LR	LR	00 29 08.8	
	comp=Z,49nm,18.3s,baz=210,slow=38						
KS01	**Wonju Array Si**	**12.44**	**11**	*e*Pn	**Pn**	**00 24 17.1**	**+1.8**
MAT	**Matsushiro**	**16.04**	**42**	P	**P**	**00 25 04.1**	**+0.8**
MJAR	**Matsushiro Arr**	**16.04**	**42**	P	**P**	**00 25 03.3**	**0.0**
	0.2nm,0.3s,baz=229,slow=11,SNR=10						
CN2	**Changchun**	**18.49**	**1**	⇑P	**Pn**	**00 25 31.8**	**+0.3**
CN2				*e*pP	pP	00 25 48.0	-0.1
CN2				*e*S	**S**	**00 28 51.3**	**-4.8**
CN2				pmax	pmax		
	comp=Z,50nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
HHC	**Hu-ho-hao-te**	**19.07**	**328**	*e*P	**Pn**	**00 25 41.5**	**+3.0**
HHC				pP	pP	00 25 55.5	+0.6
HHC				S	**S**	**00 29 04.6**	**-3.5**
HHC				sS	sS	00 29 32.8	-4.3
HHC				pmax	pmax		
	comp=Z,27nm,1.0s						
HHC				pmax	pmax		
	comp=Z,160nm,5.2s						
HHC				LR	LR		
	comp=N,120nm,6.1s						
HHC				LR	LR		
	comp=E,160nm,6.2s						
HHC				LR	LR		
	comp=Z,140nm,10.8s						
CD2	**Chengdu**	**19.42**	**292**	P	**P**	**00 25 39.3**	**-1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
USRK	**Ussuriysk Ar.**	**19.76**	**15**	P	**P**	**00 25 43.8**	**-0.3**
	0.2nm,0.3s,baz=194,slow=8.3,SNR=4.0						
KMI	**Kunming**	**20.00**	**274**	P	**Pn**	**00 25 49.5**	**-0.1**
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KKM	**Kota Kinabalu**	**20.83**	**205**	*e*P	**P**	**00 25 56.9**	**+1.0**
LZH	**Lanzhou**	**20.99**	**306**	*e*P	Pn	00 25 58.8	-2.2
LZH				pP	pP	00 26 21.0	+4.9
LZH				PP	sP	00 26 26.6	-1.4
LZH				sP	P	00 26 32.4	+35
LZH				pmax	pmax		

comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,100nm,5.0s
CHAI Chaiyaphum 23.31 251 P **P 00 26 25.2 +3.7**
2.5nm,0.7s
ASAJ Asahikawa 23.71 33 P **P 00 26 23.6 -1.3**
5.8nm,0.5s,baz=236,slow=11,SNR=5.8
SRAK Srakaew 24.18 247 P **P 00 26 28.3 -1.0**
26nm,1.0s
HIA Hailar 24.28 352⇑ *iP* **P 00 26 29.4 -0.6**
HIA pmax pmax
comp=Z,20nm,1.5s
KLR Kul'dur 24.52 11⇑ *iP* **P 00 26 30.2 -1.9**
KLR Kul'dur 24.52 11 P **P 00 26 30.8 -1.3**
comp=Z,2.5nm,0.8s,baz=216,slow=8.1,SNR=9.0
GTA Gaotai 25.31 310 *eP* **P 00 26 39.6 0.0**
GTA pP pP 00 27 04.8 +4.3
GTA sP sP 00 27 15.8 +4.3
SBUM Sibu 25.74 210 *eP* **P 00 26 44.2 +0.7**
comp=Z,16nm,0.7s
ULN Ulaanbaatar 26.57 333 *eP* **P 00 26 51.3 +0.4**
comp=Z,4.6nm,0.8s
ULN Ulaanbaatar 26.57 333⇓ *iP* **P 00 26 51.1 +0.2**
ULN pmax pmax
comp=Z,11nm,1.7s
SONM Songino Array 26.82 332 P **P 00 26 52.4 -0.7**
comp=Z,1.6nm,0.6s,baz=150,slow=9.7,SNR=10
SONM pP **pP 00 27 15.1 +0.7**
comp=Z,0.2nm,0.4s,baz=160,slow=10,SNR=2.7
SONM ScP **ScP 00 33 44.7 -0.3**
comp=Z,0.8nm,1.1s,baz=132,slow=2.1,SNR=3.6
SANI Sanana 27.18 177 P **P 00 26 54.2 -2.2**
TLY Talaya 30.93 334⇑ *eP* **P 00 27 28.9 -0.5**
WMQ Urumqi 35.38 311 *eP* **P 00 28 09.1 +0.8**
WMQ pP pP 00 28 32.8 +3.0
WMQ pmax pmax
comp=Z,17nm,1.5s
WMQ pmax pmax
comp=Z,22nm,3.9s
WMQ LR LR
comp=Z,77nm,16.7s
WMQ LR LR
comp=Z,54nm,20.7s
WMQ LR LR
comp=Z,57nm,18.1s
PETK Petropavlovsk- 37.13 33 P **P 00 28 23.0 0.0**
PETK Petropavlovsk- 37.13 33 P **P 00 28 23.0 0.0**
comp=Z,3.5nm,0.6s,baz=198,slow=6.5,SNR=4.3
MTN Manton Dam 38.38 170 *eP* **P 00 28 32.9 -0.9**
comp=Z,51nm,1.4s
MK01 Makanchi Array 39.92 314 *eP* **P 00 28 45.5 -0.9**
MK31 Makanchi Array 39.94 314 *eP* **P 00 28 46.1 -0.6**
comp=Z,9.7nm,1.4s
MK31 Makanchi Array 39.94 314 *i P* **P 00 28 46.0 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 39.94 314 P **P 00 28 46.1 -0.4**
comp=Z,2.8nm,0.5s,baz=99,slow=10,SNR=76
MKAR PcP **PcP 00 30 49.8 -0.4**
comp=Z,0.5nm,0.7s,baz=90,slow=5.8,SNR=3.7
MAKZ Makanchi 40.15 314 *eP* **P 00 28 48.2 -0.1**
comp=Z,6.3nm,0.8s
MAKZ Makanchi 40.15 314 *eP* **P 00 28 48.2 -0.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
PDGK Podgornoye 41.01 308 P **P 00 28 55.4 -0.2**
PDGK pmax pmax
comp=Z,4.0nm,0.6s
ZAA0 Zalesovo Array 41.21 325 *eP* **P 00 28 56.1 -0.7**
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 41.21 325 *eP* **P 00 28 56.3 -0.6**
ZALV pP **pP 00 29 18.1 -0.5**
ZALV Zalesovo Beam 41.21 325 P **P 00 28 55.5 -1.4**
comp=Z,3.1nm,0.4s,baz=118,slow=7.2,SNR=9.1
ZALV pP **pP 00 29 18.1 -0.5**
comp=Z,0.7nm,0.3s,baz=104,slow=9.1,SNR=1.8
KDJ Kajisay 42.49 306 *eP* **P 00 29 09.7 +1.9**
comp=Z,3.8nm,0.6s
KDJ Kajisay 42.49 306 *eP* **P 00 29 09.7 +1.9**
KDJ pmax pmax
comp=Z,4.0nm,0.6s
COEN Coen 42.89 153 *eP* **P 00 29 10.8 -0.2**
comp=Z,14nm,0.8s
FITZ Fitzroy Crossi 43.11 179 *eP* **P 00 29 12.5 -0.1**
comp=Z,13nm,0.8s
KSH Kashi 43.13 302 P **P 00 29 16.4 +3.5**
KSH PcP **PcP 00 31 03.3 +2.3**
KSH S **S 00 35 37.3 +5.0**
KSH pmax pmax
comp=Z,50nm,6.1s
NRN Naryn 43.29 304 *eP* **P 00 29 15.2 +0.9**
comp=Z,12nm,1.3s
KURK Kurchatov 43.45 318 *eP* **P 00 29 14.4 -0.7**
comp=Z,5.3nm,0.9s
KURK *ep*P **pwP 00 29 40.1 +0.6**
KURK Kurchatov 43.45 318 *eP* **P 00 29 14.4 -0.7**
KURK *e**PP **pwP 00 29 40.1 +0.6**
KURK pmax pmax
comp=Z,5.0nm,0.9s
TKM2 Tokmak 2 43.76 306 P **P 00 29 18.3 +0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.5s
AAK Ala-Archa 44.53 306⇑ *eP* **P 00 29 23.4 -0.7**
AAK pmax pmax
comp=Z,5.0nm,2.1s
NIL Nilore 45.30 293 *eP* **P 00 29 30.2 0.0**
comp=Z,11nm,0.9s
NIL Nilore 45.30 293 *eP* **P 00 29 30.2 0.0**
NIL pmax pmax
comp=Z,11nm,0.9s
WRAB Tennant Creek 45.87 167 *eP* **P 00 29 34.8 +0.1**
comp=Z,14nm,0.8s
WRAB Tennant Creek 45.87 167⇓ *iP* **P 00 29 35.3 +0.6**
WRAB pmax pmax
comp=Z,17nm,0.8s
WRA Warramunga Arr 45.88 168 P **P 00 29 34.9 +0.2**
comp=Z,11nm,0.6s,baz=348,slow=9.0,SNR=24
WRA pP **pP 00 29 57.2 -0.1**
comp=Z,4.5nm,0.8s,baz=348,slow=8.3,SNR=5.1
WB2 Warramunga Arr 45.88 167 *eP* **P 00 29 34.7 0.0**
comp=Z,18nm,0.8s
TIXI Tiksi 46.47 2⇑ *eP* **P 00 29 37.9 -0.8**
TIXI pmax pmax
comp=Z,8.0nm,1.7s
GAR Garm 47.51 301 *eP* **P 00 29 47.9 +0.5**
comp=Z,9.4nm,0.7s
GAR Garm 47.51 301 *eP* **P 00 29 47.9 +0.5**
GAR pmax pmax
comp=Z,9.0nm,0.7s
KBL Kabul 48.72 295 *eP* **P 00 29 57.8 +0.8**
comp=Z,8.9nm,0.8s
KBL Kabul 48.72 295 *eP* **P 00 29 57.8 +0.8**
KBL pmax pmax
comp=Z,9.0nm,0.8s
BRVK Borovoye 49.05 319 *eP* **P 00 29 58.1 -0.9**
comp=Z,3.9nm,1.1s
BRVK Borovoye 49.05 319*ce* P **P 00 29 58.8 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
NRIK Noril'sk 49.27 344 P **P 00 29 58.8 -1.5**
comp=Z,5.0nm,0.8s,baz=120,slow=7.3,SNR=8.6
NRIK pP **pP 00 30 23.8 +1.1**
comp=Z,4.7nm,1.1s,baz=131,slow=6.7,SNR=2.6
AS31 Alice Springs 49.43 169 *eP* **P 00 30 03.1 +1.0**
comp=Z,5.2nm,0.4s
ASAR Alice Springs 49.43 169 P **P 00 30 02.9 +0.7**
comp=Z,9.4nm,0.6s,baz=355,slow=13,SNR=110
AS01 Alice Springs 49.44 169 *eP* **P 00 30 02.7 +0.5**
AS01 *e*PcP **PcP 00 31 23.3 +0.2**
AB31 Akbulak array 55.08 314 *i P* **P 00 30 43.5 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 55.08 314 *eP* **P 00 30 43.8 +0.1**
comp=Z,7.1nm,0.7s
SVE Sverdlovsk 55.16 323 *eP* **P 00 30 43.5 -0.7**
SVE pmax pmax
comp=Z,12nm,1.4s
GAMB Gambell 55.94 29 *eP* **P 00 30 50.1 +0.6**
comp=Z,4.5nm,1.2s
ARU Arti 56.27 322 *eP* **P 00 30 51.0 -1.0**
comp=Z,4.6nm,0.9s
ARU Arti 56.27 322*c iP* **P 00 30 50.7 -1.3**
ARU *PP **pP 00 31 13.1 -1.8**
ARU 00 31 46.9
ARU S **S 00 38 32.8 -1.7**
ARU SS **SS 00 42 21.7 -0.4**

ARU					pmax		pmax		
	comp=Z,9.0nm,1.4s								
GEYT	**Alibeck**	**57.13**	**300**		P		**P**	**00 30 59.1**	**+0.5**
	comp=Z,3.1nm,0.4s,baz=70,slow=2.2,SNR=14								
GEYT					pP		**pwP**	**00 31 24.2**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=117,slow=0.7,SNR=4.5								
GYA0B	**ALIBECK ARRAY**	**57.13**	**300**		*e*P		**P**	**00 30 59.4**	**+0.9**
	comp=Z,6.9nm,0.9s								
STKA	**Stephens Creek**	**59.04**	**163**		P		**P**	**00 31 11.3**	**-0.4**
	comp=Z,4.4nm,0.9s,baz=357,slow=5.8,SNR=7.1								
SVW2	**Sparrevohn**	**63.22**	**32**		*e*P		**P**	**00 31 40.1**	**+0.5**
	comp=Z,24nm,1.6s								
IM3	**Indian Mountai**	**63.72**	**27**		*e*P		**P**	**00 31 43.8**	**+0.9**
PPLA	**Purkeypile**	**64.65**	**30**		*e*P		**P**	**00 31 50.7**	**+1.5**
	comp=Z,12nm,0.6s								
BPAW	**Bear Paw Mtn.**	**65.05**	**29**		*e*P		**P**	**00 31 49.4**	**-2.3**
	comp=Z,14nm,0.6s								
MLY	**Manley**	**65.05**	**28**		*e*P		**P**	**00 31 52.0**	**+0.3**
	comp=Z,12nm,0.7s								
KDAK	**Kodiak Island**	**65.09**	**36**		*i* P		**P**	**00 31 53.3**	**+1.4**
TOLK	**Toolik Lake Re**	**65.13**	**24**		*e*P		**P**	**00 31 51.3**	**-0.8**
	comp=Z,6.9nm,0.6s								
SUA	**Susitna One**	**65.50**	**32**		*e*P		**P**	**00 31 56.1**	**+1.5**
	comp=Z,18nm,0.9s								
MCK	**McKinley**	**66.00**	**29**		*e*P		**P**	**00 31 57.9**	**+0.2**
	comp=Z,11nm,0.6s								
MCK	**McKinley**	**66.00**	**29**		*e*P		**P**	**00 31 57.9**	**+0.2**
MCK						pmax	pmax		
	comp=Z,11nm,0.6s								
RND	**Reindeer**	**66.09**	**29**		*e*P		**P**	**00 31 58.6**	**+0.3**
	comp=Z,35nm,0.6s								
RND	**Reindeer**	**66.09**	**29**		*e*P		**P**	**00 31 58.6**	**+0.3**
RND						pmax	pmax		
	comp=Z,35nm,0.6s								
MDM	**Murphy Dome**	**66.12**	**28**		*e*P		**P**	**00 31 59.8**	**+1.3**
	comp=Z,20nm,0.8s								
WRH	**Wood River Hil**	**66.25**	**28**		*e*P		**P**	**00 31 59.8**	**+0.5**
	comp=Z,7.0nm,0.9s								
COLA	**College**	**66.29**	**28**	↑	*i* P		**P**	**00 32 00.3**	**+0.8**
COLA						pmax	pmax		
	comp=Z,9.0nm,0.8s								
IL1	**Eielson Array**	**66.72**	**28**		*e*P		**P**	**00 32 01.7**	**-0.5**
ILAR	**Eielson Array**	**66.72**	**28**		P		**P**	**00 32 02.0**	**-0.3**
ILAR	**Eielson Array**	**66.72**	**28**		P		**P**	**00 32 01.9**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=248,slow=5.1,SNR=29								
ILB	**Eielson Array**	**66.72**	**28**		*e*P		**P**	**00 32 02.0**	**-0.3**
	comp=Z,23nm,1.9s								
HDA	**Harding Lake**	**66.75**	**28**		*e*P		**P**	**00 32 02.5**	**0.0**
	comp=Z,12nm,0.9s								
DHY	**Denali Highway**	**66.80**	**30**		*e*P		**P**	**00 32 03.6**	**+0.5**
	comp=Z,6.9nm,0.6s								
NCK	**Nalchik**	**66.95**	**309**	↑	*e*P		**P**	**00 32 03.9**	**-0.3**
NCK						pmax	pmax		
	comp=Z,3.0nm,0.4s								
SCM	**Sheep Creek Mo**	**67.05**	**31**		*e*P		**P**	**00 32 04.0**	**-0.5**
	comp=Z,117nm,1.9s								
SCM	**Sheep Creek Mo**	**67.05**	**31**		*e*P		**P**	**00 32 04.0**	**-0.5**
SCM						pmax	pmax		
	comp=Z,117nm,1.9s								
KBZ	**Khabaz**	**67.39**	**309**		P		**P**	**00 32 07.7**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=200,slow=11,SNR=7.3								
NEY	**Neytrino**	**67.63**	**308**	↑	*e*P		**P**	**00 32 10.5**	**+1.8**
NEY						pmax	pmax		
	comp=Z,2.0nm,1.4s								
PAX	**Paxson**	**67.67**	**30**		*e*P		**P**	**00 32 09.4**	**+0.9**
	comp=Z,6.6nm,0.8s								
PAX	**Paxson**	**67.67**	**30**		*e*P		**P**	**00 32 09.4**	**+0.9**
PAX						pmax	pmax		
	comp=Z,7.0nm,0.8s								
RIDG	**Independ'e Rid**	**67.79**	**29**		*e*P		**P**	**00 32 09.0**	**-0.2**
	comp=Z,29nm,1.4s								
VSR	**Storozhevoye**	**68.10**	**317**	↑	*e*P		**P**	**00 32 10.0**	**-1.2**
VSR						pmax	pmax		
	comp=Z,10.0nm,1.1s								
DOT	**Dot Lake**	**68.15**	**29**		*e*P		**P**	**00 32 11.0**	**-0.3**
	comp=Z,12nm,0.8s								
BMRM	**Bremner River**	**68.51**	**32**		*e*P		**P**	**00 32 12.9**	**-0.8**
	comp=Z,20nm,1.3s								
EGAK	**Eagle**	**69.11**	**27**		*e*P		**P**	**00 32 17.4**	**+0.2**
	comp=Z,8.0nm,0.8s								
ARCES	**ARCESS Array B**	**69.77**	**338**		P		**P**	**00 32 20.9**	**-0.4**
	comp=Z,2.1nm,1.0s,baz=58,slow=7.3,SNR=5.9								
DAWY	**Dawson**	**70.05**	**28**		*e*P		**P**	**00 32 22.6**	**-0.5**
	comp=Z,8.0nm,0.8s								
EPYK	**Eagle Plains**	**70.43**	**25**		*e*P		**P**	**00 32 26.3**	**+0.9**
	comp=Z,9.1nm,0.7s								
INK	**Inuvik**	**70.96**	**23**		*e*P		**P**	**00 32 29.5**	**+1.0**
	comp=Z,3.7nm,0.7s								
INK	**Inuvik**	**70.96**	**23**		*e*P		**P**	**00 32 29.5**	**+1.0**
INK						pmax	pmax		
	comp=Z,4.0nm,0.7s								
HYT	**Haines Junctio**	**71.88**	**31**		*e*P		**P**	**00 32 34.8**	**+0.4**
	comp=Z,9.5nm,1.2s								
FIA1	**FINESS Array S**	**72.18**	**330**		*e*P		**P**	**00 32 35.4**	**-0.5**
FINES	**FINESS Array B**	**72.18**	**330**		*i* P		**P**	**00 32 35.7**	**-0.2**
FINES						pmax	pmax		
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	**72.18**	**330**		P		**P**	**00 32 35.3**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=57,slow=5.6,SNR=15								
AKASG	**Malin Array Be**	**74.26**	**319**		P		**P**	**00 32 47.3**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=59,slow=6.5,SNR=4.8								
BRTR	**Keskin Array B**	**75.19**	**307**		*ce*P		**P**	**00 32 54.2**	**0.0**
BRTR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**75.19**	**307**		P		**P**	**00 32 53.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=82,slow=6.1,SNR=7.2								
RES	**Resolute Bay**	**77.04**	**10**		*e*P		**P**	**00 33 03.9**	**+0.1**
	comp=Z,12nm,1.9s								
RES	**Resolute Bay**	**77.04**	**10**		*e*P		**P**	**00 33 03.9**	**+0.1**
RES						pmax	pmax		
	comp=Z,12nm,1.9s								
NB2	**NORSAR Subarra**	**78.80**	**333**		P		**P**	**00 33 12.9**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=55,slow=5.6								
NOA	**NORSAR Array B**	**78.80**	**333**		P		**P**	**00 33 12.6**	**-1.2**
	comp=Z,1.2nm,0.8s,baz=55,slow=5.5,SNR=6.4								
NC204	**NORSAR Array S**	**78.86**	**333**		*e*P		**P**	**00 33 13.7**	**-0.5**
	comp=Z,52nm,1.8s								
YKW3	**Yellowknife Ar**	**80.61**	**24**		*e*P		**P**	**00 33 24.0**	**+0.5**
	comp=Z,13nm,0.7s								
YKA	**Yellowknife Ar**	**80.66**	**24**		P		**P**	**00 33 24.3**	**+0.6**
	comp=Z,7.6nm,0.6s,baz=303,slow=5.3,SNR=134								
YKB5	**Yellowknife Ar**	**80.66**	**24**		*e*P		**P**	**00 33 23.9**	**+0.1**
CLL	**Collm**	**83.16**	**324**		*e*P		**P**	**00 33 38.0**	**+0.9**
GERES	**GERESS Array B**	**84.09**	**322**		P		**P**	**00 33 42.6**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=49,slow=6.6,SNR=3.8								
BORG	**Borgarnes**	**86.51**	**346**		*i* P		**P**	**00 33 54.5**	**+0.9**
FFC	**Flin Flon**	**90.78**	**25**		*e*P		**P**	**00 34 15.3**	**+1.2**
	comp=Z,5.5nm,0.6s								
FFC	**Flin Flon**	**90.78**	**25**		*i* P		**P**	**00 34 15.4**	**+1.4**
HRY	**Holter Researc**	**91.96**	**35**		*e*P		**P**	**00 34 20.6**	**+0.7**
NVAR	**Mina Array Bea**	**93.35**	**45**		P		**P**	**00 34 28.2**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=273,slow=6.0,SNR=3.8								

MEX 15 00:22:00.9±0.4, 17°.24N×100°.59W, h38^{km}±8^{km}, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.37**	**121**	*e*P	Pn	00 22 07.9	-1.6
CAIG				*i* S	Sn	00 22 14.2	-2.1
ACP2	**Acapulco**	**0.77**	**118**	*i* P	Pn	00 22 13.0	-2.3
ACP2				*i* S	Sn	00 22 23.2	-2.3
ZIIG	**Zihuatanejo**	**0.91**	**294**	*e*P	Pn	00 22 15.3	-1.8
ZIIG				*e*S	Sn	00 22 27.4	-1.6
ARIG	**Puente Sto Nin**	**1.06**	**13**	*e*P	Pn	00 22 17.0	-2.3
ARIG				*e*S	Sn	00 22 30.2	-2.6
MEIG	**Mezcala**	**1.15**	**54**	*e*P	Pn	00 22 18.9	-1.7
MEIG				*e*S	Sn	00 22 33.0	-2.1
PLIG	**Platanillo**	**1.55**	**42**	*e*P	Pn	00 22 24.5	-1.9
PLIG				*i* S	Sn	00 22 43.1	-1.8
TLIG	**Tlapa**	**1.96**	**80**	*i* P	Pn	00 22 30.7	-1.0
TLIG				*i* S	Sn	00 22 53.3	-1.9

*ISCJB **15** 00:45:46.8±0.3, 61°.32N×150°.74W±0°.05, h73^{km}±3^{km}, mb3.4/3, Error ellipse: s-maj=4.2km s-min=3.2km az=141.1*
*IDC **15** 00:45:46.9±1.4, 61°.33N×151°.06W, h62^{km}±20^{km}, mb3.2/3, mb1 3.4/7, mb1mx3.1/57, mbtmp3.4/7, Error ellipse: s-maj=26.8km s-min=9.1km az=111.0*
*NEIC **15** 00:45:48.5±0.0, 61°.31N×150°.77W, h60^{km}, ML3.2(AEIC), After AEIC.*
NEIC Felt at Anchorage.

ISC 15 00:45:48.4±0.9, 61°.32N±0°.03×150°.76W±0°.03, h60^{km}±7^{km}, n80, σ1°06/94, mb3.3/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUA	**Susitna One**	**0.15**	**4**	*e*Pn	**Pn**	**00 45 57.1**	**-0.6**
SUA				*e*Sn	**Sn**	**00 46 04.5**	**+0.1**
FIB	**Fire Island**	**0.32**	**118**	*e*Pn	**Pn**	**00 45 58.7**	**+0.2**
FIB				*e*Sn	**Sn**	**00 46 07.2**	**+1.3**
RC01	**Rabbit Creek A**	**0.55**	**114**	*e*Pn	**Pn**	**00 46 00.1**	**-0.7**
RC01				*e*Sn	**Sn**	**00 46 09.9**	**+0.1**
NKA	**Nikishka**	**0.62**	**202**	*e*Pn	**Pn**	**00 46 02.7**	**+1.1**
NKA				*e*Sn	**Sn**	**00 46 13.4**	**+2.2**
SPCP	**Crater Peak Br**	**0.67**	**266**	P	**Pn**	**00 46 01.7**	**-0.7**
SPCN	**Chakachatna No**	**0.69**	**263**	P	**Pn**	**00 46 01.9**	**-0.6**
SPCN				S	**Sn**	**00 46 13.0**	**+0.1**
CKL	**Chakachamna La**	**0.77**	**262**	P	**Pn**	**00 46 02.7**	**-0.8**
PMR	**Palmer**	**0.83**	**70**	*e*Pn	**Pn**	**00 46 03.3**	**-0.9**
PMR				*e*Sn	**Sn**	**00 46 15.6**	**-0.2**
SLKM	**Skilak Lake**	**0.85**	**162**	*e*Pn	**Pn**	**00 46 01.9**	**-2.6**
SPWE	**Spurr West**	**0.87**	**268**	P	**Pn**	**00 46 04.1**	**-0.7**
PTE	**Portage**	**0.96**	**118**	*e*Pn	**Pn**	**00 46 05.3**	**-0.5**
KNK	**Knik Glacier**	**1.11**	**84**	*e*Pn	**Pn**	**00 46 07.4**	**-0.5**
RDJH	**Redoubt Jeurge**	**1.23**	**235**	P	**Pn**	**00 46 09.1**	**-0.5**
RDJH				S	**Sn**	**00 46 25.4**	**0.0**
SML	**Sawmill**	**1.26**	**66**	*e*Pn	**Pn**	**00 46 09.0**	**-0.9**
SML				*e*Sn	**Sn**	**00 46 26.2**	**+0.2**
PWL	**Port Wells**	**1.27**	**110**	*e*Pn	**Pn**	**00 46 08.9**	**-1.0**
PWL				*e*Sn	**Sn**	**00 46 25.8**	**-0.2**
RDN	**Redoubt North**	**1.27**	**231**	*e*Pn	**Pn**	**00 46 09.3**	**-0.7**
RDWB	**Redoubt West**	**1.31**	**232**	*e*Pn	**Pn**	**00 46 10.1**	**-0.5**
RDWB				*e*Sn	**Sn**	**00 46 27.7**	**+0.4**
RED	**Redoubt Volcan**	**1.33**	**228**	P	**Pn**	**00 46 10.2**	**-0.7**
SEW	**Seward**	**1.38**	**151**	*e*Pn	**Pn**	**00 46 11.9**	**+0.6**
SEW				*e*Sn	**Sn**	**00 46 29.2**	**+0.6**
BRLK	**Bradley Lake**	**1.56**	**182**	*e*Pn	**Pn**	**00 46 13.5**	**-0.3**
IVE	**Iliamna Volcan**	**1.71**	**221**	P	**Pn**	**00 46 15.8**	**-0.2**
ILW	**Iliamna West**	**1.72**	**224**	*e*Pn	**Pn**	**00 46 16.3**	**+0.2**
HOM	**Homer**	**1.72**	**195**	*e*Pn	**Pn**	**00 46 15.7**	**-0.3**
HOM				*e*Sn	**Sn**	**00 46 41.6**	**+4.7**
PPLA	**Purkeypile**	**1.72**	**338**	*e*Pn	**Pn**	**00 46 15.6**	**-0.5**
SCM	**Sheep Creek Mo**	**1.72**	**71**	*e*Pn	**Pn**	**00 46 15.2**	**-0.9**
HUR	**Hurricane**	**1.75**	**17**	*e*Pn	**Pn**	**00 46 16.6**	**+0.1**
ILS	**Iliamna Low So**	**1.77**	**221**	P	**Pn**	**00 46 16.8**	**0.0**
JPK	**Jack Peak**	**2.04**	**96**	*e*Pn	**Pn**	**00 46 19.2**	**-1.1**
TRF	**Thorofare Moun**	**2.15**	**6**	*e*Pn	**Pn**	**00 46 22.2**	**+0.1**
CAST	**Castle Rocks**	**2.20**	**344**	*e*Pn	**Pn**	**00 46 22.4**	**-0.1**
RND	**Reindeer**	**2.28**	**22**	*e*Pn	**Pn**	**00 46 23.1**	**-0.5**
KLU	**Klutina**	**2.34**	**84**	*e*Pn	**Pn**	**00 46 23.0**	**-1.4**
SVW2	**Sparrevohn**	**2.34**	**267**	*e*Pn	**Pn**	**00 46 23.6**	**-0.9**
DHY	**Denali Highway**	**2.38**	**41**	*e*Pn	**Pn**	**00 46 24.6**	**-0.5**
DIV	**Divide**	**2.42**	**92**	*e*Pn	**Pn**	**00 46 24.2**	**-1.4**
EYAK	**Cordova Ski Ar**	**2.57**	**105**	*e*Pn	**Pn**	**00 46 30.8**	**+3.3**
MCK	**McKinley**	**2.57**	**18**	*e*Pn	**Pn**	**00 46 27.7**	**+0.1**
PS11	**TAPS Pump St11**	**2.63**	**71**	*e*Pn	**Pn**	**00 46 28.2**	**-0.2**
CHUM	**Lake Minchumin**	**2.67**	**345**	*e*Pn	**Pn**	**00 46 28.8**	**-0.2**
BPAW	**Bear Paw Mtn.**	**2.80**	**358**	*e*Pn	**Pn**	**00 46 30.5**	**-0.1**
HARP	**HAARP**	**2.87**	**65**	*e*Pn	**Pn**	**00 46 31.5**	**-0.2**
MID	**Middleton Isla**	**2.90**	**129**	*e*Pn	**Pn**	**00 46 32.4**	**+0.4**
BWN	**Browne**	**2.93**	**11**	*e*Pn	**Pn**	**00 46 33.5**	**+1.1**
TT01	**Tatalina**	**2.94**	**305**	*e*Pn	**Pn**	**00 46 31.9**	**-0.8**
PAX	**Paxson**	**2.99**	**54**	*e*Pn	**Pn**	**00 46 33.3**	**0.0**
PS10	**TAPS Pump St10**	**3.14**	**46**	*e*Pn	**Pn**	**00 46 35.9**	**+0.5**
HMT	**Hamilton**	**3.33**	**104**	*e*Pn	**Pn**	**00 46 39.0**	**+1.0**
WRH	**Wood River Hil**	**3.39**	**20**	*e*Pn	**Pn**	**00 46 39.3**	**+0.5**
HDA	**Harding Lake**	**3.56**	**28**	*e*Pn	**Pn**	**00 46 41.7**	**+0.6**
CCB	**Clear Creek Bu**	**3.60**	**21**	*e*Pn	**Pn**	**00 46 41.1**	**-0.5**
KDAK	**Kodiak Island**	**3.67**	**195**	*e*Pn	**Pn**	**00 46 43.2**	**+0.7**
KDAK				S	**Sn**	**00 47 22.3**	**-2.0**
KDAK	**Kodiak Island**	**3.67**	**195**	P	**Pn**	**00 46 42.0**	**-0.5**
	1.5nm,0.3s,baz=11,slow=10,SNR=1.8						
KDAK				S	**Sn**	**00 47 22.3**	**-2.0**
	3.2nm,0.3s,baz=150,slow=20,SNR=7.9						
RIDG	**Independ'e Rid**	**3.67**	**46**	*e*Pn	**Pn**	**00 46 43.3**	**+0.7**
MENT	**Mentasta**	**3.69**	**61**	*e*Pn	**Pn**	**00 46 41.9**	**-0.9**
MLY	**Manley**	**3.73**	**0**	*e*Pn	**Pn**	**00 46 43.5**	**+0.1**
COLA	**College**	**3.81**	**19**	*e*Pn	**Pn**	**00 46 45.0**	**+0.6**
MDM	**Murphy Dome**	**3.83**	**16**	*e*Pn	**Pn**	**00 46 44.8**	**0.0**
ILAR	**Eielson Array**	**3.89**	**25**	P	**Pn**	**00 46 45.0**	**-0.6**
	1.0nm,0.3s,baz=210,slow=14,SNR=23						
ILAR				S	**Sn**	**00 47 29.6**	**-0.4**
	2.9nm,0.3s,baz=218,slow=20,SNR=7.5						
ILB	**Eielson Array**	**3.89**	**25**	*e*Pn	**Pn**	**00 46 46.0**	**+0.4**
DOT	**Dot Lake**	**3.89**	**50**	*e*Pn	**Pn**	**00 46 45.9**	**+0.3**
IL1	**Eielson Array**	**3.89**	**25**	*e*Pn	**Pn**	**00 46 46.0**	**+0.4**
BALM	**Baldy**	**4.09**	**90**	*e*Pn	**Pn**	**00 46 49.2**	**+0.8**
KIAG	**Kiagna River**	**4.10**	**92**	*e*Pn	**Pn**	**00 46 46.5**	**-2.0**
SCRK	**Sand Creek**	**4.11**	**47**	*e*Pn	**Pn**	**00 46 47.9**	**-0.8**
BCA3	**Beaver Creek A**	**4.56**	**63**	*e*Pn	**Pn**	**00 46 54.0**	**-0.7**
YUK2	**White River**	**4.77**	**80**	P	**Pn**	**00 46 56.0**	**-1.8**
PRP	**Porcupine Dome**	**4.83**	**27**	*e*Pn	**Pn**	**00 46 58.1**	**-0.5**
IM3	**Indian Mountai**	**4.87**	**345**	*e*Pn	**Pn**	**00 46 57.8**	**-1.1**
EGAK	**Eagle**	**5.58**	**47**	*e*Pn	**Pn**	**00 47 07.5**	**-1.1**
FYU	**Fort Yukon**	**5.80**	**22**	*e*Pn	**Pn**	**00 47 12.0**	**+0.3**
DAWY	**Dawson**	**5.92**	**57**	*e*Pn	**Pn**	**00 47 12.6**	**-0.7**
COLD	**Coldfoot**	**5.94**	**2**	*e*Pn	**Pn**	**00 47 15.4**	**+1.8**
HYT	**Haines Junctio**	**6.45**	**89**	*e*Pn	**Pn**	**00 47 20.1**	**-0.7**
BM3	**Burnt Mountain**	**6.68**	**21**	*e*Pn	**Pn**	**00 47 23.3**	**-0.5**
TOLK	**Toolik Lake Re**	**7.37**	**3**	*e*Pn	**Pn**	**00 47 34.0**	**+0.7**
INK	**Inuvik**	**10.12**	**39**	P	**Pn**	**00 48 08.8**	**-1.9**
	0.1nm,0.3s,baz=243,slow=16,SNR=3.3						
INK				S	**Sn**	**00 50 03.0**	**+0.6**
	0.1nm,0.3s,baz=247,slow=15,SNR=2.1						
YKA	**Yellowknife Ar**	**16.93**	**70**	P	**Pn**	**00 49 41.6**	**+0.7**
	0.1nm,0.3s,baz=274,slow=11,SNR=12						
TXAR	**Lajitas Array**	**44.46**	**114**	P	**P**	**00 53 53.6**	**+0.1**
	0.4nm,0.7s,baz=350,slow=4.6,SNR=1.2						
SONM	**Songino Array**	**54.90**	**307**	P	P	00 55 10.1	-2.4
	0.5nm,0.3s,baz=51,slow=5.7,SNR=1.9						
MKAR	**Makanchi Array**	**64.07**	**322**	P	P	00 56 13.2	-2.5
	0.1nm,0.5s,baz=46,slow=8.3,SNR=1.4						

*IDC **15** 00:46:49.2±0.7, 52°.33N×132°.18W, h0^{km}, mb3.8/15, mb1 3.9/24, mb1mx3.8/57, mbtmp3.7/24, ML3.4/8, MS3.3/6, Ms1 3.3/6, ms1mx3.0/42, Error ellipse: s-maj=12.3km s-min=6.3km az=47.0*
*PGC **15** 00:46:50.1±0.0, 52°.31N×132°.06W, h40^{km}±2^{km}, ML3.9/18, Haida Gwaii Region*
*ISCJB **15** 00:46:52.2±0.6, 52°.44N±0°.03×132°.00W±0°.06, h23^{km}±4^{km}, mb4.2/52, MS4.0/1, Error ellipse: s-maj=6.8km s-min=2.9km az=150.4*
*NEIC **15** 00:46:52.9±0.4, 52°.56N×131°.87W, h10^{km}, mb4.3/77, Error ellipse: s-maj=10.6km s-min=4.0km az=63.0*

ISC 15 00:46:52.9±0.9, 52°.44N±0°.05×132°.00W±0°.05, h12^{km}±5^{km}, n244, σ1°85/240, mb4.4/52, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.20**	**48**	P	**Pg**	**00 46 58.7**	**+1.4**
HG3B	**Hotspring**	**0.37**	**68**	P	**Pb**	**00 47 00.8**	**-0.4**
HG3B				S	**Sb**	**00 47 07.1**	**+0.2**
HG1B	**Mitchell Dam**	**0.50**	**351**	P	**Pb**	**00 47 02.1**	**-1.4**
HG4B	**Hotspring**	**0.51**	**107**	P	**Pg**	**00 47 01.2**	**-1.7**
HG4B				S	**Sb**	**00 47 09.1**	**-2.1**
MOBC	**Moresby Island**	**0.70**	**2**	Pg	**Pb**	**00 47 05.8**	**-1.3**
MOBC	**Moresby Island**	**0.70**	**2**	P	**Pb**	**00 47 05.8**	**-1.3**
MOBC				S	**Sn**	**00 47 17.1**	**-2.4**
DIB	**Dawson Inlet,**	**0.81**	**339**	Pg	**Pg**	**00 47 06.0**	**-2.6**
DIB	**Dawson Inlet,**	**0.81**	**339**	P	**Pg**	**00 47 06.0**	**-2.6**
DIB				S	**Sb**	**00 47 18.3**	**-1.6**
H02S1	**DAWSON INLET T**	**0.81**	**339**	Pg	**Pg**	**00 47 06.2**	**-2.4**
H02S1				Lg	Lg	00 47 17.9	
	SNR=2532						
MASB	**Masset**	**1.58**	**360**	P	**Pn**	**00 47 17.9**	**-2.7**
NDB	**Naden**	**1.62**	**340**	P	**Pn**	**00 47 17.9**	**-3.4**
RUBB	**Prince Rupert**	**2.16**	**28**	Pn	**Pn**	**00 47 27.7**	**-0.9**
BBB	**Bella Bella**	**2.40**	**95**	Pn	**Pn**	**00 47 29.1**	**-2.7**
BBB	**Bella Bella**	**2.40**	**95**	Pn	**Pn**	**00 47 29.0**	**-2.9**
	3.3nm,0.3s,baz=270,slow=6.5,SNR=10						
BBB				Pg	**Pb**	**00 47 35.0**	**-1.0**
	17nm,0.3s,baz=275,slow=19,SNR=22						
BBB				Sn	**Sn**	**00 47 58.2**	**-2.9**
	45nm,0.3s,baz=22,slow=12,SNR=7.7						
BBB				Lg	Lg	00 48 08.9	
	37nm,0.3s,baz=161,slow=18,SNR=7.4						
HOLB	**Holberg**	**3.01**	**125**	Pn	**Pn**	**00 47 36.4**	**-4.0**
CRAG	**Craig**	**3.10**	**348**	Pn	**Pn**	**00 47 41.3**	**-0.2**
PHC	**Port Hardy**	**3.34**	**120**	Pn	**Pn**	**00 47 40.1**	**-4.6**
PACB	**Port Alice, BC**	**3.46**	**124**	Pn	**Pn**	**00 47 42.1**	**-4.4**
BPBC	**Brooks Peninsu**	**3.50**	**129**	Pn	**Pn**	**00 47 42.5**	**-4.6**
MAYB	**Maynard**	**3.65**	**122**	Pn	**Pn**	**00 47 45.5**	**-3.6**
TLCB	**Telegraph Cove**	**3.74**	**118**	Pn	**Pn**	**00 47 46.4**	**-3.9**
WRAK	**Wrangell Islan**	**3.99**	**357**	*e*Pn	**Pn**	**00 47 52.6**	**-1.1**
WOSB	**Woss**	**4.10**	**122**	Pn	**Pn**	**00 47 52.1**	**-3.3**
NCRB	**Newcastle Ridg**	**4.24**	**116**	Pn	**Pn**	**00 47 54.3**	**-3.1**
CBB	**Campbell River**	**4.82**	**117**	Pn	**Pn**	**00 48 02.9**	**-2.2**
SIT	**Sitka**	**5.01**	**339**	*e*Pn	**Pn**	**00 48 10.7**	**+3.0**
FSB	**Fort Saint Jam**	**5.02**	**63**	Pn	**Pn**	**00 48 07.2**	**-0.7**
TXB	**Texada**	**5.50**	**117**	Pn	**Pn**	**00 48 12.3**	**-2.3**
DLBC	**Dease Lake**	**6.11**	**10**	*e*Pn	**Pn**	**00 48 24.9**	**+1.9**
DLBC	**Dease Lake**	**6.11**	**10**	Pn	**Pn**	**00 48 22.9**	**0.0**
DLBC	**Dease Lake**	**6.11**	**10**	Pn	**Pn**	**00 48 22.3**	**-0.7**
	1.1nm,0.3s,baz=204,slow=12,SNR=12						
DLBC				Lg	Lg	00 50 09.2	
	baz=107,slow=7.5,SNR=4.6						
BMBC	**Bull Mountain**	**6.82**	**54**	Pn	**Pn**	**00 48 33.5**	**+0.9**
D03D	**Eldon**	**7.55**	**127**	P	**Pn**	**00 48 44.6**	**+1.9**
	baz=315						
B05A	**Bryant**	**7.59**	**120**	P	**Pn**	**00 48 44.6**	**+1.5**
	baz=308						
FNBB	**Fort Nelson**	**8.22**	**35**	Pn	**Pn**	**00 48 52.4**	**+0.7**
WHY	**Whitehorse**	**8.39**	**350**	*e*Pn	**Pn**	**00 48 56.8**	**+2.6**
E04D	**Cinebar**	**8.50**	**130**	P	**Pn**	**00 48 57.0**	**+1.3**
	baz=318						
G03D	**McMinnville, O**	**9.24**	**138**	P	**Pn**	**00 49 07.6**	**+1.8**
	baz=326						
H04D	**Lebanon**	**10.02**	**139**	P	**Pn**	**00 49 17.9**	**+1.3**
	baz=326						
G05D	**Wamic, OR**	**10.07**	**131**	P	**Pn**	**00 49 18.7**	**+1.5**
	baz=320						
NEW	**Newport**	**10.38**	**108**	P	**Pn**	**00 49 22.9**	**+1.4**
	baz=300						
NEW	**Newport**	**10.38**	**108**	Pn	**Pn**	**00 49 20.4**	**-1.1**
	0.1nm,0.3s,baz=295,slow=14,SNR=2.2						
NEW				Lg	Lg	00 52 18.9	
	0.1nm,0.3s,baz=142,slow=15,SNR=2.4						
I03D	**Drain, OR**	**10.48**	**143**	P	**Pn**	**00 49 24.0**	**+1.2**
	baz=330						
J01E	**Myr

15nm,1.1s
R11A Troy Canyon, C 18.14 134 P Pn 00 51 03.9 -0.8
baz=327,SNR=25
NLU North Lily Min 18.53 124 eP Pn 00 51 09.5 +0.1
6.9nm,1.2s
GRAC Grapevine Rang 18.56 141 P P 00 51 09.3 -0.1
baz=332,SNR=5.3
PSUT Pine Spring 18.77 131 eP P 00 51 11.9 0.0
11nm,1.2s
CWC Cottonwood Cre 18.78 143 P P 00 51 11.8 -0.2
baz=333
TPNV Topopah Spring 19.05 138 eP P 00 51 15.2 +0.3
71nm,1.8s
TPNV Topopah Spring 19.05 138 P P 00 51 14.5 -0.4
baz=330,SNR=14
DAC Darwin (Calif) 19.10 142 eP P 00 51 13.0 -2.6
21nm,1.4s
ISA Isabella, Lake 19.33 145 P P 00 51 17.2 -0.7
baz=335
MPMC Manual Prospec 19.34 142 P P 00 51 17.5 -0.6
baz=333
MSU Marysvale 19.59 127 eP P 00 51 21.4 +0.5
PKM Mcpherson Peak 19.59 149 P P 00 51 19.5 -1.4
baz=338
ARVC Arvin 19.69 146 P P 00 51 20.8 -1.0
baz=336
P18A Preston Nutter 19.71 122 eP P 00 51 22.4 +0.1
9.8nm,1.2s
Q16A Castle Valley 19.77 125 eP Pn 00 51 23.9 -0.5
18nm,1.3s
CCUT Cedar City 19.80 131 eP P 00 51 23.4 +0.3
29nm,1.3s
SHPR Sheep Range 19.88 137 eP P 00 51 23.8 -0.1
15nm,1.3s
SZCU Shurtz Canyon 19.89 131 eP P 00 51 24.1 0.0
37nm,1.3s
SRU San Rafael Swe 19.95 123 eP Pn 00 51 26.1 -0.3
32nm,1.5s
MTPU Mount Pierson 19.95 128 eP P 00 51 25.6 +0.5
12nm,1.3s
GSC Goldstone, Bar 20.26 142 P P 00 51 27.5 -0.6
baz=333
RSSD Black Hills 20.28 103 eP P 00 51 27.3 -1.1
6.4nm,1.0s
RSSD Black Hills 20.28 103 P P 00 51 27.5 -0.9
baz=305
PKCU Pink Cliffs 20.37 130 eP P 00 51 30.1 +0.5
40nm,1.2s
O20A White River Ci 20.41 118 eP Pn 00 51 32.5 +0.6
19nm,1.0s
O20A White River Ci 20.41 118 P P 00 51 29.2 -0.5
baz=316
KNB Kanab 20.48 131 eP Pn 00 51 31.8 -0.9
24nm,1.5s
TUQ Turquoise Moun 20.49 140 P P 00 51 29.6 -1.0
baz=332
MWC Mount Wilson 20.78 146 eP Pn 00 51 36.6 +0.4
28nm,1.2s
HEC Hector,Ludlow 20.86 141 P P 00 51 33.6 -1.0
baz=333,SNR=10
BFSC Mount Baldy Ra 20.90 145 P P 00 51 34.0 -1.1
baz=335
PV09 Paradox Valley 21.13 122 eP P 00 51 38.0 +0.4
GMRC Granite Mounta 21.16 140 P P 00 51 36.8 -1.0
baz=332,SNR=5.7
PV21 Cone Mtn., Par 21.16 122 eP P 00 51 43.3 +5.3
8.6nm,1.0s
PHWY Pilot Hill 21.17 111 eP P 00 51 39.9 +1.8
7.4nm,1.0s
U15A North Rim 21.21 131 eP P 00 51 38.7 +0.2
32nm,1.1s
PV23 Carpenter Ridg 21.23 122 eP P 00 51 39.6 +0.9
20nm,1.1s
PV14 Lion Creek, Pa 21.28 122 eP P 00 51 39.0 -0.3
22nm,1.1s
PV04 Paradox Valley 21.32 122 eP P 00 51 44.6 +4.9
19nm,1.2s
PV19 Morning Glory 21.35 122 eP P 00 51 39.9 0.0
21nm,1.1s
PV16 Nyswonger Mesa 21.38 122 eP P 00 51 41.1 +0.8
19nm,1.3s
PV17 East Wray Mesa 21.38 122 eP P 00 51 41.2 +0.9
17nm,1.1s
PV07 Paradox Valley 21.43 122 eP P 00 51 41.7 +0.9
24nm,1.3s
PV12 Saucer Basin, 21.43 122 eP P 00 51 43.9 +3.0
11nm,0.9s
PV03 Paradox Valley 21.46 122 eP P 00 51 43.2 +2.1
13nm,1.1s
PV13 Radium Mtn., P 21.55 122 eP P 00 51 42.5 +0.4
28nm,1.3s
MURC Murrieta 21.64 145 P P 00 51 41.2 -1.7
baz=335
PV01 Paradox Valley 21.69 122 eP P 00 51 45.3 +1.7
17nm,1.1s
BELC Belle Mtn. Jos 21.72 142 P P 00 51 42.1 -1.8
baz=333
SMCO Snowmass 21.78 118 eP P 00 51 45.1 +0.4
12nm,1.1s
PFO Pinyon Flats O 21.90 143 P P 00 51 42.9 -2.9
1.5nm,0.4s,baz=298,slow=19,SNR=2.5
IRM Iron Mountain 21.91 140 P P 00 51 44.3 -1.5
baz=332,SNR=11
ISCO Idaho Springs 22.09 114 P P 00 51 46.3 -1.6
baz=314
FCC Fort Churchill 22.09 58 eP P 00 51 48.3 +0.8
24nm,1.1s
PDMCI Parker Dam,Lak 22.19 138 P P 00 51 47.8 -0.9
baz=331
BC3 Big Chuckawall 22.24 141 P P 00 51 48.1 -1.3
baz=333
WUAZ Wupatki 22.38 131 eP P 00 51 51.0 +0.1
33nm,1.4s
WUAZ Wupatki 22.38 131 P P 00 51 50.1 -0.8
baz=326
MVCO Mesa Verde 22.43 123 eP P 00 51 51.5 -0.1
23nm,1.4s
MVCO Mesa Verde 22.43 123 P P 00 51 51.2 -0.4
baz=321
Y12C Blythe 22.52 139 P P 00 51 51.5 -0.8
baz=332
ULM Lac du Bonnet 22.53 81 eP P 00 51 53.5 +1.3
20nm,1.1s
ULM Lac du Bonnet 22.53 81 P P 00 51 52.1 -0.1
3.7nm,1.0s,baz=297,slow=11,SNR=4.7
MONP2 Monument Peak 22.56 144 P P 00 51 51.7 -1.2
baz=335
BAR Barrett 22.66 145 eP P 00 51 59.5 +5.7
9.5nm,1.1s
SWSC Sam W. Stewart 22.74 143 P P 00 51 53.1 -1.5
baz=334
IKP In-Ko-Pah, Jac 22.89 144 P P 00 51 55.3 -0.9
baz=335
S22A 4UR Ranch, Cre 22.90 120 eP P 00 51 57.0 +0.5
40nm,1.7s
S22A 4UR Ranch, Cre 22.90 120 P P 00 51 55.5 -1.1
baz=318,SNR=11
GLA Glamis 23.01 141 eP P 00 52 01.7 +4.2
22nm,1.1s
GLA Glamis 23.01 141 P P 00 51 55.8 -1.7
baz=333
AGMN Agassiz Nation 23.26 86 eP P 00 51 57.2 -2.7
12nm,1.1s
AGMN Agassiz Nation 23.26 86 P P 00 51 59.1 -0.8
baz=294
X16A La Mia Camp, P 23.26 133 eP P 00 52 01.0 +0.8
7.3nm,1.4s
OGNE Ogallala 23.38 108 P P 00 52 00.6 -0.6
baz=310
W18A Petrified Fore 23.47 129 P P 00 52 02.3 0.0
baz=325
SDCO Great Sand Dun 23.61 118 eP P 00 52 03.6 -0.1
13nm,1.4s
SDCO Great Sand Dun 23.61 118 P P 00 52 03.1 -0.6
baz=318
113A Mohawk Valley, 23.68 139 eP P 00 52 08.4 +4.2
15nm,1.4s
X18A Snowflake 23.85 130 eP P 00 52 07.4 +1.4
21nm,1.0s
T25A Trinidad 24.64 117 P P 00 52 12.1 -1.2
baz=318
214A Organ Pipe Nat 24.78 138 P P 00 52 13.8 -0.6
baz=332
ECSD EROS Data Cent 24.98 96 eP P 00 52 13.3 -2.8
29nm,1.8s
ECSD EROS Data Cent 24.98 96 P P 00 52 14.6 -1.5
baz=303
TASM ASL Pad, Albuq 25.23 124 P P 00 52 17.3 -1.3
baz=322
TASM ASL Pad, Albuq 25.23 124 P P 00 52 16.9 -1.8
baz=322
ANMO Albuquerque 25.23 124 eP P 00 52 17.1 -1.5
3.7nm,0.9s
ANMO Albuquerque 25.23 124 P P 00 52 17.2 -1.4
baz=322
ANMO Albuquerque 25.23 124 P P 00 52 17.3 -1.4
0.6nm,0.6s,baz=309,slow=14,SNR=2.9
LAZ Ladron 25.31 126 eP P 00 52 21.4 +2.0
LAZ eP sP 00 52 26.6 +2.6
TUC Tucson 25.33 134 eP P 00 52 19.9 +0.5
13nm,1.4s
TUC Tucson 25.33 134 P P 00 52 18.7 -0.8
baz=329
BNM Barren Site 25.77 125 eP P 00 52 25.4 +1.9
EYMN Ely 26.07 84 eP P 00 52 28.5 +2.6
32nm,1.2s
EYMN Ely 26.07 84 P P 00 52 24.9 -1.0
baz=296
121A Cookes Peak, D 26.52 129 P P 00 52 29.3 -1.0
baz=326
RES Resolute Bay 26.87 21 eP P 00 52 31.4 -1.4
14nm,1.4s
RES Resolute Bay 26.87 21 P P 00 52 32.6 -0.2
1.2nm,0.9s,baz=236,slow=12,SNR=6.5
MNTX Cornudas Mount 28.36 126 eP P 00 52 46.3 -0.4
5.8nm,1.1s
MNTX Cornudas Mount 28.36 126 P P 00 52 46.0 -0.7
baz=325
TXAR Lajitas Array 31.14 127 P P 00 53 10.3 -1.1
1.1nm,0.8s,baz=330,slow=7.4,SNR=13
U40A Yellville 31.79 105 P P 00 53 16.5 -0.5
baz=313
S42A Caledonia 32.09 101 P P 00 53 18.7 -0.8
baz=311
K46A Dorr 32.17 89 P P 00 53 18.9 -1.2
baz=304
WHTX Lake Whitney, 32.29 116 P P 00 53 20.5 -0.8
baz=320
MIAR Mount Ida 32.62 108 P P 00 53 23.4 -0.8
baz=316
P45A Graceland, Par 32.82 95 eP P 00 53 28.9 +2.9
17nm,1.0s
P45A Graceland, Par 32.82 95 P P 00 53 25.6 -0.3
baz=308
S48A Wiedeman Farm, 35.02 96 P P 00 53 44.6 -0.5
baz=310
OXF Oxford 35.10 104 P P 00 53 45.2 -0.6
baz=314
LNIG Linares 36.90 126 eP P 00 54 05.6 +4.4
6.6nm,1.0s
SUMG Summit 42.05 27 eP P 00 54 47.2 +3.1
24nm,1.2s
NRIK Norii'sk 55.13 344 P P 00 56 24.4 +0.1
1.7nm,0.4s,baz=28,slow=7.1,SNR=2.2
H11N2 WAKE ISLAND Hy 57.04 259 T T 01 58 45.3
baz=39,slow=76,SNR=99
H11N3 WAKE ISLAND Hy 57.04 259 T T 01 58 45.5
baz=39,slow=76,SNR=110
H11N1 WAKE ISLAND Hy 57.06 259 T T 01 58 46.6
baz=39,slow=76,SNR=82
NB2 NORSAR Subarra 63.12 19 P P 00 57 25.5 +5.7
comp=Z,5.5nm,1.1s,baz=339,slow=6.9
NOA NORSAR Array B 63.12 19 P P 00 57 19.9 +0.2
comp=Z,0.5nm,0.8s,baz=338,slow=6.6,SNR=2.6
FIA1 FINESS Array S 65.13 11 eP P 00 57 35.1 +2.3
FINES FINESS Array B 65.13 11 P P 00 57 32.8 0.0
comp=Z,1.0nm,0.9s,baz=317,slow=12,SNR=2.4
KLMR Klimovskoe 66.85 5 eP P 00 57 48.3 +4.4
KLMR AMP 00 57 58.7
comp=Z,16nm,1.6s
ZALV Zalesovo Beam 69.63 338 P P 00 57 59.7 -1.8
comp=Z,0.5nm,0.3s,baz=20,slow=4.6,SNR=2.4
ARU Arti 71.14 354 eP P 00 58 10.0 -0.7
comp=Z,9.6nm,0.8s
HHC Hu-ho-hao-te 72.03 314 eP P 00 58 20.1 +3.6
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.6s
BVAR Borovoye Array 73.24 346 P P 00 58 22.8 -0.6
comp=Z,0.6nm,0.8s,baz=18,slow=6.8,SNR=3.6
KURBB Kurchatov Arra 74.11 340 P P 00 58 27.5 -1.0
comp=Z,0.8nm,0.9s,baz=19,slow=5.8,SNR=4.8
GERES GERESS Array B 74.95 23 P P 00 58 34.5 +1.0
comp=Z,0.1nm,0.3s,baz=336,slow=2.2,SNR=2.8
AKASG Malin Array Be 76.01 12 P P 00 58 37.8 -1.6
comp=Z,0.3nm,0.3s,baz=8.0,slow=6.2,SNR=3.3
MKAR Makanchi Array 76.88 337 P P 00 58 42.7 -1.8
comp=Z,1.2nm,0.9s,baz=19,slow=4.1,SNR=3.6
MK01 Makanchi Array 76.89 337 eP P 00 58 47.9 +3.4
WMQ Urumqi 78.19 332 eP P 00 58 57.4 +5.5
WMQ pP PcP 00 59 02.5 +1.1
WMQ sP sP 00 59 06.5 +10
WMQ LR LR
comp=N,49nm,18.7s
WMQ LR LR
comp=E,70nm,22.1s
WMQ LR LR
comp=Z,59nm,23.7s
LZH Lanzhou 79.32 317 eP P 00 59 00.3 +1.9
LZH pP PcP 00 59 06.0 -0.6
LZH sP sP 00 59 09.5 +6.5
LZH PP PP 01 02 09.1 +12
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,68nm,4.3s
CD2 Chengdu 83.79 314 P P 00 59 24.8 +2.9
CD2 pmax pmax
comp=Z,3.0nm,0.5s
KSH Kashi 85.24 339 P P 00 59 36.8 +7.6
KSH PP PP 01 02 55.8 +10
KSH Kashi 85.24 339 S S 01 10 06.3 +7.2
KSH Kashi 85.24 339 sS sS 01 10 15.1 +10
KSH pmax pmax
comp=Z,73nm,6.8s
KSH LR LR
comp=N,77nm,12.4s
KSH LR LR
comp=E,75nm,9.0s
LPAZ La Paz 87.79 120 P P 00 59 39.5 -3.0
comp=E,1.1nm,0.8s,baz=0.0,slow=7.1,SNR=3.7

IDC ***15*** *00:55:39.9±0.6, 52°.39N×132°.03W, h0km, mb3.9/17, mb1 4.0/26, mb1mx4.0/50, mbtmp3.9/26, ML3.5/8, MS3.7/23, Ms1 3.7/23, ms1mx3.5/46, Error ellipse: s-maj=11.3km s-min=5.8km az=44.0*

PGC ***15*** *00:55:40.0±3.2, 52°.29N×132°.04W, h33km, ML4.0/16, Mw4.5, 108km Ssw of Sandspit, Bc Haida Gwaii Region*

ISCJB ***15*** *00:55:43.1±0.5, 52°.44N±0°.02×131°.97W±0°.05, h27km±3km, mb4.3/68, MS3.7/18, Error ellipse: s-maj=6.3km s-min=2.3km az=145.9*

NEIC ***15*** *00:55:43.5±0.3, 52°.43N×132°.10W, h10km, mb4.4/107, MW4.5(OTT), Error ellipse: s-maj=8.4km s-min=2.7km az=54.0*

ISC 15 00:55:43.8±0.5, **52°.42N**±0°.04×**131°.97W**±0°.04, **h21**km±1km, **n300**, σ2s**05**/292, **mb4.4**/68, **MS3.8**/19, **Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.20**	**40**	P	**Pb**	**00 55 49.0**	**-0.7**
BNB				S	**Sb**	**00 55 54.9**	**+0.9**
HG3B	**Hotspring**	**0.36**	**64**	P	**Pb**	**00 55 51.0**	**-0.2**
HG3B				S	**Sb**	**00 55 57.0**	**+0.7**
HG4B	**Hotspring**	**0.49**	**105**	P	**Pb**	**00 55 51.3**	**-2.3**
HG4B				S	**Sb**	**00 55 57.5**	**-2.8**
HG1B	**Mitchell Dam**	**0.52**	**349**	P	**Pb**	**00 55 52.4**	**-1.9**
HG1B				S	**Sb**	**00 56 02.1**	**+0.7**
MOBC	**Moresby Island**	**0.72**	**360**	Pg	**Pb**	**00 55 56.2**	**-1.5**
MOBC	**Moresby Island**	**0.72**	**360**	P	**Pb**	**00 55 56.2**	**-1.5**
MOBC				S	**Sb**	**00 56 08.0**	**+0.8**
DIB	**Dawson Inlet,**	**0.84**	**339**	ePg	**Pb**	**00 55 57.0**	**-2.7**
DIB	**Dawson Inlet,**	**0.84**	**339**	P	**Pb**	**00 55 56.5**	**-3.2**
DIB				S	**Sb**	**00 56 08.3**	**-2.1**
H02S1	**DAWSON INLET T**	**0.84**	**339**	Pg	**Pb**	**00 55 56.3**	**-3.3**
H02S1				Lg	Lg	00 56 08.6	
	SNR=2171						
NDB	**Naden**	**1.64**	**340**	Pn	**Pn**	**00 56 08.2**	**-3.2**
RUBB	**Prince Rupert**	**2.17**	**28**	Pn	**Pn**	**00 56 15.1**	**-3.4**
BBB	**Bella Bella**	**2.38**	**94**	ePn	**Pn**	**00 56 22.6**	**+1.1**
BBB				Sn	**Sn**	**00 56 47.5**	**-2.4**
BBB	**Bella Bella**	**2.38**	**94**	Pn	**Pn**	**00 56 19.1**	**-2.4**
	10nm,0.3s,baz=272,slow=14,SNR=12						
BBB				Pg	**Pb**	**00 56 24.9**	**-0.9**
	43nm,0.3s,baz=284,slow=17,SNR=22						
BBB				Sn	**Sn**	**00 56 47.5**	**-2.4**
	34nm,0.3s,baz=270,slow=20,SNR=6.9						
BBB				Lg	Lg	00 56 54.2	
	70nm,0.3s,baz=18,slow=19,SNR=8.8						
HOLB	**Holberg**	**2.99**	**125**	Pn	Pn	00 56 23.6	-6.3
HOLB				Sn	**Sn**	**00 56 57.5**	**-7.5**
CRAG	**Craig**	**3.13**	**348**	ePn	**Pn**	**00 56 34.4**	**+2.7**
PHC	**Port Hardy**	**3.31**	**119**	Pn	**Pn**	**00 56 29.6**	**-4.7**
PHC				Sn	**Sn**	**00 57 05.6**	**-7.3**
PACB	**Port Alice, BC**	**3.44**	**124**	Pn	Pn	00 56 30.3	-5.6
BPBC	**Brooks Peninsu**	**3.48**	**129**	Pn	Pn	00 56 31.0	-5.6
MAYB	**Maynard**	**3.62**	**122**	Pn	Pn	00 56 33.5	-5.1
TLCB	**Telegraph Cove**	**3.72**	**118**	Pn	**Pn**	**00 56 35.5**	**-4.4**
TLCB				Sn	**Sn**	**00 57 16.8**	**-6.1**
WRAK	**Wrangell Islan**	**4.01**	**357**	ePn	**Pn**	**00 56 43.4**	**-0.5**
WOSB	**Woss**	**4.07**	**122**	Pn	**Pn**	**00 56 40.4**	**-4.4**
NCRB	**Newcastle Ridg**	**4.22**	**116**	Pn	Pn	00 56 41.6	-5.3
CBB	**Campbell River**	**4.79**	**117**	Pn	**Pn**	**00 56 50.4**	**-4.2**
FSB	**Fort Saint Jam**	**5.01**	**63**	Pn	**Pn**	**00 56 57.5**	**-0.2**
SIT	**Sitka**	**5.04**	**339**	ePn	**Pn**	**00 56 60.0**	**+2.1**
JIS	**Juneau Island**	**6.03**	**348**	ePn	**Pn**	**00 57 11.2**	**-0.3**
DLBC	**Dease Lake**	**6.13**	**10**	Pn	**Pn**	**00 57 14.3**	**+1.2**
DLBC	**Dease Lake**	**6.13**	**10**	Pn	**Pn**	**00 57 14.2**	**+1.2**
	1.8nm,0.3s,baz=200,slow=10,SNR=16						
DLBC				Sn	**Sn**	**00 58 21.8**	**-0.7**
	1.0nm,0.3s,baz=217,slow=14,SNR=3.3						
DLBC				Lg	Lg	00 58 54.0	
	1.2nm,0.3s,baz=156,slow=20,SNR=4.1						
DLBC				LR	LR	00 59 53.5	
	comp=Z,2μm,18.2s,baz=221,slow=41						
BESE	**Bessie Mountai**	**6.39**	**346**	ePn	**Pn**	**00 57 15.4**	**-1.1**
BESE	**Bessie Mountai**	**6.39**	**346**	Sn	**Sn**	**00 58 23.1**	**-5.7**
LLLB	**Lillooet**	**6.55**	**102**	ePn	**Pn**	**00 57 22.2**	**+3.4**
PGC	**Sidney**	**6.61**	**121**	ePn	**Pn**	**00 57 23.0**	**+3.5**
WHY	**Whitehorse**	**8.41**	**350**	ePn	**Pn**	**00 57 44.4**	**0.0**
LON	**Longmire**	**8.70**	**127**	ePn	**Pn**	**00 57 52.4**	**+4.1**
BALM	**Baldy**	**10.33**	**331**	ePn	**Pn**	**00 58 10.8**	**+0.2**
NEW	**Newport**	**10.36**	**108**	Pn	**Pn**	**00 58 11.5**	**+0.5**
	baz=306,slow=17,SNR=1.4						
NEW				Lg	Lg	01 01 07.1	
	0.1nm,0.3s,baz=16,slow=18,SNR=2.1						
NEW				LR	LR	01 02 11.5	
	comp=Z,122nm,21.7s,baz=297,slow=38						
CRQM	**Cirque**	**10.36**	**328**	ePn	**Pn**	**00 58 11.8**	**+0.7**
I03D	**Drain, OR**	**10.46**	**143**	P	**Pn**	**00 58 13.2**	**+0.9**
	baz=329						
J01E	**Myrtle Point**	**10.72**	**147**	P	**Pn**	**00 58 17.1**	**+1.2**
	baz=332						
I04A	**Tendick Farm,**	**10.73**	**140**	P	**Pn**	**00 58 17.0**	**+0.9**
	baz=327						
I05D	**Terrebonne, OR**	**10.73**	**135**	P	**Pn**	**00 58 16.6**	**+0.5**
	baz=322						
G08A	**Pilot Rock**	**11.14**	**125**	ePn	**Pn**	**00 58 23.2**	**+1.5**
K02D	**Willamette Mer**	**11.22**	**147**	P	**Pn**	**00 58 24.6**	**+1.7**
	baz=333						
J04D	**Umpqua Nationa**	**11.31**	**140**	P	**Pn**	**00 58 25.6**	**+1.3**
	baz=328						
PINE	**Pine Mountain**	**11.34**	**135**	ePn	**Pn**	**00 58 28.3**	**+3.7**
HUMO	**Hull Mountain**	**11.54**	**145**	ePn	**Pn**	**00 58 30.4**	**+3.1**
J05D	**Fort Rock, OR**	**11.63**	**138**	P	**Pn**	**00 58 29.5**	**+1.0**
	baz=325,SNR=12						
L02E	**Cave Junction**	**11.72**	**148**	P	**Pn**	**00 58 31.9**	**+2.3**
	baz=334						
I07A	**Izee**	**11.76**	**130**	ePn	**Pn**	**00 58 31.9**	**+1.6**
KLU	**Klutina**	**11.83**	**326**	ePn	**Pn**	**00 58 30.8**	**-0.3**
WALA	**Waterton Lakes**	**11.92**	**99**	ePn	**Pn**	**00 58 35.5**	**+3.0**
K04D	**Chiloquin, OR**	**11.98**	**141**	P	**Pn**	**00 58 34.8**	**+1.6**
	baz=328						
L04D	**Klamath Falls**	**12.12**	**144**	P	**Pn**	**00 58 36.9**	**+1.7**
	baz=330						
KRMB	**Red Mountain**	**12.20**	**150**	ePn	**Pn**	**00 58 38.5**	**+2.2**
BMO	**Blue Mountains**	**12.29**	**122**	ePn	**Pn**	**00 58 41.6**	**+4.2**
DAWY	**Dawson**	**12.30**	**345**	ePn	**Pn**	**00 58 40.3**	**+2.9**
YBH	**Yreka Blue Hor**	**12.40**	**146**	ePn	**Pn**	**00 58 42.9**	**+3.9**
YBH	**Yreka Blue Hor**	**12.40**	**146**	Pn	**Pn**	**00 58 38.8**	**-0.2**
	0.1nm,0.3s,baz=335,slow=13,SNR=7.5						
YBH				LR	LR	01 02 35.2	
	comp=Z,448nm,21.2s,baz=332,slow=34						
SCM	**Sheep Creek Mo**	**12.56**	**325**	ePn	**Pn**	**00 58 41.7**	**+0.7**
M02C	**Callahan**	**12.66**	**147**	P	**Pn**	**00 58 44.4**	**+1.9**
	baz=334						
M04C	**Macdoel**	**12.67**	**143**	P	**Pn**	**00 58 44.0**	**+1.3**
	baz=330						
J08A	**Circle Bar Ran**	**12.79**	**130**	ePn	**Pn**	**00 58 47.0**	**+2.6**
KHMM	**Horse Mountain**	**12.85**	**151**	ePn	**Pn**	**00 58 46.5**	**+1.3**
SML	**Sawmill**	**12.90**	**323**	ePn	**Pn**	**00 58 46.4**	**+0.8**
KDAK	**Kodiak Island**	**12.94**	**303**	LR	LR	01 02 33.5	
	comp=Z,164nm,19.4s,baz=114,slow=32						
N02D	**Trinity Center**	**13.08**	**147**	P	**Pn**	**00 58 49.8**	**+1.5**
	baz=334						
MOD	**Modoc Plateau**	**13.16**	**138**	ePn	**Pn**	**00 58 51.4**	**+2.0**
WVOR	**Wild Horse Val**	**13.44**	**133**	ePn	**Pn**	**00 58 57.6**	**+4.4**
WDC	**Whiskeytown Da**	**13.49**	**148**	ePn	**Pn**	**00 58 57.3**	**+3.5**
YKA	**Yellowknife Ar**	**13.70**	**36**	Pn	**Pn**	**00 58 55.7**	**-0.8**
	0.2nm,0.3s,baz=227,slow=12,SNR=58						
YKA				Lg	Lg	01 02 50.4	
	baz=233,slow=22,SNR=3.0						
YKW3	**Yellowknife Ar**	**13.74**	**36**	ePn	**Pn**	**00 58 56.4**	**-0.6**
O02D	**Mt. Diablo Mer**	**13.78**	**149**	P	**Pn**	**00 58 59.5**	**+1.7**
	baz=336						
O03E	**Paynes Creek**	**13.99**	**146**	P	**Pn**	**00 59 02.9**	**+2.1**
	baz=333						
RND	**Reindeer**	**14.14**	**328**	ePn	**Pn**	**00 59 03.9**	**+1.3**
MCK	**McKinley**	**14.39**	**329**	ePn	**Pn**	**00 59 07.9**	**+1.8**
IL1	**Eielson Array**	**14.56**	**334**	ePn	**Pn**	**00 59 08.9**	**+0.6**
ILAR	**Eielson Array**	**14.56**	**334**	Pn	**Pn**	**00 59 06.9**	**-1.4**
	0.1nm,0.3s,baz=150,slow=12,SNR=3.5						
ILB	**Eielson Array**	**14.56**	**334**	ePn	**Pn**	**00 59 10.0**	**+1.7**
TRF	**Thorofare Moun**	**14.65**	**326**	ePn	**Pn**	**00 59 13.3**	**+0.6**
WRH	**Wood River Hil**	**14.67**	**332**	ePn	**Pn**	**00 59 11.1**	**+1.3**
CCB	**Clear Creek Bu**	**14.72**	**332**	ePn	**Pn**	**00 59 12.9**	**+2.5**
ORV	**Oroville**	**14.76**	**147**	ePn	**P**	**00 59 15.8**	**-1.1**
EGMT	**Eagleton**	**14.86**	**98**	ePn	**P**	**00 59 16.5**	**-1.7**
EGMT	**Eagleton**	**14.86**	**98**	P	**Pn**	**00 59 10.8**	**-1.8**
	baz=296						
MDM	**Murphy Dome**	**15.08**	**333**	ePn	**P**	**00 59 17.9**	**-2.5**
BPAW	**Bear Paw Mtn.**	**15.31**	**327**	ePn	**P**	**00 59 21.3**	**-1.7**
	50nm,1.7s						
PAHR	**Pah Rah Range**	**15.39**	**141**	ePn	**Pn**	**00 59 21.0**	**+1.3**
	30nm,1.2s						
AFDM	**Forest Hills D**	**15.48**	**146**	ePn	**P**	**00 59 23.7**	**-1.4**
	31nm,1.2s						
SVW2	**Sparrevohn**	**15.51**	**313**	ePn	**P**	**00 59 23.2**	**-2.0**
	36nm,1.6s						
FYU	**Fort Yukon**	**15.64**	**340**	ePn	**P**	**00 59 24.6**	**-1.9**
	33nm,1.2s						
BMN	**Battle Mountai**	**15.68**	**134**	ePn	**P**	**00 59 28.3**	**+0.9**
	36nm,1.2s						
PNTR	**Pine Nut**	**15.85**	**142**	ePn	**P**	**00 59 29.9**	**+0.6**
	29nm,1.2s						
MLY	**Manley**	**15.87**	**330**	ePn	**P**	**00 59 28.0**	**-1.2**
	56nm,1.6s						
YHH	**Holmes Hill**	**15.88**	**110**	ePn	**P**	**00 59 30.7**	**+1.0**
	11nm,1.2s						
INK	**Inuvik**	**15.96**	**358**	ePn	**Pn**	**00 59 28.2**	**+1.6**
	14nm,1.0s						
INK				ePcP	**PcP**	**01 04 27.8**	**+4.8**
INK	**Inuvik**	**15.96**	**358**	Pn	**Pn**	**00 59 26.0**	**-0.6**
	0.0nm,0.3s,baz=180,slow=19,SNR=1.8						
INK				Lg	Lg	01 04 06.3	
	0.0nm,0.3s,baz=86,slow=19,SNR=2.3						
GCMT	**Greycliff**	**16.00**	**106**	ePn	**P**	**00 59 31.2**	**+0.3**
YERR	**Yerington**	**16.08**	**142**	ePn	**P**	**00 59 31.4**	**-0.4**
	24nm,1.3s						
H17A	**Grant Village**	**16.27**	**111**	ePn	**P**	**00 59 35.5**	**+1.5**
	46nm,1.5s						
ELK	**Elko**	**16.34**	**129**	ePn	**P**	**00 59 35.9**	**+1.1**
	18nm,1.1s						
ELK	**Elko**	**16.34**	**129**	Pn	**Pn**	**00 59 32.2**	**+0.2**
	0.1nm,0.3s,baz=340,slow=5.9,SNR=9.7						
ELK				LR	LR	01 05 27.6	
	comp=Z,160nm,21.2s,baz=324,slow=36						
IMW	**Indian Meadow**	**16.37**	**113**	ePn	**P**	**00 59 36.7**	**+1.5**
	28nm,1.5s						
FLWY	**Flagg Ranch**	**16.39**	**112**	ePn	**P**	**00 59 35.9**	**+0.5**
	35nm,1.5s						
WAKR	**Walker**	**16.42**	**143**	ePn	**P**	**00 59 36.4**	**+0.7**
	44nm,1.4s						
KVN	**Kaiserville**	**16.47**	**139**	ePn	**Pn**	**00 59 34.8**	**+1.3**
	25nm,1.1s						

FXWY **Fox Creek** 16.49 114 *e*Pn P 00 59 36.7 +0.3
6.3nm,1.0s
CMB **Columbia Colle** 16.51 146 *e*Pn P 00 59 35.8 -0.6
22nm,1.3s
MOOW **Moose Ponds** 16.57 113 *e*Pn P 00 59 39.1 +1.8
22nm,1.5s
RLMT **Red Lodge** 16.61 107 *e*Pn P 00 59 38.6 +1.0
22nm,1.4s
RLMT **Red Lodge** 16.61 107 P Pn 00 59 33.1 -2.1
baz=304
TPAW **Teton Pass** 16.62 114 *e*Pn P 00 59 39.9 +2.0
23nm,1.4s
RYN **Ryan** 16.66 141 *e*Pn P 00 59 37.3 -1.0
21nm,1.3s
LOHW **Long Hollow** 16.74 113 *e*Pn P 00 59 41.7 +2.5
14nm,1.3s
REDW **Red Top Meadow** 16.76 114 *e*Pn P 00 59 42.5 +3.1
35nm,1.4s
HVU **Hansel Valley** 16.80 122 *e*Pn P 00 59 41.6 +1.8
6.9nm,1.2s
NV01 **Mina Array Sit** 16.92 140 *e*Pn Pn 00 59 40.0 +0.7
NVAR **Mina Array Bea** 16.92 140 Pn Pn 00 59 39.0 -0.3
0.1nm,0.3s,baz=324,slow=11,SNR=13
NV11 **Mina Array Sit** 16.98 140 *e*Pn P 00 59 41.9 +0.2
2.4nm,1.4s
BGU **Big Grassy Mou** 17.29 124 *e*Pn P 00 59 46.1 +0.9
8.1nm,1.2s
COLD **Coldfoot** 17.33 336 *e*Pn P 00 59 45.6 +0.3
7.1nm,1.1s
OMMB **Old Mammoth Mi** 17.37 143 *e*Pn P 00 59 48.4 +2.1
8.5nm,1.2s
IM3 **Indian Mountai** 17.44 330 *e*Pn Pn 00 59 44.5 -0.8
BW06 **Boulder Array** 17.87 114 *e*Pn P 00 59 52.6 +0.9
10nm,1.3s
BW06 **Boulder Array** 17.87 114 P Pn 00 59 50.2 -0.9
baz=310
PD31 **Pinedale Array** 17.87 114 *e*Pn P 00 59 55.8 +4.1
9.3nm,1.3s
PDAR **Pinedale Array** 17.87 114 *e*Pn P 00 59 54.4 +2.7
PDAR **Pinedale Array** 17.87 114 P P 00 59 51.7 0.0
0.1nm,0.3s,baz=299,slow=9.8,SNR=11
FFC **Flin Flon** 17.89 71 *e*Pn P 00 59 53.7 +2.2
20nm,1.3s
DUG **Dugway, Tooele** 17.95 125 *e*Pn P 00 59 53.1 +0.7
10.0nm,1.1s
DUG **Dugway, Tooele** 17.95 125 P Pn 00 59 50.7 -1.2
baz=319
DGMT **Dagmar** 18.07 92 *e*Pn P 00 59 55.9 +2.3
105nm,1.7s
DGMT **Dagmar** 18.07 92 P Pn 00 59 51.1 -2.2
baz=293
R11A **Troy Canyon, C** 18.11 134 *e*Pn Pn 00 59 53.7 -0.4
20nm,1.2s
R11A **Troy Canyon, C** 18.11 134 P Pn 00 59 53.5 -0.6
baz=326,SNR=31
TOLK **Toolik Lake Re** 18.30 339 *e*Pn P 00 59 57.7 +1.7
26nm,1.4s
TOLK **Toolik Lake Re** 18.30 339 P Pn 00 59 52.3 -3.7
baz=144,SNR=5.5
NLU **North Lily Min** 18.50 124 *e*P Pn 00 59 59.2 +0.4
7.9nm,1.1s
GRAC **Grapevine Rang** 18.53 141 P Pn 00 59 59.4 +0.3
baz=331,SNR=12
PAGB **Antelope Grade** 18.65 149 *e*P Pn 01 00 02.6 +2.1
28nm,1.2s
PSUT **Pine Spring** 18.75 131 *e*P Pn 01 00 01.8 0.0
11nm,1.1s
CWC **Cottonwood Cre** 18.75 143 P P 01 00 01.6 +0.2
baz=333
TPNV **Topopah Spring** 19.02 138 *e*P Pn 01 00 05.9 +0.9
51nm,1.6s
TPNV **Topopah Spring** 19.02 138 P P 01 00 04.1 -0.1
baz=329,SNR=9.4
SMMC **Simmler** 19.11 149 P Pn 01 00 05.9 -0.1
baz=337
FURC **Furnace Creek,** 19.19 140 P P 01 00 06.4 +0.5
baz=331
ISA **Isabella, Lake** 19.30 145 P P 01 00 06.9 -0.3
baz=334
MPMC **Manual Prospec** 19.31 142 P P 01 00 07.5 +0.1
baz=332
TCRU **Three Creeks R** 19.35 128 *e*P Pn 01 00 10.4 +1.3
43nm,1.9s
TMUT **Trail Mountain** 19.44 124 *e*P Pn 01 00 10.3 +0.1
12nm,1.3s
P17A **Butcher Ranch,** 19.54 123 *e*P Pn 01 00 11.6 +0.3
11nm,1.1s
MSU **Marysvale** 19.56 127 *e*P Pn 01 00 11.3 -0.3
PKM **Mcpherson Peak** 19.56 149 P P 01 00 10.3 +0.1
baz=337
ARVC **Arvin** 19.66 146 P P 01 00 11.3 +0.2
baz=336
K22A **Casper** 19.67 110 *e*P Pn 01 00 14.5 +1.7
71nm,1.8s
P18A **Preston Nutter** 19.68 122 *e*P P 01 00 13.2 +1.5
12nm,1.2s
P18A *e*Pn Pn 01 00 19.0 +5.9
Q16A **Castle Valley** 19.74 125 *e*P Pn 01 00 13.9 +0.2
14nm,1.2s
CCUT **Cedar City** 19.77 131 *e*P P 01 00 13.0 +0.5
31nm,1.3s
SHPR **Sheep Range** 19.85 137 *e*P P 01 00 13.8 +0.5
31nm,1.6s
SZCU **Shurtz Canyon** 19.86 131 *e*P P 01 00 13.9 +0.5
SRU **San Rafael Swe** 19.92 123 *e*P Pn 01 00 16.0 +0.2
29nm,1.2s
MTPU **Mount Pierson** 19.93 128 *e*P Pn 01 00 15.9 -0.2
28nm,1.7s
EDW2 **Edwards Air Fo** 20.18 145 P P 01 00 17.0 +0.3
baz=334
GSC **Goldstone, Bar** 20.24 142 *e*P P 01 00 18.0 +0.6
28nm,1.3s
GSC **Goldstone, Bar** 20.24 142 P P 01 00 17.1 -0.4
baz=332,SNR=8.7
RSSD **Black Hills** 20.26 103 *e*P Pn 01 00 19.7 -0.1
6.5nm,1.0s
LCMT **Little Creek M** 20.26 132 *e*P P 01 00 18.4 +0.6
34nm,1.2s
PKCU **Pink Cliffs** 20.34 130 *e*P Pn 01 00 20.0 -1.0
37nm,1.1s
O20A **White River Ci** 20.38 118 *e*P Pn 01 00 21.7 +0.4
23nm,1.1s
O20A **White River Ci** 20.38 118 P P 01 00 16.9 -2.2
baz=315
KNB **Kanab** 20.45 131 *e*P P 01 00 21.0 +1.1
22nm,1.3s
TUQ **Turquoise Moun** 20.46 140 P P 01 00 19.6 -0.3
baz=331
HEC **Hector,Ludlow** 20.83 141 P P 01 00 23.3 -0.6
baz=332,SNR=21
BFSC **Mount Baldy Ra** 20.87 145 P P 01 00 23.6 -0.8
baz=335,SNR=6.4
ANM **Nome** 20.96 318 *e*P Pn 01 00 27.8 +0.1
12nm,0.9s
LDFC **Landfair** 21.10 139 *e*P P 01 00 26.6 -0.2
33nm,1.1s
PV09 **Paradox Valley** 21.10 122 *e*P P 01 00 28.2 +1.1
GMRC **Granite Mounta** 21.13 140 P P 01 00 26.5 -0.7
baz=332,SNR=7.1
N23A **Red Feather La** 21.13 113 *e*P P 01 00 30.7 +3.3
14nm,1.1s
N23A **Red Feather La** 21.13 113 P P 01 00 24.1 -3.2
baz=312
PHWY **Pilot Hill** 21.14 111 *e*P P 01 00 30.4 +2.9
14nm,1.3s
U15A **North Rim** 21.18 131 *e*P P 01 00 27.9 +0.1
37nm,1.1s
PV23 **Carpenter Ridg** 21.20 122 *e*P P 01 00 29.1 +1.1
41nm,1.3s
PV10 **Paradox Valley** 21.24 122 *e*P P 01 00 30.9 +2.4
39nm,1.4s
PV14 **Lion Creek, Pa** 21.25 122 *e*P P 01 00 29.4 +0.8
34nm,1.1s
PV04 **Paradox Valley** 21.30 122 *e*P P 01 00 30.0 +1.0
34nm,1.4s
PV19 **Morning Glory** 21.32 122 *e*P P 01 00 30.1 +0.8
32nm,1.2s
PV16 **Nyswonger Mesa** 21.35 122 *e*P P 01 00 30.7 +1.0
14nm,1.0s
PV17 **East Wray Mesa** 21.35 122 *e*P P 01 00 30.6 +0.9
27nm,1.2s
PV11 **David Mesa, Pa** 21.39 122 *e*P P 01 00 31.5 +1.6
24nm,0.9s
PV07 **Paradox Valley** 21.40 122 *e*P P 01 00 31.0 +0.9
30nm,1.4s
PV12 **Saucer Basin,** 21.41 122 *e*P P 01 00 33.2 +2.9
14nm,1.1s
PV03 **Paradox Valley** 21.43 122 *e*P P 01 00 31.4 +0.9
15nm,1.0s
PV05 **Paradox Valley** 21.43 123 *e*P P 01 00 32.2 +1.7
47nm,1.5s
PV13 **Radium Mtn., P** 21.52 122 *e*P P 01 00 31.8 +0.4
29nm,1.2s
PV02 **Paradox Valley** 21.52 122 *e*P P 01 00 34.4 +2.8
17nm,1.0s
PV15 **Paradox Valley** 21.56 121 *e*P P 01 00 33.4 +1.5
28nm,1.2s
W13A **Hualapai Mount** 21.59 136 *e*P P 01 00 32.3 +0.1
15nm,1.1s
PV01 **Paradox Valley** 21.66 122 *e*P P 01 00 33.6 +0.6
26nm,1.2s
BELC **Belle Mtn. Jos** 21.69 142 P P 01 00 32.7 -0.5
baz=333,SNR=8.8
SMCO **Snowmass** 21.75 118 *e*P P 01 00 34.7 +0.6
40nm,1.8s
PFO **Pinyon Flats O** 21.87 143 *e*P P 01 00 40.0 +4.9
PFO **Pinyon Flats O** 21.87 143 P P 01 00 34.6 -0.5
baz=334
PFO **Pinyon Flats O** 21.87 143 P P 01 00 34.4 -0.7
0.9nm,0.4s,baz=346,slow=4.2,SNR=2.4
PFO LR LR 01 08 39.4
comp=Z,171nm,20.3s,baz=332,slow=36
IRM **Iron Mountain** 21.89 140 P P 01 00 34.5 -0.7
baz=332,SNR=11
ISCO **Idaho Springs** 22.06 114 P P 01 00 35.4 -1.9
baz=314
FCC **Fort Churchill** 22.09 58 *e*P P 01 00 38.5 +1.4
29nm,1.1s
PDMCI **Parker Dam,Lak** 22.16 138 P P 01 00 37.4 -0.7
baz=330
BC3 **Big Chuckawall** 22.21 141 P P 01 00 38.1 -0.7
baz=332
WUAZ **Wupatki** 22.35 131 *e*P P 01 00 40.9 +0.6
34nm,1.3s
WUAZ **Wupatki** 22.35 131 P P 01 00 39.2 -1.1
baz=326,SNR=10.0
MVCO **Mesa Verde** 22.40 123 *e*P P 01 00 41.4 +0.4
18nm,1.2s
MVCO **Mesa Verde** 22.40 123 P P 01 00 39.5 -1.5
baz=320
Y12C **Blythe** 22.49 139 *e*P P 01 00 42.1 +0.5
36nm,1.3s
Y12C **Blythe** 22.49 139 P P 01 00 41.3 -0.3
baz=331
ULM **Lac du Bonnet** 22.51 81 *e*P P 01 00 44.1 +2.4
26nm,1.2s
ULM **Lac du Bonnet** 22.51 81 P P 01 00 42.4 +0.7
3.0nm,0.8s,baz=292,slow=11,SNR=4.6
ULM LR LR 01 10 20.6
comp=Z,178nm,19.1s,baz=288,slow=39
MONP2 **Monument Peak** 22.53 144 P P 01 00 41.1 -1.2
baz=325
IKP **In-Ko-Pah, Jac** 22.86 144 P P 01 00 44.7 -1.0
baz=334
S22A **4UR Ranch, Cre** 22.87 120 *e*P P 01 00 46.5 +0.5
35nm,1.5s
S22A **4UR Ranch, Cre** 22.87 120 P P 01 00 45.5 -0.5
baz=318,SNR=8.4
Q24A **Divide** 22.90 115 *e*P P 01 00 49.0 +2.7
17nm,1.6s
Y14A **Wickenburg** 22.95 136 *e*P P 01 00 47.8 +1.2
21nm,1.1s
GLA **Glamis** 22.98 141 P P 01 00 46.4 -0.5
baz=332
X16A **Lo Mia Camp, P** 23.23 133 *e*P P 01 00 51.2 +1.7
8.9nm,1.2s
AGMN **Agassiz Nation** 23.24 86 *e*P P 01 00 52.4 +3.1
19nm,1.4s
GAMB **Gambell** 23.44 314 *e*P P 01 00 52.0 +0.9
15nm,1.4s
W18A **Petrified Fore** 23.44 129 *e*P P 01 00 53.9 +2.2
33nm,1.1s
SDCO **Great Sand Dun** 23.58 118 *e*P P 01 00 53.5 +0.4
12nm,1.4s
SDCO **Great Sand Dun** 23.58 118 P P 01 00 52.8 -0.4
baz=317,SNR=7.7
113A **Mohawk Valley,** 23.65 139 *e*P P 01 00 58.4 +4.9
12nm,1.2s
X18A **Snowflake** 23.82 130 *e*P P 01 00 56.7 +1.4
24nm,1.0s
T25A **Trinidad** 24.62 117 *e*P P 01 01 07.2 +4.6
13nm,1.4s
T25A **Trinidad** 24.62 117 P P 01 01 01.2 -1.5
baz=317
214A **Organ Pipe Nat** 24.75 138 P P 01 01 03.2 -0.5
baz=331,SNR=7.6
ECSD **EROS Data Cent** 24.95 96 *e*P P 01 01 09.2 +3.7
34nm,2.0s
ANMO **Albuquerque** 25.20 124 *e*P P 01 01 11.6 +3.7
23nm,1.9s
ANMO **Albuquerque** 25.20 124 P P 01 01 06.7 -1.2
baz=322
ANMO **Albuquerque** 25.20 124 P P 01 01 07.6 -0.3
0.8nm,0.7s,baz=294,slow=14,SNR=2.8
ANMO LR LR 01 11 12.7
comp=Z,46nm,19.2s,baz=319,slow=37
TUC **Tucson** 25.30 134 *e*P P 01 01 08.8 +0.1
14nm,1.4s
TUC **Tucson** 25.30 134 P P 01 01 08.3 -0.4
baz=329
LENM **Lemitar** 25.56 126 *e*P P 01 01 14.9 +3.7
BNM **Barren Site** 25.74 125 *e*P P 01 01 15.9 +3.0
EYMN **Ely** 26.05 84 *e*P P 01 01 19.1 +3.8
41nm,1.4s
EYMN **Ely** 26.05 84 P P 01 01 12.8 -2.5
baz=295
121A **Cookes Peak, D** 26.49 129 P P 01 01 19.1 -0.5
baz=326
F38A **Pierce - Schro** 26.72 88 P P 01 01 19.3 -2.1
baz=299
319A **Douglas** 26.77 133 *e*P P 01 01 25.6 +3.5
19nm,1.1s
RES **Resolute Bay** 26.88 21 P P 01 01 23.2 +0.7
3.0nm,0.9s,baz=251,slow=10,SNR=7.7
RES LR LR 01 12 23.3
comp=Z,338nm,19.6s,baz=294,slow=37
F40A **Park Falls** 27.81 87 P P 01 01 27.9 -3.3
baz=299
MNTX **Cornudas Mount** 28.33 127 *e*P P 01 01 36.0 0.0
6.1nm,1.1s
MNTX **Cornudas Mount** 28.33 127 P P 01 01 35.6 -0.4
baz=325
WMOK **Wichita Mounta** 29.48 114 P P 01 01 45.4 -0.7
baz=317
I43A **Langenfeld Bro** 30.05 89 P P 01 01 49.1 -1.9
baz=302
Q41A **Truxton** 31.04 99 P P 01 01 58.4 -1.5
baz=309
TX31 **Lajitas Ar. Si** 31.11 127 *e*P P 01 02 01.3 +0.6
TXAR **Lajitas Array** 31.11 127 P P 01 02 00.6 -0.1
1.3nm,0.7s,baz=332,slow=7.1,SNR=20
TXAR LR LR 01 14 37.4
comp=Z,59nm,18.7s,baz=0.0,slow=36
MIAR **Mount Ida** 32.60 108 P P 01 02 13.8 +0.2
baz=315
TULEG **Thule** 33.56 22 *e*P P 01 02 22.9 +1.4
7.8nm,1.0s
S48A **Wiedeman Farm,** 35.00 96 P P 01 02 33.9 -0.5
baz=310
SADO **Sadowa** 35.07 81 LR LR 01 15 33.6
comp=Z,150nm,18.0s,baz=342,slow=34
LNIG **Linares** 36.87 126 *e*P P 01 02 55.0 +4.5
8.5nm,1.2s
SCHQ **Schefferville** 37.46 60 LR LR 01 18 52.7
comp=Z,420nm,18.8s,baz=311,slow=37
V52A **Semerville** 37.68 97 P P 01 02 56.5 -0.9
baz=312
TKL **Tuckaleechee C** 37.70 97 P P 01 02 56.6 -0.9
1.8nm,0.5s,baz=211,slow=3.4,SNR=5.7
V53A **Saluda** 38.27 96 *e*P P 01 03 03.1 +0.6
13nm,1.1s
V53A **Saluda** 38.27 96 P P 01 03 01.9 -0.5
baz=312
W53A **Cullowhee** 38.39 97 P P 01 03 02.5 -1.0
baz=312
SEY **Seymchan** 39.43 316 P P 01 03 10.5 -1.2
0.9nm,0.3s,baz=94,slow=6.0,SNR=6.3
X55A **Gracelyn & Ava** 39.79 96 P P 01 03 13.8 -1.2
baz=313
SUMG **Summit** 42.06 27 *e*P P 01 03 34.8 +1.1
28nm,1.2s
SUMG **Summit** 42.06 27 *i* P P 01 03 34.9 +1.2
24nm,1.1s
SUMG *i* 01 03 41.5
DAG **Danmarks Havn** 44.48 18 *i* P P 01 03 54.1 +1.3
DAG *i* 01 04 00.2

NRIK **Noril'sk** 55.15 344 P P 01 05 11.6 -2.3
1.0nm,0.4s,baz=76,slow=8.3,SNR=2.4
H11N2 **WAKE ISLAND Hy 57.06 259** T T 02 07 31.5
baz=39,slow=76,SNR=36
H11N3 **WAKE ISLAND Hy 57.06 259** T T 02 07 23.8
baz=39,slow=76,SNR=27
H11N1 **WAKE ISLAND Hy 57.07 259** T T 02 07 33.4
baz=39,slow=76,SNR=49
USRK **Ussuriysk Ar.** 59.81 304 P P 01 05 46.4 -0.7
1.7nm,0.8s,baz=90,slow=4.3,SNR=3.3
MJAR **Matsushiro Arr** 61.95 294 LR LR 01 34 58.4
comp=Z,11nm,18.5s,baz=260,slow=38
NB2 **NORSAR Subarra** 63.13 19 P P 01 06 09.7 +0.4
comp=Z,14nm,1.4s,baz=338,slow=6.9
NOA **NORSAR Array B** 63.13 19 P P 01 06 09.8 +0.4
comp=Z,0.9nm,0.8s,baz=338,slow=6.6,SNR=3.7
NOA LR LR 01 35 00.7
comp=Z,118nm,19.7s,baz=335,slow=37
FINES **FINESS Array B** 65.14 11 P P 01 06 21.3 -1.2
comp=Z,1.6nm,0.9s,baz=356,slow=5.7,SNR=4.2
FINES LR LR 01 36 30.7
comp=Z,94nm,18.3s,baz=360,slow=38
SONM **Songino Array** 68.42 322 P P 01 06 43.2 -0.6
comp=Z,0.2nm,0.3s,baz=52,slow=5.9,SNR=4.2
KIRV **Kirov** 69.34 359 LR LR 01 42 44.8
comp=Z,43nm,18.7s,baz=222,slow=41
ZALV **Zalesovo Beam** 69.65 338 P P 01 06 52.1 +1.0
comp=Z,0.8nm,0.3s,baz=23,slow=7.8,SNR=2.3
ZALV LR LR 01 40 03.1
comp=Z,43nm,19.0s,baz=32,slow=38
HHC **Hu-ho-hao-te** 72.06 314 *e*P P 01 07 09.6 +3.5
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,98nm,5.8s
GERES **GERESS Array B** 74.97 23 P P 01 07 23.9 +0.8
comp=Z,0.2nm,0.3s,baz=302,slow=5.6,SNR=3.1
GERES LR LR 01 42 05.6
comp=Z,67nm,19.1s,baz=325,slow=37
AKASG **Malin Array Be** 76.03 12 P P 01 07 28.3 -0.6
comp=Z,0.4nm,0.4s,baz=2.7,slow=5.4,SNR=4.6
AKASG LR LR 01 43 12.2
comp=Z,64nm,19.2s,baz=300,slow=38
MKAR **Makanchi Array** 76.90 337 P P 01 07 32.7 -1.4
comp=Z,0.7nm,0.7s,baz=23,slow=3.7,SNR=8.3
MKAR LR LR 01 44 40.4
comp=Z,43nm,19.1s,baz=10.0,slow=38
MAKZ **Makanchi** 76.96 337 *e*P P 01 07 38.7 +4.3
comp=Z,8.5nm,1.3s
AKTO **Aktyubinsk** 77.17 353 LR LR 01 43 07.7
comp=Z,30nm,21.6s,baz=1.7,slow=37
WMQ **Urumqi** 78.22 332 *e*P P 01 07 47.9 +6.4
WMQ LR LR
comp=N,67nm,27.9s
WMQ LR LR
comp=E,58nm,19.1s
WMQ LR LR
comp=Z,130nm,20.5s
LZH **Lanzhou** 79.35 317 *e*P P 01 07 48.9 +0.9
LZH pP PcP 01 07 55.3 -0.8
LZH sP pwP 01 07 57.6 +0.8
LZH PP PP 01 11 04.0 +17
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,95nm,4.3s
KDJ **Kajisay** 82.50 339 *e*P P 01 08 07.6 +2.8
comp=Z,4.1nm,1.3s
CD2 **Chengdu** 83.82 314 P P 01 08 12.9 +1.4
CD2 pmax pmax
comp=Z,1.0nm,0.6s
KBZ **Khabaz** 84.13 4 LR LR 01 47 41.1
comp=Z,44nm,22.0s,baz=19,slow=37
KSH **Kashi** 85.27 339 P P 01 08 27.3 +8.5
KSH PP PP 01 11 45.8 +10
KSH **Kashi** 85.27 339 S S 01 18 58.9 +11
KSH pmax pmax
comp=Z,60nm,5.3s
LPAZ **La Paz** 87.77 120 P P 01 08 29.6 -2.1
comp=Z,1.7nm,0.6s,baz=266,slow=2.3,SNR=6.6
DZM **Mont Dzumac** 91.44 235 LR LR 01 40 14.3
comp=Z,51nm,20.6s,baz=237,slow=29

IDC ***15*** *01:01:35.9±1.6, 52°.61N×132°.06W, h0km, mb3.6/1, mb1 3.7/6, mb1mx3.4/38, mbtmp3.4/6, ML3.0/4, Error ellipse: s-maj=22.3km s-min=6.9km az=48.0*
ISC 15 01:01:36.1±1.1, **53°.0N**±0°.2×**131°.9W**±0°.1, **h10**km, **n11,** σ1§**34**/9, **Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H02S1	**DAWSON INLET T**	**0.40**	**303**		Pg	**Pn**	**01 01 47.8**	**-0.1**
H02S1					Lg	Lg	01 01 58.6	
BBB	**Bella Bella**	**2.46**	**107**		Pn	**Pn**	**01 02 16.0**	**-0.2**
	4.0nm,0.3s,baz=288,slow=15,SNR=3.5							
BBB					Pg	**Pb**	**01 02 22.1**	**+1.8**
	5.4nm,0.3s,baz=293,slow=12,SNR=4.0							
BBB					Sn	**Sn**	**01 02 44.1**	**-2.2**
	10nm,0.3s,baz=19,slow=15,SNR=5.2							
BBB					Lg	Lg	01 02 52.6	
	12nm,0.3s,baz=335,slow=22,SNR=3.5							
DLBC	**Dease Lake**	**5.57**	**10**	Pn		Pn	01 03 05.5	+6.4
	0.2nm,0.3s,baz=150,slow=20,SNR=2.7							
DLBC					Lg	Lg	01 04 45.6	
	0.3nm,0.3s,baz=128,slow=18,SNR=2.4							
YKA	**Yellowknife Ar**	**13.23**	**37**	Pn		**P**	**01 04 53.3**	**-0.4**
	0.0nm,0.3s,baz=226,slow=12,SNR=6.0							
ELK	**Elko**	**16.68**	**131**	Pn		**Pn**	**01 05 30.2**	**+0.1**
	0.1nm,0.3s,baz=325,slow=9.8,SNR=6.0							
NVAR	**Mina Array Bea**	**17.34**	**142**	P		**Pn**	**01 05 36.9**	**-1.4**
	0.0nm,0.3s,baz=306,slow=9.2,SNR=4.6							
PDAR	**Pinedale Array**	**18.08**	**115**	P		**P**	**01 05 48.6**	**+0.7**
	baz=294,slow=8.7,SNR=4.5							
TXAR	**Lajitas Array**	**31.43**	**128**	P		**P**	**01 07 57.7**	**+0.1**
	0.7nm,0.8s,baz=329,slow=7.7,SNR=8.5							
H11N2	**WAKE ISLAND Hy 57.19 259**			T		T	02 13 28.1	
	baz=39,slow=76,SNR=5.0							
H11N3	**WAKE ISLAND Hy 57.19 259**			T		T	02 13 28.6	
	baz=39,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy 57.21 259**			T		T	02 13 27.8	
	baz=39,slow=76,SNR=10							

IDC ***15*** *01:04:09.7±1.4, 52°.36N×132°.10W, h0km, mb3.4/3, mb1 3.7/8, mb1mx3.4/38, mbtmp3.4/8, ML3.4/5, MS2.6/2, Ms1 2.6/2, ms1mx2.4/31, Error ellipse: s-maj=21.4km s-min=8.0km az=58.0*
PGC ***15*** *01:04:09.8±3.2, 52°.27N×132°.24W, h19km, ML3.6/17, 113km Ssw of Sandspit, Bc Haida Gwaii Region*
ISC 15 01:04:09.4±1.7, **52°.24N**±0°.06×**132°.21W**±0°.06, **h10**km±10km, **n36,** σ2§**46**/44, **mb3.4**/3, **Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.44**	**40**	P		**Pg**	**01 04 18.1**	**+0.1**
HG3B	**Hotspring**	**0.58**	**54**	P		**Pg**	**01 04 21.0**	**+0.4**
HG3B				S		**Sg**	**01 04 28.8**	**+0.6**
HG4B	**Hotspring**	**0.63**	**85**	P		**Pg**	**01 04 21.2**	**-0.3**
HG4B				S		**Sg**	**01 04 29.5**	**-0.3**
HG1B	**Mitchell Dam**	**0.70**	**4**	P		**Pg**	**01 04 22.5**	**-0.4**
HG1B				S		**Sg**	**01 04 31.0**	**-1.0**
MOBC	**Moresby Island**	**0.92**	**9**	P		**Pg**	**01 04 26.3**	**-0.8**
MOBC				S		**Sg**	**01 04 38.1**	**-1.0**
DIB	**Dawson Inlet,**	**0.98**	**351**	P		**Pg**	**01 04 26.5**	**-1.6**
DIB				S		**Sg**	**01 04 38.4**	**-2.5**
H02S1	**DAWSON INLET T**	**0.98**	**351**	P		**Pg**	**01 04 26.6**	**-1.6**
H02S1				Lg		Lg	01 04 39.1	
	SNR=593							
NDB	**Naden**	**1.77**	**346**	P		**Pn**	**01 04 38.4**	**-1.8**
MASB	**Masset**	**1.78**	**4**	P		**Pn**	**01 04 39.5**	**-0.8**
RUBB	**Prince Rupert**	**2.40**	**29**	Pn		**Pn**	**01 04 48.0**	**-0.7**
BBB	**Bella Bella**	**2.52**	**90**	Pn		**Pn**	**01 04 48.9**	**-1.5**
BBB				Sn		**Sn**	**01 05 17.6**	**-3.5**
BBB	**Bella Bella**	**2.52**	**90**	Pn		**Pn**	**01 04 48.7**	**-1.7**
	3.6nm,0.3s,baz=280,slow=12,SNR=7.6							
BBB					Pg	**Pb**	**01 04 54.7**	**0.0**
	20nm,0.3s,baz=276,slow=16,SNR=16							
BBB					Sn	**Sn**	**01 05 17.6**	**-3.5**
	26nm,0.3s,baz=165,slow=20,SNR=6.3							
BBB					LR		01 06 01.0	
	comp=Z,236nm,20.4s,baz=315,slow=45							
HOLB	**Holberg**	**3.01**	**120**	Pn		**Pn**	**01 04 55.1**	**-2.1**
HOLB				Sn		**Sn**	**01 05 28.5**	**-4.9**

PHC	**Port Hardy**	**3.36**	**115**	Pn	**Pn**	**01 04 59.6**	**-2.3**
PHC				Sn	**Sn**	**01 05 35.7**	**-6.1**
PACB	**Port Alice, BC**	**3.47**	**120**	Sn	**Sn**	**01 05 40.0**	**-4.4**
BPBC	**Brooks Peninsu**	**3.49**	**125**	Pn	**Pn**	**01 05 02.2**	**-1.6**
MAYB	**Maynard**	**3.66**	**118**	Pn	**Pn**	**01 05 04.5**	**-1.6**
TLCB	**Telegraph Cove**	**3.77**	**115**	Pn	**Pn**	**01 05 06.3**	**-1.2**
TLCB				Sn	**Sn**	**01 05 46.0**	**-5.9**
WOSB	**Woss**	**4.11**	**118**	Pn	**Pn**	**01 05 10.1**	**-2.2**
NCRB	**Newcastle Ridg**	**4.28**	**113**	Pn	**Pn**	**01 05 12.9**	**-1.8**
FSB	**Fort Saint Jam**	**5.23**	**62**	Pn	**Pn**	**01 05 27.5**	**-0.1**
DLBC	**Dease Lake**	**6.34**	**10**	Pn	**Pn**	**01 05 43.6**	**+0.8**
DLBC	**Dease Lake**	**6.34**	**10**	Pn	**Pn**	**01 05 44.8**	**+2.0**
	0.7nm,0.3s,baz=188,slow=7.6,SNR=10						
DLBC				Sn	**Sn**	**01 06 52.5**	**-2.7**
	0.1nm,0.3s,baz=163,slow=17,SNR=2.3						
FNBB	**Fort Nelson**	**8.46**	**34**	Pn	**Pn**	**01 06 12.9**	**+1.0**
WHY	**Whitehorse**	**8.57**	**351**	Pn	**Pn**	**01 06 15.8**	**+2.4**
NEW	**Newport**	**10.45**	**106**	LR	LR	01 10 58.1	
	comp=Z,14nm,19.8s,baz=279,slow=39						
YBH	**Yreka Blue Hor**	**12.34**	**145**	Pn	**Pn**	**01 07 08.8**	**+3.6**
	0.0nm,0.3s,baz=105,slow=12,SNR=2.2						
YKA	**Yellowknife Ar**	**13.94**	**36**	Pn	**Pn**	**01 07 26.3**	**-0.4**
	0.1nm,0.3s,baz=226,slow=12,SNR=13						
NVAR	**Mina Array Bea**	**16.88**	**139**	Pn	**P**	**01 08 09.7**	**+1.8**
	0.1nm,0.3s,baz=332,slow=13,SNR=3.5						
PDAR	**Pinedale Array**	**17.93**	**113**	P	**P**	**01 08 22.0**	**+2.4**
	0.0nm,0.3s,baz=296,slow=7.4,SNR=7.2						
ULM	**Lac du Bonnet**	**22.69**	**80**	P	**P**	**01 09 13.1**	**+2.3**
	0.6nm,0.4s,baz=275,slow=9.9,SNR=2.1						
TXAR	**Lajitas Array**	**31.13**	**126**	P	**P**	**01 10 30.8**	**+2.6**
	0.3nm,0.6s,baz=330,slow=8.4,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**56.88**	**259**	T	T	02 15 59.7	
	baz=39,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**56.88**	**259**	T	T	02 15 59.9	
	baz=39,slow=76,SNR=33						
H11N1	**WAKE ISLAND Hy**	**56.89**	**259**	T	T	02 15 57.5	
	baz=39,slow=76,SNR=30						
MKAR	**Makanchi Array**	**77.01**	**336**	P	**P**	**01 16 02.3**	**+0.2**
	0.3nm,0.8s,baz=28,slow=6.5,SNR=2.6						

*ISCJB **15** 01:28:56.9±0.3,42.00N±0.04×140.83E±0.06, h148km±3km, mb3.7/14, Error ellipse: s-maj=8.2km s-min=6.0km az=34.3*
*JMA **15** 01:28:58.2±0.1,42.04N×140.83E,h143km±1km,M3.4*
*IDC **15** 01:28:59.5±2.3,42.25N×140.72E,h148km±13km, mb3.5/14,mb1 3.7/16,mb1mx3.4/51,mbtmp3.9/16,MS4.0/1, Ms1 4.0/1,ms1mx2.3/39, Error ellipse: s-maj=33.4km s-min=10.9km az=165.0*
ISC 15 01:28:57.9±0.7, 42.00N±0.05×140.83E±0.05, h145km±5km, n34, σ0♦64/44, mb3.8/14, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKB	**Kayabe**	**0.19**	**127**	P	**Pn**	**01 29 17.7**	**+0.2**
JKB				*e*S	**Sn**	**01 29 32.2**	**-0.1**
JYM2	**Yakumo 2**	**0.36**	**289**	P	**Pn**	**01 29 18.2**	**+0.2**
JNB	**Noboribetsu**	**0.49**	**18**	P	**Pn**	**01 29 18.4**	**-0.2**
JNB				*e*S	**Sn**	**01 29 33.4**	**-1.0**
JSR	**Shiriuchi**	**0.56**	**213**	P	**Pn**	**01 29 19.3**	**+0.3**
JSR				*e*S	**Sn**	**01 29 34.6**	**-0.4**
JOT	**Ohata**	**0.64**	**165**	P	**Pn**	**01 29 20.0**	**+0.5**
JHST	**Hiyamasetana**	**0.82**	**301**	P	**Pn**	**01 29 20.7**	**0.0**
JSH	**Shimam**	**0.86**	**318**	P	**Pn**	**01 29 21.2**	**+0.2**
JEW	**Eniwo**	**0.95**	**29**	P	**Pn**	**01 29 22.0**	**+0.2**
JEW				*e*S	**Sn**	**01 29 40.2**	**+0.2**
JOSM	**Okushiri--Mats**	**1.01**	**275**	P	**Pn**	**01 29 22.1**	**-0.1**
JIAM	**Iburiatsuna**	**1.02**	**52**	P	**Pn**	**01 29 22.8**	**+0.5**
JIAM				*e*S	**Sn**	**01 29 41.4**	**+0.5**
JTM	**Tenmabayashi**	**1.23**	**171**	P	**Pn**	**01 29 24.8**	**+0.5**
JTM				*e*S	**Sn**	**01 29 44.5**	**+0.1**
JSK	**Shakotan**	**1.37**	**349**	P	**Pn**	**01 29 26.2**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.46**	**78**	P	**Pn**	**01 29 26.7**	**+0.1**
JNBK				*e*S	**Sn**	**01 29 48.7**	**+0.2**
JANG	**Nango**	**1.71**	**162**	P	**Pn**	**01 29 29.2**	**-0.2**
JANG				*e*S	**Sn**	**01 29 52.5**	**-0.9**
JFR	**Furan**	**1.75**	**48**	P	**Pn**	**01 29 28.9**	**-0.8**
JHR	**Hokuryu**	**1.86**	**20**	P	**Pn**	**01 29 31.7**	**+0.7**
JHR				*e*S	**Sn**	**01 29 57.7**	**+1.2**
JCH	**Churui**	**1.98**	**71**	P	**Pn**	**01 29 32.6**	**+0.2**
JCH				*e*S	**Sn**	**01 29 57.7**	**-1.2**
ASAJ	**Asahikawa**	**2.48**	**31**	P	**Pn**	**01 29 38.4**	**0.0**
	4.8nm,0.3s,baz=244,slow=9.5,SNR=14						
ASAJ				S	**Sn**	**01 30 08.4**	**-1.3**
	9.7nm,0.3s,baz=135,slow=33,SNR=16						
USRK	**Ussuriysk Ar.**	**6.83**	**292**	P	**Pn**	**01 30 35.9**	**+0.3**
	1.3nm,0.3s,baz=96,slow=13,SNR=25						
SONM	**Songino Array**	**24.93**	**295**	P	**P**	**01 34 06.5**	**-1.1**
	0.9nm,0.5s,baz=91,slow=8.3,SNR=8.3						
ZALV	**Zalesovo Beam**	**38.37**	**308**	P	**P**	**01 36 04.3**	**-0.2**
	4.3nm,0.6s,baz=81,slow=8.0,SNR=16						
MKAR	**Makanchi Array**	**41.26**	**297**	P	**P**	**01 36 28.4**	**-0.3**
	1.3nm,0.6s,baz=85,slow=9.7,SNR=16						
CMAR	**Chiang Mai Arr**	**42.57**	**250**	P	**P**	**01 36 40.7**	**+1.2**
	0.8nm,0.3s,baz=52,slow=7.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.72**	**304**	P	**P**	**01 36 39.8**	**-0.6**
	3.8nm,0.6s,baz=77,slow=8.8,SNR=22						
SIJI	**Sorong**	**43.54**	**194**	LR	LR	01 52 37.6	
	comp=Z,177nm,20.2s,baz=58,slow=32						
ILAR	**Eielson Array**	**45.61**	**35**	P	**P**	**01 37 03.4**	**+0.2**
	1.5nm,0.8s,baz=272,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**47.00**	**309**	P	**P**	**01 37 13.8**	**-0.4**
	1.1nm,0.3s,baz=79,slow=9.4,SNR=15						
AAK	**Ala-Archa**	**47.88**	**294**	P	**P**	**01 37 21.2**	**-0.1**
	0.9nm,0.3s,baz=60,slow=4.3,SNR=5.5						
INK	**Inuvik**	**50.22**	**29**	P	**P**	**01 37 39.0**	**+0.6**
	2.0nm,0.5s,baz=294,slow=6.5,SNR=19						
YKA	**Yellowknife Ar**	**59.77**	**31**	P	**P**	**01 38 47.4**	**+0.2**
	0.3nm,0.6s,baz=307,slow=6.1,SNR=7.9						
FINES	**FINESS Array B**	**64.23**	**331**	P	**P**	**01 39 15.4**	**-1.5**
	0.9nm,0.8s,baz=46,slow=6.0,SNR=3.7						
NVAR	**Mina Array Bea**	**72.41**	**54**	P	**P**	**01 40 09.4**	**+0.9**
	0.3nm,0.5s,baz=281,slow=6.2,SNR=3.5						
PDAR	**Pinedale Array**	**74.53**	**46**	P	**P**	**01 40 20.9**	**+0.1**
	0.4nm,0.5s,baz=272,slow=0.5,SNR=5.1						
TXAR	**Lajitas Array**	**87.44**	**52**	P	**P**	**01 41 29.6**	**+0.4**
	0.1nm,0.5s,baz=270,slow=1.8,SNR=3.4						

*KRNET **15** 01:30:01.2±0.1,42.52N×79.63E,h9km,mb3.3*
*ISCJB **15** 01:30:02.5±0.7,42.53N±0.03×79.66E±0.04,h10km, Error ellipse: s-maj=6.0km s-min=3.1km az=135.2*
*SOME **15** 01:30:02.1,42.55N×79.65E,h15km*
*NNC **15** 01:30:02.9±1.1,42.62N×79.64E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=7.5km s-min=4.0km az=132.0*
ISC 15 01:30:01.9±1.3, 42.52N±0.04×79.66E±0.05, h10km, n66, σ1♦01/114, 31C-18D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.78**	**323**	P	**Pg**	**01 30 16.0**	**-1.0**
	68nm,0.2s						
UZB				S	**Sg**	**01 30 26.1**	**-1.1**
	262nm,0.3s						
UZB	**Uzynbulak**	**0.78**	**323**	*e*P	**Pg**	**01 30 16.0**	**-1.0**
	baz=25						
UZB				*e*S	**Sg**	**01 30 26.1**	**-1.1**
	baz=25						
UZB	**Uzynbulak**	**0.78**	**323**	*e*P	**Pg**	**01 30 16.0**	**-1.0**
	68nm,0.2s						
UZB				*e*S	**Sg**	**01 30 26.1**	**-1.1**
	262nm,0.3s						
PDGK	**Podgornoye**	**0.81**	**351**	P	**Pg**	**01 30 16.5**	**-1.1**
	11nm,0.2s						
PDGK				S	**Sg**	**01 30 27.1**	**-1.2**
	79nm,0.2s						
PDGK	**Podgornoye**	**0.81**	**351**	⇑P	**Pg**	**01 30 16.6**	**-1.1**
	6.3nm,0.4s						
PDGK				⇑S	**Sg**	**01 30 26.7**	**-1.6**
	116nm,0.6s						
PDGK	**Podgornoye**	**0.81**	**351**	⇓*i*P	**Pg**	**01 30 16.5**	**-1.1**
	baz=52						
PDGK				⇓*i*S	**Sg**	**01 30 27.1**	**-1.2**
	baz=52						
PRZ	**Przheval'sk**	**0.93**	**268**	⇑*i*P	**Pg**	**01 30 18.3**	**-1.6**
	baz=68						
PRZ				⇑*i*S	**Sg**	**01 30 30.8**	**-1.2**
	baz=68						
SATY	**Saty**	**1.07**	**301**	P	**Pg**	**01 30 21.0**	**-1.4**
	20nm,0.3s						
SATY				S	**Sg**	**01 30 35.1**	**-1.2**
	141nm,0.1s						
SATY	**Saty**	**1.07**	**301**	*e*P	**Pg**	**01 30 21.0**	**-1.4**
	20nm,0.3s						
SATY				*e*S	**Sg**	**01 30 35.1**	**-1.2**
	141nm,0.1s						
KURS	**Kuram**	**1.46**	**312**	P	**Pb**	**01 30 28.7**	**-0.5**
	11nm,0.5s						
KURS				S	**Sg**	**01 30 47.7**	**-1.2**
	41nm,0.4s						
KURS	**Kuram**	**1.46**	**312**	*e*P	**Pb**	**01 30 28.6**	**-0.5**
	baz=12						
KURS				*e*S	**Sg**	**01 30 47.6**	**-1.2**
	baz=12						
KURS	**Kuram**	**1.46**	**312**	*e*P	**Pb**	**01 30 28.6**	**-0.5**
	5.9nm,0.2s						
KURS				*e*S	**Sg**	**01 30 47.7**	**-1.2**
	44nm,0.4s						
TARG	**Taragay, Kyrgy**	**1.59**	**241**	⇓*i*P	**Pn**	**01 30 30.4**	**-0.1**
	baz=40						
TARG				⇓*i*S	**Sb**	**01 30 51.3**	**-0.7**
	baz=40						
MNBS	**Baschi**	**1.81**	**330**	P	**Pb**	**01 30 34.2**	**-0.9**
	16nm,0.2s						
MNBS				S	**Sb**	**01 30 57.4**	**-0.5**
	159nm,0.3s						
MNBS	**Baschi**	**1.81**	**330**	*e*P	**Pb**	**01 30 34.2**	**-0.9**
	baz=31						
MNBS				*e*S	**Sb**	**01 30 57.4**	**-0.5**
	baz=31						
MNBS	**Baschi**	**1.81**	**330**	*e*P	**Pb**	**01 30 34.2**	**-0.9**
	16nm,0.2s						
MNBS				*e*S	**Sb**	**01 30 57.4**	**-0.5**
	159nm,0.3s						
DJR	**Jarkent**	**1.81**	**3**	P	**Pb**	**01 30 34.9**	**-0.3**
	9.2nm,0.2s						
DJR				S	**Sg**	**01 30 58.3**	**-1.8**
	34nm,0.3s						
DJR	**Jarkent**	**1.81**	**3**	*e*P	**Pb**	**01 30 34.9**	**-0.3**
	9.2nm,0.2s						
DJR				*e*S	**Sg**	**01 30 58.3**	**-1.8**
	34nm,0.3s						
KDJ	**Kajisay**	**1.88**	**259**	⇑*i*P	**Pb**	**01 30 35.3**	**-1.1**
	baz=58						
KDJ				⇑*i*S	**Sb**	**01 31 00.1**	**0.0**
	baz=58						
KOTS	**Kotyrbulak**	**2.00**	**292**	Pg	**Pb**	**01 30 37.9**	**-0.6**
	20nm,0.3s						
KOTS				Lg	Lg	01 31 04.0	
	114nm,0.5s						
KOTS	**Kotyrbulak**	**2.00**	**292**	*e*P	**Pb**	**01 30 37.9**	**-0.6**
	baz=92						
KOTS				*e*S	**Sb**	**01 31 04.0**	**+0.4**
	baz=92						
KOTS	**Kotyrbulak**	**2.00**	**292**	*e*P	**Pb**	**01 30 37.9**	**-0.6**
	20nm,0.3s						
KOTS				*e*S	**Sb**	**01 31 04.0**	**+0.4**
	114nm,0.5s						
MDOK	**Medeo**	**2.02**	**289**	Pn	**Pb**	**01 30 38.0**	**-0.9**
	10nm,0.5s						
MDOK				Sn	**Sb**	**01 31 04.2**	**0.0**
	30nm,0.5s						
MDOK	**Medeo**	**2.02**	**289**	Pg	**Pb**	**01 30 38.4**	**-0.5**
	16nm,0.3s						
MDOK				Lg	Lg	01 31 04.4	
	44nm,0.4s						
MDOK	**Medeo**	**2.02**	**289**	*e*P	**Pb**	**01 30 38.4**	**-0.5**
	baz=90						
MDOK				*e*S	**Sb**	**01 31 04.4**	**+0.2**
	baz=90						
MDOK	**Medeo**	**2.02**	**289**	*e*P	**Pb**	**01 30 38.4**	**-0.5**
	16nm,0.3s						
MDOK				*e*S	**Sb**	**01 31 04.4**	**+0.2**
	44nm,0.4s						
TNSS	**Tian-Shan**	**2.06**	**285**	Pg	**Pb**	**01 30 39.3**	**-0.4**
	25nm,0.4s						
TNSS				Lg	Lg	01 31 06.0	
	38nm,0.3s						
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**01 30 39.3**	**-0.4**
	baz=86						
TNSS				*e*S	**Sb**	**01 31 06.0**	**+0.5**
	baz=86						
TNSS	**Tian-Shan**	**2.06**	**285**	*e*P	**Pb**	**01 30 39.3**	**-0.4**
	25nm,0.4s						
TNSS				*e*S	**Sb**	**01 31 06.0**	**+0.5**
	38nm,0.3s						
KNDC	**Almaty**	**2.10**	**290**	⇑Pn	**Pb**	**01 30 39.4**	**-0.7**
	24nm,0.6s						
KNDC				⇑Sn	**Sg**	**01 31 09.7**	**+0.4**
	49nm,0.5s						
ARXS	**Arharly**	**2.15**	**322**	Pg	**Pb**	**01 30 40.5**	**-0.6**
	14nm,0.4s						
ARXS				Lg	Lg	01 31 08.0	
	165nm,0.4s						
ARXS	**Arharly**	**2.15**	**322**	*e*P	**Pb**	**01 30 40.5**	**-0.6**
	14nm,0.4s						
ARXS				*e*S	**Sb**	**01 31 08.0**	**+0.1**
	165nm,0.4s						
CHKK	**Chushkaly**	**2.36**	**305**	Pg	**Pb**	**01 30 44.3**	**-0.3**
	6.7nm,0.2s						
CHKK				Lg	Lg	01 31 14.5	
	72nm,0.3s						
CHKK	**Chushkaly**	**2.36**	**305**	*e*P	**Pb**	**01 30 44.3**	**-0.3**
	baz=6.0						
CHKK				*e*S	**Sb**	**01 31 14.5**	**+0.7**
	baz=6.0						
CHKK	**Chushkaly**	**2.36**	**305**	*e*P	**Pb**	**01 30 44.3**	**-0.3**
	6.7nm,0.2s						
CHKK				*e*S	**Sb**	**01 31 14.5**	**+0.7**
	72nm,0.3s						
MTBS	**Maitube**	**2.45**	**285**	*e*P	**Pb**	**01 30 45.7**	**-0.5**
	baz=86						
MTBS				*e*S	**Sb**	**01 31 17.0**	**+0.5**
	baz=86						
MTBS	**Maitube**	**2.45**	**285**	*e*P	**Pb**	**01 30 45.7**	**-0.5**
	32nm,0.2s						
MTBS				*e*S	**Sb**	**01 31 17.0**	**+0.5**
	36nm,0.3s						
KTBS	**Karatobe**	**2.48**	**300**	Pg	**Pb**	**01 30 46.3**	**-0.4**
	8.6nm,0.3s						
KTBS				Lg	Lg	01 31 18.0	
	95nm,0.3s						
KTBS	**Karatobe**	**2.48**	**300**	*e*P	**Pb**	**01 30 46.3**	**-0.4**
	baz=99						
KTBS				*e*S	**Sb**	**01 31 18.0**	**+0.7**
	baz=99						
KTBS	**Karatobe**	**2.48**	**300**	*e*P	**Pb**	**01 30 46.3**	**-0.4**
	8.6nm,0.3s						
KTBS				*e*S	**Sb**	**01 31 18.0**	**+0.7**
	95nm,0.3s						
ULHL	**Ulahol**	**2.55**	**265**	⇓*i*P	**Pn**	**01 30 44.7**	**+1.2**
	baz=65						
ULHL				⇓*i*S	**Sb**	**01 31 16.3**	**-3.0**
	baz=65						
TDK	**Taldyqorghan**	**2.64**	**340**	*e*P	**Pb**	**01 30 48.9**	**-0.4**
	20nm,0.2s						
TDK				*e*S	**Sb**	**01 31 22.3**	**+0.6**
	186nm,0.3s						
BOOM	**Boomskoye usch**	**2.75**	**271**	⇓*i*P	**Pn**	**01 30 47.5**	**+1.2**
	baz=71						
BOOM				⇓*i*S	**Sn**	**01 31 21.3**	**+1.7**
	baz=71						
KST	**Kastek**	**2.77**	**282**	Pg	**Pb**	**01 30 51.5**	**-0.1**
	17nm,0.3s						
KST				Lg	Lg	01 31 26.8	
	37nm,0.4s						
KST	**Kastek**	**2.77**	**282**	*e*P	**Pb**	**01 30 51.5**	**-0.1**
	baz=82						
KST				*e*S	**Sb**	**01 31 26.8**	**+1.2**
	baz=82						
KST	**Kastek**	**2.77**	**282**	*e*P	**Pb**	**01 30 51.5**	**-0.1**
	17nm,0.3s						
KST				*e*S	**Sb**	**01 31 26.8**	**+1.2**
	37nm,0.4s						
KUU	**Kurty**	**2.79**	**301**	Pg	**Pb**	**01 30 51.2**	**-0.6**
	4.4nm,0.3s						
KUU				Lg	Lg	01 31 26.4	
	32nm,0.5s						
KUU	**Kurty**	**2.79**	**301**	*e*P	**Pb**	**01 30 51.2**	**-0.6**
	baz=1.0						
KUU				*e*S	**Sb**	**01 31 26.4**	**+0.4**
	baz=1.0						
KUU	**Kurty**	**2.79**	**301**	*e*P	**Pb**	**01 30 51.2**	**-0.6**
	4.4nm,0.3s						
KUU				*e*S	**Sb**	**01 31 26.4**	**+0.4**
	32nm,0.5s						
NRN	**Naryn**	**2.94**	**249**	⇑*i*P	**Pn**	**01 30 50.5**	**+1.5**
	baz=49						
NRN				⇑*i*S	**Sn**	**01 31 26.4**	**+1.9**
	baz=49						
TKM2	**Tokmak 2**	**3.02**	**279**	⇓Pg	**Pb**	**01 30 55.5**	**-0.4**
	5.1nm,0.5s						
TKM2				⇑Lg	Lg	01 31 36.8	
	12nm,0.6s						
TKM2	**Tokmak 2**	**3.02**	**279**	⇓*i*P	**Pn**	**01 30 51.4**	**+1.4**
	baz=79						
TKM2				⇓*i*S	**Sn**	**01 31 27.6**	**+1.3**
	baz=79						
KZA	**Kyzart**	**3.30**	**264**	⇑*i*P	**Pn**	**01 30 55.6**	**+1.6**
	baz=64						
KZA				⇑*i*S	**Sn**	**01 31 34.5**	**+1.0**
	baz=64						
KBK	**Karagaybulak**	**3.48**	**274**	⇑*i*P	**Pn**	**01 30 57.7**	**+1.4**
	baz=74						
KBK				⇑*i*S	**Sn**	**01 31 38.9**	**+1.2**
	baz=74						
CHMS	**Chumysh**	**3.65**	**279**	⇑*i*P	**Pn**	**01 30 59.8**	**+1.4**
	baz=79						
CHMS				⇑*i*S	**Sn**	**01 31 42.6**	**+1.1**
	baz=79						
AAK	**Ala-Archa**	**3.82**	**273**	⇑Pg	**Pb**	**01 31 10.0**	**+0.6**
	1.6nm,0.3s						
AAK				⇑Lg	Lg	01 32 03.3	
	6.9nm,0.5s						
AAK	**Ala-Archa**	**3.82**	**273**	⇓*i*P	**Pn**	**01 31 02.5**	**+1.6**
	baz=73						
AAK				⇓*i*S	**Sn**	**01 31 46.8**	**+0.9**
	baz=73						
UCH	**Uchtor**	**3.82**	**267**	⇑*i*P	**Pn**	**01 31 02.6**	**+1.3**
	baz=67						
UCH				⇑*i*S	**Sn**	**01 31 47.2**	**+0.7**
	baz=67						
USP	**Ospenovka**	**3.86**	**283**	⇑*i*P	**Pn**	**01 31 02.9**	**+1.5**
	baz=83						
USP				⇑*i*S	**Sn**	**01 31 47.7**	**+0.8**
	baz=83						
ARLS	**Aral**	**4.02**	**262**	⇓*i*P	**Pn**	**01 31 05.1**	**+1.4**
	baz=62						
ARLS				⇓*i*S	**Sn**	**01 31 51.8**	**+0.9**
	baz=62						
MAKZ	**Makanchi**	**4.59**	**20**	⇑Pn	**Pn**	**01 31 13.2**	**+1.8**
	1.0nm,0.3s						
MAKZ				⇑Sn	**Sn**	**01 32 06.6**	**+1.8**
	0.4nm,0.3s						
MAKZ				⇑Lg	Lg	01 32 25.8	
	1.7nm,0.6s						
MK31	**Makanchi Array**	**4.66**	**23**	⇑Pn	**Pn**	**01 31 13.9**	**+1.5**
	0.4nm,0.3s,baz=203,slow=12,SNR=37						
MK31				⇑Sn	**Sn**	**01 32 07.7**	**+1.2**
	0.5nm,0.3s,baz=205,slow=24,SNR=4.7						
MK31				⇓Lg	Lg	01 32 27.5	
	0.4nm,0.3s,baz=196,slow=27,SNR=4.4						
KK31	**Karatay Array**	**6.75**	**278**	⇑Pg	Pg	01 32 05.8	-5.4
	0.4nm,0.5s,baz=87,slow=14,SNR=4.9						
KK31				⇑Lg	Lg	01 33 37.7	
	1.5nm,0.6s,baz=91,slow=30,SNR=4.1						
OTUK	**Ortayu**	**7.70**	**321**	⇑Lg	Lg	01 34 08.2	
	3.8nm,1.1s						
KURBB	**Kurchatov Arra**	**8.14**	**355**	⇓Lg	Lg	01 34 17.2	
	5.0nm,0.8s						
KURK	**Kurchatov**	**8.23**	**355**	⇓Lg	Lg	01 34 17.3	
	2.7nm,0.7s						

*ISCJB **15** 01:32:42.8±0.4,14.85S±0.04×167.35E±0.07,h129km, mb4.4/27, Error ellipse: s-maj=9.1km s-min=5.9km az=166.0*
*IDC **15** 01:32:42.7±2.9,14.81S×167.36E,h111km±24km, mb4.0/14,mb1 4.2/16,mb1mx4.0/36,mbtmp4.5/16,MS3.5/2, Ms1 3.5/2,ms1mx2.9/34, Error ellipse: s-maj=19.9km s-min=13.3km az=64.0*
*NEIC **15** 01:32:42.7±0.9,14.81S×167.40E,h115km±8km,mb4.3/5, Error ellipse: s-maj=10.1km s-min=7.1km az=68.0*
ISC 15 01:32:44.2±0.5, 14.87S±0.06×167.31E±0.08, h129km, n66, σ1♦32/66, mb4.6/26, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**6.62**	**174**	*e*Pn	**Pn**	**01 34 16.2**	**-2.8**
DZM	**Mont Dzumac**	**7.21**	**186**	P	**Pn**	**01 34 27.2**	**0.0**
	19nm,0.3s,baz=33,slow=14,SNR=66						
DZM				S	**Sn**	**01 35 44.8**	**-3.0**
	2.5nm,0.3s,baz=158,slow=19,SNR=1.8						
OUENC	**Ouen Island, N**	**7.53**	**183**	*e*Pn	**Pn**	**01 34 31.4**	**+0.1**
PINNC	**Pines Island,**	**7.71**	**179**	*e*Pn	**Pn**	**01 34 33.1**	**-0.6**
HNR	**Honiara**	**9.00**	**306**	*e*P	**Pn**	**01 34 51.0**	**-0.2**
HNR				*e*S	**Sn**	**01 36 30.0**	**-0.9**
HNR	**Honiara**	**9.00**	**306**	*e*Pn	**Pn**	**01 34 50.8**	**-0.4**
HNR				S	**Sn**	**01 36 29.5**	**-1.4**
HNR	**Honiara**	**9.00**	**306**	P	**Pn**	**01 34 50.3**	**-0.8**
	34nm,0.3s,baz=167,slow=6.6,SNR=6.6						
HNR				S	**Sn**	**01 36 29.5**	**-1.4**
	19nm,0.3s,baz=311,slow=19,SNR=2.1						
EIDS	**Eidsvold**	**18.46**	**233**	P	**Pn**	**01 36 51.3**	**-0.4**
	baz=19,SNR=4.3						
CTA	**Charters Tower**	**20.74**	**252**	P	**P**	**01 37 15.9**	**+1.1**
	3.0nm,0.7s,baz=58,slow=9.5,SNR=2.9						
RMQ	**Roma**	**20.82**	**233**	P	Pn	01 37 17.9	-1.6
	baz=21,SNR=6.8						
ARMA	**Armidale**	**21.15**	**220**	P	**P**	**01 37 21.0**	**+1.7**
	baz=21,SNR=5.6						
MGCD	**Mangrove Creek**	**23.45**	**216**	P	**P**	**01 37 44.0**	**+2.0**
	baz=24,SNR=11						
URZ	**Urewera**	**24.86**	**161**	*e*P	**P**	**01 37 55.2**	**+0.4**
	22nm,0.6s						
URZ	**Urewera**	**24.86**	**161**	P	**P**	**01 37 55.0**	**+0.2**
	18nm,0.6s,baz=336,slow=3.8,SNR=12						
CMSA	**Cobar Meteorol**	**25.81**	**226**	P	**P**	**01 38 04.5**	**+1.1**
	baz=26,SNR=14						
CNB	**Canberra Magne**	**25.97**	**215**	P	**P**	**01 38 06.0**	**+1.1**
	baz=26,SNR=6.9						
FOZ	**Fox Glacier**	**28.65**	**176**	*e*P	**P**	**01 38 29.5**	**+0.8**
	26nm,1.1s						
RPZ	**Rata Peaks**	**28.93**	**174**	P

LZH	**Lanzhou**	**78.44**	**312**	*e*P	**P**	**01**	**44**	**32.5 +1.3**
LZH				pP	pP	01	45	03.5 +0.2
LZH				sP	sP	01	45	19.6 +2.7
LZH				PP	**PP**	**01**	**47**	**25.9 -4.7**
LZH				pmax	pmax			
	comp=Z,22nm,1.4s							
LZH				pmax	pmax			
	comp=Z,88nm,4.3s							
ULN	**Ulaanbaatar**	**82.27**	**324**	*e*P	**P**	**01**	**44**	**51.0 -0.4**
	comp=Z,1.4nm,0.5s							
SONM	**Songino Array**	**82.63**	**324**	P	**P**	**01**	**44**	**53.6 +0.4**
	comp=Z,0.9nm,0.5s,baz=144,slow=5.6,SNR=10							
BILL	**Bilibino**	**82.68**	**360**	*e*P	**P**	**01**	**44**	**52.6 -0.3**
	comp=Z,1.9nm,0.4s							
ILAR	**Eielson Array**	**86.64**	**18**	P	**P**	**01**	**45**	**11.8 -1.1**
	comp=Z,2.2nm,0.7s,baz=236,slow=5.6,SNR=17							
IL1	**Eielson Array**	**86.64**	**18**	*e*P	**P**	**01**	**45**	**11.4 -1.4**
DOT	**Dot Lake**	**86.73**	**20**	*e*P	**P**	**01**	**45**	**11.6 -1.7**
	comp=Z,10nm,0.9s							
NVAR	**Mina Array Bea**	**87.33**	**49**	P	**P**	**01**	**45**	**17.8 +0.7**
	comp=Z,0.2nm,0.6s,baz=240,slow=8.9,SNR=3.6							
B08A	**Colville Reser**	**90.30**	**40**	*e*P	**P**	**01**	**45**	**29.6 -1.0**
	comp=Z,5.0nm,0.9s							
WMQ	**Urumqi**	**92.85**	**315**	*e*P	**P**	**01**	**45**	**42.8 +0.3**
WMQ				pP	pP	01	46	16.4 +1.0
SNAA	**Sanae**	**93.42**	**183**	P	**P**	**01**	**45**	**43.9 -0.8**
VNA3	**Neumayer Olymp**	**94.08**	**181**	P	**P**	**01**	**45**	**47.1 -0.6**
VNA2	**Neumayer--Watz**	**94.35**	**182**	P	**P**	**01**	**45**	**48.5 -0.4**
	baz=172,slow=3.9							
VNA1	**Neumayer--Stat**	**94.64**	**181**	P	**P**	**01**	**45**	**49.3 -0.9**
MK01	**Makanchi Array**	**97.32**	**316**	*e*P	Pdif	01	46	03.0 +0.2
MK31	**Makanchi Array**	**97.33**	**316**	*e*P	**P**	**01**	**46**	**02.6 -0.2**
	comp=Z,6.7nm,2.0s							
MKAR	**Makanchi Array**	**97.33**	**316**	P	Pdif	01	46	03.2 +0.3
	comp=Z,0.9nm,0.5s,baz=89,slow=6.6,SNR=16							
ZALV	**Zalesovo Beam**	**97.52**	**324**	P	**P**	**01**	**46**	**03.2 -0.3**
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=2.5							
ARCES	**ARCESS Array B**	**120.39**	**345**	PKP	**PKPdf**	**01**	**51**	**19.6 -0.2**
	comp=Z,2.7nm,0.6s,baz=71,slow=2.0,SNR=28							
FINES	**FINESS Array B**	**125.86**	**338**	PKP	**PKiKP**	**01**	**51**	**31.2 +0.4**
	comp=Z,0.3nm,0.3s,baz=54,slow=3.3,SNR=7.4							
NB2	**NORSAR Subarra**	**130.76**	**345**	SKPa	**SKPbc**	**01**	**54**	**55.8 +3.7**
	comp=Z,1.9nm,0.8s,baz=33,slow=3.2							
NOA	**NORSAR Array B**	**130.76**	**345**	PKP	**PKPdf**	**01**	**51**	**40.1 +0.3**
	comp=Z,0.5nm,0.7s,baz=26,slow=9.6,SNR=3.6							
ESDC	**Sonseca Array**	**154.13**	**344**	PKPab	**PKPab**	**01**	**52**	**44.8 +1.5**
	comp=Z,0.6nm,0.7s,baz=12,slow=4.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**165.94**	**265**	PKPab	**PKPab**	**01**	**53**	**36.6 +1.1**
	comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=3.0							

IDC 15 01:37:52.2±2.8, 52°32N×132°34W, h0km, mb1 3.4/4, mb1mx3.2/42, mbtmp2.9/4, ML2.9/4, Error ellipse: s-maj=46.1km s-min=13.6km az=69.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	**DAWSON INLET T**	**0.89**	**355**	Pg	Pg	01 38 08.7	-0.5
H02S1				Lg	Lg	01 38 20.8	
YKA	**Yellowknife Ar**	**13.91**	**36**	Pn	Pn	01 41 08.8	-1.5
	0.0nm,0.3s,baz=228,slow=13,SNR=4.7						
ILAR	**Eielson Array**	**14.56**	**335**	Pn	Pn	01 41 20.8	+1.6
	0.0nm,0.3s,baz=143,slow=9.1,SNR=2.6						
NVAR	**Mina Array Bea**	**16.99**	**139**	Pn	Pn	01 41 51.0	-0.3
	0.0nm,0.3s,baz=312,slow=9.6,SNR=2.7						
PDAR	**Pinedale Array**	**18.04**	**113**	P	Pn	01 42 02.8	-1.5
	0.0nm,0.3s,baz=303,slow=8.4,SNR=2.2						

IDC 15 01:39:13.0±1.4, 6°58S×148°67E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/29, mbtmp4.0/6, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.0/41, Error ellipse: s-maj=55.1km s-min=22.7km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.24**	**225**	P	P	01 43 38.7	-0.4
	0.4nm,0.3s,baz=52,slow=11,SNR=13						
WRA				S	Sn	01 47 07.7	-8.7
	0.1nm,0.3s,baz=50,slow=22,SNR=3.7						
WRA				ScP	ScP	01 51 41.2	+1.2
	0.0nm,0.3s,baz=46,slow=3.0,SNR=3.0						
ASAR	**Alice Springs**	**22.14**	**218**	P	P	01 44 10.3	-0.2
	5.5nm,0.4s,baz=56,slow=9.2,SNR=41						
ASAR				S	S	01 48 06.7	-8.9
	0.2nm,0.5s,baz=40,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**25.21**	**241**	P	P	01 44 41.0	+0.3
	14nm,0.7s,baz=59,slow=12,SNR=21						
STKA	**Stephens Creek**	**26.02**	**194**	P	P	01 44 47.5	-0.5
	2.5nm,0.8s,baz=0.0,slow=9.3,SNR=5.0						
STKA				LR	LR	01 54 22.8	
	comp=Z,81nm,19.6s,baz=216,slow=35						
RPZ	**Rata Peaks**	**41.88**	**156**	LR	LR	02 04 49.7	
	comp=Z,180nm,18.1s,baz=216,slow=37						
MKAR	**Makanchi Array**	**79.00**	**320**	P	P	01 51 18.6	-0.4
	0.1nm,0.3s,baz=97,slow=6.7,SNR=3.2						
ILAR	**Eielson Array**	**85.36**	**23**	P	P	01 51 51.5	-0.4
	0.5nm,0.7s,baz=265,slow=4.5,SNR=4.6						
RPN	**Rapa Nui**	**97.61**	**118**	LR	LR	02 29 06.5	
	comp=Z,19nm,18.2s,baz=172,slow=31						
GERES	**GERESS Array B**	**123.32**	**326**	PKP	PKiKP	01 58 12.8	+0.3
	0.6nm,0.6s,baz=82,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**146.84**	**284**	PKPbc	PKPbc	01 58 57.6	-0.8
	6.0nm,0.9s,baz=80,slow=2.6,SNR=29						

KRSC 15 01:40:56.5±10.0, 52°93N×159°65E, h105km±10km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.28**	**54**	*e*P	Pn	01 41 12.5	+0.9
SPN				*e*S	Sn	01 41 23.8	+0.8
NLC	**Nalytchevo**	**0.30**	**323**	*e*P	Pn	01 41 12.4	+0.7
NLC				*e*S	Sn	01 41 24.3	+1.2
DALK	**Dalny**	**0.55**	**281**	*e*P	Pn	01 41 13.6	+0.4
DALK				*e*S	Sn	01 41 26.0	+0.3
UGLR	**Uglovaya**	**0.57**	**299**	*e*P	Pn	01 41 14.4	+0.9
UGLR				*e*S	Sn	01 41 27.8	+1.6
SDLR	**Sedlovina**	**0.57**	**307**	*e*P	Pn	01 41 14.2	+0.7
SDLR				*e*S	Sn	01 41 27.3	+1.0
PET	**Petropavlovsk**	**0.61**	**279**	*e*P	Pn	01 41 14.2	+0.6
PET				*e*S	Sn	01 41 26.3	-0.2
SMAR	**Somma**	**0.61**	**303**	*e*P	Pn	01 41 14.7	+0.8
AVH	**Avacha**	**0.64**	**302**	*e*P	Pn	01 41 15.0	+1.0
AVH				*e*S	Sn	01 41 29.0	+1.9
KRER	**Koryakskii**	**0.66**	**305**	*e*P	Pn	01 41 15.2	+0.9
KRER				*e*S	Sn	01 41 28.0	+0.4
KOK	**Koryaka**	**0.71**	**301**	*e*P	Pn	01 41 15.2	+0.6
KRX	**Arik**	**0.74**	**306**	*e*P	Pn	01 41 15.5	+0.6
RUS	**Russkaya**	**0.85**	**234**	*e*P	Pn	01 41 16.2	+0.4
RUS				*e*S	Sn	01 41 30.4	+0.1
KRMR	**Karymshinskiy**	**0.93**	**264**	*e*P	Pn	01 41 16.6	+0.1
KRMR				*e*S	Sn	01 41 31.7	+0.1
MTVR	**Mutnovka**	**1.00**	**244**	*e*P	Pn	01 41 18.3	+0.8
MTVR				*e*S	Sn	01 41 34.2	+1.0
ASAK	**Asacha**	**1.20**	**243**	*e*P	Pn	01 41 20.4	+0.8
ASAK				*e*S	Sn	01 41 38.7	+1.7
GNL	**Ganaly**	**1.28**	**307**	*e*P	Pn	01 41 20.4	-0.1
KDTR	**Khodutka, Kamc**	**1.48**	**221**	*e*P	Pn	01 41 23.0	+0.2
KDTR				*e*S	Sn	01 41 42.2	-0.5
KZV	**Kizimen**	**2.22**	**10**	*e*P	Pn	01 41 33.1	+0.9
KZV				*e*S	Sn	01 42 00.2	+0.7
TUMD	**Tumrok D**	**2.32**	**11**	*e*S	Sn	01 42 01.7	+0.1
TUMR	**Tumrok**	**2.37**	**7**	*e*P	Pn	01 41 35.6	+1.4

IDC 15 01:51:23.3±3.5, 6°80S×148°94E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/38, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=110.8km s-min=45.9km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.27**	**226**	P	Pn	01 55 50.5	-0.2
	0.1nm,0.3s,baz=50,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**22.13**	**219**	P	P	01 56 20.2	-0.5
	0.7nm,0.5s,baz=56,slow=9.4,SNR=11						
FITZ	**Fitzroy Crossi**	**25.33**	**242**	P	P	01 56 52.1	0.0
	2.2nm,0.8s,baz=69,slow=13,SNR=4.4						
TORD	**Torodi Ar. Bea**	**147.15**	**284**	PKPbc	PKPbc	02 11 08.8	-0.8
	0.4nm,0.7s,baz=97,slow=2.7,SNR=3.2						

IDC 15 02:03:31.7±3.6, 6°87S×148°73E, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.4/33, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=107.2km s-min=47.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.07**	**226**	P	Pn	02 07 57.0	+0.3
	0.2nm,0.3s,baz=53,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**21.95**	**219**	P	P	02 08 27.9	+0.8
	1.3nm,0.5s,baz=50,slow=10.0,SNR=14						
FITZ	**Fitzroy Crossi**	**25.11**	**241**	P	P	02 08 58.0	-0.5
	1.8nm,0.6s,baz=62,slow=10.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**146.97**	**283**	PKPbc	PKPdf	02 23 16.0	+0.5
	0.7nm,0.9s,baz=80,slow=1.6,SNR=3.9						

IDC 15 02:16:52.1±9.5, 32°07S×179°11W, h107km±91km, mb3.5/2, mb1 3.6/3, mb1mx3.3/39, mbtmp3.8/3, ML3.1/1, Error ellipse: s-maj=78.9km s-min=57.6km az=167.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.91**	**206**	P	Pn	02 18 31.3	+0.6
	0.4nm,0.3s,baz=287,slow=20,SNR=3.1						
URZ				S	Sn	02 19 47.5	-0.2
	0.5nm,0.3s,baz=107,slow=19,SNR=2.3						
ASAR	**Alice Springs**	**42.11**	**269**	P	P	02 24 33.9	0.0
	0.4nm,0.3s,baz=101,slow=7.6,SNR=5.3						
WRA	**Warramunga Arr**	**43.25**	**275**	P	P	02 24 43.0	-0.2
	0.9nm,0.3s,baz=111,slow=8.0,SNR=32						
FINES	**FINESS Array B**	**146.37**	**338**	PKPbc	PKPdf	02 36 18.8	+0.5
	1.1nm,0.9s,baz=48,slow=2.1,SNR=4.1						

ISCJB ***15*** *02:17:21.5±0.3, 67°60N±0°04×142°81E±0°09, h10km, mb3.9/34, MS3.1/3, Error ellipse: s-maj=5.6km s-min=4.7km az=149.9*

IDC ***15*** *02:17:21.4±0.6, 67°58N×142°75E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.8/47, mbtmp3.7/19, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/42, Error ellipse: s-maj=16.7km s-min=13.6km az=170.0*

YARS ***15*** *02:17:22.7±0.2, 67°58N±0°01×142°86E±0°03, h5km±3km*

NEIC ***15*** *02:17:23.0±0.2, 67°58N×142°77E, h10km, mb4.2/19, Error ellipse: s-maj=7.1km s-min=4.2km az=173.0*

ISC 15 02:17:23.0±0.4, 67°59N±0°04×142°79E±0°04, h10km, n62, σ1°21/67, mb4.1/34, MS3.1/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.14**	**171**	*i* P	**Pb**	**02 17 42.8**	**-2.0**
MOMR				Pmax		02 17 42.8	
	comp=Z,1μm,0.7s						
MOMR				*e*S	**Sb**	**02 17 58.2**	**-1.5**
MOMR				Smax		02 17 58.2	
	comp=E,7μm,0.5s						
YBGR	**Belaya Gora**	**1.59**	**52**	*i* P	**Pn**	**02 17 50.2**	**-1.0**
YBGR				Pmax		02 17 50.2	
	comp=Z,631nm,0.8s						
YBGR				*e*S	**Sn**	**02 18 11.7**	**0.0**
YBGR				Smax		02 18 11.7	
	comp=N,2μm,0.6s						
DEPR	**Deputatskiy**	**2.10**	**331**	*e*P	**Pn**	**02 17 58.6**	**+0.4**
DEPR				*e*P	**Pb**	**02 18 00.5**	**-0.6**
DEPR				Pmax		02 18 00.5	
	comp=Z,74nm,0.9s						
DEPR				*e*S	**Sb**	**02 18 28.8**	**+1.6**
DEPR				Smax		02 18 28.8	
	comp=E,527nm,0.8s						
BTGS	**Batagay**	**3.12**	**275**	*e*P	**Pn**	**02 18 13.7**	**+1.5**
BTGS				*e*P	**Pb**	**02 18 19.2**	**+0.7**
BTGS				Pmax		02 18 19.2	
	comp=Z,56nm,0.7s						
BTGS				*e*S	**Sg**	**02 18 59.9**	**-3.1**
BTGS				Smax		02 18 59.9	
	comp=N,609nm,0.8s						
SEY	**Seymchan**	**6.17**	**135**	Pn	**Pn**	**02 18 52.9**	**-1.2**
	comp=N,0.6nm,0.3s,baz=316,slow=7.3,SNR=4.6						
SEY				Lg	Lg	02 20 31.4	
	comp=N,1.3nm,0.3s,baz=1.9,slow=1.3,SNR=4.1						
TIXI	**Tiksi**	**6.33**	**316**	*e*Pn	**Pn**	**02 18 55.9**	**-0.3**
TIXI				*e*Sn	**Sn**	**02 20 03.8**	**-4.6**
TIXI				Lg	Lg	02 20 36.1	
TIXI	**Tiksi**	**6.33**	**316**	Pn	**Pn**	**02 18 56.5**	**+0.3**
	comp=N,1.1nm,0.3s,baz=125,slow=15,SNR=26						
TIXI				Sn	**Sn**	**02 20 06.3**	**-2.1**
	comp=N,1.4nm,0.3s,baz=274,slow=22,SNR=4.0						
TIXI				Lg	Lg	02 20 36.2	
	comp=N,1.8nm,0.3s,baz=42,slow=13,SNR=7.9						
MA2	**Magadan**	**8.79**	**152**	Lg	Lg	02 21 54.8	
	comp=N,1.2nm,0.3s,baz=19,slow=18,SNR=2.6						
BILL	**Bilibino**	**8.88**	**76**	*e*Pn	**Pn**	**02 19 31.7**	**+0.6**
PETK	**Petropavlovsk-**	**16.21**	**146**	*e*Pn	**P**	**02 21 15.6**	**+1.8**
GAMB	**Gambell**	**18.77**	**80**	*e*P	**Pn**	**02 21 43.4**	**+1.1**
	comp=N,3.7nm,0.9s						
KLR	**Kul'dur**	**19.24**	**202**	P	**P**	**02 21 45.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=35,slow=7.2,SNR=6.8						
TOLK	**Toolik Lake Re**	**24.10**	**56**	*e*P	**P**	**02 22 38.1**	**-0.3**
	comp=N,18nm,1.5s						
IM3	**Indian Mountai**	**24.11**	**64**	*e*P	**P**	**02 22 38.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**24.14**	**199**	P	**P**	**02 22 38.4**	**-0.4**
	comp=N,2.5nm,0.8s,baz=11,slow=9.7,SNR=3.2						
COLD	**Coldfoot**	**24.63**	**59**	*e*P	**P**	**02 22 43.5**	**+0.3**
	comp=N,7.0nm,1.1s						
MDM	**Murphy Dome**	**26.58**	**63**	*e*P	**P**	**02 23 00.8**	**0.0**
	comp=N,4.1nm,0.8s						
COLA	**College**	**26.76**	**63**	*e*P	**P**	**02 23 02.6**	**+0.2**
	comp=N,2.6nm,0.5s						
SONM	**Songino Array**	**27.07**	**241**	P	**P**	**02 23 06.4**	**+0.9**
	comp=N,0.6nm,0.7s,baz=27,slow=10,SNR=5.2						
IL1	**Eielson Array**	**27.15**	**62**	*e*P	**P**	**02 23 05.3**	**-0.7**
ILAR	**Eielson Array**	**27.15**	**62**	P	**P**	**02 23 05.8**	**-0.1**
	comp=N,3.0nm,0.8s,baz=300,slow=6.8,SNR=33						
ILB	**Eielson Array**	**27.15**	**62**	*e*P	**P**	**02 23 05.9**	**-0.1**
	comp=N,4.4nm,0.9s						
ZALV	**Zalesovo Beam**	**30.10**	**272**	LR	LR	02 36 22.6	
	comp=N,47nm,19.9s,baz=50,slow=38						
KSRS	**Korea Array**	**31.33**	**203**	LR	LR	02 35 57.9	
	comp=N,29nm,18.4s,baz=320,slow=36						
HHC	**Hu-ho-hao-te**	**31.74**	**228**	*e*P	**P**	**02 23 50.3**	**+3.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,6.4s						
JNU	**Nakatsue**	**35.20**	**197**	LR	LR	02 38 04.3	
	comp=Z,32nm,20.0s,baz=10.0,slow=35						
BRVK	**Borovoye**	**36.30**	**283**	*e*P	**P**	**02 24 26.7**	**+0.5**
MK31	**Makanchi Array**	**36.79**	**267**	*e*P	**P**	**02 24 31.9**	**+1.4**
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**36.79**	**267**	P	**P**	**02 24 30.5**	**0.0**
	comp=Z,0.8nm,0.7s,baz=46,slow=6.8,SNR=7.4						
MKAR				PP	**PP**	**02 25 54.7**	**+0.6**
	comp=Z,0.8nm,0.9s,baz=39,slow=9.3,SNR=3.9						
MK01	**Makanchi Array**	**36.81**	**267**	*e*P	**P**	**02 24 30.4**	**-0.3**
YKA	**Yellowknife Ar**	**38.82**	**46**	P	**P**	**02 24 47.5**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=322,slow=8.1,SNR=21						
ABKAR	**Akbulak array**	**43.20**	**288**	*e*P	**P**	**02 25 23.9**	**+0.3**
	comp=Z,8.3nm,1.8s						
CD2	**Chengdu**	**43.27**	**232**	P	**P**	**02 25 26.3**	**+1.8**
CD2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AAK	**Ala-Archa**	**43.28**	**271**	*e*P	**P**	**02 25 26.0**	**+1.4**
	comp=Z,1.0nm,0.5s						
FIA1	**FINESS Array S**	**43.35**	**321**	*e*P	**P**	**02 25 23.9**	**-0.7**
FINES	**FINESS Array B**	**43.35**	**321**	P	**P**	**02 25 24.8**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=42,slow=6.4,SNR=4.8						
NOA	**NORSAR Array B**	**46.92**	**330**	P	**P**	**02 25 52.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=24,slow=7.8,SNR=2.9						
FCC	**Fort Churchill**	**47.23**	**36**	*e*P	**P**	**02 25 54.6**	**-0.9**
	comp=Z,0.8nm,0.6s						
FFC	**Flin Flon**	**48.89**	**44**	*e*P	**P**	**02 26 08.0**	**-0.4**
	comp=Z,2.6nm,0.8s						
AKASG	**Malin Array Be**	**52.02**	**312**	P	**P**	**02 26 30.1**	**-2.0**
	comp=Z,1.3nm,0.6s,baz=28,slow=8.2,SNR=3.6						
ESK	**Eskdalemuir**	**54.82**	**337**	*e*P	**P**	**02 26 51.8**	**-0.8**
CLL	**Collm**	**55.60**	**324**	*e*P	**P**	**02 26 58.0**	**-0.2**
HVU	**Hansel Valley**	**57.21**	**59**	*e*P	**P**	**02 27 10.1**	**+0.1**
	comp=Z,1.9nm,0.8s						
ELK	**Elko**	**57.31**	**62**	P	**P**	**02 27 10.8**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=317,slow=6.3,SNR=3.9						
PD31	**Pinedale Array**	**57.37**	**56**	*e*P	**P**	**02 27 11.4**	**+0.1**
	comp=Z,7.8nm,1.8s						
PDAR	**Pinedale Array**	**57.37**	**56**	*e*P	**P**	**02 27 10.4**	**-0.8**
PDAR	**Pinedale Array**	**57.37**	**56**	P	**P**	**02 27 11.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=17,slow=3.1,SNR=15						
GERES	**GERESS Array B**	**57.74**	**323**	P	**P**	**02 27 14.5**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=359,slow=5.3,SNR=4.3						
GEA0	**GERESS Array S**	**57.75**	**323**	*e*P	**P**	**02 27 13.7**	**0.0**
NV01	**Mina Array Sit**	**58.33**	**66**	*e*P	**P**	**02 27 18.8**	**+0.7**
NVAR	**Mina Array Bea**	**58.33**	**66**	P	**P**	**02 27 19.1**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=313,slow=5.2,SNR=9.5						
DUG	**Dugway, Tooele**	**58.62**	**60**	*e*P	**P**	**02 27 21.0**	**+1.1**
	comp=Z,3.9nm,1.2s						
MDPB	**Devils Postpil**	**58.77**	**67**	*e*P	**P**	**02 27 22.6**	**+1.5**
	comp=Z,3.2nm,0.9s						
R11A	**Troy Canyon, C**	**59.34**	**64**	*e*P	**P**	**02 27 25.6**	**+0.5**
	comp=Z,2.2nm,1.0s						
PSUT	**Pine Spring**	**59.77**	**62**	*e*P	**P**	**02 27 28.7**	**+0.7**
	comp=Z,1.8nm,0.6s						
BRTR	**Keskin Array B**	**60.60**	**303**	P	**P**	**02 27 34.2**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=20,slow=4.6,SNR=3.1						
SMCO	**Snowmass**	**61.45**	**56**	*e*P	**P**	**02 27 39.7**	**0.0**
	comp=Z,2.2nm,1.0s						
ESDC	**Sonseca Array**	**70.13**	**333**	P	**P**	**02 28 35.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=13,slow=7.5,SNR=4.3						
RAYN	**Ar Rayn**	**71.22**	**286**	*e*P	**P**	**02 28 42.1**	**0.0**
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**71.55**	**58**	P	**P**	**02 28 43.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=340,slow=4.7,SNR=4.8						
WRA	**Warramunga Arr**	**87.50**	**188**	P	**P**	**02 30 09.9**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=7.7,slow=5.8,SNR=3.0						
PLCA	**Paso Flores**	**147.54**	**51**	PKPbc	**PKPbc**	**02 37 06.3**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=312,slow=4.0,SNR=7.5						

ISCJB ***15*** *02:26:10.7±0.3, 24°10S±0°04×67°16W±0°03, h191km±3km, mb3.6/7, Error ellipse: s-maj=7.7km s-min=4.0km az=25.5*

IDC ***15*** *02:26:11.0±1.4, 24°06S×66°93W, h173km±10km, mb3.5/7, mb1 3.7/12, mb1mx3.5/37, mbtmp4.0/12, Error ellipse: s-maj=24.3km s-min=13.4km az=22.0*

SJA ***15*** *02:26:10.8±0.8, 24°14S×67°11W, h189km±8km, ML3.2, MW3.6*

VAO ***15*** *02:26:11.3±0.3, 24°26S×67°65W, h245km, mb4.2*

GUC ***15*** *02:26:13.0±0.6, 23°93S×67°55W, h218km±6km, ML4.4*

ISC 15 02:26:11.3±0.7, 24°16S±0°05×67°16W±0°04, h187km±7km, n67, σ1°31/82, mb3.8/7, 10C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.61**	**111**	*e*P	**Pn**	**02 26 45.3**	**+0.3**
SLA				IAML		02 26 46.7	
	comp=Z,232nm,0.6s						
SLA				*e*S	**Sn**	**02 27 10.3**	**-0.9**
HJA	**Humahuaca**	**1.86**	**60**	*e*P	**Pn**	**02 26 48.0**	**+0.2**
HJA				IAML		02 26 49.4	
	comp=Z,80nm,0.6s						
HJA				*e*S	**Sn**	**02 27 15.8**	**-0.3**
FSA	**Cafayete**	**2.22**	**152**	*e*P	**Pn**	**02 26 51.5**	**+0.1**
LVC	**Limon Verde**	**2.23**	**313**	*e*P	**Pn**	**02 26 52.6**	**+0.9**
LVC				*i* S	**Sn**	**02 27 23.1**	**0.0**
LVC	**Limon Verde**	**2.23**	**313**	P	**Pn**	**02 26 52.7**	**+0.9**
	comp=Z,34nm,0.3s,baz=124,slow=7.3,SNR=288						
LVC				S	**Sn**	**02 27 22.4**	**-0.7**
	comp=Z,27nm,0.3s,baz=111,slow=4.1,SNR=6.5						
LVC	**Limon Verde**	**2.23**	**313**	*e*P	**Pn**	**02 26 52.7**	**+0.9**
PB15	**IPOC Station P**	**2.32**	**294**	*e*P	**Pn**	**02 26 53.7**	**+1.1**
PB15				*e*S	**Sn**	**02 27 24.7**	**0.0**
PB15	**IPOC Station P**	**2.32**	**294**	⇑*i*P	**Pn**	**02 26 53.5**	**+0.9**
PB15				*i* S	**Sn**	**02 27 24.5**	**-0.2**
YJA	**Yavi**	**2.48**	**38**	*e*P	**Pn**	**02 26 55.1**	**+0.4**
PB06	**IPOC Station P**	**2.65**	**303**	*e*P	**Pn**	**02 26 57.1**	**+0.8**
PB06				*e*S	**Sn**	**02 27 30.8**	**-0.5**
PB06	**IPOC Station P**	**2.65**	**303**	⇑*i*P	**Pn**	**02 26 57.1**	**+0.8**
PB06				*i* S	**Sn**	**02 27 30.5**	**-0.8**
PB06				IAML		02 27 31.9	
	comp=N,1μm,0.3s						
PB14	**IPOC Station P**	**3.00**	**260**	*e*P	**Pn**	**02 27 00.8**	**+0.3**
PB14

MAJO Matsushiro 154.96 305 *e*P PKPpre 02 45 35.9
DAV Davao City (W) 159.08 218 *e*P PKPpre 02 45 40.9

IDC ***15*** *02:27:57.3±0.5,52˚.36N×132˚.12W,h0km,mb4.3/26, mb1 4.3/33,mb1mx4.3/46,mbtmp4.2/33,ML3.8/7,MS3.6/26, Ms1 3.6/26,ms1mx3.4/42,Error ellipse: s-maj=10.4km s-min=6.0km az=39.0*
PGC ***15*** *02:27:58.0±2.9,52˚.31N×132˚.28W,h24km,mb4.4, ML4.4/19,Mw4.5, 109km Ssw of Sandspit, Bc Haida Gwaii Region*
NEIC ***15*** *02:27:58.0±0.0,52˚.31N×132˚.28W,h24km,mb4.4/173, MW4.5(OTT),After OTT.*
ISCJB ***15*** *02:27:58.4±0.4,52˚.39N±0˚.02×132˚.14W±0˚.03,h16km±3km, mb4.6/149,MS3.8/21,Error ellipse: s-maj=4.1km s-min=1.7km az=144.2*
MOS ***15*** *02:27:58.0±0.8,52˚.39N×132˚.18W,h13km,mb4.9/42, Error ellipse: s-maj=9.5km s-min=4.1km az=111.0*

ISC 15 02:28:00.1±0.6,52˚.36N±0˚.03×132˚.10W±0˚.03,h19km±2km, n742,σ1ᵗ32/733,mb4.6/150,**MS3.9**/22,**6C-8D,Queen Charlotte Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.31**	**44**	P	**Pb**	**02 28 07.1**	**+0.2**
BNB				S	**Sb**	**02 28 12.1**	**+0.4**
BNB	**Barry Inlet**	**0.31**	**44**	P	**Pb**	**02 28 07.1**	**+0.2**
BNB				S	**Sb**	**02 28 12.1**	**+0.4**
HG3B	**Hotspring**	**0.46**	**61**	P	**Pg**	**02 28 09.4**	**-0.1**
HG3B				S	**Sb**	**02 28 16.3**	**+0.3**
HG4B	**Hotspring**	**0.56**	**96**	P	**Pg**	**02 28 10.0**	**-1.3**
HG4B				S	**Sg**	**02 28 16.9**	**-1.9**
HG1B	**Mitchell Dam**	**0.58**	**358**	P	**Pg**	**02 28 10.4**	**-1.2**
HG1B				S	**Sb**	**02 28 19.2**	**0.0**
MOBC	**Moresby Island**	**0.79**	**6**	P	**Pb**	**02 28 14.1**	**-1.2**
MOBC				S	**Sg**	**02 28 25.6**	**-0.6**
MOBC	**Moresby Island**	**0.79**	**6**	P	**Pb**	**02 28 14.1**	**-1.2**
MOBC				S	**Sg**	**02 28 25.6**	**-0.6**
DIB	**Dawson Inlet,**	**0.88**	**345**	*e*Pg	**Pb**	**02 28 14.0**	**-2.6**
DIB	**Dawson Inlet,**	**0.88**	**345**	P	**Pb**	**02 28 14.2**	**-2.4**
DIB				S	**Sb**	**02 28 26.2**	**-1.7**
H02S1	**DAWSON INLET T**	**0.88**	**345**	Pg	**Pb**	**02 28 14.3**	**-2.4**
H02S1				Lg	Lg	02 28 25.9	
MASB	**Masset**	**1.66**	**2**	Pn	**Pn**	**02 28 27.1**	**-1.1**
MASB	**Masset**	**1.66**	**2**	Pn	**Pn**	**02 28 27.1**	**-1.1**
NDB	**Naden**	**1.68**	**343**	Pn	**Pn**	**02 28 26.0**	**-2.4**
NDB				Sn	**Sn**	**02 28 47.3**	**-2.1**
NDB	**Naden**	**1.68**	**343**	Pn	**Pn**	**02 28 26.0**	**-2.4**
NDB				Sn	**Sn**	**02 28 47.3**	**-2.1**
RUBB	**Prince Rupert**	**2.26**	**29**	Pn	**Pn**	**02 28 35.9**	**-0.5**
RUBB	**Prince Rupert**	**2.26**	**29**	Pn	**Pn**	**02 28 35.9**	**-0.5**
BBB	**Bella Bella**	**2.46**	**92**	Pn	**Pn**	**02 28 37.4**	**-1.8**
BBB				Sn	**Sn**	**02 29 06.4**	**-2.1**
BBB	**Bella Bella**	**2.46**	**92**	Pn	**Pn**	**02 28 37.3**	**-1.8**
	9.0nm,0.3s,baz=269,slow=9.2,SNR=30						
BBB				Pg	**Pb**	**02 28 42.1**	**-1.5**
	50nm,0.3s,baz=273,slow=16,SNR=39						
BBB				Sn	**Sn**	**02 29 06.9**	**-1.7**
	127nm,0.3s,baz=292,slow=18,SNR=7.8						
BBB				Lg	Lg	02 29 13.2	
	257nm,0.3s,baz=177,slow=20,SNR=10						
BBB				LR	LR	02 29 39.6	
	comp=Z,1µm,19.1s,baz=0.5,slow=42						
HOLB	**Holberg**	**3.02**	**123**	Pn	**Pn**	**02 28 43.9**	**-2.9**
HOLB				Sn	**Sn**	**02 29 19.0**	**-3.5**
HOLB	**Holberg**	**3.02**	**123**	Pn	**Pn**	**02 28 43.9**	**-2.9**
HOLB				Sn	**Sn**	**02 29 19.0**	**-3.5**
CRAG	**Craig**	**3.17**	**349**	*e*Pn	**Pn**	**02 28 48.0**	**-0.9**
BCBC	**Bella Coola**	**3.28**	**88**	Pn	**Pn**	**02 28 51.4**	**+1.0**
PHC	**Port Hardy**	**3.35**	**118**	Pn	**Pn**	**02 28 48.7**	**-2.7**
PHC				Sn	**Sn**	**02 29 25.9**	**-4.7**
PHC	**Port Hardy**	**3.35**	**118**	Pn	**Pn**	**02 28 48.7**	**-2.7**
PHC				Sn	**Sn**	**02 29 25.9**	**-4.7**
PACB	**Port Alice, BC**	**3.47**	**122**	Pn	**Pn**	**02 28 50.7**	**-2.3**
PACB				Sn	**Sn**	**02 29 29.5**	**-4.0**
BPBC	**Brooks Peninsu**	**3.50**	**127**	Pn	**Pn**	**02 28 52.0**	**-1.5**
MAYB	**Maynard**	**3.66**	**120**	Pn	**Pn**	**02 28 54.0**	**-1.8**
MAYB	**Maynard**	**3.66**	**120**	Pn	**Pn**	**02 28 54.0**	**-1.8**
TLCB	**Telegraph Cove**	**3.76**	**117**	Pn	**Pn**	**02 28 54.5**	**-2.4**
TLCB				Sn	**Sn**	**02 29 36.6**	**-4.1**
EDB	**Eliza Dome**	**4.01**	**126**	Pn	**Pn**	**02 28 59.1**	**-1.3**
EDB	**Eliza Dome**	**4.01**	**126**	Pn	**Pn**	**02 28 59.1**	**-1.3**
WRAK	**Wrangell Islan**	**4.07**	**358**	*e*Pn	**Pn**	**02 29 00.4**	**-0.8**
WOSB	**Woss**	**4.11**	**120**	Pn	**Pn**	**02 29 00.6**	**-1.4**
WOSB				Sn	**Sn**	**02 29 47.2**	**-2.3**
WOSB	**Woss**	**4.11**	**120**	Pn	**Pn**	**02 29 00.6**	**-1.4**
WOSB				Sn	**Sn**	**02 29 47.2**	**-2.3**
NCRB	**Newcastle Ridg**	**4.26**	**115**	Pn	**Pn**	**02 29 02.4**	**-1.7**
NCRB	**Newcastle Ridg**	**4.26**	**115**	Pn	**Pn**	**02 29 02.4**	**-1.7**
CBB	**Campbell River**	**4.83**	**116**	Pn	**Pn**	**02 29 11.0**	**-0.8**
CBB	**Campbell River**	**4.83**	**116**	Pn	**Pn**	**02 29 11.0**	**-0.8**
CBB				Sn	**Sn**	**02 30 04.2**	**-3.0**
SIT	**Sitka**	**5.07**	**340**	*e*Pn	**Pn**	**02 29 13.7**	**-1.2**
SIT	**Sitka**	**5.07**	**340**	*e*P	**Pn**	**02 29 13.7**	**-1.2**
BTB	**Buttle Lake**	**5.07**	**122**	Pn	**Pn**	**02 29 13.7**	**-1.4**
BTB	**Buttle Lake**	**5.07**	**122**	Pn	**Pn**	**02 29 13.7**	**-1.4**
FSB	**Fort Saint Jam**	**5.11**	**62**	Pn	**Pn**	**02 29 15.3**	**-0.3**
FSB	**Fort Saint Jam**	**5.11**	**62**	Pn	**Pn**	**02 29 15.3**	**-0.3**
FSB				Sg	**Sg**	**02 30 39.1**	**-4.9**
TXB	**Texada**	**5.52**	**116**	Pn	**Pn**	**02 29 20.1**	**-1.1**
TXB	**Texada**	**5.52**	**116**	Pn	**Pn**	**02 29 20.1**	**-1.1**
MGB	**Mount Grey**	**5.79**	**123**	Pn	**Pn**	**02 29 24.5**	**-0.4**
MGB	**Mount Grey**	**5.79**	**123**	Pn	**Pn**	**02 29 24.5**	**-0.4**
SHB	**Sechelt**	**5.89**	**115**	Pn	**Pn**	**02 29 25.3**	**-1.0**
NLLB	**Nanaimo Lost L**	**6.03**	**118**	Pn	**Pn**	**02 29 29.0**	**+0.9**
YOUB	**Youbou, Lake C**	**6.07**	**122**	Pn	**Pn**	**02 29 30.2**	**+1.4**
WSLR	**Whistler**	**6.18**	**108**	Pn	**Pn**	**02 29 31.5**	**+1.2**
DLBC	**Dease Lake**	**6.21**	**10**	Pn	**Pn**	**02 29 32.8**	**+2.1**
DLBC	**Dease Lake**	**6.21**	**10**	Pn	**Pn**	**02 29 31.8**	**+1.2**
	2.7nm,0.3s,baz=192,slow=14,SNR=22						
DLBC				Sn	**Sn**	**02 30 42.1**	**+1.1**
	0.9nm,0.3s,baz=100,slow=19,SNR=3.7						
DLBC				Lg	Lg	02 31 12.7	
	2.3nm,0.3s,baz=138,slow=4.6,SNR=4.8						
BESE	**Bessie Mountai**	**6.43**	**347**	*e*Pn	**Pn**	**02 29 33.8**	**+0.1**
LZB	**Mount Lazard**	**6.48**	**122**	Pn	**Pn**	**02 29 33.1**	**-1.3**
LLLB	**Lillooet**	**6.62**	**101**	*e*Pn	**Pn**	**02 29 37.7**	**+1.4**
LLLB	**Lillooet**	**6.62**	**101**	Pn	**Pn**	**02 29 37.1**	**+0.7**
BMBC	**Bull Mountain**	**6.92**	**54**	Pn	**Pn**	**02 29 41.9**	**+1.5**
A04D	**Lummi Island**	**7.01**	**118**	P	**Pn**	**02 29 42.1**	**+0.5**
	baz=304						
VDB	**Vedder Mountai**	**7.17**	**114**	Pn	**Pn**	**02 29 44.4**	**+0.6**
NLWA	**Neilton Lookou**	**7.28**	**130**	*e*Pn	**Pn**	**02 29 48.1**	**+2.7**
PLBC	**Pleasant Camp**	**7.51**	**343**	Pn	**Pn**	**02 29 47.9**	**-0.5**
D03D	**Eldon**	**7.56**	**126**	P	**Pn**	**02 29 49.6**	**+0.5**
	baz=312						
B05A	**Bryant**	**7.60**	**119**	P	**Pn**	**02 29 50.7**	**+1.0**
	baz=306						
D04E	**Lakebay**	**7.96**	**127**	P	**Pn**	**02 29 55.1**	**+0.5**
	baz=313						
FNBB	**Fort Nelson**	**8.32**	**35**	Pn	**Pn**	**02 29 54.9**	**-4.7**
FNBB				Sg	Sb	02 32 20.8	+19
WHY	**Whitehorse**	**8.46**	**351**	*e*Pn	**Pn**	**02 30 01.5**	**-0.1**
WHY	**Whitehorse**	**8.46**	**351**	Pn	**Pn**	**02 30 00.8**	**-0.8**
E04D	**Cinebar**	**8.50**	**129**	P	**Pn**	**02 30 03.7**	**+1.7**
	baz=316						
LON	**Longmire**	**8.73**	**126**	*e*Pn	**Pn**	**02 30 08.1**	**+2.8**
LON	**Longmire**	**8.73**	**126**	*e*P	**Pn**	**02 30 08.1**	**+2.8**
SLEB	**Sale Mountain**	**8.75**	**92**	Pn	**Pn**	**02 30 01.8**	**-3.9**
YUK7	**Dusty Glacier**	**8.84**	**340**	Pn	Pn	02 30 00.9	-6.0
LTY	**Liberty**	**8.98**	**120**	*e*Pn	**Pn**	**02 30 09.4**	**+0.7**
HYT	**Haines Junctio**	**8.99**	**343**	Pn	**Pn**	**02 30 08.0**	**-0.9**
SAMH	**Samovar Hills**	**9.16**	**332**	Pn	**Pn**	**02 30 10.0**	**-1.1**
G03D	**McMinnville, O**	**9.22**	**137**	P	**Pn**	**02 30 14.2**	**+2.2**
	baz=323						
YUK6	**Outpost Mounta**	**9.27**	**341**	Pn	**Pn**	**02 30 14.4**	**+1.7**
F05D	**White Salmon**	**9.52**	**129**	P	**Pn**	**02 30 18.0**	**+2.0**
	baz=316						
YUK4	**Talbot Arm**	**9.69**	**341**	Pn	**Pn**	**02 30 19.0**	**+0.5**
I02D	**Swisshome**	**9.92**	**143**	P	**Pn**	**02 30 23.0**	**+1.5**
	baz=329						
C09A	**Chrisman Ranch**	**9.99**	**112**	*e*Pn	**Pn**	**02 30 24.4**	**+2.0**
H04D	**Lebanon**	**10.00**	**138**	P	**Pn**	**02 30 24.6**	**+1.9**
	baz=324						
D08A	**Wollman Farm,**	**10.05**	**117**	*e*Pn	**Pn**	**02 30 23.5**	**+0.2**
G05D	**Wamic, OR**	**10.06**	**131**	P	**Pn**	**02 30 24.9**	**+1.4**
	baz=318						
H04A	**Detroit Lake**	**10.10**	**136**	*e*Pn	**Pn**	**02 30 26.3**	**+2.2**
KIAG	**Kiagna River**	**10.26**	**331**	Pn	**Pn**	**02 30 25.4**	**-0.9**
BALM	**Baldy**	**10.35**	**331**	Pn	**Pn**	**02 30 26.1**	**-1.3**
NEW	**Newport**	**10.42**	**107**	*e*Pn	**Pn**	**02 30 30.2**	**+1.8**
NEW				Lg	Lg	02 33 20.5	
NEW	**Newport**	**10.42**	**107**	*e*P	**Pn**	**02 30 30.2**	**+1.8**
NEW	**Newport**	**10.42**	**107**	P	**Pn**	**02 30 29.0**	**+0.6**
	baz=298						
NEW	**Newport**	**10.42**	**107**	Pn	**Pn**	**02 30 29.5**	**+1.1**
	0.1nm,0.3s,baz=300,slow=16,SNR=3.5						
NEW				Lg	Lg	02 33 20.5	
	0.1nm,0.3s,baz=105,slow=16,SNR=3.2						
I03D	**Drain, OR**	**10.46**	**143**	P	**Pn**	**02 30 30.8**	**+1.9**
	baz=328						
YUK3	**Moose Creek**	**10.47**	**338**	Pn	**Pn**	**02 30 30.5**	**+1.3**
J01E	**Myrtle Point**	**10.71**	**146**	P	**Pn**	**02 30 33.5**	**+1.1**
	baz=332						
I04A	**Tendick Farm,**	**10.74**	**139**	P	**Pn**	**02 30 34.5**	**+1.8**
	baz=326						
I05D	**Terrebonne, OR**	**10.75**	**134**	P	**Pn**	**02 30 33.2**	**+0.3**
	baz=322						
E09A	**Wood Farm, Sta**	**10.80**	**117**	*e*Pn	**Pn**	**02 30 35.0**	**+1.4**
K02D	**Willamette Mer**	**11.21**	**146**	P	**Pn**	**02 30 40.6**	**+1.2**
	baz=332						
J04D	**Umpqua Nationa**	**11.32**	**140**	P	**Pn**	**02 30 41.9**	**+1.0**
	baz=327						
PINE	**Pine Mountain**	**11.36**	**135**	*e*Pn	**Pn**	**02 30 43.2**	**+1.9**
HUMO	**Hull Mountain**	**11.54**	**144**	*e*Pn	**Pn**	**02 30 45.8**	**+2.1**
F10A	**Beach Ranch, E**	**11.64**	**117**	*e*Pn	**Pn**	**02 30 46.7**	**+1.6**
J05D	**Fort Rock, OR**	**11.64**	**137**	P	**Pn**	**02 30 45.6**	**+0.4**
	baz=325,SNR=8.0						
L02E	**Cave Junction**	**11.71**	**147**	P	**Pn**	**02 30 47.4**	**+1.3**
	baz=333						
I07A	**Izee**	**11.78**	**130**	*e*Pn	**Pn**	**02 30 48.2**	**+1.1**
KLU	**Klutina**	**11.84**	**326**	*e*Pn	**Pn**	**02 30 47.8**	**0.0**
L04D	**Klamath Falls**	**12.12**	**143**	P	**Pn**	**02 30 53.5**	**+1.8**
	baz=330						
BMO	**Blue Mountains**	**12.33**	**122**	*e*Pn	**Pn**	**02 30 56.6**	**+2.1**
BMO	**Blue Mountains**	**12.33**	**122**	*e*P	**Pn**	**02 30 56.6**	**+2.1**
YBH	**Yreka Blue Hor**	**12.40**	**145**	*e*Pn	**Pn**	**02 30 57.4**	**+1.9**
YBH	**Yreka Blue Hor**	**12.40**	**145**	*e*P	**Pn**	**02 30 57.4**	**+1.9**
YBH	**Yreka Blue Hor**	**12.40**	**145**	Pn	**Pn**	**02 30 55.9**	**+0.4**
	0.0nm,0.3s,baz=328,slow=10,SNR=1.5						
YBH				LR	LR	02 34 52.1	
	comp=Z,139nm,19.5s,baz=332,slow=33						
SCM	**Sheep Creek Mo**	**12.56**	**325**	*e*Pn	**Pn**	**02 30 57.5**	**-0.1**
SCM	**Sheep Creek Mo**	**12.56**	**325**	*e*P	**Pn**	**02 30 57.5**	**-0.1**
M02C	**Callahan**	**12.65**	**146**	P	**Pn**	**02 31 01.0**	**+2.0**
	baz=333						
M04C	**Macdoel**	**12.67**	**143**	P	**Pn**	**02 31 00.8**	**+1.6**
	baz=330						
J08A	**Circle Bar Ran**	**12.82**	**129**	*e*Pn	**Pn**	**02 31 03.3**	**+2.0**
KDAK	**Kodiak Island**	**12.91**	**303**	LR	LR	02 34 50.8	
	comp=Z,147nm,20.0s,baz=110,slow=32						
MSO	**Missoula**	**13.00**	**108**	*e*Pn	**Pn**	**02 31 05.2**	**+1.4**
MSO	**Missoula**	**13.00**	**108**	P	**Pn**	**02 31 04.2**	**+0.4**
	baz=302						
N02D	**Trinity Center**	**13.07**	**147**	P	**Pn**	**02 31 06.2**	**+1.5**
	baz=333						
MOD	**Modoc Plateau**	**13.17**	**138**	*e*Pn	**Pn**	**02 31 08.0**	**+1.9**
SCRK	**Sand Creek**	**13.20**	**337**	*e*Pn	**Pn**	**02 31 05.5**	**-0.8**
EGAK	**Eagle**	**13.30**	**343**	*e*Pn	**Pn**	**02 31 04.8**	**-2.8**
DHY	**Denali Highway**	**13.44**	**329**	*e*Pn	**Pn**	**02 31 09.7**	**0.0**
WVOR	**Wild Horse Val**	**13.46**	**132**	*e*Pn	**Pn**	**02 31 11.9**	**+1.9**
WVOR	**Wild Horse Val**	**13.46**	**132**	*e*P	**Pn**	**02 31 11.9**	**+1.9**
WDC	**Whiskeytown Da**	**13.48**	**147**	*e*Pn	**Pn**	**02 31 10.1**	**-0.1**
WDC	**Whiskeytown Da**	**13.48**	**147**	*e*P	**Pn**	**02 31 10.1**	**-0.1**
O02D	**Mt. Diablo Mer**	**13.77**	**149**	P	**Pn**	**02 31 15.6**	**+1.4**
	baz=335						
YKA	**Yellowknife Ar**	**13.80**	**36**	Pn	**Pn**	**02 31 14.1**	**-0.3**
	0.3nm,0.3s,baz=227,slow=13,SNR=77						
YKA				LR	LR	02 36 59.3	
	comp=Z,63nm,19.8s,baz=228,slow=39						
YKB5	**Yellowknife Ar**	**13.80**	**36**	*e*Pn	**Pn**	**02 31 12.9**	**-1.5**
YKW1	**Yellowknife Ar**	**13.84**	**36**	Pn	**Pn**	**02 31 14.5**	**-0.4**
YKW3	**Yellowknife Ar**	**13.84**	**36**	*e*Pn	**Pn**	**02 31 14.2**	**-0.8**
YKW3	**Yellowknife Ar**	**13.84**	**36**	Pn	**Pn**	**02 31 14.6**	**-0.4**
O03E	**Paynes Creek**	**13.99**	**146**	P	**Pn**	**02 31 18.3**	**+1.1**
	baz=333						
RND	**Reindeer**	**14.15**	**328**	*e*Pn	**Pn**	**02 31 19.2**	**-0.1**
RND	**Reindeer**	**14.15**	**328**	*e*P	**Pn**	**02 31 19.2**	**-0.1**
EPYK	**Eagle Plains**	**14.24**	**352**	*e*Pn	**Pn**	**02 31 21.3**	**+0.8**
EPYK	**Eagle Plains**	**14.24**	**352**	P	**Pn**	**02 31 19.2**	**-1.3**
	baz=169						
HRY	**Holter Researc**	**14.30**	**105**	*e*Pn	**Pn**	**02 31 22.7**	**+1.2**
MCK	**McKinley**	**14.41**	**329**	*e*Pn	**Pn**	**02 31 23.1**	**+0.3**
MCK	**McKinley**	**14.41**	**329**	*e*P	**Pn**	**02 31 23.1**	**+0.3**
IL1	**Eielson Array**	**14.58**	**334**	*e*Pn	**Pn**	**02 31 25.0**	**-0.1**
ILAR	**Eielson Array**	**14.58**	**334**	Pn	**Pn**	**02 31 26.8**	**+1.6**
	0.1nm,0.3s,baz=154,slow=13,SNR=12						
ILAR				LR	LR	02 37 11.0	
	comp=Z,132nm,19.2s,baz=145,slow=38						
ILB	**Eielson Array**	**14.58**	**334**	*e*Pn	**Pn**	**02 31 25.0**	**-0.1**
TRF	**Thorofare Moun**	**14.66**	**326**	*e*Pn	**Pn**	**02 31 26.0**	**-0.3**
WRH	**Wood River Hil**	**14.69**	**332**	*e*Pn	**Pn**	**02 31 26.2**	**-0.3**
HLID	**Hailey**	**14.73**	**120**	*e*Pn	**Pn**	**02 31 28.8**	**+1.4**
HLID	**Hailey**	**14.73**	**120**	P	**Pn**	**02 31 28.5**	**+1.1**
	baz=313,SNR=7.0						
CCB	**Clear Creek Bu**	**14.74**	**333**	*e*Pn	**Pn**	**02 31 27.3**	**0.0**
ORV	**Oroville**	**14.75**	**146**	*e*Pn	**Pn**	**02 31 29.9**	**+2.3**
MCMT	**McKenzie Canyo**	**14.77**	**113**	*e*Pn	**Pn**	**02 31 29.1**	**+1.1**
BWN	**Browne**	**14.88**	**329**	*e*Pn	**Pn**	**02 31 28.3**	**-0.9**
BEKR	**Beckworth**	**14.89**	**142**	*e*Pn	**Pn**	**02 31 31.5**	**+1.9**
COLA	**College**	**14.93**	**333**	*e*Pn	**Pn**	**02 31 29.3**	**-0.4**
	12nm,0.8s						
COLA	**College**	**14.93**	**333**	*e*P	**Pn**	**02 31 29.3**	**-0.4**
COLA				pmax	pmax		
	comp=Z,12nm,0.8s						
EGMT	**Eagleton**	**14.94**	**98**	*e*Pn	**Pn**	**02 31 31.0**	**+0.9**
EGMT	**Eagleton**	**14.94**	**98**	P	**Pn**	**02 31 29.6**	**-0.5**
	baz=295,SNR=7.4						
PPLA	**Purkeypile**	**14.99**	**323**	*e*Pn	**Pn**	**02 31 31.0**	**+0.2**
POKR	**Poker Flat Res**	**15.00**	**334**	P	**Pn**	**02 31 28.6**	**-2.1**
	baz=142						
BOZ	**Bozeman (W)**	**15.02**	**109**	P	**Pn**	**02 31 31.4**	**+0.1**
	baz=304						
MDM	**Murphy Dome**	**15.10**	**333**	*e*Pn	**Pn**	**02 31 32.0**	**-0.1**
CAST	**Castle Rocks**	**15.27**	**324**	*e*Pn	**Pn**	**02 31 33.6**	**-0.7**
	comp=Z,47nm,1.7s						
BPAW	**Bear Paw Mtn.**	**15.32**	**327**	*e*Pn	**Pn**	**02 31 35.0**	**-0.1**
	comp=Z,15nm,0.8s						
PAHR	**Pah Rah Range**	**15.40**	**140**	*e*Pn	**Pn**	**02 31 38.4**	**+2.1**
	comp=Z,12nm,1.1s						
AFDM	**Forest Hills D**	**15.48**	**146**	*e*Pn	**Pn**	**02 31 39.0**	**+1.7**
	comp=Z,11nm,0.9s						
SVW2	**Sparrevohn**	**15.49**	**314**	*e*Pn	**Pn**	**02 31 37.0**	**-0.3**
	comp=Z,22nm,1.0s						
QLMT	**Earthquake Lak**	**15.58**	**111**	*e*Pn	**Pn**	**02 31 40.0**	**+1.3**
BMN	**Battle Mountai**	**15.70**	**134**	*e*Pn	**Pn**	**02 31 42.0**	**+1.8**
	comp=Z,23nm,1.0s						
BMN	**Battle Mountai**	**15.70**	**134**	*e*P	**Pn**	**02 31 42.0**	**+1.8**
BMN				pmax	pmax		
	comp=Z,23nm,1.0s						
YHB	**Horse Butte**	**15.76**	**111**	*e*Pn	**Pn**	**02 31 42.5**	**+1.4**
	comp=Z,9.3nm,0.9s						
PNTR	**Pine Nut**	**15.85**	**142**	*e*Pn	**Pn**	**02 31 44.1**	**+1.9**
	comp=Z,15nm,0.9s						
MLY	**Manley**	**15.88**	**330**	*e*Pn	**Pn**	**02 31 42.1**	**-0.2**
	comp=Z,25nm,1.1s						
YHH	**Holmes Hill**	**15.94**	**110**	*e*Pn	**Pn**	**02 31 44.6**	**+1.2**
	comp=Z,11nm,1.0s						
YMR	**Madison River**	**15.94**	**110**	*e*Pn	**Pn**	**02 31 44.9**	**+1.5**
	comp=Z,22nm,1.1s						
DHRN	**Dharma Camp**	**15.98**	**18**	Pn	**Pn**	**02 31 44.4**	**+0.9**
INK	**Inuvik**	**16.02**	**358**	*e*Pn	**Pn**	**02 31 43.8**	**-0.2**
	comp=Z,9.1nm,0.9s						
INK				Lg	Lg	02 36 21.0	
INK	**Inuvik**	**16.02**	**358**	Pn	**Pn**	**02 31 43.8**	**-0.2**
INK	**Inuvik**	**16.02**	**358**	*e*P	**Pn**	**02 31 43.8**	**-0.2**
INK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
INK	**Inuvik**	**16.02**	**358**	Pn	**P**	**02 31 46.5**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=6.2						
INK				Lg	Lg	02 36 21.0	
	comp=Z,0.0nm,0.3s,baz=50,slow=16,SNR=2.8						
INK				LR	LR	02 38 30.2	
	comp=Z,133nm,21.8s,baz=180,slow=40						
GCMT	**Greycliff**	**16.07**	**105**	*e*Pn	**Pn**	**02 31 45.9**	**+1.0**
YERR	**Yerington**	**16.08**	**141**	*e*Pn	**Pn**	**02 31 46.9**	**+1.8**
	comp=Z,12nm,1.2s						
H17A	**Grant Village**	**16.33**	**111**	*e*Pn	**Pn**	**02 31 49.5**	**+1.1**
	comp=Z,25nm,1.1s						
H17A	**Grant Village**	**16.33**	**111**	P	**Pn**	**02 31 49.8**	**+1.5**
	baz=307						
LKWY	**Lake**	**16.33**	**110**	*e*Pn	**Pn**	**02 31 49.8**	**+1.5**
	comp=Z,12nm,0.8s						
LKWY	**Lake**	**16.33**	**110**	*e*P	**Pn**	**02 31 49.8**	**+1.5**
LKWY				pmax	pmax		
	comp=Z,12nm,0.8s						
ELK	**Elko**	**16.37**	**129**	*e*Pn	**Pn**	**02 31 50.1**	**+1.2**
	comp=Z,11nm,1.0s						
ELK	**Elko**	**16.37**	**129**	*e*P	**Pn**	**02 31 50.1**	**+1.2**
ELK				pmax	pmax		
	comp=Z,11nm,1.0s						
ELK	**Elko**	**16.37**	**129**	Pn	**P**	**02 31 51.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=320,slow=9.8,SNR=17						
ELK				LR	LR	02 37 56.6	
	comp=Z,109nm,18.6s,baz=331,slow=37						
IMW	**Indian Meadow**	**16.42**	**113**	*e*Pn	**P**	**02 31 51.4**	**-0.9**
	comp=Z,20nm,1.2s						
WAKR	**Walker**	**16.42**	**143**	*e*Pn	**P**	**02 31 51.7**	**-0.6**
	comp=Z,40nm,1.7s						
FLWY	**Flagg Ranch**	**16.45**	**112**	*e*Pn	**Pn**	**02 31 51.3**	**+1.4**
	comp=Z,28nm,1.2s						
KVN	**Kaiserville**	**16.47**	**138**	*e*Pn	**P**	**02 31 51.9**	**-0.9**
	comp=Z,25nm,1.2s						
KVN	**Kaiserville**	**16.47**	**138**	*e*P	**P**	**02 31 51.9**	**-0.9**
KVN				pmax	pmax		
	comp=Z,25nm,1.2s						
CMB	**Columbia Colle**	**16.50**	**146**	*e*Pn	**P**	**02 31 53.5**	**+0.6**
	comp=Z,6.1nm,1.0s						
CMB	**Columbia Colle**	**16.50**	**146**	*e*P	**P**	**02 31 53.5**	**+0.6**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
FXWY	**Fox Creek**	**16.54**	**113**	*e*Pn	**P**	**02 31 53.3**	**-0.2**
	comp=Z,32nm,1.6s						
MOOW	**Moose Ponds**	**16.63**	**113**	*e*Pn	**Pn**	**02 31 53.0**	**+0.9**
	comp=Z,8.8nm,1.0s						
RLMT	**Red Lodge**	**16.67**	**107**	*e*Pn	**Pn**	**02 31 53.4**	**+0.7**
	comp=Z,26nm,1.1s						
RLMT	**Red Lodge**	**16.67**	**107**	P	**Pn**	**02 31 52.2**	**-0.4**
	baz=304						
RYN	**Ryan**	**16.67**	**140**	*e*Pn	**P**	**02 31 54.3**	**-0.6**
	comp=Z,10nm,1.1s						
TPAW	**Teton Pass**	**16.67**	**114**	*e*Pn	**P**	**02 31 54.2**	**-0.9**
	comp=Z,18nm,0.9s						
LOHW	**Long Hollow**	**16.79**	**113**	*e*Pn	**Pn**	**02 31 55.3**	**+1.1**
	comp=Z,20nm,1.3s						
SNOW	**Snow King Moun**	**16.80**	**114**	*e*Pn	**Pn**	**02 31 55.2**	**+0.8**
	comp=Z,12nm,0.9s						
REDW	**Red Top Meadow**	**16.81**	**114**	*e*Pn	**Pn**	**02 31 55.6**	**+1.1**
	comp=Z,26nm,1.3s						
HVU	**Hansel Valley**	**16.84**	**121**	*e*Pn	**P**	**02 31 56.7**	**-0.1**
	comp=Z,10nm,1.3s						
HVU	**H

baz=334
GSC **Goldstone, Bar** **20.24 141** *eP* Pn 02 32 35.8 -0.3
comp=Z,10nm,1.1s
GSC **Goldstone, Bar** **20.24 141** *eP* Pn 02 32 35.8 -0.3
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC **Goldstone, Bar** **20.24 141** P Pn 02 32 36.1 0.0
baz=332,SNR=6.4
LCMT **Little Creek M** **20.28 132** *eP* Pn 02 32 36.2 -0.4
comp=Z,19nm,1.0s
RSSD **Black Hills** **20.33 103** *eP* **P** **02 32 35.9 +0.7**
comp=Z,18nm,1.2s
RSSD **Black Hills** **20.33 103** *eP* **P** **02 32 35.9 +0.7**
RSSD pmax pmax
comp=Z,17nm,1.2s
PKCU **Pink Cliffs** **20.37 129** *eP* Pn 02 32 37.4 -0.4
comp=Z,20nm,0.9s
O20A **White River Ci** **20.43 117** *eP* Pn 02 32 37.9 -0.5
comp=Z,39nm,0.9s
O20A **White River Ci** **20.43 117** P Pn 02 32 37.9 -0.5
baz=314,SNR=12
TUQ **Turquoise Moun** **20.46 139** P Pn 02 32 38.4 -0.4
baz=330,SNR=7.4
KNB **Kanab** **20.47 131** *eP* Pn 02 32 38.8 -0.1
comp=Z,11nm,1.1s
KNB **Kanab** **20.47 131** *eP* Pn 02 32 38.8 -0.1
KNB pmax pmax
comp=Z,11nm,1.1s
MWC **Mount Wilson** **20.74 145** *eP* Pn 02 32 41.7 -0.4
comp=Z,25nm,1.4s
MWC **Mount Wilson** **20.74 145** *eP* Pn 02 32 41.7 -0.4
MWC pmax pmax
comp=Z,25nm,1.4s
HEC **Hector,Ludlow** **20.84 141** P Pn 02 32 42.1 -0.9
baz=332,SNR=8.7
BFSC **Mount Baldy Ra** **20.87 145** P Pn 02 32 42.6 -0.9
baz=334,SNR=5.5
ANM **Nome** **20.96 319** *eP* **P** **02 32 42.1 +0.6**
comp=Z,17nm,1.1s
ANM **Nome** **20.96 319** *eP* **P** **02 32 42.1 +0.6**
ANM pmax pmax
comp=Z,17nm,1.1s
LDFC **Landfair** **21.10 138** *eP* **P** **02 32 44.9 +1.4**
comp=Z,44nm,1.4s
BBRC **Big Bear Solar** **21.12 143** P **P** **02 32 45.0 +1.2**
baz=333
FMP **Fort Macarthur** **21.13 146** P **P** **02 32 44.5 +0.9**
baz=336
PV09 **Paradox Valley** **21.14 122** *eP* **P** **02 32 45.5 +1.5**
GMRC **Granite Mounta** **21.14 140** P **P** **02 32 45.6 +1.7**
baz=331,SNR=8.0
SNCC **San Nicolas Is** **21.15 150** P **P** **02 32 45.0 +1.1**
baz=338
PV21 **Cone Mtn., Par** **21.17 122** *eP* **P** **02 32 45.6 +1.3**
comp=Z,24nm,1.0s
N23A **Red Feather La** **21.19 112** *eP* **P** **02 32 46.0 +1.5**
comp=Z,27nm,1.0s
N23A **Red Feather La** **21.19 112** P **P** **02 32 46.5 +2.0**
baz=311,SNR=12
PHWY **Pilot Hill** **21.20 111** *eP* **P** **02 32 45.8 +1.2**
comp=Z,15nm,0.8s
U15A **North Rim** **21.20 131** *eP* **P** **02 32 46.1 +1.4**
comp=Z,25nm,0.9s
MDND **Maddock** **21.22 89** P **P** **02 32 45.6 +1.1**
baz=294
PV23 **Carpenter Ridg** **21.23 122** *eP* **P** **02 32 46.6 +1.5**
comp=Z,31nm,1.1s
PV10 **Paradox Valley** **21.28 122** *eP* **P** **02 32 47.6 +2.1**
comp=Z,23nm,1.0s
PV14 **Lion Creek, Pa** **21.29 122** *eP* **P** **02 32 46.9 +1.3**
comp=Z,19nm,0.9s
PV04 **Paradox Valley** **21.33 122** *eP* **P** **02 32 47.4 +1.4**
comp=Z,21nm,0.9s
PV20 **West Nyswonger** **21.34 122** *eP* **P** **02 32 47.2 +1.1**
comp=Z,19nm,1.1s
PV19 **Morning Glory** **21.36 122** *eP* **P** **02 32 47.6 +1.3**
comp=Z,18nm,0.9s
PV16 **Nyswonger Mesa** **21.39 122** *eP* **P** **02 32 47.7 +1.1**
comp=Z,20nm,1.2s
PV17 **East Wray Mesa** **21.39 122** *eP* **P** **02 32 48.0 +1.3**
comp=Z,15nm,0.9s
PV11 **David Mesa, Pa** **21.42 122** *eP* **P** **02 32 48.3 +1.4**
comp=Z,27nm,1.0s
PV07 **Paradox Valley** **21.44 121** *eP* **P** **02 32 48.9 +1.7**
comp=Z,24nm,1.1s
PV12 **Saucer Basin,** **21.45 122** *eP* **P** **02 32 49.2 +1.9**
comp=Z,22nm,1.0s
PV03 **Paradox Valley** **21.47 122** *eP* **P** **02 32 49.4 +1.9**
comp=Z,17nm,0.9s
PV05 **Paradox Valley** **21.47 123** *eP* **P** **02 32 49.1 +1.6**
comp=Z,40nm,1.5s
PV13 **Radium Mtn., P** **21.55 122** *eP* **P** **02 32 49.8 +1.3**
comp=Z,25nm,0.9s
PV02 **Paradox Valley** **21.56 122** *eP* **P** **02 32 50.1 +1.6**
comp=Z,22nm,0.9s
RDOG **Red Dog Mine** **21.57 328** *eP* **P** **02 32 48.7 +0.5**
comp=Z,8.9nm,0.8s
PV15 **Paradox Valley** **21.59 121** *eP* **P** **02 32 50.2 +1.3**
comp=Z,36nm,1.0s
W13A **Hualapai Mount** **21.60 136** *eP* **P** **02 32 50.6 +1.7**
comp=Z,12nm,1.0s
BELC **Belle Mtn. Jos** **21.70 141** P **P** **02 32 51.4 +1.5**
baz=332,SNR=6.1
PV01 **Paradox Valley** **21.70 122** *eP* **P** **02 32 51.1 +1.1**
comp=Z,24nm,0.9s
SCI2 **San Clemente I** **21.71 148** P **P** **02 32 51.4 +1.5**
baz=337
SMCO **Snowmass** **21.79 117** *eP* **P** **02 32 52.2 +1.1**
comp=Z,16nm,0.8s
PFO **Pinyon Flats O** **21.87 143** P **P** **02 32 52.1 +0.4**
baz=333
IRM **Iron Mountain** **21.89 140** P **P** **02 32 53.5 +1.7**
baz=331,SNR=9.3
ISCO **Idaho Springs** **22.11 114** *eP* **P** **02 32 56.2 +1.8**
comp=Z,12nm,1.3s
PDMCI **Parker Dam,Lak** **22.17 137** P **P** **02 32 56.1 +1.3**
baz=330,SNR=7.6
FCC **Fort Churchill** **22.19 58** *eP* **P** **02 32 55.5 +0.7**
comp=Z,36nm,1.1s
FCC **Fort Churchill** **22.19 58** P **P** **02 32 56.2 +1.4**
FCC **Fort Churchill** **22.19 58** *eP* **P** **02 32 55.5 +0.7**
FCC pmax pmax
comp=Z,36nm,1.1s
BC3 **Big Chuckawall** **22.21 141** P **P** **02 32 56.3 +0.9**
baz=332
WUAZ **Wupatki** **22.37 131** *eP* **P** **02 32 58.9 +1.8**
comp=Z,24nm,1.1s
WUAZ **Wupatki** **22.37 131** P **P** **02 32 57.5 +0.4**
baz=325,SNR=7.5
MVCO **Mesa Verde** **22.44 123** *eP* **P** **02 32 59.5 +1.5**
comp=Z,22nm,1.2s
MVCO **Mesa Verde** **22.44 123** P **P** **02 32 58.5 +0.6**
baz=320,SNR=5.8
Y12C **Blythe** **22.50 139** *eP* **P** **02 32 59.8 +1.5**
comp=Z,16nm,1.1s
Y12C **Blythe** **22.50 139** P **P** **02 32 59.6 +1.4**
baz=331,SNR=6.9
MONP2 **Monument Peak** **22.53 144** P **P** **02 33 00.1 +1.2**
baz=334,SNR=6.1
ULM **Lac du Bonnet** **22.60 81** *eP* **P** **02 32 59.9 +0.6**
comp=Z,26nm,1.2s
ULM **Lac du Bonnet** **22.60 81** P **P** **02 32 58.8 -0.5**
ULM **Lac du Bonnet** **22.60 81** *eP* **P** **02 32 59.9 +0.6**
ULM pmax pmax
comp=Z,26nm,1.2s
ULM **Lac du Bonnet** **22.60 81** P **P** **02 32 59.5 +0.3**
comp=Z,7.2nm,1.0s,baz=286,slow=9.9,SNR=9.5
ULM LR LR 02 42 12.7
comp=Z,402nm,19.3s,baz=300,slow=38
BAR **Barrett** **22.63 144** *eP* **P** **02 33 02.5 +2.8**
comp=Z,17nm,1.4s
SWSC **Sam W. Stewart** **22.71 142** P **P** **02 33 01.2 +0.7**
baz=333
IKP **In-Ko-Pah, Jac** **22.86 143** P **P** **02 33 03.3 +1.0**
baz=334
S22A **4UR Ranch, Cre** **22.91 120** *eP* **P** **02 33 04.6 +1.6**
comp=Z,34nm,1.8s
S22A **4UR Ranch, Cre** **22.91 120** P **P** **02 33 03.7 +0.7**
baz=318,SNR=11
Q24A **Divide** **22.95 115** *eP* **P** **02 33 04.9 +1.5**
comp=Z,7.4nm,0.9s
Q24A **Divide** **22.95 115** P **P** **02 33 03.4 0.0**
baz=314
Y14A **Wickenburg** **22.96 136** *eP* **P** **02 33 05.0 +1.7**
comp=Z,14nm,1.0s
GLA **Glamis** **22.99 140** *eP* **P** **02 33 05.6 +2.1**
comp=Z,26nm,1.4s
GLA **Glamis** **22.99 140** *eP* **P** **02 33 05.6 +2.1**
GLA pmax pmax
comp=Z,27nm,1.4s
GLA **Glamis** **22.99 140** P **P** **02 33 04.6 +1.0**
baz=332
X16A **Lo Mia Camp, P** **23.25 132** *eP* **P** **02 33 08.7 +2.4**
comp=Z,10nm,1.1s
AGMN **Agassiz Nation** **23.33 85** *eP* **P** **02 33 08.3 +1.5**
comp=Z,19nm,0.8s
GAMB **Gambell** **23.43 315** *eP* **P** **02 33 08.2 +0.6**
comp=Z,48nm,1.7s
W18A **Petrified Fore** **23.47 128** *eP* **P** **02 33 10.0 +1.5**
comp=Z,22nm,1.0s
W18A **Petrified Fore** **23.47 128** P **P** **02 33 09.4 +0.9**
baz=324
SDCO **Great Sand Dun** **23.62 118** *eP* **P** **02 33 11.8 +1.6**
comp=Z,14nm,1.0s
SDCO **Great Sand Dun** **23.62 118** P **P** **02 33 10.6 +0.4**
baz=317,SNR=13
113A **Mohawk Valley,** **23.66 139** *eP* **P** **02 33 11.6 +1.4**
comp=Z,22nm,1.8s
X18A **Snowflake** **23.85 130** *eP* **P** **02 33 13.8 +1.6**
comp=Z,26nm,0.9s
KSCO **Kaye Shedlock'** **24.34 112** *eP* **P** **02 33 18.1 +1.4**
comp=Z,23nm,0.8s
KSCO **Kaye Shedlock'** **24.34 112** P **P** **02 33 16.5 -0.1**
baz=313
T25A **Trinidad** **24.66 117** *eP* **P** **02 33 21.3 +1.6**
comp=Z,8.2nm,0.9s
T25A **Trinidad** **24.66 117** P **P** **02 33 19.7 -0.1**
baz=317
214A **Organ Pipe Nat** **24.76 138** P **P** **02 33 21.6 +1.2**
baz=331
ECSD **EROS Data Cent** **25.03 96** *eP* **P** **02 33 23.6 +0.9**
comp=Z,10.0nm,0.8s
ECSD **EROS Data Cent** **25.03 96** P **P** **02 33 23.3 +0.5**
baz=303
ANMO **Albuquerque** **25.23 123** *eP* **P** **02 33 26.1 +1.2**
comp=Z,5.0nm,0.9s
ANMO **Albuquerque** **25.23 123** *eP* **P** **02 33 25.7 +0.9**
ANMO pmax pmax
comp=Z,14nm,3.9s
ANMO **Albuquerque** **25.23 123** P **P** **02 33 25.7 +0.9**
baz=321
ANMO **Albuquerque** **25.23 123** P **P** **02 33 25.5 +0.6**
comp=Z,2.2nm,0.9s,baz=314,slow=12,SNR=6.2
LAZ **Lazbon** **25.32 125** *eP* **P** **02 33 27.7 +2.1**
TUC **Tucson** **25.32 134** *eP* **P** **02 33 26.8 +1.3**
comp=Z,7.1nm,1.1s
TUC **Tucson** **25.32 134** *eP* **P** **02 33 26.8 +1.3**
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC **Tucson** **25.32 134** P **P** **02 33 26.9 +1.4**
baz=328
BGNE **Belgrade** **25.43 102** P **P** **02 33 26.5 +0.1**
baz=307
LENM **Lemitar** **25.59 125** *eP* **P** **02 33 28.7 +0.7**
BNM **Barren Site** **25.77 125** *eP* **P** **02 33 30.8 +1.0**
EYMN **Ely** **26.14 83** *eP* **P** **02 33 33.7 +1.0**
comp=Z,15nm,0.9s
EYMN **Ely** **26.14 83** P **P** **02 33 32.3 -0.4**
baz=295
F37A **Hinrichs Farm,** **26.45 89** P **P** **02 33 36.9 +1.3**
baz=299
121A **Cookes Peak, D** **26.51 129** P **P** **02 33 38.4 +2.0**
baz=325
E38A **The Farm, Brul** **26.70 86** P **P** **02 33 39.6 +1.8**
baz=297
319A **Douglas** **26.78 133** *eP* **P** **02 33 40.6 +1.8**
comp=Z,33nm,1.3s
F38A **Pierce - Schro** **26.80 88** P **P** **02 33 41.1 +2.4**
baz=298
RES **Resolute Bay** **26.97 21** *eP* **P** **02 33 41.0 +1.1**
comp=Z,6.6nm,1.0s
RES **Resolute Bay** **26.97 21** P **P** **02 33 40.6 +0.7**
RES **Resolute Bay** **26.97 21** *eP* **P** **02 33 41.0 +1.1**
RES pmax pmax
comp=Z,7.0nm,1.0s
RES **Resolute Bay** **26.97 21** P **P** **02 33 41.0 +1.1**
comp=Z,1.3nm,0.6s,baz=249,slow=11,SNR=7.9
RES LR LR 02 44 40.1
comp=Z,166nm,18.1s,baz=221,slow=37
G38A **Ridgeland** **27.20 89** P **P** **02 33 44.2 +1.9**
baz=300
G39A **Holcombe** **27.56 88** P **P** **02 33 46.2 +0.6**
baz=300
H39A **Augusta** **27.80 90** P **P** **02 33 48.3 +0.6**
baz=301
AMTX **Amarillo** **27.82 117** *eP* **P** **02 33 49.3 +1.3**
comp=Z,16nm,0.8s
AMTX **Amarillo** **27.82 117** P **P** **02 33 49.4 +1.3**
baz=318
MSTX **Muleshoe** **27.91 120** *eP* **P** **02 33 50.3 +1.3**
comp=Z,5.9nm,0.9s
MSTX **Muleshoe** **27.91 120** P **P** **02 33 50.4 +1.4**
baz=320
I39A **Houston** **28.08 91** *eP* **P** **02 33 51.8 +1.5**
comp=Z,19nm,0.7s
I39A **Houston** **28.08 91** P **P** **02 33 50.9 +0.6**
baz=302
J39A **Decorah** **28.25 92** P **P** **02 33 52.7 +0.9**
baz=303
MNTX **Cornudas Mount** **28.36 126** *eP* **P** **02 33 53.9 +1.0**
comp=Z,9.9nm,1.1s
MNTX **Cornudas Mount** **28.36 126** P **P** **02 33 54.0 +1.2**
baz=324,SNR=5.8
I40A **Norwalk** **28.62 90** P **P** **02 33 56.1 +1.1**
baz=302
L39A **Vinton** **28.74 95** P **P** **02 33 56.1 0.0**
baz=305
J40A **Soldiers Grove** **28.81 91** P **P** **02 33 57.6 +0.9**
baz=303
K40A **Colesburg** **28.95 93** P **P** **02 33 58.4 +0.4**
baz=304
M39A **Webster** **29.01 96** P **P** **02 33 59.5 +1.0**
baz=306
L40A **Anamosa** **29.25 94** P **P** **02 34 00.9 +0.2**
baz=305
M40A **Post Highland** **29.45 95** P **P** **02 34 02.4 0.0**
baz=306
WMOK **Wichita Mounta** **29.53 113** *eP* **P** **02 34 04.9 +1.7**
comp=Z,7.4nm,0.9s
WMOK **Wichita Mounta** **29.53 113** *eP* **P** **02 34 04.9 +1.7**
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK **Wichita Mounta** **29.53 113** P **P** **02 34 04.2 +1.0**
baz=317,SNR=5.5
I42A **Draeger Farm,** **29.66 89** P **P** **02 34 05.9 +1.6**
baz=302
O41A **Passleys Farm,** **30.61 97** P **P** **02 34 12.4 -0.2**
baz=307
N42A **Yates City** **30.70 95** P **P** **02 34 13.1 -0.3**
baz=306
Q41A **Truxton** **31.11 99** P **P** **02 34 17.7 +0.6**
baz=309,SNR=5.5
TX31 **Lajitas Ar. Si** **31.14 126** *eP* **P** **02 34 19.0 +1.4**
TXAR **Lajitas Array** **31.14 126** P **P** **02 34 18.8 +1.2**
comp=Z,3.8nm,0.8s,baz=330,slow=7.6,SNR=43
TXAR PcP **PcP** **02 37 12.5 +0.1**
comp=Z,0.2nm,0.6s,baz=103,slow=1.7,SNR=4.2
E46A **Sault Ste Mari** **31.23 82** P **P** **02 34 16.4 -1.7**
baz=299
HHAR **Hobbs** **31.24 106** *eP* **P** **02 34 19.7 +1.4**
comp=Z,4.2nm,0.8s
P42A **Winchester** **31.26 97** P **P** **02 34 18.9 +0.5**
baz=308
HDIL **Hopedale** **31.31 95** P **P** **02 34 19.6 +0.7**
baz=307
R41A **Rosebud** **31.44 100** P **P** **02 34 20.2 +0.2**
baz=310,SNR=5.2
Q42A **Golden Eagle** **31.56 98** P **P** **02 34 21.4 +0.3**
baz=309
X37A **Clayton** **31.59 110** *eP* **P** **02 34 22.4 +1.1**
comp=Z,10nm,0.9s
CCM **Cathedral Cave** **31.68 100** *eP* **P** **02 34 23.1 +1.0**
comp=Z,11nm,1.0s
CCM **Cathedral Cave** **31.68 100** *eP* **P** **02 34 23.1 +1.0**
CCM pmax pmax
comp=Z,11nm,1.0s
CCM **Cathedral Cave** **31.68 100** P **P** **02 34 22.2 +0.1**
baz=310
S41A **Jillco Farms,** **31.68 102** P **P** **02 34 22.5 +0.4**
baz=311
P43A **Skaggs, Pawnee** **31.73 96** P **P** **02 34 22.7 +0.3**
baz=308
R42A **Luebbering** **31.80 100** P **P** **02 34 23.0 -0.2**
baz=310
U40A **Yellville** **31.84 104** P **P** **02 34 23.6 0.0**
baz=313,SNR=9.2
T41A **Mountain View** **32.03 102** P **P** **02 34 23.8 -1.4**
baz=312
Q43A **New Douglas** **32.05 98** P **P** **02 34 24.6 -0.7**
baz=309
W39A **Magazine** **32.08 107** *eP* **P** **02 34 27.1 +1.4**
comp=Z,9.3nm,0.8s
W39A **Magazine** **32.08 107** P **P** **02 34 25.5 -0.2**
baz=314
S42A **Caledonia** **32.13 100** P **P** **02 34 25.4 -0.7**
baz=310
JCT **Junction City** **32.20 120** *eP* **P** **02 34 27.4 +0.6**
comp=Z,5.7nm,0.8s
JCT **Junction City** **32.20 120** *eP* **P** **02 34 27.4 +0.6**
JCT pmax pmax
comp=Z,6.0nm,0.8s
R43A **Red Bud** **32.33 99** P **P** **02 34 27.1 -0.7**
baz=310
P44A **Sand Creek, Wi** **32.38 96** P **P** **02 34 28.7 +0.5**
baz=308
U41A **Viola** **32.40 104** P **P** **02 34 28.1 -0.3**
baz=312
MIAR **Mount Ida** **32.66 108** *eP* **P** **02 34 31.8 +1.0**
comp=Z,14nm,0.9s
MIAR **Mount Ida** **32.66 108** *eP* **P** **02 34 31.8 +1.0**
MIAR pmax pmax
comp=Z,14nm,0.9s
MIAR **Mount Ida** **32.66 108** P **P** **02 34 32.1 +1.4**
baz=315,SNR=5.7
S43A **Fulton Ridge,** **32.70 100** P **P** **02 34 31.6 +0.6**
baz=310
BILL **Bilibino** **32.70 322** *eP* **P** **02 34 30.9 +0.1**
comp=Z,7.7nm,1.1s
BILL **Bilibino** **32.70 322** *eP* **P** **02 34 31.7 +0.9**
BILL *eS* **S** **02 39 39.6 -6.2**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,631nm,22.0s
R44A **Waltonville** **32.86 98** P **P** **02 34 32.8 +0.3**
baz=310
P45A **Graceland, Par** **32.88 95** *eP* **P** **02 34 33.1 +0.5**
comp=Z,40nm,0.9s
P45A **Graceland, Par** **32.88 95** P **P** **02 34 33.3 +0.7**
baz=308
T43A **Greenville** **32.89 101** P **P** **02 34 33.6 +0.9**
baz=311
W41B **Gary Mavity, V** **33.00 105** P **P** **02 34 35.0 +1.3**
baz=314
P46A **Rosedale** **33.15 94** P **P** **02 34 36.9 +1.9**
baz=308
OLIL **Olney** **33.15 97** *eP* **P** **02 34 36.2 +1.2**
comp=Z,32nm,1.1s
R45A **Skylar, Fairfi** **33.32 97** P **P** **02 34 37.5 +1.0**
baz=309
L48A **N Adams** **33.48 89** P **P** **02 34 37.3 -0.6**
baz=305
P47A **Martinsville** **33.81 94** P **P** **02 34 41.6 +0.9**
baz=308
BLO **Bloomington** **33.84 95** *eP* **P** **02 34 41.8 +0.7**
comp=Z,48nm,1.3s
BLO **Bloomington** **33.84 95** *eP* **P** **02 34 41.8 +0.7**
BLO pmax pmax
comp=Z,48nm,1.3s
FRB **Frobisher Bay** **34.01 45** LR LR 02 49 05.5
comp=Z,273nm,20.5s,baz=274,slow=37
Q48A **Farmland** **34.02 92** P **P** **02 34 43.1 +0.5**
baz=307
Q47A **Bedord North L** **34.05 95** P **P** **02 34 44.0 +1.1**
baz=308
833A **Chaparral WMA,** **34.13 122** P **P** **02 34 45.2 +1.5**
baz=324
P48A **Milroy** **34.34 93** P **P** **02 34 45.4 +0.1**
baz=308
LSQQ **Lebel-sur-Quev** **34.35 73** P **P** **02 34 46.7 +1.3**
baz=297
T46A **Princeton** **34.36 99** P **P** **02 34 45.8 +0.3**
baz=311
R47A **Wooly Knot Far** **34.39 96** P **P** **02 34 47.2 +1.4**
baz=309
L50A **Kingsville** **34.42 87** P **P** **02 34 46.4 +0.4**
baz=305
Q48A **North Vernon** **34.48 94** P **P** **02 34 47.9 +1.4**
baz=308
WCI **Wyandotte Cave** **34.57 96** *eP* **P** **02 34 48.2 +0.9**
comp=Z,20nm,0.9s
WCI **Wyandotte Cave** **34.57 96** *eP* **P** **02 34 48.2 +0.9**
WCI pmax pmax
comp=Z,20nm,0.9s
WCI **Wyandotte Cave** **34.57 96** P **P** **02 34 48.3 +0.9**
baz=309
R48A **Northridge Ran** **34.72 95** P **P** **02 34 49.5 +0.9**
baz=309
WVT **Waverly** **35.00 100** P **P** **02 34 52.1 +1.0**
baz=312
O50A **Cable** **35.03 91** P **P** **02 34 51.0 -0.3**
baz=307
V46A **Holladay** **35.04 101** P **P** **02 34 52.2 +0.8**
baz=312
S48A **Wiedeman Farm,** **35.08 96** P **P** **02 34 52.0 +0.3**
baz=310,SNR=7.2
OXF **Oxford** **35.15 103** *eP* **P** **02 34 53.0 +0.7**
comp=Z,60nm,1.0s
OXF **Oxford** **35.15 103** *eP* **P** **02 34 53.0 +0.7**
OXF pmax pmax
comp=Z,60nm,1.0s
OXF **Oxford** **35.15 103** P **P** **02 34 53.0 +0.7**
baz=314
SADO **Sadowa** **35.16 81** LR LR 02 50 11.5
comp=Z,190nm,18.4s,baz=346,slow=38
T48A **Bowling Green** **35.23 97** P **P** **02 34 54.5 +1.5**
baz=310
P50A **Jamestown** **35.24 92** P **P** **02 34 54.2 +1.0**
baz=308
V47A **Nunnelly** **35.39 100** P **P** **02 34 54.7 +0.3**
baz=312
S49A **Springfield** **35.47 95** P **P** **02 34 55.2 +0.1**
baz=310
PLAL **Pickwick Lake** **35.62 102** *eP* **P** **02 34 56.9 +0.4**
comp=Z,13nm,0.8s
W47A **Westpoint** **35.73 101** P **P** **02 34 58.9 +1.6**
baz=313
R50A **Paris** **35.74 94** P **P** **02 34 57.5 +0.1**
baz=309
T49A **Edmonton** **35.75 96** P **P** **02 34 57.7 +0.1**
baz=310
Q51A **Peebles** **35.88 92** P **P** **02 34 58.9 +0.2**
baz=308
U49A **Red Boiling Sp** **35.99 97** P **P** **02 35 00.5 +0.9**
baz=311
S50A **Richmond** **36.08 95** P **P** **02 35 01.4 +1.1**
baz=310
R51A **Hillsboro** **36.19 93** P **P** **02 35 02.5 +1.3**
baz=309
T50A **Nancy** **36.23 96** P **P** **02 35 02.0 +0.4**
baz=310
N53A **Lisbon** **36.34 88** P **P** **02 35 02.9 +0.4**
baz=306
V49A **McMinnville** **36.41 98** P **P** **02 35 03.6 +0.4**
baz=312
H55A **Tweed** **36.47 80** P **P** **02 35 02.5 -1.1**
baz=302
S51A **Beattyville** **36.60 94** P **P** **02 35 05.6 +0.8**
baz=310
X48A **Hartselle** **36.60 101** *eP* **P** **02 35 05.5 +0.7**
comp=Z,8.2nm,0.8s
X48A **Hartselle** **36.60 101** P **P** **02 35 05.6 +0.8**
baz=313
W49A **Belvidere** **36.62 100** P **P** **02 35 05.7 +0.8**
baz=312
U50A **Jamestown** **36.62 97** P **P** **02 35 05.4 +0.4**
baz=311,SNR=5.8
T51A **Gray** **36.81 95** P **P** **02 35 06.9 +0.3**
baz=310,SNR=5.6
LNIG **Linares** **36.90 125** *eP* **P** **02 35 08.4 +1.0**
comp=Z,11nm,1.1s
L55A **Hinsdale** **37.01 84** P **P** **02 35 07.8 -0.5**
baz=305
W50A **Signal Mountai** **37.14 99** *eP* **P** **02 35 09.4 -0.1**
comp=Z,8.3nm,0.8s
W50A **Signal Mountai** **37.14 99** P **P** **02 35 09.6 +0.2**
baz=312
U51A **La Follette** **37.15 96** P **P** **02 35 09.8 +0.3**
baz=311
ZAIG **Zacatecas** **37.21 131** *eP* **P** **02 35 12.0 +1.6**
comp=Z,10nm,1.1s
V51A **Loudon** **37.33 97** *eP* **P** **02 35 11.8 +0.9**
comp=Z,17nm,1.0s
V51A **Loudon** **37.33 97** P **P** **02 35 12.4 +1.4**

baz=312
TZTN Tazewell 37.33 95 *e*P P 02 35 11.7 +0.7
comp=Z,25nm,1.0s
TZTN Tazewell 37.33 95 P P 02 35 11.8 +0.8
baz=311
Y49A Blount Mountai 37.39 101 P P 02 35 12.8 +1.3
baz=314
X50B Fort Payne 37.44 100 P P 02 35 13.2 +1.2
baz=313
W51A Cleveland 37.51 98 P P 02 35 13.2 +0.7
baz=312
SCHQ Schefferville 37.56 60 P P 02 35 14.7 +1.9
comp=Z,2.4nm,0.8s,baz=308,slow=9.7,SNR=2.9
LRAL Lakeview Retre 37.61 103 P P 02 35 12.7 -0.7
baz=315
LATQ La Tuque 37.62 73 P P 02 35 12.8 -0.5
baz=300
V52A Sevierville 37.76 96 *e*P P 02 35 15.6 +0.9
comp=Z,44nm,0.8s
V52A Sevierville 37.76 96 P P 02 35 15.1 +0.5
baz=311,SNR=8.7
TKL Tuckaleechee C 37.77 97 *e*P P 02 35 15.7 +0.9
comp=Z,17nm,0.8s
TKL Tuckaleechee C 37.77 97 *e*P P
TKL pmax pmax
comp=Z,17nm,0.8s
TKL Tuckaleechee C 37.77 97 LR LR 02 50 22.4
comp=Z,189nm,19.3s,baz=324,slow=36
Y50A Piedmont 37.78 101 P P 02 35 15.6 +0.8
baz=314
Z49A Columbiana 37.78 102 P P 02 35 15.7 +0.8
baz=314
X51A Calhoun 37.85 99 *e*P P 02 35 16.0 +0.6
comp=Z,22nm,0.7s
X51A Calhoun 37.85 99 P P 02 35 15.8 +0.5
baz=313
R54A Victor 37.85 91 P P 02 35 15.8 +0.4
baz=309
LONY Lake Ozonia 37.99 78 P P 02 35 16.6 +0.1
baz=303
U53A Fall Branch 38.04 95 P P 02 35 17.6 +0.5
baz=311
149A Jones 38.04 103 P P 02 35 17.7 +0.6
baz=315
W52A Murphy 38.05 98 *e*P P 02 35 18.1 +0.9
comp=Z,37nm,0.9s
W52A Murphy 38.05 98 P P 02 35 17.8 +0.6
baz=312,SNR=5.8
Z50A Ashland 38.10 102 *e*P P 02 35 18.2 +0.6
comp=Z,10nm,0.7s
Z50A Ashland 38.10 102 P P 02 35 18.6 +1.0
baz=314
Y51A Rockmart 38.18 100 P P 02 35 19.4 +1.2
baz=314
T54A Tazewell 38.20 93 P P 02 35 19.1 +0.7
baz=310
SSPA Standing Stone 38.25 86 P P 02 35 17.8 -1.0
baz=307
249A Camden 38.29 104 P P 02 35 20.0 +0.9
baz=316
V53A Saluda 38.35 96 *e*P P 02 35 21.1 +1.4
comp=Z,30nm,0.8s
V53A Saluda 38.35 96 P P 02 35 20.6 +0.9
baz=312,SNR=6.5
U54A Nelsons Funny 38.40 94 P P 02 35 20.6 +0.5
baz=311
X52A Dahlonega 38.41 98 P P 02 35 21.3 +1.2
baz=313
S55A Lewisburg 38.41 91 P P 02 35 21.0 +0.9
baz=309
W53A Cullowhee 38.47 97 P P 02 35 21.4 +0.6
baz=312,SNR=8.0
150A Eclectic 38.50 102 P P 02 35 21.5 +0.6
baz=315
349A Repton 38.69 105 P P 02 35 24.5 +2.0
baz=316
BG3 Lake Jocassee 38.73 97 *e*P P 02 35 23.4 +0.6
comp=Z,30nm,0.9s
250A Grady 38.79 103 *e*P P 02 35 24.3 +0.9
comp=Z,20nm,0.7s
250A Grady 38.79 103 P P 02 35 24.2 +0.9
baz=315
Y52A Lilburn 38.80 99 P P 02 35 24.4 +1.0
baz=313
V54A Nebo 38.81 95 P P 02 35 24.5 +1.1
baz=311
BLA Blacksburg 38.81 92 *e*P P 02 35 24.8 +1.2
comp=Z,27nm,0.8s
BLA Blacksburg 38.81 92 *e*P P
BLA pmax pmax
comp=Z,27nm,0.8s
BLA Blacksburg 38.81 92 P P 02 35 24.7 +1.2
baz=310
X53A Estanollee 38.83 98 P P 02 35 24.6 +0.9
baz=313
Z52A Williamson 39.05 100 P P 02 35 25.8 +0.2
baz=314
Y53A Monroe 39.10 99 P P 02 35 26.6 +0.7
baz=313
449A Pace 39.10 106 P P 02 35 26.2 +0.2
baz=317
W54A Cherokee Point 39.12 96 P P 02 35 26.7 +0.6
baz=312
V55A Taylorsville 39.21 94 P P 02 35 27.4 +0.6
baz=311
251A Midway 39.23 102 P P 02 35 27.3 +0.3
baz=315
152A Waverly Hall 39.24 101 *e*P P 02 35 27.5 +0.4
comp=Z,9.3nm,0.9s
152A Waverly Hall 39.24 101 P P 02 35 27.6 +0.5
baz=314
X54A Belton 39.37 97 P P 02 35 28.8 +0.6
baz=312,SNR=5.5
SEY Seymchan 39.42 316⇑ *i*P P 02 35 29.7 +1.5
SEY Seymchan 39.42 316 P P 02 35 29.0 +0.8
comp=Z,7.0nm,0.8s,baz=112,slow=7.6,SNR=14
GOGA Godfrey 39.48 99 *e*P P 02 35 29.1 +0.1
comp=Z,7.8nm,0.8s
GOGA Godfrey 39.48 99 *e*P P 02 35 29.1 +0.1
GOGA pmax pmax
comp=Z,8.0nm,0.8s
GOGA Godfrey 39.48 99 P P 02 35 29.8 +0.7
baz=314
Z53A Monticello 39.50 99 P P 02 35 30.0 +0.7
baz=314
PAULI Pauline 39.52 96 *e*P P 02 35 30.3 +0.9
comp=Z,15nm,0.7s
KMSC Kings Mountain 39.60 95 *e*P P 02 35 31.2 +1.1
comp=Z,39nm,1.6s
KMSC Kings Mountain 39.60 95 P P 02 35 30.7 +0.6
baz=312
Y54A Tignall 39.64 98 P P 02 35 31.4 +0.9
baz=313
HODGE Hodges 39.65 97 *e*P P 02 35 31.5 +1.0
comp=Z,19nm,0.8s
X55A Gracelyn & Ava 39.87 96 P P 02 35 32.9 +0.6
baz=312,SNR=5.3
R58B Mineral 39.89 89 P P 02 35 33.9 +1.4
baz=309
352A Blakely 39.95 103 P P 02 35 33.9 +0.9
baz=316
Z54A Sparta 39.98 99 P P 02 35 33.2 0.0
baz=314
253A Americus 40.02 101 P P 02 35 34.1 +0.6
baz=315
Y55A Saluda 40.09 97 P P 02 35 35.1 +0.9
baz=313
X56A White Oak 40.22 96 P P 02 35 36.1 +0.9
baz=312
JSC Jenkinsville 40.23 96 *e*P P 02 35 36.3 +1.1
comp=Z,20nm,0.8s
JSC Jenkinsville 40.23 96 *e*P P 02 35 36.3 +1.1
JSC pmax pmax
comp=Z,20nm,0.8s
SFJD Kangerlussuaq 40.36 37 LR LR 02 52 42.5
comp=Z,227nm,20.5s,baz=300,slow=37
254A Abbeville 40.60 101 P P 02 35 38.7 +0.3
baz=315
PETK Petropavlovsk- 40.94 300 P P 02 35 41.4 +0.4
comp=Z,4.8nm,0.8s,baz=83,slow=12,SNR=4.1
X58A Rowland 41.22 94 P P 02 35 44.5 +1.1
baz=312
MA2 Magadan 41.46 311 LR LR 02 51 11.4
comp=Z,36nm,18.7s,baz=203,slow=34
455A Stateville 41.62 102 P P 02 35 48.8 +2.1
baz=316
X59A McDuffie Farm, 41.65 94 P P 02 35 48.3 +1.3
baz=312

NHSC New Hope 41.68 97 *e*P P 02 35 47.9 +0.6
comp=Z,143nm,1.4s
NHSC New Hope 41.68 97 P P 02 35 48.5 +1.2
baz=314
554A Perry 41.69 103 P P 02 35 48.8 +1.4
baz=316
Z58A St. Stephen 41.75 96 P P 02 35 49.2 +1.4
baz=313
X60A Albert Glenn T 42.03 93 P P 02 35 50.9 +0.8
baz=312
SUMG Summit 42.15 27 *e*P P 02 35 52.2 +1.0
comp=Z,29nm,1.1s
SUMG Summit 42.15 27 *i* P P 02 35 53.1 +2.0
comp=Z,22nm,1.1s
SUMG *i* 02 36 00.6
SUMG Summit 42.15 27 *i* P P 02 35 53.1 +2.0
SUMG *i* 02 36 00.6
SUMG pmax pmax
comp=Z,22nm,1.1s
DAG Danmarks Havn 44.57 18 *i* P P 02 36 11.4 +1.3
comp=Z,9.8nm,1.2s
DAG *i* 02 36 18.4
DAG Danmarks Havn 44.57 18 *e*P P 02 36 11.4 +1.3
DAG *i* 02 36 18.4
DAG pmax pmax
comp=Z,15nm,1.2s
KBS Kingsbay 47.24 9⇑ *e*P P 02 36 33.5 +2.4
KBS pmax pmax
comp=Z,350nm,2.5s
GRNR Gornyy 53.12 307 *e*P P 02 37 16.1 +0.1
GRNR pmax pmax
comp=Z,21nm,1.0s
NRIK Noril'sk 55.19 344 P P 02 37 30.8 0.0
comp=Z,3.6nm,0.5s,baz=46,slow=7.2,SNR=4.9
KLR Kul'dur 56.40 309⇓ *e*P P 02 37 39.7 -0.1
H11N2 WAKE ISLAND Hy 56.96 259 T T 03 39 52.6
baz=39,slow=76,SNR=130
H11N3 WAKE ISLAND Hy 56.97 259 T T 03 39 48.1
baz=39,slow=76,SNR=114
H11N1 WAKE ISLAND Hy 56.98 259 T T 03 39 53.6
baz=39,slow=76,SNR=86
ARCES ARCESS Array B 57.32 9 P P 02 37 46.3 +0.2
comp=Z,2.1nm,0.7s,baz=16,slow=6.4,SNR=6.8
BOD Bodaibo 57.70 325 *e*P P 02 37 44.9 -4.0
BOD pmax pmax
comp=Z,7.0nm,1.5s
H11S1 WAKE ISLAND Hy 58.02 259 T T 03 41 12.9
baz=45,slow=74,SNR=8.4
H11S2 WAKE ISLAND Hy 58.03 259 T T 03 41 14.8
baz=45,slow=74,SNR=6.8
H11S3 WAKE ISLAND Hy 58.04 259 T T 03 41 17.4
baz=45,slow=74,SNR=4.8
USA0B Ussuriysk Arra 59.78 304 *e*P P 02 38 03.5 0.0
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 59.78 304 *e*P P 02 38 03.5 0.0
USA0B pmax pmax
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 59.78 304 P P 02 38 03.5 0.0
comp=Z,4.8nm,0.8s,baz=29,slow=4.4,SNR=7.2
USRK LR LR 03 03 51.6
comp=Z,22nm,18.2s,baz=46,slow=36
EMPR Esperanza - Ma 60.69 98 *e*P P 02 38 10.7 +0.7
comp=Z,218nm,0.5s
MJAR Matsushiro Arr 61.90 294 LR LR 03 02 33.3
comp=Z,14nm,20.5s,baz=60,slow=34
NC303 NORSAR Array S 63.08 19 *e*P P 02 38 25.8 +0.2
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 63.22 19 P P 02 38 27.5 +0.9
comp=Z,13nm,1.1s,baz=339,slow=6.9
NOA NORSAR Array B 63.22 19 P P 02 38 26.8 +0.2
comp=Z,2.3nm,0.8s,baz=337,slow=6.6,SNR=8.1
NOA LR LR 03 05 47.4
comp=Z,81nm,20.6s,baz=340,slow=36
CN2 Changchun 63.32 308 *e*P P 02 38 31.0 +3.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s
TMCR Tamitsa 63.56 5 *e*P P 02 38 29.1 +0.4
FIA1 FINESS Array S 65.22 11 *e*P P 02 38 39.7 +0.2
FINES FINESS Array B 65.22 11 *i* P P 02 38 40.4 +0.8
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 65.22 11 P P 02 38 40.1 +0.5
comp=Z,2.8nm,0.8s,baz=2.7,slow=8.2,SNR=11
FINES LR LR 03 07 42.8
comp=Z,43nm,20.3s,baz=342,slow=37
TLY Talaya 66.22 326⇑ *i*P P 02 38 46.8 +0.5
PRGR Permogore 66.34 1 *e*P P 02 38 47.1 +0.3
PRGR pmax pmax
comp=Z,16nm,0.9s
KS01 Wonju Array Si 66.81 302 *e*P P 02 38 49.8 -0.4
KSRS Korea Array 66.81 301 P P 02 38 49.8 -0.4
comp=Z,1.9nm,0.8s,baz=56,slow=5.2,SNR=6.1
KSAR Wonju Array Be 66.84 302 P P 02 38 49.8 -0.6
KSAR Wonju Array Be 66.84 302 P P 02 38 49.8 -0.6
KLMR Klimovskoe 66.94 4 *e*P P 02 38 50.3 -0.3
KLMR pmax pmax
comp=Z,23nm,1.2s
KLMR Klimovskoe 66.94 4 *e*P P 02 38 50.3 -0.3
KLMR AMP 02 38 59.8
comp=Z,23nm,1.2s
ULN Ulaanbaatar 68.15 321⇓ *e*P P 02 38 58.6 -0.1
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONM Songino Array 68.42 322 P P 02 38 59.8 -0.6
comp=Z,1.2nm,0.6s,baz=35,slow=5.8,SNR=4.1
PMOR Pomariorio Ree 68.46 196 *e*T T 03 53 48.6
comp=Z,8.6nm,0.2s
OTAV Otavalo 68.49 120 *e*P P 02 39 02.1 +0.5
comp=Z,12nm,1.3s
OTAV Otavalo 68.49 120 *e*P P 02 39 02.1 +0.5
OTAV pmax pmax
comp=Z,12nm,1.3s
NVS Novosibirsk 69.21 339 *e*P P 02 39 00.3 -4.7
ZAA0 Zalesovo Array 69.68 338 *e*P P 02 39 08.0 +0.1
comp=Z,22nm,1.8s
ZALV Zalesovo Beam 69.68 338 *e*P P 02 39 07.3 -0.6
ZALV Zalesovo Beam 69.68 338 P P 02 39 07.8 -0.1
comp=Z,2.4nm,0.7s,baz=25,slow=4.8,SNR=9.2
ZALV LR LR 03 13 10.8
comp=Z,31nm,19.2s,baz=54,slow=39
TIAR Tiarei 71.22 197 *e*T T 03 57 15.2
comp=Z,3.2nm,0.3s
ARU Arti 71.22 354 *e*P P 02 39 16.9 -0.4
comp=Z,10nm,0.9s
ARU Arti 71.22 354 *d i*P P 02 39 17.3 0.0
ARU 02 39 35.3
ARU S S 02 48 35.2 +2.1
ARU SS SS 02 53 06.5 +0.9
ARU pmax pmax
comp=Z,9.0nm,0.8s
PPT Papeete 71.27 198 LR LR 03 04 03.0
comp=Z,78nm,18.7s,baz=198,slow=30
PPT2 Papeete2 71.29 198 *e*LR LR 03 00 45.7
comp=Z,123nm,29.5s
PPT2 Papeete2 71.29 198 *e*T T 03 57 20.6
comp=Z,3.6nm,0.4s
TVO Taravao 71.42 197 *e*T T 03 57 30.3
comp=Z,0.8nm,0.3s
HHC Hu-ho-hao-te 72.05 314 *e*P P 02 39 22.0 -0.7
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,200nm,6.6s
OBN Obninsk 72.48 7⇑ *e*P P 02 39 25.5 +0.7
OBN *e* 02 42 08.7
OBN *e*S S 02 48 39.6 -8.0
OBN pmax pmax
comp=Z,11nm,0.8s
OBN MLR MLR
comp=Z,43nm,19.0s
BRVK Borovoye 73.29 346 *e*P P 02 39 29.8 +0.1
comp=Z,6.8nm,0.9s
BRVK Borovoye 73.29 346 *ce*P P 02 39 29.5 -0.2
BRVK pmax pmax
comp=Z,6.0nm,0.9s
UPC Upice 74.02 21 *e*P P 02 39 35.7 +1.7
UPC *e*pP pwP 02 39 42.5 +0.1
UPC Upice 74.02 21 *e*P P 02 39 35.7 +1.7
UPC *e* 02 39 42.5
KURK Kurchatov 74.06 340 *e*P P 02 39 34.2 -0.1
KURK Kurchatov 74.06 340 *e*P P 02 39 34.2 -0.1
KURBB Kurchatov Arra 74.17 340 P P 02 39 34.5 -0.4
comp=Z,4.2nm,0.9s,baz=20,slow=5.6,SNR=14
DPC Dobruska-Polom 74.23 20 *e*P P 02 39 37.2 +1.8
DPC *e*x x 02 39 44.4
DPC Dobruska-Polom 74.23 20 *e*P P 02 39 37.2 +1.8
DPC *e* 02 39 44.4
KRLC Kraliky 74.59 20 *e*P P 02 39 42.5 +5.1
KRLC *e*x x 02 39 46.4
KRLC Kraliky 74.59 20 *e*P P 02 39 42.5 +5.1
KRLC *e* 02 39 46.4
KHC Kasperske Hory 74.76 23 *e*P P 02 39 39.9 +1.5
KHC *e*pP pwP 02 39 46.4 -0.4
KHC Kasperske Hory 74.76 23 *e*P P 02 39 39.9 +1.5
KHC *e* 02 39 46.4
GERES GERESS Array B 75.06 23 P P 02 39 41.4 +1.1
comp=Z,0.6nm,0.6s,baz=345,slow=4.1,SNR=5.4
GERES LR LR 03 13 56.7
comp=Z,54nm,18.3s,baz=334,slow=37
GEA0 GERESS Array S 75.06 23 *e*P P 02 39 41.0 +0.7
OKC Ostrava-Krasne 75.10 19 *e*P P 02 39 41.1 +0.8
OKC *e*pP pwP 02 39 48.9 +0.2
OKC Ostrava-Krasne 75.10 19 *e*P P 02 39 41.1 +0.8
OKC *e* 02 39 48.9
LPSR Galich'ya Gora 75.14 6 *e*P P 02 39 40.5 0.0
LPSR pmax pmax
comp=Z,10.0nm,0.9s
RKT Rikitea 75.19 183 *e*T T 04 02 12.2
comp=Z,1.8nm,0.3s
NJ2 Nanjing 75.69 304 *e*P P 02 39 44.4 +0.4
NJ2 pmax pmax
comp=Z,17nm,0.7s
FETA Feichten 76.02 25 *i* PcP PcP 02 39 54.9 -3.2
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 76.11 12 *i* P P 02 39 46.5 +0.4
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 76.11 12 P P 02 39 46.1 0.0
comp=Z,1.3nm,0.6s,baz=355,slow=5.9,SNR=8.7
AKASG LR LR 03 15 40.4
comp=Z,40nm,18.3s,baz=75,slow=38
KIEV Kiev 76.11 12⇓ *e*P P 02 39 47.2 +1.1
KIEV pmax pmax
comp=Z,10.0nm,1.6s
MODS Modra-Piesok 76.31 20 *e*P P 02 39 47.6 +0.3
MODS Modra-Piesok 76.31 20 *e*P P 02 39 47.6 +0.3
CONA Conrad Observa 76.42 22 *i* PcP PcP 02 39 57.1 -2.6
comp=Z,8.0nm,1.2s
VYHS Vyhne 76.52 19 *e*P P 02 39 50.1 +1.6
VYHS Vyhne 76.52 19 *e*P P 02 39 50.1 +1.6
VSR Storozhevoye 76.54 6 *i* P P 02 39 48.7 +0.2
VSR pmax pmax
comp=Z,11nm,1.3s
VRH Novokhopyorsk 76.68 4 *e*P P 02 39 48.9 -0.4
VRH pmax pmax
comp=Z,10.0nm,1.7s
TBI Tubuai 76.89 196 *e*T T 04 04 19.5
comp=Z,3.2nm,0.3s
MK31 Makanchi Array 76.93 337 *e*P P 02 39 50.7 -0.1
comp=Z,3.9nm,1.0s
MK31 Makanchi Array 76.93 337 *e*P P 02 39 50.7 -0.1
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 76.93 337 P P 02 39 50.7 -0.1
comp=Z,2.8nm,0.8s,baz=30,slow=5.1,SNR=20
MK01 Makanchi Array 76.95 337 *e*P P 02 39 50.7 -0.3
MAKZ Makanchi 76.99 337 *e*P P 02 39 51.2 0.0
comp=Z,10.0nm,1.0s
MAKZ Makanchi 76.99 337 *e*P P 02 39 51.2 0.0
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
UZH Uzhgorod 77.05 17 *e*P P 02 39 54.1 +2.7
UZH *e* 02 40 05.8
AKTO Aktyubinsk 77.22 353 P P 02 39 52.2 -0.2
comp=Z,4.5nm,0.8s,baz=26,slow=5.4,SNR=15
PSZ Piszkesteto 77.28 19 *e*P P 02 39 53.9 +1.1
comp=Z,11nm,1.1s
PSZ Piszkesteto 77.28 19 *e*P P 02 39 53.9 +1.1
PSZ pmax pmax
comp=Z,11nm,1.1s
SOKA Soboth 77.40 23 *i* P P 02 40 02.1 +8.5
comp=Z,2.8nm,1.0s
OBKA Obir 77.45 23 *i* pP P 02 39 55.7 +1.9
comp=Z,2.1nm,0.6s
ESDC Sonseca Array 77.88 38 P P 02 39 56.3 -0.1
comp=Z,0.8nm,0.7s,baz=325,slow=4.9,SNR=4.1
ES06 SONSECA Array 77.89 38 *e*P P 02 39 56.5 +0.1
WMQ Urumqi 78.23 332 P P 02 39 59.3 +1.1
WMQ pP pwP 02 40 06.4 -0.6
WMQ PcP PcP 02 40 11.3 +3.6
WMQ pmax pmax
comp=Z,17nm,1.5s
WMQ pmax pmax
comp=Z,240nm,5.5s
WMQ LR LR
comp=N,38nm,18.1s
WMQ LR LR
comp=E,95nm,24.7s
ABKAR Akbulak array 78.25 352 *e*P P 02 39 58.5 +0.5
comp=E,9.7nm,1.1s
XAN Xi'an 78.85 312 P P 02 40 01.4 -0.4
XAN pP pwP 02 40 09.5 -0.9
XAN pmax pmax
comp=Z,8.0nm,1.2s
LZH Lanzhou 79.34 317 *e*P P 02 40 04.1 -0.5
LZH pP pP 02 40 09.8 -0.3
LZH sP PcP 02 40 12.3 -0.4
LZH PP PP 02 43 06.0 +2.2
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.5s
LZH LR LR
comp=N,170nm,17.0s
LZH LR LR
comp=E,180nm,16.7s
LZH LR LR
comp=Z,220nm,18.2s
PTGA Pitinga 79.74 105 *e*P P 02 40 07.6 +0.8
comp=Z,10nm,1.1s
TKM2 Tokmak 2 82.12 340 P P 02 40 20.2 +0.8
SNR=7.1
KDJ Kajisay 82.53 338 *e*P P 02 40 22.1 +0.6
comp=Z,5.1nm,0.9s
KDJ Kajisay 82.53 338 *e*P P 02 40 22.1 +0.6
KDJ pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 82.62 341 *e*P P 02 40 22.4 +0.4
comp=Z,6.3nm,1.1s
AAK Ala-Archa 82.62 341 *de*P P 02 40 21.9 -0.1
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 82.62 341 P P 02 40 22.1 +0.2
comp=Z,2.8nm,0.8s,baz=173,slow=7.7,SNR=7.1
ULHL Ulahol 82.63 339 P P 02 40 22.7 +0.7
SNR=5.2
EKS2 Erkin-Say 82.75 341 P P 02 40 23.6 +1.1
SNR=6.7
KZA Kyzart 83.00 340 P P 02 40 24.7 +0.4
SNR=5.2
AML Almayashu 83.27 341 P P 02 40 26.8 +1.2
SNR=7.5
NRN Naryn 83.46 339 *e*P P 02 40 26.8 +0.3
comp=Z,3.7nm,0.9s
NRN Naryn 83.46 339 *e*P P 02 40 26.8 +0.3
NRN pmax pmax
comp=Z,4.0nm,0.9s
CD2 Chengdu 83.81 314 P P 02 40 26.8 -1.3
CD2 pmax pmax
comp=Z,2.0nm,0.5s
KBZ Khabaz 84.19 4 P P 02 40 30.6 +0.9
comp=Z,4.1nm,0.9s,baz=311,slow=5.9,SNR=6.4
NCK Nalchik 84.45 3⇓ *e*P P 02 40 32.9 +1.7
KSH Kashi 85.30 339 P P 02 40 38.4 +2.8
KSH sP pwP 02 40 45.8 +1.4
KSH Kashi 85.30 339 S S 02 51 04.3 -0.7
KSH pmax pmax
comp=Z,52nm,5.8s
KEST Kesra 86.05 31 LR LR 03 20 59.6
comp=Z,46nm,18.4s,baz=302,slow=37
GAR Garm 86.94 343 *e*P P 02 40 44.1 +0.3
GAR Garm 86.94 343 *e*P P 02 40 44.1 +0.3
BRTR Keskin Array B 87.46 11 *i* P P 02 40 45.9 -0.3
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 87.46 11 P P 02 40 46.5 +0.3
comp=Z,1.7nm,0.9s,baz=31,slow=3.3,SNR=6.4
LPAZ La Paz 87.81 120 *e*P P 02 40 48.1 -0.5
comp=Z,8.6nm,0.8s
LPAZ La Paz 87.81 120 *e*P P 02 40 48.1 -0.5
LPAZ pmax pmax

comp=Z,9.0nm,0.8s
LPAZ La Paz 87.81 120 P **P 02 40 47.7 -0.9**
comp=Z,6.4nm,0.7s,baz=354,slow=3.9,SNR=21
GNI Garni 87.83 2⇑*e*P **P 02 40 49.7 +1.7**
GEYT Alibeck 89.64 352 LR LR 03 24 19.7
comp=Z,20nm,21.3s,baz=210,slow=38
DZM Mont Dzumac 91.33 235 *e*LR LR 03 10 22.2
comp=Z,121nm,22.2s
CMAR Chiang Mai Arr 96.74 312 *i* P **P 02 41 29.5 +0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 96.74 312 P **P 02 41 29.1 -0.4**
comp=Z,0.6nm,0.3s,baz=6.5,slow=4.0,SNR=5.2
BDFB Brasilia 98.67 104 LR LR 03 29 42.2
comp=Z,63nm,18.1s,baz=189,slow=38
KMBO Kilima Mbogo 128.18 14 PKP **PKPdf 02 47 05.5 0.0**
comp=Z,1.6nm,0.8s,baz=28,slow=4.6,SNR=5.4
VNA3 Neumayer Olymp 148.63 148 PKP **PKPbc 02 47 43.7 -0.5**
VNA2 Neumayer--Watz 149.40 148 PKP **PKPbc 02 47 45.8 -0.3**
SNAA Sanae 150.70 150 PKP **PKPbc 02 47 48.9 -0.4**
BOSA Boshof 150.92 44 PKPbc **PKPbc 02 47 51.3 0.0**
comp=Z,4.0nm,0.8s,baz=314,slow=1.5,SNR=7.5

*ISCJB **15** 02:29:47.3±0.9, 24°.69N×0°.05×94°.72E±0°.08, h116km±6km, mb3.7/10, Error ellipse: s-maj=11.4km s-min=8.1km az=6.6*
*IDC **15** 02:29:48.8±3.5, 24°.50N×94°.98E, h131km±36km, mb3.4/10, mb1 3.5/11, mb1mx3.3/47, mbtmp3.7/11, MS3.4/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=49.4km s-min=18.2km az=58.0*
ISC 15 02:29:46.7±1.1, **24.68N**±0°.05×**94.89E**±0°.08, **h103**km±9km, **n20**, σ1**51**/**27**, **mb3.8**/10, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**1.26**	**326**	*e*P	**Pn**	**02 30 11.5**	**+1.1**
KOHI				*e*S	**Sn**	**02 30 25.7**	**-2.5**
KOHI				IAML		02 30 38.4	
	comp=N,521nm,0.1s						
KOHI				IAML		02 30 39.5	
	comp=E,465nm,0.1s						
MOKO	**MOKOCHONG**	**1.67**	**349**	*e*P	**Pn**	**02 30 16.3**	**+0.9**
MOKO				*e*S	**Sn**	**02 30 38.4**	**+1.1**
TEZP	**TEZPUR**	**2.70**	**316**	*e*P	**Pn**	**02 30 29.6**	**+1.1**
TEZP				*e*S	**Sn**	**02 30 59.9**	**-0.8**
TEZP				IAML		02 31 03.0	
	comp=N,769nm,0.2s						
TEZP				IAML		02 31 03.0	
	comp=E,798nm,0.1s						
SAIH	**SAIHA**	**2.79**	**219**	*e*P	**Pn**	**02 30 32.1**	**+2.3**
SAIH				*e*S	**Sn**	**02 31 02.1**	**-0.9**
SAIH				IAML		02 31 09.0	
	comp=N,228nm,0.2s						
SAIH				IAML		02 31 10.1	
	comp=E,242nm,0.2s						
SHL	**Shillong**	**2.86**	**289**	*e*P	**Pn**	**02 30 32.3**	**+1.4**
SHL				*e*S	**Sn**	**02 31 03.3**	**-1.6**
GUWA	**GUWAHATI**	**3.26**	**298**	*e*P	**Pn**	**02 30 36.7**	**+0.7**
GUWA				*e*S	**Sn**	**02 31 12.6**	**-1.4**
GUWA				IAML		02 31 16.7	
	comp=N,293nm,0.1s						
GUWA				IAML		02 31 16.9	
	comp=E,139nm,0.1s						
TAWA	**Tawang**	**3.98**	**318**	*e*P	**Pn**	**02 30 47.5**	**+1.6**
TAWA				*e*S	**Sn**	**02 31 29.5**	**-2.3**
TURI	**Tura**	**4.22**	**283**	*e*P	**Pn**	**02 30 50.8**	**+1.9**
TURI				*e*S	**Sn**	**02 31 34.9**	**-2.3**
CMAR	**Chiang Mai Arr**	**7.25**	**148**	P	**Pn**	**02 31 29.4**	**-0.6**
	comp=E,0.5nm,0.3s,baz=325,slow=14,SNR=14						
MKAR	**Makanchi Array**	**24.26**	**339**	P	**P**	**02 34 55.8**	**+1.6**
	comp=E,3.9nm,0.6s,baz=148,slow=9.3,SNR=58						
TGY	**Tagaytay City**	**26.68**	**108**	LR	LR	02 45 45.5	
	comp=E,90nm,20.5s,baz=78,slow=36						
KURBB	**Kurchatov Arra**	**28.83**	**338**	P	**P**	**02 35 36.0**	**+0.9**
	comp=E,0.4nm,0.4s,baz=147,slow=9.6,SNR=5.7						
BRTR	**Keskin Array B**	**53.00**	**302**	P	**P**	**02 38 54.3**	**+1.1**
	comp=E,0.2nm,0.4s,baz=78,slow=4.7,SNR=3.1						
AKASG	**Malin Array Be**	**56.02**	**316**	P	**P**	**02 39 14.2**	**-0.5**
	comp=E,0.3nm,0.3s,baz=81,slow=7.3,SNR=3.2						
FINES	**FINESS Array B**	**58.53**	**329**	P	**P**	**02 39 32.4**	**+0.3**
	comp=E,0.5nm,0.4s,baz=67,slow=6.2,SNR=8.4						
WRA	**Warramunga Arr**	**58.66**	**136**	P	**P**	**02 39 31.5**	**-2.1**
	comp=E,0.3nm,0.7s,baz=322,slow=7.5,SNR=6.1						
ARCES	**ARCESS Array B**	**59.91**	**338**	P	**P**	**02 39 42.0**	**+0.5**
	comp=E,1.8nm,0.8s,baz=116,slow=5.5,SNR=5.8						
NOA	**NORSAR Array B**	**65.70**	**328**	P	**P**	**02 40 20.0**	**-0.1**
	comp=E,0.8nm,0.7s,baz=82,slow=6.6,SNR=3.7						
GERES	**GERESS Array B**	**66.19**	**314**	P	**P**	**02 40 23.9**	**+0.5**
	comp=E,0.5nm,0.4s,baz=64,slow=7.2,SNR=8.6						
TORD	**Torodi Ar. Bea**	**87.45**	**283**	P	**P**	**02 42 22.1**	**-1.2**
	comp=E,0.4nm,0.8s,baz=60,slow=4.8,SNR=3.4						

*KRNET **15** 02:31:29.9±0.1, 39°.78N×71°.25E, mb3.3*
*NNC **15** 02:31:30.1±3.6, 39°.80N×71°.07E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=30.9km s-min=16.7km az=8.0*
*SOME **15** 02:31:31.8, 39.87N×71.27E, h0km*
ISC 15 02:31:28.9±1.5, **39.60N**±0°.08×**71.05E**±0°.05, **h12**km±9km, **n36**, σ1**37**/**59**, **27C-17D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.49**	**339**	⇑*i*P	**Pg**	**02 31 38.5**	**-0.1**
	baz=10.0						
BTK				⇑*i*S	**Sg**	**02 31 44.5**	**-0.8**
	baz=10.0						
DRK	**Karamyk**	**0.59**	**101**	⇑*i*P	**Pg**	**02 31 39.7**	**-0.7**
	baz=24						
DRK				⇑*i*S	**Sg**	**02 31 46.7**	**-1.6**
	baz=24						
TAS	**Tashkent**	**2.19**	**323**	⇑*i*P	**Pb**	**02 32 08.2**	**-0.2**
	baz=17						
TAS				⇑*i*S	**Sb**	**02 32 36.9**	**+1.3**
	baz=17						
ARSB	**Arslanbob**	**2.27**	**40**	⇑*i*P	**Pn**	**02 32 07.0**	**+0.8**
	baz=40						
ARSB				⇑*i*S	**Sn**	**02 32 34.1**	**-0.1**
	baz=40						
ARK	**Arkit**	**2.31**	**17**	⇓*i*P	**Pn**	**02 32 07.5**	**+0.8**
	baz=15						
ARK				⇓*i*S	**Sn**	**02 32 35.1**	**0.0**
	baz=15						
IUG	**luzhnay**	**2.66**	**343**	Pg	**Pn**	**02 32 12.7**	**+1.0**
	165nm,0.5s						
IUG				Lg	Lg	02 32 52.0	
	259nm,0.3s						
IUG	**luzhnay**	**2.66**	**343**	*e*P	**Pb**	**02 32 17.7**	**+1.2**
	165nm,0.5s						
IUG				*e*S	**Sb**	**02 32 51.1**	**+2.0**
	259nm,0.3s						
AML	**Almayashu**	**3.23**	**37**	P	**Pn**	**02 32 20.3**	**+0.6**
	SNR=11						
AML	**Almayashu**	**3.23**	**37**	⇓*i*P	**Pn**	**02 32 20.3**	**+0.6**
	baz=37						
AML				⇓*i*S	**Sn**	**02 32 57.0**	**-1.2**
	baz=37						
ARLS	**Aral**	**3.36**	**47**	⇓*i*P	**Pn**	**02 32 22.4**	**+1.1**
	baz=47						
ARLS				⇓*i*S	**Sn**	**02 33 00.6**	**-0.5**
	baz=47						
KK31	**Karatay Array**	**3.53**	**354**	⇑Pn	**Pn**	**02 32 25.8**	**+2.4**
	2.4nm,0.4s,baz=171,slow=12,SNR=72						
KK31				⇓Pg	**Pb**	**02 32 32.6**	**+1.5**
	5.1nm,0.3s,baz=174,slow=18,SNR=28						
KK31				⇓Lg	Lg	02 33 17.5	
	35nm,0.4s,baz=176,slow=30,SNR=12						
MRKS	**Merke**	**3.55**	**27**	Pg	**Pn**	**02 32 25.0**	**+1.2**
	18nm,0.3s						
MRKS				Lg	Lg	02 33 13.4	
	37nm,0.6s						
MRKS	**Merke**	**3.55**	**27**	*e*P	**Pb**	**02 32 31.8**	**+0.2**
	18nm,0.3s						
MRKS				*e*S	**Sb**	**02 33 14.0**	**-0.6**
	37nm,0.6s						
BRLS	**Borolday**	**3.55**	**345**	*e*P	**Pb**	**02 32 30.5**	**-1.1**
	0.6nm,0.2s						
BRLS				*e*S	**Sb**	**02 33 11.9**	**-2.7**
	32nm,0.3s						
EKS2	**Erkin-Say**	**3.69**	**33**	⇑*i*P	**Pn**	**02 32 26.8**	**+1.1**
	baz=33						
EKS2				⇑*i*S	**Sn**	**02 33 07.4**	**-1.8**
	baz=33						
UCH	**Uchtor**	**3.71**	**44**	P	**Pn**	**02 32 27.4**	**+1.1**
	SNR=14						
UCH	**Uchtor**	**3.71**	**44**	⇑*i*P	**Pn**	**02 32 27.6**	**+1.2**
	baz=44						
UCH				⇑*i*S	**Sn**	**02 33 08.6**	**-1.6**
	baz=44						
AAK	**Ala-Archa**	**4.00**	**39**	P	**Pn**	**02 32 31.3**	**+1.2**
	SNR=10						
AAK	**Ala-Archa**	**4.00**	**39**	⇓Pn	**Pn**	**02 32 31.1**	**+1.0**
	3.0nm,0.5s						
AAK				⇑Pg	**Pb**	**02 32 39.5**	**+0.2**
	5.8nm,0.5s						
AAK				Lg	Lg	02 33 29.7	
	20nm,0.6s						
AAK	**Ala-Archa**	**4.00**	**39**	⇑*i*P	**Pn**	**02 32 30.9**	**+0.9**
	baz=40						
AAK				⇑*i*S	**Sn**	**02 33 15.7**	**-1.2**
	baz=40						
KZA	**Kyzart**	**4.04**	**51**	P	**Pn**	**02 32 32.1**	**+1.3**
	SNR=11						
KZA	**Kyzart**	**4.04**	**51**	⇑*i*P	**Pn**	**02 32 32.2**	**+1.4**
	baz=52						
KZA				⇑*i*S	**Sn**	**02 33 17.2**	**-0.9**
	baz=52						
NRN	**Naryn**	**4.19**	**62**	⇑*i*P	**Pn**	**02 32 34.3**	**+1.4**
	baz=64						
NRN				⇑*i*S	**Sn**	**02 33 20.8**	**-1.1**
	baz=64						
KBK	**Karagaybulak**	**4.24**	**43**	P	**Pn**	**02 32 35.6**	**+2.2**
	SNR=13						
KBK	**Karagaybulak**	**4.24**	**43**	⇑*i*P	**Pn**	**02 32 34.9**	**+1.5**
	baz=43						
KBK				⇑*i*S	**Sn**	**02 33 21.5**	**-1.4**
	baz=43						
USP	**Ospenovka**	**4.49**	**34**	P	**Pn**	**02 32 37.7**	**+1.0**
	SNR=12						
USP	**Ospenovka**	**4.49**	**34**	⇑*i*P	**Pn**	**02 32 37.5**	**+0.8**
	baz=34						
USP				⇑*i*S	**Sn**	**02 33 27.2**	**-1.6**
	baz=34						
BOOM	**Boomskoye usch**	**4.69**	**50**	⇓*i*P	**Pn**	**02 32 41.0**	**+1.4**
	baz=51						
BOOM				⇓*i*S	**Sn**	**02 33 32.5**	**-1.5**
	baz=51						
TKM2	**Tokmak 2**	**4.77**	**44**	P	**Pn**	**02 32 41.3**	**+0.6**
	SNR=20						
TKM2	**Tokmak 2**	**4.77**	**44**	⇓Pn	**Pn**	**02 32 41.5**	**+0.8**
	7.8nm,0.3s						
TKM2				⇑Lg	Lg	02 34 00.3	
	15nm,0.9s						
TKM2	**Tokmak 2**	**4.77**	**44**	⇑*i*P	**Pn**	**02 32 41.6**	**+0.9**
	baz=45						
TKM2				⇑*i*S	**Sn**	**02 33 33.9**	**-2.1**
	baz=45						
KST	**Kastek**	**5.05**	**45**	*e*P	**Pb**	**02 32 59.1**	**+1.9**
	4.9nm,0.4s						
KST				*e*S	**Sb**	**02 34 00.9**	**+3.0**
	20nm,0.4s						
MDOK	**Medeo**	**5.75**	**50**	Pn	**Pn**	**02 32 55.2**	**+1.1**
	2.8nm,0.9s						
MDOK				Lg	Lg	02 34 30.0	
	17nm,1.3s						
PDGK	**Podgornoye**	**7.35**	**57**	⇓Lg	Lg	02 35 21.2	
	3.8nm,1.0s						
AB31	**Akbulak array**	**12.49**	**324**	⇓Pn	**Pn**	**02 34 26.6**	**+0.4**
	0.2nm,0.3s,baz=131,slow=14,SNR=19						
AB31				⇓Sn	**Sn**	**02 36 44.1**	**-1.1**
	0.3nm,0.4s,baz=98,slow=12,SNR=9.6						
AKTO	**Aktyubinsk**	**14.20**	**324**	⇓Pn	**Pn**	**02 34 50.6**	**+0.9**
	1.9nm,0.7s						
AKTO				⇓Sn	**Sn**	**02 37 24.6**	**-2.5**
	0.5nm,0.6s						

*MOS **15** 02:43:04.4±1.1, 67°.67N×143°.33E, h1km, mb4.4/13, Error ellipse: s-maj=20.8km s-min=9.5km az=88.3*
*ISCJB **15** 02:43:05.5±0.2, 67°.58N±0°.04×143°.07E±0°.08, h10km, mb4.2/47, MS3.3/6, Error ellipse: s-maj=5.4km s-min=4.0km az=151.5*
*IDC **15** 02:43:05.1±0.7, 67°.69N×142°.87E, h0km, mb3.8/16, mb1 4.0/19, mb1mx3.9/44, mbtmp3.8/19, ML3.2/2, MS3.3/7, Ms1 3.3/7, ms1mx3.0/38, Error ellipse: s-maj=17.2km s-min=14.2km az=156.0*
*YARS **15** 02:43:06.1±0.2, 67°.55N±0°.01×143°.02E±0°.04, h6km±2km*
*NEIC **15** 02:43:08.0±3.2, 67°.71N×142°.80E, h16km±20km, mb4.3/30, Error ellipse: s-maj=7.3km s-min=3.7km az=164.0*
ISC 15 02:43:06.7±0.4, **67.59N**±0°.04×**142.93E**±0°.04, **h10**km, **n102**, σ1**42**/106, **mb4.2**/**47**, **MS3.3**/**6**, **7C-3D**, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.13**	**174**	*i* P	**Pb**	**02 43 25.7**	**-2.6**
MOMR				Pmax		02 43 25.7	
	comp=Z,178nm,0.4s						
MOMR				*e*S	**Sb**	**02 43 41.2**	**-1.9**
MOMR				Smax		02 43 41.2	
	comp=N,10μm,0.9s						
YBGR	**Belaya Gora**	**1.55**	**51**	*i* P	**Pn**	**02 43 33.0**	**-1.2**
YBGR				Pmax		02 43 33.0	
	comp=Z,1μm,0.7s						
YBGR				*e*S	**Sn**	**02 43 54.4**	**+0.1**
YBGR				Smax		02 43 54.4	
	comp=N,3μm,0.9s						
DEPR	**Deputatskiy**	**2.13**	**330**	*e*P	**Pn**	**02 43 43.4**	**+1.2**
DEPR				*e*P	**Pb**	**02 43 45.0**	**-0.3**
DEPR				Pmax		02 43 45.0	
	comp=Z,118nm,0.9s						
DEPR				*e*S	**Sg**	**02 44 13.9**	**-1.0**
DEPR				Smax		02 44 13.9	
	comp=E,425nm,0.7s						
BTGS	**Batagay**	**3.17**	**275**	*e*P	**Pn**	**02 43 57.5**	**+0.9**
BTGS				*e*P	**Pb**	**02 44 02.7**	**-0.3**
BTGS				Pmax		02 44 02.7	
	comp=Z,75nm,0.7s						
BTGS				*e*S	**Sg**	**02 44 46.2**	**-2.2**
BTGS				Smax		02 44 46.2	
	comp=N,480nm,0.9s						
SEY	**Seymchan**	**6.13**	**135**	⇓*e*P	**Pn**	**02 44 36.3**	**-0.8**
SEY	**Seymchan**	**6.13**	**135**	Pn	**Pn**	**02 44 35.1**	**-2.0**
	comp=N,0.4nm,0.3s,baz=332,slow=13,SNR=7.5						
SEY				Lg	Lg	02 46 13.2	
	comp=N,4.0nm,0.3s,baz=88,slow=1.8,SNR=6.6						
TIXI	**Tiksi**	**6.37**	**316**	⇓*e*P	**Pn**	**02 44 41.7**	**+1.3**
TIXI				pmax	pmax		
	comp=Z,16nm,1.0s						
TIXI	**Tiksi**	**6.37**	**316**	Pn	**Pn**	**02 44 40.0**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=127,slow=14,SNR=44						
TIXI				Sn	**Sn**	**02 45 48.4**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=86,slow=16,SNR=2.1						
TIXI				Lg	Lg	02 46 13.6	
	comp=Z,2.0nm,0.3s,baz=50,slow=16,SNR=2.2						
YAK	**Yakutsk**	**7.93**	**232**	*e*P	Pn	02 44 51.2	-11
YAK				pmax	pmax		
	comp=Z,68nm,0.6s						
YAK				pmax	pmax		
	comp=Z,43nm,0.4s						
MA2	**Magadan**	**8.76**	**153**	⇓*e*P	**Pn**	**02 45 15.3**	**+2.1**
MA2				pmax	pmax		
	comp=Z,22nm,2.6s						
MA2	**Magadan**	**8.76**	**153**	Lg	Lg	02 47 38.1	
	comp=Z,1.6nm,0.3s,baz=81,slow=6.3,SNR=5.5						
BILL	**Bilibino**	**8.82**	**76**	*e*Pn	**Pn**	**02 45 15.4**	**+1.4**
BILL				*e*Sn	**Sn**	**02 46 53.1**	**-0.3**
BILL	**Bilibino**	**8.82**	**76**	⇑*e*P	**Pn**	**02 45 11.3**	**-2.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,631nm,22.0s						
BOD	**Bodaibo**	**16.30**	**247**	*e*P	**Pn**	**02 46 51.9**	**-3.5**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GAMB	**Gambell**	**18.72**	**80**	*e*P	**P**	**02 47 24.9**	**-0.1**
	comp=Z,4.7nm,0.8s						
KLR	**Kul'dur**	**19.26**	**203**	⇑*e*P	**Pn**	**02 47 35.4**	**+3.4**
KLR	**Kul'dur**	**19.26**	**203**	P	**Pn**	**02 47 31.7**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=20,slow=14,SNR=2.5						
KLR				Lg	Lg	02 53 18.1	
	comp=Z,0.1nm,0.3s,baz=322,slow=18,SNR=5.8						
KLR				LR	LR	02 55 15.0	
	comp=Z,48nm,21.6s,baz=8.5,slow=38						
NRIK	**Noril'sk**	**19.82**	**301**	Lg	Lg	02 53 27.9	
	comp=Z,0.5nm,0.3s,baz=169,slow=16,SNR=2.6						
RDOG	**Red Dog Mine**	**19.91**	**63**	*e*P	**P**	**02 47 37.5**	**-0.5**
	comp=Z,7.4nm,1.0s						
HIA	**Hailar**	**21.77**	**224**	⇑*e*P	**P**	**02 48 02.5**	**+4.3**
HIA				pmax	pmax		
	comp=Z,11nm,1.2s						
IM3	**Indian Mountai**	**24.06**	**64**	*e*P	**P**	**02 48 21.1**	**-0.4**
TOLK	**Toolik Lake Re**	**24.06**	**56**	*e*P	**P**	**02 48 21.4**	**-0.2**
	comp=Z,300nm,1.5s						
USA0B	**Ussuriysk Arra**	**24.16**	**199**	*e*P	**P**	**02 48 24.8**	**+2.2**
	comp=Z,31nm,1.5s						
USRK	**Ussuriysk Ar.**	**24.16**	**199**	P	**P**	**02 48 23.9**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=149,slow=19,SNR=5.0						
COLD	**Coldfoot**	**24.58**	**59**	*e*P	**P**	**02 48 26.7**	**+0.4**
	comp=Z,7.6nm,1.1s						
MLY	**Manley**	**25.63**	**64**	*e*P	**P**	**02 48 36.2**	**+0.3**
	comp=Z,5.2nm,1.0s						
MOY	**Mondy**	**25.81**	**253**	*e*P	**P**	**02 48 40.7**	**+3.0**
MOY				pmax	pmax		
	comp=Z,11nm,1.4s						
MDM	**Murphy Dome**	**26.54**	**63**	*e*P	**P**	**02 48 44.6**	**+0.5**
	comp=Z,6.0nm,0.9s						
FYU	**Fort Yukon**	**26.58**	**58**	*e*P	**P**	**02 48 46.0**	**+1.7**
	comp=Z,25nm,1.3s						
COLA	**College**	**26.72**	**63**	*e*P	**P**	**02 48 45.7**	**+0.1**
	comp=Z,3.0nm,0.7s						
COLA	**College**	**26.72**	**63**	⇑*e*P	**P**	**02 48 46.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
TRF	**Thorofare Moun**	**26.75**	**67**	*e*P	**P**	**02 48 46.4**	**+0.3**
	comp=Z,35nm,1.6s						
IL1	**Eielson Array**	**27.11**	**62**	*e*P	**P**	**02 48 48.7**	**-0.4**
ILAR	**Eielson Array**	**27.11**	**62**	P	**P**	**02 48 49.4**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=299,slow=7.8,SNR=39						
ILAR				LR	LR	02 58 42.4	
	comp=Z,51nm,22.0s,baz=250,slow=35						
ILB	**Eielson Array**	**27.11**	**62**	*e*P	**P**	**02 48 49.2**	**+0.1**
	comp=Z,7.2nm,1.0s						
SONA0	**Songino Array**	**27.12**	**242**	*e*P	**P**	**02 48 50.6**	**+1.0**
SONM	**Songino Array**	**27.12**	**242**	P	**P**	**02 48 50.6**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=43,slow=9.4,SNR=5.1						
SONM				LR	LR	03 00 42.5	
	comp=Z,64nm,18.4s,baz=13,slow=39						
INK	**Inuvik**	**29.14**	**49**	LR	LR	03 02 37.7	
	comp=Z,81nm,18.6s,baz=34,slow=40						
KDAK	**Kodiak Island**	**29.73**	**77**	LR	LR	03 01 21.3	
	comp=Z,66nm,22.0s,baz=48,slow=37						
KSRS	**Korea Array**	**31.35**	**203**	LR	LR	03 02 08.0	
	comp=Z,69nm,20.4s,baz=32,slow=36						
KURK	**Kurchatov**	**35.06**	**274**	*e*P	**P**	**02 49 57.8**	**-1.4**
KURK	**Kurchatov**	**35.06**	**274**	*e*P	**P**	**02 49 57.8**	**-1.4**
BRVK	**Borovoye**	**36.35**	**284**	*e*P	**P**	**02 50 09.5**	**-0.8**
BRVK	**Borovoye**	**36.35**	**284**	*e*P	**P**	**02 50 12.8**	**+2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**36.85**	**267**	*e*P	**P**	**02 50 15.6**	**+0.9**
	comp=Z,1.1nm,0.8s						
MK31	**Makanchi Array**	**36.85**	**267**	*e*P	**P**	**02 50 15.6**	**+0.9**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MK32	**Makanchi Array**	**36.85**	**267**	*e*P	**P**	**02 50 14.5**	**-0.1**
MK32				*e*PP	**PP**	**02 51 36.6**	**-1.7**
MKAR	**Makanchi Array**	**36.85**	**267**	P	**P**	**02 50 14.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=48,slow=6.3,SNR=8.8						
MKAR				PP	**PP**	**02 51 36.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=38,slow=9.7,SNR=2.7						
MK01	**Makanchi Array**	**36.86**	**267**	*e*P	**P**	**02 50 15.4**	**+0.6**
YKA	**Yellowknife Ar**	**38.78**	**46**	P	**P**	**02 50 30.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=322,slow=8.1,SNR=13						
YKB5	**Yellowknife Ar**	**38.78**	**46**	*e*P	**P**	**02 50 30.6**	**-0.2**
ABKAR	**Akbulak array**	**43.25**	**288**	*e*P	**P**	**02 51 08.3**	**+0.6**
	comp=Z,2.1nm,1.0s						
AAK	**Ala-Archa**	**43.34**	**271**	*e*P	**P**	**02 51 08.3**	**-0.4**
	comp=Z,1.6nm,0.8s						
AAK	**Ala-Archa**	**43.34**	**271**	⇑*e*P	**P**	**02 51 11.2**	**+2.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
FIA0	**FINESS Array S**	**43.39**	**321**	*e*P	**P**	**02 51 08.4**	**-0.2**
FINES	**FINESS Array B**	**43.39**	**321**	*i* P	**P**	**02 51 10.6**	**+2.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**43.39**	**321**	P	**P**	**02 51 08.4**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=57,slow=7.0,SNR=5.4						
VSU	**Vasula**	**45.83**	**319**	⇑*e*P	**P**	**02 51 30.5**	**+2.3**
VSU				pmax	pmax		
	comp=Z,20nm,1.2s						
NB200	**NORSAR Array S**	**46.95**	**330**	*e*P	**P**	**02 51 35.7**	**-1.2**
NOA	**NORSAR Array B**	**46.95**	**330**	P	**P**	**02 51 35.7**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=25,slow=7.8,SNR=2.3						
FRB	**Frobisher Bay**	**47.02**	**19**	P	**P**	**02 51 34.9**	**-2.5**
	comp=Z,2.6nm,0.9s,baz=27,slow=18,SNR=2.7						
VSR	**Storozhevoye**	**48.65**	**306**	⇑*i*P	**P**	**02 51 52.3**	**+2.1**
VSR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FFC	**Flin Flon**	**48.85**	**44**	*e*P	**P**	**02 51 50.9**	**-0.8**
	comp=Z,6.2nm,1.1s						
FFC	**Flin Flon**	**48.85**	**44**	*i* P	**P**	**02 51 51.9**	**+0.2**
AKASG	**Malin Array Be**	**52.07**	**312**	P	**P**	**02 52 13.5**	**-2.5**
	comp=Z,1.5nm,0.7s,baz=24,slow=7.6,SNR=3.1						
KBZ	**Khabaz**	**54.00**	**298**	P	**P**	**02 52 30.7**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=30,slow=8.4,SNR=2.9						
WDC	**Whiskeytown Da**	**54.87**	**68**	*e*P	**P**	**02 52 37.5**	**+0.7**
	comp=Z,16nm,1.8s						
WDC	**Whiskeytown Da**	**54.87**	**68**	*e*P	**P**	**02 52 37.5**	**+0.7**
WDC				pmax	pmax		
	comp=Z,16nm,1.8s						
YHH	**Holmes Hill**	**55.10**	**56**	*e*P	**P**	**02 52 39.0**	**+0.3**
	comp=Z,5.0nm,1.1s						
RLMT	**Red Lodge**	**55.30**	**55**	*e*P	**P**	**02 52 40.5**	**+0.3**
	comp=Z,9.1nm,1.1s						
LKWY	**Lake**	**55.44**	**56**	*e*P	**P**	**02 52 41.9**	**+0.7**
	comp=Z,3.3nm,0.9s						
LKWY	**Lake**	**55.44**	**56**	*e*P	**P**	**02 52 41.9**	**+0.7**
LKWY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CLL	**Collm**

TORD Torodi Ar. Bea 94.73 322 P P 02 56 29.4 +1.3
comp=Z,0.7nm,1.1s,baz=355,slow=4.6,SNR=2.6

*ISCJB **15** 03:05:00.7±0.5,38.69N±0.02×119.50W±0.03,h6km±4km, Error ellipse: s-maj=4.8km s-min=3.8km az=142.0*
*REN **15** 03:05:01.6,38.64N×119.55W,h10km, ML3.2, MW3.1(BRK)*
*ANF **15** 03:05:01.9±1.3,38.75N×119.19W,h7km±13km, ML3.5/7, Error ellipse: s-maj=31.6km s-min=4.7km az=65.0*
*NEIC **15** 03:05:01.6±0.0,38.64N×119.55W,h10km, ML3.2(REN), MW3.1(BRK),After REN.*
*NCEDC **15** 03:05:02.0±0.0,38.65N×119.55W,h0km*
ISC 15 03:05:01.3±1.3,38.65N±0.02×119.55W±0.03,h7km±12km, n47,σ0997/52,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAKR	**Walker**	**0.17**	**148**	*e*Pg	**Pg**	**03 05 05.3**	**+0.5**
YERR	**Yerington**	**0.41**	**35**	*e*Pg	**Pg**	**03 05 09.7**	**+0.2**
PNTR	**Pine Nut**	**0.44**	**355**	*e*Pg	**Pg**	**03 05 10.2**	**+0.2**
RUBR	**Rubicon Trail**	**0.62**	**311**	*e*Pg	**Pg**	**03 05 13.8**	**+0.4**
VCNR	**Virginia City**	**0.65**	**353**	*e*Pg	**Pg**	**03 05 14.2**	**+0.2**
RYN	**Ryan**	**0.80**	**91**	*e*Pg	**Pg**	**03 05 17.0**	**+0.2**
CMB	**Columbia Colle**	**0.90**	**227**	*e*Pg	**Pg**	**03 05 17.8**	**-0.8**
NV01	**Mina Array Sit**	**1.00**	**102**	*e*Pg	**Pg**	**03 05 19.7**	**-0.8**
PAHR	**Pah Rah Range**	**1.07**	**7**	*e*Pg	**Pg**	**03 05 21.8**	**-0.1**
MDPB	**Devils Postpil**	**1.08**	**160**	*e*Pg	**Pg**	**03 05 21.4**	**-0.7**
NV11	**Mina Array Sit**	**1.11**	**101**	*e*Pg	**Pg**	**03 05 22.2**	**-0.5**
OMMB	**Old Mammoth Mi**	**1.12**	**157**	*e*Pg	**Pg**	**03 05 22.6**	**-0.2**
AFDM	**Forest Hills D**	**1.15**	**286**	*e*Pg	**Pb**	**03 05 22.7**	**-0.9**
MLAC	**Mammoth, Mammo** baz=331	**1.16**	**151**	P	**Pn**	**03 05 24.9**	**+0.8**
MLAC	baz=331			S	**Sn**	**03 05 40.7**	**+0.3**
KVN	**Kaiserville**	**1.20**	**70**	*e*Pg	**Pb**	**03 05 23.6**	**-0.9**
BEKR	**Beckworth**	**1.37**	**333**	*e*Pn	**Pn**	**03 05 26.7**	**-0.4**
ORV	**Oroville**	**1.77**	**301**	*e*Pn	**Pn**	**03 05 32.7**	**+0.3**
VOG	**Valley Oaks Go** baz=357	**2.33**	**177**	S	**Sb**	**03 06 13.9**	**+1.5**
O03E	**Paynes Creek** baz=133	**2.40**	**314**	P	**Pn**	**03 05 42.5**	**+1.4**
O03E	baz=133			S	**Sb**	**03 06 16.5**	**+1.8**
SAO	**San Andreas Ge**	**2.41**	**219**	*e*Pn	**Pn**	**03 05 41.7**	**+0.6**
SAO				*e*Sn	**Sb**	**03 06 14.2**	**-0.7**
CWC	**Cottonwood Cre** baz=333	**2.49**	**152**	Pb	**Pb**	**03 05 47.5**	**+1.0**
BMN	**Battle Mountai**	**2.53**	**45**	*e*Pn	**Pn**	**03 05 42.4**	**-0.6**
GDXM	**Geysers**	**2.54**	**275**	*e*Pn	**Pn**	**03 05 42.9**	**-0.2**
MCCM	**Marconi Confer**	**2.67**	**260**	*e*Pn	**Pn**	**03 05 44.7**	**0.0**
HOPS	**Hopland Field**	**2.77**	**278**	*e*Pn	**Pn**	**03 05 47.8**	**+1.6**
VES	**Vestal, Richgr** baz=353	**2.83**	**172**	P	**Pb**	**03 05 51.0**	**-1.1**
VES	baz=353			S	**Sb**	**03 06 28.2**	**+1.4**
DAC	**Darwin (Calif)**	**2.83**	**146**	*e*Pn	**Pn**	**03 05 46.0**	**-1.1**
O02D	**Mt. Diablo Mer** baz=120	**2.94**	**302**	P	**Pb**	**03 05 52.0**	**-2.0**
PAGB	**Antelope Grade**	**2.96**	**191**	*e*Pn	**Pn**	**03 05 48.0**	**-0.8**
WDC	**Whiskeytown Da**	**3.01**	**311**	*e*Pn	**Pn**	**03 05 49.4**	**-0.1**
ISA	**Isabella, Lake**	**3.10**	**164**	*e*Pn	**Pn**	**03 05 50.4**	**-0.3**
ISA	**Isabella, Lake** baz=344	**3.10**	**164**	Pb	**Pb**	**03 05 57.3**	**+0.5**
ISA	baz=344			Sb	**Sb**	**03 06 36.9**	**+2.1**
TPNV	**Topopah Spring**	**3.11**	**122**	*e*Pn	**Pn**	**03 05 50.9**	**-0.1**
R11A	**Troy Canyon, C**	**3.12**	**94**	*e*Pn	**Pn**	**03 05 50.9**	**-0.3**
MOD	**Modoc Plateau**	**3.30**	**350**	*e*Pn	**Pn**	**03 05 54.4**	**+0.9**
KCPM	**Cahto Peak**	**3.30**	**290**	*e*Pn	**Pn**	**03 05 53.8**	**+0.2**
WVOR	**Wild Horse Val**	**3.85**	**10**	*e*Pn	**Pn**	**03 06 01.5**	**+0.5**
KHMM	**Horse Mountain**	**3.92**	**306**	*e*Pn	**Pn**	**03 06 00.8**	**-1.3**
YBH	**Yreka Blue Hor**	**3.92**	**323**	*e*Pn	**Pn**	**03 06 00.8**	**-1.2**
ELK	**Elko**	**3.93**	**56**	*e*Pn	**Pn**	**03 06 01.9**	**-0.3**
SHPR	**Sheep Range**	**4.09**	**120**	*e*Pn	**Pn**	**03 06 02.6**	**-1.7**
PSUT	**Pine Spring**	**4.46**	**90**	*e*Pn	**Pn**	**03 06 09.8**	**+0.2**
BGU	**Big Grassy Mou**	**5.51**	**64**	*e*Pn	**Pn**	**03 06 24.1**	**+0.2**
TCRU	**Three Creeks R**	**5.56**	**88**	*e*Pn	**Pn**	**03 06 23.0**	**-1.7**
KNB	**Kanab**	**5.57**	**105**	*e*Pn	**Pn**	**03 06 23.5**	**-1.2**
MSU	**Marysvale**	**5.78**	**89**	*e*Pn	**Pn**	**03 06 29.1**	**+1.4**
HVU	**Hansel Valley**	**6.05**	**57**	*e*Pn	**Pn**	**03 06 31.1**	**-0.3**

*ISCJB **15** 03:06:10.9±0.7,23.14S±0.06×68.11W±0.06,h159km±8km, mb3.5/1,Error ellipse: s-maj=10.2km s-min=9.7km az=12.3*
*SJA **15** 03:06:10.3±0.8,23.19S×68.02W,h153km±7km, ML2.8, MW2.9*
*GUC **15** 03:06:11.9±0.6,23.09S×68.24W,h159km±5km, ML3.6*
*IDC **15** 03:06:18.9±9.9,22.59S×67.58W,h182km±70km, mb3.5/1, mb1 3.4/3,mb1mx3.0/22,mbtmp3.9/3,Error ellipse: s-maj=104.5km s-min=50.8km az=35.0*
ISC 15 03:06:11.3±1.1,23.14S±0.06×68.06W±0.06,h154km±9km, n25,σ0883/42,2C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.95**	**304**	*e*P	**Pn**	**03 06 36.8**	**+0.3**
LVC				*e*S	**Sn**	**03 06 55.1**	**-0.4**
LVC	**Limon Verde**	**0.95**	**304**	⇑*i*P	**Pn**	**03 06 36.6**	**+0.1**
LVC				*i* S	**Sn**	**03 06 54.9**	**-0.7**
PB15	**IPOC Station P**	**1.30**	**267**	*e*P	**Pn**	**03 06 39.6**	**+0.2**
PB15				*e*S	**Sn**	**03 07 00.6**	**-0.3**
PB15	**IPOC Station P**	**1.30**	**267**	⇑*i*P	**Pn**	**03 06 39.6**	**+0.2**
PB15				*i* S	**Sn**	**03 07 00.7**	**-0.2**
PB06	**IPOC Station P**	**1.46**	**287**	*e*P	**Pn**	**03 06 41.3**	**+0.3**
PB06				*e*S	**Sn**	**03 07 03.8**	**+0.2**
PB06	**IPOC Station P**	**1.46**	**287**	*e*P	**Pn**	**03 06 41.2**	**+0.3**
PB06				*i* S	**Sn**	**03 07 03.3**	**-0.3**
PB06	comp=N,1μm,0.6s			IAML		03 07 04.5	
PB09	**IPOC Station P**	**1.73**	**320**	*e*P	**Pn**	**03 06 45.0**	**+1.2**
PB09				*i* S	**Sn**	**03 07 09.3**	**+0.6**
PB09	comp=E,370nm,0.5s			IAML		03 07 12.5	
PB03	**IPOC Station P**	**1.91**	**304**	*e*P	**Pn**	**03 06 46.3**	**+0.5**
PB03				*e*S	**Sn**	**03 07 12.3**	**+0.1**
PB03	**IPOC Station P**	**1.91**	**304**	*e*P	**Pn**	**03 06 46.1**	**+0.3**
PB03				*i* S	**Sn**	**03 07 11.6**	**-0.6**
PB03	comp=E,742nm,0.1s			IAML		03 07 13.4	
PB05	**IPOC Station P**	**2.00**	**278**	*e*P	**Pn**	**03 06 46.7**	**-0.1**
PB05	**IPOC Station P**	**2.00**	**278**	*e*P	**Pn**	**03 06 46.5**	**-0.2**
PB05				*i* S	**Sn**	**03 07 12.7**	**-1.3**
PB05	comp=N,292nm,0.7s			IAML		03 07 14.3	
PB04	**IPOC Station P**	**2.09**	**292**	*e*P	**Pn**	**03 06 48.1**	**+0.2**
PB04	**IPOC Station P**	**2.09**	**292**	*e*P	**Pn**	**03 06 48.1**	**+0.2**
PB04				*i* S	**Sn**	**03 07 15.4**	**-0.6**
PB07	**IPOC Station P**	**2.20**	**309**	*e*P	**Pn**	**03 06 49.5**	**+0.3**
PB07				*i* S	**Sn**	**03 07 17.5**	**-0.9**
PB07	comp=E,473nm,0.4s			IAML		03 07 19.2	
PB10	**IPOC Station P**	**2.33**	**260**	*e*P	**Pn**	**03 06 50.4**	**-0.1**
PB10	**IPOC Station P**	**2.33**	**260**	*e*P	**Pn**	**03 06 50.4**	**-0.1**
PB10				*i* S	**Sn**	**03 07 19.5**	**-1.2**
HJA	**Humahuaca**	**2.44**	**92**	*e*P	**Pn**	**03 06 52.3**	**+0.1**
HJA	comp=Z,39nm,0.5s			IAML		03 06 53.4	
PB01	**IPOC Station P**	**2.48**	**327**	*e*P	**Pn**	**03 06 52.6**	**+0.2**
PB01				*i* S	**Sn**	**03 07 23.6**	**-0.5**
PB02	**IPOC Station P**	**2.49**	**316**	*e*P	**Pn**	**03 06 52.6**	**+0.1**
PB02				*e*S	**Sn**	**03 07 24.4**	**0.0**
PB02	**IPOC Station P**	**2.49**	**316**	*e*P	**Pn**	**03 06 52.7**	**+0.1**
PB02				*i* S	**Sn**	**03 07 23.2**	**-1.2**
YJA	**Yavi**	**2.54**	**68**	*e*P	**Pn**	**03 06 53.6**	**+0.2**
PB08	**IPOC Station P**	**3.16**	**341**	⇓*i*P	**Pn**	**03 07 02.1**	**+0.9**
PB08	comp=E,87nm,0.6s			IAML		03 07 43.3	
LPAZ	**La Paz** comp=E,0.5nm,0.3s,baz=156,slow=6.5,SNR=16	**6.82**	**359**	P	**Pn**	**03 07 50.5**	**+0.9**
LPAZ	comp=E,0.1nm,0.3s,baz=140,slow=7.9,SNR=1.9			S	**Sn**	**03 09 03.0**	**-3.6**
BDFB	**Brasilia** comp=E,0.5nm,0.3s,baz=222,slow=14,SNR=5.9	**20.31**	**72**	P	**P**	**03 10 34.9**	**-0.6**
TORD	**Torodi Ar. Bea** comp=E,0.9nm,0.7s,baz=240,slow=6.4,SNR=7.2	**77.17**	**70**	P	**P**	**03 17 49.7**	**+1.1**

*KRNET **15** 03:24:57.0±0.1,42.55N×79.67E,h19km, mb2.1*

*SOME **15** 03:24:58.1,42.53N×79.55E,h15km*
*NNC **15** 03:24:58.1±1.2,42.60N×79.59E,h0km, mb2.8, mpv2.4, Error ellipse: s-maj=7.7km s-min=4.8km az=124.0*
ISC 15 03:24:57.5±1.9,42.54N±0.05×79.58E±0.07,h1km±15km, n16,σ0676/30,9C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak** 4.6nm,0.2s	**0.73**	**326**	P	**Pg**	**03 25 12.0**	**+0.4**
UZB	4.1nm,0.2s			S	**Sg**	**03 25 21.9**	**+0.8**
UZB	**Uzynbulak** 5.2nm,0.1s	**0.73**	**326**	*e*P	**Pg**	**03 25 12.0**	**+0.4**
UZB	3.8nm,0.1s			*e*S	**Sg**	**03 25 21.9**	**+0.8**
PDGK	**Podgornoye** 0.6nm,0.1s	**0.79**	**355**	P	**Pg**	**03 25 12.7**	**-0.1**
PDGK	5.8nm,0.2s			S	**Sg**	**03 25 22.9**	**-0.2**
PDGK	**Podgornoye** 0.6nm,0.4s	**0.79**	**355**	⇑P	**Pg**	**03 25 12.0**	**-0.7**
PDGK	3.3nm,0.4s			⇓S	**Sg**	**03 25 22.8**	**-0.2**
PDGK	**Podgornoye** baz=50	**0.79**	**355**	⇑*i*P	**Pg**	**03 25 12.4**	**-0.4**
PDGK	baz=50			⇑*i*S	**Sg**	**03 25 22.9**	**-0.2**
PRZ	**Przheval'sk** baz=67	**0.87**	**267**	⇓*i*P	**Pg**	**03 25 14.8**	**+0.5**
PRZ	baz=67			⇓*i*S	**Sb**	**03 25 27.8**	**0.0**
SATY	**Saty** 1.4nm,0.1s	**1.01**	**301**	P	**Pb**	**03 25 17.4**	**-0.5**
SATY	13nm,0.1s			S	**Sb**	**03 25 30.9**	**-0.7**
SATY	**Saty** 0.9nm,0.1s	**1.01**	**301**	*e*P	**Pb**	**03 25 17.4**	**-0.5**
SATY	12nm,0.1s			*e*S	**Sb**	**03 25 30.9**	**-0.7**
TARG	**Taragay, Kyrgy** baz=40	**1.55**	**239**	⇑*i*P	**Pb**	**03 25 26.7**	**-0.5**
TARG	baz=40			⇑*i*S	**Sg**	**03 25 47.8**	**+0.5**
DJR	**Jarkent** 0.6nm,0.2s	**1.80**	**5**	P	**Pb**	**03 25 31.0**	**-0.3**
DJR	4.2nm,0.3s			S	**Sb**	**03 25 54.2**	**-0.2**
DJR	**Jarkent** 0.2nm,0.1s	**1.80**	**5**	*e*P	**Pb**	**03 25 31.0**	**-0.3**
DJR	4.2nm,0.3s			*e*S	**Sb**	**03 25 54.2**	**-0.2**
KDJ	**Kajisay** baz=58	**1.82**	**258**	⇑*i*P	**Pb**	**03 25 31.7**	**-0.1**
KDJ	baz=58			⇑*i*S	**Sg**	**03 25 56.5**	**+0.3**
ARXS	**Arharly** 1.5nm,0.3s	**2.10**	**323**	Pg	**Pb**	**03 25 36.3**	**-0.2**
ARXS	3.5nm,0.4s			Lg	Lg	03 26 03.4	
ARXS	**Arharly** 1.5nm,0.3s	**2.10**	**323**	*e*P	**Pb**	**03 25 36.3**	**-0.2**
ARXS	3.5nm,0.4s			*e*S	**Sb**	**03 26 03.4**	**+0.2**
BOOM	**Boomskoye usch** baz=70	**2.69**	**270**	⇑*i*P	**Pn**	**03 25 43.5**	**+1.4**
BOOM	baz=70			⇑*i*S	**Sb**	**03 26 17.7**	**-2.4**
TKM2	**Tokmak 2** 0.4nm,0.4s	**2.96**	**279**	⇓Pg	**Pg**	**03 25 52.8**	**-1.4**
TKM2	0.5nm,0.3s			⇓Lg	Lg	03 26 31.0	

TAP 15 03:30:21.4,24.34N×121.42E,h6km±1km, ML1.5,C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNSB	**Datong** baz=341	**0.09**	**340**	P	Pg	03 30 24.0	+0.5
NNSB	baz=341			S	Sg	03 30 25.4	+0.4
NNS	**Nan Shan** baz=342	**0.11**	**338**	P	Pg	03 30 24.1	+0.4
NNS	baz=342			S	Sg	03 30 25.8	+0.4
ETLH	**Xiulin Townshi** baz=164	**0.15**	**156**	*e*P	Pg	03 30 25.3	+0.9
ETLH	baz=164			*e*S	Sg	03 30 27.4	+1.0
NACB	**Ninganchiao** baz=138	**0.23**	**136**	*e*P	Pg	03 30 26.6	+0.7
WHF	**Hehuan Shan** baz=213	**0.24**	**215**	P	Pg	03 30 26.9	+0.8
WHF	baz=213			*e*S	Sg	03 30 30.6	+1.2

IDC 15 03:59:16.7±3.7,6.96S×148.69E,h0km,mb3.3/1, mb1 3.5/2,mb1mx3.2/33,mbtmp3.2/2,ML3.2/1,MS3.5/1, Ms1 3.5/1,ms1mx2.6/21,Error ellipse: s-maj=124.7km s-min=49.1km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=52,slow=11,SNR=2.9	**18.99**	**226**	P	P	04 03 40.3	+0.3
ASAR	**Alice Springs** 1.2nm,0.8s,baz=51,slow=10.0,SNR=5.8	**21.86**	**219**	P	P	04 04 11.5	+0.3
BATI	**Baumata** comp=Z,127nm,21.7s,baz=289,slow=43	**24.96**	**261**	LR	LR	04 17 02.7	
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=100,slow=3.2,SNR=2.3	**146.95**	**283**	PKPbc	PKPdf	04 19 01.1	+0.7

*IDC **15** 03:59:29.0±3.0,1.83N×124.22E,h251km±33km, mb3.5/7, mb1 3.8/10,mb1mx3.5/40,mbtmp4.3/10,Error ellipse: s-maj=32.6km s-min=11.9km az=83.0*
*ISCJB **15** 03:59:31.2±0.3,1.73N±0.03×124.32E±0.06,h300km, mb3.6/7,Error ellipse: s-maj=7.7km s-min=4.6km az=8.8*
*DJA **15** 03:59:34.4±0.6,1.1N±5.5×12.4E±5.1,h273km±5km,M4.3/11, mb4.3/6,mB4.7/1,MLv4.3/11,Mw(mB)3.9/1*
ISC 15 03:59:30.9±0.8,1.73N±0.05×124.33E±0.07,h300km,n26, σ2834/24,mb3.6/7,1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**3.16**	**210**	P	**Pn**	**04 00 28.7**	**+0.4**
LUWI				S	**S**	**04 01 09.8**	**-4.3**
TNTI	**Ternate**	**3.18**	**107**	P	Pn	04 00 29.2	+0.8
TNTI				S	**S**	**04 01 14.4**	**0.0**
APSI	**Ampana**	**3.75**	**226**	P	**Pn**	**04 00 34.9**	**+0.5**
APSI				S	**S**	**04 01 22.4**	**-2.8**
SANI	**Sanana**	**4.10**	**156**	P	**Pn**	**04 00 37.4**	**-0.8**
SANI				S	**S**	**04 01 27.1**	**-5.1**
DDMP	**Don Marcelino,**	**4.56**	**18**	*e*P	Pn	04 00 44.8	+1.3
DDMP				*e*S	**S**	**04 01 37.8**	**-3.9**
SKMP	**Bagumbayan, Su**	**4.77**	**3**	*e*P	Pn	04 00 46.4	+0.6
SKMP				*e*S	**S**	**04 01 45.0**	**-0.9**
PCI	**Palu**	**5.20**	**240**	P	**Pn**	**04 00 52.0**	**+1.2**
KCP	**Kidapawan**	**5.30**	**8**	⇓*i*P	Pn	04 00 54.5	+2.4
MATI	**Mati**	**5.53**	**20**	*e*P	Pn	04 00 56.9	+2.2
MATI				*e*S	**S**	**04 01 58.5**	**-3.6**
KDI	**Kendari**	**5.90**	**197**	P	**Pn**	**04 01 00.4**	**+1.4**
PAGZ	**Pagadian**	**6.16**	**351**	*e*P	**Pn**	**04 01 02.0**	**0.0**
BUKP	**Musuan**	**6.16**	**7**	*e*P	Pn	04 01 03.6	+1.5
IPIL	**Ipil**	**6.27**	**344**	*e*P	Pn	04 01 04.4	+0.9
TTSI	**Tana Toraja**	**6.54**	**224**	P	**Pn**	**04 01 07.7**	**+0.9**
SPSI	**Sidrap Palu**	**7.26**	**219**	P	**Pn**	**04 01 15.9**	**+0.4**
SIJI	**Sorong** baz=191,slow=12,SNR=2.5	**7.40**	**110**	P	**Pn**	**04 01 16.8**	**-0.4**
BNSI	**Bone**	**7.41**	**215**	P	**Pn**	**04 01 18.6**	**+1.4**
BATI	**Baumata** 15nm,0.3s,baz=18,slow=6.4,SNR=5.5	**11.87**	**183**	P	**P**	**04 02 13.0**	**-0.5**
FITZ	**Fitzroy Crossi** 4.4nm,0.3s,baz=7.6,slow=10,SNR=79	**19.74**	**176**	P	**P**	**04 03 40.9**	**+1.7**
WRA	**Warramunga Arr** 12nm,0.6s,baz=334,slow=10.0,SNR=104	**23.67**	**156**	P	**P**	**04 04 19.1**	**+3.0**
WRA	1.6nm,0.9s,baz=336,slow=15,SNR=4.5			S	**S**	**04 08 09.2**	**+0.7**
ASAR	**Alice Springs** 1.9nm,0.4s,baz=337,slow=7.0,SNR=18	**26.90**	**160**	P	**P**	**04 04 48.6**	**+3.4**
ASAR	0.3nm,0.6s,baz=349,slow=23,SNR=3.6			S	**S**	**04 08 59.0**	**-0.6**
MJAR	**Matsushiro Arr**	**36.95**	**19**	P	P	04 06 13.4	+1.4
	1.7nm,0.7s,baz=198,slow=8.6,SNR=4.4						
STKA	**Stephens Creek** 2.1nm,0.3s,baz=333,slow=8.0,SNR=12	**37.22**	**155**	P	P	04 06 18.1	+3.8
USRK	**Ussuriysk Ar.** 1.0nm,0.3s,baz=202,slow=6.7,SNR=6.1	**42.84**	**8**	P	P	04 07 01.9	+2.0
SONM	**Songino Array** 0.7nm,0.8s,baz=161,slow=6.9,SNR=5.1	**48.48**	**344**	P	**P**	**04 07 44.7**	**+0.7**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=122,slow=8.1,SNR=7.1	**57.88**	**327**	P	P	04 08 54.4	+2.4

*IDC **15** 04:14:02.3±1.0,14.80N×104.68W,h0km,mb4.1/14, mb1 4.3/18,mb1mx4.2/40,mbtmp4.1/18,ML3.8/4,MS3.9/30, Ms1 3.9/30,ms1mx3.9/34,Error ellipse: s-maj=26.8km s-min=15.0km az=50.0*
*ISCJB **15** 04:14:05.1±0.4,15.13N±0.05×104.35W±0.03,h10km, mb4.5/150,MS4.0/26,Error ellipse: s-maj=7.4km s-min=3.4km az=11.8*
*NEIC **15** 04:14:07.0±0.3,15.12N×104.38W,h10km,mb4.6/166, MD4.5(MEX),Error ellipse: s-maj=5.5km s-min=3.3km az=19.0*
*MEX **15** 04:14:08.9±0.2,15.43N×104.14W,h6km±15km,MD4.5*
ISC 15 04:14:07.1±0.6,15.32N±0.06×104.24W±0.06,h10km, n484,σ1976/461,mb4.5/148,MS4.0/26,Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**3.08**	**16**	*i* P	**Pn**	**04 14 53.5**	**-2.3**
MMIG				*i* S	**Sn**	**04 15 28.1**	**-4.6**
MMIG	**Aquila**	**3.08**	**16**	*i* P	**Pn**	**04 14 53.5**	**-2.3**
MMIG				*i* S	**Sn**	**04 15 28.1**	**-4.6**
ZIIG	**Zihuatanejo**	**3.50**	**49**	*e*P	**Pn**	**04 14 59.2**	**-2.5**
ZIIG				*e*S	**Sn**	**04 15 38.5**	**-4.6**
ZIIG	**Zihuatanejo**	**3.50**	**49**	*e*P	**Pn**	**04 14 59.2**	**-2.5**
ZIIG				*e*S	**Sn**	**04 15 38.5**	**-4.6**
R15V		**3.84**	**4**	*e*P	**Pn**	**04 15 04.2**	**-2.1**
R15V				*e*S	**Sn**	**04 15 47.6**	**-4.0**
EZ5V		**4.18**	**8**	*e*P	**Pn**	**04 15 09.9**	**-1.4**
EZ5V				*i* S	**Sn**	**04 15 56.3**	**-4.1**
CJM	**Chamela**	**4.23**	**350**	*e*P	**Pn**	**04 15 10.0**	**-1.7**
CJM	**Chamela**	**4.23**	**350**	*e*P	**Pn**	**04 15 10.0**	**-1.7**
CJM				*i* S	**Sn**	**04 15 58.0**	**-3.2**
MOIG	**Morelia**	**5.22**	**33**	*e*Pn	**Pn**	**04 15 26.1**	**+0.6**
ANIG	**Ahuacatlan**	**5.71**	**357**	*e*P	**Pn**	**04 15 31.0**	**-1.2**
ANIG				*e*S	**Sn**	**04 16 35.2**	**-2.7**
ANIG	**Ahuacatlan**	**5.71**	**357**	*e*P	**Pn**	**04 15 31.0**	**-1.2**
ANIG				*e*S	**Sn**	**04 16 35.2**	**-2.7**
TLIG	**Tlapa**	**5.88**	**67**	*e*Pn	**Pn**	**04 15 34.2**	**-0.3**
H06E1	**SOCORRO T-PHAS** SNR=261	**7.26**	**299**	T	T	04 23 09.5	
H06S1	**SOCORRO T** SNR=27	**7.27**	**299**	T	T	04 23 15.4	
H06N1	**SOCORRO T-PHAS** SNR=5.6	**7.35**	**300**	T	T	04 23 14.8	
ZAIG	**Zacatecas**	**7.58**	**12**	*e*Pn	**Pn**	**04 16 00.3**	**+2.3**
CMIG	**Matias Romero** 0.1nm,0.3s,baz=256,slow=11,SNR=3.9	**9.16**	**78**	Pn	Pn	04 16 25.1	+5.7
CMIG	comp=Z,1μm,19.3s,baz=256,slow=34			LR	LR	04 19 29.7	
LPIG	**La Paz** 4.7nm,0.3s,baz=167,slow=14,SNR=2.5	**10.44**	**328**	Pn	**Pn**	**04 16 38.3**	**+1.4**
LPIG	comp=Z,824nm,20.9s,baz=150,slow=32			LR	LR	04 19 40.7	
LNIG	**Linares**	**10.53**	**24**	*e*Pn	**Pn**	**04 16 39.9**	**+1.6**
HPIG		**11.64**	**354**	*e*Pn	**Pn**	**04 16 56.8**	**+3.3**
APG	**El Apazote** comp=Z,289nm,19.6s,baz=266,slow=34	**13.30**	**90**	LR	LR	04 21 47.0	
833A	**Chaparral WMA,**	**13.70**	**18**	*e*Pn	**Pn**	**04 17 25.4**	**+3.9**
833A	**Chaparral WMA,** baz=200	**13.70**	**18**	P	**Pn**	**04 17 24.1**	**+2.5**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=181,slow=10.0,SNR=44	**13.96**	**2**	P	**Pn**	**04 17 28.8**	**+3.6**
TXAR	comp=Z,325nm,21.4s,baz=0.0,slow=34			LR	LR	04 22 17.7	
TX31	**Lajitas Ar. Si**	**13.96**	**2**	*e*Pn	**Pn**	**04 17 27.9**	**+2.7**
SRIG	**Santa Rosalia**	**14.07**	**329**	*e*Pn	**Pn**	**04 17 28.6**	**+2.0**
HSIG	28nm,1.5s	**14.98**	**337**	*e*Pn	**Pn**	**04 17 41.0**	**+2.0**
JCT	**Junction City** 53nm,1.3s	**15.63**	**14**	*e*Pn	**P**	**04 17 50.8**	**-1.0**
JCT	**Junction City** baz=196,SNR=13	**15.63**	**14**	P	**Pn**	**04 17 49.7**	**+2.0**
MNTX	**Cornudas Mount** 30nm,1.3s	**16.34**	**357**	*e*Pn	**P**	**04 17 59.9**	**+0.3**
MNTX	**Cornudas Mount** baz=177,SNR=14	**16.34**	**357**	P	**P**	**04 17 59.1**	**-0.5**
HKT	**Hockley** 30nm,1.5s	**16.49**	**27**	*e*Pn	**P**	**04 18 01.8**	**+0.6**
435B	**Jarrell** 68nm,1.1s	**16.56**	**20**	*e*Pn	**P**	**04 18 02.7**	**+0.7**
435B	**Jarrell** baz=203	**16.56**	**20**	P	**P**	**04 18 01.7**	**-0.4**
319A	**Douglas** 70nm,1.4s	**16.64**	**345**	*e*Pn	**P**	**04 18 02.8**	**-0.3**
GDL2	**Guadalupe Moun**	**16.81**	**360**	*e*Pn	**P**	**04 18 05.7**	**+0.7**
121A	**Cookes Peak, D** baz=169	**17.44**	**350**	P	**Pn**	**04 18 11.8**	**+1.0**
WHTX	**Lake Whitney,** 58nm,1.3s	**17.72**	**19**	*e*Pn	**P**	**04 18 16.4**	**+1.5**
WHTX	**Lake Whitney,** baz=202,SNR=8.9	**17.72**	**19**	P	**P**	**04 18 15.8**	**+0.9**
ABTX	**Abilene, Hawle** 53nm,1.3s	**17.73**	**13**	*e*Pn	**P**	**04 18 17.0**	**+2.0**
ABTX	**Abilene, Hawle** baz=195,SNR=7.6	**17.73**	**13**	P	**P**	**04 18 16.2**	**+1.2**
TUC	**Tucson** 12nm,1.0s	**17.94**	**342**	*e*Pn	**P**	**04 18 19.0**	**+1.6**
TUC	**Tucson** baz=160	**17.94**	**342**	P	**Pn**	**04 18 18.0**	**+1.2**
214A	**Organ Pipe Nat** baz=154	**18.32**	**336**	P	**Pn**	**04 18 21.6**	**+0.2**
NATX	**Nacogdoches** 136nm,1.5s	**18.56**	**26**	*e*P	**Pn**	**04 18 26.4**	**+2.0**
NATX	**Nacogdoches** baz=210	**18.56**	**26**	P	**Pn**	**04 18 25.4**	**+1.0**
MSTX	**Muleshoe** 48nm,1.6s	**18.62**	**4**	*e*P	**Pn**	**04 18 27.2**	**+2.0**
MSTX	**Muleshoe** baz=185,SNR=5.4	**18.62**	**4**	P	**Pn**	**04 18 26.8**	**+1.6**
BNM	**Barren Site**	**18.88**	**354**	*e*P	**Pn**	**04 18 29.4**	**+0.9**
LENM	**Lemitar**	**18.93**	**353**	*e*P	**P**	**04 18 29.0**	**+0.6**
LAZ	**Ladron**	**19.18**	**353**	*e*P	**P**	**04 18 31.2**	**0.0**

Y12C	Blythe baz=151	20.58	335	P	P	04 18 45.9	-0.3
Z41A	Richland Creek 62nm,1.3s	20.65	28	eP	Pn	04 18 49.5	+0.2
Z41A	Richland Creek baz=213	20.65	28	P	Pn	04 18 48.9	-0.4
MONP2	Monument Peak baz=146	20.70	330	P	P	04 18 47.8	0.0
X37A	Clayton 148nm,1.4s	20.79	21	eP	Pn	04 18 51.9	+1.1
WLAR	White Oak Lake 71nm,1.2s	20.88	27	eP	Pn	04 18 52.6	+0.7
BC3	Big Chuckawall baz=149,SNR=5.6	20.89	333	P	P	04 18 50.4	+0.7
VBMS	Vicksburg baz=220	20.96	34	P	P	04 18 51.7	+1.4
109C	Camp Elliot, M baz=144	21.04	329	P	P	04 18 51.1	0.0
WUAZ	Wupatki 21nm,0.9s	21.11	344	eP	P	04 18 53.8	+1.6
WUAZ	Wupatki baz=161,SNR=21	21.11	344	P	P	04 18 53.1	+1.0
IRM	Iron Mountain baz=150	21.19	334	P	P	04 18 51.2	-1.6
XPFO	Pion Flat 12nm,1.1s	21.31	331	eP	P	04 18 55.5	+1.3
PFO	Pinyon Flats O 13nm,1.2s	21.31	331	eP	P	04 18 54.4	+0.1
PFO	Pinyon Flats O baz=146	21.31	331	P	P	04 18 52.0	-2.2
PFO	Pinyon Flats O 4.7nm,0.9s,baz=140,slow=9.7,SNR=4.0	21.31	331	P	P	04 18 53.7	-0.5
PFO	comp=Z,545nm,18.6s,baz=162,slow=34			LR	LR	04 26 09.8	
MIAR	Mount Ida 22nm,1.0s	21.42	25	eP	P	04 18 57.0	+1.7
MIAR	Mount Ida baz=209	21.42	25	P	P	04 18 56.6	+1.4
BELC	Belle Mtn. Jos baz=148	21.42	332	P	P	04 18 54.5	-1.0
U32A	Winter Ranch, 40nm,1.1s	21.49	12	eP	P	04 18 58.8	+2.7
W13A	Hualapai Mount 12nm,1.1s	21.52	338	eP	P	04 18 57.9	+1.3
145A	Houston Renfro baz=220	21.57	35	P	P	04 18 58.2	+1.3
448A	Bay Minette baz=227	21.60	41	P	P	04 18 57.9	+0.7
MURC	Murrieta baz=145	21.65	330	P	P	04 18 57.8	0.0
CCAR	Cane Creek 163nm,1.5s	21.68	29	eP	P	04 19 00.8	+2.8
X40A	Basin Creek Fa 112nm,1.9s	21.68	26	eP	P	04 18 59.9	+1.8
X40A	Basin Creek Fa baz=211	21.68	26	P	P	04 18 59.4	+1.4
T25A	Trinidad 35nm,1.4s	21.74	360	eP	P	04 19 01.5	+2.6
T25A	Trinidad baz=180,SNR=8.9	21.74	360	P	P	04 18 58.8	-0.1
TUL1	Leonard 110nm,1.5s	21.86	19	eP	P	04 19 01.6	+1.6
TUL1	Leonard baz=202,SNR=13	21.86	19	P	P	04 19 00.9	+0.9
SCI2	San Clemente I baz=141	21.86	326	P	P	04 18 58.9	-1.1
449A	Pace baz=229	21.90	43	P	P	04 19 00.8	+0.3
W39A	Magazine 97nm,1.4s	21.91	23	eP	P	04 19 03.1	+2.6
W39A	Magazine baz=208,SNR=18	21.91	23	P	P	04 19 02.1	+1.6
GMRC	Granite Mounta baz=150	21.94	334	P	P	04 19 00.1	-0.9
LDFC	Landfair 53nm,1.4s	21.97	336	eP	P	04 19 03.7	+2.3
BBRC	Big Bear Solar baz=146	22.06	331	P	P	04 19 02.0	-0.4
CIS	Catalina Islan baz=142	22.11	327	P	P	04 19 02.0	-0.8
MVCO	Mesa Verde 21nm,1.3s	22.13	351	eP	P	04 19 04.9	+1.7
MVCO	Mesa Verde baz=170,SNR=7.6	22.13	351	P	P	04 19 03.8	+0.6
UALR	University of 39nm,1.1s	22.14	27	eP	P	04 19 05.5	+2.6
U15A	North Rim 18nm,1.3s	22.22	343	eP	P	04 19 05.9	+1.7
HEC	Hector,Ludlow baz=148	22.27	333	P	P	04 19 04.2	-0.3
BRAL	Brewton baz=229	22.28	42	P	P	04 19 05.2	+0.7
349A	Repton baz=228	22.30	41	P	P	04 19 06.5	+1.7
450A	Crestview baz=230	22.34	43	P	P	04 19 05.9	+0.7
SDCO	Great Sand Dun 15nm,1.3s	22.37	357	eP	P	04 19 07.5	+1.7
SDCO	Great Sand Dun baz=177,SNR=18	22.37	357	P	P	04 19 07.0	+1.2
BFSC	Mount Baldy Ra baz=145	22.39	330	P	P	04 19 04.7	-1.2
S22A	4UR Ranch, Cre 40nm,1.8s	22.46	355	eP	P	04 19 09.0	+2.3
S22A	4UR Ranch, Cre baz=174,SNR=8.3	22.46	355	P	P	04 19 07.4	+0.7
W41B	Gary Mavity, V 82nm,1.5s	22.52	26	eP	P	04 19 09.2	+2.1
W41B	Gary Mavity, V baz=212,SNR=13	22.52	26	P	P	04 19 08.7	+1.6
147A	Livingston baz=224	22.56	37	P	P	04 19 08.6	+1.0
X43A	Marvell 160nm,1.5s	22.59	30	eP	P	04 19 10.0	+2.2
X43A	Marvell baz=215	22.59	30	P	P	04 19 09.2	+1.4
WHAR	Wooly Hollow 108nm,1.4s	22.60	26	eP	P	04 19 10.2	+2.3
TUQ	Turquoise Moun baz=150,SNR=12	22.61	335	P	P	04 19 09.2	+1.0
249A	Camden baz=227	22.77	40	P	P	04 19 10.8	+1.1
451A	Vernon baz=232	22.79	45	P	P	04 19 10.4	+0.4
552A	Lynn Haven baz=234	22.81	47	P	P	04 19 10.6	+0.4
HHAR	Hobbs 32nm,1.3s	22.82	22	eP	P	04 19 12.8	+2.5
GSC	Goldstone, Bar 18nm,1.4s	22.87	333	eP	P	04 19 12.0	+1.0
GSC	Goldstone, Bar baz=148	22.87	333	P	P	04 19 10.3	-0.6
KNB	Kanab 18nm,1.2s	22.92	342	eP	P	04 19 13.3	+1.8
LCMT	Little Creek M 20nm,1.8s	23.05	341	eP	P	04 19 13.8	+1.0
PV01	Paradox Valley 21nm,1.6s	23.05	351	eP	P	04 19 14.9	+2.0
EDW2	Edwards Air Fo baz=145	23.08	330	P	P	04 19 12.6	-0.4
PV05	Paradox Valley 34nm,1.5s	23.08	350	eP	P	04 19 15.4	+2.2
PV13	Radium Mtn., P 7.2nm,0.8s	23.11	351	eP	P	04 19 14.8	+1.2
PV02	Paradox Valley 20nm,1.4s	23.15	351	eP	P	04 19 15.9	+2.0
PKCU	Pink Cliffs 43nm,1.6s	23.18	344	eP	P	04 19 16.7	+2.4
PV03	Paradox Valley 19nm,1.3s	23.21	351	eP	P	04 19 15.8	+1.3
SHPR	Sheep Range 25nm,1.8s	23.24	337	eP	P	04 19 16.2	+1.4
PV17	East Wray Mesa 18nm,1.1s	23.25	351	eP	P	04 19 16.1	+1.1
PV11	David Mesa, Pa 86nm,1.9s	23.26	351	eP	P	04 19 16.1	+1.2
PV12	Saucer Basin, 24nm,1.2s	23.27	351	eP	P	04 19 16.5	+1.4
PV16	Nyswonger Mesa 23nm,1.2s	23.28	351	eP	P	04 19 16.3	+1.2
PV19	Morning Glory 22nm,1.4s	23.29	351	eP	P	04 19 17.1	+1.8
U40A	Yellville baz=209	23.29	24	P	P	04 19 15.7	+0.6
351A	Pinckard baz=231,SNR=5.2	23.29	44	P	P	04 19 15.7	+0.6
250A	Grady 64nm,1.3s	23.31	42	eP	P	04 19 18.5	+3.2
250A	Grady baz=229	23.31	42	P	P	04 19 16.0	+0.7
PV20	West Nyswonger 25nm,1.4s	23.31	351	eP	P	04 19 16.1	+0.5
452A	Marianna baz=232	23.32	45	P	P	04 19 15.6	+0.2
OXF	Oxford 48nm,1.0s	23.32	32	eP	P	04 19 17.8	+2.5
OXF	Oxford baz=218	23.32	32	P	P	04 19 16.1	+0.7
PV14	Lion Creek, Pa 15nm,1.2s	23.35	350	eP	P	04 19 17.5	+1.5
PV04	Paradox Valley 22nm,1.3s	23.36	351	eP	P	04 19 17.1	+1.2
PV10	Paradox Valley 24nm,1.1s	23.36	350	eP	P	04 19 16.0	0.0
PV07	Paradox Valley 35nm,1.7s	23.36	351	eP	P	04 19 17.0	+1.0
149A	Jones baz=227	23.40	40	P	P	04 19 17.1	+0.9
PV23	Carpenter Ridg 15nm,1.0s	23.43	351	eP	P	04 19 18.3	+1.5
553A	Crawfordville baz=235	23.45	47	P	P	04 19 17.0	+0.2
PV09	Paradox Valley	23.49	350	eP	P	04 19 18.6	+1.1
PV21	Cone Mtn., Par 9.7nm,1.0s	23.53	351	eP	P	04 19 19.3	+1.6
SZCU	Shurtz Canyon 7.8nm,1.3s	23.54	342	eP	P	04 19 19.9	+2.0
HBAR	Harrisburg 39nm,1.2s	23.54	29	eP	P	04 19 20.7	+3.1
Q24A	Divide 9.9nm,1.1s	23.57	358	eP	P	04 19 20.4	+2.2
Q24A	Divide baz=178	23.57	358	P	P	04 19 18.9	+0.7
LRAL	Lakeview Retre 12nm,1.0s	23.57	39	eP	P	04 19 20.2	+2.2
LRAL	Lakeview Retre baz=226	23.57	39	P	P	04 19 19.2	+1.2
CCUT	Cedar City 4.7nm,0.5s	23.58	342	eP	P	04 19 19.7	+1.5
KSCO	Kaye Shedlock' 26nm,1.1s	23.65	3	eP	P	04 19 21.4	+2.6
U41A	Viola baz=211,SNR=8.0	23.65	25	P	P	04 19 19.7	+1.0
ARVC	Arvin baz=143	23.68	329	P	P	04 19 18.0	-1.0
MTPU	Mount Pierson 23nm,1.6s	23.70	344	eP	P	04 19 21.4	+1.8
CBKS	Cedar Bluff 27nm,1.2s	23.74	9	eP	P	04 19 22.1	+2.5
CBKS	Cedar Bluff baz=191	23.74	9	P	P	04 19 20.3	+0.7
X46A	Booneville baz=220	23.78	34	P	P	04 19 21.3	+1.3
MPMC	Manual Prospec baz=147	23.81	333	P	P	04 19 20.6	+0.2
957A	Wimauma baz=243	23.83	55	P	P	04 19 20.7	+0.1
352A	Blakely 57nm,1.2s	23.87	44	eP	P	04 19 23.2	+2.4
150A	Eclectic baz=228	23.88	41	P	P	04 19 21.4	+0.5
FURC	Furnace Creek, baz=149	23.89	334	P	P	04 19 20.8	-0.1
SMCO	Snowmass 25nm,1.3s	23.89	355	eP	P	04 19 23.6	+2.2
058A	Arcadia baz=245	23.91	57	P	P	04 19 21.0	-0.3
ISA	Isabella, Lake 8.8nm,1.2s	23.94	330	eP	P	04 19 23.2	+1.7
ISA	Isabella, Lake baz=145	23.94	330	P	P	04 19 20.8	-0.8
251A	Midway baz=230	23.94	42	P	P	04 19 22.1	+0.6
Z49A	Columbiana baz=226	23.96	39	P	P	04 19 22.7	+1.0
DAC	Darwin (Calif) 5.6nm,1.1s	24.04	333	eP	P	04 19 23.9	+1.2
TPNV	Topopah Spring 13nm,1.4s	24.05	336	eP	P	04 19 24.1	+1.5
TPNV	Topopah Spring baz=151,SNR=5.5	24.05	336	P	P	04 19 22.0	-0.7
Y48A	Jasper baz=224	24.09	37	P	P	04 19 23.5	+0.6
MSU	Marysvale	24.14	345	eP	P	04 19 24.9	+1.3
X47A	Russelville baz=222	24.15	35	P	P	04 19 24.7	+1.3
151A	Opelika baz=229	24.27	42	P	P	04 19 25.7	+1.1
353A	Camilla baz=233	24.28	45	P	P	04 19 25.8	+1.2
Q16A	Castle Valley 19nm,1.4s	24.29	347	eP	P	04 19 26.5	+1.6
T41A	Mountain View baz=210	24.32	25	P	P	04 19 26.5	+1.6
SRU	San Rafael Swe 5.0nm,0.9s	24.34	348	eP	P	04 19 26.6	+1.2
Z50A	Ashland 37nm,1.1s	24.38	40	eP	P	04 19 27.9	+2.3
Z50A	Ashland baz=227,SNR=6.8	24.38	40	P	P	04 19 27.3	+1.7
PLAL	Pickwick Lake 40nm,1.1s	24.38	34	eP	P	04 19 27.9	+2.4
CWC	Cottonwood Cre baz=147	24.39	332	P	P	04 19 25.0	-0.9
ISCO	Idaho Springs 11nm,1.4s	24.42	357	eP	P	04 19 27.8	+1.6
ISCO	Idaho Springs baz=177	24.42	357	P	P	04 19 27.3	+1.1
Y49A	Blount Mountai 41nm,1.6s	24.50	38	eP	P	04 19 28.7	+2.0
Y49A	Blount Mountai baz=225	24.50	38	P	P	04 19 27.5	+0.8
GRAC	Grapevine Rang baz=149	24.55	334	P	P	04 19 27.2	+0.1
X48A	Hartselle 49nm,1.8s	24.55	36	eP	P	04 19 29.2	+2.1
X48A	Hartselle baz=223	24.55	36	P	P	04 19 27.8	+0.6
KSU1	Kansas State U 19nm,1.0s	24.63	14	eP	P	04 19 30.0	+2.3
PSUT	Pine Spring 9.7nm,1.3s	24.63	342	eP	P	04 19 29.7	+1.6
PBMO	Poplar Bluff 23nm,1.1s	24.66	27	eP	P	04 19 30.3	+2.3
TMUT	Trail Mountain 20nm,1.7s	24.66	347	eP	P	04 19 31.0	+2.6
060Z	West Palm Beac baz=248	24.68	60	P	P	04 19 27.7	-0.6
P17A	Butcher Ranch, 17nm,1.1s	24.73	348	eP	P	04 19 30.7	+1.7
TIGA	Tifton baz=234	24.77	46	P	P	04 19 29.7	+0.6
P18A	Preston Nutter 12nm,1.2s	24.79	349	eP	P	04 19 31.1	+1.5
S41A	Jilco Farms, baz=210	24.79	24	P	P	04 19 30.1	+0.8
W47A	Westpoint baz=221,SNR=9.4	24.84	34	P	P	04 19 31.9	+2.2
O20A	White River Ci 21nm,1.4s	24.97	353	eP	P	04 19 32.8	+1.7
O20A	White River Ci baz=171	24.97	353	P	P	04 19 32.0	+0.9
T43A	Greenville baz=213,SNR=8.6	24.98	27	P	P	04 19 32.6	+1.7
V46A	Holladay baz=219,SNR=7.8	24.98	32	P	P	04 19 32.4	+1.5
R11A	Troy Canyon, C 10.0nm,1.3s	25.03	339	eP	P	04 19 32.6	+0.9
R11A	Troy Canyon, C baz=154,SNR=12	25.03	339	P	P	04 19 32.8	+1.2
W48A	Pulaski baz=222,SNR=12	25.12	35	P	P	04 19 33.6	+1.4
254A	Abbeville baz=234	25.27	45	P	P	04 19 35.1	+1.5
Z52A	Williamson baz=230	25.28	42	P	P	04 19 35.4	+1.6
T44A	Benton baz=215	25.29	28	P	P	04 19 34.9	+1.1
V47A	Nunnelly baz=220,SNR=11	25.32	33	P	P	04 19 35.2	+1.2
S42A	Caledonia baz=212	25.34	26	P	P	04 19 36.2	+2.0
Y51A	Rockmart baz=228	25.34	40	P	P	04 19 35.5	+1.2
X50B	Fort Payne baz=226	25.37	38	P	P	04 19 36.5	+1.9
WVT	Waverly 13nm,1.1s	25.39	32	eP	P	04 19 37.5	+2.9
WVT	Waverly baz=219	25.39	32	P	P	04 19 37.0	+2.4
CCM	Cathedral Cave 9.5nm,1.0s	25.40	24	eP	P	04 19 37.4	+2.7
CCM	Cathedral Cave baz=210	25.40	24	P	P	04 19 37.3	+2.7
MPU	Maple Canyon 11nm,1.4s	25.44	347	eP	P	04 19 36.9	+1.5
S43A	Fulton Ridge, baz=213	25.48	27	P	P	04 19 38.3	+2.9
W49A	Belvidere baz=224	25.48	36	P	P	04 19 38.2	+2.6
N23A	Red Feather La baz=176	25.53	357	P	P	04 19 38.0	+1.7
R41A	Rosebud baz=210,SNR=5.1	25.55	24	P	P	04 19 37.8	+1.7
V48A	Smith Brothers baz=222	25.62	34	P	P	04 19 38.8	+2.0
FVM	French Village 12nm,1.0s	25.67	26	eP	P	04 19 39.0	+1.7
MLAC	Mammoth, Mammo baz=146	25.71	333	P	P	04 19 38.6	+0.7
SWET	Sewanee 19nm,1.2s	25.74	36	eP	P	04 19 40.4	+2.5
R42A	Luebbering baz=211	25.77	25	P	P	04 19 39.8	+1.7
OMMB	Old Mammoth Mi 8.5nm,1.2s	25.77	332	eP	P	04 19 39.3	+0.7
255A	Hazlehurst baz=235	25.82	46	P	P	04 19 39.4	+0.8
MDPB	Devils Postpil 14nm,1.3s	25.83	332	eP	P	04 19 39.6	+0.6
Z53A	Monticello baz=231	25.89	43	P	P	04 19 40.7	+1.5
DUG	Dugway, Tooele 8.5nm,1.2s	25.89	345	eP	P	04 19 39.4	0.0
DUG	Dugway, Tooele baz=161	25.89	345	P	P	04 19 40.4	+1.0
U47A	Clarksville baz=220	25.90	33	P	P	04 19 42.2	+2.8
X51A	Calhoun 20nm,1.0s	25.92	39	eP	P	04 19 42.3	+2.7
X51A	Calhoun baz=227	25.92	39	P	P	04 19 42.2	+2.7
Y52A	Lilburn 15nm,1.1s	25.94	41	eP	P	04 19 43.1	+3.3
Y52A	Lilburn baz=229	25.94	41	P	P	04 19 42.4	+2.7
JLU	Jordanelle 10nm,1.4s	25.97	347	eP	P	04 19 42.2	+2.0
GOGA	Godfrey 49nm,1.8s	26.04	43	eP	P	04 19 42.9	+2.3
GOGA	Godfrey baz=231	26.04	43	P	P	04 19 42.9	+2.3
NV11	Mina Array Sit 0.5nm,1.1s	26.09	335	eP	P	04 19 42.7	+1.4
CTU	Camp Tracy	26.12	347	eP	pP	04 19 51.7	+8.1
V49A	McMinnville baz=223	26.15	35	P	P	04 19 43.8	+2.2
NV01	Mina Array Sit	26.15	334	eP	P	04 19 43.0	+1.1
NVAR	Mina Array Bea 1.5nm,0.8s,baz=152,slow=9.8,SNR=11	26.15	334	P	P	04 19 41.4	-0.4
NVAR	comp=Z,250nm,21.6s,baz=188,slow=34			LR	LR	04 28 50.1	
Q41A	Truxton baz=210	26.18	23	P	P	04 19 44.1	+2.3
155A	Kite baz=234	26.23	45	P	P	04 19 43.7	+1.4
S45A	Carrier Mills baz=216	26.24	29	P	P	04 19 44.3	+2.0
U48A	Cassie Pea, Po baz=221	26.35	33	P	P	04 19 46.2	+2.8
RYN	Ryan 13nm,1.5s	26.41	334	eP	P	04 19 45.6	+1.4
Q42A	Golden Eagle baz=211	26.42	25	P	P	04 19 46.7	+2.8
T47A	Sharon Grove 21nm,1.4s	26.42	32	eP	P	04 19 46.0	+2.0
TCUT	Toone Canyon 11nm,0.9s	26.45	348	eP	P	04 19 46.0	+1.4
R44A	Waltonville baz=214	26.47	28	P	P	04 19 47.1	+2.6
X52A	Dahlonega baz=228	26.53	40	P	P	04 19 47.7	+2.6
V50A	Pikevile baz=225	26.54	37	P	P	04 19 47.3	+2.2
KVN	Kaiserville 6.2nm,1.0s	26.60	335	eP	P	04 19 47.0	+1.2
BGU	Big Grassy Mou 11nm,1.4s	26.64	345	eP	P	04 19 47.9	+1.8
WAKR	Walker 12nm,1.4s	26.70	333	eP	P	04 19 48.4	+1.6
U49A	Red Boiling Sp baz=223	26.76	35	P	P	04 19 49.9	+2.8
Y54A	Tignall baz=232	26.83	43	P	P	04 19 50.8	+3.1
SPUT	South Promonto 8.1nm,1.3s	26.86	346	eP	P	04 19 49.4	+1.2
P41A	Barry, Barry baz=209	26.87	23	P	P	04 19 50.4	+2.3
R45A	Skylar, Fairfi baz=216	26.87	29	P	P	04 19 50.4	+2.3
T48A	Bowling Green baz=221	26.88	33	P	P	04 19 50.3	+2.2
USIN	University of 40nm,1.3s	26.90	30	eP	P	04 19 50.1	+1.8
S47A	Hartford baz=219	27.00	31	P	P	04 19 52.4	+3.1
YERR	Yerington 5.0nm,1.2s	27.02	334	eP	P	04 19 49.8	+0.2
Q44A	Meyer Farm, Va 24nm,1.1s	27.04	27	eP	P	04 19 52.0	+2.4
Q44A	Meyer Farm, Va baz=214	27.04	27	P	P	04 19 52.8	+3.2
ELK	Elko 0.4nm,0.4s,baz=191,slow=7.4,SNR=3.0	27.09	341	P	P	04 19 50.6	+0.3
ELK	comp=Z,130nm,18.9s,baz=172,slow=34			LR	LR	04 29 44.0	
U50A	Jamestown baz=224	27.21	36	P	P	04 19 54.5	+3.3
TKL	Tuckaleechee C 2.4nm,0.8s,baz=215,slow=9.7,SNR=2.3	27.31	38	P	P	04 19 55.3	+3.2
TKL	comp=Z,238nm,18.7s,baz=206,slow=42			LR	LR	04 33 27.4	
K22A	Casper baz=176	27.31	356	P	P	04 19 54.0	+1.8
W53A	Cullowhee baz=229	27.36	40	P	P	04 19 54.5	+1.9
HVU	Hansel Valley 23nm,1.9s	27.39	346	eP	P	04 19 54.2	+1.4
P43A	Skaggs, Pawnee baz=212	27.45	25	P	P	04 19 55.7	+2.4
BMN	Battle Mountai 14nm,1.3s	27.46	338	eP	P	04 19 54.6	+1.0
T50A	Nancy baz=224	27.65	35	P	P	04 19 57.5	+2.4
PAHR	Pah Rah Range 8.0nm,1.4s	27.68	334	eP	P	04 19 56.6	+1.1
R47A	Wooly Knot Far baz=219	27.72	31	P	P	04 19 57.9	+2.2
BW06	Boulder Array 5.4nm,1.3s	27.74	352	eP	P	04 19 57.8	+1.7
BW06	Boulder Array baz=169	27.74	352	P	P	04 19 58.0	+1.9
PD31	Pinedale Array 4.6nm,1.2s	27.74	352	eP	P	04 19 57.6	+1.5
PDAR	Pinedale Array	27.74	352	eP	P	04 19 56.7	+0.6
PDAR	Pinedale Array 1.1nm,0.9s,baz=180,slow=9.6,SNR=7.4	27.74	352	P	P	04 19 56.8	+0.7
PDAR	comp=Z,138nm,18.9s,baz=180,slow=36			LR	LR	04 30 50.8	
WCI	Wyandotte Cave 8.7nm,0.9s	27.78	31	eP	P	04 19 59.0	+2.7
N41A	Harden Midland 11nm,0.7s	27.85	22	eP	P	04 19 59.5	+2.6
N41A	Harden Midland baz=209	27.85	22	P	P	04 19 59.0	+2.2
TZTN	Tazewell baz=226	28.05	37	P	P	04 20 00.5	+1.9
M39A	Webster baz=205	28.09	19	P	P	04 20 01.2	+2.3
BEKR	Beckworth 11nm,1.7s	28.23	333	eP	P	04 20 03.4	+2.9
M40A	Post Highland baz=207	28.24	21	P	P	04 20 02.9	+2.6
Q47A	Bedord North L	28.27	30	P	P	04 20 03.1	+2.5

baz=218
HDIL Hopedale 28.32 24 eP P 04 20 02.4 +1.4
26nm,1.0s
HDIL Hopedale 28.32 24 P P 04 20 03.9 +2.9
baz=212
O44A Mansfield 28.32 26 P P 04 20 03.9 +2.9
baz=214
REDW Red Top Meadow 28.52 350 eP P 04 20 04.7 +1.6
22nm,1.6s
TPAW Teton Pass 28.66 350 eP P 04 20 06.2 +1.9
4.0nm,0.8s
LOHW Long Hollow 28.72 350 eP P 04 20 05.7 +0.8
11nm,1.2s
P47A Martinsville 28.77 30 P P 04 20 07.3 +2.2
baz=218
FXWY Fox Creek 28.82 350 eP P 04 20 07.1 +1.4
3.9nm,1.0s
MOOW Moose Ponds 28.88 350 eP P 04 20 07.9 +1.7
6.6nm,1.3s
SFIN Lafayette 29.10 28 eP P 04 20 10.0 +2.0
21nm,1.3s
SFIN Lafayette 29.10 28 P P 04 20 09.6 +1.7
baz=216
L41A Preston 29.18 21 P P 04 20 09.9 +1.2
baz=208
FLWY Flagg Ranch 29.20 350 eP P 04 20 10.3 +1.3
27nm,1.7s
O47A Sheridan 29.41 29 P P 04 20 12.3 +1.6
baz=218
L42A Oliver, Polo 29.42 22 P P 04 20 12.3 +1.5
baz=210
HLID Hailey 29.46 345 eP P 04 20 12.7 +1.3
4.9nm,1.3s
K40A Colesburg 29.52 20 P P 04 20 13.7 +2.0
baz=206
OTAV Otavalo 29.55 118 eP P 04 20 13.9 +1.2
17nm,1.1s
P49A Miami Univ. Ec 29.57 32 P P 04 20 14.1 +1.9
baz=221
K41A Shullsburg 29.72 21 P P 04 20 14.4 +0.9
baz=208
WVOR Wild Horse Val 29.73 338 eP P 04 20 14.0 +0.3
5.0nm,1.1s
MOD Modoc Plateau 29.91 336 eP P 04 20 15.4 +0.1
11nm,1.4s
YHH Holmes Hill 29.91 351 eP P 04 20 17.3 +1.8
5.2nm,1.2s
J39A Decorah 29.91 19 P P 04 20 16.3 +1.1
baz=205
JFWS Jewell Farm 30.01 21 P P 04 20 17.1 +1.1
baz=208
N47A Urbana 30.14 29 P P 04 20 18.4 +1.2
baz=218
J40A Soldiers Grove 30.27 20 P P 04 20 19.5 +1.2
baz=207
N48A Decatur 30.44 30 P P 04 20 21.1 +1.3
baz=219
I39A Houston 30.44 18 P P 04 20 21.0 +1.2
baz=205
M04C Macdoel 30.44 333 P P 04 20 20.1 +0.1
baz=145
Q52A Bidwell 30.45 35 P P 04 20 21.2 +1.2
baz=225
O50A Cable 30.59 32 P P 04 20 22.4 +1.2
baz=222
GCMT Greycliff 30.72 353 eP P 04 20 23.2 +0.7
I40A Norwalk 30.76 19 P P 04 20 23.7 +1.1
baz=206
DLMT Dillon 30.77 348 eP P 04 20 24.2 +1.3
14nm,1.4s
YBH Yreka Blue Hor 30.79 332 LR LR 04 32 13.1
comp=Z,152nm,20.2s,baz=146,slow=35
BOZ Bozeman (W) 30.82 350 eP P 04 20 25.8 +2.4
12nm,1.5s
N49A Columbus Grove 30.89 30 eP P 04 20 25.3 +1.5
15nm,1.0s
N49A Columbus Grove 30.89 30 P P 04 20 26.0 +2.2
baz=220
H38A Maiden Rock 30.97 17 P P 04 20 25.9 +1.4
baz=203
L04D Klamath Falls 31.00 333 P P 04 20 25.0 +0.1
baz=145
P52A Corning 31.00 34 P P 04 20 25.2 +0.3
baz=225
J43A Natural Harves 31.07 23 P P 04 20 27.2 +1.8
baz=211
ROSC El Rosal 31.20 106 eP P 04 20 28.6 +1.4
10nm,1.1s
ROSC El Rosal 31.20 106 P P 04 20 27.1 -0.1
2.3nm,0.3s,baz=282,slow=14,SNR=2.5
ROSC LR LR 04 30 36.4
comp=Z,104nm,18.8s,baz=30,slow=32
H39A Augusta 31.26 18 P P 04 20 29.0 +2.0
baz=205
LAO LASA Array 31.32 357 P P 04 20 29.3 +1.7
baz=177
M49A Liberty Center 31.41 30 P P 04 20 30.3 +1.9
baz=220
J05D Fort Rock, OR 31.44 336 P P 04 20 29.3 +0.5
baz=148
H40A Chili 31.48 19 P P 04 20 30.1 +1.1
baz=206
O52A Adamsville 31.50 34 P P 04 20 30.5 +1.2
baz=225
G38A Ridgeland 31.54 17 P P 04 20 31.5 +2.0
baz=203
K46A Dorr 31.55 26 P P 04 20 31.5 +1.9
baz=216
L48A N Adams 31.56 29 P P 04 20 31.0 +1.3
baz=219
I43A Langenfeld Bro 31.60 22 P P 04 20 32.0 +2.0
baz=211
J04D Umpqua Nationa 31.75 335 P P 04 20 31.7 0.0
baz=146
G39A Holcombe 31.85 18 P P 04 20 34.8 +2.6
baz=204
K47A Vermontville 31.88 27 P P 04 20 33.5 +1.0
baz=217
L49A Milan 32.00 29 P P 04 20 34.9 +1.3
baz=220
G40A Rib Lake 32.12 19 P P 04 20 36.6 +1.9
baz=206
AAM Ann Arbor 32.20 29 eP P 04 20 37.1 +1.8
29nm,1.0s
I05D Terrebonne, OR 32.37 337 P P 04 20 38.4 +1.5
baz=148
MSO Missoula 32.45 348 eP P 04 20 39.1 +1.5
14nm,1.5s
MSO Missoula 32.45 348 P P 04 20 38.5 +1.0
baz=163
F39A Loretta 32.49 17 P P 04 20 39.5 +1.6
baz=204
I03D Drain, OR 32.65 334 P P 04 20 40.4 +1.1
baz=145
K49A Clarkson 32.67 29 P P 04 20 41.3 +1.9
baz=219
F40A Park Falls 32.73 18 P P 04 20 41.5 +1.6
baz=206,SNR=5.1
EGMT Eagleton 32.93 353 eP P 04 20 42.5 +0.7
16nm,1.2s
EGMT Eagleton 32.93 353 P P 04 20 42.9 +1.1
baz=170,SNR=5.4
E39A Mellen 33.02 17 P P 04 20 44.1 +1.6
baz=205
DGMT Dagmar 33.06 0 eP P 04 20 44.6 +1.8
12nm,0.9s
DGMT Dagmar 33.06 0 P P 04 20 44.0 +1.1
baz=180
E40A Wakefield 33.27 18 P P 04 20 46.3 +1.6
baz=206
H46A Fife Lake 33.30 25 P P 04 20 46.2 +1.3
baz=215
O56A Blue Knob Stat 33.44 37 P P 04 20 46.9 +0.6
baz=229
N55A Marion Center 33.54 36 P P 04 20 48.2 +1.1
baz=228
AGMN Agassiz Nation 33.61 10 eP P 04 20 49.0 +1.4
11nm,1.0s
AGMN Agassiz Nation 33.61 10 P P 04 20 49.2 +1.6
baz=195
L53A Girard 33.65 33 P P 04 20 49.2 +1.1
baz=225
I48A Sherman Twp 33.66 27 P P 04 20 50.5 +2.5
baz=218
F05D White Salmon 33.73 338 P P 04 20 49.7 +1.0
baz=150
H47A Mio 33.77 26 P P 04 20 51.2 +2.1
baz=216
GLMI Grayling 33.78 25 P P 04 20 50.9 +1.8
baz=216
K52A Tillsonburg 34.00 32 P P 04 20 53.5 +2.4
baz=223
ELFO Elginfield 34.01 31 P P 04 20 53.8 +2.7
baz=222
F44A Big Bay de Noc 34.02 22 P P 04 20 53.7 +2.4
baz=212
E43A Lone Tree Farm 34.16 21 P P 04 20 54.9 +2.5
baz=211
EYMN Ely 34.20 15 P P 04 20 54.9 +2.2
baz=202
BASO Ashfield 34.45 29 P P 04 20 57.0 +2.1
baz=221
F46A Macinaw City C 34.49 24 P P 04 20 57.5 +2.2
baz=215
NEW Newport 34.53 345 eP P 04 20 56.1 +0.4
6.1nm,1.1s
NEW Newport 34.53 345 P P 04 20 56.2 +0.6
baz=158
NEW Newport 34.53 345 P P 04 20 56.4 +0.7
2.0nm,0.9s,baz=144,slow=7.3,SNR=5.2
NEW LR LR 04 34 18.4
comp=Z,78nm,18.1s,baz=164,slow=35
I51A Listowel 34.60 30 P P 04 20 58.6 +2.4
baz=222
TYNO Tyneside 34.66 32 P P 04 20 59.7 +2.9
baz=224
E04D Cinebar 34.71 338 P P 04 20 58.4 +1.3
baz=148
C40A Isle Royale Na 34.82 18 P P 04 21 00.7 +2.7
baz=206
D04E Lakebay 35.31 338 P P 04 21 03.6 +1.3
baz=148
MEDO Medina 35.45 33 P P 04 21 05.3 +1.7
baz=226
ULM Lac du Bonnet 35.50 9 P P 04 21 04.9 +1.0
1.5nm,0.8s,baz=194,slow=8.8,SNR=2.8
ULM LR LR 04 35 46.8
comp=Z,308nm,20.9s,baz=177,slow=36
E47A Iron Bridge 35.65 25 P P 04 21 07.0 +1.8
baz=216
D47A Chapleau 36.20 25 P P 04 21 12.4 +2.4
baz=216
SADO Sadowa 36.23 31 P P 04 21 12.9 +2.7
8.9nm,0.9s,baz=267,slow=7.2,SNR=3.9
SADO LR LR 04 37 17.7
comp=Z,277nm,19.2s,baz=208,slow=38
BUKO Buck Lake 36.59 30 P P 04 21 14.8 +1.4
baz=223
BANO Bancroft 37.01 31 P P 04 21 18.8 +1.9
baz=225
H55A Tweed 37.07 33 P P 04 21 19.7 +2.3
baz=227
E51A G1948 Merrick 37.36 28 P P 04 21 21.4 +1.6
baz=222
E53A Dumoine, Ponti 38.11 30 P P 04 21 27.5 +1.4
baz=224
E54A Lac Daplat, Po 38.38 30 P P 04 21 30.1 +1.7
baz=225
FFC Flin Flon 39.37 2 eP P 04 21 37.6 +1.0
13nm,1.4s
LSQQ Lebel-sur-Quev 40.36 28 P P 04 21 45.7 +0.7
baz=223
MATQ Matagami 40.59 27 P P 04 21 48.2 +1.3
baz=222
CHGQ Chibougamau 42.16 29 P P 04 21 59.5 -0.3
baz=226
TAOE Nuku Hiva Isla 42.93 238 eLR LR 04 33 43.5
comp=Z,685nm,26.3s
TAOE Nuku Hiva Isla 42.93 238 eT T 05 07 19.4
40nm,0.2s
FCC Fort Churchill 44.03 8 eP P 04 22 16.1 +1.4
3.2nm,0.8s
DLBC Dease Lake 47.14 342 eP P 04 22 40.1 +0.6
8.2nm,0.8s
LPAZ La Paz 47.51 130 eP P 04 22 43.5 +0.1
9.3nm,1.4s
LPAZ La Paz 47.51 130 P P 04 22 40.1 -3.4
1.3nm,0.8s,baz=262,slow=7.1,SNR=2.3
LPAZ LR LR 04 40 16.5
comp=Z,237nm,19.5s,baz=294,slow=33
YKA Yellowknife Ar 47.69 354 P P 04 22 43.2 -0.4
1.8nm,1.0s,baz=167,slow=7.5,SNR=17
YKB5 Yellowknife Ar 47.69 354 eP P 04 22 43.2 -0.3
YKW3 Yellowknife Ar 47.75 354 eP P 04 22 44.9 +0.8
12nm,1.5s
RKT Rikitea 48.62 219 eT T 05 14 25.5
3.9nm,0.3s
SCHQ Schefferville 48.89 28 eP P 04 22 54.2 +1.2
17nm,1.1s
SCHQ Schefferville 48.89 28 P P 04 22 53.3 +0.3
13nm,1.1s,baz=229,slow=3.0,SNR=5.6
SCHQ LR LR 04 44 27.8
comp=Z,261nm,19.3s,baz=280,slow=37
LVC Limon Verde 51.16 137 LR LR 04 40 17.0
comp=Z,106nm,21.0s,baz=312,slow=31
PMOR Pomariorio Ree 52.62 237 eT T 05 19 25.4
6.8nm,0.2s
SIV San Ignacio 52.77 124 LR LR 04 43 54.6
comp=Z,130nm,18.3s,baz=282,slow=34
MENT Mentasta 54.97 339 eP P 04 23 38.9 +0.6
34nm,1.8s
EPYK Eagle Plains 55.37 345 eP P 04 23 41.2 +0.1
6.3nm,1.0s
EPYK Eagle Plains 55.37 345 P P 04 23 40.8 -0.2
baz=141
PPT Papeete 55.37 236 LR LR 04 40 23.7
comp=Z,184nm,20.1s,baz=52,slow=29
PPT2 Papeete 55.38 236 eS S 04 31 24.3 -2.5
132nm,27.2s
PPT2 eLR LR 04 39 29.9
comp=Z,559nm,25.8s
PAX Paxson 55.59 339 eP P 04 23 43.6 +0.8
7.2nm,1.0s
RIDG Independ'e Rid 55.88 340 eP P 04 23 46.0 +1.2
16nm,1.0s
SML Sawmill 55.94 336 eP P 04 23 45.5 +0.3
54nm,1.8s
INK Inuvik 56.18 347 eP P 04 23 46.7 -0.1
8.7nm,1.3s
IL1 Eielson Array 57.23 340 eP P 04 23 53.1 -1.2
ILAR Eielson Array 57.23 340 P P 04 23 53.2 -1.1
1.8nm,0.9s,baz=156,slow=5.9,SNR=16
ILAR LR LR 04 47 23.9
comp=Z,59nm,18.1s,baz=137,slow=35
ILB Eielson Array 57.23 340 eP P 04 23 54.1 -0.2
6.8nm,0.9s
TBI Tuluai 58.59 230 eS S 04 32 05.1 -3.6
238nm,29.2s
TBI eLR LR 04 40 56.4
comp=Z,513nm,27.5s
RES Resolute Bay 59.60 3 eP P 04 24 11.4 +0.7
1.3nm,0.7s
TOLK Toolik Lake Re 60.48 343 P P 04 24 16.8 -0.2
baz=128
CPUP Isla Florida 61.59 132 LR LR 04 50 12.8
comp=Z,110nm,18.6s,baz=6.5,slow=35
BDFB Brasilia 63.48 116 LR LR 04 51 18.6
comp=Z,146nm,18.4s,baz=250,slow=35
PLCA Paso Flores 63.93 152 LR LR 04 46 12.5
comp=Z,146nm,19.8s,baz=304,slow=30
SUMG Summit 68.31 17 eP P 04 25 08.1 -0.5
7.1nm,1.1s
H11S1 WAKE ISLAND Hy 84.39 288 T T 05 59 37.5
baz=76,slow=75,SNR=7.8
H11S2 WAKE ISLAND Hy 84.39 288 T T 05 59 36.5
baz=76,slow=75,SNR=8.3
H11S3 WAKE ISLAND Hy 84.40 288 T T 05 59 37.0
baz=76,slow=75,SNR=7.8
ARCES ARCESS Array B 88.35 16 LR LR 05 06 22.6
comp=Z,114nm,21.6s,baz=354,slow=35
NOA NORSAR Array B 88.43 26 LR LR 05 06 45.8
comp=Z,71nm,21.0s,baz=300,slow=36
FINES FINESS Array B 94.00 22 LR LR 05 11 31.8
comp=Z,96nm,19.3s,baz=286,slow=36
DZM Mont Dzumac 95.01 249 eLR LR 04 58 09.7
comp=Z,215nm,25.8s
NRIK Noril'sk 95.15 356 LR LR 05 13 25.6
comp=Z,82nm,18.3s,baz=35,slow=37
GERES GERESS Array B 95.83 36 LR LR 05 11 51.3
comp=Z,61nm,18.5s,baz=292,slow=36
DBIC Dimbokro 97.24 81 LR LR 05 11 26.2
comp=Z,35nm,18.3s,baz=215,slow=35
LZH Lanzhou 122.39 333 ePKP PKPdf 04 33 02.8 -0.5
LZH pPKP sPKPdf 04 33 09.0 +2.4
LZH sPKP 04 33 12.5
LZH LR LR
comp=N,75nm,18.0s
LZH LR LR
comp=E,68nm,18.1s
LZH LR LR
comp=Z,92nm,20.2s
WRAB Tennant Creek 124.20 256 ePKPdf PKPdf 04 33 06.9 0.0
WRA Warramunga Arr 124.21 256 PKP PKPdf 04 33 02.5 -4.5
comp=Z,0.7nm,0.8s,baz=88,slow=3.1,SNR=3.1
ASAR Alice Springs 124.87 252 PKP PKPdf 04 33 03.9 -4.2
comp=Z,0.2nm,0.3s,baz=124,slow=1.3,SNR=3.6
CD2 Chengdu 126.74 330 PKP PKPdf 04 33 10.1 -1.6

NORS ***15*** *04:16:18.0±0.0, 42.54N×41.28E, h5km, MPVA3.0*
DDA ***15*** *04:16:19.7, 42.16N×41.13E, h8km±5km, ML2.9*
MOS ***15*** *04:16:19.0±0.0, 42.52N×41.04E, h13km, MPVA3.2*
ISC 15 04:16:17.3±1.9, 42.40N±0.03×41.15E±0.08, h14km±13km, n15, σ0.70/30, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	Dombai	0.95	21	*i* Pg	Pb	04 16 36.2	+0.4
DOMR				*i* Sg	Sb	04 16 48.2	-0.2
DBOC	Borcka	1.12	160	*i* P	Pb	04 16 38.3	-0.3
DBOC				*i* S	Sn	04 16 53.8	-0.2
ARXR	Arkhyz	1.16	4	*i* Pg	Pn	04 16 38.9	-0.4
ARXR				*e*Sg	Sb	04 16 54.2	-0.2
ARTV	Artvin	1.35	154	*i* P	Pn	04 16 42.1	+0.2
ARTV				*i* S	Sn	04 16 59.5	-0.3
NEY	Neytrino	1.43	53	*e*Pg	Pg	04 16 44.5	-0.4
NEY				*e*Sg	Sg	04 17 02.9	-0.6
DAGI	Agillar	1.44	156	*i* P	Pn	04 16 43.9	+0.8
DAGI				*i* S	Sn	04 17 00.3	-1.6
DAGI				IAML_P			
	comp=Z,351nm,0.1s						
DBAD	Bademkaya	1.44	163	*i* P	Pn	04 16 43.4	+0.2
DBAD				*i* S	Sn	04 17 01.1	-0.8
DBAD				IAML_P			
	comp=Z,1μm,0.2s						
RPOR	Krasnaya Polya	1.45	334	*i* Pg	Pn	04 16 42.7	-0.5
RPOR				*i* Sg	Sn	04 17 02.3	+0.2
EPOS	Posof	1.48	127	*i* P	Pb	04 16 45.1	+0.3
EPOS				*i* S	Sg	04 17 06.6	+1.5
DDEM	Demirkent	1.57	163	*i* P	Pn	04 16 46.2	+1.2
DDEM				*i* S	Sb	04 17 05.8	-0.3
DDEM				IAML_P			
	comp=Z,1μm,0.1s						
SHA1	Shidzhatmaz	1.73	39	*e*Pg	Pg	04 16 50.0	-0.6
SHA1				*e*Sg	Sg	04 17 12.9	-0.3
GUZR	Guzeripl'	1.76	335	*e*Pg	Pn	04 16 48.3	+0.8
GUZR				*e*Sg	Sn	04 17 10.4	+0.6
DIGR	Digorskoe uzhe	1.86	74	*e*Pg	Pg	04 16 52.5	-0.6
DIGR				*e*Sg	Sg	04 17 17.7	+0.5
KIV0	Kislovodsk Arr	1.92	36	*i* Pg	Pb	04 16 53.1	+0.9
KIV0				*i* Sg	Sb	04 17 16.1	0.0
ZEI	Tsey	2.07	78	*e*Pg	Pb	04 16 55.4	+0.7
ZEI				*e*Sg	Sg	04 17 23.8	0.0

IDC 15 04:35:08.0±3.2, 19.62S×176.14W, h0km, mb3.8/4, mb1 4.3/4, mb1mx3.9/23, mbtmp3.8/4, Error ellipse: s-maj=159.0km s-min=45.1km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	Mina Array Bea	79.19	43	P	P	04 47 17.2	+1.9
	0.2nm,0.4s,baz=224,slow=7.2,SNR=2.7						
TXAR	Lajitas Array	85.11	57	P	P	04 47 45.2	-1.2
	0.8nm,1.1s,baz=255,slow=2.7,SNR=3.0						
ILAR	Eielson Array	87.08	12	P	P	04 47 53.9	-1.3
	0.4nm,0.9s,baz=230,slow=6.6,SNR=3.9						
CMAR	Chiang Mai Arr	91.48	289	P	P	04 48 17.6	+0.7
	0.8nm,0.3s,baz=134,slow=2.6,SNR=4.1						
AKASG	Malin Array Be	143.06	333	PKP	PKPdf	04 54 42.6	-1.1
	0.7nm,0.6s,baz=41,slow=3.8,SNR=4.8						
BRTR	Keskin Array B	147.51	315	PKPbc	PKPbc	04 54 53.6	-1.0
	1.0nm,0.8s,baz=147,slow=5.6,SNR=4.6						

IDC ***15*** *04:40:01.3±5.4, 22.83S×128.13E, h0km, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/3, Error ellipse: s-maj=40.9km s-min=31.1km az=84.0*
AUST ***15*** *04:40:02.4±0.0, 22.75S×127.69E, h10km, Error ellipse: s-maj=0.1km s-min=0.1km az=323.0*
ISC 15 04:39:49.9±0.9, 22.30S±0.07×128.20E±0.05, h10km, n12, σ1.50/15, Western Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	4.82	330	P	Pb	04 41 15.6	+1.1
	baz=5.0						
FITZ				S	Sb	04 42 11.2	-1.4
	baz=5.0						
ASAR	Alice Springs	5.43	106	Pn	Pb	04 41 24.3	-0.6
	0.3nm,0.3s,baz=280,slow=12,SNR=12						
ASAR				Sn	Sb	04 42 27.6	-2.4
	1.7nm,0.3s,baz=273,slow=25,SNR=8.7						
ASAR				Lg	Lg	04 42 53.3	
	4.8nm,0.3s,baz=299,slow=28,SNR=16						
WRA	Warramunga Arr	6.19	69	Pn	Pb	04 41 37.2	-0.6
	0.4nm,0.3s,baz=246,slow=14,SNR=49						
WRA				Pg	Pg	04 41 59.4	+11
	0.6nm,0.3s,baz=244,slow=15,SNR=7.3						
WRA				Sn	Sb	04 42 52.9	+0.9
	1.9nm,0.3s,baz=280,slow=32,SNR=5.6						
WRA				Lg	Lg	04 43 24.3	
	4.7nm,0.3s,baz=240,slow=28,SNR=17						
WB2	Warramunga Arr	6.20	69	P	Pb	04 41 39.6	+1.6
	baz=6.8						
KNRA	Kununurra	6.61	5	P	Pb	04 41 44.2	-0.8
	baz=7.2						
MEEK	Meekatharra	9.74	242	P	Pn	04 42 10.9	+0.8
	baz=9.1						
QIS	Mount Isa	10.76	83	P	Pn	04 42 40.8	+17
	baz=11						
MORW	Morawa	12.87	236	P	Pn	04 42 52.4	-0.5
	baz=12						
GIRL	Giralia	12.92	266	P	Pn	04 42 55.7	+2.0
	baz=12						
BLDU	Ballidu	13.21	229	P	Pn	04 42 56.4	-1.1
	baz=13						
NWAO	Narrogin (SRO)	14.36	220	P	Pn	04 43 12.6	-0.7
	baz=14						
STKA	Stephens Creek	15.26	132	Pn	P	04 43 33.0	+2.6
	0.3nm,0.3s,baz=309,slow=14,SNR=4.6						
STKA				Sn	Sn	04 46 14.6	+0.1
	0.3nm,0.3s,baz=208,slow=5.2,SNR=6.3						
STKA				Lg	Lg	04 47 59.4	
	0.1nm,0.3s,baz=338,slow=19,SNR=2.1						

IDC 15 04:56:18.4±5.8, 52.26N×132.77W, h0km, mb3.2/1, mb1 3.6/3, mb1mx3.3/31, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=106.0km s-min=13.3km az=85.0, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H02S1	DAWSON INLET T	0.96	11	Pg	Pb	04 56 37.5	-0.5
H02S1				Lg	Lg	04 56 49.7	
	SNR=6225						
YKA	Yellowknife Ar	14.12	36	Pn	Pn	04 59 37.1	-2.4
	0.0nm,0.3s,baz=226,slow=13,SNR=7.4						
PDAR	Pinedale Array	18.26	112	P	P	05 00 34.1	+0.6
	0.0nm,0.3s,baz=291,slow=9.4,SNR=4.6						
TXAR	Lajitas Array	31.42	125	P	P	05 02 40.6	-0.7
	0.3nm,0.8s,baz=320,slow=8.2,SNR=3.0						

IDC ***15*** *05:10:44.1±7.6, 23.45S×177.25W, h114km±66km, mb3.8/7, mb1 4.0/8, mb1mx3.7/23, mbtmp4.1/8, MS3.1/1, Ms1 3.1/1, ms1mx2.7/27, Error ellipse: s-maj=40.2km s-min=23.6km az=164.0*
ISCJB ***15*** *05:10:46.5±0.6, 23.64S±0.07×176.92W±0.09, h167km, mb4.1/25, Error ellipse: s-maj=12.5km s-min=9.6km az=27.6*
NEIC ***15*** *05:10:46.0±1.3, 23.60S×177.06W, h138km±11km, mb4.4/21, Error ellipse: s-maj=12.0km s-min=8.6km az=130.0*
ISC 15 05:10:49.6±0.6, 23.64S±0.09×177.1W±0.1, h167km, n59, σ1.20/58, mb4.2/25, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.43**	**321**	*e*Pn	**Pn**	**05 12 35.2**	**-0.3**
NIUE	**Niue**	**8.07**	**57**	*e*Pn	Pn	05 12 37.6	-6.4
NIUE				*e*Sn	Sn	05 13 58.9	-15
MARNC	**Mare, Loyalty**	**13.91**	**276**	*e*P	**P**	**05 14 03.6**	**+1.0**
PINNC	**Pines Island,**	**14.26**	**271**	*e*P	**P**	**05 14 09.2**	**+2.7**
OUENC	**Ouen Island, N**	**14.84**	**272**	*e*Pn	**P**	**05 14 15.7**	**+2.8**
DZM	**Mont Dzumac** 29nm,0.7s	**15.26**	**273**	*e*Pn	**P**	**05 14 19.3**	**+1.6**
DZM	**Mont Dzumac** 1.7nm,0.3s,baz=92,slow=16,SNR=22	**15.26**	**273**	P	**P**	**05 14 18.1**	**+0.4**
URZ	**Urewera** 6.9nm,1.0s	**15.39**	**197**	*e*Pn	**Pn**	**05 14 15.6**	**-2.3**
URZ	**Urewera** 0.7nm,0.3s,baz=338,slow=5.4,SNR=5.0	**15.39**	**197**	P	**Pn**	**05 14 16.7**	**-1.3**
THZ	**Tophouse** 6.9nm,1.1s	**19.91**	**202**	*e*P	**P**	**05 15 07.2**	**-1.1**
KHZ	**Kahutara** 9.9nm,1.0s	**20.28**	**200**	*e*P	**P**	**05 15 10.4**	**-1.8**
FOZ	**Fox Glacier** 10nm,1.1s	**22.59**	**205**	*e*P	**P**	**05 15 35.4**	**-0.5**
MLZ	**Mavora Lakes** 0.4nm,0.5s	**24.79**	**205**	*e*P	**P**	**05 15 57.6**	**+1.6**
PPT	**Papeete** comp=Z,40nm,18.1s,baz=257,slow=38	**26.43**	**82**	LR	LR	05 27 27.0	
EIDS	**Eidsvold** 4.7nm,0.7s	**28.98**	**260**	*e*P	**P**	**05 16 34.4**	**+0.7**
CTAO	**Charters Tower** 16nm,0.9s	**34.14**	**269**	*e*P	**P**	**05 17 18.8**	**-0.1**
TOO	**Toolangi** 5.2nm,0.8s	**34.83**	**238**	*e*P	**P**	**05 17 25.8**	**+1.2**
STKA	**Stephens Creek**	**37.29**	**248**	*e*P	**P**	**05 17 45.5**	**-0.1**
STKA	**Stephens Creek** 1.8nm,0.5s,baz=94,slow=11,SNR=7.5	**37.29**	**248**	P	**P**	**05 17 45.1**	**-0.5**
COEN	**Coen** 4.4nm,0.9s	**38.72**	**277**	*e*P	**P**	**05 17 57.5**	**-0.2**
BBOO	**Buckleboo** 3.4nm,0.6s	**41.99**	**247**	*e*P	**P**	**05 18 24.1**	**-0.3**
AS01	**Alice Springs**	**44.66**	**260**	*e*P	**P**	**05 18 45.1**	**-0.9**
AS31	**Alice Springs** 1.7nm,0.9s	**44.70**	**260**	*e*P	**P**	**05 18 45.8**	**-0.6**
ASAR	**Alice Springs** 2.0nm,0.4s,baz=91,slow=8.4,SNR=26	**44.70**	**260**	P	**P**	**05 18 45.0**	**-1.3**
ASAR				PcP	**PcP**	**05 20 25.4**	**-0.6**
WC3	**Warramunga Arr** 8.4nm,0.8s	**45.05**	**265**	*e*P	**P**	**05 18 47.4**	**-1.7**
WB2	**Warramunga Arr** 6.5nm,0.8s	**45.07**	**265**	*e*P	**P**	**05 18 47.8**	**-1.5**
WRAB	**Tennant Creek** 7.7nm,1.0s	**45.07**	**265**	*e*P	**P**	**05 18 48.4**	**-0.9**
WR1	**Warramunga Arr** 11nm,0.6s	**45.08**	**265**	*e*P	**P**	**05 18 47.3**	**-2.0**
WR1				*e*PcP	**PcP**	**05 20 27.2**	**0.0**
WRA	**Warramunga Arr** 2.4nm,0.3s,baz=89,slow=6.0,SNR=170	**45.08**	**265**	P	**P**	**05 18 47.3**	**-2.0**
WRA				PcP	**PcP**	**05 20 27.2**	**0.0**
FORT	**Forrest** 9.5nm,0.6s	**48.89**	**249**	*e*P	**P**	**05 19 17.7**	**-1.0**
MTN	**Manton Dam** 11nm,1.1s	**50.10**	**273**	*e*P	**P**	**05 19 26.8**	**-1.3**
FITZ	**Fitzroy Crossi** 2.5nm,0.7s	**53.50**	**264**	*e*P	**P**	**05 19 53.3**	**+0.1**
QSPA	**South Pole Qui** 4.6nm,1.1s	**66.44**	**180**	*e*P	**P**	**05 21 22.6**	**+1.8**
ADK	**Adak** 16nm,0.8s	**75.20**	**0**	*e*P	**P**	**05 22 12.5**	**-0.9**
UNV	**Unalaska Valle** 24nm,1.1s	**77.71**	**6**	*e*P	**P**	**05 22 26.6**	**-0.8**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=204,slow=7.8,SNR=2.5	**82.74**	**43**	P	**P**	**05 22 56.0**	**+0.9**
TXAR	**Lajitas Array** 0.4nm,0.8s,baz=207,slow=8.0,SNR=4.9	**88.05**	**57**	P	**P**	**05 23 22.0**	**+0.6**
ILAR	**Eielson Array** 0.3nm,0.4s,baz=218,slow=5.8,SNR=8.0	**91.18**	**12**	P	**P**	**05 23 33.8**	**-1.2**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=134,slow=3.2,SNR=9.4	**91.95**	**289**	P	**P**	**05 23 41.0**	**+1.3**
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=104,slow=1.8,SNR=3.7	**122.00**	**319**	PKP	**PKPdf**	**05 29 23.1**	**-0.8**
ARA0	**ARCESS Array S**	**132.15**	**349**	*e*PKPdf	**PKiKP**	**05 29 43.7**	**-0.1**
ARCES	**ARCESS Array B** 1.6nm,0.7s,baz=357,slow=2.4,SNR=8.4	**132.15**	**349**	PKP	**PKiKP**	**05 29 43.7**	**-0.1**
FIA0	**FINESS Array S**	**139.01**	**343**	*e*PKPpre	PKPpre	05 29 45.3	
FINES	**FINESS Array B** 0.4nm,0.5s,baz=5.2,slow=2.1,SNR=5.6	**139.01**	**343**	PKhKP	PKPpre	05 29 45.3	
NB200	**NORSAR Array S**	**142.18**	**353**	*e*PKPdf	**PKPdf**	**05 30 02.7**	**+1.2**
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=13,slow=4.0,SNR=2.5	**142.18**	**353**	PKP	**PKPdf**	**05 30 02.7**	**+1.2**
AKASG	**Malin Array Be** 4.4nm,0.4s,baz=44,slow=4.1,SNR=25	**146.15**	**330**	PKPbc	**PKPdf**	**05 30 08.2**	**-0.4**
AKBB	**Malin Array Si**	**146.15**	**330**	*e*PKPdf	**PKPdf**	**05 30 08.6**	**0.0**
KIEV	**Kiev**	**146.16**	**330**	*e*PKPdf	**PKPdf**	**05 30 08.6**	**-0.1**
AK11	**Malin Array Si**	**146.19**	**330**	*e*PKPdf	**PKPdf**	**05 30 08.6**	**-0.1**
BR101	**Keskin Array S**	**149.51**	**309**	*e*PKPbc	**PKPbc**	**05 30 18.9**	**-0.6**
BR131	**Keskin Array S**	**149.51**	**309**	*e*PKPbc	**PKPbc**	**05 30 19.2**	**-0.3**
BRTR	**Keskin Array B** 1.0nm,0.5s,baz=135,slow=4.5,SNR=7.7	**149.51**	**309**	PKPbc	**PKPbc**	**05 30 18.9**	**-0.6**
BUR08	**Bucovina Ar. S**	**150.17**	**329**	*e*PKPab	**PKPab**	**05 30 25.2**	**-2.1**
TIRR	**Tirgusor**	**150.58**	**321**	*e*PKPab	**PKPab**	**05 30 27.6**	**-1.4**
CLL	**Collm**	**151.30**	**347**	*e*PKPbc	**PKPbc**	**05 30 23.0**	**-0.1**
GERES	**GERESS Array B** 0.7nm,0.4s,baz=25,slow=3.2,SNR=3.8	**153.44**	**344**	PKPbc	**PKiKP**	**05 30 29.8**	**+1.6**
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=199,slow=4.9,SNR=3.4	**169.50**	**174**	PKPab	**PKPab**	**05 31 52.4**	**+0.8**
TOA1	**Torodi Ar. Sit**	**169.50**	**173**	*e*PKPab	**PKPab**	**05 31 52.4**	**+0.8**

IDC 15 05:24:43.0±2.9, 54.05N×87.29E, h0km, mb1 3.3/2, mb1mx3.0/37, mbtmp3.3/2, ML2.6/1, Error ellipse: s-maj=25.9km s-min=17.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=87,slow=339,SNR=1.0	**1.47**	**267**	*i*		05 35 28.5	
ZALV	**Zalesovo Beam** 2.1nm,0.3s,baz=81,slow=13,SNR=20	**1.47**	**267**	Pg	Pn	05 25 08.5	-2.2
ZALV				Lg	Lg	05 25 29.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=57,slow=14,SNR=9.5	**6.37**	**241**	Pn	Pn	05 26 19.1	+1.1
KURBB				Lg	Lg	05 28 05.8	
MKAR	**Makanchi Array** baz=20,slow=13,SNR=4.0	**7.93**	**206**	Pn	Pn	05 26 40.9	+1.4
MKAR				Lg	Lg	05 28 51.7	

0.0nm,0.3s,baz=26,slow=26,SNR=3.8

*ISCJB **15** 05:34:20.4±0.2, 3.10S±0.03×75.67W±0.06, h144km, mb4.1/81, Error ellipse: s-maj=8.2km s-min=4.0km az=164.7*

*IDC **15** 05:34:20.2±0.7, 3.02S×75.61W, h125km±6km, mb3.7/14, mb1 3.8/18, mb1mx3.7/35, mbtmp4.1/18, Error ellipse: s-maj=16.5km s-min=8.8km az=72.0*

*NEIC **15** 05:34:20.7±0.8, 3.09S×75.66W, h131km±8km, mb4.3/74, Error ellipse: s-maj=11.1km s-min=4.3km az=75.0*

ISC 15 05:34:21.8±0.3, 3.11S±0.04×75.61W±0.06, h144km, n142, σ1s55/146, mb4.2/81, 2C-2D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTLC	**Puerto Leguiza**	**3.36**	**14**	*i*P	Pn	05 35 08.9	-4.7
PTLC	**Puerto Leguiza**	**3.36**	**14**	*i*P	Pn	05 35 08.9	-4.7
OTAV	**Otavalo**	**4.37**	**319**	*e*Pn	**Pn**	**05 35 25.6**	**-1.6**
OTAV	**Otavalo**	**4.37**	**319**	*e*P	**Pn**	**05 35 25.4**	**-1.8**
OTAV	**Otavalo**	**4.37**	**319**	*e*P	**Pn**	**05 35 25.4**	**-1.8**
GCUF	**Volcan Galeras**	**4.64**	**338**	*i*P	**Pn**	**05 35 29.3**	**-1.6**
GCUF	**Volcan Galeras**	**4.64**	**338**	*i*P	**Pn**	**05 35 29.3**	**-1.6**
FLOC	**Florencia**	**4.66**	**359**	*e*P	**Pn**	**05 35 29.1**	**-1.6**
FLOC	**Florencia**	**4.66**	**359**	*e*P	**Pn**	**05 35 29.1**	**-1.6**
CRUC	**La Cruz**	**4.84**	**344**	*e*P	**Pn**	**05 35 31.6**	**-1.7**
CRUC	**La Cruz**	**4.84**	**344**	*e*P	**Pn**	**05 35 31.6**	**-1.7**
ATAH	**Atahualpa** 12nm,0.3s,baz=28,slow=5.9,SNR=74	**4.86**	**215**	P	**Pn**	**05 35 31.2**	**-2.5**
ATAH				S	**Sn**	**05 36 24.3**	**-5.4**
SOTA	**Rioblanco**	**5.31**	**349**	*e*P	**Pn**	**05 35 38.8**	**-0.9**
SOTA	**Rioblanco**	**5.31**	**349**	*e*P	**Pn**	**05 35 38.8**	**-0.9**
PCON	**Cinco Dias**	**5.46**	**352**	*e*P	**Pn**	**05 35 41.3**	**-0.5**
PCON	**Cinco Dias**	**5.46**	**352**	*e*P	**Pn**	**05 35 41.3**	**-0.5**
POPC	**Popayan, Colom** 24nm,0.3s,baz=114,slow=21,SNR=15	**5.71**	**349**	*e*P	**Pn**	**05 35 44.5**	**-0.4**
POPC	**Popayan, Colom**	**5.71**	**349**	*e*P	**Pn**	**05 35 44.5**	**-0.4**
MARP	**Paez Belalcaza**	**5.93**	**357**	*e*P	**Pn**	**05 35 47.3**	**-0.5**
MARP	**Paez Belalcaza**	**5.93**	**357**	*e*P	**Pn**	**05 35 47.3**	**-0.5**
GUVC	**San Jose del G**	**6.36**	**28**	*e*P	**Pn**	**05 35 53.5**	**+0.2**
GUVC	**San Jose del G**	**6.36**	**28**	*e*P	**Pn**	**05 35 53.5**	**+0.2**
GRGC	**Isla de Gorgon**	**6.59**	**337**	*e*P	**Pn**	**05 35 57.5**	**+1.1**
GRGC	**Isla de Gorgon**	**6.59**	**337**	*e*P	**Pn**	**05 35 57.5**	**+1.1**
ROSC	**El Rosal**	**8.00**	**9**	*e*Pn	**Pn**	**05 36 14.6**	**-1.1**
ROSC	**El Rosal** 0.8nm,0.3s,baz=120,slow=20,SNR=3.0	**8.00**	**9**	P	**Pn**	**05 36 17.4**	**+1.8**
NNA	**Nana**	**8.90**	**188**	*e*Pn	**Pn**	**05 36 25.3**	**-2.0**
NNA				*e*Sn	Sn	05 37 56.5	-10
NNA	**Nana** 22nm,0.3s,baz=23,slow=8.8,SNR=52	**8.90**	**188**	P	**Pn**	**05 36 26.2**	**-1.1**
NNA				S	Sn	05 37 56.5	-10
BCIP	**Isla Barro Col** 35nm,0.3s,baz=236,slow=21,SNR=11	**12.90**	**341**	*e*P	**P**	**05 37 26.1**	**+0.9**
LPAZ	**La Paz** 7.1nm,0.5s	**15.02**	**151**	*e*Pn	**Pn**	**05 37 46.4**	**-1.0**
LPAZ	**La Paz** 0.6nm,0.3s,baz=345,slow=4.1,SNR=7.8	**15.02**	**151**	P	**Pn**	**05 37 48.2**	**+0.9**
PTGA	**Pitinga** 0.8nm,0.3s,baz=308,slow=20,SNR=3.1	**15.81**	**82**	P	**Pn**	**05 37 57.6**	**+1.0**
PTGA				S	**Sn**	**05 40 44.2**	**-8.6**
JTS	**JuntasAbangare** 0.6nm,0.3s,baz=336,slow=19,SNR=2.8	**16.24**	**325**	P	**P**	**05 38 03.0**	**+0.7**
MNMC	**Minye Minye** 40nm,0.9s	**16.97**	**160**	*e*P	**P**	**05 38 09.7**	**-0.9**
MNMC				*e*S	**S**	**05 41 21.0**	**+0.7**
ESPN	**Las Esperanzas** 16nm,0.9s	**17.49**	**331**	*e*P	**Pn**	**05 38 18.1**	**+1.1**
PB11	**IPOC Station P** 28nm,0.6s	**17.54**	**161**	*e*P	**P**	**05 38 17.4**	**+0.7**
PB11				*e*S	**S**	**05 41 31.0**	**-1.0**
PB01	**IPOC Station P** 14nm,0.8s	**18.79**	**162**	*e*P	**P**	**05 38 30.5**	**+0.2**
SIV	**San Ignacio** 0.5nm,0.3s,baz=318,slow=8.7,SNR=11	**19.20**	**133**	P	**P**	**05 38 35.5**	**+0.8**
PB04	**IPOC Station P** 59nm,1.1s	**19.83**	**165**	*e*P	**P**	**05 38 43.1**	**+1.5**
LVC	**Limon Verde** 17nm,1.0s	**20.44**	**162**	*e*P	**P**	**05 38 50.1**	**+1.7**
LVC	**Limon Verde** 6.3nm,0.3s,baz=354,slow=6.4,SNR=19	**20.44**	**162**	P	**P**	**05 38 50.0**	**+1.6**
LVC				S	**S**	**05 42 33.4**	**+3.7**
MTDJ	**Mount Denham** 52nm,1.0s	**21.29**	**355**	*e*P	**P**	**05 38 59.3**	**+2.1**
BBGH	**Gun Hill** 321nm,1.1s	**22.69**	**44**	*e*P	**P**	**05 39 13.6**	**+2.2**
SJG	**San Juan** 8.9nm,0.9s	**23.06**	**24**	*e*P	**P**	**05 39 13.1**	**-1.6**
CBYP	**Canovanas** 9.1nm,1.0s	**23.32**	**24**	*e*P	**P**	**05 39 16.9**	**-0.3**
MDP	**Montagnes des** 24nm,1.1s,baz=275,slow=10,SNR=5.9	**24.35**	**70**	P	**P**	**05 39 26.7**	**0.0**
GOGA	**Godfrey** 8.4nm,1.1s	**37.08**	**349**	*e*P	**P**	**05 41 18.7**	**+0.6**
Z50A	**Ashland** 4.7nm,0.7s	**37.46**	**346**	*e*P	**P**	**05 41 21.3**	**-0.1**
LRAL	**Lakeview Retre** 2.5nm,1.0s	**37.53**	**344**	*e*P	**P**	**05 41 22.2**	**+0.3**
JSC	**Jenkinsville** 12nm,1.1s	**37.57**	**352**	*e*P	**P**	**05 41 23.2**	**+1.0**
HODGE	**Hodges** 3.6nm,0.8s	**37.67**	**351**	*e*P	**P**	**05 41 23.3**	**+0.3**
PLCA	**Paso Flores** 3.8nm,0.9s	**37.73**	**174**	*e*P	**P**	**05 41 24.5**	**+0.9**
PLCA	**Paso Flores** 2.3nm,0.8s,baz=7.1,slow=9.0,SNR=8.0	**37.73**	**174**	P	**P**	**05 41 24.3**	**+0.7**
KMSC	**Kings Mountain** 6.9nm,1.1s	**38.43**	**352**	*e*P	**P**	**05 41 30.0**	**+0.6**
BG3	**Lake Jocassee** 6.6nm,1.2s	**38.52**	**350**	*e*P	**P**	**05 41 30.9**	**+0.6**
V53A	**Saluda** 5.8nm,1.0s	**39.16**	**351**	*e*P	**P**	**05 41 35.9**	**+0.3**
W50A	**Signal Mountai** 7.7nm,0.8s	**39.18**	**347**	*e*P	**P**	**05 41 35.6**	**-0.2**
SWET	**Sewanee** 2.1nm,0.8s	**39.34**	**347**	*e*P	**P**	**05 41 37.0**	**-0.1**
V52A	**Sevierville** 1.5nm,0.8s	**39.47**	**350**	*e*P	**P**	**05 41 38.3**	**+0.2**
V48A	**Smith Brothers** 17nm,0.6s	**40.05**	**346**	*e*P	**P**	**05 41 42.5**	**-0.4**
TZTN	**Tazewell** 4.1nm,0.6s	**40.14**	**350**	*e*P	**P**	**05 41 43.4**	**-0.2**
WVT	**Wavty** 2.9nm,0.6s	**40.68**	**345**	*e*P	**P**	**05 41 46.5**	**-1.5**
T49A	**Edmonton** 3.8nm,0.4s	**41.06**	**348**	*e*P	**P**	**05 41 50.5**	**-0.7**
MIAR	**Mount Ida** 1.7nm,0.9s	**41.10**	**337**	*e*P	**P**	**05 41 51.1**	**-0.3**
W41B	**Gary Mavity, V** 3.7nm,0.9s	**41.16**	**339**	*e*P	**P**	**05 41 50.9**	**-1.1**
S51A	**Beattyville** 6.4nm,1.1s	**41.22**	**350**	*e*P	**P**	**05 41 52.6**	**+0.2**
WHAR	**Windy Hollow** 7.8nm,0.8s	**41.28**	**339**	*e*P	**P**	**05 41 51.8**	**-1.2**
W39A	**Magazine** 1.4nm,0.7s	**41.75**	**337**	*e*P	**P**	**05 41 56.4**	**-0.4**
X37A	**Clayton** 5.2nm,0.8s	**41.86**	**335**	*e*P	**P**	**05 41 57.3**	**-0.4**
TX31	**Lajitas Ar. Si**	**42.00**	**322**	*e*P	**P**	**05 42 00.0**	**+0.9**
TXAR	**Lajitas Array** 0.4nm,0.5s,baz=147,slow=8.6,SNR=12	**42.00**	**322**	P	**P**	**05 41 59.7**	**+0.6**
WCI	**Wyandotte Cave** 7.2nm,1.0s	**42.31**	**347**	*e*P	**P**	**05 42 00.2**	**-1.1**
P53A	**Whipple** 8.7nm,0.7s	**42.72**	**353**	*e*P	**P**	**05 42 05.0**	**+0.4**
HHAR	**Hobbs** 5.4nm,0.8s	**42.77**	**338**	*e*P	**P**	**05 42 03.6**	**-1.5**
FVM	**French Village** 8.8nm,0.6s	**43.13**	**343**	*e*P	**P**	**05 42 07.4**	**-0.6**
TUL1	**Leonard** 4.6nm,0.6s	**43.17**	**336**	*e*P	**P**	**05 42 07.6**	**-0.7**
O56A	**Blue Knob Stat** 6.8nm,0.8s	**43.26**	**357**	*e*P	**P**	**05 42 10.1**	**+1.2**
BLO	**Bloomington** 16nm,0.5s	**43.26**	**348**	*e*P	**P**	**05 42 08.1**	**-0.9**
CCM	**Cathedral Cave** 3.7nm,0.7s	**43.45**	**342**	*e*P	**P**	**05 42 09.3**	**-1.2**
WMOK	**Wichita Mounta** 3.8nm,0.9s	**43.49**	**332**	*e*P	**P**	**05 42 10.6**	**-0.4**
SSPA	**Standing Stone** 6.0nm,1.0s	**43.59**	**357**	*e*P	**P**	**05 42 12.3**	**+0.8**
N59A	**State Game Lan** 10nm,1.0s	**43.82**	**360**	*e*P	**P**	**05 42 15.1**	**+1.7**
N54A	**Moraine State** 8.4nm,0.4s	**44.05**	**355**	*e*P	**P**	**05 42 16.1**	**+0.9**
SFIN	**Lafayette** 7.4nm,0.6s	**44.54**	**347**	*e*P	**P**	**05 42 17.5**	**-1.7**
M54A	**Oil Creek Stat** 2.7nm,0.8s	**44.56**	**356**	*e*P	**P**	**05 42 20.2**	**+0.9**
MNTX	**Comunidas Mount** 1.9nm,0.9s	**44.72**	**323**	*e*P	**P**	**05 42 21.6**	**+0.8**
BINY	**Binghamton** 9.3nm,0.9s	**45.10**	**360**	*e*P	**P**	**05 42 24.7**	**+1.1**
HDIL	**Hopedale** 28nm,0.5s	**45.23**	**345**	*e*P	**P**	**05 42 23.0**	**-1.6**
N41A	**Harden Midland** 7.4nm,1.0s	**45.78**	**344**	*e*P	**P**	**05 42 27.4**	**-1.6**
NCB	**Newcomb** 8.3nm,1.1s	**46.89**	**1**	*e*P	**P**	**05 42 38.3**	**+0.8**
K43A	**Burlington** 17nm,0.9s	**47.04**	**347**	*e*P	**P**	**05 42 37.5**	**-1.2**
L40A	**Anamosa** 5.8nm,0.9s	**47.15**	**344**	*e*P	**P**	**05 42 38.7**	**-0.8**
LONY	**Lake Ozonia** 5.2nm,0.6s	**47.53**	**1**	*e*P	**P**	**05 42 43.0**	**+0.5**
ANMO	**Albuquerque** 2.9nm,0.6s	**47.66**	**325**	*e*P	**P**	**05 42 44.9**	**+1.0**
JFWS	**Jewell Farm** 5.8nm,0.6s	**47.69**	**345**	*e*P	**P**	**05 42 42.3**	**-1.4**
FRNY	**Flat Rock** 1.0nm,0.5s	**47.77**	**2**	*e*P	**P**	**05 42 45.1**	**+0.8**
SADO	**Sadowa** 7.1nm,0.9s	**47.77**	**357**	*e*P	**P**	**05 42 44.1**	**-0.2**
PLVO	**Plevna** 7.7nm,1.2s	**47.96**	**359**	*e*P	**P**	**05 42 46.1**	**+0.3**
I42A	**Draeger Farm,** 11nm,0.5s	**48.30**	**347**	*e*P	**P**	**05 42 47.7**	**-0.7**
H41A	**Junction City** 6.0nm,0.6s	**49.15**	**347**	*e*P	**P**	**05 42 53.3**	**-1.6**
ECSD	**EROS Data Cent** 2.8nm,0.8s	**50.31**	**340**	*e*P	**P**	**05 43 02.0**	**-1.8**
EFI	**East Falkland** 20nm,1.1s	**50.58**	**166**	*e*P	**P**	**05 43 07.2**	**+1.7**
VLDQ	**Val d'Or** 3.7nm,1.1s	**51.04**	**358**	*e*P	**P**	**05 43 09.8**	**+0.8**
PV13	**Radium Mtn., P** 3.0nm,0.6s	**51.29**	**326**	*e*P	**P**	**05 43 12.0**	**+0.6**
PV03	**Paradox Valley** 0.9nm,0.8s	**51.37**	**326**	*e*P	**P**	**05 43 13.2**	**+1.2**
PV12	**Saucer Basin,** 2.9nm,1.1s	**51.39**	**327**	*e*P	**P**	**05 43 13.5**	**+1.3**
USHA	**Ushuaia** 2.7nm,0.5s,baz=8.2,slow=12,SNR=5.3	**51.89**	**175**	P	**P**	**05 43 16.8**	**+1.6**
TPNV	**Topopah Spring** 2.2nm,0.9s	**54.92**	**320**	*e*P	**P**	**05 43 39.3**	**+1.4**
PDAR	**Pinedale Array** 0.3nm,0.6s,baz=145,slow=9.6,SNR=3.2	**55.01**	**330**	P	**P**	**05 43 38.3**	**-0.2**
R11A	**Troy Canyon, C** 0.9nm,1.0s	**55.37**	**322**	*e*P	**P**	**05 43 42.1**	**+1.0**
ULM	**Lac du Bonnet** 4.7nm,0.9s	**55.94**	**344**	*e*P	**P**	**05 43 43.5**	**-1.3**
ULM	**Lac du Bonnet** 3.2nm,0.8s,baz=159,slow=5.0,SNR=5.8	**55.94**	**344**	P	**P**	**05 43 42.9**	**-1.9**
NV11	**Mina Array Sit** 0.1nm,0.8s	**57.02**	**321**	*e*P	**P**	**05 43 53.8**	**+0.9**
NVAR	**Mina Array Bea** 1.1nm,0.6s,baz=126,slow=7.6,SNR=7.9	**57.11**	**321**	P	**P**	**05 43 54.2**	**+0.6**
GCMT	**Greycliff**	**57.30**	**332**	*e*P	**P**	**05 43 55.2**	**+0.6**
SCHQ	**Schefferville** 1.7nm,0.7s,baz=192,slow=9.3,SNR=3.5	**58.20**	**6**	P	**P**	**05 44 01.5**	**+0.9**
DBIC	**Dimbokro** 2.9nm,0.8s	**71.29**	**82**	*e*P	**P**	**05 45 26.8**	**+0.5**
DBIC	**Dimbokro** 1.2nm,0.4s,baz=245,slow=5.8,SNR=5.5	**71.29**	**82**	P	**P**	**05 45 26.8**	**+0.5**
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=139,slow=5.9,SNR=12	**71.79**	**342**	P	**P**	**05 45 27.5**	**-0.7**
YKA				pP	**pP**	**05 45 59.6**	**-3.8**
YKB5	**Yellowknife Ar**	**71.79**	**342**	*e*P	**P**	**05 45 28.0**	**-0.2**
TOA0	**Torodi Ar. Sit** 4.5nm,1.1s	**78.37**	**76**	*e*P	**P**	**05 46 07.2**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.3s,baz=279,slow=5.4,SNR=13	**78.37**	**76**	P	**P**	**05 46 06.4**	**-0.6**
TORD				pP	**pP**	**05 46 38.7**	**-4.1**
SUMG	**Summit** 3.0nm,1.0s	**79.14**	**11**	*e*P	**P**	**05 46 11.4**	**+0.9**
OBL	**Observatory Le** 116nm,0.9s	**81.31**	**290**	*e*P	**P**	**05 46 23.3**	**+0.5**
SNAA	**Sanae** 0.2nm,0.4s	**81.68**	**162**	*e*P	**P**	**05 46 24.7**	**+1.0**
ILAR	**Eielson Array** 0.3nm,0.8s,baz=96,slow=6.4,SNR=3.0	**84.91**	**336**	P	**P**	**05 46 40.9**	**+0.6**
ILAR				pP	**pP**	**05 47 12.3**	**-4.3**
QSPA	**South Pole Qui** 6.5nm,0.9s	**86.96**	**180**	*e*P	**P**	**05 46 51.8**	**+1.3**
VNDA	**Vanda** 0.5nm,0.7s,baz=101,slow=5.2,SNR=3.2	**93.68**	**191**	P	**P**	**05 47 22.9**	**+1.5**
ABKAR	**Akbulak array**	**120.52**	**32**	*e*PKPdf	**PKiKP**	**05 52 57.9**	**+1.4**
ZALV	**Zalesovo Beam**	**126.84**	**14**	*e*PKPdf	**PKPdf**	**05 53 09.0**	**+0.7**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=299,slow=2.8,SNR=3.4	**126.84**	**14**	PKP	**PKPdf**	**05 53 09.2**	**+0.8**
ZALV				pPKP	**pPKPdf**	**05 53 44.9**	**-1.8**
MKAR	**Makanchi Array** 0.8nm,0.4s,baz=305,slow=5.1,SNR=3.8	**132.44**	**21**	PKP	**PKPdf**	**05 53 18.9**	**-0.4**
MK01	**Makanchi Array** 0.2nm,0.4s,baz=319,slow=2.5,SNR=5.6	**132.47**	**21**	*e*PKPdf	**PKPdf**	**05 53 20.4**	**+1.1**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=124,slow=3.8,SNR=6.0	**140.82**	**226**	PKhKP	PKPpre	05 53 28.5	
WC3	**Warramunga Arr**	**142.68**	**231**	*e*PKPpre	PKPpre	05 53 34.4	
WB2	**Warramunga Arr**	**142.71**	**231**	*e*PKPpre	PKPpre	05 53 34.6	
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=127,slow=2.8,SNR=28	**142.72**	**231**	PKhKP	PKPpre	05 53 34.5	
WRA				PKP	**PKPdf**	**05 53 41.2**	**+2.3**
WRA	0.3nm,0.4s,baz=115,slow=2.3,SNR=9.5			pPKP	pPKPdf	05 54 11.6	-5.8
	0.2nm,0.3s,baz=122,slow=3.0,SNR=1.6						
LZH	**Lanzhou**	**147.18**	**1**	*e*PKPbc	**PKPdf**	**05 53 42.8**	**-3.6**
LZH				pPKP	pPKPdf	05 54 26.1	+1.2
LZH				sPKP		05 54 48.6	
MTN	**Manton Dam**	**149.07**	**239**	*e*PKPbc	**PKPbc**	**05 53 53.9**	**-0.2**
FITZ	**Fitzroy Crossi** 4.6nm,0.9s,baz=26,slow=1.5,SNR=12	**150.29**	**224**	PKPbc	**PKPbc**	**05 53 56.9**	**0.0**
MBWA	**Marble Bar**	**151.58**	**211**	*e*PKPbc	**PKPbc**	**05 53 59.7**	**-0.2**
CD2	**Chengdu**	**152.34**	**1**	PKPbc	**PKPdf**	**05 53 53.0**	**-1.5**

IDC 15 05:40:03.2±3.3, 6.58S×148.14E, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.4/24, mbtmp3.6/3, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/30, Error ellipse: s-maj=99.4km s-min=43.7km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=50,slow=11,SNR=6.8	**18.87**	**224**	P	P	05 44 25.1	-0.2
ASAR	**Alice Springs** 1.2nm,0.6s,baz=50,slow=9.5,SNR=20	**21.82**	**217**	P	P	05 44 57.6	+0.3
FITZ	**Fitzroy Crossi** 3.1nm,0.6s,baz=51,slow=10,SNR=9.9	**24.75**	**240**	P	P	05 45 27.5	+0.8
ASAJ	**Asahikawa** comp=Z,16nm,19.7s,baz=118,slow=37	**50.70**	**355**	LR	LR	06 11 24.1	
TORD	**Torodi Ar. Bea** 0.4nm,0.8s,baz=86,slow=3.7,SNR=3.0	**146.33**	**284**	PKPbc	PKPdf	05 59 45.4	-0.5

**IDC 15 05:54:11.9±1.4, 18.91

	9.3nm,1.0s								
WR1					*e*S		**S**	06 17 16.9	**+3.4**
WRA	**Warramunga Arr**	**21.50**	**145**	P			**P**	06 13 13.6	**-1.3**
	3.0nm,0.8s,baz=318,slow=13,SNR=16								
WRA					PcP		**PcP**	06 17 16.9	**-1.0**
	0.3nm,0.6s,baz=311,slow=2.5,SNR=3.8								
WB2	**Warramunga Arr**	**21.50**	**145**	*e*P			**P**	06 13 15.6	**+0.6**
	3.7nm,0.8s								
KULM	**Kulim**	**22.09**	**290**	*e*P			**P**	06 13 24.2	**+2.9**
	8.0nm,1.0s								
PSI	**Prapat**	**23.05**	**283**	*e*P			**P**	06 13 31.5	**0.0**
	7.7nm,0.9s								
PSI	**Prapat**	**23.05**	**283**	P			**P**	06 13 31.8	**+0.2**
	1.8nm,0.4s,baz=178,slow=3.8,SNR=3.0								
AS31	**Alice Springs**	**24.32**	**151**	*e*P			**P**	06 13 45.9	**+2.2**
	0.8nm,0.7s								
ASAR	**Alice Springs**	**24.32**	**151**	P			**P**	06 13 42.7	**-1.0**
	1.5nm,0.8s,baz=329,slow=7.7,SNR=16								
ASAR					PcP		**PcP**	06 17 23.0	**-0.7**
	0.3nm,0.5s,baz=336,slow=1.8,SNR=5.2								
AS01	**Alice Springs**	**24.34**	**151**	*e*P			**P**	06 13 42.3	**-1.6**
CM01	**Chiang Mai Arr**	**30.30**	**314**	*e*P			**P**	06 14 38.0	**+0.6**
CMAR	**Chiang Mai Arr**	**30.33**	**314**	P			**P**	06 14 38.5	**+0.7**
	0.8nm,0.3s,baz=138,slow=6.2,SNR=6.7								
CMAR					LR		LR	06 30 02.4	
	comp=Z,34nm,18.8s,baz=174,slow=43								
BBOO	**Buckleboo**	**33.18**	**157**	*e*P			**P**	06 15 02.1	**-0.6**
	0.7nm,0.1s								
STKA	**Stephens Creek**	**34.91**	**149**	*e*P			**P**	06 15 17.8	**+0.1**
	1.2nm,1.0s								
STKA	**Stephens Creek**	**34.91**	**149**	P			**P**	06 15 17.0	**-0.6**
	3.1nm,0.8s,baz=310,slow=7.1,SNR=6.1								
MJAR	**Matsushiro Arr**	**41.86**	**20**	LR			LR	06 34 22.8	
	comp=Z,16nm,19.3s,baz=240,slow=37								
RAMN	**Ramite**	**44.50**	**313**	*e*P			**P**	06 16 38.5	**+0.6**
JIRN	**Jiri**	**45.21**	**314**	*e*P			**P**	06 16 43.8	**+0.1**
	14nm,0.7s								
GUN	**Gumba**	**45.58**	**314**	*e*P			**P**	06 16 46.5	**-0.1**
	14nm,0.6s								
KOLN	**Koldanda**	**47.16**	**312**	*e*P			**P**	06 16 58.7	**-0.2**
	12nm,0.8s								
DANN	**Dangsing**	**47.37**	**313**	*e*P			**P**	06 17 00.3	**-0.3**
	25nm,0.6s								
PYUN	**Piuthan**	**47.79**	**312**	*e*P			**P**	06 17 03.8	**0.0**
	21nm,0.8s								
MK01	**Makanchi Array**	**59.86**	**330**	*e*P			**P**	06 18 31.4	**-0.2**
MK31	**Makanchi Array**	**59.88**	**330**	*e*P			**P**	06 18 33.1	**+1.3**
	0.8nm,0.6s								
MK32	**Makanchi Array**	**59.88**	**330**	*e*P			**P**	06 18 31.3	**-0.5**
MKAR	**Makanchi Array**	**59.88**	**330**	P			**P**	06 18 31.3	**-0.5**
	1.0nm,0.6s,baz=131,slow=7.5,SNR=14								
TORD	**Torodi Ar. Bea**	**119.45**	**284**	PKP			**PKPdf**	06 27 14.5	**-2.1**
	0.3nm,0.6s,baz=108,slow=1.8,SNR=2.9								
TOA1	**Torodi Ar. Sit**	**119.45**	**284**	*e*PKPdf			**PKPdf**	06 27 14.5	**-2.1**
CPUP	**Villa Florida**	**151.35**	**182**	PKPbc			**PKPbc**	06 28 20.0	**-0.5**
	2.4nm,0.8s,baz=87,slow=3.9,SNR=4.3								

*SJA **15** 06:31:05.5±1.1,21˚.46S×69˚.03W,h132km±7km,ML3.4, MW3.4*

*ISCJB **15** 06:31:06.0±0.2,21˚.45S±0˚.02×68˚.76W±0˚.03,h115km±2km, mb4.2/35, Error ellipse: s-maj=5.2km s-min=3.6km az=159.8*

*GUC **15** 06:31:06.7±0.8,21˚.43S×69˚.01W,h121km±4km,ML4.3*

*NEIC **15** 06:31:06.0±0.0,21˚.43S×69˚.00W,h120km,mb4.2/35, MW4.3,ML4.3(GUC),Moment Tension Solution. s13 Moment tensor: Scale 10¹⁵Nm; M_{rr}-0.56; $M_{\theta\theta}$-1.10; $M_{\phi\phi}$1.66; $M_{r\theta}$0.99; $M_{\theta\phi}$0.24; $M_{\phi r}$-2.89; Best double couple: $M_0$3.40000×10¹⁵ NP1:ϕ_s338.00000°,δ83.00000°, λ-109.00000°. NP2:ϕ_s228.00000°,δ20.00000°, λ-21.00000°. Principal axes: T 3.6800, Plg35.0000°, Azm85.0000°; N -0.6600, Plg19.0000°, Azm341.0000°; P -3.0200, Plg49.0000°, Azm227.0000°; After GUC.*

*IDC **15** 06:31:07.8±0.5,21˚.49S×68˚.71W,h120km±5km,mb3.8/8, mb1 3.9/12,mb1mx3.8/25,mbtmp4.2/12,MS2.8/3, Ms1 2.8/3,ms1mx2.7/22 Error ellipse: s-maj=16.7km s-min=9.8km az=100.0*

*VAO **15** 06:31:07.3±0.3,21˚.48S×68˚.91W,h139km,mb4.4*

ISC 15 06:31:07.0±0.5,21˚.45S±0˚.03×68˚.88W±0˚.05,h119km±4km, h119km:pP-P,n137,σ1s55/169,mb4.1/35,12C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.48**	**224**	*e*P	**Pn**	**06 31 25.3**	**+0.4**
PB09				*e*S	**Sn**	**06 31 39.0**	**+0.6**
PB09	**IPOC Station P**	**0.48**	**224**	⇑*i*P	**Pn**	**06 31 25.3**	**+0.4**
PB09				*i* S	**Sn**	**06 31 38.8**	**+0.3**
PB09				IAML		06 31 41.8	
	comp=N,9μm,0.4s						
PB01	**IPOC Station P**	**0.70**	**305**	*e*Pn	**Pn**	**06 31 26.1**	**-0.2**
PB01				*e*Sn	**Sn**	**06 31 40.1**	**-0.7**
PB01	**IPOC Station P**	**0.70**	**305**	⇑*i*P	**Pn**	**06 31 26.1**	**-0.2**
PB01				*i* S	**Sn**	**06 31 40.2**	**-0.7**
PB02	**IPOC Station P**	**0.96**	**278**	*e*P	**Pn**	**06 31 28.6**	**-0.1**
PB02				*e*S	**Sn**	**06 31 44.4**	**-0.5**
PB07	**IPOC Station P**	**0.98**	**253**	⇑*i*P	**Pn**	**06 31 28.9**	**0.0**
PB07				*i* S	**Sn**	**06 31 45.1**	**-0.3**
PB07				IAML		06 31 46.2	
	comp=E,10μm,0.5s						
PB03	**IPOC Station P**	**1.01**	**234**	⇑*i*P	**Pn**	**06 31 29.3**	**+0.1**
PB03				*i* S	**Sn**	**06 31 45.7**	**-0.3**
PB03				IAML		06 31 46.1	
	comp=E,8μm,0.3s						
LVC	**Limon Verde**	**1.16**	**182**	*e*Pn	**Pn**	**06 31 31.4**	**+0.5**
LVC				*e*Sn	**Sn**	**06 31 49.0**	**0.0**
LVC	**Limon Verde**	**1.16**	**182**	*e*P	**Pn**	**06 31 31.4**	**+0.5**
LVC				*e*S	**Sn**	**06 31 49.9**	**+0.9**
LVC	**Limon Verde**	**1.16**	**182**	*e*P	**Pn**	**06 31 31.4**	**+0.5**
LVC	**Limon Verde**	**1.16**	**182**	P	**Pn**	**06 31 31.3**	**+0.5**
	baz=5.7,slow=9.3						
LVC				S	**Sn**	**06 31 49.1**	**+0.1**
	comp=E,399nm,0.3s,baz=270,slow=20,SNR=182						
LVC	**Limon Verde**	**1.16**	**182**	*e*P	**Pn**	**06 31 31.4**	**+0.5**
PB08	**IPOC Station P**	**1.33**	**349**	*e*P	**Pn**	**06 31 33.3**	**+0.5**
PB08	**IPOC Station P**	**1.33**	**349**	⇑*i*P	**Pn**	**06 31 33.1**	**+0.3**
PB08				*i* S	**Sn**	**06 31 53.0**	**+0.7**
PB08				IAML		06 31 54.1	
	comp=E,13μm,0.4s						
PB06	**IPOC Station P**	**1.41**	**207**	*e*S	**Sn**	**06 31 52.9**	**-0.6**
PB06	**IPOC Station P**	**1.41**	**207**	⇑*i*P	**Pn**	**06 31 33.8**	**+0.4**
PB06				*i* S	**Sn**	**06 31 53.7**	**+0.1**
PB06				IAML		06 31 54.4	
	comp=E,5μm,0.4s						
PB04	**IPOC Station P**	**1.47**	**233**	*e*Pn	**Pn**	**06 31 34.1**	**-0.1**
PB04				*e*Sn	**Sn**	**06 31 53.7**	**-1.2**
PB04	**IPOC Station P**	**1.47**	**233**	⇑*i*P	**Pn**	**06 31 34.1**	**-0.1**
PB04				*i* S	**Sn**	**06 31 54.0**	**-0.9**
PB04				IAML		06 31 55.4	
	comp=E,4μm,0.3s						
PB11	**IPOC Station P**	**1.83**	**336**	*e*Pn	**Pn**	**06 31 37.8**	**-0.7**
PB11				*e*Sn	**Sn**	**06 32 01.2**	**-1.3**
PB11	**IPOC Station P**	**1.83**	**336**	*e*P	**Pn**	**06 31 37.9**	**-0.5**
PB11				*e*S	**Sn**	**06 32 02.1**	**-0.4**
PB11	**IPOC Station P**	**1.83**	**336**	⇑*i*P	**Pn**	**06 31 38.0**	**-0.5**
PB11				*i* S	**Sn**	**06 32 01.6**	**-0.9**
PB15	**IPOC Station P**	**1.83**	**197**	⇑*i*P	**Pn**	**06 31 38.9**	**+0.3**
PB15				*i* S	**Sn**	**06 32 03.8**	**+1.1**
PB05	**IPOC Station P**	**1.86**	**221**	⇑*i*P	**Pn**	**06 31 38.6**	**-0.2**
PB05				IAML		06 32 03.9	
	comp=E,2μm,0.2s						
PSGC	**Pisagua**	**2.18**	**327**	⇑*i*P	**Pn**	**06 31 41.4**	**-1.4**
PSGC				*i* S	**Sn**	**06 32 08.1**	**-2.1**
PSGCX	**Pisagua**	**2.18**	**327**	*e*P	**Pn**	**06 31 41.6**	**-1.2**
PSGCX				*e*S	**Sn**	**06 32 08.6**	**-1.6**
MNMC	**Minye Minye**	**2.40**	**344**	*e*Pn	**Pn**	**06 31 45.6**	**-0.2**
MNMC				*e*Sn	**Sn**	**06 32 16.4**	**+0.9**
MNMC	**Minye Minye**	**2.40**	**344**	⇑*i*P	**Pn**	**06 31 45.6**	**-0.2**
MNMC				*i* S	**Sn**	**06 32 16.0**	**+0.5**
PB10	**IPOC Station P**	**2.57**	**217**	*e*Pn	**Pn**	**06 31 47.4**	**-0.4**
PB10				*e*Sn	**Sn**	**06 32 13.1**	**-5.9**
HJA	**Humahuaca**	**3.66**	**119**	*e*P	**Pn**	**06 32 04.1**	**+1.7**
HJA				IAML		06 32 05.6	
	comp=Z,48nm,0.5s						
GO02	**Mina Guanaco**	**3.75**	**190**	*e*Pn	**Pn**	**06 32 02.9**	**-0.7**
GO02				*e*Sn	Sn	06 32 37.9	-9.4
LPAZ	**La Paz**	**5.18**	**8**	*e*Pn	**Pn**	**06 32 24.2**	**+1.2**
LPAZ	**La Paz**	**5.18**	**8**	*e*P	**Pn**	**06 32 24.1**	**+1.1**
LPAZ	**La Paz**	**5.18**	**8**	P	**Pn**	**06 32 24.6**	**+1.6**
	comp=Z,3.9nm,0.3s,baz=179,slow=8.1,SNR=44						
LPAZ				LR	LR	06 34 34.4	
	comp=Z,38nm,19.1s,baz=130,slow=40						
LPAZ	**La Paz**	**5.18**	**8**	*e*P	**Pn**	**06 32 24.7**	**+1.6**
FSA	**Cafayete**	**5.35**	**151**	*e*P	**Pn**	**06 32 25.8**	**+1.0**
AHML	**Horco Molle**	**6.22**	**149**	*e*P	**Pn**	**06 32 37.1**	**+0.7**
GO03	**Copiap**	**6.24**	**191**	*e*Pn	**Pn**	**06 32 34.4**	**-2.4**
GO03				*e*Sn	**Sn**	**06 33 46.9**	**+0.1**
LCO	**Las Campanas**	**7.71**	**192**	*e*Pn	**Pn**	**06 32 53.8**	**-3.0**
GO04	**Tololo Observa**	**8.86**	**191**	*e*Pn	**Pn**	**06 33 08.8**	**-3.5**
SIV	**San Ignacio**	**9.17**	**55**	P	**Pn**	**06 33 13.8**	**-2.6**
	comp=Z,6.8nm,0.3s,baz=268,slow=9.7,SNR=105						
SIV				S	**Sn**	**06 34 51.2**	**-6.7**
	baz=266,slow=16,SNR=5.8						
SIV				LR	LR	06 37 27.1	
	comp=Z,95nm,19.2s,baz=224,slow=42						
CPUP	**Villa Florida**	**11.63**	**117**	*e*Pn	**Pn**	**06 33 47.4**	**-2.0**
CPUP	**Villa Florida**	**11.63**	**117**	P	**Pn**	**06 33 47.6**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=301,slow=11,SNR=5.4						
CPUP				LR	LR	06 37 54.6	
	comp=Z,61nm,21.2s,baz=208,slow=36						
CPUP	**Villa Florida**	**11.63**	**117**	*e*P	**Pn**	**06 33 48.0**	**-1.3**
AQDB	**Aquidauana**	**12.35**	**88**	*e*P	**Pn**	**06 33 58.0**	**-0.8**
TRCB	**Terra Rica**	**15.11**	**98**	*e*P	**Pn**	**06 34 33.3**	**-1.2**
C2SB	**Chapadao do Su**	**15.30**	**83**	*e*P	**Pn**	**06 34 37.2**	**+0.5**
PTGB	**Pitanga**	**15.81**	**105**	*e*P	**P**	**06 34 43.6**	**-1.0**
ITAB	**Concordia**	**16.31**	**114**	*e*P	**Pn**	**06 34 47.9**	**-1.2**
CPSB	**Cacapava Do Su**	**16.49**	**126**	*e*P	**P**	**06 34 50.6**	**-1.3**
PLTB	**Pedras Altas**	**17.07**	**130**	*e*P	**P**	**06 34 57.4**	**-0.9**
ITRB	**Iturama**	**17.43**	**88**	*e*P	**Pn**	**06 35 02.5**	**-0.4**
TRQA	**Tornquist**	**17.59**	**162**	*e*P	**Pn**	**06 35 04.0**	**-0.7**
	comp=Z,14nm,0.9s						
FRTB	**Fartura**	**17.96**	**100**	*e*P	**Pn**	**06 35 08.9**	**-0.4**
CNLB	**Canela**	**18.06**	**119**	*e*P	**P**	**06 35 08.3**	**-1.0**
GO06	**Curarrehue**	**18.21**	**186**	*e*P	**Pn**	**06 35 11.7**	**-0.5**
	comp=Z,7.7nm,0.8s						
BB19B	**Bebedouro**	**18.97**	**93**	*e*P	**P**	**06 35 18.6**	**-0.7**
TER01	**Ibaro-SC**	**19.23**	**115**	*e*P	**P**	**06 35 20.9**	**-1.1**
PLCA	**Paso Flores**	**19.28**	**184**	*e*P	**P**	**06 35 21.6**	**-0.9**
	comp=Z,4.1nm,0.8s						
PLCA	**Paso Flores**	**19.28**	**184**	P	**Pn**	**06 35 24.1**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=23,slow=11,SNR=12						
PLCA	**Paso Flores**	**19.28**	**184**	*e*P	**P**	**06 35 21.8**	**-0.7**
RCLB	**Rio Claro- Sao**	**19.83**	**97**	*e*P	**P**	**06 35 27.2**	**-1.4**
BDFB	**Brasilia**	**20.60**	**77**	*e*P	**P**	**06 35 36.8**	**-0.1**
	comp=Z,12nm,1.0s						
BDFB	**Brasilia**	**20.60**	**77**	P	**P**	**06 35 36.9**	**-0.1**
	comp=Z,8.6nm,0.6s,baz=257,slow=11,SNR=16						
PEXB	**Pepe**	**21.76**	**68**	*e*P	**P**	**06 35 47.2**	**-2.1**
PTGA	**Pitinga**	**22.35**	**24**	*e*P	**P**	**06 35 54.5**	**-0.9**
	comp=Z,14nm,0.6s						
PTGA	**Pitinga**	**22.35**	**24**	P	**P**	**06 35 54.1**	**-1.3**
	comp=Z,13nm,0.6s,baz=202,slow=15,SNR=21						
PTGA	**Pitinga**	**22.35**	**24**	*e*P	**P**	**06 35 53.9**	**-1.5**
BSCB	**Bom Sucesso**	**22.47**	**93**	*e*P	**P**	**06 35 55.8**	**-0.9**
OTAV	**Otavalo**	**23.50**	**335**	*e*P	**P**	**06 36 04.0**	**-2.8**
MCI6	**Montes Claros**	**24.04**	**83**	*e*P	**P**	**06 36 09.1**	**-2.3**
MCI8	**Montes Claros**	**24.05**	**83**	*e*P	**P**	**06 36 09.4**	**-2.0**
JANB	**Januaria**	**24.16**	**79**	*e*P	**P**	**06 36 10.9**	**-1.6**
SJMB	**Sao Joao De Ma**	**26.14**	**89**	*e*P	**P**	**06 36 29.0**	**-1.3**
RCBR	**Riachuelo**	**35.49**	**69**	*e*P	**P**	**06 37 54.3**	**+1.7**
	comp=Z,17nm,1.1s						
CUPR	**Culebra, Puert**	**39.67**	**5**	*e*P	**P**	**06 38 30.4**	**+2.9**
	comp=Z,27nm,1.1s						
TXAR	**Lajitas Array**	**60.60**	**325**	P	**P**	**06 41 06.3**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=145,slow=7.8,SNR=6.1						
TX31	**Lajitas Ar. Si**	**60.60**	**325**	*e*P	**P**	**06 41 06.8**	**+1.3**
WCI	**Wyandotte Cave**	**61.58**	**344**	*e*P	**P**	**06 41 11.9**	**+0.1**
	comp=Z,4.9nm,1.0s						
SNAA	**Sanae**	**62.32**	**161**	*e*P	**P**	**06 41 18.1**	**+1.7**
	comp=Z,2.1nm,1.1s						
MNTX	**Cornudas Mount**	**63.37**	**325**	*e*P	**P**	**06 41 25.0**	**+1.1**
	comp=Z,1.2nm,1.1s						
I42A	**Draeger Farm,**	**67.57**	**344**	*e*P	**P**	**06 41 50.5**	**-0.1**
	comp=Z,8.3nm,1.1s						
SDCO	**Great Sand Dun**	**68.22**	**329**	*e*P	**P**	**06 41 57.5**	**+2.4**
	comp=Z,2.0nm,0.8s						
LIC	**Lamto**	**68.34**	**74**	*e*P	**P**	**06 41 55.6**	**-0.5**
	comp=Z,51nm,1.5s						
LIC	**Lamto**	**68.34**	**74**	*e*P	**P**	**06 41 55.6**	**-0.5**
	comp=Z,51nm,1.5s						
TIC	**Toumodi**	**68.53**	**73**	*e*P	**P**	**06 41 59.3**	**+2.0**
TIC	**Toumodi**	**68.53**	**73**	*e*P	**P**	**06 41 59.3**	**+2.0**
KIC	**Kosan Boka**	**68.66**	**74**	*e*P	**P**	**06 41 57.8**	**-0.3**
	comp=Z,27nm,0.8s						
KIC	**Kosan Boka**	**68.66**	**74**	*e*P	**P**	**06 41 57.8**	**-0.3**
	comp=Z,27nm,0.8s						
DBIC	**Dimbokro**	**68.69**	**73**	*e*P	**P**	**06 41 58.3**	**0.0**
	comp=Z,14nm,0.8s						
DBIC	**Dimbokro**	**68.69**	**73**	P	**P**	**06 41 58.1**	**-0.1**
	comp=Z,12nm,0.7s,baz=226,slow=5.8,SNR=14						
DBIC	**Dimbokro**	**68.69**	**73**	*e*P	**P**	**06 41 58.3**	**0.0**
QSPA	**South Pole Qui**	**68.74**	**180**	*e*P	**P**	**06 42 00.1**	**+2.2**
	comp=Z,1.0nm,1.1s						
MVCO	**Mesa Verde**	**69.27**	**327**	*e*P	**P**	**06 42 02.7**	**+1.1**
	comp=Z,3.0nm,0.6s						
VLDQ	**Val d'Or**	**69.67**	**354**	*e*P	**P**	**06 42 04.9**	**+1.5**
	comp=Z,2.4nm,0.9s						
ECSD	**EROS Data Cent**	**69.68**	**339**	*e*P	**P**	**06 42 04.3**	**+0.6**
	comp=Z,3.1nm,1.1s						
PV01	**Paradox Valley**	**70.02**	**328**	*e*P	**P**	**06 42 08.8**	**+2.5**
	comp=Z,1.9nm,0.8s						
SMCO	**Snowmass**	**70.06**	**329**	*e*P	**P**	**06 42 09.2**	**+2.6**
	comp=Z,0.8nm,1.0s						
U15A	**North Rim**	**70.68**	**324**	*e*P	**P**	**06 42 12.6**	**+2.2**
	comp=Z,1.6nm,0.8s						
KNB	**Kanab**	**71.40**	**324**	*e*P	**P**	**06 42 17.0**	**+2.5**
	comp=Z,5.4nm,1.0s						
P18A	**Preston Nutter**	**72.00**	**328**	*e*P	**P**	**06 42 20.5**	**+2.3**
	comp=Z,4.1nm,0.7s						
CCUT	**Cedar City**	**72.09**	**324**	*e*P	**P**	**06 42 21.8**	**+3.1**
	comp=Z,3.9nm,0.8s						
MSU	**Marysvale**	**72.16**	**326**	*e*P	**P**	**06 42 21.9**	**+2.8**
PSUT	**Pine Spring**	**73.07**	**325**	*e*P	**P**	**06 42 27.5**	**+3.0**
	comp=Z,1.9nm,0.6s						
TPNV	**Topopah Spring**	**73.27**	**322**	*e*P	**P**	**06 42 28.8**	**+3.2**
	comp=Z,1.4nm,0.9s						
R11A	**Troy Canyon, C**	**73.88**	**323**	*e*P	**P**	**06 42 32.3**	**+3.1**
	comp=Z,0.7nm,1.0s						
PD31	**Pinedale Array**	**74.08**	**330**	*e*P	**P**	**06 42 29.9**	**-0.4**
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**74.08**	**330**	*e*P	**P**	**06 42 32.2**	**+1.9**
PDAR	**Pinedale Array**	**74.08**	**330**	P	**P**	**06 42 30.9**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=123,slow=5.9,SNR=4.4						
SPUT	**South Promonto**	**74.37**	**327**	*e*P	**P**	**06 42 33.7**	**+1.8**
	comp=Z,2.1nm,0.8s						
NV01	**Mina Array Sit**	**75.47**	**322**	*e*P	**P**	**06 42 40.4**	**+1.9**
NVAR	**Mina Array Bea**	**75.47**	**322**	P	**P**	**06 42 40.5**	**+2.0**
	comp=Z,0.8nm,0.8s,baz=170,slow=9.0,SNR=5.8						
NVAR				pP	**pP**	**06 43 08.8**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=138,slow=6.9,SNR=3.9						
PAHR	**Pah Rah Range**	**76.95**	**322**	*e*P	**P**	**06 42 48.7**	**+2.0**
	comp=Z,3.3nm,0.8s						
HLID	**Hailey**	**77.02**	**328**	*e*P	**P**	**06 42 49.6**	**+2.7**
	comp=Z,2.9nm,0.8s						
TOA1	**Torodi Ar. Sit**	**77.31**	**70**	*e*P	**P**	**06 42 47.1**	**-1.9**
TOA1				*e*pP	**pP**	**06 43 20.7**	**+0.2**
TOA0	**Torodi Ar. Sit**	**77.31**	**70**	*e*P	**P**	**06 42 48.7**	**-0.3**
	comp=Z,9.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.31**	**70**	P	**P**	**06 42 47.1**	**-1.9**
	comp=Z,7.4nm,0.8s,baz=262,slow=4.9,SNR=34						
TORD				pP	**pP**	**06 43 20.7**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=247,slow=5.3,SNR=2.5						
TSUM	**Tsumeb**	**80.03**	**107**	*e*P	**P**	**06 43 04.7**	**+0.6**
	comp=Z,9.1nm,1.0s						
PINE	**Pine Mountain**	**80.56**	**325**	*e*P	**P**	**06 43 08.5**	**+2.1**
	comp=Z,4.4nm,0.8s						
YKA	**Yellowknife Ar**	**91.15**	**341**	P	**P**	**06 43 58.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=133,slow=4.5,SNR=4.8						
YKA				pP	**pP**	**06 44 29.2**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=134,slow=4.4,SNR=6.3						
YKB5	**Yellowknife Ar**	**91.15**	**341**	*e*P	**P**	**06 43 58.3**	**+0.3**
AS01	**Alice Springs**	**129.95**	**208**	*e*PKPdf	**PKiKP**	**06 50 04.3**	**0.0**
ASAR	**Alice Springs**	**129.97**	**208**	PKP	**PKiKP**	**06 50 05.1**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=145,slow=3.4,SNR=3.1						
WB2	**Warramunga Arr**	**133.01**	**210**	*e*PKPdf	**PKiKP**	**06 50 10.9**	**+0.4**
WR1	**Warramunga Arr**	**133.01**	**210**	*e*PKPdf	**PKPdf**	**06 50 09.7**	**+0.4**
WRA	**Warramunga Arr**	**133.01**	**210**	PKP	**PKPdf**	**06 50 09.7**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=153,slow=1.8,SNR=7.8						
WRA				pPKP	**pPKPdf**	**06 50 42.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=148,slow=1.3,SNR=2.4						
MBWA	**Marble Bar**	**136.82**	**192**	*e*P	**PKPdf**	**06 50 13.2**	**-3.2**
KDJ	**Kajisay**	**144.87**	**46**	*e*PKPbc	**PKPdf**	**06 50 32.4**	**+2.0**
MAKZ	**Makanchi**	**145.39**	**36**	*e*PKPdf	**PKPab**	**06 50 32.7**	**+1.3**
MK31	**Makanchi Array**	**145.57**	**36**	*e*PKPdf	**PKPab**	**06 50 33.0**	**+0.9**
MK32	**Makanchi Array**	**145.57**	**36**	*e*PKPdf	**PKPab**	**06 50 32.9**	**+0.8**
MK32				*e*pPKPdf	**pPKPdf**	**06 51 04.9**	**+0.1**
MKAR	**Makanchi Array**	**145.57**	**36**	PKPbc	**PKPab**	**06 50 32.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=326,slow=4.1,SNR=19						
MKAR				pPKPbc	**pPKPdf**	**06 51 04.9**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=327,slow=4.3,SNR=7.5						
MK01	**Makanchi Array**	**145.59**	**36**	*e*PKPdf	**PKPab**	**06 50 32.9**	**+0.7**
MAJO	**Matsushiro**	**152.06**	**308**	*e*P	**PKPdf**	**06 50 39.2**	**-2.8**
DAV	**Davao City (W)**	**160.01**	**226**	*e*P	**PKPdf**	**06 50 51.1**	**-2.0**
LZH	**Lanzhou**	**164.09**	**22**	*e*PKP	**PKPdf**	**06 50 56.5**	**-0.3**
LZH				pPKP	pPKPdf	06 51 23.8	-6.5
LZH				sPKP		06 51 35.8	
CHTO	**Chiang Mai**	**168.26**	**101**	*e*P	**PKPdf**	**06 50 59.5**	**-0.8**
CD2	**Chengdu**	**168.49**	**34**	PKP	**PKPdf**	**06 51 00.9**	**+0.7**

*NEIC **15** 06:51:02.3±1.1,23˚.53S×174˚.20W,h10km,mb4.1/8,Error ellipse: s-maj=34.2km s-min=15.6km az=160.0*

*IDC **15** 06:51:03.6±1.5,23˚.30S×175˚.16W,h0km,mb4.0/9, mb1 4.3/9,mb1mx4.1/26,mbtmp4.0/9,MS3.7/11, Ms1 3.7/11,ms1mx3.6/26,Error ellipse: s-maj=82.9km s-min=20.0km az=153.0*

*ISCJB **15** 06:51:04.2±0.7,23˚.81S±0˚.08×174˚.58W±0˚.09,h33km, mb4.1/15,MS3.7/10,Error ellipse: s-maj=13.4km s-min=9.9km az=41.1*

ISC 15 06:51:07.6±0.7,23˚.38S±0˚.1×174˚.7W±0˚.1,h35km,n41, σ1s57/29,mb4.2/15,MS3.7/10,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.11**	**207**	LR	LR	06 55 03.6	
	comp=Z,3μm,20.9s,baz=328,slow=37						
NIUE	**Niue**	**6.50**	**44**	*e*Pn	Pn	06 52 28.9	-12
NIUE				*e*Sn	Sn	06 53 29.6	-24
MSVF	**Nonsavu**	**9.08**	**311**	*e*Pn	**Pn**	**06 53 16.5**	**+0.2**
RAR	**Rarotonga**	**14.06**	**82**	Pn	Pn	06 54 19.9	-4.3
	1.3nm,0.3s,baz=329,slow=5.9,SNR=4.9						
RAR				S	Sn	06 56 42.0	-17
	0.5nm,0.3s,baz=7.1,slow=16,SNR=2.1						
URZ	**Urewera**	**15.99**	**204**	Sn	**Sn**	**06 57 45.9**	**+0.1**
	0.1nm,0.3s,baz=115,slow=17,SNR=2.4						
MARNC	**Mare, Loyalty**	**16.09**	**275**	*e*Pn	**P**	**06 54 56.5**	**+2.3**
	42nm,1.1s						
PINNC	**Pines Island,**	**16.44**	**271**	*e*Pn	**P**	**06 55 00.8**	**+2.7**
	7.6nm,1.1s						

	7.8nm,0.3s								
EKS2	**Erkin-Say**	**2.38**	**57**	⇑	*i*P		**Pb**	**07 23 12.3**	**-0.7**
	baz=59								
EKS2				⇑	*i*S		**Sb**	**07 23 43.7**	**+1.2**
	baz=59								
ARLS	**Aral**	**2.48**	**78**	⇓	*i*P		**Pb**	**07 23 13.6**	**-1.1**
	baz=79								
ARLS				⇓	*i*S		**Sb**	**07 23 46.7**	**+1.4**
	baz=79								
UCH	**Uchtor**	**2.70**	**71**	⇑	*e*P		**Pb**	**07 23 17.3**	**-1.4**
	baz=73								
UCH				⇑	*i*S		**Sb**	**07 23 53.0**	**+1.0**
	baz=73								
AAK	**Ala-Archa**	**2.84**	**63**	⇓	Pn		**Pb**	**07 23 21.4**	**+0.6**
	2.6nm,0.6s								
AAK				⇑	Lg		Lg	07 24 05.6	
	2.4nm,0.5s								
AAK	**Ala-Archa**	**2.84**	**63**	⇑	*i*P		**Pb**	**07 23 18.6**	**-2.2**
	baz=65								
AAK				⇑	*i*S		**Sb**	**07 23 55.0**	**-0.6**
	baz=65								
KZA	**Kyzart**	**3.20**	**76**	⇑	*i*P		**Pb**	**07 23 24.3**	**-2.8**
	baz=78								
KZA				⇑	*i*S		**Sb**	**07 24 04.9**	**-1.3**
	baz=78								
TKM2	**Tokmak 2**	**3.69**	**64**	⇓	Pn		**Pb**	**07 23 35.1**	**-0.3**
	2.2nm,0.8s								
TKM2				⇑	Lg		Lg	07 24 35.0	
	0.9nm,0.4s								
KST	**Kastek**	**3.99**	**64**		Pg		**Pg**	**07 23 44.0**	**-2.5**
	1.4nm,0.2s								
KST					Lg		Lg	07 24 38.0	
	3.3nm,0.4s								
KST	**Kastek**	**3.99**	**64**		*e*P		**Pg**	**07 23 43.4**	**-3.0**
	1.4nm,0.2s								
KST					*e*S		**Sg**	**07 24 36.7**	**-1.4**
	2.2nm,0.4s								

IDC ***15*** *07:25:43.3±7.9, 30°.75S×179°.75W, h354km±75km, mb2.9/2, mb1 3.1/3, mb1mx2.9/28, mbtmp3.6/3, Error ellipse: s-maj=82.6km s-min=35.9km az=18.0*

ISC 15 07:25:43.4±0.9, 30.78S±0.09×179.6W±0.1, h350km, n23, σ2⁸30/28, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.08**	**44**	P	**Pn**	**07 26 36.4**	**+1.1**
GLKZ				S	**S**	**07 27 18.0**	**+1.1**
MXZ	**Matakaoa Point**	**6.99**	**194**	P	**Pn**	**07 27 29.7**	**+4.2**
WMGZ	**Waiomatatini S**	**7.22**	**193**	P	**Pn**	**07 27 32.3**	**+4.1**
OUZ	**Omahuta**	**7.25**	**231**	P	**Pn**	**07 27 32.8**	**+4.2**
HAZ	**Te Kaha**	**7.30**	**197**	P	**Pn**	**07 27 32.1**	**+3.0**
HAZ				S	**S**	**07 28 55.0**	**-0.2**
PKGZ	**Pakihiroa**	**7.36**	**195**	P	**Pn**	**07 27 33.5**	**+3.6**
PKGZ				S	**S**	**07 28 55.1**	**-1.4**
PUZ	**Puketiti**	**7.50**	**193**	P	**Pn**	**07 27 34.2**	**+2.7**
PUZ				S	**S**	**07 28 57.8**	**-1.7**
RUGZ	**Raukumara Rang**	**7.52**	**197**	P	**Pn**	**07 27 34.2**	**+2.4**
TWGZ	**Tauwhareparae**	**7.65**	**195**	P	Pn	07 27 38.0	+4.7
MWZ	**Matawai**	**7.91**	**197**	P	**Pn**	**07 27 39.3**	**+2.9**
URZ	**Urewera**	**7.95**	**199**	P	**Pn**	**07 27 37.7**	**+0.9**
	0.3nm,0.3s,baz=281,slow=3.7,SNR=7.4						
URZ				S	**S**	**07 29 07.3**	**-1.9**
	3.5nm,0.3s,baz=291,slow=22,SNR=16						
URZ	**Urewera**	**7.95**	**199**	P	**Pn**	**07 27 38.4**	**+1.6**
RIGZ	**Rimuhau**	**8.21**	**195**	P	**P**	**07 27 42.4**	**-0.4**
KNZ	**Kokohu**	**8.53**	**195**	P	**P**	**07 27 46.5**	**+0.2**
HIZ	**Hauiti**	**8.98**	**209**	P	**P**	**07 27 54.4**	**+3.1**
BHHZ	**Black Hill Sta**	**9.40**	**201**	P	**P**	**07 27 55.3**	**-0.7**
PXZ	**Pawanui**	**9.68**	**197**	P	**P**	**07 27 58.2**	**-0.9**
PRHZ	**Porangahau**	**9.96**	**197**	P	**P**	**07 28 01.8**	**-0.5**
MRZ	**Mangatainoka R**	**10.62**	**200**	P	**Pn**	**07 28 08.3**	**-0.3**
ASAR	**Alice Springs**	**41.74**	**268**	P	**P**	**07 32 58.1**	**-1.6**
	0.4nm,0.7s,baz=107,slow=7.3,SNR=7.8						
WRA	**Warramunga Arr**	**42.77**	**273**	P	**P**	**07 33 06.2**	**-1.7**
	0.7nm,0.3s,baz=111,slow=7.9,SNR=24						
WRA				PcP	**PcP**	**07 34 50.9**	**-1.3**
	0.2nm,0.8s,baz=118,slow=3.3,SNR=2.9						
FINES	**FINESS Array B**	**145.02**	**339**	PKP	**PKPdf**	**07 44 37.4**	**-1.2**
	3.4nm,0.6s,baz=64,slow=4.4,SNR=15						
AKASG	**Malin Array Be**	**150.76**	**321**	PKPbc	**PKPbc**	**07 44 53.0**	**-1.2**
	0.6nm,0.6s,baz=58,slow=3.0,SNR=4.1						

KRSC 15 07:43:00.0±10.0, 59.43N×164.21E, h95km±10km, ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.61**	**253**	*e*P	Pn	07 43 17.5	+1.4
OSSR				*e*S	Sn	07 43 29.6	+1.4
TILK	**Tilichiki**	**1.41**	**43**	*e*P	Pn	07 43 26.5	+1.7
TILK				*e*S	Sn	07 43 45.2	+1.6
PALN	**Palana**	**2.20**	**263**	*e*P	Pn	07 43 36.2	+1.2
PALN				*e*S	Sn	07 44 04.3	+2.6
KMSK	**Kamenskaya**	**3.20**	**17**	P	Sn	07 43 50.5	+2.4
KMSK				*e*S	Sn	07 44 27.6	+2.3

KRSC 15 07:53:58.8±10.0, 59.43N×164.27E, h77km±10km, ML4.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.65**	**254**	*e*P	Pn	07 54 14.3	+0.8
OSSR				*e*S	Sn	07 54 25.8	+1.3
TILK	**Tilichiki**	**1.39**	**42**	*e*P	Pn	07 54 24.0	+1.6
TILK				*e*S	Sn	07 54 43.2	+2.9
PALN	**Palana**	**2.24**	**263**	*e*P	Pn	07 54 36.0	+2.4
PALN				S	Sn	07 55 03.3	+3.0
KMSK	**Kamenskaya**	**3.19**	**16**	*e*P	Pn	07 54 48.4	+1.9
KMSK				S	Sn	07 55 26.0	+2.6

ISCJB ***15*** *07:57:41.7±0.7, 2°.67N±0°.10×89°.84E±0°.07, h10km, mb4.0/11, Error ellipse: s-maj=15.4km s-min=8.5km az=26.5*
IDC ***15*** *07:57:41.6±1.2, 2°.54N×89°.63E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/62, mbtmp3.9/9, MS2.9/1, Ms1 3.1/1, ms1mx2.4/49, Error ellipse: s-maj=44.8km s-min=20.4km az=48.0*
NEIC ***15*** *07:57:44.9±3.9, 2°.68N×89°.84E, h18km±24km, mb4.3/3, Error ellipse: s-maj=14.6km s-min=7.5km az=214.0*

ISC 15 07:57:43.6±1.0, 2°.6N±0°.2×89°.8E±0°.1, h10km, n30, σ0⁸75/23, mb4.3/11, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.57**	**70**	*e*Pn	**Pn**	**07 59 33.9**	**-0.2**
GSI	**Gunungsitoli**	**7.86**	**99**	*e*Pn	**Pn**	**07 59 37.9**	**-0.1**
PBA	**Port Blair**	**9.44**	**18**	*e*Pn	Pn	07 59 57.2	-2.5
PALK	**Pallekele**	**10.20**	**297**	*e*Pn	**Pn**	**08 00 11.4**	**+1.2**
PALK				*e*Sn	Sn	08 01 53.7	-11
PALK	**Pallekele**	**10.20**	**297**	Pn	**Pn**	**08 00 11.3**	**+1.1**
	0.8nm,0.3s,baz=116,slow=16,SNR=2.8						
PALK				Sn	Sn	08 01 52.1	-13
	4.4nm,0.3s,baz=118,slow=0.8,SNR=13						
KULM	**Kulim**	**11.12**	**76**	*e*Pn	**Pn**	**08 00 22.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**18.11**	**29**	P	**P**	**08 01 56.6**	**+0.8**
	baz=210,slow=10,SNR=4.7						
CMAR				LR	LR	08 09 09.8	
	comp=Z,32nm,18.6s,baz=280,slow=38						
H08S3	**Diego Garcia H**	**20.07**	**239**	T	T	08 22 54.1	
	baz=59,slow=75,SNR=38						
H08S2	**Diego Garcia H**	**20.07**	**239**	T	T	08 22 55.4	
	baz=59,slow=75,SNR=30						
H08S1	**Diego Carcia H**	**20.09**	**239**	T	T	08 22 56.6	
	baz=59,slow=75,SNR=47						
H01W3	**Cape Leeuwin H**	**43.73**	**151**	T	T	08 52 39.4	
	baz=325,slow=76,SNR=7.5						
H01W2	**Cape Leeuwin H**	**43.74**	**151**	T	T	08 52 40.3	
	baz=325,slow=76,SNR=9.7						
H01W1	**Cape Leeuwin H**	**43.74**	**151**	T	T	08 52 30.7	
	baz=325,slow=76,SNR=7.3						
MK32	**Makanchi Array**	**44.49**	**353**	*e*P	**P**	**08 05 54.7**	**-0.5**
MKAR	**Makanchi Array**	**44.49**	**353**	P	**P**	**08 05 54.7**	**-0.5**
	0.4nm,0.7s,baz=172,slow=9.2,SNR=3.7						
GEYT	**Alibeck**	**45.59**	**324**	P	**P**	**08 06 04.3**	**+0.2**
	2.6nm,0.8s,baz=148,slow=11,SNR=4.3						
SONA0	**Songino Array**	**47.27**	**15**	*e*P	**P**	**08 06 17.5**	**+0.3**
SONM	**Songino Array**	**47.27**	**15**	P	**P**	**08 06 17.5**	**+0.3**
	1.8nm,0.7s,baz=194,slow=9.8,SNR=12						
WR1	**Warramunga Arr**	**49.10**	**119**	*e*P	**P**	**08 06 32.0**	**+0.3**
	3.2nm,1.0s						
WRA	**Warramunga Arr**	**49.10**	**119**	P	**P**	**08 06 32.0**	**+0.3**
	1.1nm,0.6s,baz=297,slow=8.7,SNR=28						
WB2	**Warramunga Arr**	**49.11**	**119**	*e*P	**P**	**08 06 32.2**	**+0.4**
	3.2nm,0.9s						
ASAR	**Alice Springs**	**50.22**	**124**	P	**P**	**08 06 40.7**	**+0.5**
	0.3nm,0.6s,baz=291,slow=7.1,SNR=4.8						
ABKAR	**Akbulak array**	**53.01**	**336**	*e*P	**P**	**08 07 00.7**	**+0.1**
	1.9nm,0.8s						
BR101	**Keskin Array S**	**62.77**	**314**	*e*P	**P**	**08 08 07.8**	**-1.8**
BRTR	**Keskin Array B**	**62.77**	**314**	P	**P**	**08 08 07.8**	**-1.8**
	1.3nm,0.6s,baz=142,slow=6.3,SNR=5.4						
FIA0	**FINESS Array S**	**75.40**	**334**	*e*P	**P**	**08 09 27.1**	**-0.2**
FINES	**FINESS Array B**	**75.40**	**334**	P	**P**	**08 09 27.1**	**-0.2**
	1.2nm,0.8s,baz=142,slow=7.0,SNR=3.9						
ARCES	**ARCESS Array B**	**78.78**	**341**	*e*P	**P**	**08 09 46.2**	**0.0**
ARCES	**ARCESS Array B**	**78.78**	**341**	P	**P**	**08 09 45.9**	**-0.3**
	2.7nm,0.9s,baz=81,slow=7.5,SNR=6.9						
TXAR	**Zajitas Array**	**145.70**	**21**	PKPbc	**PKPdf**	**08 17 23.3**	**0.0**
	1.0nm,0.4s,baz=14,slow=2.0,SNR=30						

DSN ***15*** *08:01:08.2±2.0, 25°.20N×59°.96E, h15km, ML2.4/4, Error ellipse: s-maj=33.1km s-min=14.0km az=154.0*
OMAN ***15*** *08:01:52.9±0.1, 25°.44N×56°.22E, h31km, Error ellipse: s-maj=3.1km s-min=2.0km az=309.0*

ISC 15 08:01:32.6±10.0, 25.3N±0.1×57.9E±0.7, h10km, n10, σ1⁹02/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDH	**Madha**	**1.40**	**269**	P	**Pb**	**08 01 58.9**	**0.0**
	SNR=6.5						
BANOM	**Banah**	**1.52**	**293**	P	**Pn**	**08 01 59.4**	**-0.4**
HATD	**Hatta, Dubai**	**1.64**	**253**	P	**Pn**	**08 02 01.1**	**-0.3**
SHME	**Shamm**	**1.70**	**295**	P	**Pb**	**08 02 03.8**	**-0.1**
ASHO	**Ashiyiah**	**1.75**	**249**	*i* P	**Pb**	**08 02 03.7**	**-1.1**
	SNR=11						
ASHO				S	Sg	08 02 46.1	+17
ASHO	**Ashiyiah**	**1.75**	**249**	P	**Pb**	**08 02 03.7**	**-1.0**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**2.13**	**255**	*i* P	**Pn**	**08 02 09.4**	**+1.2**
	SNR=41						
FAQ	**Al Faqa, Dubai**	**2.13**	**255**	P	**Pn**	**08 02 09.4**	**+1.2**
	SNR=41						
ASUD	**Al Ashush, Dub**	**2.39**	**254**	*i* P	**Pn**	**08 02 12.8**	**+1.0**
	SNR=6.8						
ASUD	**Al Ashush, Dub**	**2.39**	**254**	P	**Pn**	**08 02 12.8**	**+1.0**
	SNR=6.8						

ISCJB ***15*** *08:22:27.9±0.8, 7°.61S±0°.05×129°.53E±0°.08, h79km, mb4.1/3, Error ellipse: s-maj=11.2km s-min=7.6km az=170.4*
IDC ***15*** *08:22:30.9±1.9, 7°.43S×129°.56E, h87km±20km, mb3.9/3, mb1 4.2/8, mb1mx3.6/43, mbtmp4.4/8, MS3.6/1, Ms1 3.5/1, ms1mx2.4/41, Error ellipse: s-maj=37.7km s-min=15.9km az=102.0*

ISC 15 08:22:29.7±0.9, 7.59S±0.06×129.61E±0.10, h79km, n9, σ2⁹70/13, mb4.1/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.42**	**246**	P	**Pn**	**08 24 04.3**	**+2.5**
	17nm,0.3s,baz=12,slow=1.1,SNR=15						
BATI				S	**Sn**	**08 25 11.8**	**-1.9**
	14nm,0.3s,baz=74,slow=18,SNR=3.4						
SIJI	**Sorong**	**6.88**	**14**	P	**Pn**	**08 24 08.8**	**+0.8**
	3.6nm,0.3s,baz=254,slow=22,SNR=6.1						
SIJI				S	**Sn**	**08 25 21.6**	**-3.2**
	6.0nm,0.3s,baz=73,slow=19,SNR=5.5						
FITZ	**Fitzroy Crossi**	**11.14**	**200**	P	**Pn**	**08 25 07.9**	**+1.8**
	2.7nm,0.3s,baz=17,slow=8.1,SNR=72						
FITZ				S	**Sn**	**08 27 04.9**	**-4.0**
	10nm,0.3s,baz=108,slow=18,SNR=11						
WRA	**Warramunga Arr**	**13.11**	**160**	P	**Pn**	**08 25 35.0**	**+2.2**
	2.9nm,0.3s,baz=323,slow=14,SNR=102						
WRA				S	**Sn**	**08 27 56.1**	**-0.8**
	3.8nm,0.3s,baz=338,slow=22,SNR=14						
ASAR	**Alice Springs**	**16.51**	**166**	P	**P**	**08 26 19.9**	**+2.0**
	1.2nm,0.3s,baz=341,slow=8.8,SNR=51						
ASAR				S	**Sn**	**08 29 14.7**	**-4.7**
	1.0nm,0.3s,baz=343,slow=24,SNR=6.8						
STKA	**Stephens Creek**	**26.62**	**157**	LR	LR	08 40 23.8	
	comp=Z,139nm,21.8s,baz=209,slow=40						
MKAR	**Makanchi Array**	**68.50**	**327**	P	**P**	**08 33 23.0**	**-0.7**
	2.3nm,0.5s,baz=117,slow=8.2,SNR=34						
ZALV	**Zalesovo Beam**	**71.94**	**334**	P	**P**	**08 33 43.8**	**-0.7**
	0.8nm,0.4s,baz=134,slow=8.3,SNR=3.7						
KURBB	**Kurchatov Arra**	**72.81**	**329**	P	**P**	**08 33 49.0**	**-0.7**
	1.5nm,0.6s,baz=132,slow=5.1,SNR=4.0						

ISCJB ***15*** *08:24:42.0±0.7, 6°.85N±0°.03×73°.15W±0°.04, h155km±6km, mb3.2/1, Error ellipse: s-maj=7.0km s-min=5.1km az=2.1*
RSNC ***15*** *08:24:43.7±1.0, 6°.81N×73°.14W, h146km±5km, ML2.9*
IDC ***15*** *08:24:45.5±5.9, 6°.61N×73°.57W, h191km±31km, mb2.8/1, mb1 3.2/1, mb1mx2.7/27, mbtmp3.3/1, Error ellipse: s-maj=208.0km s-min=44.1km az=96.0*

ISC 15 08:24:42.8±1.0, 6.84N±0.04×73.15W±0.05, h149km±7km, n19, σ0⁸87/35, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**188**	⇓ *e*P	**Pn**	**08 25 03.3**	**-0.1**
BARC				*e*S	**Sn**	**08 25 17.6**	**-1.4**
BARC				*i*		08 25 21.2	
	comp=Z,269nm,0.2s						
BRRC	**Barranca, Sant**	**0.62**	**295**	⇑ *i*P	**Pn**	**08 25 05.1**	**+0.4**
BRRC				*e*S	**Sn**	**08 25 21.9**	**+0.6**
BRRC				*i*		08 25 25.8	
	comp=Z,134nm,0.1s						
PAMC	**Pamplona, Colo**	**0.67**	**42**	⇑ *e*P	**Pn**	**08 25 06.0**	**+0.5**
PAMC				*e*S	**Sn**	**08 25 23.2**	**+0.4**
PAMC				*i*		08 25 25.1	
	comp=Z,78nm,0.5s						
RUSC	**La Rusia**	**0.95**	**176**	⇑ *i*P	**Pn**	**08 25 07.2**	**-0.4**
RUSC				*e*S	**Sn**	**08 25 26.1**	**-0.4**
RUSC				*i*		08 25 29.4	
	comp=Z,55nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	*e*P	**Pn**	**08 25 09.9**	**-0.7**
PTBC				*e*S	**Sn**	**08 25 31.6**	**-0.2**
PTBC				*i*		08 25 33.7	
	comp=Z,134nm,0.1s						
OCAC	**Ocana**	**1.40**	**353**	*e*P	**Pn**	**08 25 11.7**	**+0.3**
OCAC				*e*S	**Sn**	**08 25 33.9**	**+0.5**
OCAC				*i*		08 25 40.2	
	comp=Z,76nm,0.2s						
TAMC	**Tame, Arauca**	**1.41**	**107**	*i* P	**Pn**	**08 25 11.4**	**+0.1**
TAMC				*i*		08 25 32.1	
	comp=Z,80nm,0.4s						
TAMC				*e*S	**Sn**	**08 25 33.5**	**+0.4**
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P	**Pn**	**08 25 15.9**	**+0.2**
ZARC				*e*S	**Sn**	**08 25 41.6**	**+0.6**
ZARC				*i*		08 25 48.0	
	comp=Z,106nm,0.4s						
SMLC	**San Martn de**	**2.15**	**335**	*e*P	**Pn**	**08 25 19.6**	**0.0**
SMLC				*e*S	**Sn**	**08 25 49.4**	**+1.4**
SMLC				*i*		08 25 51.8	
	comp=Z,104nm,0.1s						
CHIC	**Chingaza**	**2.27**	**195**	*e*P	**Pn**	**08 25 21.3**	**-0.2**
CHIC				*e*S	**Sn**	**08 25 50.8**	**-0.5**
CHIC				*i*		08 26 00.5	
	comp=Z,33nm,0.3s						
ROSC	**El Rosal**	**2.31**	**210**	*e*P	**Pn**	**08 25 23.0**	**+1.1**
ROSC				*e*S	**Sn**	**08 25 53.7**	**+1.8**
ROSC				*i*		08 26 01.1	
	comp=Z,95nm,0.4s						
ROSC	**El Rosal**	**2.31**	**210**	P	**Pn**	**08 25 23.1**	**+1.2**
	comp=Z,11nm,0.3s,baz=309,slow=22,SNR=47						
ROSC				S	**Sn**	**08 25 52.2**	**+0.3**
	comp=Z,13nm,0.3s,baz=97,slow=21,SNR=8.8						
HELC	**Santa Helena**	**2.45**	**255**	*e*P	**Pn**	**08 25 24.7**	**+1.0**
HELC				*e*S	**Sn**	**08 25 56.2**	**+1.2**
HELC				*i*		08 26 02.4	
	comp=Z,62nm,0.3s						
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P	**Pn**	**08 25 23.2**	**-1.0**
UREC				*e*S	**Sn**	**08 25 54.5**	**-1.7**
UREC				*i*		08 26 07.3	
	comp=Z,71nm,0.2s						
VILC	**Villavicencio,**	**2.77**	**191**	*e*P	**Pn**	**08 25 27.2**	**-0.1**
VILC				*i*		08 26 06.7	
	comp=Z,41nm,0.4s						
CODC	**Agustn Codazz**	**3.09**	**355**	*e*P	**Pn**	**08 25 31.3**	**+0.1**
CODC				*e*S	**Sn**	**08 26 09.0**	**+0.2**
CODC				*i*		08 26 15.8	
	comp=Z,11nm,0.5s						
PRAC	**Prado**	**3.56**	**209**	*e*P	**Pn**	**08 25 36.8**	**-0.5**
PRAC				*e*S	**Sn**	**08 26 20.1**	**+0.4**
PRAC				*i*		08 26 25.7	
	comp=Z,26nm,0.3s						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**08 34 53.7**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=126,slow=7.1,SNR=4.9						
WRA	**Warramunga Arr**	**150.32**	**241**	PKPbc	**PKPdf**	**08 44 13.5**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=104,slow=2.3,SNR=5.1						

ISCJB ***15*** *08:47:57.3±1.0, 3°.1S±0°.1×138°.9E±0°.2, h35km, mb3.5/3, MS3.5/1, Error ellipse: s-maj=26.7km s-min=13.7km az=40.6*
IDC ***15*** *08:47:58.0±4.6, 3°.04S×139°.25E, h35km±45km, mb3.3/4, mb1 3.5/5, mb1mx3.3/34, mbtmp3.5/5, ML3.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.7/20, Error ellipse: s-maj=53.5km s-min=18.4km az=122.0*

ISC 15 08:47:57.9±1.1, 3.3S±0.1×139.0E±0.2, h35km, n7, σ2⁹97/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.87**	**66**	Pg	**Pn**	**08 48 28.4**	**+0.9**
	13nm,0.3s,baz=210,slow=12,SNR=33						
JAY				Lg	Lg	08 48 46.9	
	24nm,0.3s,baz=278,slow=1.6,SNR=8.9						
JAY				LR	LR	08 49 09.4	
	comp=Z,53nm,21.4s,baz=7.5,slow=46						
WRA	**Warramunga Arr**	**17.16**	**195**	P	**Pn**	**08 51 57.5**	**+2.3**
	0.2nm,0.3s,baz=16,slow=13,SNR=23						
WRA				Sn	**Sn**	**08 55 02.1**	**-3.0**
	0.1nm,0.3s,baz=11,slow=24,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.69**	**221**	P	**Pn**	**08 52 28.0**	**+2.1**
	1.5nm,0.8s,baz=58,slow=9.5,SNR=3.1						
ASAR	**Alice Springs**	**20.85**	**193**	P	Pn	08 52 40.6	+1.2
	0.4nm,0.4s,baz=16,slow=10,SNR=12						
JCJ	**Chichijima**	**30.36**	**6**	LR	LR	09 05 22.6	
	comp=Z,124nm,20.1s,baz=106,slow=35						
MKAR	**Makanchi Array**	**70.42**	**322**	P	**P**	**08 59 09.2**	**+0.5**
	0.5nm,0.5s,baz=106,slow=7.7,SNR=7.7						
ILAR	**Eielson Array**	**86.24**	**24**	P	**P**	**09 00 33.0**	**-2.6**
	0.3nm,0.6s,baz=250,slow=5.3,SNR=5.3						

SOME ***15*** *08:59:31.2, 38°.87N×71°.63E, h15km*
NNC ***15*** *08:59:48.3±8.4, 39°.46N×72°.23E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=82.8km s-min=56.8km az=168.0*

ISC 15 08:59:33.3±4.7, 38.2N±0.3×71.6E±0.1, h35km, n6, σ1⁹76/8, 2C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**4.17**	**344**	*e*P	**Pn**	**09 00 34.6**	**+0.1**
	1.7nm,0.4s						
IUG				*e*S	**Sn**	**09 01 20.0**	**-2.1**
	48nm,0.2s						
MRKS	**Merke**	**4.75**	**14**	*e*P	**Pn**	**09 00 44.8**	**+2.3**
	8.0nm,0.3s						
MRKS				*e*S	**Sn**	**09 01 37.6**	**+1.3**
	4.5nm,0.4s						
AAK	**Ala-Archa**	**4.99**	**25**	Pn	**Pn**	**09 00 44.6**	**-1.2**
	2.0nm,0.5s						
AAK				⇑Lg	Lg	09 01 39.9	
	2.6nm,0.7s						
KK31	**Karatay Array**	**5.02**	**351**	⇑Pn	Pn	09 00 51.3	+5.3
	1.0nm,0.3s,baz=170,slow=12,SNR=26						
KK31				⇓Lg	Lg	09 01 49.4	
	0.8nm,0.3s,baz=168,slow=21,SNR=5.7						
BRLS	**Borolday**	**5.06**	**345**	*e*P	**Pn**	**09 00 47.9**	**+1.2**
	0.4nm,0.2s						
BRLS				*e*S	**Sn**	**09 01 43.0**	**-0.9**
	17nm,0.2s						
TKM2	**Tokmak 2**	**5.64**	**31**	⇓Pn	**Pn**	**09 00 54.2**	**-0.7**
	0.8nm,0.5s						
TKM2				⇓Lg	Lg	09 02 05.2	
	1.1nm,0.6s						

ISCJB ***15*** *09:04:55.4±0.7, 11°.04S±0°.06×165°.9E±0°.1, h10km, mb3.8/7, Error ellipse: s-maj=15.8km s-min=7.7km az=158.6*
IDC ***15*** *09:04:55.6±1.6, 10°.94S×165°.93E, h0km, mb3.6/4, mb1 3.9/6, mb1mx3.6/34, mbtmp3.8/6, ML4.3/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=41.3km s-min=28.8km az=129.0*
NEIC ***15*** *09:04:57.0±0.5, 10°.92S×165°.91E, h10km, mb4.3/3, Error ellipse: s-maj=11.1km s-min=6.2km az=64.0*

ISC 15 09:04:57.0±1.1, 10.96S±0.09×166.0E±0.2, h10km, n25, σ0⁸83/21, mb3.8/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.11**	**284**	*e*Pn	**Pn**	**09 06 27.5**	**0.0**
HNR	**Honiara**	**6.11**	**284**	Pn	**Pn**	**09 06 28.7**	**+1.3**
	19nm,0.3s,baz=174,slow=9.2,SNR=5.8						
MARNC	**Mare, Loyalty**	**10.65**	**170**	*e*Pn	**Pn**	**09 07 30.6**	**+0.8**
DZM	**Mont Dzumac**	**11.06**	**178**	*e*Pn	**Pn**	**09 07 36.0**	**+0.5**
DZM				Sn	**Sn**	**09 09 38.9**	**-0.5**
DZM	**Mont Dzumac**	**11.06**	**178**	Pn	**Pn**	**09 07 37.2**	**+1.7**
	1.0nm,0.3s,baz=3.5,slow=19,SNR=17						
DZM				Sn	**Sn**	**09 09 38.9**	**-0.5**
	0.1nm,0.3s,baz=322,slow=19,SNR=2.4						
DZM				LR	LR	09 11 30.4	
	comp=Z,82nm,18.7s,baz=338,slow=36						
ONTNC	**Ouen Toro**	**11.30**	**178**

APZ9				Lg	Lg	09 11 03.2	
APZ9	**Apatity**	**0.18**	**314**	Pg	**Pg**	**09 10 59.4**	**+1.1**
APZ9				Sg	**Sg**	**09 11 03.2**	**+2.5**
APA0	**Apatity Array**	**0.34**	**300**	Pg	**Pg**	**09 11 02.0**	**+0.9**
APA0				Lg	Lg	09 11 07.2	
APA0	**Apatity Array**	**0.34**	**300**	P	**Pg**	**09 11 02.2**	**+1.0**
APA0				S	**Sg**	**09 11 06.8**	**+1.3**
APA0	**Apatity Array**	**0.34**	**300**	Pg	**Pg**	**09 11 02.0**	**+0.9**
APA0				Sg	**Sg**	**09 11 07.2**	**+1.7**
VRF	**Varrio**	**1.62**	**283**	*e*P	**Pn**	**09 11 24.8**	**+0.2**
VRF				*e*SG	**Sb**	**09 11 46.5**	**+0.1**
VRF				MSG		09 11 48.1	
	comp=Z,172nm,0.2s						
KU6	**Riekki**	**2.09**	**229**	*e*P	**Pg**	**09 11 34.7**	**-0.1**
KU6				*e*SB	**Sg**	**09 12 05.0**	**+3.1**
KU6				MSG		09 12 07.6	
	comp=Z,117nm,0.2s						
MSF	**Maaselka**	**2.43**	**233**	*e*P	**Pb**	**09 11 39.7**	**+0.5**
MSF				*e*SB	**Sg**	**09 12 14.3**	**+1.7**
SGF	**Sodankyl**	**2.79**	**273**	*e*P	**Pn**	**09 11 41.8**	**+1.2**
SGF				*e*SB	**Sb**	**09 12 22.0**	**+2.0**
RNF	**Rovaniemi**	**3.15**	**258**	*e*P	**Pn**	**09 11 47.5**	**+1.9**
RNF				*e*S	**Sn**	**09 12 27.2**	**+3.4**
KEV	**Kevo**	**3.39**	**316**	Pn	**Pn**	**09 11 49.2**	**+0.4**
KEV				Sn	**Sn**	**09 12 28.6**	**-1.1**
KEV				Lg	Lg	09 12 36.6	
KEV	**Kevo**	**3.39**	**316**	Pn	**Pn**	**09 11 49.2**	**+0.4**
KEV				Sn	**Sn**	**09 12 28.6**	**-1.1**
KEV				Sg	**Sb**	**09 12 36.6**	**-0.8**
KEV	**Kevo**	**3.39**	**316**	*e*SG	**Sb**	**09 12 35.8**	**-1.6**
KEV				MSG		09 12 37.8	
	comp=Z,140nm,0.3s						
ARA0	**ARCESS Array S**	**3.69**	**308**	Pn	**Pn**	**09 11 52.8**	**-0.3**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**09 12 01.3**	**+0.5**
	baz=108,slow=16						
ARA0				Sn	**Sn**	**09 12 34.9**	**-2.3**
	baz=118,slow=28						
ARA0				Lg	Lg	09 12 46.8	
	baz=106,slow=37						
ARA0	**ARCESS Array S**	**3.69**	**308**	Pn	**Pn**	**09 11 52.8**	**-0.3**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**09 12 01.3**	**+0.5**
	baz=108,slow=16						
ARA0				Sn	**Sn**	**09 12 34.9**	**-2.3**
	baz=118,slow=28						
ARA0				Sg	**Sb**	**09 12 46.8**	**+0.7**
	baz=106,slow=37						
ARCES	**ARCESS Array B**	**3.69**	**308**	Pn	**Pn**	**09 11 52.6**	**-0.4**
	comp=Z,24nm,0.3s,baz=123,slow=15,SNR=742						
ARCES				Sn	**Sn**	**09 12 34.2**	**-3.0**
	comp=Z,16nm,0.3s,baz=118,slow=25,SNR=18						
ARCES				Lg	Lg	09 12 45.6	
	comp=Z,39nm,0.3s,baz=116,slow=29,SNR=15						
HEF	**Hetta**	**3.93**	**289**	Pn	**Pn**	**09 11 56.8**	**+0.4**
HEF				Pg	**Pb**	**09 12 05.7**	**+0.8**
HEF				Sn	**Sn**	**09 12 42.8**	**-0.2**
HEF	**Hetta**	**3.93**	**289**	Pn	**Pn**	**09 11 56.8**	**+0.4**
HEF				Pg	**Pb**	**09 12 05.7**	**+0.8**
HEF				Sn	**Sn**	**09 12 42.8**	**-0.2**
HEF	**Hetta**	**3.93**	**289**	*e*P	**Pn**	**09 11 56.6**	**+0.3**
HEF				*e*SG	**Sb**	**09 12 55.9**	**+3.0**
HEF				MSG		09 13 00.6	
	comp=Z,72nm,0.3s						
OUL	**Oulu**	**3.96**	**237**	*e*P	**Pn**	**09 12 00.2**	**+3.5**
TOF	**Tornio**	**3.98**	**254**	*e*P	**Pn**	**09 11 58.4**	**+1.4**
TOF				*e*SG	**Sg**	**09 13 02.6**	**+0.1**
PAJU	**Pajala**	**4.16**	**269**	P	**Pn**	**09 12 00.0**	**+0.6**
PAJU				S	**Sn**	**09 12 51.0**	**+2.3**
KTK1	**Kautokeino**	**4.22**	**297**	*e*P	**Pn**	**09 12 01.0**	**+0.7**
LANU	**Lannavaara**	**4.51**	**283**	P	**Pn**	**09 12 04.1**	**-0.3**
MASU	**Masugnsbyn**	**4.53**	**276**	P	**Pn**	**09 12 04.5**	**0.0**
HAMF	**Hammerfest**	**4.83**	**316**	*e*P	**Pn**	**09 12 08.0**	**-0.7**
HAMF				*e*S	**Sn**	**09 13 00.8**	**-4.4**
HAMF				IAML		09 13 30.6	
	comp=Z,58nm,0.5s						
KIF	**Kilpisjarvi**	**5.07**	**294**	Pn	**Pn**	**09 12 11.9**	**0.0**
KIF				Sn	**Sn**	**09 13 09.0**	**-2.0**
KIF	**Kilpisjarvi**	**5.07**	**294**	*e*P	**Pn**	**09 12 11.8**	**-0.1**
KIF				Pn	**Pn**	**09 12 11.9**	**0.0**
KIF				Sn	**Sn**	**09 13 09.0**	**-2.0**
DUNU	**Dundret**	**5.12**	**272**	P	**Pn**	**09 12 13.2**	**+0.5**
KUA	**Kurravaara**	**5.13**	**282**	P	**Pn**	**09 12 13.0**	**+0.2**
RATU	**Laukkuluspa**	**5.42**	**281**	P	**Pn**	**09 12 16.8**	**0.0**
NIKU	**Nikkaluokta**	**5.63**	**281**	P	**Pn**	**09 12 19.1**	**-0.6**
BURU	**Burvik**	**5.80**	**246**	P	**Pn**	**09 12 23.1**	**+1.1**
SALU	**Saltoluokta**	**5.88**	**276**	P	**Pn**	**09 12 23.4**	**+0.4**
LILU	**Lilltraesk**	**5.99**	**255**	P	**Pn**	**09 12 25.1**	**+0.5**
ODEU	**Stanfors**	**6.14**	**246**	P	**Pn**	**09 12 27.7**	**+1.1**
FIA0	**FINESS Array S**	**6.87**	**212**	Pn	**Pn**	**09 12 39.3**	**+2.7**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**09 13 57.9**	**+2.5**
	baz=30,slow=22						
FIA0				Lg	Lg	09 14 31.6	
	baz=29,slow=28						
FIA0	**FINESS Array S**	**6.87**	**212**	Pn	**Pn**	**09 12 39.3**	**+2.7**
	baz=25,slow=14						
FIA0				Sn	**Sn**	**09 13 57.9**	**+2.5**
	baz=30,slow=22						
FIA0				Sg	**Sg**	**09 14 31.6**	**-3.7**
	baz=29,slow=28						
FINES	**FINESS Array B**	**6.87**	**212**	Pn	**Pn**	**09 12 39.4**	**+2.7**
	comp=Z,0.5nm,0.3s,baz=28,slow=13,SNR=11						
FINES				Sn	**Sn**	**09 13 58.0**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=33,slow=23,SNR=6.3						
FINES				Lg	Lg	09 14 30.8	
	comp=Z,5.0nm,0.3s,baz=24,slow=27,SNR=19						
KLMR	**Klimovskoe**	**7.08**	**156**	*i* P	**Pn**	**09 12 38.4**	**-1.1**
KLMR				*i* S	**Sn**	**09 13 58.6**	**-1.9**
KLMR				*i* S	**Sn**	**09 13 58.6**	**-1.9**
KLMR				*i* S	**Sn**	**09 13 58.6**	**-1.9**
KLMR				AMP		09 14 02.7	
	comp=E,11nm,0.4s						
LOF	**Lofoten**	**7.68**	**284**	*e*P	**Pn**	**09 12 47.3**	**-0.4**
MOR8	**Moi Rana**	**7.72**	**269**	*e*P	**Pn**	**09 12 45.6**	**-2.7**
MOR8				IAML		09 14 58.4	
	comp=Z,13nm,0.5s						
HFS	**Hagfors**	**11.45**	**240**	Pn	**Pn**	**09 13 39.4**	**0.0**
	baz=23,slow=6.9						
HFS				Sn	**Sn**	**09 15 44.4**	**-3.4**
	baz=45,slow=22						
HFS	**Hagfors**	**11.45**	**240**	Pn	**Pn**	**09 13 39.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=42,slow=12,SNR=6.8						
HFS				Sn	**Sn**	**09 15 43.8**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=43,slow=26,SNR=3.3						
HFS				Lg	Lg	09 16 51.3	
	comp=Z,0.8nm,0.3s,baz=50,slow=34,SNR=4.9						
HFS	**Hagfors**	**11.45**	**240**	Pn	**Pn**	**09 13 39.4**	**0.0**
	baz=23,slow=6.9						
HFS				Sn	**Sn**	**09 15 44.4**	**-3.4**
	baz=45,slow=22						
NB2	**NORSAR Subarra**	**11.66**	**247**	Pn	**Pn**	**09 13 42.7**	**+0.5**
	baz=47,slow=12						
NB2	**NORSAR Subarra**	**11.66**	**247**	Pn	**Pn**	**09 13 42.7**	**+0.5**
	baz=47,slow=12						
NOA	**NORSAR Array B**	**11.66**	**247**	Pn	**Pn**	**09 13 43.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=3.3						
NOA				Sn	**Sn**	**09 15 46.1**	**-6.8**
	comp=Z,0.0nm,0.3s,baz=47,slow=22,SNR=3.0						
NOA				Lg	Lg	09 17 00.1	
	comp=Z,0.1nm,0.3s,baz=44,slow=22,SNR=4.3						
NRA0	**NORESS Array S**	**11.75**	**246**	Pn	**Pn**	**09 13 43.2**	**-0.2**
	baz=43,slow=12						
NRA0	**NORESS Array S**	**11.75**	**246**	Pn	**Pn**	**09 13 43.2**	**-0.2**
	baz=43,slow=12						
SPA0	**Spitsbergen Ar**	**11.85**	**343**	Pn	**Pn**	**09 13 40.7**	**-4.1**
	baz=146,slow=16						
SPA0	**Spitsbergen Ar**	**11.85**	**343**	Pn	**Pn**	**09 13 40.7**	**-4.1**
	baz=146,slow=16						
SPITS	**Spitsbergen Ar**	**11.85**	**343**	Pn	**Pn**	**09 13 40.5**	**-4.2**
	baz=138,slow=17,SNR=14						
AKASG	**Malin Array Be**	**16.95**	**190**	Pn	**Pn**	**09 14 48.5**	**-4.5**
	comp=Z,0.6nm,0.3s,baz=7.2,slow=12,SNR=2.2						
AKTO	**Aktyubinsk**	**20.90**	**133**	P	**P**	**09 15 39.2**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=330,slow=12,SNR=7.2						
MLR	**Muntele Rosu**	**22.39**	**195**	LR	LR	09 25 42.5	
	comp=Z,41nm,18.8s,baz=210,slow=39						
BVAR	**Borovoye Array**	**22.74**	**111**	P	**P**	**09 16 01.6**	**+3.5**
	comp=Z,0.9nm,0.6s,baz=326,slow=7.0,SNR=5.3						
DAVOX	**Davos/Dischmat**	**24.13**	**223**	LR	LR	09 26 36.4	
	comp=Z,74nm,18.7s,slow=39						
KURBB	**Kurchatov Arra**	**27.67**	**105**	P	**P**	**09 16 44.9**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=326,slow=8.1,SNR=4.2						
MKAR	**Makanchi Array**	**32.24**	**105**	P	**P**	**09 17 26.1**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=336,slow=7.3,SNR=3.6						

TORD	**Torodi Ar. Bea**	**58.20**	**217**	P	**P**	**09 20 52.1**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=4.7,slow=6.8,SNR=2.7						

ISK ***15*** *09:15:14.2,37.17N×27.89E,h23km±1km, ML2.2/4, Suspected Mining explosion.*
ISCJB ***15*** *09:15:15.2±0.6,37.14N±0.04×27.94E±0.04, h0km, Error ellipse: s-maj=5.5km s-min=4.0km az=159.4*
DDA ***15*** *09:15:17.4,37.34N×27.57E, h7km±5km, ML2.7*
ISC 15 09:15:13.1±1.0, 37.14N±0.04×27.91E±0.03, h0km, n9, σ0.49/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**91**	Op	PG	**Pb**	**09 15 21.8**	**+0.5**
YER					SG	**Sb**	**09 15 27.2**	**+0.4**
BDRM	**Kayabasi**	**0.38**	**259**	*i* P		**Pb**	**09 15 23.4**	**+0.7**
BDRM				*i* S		**Sb**	**09 15 29.6**	**+0.5**
BODT	**Bodrum**	**0.49**	**261**	PG		**Pb**	**09 15 24.4**	**-0.1**
BODT				SG		**Sb**	**09 15 32.1**	**-0.1**
DAT	**Datca**	**0.49**	**213**	PG		**Pb**	**09 15 24.3**	**-0.4**
DAT				SG		**Sb**	**09 15 32.9**	**+0.5**
DAT	**Datca**	**0.49**	**213**	*i* P		**Pb**	**09 15 24.8**	**+0.1**
AYDN	**Tasoluk**	**0.52**	**357**	*i* P		**Pb**	**09 15 25.6**	**+0.5**
AYDN				*i* S		**Sb**	**09 15 32.3**	**-0.9**
AYDN				IAML_P				
	comp=Z,5μm,0.3s							
TURN	**Turunc**	**0.62**	**116**	PG		**Pg**	**09 15 24.5**	**-0.4**
TURN				SG		**Sg**	**09 15 32.4**	**-0.4**
AYDB	**Zeytinkoy-Aydi**	**0.80**	**359**	PG		**Pb**	**09 15 30.1**	**+0.1**
TAVA	**DENIZLI_Tavas**	**0.86**	**68**	*i* P		**Pn**	**09 15 32.8**	**+0.2**

ISK ***15*** *09:28:19.9,38.72N×43.27E, h22km, ML2.0/5*
DDA ***15*** *09:28:20.5,38.77N×43.23E, h7km±3km, ML2.8*
ISC 15 09:28:20.3±1.3, 38.76N±0.03×43.24E±0.04, h14km±16km, n11, σ0.58/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**144**	PG		**Pb**	**09 28 26.3**	**+0.4**
VANB				SG		**Sb**	**09 28 30.5**	**+0.9**
TVAN	**Van**	**0.27**	**150**	*i* P		**Pb**	**09 28 26.4**	**-0.7**
TVAN				*i* S		**Sb**	**09 28 31.0**	**-0.5**
VMUR	**Van-Muradiye**	**0.35**	**49**	*i* P		**Pg**	**09 28 27.8**	**+0.3**
VMUR				*i* S		**Sb**	**09 28 33.8**	**-0.1**
VMUR				IAML_P				
	comp=Z,932nm,0.1s							
ADCV	**BITLIS_Adilcev**	**0.40**	**277**	*i* P		**Pb**	**09 28 29.7**	**+0.4**
ADCV				IAML_P				
	comp=Z,1μm,0.1s							
GEVA	**Gevas**	**0.47**	**197**	*i* P		**Pb**	**09 28 30.3**	**-0.1**
AKDM	**Akdamar-Van**	**0.47**	**205**	PG		**Pg**	**09 28 29.8**	**+0.1**
CLDR	**Caldiran**	**0.66**	**54**	PG		**Pb**	**09 28 33.9**	**-0.1**
CLDR	**Caldiran**	**0.66**	**54**	*i* P		**Pb**	**09 28 33.9**	**+0.2**
MLAZ	**Malazgirt-MUS**	**0.66**	**306**	PG		**Pb**	**09 28 34.3**	**+0.6**
TUTA	**Tutak**	**0.72**	**333**	*i* P		**Pg**	**09 28 33.4**	**-1.0**
GURO	**Guroymak-BITLI**	**0.96**	**258**	PG		**Pb**	**09 28 38.9**	**0.0**

IDC ***15*** *09:36:46.1±26.0, 50.65N×178.56W, h0km, mb3.0/3, mb1 3.5/3, mb1mx3.2/36, mbtmp3.1/3, Error ellipse: s-maj=530.4km s-min=71.6km az=86.0*
ISCJB ***15*** *09:36:49.6±1.0, 51.46N±0.06×178.06W±0.08, h10km, mb3.2/2, Error ellipse: s-maj=9.6km s-min=6.6km az=17.9*
NEIC ***15*** *09:36:49.9±0.0, 51.53N×178.07W, h5km, ML2.6(AEIC), After AEIC.*
ISC 15 09:36:50.6±1.3, 51.55N±0.09×178.05W±0.05, h10km, n25, σ0.95/22, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.29**	**2**	*e*Pg		**Pb**	**09 36 57.5**	**-0.5**
TAFP	**Tanaga Falls P**	**0.36**	**7**	*e*Pg		**Pb**	**09 36 58.5**	**-0.6**
TAFP				*e*Sg		**Sb**	**09 37 04.8**	**+0.1**
GAEA	**Gareloi East**	**0.49**	**299**	*e*Pg		**Pb**	**09 37 00.4**	**-1.0**
KIMD	**Kanaga Island**	**0.55**	**67**	P		**Pb**	**09 37 01.6**	**-0.8**
KIWB	**Kanaga Island**	**0.64**	**61**	*e*Pg		**Pg**	**09 37 03.0**	**0.0**
KIKV	**Kanaga Island**	**0.64**	**58**	*e*Pg		**Pb**	**09 37 03.4**	**-0.6**
ADK	**Adak**	**0.92**	**68**	*e*Pg		**Pg**	**09 37 07.3**	**-1.0**
ADK				*e*Sg		**Sb**	**09 37 20.5**	**-0.3**
ADAG	**Mount Adagdak**	**1.00**	**64**	*e*Pg		**Pb**	**09 37 09.6**	**-0.5**
ETKA	**Kagalaska Isla**	**1.07**	**72**	*e*Pg		**Pg**	**09 37 10.4**	**-0.8**
GSTD	**Great Sitkin T**	**1.29**	**66**	*e*Pn		**Pn**	**09 37 14.4**	**-0.4**
GSTD				*e*Sn		**Sg**	**09 37 33.3**	**+1.1**
GSMY	**Great Sitkin M**	**1.34**	**67**	*e*Pn		**Pn**	**09 37 14.7**	**-0.7**
GSTR	**Great Sitkin T**	**1.35**	**65**	*e*Pn		**Pn**	**09 37 15.1**	**-0.5**
GSIG	**Igitkin Island**	**1.40**	**71**	P		**Pn**	**09 37 15.7**	**-0.4**
KOWE	**Korovin West**	**2.49**	**69**	*e*Pn		**Pn**	**09 37 31.9**	**+0.6**
KOWE				*e*Sn		**Sb**	**09 38 04.3**	**-1.9**
KOKL	**Mount Kliuchef**	**2.51**	**70**	*e*Pn		**Pn**	**09 37 32.3**	**+0.8**
KOFP	**Korovin Flat P**	**2.56**	**72**	*e*Pn		**Pn**	**09 37 32.9**	**+0.8**
ILAR	**Eielson Array**	**20.82**	**9**	P		Pn	09 41 38.2	+3.8
	0.3nm,0.8s,baz=246,slow=10,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**33.88**	**206**	T		T	10 19 09.2	
	baz=17,slow=76,SNR=60							
H11N3	**WAKE ISLAND Hy**	**33.89**	**206**	T		T	10 19 14.3	
	baz=17,slow=76,SNR=74							
H11N1	**WAKE ISLAND Hy**	**33.90**	**206**	T		T	10 19 15.0	
	baz=17,slow=76,SNR=42							
H11S1	**WAKE ISLAND Hy**	**35.10**	**206**	T		T	10 20 45.0	
	baz=17,slow=76,SNR=185							
H11S2	**WAKE ISLAND Hy**	**35.12**	**206**	T		T	10 20 44.5	
	baz=17,slow=76,SNR=189							
H11S3	**WAKE ISLAND Hy**	**35.12**	**206**	T		T	10 20 43.6	
	baz=17,slow=76,SNR=128							
PDAR	**Pinedale Array**	**45.81**	**73**	P		**P**	**09 45 14.9**	**+2.2**
	0.4nm,0.7s,baz=317,slow=3.7,SNR=4.9							
TXAR	**Lajitas Array**	**58.17**	**82**	P		**P**	**09 46 44.4**	**-0.3**
	0.1nm,0.6s,baz=312,slow=7.0,SNR=2.5							

BJI ***15*** *09:46:42.0,26.33S×70.37E, h11km, mb5.0/55, mB5.4/44, Ms5.2/51, Ms7 5.1/48*
IDC ***15*** *09:46:43.9±0.4,26.08S×70.87E, h0km, mb4.6/29, mb1 4.7/29, mb1mx4.5/45, mbtmp4.6/29, MS4.8/41, Ms1 4.8/41, ms1mx4.7/60, Error ellipse: s-maj=13.1km s-min=12.4km az=85.0*
MOS ***15*** *09:46:44.7±1.3, 25.93S×70.88E, h10km, mb5.5/60, MS5.0/6, Error ellipse: s-maj=10.6km s-min=5.4km az=91.7*
ISCJB ***15*** *09:46:45.6±0.2, 26.08S±0.04×70.78E±0.04, h19km, mb5.2/156, MS5.0/60, Error ellipse: s-maj=5.6km s-min=4.4km az=18.3*
GCMT ***15*** *09:46:45.6±0.1, 26.03S±0.01×70.79E±0.01, h12km, MW5.4/117, Moment Tensor Solution. s81,c132; s117,c229; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr-1.45±.02; Mtt0.83±.02; Mpp0.61±.02; Mrt-0.05±.05; Mrp-0.75±.01; Mtp0.57±.05; Best double couple: M0 1.57000×10^17 NP1:Φs145.00000°, δ54.00000°, λ-73.00000°. NP2:Φs298.00000°, δ39.00000°, λ-112.00000°. Principal axes: T 1.5370, Plg8.0000°, Azm223.0000°; N 0.0610, Plg14.0000°, Azm315.0000°; P -1.6030, Plg74.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *09:46:45.6±0.1, 26.17S×70.73E, h10km, mb5.3/82 Error ellipse: s-maj=4.1km s-min=3.4km az=16.0*
ISC 15 09:46:45.9±0.6, 26.09S±0.05×70.67E±0.05, h10km±3km, h10km:pP-P, n870, σ1.37/896, mb5.3/160, MS5.0/62, 11C-6D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**13.41**	**293**	*e*Pn		**Pn**	**09 49 57.6**	**+1.2**
RER	**Riviere de l'E**	**14.53**	**287**	*e*Pn		**Pn**	**09 50 12.6**	**+0.8**
H08S1	**Diego Garcia H**	**18.43**	**6**	T		T	10 09 55.0	
	baz=186,slow=76,SNR=519							
H08S2	**Diego Garcia H**	**18.43**	**6**	T		T	10 09 55.4	
	baz=186,slow=76,SNR=492							
H08S3	**Diego Garcia H**	**18.44**	**6**	T		T	10 09 56.4	
	baz=186,slow=76,SNR=590							
DGAR	**Diego Garcia**	**18.65**	**6**	*e*P		**Pn**	**09 51 04.5**	**+0.1**
	149nm,1.4s							
DGAR	**Diego Garcia**	**18.65**	**6**	*c* P		**P**	**09 51 03.6**	**-0.5**
ABPO	**Ambohimpanom**	**22.74**	**283**	*e*P		**P**	**09 51 49.8**	**+1.2**
	23nm,1.4s							
ABPO	**Ambohimpanom**	**22.74**	**283**	*e*P		**P**	**09 51 49.8**	**+1.2**
ABPO				pmax		pmax		

	comp=Z,23nm,1.4s						
OPO	**Ambohidratompo**	**22.95**	**284**	P		**P**	**09 51 53.0**	**+2.2**
	comp=Z,10nm,0.9s,baz=112,slow=9.3,SNR=14						
OPO				LR		LR	09 58 31.8	
	comp=Z,3μm,19.1s,baz=106,slow=31						
PALK	**Pallekele**	**34.57**	**18**	*e*P		**P**	**09 53 34.9**	**-0.1**
	comp=Z,24nm,1.2s						
PALK	**Pallekele**	**34.57**	**18**	*c*eP		**P**	**09 53 37.7**	**+2.7**
PALK	**Pallekele**	**34.57**	**18**	LR		LR	10 04 07.6	
	comp=Z,5μm,21.2s,baz=116,slow=30							
GSI	**Gunungsitoli**	**37.65**	**48**	*e*P		**P**	**09 54 01.6**	**+0.1**
	comp=Z,42nm,1.4s							
GSI	**Gunungsitoli**	**37.65**	**48**	P		**P**	**09 54 01.3**	**-0.1**
MNAI	**Manna**	**37.72**	**61**	P		**P**	**09 54 01.8**	**-0.2**
LWLI	**Liwa**	**38.19**	**62**	P		**P**	**09 54 06.1**	**-0.1**
H01W2	**Cape Leeuwin H**	**38.23**	**114**	T		T	10 34 28.1	
	baz=272,slow=75,SNR=189							
H01W3	**Cape Leeuwin H**	**38.23**	**114**	T		T	10 34 28.2	
	baz=272,slow=75,SNR=177							
H01W1	**Cape Leeuwin H**	**38.24**	**114**	T		T	10 34 27.4	
	baz=272,slow=75,SNR=247							
SKJI	**Sukabumi**	**39.09**	**67**	P		**P**	**09 54 13.8**	**+0.2**
TNG	**Tangerang**	**39.62**	**66**	P		**P**	**09 54 18.3**	**+0.2**
PSI	**Prapat**	**39.65**	**48**	*e*P		**P**	**09 54 18.0**	**-0.4**
	comp=Z,51nm,1.5s							
PSI	**Prapat**	**39.65**	**48**	*e*P		**P**	**09 54 18.0**	**-0.4**
PSI				pmax		pmax		
	comp=Z,51nm,1.5s							
PSI	**Prapat**	**39.65**	**48**	LR		LR	10 06 37.1	
	comp=Z,3μm,21.9s,baz=268,slow=30							
MORW	**Morawa**	**40.14**	**105**	*e*P		**P**	**09 54 21.9**	**-0.3**
	comp=Z,49nm,1.3s							
BOSA	**Boshof**	**40.23**	**256**	*e*P		**P**	**09 54 21.9**	**-1.2**
	comp=Z,42nm,1.3s							
BOSA	**Boshof**	**40.23**	**256**	*e*P		**P**	**09 54 21.9**	**-1.2**
BOSA				pmax		pmax		
	comp=Z,42nm,1.3s							
BOSA	**Boshof**	**40.23**	**256**	P		**P**	**09 54 23.5**	**+0.3**
	comp=Z,5.9nm,0.7s,baz=108,slow=7.4,SNR=11							
BOSA				LR		LR	10 08 03.7	
	comp=Z,4μm,19.6s,baz=100,slow=32							
LBTB	**Lobatse**	**40.52**	**261**	*e*P		**P**	**09 54 25.4**	**-0.2**
	comp=Z,35nm,1.4s							
LBTB	**Lobatse**	**40.52**	**261**	*e*P		**P**	**09 54 25.4**	**-0.2**
LBTB				pmax		pmax		
	comp=Z,35nm,1.4s							
LBTB	**Lobatse**	**40.52**	**261**	P		**P**	**09 54 27.5**	**+2.0**
	comp=Z,4.1nm,1.1s,baz=77,slow=8.9,SNR=4.0							
KMBO	**Kilima Mbogo**	**40.62**	**302**	*e*P		**P**	**09 54 27.3**	**+0.7**
	comp=Z,35nm,1.4s							
KMBO	**Kilima Mbogo**	**40.62**	**302**	*i* P		**P**	**09 54 28.7**	**+2.1**
	SNR=9.8							
KMBO	**Kilima Mbogo**	**40.62**	**302**	P		**P**	**09 54 22.9**	**-3.7**
	SNR=15							
KMBO	**Kilima Mbogo**	**40.62**	**302**	P		**P**	**09 54 27.6**	**+1.0**
	comp=Z,2.4nm,0.4s,baz=123,slow=8.4,SNR=17							
LSZ	**Lusaka**	**41.01**	**277**	*e*P		**P**	**09 54 30.0**	**+0.3**
	comp=Z,32nm,1.2s							
LSZ	**Lusaka**	**41.01**	**277**	*e*P		**P**	**09 54 30.0**	**+0.3**
LSZ				pmax		pmax		
	comp=Z,32nm,1.2s							
LSZ	**Lusaka**	**41.01**	**277**	P		P	09 54 19.6	-10
	SNR=7.2							
LSZ				P		P	09 54 19.6	-10
	SNR=7.2							
MAW	**Mawson**	**41.80**	**184**	*e*P		**P**	**09 54 35.8**	**+0.4**
	comp=Z,22nm,1.4s							
MAW	**Mawson**	**41.80**	**184**	*e*P		**P**	**09 54 35.8**	**+0.4**
MAW				pmax		pmax		
	comp=Z,22nm,1.4s							
MAW	**Mawson**	**41.80**	**184**	P		**P**	**09 54 36.4**	**+1.0**
	comp=Z,7.7nm,1.0s,baz=28,slow=15,SNR=2.4							
MAW				LR		LR	10 08 39.6	
	comp=Z,5μm,18.2s,baz=1.0,slow=32							
TPRI	**Tanjung Pinang**	**42.30**	**56**	P		**P**	**09 54 40.1**	**0.0**
IPM	**Ipoh**	**42.30**	**48**	*e*P		**P**	**09 54 41.5**	**+1.4**
	comp=Z,46nm,1.3s							
IPM	**Ipoh**	**42.30**	**48**	P		**P**	**09 54 42.3**	**+2.2**
MYKOM	**Kota Tinggi**	**42.38**	**54**	*e*P		**P**	**09 54 41.1**	**+0.4**
	comp=Z,18nm,0.9s							
KULM	**Kulim**	**42.65**	**47**	*e*P		**P**	**09 54 43.8**	**+0.9**
	comp=Z,25nm,1.1s							
**KUL

comp=Z,29nm,2.0s,comp=Z,576nm
BATI Baumata 52.43 83 LR LR 10 18 13.3
comp=Z,735nm,18.0s,baz=271,slow=36
HATD Hatta, Dubai 52.53 343 P **P** **09 55 59.6 +0.1**
SNR=5.4
HATD P **P** **09 55 59.6 +0.1**
SNR=5.4
ASUD Al Ashush, Dub 52.55 342 P **P** **09 56 00.2 +0.6**
ASUD P **P** **09 56 00.2 +0.6**
BRDH Bariadhala 52.57 25 LR LR 10 14 32.2
comp=Z,3μm,21.9s,baz=136,slow=32
AJN Ajban 52.59 342 P **P** **09 55 59.8 -0.2**
FAQ Al Faqa, Dubai 52.60 343 P **P** **09 56 00.1 +0.1**
FAQ P **P** **09 56 00.1 +0.1**
NAZ Nazwa, Dubai 52.81 343 P **P** **09 56 01.4 -0.1**
NAZ P **P** **09 56 01.4 -0.1**
MDH Madha 52.94 344 P **P** **09 56 00.6 -1.9**
MDH P **P** **09 56 00.6 -1.9**
MSFE Esma-Masafi 53.03 344 *i* P **P** **09 56 03.5 +0.2**
SNR=6.5
SOEI Soe 53.16 82 *e*P **P** **09 56 04.3 -0.3**
comp=Z,90nm,1.0s
RAYN Ar Rayn 55.01 332 *e*P **P** **09 56 18.3 +0.6**
comp=Z,38nm,1.4s
RAYN Ar Rayn 55.01 332 *i* P **P** **09 56 18.0 +0.2**
SNR=6.4
RAYN Ar Rayn 55.01 332 *e*P **P** **09 56 18.3 +0.6**
RAYN pmax pmax
comp=Z,38nm,1.4s
SHL Shillong 55.29 23 *e*P **P** **09 56 19.8 -0.1**
comp=Z,36nm,1.2s
SHL Shillong 55.29 23 *e*P **P** **09 56 19.8 -0.1**
SHL pmax pmax
comp=Z,36nm,1.2s
NVL N'lazarevskaya 55.46 200 *e*P **P** **09 56 25.0 +4.6**
NVL *e*S **S** **10 04 09.7 +4.6**
NVL pmax pmax
comp=Z,66nm,1.3s
BBOO Buckleboo 56.55 113 *e*P **P** **09 56 28.2 -0.7**
comp=Z,51nm,1.2s
ASAR Alice Springs 56.92 102 P **P** **09 56 29.6 -2.0**
comp=Z,5.5nm,0.8s,baz=253,slow=5.9,SNR=41
ASAR LR LR 10 18 37.4
comp=Z,590nm,19.2s,baz=268,slow=34
ASAR PKP2bc 10 26 34.1
comp=Z,0.7nm,0.9s,baz=38,slow=4.7,SNR=4.9
AS31 Alice Springs 56.92 102 *e*P **P** **09 56 29.9 -1.8**
comp=Z,6.9nm,1.0s
AS01 Alice Springs 56.96 102 *e*P **P** **09 56 30.3 -1.7**
MTN Manton Dam 58.07 89 *e*P **P** **09 56 38.7 -1.1**
comp=Z,51nm,1.0s
WR1 Warramunga Arr 58.43 98 *e*P **P** **09 56 40.5 -1.9**
comp=Z,73nm,1.3s
WRA Warramunga Arr 58.43 98 P **P** **09 56 40.5 -1.9**
comp=Z,8.8nm,0.9s,baz=252,slow=7.3,SNR=24
WRA LR LR 10 20 43.6
comp=Z,1μm,18.4s,baz=255,slow=35
WRA PKP2bc 10 26 37.0
comp=Z,1.2nm,1.1s,baz=51,slow=1.8,SNR=4.6
WB2 Warramunga Arr 58.45 98 *e*P **P** **09 56 41.1 -1.3**
WRAB Tennant Creek 58.45 98 *e*P **P** **09 56 41.2 -1.2**
comp=Z,43nm,1.0s
WRAB Tennant Creek 58.45 98 *e*P **P** **09 56 41.2 -1.2**
WRAB pmax pmax
comp=Z,43nm,1.0s
WC3 Warramunga Arr 58.46 98 *e*P **P** **09 56 39.7 -2.8**
comp=Z,53nm,1.1s
QIZ Qiongzhong 58.82 44 P **P** **09 56 42.1 -2.8**
QIZ S **S** **10 04 51.6 +1.0**
QIZ SS **SS** **10 08 42.9 -1.5**
QIZ pmax pmax
comp=Z,160nm,4.1s
QIZ LR LR
comp=Z,1μm,17.2s
QIZ LR LR
comp=Z,770nm,16.7s
QIZ LR LR
comp=Z,2μm,19.6s
LSA Lhasa 58.85 21 P **P** **09 56 46.9 +1.5**
LSA LR LR
comp=Z,1μm,30.4s
LSA Lhasa 58.85 21 *e*P **P** **09 56 45.5 +0.1**
comp=Z,36nm,1.4s
LSA Lhasa 58.85 21 *e*P **P** **09 56 45.5 +0.1**
LSA pmax pmax
comp=Z,36nm,1.4s
NIL Nilore 59.46 3 *e*P **P** **09 56 48.0 -1.0**
comp=Z,66nm,1.5s
NIL Nilore 59.46 3 *e*P **P** **09 56 48.1 -1.0**
NIL pmax pmax
comp=Z,66nm,1.5s
KMI Kunming 59.60 34 P **P** **09 56 50.3 -0.1**
KMI pP pwP 09 56 57.3 0.0
KMI sP sP 09 56 59.6 +6.5
KMI S **S** **10 05 03.1 +2.2**
KMI SS **SS** **10 09 02.0 +5.1**
KMI pmax pmax
comp=Z,30nm,1.2s
KMI pmax pmax
comp=Z,270nm,4.0s
KMI LR LR
comp=Z,1μm,19.2s
KMI LR LR
comp=Z,570nm,19.7s
KMI LR LR
comp=Z,2μm,26.2s
SNAA Sanae 60.28 200 P **P** **09 56 57.7 +3.3**
SNAA Sanae 60.28 200 *e*P **P** **09 56 52.4 -2.0**
comp=Z,36nm,1.2s
SNAA Sanae 60.28 200 *i* P **P** **09 56 57.8 +3.4**
SNAA Sanae 60.28 200 P **P** **09 56 54.1 -0.2**
comp=Z,3.4nm,0.8s,baz=14,slow=10,SNR=5.3
KBL Kabul 60.32 358 *e*P **P** **09 56 53.5 -1.6**
comp=Z,55nm,1.1s
KBL Kabul 60.32 358 *e*P **P** **09 56 53.6 -1.6**
KBL pmax pmax
comp=Z,55nm,1.1s
PAGZ Pagadian 61.29 64 *e*P **P** **09 57 00.7 -1.3**
STKA Stephens Creek 61.33 114 *e*P **P** **09 57 01.3 -0.8**
comp=Z,7.8nm,1.3s
STKA Stephens Creek 61.33 114 *e*P **P** **09 57 01.3 -0.8**
STKA pmax pmax
comp=Z,8.0nm,1.3s
STKA Stephens Creek 61.33 114 P **P** **09 57 01.1 -1.0**
comp=Z,3.8nm,1.0s,baz=256,slow=6.0,SNR=6.3
STKA LR LR 10 20 08.1
comp=Z,566nm,21.6s,baz=258,slow=33
SKMP Bagumbayan, Su 61.48 66 *e*P **P** **09 57 03.1 -0.2**
VNA2 Neumayer--Watz 61.69 201 P **P** **09 57 06.0 +2.2**
baz=76,slow=6.4
VNA1 Neumayer--Stat 61.97 202 P **P** **09 57 09.0 +3.3**
KCP Kidapawan 62.21 66⇓ *e*P **P** **09 57 08.2 0.0**
GUIM Jordan 62.29 61 *e*P **P** **09 57 08.2 -0.4**
VNA3 Neumayer Olymp 62.44 201 P **P** **09 57 12.2 +3.3**
BUKP Musuan 62.67 65 *e*P **P** **09 57 11.7 +0.3**
GYA Guiyang 62.72 36 *e*P **P** **09 57 15.4 +4.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
TOO Toolangi 63.09 121 *e*P **P** **09 57 13.7 -0.2**
comp=Z,70nm,1.3s
TOO Toolangi 63.09 121 *e*P **P** **09 57 13.7 -0.2**
TOO pmax pmax
comp=Z,70nm,1.3s
FAKI Fak Fak 63.29 80 *e*P **P** **09 57 14.7 -0.7**
comp=Z,56nm,1.0s
QSPA South Pole Qui 64.04 180 *e*P **P** **09 57 18.0 -1.8**
comp=Z,60nm,1.0s
QSPA South Pole Qui 64.04 180 P **P** **09 57 18.4 -1.4**
comp=Z,13nm,1.1s,baz=259,slow=1.5,SNR=16
GEYT Alibeck 64.76 349 LR LR 10 21 39.6
comp=Z,639nm,21.3s,baz=140,slow=32
GYA0B ALIBECK ARRAY 64.76 349 *e*P **P** **09 57 24.2 -0.4**
comp=Z,7.4nm,1.3s
CD2 Chengdu 64.92 31 ⇓P **P** **09 57 25.5 -0.3**
CD2 PP **PP** **09 59 49.0 +0.1**
CD2 S **S** **10 06 04.8 -2.6**
CD2 sS sS 10 06 18.0 +7.4
CD2 SS **SS** **10 10 27.3 +7.6**
CD2 pmax pmax
comp=Z,40nm,1.1s
CD2 pmax pmax
comp=Z,260nm,3.7s
CD2 LR LR
comp=Z,1μm,16.9s
CD2 LR LR
comp=Z,1μm,21.6s

VNDA Vanda 64.98 166 *e*P **P** **09 57 24.8 -0.8**
comp=Z,93nm,1.0s
VNDA Vanda 64.98 166 *e*P **P** **09 57 24.8 -0.8**
VNDA pmax pmax
comp=Z,93nm,1.0s
VNDA Vanda 64.98 166 P **P** **09 57 24.3 -1.2**
comp=Z,14nm,0.9s,baz=268,slow=7.5,SNR=39
VNDA LR LR 10 22 53.7
comp=Z,1μm,18.8s,baz=248,slow=33
VNDA PKP2ab 10 26 19.6
comp=Z,2.3nm,0.9s,baz=117,slow=0.6,SNR=6.9
EIL Elat 65.16 326 P **P** **09 57 27.7 +0.4**
comp=Z,1.3nm,0.4s,baz=111,slow=14,SNR=4.4
KSH Kashi 65.45 5 P **P** **09 57 26.8 -2.4**
KSH pP sP 09 57 32.4 +0.6
KSH PP **PP** **09 59 54.1 +0.6**
KSH S **S** **10 06 05.8 -8.1**
KSH ScS SKSac 10 07 13.4 -11
KSH pmax pmax
comp=Z,22nm,0.9s
KSH LR LR
comp=Z,570nm,14.5s
KSH LR LR
comp=Z,460nm,15.2s
KSH LR LR
comp=Z,1μm,17.0s
BTK Batken 65.81 0 *e*P **P** **09 57 31.9 +0.5**
comp=Z,68nm,1.4s
BTK Batken 65.81 0 *e*P **P** **09 57 31.9 +0.5**
BTK pmax pmax
comp=Z,68nm,1.4s
SBA Scott Base 65.97 167 *e*P **P** **09 57 31.8 -0.1**
comp=Z,37nm,0.9s
SBA Scott Base 65.97 167 *e*P **P** **09 57 31.8 -0.1**
SBA pmax pmax
comp=Z,37nm,0.9s
CAN Canberra 66.39 119 *e*P **P** **09 57 34.2 -1.2**
comp=Z,33nm,1.2s
CAN Canberra 66.39 119 *e*P **P** **09 57 34.2 -1.2**
CAN pmax pmax
comp=Z,33nm,1.2s
NRN Naryn 67.36 4 *e*P **P** **09 57 41.0 -0.6**
comp=Z,39nm,1.1s
NRN Naryn 67.36 4 *e*P **P** **09 57 41.0 -0.6**
NRN pmax pmax
comp=Z,39nm,1.1s
TARG Taragay, Kyrgy 67.80 6 *e*P **P** **09 57 43.6 -0.8**
comp=Z,11nm,1.1s
IUG Iuzhnay 67.90 359 *e*P **P** **09 57 43.6 -1.0**
IUG pmax pmax
comp=Z,216nm,1.8s
IUG Iuzhnay 67.90 359 *e*P **P** **09 57 43.7 -1.0**
comp=Z,216nm,1.8s
AML Almayashu 67.94 2 P **P** **09 57 47.0 +1.8**
SNR=12
KZA Kyzart 67.96 4 P **P** **09 57 45.2 -0.3**
SNR=8.3
UCH Uchtor 68.07 3 P **P** **09 57 46.9 +0.7**
SNR=7.5
KDJ Kajisay 68.14 5 *e*P **P** **09 57 46.0 -0.3**
comp=Z,54nm,1.3s
KDJ Kajisay 68.14 5 *e*P **P** **09 57 46.0 -0.3**
KDJ pmax pmax
comp=Z,54nm,1.3s
JBG Jabagly 68.17 360 *e*P **P** **09 57 45.4 -1.0**
JBG pmax pmax
comp=Z,223nm,1.4s
ULHL Ulahol 68.19 4 P **P** **09 57 48.6 +1.9**
SNR=9.3
EKS2 Erkin-Say 68.47 2 P **P** **09 57 50.0 +1.7**
SNR=6.7
AAK Ala-Archa 68.48 3 P **P** **09 57 50.4 +2.0**
SNR=12
AAK Ala-Archa 68.48 3 *e*P **P** **09 57 47.9 -0.5**
comp=Z,58nm,1.4s
AAK Ala-Archa 68.48 3 *i* P **P** **09 57 50.0 +1.6**
SNR=8.8
AAK Ala-Archa 68.48 3*c**e*P **P** **09 57 48.4 0.0**
AAK pmax pmax
comp=Z,35nm,1.7s
AAK Ala-Archa 68.48 3 P **P** **09 57 48.5 +0.2**
SNR=26
AAK Ala-Archa 68.48 3 P **P** **09 57 48.3 -0.1**
comp=Z,8.5nm,1.1s,baz=176,slow=6.6,SNR=26
SIRT Sirnak 68.59 336 *e*P **P** **09 57 50.2 +1.0**
comp=Z,112nm,1.1s
PRZ Przheval'sk 68.60 6 *e*P **P** **09 57 49.6 +0.4**
comp=Z,88nm,1.2s
PRZ Przheval'sk 68.60 6 *e*P **P** **09 57 49.6 +0.4**
PRZ pmax pmax
comp=Z,88nm,1.2s
FRU Bishkek 68.68 3 *e*P **P** **09 57 48.0 -1.5**
FRU pmax pmax
comp=Z,80nm,2.2s
FRU MLR MLR
comp=E,300nm,15.0s
TKM2 Tokmak 2 68.82 4 P **P** **09 57 50.1 -0.5**
SNR=19
KK31 Karatay Array 68.85 360 *e*P **P** **09 57 50.1 -0.4**
comp=E,76nm,1.3s
KK31 Karatay Array 68.85 360 *i* P **P** **09 57 50.7 +0.2**
KK31 pmax pmax
comp=Z,76nm,1.4s
KKAR Karatay Array 68.85 360 *e*P **P** **09 57 50.0 -0.5**
comp=Z,76nm,1.3s
KKAR Karatay Array 68.85 360 *e*P **P** **09 57 50.0 -0.5**
KKAR pmax pmax
comp=Z,77nm,1.3s
CTA Charters Tower 68.92 103 LR LR 10 25 00.0
comp=Z,759nm,21.4s,baz=248,slow=33
TNSS Tian-Shan 69.03 5 *e*P **P** **09 57 51.3 -0.8**
TNSS pmax pmax
comp=Z,67nm,1.1s
TNSS Tian-Shan 69.03 5 *e*P **P** **09 57 51.4 -0.8**
comp=Z,67nm,1.1s
USP Ospenovka 69.10 3 P **P** **09 57 54.0 +1.8**
SNR=9.6
MDOK Medeo 69.16 5 *e*P **P** **09 57 50.1 -2.5**
MDOK pmax pmax
comp=Z,424nm,1.3s
MDOK Medeo 69.16 5 *e*P **P** **09 57 50.2 -2.5**
comp=Z,424nm,1.3s
MDOK eLR LR 10 25 19.9
comp=Z,343nm,21.0s
SATY Saty 69.17 6 *e*P **P** **09 57 50.9 -1.8**
SATY pmax pmax
comp=Z,285nm,1.4s
SATY Saty 69.17 6 *e*P **P** **09 57 50.9 -1.8**
comp=Z,285nm,1.4s
SATY eLR LR 10 26 11.0
comp=Z,430nm,16.9s
ZHN Zhinishke 69.28 6 *e*P **P** **09 57 51.5 -1.8**
ZHN pmax pmax
comp=Z,143nm,1.6s
ZHN Zhinishke 69.28 6 *e*P **P** **09 57 51.5 -1.8**
comp=Z,143nm,1.6s
ZHN eLR LR 10 26 10.4
comp=Z,399nm,18.2s
LZH Lanzhou 69.32 28 ⇑P **P** **09 57 55.3 +1.5**
LZH pP pwP 09 58 00.9 +0.1
LZH sP sP 09 58 03.3 +6.9
LZH S **S** **10 06 59.6 -1.0**
LZH sS sS 10 07 14.6 +11
LZH SS **SS** **10 11 34.6 +6.5**
LZH pmax pmax
comp=Z,43nm,0.8s
LZH pmax pmax
comp=Z,400nm,4.3s
LZH LR LR
comp=Z,1μm,17.5s
LZH LR LR
comp=Z,2μm,17.1s
LZH LR LR
comp=Z,2μm,19.5s
UZB Uzunbulak 69.32 7 *e*P **P** **09 57 51.3 -2.3**
UZB pmax pmax
comp=Z,226nm,1.6s
UZB Uzunbulak 69.32 7 *e*P **P** **09 57 51.4 -2.3**
comp=Z,226nm,1.6s
UZB eLR LR 10 25 50.8
comp=Z,282nm,16.6s
SSLB Suanglung 69.46 49 *e*P **P** **09 57 56.4 +1.6**
comp=Z,41nm,1.1s
KPKS Kokpek 69.60 6 *e*P **P** **09 57 52.8 -2.5**
KPKS pmax pmax
comp=Z,379nm,1.0s
KPKS Kokpek 69.60 6 *e*P **P** **09 57 52.9 -2.5**
comp=Z,379nm,1.1s
KPKS eLR LR 10 26 25.6
comp=Z,744nm,18.7s
XAN Xi'an 69.96 33 P **P** **09 57 56.9 -0.7**
XAN pP pwP 09 58 08.9 +4.3
XAN S **S** **10 07 04.3 -3.7**
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN pmax pmax
comp=Z,170nm,3.5s
XAN LR LR
comp=Z,990nm,23.0s
XAN LR LR
comp=Z,350nm,20.4s
XAN LR LR
comp=Z,1μm,24.0s
XAN Xi'an 69.96 33 *e*P **P** **09 57 57.0 -0.7**
comp=Z,25nm,1.3s
XAN Xi'an 69.96 33 *e*P **P** **09 57 57.0 -0.7**
XAN pmax pmax
comp=Z,25nm,1.3s
ARMA Armidale 69.98 115 *e*P **P** **09 57 58.1 0.0**
comp=Z,60nm,1.3s
WHN Wuhan 70.13 39 ⇓P **P** **09 58 00.1 +1.4**
GNI Garni 70.18 339 *e*P **P** **09 57 59.8 +0.9**
comp=Z,64nm,1.4s
GNI Garni 70.18 339 P **P** **09 57 59.9 +0.9**
GNI Garni 70.18 339*c**e*P **P** **09 57 59.0 0.0**
GNI pmax pmax
comp=Z,26nm,1.2s
GNI Garni 70.18 339 P **P** **09 57 55.8 -3.2**
SNR=6.7
GNI P **P** **09 57 55.8 -3.2**
SNR=6.7
GNI Garni 70.18 339 LR LR 10 26 35.4
comp=Z,751nm,19.9s,baz=150,slow=34
GTA Gaotai 70.62 24 ⇑P **P** **09 58 01.8 +0.2**
GTA pP pwP 09 58 07.8 -0.8
GTA sP sP 09 58 11.1 +6.8
GTA S **S** **10 07 16.1 +0.5**
GTA sS sS 10 07 24.6 +5.8
GTA SKS **SKSac** **10 07 59.3 -4.5**
GTA pmax pmax
comp=Z,18nm,1.8s
GTA pmax pmax
comp=Z,230nm,4.8s
GTA LR LR
comp=Z,710nm,21.9s
GTA LR LR
comp=Z,730nm,21.9s
GTA LR LR
comp=Z,1μm,20.9s
BTLS Baital 70.86 3 *e*P **P** **09 58 00.9 -1.9**
BTLS pmax pmax
comp=Z,305nm,1.1s
BTLS Baital 70.86 3 *e*P **P** **09 58 00.9 -1.9**
comp=Z,305nm,1.1s
BTLS eLR LR 10 26 14.8
comp=Z,179nm,18.1s
JAY Jayapura 70.99 83 LR LR 10 29 09.5
comp=Z,168nm,19.1s,baz=266,slow=36
TDK Taldyqorghan 71.10 6 *e*P **P** **09 58 03.1 -1.2**
TDK pmax pmax
comp=Z,1μm,1.7s
TDK Taldyqorghan 71.10 6 *e*P **P** **09 58 03.1 -1.2**
comp=Z,1μm,1.7s
TDK eLR LR 10 27 01.2
comp=Z,817nm,17.8s
EIDS Eidsvold 71.23 110 *e*P **P** **09 58 05.3 -0.4**
comp=Z,46nm,1.5s
WMQ Urumqi 71.30 13 P **P** **09 58 06.8 +1.2**
WMQ pP pwP 09 58 13.0 +0.4
WMQ sP sP 09 58 14.9 +6.7
WMQ S **S** **10 07 21.8 -1.5**
WMQ SKS **SKSac** **10 08 03.9 -4.7**
WMQ SS **SS** **10 11 55.3 -2.9**
WMQ pmax pmax
comp=Z,59nm,1.7s
WMQ pmax pmax
comp=Z,570nm,3.8s
WMQ LR LR
comp=Z,2μm,23.9s
WMQ LR LR
comp=Z,730nm,20.1s
WMQ LR LR
comp=Z,2μm,23.1s
WMQ Urumqi 71.30 13 *e*P **P** **09 58 05.7 +0.1**
comp=Z,71nm,1.3s
WMQ Urumqi 71.30 13 *e*P **P** **09 58 05.7 +0.1**
WMQ pmax pmax
comp=Z,71nm,1.3s
MAK Makhachkala 71.94 342 *e*P P 09 58 03.9 -5.5
MAK *e* 10 00 45.4
MAK *e*S **S** **10 07 21.8 -8.7**
MAK *e*SS **SS** **10 12 01.0 -6.8**
MAK pmax pmax
comp=Z,340nm,1.7s
MAK MLR MLR
comp=Z,1μm,17.0s
GROC Groznyy 72.65 341 *e*P **P** **09 58 13.7 +0.1**
GROC *e* 09 58 30.4
GROC *e* 10 00 53.7
GROC *e*S **S** **10 07 39.8 +1.2**
GROC pmax pmax
comp=Z,102nm,1.6s
ZEI Tsey 72.84 340 *e*P **P** **09 58 17.9 +2.9**
ZEI pmax pmax
comp=Z,16nm,1.5s
MAKZ Makanchi 73.27 8 *e*P **P** **09 58 17.0 -0.2**
comp=Z,49nm,1.5s
MAKZ Makanchi 73.27 8 P **P** **09 58 14.2 -3.1**
MAKZ pmax pmax
comp=Z,37nm,1.5s
MK01 Makanchi Array 73.28 8 *e*P **P** **09 58 16.2 -1.1**
MK31 Makanchi Array 73.30 8 *e*P **P** **09 58 16.5 -0.9**
comp=Z,36nm,1.1s
MK31 Makanchi Array 73.30 8 *i* P **P** **09 58 16.0 -1.4**
MK31 pmax pmax
comp=Z,29nm,0.9s
MK32 Makanchi Array 73.30 8 *e*P **P** **09 58 16.1 -1.3**
MKAR Makanchi Array 73.30 8 P **P** **09 58 16.1 -1.3**
comp=Z,14nm,0.8s,baz=195,slow=6.2,SNR=53
MKAR LR LR 10 29 36.7
comp=Z,854nm,18.5s,baz=187,slow=35
NJ2 Nanjing 73.85 41 *e*P **P** **09 58 20.8 -0.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 LR LR
comp=Z,830nm,20.6s
NJ2 LR LR
comp=Z,620nm,18.4s
NJ2 LR LR
comp=Z,1μm,19.5s
KBZ Khabaz 74.00 339 P **P** **09 58 21.8 +0.2**
comp=Z,3.4nm,0.8s,baz=169,slow=3.7,SNR=5.7
KBZ LR LR 10 29 21.7
comp=Z,645nm,19.3s,baz=152,slow=34
BR101 Keskin Array S 74.02 331 *e*P **P** **09 58 21.9 -0.2**
BR131 Keskin Array S 74.02 331 *e*P **P** **09 58 22.5 +0.5**
comp=Z,27nm,1.3s
BR131 Keskin Array S 74.02 331 P **P** **09 58 21.6 -0.4**
BRTR Keskin Array B 74.02 331 *i* P **P** **09 58 22.2 +0.2**
BRTR pmax pmax
comp=Z,4.0nm,0.9s
BRTR Keskin Array B 74.02 331 P **P** **09 58 21.9 -0.2**
comp=Z,4.4nm,0.9s,baz=168,slow=7.7,SNR=12
BRTR LR LR 10 29 08.6
comp=Z,304nm,19.1s,baz=104,slow=34
KVAR Kislovodsk Arr 74.27 339 LR LR 10 28 37.6
comp=Z,323nm,21.0s,baz=72,slow=34
ZSN Zaisan 74.31 10 *e*P **P** **09 58 21.2 -2.1**
ZSN pmax pmax
comp=Z,59nm,1.4s
ZSN Zaisan 74.31 10 *e*P **P** **09 58 21.2 -2.1**
comp=Z,59nm,1.4s
SSE Sheshan 74.59 43 P **P** **09 58 25.8 +0.5**
SSE S **S** **10 08 01.4 +0.3**
SSE pmax pmax
comp=Z,12nm,0.5s
SSE pmax pmax
comp=Z,150nm,3.2s
SSE LR LR
comp=Z,330nm,20.8s
SSE LR LR
comp=Z,370nm,22.7s
AB31 Akbulak array 75.61 353 *i* P **P** **09 58 29.8 -1.0**

AB31 pmax pmax
comp=Z,47nm,1.2s
ABKAR Akbulak array 75.61 353 *e*P **P 09 58 30.0 -0.8**
comp=Z,60nm,1.3s
BRZS Berezniki 75.75 1 *e*P **P 09 58 29.6 -1.9**
BRZS pmax pmax
comp=Z,151nm,1.7s
BRZS Berezniki 75.75 1 *e*P **P 09 58 29.7 -1.9**
comp=Z,151nm,1.7s
BRZS *e*LR LR 10 28 37.5
comp=Z,363nm,19.8s
TIA Tai'an 75.89 37 P **P 09 58 32.8 +0.1**
TIA pmax pmax
comp=Z,6.0nm,1.5s
YLV Yalova 76.62 329 ⇑P P 09 58 43.6 +6.8
SEM Semipalatinsk 76.63 6 *e*P **P 09 58 34.7 -2.1**
SEM pmax pmax
comp=Z,242nm,1.8s
SEM Semipalatinsk 76.63 6 *e*P **P 09 58 34.7 -2.1**
SEM *e*LR LR 10 28 36.6
comp=Z,243nm,21.9s
HHC Hu-ho-hao-te 76.67 31 *e*P **P 09 58 36.9 -0.2**
HHC sP PcP 09 58 46.6 -1.9
HHC S **S 10 08 21.1 -2.8**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,260nm,5.7s
HHC LR LR
comp=Z,620nm,17.5s
HHC LR LR
comp=Z,790nm,15.9s
HHC LR LR
comp=Z,870nm,18.6s
KURBB Kurchatov Arra 76.69 5 P **P 09 58 36.3 -0.6**
comp=Z,11nm,0.8s,baz=199,slow=6.2,SNR=55
KURK Kurchatov 76.79 5 *e*P **P 09 58 37.3 -0.2**
comp=Z,68nm,1.1s
KURK Kurchatov 76.79 5 *e*P **P 09 58 37.3 -0.2**
KURK pmax pmax
comp=Z,68nm,1.1s
KURK Kurchatov 76.79 5 P **P 09 58 37.2 -0.2**
SNR=23
KURK P P **09 58 37.2 -0.2**
SNR=23
DGZ Jazzator, Alta 76.91 11 *i*P **P 09 58 38.4 0.0**
DGZ pmax pmax
comp=Z,19nm,2.0s
AKTO Aktyubinsk 77.01 352 P **P 09 58 37.9 -0.8**
comp=Z,4.6nm,0.9s,baz=154,slow=7.3,SNR=16
AKTO LR LR 10 31 16.6
comp=Z,303nm,19.5s,baz=152,slow=35
TOA0 Torodi Ar. Sit 77.56 291 *e*P **P 09 58 42.0 -0.6**
comp=Z,18nm,1.2s
TORD Torodi Ar. Bea 77.56 291 P **P 09 58 41.2 -1.3**
comp=Z,4.2nm,1.0s,baz=118,slow=3.8,SNR=18
TORD LR LR 10 32 22.6
comp=Z,265nm,18.5s,baz=70,slow=35
TOA1 Torodi Ar. Sit 77.56 291 *e*P **P 09 58 41.2 -1.4**
BVA0 Borovoye Array 78.78 360 *i*P **P 09 58 46.7 -1.8**
BVA0 pmax pmax
comp=Z,24nm,1.3s
BVAR Borovoye Array 78.78 360 LR LR 10 31 33.2
comp=Z,1μm,21.5s,baz=172,slow=34
BRVK Borovoye 78.81 360 *e*P **P 09 58 49.1 +0.5**
comp=Z,22nm,1.2s
BRVK Borovoye 78.81 360 *ce*P **P 09 58 49.8 +1.1**
BRVK pmax pmax
comp=Z,8.0nm,1.3s
TAM Tamanrasset 79.61 302 *e*P **P 09 58 54.4 +0.5**
comp=Z,14nm,1.3s
TAM Tamanrasset 79.61 302 *e*P **P 09 58 54.4 +0.5**
TAM pmax pmax
comp=Z,14nm,1.3s
KIC Kosan Boka 79.80 282 *e*PKP1 **P 09 58 56.5 +1.5**
comp=Z,89nm,1.3s
LIC Lamto 79.99 282 *e*PKP1 **P 09 58 57.4 +1.4**
comp=Z,73nm,1.2s
DBIC Dimbokro 80.05 282 *e*P **P 09 58 56.6 +0.3**
comp=Z,27nm,1.3s
DBIC Dimbokro 80.05 282 *e*P **P 09 58 56.6 +0.3**
DBIC pmax pmax
comp=Z,27nm,1.3s
DBIC Dimbokro 80.05 282 P **P 09 58 57.5 +1.2**
comp=Z,8.2nm,1.1s,baz=119,slow=11,SNR=3.8
DBIC LR LR 10 33 54.9
comp=Z,716nm,18.2s,baz=105,slow=35
TIC Toumodi 80.18 282 *e*PKP1 **P 09 58 57.1 0.0**
SONA0 Songino Array 80.29 24 *e*P **P 09 58 56.5 -0.5**
SONM Songino Array 80.29 24 P **P 09 58 56.5 -0.5**
comp=Z,12nm,0.9s,baz=212,slow=3.2,SNR=51
SONM LR LR 10 33 11.5
comp=Z,515nm,21.7s,baz=200,slow=35
DL2 Dalian 80.31 38 P **P 09 58 54.8 -2.3**
DL2 S **S 10 09 02.3 -0.5**
DL2 SS **SS 10 14 18.8 +4.0**
DL2 pmax pmax
comp=Z,21nm,1.2s
DL2 LR LR
comp=Z,670nm,20.2s
DL2 LR LR
comp=Z,660nm,20.5s
DL2 LR LR
comp=Z,880nm,20.2s
ULN Ulaanbaatar 80.56 24 *e*P **P 09 58 57.8 -0.7**
comp=Z,41nm,1.2s
ULN Ulaanbaatar 80.56 24 *ce*P **P 09 58 58.0 -0.5**
ULN pmax pmax
comp=Z,41nm,1.6s
ULN Ulaanbaatar 80.56 24 P **P 09 58 58.2 -0.3**
SNR=20
ULN P P **09 58 58.2 -0.3**
SNR=20
ZAA0 Zalesovo Array 80.64 8 *e*P **P 09 58 57.6 -0.9**
comp=Z,27nm,1.0s
ZALV Zalesovo Beam 80.64 8 *i*P **P 09 58 57.5 -1.1**
ZALV pmax pmax
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 80.64 8 P **P 09 58 57.2 -1.3**
comp=Z,15nm,0.8s,baz=196,slow=5.3,SNR=36
ZALV LR LR 10 34 49.1
comp=Z,393nm,18.1s,baz=238,slow=36
ZAA1 Zalesovo Array 80.65 8 *e*P **P 09 58 57.2 -1.4**
VRH Novokhopyorsk 81.08 342 *e*P **P 09 59 01.1 +0.2**
VRH pmax pmax
comp=Z,50nm,1.9s
VTS Vitosha 81.14 327 *e*P **P 09 59 01.8 +0.1**
comp=Z,19nm,1.4s
VTS Vitosha 81.14 327 *e*P **P 09 59 01.8 +0.1**
VTS pmax pmax
comp=Z,19nm,1.4s
NVS Novosibirsk 81.32 7 *e*P **P 09 59 02.3 +0.2**
NVS pmax pmax
comp=Z,76nm,2.0s
NVS pmax pmax
comp=N,31nm,1.6s
NVS pmax pmax
comp=E,23nm,1.6s
ZAK Zakamensk 81.44 20 *e*P **P 09 59 02.9 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.9s
VSR Storozhevoye 81.83 341 *i*P **P 09 59 04.4 -0.5**
VSR pmax pmax
comp=Z,19nm,1.1s
MOY Mondy 81.88 19 *e*P **P 09 59 06.9 +1.5**
MLR Muntele Rosu 82.03 330 *e*P **P 09 59 07.1 +0.7**
comp=Z,76nm,1.4s
MLR Muntele Rosu 82.03 330 *e*P **P 09 59 07.1 +0.7**
MLR pmax pmax
comp=Z,76nm,1.4s
JNU Nakatsue 82.13 47 LR LR 10 34 08.0
comp=Z,465nm,19.5s,baz=224,slow=35
TLY Talaya 82.68 20 *e*P **P 09 59 11.0 +1.6**
TLY *e* 09 59 16.2
TLY *e*S **S 10 09 32.8 +5.9**
TLY *e*SS **SS 10 14 50.9 +1.1**
TLY pmax pmax
comp=Z,37nm,1.9s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY Talaya 82.68 20 P **P 09 59 09.2 -0.2**
SNR=9.5
TLY P P **09 59 09.2 -0.2**
SNR=9.5
ARU Arti 82.83 353 *d*i P **P 09 59 10.1 0.0**
ARU S **S 10 09 28.0 -0.1**
ARU pmax pmax
comp=Z,47nm,1.3s
ARU MLR MLR
comp=Z,521nm,17.0s
KS01 Wonju Array Si 82.98 42 *e*P **P 09 59 09.9 -1.4**
KSRS Korea Array 82.98 42 P **P 09 59 10.1 -1.2**
comp=Z,3.0nm,0.8s,baz=236,slow=5.7,SNR=11
KSRS LR LR 10 34 05.2
comp=Z,904nm,20.4s,baz=232,slow=34
SVE Sverdlovsk 83.03 354 *e*P **P 09 59 11.6 +0.5**
SVE pmax pmax
comp=Z,86nm,1.5s
LPSR Galich'ya Gora 83.12 341 *e*P **P 09 59 11.6 0.0**
LPSR pmax pmax
comp=Z,20nm,1.0s
IRK Irkutsk 83.36 20 *e*P **P 09 59 13.1 +0.2**
IRK pmax pmax
comp=Z,72nm,2.9s
DIVS Divibare 83.84 326 *e*P **P 09 59 16.4 +0.7**
comp=Z,30nm,1.2s
BUR08 Bucovina Ar. S 84.02 331 *e*P **P 09 59 17.6 +1.1**
comp=Z,11nm,1.5s
KEST Kesra 84.44 314 LR LR 10 36 39.3
comp=Z,214nm,19.2s,baz=96,slow=35
AKASG Malin Array Be 84.77 335 *i*P **P 09 59 20.8 +0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 84.77 335 P **P 09 59 19.4 -0.7**
comp=Z,2.8nm,0.8s,baz=140,slow=4.4,SNR=10
AKBB Malin Array Si 84.77 335 *e*P **P 09 59 20.4 +0.3**
comp=Z,23nm,1.4s
AKBB Malin Array Si 84.77 335 *e*P **P 09 59 20.4 +0.3**
AKBB pmax pmax
comp=Z,23nm,1.4s
KIEV Kiev 84.77 335 *e*P **P 09 59 20.4 +0.2**
comp=Z,20nm,1.4s
KIEV Kiev 84.77 335 *i*P **P 09 59 20.1 0.0**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
AK11 Malin Array Si 84.78 335 *e*P **P 09 59 20.1 0.0**
DZM Mont Dzumac 85.44 112 *e*P P 09 59 30.0 +5.5
comp=Z,40nm,1.2s
DZM Mont Dzumac 85.44 112 *e*LR LR 10 26 24.5
comp=Z,598nm,26.6s
CN2 Changchun 85.77 36 *e*P **P 09 59 24.6 -0.7**
CN2 *es*P pwP 09 59 31.5 -0.8
CN2 *e*S **S 10 09 56.6 -1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
CN2 LR LR
comp=Z,300nm,19.0s
OBN Obninsk 86.00 341 *e*P **P 09 59 26.7 +0.6**
comp=Z,118nm,1.5s
OBN Obninsk 86.00 341 *de*P **P 09 59 27.6 +1.5**
OBN *e* 10 02 47.3
OBN *i*S **SKSac 10 09 42.3 -9.4**
OBN *e*SS **SS 10 15 40.0 +1.6**
OBN pmax pmax
comp=Z,17nm,1.3s
OBN MLR MLR
comp=Z,418nm,20.0s
OBN Obninsk 86.00 341 LR LR 10 36 20.2
comp=Z,110nm,21.2s,baz=162,slow=35
UZH Uzhgorod 86.04 330 *e*P **P 09 59 25.0 -1.5**
UZH *e* 09 59 27.7
UZH *e* 09 59 30.2
LVV L'vov 86.17 332 *e*P **P 09 59 28.1 +0.9**
KIRV Kirov 86.19 349 P **P 09 59 27.6 +0.6**
comp=Z,9.9nm,0.5s,baz=166,slow=4.0,SNR=11
KIRV LR LR 10 37 24.6
comp=Z,306nm,18.6s,baz=150,slow=35
MOS Moscow 86.24 342 *e*P **P 09 59 25.4 -1.9**
MOS pmax pmax
comp=Z,39nm,0.6s
KWP Kalwaria Pacla 86.60 331 *e*P **P 09 59 29.7 +0.4**
KWP Kalwaria Pacla 86.60 331 *e*P **P 09 59 29.7 +0.4**
PSZ Piszkesteto 86.62 329 *e*P **P 09 59 29.2 -0.3**
comp=Z,9.4nm,1.2s
PSZ Piszkesteto 86.62 329 *e*P **P 09 59 29.2 -0.3**
PSZ pmax pmax
comp=Z,9.0nm,1.2s
JCJ Chichijima 86.79 58 LR LR 10 33 28.4
comp=Z,542nm,21.6s,baz=112,slow=32
NIE Niedzica 87.52 330 *e*P **P 09 59 35.4 +1.6**
NIE Niedzica 87.52 330 *e*P **P 09 59 35.4 +1.6**
VYHS Vyhne 87.53 328 *e*P **P 09 59 35.3 +1.5**
VYHS pmax pmax
comp=Z,44nm,2.1s
VYHS Vyhne 87.53 328 *e*P **P 09 59 35.3 +1.5**
MODS Modra-Piesok 88.19 328 *e*P **P 09 59 37.6 +0.6**
MODS pmax pmax
comp=Z,55nm,1.8s
MODS Modra-Piesok 88.19 328 *e*P **P 09 59 37.6 +0.6**
JHJ Hachijo jima 2 88.22 52 LR LR 10 34 56.4
comp=Z,246nm,21.3s,baz=272,slow=33
MICGM Minsk 88.30 337‖ *e*P **P 09 59 37.0 -0.3**
MICGM PM 09 59 40.0
comp=Z,0.2nm,2.0s
MNK Minsk 88.30 337 *e*P **P 09 59 37.0 -0.3**
MNK pmax pmax
comp=Z,200nm,2.0s
OJC Ojcow 88.32 330 *e*P **P 09 59 36.8 -0.7**
OJC Ojcow 88.32 330 *e*P **P 09 59 37.1 -0.4**
comp=Z,38nm,1.5s
OJC Ojcow 88.32 330 *e*P **P 09 59 36.8 -0.7**
JAVC Velka Javorina 88.34 328 *e*P **P 09 59 39.2 +1.5**
MAJO Matsushiro 89.01 48 *e*P **P 09 59 40.6 -0.5**
MAJO Matsushiro 89.01 48 *e*P **P 09 59 40.6 -0.5**
MJAR Matsushiro Arr 89.01 48 P **P 09 59 40.6 -0.5**
comp=Z,1.0nm,0.6s,baz=233,slow=7.2,SNR=4.2
MJAR LR LR 10 39 08.1
comp=Z,490nm,19.3s,baz=260,slow=35
MORC Moravsky Berou 89.04 329 *e*P **P 09 59 41.6 +0.6**
KRUC Moravsky 89.09 328 *e*P **P 09 59 41.9 +0.7**
VRAC Vranov 89.16 328 *e*P **P 09 59 42.4 +0.9**
IDID Didziasalis 89.35 337 *e*P **P 09 59 44.9 +2.6**
IDID IAmb IAmb 09 59 51.1
comp=Z,5.3nm,1.0s
IIGN Ignalina 89.56 336 *e*P **P 09 59 46.0 +2.8**
IIGN IAmb IAmb 09 59 52.0
comp=Z,14nm,1.3s
USRK Ussuriysk Ar. 89.63 39 LR LR 10 40 14.8
comp=Z,711nm,18.3s,baz=236,slow=36
PRGR Permogore 89.73 348 *e*P **P 09 59 42.2 -1.6**
PRGR *e**PP **pwP 09 59 48.5 -1.6**
PRGR pmax pmax
comp=Z,11nm,0.4s
ISAL Salakas 89.77 337 *e*P **P 09 59 46.9 +2.7**
ISAL IAmb IAmb 09 59 52.5
comp=Z,3.2nm,0.6s
IZAR Zarasai 89.86 337 *e*P **P 09 59 47.3 +2.7**
IZAR IAmb IAmb 09 59 53.2
comp=Z,7.6nm,0.7s
KLMR Klimovskoe 90.27 345 *e*P **P 09 59 46.5 +0.2**
KLMR pmax pmax
comp=Z,71nm,1.4s
KLMR Klimovskoe 90.27 345 *e*P **P 09 59 46.6 +0.2**
KLMR AMP 09 59 54.5
comp=Z,71nm,1.4s
BOD Bodaibo 91.12 22 *e*P **P 09 59 48.5 -1.9**
BOD pmax pmax
comp=Z,14nm,2.1s
BRG Berggiesshubel 91.48 328 *e*P P 09 59 59.0 +6.7
comp=Z,34nm,1.3s
BRG Berggiesshubel 91.48 328 *e*P P 09 59 59.0 +6.7
BRG pmax pmax
comp=Z,34nm,1.9s
CLL Collm 92.21 328 *e*PS PS 10 12 18.0 +7.9
CLL *e*SS SS 10 17 12.0 +3.0
CLL L L 10 56 00.0
comp=Z,200nm,20.7s
KLR Kul'dur 92.60 35 *i*P **P 09 59 56.9 -0.6**
KLR Kul'dur 92.60 35 P **P 09 59 56.5 -1.1**
comp=Z,2.7nm,0.9s,baz=263,slow=6.1,SNR=7.7
KLR LR LR 10 43 03.2
comp=Z,772nm,18.0s,baz=234,slow=36
TMCR Tamitsa 93.52 346 *e*P **P 10 00 00.7 -0.7**
TMCR pmax pmax
comp=Z,18nm,1.4s
FINES FINESS Array B 94.35 340 LR LR 10 43 07.6
comp=Z,298nm,19.7s,baz=120,slow=36
ASAJ Asahikawa 95.89 44 LR LR 10 40 59.2
comp=Z,676nm,20.4s,baz=316,slow=34
NRIK Noril'sk 95.94 6 LR LR 10 44 01.1
comp=Z,1μm,20.0s,baz=193,slow=36
YSS Yuzh-Sakhalins 97.42 41 *e*P Pdif 10 00 28.1 +8.4
YSS MLR MLR
comp=Z,400nm,17.0s
YUK Yuzh-Kuril'sk 97.89 45 P Pdif 10 00 22.1 +0.3
YUK *e* 10 04 20.3
YUK *e*PPP PPP 10 06 23.8
YUK *e*S **SKSac 10 10 59.7 +0.3**
YUK *e*SS **SS 10 18 35.8 +5.7**
YUK *e*SSS SSS 10 22 15.5
YUK pmax pmax
comp=N,126nm,1.2s
YUK pmax pmax
comp=Z,145nm,1.2s
YUK pmax pmax
comp=E,107nm,0.9s
YUK pmax pmax
comp=Z,320nm,1.9s
NOA NORSAR Array B 99.19 335 LR LR 10 44 33.9
comp=Z,102nm,19.0s,baz=95,slow=35
BILL Bilibino 116.00 25‖ *e*PKIKP **PKiKP 10 05 29.3 +1.0**
BILL *e* 10 06 31.8
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,520nm,19.0s
TBI Tubuai 117.36 138 *e*LR LR 10 41 11.4
comp=Z,375nm,27.5s
PPT2 Papeete2 121.56 134 *e*LR LR 10 43 02.6
comp=Z,408nm,31.2s
RKT Rikitea 125.14 151 *e*T T 12 23 38.7
comp=Z,1.2nm,0.2s
TULEG Thule 125.83 349 *e*PKPdf **PKPdf 10 05 45.8 -1.2**
RES Resolute Bay 130.78 355 *e*PKPdf **PKPdf 10 05 56.9 +0.4**
RES Resolute Bay 130.78 355 *e*PKIKP **PKPdf 10 05 56.9 +0.4**
RES Resolute Bay 130.78 355 PKP **PKiKP 10 05 57.1 -0.2**
comp=Z,2.0nm,0.7s,baz=33,slow=3.0,SNR=9.6
TOLK Toolik Lake Re 131.18 18 *e*PKPdf **PKPdf 10 05 57.2 -0.3**
TOLK Toolik Lake Re 131.18 18 P **PKPdf 10 05 57.1 -0.5**
baz=309
IM3 Indian Mountai 131.45 22 *e*PKPdf **PKPdf 10 05 57.8 -0.2**
ILAR Eielson Array 134.49 21 PKP **PKPdf 10 06 03.2 -0.6**
comp=Z,0.5nm,0.8s,baz=308,slow=3.3,SNR=3.8
ILAR PP **PP 10 08 41.6 +5.3**
comp=Z,1.0nm,1.1s,baz=301,slow=4.6,SNR=4.4
ILB Eielson Array 134.49 21 *e*PKPdf **PKPdf 10 06 03.5 -0.2**
INK Inuvik 135.32 13 *e*PKPdf **PKPdf 10 06 05.7 +0.5**
INK Inuvik 135.32 13 *e*PKIKP **PKPdf 10 06 05.7 +0.5**
INK Inuvik 135.32 13 PKP **PKPdf 10 06 05.2 0.0**
comp=Z,1.3nm,0.9s,baz=120,slow=1.7,SNR=3.7
EPYK Eagle Plains 136.23 16 *e*PKPdf **PKPdf 10 06 07.3 +0.3**
EPYK Eagle Plains 136.23 16 P **PKPdf 10 06 06.5 -0.5**
baz=323
DAWY Dawson 137.32 19 *e*PKPdf **PKPdf 10 06 09.2 +0.1**
OTAV Otavalo 140.67 234 *e*PKPdf **PKPdf 10 06 17.2 -0.1**
OTAV Otavalo 140.67 234 *e*PKIKP **PKPdf 10 06 17.2 -0.1**
YKW3 Yellowknife Ar 143.37 4 *e*PKPdf **PKPdf 10 06 20.7 +0.7**
YKA Yellowknife Ar 143.43 4 PKiKP PKPpre 10 06 16.2
comp=Z,1.3nm,0.6s,baz=340,slow=3.7,SNR=24
YKA PP **PP 10 09 32.7 +1.5**
comp=Z,1.4nm,1.0s,baz=351,slow=6.8,SNR=8.1
YKB5 Yellowknife Ar 143.43 4 *e*PKPdf **PKPdf 10 06 21.1 +1.0**
CHGQ Chibougamau 144.11 321 P **PKPdf 10 06 21.7 0.0**
baz=62
LATQ La Tuque 144.27 316 P **PKPdf 10 06 21.5 -0.5**
baz=66
DLBC Dease Lake 144.54 19 *e*PKPdf PKPbc 10 06 21.4 +0.4
LBNH Lisbon 144.84 311 *e*PKPdf PKPbc 10 06 22.6 +0.4
LBNH Lisbon 144.84 311 *e*PKIKP PKPbc 10 06 22.6 +0.3
LBNH Lisbon 144.84 311 P **PKPab 10 06 22.1 -0.1**
baz=72
HRV Adam Dziewonsk 145.09 308 P **PKPab 10 06 23.2 +0.1**
baz=74
HNH Hanover 145.25 310 *e*PKPbc **PKPbc 10 06 23.3 -0.3**
FCC Fort Churchill 145.63 346 *e*PKPdf **PKPdf 10 06 23.4 -0.6**
FCC Fort Churchill 145.63 346 *e*PKIKP **PKPdf 10 06 23.4 -0.6**
FRNY Flat Rock 145.76 312 *e*PKPdf **PKPdf 10 06 23.8 -0.9**
LSQQ Lebel-sur-Quev 146.01 321 P **PKPbc 10 06 25.8 0.0**
baz=59
MATQ Matagami 146.01 322 P **PKPdf 10 06 25.1 +0.1**
baz=58
ALFO Alfred 146.30 314 P **PKPbc 10 06 26.4 -0.3**
baz=66
NCB Newcomb 146.49 311 *e*PKPdf **PKPdf 10 06 26.4 +0.4**
LONY Lake Ozonia 146.50 312 *e*PKPdf **PKPdf 10 06 26.0 0.0**
LONY Lake Ozonia 146.50 312 P **PKPdf 10 06 26.6 +0.6**
baz=68,SNR=6.5
D54A Lac Fusel, La 146.75 318 P **PKPbc 10 06 27.4 -0.7**
baz=62
VLDQ Val d'Or 146.76 320 *e*PKPdf **PKPdf 10 06 26.0 -0.3**
ORIO Orleans, Innes 146.78 314 P **PKPbc 10 06 27.7 -0.5**
baz=66
F55A Otter Lake 147.15 315 P **PKPbc 10 06 28.6 -0.7**
baz=64
PAL Palisades 147.19 306 P **PKPbc 10 06 28.6 -0.9**
baz=74
E54A Lac Daplat, Po 147.41 317 P **PKPbc 10 06 29.2 -0.8**
baz=63
D53A Lac Vacive, Po 147.41 318 P **PKPbc 10 06 29.7 -0.2**
baz=61
H56A Elgin 147.61 313 P **PKPbc 10 06 30.3 -0.2**
baz=66
G55A Calabogie 147.63 315 P **PKPbc 10 06 29.8 -0.8**
baz=65
ODNJ Ogdensburg 147.68 306 *e*PKPdf **PKPdf 10 06 28.0 -0.1**
E53A Dumoine, Ponti 147.72 317 P **PKPbc 10 06 30.0 -0.8**
baz=62
D52A ZEK Kipawa Sen 147.89 319 P **PKPbc 10 06 30.6 -0.6**
baz=60
PLVO Plevna 147.95 315 P **PKPbc 10 06 30.8 -0.6**
baz=65
ALGO Algonquin Park 148.16 317 P **PKPbc 10 06 31.3 -0.7**
baz=62
H55A Tweed 148.23 314 P **PKPbc 10 06 32.0 -0.2**
baz=65
BINY Binghamton 148.31 309 *e*PKPdf **PKPdf 10 06 28.9 -0.3**
BINY Binghamton 148.31 309 P **PKPbc 10 06 32.1 -0.4**
baz=70
PECO Prince Edward 148.36 313 P **PKPbc 10 06 32.3 -0.2**
baz=66
LUPA Lehigh Univers 148.37 306 *e*PKPdf **PKPdf 10 06 29.3 0.0**
E52A Mattawa 148.37 318 P **PKPbc 10 06 32.2 -0.3**
baz=61
D51A Lot 18 Range I 148.40 319 P **PKPbc 10 06 32.5 0.0**
baz=59
BANO Bancroft 148.51 315 P **PKPbc 10 06 32.9 -0.1**
baz=64
DELO Deloro Mine 148.53 314 P **PKPbc 10 06 32.3 -0.6**
baz=65
N59A State Game Lan 148.57 307 *e*PKPdf **PKPdf 10 06 29.9 +0.3**
N59A *ep*PKPab **sPKPab 10 06 39.4 -0.4**
N59A State Game Lan 148.57 307 P **PKPbc 10 06 32.6 -0.6**
baz=72
I55A Frankford 148.69 313 P **PKPbc 10 06 33.4 0.0**
baz=65
E51A G1948 Merrick 148.75 319 P **PKPbc 10 06 32.8 -0.7**
baz=60
G53A Haliburton 148.90 316 P **PKPbc 10 06 33.5 -0.4**
baz=63
F52A Sundridge 149.02 317 P **PKPbc 10 06 34.0 -0.2**
baz=61
J55A Hilton 149.17 312 P **PKPbc 10 06 33.6 -1.0**
baz=66
BUKO Buck Lake 149.24 317 P **PKPbc 10 06 34.0 -0.7**
baz=61
MVL Millersville 149.26 305 *e*PKPbc **PKiKP 10 06 35.8 -0.4**
MVL *e*PKPab **pPKPab 10 06 41.2 -0.6**
WLVO Wesleyville 149.28 313 P **PKPbc 10 06 34.5 -0.4**
baz=65
F51A Arnstein 149.31 318 P **PKPbc 10 06 34.7 -0.2**
baz=60
SADO Sadowa 149.39 315 *e*PKPdf **PKPdf 10 06 31.8 +1.0**
SADO *e*PKPbc **PKiKP 10 06 36.1 -0.2**
SADO *e*PKPab **pPKPab 10 06 41.6 -0.5**
MMNY Mt. Morris Dam 149.44 311 *e*PKPbc **PKiKP 10 06 36.2 -0.3**
MMNY *e*PKPab **pPKPab 10 06 41.8 -0.7**
DRCO St. Marys Ceme 149.50 313 P **PKPbc 10 06 35.4 -0.1**
baz=64
DRWO Darlington Wes 149.52 313 P **PKPbc 10 06 35.4 -0.1**

baz=64
E50A Wahnapitae 149.55 319 P PKPbc 10 06 35.6 +0.1
baz=58
K55A Perry 149.55 311 P PKPbc 10 06 35.6 -0.1
baz=67
MEDO Medina 149.64 312 P PKPbc 10 06 35.8 0.0
baz=66
PKRO Pickering 149.71 314 P PKPbc 10 06 36.1 +0.2
baz=64
J54A Appleton 149.72 312 P PKiKP 10 06 36.6 -0.4
baz=66
D48A Paudash Townsh 149.75 321 P PKPbc 10 06 36.1 +0.1
baz=56
KLBO Killbear Provi 149.78 317 P PKPbc 10 06 36.6 +0.5
baz=60
L55A Hinsdale 150.01 310 P PKPbc 10 06 37.1 +0.2
baz=68
STCO Saint Catharin 150.10 313 P PKPbc 10 06 37.3 +0.4
baz=65
I53A Kortright Cn E 150.11 314 P PKPbc 10 06 37.3 +0.4
baz=64
SSPA Standing Stone 150.18 307 ePKPbc PKiKP 10 06 38.4 +0.3
SSPA ePKPab PKPab 10 06 43.7 +0.4
SSPA Standing Stone 150.18 307 P PKPbc 10 06 37.1 -0.1
baz=71
E48A Lockeyer 150.34 320 P PKPbc 10 06 37.7 +0.3
baz=56
ACTO Acton 150.51 314 P PKPbc 10 06 37.7 -0.2
baz=63
M55A Ridgway 150.51 309 P PKPbc 10 06 37.8 -0.3
baz=68,SNR=12
CBN Corbin Frederi 150.51 302 P PKPbc 10 06 37.7 -0.3
baz=75
D47A Chapleau 150.54 322 P PKPbc 10 06 38.1 +0.2
baz=54
TYNO Tyneside 150.61 313 P PKPbc 10 06 38.3 +0.2
baz=64
TOBO Tobermory, Bru 150.64 318 P PKPbc 10 06 38.5 +0.4
baz=59
F49A Sandfield 150.67 319 P PKPbc 10 06 38.4 +0.2
baz=57
BMRO Meriville Lake 150.77 316 P PKPbc 10 06 38.8 +0.2
baz=60
O56A Blue Knob Stat 150.79 307 ePKPbc PKiKP 10 06 39.8 +0.4
O56A ePKPab PKPab 10 06 45.6 -0.2
O56A Blue Knob Stat 150.79 307 P PKPbc 10 06 38.6 -0.2
baz=70
FFC Flin Flon 150.89 351 ePKPdf PKPdf 10 06 33.4 +0.6
FFC Flin Flon 150.89 351 i PKIKP PKPbc 10 06 37.4 -1.0
N55A Marion Center 150.91 308 P PKPbc 10 06 38.9 -0.1
baz=69,SNR=16
J52A Paris 150.94 313 P PKPbc 10 06 38.6 -0.3
baz=63
BWLO Walkerton 150.96 315 P PKPbc 10 06 38.6 -0.3
baz=61
R58B Mineral 150.96 302 ePKPbc PKiKP 10 06 39.6 -0.1
R58B ePKPab PKPab 10 06 45.7 -0.9
R58B Mineral 150.96 302 P PKPbc 10 06 39.0 -0.2
baz=75
F48A Evansville 150.97 320 P PKPbc 10 06 38.4 -0.5
baz=56
E47A Iron Bridge 150.99 321 P PKPbc 10 06 38.7 -0.3
baz=54
I51A Listowel 151.03 315 P PKPbc 10 06 38.6 -0.6
baz=62
BRCO Bruce Peninsul 151.09 316 P PKPbc 10 06 39.1 -0.2
baz=60
ERPA Erie 151.10 311 ePKPbc PKPbc 10 06 39.2 -0.2
ERPA ePKPab PKPab 10 06 46.1 -0.9
ERPA Erie 151.10 311 P PKPbc 10 06 39.0 -0.4
baz=66
M54A Oil Creek Stat 151.12 310 ePKPbc PKiKP 10 06 40.3 +0.3
M54A ePKPab PKPab 10 06 46.3 -0.9
M54A Oil Creek Stat 151.12 310 P PKiKP 10 06 39.8 -0.2
baz=67,SNR=5.7
D46A Sault St. Mari 151.15 323 P PKPbc 10 06 39.1 -0.3
baz=53
K52A Tillsonburg 151.30 313 P PKPbc 10 06 39.6 -0.2
baz=64
BASO Ashfield 151.34 316 P PKPbc 10 06 39.9 0.0
baz=60
O55A Ligonier 151.34 307 P PKPbc 10 06 40.0 0.0
baz=70,SNR=6.3
L53A Girard 151.35 311 P PKPbc 10 06 39.6 -0.4
baz=66
ALLY Alegheny Colle 151.40 310 ePKPab PKPab 10 06 46.8 -1.5
ELFO Elginfield 151.51 314 P PKPbc 10 06 40.1 -0.2
baz=62
CNNC Cliffs of the 151.55 296 P PKPbc 10 06 40.5 -0.1
baz=80
N54A Moraine State 151.56 309 P PKPbc 10 06 40.2 -0.3
baz=68
E46A Sault Ste Mari 151.62 322 P PKPbc 10 06 40.0 -0.4
baz=53
MCWV Mont Chateau 151.92 306 ePKPbc PKiKP 10 06 42.5 +0.8
MCWV Mont Chateau 151.92 306 P PKPbc 10 06 41.0 -0.3
baz=70
P55A Reedsville 151.96 306 P PKPbc 10 06 41.2 -0.3
baz=70
H48A Harrisville 152.00 318 P PKPbc 10 06 41.1 -0.2
baz=57
W59A Clinton 152.01 296 P PKPbc 10 06 41.4 -0.2
baz=80
G47A Hillman 152.06 320 P PKPbc 10 06 41.0 -0.5
baz=56
O54A Avella 152.12 308 P PKPbc 10 06 41.9 +0.1
baz=69,SNR=7.8
N53A Lisbon 152.21 309 P PKPbc 10 06 41.9 -0.1
baz=67
F46A Macinaw City C 152.22 321 P PKPbc 10 06 41.9 +0.1
baz=53
M52A Chesterland 152.27 311 P PKPbc 10 06 42.1 0.0
baz=65
Q55A Buckhannon 152.31 305 P PKPbc 10 06 42.4 +0.1
baz=71
P54A Burton 152.40 306 P PKPbc 10 06 42.4 -0.1
baz=70
I48A Sherman Twp 152.51 318 P PKPbc 10 06 42.3 -0.2
baz=57
G46A Petoskey 152.55 321 P PKiKP 10 06 42.8 0.0
baz=54
R55A Marlinton 152.57 304 P PKPbc 10 06 42.3 -0.7
baz=72
H47A Mio 152.59 319 P PKPbc 10 06 42.6 -0.1
baz=56
J49A Marlette 152.59 316 P PKPbc 10 06 42.3 -0.4
baz=60
O53A New Philadelph 152.69 308 P PKPbc 10 06 42.6 -0.5
baz=68
GLMI Grayling 152.70 320 P PKPbc 10 06 42.4 -0.5
baz=55
N52A McGinn's Farm, 152.80 310 P PKPbc 10 06 42.1 -1.2
baz=66
X58A Rowland 152.84 295 P PKPbc 10 06 41.7 -1.9
baz=80
M51A Elyria 152.92 311 P PKPbc 10 06 41.7 -1.8
baz=64
Z59A Georgetown, SC 152.99 292 P PKPbc 10 06 42.0 -1.9
baz=83
S55A Lewisburg 153.01 303 P PKPbc 10 06 42.9 -1.0
baz=73
L50A Kingsville 153.02 313 P PKPbc 10 06 42.8 -0.9
baz=62
C40A Isle Royale Na 153.05 329 P PKPbc 10 06 43.0 -0.6
baz=43
K49A Clarkson 153.08 315 P PKPbc 10 06 43.6 -0.3
baz=60
I47A Gladwin 153.09 318 P PKPbc 10 06 43.3 -0.5
baz=56
P53A Whipple 153.10 307 ePKPdf PKPdf 10 06 36.6 0.0
P53A Whipple 153.10 307 P PKPbc 10 06 43.4 -0.6
baz=69
BLA Blacksburg 153.10 301 P PKPbc 10 06 43.3 -0.8
baz=74
O52A Adamsville 153.18 308 ePKPbc PKPbc 10 06 43.0 -1.1
O52A Adamsville 153.18 308 P PKPbc 10 06 43.2 -1.0
baz=67
H46A Fife Lake 153.21 320 P PKPbc 10 06 43.8 -0.2
baz=55
R54A Victor 153.25 304 P PKPbc 10 06 43.6 -0.8
baz=72
W57A Gilead 153.26 297 P PKPbc 10 06 43.8 -0.7
baz=78
T55A Pulaski 153.41 301 P PKPbc 10 06 44.5 -0.3
baz=74
Q53A Leroy 153.42 306 P PKPbc 10 06 44.7 0.0
baz=70,SNR=6.1
M50A Fremont 153.47 312 P PKiKP 10 06 45.2 +0.4
baz=63
F43A Flat Rock, Esc 153.51 324 P PKPbc 10 06 44.3 -0.3
baz=49
P52A Corning 153.58 308 P PKPbc 10 06 44.8 -0.2
baz=68
L49A Milan 153.62 314 P PKPbc 10 06 44.8 -0.2
baz=61
I46A Reed City 153.69 319 P PKPbc 10 06 44.8 -0.3
baz=55
J47A Sunmer 153.70 317 P PKPbc 10 06 45.0 -0.2
baz=57
O51A Pataskala 153.71 309 P PKPbc 10 06 45.0 -0.3
baz=66
W56A Indian Trail 153.74 297 P PKPbc 10 06 45.1 -0.4
baz=78
ULM Lac du Bonnet 153.74 340 ePKPdf PKPdf 10 06 36.8 -0.3
ULM Lac du Bonnet 153.74 340 ePKIKP PKPdf 10 06 36.8 -0.3
ULM Lac du Bonnet 153.74 340 PKP PKPdf 10 06 37.5 +0.4
comp=Z,3.4nm,1.0s,baz=355,slow=7.5,SNR=3.7
ULM PKPbc PKPbc 10 06 42.8 -2.2
comp=Z,7.9nm,1.0s,baz=344,slow=2.0,SNR=8.6
NHSC New Hope 153.76 292 P PKPbc 10 06 45.4 -0.2
baz=82
U55A TA2, Sparta 153.78 300 P PKPbc 10 06 45.3 -0.4
baz=75
Y57A Sumter 153.79 294 P PKPbc 10 06 45.2 -0.4
baz=80
N50A Nevada 153.82 311 P PKPbc 10 06 45.2 -0.3
baz=64
Q52A Bidwell 153.93 306 P PKPbc 10 06 45.6 -0.2
baz=69
ACSO Alum Creek Sta 153.94 309 P PKPbc 10 06 45.1 -0.7
baz=65
E41A Kenton 154.00 327 P PKPbc 10 06 45.4 -0.3
baz=46
M49A Liberty Center 154.06 313 P PKPbc 10 06 45.4 -0.6
baz=62
F42A Maple Grove Fa 154.06 325 P PKPbc 10 06 45.7 -0.2
baz=48
EYMN Ely 154.07 332 P PKPbc 10 06 45.5 -0.3
baz=39
V55A Taylorsville 154.08 299 P PKPbc 10 06 45.0 -1.2
baz=76
L48A N Adams 154.13 314 P PKPbc 10 06 44.8 -1.4
baz=60
S53A Williamson 154.26 303 P PKPbc 10 06 44.5 -2.1
baz=71
P51A Williamsport 154.30 308 ePKPbc PKPbc 10 06 44.2 -2.3
P51A Williamsport 154.30 308 P PKPbc 10 06 45.0 -1.5
baz=67
KMSC Kings Mountain 154.34 297 P PKPbc 10 06 45.1 -1.7
baz=77
COWI Conover 154.34 326 ePKPbc PKiKP 10 06 47.1 +0.6
O50A Cable 154.41 310 P PKPbc 10 06 44.6 -2.2
baz=65
N49A Columbus Grove 154.45 312 ePKPdf PKPdf 10 06 39.0 +0.5
N49A Columbus Grove 154.45 312 P PKPbc 10 06 45.5 -1.4
baz=62
M48A Edgerton 154.54 313 P PKPbc 10 06 45.0 -2.0
baz=61
K46A Dorr 154.60 317 P PKPbc 10 06 44.9 -2.2
baz=57
257A Skidaway Islan 154.60 290 P PKPbc 10 06 44.5 -2.9
baz=84
L47A Sherwood 154.61 315 P PKPbc 10 06 44.9 -2.2
baz=59
V54A Nebo 154.67 299 P PKPbc 10 06 46.1 -1.4
baz=75
Q51A Peebles 154.68 307 P PKPbc 10 06 45.8 -1.6
baz=67
P50A Jamestown 154.77 309 P PKPbc 10 06 45.3 -2.3
baz=65
O49A Covington 154.89 310 P PKPbc 10 06 46.4 -1.4
baz=60
758A Lake Helen 154.91 283 P PKPbc 10 06 45.9 -2.2
baz=90
U53A Fall Branch 155.00 301 P PKPdf 10 06 38.8 -0.7
baz=73
Y55A Saluda 155.01 295 P PKPdf 10 06 38.8 -0.7
baz=79
V53A Saluda 155.38 299 P PKPdf 10 06 39.6 -0.4
baz=75
AGMN Agassiz Nation 155.44 338 P PKPdf 10 06 40.3 +0.7
baz=30
M46A Old House Fiel 155.64 315 P PKPdf 10 06 40.0 -0.1
baz=58
757A Oxford 155.67 283 P PKPdf 10 06 40.6 +0.1
baz=90
Y54A Tignall 155.70 295 P PKPdf 10 06 40.0 -0.4
baz=79
B05A Bryant 155.71 21 P PKPdf 10 06 39.1 -0.8
baz=331
I42A Dreeger Farm, 155.71 322 P PKPdf 10 06 40.1 0.0
baz=50
T51A Gray 155.87 303 P PKPdf 10 06 39.7 -0.8
baz=71
V52A Sevierville 155.94 300 P PKPdf 10 06 40.1 -0.6
baz=73
P48A Milroy 155.97 310 P PKPdf 10 06 40.2 -0.4
baz=64
D03D Eldon 156.00 23 P PKPdf 10 06 40.6 +0.3
baz=328
656A Willston 156.07 284 P PKPdf 10 06 40.5 -0.6
baz=89
U51A La Follette 156.11 302 P PKPdf 10 06 39.6 -1.3
baz=72
N46A Monticello 156.15 314 P PKPdf 10 06 40.0 -0.8
baz=59
L44A Lake County Fo 156.18 318 P PKPdf 10 06 40.2 -0.6
baz=54
W52A Murphy 156.41 298 P PKPdf 10 06 40.9 -0.4
baz=75
H39A Augusta 156.42 326 P PKPdf 10 06 39.9 -1.1
baz=44
Y53A Monroe 156.43 295 P PKPdf 10 06 40.8 -0.6
baz=78
Z53A Monticello 156.54 294 P PKPdf 10 06 40.2 -1.4
baz=79
V51A Loudon 156.54 300 P PKPdf 10 06 40.5 -0.9
baz=73
I40A Norwalk 156.63 324 P PKPdf 10 06 40.2 -1.2
baz=47
SFIN Lafayette 156.65 313 P PKPdf 10 06 41.0 -0.5
baz=59
M44A Midewin, Midew 156.72 316 P PKPdf 10 06 40.9 -0.6
baz=56
U50A Jamestown 156.73 302 P PKPdf 10 06 40.8 -1.0
baz=71
R48A Northridge Ran 156.74 308 P PKPdf 10 06 40.5 -1.1
baz=65
T49A Edmonton 157.00 304 ePKPab PKPab 10 07 12.5 +0.2
NEW Newport 157.04 13 P PKPdf 10 06 41.4 -0.3
baz=342
NEW Newport 157.04 13 PKP PKPdf 10 06 41.7 -0.1
comp=Z,0.6nm,0.4s,baz=45,slow=2.9,SNR=2.4
N44A Piper City 157.10 315 P PKPdf 10 06 41.8 -0.2
baz=57
P46A Rosedale 157.11 312 P PKPdf 10 06 42.0 0.0
baz=60
I39A Houston 157.12 325 P PKPdf 10 06 41.3 -0.7
baz=45
O45A Potomac 157.13 313 P PKPdf 10 06 41.3 -0.8
baz=58
V50A Pikevile 157.16 301 P PKPdf 10 06 42.2 -0.1
baz=72
S48A Wiedeman Farm, 157.18 306 P PKPdf 10 06 41.6 -0.6
baz=66
R47A Wooly Knot Far 157.25 308 P PKPdf 10 06 41.2 -1.1
baz=64
DGMT Dagmar 157.30 351 ePKPab PKPab 10 07 14.1 +1.1
DGMT Dagmar 157.30 351 P PKPdf 10 06 42.6 +0.5
baz=12
L42A Oliver, Polo 157.33 319 P PKPdf 10 06 41.3 -1.0
baz=52
U49A Red Boiling Sp 157.40 303 P PKPdf 10 06 42.2 -0.3
baz=69
P45A Graceland, Par 157.51 312 P PKPdf 10 06 41.8 -0.8
baz=60
J39A Decorah 157.58 325 P PKPdf 10 06 42.5 0.0
baz=46
O44A Mansfield 157.66 314 P PKPdf 10 06 41.7 -1.0
baz=57
N43A Stutzman Famil 157.67 317 P PKPdf 10 06 41.6 -1.1
baz=55
M42A Sheffield 157.72 318 P PKPdf 10 06 41.2 -1.6
baz=53
X50B Fort Payne 157.94 298 P PKPdf 10 06 41.8 -1.6
baz=74
HDIL Hopedale 157.97 316 P PKPdf 10 06 42.4 -0.7
baz=55
EGMT Eagleton 158.10 1 ePKPdf PKPdf 10 06 43.3 +0.1
EGMT Eagleton 158.10 1 P PKPdf 10 06 42.8 -0.3
baz=359
Q45A Warren Harvey, 158.11 311 P PKPdf 10 06 43.1 -0.2
baz=61
P44A Sand Creek, Wi 158.13 313 P PKPdf 10 06 42.4 -0.9
baz=59
O43A Sugar Creek Fa 158.13 315 P PKPdf 10 06 42.6 -0.7
baz=56
Y50A Piedmont 158.16 296 P PKPdf 10 06 41.7 -1.8
baz=76
L40A Anamosa 158.19 321 P PKPdf 10 06 42.1 -1.3
baz=49
T47A Sharon Grove 158.21 305 P PKPdf 10 06 42.1 -1.4
baz=66
E08A Dider Farm, El 158.22 18 ePKPab PKPab 10 07 17.9 +0.9
M41A Milan 158.24 319 P PKPdf 10 06 42.4 -1.0
baz=51
W49A Belvidere 158.24 300 P PKPdf 10 06 42.7 -1.0
baz=72
N42A Yates City 158.27 317 P PKPdf 10 06 43.3 -0.2
baz=53
U47A Clarksville 158.56 304 P PKPdf 10 06 43.3 -0.6
baz=67
351A Pinckard 158.56 289 P PKPdf 10 06 43.0 -1.1
baz=82
L39A Vinton 158.58 323 P PKPdf 10 06 42.8 -1.0
baz=47
P43A Skaggs, Pawnee 158.62 314 P PKPdf 10 06 43.7 -0.2
baz=57
H04D Lebanon 158.65 27 P PKPdf 10 06 43.7 -0.1
baz=325
O42A Bath 158.67 316 P PKPdf 10 06 43.5 -0.5
baz=54
Q44A Meyer Farm, Va 158.68 312 P PKPdf 10 06 43.5 -0.5
baz=59
150A Eclectic 158.69 293 P PKPdf 10 06 43.8 -0.5
baz=78
T46A Princeton 158.76 306 P PKPdf 10 06 43.0 -1.1
baz=65
451A Vernon 158.77 288 P PKPdf 10 06 42.7 -1.6
baz=84
M40A Post Highland 158.78 320 P PKPdf 10 06 43.2 -0.9
baz=49
N41A Harden Midland 158.84 318 P PKPdf 10 06 43.4 -0.7
baz=52
V47A Nunnelly 158.96 303 P PKPdf 10 06 44.1 -0.4
baz=69
S45A Carrier Mills 158.98 308 P PKPdf 10 06 43.6 -0.8
baz=63
MSO Missoula 158.98 9 ePKPdf PKPdf 10 06 44.1 -0.2
MSO Missoula 158.98 9 P PKPdf 10 06 43.3 -1.0
baz=348
250A Grady 159.01 292 P PKPdf 10 06 42.8 -1.9
baz=80
R44A Waltonville 159.06 310 P PKPdf 10 06 43.4 -1.1
baz=60
I03D Drain, OR 159.06 29 P PKPdf 10 06 42.8 -1.5
baz=322
M39A Webster 159.11 322 P PKPdf 10 06 43.5 -1.0
baz=48
Q43A New Douglas 159.12 313 P PKPdf 10 06 43.7 -0.8
baz=58
F10A Beach Ranch, E 159.18 16 ePKPab PKPab 10 07 21.9 +0.5
P42A Winchester 159.18 315 P PKPdf 10 06 43.8 -0.8
baz=55
O41A Passleys Farm, 159.21 317 P PKPdf 10 06 44.1 -0.5
baz=53
J01E Myrtle Point 159.21 31 P PKPdf 10 06 43.3 -1.2
baz=320
W47A Westpoint 159.22 301 P PKPdf 10 06 44.1 -0.7
baz=70
LAO LASA Array 159.29 354 ePKPdf PKPdf 10 06 44.9 +0.2
LAO LASA Array 159.29 354 P PKPdf 10 06 44.8 +0.2
baz=7.8
I05D Terrebonne, OR 159.36 25 P PKPdf 10 06 43.4 -1.3
baz=328
SCIA State Center 159.38 324 P PKPdf 10 06 43.9 -0.9
baz=45
I04A Tendick Farm, 159.39 28 P PKPdf 10 06 43.1 -1.7
baz=325
ECSD EROS Data Cent 159.58 333 P PKPdf 10 06 44.0 -0.9
baz=34
P41A Barry, Barry 159.58 316 P PKPdf 10 06 44.1 -0.9
baz=54
R43A Red Bud 159.62 311 P PKPdf 10 06 44.3 -0.8
baz=59
X47A Russelville 159.67 300 P PKPdf 10 06 44.4 -0.9
baz=71
Q42A Golden Eagle 159.68 314 P PKPdf 10 06 44.5 -0.7
baz=56
249A Camden 159.73 292 P PKPdf 10 06 44.4 -1.0
baz=79
SUSD Miller 159.85 338 P PKPdf 10 06 44.9 -0.4
baz=28
349A Repton 159.90 290 P PKPdf 10 06 44.9 -0.8
baz=81
T44A Benton 159.96 308 P PKPdf 10 06 44.4 -1.1
baz=62
J04D Umpqua Nationa 159.96 28 P PKPdf 10 06 44.9 -0.8
baz=324
S43A Fulton Ridge, 160.07 310 P PKPdf 10 06 45.1 -0.6
baz=60
R42A Luebbering 160.19 312 P PKPdf 10 06 45.3 -0.5
baz=58
X46A Booneville 160.22 300 P PKPdf 10 06 45.0 -0.9
baz=70
J05D Fort Rock, OR 160.29 27 P PKPdf 10 06 45.6 -0.3
baz=326
BOZ Bozeman (W) 160.45 5 ePKPdf PKPdf 10 06 46.2 +0.2
BOZ Bozeman (W) 160.45 5 ePKIKP PKPdf 10 06 46.2 +0.2
BOZ Bozeman (W) 160.45 5 P PKPdf 10 06 45.7 -0.3
baz=354
T43A Greenville 160.46 309 P PKPdf 10 06 45.5 -0.6
baz=61
S42A Caledonia 160.46 311 P PKPdf 10 06 45.6 -0.5
baz=59
R41A Rosebud 160.57 313 P PKPdf 10 06 45.1 -1.1
baz=56
DLMT Dillon 160.59 7 ePKPdf PKPdf 10 06 46.7 +0.5
CCM Cathedral Cave 160.62 312 P PKPdf 10 06 45.4 -0.8
baz=57
K04D Chiloquin, OR 160.62 29 P PKPdf 10 06 45.4 -0.9
baz=324
L04D Klamath Falls 160.70 30 P PKPdf 10 06 46.3 -0.1
baz=322
OXF Oxford 160.88 301 P PKPdf 10 06 45.7 -0.9
baz=69
RLMT Red Lodge 161.01 360 P PKPdf 10 06 45.9 -0.9
M02C Callahan 161.08 33 P PKPdf 10 06 46.0 -0.8
baz=319
MCMT McKenzie Canyo 161.09 8 ePKPdf PKPdf 10 06 47.3 +0.4
S41A Jillco Farms, 161.20 312 P PKPdf 10 06 45.8 -1.1
baz=57
M04C Macdoel 161.26 30 P PKPdf 10 06 46.1 -0.9
baz=322
YHH Holmes Hill 161.30 3 ePKPdf PKPdf 10 06 46.9 -0.3
YHB Horse Butte 161.32 4 ePKPdf PKPdf 10 06 47.6 +0.5
YMR Madison River 161.42 4 ePKPdf PKPdf 10 06 46.8 -0.5
N02D Trinity Center 161.47 33 P PKPdf 10 06 46.3 -0.9
baz=319
T41A Mountain View 161.50 310 P PKPdf 10 06 46.4 -0.9
baz=59
RSSD Black Hills 161.50 348 ePKPab PKPab 10 07 32.2 +0.5
RSSD Black Hills 161.50 348 P PKPdf 10 06 46.7 -0.7
baz=15
LKWY Lake 161.55 2 ePKPdf PKPdf 10 06 47.8 +0.3
H17A Grant Village 161.71 3 P PKPdf 10 06 47.4 -0.1
baz=356
MOD Modoc Plateau 161.82 27 ePKPdf PKPdf 10 06 47.0 -0.6
145A Houston Renfro 161.89 296 P PKPdf 10 06 47.9 +0.1
baz=74
U41A Viola 161.96 309 P PKPdf 10 06 47.5 -0.2
baz=60
WVOR Wild Horse Val 162.00 23 ePKPdf PKPdf 10 06 47.6 -0.1
WVOR Wild Horse Val 162.00 23 ePKIKP PKPdf 10 06 47.6 -0.1
X43A Marvell 162.01 302 P PKPdf 10 06 47.8 0.0
baz=67
O02D Mt. Diablo Mer 162.02 35 P PKPdf 10 06 48.0 +0.2
baz=317
HLID Hailey 162.08 12 ePKPdf PKPdf 10 06 48.0 +0.1
HLID Hailey 162.08 12 P PKPdf 10 06 48.2 +0.3
baz=345
BGNE Belgrade 162.14 332 P PKPdf 10 06 47.0 -0.8
baz=34

IMW	Indian Meadow	162.19	4	ePKPab	PKPab	10 07 35.6	+0.8
MOOW	Moose Ponds	162.34	3	ePKPdf	PKPdf	10 06 48.1	-0.1
O03E	Paynes Creek	162.43	33	P	PKPdf	10 06 47.8	-0.4
	baz=320						
FXWY	Fox Creek	162.44	4	ePKPdf	PKPdf	10 06 48.8	+0.5
LOHW	Long Hollow	162.49	3	ePKPdf	PKPdf	10 06 48.6	+0.2
TPAW	Teton Pass	162.59	4	ePKPdf	PKPdf	10 06 47.4	-1.1
U40A	Yellville	162.60	310	P	PKPdf	10 06 48.0	-0.5
	baz=58,SNR=6.9						
W41B	Gary Mavity, V	162.75	306	P	PKPdf	10 06 48.5	0.0
	baz=63						
KSU1	Kansas State U	163.19	324	P	PKPdf	10 06 48.7	-0.2
	baz=43						
K22A	Casper	163.32	353	P	PKPdf	10 06 48.7	-0.5
	baz=8.6						
BW06	Boulder Array	163.36	1	P	PKPdf	10 06 48.5	-0.7
	baz=359						
PD31	Pinedale Array	163.36	1	ePKPdf	PKPdf	10 06 48.9	-0.4
PDAR	Pinedale Array	163.36	1	PKP	PKPdf	10 06 49.3	+0.1
	comp=Z,1.0nm,0.8s,baz=307,slow=0.7,SNR=9.8						
PDAR				PKPab	PKPab	10 07 39.2	-0.6
	comp=Z,1.5nm,0.8s,baz=45,slow=3.4,SNR=5.1						
BEKR	Beckworth	163.46	31	ePKPdf	PKPdf	10 06 48.9	-0.4
X40A	Basin Creek Fa	163.49	304	P	PKPdf	10 06 49.2	-0.1
	baz=64						
W39A	Magazine	163.85	308	ePKPdf	PKPdf	10 06 49.7	+0.1
W39A	Magazine	163.85	308	P	PKPdf	10 06 49.6	0.0
	baz=60						
AFDM	Forest Hills D	163.87	34	ePKPdf	PKPdf	10 06 49.3	-0.3
Z41A	Richland Creek	163.96	300	P	PKPdf	10 06 49.9	+0.2
	baz=68						
OGNE	Ogallala	163.99	340	P	PKPdf	10 06 49.6	-0.1
	baz=24						
MIAR	Mount Ida	164.01	306	ePKPdf	PKPdf	10 06 49.6	-0.2
MIAR	Mount Ida	164.01	306	P	PKPdf	10 06 50.0	+0.2
	baz=62						
PAHR	Pah Rah Range	164.03	29	ePKPdf	PKPdf	10 06 49.4	-0.4
HVU	Hansel Valley	164.09	9	ePKPdf	PKPdf	10 06 48.7	-1.2
HVU	Hansel Valley	164.09	9	ePKIKP	PKPdf	10 06 48.7	-1.2
VCNR	Virginia City	164.24	31	ePKPdf	PKPdf	10 06 49.5	-0.6
HWUT	Hardware Ranch	164.41	6	ePKPab	PKPab	10 07 45.4	+1.0
ELK	Elko	164.58	17	ePKPdf	PKPdf	10 06 50.2	-0.2
TUL1	Leonard	164.83	313	ePKPdf	PKPdf	10 06 50.3	-0.2
TUL1	Leonard	164.83	313	P	PKPdf	10 06 49.8	-0.7
	baz=54,SNR=7.4						
BGU	Big Grassy Mou	164.89	11	ePKPdf	PKPdf	10 06 50.4	-0.2
CBKS	Cedar Bluff	164.96	330	ePKPdf	PKPdf	10 06 50.0	-0.6
CBKS	Cedar Bluff	164.96	330	ePKIKP	PKPdf	10 06 50.0	-0.6
CBKS	Cedar Bluff	164.96	330	P	PKPdf	10 06 50.3	-0.3
	baz=35						
N23A	Red Feather La	164.97	350	P	PKPdf	10 06 49.8	-1.0
	baz=12						
KVN	Kaiserville	165.13	28	ePKPdf	PKPdf	10 06 50.7	-0.2
KVN	Kaiserville	165.13	28	ePKIKP	PKPdf	10 06 50.7	-0.2
X37A	Clayton	165.28	308	ePKPdf	PKPdf	10 06 50.8	-0.1
RYN	Ryan	165.30	30	ePKPdf	PKPdf	10 06 51.0	0.0
NV01	Mina Array Sit	165.56	29	ePKPdf	PKPdf	10 06 50.9	-0.4
NVAR	Mina Array Bea	165.56	29	PKP	PKPdf	10 06 52.3	+1.0
	comp=Z,0.5nm,0.7s,baz=265,slow=0.8,SNR=5.4						
NVAR				PP	PP	10 11 43.6	+7.5
	comp=Z,0.6nm,0.8s,baz=278,slow=5.3,SNR=4.6						
NV11	Mina Array Sit	165.62	29	ePKPdf	PKPdf	10 06 50.4	-0.9
DUG	Dugway, Tooele	165.64	11	ePKPdf	PKPdf	10 06 50.8	-0.4
DUG	Dugway, Tooele	165.64	11	ePKIKP	PKPdf	10 06 50.8	-0.4
DUG	Dugway, Tooele	165.64	11	P	PKPdf	10 06 50.5	-0.7
	baz=347,SNR=5.8						
KSCO	Kaye Shedlock'	165.94	338	ePKPdf	PKPdf	10 06 51.1	-0.4
KSCO	Kaye Shedlock'	165.94	338	P	PKPdf	10 06 51.1	-0.4
	baz=25						
MLAC	Mammoth, Mammt	165.96	33	P	PKPdf	10 06 50.8	-0.8
	baz=322						
O20A	White River Ci	165.96	357	P	PKPdf	10 06 51.0	-0.6
	baz=3.8						
NATX	Nacogdoches	165.97	297	ePKPdf	PKPdf	10 06 51.1	-0.4
NATX	Nacogdoches	165.97	297	P	PKPdf	10 06 51.1	-0.4
	baz=70						
ISCO	Idaho Springs	165.98	348	ePKPdf	PKPdf	10 06 51.0	-0.7
ISCO	Idaho Springs	165.98	348	ePKIKP	PKPdf	10 06 51.0	-0.7
ISCO	Idaho Springs	165.98	348	P	PKPdf	10 06 51.1	-0.6
	baz=14						
NLU	North Lily Min	165.99	9	ePKPdf	PKPdf	10 06 51.1	-0.5
P18A	Preston Nutter	166.48	3	ePKPdf	PKPdf	10 06 52.4	+0.3
R11A	Troy Canyon, C	166.69	22	ePKPdf	PKPdf	10 06 52.5	+0.4
R11A	Troy Canyon, C	166.69	22	P	PKPdf	10 06 51.8	-0.4
	baz=335						
Q24A	Divide	166.69	346	P	PKPdf	10 06 51.8	-0.5
	baz=16						
TIN	Tinemaha, Big	166.71	33	P	PKPdf	10 06 51.2	-0.9
	baz=322						
TMUT	Trail Mountain	166.74	6	ePKPdf	PKPdf	10 06 52.6	+0.2
SMCO	Snowmass	166.80	352	ePKPdf	PKPdf	10 06 51.2	-1.3
SRU	San Rafael Swe	166.98	4	ePKPdf	PKPdf	10 06 51.8	-0.6
SRU	San Rafael Swe	166.98	4	ePKIKP	PKPdf	10 06 51.8	-0.6
PSUT	Pine Spring	167.02	16	ePKPdf	PKPdf	10 06 52.6	+0.2
SMMC	Simmler	167.02	42	P	PKPdf	10 06 51.6	-0.7
	baz=312						
Q16A	Castle Valley	167.12	6	ePKPdf	PKPdf	10 06 52.4	-0.1
GRAC	Grapevine Rang	167.16	30	P	PKPdf	10 06 52.0	-0.3
	baz=325						
VES	Vestal, Richgr	167.19	38	P	PKPdf	10 06 51.8	-0.6
	baz=316						
CWC	Cottonwood Cre	167.26	34	P	PKPdf	10 06 52.4	-0.2
	baz=321						
MSU	Marysvale	167.38	10	ePKPdf	PKPdf	10 06 53.5	+0.7
PKM	Mcpherson Peak	167.42	43	P	PKPdf	10 06 52.5	-0.4
	baz=311						
WMOK	Wichita Mounta	167.47	316	ePKPdf	PKPdf	10 06 52.4	-0.2
WMOK	Wichita Mounta	167.47	316	ePKIKP	PKPdf	10 06 52.4	-0.2
WMOK	Wichita Mounta	167.47	316	P	PKPdf	10 06 52.6	0.0
	baz=49						
HKT	Hockley	167.47	291	ePKPdf	PKPdf	10 06 52.7	0.0
ISA	Isabella, Lake	167.65	37	P	PKPdf	10 06 52.5	-0.3
	baz=318						
TPNV	Topopah Spring	167.68	27	P	PKPdf	10 06 52.4	-0.5
	baz=329						
SBC	Santa Barbara	167.77	45	P	PKPdf	10 06 51.9	-0.9
	baz=310						
FURC	Furnace Creek,	167.82	30	P	PKPdf	10 06 52.5	-0.2
	baz=326						
ARVC	Arvin	167.84	40	P	PKPdf	10 06 51.7	-1.1
	baz=315						
MTPU	Mount Pierson	167.84	11	ePKPdf	PKPdf	10 06 52.8	-0.4
MPMC	Manual Prospec	167.86	33	P	PKPdf	10 06 53.0	-0.1
	baz=322						
PV03	Paradox Valley	167.86	358	ePKPdf	PKPdf	10 06 51.7	-1.4
SDCO	Great Sand Dun	167.93	345	ePKPdf	PKPdf	10 06 51.6	-1.6
SDCO	Great Sand Dun	167.93	345	P	PKPdf	10 06 53.3	+0.1
	baz=16,SNR=9.2						
WHTX	Lake Whitney,	168.06	302	ePKPdf	PKPdf	10 06 52.8	-0.3
WHTX	Lake Whitney,	168.06	302	P	PKPdf	10 06 52.9	-0.2
	baz=64						
CCUT	Cedar City	168.07	16	ePKPdf	PKPdf	10 06 52.5	-0.7
SZCU	Shurtz Canyon	168.10	15	ePKPdf	PKPdf	10 06 53.0	-0.3
S22A	4UR Ranch, Cre	168.19	350	ePKPdf	PKPdf	10 06 52.9	-0.5
S22A				ePKPab	pPKPab	10 08 02.5	-1.1
S22A	4UR Ranch, Cre	168.19	350	P	PKPdf	10 06 53.4	0.0
	baz=11,SNR=5.7						
LRMC	Laurel Mtn Rad	168.21	35	P	PKPdf	10 06 51.2	-2.1
	baz=320						
T25A	Trinidad	168.22	340	P	PKPdf	10 06 51.4	-1.9
	baz=22,SNR=7.3						
PKCU	Pink Cliffs	168.40	12	ePKPdf	PKPdf	10 06 52.8	-0.8
SHPR	Sheep Range	168.49	24	ePKPdf	PKPdf	10 06 52.8	-0.7
SHPR				ePKPab	PKPab	10 08 03.1	+0.5
EDW2	Edwards Air Fo	168.49	38	P	PKPdf	10 06 51.6	-1.8
	baz=317						
SHOC	Shoshone, Teco	168.56	30	P	PKPdf	10 06 50.8	-2.5
	baz=326						
SNCC	San Nicolas Is	168.63	49	P	PKPdf	10 06 52.0	-1.5
	baz=306						
435B	Jarrell	168.65	297	P	PKPdf	10 06 51.2	-2.4
	baz=69						
DECC	Green Verdugo	168.75	42	P	PKPdf	10 06 52.2	-1.3
	baz=314						
GSC	Goldstone, Bar	168.80	33	P	PKPdf	10 06 51.9	-1.7
	baz=323						
MVCO	Mesa Verde	168.89	357	ePKPdf	PKPdf	10 06 53.2	-0.6
MVCO	Mesa Verde	168.89	357	P	PKPdf	10 06 51.3	-2.5
	baz=3.6,SNR=5.8						
AMTX	Amarillo	169.03	325	P	PKPdf	10 06 51.1	-2.7
	baz=39						
TUQ	Turquoise Moun	169.10	30	P	PKPdf	10 06 52.3	-1.6
	baz=327						
FMP	Fort Macarthur	169.14	44	P	PKPdf	10 06 52.2	-1.6
	baz=312						
BFSC	Mount Baldy Ra	169.15	40	P	PKPdf	10 06 51.6	-2.3
	baz=316						
CIS	Catalina Islan	169.26	45	P	PKPdf	10 06 52.2	-1.6
	baz=310						
ABTX	Abilene, Hawle	169.33	310	ePKPdf	PKPdf	10 06 53.2	-0.7
ABTX	Abilene, Hawle	169.33	310	P	PKPdf	10 06 52.3	-1.7
	baz=55						
U15A	North Rim	169.39	13	ePKPdf	PKPdf	10 06 54.0	-0.3
HEC	Hector,Ludlow	169.41	33	P	PKPdf	10 06 52.6	-1.4
	baz=323						
BBRC	Big Bear Solar	169.54	37	P	PKPdf	10 06 52.9	-1.4
	baz=319						
GMRC	Granite Mounta	169.76	31	P	PKPdf	10 06 52.8	-1.5
	baz=326						
MURC	Murrieta	169.88	40	P	PKPdf	10 06 52.5	-1.8
	baz=315						
W13A	Hualapai Mount	170.20	22	ePKPdf	PKPdf	10 06 53.3	-1.3
W13A				ePKPab	pPKPab	10 08 11.2	-1.1
NEE2	Needles Airpor	170.22	27	P	PKPdf	10 06 52.4	-2.0
	baz=330						
BELC	Belle Mtn. Jos	170.23	35	P	PKPdf	10 06 52.7	-1.9
	baz=322						
PFO	Pinyon Flats O	170.29	38	P	PKPdf	10 06 53.1	-1.5
	baz=318						
MSTX	Muleshoe	170.31	326	ePKPdf	PKPdf	10 06 53.4	-1.2
MSTX	Muleshoe	170.31	326	P	PKPdf	10 06 53.1	-1.5
	baz=38						
109C	Camp Elliot, M	170.43	43	P	PKPdf	10 06 53.6	-0.9
	baz=313						
WUAZ	Wupatki	170.44	10	ePKPdf	PKPdf	10 06 53.6	-1.1
WUAZ				ePKPab	PKPab	10 08 11.9	+0.7
WUAZ	Wupatki	170.44	10	P	PKPdf	10 06 53.3	-1.4
	baz=348						
IRM	Iron Mountain	170.52	31	P	PKPdf	10 06 54.3	-0.3
	baz=326						
JCT	Junction City	170.53	300	ePKPdf	PKPdf	10 06 53.2	-1.5
JCT	Junction City	170.53	300	ePKIKP	PKPdf	10 06 53.2	-1.5
JCT	Junction City	170.53	300	P	PKPdf	10 06 53.6	-1.2
	baz=65						
BC3	Big Chuckawall	170.78	34	P	PKPdf	10 06 53.8	-1.0
	baz=323						
PDMCI	Parker Dam,Lak	170.82	26	P	PKPdf	10 06 53.9	-0.8
	baz=331						
ANMO	Albuquerque	170.83	345	ePKPab	PKPab	10 08 14.3	+1.3
ANMO	Albuquerque	170.83	345	P	PKPdf	10 06 53.6	-1.3
	baz=16						
MONP2	Monument Peak	170.83	41	P	PKPdf	10 06 54.6	-0.4
	baz=315						
833A	Chaparral WMA,	170.87	286	ePKPdf	PKPdf	10 06 54.1	-0.8
833A	Chaparral WMA,	170.87	286	P	PKPdf	10 06 53.6	-1.3
	baz=78						
W18A	Petrified Fore	171.00	2	P	PKPdf	10 06 54.0	-1.1
	baz=357						
Y12C	Blythe	171.14	29	P	PKPdf	10 06 54.1	-0.8
	baz=328						
SWSC	Sam W. Stewart	171.15	38	P	PKPdf	10 06 54.9	0.0
	baz=318						
IKP	In-Ko-Pah, Jac	171.19	41	P	PKPdf	10 06 55.0	0.0
	baz=316						
LAZ	Ladron	171.50	348	ePKPdf	PKPdf	10 06 54.8	-0.6
X16A	Lo Mia Camp, P	171.50	12	ePKPdf	PKPdf	10 06 56.1	+0.8
Y14A	Wickenburg	171.56	21	ePKPdf	PKPdf	10 06 54.8	-0.3
X18A	Snowflake	171.57	3	ePKPdf	PKPdf	10 06 54.7	-0.6
GLA	Glamis	171.58	33	P	PKPdf	10 06 54.8	-0.4
	baz=324						
LENM	Lemitar	171.70	346	ePKPdf	PKPdf	10 06 55.1	-0.3
Y22D	IRIS PASSCAL I	171.77	346	P	PKPdf	10 06 55.5	+0.1
	baz=15						
113A	Mohawk Valley,	172.31	29	ePKPdf	PKPdf	10 06 55.3	-0.1
214A	Organ Pipe Nat	173.41	27	P	PKPdf	10 06 55.3	-0.7
	baz=331						
MNTX	Cornudas Mount	173.43	329	ePKPdf	PKPdf	10 06 55.2	-0.8
MNTX	Cornudas Mount	173.43	329	P	PKPdf	10 06 55.8	-0.2
	baz=33						
121A	Cookes Peak, D	173.44	348	P	PKPdf	10 06 56.3	+0.1
	baz=12						
TUC	Tucson	173.68	11	ePKPdf	PKPdf	10 06 54.9	-1.3
TUC	Tucson	173.68	11	ePKIKP	PKPdf	10 06 54.9	-1.3
TX31	Lajitas Ar. Si	174.03	304	ePKPdf	PKPdf	10 06 55.6	-0.8
TXAR	Lajitas Array	174.03	304	PKP	PKPdf	10 06 56.1	-0.3
	comp=Z,0.9nm,0.8s,baz=124,slow=2.3,SNR=12						
TXAR				PP	PP	10 12 25.7	+6.2
	comp=Z,0.4nm,0.9s,baz=93,slow=6.3,SNR=4.3						
319A	Douglas	174.73	359	ePKPdf	PKPdf	10 06 56.0	-0.6
HPIG		176.61	285	ePKPdf	PKPdf	10 06 56.4	-0.9

*IDC **15** 09:54:26.1±12.0,51.67N×177.71W,h0km,mb3.4/5, mb1 3.8/5,mb1mx3.4/46,mbtmp3.4/5,MS3.3/2,Ms1 3.3/2, ms1mx2.7/44,Error ellipse: s-maj=245.5km s-min=51.1km az=76.0*

*ISCJB **15** 09:55:03.2±0.5,52.6N±0.2×174.4W±0.1,h197km±8km, mb3.0/4,Error ellipse: s-maj=37.1km s-min=10.2km az=165.8*

*NEIC **15** 09:55:05.3±0.0,52.48N×174.41W,h179km,ML2.9(AEIC), After AEIC.*

ISC 15 09:55:03.9±0.9,52.6N±0.3×174.32W±0.09,h192km±10km, n24,σ0.9 79/28,mb3.1/4,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOWE	Korovin West	0.19	167	ePn	Pn	09 55 29.7	+0.3
KOKL	Mount Kliuchef	0.24	162	ePn	Pn	09 55 30.2	+0.7
KOFP	Korovin Flat P	0.31	154	ePn	Pn	09 55 30.1	+0.5
GSIG	Igitkin Island	1.14	241	P	Pn	09 55 34.3	+0.4
GSIG				S	Sn	09 55 56.0	-1.0
GSTR	Great Sitkin T	1.16	247	ePn	Pn	09 55 34.0	-0.1
GSMY	Great Sitkin M	1.18	245	ePn	Pn	09 55 34.6	+0.4
GSTD	Great Sitkin T	1.23	247	ePn	Pn	09 55 35.0	+0.4
GSTD				eSn	Sn	09 55 58.2	-0.2
ETKA	Kagalaska Isla	1.46	243	ePn	Pn	09 55 37.0	+0.4
ETKA				eSn	Sn	09 56 01.5	-0.2
ADAG	Mount Adagdak	1.51	249	ePn	Pn	09 55 37.6	+0.6
ADK	Adak	1.60	246	ePn	Pn	09 55 37.8	0.0
ADK				eSn	Sn	09 56 02.7	-1.3
KIWB	Kanaga Island	1.88	249	ePn	Pn	09 55 39.8	-0.8
KICM	Kanaga Island	1.88	251	ePn	Pn	09 55 41.4	+0.8
KIKV	Kanaga Island	1.88	250	ePn	Pn	09 55 41.3	+0.7
KIMD	Kanaga Island	1.96	247	P	Pn	09 55 42.5	+1.1
KIMD				S	Sn	09 56 10.9	+0.4
TAFP	Tanaga Falls P	2.34	255	ePn	Pn	09 55 46.5	+0.9
TAFP				eSn	Sn	09 56 19.0	+1.0
NIKH	Nikolski High	3.35	81	ePn	Pn	09 55 57.8	+0.5
UNV	Unalaska Valle	4.88	71	ePn	Pn	09 56 17.1	+0.7
PETK	Petropavlovsk-	16.88	283	LR	LR	10 03 26.3	
	comp=Z,42nm,20.7s,baz=61,slow=36						
ILAR	Eielson Array	18.60	38	P	P	09 59 06.7	+0.3
	1.0nm,0.5s,baz=228,slow=10,SNR=28						
INK	Inuvik	24.91	35	P	P	10 00 07.5	-1.1
	0.4nm,0.3s,baz=257,slow=6.1,SNR=5.6						
KLR	Kul'dur	33.52	286	LR	LR	10 12 51.6	
	comp=Z,190nm,20.9s,baz=221,slow=35						
NVAR	Mina Array Bea	40.69	87	P	P	10 02 27.1	+1.5
	0.2nm,0.5s,baz=306,slow=7.7,SNR=3.0						
PDAR	Pinedale Array	43.32	76	P	P	10 02 46.5	-0.4
	0.4nm,0.5s,baz=282,slow=3.7,SNR=7.4						
TXAR	Lajitas Array	55.76	85	P	P	10 04 19.8	-1.0
	0.1nm,0.6s,baz=294,slow=6.8,SNR=2.5						

DJA 15 10:10:43.4±0.9,3°S±3°×127°E±°,h11km±7km,M3.7/7, MLv3.7/7,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	Tana Toraja	1.59	252	P	Pn	10 11 10.3	-1.2
TTSI				S	Sn	10 11 32.3	+0.3
TTSI				Sg	Sg	10 11 36.3	+1.8
APSI	Ampana	1.66	11	P	Pn	10 11 11.7	-0.8
KDI	Kendari	1.90	137	P	Pn	10 11 16.9	+1.1
LUWI	Luwuk	2.08	44	P	Pn	10 11 17.7	-0.5
SPSI	Sidrap Palu	2.10	228	P	Pn	10 11 18.8	+0.3
BNSI	Bone	2.21	214	P	Pn	10 11 20.0	0.0
PCI	Palu	2.21	318	P	Pn	10 11 21.4	+1.3
BKSI	Bulukumba	3.01	204	P	Pn	10 11 30.2	-0.8
BKSI				S	Sn	10 12 08.0	+1.0

IDC 15 10:11:54.9±16.0,6.41S×129.86E,h105km±171km, mb3.1/1,mb1 3.1/4,mb1mx2.9/45,mbtmp3.3/4,ML2.9/3, Error ellipse: s-maj=126.5km s-min=61.9km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.32	199	P	Pn	10 14 48.6	+1.9
	0.1nm,0.3s,baz=14,slow=10,SNR=2.4						
FITZ				S	Sn	10 16 52.1	-10
	0.1nm,0.3s,baz=78,slow=19,SNR=2.7						
WRA	Warramunga Arr	14.13	162	P	Pn	10 15 08.7	-1.8
	0.0nm,0.3s,baz=341,slow=14,SNR=4.7						
WRA				S	Sn	10 17 33.5	-13
	0.1nm,0.3s,baz=344,slow=23,SNR=5.0						
ASAR	Alice Springs	17.59	168	P	P	10 15 52.8	-0.2
	0.1nm,0.3s,baz=356,slow=9.3,SNR=5.2						
MKAR	Makanchi Array	67.66	327	P	P	10 22 40.8	0.0
	0.1nm,0.4s,baz=129,slow=7.7,SNR=4.1						

*IDC **15** 10:25:25.8±0.9,3.29S×142.98E,h0km,mb4.1/10, mb1 4.3/11,mb1mx3.9/43,mbtmp4.2/11,ML3.5/2,Error ellipse: s-maj=23.7km s-min=17.0km az=83.0*

*ISCJB **15** 10:25:28.1±0.4,3.28S±0.05×142.83E±0.05,h22km, mb4.2/17,Error ellipse: s-maj=8.0km s-min=6.8km az=159.6*

*NEIC **15** 10:25:28.1±0.3,3.22S×142.82E,h10km,mb4.4/12,Error ellipse: s-maj=6.7km s-min=5.3km az=92.0*

ISC 15 10:25:29.8±0.7,3.22S±0.08×142.81E±0.07,h22km,n42, σ0.992/42,mb4.2/17,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	Jayapura	2.22	288	Pn	Pn	10 26 04.9	-0.5
	1.3nm,0.3s,baz=109,slow=6.8,SNR=6.1						
JAY				Pg	Pb	10 26 09.3	0.0
	9.0nm,0.3s,baz=107,slow=6.6,SNR=25						
JAY				Sn	Sn	10 26 32.9	+0.7
	10.0nm,0.3s,baz=118,slow=17,SNR=3.6						
JAY				Lg	Lg	10 26 42.0	
	13nm,0.3s,baz=53,slow=20,SNR=4.4						
MANU	Manus Island	4.70	76	ePn	Pn	10 26 38.5	-0.9
FAKI	Fak Fak	10.55	271	ePn	Pn	10 27 58.3	-1.6
COEN	Coen	10.68	178	ePn	Pn	10 28 00.5	-1.1
MTN	Manton Dam	15.00	230	ePn	Pn	10 29 00.1	-0.5
	24nm,1.1s						
WRAB	Tennant Creek	18.55	206	eP	Pn	10 29 45.0	-0.6
	29nm,1.3s						
WB2	Warramunga Arr	18.56	206	eP	Pn	10 29 45.6	-0.1
WR1	Warramunga Arr	18.57	206	eP	P	10 29 43.8	-1.6
	21nm,1.0s						
WRA	Warramunga Arr	18.57	206	P	P	10 29 43.8	-1.6
	0.4nm,0.3s,baz=30,slow=11,SNR=31						
SOEI	Soe	19.53	250	eP	P	10 29 55.9	-0.3
	50nm,0.9s						
BATI	Baumata	20.24	249	P	P	10 30 04.3	+0.5
	54nm,0.9s,baz=114,slow=0.6,SNR=7.6						
AS01	Alice Springs	22.06	202	eP	P	10 30 24.6	+1.3
AS31	Alice Springs	22.08	202	eP	P	10 30 25.1	+1.6
	1.1nm,0.6s						
ASAR	Alice Springs	22.08	202	P	P	10 30 22.8	-0.8
	2.3nm,0.8s,baz=30,slow=10,SNR=7.6						
ASAR				S	S	10 34 28.1	+1.9
	1.5nm,1.1s,baz=21,slow=26,SNR=4.7						
FITZ	Fitzroy Crossi	22.40	227	eP	P	10 30 27.4	+0.4
	18nm,1.1s						
FITZ	Fitzroy Crossi	22.40	227	P	P	10 30 27.2	+0.1
	6.7nm,0.8s,baz=57,slow=8.9,SNR=10						
EIDS	Eidsvold	23.42	161	eP	P	10 30 38.9	+1.5
	17nm,1.1s						
STKA	Stephens Creek	28.53	182	eP	P	10 31 24.5	+0.6
	1.0nm,0.8s						
STKA	Stephens Creek	28.53	182	P	P	10 31 22.3	-1.7
	3.7nm,0.7s,baz=350,slow=7.1,SNR=8.4						
BBOO	Buckleboo	30.11	191	eP	P	10 31 38.7	+0.7
	38nm,1.4s						
FORT	Forrest	30.75	205	eP	P	10 31 44.0	+0.3
	19nm,0.8s						
H11S3	WAKE ISLAND Hy	31.91	47	T	T	11 05 17.4	
	baz=229,slow=75,SNR=72						
H11S2	WAKE ISLAND Hy	31.92	47	T	T	11 05 09.7	
	baz=229,slow=75,SNR=93						
H11S1	WAKE ISLAND Hy	31.93	47	T	T	11 05 16.6	
	baz=229,slow=75,SNR=82						
URZ	Urewera	46.86	143	eP	P	10 33 58.6	+0.1
	9.1nm,1.1s						
BKZ	Black Stump Fm	47.08	144	eP	P	10 34 00.4	+0.2
	21nm,1.5s						
CM01	Chiang Mai Arr	48.24	298	eP	P	10 34 09.6	+0.1
CMAR	Chiang Mai Arr	48.27	298	P	P	10 34 10.7	+1.0
	0.6nm,0.3s,baz=126,slow=6.3,SNR=9.8						
MK01	Makanchi Array	72.70	321	eP	P	10 36 56.7	+0.5
MK31	Makanchi Array	72.72	321	eP	P	10 36 57.0	+0.7
	1.5nm,1.1s						
MK32	Makanchi Array	72.72	321	eP	P	10 36 57.5	+1.1
MKAR	Makanchi Array	72.72	321	P	P	10 36 57.5	+1.1

YUK			i S	Sn	10 30 22.0	-2.4
YUK			A	A	10 30 27.7	
	250nm,0.3s					
YUK			A	A	10 30 27.7	
	150nm,0.3s					
GRPR	**Tuman**	**2.67 174**	eP	**Pn**	**10 29 53.0**	**-1.2**
GRPR			AMB	AMB	10 29 53.0	
	10.0nm,0.2s					
GRPR			eS	**Sn**	**10 30 23.0**	**-2.3**
GRPR			A	A	10 30 24.0	
	111nm,0.3s					
GRPR			A	A	10 30 24.0	
	67nm,0.3s					
JRA	**Rausu**	**2.72 184**	P	**Pn**	**10 29 54.7**	**-0.1**
JWK2	**Keihoku**	**2.77 243**	P	**Pn**	**10 29 56.7**	**+1.1**
JTKR	**Abashiri--Toko**	**2.87 202**	P	**Pn**	**10 29 56.6**	**-0.4**
JTKR			eS	**Sn**	**10 30 29.7**	**-0.6**
SHO	**Shikotan**	**2.96 159**	i P	**Pn**	**10 29 58.0**	**-0.2**
SHO			AMB	AMB	10 29 59.0	
	24nm,0.3s					
SHO			AMB	AMB	10 29 59.0	
	18nm,0.3s					
SHO			AMB	AMB	10 29 59.0	
	20nm,0.3s					
SHO			eS	**Sn**	**10 30 32.0**	**-0.4**
SHO			A	A	10 30 33.0	
	98nm,0.3s					
SHO			A	A	10 30 33.0	
	63nm,0.3s					
ASAJ	**Asahikawa**	**3.20 219**	Pn	**Pn**	**10 30 01.7**	**+0.1**
	5.8nm,0.3s,baz=32,slow=13,SNR=22					
ASAJ			Sn	**Sn**	**10 30 37.2**	**-1.3**
	7.3nm,0.3s,baz=61,slow=32,SNR=9.6					
NEM2	**Nemuro 2**	**3.29 175**	P	**Pn**	**10 30 02.3**	**-0.5**
JKK2	**Kamakawa 2**	**3.34 215**	P	**Pn**	**10 30 03.5**	**0.0**
JKK2			eS	**Sn**	**10 30 40.7**	**-1.2**
JAR	**Ashorobuto**	**3.54 199**	P	**Pn**	**10 30 06.9**	**+0.7**
JAR			eS	**Sn**	**10 30 47.6**	**+0.8**
JFR	**Furan**	**4.01 211**	P	**Pn**	**10 30 14.1**	**+1.5**
ILAR	**Eielson Array**	**39.93 38**	P	**P**	**10 36 44.5**	**+0.5**
	0.5nm,0.7s,baz=267,slow=7.7,SNR=7.1					
KURBB	**Kurchatov Arra**	**43.01 301**	P	**P**	**10 37 10.1**	**+0.7**
	0.2nm,0.4s,baz=68,slow=9.1,SNR=4.1					
YKA	**Yellowknife Ar**	**54.10 34**	P	**P**	**10 38 34.0**	**-0.5**
	0.2nm,0.5s,baz=300,slow=6.6,SNR=3.2					
FINES	**FINESS Array B**	**61.73 332**	P	**P**	**10 39 27.9**	**-0.1**
	1.0nm,0.8s,baz=35,slow=5.1,SNR=3.5					
PDAR	**Pinedale Array**	**68.99 50**	P	**P**	**10 40 16.3**	**+0.7**
	0.4nm,0.7s,baz=306,slow=3.2,SNR=4.0					
TXAR	**Lajitas Array**	**82.06 55**	P	**P**	**10 41 31.4**	**+0.8**
	0.2nm,0.8s,baz=309,slow=3.0,SNR=3.7					

*IDC **15** 10:32:22.1±2.3, 31.°28S×68.°77W, h96km±20km, mb3.7/6, mb1 3.8/11, mb1mx3.7/30, mbtmp4.0/11, Error ellipse: s-maj=27.3km s-min=18.0km az=90.0*
*ISCJB **15** 10:32:23.8±0.2, 31.°25S±0.°02×68.°87W±0.°03, h120km±2km, mb4.1/15, Error ellipse: s-maj=4.5km s-min=3.0km az=16.1*
*GUC **15** 10:32:23.6±0.6, 31.°22S×68.°88W, h106km±3km, ML4.1*
*NEIC **15** 10:32:24.0±0.0, 31.°27S×68.°90W, h114km, mb4.4/9, MD4.1(SJA), After SJA.*
NEIC Felt [IV] at San Juan.
*SJA **15** 10:32:24.0±1.0, 31.°27S×68.°90W, h114km±5km, ML4.1, MW4.0*
ISC 15 10:32:23.9±0.6, 31.°26S±0.°03×68.°89W±0.°03, h114km±5km, n94, σ1.°33/122, mb4.1/15, 9C-1D, San Juan Province

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.34 148**	IAML		10 32 54.6	
	comp=Z,4μm,0.3s					
ZON			AMSG		10 32 55.2	
	comp=E,2μm,0.1s					
RTLL	**Cerro Villicun**	**0.36 102**	IAML		10 32 54.4	
	comp=Z,6μm,0.3s					
RTLL	**Cerro Villicun**	**0.36 102**	⇓iP	**Pn**	**10 32 41.1**	**+0.6**
RTLL			i S	**Sn**	**10 32 53.6**	**+0.5**
AMOG	**MOGNA**	**0.47 47**	eP	**Pn**	**10 32 42.1**	**+1.0**
AMOG			eS	**Sn**	**10 32 54.1**	**+0.1**
RTLS	**Leoncito**	**0.64 212**	IAML		10 32 43.6	
	comp=Z,3μm,0.2s					
CFA	**Coronel Fontan**	**0.66 122**	eP	**Pn**	**10 32 43.1**	**+0.7**
CFA			eS	**Sn**	**10 32 57.1**	**+0.8**
ACCO	**Cerro Coronel**	**0.68 347**	eP	**Pn**	**10 32 44.1**	**+1.1**
AUSP	**Uspallata**	**1.05 203**	eP	**Pn**	**10 32 47.3**	**+0.9**
AUSP			eS	**Sn**	**10 33 04.2**	**+0.9**
ACDV	**Cuesta del Vie**	**1.10 350**	eP	**Pn**	**10 32 47.8**	**+1.1**
ACDV			eS	**Sn**	**10 33 05.6**	**+1.7**
ACDV			IAML		10 33 06.6	
	comp=Z,1μm,0.3s					
AROD	**Rodeo**	**1.20 335**	eP	**Pn**	**10 32 49.2**	**+1.3**
AROD			eS	**Sn**	**10 33 07.7**	**+1.8**
ASAL	**Salagasta**	**1.33 178**	eP	**Pn**	**10 32 50.4**	**+1.2**
ASAL			eS	**Sn**	**10 33 08.4**	**+0.1**
ARCO	**CERRO ARCO**	**1.58 181**	eP	**Pn**	**10 32 53.4**	**+1.2**
ARCO			eS	**Sn**	**10 33 14.6**	**+1.0**
ARCO			IAML		10 33 16.9	
	comp=Z,3μm,0.7s					
ACAN	**Cantantal**	**1.77 125**	eP	**Pn**	**10 32 55.8**	**+1.5**
ACAN			eS	**Sn**	**10 33 17.8**	**+0.4**
AGUA	**GUANDACOL**	**1.80 11**	eP	**Pn**	**10 32 56.5**	**+1.8**
AGUA			eS	**Sn**	**10 33 20.0**	**+1.9**
CMCH	**Combarbala**	**1.81 272**	eP	**Pn**	**10 32 55.5**	**+0.7**
CMCH			i S	**Sn**	**10 33 19.4**	**+1.1**
AAGR	**Agrelo**	**1.82 178**	eP	**Pn**	**10 32 56.3**	**+1.3**
AAGR			eS	**Sn**	**10 33 19.8**	**+1.0**
GO04	**Tololo Observa**	**1.96 303**	ePn	**Pn**	**10 32 57.4**	**+0.5**
GO04			eSn	**Sn**	**10 33 22.9**	**+0.8**
GO04	**Tololo Observa**	**1.96 303**	eP	**Pn**	**10 32 57.4**	**+0.5**
GO04			eS	**Sn**	**10 33 23.3**	**+1.3**
GO04	**Tololo Observa**	**1.96 303**	⇑iP	**Pn**	**10 32 57.4**	**+0.5**
GO04			i S	**Sn**	**10 33 23.0**	**+1.0**
APLL	**PUNTA DE LOS L**	**2.21 68**	eP	**Pn**	**10 33 00.8**	**+1.1**
APLL			eS	**Sn**	**10 33 28.0**	**+0.8**
APLL			IAML		10 33 29.9	
	comp=Z,640nm,0.1s					
AVIZ	**Vizcacheras**	**2.23 172**	eP	**Pn**	**10 33 01.3**	**+1.1**
FCH	**Farellones**	**2.38 209**	⇑iP	**Pn**	**10 33 03.7**	**+1.4**
FCH			i S	**Sn**	**10 33 34.1**	**+2.4**
FCH			IAML		10 33 36.1	
	comp=E,568nm,0.2s					
PEL	**Peldehue**	**2.42 218**	ePn	**Pn**	**10 33 02.9**	**+0.4**
PEL			eSn	**Sn**	**10 33 32.8**	**+0.7**
PEL	**Peldehue**	**2.42 218**	⇑iP	**Pn**	**10 33 02.8**	**+0.4**
PEL			i S	**Sn**	**10 33 33.0**	**+0.9**
PEL			IAML		10 33 36.6	
	comp=E,579nm,0.4s					
ACLC	**CERRO LA CRUZ**	**2.48 43**	eP	**Pn**	**10 33 04.4**	**+1.0**
ACLC			eS	**Sn**	**10 33 35.3**	**+1.6**
ROCH	**El Roble**	**2.48 226**	eP	**Pn**	**10 33 03.9**	**+0.4**
ROCH			i S	**Sn**	**10 33 34.6**	**+0.8**
ROC1	**El Roble**	**2.49 226**	ePn	**Pn**	**10 33 03.4**	**-0.1**
ROC1			eSn	**Sn**	**10 33 34.4**	**+0.4**
CLCH	**Cerro Calan**	**2.55 213**	⇑iP	**Pn**	**10 33 05.3**	**+1.2**
CLCH			i S	**Sn**	**10 33 36.4**	**+1.3**
CLCH			IAML		10 33 40.6	
	comp=E,1μm,0.5s					
VCA	**Vinchina**	**2.58 14**	IAML		10 33 43.9	
	comp=Z,820nm,0.3s					
VCA	**Vinchina**	**2.58 14**	⇑iP	**Pn**	**10 33 06.2**	**+1.4**
VCA			i S	**Sn**	**10 33 37.9**	**+1.9**
LCO	**Las Campanas**	**2.73 325**	ePn	**Pn**	**10 33 07.2**	**+0.4**
LCO			eSn	**Sn**	**10 33 39.6**	**-0.1**
LCO	**Las Campanas**	**2.73 325**	eP	**Pn**	**10 33 07.3**	**+0.4**
LCO			eS	**Sn**	**10 33 39.9**	**+0.2**
LCO	**Las Campanas**	**2.73 325**	⇑iP	**Pn**	**10 33 07.2**	**+0.4**
LCO			i S	**Sn**	**10 33 40.3**	**+0.6**
ANTU	**Antumapu**	**2.74 212**	eP	**Pn**	**10 33 07.7**	**+1.1**
ANTU			IAML		10 33 46.3	
	comp=E,653nm,0.3s					
LMEL	**Las Melosas**	**2.81 203**	⇑iP	**Pn**	**10 33 08.9**	**+1.2**
LMEL			i S	**Sn**	**10 33 43.3**	**+1.9**
LMEL			IAML		10 33 53.7	
	comp=N,499nm,0.1s					
MRA	**San Martin**	**2.94 114**	eP	**Pn**	**10 33 09.8**	**+0.5**
MRA			IAML		10 33 47.1	
	comp=Z,735nm,0.8s					
TCA	**Tanti**	**3.68 92**	IAML		10 33 20.4	
	comp=Z,142nm,0.2s					
GO03	**Copiap**	**3.83 342**	ePn	**Pn**	**10 33 21.3**	**+0.1**
GO03	**Copiap**	**3.83 342**	eP	**Pn**	**10 33 21.4**	**+0.1**
GO03	**Copiap**	**3.83 342**	⇑iP	**Pn**	**10 33 21.2**	**+0.1**
GO03			i S	**Sn**	**10 34 04.7**	**-0.8**
CYA	**Choya**	**3.88 45**	eP	**Pn**	**10 33 21.7**	**-0.2**
CYA	**Choya**	**3.88 45**	⇑iP	**Pn**	**10 33 21.6**	**-0.2**
GO05	**Huala**	**4.53 213**	ePn	**Pn**	**10 33 27.6**	**-2.8**
GO05	**Huala**	**4.53 213**	eP	**Pn**	**10 33 27.6**	**-2.8**
AHML	**Horco Molle**	**5.43 36**	eP	**Pn**	**10 33 41.7**	**-1.1**
FSA	**Cafayete**	**5.73 27**	eP	**Pn**	**10 33 47.1**	**+0.3**
GO02	**Mina Guanaco**	**6.10 354**	ePn	**Pn**	**10 33 51.2**	**-0.8**
PB10	**IPOC Station P**	**7.85 349**	ePn	**Pn**	**10 34 14.4**	**-1.0**
GO06	**Currarrehue**	**8.57 193**	ePn	**Pn**	**10 34 24.0**	**-1.2**
LVC	**Limon Verde**	**8.61 360**	ePn	**Pn**	**10 34 24.0**	**-2.1**
LVC	**Limon Verde**	**8.61 360**	P	**Pn**	**10 34 23.8**	**-2.2**
	comp=Z,3.0nm,0.3s,baz=133,slow=8.0,SNR=33					
LVC			S	Sn	10 35 51.8	-10
	comp=Z,0.8nm,0.3s,baz=180,slow=19,SNR=2.4					
TRQA	**Tornquist**	**8.86 142**	ePn	**Pn**	**10 34 27.4**	**-1.5**
PB04	**IPOC Station P**	**8.96 353**	ePn	**Pn**	**10 34 26.2**	**-4.4**
PLCA	**Paso Flores**	**9.55 188**	ePn	**Pn**	**10 34 36.6**	**-1.8**
PLCA	**Paso Flores**	**9.55 188**	P	**Pn**	**10 34 36.2**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=8.4,slow=11,SNR=15					
PB01	**IPOC Station P**	**10.18 357**	ePn	**Pn**	**10 34 43.5**	**-3.6**
CPUP	**Villa Florida**	**11.26 67**	ePn	**Pn**	**10 34 57.9**	**-3.6**
CPUP	**Villa Florida**	**11.26 67**	P	**Pn**	**10 34 59.0**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=247,slow=10,SNR=6.2					
PB11	**IPOC Station P**	**11.47 356**	ePn	Pn	10 34 58.9	-5.5
MNMC	**Minye Minye**	**12.09 357**	ePn	**Pn**	**10 35 10.7**	**-2.0**
LPAZ	**La Paz**	**14.92 3**	ePn	**Pn**	**10 35 49.2**	**-0.4**
LPAZ	**La Paz**	**14.92 3**	P	**Pn**	**10 35 49.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=175,slow=8.2,SNR=11					
SIV	**San Ignacio**	**16.79 27**	P	**Pn**	**10 36 11.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=232,slow=12,SNR=14					
USHA	**Ushuaia**	**23.57 179**	P	**P**	**10 37 24.9**	**+1.1**
	comp=Z,7.6nm,0.8s,baz=352,slow=16,SNR=3.7					
TX31	**Lajitas Ar. Si**	**68.74 328**	eP	**P**	**10 43 16.9**	**+1.3**
TXAR	**Lajitas Array**	**68.74 328**	P	**P**	**10 43 16.7**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=155,slow=8.3,SNR=8.7					
WVT	**Waverly**	**69.35 344**	eP	**P**	**10 43 19.5**	**+0.6**
	comp=Z,8.8nm,0.8s					
PBMO	**Poplar Bluff**	**70.62 342**	eP	**P**	**10 43 27.7**	**+1.0**
	comp=Z,8.3nm,0.8s					
CCM	**Cathedral Cave**	**72.04 342**	eP	**P**	**10 43 36.3**	**+1.0**
	comp=Z,9.5nm,1.0s					
X16A	**Lo Mia Camp, P**	**76.64 325**	eP	**P**	**10 44 04.0**	**+1.8**
	comp=Z,2.2nm,1.0s					
Q24A	**Divide**	**77.58 332**	eP	**P**	**10 44 10.0**	**+2.4**
	comp=Z,5.2nm,0.7s					
CCUT	**Cedar City**	**80.07 326**	eP	**P**	**10 44 24.0**	**+2.8**
	comp=Z,3.4nm,1.1s					
TOA0	**Torodi Ar. Sit**	**80.76 69**	eP	**P**	**10 44 25.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**80.76 69**	P	**P**	**10 44 24.7**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=284,slow=5.6,SNR=10					
PDAR	**Pinedale Array**	**82.58 331**	P	**P**	**10 44 35.7**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=134,slow=3.9,SNR=3.9					
NVAR	**Mina Array Bea**	**83.22 323**	P	**P**	**10 44 38.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=162,slow=5.5,SNR=5.9					
ULM	**Lac du Bonnet**	**84.60 343**	P	**P**	**10 44 44.5**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=198,slow=3.2,SNR=4.2					
YHH	**Holmes Hill**	**84.78 331**	eP	**P**	**10 44 46.3**	**+0.8**
	comp=Z,3.0nm,1.1s					
HLID	**Hailey**	**85.32 329**	eP	**P**	**10 44 50.3**	**+2.2**
	comp=Z,3.2nm,1.1s					
J08A	**Circle Bar Ran**	**87.03 326**	eP	**P**	**10 44 58.4**	**+2.0**
	comp=Z,6.1nm,1.0s					
YKA	**Yellowknife Ar**	**100.35 340**	P	**Pdif**	**10 45 57.1**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=147,slow=4.7,SNR=3.6					
ASAR	**Alice Springs**	**121.19 205**	PKP	**PKPdf**	**10 51 03.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=135,slow=1.9,SNR=4.2					
WRA	**Warramunga Arr**	**124.42 207**	PKP	**PKPdf**	**10 51 09.6**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=151,slow=1.8,SNR=26					
SEY	**Seymchan**	**138.90 333**	PKP	**PKiKP**	**10 51 37.8**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=87,slow=9.7,SNR=3.6					
GAR	**Garm**	**145.98 65**	ePKPdf	**PKPab**	**10 51 51.2**	**+0.1**
AAK	**Ala-Archa**	**148.84 58**	ePKPbc	**PKiKP**	**10 51 60.0**	**+0.5**
NRN	**Naryn**	**150.13 60**	ePKPdf	**PKPdf**	**10 51 56.4**	**0.0**
NRN			ePKPbc	**PKPbc**	**10 52 02.1**	**+0.5**
NRN			ePKPab	**PKPab**	**10 52 08.1**	**+0.1**
KSH	**Kashi**	**150.34 64**	PKPbc	**PKiKP**	**10 52 02.9**	**+0.2**
ZAA0	**Zalesovo Array**	**150.50 32**	ePKPbc	**PKPbc**	**10 52 01.9**	**+0.2**
ZALV	**Zalesovo Beam**	**150.50 32**	PKPbc	**PKPbc**	**10 52 01.4**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=304,slow=3.7,SNR=14					
MKAR	**Makanchi Array**	**152.96 47**	PKPbc	**PKiKP**	**10 52 07.9**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=294,slow=2.9,SNR=7.6					
MKAR			PKPab	**PKPab**	**10 52 19.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=306,slow=4.4,SNR=7.4					
MK01	**Makanchi Array**	**152.97 47**	ePKPdf	**PKPdf**	**10 51 59.8**	**-0.4**
MK01			ePKPbc	**PKiKP**	**10 52 07.9**	**+0.2**
MK01			ePKPab	**PKPab**	**10 52 20.1**	**+0.8**
LZH	**Lanzhou**	**172.26 50**	ePKP	**PKPdf**	**10 52 17.3**	**-2.2**
LZH			pPKP	pPKPdf	10 52 48.1	-3.4
LZH			sPKP		10 52 56.4	
CD2	**Chengdu**	**173.69 91**	PKP	**PKPdf**	**10 52 19.8**	**-0.3**

*IDC **15** 10:39:29.3±2.3, 18.°79N×145.°61E, h184km±21km, mb3.4/7, mb1 3.6/8, mb1mx3.2/58, mbtmp3.9/8, Error ellipse: s-maj=32.4km s-min=14.8km az=98.0*
*ISCJB **15** 10:39:30.8±0.8, 18.°73N±0.°08×145.°5E±0.°3, h214km, mb3.5/7, Error ellipse: s-maj=36.1km s-min=10.6km az=8.3*
ISC 15 10:39:32.1±0.8, 18.°65N±0.°10×145.°6E±0.°3, h214km, n8, σ1.°40/11, mb3.6/7, Mariana Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.08 188**	P	**Pn**	**10 40 44.9**	**-3.0**
	3.5nm,0.3s,baz=36,slow=19,SNR=2.0					
GUMO			S	**S**	**10 41 47.9**	**+0.3**
	6.4nm,0.3s,baz=36,slow=19,SNR=3.0					
KLR	**Kul'dur**	**32.48 343**	P	**P**	**10 45 41.6**	**-0.7**
	1.3nm,0.3s,baz=162,slow=10,SNR=9.7					
WRA	**Warramunga Arr**	**39.90 197**	P	**P**	**10 46 46.7**	**+1.2**
	0.9nm,0.3s,baz=14,slow=8.4,SNR=37					
WRA			PcP	**PcP**	**10 48 46.9**	**+0.2**
	0.2nm,0.4s,baz=16,slow=3.5,SNR=5.6					
FITZ	**Fitzroy Crossi**	**41.44 209**	P	**P**	**10 46 59.6**	**+1.6**
	0.8nm,0.3s,baz=22,slow=11,SNR=9.4					
ASAR	**Alice Springs**	**43.57 196**	P	**P**	**10 47 16.1**	**+1.0**
	0.2nm,0.3s,baz=12,slow=6.0,SNR=11					
ASAR			PcP	**PcP**	**10 48 59.4**	**+0.6**
	0.2nm,0.5s,baz=15,slow=4.3,SNR=3.9					
DZM	**Mont Dzumac**	**45.34 152**	P	**P**	**10 47 30.1**	**+0.9**
	1.9nm,0.7s,baz=336,slow=10.0,SNR=4.3					
YKA	**Yellowknife Ar**	**78.09 28**	P	**P**	**10 51 06.8**	**-0.2**
	0.3nm,0.6s,baz=294,slow=5.8,SNR=4.5					
NVAR	**Mina Array Bea**	**83.27 52**	P	**P**	**10 51 35.2**	**-0.1**
	0.6nm,0.7s,baz=266,slow=6.0,SNR=5.6					

*ISCJB **15** 10:43:48.4±0.3, 57.°09N±0.°04×1.°76E±0.°05, h10km, mb3.0/1, Error ellipse: s-maj=6.7km s-min=2.5km az=148.5*
*IDC **15** 10:43:50.5±1.4, 57.°21N×1.°52E, h0km, mb3.3/1, mb1 3.4/7, mb1mx3.3/45, mbtmp3.3/7, ML2.8/5, Error ellipse: s-maj=27.0km s-min=14.2km az=139.0*
*BGS **15** 10:43:51.0±0.8, 57.°01N×1.°97E, h14km±13km, ML3.1*
*NAO **15** 10:43:51.2±4.0, 57.°05N×1.°72E, h24km±34km, ML2.7*
*BER **15** 10:43:52.1±1.3, 57.°01N×1.°84E, h15km, ML2.6, ML3.1(BGS), Confirmed Earthquake*
ISC 15 10:43:49.4±0.8, 57.°08N±0.°04×1.°87E±0.°04, h10km, n99, σ2.°07/138, North Sea

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRUM	**Mains of Drumt**	**2.39 268**	eP	**Pn**	**10 44 29.3**	**+0.8**
DRUM			eS	**Sn**	**10 44 56.4**	**-1.4**
DRUM			IAML		10 45 13.0	
	comp=N,78nm,0.4s					
DRUM			IAML		10 45 13.2	
	comp=E,78nm,0.4s					
DRUM	**Mains of Drumt**	**2.39 268**	eP	**Pn**	**10 44 29.3**	**+0.8**
DRUM			eS	**Sn**	**10 44 56.4**	**-1.4**
DRUM			IAML		10 45 13.0	
	comp=N,78nm,0.4s					
DRUM			IAML		10 45 13.2	
	comp=E,78nm,0.4s					
DRUM	**Mains of Drumt**	**2.39 268**	eP	**Pn**	**10 44 29.3**	**+0.8**
DRUM			eS	**Sn**	**10 44 56.4**	**-1.4**
DRUM			IAML		10 45 13.0	
	comp=N,78nm,0.4s					
DRUM			IAML		10 45 13.2	
	comp=E,78nm,0.4s					
EDU	**Dundee**	**2.74 261**	eP	**Pn**	**10 44 33.8**	**+0.4**
EDU	**Dundee**	**2.74 261**	eP	**Pn**	**10 44 33.8**	**+0.4**
EDU	**Dundee**	**2.74 261**	eP	**Pn**	**10 44 33.8**	**+0.4**
ESY	**Stoneypath**	**2.75 247**	eP	**Pn**	**10 44 33.3**	**-0.2**
ESY	**Stoneypath**	**2.75 247**	eP	**Pn**	**10 44 33.3**	**-0.2**
ESY	**Stoneypath**	**2.75 247**	eP	**Pn**	**10 44 33.3**	**-0.2**
KMY	**Karmoy**	**2.79 39**	eP	**Pn**	**10 44 34.5**	**+0.5**
KMY			eS	**Sn**	**10 45 08.9**	**+1.2**
KMY			IAML		10 45 28.2	
	comp=Z,27nm,0.3s					
MCD	**Coleburn Disti**	**2.82 282**	IAML		10 45 24.2	
	comp=E,94nm,0.5s					
MCD			IAML		10 45 34.2	
	comp=N,96nm,0.7s					
MCD	**Coleburn Disti**	**2.82 282**	IAML		10 45 24.2	
	comp=E,94nm,0.5s					
MCD			IAML		10 45 34.2	
	comp=N,96nm,0.7s					
MCD	**Coleburn Disti**	**2.82 282**	IAML		10 45 24.2	
	comp=E,94nm,0.5s					
MCD			IAML		10 45 34.2	
	comp=N,96nm,0.7s					
EBL	**Broad Law**	**3.03 246**	eP	**Pn**	**10 44 37.1**	**-0.2**
EBL	**Broad Law**	**3.03 246**	eP	**Pn**	**10 44 37.1**	**-0.2**
EBL	**Broad Law**	**3.03 246**	eP	**Pn**	**10 44 37.1**	**-0.2**
EDI	**Edinburgh**	**3.03 250**	eP	**Pn**	**10 44 37.3**	**-0.1**
EDI			eS	**Sn**	**10 45 11.4**	**-2.3**
EDI			IAML		10 45 38.3	
	comp=E,64nm,0.6s					
EDI			IAML		10 45 39.7	
	comp=N,70nm,0.8s					
EDI	**Edinburgh**	**3.03 250**	eP	**Pn**	**10 44 37.3**	**-0.1**
EDI			eS	**Sn**	**10 45 11.4**	**-2.3**
EDI			IAML		10 45 38.3	
	comp=E,64nm,0.6s					
EDI			IAML		10 45 39.7	
	comp=N,70nm,0.8s					
EDI	**Edinburgh**	**3.03 250**	eP	**Pn**	**10 44 37.3**	**-0.1**
EDI			e		10 44 50.6	
EDI			eS	**Sn**	**10 45 11.4**	**-2.3**
EDI			IAML		10 45 38.3	
	comp=E,64nm,0.6s					
EDI			IAML		10 45 39.7	
	comp=N,70nm,0.8s					
GDLE	**Glaisdale, N Y**	**3.07 211**	eP	**Pn**	**10 44 37.2**	**-0.6**
GDLE			IAML		10 45 35.7	
	comp=E,90nm,0.3s					
GDLE			IAML		10 45 36.9	
	comp=N,228nm,0.4s					
GDLE	**Glaisdale, N Y**	**3.07 211**	eP	**Pn**	**10 44 37.2**	**-0.6**
GDLE			IAML		10 45 35.7	
	comp=E,90nm,0.3s					
GDLE			IAML		10 45 36.9	
	comp=N,228nm,0.4s					
GDLE	**Glaisdale, N Y**	**3.07 211**	eP	**Pn**	**10 44 37.2**	**-0.6**
GDLE			IAML		10 45 35.7	
	comp=E,90nm,0.3s					
GDLE			IAML		10 45 36.9	
	comp=N,228nm,0.4s					
EDMD	**Edmundbyers**	**3.12 225**	eP	**Pn**	**10 44 37.6**	**-1.0**
EDMD			IAML		10 45 31.6	
	comp=N,56nm,0.3s					
EDMD			IAML		10 45 32.7	
	comp=E,69nm,0.3s					
EDMD	**Edmundbyers**	**3.12 225**	eP	**Pn**	**10 44 37.6**	**-1.0**
EDMD			IAML		10 45 31.6	
	comp=N,56nm,0.3s					
EDMD			IAML		10 45 32.7	
	comp=E,69nm,0.3s					
EDMD	**Edmundbyers**	**3.12 225**	eP	**Pn**	**10 44 37.6**	**-1.0**
EDMD			IAML		10 45 31.6	
	comp=N,56nm,0.3s					
EDMD			IAML		10 45 32.7	
	comp=E,69nm,0.3s					
SNART	**Snartemo**	**3.13 64**	eP	**Pn**	**10 44 40.9**	**+2.2**
SNART			IAML		10 44 44.5	
	comp=Z,36nm,0.4s					
EAU	**Auchinoon**	**3.20 249**	eP	**Pn**	**10 44 39.4**	**-0.3**
EAU	**Auchinoon**	**3.20 249**	eP	**Pn**	**10 44 39.4**	**-0.3**
EAU	**Auchinoon**	**3.20 249**	eP	**Pn**	**10 44 39.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**3.31 240**	Pn	**Pn**	**10 44 40.5**	**-0.7**
EKA			Sn	**Sn**	**10 45 18.0**	**-2.5**
EKA	**Eskdalemuir Ar**	**3.31 240**	Pn	**Pn**	**10 44 40.4**	**-0.9**
	baz=55,slow=14,SNR=130					
EKA			Sn	**Sn**	**10 45 17.0**	**-3.6**
	baz=59,slow=25,SNR=13					
EKA			Lg	Lg	10 45 32.9	
	baz=56,slow=28,SNR=9.1					
EKA	**Eskdalemuir Ar**	**3.31 240**	Pn	**Pn**	**10 44 40.5**	**-0.7**
EKA			Sn	**Sn**	**10 45 18.0**	**-2.5**
INVG	**Invergeldie, C**	**3.32 261**	eP	**Pn**	**10 44 41.6**	**+0.2**
INVG			IAML		10 45 42.4	
	comp=E,23nm,0.7s					
INVG			IAML		10 45 53.4	
	comp=N,20nm,0.7s					
INVG	**Invergeldie, C**	**3.32 261**	eP	**Pn**	**10 44 41.6**	**+0.2**
INVG			IAML		10 45 42.4	
	comp=E,23nm,0.7s					
INVG			IAML		10 45 53.4	
	comp=N,20nm,0.7s					
INVG	**Invergeldie, C**	**3.32 261**	eP	**Pn**	**10 44 41.6**	**+0.2**
INVG			IAML		10 45 42.4	
	comp=E,23nm,0.7s					
INVG			IAML		10 45 53.4	
	comp=N,20nm,0.7s					
ESK	**Eskdalemuir**	**3.34 240**	eP	**Pn**	**10 44 40.8**	**-0.8**
ESK			eS	**Sn**	**10 45 18.9**	**-2.5**
ESK			IAML		10 45 40.2	
	comp=N,41nm,0.4s					
ESK			IAML		10 45 42.3	
	comp=E,44nm,0.4s					
ESK	**Eskdalemuir**	**3.34 240**	eP	**Pn**	**10 44 40.8**	**-0.8**
ESK			eS	**Sn**	**10 45 18.9**	**-2.5**
ESK			IAML		10 45 40.2	
	comp=N,41nm,0.4s					
ESK			IAML		10 45 42.3	
	comp=E,44nm,0.4s					
ESK	**Eskdalemuir**	**3.34 240**	eP	**Pn**	**10 44 40.8**	**-0.8**
ESK			eS	**Sn**	**10 45 18.9**	**-2.5**
ESK			IAML		10 45 40.2	
	comp=N,41nm,0.4s					
ESK			IAML		10 45 42.3	
	comp=E,44nm,0.4s					
BLS5	**Blasjo**	**3.37 44**	eP	**Pn**	**10 44 43.9**	**+1.7**
BIGH	**Upper Bighouse**	**3.40 297**	eP	**Pn**	**10 44 43.1**	**+0.7**
BIGH			eS	**Sn**	**10 45 21.1**	**-1.6**
BIGH			IAML		10 45 21.4	
	comp=N,25nm,0.4s					
BIGH			IAML		10 45 21.7	
	comp=E,22nm,0.3s					
BIGH	**Upper Bighouse**	**3.40 297**	eP	**Pn**	**10 44 43.1**	**+0.7**
BIGH			eS	**Sn**	**10 45 21.1**	**-1.6**
BIGH			IAML		10 45 21.4	
	comp=N,25nm,0.4s					
BIGH			IAML		10 45 21.7	
	comp=E,22nm,0.3s					
BIGH	**Upper Bighouse**	**3.40 297**	eP	**Pn**	**10 44 43.1**	**+0.7**
BIGH			eS	**Sn**	**10 45 21.1**	**-1.6**
BIGH			IAML		10 45 21.4	
	comp=N,25nm,0.4s					
BIGH			IAML		10 45 21.7	
	comp=E,22nm,0.3s					
MDO	**Dochfour**	**3.40 279**	eP	**Pn**	**10 44 43.3**	**+0.8**
MDO	**Dochfour**	**3.40 279**	eP	**Pn**	**10 44 43.3**	**+0.8**
MDO	**Dochfour**	**3.40 279**	eP	**Pn**	**10 44 43.3**	**+0.8**
EAB	**Aberfoyle**	**3.54 258**	eP	**Pn**	**10 44 44.6**	**+0.2**
EAB	**Aberfoyle**	**3.54 258**	eP	**Pn**	**10 44 44.6**	**+0.2**
EAB	**Aberfoyle**	**3.54 258**	eP	**Pn**	**10 44 44.6**	**+0.2**
HPK	**Haverah Park**	**3.71 214**	eP	**Pn**	**10 44 45.8**	**-0.9**
HPK			eS	**Sn**	**10 45 25.8**	**-4.6**
HPK			IAML		10 45 28.5	
	comp=E,152nm,0.3s					
HPK			IAML		10 45 28.6	
	comp=N,124nm,0.2s					
HPK	**Haverah Park**	**3.71 214**	eP	**Pn**	**10 44 45.8**	**-0.9**
HPK			eS	**Sn**	**10 45 25.8**	**-4.6**
HPK			IAML		10 45 28.5	
	comp=E,152nm,0.3s					
HPK			IAML		10 45 28.6	
	comp=N,124nm,0.2s					
HPK	**Haverah Park**	**3.71 214**	eP	**Pn**	**10 44 45.8**	**-0.9**
HPK			eS	**Sn**	**10 45 25.8**	**-4.6**
HPK			IAML		10 45 28.5	
	comp=E,152nm,0.3s					
HPK			IAML		10 45 28.6	
	comp=N,124nm,0.2s					

PGBU Glenifferbraes 3.75 253 eP Pn 10 44 47.1 -0.1
PGBU eS Sn 10 45 28.1 -3.3
PGBU IAML 10 45 30.3
comp=N,21nm,0.2s
PGBU IAML 10 45 55.0
comp=E,39nm,0.4s
PGBU Glenifferbraes 3.75 253 eP Pn 10 44 47.1 -0.1
PGBU eS Sn 10 45 28.1 -3.3
PGBU IAML 10 45 30.3
comp=N,21nm,0.2s
PGBU IAML 10 45 55.0
comp=E,39nm,0.4s
PGBU Glenifferbraes 3.75 253 eP Pn 10 44 47.1 -0.1
PGBU eS Sn 10 45 28.1 -3.3
PGBU IAML 10 45 30.3
comp=N,21nm,0.2s
PGBU IAML 10 45 55.0
comp=E,39nm,0.4s
ODD1 Odda 3.78 39 eP Pn 10 44 49.7 +2.0
ODD1 eS Sn 10 45 31.4 -0.9
ODD1 IAML 10 45 58.4
comp=Z,18nm,0.6s
ASK Askoy 3.83 26 eP Pn 10 44 48.7 +0.4
ASK eS Sn 10 45 30.8 -2.4
ASK IAML 10 45 34.0
comp=Z,11nm,0.6s
KAC Achnashellach 3.91 279 eP Pn 10 44 50.1 +0.6
KAC Achnashellach 3.91 279 eP Pn 10 44 50.1 +0.6
KAC Achnashellach 3.91 279 eP Pn 10 44 50.1 +0.6
KSB Sheil Bridge 3.97 275 eP Pn 10 44 51.0 +0.7
KSB Sheil Bridge 3.97 275 eP Pn 10 44 51.0 +0.7
KSB Sheil Bridge 3.97 275 eP Pn 10 44 51.0 +0.7
MUD Monsted U'grnd 4.07 96 i P Pb 10 44 58.0 -3.1
MUD i S Sn 10 45 36.7 -2.6
LAWE Loch Awe, Argy 4.09 261 eP Pn 10 44 52.8 +0.9
LAWE eS Sn 10 45 36.5 -3.3
LAWE IAML 10 46 06.2
comp=N,23nm,0.4s
LAWE IAML 10 46 14.7
comp=E,15nm,0.3s
LAWE Loch Awe, Argy 4.09 261 eP Pn 10 44 52.8 +0.9
LAWE eS Sn 10 45 36.5 -3.3
LAWE IAML 10 46 06.2
comp=N,23nm,0.4s
LAWE IAML 10 46 14.7
comp=E,15nm,0.3s
LAWE Loch Awe, Argy 4.09 261 eP Pn 10 44 52.8 +0.9
LAWE eS Sn 10 45 36.5 -3.3
LAWE IAML 10 46 06.2
comp=N,23nm,0.4s
LAWE IAML 10 46 14.7
comp=E,15nm,0.3s
KPL Plockton 4.10 277 eP Pn 10 44 52.7 +0.7
KPL eS Sn 10 45 36.6 -3.4
KPL IAML 10 46 07.7
comp=N,22nm,0.4s
KPL IAML 10 46 20.0
comp=E,15nm,0.4s
KPL Plockton 4.10 277 eP Pn 10 44 52.7 +0.7
KPL eS Sn 10 45 36.6 -3.4
KPL IAML 10 46 07.7
comp=N,22nm,0.4s
KPL IAML 10 46 20.0
comp=E,15nm,0.4s
KPL Plockton 4.10 277 eP Pn 10 44 52.7 +0.7
KPL eS Sn 10 45 36.6 -3.4
KPL IAML 10 46 07.7
comp=N,22nm,0.4s
KPL IAML 10 46 20.0
comp=E,15nm,0.4s
LBWR Ladybower, Pea 4.22 211 eP Pn 10 44 53.0 -0.8
LBWR eS Sn 10 45 38.9 -4.2
LBWR IAML 10 46 14.2
comp=E,48nm,0.3s
LBWR IAML 10 46 14.8
comp=N,49nm,0.4s
LBWR Ladybower, Pea 4.22 211 eP Pn 10 44 53.0 -0.8
LBWR eS Sn 10 45 38.9 -4.2
LBWR IAML 10 46 14.2
comp=E,48nm,0.3s
LBWR IAML 10 46 14.8
comp=N,49nm,0.4s
LBWR Ladybower, Pea 4.22 211 eP Pn 10 44 53.0 -0.8
LBWR eS Sn 10 45 38.9 -4.2
LBWR IAML 10 46 14.2
comp=E,48nm,0.3s
LBWR IAML 10 46 14.8
comp=N,49nm,0.4s
SUE Sulen 4.26 19 eS Sn 10 45 41.4 -2.5
GAL1 Galloway 4.31 242 eP Pn 10 44 54.5 -0.5
GAL1 IAML 10 45 43.3
comp=N,12nm,0.3s
GAL1 IAML 10 46 20.5
comp=E,8.7nm,0.7s
GAL1 Galloway 4.31 242 eP Pn 10 44 54.5 -0.5
GAL1 IAML 10 45 43.3
comp=N,12nm,0.3s
GAL1 IAML 10 46 20.5
comp=E,8.7nm,0.7s
GAL1 Galloway 4.31 242 eP Pn 10 44 54.5 -0.5
GAL1 IAML 10 45 43.3
comp=N,12nm,0.3s
GAL1 IAML 10 46 20.5
comp=E,8.7nm,0.7s
HYA Hoyanger 4.66 27 eP Pn 10 45 00.6 +0.8
HYA eS Sn 10 45 50.9 -2.9
FOO Floro 4.81 18 eP Pn 10 45 02.9 +1.1
FOO eS Sn 10 45 53.8 -3.7
FOO IAML 10 45 57.2
comp=Z,9.8nm,0.4s
KONO Kongsberg 4.81 54 eP Pn 10 45 03.2 +1.4
AKN Aaknes 5.73 25 Pn Pn 10 45 15.3 +0.8
AKN Sn Sn 10 46 15.7 -4.7
AKN Aaknes 5.73 25 eP Pn 10 45 15.7 +1.1
AKN eS Sn 10 46 16.7 -3.6
AKN IAML 10 46 25.9
comp=Z,6.8nm,0.5s
NAO01 NORSAR Array S 6.00 47 eP Pn 10 45 19.6 +1.5
NBO00 NORSAR Array S 6.06 46 eP Pn 10 45 20.8 +1.8
DOMB Dombas 6.17 33 eP Pn 10 45 22.0 +1.5
NC602 NORSAR Array S 6.21 50 eP Pn 10 45 22.7 +1.7
NRA0 NORESS Array S 6.21 50 Pn Pn 10 45 22.4 +1.4
baz=249,slow=12
NRA0 NORESS Array S 6.21 50 Pn Pn 10 45 22.4 +1.4
baz=249,slow=12
NC204 NORSAR Array S 6.21 44 eP Pn 10 45 22.9 +1.8
NB2 NORSAR Subarra 6.24 47 Pn Pn 10 45 23.0 +1.5
baz=234,slow=14
NB2 NORSAR Subarra 6.24 47 Pn Pn 10 45 23.0 +1.5
baz=234,slow=14
NOA NORSAR Array B 6.24 47 Pn Pn 10 45 22.8 +1.3
comp=Z,0.1nm,0.3s,baz=234,slow=11,SNR=4.8
NOA Sn Sn 10 46 26.6 -6.3
comp=Z,0.0nm,0.3s,baz=230,slow=25,SNR=2.4
NOA Lg Lg 10 47 04.3
comp=Z,0.1nm,0.3s,baz=227,slow=26,SNR=4.6
NC303 NORSAR Array S 6.41 46 eP Pn 10 45 25.5 +1.7
HFS Hagfors 6.89 59 Pn Pn 10 45 30.6 +0.2
baz=234,slow=14
HFS Sn Sn 10 46 44.8 -3.9
baz=243,slow=28
HFS Hagfors 6.89 59 Pn Pn 10 45 32.1 +1.7
comp=Z,0.1nm,0.3s,baz=245,slow=14,SNR=4.0
HFS Sn Sn 10 46 44.3 -4.5
comp=Z,0.4nm,0.3s,baz=246,slow=24,SNR=4.8
HFS Lg Lg 10 47 28.3
comp=Z,0.5nm,0.3s,baz=225,slow=27,SNR=2.5
HFS Hagfors 6.89 59 Pn Pn 10 45 30.6 +0.2
baz=234,slow=14
HFS Sn Sn 10 46 44.8 -3.9
baz=243,slow=28
GERES GERESS Array B 10.89 134 Pn Pn 10 46 29.9 +4.5
comp=Z,0.1nm,0.3s,baz=322,slow=14,SNR=3.1
FINES FINESS Array B 13.09 60 Pn Pn 10 46 55.4 +0.3
comp=Z,0.1nm,0.3s,baz=256,slow=9.9,SNR=4.4
FINES Lg Lg 10 50 42.5
comp=Z,0.2nm,0.3s,baz=270,slow=25,SNR=3.6
ARCES ARCESS Array B 16.22 30 Pn Pn 10 47 37.9 +0.8
comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=6.1
TORD Torodi Ar. Bea 43.84 180 P P 10 51 59.8 +4.2
comp=Z,0.1nm,0.3s,baz=359,slow=9.2,SNR=2.6

IDC 15 10:50:15.4±1.4, 30.76S×178.77W, h0km, mb4.1/2, mb1 4.2/3, mb1mx3.8/20, mbtmp4.0/3, ML3.5/1, Error ellipse: s-maj=40.7km s-min=37.5km az=126.0
NEIC 15 10:50:18.3±0.4, 31.02S×179.04W, h10km, mb4.2/6, Error ellipse: s-maj=11.6km s-min=6.2km az=107.0
ISCJB 15 10:50:20.1±0.7, 31.17S±0.05×179.1W±0.1, h33km, mb4.0/8, Error ellipse: s-maj=16.0km s-min=6.9km az=10.5

ISC 15 10:50:21.4±0.8, 31.05S±0.09×179.1W±0.2, h35km, n25, σ1.52/31, mb4.2/8, Kermadec Islands region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
RAO Raoul Island 2.05 29 ePn Pn 10 50 53.4 +0.1
MXZ Matakaoa Point 6.85 198 ePn Pn 10 51 58.6 -0.6
MXZ eSn Sn 10 53 15.7 -0.3
URZ Urewera 7.85 203 ePn Pn 10 52 13.2 +0.2
URZ eSn Sn 10 53 40.7 +0.1
URZ Urewera 7.85 203 Pn Pn 10 52 17.7 +4.7
0.6nm,0.3s,baz=325,slow=19,SNR=15
URZ Sn Sn 10 53 40.6 +0.1
3.5nm,0.3s,baz=0.0,slow=20,SNR=20
BKZ Black Stump Fm 8.87 203 ePn Pn 10 52 27.9 +0.7
HIZ Hauiti 8.96 212 ePn Pn 10 52 29.1 +0.8
BFZ Birch Farm 10.33 200 ePn Pn 10 52 47.8 +0.8
BFZ eSn Sn 10 54 36.4 -5.2
THZ Tophouse 12.49 209 ePn Pn 10 53 16.6 +0.1
KHZ Kahutara 12.79 206 ePn Pn 10 53 20.3 -0.4
AS01 Alice Springs 42.13 268 eP P 10 58 10.9 +0.4
AS31 Alice Springs 42.17 268 eP P 10 58 11.2 +0.4
0.8nm,1.1s
ASAR Alice Springs 42.17 268 P P 10 58 12.2 +1.3
0.6nm,0.4s,baz=107,slow=7.4,SNR=28
ASAR PcP PcP 11 00 03.4 -1.4
0.3nm,0.8s,baz=112,slow=4.0,SNR=3.4
WB2 Warramunga Ar 43.21 273 eP P 10 58 20.1 +0.8
6.7nm,1.2s
WRAB Tennant Creek 43.21 273 eP P 10 58 20.1 +0.8
3.7nm,0.7s
WR1 Warramunga Arr 43.22 273 eP P 10 58 20.6 +1.2
3.7nm,0.4s
WRA Warramunga Arr 43.22 273 P P 10 58 20.6 +1.2
1.6nm,0.3s,baz=113,slow=7.9,SNR=41
WRA PcP PcP 11 00 07.0 -1.3
0.5nm,0.9s,baz=113,slow=3.1,SNR=3.0
FITZ Fitzroy Crossi 51.45 271 eP P 10 59 24.1 +0.7
3.3nm,1.1s
QSPA South Pole Qui 59.06 180 eP P 11 00 18.8 +1.0
PLCA Paso Flores 82.73 133 eP P 11 02 42.6 +0.8
1.6nm,0.8s
FIA0 FINESS Array S 145.43 339 ePKPbc PKPdf 11 09 54.6 -0.3
FINES FINESS Array B 145.43 339 PKPbc PKPdf 11 09 54.6 -0.3
3.0nm,0.6s,baz=48,slow=4.8,SNR=12
NB200 NORSAR Array S 149.25 350 epPKPdf PKPbc 11 10 04.9 -0.7
NOA NORSAR Array B 149.25 350 PKPbc PKPbc 11 10 04.9 -0.7
0.6nm,0.5s,baz=14,slow=4.2,SNR=4.3
TORD Torodi Ar. Bea 162.17 182 PKPab PKPab 11 11 06.4 0.0
0.9nm,1.0s,baz=184,slow=3.4,SNR=2.5
TOA1 Torodi Ar. Sit 162.17 182 ePKPab PKPab 11 11 06.4 0.0

KRSC 15 11:14:49.7±10.0, 59.55N×164.17E, h90km±10km, ML3.7, Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
OSSR Ossora 0.64 243 eP Pn 11 15 06.7 +1.1
OSSR eS Sn 11 15 18.8 +1.3
TILK Tilichiki 1.34 47 eP Pn 11 15 15.2 +1.8
TILK eS Sn 11 15 33.4 +2.1
PALN Palana 2.20 260 eP Pn 11 15 25.5 +1.0
PALN eS Sn 11 15 54.5 +3.4
KMSK Kamenskaya 3.10 18 eP Pn 11 15 38.3 +1.9
KMSK eS Sn 11 16 14.4 +2.0

IDC 15 11:15:52.5±2.0, 37.59N×73.04E, h0km, mb3.8/6, mb1 3.8/12, mb1mx3.6/67, mbtmp3.7/12, ML3.4/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/51, Error ellipse: s-maj=38.3km s-min=23.7km az=158.0
ISCJB 15 11:15:55.6±0.4, 37.89N±0.03×73.03E±0.05, h10km, Error ellipse: s-maj=5.4km s-min=5.0km az=7.0
NNC 15 11:15:58.9±2.1, 37.88N×72.72E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=18.4km s-min=14.3km az=23.0
NEIC 15 11:16:01.2±0.6, 37.87N×72.95E, h57km±5km, mb4.0/7, Error ellipse: s-maj=7.6km s-min=5.3km az=149.0

ISC 15 11:15:56.7±0.7, 37.87N±0.05×72.84E±0.05, h10km, n56, σ2.57/67, 7C-3D, Tajikistan

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GAR Garm 2.28 300 ePn Pb 11 16 37.7 -0.4
GAR eSn Sg 11 17 08.7 -1.4
BTK Batken 2.70 325 ePn Pb 11 16 44.8 -0.4
CHGR Chuyangaron 3.00 286 ePn Pn 11 16 47.5 +3.0
CHGR eSn Sb 11 17 24.0 -3.1
ARSB Arslanbob 3.45 2 ePn Pn 11 16 53.2 +2.4
CEP Cherat 4.11 191 P Pn 11 17 01.3 +1.6
CEP S Sb 11 18 01.0 +2.1
CHCP Chirah Chowk 4.21 175 P Pn 11 17 02.3 +1.2
NIL Nilore 4.22 175 ePn Pn 11 17 02.5 +1.3
AML Almayashu 4.31 8 P Pn 11 17 05.8 +3.1
SNR=15
NRN Naryn 4.32 33 ePn Pn 11 17 05.0 +2.3
KBL Kabul 4.52 224 ePn Pn 11 17 08.8 +3.3
UCH Uchtor 4.54 16 P Pn 11 17 09.9 +4.0
SNR=17
KZA Kyzart 4.59 23 P Pn 11 17 10.4 +3.8
SNR=13
AAK Ala-Archa 4.93 14 P Pn 11 17 14.8 +3.8
SNR=11
AAK Ala-Archa 4.93 14 ePn Pn 11 17 13.1 +2.1
AAK eSn Sn 11 18 08.2 +0.1
AAK Ala-Archa 4.93 14 ⇑Pn Pn 11 17 14.5 +3.5
13nm,0.6s
AAK ⇓Lg Lg 11 18 36.0
32nm,1.1s
AAK Ala-Archa 4.93 14 Pn Pn 11 17 14.3 +3.3
1.6nm,0.3s,baz=169,slow=6.4,SNR=16
AAK Sn Sn 11 18 12.8 +4.7
0.8nm,0.3s,baz=169,slow=19,SNR=2.2
AAK LR LR 11 19 24.6
comp=Z,115nm,21.8s,baz=245,slow=41
ULHL Ulahol 5.09 30 P Pn 11 17 17.3 +4.0
SNR=8.4
KDJ Kajisay 5.41 37 ePn Pn 11 17 18.6 +1.1
TARG Taragay, Kyrgy 5.43 43 ePn Pn 11 17 19.4 +1.3
TKM2 Tokmak 2 5.47 22 P Pn 11 17 23.1 +4.7
SNR=10
TKM2 Tokmak 2 5.47 22 ⇑Pn Pn 11 17 22.5 +4.1
4.3nm,0.6s
TKM2 ⇑Lg Lg 11 18 52.9
18nm,0.9s
KK31 Karatay Array 5.52 342 ePn Pn 11 17 21.6 +2.6
KK31 eSn Sn 11 18 23.4 +0.9
KK31 Karatay Array 5.52 342 ⇑Pn Pn 11 17 21.9 +2.8
3.7nm,0.3s,baz=144,slow=11,SNR=56
KK31 ⇓Sn Sn 11 18 27.1 +4.5
5.5nm,0.4s,baz=148,slow=23,SNR=5.8
KKAR Karatay Array 5.52 342 ePn Pn 11 17 21.6 +2.6
KKAR eSn Sn 11 18 22.9 +0.3
PRZ Przheval'sk 6.27 41 ePn Pn 11 17 31.0 +1.5
MK01 Makanchi Array 11.31 35 ePn Pn 11 18 39.5 +1.1
MK31 Makanchi Array 11.33 35 ePn Pn 11 18 37.7 -0.9
MK32 Makanchi Array 11.33 35 ePn Pn 11 18 40.3 +1.7
MKAR Makanchi Array 11.33 35 Pn Pn 11 18 40.3 +1.7
0.1nm,0.3s,baz=210,slow=14,SNR=20
GEYT Alibeck 11.64 275 Pn Pn 11 18 44.0 +1.1
0.5nm,0.3s,baz=102,slow=12,SNR=2.9
KURBB Kurchatov Arra 13.38 16 Pn Pn 11 19 05.6 -1.0
0.1nm,0.3s,baz=208,slow=12,SNR=8.0
KURBB Lg Lg 11 22 59.0
baz=200,slow=28,SNR=4.9
AB31 Akbulak array 14.71 325 ⇑Pn Pn 11 19 24.8 +0.1
1.2nm,0.6s,baz=138,slow=11,SNR=26
AB31 ⇓Sn Sn 11 22 11.8 +4.2
1.2nm,0.7s,baz=134,slow=23,SNR=2.6
ABKAR Akbulak array 14.71 325 ePn Pn 11 19 26.1 +1.4
BVAR Borovoye Array 15.26 354 Pn Pn 11 19 30.9 -1.1
0.1nm,0.3s,baz=168,slow=8.8,SNR=2.3
BRVK Borovoye 15.30 354 ePn Pn 11 19 33.6 +1.0
2.8nm,0.9s
AKTO Aktyubinsk 16.42 325 ⇑Pn P 11 19 51.5 +1.6
6.7nm,1.1s
AKTO ⇑Sn Sn 11 22 52.5 +3.1
1.2nm,0.8s
AKTO Aktyubinsk 16.42 325 Pn P 11 19 49.1 -0.9
0.3nm,0.3s,baz=114,slow=13,SNR=6.0
AKTO Sn Sn 11 22 40.6 -8.7
0.1nm,0.3s,baz=96,slow=19,SNR=1.6
ZAA0 Zalesovo Array 18.07 23 eP Pn 11 20 06.6 -1.1
5.5nm,0.8s
ZALV Zalesovo Beam 18.07 23 eP Pn 11 20 06.7 -1.1
ZALV Zalesovo Beam 18.07 23 P Pn 11 20 06.4 -1.3
1.1nm,0.3s,baz=216,slow=12,SNR=17
ZAA1 Zalesovo Array 18.07 23 eP Pn 11 20 06.4 -1.4
SONA0 Songino Array 26.35 57 eP P 11 21 32.2 -0.8
SONM Songino Array 26.35 57 P P 11 21 32.2 -0.8
0.6nm,0.4s,baz=256,slow=9.0,SNR=4.5
FIA1 FINESS Array S 37.20 325 eP P 11 23 06.4 -1.3
FIA0 FINESS Array S 37.20 325 eP P 11 23 07.2 -0.6
FINES FINESS Array B 37.20 325 P P 11 23 07.2 -0.6
0.3nm,0.4s,baz=101,slow=9.9,SNR=5.1
HFS Hagfors 42.92 321 P P 11 23 56.0 +0.8
3.2nm,1.0s,baz=91,slow=10,SNR=2.9
TIXI Tiksi 43.96 22 eP P 11 24 02.4 -1.1
1.6nm,0.8s
TOLK Toolik Lake Re 69.22 15 eP P 11 27 01.7 -1.6
4.9nm,1.3s
INK Inuvik 72.31 10 eP P 11 27 19.9 -2.1
1.8nm,1.1s
INK Inuvik 72.31 10 P P 11 27 20.3 -1.7
0.9nm,0.5s,baz=344,slow=4.0,SNR=8.1
ILAR Eielson Array 73.06 17 P P 11 27 24.3 -2.2
0.3nm,0.7s,baz=309,slow=4.3,SNR=3.5
PPLA Purkeypile 73.31 20 eP P 11 27 25.9 -2.3
18nm,1.5s
DOT Dot Lake 74.66 16 eP P 11 27 34.4 -1.5
27nm,1.4s
SUA Susitna One 74.88 20 eP P 11 27 35.0 -2.4
6.3nm,1.2s
YKA Yellowknife Ar 79.80 4 P P 11 28 03.2 -1.5
0.4nm,0.5s,baz=347,slow=5.6,SNR=7.6

ISCJB 15 11:20:53.5±0.5, 11.13S±0.05×165.91E±0.06, h10km, mb4.5/26, MS3.6/3, Error ellipse: s-maj=9.0km s-min=6.2km az=145.1
IDC 15 11:20:53.5±0.8, 10.97S×165.96E, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.0/48, mbtmp4.2/13, ML4.5/2, MS3.6/5, Ms1 3.6/5, ms1mx3.1/29, Error ellipse: s-maj=21.3km s-min=19.7km az=120.0
NEIC 15 11:20:54.9±0.2, 11.03S×165.94E, h10km, mb4.7/22, Error ellipse: s-maj=5.6km s-min=4.8km az=77.0

ISC 15 11:20:55.0±0.7, 11.04S±0.07×165.98E±0.08, h10km, n52, σ0.73/52, mb4.6/27, MS3.6/3, Santa Cruz Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
HNR Honiara 6.15 285 eP Pn 11 22 26.0 +0.1
HNR Honiara 6.15 285 ePn Pn 11 22 25.8 -0.1
HNR eSn Sn 11 23 37.8 +1.4
HNR Honiara 6.15 285 Pn Pn 11 22 27.3 +1.3
33nm,0.3s,baz=141,slow=8.1,SNR=8.7
HNR Sn Sn 11 23 36.2 -0.2
9.1nm,0.3s,baz=68,slow=19,SNR=1.8
HNR LR LR 11 25 03.6
comp=Z,483nm,19.1s,baz=118,slow=41
DZM Mont Dzumac 10.98 178 ePn Pn 11 23 32.7 +0.4
DZM eSn Sn 11 25 34.9 -0.4
DZM Mont Dzumac 10.98 178 Pn Pn 11 23 34.2 +1.9
1.4nm,0.3s,baz=332,slow=20,SNR=16
DZM Sn Sn 11 25 34.9 -0.4
0.2nm,0.3s,baz=342,slow=19,SNR=3.3
DZM LR LR 11 27 34.4
comp=Z,179nm,19.1s,baz=34,slow=36
ONTNC Ouen Toro 11.21 178 ePn Pn 11 23 36.0 +0.6
PINNC Pines Island, 11.59 173 ePn Pn 11 23 41.4 +0.7
EIDS Eidsvold 20.05 223 eP P 11 25 28.4 -0.1
10nm,0.8s
CTA Charters Tower 21.00 242 P P 11 25 40.1 +1.3
6.3nm,0.9s,baz=39,slow=11,SNR=4.9
CTAO Charters Tower 21.00 242 eP P 11 25 38.7 -0.1
8.6nm,1.0s
COEN Coen 22.45 260 eP P 11 25 54.0 -0.4
30nm,1.4s
ARMA Armidale 23.45 213 eP P 11 26 04.9 +0.2
34nm,1.5s
URZ Urewera 28.88 162 eP P 11 26 54.0 +0.1
16nm,1.3s
URZ Urewera 28.88 162 P P 11 26 54.3 +0.5
2.1nm,0.5s,baz=346,slow=9.8,SNR=3.9
H11S2 WAKE ISLAND Hy 29.35 1 T T 11 57 24.5
baz=181,slow=76,SNR=50
H11S3 WAKE ISLAND Hy 29.36 1 T T 11 57 25.5
baz=181,slow=76,SNR=27
H11S1 WAKE ISLAND Hy 29.37 1 T T 11 57 23.5
baz=181,slow=76,SNR=30
H11N1 WAKE ISLAND Hy 30.57 2 T T 11 58 54.7
baz=182,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 30.58 2 T T 11 58 49.9
baz=182,slow=76,SNR=11
H11N2 WAKE ISLAND Hy 30.59 2 T T 11 58 50.9
baz=182,slow=76,SNR=13
STKA Stephens Creek 30.60 224 eP P 11 27 08.9 -0.4
0.9nm,1.1s
STKA Stephens Creek 30.60 224 P P 11 27 10.1 +0.8
2.3nm,0.8s,baz=35,slow=10,SNR=4.3
STKA LR LR 11 38 53.9
comp=Z,182nm,18.0s,baz=22,slow=35
BFZ Birch Farm 30.89 165 eP P 11 27 11.6 0.0
95nm,1.6s
THZ Tophouse 31.20 170 eP P 11 27 14.5 0.0
15nm,1.1s
WRAB Tennant Creek 31.69 250 eP P 11 27 18.2 -0.9
8.2nm,0.8s
WB2 Warramunga Arr 31.69 250 eP P 11 27 18.4 -0.6
11nm,1.0s
WR1 Warramunga Arr 31.70 250 eP P 11 27 18.6 -0.5
13nm,0.9s
WRA Warramunga Arr 31.70 250 P P 11 27 18.6 -0.5
6.8nm,0.8s,baz=82,slow=9.1,SNR=51
WRA PcP PcP 11 30 12.0 +1.0
0.4nm,0.8s,baz=79,slow=3.3,SNR=3.7
WRA LR LR 11 40 01.5
comp=Z,108nm,18.8s,baz=160,slow=36
KHZ Kahutara 31.95 169 eP P 11 27 20.6 -0.3
36nm,1.5s
RPZ Rata Peaks 32.85 173 eP P 11 27 29.0 +0.1
21nm,1.1s
RPZ Rata Peaks 32.85 173 P P 11 27 30.1 +1.2
4.3nm,0.5s,baz=325,slow=2.8,SNR=8.2
AS01 Alice Springs 32.96 243 eP P 11 27 29.2 -1.0
AS31 Alice Springs 33.00 243 eP P 11 27 29.5 -1.0
2.2nm,1.5s
ASAR Alice Springs 33.00 243 P P 11 27 29.4 -1.1
1.0nm,0.6s,baz=64,slow=10,SNR=24
ASAR PcP PcP 11 30 14.5 0.0
0.5nm,0.7s,baz=83,slow=2.3,SNR=6.0
ASAR LR LR 11 39 42.6
comp=Z,108nm,18.2s,baz=93,slow=34
LBZ Lake Benmore 33.42 175 eP P 11 27 33.9 0.0
35nm,1.5s
MTN Manton Dam 34.12 263 eP P 11 27 39.9 -0.5
19nm,1.3s
FITZ Fitzroy Crossi 39.60 255 eP P 11 28 26.4 -0.6
6.9nm,0.8s
FITZ Fitzroy Crossi 39.60 255 P P 11 28 26.4 -0.6
5.2nm,0.7s,baz=99,slow=7.2,SNR=11
MBWA Marble Bar 45.42 251 eP P 11 29 13.4 -0.9
9.0nm,0.9s
CM01 Chiang Mai Arr 72.30 293 eP P 11 32 21.8 +0.5
CMAR Chiang Mai Arr 72.32 293 P P 11 32 22.5 +1.0
0.4nm,0.3s,baz=134,slow=5.2,SNR=3.7
QSPA South Pole Qui 78.97 180 eP P 11 32 58.4 -0.5
10nm,1.6s
BALM Baldy 82.52 23 eP P 11 33 18.9 +1.1
6.2nm,1.0s
ILAR Eielson Array 83.44 18 P P 11 33 22.1 -0.2
0.7nm,0.7s,baz=232,slow=5.2,SNR=10
ILB Eielson Array 83.44 18 eP P 11 33 22.3 -0.1
6.7nm,1.5s
EGAK Eagle 85.29 20 eP P 11 33 32.1 +0.4
4.2nm,1.1s
DAWY Dawson 85.47 21 eP P 11 33 32.5 -0.2
4.7nm,1.3s
NVAR Mina Array Bea 85.84 50 P P 11 33 35.7 +0.3
0.7nm,0.9s,baz=243,slow=6.5,SNR=3.9
MK32 Makanchi Array 93.67 317 eP P 11 34 11.3 -0.6
MKAR Makanchi Array 93.67 317 P P 11 34 11.3 -0.6
0.3nm,0.7s,baz=93,slow=5.8,SNR=3.2
ARA0 ARCESS Array S 116.39 346 ePKPdf PKPdf 11 39 37.5 -0.9

ARCES	**ARCESS Array B**	**116.39**	**346**	PKP	**PKPdf**	**11 39 37.5**	**-0.9**
	1.8nm,0.9s,baz=64,slow=2.1,SNR=3.2						

*IDC **15** 11:28:21.1±1.6,2.°80S×121.°01E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.2/36,mbtmp3.3/3,Error ellipse: s-maj=345.0km s-min=25.0km az=58.0*
*ISCJB **15** 11:28:22.7±0.8,2.°92S±0.°09×121.°16E±0.°09,h10km, mb3.2/3,Error ellipse: s-maj=12.9km s-min=12.3km az=2.1*
*DJA **15** 11:28:25.4±0.4,3.°S±4.°×12.°1E±.°,h10km,M3.5/7,MLv3.5/7*

ISC 15 11:28:24.2±1.0,2.°80S±0.°07×121.°07E±0.°07,h10km,n10, σ1°95/10,mb3.4/3,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.27**	**259**	P	**Pn**	**11 28 48.1**	**0.0**
SPSI	**Sidrap Palu**	**1.74**	**228**	P	**Pb**	**11 28 58.7**	**+2.5**
BNSI	**Bone**	**1.85**	**211**	P	**Pb**	**11 29 00.7**	**+2.4**
KDI	**Kendari**	**1.93**	**127**	P	**Pn**	**11 28 58.7**	**+1.6**
PCI	**Palu**	**2.25**	**327**	P	**Pn**	**11 29 02.5**	**+0.9**
LUWI	**Luwuk**	**2.44**	**44**	P	**Pn**	**11 29 03.9**	**-0.3**
BKSI	**Bulukumba**	**2.67**	**201**	P	**Pn**	**11 29 05.3**	**-2.1**
WRA	**Warramunga Arr**	**21.40**	**144**	P	**P**	**11 33 11.0**	**-1.4**
	1.0nm,0.9s,baz=323,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**24.17**	**150**	P	**P**	**11 33 39.6**	**-1.4**
	0.8nm,0.8s,baz=325,slow=7.9,SNR=9.6						
MKAR	**Makanchi Array**	**60.02**	**330**	P	**P**	**11 38 29.5**	**-1.7**
	0.2nm,0.6s,baz=124,slow=8.2,SNR=2.6						

IDC 15 11:52:54.4±1.7,5.°52S×146.°70E,h0km,mb3.2/3, mb1 3.6/5,mb1mx3.3/31,mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=38.7km s-min=27.0km az=122.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**6.68**	**296**	Pn	Pn	11 54 34.1	+0.2
	0.7nm,0.3s,baz=163,slow=14,SNR=2.9						
JAY				Sn	Sn	11 55 54.2	+3.3
	0.6nm,0.3s,baz=41,slow=19,SNR=2.4						
WRA	**Warramunga Arr**	**18.71**	**219**	P	Pn	11 57 15.1	+0.1
	0.1nm,0.3s,baz=40,slow=12,SNR=8.0						
ASAR	**Alice Springs**	**21.85**	**213**	P	P	11 57 50.4	+1.5
	0.3nm,0.7s,baz=45,slow=8.1,SNR=3.7						
FITZ	**Fitzroy Crossi**	**24.07**	**237**	P	P	11 58 10.1	-1.6
	0.6nm,0.4s,baz=60,slow=11,SNR=9.5						
ILAR	**Eielson Array**	**85.16**	**23**	P	P	12 05 32.3	0.0
	0.2nm,0.7s,baz=247,slow=4.7,SNR=2.9						

KRSC 15 12:10:27.0±10.0,59.°63N×164.°04E,h87km±10km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.63**	**233**	*eP*	Pn	12 10 43.3	+0.8
OSSR				*eS*	Sn	12 10 55.2	+1.2
TILK	**Tilichiki**	**1.34**	**51**	*eP*	Pn	12 10 51.7	+1.2
TILK				*eS*	Sn	12 11 10.4	+2.1
PALN	**Palana**	**2.15**	**257**	*eP*	Pn	12 11 03.4	+2.4
PALN				S	Sn	12 11 28.9	+1.8
KMSK	**Kamenskaya**	**3.04**	**19**	*eP*	Pn	12 11 15.0	+2.1
KMSK				S	Sn	12 11 51.1	+2.9

*ISCJB **15** 12:13:56.1±0.9,6.°63S±0.°07×129.°69E±0.°09,h146km, mb3.4/2,Error ellipse: s-maj=12.3km s-min=9.6km az=4.5*
*IDC **15** 12:13:56.7±2.2,6.°56S×129.°80E,h128km±25km,mb3.4/2, mb1 3.5/7,mb1mx3.2/41,mbtmp3.9/7,MS3.0/1,Ms1 3.0/1, ms1mx2.4/22,Error ellipse: s-maj=33.6km s-min=18.3km az=86.0*

ISC 15 12:13:55.8±0.9,6.°69S±0.°06×129.°9E±0.°1,h146km,n7, σ4°04/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.94**	**13**	P	**Pn**	**12 15 21.7**	**-0.1**
	2.1nm,0.3s,baz=183,slow=19,SNR=20						
SIJI				S	**Sn**	**12 16 24.4**	**-4.6**
	1.9nm,0.3s,baz=242,slow=23,SNR=9.4						
BATI	**Baumata**	**7.09**	**240**	P	**Pn**	**12 15 38.1**	**+1.0**
	2.5nm,0.3s,baz=73,slow=2.6,SNR=3.1						
BATI				S	**Sn**	**12 16 52.8**	**-3.8**
	0.7nm,0.3s,baz=38,slow=19,SNR=3.3						
BATI				LR	LR	12 18 34.4	
	comp=Z,112nm,18.7s,baz=224,slow=39						
FITZ	**Fitzroy Crossi**	**12.08**	**200**	P	**Pn**	**12 16 44.4**	**+1.1**
	0.2nm,0.3s,baz=17,slow=13,SNR=15						
FITZ				S	Sn	12 18 49.0	-7.7
	1.1nm,0.3s,baz=284,slow=19,SNR=8.2						
WRA	**Warramunga Arr**	**13.86**	**162**	P	**Pn**	**12 17 07.9**	**+1.7**
	0.3nm,0.3s,baz=348,slow=13,SNR=20						
WRA				S	**Sn**	**12 19 33.8**	**-6.0**
	1.1nm,0.3s,baz=335,slow=22,SNR=13						
ASAR	**Alice Springs**	**17.31**	**168**	P	**Pn**	**12 17 53.3**	**+4.5**
	0.6nm,0.3s,baz=345,slow=9.2,SNR=50						
ASAR				S	**S**	**12 20 57.6**	**-3.4**
	0.2nm,0.3s,baz=349,slow=25,SNR=4.0						
STKA	**Stephens Creek**	**27.33**	**158**	P	**P**	**12 19 31.6**	**+4.5**
	1.0nm,0.4s,baz=315,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**12 24 40.3**	**+1.6**
	0.2nm,0.5s,baz=121,slow=7.1,SNR=2.8						

GUC 15 12:15:39.1±0.5,24.°12S×67.°82W,h223km±8km,ML3.6, 4C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**1.76**	**301**	↑*iP*	Pn	12 16 18.6	+1.1
PB15				*iS*	S	12 16 49.0	+1.8
PB15				IAML		12 16 52.4	
	comp=E,666nm,0.2s						
GO02	**Mina Guanaco**	**1.91**	**237**	↑*iP*	Pn	12 16 17.8	-1.0
GO02				*iS*	S	12 16 49.1	-0.6
PB06	**IPOC Station P**	**2.14**	**311**	↑*iP*	Pn	12 16 22.4	+1.5
PB06				*iS*	S	12 16 55.3	+1.8
PB06				IAML		12 16 58.1	
	comp=E,164nm,0.1s						
PB05	**IPOC Station P**	**2.52**	**300**	*eP*	Pn	12 16 26.8	+1.9
PB05				*iS*	S	12 17 02.5	+2.0
PB05				IAML		12 17 06.0	
	comp=E,50nm,0.5s						
PB09	**IPOC Station P**	**2.66**	**330**	*eP*	Pn	12 16 28.4	+2.0
PB09				*iS*	S	12 17 05.7	+2.4
PB09				IAML		12 17 07.2	
	comp=N,48nm,0.2s						
PB03	**IPOC Station P**	**2.72**	**319**	*eP*	Pn	12 16 28.8	+1.7
PB03				*iS*	S	12 17 06.9	+2.4
PB03				IAML		12 17 09.5	
	comp=N,100nm,0.2s						
PB04	**IPOC Station P**	**2.78**	**309**	↓*iP*	Pn	12 16 29.9	+2.2
PB04				*iS*	S	12 17 08.3	+2.6
PB04				IAML		12 17 11.1	
	comp=N,100nm,0.2s						
PB07	**IPOC Station P**	**3.05**	**321**	↑*iP*	Pn	12 16 32.3	+1.5
PB07				*iS*	S	12 17 13.4	+2.3
PB07				IAML		12 17 14.1	
	comp=E,68nm,0.2s						
PB02	**IPOC Station P**	**3.38**	**325**	↓*iP*	Pn	12 16 32.7	-1.8
PB02				*iS*	S	12 17 20.2	+2.3
PB02				IAML		12 17 25.1	
	comp=E,71nm,0.3s						
PB01	**IPOC Station P**	**3.43**	**333**	*iP*	Pn	12 16 37.0	+1.9
PB01				IAML		12 17 24.1	
	comp=E,43nm,0.2s						

*IDC **15** 12:23:38.9±1.8,10.°16S×124.°47E,h0km,mb3.5/1, mb1 3.9/4,mb1mx3.5/32,mbtmp3.7/4,ML3.8/3,MS3.2/1, Ms1 3.2/1,ms1mx2.5/26,Error ellipse: s-maj=36.5km s-min=23.2km az=33.0*
*DJA **15** 12:23:46.5±0.5,11.°S±5.°×12.°4E±.°,h32km±8km,M3.6/5, mb3.9/2,MLv3.4/5*

ISC 15 12:23:42.9±1.1,10.°5S±0.°1×124.°3E±0.°1,h35km,n9, σ2°06/12,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.72**	**293**	P	**Pn**	**12 23 57.4**	**+0.7**
BATI				S	**Sn**	**12 24 05.8**	**-0.8**
BATI	**Baumata**	**0.72**	**293**	Pn	**Pn**	**12 23 57.5**	**+0.7**
	673nm,0.3s,baz=138,slow=2.6,SNR=330						
BATI				Sn	**Sn**	**12 24 06.0**	**-0.6**
	652nm,0.3s,baz=127,slow=20,SNR=88						
SOEI	**Soe**	**0.73**	**354**	P	Pn	12 24 03.5	+6.6
EDFI	**Ende, Flores**	**3.13**	**303**	P	**Pn**	**12 24 29.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**7.67**	**171**	Pn	**Pn**	**12 25 35.9**	**+3.8**
	1.3nm,0.3s,baz=358,slow=11,SNR=85						
FITZ				Sn	**Sn**	**12 26 56.3**	**-1.5**
	4.4nm,0.3s,baz=335,slow=15,SNR=16						
WRA	**Warramunga Arr**	**13.46**	**135**	Pn	**Pn**	**12 26 53.8**	**+2.2**
	0.3nm,0.3s,baz=312,slow=13,SNR=27						
WRA				Sn	**Sn**	**12 29 18.0**	**-2.0**
	0.4nm,0.3s,baz=311,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**15.96**	**146**	Pn	**P**	**12 27 28.0**	**-0.2**
	0.6nm,0.3s,baz=325,slow=13,SNR=40						
ASAR				Sn	**Sn**	**12 30 17.9**	**-3.1**
	0.2nm,0.3s,baz=322,slow=23,SNR=5.3						
JAY	**Jayapura**	**18.07**	**65**	LR	LR	12 35 22.8	
	comp=Z,86nm,21.2s,baz=160,slow=40						
MKAR	**Makanchi Array**	**68.26**	**330**	P	**P**	**12 34 40.2**	**0.0**
	0.2nm,0.5s,baz=131,slow=7.9,SNR=5.1						

IDC 15 12:29:03.5±1.5,9.°92S×160.°21E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/33,mbtmp3.5/4,Error ellipse: s-maj=33.3km s-min=17.6km az=84.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.55**	**332**	*i* P	Pn	12 29 19.0	+0.3
HNR				*i* S	Sn	12 29 31.0	+2.4
HNR	**Honiara**	**0.55**	**332**	Pn	Pn	12 29 19.6	+1.0
	823nm,0.3s,baz=153,slow=6.8,SNR=556						
HNR				Sn	Sn	12 29 27.5	-1.0
	2µm,0.3s,baz=37,slow=20,SNR=58						
WRA	**Warramunga Arr**	**26.87**	**245**	P	P	12 34 47.4	+1.0
	0.4nm,0.7s,baz=74,slow=9.2,SNR=5.9						
ASAR	**Alice Springs**	**28.53**	**238**	P	P	12 35 00.9	-0.7
	0.1nm,0.5s,baz=63,slow=10,SNR=2.7						
H11S2	**WAKE ISLAND Hy**	**28.95**	**13**	T	T	13 03 48.4	
	baz=194,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.95**	**13**	T	T	13 03 50.1	
	baz=194,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**28.95**	**13**	T	T	13 03 51.2	
	baz=194,slow=76,SNR=7.6						
H11N1	**WAKE ISLAND Hy**	**30.17**	**13**	T	T	13 05 20.7	
	baz=193,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**30.18**	**13**	T	T	13 05 31.8	
	baz=193,slow=76,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**30.19**	**13**	T	T	13 05 18.8	
	baz=193,slow=76,SNR=7.2						
ILAR	**Eielson Array**	**84.26**	**20**	P	P	12 41 37.0	+0.2
	0.5nm,0.4s,baz=245,slow=4.7,SNR=20						
MKAR	**Makanchi Array**	**89.01**	**318**	P	P	12 41 58.9	-1.6
	0.2nm,0.6s,baz=110,slow=5.4,SNR=3.2						

IDC 15 12:34:29.8±3.4,5.°22S×151.°28E,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.5/31,mbtmp3.9/3,Error ellipse: s-maj=110.6km s-min=48.9km az=119.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.04**	**227**	P	P	12 39 26.2	0.0
	2.6nm,0.6s,baz=53,slow=10.0,SNR=35						
ASAR	**Alice Springs**	**24.83**	**221**	P	P	12 39 54.1	+0.1
	1.1nm,0.7s,baz=55,slow=9.2,SNR=23						
FITZ	**Fitzroy Crossi**	**28.13**	**241**	P	P	12 40 23.7	-0.1
	0.9nm,0.3s,baz=60,slow=11,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.99**	**287**	PKPbc	PKPbc	12 54 20.4	-0.6
	0.3nm,0.5s,baz=89,slow=2.2,SNR=5.5						

IDC 15 12:38:16.5±999.0,51.°12N×41.°48E,h0km,Error ellipse: s-maj=1489.0km s-min=206.8km az=83.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**10.52**	**87**	*i*		13 42 20.0	
	baz=280,slow=327,SNR=8.7						
I46RU	**ZALESOVO INFRA**	**26.21**	**67**	*i*		15 19 10.0	
	baz=280,slow=306,SNR=1.1						
I34MN	**SONGINO INFRAS**	**41.11**	**68**	*i*		16 50 00.0	
	baz=302,slow=381,SNR=0.4						

*ISCJB **15** 12:44:10.6±1.1,16.°75S±0.°04×174.°11W±0.°06, h106km±11km,mb4.6/40,Error ellipse: s-maj=9.9km s-min=6.9km az=20.2*
*NEIC **15** 12:44:12.2±0.8,16.°90S×173.°99W,h112km±8km,mb4.7/36, Error ellipse: s-maj=6.6km s-min=4.6km az=128.0*
*IDC **15** 12:44:16.2±0.8,16.°91S×174.°07W,h143km±7km,mb4.0/11, mb1 4.1/13,mb1mx3.8/31,mbtmp4.4/13,MS3.2/1, Ms1 3.2/1,ms1mx2.6/38,Error ellipse: s-maj=21.7km s-min=12.6km az=135.0*

ISC 15 12:44:14.3±0.7,17.°03S±0.°06×173.°85W±0.°06, h134km±7km,n96,σ2°11/108,mb4.6/40,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.25**	**119**	*eP*	**Pn**	**12 45 18.0**	**+0.6**
NIUE				*eS*	**Sn**	**12 46 05.8**	**-0.6**
GLKZ	**Green Lake**	**12.74**	**196**	P	Pn	12 47 04.5	-6.1
GLKZ				S	**Sn**	**12 49 26.1**	**-5.1**
RAR	**Rarotonga**	**13.94**	**110**	*ePn*	**Pn**	**12 47 25.9**	**-0.1**
RAR				S	**Sn**	**12 49 56.8**	**-3.4**
RAR	**Rarotonga**	**13.94**	**110**	P	**P**	**12 47 29.2**	**-0.6**
	0.8nm,0.3s,baz=286,slow=18,SNR=3.2						
RAR				S	**Sn**	**12 49 56.7**	**-3.4**
	0.6nm,0.3s,baz=0.0,slow=20,SNR=2.0						
KNTN	**Kanton**	**14.32**	**9**	*ePn*	**Pn**	**12 47 27.1**	**-3.8**
MARNC	**Mare, Loyalty**	**17.67**	**253**	*eP*	**P**	**12 48 10.5**	**-0.7**
	145nm,1.0s						
PINNC	**Pines Island,**	**18.45**	**249**	*eP*	**P**	**12 48 19.3**	**-0.4**
	44nm,1.4s						
DZM	**Mont Dzumac**	**19.24**	**252**	*eP*	**P**	**12 48 28.4**	**0.0**
	20nm,1.3s						
DZM	**Mont Dzumac**	**19.24**	**252**	P	**Pn**	**12 48 29.4**	**-1.4**
	0.4nm,0.3s,baz=86,slow=19,SNR=6.3						
ONTNC	**Ouen Toro**	**19.28**	**251**	*eP*	**P**	**12 48 28.9**	**+0.3**
	20nm,0.7s						
OUZ	**Omahuta**	**21.30**	**209**	*eP*	**P**	**12 48 50.5**	**+0.2**
	100nm,1.6s						
OUZ	**Omahuta**	**21.30**	**209**	P	**P**	**12 48 49.8**	**-0.5**
GRZ	**Great Barrier**	**21.37**	**204**	P	**P**	**12 48 55.3**	**+4.2**
WCZ	**Waipu Caves**	**21.56**	**207**	P	**P**	**12 48 54.7**	**+1.6**
MXZ	**Matakaoa Point**	**21.59**	**197**	*eP*	**P**	**12 48 54.3**	**+0.9**
	51nm,1.0s						
MXZ	**Matakaoa Point**	**21.59**	**197**	P	**P**	**12 48 56.1**	**+2.6**
KUZ	**Kuaotunu**	**21.70**	**203**	P	**P**	**12 48 57.2**	**+2.6**
WMGZ	**Waiomatatini S**	**21.80**	**197**	P	**P**	**12 49 00.2**	**+4.5**
HAZ	**Te Kaha**	**21.93**	**198**	P	**P**	**12 48 59.2**	**+2.3**
HAZ				S	**S**	**12 52 51.5**	**+1.4**
PKGZ	**Pakihiroa**	**21.96**	**197**	P	**P**	**12 49 01.3**	**+3.9**
PKGZ				S	**S**	**12 52 51.6**	**+0.7**
WIAZ	**Waiheke Island**	**21.97**	**204**	P	**P**	**12 48 60.0**	**+2.6**
MBAZ	**Motutapu North**	**22.04**	**205**	P	**P**	**12 49 02.6**	**+4.4**
PUZ	**Puketiti**	**22.08**	**197**	P	**P**	**12 49 03.3**	**+4.7**
RUGZ	**Raukumara Rang**	**22.15**	**198**	P	**P**	**12 49 02.0**	**+2.7**
ETAZ	**East Tamaki Re**	**22.19**	**204**	P	**P**	**12 49 01.5**	**+1.8**
MKAZ	**Moumakai**	**22.23**	**204**	P	**P**	**12 49 02.7**	**+2.6**
TWGZ	**Tauwhareparae**	**22.26**	**197**	P	**P**	**12 49 05.3**	**+4.9**
WTAZ	**Waiatarua**	**22.32**	**205**	P	**P**	**12 49 03.6**	**+2.7**
OPRZ	**Ohinepanea**	**22.39**	**200**	P	**P**	**12 49 05.8**	**+4.2**
MWZ	**Matawai**	**22.54**	**198**	P	**P**	**12 49 06.3**	**+3.3**
MWZ				S	**S**	**12 53 04.3**	**+4.0**
TKGZ	**Te Karaka**	**22.54**	**197**	P	**P**	**12 49 05.6**	**+2.6**
URZ	**Urewera**	**22.59**	**199**	*eP*	**P**	**12 49 04.8**	**+1.2**
	17nm,0.5s						
URZ				*eS*	**S**	**12 53 00.2**	**-0.9**
URZ	**Urewera**	**22.59**	**199**	P	**P**	**12 49 03.8**	**+0.2**
	15nm,0.3s,baz=326,slow=3.2,SNR=62						
URZ				S	**S**	**12 53 00.2**	**-0.9**
	1.7nm,0.5s,baz=107,slow=20,SNR=2.5						
URZ	**Urewera**	**22.59**	**199**	P	**P**	**12 49 04.8**	**+1.2**
KMRZ	**Kaimai**	**22.60**	**201**	P	**P**	**12 49 07.6**	**+3.9**
TOZ	**Tahuroa Road**	**22.66**	**202**	P	**P**	**12 49 07.1**	**+3.0**
RAGZ	**Rawiri**	**22.72**	**198**	P	**P**	**12 49 10.0**	**+5.2**
RIGZ	**Rimuhau**	**22.81**	**197**	P	**P**	**12 49 09.0**	**+3.3**
RTZ	**Ruatahuna**	**22.96**	**199**	P	**P**	**12 49 10.2**	**+3.1**
RAHZ	**Arahi**	**23.20**	**198**	P	**P**	**12 49 12.4**	**+3.0**
HIZ	**Hauiti**	**23.59**	**203**	*eP*	**P**	**12 49 13.8**	**+1.0**
	21nm,1.0s						
BKZ	**Black Stump Fm**	**23.62**	**199**	*eP*	**P**	**12 49 14.0**	**+0.8**
	33nm,1.6s						
BFZ	**Birch Farm**	**25.08**	**198**	*eP*	**P**	**12 49 27.3**	**+0.9**
	46nm,1.3s						
HNR	**Honiara**	**26.58**	**283**	LR	LR	12 58 56.6	
	comp=Z,58nm,20.0s,baz=102,slow=33						
THZ	**Tophouse**	**27.15**	**202**	*eP*	**P**	**12 49 45.8**	**+0.8**
	11nm,1.0s						
KHZ	**Kahutara**	**27.51**	**200**	*eP*	**P**	**12 49 49.1**	**+1.0**
	28nm,1.2s						
OXZ	**Oxford**	**28.83**	**202**	*eP*	**P**	**12 49 59.3**	**-0.6**
	7.7nm,0.7s						
MQZ	**McQueen's Vall**	**28.95**	**200**	*eP*	**P**	**12 50 01.9**	**+1.0**
	43nm,1.4s						
RPZ	**Rata Peaks**	**29.52**	**203**	*eP*	**P**	**12 50 07.1**	**+1.1**
	44nm,1.5s						
RPZ	**Rata Peaks**	**29.52**	**203**	P	**P**	**12 50 07.0**	**+1.0**
	4.4nm,0.7s,baz=52,slow=8.1,SNR=3.6						
FOZ	**Fox Glacier**	**29.84**	**204**	*eP*	**P**	**12 50 09.3**	**+0.6**
	24nm,1.3s						
ODZ	**Otahua Downs**	**30.82**	**202**	*eP*	**P**	**12 50 17.6**	**+0.2**
	10.0nm,1.3s						
WKZ	**Wanaka**	**31.24**	**204**	*eP*	**P**	**12 50 21.0**	**-0.1**
	88nm,1.7s						
MLZ	**Mavora Lakes**	**32.04**	**204**	*eP*	**P**	**12 50 28.4**	**+0.3**
	26nm,1.7s						
DCZ	**Deep Cove**	**32.50**	**205**	*eP*	**P**	**12 50 32.6**	**+0.4**
	40nm,1.6s						
WHZ	**Wether Hill Ro**	**32.54**	**204**	*eP*	**P**	**12 50 33.4**	**+0.9**
	37nm,1.5s						
ARMA	**Armidale**	**34.16**	**241**	*eP*	**P**	**12 50 46.3**	**-0.5**
	36nm,1.4s						
H11S2	**WAKE ISLAND Hy**	**40.15**	**331**	T	T	13 33 08.5	
	baz=148,slow=75						
H11S3	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	13 33 09.0	
	baz=148,slow=75						
H11S1	**WAKE ISLAND Hy**	**40.16**	**331**	T	T	13 33 08.8	
	baz=148,slow=75						
TOO	**Toolangi**	**41.12**	**232**	*eP*	**P**	**12 51 45.5**	**+0.2**
	16nm,1.6s						
COEN	**Coen**	**41.47**	**268**	*eP*	**P**	**12 51 47.5**	**-0.9**
	6.2nm,1.1s						
STKA	**Stephens Creek**	**42.87**	**241**	*eP*	**P**	**12 51 58.7**	**-0.8**
	3.5nm,1.2s						
STKA	**Stephens Creek**	**42.87**	**241**	P	**P**	**12 51 58.2**	**-1.3**
	4.5nm,0.8s,baz=69,slow=8.0,SNR=9.6						
BBOO	**Buckleboo**	**47.64**	**241**	*eP*	**P**	**12 52 36.3**	**-0.8**
	18nm,1.4s						
WB2	**Warramunga Arr**	**49.06**	**258**	*eP*	**P**	**12 52 46.8**	**-1.5**
	14nm,1.6s						
WB2				*ePcP*	**PcP**	**12 54 11.0**	**+0.9**
WRAB	**Tennant Creek**	**49.06**	**258**	*eP*	**P**	**12 52 46.7**	**-1.5**
	12nm,1.4s						
WR1	**Warramunga Arr**	**49.07**	**258**	*eP*	**P**	**12 52 46.7**	**-1.6**
	6.0nm,1.3s						
WR1				*ePcP*	**PcP**	**12 54 10.7**	**+0.6**
WRA	**Warramunga Arr**	**49.08**	**258**	P	**P**	**12 52 46.7**	**-1.6**
	1.2nm,0.3s,baz=95,slow=7.0,SNR=95						
WRA				PcP	**PcP**	**12 54 10.7**	**+0.6**
	0.7nm,0.7s,baz=97,slow=3.5,SNR=3.9						
AS01	**Alice Springs**	**49.17**	**253**	*eP*	**P**	**12 52 47.8**	**-1.3**
AS01				*ePcP*	**PcP**	**12 54 11.1**	**+0.7**
AS31	**Alice Springs**	**49.22**	**253**	*eP*	**P**	**12 52 48.2**	**-1.2**
	8.2nm,0.6s						
ASAR	**Alice Springs**	**49.22**	**253**	P	**P**	**12 52 48.3**	**-1.1**
	28nm,0.5s,baz=88,slow=8.5,SNR=742						
ASAR				pP	**pwP**	**12 53 22.6**	**-0.1**
	2.4nm,0.7s,baz=88,slow=9.7,SNR=1.9						
ASAR				PcP	**PcP**	**12 54 11.3**	**+0.7**
	0.6nm,0.5s,baz=105,slow=3.4,SNR=3.3						
MTN	**Manton Dam**	**53.19**	**267**	*eP*	**P**	**12 53 18.0**	**-1.0**
	27nm,1.4s						
FORT	**Forrest**	**54.31**	**244**	*eP*	**P**	**12 53 26.2**	**-0.8**
	12nm,0.9s						
SOEI	**Soe**	**60.44**	**268**	*eP*	**P**	**12 54 10.2**	**-0.2**
	23nm,0.7s						
VNDA	**Vanda**	**61.72**	**186**	*eP*	**P**	**12 54 19.2**	**+1.3**
VNDA	**Vanda**	**61.72**	**186**	P	**P**	**12 54 21.1**	**+3.2**
	1.5nm,0.7s,baz=17,slow=4.8,SNR=7.2						
MBWA	**Marble Bar**	**62.51**	**255**	*eP*	**P**	**12 54 23.0**	**-1.1**
	14nm,1.4s						
QSPA	**South Pole Qui**	**73.03**	**180**	*eP*	**P**	**12 55 31.3**	**+1.9**
	5.8nm,0.9s						
PETK	**Petropavlovsk-**	**74.04**	**343**	P	**P**	**12 55 35.1**	**-0.1**
	5.3nm,0.8s,baz=106,slow=8.5,SNR=4.1						
PEA1	**Petropavlovsk-**	**74.05**	**343**	*eP*	**P**	**12 55 35.1**	**-0.1**
NV01	**Mina Array Sit**	**75.82**	**42**	*eP*	**P**	**12 55 46.5**	**+0.4**
NVAR	**Mina Array Bea**	**75.82**	**42**	P	**P**	**12 55 47.5**	**+1.4**
	1.6nm,0.8s,baz=224,slow=9.5,SNR=13						
NVAR				pP	**pP**	**12 56 23.5**	**+4.8**
	0.7nm,0.7s,baz=227,slow=10,SNR=3.8						
KNK	**Knik Glacier**	**80.76**	**12**	*eP*	**P**	**12 56 12.5**	**+0.1**
	10nm,1.0s						
MCMT	**McKenzie Canyo**	**82.78**	**39**	*eP*	**P**	**12 56 24.9**	**+1.2**
PDAR	**Pinedale Array**	**83.76**	**42**	*eP*	**P**	**12 56 28.6**	**-0.1**
PDAR	**Pinedale Array**	**83.76**	**42**	P	**P**	**12 56 29.4**	**+0.6**
	0.7nm,0.8s,baz=229,slow=5.0,SNR=6.8						
PDAR				pP	**pP**	**12 57 05.1**	**+3.0**
	0.7nm,0.9s,baz=211,slow=3.2,SNR=3.2						
IL1	**Eielson Array**	**84.11**	**11**	*eP*	**P**	**12 56 30.5**	**+0.8**
ILAR	**Eielson Array**	**84.11**	**11**	P	**P**

PIS1	**Pisayambo**	**2.58**	**78**	P		**Pn**	**12 57 01.7**	**-0.2**
PISA	**Pisayambo**	**2.58**	**78**	P		**Pn**	**12 57 02.1**	**+0.1**
NINA	**Atacazo Ninahu**	**2.59**	**62**	P		**Pn**	**12 57 00.6**	**-1.5**
BMOR	**Cotopaxi Volca**	**2.60**	**70**	P		**Pn**	**12 57 02.1**	**-0.1**
NAS2	**Nasa**	**2.62**	**69**	P		**Pn**	**12 57 02.7**	**+0.3**
BREF	**Cotopaxi Volca**	**2.64**	**69**	P		**Pn**	**12 57 03.4**	**+0.6**
BVC2	**Cotopaxi Volca**	**2.67**	**69**	P		**Pn**	**12 57 03.7**	**+0.5**
BTAM	**Cotopaxi Volca**	**2.68**	**70**	P		**Pn**	**12 57 02.7**	**-0.6**
VC1	**Cotopaxi 1**	**2.69**	**69**	P		**Pn**	**12 57 03.4**	**+0.1**
PITA	**Cotopaxi Volc**	**2.69**	**67**	P		**Pn**	**12 57 03.5**	**+0.2**
TERV	**Terraza Guagua**	**2.71**	**58**	P		**Pn**	**12 57 02.3**	**-1.4**
GGPC	**Guagua Pichinc**	**2.71**	**59**	P		**Pn**	**12 57 02.3**	**-1.4**
PINO	**Pino**	**2.72**	**58**	P		**Pn**	**12 57 01.6**	**-2.2**
COV1	**Cotopaxi Volc**	**2.73**	**70**	P		**Pn**	**12 57 03.1**	**-1.0**
YANA	**Yana**	**2.77**	**58**	P		**Pn**	**12 57 02.8**	**-1.7**
PAC1	**Pacto, Paraso**	**2.82**	**49**	P		**Pn**	**12 57 03.1**	**-1.7**
ANTG	**Antisana-Guama**	**2.87**	**68**	P		**Pn**	**12 57 06.3**	**+0.3**
ANTM	**Antisana-La Mi**	**2.89**	**68**	P		**Pn**	**12 57 06.2**	**+0.1**
MCRA	**Macar, Loja**	**2.91**	**161**	P		**Pn**	**12 57 05.4**	**-0.5**
ANTS	**Antisana-Sarah**	**2.95**	**68**	P		**Pn**	**12 57 07.6**	**+0.5**
ANTI	**Antisana**	**2.98**	**67**	P		**Pn**	**12 57 08.4**	**+0.9**
OTAV	**Otavalo**	**3.07**	**53**	*eP*		**Pn**	**12 57 08.0**	**-0.6**
OTAV	**Otavalo**	**3.07**	**53**	*eP*		**Pn**	**12 57 08.0**	**-0.6**
OTAV	**Otavalo**	**3.07**	**53**	P		**Pn**	**12 57 07.7**	**-0.8**
CUSE	**Cuicocha Este**	**3.15**	**53**	P		**Pn**	**12 57 09.2**	**-0.4**
ARDO	**Archidona, Ten**	**3.17**	**79**	P		**Pn**	**12 57 11.6**	**+2.0**
CUSW	**Cuicocha Oeste**	**3.18**	**54**	P		**Pn**	**12 57 07.9**	**-2.1**
CUIC	**Cuicocha-Domo**	**3.18**	**53**	P		**Pn**	**12 57 09.9**	**-0.1**
IMBA	**Imbabura, San**	**3.29**	**55**	P		**Pn**	**12 57 12.3**	**+0.6**
URCU	**Urcuqui**	**3.34**	**53**	P		**Pn**	**12 57 11.7**	**-0.6**
CAYA	**Cayambe**	**3.36**	**60**	P		**Pn**	**12 57 13.6**	**+1.0**
CMBC	**Cumbal**	**3.99**	**51**	*eP*		**Pn**	**12 57 22.6**	**+1.4**
CMBC	**Cumbal**	**3.99**	**51**	*eP*		**Pn**	**12 57 22.6**	**+1.4**
GCUF	**Volcan Galeras**	**4.54**	**52**	*eP*		**Pn**	**12 57 29.9**	**+1.0**
GCUF	**Volcan Galeras**	**4.54**	**52**	*eP*		**Pn**	**12 57 29.9**	**+1.0**
CRUC	**La Cruz**	**5.06**	**51**	*eP*		**Pn**	**12 57 39.2**	**+3.3**
CRUC	**La Cruz**	**5.06**	**51**	*eP*		**Pn**	**12 57 39.2**	**+3.3**
GRGC	**Isla de Gorgon**	**5.34**	**31**	*eP*		**Pn**	**12 57 41.2**	**+1.8**
GRGC	**Isla de Gorgon**	**5.34**	**31**	*eP*		**Pn**	**12 57 41.2**	**+1.8**
SOTA	**Rioblanco**	**5.69**	**49**	*eP*		**Pn**	**12 57 43.8**	**-0.8**
SOTA	**Rioblanco**	**5.69**	**49**	*eP*		**Pn**	**12 57 43.8**	**-0.8**
POPC	**Popayan, Colom**	**5.91**	**46**	*eP*		**Pn**	**12 57 44.5**	**-2.9**
POPC	**Popayan, Colom**	**5.91**	**46**	*eP*		**Pn**	**12 57 44.5**	**-2.9**
PTLC	**Puerto Leguiza**	**6.36**	**74**	*eP*		**Pn**	**12 57 52.5**	**-1.0**
PTLC	**Puerto Leguiza**	**6.36**	**74**	*eP*		**Pn**	**12 57 52.5**	**-1.0**
MALC	**Bahia Malaga**	**6.63**	**33**	*eP*		Pn	12 58 03.1	+6.0
MALC	**Bahia Malaga**	**6.63**	**33**	*eP*		Pn	12 58 03.1	+6.0
MARP	**Paez Belalcaza**	**6.64**	**48**	*eP*		**Pn**	**12 57 55.8**	**-1.7**
MARP	**Paez Belalcaza**	**6.64**	**48**	*eP*		**Pn**	**12 57 55.8**	**-1.7**

MEX 15 12:58:54.6±0.5, 16°.36N×98°.21W, h16km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.08**	**67**	*eP*		Pg	12 58 56.8	-1.1
PNIG				*i* S		Sg	12 58 59.4	-0.7
TLIG	**Tlapa**	**1.25**	**344**	*i* P		Pn	12 59 13.7	-3.8
TLIG				*eS*		Sb	12 59 28.6	-5.1
VHO	**Vista Hermosa**	**1.58**	**63**	*i* P		Pn	12 59 19.2	-2.9
VHO				*i* S		Sn	12 59 37.0	-5.4
HUIG	**Huatulco**	**2.10**	**106**	*i* P		Pn	12 59 25.4	-3.7
HUIG				*i* S		Sn	12 59 50.9	-4.0

*ISCJB **15** 13:13:20.8±0.6, 20°.02N±0°.05×145°.7E±0°.2, h109km, mb3.7/12, Error ellipse: s-maj=21.8km s-min=7.6km az=179.7*
*IDC **15** 13:13:23.6±2.9, 19°.96N×145°.70E, h123km±28km, mb3.4/12, mb1 3.6/14, mb1mx3.5/44, mbtmp3.8/14, Error ellipse: s-maj=24.3km s-min=13.9km az=86.0*
ISC 15 13:13:22.3±0.7, 20°.02N±0°.07×145°.7E±0°.2, h109km, n21, σ1°.77/17, mb3.6/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**6.44**	**188**	P		**Pn**	**13 14 54.9**	**+0.2**
	7.2nm,0.3s,baz=5.1,slow=14,SNR=4.3							
GUMO				S		**Sn**	**13 16 07.8**	**+0.9**
	0.2nm,0.3s,baz=29,slow=19,SNR=2.1							
MJAR	**Matsushiro Arr**	**17.74**	**340**	P		**Pn**	**13 17 23.4**	**+1.1**
	0.1nm,0.3s,baz=158,slow=11,SNR=3.8							
H11S3	**WAKE ISLAND Hy**	**19.84**	**91**	T		T	13 38 48.0	
	baz=275,slow=74,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**19.85**	**91**	T		T	13 38 50.7	
	baz=275,slow=74,SNR=5.9							
H11S2	**WAKE ISLAND Hy**	**19.86**	**91**	T		T	13 38 44.2	
	baz=275							
H11N1	**WAKE ISLAND Hy**	**19.90**	**87**	T		T	13 39 07.3	
	baz=280							
H11N2	**WAKE ISLAND Hy**	**19.91**	**87**	T		T	13 39 06.4	
	baz=280							
H11N3	**WAKE ISLAND Hy**	**19.92**	**87**	T		T	13 39 08.1	
	baz=280							
KSRS	**Korea Array**	**23.29**	**322**	P		**P**	**13 18 20.4**	**-0.1**
	0.8nm,0.4s,baz=166,slow=9.5,SNR=6.4							
KLR	**Kul'dur**	**31.23**	**342**	P		**P**	**13 19 31.7**	**+0.4**
	3.1nm,0.5s,baz=158,slow=7.2,SNR=16							
WRA	**Warramunga Arr**	**41.25**	**196**	P		**P**	**13 20 56.8**	**-0.1**
	1.6nm,0.6s,baz=19,slow=9.1,SNR=22							
SONM	**Songino Array**	**42.15**	**320**	P		**P**	**13 21 03.8**	**-0.2**
	0.5nm,0.5s,baz=132,slow=9.0,SNR=3.2							
CMAR	**Chiang Mai Arr**	**44.10**	**276**	P		**P**	**13 21 20.8**	**+0.8**
	0.4nm,0.4s,baz=93,slow=5.9,SNR=2.2							
ASAR	**Alice Springs**	**44.92**	**195**	P		**P**	**13 21 24.8**	**-1.7**
	0.3nm,0.4s,baz=21,slow=6.9,SNR=9.2							
ZALV	**Zalesovo Beam**	**57.00**	**322**	P		**P**	**13 22 55.8**	**-0.7**
	1.0nm,0.6s,baz=104,slow=6.3,SNR=4.5							
MKAR	**Makanchi Array**	**57.58**	**313**	P		**P**	**13 23 00.6**	**-0.2**
	0.2nm,0.3s,baz=90,slow=8.6,SNR=5.2							
MKAR				PcP		**PcP**	**13 23 52.4**	**-0.5**
	0.4nm,0.5s,baz=75,slow=4.5,SNR=4.1							
ILAR	**Eielson Array**	**62.46**	**26**	P		**P**	**13 23 33.3**	**-0.4**
	0.4nm,0.8s,baz=258,slow=5.4,SNR=6.2							
YKA	**Yellowknife Ar**	**76.81**	**28**	P		**P**	**13 25 02.4**	**+0.6**
	0.7nm,0.5s,baz=289,slow=5.5,SNR=11							
NVAR	**Mina Array Bea**	**82.30**	**52**	P		**P**	**13 25 33.0**	**+0.6**
	0.4nm,0.6s,baz=272,slow=6.9,SNR=3.8							
FINES	**FINESS Array B**	**85.71**	**335**	P		**P**	**13 25 48.1**	**-0.7**
	0.9nm,0.3s,baz=71,slow=4.5,SNR=11							
TORD	**Torodi Ar. Bea**	**131.65**	**310**	PKP		**PKPdf**	**13 32 22.6**	**-0.7**
	0.2nm,0.4s,baz=354,slow=2.1,SNR=3.1							

*ISCJB **15** 13:13:24.4±0.4, 67°.62N±0°.04×142°.4E±0°.1, h10km, mb3.7/14, MS2.9/3, Error ellipse: s-maj=6.9km s-min=5.6km az=165.9*
*IDC **15** 13:13:24.8±0.7, 67°.68N×142°.36E, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.8/47, mbtmp3.8/18, ML3.8/3, MS3.0/3, Ms1 3.0/3, ms1mx2.6/45, Error ellipse: s-maj=16.0km s-min=15.4km az=160.0*
*YARS **15** 13:13:25.6±0.2, 67°.62N±0°.01×142°.55E±0°.03, h8km±3km*
ISC 15 13:13:25.7±0.5, 67°.62N±0°.04×142°.48E±0°.04, h10km, n24, σ1°.31/30, mb3.8/14, MS2.8/3, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MOMR	**Moma**	**1.20**	**166**	*i* P		**Pn**	**13 13 46.9**	**-1.5**
MOMR				Pmax			13 13 46.9	
	comp=Z,196nm,0.2s							
MOMR				*eS*		**Sb**	**13 14 02.8**	**-1.1**
MOMR				Smax			13 14 02.8	
	comp=N,2μm,0.4s							
YBGR	**Belaya Gora**	**1.67**	**55**	*i* P		**Pn**	**13 13 54.0**	**-0.9**
YBGR				Pmax			13 13 54.0	
	comp=Z,2μm,0.4s							
YBGR				*eS*		**Sb**	**13 14 17.3**	**-0.1**
YBGR				Smax			13 14 17.3	
	comp=N,7μm,0.6s							
DEPR	**Deputatskiy**	**2.02**	**333**	*eP*		**Pn**	**13 14 00.4**	**+0.7**
DEPR				*eP*		**Pb**	**13 14 02.2**	**-0.1**
DEPR				Pmax			13 14 02.2	
	comp=Z,82nm,0.3s							
DEPR				*eS*		**Sg**	**13 14 28.7**	**-1.6**
DEPR				Smax			13 14 28.7	
	comp=E,1μm,0.3s							
BTGS	**Batagay**	**3.00**	**274**	*eP*		**Pn**	**13 14 14.5**	**+1.4**
BTGS				*eP*		**Pb**	**13 14 19.2**	**+0.2**
BTGS				Pmax			13 14 19.2	
	comp=Z,72nm,0.3s							
BTGS				*eS*		**Sg**	**13 14 59.2**	**-2.6**
BTGS				Smax			13 14 59.2	
	comp=N,667nm,0.5s							
TIXI	**Tiksi**	**6.23**	**317**	Pn		**Pn**	**13 14 57.6**	**+0.2**
	comp=N,5.4nm,0.3s,baz=128,slow=17,SNR=123							
TIXI				Sn		**Sn**	**13 16 04.2**	**-4.3**
	comp=N,15nm,0.3s,baz=316,slow=20,SNR=14							
TIXI				Lg		Lg	13 16 35.6	
	comp=N,5.4nm,0.3s,baz=34,slow=20,SNR=6.5							
SEY	**Seymchan**	**6.27**	**134**	Pn		**Pn**	**13 14 57.8**	**-0.3**
	comp=N,0.9nm,0.3s,baz=317,slow=14,SNR=14							
SEY				Sn		**Sn**	**13 16 07.7**	**-2.1**
	comp=N,1.2nm,0.3s,baz=2.0,slow=18,SNR=4.5							
SEY				Lg		Lg	13 16 41.5	
	comp=N,3.5nm,0.3s,baz=227,slow=20,SNR=8.6							
MA2	**Magadan**	**8.87**	**152**	Pn		**Pn**	**13 15 35.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=162,slow=20,SNR=2.2							
MA2				Lg		Lg	13 18 04.2	
	comp=N,0.2nm,0.3s,baz=246,slow=23,SNR=5.8							
KLR	**Kul'dur**	**19.23**	**202**	P		**Pn**	**13 17 51.1**	**+0.5**
	comp=N,0.1nm,0.3s,baz=357,slow=18,SNR=2.2							
KLR				Lg		Lg	13 23 34.3	
	comp=N,0.0nm,0.3s,baz=282,slow=20,SNR=3.1							
USRK	**Ussuriysk Ar.**	**24.13**	**199**	P		**P**	**13 18 41.6**	**+0.3**
	comp=N,2.3nm,0.6s,baz=5.0,slow=13,SNR=4.8							
SONM	**Songino Array**	**26.98**	**241**	P		**P**	**13 19 08.1**	**+0.8**
	comp=N,0.8nm,0.8s,baz=32,slow=8.7,SNR=4.7							
ILAR	**Eielson Array**	**27.24**	**62**	P		**P**	**13 19 09.8**	**+0.4**
	comp=N,1.6nm,0.8s,baz=298,slow=8.0,SNR=19							
ZALV	**Zalesovo Beam**	**29.98**	**272**	P		**P**	**13 19 33.7**	**-0.1**
	comp=N,0.8nm,0.6s,baz=25,slow=7.9,SNR=3.3							
KSRS	**Korea Array**	**31.32**	**203**	LR		LR	13 33 44.4	
	comp=N,14nm,20.6s,baz=52,slow=39							
MKAR	**Makanchi Array**	**36.68**	**266**	P		**P**	**13 20 32.3**	**+0.1**
	comp=N,3.3nm,0.6s,baz=47,slow=7.3,SNR=39							
YKA	**Yellowknife Ar**	**38.88**	**46**	P		**P**	**13 20 50.9**	**+0.3**
	comp=N,1.0nm,0.6s,baz=221,slow=8.2,SNR=6.5							
FINES	**FINESS Array B**	**43.25**	**321**	P		**P**	**13 21 26.7**	**+0.2**
	comp=N,1.3nm,0.5s,baz=28,slow=8.6,SNR=9.3							
NOA	**NORSAR Array B**	**46.84**	**330**	P		**P**	**13 21 55.1**	**0.0**
	comp=N,1.5nm,0.9s,baz=24,slow=7.8,SNR=2.7							
NOA				LR		LR	13 46 32.3	
	comp=N,9.0nm,18.7s,baz=185,slow=42							
AKASG	**Malin Array Be**	**51.92**	**312**	P		**P**	**13 22 33.5**	**-0.4**
	comp=N,0.3nm,0.3s,baz=29,slow=8.9,SNR=2.9							
ULM	**Lac du Bonnet**	**54.60**	**42**	LR		LR	13 49 29.3	
	comp=N,34nm,18.4s,baz=108,slow=40							
CMAR	**Chiang Mai Arr**	**56.35**	**232**	P		**P**	**13 23 07.4**	**+0.8**
	comp=N,0.3nm,0.4s,baz=357,slow=7.8,SNR=4.4							
PDAR	**Pinedale Array**	**57.45**	**56**	P		**P**	**13 23 16.0**	**+1.5**
	comp=N,0.3nm,0.7s,baz=1.0,slow=2.3,SNR=4.8							
GERES	**GERESS Array B**	**57.65**	**322**	P		**P**	**13 23 15.4**	**-0.2**
	comp=N,0.4nm,0.6s,baz=54,slow=14,SNR=4.3							
BRTR	**Keskin Array B**	**60.48**	**303**	P		**P**	**13 23 36.0**	**+0.6**
	comp=N,1.0nm,0.7s,baz=15,slow=5.4,SNR=3.6							
ESDC	**Sonseca Array**	**70.05**	**333**	P		**P**	**13 24 37.0**	**-0.4**
	comp=N,0.8nm,0.8s,baz=1.9,slow=8.9,SNR=4.7							

MEX 15 13:26:50.7±0.5, 20°.10N×100°.23W, h2km±4km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
ATVM	**ATLACOMULCO**	**0.50**	**132**	*i* P		Pg	13 26 59.4	-0.9
ATVM				*i* S		Sg	13 27 06.6	-0.1
JRQG	**Juriquilla Cam**	**0.63**	**342**	*i* P		Pg	13 27 02.5	-0.4
JRQG				*eS*		Sg	13 27 11.6	+0.5
TOVM	**TOLUCA**	**0.97**	**147**	*eP*		Pg	13 27 07.6	-1.6
TOVM				*i* S		Sg	13 27 19.9	-1.9
MOIG	**Morelia**	**0.99**	**245**	*eP*		Pg	13 27 08.0	-1.7
MOIG				*eS*		Sg	13 27 21.0	-1.6
ZUVM	**ZUMPANGO**	**1.12**	**104**	*i* P		Pg	13 27 08.9	-3.3
ZUVM				*i* S		Sg	13 27 24.6	-2.1
DEIG	**Demacu**	**1.14**	**80**	*eP*		Pg	13 27 10.3	-2.3
DEIG				*i* S		Sg	13 27 24.4	-3.1
IGIG	**Irapuato, Guan**	**1.22**	**303**	*eP*		Pg	13 27 11.2	-2.9
IGIG				*i* S		Sg	13 27 27.0	-2.8
MAVM	**Malinalco, Edo**	**1.33**	**148**	*eP*		Pg	13 27 13.4	-2.8
MAVM				*i* S		Sg	13 27 29.8	-3.7
YAIG	**Yautepec**	**1.65**	**138**	*i* P		Pn	13 27 17.9	-3.0
YAIG				*i* S		Sn	13 27 37.4	-5.3
ARIG	**Puente Sto Nin**	**1.81**	**183**	*i* P		Pn	13 27 18.8	-4.2
ARIG				*i* S		Sn	13 27 42.3	-4.2
PPM	**Popocatepetl**	**1.83**	**124**	*i* P		Pn	13 27 19.3	-4.4
PPM				*i* S		Sn	13 27 43.5	-4.2

*ISCJB **15** 13:28:38.0±0.8, 22°.6S±0°.2×175°.9W±0°.1, h10km, mb4.1/7, Error ellipse: s-maj=24.4km s-min=14.3km az=166.2*
*IDC **15** 13:28:38.2±1.4, 22°.58S×175°.82W, h0km, mb4.0/6, mb1 4.2/8, mb1mx3.9/35, mbtmp4.1/8, ML3.7/2, Error ellipse: s-maj=52.7km s-min=24.7km az=153.0*
*NEIC **15** 13:28:43.2±0.6, 22°.68S×175°.83W, h35km, mb4.1/1, Error ellipse: s-maj=21.7km s-min=12.7km az=163.0*
ISC 15 13:28:39.8±0.8, 22°.6S±0°.2×175°.8W±0°.1, h10km, n11, σ1°.24/11, mb4.2/7, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RAR	**Rarotonga**	**14.98**	**88**	Pn		**Pn**	**13 32 12.4**	**+0.7**
	3.6nm,0.3s,baz=272,slow=9.8,SNR=13							
RAR				Sn		Sn	13 34 41.9	-16
	0.8nm,0.3s,baz=121,slow=12,SNR=3.2							
URZ	**Urewera**	**16.77**	**200**	Pn		**Pn**	**13 32 33.9**	**-0.9**
	0.2nm,0.3s,baz=157,slow=7.7,SNR=2.9							
URZ				Sn		Sn	13 35 26.8	-14
	0.5nm,0.3s,baz=330,slow=22,SNR=7.7							
CTA	**Charters Tower**	**35.33**	**267**	P		**P**	**13 35 37.3**	**+1.7**
	2.8nm,0.4s,baz=95,slow=11,SNR=14							
STKA	**Stephens Creek**	**38.76**	**247**	P		**P**	**13 36 05.0**	**+0.4**
	0.7nm,0.4s,baz=117,slow=11,SNR=3.8							
ASAR	**Alice Springs**	**46.03**	**258**	P		**P**	**13 37 03.0**	**-1.0**
	0.5nm,0.4s,baz=99,slow=6.5,SNR=6.6							
WRAB	**Tennant Creek**	**46.33**	**264**	P		**P**	**13 37 04.5**	**-1.8**
	1.4nm,0.5s							
WRA	**Warramunga Arr**	**46.33**	**264**	P		**P**	**13 37 05.2**	**-1.2**
	0.9nm,0.3s,baz=91,slow=8.4,SNR=19							
FITZ	**Fitzroy Crossi**	**54.76**	**263**	P		**P**	**13 38 10.7**	**+0.6**
	2.8nm,0.8s,baz=86,slow=6.6,SNR=3.3							
ILAR	**Eielson Array**	**89.90**	**12**	P		**P**	**13 41 37.8**	**-0.8**
	0.4nm,0.9s,baz=221,slow=6.8,SNR=2.8							
ARCES	**ARCESS Array B**	**131.30**	**350**	PKP		**PKiKP**	**13 47 51.4**	**-1.1**
	2.8nm,0.9s,baz=21,slow=5.0,SNR=3.4							
AKASG	**Malin Array Be**	**145.79**	**331**	PKPbc		**PKPab**	**13 48 19.2**	**-0.2**
	1.4nm,0.5s,baz=44,slow=4.5,SNR=4.5							

IDC 15 13:28:58.6±1.4, 4°.51S×135°.06E, h0km, mb3.6/2, mb1 3.9/7, mb1mx3.6/34, mbtmp3.7/7, ML3.6/5, Error ellipse: s-maj=51.2km s-min=19.8km az=68.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**5.24**	**314**	Pn		Pn	13 30 19.6	+1.4
	1.0nm,0.3s,baz=60,slow=3.3,SNR=30							
SIJI				Sn		Sn	13 31 17.8	-1.6
	2.1nm,0.3s,baz=272,slow=23,SNR=4.2							
WRA	**Warramunga Arr**	**15.36**	**183**	Pn		Pn	13 32 35.7	-1.1
	0.1nm,0.3s,baz=3.7,slow=13,SNR=8.9							
WRA				Sn		Sn	13 35 18.6	-9.2
	0.4nm,0.3s,baz=1.5,slow=23,SNR=9.0							
FITZ	**Fitzroy Crossi**	**16.35**	**214**	Pn		Pn	13 32 49.6	0.0
	0.4nm,0.3s,baz=43,slow=10,SNR=9.3							
FITZ				Sn		Sn	13 35 40.8	-11
	0.2nm,0.3s,baz=233,slow=10,SNR=3.0							
CTA	**Charters Tower**	**18.94**	**146**	P		Pn	13 33 22.5	+0.5
	0.2nm,0.3s,baz=324,slow=17,SNR=2.9							
ASAR	**Alice Springs**	**19.08**	**183**	P		P	13 33 22.4	-0.5
	0.5nm,0.3s,baz=7.4,slow=11,SNR=42							
ASAR				S		Sn	13 36 48.5	-10
	0.2nm,0.3s,baz=2.9,slow=29,SNR=5.0							
MKAR	**Makanchi Array**	**69.04**	**324**	P		P	13 40 06.3	0.0
	0.2nm,0.5s,baz=112,slow=7.4,SNR=3.5							
ZALV	**Zalesovo Beam**	**71.70**	**331**	P		P	13 40 22.2	-0.1
	0.3nm,0.3s,baz=122,slow=5.3,SNR=2.3							

*BJI **15** 13:46:42.0, 3°.34S×143°.03E, h14km, mb4.7/45, mB5.0/30, Ms4.6/14, Ms7 4.3/8*
*ISCJB **15** 13:46:44.5±0.3, 3°.28S±0°.04×142°.87E±0°.04, h23km, mb4.5/40, MS3.9/22, Error ellipse: s-maj=6.1km s-min=5.3km az=172.6*
*NEIC **15** 13:46:44.1±0.3, 3°.22S×142°.87E, h10km, mb4.7/15, Error ellipse: s-maj=8.1km s-min=6.7km az=102.0*
*IDC **15** 13:46:45.2±4.4, 3°.23S×142°.84E, h17km±27km, mb4.3/15, mb1 4.5/18, mb1mx4.3/38, mbtmp4.5/18, ML4.1/3, MS3.8/20, Ms1 3.9/20, ms1mx3.8/27, Error ellipse: s-maj=17.1km s-min=12.5km az=96.0*
*DJA **15** 13:46:53.9±0.9, 3°.5S±5°×14°.3E±°, h84km±6km, M4.8/5, mb4.8/5*
ISC 15 13:46:46.3±0.4, 3°.28S±0°.06×142°.81E±0°.06, h23km, n116, σ1°.63/107, mb4.8/49, MS4.0/22, 2C-1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JAY	**Jayapura**	**2.23**	**290**	P		**Pn**	**13 47 18.7**	**-3.3**
JAY	**Jayapura**	**2.23**	**290**	Pn		**Pn**	**13 47 21.5**	**-0.5**
	30nm,0.3s,baz=148,slow=11,SNR=22							
JAY				Sn		**Sn**	**13 47 49.8**	**+0.9**
	25nm,0.3s,baz=348,slow=8.3,SNR=6.5							
JAY				LR		LR	13 47 55.4	
	comp=Z,1μm,20.1s,baz=8.0,slow=31							
GENI	**Genyem**	**2.72**	**284**	P		**Pb**	**13 47 33.3**	**-1.1**
MANU	**Manus Island**	**4.72**	**75**	*e*Pn		**Pn**	**13 47 54.1**	**-2.0**
SRPI	**Serui, Papua**	**6.71**	**282**	P		**Pn**	**13 48 26.1**	**+2.6**
RKPI	**Ransiki, Papua**	**8.80**	**281**	P		Pn	13 48 59.1	+6.9
FAKI	**Fak Fak**	**10.55**	**272**	*e*Pn		**Pn**	**13 49 18.2**	**+2.0**
FAKI	**Fak Fak**	**10.55**	**272**	P		**Pn**	**13 49 20.2**	**+4.0**
COEN	**Coen**	**10.62**	**178**	*e*Pn		Pn	13 49 23.1	+6.0
SIJI	**Sorong**	**11.78**	**281**	Pn		**Pn**	**13 49 34.0**	**+0.9**
	0.6nm,0.3s,baz=107,slow=14,SNR=2.8							
SIJI				LR		LR	13 55 20.9	
	comp=Z,1μm,18.6s,baz=93,slow=44							
SAUI	**Saumlaki**	**12.36**	**247**	P		**Pn**	**13 49 45.3**	**+4.2**
MTN	**Manton Dam**	**14.95**	**230**	*e*Pn		**Pn**	**13 50 15.6**	**-0.8**
	23nm,0.8s							
TNTI	**Ternate**	**15.95**	**284**	P		**P**	**13 50 34.8**	**+1.9**
SANI	**Sanana**	**16.84**	**274**	P		**Pn**	**13 50 38.6**	**-2.3**
WRAB	**Tennant Creek**	**18.50**	**206**	*e*P		**P**	**13 50 58.0**	**-3.0**
	47nm,0.9s							
WB2	**Warramunga Arr**	**18.50**	**206**	*e*P		**P**	**13 51 00.8**	**-0.4**
WRA	**Warramunga Arr**	**18.51**	**206**	P		**P**	**13 51 00.5**	**-0.7**
	1.1nm,0.3s,baz=22,slow=9.6,SNR=60							
WRA				S		**Sn**	**13 54 23.5**	**-4.3**
	0.1nm,0.3s,baz=23,slow=23,SNR=3.4							
WRA				LR		LR	13 59 28.3	
	comp=Z,340nm,20.4s,baz=30,slow=41							
SOEI	**Soe**	**19.50**	**250**	*e*P		**Pn**	**13 51 13.4**	**-0.2**
	219nm,1.0s							
SOEI	**Soe**	**19.50**	**250**	P		**Pn**	**13 51 13.9**	**+0.3**
DAV	**Davao City (W)**	**20.03**	**301**	LR		LR	13 59 19.8	
	comp=Z,260nm,19.4s,baz=305,slow=38							
LUWI	**Luwuk**	**20.14**	**276**	P		Pn	13 51 21.0	-0.1
BATI	**Baumata**	**20.21**	**249**	P		Pn	13 51 21.5	-0.3
BATI	**Baumata**	**20.21**	**249**	P		Pn	13 51 21.6	-0.2
	124nm,0.7s,baz=141,slow=1.7,SNR=44							
BATI				LR		LR	14 01 39.9	
	comp=Z,502nm,18.1s,baz=96,slow=44							
BBSI	**Bau Bau**	**20.29**	**263**	P		Pn	13 51 26.3	+3.5
APSI	**Ampana**	**21.27**	**276**	P		**P**	**13 51

HHC				pmax	pmax			
	comp=Z,18nm,1.1s							
HHC				pmax	pmax			
	comp=Z,50nm,5.8s							
HHC				LR	LR			
	comp=N,110nm,17.8s							
HHC				LR	LR			
	comp=E,160nm,15.8s							
LZH	**Lanzhou**	**53.45**	**321**	⇓P	**P**	**13 56 06.6**	**+1.6**	
LZH				pP	pP	13 56 11.5	-0.6	
LZH				sP	sP	13 56 16.1	+1.4	
LZH				PP	**PP**	**13 58 04.8**	**-0.9**	
LZH				pmax	pmax			
	comp=Z,36nm,1.4s							
LZH				pmax	pmax			
	comp=Z,110nm,4.5s							
LZH				LR	LR			
	comp=N,220nm,13.5s							
LZH				LR	LR			
	comp=E,220nm,14.0s							
LZH				LR	LR			
	comp=Z,350nm,17.0s							
GTA	**Gaotai**	**58.01**	**321**	⇑P	**P**	**13 56 38.4**	**+0.8**	
GTA				pP	pP	13 56 42.5	-2.2	
GTA				sP	sP	13 56 45.6	-1.8	
GTA				ScP	**ScP**	**14 01 23.3**	**-5.2**	
GTA				pmax	pmax			
	comp=Z,8.0nm,1.3s							
GTA				pmax	pmax			
	comp=Z,92nm,7.0s							
GTA				LR	LR			
	comp=N,99nm,19.7s							
GTA				LR	LR			
	comp=E,110nm,19.7s							
SONM	**Songino Array**	**60.04**	**333**	P	**P**	**13 56 51.5**	**-0.1**	
	0.7nm,0.7s,baz=159,slow=8.9,SNR=6.4							
SONM				LR	LR	14 22 10.1		
	comp=Z,101nm,19.3s,baz=136,slow=35							
ODAN	**Odare**	**61.27**	**303**	*eP*	**P**	**13 57 01.3**	**+0.8**	
	22nm,0.8s							
RAMN	**Ramite**	**61.96**	**303**	*eP*	**P**	**13 57 06.2**	**+1.0**	
	40nm,1.0s							
JIRN	**Jiri**	**62.55**	**303**	*eP*	**P**	**13 57 10.0**	**+0.8**	
GUN	**Gumba**	**62.89**	**304**	*eP*	**P**	**13 57 12.1**	**+0.6**	
	60nm,1.1s							
PKI	**Pulchoki**	**63.17**	**303**	*eP*	**P**	**13 57 13.9**	**+0.6**	
	31nm,1.2s							
PKIN	**Phulchoki**	**63.18**	**303**	*eP*	**P**	**13 57 13.7**	**+0.4**	
	15nm,0.9s							
KKN	**Kakani**	**63.35**	**303**	*eP*	**P**	**13 57 15.6**	**+1.2**	
DMN	**Daman**	**63.44**	**303**	*eP*	**P**	**13 57 15.9**	**+0.9**	
	66nm,1.1s							
GKN	**Gorkha**	**63.96**	**303**	*eP*	**P**	**13 57 19.0**	**+0.7**	
	70nm,1.2s							
KOLN	**Koldanda**	**64.75**	**303**	*eP*	**P**	**13 57 24.4**	**+0.8**	
	63nm,1.3s							
DANN	**Dangsing**	**64.80**	**303**	*eP*	**P**	**13 57 24.4**	**+0.4**	
	32nm,1.0s							
PYUN	**Piuthan**	**65.37**	**303**	*eP*	**P**	**13 57 28.1**	**+0.5**	
	67nm,1.2s							
PPT	**Papeete**	**67.68**	**108**	LR	LR	14 25 02.7		
	comp=Z,41nm,19.2s,baz=237,slow=34							
PPT2	**Papeete2**	**67.69**	**108**	*e*LR	LR	14 17 56.5		
	comp=Z,121nm,29.5s							
WMQ	**Urumqi**	**68.03**	**320**	P	**P**	**13 57 44.8**	**+0.7**	
WMQ				pP	pP	13 57 49.3	-2.0	
WMQ				sP	sP	13 57 52.6	-1.3	
WMQ				S	**S**	**14 06 43.9**	**+1.6**	
WMQ				pmax	pmax			
	comp=Z,9.0nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,120nm,4.3s							
WMQ				LR	LR			
	comp=N,98nm,22.3s							
WMQ				LR	LR			
	comp=E,67nm,20.9s							
WMQ				LR	LR			
	comp=Z,140nm,19.5s							
MK01	**Makanchi Array**	**72.75**	**321**	*eP*	**P**	**13 58 13.0**	**+0.2**	
MK31	**Makanchi Array**	**72.76**	**321**	*eP*	**P**	**13 58 13.3**	**+0.4**	
	4.8nm,1.0s							
MKAR	**Makanchi Array**	**72.76**	**321**	P	**P**	**13 58 13.2**	**+0.3**	
	4.5nm,0.9s,baz=111,slow=6.9,SNR=26							
MKAR				LR	LR	14 30 12.1		
	comp=Z,36nm,20.0s,baz=82,slow=36							
MAKZ	**Makanchi**	**72.97**	**321**	*eP*	**P**	**13 58 14.4**	**+0.2**	
	4.7nm,0.8s							
KSH	**Kashi**	**74.47**	**312**	P	**P**	**13 58 26.3**	**+3.1**	
KSH				pP	sP	13 58 32.3	-1.2	
KSH				PcP	**PcP**	**13 58 39.8**	**+2.1**	
KSH				S	**S**	**14 08 00.8**	**+3.6**	
KSH				pmax	pmax			
	comp=Z,49nm,6.0s							
ZAA0	**Zalesovo Array**	**74.52**	**329**	*eP*	**P**	**13 58 22.6**	**-0.4**	
	6.3nm,1.1s							
ZALV	**Zalesovo Beam**	**74.52**	**329**	*eP*	**P**	**13 58 22.1**	**-0.9**	
ZALV	**Zalesovo Beam**	**74.52**	**329**	P	**P**	**13 58 21.4**	**-1.6**	
	2.2nm,0.7s,baz=101,slow=4.7,SNR=11							
ZALV				LR	LR	14 30 30.2		
	comp=Z,86nm,20.3s,baz=70,slow=35							
VNDA	**Vanda**	**74.88**	**176**	*eP*	**P**	**13 58 25.2**	**+0.5**	
	4.7nm,1.0s							
VNDA	**Vanda**	**74.88**	**176**	P	**P**	**13 58 24.7**	**-0.1**	
	2.7nm,0.8s,baz=333,slow=7.4,SNR=12							
VNDA				LR	LR	14 29 29.0		
	comp=Z,84nm,18.9s,baz=292,slow=34							
AAK	**Ala-Archa**	**76.47**	**315**	LR	LR	14 31 18.8		
	comp=Z,50nm,21.1s,baz=90,slow=35							
NRIK	**Noril'sk**	**81.44**	**343**	P	**P**	**13 59 01.4**	**+0.2**	
	3.9nm,0.6s,baz=116,slow=6.4,SNR=6.2							
NRIK				LR	LR	14 34 21.5		
	comp=Z,41nm,21.0s,baz=100,slow=35							
RND	**Reindeer**	**83.39**	**25**	*eP*	**P**	**13 59 11.0**	**-0.6**	
	7.4nm,0.9s							
IL1	**Eielson Array**	**84.67**	**24**	*eP*	**P**	**13 59 15.8**	**-2.2**	
ILAR	**Eielson Array**	**84.67**	**24**	P	**P**	**13 59 15.9**	**-2.1**	
	1.8nm,0.6s,baz=263,slow=4.5,SNR=13							
ILAR				LR	LR	14 33 59.9		
	comp=Z,55nm,19.0s,baz=244,slow=34							
QSPA	**South Pole Qui**	**86.67**	**180**	*eP*	**P**	**13 59 28.3**	**+0.2**	
	19nm,1.1s							
GEYT	**Alibeck**	**87.81**	**308**	P	**P**	**13 59 33.3**	**-0.8**	
	1.1nm,0.5s,baz=96,slow=7.4,SNR=3.2							
GEYT				LR	LR	14 41 08.1		
	comp=Z,35nm,20.4s,baz=145,slow=37							
SYO	**Syowa Base**	**91.67**	**201**	⇑i/PcP	**PcP**	**13 59 53.2**	**+0.9**	
YKA	**Yellowknife Ar**	**98.71**	**27**	P	Pdif	14 00 24.4	+0.8	
	0.2nm,0.8s,baz=283,slow=4.6,SNR=2.3							
NVAR	**Mina Array Bea**	**99.00**	**52**	LR	LR	14 37 55.1		
	comp=Z,107nm,20.5s,baz=288,slow=31							
TORD	**Torodi Ar. Bea**	**140.34**	**287**	PKhKP	PKPpre	14 06 06.1		
	0.3nm,0.8s,baz=44,slow=1.8,SNR=3.7							
TORD				PKP	**PKPdf**	**14 06 13.9**	**-0.7**	
	1.3nm,1.0s,baz=45,slow=6.3,SNR=4.7							
LPAZ	**La Paz**	**143.76**	**123**	PKP	**PKPdf**	**14 06 21.7**	**+0.2**	
	0.6nm,0.4s,baz=299,slow=3.3,SNR=2.7							
CPUP	**Villa Florida**	**144.70**	**148**	PKP	**PKPdf**	**14 06 21.7**	**-0.4**	
	1.6nm,0.6s,baz=180,slow=7.1,SNR=2.7							
KIC	**Kosan Boka**	**147.52**	**277**	*e*PKP1	**PKPbc**	**14 06 29.3**	**-0.5**	
	35nm,1.2s							
DBIC	**Dimbokro**	**147.62**	**277**	PKPbc	**PKPbc**	**14 06 29.2**	**-0.8**	
	6.3nm,0.7s,baz=76,slow=1.8,SNR=6.1							
TIC	**Toumodi**	**147.78**	**277**	*e*PKP1	**PKPbc**	**14 06 29.9**	**-0.6**	
LIC	**Lamto**	**147.82**	**276**	*e*PKP1	**PKPbc**	**14 06 30.0**	**-0.6**	
	45nm,1.1s							

*IDC **15** 13:49:15.6±0.7, 11°.55S×165°.13E, h0km, mb4.2/11, mb1 4.4/13, mb1mx4.2/42, mbtmp4.2/13, ML4.8/2, MS3.8/3, Ms1 3.8/3, ms1mx3.1/30, Error ellipse: s-maj=23.0km s-min=20.7km az=120.0*

*NEIC **15** 13:49:17.0±0.5, 11°.51S×165°.14E, h10km, mb4.3/2, Error ellipse: s-maj=14.1km s-min=11.8km az=72.0*

*ISCJB **15** 13:49:19.1±0.6, 11°.69S±0°.06×164°.97E±0°.08, h34km, mb4.2/12, MS4.3/2, Error ellipse: s-maj=12.5km s-min=7.4km az=146.6*

ISC 15 13:49:20.7±0.6, 11°.58S±0°.08×165°.06E±0°.09, h34km, n21, σ0s97/23, mb4.1/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.46**	**292**	*eP*	**Pn**	**13 50 40.0**	**+0.3**
HNR				*eS*	**Sn**	**13 51 40.0**	**-1.4**
HNR	**Honiara**	**5.46**	**292**	Pn	**Pn**	**13 50 41.0**	**+1.3**
	43nm,0.3s,baz=141,slow=6.9,SNR=21						
HNR				Sn	**Sn**	**13 51 41.1**	**-0.3**
	28nm,0.3s,baz=161,slow=23,SNR=12						
HNR				LR	LR	13 52 40.0	
	comp=Z,266nm,21.5s,baz=171,slow=37						
DZM	**Mont Dzumac**	**10.52**	**173**	Pn	**Pn**	**13 51 49.7**	**+0.4**
	4.2nm,0.3s,baz=182,slow=19,SNR=49						
DZM				Sn	**Sn**	**13 53 44.7**	**-1.3**
	0.8nm,0.3s,baz=352,slow=19,SNR=4.1						
CTA	**Charters Tower**	**19.96**	**243**	P	**P**	**13 53 50.1**	**-0.1**
	4.5nm,0.9s,baz=8.7,slow=13,SNR=2.4						
URZ	**Urewera**	**28.67**	**160**	P	**P**	**13 55 14.4**	**0.0**
	3.3nm,0.5s,baz=0.0,slow=5.1,SNR=5.1						
WRAB	**Tennant Creek**	**30.66**	**250**	P	P	13 55 26.2	-6.1
	4.4nm,0.6s						
WRA	**Warramunga Arr**	**30.67**	**250**	P	**P**	**13 55 32.2**	**-0.2**
	4.9nm,0.8s,baz=32,slow=1.9,SNR=5.1						
WRA				PcP	**PcP**	**13 58 31.4**	**+1.2**
	1.8nm,0.8s,baz=74,slow=3.4,SNR=3.0						
ASAR	**Alice Springs**	**31.95**	**244**	P	**P**	**13 55 43.0**	**-0.8**
	2.1nm,0.9s,baz=64,slow=8.9,SNR=3.5						
ASAR				PcP	**PcP**	**13 58 34.1**	**+0.6**
	1.1nm,0.7s,baz=85,slow=2.7,SNR=4.2						
CMAR	**Chiang Mai Arr**	**71.71**	**294**	P	**P**	**14 00 41.2**	**+1.4**
	1.5nm,0.8s,baz=116,slow=4.0,SNR=8.9						
ULN	**Ulaanbaatar**	**78.34**	**324**	*eP*	**P**	**14 01 15.7**	**-2.0**
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**78.43**	**180**	*eP*	**P**	**14 01 18.8**	**+0.8**
SONM	**Songino Array**	**78.70**	**324**	P	**P**	**14 01 20.6**	**+1.0**
	2.0nm,0.8s,baz=131,slow=6.1,SNR=8.3						
BRDH	**Bariadhala**	**79.52**	**296**	LR	LR	14 36 46.1	
	comp=Z,429nm,20.7s,baz=137,slow=36						
ILAR	**Eielson Array**	**84.23**	**19**	P	**P**	**14 01 48.5**	**+0.1**
	0.8nm,0.6s,baz=241,slow=4.8,SNR=10						
NVAR	**Mina Array Bea**	**86.88**	**50**	P	**P**	**14 02 02.9**	**+0.4**
	1.0nm,0.8s,baz=232,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**93.45**	**317**	P	**P**	**14 02 33.0**	**+0.2**
	1.8nm,0.7s,baz=95,slow=6.4,SNR=11						
ZALV	**Zalesovo Beam**	**93.59**	**324**	P	**P**	**14 02 32.4**	**-0.8**
	0.8nm,0.6s,baz=114,slow=3.6,SNR=3.9						
PDAR	**Pinedale Array**	**94.40**	**47**	LR	LR	14 38 21.2	
	comp=Z,30nm,20.7s,baz=280,slow=31						
YKA	**Yellowknife Ar**	**95.75**	**27**	P	**P**	**14 02 41.5**	**-1.4**
	0.2nm,0.6s,baz=270,slow=5.1,SNR=4.2						
ARCES	**ARCESS Array B**	**116.67**	**345**	PKP	**PKPdf**	**14 08 00.6**	**-0.3**
	1.7nm,0.7s,baz=294,slow=1.2,SNR=5.0						
ESDC	**Sonseca Array**	**150.37**	**343**	PKPbc	**PKPbc**	**14 09 08.8**	**-0.1**
	0.1nm,0.3s,baz=16,slow=2.7,SNR=5.5						

IDC 15 14:07:24.5±2.0, 4°.86S×153°.89E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/33, mbtmp3.5/5, Error ellipse: s-maj=80.6km s-min=24.9km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.23**	**230**	P	P	14 12 44.3	+1.0
	0.4nm,0.3s,baz=56,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**26.85**	**224**	P	P	14 13 06.3	-0.7
	0.2nm,0.4s,baz=58,slow=8.8,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.59**	**242**	P	P	14 13 40.4	0.0
	1.2nm,0.6s,baz=55,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**81.09**	**319**	P	P	14 19 42.0	+0.2
	0.2nm,0.7s,baz=106,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**81.81**	**22**	P	P	14 19 44.7	-0.5
	0.4nm,0.9s,baz=246,slow=4.3,SNR=3.1						

*DJA **15** 14:15:29.9±1.2, 0°.N±6°×12°.0E±°, h76km±22km, M4.0/6, MLv4.0/6*

*ISCJB **15** 14:15:30.7±0.8, 0°.13S±0°.07×120°.3E±0°.1, h100km, mb3.5/5, Error ellipse: s-maj=14.6km s-min=10.4km az=8.0*

*IDC **15** 14:15:38.0±7.3, 0°.01S×120°.95E, h153km±70km, mb3.1/5, mb1 3.2/6, mb1mx3.0/44, mbtmp3.5/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/17, Error ellipse: s-maj=137.6km s-min=17.9km az=62.0*

ISC 15 14:15:31.3±1.2, 0°.1S±0°.1×120°.23E±0°.10, h100km, n11, σ1s41/13, mb3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCI	**Palu**	**0.90**	**206**	P	**Pn**	**14 15 48.4**	**-2.3**
APSI	**Ampana**	**1.63**	**120**	P	**Pn**	**14 15 58.9**	**-0.3**
LUWI	**Luwuk**	**2.71**	**110**	P	**Pn**	**14 16 13.1**	**-0.1**
TTSI	**Tana Toraja**	**2.96**	**188**	P	**Pn**	**14 16 18.5**	**+1.9**
TTSI				S	**Sn**	**14 16 52.1**	**+0.7**
SPSI	**Sidrap Palu**	**3.88**	**187**	P	**Pn**	**14 16 28.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.67**	**164**	P	**P**	**14 19 42.1**	**+0.5**
	0.1nm,0.3s,baz=3.4,slow=17,SNR=3.0						
FITZ				LR	LR	14 28 02.7	
	comp=Z,116nm,19.5s,baz=150,slow=40						
WRA	**Warramunga Arr**	**24.09**	**146**	P	**P**	**14 20 37.4**	**-0.3**
	0.3nm,0.2s,baz=337,slow=9.4,SNR=15						
WRA				PcP	**PcP**	**14 24 15.2**	**-1.6**
	0.2nm,0.8s,baz=320,slow=2.4,SNR=4.6						
ASAR	**Alice Springs**	**26.93**	**151**	P	**P**	**14 21 02.5**	**-1.0**
	0.4nm,0.5s,baz=342,slow=14,SNR=13						
ASAR				PcP	**PcP**	**14 24 21.9**	**-1.4**
	0.2nm,0.4s,baz=336,slow=2.1,SNR=7.2						
STKA	**Stephens Creek**	**37.52**	**149**	P	**P**	**14 22 35.6**	**-0.1**
	0.9nm,0.7s,baz=308,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**57.27**	**330**	P	**P**	**14 25 10.6**	**+2.1**
	0.3nm,0.4s,baz=129,slow=8.0,SNR=5.8						
ZALV	**Zalesovo Beam**	**61.28**	**337**	P	P	14 25 39.4	+3.5
	0.5nm,0.5s,baz=140,slow=7.9,SNR=3.0						

IDC 15 14:19:56.0±4.0, 25°.54N×95°.23E, h129km±51km, mb2.8/4, mb1 3.0/5, mb1mx2.8/55, mbtmp3.2/5, Error ellipse: s-maj=231.2km s-min=17.4km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.84**	**153**	P	Pn	14 21 47.5	+0.1
	0.1nm,0.3s,baz=334,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**23.58**	**137**	P	P	14 24 54.1	-0.8
	0.1nm,0.3s,baz=145,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**28.15**	**337**	P	P	14 25 36.4	+0.5
	0.2nm,0.6s,baz=142,slow=9.0,SNR=2.9						
WRA	**Warramunga Arr**	**59.06**	**136**	P	P	14 29 42.5	-0.3
	0.2nm,0.5s,baz=321,slow=7.6,SNR=8.2						
ASAR	**Alice Springs**	**61.61**	**139**	P	P	14 30 00.4	+0.3
	0.2nm,0.6s,baz=324,slow=8.3,SNR=4.0						

*IDC **15** 14:26:57.4±0.9, 8°.75S×157°.73E, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.8/39, mbtmp3.8/9, ML3.8/2, MS2.9/1, Ms1 2.9/1, ms1mx2.5/31, Error ellipse: s-maj=26.3km s-min=18.7km az=160.0*

*ISCJB **15** 14:26:58.6±0.7, 8°.8S±0°.1×157°.63E±0°.08, h16km, mb3.7/7, MS2.8/1, Error ellipse: s-maj=18.7km s-min=11.3km az=173.9*

ISC 15 14:26:59.7±0.8, 8°.8S±0°.2×157°.79E±0°.07, h16km, n11, σ1s32/12, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.22**	**106**	*eP*	**Pn**	**14 27 34.0**	**-1.8**
HNR				*eS*	**Sg**	**14 28 11.0**	**0.0**
HNR	**Honiara**	**2.22**	**106**	Pn	**Pn**	**14 27 35.3**	**-0.5**
	51nm,0.3s,baz=181,slow=8.4,SNR=22						
HNR				Sn	**Sb**	**14 28 07.5**	**+0.9**
	94nm,0.3s,baz=274,slow=6.9,SNR=6.9						
CTA	**Charters Tower**	**15.80**	**224**	Pn	**Pn**	**14 30 41.1**	**-0.6**
	0.1nm,0.8s,baz=62,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**25.22**	**241**	P	P	**14 32 24.2**	**-0.8**
	1.8nm,0.6s,baz=67,slow=9.5,SNR=26						
GUMO	**Guam**	**25.70**	**330**	LR	LR	14 40 30.7	
	comp=Z,27nm,20.8s,baz=95,slow=32						
ASAR	**Alice Springs**	**27.20**	**234**	P	P	**14 32 41.6**	**-1.4**
	0.5nm,0.7s,baz=70,slow=8.8,SNR=7.9						
STKA	**Stephens Creek**	**27.43**	**211**	P	P	**14 32 47.3**	**+2.4**
	2.4nm,0.7s,baz=40,slow=13,SNR=9.2						
CMAR	**Chiang Mai Arr**	**64.06**	**295**	P	P	**14 37 34.1**	**+0.7**
	0.3nm,0.3s,baz=110,slow=5.2,SNR=3.3						
ILAR	**Eielson Array**	**84.07**	**21**	P	P	**14 39 29.1**	**-0.3**
	0.3nm,0.4s,baz=257,slow=5.2,SNR=9.7						
MKAR	**Makanchi Array**	**86.60**	**318**	P	P	**14 39 41.8**	**-0.7**
	0.1nm,0.5s,baz=107,slow=5.0,SNR=2.6						
NVAR	**Mina Array Bea**	**90.69**	**51**	P	P	**14 40 03.4**	**+1.1**
	0.7nm,0.7s,baz=252,slow=6.8,SNR=6.3						

*ISCJB **15** 14:38:21.5±0.6, 56°.15N±0°.05×152°.84W±0°.06, h22km, mb3.9/10, MS3.8/1, Error ellipse: s-maj=7.4km s-min=4.6km az=171.0*

*NEIC **15** 14:38:22.9±0.0, 55°.99N×152°.94W, h28km, ML3.6(AEIC), After AEIC.*

*IDC **15** 14:38:26.2±6.3, 56°.22N×152°.99W, h33km±46km, mb3.7/11, mb1 3.8/13, mb1mx3.5/43, mbtmp3.9/13, ML3.4/2, MS3.3/3, Ms1 3.4/3, ms1mx2.7/49, Error ellipse: s-maj=31.2km s-min=19.8km az=21.0*

ISC 15 14:38:24.2±0.8, 56°.29N±0°.07×153°.10W±0°.05, h22km, n56, σ1s59/54, mb4.0/10, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SII	**Sitkinak Islan**	**0.66**	**295**	P	**Pn**	**14 38 37.8**	**-0.4**
SII				S	**Sn**	**14 38 49.1**	**+1.2**
KDAK	**Kodiak Island**	**1.52**	**11**	Pn	**Pn**	**14 38 51.2**	**-0.5**
	66nm,0.3s,baz=178,slow=5.7,SNR=1465						
KDAK				Sn	**Sb**	**14 39 09.5**	**-1.1**
	80nm,0.3s,baz=189,slow=23,SNR=33						
KDAK				LR	LR	14 39 36.5	
	comp=Z,280nm,20.6s,baz=352,slow=44						
PLK3	**Peulik 3**	**2.23**	**310**	P	**Pb**	**14 39 01.1**	**-2.6**
ACHA	**Angle Creek He**	**2.27**	**329**	P	**Pb**	**14 39 01.7**	**-2.8**
KAHG	**Katmai Hook Gl**	**2.34**	**341**	P	**Pb**	**14 39 03.7**	**-2.0**
PLK1	**Peulik 1**	**2.44**	**310**	P	**Pb**	**14 39 04.3**	**-3.1**
FONW	**Fourpeaked Sta**	**2.59**	**351**	P	**Pb**	**14 39 06.4**	**-3.5**
ANNE	**Aniakchak Nort**	**2.81**	**285**	P	**Pn**	**14 39 07.6**	**-0.2**
AZAC	**Aniakchak**	**2.90**	**284**	P	**Pn**	**14 39 08.2**	**-0.9**
BRLK	**Bradley Lake**	**3.68**	**18**	P	**Pn**	**14 39 20.1**	**+0.4**
BRLK				S	**Sn**	**14 40 04.3**	**+1.9**
RED	**Redoubt Volcan**	**4.15**	**2**	P	**Pn**	**14 39 28.1**	**+2.0**
RED				S	**Sn**	**14 40 18.1**	**+4.2**
RDSO	**Redoubt South**	**4.18**	**2**	P	**Pn**	**14 39 28.7**	**+1.9**
RDWB	**Redoubt West**	**4.21**	**2**	P	**Pn**	**14 39 29.0**	**+1.8**
SEW	**Seward**	**4.29**	**25**	P	**Pn**	**14 39 26.6**	**-1.4**
CKL	**Chakachamna La**	**4.94**	**4**	P	**Pn**	**14 39 38.7**	**+1.6**
SVW2	**Sparrevohn**	**4.99**	**346**	P	**Pn**	**14 39 39.2**	**+1.5**
SPCP	**Crater Peak Br**	**5.02**	**5**	P	**Pn**	**14 39 39.4**	**+1.2**
RC01	**Rabbit Creek A**	**5.12**	**19**	P	**Pn**	**14 39 40.0**	**+0.5**
PWL	**Port Wells**	**5.22**	**27**	P	**Pn**	**14 39 41.5**	**+0.7**
STLK	**Strandline Lak**	**5.27**	**7**	P	**Pn**	**14 39 42.9**	**+1.4**
SUA	**Susitna One**	**5.33**	**12**	P	**Pn**	**14 39 43.3**	**+0.8**
KNK	**Knik Glacier**	**5.67**	**23**	P	**Pn**	**14 39 47.5**	**+0.4**
EYAK	**Cordova Ski Ar**	**5.76**	**39**	P	**Pn**	**14 39 48.3**	**+0.1**
GHO	**Glory Hole Cre**	**5.91**	**20**	P	**Pn**	**14 39 50.8**	**+0.4**
FALS	**False Pass**	**6.02**	**261**	P	**Pn**	**14 39 50.6**	**-1.3**
HMT	**Hamilton**	**6.18**	**45**	P	**Pn**	**14 39 53.6**	**-0.4**
SCM	**Sheep Creek Mo**	**6.31**	**26**	P	**Pn**	**14 39 56.1**	**+0.2**
KLU	**Klutina**	**6.41**	**33**	P	**Pn**	**14 39 56.9**	**-0.3**
PPLA	**Purkeypile**	**6.65**	**4**	P	**Pn**	**14 40 00.7**	**+0.2**
KULT	**Kultieth River**	**6.76**	**50**	P	**Pn**	**14 40 02.9**	**+0.8**
TT01	**Tatalina**	**6.80**	**349**	P	**Pn**	**14 40 03.5**	**+1.0**
KIAG	**Kiagna River**	**7.28**	**46**	P	**Pn**	**14 40 08.8**	**-0.5**
TRF	**Thorofare Moun**	**7.32**	**10**	P	**Pn**	**14 40 10.8**	**+0.9**
BALM	**Baldy**	**7.35**	**45**	P	**Pn**	**14 40 08.9**	**-1.3**
DHY	**Denali Highway**	**7.40**	**21**	P	**Pn**	**14 40 11.3**	**+0.5**
ILAR	**Eielson Array**	**9.04**	**17**	Pn	**Pn**	**14 40 31.9**	**-1.2**
	0.2nm,0.3s,baz=204,slow=14,SNR=19						
ILAR				Sn	**Sn**	**14 42 11.5**	**-2.7**
	0.3nm,0.3s,baz=206,slow=22,SNR=5.5						
ILAR				LR	LR	14 44 48.4	
	comp=Z,185nm,19.4s,baz=230,slow=42						
DLBC	**Dease Lake**	**12.62**	**71**	Pn	**Pn**	**14 41 22.2**	**-0.1**
	0.1nm,0.3s,baz=330,slow=20,SNR=2.7						
DLBC				Sn	**Sn**	**14 43 40.0**	**-2.0**
	0.2nm,0.3s,baz=162,slow=20,SNR=3.3						
INK	**Inuvik**	**15.00**	**29**	Pn	**P**	**14 41 56.8**	**-3.0**
	0.1nm,0.3s,baz=215,slow=19,SNR=2.8						
INK				LR	LR	14 48 22.0	
	comp=Z,55nm,20.7s,baz=190,slow=40						
YKA	**Yellowknife Ar**	**20.31**	**56**	P	Pn	14 42 59.1	-1.2
	1.2nm,0.8s,baz=269,slow=11,SNR=14						
NVAR	**Mina Array Bea**	**29.14**	**113**	P	**P**	**14 44 24.0**	**+0.4**
	0.5nm,0.8s,baz=289,slow=9.2,SNR=3.6						
TIXI	**Tiksi**	**34.51**	**327**	P	**P**	**14 45 10.7**	**+0.6**
	0.4nm,0.3s,baz=77,slow=11,SNR=3.7						
KLR	**Kul'dur**	**43.90**	**294**	P	**P**	**14 46 29.6**	**+0.9**
	2.4nm,0.7s,baz=50,slow=8.0,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**47.08**	**236**	T	T	15 37 24.9	
	baz=29,slow=76,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**47.09**	**236**	T	T	15 37 35.1	
	baz=29,slow=76,SNR=7.3						
H11N1	**WAKE ISLAND Hy**	**47.10**	**236**	T	T	15 37 37.9	
	baz=29,slow=76,SNR=6.3						
NRIK	**Noril'sk**

TRF	**Thorofare Moun**	**7.27**	**10**	P		**Pn**	**14 46 49.3**	**+0.5**
BALM	**Baldy**	**7.31**	**45**	P		**Pn**	**14 46 48.2**	**-1.2**
DHY	**Denali Highway**	**7.35**	**21**	P		**Pn**	**14 46 49.7**	**-0.2**
RND	**Reindeer**	**7.40**	**15**	P		**Pn**	**14 46 50.6**	**+0.1**
ILAR	**Eielson Array**	**8.99**	**17**	Pn		**Pn**	**14 47 10.2**	**-2.0**
	0.2nm,0.3s,baz=206,slow=14,SNR=12							
ILAR				Sn		**Sn**	**14 48 47.0**	**-5.7**
	0.4nm,0.3s,baz=210,slow=18,SNR=5.4							
DLBC	**Dease Lake**	**12.60**	**71**	Pn		**Pn**	**14 48 01.5**	**-0.2**
	0.2nm,0.3s,baz=125,slow=18,SNR=3.0							
INK	**Inuvik**	**14.95**	**29**	Pn		**Pn**	**14 48 33.5**	**-0.1**
	0.1nm,0.3s,baz=139,slow=9.3,SNR=3.2							
YKA	**Yellowknife Ar**	**20.27**	**56**	P		Pn	14 49 39.0	-0.6
	0.5nm,0.7s,baz=270,slow=11,SNR=7.6							
YBH	**Yreka Blue Hor**	**24.44**	**114**	P		**P**	**14 50 22.6**	**+1.7**
	0.6nm,0.3s,baz=182,slow=15,SNR=4.2							
NVAR	**Mina Array Bea**	**29.15**	**113**	P		**P**	**14 51 04.3**	**+0.8**
	0.2nm,0.5s,baz=317,slow=7.8,SNR=2.8							
PDAR	**Pinedale Array**	**30.77**	**97**	P		**P**	**14 51 17.1**	**-0.6**
	0.2nm,0.6s,baz=323,slow=2.7,SNR=2.9							
TIXI	**Tiksi**	**34.47**	**327**	P		**P**	**14 51 49.5**	**0.0**
	0.3nm,0.3s,baz=146,slow=3.6,SNR=2.9							
KLR	**Kul'dur**	**43.88**	**294**	P		**P**	**14 53 08.0**	**-0.3**
	1.1nm,0.4s,baz=60,slow=8.3,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**47.12**	**236**	T		T	15 44 15.2	
	baz=28,slow=74							
H11N3	**WAKE ISLAND Hy**	**47.12**	**236**	T		T	15 44 15.2	
	baz=28,slow=74							
H11N1	**WAKE ISLAND Hy**	**47.13**	**236**	T		T	15 44 16.9	
	baz=28							
H11S1	**WAKE ISLAND Hy**	**48.27**	**235**	T		T	15 45 19.3	
	baz=29,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	**48.28**	**235**	T		T	15 45 22.9	
	baz=29,slow=76,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**48.29**	**235**	T		T	15 45 37.4	
	baz=29,slow=76,SNR=5.4							
ARCES	**ARCESS Array B**	**54.42**	**1**	P		**P**	**14 54 28.9**	**+0.2**
	2.4nm,0.9s,baz=27,slow=6.2,SNR=5.1							
SONM	**Songino Array**	**56.95**	**308**	P		**P**	**14 54 48.3**	**+1.0**
	1.6nm,0.7s,baz=46,slow=6.2,SNR=9.6							
ZALV	**Zalesovo Beam**	**60.32**	**325**	P		**P**	**14 55 11.3**	**+0.8**
	1.6nm,0.7s,baz=41,slow=5.9,SNR=7.9							
FINES	**FINESS Array B**	**62.55**	**0**	P		**P**	**14 55 26.0**	**+0.6**
	1.7nm,1.1s,baz=4.6,slow=8.6,SNR=2.3							
MKAR	**Makanchi Array**	**67.28**	**322**	P		**P**	**14 55 56.1**	**-0.4**
	0.2nm,0.6s,baz=46,slow=4.2,SNR=4.1							

*IDC **15** 15:05:52.5±2.0,37.69N×76.92E,h0km,mb3.8/4, mb1 3.7/10,mb1mx3.5/62,mbtmp3.6/10,ML3.1/6,MS3.2/12, Ms1 3.3/12,ms1mx3.0/42,Error ellipse: s-maj=33.5km s-min=23.5km az=141.0*

*ISCJB **15** 15:05:54.8±0.4,37.92N±0.03×76.96E±0.07,h10km, mb3.7/5,MS3.4/9,Error ellipse: s-maj=7.9km s-min=3.7km az=170.4*

*BJI **15** 15:05:56.4,38.04N×76.84E,h5km,mb3.9/7,mB4.2/7, ML4.1/7,Ms3.8/9,Ms7 3.7/6*

*NNC **15** 15:06:03.0±3.8,38.38N×76.78E,h0km,mb4.1,mpv3.8, Error ellipse: s-maj=31.6km s-min=23.8km az=177.0*

ISC 15 15:05:57.4±0.7,**37.99N**±0.04×**76.87E**±0.06,**h10**km,**n53,** σ2ŝ**28**/53,**mb3.8**/5,**MS3.4**/9,**7C-10D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSH	**Kashi**	**1.68**	**336**	Pg		**Pn**	**15 06 24.6**	**-2.3**
KSH				Sg		**Sn**	**15 06 44.1**	**-4.5**
KSH				smax	smax			
	comp=N,3μm,0.4s							
KSH				smax	smax			
	comp=E,2μm,0.5s							
KZA	**Kyzart**	**4.27**	**344**	P		**Pb**	**15 07 14.4**	**+1.6**
	SNR=12							
ULHL	**Ulahol**	**4.28**	**354**	P		**Pb**	**15 07 12.6**	**-0.2**
	SNR=5.9							
UCH	**Uchtor**	**4.60**	**338**	P		**Pn**	**15 07 09.1**	**+1.7**
	SNR=12							
AML	**Almayashu**	**4.80**	**331**	P		**Pn**	**15 07 11.4**	**+1.3**
	SNR=6.1							
KBK	**Karagaybulak**	**4.89**	**343**	P		**Pb**	**15 07 26.6**	**+3.4**
	SNR=5.1							
AAK	**Ala-Archa**	**4.99**	**339**	P		**Pn**	**15 07 15.6**	**+3.2**
	SNR=5.0							
AAK	**Ala-Archa**	**4.99**	**339**	⇓Pn		**Pn**	**15 07 15.0**	**+2.6**
	4.3nm,0.6s							
AAK				⇑Pg		**Pb**	**15 07 26.4**	**+1.6**
	18nm,0.6s							
AAK				Lg		Lg	15 08 31.7	
	56nm,0.8s							
AAK	**Ala-Archa**	**4.99**	**339**	Pn		**Pn**	**15 07 14.2**	**+1.8**
	2.0nm,0.3s,baz=135,slow=7.4,SNR=21							
AAK				Lg		Lg	15 08 30.7	
	9.1nm,0.3s,baz=359,slow=19,SNR=9.5							
AAK				LR		LR	15 09 19.9	
	comp=Z,95nm,21.7s,baz=162,slow=39							
TKM2	**Tokmak 2**	**5.02**	**349**	P		**Pb**	**15 07 27.0**	**+1.5**
	SNR=9.3							
TKM2	**Tokmak 2**	**5.02**	**349**	⇓Pn		**Pn**	**15 07 16.4**	**+3.5**
	3.0nm,0.7s							
TKM2				⇓Pg		**Pb**	**15 07 26.9**	**+1.5**
	24nm,0.7s							
TKM2				⇑Lg		Lg	15 08 32.3	
	57nm,0.7s							
MDOK	**Medeo**	**5.17**	**1**	Pn		**Pn**	**15 07 17.7**	**+2.8**
	4.4nm,0.9s							
MDOK				Pg		**Pb**	**15 07 31.1**	**+3.1**
	19nm,0.8s							
MDOK				Lg		Lg	15 08 36.6	
	162nm,0.8s							
KNDC	**Almaty**	**5.22**	**1**	⇑Pg		Pb	15 07 34.5	+5.7
	34nm,0.6s							
KNDC				⇑Lg		Lg	15 08 38.1	
	379nm,0.7s							
PDGK	**Podgornoye**	**5.70**	**20**	⇑Pn		**Pn**	**15 07 23.2**	**+1.0**
	4.5nm,0.5s							
PDGK				⇓Pg		**Pb**	**15 07 38.8**	**+1.9**
	13nm,0.6s							
PDGK				⇓Lg		Lg	15 08 53.0	
	106nm,0.7s							
DHRM	**DHARAMSHALA**	**5.75**	**185**	*e*P		**Pn**	**15 07 27.1**	**+4.2**
DHRM				*e*S		**Sn**	**15 08 32.0**	**+3.0**
DHRM				IAML			15 08 46.2	
	comp=N,50nm,0.5s							
DHRM				IAML			15 08 48.0	
	comp=E,72nm,0.6s							
SMLA	**Simla**	**6.85**	**178**	*e*P		**Pn**	**15 07 40.6**	**+2.8**
SMLA				*e*S		**Sn**	**15 08 54.9**	**-0.9**
SMLA				IAML			15 09 05.2	
	comp=N,47nm,0.2s							
SMLA				IAML			15 09 05.2	
	comp=E,41nm,0.3s							
KK31	**Karatay Array**	**7.04**	**319**	⇓Pn		**Pn**	**15 07 40.0**	**-0.4**
	comp=E,1.4nm,0.3s,baz=126,slow=14,SNR=29							
KK31				⇓Sn		**Sn**	**15 08 57.3**	**-3.2**
	comp=E,2.1nm,0.3s							
KK31				⇓Lg		Lg	15 09 36.8	
	comp=E,5.8nm,0.6s,baz=127,slow=28							
DDI	**Dehra Dun**	**7.71**	**172**	*e*S		**Sn**	**15 09 13.9**	**-3.3**
JOSI	**Joshimath**	**7.74**	**163**	*e*P		**Pn**	**15 07 51.5**	**+1.2**
JOSI				*e*S		**Sn**	**15 09 14.2**	**-4.0**
JOSI				IAML			15 09 26.5	
	comp=E,64nm,1.1s							
JOSI				IAML			15 09 33.1	
	comp=N,98nm,3.2s							
MAKZ	**Makanchi**	**9.59**	**22**	⇑Pn		**Pn**	**15 08 16.8**	**+1.4**
	comp=N,2.5nm,0.8s							
MAKZ				⇓Lg		Lg	15 10 56.4	
	comp=N,7.1nm,1.2s							
MK31	**Makanchi Array**	**9.67**	**23**	⇓Pn		**Pn**	**15 08 16.0**	**-0.5**
	comp=N,0.5nm,0.3s,baz=199,slow=12,SNR=55							
MK31				⇑Lg		Lg	15 11 01.3	
	comp=N,1.6nm,0.5s,baz=215,slow=26,SNR=4.1							
MKAR	**Makanchi Array**	**9.67**	**23**	Pn		**Pn**	**15 08 16.6**	**0.0**
	comp=N,0.3nm,0.3s,baz=203,slow=13,SNR=20							
MKAR				Lg		Lg	15 11 08.3	
	comp=N,0.4nm,0.3s,baz=200,slow=29,SNR=5.2							
MKAR				LR		LR	15 11 28.3	
	comp=N,44nm,19.8s,baz=196,slow=34							
SONA	**Sohna**	**9.71**	**179**	*e*S		**Sn**	**15 10 00.4**	**-5.9**
KHET	**Khetri**	**9.93**	**185**	*e*P		**Pn**	**15 08 21.0**	**+0.9**
KHET				*e*S		**Sn**	**15 10 09.1**	**-2.6**
KHET				IAML			15 10 20.0	
KHET				IAML			15 10 24.0	
	comp=E,9.9nm,0.0s							
WMQ	**Urumqi**	**10.05**	**51**	P		**Pn**	**15 08 21.4**	**-0.4**
WMQ				pP			15 08 25.1	
WMQ				S		**Sn**	**15 10 14.3**	**-0.3**
WMQ				LR		LR		
	comp=E,620nm,7.5s							
WMQ				LR		LR		
	comp=E,770nm,12.3s							
WMQ				LR		LR		
	comp=E,480nm,15.7s							
PYUN	**Piuthan**	**11.12**	**151**	*e*P		**Pn**	**15 08 35.7**	**-0.9**
	comp=E,4.4nm,0.2s							
DANN	**Dangsing**	**11.21**	**147**	*e*P		**Pn**	**15 08 36.8**	**-1.1**
	comp=E,7.6nm,0.3s							
GKN	**Gorkha**	**11.90**	**145**	*e*P		**Pn**	**15 08 46.5**	**-0.7**
	comp=E,12nm,0.3s							
KKN	**Kakani**	**12.38**	**143**	*e*P		**Pn**	**15 08 52.9**	**-1.0**
	comp=E,6.6nm,0.4s							
GUN	**Gumba**	**12.57**	**140**	*e*P		**Pn**	**15 08 55.6**	**-1.0**
	comp=E,5.4nm,0.3s							
PKIN	**Phulchoki**	**12.61**	**143**	*e*P		**Pn**	**15 08 56.1**	**-1.0**
	comp=E,8.6nm,0.5s							
PKI	**Pulchoki**	**12.62**	**143**	*e*P		**Pn**	**15 08 56.6**	**-0.7**
	comp=E,5.4nm,0.2s							
KURBB	**Kurchatov Arra**	**12.69**	**5**	Pn		**Pn**	**15 08 58.6**	**+0.9**
	comp=E,0.0nm,0.3s,baz=200,slow=12,SNR=5.4							
KURBB				Lg		Lg	15 12 36.2	
	comp=E,0.0nm,0.3s,baz=180,slow=29,SNR=5.1							
JIRN	**Jiri**	**12.93**	**140**	*e*P		**Pn**	**15 09 00.9**	**-0.7**
	comp=E,25nm,0.5s							
RAMN	**Ramite**	**13.72**	**141**	*e*P		Pn	15 09 10.4	-1.9
	comp=E,34nm,0.8s							
BHPL	**Bhopal**	**14.71**	**178**	*ex*		Pn	15 09 22.7	-2.8
GEYT	**Alibeck**	**14.80**	**276**	LR		LR	15 16 04.8	
	comp=E,92nm,18.0s,baz=110,slow=41							
BVAR	**Borovoye Array**	**15.70**	**345**	Pn		**Pn**	**15 09 36.8**	**-1.7**
	comp=E,0.1nm,0.3s,baz=138,slow=12,SNR=2.3							
ZALV	**Zalesovo Beam**	**16.87**	**16**	P		**Pn**	**15 09 53.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=205,slow=6.6,SNR=4.8							
GTA	**Gaotai**	**17.96**	**78**	*e*P		**Pn**	**15 10 09.1**	**+1.8**
GTA				pP		pP	15 10 13.8	+2.7
GTA				sP		sP	15 10 16.4	+3.8
GTA				pmax		pmax		
	comp=E,42nm,5.2s							
GTA				LR		LR		
	comp=E,110nm,15.2s							
GTA				LR		LR		
	comp=E,140nm,14.0s							
AKTO	**Aktyubinsk**	**18.30**	**319**	P		**Pn**	**15 10 11.5**	**+0.2**
	comp=E,0.2nm,0.3s,baz=111,slow=16,SNR=3.6							
AKTO				LR		LR	15 17 45.7	
	comp=E,36nm,21.7s,baz=130,slow=38							
SONM	**Songino Array**	**23.63**	**56**	P		**P**	**15 11 06.7**	**-2.0**
	comp=E,2.1nm,0.7s,baz=253,slow=11,SNR=12							
SONM				LR		LR	15 21 48.3	
	comp=E,128nm,18.9s,baz=300,slow=40							
HHC	**Hu-ho-hao-te**	**26.85**	**73**	*e*P		**P**	**15 11 41.3**	**+3.1**
HHC				S		**S**	**15 16 16.9**	**+2.2**
HHC				sS		sS	15 16 23.0	+2.6
HHC				pmax		pmax		
	comp=E,6.0nm,1.0s							
HHC				LR		LR		
	comp=E,140nm,12.5s							
HHC				LR		LR		
	comp=E,180nm,12.6s							
HHC				LR		LR		
	comp=E,250nm,11.8s							
KIRV	**Kirov**	**27.20**	**328**	LR		LR	15 23 31.7	
	comp=E,54nm,18.4s,baz=199,slow=38							
CMAR	**Chiang Mai Arr**	**27.39**	**129**	LR		LR	15 24 41.6	
	comp=E,14nm,21.2s,baz=215,slow=42							
NRIK	**Noril'sk**	**31.94**	**7**	LR		LR	15 27 02.3	
	comp=E,50nm,19.8s,baz=182,slow=39							
FINES	**FINESS Array B**	**38.96**	**324**	P		**P**	**15 13 21.8**	**-1.5**
	comp=E,0.6nm,0.5s,baz=111,slow=9.6,SNR=5.8							
KSRS	**Korea Array**	**39.97**	**74**	LR		LR	15 32 18.0	
	comp=E,78nm,19.5s,baz=272,slow=40							
ARCES	**ARCESS Array B**	**41.64**	**336**	P		**P**	**15 13 45.1**	**-0.3**
	comp=E,2.2nm,1.0s,baz=114,slow=11,SNR=2.5							
NOA	**NORSAR Array B**	**46.05**	**322**	LR		LR	15 34 31.1	
	comp=E,21nm,19.5s,baz=85,slow=37							
TORD	**Torodi Ar. Bea**	**70.40**	**272**	P		P	15 17 08.7	-3.2
	comp=E,0.2nm,0.4s,baz=49,slow=6.2,SNR=3.8							
ILAR	**Eielson Array**	**71.99**	**18**	LR		LR	15 53 35.3	
	comp=E,48nm,18.3s,baz=298,slow=40							
LBTB	**Lobatse**	**79.00**	**226**	LR		LR	15 55 36.0	
	comp=E,60nm,18.6s,baz=217,slow=38							

*ISCJB **15** 15:05:57.5±0.3,18.12S±0.08×178.10W±0.06,h400km, mb4.1/26,Error ellipse: s-maj=11.1km s-min=7.5km az=178.6*

*IDC **15** 15:05:58.3±1.7,18.25S×178.00W,h402km±17km, mb3.8/22,mb1 3.8/24,mb1mx3.7/45,mbtmp4.5/24,Error ellipse: s-maj=12.2km s-min=9.8km az=160.0*

ISC 15 15:05:58.3±0.5,**18.2S**±0.1×**178.11W**±0.07,**h400**km,**n41,** σ1ŝ**60**/48,**mb4.1**/26,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**15.01**	**253**	*e*P		**P**	**15 09 15.3**	**+4.3**
	16nm,0.7s							
DZM	**Mont Dzumac**	**15.01**	**253**	P		**P**	**15 09 13.0**	**+1.9**
	0.4nm,0.3s,baz=90,slow=20,SNR=5.9							
RAR	**Rarotonga**	**17.52**	**103**	P		**P**	**15 09 37.0**	**-0.8**
	0.6nm,0.3s,baz=276,slow=8.8,SNR=2.1							
URZ	**Urewera**	**20.41**	**191**	P		**P**	**15 10 05.0**	**-1.4**
	8.2nm,0.8s,baz=50,slow=7.7,SNR=6.1							
URZ				S		**S**	**15 13 28.8**	**-0.2**
	4.9nm,0.8s,baz=90,slow=20,SNR=2.8							
HNR	**Honiara**	**23.00**	**289**	P		**P**	**15 10 30.0**	**-0.2**
	24nm,0.4s,baz=168,slow=9.3,SNR=2.9							
PAE	**Paea**	**27.14**	**93**	*e*P		**P**	**15 11 08.2**	**+1.1**
	6.4nm,1.1s							
PPT2	**Papeete2**	**27.15**	**93**	*e*P		**P**	**15 11 08.6**	**+1.3**
	32nm,1.1s							
PPT	**Papeete**	**27.15**	**93**	P		**P**	**15 11 05.6**	**-1.6**
	15nm,0.5s,baz=182,slow=20,SNR=5.5							
TIAR	**Tiarei**	**27.37**	**93**	*e*P		**P**	**15 11 10.5**	**+1.3**
	7.0nm,0.8s							
TVO	**Taravao**	**27.44**	**94**	*e*P		**P**	**15 11 11.0**	**+1.1**
	3.5nm,0.7s							
PMOR	**Pomariorio Ree**	**29.11**	**88**	*e*P		**P**	**15 11 25.5**	**+1.0**
	65nm,1.1s							
STKA	**Stephens Creek**	**38.74**	**242**	P		**P**	**15 12 47.5**	**+1.4**
	0.9nm,0.5s,baz=106,slow=13,SNR=5.2							
JAY	**Jayapura**	**43.26**	**286**	P		**P**	**15 13 23.7**	**+0.9**
	13nm,0.6s,baz=122,slow=5.1,SNR=12							
WRA	**Warramunga Arr**	**44.86**	**260**	P		**P**	**15 13 34.8**	**-0.4**
	0.6nm,0.4s,baz=96,slow=7.0,SNR=32							
WRA				PcP		**PcP**	**15 15 09.6**	**+0.5**
	0.3nm,0.4s,baz=100,slow=2.3,SNR=3.2							
WRA				ScP		**ScP**	**15 18 22.0**	**-0.6**
	0.4nm,1.0s,baz=85,slow=4.2,SNR=2.8							
WRA				S		**S**	**15 19 37.6**	**-4.9**
	0.3nm,0.9s,baz=102,slow=12,SNR=2.6							
ASAR	**Alice Springs**	**44.99**	**255**	P		**P**	**15 13 37.0**	**+0.8**
	6.3nm,0.5s,baz=89,slow=8.1,SNR=189							
ASAR				PcP		**PcP**	**15 15 10.5**	**+1.0**
	1.3nm,0.6s,baz=78,slow=4.5,SNR=4.9							
ASAR				ScP		**ScP**	**15 18 22.8**	**-0.4**
	0.5nm,0.7s,baz=96,slow=4.7,SNR=4.9							
ASAR				S		**S**	**15 19 39.7**	**-4.6**
	1.4nm,0.8s,baz=90,slow=16,SNR=12							
SIJI	**Sorong**	**52.58**	**283**	P		**P**	**15 14 33.0**	**-0.3**
	7.7nm,0.4s,baz=130,slow=6.0,SNR=14							
FITZ	**Fitzroy Crossi**	**53.26**	**261**	P		**P**	**15 14 38.8**	**+0.7**
	1.2nm,0.5s,baz=147,slow=15,SNR=7.4							
BATI	**Baumata**	**56.81**	**270**	P		**P**	**15 15 04.7**	**+1.4**
	8.6nm,0.6s,baz=137,slow=1.8,SNR=3.0							
MJAR	**Matsushiro Arr**	**68.31**	**323**	P		**P**	**15 16 17.9**	**0.0**
	3.8nm,0.6s,baz=164,slow=6.5,SNR=15							
KSRS	**Korea Array**	**75.11**	**318**	P		**P**	**15 16 59.4**	**+1.5**
	1.4nm,0.6s,baz=128,slow=6.5,SNR=7.9							
USRK	**Ussuriysk Ar.**	**77.02**	**326**	P		**P**	**15 17 09.6**	**+1.3**
	1.2nm,0.6s,baz=187,slow=2.2,SNR=4.6							
KDAK	**Kodiak Island**	**78.62**	**14**	P		**P**	**15 17 16.4**	**-0.3**
	14nm,1.0s,baz=211,slow=2.5,SNR=4.5							
NVAR	**Mina Array Bea**	**79.44**	**44**	P		**P**	**15 17 22.2**	**+0.3**
	4.4nm,0.6s,baz=224,slow=8.5,SNR=43							
TXAR	**Lajitas Array**	**85.91**	**57**	P		**P**	**15 17 56.0**	**+1.2**
	4.4nm,0.8s,baz=224,slow=5.9,SNR=42							
ILAR	**Eielson Array**	**86.11**	**13**	P		**P**	**15 17 53.1**	**-1.7**
	0.6nm,0.5s,baz=224,slow=5.2,SNR=17							
PDAR	**Pinedale Array**	**87.37**	**43**	P		**P**	**15 18 01.4**	**-0.3**
	1.3nm,0.7s,baz=206,slow=2.7,SNR=16							
SNAA	**Sanae**	**90.30**	**179**	P		**P**	**15 18 15.3**	**+0.6**
SNAA	**Sanae**	**90.30**	**179**	P		**P**	**15 18 14.8**	**+0.2**
	1.6nm,0.8s,baz=200,slow=9.9,SNR=8.0							
VNA3	**Neumayer Olymp**	**90.43**	**176**	P		**P**	**15 18 16.2**	**+1.0**
VNA2	**Neumayer--Watz**	**90.87**	**177**	P		**P**	**15 18 18.5**	**+1.2**
	baz=194,slow=4.7							
PLCA	**Paso Flores**	**90.92**	**134**	P		**P**	**15 18 17.7**	**-0.6**
	1.7nm,0.7s,baz=176,slow=5.2,SNR=3.5							
VNA1	**Neumayer--Stat**	**91.10**	**177**	P		**P**	**15 18 19.5**	**+1.2**
SONM	**Songino Array**	**93.96**	**319**	P		**P**	**15 18 31.6**	**-0.3**
	0.4nm,0.5s,baz=115,slow=5.7,SNR=3.0							
YKA	**Yellowknife Ar**	**94.48**	**25**	P		**P**	**15 18 32.6**	**-1.2**
	0.8nm,0.7s,baz=247,slow=4.5,SNR=9.8							
MKAR	**Makanchi Array**	**109.54**	**314**	PKiKP		**PKiKP**	**15 23 40.7**	**-1.4**
	0.3nm,0.5s,baz=210,slow=0.5,SNR=8.4							
ARCES	**ARCESS Array B**	**126.65**	**350**	PKP		**PKPdf**	**15 24 12.6**	**-1.7**
	0.9nm,0.7s,baz=90,slow=2.4,SNR=5.7							
FINES	**FINESS Array B**	**133.55**	**344**	PKP		**PKPdf**	**15 24 25.1**	**-2.4**
	0.7nm,0.8s,baz=23,slow=2.2,SNR=3.5							
BRTR	**Keskin Array B**	**145.19**	**315**	PKPbc		**PKPdf**	**15 24 49.9**	**+0.4**
	1.3nm,0.5s,baz=111,slow=3.9,SNR=9.8							
CLL	**Collm**	**145.81**	**348**	*i* PKPbc		**PKPdf**	**15 24 50.6**	**+0.7**
	comp=Z,5.0nm,0.8s							
GERES	**GERESS Array B**	**147.97**	**345**	PKPbc		**PKPbc**	**15 24 56.2**	**-1.2**
	comp=Z,1.8nm,0.7s,baz=23,slow=2.7,SNR=13							
TORD	**Torodi Ar. Bea**	**174.97**	**178**	PKPab		**PKPab**	**15 26 58.3**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=326,slow=1.5,SNR=2.7							

*ISCJB **15** 15:10:27.7±0.8,26.44S±0.04×27.77E±0.06,h5km, Error ellipse: s-maj=8.4km s-min=5.8km az=24.2*

*PRE **15** 15:10:29.2±1.0,26.44S×27.70E,h2km,ML2.7*

ISC 15 15:10:28.1±0.8,**26.35S**±0.05×**27.69E**±0.05,**h5**km,**n13,** σ1ŝ**65**/22,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WDLM	**Western Deep L**	**0.25**	**253**	*e*P		**Pg**	**15 10 34.8**	**+1.7**
WDLM				*e*S		**Sg**	**15 10 36.6**	**+0.2**
WDLM				AML	AML		15 10 37.7	
	comp=Z,4μm,0.2s							
PRYS	**Parys**	**0.64**	**207**	*e*P		**Pg**	**15 10 40.4**	**-0.2**
PRYS				*e*S		**Sg**	**15 10 48.7**	**-0.2**
PRYS				AML	AML		15 10 55.5	
	comp=Z,180nm,1.1s							
SLR	**Silverton**	**0.81**	**41**	*e*P		**Pb**	**15 10 46.0**	**+1.2**
SLR				*e*S		**Sb**	**15 10 58.1**	**+1.9**
SLR				AML	AML		15 11 07.0	
	comp=Z,126nm,0.2s							
LBTB	**Lobatse**	**2.31**	**305**	*e*P		**Pb**	**15 11 10.2**	**-0.2**
LBTB				*e*S		**Sb**	**15 11 39.1**	**-0.2**
LBTB				AML	AML		15 11 42.9	
	comp=Z,102nm,0.5s							
BOSA	**Boshof**	**3.12**	**223**	*i* P		**Pn**	**15 11 20.2**	**+2.0**
BOSA				*i* S		**Sb**	**15 12 03.1**	**+0.4**
BOSA	**Boshof**	**3.12**	**223**	*e*P		**Pn**	**15 11 18.9**	**+0.7**
BOSA				*e*S		**Sn**	**15 11 56.0**	**0.0**
BOSA				AML	AML		15 12 12.0	
	comp=Z,37nm,0.6s							
BOSA	**Boshof**	**3.12**	**223**	*i* P		**Pn**	**15 11 20.2**	**+2.0**
BOSA				*i* S		**Sb**	**15 12 03.1**	**+0.4**
MSNA	**Messina**	**4.52**	**29**	*i* P		**Pn**	**15 11 36.6**	**-0.7**
MSNA				*i* S		**Sn**	**15 12 27.7**	**-2.7**
MSNA	**Messina**	**4.52**	**29**	*i* P		**Pn**	**15 11 36.6**	**-0.7**
MSNA				*i* S		**Sn**	**15 12 27.7**	**-2.7**
HVD	**Gariep Dam**	**4.66**	**204**	*e*P		**Pn**	**15 11 39.8**	**+0.5**
HVD				*e*S		**Sn**	**15 12 31.9**	**-1.9**
HVD				AML	AML		15 12 59.8	
	comp=Z,24nm,0.5s							
GRAN	**Grantham**	**7.64**	**218**	*e*P		**Pn**	**15 12 21.7**	**+1.5**
GRAN				*e*S		**Sn**	**15 13 43.6**	**-3.6**
GRAN				AML	AML		15 14 22.9	
	comp=Z,8.9nm,0.6s							
KRI	**Karoi**	**9.64**	**11**	*i* P		Pn	15 12 41.7	-6.1
KRI				*i* S		Sn	15 14 18.9	-18
KRI	**Karoi**	**9.64**	**11**	*i* P		Pn	15 12 41.7	-6.1
KRI				*i* S		Sn	15 14 18.9	-18

*ISCJB **15** 15:21:25.7±1.1,56.12N±0.10×152.3W±0.2,h20km, mb3.8/5,Error ellipse: s-maj=19.3km s-min=11.7km az=151.5*

*IDC **15** 15:21:28.9±6.1,55.83N×152.68W,h34km±45km,mb3.6/5, mb1 3.7/6,mb1mx3.3/38,mbtmp3.7/6,ML2.8/1,Error ellipse: s-maj=35.9km s-min=23.0km az=43.0*

**

2.2nm,0.9s,baz=90,slow=8.7,SNR=3.2
CMAR Chiang Mai Arr 76.14 295 P P 15 59 33.6 +0.4
0.1nm,0.3s,baz=100,slow=5.5,SNR=4.2

KRSC 15 15:49:07.7±10.0, 60.19N×163.41E, h17km±10km, ML3.6, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.96**	**191**	*eP*	Pb	15 49 24.8	-1.0
OSSR				*eS*	Sb	15 49 36.9	-1.2
TILK	**Tilichiki**	**1.38**	**78**	*eP*	Pb	15 49 32.8	-0.3
TILK				*eS*	Sg	15 49 52.1	-0.3
PALN	**Palana**	**2.07**	**239**	P	Pb	15 49 44.1	-0.6
KMSK	**Kamenskaya**	**2.66**	**29**	*eP*	Pn	15 49 51.0	+1.3

*KRSC **15** 15:57:33.5±10.0, 51.77N×159.10E, h40km±10km, ML4.5*
*MOS **15** 15:57:34.9±0.9, 51.76N×158.95E, h47km, mb4.1/1, Error ellipse: s-maj=11.8km s-min=3.8km az=88.2*
*ISCJB **15** 15:57:35.6±0.6, 51.80N±0.04×158.96E±0.07, h58km±5km, mb3.8/16, MS3.2/7, Error ellipse: s-maj=9.3km s-min=4.1km az=39.3*
*IDC **15** 15:57:40.0±1.9, 51.95N×158.81E, h81km±14km, mb3.5/16, mb1 3.7/21, mb1mx3.6/44, mbtmp3.8/21, MS3.2/7, Ms1 3.2/7, ms1mx2.9/36, Error ellipse: s-maj=19.4km s-min=11.5km az=133.0*
ISC 15 15:57:35.5±1.2, 51.78N±0.05×158.99E±0.05, h44km±11km, n102, σ1°32/107, mb3.9/16, MS3.2/7, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.57**	**273**	*eP*	**Pn**	**15 57 47.4**	**+0.2**
KDTR				*eS*	**Sn**	**15 57 55.7**	**+0.1**
KDTR	**Khodutka, Kamc**	**0.57**	**273**	PN	**Pn**	**15 57 47.4**	**+0.2**
KDTR				S	**Sn**	**15 57 55.7**	**+0.1**
MTVR	**Mutnovka**	**0.86**	**325**	*eP*	**Pn**	**15 57 51.4**	**+0.1**
MTVR				*eS*	**Sn**	**15 58 03.1**	**+0.3**
MTVR	**Mutnovka**	**0.86**	**325**	PN	**Pn**	**15 57 51.4**	**+0.1**
MTVR				S	**Sn**	**15 58 03.1**	**+0.3**
ASAK	**Asacha**	**0.90**	**312**	*eP*	**Pn**	**15 57 52.4**	**+0.6**
ASAK	**Asacha**	**0.90**	**312**	PN	**Pn**	**15 57 52.4**	**+0.6**
GRL	**Gorelyy**	**0.95**	**324**	*eP*	**Pn**	**15 57 53.1**	**+0.5**
GRL				*eS*	**Sn**	**15 58 06.8**	**+1.7**
GRL	**Gorelyy**	**0.95**	**324**	PN	**Pn**	**15 57 53.1**	**+0.5**
GRL				S	**Sn**	**15 58 06.8**	**+1.7**
KRMR	**Karymshinskiy**	**1.17**	**334**	*eP*	**Pn**	**15 57 55.7**	**+0.3**
KRMR				*eS*	**Sn**	**15 58 09.9**	**-0.3**
KRMR	**Karymshinskiy**	**1.17**	**334**	PN	**Pn**	**15 57 55.7**	**+0.3**
KRMR				S	**Sn**	**15 58 09.9**	**-0.3**
DALK	**Dalny**	**1.26**	**353**	*eP*	**Pn**	**15 57 56.3**	**-0.3**
DALK				*eS*	**Sn**	**15 58 11.1**	**-1.2**
DALK	**Dalny**	**1.26**	**353**	PN	**Pn**	**15 57 56.3**	**-0.3**
DALK				S	**Sn**	**15 58 11.1**	**-1.2**
PET	**Petropavlovsk**	**1.26**	**351**	*eP*	**Pn**	**15 57 56.2**	**-0.4**
PET				*eS*	**Sn**	**15 58 12.5**	**+0.2**
PET	**Petropavlovsk**	**1.26**	**351**	⇓*iP*	**Pn**	**15 57 56.4**	**-0.2**
PET				*eS*	**Sn**	**15 58 08.6**	**-3.7**
PET				pmax	pmax		
	comp=Z,374nm,0.3s						
PET				smax	smax		
	comp=N,2μm,0.5s						
PAU	**Pauzhetka**	**1.40**	**258**	*eP*	**Pn**	**15 57 59.2**	**+0.8**
PAU	**Pauzhetka**	**1.40**	**258**	PN	**Pn**	**15 57 59.2**	**+0.8**
NLC	**Nalytchevo**	**1.41**	**9**	*eP*	**Pn**	**15 57 57.4**	**-1.2**
NLC	**Nalytchevo**	**1.41**	**9**	PN	**Pn**	**15 57 57.4**	**-1.2**
UGLR	**Uglovaya**	**1.43**	**356**	*eP*	**Pn**	**15 57 59.0**	**-0.1**
UGLR	**Uglovaya**	**1.43**	**356**	PN	**Pn**	**15 57 59.0**	**-0.1**
SPN	**Mys Shipunski**	**1.46**	**25**	*eP*	**Pn**	**15 57 59.9**	**+0.6**
SPN				*eS*	**Sn**	**15 58 17.7**	**+0.4**
SPN	**Mys Shipunski**	**1.46**	**25**	PN	**Pn**	**15 57 59.9**	**+0.6**
SPN				S	**Sn**	**15 58 17.7**	**+0.4**
SMAR	**Somma**	**1.49**	**356**	*eP*	**Pn**	**15 57 59.4**	**-0.5**
SMAR	**Somma**	**1.49**	**356**	PN	**Pn**	**15 57 59.4**	**-0.5**
AVH	**Avacha**	**1.49**	**354**	*eP*	**Pn**	**15 58 00.1**	**+0.2**
AVH	**Avacha**	**1.49**	**354**	PN	**Pn**	**15 58 00.1**	**+0.2**
SDLR	**Sedlovina**	**1.50**	**358**	*eP*	**Pn**	**15 57 59.4**	**-0.6**
SDLR	**Sedlovina**	**1.50**	**358**	PN	**Pn**	**15 57 59.4**	**-0.6**
KOK	**Koryaka**	**1.53**	**352**	*eP*	**Pn**	**15 58 00.7**	**+0.4**
KOK	**Koryaka**	**1.53**	**352**	PN	**Pn**	**15 58 00.7**	**+0.4**
KRER	**Koryakskii**	**1.53**	**355**	*eP*	**Pn**	**15 58 00.7**	**+0.2**
KRER	**Koryakskii**	**1.53**	**355**	PN	**Pn**	**15 58 00.7**	**+0.2**
PETK	**Petropavlovsk-**	**1.54**	**330**	P	**Pn**	**15 58 01.6**	**+1.1**
	comp=N,173nm,0.3s,baz=129,slow=17,SNR=2588						
PETK				S	**Sn**	**15 58 21.6**	**+2.2**
	comp=N,36nm,0.3s,baz=124,slow=23,SNR=5.7						
PETK				LR	LR	15 58 40.4	
	comp=N,248nm,20.2s,baz=108,slow=45						
KRX	**Arik**	**1.59**	**353**	*eP*	**Pn**	**15 58 01.4**	**+0.1**
KRX	**Arik**	**1.59**	**353**	PN	**Pn**	**15 58 01.4**	**+0.1**
APC	**Apacha**	**1.60**	**316**	*eP*	**Pn**	**15 58 02.5**	**+1.2**
APC	**Apacha**	**1.60**	**316**	PN	**Pn**	**15 58 02.5**	**+1.2**
GNL	**Ganaly**	**2.02**	**342**	*eP*	**Pn**	**15 58 08.0**	**+0.9**
GNL				*eS*	**Sn**	**15 58 33.1**	**+1.9**
GNL	**Ganaly**	**2.02**	**342**	PN	**Pn**	**15 58 08.0**	**+0.9**
GNL				S	**Sn**	**15 58 33.1**	**+1.9**
SKR	**Severo-Kuril's**	**2.12**	**240**	*eP*	**Pn**	**15 58 09.2**	**+1.0**
SKR				*eS*	**Sn**	**15 58 34.0**	**+0.7**
SKR	**Severo-Kuril's**	**2.12**	**240**	*ePN*	**Pn**	**15 58 09.3**	**+1.0**
SKR				*eS*	**Sn**	**15 58 34.3**	**+1.0**
SKR				pmax	pmax		
	comp=Z,126nm,0.6s						
SKR				smax	smax		
	comp=N,2μm,0.6s						
SKR				smax	smax		
	comp=E,1μm,0.5s						
KII	**Karymskiy**	**2.27**	**7**	*eP*	**Pn**	**15 58 12.4**	**+1.8**
KII				*eS*	**Sn**	**15 58 39.4**	**+2.0**
KII	**Karymskiy**	**2.27**	**7**	PN	**Pn**	**15 58 12.4**	**+1.8**
KII				S	**Sn**	**15 58 39.4**	**+2.0**
ALID	**Alaid**	**2.34**	**248**	P	**Pn**	**15 58 12.7**	**+1.1**
MKZ	**Mys Kozlova**	**3.23**	**30**	*eP*	**Pn**	**15 58 23.3**	**-0.3**
MKZ				*eS*	**Sn**	**15 59 00.0**	**-0.7**
MKZ	**Mys Kozlova**	**3.23**	**30**	PN	**Pn**	**15 58 23.3**	**-0.3**
MKZ				S	**Sn**	**15 59 00.0**	**-0.7**
KZV	**Kizimen**	**3.43**	**13**	*eP*	**Pn**	**15 58 27.1**	**+0.7**
KZV	**Kizimen**	**3.43**	**13**	PN	**Pn**	**15 58 27.1**	**+0.7**
TUMD	**Tumrok D**	**3.53**	**13**	*eP*	**Pn**	**15 58 29.2**	**+1.5**
TUMD				S	**Sn**	**15 59 16.6**	**+2.4**
TUMR	**Tumrok**	**3.57**	**11**	*eP*	**Pn**	**15 58 31.7**	**+3.3**
TUMR	**Tumrok**	**3.57**	**11**	PN	**Pn**	**15 58 29.2**	**+0.8**
TUMR				S	**Sn**	**15 59 10.6**	**+1.2**
ESO	**Esso**	**4.15**	**358**	*eP*	**Pn**	**15 58 38.3**	**+2.0**
ESO	**Esso**	**4.15**	**358**	PN	**Pn**	**15 58 38.3**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**4.29**	**13**	P	Pn	15 58 42.0	+3.8
BZGR	**Bezymyannyi-Gr**	**4.29**	**13**	PN	Pn	15 58 42.0	+3.8
ZLN	**Zelenaya**	**4.38**	**13**	P	Pn	15 58 43.0	+3.6
ZLN	**Zelenaya**	**4.38**	**13**	PN	Pn	15 58 43.0	+3.6
LGNR	**Loginova**	**4.42**	**12**	P	Pn	15 58 44.0	+3.8
LGNR	**Loginova**	**4.42**	**12**	PN	Pn	15 58 44.0	+3.8
KLY	**Klyuchi**	**4.64**	**12**	*eP*	**Pn**	**15 58 46.1**	**+3.1**
KLY	**Klyuchi**	**4.64**	**12**	PN	**Pn**	**15 58 46.1**	**+3.1**
KBTR	**Krutoberegovo**	**4.97**	**25**	*eP*	**Pn**	**15 58 48.6**	**+1.1**
KBTR	**Krutoberegovo**	**4.97**	**25**	PN	**Pn**	**15 58 48.6**	**+1.1**
KBG	**Krutoberegovo**	**4.99**	**25**	*eP*	**Pn**	**15 58 50.9**	**+3.2**
KBG	**Krutoberegovo**	**4.99**	**25**	PN	**Pn**	**15 58 50.9**	**+3.2**
SMKR	**Semkarok**	**5.02**	**16**	P	Pn	15 58 52.3	+4.0
SMKR	**Semkarok**	**5.02**	**16**	PN	Pn	15 58 52.3	+4.0
SRKR	**Sorokina**	**5.04**	**14**	P	Pn	15 58 52.3	+3.7
SRKR	**Sorokina**	**5.04**	**14**	PN	Pn	15 58 52.3	+3.7
MA2	**Magadan**	**9.08**	**333**	P	**Pn**	**15 59 44.9**	**+1.1**
	comp=E,0.2nm,0.3s,baz=315,slow=19,SNR=3.4						
SEY	**Seymchan**	**11.72**	**345**	P	**Pn**	**16 00 19.8**	**-0.1**
	baz=319,slow=10,SNR=2.0						
ASAJ	**Asahikawa**	**13.38**	**241**	P	**P**	**16 00 46.8**	**-4.3**
	comp=E,0.1nm,0.3s,baz=346,slow=19,SNR=2.6						
KLR	**Kul'dur**	**17.48**	**272**	P	**P**	**16 01 36.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=2.7						
USRK	**Ussuriysk Ar.**	**19.52**	**258**	P	**Pn**	**16 01 59.7**	**-0.7**
	comp=E,0.2nm,0.3s,baz=148,slow=42,SNR=3.7						
MJAR	**Matsushiro Arr**	**21.20**	**232**	P	**P**	**16 02 18.6**	**+1.3**
	comp=E,3.5nm,0.8s,baz=19,slow=10,SNR=11						
MJAR				LR	LR	16 10 02.8	
	comp=E,25nm,20.6s,baz=235,slow=35						
TIXI	**Tiksi**	**24.01**	**337**	P	**P**	**16 02 44.9**	**-0.7**
	comp=E,3.8nm,0.6s,baz=126,slow=12,SNR=31						
KSRS	**Korea Array**	**26.11**	**249**	P	**P**	**16 03 05.5**	**+0.5**
	comp=E,0.5nm,0.5s,baz=42,slow=9.7,SNR=5.3						
ILAR	**Eielson Array**	**30.23**	**44**	P	**P**	**16 03 41.6**	**+0.2**
	comp=E,0.7nm,0.8s,baz=261,slow=6.2,SNR=9.3						
H11N2	**WAKE ISLAND Hy**	**32.58**	**166**	T	T	16 38 57.1	
	baz=351,slow=76,SNR=78						
H11N3	**WAKE ISLAND Hy**	**32.60**	**166**	T	T	16 38 55.0	
	baz=351,slow=76,SNR=74						
H11N1	**WAKE ISLAND Hy**	**32.60**	**166**	T	T	16 38 55.1	
	baz=351,slow=76,SNR=71						
SONM	**Songino Array**	**33.56**	**284**	PcP	**PcP**	**16 06 50.3**	**-0.4**
	comp=E,0.5nm,0.4s,baz=101,slow=3.7,SNR=3.3						
SONM				LR	LR	16 19 02.2	
	comp=E,49nm,18.3s,baz=76,slow=38						
H11S1	**WAKE ISLAND Hy**	**33.76**	**167**	T	T	16 40 24.8	
	baz=351,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**33.77**	**167**	T	T	16 40 38.1	
	baz=351,slow=76,SNR=42						
H11S2	**WAKE ISLAND Hy**	**33.77**	**167**	T	T	16 40 36.8	
	baz=351,slow=76,SNR=19						
INK	**Inuvik**	**35.32**	**36**	P	**P**	**16 04 26.7**	**+0.9**
	comp=E,2.4nm,0.6s,baz=291,slow=5.2,SNR=9.5						
RES	**Resolute Bay**	**44.79**	**21**	P	**P**	**16 05 43.3**	**-0.8**
	comp=E,0.9nm,0.6s,baz=284,slow=9.0,SNR=5.2						
MKAR	**Makanchi Array**	**48.12**	**296**	P	**P**	**16 06 09.2**	**-1.4**
	comp=E,0.3nm,0.5s,baz=62,slow=7.6,SNR=10						
MKAR				LR	LR	16 26 07.9	
	comp=E,17nm,18.2s,baz=18,slow=36						
ARCES	**ARCESS Array B**	**54.32**	**342**	P	**P**	**16 06 55.3**	**-1.4**
	comp=E,3.8nm,1.0s,baz=37,slow=7.9,SNR=4.0						
KIRV	**Kirov**	**56.05**	**323**	LR	LR	16 32 40.4	
	comp=E,21nm,19.1s,baz=207,slow=38						
JMIC	**Jan Mayen**	**57.21**	**355**	LR	LR	16 31 09.7	
	comp=E,92nm,18.0s,baz=300,slow=35						
CMAR	**Chiang Mai Arr**	**57.25**	**258**	P	**P**	**16 07 19.2**	**+0.9**
	comp=E,1.6nm,0.9s,baz=24,slow=7.1,SNR=11						
AKTO	**Aktyubinsk**	**58.21**	**312**	LR	LR	16 34 06.1	
	comp=E,23nm,20.3s,baz=241,slow=38						
PDAR	**Pinedale Array**	**58.76**	**59**	P	**P**	**16 07 29.6**	**+0.6**
	comp=E,0.9nm,0.8s,baz=335,slow=2.0,SNR=6.1						
FINES	**FINESS Array B**	**61.05**	**336**	P	**P**	**16 07 42.9**	**-1.2**
	comp=E,0.6nm,0.6s,baz=69,slow=7.6,SNR=3.5						
OBN	**Obninsk**	**63.25**	**327**	LR	LR	16 37 39.3	
	comp=E,13nm,21.2s,baz=6.5,slow=38						
NB2	**NORSAR Subarra**	**64.61**	**343**	P	**P**	**16 08 07.0**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=23,slow=6.9						
NOA	**NORSAR Array B**	**64.61**	**343**	P	**P**	**16 08 07.2**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=20,slow=6.7,SNR=9.8						
TXAR	**Lajitas Array**	**71.78**	**66**	P	**P**	**16 08 54.7**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=301,slow=4.8,SNR=12						
WRA	**Warramunga Arr**	**74.61**	**204**	P	**P**	**16 09 10.4**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=18,slow=6.1,SNR=5.0						
GERES	**GERESS Array B**	**75.47**	**337**	P	**P**	**16 09 14.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.8,SNR=6.3						
ASAR	**Alice Springs**	**78.28**	**203**	P	**P**	**16 09 32.4**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=17,slow=5.1,SNR=6.1						

IDC 15 16:00:54.8±1.9, 15.22S×164.91E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/33, mbtmp3.5/4, ML3.5/1, Error ellipse: s-maj=39.8km s-min=33.0km az=81.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.97**	**168**	Pn	Pn	16 02 38.6	+0.3
	0.9nm,0.3s,baz=328,slow=22,SNR=21						
DZM				Sn	Sn	16 03 57.9	-0.5
	0.4nm,0.3s,baz=143,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**29.49**	**256**	P	P	16 07 00.3	-0.7
	0.8nm,1.1s,baz=86,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**30.36**	**249**	P	P	16 07 09.2	+0.5
	0.2nm,0.4s,baz=78,slow=9.3,SNR=10						
ILAR	**Eielson Array**	**87.71**	**19**	P	P	16 13 45.0	0.0
	0.2nm,0.8s,baz=209,slow=6.8,SNR=1.9						

*ISCJB **15** 16:02:07.8±0.6, 35.41S±0.04×73.43W±0.07, h10km, mb4.0/8, MS3.1/1, Error ellipse: s-maj=8.2km s-min=4.9km az=11.0*
*IDC **15** 16:02:09.2±1.1, 35.39S×72.96W, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/30, mbtmp4.0/11, ML4.1/3, MS3.0/4, Ms1 3.0/4, ms1mx2.8/28, Error ellipse: s-maj=36.2km s-min=14.7km az=90.0*
*GUC **15** 16:02:09.9±0.4, 35.42S×73.49W, h31km±2km, ML4.2*
ISC 15 16:02:10.2±0.7, 35.44S±0.04×73.28W±0.07, h10km, n41, σ1°84/47, mb4.1/8, 3C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO05	**Huala**	**1.18**	**69**	⇑*iP*	**Pb**	**16 02 31.6**	**-1.2**
GO05				*i* S	**Sn**	**16 02 49.7**	**+0.6**
GO05				IAML		16 02 52.9	
	comp=N,5μm,0.5s						
CHPI	**Pichilemu**	**1.48**	**45**	*eP*	**Pn**	**16 02 36.4**	**-0.5**
CCHI	**Chillan**	**1.52**	**140**	⇑*iP*	**Pn**	**16 02 37.1**	**-0.3**
CCHI				*i* S	**Sn**	**16 02 57.7**	**+0.4**
CCHI				IAML		16 03 04.4	
	comp=E,4μm,0.4s						
AGCH	**Angol**	**2.41**	**169**	*eS*	**Sn**	**16 03 18.5**	**-0.9**
ANTU	**Antumapu**	**2.87**	**50**	IAML		16 03 48.2	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**2.99**	**59**	⇑*iP*	**Pn**	**16 02 58.5**	**+0.6**
LMEL				*i* S	**Sn**	**16 03 35.0**	**+1.2**
LMEL				IAML		16 03 50.4	
	comp=E,641nm,0.7s						
CLCH	**Cerro Calan**	**3.05**	**49**	*eP*	**Pn**	**16 02 57.8**	**-0.8**
CLCH				*eS*	**Sn**	**16 03 34.6**	**-0.5**
CLCH				IAML		16 03 56.6	
	comp=E,1μm,0.5s						
ROC1	**El Roble**	**3.09**	**38**	*eP*	**Pn**	**16 02 60.0**	**+0.6**
ROC1				*eS*	**Sg**	**16 03 58.5**	**+9.0**
ROCH	**El Roble**	**3.10**	**38**	⇓*iP*	**Pn**	**16 02 59.2**	**-0.2**
ROCH				IAML		16 04 05.9	
	comp=N,592nm,0.7s						
PEL	**Peldehue**	**3.14**	**44**	*eP*	**Pn**	**16 02 59.6**	**-0.1**
PEL				IAML		16 03 54.3	
	comp=E,384nm,0.6s						
FCH	**Farellones**	**3.25**	**50**	*eP*	**Pn**	**16 03 01.2**	**-0.3**
FCH				IAML		16 04 02.2	
	comp=E,328nm,0.4s						
RFA	**San Rafael**	**4.00**	**82**	*eP*	**Pn**	**16 03 11.8**	**+0.1**
RFA				*eS*	**Sg**	**16 04 17.7**	**-1.0**
RFA				IAML		16 04 19.5	
	comp=Z,149nm,0.7s						
AUSP	**Uspallata**	**4.56**	**46**	*eP*	**Pn**	**16 03 21.1**	**+1.5**
AUSP				*eS*	**Sg**	**16 04 34.4**	**-2.2**
CMCH	**Combarbala**	**4.66**	**25**	*eP*	**Pn**	**16 03 19.1**	**-1.6**
RTLS	**Leoncito**	**4.92**	**44**	*eP*	**Pn**	**16 03 25.5**	**+1.0**
RTLS				IAML		16 04 52.0	
	comp=Z,80nm,0.7s						
RTCV	**Cerro Valdivia**	**5.32**	**49**	*eP*	**Pn**	**16 03 30.5**	**+0.6**
RTCV				*eS*	**Sb**	**16 04 50.9**	**+3.6**
PLCA	**Paso Flores**	**5.71**	**159**	Pn	**Pn**	**16 03 35.1**	**0.0**
	comp=Z,0.4nm,0.3s,baz=1.8,slow=10,SNR=13						
PLCA				Pg	**Pb**	**16 03 53.0**	**+3.1**
	comp=Z,1.0nm,0.3s,baz=342,slow=15,SNR=7.8						
PLCA				Lg	Lg	16 05 08.4	
	comp=Z,0.9nm,0.3s,baz=96,slow=20,SNR=3.0						
PLCA				LR	LR	16 05 55.4	
	comp=Z,167nm,18.2s,baz=303,slow=40						
RTLL	**Cerro Villicun**	**5.74**	**46**	*eP*	**Pn**	**16 03 36.2**	**+0.6**
RTLL				IAML		16 05 07.5	
	comp=E,113nm,0.6s						
ACAN	**Cantantal**	**5.97**	**60**	*eP*	**Pn**	**16 03 39.6**	**+1.0**
ACCO	**Cerro Coronel**	**5.99**	**37**	*eP*	**Pn**	**16 03 39.7**	**+0.5**
AMOG	**MOGNA**	**6.02**	**43**	*eP*	**Pn**	**16 03 39.6**	**+0.2**
ACDV	**Cuesta del Vie**	**6.31**	**35**	*eP*	**Pn**	**16 03 42.7**	**-0.9**
AGUA	**GUANDACOL**	**7.18**	**36**	*eP*	**Pn**	**16 03 55.5**	**+0.1**
APLL	**PUNTA DE LOS L**	**7.58**	**50**	*eP*	**Pn**	**16 03 59.3**	**-1.6**
ACLC	**CERRO LA CRUZ**	**8.03**	**43**	*eP*	Pn	16 03 54.5	-13
LVC	**Limon Verde**	**13.34**	**18**	LR	LR	16 09 23.7	
	comp=E,26nm,20.7s,baz=211,slow=33						
CPUP	**Villa Florida**	**16.41**	**61**	Pn	**Pn**	**16 05 59.4**	**-1.3**
	comp=E,0.7nm,0.3s,baz=272,slow=10,SNR=7.6						
CPUP				LR	LR	16 13 25.1	
	comp=E,73nm,18.1s,baz=226,slow=42						
LPAZ	**La Paz**	**19.62**	**15**	P	**P**	**16 06 40.5**	**+1.0**
	comp=E,0.3nm,0.3s,baz=167,slow=14,SNR=3.5						
SIV	**San Ignacio**	**22.23**	**33**	P	**P**	**16 07 06.1**	**-1.1**
	comp=E,6.4nm,1.0s,baz=237,slow=7.2,SNR=7.2						
SIV				LR	LR	16 15 20.3	
	comp=E,66nm,19.7s,baz=264,slow=36						
BDFB	**Brasilia**	**29.99**	**55**	P	**P**	**16 08 16.4**	**-2.8**
	comp=E,2.3nm,0.6s,baz=210,slow=14,SNR=3.0						
PTGA	**Pitinga**	**36.69**	**23**	P	**P**	**16 09 16.5**	**-0.9**
	comp=E,2.6nm,0.3s,baz=322,slow=22,SNR=5.2						
MDP	**Montagnes des**	**44.75**	**30**	P	**P**	**16 10 22.9**	**-1.0**
	comp=E,9.8nm,0.6s,baz=214,slow=6.9,SNR=7.1						
SNAA	**Sanae**	**50.65**	**157**	P	**P**	**16 11 09.6**	**+0.4**
	comp=E,1.2nm,0.5s,baz=271,slow=6.6,SNR=8.0						
QSPA	**South Pole Qui**	**54.80**	**180**	P	**P**	**16 11 41.6**	**+1.5**
	comp=E,1.7nm,1.0s,baz=174,slow=2.2,SNR=2.4						
TXAR	**Lajitas Array**	**70.50**	**332**	P	**P**	**16 13 26.3**	**+1.1**
	comp=E,0.1nm,0.4s,baz=149,slow=7.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.65**	**71**	P	**P**	**16 14 47.6**	**-1.9**
	comp=E,0.5nm,0.9s,baz=235,slow=5.1,SNR=2.9						
MODS	**Modra-Piesok**	**115.81**	**48**	*e*PDIF	**Pdif**	**16 17 06.0**	**+0.4**
VYHS	**Vyhne**	**116.81**	**48**	*e*PDIF	**Pdif**	**16 17 09.4**	**-0.6**
WRA	**Warramunga Arr**	**119.01**	**210**	PKP	**PKPdf**	**16 20 59.3**	**-0.4**
	comp=E,0.3nm,1.0s,baz=160,slow=1.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**155.98**	**33**	PKPab	**PKPab**	**16 22 30.2**	**-1.1**
	comp=E,0.7nm,0.6s,baz=297,slow=6.3,SNR=2.8						
MKAR	**Makanchi Array**	**158.47**	**51**	PKPab	**PKPab**	**16 22 42.4**	**0.0**
	comp=E,0.3nm,0.6s,baz=294,slow=3.9,SNR=4.1						

*SJA **15** 16:03:45.8±0.5, 24.14S×66.90W, h215km±5km, ML2.8, MW4.4*
*ISCJB **15** 16:03:46.4±0.4, 24.12S±0.03×66.98W±0.04, h204km±5km, Error ellipse: s-maj=6.0km s-min=4.1km az=139.9*
*IDC **15** 16:03:47.2±1.3, 23.98S×66.75W, h194km±15km, mb3.5/3, mb1 3.2/7, mb1mx3.1/31, mbtmp3.6/7, Error ellipse: s-maj=21.3km s-min=20.2km az=166.0*
*NEIC **15** 16:03:49.0±0.0, 23.95S×67.46W, h231km, ML4.4(GUC), After GUC.*
*GUC **15** 16:03:49.6±0.4, 23.96S×67.45W, h229km±7km, ML4.4*
ISC 15 16:03:47.1±0.8, 24.10S±0.04×66.95W±0.04, h204km±7km, n40, σ1°22/67, 7C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.46**	**115**	*i* P	**Pn**	**16 04 20.9**	**-0.1**
SLA				*i* S	**S**	**16 04 46.9**	**0.0**
SLA				IAML		16 04 47.2	
	comp=N,149nm,0.5s						
FSA	**Cafayete**	**2.19**	**156**	*i* P	**Pn**	**16 04 27.8**	**-0.3**
FSA				IAML		16 04 30.3	
	comp=Z,23nm,0.2s						
FSA				*i* S	**S**	**16 04 58.4**	**-1.1**
YJA	**Yavi**	**2.33**	**35**	*i* P	**Pn**	**16 04 30.6**	**+0.7**
YJA				IAML		16 04 32.5	
	comp=Z,9.4nm,0.4s						
YJA				*i* S	**S**	**16 05 03.4**	**+0.9**
LVC	**Limon Verde**	**2.33**	**309**	*e*Pn	**Pn**	**16 04 31.0**	**+1.2**
LVC				*eS*	**S**	**16 05 03.3**	**+0.8**
LVC	**Limon Verde**	**2.33**	**309**	P	**Pn**	**16 04 30.4**	**+0.5**
	comp=Z,12nm,0.3s,baz=139,slow=8.2,SNR=57						
LVC				S	**S**	**16 05 03.4**	**+0.9**
	comp=Z,68nm,0.3s,baz=330,slow=20,SNR=81						
PB15	**IPOC Station P**	**2.48**	**290**	⇑*iP*	**Pn**	**16 04 32.2**	**+0.9**
PB15				*i* S	**S**	**16 05 04.6**	**-0.3**
GO02	**Mina Guanaco**	**2.63**	**246**	*e*Pn	**Pn**	**16 04 33.5**	**+0.5**
GO02				*eS*	**S**	**16 05 08.3**	**+0.1**
GO02	**Mina Guanaco**	**2.63**	**246**	⇑*iP*	**Pn**	**16 04 33.4**	**+0.5**
GO02				*eS*	**S**	**16 05 08.2**	**+0.1**
PB06	**IPOC Station P**	**2.78**	**299**	*eP*	**Pn**	**16 04 35.4**	**+0.8**
PB06				*eS*	**S**	**16 05 10.4**	**-0.7**
PB06				IAML		16 05 12.6	
	comp=N,1μm,0.2s						
AHML	**Horco Molle**	**3.05**	**152**	*i* P	**Pn**	**16 04 36.9**	**-0.6**
AHML				IAML		16 04 37.9	
	comp=Z,30nm,0.6s						
AHML				*i* S	**S**	**16 05 14.2**	**-2.3**
PB09	**IPOC Station P**

JKN2				S	Sn	16 15 39.7	-0.1	
JYTA	**Yamagatataniai**	**0.84**	**347**	P	Pn	16 15 30.4	+0.2	
JYTA				S	Sn	16 15 41.3	-0.1	
TTO2	**TONANKAI O.B.S**	**1.03**	**177**	P	Pn	16 15 32.5	-0.1	
TK02	**Tokai 2**	**1.05**	**141**	P	Pn	16 15 32.2	-0.7	
JHE	**Heguri**	**1.06**	**264**	S	Sn	16 15 47.3	+0.5	
SHZ3	**Shizuoka 3**	**1.07**	**74**	P	Pn	16 15 33.7	+0.3	
TTO1	**TONANKAI O.B.S**	**1.15**	**187**	P	Pn	16 15 34.6	+0.3	
MAT	**Matsushiro**	**2.04**	**30**	P	Pn	16 15 48.6	+1.8	
MAT				S	Sn	16 16 12.3	+1.3	

*DDA **15** 16:21:35.9,35°.61N×27°.80E,h30km±3km, ML4.2*
*NSSC **15** 16:21:38.7±1.3,35°.17N×28°.05E,h5km, ML3.3*
*ISCJB **15** 16:21:38.7±0.2,35°.71N±0°.02×28°.01E±0°.02, h63km±3km, mb3.8/15, Error ellipse: s-maj=2.9km s-min=2.1km az=33.1*
*IDC **15** 16:21:39.8±1.2,35°.81N×27°.88E,h54km±12km,mb3.6/15, mb1 3.8/22,mb1mx3.6/59,mbtmp3.9/22,MS2.8/4, Ms1 2.8/4,ms1mx2.4/40, Error ellipse: s-maj=14.9km s-min=8.3km az=164.0*
*ISK **15** 16:21:39.5,35°.84N×27°.91E,h22km, ML3.9/27*
*ATH **15** 16:21:39.7,35°.91N×27°.93E,h64km±3km, ML3.8/7, Error ellipse: s-maj=3.2km s-min=1.1km az=14.0*
*HLW **15** 16:21:40.9,35°.64N×28°.06E,h28km±14km,Md4.3, Ml4.6*
*NIC **15** 16:21:42.7±0.3,36°.02N×28°.33E, h40km, mb4.1, ML3.7*
*GII **15** 16:21:43.4±0.6,35°.58N×28°.29E, h60km, MD3.5/6*
*THE **15** 16:21:43.0,35°.93N×27°.81E, h36km±2km, ML3.8/5, Error ellipse: s-maj=2.1km s-min=0.3km az=106.0*

ISC 15 16:21:39.6±0.7,35.72N±0°.03×27.98E±0°.03,h52km±7km, n194,σ1$75/243,mb3.7/15,7C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.51**	**13**	PG	**Pn**		**16 21 48.6**	**-2.5**
ARG	**Arkhangelos**	**0.51**	**13**	P	**Pn**		**16 21 51.7**	**+0.6**
ARG				S	**Sn**		**16 21 58.1**	**-1.2**
ARG	**Arkhangelos**	**0.51**	**13**	P	**Pn**		**16 21 51.7**	**+0.6**
ARG				S	**Sn**		**16 21 59.1**	**-0.2**
ARG				AML	AML		16 21 60.0	
ARG				AML	AML		16 22 00.1	
	comp=N,57971μm,0.2s							
KARP	**Karpathos**	**0.69**	**256**	PG	**Pn**		**16 21 54.1**	**+0.7**
KARP	**Karpathos**	**0.69**	**256**	P	**Pn**		**16 21 55.0**	**+1.6**
KARP				S	**Sn**		**16 22 04.6**	**+1.2**
KARP	**Karpathos**	**0.69**	**256**	P	**Pn**		**16 21 55.0**	**+1.6**
KARP				S	**Sn**		**16 22 05.4**	**+2.1**
KARP				AML	AML		16 22 06.5	
	comp=N,42108μm,0.2s							
KARP				AML	AML		16 22 06.8	
	comp=E,49139μm,0.2s							
MRSB	**Marmaris-Mugla**	**1.01**	**10**	PG	**Pn**		**16 21 58.1**	**+0.6**
DAT	**Datca**	**1.06**	**342**	PG	**Pn**		**16 21 58.1**	**-0.2**
DAT				SG	**Sn**		**16 22 11.2**	**-0.8**
DAT	**Datca**	**1.06**	**342**	⇑*i*P	**Pn**		**16 21 58.8**	**+0.5**
DAT				*i* S	**Sn**		**16 22 11.1**	**-0.9**
DAT				IAML_P				
	comp=Z,55μm,0.4s							
DATC	**Datca-Mugla**	**1.07**	**346**	PG	**Pn**		**16 21 58.3**	**0.0**
DATC				SG	**Sn**		**16 22 11.7**	**-0.4**
DALY	**Dalyan (Mula)**	**1.22**	**26**	PN	**Pn**		**16 22 01.5**	**+1.2**
DALY	**Dalyan (Mula)**	**1.22**	**26**	⇑*i*P	**Pn**		**16 22 01.9**	**+1.6**
DALY				*i* S	**Sn**		**16 22 20.7**	**+5.0**
TURN	**Turunc**	**1.25**	**23**	PG	**Pn**		**16 21 59.2**	**-1.6**
TURN	**Turunc**	**1.25**	**23**	⇑*i*P	**Pn**		**16 21 59.3**	**-1.4**
TURN				*i* S	**Sn**		**16 22 13.1**	**-3.4**
FETY	**Fethiye**	**1.27**	**44**	PN	**Pn**		**16 22 02.3**	**+1.2**
FETY	**Fethiye**	**1.27**	**44**	*i* P	**Pn**		**16 22 02.3**	**+1.2**
FETY				*i* S	**Sn**		**16 22 24.8**	**+7.7**
KSL	**Kastellorizon**	**1.37**	**71**	P	**Pn**		**16 22 03.7**	**+1.4**
KSL				S	**Sn**		**16 22 20.6**	**+1.3**
KSL				AML	AML		16 22 22.6	
	comp=E,2596μm,0.5s							
KSL				AML	AML		16 22 24.4	
	comp=N,1122μm,0.5s							
BDRM	**Kayabasi**	**1.41**	**342**	⇑*i*P	**Pn**		**16 22 02.9**	**-0.1**
BDRM				*i* S	**Sn**		**16 22 19.7**	**-0.7**
AKAS	**Kas**	**1.41**	**68**	PN	**Pn**		**16 22 04.8**	**+1.8**
AKAS	**Kas**	**1.41**	**68**	*i* P	**Pn**		**16 22 05.5**	**+2.4**
AKAS				*i* S	**Sn**		**16 22 27.8**	**+7.3**
AKAS				IAML_P				
	comp=Z,15μm,0.2s							
YER	**Yerkesik**	**1.43**	**10**	PN	**Pn**		**16 22 04.0**	**+0.8**
BODT	**Bodrum**	**1.44**	**338**	PN	**Pn**		**16 22 02.9**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.51**	**338**	PN	**Pn**		**16 22 03.3**	**-1.0**
ZKR	**Zakros**	**1.57**	**248**	PN	**Pn**		**16 22 07.6**	**+2.6**
ZKR	**Zakros**	**1.57**	**248**	P	**Pn**		**16 22 07.2**	**+2.2**
ZKR	**Zakros**	**1.57**	**248**	P	**Pn**		**16 22 07.8**	**+2.8**
ZKR				S	**Sn**		**16 22 26.8**	**+2.6**
ZKR				AML	AML		16 22 36.0	
	comp=N,1538μm,0.5s							
ZKR				AML	AML		16 22 39.4	
	comp=E,2766μm,0.4s							
STIA	**Sitia Lasithi**	**1.63**	**252**	P	**Pn**		**16 22 07.6**	**+1.7**
ELL	**Elmali**	**1.86**	**56**	PN	**Pn**		**16 22 11.8**	**+2.6**
TAVA	**DENIZLI_Tavas**	**1.89**	**23**	⇑*i*P	**Pn**		**16 22 10.9**	**+1.3**
TAVA				*i* S	**Sn**		**16 22 34.2**	**+1.9**
TAVA				IAML_P				
	comp=Z,8μm,0.1s							
ANAF	**Anafi Island**	**1.90**	**290**	P	**Pn**		**16 22 09.5**	**-0.1**
ANAF				S	**Sn**		**16 22 30.4**	**-2.0**
ANAF	**Anafi Island**	**1.90**	**290**	P	**Pn**		**16 22 09.5**	**-0.1**
ANAF				S	**Sn**		**16 22 30.6**	**-1.9**
AYDN	**Tasoluk**	**1.94**	**358**	⇑*i*P	**Pn**		**16 22 10.7**	**+0.5**
AYDN				*i* S	**Sn**		**16 22 31.7**	**-1.7**
GOLH	**Golhisar**	**1.98**	**40**	*i* P	**Pn**		**16 22 14.2**	**+3.4**
GOLH				*i* S	Sn		16 22 49.4	+15
GOLH				IAML_P				
	comp=Z,5μm,0.2s							
NPS	**Neapolis**	**1.99**	**257**	P	**Pn**		**16 22 12.4**	**+1.6**
NPS				S	**Sn**		**16 22 35.2**	**+0.6**
NPS	**Neapolis**	**1.99**	**257**	P	**Pn**		**16 22 12.9**	**+2.1**
NPS				S	**Sn**		**16 22 35.5**	**+1.0**
NPS				AML	AML		16 22 37.6	
	comp=N,2824μm,0.3s							
NPS				AML	AML		16 22 37.8	
	comp=E,2847μm,0.3s							
AKUM	**Antalya-Kumluc**	**2.00**	**72**	*i* P	**Pn**		**16 22 13.9**	**+2.9**
AMGA	**Amorgos Island**	**2.02**	**304**	P	**Pn**		**16 22 10.6**	**-0.6**
AMGA	**Amorgos Island**	**2.02**	**304**	P	**Pn**		**16 22 10.8**	**-0.5**
AMGA				S	**Sn**		**16 22 33.4**	**-2.0**
LAST	**Lasithi**	**2.12**	**255**	P	**Pn**		**16 22 14.6**	**+2.0**
LAST				S	**Sn**		**16 22 38.7**	**+0.8**
LAST	**Lasithi**	**2.12**	**255**	P	**Pn**		**16 22 14.7**	**+2.0**
LAST				AML	AML		16 22 43.8	
	comp=N,1224μm,0.4s							
LAST				AML	AML		16 22 54.4	
	comp=E,1040μm,0.6s							
SANT	**Santorini**	**2.15**	**288**	PN	**Pn**		**16 22 13.1**	**+0.1**
SANT	**Santorini**	**2.15**	**288**	P	**Pn**		**16 22 13.1**	**+0.1**
SANT				S	**Sn**		**16 22 36.4**	**-2.1**
SANT	**Santorini**	**2.15**	**288**	P	**Pn**		**16 22 12.8**	**-0.2**
SAP2K	**Karterados**	**2.17**	**289**	P	**Pn**		**16 22 13.4**	**+0.2**
SAP2K				S	**Sn**		**16 22 37.0**	**-1.9**
THR7	**Fira-Santorini**	**2.19**	**289**	P	**Pn**		**16 22 13.5**	**0.0**
SMG	**Samos**	**2.19**	**335**	P	**Pn**		**16 22 12.9**	**-0.6**
SMG				S	**Sn**		**16 22 35.8**	**-3.6**
SMG	**Samos**	**2.19**	**335**	P	**Pn**		**16 22 12.9**	**-0.6**
SMG				AML	AML		16 22 38.3	
	comp=E,2103μm,0.3s							
SMG				AML	AML		16 22 38.4	
	comp=N,1612μm,0.3s							
THR2	**Thira island,**	**2.19**	**290**	P	**Pn**		**16 22 13.4**	**-0.1**
THR6	**Thira Island,**	**2.19**	**288**	P	**Pn**		**16 22 13.7**	**+0.2**
DENT	**Denizli**	**2.20**	**22**	PN	**Pn**		**16 22 14.6**	**+0.9**
THR3	**Thira Island,**	**2.20**	**289**	P	**Pn**		**16 22 13.9**	**+0.2**
AYDB	**Zeytinkoy-Aydi**	**2.22**	**358**	PN	**Pn**		**16 22 14.1**	**0.0**
KORT	**Korkueli**	**2.30**	**56**	PN	**Pn**		**16 22 17.1**	**+2.0**
KORT	**Korkueli**	**2.30**	**56**	*i* P	**Pn**		**16 22 19.5**	**+4.4**
APE	**Apeiranthos**	**2.39**	**305**	PN	**Pn**		**16 22 16.5**	**+0.1**
APE	**Apeiranthos**	**2.39**	**305**	P	**Pn**		**16 22 15.9**	**-0.5**
APE				S	**Sn**		**16 22 41.8**	**-2.7**
APE	**Apeiranthos**	**2.39**	**305**	P	**Pn**		**16 22 16.4**	**0.0**
DGB	**zmir**	**2.49**	**340**	⇑*i*P	**Pn**		**16 22 17.0**	**-0.6**
DGB				*i* S	**Sn**		**16 22 45.7**	**-1.1**
IDI	**Anoyia**	**2.56**	**261**	P	**Pn**		**16 22 19.5**	**+0.8**
	comp=N,17nm,0.3s,baz=27,slow=3.7,SNR=53							
IDI				S	**Sn**		**16 22 48.1**	**-0.6**
	comp=N,19nm,0.3s,baz=95,slow=9.0,SNR=9.3							
IDI				LR	LR		16 23 35.2	
	comp=N,94nm,20.9s,baz=277,slow=46							
BRDR	**BURDUR-Merkez**	**2.58**	**40**	*i* P	**Pn**		**16 22 21.9**	**+2.9**
BLCB	**Balcova**	**2.76**	**344**	PN	**Pn**		**16 22 20.9**	**-0.5**
MANT	**Manisa**	**2.80**	**9**	*i* P	**Pn**		**16 22 22.5**	**+0.4**
KULA	**Kula-Manisa**	**2.84**	**11**	PN	**Pn**		**16 22 22.4**	**-0.1**
URLA	**Izmir**	**2.86**	**338**	PN	**Pn**		**16 22 22.2**	**-0.5**
URLA	**Izmir**	**2.86**	**338**	*i* P	**Pn**		**16 22 22.5**	**-0.2**
KHAL	**Karahalli**	**2.91**	**24**	*i* P	**Pn**		**16 22 23.9**	**+0.5**
KHAL				IAML_P				
	comp=Z,1μm,0.1s							
ISP	**Isparta**	**2.92**	**43**	PN	**Pn**		**16 22 25.3**	**+1.6**
ISP	**Isparta**	**2.92**	**43**	Pn	**Pn**		**16 22 26.3**	**+2.6**
MHLO	**Agia Marina, M**	**3.05**	**289**	P	**Pn**		**16 22 26.9**	**+1.6**
CHOS	**Chios island**	**3.07**	**330**	PN	**Pn**		**16 22 25.7**	**0.0**
CHOS	**Chios island**	**3.07**	**330**	P	**Pn**		**16 22 25.3**	**-0.4**
CHOS	**Chios island**	**3.07**	**330**	P	**Pn**		**16 22 25.4**	**-0.4**
USAK	**Uak-Merkez**	**3.10**	**15**	*i* P	**Pn**		**16 22 26.9**	**+0.8**
VAM	**Vamos**	**3.10**	**265**	P	**Pn**		**16 22 27.5**	**+1.5**
VAM	**Vamos**	**3.10**	**265**	P	**Pn**		**16 22 27.6**	**+1.5**
AKHS	**Akhisar**	**3.15**	**358**	*i* P	**Pn**		**16 22 26.1**	**-0.6**
AKHS				*i* S	**Sn**		**16 23 01.7**	**-1.5**
AKHS				IAML_P				
	comp=Z,4μm,0.1s							
AKS	**Akhisar**	**3.15**	**358**	PN	**Pn**		**16 22 27.2**	**+0.4**
IMMV	**Iera Moni Meta**	**3.27**	**267**	P	**Pn**		**16 22 29.6**	**+1.2**
ZEDA	**zmir-Bergama**	**3.32**	**348**	*i* P	**Pn**		**16 22 29.2**	**+0.2**
ALAN	**Alanya-ANTALYA**	**3.38**	**75**	PN	**Pn**		**16 22 31.9**	**+2.0**
SHAP	**Saphane-Kutahy**	**3.44**	**16**	PN	**Pn**		**16 22 31.9**	**+1.1**
SHUT	**Suhut-Afyon**	**3.49**	**35**	PN	**Pn**		**16 22 33.3**	**+1.8**
GDZ	**Gediz**	**3.56**	**19**	*i* P	**Pn**		**16 22 33.0**	**+0.5**
AKMC	**Akamas**	**3.62**	**100**	P	**Pn**		**16 22 34.4**	**+1.2**
	baz=288							
PPCY	**Paphos**	**3.66**	**102**	P	**Pn**		**16 22 34.4**	**+0.7**
	baz=290							
PRK	**Paraskevi**	**3.77**	**339**	P	**Pn**		**16 22 35.9**	**+0.6**
ALFC	**Alefka**	**3.81**	**97**	P	**Pn**		**16 22 36.2**	**+0.4**
	baz=285							
ALFC				S	**Sn**		**16 23 18.8**	**-0.6**
SIGR	**SIGRI**	**3.87**	**335**	P	**Pn**		**16 22 36.0**	**-0.6**
DURS	**Dursunbey**	**3.89**	**6**	*i* P	**Pn**		**16 22 37.4**	**+0.5**
TVSB	**Tavsanli**	**3.90**	**17**	PN	**Pn**		**16 22 37.4**	**+0.3**
SZAC	**Souni**	**4.12**	**102**	P	**Pn**		**16 22 41.3**	**+1.2**
	baz=290							
SZAC				S	**Sn**		**16 23 27.3**	**+0.2**
KONT	**Konya--Tatoy**	**4.15**	**56**	PN	**Pn**		**16 22 43.1**	**+2.6**
BAYC	**CANAKKALE_Bayr**	**4.17**	**345**	*i* P	**Pn**		**16 22 40.9**	**+0.1**
BERE	**Bereket-Mersin**	**4.29**	**80**	PN	**Pn**		**16 22 45.0**	**+2.5**
MAMC	**Mammari**	**4.31**	**96**	P	**Pn**		**16 22 43.4**	**+0.8**
	baz=283							
CSS	**Mathiatis**	**4.44**	**98**	P	**Pn**		**16 22 45.7**	**+1.3**
	baz=285							
CSS				S	**Sn**		**16 23 33.7**	**-1.0**
CSS	**Mathiatis**	**4.44**	**98**	Pn	**Pn**		**16 22 45.1**	**+0.7**
SLUM	**Salum**	**4.81**	**210**	P	**Pn**		**16 22 50.9**	**+1.4**
	baz=211							
HBRG	**Burj al `Arab**	**5.37**	**163**	P	**Pn**		**16 22 57.3**	**+0.2**
	baz=163							
BRTR	**Keskin Array B**	**6.00**	**47**	P	**Pn**		**16 23 07.8**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=227,slow=14,SNR=11							
BRTR				S	**Sn**		**16 24 14.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=218,slow=25,SNR=3.4							
HNTI	**Hanita**	**6.50**	**112**	Pn	**Pn**		**16 23 12.9**	**+0.2**
DQRL	**Deir Qamar**	**6.56**	**106**	*e*P	**Pn**		**16 23 15.0**	**+1.4**
OFRI	**`Ofer**	**6.58**	**116**	Pn	**Pn**		**16 23 14.0**	**+0.3**
KOT	**Kottamia**	**6.62**	**150**	P	**Pn**		**16 23 15.0**	**+0.6**
	baz=149							
KOT				AMP			16 24 00.0	
	baz=149							
KOT				S	**Sn**		**16 24 24.5**	**-4.0**
	baz=149							
HWQ	**Hawqa**	**6.69**	**100**	*e*P	**Pn**		**16 23 17.1**	**+1.7**
MMA0B	**Mount Meron ar**	**6.70**	**112**	Pn	**Pn**		**16 23 15.6**	**+0.1**
MMAI	**Mount Meron Ar**	**6.70**	**112**	P	**Pn**		**16 23 15.3**	**-0.2**
	comp=Z,6.8nm,0.3s,baz=298,slow=12,SNR=32							
MMAI				S	**Sn**		**16 24 27.9**	**-2.7**
	comp=Z,27nm,0.3s,baz=308,slow=24,SNR=14							
HHAG	**Hagoal**	**6.71**	**148**	P	**Pn**		**16 23 17.2**	**+1.5**
	baz=147							
RSH		**6.75**	**133**	P	**Pn**		**16 23 16.4**	**+0.3**
	baz=133							
HSAF	**As Saff**	**6.79**	**153**	P	**Pn**		**16 23 17.2**	**+0.6**
	baz=152							
SWA2		**6.80**	**199**	P	**Pn**		**16 23 18.3**	**+1.5**
	baz=200							
SLTI	**Sal'it**	**6.81**	**119**	Pn	**Pn**		**16 23 16.5**	**-0.4**
GEM	**Giv'at Ha'Em**	**6.82**	**109**	Pn	**Pn**		**16 23 17.3**	**+0.3**
KSDI	**Kefar Szold**	**6.82**	**110**	Pn	**Pn**		**16 23 17.3**	**+0.2**
KSDI				Sn	**Sn**		**16 24 30.9**	**-2.5**
RCY	**Rachaya**	**6.84**	**107**	*e*P	**Pn**		**16 23 18.1**	**+0.5**
NATI	**Neve Ativ**	**6.86**	**109**	Pn	**Pn**		**16 23 17.9**	**+0.4**
GLL	**Jalalah**	**6.88**	**152**	P	**Pn**		**16 23 18.7**	**+0.7**
	baz=152							
BRBR	**Barbar**	**6.96**	**107**	*e*P	**Pn**		**16 23 19.9**	**+0.7**
BRBR				*e*S	**Sn**		**16 24 31.9**	**-5.3**
BRBR				AML	AML		16 24 39.8	
	comp=N,36nm,0.7s							
BRBR				AML	AML		16 24 40.5	
	comp=E,51nm,0.3s							
MMLI	**Mount Malkishu**	**6.99**	**116**	Pn	**Pn**		**16 23 19.5**	**+0.1**
MMLI				Sn	**Sn**		**16 24 34.2**	**-3.3**
VAY	**Valandovo**	**7.02**	**324**	*i* P	Pn		16 23 29.2	+10
KSHT	**Keshet**	**7.03**	**111**	Pn	**Pn**		**16 23 20.4**	**+0.5**
AMAZ	**Amatzia**	**7.13**	**124**	Pn	**Pn**		**16 23 21.7**	**+0.4**
AMAZ				Sn	**Sn**		**16 24 39.3**	**-1.7**
SUZ	**Suez**	**7.14**	**144**	P	**Pn**		**16 23 22.7**	**+1.2**
	baz=143							
HMDT	**Nahal Hemdat**	**7.16**	**117**	Pn	**Pn**		**16 23 22.2**	**+0.6**
QASN	**Qassioun**	**7.18**	**105**	*e*P	**Pn**		**16 23 22.4**	**+0.4**
QASN				*e*S	**Sn**		**16 24 38.0**	**-4.2**
QASN				AML	AML		16 24 43.5	
	comp=E,108nm,0.4s							
QASN				AML	AML		16 24 47.6	
	comp=N,43nm,0.4s							
KZIT	**Kziot**	**7.20**	**130**	Pn	**Pn**		**16 23 22.4**	**+0.1**
TOTH	**TOTAH**	**7.36**	**106**	*e*P	**Pn**		**16 23 25.9**	**+1.5**
TOTH				*e*S	**Sn**		**16 24 42.7**	**-3.8**
TOTH				AML	AML		16 24 48.4	
	comp=E,41nm,0.5s							
TOTH				AML	AML		16 24 49.9	
	comp=N,22nm,0.3s							
YTIR	**Yattir**	**7.37**	**124**	Pn	**Pn**		**16 23 24.9**	**+0.2**
YTIR				Sn	**Sn**		**16 24 43.9**	**-3.1**
DSI	**Dead Sea**	**7.43**	**122**	Pn	**Pn**		**16 23 25.7**	**+0.3**
STIP	**Stip**	**7.49**	**325**	*i* P	**Pn**		**16 23 27.6**	**+1.4**
ZAF	**Zafarana**	**7.49**	**148**	P	**Pn**		**16 23 27.5**	**+1.3**
	baz=147							
ZNM	**Zenema**	**7.55**	**146**	P	**Pn**		**16 23 28.6**	**+1.5**
	baz=145							
MZDA	**Masada**	**7.57**	**123**	Pn	**Pn**		**16 23 27.8**	**+0.5**
NBNS	**Bani Suef**	**7.61**	**157**	S	**Sn**		**16 24 47.3**	**-5.6**
	baz=157							
LISJ	**El Lisan**	**7.69**	**123**	P	**Sn**		**16 24 53.6**	**-1.1**
GHAJ	**Ghor Haditha**	**7.71**	**123**	Pn	**Pn**		**16 23 29.7**	**+0.4**
KRUS	**Krusevo**	**7.72**	**319**	*i* P	**Pn**		**16 23 32.6**	**+3.2**
WALJ	**Wala**	**7.73**	**120**	P	**Sn**		**16 24 55.8**	**+0.1**
KRMI	**Paran Flat**	**7.96**	**133**	Pn	**Pn**		**16 23 32.9**	**+0.2**
KRMI				Sn	**Sn**		**16 24 57.8**	**-3.5**
PRNI	**Paran**	**7.96**	**130**	Pn	**Pn**		**16 23 32.2**	**-0.5**
PRNI				Sn	**Sn**		**16 24 58.5**	**-2.9**
JDRJ	**Daraweish**	**8.14**	**126**	P	**Sn**		**16 25 05.0**	**-0.9**
HRFI	**Mount Harif**	**8.20**	**132**	Pn	**Pn**		**16 23 36.1**	**+0.1**
HRFI				Sn	**Sn**		**16 25 04.8**	**-2.6**
ASF	**Jabal al Asfar**	**8.21**	**113**	P	**Pn**		**16 23 36.4**	**+0.3**
	comp=N,0.8nm,0.3s,baz=256,slow=5.8,SNR=8.2							
ASF				S	**Sn**		**16 25 04.9**	**-2.7**
	comp=N,1.7nm,0.3s,baz=21,slow=8.6,SNR=3.2							
MBRI	**Mt Berech**	**8.30**	**133**	Pn	**Pn**		**16 23 37.7**	**+0.2**
EIL	**Elat**	**8.42**	**134**	Pn	**Pn**		**16 23 39.0**	**+0.1**
EIL	**Elat**	**8.42**	**134**	P	**Pn**		**16 23 39.3**	**+0.4**
	comp=N,2.8nm,0.3s,baz=279,slow=3.1,SNR=29							
EIL				S	**Sn**		**16 25 07.2**	**-5.4**
	comp=N,16nm,0.3s,baz=326,slow=17,SNR=27							
HSNJ	**Maan**	**8.46**	**128**	P	**Sn**		**16 25 11.8**	**-1.9**
GRB	**Gharib**	**8.47**	**150**	P	**Pn**		**16 23 40.3**	**+0.6**
	baz=150							
HFRF	**Wahat Farafira**	**8.55**	**178**	P	**Pn**		**16 23 42.0**	**+1.2**
	baz=178							
HKAT	**Jabal Katrina**	**8.80**	**143**	P	**Pn**		**16 23 45.5**	**+1.1**
	baz=143							
ASUT		**8.84**	**159**	P	**Pn**		**16 23 46.1**	**+1.3**
	baz=159							
HHRG	**Al Ghardaqah**	**9.72**	**149**	AMP			16 25 00.0	
	baz=149							
MLR	**Muntele Rosu**	**9.88**	**352**	P	**Pn**		**16 23 59.3**	**+0.3**
	comp=N,0.5nm,0.3s,baz=166,slow=17,SNR=2.3							
VYHS	**Vyhne**	**14.44**	**335**	*e*P	**P**		**16 25 06.7**	**+0.2**
SOKA	**Soboth**	**14.63**	**322**	*i* P	**P**		**16 25 09.5**	**+0.7**
	comp=N,9.0nm,0.8s							
MODS	**Modra-Piesok**	**14.91**	**331**	*e*P	**P**		**16 25 12.7**	**+1.0**
AKASG	**Malin Array Be**	**15.00**	**3**	P	**P**		**16 25 11.5**	**-1.1**
	comp=N,2.9nm,0.3s,baz=188,slow=9.9,SNR=13							
KBA	**Koelnbreinsper**	**15.76**	**321**	*e*P	**P**		**16 25 22.3**	**+1.0**
	comp=N,16nm,0.9s							
KRUC	**Moravsky**	**15.82**	**331**	*e*P	**P**		**16 25 21.6**	**-0.1**
MOA	**Molln**	**15.83**	**324**	*e*P	**P**		**16 25 22.7**	**+0.8**
	comp=N,4.4nm,0.8s							
VRAC	**Vranov**	**15.94**	**332**	*e*P	**P**		**16 25 23.3**	**+0.2**
VRAC	**Vranov**	**15.94**	**332**	P	**P**		**16 25 21.7**	**-1.4**
	comp=N,0.6nm,0.3s,baz=140,slow=12,SNR=11							
VRAC				LR	LR		16 33 03.3	
	comp=N,36nm,18.8s,baz=169,slow=43							
MORC	**Moravsky Berou**	**15.98**	**335**	*e*P	**P**		**16 25 24.1**	**+0.5**
ABTA	**Abfaltersbach**	**15.99**	**318**	*e*P	**P**		**16 25 24.5**	**+0.7**
	comp=N,8.2nm,0.6s							
KRLC	**Kraliky**	**16.50**	**334**	*e*P	**P**		**16 25 30.1**	**+0.8**
KRLC				*e*P	**Pn**		**16 25 31.0**	**+3.6**
GERES	**GERESS Array B**	**16.80**	**326**	P	**Pn**		**16 25 31.8**	**+0.5**
	comp=N,0.4nm,0.3s,baz=139,slow=12,SNR=25							
GERES				LR	LR		16 32 14.7	
	comp=N,49nm,19.8s,baz=165,slow=38							
DPC	**Dobruska-Polom**	**16.89**	**334**	*e*P	**P**		**16 25 33.9**	**+0.2**
SQTA	**Sankt Quirin**	**16.99**	**318**	*e*P	**P**		**16 25 35.3**	**+0.4**
	comp=N,9.7nm,0.8s							
KHC	**Kasperske Hory**	**17.07**	**326**	*e*P	**P**		**16 25 35.3**	**-0.3**
KHC				*e*pP	**pP**		**16 25 49.9**	**+2.6**
MOTA	**Moosalm**	**17.12**	**318**	*e*P	**P**		**16 25 36.4**	**+0.1**
	comp=N,4.4nm,0.6s							
GOPC	**GO Pecny, Ondr**	**17.13**	**330**	*e*P	**P**		**16 25 38.5**	**+2.2**
UPC	**Upice**	**17.13**	**333**	*e*P	**P**		**16 25 36.9**	**+0.6**
FETA	**Feichten**	**17.14**	**316**	*e*P	**P**		**16 25 36.7**	**+0.2**
	comp=N,23nm,1.1s							
RETA	**Reutte**	**17.39**	**318**	*e*Pn	**P**		**16 25 38.9**	**-0.3**
	comp=N,6.9nm,0.9s							
DAVA	**Damuels**	**17.77**	**316**	*e*P	**P**		**16 25 43.8**	**+0.3**
	comp=N,4.4nm,0.6s							
BRG	**Berggiesshubel**	**18.22**	**331**	*e*P	**P**		**16 25 47.6**	**-0.7**
	comp=N,2.8nm,0.7s							
CLL	**Collm**	**18.93**	**330**	*i* P	**P**		**16 25 55.8**	**-0.3**
	comp=Z,6.0nm,0.6s							
ESDC	**Sonseca Array**	**25.51**	**289**	P	**P**		**16 27 02.8**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=81,slow=9.6,SNR=13							
FINES	**FINESS Array B**	**25.77**	**358**	P	**P**		**16 27 03.3**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=165,slow=10,SNR=11							
HFS	**Hagfors**	**26.12**	**344**	P	**P**		**16 27 06.1**	**-2.3**
	comp=Z,5.6nm,0.7s,baz=162,slow=11,SNR=8.6							
HFS				LR	LR		16 38 01.5	
	comp=Z,33nm,18.9s,baz=98,slow=38							
NB2	**NORSAR Subarra**	**27.50**	**342**	P	**P**		**16 27 18.9**	**-2.0**

BVAR	**Borovoye Array**	**65.41**	**333**	P		**P**	**16 39 48.0**	**+0.1**
	1.0nm,0.7s,baz=39,slow=9.6,SNR=9.6							
MKAR	**Makanchi Array**	**67.40**	**322**	P		**P**	**16 40 00.3**	**-0.4**
	0.1nm,0.5s,baz=51,slow=9.4,SNR=2.7							
GERES	**GERESS Array B**	**74.67**	**9**	P		**P**	**16 40 44.8**	**-0.1**
	0.2nm,0.4s,baz=12,slow=5.3,SNR=2.7							
ESDC	**Sonseca Array**	**80.87**	**24**	P		**P**	**16 41 21.5**	**+2.0**
	0.7nm,0.7s,baz=336,slow=2.0,SNR=4.6							

*ISCJB **15** 16:29:16.2±1.3, 10.6S±0.2×161.8E±0.1, h100km, mb3.8/5, Error ellipse: s-maj=24.3km s-min=11.5km az=140.4*
*IDC **15** 16:29:19.1±2.9, 10.63S×161.63E, h107km±21km, mb3.7/5, mb1 3.7/6, mb1mx3.4/37, mbtmp4.0/6, MS3.3/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=36.0km s-min=20.6km az=71.0*
ISC 15 16:29:17.9±1.4, 10.6S±0.2×161.8E±0.2, h100km, n17, σ0.981/10, mb3.7/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
HNR	**Honiara**	**2.11**	**302**	*eP*		**Pn**	**16 29 51.0**	**-0.9**
HNR				*eS*		**Sn**	**16 30 18.0**	**+0.1**
HNR	**Honiara**	**2.11**	**302**	P		**Pn**	**16 29 51.9**	**0.0**
	79nm,0.3s,baz=184,slow=7.3,SNR=56							
HNR				S		**Sn**	**16 30 18.6**	**+0.7**
	164nm,0.3s,baz=69,slow=19,SNR=7.6							
CTA	**Charters Tower**	**17.70**	**236**	P		**Pn**	**16 33 19.2**	**+1.1**
	0.2nm,0.3s,baz=46,slow=13,SNR=3.5							
JAY	**Jayapura**	**22.38**	**289**	LR		LR	16 43 29.1	
	comp=Z,86nm,18.1s,baz=74,slow=38							
WRA	**Warramunga Arr**	**28.02**	**247**	P		**P**	**16 34 59.2**	**-0.7**
	0.6nm,0.5s,baz=78,slow=9.5,SNR=12							
H11S2	**WAKE ISLAND Hy**	**29.27**	**10**	T		T	17 06 31.0	
	baz=188,slow=76							
H11S3	**WAKE ISLAND Hy**	**29.27**	**10**	T		T	17 06 30.4	
	baz=188,slow=76							
H11S1	**WAKE ISLAND Hy**	**29.28**	**10**	T		T	17 06 31.4	
	baz=188,slow=76							
ASAR	**Alice Springs**	**29.58**	**240**	P		**P**	**16 35 12.6**	**-1.0**
	0.4nm,0.5s,baz=64,slow=9.9,SNR=15							
H11N1	**WAKE ISLAND Hy**	**30.49**	**10**	T		T	17 08 02.6	
	baz=188,slow=76							
H11N3	**WAKE ISLAND Hy**	**30.50**	**10**	T		T	17 08 04.4	
	baz=188,slow=76							
H11N2	**WAKE ISLAND Hy**	**30.51**	**10**	T		T	17 08 02.6	
	baz=188,slow=76							
RPZ	**Rata Peaks**	**34.01**	**168**	P		**P**	**16 35 52.4**	**+0.2**
	2.9nm,0.3s,baz=72,slow=6.4,SNR=13							
PETK	**Petropavlovsk-**	**63.50**	**357**	LR		LR	17 04 59.6	
	comp=Z,19nm,20.1s,baz=126,slow=34							
CMAR	**Chiang Mai Arr**	**68.34**	**295**	LR		LR	17 08 32.2	
	comp=Z,24nm,21.6s,baz=217,slow=34							
SONM	**Songino Array**	**75.99**	**325**	P		**P**	**16 40 54.8**	**+0.6**
	1.2nm,0.7s,baz=137,slow=4.4,SNR=9.2							
MKAR	**Makanchi Array**	**90.50**	**318**	P		**P**	**16 42 08.4**	**-0.3**
	0.3nm,0.5s,baz=96,slow=6.0,SNR=5.9							

GUC 15 16:30:02.8±0.7, 35.91S×73.71W, h10km±14km, ML3.5, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
CCHI	**Chillan**	**1.49**	**118**	*eP*		Pn	16 30 28.1	-1.6
CCHI				IAML			16 30 51.5	
	comp=N,2μm,0.5s							
GO05	**Huala**	**1.71**	**59**	*eP*		Pn	16 30 31.1	-1.7
GO05				*i* S		Sn	16 30 53.6	-1.1
GO05				IAML			16 30 58.3	
	comp=N,496nm,0.6s							
CHPI	**Pichilemu**	**2.06**	**43**	*eP*		Pn	16 30 37.4	-0.2
LMEL	**Las Melosas**	**3.54**	**55**	*eP*		Pn	16 30 58.6	+0.6
LMEL				*eS*		Sn	16 31 40.7	+0.6
FCH	**Farellones**	**3.82**	**49**	*eP*		Pn	16 31 01.2	-0.8

*GUC **15** 16:33:58.4±0.5, 29.44S×70.71W, h83km±4km, ML3.4*
*SJA **15** 16:33:59.5±0.7, 29.57S×71.11W, h12km±6km, ML3.3, MW4.2*
ISC 15 16:33:56.5±2.4, 29.50S±0.05×71.27W±0.10, h0km±15km, n14, σ2.802/20, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
LCO	**Las Campanas**	**0.70**	**46**	*eP*		**Pb**	**16 34 13.0**	**+1.3**
LCO				*eS*		**Sb**	**16 34 22.6**	**+0.7**
LCO	**Las Campanas**	**0.70**	**46**	↑*iP*		**Pb**	**16 34 13.0**	**+1.3**
LCO				*i* S		**Sb**	**16 34 23.0**	**+1.1**
LCO				IAML			16 34 24.5	
	comp=E,4μm,0.2s							
GO04	**Tololo Observa**	**0.79**	**149**	*eP*		**Pn**	**16 34 16.3**	**+1.3**
GO04				*eS*		**Sn**	**16 34 29.5**	**+1.9**
CMCH	**Combarbala**	**1.68**	**172**	*eP*		**Pn**	**16 34 28.5**	**+1.3**
CMCH				*eS*		**Sg**	**16 34 50.5**	**-0.1**
AROD	**Rodeo**	**1.70**	**113**	*eP*		**Pg**	**16 34 29.1**	**0.0**
ACDV	**Cuesta del Vie**	**1.99**	**110**	*eP*		**Pb**	**16 34 33.0**	**-0.6**
ACDV				IAML			16 34 33.6	
	comp=Z,247nm,0.2s							
ACDV				*eS*		**Sg**	**16 34 58.3**	**-2.1**
GO03	**Copiap**	**2.11**	**26**	↓*iP*		Pn	16 34 30.1	-2.9
GO03				*eS*		**Sn**	**16 34 54.3**	**-5.7**
GO03				IAML			16 34 56.1	
	comp=N,258nm,0.4s							
ACCO	**Cerro Coronel**	**2.20**	**120**	*eP*		**Pb**	**16 34 36.8**	**-0.5**
AMOG	**MOGNA**	**2.80**	**121**	*eP*		**Pn**	**16 34 44.4**	**+1.9**
RTLS	**Leoncito**	**2.85**	**144**	*eP*		**Pb**	**16 34 46.7**	**-1.7**
RTLS				IAML			16 35 07.1	
	comp=Z,140nm,0.4s							
RTLL	**Cerro Villicun**	**3.03**	**128**	*eP*		**Pn**	**16 34 47.3**	**+1.7**
RTCV	**Cerro Valdivia**	**3.33**	**136**	*eP*		**Pn**	**16 34 51.8**	**+2.0**
ROCH	**El Roble**	**3.47**	**176**	*eP*		**Pn**	**16 34 53.0**	**+1.1**
FCH	**Farellones**	**3.91**	**168**	*eP*		**Pn**	**16 34 58.2**	**+0.2**
FCH				*i* S		**Sn**	**16 35 43.4**	**-1.3**

*ISCJB **15** 16:34:29.1±0.5, 9.47N±0.03×122.12E±0.04, h60km±11km, mb3.9/3, Error ellipse: s-maj=6.5km s-min=4.2km az=166.2*
*MAN **15** 16:34:29.5, 9.49N×122.13E, h38km, MS3.4*
MAN INTENSITY II - SIPALAY NEGROS OCCIDENTAL.
*IDC **15** 16:34:45.7±3.3, 6.75N×122.16E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.4/44, mbtmp3.8/4, Error ellipse: s-maj=142.9km s-min=30.6km az=82.0*
ISC 15 16:34:29.9±1.2, 9.48N±0.03×122.12E±0.05, h47km±20km, n24, σ1.927/38, mb3.8/4, 3C-6D, Negros

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
SNPH	**Sibulan**	**1.11**	**97**	↓*iP*		**Pn**	**16 34 48.6**	**-0.5**
SNPH				*i* S		**Sn**	**16 35 02.6**	**-0.8**
GUIM	**Jordan**	**1.23**	**22**	*eP*		**Pn**	**16 34 50.4**	**-0.3**
GUIM				*eS*		**Sn**	**16 35 06.4**	**+0.3**
JAP	**San Jose, Anti**	**1.27**	**352**	↓*iP*		**Pn**	**16 34 51.7**	**+0.5**
JAP				*eS*		**Sn**	**16 35 08.1**	**+1.0**
DCPH	**Dipolog City**	**1.51**	**126**	↓*eP*		**Pn**	**16 34 54.9**	**+0.4**
DCPH				*eS*		**Sn**	**16 35 12.4**	**-0.6**
TBP	**Tagbilaran**	**1.73**	**83**	*eP*		**Pn**	**16 34 57.6**	**+0.1**
TBP				*i* S		**Sn**	**16 35 19.2**	**+0.7**
IPIL	**Ipil**	**1.74**	**165**	*eP*		**Pn**	**16 34 57.8**	**+0.1**
IPIL				*eS*		**Sn**	**16 35 17.3**	**-1.4**
LLP	**Lapu-Lapu**	**2.00**	**65**	↓*iP*		**Pn**	**16 35 01.3**	**+0.1**
LLP				*i* S		**Sn**	**16 35 25.0**	**-0.1**
PAGZ	**Pagadian**	**2.05**	**142**	*eP*		**Pn**	**16 35 02.7**	**+0.9**
PAGZ				*eS*		**Sn**	**16 35 23.9**	**-2.3**
RCP	**Roxas**	**2.16**	**17**	↓*eP*		**Pn**	**16 35 04.4**	**+1.1**
RCP				*eS*		**Sn**	**16 35 28.0**	**-0.9**
ZCP	**Zamboanga City**	**2.53**	**181**	↑*iP*		**Pn**	**16 35 09.5**	**+1.0**
ZCP				*i* S		**Sn**	**16 35 37.5**	**-0.7**
CGP	**Cagayan de Oro**	**2.74**	**112**	↓*iP*		**Pn**	**16 35 12.2**	**+0.7**
CGP				*eS*		**Sn**	**16 35 43.7**	**+0.3**
MSLP	**Maasin**	**2.78**	**76**	*eP*		**Pn**	**16 35 12.6**	**+0.7**
MSLP				*eS*		**Sn**	**16 35 40.8**	**-3.4**
OTRP	**Odiongan**	**2.86**	**358**	*eP*		**Pn**	**16 35 13.1**	**0.0**
OCLP	**Ormoc**	**2.91**	**57**	*eP*		**Pn**	**16 35 14.1**	**+0.4**
OCLP				*eS*		**Sn**	**16 35 46.9**	**-0.5**
CTBH	**Cotabato--PC H**	**3.08**	**137**	↑*eP*		**Pn**	**16 35 16.6**	**+0.5**
CTBH				*i* S		**Sn**	**16 35 50.7**	**-1.0**
ENPP	**El Nido**	**3.15**	**303**	*eP*		**Pn**	**16 35 17.9**	**+0.9**
BUKP	**Musuan**	**3.32**	**118**	*eP*		**Pn**	**16 35 21.7**	**+2.4**
BUKP				*eS*		**Sn**	**16 36 00.5**	**+2.9**
BUTP	**Butuan**	**3.50**	**98**	*eP*		**Pn**	**16 35 22.5**	**+0.8**
BUTP				*eS*		**Sn**	**16 36 03.5**	**+1.6**
SKMP	**Bagumbayan, Su**	**3.80**	**141**	*eP*		**Pn**	**16 35 26.6**	**+0.6**
KCP	**Kidapawan**	**3.83**	**130**	↑*eP*		**Pn**	**16 35 28.9**	**+2.5**
WRA	**Warramunga Arr**	**31.62**	**158**	P		**P**	**16 40 47.8**	**-0.8**
	0.7nm,1.0s,baz=335,slow=9.5,SNR=5.2							
ASAR	**Alice Springs**	**34.90**	**161**	P		**P**	**16 41 16.9**	**-0.3**
	1.4nm,0.5s,baz=340,slow=7.3,SNR=44							
CTA	**Charters Tower**	**37.79**	**141**	P		P	16 41 46.3	+4.4
	1.1nm,0.4s,baz=310,slow=7.9,SNR=2.6							
ILAR	**Eielson Array**	**81.92**	**26**	P		P	16 47 19.6	+35
	0.4nm,0.8s,baz=263,slow=5.4,SNR=3.7							

IDC 15 16:37:09.3±4.6, 22.97S×171.78E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, ML3.5/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=119.7km s-min=75.4km az=163.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
DZM	**Mont Dzumac**	**5.01**	**279**	Pn		Pn	16 38 27.7	+1.8
	1.9nm,0.3s,baz=106,slow=12,SNR=30							
DZM				Sn		Sn	16 39 22.8	-1.8
	3.1nm,0.3s,baz=130,slow=23,SNR=7.2							
DZM				LR		LR	16 40 09.4	
	comp=Z,108nm,18.7s,baz=160,slow=36							
RPZ	**Rata Peaks**	**20.70**	**181**	LR		LR	16 49 00.2	
	comp=Z,120nm,18.2s,baz=224,slow=34							
ASAR	**Alice Springs**	**34.72**	**261**	P		P	16 44 00.5	-0.8
	1.1nm,0.8s,baz=87,slow=9.3,SNR=12							
WRA	**Warramunga Arr**	**34.91**	**268**	P		P	16 44 02.5	-0.5
	0.4nm,0.4s,baz=96,slow=8.5,SNR=13							
CMAR	**Chiang Mai Arr**	**82.18**	**294**	P		P	16 49 33.5	+0.8
	0.4nm,0.6s,baz=143,slow=2.9,SNR=4.1							

*NIED **15** 16:48:00, 30.90N×138.80E, h400km, Mw4.9 Best double couple: M0 2.55000×10^16 NP1:ϕs160.00000°, δ31.00000°, λ-90.00000°. NP2:ϕs341.00000°, δ59.00000°, λ-90.00000°.*
*BGR **15** 16:48:45.4±0.0, 30.19N×139.94E, h407km±1km, mb4.9*
*JMA **15** 16:48:48.8±0.2, 30.91N×138.83E, h415km±4km, M5.1*
JMA Felt I J1.
*MOS **15** 16:48:49.9±0.9, 30.92N×138.37E, h382km, mb4.9/44, Error ellipse: s-maj=7.8km s-min=3.9km az=110.2*
*BJI **15** 16:48:49.3, 30.88N×138.50E, h388km, mb4.7/73, mB4.5/44*
*ISCJB **15** 16:48:50.2±0.2, 30.91N±0.02×138.62E±0.02, h391km±1km, mb4.7/172, Error ellipse: s-maj=3.4km s-min=2.5km az=31.0*
*IDC **15** 16:48:51.0±0.5, 30.94N×138.45E, h382km±4km, mb4.3/25, mb1 4.3/33, mb1mx4.2/39, mbtmp5.0/33, Error ellipse: s-maj=7.7km s-min=6.1km az=91.0*
*NEIC **15** 16:48:51.3±0.3, 30.90N×138.45E, h385km±3km, mb4.8/85, Error ellipse: s-maj=4.0km s-min=3.1km az=108.0*
NEIC Recorded [1 JMA] in Tochigi and Tokyo.
ISC 15 16:48:51.5±0.4, 30.97N±0.03×138.51E±0.04, h388km±3km, h388km:pP-P, n694, σ1.931/821, mb4.8/193, 70C-73D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
JAOM	**Aogashimamukai**	**1.84**	**35**	↓*iP*		**Pn**	**16 49 45.5**	**+0.2**
JHCJ	**Hachijojimakas**	**2.37**	**27**	↓*iP*		**Pn**	**16 49 48.6**	**-0.2**
JHCJ				*eS*		**S**	**16 50 33.7**	**-1.5**
JHJ	**Hachijo jima 2**	**2.40**	**26**	P		**Pn**	**16 49 47.9**	**-1.2**
	1μm,0.3s,baz=87,slow=22,SNR=260							
JHJ				S		**S**	**16 50 33.7**	**-2.0**
	3μm,0.3s,baz=252,slow=21,SNR=14							
JHJ2	**Mitsune**	**2.41**	**27**	*eP*	n	**Pn**	**16 49 48.9**	**-0.2**
JHJ2	**Mitsune**	**2.41**	**27**	↓*iP*		**Pn**	**16 49 48.9**	**-0.2**
TK01	**Tokai 1**	**2.90**	**345**	P		**Pn**	**16 49 53.9**	**+1.4**
TTO1	**TONANKAI O.B.S**	**3.02**	**332**	↓*iP*		**Pn**	**16 49 55.3**	**+1.7**
TTO1				*eS*		**S**	**16 50 47.4**	**+3.5**
TTO2	**TONANKAI O.B.S**	**3.03**	**336**	↓*iP*		**Pn**	**16 49 55.7**	**+2.1**
TK02	**Tokai 2**	**3.04**	**348**	↓*iP*		**Pn**	**16 49 55.6**	**+1.8**
JMKN	**Mikurajimanish**	**3.06**	**17**	↓*iP*		**Pn**	**16 49 53.6**	**-0.6**
JKO	**Kozu shima**	**3.25**	**9**	↓*iP*		**Pn**	**16 49 56.0**	**+0.1**
JSKK	**Shikinejimakit**	**3.41**	**10**	P		**Pn**	**16 49 58.3**	**+1.0**
JMMH	**Miemihama**	**3.54**	**324**	P		**Pn**	**16 49 59.6**	**+1.2**
JTHY	**Toshimahigashi**	**3.61**	**10**	P		**Pn**	**16 49 59.3**	**+0.2**
JSG	**Sagara**	**3.71**	**356**	P		**Pn**	**16 50 01.5**	**+1.5**
JIE	**Ise**	**3.74**	**336**	↓*iP*		**Pn**	**16 50 01.7**	**+1.4**
JIZS	**Izushimoda**	**3.75**	**5**	↓*iP*		**Pn**	**16 50 00.4**	**0.0**
JTNC	**Tanabenakahech**	**3.75**	**320**	P		**Pn**	**16 50 01.6**	**+1.1**
JTNC				*eS*		**S**	**16 50 56.8**	**+0.4**
JKN2	**Miekihoku**	**3.77**	**331**	P		**Pn**	**16 50 01.8**	**+1.2**
JKKS	**Kakegawashinom**	**3.80**	**353**	P		**Pn**	**16 50 02.4**	**+1.6**
JKKS				S		**S**	**16 50 58.1**	**+1.0**
JIM2	**Oshima 3**	**3.82**	**11**	P		**Pn**	**16 50 00.2**	**-0.9**
JAA	**Atsumi**	**3.83**	**343**	↓*iP*		**Pn**	**16 50 02.7**	**+1.6**
JAA				S		**S**	**16 50 57.4**	**-0.2**
JWM	**Minabe**	**3.92**	**318**	↑*iP*		**Pn**	**16 50 03.4**	**+1.4**
HMMJ	**Hamamatsu 2**	**3.94**	**351**	↓*iP*		**Pn**	**16 50 03.1**	**+1.0**
HMMJ				S		**S**	**16 50 58.8**	**-0.6**
JHTM	**Izuhatsuma**	**4.00**	**6**	P		**Pn**	**16 50 02.7**	**-0.1**
JSSY	**Shinshiroyabe**	**4.03**	**348**	P		**Pn**	**16 50 04.4**	**+1.4**
JWY	**Kouya**	**4.07**	**324**	↑*iP*		**Pn**	**16 50 05.2**	**+1.6**
JYZW	**Yoshizawa**	**4.07**	**351**	P		**Pn**	**16 50 04.4**	**+1.0**
SHZ3	**Shizuoka 3**	**4.10**	**357**	P		**Pn**	**16 50 04.5**	**+0.7**
TSUJ	**Tsu 2**	**4.13**	**335**	↓*iP*		**Pn**	**16 50 05.6**	**+1.6**
BSO3	**Boso 3**	**4.18**	**23**	P		**Pn**	**16 50 02.4**	**-1.8**
BSO1	**Boso 1**	**4.22**	**29**	↓*iP*		**Pn**	**16 50 02.9**	**-1.4**
BSO1				*eS*		**S**	**16 50 59.4**	**-4.2**
JOD2	**Odawara 2**	**4.31**	**6**	↓*iP*		**Pn**	**16 50 04.8**	**-1.1**
JOD2				*eS*		**S**	**16 51 03.0**	**-3.2**
JHE	**Heguri**	**4.38**	**328**	↑*iP*		**Pn**	**16 50 07.9**	**+1.4**
JNY	**Yasuok**	**4.41**	**353**	↓*iP*		**Pn**	**16 50 07.9**	**+1.0**
JAO	**Obara**	**4.42**	**347**	↓*iP*		**Pn**	**16 50 08.2**	**+1.3**
JAO				S		**S**	**16 51 08.5**	**+0.4**
JKUC	**kamogawauchiur**	**4.42**	**18**	P		**Pn**	**16 50 04.9**	**-1.9**
MRT2	**Murotomisaki 2**	**4.42**	**304**	↑*iP*		**Pn**	**16 50 08.2**	**+1.3**
JAI	**Aioi**	**4.44**	**310**	↑*iP*		**Pn**	**16 50 08.5**	**+1.4**
JYN	**Shimob**	**4.52**	**0**	↓*iP*		**Pn**	**16 50 08.0**	**0.0**
JICN	**Ichinomiyachia**	**4.54**	**343**	P		**Pn**	**16 50 09.8**	**+1.7**
INU	**Inuyama**	**4.55**	**344**	*ePn*		**Pn**	**16 50 09.6**	**+1.4**
JAJ2	**Tsuna**	**4.60**	**319**	↑*iP*		**Pn**	**16 50 10.1**	**+1.3**
JGF	**Kuroka**	**4.72**	**349**	↓*iP*		**Pn**	**16 50 10.8**	**+0.8**
JMN	**Monobe**	**4.79**	**306**	↑*iP*		**Pn**	**16 50 12.3**	**+1.6**
JYTA	**Yamagatataniai**	**4.85**	**343**	P		**Pn**	**16 50 12.5**	**+1.2**
JFM	**Mihama**	**5.02**	**336**	↓*iP*		**Pn**	**16 50 14.8**	**+1.8**
JFM				S		**S**	**16 51 19.3**	**0.0**
CBIJ	**Chichi jima**	**5.02**	**139**	P		**Pn**	**16 50 10.1**	**-3.2**
CBIJ				S		**S**	**16 51 12.9**	**-6.8**
CBIJ	**Chichi jima**	**5.02**	**139**	P		**Pn**	**16 50 09.5**	**-3.8**
CBIJ				*eS*		**S**	**16 51 13.3**	**-6.4**
JCJ	**Chichijima**	**5.02**	**139**	P		**Pn**	**16 50 10.1**	**-3.3**
	98nm,0.3s,baz=152,slow=22,SNR=60							
JCJ				S		**S**	**16 51 12.9**	**-6.8**
	604nm,0.3s,baz=282,slow=22,SNR=29							
JWT	**Wachi**	**5.03**	**330**	↑*iP*		**Pn**	**16 50 14.7**	**+1.5**
JRY	**Ryogami san**	**5.05**	**4**	↓*iP*		**Pn**	**16 50 12.9**	**-0.5**
JRY				*eS*		**S**	**16 51 16.6**	**-3.3**
JKS	**Kasai**	**5.05**	**323**	↑*iP*		**Pn**	**16 50 14.5**	**+1.1**
JJS	**Sakaide**	**5.14**	**313**	↑*iP*		**Pn**	**16 50 15.7**	**+1.3**
JKU	**Kubokawa**	**5.17**	**298**	↑*iP*		**Pn**	**16 50 16.1**	**+1.3**
JTO	**Tosashimizu**	**5.21**	**293**	↑*iP*		**Pn**	**16 50 16.1**	**+1.0**
JGN	**Niukaw**	**5.34**	**350**	↓*iP*		**Pn**	**16 50 16.9**	**+0.4**
JAD	**Aida**	**5.39**	**319**	P		**Pn**	**16 50 18.1**	**+1.1**
JET	**Tanbara**	**5.40**	**303**	↑*iP*		**Pn**	**16 50 18.8**	**+1.6**
JNG	**Nsakai**	**5.44**	**357**	↓*iP*		**Pn**	**16 50 17.4**	**-0.2**
JAG	**Ashikaga**	**5.50**	**8**	↓*iP*		**Pn**	**16 50 16.0**	**-2.2**
MJAR	**Matsushiro Arr**	**5.57**	**358**	P		**Pn**	**16 50 18.0**	**-0.9**
	7.4nm,0.3s,baz=176,slow=11,SNR=338							
MJAR				S		**S**	**16 51 26.0**	**-4.0**
	3.2nm,0.3s,baz=175,slow=14,SNR=4.4							
MAJO	**Matsushiro**	**5.57**	**357**	*eP*	n	**Pn**	**16 50 18.4**	**-0.5**
MAJO	**Matsushiro**	**5.57**	**357**	*ei* P		**Pn**	**16 50 18.1**	**-0.8**
MAT	**Matsushiro**	**5.57**	**357**	P		**Pn**	**16 50 18.0**	**-0.9**
MAT				S		**S**	**16 51 26.2**	**-3.8**
MAT	**Matsushiro**	**5.57**	**357**	P		**Pn**	**16 50 18.3**	**-0.6**
MJB9	**Matsu-Tunnel**	**5.57**	**357**	*eP*	n	**Pn**	**16 50 18.4**	**-0.6**
JGK	**Kuni**	**5.58**	**1**	P		**Pn**	**16 50 18.4**	**-0.7**
JKG	**Kaga**	**5.60**	**342**	P		**Pn**	**16 50 20.0**	**+0.8**
JKSM	**Kasumi**	**5.62**	**326**	P		**Pn**	**16 50 20.6**	**+1.1**
JTT	**Ttatey**	**5.71**	**350**	P		**Pn**	**16 50 21.4**	**+1.0**
JNA	**Nagahama**	**5.72**	**298**	↑*iP*		**Pn**	**16 50 22.4**	**+1.8**
JJG	**Jouge**	**5.81**	**311**	↑*iP*		**Pn**	**16 50 23.0**	**+1.4**
JKT	**Katashina**	**5.82**	**6**	↓*iP*		**Pn**	**16 50 19.7**	**-2.0**
JHO	**Hitachi**	**5.88**	**16**	P		**Pn**	**16 50 20.2**	**-2.1**
JSKE	**Saikikamae**	**5.91**	**290**	↑*iP*		**Pn**	**16 50 24.6**	**+2.0**
JHM	**Kurahashi**	**5.96**	**304**	↑*iP*		**Pn**	**16 50 24.8**	**+1.6**
JHS	**Saijyo**	**6.06**	**313**	↑*iP*		**Pn**	**16 50 25.8**	**+1.5**
JHS				*eS*		**S**	**16 51 41.0**	**+1.1**
JUS	**Usuki**	**6.11**	**292**	↑*iP*		**Pn**	**16 50 26.8**	**+1.9**
JJN	**Nakama**	**6.13**	**357**	↓*iP*		**Pn**	**16 50 24.4**	**-0.6**
JNAR	**Kushima--Naru**	**6.22**	**277**	P		**Pn**	**16 50 28.4**	**+2.3**
JHK	**Hiroka**	**6.28**	**4**	P		**Pn**	**16 50 25.0**	**-1.7**
JHT	**Toyohira**	**6.31**	**307**	↑*iP*		**Pn**	**16 50 28.1**	**+1.0**
JFFD	**Fukushimafurud**	**6.34**	**15**	↓*iP*		**Pn**	**16 50 25.2**	**-2.2**
JNM	**Ikuma**	**6.44**	**316**	↑*iP*		**Pn**	**16 50 30.0**	**+1.5**
JKI	**Kunimi**	**6.45**	**296**	↑*iP*		**Pn**	**16 50 30.5**	**+1.9**
JTN	**Tanegashima 3**	**6.48**	**269**	↑*iP*		**Pn**	**16 50 30.6**	**+1.5**
JFY	**Yanaizu**	**6.50**	**8**	↓*iP*		**Pn**	**16 50 27.3**	**-1.9**
JMTN	**Minamitane**	**6.58**	**267**	↑*iP*		**Pn**	**16 50 31.5**	**+0.6**
JFT	**Otama**	**6.71**	**13**	↓*iP*		**Pn**	**16 50 29.7**	**-1.8**
JNU	**Nakatsue**	**6.83**	**290**	↑*iP*		**P**	**16 50 34.5**	**+0.8**
JNU	**Nakatsue**	**6.83**	**290**	P		**Pn**	**16 50 33.5**	**+0.6**
	9.2nm,0.3s,baz=107,slow=5.8,SNR=148							
JNU				S		**S**	**16 51 55.1**	**-0.5**
	baz=181,slow=18,SNR=1.7							
JOI	**OKI**	**6.89**	**322**	P		**P**	**16 50 34.4**	**+0.1**
JOI				*eS*		**S**	**16 51 55.4**	**-1.3**
JSD	**Sado**	**7.06**	**358**	P		**Pn**	**16 50 34.2**	**-1.2**
JFA	**Akaike**	**7.08**	**295**	P		**P**	**16 50 37.1**	**+0.6**
JTY	**Toyota**	**7.09**	**300**	P		**P**	**16 50 37.3**	**+0.7**
JMM	**Marumori**	**7.14**	**15**	↓*iP*		**Pn**	**16 50 34.5**	**-1.8**
JKC	**Kuchinoerabu**	**7.17**	**268**	↑*iP*		**P**	**16 50 37.9**	**+0.3**
JFI	**Itaya**	**7.31**	**292**	P		**P**	**16 50 39.8**	**+0.7**
JYS	**Shirataka**	**7.35**	**10**	↓*iP*		**Pn**	**16 50 37.6**	**-1.1**
JSJ	**Shimokoshiki**	**7.56**	**278**	P		**P**	**16 50 42.3**	**+0.4**
JSJ				*eS*		**S**	**16 52 12.1**	**+1.2**
JOU	**Okura**	**7.59**	**13**	↓*iP*		**Pn**	**16 50 40.4**	**-1.1**
NGSJ	**Nagasakinomoza**	**7.60**	**285**	P		**P**	**16 50 43.2**	**+0.9**
JYA	**Atsumi**	**7.67**	**7**	↓*iP*		**Pn**	**16 50 41.2**	**-1.2**
JIKH	**Ishinomakibobu**	**7.72**	**18**	P		**Pn**	**16 50 41.2**	**-1.7**
JIO	**Ouri**	**7.83**	**17**	P		**Pn**	**16 50 42.4**	**-1.7**
JOFO	**Osakifurukawao**	**7.87**	**14**	P		**Pn**	**16 50 43.8**	**-0.8**
JYK	**Kaneyama**	**8.08**	**10**	P		**Pn**	**16 50 46.2**	**-0.8**
JKMT	**Kesennumamotoy**	**8.20**	**16**	P		**Pn**	**16 50 47.0**	**-1.4**
JMZ	**Minamidaito 2**	**8.21**	**233**	P		**P**	**16 50 49.6**	**0.0**
JMK	**Ichinoseki**	**8.27**	**15**	P		**Pn**	**16 50 48.1**	**-1.2**
JTU	**Tsushima**	**8.45**	**297**	P		**P**	**16 50 52.5**	**+0.4**
JFU	**Fukue jima 2**	**8.47**	**284**	P		**P**	**16 50 53.5**	**+1.1**
OFUJ	**Ofunato**	**8.50**	**17**	P		**Pn**	**16 50 50.8**	**-1.1**
JAMN	**

comp=E,100nm,3.0s
NJ2 Nanjing 16.80 279 *e*P **P** **16 52 23.3 -0.5**
NJ2 pmax pmax
comp=E,20nm,0.5s
YULB Yu-li 17.06 248 *e*P **P** **16 52 25.8 -0.9**
comp=E,46nm,1.1s
SSLB Suanglung 17.14 250 *e*P **P** **16 52 26.3 -1.3**
comp=E,75nm,1.0s
TWG Pinlang 17.53 247 *e*P **P** **16 52 30.7 -0.9**
comp=E,115nm,0.7s
TPUB Ta-pu 17.64 249 *e*P **P** **16 52 31.8 -1.0**
comp=E,56nm,0.9s
GUMO Guam 18.26 160 P **P** **16 52 38.9 -0.6**
comp=E,7.4nm,0.3s,baz=146,slow=3.8,SNR=6.6
TIA Tai'an 18.56 292 P **P** **16 52 42.3 -0.2**
TIA pmax pmax
comp=E,7.0nm,0.7s
KLR Kul'dur 18.95 346 P **P** **16 52 46.0 -0.3**
KLR Kul'dur 18.95 346 P **P** **16 52 46.0 -0.3**
comp=E,2.8nm,0.3s,baz=165,slow=11,SNR=43
KLR PcP **PcP** **16 56 53.0 +0.7**
comp=E,0.2nm,0.3s,baz=260,slow=3.7,SNR=5.0
KLR ScP **ScP** **16 59 51.1 +0.7**
comp=E,0.1nm,0.3s,baz=146,slow=2.7,SNR=6.1
GRNR Gornyy 19.84 356 *e*P **P** **16 52 56.0 +0.9**
GRNR pmax pmax
comp=Z,21nm,1.0s
TYV Tymovskoe 20.12 8 *e*P **P** **16 52 59.0 +1.5**
TYV *e*S **S** **16 56 23.1 +4.6**
TYV pmax pmax
comp=Z,200nm,5.2s
TYV pmax pmax
comp=Z,33nm,0.9s
TYV smax smax
comp=E,6.0nm,1.3s
BJT Baijiatuan 20.27 303 *e*P **P** **16 52 56.4 -2.7**
comp=E,13nm,0.9s
BJT Baijiatuan 20.27 303 *e*P **P** **16 52 56.4 -2.7**
BJT pmax pmax
comp=Z,13nm,0.9s
BJI Beijing 20.27 303 P **P** **16 52 58.3 -0.8**
BJI sP **sP** **16 54 41.5 -4.6**
BJI S **S** **16 56 22.5 +1.2**
BJI pmax pmax
comp=Z,17nm,1.1s
WHN Wuhan 20.76 275 ⇑P **P** **16 53 03.9 +0.2**
NKL Nikolayevsk 22.23 3 *e*P **P** **16 53 18.0 +1.3**
HIA Hailar 23.13 328 *e*P **P** **16 53 24.9 -0.1**
comp=Z,38nm,0.8s
HIA Hailar 23.13 328 *e*P **P** **16 53 24.9 -0.1**
HIA pmax pmax
comp=Z,38nm,0.8s
TGY Tagaytay City 23.29 228 P **P** **16 53 26.4 -0.5**
comp=Z,124nm,0.4s,baz=83,slow=3.1,SNR=4.2
SKR Severo-Kuril's 23.67 29 *i*P **P** **16 53 30.3 +0.5**
HHC Hu-ho-hao-te 23.87 302 *e*P **P** **16 53 31.8 -0.1**
HHC sP sP 16 55 21.3 -4.1
HHC S **S** **16 57 19.3 +0.3**
HHC pmax pmax
comp=Z,52nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.2s
ZEA Zeya 24.17 344 *e*P **P** **16 53 34.9 +0.6**
ZEA *e* 16 57 22.9
ZEA pmax pmax
comp=N,26nm,0.8s
ZEA pmax pmax
comp=Z,29nm,0.5s
ZEA MLR MLR
comp=E,200nm,12.0s
ZEA MLR MLR
comp=Z,200nm,12.0s
BTO Baotou 24.94 301 *e*P **P** **16 53 41.4 -0.1**
ENH Enshi 24.96 276 *e*P **P** **16 53 39.1 -2.5**
comp=Z,15nm,0.7s
XAN Xi'an 25.10 285 P **P** **16 53 42.3 -0.6**
XAN pmax pmax
comp=Z,15nm,1.2s
XAN pmax pmax
comp=Z,100nm,4.0s
XAN LR LR
comp=Z,160nm,7.2s
XAN LR LR
comp=Z,160nm,11.8s
XAN LR LR
comp=Z,110nm,9.2s
XAN Xi'an 25.10 285 *e*P **P** **16 53 40.8 -2.1**
comp=Z,16nm,0.6s
XAN Xi'an 25.10 285 *e*P **P** **16 53 40.8 -2.1**
XAN pmax pmax
comp=Z,16nm,0.6s
PETK Petropavlovsk- 26.16 27 P **P** **16 53 52.8 +0.8**
comp=Z,11nm,0.9s,baz=206,slow=4.0,SNR=11
PETK ScP **ScP** **17 00 09.6 +0.3**
comp=Z,3.1nm,0.8s,baz=188,slow=4.4,SNR=4.9
GYA Guiyang 28.23 269 ⇑*i*P **P** **16 54 10.4 -0.4**
GYA pP pP 16 55 21.6 +1.4
GYA sP sP 16 56 07.0 +2.0
GYA PcP **PcP** **16 57 13.6 +0.7**
GYA S **S** **16 58 27.3 -0.7**
GYA ScP **ScP** **17 00 17.4 +1.1**
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.9s
LZH Lanzhou 29.25 289 *e*P **P** **16 54 18.9 -0.8**
LZH pP pP 16 55 30.6 +1.4
LZH PP **PnPn** **16 55 37.5 +1.2**
LZH sP sP 16 56 12.8 -1.2
LZH pmax pmax
comp=Z,47nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.9s
ULN Ulaanbaatar 29.32 314 *e*P **P** **16 54 20.6 +0.5**
comp=Z,46nm,1.1s
ULN Ulaanbaatar 29.32 314*de*P **P** **16 54 20.5 +0.4**
ULN pmax pmax
comp=Z,50nm,1.2s
ULN Ulaanbaatar 29.32 314 P **P** **16 54 20.8 +0.7**
SNR=16
SONM Songino Array 29.71 314 P **P** **16 54 23.9 +0.4**
comp=Z,14nm,0.7s,baz=121,slow=7.9,SNR=91
SONM PcP **PcP** **16 57 17.2 +0.8**
comp=Z,5.2nm,0.8s,baz=130,slow=1.9,SNR=9.4
SONM ScP **ScP** **17 00 22.1 +1.4**
comp=Z,0.9nm,0.7s,baz=113,slow=3.5,SNR=3.7
CD2 Chengdu 29.74 279 P **P** **16 54 21.8 -2.1**
CD2 sP sP 16 56 18.4 -0.1
CD2 PcP **PcP** **16 57 13.3 -3.3**
CD2 S **S** **16 58 47.8 -3.4**
CD2 SS **SS** **17 01 14.9 -3.4**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,110nm,5.2s
MA2 Magadan 29.78 13 *e*P **P** **16 54 24.7 +0.9**
comp=Z,8.8nm,0.8s
MA2 Magadan 29.78 13*ce*P **P** **16 54 25.2 +1.4**
MA2 pmax pmax
comp=Z,9.0nm,0.8s
MA2 Magadan 29.78 13 P **P** **16 54 24.8 +1.0**
comp=Z,9.6nm,0.8s,baz=199,slow=5.7,SNR=15
KDM Kudat 31.38 225 P **P** **16 54 39.1 +0.9**
YAK Yakutsk 31.60 352 *e*P **P** **16 54 39.6 0.0**
YAK *e**PP **pP** **16 55 55.0 +4.0**
YAK *e* 16 56 10.9
YAK *e* 16 57 19.2
YAK *e*S **S** **16 59 16.4 -2.7**
YAK pmax pmax
comp=N,26nm,0.7s
YAK pmax pmax
comp=Z,80nm,0.7s
YAK pmax pmax
comp=E,10.0nm,0.6s
YAK pmax pmax
comp=Z,273nm,2.8s
YAK pmax pmax
comp=N,130nm,2.2s
YAK pmax pmax
comp=E,137nm,2.6s
YAK smax smax
comp=N,317nm,1.9s
YAK smax smax
comp=E,231nm,1.5s
BOD Bodaibo 31.70 335 *e*P **P** **16 54 39.3 -1.2**
BOD pmax pmax
comp=Z,23nm,1.3s
TNTI Ternate 31.84 201 *e*P **P** **16 54 42.1 -0.1**
comp=Z,34nm,0.9s
KMI Kunming 32.01 268 P **P** **16 54 43.8 -0.1**
KMI pmax pmax
comp=Z,19nm,0.8s
SDKM Sandakan 32.18 223 P **P** **16 54 45.9 +0.7**
GTA Gaotai 32.53 296 ⇓P **P** **16 54 47.5 -0.6**
GTA pP pwP 16 56 04.4 -0.4
GTA PcP **PcP** **16 57 25.3 +1.2**
GTA S **S** **16 59 30.6 -3.7**
GTA ScP **ScP** **17 00 31.3 +0.9**
GTA PcS **PcS** **17 01 09.8 -0.1**
GTA SS **SS** **17 02 09.4 -5.1**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,82nm,5.7s
ZAK Zakamensk 32.59 317 *e*P **P** **16 54 48.7 +0.3**
ZAK pmax pmax
comp=Z,17nm,1.2s
TSM Tawau 32.89 220 P **P** **16 54 52.0 +0.7**
TLY Talaya 32.92 319 *e*P **P** **16 54 52.1 +1.0**
comp=Z,12nm,0.6s
TLY Talaya 32.92 319*ce*P **P** **16 54 52.4 +1.3**
TLY pmax pmax
comp=Z,26nm,0.6s
TLY Talaya 32.92 319 P **P** **16 54 52.1 +1.0**
SEY Seymchan 33.20 12*ce*P **P** **16 54 54.0 +0.7**
SEY Seymchan 33.20 12 P **P** **16 54 53.9 +0.7**
comp=Z,1.8nm,0.2s,baz=222,slow=9.1,SNR=7.9
FAKI Fak Fak 34.22 191 *e*P **P** **16 55 02.6 -0.1**
comp=Z,51nm,0.6s
SKNT Sakolnakorn 34.33 254 P **P** **16 55 04.2 +0.6**
comp=Z,14nm,1.2s
MOY Mondy 34.42 318 *e*P **P** **16 55 04.2 +0.2**
MOY pmax pmax
comp=Z,12nm,1.7s
APSI Ampana 35.52 210 P **P** **16 55 13.0 -0.6**
CHAI Chaiyaphum 36.52 254 P **P** **16 55 21.9 -0.1**
comp=Z,9.3nm,0.8s,comp=Z,81nm
BTM Bintulu 36.58 226 P **P** **16 55 23.2 +0.7**
UTTA Uttaradit 36.81 259 P **P** **16 55 24.3 -0.1**
comp=Z,13nm,0.9s,comp=Z,91nm
PBKT Sadao Pong 37.03 256 P **P** **16 55 26.3 +0.1**
comp=Z,24nm,1.0s
LAMP Lampang 37.23 260 P **P** **16 55 28.3 +0.4**
comp=Z,11nm,0.8s,comp=Z,102nm
SRAK Srakaew 37.47 252 P **P** **16 55 26.6 -3.3**
comp=Z,67nm,1.2s,comp=Z,836nm
CMMT Chiang Mai 37.68 261 P **P** **16 55 31.4 -0.3**
comp=Z,33nm,1.0s,comp=Z,314nm
CHTO Chiang Mai 37.69 261 *e*P **P** **16 55 31.7 0.0**
comp=Z,24nm,0.8s
CHTO Chiang Mai 37.69 261 *e*P **P** **16 55 31.7 0.0**
CHTO pmax pmax
comp=Z,24nm,0.8s
CHTO Chiang Mai 37.69 261 P **P** **16 55 31.6 0.0**
SNR=18
CHTO Chiang Mai 37.69 261 P **P** **16 55 31.5 -0.2**
comp=Z,146nm,1.0s,comp=Z,1um
SBUM Sibu 37.70 226 P **P** **16 55 32.6 +0.8**
SUKH Sukhothai 37.71 258 P **P** **16 55 32.4 +0.5**
comp=Z,6.6nm,0.9s
CM31 Chiang Mai Arr 37.84 260 *e*P **P** **16 55 32.7 -0.3**
comp=Z,15nm,0.9s
CM31 *e*PcP **PcP** **16 57 41.5 +1.4**
CM31 Chiang Mai Arr 37.84 260 P **P** **16 55 33.1 +0.1**
SNR=11
CMAR Chiang Mai Arr 37.84 260 P **P** **16 55 32.5 -0.4**
comp=Z,7.2nm,0.7s,baz=52,slow=7.0,SNR=88
CMAR PcP **PcP** **16 57 41.4 +1.3**
comp=Z,6.4nm,0.8s,baz=44,slow=1.5,SNR=23
CMAR ScP **ScP** **17 00 50.6 +0.7**
comp=Z,2.8nm,1.1s,baz=33,slow=2.4,SNR=7.5
CM01 Chiang Mai Arr 37.85 260 *e*P **P** **16 55 32.6 -0.4**
CM01 *e*PcP **PcP** **16 57 41.3 +1.2**
UTHA Uthaitani 38.80 256 P **P** **16 55 41.6 +0.7**
comp=Z,3.9nm,1.0s,comp=Z,51nm
UMPA Umpang Tak 38.97 257 P **P** **16 55 44.3 +2.0**
comp=Z,5.8nm,1.2s,comp=Z,71nm
BNSI Bone 39.31 210 P **P** **16 55 45.0 0.0**
KSM Kuching 39.66 228 P **P** **16 55 49.1 +1.2**
KAPI Kappang 40.02 210 P **P** **16 55 51.2 +0.5**
PHET Kaeng Krachan 40.03 252 P **P** **16 55 54.0 +3.1**
comp=Z,5.6nm,0.9s
BILL Bilibino 40.51 16 *e*P **P** **16 55 55.0 +0.9**
comp=Z,12nm,0.9s
BILL Bilibino 40.51 16⇑*e*P **P** **16 55 55.2 +1.2**
BILL *e**PP **pP** **16 57 08.2 -0.5**
BILL *e* 16 57 41.0
BILL *e*S **S** **17 01 26.3 -6.8**
BILL *e*SS **ScS** **17 05 10.9 -3.7**
BILL pmax pmax
comp=Z,13nm,0.9s
LSA Lhasa 40.65 281 *e*P **P** **16 55 55.1 -1.2**
comp=Z,3.4nm,0.7s
LSA Lhasa 40.65 281 P **P** **16 55 56.9 +0.5**
LSA Lhasa 40.65 281 *e*P **P** **16 55 55.1 -1.2**
LSA pmax pmax
comp=Z,3.0nm,0.7s
TIXI Tiksi 41.07 355 P **P** **16 55 58.4 -0.1**
comp=Z,22nm,0.5s,baz=144,slow=6.6,SNR=83
WMQ Urumqi 41.74 303 P **P** **16 56 05.1 +0.7**
WMQ pmax pmax
comp=Z,74nm,1.1s
WMQ pmax pmax
comp=Z,380nm,3.7s
WMQ LR LR
comp=Z,110nm,17.3s
WMQ LR LR
comp=Z,84nm,19.9s
WMQ LR LR
comp=Z,86nm,21.3s
KTGM Kuala Trenggan 41.87 240 P **P** **16 56 07.1 +1.4**
BRDH Bandala 42.38 271 P **P** **16 56 10.1 +0.4**
comp=Z,97nm,0.3s,baz=70,slow=11,SNR=6.7
BRDH PcP **PcP** **16 57 56.1 +1.4**
comp=Z,73nm,0.4s,baz=245,slow=23,SNR=5.0
EDFI Ende, Flores 42.66 205 P **P** **16 56 10.9 -1.1**
SOEI Soe 42.73 201 *e*P **P** **16 56 11.9 -0.7**
comp=Z,61nm,0.8s
SOEI Soe 42.73 201 P **P** **16 56 12.2 -0.4**
BATI Baumata 43.35 202 P **P** **16 56 16.5 -0.9**
KULM Kulim 43.76 242 P **P** **16 56 21.1 +0.5**
MYKOM Kota Tinggi 43.77 235 P **P** **16 56 22.0 +1.2**
PKDT Phuket 43.94 247 P **P** **16 56 23.6 +1.5**
comp=Z,17nm,0.9s
KGM Kluang 43.99 236 P **P** **16 56 23.4 +0.9**
IPM Ipoh 44.00 241 P **P** **16 56 22.5 -0.1**
MTN Manton Dam 44.13 190 *e*P **P** **16 56 22.8 -0.7**
comp=Z,34nm,0.8s
PLAI Plampang 44.28 210 P **P** **16 56 23.0 -1.7**
ZAA0 Zalesovo Array 44.47 317 *e*P **P** **16 56 24.9 -0.8**
comp=Z,21nm,0.6s
ZAA0 *e*PcP **PcP** **16 58 01.4 +0.1**
ZALV Zalesovo Beam 44.47 317 P **P** **16 56 25.2 -0.5**
comp=Z,14nm,0.4s,baz=102,slow=7.1,SNR=82
ZALV PcP **PcP** **16 58 01.4 0.0**
comp=Z,36nm,0.7s,baz=110,slow=3.2,SNR=40
ZALV ScP **ScP** **17 01 15.5 -0.1**
comp=Z,4.0nm,0.7s,baz=122,slow=4.1,SNR=7.1
ZALV S **S** **17 02 27.9 -2.8**
comp=Z,0.6nm,0.3s,baz=110,slow=12,SNR=3.3
ODAN Odare 44.62 278 *e*P **P** **16 56 27.4 -0.2**
SRBI Singaraja 44.79 214 P **P** **16 56 28.9 +0.2**
COEN Coen 44.89 174 *e*P **P** **16 56 30.1 +0.7**
comp=Z,22nm,0.8s
PPBI Pangkal Pinang 45.11 229 P **P** **16 56 32.0 +0.8**
GRJI Gresik 45.16 218 P **P** **16 56 31.8 +0.2**
RAMN Ramite 45.26 279 *e*P **P** **16 56 32.4 -0.2**
comp=Z,39nm,0.8s
JIRN Jiri 45.40 280 *e*P **P** **16 56 34.2 +0.4**
comp=Z,46nm,0.5s
NVS Novosibirsk 45.52 318⇑*i*P **P** **16 56 34.1 +0.3**
NVS *i* 16 58 03.8
NVS *e*S **S** **17 02 43.4 -2.2**
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,16nm,0.8s
NVS pmax pmax
comp=Z,23nm,0.8s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=Z,13nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS smax smax
comp=N,8.0nm,1.5s
NVS smax smax
comp=E,10.0nm,1.5s
MK01 Makanchi Array 45.55 307 *e*P **P** **16 56 34.2 -0.1**
MK31 Makanchi Array 45.56 307 *e*P **P** **16 56 34.5 +0.1**
comp=E,36nm,0.8s
MK31 Makanchi Array 45.56 307 *i*P **P** **16 56 34.2 -0.1**
MK31 pmax pmax
comp=Z,41nm,0.8s
MKAR Makanchi Array 45.56 307 P **P** **16 56 34.5 +0.1**
comp=Z,37nm,0.7s,baz=91,slow=9.9,SNR=440
MKAR PcP **PcP** **16 58 05.3 0.0**
comp=Z,12nm,0.7s,baz=78,slow=5.4,SNR=13
MKAR ScP **ScP** **17 01 20.2 -0.2**
comp=Z,2.6nm,0.7s,baz=83,slow=5.1,SNR=6.0
MKAR S **S** **17 02 44.3 -2.3**
comp=Z,5.9nm,1.0s,baz=94,slow=20,SNR=16
GUN Gumba 45.59 280 *e*P **P** **16 56 35.5 +0.3**
comp=Z,59nm,0.7s
MAKZ Makanchi 45.77 307 *e*P **P** **16 56 36.1 +0.1**
comp=Z,27nm,0.6s
MAKZ Makanchi 45.77 307 *e*P **P** **16 56 36.1 +0.1**
MAKZ pmax pmax
comp=Z,27nm,0.6s
PKI Pulchoki 46.09 280 *e*P **P** **16 56 38.6 -0.5**
comp=Z,21nm,0.8s
PKIN Phulchoki 46.09 280 *e*P **P** **16 56 38.6 -0.5**
comp=Z,20nm,0.9s
KKN Kakani 46.13 280 *e*P **P** **16 56 39.2 -0.1**
comp=Z,58nm,1.0s
DMN Daman 46.33 280 *e*P **P** **16 56 40.5 -0.4**
comp=Z,21nm,0.7s
SMRI Semarang 46.38 220 P **P** **16 56 41.9 +0.9**
GKN Gorkha 46.61 281 *e*P **P** **16 56 42.7 -0.2**
comp=Z,45nm,0.9s
PSI Prapat 46.68 241 *e*P **P** **16 56 42.9 -0.5**
comp=Z,22nm,0.8s
PSI *e*PcP **PcP** **16 58 10.5 +0.6**
PSI Prapat 46.68 241 *e*P **P** **16 56 42.9 -0.5**
PSI *e* 16 58 10.5
PSI pmax pmax
comp=Z,22nm,0.8s
PSI Prapat 46.68 241 P **P** **16 56 43.0 -0.5**
comp=Z,19nm,0.8s,baz=360,slow=4.5,SNR=15
PSI PcP **PcP** **16 58 10.7 +0.8**
comp=Z,33nm,0.8s,baz=0.3,slow=2.8,SNR=17
KCSI Kotacane, Aceh 47.09 243 P **P** **16 56 45.2 -1.3**
DANN Dangsing 47.25 281 *e*P **P** **16 56 48.2 +0.3**
comp=Z,46nm,0.6s
KPJI Karang Pucung 47.46 222 P **P** **16 56 49.2 0.0**
MNSI Mandailing Nat 47.53 238 P **P** **16 56 49.3 -0.5**
KOLN Koldanda 47.55 281 *e*P **P** **16 56 50.3 +0.2**
comp=Z,66nm,0.8s
TPTI 47.71 243 P **P** **16 56 52.5 +1.4**
NRIK Noril'sk 47.88 338 P **P** **16 56 51.3 -0.4**
comp=Z,37nm,0.9s,baz=114,slow=8.4,SNR=35
NRIK ScP **ScP** **17 01 29.4 -0.2**
comp=Z,4.0nm,0.7s,baz=126,slow=4.6,SNR=4.9
PYUN Piuthan 47.97 281 *e*P **P** **16 56 53.6 +0.3**
comp=Z,115nm,0.7s
KLI Kotabumi 47.98 228 P **P** **16 56 53.1 -0.1**
KURK Kurchatov 48.00 312 *e*P **P** **16 56 52.7 -0.2**
comp=Z,66nm,1.0s
KURK Kurchatov 48.00 312*de*P **P** **16 56 52.5 -0.3**
KURK pmax pmax
comp=Z,71nm,1.0s
KURK Kurchatov 48.00 312 P **P** **16 56 52.6 -0.2**
SNR=21
LHSI Lahat 48.07 230 P **P** **16 56 54.4 +0.6**
BLSI Bandar Lampung 48.12 227 P **P** **16 56 53.6 -0.7**
MDSI Maura Dua 48.13 229 P **P** **16 56 54.2 -0.1**
KRJI Kerinci 48.20 234 P **P** **16 56 55.6 +0.6**
PRZ Przheval'sk 48.61 301 *e*P **P** **16 56 59.0 +1.1**
comp=Z,88nm,0.8s
PRZ Przheval'sk 48.61 301 *e*P **P** **16 56 59.0 +1.1**
PRZ pmax pmax
comp=Z,88nm,0.8s
LWLI Liwa 48.61 229 P **P** **16 56 56.9 -1.2**
GSI Gunungsitoli 48.67 241 *e*P **P** **16 56 58.1 -0.4**
comp=Z,189nm,1.0s
GSI Gunungsitoli 48.67 241 P **P** **16 56 58.4 -0.1**
KASI Kota Agung 48.71 228 P **P** **16 56 56.9 -1.8**
KDJ Kajisay 49.55 301 *e*P **P** **16 57 06.1 +1.2**
comp=Z,18nm,0.7s
KDJ Kajisay 49.55 301 *e*P **P** **16 57 06.1 +1.2**
KDJ pmax pmax
comp=Z,18nm,0.7s
ULHL Ulahol 50.23 301 P **P** **16 57 10.6 +0.6**
SNR=6.0
FITZ Fitzroy Crossi 50.33 196 *e*P **P** **16 57 10.9 +0.3**
comp=Z,24nm,0.7s
NRN Naryn 50.53 300 *e*P **P** **16 57 12.6 +0.2**
comp=Z,24nm,1.0s
TKM2 Tokmak 2 50.60 302 P **P** **16 57 13.5 +0.8**
SNR=29
WRAB Tennan Creek 50.77 185 *e*P **P** **16 57 13.8 0.0**
comp=Z,62nm,0.8s
WRAB Tennant Creek 50.77 185*de*P **P** **16 57 13.6 -0.2**
WRAB pmax pmax
comp=Z,55nm,1.0s
WB2 Warramunga Arr 50.77 185 *e*P **P** **16 57 12.8 -1.2**
WRA Warramunga Arr 50.77 185 P **P** **16 57 13.5 -0.4**
comp=Z,63nm,0.6s,baz=1.3,slow=7.8,SNR=530
WRA PcP **PcP** **16 58 25.5 +1.0**
comp=Z,11nm,0.7s,baz=358,slow=4.0,SNR=9.1
WRA ScP **ScP** **17 01 43.3 +0.6**
comp=Z,2.5nm,0.8s,baz=1.2,slow=4.5,SNR=4.7
WRA S **S** **17 03 56.3 -3.1**
comp=Z,0.7nm,1.0s,baz=7.3,slow=12,SNR=4.2
KSH Kashi 50.88 298 P **P** **16 57 18.0 +3.3**
KSH PcP **PcP** **16 58 28.3 +3.3**
KSH S **S** **17 04 03.0 +2.2**
KSH ScS **ScS** **17 06 24.4 +0.7**
KSH pmax pmax
comp=Z,40nm,0.7s
KZA Kyzart 50.98 301 P **P** **16 57 17.0 +1.3**
SNR=28
KBK Karagaybulak 51.11 302 P **P** **16 57 17.1 +0.6**
SNR=69
CHMS Chumysh 51.20 302 P **P** **16 57 17.2 +0.3**
SNR=12
CTAO Charters Tower 51.30 171 *e*P P 16 57 10.3 -7.5
comp=Z,180nm,1.1s
CTAO Charters Tower 51.30 171 *e*P P 16 57 10.3 -7.5
CTAO pmax pmax
comp=Z,180nm,1.1s
USP Ospenovka 51.34 303 P **P** **16 57 18.1 +0.1**
SNR=19
AAK Ala-Archa 51.45 302 P **P** **16 57 19.1 +0.2**
SNR=33
AAK Ala-Archa 51.45 302 *e*P **P** **16 57 19.0 +0.2**
comp=Z,26nm,0.7s
AAK Ala-Archa 51.45 302 *i*P **P** **16 57 19.1 +0.2**
SNR=47
AAK Ala-Archa 51.45 302 *e*P **P** **16 57 19.0 +0.2**
AAK pmax pmax
comp=Z,26nm,0.7s
AAK Ala-Archa 51.45 302 P **P** **16 57 19.0 +0.2**
SNR=8.9
UCH Uchtor 51.50 301 P **P** **16 57 20.4 +0.8**
SNR=50
EKS2 Erkin-Say 51.96 302 P **P** **16 57 22.9 +0.3**
SNR=30
AML Almayashu 52.11 301 P **P** **16 57 25.1 +1.0**
SNR=11
BVA0 Borovoye Array 53.03 315 *i*P **P** **16 57 29.7 -0.3**
BVA0 pmax pmax
comp=Z,52nm,0.6s
BRVK Borovoye 53.09 315 *e*P **P** **16 57 30.7 +0.3**
comp=Z,67nm,0.7s
BRVK Borovoye 53.09 315*d i*P **P** **16 57 30.3 -0.1**
BRVK pmax pmax
comp=Z,76nm,0.8s
BRVK Borovoye 53.09 315 P **P** **16 57 30.6 +0.1**
SNR=26
IM3 Indian Mountai 53.11 28 *e*P **P** **16 57 30.9 +0.6**
KDAK Kodiak Island 53.28 39 P **P** **16 57 32.1 +0.5**
comp=Z,10nm,0.5s,baz=270,slow=2.2,SNR=42
PPLA Purkeypile 53.55 32 *e*P **P** **16 57 35.8 +2.1**
comp=Z,14nm,0.7s
BRLK Bradley Lake 54.13 36 *e*P **P** **16 57 37.9 +0.1**
comp=Z,43nm,1.1s
SUA Susitna One 54.19 34 *e*P **P** **16 57 38.7 +0.4**

comp=Z,9,8nm,0.6s
KK31 Karatay Array 54.25 303 *e*P **P** **16 57 39.2 +0.3**
comp=Z,61nm,0.8s
KK31 Karatay Array 54.25 303 *i* P **P** **16 57 38.9 0.0**
KK31 pmax pmax
comp=Z,56nm,0.8s
KKAR Karatay Array 54.25 303 *e*P **P** **16 57 39.2 +0.3**
comp=Z,61nm,0.8s
KKAR Karatay Array 54.25 303 *e*P **P** **16 57 39.2 +0.3**
KKAR pmax pmax
comp=Z,61nm,0.8s
NIL Nilore 54.39 291 *e*P **P** **16 57 40.7 +0.6**
comp=Z,44nm,0.8s
AS01 Alice Springs 54.50 185 *e*P **P** **16 57 40.6 -0.2**
AS31 Alice Springs 54.50 185 *e*P **P** **16 57 40.1 -0.7**
comp=Z,19nm,0.6s
ASAR Alice Springs 54.50 185 P **P** **16 57 40.4 -0.5**
comp=Z,24nm,0.6s,baz=359,slow=5.7,SNR=711
ASAR PcP **PcP** **16 58 39.8 +1.1**
comp=Z,2.3nm,0.5s,baz=8.0,slow=3.9,SNR=5.0
ASAR ScP **ScP** **17 01 59.7 +0.8**
comp=Z,1.0nm,0.7s,baz=11,slow=4.4,SNR=4.6
ASAR S **S** **17 04 47.8 -1.5**
comp=Z,0.9nm,0.8s,baz=20,slow=22,SNR=6.5
BTK Batken 54.66 299 *e*P **P** **16 57 42.0 0.0**
comp=Z,36nm,1.1s
BTK Batken 54.66 299 *e*P **P** **16 57 42.0 0.0**
BTK pmax pmax
comp=Z,36nm,1.1s
MBWA Marble Bar 54.87 202 *e*P **P** **16 57 43.4 0.0**
comp=Z,60nm,0.6s
MBWA Marble Bar 54.87 202 P **P** **16 57 43.6 +0.1**
RND Reindeer 55.07 32 *e*P **P** **16 57 45.0 +0.5**
comp=Z,16nm,0.8s
RND Reindeer 55.07 32 *e*P **P** **16 57 45.0 +0.5**
RND pmax pmax
comp=Z,16nm,0.8s
HYB Hyderabad 55.74 271 *i* P **P** **16 57 50.0 +0.1**
HYB *e*PcP **PcP** **16 58 43.5 -0.3**
DHY Denali Highway 55.74 32 *e*P **P** **16 57 51.2 +1.9**
comp=Z,3.3nm,0.7s
ILAR Eielson Array 55.92 30 P **P** **16 57 50.5 +0.1**
comp=Z,1.7nm,0.8s,baz=240,slow=5.5,SNR=22
ILAR PcP **PcP** **16 58 43.4 -0.2**
comp=Z,1.1nm,0.7s,baz=279,slow=3.9,SNR=2.9
KBL Kabul 57.47 294 *e*P **P** **16 58 01.7 -0.2**
comp=Z,21nm,0.8s
KBL Kabul 57.47 294 *e*P **P** **16 58 01.7 -0.2**
KBL pmax pmax
comp=Z,21nm,0.8s
SVE Sverdlovsk 58.20 321 *c i*P **P** **16 58 06.8 +0.6**
SVE pmax pmax
comp=Z,41nm,0.7s
PALK Pallekele 58.77 259 *e*P **P** **16 58 08.4 -2.4**
comp=Z,73nm,1.5s
PALK Pallekele 58.77 259 *i* P **P** **16 58 11.4 +0.5**
SNR=7.8
PALK Pallekele 58.77 259 *e*P **P** **16 58 08.5 -2.4**
PALK pmax pmax
comp=Z,73nm,1.5s
ARU Arti 59.40 321 *e*P **P** **16 58 14.4 0.0**
comp=Z,72nm,0.7s
ARU Arti 59.40 321 *d i*P **P** **16 58 14.3 -0.1**
ARU 16 59 00.9
ARU *e*PP **pP** **16 59 34.6 -0.3**
ARU 17 00 28.1
ARU S **S** **17 05 52.8 +0.9**
ARU SS **SS** **17 09 53.8 -0.1**
ARU pmax pmax
comp=Z,67nm,0.7s
EPYK Eagle Plains 59.99 28 *e*P **P** **16 58 20.2 +1.9**
comp=Z,14nm,0.5s
AB31 Akbulak array 60.11 312 *i* P **P** **16 58 19.0 -0.3**
AB31 pmax pmax
comp=Z,17nm,0.5s
ABKAR Akbulak array 60.11 312 *e*P **P** **16 58 19.3 +0.1**
comp=Z,40nm,0.8s
AKTO Aktyubinsk 61.03 314 P **P** **16 58 24.9 -0.5**
AKTO pmax pmax
comp=Z,24nm,0.7s
FORT Forrest 62.20 190 *e*P **P** **16 58 33.8 +0.5**
comp=Z,102nm,0.6s
STKA Stephens Creek 62.57 177 *e*P **P** **16 58 36.2 +0.6**
comp=Z,4.7nm,0.8s
STKA Stephens Creek 62.57 177 *e*P **P** **16 58 36.3 +0.6**
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 62.57 177 P **P** **16 58 35.6 -0.1**
comp=Z,19nm,0.5s,baz=350,slow=7.0,SNR=51
MORW Morawa 63.42 202 *e*P **P** **16 58 41.2 -0.1**
comp=Z,42nm,1.1s
BBOO Buckleboo 63.47 182 *e*P **P** **16 58 41.2 -0.3**
comp=Z,30nm,1.1s
PRGR Permogore 64.58 328 *e*P **P** **16 58 46.7 -1.6**
PRGR *e*S **S** **17 06 53.4 -2.5**
PRGR pmax pmax
comp=Z,55nm,0.9s
GEYT Alibeck 64.74 300 P **P** **16 58 50.2 +0.4**
comp=Z,22nm,0.8s,baz=60,slow=3.6,SNR=40
GYA0B ALIBECK ARRAY 64.74 300 *e*P **P** **16 58 50.3 +0.5**
comp=Z,25nm,0.8s
HOPEN Hopen 65.34 346 *e*P **P** **16 58 54.0 +1.1**
SPA0 Spitsbergen Ar 66.00 349 *e*P **P** **16 58 58.1 +1.0**
KBS Kingsbay 66.21 350 *e*P **P** **16 58 59.0 +0.6**
LVZ Lovozero 66.67 336 *i* P **P** **16 59 02.7 +1.2**
LVZ pmax pmax
comp=Z,24nm,1.2s
HSPB Hornsund (broa 66.87 348 *e*P **P** **16 59 03.7 +1.2**
TMCR Tamitsa 66.93 332 *e*P **P** **16 59 03.2 +0.1**
TMCR pmax pmax
comp=Z,44nm,0.8s
KLMR Klimovskoe 67.62 328 *e*P **P** **16 59 05.7 -1.7**
KLMR pmax pmax
comp=Z,36nm,0.8s
KLMR Klimovskoe 67.62 328 *e*P **P** **16 59 05.7 -1.7**
KLMR AMP 16 59 08.3
comp=Z,36nm,0.8s
KLMR *e*pP **pwP** **17 00 35.3 -0.6**
HAMF Hammerfest 68.75 341 *e*P **P** **16 59 14.8 +0.5**
ARCES ARCESS Array B 68.82 340 *e*P **P** **16 59 15.3 +0.6**
ARCES ARCESS Array B 68.82 340 *e*P **P** **16 59 15.3 +0.6**
ARCES ARCESS Array B 68.82 340 P **P** **16 59 15.4 +0.7**
comp=Z,21nm,0.6s,baz=71,slow=8.2,SNR=157
ARE0 ARCESS Array S 68.82 340 *e*P **P** **16 59 15.6 +0.8**
comp=Z,1.2nm,0.8s
ARE0 ARCESS Array S 68.82 340 *e*P **P** **16 59 15.6 +0.8**
RES Resolute Bay 69.05 13 *e*P **P** **16 59 17.0 +1.0**
comp=Z,11nm,0.7s
RES Resolute Bay 69.05 13 *e*P **P** **16 59 17.0 +1.0**
RES pmax pmax
comp=Z,11nm,0.7s
KTK1 Kautokeino 69.79 340 *e*P **P** **16 59 21.2 +0.6**
JLN Jalan Bani Buh 69.97 284 P **P** **16 59 22.4 0.0**
SNR=9.5
YKA Yellowknife Ar 70.27 28 P **P** **16 59 24.2 +0.7**
comp=Z,2.1nm,0.7s,baz=298,slow=6.1,SNR=40
YKB5 Yellowknife Ar 70.27 28 *e*P **P** **16 59 23.1 -0.4**
BIDO Bidbid 70.43 286 P **P** **16 59 26.2 +0.9**
SNR=9.2
VRH Novokhopyorsk 70.48 318 *e*P **P** **16 59 24.6 -0.4**
VRH pmax pmax
comp=Z,70nm,0.6s
TRO Tromso 70.66 341 *e*P **P** **16 59 26.0 +0.2**
MOS Moscow 70.70 324 *e*P **P** **16 59 25.3 -0.9**
MOS *e* 17 00 54.3
MOS *e*S **S** **17 08 00.0 -8.1**
MOS pmax pmax
comp=Z,60nm,0.7s
BANOM Banah 70.88 289 *i* P **P** **16 59 28.4 +0.5**
SNR=12
BANOM Banah 70.88 289 P **P** **16 59 28.5 +0.5**
SNR=7.4
SHME Shamm 70.96 289 *i* P **P** **16 59 28.8 +0.4**
SNR=33
MDH Madha 71.16 289 P **P** **16 59 28.9 -0.7**
MSFE Esma-Masafi 71.24 289 *i* P **P** **16 59 30.6 +0.5**
SNR=10.0
GROC Groznyy 71.36 310 *e*P **P** **16 59 29.5 -0.9**
GROC *e* 16 59 46.1
GROC *e*PP **pP** **17 00 57.6 +3.1**
GROC *e*S **S** **17 08 17.8 +1.6**
GROC pmax pmax
comp=Z,44nm,1.0s
TULEG Thule 71.40 7 *e*P **P** **16 59 30.1 0.0**
comp=Z,17nm,0.8s
LPSR Galich'ya Gora 71.42 321 *e*P **P** **16 59 30.6 0.0**
LPSR pmax pmax
comp=Z,60nm,0.8s
SOHO SOHO 71.47 287 P **P** **16 59 31.4 0.0**
SNR=20
HATD Hatta, Dubai 71.50 288 *i* P **P** **16 59 32.0 +0.4**
SNR=24
HATD Hatta, Dubai 71.50 288 P **P** **16 59 31.9 +0.3**
SNR=11
OBN Obninsk 71.52 324 *e*P **P** **16 59 31.0 -0.1**
comp=Z,65nm,0.9s
OBN Obninsk 71.52 324 *d i*P **P** **16 59 30.0 -1.1**
OBN *e**PP **pwP** **17 00 58.7 -2.0**
OBN *e* 17 02 14.8
OBN *e*S **S** **17 08 18.1 +0.7**
OBN pmax pmax
comp=Z,46nm,0.9s
DAG Danmarks Havn 71.58 355 ⇓ *i*P **P** **16 59 31.7 +0.6**
comp=Z,22nm,0.9s
DAG Danmarks Havn 71.58 355 ⇓ *i*P **P** **16 59 31.7 +0.6**
DAG pmax pmax
comp=Z,19nm,0.9s
ASHO Ashiyiah 71.62 288 *i* P **P** **16 59 32.5 +0.2**
SNR=20
ASHO Ashiyiah 71.62 288 P **P** **16 59 32.5 +0.2**
SNR=12
MHTO MHTO 71.69 284 P **P** **16 59 32.5 -0.2**
SNR=14
ARQ Araqi 71.84 287 P **P** **16 59 34.0 +0.4**
SNR=11
VSR Storozhevoye 71.92 319 *e*P **P** **16 59 33.3 -0.2**
VSR pmax pmax
comp=Z,110nm,0.9s
FAQ Al Faqa, Dubai 71.97 288 *i* P **P** **16 59 34.2 -0.2**
SNR=11
FAQ Al Faqa, Dubai 71.97 288 P **P** **16 59 34.1 -0.2**
SNR=5.3
ALNE Al Ain 72.15 288 *i* P **P** **16 59 35.7 +0.3**
SNR=9.7
ASUD Al Ashush, Dub 72.24 288 *i* P **P** **16 59 36.3 +0.4**
SNR=7.9
ASUD Al Ashush, Dub 72.24 288 P **P** **16 59 36.3 +0.4**
DQM DQM 72.52 283 P **P** **16 59 37.1 -0.5**
AJN Ajban 72.55 288 P **P** **16 59 37.4 -0.3**
STEI Steigen 72.78 341 *e*P **P** **16 59 38.9 +0.7**
ZEI Tsey 72.80 310 *e*P **P** **16 59 37.9 -1.2**
ZEI pmax pmax
comp=Z,24nm,0.7s
KBZ Khabaz 73.03 311 P **P** **16 59 40.8 +0.6**
comp=Z,57nm,0.8s,baz=85,slow=4.2,SNR=85
FIA1 FINESS Array S 73.05 332 *e*P **P** **16 59 40.1 +0.2**
FINES FINESS Array B 73.05 332 *i* P **P** **16 59 40.0 +0.1**
FINES pmax pmax
comp=Z,47nm,0.7s
FINES FINESS Array B 73.05 332 P **P** **16 59 40.1 +0.2**
comp=Z,47nm,0.7s,baz=62,slow=5.7,SNR=313
KIV Kislovodsk 73.07 311 *e*P **P** **16 59 41.1 +0.5**
comp=Z,162nm,0.8s
KIV Kislovodsk 73.07 311 ⇑ *i*P **P** **16 59 41.4 +0.9**
KIV Kislovodsk 73.07 311 *i* P **P** **16 59 41.3 +0.7**
SNR=16
KIV Kislovodsk 73.07 311 ⇑P **P** **16 59 41.4 +0.9**
KIV Kislovodsk 73.07 311 P **P** **16 59 41.0 +0.5**
SNR=8.9
LOF Lofoten 73.12 341 *e*P **P** **16 59 41.0 +0.8**
NEY Neytrino 73.36 311 *i* P **P** **16 59 43.0 +0.6**
NEY pmax pmax
comp=Z,6.0nm,1.0s
GNI Garni 73.41 307 *e*P **P** **16 59 42.2 -0.4**
comp=Z,167nm,0.8s
GNI Garni 73.41 307 *i* P **P** **16 59 43.8 +1.1**
SNR=12
GNI Garni 73.41 307 *d i*P **P** **16 59 43.3 +0.7**
GNI pmax pmax
comp=Z,86nm,1.0s
GNI Garni 73.41 307 P **P** **16 59 43.8 +1.1**
SNR=5.9
MOR8 Moi Rana 74.20 340 *e*P **P** **16 59 45.7 -0.8**
KULLO Kullorsuaq 74.21 4 *i* P **P** **16 59 47.0 +0.6**
KULLO Kullorsuaq 74.21 4 *i* P **P** **16 59 47.0 +0.6**
KONS Konsvik 74.36 340 *e*P **P** **16 59 48.1 +0.7**
VSU Vasula 74.45 330 *de*P **P** **16 59 48.1 +0.1**
VSU pmax pmax
comp=Z,148nm,0.9s
VSU Vasula 74.45 330 *e*P **P** **16 59 47.8 -0.2**
VSU lAmb lAmb 16 59 49.3
comp=Z,126nm,0.8s
DMTO DMTO 75.72 282 P **P** **16 59 55.5 -0.4**
ANN Anapa 75.99 314 *e*P **P** **16 59 54.8 -2.2**
ANN pmax pmax
comp=Z,157nm,1.3s
NSS Namsos 76.08 339 *e*P **P** **16 59 57.1 0.0**
IZAR Zarasai 76.21 327 *e*P **P** **16 59 58.0 0.0**
IZAR lAmb lAmb 16 59 59.6
comp=Z,24nm,0.8s
SIRT Sirnak 76.22 305 *e*P **P** **16 59 58.0 -0.6**
comp=Z,82nm,0.9s
IDID Didziasalis 76.23 327 *e*P **P** **16 59 58.6 +0.5**
IDID lAmb lAmb 16 59 59.7
comp=Z,30nm,0.9s
ISAL Salakas 76.37 327 *e*P **P** **16 59 59.6 +0.7**
ISAL lAmb lAmb 17 00 00.5
comp=Z,23nm,0.6s
RBK Rabkut 76.44 282 P **P** **16 59 59.4 -0.7**
IIGN Ignalina 76.45 327 *e*P **P** **16 59 59.9 +0.6**
IIGN lAmb lAmb 17 00 01.0
comp=Z,20nm,0.6s
WHFO Wadi Hawf 76.61 283 P **P** **17 00 00.1 -0.8**
SNR=5.5
SUMG Summit 76.72 359 *e*P **P** **17 00 02.0 +1.0**
comp=Z,23nm,0.8s
SUMG Summit 76.72 359 ⇓ *i*P **P** **17 00 02.5 +1.5**
comp=Z,58nm,0.8s
SUMG Summit 76.72 359 ⇓ *i*P **P** **17 00 02.5 +1.5**
SUMG pmax pmax
comp=Z,58nm,0.8s
SLIT Slitere, Latvi 76.85 330 *e*P **P** **17 00 00.4 -1.1**
SLIT lAmb lAmb 17 00 02.2
comp=Z,255nm,1.0s
ABTO Aybut 77.28 283 P **P** **17 00 03.9 -0.7**
AKASG Malin Array Be 77.60 322 P **P** **17 00 05.7 0.0**
comp=Z,23nm,0.4s,baz=51,slow=5.8,SNR=156
AKBB Malin Array Si 77.60 322 *e*P **P** **17 00 05.8 +0.1**
comp=Z,59nm,0.8s
KIEV Kiev 77.61 322 *e*P **P** **17 00 05.8 -0.1**
comp=Z,58nm,0.8s
KIEV Kiev 77.61 322 ⇓ *i*P **P** **17 00 05.7 -0.1**
KIEV Kiev 77.61 322 *i* P **P** **17 00 05.8 -0.1**
SNR=36
KIEV Kiev 77.61 322 ⇓P **P** **17 00 05.7 -0.1**
AK11 Malin Array Si 77.64 322 *e*P **P** **17 00 05.5 -0.5**
SCO Scoresbysund 77.87 353 *e*P **P** **17 00 08.3 +1.5**
comp=Z,22nm,0.8s
SCO Scoresbysund 77.87 353 ⇓ *i*P **P** **17 00 08.4 +1.6**
comp=Z,23nm,0.9s
SCO Scoresbysund 77.87 353 ⇓ *i*P **P** **17 00 08.4 +1.6**
SCO pmax pmax
comp=Z,23nm,0.9s
PBUR Paburg 78.00 329 *e*P **P** **17 00 07.8 0.0**
PBUR lAmb lAmb 17 00 08.9
comp=Z,108nm,0.9s
NC405 NORSAR Array S 78.59 337 *e*P **P** **17 00 11.2 +0.2**
comp=Z,50nm,1.1s
SUW Suwalki 78.67 327 *e*P **P** **17 00 11.6 +0.1**
SUW Suwalki 78.67 327 *e*P **P** **17 00 11.7 +0.2**
comp=Z,165nm,1.1s
SUW Suwalki 78.67 327 *e*P **P** **17 00 11.6 +0.1**
NB201 NORSAR Array S 78.78 337 *e*P **P** **17 00 12.2 +0.2**
comp=Z,15nm,0.6s
DOMB Dombas 78.79 338 *e*P **P** **17 00 12.3 +0.2**
NC204 NORSAR Array S 78.80 337 *e*P **P** **17 00 12.5 +0.4**
comp=Z,24nm,0.6s
NB2 NORSAR Subarra 78.82 337 P **P** **17 00 11.8 -0.4**
comp=Z,9.1nm,0.5s,baz=43,slow=5.3
NOA NORSAR Array B 78.82 337 P **P** **17 00 12.2 -0.1**
comp=Z,8.0nm,0.6s,baz=44,slow=5.4,SNR=37
NOA PP **PP** **17 03 14.0 -2.3**
comp=Z,2.7nm,0.8s,baz=43,slow=8.4,SNR=4.2
NC602 NORSAR Array S 78.92 336 *e*P **P** **17 00 12.2 -0.6**
NBO00 NORSAR Array S 78.97 337 *e*P **P** **17 00 13.4 +0.4**
comp=Z,19nm,1.0s
AKN Aaknes 79.34 339 *e*P **P** **17 00 14.5 -0.4**
FFC Flin Flon 80.12 31 *i* P **P** **17 00 20.6 +1.4**
HLID Hailey 80.32 45 *e*P **P** **17 00 20.3 -0.4**
comp=Z,1.8nm,0.7s
HYA Hoyanger 80.36 339 *e*P **P** **17 00 20.6 +0.3**
FOO Floro 80.38 339 *e*P **P** **17 00 21.0 +0.6**
KONO Kongsberg 80.38 336 *e*P **P** **17 00 21.0 +0.5**
NV01 Mina Array Sit 80.62 51 *e*P **P** **17 00 24.1 +1.6**
NVAR Mina Array Bea 80.62 51 P **P** **17 00 23.1 +0.6**
comp=Z,0.9nm,0.6s,baz=298,slow=5.7,SNR=7.1
RAYN Ar Rayn 80.69 292 *e*P **P** **17 00 23.3 +0.4**
comp=Z,48nm,0.8s
RAYN Ar Rayn 80.69 292 *i* P **P** **17 00 23.3 +0.4**
SNR=73
RAYN Ar Rayn 80.69 292 *e*P **P** **17 00 23.3 +0.4**
RAYN pmax pmax
comp=Z,48nm,0.8s
LVV L'vov 80.82 323 *e*P **P** **17 00 22.4 -0.6**
TLCR 80.95 318 ⇑ *i*P **P** **17 00 24.4 +0.6**
TLCR 80.95 318 ⇑P **P** **17 00 24.4 +0.6**
BIR Birlad 81.00 319 ⇓ *i*P **P** **17 00 25.3 +1.3**
BIR Birlad 81.00 319 ⇓P **P** **17 00 25.3 +1.3**
BR131 Keskin Array S 81.03 311 *e*P **P** **17 00 24.9 +0.3**
comp=Z,25nm,0.9s
BR131 Keskin Array S 81.03 311 P **P** **17 00 24.8 +0.3**
SNR=8.6
BRTR Keskin Array B 81.03 311 P **P** **17 00 24.8 +0.3**
comp=Z,19nm,0.8s,baz=98,slow=3.2,SNR=67
BEL Belsk 81.16 326 *e*P **P** **17 00 25.5 +0.7**
BEL Belsk 81.16 326 *e*P **P** **17 00 25.5 +0.7**
ODD1 Odda 81.18 338 *e*P **P** **17 00 25.2 +0.4**
BER Bergen 81.23 338 *e*P **P** **17 00 25.4 +0.5**
CFR Carcaliu 81.35 318 ⇓ *i*P **P** **17 00 26.1 +0.3**
CFR Carcaliu 81.35 318 ⇓P **P** **17 00 26.1 +0.3**
TESR Tescani 81.41 320 ⇓ *i*P **P** **17 00 26.5 +0.3**
BIZ Bicaz 81.46 320 ⇓ *i*P **P** **17 00 27.0 +0.6**
BUR08 Bucovina Ar. S 81.53 321 *e*P **P** **17 00 27.5 +0.6**
comp=Z,28nm,1.0s
BURAR Bucovina Array 81.53 321 ⇑ *i*P **P** **17 00 27.5 +0.6**
BURAR Bucovina Array 81.53 321 ⇑P **P** **17 00 27.5 +0.6**
BSD Bornholm Skovb 81.61 331 ⇓ *i*P **P** **17 00 26.4 -0.5**
comp=Z,47nm,1.0s
BSD Bornholm Skovb 81.61 331 ⇓ *i*P **P** **17 00 26.4 -0.5**
BSD pmax pmax
comp=Z,47nm,1.0s
BLS5 Blasjo 81.61 337 *e*P **P** **17 00 27.7 +0.8**
KWP Kalwaria Pacla 81.61 324 *e*P **P** **17 00 27.9 +0.8**
KWP *e*pP **pwP** **17 02 00.7 +1.5**
KWP Kalwaria Pacla 81.61 324 *e*P **P** **17 00 28.0 +0.8**
comp=Z,808nm,1.0s
KWP Kalwaria Pacla 81.61 324 *e*P **P** **17 00 27.9 +0.8**
KWP *e**PP **pwP** **17 02 00.7 +1.5**
TLB Topalu 81.75 317 ⇑ *i*P **P** **17 00 28.9 +1.0**
TLB Topalu 81.75 317 ⇑P **P** **17 00 28.9 +1.0**
VRI Vrincioaia 81.75 319 ⇓ *i*P **P** **17 00 28.7 +0.8**
VRI Vrincioaia 81.75 319 ⇓P **P** **17 00 28.7 +0.8**
MFTR Murfatlar 81.76 317 ⇓ *i*P **P** **17 00 29.7 +1.7**
GKP Gorka Klasztor 81.86 329 *e*P **P** **17 00 28.5 +0.2**
GKP Gorka Klasztor 81.86 329 *e*P **P** **17 00 28.5 +0.2**
SFJD Kangerlussuaq 82.10 4 *i* P **P** **17 00 29.9 +0.6**
comp=Z,18nm,0.7s
SFJD Kangerlussuaq 82.10 4 *i* P **P** **17 00 29.9 +0.6**
SFJD pmax pmax
comp=Z,18nm,0.7s
PGOR Pogoanele 82.17 318 ⇑ *i*P **P** **17 00 31.9 +1.8**
SNART Snartemo 82.19 336 *e*P **P** **17 00 30.3 +0.4**
COP Copenhagen 82.21 332 ⇓ *i*P **P** **17 00 30.4 +0.4**
comp=Z,42nm,0.8s
COP Copenhagen 82.21 332 ⇓ *i*P **P** **17 00 30.4 +0.4**
COP pmax pmax
comp=Z,42nm,0.8s
ARCR ARCALIA 82.32 321 ⇑ *i*P **P** **17 00 31.2 +0.3**
MLR Muntele Rosu 82.41 319 *e*P **P** **17 00 31.8 +0.3**
comp=Z,17nm,0.7s
MLR Muntele Rosu 82.41 319 ⇑ *i*P **P** **17 00 32.1 +0.6**
MLR Muntele Rosu 82.41 319 ⇑P **P** **17 00 32.1 +0.6**
BMR Baia Mare 82.42 322 ⇑ *i*P **P** **17 00 31.0 -0.3**
BMR Baia Mare 82.42 322 ⇑P **P** **17 00 31.0 -0.3**
DOPR Dopca 82.44 320 ⇑P **P** **17 00 32.4 +0.9**
UZH Uzhgorod 82.45 323 *i* P **P** **17 00 31.4 0.0**
SECR 82.61 319 ⇑ *i*P **P** **17 00 33.5 +1.1**
RGN Rugen 82.66 331 *e*P **P** **17 00 33.0 +0.6**
comp=Z,20nm,0.7s,baz=43,slow=4.7
OJC Ojcow 82.69 325 *e*P **P** **17 00 33.0 +0.3**
OJC *e*pP **pwP** **17 02 05.7 +0.7**
OJC Ojcow 82.69 325 *e*P **P** **17 00 32.9 +0.3**
OJC *e**PP **pwP** **17 02 05.7 +0.7**
MUD Monsted U'grnd 82.90 334 *i* P **P** **17 00 33.9 +0.4**
comp=Z,65nm,1.1s
MUD Monsted U'grnd 82.90 334 *i* P **P** **17 00 33.9 +0.4**
MUD pmax pmax
comp=Z,65nm,1.1s
VOIR 82.94 319 ⇑ *i*P **P** **17 00 34.8 +0.6**
VOIR 82.94 319 ⇑P **P** **17 00 34.8 +0.6**
NIE Niedzica 82.96 325 *e*P **P** **17 00 34.7 +0.6**
NIE *e*pP **pwP** **17 02 07.8 +1.3**
NIE Niedzica 82.96 325 *e*P **P** **17 00 34.7 +0.6**
NIE *e**PP **pwP** **17 02 07.8 +1.3**
CJR Cluj-Napoca 82.96 321 ⇓ *i*P **P** **17 00 35.2 +1.0**
CJR Cluj-Napoca 82.96 321 ⇓P **P** **17 00 35.2 +1.0**
KLYT Kilyos 83.08 314 ⇓ *i*P **P** **17 00 35.6 +0.8**
DUG Dugway, Tooele 83.20 47 *e*P **P** **17 00 36.9 +1.3**
comp=Z,4.9nm,0.8s
DUG Dugway, Tooele 83.20 47 *e*P **P** **17 00 36.9 +1.3**
DUG pmax pmax
comp=Z,5.0nm,0.8s
ARR Arges 83.22 320 ⇑ *i*P **P** **17 00 37.1 +1.6**
YLV Yalova 83.27 314 ⇑ *i*P **P** **17 00 36.2 +0.3**
YLV Yalova 83.27 314 ⇑P **P** **17 00 36.2 +0.3**
DRGR 83.39 321 ⇑ *i*P **P** **17 00 36.4 0.0**
DRGR 83.39 321 ⇑P **P** **17 00 36.4 0.0**
PDAR Pinedale Array 83.68 43 *e*P **P** **17 00 38.8 +0.7**
PDAR Pinedale Array 83.68 43 P **P** **17 00 38.6 +0.5**
comp=Z,0.5nm,0.5s,baz=259,slow=2.6,SNR=6.4
PHSR Pinarhisar 83.78 315 ⇑ *i*P **P** **17 00 39.2 +0.8**
RUE Ruedersdorf 83.93 330 *e*P **P** **17 00 39.2 +0.4**
comp=Z,19nm,0.8s,baz=43,slow=4.7
RUE Ruedersdorf 83.93 330 *e*P **P** **17 00 38.6 -0.2**
RUE lAmb lAmb 17 00 39.7
comp=Z,26nm,0.8s
KSP Ksiaz 83.94 327 *e*P **P** **17 00 39.3 +0.4**
KSP *e*pP **pwP** **17 02 13.1 +1.5**
KSP Ksiaz 83.94 327 *e*P **P** **17 00 39.3 +0.4**
MORC Moravsky Berou 84.07 326 ⇓ *i*P **P** **17 00 39.6 -0.1**
MORC Moravsky Berou 84.07 326 ⇓P **P** **17 00 39.6 -0.1**
MORC Moravsky Berou 84.07 326 *e*P **P** **17 00 39.6 -0.1**
MORC *e*pP **pwP** **17 02 12.9 +0.6**
GZR Gura Zlata 84.23 320 ⇑ *i*P **P** **17 00 40.5 -0.1**
GZR Gura Zlata 84.23 320 ⇑P **P** **17 00 40.5 -0.1**
KRLC Kraliky 84.23 327 *e*P **P** **17 00 40.3 -0.2**
KRLC Kraliky 84.23 327 *e*P **P** **17 00 40.3 -0.2**
DPC Dobruska-Polom 84.26 327 *e*P **P** **17 00 41.0 +0.4**
DPC *e*pP **pwP** **17 02 14.7 +1.3**
DPC Dobruska-Polom 84.26 327 *e*P **P** **17 00 41.0 +0.4**
VYHS Vyhne 84.29 324 *e*P **P** **17 00 41.2 +0.4**
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 84.29 324 *e*P **P** **17 00 41.2 +0.4**
VYHS *e*pP **pwP** **17 02 14.2 +0.7**
VYHS *e*PP **PP** **17 04 03.8 +2.6**
UPC Upice 84.30 327 *e*P **P** **17 00 40.9 +0.2**
UPC Upice 84.30 327 *e*P **P** **17 00 40.9 +0.2**
BSEG Bad Segeberg 84.33 332 *e*P **P** **17 00 41.0 +0.2**
comp=Z,8.7nm,0.8s,baz=43,slow=4.7
JAVC Velka Javorina 84.63 325 *e*P **P** **17 00 43.6 +1.1**
JAVC *e*pP **pwP** **17 02 16.9 +1.7**
BZS Buzias 84.72 321 ⇓ *i*P **P** **17 00 42.4 -0.5**
BZS Buzias 84.72 321 ⇓P **P** **17 00 42.4 -0.5**
VRAC Vranov 84.84 326 ⇑ *i*P **P** **17 00 43.5 0.0**
VRAC Vranov 84.84 326 ⇑P **P** **17 00 43.5 0.0**
VRAC Vranov 84.84 326 *e*P **P** **17 00 43.7 +0.2**
VRAC *e*pP **pwP** **17 02 17.0 +0.7**
PVCC Panska Ves 84.95 328 *e*P **P** **17 00 44.1 +0.2**
PVCC Panska Ves 84.95 328 *e*P **P** **17 00 44.1 +0.2**
BRG Berggiesshubel 84.99 328 *e*P **P** **17 00 44.0 -0.1**
comp=Z,14nm,0.9s
BRG *e* 17 02 17.9
comp=Z,7.5nm,1.0s
BRG Berggiesshubel 84.99 328 *e*P **P** **17 00 44.2 +0.1**
comp=Z,8.5nm,0.8s,baz=43,slow=4.7
BRG Berggiesshubel 84.99 328 *e*P **P** **17 00 44.0 -0.1**
BRG pmax pmax
comp=Z,14nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,1.0s
HLG Helgoland 85.09 333 *e*P **P** **17 00 44.3 -0.2**
baz=43,slow=4.7
CLL Collm 85.10 329 *e*P **P** **17 00 44.3 -0.4**
comp=Z,22nm,1.0s

CLL	**Collm**	**85.10**	**329**	*e*P	**P**	**17 00 44.3**	**-0.4**
	comp=Z,14nm,0.9s,baz=43,slow=4.7						
CLL	**Collm**	**85.10**	**329**	*i* P	**P**	**17 00 44.4**	**-0.3**
	comp=Z,25nm,1.1s						
CLL	**Collm**	**85.10**	**329**	*i* P	**P**	**17 00 44.4**	**-0.3**
CLL				pmax	pmax		
	comp=Z,25nm,1.1s						
KRUC	**Moravsky**	**85.11**	**326**	*e*P	**P**	**17 00 44.8**	**0.0**
KRUC				*e*pP	**pwP**	**17 02 18.2**	**+0.6**
MODS	**Modra-Piesok**	**85.15**	**325**	*e*P	**P**	**17 00 45.6**	**+0.6**
MODS				pmax	pmax		
	comp=Z,16nm,1.3s						
MODS	**Modra-Piesok**	**85.15**	**325**	*e*P	**P**	**17 00 45.6**	**+0.6**
MODS				*e*pP	**pwP**	**17 02 18.7**	**+0.8**
MDVR	**Moldovita**	**85.20**	**320**⇑	*i*P	**P**	**17 00 44.9**	**-0.5**
FBE	**Freiberg**	**85.22**	**329**	*e*P	**P**	**17 00 45.7**	**+0.4**
	comp=Z,18nm,0.8s,baz=43,slow=4.7						
GOPC	**GO Pecny, Ondr**	**85.28**	**327**	*e*P	**P**	**17 00 45.9**	**+0.3**
GOPC				*e*pP	**pwP**	**17 02 19.5**	**+0.9**
GOPC	**GO Pecny, Ondr**	**85.28**	**327**	*e*P	**P**	**17 00 45.9**	**+0.3**
GOPC				*e**PP	**pwP**	**17 02 19.5**	**+0.9**
PRU	**Pruhonice**	**85.34**	**328**	*e*P	**P**	**17 00 45.8**	**-0.1**
PRU				*e*pP	**pwP**	**17 02 19.3**	**+0.4**
PRU	**Pruhonice**	**85.34**	**328**	*e*P	**P**	**17 00 45.8**	**-0.1**
PRU				*e**PP	**pwP**	**17 02 19.3**	**+0.4**
TREC	**Trest**	**85.38**	**327**	*e*P	**P**	**17 00 46.2**	**+0.1**
TREC	**Trest**	**85.38**	**327**	*e*P	**P**	**17 00 46.2**	**+0.1**
NRDL	**Niedersach Rie**	**85.47**	**331**	*e*P	**P**	**17 00 46.4**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=43,slow=4.7						
ASSE	**Asse, Remlinge**	**85.51**	**331**	*e*P	**P**	**17 00 47.3**	**+0.7**
	baz=43,slow=4.7						
NEUB	**Neuenburg**	**85.71**	**330**	*e*P	**P**	**17 00 47.6**	**-0.1**
	baz=43,slow=4.7						
VTS	**Vitosha**	**85.72**	**318**	*e*P	**P**	**17 00 48.1**	**+0.1**
	comp=Z,1.1nm,0.9s						
VTS	**Vitosha**	**85.72**	**318**⇓	*i*P	**P**	**17 00 48.5**	**+0.4**
VTS	**Vitosha**	**85.72**	**318**	⇓P	**P**	**17 00 48.5**	**+0.4**
CLZ	**Clausthal**	**85.84**	**331**	*e*P	**P**	**17 00 48.3**	**0.0**
	baz=43,slow=4.7						
CLZ				*e*pP	**pwP**	**17 02 21.6**	**+0.2**
TANN	**Tannenbergstha**	**85.98**	**329**	*e*P	**P**	**17 00 48.9**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=43,slow=4.7						
GUNZ	**Gunzen**	**86.07**	**329**	*e*P	**P**	**17 00 49.3**	**-0.2**
	comp=Z,5.4nm,0.8s,baz=43,slow=4.7						
WERN	**Wernitzgruen**	**86.11**	**329**	*e*P	**P**	**17 00 49.5**	**-0.2**
	baz=43,slow=4.7						
WERN				*e*pP	**pwP**	**17 02 22.4**	**-0.5**
NKC	**Novy Kostel**	**86.11**	**329**	*e*P	**P**	**17 00 49.7**	**0.0**
NKC	**Novy Kostel**	**86.11**	**329**	*e*P	**P**	**17 00 49.7**	**0.0**
CONA	**Conrad Observa**	**86.14**	**325**	*e*PcP	**P**	**17 00 50.2**	**+0.2**
	comp=Z,15nm,1.4s,SNR=5.9						
MOX	**Moxa**	**86.19**	**329**	*e*P	**P**	**17 00 49.6**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=43,slow=4.7						
KHC	**Kasperske Hory**	**86.39**	**327**	*e*P	**P**	**17 00 50.3**	**-0.8**
	comp=Z,3.7nm,0.8s						
KHC	**Kasperske Hory**	**86.39**	**327**	*e*P	**P**	**17 00 50.5**	**-0.5**
KHC				*ex*	x	17 01 01.5	
KHC				*e*pP	**pP**	**17 02 19.8**	**+0.9**
KHC	**Kasperske Hory**	**86.39**	**327**	*e*P	**P**	**17 00 50.5**	**-0.5**
KHC				*e**PP	**pP**	**17 02 19.8**	**+0.9**
MANZ	**Manzenberg**	**86.44**	**329**	*e*P	**P**	**17 00 51.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=43,slow=4.7						
GEC2	**GERESS Array S**	**86.53**	**327**	*e*P	**P**	**17 00 51.3**	**-0.5**
	comp=Z,5.5nm,0.7s						
GEC2	**GERESS Array S**	**86.53**	**327**	*e*P	**P**	**17 00 51.5**	**-0.3**
	comp=Z,4.4nm,0.8s,baz=43,slow=4.7						
GEC2	**GERESS Array S**	**86.53**	**327**	*e*P	**P**	**17 00 51.3**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	**86.53**	**327**	P	**P**	**17 00 51.0**	**-0.8**
GERES	**GERESS Array B**	**86.53**	**327**	P	**P**	**17 00 51.0**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=41,slow=5.3,SNR=34						
GEA0	**GERESS Array S**	**86.54**	**327**	*e*P	**P**	**17 00 51.2**	**-0.6**
ROTZ	**Rotzenmuhle**	**86.56**	**328**	*e*P	**P**	**17 00 51.9**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=43,slow=4.7						
ROTZ				*e*pP	**pwP**	**17 02 25.4**	**+0.3**
IBBN	**Ibbenburen**	**86.57**	**332**	*e*P	**P**	**17 00 51.7**	**-0.1**
	comp=Z,8.3nm,0.8s,baz=43,slow=4.7						
WET	**Wettzell**	**86.70**	**328**	*e*P	**P**	**17 00 52.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=43,slow=4.7						
KAC	**Achnashellach**	**86.75**	**341**	*e*P	**P**	**17 00 52.8**	**+0.3**
ARSA	**Arzberg**	**86.78**	**325**	*e*PcP	**P**	**17 00 52.7**	**-0.2**
	comp=Z,10nm,1.6s						
MOA	**Molln**	**86.97**	**326**	*e*PcP	**P**	**17 00 53.6**	**-0.2**
	comp=Z,7.6nm,1.2s						
KPL	**Plockton**	**86.98**	**341**	*e*P	**P**	**17 00 53.7**	**+0.1**
KPL				IAmb	IAmb	17 00 54.9	
	comp=Z,40nm,0.7s						
GRF	**Grafenberg Arr**	**87.05**	**329**	*e*P	**P**	**17 00 54.3**	**+0.2**
	baz=43,slow=4.7						
INVG	**Invergeldie, C**	**87.32**	**340**	*e*P	**P**	**17 00 55.8**	**+0.6**
ESY	**Stoneypath**	**87.32**	**339**	*e*P	**P**	**17 00 55.3**	**+0.1**
SOKA	**Soboth**	**87.42**	**325**	*i* PcP	**P**	**17 00 55.6**	**-0.4**
	comp=Z,12nm,0.8s						
EAB	**Aberfoyle**	**87.61**	**340**	*e*P	**P**	**17 00 57.0**	**+0.4**
LAWE	**Loch Awe, Argy**	**87.85**	**341**	*e*P	**P**	**17 00 57.8**	**+0.1**
TNS	**Taunus Mts**	**87.86**	**331**	*e*P	**P**	**17 00 57.3**	**-0.7**
	baz=43,slow=4.7						
KBA	**Koelnbreinsper**	**87.96**	**326**	*i* PcP	**P**	**17 00 58.0**	**-0.7**
	comp=Z,13nm,1.1s						
ESK	**Eskdalemuir**	**88.01**	**339**	*e*P	**P**	**17 00 58.1**	**-0.4**
MYKA	**Terra Mystica**	**88.13**	**326**	*i* P	**P**	**17 00 58.3**	**-1.1**
	comp=Z,5.5nm,0.6s						
FUR	**Furstenfeldbru**	**88.14**	**328**	*e*P	**P**	**17 00 59.4**	**+0.1**
	comp=Z,18nm,0.7s,baz=43,slow=4.7						
HGN	**Heimansgroeve**	**88.49**	**332**	*e*P	**P**	**17 01 00.6**	**-0.2**
	baz=43,slow=4.7						
ABTA	**Abfaltersbach**	**88.59**	**326**	*e*P	**P**	**17 01 00.5**	**-1.0**
	comp=Z,20nm,0.9s,SNR=5.8						
WATA	**Walderalm**	**88.61**	**327**	*e*PcP	**P**	**17 01 01.0**	**-0.6**
	comp=Z,6.0nm,0.6s						
STU	**Stuttgart**	**88.63**	**329**	*e*P	**P**	**17 01 01.7**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=43,slow=4.7						
MOTA	**Moosalm**	**88.82**	**327**	*i* PcP	**P**	**17 01 01.9**	**-0.8**
	comp=Z,5.3nm,0.7s,SNR=5.1						
SQTA	**Sankt Quirin**	**88.86**	**327**	*e*PcP	**P**	**17 01 02.2**	**-0.6**
	comp=Z,9.4nm,0.8s,SNR=4.3						
RETA	**Reutte**	**88.88**	**328**	*i* PcP	**P**	**17 01 02.5**	**-0.3**
	comp=Z,20nm,1.3s						
UBR	**Ueberruh**	**89.03**	**328**	*e*P	**P**	**17 01 03.2**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=43,slow=4.7						
CLGH	**Cloghs, Cushen**	**89.07**	**341**	*e*P	**P**	**17 01 03.7**	**+0.3**
CLGH				IAmb	IAmb	17 01 04.3	
	comp=Z,37nm,0.9s						
FETA	**Feichten**	**89.23**	**327**	*e*PcP	**P**	**17 01 04.0**	**-0.6**
	comp=Z,12nm,0.8s,SNR=6.1						
WLF	**Walferdange**	**89.25**	**331**	*e*P	**P**	**17 01 03.9**	**-0.5**
	baz=43,slow=4.7						
WLF	**Walferdange**	**89.25**	**331**	⇑P	**P**	**17 01 03.6**	**-0.8**
BFO	**Black Forest**	**89.34**	**329**	*e*P	**P**	**17 01 04.7**	**-0.3**
	comp=Z,9.4nm,0.8s,baz=43,slow=4.7						
BFO	**Black Forest**	**89.34**	**329**	*i* P	**P**	**17 01 05.1**	**+0.2**
DAVA	**Damuels**	**89.43**	**328**	*i* PcP	**P**	**17 01 05.1**	**-0.4**
	comp=Z,30nm,1.1s,SNR=6.5						
CWF	**Charnwood Fore**	**89.57**	**337**	*e*P	**P**	**17 01 05.7**	**-0.1**
CWF				IAmb	IAmb	17 01 06.7	
	comp=Z,25nm,0.9s						
FUORN	**Ofenpass-Fuorn**	**89.75**	**327**	*e*P	**P**	**17 01 07.0**	**-0.1**
	comp=Z,43nm,0.9s						
ECH	**Echery**	**89.94**	**330**	*e*P	**P**	**17 01 06.6**	**-1.1**
	comp=Z,18nm,1.1s						
ECH	**Echery**	**89.94**	**330**	*e*P	**P**	**17 01 06.6**	**-1.1**
ECH				pmax	pmax		
	comp=Z,18nm,1.1s						
HLM1	**Long Mynd**	**90.28**	**338**	*e*P	**P**	**17 01 08.4**	**-0.7**
MCH1	**Michaelchurch**	**90.76**	**337**	*e*P	**P**	**17 01 11.2**	**-0.2**
MCH1				IAmb	IAmb	17 01 12.0	
	comp=Z,33nm,0.7s						
MONM	**Monmouth**	**90.83**	**337**	*e*P	**P**	**17 01 11.7**	**+0.1**
TX31	**Lajitas Ar. Si**	**95.77**	**51**	*e*P	**P**	**17 01 36.0**	**+1.1**
TXAR	**Lajitas Array**	**95.77**	**51**	P	**P**	**17 01 35.6**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=306,slow=3.0,SNR=11						
KMBO	**Kilima Mbogo**	**100.23**	**275**	P	**Pdif**	**17 01 54.0**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=29,slow=9.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**119.63**	**310**	PKP	**PKPdf**	**17 06 55.1**	**-1.5**
	comp=Z,2.2nm,0.5s,baz=33,slow=1.4,SNR=20						
TORD				PP	**PP**	**17 08 18.3**	**-6.2**
	comp=Z,1.4nm,0.9s,baz=36,slow=7.2,SNR=5.1						
QSPA	**South Pole Qui**	**120.72**	**180**	*e*PKPdf	**PKiKP**	**17 06 57.3**	**0.0**
BOSA	**Boshof**	**122.83**	**254**	PKP	**PKPdf**	**17 07 01.2**	**-1.2**
	comp=Z,6.7nm,0.8s,baz=94,slow=0.8,SNR=9.0						
DBIC	**Dimbokro**	**128.73**	**311**	PKP	**PKPdf**	**17 07 13.4**	**-0.6**
	comp=Z,5.3nm,0.6s,baz=48,slow=3.2,SNR=8.3						
TIC	**Toumodi**	**128.85**	**311**	*e*PKIKP	**PKPdf**	**17 07 14.6**	**+0.3**
KIC	**Kosan Boka**	**128.88**	**310**	*e*PKIKP	**PKiKP**	**17 07 14.8**	**-0.3**
	comp=Z,97nm,1.6s						
LIC	**Lamto**	**129.17**	**310**	*e*PKIKP	**PKiKP**	**17 07 15.3**	**-0.3**
	comp=Z,71nm,1.7s						
NVL	**N'lazarevskaya**	**130.78**	**201**	*e*PKHKP	PKPpre	17 06 52.1	
NVL				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SNAA	**Sanae**	**134.26**	**196**	PKP	**PKPdf**	**17 07 23.1**	**+0.3**
VNA2	**Neumayer--Watz**	**135.84**	**195**	PKP	**PKiKP**	**17 07 26.5**	**-0.9**
	baz=82,slow=1.0						
VNA3	**Neumayer Olvmp**	**136.10**	**194**	PKP	**PKPdf**	**17 07 26.6**	**+0.4**
VNA1	**Neumayer--Stat**	**136.24**	**195**	PKP	**PKPdf**	**17 07 27.0**	**+0.6**
SHEL	**Horse Pasture**	**144.15**	**286**	*i* PKIKP	**PKPdf**	**17 07 43.6**	**+1.3**
LPAZ	**La Paz**	**151.65**	**65**	PKP	**PKPdf**	**17 07 56.1**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=274,slow=6.8,SNR=4.6						
LPAZ				PKPbc	**PKiKP**	**17 08 03.0**	**+0.8**
	comp=Z,9.4nm,0.7s,baz=351,slow=0.9,SNR=24						
PLCA	**Paso Flores**	**154.61**	**121**	PKPbc	**PKiKP**	**17 08 05.8**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=273,slow=2.2,SNR=9.2						
PLCA				PKPab	**PKPab**	**17 08 24.0**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=246,slow=6.4,SNR=5.6						
BDFB	**Brasilia**	**163.62**	**23**	PKP	**PKPdf**	**17 08 09.2**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=188,slow=8.9,SNR=3.4						
CPUP	**Villa Florida**	**165.35**	**76**	PKP	**PKPdf**	**17 08 10.3**	**-0.1**
	comp=Z,4.6nm,1.0s,baz=185,slow=8.0,SNR=5.5						

IDC ***15*** *16:49:44.2±2.1, 32.87N×139.22E, h0km, mb4.3/10, mb1 4.6/10, mb1mx4.2/34, mbtmp4.3/10, Error ellipse: s-maj=66.1km s-min=31.5km az=4.0*

ISC 15 16:49:52.5±2.1, 33.4N±0.5×139.2E±0.2, h35km, n15, σ1s10/13, mb4.3/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**28.15**	**112**	T	T	17 24 54.9	
	baz=306,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.16**	**112**	T	T	17 24 56.5	
	baz=306,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.17**	**112**	T	T	17 24 56.5	
	baz=306,slow=75						
ZALV	**Zalesovo Beam**	**43.12**	**315**	PcP	**PcP**	**16 59 37.9**	**-0.5**
	5.4nm,0.7s,baz=103,slow=3.2,SNR=5.1						
ILAR	**Eielson Array**	**53.50**	**31**	P	**P**	**16 59 08.2**	**-0.9**
	1.0nm,0.7s,baz=272,slow=6.6,SNR=4.2						
ILAR				PcP	**PcP**	**17 00 13.6**	**-1.9**
	1.3nm,0.8s,baz=273,slow=3.2,SNR=3.8						
INK	**Inuvik**	**58.41**	**26**	P	**P**	**16 59 44.1**	**+0.1**
	3.2nm,0.8s,baz=290,slow=7.9,SNR=5.6						
YKA	**Yellowknife Ar**	**67.82**	**29**	P	**P**	**17 00 47.6**	**+1.0**
	1.7nm,0.8s,baz=297,slow=6.1,SNR=7.4						
FINES	**FINESS Array B**	**71.16**	**332**	P	**P**	**17 01 06.0**	**-1.2**
	3.4nm,0.8s,baz=54,slow=7.2,SNR=2.4						
NOA	**NORSAR Array B**	**76.80**	**337**	P	**P**	**17 01 41.3**	**+1.1**
	3.3nm,0.8s,baz=43,slow=5.7,SNR=5.3						
NVAR	**Mina Array Bea**	**78.61**	**51**	P	**P**	**17 01 51.0**	**0.0**
	2.1nm,0.8s,baz=272,slow=5.7,SNR=5.7						
BRTR	**Keskin Array B**	**79.88**	**311**	P	**P**	**17 01 57.6**	**-0.2**
	3.5nm,0.9s,baz=113,slow=5.8,SNR=4.0						
PDAR	**Pinedale Array**	**81.48**	**44**	P	**P**	**17 02 07.5**	**+1.0**
	0.9nm,0.8s,baz=245,slow=2.8,SNR=5.0						
GERES	**GERESS Array B**	**84.80**	**327**	P	**P**	**17 02 23.9**	**+0.6**
	0.6nm,0.6s,baz=44,slow=5.8,SNR=3.6						
TXAR	**Lajitas Array**	**93.76**	**51**	P	**P**	**17 03 05.3**	**-0.8**
	3.9nm,0.8s,baz=288,slow=3.3,SNR=17						
LPAZ	**La Paz**	**150.01**	**62**	PKPbc	**PKPdf**	**17 09 36.8**	**+1.2**
	6.2nm,0.9s,baz=350,slow=4.0,SNR=6.9						

ISCJB ***15*** *17:03:16.8±1.8, 33.79N±0.04×35.76E±0.07, h9km±37km, Error ellipse: s-maj=10.2km s-min=5.8km az=162.2*
GRAL ***15*** *17:03:17.2±0.3, 33.79N×35.78E, h7km±5km, MD2.8*
NSSC ***15*** *17:03:18.0±1.2, 33.72N×35.75E, h5km±24km, ML1.3*

ISC 15 17:03:15.8±1.0, 33.80N±0.05×35.76E±0.08, h18km±7km, n7, σ0s35/13, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.14**	**320**	*e*P	**Pg**	**17 03 20.2**	**+0.2**
BHL				*e*S	**Sg**	**17 03 22.4**	**-0.5**
DQRL	**Deir Qamar**	**0.18**	**241**	*e*P	**Pg**	**17 03 20.9**	**+0.3**
DQRL				*e*S	**Sg**	**17 03 23.6**	**-0.2**
RCY	**Rachaya**	**0.30**	**168**	*e*P	**Pb**	**17 03 22.8**	**0.0**
RCY				*e*S	**Sg**	**17 03 26.9**	**-0.1**
BRBR	**Barbar**	**0.41**	**158**	*e*P	**Pb**	**17 03 24.9**	**+0.1**
BRBR				*e*S	**Sg**	**17 03 29.9**	**-0.2**
BRBR				AML	AML	17 03 33.8	
	comp=E,30nm,0.6s						
BRBR				AML	AML	17 03 35.1	
	comp=N,24nm,0.3s						
QASN	**Qassioun**	**0.50**	**121**	*e*P	**Pn**	**17 03 28.2**	**0.0**
QASN				*e*S	**Sb**	**17 03 33.4**	**+0.2**
QASN				AML	AML	17 03 35.0	
	comp=N,32nm,0.3s						
QASN				AML	AML	17 03 36.4	
	comp=E,54nm,0.4s						
HWQ	**Hawqa**	**0.51**	**18**	*e*P	**Pg**	**17 03 26.3**	**+0.3**
TOTH	**TOTAH**	**0.70**	**128**	*e*P	**Pn**	**17 03 31.0**	**+0.1**
TOTH				*e*S	**Sn**	**17 03 40.8**	**-0.6**
TOTH				AML	AML	17 03 49.6	
	comp=E,10nm,0.6s						
TOTH				AML	AML	17 03 56.8	
	comp=N,9.9nm,0.5s						

UCR 15 17:05:23.8±1.8, 9.06N×84.12W, h13km±10km, MD4.0, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDDO	**Dominical**	**0.32**	**52**⇓	*i*P	Pg	17 05 30.3	-0.1
EDDO				*i* S	Sb	17 05 36.0	-0.5
LCR2	**La Lucha 2**	**0.69**	**10**⇓	*i*P	Pg	17 05 36.6	-0.7
LCR2				*i* S	Sb	17 05 47.1	-0.3
EDBA	**Buenos Aires**	**0.84**	**83**	*e*P	Pg	17 05 38.4	-1.7
EDBA				*e*S	Sg	17 05 51.0	-0.2
HDC	**Heredia**	**0.94**	**0**	*e*P	Pg	17 05 41.0	-1.0
HDC				*i* S	Sb	17 05 54.7	+0.2
EDSV	**San Vito**	**1.16**	**102**	*e*P	Pb	17 05 45.0	-0.8
BRU2	**Volcan**	**1.44**	**100**	*i* P	Pn	17 05 48.8	-0.9
BRU2				*i* S	Sn	17 06 08.3	-0.2
JTS	**JuntasAbangare**	**1.48**	**326**⇑	*e*P	Pn	17 05 48.8	-1.4
JTS				*e*S	Sn	17 06 09.0	-0.3
CEDE	**Laguna Cedeo**	**1.53**	**338**	*i* P	Pn	17 05 51.1	+0.1
CEDE				*i* S	Sg	17 06 14.2	+1.0
DVD	**David**	**1.76**	**110**	*i* S	Sb	17 06 17.6	-0.4
ACAL	**Aguas Claras**	**1.81**	**330**	*i* P	Pn	17 05 54.7	-0.1
PTEN	**Parque Tenorio**	**1.86**	**333**	*i* P	Pn	17 05 55.4	-0.1
PTEN				*i* S	Sg	17 06 23.2	-0.4
COLC	**Colonia**	**1.92**	**326**	*i* P	Pn	17 05 55.4	-0.9
LAPC	**Finca la Perla**	**2.14**	**323**	*i* P	Pn	17 05 58.9	-0.3
BCIP	**Isla Barro Col**	**4.23**	**88**	*e*P	Pn	17 06 28.5	+0.5

GUC ***15*** *17:13:49.7±0.7, 19.98S×70.22W, h48km±4km, ML4.0*
SJA ***15*** *17:13:49.7±0.8, 19.97S×70.21W, h40km±2km, ML3.5, MW3.7*
ISCJB ***15*** *17:13:50.3±0.6, 19.98S±0.03×70.29W±0.07, h46km±8km, mb3.9/3, Error ellipse: s-maj=10.2km s-min=4.3km az=176.8*
IDC ***15*** *17:13:56.3±2.0, 20.03S×69.48W, h108km±18km, mb3.6/3, mb1 3.7/7, mb1mx3.4/30, mbtmp3.9/7, MS2.8/1, Ms1 2.9/1, ms1mx2.6/20, Error ellipse: s-maj=37.1km s-min=15.3km az=97.0*

ISC 15 17:13:49.6±0.9, 19.96S±0.03×70.20W±0.07, h51km±8km, n39, σ1s75/48, mb3.8/3, 5C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.36**	**11**⇑	*i*P	**Pn**	**17 13 60.0**	**+0.4**
PSGC				*i* S	**Sn**	**17 14 07.0**	**+0.3**
PSGC				IAML		17 14 07.6	
	comp=E,11μm,0.3s						
PSGCX	**Pisagua**	**0.36**	**11**	*e*P	**Pn**	**17 13 59.9**	**+0.3**
PSGCX				*e*S	**Sn**	**17 14 06.9**	**+0.2**
PB11	**IPOC Station P**	**0.55**	**69**	*e*P	**Pn**	**17 14 02.8**	**+1.1**
PB11				*e*S	**Sn**	**17 14 11.8**	**+1.4**
PB11	**IPOC Station P**	**0.55**	**69**⇑	*e*P	**Pn**	**17 14 02.5**	**+0.9**
PB11				*i* S	**Sn**	**17 14 12.0**	**+1.6**
PB11				IAML		17 14 12.6	
	comp=N,18μm,0.3s						
MNMC	**Minye Minye**	**1.00**	**35**	*i* P	**Pn**	**17 14 08.8**	**+1.2**
MNMC				*i* S	**Sn**	**17 14 23.4**	**+2.5**
MNMC				IAML		17 14 25.4	
	comp=N,13μm,0.2s						
MNMCX	**Minye Minye**	**1.00**	**35**	*e*P	**Pn**	**17 14 09.1**	**+1.5**
MNMCX				*e*S	**Sn**	**17 14 23.6**	**+2.8**
PB08	**IPOC Station P**	**1.00**	**101**	*e*P	**Pn**	**17 14 09.2**	**+1.5**
PB08				*e*S	**Sn**	**17 14 22.7**	**+1.7**
PB08	**IPOC Station P**	**1.00**	**101**⇓	*i*P	**Pn**	**17 14 09.2**	**+1.5**
PB08				*e*S	**Sn**	**17 14 23.4**	**+2.3**
PB01	**IPOC Station P**	**1.27**	**148**	*e*P	**Pn**	**17 14 12.2**	**+1.1**
PB01	**IPOC Station P**	**1.27**	**148**⇓	*e*P	**Pn**	**17 14 11.8**	**+0.7**
PB01				*i* S	**Sn**	**17 14 28.4**	**+1.2**
PB01				IAML		17 14 35.1	
	comp=E,4μm,0.3s						
PB12	**IPOC Station P**	**1.34**	**355**	*e*P	**Pn**	**17 14 13.4**	**+1.4**
PB12				*e*S	**Sn**	**17 14 31.0**	**+2.1**
PB12	**IPOC Station P**	**1.34**	**355**⇑	*i*P	**Pn**	**17 14 13.2**	**+1.2**
PB12				*i* S	**Sn**	**17 14 30.7**	**+1.9**
PB12				IAML		17 14 34.9	
	comp=E,3μm,0.6s						
PB02	**IPOC Station P**	**1.39**	**168**	*e*P	**Pn**	**17 14 14.0**	**+1.3**
PB02	**IPOC Station P**	**1.39**	**168**	*e*P	**Pn**	**17 14 13.7**	**+1.0**
PB02				*i* S	**Sn**	**17 14 31.2**	**+1.2**
PB07	**IPOC Station P**	**1.79**	**171**	*e*P	**Pn**	**17 14 19.7**	**+1.5**
PB07	**IPOC Station P**	**1.79**	**171**	*e*P	**Pn**	**17 14 19.2**	**+0.9**
PB07				*i* S	**Sn**	**17 14 41.3**	**+1.4**
PB07				IAML		17 14 47.1	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**2.04**	**154**⇑	*i*P	**Pn**	**17 14 23.2**	**+1.6**
PB09				*i* S	**Sn**	**17 14 47.7**	**+1.7**
PB09				IAML		17 14 59.1	
	comp=N,3μm,0.8s						
PB03	**IPOC Station P**	**2.12**	**169**	*e*P	**Pn**	**17 14 24.3**	**+1.5**
PB03	**IPOC Station P**	**2.12**	**169**	*e*P	**Pn**	**17 14 24.2**	**+1.4**
PB03				*i* S	**Sn**	**17 14 49.6**	**+1.5**
PB03				IAML		17 14 57.1	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**2.37**	**179**	*e*P	**Pn**	**17 14 26.8**	**+0.6**
PB04				IAML		17 15 04.5	
	comp=E,2μm,0.3s						
PB05	**IPOC Station P**	**2.88**	**180**	IAML		17 15 19.0	
	comp=E,504nm,0.6s						
LVC	**Limon Verde**	**2.90**	**156**	*e*P	**Pn**	**17 14 35.8**	**+2.2**
LVC				IAML		17 15 23.4	
	comp=Z,160nm,0.5s						
LVC	**Limon Verde**	**2.90**	**156**	P	**Pn**	**17 14 36.3**	**+2.7**
	comp=Z,15nm,0.3s,baz=352,slow=7.7,SNR=106						
LVC				S	**Sn**	**17 15 10.1**	**+2.6**
	comp=Z,26nm,0.3s,baz=230,slow=2.5,SNR=3.4						
LPAZ	**La Paz**	**4.14**	**29**	*e*P	**Pn**	**17 14 55.1**	**+4.1**
LPAZ	**La Paz**	**4.14**	**29**	P	Pn	17 14 56.1	+5.1
	comp=Z,2.8nm,0.3s,baz=198,slow=6.6,SNR=31						
LPAZ				LR	LR	17 16 48.5	
	comp=Z,118nm,19.4s,baz=242,slow=44						
SIV	**San Ignacio**	**9.54**	**67**	P	**Pn**	**17 16 03.8**	**-0.6**
	comp=Z,2.7nm,0.3s,baz=276,slow=9.5,SNR=46						
CPUP	**Villa Florida**	**13.43**	**121**	P	**Pn**	**17 16 55.2**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=294,slow=15,SNR=1.9						
PTGA	**Pitinga**	**21.57**	**29**	P	**P**	**17 18 33.7**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=180,slow=20,SNR=2.7						
TORD	**Torodi Ar. Bea**	**77.99**	**71**	P	**

CAN	**Canberra**	**30.07**	**186**	*eP*	**P**	**17 31 51.4**	**+0.2**
	38nm,1.6s								
FORT	**Forrest**	**34.16**	**219**	*eP*	**P**	**17 32 27.4**	**+0.3**
	15nm,0.9s								
MBWA	**Marble Bar**	**35.37**	**240**	*eP*	**P**	**17 32 36.9**	**-0.8**
	40nm,1.6s								
OUZ	**Omahuta**	**35.67**	**149**	*eP*	**P**	**17 32 39.7**	**-0.4**
	56nm,1.4s								
NJ2	**Nanjing**	**48.94**	**322**	*eP*	**P**	**17 34 28.3**	**+0.3**
NJ2				pmax	pmax				
	comp=Z,12nm,0.7s								
GYA	**Guiyang**	**54.34**	**308**	*eP*	**P**	**17 35 10.3**	**+1.6**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
CN2	**Changchun**	**54.55**	**336**	*eP*	**P**	**17 35 11.5**	**+1.8**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
KMI	**Kunming**	**56.89**	**304**	P	**P**	**17 35 26.1**	**-1.1**
KMI				pmax	pmax				
	comp=Z,19nm,0.8s								
CM01	**Chiang Mai Arr**	**57.66**	**296**	*eP*	**P**	**17 35 31.6**	**-0.8**
CM31	**Chiang Mai Arr**	**57.69**	**296**	*eP*	**P**	**17 35 32.6**	**0.0**
	2.2nm,0.8s								
CMAR	**Chiang Mai Arr**	**57.69**	**296**	P	**P**	**17 35 32.0**	**-0.6**
	1.5nm,0.8s,baz=116,slow=5.8,SNR=17								
PETK	**Petropavlovsk-**	**58.33**	**4**	LR	LR	17 56 55.1	
	comp=Z,19nm,19.3s,baz=192,slow=32								
CD2	**Chengdu**	**58.72**	**311**	P	**P**	**17 35 39.3**	**-0.4**
CD2				pmax	pmax				
	comp=Z,3.0nm,0.5s								
HHC	**Hu-ho-hao-te**	**59.18**	**325**	*eP*	**P**	**17 35 44.8**	**+2.0**
HHC				pmax	pmax				
	comp=Z,21nm,1.0s								
HHC				pmax	pmax				
	comp=Z,97nm,5.2s								
LZH	**Lanzhou**	**61.27**	**316**	*eP*	**P**	**17 35 56.0**	**-1.2**
LZH				pP	sP	17 36 16.0	+3.8
LZH				sP	pP	17 36 21.3	+13
LZH				pmax	pmax				
	comp=Z,23nm,1.0s								
LZH				pmax	pmax				
	comp=Z,98nm,4.3s								
LZH				LR	LR				
	comp=E,340nm,13.4s								
LZH				LR	LR				
	comp=Z,510nm,16.7s								
GTA	**Gaotai**	**65.71**	**318**	*eP*	**P**	**17 36 26.5**	**0.0**
GTA				pP	pwP	17 36 38.6	-3.0
SONA0	**Songino Array**	**66.49**	**328**	*eP*	**P**	**17 36 31.0**	**-0.3**
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**17 36 31.0**	**-0.3**
SONM	**Songino Array**	**66.49**	**328**	P	**P**	**17 36 31.0**	**-0.3**
	0.6nm,0.6s,baz=149,slow=4.6,SNR=4.6								
WMQ	**Urumqi**	**75.80**	**318**	*eP*	**P**	**17 37 28.0**	**+0.3**
WMQ				PcP	**PcP**	**17 37 39.8**	**-0.4**
WMQ				LR	LR				
	comp=N,56nm,17.1s								
WMQ				LR	LR				
	comp=E,53nm,14.3s								
SUA	**Susitna One**	**79.56**	**24**	*eP*	**P**	**17 37 48.0**	**-0.3**
	11nm,0.8s								
RC01	**Rabbit Creek A**	**79.78**	**25**	*eP*	**P**	**17 37 49.6**	**+0.2**
	12nm,0.5s								
MK01	**Makanchi Array**	**80.38**	**319**	*eP*	**P**	**17 37 52.6**	**-0.4**
MK32	**Makanchi Array**	**80.39**	**319**	*eP*	**P**	**17 37 51.9**	**-1.2**
MKAR	**Makanchi Array**	**80.39**	**319**	P	**P**	**17 37 51.9**	**-1.2**
	0.8nm,0.7s,baz=102,slow=6.7,SNR=6.6								
MKAR				LR	LR	18 12 51.4			
	comp=Z,22nm,20.6s,baz=114,slow=35								
SML	**Sawmill**	**80.72**	**24**	*eP*	**P**	**17 37 55.3**	**+0.8**
	24nm,0.6s								
TRF	**Thorofare Moun**	**80.79**	**23**	*eP*	**P**	**17 37 54.3**	**-0.7**
	25nm,1.6s								
IM3	**Indian Mountai**	**80.97**	**20**	*eP*	**P**	**17 37 56.5**	**+0.8**
ZALV	**Zalesovo Beam**	**81.30**	**326**	*eP*	**P**	**17 37 56.2**	**-1.5**
ZALV	**Zalesovo Beam**	**81.30**	**326**	P	**P**	**17 37 56.6**	**-1.0**
	1.0nm,0.4s,baz=109,slow=6.9,SNR=5.9								
ZAA1	**Zalesovo Array**	**81.30**	**326**	*eP*	**P**	**17 37 56.6**	**-1.1**
RND	**Reindeer**	**81.32**	**23**	*eP*	**P**	**17 37 57.6**	**-0.1**
	12nm,0.7s								
KLU	**Klutina**	**81.58**	**25**	*eP*	**P**	**17 37 59.0**	**-0.1**
	9.4nm,0.8s								
DHY	**Denali Highway**	**81.74**	**24**	*eP*	**P**	**17 38 00.5**	**+0.5**
	6.3nm,0.8s								
WRH	**Wood River Hil**	**82.15**	**22**	*eP*	**P**	**17 38 01.6**	**-0.3**
	6.7nm,0.9s								
CCB	**Clear Creek Bu**	**82.35**	**22**	*eP*	**P**	**17 38 02.2**	**-0.7**
	6.8nm,0.8s								
COLA	**College**	**82.44**	**22**	*eP*	**P**	**17 38 03.0**	**-0.4**
	15nm,0.6s								
KDJ	**Kajisay**	**82.62**	**314**	*eP*	**P**	**17 38 06.4**	**+1.2**
	3.7nm,1.1s								
IL1	**Eielson Array**	**82.75**	**22**	*eP*	**P**	**17 38 04.3**	**-0.7**
ILAR	**Eielson Array**	**82.75**	**22**	P	**P**	**17 38 04.1**	**-0.9**
	7.1nm,0.7s,baz=246,slow=5.5,SNR=85								
ILB	**Eielson Array**	**82.75**	**22**	*eP*	**P**	**17 38 04.2**	**-0.9**
	7.9nm,0.7s								
DOT	**Dot Lake**	**83.33**	**24**	*eP*	**P**	**17 38 08.0**	**-0.2**
	11nm,0.8s								
SCRK	**Sand Creek**	**83.50**	**23**	*eP*	**P**	**17 38 09.7**	**+0.6**
	4.2nm,0.8s								
TOLK	**Toolik Lake Re**	**83.79**	**18**	*eP*	**P**	**17 38 10.7**	**+0.3**
	3.9nm,0.7s								
KURBB	**Kurchatov Arra**	**83.90**	**322**	P	**P**	**17 38 10.6**	**-0.7**
	0.3nm,0.4s,baz=100,slow=4.2,SNR=5.1								
AAK	**Ala-Archa**	**84.68**	**314**	P	**P**	**17 38 15.1**	**-0.5**
	1.0nm,0.7s,baz=123,slow=5.0,SNR=6.5								
EGAK	**Eagle**	**84.96**	**23**	*eP*	**P**	**17 38 16.8**	**+0.5**
	6.7nm,0.8s								
HYT	**Haines Junctio**	**85.05**	**28**	*eP*	**P**	**17 38 18.9**	**+1.8**
	10nm,0.8s								
DAWY	**Dawson**	**85.39**	**24**	*eP*	**P**	**17 38 19.5**	**+0.9**
	21nm,1.8s								
EPYK	**Eagle Plains**	**87.26**	**22**	*eP*	**P**	**17 38 28.2**	**+0.5**
	13nm,0.8s								
INK	**Inuvik**	**89.04**	**21**	*eP*	**P**	**17 38 36.1**	**+0.1**
	6.1nm,1.2s								
BVAR	**Borovoye Array**	**89.36**	**323**	P	**P**	**17 38 36.7**	**-1.2**
	0.6nm,0.6s,baz=116,slow=6.8,SNR=4.7								
NVAR	**Mina Array Bea**	**92.71**	**52**	P	**P**	**17 38 55.0**	**+0.8**
	1.4nm,0.8s,baz=253,slow=6.6,SNR=8.8								
NV01	**Mina Array Sit**	**92.71**	**52**	*eP*	**P**	**17 38 55.5**	**+1.4**
F10A	**Beach Ranch, E**	**94.03**	**44**	*eP*	**P**	**17 39 00.3**	**+0.4**
	4.6nm,0.9s								
YKA	**Yellowknife Ar**	**96.04**	**28**	P	**P**	**17 39 09.3**	**+0.8**
	0.6nm,0.6s,baz=269,slow=5.0,SNR=16								
YKB5	**Yellowknife Ar**	**96.04**	**28**	*eP*	**P**	**17 39 08.8**	**+0.3**
PDAR	**Pinedale Array**	**99.48**	**48**	P	**Pdif**	**17 39 24.2**	**-0.6**
	0.4nm,0.7s,baz=282,slow=2.9,SNR=4.1								
PDAR				LR	LR	18 17 35.7			
	comp=Z,24nm,19.6s,baz=252,slow=31								
VYHS	**Vyhne**	**121.62**	**326**	*e*PKP	**PKPdf**	**17 44 33.1**	**-2.1**
GERES	**GERESS Array B**	**124.22**	**328**	PKP	**PKPdf**	**17 44 40.0**	**-0.3**
	0.6nm,0.6s,baz=349,slow=1.4,SNR=5.5								
TOA0	**Tororo Ar. Sit**	**150.04**	**287**	*e*PKPbc	**PKPbc**	**17 45 31.8**	**-1.3**
TORD	**Tororo Ar. Bea**	**150.04**	**287**	PKPbc	**PKPbc**	**17 45 31.4**	**-1.7**
	4.7nm,0.8s,baz=36,slow=3.8,SNR=30								
TOA1	**Tororo Ar. Sit**	**150.04**	**287**	*e*PKPbc	**PKPbc**	**17 45 31.4**	**-1.7**

*IDC **15** 17:28:26.3±2.2,6.7°S×129.9°E,h131km±27km,mb3.3/1, mb1 3.3/6,mb1mx3.1/38,mbtmp3.7/6,Error ellipse: s-maj=38.4km s-min=20.5km az=97.0*

ISC 15 17:28:24.5±0.9,6.82S±0.06×130.1E±0.1,h146km,n6, σ3.9s76/11,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.03**	**11**	P	**Pn**	**17 29 52.1**	**+0.4**
	0.9nm,0.3s,baz=187,slow=17,SNR=23						
SIJI				S	**Sn**	**17 30 54.6**	**-5.2**
	0.8nm,0.3s,baz=226,slow=15,SNR=4.3						
BATI	**Baumata**	**7.19**	**242**	P	**Pn**	**17 30 08.2**	**+1.0**
	2.2nm,0.3s,baz=268,slow=13,SNR=5.2						
BATI				S	**Sn**	**17 31 25.4**	**-2.2**
	3.5nm,0.3s,baz=151,slow=19,SNR=8.6						
FITZ	**Fitzroy Crossi**	**12.02**	**201**	P	**Pn**	**17 31 13.1**	**+1.9**
	0.2nm,0.3s,baz=28,slow=14,SNR=12						
FITZ				S	**Sn**	**17 33 17.9**	**-6.1**
	0.5nm,0.3s,baz=117,slow=16,SNR=4.0						
WRA	**Warramunga Array**	**13.68**	**163**	P	**P**	**17 31 36.5**	**+0.1**
	0.4nm,0.3s,baz=339,slow=13,SNR=5.8						
WRA				S	**Sn**	**17 33 59.9**	**-4.2**
	0.8nm,0.3s,baz=279,slow=8.2,SNR=8.3						
ASAR	**Alice Springs**	**17.14**	**168**	P	**Pn**	**17 32 19.6**	**+4.2**
	0.2nm,0.3s,baz=347,slow=9.2,SNR=6.0						
ASAR				S	**S**	**17 35 25.9**	**-0.2**
	0.2nm,0.3s,baz=347,slow=25,SNR=5.2						
MKAR	**Makanchi Array**	**68.13**	**327**	P	**P**	**17 39 11.0**	**+2.2**
	0.3nm,0.3s,baz=116,slow=7.7,SNR=5.2						

MEX 15 17:33:28.2±0.4,13.95N×97.32W,h10km,MD3.7,Off coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**2.15**	**33**	*eP*	Pn	17 34 00.6	-3.6
HUIG				*eS*	Sn	17 34 26.5	-4.4
PNIG	**Pinotepa**	**2.54**	**342**	*eP*	Pn	17 34 07.1	-2.5
PNIG				*i S*	Sn	17 34 35.7	-5.0
VHO	**Vista Hermosa**	**3.15**	**10**	*eP*	Pn	17 34 15.9	-2.2
VHO				*eS*	Sn	17 34 52.9	-3.1
CMIG	**Matias Romero**	**3.91**	**37**	*i* P	Pn	17 34 25.2	-3.1
CMIG				*i S*	Sn	17 35 09.9	-4.4
PCIG		**4.33**	**66**	*i* P	Pn	17 34 31.1	-3.1
PCIG				*i S*	Sn	17 35 21.1	-3.7

IDC 15 17:47:07.5±2.0,1.06N×126.21E,h0km,mb3.0/3, mb1 3.2/3,mb1mx3.1/30,mbtmp3.1/3,Error ellipse: s-maj=184.5km s-min=24.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.34**	**160**	P	P	17 52 06.7	-0.5
	0.2nm,0.3s,baz=338,slow=10,SNR=14						
ASAR	**Alice Springs**	**25.69**	**164**	P	P	17 52 39.8	+0.3
	0.1nm,0.5s,baz=344,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**59.46**	**326**	P	P	17 57 12.2	0.0
	0.3nm,0.8s,baz=112,slow=8.2,SNR=2.7						

*IDC **15** 17:53:22.9±1.4,1.85N×97.49E,h0km,mb3.8/6,mb1 3.8/7, mb1mx3.6/47,mbtmp3.8/7,ML3.8/1,Error ellipse: s-maj=39.1km s-min=19.8km az=53.0*

*ISCJB **15** 17:53:31.7±0.4,2.12N±0.04×97.90E±0.04,h72km±4km, mb4.0/16,Error ellipse: s-maj=6.3km s-min=6.0km az=42.2*

*DJA **15** 17:53:32.6±1.3,2.2°N±4.4°×9.8°E±4.1°,h25km±15km,M3.7/6, MLv3.7/6*

*NEIC **15** 17:53:32.6±0.7,2.06N×97.88E,h66km±6km,mb4.2/10, Error ellipse: s-maj=10.9km s-min=7.2km az=64.0*

ISC 15 17:53:32.4±0.9,2.10N±0.04×97.88E±0.04,h63km±9km, n41,σ1.9s03/45,mb4.1/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.84**	**201**	*e*Pn	**Pn**	**17 53 48.2**	**-0.4**
GSI	**Gunungsitoli**	**0.84**	**201**	P	**Pn**	**17 53 48.8**	**+0.2**
GSI				S	**Sn**	**17 54 01.4**	**+0.9**
PSI	**Prapat**	**1.25**	**56**	*e*Pn	**Pn**	**17 53 53.7**	**-0.3**
PSI				Sn	**Sn**	**17 54 10.9**	**+0.7**
PSI	**Prapat**	**1.25**	**56**	Pn	**Pn**	**17 53 54.3**	**+0.2**
	14nm,0.3s,baz=181,slow=2.8,SNR=70						
PSI				Sn	**Sn**	**17 54 10.9**	**+0.7**
	23nm,0.3s,baz=360,slow=14,SNR=9.4						
TPTI		**1.35**	**329**	P	**Pn**	**17 53 55.2**	**0.0**
TPTI				S	**Sn**	**17 54 11.5**	**-0.8**
KCSI	**Kotacane, Aceh**	**1.42**	**356**	P	**Pn**	**17 53 56.3**	**+0.2**
KCSI				S	**Sn**	**17 54 14.3**	**+0.4**
SNSI	**Sinabang, Aceh**	**1.58**	**281**	P	**Pn**	**17 53 58.4**	**+0.1**
SNSI				S	**Sn**	**17 54 18.0**	**+0.2**
MNSI	**Mandailing Nat**	**2.13**	**127**	P	**Pn**	**17 54 07.3**	**+1.5**
MLSI	**Meulaboh, Aceh**	**2.61**	**326**	P	Pn	17 54 19.5	+7.2
LHMI	**Lhok Sumawe**	**3.25**	**343**	*e*Pn	**Pn**	**17 54 22.6**	**+1.6**
BKNI	**Bangkinang**	**3.62**	**119**	*e*Pn	**Pn**	**17 54 25.4**	**-0.6**
IPM	**Ipoh**	**3.93**	**53**	*e*Pn	**Pn**	**17 54 32.3**	**+1.9**
IPM				*e*Sn	**Sn**	**17 55 13.4**	**-1.9**
KULM	**Kulim**	**4.21**	**41**	*e*Pn	**Pn**	**17 54 35.1**	**+1.0**
KULM				*e*Sn	**Sn**	**17 55 19.9**	**-2.1**
MYKOM	**Kota Tinggi**	**5.97**	**93**	*e*Pn	**Pn**	**17 54 59.1**	**+0.8**
CM31	**Chiang Mai Arr**	**16.29**	**4**	*e*Pn	**Pn**	**17 57 16.7**	**-0.7**
	9.1nm,1.7s						
CMAR	**Chiang Mai Arr**	**16.29**	**4**	Pn	**Pn**	**17 57 15.2**	**-2.1**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.6						
H08S2	**Diego Garcia H**	**27.11**	**249**	T	T	18 26 47.6	
	baz=70,slow=75,SNR=11						
H08S3	**Diego Garcia H**	**27.12**	**249**	T	T	18 26 47.9	
	baz=70,slow=75,SNR=5.4						
H08S1	**Diego Carcia H**	**27.13**	**249**	T	T	18 26 39.2	
	baz=70,slow=75,SNR=9.5						
GTA	**Gaotai**	**37.18**	**2**	*eP*	**P**	**18 00 38.9**	**+1.2**
GTA				pP	pP	18 00 43.5	-10
GTA				sP	sP	18 00 45.9	-15
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WR1	**Warramunga Arr**	**41.94**	**123**	*eP*	**P**	**18 01 17.4**	**0.0**
	comp=Z,20nm,1.7s						
WRA	**Warramunga Arr**	**41.94**	**123**	P	**P**	**18 01 17.4**	**0.0**
	comp=Z,0.8nm,0.3s,baz=304,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**43.40**	**128**	P	**P**	**18 01 28.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=300,slow=7.6,SNR=5.5						
AS31	**Alice Springs**	**43.40**	**128**	*eP*	**P**	**18 01 28.2**	**-1.0**
	comp=Z,1.8nm,1.4s						
KDJ	**Kajisay**	**43.97**	**338**	*eP*	**P**	**18 01 35.5**	**+1.8**
	comp=Z,1.9nm,0.9s						
SONA0	**Songino Array**	**46.15**	**8**	*eP*	**P**	**18 01 51.2**	**+0.3**
SONM	**Songino Array**	**46.15**	**8**	P	**P**	**18 01 51.2**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=189,slow=9.3,SNR=6.9						
MK01	**Makanchi Array**	**46.52**	**345**	*eP*	**P**	**18 01 54.5**	**+0.9**
MK31	**Makanchi Array**	**46.55**	**345**	*eP*	**P**	**18 01 54.3**	**+0.5**
	comp=Z,1.6nm,0.8s						
MK32	**Makanchi Array**	**46.55**	**345**	*eP*	**P**	**18 01 54.1**	**+0.2**
MKAR	**Makanchi Array**	**46.55**	**345**	P	**P**	**18 01 54.1**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=158,slow=8.2,SNR=35						
MAKZ	**Makanchi**	**46.64**	**345**	*eP*	**P**	**18 01 54.9**	**+0.4**
	comp=Z,2.3nm,0.8s						
TLY	**Talaya**	**49.65**	**5**	*eP*	**P**	**18 02 15.2**	**-2.5**
	comp=Z,5.3nm,0.7s						
KURK	**Kurchatov**	**51.11**	**344**	*eP*	**P**	**18 02 29.6**	**+0.8**
	comp=Z,3.7nm,1.0s						
ZAA0	**Zalesovo Array**	**52.79**	**350**	*eP*	**P**	**18 02 41.6**	**+0.5**
	comp=Z,8.8nm,1.5s						
ZALV	**Zalesovo Beam**	**52.79**	**350**	*eP*	**P**	**18 02 41.5**	**+0.3**
ZALV	**Zalesovo Beam**	**52.79**	**350**	P	**P**	**18 02 40.1**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=166,slow=6.9,SNR=13						
ZAA1	**Zalesovo Array**	**52.79**	**350**	*eP*	**P**	**18 02 40.1**	**-1.0**
ABKAR	**Akbulak array**	**57.05**	**331**	*eP*	**P**	**18 03 12.2**	**+0.2**
	comp=Z,1.5nm,0.8s						
FIA0	**FINESS Array S**	**79.52**	**332**	*eP*	**P**	**18 05 32.4**	**+0.1**
FINES	**FINESS Array B**	**79.52**	**332**	P	**P**	**18 05 32.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=151,slow=4.4,SNR=5.1						

*IDC **15** 18:10:57.4±0.6,32.96N×142.54E,h0km,mb3.7/14, mb1 4.0/18,mb1mx3.8/41,mbtmp3.8/18,ML3.6/4,MS2.7/1, Ms1 2.7/1,ms1mx2.2/34,Error ellipse: s-maj=19.2km s-min=14.9km az=84.0*

*ISCJB **15** 18:11:00.8±0.5,33.02N±0.05×142.44E±0.05,h33km, mb3.7/14,Error ellipse: s-maj=7.7km s-min=5.3km az=19.8*

*JMA **15** 18:11:00.1±0.4,33.08N×142.39E,h18km,M4.0*

*NIED **15** 18:11:00,33.10N×142.40E,h5km,Mw3.8 Best double couple: M₀5.00000×10¹⁴ NP1:φ₀15.00000°,δ22.00000°, λ-59.00000°. NP2:φ₀162.00000°,δ72.00000°, λ-102.00000°.*

ISC 15 18:11:01.8±0.6,32.95N±0.06×142.52E±0.07,h33km,n41, σ1.9s57/44,mb3.7/14,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.13**	**323**	P	**Pn**	**18 11 33.0**	**-1.5**
JHJ2	**Mitsune**	**2.27**	**275**	P	**Pn**	**18 11 36.2**	**-0.8**
JHCJ	**Hachijojimakas**	**2.29**	**274**	P	**Pn**	**18 11 36.4**	**-0.8**
JHCJ				*eS*	**Sn**	**18 12 02.5**	**-1.8**
JHJ	**Hachijo jima 2**	**2.30**	**275**	Pn	**Pn**	**18 11 36.3**	**-1.1**
	27nm,0.3s,baz=341,slow=18,SNR=30						
JHJ				Sn	**Sn**	**18 12 03.3**	**-1.3**
	121nm,0.3s,baz=70,slow=23,SNR=5.5						
JAOM	**Aogashimamukai**	**2.37**	**259**	P	**Pn**	**18 11 38.1**	**-0.3**
BSO3	**Boso 3**	**2.49**	**318**	P	**Pn**	**18 11 39.3**	**-0.5**
JMKN	**Mikurajimanish**	**2.62**	**292**	P	**Pn**	**18 11 40.8**	**-1.0**
JMKN				*eS*	**Sn**	**18 12 11.2**	**-1.3**
BSO4	**Boso 4**	**2.73**	**319**	P	**Pn**	**18 11 42.8**	**-0.3**
JOD2	**Odawara 2**	**3.66**	**310**	P	**Pn**	**18 11 54.4**	**-1.8**
JFNN	**Fujinakano**	**3.89**	**306**	S	**Sn**	**18 12 41.4**	**-2.4**
JYN	**Shimob**	**4.16**	**309**	P	**Pn**	**18 12 03.3**	**+0.3**
JRY	**Ryogami san**	**4.28**	**317**	P	**Pn**	**18 12 04.5**	**-0.1**
JAG	**Ashikaga**	**4.29**	**325**	P	**Pn**	**18 12 03.6**	**-1.1**
JAG				*eS*	**Sn**	**18 12 50.3**	**-3.3**
JFT	**Otama**	**4.89**	**339**	P	**Pn**	**18 12 11.8**	**-1.3**
MJAR	**Matsushiro Arr**	**5.04**	**316**	Pn	**Pn**	**18 12 14.9**	**-0.2**
	0.4nm,0.3s,baz=92,slow=21,SNR=27						
MJAR				Sn	**Sn**	**18 13 07.9**	**-4.3**
	0.6nm,0.3s,baz=274,slow=29,SNR=9.4						
MAT	**Matsushiro**	**5.04**	**316**	P	**Pn**	**18 12 14.6**	**-0.5**
MAT				*eS*	**Sn**	**18 13 09.5**	**-2.8**
MAT	**Matsushiro**	**5.04**	**316**	P	**Pn**	**18 12 15.6**	**+0.5**
JIE	**Ise**	**5.05**	**288**	S	**Sn**	**18 13 12.1**	**-0.4**
JCJ	**Chichijima**	**5.84**	**183**	Pn	**Pn**	**18 12 25.5**	**-0.6**
	9.3nm,0.3s,baz=337,slow=23,SNR=12						
JCJ				Sn	**Sn**	**18 13 28.0**	**-4.0**
	7.3nm,0.3s,baz=272,slow=20,SNR=1.8						
JNU	**Nakatsue**	**9.77**	**274**	LR	LR	18 17 45.2	
	comp=Z,36nm,18.4s,baz=182,slow=42						
ASAJ	**Asahikawa**	**11.15**	**0**	Pn	**Pn**	**18 13 35.9**	**-2.9**
	0.8nm,0.3s,baz=180,slow=20,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**25.43**	**115**	T	T	18 43 16.8	
	baz=305						
H11N1	**WAKE ISLAND Hy**	**25.44**	**115**	T	T	18 43 11.3	
	baz=305						
H11N3	**WAKE ISLAND Hy**	**25.45**	**115**	T	T	18 43 10.0	
	baz=305						
H11S3	**WAKE ISLAND Hy**	**26.02**	**118**	T	T	18 43 50.9	
	baz=304						
H11S1	**WAKE ISLAND Hy**	**26.02**	**118**	T	T	18 43 58.1	
	baz=304						
H11S2	**WAKE ISLAND Hy**	**26.03**	**118**	T	T	18 43 54.4	
	baz=304						
SONM	**Songino Array**	**30.95**	**309**	P	**P**	**18 17 16.0**	**+0.1**
	0.3nm,0.5s,baz=107,slow=9.7,SNR=3.5						
ZALV	**Zalesovo Beam**	**45.40**	**315**	P	**P**	**18 19 18.4**	**+1.4**
	0.5nm,0.5s,baz=81,slow=9.5,SNR=3.5						
MKAR	**Makanchi Array**	**47.14**	**306**	P	**P**	**18 19 31.7**	**+0.8**
	0.7nm,0.6s,baz=90,slow=10,SNR=13						
MKAR				PcP	**PcP**	**18 21 02.8**	**+0.6**
	0.2nm,0.7s,baz=85,slow=4.9,SNR=1.9						
ILAR	**Eielson Array**	**52.50**	**31**	P	**P**	**18 20 11.5**	**+0.2**
	0.3nm,0.6s,baz=257,slow=7.6,SNR=4.2						
WRA	**Warramunga Arr**	**53.17**	**190**	P	**P**	**18 20 16.9**	**+0.2**
	1.2nm,0.5s,baz=7.0,slow=7.7,SNR=26						
WRA				PcP	**PcP**	**18 21 26.3**	**+1.8**
	0.3nm,0.6s,baz=7.3,slow=4.9,SNR=3.0						
ASAR	**Alice Springs**	**56.90**	**189**	P	**P**	**18 20 43.9**	**+0.3**
	0.3nm,0.5s,baz=14,slow=14,SNR=11						
ASAR				PcP	**PcP**	**18 21 39.1**	**+0.3**
	0.5nm,0.8s,baz=14,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**66.89**	**29**	P	**P**	**18 21 50.8**	**+0.5**
	0.5nm,0.7s,baz=297,slow=6.2,SNR=9.5						
ARCES	**ARCESS Array B**	**68.13**	**340**	P	**P**	**18 21 59.0**	**+0.9**
	3.4nm,1.0s,baz=56,slow=6.7,SNR=2.8						
FINES	**FINESS Array B**	**72.85**	**333**	P	**P**	**18 22 27.5**	**+0.6**
	0.8nm,0.7s,baz=56,slow=5.2,SNR=4.4						
NVAR	**Mina Array Bea**	**76.72**	**53**	P	**P**	**18 22 51.6**	**+1.5**
	0.4nm,0.5s,baz=295,slow=4.8,SNR=4.1						
AKASG	**Malin Array Be**	**78.09**	**323**	P	**P**	**18 22 57.6**	**+0.4**
	0.3nm,0.4s,baz=50,slow=6.6,SNR=2.5						
NOA	**NORSAR Array B**	**78.30**	**338**	P	**P**	**18 22 58.7**	**+0.4**
	0.9nm,0.8s,baz=39,slow=5.7,SNR=3.6						
PDAR	**Pinedale Array**	**79.88**	**45**	P	**P**	**18 23 08.4**	**+0.9**
	0.3nm,0.5s,baz=287,slow=3.7,SNR=3.3						
TXAR	**Lajitas Array**	**91.87**	**53**	P	**P**	**18 24 08.1**	**+1.0**
	0.2nm,0.6s,baz=305,slow=3.2,SNR=2.1						

IDC 15 18:15:30.4±2.5,30.90S×178.21W,h114km±19km, mb3.2/2,mb1 3.4/3,mb1mx3.2/22,mbtmp3.6/3,MS3.7/1, Ms1 3.7/1,ms1mx3.0/6,Error ellipse: s-maj=61.0km s-min=22.0km az=108.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.66**	**9**	P	Pn	18 16 00.3	+0.8
	74nm,0.3s,baz=281,slow=16,SNR=2.7						
RAO				S	Sn	18 16 21.4	-0.1
	93nm,0.3s,baz=86,sl

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KST				*e*S	**Sb**	**18 17 44.4**	**+0.4**
	1.3nm,0.3s						

SOME 15 18:35:47.9, 44.52N × 80.42E, h20km, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**1.70**	**217**	*e*P	Pb	18 36 18.5	-0.1
	0.3nm,0.2s						
UZB				*e*S	Sb	18 36 40.5	+0.9
	0.5nm,0.2s						
KST	**Kastek**	**3.55**	**247**	*e*P	Pb	18 36 51.9	+1.8
	0.4nm,0.1s						
KST				*e*S	Sb	18 37 37.9	+5.3
	1.9nm,0.4s						

NNC 15 18:35:53.7±3.9, 37.09N × 70.98E, h0km, mb3.9, mpv3.5, 4C-2D, Error ellipse: s-maj=30.4km s-min=28.6km az=138.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.45**	**22**	P	Pn	18 37 17.5	+0.9
	SNR=36						
UCH	**Uchtor**	**5.81**	**27**	P	Pn	18 37 22.1	+0.5
	SNR=8.7						
EKS2	**Erkin-Say**	**5.96**	**20**	P	Pn	18 37 24.0	+0.6
	SNR=33						
KK31	**Karatay Array**	**6.01**	**357**	⇑Pn	Pn	18 37 24.4	+0.5
	0.6nm,0.3s,baz=180,slow=12,SNR=40						
KK31				⇑Sn	Sn	18 38 34.5	+1.0
	2.8nm,0.4s,baz=191,slow=26,SNR=17						
AAK	**Ala-Archa**	**6.16**	**25**	P	Pn	18 37 26.7	+0.6
	SNR=8.5						
AAK	**Ala-Archa**	**6.16**	**25**	⇑Pn	Pn	18 37 26.6	+0.5
	1.6nm,0.4s						
AAK				⇓Sn	Sn	18 38 39.0	+1.6
	3.2nm,0.8s						
KBK	**Karagaybulak**	**6.34**	**28**	P	Pn	18 37 29.3	+0.7
	SNR=5.6						
USP	**Ospenovka**	**6.73**	**23**	P	Pn	18 37 33.7	-0.2
	SNR=5.7						
TKM2	**Tokmak 2**	**6.81**	**30**	P	Pn	18 37 34.9	-0.3
	SNR=21						
TKM2	**Tokmak 2**	**6.81**	**30**	⇑Pn	Pn	18 37 34.2	-1.0
	6.7nm,0.5s						
TKM2				⇓Sn	Sn	18 38 54.4	+0.8
	2.1nm,0.9s						

IDC 15 18:42:54.0±2.6, 6.32S × 130.32E, h130km±24km, mb3.4/3, mb1 3.7/6, mb1mx3.3/33, mbtmp4.0/6, Error ellipse: s-maj=42.3km s-min=24.1km az=101.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.50**	**10**	P	Pn	18 44 13.9	+0.1
	12nm,0.3s,baz=195,slow=20,SNR=154						
SIJI				S	Sn	18 45 12.3	-3.8
	9.8nm,0.3s,baz=210,slow=22,SNR=11						
BATI	**Baumata**	**7.64**	**239**	P	Pn	18 44 42.6	0.0
	5.0nm,0.3s,baz=56,slow=7.3,SNR=8.9						
BATI				S	Sn	18 46 04.4	-3.4
	5.8nm,0.3s,baz=182,slow=13,SNR=7.6						
FITZ	**Fitzroy Crossi**	**12.56**	**201**	P	Pn	18 45 44.1	-4.3
	1.1nm,0.3s,baz=25,slow=13,SNR=41						
FITZ				S	Sn	18 47 55.6	-11
	0.6nm,0.3s,baz=289,slow=21,SNR=2.2						
WRA	**Warramunga Arr**	**14.09**	**164**	P	Pn	18 46 03.9	-4.1
	0.7nm,0.3s,baz=346,slow=11,SNR=29						
WRA				S	Sn	18 48 30.1	-14
	1.7nm,0.3s,baz=349,slow=24,SNR=9.4						
ASAR	**Alice Springs**	**17.59**	**169**	P	P	18 46 50.3	0.0
	0.7nm,0.3s,baz=346,slow=11,SNR=38						
ASAR				S	S	18 49 56.9	-10
	0.3nm,0.3s,baz=348,slow=25,SNR=6.6						
CMAR	**Chiang Mai Arr**	**39.55**	**309**	P	P	18 50 12.6	-0.1
	0.4nm,0.5s,baz=135,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**57.91**	**341**	P	P	18 52 32.2	-0.4
	0.3nm,0.4s,baz=164,slow=5.7,SNR=2.0						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	18 53 38.4	+0.1
	0.8nm,0.3s,baz=115,slow=8.1,SNR=29						

SOME 15 18:56:16.3, 39.25N × 80.88E, h5km
NNC 15 18:56:22.5±8.1, 39.72N × 82.80E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=63.7km s-min=51.8km az=19.0
ISC 15 18:56:18.3±2.0, 39.29N±0.10 × 83.2E±0.1, h35km, n12, σ1§66/21, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**4.92**	**326**	⇑Pn	**Pn**	**18 57 30.1**	**+0.4**
	0.9nm,0.4s						
PDGK				⇑Sn	**Sn**	**18 58 24.2**	**-1.3**
	7.8nm,0.5s						
PDGK				⇓Lg	Lg	18 58 44.3	
	8.3nm,0.5s						
UZB	**Uzynbulak**	**4.99**	**322**	*e*P	**Pn**	**18 57 32.4**	**+1.7**
	0.7nm,0.4s						
UZB				*e*S	**Sn**	**18 58 27.5**	**+0.2**
	7.9nm,0.2s						
SATY	**Saty**	**5.23**	**318**	*e*P	**Pn**	**18 57 35.6**	**+1.5**
	1.8nm,0.1s						
SATY				*e*S	**Sn**	**18 58 32.7**	**-0.6**
	9.5nm,0.4s						
TNSS	**Tian-Shan**	**6.04**	**310**	*e*P	**Pn**	**18 57 46.5**	**+1.1**
	0.3nm,0.1s						
TNSS				*e*S	**Sn**	**18 58 51.5**	**-1.9**
	4.1nm,0.5s						
KOTS	**Kotyrbulak**	**6.06**	**313**	*e*P	**Pn**	**18 57 47.4**	**+1.9**
	1.7nm,0.3s						
KOTS				*e*S	**Sn**	**18 58 52.8**	**-0.8**
	13nm,0.6s						
KST	**Kastek**	**6.64**	**307**	*e*P	**Pn**	**18 57 55.5**	**+2.1**
	3.6nm,0.4s						
KST				*e*S	**Sn**	**18 59 06.7**	**-1.1**
	4.0nm,0.6s						
DGS	**Degeres**	**6.86**	**308**	*e*P	**Pn**	**18 57 59.4**	**+2.9**
	0.7nm,0.8s						
DGS				*e*S	**Sn**	**18 59 13.4**	**+0.1**
	5.7nm,0.5s						
MK31	**Makanchi Array**	**7.53**	**355**	⇓Pn	**Pn**	**18 58 07.2**	**+1.7**
	0.2nm,0.3s,baz=188,slow=12,SNR=37						
MK31				⇑Sn	**Sn**	**18 59 29.4**	**-0.3**
	0.8nm,0.6s,baz=181,slow=25,SNR=5.5						
MAKZ	**Makanchi**	**7.57**	**353**	⇑Pn	**Pn**	**18 58 07.5**	**+1.4**
	0.5nm,0.5s						
MAKZ				⇓Sn	**Sn**	**18 59 28.1**	**-2.5**
	0.5nm,0.4s						
CHCP	**Chirah Chowk**	**9.79**	**238**	P	**Pn**	**18 58 36.8**	**+0.2**
CEP	**Cherat**	**10.61**	**243**	P	**Pn**	**18 58 45.2**	**-2.6**
THW	**Thamme Wali**	**11.32**	**239**	P	**Pn**	**18 58 56.8**	**-0.8**

IDC 15 19:01:24.1±1.4, 0.82N × 126.21E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.5/38, mbtmp3.7/7, ML3.2/2, Error ellipse: s-maj=42.9km s-min=22.5km az=57.0
ISCJB 15 19:01:28.1±1.2, 0.8N±0.2 × 126.23E±0.09, h44km, mb3.7/5, Error ellipse: s-maj=22.0km s-min=12.4km az=12.4
ISC 15 19:01:30.2±1.3, 0.8N±0.2 × 126.2E±0.1, h44km, n7, σ0§44/8, mb3.7/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.31**	**108**	Pn	**Pn**	**19 02 46.9**	**-0.1**
	0.5nm,0.3s,baz=287,slow=19,SNR=3.5						
SIJI				S	**Sn**	**19 03 47.3**	**+0.3**
	baz=169,slow=23,SNR=1.0						
FITZ	**Fitzroy Crossi**	**18.79**	**182**	P	**P**	**19 05 46.1**	**+0.1**
	0.1nm,0.3s,baz=5.7,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**22.09**	**159**	P	**P**	**19 06 21.0**	**-0.9**
	2.3nm,0.5s,baz=340,slow=11,SNR=40						
ASAR	**Alice Springs**	**25.44**	**163**	P	**P**	**19 06 54.0**	**-0.1**
	0.7nm,0.3s,baz=344,slow=11,SNR=18						
STKA	**Stephens Creek**	**35.61**	**157**	P	**P**	**19 08 24.0**	**+0.2**
	0.9nm,0.7s,baz=328,slow=14,SNR=3.5						
MKAR	**Makanchi Array**	**59.68**	**326**	P	**P**	**19 11 30.2**	**0.0**
	0.3nm,0.5s,baz=122,slow=8.2,SNR=6.0						
VNDA	**Vanda**	**80.60**	**173**	P	**P**	**19 13 37.8**	**+0.1**
	0.9nm,0.9s,baz=344,slow=9.6,SNR=2.6						

IDC 15 19:02:38.1±2.2, 8.22S × 129.62E, h0km, mb3.2/1, mb1 3.4/4, mb1mx3.2/30, mbtmp3.2/4, ML2.8/3, Error ellipse: s-maj=64.6km s-min=28.4km az=83.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.55**	**201**	Pn	Pn	19 05 10.9	+0.2
	0.0nm,0.3s,baz=22,slow=16,SNR=2.2						
FITZ				Sn	Sn	19 07 08.3	-1.4
	0.1nm,0.3s,baz=324,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**12.52**	**159**	Pn	Pn	19 05 38.9	+1.3
	0.1nm,0.3s,baz=340,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**15.90**	**166**	Pn	Pn	19 06 22.8	-0.6
	0.1nm,0.3s,baz=337,slow=9.4,SNR=6.3						
MKAR	**Makanchi Array**	**69.04**	**327**	P	P	19 13 45.6	0.0
	0.2nm,0.7s,baz=134,slow=6.2,SNR=1.7						

DDA 15 19:03:14.6, 35.55N × 28.84E, h6km±5km, ML3.4
ATH 15 19:03:16.7, 35.52N × 28.81E, h13km±5km, ML3.1/2, Error ellipse: s-maj=7.3km s-min=1.5km az=344.0
THE 15 19:03:18.3, 35.63N × 28.90E, h8km±2km, ML3.1/3, Error ellipse: s-maj=3.0km s-min=0.4km az=133.0
NSSC 15 19:03:19.8±0.6, 35.86N × 29.43E, h10km, ML2.8
ISK 15 19:03:19.5, 35.72N × 28.97E, h12km, ML3.4/19
HLW 15 19:03:20.4, 35.24N × 28.88E, h10km±14km, Md3.5, Ml3.9
GII 15 19:03:20.4±0.0, 35.36N × 29.29E, h14km, MD3.0/3
NIC 15 19:03:20.9±0.3, 35.34N × 29.20E, h17km, ML3.3
ISC 15 19:03:16.0±1.2, 35.49N±0.03 × 28.94E±0.02, h15km±9km, n96, σ1§49/122, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.84**	**38**	P	**Pg**	**19 03 33.3**	**+1.0**
KSL				S	**Sb**	**19 03 44.6**	**+1.2**
KSL	**Kastellorizon**	**0.84**	**38**	P	**Pb**	**19 03 33.5**	**+1.2**
KSL				S	**Sb**	**19 03 45.2**	**+1.8**
KSL				AML	AML	19 03 48.8	
	comp=N,2307μm,0.3s						
KSL				AML	AML	19 03 51.5	
	comp=E,3219μm,0.9s						
AKAS	**Kas**	**0.91**	**36**	PG	**Pg**	**19 03 34.7**	**+1.0**
AKAS				SG	**Sg**	**19 03 44.9**	**-0.9**
AKAS	**Kas**	**0.91**	**36**	*i* P	**Pb**	**19 03 35.0**	**+1.4**
AKAS				*i* S	**Sb**	**19 03 45.9**	**+0.2**
AKAS				IAML_P			
	comp=Z,15μm,0.2s						
ARG	**Arkhangelos**	**0.98**	**318**	PG	**Pn**	**19 03 37.1**	**+1.8**
ARG	**Arkhangelos**	**0.98**	**318**	P	**Pg**	**19 03 34.6**	**-0.4**
ARG				S	**Sb**	**19 03 47.7**	**+0.2**
ARG	**Arkhangelos**	**0.98**	**318**	P	**Pg**	**19 03 34.1**	**-0.8**
ARG				S	**Sg**	**19 03 46.4**	**-1.4**
ARG				AML	AML	19 03 50.8	
	comp=E,2610μm,0.9s						
ARG				AML	AML	19 03 58.2	
	comp=N,2672μm,0.9s						
FETY	**Fethiye**	**1.15**	**6**	PG	**Pg**	**19 03 36.9**	**-1.2**
FETY	**Fethiye**	**1.15**	**6**	P	**Pg**	**19 03 36.6**	**-1.5**
FETY	**Fethiye**	**1.15**	**6**	*i* P	**Pg**	**19 03 37.1**	**-1.0**
FETY				IAML_P			
	comp=Z,16μm,0.3s						
DALY	**Dalyan (Mula)**	**1.34**	**350**	PN	**Pb**	**19 03 40.2**	**-0.7**
DALY	**Dalyan (Mula)**	**1.34**	**350**	*i* P	**Pb**	**19 03 39.2**	**-1.7**
DALY				*i* S	**Sg**	**19 03 57.4**	**-1.9**
DALY				IAML_P			
	comp=Z,2μm,0.3s						
MRSB	**Marmaris-Mugla**	**1.36**	**334**	PN	**Pg**	**19 03 42.9**	**+0.7**
TURN	**Turunc**	**1.40**	**349**	PN	**Pg**	**19 03 43.5**	**+0.5**
AKUM	**Antalya-Kumluc**	**1.41**	**54**	*i* P	**Pn**	**19 03 42.7**	**+1.6**
AKUM				*i* S	**Sb**	**19 03 58.7**	**-1.0**
AKUM				IAML_P			
	comp=Z,2μm,0.1s						
KARP	**Karpathos**	**1.45**	**273**	PN	**Pg**	**19 03 45.9**	**+1.9**
KARP	**Karpathos**	**1.45**	**273**	P	**Pn**	**19 03 42.7**	**+0.9**
KARP				S	**Sb**	**19 04 01.4**	**+0.3**
KARP	**Karpathos**	**1.45**	**273**	P	**Pn**	**19 03 43.0**	**+1.2**
KARP				S	**Sb**	**19 03 59.4**	**-1.8**
ELL	**Elmali**	**1.48**	**32**	PN	**Pn**	**19 03 43.2**	**+1.0**
DATC	**Datca-Mugla**	**1.63**	**321**	PN	**Pg**	**19 03 47.4**	**0.0**
DAT	**Datca**	**1.66**	**319**	PN	**Pg**	**19 03 47.6**	**-0.2**
KEMT	**Kemer-ANTALYA**	**1.71**	**49**	PN	**Pn**	**19 03 47.9**	**+2.6**
YER	**Yerkesik**	**1.72**	**342**	PN	**Pn**	**19 03 46.5**	**+1.0**
YER				SN	**Sn**	**19 04 07.3**	**0.0**
YER	**Yerkesik**	**1.72**	**342**	P	**Pn**	**19 03 44.8**	**-0.7**
YER				S	**Sn**	**19 04 05.7**	**-1.6**
GOLH	**Golhisar**	**1.81**	**16**	*i* P	**Pb**	**19 03 49.6**	**+0.6**
GOLH				*i* S	**Sb**	**19 04 11.0**	**-0.5**
KORT	**Korkueli**	**1.89**	**37**	PN	**Pn**	**19 03 49.8**	**+1.9**
KORT	**Korkueli**	**1.89**	**37**	*i* P	**Pn**	**19 03 49.6**	**+1.7**
KORT				*i* S	**Sn**	**19 04 10.5**	**-1.0**
KORT				IAML_P			
	comp=Z,3μm,0.3s						
TAVA	**DENIZLI_Tavas**	**1.97**	**359**	*i* P	**Pn**	**19 03 50.0**	**+1.0**
TAVA				*i* S	**Sn**	**19 04 12.6**	**-0.9**
TAVA				IAML_P			
	comp=Z,2μm,0.1s						
ANTB	**Antalya**	**1.97**	**44**	PN	**Pn**	**19 03 51.8**	**+2.9**
BDRM	**Kayabasi**	**1.98**	**323**	*i* P	**Pn**	**19 03 49.3**	**+0.3**
BODT	**Bodrum**	**2.05**	**320**	PN	**Pn**	**19 03 52.2**	**+2.2**
ZKR	**Zakros**	**2.26**	**261**	P	**Pn**	**19 03 54.4**	**+1.5**
ZKR	**Zakros**	**2.26**	**261**	P	**Pn**	**19 03 54.9**	**+2.0**
AYDN	**Tasoluk**	**2.33**	**339**	*i* P	**Pn**	**19 03 55.4**	**+1.5**
AYDN				IAML_P			
	comp=Z,902nm,0.2s						
BCK	**Bucak**	**2.37**	**34**	PN	**Pn**	**19 03 56.1**	**+1.6**
BRDR	**BURDUR-Merkez**	**2.38**	**22**	*i* P	**Pn**	**19 03 55.4**	**+0.8**
BRDR				IAML_P			
	comp=Z,2μm,0.3s						
AYDB	**Zeytinkoy-Aydi**	**2.59**	**341**	PN	**Pn**	**19 03 59.5**	**+2.0**
ISP	**Isparta**	**2.65**	**28**	PN	**Pn**	**19 04 00.1**	**+1.8**
NPS	**Neapolis**	**2.73**	**266**	P	**Pn**	**19 04 00.8**	**+1.4**
NPS	**Neapolis**	**2.73**	**266**	P	**Pn**	**19 04 01.4**	**+2.1**
AKMC	**Akamas**	**2.81**	**99**	P	**Pn**	**19 04 01.0**	**+0.5**
	baz=277						
LAST	**Lasithi**	**2.85**	**264**	P	**Pn**	**19 04 03.3**	**+2.2**
PPCY	**Paphos**	**2.85**	**101**	P	**Pn**	**19 04 02.3**	**+1.3**
	baz=280						
BAGO	**Egridir - ISPA**	**2.90**	**30**	*i* P	**Pn**	**19 04 03.1**	**+1.4**
BAGO				IAML_P			
	comp=Z,1μm,0.2s						
KHAL	**Karahalli**	**2.91**	**9**	*i* P	**Pn**	**19 04 01.4**	**-0.4**
KHAL				IAML_P			
	comp=Z,292nm,0.2s						
KZIL	**AFYON_Kizioren**	**2.92**	**19**	*i* P	**Pn**	**19 04 02.8**	**+0.7**
KZIL				IAML_P			
	comp=Z,308nm,0.2s						
ALFC	**Alefka**	**3.01**	**95**	P	**Pn**	**19 04 04.1**	**+0.9**
	baz=274						
ALFC				S	**Sn**	**19 04 37.9**	**-1.2**
KULA	**Kula-Manisa**	**3.02**	**356**	PN	**Pn**	**19 04 05.5**	**+2.0**
KULA	**Kula-Manisa**	**3.02**	**356**	P	**Pn**	**19 04 03.0**	**-0.5**
USAK	**Uak-Merkez**	**3.21**	**1**	*i* P	**Pn**	**19 04 05.7**	**-0.3**
USAK				IAML_P			
	comp=Z,378nm,0.2s						
LEF	**Lefka**	**3.25**	**95**	*i* P	**Pn**	**19 04 07.2**	**+0.7**
SZAC	**Souni**	**3.31**	**102**	P	**Pn**	**19 04 08.3**	**+0.9**
	baz=281						
SZAC				S	**Sn**	**19 04 45.1**	**-1.4**
SHUT	**Suhut-Afyon**	**3.31**	**22**	PN	**Pn**	**19 04 09.6**	**+2.1**
DOGA	**KONYA_Doganhis**	**3.40**	**39**	*i* P	**Pn**	**19 04 11.8**	**+3.0**
DOGA				*i* S	**Sn**	**19 04 50.3**	**+1.3**
MAMC	**Mammari**	**3.51**	**94**	P	**Pn**	**19 04 11.5**	**+1.4**
	baz=274						
BOLV	**Bolvadin**	**3.60**	**26**	*i* P	**Pn**	**19 04 12.2**	**+0.8**
GDZ	**Gediz**	**3.61**	**7**	*i* P	**Pn**	**19 04 11.8**	**+0.2**
CSS	**Mathiatis**	**3.63**	**97**	P	**Pn**	**19 04 12.6**	**+0.8**
	baz=277						
CSS				S	**Sn**	**19 04 53.6**	**-0.8**
CSS	**Mathiatis**	**3.63**	**97**	Pn	**Pn**	**19 04 12.4**	**+0.6**
CSS				Sn	**Sn**	**19 04 52.1**	**-2.3**
KONT	**Konya--Tatoy**	**3.68**	**47**	*i* P	**Pn**	**19 04 15.0**	**+2.6**
GULN	**MERSIN_Gulnar**	**3.80**	**78**	*i* P	**Pn**	**19 04 15.8**	**+1.7**
VAM	**Vamos**	**3.87**	**270**	P	**Pn**	**19 04 17.7**	**+2.6**
KDHN	**Kadinhani**	**3.95**	**39**	*i* P	**Pn**	**19 04 18.6**	**+2.4**
IMMV	**Iera Moni Meta**	**4.05**	**271**	P	**Pn**	**19 04 19.3**	**+1.9**
PHNC	**Paralimni**	**4.19**	**95**	P	**Pn**	**19 04 21.0**	**+1.5**
	baz=276						
HNTI	**Hanita**	**5.69**	**113**	Pn	**Pn**	**19 04 40.5**	**+0.4**
HNTI				Sn	**Sn**	**19 05 42.3**	**-2.9**
DQRL	**Deir Qamar**	**5.75**	**106**	*e*P	**Pn**	**19 04 40.9**	**-0.1**
BHL	**Bhannes**	**5.75**	**104**	*e*P	**Pn**	**19 04 40.3**	**-0.7**
OFRI	**`Ofer**	**5.78**	**118**	Pn	**Pn**	**19 04 41.6**	**+0.3**
HWQ	**Hawqa**	**5.88**	**100**	*e*P	**Pn**	**19 04 43.2**	**+0.4**
MMA0B	**Mount Meron ar**	**5.89**	**113**	Pn	**Pn**	**19 04 43.1**	**+0.2**
GEM	**Giv'at Ha'Em**	**6.01**	**110**	Pn	**Pn**	**19 04 44.8**	**+0.4**
KSDI	**Kefar Szold**	**6.01**	**111**	Pn	**Pn**	**19 04 44.7**	**+0.3**
KSDI				Sn	**Sn**	**19 05 50.4**	**-2.6**
SLTI	**Sal'it**	**6.02**	**121**	Pn	**Pn**	**19 04 45.0**	**+0.4**
RCY	**Rachaya**	**6.03**	**107**	*e*P	**Pn**	**19 04 45.3**	**+0.5**
NATI	**Neve Ativ**	**6.04**	**110**	Pn	**Pn**	**19 04 45.5**	**+0.6**
NATI				Sn	**Sn**	**19 05 51.1**	**-2.7**
KOT	**Kottamia**	**6.06**	**156**	P	**Pn**	**19 04 47.0**	**+1.9**
	baz=154						
KOT				AMP		19 05 00.0	
	baz=154						
KOT				S	Sn	19 05 50.4	-3.9
	baz=154						
HHAG	**Hagoal**	**6.13**	**153**	P	**Pn**	**19 04 49.7**	**+3.5**
	baz=151						
HHAG				S	Sn	19 05 52.3	-3.7
	baz=151						
BRBR	**Barbar**	**6.15**	**108**	*e*P	**Pn**	**19 04 47.7**	**+1.1**
BRBR				*e*S	Sn	19 05 51.9	-4.9
BRBR				AML	AML	19 05 56.9	
	comp=E,35nm,1.0s						
BRBR				AML	AML	19 05 57.8	
	comp=N,11nm,0.3s						
MMLI	**Mount Malkishu**	**6.19**	**118**	Pn	**Pn**	**19 04 47.4**	**+0.5**
GLL	**Jalalah**	**6.34**	**158**	P	**Pn**	**19 04 51.0**	**+1.9**
	baz=156						
HMDT	**Nahal Hemdat**	**6.36**	**119**	Pn	**Pn**	**19 04 49.6**	**+0.4**
HMDT				Sn	**Sn**	**19 05 59.4**	**-2.2**
AMAZ	**Amatzia**	**6.36**	**127**	Pn	**Pn**	**19 04 50.4**	**+1.1**
AMAZ				Sn	**Sn**	**19 05 59.2**	**-2.5**
QASN	**Qassioun**	**6.36**	**106**	*e*P	**Pn**	**19 04 51.2**	**+1.9**
QASN				*e*S	Sn	19 05 56.1	-5.7
QASN				AML	AML	19 06 02.2	
	comp=E,32nm,0.3s						
QASN				AML	AML	19 06 04.9	
	comp=N,22nm,0.3s						
KZIT	**Kziot**	**6.47**	**133**	Pn	**Pn**	**19 04 51.8**	**+1.1**
SUZ	**Suez**	**6.52**	**149**	P	**Pn**	**19 04 53.9**	**+2.4**
	baz=147						
TOTH	**TOTAH**	**6.54**	**107**	*e*P	**Pn**	**19 04 54.0**	**+2.2**
TOTH				*e*S	Sn	19 06 01.2	-4.9
TOTH				AML	AML	19 06 06.9	
	comp=E,19nm,0.3s						
TOTH				AML	AML	19 06 15.8	
	comp=N,9.6nm,0.6s						
YTIR	**Yattir**	**6.60**	**127**	Pn	**Pn**	**19 04 53.5**	**+0.8**
YTIR				Sn	**Sn**	**19 06 05.0**	**-2.7**
DSI	**Dead Sea**	**6.65**	**124**	Pn	**Pn**	**19 04 53.9**	**+0.7**
MZDA	**Masada**	**6.80**	**126**	Pn	**Pn**	**19 04 56.0**	**+0.8**
GHAJ	**Ghor Haditha**	**6.94**	**125**	Pn	**Pn**	**19 04 57.9**	**+0.7**
PRNI	**Paran**	**7.23**	**133**	Pn	**Pn**	**19 05 01.5**	**+0.3**
HRFI	**Mount Harif**	**7.48**	**135**	Pn	**Pn**	**19 05 05.4**	**+0.8**
MBRI	**Mt Berech**	**7.59**	**137**	Pn	**Pn**	**19 05 07.2**	**+1.0**
EIL	**Elat**	**7.71**	**137**	Pn	**Pn**	**19 05 08.7**	**+0.9**
HKAT	**Jabal Katrina**	**8.16**	**147**	P	**Pn**	**19 05 15.6**	**+1.4**
	baz=145						

ISCJB 15 19:06:53.6±0.8, 35.44N±0.03 × 29.04E±0.06, h7km±7km, Error ellipse: s-maj=9.2km s-min=3.9km az=149.6
DDA 15 19:06:57.4, 35.72N × 28.86E, h38km, ML3.0
GII 15 19:06:58.6±0.0, 35.34N × 29.24E, h10km
ISK 15 19:06:59.5, 35.81N × 29.02E, h12km, ML3.0/12
ISC 15 19:06:55.1±1.5, 35.51N±0.05 × 29.03E±0.05, h11km±11km, n43, σ1§33/50, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAS	**Kas**	**0.86**	**33**	PG	**Pg**	**19 07 13.4**	**+1.7**
AKAS	**Kas**	**0.86**	**33**	*i* P	**Pg**	**19 07 13.3**	**+1.6**
AKAS				*i* S	**Sb**	**19 07 25.9**	**+2.2**
AKAS				IAML_P			
	comp=Z,4μm,0.2s						
ARG	**Arkhangelos**	**1.02**	**314**	PG	**Pg**	**19 07 14.8**	**+0.1**
ARG				SG	**Sg**	**19 07 28.6**	**+0.6**
FETY	**Fethiye**	**1.12**	**2**	PG	**Pb**	**19 07 15.2**	**-1.4**
FETY				SG	**Sg**	**19 07 27.8**	**-3.6**
FETY	**Fethiye**	**1.12**	**2**	*i* P	**Pb**	**19 07 15.4**	**-1.2**
FETY				*i* S	**Sg**	**19 07 29.8**	**-1.6**
FETY				IAML_P			
	comp=Z,6μm,0.2s						
DALY	**Dalyan (Mula)**	**1.34**	**347**	PG	**Pn**	**19 07 19.9**	**+0.1**
DALY	**Dalyan (Mula)**	**1.34**	**347**	*i* P	**Pn**	**19 07 18.6**	**-1.1**
MRSB	**Marmaris-Mugla**	**1.38**	**331**	PN	**Pn**	**19 07 21.4**	**+1.0**
TURN	**Turunc**	**1.40**	**346**	PN	**Pn**	**19 07 22.2**	**+1.6**
ELL	**Elmali**	**1.42**	**30**	PN	**Pn**	**19 07 22.1**	**+1.0**
DAT	**Datca**	**1.69**	**316**	PN	**Pn**	**19 07 26.9**	**+2.2**
DAT	**Datca**	**1.69**	**316**	*i* P	**Pn**	**19 07 25.4**	**+0.6**
YER	**Yerkesik**	**1.73**	**340**	PN	**Pn**	**19 07 25.3**	**+0.1**
GOLH	**Golhisar**	**1.77**	**14**	*i* P	**Pn**	**19 07 28.3**	**+0.4**
GOLH				*i* S	**Sn**	**19 07 47.7**	**-0.8**
KORT	**Korkueli**	**1.83**	**35**	PN	**Pn**	**19 07 27.8**	**+1.1**
KORT	**Korkueli**	**1.83**	**35**	*i* P	**Pn**	**19 07 28.6**	**+2.0**
TAVA	**DENIZLI_Tavas**	**1.95**	**357**	*i* P	**Pn**	**19 07 28.6**	**+0.2**
BODT	**Bodrum**	**2.08**	**319**	PN	**Pn**	**19 07 32.2**	**+2.2**
BRDR	**BURDUR-Mer

SSBA				S		**Sn**	**19 08 06.6 +1.7**		
VNSS	**Veniaminof 8**	**2.05**	**35**	P		**Pn**	**19 07 57.2 +3.3**		
VNFG	**Veniaminof 2**	**2.07**	**33**	P		**Pn**	**19 07 57.6 +3.5**		
AKSA	**Akutan Strait**	**2.46**	**262**	*e*Pn		**Pn**	**19 07 59.9 +0.5**		
AKSA				*e*Sn		**Sn**	**19 08 28.6 +0.5**		
CHGN	**Chignik**	**2.50**	**45**	*e*Pn		**Pn**	**19 08 02.4 +2.6**		
CHGN				*e*Sn		**Sn**	**19 08 32.5 +3.5**		
AKUT	**Akutan**	**2.50**	**262**	*e*Pn		**Pn**	**19 08 00.4 +0.5**		
AKUT				*e*Sn		**Sn**	**19 08 28.3 -0.9**		
AHB	**Akutan Harbor**	**2.53**	**261**	P		**Pn**	**19 08 00.8 +0.4**		
AKGG	**Akutan Green G**	**2.62**	**264**	P		**Pn**	**19 08 02.1 +0.6**		
ZRO	**Akutan Zero**	**2.63**	**261**	*e*Pn		**Pn**	**19 08 02.1 +0.4**		
AKMO	**Akutan Morgan**	**2.65**	**261**	*e*Pn		**Pn**	**19 08 02.8 +0.8**		
AKRB	**Akutan Reef Bi**	**2.68**	**262**	*e*Pn		**Pn**	**19 08 03.3 +1.0**		
UNV	**Unalaska Valle**	**2.99**	**258**	*e*Pn		**Pn**	**19 08 06.4 -0.2**		
UNV				*e*Sn		**Sn**	**19 08 37.8 -3.4**		
AZAC	**Aniakchak**	**3.00**	**37**	P		**Pn**	**19 08 09.6 +2.8**		
ANNW	**Aniakchak Nort**	**3.06**	**37**	P		**Pn**	**19 08 10.8 +3.3**		
MSW	**Makushin Switc**	**3.13**	**260**	*e*Sn		**Sn**	**19 08 44.6 -0.1**		
MREP	**Makushin Rep't**	**3.14**	**258**	P		**Pn**	**19 08 08.6 -0.1**		
MCIR	**Makushin Cirqu**	**3.19**	**261**	*e*Pn		**Pn**	**19 08 09.8 +0.5**		
OKSP	**Okmok Steeple**	**4.19**	**254**	P		**Pn**	**19 08 23.1 0.0**		
PLK1	**Peulik 1**	**4.26**	**38**	P		**Pn**	**19 08 26.7 +2.8**		
PLK3	**Peulik 3**	**4.31**	**41**	P		**Pn**	**19 08 27.8 +3.2**		
NIKH	**Nikolski High**	**4.61**	**253**	*e*Pn		**Pn**	**19 08 27.8 -1.0**		
NIKH				*e*Sn		**Sn**	**19 09 17.2 -3.8**		
SII	**Sitkinak Islan**	**4.64**	**61**	*e*Pn		**Pn**	**19 08 30.1 +0.9**		
SII				*e*Sn		**Sn**	**19 09 22.4 +0.7**		
ANCK	**Angle Creek**	**4.96**	**40**	P		**Pn**	**19 08 36.4 +2.8**		
ACHA	**Angle Creek He**	**5.03**	**41**	P		**Pn**	**19 08 37.6 +3.0**		
SPIA	**Saint Paul Isl**	**5.55**	**302**	*e*Pn		**Pn**	**19 08 43.5 +1.9**		
KDAK	**Kodiak Island**	**5.96**	**54**	Pn		**Pn**	**19 08 47.9 +0.8**		
	8.7nm,0.3s,baz=188,slow=5.2,SNR=190								
KDAK						**Sn**	**19 09 51.2 -2.8**		
	baz=130,slow=20,SNR=1.0								
SVW2	**Sparrevohn**	**7.28**	**24**	*e*Pn		**Pn**	**19 09 07.4 +2.0**		
BRLK	**Bradley Lake**	**7.79**	**44**	*e*Pn		**Pn**	**19 09 12.5 +0.2**		
SEW	**Seward**	**8.58**	**45**	*e*Pn		**Pn**	**19 09 23.0 0.0**		
SUA	**Susitna One**	**8.98**	**35**	*e*Pn		**Pn**	**19 09 30.1 +1.5**		
SUA				*e*Sn		**Sn**	**19 11 06.3 -1.9**		
GSTR	**Great Sitkin T**	**9.03**	**260**	*e*Pn		**Pn**	**19 09 30.5 +1.3**		
RC01	**Rabbit Creek A**	**9.07**	**39**	*e*Pn		**Pn**	**19 09 30.4 +0.6**		
RC01				*e*Sn		**Sn**	**19 11 05.4 -5.0**		
ADK	**Adak**	**9.46**	**260**	*e*Pn		**Pn**	**19 09 34.0 -1.1**		
MID	**Middleton Isla**	**9.62**	**53**	*e*Pn		**Pn**	**19 09 38.1 +0.9**		
PMR	**Palmer**	**9.63**	**38**	*e*Pn		**Pn**	**19 09 38.0 +0.7**		
PPLA	**Purkeypile**	**9.66**	**26**	*e*Pn		**Pn**	19 09 42.9 +5.0		
KIWB	**Kanaga Island**	**9.74**	**260**	*e*Pn		**Pn**	**19 09 39.8 +0.8**		
KNK	**Knik Glacier**	**9.76**	**40**	*e*Pn		**Pn**	**19 09 39.2 0.0**		
KNK				*e*Sn		**Sn**	**19 11 22.3 -4.9**		
GHO	**Glory Hole Cre**	**9.82**	**38**	*e*Pn		**Pn**	**19 09 40.2 +0.1**		
SML	**Sawmill**	**10.05**	**38**	*e*Pn		**Pn**	**19 09 39.9 -3.3**		
CAST	**Castle Rocks**	**10.12**	**25**	*e*Pn		**Pn**	**19 09 41.7 -2.5**		
ANM	**Nome**	**10.21**	**351**	*e*Pn		**Pn**	**19 09 44.0 -1.3**		
EYAK	**Cordova Ski Ar**	**10.38**	**48**	*e*Pn		**Pn**	**19 09 47.5 -0.2**		
SCM	**Sheep Creek Mo**	**10.44**	**40**	*e*Pn		**Pn**	**19 09 47.7 -0.9**		
GAMB	**Gambell**	**10.59**	**335**	*e*Pn		**Pn**	**19 09 52.7 +2.2**		
TRF	**Thorofare Moun**	**10.62**	**28**	*e*Pn		**Pn**	**19 09 52.0 +1.0**		
DIV	**Divide**	**10.66**	**46**	*e*Pn		**Pn**	**19 09 52.0 +0.5**		
KLU	**Klutina**	**10.79**	**44**	*e*Pn		**Pn**	**19 09 53.6 +0.3**		
HMT	**Hamilton**	**10.95**	**51**	*e*Pn		**Pn**	**19 09 55.9 +0.5**		
RND	**Reindeer**	**11.00**	**31**	*e*Pn		**Pn**	**19 09 54.8 -1.4**		
MCK	**McKinley**	**11.22**	**30**	*e*Pn		**Pn**	**19 09 58.5 -0.6**		
DHY	**Denali Highway**	**11.23**	**35**	*e*Pn		**Pn**	**19 09 58.5 -0.9**		
BWN	**Browne**	**11.41**	**28**	*e*Pn		**Pn**	**19 10 03.6 +1.9**		
HARP	**HAARP**	**11.61**	**41**	*e*Pn		**Pn**	**19 10 05.2 +0.8**		
MLY	**Manley**	**11.80**	**23**	*e*Pn		**Pn**	**19 10 08.5 +1.4**		
PAX	**Paxson**	**11.83**	**38**	*e*Pn		**Pn**	**19 10 06.9 -0.6**		
WRH	**Wood River Hil**	**12.03**	**29**	*e*Pn		**Pn**	**19 10 09.0 -1.1**		
IM3	**Indian Mountai**	**12.08**	**15**	*e*Pn		**Pn**	**19 10 13.5 +2.7**		
BALM	**Baldy**	**12.09**	**50**	*e*Pn		**Pn**	**19 10 11.9 +0.8**		
CCB	**Clear Creek Bu**	**12.24**	**29**	*e*Pn		**Pn**	**19 10 11.4 -1.6**		
HDA	**Harding Lake**	**12.31**	**31**	*e*Pn		**Pn**	**19 10 12.6 -1.4**		
MDM	**Murphy Dome**	**12.36**	**27**	*e*Pn		**Pn**	**19 10 12.6 -2.2**		
COLA	**College**	**12.40**	**28**	*e*Pn		**Pn**	**19 10 12.5 -2.6**		
MENT	**Mentasta**	**12.45**	**41**	*e*Pn		**Pn**	**19 10 16.2 +0.2**		
RIDG	**Independ'e Rid**	**12.53**	**36**	*e*Pn		**Pn**	**19 10 15.3 -1.7**		
IL1	**Eielson Array**	**12.60**	**30**	*e*Pn		**Pn**	**19 10 15.3 -2.6**		
ILAR	**Eielson Array**	**12.60**	**30**	Pn		**Pn**	**19 10 15.3 -2.6**		
	0.4nm,0.3s,baz=223,slow=14,SNR=13								
ILAR						**Sn**	**19 12 31.9 -4.4**		
	0.1nm,0.3s,baz=186,slow=8.0,SNR=4.8								
ILB	**Eielson Array**	**12.60**	**30**	*e*Pn		**Pn**	**19 10 15.5 -2.4**		
DOT	**Dot Lake**	**12.75**	**37**	*e*Pn		**Pn**	**19 10 18.9 -1.1**		
BCPM	**Bancas Point**	**13.00**	**57**	*e*Pn		**Pn**	**19 10 23.4 0.0**		
HYT	**Haines Junctio**	**14.25**	**54**	*e*Pn		**Pn**	**19 10 41.9 +1.5**		
EGAK	**Eagle**	**14.44**	**37**	*e*Pn		**Pn**	**19 10 41.0 -1.7**		
DAWY	**Dawson**	**14.70**	**41**	*e*Pn		**Pn**	**19 10 46.1 -0.1**		
SIT	**Sitka**	**14.92**	**70**	*e*Pn		**Pn**	**19 10 49.2 +0.2**		
	204nm,1.9s								
SKAG	**Skagway**	**15.05**	**60**	*e*Pn		**Pn**	**19 10 52.3 +1.6**		
	13nm,0.8s								
TOLK	**Toolik Lake Re**	**15.18**	**17**	*e*Pn		**P**	**19 10 55.5 -0.9**		
	4.7nm,0.6s								
BESE	**Bessie Mountai**	**15.20**	**64**	*e*Pn		**P**	**19 10 55.0 -1.8**		
	40nm,1.2s								
JIS	**Juneau Island**	**15.44**	**65**	*e*Pn		**P**	**19 10 57.3 -2.0**		
	75nm,1.6s								
WHY	**Whitehorse**	**15.47**	**56**	*e*Pn		**P**	**19 10 58.3 -1.5**		
	29nm,1.6s								
EPYK	**Eagle Plains**	**16.86**	**36**	*e*Pn		**P**	**19 11 14.3 -0.8**		
	5.4nm,0.8s								
DLBC	**Dease Lake**	**17.73**	**65**	*e*Pn		**P**	**19 11 26.4 +1.6**		
	4.6nm,0.8s								
DLBC	**Dease Lake**	**17.73**	**65**	P		**P**	**19 11 29.6 +4.8**		
	0.9nm,0.3s,baz=218,slow=12,SNR=12								
INK	**Inuvik**	**18.96**	**33**	*e*P		**P**	**19 11 37.3 -0.7**		
	4.4nm,1.0s								
INK				S		**S**	**19 15 04.8 -5.3**		
INK	**Inuvik**	**18.96**	**33**	P		**Pn**	**19 11 38.9 -0.3**		
	0.4nm,0.3s,baz=209,slow=11,SNR=10								
INK				S		**S**	**19 15 04.8 -5.3**		
	0.0nm,0.3s,baz=13,slow=21,SNR=1.0								
PEA1	**Petropavlovsk-**	**23.85**	**283**	*e*P		**P**	**19 12 28.5 -1.2**		
PETK	**Petropavlovsk-**	**23.85**	**283**	P		**P**	**19 12 28.5 -1.2**		
	7.1nm,0.5s,baz=87,slow=13,SNR=26								
YKA	**Yellowknife Ar**	**25.23**	**53**	P		**P**	**19 12 44.5 +2.3**		
	0.8nm,0.5s,baz=275,slow=9.5,SNR=11								
YKB5	**Yellowknife Ar**	**25.23**	**53**	*e*P		**P**	**19 12 43.6 +1.5**		
MA2	**Magadan**	**25.93**	**301**	P		**P**	**19 12 48.3 -0.1**		
	1.5nm,0.5s,baz=83,slow=12,SNR=4.9								
TIXI	**Tiksi**	**33.34**	**327**	P		**P**	**19 13 52.7 -1.2**		
	0.3nm,0.3s,baz=78,slow=6.4,SNR=2.8								
TIXI				PcP		**PcP**	**19 16 35.4 +1.0**		
	0.2nm,0.4s,baz=63,slow=3.6,SNR=3.3								
PV02	**Paradox Valley**	**38.92**	**93**	*e*P		**P**	**19 14 41.3 -0.9**		
	3.7nm,0.9s								
PV01	**Paradox Valley**	**39.07**	**93**	*e*P		**P**	**19 14 42.6 -0.9**		
	2.7nm,0.6s								
H11N2	**WAKE ISLAND Hy**	**42.24**	**227**	T		T	19 59 53.7		
	baz=27,slow=76,SNR=20								
H11N3	**WAKE ISLAND Hy**	**42.25**	**227**	T		T	19 59 56.8		
	baz=27,slow=76,SNR=18								
H11N1	**WAKE ISLAND Hy**	**42.26**	**227**	T		T	20 00 02.9		
	baz=27,slow=76,SNR=18								
H11S1	**WAKE ISLAND Hy**	**43.41**	**227**	T		T	20 01 31.5		
	baz=26,slow=75,SNR=59								
H11S2	**WAKE ISLAND Hy**	**43.42**	**227**	T		T	20 01 32.7		
	baz=26,slow=75,SNR=36								
H11S3	**WAKE ISLAND Hy**	**43.43**	**227**	T		T	20 01 35.3		
	baz=26,slow=75,SNR=13								
KSRS	**Korea Array**	**49.70**	**280**	P		**P**	**19 16 08.3 +0.3**		
	1.9nm,0.7s,baz=54,slow=5.2,SNR=7.4								
KS15	**Wonju Array Si**	**49.73**	**280**	*e*P		**P**	**19 16 07.7 -0.5**		
	17nm,1.4s								
KSAR	**Wonju Array Be**	**49.73**	**280**	P		**P**	**19 16 08.3 +0.1**		
SONA0	**Songino Array**	**54.08**	**304**	*e*P		**P**	**19 16 40.5 -0.1**		
SONA0				*e*PcP		**PcP**	**19 17 46.1 +1.3**		
SONM	**Songino Array**	**54.08**	**304**	P		**P**	**19 16 40.5 -0.1**		
	1.4nm,0.8s,baz=46,slow=7.0,SNR=7.5								
SONM				PcP		**PcP**	**19 17 46.1 +1.3**		
	0.5nm,0.5s,baz=42,slow=2.3,SNR=3.4								
ARA0	**ARCESS Array S**	**56.10**	**357**	*e*P		**P**	**19 16 55.4 +0.6**		
ARCES	**ARCESS Array B**	**56.10**	**357**	P		**P**	**19 16 55.4 +0.6**		
	2.9nm,1.0s,baz=7.6,slow=7.5,SNR=2.7								
HHC	**Hu-ho-hao-te**	**56.38**	**295**	*e*P		**P**	**19 16 59.3 +2.1**		
HHC				pmax	pmax				
	comp=Z,16nm,1.0s								
HHC				pmax	pmax				
	comp=Z,180nm,4.8s								
GTA	**Gaotai**	**63.49**	**301**	*e*P		**P**	**19 17 45.8 -0.2**		
GTA				pP	pP		19 17 52.8 -8.1		
GTA				sP	sP		19 17 55.1 -12		
GTA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
LZH	**Lanzhou**	**63.97**	**296**	*e*P		**P**	**19 17 48.5 -0.8**		
LZH				pP	pP		19 18 03.0 -1.1		
LZH				sP	sP		19 18 09.9 -0.3		
LZH				PP	**PP**		**19 20 10.8 +0.8**		
LZH				pmax	pmax				
	comp=Z,26nm,1.0s								
LZH				pmax	pmax				
	comp=Z,85nm,4.9s								
FIA1	**FINESS Array S**	**64.18**	**356**	*e*P		**P**	**19 17 50.4 +0.4**		
FIA0	**FINESS Array S**	**64.18**	**356**	*e*P		**P**	**19 17 50.5 +0.4**		
FINES	**FINESS Array B**	**64.18**	**356**	P		**P**	**19 17 50.5 +0.4**		
	comp=Z,1.6nm,0.6s,baz=3.9,slow=6.7,SNR=8.7								
MK31	**Makanchi Array**	**65.52**	**317**	*e*P		**P**	**19 17 58.9 -0.2**		
	comp=Z,3.3nm,2.0s								
MK32	**Makanchi Array**	**65.52**	**317**	*e*P		**P**	**19 17 58.8 -0.3**		
MKAR	**Makanchi Array**	**65.52**	**317**	P		**P**	**19 17 58.8 -0.3**		
	comp=Z,0.3nm,0.4s,baz=43,slow=6.3,SNR=9.3								
MK01	**Makanchi Array**	**65.54**	**317**	*e*P		**P**	**19 17 58.7 -0.5**		
MAKZ	**Makanchi**	**65.64**	**318**	*e*P		**P**	**19 17 59.5 -0.3**		
	comp=Z,7.2nm,1.9s								
WMQ	**Urumqi**	**65.70**	**312**	*e*P		**P**	**19 18 03.0 +2.7**		
CD2	**Chengdu**	**68.00**	**292**	P		**P**	**19 18 12.9 -2.2**		
CD2				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ABKAR	**Akbulak array**	**70.83**	**333**	*e*P		**P**	**19 18 33.4 +1.2**		
	comp=Z,1.4nm,0.7s								
CLL	**Collm**	**74.40**	**4**	*e*P		**P**	**19 18 57.0 +3.7**		
AKASG	**Malin Array Be**	**74.72**	**353**	P		**P**	**19 18 55.3 +0.2**		
	comp=Z,1.0nm,0.5s,baz=9.2,slow=6.0,SNR=5.6								
GERES	**GERESS Array B**	**76.89**	**3**	P		**P**	**19 19 09.2 +1.4**		
	comp=Z,0.4nm,0.6s,baz=343,slow=4.2,SNR=3.8								
JIRN	**Jiri**	**79.64**	**303**	*e*P		**P**	**19 19 24.5 +0.8**		
	comp=Z,8.6nm,0.3s								
PKI	**Pulchoki**	**80.09**	**304**	*e*P		**P**	**19 19 26.2 +0.1**		
	comp=Z,2.7nm,0.5s								
PKIN	**Phulchoki**	**80.10**	**304**	*e*P		**P**	**19 19 26.2 +0.2**		
	comp=Z,2.3nm,0.6s								
DMN	**Daman**	**80.21**	**304**	*e*P		**P**	**19 19 27.3 +0.7**		
	comp=Z,3.0nm,0.4s								
DANN	**Dangsing**	**80.23**	**306**	*e*P		**P**	**19 19 27.3 +0.6**		
	comp=Z,12nm,0.6s								
CMAR	**Chiang Mai Arr**	**80.53**	**288**	P		**P**	**19 19 28.1 +0.1**		
	comp=Z,0.9nm,0.8s,baz=15,slow=5.0,SNR=7.2								
CM01	**Chiang Mai Arr**	**80.55**	**288**	*e*P		**P**	**19 19 28.4 +0.2**		
KOLN	**Koldanda**	**80.79**	**305**	*e*P		**P**	**19 19 30.1 +0.4**		
	comp=Z,3.0nm,0.6s								
PYUN	**Piuthan**	**80.81**	**306**	*e*P		**P**	**19 19 30.0 +0.3**		
GEYT	**Alibeck**	**81.77**	**329**	P		**P**	**19 19 34.3 -0.2**		
	comp=Z,0.9nm,0.5s,baz=35,slow=5.3,SNR=2.8								
ESDC	**Sonseca Array**	**84.18**	**17**	P		**P**	**19 19 49.2 +2.3**		
	comp=Z,0.1nm,0.4s,baz=339,slow=6.4,SNR=3.0								
BR101	**Keskin Array S**	**85.18**	**348**	*e*P		**P**	**19 19 52.7 +0.7**		
BRTR	**Keskin Array B**	**85.18**	**348**	P		**P**	**19 19 52.7 +0.7**		
	comp=Z,0.7nm,0.7s,baz=25,slow=3.1,SNR=3.3								

*HLW **15** 19:08:06.3,35.60N×29.49E,h10km±29km,Md4.0,MI4.2*
*THE **15** 19:08:09.2,35.56N×28.95E,h0km,ML3.0/3, Error ellipse: s-maj=1.7km s-min=0.5km az=156.0*
*ATH **15** 19:08:09.9,35.50N×28.88E,h17km±4km,ML3.0/2, Error ellipse: s-maj=4.8km s-min=1.4km az=1.0*
*ISK **15** 19:08:10.2,35.60N×28.96E,h10km, ML3.3/15*
*DDA **15** 19:08:12.5,35.74N×28.91E,h39km±1km,ML3.4*
*GII **15** 19:08:12.9±0.0,35.35N×29.22E,h11km,MD3.2/2*
*NIC **15** 19:08:15.6±0.2,35.62N×29.30E,h40km,ML3.1*
*IDC **15** 19:08:18.2±3.8,36.88N×30.04E, h0km,mb3.4/2, mb1 3.2/3,mb1mx3.1/35,mbtmp3.2/3,ML2.7/1, Error ellipse: s-maj=51.9km s-min=34.3km az=25.0*

ISC 15 19:08:10.1±1.2,**35.49N**±0.03×**28.94E**±0.02,**h26**km±12km, **n83**,σ1**s30**/112,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.84**	**38**	P		**Pb**	**Pb**	**19 08 25.1**	**-0.9**
KSL				S		**Sn**	**Sn**	**19 08 37.9**	**+0.2**
KSL	**Kastellorizon**	**0.84**	**38**	P		**Pn**	**Pn**	**19 08 26.6**	**+0.3**
KSL				S		**Sn**	**Sn**	**19 08 37.9**	**+0.2**
KSL				AML		AML		19 08 41.2	
	comp=E,2891μm,0.3s								
KSL				AML		AML		19 08 42.0	
	comp=N,1930μm,0.3s								
AKAS	**Kas**	**0.92**	**36**	PG		**Pb**	**Pb**	**19 08 26.6**	**-0.8**
AKAS				SG		**Sb**	**Sb**	**19 08 38.8**	**-0.4**
AKAS	**Kas**	**0.92**	**36**	*i* P		**Pn**	**Pn**	**19 08 29.0**	**+1.6**
AKAS				*i* S		**Sb**	**Sb**	**19 08 39.3**	**0.0**
AKAS				IAML_P					
	comp=Z,12μm,0.2s								
ARG	**Arkhangelos**	**0.98**	**318**	PG		**Pb**	**Pb**	**19 08 28.9**	**+0.5**
ARG	**Arkhangelos**	**0.98**	**318**	P		**Pn**	**Pn**	**19 08 27.9**	**-0.3**
ARG				S		**Sn**	**Sn**	**19 08 42.5**	**+1.2**
ARG	**Arkhangelos**	**0.98**	**318**	P		**Pn**	**Pn**	**19 08 27.7**	**-0.5**
ARG				S		**Sb**	**Sb**	**19 08 40.9**	**-0.1**
ARG				AML		AML		19 08 52.0	
	comp=E,1558μm,0.5s								
ARG				AML		AML		19 08 52.3	
	comp=N,2151μm,0.7s								
FETY	**Fethiye**	**1.15**	**6**	PG		**Pn**	**Pn**	**19 08 29.9**	**-0.6**
FETY	**Fethiye**	**1.15**	**6**	P		**Pn**	**Pn**	**19 08 29.7**	**-0.8**
FETY	**Fethiye**	**1.15**	**6**	*i* P		**Pn**	**Pn**	**19 08 30.8**	**+0.3**
FETY				*i* S		**Sn**	**Sn**	**19 08 43.4**	**-2.1**
FETY				IAML_P					
	comp=Z,16μm,0.2s								
DALY	**Dalyan (Mula)**	**1.34**	**350**	PN		**Pn**	**Pn**	**19 08 33.2**	**0.0**
DALY				SN		**Sb**	**Sb**	**19 08 51.8**	**+0.4**
DALY	**Dalyan (Mula)**	**1.34**	**350**	*i* P		**Pn**	**Pn**	**19 08 33.1**	**0.0**
DALY				IAML_P					
	comp=Z,3μm,0.3s								
MRSB	**Marmaris-Mugla**	**1.36**	**334**	PN		**Pb**	**Pb**	**19 08 35.2**	**+0.2**
TURN	**Turunc**	**1.41**	**349**	PN		**Pb**	**Pb**	**19 08 35.8**	**+0.1**
TURN	**Turunc**	**1.41**	**349**	*i* P		**Pn**	**Pn**	**19 08 34.5**	**+0.5**
TURN				*i* S		**Sn**	**Sn**	**19 08 52.2**	**+0.5**
TURN				IAML_P					
	comp=Z,836nm,0.1s								
AKUM	**Antalya-Kumluc**	**1.41**	**53**	*i* P		**Pb**	**Pb**	**19 08 35.6**	**-0.1**
AKUM				*i* S		**Sn**	**Sn**	**19 08 52.2**	**+0.4**
AKUM				IAML_P					
	comp=Z,2μm,0.1s								
KARP	**Karpathos**	**1.46**	**273**	PN		**Pb**	**Pb**	**19 08 36.7**	**+0.2**
KARP	**Karpathos**	**1.46**	**273**	P		**Pn**	**Pn**	**19 08 35.5**	**+0.7**
KARP				S		**Sb**	**Sb**	**19 08 55.5**	**+0.9**
KARP	**Karpathos**	**1.46**	**273**	P		**Pb**	**Pb**	**19 08 36.4**	**-0.1**
ELL	**Elmali**	**1.48**	**32**	PN		**Pb**	**Pb**	**19 08 36.4**	**-0.6**
ELL				SN		**Sn**	**Sn**	**19 08 54.4**	**+0.7**
DATC	**Datca-Mugla**	**1.64**	**321**	PN		**Pb**	**Pb**	**19 08 39.4**	**-0.2**
DAT	**Datca**	**1.66**	**319**	PN		**Pb**	**Pb**	**19 08 39.5**	**-0.5**
DAT	**Datca**	**1.66**	**319**	*i* P		**Pn**	**Pn**	**19 08 39.2**	**+1.6**
DAT				*i* S		**Sn**	**Sn**	**19 08 56.8**	**-1.3**
YER	**Yerkesik**	**1.73**	**342**	PN		**Pn**	**Pn**	**19 08 39.7**	**+1.2**
YER	**Yerkesik**	**1.73**	**342**	P		**Pn**	**Pn**	**19 08 37.9**	**-0.6**
YER				S		**Sn**	**Sn**	**19 09 00.6**	**+0.9**
GOLH	**Golhisar**	**1.81**	**16**	*i* P		**Pb**	**Pb**	**19 08 43.6**	**+0.9**
GOLH				*i* S		**Sn**	**Sn**	**19 09 02.0**	**+0.1**
KORT	**Korkueli**	**1.89**	**37**	PN		**Pn**	**Pn**	**19 08 42.3**	**+1.5**
KORT	**Korkueli**	**1.89**	**37**	*i* P		**Pb**	**Pb**	**19 08 43.3**	**-0.7**
KORT				*i* S		**Sb**	**Sb**	**19 09 05.5**	**-1.7**
KORT				IAML_P					
	comp=Z,2μm,0.3s								
TAVA	**DENIZLI_Tavas**	**1.97**	**359**	*i* P		**Pn**	**Pn**	**19 08 42.9**	**+1.0**
TAVA				*i* S		**Sn**	**Sn**	**19 09 05.9**	**+0.1**
TAVA				IAML_P					
	comp=Z,2μm,0.1s								
BDRM	**Kayabasi**	**1.98**	**323**	*i* P		**Pb**	**Pb**	**19 08 45.0**	**-0.5**
BDRM				*i* S		**Sn**	**Sn**	**19 09 03.5**	**-2.5**
BDRM				IAML_P					
	comp=Z,477nm,0.1s								
BODT	**Bodrum**	**2.05**	**320**	PN		**Pn**	**Pn**	**19 08 43.8**	**+0.9**
DENT	**Denizli**	**2.26**	**2**	PN		**Pn**	**Pn**	**19 08 47.1**	**+1.3**
ZKR	**Zakros**	**2.26**	**261**	P		**Pn**	**Pn**	**19 08 48.0**	**+2.2**
AYDN	**Tasoluk**	**2.33**	**339**	*i* P		**Pn**	**Pn**	**19 08 48.9**	**+2.1**
AYDN				*i* S		**Sn**	**Sn**	**19 09 12.9**	**-1.7**
AYDN				IAML_P					
	comp=Z,1μm,0.2s								
BCK	**Bucak**	**2.37**	**34**	PN		**Pn**	**Pn**	**19 08 48.9**	**+1.5**
BRDR	**BURDUR-Merkez**	**2.38**	**22**	*i* P		**Pn**	**Pn**	**19 08 49.9**	**+2.4**
BRDR				IAML_P					
	comp=Z,1μm,0.2s								
AYDB	**Zeytinkoy-Aydi**	**2.59**	**341**	PN		**Pn**	**Pn**	**19 08 50.9**	**+0.4**
ISP	**Isparta**	**2.65**	**28**	Pn		**Pn**	**Pn**	**19 08 52.3**	**+1.0**
NPS	**Neapolis**	**2.73**	**266**	P		**Pn**	**Pn**	**19 08 54.7**	**+2.4**
SMG	**Samos**	**2.79**	**323**	P		**Pb**	**Pb**	**19 08 56.7**	**-2.5**
AKMC	**Akamas**	**2.81**	**99**	P		**Pn**	**Pn**	**19 08 54.9**	**+1.5**
	baz=284								
PPCY	**Paphos**	**2.85**	**101**	P		**Pn**	**Pn**	**19 08 55.8**	**+1.9**
	baz=287								
LAST	**Lasithi**	**2.85**	**264**	P		**Pn**	**Pn**	**19 08 56.5**	**+2.5**
BAGO	**Egridir - ISPA**	**2.90**	**30**	*i* P		**Pn**	**Pn**	**19 08 56.0**	**+1.3**
BAGO				IAML_P					
	comp=Z,861nm,0.2s								
KHAL	**Karahalli**	**2.91**	**9**	*i* P		**Pn**	**Pn**	**19 08 55.1**	**+0.3**
KHAL				IAML_P					
	comp=Z,365nm,0.2s								
KZIL	**AFYON_Kizioren**	**2.92**	**19**	*i* P		**Pn**	**Pn**	**19 08 55.9**	**+0.8**
KZIL				IAML_P					
	comp=Z,383nm,0.3s								
ALFC	**Alefka**	**3.01**	**95**	P		**Pn**	**Pn**	**19 08 57.6**	**+1.5**
	baz=280								
ALFC				S		**Sn**	**Sn**	**19 09 29.9**	**-1.4**
KULA	**Kula-Manisa**	**3.03**	**356**	PN		**Pn**	**Pn**	**19 08 57.9**	**+1.5**
USAK	**Uak-Merkez**	**3.22**	**1**	*i* P		**Pn**	**Pn**	**19 08 59.5**	**+0.4**
USAK				IAML_P					
	comp=Z,311nm,0.1s								
SZAC	**Souni**	**3.31**	**102**	P		**Pn**	**Pn**	**19 09 01.9**	**+1.6**
	baz=287								
SZAC				S		**Sn**	**Sn**	**19 09 38.2**	**-0.6**
SHUT	**Suhut-Afyon**	**3.32**	**22**	PN		**Pn**	**Pn**	**19 09 01.9**	**+1.5**
DOGA	**KONYA_Doganhis**	**

mb1 3.9/5, mb1mx3.5/30, mbtmp3.7/5, ML3.6/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/31, Error ellipse: s-maj=57.6km s-min=30.5km az=89.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**18.48**	**289**	LR	LR	19 39 40.6	
	comp=Z,81nm,18.3s,baz=205,slow=44						
WRA	**Warramunga Arr**	**19.00**	**226**	P	P	19 30 36.8	-0.3
	0.2nm,0.3s,baz=51,slow=11,SNR=11						
ASAR	**Alice Springs**	**21.86**	**219**	P	P	19 31 08.3	+0.2
	2.7nm,0.7s,baz=56,slow=9.3,SNR=7.4						
FITZ	**Fitzroy Crossi**	**25.07**	**242**	P	P	19 31 39.5	-0.6
	6.6nm,0.9s,baz=62,slow=6.4,SNR=14						
FITZ				LR	LR	19 41 05.6	
	comp=Z,56nm,18.8s,baz=137,slow=36						
STKA	**Stephens Creek**	**25.62**	**194**	P	P	19 31 45.5	+0.5
	0.6nm,0.5s,baz=0.9,slow=10.0,SNR=2.0						
STKA				LR	LR	19 43 12.0	
	comp=Z,84nm,19.0s,baz=208,slow=40						
CMAR	**Chiang Mai Arr**	**55.27**	**298**	P	P	19 35 50.0	+0.7
	0.2nm,0.6s,baz=104,slow=6.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**80.80**	**327**	LR	LR	20 15 11.5	
	comp=Z,17nm,19.5s,baz=62,slow=36						
TORD	**Torodi Ar. Bea**	**147.03**	**283**	PKPbc	PKPdf	19 45 57.9	+0.3
	0.7nm,0.7s,baz=80,slow=3.6,SNR=4.3						

MEX 15 19:48:51.1±0.4, 17.80N×95.34W, h16km±6km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.83**	**148**	*e*P	Pb	19 49 03.7	-3.4
CMIG				*i* S	Sb	19 49 14.7	-3.4
VHO	**Vista Hermosa**	**1.52**	**242**	*i* P	Pn	19 49 14.3	-3.5
VHO				*i* S	Sn	19 49 32.1	-5.2
TPIG	**Tehuac#an**	**2.02**	**288**	*i* P	Pn	19 49 21.6	-3.1
TPIG				*i* S	Sn	19 49 45.1	-4.6
HUIG	**Huatulco**	**2.15**	**200**	*e*P	Pn	19 49 23.6	-2.7
HUIG				*i* S	Sn	19 49 48.2	-4.5
LVIG	**Laguna Verde**	**2.17**	**332**	*i* P	Pn	19 49 23.4	-3.2
LVIG				*i* S	Sn	19 49 48.5	-4.6
PCIG		**2.91**	**135**	*i* P	Pn	19 49 34.3	-2.4
PCIG				*i* S	Sn	19 50 07.9	-3.5

*ISCJB **15** 19:49:07.5±1.3, 34.45N±0.08×141.9E±0.1, h21km, mb3.3/3, Error ellipse: s-maj=16.2km s-min=8.9km az=151.6*
*JMA **15** 19:49:07.5±0.5, 34.41N×141.90E, h24km±3km, M2.8*
*IDC **15** 19:49:17.7±2.2, 33.61N×138.67E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/40, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=71.1km s-min=26.5km az=75.0*

ISC 15 19:49:10.3±1.6, 34.48N±0.08×141.8E±0.1, h21km, n14, σ1°31/17, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.69**	**285**	P	**Pb**	**19 49 22.5**	**-0.9**
BSO3	**Boso 3**	**1.10**	**287**	P	**Pn**	**19 49 29.5**	**-0.8**
BSO4	**Boso 4**	**1.30**	**293**	P	**Pn**	**19 49 33.1**	**0.0**
KTR	**Katsuura**	**1.39**	**299**	*e*S	**Sn**	**19 49 53.1**	**+1.1**
CHOJ	**Chosi**	**1.44**	**328**	P	**Pn**	**19 49 34.3**	**-0.8**
CHOJ				*e*S	**Sn**	**19 49 54.1**	**+0.7**
JKUC	**kamogawauchiur**	**1.48**	**298**	P	**Pn**	**19 49 34.7**	**-0.9**
JKUC				*e*S	**Sn**	**19 49 55.5**	**+1.2**
JMKN	**Mikurajimanish**	**1.92**	**253**	P	**Pn**	**19 49 41.1**	**-0.6**
JHJ2	**Mitsune**	**2.14**	**231**	P	**Pn**	**19 49 43.9**	**-0.8**
JOD2	**Odawara 2**	**2.36**	**290**	P	**Pn**	**19 49 46.5**	**-1.2**
JIZS	**Izushimoda**	**2.42**	**276**	P	**Pn**	**19 49 48.0**	**-0.5**
MJAR	**Matsushiro Arr**	**3.58**	**306**	Pn	**Pn**	**19 50 04.7**	**+0.2**
	0.3nm,0.3s,baz=174,slow=13,SNR=19						
MJAR				Sn	**Sn**	**19 50 48.7**	**+2.6**
	0.2nm,0.3s,baz=44,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**45.77**	**304**	P	**P**	**19 57 27.9**	**-2.3**
	0.1nm,0.7s,baz=95,slow=9.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**47.84**	**310**	P	**P**	**19 57 46.1**	**-0.2**
	0.3nm,0.5s,baz=85,slow=8.0,SNR=3.7						
WRA	**Warramunga Arr**	**54.58**	**189**	P	**P**	**19 58 39.0**	**+1.9**
	0.1nm,0.3s,baz=1.0,slow=7.7,SNR=6.6						

IDC 15 19:53:12.7±9.4, 20.42S×167.68E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, ML2.8/1, MS2.1/1, Ms1 2.1/1, ms1mx2.1/20, Error ellipse: s-maj=166.3km s-min=40.5km az=96.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.01**	**215**	Pn	Pn	19 53 47.4	-0.6
	3.2nm,0.3s,baz=42,slow=18,SNR=105						
DZM				Sn	Sn	19 54 14.7	+0.7
	13nm,0.3s,baz=133,slow=23,SNR=20						
DZM				LR	LR	19 54 36.2	
	comp=Z,49nm,21.6s,baz=260,slow=42						
STKA	**Stephens Creek**	**25.98**	**239**	P	P	19 58 47.5	+0.3
	2.2nm,1.2s,baz=44,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**31.27**	**261**	P	P	19 59 34.0	-0.6
	0.1nm,0.6s,baz=92,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**31.44**	**258**	P	P	19 59 36.6	+0.6
	0.7nm,0.7s,baz=90,slow=8.8,SNR=7.4						

IDC 15 20:07:29.7±5.3, 20.38S×175.68W, h291km±51km, mb3.1/4, mb1 3.4/6, mb1mx3.1/30, mbtmp3.9/6, Error ellipse: s-maj=29.7km s-min=15.1km az=107.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.75**	**261**	P	P	20 11 07.4	+0.9
	0.4nm,0.3s,baz=89,slow=20,SNR=6.0						
URZ	**Urewera**	**18.88**	**198**	P	P	20 11 28.6	-0.5
	1.2nm,0.3s,baz=352,slow=5.6,SNR=7.6						
URZ				S	S	20 14 48.8	+0.8
	0.2nm,0.3s,baz=66,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**46.66**	**256**	P	P	20 15 30.0	+0.1
	0.6nm,0.5s,baz=88,slow=8.4,SNR=27						
WRA	**Warramunga Arr**	**46.77**	**261**	P	P	20 15 30.5	-0.3
	0.5nm,0.3s,baz=95,slow=7.5,SNR=45						
NVAR	**Mina Array Bea**	**79.46**	**42**	P	P	20 19 05.2	+0.8
	0.9nm,0.8s,baz=228,slow=8.0,SNR=3.5						
ILAR	**Eielson Array**	**87.73**	**12**	P	P	20 19 44.5	-0.7
	0.3nm,0.7s,baz=223,slow=3.7,SNR=3.5						

*JMA **15** 20:09:47.9±0.5, 43.98N×148.17E, h1km, M3.7*
*SKHL **15** 20:09:48.9±0.3, 44.40N×148.30E, h32km±4km, mb3.9/2*

ISC 15 20:09:45.3±3.1, 44.39N±0.08×148.3E±0.2, h15km±12km, n11, σ1°89/17, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.91**	**339**	*i* P	**Pn**	**20 10 04.0**	**+0.5**
KUR				*e*S	**Sg**	**20 10 15.5**	**+0.8**
SHO	**Shikotan**	**1.20**	**245**	*e*P	**Pg**	**20 10 08.0**	**-0.3**
SHO				AMB	AMB	20 10 09.0	
	15nm,0.2s						
SHO				*e*S	**Sb**	**20 10 22.0**	**-0.9**
SHO				A	A	20 10 26.0	
	125nm,0.2s						
SHO				A	A	20 10 26.0	
	222nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.81**	**260**	*e*P	**Pb**	**20 10 17.0**	**-1.1**
YUK				*e*S	**Sn**	**20 10 38.0**	**-0.5**
GRPR	**Tuman**	**1.88**	**259**	*e*P	**Pb**	**20 10 18.0**	**-1.3**
GRPR				AMB	AMB	20 10 20.0	
	38nm,0.2s						
GRPR				*e*S	**Sn**	**20 10 40.0**	**-0.3**
GRPR				A	A	20 10 44.0	
	218nm,0.2s						
GRPR				A	A	20 10 44.0	
	84nm,0.2s						
NEM2	**Nemuro 2**	**2.13**	**242**	P	**Pb**	**20 10 21.5**	**-2.1**
NEM2				*e*S	**Sn**	**20 10 46.1**	**-0.4**
JRA	**Rausu**	**2.35**	**260**	P	**Pb**	**20 10 26.2**	**-1.1**
JAK	**Akkeshi**	**2.98**	**243**	P	**Pn**	**20 10 33.9**	**+1.9**
JAR	**Ashorobuto**	**3.47**	**253**	P	**Pn**	**20 10 42.1**	**+3.3**
JCH	**Churui**	**4.02**	**246**	P	**Pn**	**20 10 48.8**	**+2.4**
JKB	**Kayabe**	**5.89**	**247**	P	**Pn**	**20 11 14.8**	**+2.8**
JKB				*e*S	**Sn**	**20 12 19.6**	**+0.3**
JANG	**Nango**	**6.44**	**234**	*e*S	**Sn**	**20 12 30.2**	**-2.7**

*IDC **15** 20:18:52.7±1.8, 42.62N×48.68E, h0km, mb3.0/2, mb1 3.3/6, mb1mx3.1/34, mbtmp3.2/6, ML3.1/4, Error ellipse: s-maj=36.2km s-min=11.6km az=1.0*
*DRS **15** 20:18:54.9±0.0, 42.83N×49.17E, h20km*
*ISCJB **15** 20:18:55.7±0.7, 42.76N±0.05×49.07E±0.05, h36km±15km, mb2.9/2, Error ellipse: s-maj=7.9km s-min=6.2km az=19.3*
*NORS **15** 20:18:56.1±0.0, 42.66N×48.98E, h34km, MPVA4.0*
*MOS **15** 20:18:57.0±1.0, 42.77N×48.96E, h33km, mb3.7/1, Error ellipse: s-maj=10.7km s-min=6.4km az=176.3*

ISC 15 20:18:55.6±1.4, 42.73N±0.04×49.02E±0.05, h26km±13km, n60, σ1°67/88, 8C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.86**	**216**	⇓ *i*PG	**Pb**	**20 19 11.8**	**-0.1**
DRN				*e*		20 19 23.2	
DRN				pmax	pmax		
	comp=Z,137nm,1.0s						
DRN				smax	smax		
	comp=N,594nm,0.6s						
DRN	**Derbent**	**0.86**	**216**	*i* Pg	**Pb**	**20 19 11.9**	**-0.1**
DRN				*e*Sg	**Sb**	**20 19 23.2**	**+0.1**
SGKR	**Sergokala**	**1.04**	**255**	PG	**Pn**	**20 19 14.0**	**-0.4**
SGKR				*i* S	**Sn**	**20 19 27.5**	**-0.6**
SGKR	**Sergokala**	**1.04**	**255**	*e*Pg	**Pn**	**20 19 14.0**	**-0.4**
SGKR				*i* Sg	**Sn**	**20 19 27.5**	**-0.6**
MAK	**Makhachkala**	**1.13**	**282**	*e*PG	**Pb**	**20 19 16.5**	**0.0**
MAK				*e*		20 19 32.1	
MAK				pmax	pmax		
	comp=Z,78nm,0.2s						
MAK				smax	smax		
	comp=E,1μm,0.4s						
MAK				smax	smax		
	comp=E,2μm,0.4s						
MAK	**Makhachkala**	**1.13**	**282**	*e*Pg	**Pb**	**20 19 16.9**	**+0.5**
MAK				*e*Sg	**Sb**	**20 19 30.8**	**0.0**
URKR	**Urkarakh**	**1.17**	**242**	⇑ *e*PG	**Pn**	**20 19 16.4**	**0.0**
URKR	**Urkarakh**	**1.17**	**242**	*i* Pg	**Pn**	**20 19 16.3**	**0.0**
URKR				*e*Sg	**Sn**	**20 19 30.8**	**-0.7**
BUJR	**Buynaksk**	**1.41**	**274**	*e*PG	**Pn**	**20 19 20.0**	**+0.5**
BUJR				pmax	pmax		
	comp=Z,81nm,0.2s						
BUJR	**Buynaksk**	**1.41**	**274**	*e*Pg	**Pn**	**20 19 20.0**	**+0.5**
BUJR				*e*Sg	**Sn**	**20 19 37.5**	**+0.3**
ARKR	**Arakani**	**1.50**	**266**	*i* PG	**Pn**	**20 19 21.5**	**+0.7**
ARKR	**Arakani**	**1.50**	**266**	*i* Pg	**Pn**	**20 19 21.5**	**+0.7**
ARKR				*e*Sg	**Sn**	**20 19 40.5**	**+1.0**
KRNR	**Karanay**	**1.56**	**274**	*e*PG	**Pn**	**20 19 22.0**	**+0.4**
KRNR				pmax	pmax		
	comp=Z,31nm,0.2s						
KRNR	**Karanay**	**1.56**	**274**	*e*Pg	**Pn**	**20 19 22.0**	**+0.4**
KRNR				*e*Sg	**Sn**	**20 19 41.5**	**+0.5**
AKT	**Akhty**	**1.57**	**218**	⇑ *e*PG	**Pn**	**20 19 22.3**	**+0.4**
AKT				pmax	pmax		
	comp=Z,119nm,0.3s						
AKT	**Akhty**	**1.57**	**218**	*i* Pg	**Pn**	**20 19 22.4**	**+0.5**
AKT				*e*Sg	**Sn**	**20 19 41.1**	**-0.3**
DBC	**Dubki**	**1.63**	**281**	⇑ *e*PG	**Pn**	**20 19 23.2**	**+0.5**
DBC				*e*		20 19 45.3	
DBC	**Dubki**	**1.63**	**281**	*e*Pg	**Pn**	**20 19 23.7**	**+1.1**
DBC				*e*Sg	**Sn**	**20 19 42.8**	**-0.1**
XNZR	**Khunzakh**	**1.71**	**264**	⇓ *e*PN	**Pn**	**20 19 25.3**	**+1.4**
XNZR	**Khunzakh**	**1.71**	**264**	*e*Pg	**Pn**	**20 19 25.3**	**+1.4**
XNZR				*e*Sg	**Sn**	**20 19 45.9**	**+0.9**
DLMR	**Dylym**	**1.79**	**282**	*e*PN	**Pn**	**20 19 26.0**	**+1.3**
DLMR				pmax	pmax		
	comp=Z,27nm,0.3s						
DLMR	**Dylym**	**1.79**	**282**	*e*Pg	**Pn**	**20 19 26.0**	**+1.3**
DLMR				*e*Sg	**Sn**	**20 19 48.0**	**+1.4**
BTLR	**Botlikh**	**2.06**	**269**	⇑ *e*PN	**Pb**	**20 19 32.6**	**+0.3**
BTLR				pmax	pmax		
	comp=Z,42nm,0.4s						
BTLR	**Botlikh**	**2.06**	**269**	*e*Pg	**Pn**	**20 19 30.3**	**+1.7**
BTLR				*e*Sg	**Sn**	**20 19 55.5**	**+2.1**
LGD	**Lagodekhi**	**2.24**	**247**	P	**Pb**	**20 19 33.9**	**-1.5**
LGD				S	**Sb**	**20 20 01.1**	**-1.6**
LGD	**Lagodekhi**	**2.24**	**247**	PN	**Pb**	**20 19 33.9**	**-1.5**
LGD				S	**Sb**	**20 20 01.1**	**-1.6**
LGD	**Lagodekhi**	**2.24**	**247**	*e*Pg	**Pb**	**20 19 33.9**	**-1.5**
LGD				*e*Sg	**Sb**	**20 20 01.1**	**-1.6**
GROC	**Groznyy**	**2.41**	**282**	*e*PN	**Pn**	**20 19 34.3**	**+1.0**
GROC				*e*S	**Sn**	**20 20 03.2**	**+1.3**
GROC	**Groznyy**	**2.41**	**282**	*e*Pn	**Pn**	**20 19 34.3**	**+1.0**
GROC				*e*Sn	**Sn**	**20 20 03.2**	**+1.3**
DDFL	**Dedoflistskaro**	**2.51**	**240**	P	**Pb**	**20 19 38.1**	**-1.9**
BTKR	**Batakoyurt**	**3.34**	**283**	*e*Pn	**Pn**	**20 19 47.2**	**+1.1**
LACR	**Lac**	**3.47**	**273**	*i* PN	**Pn**	**20 19 49.2**	**+1.2**
LACR	**Lac**	**3.47**	**273**	*e*Pn	**Pn**	**20 19 49.6**	**+1.5**
LACR				*e*Sn	**Sn**	**20 20 29.4**	**+1.0**
PRTR	**Priterechnaya**	**3.60**	**288**	*i* PN	**Pn**	**20 19 51.5**	**+1.8**
PRTR	**Priterechnaya**	**3.60**	**288**	*e*Pn	**Pn**	**20 19 51.5**	**+1.8**
KORR	**Kora**	**3.65**	**277**	*i* PN	**Pn**	**20 19 50.4**	**0.0**
KORR	**Kora**	**3.65**	**277**	*e*Pn	**Pn**	**20 19 50.4**	**0.0**
ZEI	**Tsey**	**3.77**	**273**	*i* PN	**Pn**	**20 19 52.5**	**+0.4**
ZEI	**Tsey**	**3.77**	**273**	*e*Pn	**Pn**	**20 19 52.5**	**+0.4**
ZEI				*e*Sn	**Sn**	**20 20 34.0**	**-1.7**
TRLG	**Trialeti**	**3.84**	**254**	P	**Pn**	**20 19 53.8**	**+0.7**
TRLG				S	**Sn**	**20 20 36.0**	**-1.6**
DIGR	**Digorskoe uzhe**	**4.00**	**274**	*i* PN	**Pn**	**20 19 56.9**	**+1.5**
DIGR	**Digorskoe uzhe**	**4.00**	**274**	*e*Pn	**Pn**	**20 19 56.9**	**+1.5**
DIGR				*e*Sn	**Sn**	**20 20 39.7**	**-1.8**
GNI	**Garni**	**4.12**	**233**	Pg	**Pb**	**20 20 09.8**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=138,slow=18,SNR=2.8						
GNI				Lg	Lg	20 20 58.1	
	comp=Z,0.5nm,0.3s,baz=192,slow=22,SNR=2.4						
KBZ	**Khabaz**	**4.58**	**285**	Pn	**Pn**	**20 20 02.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=98,slow=3.0,SNR=14						
KBZ				Sn	**Sn**	**20 20 51.0**	**-4.4**
	comp=Z,0.9nm,0.3s,baz=272,slow=21,SNR=6.6						
KBZ				Lg	Lg	20 21 17.1	
	comp=Z,1.1nm,0.3s,baz=230,slow=18,SNR=4.4						
NEY	**Neytrino**	**4.64**	**279**	*i* PN	**Pn**	**20 20 08.3**	**+4.1**
NEY	**Neytrino**	**4.64**	**279**	*e*Pn	**Pn**	**20 20 08.3**	**+4.1**
SHA1	**Shidzhatmaz**	**4.75**	**284**	*e*Pn	**Pn**	**20 20 06.3**	**+0.6**
KIV0	**Kislovodsk Arr**	**4.77**	**287**	*e*Pn	**Pn**	**20 20 06.1**	**+0.3**
KIV0				*e*Sn	**Sn**	**20 20 56.4**	**-3.8**
KVAR	**Kislovodsk Arr**	**4.77**	**287**	Pn	**Pn**	**20 20 05.9**	**+0.1**
	baz=143,slow=20,SNR=1.5						
KVAR				Sn	**Sn**	**20 20 55.5**	**-4.7**
	baz=163,slow=5.8,SNR=4.9						
KVAR				Lg	Lg	20 21 26.6	
	baz=247,slow=7.7,SNR=1.6						
KIV	**Kislovodsk**	**4.78**	**287**	*e*PN	**Pn**	**20 20 06.5**	**+0.6**
KIV				pmax	pmax		
	comp=Z,20nm,1.1s						
KIV	**Kislovodsk**	**4.78**	**287**	*e*Pn	**Pn**	**20 20 06.5**	**+0.6**
GEYT	**Alibeck**	**8.44**	**122**	Pn	**Pn**	**20 20 56.5**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=306,slow=15,SNR=4.9						
AKTO	**Aktyubinsk**	**9.88**	**36**	⇑ Pn	**Pn**	**20 21 16.1**	**+0.3**
	comp=Z,0.6nm,0.6s						
AKTO				⇓ Sn	**Sn**	**20 23 01.8**	**-4.0**
	comp=Z,1.9nm,0.7s						
AKTO	**Aktyubinsk**	**9.88**	**36**	Pn	**Pn**	**20 21 18.0**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=193,slow=14,SNR=2.0						
AKTO				Sn	**Sn**	**20 23 02.3**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=61,slow=17,SNR=5.0						
AB31	**Akbulak array**	**10.01**	**46**	⇑ Pn	**Pn**	**20 21 13.9**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=14,SNR=4.4						
AB31				⇑ Sn	Sn	20 23 01.1	-8.0
	comp=Z,0.3nm,0.3s,baz=225,slow=24,SNR=4.2						
OBN	**Obninsk**	**14.82**	**331**	⇑ *e*P	**Pn**	**20 22 24.4**	**+1.3**
OBN				*e*S	**Sn**	**20 25 05.6**	**-0.7**
OBN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,17nm,12.0s						
BRVK	**Borovoye**	**17.54**	**47**	*i* P	**P**	**20 23 01.7**	**+2.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**23.22**	**332**	P	**P**	**20 24 00.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=134,slow=16,SNR=4.0						
MKAR	**Makanchi Array**	**23.87**	**69**	*i* P	**P**	**20 24 07.5**	**+0.7**
MKAR	**Makanchi Array**	**23.87**	**69**	P	**P**	**20 24 09.1**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=265,slow=8.6,SNR=4.6						

IDC 15 20:32:33.9±3.1, 6.45S×148.51E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.2/30, mbtmp3.4/3, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/20, Error ellipse: s-maj=80.6km s-min=47.7km az=105.0, New Britain region

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

WRA	**Warramunga Arr**	**19.21**	**224**	P	P	20 36 59.2	-0.5
	0.1nm,0.3s,baz=51,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**22.14**	**218**	P	P	20 37 31.2	-0.2
	0.7nm,0.6s,baz=53,slow=9.6,SNR=14						
STKA	**Stephens Creek**	**26.11**	**193**	P	P	20 38 10.6	+1.0
	1.1nm,0.8s,baz=16,slow=15,SNR=1.8						
URZ	**Urewera**	**40.92**	**145**	LR	LR	20 55 35.8	
	comp=Z,46nm,18.3s,baz=191,slow=34						
TORD	**Torodi Ar. Bea**	**146.65**	**284**	PKPbc	PKPdf	20 52 17.4	+0.3
	0.2nm,0.7s,baz=85,slow=3.9,SNR=2.1						

*IDC **15** 20:49:50.6±2.9, 31.97S×178.73W, h0km, mb4.3/2, mb1 4.5/3, mb1mx3.8/28, mbtmp4.3/3, ML3.9/1, Error ellipse: s-maj=65.9km s-min=44.4km az=117.0*
*ISCJB **15** 20:49:57.8±0.5, 32.33S±0.04×179.4W±0.1, h35km, mb4.5/7, Error ellipse: s-maj=14.7km s-min=4.4km az=13.3*
*NEIC **15** 20:49:57.9±1.9, 32.40S×179.18W, h35km, mb4.7/3, Error ellipse: s-maj=38.7km s-min=15.8km az=87.0*
*WEL **15** 20:49:58.7±0.9, 33.5S×177.8W±2.2, h33km, ML4.7/16*

ISC 15 20:49:56.8±1.5, 32.3S±0.1×178.9W±0.2, h35km, n63, σ1°94/67, mb4.6/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.12**	**16**	P	Pn	20 50 49.9	+6.5
GLKZ				S	Sn	20 51 27.4	+7.9
MXZ	**Matakaoa Point**	**5.75**	**203**	P	**Pn**	**20 51 20.7**	**+1.1**
WMGZ	**Waiomatatini S**	**5.95**	**201**	P	**Pn**	**20 51 24.4**	**+2.0**
HAZ	**Te Kaha**	**6.10**	**205**	P	**Pn**	**20 51 27.2**	**+2.7**
GRZ	**Great Barrier**	**6.12**	**228**	P	Pn	20 51 32.9	+8.2
PKGZ	**Pakihiroa**	**6.12**	**203**	P	**Pn**	**20 51 26.6**	**+1.8**
PUZ	**Puketiti**	**6.23**	**201**	P	**Pn**	**20 51 27.5**	**+1.2**
RUGZ	**Raukumara Rang**	**6.33**	**205**	P	**Pn**	**20 51 29.4**	**+1.7**
TWGZ	**Tauwhareparae**	**6.42**	**202**	P	**Pn**	**20 51 30.4**	**+1.7**
TWGZ				S	**Sn**	**20 52 41.6**	**+0.8**
CNGZ	**Carnagh Statio**	**6.63**	**200**	P	**Pn**	**20 51 33.3**	**+1.6**
OPRZ	**Ohinepanea**	**6.68**	**212**	P	**Pn**	**20 51 35.9**	**+3.5**
TKGZ	**Te Karaka**	**6.70**	**202**	P	**Pn**	**20 51 33.6**	**+1.0**
TKGZ				S	**Sn**	**20 52 47.5**	**-0.1**
MWZ	**Matawai**	**6.71**	**205**	P	**Pn**	**20 51 33.8**	**+1.0**
MWZ				S	**Sn**	**20 52 49.7**	**+1.7**
URZ	**Urewera**	**6.80**	**207**	*e*Pn	**Pn**	**20 51 35.5**	**+1.5**
URZ				*e*Sn	**Sn**	**20 52 49.6**	**-0.6**
URZ	**Urewera**	**6.80**	**207**	Pn	**Pn**	**20 51 35.5**	**+1.5**
	2.2nm,0.3s,baz=279,slow=4.3,SNR=35						
URZ				Sn	**Sn**	**20 52 50.4**	**+0.2**
	5.7nm,0.3s,baz=178,slow=18,SNR=12						
URZ	**Urewera**	**6.80**	**207**	P	**Pn**	**20 51 35.5**	**+1.5**
URZ				S	**Sn**	**20 52 51.2**	**+1.1**
OUZ	**Omahuta**	**6.89**	**243**	P	Pn	20 51 48.6	+13
RIGZ	**Rimuhau**	**6.97**	**202**	P	**Pn**	**20 51 37.7**	**+1.3**
TARZ	**Mount Tarawera**	**7.03**	**211**	P	**Pn**	**20 51 40.8**	**+3.6**
SNGZ	**Shannon Statio**	**7.18**	**204**	P	**Pn**	**20 51 40.3**	**+1.1**
KNZ	**Kokohu**	**7.28**	**201**	P	**Pn**	**20 51 40.6**	**0.0**
MHGZ	**Mahia Peninsul**	**7.33**	**200**	P	**Pn**	**20 51 41.4**	**0.0**
RAHZ	**Arahi**	**7.38**	**205**	P	**Pn**	**20 51 43.3**	**+1.2**
MTHZ	**Maungataniwha**	**7.42**	**207**	P	**Pn**	**20 51 43.6**	**+1.0**
MRHZ	**Matea Rd**	**7.57**	**209**	P	**Pn**	**20 51 45.5**	**+0.8**
NMHZ	**Naumai**	**7.65**	**206**	P	**Pn**	**20 51 46.4**	**+0.7**
ARHZ	**Aropaoanui**	**7.72**	**204**	P	**Pn**	**20 51 47.0**	**+0.3**
BKZ	**Black Stump Fm**	**7.83**	**207**	*e*Pn	**Pn**	**20 51 48.1**	**+0.1**
BKZ				*e*Sn	**Sn**	**20 53 14.8**	**-0.7**
BKZ	**Black Stump Fm**	**7.83**	**207**	P	**Pn**	**20 51 48.6**	**+0.5**
MCHZ	**McNeill Hill**	**7.99**	**205**	P	**Pn**	**20 51 50.7**	**+0.3**
CKHZ	**Cape Kidnapper**	**8.05**	**203**	P	**Pn**	**20 51 50.5**	**-0.7**
KWHZ	**Kaweka Forest**	**8.08**	**207**	P	**Pn**	**20 51 51.4**	**-0.2**
KAHZ	**Kahuranaki**	**8.24**	**203**	P	**Pn**	**20 51 53.2**	**-0.7**
BHHZ	**Black Hill Sta**	**8.27**	**208**	P	**Pn**	**20 51 54.2**	**0.0**
KRHZ	**Kereru**	**8.29**	**206**	P	**Pn**	**20 51 53.3**	**-1.1**
FWVZ	**Far West T-bar**	**8.29**	**211**	P	**Pn**	**20 51 56.2**	**+1.6**
PXZ	**Pawanui**	**8.46**	**203**	P	**Pn**	**20 51 55.3**	**-1.5**
PRHZ	**Porangahau**	**8.75**	**203**	P	**Pn**	**20 51 58.7**	**-2.1**
BFZ	**Birch Farm**	**9.25**	**204**	*e*Pn	**Pn**	**20 52 05.3**	**-2.3**
BFZ	**Birch Farm**	**9.25**	**204**	P	**Pn

GZT				IAML_P					
	comp=Z,1μm,0.1s								
KUZU	**Kuzuini**	**0.55**	**185**	*i* P		**Pb**	**21 02 00.9**	**-0.7**	
KUZU				*i* S		**Sg**	**21 02 08.4**	**+0.8**	
KUZU				IAML_P					
	comp=Z,2μm,0.2s								
ANDN	**Andirin**	**0.68**	**293**	*i* P		**Pb**	**21 02 03.4**	**-0.5**	
ANDN				*i* S		**Sb**	**21 02 12.4**	**-1.0**	
KOZT	**Kozan**	**1.05**	**279**	PG		**Pb**	**21 02 10.1**	**-0.1**	
KOZT				SG		**Sn**	**21 02 25.8**	**+0.2**	
SAIM	**ADANA**	**1.06**	**309**	*i* P		**Pn**	**21 02 11.2**	**+0.2**	
SAIM				IAML_P					
	comp=Z,322nm,0.1s								
SURC	**SANLIURFA_SURC**	**1.27**	**110**	*i* P		**Pb**	**21 02 14.1**	**+0.2**	
SURC				*i* S		**Sb**	**21 02 30.5**	**+0.2**	
SURC				IAML_P					
	comp=Z,118nm,0.1s								
URFA	**Urfa**	**1.35**	**84**	PN		**Pg**	**21 02 15.8**	**0.0**	
URFA				SN		**Sn**	**21 02 33.8**	**+0.6**	

IDC 15 21:03:53.0±1.4, 26°46N×141°11E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.1/31, mbtmp3.2/3, ML2.4/1, Error ellipse: s-maj=29.7km s-min=20.9km az=137.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JCJ	**Chichijima**	**1.15**	**56**	Pn	Pn		21 04 16.3	-0.1
	8.6nm,0.3s,baz=100,slow=23,SNR=6.0							
JCJ				Sn	Sn		21 04 33.6	+0.8
	41nm,0.3s,baz=279,slow=23,SNR=10							
MJAR	**Matsushiro Arr**	**10.35**	**347**	Pn	Pn		21 06 24.2	+1.5
	0.0nm,0.3s,baz=156,slow=9.6,SNR=2.7							
SONM	**Songino Array**	**34.52**	**317**	P	P		21 10 42.4	-0.6
	0.2nm,0.6s,baz=119,slow=8.4,SNR=2.4							
WRA	**Warramunga Arr**	**46.59**	**189**	P	P		21 12 23.0	+0.1
	0.4nm,0.8s,baz=10,slow=8.4,SNR=4.4							

IDC 15 21:25:19.2±6.9, 4°80N×96°45E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/38, mbtmp3.6/3, Error ellipse: s-maj=366.2km s-min=27.9km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**43.59**	**346**	P	P		21 33 25.0	-0.2
	0.1nm,0.3s,baz=158,slow=8.6,SNR=5.6							
WRA	**Warramunga Arr**	**44.63**	**125**	P	P		21 33 33.5	-0.3
	0.5nm,0.6s,baz=303,slow=9.5,SNR=17							
ASAR	**Alice Springs**	**46.20**	**129**	P	P		21 33 46.5	+0.1
	0.5nm,0.4s,baz=301,slow=7.7,SNR=11							

MEX 15 21:54:43.9±0.8, 18°82N×96°83W, h9km±10km, MD3.6, Veracruz

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TPIG	**Tehuac#an**	**0.64**	**232**	*e*P	Pg		21 54 54.6	-1.8
TPIG				*e*S	Sg		21 55 03.4	-1.5
LVIG	**Laguna Verde**	**0.98**	**23**	*e*P	Pg		21 54 59.9	-2.8
LVIG				*e*S	Sg		21 55 12.6	-3.0
PPM	**Popocatepetl**	**1.72**	**279**	*i* P	Pn		21 55 11.8	-2.7
PPM				*i* S	Sn		21 55 32.1	-4.7
VHO	**Vista Hermosa**	**1.74**	**177**	*i* P	Pn		21 55 10.4	-4.0
VHO				*i* S	Sn		21 55 31.5	-5.3
YAIG	**Yautepec**	**2.12**	**272**	*e*P	Pn		21 55 16.7	-3.0
YAIG				*i* S	Sn		21 55 41.4	-4.8

MEX 15 21:58:32.9±0.5, 16°35N×98°45W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PNIG	**Pinotepa**	**0.31**	**82**	*e*P	Pg		21 58 38.3	-0.6
PNIG				*e*S	Sg		21 58 42.8	-0.2
TLIG	**Tlapa**	**1.21**	**355**	*e*P	Pg		21 58 52.6	-3.5
TLIG				*e*S	Sg		21 59 07.8	-4.1
CAIG	**El Cayaco**	**1.88**	**292**	*e*P	Pn		21 59 02.8	-2.9
CAIG				*i* S	Sn		21 59 25.3	-4.5
MEIG	**Mezcala**	**1.93**	**325**	*i* P	Pn		21 59 02.5	-3.9
MEIG				*i* S	Sn		21 59 26.4	-4.7
PLIG	**Platanillo**	**2.27**	**334**	*i* P	Pn		21 59 08.5	-2.6
PLIG				*i* S	Sn		21 59 34.4	-5.1
ARIG	**Puente Sto Nin**	**2.64**	**317**	*i* P	Pn		21 59 12.5	-3.8
ARIG				*i* S	Sn		21 59 44.6	-4.1

*ISCJB **15** 22:09:39.0±0.2, 67°60N±0°03×142°31E±0°08, h10km, mb4.2/42, MS3.3/9, Error ellipse: s-maj=4.5km s-min=4.2km az=15.0*
*YARS **15** 22:09:39.3±0.2, 67°61N±0°01×142°59E±0°04, h6km±4km*
*IDC **15** 22:09:40.0±0.6, 67°77N×142°19E, h0km, mb3.8/18, mb1 4.0/22, mb1mx3.9/54, mbtmp3.8/22, ML3.5/3, MS3.1/7, Ms1 3.1/7, ms1mx2.8/40, Error ellipse: s-maj=15.8km s-min=12.1km az=7.0*
*MOS **15** 22:09:40.5±1.2, 67°63N×142°29E, h21km, mb4.3/14, Error ellipse: s-maj=18.8km s-min=9.2km az=95.5*
*NEIC **15** 22:09:41.2±0.3, 67°66N×142°18E, h10km, mb4.4/13, Error ellipse: s-maj=7.3km s-min=5.2km az=186.0*
ISC 15 22:09:41.0±0.4, 67°60N±0°04×142°42E±0°04, h10km, n91, σ1s73/103, mb4.1/42, MS3.3/9, 8C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MOMR	**Moma**	**1.18**	**164**	*e*P	**Pn**		**22 10 00.5**	**-3.0**
MOMR				Pmax			22 10 00.5	
	comp=Z,246nm,0.3s							
MOMR				*e*S	**Sb**		**22 10 16.5**	**-2.3**
MOMR				Smax			22 10 16.5	
	comp=N,2μm,0.3s							
YBGR	**Belaya Gora**	**1.70**	**55**	*i* P	**Pn**		**22 10 07.7**	**-2.9**
YBGR				Pmax			22 10 07.7	
	comp=Z,3.0nm,0.2s							
YBGR				*e*S	**Sn**		**22 10 29.7**	**-2.6**
YBGR				Smax			22 10 29.7	
	comp=N,3μm,0.3s							
DEPR	**Deputatskiy**	**2.02**	**334**	*e*P	**Pn**		**22 10 14.4**	**-0.7**
DEPR				*e*P	**Pb**		**22 10 16.4**	**-1.4**
DEPR				Pmax			22 10 16.4	
	comp=Z,59nm,0.4s							
DEPR				*e*S	**Sb**		**22 10 43.1**	**+0.1**
DEPR				Smax			22 10 43.1	
	comp=E,649nm,0.5s							
BTGS	**Batagay**	**2.98**	**275**	*e*P	**Pn**		**22 10 28.0**	**-0.1**
BTGS				*e*P	**Pb**		**22 10 33.1**	**-0.9**
BTGS				Pmax			22 10 33.1	
	comp=Z,60nm,0.5s							
BTGS				*e*S	**Sb**		**22 11 13.2**	**+2.9**
BTGS				Smax			22 11 13.2	
	comp=N,382nm,0.5s							
TIXI	**Tiksi**	**6.23**	**317**	*e*Pn	**Pn**		**22 11 12.9**	**+0.2**
TIXI				*e*Sn	**Sn**		**22 12 22.2**	**-1.6**
TIXI	**Tiksi**	**6.23**	**317**	*ce*P	**Pn**		**22 11 11.6**	**-1.1**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TIXI	**Tiksi**	**6.23**	**317**	Pn	**Pn**		**22 11 12.2**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=122,slow=15,SNR=71							
TIXI				Sn	**Sn**		**22 12 19.9**	**-3.9**
	comp=Z,3.4nm,0.3s,baz=41,slow=19,SNR=7.5							
TIXI				Lg	Lg		22 12 50.0	
	comp=Z,5.3nm,0.3s,baz=65,slow=19,SNR=8.1							
SEY	**Seymchan**	**6.28**	**134**	*i* P	**Pn**		**22 11 11.6**	**-1.8**
SEY	**Seymchan**	**6.28**	**134**	Pn	**Pn**		**22 11 11.8**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=307,slow=12,SNR=6.1							
SEY				Sn	Sn		22 12 36.9	+12
	comp=Z,2.9nm,0.3s,baz=280,slow=18,SNR=3.6							
SEY				Lg	Lg		22 13 01.5	
	comp=Z,3.1nm,0.3s,baz=44,slow=23,SNR=8.5							
YAK	**Yakutsk**	**7.78**	**230**	*e*P	**Pn**		**22 11 32.8**	**-1.3**
YAK				*e*			22 12 57.5	
YAK				pmax	pmax			
	comp=Z,31nm,0.5s							
YAK				pmax	pmax			
	comp=N,9.0nm,0.6s							
YAK				pmax	pmax			
	comp=E,13nm,0.5s							
YAK				pmax	pmax			
	comp=Z,58nm,0.4s							
YAK				pmax	pmax			
	comp=N,24nm,0.6s							
YAK				pmax	pmax			
	comp=E,24nm,0.6s							
YAK				smax	smax			
	comp=N,88nm,0.6s							
YAK				smax	smax			
	comp=E,40nm,0.6s							
YAK				smax	smax			
	comp=N,234nm,0.8s							
YAK				smax	smax			
	comp=E,216nm,0.9s							
YAK				MLR	MLR			
	comp=Z,2μm,9.1s							
MA2	**Magadan**	**8.86**	**151**	*ce*P	**Pn**		**22 11 50.2**	**+1.3**
MA2				pmax	pmax			
	comp=Z,6.0nm,1.7s							
MA2	**Magadan**	**8.86**	**151**	Pn	**Pn**		**22 11 49.8**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=352,slow=19,SNR=2.4							
MA2				Sn	**Sn**		**22 13 30.8**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=19,SNR=2.8							
MA2				Lg	Lg		22 14 19.8	
	comp=Z,1.0nm,0.3s,baz=54,slow=18,SNR=5.8							
BILL	**Bilibino**	**9.01**	**76**	*e*P	**Pn**		**22 11 53.5**	**+2.6**
BILL				*e*S	**Sn**		**22 13 32.3**	**+0.1**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.5s							
BILL				MLR	MLR			
	comp=Z,294nm,20.0s							
ZEA	**Zeya**	**15.69**	**215**	*e*P	**P**		**22 13 26.4**	**+0.5**
ZEA				pmax	pmax			
	comp=Z,20nm,0.8s							
ZEA				MLR	MLR			
	comp=Z,500nm,9.0s							
ZEA				MLR	MLR			
	comp=N,500nm,8.0s							
BOD	**Bodaibo**	**16.13**	**246**	*e*P	**Pn**		**22 13 22.9**	**-4.5**
BOD				pmax	pmax			
	comp=Z,5.0nm,1.8s							
PETK	**Petropavlovsk-**	**16.30**	**146**	Pn	**P**		**22 13 32.8**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=67,slow=6.5,SNR=2.2							
KLR	**Kul'dur**	**19.20**	**202**	*i* P	**P**		**22 14 03.7**	**-0.9**
KLR	**Kul'dur**	**19.20**	**202**	P	**P**		**22 14 05.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=355,slow=10,SNR=3.5							
KLR				Lg	Lg		22 19 54.0	
	comp=Z,0.1nm,0.3s,baz=23,slow=9.1,SNR=4.2							
KLR				LR	LR		22 21 33.8	
	comp=Z,51nm,19.1s,baz=350,slow=37							
HIA	**Hailar**	**21.64**	**223**	*i* P	**P**		**22 14 31.6**	**+0.5**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ASAJ	**Asahikawa**	**23.54**	**180**	LR	LR		22 24 13.5	
	comp=Z,44nm,20.0s,baz=70,slow=37							
TOLK	**Toolik Lake Re**	**24.21**	**56**	*e*P	**P**		**22 14 58.5**	**+1.1**
	comp=Z,39nm,1.9s							
IM3	**Indian Mountai**	**24.23**	**64**	*e*P	**P**		**22 14 58.2**	**+0.8**
COLD	**Coldfoot**	**24.75**	**59**	*e*P	**P**		**22 15 03.6**	**+1.5**
	comp=Z,18nm,1.8s							
MOY	**Mondy**	**25.63**	**252**	*e*P	**P**		**22 15 11.1**	**+0.8**
MOY				pmax	pmax			
	comp=Z,14nm,1.7s							
ULN	**Ulaanbaatar**	**26.71**	**240**	*ce*P	**P**		**22 15 21.1**	**+0.9**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.5s							
BWN	**Browne**	**26.76**	**65**	*e*P	**P**		**22 15 22.6**	**+2.3**
	comp=Z,428nm,1.6s							
SONM	**Songino Array**	**26.95**	**241**	P	**P**		**22 15 23.5**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=24,slow=9.4,SNR=5.8							
SONM				Lg	Lg		22 24 00.6	
	comp=Z,0.2nm,0.4s,baz=43,slow=32,SNR=1.8							
IL1	**Eielson Array**	**27.27**	**62**	*e*P	**P**		**22 15 25.9**	**+0.9**
ILAR	**Eielson Array**	**27.27**	**62**	P	**P**		**22 15 25.6**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=301,slow=8.2,SNR=21							
ILAR				LR	LR		22 28 25.3	
	comp=Z,31nm,19.1s,baz=51,slow=41							
ILB	**Eielson Array**	**27.27**	**62**	*e*P	**P**		**22 15 25.7**	**+0.8**
	comp=Z,15nm,1.8s							
ZALV	**Zalesovo Beam**	**29.96**	**272**	LR	LR		22 28 13.7	
	comp=Z,20nm,20.3s,baz=218,slow=37							
KSRS	**Kosa Array**	**31.29**	**203**	LR	LR		22 29 20.9	
	comp=Z,30nm,18.2s,baz=151,slow=38							
HHC	**Hu-ho-hao-te**	**31.64**	**228**	*e*P	**P**		**22 16 01.0**	**-3.0**
HHC				sP	pP		22 16 08.6	+1.4
HHC				S	**S**		**22 21 08.9**	**-3.9**
HHC				SS	**ScP**		**22 22 47.5**	**+9.0**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,68nm,6.3s							
HHC				LR	LR			
	comp=N,150nm,10.7s							
HHC				LR	LR			
	comp=E,110nm,9.1s							
HHC				LR	LR			
	comp=Z,220nm,10.4s							
KURK	**Kurchatov**	**34.86**	**274**	*i* P	**P**		**22 16 30.5**	**-1.3**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KURBB	**Kurchatov Arra**	**34.97**	**274**	P	**P**		**22 16 32.4**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=39,slow=8.7,SNR=13							
BVAR	**Borovoye Array**	**36.15**	**283**	P	**P**		**22 16 42.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=27,slow=9.7,SNR=9.5							
BRVK	**Borovoye**	**36.16**	**283**	*i* P	**P**		**22 16 43.0**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
GTA	**Gaotai**	**36.62**	**242**	*e*P	**P**		**22 16 48.3**	**+1.1**
GTA				pP	sP		22 16 52.0	+0.3
GTA				sP	pP		22 16 54.4	+4.0
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MK31	**Makanchi Array**	**36.65**	**266**	*e*P	**P**		**22 16 46.1**	**-1.2**
	comp=Z,2.3nm,0.7s							
MK31	**Makanchi Array**	**36.65**	**266**	*e*P	**P**		**22 16 46.1**	**-1.2**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**36.65**	**266**	P	**P**		**22 16 46.6**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=48,slow=7.3,SNR=45							
MK01	**Makanchi Array**	**36.67**	**266**	*e*P	**P**		**22 16 45.9**	**-1.6**
MAKZ	**Makanchi**	**36.76**	**267**	*e*P	**P**		**22 16 47.4**	**-0.8**
	comp=Z,1.7nm,0.8s							
MAKZ	**Makanchi**	**36.76**	**267**	*e*P	**P**		**22 16 47.4**	**-0.8**
MAKZ				pmax	pmax			
	comp=Z,2.0nm,0.8s							
WMQ	**Urumqi**	**37.11**	**258**	*e*P	**P**		**22 16 54.3**	**+3.1**
WMQ				pP	pP		22 16 55.6	+1.1
WMQ				LR	LR			
	comp=N,49nm,14.7s							
WMQ				LR	LR			
	comp=E,31nm,16.7s							
WMQ				LR	LR			
	comp=Z,30nm,17.7s							
ARU	**Arti**	**37.74**	**296**	*c i*P	**P**		**22 16 56.5**	**+0.2**
ARU							22 18 20.7	
ARU				S	**S**		**22 22 48.6**	**+2.3**
ARU				SS	**SnSn**		**22 25 25.1**	**-0.4**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.8s							
LZH	**Lanzhou**	**38.34**	**235**	*e*P	**P**		**22 17 00.4**	**-1.4**
LZH				pP	pP		22 17 05.3	+0.2
LZH				sP	sP		22 17 07.5	+1.1
LZH				PP	**PP**		**22 18 29.3**	**0.0**
LZH				pmax	pmax			
	comp=Z,14nm,1.1s							
LZH				pmax	pmax			
	comp=Z,63nm,4.9s							
LZH				LR	LR			
	comp=N,320nm,13.5s							
LZH				LR	LR			
	comp=E,340nm,13.4s							
LZH				LR	LR			
	comp=Z,410nm,15.7s							
YKA	**Yellowknife Ar**	**38.91**	**46**	P	**P**		**22 17 05.0**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=320,slow=8.2,SNR=5.9							
SUMG	**Summit**	**40.07**	**0**	*e*P	**P**		**22 17 14.0**	**-2.1**
	comp=Z,7.4nm,1.3s							
SUMG	**Summit**	**40.07**	**0**	*e*P	**P**		**22 17 14.0**	**-2.1**
SUMG				pmax	pmax			
	comp=Z,7.0nm,1.3s							
TARG	**Taragay, Kyrgy**	**42.65**	**266**	*e*P	**P**		**22 17 36.9**	**-0.8**
	comp=Z,11nm,2.0s							
AKTO	**Aktyubinsk**	**42.78**	**290**	P	**P**		**22 17 37.3**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=47,slow=8.0,SNR=5.3							
ABKAR	**Akbulak array**	**43.06**	**288**	*e*P	**P**		**22 17 39.8**	**-0.6**
	comp=Z,9.5nm,1.5s							
AAK	**Ala-Archa**	**43.14**	**270**	*e*P	**P**		**22 17 41.2**	**-0.2**
	comp=Z,3.4nm,0.6s							
AAK	**Ala-Archa**	**43.14**	**270**	*e*P	**P**		**22 17 41.2**	**-0.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AAK	**Ala-Archa**	**43.14**	**270**	P	**P**		**22 17 42.2**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=84,slow=3.0,SNR=26							
CD2	**Chengdu**	**43.17**	**232**	P	**P**		**22 17 40.5**	**-1.1**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
FIA1	**FINESS Array S**	**43.25**	**321**	*e*P	**P**		**22 17 40.9**	**-0.9**
FINES	**FINESS Array B**	**43.25**	**321**	P	**P**		**22 17 40.9**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=32,slow=7.7,SNR=13							
KSH	**Kashi**	**45.27**	**267**	*e*P	**P**		**22 17 58.5**	**+0.1**
KSH				PcP	**PcP**		**22 19 37.6**	**-0.4**
KSH				S	**S**		**22 24 35.4**	**-3.0**
KSH				pmax	pmax			
	comp=Z,100nm,5.3s							
NOA	**NORSAR Array B**	**46.84**	**330**	P	**P**		**22 18 09.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=24,slow=7.8,SNR=3.2							
GAR	**Garm**	**47.88**	**271**	*e*P	**P**		**22 18 19.5**	**+0.6**
GAR	**Garm**	**47.88**	**271**	*e*P	**P**		**22 18 19.5**	**+0.6**
CHGR	**Chuyangaron**	**48.62**	**272**	*e*P	**P**		**22 18 24.8**	**+0.2**
KMI	**Kunming**	**48.90**	**230**	P	**P**		**22 18 27.3**	**+0.3**
KMI				pmax	pmax			
	comp=Z,11nm,0.8s							
AKASG	**Malin Array Be**	**51.91**	**312**	*ce*P	**P**		**22 18 48.5**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**51.91**	**312**	P	**P**		**22 18 47.4**	**-1.8**
	comp=Z,1.7nm,0.6s,baz=23,slow=8.2,SNR=4.5							
GEYT	**Alibeck**	**53.45**	**282**	LR	LR		22 44 49.1	
	comp=Z,29nm,18.1s,baz=105,slow=40							
KBZ	**Khabaz**	**53.82**	**298**	P	**P**		**22 19 03.4**	**0.0**
	comp=Z,4.6nm,0.9s,baz=35,slow=16,SNR=3.6							
ULM	**Lac du Bonnet**	**54.63**	**42**	LR	LR		22 45 52.5	
	comp=Z,22nm,18.2s,baz=86,slow=40							
MOD	**Modoc Plateau**	**54.67**	**65**	*e*P	**P**		**22 19 10.4**	**+0.6**
	comp=Z,13nm,1.8s							
CLL	**Collm**	**55.51**	**324**	*i* P	**P**		**22 19 14.5**	**-1.0**
	comp=Z,4.0nm,0.7s							
BUR08	**Bucovina Ar. S**	**55.81**	**313**	*e*P	**P**		**22 19 17.2**	**-0.6**
	comp=Z,27nm,1.8s							
VYHS	**Vyhne**	**56.73**	**318**	*e*P	**P**		**22 19 23.6**	**-0.7**
VYHS	**Vyhne**	**56.73**	**318**	*e*P	**P**		**22 19 23.6**	**-0.7**
PDAR	**Pinedale Array**	**57.48**	**56**	*e*P	**P**		**22 19 30.9**	**+0.9**
PDAR	**Pinedale Array**	**57.48**	**56**	P	**P**		**22 19 30.1**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=357,slow=1.9,SNR=6.7							
GERES	**GERESS Array B**	**57.65**	**322**	P	**P**		**22 19 30.2**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=42,slow=6.1,SNR=6.6							
GEA0	**GERESS Array S**	**57.66**	**322**	*e*P	**P**		**22 19 30.3**	**-0.6**
NVAR	**Mina Array Bea**	**58.45**	**65**	P	**P**		**22 19 38.6**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=327,slow=6.5,SNR=3.0							
BRTR	**Keskin Array B**	**60.48**	**303**	*ce*P	**P**		**22 19 50.7**	**0.0**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
BRTR	**Keskin Array B**	**60.48**	**303**	P	**P**		**22 19 50.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=35,slow=3.1,SNR=4.0							
MLH	**Mauna Loa**	**61.64**	**109**	*e*P	**P**		**22 20 00.3**	**+1.4**
	comp=Z,317nm,1.7s							
MLH	**Mauna Loa**	**61.64**	**109**	*e*P	**P**		**22 20 00.3**	**+1.4**
MLH				pmax	pmax			
	comp=Z,317nm,1.7s							
LENM	**Lemitar**	**66.14**	**58**	*e*P	**P**		**22 20 28.4**	**+0.1**
MVL	**Millersville**	**68.79**	**31**	*e*P	**P**		**22 20 45.8**	**+1.1**
	comp=Z,33nm,1.5s							
ES06	**SONSECA Array**	**70.06**	**333**	*e*P	**P**		**22 20 51.5**	**-1.2**
ESDC	**Sonseca Array**	**70.06**	**333**	P	**P**		**22 20 51.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=7.5,slow=5.7,SNR=7.7							
RAYN	**Ar Rayn**	**71.08**	**286**	*e*P	**P**		**22 20 58.7**	**-0.4**
	comp=Z,2.7nm,0.8s							
RAYN	**Ar Rayn**	**71.08**	**286**	*e*P	**P**		**22 20 58.7**	**-0.4**
RAYN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TXAR	**Lajitas Array**	**71.67**	**57**	P	**P**		**22 21 04.5**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=356,slow=3.7,SNR=3.5							

*ISCJB **15** 22:10:58.8±0.3, 8°56S±0°03×127°59E±0°04, h10km, mb4.6/41, MS3.5/4, Error ellipse: s-maj=5.6km s-min=4.4km az=146.1*
*IDC **15** 22:11:00.2±0.5, 8°36S×127°28E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.2/41, mbtmp4.3/17, MS3.4/6, Ms1 3.4/6, ms1mx3.0/26, Error ellipse: s-maj=26.0km s-min=12.8km az=66.0*
*NEIC **15** 22:11:03.0±2.3, 8°52S×127°48E, h20km±17km, mb4.6/24, Error ellipse: s-maj=9.2km s-min=6.6km az=47.0*
*DJA **15** 22:11:06.5±1.3, 9°S±3°×12°7E±°, h13km±10km, M4.5/10, mB4.9/5, mb4.7/10, MLv4.6/10, Mw(mB)4.2/5*
ISC 15 22:11:01.6±0.3, 8°70S±0°04×127°47E±0°04, h10km, n109, σ2s47/105, mb4.6/41, MS3.5/5, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SOEI	**Soe**	**3.33**	**251**	*e*Pn	**Pn**		**22 11 57.3**	**+3.3**
SOEI	**Soe**	**3.33**	**251**	P	**Pn**		**22 11 58.1**	**+4.2**
SOEI				S	**Sb**		**22 12 38.8**	**-2.8**
SAUI	**Saumlaki**	**3.85**	**80**	*e*Pn	**Pn**		**22 12 02.3**	**+1.3**
SAUI	**Saumlaki**	**3.85**	**80**	P	Pg		22 12 30.5	+15
BATI	**Baumata**	**4.04**	**248**	P	**Pn**		**22 12 07.5**	**+3.9**
BATI				S	**Sn**		**22 12 52.7**	**+1.6**
BATI	**Baumata**	**4.04**	**248**	Pn	**Pn**		**22 12 07.3**	**+3.7**
	46nm,0.3s,baz=61,slow=2.3,SNR=46							
BATI				Sn	**Sn**		**22 12 56.0**	**+4.9**
	112nm,0.3s,baz=90,slow=20,SNR=7.1							
MMRI	**Maumere**	**5.18**	**270**	*e*Pn	**Pn**		**22 12 21.6**	**+2.4**
NLAI	**Namlea**	**5.44**	**356**	P	**Pn**		**22 12 26.9**	**+4.1**
	86nm,0.9s,0.4nm							
MTN	**Manton Dam**	**5.46**	**139**	*e*Pn	Pn		22 12 28.8	+5.7
EDFI	**Ende, Flores**	**5.72**	**269**	P	**Pn**		**22 12 29.9**	**+3.2**
	49nm,0.9s,830nm0.2nm							
EDFI				S	**Sn**		**22 13 35.3**	**+2.8**
	49nm,0.9s,830nm0.2nm							
BBSI	**Bau Bau**	**5.82**	**303**	P	**Pn**		**22 12 32.6**	**+4.6**

PAGZ	**Pagadian**	**16.94**	**346**	*e*P		**Pn**	**22 14 59.9**	**+1.0**
KKM	**Kota Kinabalu**	**18.45**	**322**	*e*P		**P**	**22 15 16.0**	**-1.7**
	58nm,1.3s							
SBUM	**Sibu**	**18.81**	**305**	*e*P		**P**	**22 15 21.3**	**-0.3**
	14nm,0.9s							
CISI	**Cisompet, Garu**	**19.49**	**272**	*e*P		**P**	**22 15 27.7**	**-1.5**
	30nm,0.7s							
KSM	**Kuching**	**19.87**	**300**	*e*P		**P**	**22 15 32.2**	**-1.0**
	20nm,0.6s							
CTA	**Charters Tower**	**21.40**	**124**	P		**P**	**22 15 54.0**	**+4.4**
	9.6nm,0.7s,baz=303,slow=12,SNR=12							
CTAO	**Charters Tower**	**21.40**	**124**	*e*P		**P**	**22 15 53.3**	**+3.6**
	18nm,1.2s							
XMIS	**Christmas Isla**	**21.59**	**264**	*e*P		**P**	**22 15 51.7**	**-0.1**
	32nm,0.9s							
FORT	**Forrest**	**21.97**	**179**	*e*P		**P**	**22 15 58.5**	**+2.8**
	42nm,0.6s							
MORW	**Morawa**	**22.93**	**206**	*e*P		**P**	**22 16 08.3**	**+2.3**
	44nm,1.2s							
BBOO	**Buckleboo**	**25.27**	**163**	*e*P		**P**	**22 16 30.7**	**+2.6**
	15nm,0.6s							
NWAO	**Narrogin (SRO)**	**25.90**	**200**	*e*P		**P**	**22 16 35.3**	**+1.4**
	37nm,1.1s							
NWAO	**Narrogin (SRO)**	**25.90**	**200**	P		**P**	**22 16 35.8**	**+1.9**
	11nm,0.5s,baz=37,slow=7.3,SNR=23							
STKA	**Stephens Creek**	**26.53**	**152**	*e*P		**P**	**22 16 42.2**	**+2.6**
	2.2nm,0.6s							
STKA	**Stephens Creek**	**26.53**	**152**	P		**P**	**22 16 42.4**	**+2.8**
	8.5nm,0.4s,baz=330,slow=8.6,SNR=54							
STKA				LR		LR	22 26 58.9	
	comp=Z,132nm,19.5s,baz=15,slow=36							
TOO	**Toolangi**	**33.04**	**153**	*e*P		**P**	**22 17 39.2**	**+1.8**
	52nm,1.8s							
NACB	**Ninganchiao**	**33.18**	**350**	*e*P		**P**	**22 17 37.0**	**-1.5**
	19nm,0.8s							
CM01	**Chiang Mai Arr**	**38.96**	**314**	*e*P		**P**	**22 18 27.2**	**-1.0**
CMAR	**Chiang Mai Arr**	**39.00**	**314**	P		**P**	**22 18 26.8**	**-1.7**
	1.2nm,0.3s,baz=147,slow=7.4,SNR=14							
CMAR				LR		LR	22 37 05.7	
	comp=Z,38nm,18.9s,baz=110,slow=40							
CMMT	**Chiang Mai**	**39.23**	**314**	P		**P**	**22 18 29.2**	**-1.3**
CHTO	**Chiang Mai**	**39.23**	**314**	*e*P		**P**	**22 18 29.0**	**-1.5**
	14nm,1.4s							
CHTO	**Chiang Mai**	**39.23**	**314**	P		**P**	**22 18 29.2**	**-1.3**
	27nm,1.3s							
DZM	**Mont Dzumac**	**39.72**	**114**	P		**P**	**22 18 36.4**	**+1.7**
	4.6nm,0.8s,baz=48,slow=23,SNR=4.2							
KWAJ	**Kwajalein Atol**	**43.60**	**68**	*e*P		**P**	**22 19 04.3**	**-2.2**
	275nm,1.1s							
CD2	**Chengdu**	**45.48**	**331**	P		**P**	**22 19 20.6**	**-0.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
KS15	**Wonju Array Si**	**45.90**	**0**	*e*P		**P**	**22 19 23.2**	**-1.2**
	comp=Z,17nm,1.0s							
KS01	**Wonju Array Si**	**45.94**	**0**	*e*P		**P**	**22 19 23.3**	**-1.4**
XAN	**Xi'an**	**46.01**	**338**	P		P	22 19 22.5	-2.9
XAN				pP		pP	22 19 29.3	+1.1
XAN				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MJAR	**Matsushiro Arr**	**46.12**	**12**	P		P	22 19 23.6	-2.6
	comp=Z,0.4nm,0.3s,baz=195,slow=9.8,SNR=2.2							
BRDH	**Bariadhala**	**46.95**	**312**	LR		LR	22 41 23.5	
	comp=Z,50nm,18.7s,baz=134,slow=39							
LZH	**Lanzhou**	**49.80**	**335**	*e*P		**P**	**22 19 55.6**	**+0.7**
LZH				pP		sP	22 20 06.8	+8.2
LZH				sP		pP	22 20 11.1	+14
LZH				PP		**PP**	**22 21 48.9**	**-0.8**
LZH				pmax		pmax		
	comp=Z,46nm,1.0s							
LZH				pmax		pmax		
	comp=Z,170nm,4.3s							
HHC	**Hu-ho-hao-te**	**51.44**	**345**	*e*P		**P**	**22 20 08.0**	**+0.9**
HHC				pmax		pmax		
	comp=Z,16nm,0.8s							
HHC				pmax		pmax		
	comp=Z,88nm,6.4s							
THZ	**Tophouse**	**51.77**	**137**	*e*P		**P**	**22 20 12.6**	**+3.0**
	comp=Z,68nm,1.8s							
RAMN	**Ramite**	**53.16**	**313**	*e*P		**P**	**22 20 18.7**	**-1.7**
	comp=Z,20nm,0.6s							
GUN	**Gumba**	**54.24**	**314**	*e*P		**P**	**22 20 25.9**	**-2.5**
	comp=Z,10nm,0.6s							
GTA	**Gaotai**	**54.31**	**334**	*e*P		**P**	**22 20 26.8**	**-1.6**
GTA				pP		pwP	22 20 35.1	+4.0
GTA				sP		sP	22 20 39.3	+7.1
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
PKI	**Pulchoki**	**54.38**	**313**	*e*P		**P**	**22 20 27.1**	**-2.3**
	comp=Z,7.5nm,0.5s							
PKIN	**Phulchoki**	**54.40**	**313**	*e*P		**P**	**22 20 27.1**	**-2.3**
	comp=Z,6.7nm,0.5s							
GKN	**Gorkha**	**55.19**	**313**	*e*P		**P**	**22 20 32.7**	**-2.4**
	comp=Z,8.7nm,0.4s							
KOLN	**Koldanda**	**55.82**	**312**	*e*P		**P**	**22 20 37.7**	**-1.9**
	comp=Z,18nm,0.9s							
DANN	**Dangsing**	**56.02**	**313**	*e*P		**P**	**22 20 38.8**	**-2.4**
	comp=Z,23nm,0.8s							
PYUN	**Piuhan**	**56.45**	**312**	*e*P		**P**	**22 20 41.6**	**-2.5**
	comp=Z,9.6nm,0.5s							
ULN	**Ulaanbaatar**	**59.15**	**344**	*e*P		**P**	**22 21 01.1**	**-1.6**
	comp=Z,2.1nm,0.9s							
SONM	**Songino Array**	**59.31**	**344**	P		**P**	**22 21 01.9**	**-1.8**
	comp=Z,0.6nm,0.4s,baz=160,slow=6.7,SNR=7.7							
WMQ	**Urumqi**	**63.50**	**329**	P		**P**	**22 21 32.8**	**+0.7**
WMQ				pP		pwP	22 21 41.1	+6.2
WMQ				sP		sP	22 21 48.5	+13
WMQ				pmax		pmax		
	comp=Z,20nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,110nm,4.3s							
WMQ				LR		LR		
	comp=N,73nm,29.1s							
WMQ				LR		LR		
	comp=E,54nm,24.5s							
WMQ				LR		LR		
	comp=Z,55nm,30.7s							
PETK	**Petropavlovsk-**	**66.73**	**19**	P		**P**	**22 21 51.5**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=191,slow=5.2,SNR=5.0							
KSH	**Kashi**	**67.62**	**319**	P		**P**	**22 22 01.6**	**+2.7**
KSH				pP		pwP	22 22 12.0	+10
KSH				PcP		**PcP**	**22 22 25.5**	**-0.5**
KSH				S		**S**	**22 30 53.9**	**-2.3**
KSH				pmax		pmax		
	comp=Z,140nm,5.3s							
KSH				LR		LR		
	comp=N,72nm,8.2s							
KSH				LR		LR		
	comp=E,84nm,12.2s							
MK01	**Makanchi Array**	**68.29**	**328**	*e*P		**P**	**22 22 00.8**	**-2.1**
MK31	**Makanchi Array**	**68.31**	**328**	*e*P		**P**	**22 22 01.1**	**-1.9**
	comp=E,2.5nm,1.2s							
MKAR	**Makanchi Array**	**68.31**	**328**	P		**P**	**22 22 00.8**	**-2.2**
	comp=E,0.9nm,0.5s,baz=127,slow=7.5,SNR=21							
KDJ	**Kajisay**	**68.32**	**322**	*e*P		**P**	**22 22 02.0**	**-1.4**
	comp=E,8.1nm,1.7s							
MAKZ	**Makanchi**	**68.48**	**328**	*e*P		**P**	**22 22 02.7**	**-1.4**
	comp=E,10.0nm,1.8s							
AAK	**Ala-Archa**	**70.26**	**321**	P		**P**	**22 22 13.5**	**-1.8**
	comp=E,0.9nm,0.6s,baz=94,slow=8.6,SNR=3.6							
VNDA	**Vanda**	**71.08**	**173**	*e*P		**P**	**22 22 21.8**	**+2.2**
	comp=E,18nm,2.0s							
VNDA	**Vanda**	**71.08**	**173**	P		**P**	**22 22 22.1**	**+2.6**
	comp=E,1.0nm,0.5s,baz=324,slow=8.0,SNR=14							
ZAA0	**Zalesovo Array**	**72.03**	**335**	*e*P		**P**	**22 22 22.8**	**-2.8**
	comp=E,3.3nm,0.9s							
ZALV	**Zalesovo Beam**	**72.03**	**335**	P		P	22 22 22.7	-2.9
	comp=E,3.1nm,0.5s,baz=142,slow=6.0,SNR=14							
KURBB	**Kurchatov Arra**	**72.68**	**330**	P		**P**	**22 22 27.4**	**-2.2**
	comp=E,1.3nm,0.5s,baz=134,slow=5.0,SNR=24							
KURK	**Kurchatov**	**72.69**	**330**	*e*P		**P**	**22 22 28.0**	**-1.6**
	comp=E,5.0nm,1.0s							
SEY	**Seymchan**	**73.95**	**12**	P		**P**	**22 22 35.7**	**-1.0**
	comp=E,0.9nm,0.3s,baz=216,slow=7.9,SNR=5.2							
BVAR	**Borovoye Array**	**78.19**	**329**	P		**P**	**22 22 58.9**	**-2.3**
	comp=E,1.3nm,0.4s,baz=126,slow=7.3,SNR=14							
BRVK	**Borovoye**	**78.26**	**329**	*e*P		**P**	**22 23 00.7**	**-0.9**
	comp=E,3.2nm,0.8s							
TIXI	**Tiksi**	**80.18**	**0**	*e*P		P	22 23 08.5	-3.2
	comp=E,5.4nm,0.5s							
TIXI	**Tiksi**	**80.18**	**0**	P		**P**	**22 23 09.7**	**-2.0**
	comp=E,4.9nm,0.4s,baz=198,slow=3.5,SNR=10							
AKTO	**Aktyubinsk**	**83.90**	**323**	P		**P**	**22 23 29.1**	**-2.6**
	comp=E,1.1nm,0.5s,baz=111,slow=7.1,SNR=3.6							
KLU	**Klutina**	**95.96**	**29**	*e*P		P	22 24 25.2	-3.5
	comp=E,45nm,1.9s							
LOHW	**Long Hollow**	**118.88**	**45**	*e*PKPdf		**PKPdf**	**22 29 52.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**126.66**	**280**	PKP		**PKPdf**	**22 30 05.7**	**-0.6**
	comp=E,0.4nm,0.6s,baz=38,slow=2.1,SNR=4.9							
TXAR	**Lajitas Array**	**127.94**	**60**	PKP		**PKPdf**	**22 30 10.1**	**+1.5**
	comp=E,0.2nm,0.4s,baz=160,slow=2.3,SNR=7.4							
CPUP	**Villa Florida**	**144.87**	**172**	PKPbc	PKPbc		22 30 40.4	+1.6
	comp=E,2.0nm,0.7s,baz=183,slow=7.2,SNR=5.1							
LPAZ	**La Paz**	**150.76**	**148**	PKPbc	**PKiKP**		**22 30 58.5**	**+1.9**
	comp=E,1.4nm,0.4s,baz=214,slow=5.7,SNR=6.1							

IDC 15 22:30:49.7±2.0, 6.63S×129.77E, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.4/30, mbtmp3.4/5, ML2.9/3, Error ellipse: s-maj=53.4km s-min=27.5km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.01**	**239**	Pn	Pn	22 32 35.3	+1.6
	4.0nm,0.3s,baz=84,slow=12,SNR=3.8						
BATI				Sn	Sn	22 33 42.8	-11
	3.1nm,0.3s,baz=37,slow=18,SNR=4.0						
FITZ	**Fitzroy Crossi**	**12.09**	**199**	Pn	Pn	22 33 41.5	-1.8
	0.1nm,0.3s,baz=19,slow=15,SNR=3.6						
FITZ				Sn	Sn	22 35 38.9	-20
	0.2nm,0.3s,baz=84,slow=19,SNR=4.0						
WRA	**Warramunga Ar**	**13.96**	**162**	Pn	Pn	22 34 08.7	-0.3
	0.1nm,0.3s,baz=342,slow=13,SNR=4.0						
WRA				Sn	Sn	22 36 31.6	-13
	0.3nm,0.3s,baz=335,slow=24,SNR=8.2						
ASAR	**Alice Springs**	**17.40**	**167**	P	P	22 34 55.1	-0.4
	0.0nm,0.3s,baz=342,slow=10,SNR=4.4						
ASAR				S	Sn	22 37 56.1	-12
	0.1nm,0.3s,baz=118,slow=20,SNR=3.5						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	22 41 49.4	-0.1
	0.1nm,0.4s,baz=127,slow=7.4,SNR=3.2						

IDC 15 23:09:44.1±4.8, 11.54S×165.95E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/37, mbtmp3.6/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=243.7km s-min=34.9km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.27**	**289**	LR	LR	23 13 34.4	
	comp=Z,306nm,20.5s,baz=142,slow=37						
WRA	**Warramunga Arr**	**31.51**	**251**	P	P	23 16 08.7	+0.6
	0.8nm,0.8s,baz=81,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**32.75**	**244**	P	P	23 16 18.4	-0.7
	0.1nm,0.3s,baz=66,slow=9.2,SNR=3.1						
ILAR	**Eielson Array**	**83.92**	**18**	P	P	23 22 15.7	+0.1
	0.6nm,0.7s,baz=222,slow=5.5,SNR=4.1						

*NIED **15** 23:11:00,39.70N×142.10E,h47km,Mw4.3 Best double couple: M₀2.99000×10¹⁵ NP1:φs190.00000°,δ24.00000°, λ90.00000°. NP2:φs11.00000°,δ66.00000°,λ90.00000°.*
*BJI **15** 23:11:47.1,39.67N×142.23E,h46km,mb4.6/39,mB4.8/27, Ms4.3/10,Ms7 4.0/9*
*ISCJB **15** 23:11:48.9±0.4,39.69N±0.02×142.17E±0.05,h55km±2km, mb4.4/64,MS3.6/12,Error ellipse: s-maj=6.2km s-min=3.5km az=18.0*
*JMA **15** 23:11:50.0,39.70N×142.13E,h48km±1km,M4.3 Broadband fault plane solution: P waves. NP1: φs16.00000°,δ69.00000°,λ94.00000°. NP2:φs185.00000°, δ21.00000°,λ80.00000°. Principal axes: T Plg66.0000°, Azm293.0000°; N Plg4.0000°, Azm195.0000°; P Plg24.0000°, Azm103.0000°;*
JMA Felt III J1.
*MOS **15** 23:11:50.1±1.0,39.77N×142.15E,h64km,mb4.8/24 Error ellipse: s-maj=8.1km s-min=5.4km az=104.9*
*NEIC **15** 23:11:52.4±0.5,39.65N×142.12E,h72km±4km,mb4.7/24, Error ellipse: s-maj=6.6km s-min=4.7km az=116.0*
NEIC Recorded [3 JMA] in Iwate.
*IDC **15** 23:11:54.1±1.6,39.74N×142.04E,h85km±13km,mb3.8/21, mb1 4.0/26,mb1mx3.9/40,mbtmp4.1/26,MS3.1/14, Ms1 3.1/14,ms1mx3.0/48,Error ellipse: s-maj=15.8km s-min=8.7km az=115.0*

ISC 15 23:11:50.0±0.7, 39.70N±0.03×142.19E±0.05, h49km±5km, n167,σ1°33/180, mb4.5/72, MS3.5/12, 14C-13D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.31**	**247**	ǁP	**Pn**	**23 11 58.7**	**-0.4**
MIYJ				S	**Sn**	**23 12 04.7**	**-0.9**
JTH	**Tanohata**	**0.35**	**314**	ǁP	**Pn**	**23 11 59.1**	**-0.4**
JTH				S	**Sn**	**23 12 05.6**	**-0.7**
JKEN	**Kujiedanarisaw**	**0.63**	**324**	P	**Pn**	**23 12 02.2**	**-0.5**
JKEN				S	**Sn**	**23 12 11.2**	**-0.7**
JKZ	**Kuzumaki**	**0.72**	**294**	ǁP	**Pn**	**23 12 03.5**	**-0.5**
JKZ				S	**Sn**	**23 12 13.0**	**-1.2**
JOM	**Ohasama**	**0.73**	**252**	ǁP	**Pn**	**23 12 03.6**	**-0.4**
JOM				S	**Sn**	**23 12 13.4**	**-0.8**
OFUJ	**Ofunato**	**0.74**	**213**	ǁP	**Pn**	**23 12 03.6**	**-0.6**
OFUJ				S	**Sn**	**23 12 13.5**	**-0.9**
JANG	**Nango**	**0.85**	**323**	ǁP	**Pn**	**23 12 05.1**	**-0.6**
JANG				S	**Sn**	**23 12 16.0**	**-1.2**
JMK	**Ichinoseki**	**1.06**	**225**	ǁP	**Pn**	**23 12 08.0**	**-0.4**
JMK				S	**Sn**	**23 12 21.4**	**-0.7**
JRG	**Rokugo**	**1.24**	**256**	P	**Pn**	**23 12 10.4**	**-0.5**
JAH	**Hinai**	**1.29**	**293**	ǁP	**Pn**	**23 12 11.5**	**-0.1**
JAH				S	**Sn**	**23 12 27.9**	**+0.2**
JTM	**Tenmabayashi**	**1.38**	**322**	ǁP	**Pn**	**23 12 12.6**	**-0.3**
JTM				S	**Sn**	**23 12 29.7**	**-0.3**
JIO	**Ouri**	**1.40**	**208**	ǁP	**Pn**	**23 12 12.7**	**-0.4**
JIO				*e*S	**Sn**	**23 12 29.5**	**-1.0**
ERM	**Erimo**	**2.43**	**17**	*e*Pn	**Pn**	**23 12 28.8**	**+1.6**
ERM	**Erimo**	**2.43**	**17**	*ce*P	**Pn**	**23 12 28.6**	**+1.4**
ERM				pmax	pmax		
	comp=Z,163nm,1.0s						
ASAJ	**Asahikawa**	**4.43**	**4**	P	**Pn**	**23 12 57.9**	**+3.3**
	comp=Z,5.3nm,0.3s,baz=197,slow=9.9,SNR=8.3						
ASAJ				S	**Sn**	**23 13 47.8**	**+3.0**
	comp=Z,5.8nm,0.3s,baz=49,slow=19,SNR=2.8						
ASAJ				LR	LR	23 14 59.4	
	comp=Z,228nm,21.8s,baz=18,slow=42						
MAJO	**Matsushiro**	**4.45**	**226**	*e*Pn	**Pn**	**23 12 56.6**	**+1.7**
MAJO	**Matsushiro**	**4.45**	**226**	*c i*P	**Pn**	**23 12 57.0**	**+2.1**
MAT	**Matsushiro**	**4.45**	**226**	P	**Pn**	**23 12 56.2**	**+1.3**
MAT				S	**Sn**	**23 13 44.6**	**-0.8**
MJAR	**Matsushiro Arr**	**4.45**	**226**	P	**Pn**	**23 12 57.1**	**+2.2**
	comp=Z,1.6nm,0.3s,baz=28,slow=12,SNR=141						
MJAR				S	**Sn**	**23 13 51.3**	**+5.9**
	baz=27,slow=16,SNR=2.2						
MJAR				LR	LR	23 14 57.9	
	comp=Z,253nm,21.7s,baz=50,slow=42						
MJB9	**Matsu-Tunnel**	**4.45**	**226**	*e*Pn	**Pn**	**23 12 56.6**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**5.13**	**31**	*e*P	**Pn**	**23 13 04.0**	**-0.2**
YUK				*e*S	**Sn**	**23 13 58.9**	**-3.1**
YUK				pmax	pmax		
	comp=Z,125nm,0.2s						
YUK				smax	smax		
	comp=N,642nm,0.6s						
YUK				smax	smax		
	comp=E,488nm,0.6s						
YUK				MLR	MLR		
	comp=N,42nm,14.0s						
YUK				MLR	MLR		
	comp=Z,82nm,14.0s						
INU	**Inuyama**	**5.98**	**225**	*e*Pn	**Pn**	**23 13 17.1**	**+1.3**
TEY	**Ternei**	**6.75**	**324**	ǁ*e*P	Pn	23 13 31.2	+4.8
TEY				pmax	pmax		
	comp=N,50nm,0.8s						
TEY				pmax	pmax		
	comp=E,40nm,0.8s						
TEY				pmax	pmax		
	comp=Z,50nm,0.8s						
JHJ	**Hachijo jima 2**	**6.84**	**197**	LR	LR	23 15 47.8	
	comp=Z,84nm,19.6s,baz=84,slow=34						
JHJ2	**Mitsune**	**6.84**	**197**	*e*Pn	**Pn**	**23 13 28.4**	**+0.6**
KUR	**Kuril'sk**	**6.94**	**35**	*e*P	**Pn**	**23 13 29.6**	**+0.6**
KUR				*e*S	**Sn**	**23 14 43.7**	**-2.9**
KUR				pmax	pmax		
	comp=Z,62nm,0.5s						
KUR				pmax	pmax		
	comp=N,26nm,0.3s						
KUR				pmax	pmax		
	comp=E,28nm,0.3s						
KUR				MLR	MLR		
	comp=Z,104nm,16.0s						
KUR				MLR	MLR		
	comp=N,33nm,9.0s						
KUR				MLR	MLR		
	comp=E,11nm,7.0s						
YSS	**Yuzh-Sakhalins**	**7.26**	**3**	*e*P	**Pn**	**23 13 33.3**	**-0.2**
YSS				*e*S	**Sn**	**23 14 54.5**	**0.0**
YSS				pmax	pmax		
	comp=Z,150nm,1.2s						
YSS				smax	smax		
	comp=N,20nm,1.0s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
YSS				MLR	MLR		
	comp=N,100nm,13.0s						
YSS				MLR	MLR		
	comp=E,100nm,15.0s						
USA0B	**Ussuriysk Arra**	**8.83**	**304**	*e*Pn	**Pn**	**23 13 58.5**	**+3.6**
USRK	**Ussuriysk Ar.**	**8.83**	**304**	P	**Pn**	**23 13 57.5**	**+2.6**
	comp=E,1.0nm,0.3s,baz=115,slow=15,SNR=23						
USRK				LR	LR	23 17 13.0	
	comp=E,186nm,18.7s,baz=100,slow=37						
MDJ	**Mudanjiang**	**10.56**	**302**	*e*Pn	**Pn**	**23 14 22.8**	**+4.2**
JNU	**Nakatsue**	**11.22**	**238**	P	**Pn**	**23 14 27.3**	**-0.5**
	comp=E,0.5nm,0.3s,baz=52,slow=6.6,SNR=4.4						
KSRS	**Korea Array**	**11.39**	**263**	P	**Pn**	**23 14 33.0**	**+3.0**
KSRS	**Korea Array**	**11.39**	**263**	P	**Pn**	**23 14 33.0**	**+3.0**
	comp=E,1.7nm,0.3s,baz=65,slow=14,SNR=12						
KSRS				LR	LR	23 18 29.0	
	comp=E,72nm,20.2s,baz=94,slow=35						
KS01	**Wonju Array Si**	**11.41**	**263**	*e*Pn	**Pn**	**23 14 31.7**	**+1.5**
KSAR	**Wonju Array Be**	**11.42**	**263**	P	**Pn**	**23 14 33.0**	**+2.6**
KSAR	**Wonju Array Be**	**11.42**	**263**	P	**Pn**	**23 14 33.0**	**+2.6**
KLR	**Kul'dur**	**12.09**	**325**	*i* P	**Pn**	**23 14 38.5**	**-0.9**
KLR	**Kul'dur**	**12.09**	**325**	P	**Pn**	**23 14 41.4**	**+2.0**
	comp=E,0.1nm,0.3s,baz=125,slow=14,SNR=4.3						
KLR				LR	LR	23 19 20.0	
	comp=E,90nm,19.3s,baz=86,slow=37						
TJN	**Taejon**	**12.15**	**259**	*i* P	**Pn**	**23 14 42.0**	**+1.7**
JCJ	**Chichijima**	**12.57**	**180**	LR	LR	23 23 33.7	
	comp=E,9.1nm,18.9s,baz=154,slow=56						
PETK	**Petropavlovsk-**	**17.10**	**33**	LR	LR	23 21 59.1	
	comp=E,46nm,21.7s,baz=223,slow=35						
ZEA	**Zeya**	**17.33**	**329**	*e*P	**Pn**	**23 15 48.0**	**-0.1**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**18.59**	**308**	*i* P	**P**	**23 16 02.7**	**-0.3**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI	**Beijing**	**19.95**	**279**	P	**P**	**23 16 15.4**	**-2.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	**Magadan**	**20.62**	**12**	*ce*P	**P**	**23 16 25.6**	**+0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MA2	**Magadan**	**20.62**	**12**	P	**P**	**23 16 25.2**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=178,slow=7.8,SNR=7.1						
MA2				LR	LR	23 24 20.9	
	comp=Z,39nm,18.7s,baz=96,slow=36						
HHC	**Hu-ho-hao-te**	**23.34**	**283**	*e*P	**P**	**23 16 54.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,93nm,6.4s						
SEY	**Seymchan**	**24.06**	**11**	*ce*P	**P**	**23 17 00.7**	**+0.4**
SEY	**Seymchan**	**24.06**	**11**	P	**P**	**23 17 01.5**	**+1.2**
	comp=Z,8.2nm,0.9s,baz=199,slow=7.9,SNR=23						
BOD	**Bodaibo**	**25.66**	**324**	*e*P	**P**	**23 17 13.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ULN	**Ulaanbaatar**	**26.46**	**300**	*e*P	**P**	**23 17 22.6**	**+0.1**
	comp=Z,2.9nm,0.8s						
ULN	**Ulaanbaatar**	**26.46**	**300**	*ce*P	**P**	**23 17 22.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.5s						
SONM	**Songino Array**	**26.90**	**299**	P	**P**	**23 17 25.6**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=92,slow=8.1,SNR=16						
SONM				LR	LR	23 28 36.1	
	comp=Z,76nm,18.3s,baz=122,slow=37						
ENH	**Enshi**	**28.26**	**261**	*e*P	**P**	**23 17 37.4**	**-1.2**
	comp=Z,13nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**29.10**	**126**	T	T	23 48 20.6	
	baz=318,slow=75,SNR=3499						
H11N1	**WAKE ISLAND Hy**	**29.11**	**126**	T	T	23 48 24.7	
	baz=318,slow=75,SNR=2490						
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	23 48 20.5	
	baz=318,slow=75,SNR=2128						
TLY	**Talaya**	**29.13**	**307**	*e*P	**P**	**23 17 45.7**	**-0.3**
	comp=Z,4.7nm,0.8s						
TLY	**Talaya**	**29.13**	**307**	*i* P	**P**	**23 17 45.9**	**-0.1**
ZAK	**Zakamensk**	**29.18**	**304**	*e*P	**P**	**23 17 45.2**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T	T	23 49 16.3	
	baz=319,slow=76,SNR=136						
H11S3	**WAKE ISLAND Hy**	**29.91**	**128**	T	T	23 49 23.8	
	baz=319,slow=76,SNR=117						
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T	T	23 49 17.5	
	baz=319,slow=76,SNR=85						
LZH	**Lanzhou**	**30.32**	**275**	*e*P	**P**	**23 17 58.3**	**+1.4**
LZH				pP	pP	23 18 10.3	+0.5
LZH				sP	sP	23 18 16.1	+0.4
LZH				PP	**PnPn**	**23 18 56.8**	**+0.4**
LZH				pmax	pmax		
	comp=Z,26nm,1.1s						
LZH				pmax	pmax		
	comp=Z

CHTO	**Chiang Mai**	**42.58**	**254**	P	**P**	**23 19 45.3**	**+4.0**
	comp=Z,18nm,0.7s							
CMAR	**Chiang Mai Arr**	**42.80**	**253**	*i* P	**P**	**23 19 43.0**	**-0.1**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**42.80**	**253**	P	**P**	**23 19 42.8**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=45,slow=7.3,SNR=8.6							
CMAR				LR	LR	23 40 08.6		
	comp=Z,16nm,18.1s,baz=245,slow=40							
MK01	**Makanchi Array**	**43.27**	**300**	*e*P	**P**	**23 19 45.8**	**-0.8**
MK31	**Makanchi Array**	**43.27**	**300**	*e*P	**P**	**23 19 46.1**	**-0.4**
	comp=Z,5.8nm,0.8s							
MK31	**Makanchi Array**	**43.27**	**300**	*e*P	**P**	**23 19 46.2**	**-0.4**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.8s							
MKAR	**Makanchi Array**	**43.27**	**300**	*i* P	**P**	**23 19 46.0**	**-0.6**
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.7s							
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**23 19 45.9**	**-0.7**
	comp=Z,6.6nm,0.8s,baz=84,slow=9.7,SNR=83							
MKAR				PcP	**PcP**	**23 21 33.8**	**-1.1**	
	comp=Z,0.9nm,0.8s,baz=72,slow=4.7,SNR=3.1							
MAKZ	**Makanchi**	**43.48**	**300**	*e*P	**P**	**23 19 47.8**	**-0.5**
	comp=Z,5.6nm,0.8s							
MAKZ	**Makanchi**	**43.48**	**300**	*e*P	**P**	**23 19 47.8**	**-0.5**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.8s							
IM3	**Indian Mountai**	**44.06**	**32**	*e*P	**P**	**23 19 54.6**	**+1.9**
KURK	**Kurchatov**	**44.81**	**306**	*ce*P	**P**	**23 19 58.3**	**-0.5**
KURK				pmax	pmax			
	comp=Z,13nm,0.8s							
ILAR	**Eielson Array**	**46.93**	**34**	P	**P**	**23 20 16.6**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=265,slow=6.5,SNR=8.5							
JIRN	**Jiri**	**47.43**	**273**	*e*P	**P**	**23 20 19.9**	**-0.3**
	comp=Z,16nm,0.6s							
RAMN	**Ramite**	**47.47**	**272**	*e*P	**P**	**23 20 19.8**	**-0.5**
	comp=Z,33nm,0.8s							
GUN	**Gumba**	**47.55**	**274**	*e*P	**P**	**23 20 20.7**	**-0.3**
	comp=Z,31nm,0.6s							
KKN	**Kakani**	**48.07**	**274**	*e*P	**P**	**23 20 24.5**	**-0.4**
	comp=Z,22nm,0.7s							
PKI	**Pulchoki**	**48.08**	**274**	*e*P	**P**	**23 20 24.4**	**-0.7**
	comp=Z,5.0nm,0.4s							
PKIN	**Phulchoki**	**48.08**	**274**	*e*P	**P**	**23 20 24.4**	**-0.7**
	comp=Z,5.1nm,0.5s							
KDJ	**Kajisay**	**48.11**	**295**	*e*P	**P**	**23 20 25.1**	**+0.1**
	comp=Z,3.1nm,0.9s							
KDJ	**Kajisay**	**48.11**	**295**	*e*P	**P**	**23 20 25.1**	**+0.1**
KDJ				pmax	pmax			
	comp=Z,3.0nm,0.9s							
DOT	**Dot Lake**	**48.27**	**35**	*e*P	**P**	**23 20 25.7**	**-0.1**
	comp=Z,25nm,1.4s							
GKN	**Gorkha**	**48.46**	**274**	*e*P	**P**	**23 20 27.3**	**-0.5**
	comp=Z,15nm,0.6s							
DANN	**Dangsing**	**48.96**	**275**	*e*P	**P**	**23 20 31.9**	**0.0**
	comp=Z,72nm,0.6s							
BRVK	**Borovoye**	**49.32**	**311**	*ce*P	**P**	**23 20 34.1**	**+0.2**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
AAK	**Ala-Archa**	**49.80**	**297**	*i* P	**P**	**23 20 36.0**	**-1.9**
AAK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
INK	**Inuvik**	**51.75**	**28**	*e*P	**P**	**23 20 53.0**	**+1.0**
	comp=Z,7.7nm,1.4s							
INK	**Inuvik**	**51.75**	**28**	P	**P**	**23 20 53.4**	**+1.4**
	comp=Z,1.5nm,0.6s,baz=329,slow=4.9,SNR=7.6							
SVE	**Sverdlovsk**	**53.58**	**317**	*de*P	**P**	**23 21 05.7**	**0.0**
SVE				pmax	pmax			
	comp=Z,17nm,0.8s							
NIL	**Nilore**	**54.39**	**287**	*e*P	**P**	**23 21 12.4**	**+0.4**
	comp=Z,13nm,0.9s							
NIL	**Nilore**	**54.39**	**287**	*e*P	**P**	**23 21 12.5**	**+0.4**
NIL				pmax	pmax			
	comp=Z,13nm,0.9s							
ARU	**Arti**	**54.79**	**317**	*e*P	**P**	**23 21 14.2**	**-0.3**
	comp=Z,15nm,0.8s							
ARU	**Arti**	**54.79**	**317**	*c i*P	**P**	**23 21 14.2**	**-0.3**
ARU						23 22 13.6		
ARU						23 23 15.9		
ARU				S	**S**	**23 28 51.3**	**-0.2**
ARU				SS	**SS**	**23 32 31.2**	**-3.3**
ARU				pmax	pmax			
	comp=Z,14nm,0.7s							
CHGR	**Chuyangaron**	**55.10**	**294**	*e*P	**P**	**23 21 16.5**	**-0.7**
	comp=Z,23nm,0.8s							
ABKAR	**Akbulak array**	**56.71**	**309**	*e*P	**P**	**23 21 27.9**	**-0.5**
	comp=Z,9.5nm,0.6s							
PRGR	**Permogore**	**58.88**	**326**	*e*P	**P**	**23 21 42.6**	**-0.7**
PRGR				*e*PP	**pP**	**23 21 56.0**	**-1.0**	
PRGR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
WB2	**Warramunga Arr**	**59.78**	**189**	*e*P	**P**	**23 21 49.3**	**-0.7**
WRA	**Warramunga Arr**	**59.78**	**189**	P	**P**	**23 21 49.1**	**-1.0**
	comp=Z,4.5nm,0.7s,baz=6.9,slow=7.0,SNR=60							
RES	**Resolute Bay**	**59.87**	**15**	*e*P	**P**	**23 21 50.3**	**+0.3**
	comp=Z,20nm,2.0s							
RES	**Resolute Bay**	**59.87**	**15**	*e*P	**P**	**23 21 50.3**	**+0.3**
RES				pmax	pmax			
	comp=Z,20nm,2.0s							
YKA	**Yellowknife Ar**	**61.21**	**31**	P	**P**	**23 21 59.7**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=302,slow=6.7,SNR=6.9							
ARCES	**ARCESS Array B**	**61.72**	**339**	P	**P**	**23 22 02.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=60,slow=7.4,SNR=3.6							
KLMR	**Klimovskoe**	**61.84**	**327**	*e*P	**P**	**23 22 03.1**	**-0.5**
KLMR				pmax	pmax			
	comp=Z,8.0nm,1.2s							
KLMR	**Klimovskoe**	**61.84**	**327**	*e*P	**P**	**23 22 03.1**	**-0.5**
KLMR				AMP		23 22 05.2		
	comp=Z,8.0nm,1.2s							
AS01	**Alice Springs**	**63.50**	**188**	*e*P	**P**	**23 22 14.5**	**-0.6**
ASAR	**Alice Springs**	**63.51**	**188**	P	**P**	**23 22 14.7**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=12,slow=6.1,SNR=23							
OBN	**Obninsk**	**66.33**	**323**	*e*P	**P**	**23 22 32.6**	**-0.5**
OBN				*e*		23 24 58.7		
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,34nm,15.0s							
LPSR	**Galich'ya Gora**	**66.66**	**320**	*e*P	**P**	**23 22 33.6**	**-1.6**
LPSR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
FIA1	**FINESS Array S**	**66.75**	**332**	*e*P	**P**	**23 22 35.5**	**-0.1**
FINES	**FINESS Array B**	**66.75**	**332**	*ce*P	**P**	**23 22 35.5**	**-0.2**
FINES				pmax	pmax			
	comp=Z,6.0nm,0.7s							
FINES	**FINESS Array B**	**66.75**	**332**	P	**P**	**23 22 35.3**	**-0.4**
	comp=Z,5.6nm,0.7s,baz=43,slow=8.6,SNR=20							
VSR	**Storozhevoye**	**67.34**	**318**	*e*P	**P**	**23 22 38.0**	**-1.6**
VSR				pmax	pmax			
	comp=Z,6.0nm,0.9s							
VSU	**Vasula**	**68.47**	**329**	*de*P	**P**	**23 22 46.7**	**+0.1**
VSU				pmax	pmax			
	comp=Z,17nm,1.0s							
KIV	**Kislovodsk**	**69.63**	**311**	*e*P	**P**	**23 22 54.9**	**+0.7**
	comp=Z,39nm,1.0s							
KIV	**Kislovodsk**	**69.63**	**311**	*e*P	**P**	**23 22 55.4**	**+1.2**
KIV				pmax	pmax			
	comp=Z,40nm,1.1s							
KIV				MLR	MLR			
	comp=Z,57nm,17.0s							
KBZ	**Khabaz**	**69.64**	**310**	P	**P**	**23 22 54.6**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=36,slow=6.4,SNR=5.2							
NC405	**NORSAR Array S**	**71.76**	**337**	*e*P	**P**	**23 23 06.8**	**+0.1**
	comp=Z,67nm,1.9s							
HFS	**Hagfors**	**71.91**	**336**	LR	LR	23 58 34.5		
	comp=Z,28nm,19.6s,baz=72,slow=39							
NB2	**NORSAR Subarra**	**71.97**	**337**	P	**P**	**23 23 07.5**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=36,slow=6.5							
NOA	**NORSAR Array B**	**71.97**	**337**	P	**P**	**23 23 07.5**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=37,slow=6.1,SNR=8.7							
AKASG	**Malin Array Be**	**72.57**	**322**	P	**P**	**23 23 11.1**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=44,slow=6.2,SNR=13							
NVAR	**Mina Array Bea**	**72.92**	**54**	P	**P**	**23 23 16.6**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=2.8							
BGU	**Big Grassy Mou**	**74.57**	**49**	*e*P	**P**	**23 23 22.9**	**-1.0**
	comp=Z,4.1nm,0.5s							
PDAR	**Pinedale Array**	**75.38**	**46**	P	**P**	**23 23 29.6**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=272,slow=1.9,SNR=5.7							
BUR08	**Bucovina Ar. S**	**76.59**	**322**	*e*P	**P**	**23 23 35.6**	**+0.4**
	comp=Z,24nm,1.8s							
BRTR	**Keskin Array B**	**77.54**	**312**	*ce*P	**P**	**23 23 43.0**	**+2.2**
BRTR	**Keskin Array B**	**77.54**	**312**	P	**P**	**23 23 40.4**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=14,slow=7.4,SNR=4.1							
MORC	**Moravsky Berou**	**78.46**	**327**	*e*P	**P**	**23 23 46.0**	**+0.5**
	comp=Z,4.7nm,1.0s							
MORC	**Moravsky Berou**	**78.46**	**327**	*e*P	**P**	**23 23 46.0**	**+0.5**
MORC				pmax	pmax			
	comp=Z,5.0nm,1.0s							
DPC	**Dobruska-Polom**	**78.53**	**328**	*e*P	**P**	**23 23 46.7**	**+0.8**
DPC	**Dobruska-Polom**	**78.53**	**328**	*e*P	**P**	**23 23 46.7**	**+0.8**
PHWY	**Pilot Hill**	**78.63**	**45**	*e*P	**P**	**23 23 46.3**	**-0.7**
	comp=Z,11nm,1.1s							
VYHS	**Vyhne**	**78.88**	**326**	*e*P	**P**	**23 23 48.2**	**+0.4**
VYHS	**Vyhne**	**78.88**	**326**	*e*P	**P**	**23 23 48.2**	**+0.4**
CLL	**Collm**	**79.09**	**330**	*e*P	**P**	**23 23 49.0**	**+0.1**
	comp=Z,4.2nm,0.8s							
CLL	**Collm**	**79.09**	**330**	*i* P	**P**	**23 23 48.6**	**-0.3**
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**79.09**	**330**	*i* P	**P**	**23 23 48.6**	**-0.3**
CLL				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CLL				MLR	MLR			
	comp=Z,400nm,25.0s							
PRU	**Pruhonice**	**79.53**	**329**	*e*P	**P**	**23 23 51.5**	**+0.2**
PRU	**Pruhonice**	**79.53**	**329**	*e*P	**P**	**23 23 51.5**	**+0.2**
KHC	**Kasperske Hory**	**80.59**	**329**	*e*P	**P**	**23 23 57.3**	**+0.2**
KHC	**Kasperske Hory**	**80.59**	**329**	*e*P	**P**	**23 23 57.3**	**+0.2**
GERES	**GERESS Array B**	**80.77**	**328**	P	**P**	**23 23 58.0**	**-0.2**
GERES	**GERESS Array B**	**80.77**	**328**	P	**P**	**23 23 58.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=44,slow=5.9,SNR=9.2							
FUORN	**Ofenpass-Fuorn**	**83.94**	**329**	*e*P	**P**	**23 24 15.5**	**+0.6**
	comp=Z,8.2nm,0.9s							
TXAR	**Lajitas Array**	**88.02**	**53**	P	**P**	**23 24 35.8**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=323,slow=5.7,SNR=3.0							
MNMC	**Minye Minye**	**145.82**	**62**	*e*PKPdf	**PKPdf**	**23 31 25.6**	**+1.8**
PB11	**IPOC Station P**	**146.21**	**63**	*e*PKPdf	**PKPdf**	**23 31 26.4**	**+2.1**

*NNC **15** 23:13:35.3±7.1, 37.°95N×72.°19E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=54.8km s-min=41.6km az=170.0*

ISC 15 23:13:28.6±1.7, 37.°29N±0.°09×72.°1E±0.°2, h113km, n15, σ1s88/18, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.00**	**14**	P	**Pn**	**23 14 44.2**	**+2.4**
	SNR=15						
UCH	**Uchtor**	**5.28**	**20**	P	**Pn**	**23 14 47.9**	**+2.3**
	SNR=7.9						
EKS2	**Erkin-Say**	**5.53**	**13**	P	**Pn**	**23 14 51.0**	**+2.4**
	SNR=7.2						
AAK	**Ala-Archa**	**5.66**	**18**	P	**Pn**	**23 14 52.8**	**+2.3**
	SNR=13						
AAK	**Ala-Archa**	**5.66**	**18**	Pn	**Pn**	**23 14 52.4**	**+1.9**
	4.0nm,0.5s						
AAK				⇑Sn	**Sn**	**23 15 53.7**	**-0.5**
	5.7nm,0.6s						
KK31	**Karatay Array**	**5.93**	**349**	⇓Pn	**Pn**	**23 14 55.4**	**+1.4**
	1.6nm,0.5s,baz=159,slow=10,SNR=4.2						
KK31				⇑Sn	**Sn**	**23 15 57.8**	**-2.9**
	11nm,0.6s,baz=162,slow=21,SNR=18						
TKM2	**Tokmak 2**	**6.24**	**25**	P	**Pn**	**23 14 59.9**	**+1.5**
	SNR=7.5						
TKM2	**Tokmak 2**	**6.24**	**25**	⇓Pn	**Pn**	**23 14 59.5**	**+1.1**
	2.4nm,0.6s						
TKM2				⇓Sn	**Sn**	**23 16 05.3**	**-3.1**
	1.2nm,0.7s						
PYUN	**Piuthan**	**12.97**	**132**	*e*P	**Pn**	**23 16 27.6**	**-1.3**
	4.1nm,0.3s						
DANN	**Dangsing**	**13.26**	**129**	*e*P	**Pn**	**23 16 31.6**	**-1.1**
	3.0nm,0.2s						
GKN	**Gorkha**	**14.05**	**128**	*e*P	**Pn**	**23 16 42.4**	**-0.4**
PKI	**Pulchoki**	**14.84**	**127**	*e*P	**Pn**	**23 16 53.1**	**0.0**
	2.8nm,0.4s						
GUN	**Gumba**	**14.91**	**125**	*e*P	**Pn**	**23 16 54.3**	**+0.3**
	4.3nm,0.4s						
JIRN	**Jiri**	**15.28**	**125**	*e*P	**Pn**	**23 16 59.5**	**+0.8**
	6.1nm,0.3s						
RAMN	**Ramite**	**16.03**	**126**	*e*P	**P**	**23 17 08.8**	**-0.3**
	4.1nm,0.4s						

*ISCJB **15** 23:17:20.4±0.9, 36.°90N±0.°06×71.°2E±0.°1, h100km, Error ellipse: s-maj=13.2km s-min=5.6km az=149.7*
*NNC **15** 23:17:27.5±4.6, 37.°39N×70.°93E, h59km±122km, mb3.7, mpv3.8, Error ellipse: s-maj=34.9km s-min=29.4km az=158.0*

ISC 15 23:17:21.0±1.1, 36.°98N±0.°07×71.°1E±0.°1, h100km, n17, σ2s80/24, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.53**	**21**	P	**Pn**	**23 18 42.2**	**+1.0**
	SNR=25						
UCH	**Uchtor**	**5.87**	**26**	P	**Pn**	**23 18 46.8**	**+0.9**
	SNR=12						
EKS2	**Erkin-Say**	**6.04**	**19**	P	**Pn**	**23 18 49.8**	**+1.9**
	SNR=10						
KK31	**Karatay Array**	**6.14**	**356**	⇑P	**Pn**	**23 18 51.8**	**+2.8**
	4.8nm,0.3s,baz=175,slow=12,SNR=77						
KK31				⇓S		**23 19 54.4**	**-3.5**
	2.2nm,0.3s,baz=168,slow=21,SNR=8.2						
AAK	**Ala-Archa**	**6.23**	**24**	P	**Pn**	**23 18 51.7**	**+1.2**
	SNR=20						
AAK	**Ala-Archa**	**6.23**	**24**	⇑P	**Pn**	**23 18 51.6**	**+1.1**
	4.2nm,0.3s						
AAK				⇓S	**Sn**	**23 19 58.3**	**-2.1**
	6.2nm,0.5s						
DHRM	**DHARAMSHALA**	**6.37**	**136**	*e*P	**Pn**	**23 18 56.6**	**+4.0**
DHRM				*e*S	**Sn**	**23 20 02.4**	**-1.7**
DHRM				IAML		23 20 06.8		
	comp=E,114nm,0.3s							
DHRM				IAML		23 20 07.8		
	comp=N,112nm,0.2s							
CHMS	**Chumysh**	**6.64**	**24**	P	**Pn**	**23 18 56.9**	**+1.0**
	SNR=11						
USP	**Ospenovka**	**6.80**	**21**	P	**Pn**	**23 18 58.9**	**+0.8**
	SNR=5.5						
TKM2	**Tokmak 2**	**6.87**	**29**	P	**Pn**	**23 18 59.9**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**6.87**	**29**	⇑P	**Pn**	**23 19 00.6**	**+1.3**
	comp=N,2.0nm,0.5s						
TKM2				⇓S	**Sn**	**23 20 18.8**	**+2.8**
	comp=N,3.4nm,0.7s						
SMLA	**Simla**	**7.71**	**137**	*e*P	**Pn**	**23 19 13.8**	**+3.4**
SMLA				*e*S	**Sn**	**23 20 31.0**	**-5.0**
SMLA				IAML		23 20 36.1		
	comp=N,24nm,0.2s							
SMLA				IAML		23 20 37.2		
	comp=E,33nm,0.2s							
JOSI	**Joshimath**	**9.52**	**130**	*e*P	**Pn**	**23 19 37.4**	**+2.1**
JOSI				*e*S	**Sn**	**23 21 17.4**	**-3.2**
KHET	**Khetri**	**9.72**	**155**	*e*S	Sn	23 21 14.9	-10
KHET				IAML		23 21 26.5		
	comp=N,6.7nm,0.2s							
KHET				IAML		23 21 26.6		
	comp=E,8.5nm,0.3s							
KALG	**Kalgarh**	**9.82**	**137**	*e*S	**Sn**	**23 21 22.3**	**-5.4**
AB31	**Akbulak array**	**14.71**	**330**	⇑P	**P**	**23 20 46.1**	**-1.2**
	comp=E,0.5nm,0.4s,baz=353,slow=25,SNR=25							
AB31				⇑S	**Sn**	**23 23 23.1**	**-2.7**
	comp=E,1.7nm,0.7s,baz=156,slow=23,SNR=4.3							
AKTO	**Aktyubinsk**	**16.41**	**329**	⇑P	**P**	**23 21 09.1**	**+3.0**
	comp=E,0.6nm,0.5s							
AKTO				⇑S	**Sn**	**23 24 04.9**	**-2.0**
	comp=E,1.9nm,1.1s							

*NIED **15** 23:17:00, 41.°50N×140.°80E, h119km, Mw3.8 Best double couple: M0 5.60000×10^14 NP1:φs181.00000°, δ12.00000°, λ-123.00000°. NP2:φs35.00000°, δ80.00000°, λ-84.00000°.*
*ISCJB **15** 23:17:44.8±0.3, 41.°49N±0.°03×140.°79E±0.°06, h134km±2km, mb3.6/15, Error ellipse: s-maj=7.3km s-min=4.8km az=2.7*
*JMA **15** 23:17:46.2±0.1, 41.°49N×140.°77E, h125km±1km, M3.5*
*IDC **15** 23:17:47.1±1.7, 41.°47N×140.°75E, h145km±15km, mb3.4/15, mb1 3.5/18, mb1mx3.4/36, mbtmp3.8/18, Error ellipse: s-maj=17.0km s-min=14.8km az=146.0*

ISC 15 23:17:45.7±0.7, 41.°49N±0.°04×140.°76E±0.°05, h129km±5km, n43, σ0s73/56, mb3.7/15, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.24**	**115**	P	**Pn**	**23 18 03.7**	**+0.2**
JSR	**Shiriuchi**	**0.26**	**280**	P	**Pn**	**23 18 03.6**	**+0.1**
JSR				*e*S	**Sn**	**23 18 16.3**	**-0.7**
JKB	**Kayabe**	**0.45**	**27**	P	**Pn**	**23 18 04.7**	**+0.4**
JKB				*e*S	**Sn**	**23 18 18.1**	**-0.3**
JAHD	**Aomorihigashid**	**0.49**	**117**	P	**Pn**	**23 18 04.4**	**-0.1**
JAHD				*e*S	**Sn**	**23 18 19.1**	**+0.4**
JYM2	**Yakumo 2**	**0.70**	**335**	P	**Pn**	**23 18 06.2**	**+0.3**
JYM2				*e*S	**Sn**	**23 18 21.1**	**-0.1**
JTM	**Tenmabayashi**	**0.73**	**162**	P	**Pn**	**23 18 06.5**	**+0.3**
JTM				*e*S	**Sn**	**23 18 21.7**	**0.0**
JNB	**Noboribetsu**	**1.00**	**12**	P	**Pn**	**23 18 08.7**	**+0.2**
JNB				*e*S	**Sn**	**23 18 25.6**	**-0.2**
JIW	**Iwasaki**	**1.06**	**213**	P	**Pn**	**23 18 09.6**	**+0.6**
JIW				*e*S	**Sn**	**23 18 26.7**	**-0.1**
JOSM	**Okushiri--Mats**	**1.13**	**302**	P	**Pn**	**23 18 09.6**	**-0.1**
JHST	**Hiyamasetana**	**1.15**	**325**	P	**Pn**	**23 18 10.1**	**+0.3**
JHST				*e*S	**Sn**	**23 18 28.4**	**+0.2**
JANG	**Nango**	**1.25**	**153**	P	**Pn**	**23 18 10.8**	**-0.2**
JANG				*e*S	**Sn**	**23 18 29.3**	**-0.9**
JSH	**Shimam**	**1.27**	**335**	P	**Pn**	**23 18 11.5**	**+0.3**
JSH				*e*S	**Sn**	**23 18 30.5**	**-0.1**
JAH	**Hinai**	**1.30**	**184**	P	**Pn**	**23 18 12.2**	**+0.7**
JAH				*e*S	**Sn**	**23 18 32.4**	**+1.3**
JEW	**Eniwo**	**1.45**	**20**	*e*S	**Sn**	**23 18 35.9**	**+1.9**
JNBK	**Urakawa-nobuka**	**1.69**	**61**	P	**Pn**	**23 18 16.0**	**+0.2**
JNBK				*e*S	**Sn**	**23 18 38.7**	**-0.1**
JSK	**Shakotan**	**1.88**	**354**	P	**Pn**	**23 18 18.8**	**+0.8**
JOM	**Ohasama**	**2.05**	**168**	*e*S	**Sn**	**23 18 46.7**	**+0.1**
ASAJ	**Asahikawa**	**2.96**	**27**	P	**Pn**	**23 18 33.4**	**+1.7**
	3.1nm,0.3s,baz=228,slow=12,SNR=6.8							
ASAJ				S	**Sn**	**23 19 05.5**	**-1.7**
	3.6nm,0.3s,baz=72,slow=20,SNR=3.2							
MJAR	**Matsushiro Arr**	**5.32**	**203**	P	**Pn**	**23 19 05.2**	**+2.2**
	0.2nm,0.3s,baz=4.6,slow=15,SNR=4.9							
USRK	**Ussuriysk Ar.**	**7.00**	**296**	P	**Pn**	**23 19 26.4**	**+1.0**
	0.5nm,0.3s,baz=103,slow=14,SNR=5.4							
SONM	**Songino Array**	**25.11**	**296**	P	**P**	**23 22 58.3**	**-0.1**
	0.4nm,0.5s,baz=105,slow=8.6,SNR=3.3							
ZALV	**Zalesovo Beam**	**38.65**	**308**	P	**P**	**23 24 56.4**	**+0.2**
	2.8nm,0.4s,baz=88,slow=7.4,SNR=13							
MKAR	**Makanchi Array**	**41.46**	**298**	P	**P**	**23 25 19.6**	**0.0**
	0.8nm,0.4s,baz=84,slow=10,SNR=25							
ILAR	**Eielson Array**	**46.06**	**35**	P	**P**	**23 25 56.9**	**+0.8**
	0.8nm,0.8s,baz=277,slow=7.5,SNR=8.2							
JIRN	**Jiri**	**46.29**	**271**	*e*P	**P**	**23 25 59.7**	**+0.9**
	6.9nm,0.3s							
RAMN	**Ramite**	**46.36**	**270**	*e*P	**P**	**23 25 59.8**	**+0.6**
	6.8nm,0.4s							
GUN	**Gumba**	**46.39**	**271**	*e*P	**P**	**23 25 59.8**	**+0.3**
	26nm,0.4s							
PKI	**Pulchoki**	**46.92**	**271**	*e*P	**P**	**23 26 04.0**	**+0.4**
	3.5nm,0.3s							
PKIN	**Phulchoki**	**46.93**	**271**	*e*P	**P**	**23 26 03.6**	**0.0**
	3.8nm,0.4s							
GKN	**Gorkha**	**47.27**	**272**	*e*P	**P**	**23 26 06.2**	**0.0**
	8.1nm,0.5s							
DANN	**Dangsing**	**47.75**	**273**	*e*P	**P**	**23 26 10.5**	**+0.5**
	55nm,0.6s							
INK	**Inuvik**	**50.69**	**29**	P	**P**	**23 26 32.1**	**+0.7**
	0.4nm,0.3s,baz=298,slow=7.9,SNR=6.0							
ARCES	**ARCESS Array B**	**59.67**	**338**	P	**P**	**23 27 35.1**	**-0.7**
	4.2nm,1.0s,baz=55,slow=6.5,SNR=4.7							
YKA	**Yellowknife Ar**	**60.24**	**31**	P	**P**	**23 27 39.9**	**+0.1**
	0.2nm,0.5s,baz=304,slow=6.5,SNR=4.5							
WRA	**Warramunga Arr**	**61.40**	**187**	P	**P**	**23 27 47.5**	**-0.6**
	0.7nm,0.6s,baz=6.0,slow=6.9,SNR=9.2							
FINES	**FINESS Array B**	**64.66**	**331**	P	**P**	**23 28 08.9**	**-0.3**
	1.1nm,0.5s,baz=31,slow=10,SNR=18							
KBZ	**Khabaz**	**67.66**	**309**	P	**P**	**23 28 29.2**	**+0.6**
	2.5nm,1.0s,baz=51,slow=6.5,SNR=7.2							
NB2	**NORSAR Subarra**	**69.90**	**336**	P	**P**	**23 28 42.2**	**0.0**
	comp=Z,0.2nm,0.4s,baz=32,slow=6.5							
NOA	**NORSAR Array B**	**69.90**	**336**	P	**P**	**23 28 41.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=40,slow=6.2,SNR=3.7							
AKASG	**Malin Array Be**	**70.49**	**321**	P	**P**	**23 28 45.4**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=51,slow=6.5,SNR=3.5							
PDAR	**Pinedale Array**	**74.92**	**46**	P	**P**	**23 29 11.4**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=351,slow=4.6,SNR=3.4							
BRTR	**Keskin Array B**	**75.55**	**310**	P	**P**	**23 29 15.8**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=88,slow=3.6,SNR=4.7							
GERES	**GERESS Array B**	**78.68**	**327**	P	**P**	**23 29 33.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=46,slow=5.7,SNR=4.0							

*IDC **15** 23:37:25.0±0.8, 0.°94N×85.°76W, h0km, mb4.0/15, mb1 4.3/18, mb1mx4.

comp=Z,1.6nm,0.3s,baz=316,slow=14,SNR=12
PRAC Prado 10.52 75 *e*P **Pn 23 40 03.4 +1.6**
PRAC Prado 10.52 75 *e*P **Pn 23 40 03.4 +1.6**
DBBC Dabeiba 10.66 56 *e*P **Pn 23 40 04.1 +0.4**
DBBC Dabeiba 10.66 56 *e*P **Pn 23 40 04.1 +0.4**
HELC Santa Helena 10.82 61 *e*P **Pn 23 40 05.5 -0.6**
HELC Santa Helena 10.82 61 *e*P **Pn 23 40 05.5 -0.6**
ESPN Las Esperanzas 11.13 4 *e*Pn **Pn 23 40 14.6 +4.5**
NORC Norcasia 11.14 66 *e*P **Pn 23 40 11.7 +1.5**
NORC Norcasia 11.14 66 *e*P **Pn 23 40 11.7 +1.5**
ROSC El Rosal 11.39 70 *e*Pn **Pn 23 40 16.4 +2.5**
ROSC El Rosal 11.39 70 Pn **Pn 23 40 18.2 +4.3**
comp=Z,1.1nm,0.3s,baz=105,slow=14,SNR=5.7
ROSC LR LR 23 44 18.3
comp=Z,4μm,20.0s,baz=239,slow=34
VILC Villavicencio, 11.77 75 *e*P **Pn 23 40 20.7 +1.7**
VILC Villavicencio, 11.77 75 *e*P **Pn 23 40 20.7 +1.7**
CHIC Chingaza 11.88 72 *e*P **Pn 23 40 22.1 +1.4**
CHIC Chingaza 11.88 72 *e*P **Pn 23 40 22.1 +1.4**
PTBC PUERTO BERRIO, 11.92 62 *e*P **Pn 23 40 20.0 -1.0**
PTBC PUERTO BERRIO, 11.92 62 *e*P **Pn 23 40 20.0 -1.0**
ZARC Zaragoza, Cauc 12.04 57 *e*P Pn 23 40 20.7 -1.9
ZARC Zaragoza, Cauc 12.04 57 *e*P Pn 23 40 20.7 -1.9
RUSC La Rusia 12.91 68 *e*P **Pn 23 40 38.7 +3.8**
RUSC La Rusia 12.91 68 *e*P **Pn 23 40 38.7 +3.8**
BARC Barichara 13.09 65 *e*P **Pn 23 40 41.5 +4.3**
BARC Barichara 13.09 65 *e*P **Pn 23 40 41.5 +4.3**
TGUH Tegucigalpa,Un 13.14 351 *e*Pn **Pn 23 40 38.7 +1.2**
PAMC Pamplona, Colo 13.84 63 *e*P **Pn 23 40 51.8 +4.2**
PAMC Pamplona, Colo 13.84 63 *e*P **Pn 23 40 51.8 +4.2**
APG El Apazote 14.88 339 Pn Pn 23 40 59.3 -2.3
comp=Z,0.3nm,0.3s,baz=180,slow=14,SNR=3.6
APG LR LR 23 44 21.5
comp=Z,624nm,19.8s,baz=150,slow=28
CCIG Comitan 16.69 336 *e*Pn **Pn 23 41 24.3 -0.8**
comp=Z,100nm,1.7s
CMIG Matias Romero 18.66 329 P **P 23 41 45.6 -3.5**
comp=Z,0.1nm,0.3s,baz=150,slow=7.2,SNR=5.4
CMIG LR LR 23 47 24.4
comp=Z,3μm,20.4s,baz=144,slow=33
TLIG Tlapa 21.13 322 *e*P **P 23 42 16.2 +0.1**
comp=Z,28nm,1.1s
GTBY Guantanamo Bay 21.17 27 *e*P **P 23 42 17.1 +0.8**
comp=Z,154nm,1.5s
BANI BANI 22.51 39 *e*P **P 23 42 30.9 0.0**
LPAZ La Paz 23.99 137 *e*P **P 23 42 45.4 -1.0**
comp=Z,21nm,1.0s
LPAZ La Paz 23.99 137 P **P 23 42 45.6 -0.8**
comp=Z,10nm,1.1s,baz=326,slow=9.7,SNR=11
LPAZ LR LR 23 53 19.3
comp=Z,2μm,20.4s,baz=308,slow=39
MNMC Minye Minye 25.14 144 *e*P **P 23 42 58.9 +2.4**
comp=Z,14nm,1.0s
PTGA Pitinga 25.16 94 *e*P **P 23 43 00.8 +4.3**
comp=Z,18nm,1.1s
PTGA Pitinga 25.16 94 P **P 23 42 59.2 +2.6**
comp=Z,13nm,1.0s,baz=284,slow=9.3,SNR=11
PTGA LR LR 23 52 12.7
comp=Z,495nm,20.8s,baz=272,slow=34
SJG San Juan 25.18 46 *e*P **P 23 42 58.3 +1.7**
comp=Z,67nm,1.5s
SJG San Juan 25.18 46 P **P 23 42 57.3 +0.7**
comp=Z,8.8nm,0.7s,baz=249,slow=5.5,SNR=5.4
SJG LR LR 23 52 24.8
comp=Z,1μm,22.0s,baz=237,slow=35
HUMP Col San Antoni 25.42 47 *e*P **P 23 43 00.8 +2.1**
comp=Z,23nm,0.8s
SIV San Ignacio 29.11 126 LR LR 23 56 10.4
comp=Z,2μm,19.0s,baz=315,slow=38
HKT Hockley 30.54 341 *e*P **P 23 43 47.3 +2.9**
comp=Z,23nm,1.6s
250A Grady 30.82 358 *e*P **P 23 43 50.3 +3.4**
comp=Z,52nm,1.6s
TX31 Lajitas Ar. Si 33.27 330 *e*P **P 23 44 06.8 -1.9**
TXAR Lajitas Array 33.27 330 P P 23 44 01.8 -6.9
comp=Z,0.9nm,0.8s,baz=142,slow=9.0,SNR=7.6
TXAR LR LR 23 56 22.0
comp=Z,1μm,20.4s,baz=0.0,slow=34
ABTX Abilene, Hawle 34.30 338 *e*P **P 23 44 20.5 +3.0**
comp=Z,52nm,1.8s
WMOK Wichita Mounta 35.91 341 *e*P **P 23 44 34.0 +2.7**
comp=Z,8.1nm,1.3s
MNTX Cornudas Mount 36.05 330 *e*P P 23 44 27.4 -5.2
comp=Z,15nm,1.4s
AMTX Amarillo 37.09 337 *e*P **P 23 44 43.5 +2.0**
comp=Z,14nm,1.0s
319A Douglas 37.90 325 *e*P **P 23 44 49.2 +0.8**
comp=Z,6.3nm,0.8s
CPUP Villa Florida 38.15 137 LR LR 00 02 41.3
comp=Z,893nm,19.3s,baz=322,slow=39
BNM Barren Site 38.64 331 *e*P **P 23 44 53.6 -1.2**
ANMO Albuquerque 39.21 332 *e*P P 23 44 54.7 -4.8
comp=Z,9.8nm,1.4s
BDFB Brasilia 40.18 116 LR LR 00 03 28.2
comp=Z,1μm,19.6s,baz=293,slow=38
SDCO Great Sand Dun 41.11 335 *e*P P 23 45 11.4 -3.9
comp=Z,6.1nm,1.2s
X16A Lo Mia Camp, P 41.37 326 *e*P **P 23 45 16.4 -0.9**
comp=Z,8.1nm,1.4s
113A Mohawk Valley, 41.55 322 *e*P **P 23 45 19.9 +1.3**
comp=Z,5.7nm,1.0s
S22A 4UR Ranch, Cre 41.68 334 *e*P **P 23 45 19.2 -0.9**
comp=Z,5.5nm,1.1s
MVCO Mesa Verde 42.01 332 *e*P **P 23 45 22.1 -0.5**
comp=Z,15nm,1.4s
ISCO Idaho Springs 42.90 337 *e*P **P 23 45 28.9 -1.1**
comp=Z,3.9nm,0.8s
PV15 Paradox Valley 42.91 333 *e*P **P 23 45 29.2 -0.8**
comp=Z,20nm,1.3s
PV02 Paradox Valley 42.92 332 *e*P **P 23 45 30.9 +0.8**
comp=Z,14nm,1.2s
PV13 Radium Mtn., P 42.92 332 *e*P **P 23 45 29.6 -0.4**
comp=Z,10nm,1.1s
SMCO Snowmass 42.93 335 *e*P P 23 45 27.3 -3.1
comp=Z,6.3nm,0.8s
PV03 Paradox Valley 43.01 332 *e*P **P 23 45 30.1 -0.7**
comp=Z,21nm,1.5s
PV12 Saucer Basin, 43.04 332 *e*P **P 23 45 30.6 -0.4**
comp=Z,22nm,1.2s
PV11 David Mesa, Pa 43.06 332 *e*P P 23 45 28.2 -3.0
comp=Z,13nm,1.0s
PV07 Paradox Valley 43.07 333 *e*P **P 23 45 30.8 -0.4**
comp=Z,16nm,1.3s
PV16 Nyswonger Mesa 43.09 332 *e*P **P 23 45 30.8 -0.6**
comp=Z,9.9nm,1.1s
PV04 Paradox Valley 43.15 332 *e*P **P 23 45 31.3 -0.5**
comp=Z,15nm,1.3s
PV09 Paradox Valley 43.34 332 *e*P **P 23 45 32.3 -1.3**
PLCA Paso Flores 43.61 164 P P 23 45 31.1 -4.3
comp=Z,0.8nm,0.6s,baz=338,slow=13,SNR=2.7
PLCA LR LR 23 59 23.3
comp=Z,388nm,21.6s,baz=2.5,slow=30
ECSD EROS Data Cent 43.76 348 *e*P P 23 45 32.2 -4.3
comp=Z,14nm,1.4s
O20A White River Ci 44.27 334 *e*P **P 23 45 42.8 +1.9**
comp=Z,9.3nm,1.1s
SRU San Rafael Swe 44.48 331 *e*P **P 23 45 41.8 -0.8**
comp=Z,18nm,1.5s
P17A Butcher Ranch, 44.87 332 *e*P **P 23 45 44.8 -0.9**
comp=Z,11nm,1.2s
RSSD Black Hills 46.11 341 *e*P **P 23 45 54.9 -0.6**
comp=Z,3.2nm,0.8s
TCUT Toone Canyon 46.48 332 *e*P **P 23 45 58.0 -0.5**
TCUT *e*pP **pP 23 46 01.8 +1.2**
HWUT Hardware Ranch 46.94 333 *e*P **P 23 46 00.9 -1.1**
comp=Z,9.1nm,1.2s
PD31 Pinedale Array 47.00 335 *e*P **P 23 46 00.8 -1.7**
comp=Z,21nm,2.0s
PDAR Pinedale Array 47.00 335 *e*P P 23 46 00.0 -2.5
PDAR Pinedale Array 47.00 335 P P 23 45 56.9 -5.6
comp=Z,1.2nm,0.9s,baz=148,slow=7.5,SNR=7.7
PDAR LR LR 00 06 14.1
comp=Z,2μm,18.4s,baz=148,slow=37
BGU Big Grassy Mou 47.10 331 *e*P P 23 46 00.2 -3.0
comp=Z,8.5nm,1.1s
SPUT South Promonto 47.12 332 *e*P **P 23 46 02.3 -1.1**
comp=Z,6.1nm,1.1s
VLDQ Val d'Or 47.37 7 *e*P **P 23 46 07.2 +2.2**
comp=Z,15nm,1.4s
HVU Hansel Valley 47.64 332 *e*P **P 23 46 05.7 -1.7**
comp=Z,4.9nm,0.9s
OMMB Old Mammoth Mi 47.97 323 *e*P **P 23 46 10.0 -0.2**
comp=Z,10nm,1.2s
AGMN Agassiz Nation 48.01 350 *e*P P 23 46 05.1 -4.9
comp=Z,4.3nm,0.8s
NV11 Mina Array Sit 48.02 325 *e*P **P 23 46 10.0 -0.4**
comp=Z,1.1nm,1.5s
MDPB Devils Postpil 48.03 323 *e*P **P 23 46 12.0 +1.4**
comp=Z,9.2nm,1.3s
REDW Red Top Meadow 48.03 335 *e*P **P 23 46 09.2 -1.3**
comp=Z,22nm,1.5s
ELK Elko 48.07 329 *e*P **P 23 46 09.4 -1.5**
comp=Z,4.0nm,1.1s
NV01 Mina Array Sit 48.10 325 *e*P **P 23 46 10.2 -1.0**
NVAR Mina Array Bea 48.10 325 P P 23 46 04.7 -6.4
comp=Z,0.6nm,0.7s,baz=128,slow=7.4,SNR=3.7
NVAR LR LR 00 05 59.9
comp=Z,932nm,18.4s,baz=142,slow=36
FXWY Fox Creek 48.33 335 *e*P **P 23 46 12.6 -0.2**
comp=Z,5.0nm,1.4s
RYN Ryan 48.37 325 *e*P **P 23 46 13.3 +0.2**
comp=Z,14nm,1.7s
KVN Kaiserville 48.41 325 *e*P **P 23 46 12.4 -1.1**
comp=Z,3.3nm,1.0s
RLMT Red Lodge 48.84 337 *e*P **P 23 46 15.1 -1.7**
comp=Z,19nm,1.9s
YERR Yerington 49.02 325 *e*P **P 23 46 17.6 -0.6**
comp=Z,15nm,1.5s
HLID Hailey 49.78 332 *e*P **P 23 46 22.4 -1.5**
comp=Z,8.2nm,1.3s
ULM Lac du Bonnet 49.91 351 *e*P **P 23 46 23.4 -1.0**
ULM Lac du Bonnet 49.91 351 P P 23 46 18.4 -6.1
comp=Z,4.5nm,0.8s,baz=166,slow=6.6,SNR=9.4
ULM LR LR 00 10 57.4
comp=Z,203nm,18.1s,baz=151,slow=40
MCMT McKenzie Canyo 50.07 334 *e*P **P 23 46 27.4 +1.3**
BOZ Bozeman (W) 50.17 336 *e*P **P 23 46 26.8 0.0**
comp=Z,8.5nm,1.4s
YBH Yreka Blue Hor 52.82 325 *e*P **P 23 46 46.3 -0.3**
comp=Z,20nm,1.7s
PINE Pine Mountain 53.21 328 *e*P **P 23 46 49.7 +0.2**
comp=Z,28nm,1.8s
G08A Pilot Rock 53.25 331 *e*P **P 23 46 50.6 +0.9**
comp=Z,5.4nm,1.3s
WALA Waterton Lakes 53.89 337 *e*P **P 23 46 54.1 -0.3**
comp=Z,9.8nm,1.3s
SCHQ Schefferville 55.68 13 LR LR 00 11 24.5
comp=Z,298nm,18.0s,baz=199,slow=36
TAOE Nuku Hiva Isla 55.74 259 *e*S **S 23 54 56.0 +0.4**
comp=Z,1μm,29.8s
TAOE *e*LR LR 00 03 24.7
comp=Z,2μm,31.2s
FCC Fort Churchill 58.02 354 *e*P **P 23 47 21.9 -1.7**
comp=Z,8.1nm,1.0s
YKA Yellowknife Ar 65.19 345 P P 23 48 05.5 -6.5
comp=Z,2.0nm,0.9s,baz=141,slow=6.1,SNR=14
YKA LR LR 00 18 10.3
comp=Z,71nm,19.2s,baz=138,slow=38
YKB5 Yellowknife Ar 65.19 345 *e*P **P 23 48 10.3 -1.7**
YKW3 Yellowknife Ar 65.25 345 *e*P **P 23 48 11.2 -1.2**
comp=Z,7.2nm,1.2s
PPT Papeete 66.09 250 LR LR 00 08 53.6
comp=Z,366nm,21.0s,baz=66,slow=29
PPT2 Papeete2 66.10 250 *e*S **S 23 57 05.5 -2.2**
comp=Z,345nm,27.0s
PPT2 *e*SS **SS 00 01 24.9 +1.4**
comp=Z,183nm,27.5s
PPT2 *e*LQ LQ 00 05 29.7
comp=Z,2μm,30.2s
PPT2 *e*LR LR 00 08 12.2
comp=Z,1μm,29.5s
TBI Tubuai 67.03 244 *e*S **S 23 57 20.0 +1.3**
comp=Z,913nm,31.5s
TBI *e*LQ LQ 00 05 49.5
comp=Z,1μm,27.5s
TBI *e*LR LR 00 08 45.9
comp=Z,1μm,28.0s
INK Inuvik 74.76 343 *e*P **P 23 49 10.0 -0.6**
comp=Z,9.1nm,1.1s
INK Inuvik 74.76 343 P P 23 49 07.1 -3.5
comp=Z,2.5nm,0.9s,baz=112,slow=5.2,SNR=4.8
IL1 Eielson Array 77.39 337 *e*P **P 23 49 26.6 +0.9**
ILAR Eielson Array 77.39 337 P P 23 49 21.0 -4.8
comp=Z,0.4nm,0.8s,baz=133,slow=5.0,SNR=5.4
ILAR LR LR 00 25 03.9
comp=Z,678nm,19.1s,baz=122,slow=37
DBIC Dimbokro 80.16 83 LR LR 00 22 05.5
comp=Z,216nm,20.5s,baz=249,slow=33
IM3 Indian Mountai 80.51 337 *e*P **P 23 49 43.6 +0.8**
MDT Midelt 81.43 57 P P **23 49 47.7 -0.9**
comp=Z,1.9nm,0.9s,baz=266,slow=3.6,SNR=4.2
ESDC Sonseca Array 82.50 50 P **P 23 49 53.2 -0.8**
comp=Z,0.4nm,0.5s,baz=276,slow=5.1,SNR=4.3
ESDC LR LR 00 19 31.5
comp=Z,127nm,21.6s,baz=275,slow=30
ES06 SONSECA Array 82.51 50 *e*P **P 23 49 54.1 0.0**
EKA Eskdalemuir Ar 84.56 35 P **P 23 50 03.8 -0.3**
comp=Z,1.2nm,0.7s,baz=266,slow=6.1,SNR=3.6
TOA0 Torodi Ar. Sit 86.62 77 *e*P **P 23 50 15.7 +0.4**
TORD Torodi Ar. Bea 86.62 77 P P 23 50 13.4 -1.9
comp=Z,0.3nm,0.6s,baz=289,slow=4.1,SNR=2.7
TORD LR LR 00 28 22.1
comp=Z,170nm,19.4s,baz=295,slow=35
SPITS Spitsbergen Ar 91.35 12 LR LR 00 32 23.2
comp=Z,333nm,18.3s,baz=15,slow=36
NOA NORSAR Array B 92.17 29 LR LR 00 27 43.5
comp=Z,197nm,21.0s,baz=270,slow=33
KEST Kesra 93.00 54 LR LR 00 29 48.5
comp=Z,65nm,20.1s,baz=308,slow=34
HFS Hagfors 93.50 30 LR LR 00 26 33.3
comp=Z,237nm,21.6s,baz=274,slow=31
NKC Novy Kostel 94.04 40 AMS AMS 00 26 10.0
comp=Z,600nm,20.7s
CLL Collm 94.27 39 *e*SKSac **SKSac 00 01 20.0 -5.6**
CLL *e*S **S 00 02 02.0 0.0**
CLL *e*PS PS 00 03 16.0 -2.0
CLL *e*SS **SS 00 08 24.0 +1.1**
CLL *e*SSS SSS 00 12 12.0
KHC Kasperske Hory 94.90 41 AMS AMS 00 25 50.0
comp=Z,500nm,18.9s
GERES GERESS Array B 95.02 41 LR LR 00 27 28.6
comp=Z,170nm,21.3s,baz=278,slow=31
PVCC Panska Ves 95.35 39 AMS AMS 00 26 40.0
comp=Z,600nm,19.7s
PRU Pruhonice 95.41 40 AMS AMS 00 26 20.0
comp=Z,800nm,23.2s
GOPC GO Pecny, Ondr 95.58 40 AMS AMS 00 26 50.0
comp=Z,700nm,23.9s
TREC Trest 96.12 40 AMS AMS 00 26 30.0
comp=Z,500nm,18.8s
UPC Upice 96.27 39 AMS AMS 00 27 30.0
comp=Z,400nm,16.8s
DPC Dobruska-Polom 96.49 39 AMS AMS 00 27 30.0
comp=Z,500nm,21.2s
VRAC Vranov 96.83 40 LR LR 00 28 25.2
comp=Z,432nm,22.0s,baz=295,slow=31
OKC Ostrava-Krasne 97.73 40 AMS AMS 00 28 10.0
comp=Z,500nm,18.9s
VYHS Vyhne 98.44 41 *e*PDIF **P 23 51 08.4 -1.0**
FINES FINESS Array B 99.08 27 LR LR 00 30 37.6
comp=Z,187nm,22.0s,baz=284,slow=32
DZM Mont Dzumac 107.50 247 *e*LR LR 00 27 29.0
comp=Z,430nm,30.7s
SONM Songino Array 130.33 350 PKP **PKPdf 23 56 39.2 -2.6**
comp=Z,0.4nm,0.8s,baz=314,slow=0.9,SNR=2.9
MKAR Makanchi Array 131.11 12 PKP **PKPdf 23 56 39.1 -4.1**
comp=Z,0.4nm,0.9s,baz=4.4,slow=1.9,SNR=4.4
HHC Hu-ho-hao-te 135.66 342 *e*PKP **PKPdf 23 56 51.9 -0.2**
HHC Hu-ho-hao-te 135.66 342 PP PP 23 59 30.4 +2.0
HHC AMB AMB
comp=Z,200nm,8.6s
HHC LR LR
comp=N,220nm,22.1s
HHC LR LR
comp=E,280nm,20.4s
HHC LR LR
comp=Z,290nm,19.6s
ASAR Alice Springs 136.03 236 PKP **PKPdf 23 56 49.3 -3.8**
comp=Z,0.1nm,0.3s,baz=116,slow=2.2,SNR=3.2
WRA Warramunga Arr 137.12 241 PKP PKPdf 23 56 49.8 -5.4
comp=Z,0.3nm,0.8s,baz=118,slow=2.2,SNR=3.6
H01W1 Cape Leeuwin H 141.82 206 T T 02 35 49.6
baz=140,slow=76,SNR=4.8
H01W2 Cape Leeuwin H 141.83 206 T T 02 35 51.4
baz=140,slow=76,SNR=3.6
H01W3 Cape Leeuwin H 141.84 206 T T 02 35 49.6
baz=140,slow=76,SNR=3.6
LZH Lanzhou 142.16 348 *e*PKP **PKPdf 23 57 02.3 -1.9**
LZH pPKP sPKPdf 23 57 13.4 +6.0
LZH sPKP 23 57 18.3
LZH LR LR
comp=N,75nm,18.0s
LZH LR LR
comp=E,68nm,18.1s
LZH LR LR
comp=Z,92nm,20.2s

MEX 15 23:41:50.2±1.8, 25.82N×100.64W, h2km, MD3.5, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LNIG	**Linares** baz=309,slow=11	**1.40**	**131**	*i* P		Pn	23 42 13.9	-2.9
LNIG				*i* S		Sg	23 42 31.6	-3.7

SOME **16** *00:10:34.0, 40.50N×78.92E, h15km*
KRNET **16** *00:10:34.7±0.1, 40.40N×79.15E, mb3.3*
NNC **16** *00:10:36.8±1.7, 40.54N×79.00E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=12.8km s-min=9.8km az=162.0*
ISC 16 00:10:36.9±1.9, 40.50N±0.08×79.09E±0.05, h10km, n52, σ2.912/85, 27C-14D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=23	**1.56**	**322**	⇑*i* P		**Pb**	**00 11 05.6**	**-0.6**
TARG				⇑*i* S		**Sg**	**00 11 28.6**	**+1.3**
PRZ	**Przheval'sk** baz=45	**2.05**	**346**	⇑*i* P		**Pb**	**00 11 13.4**	**-0.9**
PRZ				⇑*i* S		**Sb**	**00 11 41.7**	**+1.8**
KDJ	**Kajisay** baz=20	**2.17**	**319**	⇓*i* P		**Pb**	**00 11 14.7**	**-1.8**
KDJ				⇓*i* S		**Sb**	**00 11 45.0**	**+1.5**
NRN	**Naryn** baz=94	**2.52**	**293**	⇑*i* P		**Pb**	**00 11 20.1**	**-2.3**
NRN				⇑*i* S		**Sb**	**00 11 52.5**	**-1.1**
SATY	**Saty** 20nm,0.5s	**2.61**	**349**	Pg		**Pb**	**00 11 22.0**	**-1.8**
SATY				Lg		Lg	00 12 00.9	
SATY	**Saty** 17nm,0.7s	**2.61**	**349**	*e*P		**Pb**	**00 11 24.1**	**+0.2**
SATY				*e*S		**Sg**	**00 12 00.9**	**+0.2**
UZB	**Uzynbulak** 16nm,0.4s	**2.64**	**359**	Pg		**Pb**	**00 11 22.3**	**-2.2**
UZB				Lg		Lg	00 12 01.9	
UZB	**Uzynbulak** 16nm,0.4s	**2.64**	**359**	*e*P		**Pb**	**00 11 24.8**	**+0.3**
UZB				*e*S		**Sg**	**00 12 01.8**	**-0.1**
ULHL	**Ulahol** baz=11	**2.76**	**310**	⇑*i* P		**Pn**	**00 11 23.3**	**+1.8**
ULHL				⇑*i* S		**Sb**	**00 11 59.3**	**-1.2**
PDGK	**Podgornoye** 12nm,0.7s	**2.84**	**6**	⇑Pn		**Pb**	**00 11 24.6**	**-3.3**
PDGK				⇓Lg		Lg	00 12 03.8	
PDGK	**Podgornoye** baz=5.0	**2.84**	**6**	⇑*e*P		**Pb**	**00 11 24.7**	**-3.1**
PDGK				⇑*i* S		**Sb**	**00 12 00.3**	**-2.4**
TNSS	**Tian-Shan** 14nm,0.6s	**3.00**	**328**	Pg		**Pb**	**00 11 29.6**	**-1.1**
TNSS				Lg		Lg	00 12 12.9	
TNSS	**Tian-Shan** 14nm,0.6s	**3.00**	**328**	*e*P		**Pb**	**00 11 27.4**	**-3.3**
TNSS				*e*S		**Sb**	**00 12 06.7**	**-0.8**
KURS	**Kuram** 12nm,1.0s	**3.06**	**347**	*e*P		**Pb**	**00 11 29.4**	**-2.1**
KURS				*e*S		**Sb**	**00 12 09.0**	**0.0**
MDOK	**Medeo** 7.8nm,0.4s	**3.07**	**331**	⇑Pn		**Pn**	**00 11 27.6**	**+2.1**
MDOK				Lg		Lg	00 12 09.2	
MDOK	**Medeo** 13nm,0.7s	**3.07**	**331**	Pg		**Pn**	**00 11 27.7**	**+2.1**
MDOK				Lg		Lg	00 12 09.2	
MDOK	**Medeo** 13nm,0.5s	**3.07**	**331**	*e*P		**Pn**	**00 11 27.7**	**+2.1**
MDOK				*e*S		**Sb**	**00 12 06.8**	**-2.4**
KTMS	**Ketmen** 1.8nm,0.1s	**3.09**	**17**	Pg		**Pb**	**00 11 30.4**	**-1.7**
KTMS				Lg		Lg	00 12 14.1	
KTMS	**Ketmen** 1.8nm,0.1s	**3.09**	**17**	*e*P		**Pb**	**00 11 30.7**	**-1.3**
KTMS				*e*S		**Sb**	**00 12 11.3**	**+1.4**
KOTS	**Kotyrbulak** 8.2nm,0.5s	**3.10**	**332**	*e*P		**Pb**	**00 11 31.0**	**-1.3**
KOTS				*e*S		**Sb**	**00 12 12.4**	**+2.1**
IZV	**Izvestkoviy**	**3.14**	**325**	Pg		**Pb**	**00 11 32.5**	**-0.5**
IZV				Lg		Lg	00 12 17.5	
IZV	**Izvestkoviy** 3.0nm,0.3s	**3.14**	**325**	*e*P		**Pb**	**00 11 33.9**	**+1.0**
IZV				*e*S		**Sg**	**00 12 17.5**	**-0.2**
KNDC	**Almaty** 15nm,0.5s	**3.14**	**330**	⇑Pn		**Pn**	**00 11 27.5**	**+0.9**
KNDC				⇓Lg		Lg	00 12 14.0	
AAA	**Alma-Ata** 12nm,0.3s	**3.16**	**330**	Pg		**Pb**	**00 11 32.3**	**-0.9**
AAA				Lg		Lg	00 12 18.0	
AAA	**Alma-Ata** 11nm,0.1s	**3.16**	**330**	*e*P		**Pb**	**00 11 34.1**	**+0.9**
AAA				*e*S		**Sg**	**00 12 17.4**	**-0.9**
KZA	**Kyzart** baz=1.0	**3.29**	**300**	⇑*i* P		**Pn**	**00 11 30.8**	**+1.8**
KZA				⇑*i* S		**Sn**	**00 12 11.4**	**+3.0**
KST	**Kastek** 8.7nm,0.7s	**3.45**	**318**	Pg		**Pb**	**00 11 36.5**	**-1.8**
KST				Lg		Lg	00 12 24.8	
KST	**Kastek** 6.9nm,0.5s	**3.45**	**318**	*e*P		**Pb**	**00 11 38.7**	**+0.5**
KST				*e*S		**Sg**	**00 12 25.3**	**-2.5**
TKM2	**Tokmak 2** 5.0nm,0.5s	**3.56**	**314**	⇑Pn		**Pn**	**00 11 34.1**	**+1.6**
TKM2				⇑Lg		Lg	00 12 28.6	
TKM2	**Tokmak 2** baz=15	**3.56**	**314**	⇑*e*P		**Pn**	**00 11 34.3**	**+1.8**
TKM2				⇑*e*S		**Sn**	**00 12 18.3**	**+3.6**
MNBS	**Baschi** 6.1nm,0.6s	**3.61**	**352**	*e*P		**Pb**	**00 11 41.8**	**+0.9**
MNBS				*e*S		**Sg**	**00 12 30.5**	**-2.4**
KTBS	**Karatobe** 2.9nm,0.4s	**3.67**	**332**	*e*P		**Pb**	**00 11 37.7**	**-4.3**
KTBS				*e*S		**Sb**	**00 12 23.4**	**-3.2**
DGS	**Degeres** 0.6nm,0.3s	**3.69**	**319**	Pg		**Pb**	**00 11 39.1**	**-3.2**
DGS				Lg		Lg	00 12 30.0	
DGS	**Degeres** 0.7nm,0.5s	**3.69**	**319**	*e*P		**Pn**	**00 11 35.2**	**+1.1**
DGS				*e*S		**Sn**	**00 12 19.8**	**+2.0**
ARXS	**Arharly** 4.9nm,0.7s	**3.83**	**346**	Pg		**Pb**	**00 11 44.2**	**-0.4**
ARXS				Lg		Lg	00 12 37.8	
ARXS	**Arharly** 4.8nm,0.5s	**3.83**	**346**	*e*P		**Pn**	**00 11 38.6**	**+2.7**
ARXS				*e*S		**Sn**	**00 12 25.7**	**+4.7**
ARLS	**Aral** baz=94	**3.85**	**292**	⇑*e*P		**Pn**	**00 11 38.2**	**+1.9**
ARLS				⇑*i* S		**Sn**	**00 12 23.7**	**+2.0**

baz=94
UCH Uchtor 3.85 298 ⇓*iP* **Pn 00 11 38.4 +1.7**
baz=99
UCH ⇓*iS* **Sn 00 12 25.1 +2.9**
baz=99
DJR Jarkent 3.86 7 Pg **Pg 00 11 47.8 -3.1**
1.6nm,0.6s
DJR Lg Lg 00 12 43.1
3.7nm,1.0s
DJR Jarkent 3.86 7 *eP* **Pg 00 11 48.2 -2.7**
1.5nm,0.6s
DJR *eS* **Sg 00 12 40.6 -0.4**
3.7nm,1.0s
KUU Kurty 3.96 330 Pg **Pb 00 11 45.7 -1.0**
3.1nm,0.7s
KUU Lg Lg 00 12 40.4
16nm,0.6s
KUU Kurty 3.96 330 *eP* **Pb 00 11 42.3 -4.5**
3.5nm,0.7s
KUU *eS* **Sb 00 12 31.0 -3.7**
16nm,0.6s
AAK Ala-Archa 4.05 303 ⇓Pg **Pb 00 11 48.8 +0.2**
6.7nm,0.9s
AAK ⇓Lg Lg 00 12 42.0
9.0nm,0.7s
AAK Ala-Archa 4.05 303 ⇑*iP* **Pn 00 11 41.3 +2.1**
baz=4.0
AAK ⇑*iS* **Sn 00 12 29.7 +2.9**
baz=4.0
AML Almayashu 4.38 294 ⇑*iP* **Pn 00 11 45.5 +1.7**
baz=95
AML ⇑*iS* **Sn 00 12 37.5 +2.4**
baz=95
TDK Taldyqorghan 4.53 354 Pg **Pb 00 11 58.5 +2.0**
25nm,0.4s
TDK Lg Lg 00 13 02.3
29nm,1.1s
TDK Taldyqorghan 4.53 354 *eP* **Pg 00 12 00.9 -2.7**
25nm,0.4s
TDK *eS* **Sg 00 13 02.3 +0.1**
26nm,1.1s
EKS2 Erkin-Say 4.53 300 ⇓*iP* **Pn 00 11 47.8 +2.1**
baz=1.0
EKS2 ⇓*iS* **Sn 00 12 40.7 +2.2**
baz=1.0
KAPS Kapalarasan 4.79 2 Pg **Pb 00 12 03.5 +2.6**
2.6nm,0.6s
KAPS Lg Lg 00 13 10.0
5.9nm,0.9s
KAPS Kapalarasan 4.79 2 *eP* **Pg 00 12 06.3 -2.3**
2.6nm,0.6s
KAPS *eS* **Sg 00 13 11.8 +1.2**
5.6nm,0.8s
MAKZ Makanchi 6.64 17 ⇓Pn **Pn 00 12 15.3 +0.7**
1.7nm,1.1s
MAKZ ⇓Sn **Sn 00 13 32.0 +1.7**
1.0nm,0.8s
MAKZ ⇓Lg Lg 00 14 09.0
2.2nm,1.1s
MK31 Makanchi Array 6.70 19 ⇑Pn **Pn 00 12 16.2 +0.8**
0.2nm,0.4s,baz=202,slow=12,SNR=15
MK31 ⇑Sn **Sn 00 13 34.6 +2.8**
1.4nm,0.8s
MK31 ⇓Lg Lg 00 14 06.5
1.5nm,0.9s,baz=198,slow=28,SNR=3.6

NNC 16 00:25:27.0±2.0, 50°30N×90°10E, h0km, mb3.7, mpv3.3, 7C-7D, Error ellipse: s-maj=18.0km s-min=10.5km az=106.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZAA0	**Zalesovo Array**	**4.89**	**320**	⇓Pn		Pn	00 26 41.6	-0.1
	0.5nm,0.5s							
ZAA0				⇑Lg		Lg	00 27 55.9	
	2.5nm,0.8s							
MK31	**Makanchi Array**	**6.26**	**239**	⇑Pn		Pn	00 27 00.6	0.0
	1.1nm,0.6s,baz=59,slow=14,SNR=29							
MK31				⇑Pg		Pg	00 27 22.6	-4.2
	4.4nm,0.8s,baz=62,slow=14,SNR=7.4							
MK31				⇓Sn		Sn	00 28 13.1	+0.3
	1.3nm,0.4s,baz=351,slow=30,SNR=4.2							
MK31				⇑Lg		Lg	00 28 45.3	
	6.5nm,0.6s,baz=63,slow=27,SNR=5.4							
MAKZ	**Makanchi**	**6.42**	**240**	⇑Pn		Pn	00 27 02.9	+0.1
	1.6nm,0.8s							
MAKZ				⇓Pg		Pb	00 27 24.7	+5.0
	2.4nm,0.6s							
MAKZ				⇓Lg		Lg	00 28 48.7	
	16nm,1.1s							
KURK	**Kurchatov**	**7.33**	**278**	⇑Pn		Pn	00 27 15.5	+0.3
	2.4nm,0.8s							
KURK				⇓Lg		Lg	00 29 16.5	
	18nm,0.7s							
KURBB	**Kurchatov Arra**	**7.39**	**277**	⇓Pn		Pn	00 27 15.2	-0.8
	1.9nm,0.5s							
KURBB				⇑Sn		Sn	00 28 43.9	+3.3
	7.6nm,0.6s							
KURBB				⇓Lg		Lg	00 29 20.8	
	23nm,0.6s							

*IDC **16** 00:34:15.6±0.5, 46°14N×27°06E, h0km, mb3.8/12, mb1 3.9/22, mb1mx3.8/44, mbtmp3.9/22, ML3.6/10, MS3.9/2, Ms1 3.9/2, ms1mx2.7/57, Error ellipse: s-maj=7.8km s-min=5.8km az=138.0*
*SOF **16** 00:34:16.7, 46°12N×26°97E, h2km*
*MOS **16** 00:34:17.1±1.5, 46°22N×27°17E, h23km, mb4.3/8, Error ellipse: s-maj=6.1km s-min=5.2km az=87.6*
*BUC **16** 00:34:17.8±0.5, 46°18N×27°08E, h13km±3km, MD4.0/17, Error ellipse: s-maj=4.9km s-min=3.9km az=5.0*
*SIGU **16** 00:34:17.4±0.1, 46°2N±0°6×27°1E±0°7, h6km±1km, mb3.8/10*
*NEIC **16** 00:34:18.1±0.0, 46°19N×27°10E, h15km, mb4.2/7, ML3.9(BUC), After BUC.*
NEIC Felt at Bacau and Iasi.
*ISCJB **16** 00:34:18.0±0.3, 46°18N±0°01×27°16E±0°02, h22km±2km, mb4.1/23, MS4.0/3, Error ellipse: s-maj=2.1km s-min=1.8km az=148.0*
*PRU **16** 00:34:30.0±0.0, 45°86N×25°57E, h0km, M4.2*

ISC 16 00:34:17.4±0.9, 46°18N±0°01×27°02E±0°01, h20km±3km, n293, σ2s05/364, mb4.1/23, MS4.4/3, 70C-62D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VRI	**Vrincioaia**	**0.37**	**213**	⇓*iP*		**Pb**	**00 34 25.6**	**+0.1**
VRI				*i* S		**Sb**	**00 34 32.0**	**+1.1**
VRI	**Vrincioaia**	**0.37**	**213**	⇓*iP*		**Pb**	**00 34 25.6**	**+0.1**
VRI	**Vrincioaia**	**0.37**	**213**	P		**Pb**	**00 34 25.5**	**+0.1**
VRI				S		**Sb**	**00 34 31.9**	**+1.1**
PLOR	**Plostina**	**0.42**	**218**	⇓*iP*		**Pb**	**00 34 26.5**	**+0.3**
PLOR	**Plostina**	**0.42**	**218**	⇓*iP*		**Pb**	**00 34 26.5**	**+0.3**
TESR	**Tescani**	**0.42**	**323**	⇓*iP*		**Pb**	**00 34 26.6**	**+0.4**
TESR				*i* S		**Sb**	**00 34 33.4**	**+1.3**
TESR	**Tescani**	**0.42**	**323**	⇓*iP*		**Pb**	**00 34 26.6**	**+0.4**
BIR	**Birlad**	**0.43**	**78**	⇑*iP*		**Pb**	**00 34 26.4**	**0.0**
BIR				*i* S		**Sg**	**00 34 31.8**	**-0.6**
BIR	**Birlad**	**0.43**	**78**	⇑*iP*		**Pb**	**00 34 26.4**	**0.0**
PETR	**Petresti**	**0.48**	**162**	⇑*iP*		**Pb**	**00 34 27.7**	**+0.5**
PETR				*i* S		**Sb**	**00 34 35.0**	**+1.1**
PETR	**Petresti**	**0.48**	**162**	⇑*iP*		**Pb**	**00 34 27.7**	**+0.5**
GRER		**0.80**	**182**	⇑*iP*		**Pn**	**00 34 34.6**	**+1.0**
GRER				*i* S		**Sn**	**00 34 46.1**	**+1.1**
GRER		**0.80**	**182**	⇑*iP*		**Pn**	**00 34 34.6**	**+1.0**
GIRR	**Girov**	**0.85**	**336**	⇑*iP*		**Pn**	**00 34 34.5**	**+0.2**
GIRR	**Girov**	**0.85**	**336**	⇑*iP*		**Pn**	**00 34 34.5**	**+0.2**
OZUR		**0.86**	**265**	⇓*iP*		**Pn**	**00 34 35.9**	**+1.5**
OZUR				*i* S		**Sn**	**00 34 49.0**	**+2.5**
OZUR		**0.86**	**265**	⇓*iP*		**Pn**	**00 34 35.9**	**+1.5**
LEOM	**Leova**	**0.90**	**71**	⇑*iP*		**Pg**	**00 34 34.4**	**-0.6**
LEOM	**Leova**	**0.90**	**71**	⇑*iP*		**Pg**	**00 34 34.4**	**-0.6**
BIZ	**Bicaz**	**0.98**	**321**	⇑*iP*		**Pn**	**00 34 37.2**	**+1.0**
BIZ	**Bicaz**	**0.98**	**321**	⇑*iP*		**Pn**	**00 34 37.2**	**+1.0**
MLR	**Muntele Rosu**	**1.02**	**228**	⇓*iP*		**Pn**	**00 34 37.8**	**+1.1**
MLR				*i* S		**Sn**	**00 34 53.8**	**+3.3**
MLR	**Muntele Rosu**	**1.02**	**228**	⇓*iP*		**Pn**	**00 34 37.8**	**+1.1**
MLR	**Muntele Rosu**	**1.02**	**228**	Pg		**Pn**	**00 34 37.8**	**+1.1**
	102nm,0.3s,baz=21,slow=7.8,SNR=314							
MLR				Lg		Lg	00 34 50.7	
	87nm,0.3s,baz=207,slow=17,SNR=11							
IAS	**Iasi**	**1.08**	**20**	⇓*iP*		**Pb**	**00 34 37.8**	**+0.4**
IAS				*i* S		**Sg**	**00 34 52.6**	**0.0**
IAS	**Iasi**	**1.08**	**20**	⇓*iP*		**Pb**	**00 34 37.8**	**+0.4**
GIUM	**Giurgiulesti**	**1.09**	**129**	⇑*iP*		**Pb**	**00 34 37.2**	**-0.3**
GIUM	**Giurgiulesti**	**1.09**	**129**	⇑*iP*		**Pb**	**00 34 37.2**	**-0.3**
GIUM	**Giurgiulesti**	**1.09**	**129**	P		**Pb**	**00 34 37.3**	**-0.3**
ISR	**Istrita**	**1.11**	**198**	⇓*iP*		**Pn**	**00 34 40.8**	**+2.9**
ISR	**Istrita**	**1.11**	**198**	⇓*iP*		**Pn**	**00 34 40.8**	**+2.9**
DOPR	**Dopca**	**1.15**	**260**	⇑*iP*		**Pg**	**00 34 40.0**	**+0.2**
DOPR				*i* S		**Sn**	**00 34 57.1**	**+3.4**
DOPR	**Dopca**	**1.15**	**260**	⇑*iP*		**Pg**	**00 34 40.0**	**+0.2**
JOSR	**Joseni**	**1.16**	**297**	⇑*iP*		**Pg**	**00 34 40.9**	**+0.9**
JOSR	**Joseni**	**1.16**	**297**	⇑*iP*		**Pg**	**00 34 40.9**	**+0.9**
CFR	**Carcaliu**	**1.27**	**142**	⇑*iP*		**Pn**	**00 34 39.6**	**-0.5**
CFR				*i* S		**Sg**	**00 34 58.5**	**-0.2**
CFR	**Carcaliu**	**1.27**	**142**	⇑*iP*		**Pn**	**00 34 39.6**	**-0.5**
PGOR	**Pogoanele**	**1.27**	**181**	⇓*iP*		**Pg**	**00 34 41.3**	**-0.7**
PGOR				*i* S		**Sg**	**00 34 59.7**	**+1.0**
PGOR	**Pogoanele**	**1.27**	**181**	⇓*iP*		**Pg**	**00 34 41.3**	**-0.7**
PRAR	**RASCA**	**1.30**	**336**	⇓*iP*		**Pg**	**00 34 42.5**	**0.0**
PRAR	**RASCA**	**1.30**	**336**	⇓*iP*		**Pg**	**00 34 42.5**	**0.0**
SECR		**1.32**	**210**	⇑*iP*		**Pg**	**00 34 44.2**	**+1.2**
SECR		**1.32**	**210**	⇑*iP*		**Pg**	**00 34 44.2**	**+1.2**
MILM	**Milestii Mici**	**1.44**	**59**	⇓*iP*		**Pb**	**00 34 43.7**	**+0.1**
MILM				*i* S		**Sb**	**00 35 02.3**	**+0.8**
MILM	**Milestii Mici**	**1.44**	**59**	⇓*iP*		**Pb**	**00 34 43.7**	**+0.1**
MILM	**Milestii Mici**	**1.44**	**59**	P		**Pb**	**00 34 43.6**	**0.0**
KIS	**Kishinev**	**1.49**	**56**	⇓*iP*		**Pn**	**00 34 43.4**	**+0.4**
	1μm,0.6s							
KIS				*i* S		**Sb**	**00 35 03.4**	**+0.6**
	5μm,0.5s							
KIS	**Kishinev**	**1.49**	**56**	⇓*iP*		**Pn**	**00 34 43.4**	**+0.4**
KIS				*i* S		**Sb**	**00 35 03.4**	**+0.6**
KIS				pmax		pmax		
	comp=Z,1μm,0.6s							
KIS				smax		smax		
	comp=N,5μm,0.5s							
KIS	**Kishinev**	**1.49**	**56**	⇓*iP*		**Pn**	**00 34 43.4**	**+0.4**
KIS				Pm			00 34 44.0	
KIS				*i* S		**Sb**	**00 35 03.4**	**+0.6**
KIS				Sm			00 35 05.0	
VOIR		**1.56**	**242**	⇑*iP*		**Pb**	**00 34 45.5**	**-0.2**
VOIR				*i* S		**Sg**	**00 35 06.6**	**-1.4**
VOIR		**1.56**	**242**	⇑*iP*		**Pb**	**00 34 45.5**	**-0.2**
AMRR	**Amara**	**1.59**	**172**	⇑*iP*		**Pb**	**00 34 45.2**	**-0.8**
AMRR				*i* S		**Sg**	**00 35 06.6**	**-2.1**
AMRR	**Amara**	**1.59**	**172**	⇑*iP*		**Pb**	**00 34 45.2**	**-0.8**
SULR		**1.60**	**200**	⇑*iP*		**Pg**	**00 34 47.0**	**-1.1**
SULR				*i* S		**Sg**	**00 35 08.1**	**-0.8**
SULR		**1.60**	**200**	⇑*iP*		**Pg**	**00 34 47.0**	**-1.1**
TLCR		**1.61**	**128**	⇑*iP*		**Pb**	**00 34 46.0**	**-0.4**
TLCR				*i* S		**Sg**	**00 35 07.1**	**-2.2**
TLCR		**1.61**	**128**	⇑*iP*		**Pb**	**00 34 46.0**	**-0.4**
HARR	**Harsova**	**1.62**	**156**	⇑*iP*		**Pn**	**00 34 45.5**	**+0.6**
HARR	**Harsova**	**1.62**	**156**	⇑*iP*		**Pn**	**00 34 45.5**	**+0.6**
MTUR	**Matau**	**1.67**	**236**	⇑*iP*		**Pg**	**00 34 48.3**	**-1.3**
MTUR	**Matau**	**1.67**	**236**	⇑*iP*		**Pg**	**00 34 48.3**	**-1.3**
LEHL	**Lehliu**	**1.71**	**185**	⇑*iP*		**Pb**	**00 34 47.5**	**-0.7**
LEHL				*i* S		**Sg**	**00 35 11.5**	**-1.2**
LEHL	**Lehliu**	**1.71**	**185**	⇑*iP*		**Pb**	**00 34 47.5**	**-0.7**
TLB	**Topalu**	**1.75**	**155**	⇑*iP*		**Pn**	**00 34 47.3**	**+0.7**
TLB				*i* S		**Sb**	**00 35 10.4**	**0.0**
TLB	**Topalu**	**1.75**	**155**	⇑*iP*		**Pn**	**00 34 47.3**	**+0.7**
TLB				S		**Sb**	**00 35 10.4**	**0.0**
MDB	**Medias**	**1.83**	**270**	⇓*iP*		**Pb**	**00 34 50.1**	**-0.1**
MDB	**Medias**	**1.83**	**270**	⇓*iP*		**Pb**	**00 34 50.1**	**-0.1**
INCR	**INCERC-Sediu C**	**1.84**	**199**	⇑*iP*		**Pb**	**00 34 49.9**	**-0.5**
INCR	**INCERC-Sediu C**	**1.84**	**199**	⇑*iP*		**Pb**	**00 34 49.9**	**-0.5**
ARR	**Arges**	**1.86**	**245**	⇓*iP*		**Pb**	**00 34 49.9**	**-0.8**
ARR	**Arges**	**1.86**	**245**	⇓*iP*		**Pb**	**00 34 49.9**	**-0.8**
BURAR	**Bucovina Array**	**1.89**	**320**	⇓*iP*		**Pg**	**00 34 52.7**	**-1.1**
BURAR				*i* S		**Sg**	**00 35 17.0**	**-1.4**
BURAR	**Bucovina Array**	**1.89**	**320**	⇓*iP*		**Pg**	**00 34 52.7**	**-1.1**
BUR08	**Bucovina Ar. S**	**1.92**	**320**	*ePn*		**Pb**	**00 34 52.1**	**+0.3**
BUC1	**Bucharest**	**1.96**	**201**	⇑*iP*		**Pb**	**00 34 51.8**	**-0.6**
BUC1				*i* S		**Sb**	**00 35 17.4**	**+1.0**
BUC1	**Bucharest**	**1.96**	**201**	⇑*iP*		**Pb**	**00 34 51.8**	**-0.6**
RASA	**Rasa**	**1.97**	**177**	⇓*iP*		**Pb**	**00 34 51.0**	**-1.6**
RASA				*i* S		**Sb**	**00 35 17.2**	**+0.5**
RASA	**Rasa**	**1.97**	**177**	⇓*iP*		**Pb**	**00 34 51.0**	**-1.6**
GOLR		**1.97**	**228**	⇑*iP*		**Pg**	**00 34 54.2**	**-1.1**
GOLR				*i* S		**Sg**	**00 35 19.2**	**-1.7**
GOLR		**1.97**	**228**	⇑*iP*		**Pg**	**00 34 54.2**	**-1.1**
CVDA	**Cernavoda**	**1.98**	**158**	⇑*iP*		**Pn**	**00 34 50.9**	**+1.1**
CVDA				*i* S		**Sb**	**00 35 17.5**	**+0.4**
CVDA	**Cernavoda**	**1.98**	**158**	⇑*iP*		**Pn**	**00 34 50.9**	**+1.1**
TIRR	**Tirgusor**	**1.98**	**150**	*ePn*		**Pn**	**00 34 50.6**	**+0.8**
TIRR	**Tirgusor**	**1.98**	**150**	⇓*iP*		**Pn**	**00 34 50.7**	**+0.8**
TIRR				*i* S		**Sb**	**00 35 16.5**	**-0.6**
TIRR	**Tirgusor**	**1.98**	**150**	⇓*iP*		**Pn**	**00 34 50.7**	**+0.8**
TIRR	**Tirgusor**	**1.98**	**150**	*eP*		**Pn**	**00 34 50.6**	**+0.8**
ARCR	**ARCALIA**	**2.04**	**297**	⇓*iP*		**Pb**	**00 34 52.7**	**-1.2**
ARCR	**ARCALIA**	**2.04**	**297**	⇓*iP*		**Pb**	**00 34 52.7**	**-1.2**
SGRR	**Singureni**	**2.09**	**201**	⇓*iP*		**Pb**	**00 34 53.2**	**-1.5**
SGRR				*i* S		**Sb**	**00 35 19.5**	**-0.7**
SGRR	**Singureni**	**2.09**	**201**	⇓*iP*		**Pb**	**00 34 53.2**	**-1.5**
ICOR	**Ion Corvin**	**2.14**	**165**	⇑*iP*		**Pn**	**00 34 52.9**	**+0.9**
ICOR	**Ion Corvin**	**2.14**	**165**	⇑*iP*		**Pn**	**00 34 52.9**	**+0.9**
HUMR	**Humele**	**2.19**	**222**	⇓*iP*		**Pb**	**00 34 55.0**	**-1.3**
HUMR	**Humele**	**2.19**	**222**	⇓*iP*		**Pb**	**00 34 55.0**	**-1.3**
MFTR	**Murfatlar**	**2.24**	**153**	⇓*iP*		**Pn**	**00 34 54.2**	**+0.9**
MFTR				*i* S		**Sb**	**00 35 23.5**	**-0.9**
MFTR	**Murfatlar**	**2.24**	**153**	⇓*iP*		**Pn**	**00 34 54.2**	**+0.9**
CHRU	**Chernivtsi**	**2.25**	**341**	*eP*		**Pn**	**00 34 55.8**	**+2.4**
CHRU				Pm			00 35 01.9	
CHRU				*eS*		**Sb**	**00 35 24.3**	**-0.3**
CHRU				Sm			00 35 29.3	
LOT	**Lotru**	**2.39**	**253**	⇓*iP*		**Pb**	**00 34 57.9**	**-1.9**
LOT	**Lotru**	**2.39**	**253**	⇓*iP*		**Pb**	**00 34 57.9**	**-1.9**
EFOR	**EFORIE**	**2.39**	**151**	⇑*iP*		**Pb**	**00 34 59.3**	**-0.5**
EFOR				*i* S		**Sb**	**00 35 28.0**	**-0.8**
EFOR	**EFORIE**	**2.39**	**151**	⇑*iP*		**Pb**	**00 34 59.3**	**-0.5**
EFOR				S		**Sb**	**00 35 28.0**	**-0.8**
KMPD	**K-Podol'skiy**	**2.41**	**351**	*eP*		**Pn**	**00 34 57.2**	**+1.5**
KMPD				*eS*		**Sb**	**00 35 31.7**	**+2.3**
CJR	**Cluj-Napoca**	**2.42**	**284**	⇑*iP*		**Pn**	**00 34 58.2**	**+2.3**
CJR	**Cluj-Napoca**	**2.42**	**284**	⇑*iP*		**Pn**	**00 34 58.2**	**+2.3**
NDNU	**Novodnistrovsk**	**2.43**	**6**	*iP*		**Pn**	**00 34 57.7**	**+1.8**
NDNU				Pm			00 35 08.3	
NDNU				*i* S		**Sb**	**00 35 32.4**	**+2.6**
NDNU				Sm			00 35 33.7	
KSV	**Kosov**	**2.51**	**329**	*iP*		**Pn**	**00 34 59.4**	**+2.2**
KSV				Pm			00 35 10.0	
KSV				*eS*		**Sb**	**00 35 31.9**	**-0.5**
KSV				Sm			00 35 46.3	
MANR	**Mangalia**	**2.61**	**154**	⇑*iP*		**Pn**	**00 35 00.4**	**+1.9**
MANR	**Mangalia**	**2.61**	**154**	⇑*iP*		**Pn**	**00 35 00.4**	**+1.9**
PSN	**Preselentsi**	**2.63**	**161**	*iP*		**Pb**	**00 35 01.2**	**-2.7**
NSLU	**Nyzhne Selyshc**	**2.67**	**320**	*eP*		**Pg**	**00 35 08.7**	**+0.2**
RAKU	**Rahkiv**	**2.68**	**315**	*eP*		**Pb**	**00 35 02.6**	**-2.1**
ZIMR		**2.78**	**206**	⇑*iP*		**Pn**	**00 35 02.3**	**+1.5**
ZIMR				*i* S		**Sb**	**00 35 38.3**	**-1.8**
ZIMR		**2.78**	**206**	⇑*iP*		**Pn**	**00 35 02.3**	**+1.5**
BMR	**Baia Mare**	**2.84**	**303**	⇓*iP*		**Pn**	**00 35 03.7**	**+2.1**
BMR	**Baia Mare**	**2.84**	**303**	⇓*iP*		**Pn**	**00 35 03.7**	**+2.1**
DEV	**Deva**	**2.88**	**266**	⇓*iP*		**Pn**	**00 35 04.7**	**+2.5**
DEV	**Deva**	**2.88**	**266**	⇓*iP*		**Pn**	**00 35 04.7**	**+2.5**
DRGR		**3.04**	**283**	⇑*iP*		**Pn**	**00 35 06.6**	**+2.2**
DRGR				*i* S		**Sn**	**00 35 42.9**	**+2.7**
DRGR		**3.04**	**283**	⇑*iP*		**Pn**	**00 35 06.6**	**+2.2**
STNU	**Starunia**	**3.05**	**327**	⇓*iP*		**Pn**	**00 35 07.2**	**+2.6**
STNU				*eS*		**Sn**	**00 35 44.1**	**+3.6**
HORU	**Horodok**	**3.06**	**353**	*eP*		**Pn**	**00 35 05.9**	**+1.2**
GZR	**Gura Zlata**	**3.07**	**257**	⇓*iP*		**Pn**	**00 35 07.3**	**+2.5**
GZR	**Gura Zlata**	**3.07**	**257**	⇓*iP*		**Pn**	**00 35 07.3**	**+2.5**
SRE	**Strehaia**	**3.08**	**242**	*i* S		**Sn**	**00 35 44.7**	**+3.4**
SRE	**Strehaia**	**3.08**	**242**	S		**Sn**	**00 35 44.7**	**+3.4**
PVL	**Pavlikeni**	**3.20**	**203**	*iP*		**Pb**	**00 35 10.0**	**-3.5**
KORU	**Korolevo**	**3.30**	**308**	*eP*		**Pb**	**00 35 13.2**	**-2.1**
MEZ	**Mezhgor'ye**	**3.33**	**316**	*eP*		**Pb**	**00 35 12.6**	**-3.2**
MEZ				*eS*		**Sb**	**00 35 53.2**	**-2.4**
TRSU	**Trosnyk**	**3.37**	**306**	*eP*		**Pb**	**00 35 13.0**	**-3.4**
BRIU	**Brid**	**3.47**	**310**	*eP*		**Pb**	**00 35 13.8**	**+3.5**
BRIU				*eS*		**Sb**	**00 35 56.4**	**-3.5**
BERU	**Beregovo**	**3.62**	**306**	⇑*iP*		**Pn**	**00 35 14.0**	**+1.7**
TRPA	**Tarpa**	**3.62**	**304**	*ePn*		**Pn**	**00 35 16.0**	**+3.6**
TRPA				*ePg*		**Pg**	**00 35 24.1**	**-2.7**
TRPA				Sn		**Sn**	**00 35 54.0**	**-0.5**
TRPA				*eSg*		**Sg**	**00 36 15.1**	**+1.4**
MORS	**Morshin**	**3.63**	**326**	⇓*iP*		**Pn**	**00 35 16.0**	**+3.5**
MORS				*eS*		**Sn**	**00 35 59.9**	**+5.2**
LTVH	**Ltavrtes, Hu**	**3.71**	**291**	*ePn*		**Pn**	**00 35 15.0**	**+1.4**
LTVH				*ePg*		**Pg**	**00 35 28.0**	**-0.5**
LTVH				*eSg*		**Sg**	**00 36 16.0**	**-0.6**
SIRR	**Siria**	**3.72**	**273**	⇑*iP*		**Pn**	**00 35 15.6**	**+1.9**
SIRR	**Siria**	**3.72**	**273**	⇑*iP*		**Pn**	**00 35 15.6**	**+1.9**
MUKU	**Mukachevo**	**3.72**	**309**	*eP*		**Pn**	**00 35 18.0**	**+4.3**
MUKU				*eS*		**Sb**	**00 36 05.6**	**-1.4**
JMB	**Yambol**	**3.73**	**185**	*iP*		**Pn**	**00 35 15.7**	**+1.9**
BZS	**Buzias**	**3.81**	**263**	⇓*iP*		**Pn**	**00 35 16.4**	**+1.4**
BZS	**Buzias**	**3.81**	**263**	⇓*iP*		**Pn**	**00 35 16.4**	**+1.4**
SHIU	**Shidnytsya**	**3.92**	**322**	⇑*iP*		**Pn**	**00 35 20.9**	**+4.4**
SHIU				*eS*		**Sb**	**00 36 10.3**	**-2.5**
MDVR	**Moldovita**	**3.98**	**251**	⇑*iP*		**Pn**	**00 35 19.5**	**+2.1**
MDVR				*i* S		**Sn**	**00 36 06.4**	**+2.8**
MDVR	**Moldovita**	**3.98**	**251**	⇑*iP*		**Pn**	**00 35 19.5**	**+2.1**
UZH	**Uzhgorod**	**4.04**	**309**	*eP*		**Pn**	**00 35 22.1**	**+4.1**
UZH				*eS*		**Sn**	**00 36 10.1**	**+5.4**
UZH	**Uzhgorod**	**4.04**	**309**	*eP*		Pn	00 35 23.1	+5.1
LVV	**L'vov**	**4.16**	**332**	*eP*		**Pn**	**00 35 22.0**	**+2.3**
LVV				*eS*		**Sn**	**00 36 10.0**	**+2.3**
LVV				MLR		MLR		
	comp=Z,450nm,1.6s							
LVV	**L'vov**	**4.16**	**332**	*eS*		**Sn**	**00 36 13.9**	**+6.2**
PGB	**Panagyurishte**	**4.17**	**210**	*iP*		**Pn**	**00 35 22.6**	**+2.7**
KIRK	**Kırklareli**	**4.40**	**179**	*iP*		**Pn**	**00 35 23.7**	**+0.7**
KIRK				*iS*		**Sn**	**00 36 12.1**	**-1.6**
KIRK				IAML_P				
	comp=Z,2μm,0.2s							
KIRK				IAML_P				
	comp=Z,2μm,0.2s							
VTS	**Vitosha**	**4.47**	**219**	*ePn*		**Pn**	**00 35 27.4**	**+3.2**
VTS	**Vitosha**	**4.47**	**219**	⇓*iP*		**Pn**	**00 35 26.4**	**+2.1**
VTS	**Vitosha**	**4.47**	**219**	⇓*iP*		**Pn**	**00 35 26.4**	**+2.1**
VTS	**Vitosha**	**4.47**	**219**	*eP*		**Pn**	**00 35 27.4**	**+3.2**
KWP	**Kalwaria Pacla**	**4.51**	**322**	*ePn*		**Pn**	**00 35 27.9**	**+3.4**
AK11	**Malin Array Si**	**4.72**	**17**	*ePn*		**Pn**	**00 35 28.6**	**+1.1**
KIEV	**Kiev**	**4.75**	**17**	*ePn*		**Pn**	**00 35 29.6**	**+1.8**
KIEV	**Kiev**	**4.75**	**17**	*iP*		**Pn**	**00 35 28.4**	**+0.6**
AKASG	**Malin Array Be**	**4.76**	**17**	*ceP*		**Pn**	**00 35 28.8**	**+0.9**
AKASG				pmax		pmax		
	comp=Z,5.0nm,0.2s							
AKASG	**Malin Array Be**	**4.76**	**17**	Pn		**Pn**	**00 35 29.2**	**+1.3**
	comp=Z,11nm,0.3s,baz=233,slow=25,SNR=38							
AKASG				Sn		**Sn**	**00 36 23.2**	**+0.8**
	comp=Z,62nm,0.3s,baz=196,slow=12,SNR=8.9							
AKASG				Lg		Lg	00 36 41.4	
	comp=Z,115nm,0.3s,baz=196,slow=29,SNR=21							
AKBB	**Malin Array Si**	**4.76**	**17**	*ePn*		**Pn**	**00 35 29.7**	**+1.8**
AKBB	**Malin Array Si**	**4.76**	**17**	*eP*		**Pn**	**00 35 29.7**	**+1.8**
RZN	**Rozhen**	**4.79**	**201**	*iP*		**Pn**	**00 35 30.4**	**+1.8**
SEV	**Sevastopol'**	**4.96**	**107**	⇓*iP*		**Pn**	**00 35 29.9**	**-0.9**
SEV				*e*			00 36 25.6	
SEV	**Sevastopol'**	**4.96**	**107**	*iP*		**Pn**	**00 35 29.9**	**-0.9**
SEV				Pm			00 35 32.4	
SEV				*eS*		**Sn**	**00 36 29.1**	**+1.5**
SEV				Sm			00 36 34.9	
SLVT	**Silivri**	**5.03**	**170**	P		**Pn**	**00 35 33.2**	**+1.6**
SIM	**Simferopol'**	**5.14**	**101**	⇓*iP*		**P

MODS	**Modra-Piesok**		**6.98**	**292**	*e*PN		Pn	00 36 04.0	+5.5
AUMIH	**MIHALICIK**		**7.11**	**151**	P		**Pn**	**00 36 01.8**	**+1.4**
GDZ	**Gediz**		**7.32**	**165**	*i* P		**Pn**	**00 36 04.9**	**+1.6**
GDZ					IAML_P				
	comp=Z,482nm,0.3s								
AKHS	**Akhisar**		**7.32**	**175**	*i* P		**Pn**	**00 36 04.5**	**+1.3**
AKHS					IAML_P				
	comp=Z,351nm,0.2s								
ANN	**Anapa**		**7.45**	**97**	*e*P		**Pn**	**00 36 03.5**	**-1.4**
ANN					*e*S		**Sn**	**00 37 26.5**	**-2.3**
ANN					pmax	pmax			
	comp=Z,20nm,1.0s								
SVRH	**Sivrihisar-ESK**		**7.50**	**152**	P		**Pn**	**00 36 06.9**	**+1.2**
USAK	**Uak-Merkez**		**7.61**	**168**	*i* P		**Pn**	**00 36 08.7**	**+1.5**
USAK					IAML_P				
	comp=Z,580nm,0.3s								
BR131	**Keskin Array S**		**8.07**	**141**	*e*Pn		**Pn**	**00 36 13.4**	**-0.2**
BRTR	**Keskin Array B**		**8.07**	**141**	Pn		**Pn**	**00 36 14.4**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=326,slow=13,SNR=41								
SUW	**Suwalki**		**8.22**	**344**	*e*P		**Pn**	**00 36 14.7**	**-0.7**
SUW	**Suwalki**		**8.22**	**344**	*e*P		**Pn**	**00 36 14.7**	**-0.7**
DPC	**Dobruska-Polom**		**8.26**	**304**	*e*PN		Pn	00 36 21.2	+5.1
DPC	**Dobruska-Polom**		**8.26**	**304**	*e*P		Pn	00 36 21.2	+5.1
GERES	**GERESS Array B**		**9.40**	**291**	Pn		**Pn**	**00 36 33.7**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=3.3								
VSR	**Storozhevoye**		**9.48**	**53**	*i* P		**Pn**	**00 36 32.9**	**+0.2**
LPSR	**Galich'ya Gora**		**10.07**	**46**	*e*P		**Pn**	**00 36 40.8**	**0.0**
LPSR					*e*S		**Sn**	**00 38 29.1**	**-4.0**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
LPSR					smax	smax			
	comp=N,30nm,0.5s								
OBN	**Obninsk**		**10.79**	**31**	*e*Pn		**Pn**	**00 36 49.8**	**-0.9**
OBN					Sn		**Sn**	**00 38 44.1**	**-6.6**
OBN	**Obninsk**		**10.79**	**31**	*de*P		**Pn**	**00 36 49.4**	**-1.3**
OBN					*e*S		**Sn**	**00 38 45.8**	**-5.0**
OBN					pmax	pmax			
	comp=Z,10.0nm,0.5s								
OBN					MLR	MLR			
	comp=Z,106nm,18.0s								
OBN	**Obninsk**		**10.79**	**31**	Pn		**Pn**	**00 36 46.7**	**-4.0**
	comp=Z,1.8nm,0.3s,baz=27,slow=2.1,SNR=18								
OBN					Sn		**Sn**	**00 38 44.1**	**-6.6**
	comp=Z,2.1nm,0.3s,baz=339,slow=22,SNR=9.4								
OBN					Lg		Lg	00 39 44.1	
	comp=Z,2.4nm,0.3s,baz=333,slow=23,SNR=5.5								
VRH	**Novokhopyorsk**		**10.94**	**57**	*e*P		**Pn**	**00 36 51.1**	**-1.5**
VRH					*e*S		**Sn**	**00 38 51.4**	**-2.9**
VRH					pmax	pmax			
	comp=Z,4.0nm,0.8s								
VRH					smax	smax			
	comp=E,60nm,0.6s								
GOF	**Gofitskoye**		**11.29**	**90**	*e*P		Pn	00 37 04.7	+7.2
KIV	**Kislovodsk**		**11.31**	**96**	*e*P		**Pn**	**00 36 56.9**	**-0.9**
KIV					pmax	pmax			
	comp=Z,17nm,1.1s								
KVAR	**Kislovodsk Arr**		**11.31**	**96**	Pn		**Pn**	**00 36 58.7**	**+0.8**
	baz=253,slow=19,SNR=5.3								
KVAR					Sn		**Sn**	**00 39 03.0**	**-0.8**
	baz=0.5,slow=18,SNR=2.8								
KBZ	**Khabaz**		**11.52**	**97**	Pn		**Pn**	**00 37 00.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=305,slow=12,SNR=11								
MOS	**Moscow**		**11.66**	**31**	*e*P		**Pn**	**00 37 01.5**	**-1.0**
MOS					*e*S		**Sn**	**00 39 05.2**	**-6.8**
BSD	**Bornholm Skovb**		**11.77**	**324**	*i* P		**Pn**	**00 37 02.6**	**-1.4**
BSD	**Bornholm Skovb**		**11.77**	**324**	*i* P		**Pn**	**00 37 02.6**	**-1.4**
VSU	**Vasula**		**12.30**	**359**	*ce*P		**Pn**	**00 37 12.4**	**+1.1**
VSU					pmax	pmax			
	comp=Z,24nm,0.6s								
FINES	**FINESS Array B**		**15.30**	**358**	P		**Pn**	**00 37 46.0**	**-6.0**
FINES	**FINESS Array B**		**15.30**	**358**	Pn		**Pn**	**00 37 46.0**	**-6.0**
	comp=Z,0.5nm,0.3s,baz=171,slow=12,SNR=19								
FINES					Sn		Sn	00 40 27.6	-13
	comp=Z,0.6nm,0.3s,baz=167,slow=21,SNR=3.4								
FINES					Lg		Lg	00 42 09.7	
	comp=Z,0.7nm,0.3s,baz=161,slow=22,SNR=2.8								
HFS	**Hagfors**		**16.05**	**335**	Pn		**Pn**	**00 37 58.2**	**-3.5**
	comp=Z,0.8nm,0.3s,baz=139,slow=14,SNR=22								
HFS					Sn		**Sn**	**00 40 50.7**	**-8.2**
	comp=Z,0.7nm,0.3s,baz=131,slow=22,SNR=4.4								
HFS					Lg		Lg	00 42 46.1	
	comp=Z,0.6nm,0.3s,baz=127,slow=27,SNR=5.0								
KLMR	**Klimovskoe**		**16.42**	**22**	*e*P		**Pn**	**00 38 00.6**	**-5.9**
KLMR					pmax	pmax			
	comp=Z,8.0nm,0.7s								
KLMR	**Klimovskoe**		**16.42**	**22**	*e*Pn		**Pn**	**00 38 00.7**	**-5.8**
KLMR					AMP			00 38 16.9	
	comp=Z,8.0nm,0.7s								
KLMR					*e*Sn		Sn	00 40 56.9	-11
KLMR					*e*Sn		Sn	00 40 56.9	-11
KLMR					*e*Lg		Lg	00 42 44.1	
KLMR					*e*Lg		Lg	00 42 44.1	
NOA	**NORSAR Array B**		**17.51**	**334**	Pn		**Pn**	**00 38 15.3**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=18,SNR=14								
KIRV	**Kirov**		**18.36**	**39**	Pn		**Pn**	**00 38 27.9**	**-2.6**
	comp=Z,1.8nm,0.3s,baz=265,slow=8.7,SNR=5.6								
PRGR	**Permogore**		**18.85**	**28**	*e*P		**P**	**00 38 32.3**	**-3.6**
PRGR					pmax	pmax			
	comp=Z,9.0nm,0.9s								
AKTO	**Aktyubinsk**		**20.97**	**67**	P		**P**	**00 38 59.5**	**+0.4**
	comp=Z,1.6nm,0.4s,baz=289,slow=7.5,SNR=7.3								
EKA	**Eskdalemuir Ar**		**21.02**	**307**	P		**P**	**00 38 59.6**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=100,slow=10,SNR=3.6								
ARU	**Arti**		**22.03**	**51**	*e*P		**P**	**00 39 10.2**	**-0.2**
	comp=Z,14nm,0.5s								
ARU	**Arti**		**22.03**	**51**	*d* /P		**P**	**00 39 10.2**	**-0.2**
ARU								00 39 30.1	
ARU					S		**S**	**00 43 13.2**	**+0.8**
ARU					pmax	pmax			
	comp=Z,9.0nm,0.5s								
ABKAR	**Akbulak array**		**22.27**	**70**	*e*P		**P**	**00 39 13.2**	**+0.2**
	comp=Z,6.6nm,1.4s								
SVE	**Sverdlovsk**		**23.24**	**50**	*e*P		**P**	**00 39 24.2**	**+1.0**
SVE					*e*S		**S**	**00 43 31.0**	**-3.0**
SVE					pmax	pmax			
	comp=Z,13nm,1.3s								
ARCES	**ARCESS Array B**		**23.43**	**359**	P		**P**	**00 39 24.6**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=180,slow=11,SNR=21								
ESDC	**Sonseca Array**		**23.50**	**265**	P		**P**	**00 39 25.9**	**0.0**
	comp=Z,0.6nm,0.7s,baz=64,slow=9.7,SNR=5.3								
GEYT	**Alibeck**		**24.40**	**99**	P		**P**	**00 39 35.9**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=290,slow=14,SNR=4.3								
MDT	**Midelt**		**27.61**	**252**	LR		LR	00 52 20.0	
	comp=Z,70nm,18.6s,baz=220,slow=39								
BRVK	**Borovoye**		**28.50**	**60**	*e*P		**P**	**00 40 13.3**	**+2.1**
	comp=Z,2.6nm,0.6s								
BRVK	**Borovoye**		**28.50**	**60**	*i* P		**P**	**00 40 13.1**	**+1.9**
BRVK					pmax	pmax			
	comp=Z,2.0nm,0.6s								
BVAR	**Borovoye Array**		**28.57**	**60**	P		**P**	**00 40 13.5**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=283,slow=7.9,SNR=11								
AAK	**Ala-Archa**		**33.70**	**79**	*e*P		**P**	**00 40 59.7**	**+2.4**
	comp=Z,3.2nm,0.6s								
AAK	**Ala-Archa**		**33.70**	**79**	*ce*P		**P**	**00 40 59.9**	**+2.6**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ZAA0	**Zalesovo Array**		**36.97**	**56**	*e*P		**P**	**00 41 26.8**	**+1.8**
	comp=Z,3.9nm,0.9s								
ZALV	**Zalesovo Beam**		**36.97**	**56**	P		**P**	**00 41 26.6**	**+1.6**
	comp=Z,3.2nm,0.7s,baz=280,slow=9.3,SNR=15								
MAKZ	**Makanchi**		**37.18**	**69**	*e*P		**P**	**00 41 28.7**	**+1.7**
	comp=Z,4.6nm,1.6s								
MAKZ	**Makanchi**		**37.18**	**69**	*e*P		**P**	**00 41 28.7**	**+1.7**
MAKZ					pmax	pmax			
	comp=Z,5.0nm,1.6s								
MK31	**Makanchi Array**		**37.39**	**68**	*e*P		**P**	**00 41 30.5**	**+1.7**
	comp=Z,8.0nm,2.0s								
MK31	**Makanchi Array**		**37.39**	**68**	*e*P		**P**	**00 41 30.5**	**+1.7**
MK31					pmax	pmax			
	comp=Z,8.0nm,2.0s								
MKAR	**Makanchi Array**		**37.39**	**68**	P		**P**	**00 41 30.4**	**+1.6**
	comp=Z,0.9nm,0.5s,baz=270,slow=8.6,SNR=30								
MK01	**Makanchi Array**		**37.41**	**68**	*e*P		**P**	**00 41 30.2**	**+1.3**
TORD	**Torodi Ar. Bea**		**39.26**	**221**	P		**P**	**00 41 43.9**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=29,slow=8.6,SNR=20								
WMQ	**Urumqi**		**42.05**	**70**	*e*P		**P**	**00 42 10.8**	**+3.2**
WMQ					sP		sP	00 42 17.3	+1.0
WMQ					LR		LR		
	comp=N,420nm,26.1s								
WMQ					LR		LR		
	comp=E,380nm,22.1s								
WMQ					LR		LR		
	comp=Z,600nm,23.1s								
DBIC	**Dimbokro**		**48.00**	**225**	P		**P**	**00 42 54.4**	**-0.7**
	comp=Z,8.1nm,1.2s,baz=9.5,slow=12,SNR=5.0								
TIXI	**Tiksi**		**50.43**	**24**	*i* P		**P**	**00 43 17.0**	**+4.0**
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.4s								
SONM	**Songino Array**		**51.85**	**57**	P		**P**	**00 43 26.3**	**+2.1**
	comp=Z,0.6nm,0.4s,baz=304,slow=8.4,SNR=7.4								
LZH	**Lanzhou**		**56.63**	**71**	*e*P		**P**	**00 44 00.8**	**+1.6**
LZH					pP		sP	00 44 04.8	-3.2
LZH					sP		pP	00 44 08.3	+2.8
LZH					PP		**PP**	**00 46 07.0**	**+2.0**
LZH					pmax	pmax			
	comp=Z,26nm,1.3s								
LZH					pmax	pmax			
	comp=Z,93nm,4.4s								
HHC	**Hu-ho-hao-te**		**58.76**	**62**	*e*P		**P**	**00 44 15.0**	**+1.0**
HHC					pmax	pmax			
	comp=Z,7.0nm,1.0s								
HHC					pmax	pmax			
	comp=Z,190nm,7.1s								
PALK	**Pallekele**		**60.09**	**113**	LR		LR	01 11 58.4	
	comp=Z,329nm,20.4s,baz=299,slow=38								
KMI	**Kunming**		**62.68**	**81**	P		**P**	**00 44 43.8**	**+2.7**
KMI					pmax	pmax			
	comp=Z,21nm,0.5s								
YKA	**Yellowknife Ar**		**67.41**	**342**	P		**P**	**00 45 11.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=26,slow=6.0,SNR=18								
FFC	**Flin Flon**		**70.60**	**331**	*ce*P		P	00 45 36.9	+6.0

ISCJB ***16*** *00:39:22.3±0.6, 6.86°N±0.03° × 73.16°W±0.04, h154km±5km, mb3.0/2, Error ellipse: s-maj=6.9km s-min=4.8km az=0.7*
IDC ***16*** *00:39:23.9±4.0, 6.69°N × 73.13°W, h170km±32km, mb2.7/2, mb1 3.2/3, mb1mx2.9/26, mbtmp3.3/3, Error ellipse: s-maj=63.5km s-min=33.2km az=73.0*
RSNC ***16*** *00:39:24.0±1.1, 6.83°N × 73.15°W, h146km±5km, ML3.5, Mw3.7*

ISC 16 00:39:22.7±0.9, 6.85°N±0.04° × 73.14°W±0.05, h153km±6km, n22, σ 0.82/38, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**188**	*e*P		**Pn**	**00 39 43.8**	**0.0**
BARC				*e*S		**Sn**	**00 39 58.5**	**-1.3**
BARC				*i*			00 40 00.4	
	comp=Z,570nm,0.2s							
BRRC	**Barranca, Sant**	**0.62**	**294**	*i* P		**Pn**	**00 39 45.6**	**+0.6**
BRRC				*e*S		**Sn**	**00 40 02.2**	**+0.2**
BRRC				*i*			00 40 03.4	
	comp=N,973nm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**42**	*e*P		**Pn**	**00 39 46.7**	**+0.9**
PAMC				*e*S		**Sn**	**00 40 03.5**	**0.0**
PAMC				*i*			00 40 05.1	
	comp=N,350nm,0.3s							
RUSC	**La Rusia**	**0.96**	**176**	*e*P		**Pn**	**00 39 47.8**	**-0.1**
RUSC				*e*S		**Sn**	**00 40 06.8**	**-0.5**
RUSC				*i*			00 40 08.0	
	comp=N,494nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.34**	**257**	*e*P		**Pn**	**00 39 50.2**	**-0.7**
PTBC				*e*S		**Sn**	**00 40 11.5**	**-0.9**
PTBC				*i*			00 40 16.8	
	comp=N,445nm,0.5s							
OCAC	**Ocana**	**1.39**	**353**	*e*P		**Pn**	**00 39 51.8**	**+0.3**
OCAC				*e*S		**Sn**	**00 40 13.4**	**-0.3**
OCAC				*i*			00 40 22.5	
	comp=N,488nm,0.2s							
TAMC	**Tame, Arauca**	**1.41**	**107**	*i* P		**Pn**	**00 39 52.2**	**+0.6**
TAMC				*e*S		**Sn**	**00 40 13.4**	**-0.3**
TAMC				*i*			00 40 14.6	
	comp=E,123nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.82**	**291**	*e*P		**Pn**	**00 39 56.4**	**+0.5**
ZARC				*e*S		**Sn**	**00 40 21.5**	**+0.1**
ZARC				*i*			00 40 27.0	
	comp=N,326nm,0.2s							
CTAB	**Cerro Tablazo,**	**2.11**	**210**	*e*P		**Pn**	**00 40 01.4**	**+1.6**
SMLC	**San Martn de**	**2.14**	**335**	*e*P		**Pn**	**00 40 00.3**	**+0.6**
SMLC				*e*S		**Sn**	**00 40 28.4**	**+0.2**
SMLC				*i*			00 40 36.3	
	comp=N,315nm,0.1s							
CHIC	**Chingaza**	**2.29**	**195**	*e*P		**Pn**	**00 40 01.9**	**+0.2**
CHIC				*e*S		**Sn**	**00 40 31.2**	**-0.7**
CHIC				*i*			00 40 33.7	
	comp=N,249nm,0.5s							
ROSC	**El Rosal**	**2.32**	**210**	*e*P		**Pn**	**00 40 03.6**	**+1.5**
ROSC				*i*			00 40 38.2	
	comp=Z,193nm,0.4s							
ROSC	**El Rosal**	**2.32**	**210**	P		**Pn**	**00 40 03.6**	**+1.5**
	comp=Z,29nm,0.3s,baz=296,slow=1.2,SNR=118							
ROSC				S		**Sn**	**00 40 33.1**	**+0.6**
	comp=Z,44nm,0.3s,baz=32,slow=22,SNR=18							
HELC	**Santa Helena**	**2.46**	**255**	*e*P		**Pn**	**00 40 05.0**	**+1.2**
HELC				*e*S		**Sn**	**00 40 36.1**	**+0.6**
UREC	**San Jos de Ur**	**2.53**	**291**	*e*P		**Pn**	**00 40 03.7**	**-0.7**
UREC				*e*S		**Sn**	**00 40 35.2**	**-1.4**
UREC				*i*			00 40 45.7	
	comp=N,177nm,0.3s							
VILC	**Villavicencio,**	**2.78**	**191**	*e*P		**Pn**	**00 40 07.5**	**0.0**
VILC				*e*S		**Sn**	**00 40 41.6**	**-0.6**
DBBC	**Dabeiba**	**3.05**	**273**	*e*P		**Pn**	**00 40 11.2**	**+0.4**
CODC	**Agustn Codazz**	**3.08**	**354**	*e*P		**Pn**	**00 40 11.0**	**-0.2**
CODC				*e*S		**Sn**	**00 40 48.3**	**-0.4**
CODC				*i*			00 40 52.8	
	comp=N,56nm,0.3s							
PRAC	**Prado**	**3.57**	**209**	*e*P		**Pn**	**00 40 17.6**	**+0.1**
PRAC				*e*S		**Sn**	**00 40 58.8**	**-1.2**
PRAC				*i*			00 41 05.6	
	comp=N,90nm,0.4s							
TXAR	**Lajitas Array**	**36.42**	**312**	P		**P**	**00 46 13.8**	**+0.9**
	comp=N,0.1nm,0.5s,baz=125,slow=8.9,SNR=2.9							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**00 49 34.2**	**-0.2**
	comp=N,0.2nm,0.5s,baz=125,slow=7.3,SNR=4.5							
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc		**PKPbc**	**00 58 55.5**	**-1.3**
	comp=N,0.1nm,0.4s,baz=101,slow=2.9,SNR=3.9							

IDC 16 00:43:22.7±3.5, 7.68°S × 148.80°E, h0km, mb2.9/1, mb1 3.1/2, mb1mx2.9/28, mbtmp2.9/2, ML2.9/1, Error ellipse: s-maj=138.9km s-min=46.2km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.58**	**228**	P		P	00 47 40.0	-1.5
	0.0nm,0.3s,baz=52,slow=11,SNR=3.1							
ASAR	**Alice Springs**	**21.38**	**220**	P		P	00 48 11.8	-0.3
	0.3nm,0.5s,baz=55,slow=9.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**147.22**	**282**	PKPbc		PKPbc	01 03 09.0	-0.1
	0.2nm,0.6s,baz=96,slow=4.3,SNR=2.7							

IDC 16 00:47:58.2±2.4, 5.92°S × 132.03°E, h0km, mb3.3/1, mb1 3.8/5, mb1mx3.6/32, mbtmp3.6/5, ML3.8/4, Error ellipse: s-maj=106.4km s-min=25.1km az=84.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.08**	**351**	Pn		Pn	00 49 15.6	-0.1
	2.6nm,0.3s,baz=137,slow=23,SNR=9.5							
SIJI				Sn		Sn	00 50 08.0	-7.0
	3.8nm,0.3s,baz=212,slow=22,SNR=7.0							
FITZ	**Fitzroy Crossi**	**13.62**	**207**	Pn		Pn	00 51 11.9	-0.8
	0.5nm,0.3s,baz=33,slow=12,SNR=22							
FITZ				Sn		Sn	00 53 34.1	-11
	0.7nm,0.3s,baz=5.2,slow=17,SNR=11							
WRA	**Warramunga Arr**	**14.12**	**171**	Pn		Pn	00 51 18.9	-0.8
	0.6nm,0.3s,baz=355,slow=13,SNR=40							
WRA				Sn		Sn	00 53 50.1	-7.1
	0.6nm,0.3s,baz=335,slow=22,SNR=6.7							
ASAR	**Alice Springs**	**17.73**	**174**	P		P	00 52 07.8	+0.1
	0.3nm,0.3s,baz=352,slow=8.9,SNR=10							
ASAR				S		Sn	00 55 17.8	-7.4
	0.2nm,0.3s,baz=357,slow=29,SNR=4.7							
MKAR	**Makanchi Array**	**68.45**	**326**	P		P	00 59 02.2	+0.1
	0.1nm,0.3s,baz=115,slow=7.1,SNR=4.4							

ISCJB ***16*** *01:00:47.1±0.3, 36.85°N±0.03° × 31.22°E±0.03, h116km±5km, Error ellipse: s-maj=4.7km s-min=3.1km az=38.7*
NIC ***16*** *01:00:48.0±0.2, 36.53°N × 30.73°E, h50km, ML2.9*
ISK ***16*** *01:00:48.6, 36.98°N × 31.21°E, h87km, ML3.0/23*
DDA ***16*** *01:00:49.4, 36.95°N × 31.20°E, h51km±5km, ML3.5*
HLW ***16*** *01:00:49.7, 36.56°N × 30.91°E, h11km±19km, Md4.4, Ml3.1*
GII ***16*** *01:00:50.6±0.0, 36.54°N × 31.24°E, h20km, MD2.4/3*

ISC 16 01:00:47.4±1.3, 36.88°N±0.05° × 31.27°E±0.03, h108km±12km, n86, σ 1.81/107, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MNVG	**Manavgat-Antal**	**0.15**	**126**	PG		Pn	01 01 01.9	-0.4
ANTB	**Antalya**	**0.49**	**272**	PG		**Pn**	**01 01 03.6**	**-0.3**
KEMT	**Kemer-ANTALYA**	**0.63**	**244**	PG		Pn	**01 01 05.0**	**+0.1**
ALAN	**Alanya-ANTALYA**	**0.70**	**118**	PG		**Pn**	**01 01 06.0**	**+0.5**
KORT	**Korkueli**	**0.74**	**279**	PG		Pn	**01 01 05.5**	**-0.5**
KORT	**Korkueli**	**0.74**	**279**	*i* P		**Pn**	**01 01 06.7**	**+0.7**
KORT				*i* S		**Sn**	**01 01 21.5**	**+1.5**
KORT				IAML_P				
	comp=Z,6µm,0.3s							
BCK	**Bucak**	**0.79**	**317**	PG		Pn	01 01 05.0	-1.4
AKUM	**Antalya-Kumluc**	**0.93**	**233**	*i* P		**Pn**	**01 01 11.1**	**+3.5**
AKUM				*i* S		Sn	01 01 30.6	+7.7
AKUM				IAML_P				
	comp=Z,2µm,0.2s							
ELL	**Elmali**	**1.10**	**263**	PG		**Pn**	**01 01 10.5**	**+1.0**
ISP	**Isparta**	**1.11**	**328**	PG		**Pn**	**01 01 09.4**	**-0.3**
BAGO	**Egridir - ISPA**	**1.17**	**341**	*i* P		**Pn**	**01 01 10.2**	**-0.1**
BAGO				IAML_P				
	comp=Z,6µm,0.2s							
KMER	**Konya-Meram**	**1.25**	**44**	*i* P		**Pn**	**01 01 12.4**	**+1.2**
KMER				IAML_P				
	comp=Z,2µm,0.2s							
BRDR	**BURDUR-Merkez**	**1.26**	**311**	*i* P		**Pn**	**01 01 11.8**	**+0.5**
BRDR				*i* S		**Sn**	**01 01 28.9**	**-0.4**
BRDR				IAML_P				
	comp=Z,2µm,0.2s							
DOGA	**KONYA_Doganhis**	**1.26**	**15**	*i* P		**Pn**	**01 01 12.7**	**+1.3**
DOGA				IAML_P				
	comp=Z,6µm,0.2s							
ERMK	**Ermenek**	**1.34**	**100**	*i* P		**Pn**	**01 01 15.1**	**+2.7**
KONT	**Konya--Tatoy**	**1.37**	**39**	PN		**Pn**	**01 01 13.4**	**+0.8**
KONT	**Konya--Tatoy**	**1.37**	**39**	*i* P		**Pn**	**01 01 14.0**	**+1.4**
KONT				IAML_P				
	comp=Z,3µm,0.1s							
GOLH	**Golhisar**	**1.41**	**285**	*i* P		**Pn**	**01 01 16.9**	**+3.8**
GOLH				*i* S		**Sn**	**01 01 35.1**	**+2.6**
GOLH				IAML_P				
	comp=Z,1µm,0.1s							
AKAS	**Kas**	**1.49**	**245**	PN		**Pn**	**01 01 15.2**	**+1.2**
AKAS	**Kas**	**1.49**	**245**	*i* P		**Pn**	**01 01 15.1**	**+1.2**
AKAS				*i* S		**Sn**	**01 01 34.6**	**+0.4**
LADK	**Ladik-KONYA**	**1.58**	**33**	PN		**Pn**	**01 01 15.2**	**+0.1**
KZIL	**AFYON_Kizioren**	**1.64**	**327**	*i* P		**Pn**	**01 01 16.3**	**+0.4**
KZIL				*i* S		**Sn**	**01 01 36.9**	**-0.6**
KZIL				IAML_P				
	comp=Z,3µm,0.1s							
BERE	**Bereket-Mersin**	**1.66**	**108**	PN		**Pn**	**01 01 18.8**	**+2.6**
SHUT	**Suhut-Afyon**	**1.76**	**341**	PN		**Pn**	**01 01 17.7**	**+0.3**
FETY	**Fethiye**	**1.77**	**263**	PN		**Pn**	**01 01 18.1**	**+0.7**
FETY	**Fethiye**	**1.77**	**263**	*i* P		**Pn**	**01 01 18.6**	**+1.2**
FETY				*i* S		**Sn**	**01 01 39.4**	**-0.8**
FETY				IAML_P				
	comp=Z,2µm,0.2s							
KDHN	**Kadinhani**	**1.77**	**22**	*i* P		**Pn**	**01 01 17.9**	**+0.4**
KDHN				IAML_P				
	comp=Z,2µm,0.2s							
TEVE	**Tevekalti-Mers**	**1.81**	**104**	PN		**Pn**	**01 01 20.4**	**+2.5**
TEVE				SN		**Sn**	**01 01 43.5**	**+2.4**
BOLV	**Bolvadin**	**1.85**	**352**	*i* P		**Pn**	**01 01 19.8**	**+1.3**
BOLV				IAML_P				
	comp=Z,4µm,0.2s							
GULN	**MERSIN_Gulnar**	**1.96**	**110**	*i* P		**Pn**	**01 01 22.1**	**+2.3**
GULN				IAML_P				
	comp=Z,1µm,0.1s							
TAVA	**DENIZLI_Tavas**	**1.97**	**288**	*i* P		**Pn**	**01 01 21.3**	**+1.4**
TAVA				*i* S		**Sn**	**01 01 44.0**	**-0.7**
TAVA				IAML_P				
	comp=Z,1µm,0.2s							
AKKU	**Akkuyu-Mersin**	**1.98**	**111**	PN		**Pn**	**01 01 22.9**	**+3.0**
AKK2	**Akkuyu-Mersin**	**1.98**	**111**	PN		**Pn**	**01 01 22.7**	**+2.7**
KEBE	**Keben-Mersin**	**2.02**	**102**	PN		**Pn**	**01 01 23.1**	**+2.6**
ALFC	**Alefka**	**2.03**	**148**	P		**Pn**	**01 01 20.7**	**0.0**
	baz=312							
ALFC				S		**Sn**	**01 01 45.7**	**-0.5**
**KHA

HKAT				AMP			01 04 00.0	
	baz=161							
HKAT				S		**Sn**	**01 04 20.9**	**-4.8**
	baz=161							
SWA2		**9.04**	**214**	P		**Pn**	**01 02 54.1**	**-0.9**
	baz=214							
SWA2				S		Sn	01 04 25.9	-9.1
	baz=214							
HFRF	**Wahat Farafira**	**10.02**	**195**	P		**Pn**	**01 03 08.6**	**+0.3**
	baz=194							
HFRF				S		Sn	01 04 50.5	-8.3
	baz=194							

IDC 16 01:15:50.3±4.1, 52.75N×166.79W, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.4/43, mbtmp3.4/6, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/28, Error ellipse: s-maj=99.5km s-min=22.3km az=162.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**9.54**	**52**	Pn	Pn	01 18 11.3	+2.6
	1.0nm,0.3s,baz=265,slow=3.3,SNR=6.7						
KDAK				Sn	Sn	01 19 44.4	-12
	0.2nm,0.3s,baz=338,slow=11,SNR=1.9						
ILAR	**Eielson Array**	**15.77**	**32**	Pn	Pn	01 19 33.3	-0.1
	0.0nm,0.3s,baz=228,slow=11,SNR=3.4						
INK	**Inuvik**	**22.17**	**33**	P	P	01 20 46.1	-1.2
	1.2nm,0.5s,baz=242,slow=7.1,SNR=7.7						
YKA	**Yellowknife Ar**	**28.80**	**50**	P	P	01 21 50.3	+0.8
	0.1nm,0.4s,baz=274,slow=8.6,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**38.76**	**222**	T	T	02 04 56.3	
	baz=25,slow=76,SNR=86						
H11N3	**WAKE ISLAND Hy**	**38.77**	**222**	T	T	02 04 56.7	
	baz=25,slow=76,SNR=73						
H11N1	**WAKE ISLAND Hy**	**38.78**	**222**	T	T	02 04 57.6	
	baz=25,slow=76,SNR=63						
H11S1	**WAKE ISLAND Hy**	**39.94**	**221**	T	T	02 06 27.1	
	baz=24,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**39.95**	**221**	T	T	02 06 25.5	
	baz=24,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**39.96**	**221**	T	T	02 06 25.2	
	baz=24,slow=76,SNR=48						
JNU	**Nakatsue**	**48.03**	**272**	LR	LR	01 43 21.2	
	comp=Z,46nm,19.8s,baz=186,slow=34						
SONM	**Songino Array**	**52.45**	**302**	P	P	01 25 05.2	+0.7
	0.2nm,0.3s,baz=58,slow=8.6,SNR=2.2						
MKAR	**Makanchi Array**	**64.67**	**315**	P	P	01 26 28.8	-0.8
	0.1nm,0.4s,baz=35,slow=5.3,SNR=3.4						

*ISCJB **16** 01:34:15.8±0.6, 10.90S±0.06×164.75E±0.07, h29km, mb4.0/12, Error ellipse: s-maj=10.8km s-min=8.2km az=144.7*
*NEIC **16** 01:34:15.2±0.5, 10.66S×164.62E, h10km, mb4.2/2, Error ellipse: s-maj=15.3km s-min=10.8km az=110.0*
*IDC **16** 01:34:21.4±3.1, 10.89S×164.68E, h64km±27km, mb3.7/10, mb1 3.9/13, mb1mx3.7/42, mbtmp4.0/13, ML4.4/3, MS3.1/2, Ms1 3.1/2, ms1mx2.7/28, Error ellipse: s-maj=22.3km s-min=17.7km az=50.0*

ISC 16 01:34:17.7±0.7, 10.77S±0.08×164.81E±0.10, h29km, n23, σ1§21/19, mb4.0/12, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.97**	**285**	*eP*	**Pn**	**01 35 31.0**	**+0.6**
HNR	**Honiara**	**4.97**	**285**	P	**Pn**	**01 35 31.9**	**+1.5**
	96nm,0.3s,baz=137,slow=3.4,SNR=9.3						
HNR				S	**Sn**	**01 36 28.0**	**+1.1**
	20nm,0.3s,baz=294,slow=20,SNR=1.8						
HNR				LR	LR	01 36 53.8	
	comp=Z,107nm,20.1s,baz=136,slow=31						
DZM	**Mont Dzumac**	**11.35**	**172**	P	**Pn**	**01 37 00.6**	**+2.6**
	1.9nm,0.3s,baz=25,slow=7.3,SNR=30						
DZM				S	**Sn**	**01 39 02.6**	**-1.3**
	0.2nm,0.3s,baz=156,slow=19,SNR=2.4						
DZM				LR	LR	01 41 04.1	
	comp=Z,155nm,19.2s,baz=12,slow=36						
CTA	**Charters Tower**	**20.12**	**240**	P	**P**	**01 38 48.8**	**-0.8**
	0.3nm,0.3s,baz=57,slow=12,SNR=2.8						
H11S2	**WAKE ISLAND Hy**	**29.14**	**4**	T	T	02 10 37.7	
	baz=184,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**29.14**	**4**	T	T	02 10 33.7	
	baz=184,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**29.15**	**4**	T	T	02 10 34.5	
	baz=184,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**30.36**	**4**	T	T	02 12 09.1	
	baz=184,slow=76,SNR=13						
H11N3	**WAKE ISLAND Hy**	**30.37**	**4**	T	T	02 12 07.0	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**30.38**	**4**	T	T	02 12 11.8	
	baz=184,slow=76,SNR=17						
WRA	**Warramunga Arr**	**30.71**	**249**	P	**P**	**01 40 28.6**	**-1.9**
	0.4nm,0.4s,baz=78,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**32.09**	**242**	P	**P**	**01 40 41.0**	**-1.6**
	0.3nm,0.5s,baz=62,slow=10,SNR=8.2						
FITZ	**Fitzroy Crossi**	**38.56**	**255**	P	**P**	**01 41 37.0**	**-1.3**
	1.7nm,0.7s,baz=88,slow=10,SNR=3.4						
KLR	**Kul'dur**	**66.44**	**337**	P	**P**	**01 45 04.3**	**0.0**
	1.3nm,0.8s,baz=125,slow=9.1,SNR=4.1						
ULN	**Ulaanbaatar**	**77.54**	**324**	*eP*	**P**	**01 46 11.6**	**+0.6**
	0.9nm,0.4s						
SONM	**Songino Array**	**77.90**	**324**	P	**P**	**01 46 13.4**	**+0.4**
	0.4nm,0.3s,baz=142,slow=5.3,SNR=6.3						
BILL	**Bilibino**	**78.61**	**1**	*eP*	**P**	**01 46 16.3**	**0.0**
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**79.23**	**180**	*eP*	**P**	**01 46 20.0**	**-0.1**
ILAR	**Eielson Array**	**83.55**	**19**	P	**P**	**01 46 42.1**	**-0.6**
	0.8nm,0.9s,baz=247,slow=4.4,SNR=9.1						
NVAR	**Mina Array Bea**	**86.56**	**50**	P	**P**	**01 46 59.0**	**+0.4**
	1.4nm,1.0s,baz=241,slow=8.3,SNR=5.1						
MKAR	**Makanchi Array**	**92.69**	**317**	P	**P**	**01 47 27.0**	**-0.1**
	1.7nm,0.7s,baz=95,slow=6.1,SNR=23						
ZALV	**Zalesovo Beam**	**92.80**	**324**	P	**P**	**01 47 26.1**	**-1.2**
	0.8nm,0.6s,baz=130,slow=4.6,SNR=4.7						
PDAR	**Pinedale Array**	**94.05**	**47**	P	**P**	**01 47 34.1**	**+0.4**
	0.3nm,0.6s,baz=241,slow=4.9,SNR=3.6						

*ISK **16** 01:37:29.8, 38.73N×43.45E, h17km, ML1.9/6*
*ISCJB **16** 01:37:30.2±0.8, 38.71N±0.03×43.52E±0.06, h29km±5km, Error ellipse: s-maj=8.4km s-min=5.2km az=24.0*
*DDA **16** 01:37:30.8, 38.73N×43.46E, h7km±4km, ML2.6*

ISC 16 01:37:30.8±1.0, 38.74N±0.03×43.46E±0.04, h18km±9km, n13, σ0§88/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**201**	PG	**Pb**	**01 37 35.4**	**+0.2**
TVAN	**Van**	**0.21**	**191**	*i* P	**Pb**	**01 37 35.8**	**-0.5**
TVAN				*i* S	**Sg**	**01 37 40.9**	**+1.3**
TVAN				IAML_P			
	comp=Z,9μm,0.2s						
VMUR	**Van-Muradiye**	**0.27**	**19**	*i* P	**Pg**	**01 37 36.5**	**-0.4**
VMUR				*i* S	**Sb**	**01 37 42.8**	**+1.3**
VMUR				IAML_P			
	comp=Z,1μm,0.1s						
ERCV	**ERCIS-VAN**	**0.30**	**341**	PG	**Pg**	**01 37 36.5**	**-0.8**
ERCV				SG	**Sb**	**01 37 42.0**	**-0.4**
GEVA	**Gevas**	**0.53**	**217**	*i* P	**Pb**	**01 37 41.5**	**-0.1**
GEVA				*i* S	**Sb**	**01 37 49.3**	**+0.2**
CLDR	**Caldiran**	**0.54**	**41**	PG	**Pg**	**01 37 40.8**	**-0.9**
CLDR				SG	**Sb**	**01 37 49.8**	**+0.4**
CLDR	**Caldiran**	**0.54**	**41**	*i* P	**Pb**	**01 37 41.7**	**-0.2**
CLDR				*i* S	**Sb**	**01 37 50.1**	**+0.7**
AKDM	**Akdamar-Van**	**0.56**	**223**	PG	**Pg**	**01 37 40.9**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.58**	**277**	*i* P	**Pb**	**01 37 42.4**	**-0.1**
ADCV				*i* S	**Sb**	**01 37 51.9**	**+1.4**
ADCV				IAML_P			
	comp=Z,206nm,0.1s						
MLAZ	**Malazgirt-MUS**	**0.81**	**300**	PG	**Pg**	**01 37 46.3**	**-0.4**
MLAZ				SG	**Sb**	**01 37 58.2**	**+0.9**
TUTA	**Tutak**	**0.83**	**323**	*i* P	**Pg**	**01 37 45.6**	**-1.4**
TUTA				*i* S	**Sb**	**01 37 59.0**	**+1.2**
AGRB	**Hanur-Agry**	**0.91**	**337**	PG	**Pg**	**01 37 48.0**	**-0.6**
AGRB				SG	**Sb**	**01 38 00.9**	**+0.8**
GURO	**Guroymak-BITLI**	**1.13**	**261**	PN	**Pb**	**01 37 51.3**	**-0.7**

DJA 16 01:59:41.6±2.5, 9.9S±15.1°×111.1E±°, h14km±12km, M3.5/4, MLv3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.10**	**344**	P	Pb	02 00 02.0	-0.5
PWJI	**Pagerwojo**	**1.27**	**14**	P	Pn	02 00 02.4	-2.5
WOJI	**Wonogiri, Jawa**	**1.52**	**338**	P	Pn	02 00 08.3	-0.1
UGM	**Wanagama**	**1.65**	**324**	P	Pn	02 00 10.0	-0.1
NGJI	**Ngawi**	**1.88**	**359**	P	Pn	02 00 13.8	+0.5
SMRI	**Semarang**	**2.43**	**335**	P	Pn	02 00 20.7	-0.2
GRJI	**Gresik**	**2.53**	**23**	P	Pn	02 00 22.6	+0.3
BLJI	**Banyuglugur**	**2.57**	**54**	P	Pn	02 00 22.9	+0.1
JAGI	**Jajag, Banyuwa**	**2.75**	**74**	P	Pn	02 00 25.1	-0.2

*NIED **16** 02:08:00, 28.80N×128.30E, h155km, Mw4.6 Best double couple: M0 7.85000×10^15 NP1:φs 97.00000°, δ 35.00000°, λ 167.00000°. NP2:φs 198.00000°, δ 83.00000°, λ 55.00000°.*
*ISCJB **16** 02:08:11.4±0.2, 28.73N±0.02×128.32E±0.04, h169km±2km, mb4.1/46, Error ellipse: s-maj=5.6km s-min=3.2km az=27.9*
*NEIC **16** 02:08:12.4±0.5, 28.74N×128.27E, h165km±4km, mb4.3/20, Error ellipse: s-maj=6.5km s-min=5.0km az=116.0*
*IDC **16** 02:08:12.3±0.4, 28.77N×128.21E, h159km±4km, mb3.7/24, mb1 3.9/28, mb1mx3.8/49, mbtmp4.2/28, MS3.1/2, Ms1 3.1/2, ms1mx2.5/47, Error ellipse: s-maj=12.7km s-min=6.1km az=85.0*
*MOS **16** 02:08:12.7±1.0, 28.81N×128.28E, h180km, mb4.0/15, Error ellipse: s-maj=12.1km s-min=6.9km az=105.5*
*JMA **16** 02:08:13.1±0.1, 28.75N×128.31E, h156km±3km, M4.2*
*BJI **16** 02:08:13.1, 28.83N×128.35E, h160km, mb4.7/40, mB4.8/25*

ISC 16 02:08:12.6±0.5, 28.73N±0.04×128.38E±0.04, h164km±4km, h164km:pP-P, n132, σ1§28/170, mb4.2/47, 7C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTAJ	**Takarajima**	**0.84**	**59**	P	**Pn**	**02 08 37.8**	**+0.3**
JTAJ				*e*S	**Sn**	**02 08 56.4**	**-0.2**
JAMN	**Amaminishikomi**	**0.85**	**124**	P	**Pn**	**02 08 37.7**	**+0.1**
JAMN				*e*S	**Sn**	**02 08 56.7**	**0.0**
JTK	**Tokunoshima**	**1.06**	**152**	P	**Pn**	**02 08 39.7**	**+0.4**
JTK				S	**Sn**	**02 08 59.6**	**-0.1**
JAM	**Amami Oshima**	**1.12**	**106**	P	**Pn**	**02 08 39.9**	**+0.2**
JAM				*e*S	**Sn**	**02 08 59.7**	**-0.8**
JOKE	**Okinoerabujima**	**1.37**	**173**	P	**Pn**	**02 08 42.5**	**+0.5**
JOKE				*e*S	**Sn**	**02 09 04.2**	**-0.5**
JZK	**Kikaishima**	**1.46**	**106**	P	**Pn**	**02 08 44.5**	**+1.7**
JZK				*e*S	**Sn**	**02 09 07.7**	**+1.6**
JYRO	**Yoronjima**	**1.69**	**178**	P	**Pn**	**02 08 45.6**	**+0.3**
JYRO				*e*S	**Sn**	**02 09 09.2**	**-1.3**
JNN	**Nakanoshima**	**1.72**	**49**	*e*S	**Sn**	**02 09 11.4**	**+0.5**
JIH	**Iheya**	**1.72**	**192**	P	**Pn**	**02 08 46.1**	**+0.5**
JIH				*e*S	**Sn**	**02 09 10.3**	**-0.7**
JOW	**Kunigami**	**1.89**	**183**	*e*Pn	**Pn**	**02 08 47.5**	**+0.2**
JOW				*e*Sn	**Sn**	**02 09 12.5**	**-1.8**
JOW	**Kunigami**	**1.89**	**183**	P	**Pn**	**02 08 47.6**	**+0.2**
JOW				*e*S	**Sn**	**02 09 13.0**	**-1.2**
JOW	**Kunigami**	**1.89**	**183**	P	**Pn**	**02 08 47.7**	**+0.3**
	21nm,0.3s,baz=88,slow=18,SNR=290						
JOW				S	**Sn**	**02 09 13.1**	**-1.2**
	163nm,0.3s,baz=203,slow=17,SNR=67						
JKC	**Kuchinoerabu**	**2.34**	**42**	P	**Pn**	**02 08 52.9**	**+0.4**
JKC				*e*S	**Sn**	**02 09 23.8**	**+0.3**
JAGN	**Aguni-jima**	**2.35**	**206**	P	**Pn**	**02 08 53.0**	**+0.3**
JAGN				*e*S	**Sn**	**02 09 22.6**	**-1.1**
JYAK	**Yakushimahirau**	**2.39**	**50**	P	**Pn**	**02 08 53.0**	**-0.1**
JYAK				*e*S	**Sn**	**02 09 22.6**	**-1.9**
JJT3	**Tamagusuku3**	**2.62**	**192**	P	**Pn**	**02 08 56.4**	**+0.4**
JJT3				*e*S	**Sn**	**02 09 29.4**	**-0.2**
JMTN	**Minamitane**	**2.76**	**52**	P	**Pn**	**02 08 57.7**	**+0.2**
JMTN				*e*S	**Sn**	**02 09 30.4**	**-2.0**
JKE	**Kume jima 2**	**2.78**	**211**	P	**Pn**	**02 08 57.9**	**+0.1**
JKE				*e*S	**Sn**	**02 09 33.0**	**+0.2**
JTN	**Tanegashima 3**	**2.97**	**49**	P	**Pn**	**02 09 00.5**	**+0.4**
JSJ	**Shimokoshiki**	**3.16**	**21**	P	**Pn**	**02 09 03.1**	**+0.6**
JSJ				*e*S	**Sn**	**02 09 41.7**	**+0.3**
JTSR	**Tashiro 2**	**3.29**	**42**	P	**Pn**	**02 09 04.7**	**+0.6**
JSU	**Suzuyama**	**3.30**	**32**	P	**Pn**	**02 09 05.2**	**+0.9**
JNU	**Nakatsue**	**4.88**	**25**	*e*Pn	**Pn**	**02 09 26.4**	**+1.7**
JNU	**Nakatsue**	**4.88**	**25**	P	**Pn**	**02 09 26.0**	**+1.3**
	15nm,0.3s,baz=193,slow=5.2,SNR=154						
JNU				S	**Sn**	**02 10 22.2**	**+1.2**
	3.6nm,0.3s,baz=124,slow=22,SNR=9.5						
SSE	**Sheshan**	**6.67**	**292**	*e*Pn	**Pn**	**02 09 46.6**	**-1.7**
	49nm,0.8s						
YHNB	**Yeheng**	**7.45**	**239**	*e*Pn	**Pn**	**02 09 58.2**	**-0.5**
SSLB	**Suanglung**	**8.28**	**235**	*e*Pn	**Pn**	**02 10 08.8**	**-1.0**
YULB	**Yu-li**	**8.29**	**232**	*e*Pn	**Pn**	**02 10 06.2**	**-3.7**
KS15	**Wonju Array Si**	**8.70**	**357**	*e*Pn	**Pn**	**02 10 16.2**	**+1.1**
KSRS	**Korea Array**	**8.71**	**358**	P	**Pn**	**02 10 16.0**	**+0.7**
KSRS	**Korea Array**	**8.71**	**358**	P	**Pn**	**02 10 16.0**	**+0.7**
	1.1nm,0.3s,baz=178,slow=14,SNR=90						
KS01	**Wonju Array Si**	**8.74**	**357**	*e*Pn	**Pn**	**02 10 15.2**	**-0.4**
MAJO	**Matsushiro**	**11.37**	**44**	*e*Pn	**Pn**	**02 10 49.8**	**-0.5**
MAJO	**Matsushiro**	**11.37**	**44**	*i* P	**Pn**	**02 10 50.4**	**+0.2**
MAT	**Matsushiro**	**11.37**	**44**	P	**Pn**	**02 10 49.4**	**-0.8**
MAT				*e*S	**Sn**	**02 12 55.2**	**-1.0**
MJB9	**Matsu-Tunnel**	**11.37**	**44**	*e*Pn	**Pn**	**02 10 49.6**	**-0.6**
MJAR	**Matsushiro Arr**	**11.37**	**44**	P	**Pn**	**02 10 49.9**	**-0.4**
	0.1nm,0.3s,baz=239,slow=14,SNR=18						
TIA	**Tai'an**	**12.08**	**311**	P	**Pn**	**02 11 00.5**	**+1.1**
TIA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BJT	**Baijiatuan**	**15.10**	**321**	*e*Pn	**Pn**	**02 11 36.0**	**-1.5**
	76nm,0.9s						
BJT	**Baijiatuan**	**15.10**	**321**	*e*P	**Pn**	**02 11 36.0**	**-1.5**
BJT				pmax	pmax		
	comp=Z,75nm,0.9s						
CN2	**Changchun**	**15.23**	**352**	*e*P	**Pn**	**02 11 39.4**	**+0.4**
USRK	**Ussuriysk Ar.**	**15.71**	**10**	P	**P**	**02 11 45.6**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=189,slow=9.2,SNR=13						
TIY	**Taiyuan**	**16.06**	**308**	*e*P	**P**	**02 11 52.4**	**+2.9**
TIY				S	**S**	**02 14 47.6**	**+0.1**
TIY				pmax	pmax		
	comp=Z,92nm,1.2s						
TIY				pmax	pmax		
	comp=Z,240nm,5.6s						
TIY				LR	LR		
	comp=Z,170nm,4.9s						
TIY				LR	LR		
	comp=Z,140nm,5.8s						
TIY				LR	LR		
	comp=Z,150nm,12.5s						
ENH	**Enshi**	**16.52**	**280**	*e*P	**P**	**02 11 53.6**	**-1.1**
XAN	**Xi'an**	**17.43**	**293**	P	**Pn**	**02 12 06.3**	**+0.4**
XAN				S	**S**	**02 15 18.3**	**+0.6**
XAN				pmax	pmax		
	comp=Z,110nm,0.8s						
XAN				pmax	pmax		
	comp=Z,170nm,5.0s						
XAN	**Xi'an**	**17.43**	**293**	*e*P	**Pn**	**02 12 05.5**	**-0.4**
XAN	**Xi'an**	**17.43**	**293**	*e*P	**Pn**	**02 12 05.5**	**-0.4**
HHC	**Hu-ho-hao-te**	**18.32**	**316**	*e*P	**Pn**	**02 12 16.3**	**0.0**
HHC				S	**S**	**02 15 30.3**	**-4.9**
HHC				pmax	pmax		
	comp=Z,37nm,1.2s						
HHC				pmax	pmax		
	comp=Z,200nm,4.9s						
KLR	**Kul'dur**	**20.64**	**6**	P	**P**	**02 12 37.9**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=198,slow=6.6,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**21.39**	**28**	*e*P	P	02 12 55.7	+8.6
CD2	**Chengdu**	**21.46**	**282**	↑P	**P**	**02 12 46.0**	**-2.2**
CD2				pmax	pmax		
	comp=Z,30nm,0.4s						
CD2				pmax	pmax		
	comp=Z,200nm,5.8s						
LZH	**Lanzhou**	**21.94**	**296**	*e*P	**P**	**02 12 51.3**	**-1.9**
LZH				PP	**pP**	**02 13 26.0**	**+3.8**
LZH				sP	sP	02 13 45.1	+2.3
LZH				S	**S**	**02 16 47.6**	**+3.5**
LZH				SS	**SnSn**	**02 17 31.0**	**+2.0**
LZH				pmax	pmax		
	comp=Z,55nm,1.5s						
LZH				pmax	pmax		
	comp=Z,190nm,5.4s						
KMI	**Kunming**	**23.12**	**267**	P	**P**	**02 13 02.3**	**-2.2**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
ULN	**Ulaanbaatar**	**25.26**	**325**	*e*P	**P**	**02 13 22.3**	**-1.3**
	comp=Z,16nm,1.0s						
ULN	**Ulaanbaatar**	**25.26**	**325**	*d* iP	**P**	**02 13 24.8**	**+1.2**
ULN				pmax	pmax		
	comp=Z,20nm,1.0s						
SONM	**Songino Array**	**25.57**	**324**	P	**P**	**02 13 26.0**	**-0.4**
SONM	**Songino Array**	**25.57**	**324**	P	**P**	**02 13 26.0**	**-0.4**
	comp=Z,7.1nm,0.5s,baz=131,slow=9.3,SNR=62						
SONM				ScP	**ScP**	**02 20 17.4**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=142,slow=3.4,SNR=9.3						
GTA	**Gaotai**	**25.85**	**302**	P	**P**	**02 13 28.3**	**-0.7**
GTA				pP	pP	02 14 05.1	+2.3
GTA				sP	sP	02 14 23.3	+1.4
GTA				PcP	**PcP**	**02 16 55.0**	**+1.2**
GTA				ScP	**ScP**	**02 20 18.8**	**+0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**28.78**	**256**	PcP	**PcP**	**02 17 01.8**	**+0.7**
	comp=Z,1.0nm,0.6s,baz=20,slow=1.0,SNR=6.4						
FAKI	**Fak Fak**	**31.68**	**173**	*e*P	**P**	**02 14 21.6**	**+0.9**
	comp=Z,15nm,0.8s						
WMQ	**Urumqi**	**35.71**	**306**	*e*P	**P**	**02 14 55.6**	**+0.3**
WMQ				pP	pP	02 15 29.9	-0.3
WMQ				LR	LR		
	comp=Z,66nm,20.1s						
WMQ				LR	LR		
	comp=Z,82nm,14.1s						
WMQ				LR	LR		
	comp=Z,28nm,12.9s						
DGZ	**Jazzator, Alta**	**37.40**	**316**	*i* P	**P**	**02 15 09.7**	**0.0**
MK01	**Makanchi Array**	**40.00**	**310**	*e*P	**P**	**02 15 29.8**	**-1.5**
MK31	**Makanchi Array**	**40.01**	**310**	*e*P	**P**	**02 15 30.4**	**-0.9**
	comp=Z,1.9nm,0.9s						
MK31	**Makanchi Array**	**40.01**	**310**	*e*P	**P**	**02 15 30.4**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**40.01**	**310**	P	**P**	**02 15 30.3**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=91,slow=9.6,SNR=28						
MKAR				PcP	**PcP**	**02 17 32.9**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=74,slow=3.3,SNR=15						
MKAR				ScP	**ScP**	**02 21 05.7**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=88,slow=5.2,SNR=8.8						
MAKZ	**Makanchi**	**40.23**	**310**	*e*P	**P**	**02 15 32.1**	**-0.9**
	comp=Z,2.3nm,0.9s						
MAKZ	**Makanchi**	**40.23**	**310**	*e*P	**P**	**02 15 32.1**	**-0.9**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**40.37**	**321**	P	**P**	**02 15 32.2**	**-1.9**
	comp=Z,2.2nm,0.5s,baz=108,slow=9.3,SNR=8.9						
ZALV				PcP	**PcP**	**02 17 33.3**	**-0.7**
	comp=Z,2.1nm,0.4s,baz=106,slow=3.8,SNR=8.0						
ZALV				ScP	**ScP**	**02 21 06.6**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=107,slow=3.5,SNR=7.6						
TIXI	**Tiksi**	**42.97**	**0**	LR	LR	02 32 53.2	
	comp=Z,23nm,21.5s,baz=154,slow=34						
KURK	**Kurchatov**	**43.13**	**315**	*e*P	**P**	**02 15 55.4**	**-1.1**
KURK	**Kurchatov**	**43.13**	**315**	*ce*P	**P**	**02 15 56.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURBB	**Kurchatov Arra**	**43.17**	**315**	P	**P**	**02 15 55.5**	**-1.4**
	comp=Z,3.8nm,0.5s,baz=101,slow=8.9,SNR=41						
KURBB				pP	**pP**	**02 16 32.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=102,slow=8.7,SNR=2.3						
KURBB				PcP	**PcP**	**02 17 42.4**	**-0.9**
KSH	**Kashi**	**44.15**	**298**	*e*P	P	02 16 10.5	+5.4
KSH				PcP	**PP**	**02 17 51.5**	**+0.3**
KSH				S	**S**	**02 22 32.5**	**+6.8**
KSH				pmax	pmax		
	comp=Z,130nm,7.4s						
BILL	**Bilibino**	**45.27**	**19**	*e*P	**P**	**02 16 13.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s						
FITZ	**Fitzroy Crossi**	**46.62**	**184**	*e*P	**P**	**02 16 24.6**	**+0.2**
	comp=Z,7.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**46.62**	**184**	P	**P**	**02 16 26.1**	**+1.7**
	comp=Z,7.7nm,0.7s,baz=3.0,slow=7.4,SNR=19						
KK31	**Karatay Array**	**48.11**	**304**	*e*P	**P**	**02 16 35.3**	**-0.5**
	comp=Z,4.1nm,1.0s						
KK31	**Karatay Array**	**48.11**	**304**	*e*P	**P**	**02 16 35.3**	**-0.5**
KK31				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KKAR	**Karatay Array**	**48.11**	**304**	*e*P	**P**	**02 16 35.3**	**-0.5**
	comp=Z,4.1nm,1.0s						
KKAR	**Karatay Array**	**48.11**	**304**	*e*P	**P**	**02 16 35.3**	**-0.5**
KKAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BVAR	**Borovoye Array**	**48.53**	**317**	P	**P**	**02 16 37.5**	**-1.3**
	comp=Z,2.2nm,0.4s,baz=88,slow=9.3,SNR=23						
BVAR				PcP	**PcP**	**02 18 01.9**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=124,slow=3.0,SNR=9.2						
BRVK	**Borovoye**	**48.59**	**317**	*e*P	**P**	**02 16 38.3**	**-1.0**
	comp=Z,13nm,0.8s						
BRVK	**Borovoye**	**48.59**	**317**	*ce*P	**P**	**02 16 40.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRAB	**Tennant Creek**	**48.72**	**173**	*e*P	**P**	**02 16 41.0**	**+0.5**
	comp=Z,4.5nm,0.7s						
WRAB	**Tennant Creek**	**48.72**	**173**	*ce*P	**P**	**02 16 42.3**	**+1.8**
WRAB				pmax	pmax		
	comp=Z,14nm,2.5s						
WRA	**Warramunga Arr**	**48.72**	**173**	*ce*P	**P**	**02 16 41.5**	**+0.9**
WRA				pmax	pmax	

NOA	**NORSAR Array B**	**77.14**	**334**	P		**P**	02 19 45.9	**-1.8**	
	comp=Z,0.5nm,0.5s,baz=52,slow=5.6,SNR=3.6								
GERES	**GERESS Array B**	**83.30**	**323**	P		**P**	02 20 20.4	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=19,slow=8.5,SNR=4.3								
FCC	**Fort Churchill**	**85.96**	**21**	*eP*		**P**	02 20 33.2	**-0.7**	
	comp=Z,3.5nm,0.8s								
FCC	**Fort Churchill**	**85.96**	**21**	*eP*		**P**	02 20 33.3	**-0.7**	
FCC					pmax	pmax			
	comp=Z,3.0nm,0.8s								
FFC	**Flin Flon**	**86.31**	**27**	*eP*		**P**	02 20 35.6	**-0.2**	
	comp=Z,2.7nm,0.6s								
FFC	**Flin Flon**	**86.31**	**27**	*ceP*		**P**	02 20 36.5	**+0.7**	
NVAR	**Mina Array Bea**	**88.69**	**46**	P		**P**	02 20 48.1	**+0.3**	
	comp=Z,0.1nm,0.3s,baz=268,slow=4.2,SNR=2.5								
PDAR	**Pinedale Array**	**91.14**	**39**	P		**P**	02 20 59.9	**+0.8**	
	comp=Z,0.3nm,0.5s,baz=284,slow=0.6,SNR=4.0								
KMBO	**Kilima Mbogo**	**91.52**	**270**	*eP*		**P**	02 21 01.2	**-0.2**	
	comp=Z,1.6nm,0.9s								
KMBO	**Kilima Mbogo**	**91.52**	**270**	*ceP*		**P**	02 21 04.0	**+2.6**	
KMBO	**Kilima Mbogo**	**91.52**	**270**	P		**P**	02 21 02.2	**+0.9**	
	comp=Z,1.1nm,0.8s,baz=43,slow=3.8,SNR=5.3								
ULM	**Lac du Bonnet**	**92.14**	**27**	P		**P**	02 21 02.0	**-1.3**	
ULM	**Lac du Bonnet**	**92.14**	**27**	P		**P**	02 21 01.9	**-1.3**	
	comp=Z,1.6nm,0.7s,baz=355,slow=4.5,SNR=4.0								
TORD	**Torodi Ar. Bea**	**113.77**	**301**	PKiKP		**PKiKP**	02 26 31.2	**-1.1**	
	comp=Z,1.1nm,0.8s,baz=13,slow=3.9,SNR=5.6								
PTGA	**Pitinga**	**151.04**	**17**	PKPbc		**PKiKP**	02 27 47.3	**-0.1**	
	comp=Z,3.0nm,0.5s,baz=88,slow=1.8,SNR=6.4								

ISK **16** *02:17:11.5,37.˚84N×35.˚17E,h5km,ML2.1/9*
ISCJB **16** *02:17:12.8±0.6,37.˚82N±0.˚03×35.˚17E±0.˚04,h4km±5km, Error ellipse: s-maj=5.1km s-min=4.2km az=33.4*
DDA **16** *02:17:12.2,37.˚81N×35.˚19E,h7km±4km,ML2.5*
ISC 16 02:17:13.2±1.1,37.˚83N±0.˚03×35.˚16E±0.˚03,h8km±10km, n21,σ0=88/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YAHY	**KAYSERI_Yahyal**	**0.31**	**31**	*i*	P		**Pg**	**02 17 19.3**	**-0.1**
YAHY				*i*	S		**Sg**	**02 17 23.8**	**+0.2**
AKO	**Adana**	**0.43**	**148**	*i*	P		**Pg**	**02 17 21.4**	**-0.2**
AKO					IAML_P				
	comp=Z,1μm,0.1s								
KARA	**Karaisali**	**0.57**	**188**	PG			**Pg**	**02 17 23.1**	**-1.1**
GULE	**Gulek**	**0.62**	**210**	*i*	P		**Pg**	**02 17 24.9**	**-0.2**
GULE				*i*	S		**Sg**	**02 17 33.5**	**+0.2**
KOZT	**Kozan**	**0.63**	**123**	PG			**Pg**	**02 17 25.2**	**-0.1**
KOZT				SG			**Sb**	**02 17 34.4**	**-1.0**
SAIM	**ADANA**	**0.74**	**78**	*i*	P		**Pg**	**02 17 27.6**	**+0.1**
SAIM				*i*	S		**Sg**	**02 17 36.5**	**-0.8**
CEYT	**Ceyhan**	**0.94**	**150**	PG			**Pb**	**02 17 31.4**	**-0.2**
CEYT				SG			**Sn**	**02 17 45.0**	**-1.1**
ANDN	**Andirin**	**0.97**	**104**	*i*	P		**Pg**	**02 17 31.3**	**-0.5**
ANDN				*i*	S		**Sg**	**02 17 44.4**	**0.0**
ANDN					IAML_P				
	comp=Z,248nm,0.1s								
AVNS	**Nevsehir-Avano**	**1.01**	**346**	*i*	P		**Pg**	**02 17 31.4**	**-1.2**
AVNS					IAML_P				
	comp=Z,469nm,0.2s								
MERS	**Mersin**	**1.08**	**208**	PN			**Pg**	**02 17 33.5**	**-0.4**
MERS				SN			**Sn**	**02 17 49.6**	**-0.2**
BNN	**Bunyan**	**1.16**	**28**	PN			**Pg**	**02 17 34.1**	**-1.3**
SULT	**Sultanhani-AKS**	**1.35**	**287**	PN			**Pn**	**02 17 38.5**	**+0.1**
SULT				SN			**Sg**	**02 17 58.3**	**+1.7**
AKSY	**AKSARAY - Alti**	**1.38**	**307**	*i*	P		**Pb**	**02 17 39.3**	**+0.1**
KMRS	**Kahramanmaras**	**1.42**	**102**	PN			**Pg**	**02 17 39.9**	**-0.4**
SIRC	**Yozgat**	**1.51**	**360**	*i*	P		**Pg**	**02 17 42.0**	**-0.1**
ELBS	**KAHRAMANMARAS1.64**		**72**	*i*	P		**Pn**	**02 17 42.7**	**+0.4**
ELBS					IAML_P				
	comp=Z,88nm,0.1s								
KEBE	**Keben-Mersin**	**1.80**	**220**	PN			**Pn**	**02 17 45.2**	**+0.7**
IKL	**Isikli**	**1.98**	**217**	PN			**Pn**	**02 17 47.7**	**+0.9**
MARD	**Mardin**	**4.49**	**95**	*i*	P		**Sg**	**02 19 37.6**	**+0.2**
MARD					IAML_P				
	comp=Z,3μm,0.2s								
SRTM	**Siirt_Merkez**	**5.35**	**86**	*i*	P		**Pg**	**02 18 58.1**	**+2.4**
SRTM					IAML_P				
	comp=Z,713nm,0.1s								
SIRN	**Sirnak**	**5.76**	**91**	*i*	P		Pg	02 19 09.6	+6.0
SIRN				*i*	S		Sn	02 19 22.5	-23

MOS **16** *02:17:26.1±1.2,24.˚02S×179.˚90W,h507km,mb4.7/29, Error ellipse: s-maj=12.3km s-min=9.5km az=136.8*
ISCJB **16** *02:17:27.9±0.5,24.˚16S±0.˚03×179.˚97W±0.˚04, h530km±5km,mb4.5/152,Error ellipse: s-maj=5.8km s-min=4.5km az=35.7*
IDC **16** *02:17:28.0±1.1,24.˚05S×179.˚88W,h520km±12km, mb4.0/22,mb1 4.2/23,mb1mx4.0/40,mbtmp4.8/23,Error ellipse: s-maj=11.9km s-min=10.0km az=165.0*
BJI **16** *02:17:27.8,24.˚20S×179.˚90W,h532km,mb4.8/6,mB5.0/4*
NEIC **16** *02:17:28.6±0.3,24.˚20S×179.˚90W,h532km±4km, mb4.6/144,Error ellipse: s-maj=3.8km s-min=3.0km az=141.0*
ISC 16 02:17:27.4±0.5,24.˚12S±0.˚05×179.˚80W±0.˚06, h521km±5km,h522km;pP-P,n551,σ1=7/568,mb4.6/151, 30C-28D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.37**	**162**	P		**P**	**P**	**02 19 00.5**	**+1.8**
RAO	**Raoul Island**	**5.38**	**162**	*eP*		**P**	**P**	**02 19 00.4**	**+1.7**
RAO				S		**S**	**S**	**02 20 15.5**	**+2.0**
RAO	**Raoul Island**	**5.38**	**162**	P		**P**	**P**	**02 18 59.6**	**+0.9**
RAO	**Raoul Island**	**5.38**	**162**	P		**P**	**P**	**02 19 01.0**	**+2.3**
	285nm,0.3s,baz=76,slow=7.3,SNR=28								
RAO				S		**S**	**S**	**02 20 15.5**	**+2.0**
	166nm,0.3s,baz=84,slow=16,SNR=7.0								
GLKZ	**Green Lake**	**5.39**	**162**	P		**P**	**P**	**02 19 00.4**	**+1.6**
GLKZ				S		**S**	**S**	**02 20 10.1**	**-3.5**
MSVF	**Nonsavu**	**6.67**	**342**	*eP*		**P**	**P**	**02 19 12.0**	**+0.7**
	51nm,0.8s								
NIUE	**Niue**	**10.46**	**63**	*eP*		**P**	**P**	**02 19 48.6**	**-1.2**
MARNC	**Mare, Loyalty**	**11.53**	**281**	*eP*		**P**	**P**	**02 20 00.9**	**-0.1**
PINNC	**Pines Island,**	**11.81**	**275**	*eP*		**P**	**P**	**02 20 05.3**	**+1.4**
OUENC	**Ouen Island, N**	**12.40**	**275**	*eP*		**P**	**P**	**02 20 11.0**	**+0.9**
OUZ	**Omahuta**	**12.46**	**206**	*eP*		**P**	**P**	**02 20 12.1**	**+1.6**
OUZ	**Omahuta**	**12.46**	**206**	P		**P**	**P**	**02 20 12.9**	**+2.4**
GRZ	**Great Barrier**	**12.76**	**198**	P		**P**	**P**	**02 20 14.4**	**+0.7**
WCZ	**Waipu Caves**	**12.82**	**202**	P		**P**	**P**	**02 20 16.5**	**+2.2**
DZM	**Mont Dzumac**	**12.82**	**276**	P		**P**	**P**	**02 20 15.9**	**+1.2**
	1.4nm,0.3s,baz=86,slow=16,SNR=28								
KUZ	**Kuaotunu**	**13.16**	**196**	P		**P**	**P**	**02 20 18.7**	**+0.9**
WIAZ	**Waiheke Island**	**13.36**	**198**	P		**P**	**P**	**02 20 21.1**	**+1.2**
MXZ	**Matakaoa Point**	**13.49**	**186**	*eP*		**P**	**P**	**02 20 21.1**	**-0.2**
MXZ	**Matakaoa Point**	**13.49**	**186**	P		**P**	**P**	**02 20 19.5**	**-1.9**
ETAZ	**East Tamaki Re**	**13.57**	**198**	P		**P**	**P**	**02 20 23.4**	**+1.3**
MKAZ	**Moumakai**	**13.64**	**197**	P		**P**	**P**	**02 20 23.7**	**+0.8**
WTAZ	**Waiatarua**	**13.65**	**199**	P		**P**	**P**	**02 20 23.9**	**+0.9**
WMGZ	**Waiomatatini S**	**13.74**	**186**	P		**P**	**P**	**02 20 23.8**	**-0.1**
HAZ	**Te Kaha**	**13.75**	**188**	P		**P**	**P**	**02 20 23.0**	**-1.0**
PKGZ	**Pakihiroa**	**13.84**	**187**	P		**P**	**P**	**02 20 25.6**	**+0.6**
RUGZ	**Raukumara Rang**	**13.97**	**188**	P		**P**	**P**	**02 20 27.2**	**+0.7**
TOZ	**Tahuroa Road**	**14.15**	**195**	P		**P**	**P**	**02 20 28.8**	**+0.6**
KMRZ	**Kaimai**	**14.15**	**194**	P		**P**	**P**	**02 20 29.1**	**+0.8**
URZ	**Urewera**	**14.34**	**190**	*eP*		**P**	**P**	**02 20 28.8**	**-1.3**
URZ				S		**S**	**S**	**02 23 00.5**	**-0.4**
URZ	**Urewera**	**14.34**	**190**	P		**P**	**P**	**02 20 27.3**	**-2.9**
	2.4nm,0.3s,baz=348,slow=2.8,SNR=18								
URZ				S		**S**	**S**	**02 23 00.5**	**-0.4**
	3.1nm,0.3s,baz=237,slow=23,SNR=25								
URZ	**Urewera**	**14.34**	**190**	P		**P**	**P**	**02 20 27.6**	**-2.5**
MWZ	**Matawai**	**14.35**	**189**	P		**P**	**P**	**02 20 29.4**	**-0.9**
RAGZ	**Rawiri**	**14.52**	**189**	P		**P**	**P**	**02 20 32.4**	**+0.2**
RIGZ	**Rimuhau**	**14.69**	**188**	P		**P**	**P**	**02 20 35.1**	**+1.2**
SNGZ	**Shannon Statio**	**14.81**	**189**	P		**P**	**P**	**02 20 37.1**	**+1.9**
MRHZ	**Matea Rd**	**15.01**	**191**	P		**P**	**P**	**02 20 35.3**	**-2.0**
WATZ	**Wairara**	**15.03**	**194**	P		**P**	**P**	**02 20 39.8**	**+2.4**
HIZ	**Hauiti**	**15.05**	**196**	*eP*		**P**	**P**	**02 20 37.5**	**-0.2**
HIZ	**Hauiti**	**15.05**	**196**	P		**P**	**P**	**02 20 38.4**	**+0.8**
WHHZ	**Waihua**	**15.12**	**189**	P		**P**	**P**	**02 20 40.4**	**+2.1**
BKZ	**Black Stump Fm**	**15.32**	**191**	*eP*		**P**	**P**	**02 20 39.7**	**-0.8**
	24nm,0.7s								
BKZ	**Black Stump Fm**	**15.32**	**191**	P		**P**	**P**	**02 20 40.2**	**-0.3**
TWVZ	**Taurewa**	**15.44**	**194**	P		**P**	**P**	**02 20 41.4**	**-0.4**
FWVZ	**Far West T-bar**	**15.59**	**194**	P		**P**	**P**	**02 20 43.0**	**-0.5**
TRVZ	**Turoa**	**15.63**	**194**	P		**P**	**P**	**02 20 43.1**	**-0.9**
BHHZ	**Black Hill Sta**	**15.71**	**192**	P		**P**	**P**	**02 20 41.0**	**-3.6**
KRHZ	**Kereru**	**15.81**	**191**	P		**P**	**P**	**02 20 44.5**	**-1.0**
NBEZ	**Newall Road No**	**16.02**	**198**	P		**P**	**P**	**02 20 50.7**	**+3.1**
PNHZ	**Pukenui**	**16.10**	**191**	P		**P**	**P**	**02 20 46.7**	**-1.8**
PXZ	**Pawanui**	**16.11**	**189**	P		**P**	**P**	**02 20 46.8**	**-1.7**
NMEZ	**Namu Road**	**16.16**	**198**	P		**P**	**P**	**02 20 52.4**	**+3.4**
WAZ	**Wanganui**	**16.20**	**195**	P		**P**	**P**	**02 20 48.9**	**-0.5**
TSZ	**Takapari Road**	**16.29**	**192**	P		**P**	**P**	**02 20 48.3**	**-2.1**
PRHZ	**Porangahau**	**16.37**	**190**	P		**P**	**P**	**02 20 50.4**	**-0.8**
DVHZ	**Dannevirke**	**16.48**	**191**	P		**P**	**P**	**02 20 50.1**	**-2.2**
ANWZ	**Angora Road**	**16.59**	**190**	P		**P**	**P**	**02 20 51.6**	**-1.6**
PRWZ	**Pori Road**	**16.77**	**191**	P		**P**	**P**	**02 20 53.9**	**-1.1**
BFZ	**Birch Farm**	**16.84**	**190**	*eP*		**P**	**P**	**02 20 54.7**	**-1.1**
	43nm,0.6s								
BFZ	**Birch Farm**	**16.84**	**190**	P		**P**	**P**	**02 20 52.6**	**-3.2**
MRZ	**Mangatainoka R**	**16.94**	**192**	P		**P**	**P**	**02 20 53.1**	**-3.6**
OGWZ	**Otaki Gorge**	**17.17**	**193**	P		**P**	**P**	**02 20 56.3**	**-2.6**
HOWZ	**Holdsworth Sta**	**17.18**	**192**	P		**P**	**P**	**02 20 57.7**	**-1.4**
KIW	**Kapiti Island**	**17.27**	**194**	P		**P**	**P**	**02 20 56.5**	**-3.4**
KIW				S		**S**	**S**	**02 23 52.6**	**-0.7**
TMWZ	**Te Maipa**	**17.32**	**191**	P		**P**	**P**	**02 20 59.2**	**-1.1**
TMWZ				S		**S**	**S**	**02 23 52.7**	**-1.4**
DUWZ	**D'Urville Isla**	**17.45**	**196**	P		**P**	**P**	**02 21 00.6**	**-0.8**
DUWZ				S		**S**	**S**	**02 23 56.4**	**+0.2**
CAW	**Cannon Point**	**17.47**	**193**	P		**P**	**P**	**02 21 00.1**	**-1.6**
CAW				S		**S**	**S**	**02 23 55.2**	**-1.3**
TRWZ	**Traveller**	**17.64**	**191**	P		**P**	**P**	**02 21 02.2**	**-1.0**
PAWZ	**Paruwai Farm**	**17.67**	**192**	P		**P**	**P**	**02 21 02.5**	**-1.0**
MSWZ	**Moikau Station**	**17.73**	**192**	P		**P**	**P**	**02 21 02.5**	**-1.6**
SNZO	**South Karori**	**17.74**	**194**	*eP*		**P**	**P**	**02 21 02.9**	**-1.2**
	88nm,0.8s								
BHW	**Baring Head**	**17.80**	**193**	P		**P**	**P**	**02 21 04.5**	**-0.2**
QRZ	**Quartz Range**	**17.85**	**199**	P		**P**	**P**	**02 21 05.4**	**+0.2**
PLWZ	**Palliser**	**17.88**	**192**	P		**P**	**P**	**02 21 03.2**	**-2.3**
NNZ	**Nelson**	**17.98**	**197**	P		**P**	**P**	**02 21 04.9**	**-1.3**
TUWZ	**Tuamarina**	**18.03**	**195**	P		**P**	**P**	**02 21 05.7**	**-1.0**
THZ	**Tophouse**	**18.61**	**197**	*eP*		**P**	**P**	**02 21 12.0**	**-0.2**
	57nm,0.5s								
KHZ	**Kahutara**	**19.06**	**195**	*eP*		**P**	**P**	**02 21 15.4**	**-0.7**
	67nm,1.0s								
LTZ	**Lake Taylor**	**19.73**	**198**	*eP*		**P**	**P**	**02 21 21.2**	**-1.1**
	89nm,0.7s								
OXZ	**Oxford**	**20.30**	**197**	*eP*		**P**	**P**	**02 21 26.3**	**-1.1**
	97nm,0.7s								
CRLZ	**Canterbury Las**	**20.38**	**196**	*eP*		**P**	**P**	**02 21 28.5**	**+0.4**
	32nm,0.7s								
MQZ	**McQueen's Vall**	**20.50**	**196**	*eP*		**P**	**P**	**02 21 28.6**	**-0.6**
	31nm,0.9s								
RPZ	**Rata Peaks**	**20.94**	**199**	*eP*		**P**	**P**	**02 21 33.6**	**+0.4**
	46nm,0.6s								
RPZ	**Rata Peaks**	**20.94**	**199**	P		**P**	**P**	**02 21 33.9**	**+0.7**
	47nm,0.5s,baz=312,slow=1.3,SNR=26								
FOZ	**Fox Glacier**	**21.16**	**201**	*eP*		**P**	**P**	**02 21 34.6**	**-0.6**
	31nm,0.8s								
LBZ	**Lake Benmore**	**21.81**	**200**	*eP*		**P**	**P**	**02 21 40.1**	**-0.9**
	53nm,1.7s								
ODZ	**Otahua Downs**	**22.27**	**198**	*eP*		**P**	**P**	**02 21 45.2**	**0.0**
	28nm,1.3s								
MLZ	**Mavora Lakes**	**23.35**	**202**	*eP*		**P**	**P**	**02 21 55.4**	**+0.5**
	77nm,1.8s								
DCZ	**Deep Cove**	**23.77**	**203**	*eP*		**P**	**P**	**02 21 58.8**	**+0.2**
	63nm,1.6s								
WHZ	**Wether Hill Ro**	**23.87**	**201**	*eP*		**P**	**P**	**02 21 59.5**	**+0.1**
	31nm,0.8s								
ARMA	**Armidale**	**26.12**	**250**	*eP*		**P**	**P**	**02 22 20.3**	**+0.6**
	22nm,0.7s								
EIDS	**Eidsvold**	**26.45**	**261**	*eP*		**P**	**P**	**02 22 22.1**	**-0.5**
	20nm,0.6s								
PPT	**Papeete**	**28.95**	**83**	*eP*		**P**	**P**	**02 22 44.1**	**-0.4**
PPT	**Papeete**	**28.95**	**83**	*eP*		**P**	**P**	**02 22 44.2**	**-0.4**
CAN	**Canberra**	**29.19**	**240**	*eP*		**P**	**P**	**02 22 47.2**	**+0.7**
	34nm,0.9s								
CAN	**Canberra**	**29.19**	**240**	*eP*		**P**	**P**	**02 22 47.2**	**+0.7**
CAN						pmax	pmax		
	comp=Z,35nm,0.9s								
CTA	**Charters Tower**	**31.66**	**271**	P		**P**	**P**	**02 23 08.6**	**+0.6**
	comp=Z,36nm,0.5s,baz=94,slow=11,SNR=74								
CTAO	**Charters Tower**	**31.66**	**271**	*eP*		**P**	**P**	**02 23 08.2**	**+0.3**
	comp=Z,44nm,0.8s								
CTAO	**Charters Tower**	**31.66**	**271**	*eP*		**P**	**P**	**02 23 08.2**	**+0.3**
CTAO						pmax	pmax		
	comp=Z,44nm,0.8s								
TOO	**Toolangi**	**32.48**	**237**	*eP*		**P**	**P**	**02 23 15.1**	**+0.3**
	comp=Z,21nm,0.7s								
TOO	**Toolangi**	**32.48**	**237**	*eP*		**P**	**P**	**02 23 15.1**	**+0.3**
TOO						pmax	pmax		
	comp=Z,21nm,0.7s								
TAU	**Tasmania Unive**	**32.92**	**227**	*eP*		**P**	**P**	**02 23 18.2**	**-0.1**
	comp=Z,100nm,1.6s								
TAU	**Tasmania Unive**	**32.92**	**227**	*eP*		**P**	**P**	**02 23 18.2**	**-0.1**
TAU						pmax	pmax		
	comp=Z,100nm,1.6s								
STKA	**Stephens Creek**	**34.81**	**248**	*eP*		**P**	**P**	**02 23 34.7**	**+0.3**
	comp=Z,6.0nm,1.2s								
STKA	**Stephens Creek**	**34.81**	**248**	*eP*		**P**	**P**	**02 23 34.7**	**+0.3**
STKA						pmax	pmax		
	comp=Z,6.0nm,1.2s								
STKA	**Stephens Creek**	**34.81**	**248**	P		**P**	**P**	**02 23 35.0**	**+0.6**
	comp=Z,8.8nm,0.5s,baz=97,slow=11,SNR=20								
COEN	**Coen**	**36.33**	**279**	*eP*		**P**	**P**	**02 23 47.9**	**+0.6**
	comp=Z,16nm,1.0s								
BBOO	**Buckleboo**	**39.53**	**247**	*eP*		**P**	**P**	**02 24 12.0**	**-1.1**
	comp=Z,23nm,0.7s								
AS01	**Alice Springs**	**42.14**	**261**	*eP*		**P**	**P**	**02 24 33.7**	**-0.4**
AS31	**Alice Springs**	**42.18**	**261**	*eP*		**P**	**P**	**02 24 34.4**	**0.0**
	comp=Z,15nm,1.4s								
ASAR	**Alice Springs**	**42.18**	**261**	P		**P**	**P**	**02 24 34.4**	**0.0**
	comp=Z,22nm,0.9s,baz=95,slow=8.1,SNR=136								
ASAR						ScP	**ScP**	**02 29 20.1**	**+2.4**
	comp=Z,4.7nm,0.8s,baz=108,slow=4.3,SNR=17								
ASAR						S	**S**	**02 30 16.0**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=99,slow=14,SNR=4.6								
WB2	**Warramunga Arr**	**42.56**	**266**	*eP*		**P**	**P**	**02 24 35.9**	**-1.6**
WRAB	**Tennant Creek**	**42.57**	**266**	*eP*		**P**	**P**	**02 24 36.0**	**-1.5**
	comp=Z,11nm,0.4s								
WRAB	**Tennant Creek**	**42.57**	**266**	*iP*		**P**	**P**	**02 24 36.8**	**-0.7**
WRAB						pmax	pmax		
	comp=Z,26nm,0.8s								
WRA	**Warramunga Arr**	**42.58**	**266**	P		**P**	**P**	**02 24 36.9**	**-0.7**
	comp=Z,23nm,0.6s,baz=103,slow=8.2,SNR=212								
WRA						ScP	**ScP**	**02 29 22.2**	**+3.0**
	comp=Z,5.3nm,1.0s,baz=97,slow=4.6,SNR=10								
WRA						S	**S**	**02 30 18.2**	**-4.3**
	comp=Z,1.9nm,1.0s,baz=101,slow=14,SNR=6.2								
FORT	**Forrest**	**46.41**	**250**	*eP*		**P**	**P**	**02 25 06.6**	**-0.3**
	comp=Z,77nm,0.6s								
FAKI	**Fak Fak**	**50.82**	**287**	*eP*		**P**	**P**	**02 25 38.6**	**-1.4**
	comp=Z,13nm,1.0s								
FITZ	**Fitzroy Crossi**	**50.99**	**266**	*eP*		**P**	**P**	**02 25 41.0**	**-0.1**
	comp=Z,17nm,0.8s								
SIJI	**Sorong**	**52.68**	**289**	P		**P**	**P**	**02 25 53.1**	**-0.3**
	comp=Z,25nm,0.7s,baz=94,slow=4.5,SNR=12								
SOEI	**Soe**	**55.05**	**275**	*eP*		**P**	**P**	**02 26 10.9**	**+0.6**
	comp=Z,45nm,1.2s								
MBWA	**Marble Bar**	**55.52**	**260**	*eP*		**P**	**P**	**02 26 12.4**	**-0.9**
QSPA	**South Pole Qui**	**65.96**	**180**	*eP*		**P**	**P**	**02 27 22.7**	**+1.1**
QSPA	**South Pole Qui**	**65.96**	**180**	P		**P**	**P**	**02 27 23.6**	**+2.0**
	comp=Z,4.4nm,0.6s,baz=323,slow=0.5,SNR=28								
MJAR	**Matsushiro Arr**	**72.18**	**326**	P		**P**	**P**	**02 27 58.8**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=166,slow=5.7,SNR=11								
MAJO	**Matsushiro**	**72.19**	**326**	*eP*		**P**	**P**	**02 27 58.8**	**-0.5**
	comp=Z,5.3nm,0.7s								
MAJO	**Matsushiro**	**72.19**	**326**	*eP*		**P**	**P**	**02 27 58.8**	**-0.5**
MAJO						pmax	pmax		
	comp=Z,5.0nm,0.7s								
YSS	**Yuzh-Sakhalins**	**78.41**	**335**	*eP*		**P**	**P**	**02 28 34.5**	**+0.8**
	comp=Z,12nm,0.6s								
YSS	**Yuzh-Sakhalins**	**78.41**	**335**	*eP*		**P**	**P**	**02 28 34.9**	**+1.2**
YSS						pmax	pmax		
	comp=Z,20nm,0.8s								
KSRS	**Korea Array**	**78.53**	**320**	P		**P**	**P**	**02 28 35.5**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=133,slow=5.7,SNR=12								
KSAR	**Wonju Array Be**	**78.55**	**320**	P		**P**	**P**	**02 28 35.5**	**+0.9**
KSAR	**Wonju Array Be**	**78.55**	**320**	P		**P**	**P**	**02 28 35.6**	**+0.9**
KS01	**Wonju Array Si**	**78.57**	**320**	*eP*		**P**	**P**	**02 28 35.4**	**+0.5**
PETK	**Petropavlovsk-**	**79.36**	**346**	*eP*		**P**	**P**	**02 28 38.4**	**-0.2**
PETK	**Petropavlovsk-**	**79.36**	**346**	*eP*		**P**	**P**	**02 28 38.4**	**-0.2**
PETK	**Petropavlovsk-**	**79.36**	**346**	P		**P**	**P**	**02 28 39.0**	**+0.4**
	comp=Z,14nm,0.9s,baz=138,slow=7.3,SNR=9.1								
NJ2	**Nanjing**	**80.94**	**311**	*eP*		**P**	P	02 28 37.8	-10
NJ2						pmax	pmax		
	comp=Z,10.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**81.05**	**327**	P		**P**	**P**	**02 28 49.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**81.05**	**327**	P		**P**	**P**	**02 28 49.0**	**+1.3**
	comp=Z,3.6nm,0.6s,baz=156,slow=4.7,SNR=7.1								
109C	**Camp Elliot, M**	**82.36**	**49**	P		**P**	**P**	**02 28 55.8**	**+1.2**
	baz=235								
ARVC	**Arvin**	**82.49**	**46**	P		**P**	**P**	**02 28 56.6**	**+1.3**
	baz=234								
MURC	**Murrieta**	**82.70**	**48**	P		**P**	**P**	**02 28 57.5**	**+1.1**
	baz=235								
VES	**Vestal, Richgr**	**82.75**	**46**	P		**P**	**P**	**02 28 57.4**	**+0.9**
	baz=233								
BFSC	**Mount Baldy Ra**	**82.75**	**48**	P		**P**	**P**	**02 28 57.8**	**+1.0**
	baz=234								
MONP2	**Monument Peak**	**82.83**	**49**	P		**P**	**P**	**02 28 59.0**	**+1.6**
	baz=235,SNR=9.7								
SRIG	**Santa Rosalia**	**82.83**	**56**	*eP*		**P**	**P**	**02 28 58.0**	**+0.9**
	comp=Z,17nm,1.0s								
SYO	**Syowa Base**	**82.84**	**193**	*eP*		**P**	**P**	**02 28 56.6**	**+0.1**
EDW2	**Edwards Air Fo**	**82.90**	**47**	P		**P**	**P**	**02 28 58.7**	**+1.2**
	baz=234								
IKP	**In-Ko-Pah, Jac**	**82.91**	**50**	P		**P**	**P**	**02 28 59.1**	**+1.5**
	baz=236								
ISA	**Isabella, Lake**	**83.04**	**46**	*eP*		**P**	**P**	**02 28 59.0**	**+0.9**
	comp=Z,13nm,0.8s								
ISA	**Isabella, Lake**	**83.04**	**46**	*eP*		**P**	**P**	**02 28 59.0**	**+0.9**
ISA						pmax	pmax		
	comp=Z,13nm,0.8s								
ISA	**Isabella, Lake**	**83.04**	**46**	P		**P**	**P**	**02 28 59.5**	**+1.4**
	baz=234,SNR=6.2								
O02D	**Mt. Diablo Mer**	**83.11**	**40**	P		**P**	**P**	**02 29 00.4**	**+2.0**
	baz=230,SNR=11								
PFO	**Pinyon Flats O**	**83.21**	**49**	*eP*		**P**	**P**	**02 29 00.1**	**+1.1**
	comp=Z,12nm,1.4s								
PFO	**Pinyon Flats O**	**83.21**	**49**	P		**P**	**P**	**02 29 00.3**	**+1.2**
	baz=235								
PFO	**Pinyon Flats O**	**83.21**	**49**	P		**P**	**P**	**02 29 00.2**	**+1.1**
	comp=Z,4.6

KVN **Kaiserville** 85.28 43 *e*P P 02 29 10.2 +0.9
comp=Z,6.1nm,0.9s
KVN **Kaiserville** 85.28 43 *e*P P 02 29 10.2 +0.9
KVN pmax pmax
comp=Z,6.0nm,0.9s
J04D **Umpqua Nationa** 85.44 38 P P 02 29 11.5 +1.5
baz=231
I04A **Tendick Farm,** 85.62 38 P P 02 29 11.7 +1.1
baz=230
MOD **Modoc Plateau** 85.65 40 *e*P P 02 29 12.0 +1.0
comp=Z,19nm,1.5s
SHPR **Sheep Range** 85.72 47 *e*P P 02 29 12.3 +0.9
comp=Z,3.6nm,0.8s
Y14A **Wickenburg** 85.79 50 *e*P P 02 29 12.6 +1.0
comp=Z,5.4nm,1.0s
H04D **Lebanon** 85.91 37 P P 02 29 13.3 +1.4
baz=230
J05D **Fort Rock, OR** 85.97 39 P P 02 29 13.8 +1.4
baz=231
H04A **Detroit Lake** 86.31 37 *e*P P 02 29 14.6 +0.7
comp=Z,6.2nm,0.7s
R11A **Troy Canyon, C** 86.48 45 P P 02 29 15.7 +0.7
baz=235
TUC **Tucson** 86.51 52 *e*P P 02 29 16.6 +1.4
comp=Z,16nm,0.9s
TUC **Tucson** 86.51 52 P P 02 29 17.4 +2.3
baz=239
I05D **Terrebonne, OR** 86.57 38 P P 02 29 16.3 +1.2
baz=231
BMN **Battle Mountai** 86.64 43 *e*P P 02 29 16.7 +1.1
comp=Z,7.1nm,0.9s
MA2 **Magadan** 86.84 345 *e*P P 02 29 15.5 -0.4
comp=Z,15nm,1.1s
MA2 **Magadan** 86.84 345 *de*P P 02 29 16.0 +0.1
MA2 pmax pmax
comp=Z,14nm,1.0s
MA2 **Magadan** 86.84 345 P P 02 29 15.8 -0.1
comp=Z,3.4nm,0.4s,baz=140,slow=5.7,SNR=7.1
WVOR **Wild Horse Val** 86.96 40 *e*P P 02 29 18.2 +1.1
comp=Z,12nm,1.1s
WVOR **Wild Horse Val** 86.96 40 *e*P P 02 29 18.2 +1.1
WVOR pmax pmax
comp=Z,12nm,1.1s
GYA **Guiyang** 87.02 301 *e*P P 02 29 10.3 -7.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
319A **Douglas** 87.13 54 *e*P P 02 29 19.8 +1.6
comp=Z,24nm,1.0s
X16A **Lo Mia Camp, P** 87.14 50 *e*P P 02 29 19.4 +1.2
comp=Z,6.3nm,0.9s
G05D **Wamic, OR** 87.14 37 P P 02 29 18.8 +1.1
baz=231
LCMT **Little Creek M** 87.28 47 *e*P P 02 29 19.7 +0.9
comp=Z,7.2nm,1.0s
E04D **Cinebar** 87.30 36 P P 02 29 19.9 +1.5
baz=230
I07A **Izee** 87.45 39 *e*P P 02 29 20.3 +1.0
comp=Z,19nm,1.0s
F05D **White Salmon** 87.47 37 P P 02 29 20.2 +1.0
baz=231
CCUT **Cedar City** 87.50 47 *e*P P 02 29 21.5 +1.7
comp=Z,6.5nm,1.0s
KNB **Kanab** 87.57 48 *e*P P 02 29 21.4 +1.3
comp=Z,8.7nm,1.0s
KNB **Kanab** 87.57 48 *e*P P 02 29 21.4 +1.3
KNB pmax pmax
comp=Z,9.0nm,1.0s
D04E **Lakebay** 87.59 35 P P 02 29 21.7 +2.0
baz=230
J08A **Circle Bar Ran** 87.61 40 *e*P P 02 29 20.9 +0.8
comp=Z,26nm,1.2s
U15A **North Rim** 87.61 48 *e*P P 02 29 21.9 +1.4
comp=Z,12nm,1.0s
D03D **Eldon** 87.65 35 P P 02 29 21.4 +1.4
baz=230
PSUT **Pine Spring** 87.71 46 *e*P P 02 29 21.9 +1.1
comp=Z,2.9nm,0.8s
HPIG 87.71 59 *e*P P 02 29 22.1 +1.0
comp=Z,7.7nm,0.8s
WUAZ **Wupatki** 87.76 49 *e*P P 02 29 22.3 +1.3
comp=Z,8.7nm,1.4s
WUAZ **Wupatki** 87.76 49 P P 02 29 22.3 +1.3
baz=238
LON **Longmire** 87.83 36 *e*P P 02 29 22.1 +1.1
comp=Z,6.9nm,0.8s
LON **Longmire** 87.83 36 *e*P P 02 29 22.1 +1.1
LON pmax pmax
comp=Z,7.0nm,0.8s
GO06 **Curarrehue** 87.94 133 *e*P P 02 29 22.5 +0.6
comp=Z,9.2nm,1.0s
PLCA **Paso Flores** 87.98 134 *e*P P 02 29 23.0 +1.0
comp=Z,9.9nm,1.3s
PLCA **Paso Flores** 87.98 134 *e*P P 02 29 23.0 +1.0
PLCA pmax pmax
comp=Z,10.0nm,1.3s
PLCA **Paso Flores** 87.98 134 P P 02 29 24.1 +2.1
comp=Z,2.5nm,0.9s,baz=23,slow=3.3,SNR=4.0
D05A **Enumclaw** 88.01 35 *e*P P 02 29 22.9 +1.3
comp=Z,36nm,1.0s
ELK **Elko** 88.05 43 *e*P P 02 29 23.4 +1.0
comp=Z,3.2nm,0.8s
ELK **Elko** 88.05 43 *e*P P 02 29 23.4 +1.0
ELK pmax pmax
comp=Z,3.0nm,0.8s
PKCU **Pink Cliffs** 88.14 47 *e*P P 02 29 24.6 +1.6
comp=Z,14nm,0.9s
PGC **Sidney** 88.19 34 *e*P P 02 29 23.7 +1.3
comp=Z,19nm,1.0s
X18A **Snowflake** 88.25 51 *e*P P 02 29 24.5 +1.1
comp=Z,6.1nm,0.9s
RC01 **Rabbit Creek A** 88.33 14 *e*P P 02 29 23.2 +0.4
comp=Z,15nm,0.9s
SUA **Susitna Ova** 88.45 13 *e*P P 02 29 23.6 +0.1
comp=Z,18nm,0.7s
G08A **Pilot Rock** 88.49 38 *e*P P 02 29 25.0 +0.9
comp=Z,19nm,1.1s
MTPU **Mount Pierson** 88.55 47 *e*P P 02 29 25.9 +0.9
comp=Z,7.8nm,0.8s
A04D **Lummi Island** 88.61 34 P P 02 29 26.5 +2.1
baz=230
B05A **Bryant** 88.64 34 P P 02 29 25.7 +1.2
baz=230
W18A **Petrified Fore** 88.70 50 P P 02 29 26.6 +1.1
baz=239
LTY **Liberty** 88.75 36 *e*P P 02 29 26.4 +1.2
comp=Z,8.2nm,0.9s
MSU **Marysvale** 88.80 47 *e*P P 02 29 27.2 +1.2
121A **Cookes Peak, D** 88.81 53 P P 02 29 27.5 +1.5
baz=240
HAWA **Hanford** 88.84 37 *e*P P 02 29 26.2 +0.6
comp=Z,17nm,1.0s
PMR **Palmer** 88.92 14 *e*P P 02 29 25.8 +0.2
comp=Z,11nm,0.9s
PMR **Palmer** 88.92 14 *e*P P 02 29 25.8 +0.2
PMR pmax pmax
comp=Z,11nm,0.9s
XAN **Xi'an** 89.02 308 P P 02 29 28.5 +1.7
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN pmax pmax
comp=Z,41nm,4.6s
E08A **Dider Farm, El** 89.16 37 *e*P P 02 29 28.0 +0.9
comp=Z,16nm,1.3s
BMO **Blue Mountains** 89.17 39 *e*P P 02 29 27.5 +0.2
comp=Z,19nm,1.8s
BMO **Blue Mountains** 89.17 39 *e*P P 02 29 27.5 +0.2
BMO pmax pmax
comp=Z,19nm,1.8s
DUG **Dugway, Tooele** 89.29 45 *e*P P 02 29 29.2 +1.2
comp=Z,6.0nm,1.4s
DUG **Dugway, Tooele** 89.29 45 P P 02 29 29.0 +0.9
baz=237
SEY **Seymchan** 89.53 348 *ce*P P 02 29 28.3 -0.1
SEY **Seymchan** 89.53 348 P P 02 29 28.7 +0.3
comp=Z,4.7nm,0.6s,baz=149,slow=5.4,SNR=18
KMI **Kunming** 89.53 298 P P 02 29 21.8 -7.8
KMI pmax pmax
comp=Z,18nm,0.6s
D08A **Wollman Farm,** 89.57 37 *e*P P 02 29 30.0 +1.0
comp=Z,9.9nm,0.9s
NLU **North Lily Min** 89.64 45 *e*P P 02 29 30.6 +0.9
comp=Z,3.4nm,1.0s
E09A **Wood Farm, Sta** 89.67 37 *e*P P 02 29 30.5 +1.0
comp=Z,8.1nm,1.0s
Q16A **Castle Valley** 89.69 47 *e*P P 02 29 31.0 +1.0
comp=Z,7.1nm,0.9s
CMAR **Chiang Mai Arr** 89.78 290 P P 02 29 32.0 +1.4
comp=Z,0.9nm,0.3s,baz=113,slow=2.8,SNR=6.7

TMUT **Trail Mountain** 89.86 46 *e*P P 02 29 31.7 +0.7
comp=Z,17nm,0.8s
F10A **Beach Ranch, E** 89.87 38 *e*P P 02 29 30.5 0.0
comp=Z,6.3nm,0.8s
MPU **Maple Canyon** 89.96 45 *e*P P 02 29 32.4 +1.2
comp=Z,6.4nm,0.8s
SPUT **South Promonto** 90.12 44 *e*P P 02 29 32.5 +0.6
comp=Z,10.0nm,0.9s
B08A **Colville Reser** 90.14 35 *e*P P 02 29 31.7 +0.1
comp=Z,3.1nm,0.8s
HLID **Hailey** 90.14 41 *e*P P 02 29 32.5 +0.6
comp=Z,7.0nm,0.9s
HLID **Hailey** 90.14 41 P P 02 29 33.2 +1.2
baz=236
HVU **Hansel Valley** 90.17 44 *e*P P 02 29 33.3 +1.2
comp=Z,9.1nm,0.8s
MNTX **Cornudas Mount** 90.19 55 *e*P P 02 29 33.0 +0.7
comp=Z,7.3nm,1.0s
MNTX **Cornudas Mount** 90.19 55 P P 02 29 33.6 +1.3
baz=242
LENM **Lemitar** 90.20 52 *e*P P 02 29 33.4 +1.0
SRU **San Rafael Swe** 90.22 47 *e*P P 02 29 33.1 +0.7
comp=Z,13nm,0.9s
SRU **San Rafael Swe** 90.22 47 *e*P P 02 29 33.1 +0.7
SRU pmax pmax
comp=Z,13nm,0.9s
CTU **Camp Tracy** 90.24 45 *e*P P 02 29 33.1 +0.6
comp=Z,9.2nm,0.9s
P17A **Butcher Ranch,** 90.26 46 *e*P P 02 29 33.8 +1.1
comp=Z,7.6nm,1.0s
TRF **Thorofare Moun** 90.33 13 *e*P P 02 29 31.9 -0.4
comp=Z,11nm,0.9s
JLU **Jordanelle** 90.39 45 *e*P P 02 29 34.1 +0.8
comp=Z,4.9nm,0.8s
TX31 **Lajitas Ar. Si** 90.39 58 *e*P P 02 29 34.2 +0.9
TXAR **Lajitas Array** 90.39 58 P P 02 29 34.9 +1.6
comp=Z,6.4nm,0.7s,baz=214,slow=6.4,SNR=89
RND **Reindeer** 90.59 13 *e*P P 02 29 33.5 +0.1
comp=Z,8.7nm,0.8s
RND **Reindeer** 90.59 13 *e*P P 02 29 33.5 +0.1
RND pmax pmax
comp=Z,9.0nm,0.8s
MVCO **Mesa Verde** 90.62 49 P P 02 29 35.0 +0.5
baz=240
P18A **Preston Nutter** 90.67 46 *e*P P 02 29 35.2 +0.6
comp=Z,4.1nm,0.9s
TCUT **Toone Canyon** 90.69 45 *e*P P 02 29 35.2 +0.5
comp=Z,25nm,0.9s
HHC **Hu-ho-hao-te** 90.71 315 *e*P P 02 29 25.3 -9.2
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,40nm,4.6s
HHC **Hu-ho-hao-te** 90.71 315 *e*P P 02 29 35.8 +1.3
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,130nm,6.6s
HWUT **Hardware Ranch** 90.85 44 *e*P P 02 29 35.9 +0.7
comp=Z,4.1nm,0.8s
PV23 **Carpenter Ridg** 90.89 48 *e*P P 02 29 36.4 +0.7
comp=Z,5.1nm,0.8s
TASM **ASL Pad, Albuq** 90.95 52 P P 02 29 36.7 +0.9
baz=241
TASM **ASL Pad, Albuq** 90.95 52 P P 02 29 36.8 +0.9
baz=241
ANMO **Albuquerque** 90.95 52 *e*P P 02 29 36.5 +0.6
comp=Z,5.4nm,1.0s
ANMO **Albuquerque** 90.95 52 *ce*P P 02 29 36.8 +0.8
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO **Albuquerque** 90.95 52 P P 02 29 36.7 +0.8
baz=241
PV01 **Paradox Valley** 91.04 48 *e*P P 02 29 36.8 +0.5
comp=Z,3.4nm,0.7s
CD2 **Chengdu** 91.36 303 *e*P P 02 29 30.3 -7.4
WRH **Wood River Hil** 91.69 13 *e*P P 02 29 38.0 -0.3
comp=Z,6.3nm,1.0s
DOT **Dot Lake** 91.88 15 *e*P P 02 29 38.7 -0.6
comp=Z,16nm,1.4s
CCB **Clear Creek Bu** 91.90 13 *e*P P 02 29 38.5 -0.8
comp=Z,11nm,1.6s
IM3 **Indian Mountai** 92.00 10 *e*P P 02 29 39.6 -0.1
S22A **4UR Ranch, Cre** 92.04 49 *e*P P 02 29 41.6 +0.6
comp=Z,5.2nm,0.9s
S22A **4UR Ranch, Cre** 92.04 49 P P 02 29 42.1 +1.1
baz=241
COLA **College** 92.09 13 *e*P P 02 29 39.4 -0.7
comp=Z,2.4nm,0.6s
COLA **College** 92.09 13 *i* P P 02 29 39.6 -0.5
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR **Eielson Array** 92.20 13 P P 02 29 39.9 -0.8
comp=Z,1.2nm,0.7s,baz=226,slow=5.7,SNR=14
ILB **Eielson Array** 92.20 13 *e*P P 02 29 40.1 -0.6
comp=Z,2.7nm,0.9s
IL1 **Eielson Array** 92.20 13 *e*P P 02 29 39.7 -1.0
REDW **Red Top Meadow** 92.22 43 *e*P P 02 29 42.0 +0.4
comp=Z,7.3nm,1.2s
TPAW **Teton Pass** 92.22 43 *e*P P 02 29 41.9 +0.3
comp=Z,12nm,1.6s
MSO **Missoula** 92.23 39 P P 02 29 42.5 +1.1
baz=236
FXWY **Fox Creek** 92.25 43 *e*P P 02 29 42.4 +0.7
comp=Z,3.4nm,1.3s
O20A **White River Ci** 92.25 47 *e*P P 02 29 42.9 +1.0
comp=Z,3.0nm,0.8s
O20A **White River Ci** 92.25 47 P P 02 29 42.6 +0.7
baz=240
POKR **Poker Plat Res** 92.39 13 P P 02 29 42.7 +1.1
baz=209
BILL **Bilibino** 92.47 355 *e*P P 02 29 41.5 -0.4
comp=Z,1.2nm,0.4s
BILL **Bilibino** 92.47 355 *i*P P 02 29 42.3 +0.5
BILL pmax pmax
comp=Z,5.0nm,0.9s
MOOW **Moose Ponds** 92.48 43 *e*P P 02 29 43.4 +0.6
comp=Z,10nm,1.9s
LOHW **Long Hollow** 92.50 43 *e*P P 02 29 44.0 +1.1
comp=Z,6.3nm,1.6s
SMCO **Snowmass** 92.64 48 *e*P P 02 29 45.0 +1.2
comp=Z,12nm,1.1s
FLWY **Flagg Ranch** 92.69 42 *e*P P 02 29 44.3 +0.6
comp=Z,15nm,1.7s
BW06 **Boulder Array** 92.72 44 *e*P P 02 29 44.4 +0.4
comp=Z,2.9nm,0.8s
BW06 **Boulder Array** 92.72 44 P P 02 29 44.3 +0.4
baz=239
PD31 **Pinedale Array** 92.72 44 *e*P P 02 29 44.5 +0.5
comp=Z,2.6nm,0.8s
PDAR **Pinedale Array** 92.72 44 *e*P P 02 29 43.5 -0.4
PDAR **Pinedale Array** 92.72 44 P P 02 29 44.4 +0.5
comp=Z,2.4nm,0.7s,baz=210,slow=3.9,SNR=24
BOZ **Bozeman (W)** 92.92 41 *e*P P 02 29 44.9 +0.3
comp=Z,2.4nm,0.8s
BOZ **Bozeman (W)** 92.92 41 *e*P P 02 29 44.9 +0.3
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ **Bozeman (W)** 92.92 41 P P 02 29 45.5 +0.8
baz=238
YHH **Holmes Hill** 92.96 42 *e*P P 02 29 46.1 +1.0
comp=Z,3.7nm,1.2s
MSTX **Muleshoe** 93.19 54 P P 02 29 46.6 +0.5
T25A **Trinidad** 93.45 51 P P 02 29 47.9 +0.5
baz=242
EGAK **Eagle** 93.52 16 *e*P P 02 29 47.1 +0.4
comp=Z,4.3nm,0.8s
LZH **Lanzhou** 93.66 308 *e*P P 02 29 38.3 -10
LZH pP pP 02 31 34.0 -8.6
LZH sP sP 02 32 20.6 -14
LZH PP PP 02 33 30.0 -13
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,190nm,4.3s
LCO **Las Campanas** 93.77 124 *e*P P 02 29 49.6 +0.4
comp=Z,4.9nm,0.7s
LCO **Las Campanas** 93.77 124 *e*P P 02 29 49.6 +0.4
LCO pmax pmax
comp=Z,5.0nm,0.7s
Q24A **Divide** 93.78 49 P P 02 29 49.9 +0.9
baz=242
ISCO **Idaho Springs** 93.86 48 *e*P P 02 29 49.9 +0.6
comp=Z,0.9nm,0.6s
ISCO **Idaho Springs** 93.86 48 *e*P P 02 29 49.9 +0.6
ISCO pmax pmax
comp=Z,1.0nm,0.6s
ISCO **Idaho Springs** 93.86 48 P P 02 29 49.9 +0.6
baz=242
RLMT **Red Lodge** 94.10 42 *e*P P 02 29 50.6 +0.5
comp=Z,13nm,1.8s
RLMT **Red Lodge** 94.10 42 P P 02 29 51.0 +0.9
baz=240
N23A **Red Feather La** 94.15 47 P P 02 29 51.5 +0.9
baz=242
K22A **Casper** 94.61 45 P P 02 29 52.7 +0.2
baz=241
ABTX **Abilene, Hawle** 94.95 57 P P 02 29 54.2 +0.1
baz=244
KSCO **Kaye Shedlock'** 95.55 50 P P 02 29 57.5 +0.7
baz=243
EPYK **Eagle Plains** 95.91 16 P P 02 29 57.5 -0.1
baz=219
INK **Inuvik** 98.19 16 *e*P Pdif 02 30 07.2 -0.5
comp=Z,0.9nm,0.6s
INK **Inuvik** 98.19 16 *e*P Pdif 02 30 07.2 -0.5
INK pmax pmax
comp=Z,1.0nm,0.6s
INK **Inuvik** 98.19 16 P Pdif 02 30 07.4 -0.3
comp=Z,1.4nm,0.9s,baz=219,slow=5.8,SNR=4.3
YKA **Yellowknife Ar** 100.48 25 P **Pdif** 02 30 18.7 +0.7
comp=Z,0.1nm,0.5s,baz=246,slow=4.9,SNR=4.7
RES **Resolute Bay** 111.73 17 *e*PKP **PKiKP** 02 35 00.9 -0.9
RES **Resolute Bay** 111.73 17 *e*PKIKP **PKiKP** 02 35 00.9 -0.9
ZALV **Zalesovo Beam** 112.24 321 PKiKP **PKiKP** 02 35 02.7 -0.6
comp=Z,0.7nm,0.5s,baz=171,slow=1.6,SNR=5.1
MKAR **Makanchi Array** 112.44 313 PKiKP **PKiKP** 02 35 03.2 -0.8
comp=Z,1.1nm,0.7s,baz=121,slow=0.8,SNR=14
KURK **Kurchatov** 115.49 316 *e*PKPdf **PKPdf** 02 35 08.2 -1.5
KURK **Kurchatov** 115.49 316 *c i*PKIKP **PKPdf** 02 35 08.0 -1.7
KURK pmax pmax
comp=Z,2.0nm,1.0s
KURBB **Kurchatov Arra** 115.53 316 PKP **PKPdf** 02 35 09.2 -0.6
comp=Z,2.1nm,0.7s,baz=97,slow=1.9,SNR=22
PTGA **Pitinga** 116.70 104 PKP **PKPdf** 02 35 12.7 -0.5
comp=Z,0.9nm,0.3s,baz=355,slow=16,SNR=2.8
AAK **Ala-Archa** 117.18 307 *e*PKPdf **PKPdf** 02 35 12.8 -0.7
AAK **Ala-Archa** 117.18 307 *e*PKIKP **PKPdf** 02 35 12.8 -0.7
AAK **Ala-Archa** 117.18 307 PKP **PKPdf** 02 35 12.5 -1.0
comp=Z,0.8nm,0.6s,baz=234,slow=5.3,SNR=3.8
MTP **Monte Pirata** 118.84 82 *e*PKPdf **PKPdf** 02 35 15.7 -1.4
KK31 **Karatay Array** 120.14 307 *e*PKPdf **PKPdf** 02 35 18.8 -0.1
KK31 **Karatay Array** 120.14 307 *e*PKIKP **PKPdf** 02 35 18.8 -0.1
KKAR **Karatay Array** 120.14 307 *e*PKPdf **PKPdf** 02 35 18.8 -0.1
KKAR **Karatay Array** 120.14 307 *e*PKIKP **PKPdf** 02 35 18.8 -0.1
BVAR **Borovoye Array** 120.73 319 PKP **PKPdf** 02 35 19.5 -0.2
comp=Z,2.6nm,0.5s,baz=100,slow=1.7,SNR=13
BRVK **Borovoye** 120.79 319 *c i*PKIKP **PKiKP** 02 35 20.4 +0.4
BRVK pmax pmax
comp=Z,2.0nm,0.6s
SPITS **Spitsbergen Ar** 125.35 356 PKP **PKPdf** 02 35 27.4 -0.5
comp=Z,5.4nm,0.8s,baz=67,slow=6.4,SNR=6.4
MDP **Montagnes des** 125.85 102 PKP **PKPdf** 02 35 30.5 -0.2
comp=Z,16nm,0.9s,baz=237,slow=3.5,SNR=4.1
ARU **Arti** 127.17 324 *e*PKPdf **PKPdf** 02 35 31.9 0.0
ARU **Arti** 127.17 324 *i* PKIKP **PKPdf** 02 35 32.2 +0.3
ARU 02 37 34.6
ARU 02 41 51.8
ABKAR **Akbulak array** 127.49 314 *e*PKPdf **PKiKP** 02 35 33.1 -0.2
AKTO **Aktyubinsk** 128.59 316 PKP **PKiKP** 02 35 35.2 -0.3
comp=Z,2.9nm,0.7s,baz=115,slow=2.5,SNR=12
GEYT **Alibeck** 129.24 300 PKP **PKiKP** 02 35 37.1 -0.2
comp=Z,3.2nm,0.8s,baz=134,slow=4.3,SNR=5.2
ARCES **ARCESS Array B** 132.14 348 PKP **PKPdf** 02 35 40.6 -0.4
comp=Z,5.4nm,0.8s,baz=33,slow=1.5,SNR=18
TSUM **Tsumeb** 133.72 203 *e*PKPdf **PKPdf** 02 35 45.4 -0.4
KLMR **Klimovskoe** 134.46 334 *e*PKIKP **PKPdf** 02 35 44.4 -1.2
KLMR pmax pmax
comp=Z,9.0nm,1.5s
KLMR **Klimovskoe** 134.46 334 *e*PKPdf **PKPdf** 02 35 44.4 -1.2
KLMR AMP 02 36 01.4
comp=Z,9.0nm,1.5s
RAYN **Ar Rayn** 138.69 279 *e*PKPdf **PKPdf** 02 35 54.5 -0.2
FINES **FINESS Array B** 138.72 341 PKhKP PKPpre 02 35 45.4
comp=Z,1.0nm,0.5s,baz=53,slow=3.7,SNR=8.0
FINES PKP sPdif 02 35 55.1 +0.3
comp=Z,1.9nm,0.6s,baz=100,slow=2.7,SNR=7.8
GNI **Garni** 139.48 304 *e*PKPdf **PKPdf** 02 35 55.4 -0.3
GNI **Garni** 139.48 304 *e*PKIKP **PKPdf** 02 35 55.4 -0.3
NB2 **NORSAR Subarra** 142.33 351 PKP **PKPdf** 02 35 56.1 -3.9
comp=Z,0.4nm,0.5s,baz=17,slow=2.6
NOA **NORSAR Array B** 142.33 351 PKhKP PKPpre 02 35 56.3
comp=Z,3.7nm,0.9s,baz=16,slow=4.6,SNR=9.2
KONO **Kongsberg** 143.89 352 *c i*PKIKP **PKPdf** 02 36 02.5 -0.2
KONO pmax pmax
comp=Z,38nm,1.7s
AKASG **Malin Array Be** 145.26 327 PKPbc **PKPdf** 02 36 05.8 +0.4
comp=Z,8.5nm,0.6s,baz=44,slow=4.1,SNR=38
AKBB **Malin Array Si** 145.26 327 *e*PKPdf **PKPdf** 02 36 05.5 +0.2
KIEV **Kiev** 145.27 327 *e*PKPbc **PKPdf** 02 36 05.4 +0.1
KIEV **Kiev** 145.27 327 ⇑*i*P **PKPdf** 02 36 05.8 +0.5
KIEV **Kiev** 145.27 327 ⇑PKIKP **PKPdf** 02 36 05.8 +0.5
AK11 **Malin Array Si** 145.30 327 *e*PKPdf **PKPdf** 02 36 05.8 +0.4
SUW **Suwalki** 145.54 336 *e*PKPdf **PKPdf** 02 36 06.1 +0.4
SUW **Suwalki** 145.54 336 *e*PKIKP **PKPdf** 02 36 06.1 +0.4
BR131 **Keskin Array S** 147.86 307 *e*PKPbc **PKPbc** 02 36 14.0 0.0
BRTR **Keskin Array B** 147.86 307 PKPbc **PKPbc** 02 36 13.8 -0.2
comp=Z,3.1nm,0.7s,baz=138,slow=4.9,SNR=18
BEL **Belsk** 148.15 336 *e*PKP **PKiKP** 02 36 14.9 -0.5
BEL **Belsk** 148.15 336 *e*PKP2 **PKiKP** 02 36 14.9 -0.5
GKP **Gorka Klasztor** 148.17 341 *e*PKP **PKPbc** 02 36 14.2 +0.1
GKP **Gorka Klasztor** 148.17 341 *e*PKP2 **PKPbc** 02 36 14.2 +0.1
LVV **L'vov** 148.32 330 *e*PKP2 **PKPbc** 02 36 14.7 +0.1
EIL **Elat** 148.60 288 PKPbc **PKiKP** 02 36 17.2 +0.1
comp=Z,7.2nm,0.7s,baz=345,slow=5.0,SNR=9.4
TLCR 148.71 319 ⇓*i*P **PKPbc** 02 36 16.1 +0.4
TLCR 148.71 319 ⇓PKP2 **PKPbc** 02 36 16.1 +0.4
GIUM **Giurgiulesti** 148.91 320 ⇓*i*P **PKPbc** 02 36 14.1 -2.1
KWP **Kalwaria Pacla** 149.05 331 *e*PKP **PKiKP** 02 36 16.9 -0.5
KWP **Kalwaria Pacla** 149.05 331 *e*PKPbc **PKPbc** 02 36 16.7 +0.2
KWP **Kalwaria Pacla** 149.05 331 *e*PKHKP **PKPbc** 02 36 16.7 +0.2
CFR **Carcaliu** 149.12 320 ⇑*i*P **PKiKP** 02 36 17.2 -0.4
CFR **Carcaliu** 149.12 320 ⇑PKHKP PKPpre 02 36 17.2
TESR **Tescani** 149.19 323 ⇓*i*P **PKiKP** 02 36 17.4 -0.4
BIZ **Bicaz** 149.22 324 ⇑*i*P **PKiKP** 02 36 17.9 +0.1
BUR08 **Bucovina Ar. S** 149.25 326 *e*PKPbc **PKiKP** 02 36 18.1 +0.1
BURAR **Bucovina Array** 149.26 326 ⇓*i*P **PKiKP** 02 36 18.8 +0.8
BURAR **Bucovina Array** 149.26 326 ⇓PKP2 **PKiKP** 02 36 18.8 +0.8
BSEG **Bad Segeberg** 149.27 348 *e*PKPbc **PKiKP** 02 36 17.5 -0.2
comp=Z,22.slow=2.3
TIRR **Tirgusor** 149.34 318 ⇓*i*P **PKPbc** 02 36 17.5 +0.2
TIRR **Tirgusor** 149.34 318 ⇓PKHKP PKPpre 02 36 17.5
HLG **Helgoland** 149.43 351 *e*PKPbc **PKiKP** 02 36 17.9 0.0
baz=22,slow=2.3
TLB **Topalu** 149.50 319 ⇓*i*P **PKiKP** 02 36 18.3 -0.1
TLB **Topalu** 149.50 319 ⇓PKHKP PKPpre 02 36 18.3
VRI **Vrincioaia** 149.54 322 ⇓*i*P **PKPbc** 02 36 18.0 +0.2
VRI **Vrincioaia** 149.54 322 ⇓PKHKP PKPpre 02 36 18.0
OJC **Ojcow** 149.81 335 *e*PKP **PKPbc** 02 36 18.6 +0.3
OJC **Ojcow** 149.81 335 *e*PKPbc **PKPbc** 02 36 18.3 0.0
OJC **Ojcow** 149.81 335 *e*PKHKP **PKPbc** 02 36 18.3 0.0
RUE **Ruedersdorf** 149.85 343 *e*PKPbc **PKiKP** 02 36 18.6 -0.2
comp=Z,22.slow=2.3
ICOR **Ion Corvin** 149.90 318 ⇓*i*P **PKiKP** 02 36 19.9 +0.6
UZH **Uzhgorod** 149.97 330 *e*PKHKP PKPpre 02 36 19.3
UZH *i* 02 36 27.0
TRPA **Tarpa** 150.22 329 ⇑*i*P **PKPbc** 02 36 19.4 +0.2
DOPR **Dopca** 150.22 323 ⇓*i*P **PKiKP** 02 36 20.0 +0.1
NIE **Niedzica** 150.24 333 *e*PKP **PKiKP** 02 36 20.2 +0.3
NIE **Niedzica** 150.24 333 *e*PKIKP **PKiKP** 02 36 20.2 +0.3
SECR 150.40 321 ⇑*i*P **PKPbc** 02 36 20.0 +0.2
KSP **Ksiaz** 150.56 339 *e*PKP **PKiKP** 02 36 20.6 +0.2
KSP **Ksiaz** 150.56 339 *e*PKIKP **PKiKP** 02 36 20.6 +0.2
CJR **Cluj-Napoca** 150.68 326 ⇑*i*P **PKiKP** 02 36 21.1 +0.2
CJR **Cluj-Napoca** 150.68 326 ⇑PKIKP **PKiKP** 02 36 21.1 +0.2
NRDL **Niedersach Rie** 150.68 348 *e*PKPbc **PKiKP** 02 36 20.7 +0.1
baz=22,slow=2.3
VOIR 150.73 323 ⇓*i*P **PKPbc** 02 36 20.0 -0.7
VOIR 150.73 323 ⇓PKIKP **PKPbc** 02 36 20.0 -0.7
OKC **Ostrava-Krasne** 150.75 336 ⇑*e*PKP **PKiKP** 02 36 20.7 -0.2
OKC *e*PKPAB **PKPab** 02 36 30.3 +0.4
OKC *ep*PKP **pPKPab** 02 38 25.6 -0.5
OKC **Ostrava-Krasne** 150.75 336 *e*PKIKP **PKiKP** 02 36 20.7 -0.2
OKC *e* 02 36 30.3
ASSE **Asse, Remlinge** 150.91 347 *e*PKPbc **PKiKP** 02 36 20.9 -0.1
baz=22,slow=2.3
UPC **Upice** 150.94 339 ⇑*e*PKP **PKiKP** 02 36 21.3 0.0
UPC **Upice** 150.94 339 *e*PKIKP **PKiKP** 02 36 21.3 0.0
DPC **Dobruska-Polom** 150.97 338 ⇑*e*PKP **PKiKP** 02 36 21.4 0.0
DPC *e*PKPAB **PKPab** 02 36 31.7 +0.9

DPC			*e*PKP	**pPKPab**	**02 38 26.0**	**-1.2**
DPC	**Dobruska-Polom**	**150.97 338**	*e*PKIKP	**PKiKP**	**02 36 21.4**	**0.0**
DPC			*e*		02 36 31.7	
ARR	**Arges**	**151.01 323**	⇑*i*P	**PKiKP**	**02 36 21.6**	**0.0**
MORC	**Moravsky Berou**	**151.03 336**	*e*PKPbc	**PKiKP**	**02 36 21.4**	**-0.2**
MORC			*e*PKPab	**PKPab**	**02 36 31.5**	**+0.5**
MORC	**Moravsky Berou**	**151.03 336**	⇑*i*P	**PKiKP**	**02 36 21.9**	**+0.4**
MORC	**Moravsky Berou**	**151.03 336**	⇑PKIKP	**PKiKP**	**02 36 21.9**	**+0.4**
MORC	**Moravsky Berou**	**151.03 336**	*e*PKP	**PKiKP**	**02 36 21.5**	**0.0**
KRLC	**Kraliky**	**151.05 338**	⇑*e*PKP	**PKiKP**	**02 36 21.6**	**+0.1**
KRLC	**Kraliky**	**151.05 338**	*e*PKIKP	**PKiKP**	**02 36 21.6**	**+0.1**
DRGR		**151.07 327**	⇑*i*P	**PKPbc**	**02 36 21.5**	**+0.1**
DRGR		**151.07 327**	⇑PKIKP	**PKPbc**	**02 36 21.5**	**+0.1**
CLL	**Collm**	**151.12 343**	*e*PKPbc	**PKPbc**	**02 36 21.4**	**+0.2**
CLL	**Collm**	**151.12 343**	*e*PKPbc	**PKiKP**	**02 36 21.6**	**+0.1**
	baz=22,slow=2.3					
CLL	**Collm**	**151.12 343**	*i* PKPbc	**PKPbc**	**02 36 21.4**	**+0.2**
	comp=Z,26nm,0.8s					
CLL			*i* PKPab	**PKPab**	**02 36 30.7**	**-0.6**
	comp=Z,7.0nm,0.9s					
CLL			*i* pPKPbc	**pPKPab**	**02 38 26.1**	**-1.4**
	comp=Z,11nm,1.2s					
CLL	**Collm**	**151.12 343**	*e*PKIKP	**PKPbc**	**02 36 21.4**	**+0.2**
CLZ	**Clausthal**	**151.25 347**	*e*PKPbc	**PKiKP**	**02 36 21.8**	**0.0**
	baz=22,slow=2.3					
CLZ			*e*pPKPbc	**pPKPab**	**02 38 27.1**	**-1.0**
BRG	**Berggiesshubel**	**151.25 342**	*i* PKP	**PKiKP**	**02 36 21.9**	**0.0**
	comp=Z,17nm,0.6s					
BRG	**Berggiesshubel**	**151.25 342**	*i* PKP	**PKPab**	**02 36 32.2**	**+0.3**
	comp=Z,5.1nm,0.8s					
BRG			*e*pPKP	**pPKPab**	**02 38 26.7**	**-1.4**
	comp=Z,11nm,1.1s					
BRG			*e*		02 39 24.4	
	comp=Z,5.4nm,1.2s					
BRG			*e*PKS	**PP**	**02 40 02.7**	**-2.4**
	comp=Z,7.6nm,1.4s					
BRG	**Berggiesshubel**	**151.25 342**	*e*PKPbc	**PKiKP**	**02 36 21.8**	**0.0**
	baz=22,slow=2.3					
BRG			*e*pPKPbc	**pPKPab**	**02 38 27.0**	**-1.0**
BRG	**Berggiesshubel**	**151.25 342**	*i* PKIKP	**PKiKP**	**02 36 21.9**	**0.0**
BRG			*i*		02 36 32.2	
BRG			*e*		02 40 02.7	
BRG			pmax	pmax		
	comp=Z,17nm,0.6s					
BRG			pmax	pmax		
	comp=Z,5.0nm,0.8s					
BRG			pmax	pmax		
	comp=Z,8.0nm,1.5s					
HUMR	**Humele**	**151.33 321**	⇑*i*P	**PKPbc**	**02 36 21.8**	**-0.1**
FBE	**Freiberg**	**151.38 343**	*e*PKPbc	**PKPbc**	**02 36 21.8**	**0.0**
	baz=22,slow=2.3					
PVCC	**Panska Ves**	**151.38 341**	⇑*e*PKP	**PKiKP**	**02 36 22.2**	**+0.1**
PVCC	**Panska Ves**	**151.38 341**	*e*PKIKP	**PKiKP**	**02 36 22.2**	**+0.1**
NEUB	**Neuenburg**	**151.52 345**	*e*PKPbc	**PKiKP**	**02 36 22.4**	**0.0**
	baz=22,slow=2.3					
VYHS	**Vyhne**	**151.57 333**	*e*PKIKP	**PKiKP**	**02 36 22.6**	**0.0**
VYHS			*e*		02 36 33.6	
VYHS	**Vyhne**	**151.57 333**	*e*PKP	**PKiKP**	**02 36 22.6**	**0.0**
VYHS			*e*		02 36 33.6	
DEV	**Deva**	**151.60 325**	⇓*i*P	**PKiKP**	**02 36 23.0**	**+0.3**
DEV	**Deva**	**151.60 325**	⇓PKIKP	**PKiKP**	**02 36 23.0**	**+0.3**
VRAC	**Vranov**	**151.76 337**	⇑*i*P	**PKPab**	**02 36 34.8**	**+0.7**
GOPC	**GO Pecny, Ondr**	**151.85 340**	⇑*e*PKP	**PKiKP**	**02 36 23.5**	**+0.3**
GOPC	**GO Pecny, Ondr**	**151.85 340**	*e*PKIKP	**PKiKP**	**02 36 23.5**	**+0.3**
PRU	**Pruhonice**	**151.86 340**	⇑*e*PKP	**PKiKP**	**02 36 23.4**	**+0.3**
PRU			*e*PKPAB	**PKPab**	**02 36 34.3**	**-0.2**
PRU			*e*pPKP	**pPKPab**	**02 38 28.2**	**-2.5**
PRU	**Pruhonice**	**151.86 340**	*e*PKIKP	**PKiKP**	**02 36 23.4**	**+0.3**
PRU			*e*		02 36 34.3	
SIRR	**Siria**	**151.96 327**	⇓*i*P	**PKiKP**	**02 36 23.9**	**+0.4**
GZR	**Gura Zlata**	**151.99 325**	⇓*i*P	**PKPbc**	**02 36 22.0**	**-1.5**
GZR	**Gura Zlata**	**151.99 325**	⇓PKIKP	**PKPbc**	**02 36 22.1**	**-1.4**
KRUC	**Moravsky**	**152.04 337**	*e*PKP	**PKPbc**	**02 36 23.4**	**0.0**
KRUC			*e*		02 36 35.9	
MOX	**Moxa**	**152.08 344**	*e*PKPbc	**PKiKP**	**02 36 23.7**	**+0.1**
	baz=22,slow=2.3					
TREC	**Trest**	**152.16 338**	⇑*e*PKP	**PKiKP**	**02 36 24.0**	**+0.2**
TREC	**Trest**	**152.16 338**	*e*PKIKP	**PKiKP**	**02 36 24.0**	**+0.2**
MODS	**Modra-Piesok**	**152.28 335**	*e*PKIKP	**PKiKP**	**02 36 25.1**	**+1.0**
MODS	**Modra-Piesok**	**152.28 335**	*e*PKP	**PKiKP**	**02 36 25.1**	**+1.0**
MODS			*e*		02 36 37.8	
BZS	**Buzias**	**152.44 326**	⇓*i*P	**PKPbc**	**02 36 24.3**	**0.0**
BZS	**Buzias**	**152.44 326**	⇓PKIKP	**PKPbc**	**02 36 24.3**	**0.0**
KHC	**Kasperske Hory**	**152.91 341**	*e*PKPbc	**PKPbc**	**02 36 25.2**	**-0.1**
KHC			*e*PKPab	**PKPab**	**02 36 39.8**	**+0.8**
KHC	**Kasperske Hory**	**152.91 341**	⇑*e*PKP	**PKiKP**	**02 36 25.4**	**0.0**
KHC			*e*PKPAB	**PKPab**	**02 36 39.9**	**+0.8**
KHC			*e*pPKP	**pPKPbc**	**02 38 25.6**	**-1.1**
KHC	**Kasperske Hory**	**152.91 341**	*e*PKIKP	**PKPbc**	**02 36 25.2**	**-0.1**
KHC			*e*		02 36 39.8	
GRF	**Grafenberg Arr**	**153.06 344**	*e*PKPbc	**PKiKP**	**02 36 26.0**	**+0.4**
	baz=22,slow=2.3					
GERES	**GERESS Array B**	**153.13 340**	PKPbc	**PKPbc**	**02 36 25.9**	**0.0**
	comp=Z,2.0nm,0.8s,baz=33,slow=3.2,SNR=13					
GERES			PKPab	**PKPab**	**02 36 40.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=6.8,slow=5.6,SNR=4.3					
GEA0	**GERESS Array S**	**153.13 340**	*e*PKPbc	**PKPbc**	**02 36 25.4**	**-0.5**
GEA0			*e*PKPab	**PKPab**	**02 36 39.9**	**-0.1**
CONA	**Conrad Observa**	**153.18 336**	*i* PKIKP	**PKiKP**	**02 36 26.1**	**0.0**
	comp=Z,2.9nm,0.7s					
CONA			*i* PKPab	**PKPab**	**02 36 41.4**	**+1.1**
	comp=Z,7.3nm,0.8s					
VTS	**Vitosha**	**153.49 320**	⇓*i*P	**PKPab**	**02 36 43.3**	**+1.4**
ARSA	**Arzberg**	**153.88 336**	*e*PKPab	**PKPab**	**02 36 43.5**	**+0.2**
	comp=Z,3.7nm,0.7s					
SOKA	**Soboth**	**154.54 336**	*e*PKPab	**PKPab**	**02 36 46.4**	**+0.2**
	comp=Z,5.3nm,1.1s					
MYKA	**Terra Mystica**	**155.08 338**	*i* PKPab	**PKPab**	**02 36 48.2**	**-0.3**
	comp=Z,2.7nm,0.5s					
RETA	**Reutte**	**155.21 343**	*e*PKPab	**PKPab**	**02 36 49.8**	**+0.8**
	comp=Z,7.4nm,1.0s					
MOTA	**Moosalm**	**155.25 342**	*e*PKPab	**PKPab**	**02 36 49.8**	**+0.6**
	comp=Z,3.2nm,0.8s					
ABTA	**Abfaltersbach**	**155.36 339**	*i* PKPab	**PKPab**	**02 36 49.7**	**+0.1**
	comp=Z,8.5nm,1.2s					
DAVA	**Damuels**	**155.62 344**	*e*PKPab	**PKPab**	**02 36 51.3**	**+0.4**
	comp=Z,6.5nm,0.8s					
DAVOX	**Davos/Dischmat**	**156.09 343**	PKPab	**PKPab**	**02 36 53.2**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**156.14 343**	*e*PKPab	**PKPab**	**02 36 54.2**	**+1.0**
ES06	**SONSECA Array**	**164.10 12**	*e*PKPab	**PKPab**	**02 37 27.9**	**0.0**
ESDC	**Sonseca Array**	**164.10 12**	PKPab	**PKPab**	**02 37 28.1**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=346,slow=4.3,SNR=12					
TOA0	**Torodi Ar. Sit**	**168.99 188**	*e*PKPdf	**PKPdf**	**02 36 34.5**	**-0.8**
TOA0			*e*PKPab	**PKPab**	**02 37 49.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**168.99 188**	PKP	**PKPdf**	**02 36 34.7**	**-0.6**
	comp=Z,2.8nm,1.1s,baz=350,slow=2.6,SNR=10					
TORD			PKPab	**PKPab**	**02 37 48.9**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=174,slow=2.9,SNR=8.8					

IDC 16 02:25:18.2±9.5, 15°.03S×173°.16W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/40, mbtmp3.6/3, MS3.1/4, Ms1 3.1/4, ms1mx2.9/29, Error ellipse: s-maj=426.9km s-min=34.1km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**26.85 279**		LR	LR	02 41 17.7	
	comp=Z,67nm,18.4s,baz=348,slow=36						
WRA	**Warramunga Arr**	**50.15 256**		P	P	02 34 15.9	-0.1
	1.1nm,1.1s,baz=92,slow=7.0,SNR=3.8						
ASAR	**Alice Springs**	**50.44 252**		P	P	02 34 17.6	-0.6
	0.6nm,0.6s,baz=89,slow=7.2,SNR=8.6						
JCJ	**Chichijima**	**60.26 314**		LR	LR	02 57 59.0	
	comp=Z,18nm,19.8s,baz=321,slow=32						
MJAR	**Matsushiro Arr**	**68.81 320**		LR	LR	03 00 30.2	
	comp=Z,18nm,21.8s,baz=110,slow=31						
KSRS	**Korea Array**	**76.06 315**		LR	LR	03 08 38.0	
	comp=Z,6.4nm,18.7s,baz=235,slow=34						
ILAR	**Eielson Array**	**82.04 11**		P	P	02 37 39.3	-0.5
	0.1nm,0.5s,baz=222,slow=5.5,SNR=3.2						
BRTR	**Keskin Array B**	**146.01 322**		PKPbc	PKPab	02 45 00.9	-0.1
	1.2nm,0.8s,baz=44,slow=3.0,SNR=5.9						

*ISK **16** 02:31:09.9, 37°.29N×37°.11E, h11km, ML1.7/5*
*DDA **16** 02:31:09.7, 37°.33N×37°.11E, h7km±2km, ML2.6*
*ISCJB **16** 02:31:10.3±0.8, 37°.33N±0°.05×37°.13E±0°.06, h4km±10km, Error ellipse: s-maj=11.0km s-min=4.5km az=39.5*
ISC 16 02:31:10.2±1.0, 37°.30N±0°.04×37°.12E±0°.03, h12km±9km, n12, σ0$21/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14 149**		PG	**Pg**	**02 31 13.7**	**0.0**
HCB	**Kahramanmara**	**0.17 286**		*i* P	**Pg**	**02 31 14.4**	**+0.2**
HCB				IAML_P			
	comp=Z,8μm,0.1s						
KMRS	**Kahramanmaras**	**0.27 320**		PG	**Pg**	**02 31 15.8**	**-0.1**
KUZU	**Kuzuini**	**0.52 184**		*i* P	**Pb**	**02 31 21.3**	**-0.1**
KUZU				*i* S	**Sb**	**02 31 29.2**	**+0.2**
ANDN	**Andirin**	**0.68 295**		*i* P	**Pb**	**02 31 23.7**	**-0.4**
ANDN				*i* S	**Sg**	**02 31 32.3**	**0.0**
ANDN				IAML_P			
	comp=Z,860nm,0.2s						
ATAB	**Bozova**	**0.95 79**		*i* P	**Pb**	**02 31 28.8**	**+0.1**
ELBS	**KAHRAMANMARAS**	**1.03 1**		*i* P	**Pg**	**02 31 29.8**	**-0.2**
KOZT	**Kozan**	**1.04 281**		PG	**Pb**	**02 31 30.3**	**0.0**
KOZT				SG	**Sn**	**02 31 45.3**	**0.0**
SAIM	**ADANA**	**1.07 310**		*i* P	**Pn**	**02 31 31.1**	**0.0**
SAIM				*i* S	**Sb**	**02 31 45.0**	**+0.3**
SAIM				IAML_P			
	comp=Z,609nm,0.1s						
SURC	**SANLIURFA_SURC**	**1.27 109**		*i* P	**Pg**	**02 31 34.4**	**-0.1**
SURC				*i* S	**Sg**	**02 31 50.8**	**-0.2**
DARE	**Darende-Malaty**	**1.30 13**		PN	**Pg**	**02 31 35.5**	**+0.2**
URFA	**Urfa**	**1.36 83**		PN	**Pn**	**02 31 35.5**	**+0.3**
URFA				SN	**Sg**	**02 31 54.0**	**-0.2**

IDC 16 02:32:26.8±2.9, 30°.60N×83°.29E, h0km, mb3.2/3, mb1 3.6/5, mb1mx3.2/50, mbtmp3.3/5, ML3.9/2, MS3.4/1, Ms1 3.4/1, ms1mx2.4/24, Error ellipse: s-maj=84.0km s-min=25.7km az=71.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.19 358**		Pn	Pn	02 36 13.7	-1.9
	0.1nm,0.3s,baz=173,slow=13,SNR=6.4						
CMAR	**Chiang Mai Arr**	**18.65 127**		P	Pn	02 36 47.9	+1.4
	0.7nm,0.3s,baz=315,slow=11,SNR=6.1						
KURBB	**Kurchatov Arra**	**20.32 351**		P	P	02 37 05.0	+0.8
	0.6nm,0.8s,baz=176,slow=9.6,SNR=5.3						
SONM	**Songino Array**	**24.69 39**		P	P	02 37 49.3	-0.2
	0.3nm,0.7s,baz=229,slow=8.8,SNR=2.0						
KLR	**Kul'dur**	**40.77 49**		LR	LR	02 58 09.5	
	comp=Z,45nm,18.1s,baz=316,slow=38						
WRA	**Warramunga Arr**	**70.23 129**		P	P	02 43 41.3	-0.5
	0.4nm,0.5s,baz=323,slow=6.3,SNR=11						

IDC 16 02:36:39.7±8.7, 17°.23S×177°.76W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/39, mbtmp3.5/3, Error ellipse: s-maj=386.9km s-min=38.6km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.37 259**		P	P	02 44 59.8	-0.4
	0.5nm,1.1s,baz=94,slow=7.5,SNR=2.9						
ASAR	**Alice Springs**	**45.57 254**		P	P	02 45 01.9	+0.1
	0.6nm,0.5s,baz=88,slow=8.0,SNR=13						
ILAR	**Eielson Array**	**85.09 13**		P	P	02 49 17.1	0.0
	0.2nm,0.4s,baz=220,slow=5.4,SNR=4.1						

*ISCJB **16** 02:41:35.8±0.3, 24°.18S±0°.03×67°.00W±0°.04, h192km±3km, mb3.7/10, Error ellipse: s-maj=6.1km s-min=3.9km az=159.9*
*NEIC **16** 02:41:35.2±0.8, 24°.22S×66°.81W, h170km±7km, mb4.1/8, ML4.7(GUC), Error ellipse: s-maj=14.5km s-min=5.8km az=91.0*
*IDC **16** 02:41:36.4±1.3, 24°.10S×66°.81W, h183km±10km, mb3.4/5, mb1 3.7/11, mb1mx3.6/26, mbtmp4.0/11, Error ellipse: s-maj=19.8km s-min=14.1km az=17.0*
*SJA **16** 02:41:37.1±0.6, 24°.18S×66°.97W, h182km±7km, ML3.1, MW2.9*
*GUC **16** 02:41:38.5±0.5, 23°.94S×67°.49W, h234km±7km, ML4.8*
ISC 16 02:41:36.5±0.7, 24°.16S±0°.04×66°.98W±0°.05, h187km±7km, n65, σ1$28/85, mb3.8/10, 2C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSA	**Cafayete**	**2.15 155**		*e*P	**Pn**	**02 42 16.8**	**+0.9**
FSA				*e*S	**Sn**	**02 42 45.7**	**-0.9**
LVC	**Limon Verde**	**2.35 311**		*e*Pn	**Pn**	**02 42 19.6**	**+1.2**
LVC	**Limon Verde**	**2.35 311**		⇑P	**Pn**	**02 42 19.8**	**+1.5**
LVC				*i* S	**Sn**	**02 42 51.8**	**+1.0**
LVC	**Limon Verde**	**2.35 311**		P	**Pn**	**02 42 19.9**	**+1.5**
	baz=125,slow=8.1						
LVC				S	**Sn**	**02 42 51.8**	**+1.0**
	149nm,0.3s,baz=102,slow=20,SNR=44						
YJA	**Yavi**	**2.39 35**		*e*P	**Pn**	**02 42 20.3**	**+1.4**
YJA				IAML		02 42 21.3	
	comp=Z,43nm,0.4s						
YJA				*e*S	**Sn**	**02 42 53.0**	**+1.2**
PB15	**IPOC Station P**	**2.47 292**		*e*P	**Pn**	**02 42 21.1**	**+1.5**
PB15				*i* S	**Sn**	**02 42 53.3**	**+0.5**
GO02	**Mina Guanaco**	**2.58 247**		*e*Pn	**Pn**	**02 42 19.9**	**-0.9**
GO02	**Mina Guanaco**	**2.58 247**		IAML		02 42 57.7	
	comp=E,3μm,0.1s						
PB06	**IPOC Station P**	**2.78 301**		*e*P	**Pn**	**02 42 24.5**	**+1.4**
PB06				*e*S	**Sn**	**02 42 59.6**	**+0.2**
PB06	**IPOC Station P**	**2.78 301**		*e*P	**Pn**	**02 42 24.4**	**+1.2**
PB06				*i* S	**Sn**	**02 42 59.2**	**-0.3**
PB06				IAML		02 43 01.8	
	comp=E,3μm,0.3s						
AHML	**Horco Molle**	**3.01 151**		*e*P	**Pn**	**02 42 26.3**	**+0.6**
AHML				IAML		02 42 26.8	
	comp=Z,60nm,0.4s						
PB09	**IPOC Station P**	**3.14 318**		*e*P	**Pn**	**02 42 29.1**	**+1.7**
PB09				*e*S	**Sn**	**02 43 07.3**	**+0.2**
PB09	**IPOC Station P**	**3.14 318**		*e*P	**Pn**	**02 42 28.7**	**+1.3**
PB09				*i* S	**Sn**	**02 43 07.4**	**+0.2**
PB09				IAML		02 43 09.4	
	comp=N,914nm,0.4s						
PB14	**IPOC Station P**	**3.15 261**		*e*P	**Pn**	**02 42 28.9**	**+1.2**
PB14				*e*S	**Sn**	**02 43 07.2**	**-0.4**
PB14	**IPOC Station P**	**3.15 261**		IAML		02 43 08.3	
	comp=E,1μm,0.5s						
PB05	**IPOC Station P**	**3.23 293**		*e*P	**Pn**	**02 42 29.1**	**+0.7**
PB05				*i* S	**Sn**	**02 43 07.3**	**-1.7**
PB05				IAML		02 43 10.3	
	comp=N,885nm,0.2s						
PB03	**IPOC Station P**	**3.30 309**		*e*P	**Pn**	**02 42 30.5**	**+1.1**
PB03				*e*S	**Sn**	**02 43 10.6**	**-0.1**
PB03	**IPOC Station P**	**3.30 309**		*e*P	**Pn**	**02 42 30.2**	**+0.7**
PB03				*i* S	**Sn**	**02 43 09.4**	**-1.3**
PB03				IAML		02 43 11.6	
	comp=N,2μm,0.2s						
PB10	**IPOC Station P**	**3.33 280**		*e*Pn	**Pn**	**02 42 30.1**	**+0.5**
PB10	**IPOC Station P**	**3.33 280**		*e*P	**Pn**	**02 42 30.7**	**+1.1**
PB10				*e*S	**Sn**	**02 43 10.7**	**-0.3**
PB10	**IPOC Station P**	**3.33 280**		*e*P	**Pn**	**02 42 30.2**	**+0.6**
PB04	**IPOC Station P**	**3.43 301**		*e*Pn	**Pn**	**02 42 31.7**	**+0.6**
PB04	**IPOC Station P**	**3.43 301**		*e*P	**Pn**	**02 42 32.0**	**+1.0**
PB04				*e*S	**Sn**	**02 43 13.3**	**-0.2**
PB04	**IPOC Station P**	**3.43 301**		*e*P	**Pn**	**02 42 31.5**	**+0.5**
PB04				*i* S	**Sn**	**02 43 11.3**	**-2.2**
PB07	**IPOC Station P**	**3.61 312**		*e*P	**Pn**	**02 42 33.7**	**+0.5**
PB07				*i* S	**Sn**	**02 43 15.6**	**-1.9**
PB01	**IPOC Station P**	**3.87 323**		*e*Pn	**Pn**	**02 42 36.4**	**+0.1**
PB01	**IPOC Station P**	**3.87 323**		*e*P	**Pn**	**02 42 36.5**	**+0.2**
PB01				*i* S	**Sn**	**02 43 20.8**	**-2.4**
PB02	**IPOC Station P**	**3.90 316**		*e*P	**Pn**	**02 42 36.8**	**0.0**
PB02				*i* S	**Sn**	**02 43 21.4**	**-2.5**
PB08	**IPOC Station P**	**4.47 333**		⇑*i*P	**Pn**	**02 42 45.2**	**+0.9**
PB08				*e*S	**Sn**	**02 43 36.9**	**-0.6**
PB08				IAML		02 43 41.5	
	comp=E,443nm,0.6s						
GO03	**Copiap**	**4.50 220**		*e*Pn	**Pn**	**02 42 43.5**	**-0.9**
PB11	**IPOC Station P**	**5.03 330**		*e*Pn	**Pn**	**02 42 50.0**	**-1.2**
PB11	**IPOC Station P**	**5.03 330**		*e*P	**Pn**	**02 42 50.3**	**-0.9**
PB11				*e*S	**Sn**	**02 43 46.7**	**-3.3**
ACLC	**CERRO LA CRUZ**	**5.25 180**		*e*S	**Sn**	**02 43 53.8**	**-1.2**
AGUA	**GUANDACOL**	**5.48 194**		*e*P	**Pn**	**02 42 57.3**	**+0.4**
AGUA				*e*S	**Sn**	**02 43 59.0**	**-1.2**
MNMC	**Minye Minye**	**5.56 334**		*e*Pn	**Pn**	**02 42 57.2**	**-1.1**
LCO	**Las Campanas**	**5.87 214**		*e*Pn	**Pn**	**02 43 00.1**	**-2.1**
GO04	**Tololo Observa**	**6.89 209**		*e*Pn	**Pn**	**02 43 13.2**	**-2.2**
LPAZ	**La Paz**	**7.90 352**		*e*Pn	**Pn**	**02 43 28.7**	**-0.5**
LPAZ	**La Paz**	**7.90 352**		P	**Pn**	**02 43 29.5**	**+0.3**
	comp=E,2.6nm,0.3s,baz=114,slow=3.6,SNR=60						
LPAZ				S	**Sn**	**02 44 54.4**	**-4.0**
	baz=237,slow=17,SNR=2.1						
CPUP	**Villa Florida**	**9.00 106**		P	**Pn**	**02 43 41.0**	**-2.0**
	comp=E,0.2nm,0.3s,baz=271,slow=7.8,SNR=4.0						
ROC1	**El Roble**	**9.47 201**		*e*Pn	**Pn**	**02 43 48.0**	**-1.3**
SIV	**San Ignacio**	**9.84 35**		P	**Pn**	**02 43 52.4**	**-1.6**
	comp=E,2.8nm,0.3s,baz=228,slow=11,SNR=27						
SIV				S	Sn	02 45 30.9	-13
	comp=E,0.4nm,0.3s,baz=238,slow=3.9,SNR=19						
GO06	**Curarrehue**	**15.84 193**		*e*Pn	**Pn**	**02 45 09.3**	**-0.3**
	comp=E,15nm,0.9s						
PLCA	**Paso Flores**	**16.80 189**		*e*P	**P**	**02 45 20.1**	**0.0**
	comp=E,5.5nm,0.6s						
PLCA	**Paso Flores**	**16.80 189**		P	**P**	**02 45 20.3**	**+0.2**
	comp=E,0.2nm,0.3s,baz=24,slow=8.1,SNR=10						
BDFB	**Brasilia**	**19.73 68**		*e*P	**P**	**02 45 51.1**	**-1.0**
	comp=E,21nm,0.9s						
BDFB	**Brasilia**	**19.73 68**		P	**P**	**02 45 51.5**	**-0.7**
	comp=E,1.8nm,0.3s,baz=241,slow=11,SNR=24						
OTAV	**Otavalo**	**26.68 334**		*e*P	**P**	**02 47 00.2**	**+1.3**
	comp=E,1.7nm,0.8s						
TXAR	**Lajitas Array**	**63.81 324**		P	**P**	**02 51 50.0**	**+1.0**
	comp=E,0.3nm,0.7s,baz=147,slow=8.2,SNR=5.3						
TX31	**Lajitas Ar. Si**	**63.82 324**		*e*P	**P**	**02 51 50.5**	**+1.4**
MNTX	**Cornudas Mount**	**66.58 325**		*e*P	**P**	**02 52 06.8**	**+0.1**
	comp=E,2.1nm,1.1s						
Q24A	**Divide**	**72.24 330**		*e*P	**P**	**02 52 43.9**	**+2.2**
	comp=E,7.1nm,0.8s						
MSU	**Marysvale**	**75.37 325**		*e*P	**P**	**02 53 00.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**76.61 69**		P	**P**	**02 53 05.8**	**-1.1**
	comp=E,0.5nm,0.4s,baz=248,slow=6.4,SNR=16						
PDAR	**Pinedale Array**	**77.29 329**		P	**P**	**02 53 11.4**	**+1.0**
	comp=E,0.2nm,0.6s,baz=113,slow=6.3,SNR=2.9						
ULM	**Lac du Bonnet**	**78.38 342**		P	**P**	**02 53 16.3**	**+0.3**
	comp=E,1.2nm,0.5s,baz=190,slow=5.5,SNR=4.3						
HLID	**Hailey**	**80.23 327**		*e*P	**P**	**02 53 28.7**	**+2.3**
	comp=E,1.8nm,0.8s						
FCC	**Fort Churchill**	**85.62 346**		*e*P	**P**	**02 53 53.8**	**+0.4**
	comp=E,2.6nm,0.8s						
YKA	**Yellowknife Ar**	**94.28 340**		P	**P**	**02 54 34.4**	**+0.4**
	comp=E,0.5nm,0.5s,baz=133,slow=4.5,SNR=16						
ASAR	**Alice Springs**	**128.32 205**		PKP	**PKPdf**	**03 00 21.3**	**-0.2**
	comp=E,0.7nm,0.7s,baz=138,slow=2.1,SNR=8.0						
WRA	**Warramunga Arr**	**131.49 207**		PKP	**PKPdf**	**03 00 27.8**	**+0.2**
	comp=E,0.5nm,0.5s,baz=156,slow=1.7,SNR=15						
ZALV	**Zalesovo Beam**	**143.52 28**		PKP	PKPbc	03 00 45.8	-0.6
	comp=E,1.1nm,0.6s,baz=285,slow=4.2,SNR=5.8						
MKAR	**Makanchi Array**	**146.63 40**		PKPbc	**PKPbc**	**03 00 55.1**	**-0.9**
	comp=E,1.8nm,0.6s,baz=315,slow=2.6,SNR=17						
KLR	**Kul'dur**	**150.97 334**		PKPbc	**PKPbc**	**03 01 06.8**	**-0.2**
	comp=E,1.6nm,0.7s,baz=82,slow=4.0,SNR=5.0						
LZH	**Lanzhou**	**165.72 32**		*e*PKP	**PKPdf**	**03 01 18.8**	**-0.4**
LZH				pPKP	pPKPdf	03 02 01.3	-8.4
LZH				sPKP		03 02 18.9	

IDC 16 03:05:18.3±1.7, 0°.55N×126°.04E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/37, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=113.7km s-min=22.8km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.53 181**		P	P	03 09 35.2	-1.3
	0.1nm,0.3s,baz=13,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**21.93 159**		P	P	03 10 13.1	-0.4
	1.1nm,0.3s,baz=338,slow=11,SNR=49						
ASAR	**Alice Springs**	**25.25 163**		P	P	03 10

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	SNR=59						
UCH	**Uchtor**	**4.74**	**22**	P	Pn	04 12 36.5	+0.5
	SNR=11						
KZA	**Kyzart**	**4.85**	**29**	P	Pn	04 12 37.2	-0.4
	SNR=7.0						
EKS2	**Erkin-Say**	**4.96**	**14**	P	Pn	04 12 40.2	+1.4
	SNR=8.2						
AAK	**Ala-Archa**	**5.11**	**20**	P	Pn	04 12 41.5	+0.7
	SNR=9.0						
AAK	**Ala-Archa**	**5.11**	**20**	⇑Pn	Pn	04 12 41.2	+0.4
	5.2nm,0.5s						
AAK				Sn	Sn	04 13 42.2	+1.6
	2.6nm,1.1s						
KK31	**Karatay Array**	**5.38**	**347**	⇓Pn	Pn	04 12 44.6	+0.2
	2.0nm,0.5s,baz=162,slow=14,SNR=28						
KK31				⇓Sn	Sn	04 13 47.8	+0.7
	3.1nm,0.5s,baz=172,slow=27,SNR=3.9						
TKM2	**Tokmak 2**	**5.71**	**27**	P	Pn	04 12 48.9	-0.3
	SNR=6.5						
TKM2	**Tokmak 2**	**5.71**	**27**	⇓Pn	Pn	04 12 48.3	-0.9
	3.7nm,0.7s						

*ISCJB **16** 04:18:46.6±0.8, 6.°40S±0.°05×130.°03E±0.°08, h146km, mb3.4/1, Error ellipse: s-maj=12.0km s-min=7.3km az=13.0*

*IDC **16** 04:18:48.1±1.6, 6.°31S×129.°93E, h141km±19km, mb3.3/1, mb1 3.8/6, mb1mx3.3/38, mbtmp4.2/6, Error ellipse: s-maj=28.7km s-min=12.8km az=111.0*

ISC 16 04:18:47.3±0.9**, 6.°47S**±0.°06×**130.°1E**±0.°1**, h146**km**, n6, σ2.s70**/11**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.68**	**12**	P	**Pn**	**04 20 10.8**	**+1.0**
	8.3nm,0.3s,baz=150,slow=16,SNR=27						
SIJI				S	**Sn**	**04 21 11.4**	**-2.9**
	8.9nm,0.3s,baz=280,slow=23,SNR=12						
BATI	**Baumata**	**7.36**	**239**	P	**Pn**	**04 20 33.3**	**+1.0**
	2.6nm,0.3s,baz=53,slow=5.1,SNR=3.0						
BATI				S	**Sn**	**04 21 53.6**	**-1.0**
	12nm,0.3s,baz=232,slow=23,SNR=7.3						
FITZ	**Fitzroy Crossi**	**12.35**	**200**	P	**Pn**	**04 21 40.3**	**+2.0**
	1.1nm,0.3s,baz=26,slow=13,SNR=36						
FITZ				S	**Sn**	**04 23 50.3**	**-4.5**
	1.3nm,0.3s,baz=40,slow=22,SNR=9.2						
WRA	**Warramunga Arr**	**14.02**	**163**	P	**Pn**	**04 22 01.2**	**+1.5**
	0.6nm,0.3s,baz=347,slow=13,SNR=32						
WRA				S	**Sn**	**04 24 31.8**	**-3.2**
	1.1nm,0.3s,baz=332,slow=23,SNR=8.1						
ASAR	**Alice Springs**	**17.49**	**168**	P	**Pn**	**04 22 45.6**	**+3.2**
	1.2nm,0.3s,baz=343,slow=9.4,SNR=60						
ASAR				S	**S**	**04 25 56.4**	**+0.4**
	0.2nm,0.3s,baz=358,slow=28,SNR=3.9						
MKAR	**Makanchi Array**	**67.83**	**327**	P	**P**	**04 29 29.5**	**-0.2**
	0.4nm,0.5s,baz=117,slow=8.1,SNR=8.0						

MEX 16 04:31:08.1±0.5**, 16.°94N**×**101.°12W, h17**km±44km**, MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.74**	**334**	eP	Pb	04 31 20.0	-2.6
ZIIG				i S	Sb	04 31 28.6	-3.8
CAIG	**El Cayaco**	**0.82**	**82**	eP	Pb	04 31 21.1	-2.8
CAIG				i S	Sb	04 31 30.9	-3.8
ARIG	**Puente Sto Nin**	**1.52**	**29**	eP	Pn	04 31 31.9	-2.7
ARIG				i S	Sn	04 31 49.2	-4.8
PLIG	**Platanillo**	**2.11**	**47**	eP	Pn	04 31 39.7	-3.1
PLIG				i S	Sn	04 32 04.7	-4.0
TLIG	**Tlapa**	**2.52**	**75**	i P	Pn	04 31 45.0	-3.3
TLIG				i S	Sn	04 32 14.0	-4.7

*ISCJB **16** 04:39:26.9±1.0, 40.°96N±0.°05×69.°64E±0.°06, h10km, Error ellipse: s-maj=8.8km s-min=5.2km az=34.4*

*KRNET **16** 04:39:26.4±0.1, 41.°05N×69.°83E, h11km, mb2.6*

ISC 16 04:39:26.2±1.5**, 40.°93N**±0.°07×**69.°58E**±0.°07**, h10**km**, n10, σ1.s03**/18**, 15C-5D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.46**	**331**	⇑iP	**Pb**	**04 39 36.4**	**-0.1**
	baz=5.0						
TAS				⇑iS	**Sb**	**04 39 42.7**	**-0.7**
	baz=5.0						
BTK	**Batken**	**1.28**	**132**	⇑iP	**Pn**	**04 39 50.0**	**-0.3**
	baz=42						
BTK				⇑iS	**Sb**	**04 40 07.7**	**+0.6**
	baz=42						
ARK	**Arkit**	**2.00**	**63**	⇑iP	**Pn**	**04 39 59.5**	**-0.6**
	baz=65						
ARK				⇑iS	**Sn**	**04 40 23.9**	**-1.3**
	baz=65						
KK31	**Karatay Array**	**2.28**	**17**	⇑Pg	**Pn**	**04 40 04.5**	**+0.4**
	3.3nm,0.6s,baz=190,slow=17,SNR=13						
KK31				⇑Lg	Lg	04 40 34.0	
	10nm,0.5s,baz=194,slow=26,SNR=18						
ARSB	**Arslanbob**	**2.60**	**80**	⇑iP	**Pn**	**04 40 09.2**	**+0.7**
	baz=82						
ARSB				⇑iS	**Sn**	**04 40 40.4**	**+0.2**
	baz=82						
AML	**Almayashu**	**3.32**	**67**	⇓iP	**Pn**	**04 40 19.0**	**+0.5**
	baz=68						
AML				⇓iS	**Sn**	**04 41 00.0**	**+1.8**
	baz=68						
EKS2	**Erkin-Say**	**3.59**	**60**	⇓iP	**Pn**	**04 40 22.3**	**+0.3**
	baz=60						
EKS2				⇓eS	**Sn**	**04 41 05.8**	**+1.3**
	baz=60						
ARLS	**Aral**	**3.69**	**74**	⇑iP	**Pn**	**04 40 24.2**	**+0.7**
	baz=75						
ARLS				⇑iS	**Sn**	**04 41 06.2**	**-0.9**
	baz=75						
UCH	**Uchtor**	**3.92**	**69**	⇑iP	**Pn**	**04 40 27.7**	**+0.8**
	baz=70						
UCH				⇑eS	**Sn**	**04 41 15.0**	**+1.7**
	baz=70						
AAK	**Ala-Archa**	**4.05**	**63**	⇑Pg	**Pb**	**04 40 36.3**	**-1.5**
	1.7nm,0.7s						
AAK				⇓Lg	Lg	04 41 29.1	
	4.0nm,1.1s						

*ISCJB **16** 04:39:58.7±0.7, 32.°77N±0.°04×140.°65E±0.°06, h77km±5km, mb3.5/8, Error ellipse: s-maj=9.0km s-min=6.0km az=5.1*

*IDC **16** 04:39:58.8±1.7, 32.°69N×140.°60E, h66km±10km, mb3.4/8, mb1 3.5/11, mb1mx3.4/46, mbtmp3.7/11, MS2.5/1, Ms1 2.5/1, ms1mx2.0/22, Error ellipse: s-maj=33.2km s-min=14.0km az=69.0*

*JMA **16** 04:39:59.8±0.1, 32.°80N×140.°64E, h68km±4km, M3.5*

ISC 16 04:39:58.2±1.2**, 32.°72N**±0.°05×**140.°75E**±0.°07**, h64**km±10km**, n38, σ1.s26**/47**, mb3.6**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**0.87**	**254**	P	**Pn**	**04 40 16.0**	**+1.2**
JAOM				eS	**Sn**	**04 40 28.0**	**+1.0**
JHCJ	**Hachijojimakas**	**0.88**	**294**	P	**Pn**	**04 40 15.3**	**+0.4**
JHCJ				S	**Sn**	**04 40 26.4**	**-0.8**
JHJ2	**Mitsune**	**0.88**	**297**	P	**Pn**	**04 40 15.5**	**+0.6**
JHJ2				eS	**Sn**	**04 40 26.6**	**-0.6**
JHJ	**Hachijo jima 2**	**0.91**	**297**	P	**Pn**	**04 40 15.5**	**+0.2**
	278nm,0.3s,baz=102,slow=20,SNR=15						
JHJ				S	**Sn**	**04 40 26.9**	**-0.9**
	831nm,0.3s,baz=262,slow=22,SNR=12						
JMKN	**Mikurajimanish**	**1.52**	**321**	P	**Pn**	**04 40 23.6**	**+0.3**
JMKN				eS	**Sn**	**04 40 41.0**	**-1.3**
BSO1	**Boso 1**	**1.94**	**5**	P	**Pn**	**04 40 30.3**	**+1.8**
BSO1				eS	**Sn**	**04 40 52.4**	**+0.8**
JKO	**Kozu shima**	**2.00**	**318**	P	**Pn**	**04 40 30.6**	**+0.9**
JKO				eS	**Sn**	**04 40 52.7**	**-0.9**
BSO3	**Boso 3**	**2.09**	**355**	P	**Pn**	**04 40 31.4**	**+0.7**
BSO3				eS	**Sn**	**04 40 55.1**	**-0.5**
JIM2	**Oshima 3**	**2.28**	**331**	P	**Pn**	**04 40 33.4**	**-0.2**
JIM2				S	**Sn**	**04 40 59.1**	**-1.5**
JIZS	**Izushimoda**	**2.54**	**322**	P	**Pn**	**04 40 38.2**	**+1.2**
TK02	**Tokai 2**	**2.79**	**297**	P	**Pn**	**04 40 42.2**	**+1.9**
JOD2	**Odawara 2**	**2.89**	**332**	P	**Pn**	**04 40 42.7**	**+0.8**
JOD2				eS	**Sn**	**04 41 13.5**	**-2.1**
TK04	**Tokai 4**	**2.92**	**306**	P	**Pn**	**04 40 44.1**	**+1.9**
JFNN	**Fujinakano**	**3.01**	**326**	P	**Pn**	**04 40 45.5**	**+2.0**
SHZ3	**Shizuoka 3**	**3.16**	**319**	P	**Pn**	**04 40 48.0**	**+2.4**
JYN	**Shimob**	**3.33**	**327**	P	**Pn**	**04 40 49.8**	**+1.9**
TTO1	**TONANKAI O.B.S**	**3.45**	**286**	P	**Pn**	**04 40 51.3**	**+2.1**
TTO1				eS	**Sn**	**04 41 29.2**	**+0.5**
JRY	**Ryogami san**	**3.63**	**336**	P	**Pn**	**04 40 53.6**	**+1.6**
JRY				eS	**Sn**	**04 41 33.5**	**-0.2**
JIE	**Ise**	**3.77**	**297**	P	**Pn**	**04 40 55.4**	**+1.5**
JIE				eS	**Sn**	**04 41 35.5**	**-1.5**
MJAR	**Matsushiro Arr**	**4.36**	**332**	P	**Pn**	**04 41 02.6**	**+0.7**
	0.5nm,0.3s,baz=166,slow=12,SNR=12						
MJAR				S	**Sn**	**04 41 51.1**	**-0.2**
	0.3nm,0.3s,baz=147,slow=25,SNR=4.4						
MAT	**Matsushiro**	**4.36**	**332**	P	**Pn**	**04 41 02.5**	**+0.6**
MAT				eS	**Sn**	**04 41 51.4**	**0.0**
JCJ	**Chichijima**	**5.74**	**167**	P	**Pn**	**04 41 21.6**	**+0.7**
	6.3nm,0.3s,baz=300,slow=20,SNR=4.7						
JCJ				S	**Sn**	**04 42 21.9**	**-3.4**
	4.5nm,0.3s,baz=241,slow=19,SNR=2.6						
JNU	**Nakatsue**	**8.31**	**275**	P	**Pn**	**04 41 56.8**	**+0.7**
	0.4nm,0.3s,baz=111,slow=8.6,SNR=2.7						
ASAJ	**Asahikawa**	**11.47**	**7**	LR	LR	04 47 55.9	
	comp=Z,20nm,18.2s,baz=136,slow=41						
H11N2	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	05 14 26.7	
	baz=304,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**26.70**	**113**	T	T	05 14 37.9	
	baz=304,slow=75,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**26.71**	**113**	T	T	05 14 42.4	
	baz=304,slow=75,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**27.25**	**115**	T	T	05 14 56.2	
	baz=305,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**27.25**	**115**	T	T	05 14 55.5	
	baz=305,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**27.26**	**115**	T	T	05 14 55.6	
	baz=305,slow=75,SNR=9.2						
SONM	**Songino Array**	**29.96**	**310**	P	**P**	**04 46 00.6**	**0.0**
	0.5nm,0.6s,baz=119,slow=8.4,SNR=3.7						
ZALV	**Zalesovo Beam**	**44.52**	**316**	P	**P**	**04 48 03.2**	**-0.1**
	0.4nm,0.3s,baz=108,slow=7.6,SNR=2.6						
MKAR	**Makanchi Array**	**46.07**	**306**	P	**P**	**04 48 15.4**	**-0.4**
	2.3nm,0.7s,baz=90,slow=10.0,SNR=27						
KURBB	**Kurchatov Arra**	**48.33**	**311**	P	**P**	**04 48 32.3**	**-0.8**
	0.4nm,0.4s,baz=88,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**52.72**	**188**	P	**P**	**04 49 06.1**	**-0.4**
	0.2nm,0.3s,baz=4.8,slow=7.6,SNR=8.4						
FINES	**FINESS Array B**	**72.39**	**333**	P	**P**	**04 51 16.6**	**-0.5**
	0.2nm,0.2s,baz=41,slow=6.4,SNR=4.7						
BRTR	**Keskin Array B**	**81.31**	**312**	P	**P**	**04 52 08.0**	**0.0**
	0.5nm,0.8s,baz=57,slow=5.3,SNR=3.4						
TXAR	**Lajitas Array**	**93.19**	**52**	P	**P**	**04 53 06.7**	**+0.7**
	0.1nm,0.6s,baz=342,slow=5.2,SNR=2.4						

*ISCJB **16** 04:41:19.9±0.8, 54.°2S±0.°2×137.°1W±0.°3, h10km, mb3.9/6, MS3.9/17, Error ellipse: s-maj=32.0km s-min=22.8km az=154.3*

*IDC **16** 04:41:19.7±0.8, 54.°18S×137.°04W, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/29, mbtmp3.9/6, MS3.9/17, Ms1 3.9/17, ms1mx3.8/22, Error ellipse: s-maj=36.3km s-min=24.2km az=166.0*

ISC 16 04:41:21.2±0.9**, 54.°2S**±0.°2×**137.°1W**±0.°2**, h10**km**, n42, σ0.s69**/10**, mb4.0**/6**, MS4.0**/17**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.05**	**4**	eT	T	05 19 53.4	
	16nm,0.3s						
VNDA	**Vanda**	**31.64**	**201**	LR	LR	04 56 50.7	
	comp=Z,214nm,18.2s,baz=86,slow=29						
TBI	**Tubuai**	**32.16**	**338**	eLR	LR	04 56 05.2	
	comp=Z,594nm,28.8s,baz=145						
TBI	**Tubuai**	**32.16**	**338**	eT	T	05 21 28.0	
	56nm,0.4s						
QSPA	**South Pole Qui**	**36.00**	**180**	P	**P**	**04 48 22.3**	**+0.3**
	2.1nm,1.0s,baz=78,slow=6.5,SNR=3.0						
TVO	**Taravao**	**37.52**	**341**	eT	T	05 28 08.9	
	1.5nm,0.4s						
PAE	**Paea**	**37.70**	**340**	eT	T	05 28 22.7	
	3.0nm,0.3s						
TIAR	**Tiarei**	**37.76**	**341**	eT	T	05 28 26.5	
	2.4nm,0.3s						
PPT2	**Papeete2**	**37.77**	**340**	eLR	LR	04 58 41.7	
	comp=Z,512nm,26.0s,baz=160						
PPT2	**Papeete2**	**37.77**	**340**	eT	T	05 28 27.6	
	6.7nm,0.3s						
PPT	**Papeete**	**37.79**	**340**	LR	LR	04 59 09.8	
	comp=Z,229nm,19.1s,baz=168,slow=28						
VAH	**Vaihoa**	**39.72**	**344**	eT	T	05 30 51.9	
	32nm,0.3s						
PLCA	**Paso Flores**	**45.27**	**101**	LR	LR	05 03 41.1	
	comp=Z,107nm,18.4s,baz=251,slow=30						
DZM	**Mont Dzumac**	**52.89**	**284**	eLR	LR	05 05 49.2	
	comp=Z,174nm,22.5s						
MAW	**Mawson**	**57.63**	**189**	LR	LR	05 15 21.8	
	comp=Z,90nm,18.0s,baz=216,slow=35						
STKA	**Stephens Creek**	**59.97**	**256**	LR	LR	05 12 31.3	
	comp=Z,52nm,21.0s,baz=200,slow=31						
CPUP	**Villa Florida**	**63.20**	**98**	LR	LR	05 14 36.1	
	comp=Z,129nm,20.6s,baz=212,slow=32						
LPAZ	**La Paz**	**64.64**	**83**	P	**P**	**04 52 00.2**	**+0.5**
	1.7nm,0.8s,baz=197,slow=6.6,SNR=4.9						
LPAZ				LR	LR	05 14 18.3	
	comp=Z,21nm,19.7s,baz=220,slow=31						
ASAR	**Alice Springs**	**70.61**	**256**	P	**P**	**04 52 36.9**	**+0.3**
	0.9nm,0.8s,baz=144,slow=6.3,SNR=7.2						
ASAR				LR	LR	05 19 07.1	
	comp=Z,97nm,20.8s,baz=126,slow=32						
H01W1	**Cape Leeuwin H**	**72.24**	**235**	T	T	06 12 43.4	
	baz=144,slow=76,SNR=14						
H01W2	**Cape Leeuwin H**	**72.24**	**235**	T	T	06 12 39.8	
	baz=144,slow=76,SNR=16						
H01W3	**Cape Leeuwin H**	**72.25**	**235**	T	T	06 12 51.7	
	baz=144,slow=76,SNR=14						
WRA	**Warramunga Arr**	**73.27**	**259**	P	**P**	**04 52 53.4**	**+0.8**
	1.1nm,0.9s,baz=144,slow=5.4,SNR=5.3						
WRA				LR	LR	05 21 37.3	
	comp=Z,77nm,19.9s,baz=175,slow=33						
BDFB	**Brasilia**	**76.93**	**99**	LR	LR	05 22 48.8	
	comp=Z,89nm,21.6s,baz=253,slow=32						
ROSC	**El Rosal**	**78.44**	**65**	LR	LR	05 23 08.7	
	comp=Z,46nm,18.7s,baz=200,slow=32						
FITZ	**Fitzroy Crossi**	**79.70**	**254**	P	**P**	**04 53 28.6**	**-0.5**
	2.6nm,1.0s,baz=180,slow=4.0,SNR=2.6						
FITZ				LR	LR	05 25 51.4	
	comp=Z,103nm,18.4s,baz=154,slow=34						
H11S2	**WAKE ISLAND Hy**	**86.83**	**308**	T	T	06 30 19.1	
	baz=148,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**86.85**	**308**	T	T	06 30 19.6	
	baz=148,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**86.85**	**308**	T	T	06 30 22.2	
	baz=148,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**87.81**	**309**	T	T	06 31 34.7	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**87.81**	**309**	T	T	06 31 30.4	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**87.82**	**309**	T	T	06 31 35.5	
	baz=146						
TXAR	**Lajitas Array**	**88.03**	**29**	P	**P**	**04 54 11.3**	**0.0**
	0.1nm,0.3s,baz=198,slow=5.7,SNR=2.6						
MDP	**Montagnes des**	**90.84**	**83**	LR	LR	05 30 08.6	
	comp=Z,38nm,19.6s,baz=206,slow=32						
NVAR	**Mina Array Bea**	**93.64**	**15**	LR	LR	05 29 08.0	
	comp=Z,81nm,18.2s,baz=200,slow=31						
GUMO	**Guam**	**94.05**	**288**	LR	LR	05 28 48.8	
	comp=Z,46nm,20.8s,baz=86,slow=30						
PDAR	**Pinedale Array**	**99.40**	**20**	LR	LR	05 32 53.8	
	comp=Z,47nm,19.0s,baz=210,slow=31						
LBTB	**Lobatse**	**99.73**	**164**	LR	LR	05 33 25.9	
	comp=Z,83nm,21.0s,baz=181,slow=31						
TORD	**Torodi Ar. Bea**	**127.84**	**126**	PKP	**PKPdf**	**05 00 25.9**	**-1.1**
	0.5nm,0.9s,baz=175,slow=2.8,SNR=3.2						
ESDC	**Sonseca Array**	**145.53**	**95**	PKPbc	**PKPdf**	**05 00 58.2**	**-0.7**
	0.6nm,0.7s,baz=272,slow=2.4,SNR=3.2						
MKAR	**Makanchi Array**	**154.17**	**270**	PKPab	**PKPab**	**05 01 34.5**	**+0.2**
	0.5nm,0.7s,baz=114,slow=3.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**155.67**	**287**	PKPab	**PKPab**	**05 01 41.0**	**+0.6**
	0.7nm,0.4s,baz=113,slow=5.5,SNR=3.6						

DJA 16 04:51:20.2±1.7**, 8°S**±7°×**10°9E**±°**, h15**km±13km**, M3.8**/4**, MLv3.8**/4**, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KPJI	**Karang Pucung**	**0.98**	**351**	P	Pg	04 51 39.2	-0.1
KPJI				S	Sg	04 51 52.5	+0.4
CISI	**Cisompet, Garu**	**1.47**	**301**	P	Pn	04 51 45.5	-0.7
UGM	**Wanagama**	**1.47**	**75**	P	Pn	04 51 45.8	-0.5
UGM				S	Sn	04 52 04.2	-1.1
SMRI	**Semarang**	**1.83**	**47**	P	Pn	04 51 51.3	+0.1
WOJI	**Wonogiri, Jawa**	**1.88**	**76**	P	Pn	04 51 51.8	0.0
PCJI	**Pacitan**	**2.07**	**87**	P	Pn	04 51 54.6	+0.2
PWJI	**Pagerwojo**	**2.70**	**84**	P	Pn	04 52 02.9	-0.2
SKJI	**Sukabumi**	**2.83**	**297**	P	Pn	04 52 04.8	-0.1
TBJI	**Tambak Boyo**	**3.11**	**62**	P	Pn	04 52 08.7	-0.1
GRJI	**Gresik**	**3.63**	**68**	P	Pn	04 52 16.0	0.0
BLJI	**Banyuglugur**	**4.50**	**83**	P	Pn	04 52 27.6	-0.2
JAGI	**Jajag, Banyuwa**	**5.01**	**92**	P	Pn	04 52 35.3	+0.4
KASI	**Kota Agung**	**5.33**	**301**	P	Pn	04 52 39.8	+0.4

KRSC 16 04:55:40.6±10.0**, 59.°75N**×**163.°98E, h72**km±10km**, ML4.1, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.69**	**223**	eP	Pn	04 55 55.8	+0.3
OSSR				eS	Sn	04 56 08.1	+1.6
TILK	**Tilichiki**	**1.29**	**56**	eP	Pn	04 56 03.9	+1.1
TILK				eS	Sn	04 56 22.5	+3.0
KMSK	**Kamenskaya**	**2.93**	**21**	eP	Pn	04 56 26.5	+1.7
KMSK				eS	Sn	04 57 02.3	+3.5

IDC 16 04:57:19.4±1.7**, 6.°51S**×**128.°66E, h287**km±23km**, mb2.9**/1**, mb1 3.4**/6**, mb1mx3.0**/31**, mbtmp4.0**/6**, Error ellipse: s-maj=32.9km s-min=17.2km az=92.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.16**	**233**	P	Pn	04 58 50.2	-0.1
	8.6nm,0.3s,baz=51,slow=6.5,SNR=3.7						
BATI				S	S	05 00 00.2	-3.3
	12nm,0.3s,baz=54,slow=16,SNR=6.3						
SIJI	**Sorong**	**6.18**	**25**	P	Pn	04 58 50.6	0.0
	0.7nm,0.3s,baz=217,slow=20,SNR=4.1						
SIJI				S	S	05 00 00.8	-3.2
	3.8nm,0.3s,baz=252,slow=23,SNR=9.7						
FITZ	**Fitzroy Crossi**	**11.89**	**194**	P	Pn	05 00 01.4	+0.5
	0.1nm,0.3s,baz=9.8,slow=13,SNR=3.5						
FITZ				S	S	05 02 13.9	+0.5
	0.1nm,0.3s,baz=282,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**14.45**	**158**	P	P	05 00 30.7	-0.5
	0.8nm,0.3s,baz=333,slow=13,SNR=45						
WRA				S	S	05 03 05.2	-5.3
	0.1nm,0.3s,baz=342,slow=20,SNR=5.4						
ASAR	**Alice Springs**	**17.79**	**164**	P	P	05 01 07.8	0.0
	2.0nm,0.3s,baz=345,slow=12,SNR=94						
ASAR				S	S	05 04 14.0	-3.2
	0.0nm,0.3s,baz=347,slow=25,SNR=3.8						
MKAR	**Makanchi Array**	**67.09**	**327**	P	P	05 07 42.4	0.0
	0.2nm,0.4s,baz=120,slow=8.5,SNR=5.3						

IDC 16 05:17:52.4±2.1**, 4.°34S**×**151.°49E, h0**km**, mb3.0**/3**, mb1 3.4**/3**, mb1mx3.1**/44**, mbtmp3.1**/3**, Error ellipse: s-maj=155.1km s-min=28.8km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.80**	**226**	P	P	05 22 57.0	0.0
	0.2nm,0.7s,baz=52,slow=10.0,SNR=3.5						
ASAR	**Alice Springs**	**25.63**	**220**	P	P	05 23 23.7	-0.2
	0.3nm,0.8s,baz=52,slow=9.5,SNR=3.4						
ILAR	**Eielson Array**	**82.23**	**22**	P	P	05 30 15.4	+0.2
	0.3nm,0.7s,baz=255,slow=5.6,SNR=5.0						

WEL 16 05:18:00.0, 39.°2S±0.°9×**17°7E**±°**, h24**km±2km**, ML3.6**/32**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WHHZ	**Waihua**	**0.21**	**317**	P	Pb	05 18 05.6	-0.2
WHHZ				S	Sb	05 18 10.5	+0.9
KNZ	**Kokohu**	**0.29**	**44**	P	Pb	05 18 07.4	+0.6
KNZ				S	Sn	05 18 13.6	-0.7
ARHZ	**Aropaoanui**	**0.33**	**264**	P	Pb	05 18 07.7	+0.3
ARHZ				S	Sn	05 18 14.3	-1.0
MHGZ	**Mahia Peninsul**	**0.39**	**79**	P	Pn	05 18 09.5	-0.6
MHGZ				S	Sn	05 18 18.3	+1.5
RAHZ	**Arahi**	**0.41**	**320**	P	Pb	05 18 08.6	-0.1
RAHZ				S	Sb	05 18 15.7	+1.1
SNGZ	**Shannon Statio**	**0.45**	**352**	P	Pb	05 18 09.7	+0.2
SNGZ				S	Sn	05 18 17.4	-1.0
PRGZ	**Paritu Road**	**0.47**	**50**	P	Pn	05 18 10.6	-0.7
NMHZ	**Naumai**	**0.49**	**285**	P	Pb	05 18 10.3	+0.1
CKHZ	**Cape Kidnapper**	**0.50**	**211**	P	Pn	05 18 11.3	-0.4
CKHZ				S	Sn	05 18 20.8	+1.2
MTHZ	**Maungataniwha**	**0.59**	**310**	P	Pb	05 18 11.3	-0.4
RIGZ	**Rimuhau**	**0.59**	**27**	P	Pb	05 18 12.3	+0.5
MCHZ	**McNeill Hill**	**0.60**	**249**	P	Pn	05 18 12.7	-0.4
KAHZ	**Kahuranaki**	**0.70**	**216**	P	Pn	05 18 14.3	-0.2
RTZ	**Ruatahuna**	**0.70**	**331**	P	Pb	05 18 13.3	-0.4
BKZ	**Black Stump Fm**	**0.72**	**275**	P	Pb	05 18 13.9	-0.1
RAGZ	**Rawiri**	**0.73**	**360**	P	Pb	05 18 14.5	+0.3
KWHZ	**Kaweka Forest**	**0.80**	**256**	P	Pb	05 18 15.3	0.0
TKGZ	**Te Karaka**	**0.86**	**23**	P	Pb	05 18 16.1	-0.2
MRHZ	**Matea Rd**	**0.87**	**297**	P	Pb	05 18 16.2	-0.4
MWZ	**Matawai**	**0.90**	**6**	P	Pb	05 18 16.3	-0.7
PXZ	**Pawanui**	**0.91**	**208**	P	Pb	05 18 16.5	-0.7
KRHZ	**Kereru**	**0.91**	**243**	P	Pb	05 18 16.8	-0.4
CNGZ	**Carnagh Statio**	**0.97**	**40**	P	Pn	05 18 17.5	-0.6
URZ	**Urewera**	**1.00**	**346**	P	Pn	05 18 17.9	-0.6
ALRZ	**Allen Road**	**1.07**	**308**	P	Pb	05 18 20.1	+0.2
BHHZ	**Black Hill Sta**	**1.08**	**256**	P	Pn	05 18 19.1	-0.6
PRRZ	**Plateau Road**	**1.08**	**312**	P	Pn	05 18 19.3	-0.4
HATZ	**Hinemaiaia**	**1.09**	**288**	P	Pb	05 18 20.1	0.0
WPHZ	**Waipukurau**	**1.12**	**222**	P	Pn	05 18 19.7	-0.6
RRRZ	**Republican Roa**	**1.14**	**321**	P	Pn	05 18 20.2	-0.3
TWGZ	**Tauwhareparae**	**1.14**	**23**	P	Pn	05 18 20.1	-0.5
PNHZ	**Pukenui**	**1.16**	**234**	P	Pn	05 18 20.2	-0.7
PRHZ	**Porangahau**	**1.20**	**210**	P	Pn	05 18 20.2	-1.1
WPRZ	**Whakapapatarin**	**1.21**	**306**	P	Pn	05 18 21.2	-0.2
HRRZ	**Handcock Road**	**1.22**	**313**	P	Pb	05 18 23.0	+0.6
TARZ	**Mount Tarawera**	**1.22**	**324**	P	Pn	05 18 21.5	-0.2
RITZ	**Rihia Road**	**1.24**	**281**	P	Pn	05 18 22.2	+0.4
EDRZ	**Edgecumbe**	**1.24**	**334**	P	Pn	05 18 21.3	-0.6
WHTZ	**Whakaora**	**1.27**	**296**	P	Pn	05 18 22.8	+0.5
RUGZ	**Raukumara Rang**	**1.28**	**9**	P	Pn	05 18 21.8	-0.7
HLRZ	**Highlands Stat**	**1.28**	**319**	P	Pb	05 18 24.1	+0.5
HSRZ	**Hossack Road**	**1.30**	**315**	P	Pn	05 18 22.6	-0.1
MOVZ	**Moawhango**	**1.30**	**262**	P	Pn	05 18 22.9	+0.1
MKRZ	**Makatiti**	**1.32**	**325**	P	Pb	05 18 23.7	-0.5
PUZ	**Puketiti**	**1.33**	**30**	P	Pn	05 18 21.8	-1.4
RATZ	**Rangitukua**	**1.33**	**285**	P	Pn	05 18 23.4	+0.3
GRRZ	**Galatos Road**	**1.35**	**310**	P	Pn	05 18 23.1	-0.3
KATZ	**Kakaramea**	**1.36**	**280**	P	Pn	05 18 23.6	-0.1
TUVZ	**Tukino**	**1.37**	**268**	P	Pn	05 18 24.3	+0.5
MARZ	**Manawahe**	**1.37**	**335**	P	Pn	05 18 23.9	+0.2
KRVZ	**Karewarewa**	**1.39**	**275**	P	Pn	05 18 24.4	+0.4
OMRZ	**Omania**	**1.39**	**324**	P	Pn	05 18 23.6	-0.4
TSZ	**Takapari Road**	**1.40**	**233**	P	Pn	05 18 22.9	-1.1
NGZ	**Ngauruhoe**	**1.41**	**272**	P	Pn	05 18 24.6	+0.3
WATZ	**Wairara**	**1.41**	**291**	P	Pn	05 18 24.2	-0.1
WHVZ	**Whangaehu Hut**	**1.42**	**267**	P	Pn	05 18 24.6	+0.1
UTU	**Utuhina**	**1.42**	**317**	P	Pb	05 18 27.0	+1.1
WTVZ	**West Tongariro**	**1.43**	**274**	P	Pn	05 18 24.9	+0.4
PKGZ	**Pakihiroa**	**1.44**	**21**	P	Pn	05 18 24.0	-0.6
DVHZ	**Dannevirke**	**1.44**	**222**	P	Pn	05 18 23.4	-1.2
DRZ	**Dome Shelter**	**1.44**	**268**	P	Pb	05 18 26.6	+0.2
FWVZ	**Far West T-bar**	**1.45**	**268**	P	Pn	05 18 24.7	-0.2
KUTZ	**Kaahu Road**	**1.45**	**300**	P	Pn	05 18 24.5	-0.2
TRVZ	**Turoa**	**1.45**	**267**	P	Pn	05 18 24.7	-0.3
HAZ	**Te Kaha**	**1.50**	**11**	P	Pn	05 18 24.9	-0.5
OPRZ	**Ohinepanea**	**1.54**	**334**	P	Pn	05 18 25.1	-0.9
TWVZ	**Taurewa**	**1.55**	**275**	P	Pn	05 18 26.1	-0.1
WMGZ	**Waiomatatini S**	**1.61**	**29**	P	Pn	05 18 25.8	-1.2
BFZ	**Birch Farm**	**1.71**	**211**	P	Pn	05 18 26.4	-1.9
PRWZ	**Pori Road**	**1.73**	**220**	P	Pn	05 18 27.6	-1.0
TGRZ	**Tauranga**	**1.75**	**328**	P	Pb	05 18 32.0	+0.5
KMRZ	**Kaimai**	**1.80**	**320**	P	Pb	05 18 32.0	-0.4
MXZ	**Matakaoa Point**	**1.81**	**23**	P	Pn	05 18 29.3	-0.3
TIWZ	**Tintock**	**1.94**	**217**	P	Pn	05 18 30.2	-1.4
MRZ	**Mangatainoka R**	**2.01**	**224**	P	Pn	05 18 31.0	-1.5
TOZ	**Tahuroa Road**	**2.12**	**314**	P	Pb	05 18 38.7	+0.9
HIZ	**Hauiti**	**2.12**	**289**	P	Pn	05 18 34.0	0.0
TMWZ	**Te Maipa**	**2.21**	**211**	P	Pn	05 18 33.1	-2.1
HOWZ	**Holdsworth Sta**	**2.21**	**221**	P	Pn	05 18 33.1	-2.1
MTW	**Mount Morrison**	**2.42**	**217**	P	Pn	05 18 37.4	-0.7
KIW	**Kapiti Island**	**2.52**	**229**	P	Pn	05 18 38.1	-1.3

CAW	Cannon Point	2.60	223	P	Pn	05 18 38.6	-2.0
PLWZ	Palliser	2.86	215	P	Pn	05 18 41.7	-2.5
QRZ	Quartz Range	4.08	245	P	Pn	05 18 58.5	-2.3

*BJI **16** 05:25:22.2, 15.81N×146.67E, h119km, mb4.4/15, mB4.7/9*
*ISCJB **16** 05:25:26.2±0.2, 16.39N±0.03×146.01E±0.05, h100km, mb4.4/137, Error ellipse: s-maj=6.5km s-min=4.0km az=20.2*
*IDC **16** 05:25:28.4±0.7, 16.44N×146.02E, h112km±6km, mb4.0/22, mb1 4.2/25, mb1mx3.9/60, mbtmp4.4/25, MS2.7/1, Ms1 2.7/1, ms1mx2.3/36, Error ellipse: s-maj=16.5km s-min=7.0km az=104.0*
*NEIC **16** 05:25:29.7±0.4, 16.39N×145.98E, h120km±3km, mb4.5/113, Error ellipse: s-maj=5.9km s-min=3.1km az=107.0*

ISC 16 05:25:28.1±0.3, 16.39N±0.04×146.16E±0.07, h100km, n181, σ1§46/184, mb4.5/137, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANA2	Anatahan	0.43	263	*e*Pn		P	Pn	05 25 46.6	+3.1
ANA2				*e*Sn			Sn	05 26 00.1	+5.2
SARN	Sarigan	0.48	310	*e*Pn		P	Pn	05 25 47.6	+3.8
SARN				*e*Sn			Sn	05 25 58.0	+2.5
GUMO	Guam	3.05	204	*e*Pn		P	Pn	05 26 16.6	+2.0
GUMO				*e*Sn			Sn	05 26 52.2	+1.8
GUMO	Guam	3.05	204	P		P	Pn	05 26 16.4	+1.9
	125nm,0.3s,baz=131,slow=0.8,SNR=29								
GUMO				S			Sn	05 26 51.2	+0.9
	543nm,0.3s,baz=49,slow=21,SNR=24								
CBIJ	Chichi jima	11.27	342	*e*Pn		P	Pn	05 28 06.2	+0.1
CBIJ				*e*Sn			Sn	05 30 04.3	-5.7
JCJ	Chichijima	11.27	342	P		P	Pn	05 28 06.2	+0.1
	2.0nm,0.3s,baz=256,slow=20,SNR=2.3								
JCJ				S			Sn	05 30 04.3	-5.7
	2.9nm,0.3s,baz=311,slow=19,SNR=2.0								
PATS	Pohnpei	15.22	127	*e*Pn		P	Pn	05 28 57.6	-0.1
	63nm,1.0s								
JAY	Jayapura	19.54	196	P		P	P	05 29 48.5	+0.5
	1.8nm,0.3s,baz=24,slow=15,SNR=4.7								
H11S3	WAKE ISLAND Hy	19.70	81	T		T	T	05 50 43.5	
	baz=266,slow=75,SNR=42								
H11S1	WAKE ISLAND Hy	19.71	81	T		T	T	05 50 45.3	
	baz=266,slow=75,SNR=36								
H11S2	WAKE ISLAND Hy	19.71	81	T		T	T	05 50 45.6	
	baz=266,slow=75,SNR=55								
H11N1	WAKE ISLAND Hy	19.99	77	T		T	T	05 51 01.1	
	baz=263,slow=75,SNR=134								
H11N2	WAKE ISLAND Hy	19.99	77	T		T	T	05 51 06.7	
	baz=263,slow=75,SNR=106								
H11N3	WAKE ISLAND Hy	20.00	77	T		T	T	05 51 08.2	
	baz=263,slow=75,SNR=131								
SIJI	Sorong	22.59	222	P		P	P	05 30 20.0	-0.4
	59nm,0.6s,baz=34,slow=8.5,SNR=14								
ASAJ	Asahikawa	27.80	354	P		P	P	05 31 07.3	-0.3
	2.7nm,0.4s,baz=160,slow=12,SNR=3.8								
ASAJ					LR		LR	05 39 40.5	
	comp=Z,17nm,21.4s,baz=125,slow=31								
LUWI	Luwuk	28.86	235	*e*P		P	P	05 31 16.7	-0.8
	24nm,0.8s								
NJ2	Nanjing	29.26	307	*e*P		P	P	05 31 21.0	+0.2
NJ2					pmax		pmax		
	comp=Z,16nm,0.5s								
COEN	Coen	30.30	186	*e*P		P	P	05 31 30.1	0.0
	7.2nm,0.6s								
CN2	Changchun	32.48	332	*e*P		P	P	05 31 50.8	+1.8
MTN	Manton Dam	32.63	208	*e*P		P	P	05 31 49.7	-0.8
	11nm,1.0s								
SOEI	Soe	33.83	221	*e*P		P	P	05 32 00.4	-0.8
	11nm,0.8s								
KLR	Kul'dur	34.79	343	P		P	P	05 32 06.5	-2.5
	0.7nm,0.4s,baz=191,slow=6.6,SNR=5.2								
CTA	Charters Tower	36.25	180	P		P	P	05 32 21.1	-0.7
	4.4nm,0.6s,baz=11,slow=1.0,SNR=9.7								
CTAO	Charters Tower	36.25	180	*e*P		P	P	05 32 21.1	-0.7
	4.7nm,0.7s								
WRAB	Tennant Creek	37.92	198	*e*P		P	P	05 32 34.6	-1.2
	17nm,0.5s								
WB2	Warramunga Arr	37.92	198	*e*P		P	P	05 32 34.6	-1.3
	17nm,0.6s								
WR1	Warramunga Arr	37.93	198	*e*P		P	P	05 32 34.6	-1.4
	19nm,0.6s								
WRA	Warramunga Arr	37.93	198	P		P	P	05 32 34.6	-1.4
	11nm,0.4s,baz=30,slow=8.9,SNR=205								
HHC	Hu-ho-hao-te	38.54	316	*e*P		P	P	05 32 42.3	+1.2
HHC					pmax		pmax		
	comp=Z,6.0nm,1.0s								
HHC					pmax		pmax		
	comp=Z,80nm,4.9s								
FITZ	Fitzroy Crossi	39.78	211	*e*P		P	P	05 32 50.3	-1.1
	2.2nm,0.7s								
FITZ	Fitzroy Crossi	39.78	211	P		P	P	05 32 50.1	-1.4
	1.8nm,0.3s,baz=26,slow=10,SNR=15								
CD2	Chengdu	41.19	298	*e*P		P	P	05 33 03.1	0.0
KMI	Kunming	41.37	290	P		P	P	05 33 05.1	+0.2
KMI					pmax		pmax		
	comp=Z,13nm,0.5s								
AS01	Alice Springs	41.56	197	*e*P		P	P	05 33 04.5	-1.6
AS31	Alice Springs	41.57	197	*e*P		P	P	05 33 04.8	-1.4
	4.4nm,0.4s								
ASAR	Alice Springs	41.58	197	P		P	P	05 33 04.9	-1.3
	3.2nm,0.4s,baz=17,slow=8.2,SNR=96								
EIDS	Eidsvold	41.78	173	*e*P		P	P	05 33 09.1	+1.3
	10.0nm,1.1s								
LZH	Lanzhou	42.32	306	*e*P		P	P	05 33 09.9	-2.5
LZH					pP		pwP	05 33 40.3	+2.0
LZH					sP		sP	05 33 56.8	+11
LZH					PP		PP	05 34 58.8	+6.5
LZH					pmax		pmax		
	comp=Z,32nm,1.0s								
LZH					pmax		pmax		
	comp=Z,130nm,4.9s								
DZM	Mont Dzumac	43.08	152	*e*P		P	P	05 33 19.0	+0.5
	7.3nm,0.6s								
DZM	Mont Dzumac	43.08	152	P		P	P	05 33 18.7	+0.2
	6.8nm,0.5s,baz=270,slow=3.3,SNR=22								
MA2	Magadan	43.25	3	P		P	P	05 33 18.1	-1.2
	3.0nm,0.3s,baz=169,slow=8.3,SNR=4.7								
PINNC	Pines Island,	44.01	151	*e*P		P	P	05 33 26.5	+0.7
	11nm,1.1s								
CMAR	Chiang Mai Arr	45.00	280	P		P	P	05 33 34.0	+0.1
	0.9nm,0.4s,baz=72,slow=6.8,SNR=6.6								
ADK	Adak	46.03	31	*e*P		P	P	05 33 42.3	+0.8
	38nm,1.1s								
GTA	Gaotai	46.32	309	*e*P		P	P	05 33 48.3	+4.2
GTA					pP		sP	05 34 17.1	-1.3
GTA					sP		pwP	05 34 30.9	+21
GTA					pmax		pmax		
	comp=Z,2.0nm,1.0s								
SEY	Seymchan	46.69	4	P		P	P	05 33 46.1	-0.4
	1.8nm,0.7s,baz=192,slow=4.5,SNR=9.6								
ARMA	Armidale	46.84	174	*e*P		P	P	05 33 48.8	+0.6
	4.7nm,1.1s								
XMIS	Christmas Isla	48.16	239	*e*P		P	P	05 33 56.3	-2.2
	21nm,0.6s								
STKA	Stephens Creek	48.19	185	P		P	P	05 33 57.9	-0.6
	2.3nm,0.5s,baz=342,slow=9.5,SNR=7.6								
PSI	Prapat	48.35	259	*e*P		P	P	05 33 59.8	-0.4
	7.8nm,0.7s								
PSI	Prapat	48.35	259	P		P	P	05 33 59.6	-0.6
	4.1nm,0.3s,baz=352,slow=0.3,SNR=8.6								
BBOO	Buckleboo	49.87	191	*e*P		P	P	05 34 10.4	-0.9
	13nm,0.8s								
FORT	Forrest	50.03	200	*e*P		P	P	05 34 11.7	-0.8
	18nm,0.6s								
GSI	Gunungsitoli	50.12	258	*e*P		P	P	05 34 12.8	-0.8
	29nm,0.7s								
CAN	Canberra	51.50	177	*e*P		P	P	05 34 24.2	+0.6
	6.3nm,0.8s								
UNV	Unalaska Valle	52.31	33	*e*P		P	P	05 34 29.2	-0.1
	19nm,0.7s								
AKUT	Akutan	52.83	33	*e*P		P	P	05 34 33.2	+0.1
	86nm,1.0s								
BILL	Bilibino	53.21	9	*e*P		P	P	05 34 35.9	+0.1
	6.7nm,0.7s								
MORW	Morawa	53.75	213	*e*P		P	P	05 34 38.6	-1.6
	3.3nm,0.5s								
GAMB	Gambell	55.42	21	*e*P		P	P	05 34 52.0	+0.2
	2.5nm,0.7s								
SDPT	Sand Point	56.13	34	*e*P		P	P	05 34 57.4	+0.4
	79nm,1.1s								
WMQ	Urumqi	56.16	312	*e*P		P	P	05 34 59.0	+1.4
WMQ					pP		pwP	05 35 26.5	+4.9
WMQ					LR		LR		
	comp=N,41nm,29.3s								
WMQ					LR		LR		
	comp=E,82nm,21.3s								
WMQ					LR		LR		
	comp=Z,59nm,21.3s								
CHGN	Chignik	57.56	33	*e*P		P	P	05 35 07.2	+0.2
	21nm,1.2s								
SII	Sitkinak Islan	59.87	34	*e*P		P	P	05 35 23.8	+0.7
	26nm,0.6s								
MK01	Makanchi Array	60.37	315	*e*P		P	P	05 35 26.1	-0.7
MK31	Makanchi Array	60.38	315	*e*P		P	P	05 35 28.2	+1.4
	0.5nm,1.1s								
MK32	Makanchi Array	60.38	315	*e*P		P	P	05 35 25.2	-1.6
MKAR	Makanchi Array	60.38	315	P		P	P	05 35 25.2	-1.6
	0.2nm,0.3s,baz=96,slow=7.3,SNR=7.3								
SVW2	Sparrevohn	60.63	28	*e*P		P	P	05 35 28.9	+0.7
	2.7nm,0.8s								
KDAK	Kodiak Island	61.05	32	*e*P		P	P	05 35 31.5	+0.4
BKZ	Black Stump Fm	62.12	154	*e*P		P	P	05 35 38.0	-0.6
	5.4nm,1.0s								
BRLK	Bradley Lake	62.44	31	*e*P		P	P	05 35 39.8	-0.7
	10nm,1.1s								
CAST	Castle Rocks	62.95	26	*e*P		P	P	05 35 44.0	+0.2
	9.7nm,0.7s								
IM3	Indian Mountai	63.14	23	*e*P		P	P	05 35 45.8	+0.8
SEW	Seward	63.22	30	*e*P		P	P	05 35 45.3	-0.3
	7.1nm,0.6s								
KURK	Kurchatov	63.28	319	*e*P		P	P	05 35 44.7	-1.4
	2.7nm,1.0s								
KURBB	Kurchatov Arra	63.33	319	P		P	P	05 35 44.5	-2.0
	0.8nm,0.4s,baz=97,slow=6.9,SNR=7.4								
RC01	Rabbit Creek A	63.33	29	*e*P		P	P	05 35 46.0	-0.3
	12nm,1.2s								
BPAW	Bear Paw Mtn.	63.62	26	*e*P		P	P	05 35 48.7	+0.5
	8.2nm,1.1s								
KHZ	Kahutara	63.72	158	*e*P		P	P	05 35 46.9	-2.1
	3.5nm,1.2s								
TRF	Thorofare Moun	63.73	27	*e*P		P	P	05 35 48.6	-0.5
	7.7nm,1.0s								
PMR	Palmer	63.74	29	*e*P		P	P	05 35 48.2	-0.7
	3.0nm,0.8s								
OXZ	Oxford	63.99	159	*e*P		P	P	05 35 49.1	-1.7
	4.9nm,0.6s								
MLY	Manley	64.01	25	*e*P		P	P	05 35 50.9	+0.1
	3.8nm,0.7s								
KNK	Knik Glacier	64.01	29	*e*P		P	P	05 35 50.7	-0.1
	10nm,0.9s								
SML	Sawmill	64.17	29	*e*P		P	P	05 35 51.6	-0.2
	12nm,0.7s								
RND	Reindeer	64.34	27	*e*P		P	P	05 35 52.2	-0.8
	11nm,1.2s								
KSH	Kashi	64.57	306	*e*P		P	P	05 35 50.5	-4.5
SCM	Sheep Creek Mo	64.64	29	*e*P		P	P	05 35 55.1	+0.1
	18nm,0.9s								
DHY	Denali Highway	64.90	27	*e*P		P	P	05 35 56.0	-0.8
	3.6nm,0.8s								
WRH	Wood River Hil	64.94	26	*e*P		P	P	05 35 56.2	-0.6
	10nm,1.2s								
MDM	Murphy Dome	65.01	25	*e*P		P	P	05 35 58.1	+0.8
	5.5nm,0.8s								
CCB	Clear Creek Bu	65.10	26	*e*P		P	P	05 35 56.7	-1.1
	2.7nm,0.6s								
EYAK	Cordova Ski Ar	65.11	30	*e*P		P	P	05 35 58.6	+0.6
	22nm,1.0s								
DIV	Divide	65.22	30	*e*P		P	P	05 35 59.2	+0.5
	6.5nm,0.9s								
KLU	Klutina	65.22	29	*e*P		P	P	05 35 59.4	+0.7
	11nm,1.1s								
HDA	Harding Lake	65.40	26	*e*P		P	P	05 35 58.9	-0.9
	5.7nm,0.9s								
IL1	Eielson Array	65.52	26	*e*P		P	P	05 35 58.8	-1.7
ILAR	Eielson Array	65.52	26	P		P	P	05 35 59.0	-1.6
	3.4nm,0.5s,baz=247,slow=5.9,SNR=93								
ILAR					pP		pP	05 36 28.1	+3.5
	0.8nm,0.4s,baz=247,slow=6.4,SNR=3.1								
ILB	Eielson Array	65.52	26	*e*P		P	P	05 35 59.0	-1.6
	4.1nm,0.6s								
TOLK	Toolik Lake Re	65.57	21	*e*P		P	P	05 36 01.1	+0.3
	3.3nm,0.6s								
PAX	Paxson	65.72	28	*e*P		P	P	05 36 02.0	0.0
	9.3nm,0.6s								
HARP	HAARP	65.75	28	*e*P		P	P	05 36 02.8	+0.7
	25nm,0.7s								
HMT	Hamilton	65.80	31	*e*P		P	P	05 36 03.0	+0.5
	45nm,1.2s								
RIDG	Independ'e Rid	66.16	27	*e*P		P	P	05 36 04.4	-0.3
	6.9nm,0.9s								
DOT	Dot Lake	66.48	27	*e*P		P	P	05 36 06.7	-0.1
	8.4nm,0.6s								
BALM	Baldy	66.84	30	*e*P		P	P	05 36 09.3	+0.1
	14nm,1.1s								
EGAK	Eagle	67.92	26	*e*P		P	P	05 36 15.9	+0.1
	2.8nm,0.7s								
BVAR	Borovoye Array	68.53	321	P		P	P	05 36 17.9	-1.9
	1.6nm,0.6s,baz=89,slow=8.0,SNR=7.2								
DAWY	Dawson	68.59	27	*e*P		P	P	05 36 20.1	+0.1
	4.7nm,0.8s								
HYT	Haines Junctio	69.17	31	*e*P		P	P	05 36 24.8	+1.0
	11nm,0.6s								
EPYK	Eagle Plains	69.95	25	*e*P		P	P	05 36 28.4	+0.1
	3.7nm,0.6s								
SKAG	Skagway	70.20	32	*e*P		P	P	05 36 30.8	+0.9
	14nm,1.1s								
WHY	Whitehorse	70.45	31	*e*P		P	P	05 36 32.3	+0.6
	11nm,1.1s								
INK	Inuvik	71.32	23	*e*P		P	P	05 36 35.8	-0.7
	4.0nm,0.8s								
DLBC	Dease Lake	72.97	33	*e*P		P	P	05 36 47.6	+0.9
	5.0nm,1.1s								
NLWA	Neilton Lookou	78.11	44	*e*P		P	P	05 37 17.4	+1.2
	6.3nm,1.0s								
LON	Longmire	79.62	44	*e*P		P	P	05 37 24.9	+0.4
	1.9nm,0.8s								
YKW3	Yellowknife Ar	79.79	28	*e*P		P	P	05 37 24.4	-0.7
	3.2nm,0.6s								
YKA	Yellowknife Ar	79.81	28	P		P	P	05 37 24.4	-0.8
	3.1nm,0.6s,baz=287,slow=5.4,SNR=51								
YKA					pP		pP	05 37 51.4	+1.1
	0.5nm,0.6s,baz=288,slow=5.1,SNR=2.0								
YKB5	Yellowknife Ar	79.81	28	*e*P		P	P	05 37 24.5	-0.7
YBH	Yreka Blue Hor	80.11	49	*e*P		P	P	05 37 28.6	+1.3
	3.5nm,1.0s								
LTY	Liberty	80.26	44	*e*P		P	P	05 37 28.1	+0.1
	2.0nm,0.6s								
B08A	Colville Reser	80.87	42	*e*P		P	P	05 37 30.9	-0.4
	4.1nm,0.7s								
RES	Resolute Bay	81.55	14	*e*P		P	P	05 37 33.8	-0.4
	1.7nm,0.8s								
MOD	Modoc Plateau	81.81	49	*e*P		P	P	05 37 37.1	+0.7
	2.0nm,0.6s								
I07A	Izee	81.83	47	*e*P		P	P	05 37 36.8	+0.3
	1.3nm,1.1s								
AFDM	Forest Hills D	82.06	52	*e*P		P	P	05 37 37.9	+0.2
	1.8nm,0.6s								
BEKR	Beckworth	82.29	51	*e*P		P	P	05 37 39.4	+0.3
	5.1nm,0.7s								
NEW	Newport	82.32	42	*e*P		P	P	05 37 38.9	+0.1
	3.6nm,0.9s								
WVOR	Wild Horse Val	82.87	48	*e*P		P	P	05 37 41.9	-0.1
	1.6nm,0.8s								
PNTR	Pine Nut	83.06	51	*e*P		P	P	05 37 44.0	+0.9
	4.4nm,0.8s								
BMO	Blue Mountains	83.14	45	*e*P		P	P	05 37 43.6	+0.4
	1.2nm,0.7s								
WAKR	Walker	83.34	52	*e*P		P	P	05 37 45.3	+0.8
	1.7nm,1.1s								
RYN	Ryan	83.99	52	*e*P		P	P	05 37 48.1	+0.3
	2.3nm,0.7s								
KVN	Kanorville	84.19	51	*e*P		P	P	05 37 48.9	0.0
	2.5nm,0.8s								
NV01	Mina Array Sit	84.21	52	*e*P		P	P	05 37 49.7	+0.7
NVAR	Mina Array Bea	84.21	52	P		P	P	05 37 49.1	+0.1
	3.1nm,0.7s,baz=269,slow=5.6,SNR=22								
NVAR					pP		pP	05 38 17.4	+3.4
	0.4nm,0.5s,baz=282,slow=4.4,SNR=1.5								
ARA0	ARCESS Array S	84.81	342	*e*P		P	P	05 37 49.6	-1.5
ARCES	ARCESS Array B	84.81	342	P		P	P	05 37 49.6	-1.5
	1.9nm,0.8s,baz=60,slow=7.2,SNR=3.9								
HLID	Hailey	85.51	46	*e*P		P	P	05 37 55.6	+0.3
	1.0nm,0.6s								
ELK	Elko	85.80	49	*e*P		P	P	05 37 57.4	+0.5
	1.6nm,0.6s								
LRM	Limekiln Ridge	86.11	43	*e*P		P	P	05 37 58.6	+0.3
DLMT	Dillon	86.16	44	*e*P		P	P	05 37 58.7	+0.2
	1.2nm,0.9s								
MCMT	McKenzie Canyo	86.17	44	*e*P		P	P	05 37 59.0	+0.3
TPNV	Topopah Spring	86.20	53	*e*P		P	P	05 37 59.0	+0.1
	1.6nm,0.6s								
HRY	Holter Researc	86.21	42	*e*P		P	P	05 37 59.2	+0.5
R11A	Troy Canyon, C	86.28	51	*e*P		P	P	05 38 00.6	+1.3
	0.8nm,1.0s								
BGU	Big Grassy Mou	87.33	48	*e*P		P	P	05 38 04.5	+0.2
	1.8nm,1.0s								
PSUT	Pine Spring	87.51	51	*e*P		P	P	05 38 05.2	0.0
	2.5nm,0.7s								
YHH	Holmes Hill	87.52	44	*e*P		P	P	05 38 07.4	+2.1
	0.9nm,1.1s								
SPUT	South Promonto	87.62	48	*e*P		P	P	05 38 06.2	+0.6
	2.1nm,1.0s								
DUG	Dugway, Tooele	87.73	49	*e*P		P	P	05 38 06.4	+0.2
	4.1nm,0.6s								
FXWY	Fox Creek	87.81	45	*e*P		P	P	05 38 07.4	+0.8
	0.6nm,0.8s								
FLWY	Flagg Ranch	87.87	45	*e*P		P	P	05 38 07.9	+1.0
	2.3nm,0.8s								
TPAW	Teton Pass	87.91	45	*e*P		P	P	05 38 07.0	-0.2
	1.4nm,1.1s								
NLU	North Lily Min	88.34	49	*e*P		P	P	05 38 09.5	+0.3
	2.2nm,0.6s								
RLMT	Red Lodge	88.45	43	*e*P		P	P	05 38 10.9	+1.4
	0.9nm,0.6s								
MSU	Marysvale	88.76	50	*e*P		P	P	05 38 12.1	+0.9
KNB	Kanab	88.78	52	*e*P		P	P	05 38 12.2	+0.9
	1.8nm,0.8s								
FFC	Flin Flon	88.79	33	*e*P		P	P	05 38 10.4	-0.3
	1.9nm,0.6s								
PKCU	Pink Cliffs	89.02	51	*e*P		P	P	05 38 11.4	-1.2
	4.2nm,0.9s								
PD31	Pinedale Array	89.12	46	*e*P		P	P	05 38 12.2	-0.6
PDAR	Pinedale Array	89.12	46	*e*P		P	P	05 38 12.5	-0.3
PDAR	Pinedale Array	89.12	46	P		P	P	05 38 11.9	-1.0
	0.4nm,0.4s,baz=57,slow=1.3,SNR=8.4								
FIA1	FINESS Array S	89.15	335	*e*P		P	P	05 38 09.4	-2.8
FIA0	FINESS Array S	89.15	335	*e*P		P	P	05 38 09.3	-3.0
FINES	FINESS Array B	89.15	335	P		P	P	05 38 09.3	-3.0
	0.4nm,0.5s,baz=64,slow=6.3,SNR=7.5								
U15A	North Rim	89.38	52	*e*P		P	P	05 38 14.5	+0.3
	2.0nm,0.8s								
Y14A	Wickenburg	89.67	55	*e*P		P	P	05 38 15.7	+0.4
	3.0nm,0.6s								
SRU	San Rafael Swe	89.76	49	*e*P		P	P	05 38 16.1	+0.2
	2.5nm,0.6s								
O20A	White River Ci	91.02	48	*e*P		P	P	05 38 21.8	+0.1
	3.1nm,0.8s								
PV21	Cone Mtn., Par	91.09	49	*e*P		P	P	05 38 22.5	+0.4
	1.9nm,0.7s								
PV03	Paradox Valley	91.29	50	*e*P		P	P	05 38 23.0	0.0
	1.4nm,0.5s								
PV01	Paradox Valley	91.54	50	*e*P		P	P	05 38 23.9	-0.3
	2.4nm,0.9s								
TXAR	Lajitas Array	98.76	56	P		P	P	05 38 56.0	-1.1
	0.1nm,0.3s,baz=357,slow=1.8,SNR=3.0								
LCO	Las Campanas	143.90	117	*e*PKPdf		PKPab		05 44 51.5	+1.4
PB11	IPOC Station P	145.83	101	*e*PKPdf		PKPdf		05 44 57.7	+1.6
LPAZ	La Paz	147.12	95	*e*PKPbc		PKPbc		05 45 01.9	+0.7
LPAZ	La Paz	147.12	95	PKPbc		PKPdf		05 45 01.0	+2.1
	0.6nm,0.4s,baz=19,slow=2.1,SNR=3.7								

MEX 16 05:26:45.3±0.6, 16.34N×98.03W, h5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.11	301	*e*P		P	Pg	05 26 46.8	-0.8
PNIG				*i* S			Sg	05 26 49.4	+0.3
TLIG	Tlapa	1.32	337	*i* P		P	Pn	05 27 06.5	-4.1
TLIG				*i* S			Sg	05 27 24.1	-3.8
VHO	Vista Hermosa	1.44	59	*e*P		P	Pn	05 27 09.1	-3.2
VHO				*e*S			Sb	05 27 26.6	-4.9
CAIG	El Cayaco	2.26	289	*e*P		P	Pn	05 27 20.3	-3.1
CAIG				*i* S			Sn	05 27 47.8	-3.8

*ISCJB **16** 05:26:47.4±0.6, 6.86N±0.03×73.15W±0.05, h156km±5km, mb3.0/1, Error ellipse: s-maj=7.6km s-min=4.5km az=177.4*
*IDC **16** 05:26:49.7±6.8, 6.69N×75.92W, h120km±77km, mb2.9/1, mb1 3.3/2, mb1mx2.8/40, mbtmp3.4/2, Error ellipse: s-maj=147.8km s-min=36.4km az=79.0*
*RSNC **16** 05:26:49.0±1.1, 6.83N×73.16W, h148km±6km, ML3.9, Mw3.9*

ISC 16 05:26:48.6±1.0, 6.86N±0.03×73.13W±0.05, h149km±6km, n25, σ1§24/42, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	Barichara	0.27	191	*i* P		P	Pn	05 27 09.0	-0.3
BARC				*e*S			Sn	05 27 24.0	-0.9
BARC				*i*				05 27 25.4	
	comp=Z,770nm,0.2s								
BRRC	Barranca, Sant	0.63	293⇑	*i*P		P	Pn	05 27 10.8	+0.2
BRRC				*e*S			Sn	05 27 27.3	+0.1
BRRC				*i*				05 27 28.1	
	comp=N,4μm,0.3s								
PAMC	Pampl

IDC 16 05:33:23.7±7.6, 52°20N×173°46E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.4/62, mbtmp3.6/7, ML2.7/1, Error ellipse: s-maj=190.0km s-min=25.7km az=170.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**9.62**	**282**	Pn		Pn	05 35 45.5	+2.1
	0.4nm,0.3s,baz=99,slow=18,SNR=3.2							
PETK				Sn		Sn	05 37 26.4	-5.7
	0.2nm,0.3s,baz=91,slow=22,SNR=2.6							
ILAR	**Eielson Array**	**23.76**	**43**	P		P	05 38 38.5	+1.1
	0.3nm,0.6s,baz=249,slow=8.2,SNR=4.8							
H11N2	**WAKE ISLAND Hy**	**32.81**	**191**	T		T	06 14 57.2	
	baz=7.1,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**32.82**	**191**	T		T	06 14 58.3	
	baz=7.1,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**32.83**	**191**	T		T	06 15 00.6	
	baz=7.1,slow=76,SNR=41							
H11S1	**WAKE ISLAND Hy**	**34.04**	**192**	T		T	06 16 31.1	
	baz=7.0,slow=76,SNR=32							
H11S3	**WAKE ISLAND Hy**	**34.06**	**192**	T		T	06 16 28.8	
	baz=7.0,slow=76,SNR=26							
H11S2	**WAKE ISLAND Hy**	**34.06**	**191**	T		T	06 16 29.0	
	baz=7.0,slow=76,SNR=21							
YKA	**Yellowknife Ar**	**38.12**	**46**	P		P	05 40 43.6	-0.4
	0.1nm,0.5s,baz=290,slow=5.8,SNR=4.2							
KURBB	**Kurchatov Arra**	**54.98**	**309**	P		P	05 42 56.1	-0.1
	0.8nm,0.3s,baz=49,slow=7.0,SNR=5.0							
MKAR	**Makanchi Array**	**55.66**	**304**	P		P	05 43 00.7	-0.7
	0.2nm,0.3s,baz=53,slow=6.6,SNR=3.8							
FINES	**FINESS Array B**	**63.76**	**343**	P		P	05 43 56.3	-0.4
	1.5nm,0.8s,baz=8.5,slow=10,SNR=4.0							
NOA	**NORSAR Array B**	**66.22**	**351**	P		P	05 44 12.9	0.0
	0.5nm,0.7s,baz=9.2,slow=5.5,SNR=3.0							

*IDC **16** 06:02:21.5±0.6,2°.30N×84°.59W, h0km, mb4.4/16, mb1 4.6/21, mb1mx4.5/31, mbtmp4.5/21, ML4.6/3, MS4.4/24, Ms1 4.4/24, ms1mx4.3/28, Error ellipse: s-maj=23.9km s-min=10.7km az=58.0*

*MOS **16** 06:02:22.0±1.1,2°.33N×84°.57W, h10km, mb4.8/39, Error ellipse: s-maj=12.9km s-min=5.2km az=114.3*

*ISCJB **16** 06:02:25.4±0.7,2°.41N±0°.03×84°.40W±0°.03, h38km±6km, mb4.5/196, MS4.3/22, Error ellipse: s-maj=5.7km s-min=3.8km az=146.2*

*NEIC **16** 06:02:26.9±0.2,2°.27N×84°.52W, h35km, mb4.6/193, Error ellipse: s-maj=5.3km s-min=3.3km az=52.0*

*BJI **16** 06:02:27.4,2°.30N×84°.50W, h32km, Ms4.9/2, Ms7 4.7/2*

ISC 16 06:02:23.2±1.3, 2°.37N±0°.05×84°.46W±0°.06, h10km±8km, n707, σ1$23/712, mb4.6/196, MS4.3/22, 9C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMC	**Tumaco**	**5.75**	**95**	*eP*		**Pn**	**06 03 48.5**	**-0.3**
TUMC				*eS*		**Sn**	**06 04 49.8**	**-5.1**
TUMC	**Tumaco**	**5.75**	**95**	*eP*		**Pn**	**06 03 48.5**	**-0.3**
TUMC				*eS*		**Sn**	**06 04 49.8**	**-5.1**
CTUM2	**Tumaco**	**5.75**	**95**	*eP*		**Pn**	**06 03 47.5**	**-1.3**
CTUM2	**Tumaco**	**5.75**	**95**	*eP*		**Pn**	**06 03 47.5**	**-1.3**
GRGC	**Isla de Gorgon**	**6.31**	**84**	*eP*		**Pn**	**06 03 56.9**	**+0.4**
GRGC				*i*			06 04 21.6	
	comp=Z,27nm,0.6s							
GRGC				*eS*		Sn	06 04 59.3	-9.4
GRGC	**Isla de Gorgon**	**6.31**	**84**	*eP*		**Pn**	**06 03 56.9**	**+0.4**
GRGC				*i*			06 04 21.6	
	comp=Z,27nm,0.6s							
GRGC				*eS*		Sn	06 04 59.3	-9.4
OTAV	**Otavalo**	**6.36**	**109**	*ePn*		**Pn**	**06 03 56.5**	**-1.1**
OTAV	**Otavalo**	**6.36**	**109**	*i/P*		**Pn**	**06 03 56.5**	**-1.1**
OTAV				*i*			06 03 58.3	
	comp=Z,42nm,0.5s							
OTAV				*eS*		**Sn**	**06 05 09.8**	**-0.8**
OTAV	**Otavalo**	**6.36**	**109**	*eP*		**Pn**	**06 03 56.5**	**-1.1**
OTAV	**Otavalo**	**6.36**	**109**	*i/P*		**Pn**	**06 03 56.5**	**-1.1**
OTAV				*i*			06 03 58.3	
	comp=Z,42nm,0.5s							
OTAV				*eS*		**Sn**	**06 05 09.8**	**-0.8**
GCUF	**Volcan Galeras**	**7.20**	**99**	*eP*		**Pn**	**06 04 09.2**	**+0.2**
GCUF				*i*			06 05 24.7	
	comp=Z,7.9nm,0.6s							
GCUF	**Volcan Galeras**	**7.20**	**99**	*eP*		**Pn**	**06 04 09.2**	**+0.2**
GCUF				*i*			06 05 24.7	
	comp=Z,7.9nm,0.6s							
MALC	**Bahia Malaga**	**7.29**	**77**	*i*		**Pn**	**06 04 12.3**	**+2.4**
	comp=Z,42nm,0.4s							
MALC				*eS*		**Sn**	**06 05 30.2**	**-2.7**
MALC	**Bahia Malaga**	**7.29**	**77**	*i*		**Pn**	**06 04 12.3**	**+2.4**
	comp=Z,42nm,0.4s							
MALC				*eS*		**Sn**	**06 05 30.2**	**-2.7**
CRUC	**La Cruz**	**7.54**	**96**	*eP*		**Pn**	**06 04 14.1**	**+0.4**
CRUC				*i*			06 04 33.4	
	comp=Z,45nm,0.5s							
CRUC	**La Cruz**	**7.54**	**96**	*eP*		**Pn**	**06 04 14.1**	**+0.4**
CRUC				*i*			06 04 33.4	
	comp=Z,45nm,0.5s							
HDC	**Heredia**	**7.59**	**3**	*ePn*		**Pn**	**06 04 15.2**	**+1.0**
POPC	**Popayan, Colom**	**7.77**	**89**	*eP*		**Pn**	**06 04 17.9**	**+1.2**
POPC				*i*			06 04 29.7	
	comp=Z,24nm,0.4s							
POPC				*eS*		Sn	06 05 36.8	-8.3
POPC	**Popayan, Colom**	**7.77**	**89**	*eP*		**Pn**	**06 04 17.9**	**+1.2**
POPC				*i*			06 04 29.7	
	comp=Z,24nm,0.4s							
POPC				*eS*		Sn	06 05 36.8	-8.3
SOTA	**Rioblanco**	**7.84**	**92**	*eP*		**Pn**	**06 04 18.5**	**+0.5**
SOTA	**Rioblanco**	**7.84**	**92**	*eP*		**Pn**	**06 04 18.5**	**+0.5**
JTS	**JuntasAbangare**	**7.89**	**356**	*ePn*		**Pn**	**06 04 18.8**	**+0.7**
JTS				*eSn*		**Sn**	**06 05 42.1**	**-5.5**
JTS	**JuntasAbangare**	**7.89**	**356**	*c iP*		**Pn**	**06 04 19.0**	**+0.8**
JTS	**JuntasAbangare**	**7.89**	**356**	Pn		**Pn**	**06 04 18.9**	**+0.8**
	comp=Z,14nm,0.3s,baz=162,slow=14,SNR=36							
JTS				Sn		**Sn**	**06 05 41.3**	**-6.2**
	comp=Z,5.0nm,0.3s,baz=41,slow=19,SNR=3.9							
JTS				LR		LR	06 06 50.0	
	comp=Z,3μm,21.6s,baz=236,slow=34							
PCON	**Cinco Dias**	**8.05**	**90**	*eP*		**Pn**	**06 04 23.2**	**+2.3**
PCON				*eS*		**Sn**	**06 05 47.3**	**-5.1**
PCON				*i*			06 06 04.0	
	comp=Z,13nm,0.6s							
PCON	**Cinco Dias**	**8.05**	**90**	*eP*		**Pn**	**06 04 23.2**	**+2.3**
PCON				*eS*		**Sn**	**06 05 47.3**	**-5.1**
PCON				*i*			06 06 04.0	
	comp=Z,13nm,0.6s							
BCIP	**Isla Barro Col**	**8.17**	**34**	*ePn*		**Pn**	**06 04 26.1**	**+4.1**
BCIP	**Isla Barro Col**	**8.17**	**34**	*eP*		**Pn**	**06 04 25.7**	**+3.7**
BCIP				*i*			06 04 43.6	
	comp=Z,12nm,0.7s							
BCIP	**Isla Barro Col**	**8.17**	**34**	*eP*		**Pn**	**06 04 26.1**	**+4.1**
BCIP	**Isla Barro Col**	**8.17**	**34**	*eP*		**Pn**	**06 04 25.7**	**+3.7**
BCIP				*i*			06 04 43.6	
	comp=Z,12nm,0.7s							
UPA	**Univ. de Panam**	**8.19**	**36**	*eP*		**Pn**	**06 04 25.7**	**+3.4**
UPA	**Univ. de Panam**	**8.19**	**36**	*eP*		**Pn**	**06 04 25.7**	**+3.4**
YOTC	**Yotoco, Valle**	**8.26**	**79**	*eP*		**Pn**	**06 04 24.5**	**+1.2**
YOTC				*i*			06 04 52.4	
	comp=Z,12nm,0.6s							
YOTC	**Yotoco, Valle**	**8.26**	**79**	*eP*		**Pn**	**06 04 24.5**	**+1.2**
YOTC				*i*			06 04 52.4	
	comp=Z,12nm,0.6s							
MARP	**Paez Belalcaza**	**8.51**	**87**	*eP*		**Pn**	**06 04 30.8**	**+3.9**
MARP	**Paez Belalcaza**	**8.51**	**87**	*eP*		**Pn**	**06 04 30.8**	**+3.9**
FLOC	**Florencia**	**8.83**	**95**	*eP*		**Pn**	**06 04 33.1**	**+2.0**
FLOC	**Florencia**	**8.83**	**95**	*eP*		**Pn**	**06 04 33.1**	**+2.0**
PRAC	**Prado**	**9.65**	**82**	*eP*		**Pn**	**06 04 44.2**	**+1.8**
PRAC	**Prado**	**9.65**	**82**	*eP*		**Pn**	**06 04 44.2**	**+1.8**
HELC	**Santa Helena**	**9.68**	**67**	*eP*		**Pn**	**06 04 45.0**	**+1.9**
HELC	**Santa Helena**	**9.68**	**67**	*eP*		**Pn**	**06 04 45.0**	**+1.9**
ESPN	**Las Esperanzas**	**9.77**	**1**	*ePn*		**Pn**	**06 04 47.0**	**+3.1**
PTLC	**Puerto Leguiza**	**9.90**	**103**	*eP*		**Pn**	**06 04 46.7**	**+1.0**
PTLC	**Puerto Leguiza**	**9.90**	**103**	*eP*		**Pn**	**06 04 46.7**	**+1.0**
UREC	**San Jos de Ur**	**10.37**	**59**	*eP*		**Pn**	**06 04 54.6**	**+2.4**
UREC	**San Jos de Ur**	**10.37**	**59**	*eP*		**Pn**	**06 04 54.6**	**+2.4**
ROSC	**El Rosal**	**10.41**	**76**	*ePn*		Pn	06 04 58.2	+5.2
ROSC				*eSn*		**Sn**	**06 06 48.4**	**-1.7**
ROSC	**El Rosal**	**10.41**	**76**	*eP*		**Pn**	**06 04 56.6**	**+3.5**
ROSC	**El Rosal**	**10.41**	**76**	*eP*		**Pn**	**06 04 56.6**	**+3.5**
ROSC	**El Rosal**	**10.41**	**76**	Pn		**Pn**	**06 04 56.1**	**+3.0**
	comp=Z,2.5nm,0.3s,baz=254,slow=8.9,SNR=15							
ROSC				Sn		**Sn**	**06 06 46.5**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=240,slow=14,SNR=2.2							
ROSC				LR		LR	06 08 09.8	
	comp=Z,635nm,20.7s,baz=250,slow=33							
PTBC	**PUERTO BERRIO,**	**10.79**	**67**	*eP*		**Pn**	**06 05 01.6**	**+3.5**
PTBC	**PUERTO BERRIO,**	**10.79**	**67**	*eP*		**Pn**	**06 05 01.6**	**+3.5**
ZARC	**Zaragoza, Cauc**	**10.83**	**62**	*eP*		**Pn**	**06 05 01.2**	**+2.7**
ZARC	**Zaragoza, Cauc**	**10.83**	**62**	*eP*		**Pn**	**06 05 01.2**	**+2.7**
VILC	**Villavicencio,**	**10.88**	**81**	*eP*		Pn	06 05 04.9	+5.5
VILC	**Villavicencio,**	**10.88**	**81**	*eP*		Pn	06 05 04.9	+5.5
CHIC	**Chingaza**	**10.94**	**78**	*eP*		**Pn**	**06 05 02.9**	**+2.6**
CHIC	**Chingaza**	**10.94**	**78**	*eP*		**Pn**	**06 05 02.9**	**+2.6**
ATAH	**Atahualpa**	**11.21**	**147**	Pn		**Pn**	**06 05 04.8**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=339,slow=7.0,SNR=29							
ATAH				Sn		**Sn**	**06 07 11.2**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=356,slow=19,SNR=2.9							
ATAH				LR		LR	06 08 56.6	
	comp=Z,3μm,18.5s,baz=322,slow=35							
RUSC	**La Rusia**	**11.87**	**72**	*eP*		**Pn**	**06 05 15.8**	**+2.6**
RUSC	**La Rusia**	**11.87**	**72**	*eP*		**Pn**	**06 05 15.8**	**+2.6**
TGUH	**Tegucigalpa,Un**	**11.94**	**347**	*ePn*		Pn	06 05 17.5	+3.8
SMLC	**San Martn de**	**12.15**	**58**	*eP*		**Pn**	**06 05 19.7**	**+3.1**
SMLC	**San Martn de**	**12.15**	**58**	*eP*		**Pn**	**06 05 19.7**	**+3.1**
APG	**El Apazote**	**13.89**	**335**	Pn		**P**	**06 05 45.1**	**-3.8**
	comp=Z,0.7nm,0.3s,baz=165,slow=4.2,SNR=11							
CCIG	**Comitan**	**15.76**	**332**	*ePn*		**P**	**06 06 11.0**	**+1.4**
	comp=Z,52nm,1.1s							
NNA	**Nana**	**16.14**	**152**	*ePn*		**Pn**	**06 06 09.8**	**-0.7**
	comp=Z,42nm,0.9s							
NNA	**Nana**	**16.14**	**152**	*cePn*		**P**	**06 06 11.3**	**-2.5**
NNA	**Nana**	**16.14**	**152**	Pn		**Pn**	**06 06 10.1**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=322,slow=15,SNR=8.7							
NNA				LR		LR	06 11 56.5	
	comp=Z,617nm,19.4s,baz=316,slow=36							
CMIG	**Matias Romero**	**17.86**	**326**	P		**P**	**06 06 33.1**	**+0.3**
	baz=133,slow=7.3,SNR=9.2							
CMIG				LR		LR	06 12 05.1	
	comp=Z,2μm,21.6s,baz=142,slow=33							
TLIG	**Tlapa**	**20.50**	**318**	*eP*		Pn	06 07 03.9	-0.1
	comp=Z,26nm,1.1s							
LVIG	**Laguna Verde**	**20.84**	**327**	*eP*		Pn	06 07 10.4	+2.6
	comp=Z,28nm,0.9s							
SDDR	**Presa de Saban**	**20.95**	**37**	*eP*		**P**	**06 07 08.2**	**+1.6**
	comp=Z,33nm,1.1s							
BANI	**BANI**	**21.09**	**40**	*eP*		**P**	**06 07 09.8**	**+1.7**
CRPR	**Cabo Rojo, PR**	**23.05**	**46**	*eP*		**P**	**06 07 32.2**	**+3.3**
	comp=Z,30nm,1.1s							
OBIP	**Obispado Ponce**	**23.44**	**47**	*eP*		**P**	**06 07 33.5**	**+0.6**
	comp=Z,26nm,1.0s							
MOIG	**Morelia**	**23.74**	**318**	*eP*		**P**	**06 07 38.7**	**+2.5**
	comp=Z,22nm,0.5s							
SJG	**San Juan**	**23.82**	**48**	*eP*		**P**	**06 07 38.8**	**+2.2**
	comp=Z,57nm,1.1s							
SJG	**San Juan**	**23.82**	**48**	*eP*		**P**	**06 07 38.8**	**+2.2**
SJG					pmax	pmax		
	comp=Z,57nm,1.1s							
SJG	**San Juan**	**23.82**	**48**	P		**P**	**06 07 38.1**	**+1.5**
	comp=Z,15nm,0.8s,baz=232,slow=7.3,SNR=6.7							
SJG				LR		LR	06 16 50.5	
	comp=Z,327nm,21.9s,baz=237,slow=36							
HUMP	**Col San Antoni**	**24.06**	**48**	*eP*		**P**	**06 07 40.5**	**+1.6**
	comp=Z,13nm,0.9s							
CBYP	**Canovanas**	**24.13**	**48**	*eP*		**P**	**06 07 42.0**	**+2.3**
	comp=Z,12nm,0.7s							
MTP	**Monte Pirata**	**24.25**	**49**	*eP*		**P**	**06 07 42.7**	**+2.0**
	comp=Z,12nm,0.9s							
LPAZ	**La Paz**	**24.57**	**140**	*eP*		**P**	**06 07 44.3**	**0.0**
	comp=Z,74nm,1.1s							
LPAZ	**La Paz**	**24.57**	**140**	*eP*		**P**	**06 07 44.3**	**0.0**
LPAZ					pmax	pmax		
	comp=Z,74nm,1.1s							
LPAZ	**La Paz**	**24.57**	**140**	P		**P**	**06 07 44.9**	**+0.5**
	comp=Z,42nm,1.0s,baz=328,slow=9.3,SNR=80							
LPAZ				LR		LR	06 18 26.3	
	comp=Z,2μm,20.1s,baz=304,slow=39							
059A	**Moore Haven**	**24.67**	**7**	P		**P**	**06 07 44.3**	**-0.1**
	baz=188							
PTGA	**Pitinga**	**24.68**	**97**	*eP*		**P**	**06 07 44.5**	**-0.1**
	comp=Z,16nm,1.0s							
PTGA	**Pitinga**	**24.68**	**97**	P		**P**	**06 07 45.0**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=280,slow=12,SNR=6.2							
PTGA				LR		LR	06 17 16.1	
	comp=Z,895nm,18.8s,baz=278,slow=36							
058A	**Arcadia**	**24.68**	**6**	P		**P**	**06 07 44.4**	**-0.1**
	baz=186							
MNMC	**Minye Minye**	**25.88**	**146**	*eP*		**P**	**06 07 55.7**	**-0.1**
	comp=Z,66nm,1.1s							
SMRT	**St. Maarten**	**26.13**	**52**	*eP*		**P**	**06 07 58.7**	**+0.9**
	comp=Z,20nm,0.9s							
PB11	**IPOC Station P**	**26.36**	**147**	*eP*		**P**	**06 08 00.0**	**0.0**
	comp=Z,73nm,0.9s							
LNIG	**Linares**	**26.67**	**328**	*eP*		**P**	**06 08 05.7**	**+3.1**
	comp=Z,6.2nm,1.0s							
PB01	**IPOC Station P**	**27.50**	**148**	*eP*		**P**	**06 08 14.6**	**+4.4**
	comp=Z,10.0nm,0.8s							
351A	**Pinckard**	**28.77**	**358**	P		**P**	**06 08 22.0**	**+0.6**
	baz=178							
349A	**Repton**	**28.94**	**355**	P		**P**	**06 08 22.7**	**-0.2**
	baz=174							
LVC	**Limon Verde**	**29.09**	**149**	*eP*		**P**	**06 08 25.7**	**+1.0**
	comp=Z,15nm,1.1s							
LVC	**Limon Verde**	**29.09**	**149**	*eP*		**P**	**06 08 25.7**	**+1.0**
LVC					pmax	pmax		
	comp=Z,15nm,1.1s							
LVC	**Limon Verde**	**29.09**	**149**	P		**P**	**06 08 25.0**	**+0.3**
	comp=Z,8.2nm,1.0s,baz=152,slow=2.9,SNR=3.8							
LVC				LR		LR	06 20 48.0	
	comp=Z,926nm,19.6s,baz=309,slow=38							
SIV	**San Ignacio**	**29.45**	**129**	P		**P**	**06 08 27.1**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=306,slow=11,SNR=9.1							
SIV				LR		LR	06 20 47.2	
	comp=Z,3μm,18.6s,baz=322,slow=38							
255A	**Hazlehurst**	**29.46**	**3**	P		**P**	**06 08 27.4**	**-0.1**
	baz=184							
252A	**Lumpkin**	**29.47**	**360**	P		**P**	**06 08 27.4**	**-0.1**
	baz=180							
HKT	**Hockley**	**29.48**	**340**	*eP*		**P**	**06 08 28.1**	**+0.5**
HKT	**Hockley**	**29.48**	**340**	*eP*		**P**	**06 08 28.1**	**+0.5**
250A	**Grady**	**29.50**	**357**	P		**P**	**06 08 28.0**	**+0.2**
	baz=176							
249A	**Camden**	**29.56**	**355**	P		**P**	**06 08 28.1**	**-0.2**
	baz=175							
154A	**Montrose**	**30.11**	**2**	P		**P**	**06 08 33.2**	**0.0**
	baz=183							
150A	**Eclectic**	**30.12**	**357**	P		**P**	**06 08 33.0**	**-0.3**
	baz=177							
153A	**Fort Valley**	**30.13**	**1**	P		**P**	**06 08 33.0**	**-0.4**
	baz=181							
152A	**Waverly Hall**	**30.14**	**360**	*eP*		**P**	**06 08 33.4**	**0.0**
	comp=Z,8.6nm,1.0s							
152A	**Waverly Hall**	**30.14**	**360**	P		**P**	**06 08 33.2**	**-0.3**
	baz=180							
149A	**Jones**	**30.15**	**356**	P		**P**	**06 08 33.5**	**0.0**
	baz=176							
155A	**Kite**	**30.15**	**3**	P		**P**	**06 08 33.2**	**-0.3**
	baz=184							
156A	**Sylvania**	**30.26**	**5**	P		**P**	**06 08 34.3**	**-0.2**
	baz=186							
LRAL	**Lakeview Retre**	**30.60**	**356**	*eP*		**P**	**06 08 37.5**	**0.0**
	comp=Z,9.6nm,1.0s							
LRAL	**Lakeview Retre**	**30.60**	**356**	P		**P**	**06 08 37.0**	**-0.5**
	baz=175							
Z49A	**Columbiana**	**30.73**	**357**	P		**P**	**06 08 38.1**	**-0.5**
	baz=176							
Z54A	**Sparta**	**30.75**	**3**	P		**P**	**06 08 38.6**	**-0.2**
	baz=183							
Z50A	**Ashland**	**30.76**	**358**	P		**P**	**06 08 38.1**	**-0.9**
	baz=177							
Z53A	**Monticello**	**30.76**	**1**	P		**P**	**06 08 38.8**	**-0.1**
	baz=182							
GOGA	**Godfrey**	**30.90**	**2**	*eP*		**P**	**06 08 42.7**	**+2.6**
	comp=Z,10.0nm,1.0s							
GOGA	**Godfrey**	**30.90**	**2**	*eP*		**P**	**06 08 42.7**	**+2.6**
GOGA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
GOGA	**Godfrey**	**30.90**	**2**	P		**P**	**06 08 39.6**	**-0.6**
	baz=182							
GO02	**Mina Guanaco**	**30.93**	**153**	*eP*		**P**	**06 08 41.9**	**+1.0**
	comp=Z,13nm,0.7s							
Z56A	**Williston**	**30.93**	**5**	P		**P**	**06 08 40.5**	**0.0**
	baz=186							
Z57A	**Bowman**	**30.97**	**6**	P		**P**	**06 08 40.4**	**-0.3**
	baz=187							
Y52A	**Lilburn**	**31.34**	**1**	P		**P**	**06 08 43.8**	**-0.3**
	baz=181							
Y53A	**Monroe**	**31.34**	**1**	P		**P**	**06 08 43.8**	**-0.2**
	baz=182							
Y51A	**Rockmart**	**31.38**	**359**	P		**P**	**06 08 44.0**	**-0.4**
	baz=179							
Y54A	**Tignall**	**31.38**	**3**	P		**P**	**06 08 44.5**	**+0.1**
	baz=184							
Y49A	**Blount Mountai**	**31.38**	**357**	P		**P**	**06 08 44.4**	**0.0**
	baz=176							
Y50A	**Piedmont**	**31.39**	**358**	P		**P**	**06 08 44.5**	**+0.1**
	baz=178							
Y55A	**Saluda**	**31.50**	**4**	P		**P**	**06 08 45.4**	**-0.1**
	baz=185							
Y58A	**Scranton**	**31.69**	**8**	P		**P**	**06 08 46.8**	**-0.3**
	baz=189							
HODGE	**Hodges**	**31.77**	**3**	*eP*		**P**	**06 08 48.6**	**+0.8**
	comp=Z,16nm,0.8s							
HPIG		**31.78**	**322**	*eP*		**P**	**06 08 48.9**	**+0.6**
	comp=Z,7.1nm,0.9s							
X50B	**Fort Payne**	**31.95**	**358**	P		**P**	**06 08 49.3**	**-0.2**
	baz=178							
X53A	**Estanollee**	**31.99**	**2**	P		**P**	**06 08 49.5**	**-0.3**
	baz=182							
X48A	**Hartselle**	**32.01**	**356**	P		**P**	**06 08 49.3**	**-0.6**
	baz=175							
X49A	**Woodville**	**32.03**	**357**	P		**P**	**06 08 49.6**	**-0.5**
	baz=177							
X51A	**Calhoun**	**32.04**	**359**	P		**P**	**06 08 49.8**	**-0.4**
	baz=179							
X55A	**Gracelyn & Ava**	**32.05**	**4**	P		**P**	**06 08 49.8**	**-0.4**
	baz=185,SNR=5.7							
X54A	**Belton**	**32.08**	**3**	P		**P**	**06 08 49.8**	**-0.7**
	baz=184							
X52A	**Dahlonega**	**32.08**	**1**	P		**P**	**06 08 50.0**	**-0.5**
	baz=181							
X56A	**White Oak**	**32.12**	**5**	P		**P**	**06 08 50.3**	**-0.6**
	baz=186							
X47A	**Russelville**	**32.14**	**355**	P		**P**	**06 08 50.5**	**-0.6**
	baz=174							
X57A	**Johnson Farm,**	**32.19**	**7**	P		**P**	**06 08 51.3**	**-0.2**
	baz=188							
X46A	**Booneville**	**32.26**	**354**	P		**P**	**06 08 51.2**	**-0.9**
	baz=172							
OXF	**Oxford**	**32.31**	**352**	P		**P**	**06 08 51.6**	**-1.0**
	baz=171							
PAULI	**Pauline**	**32.38**	**4**	*eP*		**P**	**06 08 54.0**	**+0.8**
	comp=Z,12nm,0.9s							
TXAR	**Lajitas Array**	**32.45**	**328**	P		**P**	**06 08 53.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=142,slow=9.7,SNR=14							
TXAR				PcP		**PcP**	**06 11 42.6**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=152,slow=4.6,SNR=4.2							
TXAR				LR		LR	06 21 15.3	
	comp=Z,517nm,21.3s,baz=0.0,slow=35							
TX31	**Lajitas Ar. Si**	**32.45**	**328**	*eP*		**P**	**06 08 54.5**	**+0.5**
	comp=Z,4.6nm,1.1s							
BG3	**Lake Jocassee**	**32.49**	**2**	*eP*		**P**	**06 08 55.1**	**+0.9**
	comp=Z,14nm,0.9s							
X60A	**Albert Glenn T**	**32.61**	**10**	P		**P**	**06 08 55.2**	**0.0**
	baz=192							
W54A	**Cherokee Point**	**32.62**	**3**	P		**P**	**06 08 55.5**	**+0.2**
	baz=184							
W53A	**Cullowhee**	**32.66**	**2**	P		**P**	**06 08 55.3**	**-0.5**
	baz=182							
W50A	**Signal Mountai**	**32.68**	**359**	P		**P**	**06 08 55.1**	**-0.8**
	baz=178							
W48A	**Pulaski**	**32.69**	**356**	P		**P**	**06 08 55.2**	**-0.6**
	baz=176							
KMSC	**Kings Mountain**	**32.74**	**5**	*eP*		**P**	**06 08 56.7**	**+0.4**
	comp=Z,16nm,0.8s							
KMSC	**Kings Mountain**	**32.74**	**5**	P		**P**	**06 08 56.2**	**-0.1**
	baz=186							
W56A	**Indian Trail**	**32.80**	**6**	P		**P**	**06 08 56.9**	**0.0**
	baz=187							
W47A	**Westpoint**	**32.85**	**355**	P		**P**	**06 08 56.6**	**-0.7**
	baz=174							
W57A	**Gilead**	**32.88**	**7**	P		**P**	**06 08 57.8**	**+0.2**
	baz=188							
V50A	**Pikeville**	**33.14**	**359**	P		**P**	**06 08 59.8**	**0.0**
	baz=179							
V53A	**Saluda**	**33.17**	**2**	*eP*		**P**	**06 09 01.5**	**+1.4**
	comp=Z,8.8nm,1.0s							
V53A	**Saluda**	**33.17**	**2**	P		**P**	**06 09 00.3**	**+0.1**
	baz=183							
V49A	**McMinnville**	**33.26**	**358**	P		**P**	**06 09 01

S51A Beattyville 35.11 1 eP P 06 09 16.3 -0.6
comp=Z,16nm,0.9s
S51A Beattyville 35.11 1 P P 06 09 15.9 -1.0
baz=182
S47A Hartford 35.13 357 P P 06 09 15.7 -1.3
baz=176
S50A Richmond 35.14 0 P P 06 09 16.5 -0.6
baz=180
S48A Wiedeman Farm, 35.15 358 P P 06 09 16.9 -0.3
baz=177
T41A Mountain View 35.16 350 P P 06 09 17.0 -0.3
baz=167
MNTX Cornudas Mount 35.22 328 eP P 06 09 17.8 -0.2
comp=Z,8.2nm,0.9s
MNTX Cornudas Mount 35.22 328 P P 06 09 16.6 -1.4
baz=142,SNR=14
S49A Springfield 35.26 359 P P 06 09 17.5 -0.6
baz=179
S46A Don Dixon Farm 35.27 356 P P 06 09 17.6 -0.7
baz=174
S43A Fulton Ridge, 35.41 352 P P 06 09 19.0 -0.5
baz=170
S55A Lewisburg 35.42 5 P P 06 09 19.0 -0.7
baz=187
S44A Carbondale 35.43 353 P P 06 09 19.2 -0.5
baz=172
S41A Jillco Farms, 35.69 350 P P 06 09 20.9 -1.0
baz=168,SNR=5.5
S42A Caledonia 35.71 351 P P 06 09 20.8 -1.3
baz=169
WCI Wyandotte Cave 35.73 358 P P 06 09 21.8 -0.4
baz=177
R49A Shelbyville 35.76 359 P P 06 09 21.6 -0.9
baz=179
R51A Hillsboro 35.77 1 P P 06 09 22.1 -0.5
baz=182
R54A Victor 35.78 5 P P 06 09 22.1 -0.6
baz=186,SNR=5.7
MSTX Muleshoe 35.80 333 eP P 06 09 22.8 -0.2
comp=Z,9.1nm,0.9s
MSTX Muleshoe 35.80 333 P P 06 09 21.7 -1.3
baz=148
R47A Wooly Knot Far 35.81 357 P P 06 09 21.9 -1.0
baz=177
R52A Catlettsburg 35.84 2 P P 06 09 21.5 -1.7
baz=183
R53A Hurricane 35.87 3 P P 06 09 23.3 -0.1
baz=184
R45A Skylar, Fairfi 35.93 355 P P 06 09 23.8 -0.1
baz=174
R58B Mineral 35.94 9 P P 06 09 23.8 -0.2
baz=191
R44A Waltonville 35.96 354 P P 06 09 24.1 -0.1
baz=172
R55A Marlinton 35.96 6 P P 06 09 24.5 +0.2
baz=187
CCM Cathedral Cave 36.06 351 eP P 06 09 24.3 -0.7
comp=Z,12nm,1.0s
CCM Cathedral Cave 36.06 351 eP P 06 09 24.3 -0.7
CCM pmax pmax
comp=Z,12nm,1.0s
CCM Cathedral Cave 36.06 351 P P 06 09 24.9 -0.2
baz=169
R43A Red Bud 36.09 353 P P 06 09 25.0 -0.3
baz=171
AMTX Amarillo 36.11 336 eP P 06 09 25.7 0.0
comp=Z,12nm,0.8s
AMTX Amarillo 36.11 336 P P 06 09 25.4 -0.2
baz=150
R42A Luebbering 36.21 352 P P 06 09 26.2 -0.2
baz=169
CBN Corbin Frederi 36.25 9 eP P 06 09 29.0 +2.3
comp=Z,24nm,0.9s
CBN Corbin Frederi 36.25 9 P P 06 09 27.0 +0.3
baz=192
R41A Rosebud 36.32 351 P P 06 09 27.3 0.0
baz=168
OLIL Olney 36.35 355 eP P 06 09 27.0 -0.5
comp=Z,10nm,0.9s
Q48A North Vernon 36.41 358 P P 06 09 27.8 -0.2
baz=178
Q53A Leroy 36.42 4 P P 06 09 28.2 0.0
baz=185
U32A Winter Ranch, 36.42 340 eP P 06 09 28.4 +0.2
comp=Z,32nm,1.1s
Q47A Bedord North L 36.44 357 P P 06 09 27.9 -0.4
baz=177
Q52A Bidwell 36.48 3 P P 06 09 29.0 +0.4
baz=184
Q51A Peebles 36.50 1 eP P 06 09 28.1 -0.8
comp=Z,15nm,0.9s
Q51A Peebles 36.50 1 P P 06 09 28.7 -0.1
baz=182
Q45A Warren Harvey, 36.51 355 P P 06 09 28.5 -0.5
baz=174
Q54A Coxs Mills 36.59 5 P P 06 09 29.1 -0.5
baz=186
Q44A Meyer Farm, Va 36.60 354 eP P 06 09 29.1 -0.6
comp=Z,26nm,1.1s
Q44A Meyer Farm, Va 36.60 354 P P 06 09 29.5 -0.1
baz=172
Q55A Buckhannon 36.67 6 P P 06 09 30.2 -0.2
baz=187,SNR=6.0
Q43A New Douglas 36.72 353 P P 06 09 30.0 -0.6
baz=171
Q42A Golden Eagle 36.79 352 P P 06 09 30.7 -0.6
baz=170
P48A Milroy 36.93 359 P P 06 09 31.6 -0.9
baz=178
Q41A Truxton 36.94 351 P P 06 09 32.0 -0.6
baz=169,SNR=7.4
P51A Williamsport 36.96 2 P P 06 09 32.2 -0.5
baz=182
P49A Miami Univ. Ec 36.99 360 P P 06 09 32.1 -0.9
baz=180
P53A Whipple 37.05 4 eP P 06 09 35.8 +2.3
comp=Z,20nm,1.1s
P53A Whipple 37.05 4 P P 06 09 33.8 +0.3
baz=185
P50A Jamestown 37.07 1 P P 06 09 34.1 +0.4
baz=181
P45A Graceland, Par 37.11 356 P P 06 09 33.5 -0.5
baz=175
P44A Sand Creek, Wi 37.12 355 P P 06 09 33.7 -0.4
baz=173
P52A Corning 37.15 3 P P 06 09 34.2 -0.2
baz=184
121A Cookes Peak, D 37.16 326 P P 06 09 33.3 -1.5
baz=139,SNR=13
319A Douglas 37.17 324 eP P 06 09 35.9 +1.2
comp=Z,12nm,0.8s
P55A Reedsville 37.21 6 P P 06 09 34.9 0.0
baz=188
P54A Burton 37.24 5 P P 06 09 35.0 -0.2
baz=187
MCWV Mont Chateau 37.35 6 eP P 06 09 37.9 +1.8
comp=Z,7.8nm,0.8s
MCWV Mont Chateau 37.35 6 P P 06 09 35.7 -0.4
baz=188
ROC1 El Roble 37.38 161 eP P 06 09 35.2 -1.4
comp=Z,19nm,0.9s
P43A Skaggs, Pawnee 37.39 354 P P 06 09 36.2 -0.1
baz=172
P42A Winchester 37.43 353 P P 06 09 36.2 -0.5
baz=170
O50A Cable 37.61 1 P P 06 09 37.8 -0.4
baz=182
P41A Barry, Barry 37.62 352 P P 06 09 38.0 -0.3
baz=169
O51A Pataskala 37.64 2 P P 06 09 38.1 -0.4
baz=183
O49A Covington 37.65 0 P P 06 09 38.1 -0.4
baz=180
O52A Adamsville 37.65 3 eP P 06 09 40.1 +1.5
comp=Z,15nm,1.0s
O52A Adamsville 37.65 3 P P 06 09 38.5 -0.1
baz=184
ACSO Alum Creek Sta 37.72 2 P P 06 09 38.4 -0.8
baz=182
O48A Farmland 37.72 359 P P 06 09 38.2 -1.0
baz=179
O44A Mansfield 37.79 355 P P 06 09 38.9 -0.9
baz=174
BNM Barren Site 37.79 329 eP P 06 09 41.3 +1.2
O53A New Philadelph 37.82 4 P P 06 09 39.7 -0.3
baz=185
SFIN Lafayette 37.91 357 P P 06 09 40.7 -0.1
baz=176

O55A Ligonier 37.95 6 P P 06 09 41.1 -0.1
baz=188
LENM Lemitar 37.98 329 eP P 06 09 42.5 +0.8
O42A Bath 38.00 353 P P 06 09 40.9 -0.6
baz=171
O43A Sugar Creek Fa 38.00 354 P P 06 09 40.9 -0.6
baz=172
O41A Passleys Farm, 38.02 352 P P 06 09 41.1 -0.6
baz=170
O56A Blue Knob Stat 38.10 7 P P 06 09 42.4 0.0
baz=190
MVL Millersville 38.17 10 eP P 06 09 45.5 +2.5
comp=Z,20nm,1.0s
N50A Nevada 38.25 2 P P 06 09 43.9 +0.3
baz=182
LAZ Ladron 38.25 329 eP P 06 09 45.2 +1.2
HDIL Hopedale 38.27 354 P P 06 09 43.0 -0.7
baz=172
N48A Decatur 38.32 359 P P 06 09 43.7 -0.6
baz=179
ANMO Albuquerque 38.33 330 eP P 06 09 45.2 +0.5
comp=Z,9.7nm,1.0s
ANMO Albuquerque 38.33 330 ciP P 06 09 45.5 +0.8
ANMO pmax pmax
comp=Z,10.0nm,1.0s
ANMO Albuquerque 38.33 330 P P 06 09 44.8 +0.1
baz=143
PAGS Pennsylvania G 38.33 10 eP P 06 09 46.2 +1.9
comp=Z,26nm,1.0s
TASM ASL Pad, Albuq 38.33 330 P P 06 09 44.7 0.0
baz=143,SNR=15
TASM ASL Pad, Albuq 38.33 330 P P 06 09 44.4 -0.3
baz=143,SNR=14
N44A Piper City 38.40 356 P P 06 09 44.6 -0.3
baz=174
N45A Kentland 38.41 356 P P 06 09 45.0 +0.1
baz=175
N51A Ashland 38.42 3 P P 06 09 44.9 -0.2
baz=183
SSPA Standing Stone 38.55 8 eP P 06 09 48.7 +2.5
comp=Z,13nm,1.0s
SSPA Standing Stone 38.55 8 P P 06 09 46.2 0.0
baz=191
N55A Marion Center 38.56 7 P P 06 09 46.1 -0.1
baz=189
N42A Yates City 38.62 353 P P 06 09 46.7 -0.1
baz=171
TUC Tucson 38.73 323 eP P 06 09 48.1 +0.3
comp=Z,6.8nm,1.0s
TUC Tucson 38.73 323 eP P 06 09 48.2 +0.3
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 38.73 323 P P 06 09 47.7 -0.2
baz=135
CPUP Villa Florida 38.74 139 eP P 06 09 49.2 +1.2
comp=Z,3.4nm,1.0s
CPUP Villa Florida 38.74 139 P P 06 09 48.7 +0.7
comp=Z,3.3nm,1.2s,baz=343,slow=14,SNR=1.9
CPUP LR LR 06 27 52.6
comp=Z,664nm,18.7s,baz=324,slow=40
CBKS Cedar Bluff 38.87 341 eP P 06 09 49.0 +0.1
comp=Z,16nm,0.8s
CBKS Cedar Bluff 38.87 341 eP P 06 09 49.0 +0.1
CBKS pmax pmax
comp=Z,16nm,0.8s
CBKS Cedar Bluff 38.87 341 P P 06 09 48.9 +0.1
baz=155
M44A Midewin, Midew 38.98 356 P P 06 09 49.6 -0.1
baz=174
M53A WI Miller and 39.05 5 P P 06 09 49.8 -0.5
baz=186
N59A State Game Lan 39.17 10 eP P 06 09 52.0 +0.6
comp=Z,15nm,0.9s
N59A State Game Lan 39.17 10 P P 06 09 51.5 +0.1
baz=194
T25A Trinidad 39.18 334 eP P 06 09 51.7 0.0
comp=Z,13nm,1.0s
T25A Trinidad 39.18 334 P P 06 09 51.1 -0.7
baz=148,SNR=7.1
M54A Oil Creek Stat 39.20 6 P P 06 09 51.9 +0.2
baz=188
M41A Milan 39.22 353 P P 06 09 51.3 -0.4
baz=170
M55A Ridgway 39.26 7 P P 06 09 51.7 -0.5
baz=189
L50A Kingsville 39.53 2 P P 06 09 54.8 +0.5
baz=183
M39A Webster 39.55 351 P P 06 09 53.3 -1.3
baz=168
214A Organ Pipe Nat 39.73 321 P P 06 09 56.7 +0.4
baz=132,SNR=10
L42A Oliver, Polo 39.74 354 eP P 06 09 54.6 -1.5
comp=Z,25nm,1.0s
L42A Oliver, Polo 39.74 354 P P 06 09 55.0 -1.1
baz=172
L43A Garden Prairie 39.83 355 P P 06 09 55.9 -1.0
baz=173
X18A Snowflake 39.85 326 eP P 06 09 58.2 +0.8
comp=Z,10nm,1.1s
L41A Preston 39.90 353 P P 06 09 57.0 -0.4
baz=171
L40A Anamosa 39.98 352 P P 06 09 57.0 -1.1
baz=170
L55A Hinsdale 40.01 7 P P 06 09 57.7 -0.6
baz=189
KSCO Kaye Shedlock' 40.06 338 eP P 06 09 59.6 +0.5
comp=Z,23nm,0.9s
KSCO Kaye Shedlock' 40.06 338 P P 06 09 59.0 0.0
baz=151,SNR=6.2
L39A Vinton 40.16 351 P P 06 09 58.9 -0.7
baz=168
SDCO Great Sand Dun 40.16 334 eP P 06 10 00.7 +0.6
comp=Z,14nm,1.0s
SDCO Great Sand Dun 40.16 334 P P 06 10 00.1 0.0
baz=146,SNR=24
BDFB Brasilia 40.23 118 P P 06 10 04.2 +3.5
comp=Z,1.8nm,0.6s,baz=127,slow=6.9,SNR=3.4
BDFB LR LR 06 26 51.8
comp=Z,974nm,19.5s,baz=285,slow=36
BINY Binghamton 40.38 10 eP P 06 10 04.3 +2.9
comp=Z,14nm,0.8s
BINY Binghamton 40.38 10 P P 06 10 01.1 -0.3
baz=193
K55A Perry 40.59 7 P P 06 10 02.6 -0.6
baz=190
K40A Colesburg 40.60 352 P P 06 10 02.3 -0.9
baz=170
X16A Lo Mia Camp, P 40.61 325 eP P 06 10 04.8 +1.1
comp=Z,8.5nm,1.0s
JFWS Jewell Farm 40.70 353 P P 06 10 03.3 -0.8
baz=171
K39A Oelwein 40.71 352 P P 06 10 03.2 -0.9
baz=169
ELFO Elginfield 40.75 4 P P 06 10 04.5 +0.1
baz=185
S22A 4UR Ranch, Cre 40.76 332 eP P 06 10 06.7 +1.7
comp=Z,6.3nm,0.9s
S22A 4UR Ranch, Cre 40.76 332 P P 06 10 05.2 +0.2
baz=145,SNR=9.5
BGNE Belgrade 40.78 344 P P 06 10 04.5 -0.2
baz=159
113A Mohawk Valley, 40.88 321 eP P 06 10 06.6 +0.9
comp=Z,8.4nm,0.9s
Q24A Divide 41.03 335 eP P 06 10 07.3 +0.1
comp=Z,5.7nm,0.9s
Q24A Divide 41.03 335 P P 06 10 06.4 -0.8
baz=148
MVCO Mesa Verde 41.13 330 eP P 06 10 08.2 +0.1
comp=Z,5.8nm,0.8s
MVCO Mesa Verde 41.13 330 P P 06 10 07.6 -0.4
baz=142,SNR=6.5
Y14A Wickenburg 41.20 323 eP P 06 10 09.2 +0.8
comp=Z,10nm,1.0s
ACTO Acton 41.25 5 P P 06 10 08.5 -0.1
baz=187
WUAZ Wupatki 41.37 326 eP P 06 10 10.9 +1.1
comp=Z,12nm,0.9s
WUAZ Wupatki 41.37 326 P P 06 10 10.5 +0.7
baz=137,SNR=7.8
I43A Langenfeld Bro 41.47 356 P P 06 10 09.2 -1.2
baz=175
OGNE Ogallala 41.55 340 P P 06 10 10.1 -1.1
baz=153
PKRO Pickering 41.70 6 P P 06 10 11.9 -0.3
baz=188
WLVO Wesleyville 41.73 7 P P 06 10 12.4 -0.1
baz=189
GLA Glamis 41.73 320 eP P 06 10 13.1 +0.3
comp=Z,5.4nm,0.8s
GLA Glamis 41.73 320 eP P 06 10 13.1 +0.3
GLA pmax pmax
comp=Z,5.0nm,0.8s
GLA Glamis 41.73 320 P P 06 10 12.3 -0.4
baz=131
I41A Arkdale 41.79 354 P P 06 10 12.3 -0.7
baz=172
PV01 Paradox Valley 41.90 331 eP P 06 10 14.9 +0.7
comp=Z,3.6nm,1.1s
ISCO Idaho Springs 41.93 335 eP P 06 10 14.8 +0.3
comp=Z,7.2nm,1.0s
ISCO Idaho Springs 41.93 335 eP P 06 10 14.8 +0.3
ISCO pmax pmax
comp=Z,7.0nm,1.0s
ISCO Idaho Springs 41.93 335 P P 06 10 15.1 +0.5
baz=148,SNR=5.8
SMCO Snowmass 41.99 334 eP P 06 10 15.8 +0.6
comp=Z,11nm,0.9s
Y12C Blythe 42.00 321 eP P 06 10 16.3 +1.4
comp=Z,4.8nm,0.9s
Y12C Blythe 42.00 321 P P 06 10 14.8 -0.1
baz=132
PV15 Paradox Valley 42.02 331 eP P 06 10 16.2 +0.9
comp=Z,12nm,1.1s
PV02 Paradox Valley 42.03 331 eP P 06 10 15.7 +0.4
comp=Z,12nm,1.2s
PV13 Radium Mtn., P 42.03 331 eP P 06 10 15.8 +0.4
comp=Z,9.4nm,1.1s
PV03 Paradox Valley 42.12 331 eP P 06 10 13.4 -2.7
comp=Z,12nm,1.2s
PDMCI Parker Dam,Lak 42.13 322 P P 06 10 15.5 -0.5
baz=133
PV12 Saucer Basin, 42.15 331 eP P 06 10 14.4 -1.9
comp=Z,17nm,1.1s
H48A Harrisville 42.17 1 P P 06 10 16.4 +0.3
baz=182
PV11 David Mesa, Pa 42.17 331 eP P 06 10 13.7 -2.8
comp=Z,6.8nm,0.8s
PV07 Paradox Valley 42.17 331 eP P 06 10 17.6 +1.1
comp=Z,6.6nm,0.9s
PV17 East Wray Mesa 42.20 331 eP P 06 10 17.5 +0.8
comp=Z,7.7nm,0.8s
PV16 Nyswonger Mesa 42.20 331 eP P 06 10 15.7 -1.1
comp=Z,6.9nm,0.9s
PV04 Paradox Valley 42.26 331 eP P 06 10 16.5 -0.7
comp=Z,9.3nm,1.0s
PV14 Lion Creek, Pa 42.30 331 eP P 06 10 17.5 -0.1
comp=Z,6.2nm,0.9s
W13A Hualapai Mount 42.52 323 eP P 06 10 20.2 +0.8
comp=Z,7.8nm,0.9s
BC3 Big Chuckawall 42.52 321 P P 06 10 19.2 -0.1
baz=131,SNR=7.2
U15A North Rim 42.54 326 eP P 06 10 20.8 +1.2
comp=Z,15nm,1.1s
H39A Augusta 42.57 353 P P 06 10 18.4 -0.9
baz=170
ECSD EROS Data Cent 42.59 347 eP P 06 10 18.8 -0.8
comp=Z,6.5nm,1.0s
ECSD EROS Data Cent 42.59 347 P P 06 10 18.5 -1.0
baz=162,SNR=6.4
G47A Hillman 42.63 1 P P 06 10 19.8 -0.1
baz=181
IRM Iron Mountain 42.66 321 P P 06 10 20.6 +0.3
baz=132,SNR=11
H56A Elgin 42.67 9 P P 06 10 20.0 -0.1
baz=192
H38A Maiden Rock 42.70 352 P P 06 10 19.6 -0.8
baz=169
G42A Mountain 42.84 356 P P 06 10 21.3 -0.2
baz=174
BANO Bancroft 42.86 7 P P 06 10 21.9 +0.2
baz=190
G41A Antigo 42.87 355 P P 06 10 21.7 -0.1
baz=173
G53A Haliburton 42.89 6 P P 06 10 22.1 +0.2
baz=189
LONY Lake Ozonia 42.97 10 P P 06 10 23.2 +0.5
baz=195
KLBO Killbear Provi 42.98 4 P P 06 10 22.5 -0.1
baz=186
N23A Red Feather La 42.98 336 eP P 06 10 23.5 +0.4
comp=Z,9.2nm,1.0s
N23A Red Feather La 42.98 336 P P 06 10 23.4 +0.3
baz=148
PLVO Plevna 42.99 8 P P 06 10 23.9 +1.1
baz=191
G40A Rib Lake 43.02 354 P P 06 10 22.2 -0.8
baz=172
BELC Belle Mtn. Jos 43.09 320 P P 06 10 23.3 -0.7
baz=130,SNR=6.2
G38A Ridgeland 43.12 352 P P 06 10 23.0 -0.8
baz=169
PHWY Pilot Hill 43.13 337 eP P 06 10 25.0 +0.7
comp=Z,8.3nm,1.0s
XPFO Pion Flat 43.14 320 eP P 06 10 25.8 +1.5
comp=Z,9.3nm,1.1s
PFO Pinyon Flats O 43.14 320 eP P 06 10 25.9 +1.6
comp=Z,7.9nm,1.1s
PFO Pinyon Flats O 43.14 320 eP P 06 10 25.9 +1.6
PFO pmax pmax
comp=Z,8.0nm,1.1s
PFO Pinyon Flats O 43.14 320 P P 06 10 22.1 -2.2
baz=130
G39A Holcombe 43.15 353 P P 06 10 22.9 -1.2
baz=170,SNR=7.2
G55A Calabogie 43.25 8 P P 06 10 23.8 -1.1
baz=191
KNB Kanab 43.26 326 eP P 06 10 26.6 +1.3
comp=Z,12nm,1.0s
KNB Kanab 43.26 326 eP P 06 10 26.6 +1.3
KNB pmax pmax
comp=Z,12nm,1.0s
PKCU Pink Cliffs 43.29 327 eP P 06 10 27.1 +1.4
comp=Z,14nm,1.1s
O20A White River Ci 43.34 333 eP P 06 10 27.4 +1.4
comp=Z,7.7nm,1.0s
O20A White River Ci 43.34 333 P P 06 10 25.6 -0.3
baz=144
F43A Flat Rock, Esc 43.35 357 P P 06 10 25.3 -0.4
baz=176
F41A Three Lakes 43.39 355 P P 06 10 25.4 -0.6
baz=173
GMRC Granite Mounta 43.39 322 P P 06 10 24.5 -1.9
baz=131
GO06 Curarrehue 43.42 165 eP P 06 10 25.8 -0.7
comp=Z,7.3nm,1.1s
F44A Big Bay de Noc 43.46 358 P P 06 10 25.9 -0.6
baz=177
F52A Sundridge 43.48 5 P P 06 10 26.8 +0.1
baz=188
LCMT Little Creek M 43.49 326 eP P 06 10 27.1 0.0
comp=Z,3.3nm,0.9s
F51A Arnstein 43.57 5 P P 06 10 27.6 +0.2
baz=187
PEMO Pembroke 43.60 7 P P 06 10 27.6 0.0
baz=190
SRU San Rafael Swe 43.61 330 eP P 06 10 28.8 +0.7
comp=Z,9.1nm,1.2s
SRU San Rafael Swe 43.61 330 eP P 06 10 28.8 +0.7
SRU pmax pmax
comp=Z,9.0nm,1.2s
ORIO Orleans, Innes 43.62 9 P P 06 10 27.0 -0.8
baz=193
F40A Park Falls 43.66 354 P P 06 10 27.3 -0.8
baz=172
F39A Loretta 43.74 353 P P 06 10 28.3 -0.5
baz=171
ALGO Algonquin Park 43.77 6 P P 06 10 27.5 -1.5
baz=189
SUSD Miller 43.82 345 P P 06 10 28.3 -1.2
baz=159
SZCU Shurtz Canyon 43.82 327 eP P 06 10 31.4 +1.5
comp=Z,7.2nm,1.1s
HEC Hector,Ludlow 43.84 321 P P 06 10 29.3 -0.6
baz=131
BBRC Big Bear Solar 43.85 320 P P 06 10 29.1 -1.1
baz=130
F55A Otter Lake 43.87 8 P P 06 10 29.8 -0.1
baz=192
ALFO Alfred 43.90 10 P P 06 10 30.1 +0.1
baz=194
F38A Pierce - Schro 43.90 353 P P 06 10 29.5 -0.6
baz=169
E47A Iron Bridge 43.92 1 P P 06 10 29.5 -0.7
baz=182
CCUT Cedar City 43.94 326 eP P 06 10 33.0 +2.2
comp=Z,9.7nm,1.0s

E48A Lockeyer 43.98 2 P P 06 10 30.8 0.0
baz=183
E42A Champion 43.99 357 P P 06 10 30.2 -0.6
baz=175
E50A Wahnapitae 44.00 4 P P 06 10 29.8 -1.1
baz=185
MSU Marysvale 44.00 328 *e*P P 06 10 32.2 +0.9
MSU Marysvale 44.00 328 *e*P P 06 10 32.2 +0.9
E39A Mellen 44.16 354 P P 06 10 31.1 -1.1
baz=171
E40A Wakefield 44.16 355 P P 06 10 30.9 -1.3
baz=172
RWWY Rawlins 44.17 335 *e*P P 06 10 33.4 +0.8
comp=Z,17nm,1.0s
E51A G1948 Merrick 44.20 5 P P 06 10 32.3 -0.2
baz=187
TCRU Three Creeks R 44.22 328 *e*P P 06 10 34.3 +1.3
comp=Z,8.6nm,0.9s
E53A Dumoine, Ponti 44.23 7 P P 06 10 32.7 -0.1
baz=190
SHPR Sheep Range 44.24 324 *e*P P 06 10 34.3 +1.1
comp=Z,8.0nm,1.2s
BFSC Mount Baldy Ra 44.31 319 P P 06 10 34.0 +0.2
baz=129
E54A Lac Daplat, Po 44.35 7 P P 06 10 33.9 +0.3
baz=190
GSC Goldstone, Bar 44.44 321 *e*P P 06 10 35.9 +1.2
comp=Z,8.8nm,1.1s
GSC Goldstone, Bar 44.44 321 P P 06 10 34.0 -0.7
baz=130
E38A The Farm, Brul 44.50 353 *e*P P 06 10 34.6 -0.3
comp=Z,11nm,0.9s
E38A The Farm, Brul 44.50 353 P P 06 10 34.1 -0.7
baz=170
SHOC Shoshone, Teco 44.50 322 P P 06 10 34.4 -0.7
baz=132
MWC Mount Wilson 44.56 319 *e*P P 06 10 35.8 0.0
comp=Z,12nm,0.9s
MWC Mount Wilson 44.56 319 *e*P P 06 10 35.8 0.0
MWC pmax pmax
comp=Z,12nm,0.9s
D41A Chassel 44.66 356 P P 06 10 36.6 +0.4
baz=174
D48A Paudash Townsh 44.69 3 P P 06 10 36.4 0.0
baz=184
K22A Casper 44.70 337 *e*P P 06 10 37.0 +0.2
comp=Z,9.0nm,1.1s
K22A Casper 44.70 337 P P 06 10 36.3 -0.5
baz=148
PLCA Paso Flores 44.73 165 *e*P P 06 10 36.2 -0.7
comp=Z,11nm,0.9s
PLCA Paso Flores 44.73 165 *e*P P 06 10 36.2 -0.7
PLCA pmax pmax
comp=Z,11nm,0.9s
PLCA Paso Flores 44.73 165 P P 06 10 35.5 -1.5
comp=Z,7.8nm,0.9s,baz=358,slow=8.6,SNR=14
PLCA LR LR 06 25 10.4
comp=Z,347nm,21.8s,baz=0.5,slow=31
D52A ZEK Kipawa Sen 44.74 6 P P 06 10 37.3 +0.5
baz=189
PKME Peaks-Kenny Pk 44.76 15 P P 06 10 38.5 +1.6
baz=202
D49A Beulah Townshi 44.81 3 P P 06 10 38.3 +0.9
baz=184
MPU Maple Canyon 44.85 330 *e*P P 06 10 38.8 +0.7
comp=Z,2.7nm,0.8s
PSUT Pine Spring 44.91 327 *e*P P 06 10 39.6 +1.0
comp=Z,8.3nm,0.9s
D53A Lac Vacive, Po 44.92 7 P P 06 10 39.2 +0.9
baz=190
EDW2 Edwards Air Fo 44.92 320 P P 06 10 38.3 -0.3
baz=129
RSSD Black Hills 45.05 340 *e*P P 06 10 40.3 +0.7
comp=Z,7.0nm,0.9s
RSSD Black Hills 45.05 340 *e*P P 06 10 40.3 +0.7
RSSD pmax pmax
comp=Z,7.0nm,0.9s
RSSD Black Hills 45.05 340 P P 06 10 40.3 +0.7
baz=152
LRMC Laurel Mtn Rad 45.10 321 P P 06 10 39.7 -0.4
baz=130
D54A Lac Fusel, La 45.12 8 P P 06 10 41.1 +1.3
baz=191
TPNV Topopah Spring 45.18 323 *e*P P 06 10 41.9 +1.2
comp=Z,6.6nm,0.9s
TPNV Topopah Spring 45.18 323 *e*P P 06 10 41.9 +1.2
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 45.18 323 P P 06 10 40.7 0.0
baz=132,SNR=7.1
FURC Furnace Creek, 45.23 323 P P 06 10 40.9 +0.1
baz=131
TRQA Tornquist 45.28 155 *e*P P 06 10 40.4 -0.9
comp=Z,8.4nm,0.9s
TRQA Tornquist 45.28 155 *e*P P 06 10 40.4 -0.9
TRQA pmax pmax
comp=Z,8.0nm,0.9s
MPMC Manual Prospec 45.35 322 P P 06 10 42.3 +0.2
baz=130,SNR=5.7
DUG Dugway, Tooele 45.58 329 *e*P P 06 10 45.1 +1.4
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 45.58 329 *e*P P 06 10 45.2 +1.4
DUG pmax pmax
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 45.58 329 P P 06 10 44.4 +0.6
baz=139
TCUT Toone Canyon 45.59 331 *e*P P 06 10 44.6 +0.6
comp=Z,15nm,0.9s
ARVC Arvin 45.62 320 P P 06 10 44.3 +0.3
baz=128
ISA Isabella, Lake 45.72 320 P P 06 10 45.1 +0.3
baz=129
R11A Troy Canyon, C 45.75 325 *e*P P 06 10 46.1 +0.9
comp=Z,3.8nm,1.0s
R11A Troy Canyon, C 45.75 325 P P 06 10 45.0 -0.2
baz=134,SNR=7.4
EYMN Ely 45.81 353 P P 06 10 43.8 -1.5
baz=170
CWC Cottonwood Cre 45.96 322 P P 06 10 46.0 -0.9
baz=130
LATQ La Tuque 45.97 11 P P 06 10 47.5 +0.9
baz=196
HWUT Hardware Ranch 46.04 332 *e*P P 06 10 47.8 +0.3
comp=Z,6.8nm,0.7s
BW06 Boulder Array 46.05 334 *e*P P 06 10 47.2 -0.4
comp=Z,4.7nm,1.1s
BW06 Boulder Array 46.05 334 P P 06 10 46.8 -0.7
baz=144,SNR=5.0
PD31 Pinedale Array 46.05 334 *e*P P 06 10 47.6 0.0
comp=Z,2.7nm,0.9s
PDAR Pinedale Array 46.05 334 *e*P P 06 10 47.4 -0.2
PDAR PcP PcP 06 12 23.6 -0.4
PDAR Pinedale Array 46.05 334 P P 06 10 46.6 -0.9
comp=Z,2.2nm,0.8s,baz=134,slow=8.6,SNR=14
PDAR PcP PcP 06 12 23.6 -0.4
comp=Z,0.7nm,0.6s,baz=130,slow=5.8,SNR=5.7
PDAR LR LR 06 30 44.7
comp=Z,891nm,19.5s,baz=152,slow=37
PKM Mcpherson Peak 46.11 319 P P 06 10 46.9 -1.2
baz=127
VES Vestal, Richgr 46.22 320 P P 06 10 47.6 -1.1
baz=128,SNR=7.9
BGU Big Grassy Mou 46.24 330 *e*P P 06 10 49.5 +0.4
comp=Z,7.4nm,1.0s
SPUT South Promonto 46.24 331 *e*P P 06 10 49.4 +0.4
comp=Z,7.2nm,0.8s
SMMC Simmler 46.49 319 P P 06 10 49.3 -1.6
baz=127
HVU Hansel Valley 46.76 331 *e*P P 06 10 53.9 +0.8
comp=Z,5.5nm,1.0s
HVU Hansel Valley 46.76 331 *e*P P 06 10 53.9 +0.8
HVU pmax pmax
comp=Z,6.0nm,1.0s
AGMN Agassiz Nation 46.80 350 *e*P P 06 10 51.8 -1.3
comp=Z,14nm,1.1s
AGMN Agassiz Nation 46.80 350 P P 06 10 52.4 -0.6
baz=164,SNR=6.0
LSQQ Lebel-sur-Quev 46.96 7 P P 06 10 53.8 -0.5
baz=190
REDW Red Top Meadow 47.09 334 *e*P P 06 10 56.1 +0.3
comp=Z,11nm,1.1s
SNOW Snow King Moun 47.13 334 *e*P P 06 10 56.0 -0.1
comp=Z,7.7nm,1.0s
MDND Maddock 47.16 346 *e*P P 06 10 56.0 +0.1
comp=Z,51nm,1.1s
MDND Maddock 47.16 346 P P 06 10 55.7 -0.2
baz=159,SNR=5.3
LOHW Long Hollow 47.18 334 *e*P P 06 10 56.1 -0.3
comp=Z,2.3nm,0.9s
TPAW Teton Pass 47.24 334 *e*P P 06 10 58.8 +1.9
comp=Z,6.9nm,0.9s
ELK Elko 47.24 328 *e*P P 06 10 57.0 0.0
comp=Z,4.7nm,0.8s
ELK Elko 47.24 328 *e*P P 06 10 57.0 0.0
ELK pmax pmax
comp=Z,5.0nm,0.8s
OMMB Old Mammoth Mi 47.27 322 *e*P P 06 10 58.1 +0.8
comp=Z,7.7nm,0.9s
NV11 Mina Array Sit 47.29 324 *e*P P 06 10 57.8 +0.5
comp=Z,0.7nm,1.0s
MDPB Devils Postpil 47.34 322 *e*P P 06 10 58.7 +0.9
comp=Z,7.7nm,0.9s
MOOW Moose Ponds 47.35 334 *e*P P 06 10 57.3 -0.4
comp=Z,2.6nm,1.0s
NV01 Mina Array Sit 47.38 324 *e*P P 06 10 58.8 +0.8
NVAR Mina Array Bea 47.38 324 P P 06 10 58.4 +0.4
comp=Z,5.4nm,0.8s,baz=135,slow=7.3,SNR=30
NVAR PcP PcP 06 12 28.3 -0.5
comp=Z,0.6nm,0.6s,baz=152,slow=4.1,SNR=2.6
NVAR LR LR 06 30 52.8
comp=Z,408nm,18.8s,baz=128,slow=36
FXWY Fox Creek 47.39 334 *e*P P 06 10 57.8 -0.2
comp=Z,3.4nm,1.1s
IMW Indian Meadow 47.56 334 *e*P P 06 10 59.5 +0.1
comp=Z,5.3nm,1.0s
MATQ Matagami 47.57 6 P P 06 10 58.6 -0.5
baz=189,SNR=6.2
FLWY Flagg Ranch 47.60 334 *e*P P 06 10 59.8 +0.2
comp=Z,5.7nm,0.9s
RYN Ryan 47.64 324 *e*P P 06 11 00.5 +0.5
comp=Z,4.7nm,1.0s
KVN Kaiserville 47.67 324 *e*P P 06 11 00.6 +0.3
comp=Z,5.5nm,0.8s
KVN Kaiserville 47.67 324 *e*P P 06 11 00.6 +0.3
KVN pmax pmax
comp=Z,6.0nm,0.8s
YPP Pitchstone Pla 47.80 335 *e*P P 06 11 02.6 +1.3
comp=Z,2.4nm,0.8s
RLMT Red Lodge 47.85 336 *e*P P 06 11 01.6 0.0
comp=Z,3.6nm,1.0s
RLMT Red Lodge 47.85 336 P P 06 11 01.2 -0.4
baz=146
LKWY Lake 47.86 335 *e*P P 06 11 02.8 +1.0
comp=Z,4.1nm,1.0s
LKWY Lake 47.86 335 *e*P P 06 11 02.8 +1.0
LKWY pmax pmax
comp=Z,4.0nm,1.0s
LAO LASA Array 48.05 340 P P 06 11 02.3 -0.5
baz=150
BMN Battle Mountai 48.10 326 *e*P P 06 11 04.8 +1.3
comp=Z,4.8nm,0.9s
BMN Battle Mountai 48.10 326 *e*P P 06 11 04.8 +1.3
BMN pmax pmax
comp=Z,5.0nm,0.9s
WAKR Walker 48.11 323 *e*P P 06 11 04.5 +0.8
comp=Z,6.2nm,1.1s
CHGQ Chibougamau 48.14 9 P P 06 11 03.7 +0.3
baz=194,SNR=5.2
YMR Madison River 48.19 335 *e*P P 06 11 04.9 +0.7
comp=Z,5.7nm,0.8s
YHH Holmes Hill 48.23 335 *e*P P 06 11 04.9 +0.2
comp=Z,3.8nm,1.1s
YERR Yerington 48.30 323 *e*P P 06 11 05.9 +0.7
comp=Z,4.6nm,1.0s
ULM Lac du Bonnet 48.69 350 *e*P P 06 11 07.0 -0.7
comp=Z,11nm,0.9s
ULM PcP PcP 06 12 32.6 -0.2
ULM Lac du Bonnet 48.69 350 *e*P P 06 11 07.0 -0.7
ULM 06 12 32.7
ULM pmax pmax
comp=Z,11nm,0.9s
ULM Lac du Bonnet 48.69 350 P P 06 11 06.5 -1.1
comp=Z,7.9nm,0.9s,baz=166,slow=7.6,SNR=17
ULM PcP PcP 06 12 32.6 -0.2
comp=Z,2.1nm,0.5s,baz=127,slow=3.0,SNR=4.2
HLID Hailey 48.90 331 *e*P P 06 11 09.1 -0.6
comp=Z,5.8nm,1.1s
HLID Hailey 48.90 331 P P 06 11 09.3 -0.4
baz=139,SNR=7.3
MCMT McKenzie Canyo 49.13 333 *e*P P 06 11 12.2 +0.7
BOZ Bozeman (W) 49.21 335 *e*P P 06 11 11.7 -0.3
comp=Z,6.7nm,0.9s
BOZ Bozeman (W) 49.21 335 *e*P P 06 11 11.7 -0.3
BOZ pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 49.21 335 P P 06 11 11.1 -0.9
baz=143,SNR=10
DLMT Dillon 49.44 334 *e*P P 06 11 14.9 +1.2
comp=Z,2.3nm,0.8s
BEKR Beckworth 49.53 324 *e*P P 06 11 13.8 -0.7
comp=Z,5.7nm,1.0s
ORV Oroville 50.02 323 *e*P P 06 11 19.1 +1.0
comp=Z,8.6nm,1.0s
ORV Oroville 50.02 323 *e*P P 06 11 19.1 +1.0
ORV pmax pmax
comp=Z,9.0nm,1.0s
HRY Holter Researc 50.19 336 *e*P P 06 11 19.1 -0.2
WVOR Wild Horse Val 50.25 327 *e*P P 06 11 19.9 0.0
comp=Z,8.1nm,1.0s
WVOR Wild Horse Val 50.25 327 *e*P P 06 11 19.9 0.0
WVOR pmax pmax
comp=Z,8.0nm,1.0s
EGMT Eagleton 50.45 338 *e*P P 06 11 21.6 +0.3
comp=Z,7.8nm,1.1s
EGMT Eagleton 50.45 338 P P 06 11 21.0 -0.2
baz=147
O03E Paynes Creek 50.66 323 P P 06 11 21.8 -1.2
baz=129
J08A Circle Bar Ran 50.80 328 *e*P P 06 11 24.4 +0.4
comp=Z,6.6nm,1.1s
MOD Modoc Plateau 50.81 326 *e*P P 06 11 24.3 +0.1
comp=Z,4.3nm,0.9s
MSO Missoula 51.17 334 *e*P P 06 11 27.4 +0.6
comp=Z,8.9nm,0.9s
MSO Missoula 51.17 334 P P 06 11 25.7 -1.1
baz=141,SNR=6.5
O02D Mt. Diablo Mer 51.18 322 P P 06 11 25.7 -1.2
baz=128
BMO Blue Mountains 51.25 330 *e*P P 06 11 26.8 -0.6
comp=Z,3.4nm,1.1s
BMO Blue Mountains 51.25 330 *e*P P 06 11 26.8 -0.6
BMO pmax pmax
comp=Z,3.0nm,1.1s
M04C Macdoel 51.61 325 P P 06 11 28.5 -1.7
baz=130
N02D Trinity Center 51.62 323 P P 06 11 28.4 -1.8
baz=128
I07A Izee 51.84 328 *e*P P 06 11 31.8 0.0
comp=Z,3.7nm,0.9s
M02C Callahan 51.96 324 P P 06 11 31.2 -1.5
baz=128
F10A Beach Ranch, E 52.03 331 *e*P P 06 11 32.6 -0.6
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 52.09 324 *e*P P 06 11 32.3 -1.4
comp=Z,4.8nm,1.0s
YBH Yreka Blue Hor 52.09 324 *e*P P 06 11 32.3 -1.4
YBH pmax pmax
comp=Z,5.0nm,1.0s
L04D Klamath Falls 52.16 325 P P 06 11 34.1 -0.2
baz=129
J05D Fort Rock, OR 52.23 326 P P 06 11 34.7 -0.1
baz=131,SNR=8.9
G08A Pilot Rock 52.39 330 *e*P P 06 11 36.1 +0.1
comp=Z,3.1nm,0.8s
E09A Wood Farm, Sta 52.86 331 *e*P P 06 11 39.1 -0.1
comp=Z,13nm,1.1s
WALA Waterton Lakes 52.90 336 *e*P P 06 11 40.5 +0.8
comp=Z,11nm,1.0s
I05D Terrebonne, OR 52.98 327 P P 06 11 40.3 0.0
baz=132
I04A Tendick Farm, 53.22 326 P P 06 11 41.6 -0.4
baz=130
K02D Willamette Mer 53.24 324 P P 06 11 41.8 -0.4
baz=128
G05D Wamic, OR 53.57 328 P P 06 11 44.7 +0.2
baz=132
D08A Wollman Farm, 53.62 331 *e*P P 06 11 44.6 -0.2
comp=Z,3.0nm,0.8s
NEW Newport 53.66 333 P P 06 11 44.6 -0.5
baz=138
J01E Myrtle Point 53.68 325 P P 06 11 45.9 +0.6
baz=128
F05D White Salmon 54.08 329 P P 06 11 48.2 0.0
baz=132
FFC Flin Flon 54.12 348 *ce*P P 06 11 48.6 +0.3
SCHQ Schefferville 54.24 12 *e*P P 06 11 48.8 -0.4
comp=Z,18nm,1.1s
SCHQ PcP PcP 06 12 54.6 +1.2
SCHQ Schefferville 54.24 12 P P 06 11 50.0 +0.7
comp=Z,8.9nm,0.9s,baz=162,slow=5.3,SNR=7.0
SCHQ PcP PcP 06 12 54.6 +1.2
comp=Z,3.6nm,0.8s,baz=180,slow=1.0,SNR=2.9
SCHQ LR LR 06 35 09.5
comp=Z,159nm,19.1s,baz=179,slow=36
E04D Cinebar 55.10 329 P P 06 11 55.8 +0.2
baz=132
A04D Lummi Island 56.61 331 P P 06 12 06.3 0.0
baz=132
FCC Fort Churchill 56.74 354 *e*P P 06 12 07.0 -0.1
comp=Z,9.4nm,0.8s
FCC Fort Churchill 56.74 354 *e*P P 06 12 07.0 -0.1
FCC pmax pmax
comp=Z,9.0nm,0.8s
LLLB Lillooet 57.51 333 *e*P P 06 12 13.8 +1.1
comp=Z,6.7nm,0.8s
YKA Yellowknife Ar 64.06 345 P P 06 12 56.2 -0.9
comp=Z,4.6nm,0.8s,baz=140,slow=6.2,SNR=56
YKA LR LR 06 43 51.4
comp=Z,24nm,18.6s,baz=147,slow=39
YKB5 Yellowknife Ar 64.06 345 *e*P P 06 12 55.8 -1.3
YKW3 Yellowknife Ar 64.12 345 *e*P P 06 12 56.5 -1.0
comp=Z,6.3nm,0.9s
DLBC Dease Lake 66.25 336 *e*P P 06 13 12.4 +0.9
comp=Z,14nm,0.9s
PPT Papeete 67.13 250 LR LR 06 34 54.7
comp=Z,485nm,21.3s,baz=56,slow=29
RES Resolute Bay 72.50 357 *e*P P 06 13 51.5 +1.7
comp=Z,4.8nm,1.1s
RES Resolute Bay 72.50 357 *e*P P 06 13 51.5 +1.7
RES pmax pmax
comp=Z,5.0nm,1.1s
DAWY Dawson 73.19 338 *e*P P 06 13 54.5 +0.3
comp=Z,5.5nm,0.9s
EPYK Eagle Plains 73.50 341 P P 06 13 55.9 0.0
baz=125
INK Inuvik 73.65 343 *e*P P 06 13 56.8 +0.1
comp=Z,8.7nm,1.0s
INK Inuvik 73.65 343 *e*P P 06 13 56.8 +0.1
INK pmax pmax
comp=Z,9.0nm,1.0s
EGAK Eagle 74.21 338 *e*P P 06 14 00.6 +0.5
comp=Z,4.0nm,0.7s
MENT Mentasta 74.33 336 *e*P P 06 14 01.0 +0.1
comp=Z,5.5nm,1.0s
TULEG Thule 74.61 4 *e*P P 06 14 01.4 -0.8
comp=Z,8.3nm,1.1s
RIDG Independ'e Rid 75.14 336 *e*P P 06 14 06.6 +1.0
SCM Sheep Creek Mo 75.39 334 *e*P P 06 14 07.5 +0.4
comp=Z,10nm,1.0s
SCM Sheep Creek Mo 75.39 334 *e*P P 06 14 07.5 +0.4
SCM pmax pmax
comp=Z,10.0nm,1.0s
SUMG Summit 75.63 13 *e*P P 06 14 08.0 -0.6
comp=Z,10nm,1.0s
SUMG Summit 75.63 13 *i*P P 06 14 09.4 +0.8
comp=Z,53nm,1.2s
SUMG Summit 75.63 13 *i*P P 06 14 09.4 +0.8
SUMG pmax pmax
comp=Z,53nm,1.2s
RC01 Rabbit Creek A 76.18 333 *e*P P 06 14 11.6 +0.1
comp=Z,7.9nm,0.9s
BRLK Bradley Lake 76.26 331 *e*P P 06 14 11.9 -0.1
comp=Z,7.7nm,1.1s
HDA Harding Lake 76.27 337 *e*P P 06 14 12.7 +0.8
comp=Z,8.8nm,0.8s
HDA Harding Lake 76.27 337 P P 06 14 12.2 +0.3
baz=114
IL1 Eielson Array 76.39 337 *e*P P 06 14 11.9 -0.7
ILAR Eielson Array 76.39 337 P P 06 14 12.1 -0.6
comp=Z,5.0nm,0.9s,baz=123,slow=3.8,SNR=26
ILAR LR LR 06 49 20.5
comp=Z,407nm,20.0s,baz=131,slow=37
ILB Eielson Array 76.39 337 *e*P P 06 14 12.6 -0.1
comp=Z,7.4nm,0.9s
RND Reindeer 76.65 335 *e*P P 06 14 14.1 -0.1
comp=Z,8.8nm,0.8s
RND Reindeer 76.65 335 *e*P P 06 14 14.1 -0.1
RND pmax pmax
comp=Z,9.0nm,0.8s
POKR Poker Plat Res 76.75 337 P P 06 14 15.3 +0.6
baz=114
TRF Thorofare Moun 77.26 335 *e*P P 06 14 17.8 0.0
comp=Z,7.1nm,1.0s
BPAW Bear Paw Mtn. 77.78 336 *e*P P 06 14 20.1 -0.4
comp=Z,6.9nm,0.8s
PPLA Purkeypile 77.89 334 *e*P P 06 14 20.8 -0.5
comp=Z,12nm,1.1s
CAST Castle Rocks 78.01 335 *e*P P 06 14 21.3 -0.5
comp=Z,5.8nm,1.0s
MLY Manley 78.01 337 *e*P P 06 14 20.6 -1.2
comp=Z,5.5nm,1.0s
COLD Coldfoot 78.61 339 *e*P P 06 14 25.1 +0.1
comp=Z,3.3nm,0.8s
SVW2 Sparrevohn 78.88 332 *e*P P 06 14 25.6 -1.1
comp=Z,11nm,1.2s
TOLK Toolik Lake Re 78.92 340 *e*P P 06 14 25.4 -1.4
comp=Z,3.6nm,0.6s
TOLK Toolik Lake Re 78.92 340 P P 06 14 27.0 +0.2
baz=113
DBIC Dimboloro 79.40 84 LR LR 06 48 36.4
comp=Z,103nm,18.1s,baz=244,slow=35
IM3 Indian Mountai 79.51 337 *e*P P 06 14 29.4 -0.5
ESDC Sonseca Array 81.17 50 P P 06 14 40.3 +0.8
comp=Z,1.4nm,0.8s,baz=276,slow=5.1,SNR=9.2
DAG Danmarks Havn 82.28 12 *i*P P 06 14 44.9 +0.3
comp=Z,9.5nm,1.1s
DAG Danmarks Havn 82.28 12 *i*P P 06 14 44.9 +0.3
DAG pmax pmax
comp=Z,12nm,1.1s
ESK Eskdalemuir 83.08 35 *ce*P P 06 14 52.4 +3.3
TOA1 Torodi Ar. Sit 85.72 77 *e*P P 06 15 03.5 +0.2
TOA0 Torodi Ar. Sit 85.72 77 *e*P P 06 15 03.3 -0.1
TORD Torodi Ar. Bea 85.72 77 P P 06 15 03.5 +0.2
comp=Z,0.9nm,0.7s,baz=272,slow=6.0,SNR=6.0
NOA NORSAR Array B 90.70 29 LR LR 06 51 27.9
comp=Z,48nm,21.4s,baz=260,slow=32
KEST Kesra 91.72 54 LR LR 06 54 25.0
comp=Z,64nm,18.9s,baz=260,slow=34
CLL Collm 92.83 39 *e*SKSac **SKSac** 06 26 12.0 +1.7
CLL *e*S **S** 06 26 40.0 -1.9
CLL *e*PS PS 06 27 55.0 +0.3
CLL *e*SS **SS** 06 33 00.0 +5.1
GERES GERESS Array B 93.60 41 LR LR 06 51 19.2
comp=Z,95nm,21.6s,baz=272,slow=31
FINES FINESS Array B 97.61 27 LR LR 06 54 51.5
comp=Z,90nm,22.0s,baz=274,slow=32
H11S2 WAKE ISLAND Hyl 107.05 290 T T 08 16 32.0
baz=82,slow=74,SNR=2.9
H11S1 WAKE ISLAND Hyl 107.06 290 T T 08 16 28.9
baz=82
H11S3 WAKE ISLAND Hyl 107.07 290 T T 08 16 34.1
baz=82,slow=74
KIV Kislovodsk 114.04 39 *i* PKIKP PKPdf 06 21 01.2 -2.0
KIV pmax pmax
comp=Z,18nm,1.0s
ZAA1 Zalesovo Array 123.17 8 *e*PKPdf **PKPdf** 06 21 19.1 -1.3
ZALV Zalesovo Beam 123.17 8 PKP **PKPdf** 06 21 19.1 -1.3
comp=Z,0.4nm,0.4s,baz=240,slow=2.8,SNR=3.4
KURK Kurchatov 125.17 13 *c i* PKIKP **PKiKP** 06 21 23.6 -1.0
KURK *i* 06 21 25.9
KURK pmax pmax
comp=Z,7.0nm,2.5s
CN2 Changchun 126.79 333 *e*PKP **PKiKP** 06 21 28.1 +0.1
DGZ Jazzator, Alta 127.67 7 *i* PKIKP **PKiKP** 06 21 28.7 -1.1
SONA0 Songino Array 129.11 351 *e*PKPdf **PKiKP** 06 21 32.4 -0.4
SONM Songino Array 129.11 351 PKP **PKiKP** 06 21 32.4 -0.4
comp=Z,0.8nm,0.9s,baz=198,slow=2.9,SNR=3.6
MK32 Makanchi Array 129.67 12 *e*PKPdf **PKPdf** 06 21 32.2 -0.8
MKAR Makanchi Array 129.67 12 *c i* PKIKP **PKiKP** 06 21 34.0 +0.2
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 129.67 12 PKP **PKPdf** 06 21 32.2 -0.8
comp=Z,0.7nm,0.8s,baz=74,slow=1.2,SNR=6.2
MK01 Makanchi Array 129.70 12 *e*PKPdf **PKiKP** 06 21 32.6 -1.3
KSRS Korea Array 130.29 326 PKP **PKiKP** 06 21 34.0 -1.2
comp=Z,0.9nm,0.7s,baz=130,slow=2.0,SNR=5.6
KS01 Wonju Array Si 130.29 326 *e*PKPdf **PKiKP** 06 21 35.3 0.0
KSAR Wonju Array Be 130.32 326 PKP **PKiKP** 06 21 34.0 -1.2
KSAR Wonju Array Be 130.32 326 PKIKP **PKiKP** 06 21 34.1 -1.2
WMQ Urumqi 133.48 8 *e*PKP **PKiKP** 06 21 41.3 -0.3
WMQ LR LR
comp=Z,150nm,25.9s
WMQ LR LR

comp=Z,230nm,35.5s
WMQ LR LR
comp=Z,230nm,22.7s
HHC Hu-ho-hao-te 134.57 343 *e*PKP **PKPdf 06 21 41.0 -1.6**
AS01 Alice Springs 137.25 237 *e*PKPdf **PKiKP 06 21 48.7 -1.1**
ASAR Alice Springs 137.28 237 PKP **PKPdf 06 21 47.2 -0.8**
comp=Z,2.0nm,0.8s,baz=105,slow=2.6,SNR=12
WB2 Warramunga Arr 138.28 242 *e*PKPdf **PKPdf 06 21 47.6 -2.2**
WR1 Warramunga Arr 138.29 242 *e*PKPpre PKPpre 06 21 39.7
WR1 *e*PKPdf **PKPdf 06 21 49.3 -0.6**
WRA Warramunga Arr 138.29 242 PKhKP PKPpre 06 21 39.7
comp=Z,0.2nm,0.8s,baz=104,slow=2.6,SNR=2.9
WRA PKP **PKPdf 06 21 49.3 -0.6**
comp=Z,2.1nm,0.8s,baz=101,slow=2.2,SNR=13
NJ2 Nanjing 139.25 329 *e*PKP **PKPdf 06 21 50.8 -0.5**
LZH Lanzhou 140.97 349 *e*PKP **PKPdf 06 21 53.5 -1.1**
LZH sPKP 06 22 08.1
LZH LR LR
comp=Z,75nm,18.0s
LZH LR LR
comp=Z,68nm,18.1s
LZH LR LR
comp=Z,92nm,20.2s
H01W1 Cape Leeuwin H 143.30 206 T T 09 02 14.3
baz=147,slow=76,SNR=7.7
H01W2 Cape Leeuwin H 143.30 206 T T 09 02 14.9
baz=147,slow=76,SNR=7.1
H01W3 Cape Leeuwin H 143.31 206 T T 09 02 13.2
baz=147,slow=76,SNR=8.6
FITZ Fitzroy Crossi 146.60 240 *e*PKPdf **PKPdf 06 22 03.5 -1.1**
CMAR Chiang Mai Arr 159.04 351 PKP **PKPdf 06 22 23.5 +0.8**
comp=Z,0.5nm,0.3s,baz=200,slow=1.8,SNR=3.6
CMAR PKPab **pPKPab 06 22 59.0 -2.2**
comp=Z,0.8nm,0.5s,baz=354,slow=5.4,SNR=6.1

MEX 16 06:03:09.1±0.5, 16.75N×99.73W, h12km±2km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.20**	**310**	*i* P	Pg	06 03 13.1	-0.4
ACP2				*i* S	Sg	06 03 16.8	+0.4
CAIG	**El Cayaco**	**0.59**	**300**	*e*P	Pg	06 03 19.1	-1.6
CAIG				*e*S	Sg	06 03 27.2	-1.4
MEIG	**Mezcala**	**1.18**	**5**	*e*P	Pb	06 03 27.3	-4.1
MEIG				*e*S	Sb	06 03 42.0	-4.6
TLIG	**Tlapa**	**1.38**	**54**	*e*P	Pn	06 03 30.4	-3.8
TLIG				*e*S	Sn	06 03 47.4	-5.0
PLIG	**Platanillo**	**1.65**	**8**	*e*P	Pn	06 03 35.1	-2.9
PLIG				*i* S	Sn	06 03 54.5	-4.6

NNC 16 06:08:34.4±4.1, 54.14N×86.38E, h0km, mb3.8, mpv3.1, 8C-5D, Error ellipse: s-maj=38.9km s-min=17.8km az=9.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**0.94**	**259**	⇓P	Pg	06 08 52.2	-0.1
ZAA0	0.6nm,0.5s			⇑S	Sg	06 09 05.5	+0.9
KURK	3.3nm,1.2s **Kurchatov**	**5.86**	**237**	⇓Pn	Pn	06 10 03.5	+1.2
KURK	4.0nm,1.3s			⇑Lg	Lg	06 11 41.4	
KURBB	6.3nm,0.9s **Kurchatov Arra**	**5.96**	**237**	⇑Pn	Pn	06 10 06.0	+2.3
KURBB	7.2nm,0.7s			⇑Sn	Sn	06 11 16.3	+3.7
KURBB	3.0nm,0.6s			⇑Lg	Lg	06 11 43.6	
MK31	8.7nm,0.8s **Makanchi Array**	**7.80**	**201**	⇓Pn	Pn	06 10 30.7	+1.6
MK31	1.3nm,0.7s,baz=26,slow=12,SNR=18			⇓Sn	Sn	06 11 57.4	-0.6
MK31	0.6nm,0.6s			⇑Lg	Lg	06 12 41.6	
MAKZ	6.0nm,1.2s,baz=30,slow=28,SNR=5.4 **Makanchi**	**7.86**	**203**	⇓Pn	Pn	06 10 30.2	+0.4
MAKZ	2.9nm,1.2s			⇑Sn	Sn	06 12 00.8	+1.5
MAKZ	1.0nm,0.8s			⇑Lg	Lg	06 12 42.0	
	4.1nm,1.4s						

IDC 16 07:45:44.2±4.7, 23.83N×95.05E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.2/47, mbtmp3.4/3, MS3.6/1, Ms1 3.6/1, ms1mx2.5/37, Error ellipse: s-maj=435.1km s-min=26.3km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.36**	**302**	*e*Pn	Pn	07 46 35.0	-3.1
SHL				*i* Sn	Sn	07 47 04.5	-14
MKAR	**Makanchi Array**	**25.10**	**339**	P	P	07 51 10.6	0.0
	1.2nm,0.7s,baz=143,slow=10,SNR=16						
KVAR	**Kislovodsk Ar**	**47.01**	**309**	LR	LR	08 17 20.1	
	comp=Z,64nm,20.5s,baz=250,slow=40						
WRA	**Warramunga Arr**	**57.96**	**135**	P	P	07 55 38.8	0.0
	0.5nm,1.1s,baz=322,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	**60.43**	**139**	P	P	07 55 55.8	-0.1
	0.1nm,0.4s,baz=323,slow=7.1,SNR=4.9						

WEL 16 08:00:26.7±0.4, 44°S±3°×16°E±°, h5km, ML4.2/25, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.32**	**225**	P	Pg	08 00 33.5	+0.5
MSZ				S	Sg	08 00 38.4	+1.2
JCZ	**Jackson Bay**	**0.54**	**46**	P	Pg	08 00 37.0	-0.1
JCZ				S	Sg	08 00 43.8	-0.2
WKZ	**Wanaka**	**0.67**	**125**	P	Pg	08 00 39.9	+0.3
WKZ				S	Sg	08 00 48.2	-0.1
MLZ	**Mavora Lakes**	**0.93**	**186**	P	Pg	08 00 44.0	-0.4
EAZ	**Earnscleugh**	**1.09**	**136**	P	Pg	08 00 47.2	-0.4
DCZ	**Deep Cove**	**1.28**	**217**	P	Pn	08 00 49.8	-1.5
DCZ				S	Sg	08 01 07.4	-0.5
LBZ	**Lake Benmore**	**1.39**	**88**	P	Pn	08 00 52.8	0.0
LBZ				S	Sn	08 01 11.7	+0.2
FOZ	**Fox Glacier**	**1.46**	**52**	P	Pn	08 00 52.7	-0.9
FOZ				S	Sg	08 01 13.7	+0.3
WHZ	**Wether Hill Ro**	**1.46**	**188**	P	Pn	08 00 53.0	-0.8
TUZ	**Tuapeka**	**1.80**	**148**	P	Pn	08 00 58.8	+0.4
ODZ	**Otahua Downs**	**1.81**	**110**	P	Pn	08 00 58.6	+0.1
PYZ	**Puysegur Point**	**2.04**	**212**	P	Pn	08 01 02.8	+1.0
RPZ	**Rata Peaks**	**2.15**	**71**	P	Pn	08 01 03.4	+0.2
SYZ	**Scrubby Hill**	**2.18**	**164**	P	Pn	08 01 03.8	+0.1
HHSZ	**Highcliff Hill**	**2.20**	**132**	P	Pb	08 01 05.9	-1.1
WVZ	**Waitaha Valley**	**2.27**	**54**	P	Pn	08 01 03.8	-1.0
INZ	**Inchbonnie**	**2.89**	**55**	P	Pn	08 01 12.5	-0.8
OXZ	**Oxford**	**2.96**	**69**	P	Pn	08 01 13.1	-1.2
MQZ	**McQueen's Vall**	**3.26**	**78**	P	Pn	08 01 17.4	-1.0
LTZ	**Lake Taylor**	**3.36**	**62**	P	Pn	08 01 19.9	0.0
LTZ				P	Pn	08 01 19.9	0.0
AKCZ	**Akaroa Harbour**	**3.41**	**82**	P	Pn	08 01 19.4	-1.1
AMCZ	**Amberley**	**3.43**	**70**	P	Pn	08 01 20.5	-0.3
OKCZ	**Okains Bay**	**3.54**	**80**	P	Pn	08 01 21.8	-0.6
DSZ	**Denniston Nort**	**3.75**	**45**	P	Pn	08 01 24.9	-0.3
THZ	**Tophouse**	**4.34**	**53**	P	Pn	08 01 33.2	-0.1
KHZ	**Kahutara**	**4.36**	**64**	P	Pn	08 01 33.1	-0.4
QRZ	**Quartz Range**	**4.80**	**43**	P	Pn	08 01 39.1	-0.6
NNZ	**Nelson**	**4.96**	**51**	P	Pn	08 01 42.1	+0.2
TUWZ	**Tuamarina**	**5.15**	**56**	P	Pn	08 01 46.5	+2.0
TCW	**Tory Channel**	**5.49**	**56**	P	Pn	08 01 51.1	+2.1
DUWZ	**D'Urville Isla**	**5.55**	**51**	P	Pn	08 01 50.4	+0.5
KIW	**Kapiti Island**	**6.08**	**56**	P	Pn	08 01 58.6	+1.4
OGWZ	**Otaki Gorge**	**6.26**	**57**	P	Pn	08 02 02.8	+3.1
HOWZ	**Holdsworth Sta**	**6.42**	**59**	P	Pn	08 02 07.3	+5.3
MRZ	**Mangatainoka R**	**6.60**	**58**	P	Pn	08 02 03.9	-0.5
NBEZ	**Newall Road No**	**6.66**	**41**	P	Pn	08 02 05.0	-0.2
WAZ	**Wanganui**	**6.86**	**49**	P	Pn	08 02 09.9	+1.9
VRZ	**Vera Road**	**7.21**	**45**	P	Pn	08 02 12.5	-0.1
TRVZ	**Turoa**	**7.49**	**49**	P	Pn	08 02 16.9	+0.1
HIZ	**Hauiti**	**7.73**	**42**	P	Pn	08 02 19.0	-0.8

NIED ***16*** *08:05:00, 44.40N×149.30E, h32km, Mw4.2 Best double couple: M₀2.38000×10¹⁵ NP1:φ₅168.00000°, δ33.00000°, λ33.00000°. NP2:φ₅50.00000°, δ73.00000°, λ119.00000°.*

IDC ***16*** *08:05:34.7±0.6, 44.32N×149.27E, h0km, mb4.0/25, mb1 4.2/32, mb1mx4.1/54, mbtmp4.0/32, ML3.2/6, MS3.4/8, Ms1 3.5/8, ms1mx3.1/33, Error ellipse: s-maj=16.8km s-min=12.2km az=148.0*
SKHL ***16*** *08:05:37.2±0.4, 44.03N×149.52E, h42km±6km, mb4.6/8*
JMA ***16*** *08:05:38.4±0.7, 44.36N×149.26E, h30km, M4.3*
ISCJB ***16*** *08:05:39.0±0.7, 44.13N±0.04×149.18E±0.05, h40km±5km, mb4.3/73, MS3.7/9, Error ellipse: s-maj=7.7km s-min=5.0km az=143.0*
MOS ***16*** *08:05:39.4±1.1, 44.21N×149.14E, h43km, mb4.6/18, Error ellipse: s-maj=8.0km s-min=5.9km az=123.0*
NEIC ***16*** *08:05:42.3±0.8, 44.20N×149.10E, h52km±6km, mb4.4/38, Error ellipse: s-maj=9.2km s-min=4.7km az=155.0*
ISC 16 08:05:38.9±0.7, 44.06N±0.05×149.22E±0.05, h31km±4km, n251, σ1§86/257, mb4.4/73, MS3.6/9, 14C-20D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.52**	**321**	*i* P	**Pn**	**08 06 03.0**	**-0.9**
KUR				AMB	AMB	08 06 05.0	
	238nm,0.3s						
KUR				AMB	AMB	08 06 05.0	
	225nm,0.3s						
KUR				AMB	AMB	08 06 05.0	
	547nm,0.3s						
KUR				*e*S	**Sn**	**08 06 22.6**	**0.0**
KUR				A	A	08 06 28.0	
	1μm,0.4s						
KUR				A	A	08 06 28.0	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.52**	**321**	*c i* PN	**Pn**	**08 06 03.6**	**-0.3**
KUR				*e*S	**Sn**	**08 06 23.0**	**+0.4**
KUR				pmax	pmax		
	comp=N,238nm,0.3s						
KUR				pmax	pmax		
	comp=E,225nm,0.3s						
KUR				pmax	pmax		
	comp=Z,547nm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.5s						
KUR				smax	smax		
	comp=N,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.42**	**270**	*i* P	**Pn**	**08 06 17.2**	**+0.9**
YUK				AMB	AMB	08 06 18.0	
	comp=N,36nm,0.3s						
YUK				AMB	AMB	08 06 18.0	
	comp=N,98nm,0.3s						
YUK				AMB	AMB	08 06 18.0	
	comp=N,273nm,0.3s						
YUK				*e*S	**Sn**	**08 06 46.9**	**+2.0**
YUK				A	A	08 06 54.0	
	comp=N,471nm,0.4s						
YUK				A	A	08 06 54.0	
	comp=N,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.42**	**270**	*d i* PN	**Pn**	**08 06 16.6**	**+0.3**
YUK				*e*S	**Sn**	**08 06 45.8**	**+0.9**
YUK				pmax	pmax		
	comp=Z,273nm,0.3s						
YUK				pmax	pmax		
	comp=E,98nm,0.4s						
YUK				pmax	pmax		
	comp=N,36nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
YUK				smax	smax		
	comp=N,471nm,0.3s						
YUK				MLR	MLR		
	comp=Z,678nm,13.0s						
YUK				MLR	MLR		
	comp=E,595nm,10.0s						
GRPR	**Tuman**	**2.49**	**270**	*e*P	**Pn**	**08 06 17.0**	**-0.2**
GRPR				AMB	AMB	08 06 23.0	
	comp=E,123nm,0.3s						
GRPR				AMB	AMB	08 06 23.0	
	comp=E,127nm,0.3s						
GRPR				AMB	AMB	08 06 23.0	
	comp=E,274nm,0.3s						
GRPR				*e*S	**Sn**	**08 06 47.0**	**+0.5**
GRPR				A	A	08 06 52.0	
	comp=E,714nm,0.4s						
GRPR				A	A	08 06 52.0	
	comp=E,400nm,0.4s						
GRPR	**Tuman**	**2.49**	**270**	*e*PN	**Pn**	**08 06 17.5**	**+0.3**
GRPR				*e*S	**Sn**	**08 06 47.5**	**+1.0**
GRPR				pmax	pmax		
	comp=Z,274nm,0.4s						
GRPR				pmax	pmax		
	comp=N,123nm,0.3s						
GRPR				pmax	pmax		
	comp=E,127nm,0.2s						
GRPR				smax	smax		
	comp=E,400nm,0.3s						
GRPR				smax	smax		
	comp=N,714nm,0.4s						
NEM2	**Nemuro 2**	**2.61**	**256**	P	**Pn**	**08 06 19.2**	**+0.2**
NEM2				*e*S	**Sn**	**08 06 49.9**	**+0.2**
JRA	**Rausu**	**2.96**	**269**	P	**Pn**	**08 06 25.2**	**+1.5**
JNK	**Nakash**	**3.29**	**263**	P	**Pn**	**08 06 29.3**	**+1.0**
JAK	**Akkeshi**	**3.46**	**254**	P	**Pn**	**08 06 31.2**	**+0.6**
JTKR	**Abashiri--Toko**	**3.83**	**270**	P	**Pn**	**08 06 37.4**	**+1.7**
JAR	**Ashorobuto**	**4.03**	**261**	P	**Pn**	**08 06 39.4**	**+1.0**
JOB	**Onbets**	**4.08**	**255**	P	**Pn**	**08 06 40.5**	**+1.3**
JMP	**Maruseppu**	**4.22**	**271**	P	**Pn**	**08 06 43.1**	**+1.9**
HRK	**Horoka**	**4.45**	**264**	*e*P	**Pn**	**08 06 46.6**	**+2.3**
JCH	**Churui**	**4.51**	**253**	P	**Pn**	**08 06 46.3**	**+1.2**
JKK2	**Kamakawa 2**	**4.67**	**270**	P	**Pn**	**08 06 50.0**	**+2.7**
MYR	**Moyori**	**4.69**	**250**	*e*P	**Pn**	**08 06 49.1**	**+1.6**
ASAJ	**Asahikawa**	**4.77**	**273**	P	**Pn**	**08 06 51.8**	**+3.2**
ASAJ	**Asahikawa**	**4.77**	**273**	Pn	**Pn**	**08 06 49.3**	**+0.7**
ASAJ	comp=N,1.7nm,0.3s,baz=89,slow=9.7,SNR=12			LR	LR	08 08 57.4	
	comp=N,580nm,19.7s,baz=134,slow=42						
ERM	**Erimo**	**4.89**	**247**	*e*Pn	**Pn**	**08 06 53.0**	**+2.7**
ERM	**Erimo**	**4.89**	**247**	*e*P	**Pn**	**08 06 53.3**	**+3.0**
ERM	**Erimo**	**4.89**	**247**	*d i* PN	**Pn**	**08 06 53.3**	**+3.0**
JNBK	**Urakawa-nobuka**	**5.05**	**252**	P	**Pn**	**08 06 53.6**	**+1.1**
JAB	**Ashibetsu**	**5.09**	**266**	P	**Pn**	**08 06 56.7**	**+3.6**
JBT2	**Biratori 2**	**5.16**	**258**	P	**Pn**	**08 06 55.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**5.38**	**305**	*e*Pn	**Pn**	**08 06 59.5**	**+2.5**
YSS	**Yuzh-Sakhalins**	**5.38**	**305**	*e*P	**Pn**	**08 06 57.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**5.38**	**305**	*e*PN	**Pn**	**08 06 57.9**	**+0.9**
YSS				MLR	MLR		
	comp=Z,600nm,16.0s						
JNB	**Noboribetsu**	**6.18**	**258**	P	**Pn**	**08 07 09.7**	**+1.7**
JKB	**Kayabe**	**6.38**	**253**	P	**Pn**	**08 07 12.0**	**+1.2**
JKB				*e*S	**Sn**	**08 08 20.5**	**-2.1**
JYM2	**Yakumo 2**	**6.76**	**256**	P	**Pn**	**08 07 17.3**	**+1.3**
JANG	**Nango**	**6.80**	**240**	*e*S	**Sn**	**08 08 27.9**	**-5.0**
JTM	**Tenmabayashi**	**6.86**	**244**	P	**Pn**	**08 07 18.1**	**+0.7**
JTM				*e*S	**Sn**	**08 08 30.5**	**-3.8**
JSR	**Shiriuchi**	**6.95**	**252**	P	**Pn**	**08 07 19.8**	**+1.2**
UGL	**Uglegorsk**	**7.03**	**318**	*e*P	**Pn**	**08 07 22.6**	**+3.0**
UGL				AMB	AMB	08 07 32.0	
	comp=Z,15nm,0.9s						
UGL	**Uglegorsk**	**7.03**	**318**	*e*PN	Pn	08 07 25.8	+6.2
UGL				pmax	pmax		
	comp=Z,15nm,0.9s						
JOSM	**Okushiri--Mats**	**7.40**	**258**	P	**Pn**	**08 07 26.7**	**+1.9**
OFUJ	**Ofunato**	**7.54**	**231**	*e*S	**Sn**	**08 08 45.0**	**-6.0**
TYV	**Tymovskoe**	**8.12**	**329**	*e*P	**Pn**	**08 07 36.9**	**+2.3**
TYV				AMB	AMB	08 07 41.2	
	comp=Z,7.0nm,0.7s						
TYV	**Tymovskoe**	**8.12**	**329**	*e*PN	**Pn**	**08 07 36.9**	**+2.3**
TYV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JIO	**Ouri**	**8.15**	**229**	*e*S	**Sn**	**08 08 59.7**	**-6.4**
TEY	**Ternei**	**9.06**	**281**	*e*P	Pn	08 07 53.5	+6.0
TEY				AMB	AMB	08 08 03.5	
	comp=Z,20nm,1.0s						
TEY	**Ternei**	**9.06**	**281**	⇓*e*PN	Pn	08 08 02.5	+15
TEY				pmax	pmax		
	comp=Z,20nm,1.1s						
OKH	**Okha**	**10.35**	**339**	*e*P	Pn	08 08 10.4	+5.3
PEA0B	**Petropavlovsk-**	**10.64**	**29**	*e*Pn	**Pn**	**08 08 09.6**	**+0.4**
PETK	**Petropavlovsk-**	**10.64**	**29**	*e*Pn	**Pn**	**08 08 12.1**	**+2.9**
PETK	**Petropavlovsk-**	**10.64**	**29**	*e*PN	**Pn**	**08 08 12.1**	**+2.9**
PETK	**Petropavlovsk-**	**10.64**	**29**	Pn	**Pn**	**08 08 05.8**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=212,slow=13,SNR=4.3						
PEA1	**Petropavlovsk-**	**10.65**	**29**	*e*Pn	**Pn**	**08 08 05.8**	**-3.4**
NKL	**Nikolayevsk**	**10.70**	**331**	*e*P	**Pn**	**08 08 10.8**	**+0.9**
MAJO	**Matsushiro**	**11.27**	**232**	*e*Pn	Pn	08 08 26.8	+9.0
MAJO	**Matsushiro**	**11.27**	**232**	*e*P	**Pn**	**08 08 19.4**	**+1.6**
MAJO	**Matsushiro**	**11.27**	**232**	*e*PN	Pn	08 08 24.5	+6.7
MAJO				pmax	pmax		
	comp=Z,20nm,1.8s						
MJAR	**Matsushiro Arr**	**11.27**	**232**	Pn	**Pn**	**08 08 18.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=3.6						
MJB9	**Matsu-Tunnel**	**11.27**	**232**	*e*Pn	Pn	08 08 27.1	+9.4
USA0B	**Ussuriysk Arra**	**12.38**	**277**	*e*Pn	**Pn**	**08 08 35.8**	**+2.8**
USRK	**Ussuriysk Ar.**	**12.38**	**277**	Pn	**Pn**	**08 08 33.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=92,slow=10,SNR=6.4						
USRK				LR	LR	08 13 39.9	
	comp=Z,224nm,18.6s,baz=126,slow=39						
VLA	**Vladivostok**	**12.61**	**272**	*e*P	**Pn**	**08 08 38.9**	**+2.9**
VLA	**Vladivostok**	**12.61**	**272**	*e*PN	**Pn**	**08 08 38.9**	**+2.9**
INU	**Inuyama**	**12.79**	**231**	*e*Pn	**P**	**08 08 46.2**	**-3.0**
KLR	**Kul'dur**	**13.06**	**299**	*e*P	**Pn**	**08 08 42.2**	**0.0**
KLR	**Kul'dur**	**13.06**	**299**	*i* PN	**Pn**	**08 08 42.2**	**0.0**
EKMR	**Ekimchan**	**14.01**	**316**	*e*P	**Pn**	**08 08 55.0**	**-0.2**
EKMR				AMB	AMB	08 09 09.5	
	comp=Z,11nm,1.0s						
MA2	**Magadan**	**15.56**	**3**	P	**Pn**	**08 09 11.0**	**-4.9**
MA2	**Magadan**	**15.56**	**3**	Pn	**Pn**	**08 09 11.0**	**-4.9**
	comp=Z,0.3nm,0.3s,baz=176,slow=15,SNR=2.5						
MA2				LR	LR	08 15 23.8	
	comp=Z,95nm,18.0s,baz=182,slow=38						
BMKR	**Bomnak**	**16.95**	**316**	*e*P	**Pn**	**08 09 32.0**	**-1.5**
BMKR				AMB	AMB	08 09 37.0	
	comp=Z,23nm,0.9s						
CN2	**Changchun**	**17.11**	**277**	*e*P	P	08 09 49.0	+12
ZEA	**Zeya**	**17.32**	**312**	*e*P	**Pn**	**08 09 35.7**	**-2.4**
ZEA				AMB	AMB	08 09 40.2	
	comp=Z,10.0nm,0.8s						
ZEA	**Zeya**	**17.32**	**312**	*e*P	**Pn**	**08 09 38.8**	**+0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSRS	**Korea Array**	**17.41**	**255**	P	**Pn**	**08 09 39.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=58,slow=11,SNR=5.0						
KS01	**Wonju Array Si**	**17.42**	**255**	*e*Pn	**P**	**08 09 46.0**	**+5.5**
KSAR	**Wonju Array Be**	**17.44**	**255**	P	**Pn**	**08 09 39.6**	**-0.2**
KSAR	**Wonju Array Be**	**17.44**	**255**	P	**Pn**	**08 09 39.6**	**-0.2**
KROS	**Kirovskiy**	**17.77**	**314**	*e*P	**Pn**	**08 09 39.7**	**-4.0**
KROS				AMB	AMB	08 09 45.0	
	comp=Z,3.0nm,0.5s						
SEY	**Seymchan**	**18.99**	**4**	*e*P	**P**	**08 09 56.6**	**-1.1**
SEY	**Seymchan**	**18.99**	**4**	⇓*e*P	**P**	**08 09 56.6**	**-1.1**
SEY	**Seymchan**	**18.99**	**4**	P	**P**	**08 09 54.3**	**-3.4**
	comp=Z,0.3nm,0.3s,baz=185,slow=9.2,SNR=16						
HIA	**Hailar**	**20.81**	**295**	⇓*i* P	**P**	**08 10 16.2**	**-1.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
YAK	**Yakutsk**	**21.33**	**334**	*e*P	**P**	**08 10 19.8**	**-3.2**
YAK				*e**PP	**sP**	**08 10 33.4**	**+0.1**
YAK				*e*		08 10 40.7	
YAK				*e*S	**S**	**08 14 09.9**	**-8.1**
YAK				*e*		08 14 25.9	
YAK				*e**SS	**sS**	**08 14 29.1**	**+0.1**
YAK				*e*		08 21 41.5	
YAK				pmax	pmax		
	comp=Z,60nm,0.9s						
YAK				pmax	pmax		
	comp=N,31nm,0.9s						
YAK				pmax	pmax		
	comp=E,26nm,0.9s						
YAK				pmax	pmax		
	comp=Z,610nm,4.0s						
YAK				pmax	pmax		
	comp=N,191nm,3.7s						
YAK				pmax	pmax		
	comp=E,353nm,3.3s						
YAK				smax	smax		
	comp=N,385nm,3.3s						
YAK				smax	smax		
	comp=E,320nm,4.1s						
BILL	**Bilibino**	**25.66**	**15**	*e*P	**P**	**08 11 03.0**	**-2.5**
BILL	**Bilibino**	**25.66**	**15**	*e*P	**P**	**08 11 03.0**	**-2.5**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.5s						
HHC	**Hu-ho-hao-te**	**27.81**	**277**	*e*P	**P**	**08 11 27.5**	**+2.2**
HHC				S	**S**	**08 16 09.8**	**+3.5**
HHC				sS	sS	08 16 26.6	+7.4
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,98nm,5.8s						
HHC				LR	LR		
	comp=N,82nm,8.2s						
HHC				LR	LR		
	comp=E,130nm,9.4s						
HHC				LR	LR		
	comp=Z,160nm,12.3s						
H11N2	**WAKE ISLAND Hy**	**28.41**	**143**	T	T	08 42 29.8	
	baz=333,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**28.42**	**143**	T	T	08 42 31.2	
	baz=333,slow=76,SNR=29						
H11N3	**WAKE ISLAND Hy**	**28.42**	**143**	T	T	08 42 36.0	
	baz=333,slow=76,SNR=32						
ULN	**Ulaanbaatar**	**29.29**	**292**	*e*P	**P**	**08 11 39.1**	**+0.6**
ULN	**Ulaanbaatar**	**29.29**	**292**	⇓*e*P	**P**	**08 11 39.1**	**+0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TIXI	**Tiksi**	**29.37**	**347**	⇑*i* P	**P**	**08 11 35.1**	**-3.6**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TIXI	**Tiksi**	**29.37**	**347**	P	**P**	**08 11 35.3**	**-3.4**
	comp=Z,1.8nm,0.3s,baz=135,slow=0.9,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**29.41**	**145**	T	T	08 43 55.3	
	baz=334,slow=76,SNR=88						
H11S3	**WAKE ISLAND Hy**	**29.41**	**145**	T	T	08 43 53.6	
	baz=334,slow=76,SNR=54						
H11S2	**WAKE ISLAND Hy**	**29.43**	**145**	T	T	08 43 53.9	
	baz=334,slow=76,SNR=70						
SONA0	**Songino Array**	**29.73**	**293**	*e*P	**P**	**08 11 42.4**	**+0.1**
SONM	**Songino Array**	**29.73**	**293**	P	**P**	**08 11 42.4**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=82,slow=7.4,SNR=7.2						
TLY	**Talaya**	**31.07**	**301**	*e*P	**P**	**08 11 52.8**	**-1.2**
LZH	**Lanzhou**	**35.25**	**273**	*e*P	**P**	**08 12 32.3**	**+1.5**
LZH				pP	pwP	08 12 49.6	+4.6
LZH				sP	sP	08 12 57.4	+16
LZH				PP	**PP**	**08 14 01.0**	**+10**
LZH				pmax	pmax		
	comp=Z,41nm,1.5s						
LZH				pmax	pmax		
	comp=Z,160nm,4.4s						
LZH				LR	LR		
	comp

comp=Z,4.7nm,1.1s
IL1 Eielson Array 40.35 36 *e*P **P** **08 13 13.6 +0.3**
DGZ Jazzator, Alta 41.55 300 *i* P **P** **08 13 24.6 +1.0**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
ZAA1 Zalesovo Array 42.00 307 *e*P **P** **08 13 25.6 -1.3**
ZAA1 *e*PcP **PcP** **08 15 21.3 -0.3**
ZALV Zalesovo Beam 42.00 307 *e*P **P** **08 13 26.9 -0.1**
ZALV PcP **PcP** **08 15 21.3 -0.3**
ZALV Zalesovo Beam 42.00 307 *e*P **P** **08 13 26.5 -0.5**
ZALV Zalesovo Beam 42.00 307 P **P** **08 13 25.6 -1.3**
comp=Z,0.6nm,0.4s,baz=57,slow=6.9,SNR=3.6
ZALV PcP **PcP** **08 15 21.3 -0.3**
comp=Z,1.7nm,0.6s,baz=113,slow=2.5,SNR=9.8
ZALV LR LR 08 31 56.4
comp=Z,59nm,18.4s,baz=70,slow=38
KMI Kunming 42.04 259 P **P** **08 13 30.8 +2.9**
KMI pmax pmax
comp=Z,15nm,0.6s
WMQ Urumqi 43.37 292 P **P** **08 13 39.6 +1.3**
WMQ pP pwP 08 13 54.1 +1.7
WMQ sP sP 08 14 06.4 +17
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ pmax pmax
comp=Z,170nm,4.7s
WMQ LR LR
comp=N,130nm,17.1s
WMQ LR LR
comp=E,100nm,22.7s
WMQ LR LR
comp=Z,170nm,20.5s
DAWY Dawson 43.65 37 *e*P **P** **08 13 41.1 +0.8**
comp=Z,2.2nm,1.1s
EPYK Eagle Plains 44.44 34 *e*P **P** **08 13 48.4 +1.9**
comp=Z,9.3nm,1.1s
HYT Haines Junctio 45.11 41 *e*P **P** **08 13 53.8 +1.7**
comp=Z,11nm,1.1s
INK Inuvik 45.38 31 *e*P **P** **08 13 54.6 +0.7**
comp=Z,4.1nm,1.0s
INK Inuvik 45.38 31 *e*P **P** **08 13 54.6 +0.7**
INK Inuvik 45.38 31 P **P** **08 13 52.8 -1.1**
comp=Z,1.7nm,0.8s,baz=277,slow=7.5,SNR=6.5
MK31 Makanchi Array 45.76 298 *e*P **P** **08 13 57.5 +0.2**
comp=Z,4.1nm,0.8s
MK31 Makanchi Array 45.76 298 *e*P **P** **08 13 57.5 +0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.8s
MK32 Makanchi Array 45.76 298 *e*P **P** **08 13 57.5 +0.2**
MKAR Makanchi Array 45.76 298 P **P** **08 13 57.5 +0.2**
comp=Z,3.7nm,0.7s,baz=76,slow=8.4,SNR=44
MK01 Makanchi Array 45.76 298 *e*P **P** **08 13 57.7 +0.4**
MAKZ Makanchi 45.95 298 *e*P **P** **08 13 59.4 +0.6**
comp=Z,3.7nm,0.7s
MAKZ Makanchi 45.95 298 *e*P **P** **08 13 59.4 +0.6**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
KURK Kurchatov 46.59 304 *e*P **P** **08 14 02.8 -0.9**
comp=Z,4.3nm,0.7s
KURK Kurchatov 46.59 304 *e*P **P** **08 14 02.8 -0.9**
KURK Kurchatov 46.59 304 P **P** **08 14 03.5 -0.2**
KURK 08 15 38.3
KURBB Kurchatov Arra 46.68 304 P **P** **08 14 03.5 -0.9**
comp=Z,0.6nm,0.4s,baz=73,slow=8.6,SNR=4.6
KURBB PcP **PcP** **08 15 38.2 +0.6**
comp=Z,1.0nm,0.6s,baz=70,slow=3.6,SNR=5.7
CM31 Chiang Mai Arr 49.05 255 *e*P **P** **08 14 24.1 +1.0**
comp=Z,8.1nm,0.4s
CMAR Chiang Mai Arr 49.05 255 P **P** **08 14 24.2 +1.1**
comp=Z,1.2nm,0.3s,baz=44,slow=7.9,SNR=6.4
CMAR LR LR 08 37 38.1
comp=Z,35nm,18.2s,baz=335,slow=39
BVAR Borovoye Array 50.45 310 P **P** **08 14 32.4 -1.0**
comp=Z,0.8nm,0.6s,baz=53,slow=13,SNR=3.3
BRVK Borovoye 50.50 310 *e*P **P** **08 14 33.8 0.0**
BRVK Borovoye 50.50 310 *e*P **P** **08 14 33.8 0.0**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
KDJ Kajisay 51.06 295 *e*P **P** **08 14 40.5 +2.1**
comp=Z,5.9nm,0.8s
KDJ Kajisay 51.06 295 *e*P **P** **08 14 40.5 +2.1**
KDJ pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 51.71 296 P **P** **08 14 44.1 +0.8**
SNR=8.3
USP Ospenovka 52.26 297 P **P** **08 14 47.9 +0.8**
SNR=10
KZA Kyzart 52.34 295 P **P** **08 14 50.0 +1.8**
SNR=13
AAK Ala-Archa 52.56 296 P **P** **08 14 50.3 +0.7**
SNR=5.3
AAK Ala-Archa 52.56 296 *e*P **P** **08 14 50.2 +0.7**
comp=Z,3.0nm,0.7s
AAK Ala-Archa 52.56 296*c i*P **P** **08 14 50.1 +0.5**
AAK pmax pmax
comp=Z,6.0nm,1.1s
AAK Ala-Archa 52.56 296 P **P** **08 14 50.2 +0.7**
comp=Z,2.0nm,0.4s,baz=77,slow=6.3,SNR=8.1
EKS2 Erkin-Say 53.01 297 P **P** **08 14 53.6 +0.7**
SNR=8.6
AML Almayashu 53.33 296 P **P** **08 14 57.0 +1.6**
SNR=7.8
ARSB Arslanbob 54.19 296 *e*P **P** **08 15 03.1 +1.5**
comp=Z,15nm,0.8s
RES Resolute Bay 54.23 17 *e*P **P** **08 15 01.1 0.0**
comp=Z,2.2nm,0.8s
RES Resolute Bay 54.23 17 *e*P **P** **08 15 01.1 0.0**
RES Resolute Bay 54.23 17 *e*P **P** **08 15 01.1 0.0**
RES pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 54.23 17 P **P** **08 14 60.0 -1.2**
comp=Z,1.8nm,0.7s,baz=298,slow=6.0,SNR=11
YKA Yellowknife Ar 54.70 34 *e*P **P** **08 15 05.0 +0.3**
YKA Yellowknife Ar 54.70 34 P **P** **08 15 05.1 +0.4**
comp=Z,0.4nm,0.6s,baz=299,slow=6.9,SNR=9.2
YKB5 Yellowknife Ar 54.70 34 *e*P **P** **08 15 06.3 +1.6**
KK31 Karatay Array 54.88 299 *e*P **P** **08 15 06.9 +0.6**
comp=Z,7.0nm,0.9s
KK31 Karatay Array 54.88 299 *e*P **P** **08 15 06.9 +0.6**
KK31 pmax pmax
comp=Z,7.0nm,0.9s
KKAR Karatay Array 54.88 299 *e*P **P** **08 15 06.9 +0.6**
comp=Z,7.0nm,0.9s
KKAR Karatay Array 54.88 299 *e*P **P** **08 15 06.9 +0.6**
KKAR pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 58.02 309 *e*P **P** **08 15 28.9 +0.3**
comp=Z,5.5nm,0.8s
AKTO Aktyubinsk 58.46 311 P **P** **08 15 31.2 -0.4**
comp=Z,1.6nm,0.6s,baz=67,slow=8.7,SNR=7.4
FFC Flin Flon 64.55 37*ce*P **P** **08 16 14.1 +1.5**
FCC Fort Churchill 64.99 31 *e*P **P** **08 16 15.5 +0.1**
comp=Z,2.1nm,0.7s
FCC Fort Churchill 64.99 31 *e*P **P** **08 16 15.5 +0.1**
FCC Fort Churchill 64.99 31 *e*P **P** **08 16 15.5 +0.1**
FCC pmax pmax
comp=Z,2.0nm,0.7s
WR1 Warramunga Arr 65.14 195 *e*P **P** **08 16 17.5 +0.7**
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 65.14 195 P **P** **08 16 17.5 +0.7**
comp=Z,0.2nm,0.5s,baz=15,slow=6.6,SNR=3.7
FIA1 FINESS Array S 65.26 334 *e*P **P** **08 16 16.8 -0.3**
comp=Z,6.6nm,0.8s
FIA0 FINESS Array S 65.27 334 *e*P **P** **08 16 15.7 -1.5**
FIA0 FINESS Array S 65.27 334 *e*P **P** **08 16 15.7 -1.5**
FINES FINESS Array B 65.27 334 P **P** **08 16 15.7 -1.5**
comp=Z,5.1nm,0.7s,baz=43,slow=8.6,SNR=19
FINES LR LR 08 46 33.9
comp=Z,34nm,19.5s,baz=33,slow=38
SCO Scoresbysund 65.59 357 *e*P **P** **08 16 20.1 +1.0**
comp=Z,3.7nm,0.9s
SCO Scoresbysund 65.59 357 *e*P **P** **08 16 20.1 +1.0**
SCO pmax pmax
comp=Z,4.0nm,0.9s
GEYT Alibeck 65.59 300 P **P** **08 16 18.9 -0.9**
comp=Z,1.4nm,0.4s,baz=64,slow=10,SNR=3.7
BOZ Bozeman (W) 65.61 50 *e*P **P** **08 16 20.9 +1.0**
comp=Z,1.4nm,0.6s
BOZ Bozeman (W) 65.61 50 *e*P **P** **08 16 20.9 +1.0**
BOZ pmax pmax
comp=Z,1.0nm,0.6s
OBN Obninsk 65.94 325 *e*P **P** **08 16 21.7 +0.1**
OBN Obninsk 65.94 325*ce*P **P** **08 16 21.7 +0.1**
OBN pmax pmax
comp=Z,6.0nm,0.4s
NVAR Mina Array Bea 66.14 59 P **P** **08 16 22.3 -1.2**
comp=Z,0.4nm,0.6s,baz=279,slow=4.7,SNR=4.5
NV01 Mina Array Sit 66.14 59 *e*P **P** **08 16 24.9 +1.3**
VSU Vasula 67.29 331 *i* P **P** **08 16 29.5 -0.7**
VSU pmax pmax
comp=Z,11nm,0.9s
PDAR Pinedale Array 68.56 51 P **P** **08 16 36.9 -1.9**
comp=Z,0.3nm,0.7s,baz=332,slow=3.1,SNR=3.5
AS31 Alice Springs 68.84 195 *e*P **P** **08 16 43.9 +3.6**
comp=Z,0.9nm,1.1s
ASAR Alice Springs 68.85 195 P **P** **08 16 43.8 +3.5**
comp=Z,0.4nm,0.9s,baz=16,slow=7.7,SNR=3.1
NC303 NORSAR Array S 69.64 340 *e*P **P** **08 16 44.8 0.0**
comp=Z,3.4nm,0.8s
NC405 NORSAR Array S 69.65 340 *e*P **P** **08 16 44.5 -0.4**
comp=Z,8.8nm,0.6s
NC204 NORSAR Array S 69.75 340 *e*P **P** **08 16 45.4 -0.2**
comp=Z,9.3nm,0.9s
NB2 NORSAR Subarra 69.84 340 P **P** **08 16 45.8 -0.3**
comp=Z,5.2nm,0.6s,baz=31,slow=6.5
NB200 NORSAR Array S 69.84 340 *e*P **P** **08 16 44.9 -1.2**
NOA NORSAR Array B 69.84 340 *e*P **P** **08 16 45.9 -0.2**
NOA NORSAR Array B 69.84 340 *e*P **P** **08 16 45.9 -0.2**
NOA NORSAR Array B 69.84 340 P **P** **08 16 44.9 -1.2**
comp=Z,6.8nm,0.9s,baz=31,slow=6.2,SNR=20
NOA LR LR 08 52 01.8
comp=Z,16nm,18.8s,baz=255,slow=40
NBO00 NORSAR Array S 69.95 340 *e*P **P** **08 16 47.0 +0.2**
comp=Z,14nm,1.1s
NC602 NORSAR Array S 70.02 339 *e*P **P** **08 16 46.9 -0.3**
comp=Z,6.8nm,0.9s
NAO01 NORSAR Array S 70.09 340 *e*P **P** **08 16 48.4 +0.8**
comp=Z,13nm,1.0s
KIV Kislovodsk 70.66 313⇑*i*P **P** **08 16 53.1 +1.6**
KIV Kislovodsk 70.66 313⇑P **P** **08 16 53.1 +1.6**
KBZ Khabaz 70.70 313 P **P** **08 16 52.4 +0.8**
comp=Z,3.5nm,0.8s,baz=47,slow=11,SNR=5.8
AKASG Malin Array Be 72.20 325 P **P** **08 17 00.3 -0.2**
comp=Z,4.6nm,0.8s,baz=36,slow=6.2,SNR=6.8
AKBB Malin Array Si 72.20 325 *e*P **P** **08 17 00.4 -0.1**
comp=Z,8.2nm,1.0s
AKBB Malin Array Si 72.20 325 *e*P **P** **08 17 00.4 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 72.21 325⇓*i*P **P** **08 17 00.6 0.0**
KIEV Kiev 72.21 325⇓P **P** **08 17 00.4 -0.2**
KIEV Kiev 72.21 325 *i* P **P** **08 17 00.4 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
IAS Iasi 75.59 323⇓*i*P **P** **08 17 21.6 +1.2**
IAS Iasi 75.59 323⇓P **P** **08 17 21.6 +1.2**
BUR08 Bucovina Ar. S 76.24 325 *e*P **P** **08 17 24.9 +0.6**
comp=Z,5.2nm,1.0s
BURAR Bucovina Array 76.25 325⇓*i*P **P** **08 17 24.6 +0.2**
BURAR Bucovina Array 76.25 325⇓P **P** **08 17 24.6 +0.2**
BIZ Bicaz 76.41 324⇓*i*P **P** **08 17 25.8 +0.6**
TESR Tescani 76.51 323⇓*i*P **P** **08 17 25.9 +0.2**
CFR Carcaliu 76.90 322⇑*i*P **P** **08 17 28.1 +0.2**
CFR Carcaliu 76.90 322⇑P **P** **08 17 28.1 +0.2**
DOPR Dopca 77.48 324⇓*i*P **P** **08 17 32.8 +1.6**
MLR Muntele Rosu 77.62 323⇑*i*P **P** **08 17 33.7 +1.6**
MLR Muntele Rosu 77.62 323⇑P **P** **08 17 33.7 +1.6**
CLL Collm 77.71 334 *i* P **P** **08 17 31.3 -1.1**
comp=Z,5.0nm,1.0s
CLL *i* pP **pwP** **08 17 45.4 -1.7**
comp=Z,5.0nm,0.6s
CLL Collm 77.71 334 *e*P **P** **08 17 31.3 -1.1**
CLL Collm 77.71 334 *i* P **P** **08 17 31.3 -1.1**
CLL *i* *PP **pwP** **08 17 45.4 -1.7**
CLL pmax pmax
comp=Z,5.0nm,1.0s
BRG Berggiesshubel 77.78 333 *e*(P) **P** **08 17 31.0 -1.7**
comp=Z,6.6nm,1.3s
BRG Berggiesshubel 77.78 333 *e*P **P** **08 17 31.0 -1.7**
BRG pmax pmax
comp=Z,7.0nm,1.3s
VOIR 78.05 323⇑*i*P **P** **08 17 35.1 +0.6**
VOIR 78.05 323⇑P **P** **08 17 35.1 +0.6**
VYHS Vyhne 78.06 329 *e*P **P** **08 17 35.6 +1.2**
VYHS Vyhne 78.06 329 *e*P **P** **08 17 35.6 +1.2**
ARR Arges 78.28 324⇑*i*P **P** **08 17 37.0 +1.3**
BR101 Keskin Array S 78.40 315 *e*P **P** **08 17 36.9 +0.3**
BRTR Keskin Array B 78.40 315 P **P** **08 17 36.9 +0.3**
comp=Z,1.1nm,0.6s,baz=58,slow=3.1,SNR=5.1
MODS Modra-Piesok 78.74 330 *e*P **P** **08 17 40.0 +1.9**
MODS Modra-Piesok 78.74 330 *e*P **P** **08 17 40.0 +1.9**
GZR Gura Zlata 79.04 325⇓*i*P **P** **08 17 38.8 -1.1**
GZR Gura Zlata 79.04 325⇓P **P** **08 17 38.8 -1.1**
BZS Buzias 79.34 326⇓*i*P **P** **08 17 41.3 -0.2**
BZS Buzias 79.34 326⇓P **P** **08 17 41.3 -0.2**
KHC Kasperske Hory 79.39 332 *e*P **P** **08 17 41.9 +0.2**
KHC *e*pP **sP** **08 17 54.5 +1.7**
KHC Kasperske Hory 79.39 332 *e*P **P** **08 17 41.9 +0.2**
KHC Kasperske Hory 79.39 332 *e*P **P** **08 17 41.9 +0.2**
KHC *e* 08 17 54.5
GEC2 GERESS Array S 79.60 332 *e*P **P** **08 17 42.8 -0.2**
comp=Z,1.4nm,0.6s
GEC2 pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.60 332 P **P** **08 17 43.1 +0.2**
comp=Z,1.1nm,0.6s,baz=37,slow=5.3,SNR=11
GEA0 GERESS Array S 79.61 332 *e*P **P** **08 17 43.1 +0.2**
VTS Vitosha 81.09 323⇓*i*P **P** **08 17 51.0 -0.1**
VTS Vitosha 81.09 323⇓P **P** **08 17 51.0 -0.1**
TX31 Lajitas Ar. Si 81.22 58 *e*P **P** **08 17 52.6 +0.6**
TXAR Lajitas Array 81.23 58 P **P** **08 17 52.4 +0.4**
comp=Z,0.8nm,0.7s,baz=304,slow=4.4,SNR=12

NNC 16 08:14:50.5±3.2, 37°37N×70°18E, h0km, mb3.9, mpv3.5, 3C-6D, Error ellipse: s-maj=24.2km s-min=22.6km az=142.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=18	**5.47**	**29**	P		P	Pn	08 16 13.7	+0.1
KK31	**Karatay Array** 0.7nm,0.4s,baz=190,slow=15,SNR=9.3	**5.73**	**2**	⇑P		n	Pn	08 16 16.5	-0.3
KK31				⇓Pg		g	Pg	08 16 36.2	-4.1
	0.6nm,0.3s,baz=164,slow=13,SNR=4.2								
KK31				⇓Sn		n	Sn	08 17 24.4	+1.1
	1.0nm,0.4s								
KK31				⇑Lg		g	Lg	08 17 53.5	
	6.9nm,0.7s,baz=187,slow=28,SNR=6.6								
UCH	**Uchtor** SNR=11	**5.89**	**33**	P		n	Pn	08 16 19.7	+0.3
EKS2	**Erkin-Say** SNR=6.2	**5.96**	**26**	P		n	Pn	08 16 21.4	+1.3
KZA	**Kyzart** SNR=7.3	**6.11**	**38**	P		n	Pn	08 16 22.2	-0.3
AAK	**Ala-Archa** SNR=9.6	**6.21**	**31**	P		n	Pn	08 16 24.1	+0.5
AAK	**Ala-Archa** 5.8nm,0.6s	**6.21**	**31**	⇓Pn		n	Pn	08 16 23.8	+0.1
AAK				Sn		n	Sn	08 17 34.7	-0.7
	5.6nm,0.8s								
AAK				⇓Lg		g	Lg	08 18 08.0	
	8.8nm,1.2s								
CHMS	**Chumysh** SNR=5.0	**6.62**	**30**	P		n	Pn	08 16 28.9	-0.2
USP	**Ospenovka** SNR=5.7	**6.75**	**28**	P		n	Pn	08 16 30.8	-0.1
TKM2	**Tokmak 2** SNR=6.7	**6.92**	**35**	P		n	Pn	08 16 33.8	+0.4
TKM2	**Tokmak 2** 10nm,0.5s	**6.92**	**35**	⇓Pn		n	Pn	08 16 33.1	-0.3
TKM2				⇑Sn		n	Sn	08 17 56.4	+3.4
	2.8nm,0.9s								
TKM2				⇓Lg		g	Lg	08 18 29.0	
	3.1nm,0.7s								

IDC 16 08:26:27.2±3.3, 16°81S×172°98W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/23, mbtmp3.6/4, Error ellipse: s-maj=184.4km s-min=27.5km az=147.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=97,slow=7.1,SNR=11	**49.93**	**258**	P		P	P	08 35 22.6	-0.6
ASAR	**Alice Springs** 0.4nm,0.4s,baz=88,slow=9.5,SNR=15	**50.07**	**253**	P		P	P	08 35 24.6	+0.4
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=234,slow=7.7,SNR=4.7	**75.10**	**42**	P		P	P	08 38 11.4	0.0
ILAR	**Eielson Array** 0.4nm,0.7s,baz=224,slow=5.2,SNR=4.5	**83.74**	**11**	P		P	P	08 38 57.6	0.0

*ISCJB **16** 08:51:31.8±0.4, 60°.02N±0°.03×151°.63W±0°.07, h71km±5km, mb3.1/3, Error ellipse: s-maj=6.4km s-min=4.5km az=27.3*
*IDC **16** 08:51:31.9±1.0, 59°.71N×150°.39W, h0km, mb3.2/3, mb1 3.5/7, mb1mx3.3/56, mbtmp3.3/7, ML3.1/4, Error ellipse: s-maj=22.9km s-min=11.6km az=111.0*
*NEIC **16** 08:51:33.9±0.0, 60°.04N×151°.66W, h52km, ML3.3(AEIC), After AEIC.*

ISC 16 08:51:33.2±0.9, 60°02N±0°.04×151°65W±0°.04, h61km±9km, n52, σ0s82/62, mb3.1/3, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOM	**Homer**	**0.36**	**180**	*e*Pn		P	Pn	**08 51 43.5**	**-0.4**
HOM				*e*Sn			Sn	**08 51 52.6**	**+1.0**
BRLK	**Bradley Lake**	**0.46**	**123**	*e*Pn		P	Pn	**08 51 44.3**	**-0.6**
BRLK				*e*Sn			Sn	**08 51 53.0**	**-0.4**
RSO	**Redoubt South**	**0.71**	**309**	*e*Pn		P	Pn	**08 51 46.5**	**-1.4**
SEW	**Seward**	**1.11**	**85**	*e*Pn		P	Pn	**08 51 52.3**	**-0.3**
SEW				*e*Sn			Sn	**08 52 08.4**	**+1.4**
RC01	**Rabbit Creek A**	**1.43**	**41**	*e*Pn		P	Pn	**08 51 56.5**	**-0.5**
RC01				*e*Sn			Sn	**08 52 15.0**	**+0.2**
SUA	**Susitna One**	**1.52**	**17**	*e*Pn		P	Pn	**08 51 57.9**	**-0.4**
SUA				*e*Sn			Sn	**08 52 18.0**	**+0.9**
PMR	**Palmer**	**2.00**	**37**	*e*Pn		P	Pn	**08 52 04.0**	**-0.7**
KNK	**Knik Glacier**	**2.10**	**47**	*e*Pn		P	Pn	**08 52 05.5**	**-0.6**
KNK				*e*Sn			Sn	**08 52 31.2**	**+0.1**
GHO	**Glory Hole Cre**	**2.21**	**36**	*e*Pn		P	Pn	**08 52 06.9**	**-0.6**
SVW2	**Sparrevohn**	**2.22**	**301**	*e*Pn		P	Pn	**08 52 06.7**	**-1.0**
KDAK	**Kodiak Island** 3.7nm,0.3s,baz=225,slow=17,SNR=98	**2.29**	**193**	Pn		P	Pn	**08 52 07.6**	**-1.1**
KDAK				Sn			Sn	**08 52 35.1**	**-0.6**
	19nm,0.3s,baz=272,slow=23,SNR=11								
SML	**Sawmill**	**2.42**	**41**	*e*Pn		P	Pn	**08 52 10.1**	**-0.3**
SCM	**Sheep Creek Mo**	**2.79**	**47**	*e*Pn		P	Pn	**08 52 14.9**	**-0.5**
PPLA	**Purkeypile**	**2.90**	**355**	*e*Pn		P	Pn	**08 52 17.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**2.99**	**77**	*e*Pn		P	Pn	**08 52 17.5**	**-0.5**
DIV	**Divide**	**3.11**	**66**	*e*Pn		P	Pn	**08 52 18.2**	**-1.6**
DIV				*e*Sn			Sn	**08 52 54.2**	**-1.5**
KLU	**Klutina**	**3.17**	**60**	*e*Pn		P	Pn	**08 52 19.7**	**-1.1**
KLU				*e*Sn			Sn	**08 52 55.5**	**-1.9**
CAST	**Castle Rocks**	**3.42**	**357**	*e*Pn		P	Pn	**08 52 22.8**	**-1.3**
TRF	**Thorofare Moun**	**3.50**	**10**	*e*Pn		P	Pn	**08 52 27.2**	**+1.9**
RND	**Reindeer**	**3.65**	**20**	*e*Pn		P	Pn	**08 52 27.9**	**+0.7**
DHY	**Denali Highway**	**3.69**	**32**	*e*Pn		P	Pn	**08 52 28.0**	**+0.2**
HMT	**Hamilton**	**3.70**	**82**	*e*Pn		P	Pn	**08 52 29.0**	**+1.1**
SII	**Sitkinak Islan**	**3.72**	**202**	*e*Pn		P	Pn	**08 52 28.6**	**+0.5**
MCK	**McKinley**	**3.94**	**18**	*e*Pn		P	Pn	**08 52 32.8**	**+1.6**
HARP	**HAARP**	**3.95**	**50**	*e*Pn		P	Pn	**08 52 31.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**4.11**	**4**	*e*Pn		P	Pn	**08 52 34.4**	**+1.0**
PAX	**Paxson**	**4.19**	**42**	*e*Pn		P	Pn	**08 52 34.6**	**0.0**
BALM	**Baldy**	**4.71**	**73**	*e*Pn		P	Pn	**08 52 41.5**	**-0.2**
WRH	**Wood River Hil**	**4.77**	**19**	*e*Pn		P	Pn	**08 52 42.5**	**+0.1**
MENT	**Mentasta**	**4.80**	**49**	*e*Pn		P	Pn	**08 52 43.6**	**+0.7**
HDA	**Harding Lake**	**4.92**	**24**	*e*Pn		P	Pn	**08 52 45.0**	**+0.5**
RIDG	**Independ'e Rid**	**4.93**	**38**	*e*Pn		P	Pn	**08 52 44.9**	**+0.2**
CCB	**Clear Creek Bu**	**4.98**	**19**	*e*Pn		P	Pn	**08 52 45.2**	**-0.1**
MLY	**Manley**	**5.05**	**4**	*e*Pn		P	Pn	**08 52 46.7**	**+0.4**
DOT	**Dot Lake**	**5.12**	**41**	*e*Pn		P	Pn	**08 52 47.4**	**+0.2**
CHGN	**Chignik**	**5.17**	**227**	*e*Pn		P	Pn	**08 52 48.5**	**+0.6**
COLA	**College**	**5.18**	**18**	*e*Pn		P	Pn	**08 52 47.9**	**-0.1**
MDM	**Murphy Dome**	**5.21**	**16**	*e*Pn		P	Pn	**08 52 48.3**	**-0.4**
IL1	**Eielson Array**	**5.26**	**23**	*e*Pn		P	Pn	**08 52 48.9**	**-0.2**
ILAR	**Eielson Array** 1.0nm,0.3s,baz=208,slow=14,SNR=32	**5.26**	**23**	Pn		P	Pn	**08 52 49.2**	**+0.1**
ILAR				Sn			Sn	**08 53 47.5**	**-0.9**
	3.8nm,0.3s,baz=198,slow=24,SNR=12								
ILB	**Eielson Array**	**5.26**	**23**	*e*Pn		P	Pn	**08 52 49.1**	**-0.1**
ILB				*e*Sn			Sn	**08 53 48.0**	**-0.3**
SCRK	**Sand Creek**	**5.37**	**39**	*e*Pn		P	Pn	**08 52 50.1**	**-0.6**
IM3	**Indian Mountai**	**6.06**	**352**	*e*Pn		P	Pn	**08 53 00.2**	**+0.1**
EGAK	**Eagle**	**6.82**	**41**	*e*Pn		P	Pn	**08 53 10.1**	**-0.3**
DAWY	**Dawson**	**7.04**	**50**	*e*Pn		P	Pn	**08 53 13.3**	**-0.3**
FYU	**Fort Yukon**	**7.18**	**21**	*e*Pn		P	Pn	**08 53 15.7**	**+0.4**
INK	**Inuvik** 0.0nm,0.3s,baz=243,slow=6.8,SNR=2.3	**11.42**	**36**	Pn		P	Pn	**08 54 14.3**	**+1.1**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=277,slow=10,SNR=12	**17.82**	**66**	P		P	Pn	**08 55 35.0**	**-1.6**
YKB5	**Yellowknife Ar**	**17.82**	**66**	*e*Pn		P	Pn	**08 55 36.3**	**-0.4**
PDAR	**Pinedale Array** 0.3nm,0.8s,baz=340,slow=4.8,SNR=2.7	**30.74**	**105**	P		P	P	**08 57 43.5**	**+0.9**
TXAR	**Lajitas Array** 0.1nm,0.5s,baz=259,slow=1.3,SNR=3.4	**44.36**	**112**	P		P	P	**08 59 37.5**	**+0.2**
SONM	**Songino Array** 0.3nm,0.7s,baz=28,slow=6.5,SNR=2.3	**55.33**	**307**	P		P	P	09 01 12.9	+12

*ISCJB **16** 08:57:32.4±0.7, 22°.53N±0°.07×143°.3E±0°.2, h100km, mb3.9/12, Error ellipse: s-maj=31.2km s-min=8.8km az=172.7*
*IDC **16** 08:57:35.9±2.4, 22°.59N×143°.24E, h114km±21km, mb3.7/12, mb1 3.7/15, mb1mx3.5/47, mbtmp4.0/15, Error ellipse: s-maj=29.3km s-min=12.0km az=84.0*

ISC 16 08:57:34.3±0.8, 22°53N±0°.09×143°3E±0°.2, h100km, n20, σ0s97/19, mb4.0/12, Kuril Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 13nm,0.3s,baz=348,slow=23,SNR=26	**4.66**	**348**	P		P	Pn	**08 58 45.0**	**+2.7**
JCJ				S			Sn	**08 59 35.0**	**-0.2**
	56nm,0.3s,baz=140,slow=22,SNR=16								
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=166,slow=10,SNR=9.0	**14.65**	**344**	P		P	Pn	**09 00 56.1**	**-0.4**
KSRS	**Korea Array** 0.1nm,0.3s,baz=126,slow=11,SNR=7.6	**19.92**	**322**	P		P	P	**09 01 58.1**	**+0.1**
H11S3	**WAKE ISLAND Hy 22.27** baz=278,slow=75,SNR=5.1	**96**		T		T		09 25 07.9	
H11S1	**WAKE ISLAND Hy 22.27** baz=278,slow=74,SNR=5.7	**96**		T		T		09 25 10.1	
H11S2	**WAKE ISLAND Hy 22.28** baz=278,slow=74,SNR=7.0	**96**		T		T		09 25 09.6	
USRK	**Ussuriysk Ar.** 6.7nm,0.7s,baz=159,slow=11,SNR=13	**23.54**	**339**	P		P	P	**09 02 35.1**	**-0.3**
KLR	**Kul'dur** 5.7nm,0.7s,baz=150,slow=7.1,SNR=25	**28.18**	**344**	P		P	P	**09 03 16.7**	**-0.5**
SONM	**Songino Array** 1.0nm,0.8s,baz=125,slow=8.0,SNR=4.6	**38.77**	**320**	P		P	P	**09 04 49.3**	**+0.1**
SEY	**Seymchan** 1.3nm,0.8s,baz=185,slow=8.4,SNR=4.1	**40.85**	**6**	P		P	P	**09 05 06.0**	**+0.1**
WRA	**Warramunga Arr** 1.4nm,0.6s,baz=14,slow=8.7,SNR=28	**43.11**	**192**	P		P	P	**09 05 24.7**	**-0.1**
WRA				PcP		PcP	PcP	**09 07 12.6**	**-0.4**
	0.5nm,0.7s,baz=6.6,slow=3.4,SNR=4.5								
ASAR	**Alice Springs** 1.0nm,0.5s,baz=16,slow=13,SNR=26	**46.82**	**192**	P		P	P	**09 05 54.6**	**+0.5**
TIXI	**Tiksi** 1.0nm,0.5s,baz=125,slow=2.5,SNR=3.7	**49.84**	**354**	P		P	P	**09 06 15.6**	**-1.1**
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=106,slow=8.1,SNR=3.3	**53.63**	**321**	P		P	P	**09 06 44.2**	**-1.0**
STKA	**Stephens Creek** 1.8nm,0.5s,baz=355,slow=8.9,SNR=7.5	**54.12**	**182**	P		P	P	**09 06 49.4**	**+0.5**
MKAR	**Makanchi Array** 1.8nm,0.5s,baz=88,slow=8.7,SNR=32	**54.22**	**312**	P		P	P	**09 06 50.1**	**+0.5**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=293,slow=5.9,SNR=4.0	**75.68**	**28**	P		P	P	**09 09 08.1**	**-0.2**
FINES	**FINESS Array B** 0.5nm,0

	164nm,0.3s,SNR=7.9							
EBEN2	**Beniarda presa**	**0.69**	**168**	⇓Pg		**Pg**	**09 31 21.9**	**+0.8**
	4.6nm,0.2s,SNR=18							
EBEN2				Lg		Lg	09 31 31.9	
	145nm,0.1s,SNR=7.9							
AFON	**Font Roja**	**0.69**	**191**	Pg		**Pg**	**09 31 22.4**	**+1.1**
	18nm,0.1s,SNR=29							
AFON				Lg		Lg	09 31 32.7	
	206nm,0.4s,SNR=13							
EMOS	**Mosqueruela**	**1.02**	**356**	⇓Pg		**Pg**	**09 31 28.3**	**+0.9**
	1.1nm,0.2s,SNR=18							
EMOS				Lg		Lg	09 31 42.0	
	47nm,0.2s,SNR=5.0							
ETOB	**Tobarra**	**1.15**	**233**	Pg		**Pb**	**09 31 29.7**	**+0.1**
	0.9nm,0.3s,SNR=42							
ETOB				Lg		Lg	09 31 44.7	
	8.5nm,0.3s,SNR=9.6							
EIBI	**Ibiza**	**1.38**	**103**	Pg		**Pn**	**09 31 31.9**	**-0.8**
	2.8nm,0.1s,SNR=12							
EIBI				Lg		Lg	09 31 47.8	
	10nm,0.2s,SNR=7.9							
EMUR	**La Murta**	**1.65**	**204**	Pg		**Pb**	**09 31 39.4**	**+1.4**
	1.1nm,0.2s,SNR=7.9							
EMUR				Lg		Lg	09 31 59.8	
	12nm,0.3s,SNR=7.9							
ERTA	**Horta de San J**	**1.70**	**19**	Pn		**Pn**	**09 31 38.0**	**+0.8**
	0.7nm,0.3s,SNR=10							
ERTA				Pg		**Pb**	**09 31 40.7**	**+1.8**
	6.9nm,0.2s,SNR=7.9							
ERTA				Sn		**Sn**	**09 31 58.2**	**-0.6**
	2.0nm,0.3s,SNR=7.9							
ERTA				Lg		Lg	09 32 01.8	
	18nm,0.2s,SNR=5.0							
ETOR	**Torete**	**1.95**	**319**	Pg		**Pb**	**09 31 45.7**	**+2.4**
	3.3nm,0.3s,SNR=7.9							
ETOR				Lg		Lg	09 32 09.7	
	45nm,0.5s,SNR=7.9							
EPOB	**Poblet**	**2.29**	**29**	Pn		**Pn**	**09 31 45.8**	**+0.3**
	0.9nm,0.4s,SNR=7.9							
EPOB				Pg		**Pb**	**09 31 51.8**	**+2.8**
	2.0nm,0.1s,SNR=7.9							
EPOB				Sn		**Sn**	**09 32 11.1**	**-2.5**
	2.1nm,0.2s,SNR=7.9							
EPOB				Lg		Lg	09 32 19.8	
	8.7nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**2.37**	**358**	Pg		**Pb**	**09 31 52.7**	**+2.3**
	3.3nm,0.2s,SNR=7.9							
ESAC				Lg		Lg	09 32 25.7	
	26nm,0.2s,SNR=7.9							
UCM	**Universidad Co**	**2.41**	**294**	⇑*i*P		**Pg**	**09 31 54.3**	**+0.4**
UCM				*e*S		**Sb**	**09 32 23.8**	**+3.2**
ETOS	**Mallorca**	**2.50**	**79**	Pn		**Pn**	**09 31 48.9**	**+0.6**
	0.1nm,0.2s,SNR=9.5							
ETOS				Sn		**Sn**	**09 32 16.7**	**-2.0**
	1.8nm,0.2s,SNR=7.9							
EQES	**Quesada**	**2.61**	**235**	Pg		**Pb**	**09 31 57.5**	**+2.9**
	5.5nm,0.1s,SNR=7.9							
EQES				Lg		Lg	09 32 30.0	
	14nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**2.79**	**278**	Pn		**Pn**	**09 31 52.9**	**+0.7**
	2.6nm,0.2s,baz=93,slow=14,SNR=13							
ESDC				Pg		**Pb**	**09 32 00.5**	**+2.9**
	3.8nm,0.2s,baz=97,slow=18,SNR=16							
ESDC				Lg		Lg	09 32 34.4	
	1.3nm,0.2s,baz=94,slow=30,SNR=23							
EMIR	**Miracle**	**2.95**	**29**	Pn		**Pn**	**09 31 55.3**	**+0.9**
	0.3nm,0.2s,SNR=7.9							
EMIR				Pg		**Pb**	**09 32 01.5**	**+1.3**
	0.9nm,0.2s,SNR=7.9							
EMIR				Sn		**Sn**	**09 32 30.7**	**+1.0**
	0.9nm,0.2s,SNR=7.9							
EMIR				Lg		Lg	09 32 42.5	
	8.3nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**3.08**	**275**	Pn		**Pn**	**09 31 56.5**	**+0.3**
	1.1nm,0.3s,SNR=7.9							
PAB				Pg		**Pb**	**09 32 03.8**	**+1.3**
	0.1nm,0.3s,SNR=7.9							
PAB				Sn		**Sn**	**09 32 32.1**	**-0.9**
	0.1nm,0.2s,SNR=7.9							
PAB				Lg		Lg	09 32 43.5	
	5.6nm,0.2s,SNR=7.9							
EBER	**Berja**	**3.15**	**220**	Pg		**Pb**	**09 32 05.4**	**+1.7**
	0.1nm,0.2s,SNR=4.0							
EBER				Lg		Lg	09 32 51.4	
	4.1nm,0.4s,SNR=4.0							
GUD	**Guadarrama**	**3.17**	**295**	Pg		**Pg**	**09 32 08.1**	**-0.5**
	0.0nm,0.2s,SNR=7.9							
GUD				Lg		Lg	09 32 47.8	
	6.9nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**3.23**	**41**	Pn		**Pn**	**09 31 59.1**	**+0.8**
	0.1nm,0.2s,SNR=7.9							
CFON				Sn		**Sn**	**09 32 35.6**	**-1.1**
	4.8nm,0.2s,SNR=7.9							
CSOR	**Sort**	**3.24**	**20**	Lg		Lg	09 32 51.0	
	12nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.49**	**252**	Pn		**Pn**	**09 32 01.3**	**-0.5**
	0.4nm,0.1s,SNR=7.9							
EADA				Pg		**Pb**	**09 32 11.9**	**+2.5**
	6.0nm,0.2s,SNR=7.9							
EADA				Lg		Lg	09 32 57.9	
	7.6nm,0.2s,SNR=7.9							
ETSF	**Etsaut**	**3.55**	**358**	*e*Pn		**Pn**	**09 32 03.5**	**+0.8**
ETSF	**Etsaut**	**3.55**	**358**	*e*Pg		**Pg**	**09 32 14.8**	**-1.0**
ETSF				*e*Sn		**Sn**	**09 32 43.4**	**-1.2**
	2.0nm,0.3s							
ETSF				*e*Sg		**Sg**	**09 33 00.9**	**-0.9**
	2.5nm,0.3s							
ETSF	**Etsaut**	**3.55**	**358**	Pn		**Pn**	**09 32 03.5**	**+0.8**
ETSF				Pg		**Pg**	**09 32 14.8**	**-1.0**
ETSF				Sn		**Sn**	**09 32 43.4**	**-1.2**
	1.0nm,0.3s							
ETSF				Lg		Lg	09 33 00.9	
	1.2nm,0.3s							
IELO	**Elcoad**	**3.55**	**350**	Pg		**Pg**	**09 32 14.8**	**-1.0**
	0.6nm,0.2s,SNR=7.9							
IELO				Lg		Lg	09 32 59.8	
	6.0nm,0.4s,SNR=7.9							
CLLI	**Llivia**	**3.60**	**29**	Lg		Lg	09 32 58.9	
	6.5nm,0.6s,SNR=7.9							
EPF	**Esparros**	**3.72**	**8**	*e*Pn		**Pn**	**09 32 05.6**	**+0.6**
EPF	**Esparros**	**3.72**	**8**	*e*Pg		**Pg**	**09 32 18.0**	**-1.0**
EPF				*e*Sn		**Sn**	**09 32 47.5**	**-1.3**
	2.2nm,0.2s							
EPF				*e*Sg		**Sg**	**09 33 06.1**	**-1.1**
	5.2nm,0.2s							
EPF	**Esparros**	**3.72**	**8**	Pn		**Pn**	**09 32 05.6**	**+0.6**
EPF				Pg		**Pg**	**09 32 18.0**	**-1.0**
EPF				Sn		**Sn**	**09 32 47.5**	**-1.3**
	1.1nm,0.2s							
EPF				Lg		Lg	09 33 06.1	
	2.6nm,0.2s							
ATE	**Arette**	**3.74**	**356**	Pn		**Pn**	**09 32 06.2**	**+0.9**
	0.0nm,0.2s,SNR=7.9							
ATE				Pg		**Pb**	**09 32 18.0**	**+4.3**
	0.5nm,0.2s,SNR=7.9							
ATE				Sn		**Sn**	**09 32 48.9**	**-0.4**
	0.6nm,0.1s,SNR=7.9							
ATE				Lg		Lg	09 33 05.7	
	0.7nm,0.3s,SNR=7.9							
SJPF	**Ste Jean**	**3.82**	**351**	*e*Pn		**Pn**	**09 32 07.7**	**+1.4**
SJPF	**Ste Jean**	**3.82**	**351**	*e*Pg		**Pb**	**09 32 19.3**	**+4.3**
SJPF				*e*Sn		**Sn**	**09 32 49.2**	**-1.9**
	1.1nm,0.2s							
SJPF				*e*Sg		**Sg**	**09 33 09.2**	**-1.1**
	2.2nm,0.2s							
SJPF	**Ste Jean**	**3.82**	**351**	Pn		**Pn**	**09 32 07.7**	**+1.4**
SJPF				Pg		**Pb**	**09 32 19.3**	**+4.3**
SJPF				Sn		**Sn**	**09 32 49.2**	**-1.9**
	0.6nm,0.2s							
SJPF				Lg		Lg	09 33 09.2	
	1.1nm,0.2s							
ECAB	**El Cabril**	**4.14**	**254**	Pn		**Pn**	**09 32 10.3**	**-0.5**
	0.4nm,0.2s,SNR=7.9							
ECAB				Pg		**Pb**	**09 32 23.4**	**+2.9**
	1.7nm,0.2s,SNR=7.9							
ECAB				Lg		Lg	09 33 17.6	
	4.1nm,0.3s,SNR=7.9							
MTLF	**Montolieu**	**4.44**	**25**	*e*Pn		**Pn**	**09 32 15.3**	**+0.4**
MTLF	**Montolieu**	**4.44**	**25**	*e*Pg		**Pg**	**09 32 31.1**	**-1.7**
MTLF				*e*Sn		**Sn**	**09 33 04.4**	**-2.1**
	0.3nm,0.2s							
MTLF				*e*Sg		**Sg**	**09 33 28.3**	**-2.1**
	1.9nm,0.3s							
MTLF	**Montolieu**	**4.44**	**25**	Pn		**Pn**	**09 32 15.3**	**+0.4**
MTLF				Pg		**Pg**	**09 32 31.1**	**-1.7**
MTLF				Sn		**Sn**	**09 33 04.4**	**-2.1**
	0.2nm,0.2s							
MTLF				Lg		Lg	09 33 28.3	
	0.9nm,0.3s							
MVO	**Moncorvo**	**5.40**	**292**	*e*Sg		**Sg**	**09 33 58.4**	**-2.7**
MVO				A		A	09 34 09.1	
	6.9nm,0.6s							
PBRG	**Braganca**	**5.43**	**299**	*e*Sg		**Sg**	**09 34 00.3**	**-1.7**
PBRG				A		A	09 34 02.4	
	4.5nm,0.4s							
PBRG	**Braganca**	**5.43**	**299**	Lg		Lg	09 34 00.3	
	2.2nm,0.4s							
PMRV	**Marv??o**	**5.43**	**273**	*e*Sg		**Sg**	**09 33 58.8**	**-3.3**
PMRV				A		A	09 34 09.5	
	5.3nm,0.7s							
PMRV	**Marv??o**	**5.43**	**273**	Lg		Lg	09 33 58.8	
	5.3nm,0.7s							
PCBR	**Castelo Branco**	**5.50**	**277**	*e*Sg		**Sg**	**09 34 00.2**	**-4.2**
PCBR				A		A	09 34 13.9	
	2.9nm,0.5s							
MTE	**Manteigas**	**5.61**	**283**	*e*Sg		**Sg**	**09 34 05.7**	**-2.2**
MTE				A		A	09 34 09.5	
	3.8nm,0.1s							
MTE	**Manteigas**	**5.61**	**283**	Lg		Lg	09 34 05.7	
	1.9nm,0.1s							
PESTR	**Estremoz**	**5.63**	**267**	*e*Sg		**Sg**	**09 34 06.0**	**-2.4**
PESTR				A		A	09 34 11.1	
	5.8nm,0.4s							
LFF	**La Frestale**	**5.65**	**8**	*e*Pn		**Pn**	**09 32 30.6**	**-0.9**
LFF	**La Frestale**	**5.65**	**8**	*e*Pg		Pb	09 32 52.4	+6.2
LFF				*e*Sn		**Sn**	**09 33 32.9**	**-3.3**
LFF				*e*Sg		**Sg**	**09 34 05.5**	**-3.6**
LFF	**La Frestale**	**5.65**	**8**	Pn		**Pn**	**09 32 30.6**	**-0.9**
LFF				Pg		Pb	09 32 52.4	+6.2
LFF				Sn		**Sn**	**09 33 32.9**	**-3.3**
LFF				Lg		Lg	09 34 05.5	
EVO	**Evora**	**6.01**	**265**	*e*Sg		**Sg**	**09 34 19.6**	**-0.9**
EVO				A		A	09 34 26.6	
	4.3nm,1.1s							
EVO	**Evora**	**6.01**	**265**	Lg		Lg	09 34 19.6	
	4.3nm,1.1s							
POLO	**Lamas de Olo**	**6.01**	**292**	*e*Sg		**Sg**	**09 34 19.8**	**-1.0**
POLO				A		A	09 34 21.6	
	1.6nm,0.5s							
POLO	**Lamas de Olo**	**6.01**	**292**	Lg		Lg	09 34 19.8	
	1.6nm,0.5s							
PVAQ	**Vaqueiros**	**6.08**	**254**	*e*Sg		**Sg**	**09 34 20.5**	**-2.5**
PVAQ	**Vaqueiros**	**6.08**	**254**	Lg		Lg	09 34 20.5	
PMTG	**Montargil**	**6.10**	**270**	*e*Sg		**Sg**	**09 34 20.3**	**-3.2**
PMTG				A		A	09 34 30.4	
	3.7nm,0.5s							
PMTG	**Montargil**	**6.10**	**270**	Lg		Lg	09 34 20.3	
	3.7nm,0.5s							
PTOM	**Tomar**	**6.22**	**275**	*e*Sg		**Sg**	**09 34 23.3**	**-4.0**
PTOM				A		A	09 34 38.5	
	6.5nm,0.7s							
PTOM	**Tomar**	**6.22**	**275**	Lg		Lg	09 34 23.3	
	3.2nm,0.7s							

DDA **16** *09:42:20.3,39˚.60N×38˚.19E,h7km±3km,ML2.6*
ISK **16** *09:42:20.1,39˚.56N×38˚.18E,h5km,ML2.3/4*
ISCJB **16** *09:42:21.1±0.6,39˚.59N±0˚.04×38˚.14E±0˚.04,h10km±6km, Error ellipse: s-maj=6.6km s-min=4.8km az=39.5*

ISC 16 09:42:20.5±1.5,**39˚.58N**±0˚.04×**38˚.18E**±0˚.03,**h7**km±13km, **n10**,σ0**˚56'17**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.39**	**142**	*i* P	**Pb**	**09 42 29.0**	**-0.8**
KEMA				*i* S	**Sb**	**09 42 35.4**	**-0.7**
KEMA				IAML_P			
	comp=Z,6μm,0.1s						
CUZAR	**Zara_SIVAS**	**0.44**	**314**	*i* P	**Pg**	**09 42 29.6**	**+0.5**
REFA	**Refahiye_ERZN**	**0.48**	**112**	*i* P	**Pb**	**09 42 31.7**	**+0.2**
REFA				*i* S	**Sb**	**09 42 39.8**	**+1.0**
REFA				IAML_P			
	comp=Z,932nm,0.1s						
HEKM	**Malatya_Hekimh**	**0.72**	**194**	*i* P	**Pb**	**09 42 35.3**	**-0.1**
SVSK	**Karacayir**	**0.97**	**291**	PG	**Pb**	**09 42 39.3**	**-0.4**
SVSK				SG	**Sb**	**09 42 53.5**	**+0.8**
KELT	**Kelkit**	**1.00**	**55**	*i* P	**Pg**	**09 42 39.7**	**0.0**
KELT				*i* S	**Sb**	**09 42 53.8**	**0.0**
KELT				IAML_P			
	comp=Z,390nm,0.1s						
RSDY	**Resadiye-TOKAT**	**1.05**	**321**	PG	**Pn**	**09 42 41.2**	**-0.5**
RSDY				SG	**Sn**	**09 42 56.3**	**-0.3**
DARE	**Darende-Malaty**	**1.14**	**209**	PN	**Pg**	**09 42 42.3**	**-0.1**
DARE				SN	**Sb**	**09 42 58.1**	**+0.4**
ERZN	**Erzincan**	**1.19**	**89**	PN	**Pb**	**09 42 43.1**	**-0.3**
ELZG	**Elazig**	**1.25**	**150**	*i* P	**Pn**	**09 42 44.5**	**0.0**
ELZG				*i* S	**Sn**	**09 43 02.4**	**+0.8**

IDC **16** *09:49:23.9±0.8,35˚.81N×5˚.59E,h0km,mb3.9/18, mb1 4.1/23,mb1mx3.9/55,mbtmp4.0/23,ML4.1/5,MS3.8/19, Ms1 3.8/19,ms1mx3.6/38,Error ellipse: s-maj=19.5km s-min=14.0km az=172.0*
MOS **16** *09:49:24.6±1.8,35˚.25N×5˚.68E,h33km,mb4.6/20,Error ellipse: s-maj=14.0km s-min=4.6km az=65.8*
CRAAG **16** *09:49:24.3,35˚.80N×5˚.71E,Ml4.7*
NEIC **16** *09:49:25.7±0.4,35˚.72N×5˚.62E,h10km,mb4.4/15, ML4.3(ALG),Error ellipse: s-maj=8.4km s-min=5.0km az=166.0*
LDG **16** *09:49:26.9±0.3,35˚.71N×5˚.51E,h20km,Ml3.9/16,Error ellipse: s-maj=6.0km s-min=3.4km az=145.0*
MDD **16** *09:49:27.6±0.7,35˚.83N×5˚.69E,h0km,mb5.1/42,Error ellipse: s-maj=8.5km s-min=3.9km az=176.0,PRXIMO*
IGIL **16** *09:49:28.6,35˚.83N×5˚.60E,h20km*
MED_RC **16** *09:49:29.0±0.3,35˚.83N×5˚.60E,h17km±1km,MW4.6/17, Moment Tensor Solution.Mantle waves: s17,c20; Duration: 1ᵻ0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.18±.06; Mθθ-0.79±.05; Mϕϕ0.97±.07; Mrθ-0.23±.09; Mθϕ-0.19±.05; Mϕr0.18±.10; Best double couple: M₀0.95000×10¹⁶ NP1:ϕs130.00000°,δ85.00000°, λ-161.00000°. NP2:ϕs38.00000°,δ71.00000°,λ-5.00000°. Principal axes: T 1.0300, Plg10.0000°, Azm263.0000°; N -0.1500, Plg70.0000°, Azm144.0000°; P -0.8700, Plg17.0000°, Azm356.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 16 09:49:27.3±0.9,**35˚.92N**±0˚.05×**5˚.63E**±0˚.03,**h12**km±5km, **n304**,σ2ᵉ**48**/350,**mb4.4**/45,**MS3.8**/18,**20C-12D**,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CKHR	**Kef el Ahmar**	**0.13**	**316**	P	**Pg**	**09 49 31.0**	**+0.3**
CKHR	**Kef el Ahmar**	**0.13**	**316**	P	**Pg**	**09 49 31.0**	**+0.3**
SET	**Setif**	**0.33**	**327**	P	**Pg**	**09 49 34.0**	**-0.1**
SET	**Setif**	**0.33**	**327**	P	**Pg**	**09 49 34.0**	**-0.1**
CTEI	**Djebel Teioual**	**0.65**	**77**	P	**Pg**	**09 49 38.1**	**-1.8**
CTEI	**Djebel Teioual**	**0.65**	**77**	P	**Pg**	**09 49 38.1**	**-1.8**
DFRA	**Djebel Bou Aff**	**0.66**	**18**	P	**Pn**	**09 49 41.7**	**-0.8**
DFRA	**Djebel Bou Aff**	**0.66**	**18**	P	**Pn**	**09 49 41.7**	**-0.8**
CASM	**Ain Smara**	**0.78**	**64**	P	**Pb**	**09 49 42.7**	**-0.1**
CASM	**Ain Smara**	**0.78**	**64**	P	**Pb**	**09 49 42.7**	**-0.1**
CKFL	**Kef-Lekhel**	**1.01**	**61**	P	**Pb**	**09 49 46.8**	**+0.1**
CKFL	**Kef-Lekhel**	**1.01**	**61**	P	**Pb**	**09 49 46.8**	**+0.1**
CAEH	**'Ain El Ouahch**	**1.31**	**49**	P	**Pg**	**09 49 53.2**	**+0.8**
CAEH	**'Ain El Ouahch**	**1.31**	**49**	P	**Pg**	**09 49 53.2**	**+0.8**
CMAH	**Djebel Manchou**	**1.61**	**64**	P	**Pn**	**09 49 54.9**	**-0.7**
CMAH	**Djebel Manchou**	**1.61**	**64**	P	**Pn**	**09 49 54.9**	**-0.7**
TAMR	**Tamra**	**3.02**	**67**	*e*Pn	**Pn**	**09 50 16.0**	**+1.1**
KEST	**Kesra**	**3.03**	**92**	Pn	**Pn**	**09 50 15.4**	**+0.3**
	5.8nm,0.3s,baz=218,slow=4.7,SNR=52						
KEST				Sn	**Sn**	**09 50 50.0**	**-1.3**
	14nm,0.3s,baz=359,slow=12,SNR=4.2						
EBNR	**Beni Rached**	**3.34**	**278**	P	**Pb**	**09 50 25.3**	**-1.1**
ECHA	**Ech Chlef**	**3.46**	**275**	P	**Pn**	**09 50 21.8**	**+0.9**
ECHF	**Ech Chlef**	**3.48**	**275**	P	**Pn**	**09 50 21.8**	**+0.6**
ETRT	**Tiaret**	**3.56**	**263**	P	**Pn**	**09 50 24.8**	**+2.3**
ETRT	**Tiaret**	**3.56**	**263**	P	**Pn**	**09 50 24.8**	**+2.3**
EANR	**'Ain N'Sour**	**3.67**	**272**	P	**Pn**	**09 50 25.2**	**+1.3**
EANR	**'Ain N'Sour**	**3.67**	**272**	P	**Pn**	**09 50 25.2**	**+1.3**
OKGL	**Djebel Kef Gue**	**4.04**	**273**	P	**Pn**	**09 50 29.8**	**+0.8**
	356nm,0.4s,SNR=7.9						
OKGL				S	**Sn**	**09 51 16.7**	**+0.4**
	332nm,0.3s,SNR=7.9						
MAHO	**Mahon**	**4.11**	**345**	⇑*i*P	**Pn**	**09 50 30.6**	**+0.7**
MAHO				*e*S	**Sn**	**09 51 18.7**	**+0.8**
ETOS	**Mallorca**	**4.44**	**331**	⇓P	**Pn**	**09 50 36.4**	**+1.9**
	200nm,0.7s,SNR=18						
ETOS				S	**Sn**	**09 51 29.1**	**+3.1**
	73nm,0.7s						
EIBI	**Ibiza**	**4.61**	**314**	P	**Pn**	**09 50 38.9**	**+2.2**
	124nm,0.3s,SNR=85						
EIBI				S	**Sn**	**09 51 29.7**	**-0.4**
	75nm,0.4s						
EBEN2	**Beniarda presa**	**5.39**	**302**	P	**Pn**	**09 50 49.8**	**+2.3**
	116nm,0.4s,SNR=7.9						
EBEN2				S	**Sn**	**09 51 48.6**	**-0.9**
	28nm,0.3s,SNR=7.9						
ETRV	**Los Montesinos**	**5.53**	**294**	S	**Sn**	**09 51 53.0**	**+0.2**
	30nm,0.2s,SNR=7.9						
CART	**Cartagena**	**5.58**	**289**	*e*Pn	**Pn**	**09 50 49.9**	**-0.1**
CART	**Cartagena**	**5.58**	**289**	*e*P	**Pn**	**09 50 50.4**	**+0.4**
CART				*e*S	**Sn**	**09 51 50.0**	**-4.0**
AFON	**Font Roja**	**5.63**	**301**	P	**Pn**	**09 50 52.5**	**+1.7**
	85nm,0.7s,SNR=9.7						
AFON				S	**Sn**	**09 51 56.8**	**+1.3**
	72nm,0.4s						
EMUR	**La Murta**	**5.83**	**291**	P	**Pn**	**09 50 54.4**	**+0.9**
	106nm,0.7s,SNR=19						
EMUR				S	**Sn**	**09 52 00.8**	**+0.5**
	85nm,0.9s,SNR=4.5						
ETOB	**Tobarra**	**6.33**	**298**	P	**Pn**	**09 51 02.8**	**+2.3**
	85nm,0.8s,SNR=36						
ETOB				S	**Sn**	**09 52 13.9**	**+1.1**
	42nm,0.4s,SNR=4.5						
EBR	**Ebro Roquetas**	**6.34**	**322**	S	**Sn**	**09 52 13.4**	**+0.6**
	108nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**6.34**	**338**	P	**Pn**	**09 51 02.6**	**+2.0**
	9.6nm,0.3s,SNR=16						
CFON				S	**Sn**	**09 52 13.6**	**+0.5**
	17nm,0.8s						
ECHE	**Chera**	**6.38**	**307**	P	**Pn**	**09 51 03.2**	**+2.1**
	176nm,0.9s,SNR=7.9						
ECHE				S	**Sn**	**09 52 14.7**	**+0.8**
	5.8nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**6.40**	**282**	P	**Pn**	**09 51 00.8**	**-0.6**
	101nm,0.6s,SNR=7.9						
ENIJ				S	**Sn**	**09 52 14.0**	**-0.4**
	35nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**6.49**	**328**	P	**Pn**	**09 51 05.0**	**+2.4**
	32nm,0.7s,SNR=12						
EPOB				S	**Sn**	**09 52 14.3**	**-2.3**
	21nm,0.9s						
ERTA	**Horta de San J**	**6.52**	**322**	P	**Pn**	**09 51 05.4**	**+2.4**
	14nm,0.4s,SNR=6.2						
ERTA				S	**Sn**	**09 52 17.3**	**0.0**
	74nm,1.0s,SNR=4.6						
EMOS	**Mosqueruela**	**6.54**	**315**	P	**Pn**	**09 51 05.7**	**+2.2**
	54nm,0.6s,SNR=34						
EMOS				S	**Sn**	**09 52 17.2**	**-0.8**
	129nm,1.2s						
EMIR	**Miracle**	**6.79**	**333**	P	**Pn**	**09 51 09.2**	**+2.6**
	87nm,0.7s,SNR=51						
EMIR				S	**Sn**	**09 52 22.5**	**-1.4**
	29nm,0.5s						
FIGM	**Figuig**	**6.85**	**239**	P	**Pn**	**09 51 11.3**	**+3.6**
FIGM				S	**Sn**	**09 52 26.8**	**+1.1**
EJON	**La Jonquera**	**6.86**	**343**	P	**Pn**	**09 51 08.9**	**+1.2**
	9.1nm,0.4s,SNR=4.7						
EJON				S	**Sn**	**09 52 25.4**	**-0.2**
	8.0nm,0.4s,SNR=7.9						
SJAF	**Saint Jean de**	**6.89**	**343**	P	**Pn**	**09 51 09.6**	**+1.5**
	17nm,0.8s,SNR=7.9						
SJAF				S	**Sn**	**09 52 25.8**	**-0.6**
	5.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.94**	**281**	P	**Pn**	**09 51 09.3**	**+0.4**
	40nm,0.4s,SNR=20						
EBER				S	**Sn**	**09 52 26.7**	**-1.1**
	128nm,1.3s						
GOG	**Mont Gurugu**	**7.06**	**267**	P	**Pn**	**09 51 11.9**	**+1.4**
GOG				S	**Sn**	**09 52 31.5**	**+0.7**
PGF	**Pioggiola**	**7.12**	**21**	*e*Pn	**Pn**	**09 51 10.9**	**-0.4**
PGF	**Pioggiola**	**7.12**	**21**	*e*P	Pn	09 51 16.5	+5.2
PGF				*e*Sn	**Sn**	**09 52 27.3**	**-4.8**
	31nm,0.7s						
CLLI	**Llivia**	**7.14**	**338**	P	**Pn**	**09 51 14.1**	**+2.6**
	32nm,0.6s,SNR=27						
CLLI				S	**Sn**	**09 52 33.7**	**+1.1**
	43nm,0.8s,SNR=5.7						
EQES	**Quesada**	**7.22**	**288**	P	**Pn**	**09 51 14.9**	**+2.2**
	212nm,0.9s,SNR=36						
EQES				S	**Sn**	**09 52 35.0**	**+0.2**
	99nm,0.8s,SNR=9.6						
VAE	**Valguarnera**	**7.23**	**75**	LR	LR	09 54 39.8	
	comp=Z,2μm,19.8s,baz=157,slow=44						
CSOR	**Sort**	**7.33**	**333**	P	**Pn**	**09 51 17.8**	**+3.6**
	SNR=7.9						
CSOR				S	**Sn**	**09 52 38.3**	**+1.0**
	10nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**7.41**	**283**	P	**Pn**	**09 51 16.6**	**+1.3**
	46nm,0.5s,SNR=20						
EQUE				S	**Sn**	**09 52 38.9**	**-0.4**
	44nm,0.5s,SNR=13						
LMR	**La Mourre**	**7.43**	**5**	*e*Pn	**Pn**	**09 51 14.3**	**-1.2**
LMR	**La Mourre**	**7.43**	**5**	*e*P	**Pn**	**09 51 19.9**	**+4.4**
LMR				*e*Sn	**Sn**	**09 52 34.4**	**-5.4**
	7.9nm,0.5s		

ESDC Sn **Sn** **09 53 04.0 -1.3**
4.5nm,0.3s,baz=112,slow=24,SNR=7.9
ESDC LR LR 09 54 24.3
comp=Z,153nm,19.5s,baz=135,slow=35
ESLA Sonseca Array 8.46 299 *e*Pn **Pn** **09 51 31.2 +1.5**
CEL Celeste 8.53 71 *e*Pn **Pn** **09 51 30.6 0.0**
ATE Arette 8.66 328 P **Pn** **09 51 34.8 +2.4**
23nm,1.0s,SNR=7.9
ATE S **Sn** **09 53 08.8 -1.2**
15nm,0.4s,SNR=7.9
PAB San Pablo 8.69 298 *e*Pn **Pn** **09 51 33.2 +0.3**
PAB San Pablo 8.69 298 P **Pn** **09 51 34.2 +1.4**
17nm,0.8s,SNR=7.9
PAB S **Sn** **09 53 09.7 -1.1**
5.1nm,0.6s,SNR=7.9
PAB San Pablo 8.69 298 *e*P **Pn** **09 51 33.2 +0.3**
IELO Elcoad 8.72 325 P **Pn** **09 51 35.4 +2.2**
15nm,0.8s,SNR=7.9
IELO S **Sn** **09 53 11.1 -0.3**
3.0nm,0.6s,SNR=7.9
AQU L'Aquila 8.81 41 *e*Pn **Pn** **09 51 36.1 +1.6**
AQU L'Aquila 8.81 41 *e*P **Pn** **09 51 36.1 +1.6**
MBDF Montbardon 8.84 5 *e*Pn **Pn** 09 51 35.0 +0.1
MBDF Montbardon 8.84 5 *e*P Pn 09 51 40.8 +5.9
MBDF *e*Sn **Sn** **09 53 08.5 -6.0**
9.6nm,0.6s
MBDF Montbardon 8.84 5 Pn **Pn** **09 51 35.0 +0.1**
MBDF Sn **Sn** **09 53 08.5 -6.0**
4.8nm,0.6s
SJPF Ste Jean 8.92 326 *e*Pn **Pn** **09 51 34.9 -1.0**
SJPF Ste Jean 8.92 326 *e*P **Pn** **09 51 40.0 +4.1**
SJPF *e*Sn **Sn** **09 53 10.1 -6.2**
23nm,0.7s
SJPF Ste Jean 8.92 326 P **Pn** **09 51 40.0 +4.1**
HORN Hornachuelos 8.93 286 P **Pn** **09 51 37.3 +1.2**
HORN S **Sn** **09 53 16.0 -0.6**
SMIR Smir Dam 8.95 272 P **Pn** **09 51 37.0 +0.7**
SMIR S **Sn** **09 53 17.4 +0.5**
VIVF Saint-Julien-l 8.96 356 *e*Pn **Pn** **09 51 36.7 +0.3**
VIVF Saint-Julien-l 8.96 356 *e*P Pn 09 51 41.9 +5.5
VIVF *e*Sn **Sn** **09 53 11.1 -6.1**
4.9nm,0.4s
ORIF Oris-en-Rattie 8.99 1 *e*P Pn 09 51 41.9 +4.9
ORIF *e*Sn **Sn** **09 53 11.9 -6.2**
3.7nm,0.5s
MDT Midelt 9.01 253 Pn **Pn** **09 51 35.6 -1.6**
0.7nm,0.3s,baz=79,slow=17,SNR=25
MDT Lg Lg 09 54 15.2
2.2nm,0.3s,baz=212,slow=20,SNR=3.9
MDT LR LR 09 55 18.1
comp=Z,344nm,18.2s,baz=108,slow=40
MDT Midelt 9.01 253 P **Pn** **09 51 38.7 +1.5**
MDT S **Sn** **09 53 24.2 +5.5**
GUD Guadarrama 9.02 304 P **Pn** **09 51 40.2 +2.8**
22nm,0.9s,SNR=8.0
GUD S **Sn** **09 53 17.3 -1.6**
14nm,0.7s,SNR=5.5
ECAB El Cabril 9.10 287 ⇑P **Pn** **09 51 38.8 +0.4**
13nm,0.4s,SNR=18
ECAB S **Sn** **09 53 18.4 -2.3**
13nm,0.4s,SNR=15
MD31 MD31 9.11 253 P **Pn** **09 51 39.6 +1.0**
MD31 S **Sn** **09 53 26.3 +5.2**
EALK Alkurruntz 9.13 325 P **Pn** **09 51 41.5 +2.6**
31nm,0.7s,SNR=8.7
EALK S **Sn** **09 53 21.1 -0.5**
24nm,0.5s,SNR=5.6
ARF Arif 9.34 244 P **Pn** **09 51 44.3 +2.5**
ARF S **Sn** **09 53 28.6 +1.7**
CAF Calviac 9.39 344 *e*Pn **Pn** **09 51 41.3 -1.1**
CAF Calviac 9.39 344 *e*P Pn 09 51 47.5 +5.0
CAF *e*Sn **Sn** **09 53 21.6 -6.4**
6.4nm,0.5s
RSA Sarsar 9.40 267 P **Pn** **09 51 44.6 +2.0**
RSA S **Sn** **09 53 29.8 +1.5**
LPG La Plagne 9.61 5 *e*P Pn 09 51 50.5 +4.9
LPG *e*Sn **Sn** **09 53 27.3 -6.2**
4.1nm,0.4s
LPL La Plagne 9.62 5 *e*P Pn 09 51 51.4 +5.7
LPL *e*Sn **Sn** **09 53 27.1 -6.8**
6.3nm,0.2s
LFF La Frestale 9.75 339 *e*Pn **Pn** **09 51 45.8 -1.4**
LFF La Frestale 9.75 339 *e*P Pn 09 51 52.6 +5.4
EMIN Mina Concepcio 10.03 284 P **Pn** **09 51 51.3 +0.2**
8.4nm,0.5s,SNR=7.1
EMIN S **Sn** **09 53 40.1 -3.5**
11nm,0.6s,SNR=7.9
EBAD Badajoz 10.46 289 P **Pn** **09 51 58.2 +1.3**
7.5nm,0.7s,SNR=4.0
EBAD S **Sn** **09 53 51.3 -2.7**
16nm,1.1s,SNR=4.0
EGRO El Granado 10.65 283 P **Pn** **09 51 59.9 +0.4**
8.9nm,0.6s,SNR=4.6
TCF Toulx Ste Croi 10.67 347 *e*P Pn 09 52 04.9 +5.0
SMF Signal de Mont 10.80 353 *e*P Pn 09 52 06.4 +4.8
PESTR Estremoz 10.92 290 *e*P **Pn** **09 52 06.0 +2.7**
26nm,1.5s
PESTR Estremoz 10.92 290 *e*Pn **Pn** **09 52 03.7 +0.4**
PESTR Estremoz 10.92 290 P **Pn** **09 52 05.0 +1.6**
PBDV Barranco-do-Ve 10.98 281 *e*P **Pn** **09 52 06.3 +2.1**
PBEJ Beja 11.00 285 *e*P **Pn** **09 52 06.3 +1.9**
30nm,2.0s
PCBR Castelo Branco 11.07 295 *e*P **Pn** **09 52 09.2 +3.8**
37nm,1.5s
PCVE Castro Verde 11.10 283 *e*P **Pn** **09 52 06.1 +0.4**
34nm,1.6s
EARI Arriondas 11.14 315 P **Pn** **09 52 10.3 +3.9**
32nm,1.0s,SNR=7.8
EARI S **Sn** **09 54 09.1 -1.7**
6.8nm,0.6s,SNR=11
EVO Evora 11.18 288 *e*P **Pn** **09 52 09.4 +2.5**
MVO Moncorvo 11.21 302 *e*P **Pn** **09 52 09.9 +2.6**
42nm,1.1s
MVO Moncorvo 11.21 302 P **Pn** **09 52 09.3 +2.0**
20nm,1.0s,SNR=6.7
MVO S **Sn** **09 54 09.8 -2.7**
16nm,0.6s,SNR=7.9
FUORN Ofenpass-Fuorn 11.24 17 *e*Pn Pn 09 52 17.6 +10
MESJ Messejana 11.26 284 *e*P **Pn** **09 52 08.4 +0.5**
MESJ Messejana 11.26 284 *e*P **Pn** **09 52 08.9 +1.0**
35nm,1.3s
PBRG Braganca 11.29 305 *e*P **Pn** **09 52 10.8 +2.4**
54nm,1.2s
MTE Manteigas 11.29 297 *e*P **Pn** **09 52 09.8 +1.4**
28nm,1.6s
DAVOX Davos/Dischmat 11.31 15 LR LR 09 56 46.9
comp=Z,414nm,18.9s,baz=238,slow=39
ECAL Calabor 11.35 306 P **Pn** **09 52 12.0 +2.8**
20nm,0.4s,SNR=9.3
ECAL S **Sn** **09 54 12.3 -3.7**
SNR=7.9
LOR Lormes 11.41 354 *e*P Pn 09 52 14.9 +4.8
PMTG Montargil 11.44 290 *e*P **Pn** **09 52 13.7 +3.2**
24nm,1.8s
OUZM OUZ 11.49 248 P Pn 09 52 17.9 +6.6
MFF Saint Martin d 11.52 340 *e*P **Pn** **09 52 15.9 +4.4**
PNCL Nicolau / Gran 11.53 285 *e*P **Pn** **09 52 12.8 +1.2**
33nm,2.0s
PTEO Sao Teotonio 11.63 282 *e*P **Pn** **09 52 15.4 +2.4**
PFVI Vila Bisbo 11.69 280 P **Pn** **09 52 14.7 +0.8**
12nm,0.5s,SNR=7.9
PVRL Vila Real 11.73 301 *e*P **Pn** **09 52 16.6 +2.2**
44nm,1.9s
FETA Feichten 11.73 17 *e*P Pn 09 52 23.9 +9.4
7.2nm,1.2s
POLO Lamas de Olo 11.82 301 *e*P **Pn** **09 52 17.3 +1.6**
ABTA Abfaltersbach 11.98 23 *e*P Pn 09 52 27.3 +9.4
18nm,1.3s
SQTA Sankt Quirin 12.03 19 *e*P Pn 09 52 26.8 +8.2
5.1nm,0.9s
MOTA Moosalm 12.12 18 *e*P Pn 09 52 30.2 +10
6.8nm,0.8s
RETA Reutte 12.17 17 *e*P Pn 09 52 27.7 +7.2
13nm,1.9s
OUK Oukaimeden 12.19 251 P **Pn** **09 52 23.2 +2.1**
ELOB Lobios 12.20 303 P **Pn** **09 52 23.3 +2.4**
13nm,0.8s,SNR=5.5
ELOB S **Sn** **09 54 30.6 -6.2**
2.4nm,0.4s,SNR=7.9
EPON Pontenova 12.31 311 P **Pn** **09 52 25.1 +2.8**
11nm,0.6s,SNR=5.9
PGAV Gavieira, Arco 12.38 303 *e*P **Pn** **09 52 25.3 +1.9**
KBA Koelnbreinsper 12.55 25 *e*P Pn 09 52 37.4 +12
10.0nm,1.3s
PAGF Fort de Pagny 12.63 0 *e*P **Pn** **09 52 31.1 +4.5**
SOKA Soboth 12.85 30 *e*P Pn 09 52 38.9 +9.2
7.6nm,1.8s
GRR Gorron 13.35 341 *e*Pn **Pn** **09 52 35.0 -1.4**
MOA Molln 13.53 26 *e*P **P** **09 52 49.6 +1.5**
32nm,1.3s
DIVS Divibare 13.69 49 *e*Pn **Pn** **09 52 39.5 -1.8**
WLF Walferdange 13.74 1 ⇑P **P** **09 52 47.1 -3.3**
DOU Dourbes 14.19 357 ⇓P **Pn** **09 52 51.5 +3.6**
comp=Z,12nm,1.0s
CONA Conraz Observa 14.20 29 *e*P **P** **09 52 55.8 +0.2**
comp=Z,14nm,1.6s
GEA0 GERESS Array S 14.21 22 *e*Pn **Pn** **09 52 50.7 +2.4**
GEC2 GERESS Array S 14.21 22 *e*Pn **Pn** **09 52 50.7 +2.3**
GEC2 GERESS Array S 14.21 22 *e*P **Pn** **09 52 50.7 +2.3**
GERES GERESS Array B 14.21 22 Pn **Pn** **09 52 47.8 -0.6**
comp=Z,0.1nm,0.3s,baz=183,slow=18,SNR=2.5
GERES LR LR 09 58 35.5
comp=Z,476nm,18.4s,baz=209,slow=38
KHC Kasperske Hory 14.43 21 *e*Pn **P** **09 52 55.4 -2.8**
KHC Kasperske Hory 14.43 21 *e*P **P** **09 52 59.8 +1.6**
KHC *ex* x 09 53 05.7
KHC AMS AMS 09 59 50.0
comp=Z,400nm,10.7s
KHC Kasperske Hory 14.43 21 *e*P **P** **09 52 59.8 +1.6**
KHC MLR MLR
comp=Z,400nm,10.7s
SNF Seneffe 14.61 357 ⇑P **Pn** **09 52 55.4 +1.6**
MEM Membach 14.69 1 ⇓P **P** **09 53 00.5 -0.5**
MODS Modra-Piesok 15.13 31 *e*P **P** **09 53 09.7 +3.8**
MODS Modra-Piesok 15.13 31 *e*P **P** **09 53 09.6 +3.7**
TREC Trest 15.19 25 AMS AMS 09 59 20.0
comp=Z,800nm,15.0s
KRUC Moravsky 15.32 28 *e*P **P** **09 53 10.4 +2.4**
PRU Pruhonice 15.48 22 *e*P **P** **09 53 11.8 +2.0**
PRU AMS AMS 10 00 00.0
comp=Z,400nm,15.8s
PRU Pruhonice 15.48 22 *e*P **P** **09 53 11.8 +2.0**
PRU MLR MLR
comp=Z,400nm,15.8s
BZS Buzias 15.48 46 ⇑*i*P **P** **09 53 12.1 +2.3**
GOPC GO Pecny, Ondr 15.49 23 *e*P **P** **09 53 12.3 +2.4**
GOPC AMS AMS 09 58 50.0
comp=Z,400nm,19.2s
GOPC GO Pecny, Ondr 15.49 23 *e*P **P** **09 53 12.3 +2.4**
GOPC MLR MLR
comp=Z,400nm,19.2s
VRAC Vranov 15.60 28 ⇓*i*P **P** **09 53 12.7 +1.6**
VRAC Vranov 15.60 28 *e*P **P** **09 53 13.7 +2.6**
VRAC Vranov 15.60 28 Pn **P** **09 53 10.6 -0.5**
comp=Z,0.2nm,0.3s,baz=217,slow=13,SNR=15
JAVC Velka Javorina 15.67 31 *e*P **P** **09 53 15.4 +3.5**
VYHS Vyhne 15.89 34 *e*P **P** **09 53 16.5 +2.1**
VYHS Vyhne 15.89 34 *e*P **P** **09 53 16.5 +2.1**
PVCC Panska Ves 15.97 21 AMS AMS 09 59 20.0
comp=Z,500nm,16.9s
PSZ Piszkesteto 15.98 37 *e*Pn **P** **09 53 16.8 +1.4**
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 15.98 37 ⇓*i*P **P** **09 53 17.0 +1.6**
BRG Berggiesshubel 16.10 19 *e*P **P** **09 53 18.8 +2.1**
comp=Z,12nm,1.5s
BRG *e* 09 53 28.2
comp=Z,10nm,1.2s
comp=N,460nm,16.8s
comp=E,384nm,13.9s
comp=Z,551nm,15.4s
BRG Berggiesshubel 16.10 19 *e*P **P** **09 53 18.8 +2.1**
BRG pmax pmax
comp=Z,13nm,1.5s
BRG pmax pmax
comp=Z,11nm,1.2s
BRG MLR MLR
comp=N,460nm,16.8s
BRG MLR MLR
comp=E,384nm,13.9s
BRG MLR MLR
comp=Z,551nm,15.4s
CLL Collm 16.27 17 *e*Pn **Pn** **09 53 16.2 +0.8**
comp=Z,16nm,1.3s
CLL Collm 16.27 17 *i* P **P** **09 53 18.0 -0.5**
CLL *e*(sP) **pP** **09 53 22.0 -0.1**
comp=Z,20nm,1.4s
CLL *i* 09 53 24.1
CLL L L 09 59 00.0
comp=Z,200nm,18.9s
CLL Collm 16.27 17 *i* P **P** **09 53 22.2 +3.7**
CLL pmax pmax
comp=Z,20nm,1.4s
KRLC Kraliky 16.30 26 *e*P **P** **09 53 22.3 +3.4**
KRLC Kraliky 16.30 26 *e*P **P** **09 53 22.3 +3.4**
MORC Moravsky Berou 16.34 28 *e*Pn **Pn** **09 53 17.8 +1.3**
comp=Z,20nm,1.2s
MORC Moravsky Berou 16.34 28 ⇑*i*P **P** **09 53 20.3 +0.9**
MORC Moravsky Berou 16.34 28 *e*P **Pn** **09 53 17.8 +1.3**
MORC pmax pmax
comp=Z,20nm,1.2s
MORC Moravsky Berou 16.34 28 *e*P **P** **09 53 19.9 +0.5**
DPC Dobruska-Polom 16.37 25 *e*P **P** **09 53 20.0 +0.3**
DPC AMS AMS 10 00 20.0
comp=Z,500nm,14.2s
DPC Dobruska-Polom 16.37 25 *e*P **P** **09 53 20.0 +0.3**
DPC MLR MLR
comp=Z,500nm,14.2s
UPC Upice 16.40 24 *e*P **P** **09 53 24.6 +4.6**
UPC AMS AMS 10 00 10.0
comp=Z,500nm,14.8s
UPC Upice 16.40 24 *e*P **P** **09 53 24.6 +4.6**
UPC MLR MLR
comp=Z,500nm,14.8s
OKC Ostrava-Krasne 16.63 29 *e*P **P** **09 53 23.5 +1.0**
OKC AMS AMS 10 01 00.0
comp=Z,300nm,10.9s
OKC Ostrava-Krasne 16.63 29 *e*P **P** **09 53 23.5 +1.0**
OKC MLR MLR
comp=Z,300nm,10.9s
DRGR 16.77 44 ⇓*i*P **P** **09 53 26.9 +2.7**
ARR Arges 17.20 51 ⇑*i*P **P** **09 53 31.6 +2.7**
VOIR 17.50 51 ⇓*i*P **P** **09 53 35.2 +3.0**
OJC Ojcow 17.60 31 *e*Pn **P** **09 53 35.0 +1.8**
comp=Z,13nm,1.3s
OJC Ojcow 17.60 31 *e*P **P** **09 53 35.1 +1.8**
OJC pmax pmax
comp=Z,13nm,1.3s
MLR Muntele Rosu 18.09 52 ⇑*i*P **P** **09 53 41.3 +2.5**
MLR Muntele Rosu 18.09 52 P **P** **09 53 39.4 +0.6**
comp=Z,0.4nm,0.3s,baz=127,slow=4.3,SNR=4.7
BURAR Bucovina Array 18.65 45 ⇓*i*P **Pn** **09 53 46.7 +1.4**
BUR08 Bucovina Ar. S 18.66 45 *e*P **Pn** **09 53 50.0 +4.7**
comp=Z,8.4nm,1.1s
VRI Vrincioaia 18.74 52 ⇑*i*P **Pn** **09 53 48.4 +2.1**
TESR Tescani 18.97 50 ⇑*i*P **Pn** **09 53 51.2 +2.2**
TIRR Tirgusor 19.34 57 ⇑*i*P **Pn** **09 53 54.4 +1.0**
EKA Eskdalemuir Ar 20.33 345 P **P** **09 54 02.7 -0.4**
comp=Z,4.2nm,1.0s,baz=155,slow=11,SNR=8.0
KLNR Kaliningrad 21.24 24 ⇑*e*P **P** **09 54 16.1 +3.2**
BR131 Keskin Array S 22.41 72 *e*P **P** **09 54 24.5 -1.3**
comp=Z,15nm,1.2s
BRTR Keskin Array B 22.41 72 P **P** **09 54 24.6 -1.3**
comp=Z,1.5nm,0.8s,baz=259,slow=9.4,SNR=7.5
AK11 Malin Array Si 22.47 42 *e*P **P** **09 54 26.1 -0.1**
KIEV Kiev 22.50 42 *e*P **P** **09 54 26.7 +0.2**
comp=Z,13nm,0.7s
KIEV Kiev 22.50 42 ⇓*i*P **P** **09 54 27.0 +0.4**
KIEV Kiev 22.50 42 *c i*P **P** **09 54 26.9 +0.4**
KIEV pmax pmax
comp=Z,15nm,0.8s
AKASG Malin Array Be 22.52 42 P **P** **09 54 25.2 -1.4**
comp=Z,9.1nm,0.6s,baz=238,slow=9.2,SNR=27
AKBB Malin Array Si 22.52 42 *e*P **P** **09 54 26.9 +0.2**
comp=Z,13nm,0.8s
AKBB Malin Array Si 22.52 42 *e*P **P** **09 54 26.9 +0.2**
AKBB pmax pmax
comp=Z,13nm,0.8s
TOA0 Torodi Ar. Sit 22.95 190 *e*P **P** **09 54 28.9 -2.6**
TORD Torodi Ar. Bea 22.95 190 P **P** **09 54 27.8 -3.7**
comp=Z,6.7nm,0.9s,baz=355,slow=14,SNR=22
TORD LR LR 10 04 07.5
comp=Z,351nm,18.1s,baz=335,slow=39
KONO Kongsberg 23.88 5 ⇑*e*P **P** **09 54 42.3 +1.9**
KONO pmax pmax
comp=Z,8.0nm,1.0s
HFS Hagfors 24.79 10 P **P** **09 54 47.8 -0.9**
comp=Z,1.4nm,0.7s,baz=216,slow=19,SNR=3.3
NB2 NORSAR Subarra 25.39 6 P **P** **09 54 53.9 -0.3**
comp=Z,10nm,1.4s,baz=190,slow=9.3
NOA NORSAR Array B 25.39 6 P **P** **09 54 53.1 -1.1**
comp=Z,1.6nm,0.8s,baz=191,slow=8.6,SNR=6.1
NOA LR LR 10 05 42.9
comp=Z,122nm,18.3s,baz=185,slow=38
VSU Vasula 26.50 25 ⇓*i*P **P** **09 55 07.4 +3.1**
VSU pmax pmax
comp=Z,11nm,1.0s
VSR Storozhevoye 28.41 47 ⇑*e*P **P** **09 55 20.7 -0.7**
VSR pmax pmax
comp=Z,7.0nm,1.0s
OBN Obninsk 28.59 38 ⇑*e*P **P** **09 55 22.8 -0.2**
OBN *e*S **S** **10 00 18.2 +7.3**
OBN *e*SS **SnSn** **10 01 41.7 +11**
OBN pmax pmax
comp=Z,11nm,1.1s
OBN MLR MLR
comp=Z,129nm,16.0s
FINES FINESS Array B 28.64 21 P **P** **09 55 22.8 -0.6**
comp=Z,0.9nm,0.7s,baz=242,slow=4.1,SNR=3.6
FINES LR LR 10 07 48.2
comp=Z,136nm,19.3s,baz=212,slow=38
LPSR Galich'ya Gora 28.76 44 *e*P **P** **09 55 23.9 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 29.33 63 *e*P **P** **09 55 26.6 -3.3**
KIV pmax pmax
comp=Z,26nm,1.1s
KIV MLR MLR
comp=Z,74nm,15.0s
VRH Novokhopyorsk 29.93 48 *e*P **P** **09 55 32.7 -2.2**
VRH pmax pmax
comp=Z,7.0nm,0.6s
DBIC Dimbokro 30.66 201 LR LR 10 07 18.3
comp=Z,228nm,19.3s,baz=1.5,slow=35
GNI Garni 30.92 70 ⇑*e*P **P** **09 55 41.4 -2.7**
GNI pmax pmax
comp=Z,16nm,0.8s
KLMR Klimovskoe 32.95 30 *e*P **P** **09 56 00.3 -1.1**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 32.95 30 *e*P **P** **09 56 00.4 -1.0**
KLMR AMP 09 56 02.6
comp=Z,12nm,0.9s
TMCR Tamitsa 34.38 25 *e*P **P** **09 56 10.9 -2.9**
ARCES ARCESS Array B 35.39 12 P **P** **09 56 21.5 -1.0**
comp=Z,5.8nm,1.0s,baz=206,slow=10.0,SNR=5.1
PRGR Permogore 35.89 32 *e*P **P** **09 56 26.4 -0.5**
PRGR pmax pmax
comp=Z,12nm,0.9s
ARU Arti 40.76 43 *d i*P **P** **09 57 07.6 -0.3**
ARU 09 58 39.4
ARU S **S** **10 03 21.9 +3.8**
ARU SS **SnSn** **10 06 22.3 -2.8**
ARU pmax pmax
comp=Z,13nm,1.9s
BRVK Borovoye 47.52 48 ⇑*i*P **P** **09 58 01.8 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.1s
SCHQ Schefferville 51.84 315 P **P** **09 58 33.2 -1.8**
comp=Z,6.4nm,1.0s,baz=24,slow=12,SNR=5.3
AAK Ala-Archa 52.40 60 ⇑*e*P **P** **09 58 38.8 -0.8**
AAK pmax pmax
comp=Z,2.0nm,1.0s
KURBB Kurchatov Arra 52.97 50 P **P** **09 58 42.0 -1.4**
comp=Z,2.0nm,0.8s,baz=288,slow=8.0,SNR=11
KURK Kurchatov 53.00 50 *e*P **P** **09 58 43.1 -0.6**
comp=Z,4.7nm,0.9s
KURK Kurchatov 53.00 50 ⇑*e*P **P** **09 58 44.0 +0.3**
KURK pmax pmax
comp=Z,8.0nm,1.3s
NRIK Noril'sk 54.09 26 LR LR 10 24 56.9
comp=Z,64nm,18.0s,baz=3.5,slow=39
KDJ Kajisay 54.45 60 *e*P **P** **09 58 54.1 -0.6**
comp=Z,3.2nm,1.0s
KDJ Kajisay 54.45 60 *e*P **P** **09 58 54.1 -0.6**
KDJ pmax pmax
comp=Z,3.0nm,1.0s
KSH Kashi 54.45 64 P **P** **09 58 54.0 -0.7**
KSH sP sP 09 59 01.0 +0.6
KSH S **S** **10 06 29.3 -4.0**
KSH pmax pmax
comp=Z,120nm,5.7s
KSH LR LR
comp=N,280nm,11.3s
KSH LR LR
comp=E,220nm,8.4s
ZALV Zalesovo Beam 55.87 45 *e*P **P** **09 59 04.5 +0.1**
ZALV Zalesovo Beam 55.87 45 *i* P **P** **09 59 05.0 +0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 55.87 45 P **P** **09 59 03.6 -0.9**
comp=Z,1.3nm,0.6s,baz=286,slow=8.6,SNR=5.5
ZALV LR LR 10 25 56.5
comp=Z,36nm,18.0s,baz=248,slow=39
MK31 Makanchi Array 56.42 53 *e*P **P** **09 59 08.1 -0.5**
comp=Z,1.8nm,0.8s
MK31 Makanchi Array 56.42 53 *e*P **P** **09 59 08.1 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 56.42 53 P **P** **09 59 08.2 -0.5**
comp=Z,1.6nm,0.6s,baz=285,slow=5.8,SNR=20
MK01 Makanchi Array 56.44 53 *e*P **P** **09 59 08.6 -0.1**
WMQ Urumqi 61.05 55 *e*P **P** **09 59 42.8 +1.9**
WMQ LR LR
comp=N,260nm,22.9s
WMQ LR LR
comp=E,280nm,23.9s
WMQ LR LR
comp=Z,60nm,23.9s
TIXI Tiksi 65.60 17 ⇓*e*P **P** **10 00 10.9 +0.4**
TIXI pmax pmax
comp=Z,5.0nm,2.5s
ULM Lac du Bonnet 69.89 318 P **P** **10 00 35.6 -2.2**
comp=Z,1.9nm,0.6s,baz=88,slow=7.6,SNR=4.4
SONM Songino Array 70.77 45 P **P** **10 00 43.0 -0.5**
SONM Songino Array 70.77 45 P **P** **10 00 43.0 -0.5**
comp=Z,0.2nm,0.5s,baz=289,slow=4.4,SNR=3.2
SONM LR LR 10 36 08.7
comp=Z,50nm,18.9s,baz=274,slow=40
YKW3 Yellowknife Ar 70.84 335 *e*P **P** **10 00 43.9 +0.5**
comp=Z,9.6nm,1.4s
YKA Yellowknife Ar 70.88 335 P **P** **10 00 42.9 -0.8**
comp=Z,0.5nm,0.5s,baz=50,slow=6.1,SNR=12
YKB5 Yellowknife Ar 70.88 335 *e*P **P** **10 00 43.2 -0.5**
GTA Gaotai 71.13 55 *e*P **P** **10 00 46.3 +0.5**
GTA pP sP 10 00 52.3 +0.6
GTA sP pP 10 00 55.5 +5.4
GTA pmax pmax
comp=Z,3.0nm,1.1s
BDFB Brasilia 72.11 235 LR LR 10 31 35.1
comp=Z,75nm,18.9s,baz=332,slow=35
COLD Coldfoot 75.54 351 *e*P **P** **10 01 11.4 +0.2**
comp=Z,3.3nm,1.1s
LZH Lanzhou 75.61 56 *e*P **P** **10 01 12.3 0.0**
LZH pP sP 10 01 16.8 -1.4
LZH sP pP 10 01 18.8 +2.2
LZH PP **PP** **10 04 00.8 -0.6**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.8s
IM3 Indian Mountai 77.17 351 *e*P **P** **10 01 20.4 -0.1**
ILAR Eielson Array 77.34 348 P **P** **10 01 21.9 +0.4**
comp=Z,0.4nm,0.5s,baz=11,slow=5.4,SNR=13
HHC Hu-ho-hao-te 77.79 48 *e*P **P** **10 01 24.0 -0.5**
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,87nm,4.6s
CD2 Chengdu 78.47 60 *e*P **P** **10 01 28.3 -0.1**
DHY Denali Highway 79.00 348 *e*P **P** **10 01 31.6 +0.7**
comp=Z,6.8nm,0.8s
KMI Kunming 81.05 66 P **P** **10 01 42.8 +0.1**
KMI pmax pmax
comp=Z,16nm,0.5s
YHB Horse Butte 81.44 320 *e*P **P** **10 01 48.7 +4.3**
comp=Z,24nm,0.6s
PDAR Pinedale Array 81.91 318 P **P** **10 01 46.7 -0.3**
comp=Z,0.5nm,0.7s,baz=49,slow=4.4,SNR=5.5
CMAR Chiang Mai Arr 82.00 73 LR LR 10 45 04.4
comp=Z,25nm,19.1s,baz=210,slow=41
CN2 Changchun 83.65 39 *e*P **P** **10 01 56.5 +0.8**
BMO Blue Mountains 84.45 323 *e*P **P** **10 02 00.2 +0.3**
comp=Z,4.2nm,1.1s
BMO Blue Mountains 84.45 323 *e*P **P** **10 02 00.2 +0.3**
BMO pmax pmax
comp=Z,4.0nm,1.1s
SRU San Rafael Swe 84.92 315 *e*P **P** **10 02 01.7 -0.7**

comp=Z,3.0nm,0.8s
SRU San Rafael Swe 84.92 315 *e*P **P 10 02 01.7 -0.7**
SRU pmax pmax
comp=Z,3.0nm,0.8s
CPUP Villa Florida 85.78 233 LR LR 10 38 28.2
comp=Z,105nm,20.2s,baz=46,slow=34
LPAZ La Paz 86.83 247 LR LR 10 41 10.6
comp=Z,26nm,18.1s,baz=28,slow=36
TXAR Lajitas Array 87.11 304 P **P 10 02 13.0 -0.3**
comp=Z,0.5nm,0.8s,baz=96,slow=4.9,SNR=6.1
PETK Petropavlovsk- 88.07 16 LR LR 10 46 27.3
comp=Z,38nm,18.7s,baz=14,slow=39
JNU Nakatsue 94.33 43 LR LR 10 47 08.5
comp=Z,54nm,19.2s,baz=348,slow=37
MJAR Matsushiro Arr 95.51 37 LR LR 10 49 45.4
comp=Z,56nm,18.1s,baz=270,slow=38

IDC ***16*** *09:52:45.2±2.8, 9.75N×83.95W, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.4/5, Error ellipse: s-maj=97.3km s-min=32.9km az=28.0*
ISCJB ***16*** *09:52:59.0±0.4, 10.18N±0.05×84.26W±0.05, h94km±4km, mb3.6/7, Error ellipse: s-maj=10.5km s-min=4.7km az=42.4*
UCR ***16*** *09:52:59.8±0.9, 10.20N×84.24W, h82km±2km, MD4.0, ML3.0, mb4.5(NEIC)*
NEIC ***16*** *09:53:00.0±0.0, 10.17N×84.25W, h88km, mb4.5/2, ML4.0(UCR), After UCR.*
ISC 16 09:52:59.0±0.7, 10.17N±0.05×84.26W±0.05, h92km±5km, n46, σ1§03/56, mb3.5/7, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HDC	**Heredia**	**0.21**	**140**	*e*Pn	**Pn**	**09 53 12.5**	**+0.1**
HDC				*e*Sn	**Sn**	**09 53 22.7**	**+0.2**
HDC	**Heredia**	**0.21**	**140**	*e*P	**Pn**	**09 53 12.6**	**+0.1**
HDC				*e*S	**Sn**	**09 53 22.7**	**+0.2**
SRA1	**San Ramn**	**0.23**	**250**	*e*P	**Pn**	**09 53 11.9**	**-0.6**
SRA1				*e*S	**Sn**	**09 53 21.7**	**-0.9**
SJS	**Escuela Geolog**	**0.30**	**139**	*e*P	**Pn**	**09 53 14.8**	**+2.0**
LCR2	**La Lucha 2**	**0.49**	**149**	*e*P	**Pn**	**09 53 14.2**	**0.0**
LCR2				*e*S	**Sn**	**09 53 25.7**	**+0.3**
CASO	**Castillo**	**0.54**	**299**	*i* P	**Pn**	**09 53 14.5**	**+0.2**
ARE1	**Arenal 1**	**0.54**	**303**	*e*P	**Pn**	**09 53 14.6**	**+0.3**
TRT1	**Tortuguero**	**0.69**	**52**	*e*P	**Pn**	**09 53 15.3**	**-0.3**
JTS	**JuntasAbangare**	**0.70**	**280**	*e*Pn	**Pn**	**09 53 15.8**	**+0.1**
JTS				*e*Sn	**Sn**	**09 53 28.1**	**0.0**
JTS	**JuntasAbangare**	**0.70**	**280**	*e*P	**Pn**	**09 53 15.8**	**+0.1**
JTS				*e*S	**Sn**	**09 53 28.1**	**0.0**
ACAL	**Aguas Claras**	**0.90**	**301**	*i* P	**Pn**	**09 53 18.1**	**+0.3**
PTEN	**Parque Tenorio**	**0.90**	**307**	*i* P	**Pn**	**09 53 18.1**	**+0.3**
EDDO	**Dominical**	**0.99**	**157**	*e*P	**Pn**	**09 53 19.4**	**+0.7**
CUI	**Cuipilapa**	**1.02**	**299**	*e*P	**Pn**	**09 53 19.6**	**+0.4**
COLC	**Colonia**	**1.06**	**298**	*i* P	**Pn**	**09 53 19.9**	**+0.4**
COLC				*i* S	**Sn**	**09 53 35.5**	**+0.5**
MESS	**Mesas**	**1.09**	**302**	*i* P	**Pn**	**09 53 20.2**	**+0.4**
MESS				*e*P		09 53 20.4	
PLVR	**Palo Verde**	**1.09**	**280**	*e*P	**Pn**	**09 53 20.4**	**+0.3**
EDLM	**Las Mercedes**	**1.10**	**143**	*e*P	**Pn**	**09 53 20.7**	**+0.7**
GPS2	**Hotel Rincn d**	**1.23**	**298**	*e*P	**Pn**	**09 53 22.0**	**+0.5**
GPS1	**Guardaparques**	**1.23**	**299**	*i* P	**Pn**	**09 53 22.1**	**+0.4**
BUAI	**Buenos Aires**	**1.27**	**304**	*i* P	**Pn**	**09 53 22.3**	**+0.2**
BUEV	**Buena Vista**	**1.29**	**299**	*e*P	**Pn**	**09 53 22.9**	**+0.5**
GB1A	**Borinquen Arri**	**1.30**	**300**	*i* P	**Pn**	**09 53 22.9**	**+0.5**
LAPC	**Finca la Perla**	**1.30**	**297**	*i* P	**Pn**	**09 53 22.6**	**+0.1**
GBS3	**Finca Las Img**	**1.33**	**298**	*i* P	**Pn**	**09 53 23.2**	**+0.4**
NY14	**Universidad de**	**1.35**	**291**	*i* P	**Pn**	**09 53 23.5**	**+0.6**
EDBA	**Buenos Aires**	**1.39**	**136**	*e*P	**Pn**	**09 53 23.7**	**+0.2**
EDPN	**Palmar Norte**	**1.43**	**147**	*e*P	**Pn**	**09 53 25.3**	**+1.3**
EDSV	**San Vito**	**1.84**	**136**	*e*P	**Pn**	**09 53 30.6**	**+1.2**
ACON	**Acoyapa**	**2.00**	**333**	*e*P	**Pn**	**09 53 31.7**	**+0.3**
ACON				*e*S	**Sn**	**09 53 56.2**	**+0.1**
ACON				IAML		09 53 56.7	
	comp=E,75nm,0.4s						
ESPN	**Las Esperanzas**	**2.02**	**359**	*e*Pn	**Pn**	**09 53 31.8**	**+0.3**
ESPN				*e*Sn	**Sn**	**09 53 56.5**	**+0.2**
ESPN	**Las Esperanzas**	**2.02**	**359**	*e*P	**Pn**	**09 53 31.6**	**+0.1**
ESPN				*e*S	**Sn**	**09 53 56.4**	**+0.1**
ESPN				IAML		09 53 58.6	
	comp=E,238nm,1.1s						
BRU2	**Volcan**	**2.06**	**131**	*e*P	**Pn**	**09 53 33.1**	**+0.9**
MGAN	**Managua**	**2.77**	**315**	*e*P	**Pn**	**09 53 42.3**	**+0.7**
BCIP	**Isla Barro Col**	**4.47**	**102**	*e*Pn	**Pn**	**09 54 05.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**4.86**	**323**	*e*Pn	**Pn**	**09 54 11.3**	**+1.5**
ANWB	**Willy Bob**	**23.03**	**69**	*e*P	**P**	**09 57 57.6**	**+1.1**
	comp=E,43nm,0.7s						
GOGA	**Godfrey**	**23.15**	**2**	*e*P	**P**	**09 57 58.0**	**+0.5**
	comp=E,11nm,1.4s						
TXAR	**Lajitas Array**	**26.33**	**319**	P	**P**	**09 58 29.5**	**+3.0**
	comp=E,0.2nm,0.6s,baz=129,slow=7.1,SNR=3.7						
LENM	**Lemitar**	**31.68**	**322**	*e*P	**P**	**09 59 16.7**	**+2.7**
YKA	**Yellowknife Ar**	**56.65**	**344**	P	**P**	**10 02 32.3**	**0.0**
	comp=E,0.3nm,0.6s,baz=135,slow=7.9,SNR=3.9						
ILAR	**Eielson Array**	**69.36**	**336**	P	**P**	**10 03 57.1**	**+0.5**
	comp=E,0.2nm,0.6s,baz=113,slow=5.3,SNR=4.6						
ESDC	**Sonseca Array**	**76.14**	**52**	P	**P**	**10 04 35.8**	**-1.4**
	comp=E,0.2nm,0.3s,baz=275,slow=7.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**83.84**	**78**	P	**P**	**10 05 16.8**	**-2.3**
	comp=E,0.7nm,1.0s,baz=277,slow=4.6,SNR=2.5						
ASAR	**Alice Springs**	**141.24**	**245**	PKP	**PKPdf**	**10 12 17.3**	**-2.5**
	comp=E,1.3nm,1.1s,baz=104,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**141.57**	**251**	PKP	**PKPdf**	**10 12 17.8**	**-2.7**
	comp=E,0.4nm,0.7s,baz=93,slow=3.7,SNR=5.1						

ISCJB ***16*** *10:03:59.5±0.5, 24.22S±0.04×67.29W±0.04, h183km±5km, mb3.1/3, Error ellipse: s-maj=7.5km s-min=4.9km az=24.0*
SJA ***16*** *10:03:59.1±0.7, 24.20S×67.21W, h189km±6km, ML2.8, MW3.5*
GUC ***16*** *10:04:01.1±0.6, 24.19S×67.62W, h197km±7km, ML4.2*
IDC ***16*** *10:04:02.5±1.2, 23.92S×67.20W, h187km±10km, mb2.9/3, mb1 3.4/8, mb1mx3.3/24, mbtmp3.7/8, Error ellipse: s-maj=21.3km s-min=16.6km az=34.0*
ISC 16 10:04:00.8±0.8, 24.17S±0.05×67.29W±0.04, h181km±7km, n41, σ1§35/55, mb3.2/3, 5C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.72**	**109**	*e*P	**Pn**	**10 04 34.2**	**-1.0**
SLA				*e*S	**Sn**	**10 04 59.8**	**-1.9**
SLA				IAML		10 05 00.8	
	comp=Z,90nm,0.7s						
HJA	**Humahuaca**	**1.98**	**61**	*e*P	**Pn**	**10 04 37.6**	**-0.5**
HJA				IAML		10 04 39.1	
	comp=Z,32nm,0.4s						
HJA				*e*S	**Sn**	**10 05 05.8**	**-1.2**
LVC	**Limon Verde**	**2.15**	**316**	*e*P	**Pn**	**10 04 40.5**	**+0.5**
LVC				IAML		10 04 42.0	
	comp=Z,150nm,0.2s						
LVC				*e*S	**Sn**	**10 05 10.6**	**+0.2**
LVC	**Limon Verde**	**2.15**	**316**	*e*P	**Pn**	**10 04 40.5**	**+0.5**
LVC				*i* S	**Sn**	**10 05 10.8**	**+0.4**
LVC	**Limon Verde**	**2.15**	**316**	P	**Pn**	**10 04 40.5**	**+0.5**
	comp=Z,52nm,0.3s,baz=116,slow=8.0,SNR=762						
LVC				S	**Sn**	**10 05 10.8**	**+0.4**
	comp=Z,62nm,0.3s,baz=9.5,slow=19,SNR=34						
PB15	**IPOC Station P**	**2.22**	**295**	*e*P	**Pn**	**10 04 41.2**	**+0.6**
PB15	**IPOC Station P**	**2.22**	**295**	↑*i*P	**Pn**	**10 04 41.0**	**+0.5**
PB15				*e*S	**Sn**	**10 05 10.8**	**-0.5**
FSA	**Cafayete**	**2.27**	**149**	*e*P	**Pn**	**10 04 39.5**	**-1.6**
FSA				IAML		10 04 39.9	
	comp=Z,27nm,0.3s						
GO02	**Mina Guanaco**	**2.31**	**244**	↑*i*P	**Pn**	**10 04 41.5**	**-0.1**
GO02				*e*S	**Sn**	**10 05 12.3**	**-1.1**
GO02				IAML		10 05 14.8	
	comp=N,1μm,0.5s						
PB06	**IPOC Station P**	**2.55**	**304**	*e*P	**Pn**	**10 04 44.8**	**+0.4**
PB06	**IPOC Station P**	**2.55**	**304**	↑*i*P	**Pn**	**10 04 44.8**	**+0.4**
PB06				*e*S	**Sn**	**10 05 17.6**	**-0.6**
PB06				IAML		10 05 19.4	
	comp=N,611nm,0.3s						
YJA	**Yavi**	**2.58**	**40**	*e*P	**Pn**	**10 04 44.5**	**-0.4**
YJA				IAML		10 04 45.5	
	comp=Z,5.5nm,0.4s						
PB14	**IPOC Station P**	**2.87**	**260**	*e*P	**Pn**	**10 04 48.1**	**-0.2**
PB14	**IPOC Station P**	**2.87**	**260**	↑*i*P	**Pn**	**10 04 47.7**	**-0.5**
PB14				*i* S	**Sn**	**10 05 22.9**	**-2.3**
PB14				IAML		10 05 25.0	
	comp=E,789nm,0.4s						
PB09	**IPOC Station P**	**2.97**	**322**	*e*P	**Pn**	**10 04 50.4**	**+1.0**
PB09	**IPOC Station P**	**2.97**	**322**	↓*e*P	**Pn**	**10 04 50.3**	**+1.0**
PB09				*e*S	**Sn**	**10 05 27.4**	**+0.3**
PB09				IAML		10 05 28.4	
	comp=N,284nm,0.5s						
PB05	**IPOC Station P**	**2.98**	**296**	*e*P	**Pn**	**10 04 49.4**	**+0.1**
PB05	**IPOC Station P**	**2.98**	**296**	*e*P	**Pn**	**10 04 49.1**	**-0.3**
PB05				*e*S	**Sn**	**10 05 25.5**	**-1.6**
PB05				IAML		10 05 31.7	
	comp=E,237nm,0.2s						
PB10	**IPOC Station P**	**3.06**	**282**	*e*P	**Pn**	**10 04 50.5**	**+0.3**
PB10	**IPOC Station P**	**3.06**	**282**	*e*P	**Pn**	**10 04 49.7**	**-0.6**
PB10				*e*S	**Sn**	**10 05 26.3**	**-2.4**
PB10				IAML		10 05 32.0	
	comp=E,263nm,0.3s						
PB03	**IPOC Station P**	**3.10**	**313**	*e*P	**Pn**	**10 04 51.2**	**+0.3**
PB03	**IPOC Station P**	**3.10**	**313**	↑*i*P	**Pn**	**10 04 50.9**	**0.0**
PB03				*e*S	**Sn**	**10 05 28.4**	**-1.5**
PB03				IAML		10 05 29.6	
	comp=E,464nm,0.2s						
AHML	**Horco Molle**	**3.14**	**146**	*e*P	**Pn**	**10 04 49.7**	**-1.5**
PB04	**IPOC Station P**	**3.20**	**304**	*e*P	**Pn**	**10 04 52.3**	**+0.1**
PB04	**IPOC Station P**	**3.20**	**304**	*e*P	**Pn**	**10 04 52.3**	**+0.1**
PB04				IAML		10 05 32.7	
	comp=N,408nm,0.3s						
PB07	**IPOC Station P**	**3.41**	**315**	*e*P	**Pn**	**10 04 54.7**	**-0.1**
PB02	**IPOC Station P**	**3.72**	**319**	*e*P	**Pn**	**10 04 58.1**	**-0.4**
PB08	**IPOC Station P**	**4.37**	**336**	*e*P	**Pn**	**10 05 07.3**	**+0.2**
CYA	**Choya**	**4.46**	**163**	*e*P	**Pn**	**10 05 07.0**	**-0.8**
MNMCX	**Minye Minye**	**5.46**	**336**	*e*P	**Pn**	**10 05 20.7**	**-0.4**
LPAZ	**La Paz**	**7.89**	**354**	P	**Pn**	**10 05 53.1**	**-0.2**
LPAZ	comp=N,0.8nm,0.3s,baz=158,slow=8.4,SNR=19			S	**Sn**	**10 07 17.9**	**-4.3**
	baz=113,slow=16,SNR=2.6						
CPUP	**Villa Florida**	**9.27**	**105**	P	**Pn**	**10 06 14.2**	**+3.4**
	comp=N,0.3nm,0.3s,baz=277,slow=12,SNR=5.2						
PLCA	**Paso Flores**	**16.74**	**189**	P	**Pn**	**10 07 49.5**	**+4.6**
	comp=N,0.3nm,0.3s,baz=24,slow=9.9,SNR=12						
BDFB	**Brasilia**	**20.00**	**68**	P	**P**	**10 08 18.6**	**-1.2**
	comp=N,0.5nm,0.3s,baz=238,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**63.66**	**325**	P	**P**	**10 14 13.8**	**+0.8**
	comp=N,0.2nm,0.5s,baz=119,slow=6.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.88**	**69**	P	**P**	**10 15 32.0**	**-1.4**
	comp=N,0.2nm,0.4s,baz=247,slow=5.9,SNR=4.2						
PDAR	**Pinedale Array**	**77.16**	**329**	P	**P**	**10 15 35.4**	**+0.7**
	comp=N,0.2nm,0.5s,baz=133,slow=6.3,SNR=2.9						
ASAR	**Alice Springs**	**128.19**	**205**	PKP	**PKiKP**	**10 22 46.4**	**-0.5**
	comp=N,0.6nm,0.8s,baz=151,slow=1.4,SNR=8.1						
WRA	**Warramunga Arr**	**131.35**	**208**	PKP	**PKPdf**	**10 22 52.3**	**0.0**
	comp=N,0.4nm,0.5s,baz=156,slow=1.7,SNR=14						
ZALV	**Zalesovo Beam**	**143.67**	**28**	PKP	**PKPdf**	**10 23 12.7**	**-1.1**
	comp=N,0.7nm,0.5s,baz=272,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**146.83**	**39**	PKPbc	**PKPbc**	**10 23 22.1**	**+0.4**
	comp=N,1.0nm,0.5s,baz=299,slow=3.3,SNR=16						

IDC ***16*** *10:25:17.3±0.7, 16.62N×98.52W, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.2/36, mbtmp4.1/23, ML3.6/5, MS3.7/17, Ms1 3.7/17, ms1mx3.5/41, Error ellipse: s-maj=22.8km s-min=11.6km az=54.0*
NEIC ***16*** *10:25:23.0±0.0, 16.67N×98.65W, h22km, mb4.5/128, MD4.6(MEX), After MEX.*
NEIC Felt at Cacahuatepec, Ixtac Zoquitlan and Mexico.
MEX ***16*** *10:25:23.0±0.5, 16.67N×98.65W, h15km±4km, MD4.5*
ISC 16 10:25:22.8±1.0, 16.70N±0.05×98.55W±0.04, h35km±4km, n483, σ1§76/478, mb4.4/109, MS3.7/14, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.51**	**127**	*e*P	**Pb**	**10 25 32.8**	**-0.8**
PNIG				*e*S	**Sb**	**10 25 39.6**	**-1.5**
PNIG	**Pinotepa**	**0.51**	**127**	*e*P	**Pb**	**10 25 32.8**	**-0.8**
PNIG				*e*S	**Sb**	**10 25 39.6**	**-1.5**
TLIG	**Tlapa**	**0.86**	**359**	*e*Pg	**Pn**	**10 25 37.3**	**-1.3**
TLIG				*e*S	**Sn**	**10 25 47.4**	**-2.6**
TLIG	**Tlapa**	**0.86**	**359**	*e*P	**Pn**	**10 25 36.7**	**-1.8**
TLIG				*i* S	**Sn**	**10 25 48.4**	**-1.5**
CAIG	**El Cayaco**	**1.68**	**282**	*e*P	**Pn**	**10 25 47.2**	**-2.4**
CAIG	**El Cayaco**	**1.68**	**282**	*e*P	**Pn**	**10 25 47.2**	**-2.4**
CAIG				*i* S	**Sn**	**10 26 06.3**	**-3.7**
VHO	**Vista Hermosa**	**1.78**	**78**	*e*P	**Pn**	**10 25 51.7**	**+0.4**
VHO	**Vista Hermosa**	**1.78**	**78**	*e*P	**Pn**	**10 25 51.7**	**+0.4**
VHO				*i* S	**Sn**	**10 26 13.6**	**+0.7**
HUIG	**Huatulco**	**2.52**	**111**	*e*P	**Pn**	**10 26 01.4**	**+0.1**
HUIG	**Huatulco**	**2.52**	**111**	*e*P	**Pn**	**10 26 01.4**	**+0.1**
HUIG				*i* S	**Sn**	**10 26 31.4**	**+0.5**
UNM	**Universidad Na**	**2.68**	**347**	*e*Pn	**Pn**	**10 26 05.0**	**+1.2**
CMIG	**Matias Romero**	**3.54**	**83**	Pn	**Pn**	**10 26 15.0**	**-0.2**
	15nm,0.3s,baz=265,slow=10,SNR=213						
CMIG				Sn	**Sn**	**10 26 57.0**	**+1.1**
	113nm,0.3s,baz=247,slow=14,SNR=4.9						
CMIG				Lg	Lg	10 27 13.7	
	139nm,0.3s,baz=36,slow=21,SNR=8.5						
CMIG				LR	LR	10 28 01.3	
	comp=Z,956nm,21.2s,baz=220,slow=47						
LVIG	**Laguna Verde**	**3.63**	**34**	*e*Pn	**Pn**	**10 26 14.4**	**-2.1**
MOIG	**Morelia**	**3.88**	**320**	*e*Pn	**Pn**	**10 26 23.9**	**+3.7**
CCIG	**Comitan**	**6.17**	**93**	*e*Pn	**Pn**	**10 26 55.0**	**+3.3**
ZAIG	**Zacatecas**	**7.12**	**329**	*e*Pn	**Pn**	**10 27 07.3**	**+2.5**
APG	**El Apazote**	**7.96**	**101**	Pn	**Pn**	**10 27 15.7**	**-0.7**
	1.1nm,0.3s,baz=326,slow=13,SNR=6.8						
APG				LR	LR	10 30 32.0	
	comp=Z,504nm,19.2s,baz=281,slow=40						
LNIG	**Linares**	**8.20**	**354**	*e*Pn	**Pn**	**10 27 19.3**	**-0.1**
TEIG	**Tepich**	**10.36**	**69**	*e*Pn	**Pn**	**10 27 49.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**11.19**	**102**	*e*Pn	**Pn**	**10 28 02.1**	**+1.7**
833A	**Chaparral WMA,**	**11.60**	**356**	*e*Pn	**Pn**	**10 28 04.3**	**-1.6**
833A	**Chaparral WMA,**	**11.60**	**356**	P	**Pn**	**10 28 05.1**	**-0.8**
	baz=176						
HPIG		**12.14**	**328**	*e*Pn	**Pn**	**10 28 15.9**	**+2.5**
LPIG	**La Paz**	**13.25**	**306**	LR	LR	10 33 07.1	
	comp=Z,530nm,18.1s,baz=126,slow=35						
HKT	**Hockley**	**13.43**	**10**	*e*Pn	**Pn**	**10 28 29.6**	**-1.2**
TX31	**Lajitas Ar. Si**	**13.43**	**340**	*e*Pn	**Pn**	**10 28 31.6**	**+0.6**
TXAR	**Lajitas Array**	**13.43**	**340**	Pn	**Pn**	**10 28 32.1**	**+1.2**
	0.0nm,0.3s,baz=161,slow=14,SNR=12						
TXAR				Lg	Lg	10 32 31.6	
	baz=157,slow=23,SNR=5.0						
TXAR				LR	LR	10 34 03.6	
	comp=Z,459nm,18.0s,baz=0.0,slow=39						
JCT	**Junction City**	**13.77**	**355**	*e*Pn	**Pn**	**10 28 35.2**	**-0.3**
JCT	**Junction City**	**13.77**	**355**	P	**Pn**	**10 28 35.5**	**-0.1**
	baz=175						
435B	**Jarrell**	**14.05**	**3**	P	**Pn**	**10 28 38.5**	**-0.8**
	baz=184						
ESPN	**Las Esperanzas**	**14.51**	**106**	*e*Pn	**Pn**	**10 28 46.8**	**+1.1**
JTS	**JuntasAbangare**	**14.68**	**114**	*e*Pn	**Pn**	**10 28 51.3**	**+3.3**
JTS	**JuntasAbangare**	**14.68**	**114**	Pn	**Pn**	**10 28 46.8**	**-1.2**
	0.3nm,0.3s,baz=316,slow=9.9,SNR=2.4						
WHTX	**Lake Whitney,**	**15.26**	**4**	*e*Pn	**P**	**10 29 04.0**	**+3.9**
WHTX	**Lake Whitney,**	**15.26**	**4**	P	**Pn**	**10 28 55.6**	**-0.1**
	baz=184						
NATX	**Nacogdoches**	**15.41**	**13**	*e*Pn	**Pn**	**10 28 55.3**	**-2.3**
	35nm,0.8s						
NATX	**Nacogdoches**	**15.41**	**13**	P	**Pn**	**10 28 56.9**	**-0.7**
	baz=194						
HDC	**Heredia**	**15.54**	**114**	*e*Pn	**P**	**10 29 03.1**	**-0.4**
	201nm,1.7s						
ABTX	**Abilene, Hawle**	**15.89**	**357**	*e*Pn	**P**	**10 29 09.2**	**+2.0**
	22nm,0.7s						
ABTX	**Abilene, Hawle**	**15.89**	**357**	P	**Pn**	**10 29 03.8**	**0.0**
	baz=177						
MNTX	**Cornudas Mount**	**16.17**	**339**	*e*Pn	**Pn**	**10 29 07.8**	**+0.3**
	8.2nm,0.9s						
MNTX	**Cornudas Mount**	**16.17**	**339**	P	**Pn**	**10 29 08.4**	**+0.9**
	baz=156						
GDL2	**Guadalupe Moun**	**16.31**	**342**	*e*Pn	**P**	**10 29 18.4**	**+6.4**
VBMS	**Vicksburg**	**17.08**	**24**	P	**Pn**	**10 29 16.8**	**-2.1**
	baz=207						
Z41A	**Richland Creek**	**17.29**	**16**	*e*Pn	**P**	**10 29 24.2**	**+1.6**
	80nm,0.9s						
Z41A	**Richland Creek**	**17.29**	**16**	P	**Pn**	**10 29 20.9**	**-0.5**
	baz=199						
319A	**Douglas**	**17.57**	**328**	*e*Pn	**P**	**10 29 27.1**	**+1.1**
	12nm,0.9s						
MSTX	**Muleshoe**	**17.61**	**348**	*e*Pn	**Pn**	**10 29 25.6**	**0.0**
	20nm,0.9s						
MSTX	**Muleshoe**	**17.61**	**348**	P	**Pn**	**10 29 26.1**	**+0.5**
	baz=167,SNR=10						
WLAR	**White Oak Lake**	**17.61**	**15**	*e*Pn	**P**	**10 29 28.1**	**+1.9**
	34nm,0.9s						
121A	**Cookes Peak, D**	**17.84**	**334**	P	**P**	**10 29 29.4**	**+0.4**
	baz=150						
WMOK	**Wichita Mounta**	**17.97**	**359**	*e*Pn	**Pn**	**10 29 29.1**	**-0.7**
	9.3nm,0.9s						
WMOK	**Wichita Mounta**	**17.97**	**359**	P	**Pn**	**10 29 29.4**	**-0.5**
	baz=180						
X37A	**Clayton**	**18.04**	**9**	*e*Pn	**P**	**10 29 32.6**	**+1.6**
	22nm,0.8s						
MIAR	**Mount Ida**	**18.32**	**13**	*e*Pn	**P**	**10 29 32.9**	**-1.2**
	24nm,0.9s						
MIAR	**Mount Ida**	**18.32**	**13**	P	**P**	**10 29 33.2**	**-0.9**
	baz=196						
AMTX	**Amarillo**	**18.33**	**352**	*e*P	**Pn**	**10 29 34.8**	**+0.5**
	24nm,0.8s						
AMTX	**Amarillo**	**18.33**	**352**	P	**P**	**10 29 34.2**	**0.0**
	baz=171						
350A	**Dozier**	**18.40**	**35**	P	**P**	**10 29 32.8**	**-2.0**
	baz=220						
249A	**Camden**	**18.41**	**32**	P	**P**	**10 29 32.6**	**-2.5**
	baz=217						
147A	**Livingston**	**18.43**	**28**	*e*Pn	Pn	10 29 46.7	+11
	112nm,1.6s						
147A	**Livingston**	**18.43**	**28**	P	**P**	**10 29 34.0**	**-1.2**
	baz=213						
X40A	**Basin Creek Fa**	**18.44**	**15**	*e*P	**P**	**10 29 34.9**	**-0.4**
	12nm,0.9s						
X40A	**Basin Creek Fa**	**18.44**	**15**	P	**P**	**10 29 34.4**	**-1.0**
	baz=198						
058A	**Arcadia**	**18.63**	**54**	P	**P**	**10 29 34.4**	**-3.1**
	baz=240						
BNM	**Barren Site**	**18.83**	**339**	*e*P	**Pn**	**10 29 41.3**	**+0.6**
UALR	**University of**	**18.84**	**16**	*e*P	**P**	**10 29 38.2**	**-1.5**
	16nm,0.8s						
250A	**Grady**	**18.86**	**34**	*e*P	**P**	**10 29 39.0**	**-1.0**
	19nm,0.8s						
Y22D	**IRIS PASSCAL I**	**18.87**	**338**	P	**P**	**10 29 40.8**	**+0.6**
	baz=155						
W39A	**Magazine**	**18.91**	**12**	*e*P	**P**	**10 29 40.2**	**-0.2**
	46nm,1.4s						
W39A	**Magazine**	**18.91**	**12**	P	**P**	**10 29 40.3**	**-0.2**
	baz=194						
X43A	**Marvell**	**19.03**	**20**	*e*P	**P**	**10 29 41.5**	**-0.3**
	91nm,1.3s						
X43A	**Marvell**	**19.03**	**20**	P	**P**	**10 29 40.5**	**-1.3**
	baz=203						
149A	**Jones**	**19.08**	**32**	P	**P**	**10 29 40.8**	**-1.6**
	baz=217						
TUC	**Tucson**	**19.09**	**327**	*e*P	**Pn**	**10 29 43.6**	**0.0**
	7.5nm,1.0s						
TUC	**Tucson**	**19.09**	**327**	P	**Pn**	**10 29 44.8**	**+1.2**
	baz=142						
453A	**Whigham**	**19.16**	**40**	P	**P**	**10 29 41.5**	**-1.8**
	baz=226						
352A	**Blakely**	**19.24**	**38**	*e*P	**P**	**10 29 43.1**	**-1.1**
	33nm,0.8s						
352A	**Blakely**	**19.24**	**38**	P	**P**	**10 29 42.8**	**-1.3**
	baz=223,SNR=7.6						
W41B	**Gary Mavity, V**	**19.24**	**16**	*e*P	**P**	**10 29 43.3**	**-0.8**
	14nm,0.9s						
W41B	**Gary Mavity, V**	**19.24**	**16**	P	**P**	**10 29 43.7**	**-0.4**
	baz=199						
TUL1	**Leonard**	**19.29**	**7**	*e*P	**P**	**10 29 44.9**	**+0.2**
	25nm,0.8s						
TUL1	**Leonard**	**19.29**	**7**	P	**P**	**10 29 44.4**	**-0.3**
	baz=188						
LRAL	**Lakeview Retre**	**19.33**	**31**	*e*P	**P**	**10 29 45.3**	**+0.2**
	7.6nm,0.6s						
LRAL				*e*Sn	**S**	**10 33 15.6**	**-6.4**
WHAR	**Wooly Hollow**	**19.34**	**16**	*e*P	**Pn**	**10 29 51.7**	**+5.2**
	20nm,1.0s						
251A	**Midway**	**19.42**	**35**	P	**P**	**10 29 44.5**	**-1.6**
	baz=221						
150A	**Eclectic**	**19.48**	**33**	P	**P**	**10 29 45.3**	**-1.5**
	baz=219						
454A	**Quitman**	**19.50**	**42**	P	**P**	**10 29 44.8**	**-2.1**
	baz=228						
ANMO	**Albuquerque**	**19.50**	**340**	*e*P	**P**	**10 29 48.0**	**+0.8**
	9.2nm,1.1s						
ANMO	**Albuquerque**	**19.50**	**340**	P

Z53A	Monticello baz=223,SNR=18	21.33	37	P	P	10 30 03.5	-3.4
W49A	Belvidere baz=214	21.38	29	P	P	10 30 04.6	-2.8
V47A	Nunnelly baz=210	21.44	25	P	P	10 30 04.6	-3.3
GOGA	Godfrey 39nm,0.6s	21.49	36	eP	P	10 30 07.4	-1.1
GOGA	Godfrey baz=223,SNR=20	21.49	36	P	P	10 30 06.0	-2.5
Y52A	Lilburn 41nm,0.8s	21.49	35	eP	P	10 30 07.3	-1.3
Y52A	Lilburn baz=221,SNR=9.7	21.49	35	P	P	10 30 05.9	-2.7
155A	Kite baz=226,SNR=7.9	21.52	40	P	P	10 30 06.2	-2.7
Y14A	Wickenburg 5.8nm,0.8s	21.53	326	eP	P	10 30 10.9	+1.9
WVT	Waverly 13nm,0.9s	21.57	24	eP	P	10 30 07.8	-1.6
WVT	Waverly baz=209	21.57	24	P	P	10 30 06.8	-2.6
T43A	Greenville baz=202,SNR=14	21.58	18	P	P	10 30 07.8	-1.7
SWET	Sewanee 113nm,1.9s	21.62	29	eP	P	10 30 09.1	-0.8
X51A	Calhoun 25nm,0.8s	21.62	32	eP	P	10 30 09.4	-0.5
X51A	Calhoun baz=218	21.62	32	P	P	10 30 08.0	-1.9
U46A	Springville baz=208	21.64	23	P	P	10 30 08.5	-1.6
V48A	Smith Brothers 15nm,0.9s	21.65	27	eP	P	10 30 09.3	-0.9
V48A	Smith Brothers baz=212	21.65	27	P	P	10 30 08.2	-2.1
S41A	Jillco Farms, baz=198	21.66	15	P	P	10 30 08.8	-1.5
Z54A	Sparta baz=224,SNR=12	21.73	38	P	P	10 30 09.0	-2.0
Y53A	Monroe baz=222,SNR=11	21.75	35	P	P	10 30 08.8	-2.5
T44A	Benton baz=204	21.80	20	P	P	10 30 10.8	-1.1
SDCO	Great Sand Dun 6.3nm,1.1s	21.84	345	eP	P	10 30 15.0	+2.4
SDCO	Great Sand Dun baz=162	21.84	345	P	P	10 30 13.1	+0.5
W50A	Signal Mountai 31nm,0.9s	21.90	30	eP	P	10 30 14.9	+1.9
W50A	Signal Mountai baz=216	21.90	30	P	P	10 30 12.0	-1.0
GLA	Glamis 8.7nm,0.9s	21.93	321	eP	P	10 30 16.7	+3.4
GLA	Glamis baz=134	21.93	321	P	P	10 30 15.9	+2.6
WUAZ	Wupatki 23nm,0.8s	21.95	331	eP	P	10 30 15.2	+1.6
WUAZ	Wupatki baz=146,SNR=24	21.95	331	P	P	10 30 15.3	+1.6
CBKS	Cedar Bluff baz=177	22.06	358	P	P	10 30 14.3	-0.3
T45A	Paducah baz=206	22.06	22	P	P	10 30 13.1	-1.5
U47A	Clarksville baz=210	22.06	25	P	P	10 30 13.3	-1.3
S42A	Caledonia baz=200,SNR=13	22.08	17	P	P	10 30 13.7	-1.1
V49A	McMinnville baz=214	22.08	28	P	P	10 30 13.4	-1.5
S43A	Fulton Ridge, baz=202	22.10	18	P	P	10 30 13.5	-1.5
W51A	Cleveland baz=217	22.14	31	P	P	10 30 13.9	-1.5
Z55A	Blythe baz=226	22.14	39	P	P	10 30 13.8	-1.6
X52A	Dahlonega baz=220	22.15	34	P	P	10 30 13.8	-1.8
S22A	4UR Ranch, Cre 8.0nm,1.0s	22.20	342	eP	P	10 30 22.9	+6.4
CCM	Cathedral Cave 16nm,0.7s	22.23	15	eP	P	10 30 16.2	-0.2
CCM	Cathedral Cave baz=199	22.23	15	P	P	10 30 16.3	-0.1
MVCO	Mesa Verde 13nm,1.0s	22.24	339	eP	P	10 30 17.9	+1.1
MVCO	Mesa Verde baz=154	22.24	339	P	P	10 30 17.5	+0.6
Y12C	Blythe baz=136	22.24	323	P	P	10 30 17.3	+0.7
Y54A	Tignall baz=224,SNR=14	22.26	37	P	P	10 30 14.4	-2.5
T46A	Princeton baz=208	22.35	23	P	P	10 30 17.0	-0.7
V50A	Pikevile baz=216	22.38	30	P	P	10 30 16.9	-1.2
FVM	French Village 15nm,0.6s	22.38	17	eP	P	10 30 19.4	+1.3
KSU1	Kansas State U baz=185	22.39	4	P	P	10 30 16.9	-1.2
X53A	Estanollee baz=222	22.39	35	P	P	10 30 16.7	-1.5
R41A	Rosebud baz=198,SNR=8.0	22.42	15	P	P	10 30 18.0	-0.5
PDMCI	Parker Dam,Lak baz=138	22.43	324	P	P	10 30 19.8	+1.3
U48A	Cassie Pea, Po baz=212	22.43	26	P	P	10 30 16.7	-1.9
SWSC	Sam W. Stewart baz=132	22.46	319	P	P	10 30 20.6	+1.7
IKP	In-Ko-Pah, Jac baz=131	22.46	318	P	P	10 30 21.1	+2.0
S44A	Carbondale baz=204,SNR=6.0	22.46	20	P	P	10 30 17.0	-1.9
157A	Early Branch baz=229	22.48	42	P	P	10 30 17.1	-2.1
CPCT	Cooper Cave 34nm,1.0s	22.48	31	eP	P	10 30 17.8	-1.4
SIUC	Southern Illin 37nm,0.8s	22.50	20	eP	P	10 30 23.5	+4.2
W52A	Murphy 37nm,1.0s	22.50	33	eP	P	10 30 19.1	-0.4
W52A	Murphy baz=219,SNR=8.0	22.50	33	P	P	10 30 17.9	-1.6
R42A	Luebbering baz=200	22.56	16	P	P	10 30 17.8	-2.2
T47A	Sharon Grove 26nm,0.8s	22.61	24	eP	P	10 30 21.2	+0.7
T47A	Sharon Grove baz=210	22.61	24	P	P	10 30 18.6	-1.9
S45A	Carrier Mills baz=206	22.67	21	P	P	10 30 19.8	-1.4
Z56A	Williston baz=227	22.67	40	P	P	10 30 18.2	-3.0
BC3	Big Chuckawall baz=134	22.73	321	P	P	10 30 23.1	+1.2
U49A	Red Boiling Sp baz=213	22.76	27	P	P	10 30 20.1	-1.9
HODGE	Hodges 19nm,0.9s	22.78	37	eP	P	10 30 21.3	-1.0
R43A	Red Bud baz=202	22.79	18	P	P	10 30 21.4	-1.0
Y55A	Saluda baz=225	22.80	38	P	P	10 30 20.1	-2.5
MONP2	Monument Peak baz=131	22.82	318	P	P	10 30 24.7	+1.8
V51A	Loudon 30nm,1.1s	22.85	31	eP	P	10 30 23.1	+0.1
V51A	Loudon baz=217	22.85	31	P	P	10 30 21.4	-1.6
IRM	Iron Mountain baz=136	22.89	323	P	P	10 30 24.8	+1.2
Q24A	Divide baz=164	22.92	347	P	P	10 30 24.6	+0.5
X54A	Belton baz=223	22.94	36	P	P	10 30 22.0	-1.9
BG3	Lake Jocassee 29nm,1.2s	22.96	35	eP	P	10 30 23.8	-0.4
W53A	Cullowhee baz=221,SNR=6.9	22.96	34	P	P	10 30 22.1	-2.3
T48A	Bowling Green baz=211	23.00	26	P	P	10 30 22.6	-1.9
TKL	Tuckaleechee C 96nm,1.8s	23.02	32	eP	P	10 30 25.4	+0.5
TKL	Tuckaleechee C 4.8nm,0.8s,baz=192,slow=12,SNR=5.7	23.02	32	P	P	10 30 23.8	-1.1
R44A	Waltonville baz=204	23.02	19	P	P	10 30 23.4	-1.5
Y56A	Pelion baz=227	23.03	39	P	P	10 30 22.9	-2.0
Z57A	Bowman baz=229	23.07	41	P	P	10 30 23.1	-2.2
Q41A	Truxton baz=198	23.08	15	P	P	10 30 24.4	-1.0
PV01	Paradox Valley 7.7nm,1.1s	23.10	340	eP	P	10 30 28.8	+2.9
U50A	Jamestown baz=215	23.10	29	P	P	10 30 24.2	-1.5
U15A	North Rim 19nm,1.3s	23.13	331	eP	P	10 30 29.3	+3.1
PV13	Radium Mtn., P 7.4nm,1.0s	23.21	339	eP	P	10 30 29.4	+2.5
Q42A	Golden Eagle baz=200	23.22	16	P	P	10 30 25.3	-1.4
109C	Camp Elliot, M baz=130	23.25	317	P	P	10 30 28.9	+1.8
V52A	Sevierville 25nm,0.9s	23.25	32	eP	P	10 30 26.8	-0.4
V52A	Sevierville baz=219	23.25	32	P	P	10 30 25.0	-2.2
BELC	Belle Mtn. Jos baz=134	23.29	321	P	P	10 30 29.2	+1.4
PV03	Paradox Valley 14nm,1.4s	23.30	339	eP	P	10 30 30.3	+2.4
X55A	Gracelyn & Ava baz=225	23.31	37	P	P	10 30 25.2	-2.5
PV12	Saucer Basin, 9.9nm,0.8s	23.34	339	eP	P	10 30 30.4	+2.1
PV04	Paradox Valley 9.0nm,0.9s	23.45	339	eP	P	10 30 31.4	+2.2
U51A	La Follette baz=217	23.47	31	P	P	10 30 27.2	-2.1
Q43A	New Douglas baz=202	23.48	18	P	P	10 30 27.6	-1.6
R46A	Gibon Southern baz=208	23.53	22	P	P	10 30 28.4	-1.4
V53A	Saluda 46nm,1.1s	23.53	34	eP	P	10 30 29.6	-0.4
V53A	Saluda baz=221	23.53	34	P	P	10 30 28.7	-1.2
SMCO	Snowmass 5.2nm,1.0s	23.57	343	eP	P	10 30 32.5	+1.8
T50A	Nancy baz=215	23.60	28	P	P	10 30 29.1	-1.4
GMRC	Granite Mounta baz=136	23.64	323	P	P	10 30 32.3	+1.2
Q44A	Meyer Farm, Va 54nm,0.8s	23.65	19	eP	P	10 30 31.3	+0.4
Q44A	Meyer Farm, Va baz=203,SNR=6.4	23.65	19	P	P	10 30 29.5	-1.4
X56A	White Oak baz=226	23.68	38	P	P	10 30 29.0	-2.3
MURC	Murrieta baz=131	23.77	319	P	P	10 30 34.6	+2.5
U52A	Thorn Hill baz=218	23.80	32	P	P	10 30 30.2	-2.3
P41A	Barry, Barry baz=198	23.81	14	P	P	10 30 31.2	-1.2
ISCO	Idaho Springs 8.2nm,0.8s	23.82	346	eP	P	10 30 34.7	+1.7
ISCO	Idaho Springs baz=134	23.82	346	P	P	10 30 33.6	+0.6
TZTN	Tazewell	23.83	31	eP	P	10 30 33.5	+0.8
TZTN	Tazewell baz=218	23.83	31	P	P	10 30 31.2	-1.5
KNB	Kanab 12nm,1.0s	23.85	331	eP	P	10 30 35.5	+2.4
P42A	Winchester 23nm,0.8s	23.90	16	eP	P	10 30 33.2	-0.1
P42A	Winchester baz=200	23.90	16	P	P	10 30 32.3	-1.0
Z59A	Georgetown, SC baz=231	23.95	43	P	P	10 30 31.7	-2.1
KMSC	Kings Mountain 14nm,0.8s	23.96	37	eP	P	10 30 33.4	-0.6
KMSC	Kings Mountain baz=224	23.96	37	P	P	10 30 31.7	-2.2
R47A	Wooly Knot Far baz=210,SNR=5.2	23.97	24	P	P	10 30 32.7	-1.2
T51A	Gray baz=217	23.97	30	P	P	10 30 32.3	-1.7
WCI	Wyandotte Cave 29nm,1.0s	24.00	24	eP	P	10 30 33.9	-0.4
WCI	Wyandotte Cave baz=210	24.00	24	P	P	10 30 33.6	-0.7
BBRC	Big Bear Solar baz=132	24.03	320	P	P	10 30 36.4	+1.6
S49A	Springfield baz=213	24.04	27	P	P	10 30 33.6	-1.0
LCMT	Little Creek M 3.4nm,0.8s	24.05	330	eP	P	10 30 38.2	+3.3
V54A	Nebo baz=222	24.08	35	P	P	10 30 33.5	-1.5
P43A	Skaggs, Pawnee baz=202	24.18	17	P	P	10 30 33.5	-2.3
TUQ	Turquoise Moun baz=136	24.25	324	P	P	10 30 38.4	+1.6
O41A	Passleys Farm, baz=198	24.27	14	P	P	10 30 36.4	-0.3
P44A	Sand Creek, Wi baz=204	24.29	19	P	P	10 30 36.5	-0.4
Q46A	CEJHS Indians, baz=207	24.30	22	P	P	10 30 36.6	-0.5
S50A	Richmond baz=215	24.34	28	P	P	10 30 36.5	-0.9
OGNE	Ogallala baz=172	24.35	354	P	P	10 30 37.4	-0.1
W56A	Indian Trail baz=226	24.39	38	P	P	10 30 36.5	-1.3
MTPU	Mount Pierson 11nm,0.8s	24.41	333	eP	P	10 30 40.8	+2.3
SZCU	Shurtz Canyon 20nm,1.7s	24.45	331	eP	P	10 30 46.2	+7.6
BFSC	Mount Baldy Ra baz=131	24.47	319	P	P	10 30 41.2	+2.4
R49A	Shelbyville baz=212	24.51	26	P	P	10 30 37.4	-1.5
V55A	Taylorsville baz=224	24.54	36	P	P	10 30 37.3	-1.9
CCUT	Cedar City 4.7nm,1.2s	24.54	331	eP	P	10 30 43.0	+3.6
FMP	Fort Macarthur baz=129	24.54	317	P	P	10 30 41.8	+2.5
O42A	Bath baz=200	24.54	16	P	P	10 30 38.8	-0.4
T52A	Hallie baz=218	24.55	31	P	P	10 30 38.0	-1.4
Q47A	Bedord North L baz=209	24.57	23	P	P	10 30 38.6	-0.9
P45A	Graceland, Par baz=206	24.62	20	P	P	10 30 38.7	-1.3
SRU	San Rafael Swe 7.5nm,0.9s	24.66	337	eP	P	10 30 42.8	+2.2
GSC	Goldstone, Bar baz=134	24.67	322	P	P	10 30 43.1	+2.5
S51A	Beattyville 35nm,1.3s	24.68	29	eP	P	10 30 40.0	-0.5
S51A	Beattyville baz=216,SNR=5.5	24.68	29	P	P	10 30 39.6	-0.9
T53A	Wise baz=219	24.68	32	P	P	10 30 39.0	-1.6
U54A	Nelsons Funny baz=221	24.70	34	P	P	10 30 40.0	-0.7
BLO	Bloomington 26nm,0.6s	24.74	23	eP	P	10 30 42.0	+1.0
Q16A	Castle Valley 8.8nm,1.0s	24.74	336	eP	P	10 30 43.6	+2.4
X58A	Rowland baz=229	24.75	40	P	P	10 30 39.9	-1.2
W57A	Gilead baz=227	24.75	39	P	P	10 30 40.1	-1.0
MSU	Marysvale	24.80	334	eP	P	10 30 44.6	+2.7
O20A	White River Ci baz=155	24.82	342	P	P	10 30 43.6	+1.6
Q48A	North Vernon baz=210	24.83	24	P	P	10 30 41.4	-0.5
O43A	Sugar Creek Fa baz=202	24.84	17	P	P	10 30 42.4	+0.6
N41A	Harden Midland baz=198	24.84	14	P	P	10 30 42.3	+0.5
N40A	Mertquake, Sal baz=196	24.84	13	P	P	10 30 42.6	+0.6
P46A	Rosedale baz=207	24.89	21	P	P	10 30 42.3	0.0
S52A	Salyersville baz=217	24.96	30	P	P	10 30 42.7	-0.3
O44A	Mansfield baz=204	24.96	19	P	P	10 30 42.9	-0.1
P18A	Preston Nutter	25.02	338	eP	P	10 30 46.0	+2.1
SNCC	San Nicolas Is baz=126	25.08	315	P	P	10 30 46.6	+2.5
TMUT	Trail Mountain 5.7nm,0.6s	25.08	336	eP	P	10 30 46.6	+2.1
U55A	TA2, Sparta baz=223	25.10	35	P	P	10 30 43.3	-1.1
N42A	Yates City baz=200	25.15	15	P	P	10 30 44.6	-0.1
R51A	Hillsboro baz=216	25.22	28	P	P	10 30 44.4	-0.9
X59A	McDuffie Farm, baz=230	25.22	41	P	P	10 30 44.5	-0.9
Q49A	Aurora baz=212	25.23	26	P	P	10 30 44.3	-1.2
T54A	Tazewell baz=221	25.23	33	P	P	10 30 44.5	-1.1
O45A	Potomac baz=205,SNR=6.4	25.28	20	P	P	10 30 45.0	-0.9
M39A	Webster baz=195	25.30	11	P	P	10 30 45.1	-1.0
LRMC	Laurel Mtn Rad baz=133	25.31	321	P	P	10 30 48.7	+2.3
M40A	Post Highland baz=196	25.36	12	P	P	10 30 45.8	-0.8
V57A	Coltrane Farms baz=226	25.38	38	P	P	10 30 45.5	-1.4
S53A	Williamson baz=219	25.43	32	P	P	10 30 45.5	-1.7
N43A	Stutzman Famil baz=201	25.48	17	P	P	10 30 46.7	-1.0
Q50A	Georgetown baz=214	25.49	27	P	P	10 30 47.5	-0.3
FURC	Furnace Creek, baz=136	25.52	324	P	P	10 30 51.7	+3.6
TPNV	Topopah Spring 12nm,1.3s	25.53	326	eP	P	10 30 53.5	+5.0
M41A	Milan baz=198	25.54	14	P	P	10 30 48.2	-0.1
PSUT	Pine Spring 5.6nm,1.0s	25.56	331	eP	P	10 30 52.8	+4.1
MPMC	Manual Prospec baz=134	25.59	323	P	P	10 30 51.4	+2.4
N44A	Piper City baz=204	25.65	18	P	P	10 30 50.1	+0.9
R52A	Catlettsburg baz=217	25.69	30	P	P	10 30 48.8	-0.8
OTAV	Otavalo 12nm,1.1s	25.69	128	eP	P	10 30 53.0	+2.6
T55A	Pulaski baz=222	25.70	34	P	P	10 30 49.6	-0.2
ARVC	Arvin baz=131	25.78	319	P	P	10 30 52.4	+1.9
O47A	Sheridan baz=208	25.80	22	P	P	10 30 51.1	+0.5
M42A	Sheffield baz=200	25.81	15	P	P	10 30 50.4	-0.2
MPU	Maple Canyon 3.3nm,0.9s	25.87	337	eP	P	10 30 53.5	+2.1
ISA	Isabella, Lake 7.2nm,1.1s	25.91	321	eP	P	10 30 56.9	+5.1
Q51A	Peebles 22nm,0.9s	25.92	28	eP	P	10 30 51.1	-0.6
Q51A	Peebles baz=215	25.92	28	P	P	10 30 51.1	-0.6
L39A	Vinton baz=195	25.96	11	P	P	10 30 51.7	-0.3
BLA	Blacksburg 64nm,1.3s	25.96	35	eP	P	10 30 51.5	-0.8
BLA	Blacksburg baz=223	25.96	35	P	P	10 30 51.4	-0.8
NLU	North Lily Min 9.7nm,1.0s	25.99	336	eP	P	10 30 55.2	+2.6
M43A	Waltham Townsh baz=202	26.00	17	P	P	10 30 52.1	-0.3
R53A	Hurricane baz=219,SNR=6.1	26.02	31	P	P	10 30 51.8	-0.8
L40A	Anamosa baz=196	26.05	12	P	P	10 30 53.1	+0.2
O48A	Farmland baz=210	26.20	24	P	P	10 30 52.8	-1.4
P50A	Jamestown baz=214	26.20	26	P	P	10 30 53.3	-1.0
CWC	Cottonwood Cre baz=134	26.20	322	P	P	10 30 57.2	+2.7
L41A	Preston baz=198	26.22	14	P	P	10 30 54.2	-0.2
M44A	Midewin, Midew baz=203	26.22	18	P	P	10 30 53.6	-0.8
V59A	Middlesex baz=229	26.22	40	P	P	10 30 53.1	-1.3
R11A	Troy Canyon, C 17nm,2.0s	26.24	329	eP	P	10 30 58.7	+3.8
R11A	Troy Canyon, C baz=141	26.24	329	P	P	10 30 58.3	+3.4
S55A	Lewisburg baz=222	26.33	34	P	P	10 30 54.3	-1.2
L42A	Oliver, Polo 28nm,0.8s	26.35	15	eP	P	10 31 00.8	+5.3
L42A	Oliver, Polo baz=200	26.35	15	P	P	10 30 55.9	+0.3
Q52A	Bidwell baz=217,SNR=5.9	26.36	29	P	P	10 30 55.1	-0.6
R54A	Victor baz=221	26.38	32	P	P	10 30 55.5	-0.5
VES	Vestal, Richgr baz=131	26.40	320	P	P	10 30 57.6	+1.5
P51A	Williamsport 97nm,1.6s	26.42	28	eP	P	10 30 55.9	-0.3
P51A	Williamsport baz=215	26.42	28	P	P	10 30 55.3	-0.9
O49A	Covington 19nm,0.8s	26.46	25	eP	P	10 31 00.0	+3.4
O49A	Covington baz=212	26.46	25	P	P	10 30 57.2	+0.6
DUG	Dugway, Tooele	26.49	335	eP	P	10 30 59.5	+2.5
DUG	Dugway, Tooele baz=148	26.49	335	P	P	10 30 57.5	+0.5
N47A	Urbana baz=209	26.54	22	P	P	10 30 58.1	+0.8
K39A	Oelwein baz=195	26.54	11	P	P	10 30 56.7	-0.6
Q53A	Leroy baz=219	26.64	31	P	P	10 30 56.9	-1.3
SMMC	Simmler baz=129	26.64	318	P	P	10 31 01.2	+2.9
K40A	Colesburg baz=196	26.68	12	P	P	10 30 57.8	-0.8
O50A	Cable baz=213	26.72	26	P	P	10 30 57.2	-1.8
K22A	Casper baz=163	26.75	347	P	P	10 31 00.8	+1.4
N48A	Decatur baz=210	26.77	23	P	P	10 30 57.4	-2.0
K41A	Shullsburg baz=198	26.77	14	P	P	10 30 59.9	+0.5
R55A	Marlinton baz=222	26.91	33	P	P	10 31 00.2	-0.5
ECSD	EROS Data Cent 10.0nm,1.1s	27.00	3	eP	P	10 31 06.0	+4.6
ACSO	Alum Creek Sta 17nm,0.8s	27.07	27	eP	P	10 31 06.5	+4.5
ACSO	Alum Creek Sta baz=214	27.07	27	P	P	10 31 01.5	-0.5
Q54A	Coxs Mills baz=220	27.07	31	P	P	10 31 01.7	-0.5
K42A	Prairie Point, baz=200	27.16	15	P	P	10 31 03.0	+0.1
O51A	Pataskala baz=215	27.16	27	P	P	10 31 02.6	-0.3
J39A	Decorah baz=195	27.18	11	P	P	10 31 03.3	+0.2
P53A	Whipple baz=218	27.19	30	P	P	10 31 02.7	-0.5
V61A	Roper baz=232	27.28	42	P	P	10 31 02.4	-1.6
K43A	Burlington baz=202	27.35	17	P	P	10 31 04.0	-0.6
M48A	Edgerton baz=210	27.43	23	P	P	10 31 04.7	-0.6
J40A	Soldiers Grove baz=197	27.43	12	P	P	10 31 05.3	0.0
O52A	Adamsville baz=217	27.48	29	P	P	10 31 04.9	-0.9
J41A	Loganville baz=198	27.56	14	P	P	10 31 07.0	+0.5

BW06	**Boulder Array**	**27.63**	**342**	*eP*	**P**	**10 31 09.2**	**+1.8**		
	8.9nm,1.1s								
PD31	**Pinedale Array**	**27.63**	**342**	*eP*	**P**	**10 31 09.2**	**+1.9**		
	7.4nm,1.0s								
PDAR	**Pinedale Array**	**27.63**	**342**	*eP*	**P**	**10 31 07.5**	**+0.2**		
PDAR	**Pinedale Array**	**27.63**	**342**	P	**P**	**10 31 08.1**	**+0.7**		
	1.0nm,0.6s,baz=143,slow=9.2,SNR=10.0								
PDAR				LR	LR	10 43 07.5			
	comp=Z,430nm,18.1s,baz=168,slow=39								
L47A	**Sherwood**	**27.68**	**22**	P	**P**	**10 31 07.1**	**-0.4**		
	baz=208								
M49A	**Liberty Center**	**27.70**	**24**	P	**P**	**10 31 08.0**	**+0.3**		
	baz=211								
I39A	**Houston**	**27.72**	**11**	*eP*	**P**	**10 31 11.8**	**+3.9**		
	17nm,0.6s								
I39A	**Houston**	**27.72**	**11**	P	**P**	**10 31 07.8**	**0.0**		
	baz=195								
J42A	**Columbus**	**27.72**	**15**	P	**P**	**10 31 07.5**	**-0.4**		
	baz=200								
P54A	**Burton**	**27.73**	**31**	P	**P**	**10 31 06.9**	**-1.1**		
	baz=220								
NV01	**Mina Array Sit**	**27.73**	**325**	*eP*	**P**	**10 31 09.7**	**+1.4**		
NVAR	**Mina Array Bea**	**27.73**	**325**	P	**P**	**10 31 09.3**	**+1.1**		
	1.3nm,0.8s,baz=136,slow=9.8,SNR=8.1								
NVAR				LR	LR	10 41 18.4			
	comp=Z,126nm,19.4s,baz=151,slow=35								
HVU	**Hansel Valley**	**27.83**	**337**	*eP*	**P**	**10 31 12.0**	**+2.9**		
	4.8nm,0.8s								
L48A	**N Adams**	**27.93**	**23**	P	**P**	**10 31 10.4**	**+0.6**		
	baz=210								
ELK	**Elko**	**27.98**	**332**	P	**P**	**10 31 12.3**	**+1.8**		
	0.4nm,0.5s,baz=181,slow=11,SNR=5.0								
P55A	**Reedsville**	**27.98**	**32**	P	**P**	**10 31 09.1**	**-1.2**		
	baz=221								
KVN	**Kaiserville**	**28.07**	**326**	*eP*	P	10 31 19.3	+8.0		
	6.6nm,1.2s								
M51A	**Elyria**	**28.32**	**27**	P	**P**	**10 31 11.8**	**-1.4**		
	baz=215								
N53A	**Lisbon**	**28.49**	**29**	P	**P**	**10 31 14.9**	**+0.1**		
	baz=218								
REDW	**Red Top Meadow**	**28.56**	**341**	*eP*	**P**	**10 31 17.6**	**+1.9**		
	8.7nm,1.0s								
SNOW	**Snow King Moun**	**28.62**	**341**	*eP*	**P**	**10 31 18.5**	**+2.3**		
	10nm,1.0s								
TPAW	**Teton Pass**	**28.71**	**341**	*eP*	P	10 31 23.9	+6.9		
	21nm,1.6s								
LOHW	**Long Hollow**	**28.71**	**342**	*eP*	**P**	**10 31 18.7**	**+1.7**		
	12nm,1.2s								
O55A	**Ligonier**	**28.77**	**32**	P	**P**	**10 31 16.8**	**-0.5**		
	baz=221								
H41A	**Junction City**	**28.83**	**13**	P	**P**	**10 31 18.4**	**+0.7**		
	baz=198								
FXWY	**Fox Creek**	**28.87**	**341**	*eP*	**P**	**10 31 21.3**	**+2.9**		
	3.4nm,1.0s								
MOOW	**Moose Ponds**	**28.88**	**342**	*eP*	**P**	**10 31 21.2**	**+2.7**		
	3.0nm,0.9s								
M53A	**WI Miller and**	**29.07**	**28**	P	**P**	**10 31 19.9**	**0.0**		
	baz=217								
G39A	**Holcombe**	**29.17**	**11**	P	**P**	**10 31 21.1**	**+0.4**		
	baz=195								
O56A	**Blue Knob Stat**	**29.19**	**32**	P	**P**	**10 31 21.3**	**+0.3**		
	baz=222								
RLMT	**Red Lodge**	**29.73**	**345**	*eP*	**P**	**10 31 27.8**	**+1.8**		
	6.0nm,0.8s								
RLMT	**Red Lodge**	**29.73**	**345**	P	**P**	**10 31 27.4**	**+1.4**		
	baz=159								
SSPA	**Standing Stone**	**29.81**	**33**	P	**P**	**10 31 26.0**	**-0.5**		
	baz=223								
M55A	**Ridgway**	**29.99**	**31**	P	**P**	**10 31 27.6**	**-0.5**		
	baz=220								
TYNO	**Tyneside**	**30.75**	**27**	P	**P**	**10 31 33.3**	**-1.4**		
	baz=217								
BOZ	**Bozeman (W)**	**30.82**	**342**	P	**P**	**10 31 36.9**	**+1.3**		
	baz=155								
WVOR	**Wild Horse Val**	**30.87**	**330**	*eP*	**P**	**10 31 37.9**	**+1.8**		
	10nm,1.4s								
DLMT	**Dillon**	**30.91**	**341**	*eP*	**P**	**10 31 39.2**	**+2.9**		
	12nm,1.0s								
ATAH	**Atahualpa**	**30.96**	**138**	P	**P**	**10 31 37.0**	**-0.3**		
	8.8nm,0.9s,baz=284,slow=8.3,SNR=4.7								
LRM	**Limekiln Ridge**	**31.27**	**341**	*eP*	P	10 31 48.8	+9.2		
MOD	**Modoc Plateau**	**31.30**	**328**	*eP*	**P**	**10 31 41.4**	**+1.6**		
	9.3nm,1.5s								
J08A	**Circle Bar Ran**	**31.51**	**332**	*eP*	**P**	**10 31 43.6**	**+2.0**		
	5.5nm,1.0s								
AGMN	**Agassiz Nation**	**31.59**	**3**	*eP*	**P**	**10 31 42.4**	**+0.3**		
	6.0nm,0.8s								
AGMN	**Agassiz Nation**	**31.59**	**3**	P	**P**	**10 31 41.8**	**-0.3**		
	baz=185								
YBH	**Yreka Blue Hor**	**32.45**	**325**	LR	LR	10 47 15.3			
	comp=Z,78nm,18.2s,baz=145,slow=40								
EGMT	**Eagleton**	**32.57**	**346**	P	**P**	**10 31 50.9**	**+0.1**		
	baz=160								
MSO	**Missoula**	**32.64**	**340**	P	**P**	**10 31 53.5**	**+2.0**		
	baz=152								
F10A	**Beach Ranch, E**	**33.09**	**336**	*eP*	P	10 32 01.6	+6.2		
	8.9nm,1.0s								
E50A	**Wahnapitae**	**33.14**	**23**	P	**P**	**10 31 54.6**	**-1.1**		
	baz=212								
F52A	**Sundridge**	**33.16**	**25**	P	**P**	**10 31 55.5**	**-0.4**		
	baz=215								
G08A	**Pilot Rock**	**33.25**	**333**	*eP*	**P**	**10 31 57.5**	**+0.7**		
	19nm,2.0s								
ULM	**Lac du Bonnet**	**33.54**	**3**	P	**P**	**10 31 59.7**	**+0.5**		
	1.2nm,0.8s,baz=169,slow=10,SNR=2.4								
ULM				LR	LR	10 46 39.7			
	comp=Z,114nm,19.2s,baz=182,slow=38								
E53A	**Dumoine, Ponti**	**34.32**	**26**	P	**P**	**10 32 05.3**	**-0.7**		
	baz=217								
HRV	**Adam Dziewonsk**	**34.54**	**36**	P	**P**	**10 32 07.4**	**-0.5**		
	baz=230								
E54A	**Lac Daplat, Po**	**34.56**	**26**	P	**P**	**10 32 08.2**	**+0.1**		
	baz=218								
NEW	**Newport**	**34.97**	**338**	LR	LR	10 47 57.9			
	comp=Z,276nm,18.2s,baz=150,slow=39								
D03D	**Eldon**	**36.80**	**332**	P	**P**	**10 32 29.1**	**+1.8**		
	baz=139								
B05A	**Bryant**	**36.92**	**334**	P	**P**	**10 32 31.4**	**+3.2**		
	baz=141								
FFC	**Flin Flon**	**38.04**	**357**	*eP*	**P**	**10 32 37.4**	**-0.3**		
	7.4nm,1.3s								
PTGA	**Pitinga**	**41.80**	**111**	P	**P**	**10 33 08.2**	**-1.2**		
	1.2nm,0.4s,baz=306,slow=11,SNR=4.5								
LPAZ	**La Paz**	**44.43**	**136**	P	**P**	**10 33 29.9**	**-1.5**		
	0.8nm,0.6s,baz=249,slow=7.2,SNR=3.9								
LPAZ				LR	LR	10 51 41.5			
	comp=Z,62nm,18.4s,baz=298,slow=36								
SCHQ	**Schefferville**	**45.21**	**25**	P	**P**	**10 33 35.9**	**-0.5**		
	2.3nm,0.6s,baz=236,slow=8.3,SNR=8.3								
PB11	**IPOC Station P**	**46.03**	**141**	*eP*	**P**	**10 33 44.6**	**+1.1**		
	24nm,1.1s								
YKA	**Yellowknife Ar**	**47.12**	**350**	P	**P**	**10 33 50.4**	**-0.8**		
	1.4nm,0.7s,baz=156,slow=7.3,SNR=16								
YKA				PcP	**PcP**	**10 35 21.9**	**-0.6**		
	0.7nm,0.8s,baz=146,slow=4.5,SNR=3.4								
YKB5	**Yellowknife Ar**	**47.12**	**350**	*eP*	**P**	**10 33 53.1**	**+1.9**		
YKW3	**Yellowknife Ar**	**47.18**	**350**	*eP*	**P**	**10 33 53.3**	**+1.6**		
	5.6nm,0.8s								
EGAK	**Eagle**	**55.93**	**340**	*eP*	**P**	**10 34 57.8**	**+0.7**		
	8.2nm,0.8s								
INK	**Inuvik**	**56.15**	**345**	*eP*	**P**	**10 34 58.7**	**+0.2**		
	9.1nm,0.9s								
IL1	**Eielson Array**	**57.92**	**338**	*eP*	**P**	**10 35 11.5**	**+0.3**		
ILAR	**Eielson Array**	**57.92**	**338**	P	**P**	**10 35 11.6**	**+0.3**		
	1.6nm,0.9s,baz=133,slow=5.3,SNR=18								
ILAR				LR	LR	11 02 05.6			
	comp=Z,105nm,19.2s,baz=135,slow=38								
ILB	**Eielson Array**	**57.92**	**338**	*eP*	**P**	**10 35 12.1**	**+0.8**		
	7.4nm,0.9s								
RND	**Reindeer**	**57.96**	**336**	*eP*	**P**	**10 35 13.1**	**+1.5**		
	11nm,1.0s								
POKR	**Poker Plat Res**	**58.30**	**338**	P	**P**	**10 35 16.0**	**+2.1**		
	baz=122								
TRF	**Thorofare Moun**	**58.55**	**336**	*eP*	**P**	**10 35 16.5**	**+0.6**		
	14nm,0.8s								
BWN	**Browne**	**58.57**	**337**	*eP*	**P**	**10 35 16.1**	**+0.3**		
	29nm,0.8s								
CPUP	**Villa Florida**	**58.61**	**136**	P	**P**	**10 35 15.4**	**-1.1**		
	3.1nm,0.9s,baz=300,slow=8.1,SNR=5.1								
BDFB	**Brasilia**	**59.32**	**120**	*eP*	**P**	**10 35 23.0**	**+1.2**		
	5.7nm,0.8s								
BDFB	**Brasilia**	**59.32**	**120**	P	**P**	**10 35 21.0**	**-0.8**		
	7.2nm,0.8s,baz=262,slow=4.1,SNR=7.7								
PLCA	**Paso Flores**	**62.78**	**156**	P	**P**	**10 35 44.1**	**-0.7**		
	2.6nm,0.9s,baz=343,slow=8.1,SNR=5.9								
ESDC	**Sonseca Array**	**82.97**	**51**	P	**P**	**10 37 43.7**	**-0.9**		
	0.2nm,0.4s,baz=303,slow=6.3,SNR=4.4								
NOA	**NORSAR Array B**	**84.74**	**27**	P	**P**	**10 37 53.7**	**+0.4**		
	1.3nm,1.0s,baz=299,slow=5.2,SNR=3.4								
NOA				LR	LR	11 18 08.5			
	comp=Z,14nm,18.9s,baz=300,slow=37								
PETK	**Petropavlovsk-**	**84.81**	**324**	P	**P**	**10 37 54.1**	**+0.4**		
	2.6nm,0.8s,baz=98,slow=10,SNR=3.5								
TIXI	**Tiksi**	**86.25**	**346**	*eP*	**P**	**10 38 00.0**	**-0.4**		
	8.4nm,1.4s								
FINES	**FINESS Array B**	**90.64**	**23**	LR	LR	11 21 14.3			
	comp=Z,34nm,18.8s,baz=306,slow=37								
GERES	**GERESS Array B**	**91.45**	**38**	P	**P**	**10 38 25.8**	**0.0**		
	0.4nm,0.6s,baz=316,slow=5.6,SNR=5.4								
VRAC	**Vranov**	**92.90**	**36**	LR	LR	11 22 08.3			
	comp=Z,19nm,20.4s,baz=206,slow=37								
NRIK	**Noril'sk**	**94.08**	**358**	LR	LR	11 24 49.5			
	comp=Z,27nm,18.7s,baz=86,slow=38								
VAE	**Valguarnera**	**97.15**	**48**	LR	LR	11 21 35.3			
	comp=Z,59nm,20.3s,baz=180,slow=35								
OBN	**Obninsk**	**99.00**	**24**	*eP*	Pdif	10 38 58.7	-1.1		
OBN	**Obninsk**	**99.00**	**24**	LR	LR	11 26 41.3			
	comp=Z,7.0nm,19.2s,baz=14,slow=37								
LZH	**Lanzhou**	**123.39**	**338**	*e*PKP	**PKPdf**	**10 44 16.8**	**-0.2**		
LZH				pPKP	sPKPdf	10 44 30.5	-1.8		
LZH				sPKP		10 44 34.3			
LZH				LR	LR				
	comp=N,75nm,18.0s								
LZH				LR	LR				
	comp=E,68nm,18.1s								
LZH				LR	LR				
	comp=Z,92nm,20.1s								
WRA	**Warramunga Arr**	**129.85**	**258**	PKP	**PKPdf**	**10 44 29.4**	**0.0**		
	comp=Z,1.8nm,0.9s,baz=79,slow=2.2,SNR=11								
ASAR	**Alice Springs**	**130.50**	**253**	PKP	**PKPdf**	**10 44 30.1**	**-0.6**		
	comp=Z,1.2nm,1.0s,baz=126,slow=2.1,SNR=6.1								
HYB	**Hyderabad**	**145.98**	**5**	*i* PKP	**PKPdf**	**10 44 59.0**	**-0.1**		

PGC 16 11:08:29.9±1.7, 48.95N×129.76W, h10km, MLSn2.8/28, Mw3.4/28, Mw3.4/28, 257km southwest of Pt. Hardy, Bc Vancouver Island, Canada Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**1.09**	**156**	P	Pb	11 08 48.4	-2.3
KEMF				S	Sb	11 09 00.9	-4.0
BPBC	**Brooks Peninsu**	**1.77**	**46**	Pn	Pn	11 08 58.6	-2.0
EDB	**Eliza Dome**	**1.95**	**61**	Pn	Pn	11 09 00.9	-2.2
EDB				Sn	Sn	11 09 22.7	-5.0
HOLB	**Holberg**	**1.99**	**31**	Pn	Pn	11 09 01.7	-2.0
HOLB				Sn	Sn	11 09 23.4	-5.3
PACB	**Port Alice, BC**	**2.09**	**44**	Pn	Pn	11 09 03.1	-1.9
PACB				Sn	Sn	11 09 25.8	-5.2
ETB	**Estevan Point**	**2.15**	**77**	Pn	Pn	11 09 04.3	-1.6
MAYB	**Maynard**	**2.22**	**48**	Pn	Pn	11 09 05.2	-1.8
MAYB				Sn	Sn	11 09 29.3	-5.1
PHC	**Port Hardy**	**2.31**	**40**	Pn	Pn	11 09 07.6	-0.4
PHC				Sn	Sn	11 09 31.4	-5.1
WOSB	**Woss**	**2.40**	**58**	Pn	Pn	11 09 08.0	-1.4
TLCB	**Telegraph Cove**	**2.48**	**49**	Pn	Pn	11 09 09.1	-1.2
TLCB				Sn	Sn	11 09 36.2	-4.4
TOFB	**Tofino**	**2.54**	**84**	Pn	Pn	11 09 09.4	-1.7
TOFB				Sn	Sn	11 09 38.6	-3.5
GDR	**Gold River**	**2.57**	**70**	Pn	Pn	11 09 10.0	-1.6
NCRB	**Newcastle Ridg**	**2.81**	**57**	Pn	Pn	11 09 14.0	-1.0
NCRB				Sn	Sn	11 09 45.8	-3.2
BTB	**Buttle Lake**	**2.83**	**78**	Pn	Pn	11 09 14.0	-1.2
B928	**Bamfield**	**3.05**	**90**	Pn	Pn	11 09 16.6	-1.6
B928				Sn	Sn	11 09 50.9	-3.7
CBB	**Campbell River**	**3.06**	**68**	Pn	Pn	11 09 17.7	-0.7
CBB				Sn	Sn	11 09 52.5	-2.4
MGB	**Mount Grey**	**3.34**	**87**	Pn	Pn	11 09 20.7	-1.6
MGB				Sn	Sn	11 09 57.7	-4.3
BBB	**Bella Bella**	**3.40**	**17**	Pn	Pn	11 09 22.6	-0.4
BBB				Sn	Sn	11 09 57.9	-5.5
TXB	**Texada**	**3.56**	**76**	Pn	Pn	11 09 24.4	-0.8
GHNB	**Nanoose**	**3.64**	**82**	Pn	Pn	11 09 26.1	-0.2
B926	**Mesachie Lake**	**3.71**	**90**	Pn	Pn	11 09 26.4	-0.8
NLLB	**Nanaimo Lost L**	**3.80**	**84**	Pn	Pn	11 09 28.7	+0.2
SHB	**Sechelt**	**3.91**	**78**	Pn	Pn	11 09 30.0	0.0
LZB	**Mount Lazard**	**3.94**	**93**	Pn	Pn	11 09 29.3	-1.2
BPCB	**Bare Point**	**3.99**	**88**	Pn	Pn	11 09 31.1	0.0
GOBB	**Galiano Island**	**4.12**	**88**	Pn	Pn	11 09 33.1	+0.3
B009	**North Saanich**	**4.18**	**92**	Pn	Pn	11 09 33.4	-0.3
B010	**North Saanich**	**4.18**	**92**	Pn	Pn	11 09 33.0	-0.6
PGC	**Sidney**	**4.18**	**92**	Pn	Pn	11 09 32.9	-0.8
PA12	**PA12 Sannich**	**4.18**	**92**	Pn	Pn	11 09 32.0	-1.6
B011	**North Saanich**	**4.18**	**92**	Pn	Pn	11 09 32.5	-1.2
PA04	**PA04 Cage**	**4.18**	**92**	Pn	Pn	11 09 32.9	-0.8
VGZ	**Gonzales**	**4.29**	**95**	Pn	Pn	11 09 33.5	-1.8
SNB	**Saturna Island**	**4.35**	**90**	Pn	Pn	11 09 36.7	+0.6
MCW	**Mount Constitu**	**4.58**	**91**	Pn	Pn	11 09 39.6	+0.3
WSLR	**Whistler**	**4.60**	**73**	Pn	Pn	11 09 40.5	+0.9
BLN	**Blyn Mountain**	**4.61**	**99**	Pn	Pn	11 09 39.6	-0.1
CPW	**Capitol Peak**	**4.87**	**111**	Pn	Pn	11 09 43.8	+0.6
VDB	**Vedder Mountai**	**5.04**	**86**	Pn	Pn	11 09 45.9	+0.4
MBW	**Mount Baker**	**5.19**	**89**	Pn	Pn	11 09 48.0	+0.3
JCW	**Jim Creek**	**5.25**	**95**	Pn	Pn	11 09 48.9	+0.5
LLLB	**Lillooet**	**5.37**	**69**	Pn	Pn	11 09 50.7	+0.7
HOPB	**Hope**	**5.49**	**82**	Pn	Pn	11 09 52.2	+0.6
LON	**Longmire**	**5.78**	**109**	Pn	Pn	11 09 57.8	+2.0
FMW	**Mount Fremont**	**5.79**	**107**	Pn	Pn	11 09 57.8	+1.7
LTY	**Liberty**	**6.32**	**102**	Pn	Pn	11 10 04.6	+1.5
FSB	**Fort Saint Jam**	**6.48**	**29**	Pn	Pn	11 10 05.9	+0.6
PNT	**Penticton**	**6.66**	**83**	Pn	Pn	11 10 07.9	0.0
B08A	**Colville Reser**	**6.93**	**91**	Pn	Pn	11 10 11.5	0.0
SLEB	**Sale Mountain**	**7.80**	**69**	Pn	Pn	11 10 25.6	+2.0
BMBC	**Bull Mountain**	**8.49**	**30**	Pn	Pn	11 10 35.2	+2.4
FBMT	**Ferry Basin**	**10.36**	**93**	P	Pn	11 10 59.2	+0.6
JTMT	**Jette**	**10.37**	**91**	P	Pn	11 10 58.4	-0.4
SWMT	**Swartz Lake**	**10.61**	**92**	P	Pn	11 11 03.0	+1.0
HARP	**HAARP**	**15.97**	**333**	P	P	11 12 26.2	+8.1
ULM	**Lac du Bonnet**	**21.89**	**74**	P	P	11 13 26.5	+3.6
FCC	**Fort Churchill**	**22.95**	**51**	P	P	11 13 39.9	+5.9

*IDC **16** 11:14:14.9±0.7, 61.78N×16.15E, h0km, mb1 3.1/4, mb1mx2.9/43, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=11.4km s-min=5.5km az=142.0*
*NAO **16** 11:14:15.5±0.8, 61.69N×16.21E, ML2.2*
*ISCJB **16** 11:14:17.4±0.4, 61.75N±0.02×16.16E±0.03, h22km±4km, Error ellipse: s-maj=3.4km s-min=2.5km az=155.7*
*UPP **16** 11:14:17.6±0.2, 61.75N×16.12E, h19km±2km, ML2.2, Confirmed Earthquake*
*HEL **16** 11:14:18.1±0.1, 61.75N×16.12E, h19km, ML2.4, ML2.4(BER), ML2.2(UPP), Confirmed Earthquake*
*BER **16** 11:14:19.4±2.3, 61.72N×16.12E, h12km±12km, ML2.4, ML2.2(NAO)*

ISC 16 11:14:17.6±1.1, 61.76N±0.03×16.15E±0.02, h19km±3km, n72, σ1.9 s27/120, 3C-8D, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HASU	**Hassela**	**0.45**	**29**	⇑P	**Pg**	**11 14 26.7**	**-0.2**
HASU				S	**Sg**	**11 14 32.9**	**-0.3**
HASU	**Hassela**	**0.45**	**29**	⇑*i*P	**Pg**	**11 14 26.7**	**-0.2**
HASU				*i* S	**Sg**	**11 14 32.9**	**-0.3**
HUDU	**Hudiksvall**	**0.46**	**92**	⇓P	**Pg**	**11 14 26.9**	**-0.1**
HUDU				S	**Sg**	**11 14 33.3**	**0.0**
HUDU	**Hudiksvall**	**0.46**	**92**	⇓*i*P	**Pg**	**11 14 26.9**	**-0.1**
HUDU				*i* S	**Sg**	**11 14 33.3**	**0.0**
ARNU	**Arnoeviken**	**0.59**	**96**	⇓P	**Pb**	**11 14 29.0**	**-0.1**
ARNU				S	**Sb**	**11 14 37.0**	**0.0**
ARNU	**Arnoeviken**	**0.59**	**96**	⇓*i*P	**Pb**	**11 14 29.0**	**-0.1**
ARNU				*i* S	**Sb**	**11 14 37.0**	**0.0**
IGGU	**Iggoen**	**1.05**	**147**	⇓P	**Pb**	**11 14 36.5**	**-0.6**
IGGU				S	**Sb**	**11 14 49.6**	**-0.8**
IGGU	**Iggoen**	**1.05**	**147**	⇓*e*P	**Pb**	**11 14 36.5**	**-0.6**
IGGU				*e*S	**Sb**	**11 14 49.6**	**-0.8**
FALU	**Falun**	**1.28**	**187**	P	**Pn**	**11 14 40.2**	**-0.1**
FALU				S	**Sn**	**11 14 55.8**	**-1.1**
FALU	**Falun**	**1.28**	**187**	*e*P	**Pn**	**11 14 40.2**	**-0.1**
FALU				*e*S	**Sn**	**11 14 55.8**	**-1.1**
HEMU	**Hemsoen**	**1.28**	**43**	⇑P	**Pn**	**11 14 40.6**	**+0.3**
HEMU				S	**Sn**	**11 14 57.4**	**+0.4**
HEMU	**Hemsoen**	**1.28**	**43**	*e*P	**Pn**	**11 14 40.6**	**+0.3**
HEMU				*e*S	**Sn**	**11 14 57.2**	**+0.3**
SOLU	**Sollefteaa**	**1.58**	**18**	P	**Pn**	**11 14 45.2**	**+0.7**
SOLU				S	**Sn**	**11 15 05.3**	**+0.9**
SOLU	**Sollefteaa**	**1.58**	**18**	*e*P	**Pn**	**11 14 45.2**	**+0.7**
SOLU				*e*S	**Sn**	**11 15 05.3**	**+0.9**
OSTU	**Oestervaala**	**1.61**	**162**	⇓P	**Pn**	**11 14 45.7**	**+0.8**
OSTU				S	**Sb**	**11 15 05.7**	**-0.7**
OSTU	**Oestervaala**	**1.61**	**162**	⇓*e*P	**Pn**	**11 14 45.7**	**+0.8**
OSTU				*e*S	**Sb**	**11 15 05.7**	**-0.7**
FORU	**Forsmark**	**1.69**	**143**	P	**Pb**	**11 14 47.2**	**-0.8**
FORU				S	**Sb**	**11 15 08.3**	**-0.6**
FORU	**Forsmark**	**1.69**	**143**	*e*P	**Pb**	**11 14 47.2**	**-0.8**
FORU				*e*S	**Sb**	**11 15 08.3**	**-0.6**
NOD	**Norderasen**	**1.79**	**341**	*e*P	**Pn**	**11 14 48.1**	**+0.6**
NOD				*e*S	**Sn**	**11 15 10.8**	**+1.1**
HFS	**Hagfors**	**2.02**	**217**	Pn	**Pn**	**11 14 51.6**	**+1.0**
	baz=37,slow=14						
HFS				Lg	Lg	11 15 17.7	
	baz=49,slow=28						
HFS	**Hagfors**	**2.02**	**217**	Pn	**Pn**	**11 14 51.4**	**+0.8**
	0.9nm,0.3s,baz=37,slow=13,SNR=57						
HFS				Lg	Lg	11 15 17.7	
	6.0nm,0.3s,baz=50,slow=28,SNR=28						
HFS	**Hagfors**	**2.02**	**217**	Pn	**Pn**	**11 14 51.6**	**+1.0**
	baz=37,slow=14						
HFS				Sg	**Sb**	**11 15 17.7**	**-0.7**
	baz=49,slow=28						
HFS	**Hagfors**	**2.02**	**217**	*e*P	**Pn**	**11 14 51.6**	**+1.0**
HFS				*e*SB	**Sb**	**11 15 17.7**	**-0.7**
NC303	**NORSAR Array S**	**2.35**	**259**	*e*P	**Pn**	**11 14 56.0**	**+0.8**
NC303				IAML		11 15 33.8	
	comp=Z,24nm,0.2s						
NB201	**NORSAR Array S**	**2.44**	**255**	*e*P	**Pn**	**11 14 57.5**	**+1.1**
NC602	**NORSAR Array S**	**2.45**	**247**	*e*P	**Pn**	**11 14 56.9**	**+0.4**
NC602				*e*S	**Sn**	**11 15 26.1**	**+0.2**
NC602				IAML		11 15 36.1	
	comp=Z,400nm,0.3s						
NC602	**NORSAR Array S**	**2.45**	**247**	*e*P	**Pn**	**11 14 56.9**	**+0.4**
NC602				*e*S	**Sn**	**11 15 26.1**	**+0.2**
NC602				IAML		11 15 36.1	
	comp=Z,400nm,0.3s						
NRA0	**NORESS Array S**	**2.45**	**247**	Pn	**Pn**	**11 14 56.8**	**+0.3**
NRA0				Pg	**Pb**	**11 15 00.9**	**-0.1**
	baz=60,slow=18						
NRA0				Sn	**Sn**	**11 15 26.6**	**+0.7**
	baz=59,slow=28						
NRA0				Lg	Lg	11 15 32.0	
	baz=66,slow=37						
NRA0	**NORESS Array S**	**2.45**	**247**	Pn	**Pn**	**11 14 56.8**	**+0.3**
NRA0				Pg	**Pb**	**11 15 00.9**	**-0.1**
	baz=60,slow=18						
NRA0				Sn	**Sn**	**11 15 26.6**	**+0.7**
	baz=59,slow=28						
NRA0				Sg	**Sb**	**11 15 32.0**	**+1.2**
	baz=66,slow=37						
NRA0	**NORESS Array S**	**2.45**	**247**	*e*P	**Pn**	**11 14 56.8**	**+0.3**
NRA0				*e*PB	**Pb**	**11 15 00.9**	**-0.1**
NRA0				*e*S	**Sn**	**11 15 26.6**	**+0.7**
NRA0				*e*SB	**Sb**	**11 15 32.0**	**+1.2**
AAL	**Aland**	**2.45**	**129**	*e*PB	**Pb**	**11 14 59.0**	**-2.0**
AAL				*e*S	**Sn**	**11 15 26.0**	**+0.1**
NB2	**NORSAR Subarra**	**2.48**	**255**	Pn	**Pn**	**11 14 57.9**	**+0.9**
	baz=74,slow=14						
NB2				Lg	Lg	11 15 31.2	
	baz=80,slow=22						
NB2	**NORSAR Subarra**	**2.48**	**255**	Pn	**Pn**	**11 14 57.9**	**+0.9**
	baz=74,slow=14						
NB2				Sg	**Sb**	**11 15 31.2**	**-0.5**
	baz=80,slow=22						
NB2	**NORSAR Subarra**	**2.48**	**255**	*e*P	**Pn**	**11 14 57.9**	**+0.9**
NB2				*e*SB	**Sb**	**11 15 31.2**	**-0.5**
NOA	**NORSAR Array B**	**2.48**	**255**	Pn	**Pn**	**11 14 58.5**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=73,slow=17,SNR=22						
NOA

PNIG				*e*S	Sg	11 24 44.9	+0.2
TLIG	**Tlapa**	**1.32**	**357**	*e*P	Pn	11 24 52.7	-4.6
TLIG				*i* S	Sg	11 25 09.2	-5.3
VHO	**Vista Hermosa**	**1.89**	**64**	*e*P	Pn	11 25 01.9	-3.2
VHO				*i* S	Sn	11 25 24.1	-5.4

NORS ***16*** *11:26:45.7±0.0, 42°.78N×46°.31E, h6km, MPVA3.4*
DRS ***16*** *11:26:46.1±0.0, 42°.91N×46°.14E, h10km*
MOS ***16*** *11:26:47.2±0.0, 42°.85N×46°.29E, h15km, MPVA3.4*

ISC 16 11:26:48.9±1.0, **42°.82N**±0°.04×**46°.34E**±0°.04, **h9km**±8km, **n11**, σ0**965**/20, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.18**	**210**	*e*Pg	**Pg**	**11 26 52.7**	**0.0**
BTLR				*e*Sg	**Sg**	**11 26 56.1**	**+0.8**
DLMR	**Dylym**	**0.33**	**40**	*e*Pg	**Pg**	**11 26 55.0**	**-0.4**
DLMR				*e*Sg	**Sg**	**11 27 00.5**	**+0.7**
XNZR	**Khunzakh**	**0.38**	**136**	*i* Pg	**Pb**	**11 26 57.6**	**-0.4**
XNZR				*e*Sg	**Sb**	**11 27 05.0**	**+0.9**
DBC	**Dubki**	**0.41**	**60**	*e*Pg	**Pg**	**11 26 56.8**	**-0.2**
DBC				*e*Sg	**Sb**	**11 27 04.2**	**-0.5**
KRNR	**Karanay**	**0.41**	**89**	*e*Pg	**Pb**	**11 26 57.8**	**-0.7**
KRNR				*e*Sg	**Sb**	**11 27 05.0**	**+0.1**
KMKR	**Kumukh**	**0.89**	**141**	*e*Pg	**Pn**	**11 27 08.0**	**+0.3**
KMKR				*e*Sg	**Sn**	**11 27 21.0**	**+0.2**
LGD	**Lagodekhi**	**0.99**	**184**	P	**Pn**	**11 27 09.1**	**+0.2**
LGD				S	**Sn**	**11 27 23.0**	**+0.1**
LGD	**Lagodekhi**	**0.99**	**184**	*e*Pg	**Pn**	**11 27 09.1**	**+0.2**
LGD				*e*Sg	**Sn**	**11 27 23.0**	**+0.1**
DDFL	**Dedoflistskaro**	**1.38**	**187**	P	Pb	11 27 20.5	+5.6
DDFL				S	Sn	11 27 47.5	+15
LACR	**Lac**	**1.51**	**271**	*e*Pg	**Pn**	**11 27 16.4**	**+0.3**
LACR				*e*Sg	**Sn**	**11 27 37.4**	**+1.4**
TRLG	**Trialeti**	**2.10**	**233**	P	**Pg**	**11 27 28.4**	**-0.8**
TRLG				S	**Sg**	**11 27 55.5**	**-0.9**

IDC ***16*** *11:27:11.8±0.8, 14°.56N×146°.92E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/41, mbtmp3.9/15, ML4.1/1, MS3.2/4, Ms1 3.2/4, ms1mx2.7/44, Error ellipse: s-maj=22.8km s-min=16.2km az=112.0*
ISCJB ***16*** *11:27:14.4±0.4, 14°.44N±0°.05×147°.00E±0°.06, h33km, mb4.1/28, MS3.5/3, Error ellipse: s-maj=9.7km s-min=6.8km az=33.2*
NEIC ***16*** *11:27:16.4±0.3, 14°.41N×146°.98E, h35km, mb4.5/15, Error ellipse: s-maj=7.8km s-min=5.5km az=103.0*

ISC 16 11:27:16.1±0.7, **14°.40N**±0°.08×**146°.94E**±0°.09, **h33km**, **n54**, σ1**913**/55, **mb4.2**/28, **MS3.6**/3, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.16**	**248**	*e*Pn	**Pn**	**11 27 50.4**	**+0.6**
GUMO				*e*Sn	**Sn**	**11 28 17.1**	**+1.6**
GUMO				*e*Sn	**Sb**	**11 28 17.6**	**-3.4**
GUMO	**Guam** 49nm,0.3s,baz=128,slow=1.1,SNR=21	**2.16**	**248**	Pn	**Pn**	**11 27 51.0**	**+1.2**
GUMO	82nm,0.3s,baz=8.1,slow=23,SNR=9.8			Sn	**Sn**	**11 28 17.1**	**+1.6**
GUMO	comp=Z,103nm,18.5s,baz=152,slow=42			LR	LR	11 28 45.6	
ANA2	**Anatahan**	**2.26**	**329**	*e*Pn	**Pn**	**11 27 52.1**	**+0.9**
SARN	**Sarigan**	**2.54**	**334**	*e*Pn	**Pn**	**11 27 56.6**	**+1.5**
JOW	**Kunigami** 0.7nm,0.3s,baz=114,slow=14,SNR=6.5	**21.37**	**308**	P	**P**	**11 32 02.4**	**+1.6**
FAKI	**Fak Fak** 16nm,1.1s	**22.54**	**221**	*e*P	**P**	**11 32 13.0**	**-0.5**
MJAR	**Matsushiro Arr** 1.1nm,0.5s,baz=170,slow=9.2,SNR=4.0	**23.39**	**342**	P	**P**	**11 32 18.6**	**-3.4**
MAJO	**Matsushiro** 24nm,1.5s	**23.39**	**342**	*e*P	**P**	**11 32 20.4**	**-1.6**
JNU	**Nakatsue** 25nm,1.5s	**23.68**	**325**	*e*P	**P**	**11 32 24.7**	**-0.2**
JNU	**Nakatsue** 4.1nm,0.8s,baz=121,slow=5.9,SNR=3.6	**23.68**	**325**	P	**P**	**11 32 23.4**	**-1.5**
KSRS	**Korea Array** 1.2nm,0.6s,baz=143,slow=9.7,SNR=7.1	**28.51**	**327**	P	**P**	**11 33 07.1**	**-1.4**
KSAR	**Wonju Array Be**	**28.52**	**327**	P	**P**	**11 33 07.1**	**-1.6**
WRAB	**Tennant Creek** 12nm,1.5s	**36.30**	**200**	*e*P	**P**	**11 34 16.7**	**-0.1**
WR1	**Warramunga Arr** 7.3nm,1.4s	**36.31**	**200**	*e*P	**P**	**11 34 18.2**	**+1.3**
WRA	**Warramunga Arr** 0.7nm,1.0s,baz=21,slow=9.5,SNR=3.6	**36.31**	**200**	P	**P**	**11 34 18.2**	**+1.3**
PETK	**Petropavlovsk-**	**39.55**	**10**	*e*P	**P**	**11 34 43.0**	**-0.9**
AS31	**Alice Springs** 1.6nm,1.4s	**39.92**	**199**	*e*P	**P**	**11 34 46.5**	**-0.8**
ASAR	**Alice Springs** 0.3nm,0.8s,baz=30,slow=7.5,SNR=3.9	**39.92**	**199**	P	**P**	**11 34 48.4**	**+1.0**
CM01	**Chiang Mai Arr**	**46.10**	**282**	*e*P	**P**	**11 35 37.1**	**-0.4**
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=72,slow=5.7,SNR=5.1	**46.11**	**282**	P	**P**	**11 35 38.4**	**+0.8**
SONA0	**Songino Array**	**47.26**	**323**	*e*P	**P**	**11 35 46.6**	**+0.3**
SONM	**Songino Array** 1.2nm,0.6s,baz=144,slow=7.1,SNR=7.5	**47.26**	**323**	P	**P**	**11 35 46.6**	**+0.3**
ZAA0	**Zalesovo Array** 1.6nm,0.8s	**62.15**	**324**	*e*P	**P**	**11 37 34.1**	**+0.2**
ZALV	**Zalesovo Beam**	**62.15**	**324**	*e*P	**P**	**11 37 33.9**	**0.0**
ZALV	**Zalesovo Beam** 1.0nm,0.5s,baz=111,slow=8.1,SNR=5.4	**62.15**	**324**	P	**P**	**11 37 34.2**	**+0.2**
ZAA1	**Zalesovo Array**	**62.15**	**324**	*e*P	**P**	**11 37 34.2**	**+0.2**
MK01	**Makanchi Array**	**62.30**	**315**	*e*P	**P**	**11 37 35.6**	**+0.4**
MK31	**Makanchi Array** 1.3nm,0.8s	**62.31**	**315**	*e*P	**P**	**11 37 35.5**	**+0.3**
MK32	**Makanchi Array**	**62.31**	**315**	*e*P	**P**	**11 37 36.0**	**+0.7**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=88,slow=8.7,SNR=22	**62.31**	**315**	P	**P**	**11 37 36.0**	**+0.7**
MKAR	comp=Z,20nm,22.0s,baz=270,slow=35			LR	LR	12 03 44.6	
MAKZ	**Makanchi** 3.0nm,0.8s	**62.53**	**315**	*e*P	**P**	**11 37 37.1**	**+0.4**
RSO	**Redoubt South**	**63.10**	**29**	*e*P	**P**	**11 37 40.5**	**+0.1**
IM3	**Indian Mountai**	**64.67**	**23**	*e*P	**P**	**11 37 50.8**	**+0.3**
RC01	**Rabbit Creek A** 26nm,1.6s	**64.70**	**29**	*e*P	**P**	**11 37 50.9**	**+0.1**
KURK	**Kurchatov** 6.5nm,0.7s	**65.27**	**319**	*e*P	**P**	**11 37 55.0**	**+0.4**
RND	**Reindeer** 8.1nm,1.6s	**65.77**	**26**	*e*P	**P**	**11 37 58.0**	**+0.3**
ILAR	**Eielson Array** 1.2nm,0.5s,baz=252,slow=5.8,SNR=38	**66.98**	**25**	P	**P**	**11 38 05.9**	**+0.5**
ILB	**Eielson Array** 12nm,1.6s	**66.98**	**25**	*e*P	**P**	**11 38 05.2**	**-0.1**
BRVK	**Borovoye** 4.1nm,0.8s	**70.61**	**321**	*e*P	**P**	**11 38 28.5**	**+0.4**
ABKAR	**Akbulak array** 2.6nm,1.4s	**77.29**	**318**	*e*P	**P**	**11 39 07.6**	**+0.3**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=285,slow=5.2,SNR=9.8	**81.22**	**28**	P	**P**	**11 39 29.1**	**+0.7**
YKB5	**Yellowknife Ar**	**81.22**	**28**	*e*P	**P**	**11 39 28.1**	**-0.3**
NV01	**Mina Array Sit**	**84.85**	**52**	*e*P	**P**	**11 39 47.1**	**-1.0**
NVAR	**Mina Array Bea** 0.4nm,0.6s,baz=250,slow=6.9,SNR=3.9	**84.85**	**52**	P	**P**	**11 39 48.2**	**+0.1**
ARA0	**ARCESS Array S**	**86.93**	**343**	*e*P	**P**	**11 39 57.6**	**+0.1**
ARCES	**ARCESS Array B** 1.9nm,0.8s,baz=83,slow=7.4,SNR=3.8	**86.93**	**343**	P	**P**	**11 39 57.6**	**+0.1**
PDAR	**Pinedale Array** comp=Z,26nm,20.9s,baz=294,slow=30	**89.97**	**46**	LR	LR	12 12 07.2	
FIA0	**FINESS Array S**	**91.27**	**336**	*e*P	**P**	**11 40 17.3**	**-0.7**
FINES	**FINESS Array B** 1.3nm,0.8s,baz=89,slow=4.6,SNR=4.6	**91.27**	**336**	P	**P**	**11 40 17.3**	**-0.7**
ANMO	**Albuquerque** comp=Z,23nm,19.8s,baz=148,slow=32	**94.97**	**52**	LR	LR	12 18 12.3	
DBIC	**Dimbokro** 5.1nm,0.5s,baz=45,slow=3.7,SNR=9.4	**145.05**	**305**	PKP	**PKPdf**	**11 46 52.2**	**+1.0**
KIC	**Kosan Boka** 15nm,0.7s	**145.15**	**304**	*e*PKP1	**PKPdf**	**11 46 52.6**	**+1.3**
TIC	**Toumodi**	**145.20**	**305**	*e*PKP1	**PKPdf**	**11 46 52.5**	**+1.1**
LIC	**Lamto** 35nm,0.6s	**145.46**	**305**	*e*PKP1	**PKiKP**	**11 46 53.6**	**-2.2**

IDC ***16*** *11:33:17.8±1.4, 10°.68S×161°.09E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/39, mbtmp3.7/7, ML3.8/1, Error ellipse: s-maj=37.2km s-min=24.3km az=139.0*
ISCJB ***16*** *11:33:25.2±1.1, 10°.6S±0°.1×160°.9E±0°.2, h62km, mb3.6/6, Error ellipse: s-maj=27.0km s-min=16.6km az=35.0*

ISC 16 11:33:26.7±1.3, **10°.6S**±0°.2×**160°.9E**±0°.2, **h62km**, **n9**, σ0**995**/9, **mb3.5**/6, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.43**	**321**	*e*P	**Pn**	**11 33 51.0**	**+0.4**
HNR				*e*S	Sn	11 34 35.0	+27
HNR	**Honiara** 28nm,0.3s,baz=107,slow=8.6,SNR=6.9	**1.43**	**321**	Pn	**Pn**	**11 33 49.0**	**-1.6**
CTA	**Charters Tower** 0.2nm,0.3s,baz=70,slow=9.3,SNR=5.3	**16.96**	**234**	P	**Pn**	**11 37 20.0**	**0.0**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=75,slow=11,SNR=8.9	**27.19**	**247**	P	**P**	**11 39 05.5**	**+0.7**
ASAR	**Alice Springs** 0.5nm,0.8s,baz=71,slow=9.7,SNR=5.8	**28.80**	**240**	P	**P**	**11 39 18.4**	**-0.8**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=126,slow=4.6,SNR=3.2	**67.53**	**295**	P	**P**	**11 44 17.3**	**+0.3**
SONM	**Songino Array** 1.1nm,0.7s,baz=140,slow=5.0,SNR=7.4	**75.49**	**326**	P	**P**	**11 45 05.6**	**+1.1**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=251,slow=4.2,SNR=4.8	**84.64**	**20**	P	**P**	**11 45 53.4**	**+0.2**
NVAR	**Mina Array Bea** 0.2nm,0.6s,baz=240,slow=3.0,SNR=2.9	**89.42**	**51**	P	**P**	**11 46 16.7**	**-0.6**

IDC 16 11:38:32.9±1.6, **4°.77S×153°.99E, h0km, mb3.7**/5, **mb1 3.9**/5, **mb1mx3.6**/36, **mbtmp3.7**/5, **Error ellipse: s-maj=75.0km s-min=24.5km az=116.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.9nm,0.7s,baz=54,slow=9.8,SNR=20	**24.37**	**230**	P	P	11 43 52.8	-0.1
ASAR	**Alice Springs** 0.8nm,0.9s,baz=55,slow=9.0,SNR=7.0	**26.99**	**224**	P	P	11 44 16.8	+0.1
STKA	**Stephens Creek** 2.1nm,0.8s,baz=32,slow=13,SNR=3.0	**29.37**	**202**	P	P	11 44 38.5	+0.8
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=99,slow=7.3,SNR=3.3	**81.09**	**319**	P	P	11 50 50.9	+0.8
ILAR	**Eielson Array** 0.4nm,1.0s,baz=246,slow=6.5,SNR=3.3	**81.69**	**22**	P	P	11 50 53.2	+0.3
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=64,slow=3.4,SNR=3.0	**151.43**	**289**	PKPbc	PKPbc	11 58 28.2	-1.7

NNC ***16*** *11:39:21.6±1.3, 42°.65N×75°.74E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=8.0km s-min=6.0km az=167.0, Suspected Mining explosion.*
ISCJB ***16*** *11:39:23.2±0.6, 42°.68N±0°.04×75°.68E±0°.04, h0km, Error ellipse: s-maj=5.7km s-min=3.6km az=145.9*
SOME ***16*** *11:39:23.2, 42°.70N×75°.65E*

ISC 16 11:39:22.9±1.0, **42°.68N**±0°.04×**75°.71E**±0°.03, **h0km**, **n13**, σ0**992**/21, **4C-2D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2** SNR=52	**0.26**	**341**	P	**Pg**	**11 39 28.2**	**+0.4**
TKM2	**Tokmak 2** 1.5nm,0.2s	**0.26**	**341**	⇓P	**Pg**	**11 39 28.0**	**+0.2**
TKM2	9.7nm,0.2s			⇑S	**Sg**	**11 39 31.6**	**+0.5**
KST	**Kastek** 7.5nm,0.1s	**0.41**	**27**	P	**Pg**	**11 39 31.3**	**+0.5**
KST	8.3nm,0.2s			S	**Sg**	**11 39 37.8**	**+1.7**
KBK	**Karagaybulak** SNR=7.1	**0.56**	**268**	P	**Pg**	**11 39 34.0**	**+0.3**
DGS	**Degeres** 1.7nm,0.1s	**0.57**	**5**	P	**Pg**	**11 39 34.1**	**+0.3**
DGS	4.5nm,0.2s			S	**Sg**	**11 39 41.5**	**+0.4**
ULHL	**Ulahol** SNR=10	**0.58**	**137**	P	**Pg**	**11 39 34.9**	**+0.9**
KZA	**Kyzart** SNR=11	**0.69**	**210**	P	**Pg**	**11 39 36.8**	**+0.8**
AAK	**Ala-Archa** 0.7nm,0.6s	**0.90**	**268**	⇑P	**Pg**	**11 39 40.0**	**-0.1**
AAK	1.2nm,0.7s			⇓S	**Sg**	**11 39 51.1**	**-0.6**
MDOK	**Medeo** 0.7nm,0.4s	**1.10**	**63**	⇑P	**Pg**	**11 39 44.4**	**+0.5**
MDOK	0.6nm,0.3s			⇑S	**Sg**	**11 39 55.2**	**-2.9**
KOTS	**Kotyrbulak**	**1.17**	**61**	P	**Pb**	**11 39 46.0**	**-0.1**
KOTS				S	**Sn**	**11 40 02.9**	**-0.6**
KTBS	**Karatobe** 1.4nm,0.1s	**1.26**	**34**	P	**Pg**	**11 39 47.0**	**0.0**
KTBS	2.6nm,0.2s			S	**Sb**	**11 40 04.5**	**+0.3**
EKS2	**Erkin-Say** SNR=13	**1.43**	**270**	P	**Pb**	**11 39 50.5**	**+0.1**
MRKS	**Merke** 5.1nm,0.2s	**1.83**	**273**	P	**Pb**	**11 39 56.8**	**-0.5**
MRKS	5.0nm,0.2s			S	**Sg**	**11 40 21.5**	**-0.2**

NNC ***16*** *11:41:42.8±2.0, 39°.77N×77°.70E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=14.4km s-min=11.8km az=18.0*
SOME ***16*** *11:41:45.2, 40°.17N×77°.47E, h5km*
KRNET ***16*** *11:41:46.5±0.1, 40°.23N×77°.43E, h3km, mb3.1*

ISC 16 11:41:48.2±1.8, **40°.20N**±0°.08×**77°.45E**±0°.04, **h10km**, **n51**, σ1**974**/89, **36C-22D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=11	**1.56**	**10**	⇓*i*P	**Pn**	**11 42 14.9**	**-1.4**
TARG	baz=11			⇓*i*S	**Sn**	**11 42 36.4**	**-0.4**
NRN	**Naryn** baz=18	**1.66**	**319**	⇑*i*P	**Pn**	**11 42 16.1**	**-1.5**
NRN	baz=18			⇑*i*S	**Sn**	**11 42 38.6**	**-0.5**
KDJ	**Kajisay** baz=55	**1.94**	**354**	⇑*i*P	**Pb**	**11 42 22.1**	**-1.7**
KDJ	baz=55			⇑*i*S	**Sb**	**11 42 47.6**	**-0.6**
ULHL	**Ulahol** SNR=15	**2.24**	**336**	P	**Pb**	**11 42 26.9**	**-2.1**
ULHL	**Ulahol** baz=36	**2.24**	**336**	⇑*i*P	**Pb**	**11 42 26.6**	**-2.3**
ULHL	baz=36			⇑*i*S	**Sn**	**11 42 55.0**	**+1.6**
PRZ	**Przheval'sk** baz=18	**2.39**	**17**	⇓*i*P	**Pn**	**11 42 28.5**	**+0.8**
PRZ	baz=18			⇓*i*S	**Sb**	**11 42 59.1**	**-2.1**
KZA	**Kyzart** SNR=21	**2.51**	**319**	P	**Pb**	**11 42 31.5**	**-2.1**
KZA	**Kyzart** baz=19	**2.51**	**319**	⇑*i*P	**Pn**	**11 42 30.4**	**+0.9**
KZA	baz=19			⇑*i*S	**Sn**	**11 43 02.1**	**+1.8**
BOOM	**Boomskoye usch** baz=34	**2.56**	**334**	⇓*e*P	**Pn**	**11 42 30.5**	**+0.6**
BOOM	baz=34			⇓*i*S	**Sn**	**11 43 03.0**	**+1.8**
TNSS	**Tian-Shan** 97nm,0.5s	**2.86**	**353**	*e*P	**Pb**	**11 42 39.1**	**-0.6**
TNSS	53nm,0.5s			*e*S	**Sg**	**11 43 17.9**	**-2.3**
ARLS	**Aral** baz=6.0	**2.89**	**306**	⇓*e*P	**Pn**	**11 42 35.4**	**+0.9**
ARLS	baz=6.0			⇓*i*S	**Sn**	**11 43 10.9**	**+1.5**
IZV	**Izvestkoviy** 33nm,0.3s	**2.91**	**348**	*e*P	**Pb**	**11 42 39.3**	**-1.0**
IZV	98nm,0.5s			*e*S	**Sb**	**11 43 18.5**	**+2.6**
SATY	**Saty** 27nm,0.4s	**2.95**	**14**	*e*P	**Pb**	**11 42 39.9**	**-1.0**
SATY	86nm,0.5s			*e*S	**Sb**	**11 43 19.4**	**+2.3**
MDOK	**Medeo** 34nm,0.6s	**2.98**	**354**	⇑Pn	**Pn**	**11 42 37.0**	**+1.3**
MDOK	58nm,0.5s			⇓Sn	**Sb**	**11 43 20.0**	**+2.0**
MDOK	87nm,0.5s			Lg	Lg	11 43 29.6	
MDOK	**Medeo** 25nm,0.8s	**2.98**	**354**	*e*P	**Pb**	**11 42 40.5**	**-1.0**
MDOK	95nm,1.2s			*e*S	**Sb**	**11 43 20.5**	**+2.5**
UCH	**Uchtor** SNR=8.2	**3.00**	**313**	P	**Pn**	**11 42 38.1**	**+1.8**
UCH	**Uchtor** baz=13	**3.00**	**313**	⇑*e*P	**Pn**	**11 42 37.0**	**+0.7**
UCH	baz=13			⇑*i*S	**Sn**	**11 43 13.7**	**+1.1**
MTBS	**Maitube** 11nm,0.4s	**3.03**	**346**	*e*P	**Pb**	**11 42 41.5**	**-0.8**
MTBS	64nm,0.5s			*e*S	**Sb**	**11 43 21.8**	**+2.4**
KNDC	**Almaty** 64nm,0.5s	**3.04**	**353**	⇑Pg	**Pg**	**11 42 46.1**	**-0.3**
KNDC	156nm,0.4s			⇓Sn	**Sg**	**11 43 23.3**	**-2.6**
KNDC	234nm,0.5s			⇑Lg	Lg	11 43 32.9	
KOTS	**Kotyrbulak** 33nm,0.5s	**3.05**	**355**	*e*P	**Pb**	**11 42 42.1**	**-0.5**
KOTS	284nm,0.3s			*e*S	**Sg**	**11 43 23.3**	**-2.8**
KST	**Kastek** 19nm,0.4s	**3.06**	**339**	*e*P	**Pb**	**11 42 41.6**	**-1.1**
KST	60nm,0.7s			*e*S	**Sb**	**11 43 22.1**	**+1.9**
TKM2	**Tokmak 2** SNR=5.9	**3.06**	**334**	P	**Pn**	**11 42 38.6**	**+1.8**
TKM2	**Tokmak 2** 7.9nm,0.5s	**3.06**	**334**	⇓Pn	**Pn**	**11 42 38.2**	**+1.3**
TKM2	17nm,0.6s			⇓Sn	**Sb**	**11 43 21.1**	**+0.8**
TKM2	21nm,0.5s			⇑Lg	Lg	11 43 32.1	
TKM2	**Tokmak 2** baz=34	**3.06**	**334**	⇑*i*P	**Pn**	**11 42 37.7**	**+0.9**
TKM2	baz=34			⇑*i*S	**Sn**	**11 43 14.6**	**+1.0**
KBK	**Karagaybulak** SNR=7.5	**3.10**	**323**	P	**Pb**	**11 42 42.2**	**-1.2**
KBK	**Karagaybulak** baz=23	**3.10**	**323**	⇓*i*P	**Pn**	**11 42 38.1**	**+0.8**
KBK	baz=23			⇓*i*S	**Sn**	**11 43 15.7**	**+1.2**
UZB	**Uzynbulak** 8.0nm,0.7s	**3.17**	**21**	*e*P	**Pb**	**11 42 43.9**	**-1.0**
UZB	24nm,0.7s			*e*S	**Sb**	**11 43 25.9**	**+2.3**
DGS	**Degeres** 0.3nm,0.5s	**3.29**	**338**	*e*P	**Pb**	**11 42 45.8**	**-1.0**
DGS	40nm,0.6s			*e*S	**Sb**	**11 43 29.7**	**+2.8**
AAK	**Ala-Archa** SNR=9.0	**3.30**	**319**	P	**Pn**	**11 42 42.0**	**+1.9**
AAK	**Ala-Archa** 11nm,0.6s	**3.30**	**319**	⇑Pn	**Pn**	**11 42 41.7**	**+1.6**
AAK	37nm,0.8s			⇑Sn	**Sb**	**11 43 29.7**	**+2.5**
AAK	71nm,0.9s			⇑Lg	Lg	11 43 41.4	
AAK	**Ala-Archa** baz=18	**3.30**	**319**	⇑*i*P	**Pn**	**11 42 40.7**	**+0.6**
AAK	baz=18			⇑*i*S	**Sn**	**11 43 20.6**	**+1.1**
FRU1	**Bishkek** baz=22	**3.36**	**322**	⇑*e*P	**Pn**	**11 42 41.5**	**+0.6**
FRU1	baz=22			⇑*i*S	**Sn**	**11 43 21.9**	**+1.0**
AML	**Almayashu** SNR=14	**3.43**	**306**	P	**Pn**	**11 42 43.8**	**+1.7**
AML	**Almayashu** baz=5.0	**3.43**	**306**	⇑*e*P	**Pn**	**11 42 42.7**	**+0.6**
AML	baz=5.0			⇑*i*S	**Sn**	**11 43 24.1**	**+1.0**
CHMS	**Chumysh** baz=25	**3.46**	**325**	⇑*i*P	**Pn**	**11 42 42.8**	**+0.7**
CHMS	baz=25			⇑*i*S	**Sn**	**11 43 24.2**	**+1.1**
PDGK	**Podgornoye** 12nm,0.6s	**3.48**	**25**	⇓Pn	**Pn**	**11 42 43.4**	**+0.8**
PDGK	41nm,0.6s			⇑Lg	Lg	11 43 34.5	
PDGK	**Podgornoye** baz=26	**3.48**	**25**	⇑*e*P	**Pn**	**11 42 43.3**	**+0.8**
PDGK	baz=26			⇑*i*S	**Sn**	**11 43 25.0**	**+1.1**
KTBS	**Karatobe** 8.3nm,0.4s	**3.56**	**351**	*e*P	**Pb**	**11 42 50.2**	**-1.1**
KTBS	73nm,0.5s			*e*S	**Sb**	**11 43 37.4**	**+2.8**
ARSB	**Arslanbob** baz=89	**3.58**	**290**	⇑*i*P	**Pn**	**11 42 45.2**	**+1.3**
ARSB	baz=89			⇑*i*S	**Sn**	**11 43 27.7**	**+1.4**
CHKK	**Chushkaly** 8.9nm,0.6s	**3.67**	**355**	*e*P	**Pb**	**11 42 52.1**	**-1.1**
CHKK	119nm,0.4s			*e*S	**Sb**	**11 43 40.3**	**+2.5**
EKS2	**Erkin-Say** baz=13	**3.70**	**313**	⇓*i*P	**Pn**	**11 42 46.4**	**+0.8**
EKS2	baz=13			⇓*i*S	**Sn**	**11 43 30.0**	**+0.7**
USP	**Ospenovka** SNR=7.2	**3.78**	**325**	P	**Pb**	**11 42 54.4**	**-0.7**
USP	**Ospenovka** baz=25	**3.78**	**325**	⇑*i*P	**Pn**	**11 42 47.5**	**+0.9**
USP	baz=25			⇑*i*S	**Sn**	**11 43 32.3**	**+1.2**
KUU	**Kurty** 5.5nm,0.5s	**3.79**	**348**	*e*P	**Pb**	**11 42 53.8**	**-1.4**
KUU	40nm,0.7s			*e*S	**Sb**	**11 43 42.9**	**+1.9**
KTMS	**Ketmen** 4.3nm,0.2s	**3.90**	**33**	*e*P	**Pb**	**11 42 56.4**	**-0.8**
KTMS	21nm,0.4s			*e*S	**Sb**	**11 43 47.3**	**+2.7**
MNBS	**Baschi** 8.6nm,0.5s	**3.94**	**10**	*e*P	**Pb**	**11 42 58.0**	**+0.1**
MNBS	25nm,0.5s			*e*S	**Sb**	**11 43 50.0**	**+4.3**
ARXS	**Arharly** 6.2nm,0.5s	**4.02**	**4**	*e*P	**Pb**	**11 42 59.5**	**+0.3**
ARXS	30nm,0.5s			*e*S	**Sb**	**11 43 52.6**	**+4.6**
MRKS	**Merke** 8.6nm,0.6s	**4.07**	**310**	*e*P	**Pb**	**11 42 59.7**	**-0.3**
MRKS	5.9nm,0.9s			*e*S	**Sb**	**11 43 53.5**	**+4.2**
KK31	**Karatay Array** 3.5nm,1.0s,baz=122,slow=17,SNR=4.7	**5.95**	**301**	⇑Pg	**Pg**	**11 43 38.9**	**-3.3**
KK31	2.4nm,0.5s,baz=113,slow=26,SNR=4.9			⇑Lg	Lg	11 45 02.1	
MAKZ	**Makanchi** 2.9nm,1.4s	**7.38**	**25**	⇓Pg	Pg	11 44 04.0	-5.5
MAKZ	4.2nm,1.2s			⇓Lg	Lg	11 45 46.3	
MK31	**Makanchi Array** 0.3nm,0.5s,baz=204,slow=15	**7.47**	**26**	⇓Pn	**Pn**	**11 43 38.0**	**+0.7**
MK31	0.4nm,0.5s			⇓Pg	Pb	11 44 03.2	+5.2
MK31	1.4nm,0.6s,baz=208,slow=28			⇓Lg	Lg	11 45 51.8	

IDC ***16*** *12:03:17.1±3.3, 44°.02N×129°.49W, h0km, mb3.1/4, mb1 3.4/7, mb1mx3.3/46, mbtmp3.1/7, ML2.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/13, Error ellipse: s-maj=72.6km s-min=20.4km az=52.0*
ISCJB ***16*** *12:03:22.3±1.5, 44°.26N±0°.09×128°.6W±0°.1, h10km, mb3.1/3, Error ellipse: s-maj=17.2km s-min=9.0km az=142.0*
ANF ***16*** *12:03:23.2±2.9, 44°.17N×128°.49W, Error ellipse: s-maj=32.6km s-min=9.4km az=55.0*

ISC 16 12:03:21.8±1.7, **44°.2N**±0°.1×**128°.8W**±0°.1, **h10km**, **n26**, σ1**958**/20, **mb3.2**/3, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome** baz=273,SNR=33	**3.56**	**90**	P	**Pn**	**12 04 17.0**	**0.0**
J01E	**Myrtle Point** baz=289	**3.68**	**105**	P	**Pn**	**12 04 15.8**	**-2.9**
J01E	baz=289			S	**Sn**	**12 05 00.5**	**-1.6**
I03D	**Drain, OR** baz=279,SNR=5.8	**3.96**	**96**	P	**Pn**	**12 04 21.7**	**-0.9**
I03D	baz=279			S	**Sn**	**12 05 08.5**	**-0.6**
K02D	**Willamette Mer** baz=294	**4.03**	**110**	S	**Sn**	**12 05 08.9**	**-2.0**
G03D	**McMinnville, O** baz=256,SNR

baz=277,SNR=9.5
E04D Cinebar 4.97 60 P **Pn 12 04 37.0 +0.7**
baz=242,SNR=6.3
YBH Yreka Blue Hor 5.11 117 Pn **Pn 12 04 40.5 +2.1**
0.1nm,0.3s,baz=285,slow=12,SNR=3.6
D03D Eldon 5.18 48 P **Pn 12 04 39.7 +0.4**
baz=230
G05D Wamic, OR 5.42 77 P **Pn 12 04 42.9 +0.3**
baz=261
B05A Bryant 6.16 47 P **Pn 12 04 53.5 +0.8**
baz=230
BBB Bella Bella 7.98 3 LR LR 12 07 57.8
comp=Z,49nm,19.1s,baz=204,slow=34
NEW Newport 9.04 59 LR LR 12 08 60.0
comp=Z,41nm,21.3s,baz=263,slow=36
NVAR Mina Array Bea 9.78 123 Pn **Pn 12 05 44.2 +1.6**
0.0nm,0.3s,baz=301,slow=11,SNR=5.7
ANMO Albuquerque 19.50 111 P **Pn 12 07 51.1 +0.8**
0.1nm,0.3s,baz=337,slow=8.4,SNR=3.1
YKA Yellowknife Ar 20.08 19 P **P 12 07 55.9 +0.8**
0.5nm,0.8s,baz=209,slow=11,SNR=5.3
ILAR Eielson Array 22.95 340 P **P 12 08 22.6 -3.3**
0.3nm,0.9s,baz=153,slow=10,SNR=4.6
ULM Lac du Bonnet 23.02 63 P **P 12 08 28.9 +2.2**
0.6nm,0.4s,baz=277,slow=19,SNR=3.2
TXAR Lajitas Array 24.88 118 P **P 12 08 45.6 +0.8**
0.5nm,1.0s,baz=295,slow=6.8,SNR=3.9
H11N3 WAKE ISLAND Hy 58.21 267 T T 13 15 53.0
baz=49,slow=75,SNR=283
H11N2 WAKE ISLAND Hy 58.21 267 T T 13 15 42.4
baz=49,slow=75,SNR=217
H11N1 WAKE ISLAND Hy 58.22 267 T T 13 15 42.6
baz=49,slow=75,SNR=207
H11S1 WAKE ISLAND Hy 59.14 266 T T 13 17 00.3
baz=49,slow=75,SNR=61
H11S2 WAKE ISLAND Hy 59.15 266 T T 13 16 53.4
baz=49,slow=75,SNR=47
H11S3 WAKE ISLAND Hy 59.16 266 T T 13 16 58.9
baz=49,slow=75,SNR=38

IDC 16 12:14:34.0±11.0, 15.48S×174.56W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.7/3, MS3.8/3, Ms1 3.9/3, ms1mx3.0/43, Error ellipse: s-maj=496.2km s-min=36.2km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.74**	**257**	P	P	12 23 20.1	-0.8
	0.3nm,0.7s,baz=84,slow=6.9,SNR=7.6						
ASAR	**Alice Springs**	**49.03**	**252**	P	P	12 23 23.6	+0.4
	3.4nm,0.5s,baz=88,slow=7.9,SNR=96						
SIJI	**Sorong**	**55.37**	**280**	LR	LR	12 47 04.7	
	comp=Z,168nm,18.8s,baz=94,slow=35						
ILAR	**Eielson Array**	**82.74**	**12**	P	P	12 26 59.4	0.0
	0.2nm,0.5s,baz=215,slow=5.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**91.58**	**289**	LR	LR	13 05 40.2	
	comp=Z,34nm,19.6s,baz=153,slow=34						
LVC	**Limon Verde**	**97.99**	**116**	LR	LR	12 59 42.2	
	comp=Z,30nm,20.1s,baz=194,slow=28						

*DDA **16** 12:18:43.9, 38.69N×43.51E, h7km±4km, ML2.9*
*ISK **16** 12:18:44.4, 38.72N×43.51E, h7km, ML2.8/4*
*ISCJB **16** 12:18:45.1±0.5, 38.72N±0.03×43.50E±0.06, h16km±9km, Error ellipse: s-maj=8.5km s-min=4.5km az=18.0*
ISC 16 12:18:44.0±1.0, 38.71N±0.03×43.52E±0.04, h24km±7km, n15, σ0974/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**221**	PG	**Pb**	**12 18 48.9**	**-0.2**
VANB				SG	**Sb**	**12 18 53.8**	**+1.3**
TVAN	**Van**	**0.20**	**206**	*i* P	**Pb**	**12 18 49.6**	**-0.2**
TVAN				*i* S	**Sb**	**12 18 54.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.28**	**9**	*i* P	**Pb**	**12 18 50.2**	**-0.6**
VMUR				*i* S	**Sb**	**12 18 56.4**	**+0.9**
ERCV	**ERCIS-VAN**	**0.34**	**336**	PG	**Pb**	**12 18 51.2**	**-0.5**
ERCV				SG	**Sb**	**12 18 56.5**	**-0.4**
CLDR	**Caldiran**	**0.53**	**36**	PG	**Pb**	**12 18 55.0**	**+0.2**
CLDR				SG	**Sn**	**12 19 03.4**	**-1.3**
CLDR	**Caldiran**	**0.53**	**36**	*i* P	**Pb**	**12 18 55.1**	**+0.2**
CLDR				*i* S	**Sn**	**12 19 04.4**	**-0.3**
CLDR				IAML_P			
	comp=Z,7μm,0.1s						
GEVA	**Gevas**	**0.54**	**222**	*i* P	**Pb**	**12 18 54.1**	**-0.8**
GEVA				IAML_P			
	comp=Z,2μm,0.1s						
AKDM	**Akdamar-Van**	**0.57**	**228**	PG	**Pb**	**12 18 55.3**	**-0.1**
AKDM				SG	**Sn**	**12 19 04.7**	**-0.8**
ADCV	**BITLIS_Adilcev**	**0.63**	**279**	*i* P	**Pb**	**12 18 56.6**	**+0.2**
ADCV				IAML_P			
	comp=Z,734nm,0.1s						
BASK	**Baskale_VAN**	**0.76**	**150**	*i* P	**Pn**	**12 18 58.7**	**-0.8**
MLAZ	**Malazgirt-MUS**	**0.87**	**300**	PG	**Pn**	**12 19 01.5**	**+0.6**
AGRB	**Hanur-Agry**	**0.95**	**335**	PG	**Pn**	**12 19 02.2**	**+0.1**
CUKT	**Cukurca**	**1.46**	**177**	PN	**Pb**	**12 19 11.9**	**+1.3**
GNI	**Garni**	**1.72**	**33**	PN	**Pb**	**12 19 15.5**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**1.82**	**315**	PN	**Pb**	**12 19 17.2**	**+0.6**

TAP 16 12:19:38.8, 23.46N×120.92E, h9km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALS	**Alishan**	**0.12**	**295**	*i* P	Pg	12 19 42.1	+0.3
	baz=296						
ALS				S	Sg	12 19 44.3	+0.3
	baz=296						
WHYT	**Xinyi Township**	**0.24**	**345**	*e*P	Pg	12 19 44.6	+0.8
	baz=345						
WHYT				*e*S	Sg	12 19 48.1	+1.0
	baz=345						
ELDTW	**Lidau**	**0.28**	**162**	*i* P	Pb	12 19 45.6	-0.6
	baz=160						
ELDTW				S	Sg	12 19 49.4	+1.1
	baz=160						
TPUB	**Ta-pu**	**0.31**	**240**	P	Pb	12 19 46.1	-0.5
	baz=239						
TPUB				*e*S	Sb	12 19 50.7	-1.1
	baz=239						
SSLB	**Suanglung**	**0.33**	**5**	*e*P	Pg	12 19 45.9	+0.5
	baz=5.0						
SSLB				*e*S	Sg	12 19 50.7	+0.9
	baz=5.0						
STYT	**Tauyuan**	**0.33**	**207**	*i* P	Pb	12 19 46.3	-0.7
	baz=205						
STYT				S	Sg	12 19 50.9	+1.1
	baz=205						
YULB	**Yu-li**	**0.35**	**101**	*e*P	Pb	12 19 46.9	-0.4
	baz=100						
YULB				*e*S	Sb	12 19 52.3	-0.7
	baz=100						
WTP	**Ta-pu**	**0.35**	**233**	P	Pb	12 19 47.0	-0.3
	baz=232						
WTP				*e*S	Sb	12 19 52.4	-0.7
	baz=232						
VWDT	**VWDT**	**0.36**	**34**	*e*P	Pb	12 19 46.7	-0.7
	baz=34						
VWDT				*e*S	Sb	12 19 52.0	-1.1
	baz=34						
TWF1	**Yuli**	**0.36**	**107**	*e*P	Pb	12 19 47.2	-0.3
	baz=106						
TWF1				*e*S	Sb	12 19 53.3	+0.1
	baz=106						
EHY	**Hungye**	**0.37**	**83**	*e*P	Pb	12 19 47.3	-0.3
	baz=83						
EHY				*e*S	Sb	12 19 52.6	-0.9
	baz=83						
WJS	**Zhushan**	**0.40**	**334**	*e*P	Pb	12 19 48.0	-0.1
	baz=333						
WJS				*e*S	Sb	12 19 54.5	0.0
	baz=333						
SMLT	**Sun Moon Lake**	**0.42**	**357**	*e*P	Pb	12 19 48.1	-0.5
	baz=358						
SMLT				*e*S	Sb	12 19 55.5	+0.4
	baz=358						
FULB	**Fuli**	**0.43**	**127**	*e*P	Pg	12 19 47.5	+0.3
	baz=127						
FULB				*e*S	Sb	12 19 55.7	+0.5
	baz=127						
TYC	**Yuchr**	**0.45**	**352**	*e*P	Pb	12 19 48.5	-0.4
	baz=353						
TYC				*e*S	Sb	12 19 56.5	+0.8
	baz=353						
SNST	**Tainan City**	**0.46**	**239**	*e*P	Pb	12 19 49.2	+0.1
	baz=238						
SNST				*e*S	Sb	12 19 56.0	0.0
	baz=238						
HGSD	**Ruisui**	**0.46**	**86**	*e*P	Pb	12 19 49.6	+0.4
	baz=85						
HGSD				*e*S	Sb	12 19 56.2	+0.1
	baz=85						
EGFH	**Guangfu**	**0.51**	**66**	*e*P	Pb	12 19 50.4	+0.5
	baz=65						
EGFH				*e*S	Sb	12 19 56.8	-0.7
	baz=65						
SLGT	**Liugui**	**0.53**	**209**	*e*P	Pb	12 19 50.3	0.0
	baz=208						
SLGT				*e*S	Sb	12 19 58.3	+0.3
	baz=208						
ESL	**Shilin**	**0.59**	**53**	*e*P	Pb	12 19 51.8	+0.5
	baz=53						
ESL				*e*S	Sb	12 19 59.4	-0.3
	baz=53						
WHF	**Hehuan Shan**	**0.75**	**25**	*e*P	Pb	12 19 55.1	+0.7
	baz=25						
WHP	**Taichung City**	**0.81**	**2**	*e*P	Pb	12 19 55.5	+0.2
	baz=1.0						
WHP				*e*S	Sb	12 20 06.5	0.0
	baz=1.0						

*ISCJB **16** 12:26:47.7±0.9, 25.5N±0.1×65.52E±0.09, h10km, mb3.7/13, Error ellipse: s-maj=21.5km s-min=7.4km az=154.2*
*IDC **16** 12:26:47.7±1.1, 25.41N×65.60E, h0km, mb3.8/13, mb1 3.9/14, mb1mx3.7/51, mbtmp3.9/14, ML4.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/47, Error ellipse: s-maj=27.4km s-min=21.2km az=142.0*
*DSN **16** 12:27:04.1±1.8, 25.48N×64.45E, h15km, ML3.3/5, Error ellipse: s-maj=53.3km s-min=10.6km az=166.0*
ISC 16 12:26:49.2±1.0, 25.4N±0.2×65.37E±0.09, h10km, n24, σ2856/23, mb3.7/13, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**6.52**	**252**	Pn	**Pn**	**12 28 28.7**	**+3.4**
	8.4nm,0.3s,baz=101,slow=11,SNR=86						
WSAR				Sn	**Sn**	**12 29 35.4**	**-4.4**
	3.7nm,0.3s,baz=35,slow=9.8,SNR=6.3						
WSAR				LR	LR	12 31 29.1	
	comp=Z,84nm,20.3s,baz=144,slow=42						
BANOM	**Banah**	**8.20**	**275**	*i* P	**Pn**	**12 28 51.7**	**+3.4**
	SNR=11						
MSFE	**Esma-Masafi**	**8.33**	**272**	P	**Pn**	**12 28 51.9**	**+1.7**
SHME	**Shamm**	**8.35**	**276**	P	**Pn**	**12 28 52.8**	**+2.4**
SHME				*i* P	**Pn**	**12 28 53.3**	**+3.0**
	SNR=18						
SHME				P	**Pn**	**12 28 53.5**	**+3.1**
ASHO	**Ashiyiah**	**8.48**	**267**	*i* P	**Pn**	**12 28 55.3**	**+3.2**
	SNR=10						
ASHO				S	**Sn**	**12 30 22.4**	**-5.5**
FAQ	**Al Faqa, Dubai**	**8.89**	**268**	*i* P	**Pn**	**12 29 01.3**	**+3.5**
	SNR=32						
THW	**Thamme Wali**	**9.21**	**36**	P	**Pn**	**12 29 00.9**	**-1.3**
GEYT	**Alibeck**	**13.90**	**335**	LR	LR	12 36 38.3	
	comp=Z,76nm,18.3s,baz=250,slow=42						
MKAR	**Makanchi Array**	**25.22**	**28**	P	**P**	**12 32 14.7**	**-0.5**
	0.9nm,0.5s,baz=212,slow=10,SNR=15						
AKTO	**Aktyubinsk**	**25.61**	**349**	P	**P**	**12 32 19.3**	**+0.7**
	0.8nm,0.5s,baz=167,slow=6.4,SNR=4.6						
KURBB	**Kurchatov Arra**	**27.12**	**19**	P	**P**	**12 32 32.3**	**0.0**
	0.6nm,0.8s,baz=212,slow=9.1,SNR=3.9						
BVAR	**Borovoye Array**	**27.82**	**6**	P	**P**	**12 32 39.2**	**+0.6**
	0.3nm,0.6s,baz=183,slow=10,SNR=2.3						
ZALV	**Zalesovo Beam**	**31.96**	**22**	P	**P**	**12 33 14.0**	**-1.2**
	0.3nm,0.3s,baz=226,slow=9.8,SNR=2.7						
H08N2	**Diego Garcia H**	**32.03**	**169**	T	T	13 06 49.2	
	baz=350,slow=75,SNR=11						
H08N3	**Diego Garcia H**	**32.05**	**169**	T	T	13 06 50.6	
	baz=350,slow=75,SNR=11						
H08N1	**Diego Garcia H**	**32.05**	**169**	T	T	13 06 29.2	
	baz=350,slow=75,SNR=9.7						
SONM	**Songino Array**	**39.18**	**44**	P	**P**	**12 34 16.8**	**-0.7**
	1.2nm,0.8s,baz=236,slow=9.1,SNR=5.6						
FINES	**FINESS Array B**	**44.70**	**334**	P	**P**	**12 35 03.0**	**+0.8**
	0.6nm,0.7s,baz=90,slow=5.6,SNR=3.0						
NRIK	**Noril'sk**	**45.86**	**11**	P	P	12 35 09.2	-2.1
	4.4nm,0.4s,baz=52,slow=4.1,SNR=4.6						
ARCES	**ARCESS Array B**	**49.92**	**343**	P	**P**	**12 35 43.2**	**+0.5**
	3.2nm,0.9s,baz=134,slow=9.1,SNR=4.2						
TORD	**Toroid Ar. Bea**	**60.85**	**271**	P	**P**	**12 37 03.5**	**+1.2**
	0.6nm,0.7s,baz=74,slow=6.3,SNR=5.4						
SEY	**Seymchan**	**66.34**	**30**	P	**P**	**12 37 37.8**	**0.0**
	0.4nm,0.3s,baz=163,slow=19,SNR=5.8						
ASAR	**Alice Springs**	**82.36**	**121**	P	**P**	**12 39 10.8**	**-0.9**
	0.4nm,0.6s,baz=302,slow=5.3,SNR=9.4						
YKA	**Yellowknife Ar**	**92.39**	**360**	P	**P**	**12 39 59.8**	**0.0**
	0.2nm,0.5s,baz=349,slow=4.4,SNR=5.0						

*BJI **16** 12:36:35.9, 4.55S×152.57E, h162km, mb5.2/65, mB5.0/35*
*ISCJB **16** 12:36:38.8±0.4, 4.56S±0.02×151.93E±0.02, h163km±3km, mb5.0/279, Error ellipse: s-maj=3.7km s-min=3.0km az=171.0*
*MOS **16** 12:36:38.2±0.8, 4.46S×151.92E, h155km, mb5.2/50, Error ellipse: s-maj=8.0km s-min=5.7km az=110.2*
*IDC **16** 12:36:39.8±0.6, 4.58S×152.00E, h163km±4km, mb4.7/44, mb1 4.8/48, mb1mx4.7/55, mbtmp5.1/48, MS3.6/13, Ms1 3.6/13, ms1mx3.4/36, Error ellipse: s-maj=8.9km s-min=7.0km az=78.0*
*NEIC **16** 12:36:40.1±0.3, 4.59S×151.93E, h166km±3km, mb5.0/180, Error ellipse: s-maj=2.3km s-min=2.2km az=173.0*
*GCMT **16** 12:36:42.1±0.2, 4.63S±0.02×152.03E±0.01, h165km±1km, MW5.2/106, Moment Tensor Solution. s59,c81; s106,c168; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.08±.15; Mθθ-1.05±.17; Mϕϕ-2.03±.19; Mre1.07±.12; Mθϕ0.96±.21; Mϕr6.29±.13; Best double couple: M:6.91100×10^16 NP1:ϕs5.00000°, δ79.00000°, λ99.00000°. NP2:ϕs144.00000°, δ14.00000°, λ50.00000°. Principal axes: T 7.5490, Plg55.0000°, Azm286.0000°; N -1.2780, Plg9.0000°, Azm183.0000°; P -6.2720, Plg34.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **16** 12:36:43.3±0.8, 5.5S±3.3×151.2E±., h184km±7km, M5.1/64, mB5.6/37, mb5.3/64, Mw(mB)5.1/37*
ISC 16 12:36:39.7±0.3, 4.61S±0.04×152.01E±0.04, h164km±2km, h163km:pP-P, n890, σ0993/941, mb5.1/271, 36C-18D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.44**	**20**	*e*Pn	**Pn**	**12 37 02.2**	**-0.2**
RABL				*e*Sn	**Sn**	**12 37 18.6**	**-1.2**
MANU	**Manus Island**	**5.29**	**299**	*e*Pn	**Pn**	**12 37 56.2**	**-1.0**
HNR	**Honiara**	**9.22**	**122**	*e*P	**Pn**	**12 38 46.0**	**-3.3**
HNR				*e*S	Sn	12 39 58.0	-34
HNR	**Honiara**	**9.22**	**122**	*e*Pn	**Pn**	**12 38 49.1**	**-0.2**
HNR				*e*Sn	**Sn**	**12 40 30.9**	**-0.9**
HNR	**Honiara**	**9.22**	**122**	P	**Pn**	**12 38 48.1**	**-1.2**
	1.2nm,0.3s,baz=209,slow=6.2,SNR=4.2						
JAY	**Jayapura**	**11.47**	**280**	P	**Pn**	**12 39 19.4**	**+0.5**
JAY	**Jayapura**	**11.47**	**280**	P	**Pn**	**12 39 18.7**	**-0.2**
	1.2nm,0.3s,baz=228,slow=2.3,SNR=4.5						
GENI	**Genyem**	**11.99**	**279**	P	**Pn**	**12 39 26.0**	**+0.5**
COEN	**Coen**	**12.74**	**223**	P	**P**	**12 39 37.7**	**-2.2**
	baz=13,SNR=60						
COEN	**Coen**	**12.74**	**223**	*e*Pn	**Pn**	**12 39 35.9**	**+0.7**
COEN				*e*Sn	**Sn**	**12 41 55.2**	**-1.2**
PATS	**Pohnpei**	**12.99**	**29**	*e*Pn	**Pn**	**12 39 39.7**	**+1.3**
PATS				*e*Sn	**Sn**	**12 41 58.6**	**-3.9**
MTSU	**Mount Surprise**	**15.41**	**209**	P	**P**	**12 40 11.2**	**+1.6**
	baz=16,SNR=44						
SRPI	**Serui, Papua**	**15.98**	**279**	P	**P**	**12 40 16.5**	**+0.6**
	284nm,0.8s						
CTA	**Charters Tower**	**16.38**	**200**	P	**Pn**	**12 40 21.2**	**+0.8**
	0.8nm,0.3s,baz=24,slow=12,SNR=21						
CTAO	**Charters Tower**	**16.38**	**200**	*e*P	**P**	**12 40 20.2**	**-0.1**
	41nm,1.0s						
CTAO	**Charters Tower**	**16.38**	**200**	*e*P	**P**	**12 40 20.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,41nm,1.0s						
RKPI	**Ransiki, Papua**	**18.07**	**279**	P	**P**	**12 40 39.4**	**+0.5**
GUMO	**Guam**	**19.42**	**339**	*e*P	**P**	**12 40 53.6**	**+0.1**
	comp=Z,974nm,1.1s						
GUMO	**Guam**	**19.42**	**339**	*e*P	**P**	**12 40 53.6**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,974nm,1.1s						
GUMO	**Guam**	**19.42**	**339**	P	**P**	**12 40 54.6**	**+1.1**
	comp=Z,9.1nm,0.3s,baz=178,slow=9.4,SNR=13						
GUMO				LR	LR	12 48 11.6	
	comp=Z,109nm,18.9s,baz=152,slow=36						
FAKI	**Fak Fak**	**19.79**	**274**	*e*P	**P**	**12 40 57.0**	**-0.6**
	comp=Z,463nm,1.2s						
FAKI	**Fak Fak**	**19.79**	**274**	P	**P**	**12 40 57.7**	**+0.1**
	comp=Z,319nm,1.2s,comp=Z,4μm						
QIS	**Mount Isa**	**19.93**	**216**	P	**P**	**12 40 59.9**	**+0.9**
	baz=20,SNR=21						
EIDS	**Eidsvold**	**20.66**	**182**	P	**P**	**12 41 08.3**	**+1.5**
	baz=21,SNR=12						
EIDS	**Eidsvold**	**20.66**	**182**	*e*P	**P**	**12 41 07.4**	**+0.6**
	comp=Z,26nm,0.8s						
KDU	**Kakadu**	**20.90**	**246**	P	**P**	**12 41 09.1**	**-0.4**
	baz=21,SNR=132						
SIJI	**Sorong**	**21.05**	**280**	P	**P**	**12 41 11.3**	**+0.2**
	comp=Z,148nm,0.8s,baz=88,slow=7.2,SNR=26						
SWI	**Sorong**	**21.05**	**280**	P	**P**	**12 41 11.5**	**+0.4**
PALU	**Palau**	**21.14**	**304**	P	**P**	**12 41 12.9**	**+0.8**
	baz=21,SNR=25						
TARA	**Tarawa**	**21.72**	**75**	*e*P	**P**	**12 41 18.6**	**+0.4**
	comp=Z,295nm,1.1s						
RMQ	**Roma**	**21.98**	**188**	P	**P**	**12 41 21.4**	**+0.7**
	baz=22,SNR=9.3						
MTN	**Manton Dam**	**22.18**	**247**	P	**P**	**12 41 22.3**	**-0.5**
	baz=22,SNR=42						
MTN	**Manton Dam**	**22.18**	**247**	*e*P	**P**	**12 41 22.2**	**-0.7**
	comp=Z,301nm,1.0s						
DZM	**Mont Dzumac**	**22.29**	**142**	*e*P	**P**	**12 41 25.5**	**+1.6**
	comp=Z,965nm,1.3s						
DZM				*e*pP	**pwP**	**12 41 56.9**	**-2.5**
	comp=Z,166nm,1.1s						
DZM				*e*S	**S**	**12 45 14.8**	**-2.4**
	comp=Z,328nm,27.6s						
DZM				*e*LR	LR	12 46 59.7	
	comp=Z,572nm,31.1s						
DZM	**Mont Dzumac**	**22.29**	**142**	*e*P	**P**	**12 41 24.7**	**+0.8**
	comp=Z,331nm,1.0s						
DZM	**Mont Dzumac**	**22.29**	**142**	P	**P**	**12 41 24.4**	**+0.5**
	comp=Z,339nm,1.1s,baz=286,slow=5.9,SNR=131						
DZM				LR	LR	12 48 26.2	
	comp=Z,204nm,21.6s,baz=282,slow=32						
ONTNC	**Ouen Toro**	**22.48**	**143**	*e*P	**P**	**12 41 26.6**	**+1.0**
	comp=Z,364nm,1.6s						
OUENC	**Ouen Island, N**	**22.80**	**142**	*e*P	**P**	**12 41 29.5**	**+1.0**
	comp=Z,93nm,0.9s						
MARNC	**Mare, Loyalty**	**22.87**	**139**	*e*P	**P**	**12 41 30.0**	**+0.8**
	comp=Z,852nm,1.1s						
WRAB	**Tennant Creek**	**22.98**	**227**	*e*P	**P**	**12 41 30.3**	**+0.1**
	comp=Z,472nm,1.3s						
WRAB	**Tennant Creek**	**22.98**	**227**	*c i*P	**P**	**12 41 30.7**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,453nm,1.3s						
WB2	**Warramunga Arr**	**22.98**	**227**	*e*P	**P**	**12 41 29.6**	**-0.7**
WR1	**Warramunga Arr**	**22.99**	**227**	*e*P	**P**	**12 41 30.0**	**-0.3**
	comp=Z,594nm,1.2s						
WR1				*e*S	**S**	**12 45 27.5**	**-0.9**
WRA	**Warramunga Arr**	**22.99**	**227**	P	**P**	**12 41 30.0**	**-0.3**
	comp=Z,150nm,0.8s,baz=50,slow=10,SNR=760						
WRA				S	**S**	**12 45 27.5**	**-1.0**
	comp=Z,44nm,0.9s,baz=44,slow=15,SNR=22						
WRA				ScP	**ScP**	**12 48 38.3**	**+0.5**
	comp=Z,5.8nm,1.0s,baz=32,slow=2.1,SNR=4.9						
WRA				LR	LR	12 52 15.5	
	comp=Z,130nm,19.8s,baz=40,slow=41						
PINNC	**Pines Island,**	**23.31**	**142**	*e*P	**P**	**12 41 34.8**	**+1.6**
	comp=Z,191nm,1.2s						
NLAI	**Namlea**	**24.89**	**272**	P	**P**	**12 41 48.1**	**+0.5**
TNTI	**Ternate**	**25.19**	**282**	*e*P	**P**	**12 41 50.2**	**-0.2**
	comp=Z,120nm,1.0s						
TNTI	**Ternate**	**25.19**	**282**	P	**P**	**12 41 50.9**	**+0.5**
KNRA	**Kununurra**	**25.36**	**243**	P	**P**	**12 41 51.7**	**-0.1**
	baz=26,SNR=102						
ARMA	**Armidale**	**25.68**	**181**	P	**P**	**12 41 55.3**	**+0.6**
	baz=26,SNR=6.2						
ARMA	**Armidale**	**25.68**	**181**	*e*P	**P**	**12 41 54.8**	**+0.1**
	comp=Z,16nm,1.0s						
AS01	**Alice Springs**	**25.74**	**221**	*e*P	**P**	**12 41 55.1**	**-0.2**
AS31	**Alice Springs**	**25.77**	**221**	*e*P	**P**	**12 41 55.8**	**+0.2**
	comp=Z,12nm,1.0s						
AS31				*e*S	**S**	**12 46 11.7**	**-1.1**
ASAR	**Alice Springs**	**25.77**	**221**	P	**P**	**12 41 55.8**	**+0.2**
	comp=Z,6.7nm,0.4s,baz=55,slow=9.1,SNR=139						
ASAR				PcP	**PcP**	**12 45 21.6**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=40,slow=3.0,SNR=4.2						
ASAR				S	**S**	**12 46 11.7**	**-1.1**
	comp=Z,8.4nm,0.8s,baz=35,slow=16,SNR=5.5						
ASAR				ScP	**ScP**	**12 48 46.2**	**+0.8**
	comp=Z,3.6nm,1.1s,baz=51,slow=2.3,SNR=4.1						
ASAR				LR	LR	12 52 09.5	
	comp=Z,86nm,20.0s,baz=17,slow=36						
SANI	**Sanana**	**26.10**	**275**	P	**P**	**12 41 59.1**	**+0.5**
CMSA	**Cobar Meteorol**	**27.44**	**192**	P	**P**	**12 42 11.2**	**+0.9**
	baz=28,SNR=22						
MATI	**Mati**	**28.15**	**294**	*e*P	**P**	**12 42 15.8**	**-1.0**
MSVF	**Nonsavu**	**28.63**	**119**	*e*P	**P**	**12 42 23.7**	**+2.5**
MSVF				pmax	pmax		
	comp=Z,59nm,2.6s						
BATI	**Baumata**	**28.64**	**257**	P	**P**	**12 42 22.4**	**+1.1**
	comp=Z,49nm,0.8s						
BATI	**Baumata**	**28.64**	**257**	P	**P**	**12 42 22.2**	**+1.0**
	comp=Z,90nm,0.8s,baz=136,slow=1.2,SNR=27						
DAV	**Davao City (W)**	**28.82**	**294**	LR	LR	12 54 59.3	
	comp=Z,103nm,18.1s,baz=150,slow=38						
STKA	**Stephens Creek**	**28.84**	**199**	P	**P**	**12 42 23.3**	**+0.6**
	baz=29,SNR=4.1						
STKA	**Stephens Creek**	**28.84**	**199**	*e*P	**P**	**12 42 22.4**	**-0.3**
	comp=Z,1.6nm,1.0s						
STKA	**Stephens Creek**	**28.84**	**199**	P	**P**	**12 42 22.3**	**-0.4**
	comp=Z,1.6nm,0.3s,baz=26,slow=13,SNR=7.6						
FITZ	**Fitzroy Crossi**	**29.06**	**240**	P	**P**	**12 42 24.6**	**-0.4**
	baz=29,SNR=78						
FITZ	**Fitzroy Crossi**	**29.06**	**240**	*e*P	**P**	**12 42 24.0**	**-0.9**
	comp=Z,133nm,0.9s						
FITZ	**Fitzroy Crossi**	**29.06**	**240**	P	**P**	**12 42 24.5**	**-0.4**
	comp=Z,122nm,0.9s,baz=81,slow=3.8,SNR=111						
FITZ				LR	LR	12 53 45.9	
	comp=Z,145nm,18.2s,baz=57,slow=35						
KCP	**Kidapawan**	**29.24**	**293**	*i*P	**P**	**12 42 28.6**	**+2.0**
LUWI	**Luwuk**	**29.41**	**276**	*e*P	**P**	**12 42 27.8**	**-0.2**
	comp=Z,186nm,0.9s						
LUWI	**Luwuk**	**29.41**	**276**	P	**P**	**12 42 29.4**	**+1.3**
	comp=Z,241nm,1.3s,comp=Z,4μm			

OUZ **Omahuta** **36.42 150** *e*P P **12 43 29.9 +1.4**
comp=Z,40nm,0.9s
KKM **Kota Kinabalu** **37.27 286** *e*P P **12 43 35.9 -0.4**
comp=Z,76nm,1.0s
KKM **Kota Kinabalu** **37.27 286** P P **12 43 37.5 +1.3**
JAGI **Jajag, Banyuwa** **37.79 262** P P **12 43 39.7 -0.8**
comp=Z,76nm,0.8s
MEEK **Meekatharra** **38.70 232** P P **12 43 48.0 0.0**
baz=39,SNR=71
JOW **Kunigami** **38.78 325** *e*P P **12 43 49.1 +0.6**
comp=Z,96nm,0.9s
PWJI **Pagerwojo** **40.09 263** P P **12 43 58.4 -1.2**
comp=Z,86nm,1.0s
SBUM **Sibu** **40.37 279** *e*P P **12 44 01.8 -0.2**
comp=Z,68nm,1.0s
YOJ **Yonaguni jima** **40.39 317** *e*P P **12 44 02.2 +0.3**
comp=Z,218nm,0.9s
YOJ **Yonaguni jima** **40.39 317** *e*P P **12 44 02.2 +0.3**
YOJ pmax pmax
comp=Z,218nm,0.9s
URZ **Urewera** **40.55 149** *e*P P **12 44 04.4 +1.3**
comp=Z,20nm,0.8s
URZ **Urewera** **40.55 149** P P **12 44 03.8 +0.7**
comp=Z,16nm,0.6s,baz=276,slow=2.5,SNR=14
GIRL **Giralia** **40.67 240** P P **12 44 04.5 +0.2**
baz=41,SNR=17
GIRL **Giralia** **40.67 240** *e*P P **12 44 04.1 -0.2**
comp=Z,462nm,1.0s
TWG **Pinlang** **40.70 313** *e*P P **12 44 03.5 -1.0**
comp=Z,57nm,0.7s
PCJI **Pacitan** **40.72 263** P P **12 44 04.0 -0.8**
comp=Z,290nm,0.8s
YULB **Yu-li** **40.90 314** *e*P P **12 44 05.7 -0.4**
comp=Z,60nm,0.8s
BKZ **Black Stump Fm** **40.94 151** *e*P P **12 44 07.0 +0.7**
comp=Z,13nm,0.9s
WOJI **Wonogiri, Jawa** **40.96 263** P P **12 44 06.3 -0.4**
comp=Z,65nm,1.0s
NACB **Ninganchiao** **41.18 315** *e*P P **12 44 08.5 +0.2**
comp=Z,117nm,1.1s
TPUB **Ta-pu** **41.32 314** *e*P P **12 44 08.9 -0.6**
comp=Z,46nm,0.6s
SSLB **Suanglung** **41.39 314** *e*P P **12 44 10.0 -0.1**
comp=Z,40nm,0.7s
SMRI **Semarang** **41.42 265** *e*P P **12 44 09.0 -1.5**
comp=Z,179nm,1.4s
SMRI **Semarang** **41.42 265** P P **12 44 11.6 +1.1**
comp=Z,104nm,1.1s
THZ **Tophouse** **41.44 156** *e*P P **12 44 10.7 +0.3**
comp=Z,34nm,1.0s
YHNB **Yeheng** **41.65 316** *e*P P **12 44 12.5 +0.2**
comp=Z,101nm,0.8s
TATO **Taipei** **41.77 316** *e*P P **12 44 13.3 +0.1**
comp=Z,132nm,0.9s
MORW **Morawa** **41.86 230** P P **12 44 13.6 -0.3**
baz=42,SNR=36
MORW **Morawa** **41.86 230** *e*P P **12 44 13.6 -0.3**
comp=Z,74nm,0.8s
KLBR **Kellerberrin** **41.87 226** P P **12 44 13.7 -0.2**
baz=42,SNR=14
LTZ **Lake Taylor** **42.06 158** *e*P P **12 44 16.4 +1.1**
comp=Z,18nm,0.7s
KSM **Kuching** **42.10 277** *e*P P **12 44 15.9 -0.1**
comp=Z,136nm,0.9s
BLDU **Ballidu** **42.12 228** P P **12 44 15.5 -0.5**
baz=42,SNR=26
RPZ **Rata Peaks** **42.42 159** *e*P P **12 44 19.1 +0.8**
comp=Z,38nm,0.8s
RPZ **Rata Peaks** **42.42 159** P P **12 44 18.7 +0.5**
comp=Z,32nm,0.7s,baz=309,slow=2.4,SNR=20
JNU **Nakatsue** **42.53 333** *e*P P **12 44 19.2 -0.1**
comp=Z,83nm,0.8s
JNU **Nakatsue** **42.53 333** P P **12 44 19.6 +0.3**
comp=Z,73nm,0.8s,baz=131,slow=2.4,SNR=57
KPJI **Karang Pucung** **42.92 264** P P **12 44 22.8 +0.2**
comp=Z,130nm,0.8s
MJAR **Matsushiro Arr** **42.92 344** P P **12 44 20.6 -1.8**
comp=Z,7.3nm,0.8s,baz=171,slow=8.3,SNR=14
MJAR PcP **PcP** **12 46 10.2 +0.2**
comp=Z,1.9nm,0.6s,baz=174,slow=3.8,SNR=5.2
MJAR ScP **ScP** **12 49 45.4 -0.4**
comp=Z,6.7nm,1.1s,baz=181,slow=4.5,SNR=4.9
MAJO **Matsushiro** **42.92 344** *e*P P **12 44 20.7 -1.6**
comp=Z,16nm,0.9s
MAJO **Matsushiro** **42.92 344**⇑ *e*P P **12 44 21.2 -1.1**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAT **Matsushiro** **42.92 344** P P **12 44 20.5 -1.8**
MAT *e*S **S** **12 50 29.4 -5.5**
NWAO **Narrogin (SRO)** **42.97 225** P P **12 44 22.0 -0.8**
baz=43,SNR=4.6
NWAO **Narrogin (SRO)** **42.97 225** *e*P P **12 44 22.2 -0.6**
comp=Z,78nm,1.4s
NWAO **Narrogin (SRO)** **42.97 225** *e*P P **12 44 22.2 -0.6**
NWAO pmax pmax
comp=Z,78nm,1.4s
NWAO **Narrogin (SRO)** **42.97 225** P P **12 44 21.8 -1.0**
comp=Z,30nm,1.0s,baz=47,slow=6.3,SNR=6.9
MUN **Mundaring** **43.19 227** P P **12 44 24.3 -0.3**
baz=43,SNR=10
JCJI **Jatiwangi** **43.57 265** P P **12 44 28.7 +0.9**
comp=Z,191nm,0.7s,comp=Z,7µm
QZH **Quanzhou** **43.79 314**⇑ *i*P P **12 44 30.3 +0.9**
QZH sP **sP** **12 45 24.3 +1.4**
QZH pmax pmax
comp=Z,110nm,0.7s
CISI **Cisompet, Garu** **44.03 264** *e*P P **12 44 30.1 -1.5**
comp=Z,278nm,0.8s
CISI **Cisompet, Garu** **44.03 264** P P **12 44 30.4 -1.2**
comp=Z,413nm,1.0s,comp=Z,3µm
RKGY **Rocky Gully** **44.08 223** P P **12 44 32.8 +1.1**
baz=44,SNR=7.6
CBJI **Citeko** **44.98 266** P P **12 44 42.8 +3.7**
PPBI **Pangkal Pinang** **45.85 271** P P **12 44 46.4 +0.4**
comp=Z,24nm,0.5s,comp=Z,5µm
XMIS **Christmas Isla** **46.29 260** *e*P P **12 44 48.7 -0.7**
comp=Z,64nm,0.8s
TJN **Taejon** **46.84 333***c i*P P **12 44 53.5 +0.3**
KASI **Kota Agung** **47.33 267** P P **12 44 55.6 -1.8**
comp=Z,139nm,1.0s
KSRS **Korea Array** **47.48 334** P P **12 44 57.2 -0.9**
comp=Z,18nm,1.0s,baz=152,slow=9.3,SNR=50
KSRS pP **pwP** **12 45 36.0 -1.1**
comp=Z,5.2nm,0.9s,baz=150,slow=8.9,SNR=3.4
KSRS PcP **PcP** **12 46 26.4 +0.6**
comp=Z,1.1nm,0.7s,baz=154,slow=3.5,SNR=6.5
KSRS ScP **ScP** **12 50 03.8 -0.8**
comp=Z,1.4nm,0.9s,baz=115,slow=4.8,SNR=5.2
KS15 **Wonju Array Si** **47.48 334** *e*P P **12 44 58.3 +0.1**
comp=Z,18nm,0.9s
KS01 **Wonju Array Si** **47.51 334** *e*P P **12 44 57.9 -0.5**
DSRI **Dabo** **47.55 274** P P **12 44 59.7 +0.5**
comp=Z,378nm,0.9s
MDSI **Maura Dua** **47.67 268** P P **12 44 58.7 -1.4**
comp=Z,98nm,1.1s,comp=Z,854nm
TPRI **Tanjung Pinang** **47.76 275** P P **12 45 02.1 +1.4**
LWLI **Liwa** **47.78 267** P P **12 44 59.8 -1.2**
comp=Z,87nm,0.9s,comp=Z,11µm
NJ2 **Nanjing** **48.20 321**⇑ *i*P P **12 45 05.8 +2.0**
NJ2 pmax pmax
comp=Z,17nm,1.0s
LHSI **Lahat** **48.35 269** P P **12 45 04.9 -0.4**
comp=Z,74nm,1.0s
MYKOM **Kota Tinggi** **48.54 276** *e*P P **12 45 06.3 -0.4**
comp=Z,66nm,1.0s
MYKOM **Kota Tinggi** **48.54 276** P P **12 45 08.0 +1.2**
KGM **Kluang** **49.09 277** P P **12 45 12.2 +1.2**
ASAJ **Asahikawa** **49.23 351** P P **12 45 11.3 -0.2**
comp=Z,9.0nm,0.8s,baz=228,slow=13,SNR=4.6
RAR **Rarotonga** **49.58 114** P P **12 45 15.3 +0.8**
comp=Z,45nm,1.0s,baz=260,slow=5.4,SNR=5.4
KTGM **Kuala Trenggan** **49.80 281** P P **12 45 17.5 +1.1**
WHN **Wuhan** **50.17 317**⇑⇑ P **12 45 20.3 +1.5**
KRJI **Kerinci** **50.52 271** P P **12 45 21.6 -0.2**
comp=Z,87nm,1.0s,comp=Z,5µm
SDSI **Sungai Dareh** **50.64 273** P P **12 45 22.7 0.0**
comp=Z,140nm,0.8s,comp=Z,3µm
BKNI **Bangkinang** **51.15 274** *e*P P **12 45 25.8 -0.7**
comp=Z,149nm,1.0s
BKNI **Bangkinang** **51.15 274** P P **12 45 26.8 +0.3**
comp=Z,167nm,0.9s
PANO **Nakornpanom** **51.56 296** P P **12 45 31.1 +1.7**
comp=Z,3.3nm,0.9s
DL2 **Dalian** **51.61 330** P P **12 45 30.1 +0.7**
DL2 pmax pmax
comp=Z,78nm,1.0s
IPM **Ipoh** **51.72 279** *e*P P **12 45 29.7 -1.1**
comp=Z,43nm,1.0s
IPM *e*PcP **PcP** **12 46 42.5 +0.5**
IPM **Ipoh** **51.72 279** P P **12 45 31.4 +0.7**
USA0B **Ussuriysk Arra** **51.81 342** *e*P P **12 45 30.8 -0.1**
comp=Z,16nm,1.0s
USRK **Ussuriysk Ar.** **51.81 342** P P **12 45 31.2 +0.4**
comp=Z,9.6nm,0.9s,baz=165,slow=8.6,SNR=13
YSS **Yuzh-Sakhalins** **51.99 352** *e*P P 12 45 37.0 +5.0
SKNT **Sakolnakorn** **52.06 296** P P **12 45 34.4 +1.2**
comp=Z,72nm,0.8s,comp=Z,696nm
TIA **Tai'an** **52.09 324** P P **12 45 33.6 +0.5**
TIA pmax pmax
comp=Z,11nm,0.8s
KULM **Kulim** **52.23 280** *e*P P **12 45 33.3 -1.2**
comp=Z,46nm,0.9s
KULM *e*PcP **PcP** **12 46 44.5 +0.7**
KULM **Kulim** **52.23 280** P P **12 45 34.5 0.0**
SKLT **Songkhla** **52.60 283** P P **12 45 38.3 +1.1**
comp=Z,68nm,1.1s,comp=Z,821nm
MNSI **Mandailing Nat** **52.65 274** P P **12 45 36.7 -0.9**
comp=Z,110nm,0.8s,comp=Z,890nm
SRAK **Srakaew** **52.90 291** P P **12 45 36.3 -3.1**
comp=Z,126nm,0.8s,comp=Z,1µm
SISI **Saibi** **52.94 272** P P **12 45 39.2 -0.5**
comp=Z,77nm,1.4s
MDJ **Mudanjiang** **52.97 340** P P **12 45 39.8 +0.5**
MDJ pmax pmax
comp=Z,18nm,1.2s
MDJ pmax pmax
comp=Z,190nm,4.3s
ENH **Enshi** **53.45 313** *e*P P **12 45 43.5 +0.3**
comp=Z,175nm,1.1s
CHAI **Chaiyaphum** **53.52 294** P P **12 45 44.7 +0.8**
comp=Z,31nm,0.8s,comp=Z,259nm
PSI **Prapat** **53.55 277** *e*P P **12 45 42.9 -1.4**
comp=Z,21nm,0.8s
PSI *e*PcP **PcP** **12 46 47.5 -1.5**
PSI **Prapat** **53.55 277** P P **12 45 43.3 -1.0**
comp=Z,16nm,0.7s,baz=178,slow=0.8,SNR=8.1
PSI PcP **PcP** **12 46 48.0 -1.0**
comp=Z,16nm,1.0s,baz=3.7,slow=0.7,SNR=4.1
GYA **Guiyang** **53.65 308**⇓ *i*P P **12 45 46.1 +1.3**
GYA pP pP 12 46 21.9 +0.3
GYA sP sP 12 46 40.9 +1.5
GYA PP **PP** **12 47 51.0 +3.5**
GYA S **S** **12 53 06.4 +0.2**
GYA sS sS 12 54 11.3 +0.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
PATY **Pattaya** **53.70 290** P P **12 45 46.8 +1.6**
comp=Z,30nm,0.8s,comp=Z,3µm
CN2 **Changchun** **53.80 336** *e*P P **12 45 45.8 +0.4**
CN2 *e*pP pP 12 46 21.5 -0.7
CN2 *e*sP sP 12 46 40.4 +0.4
CN2 *e*S **S** **12 53 04.9 -2.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
PBKT **Sadao Pong** **54.66 294** P P **12 45 53.5 +1.4**
comp=Z,49nm,0.7s,comp=Z,640nm
GSI **Gunungsitoli** **54.70 275** *e*P P **12 45 51.0 -1.5**
comp=Z,88nm,0.8s
GSI *e*PcP **PcP** **12 46 53.5 +0.2**
GSI **Gunungsitoli** **54.70 275** P P **12 45 51.3 -1.2**
comp=Z,132nm,0.9s,comp=Z,2µm
KCSI **Kotacane, Aceh** **54.79 278** P P **12 45 51.3 -1.8**
comp=Z,65nm,0.8s,comp=Z,461nm
PHET **Kaeng Krachan** **54.86 289** P P **12 45 55.2 +1.6**
comp=Z,30nm,0.9s,comp=Z,272nm
PKDT **Phuket** **54.97 283** P P **12 45 54.7 +0.3**
comp=Z,33nm,0.8s
TPTI **54.35 277** P P **12 45 55.8 -1.3**
comp=Z,37nm,0.9s
NANT **Nan** **55.62 296** P P **12 46 00.0 +1.0**
comp=Z,71nm,0.8s,comp=Z,540nm
UTHA **Uthaitani** **55.75 292** P P **12 46 01.2 +1.2**
comp=Z,50nm,0.8s,comp=Z,379nm
TYV **Tymovskoe** **55.83 353** *e*P P **12 45 59.4 -0.5**
TYV pmax pmax
comp=Z,5.0nm,1.1s
TYV pmax pmax
comp=Z,200nm,3.8s
LHMI **Lhok Sumawe** **55.85 279** P P **12 46 01.5 +0.8**
comp=Z,207nm,0.9s,comp=Z,2µm
XAN **Xi'an** **55.94 317** P P **12 46 01.3 +0.2**
XAN pP pwP 12 46 39.8 -1.0
XAN sP PcP 12 46 57.1 -0.6
XAN pmax pmax
comp=Z,84nm,0.8s
XAN pmax pmax
comp=Z,190nm,3.7s
XAN **Xi'an** **55.94 317** *e*P P **12 46 01.1 +0.1**
comp=Z,65nm,0.8s
XAN **Xi'an** **55.94 317** *e*P P **12 46 01.1 +0.1**
XAN pmax pmax
comp=Z,65nm,0.8s
SUKH **Sukhothai** **56.16 294** P P **12 46 04.5 +1.7**
comp=Z,68nm,0.8s,comp=Z,522nm
KMI **Kunming** **56.23 304** P P **12 46 05.6 +2.1**
KMI pP pwP 12 46 42.5 -0.9
KMI sP PcP 12 47 01.1 +1.9
KMI S **S** **12 53 44.3 +3.5**
KMI sS sS 12 54 51.1 +4.9
KMI pmax pmax
comp=Z,50nm,1.2s
KMI pmax pmax
comp=Z,170nm,3.1s
KMI LR LR
comp=Z,82nm,4.1s
KMI LR LR
comp=Z,95nm,4.7s
KMI LR LR
comp=Z,81nm,6.2s
MLSI **Meulaboh, Aceh** **56.24 278** P P **12 46 02.7 -0.8**
comp=Z,272nm,1.2s
KLR **Kul'dur** **56.44 344***c i*P P **12 46 03.9 -0.3**
KLR *i* *PP **pwP** **12 46 43.5 -0.6**
KLR **Kul'dur** **56.44 344** P P **12 46 03.5 -0.7**
comp=Z,8.2nm,0.8s,baz=173,slow=2.2,SNR=26
KLR pP **pwP** **12 46 43.6 -0.6**
comp=Z,11nm,1.1s,baz=131,slow=5.6,SNR=4.0
KLR PcP **sP** **12 46 58.9 -0.2**
comp=Z,4.4nm,0.9s,baz=142,slow=3.1,SNR=4.2
KLR ScP **ScP** **12 50 42.5 -0.7**
comp=Z,1.8nm,0.9s,baz=138,slow=4.6,SNR=4.5
UMPA **Umpang Tak** **56.48 293** P P **12 46 06.5 +1.4**
comp=Z,32nm,1.0s,comp=Z,1µm
LAMP **Lampang** **56.48 296** P P **12 46 06.8 +1.7**
comp=Z,86nm,0.8s,comp=Z,604nm
CM01 **Chiang Mai Arr** **57.06 295** *e*P P **12 46 09.9 +0.7**
CM01 *e*PcP **sP** **12 47 03.7 -0.3**
CM31 **Chiang Mai Arr** **57.08 295** *e*P P **12 46 10.4 +1.1**
comp=Z,133nm,0.8s
CM31 **Chiang Mai Arr** **57.08 295** P P **12 46 11.3 +1.9**
SNR=67
CMAR **Chiang Mai Arr** **57.08 295** *i* P P **12 46 11.1 +1.8**
CMAR pmax pmax
comp=Z,96nm,0.8s
CMAR **Chiang Mai Arr** **57.08 295** P P **12 46 10.3 +1.0**
comp=Z,89nm,0.8s,baz=115,slow=5.2,SNR=445
CMAR PKP2bc 13 16 14.3
comp=Z,1.6nm,1.1s,baz=279,slow=2.8,SNR=5.9
CMMT **Chiang Mai** **57.19 296** P P **12 46 11.2 +1.1**
comp=Z,86nm,1.2s,comp=Z,787nm
CHTO **Chiang Mai** **57.19 296** *e*P P **12 46 10.6 +0.5**
comp=Z,81nm,1.0s
CHTO **Chiang Mai** **57.19 296** *e*P P **12 46 10.6 +0.5**
CHTO pmax pmax
comp=Z,81nm,1.0s
CHTO **Chiang Mai** **57.19 296** P P **12 46 11.0 +0.9**
SNR=43
CHTO **Chiang Mai** **57.19 296** P P **12 46 11.3 +1.2**
comp=Z,378nm,1.2s,comp=Z,4µm
NKL **Nikolayevsk** **58.33 352** *e*P P **12 46 16.8 -0.5**
HHC **Hu-ho-hao-te** **58.43 325** *e*P P **12 46 19.4 +0.9**
HHC pP pP 12 46 54.3 -1.6
HHC S **S** **12 54 07.8 -1.1**
HHC pmax pmax
comp=Z,46nm,1.2s
HHC pmax pmax
comp=Z,86nm,4.9s
PPT2 **Papeete2** **58.54 108** *e*P P **12 46 22.7 +3.1**
comp=Z,40nm,1.1s
PPT2 *e*S **S** **12 54 09.6 -1.3**
comp=Z,170nm,26.5s
TIAR **Tiarei** **58.75 108** *e*P P **12 46 24.4 +3.4**
comp=Z,28nm,1.1s
TVO **Taravao** **58.86 108** *e*P P **12 46 25.0 +3.2**
comp=Z,30nm,1.3s
BTO **Baotou** **59.18 324** *e*P P **12 46 24.4 +0.8**
TBI **Tubuai** **59.35 114** *e*S S **12 54 20.5 -0.6**
comp=Z,119nm,30.5s
TBI *e*LR LR 13 04 10.5
comp=Z,191nm,39.8s
PMOR **Pomariorio Ree** **59.95 105** *e*P P **12 46 32.3 +3.1**
comp=Z,285nm,1.2s
VAH **Vaihoa** **60.22 105** *e*P P **12 46 33.8 +2.7**
comp=Z,122nm,1.2s
HIA **Hailar** **60.54 336** *e*P P **12 46 32.6 0.0**
comp=Z,22nm,1.2s
HIA **Hailar** **60.54 336***c i*P P **12 46 32.5 -0.1**
HIA pmax pmax
comp=Z,14nm,0.9s
LZH **Lanzhou** **60.54 316**⇑ P P **12 46 34.4 +1.3**
LZH pP pP 12 47 11.1 -0.2
LZH sP sP 12 47 32.5 +3.4
LZH PP **PP** **12 48 54.4 +5.8**
LZH S **S** **12 54 40.4 +4.1**
LZH sS sS 12 55 45.3 +3.9
LZH pmax pmax
comp=Z,190nm,1.5s
LZH pmax pmax
comp=Z,260nm,5.4s
ZEA **Zeya** **61.73 344** *e*P P **12 46 40.0 -0.5**
ZEA pmax pmax
comp=Z,37nm,1.4s
MA2 **Magadan** **63.99 359***d i*P P **12 46 55.3 0.0**
MA2 *i* *PP **pwP** **12 47 35.8 -0.1**
MA2 pmax pmax
comp=Z,6.0nm,1.0s
MA2 **Magadan** **63.99 359** P P **12 46 54.2 -1.1**
comp=Z,3.3nm,0.6s,baz=163,slow=5.3,SNR=7.4
BRDH **Bariadhala** **64.87 298** P P **12 47 03.1 +1.3**
comp=Z,134nm,0.3s,baz=87,slow=8.0,SNR=16
GTA **Gaotai** **64.98 318**⇑⇑ P P **12 47 03.6 +1.2**
GTA PcP **PcP** **12 47 35.8 +1.7**
GTA pP pP 12 47 42.0 +1.1
GTA sP sP 12 47 59.3 +0.8
GTA S **S** **12 55 33.3 +1.9**
GTA sS SKSac 12 56 40.8 -0.9
GTA pmax pmax
comp=Z,47nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.4s
GTA LR LR
comp=Z,100nm,18.2s
GTA LR LR
comp=Z,130nm,21.0s
GTA LR LR
comp=Z,130nm,17.5s
ULN **Ulaanbaatar** **65.42 328** *e*P P **12 47 04.9 -0.2**
comp=Z,39nm,1.2s
ULN **Ulaanbaatar** **65.42 328***c i*P P **12 47 06.1 +1.1**
ULN pmax pmax
comp=Z,34nm,1.1s
ULN **Ulaanbaatar** **65.42 328** P P **12 47 06.3 +1.2**
SNR=20
SHL **Shillong** **65.53 301** *e*P P **12 47 06.2 -0.1**
comp=Z,135nm,0.9s
SHL **Shillong** **65.53 301** *e*P P **12 47 06.2 -0.1**
SHL pmax pmax
comp=Z,135nm,0.9s
SHL **Shillong** **65.53 301** *i* P P **12 47 05.0 -1.3**
SONA0 **Songino Array** **65.74 328** *e*P P **12 47 08.0 +0.9**
SONA0 *e*PcP **PcP** **12 47 38.0 +1.0**
SONM **Songino Array** **65.74 328** P P **12 47 08.0 +0.9**
comp=Z,14nm,0.6s,baz=144,slow=5.7,SNR=85
SONM PcP **PcP** **12 47 38.0 +1.0**
comp=Z,7.1nm,0.8s,baz=144,slow=3.7,SNR=5.8
SONM LR LR 13 14 42.8
comp=Z,42nm,20.6s,baz=73,slow=35
SEY **Seymchan** **67.35 0** P P **12 47 16.4 -0.4**
comp=Z,1.7nm,0.9s,baz=167,slow=5.5,SNR=8.1
LSA **Lhasa** **67.48 305** P P **12 47 20.0 +1.1**
LSA pmax pmax
comp=Z,53nm,0.8s
LSA **Lhasa** **67.48 305** *e*P P **12 47 19.0 +0.1**
comp=Z,54nm,0.8s
LSA **Lhasa** **67.48 305** *e*P P **12 47 19.0 +0.1**
LSA pmax pmax
comp=Z,54nm,0.8s
YAK **Yakutsk** **68.63 349** *e*P P **12 47 24.4 -0.4**
YAK *e* 12 48 04.6
YAK pmax pmax
comp=Z,87nm,1.4s
YAK pmax pmax
comp=N,64nm,1.4s
YAK pmax pmax
comp=E,24nm,1.1s
YAK pmax pmax
comp=Z,147nm,1.1s
YAK pmax pmax
comp=E,40nm,1.4s
YAK pmax pmax
comp=N,90nm,1.3s
ZAK **Zakamensk** **68.92 329** *e*P P **12 47 26.6 -0.4**
ZAK pmax pmax
comp=Z,41nm,1.2s
BOD **Bodaibo** **69.33 339** *e*P P **12 47 28.8 -0.4**
BOD pmax pmax
comp=Z,12nm,1.5s
TLY **Talaya** **69.52 330** *e*P P **12 47 30.4 -0.1**
comp=Z,34nm,1.6s
TLY **Talaya** **69.52 330***c i*P P **12 47 31.1 +0.6**
TLY pmax pmax
comp=Z,29nm,1.4s
TLY **Talaya** **69.52 330** P P **12 47 31.5 +1.0**
SNR=8.8
RAMN **Ramite** **70.47 301** *e*P P **12 47 37.6 +0.4**
comp=Z,62nm,0.7s
MOY **Mondy** **70.84 329** *e*P P **12 47 39.4 +0.7**
MOY pmax pmax
comp=Z,68nm,2.5s
JIRN **Jiri** **71.02 301** *e*P P **12 47 41.0 +0.4**
comp=Z,201nm,0.8s
GUN **Gumba** **71.35 301** *e*P P **12 47 43.1 +0.5**
comp=Z,348nm,0.8s
PKI **Pulchoki** **71.66 301** *e*P P **12 47 44.4 0.0**
comp=Z,228nm,1.1s
PKIN **Phulchoki** **71.67 301** *e*P P **12 47 44.5 +0.1**
comp=Z,130nm,1.0s
KKN **Kakani** **71.83 301** *e*P P **12 47 45.7 +0.4**
comp=Z,183nm,0.7s
DMN **Daman** **71.93 301** *e*P P **12 47 46.4 +0.5**
comp=Z,393nm,0.9s
PALK **Pallekele** **72.13 279** *e*P P **12 47 46.7 -0.4**
comp=Z,24nm,0.8s
PALK **Pallekele** **72.13 279** *e*P P **12 47 46.7 -0.4**
PALK pmax pmax
comp=Z,24nm,0.8s
PALK **Pallekele** **72.13 279** P P **12 47 47.6 +0.5**
comp=Z,19nm,0.8s,baz=116,slow=5.1,SNR=10
GKN **Gorkha** **72.43 301** *e*P P **12 47 49.0 +0.2**
comp=Z,394nm,1.0s
RKT **Rikitea** **72.59 113** *e*P P **12 47 52.5 +2.9**
comp=Z,32nm,1.0s
VNDA **Vanda** **73.05 178** *e*P P **12 47 52.3 +1.0**
comp=Z,4.5nm,0.8s
VNDA **Vanda** **73.05 178** *e*P P **12 47 52.3 +1.0**
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA **Vanda** **73.05 178** P P **12 47 51.5 +0.2**
comp=Z,3.6nm,0.9s,baz=332,slow=6.2,SNR=12
BILL **Bilibino** **73.17 6** *e*P P **12 47 52.8 +0.7**
comp=Z,4.4nm,0.9s
BILL **Bilibino** **73.17 6**⇑ *e*P P **12 47 52.9 +0.8**
BILL *i* *PP **pP** **12 48 33.1 +1.7**
BILL *e*SS SS 13 01 57.4 +6.1
BILL pmax pmax
comp=Z,2.0nm,0.9s
KOLN **Koldanda** **73.26 301** *e*P P **12 47 53.9 +0.2**
comp=Z,300nm,0.8s
DANN **Dangsing** **73.27 301** *e*P P **12 47 53.9 0.0**
comp=Z,209nm,0.7s
PYUN **Piuthan** **73.86 301** *e*P P **12 47 57.0 -0.3**
comp=Z,430nm,0.9s
WMQ **Urumqi** **75.07 318** P P **12 48 04.3 +0.6**
WMQ pP pP 12 48 40.4 -3.1
WMQ sP sP 12 49 02.0 +1.0
WMQ pmax pmax
comp=Z,110nm,1.3s

WMQ pmax pmax
comp=Z,250nm,3.7s
WMQ LR LR
comp=Z,50nm,20.5s
WMQ LR LR
comp=Z,64nm,21.3s
WMQ LR LR
comp=Z,79nm,21.3s
WMQ Urumqi 75.07 318 *e*P **P 12 48 03.7 0.0**
comp=Z,60nm,1.0s
WMQ Urumqi 75.07 318 *e*P **P 12 48 03.7 0.0**
WMQ pmax pmax
comp=Z,60nm,1.0s
HYB Hyderabad 75.69 289 *i* P **P 12 48 07.5 -0.2**
comp=Z,50nm,1.0s
KDAK Kodiak Island 76.36 27 P **P 12 48 11.2 +0.7**
comp=Z,5.6nm,0.7s,baz=228,slow=6.9,SNR=4.6
SVW2 Sparrevohn 76.96 23 *e*P **P 12 48 14.2 +0.3**
comp=Z,6.6nm,0.8s
TIXI Tiksi 77.60 353 *e*P **P 12 48 17.8 +0.5**
comp=Z,8.6nm,1.4s
TIXI Tiksi 77.60 353‖ *e*P **P 12 48 17.7 +0.5**
TIXI pmax pmax
comp=Z,7.0nm,1.4s
TIXI Tiksi 77.60 353 P **P 12 48 16.8 -0.5**
comp=Z,2.7nm,0.5s,baz=139,slow=6.8,SNR=6.2
BRLK Bradley Lake 78.16 26 *e*P **P 12 48 21.0 +0.4**
comp=Z,31nm,1.2s
NDI New Delhi 78.95 300 *e*P **P 12 48 24.5 -1.1**
SUA Susitna One 79.11 24 *e*P **P 12 48 25.7 -0.2**
comp=Z,14nm,1.1s
RC01 Rabbit Creek A 79.33 25 *e*P **P 12 48 27.1 +0.1**
comp=Z,24nm,1.1s
MK01 Makanchi Array 79.65 319 *e*P **P 12 48 28.6 -0.4**
MK31 Makanchi Array 79.66 319 *e*P **P 12 48 29.0 -0.2**
comp=Z,33nm,1.0s
MK31 Makanchi Array 79.66 319 *i* P **P 12 48 29.4 +0.3**
MK31 pmax pmax
comp=Z,41nm,1.0s
MK32 Makanchi Array 79.66 319 *e*P **P 12 48 29.4 +0.3**
MKAR Makanchi Array 79.66 319 P **P 12 48 29.4 +0.3**
comp=Z,31nm,0.9s,baz=102,slow=5.8,SNR=176
MKAR PP **PP 12 51 30.3 -2.1**
comp=Z,4.3nm,0.9s,baz=104,slow=10,SNR=4.4
MKAR PKKPbc **PKKPbc 13 07 16.4 -1.3**
comp=Z,0.5nm,0.7s,baz=277,slow=2.3,SNR=6.4
MNCI Minicoy 79.77 279 *e*P **P 12 48 29.9 -0.4**
comp=Z,62nm,0.8s
PMR Palmer 79.84 25 *e*P **P 12 48 29.4 -0.2**
comp=Z,17nm,1.1s
PMR Palmer 79.84 25 *e*P **P 12 48 29.4 -0.2**
PMR pmax pmax
comp=Z,17nm,1.1s
MAKZ Makanchi 79.87 319 *e*P **P 12 48 30.3 0.0**
comp=Z,53nm,0.9s
MAKZ Makanchi 79.87 319 P **P 12 48 29.6 -0.7**
MAKZ pmax pmax
comp=Z,58nm,0.9s
KNK Knik Glacier 80.03 25 *e*P **P 12 48 31.1 +0.3**
comp=Z,36nm,1.3s
SML Sawmill 80.27 25 *e*P **P 12 48 32.4 +0.3**
comp=Z,23nm,0.8s
SML Sawmill 80.27 25 *e*P **P 12 48 32.4 +0.3**
SML pmax pmax
comp=Z,23nm,0.8s
TRF Thorofare Moun 80.32 23 *e*P **P 12 48 32.3 -0.2**
comp=Z,18nm,1.5s
IM3 Indian Mountai 80.47 20 *e*P **P 12 48 33.3 +0.3**
ZAA0 Zalesovo Array 80.56 326 *e*P **P 12 48 32.6 -1.1**
comp=Z,33nm,0.8s
ZALV Zalesovo Beam 80.56 326 P **P 12 48 33.0 -0.7**
ZALV Zalesovo Beam 80.56 326 P **P 12 48 33.0 -0.7**
comp=Z,35nm,0.8s,baz=111,slow=5.2,SNR=127
ZALV LR LR 13 28 01.3
comp=Z,20nm,18.1s,baz=72,slow=38
ZAA1 Zalesovo Array 80.56 326 *e*P **P 12 48 33.0 -0.8**
PDGK Podgornoye 80.56 315 P **P 12 48 33.7 -0.5**
PDGK pmax pmax
comp=Z,41nm,0.8s
RND Reindeer 80.86 23 *e*P **P 12 48 35.0 -0.2**
comp=Z,15nm,0.8s
RND Reindeer 80.86 23 *e*P **P 12 48 35.0 -0.2**
RND pmax pmax
comp=Z,15nm,0.8s
PRZ Przheval'sk 81.12 314 *e*P **P 12 48 36.9 -0.3**
comp=Z,88nm,1.0s
PRZ Przheval'sk 81.12 314 *e*P **P 12 48 36.9 -0.3**
PRZ pmax pmax
comp=Z,88nm,1.0s
KLU Klutina 81.14 25 *e*P **P 12 48 37.2 +0.4**
comp=Z,30nm,1.1s
DHY Denali Highway 81.28 24 *e*P **P 12 48 37.6 0.0**
comp=Z,14nm,1.1s
WRH Wood River Hil 81.68 22 *e*P **P 12 48 38.7 -0.7**
comp=Z,14nm,0.9s
NVS Novosibirsk 81.74 327⇑ *i*P **P 12 48 40.5 +0.6**
NVS *i* 12 49 20.6
NVS pmax pmax
comp=Z,36nm,1.2s
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,35nm,1.4s
MDM Murphy Dome 81.87 22 *e*P **P 12 48 40.3 -0.1**
comp=E,13nm,1.4s
CCB Clear Creek Bu 81.87 22 *e*P **P 12 48 39.5 -0.9**
comp=E,11nm,0.8s
KDJ Kajisay 81.91 314 *e*P **P 12 48 41.1 -0.3**
comp=E,63nm,0.9s
TCOL CIGO, UAF Yank 81.96 22 P **P 12 48 39.7 -1.2**
baz=241
COLA College 81.97 22 *e*P **P 12 48 40.4 -0.5**
comp=E,15nm,0.8s
COLA College 81.97 22 *e*P **P 12 48 40.4 -0.5**
COLA pmax pmax
comp=Z,15nm,0.8s
HDA Harding Lake 82.08 23 *e*P **P 12 48 41.4 -0.1**
comp=Z,8.0nm,0.6s
HDA Harding Lake 82.08 23 P **P 12 48 40.9 -0.7**
baz=242
KSH Kashi 82.21 311 P **P 12 48 45.3 +2.4**
KSH pP pP 12 49 25.3 +1.8
KSH S **S 12 58 41.5 -3.3**
KSH pmax pmax
comp=Z,28nm,1.0s
POKR Poker Plat Res 82.24 22 P **P 12 48 41.6 -0.8**
baz=241
ILAR Eielson Array 82.28 22 P **P 12 48 41.4 -1.2**
comp=Z,9.2nm,0.7s,baz=248,slow=5.2,SNR=127
ILAR PKKPbc **PKKPbc 13 07 09.7 -2.9**
comp=Z,0.3nm,0.7s,baz=347,slow=1.2,SNR=4.6
ILAR LR LR 13 19 53.4
comp=Z,20nm,21.4s,baz=126,slow=32
ILB Eielson Array 82.28 22 *e*P **P 12 48 41.5 -1.1**
comp=Z,13nm,0.9s
COLD Coldfoot 82.33 19 *e*P **P 12 48 42.7 -0.1**
comp=Z,4.9nm,1.1s
RIDG Independ'e Rid 82.60 24 *e*P **P 12 48 44.5 +0.2**
comp=Z,15nm,1.0s
NRN Naryn 82.61 313 *e*P **P 12 48 45.1 -0.1**
comp=Z,27nm,1.1s
NRN Naryn 82.61 313 *e*P **P 12 48 45.1 -0.1**
NRN pmax pmax
comp=Z,27nm,1.1s
ULHL Ulahol 82.61 313 P **P 12 48 46.6 +1.5**
SNR=16
MENT Mentasta 82.70 25 *e*P **P 12 48 45.2 +0.4**
comp=Z,8.3nm,0.9s
DOT Dot Lake 82.87 24 *e*P **P 12 48 45.7 0.0**
comp=Z,11nm,0.8s
KURK Kurchatov 83.13 322 *e*P **P 12 48 46.6 -0.6**
comp=Z,52nm,0.9s
KURK Kurchatov 83.13 322 *c i*P **P 12 48 46.8 -0.4**
KURK pmax pmax
comp=Z,66nm,1.0s
KURK Kurchatov 83.13 322 P **P 12 48 47.1 -0.1**
SNR=24
KURBB Kurchatov Arra 83.16 322 P **P 12 48 47.1 -0.2**
comp=Z,26nm,0.8s,baz=107,slow=4.2,SNR=151
KURBB pP **pP 12 49 27.6 -0.3**
comp=Z,4.3nm,0.9s,baz=102,slow=4.6,SNR=1.8
NIL Nilore 83.22 305 *e*P **P 12 48 48.2 +0.1**
comp=Z,134nm,0.8s
NIL Nilore 83.22 305 *e*P **P 12 48 48.2 +0.1**
NIL pmax pmax
comp=Z,135nm,0.8s
TKM2 Tokmak 2 83.23 314 P **P 12 48 48.9 +0.6**
SNR=45
TKM2 Tokmak 2 83.23 314 P **P 12 48 48.7 +0.5**
TKM2 pmax pmax
comp=Z,28nm,0.9s
TOLK Toolik Lake Re 83.28 18 *e*P **P 12 48 48.3 +0.6**
comp=Z,5.7nm,0.6s
TOLK Toolik Lake Re 83.28 18 P **P 12 48 47.8 +0.1**
baz=239
KZA Kyzart 83.30 313 P **P 12 48 50.4 +1.6**
SNR=70
KBK Karagaybulak 83.64 314 P **P 12 48 51.6 +1.3**
SNR=27
FYU Fort Yukon 83.72 21 *e*P **P 12 48 50.8 +0.9**
comp=Z,11nm,0.8s
CHMS Chumysh 83.85 314 P **P 12 48 51.9 +0.7**
SNR=26
UCH Uchtor 83.86 313 P **P 12 48 53.0 +1.3**
SNR=86
FRU1 Bishkek 83.90 314 *e*P **P 12 48 51.6 +0.1**
comp=Z,58nm,1.1s
FRU1 Bishkek 83.90 314 *e*P **P 12 48 51.6 +0.1**
FRU1 pmax pmax
comp=Z,58nm,1.1s
FRU Bishkek 83.92 314 *i* P **P 12 48 52.0 +0.5**
FRU pmax pmax
comp=Z,150nm,1.8s
AAK Ala-Archa 83.96 314 P **P 12 48 52.5 +0.6**
SNR=34
AAK Ala-Archa 83.96 314 *e*P **P 12 48 52.2 +0.3**
comp=Z,36nm,0.9s
AAK Ala-Archa 83.96 314 *c i*P **P 12 48 52.5 +0.6**
AAK pmax pmax
comp=Z,49nm,1.1s
AAK Ala-Archa 83.96 314 P **P 12 48 52.7 +0.8**
SNR=23
AAK Ala-Archa 83.96 314 P **P 12 48 51.9 0.0**
comp=Z,26nm,0.9s,baz=110,slow=4.1,SNR=67
USP Osenovka 84.09 314 P **P 12 48 53.1 +0.8**
SNR=46
AML Almayashu 84.44 313 P **P 12 48 55.8 +1.2**
SNR=168
EKS2 Erkin-Say 84.49 313 P **P 12 48 55.6 +1.1**
SNR=79
EGAK Eagle 84.49 23 *e*P **P 12 48 54.2 +0.3**
comp=Z,12nm,0.9s
HYT Haines Junctio 84.63 28 *e*P **P 12 48 55.9 +1.1**
comp=Z,22nm,0.8s
ARSB Arslanbob 84.81 312 *e*P **P 12 48 56.6 +0.5**
comp=Z,204nm,1.1s
DAWY Dawson 84.93 24 *e*P **P 12 48 56.3 +0.2**
comp=Z,33nm,1.6s
QSPA South Pole Qui 85.35 180 *e*P **P 12 48 58.6 +0.2**
comp=Z,23nm,1.3s
MAW Mawson 85.44 203 *e*P **P 12 48 58.8 +0.3**
comp=Z,8.0nm,0.9s
MAW Mawson 85.44 203 *e*P **P 12 48 58.8 +0.3**
MAW pmax pmax
comp=Z,8.0nm,0.9s
MAW Mawson 85.44 203 P **P 12 48 58.5 -0.1**
comp=Z,38nm,1.0s,baz=87,slow=17,SNR=7.0
NRIK Noril'sk 85.53 341 P **P 12 48 59.2 +0.3**
comp=Z,11nm,0.5s,baz=127,slow=4.5,SNR=13
NRIK LR LR 13 25 02.4
comp=Z,31nm,21.9s,baz=134,slow=34
WHY Whitehorse 85.80 28 *e*P **P 12 49 01.4 +0.8**
comp=Z,14nm,0.9s
BTK Batken 86.22 311 *e*P **P 12 49 03.1 0.0**
comp=Z,58nm,0.8s
BTK Batken 86.22 311 *e*P **P 12 49 03.1 0.0**
BTK pmax pmax
comp=Z,58nm,0.8s
GAR Garm 86.43 309 *e*P **P 12 49 04.1 -0.1**
comp=Z,108nm,1.2s
GAR Garm 86.43 309 *e*P **P 12 49 04.1 -0.1**
GAR pmax pmax
comp=Z,108nm,1.2s
EPYK Eagle Plains 86.79 22 *e*P **P 12 49 05.4 +0.2**
comp=Z,24nm,0.8s
EPYK Eagle Plains 86.79 22 P **P 12 49 05.3 +0.2**
baz=251
KBL Kabul 86.81 305 *e*P **P 12 49 05.2 -1.0**
comp=Z,27nm,1.1s
KBL Kabul 86.81 305 *e*P **P 12 49 05.2 -1.0**
KBL pmax pmax
comp=Z,27nm,1.1s
KK31 Karatay Array 86.93 313 *e*P **P 12 49 06.2 -0.1**
comp=Z,14nm,0.9s
KK31 Karatay Array 86.93 313 *i* P **P 12 49 06.5 +0.1**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 86.93 313 *e*P **P 12 49 06.1 -0.3**
comp=Z,14nm,0.9s
KKAR Karatay Array 86.93 313 *e*P **P 12 49 06.1 -0.3**
KKAR pmax pmax
comp=Z,14nm,0.9s
CHGR Chuyangaron 87.28 309 *e*P **P 12 49 08.3 0.0**
comp=Z,66nm,0.8s
DLBC Dease Lake 87.62 31 *e*P **P 12 49 10.3 +0.9**
comp=Z,22nm,1.1s
DLBC Dease Lake 87.62 31 P **P 12 49 09.4 0.0**
comp=Z,13nm,1.0s,baz=259,slow=5.1,SNR=15
INK Inuvik 88.56 21 *e*P **P 12 49 13.2 -0.3**
comp=Z,9.5nm,1.0s
INK Inuvik 88.56 21 P **P 12 49 13.2 -0.3**
comp=Z,7.7nm,1.0s,baz=237,slow=5.7,SNR=17
INK pP **pP 12 49 55.0 +0.5**
comp=Z,4.4nm,1.1s,baz=187,slow=10,SNR=3.2
BVA0 Borovoye Array 88.61 323 P **P 12 49 13.2 -0.9**
BVA0 pmax pmax
comp=Z,36nm,0.8s
BVAR Borovoye Array 88.61 323 P **P 12 49 13.2 -0.9**
comp=Z,35nm,0.7s,baz=100,slow=6.2,SNR=153
BVAR PP **PP 12 52 45.0 +0.1**
comp=Z,1.4nm,0.8s,baz=133,slow=6.5,SNR=3.6
BRVK Borovoye 88.68 323 *e*P **P 12 49 13.8 -0.7**
comp=Z,23nm,0.8s
BRVK Borovoye 88.68 323 *c i*P **P 12 49 13.4 -1.0**
BRVK pmax pmax
comp=Z,23nm,0.9s
BRVK Borovoye 88.68 323 P **P 12 49 13.7 -0.7**
SNR=10
J01E Myrtle Point 88.79 47 P **P 12 49 15.9 +0.8**
baz=263
L02E Cave Junction 88.90 48 P **P 12 49 16.4 +0.6**
baz=263
K02D Willamette Mer 88.92 47 P **P 12 49 16.2 +0.3**
baz=263,SNR=9.0
I02D Swisshome 88.97 46 P **P 12 49 16.7 +0.7**
baz=263
O02D Mt. Diablo Mer 89.28 50 P **P 12 49 18.0 +0.3**
baz=263
I03D Drain, OR 89.28 46 P **P 12 49 17.9 +0.5**
baz=263,SNR=6.3
M02C Callahan 89.37 49 P **P 12 49 19.0 +0.9**
baz=263,SNR=17
N02D Trinity Center 89.43 49 P **P 12 49 18.9 +0.6**
baz=264,SNR=7.8
HUMO Hull Mountain 89.43 47 *e*P **P 12 49 19.4 +1.2**
comp=Z,20nm,0.8s
WDC Whiskeytown Da 89.51 49 *e*P **P 12 49 19.4 +0.8**
comp=Z,4.6nm,0.8s
WDC Whiskeytown Da 89.51 49 *e*P **P 12 49 19.4 +0.8**
WDC pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 89.51 48 *e*P **P 12 49 19.7 +1.0**
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 89.51 48 *e*P **P 12 49 19.7 +1.0**
YBH pmax pmax
comp=Z,15nm,1.0s
YBH Yreka Blue Hor 89.51 48 P **P 12 49 19.1 +0.4**
comp=Z,13nm,1.0s,baz=235,slow=1.9,SNR=22
H04D Lebanon 89.81 45 P **P 12 49 20.5 +0.6**
baz=264
L04D Klamath Falls 89.87 48 P **P 12 49 20.6 +0.2**
baz=264,SNR=9.0
D03D Eldon 89.92 42 P **P 12 49 20.5 +0.2**
baz=263
I04A Tendick Farm, 89.96 46 P **P 12 49 20.8 +0.1**
baz=264,SNR=6.3
O03E Paynes Creek 90.04 50 P **P 12 49 21.6 +0.4**
baz=264
J04D Umpqua Nationa 90.12 47 P **P 12 49 22.7 +1.0**
baz=264,SNR=19
E04D Cinebar 90.16 43 P **P 12 49 21.3 -0.2**
baz=264
M04C Macdoel 90.17 48 P **P 12 49 22.1 +0.3**
baz=264,SNR=15
H04A Detroit Lake 90.22 45 *e*P **P 12 49 22.4 +0.5**
comp=Z,25nm,1.4s
A04D Lummi Island 90.31 41 P **P 12 49 23.2 +1.1**
baz=264
AFDM Forest Hills D 90.54 51 *e*P **P 12 49 24.8 +1.3**
comp=Z,6.0nm,0.8s
D05A Enumclaw 90.63 43 *e*P **P 12 49 24.8 +1.2**
comp=Z,12nm,0.6s
B05A Bryant 90.67 42 P **P 12 49 24.4 +0.6**
baz=264
LON Longmire 90.70 43 *e*P **P 12 49 24.3 +0.2**
comp=Z,4.9nm,1.1s
LON Longmire 90.70 43 *e*P **P 12 49 24.3 +0.2**
LON pmax pmax
comp=Z,5.0nm,1.1s
J05D Fort Rock, OR 90.76 47 P **P 12 49 25.5 +1.0**
baz=264,SNR=28
I05D Terrebonne, OR 90.79 46 P **P 12 49 24.3 -0.3**
baz=264
F05D White Salmon 90.86 44 P **P 12 49 25.3 +0.5**
baz=264
G05D Wamic, OR 90.89 45 P **P 12 49 24.8 -0.2**
baz=264
CMB Columbia Colle 90.92 52 *e*P **P 12 49 26.0 +0.7**
comp=Z,12nm,1.5s
CMB Columbia Colle 90.92 52 *e*P **P 12 49 26.0 +0.7**
CMB pmax pmax
comp=Z,12nm,1.5s
PINE Pine Mountain 91.02 46 *e*P **P 12 49 26.5 +0.6**
comp=Z,19nm,0.8s
LLLB Lillooet 91.05 39 *e*P **P 12 49 25.7 +0.1**
comp=Z,7.7nm,0.8s
BEKR Beckworth 91.10 50 *e*P **P 12 49 26.9 +0.7**
comp=Z,13nm,1.5s
MOD Modoc Plateau 91.32 48 *e*P **P 12 49 27.8 +0.6**
comp=Z,15nm,0.9s
LTY Liberty 91.53 43 *e*P **P 12 49 28.1 +0.2**
comp=Z,7.7nm,0.6s
VCNR Virginia City 91.60 51 *e*P **P 12 49 29.5 +0.9**
comp=Z,6.9nm,0.9s
PNTR Pine Nut 91.62 51 *e*P **P 12 49 29.5 +0.8**
comp=Z,9.7nm,0.9s
WAKR Walker 91.70 52 *e*P **P 12 49 29.9 +0.8**
comp=Z,17nm,1.6s
VES Vestal, Richgr 91.78 54 P **P 12 49 28.9 -0.4**
baz=266
PAHR Pah Rah Range 91.84 50 *e*P **P 12 49 30.1 +0.5**
comp=Z,7.0nm,1.0s
YERR Yerington 91.89 51 *e*P **P 12 49 30.7 +0.7**
comp=Z,10.0nm,1.2s
MDPB Devils Postpil 91.92 53 *e*P **P 12 49 30.9 +0.7**
comp=Z,8.6nm,1.0s
ARVC Arvin 91.93 55 P **P 12 49 29.9 -0.1**
baz=266
I07A Izee 92.08 46 *e*P **P 12 49 31.1 +0.5**
comp=Z,12nm,0.9s
CIS Catalina Islan 92.15 57 P **P 12 49 30.7 -0.4**
baz=266
HAWA Hanford 92.23 44 *e*P **P 12 49 31.6 +0.5**
comp=Z,10nm,1.0s
ISA Isabella, Lake 92.26 55 P **P 12 49 32.5 +0.9**
baz=266
RYN Ryan 92.43 52 *e*P **P 12 49 32.5 +0.1**
comp=Z,14nm,1.3s
MWC Mount Wilson 92.50 56 *e*P **P 12 49 33.8 +0.9**
comp=Z,22nm,1.1s
MWC Mount Wilson 92.50 56 *e*P **P 12 49 33.8 +0.9**
MWC pmax pmax
comp=Z,23nm,1.1s
B08A Colville Reser 92.51 42 *e*P **P 12 49 32.5 0.0**
comp=Z,6.3nm,0.7s
G08A Pilot Rock 92.56 45 *e*P **P 12 49 33.0 +0.2**
comp=Z,11nm,1.2s
E08A Dider Farm, El 92.57 44 *e*P **P 12 49 33.3 +0.6**
comp=Z,24nm,1.4s
NV01 Mina Array Sit 92.58 52 *e*P **P 12 49 33.5 +0.3**
NVAR Mina Array Bea 92.58 52 P **P 12 49 33.9 +0.7**
comp=Z,7.8nm,0.8s,baz=250,slow=6.4,SNR=46
NVAR LR LR 13 27 07.8
comp=Z,70nm,18.3s,baz=300,slow=33
WVOR Wild Horse Val 92.60 48 *e*P **P 12 49 33.9 +0.8**
comp=Z,9.3nm,0.9s
WVOR Wild Horse Val 92.60 48 *e*P **P 12 49 33.9 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,0.9s
EDW2 Edwards Air Fo 92.60 55 P **P 12 49 33.4 +0.3**
baz=266
CWC Cottonwood Cre 92.63 54 P **P 12 49 33.8 +0.4**
baz=266
NV11 Mina Array Sit 92.70 52 *e*P **P 12 49 34.1 +0.4**
comp=Z,1.2nm,1.3s
D08A Wollman Farm, 92.70 43 *e*P **P 12 49 33.6 +0.3**
comp=Z,5.7nm,0.8s
J08A Circle Ran 92.78 47 *e*P **P 12 49 34.3 +0.4**
comp=Z,12nm,0.8s
KVN Kaiserville 92.78 51 *e*P **P 12 49 34.7 +0.6**
comp=Z,7.7nm,1.0s
KVN Kaiserville 92.78 51 *e*P **P 12 49 34.7 +0.6**
KVN pmax pmax
comp=Z,8.0nm,1.0s
BFSC Mount Baldy Ra 92.83 56 P **P 12 49 35.1 +0.7**
baz=266
LRMC Laurel Mtn Rad 92.89 55 P **P 12 49 35.8 +1.2**
baz=266,SNR=9.8
DAC Darwin (Calif) 93.01 54 *e*P **P 12 49 36.0 +0.8**
comp=Z,14nm,1.0s
DAC Darwin (Calif) 93.01 54 *e*P **P 12 49 36.0 +0.8**
DAC pmax pmax
comp=Z,14nm,1.0s
MPMC Manual Prospec 93.08 54 P **P 12 49 36.1 +0.6**
baz=267,SNR=8.4
C09A Chrisman Ranch 93.19 42 *e*P **P 12 49 36.0 +0.5**
comp=Z,5.2nm,0.6s
E09A Wood Farm, Sta 93.20 44 *e*P **P 12 49 36.2 +0.6**
comp=Z,12nm,0.9s
GRAC Grapevine Rang 93.24 53 P **P 12 49 36.8 +0.8**
baz=267,SNR=6.4
BBRC Big Bear Solar 93.45 56 P **P 12 49 38.2 +0.9**
baz=267
GSC Goldstone, Bar 93.60 55 *e*P **P 12 49 38.1 +0.3**
comp=Z,10nm,1.2s
GSC Goldstone, Bar 93.60 55 P **P 12 49 39.1 +1.3**
baz=267,SNR=5.4
FURC Furnace Creek, 93.61 54 P **P 12 49 38.5 +0.9**
baz=267,SNR=5.4
BMO Blue Mountains 93.70 45 *e*P **P 12 49 37.8 -0.2**
comp=Z,8.3nm,1.0s
BMO Blue Mountains 93.70 45 *e*P **P 12 49 37.8 -0.2**
BMO pmax pmax
comp=Z,8.0nm,1.0s
MONP2 Monument Peak 93.79 57 P **P 12 49 39.7 +0.8**
baz=267,SNR=7.6
PFO Pinyon Flats O 93.79 57 P **P 12 49 39.1 +0.4**
baz=267
PFO Pinyon Flats O 93.79 57 P **P 12 49 38.1 -0.7**
comp=Z,2.9nm,0.3s,baz=108,slow=5.7,SNR=6.5
F10A Beach Ranch, E 93.81 44 *e*P **P 12 49 38.7 +0.2**
comp=Z,6.6nm,0.8s
NEW Newport 93.98 42 *e*P **P 12 49 38.9 -0.3**
comp=Z,7.2nm,0.9s
NEW Newport 93.98 42 *e*P **P 12 49 38.9 -0.3**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 93.98 42 P **P 12 49 39.3 +0.1**
baz=268
NEW Newport 93.98 42 P **P 12 49 38.3 -0.9**
comp=Z,4.9nm,0.8s,baz=275,slow=5.0,SNR=8.7
IKP In-Ko-Pah, Jac 94.04 58 P **P 12 49 39.4 -0.4**
baz=267
SHOC Shoshone, Teco 94.06 54 P **P 12 49 40.3 +0.5**
baz=267
JLN Jalan Bani Buh 94.12 292 P **P 12 49 39.6 -0.7**
SNR=5.8
TPNV Topopah Spring 94.13 53 *e*P **P 12 49 40.8 +0.5**
comp=Z,9.3nm,0.8s
TPNV Topopah Spring 94.13 53 *e*P **P 12 49 40.8 +0.5**
TPNV pmax pmax
comp=Z,9.0nm,0.8s
TPNV Topopah Spring 94.13 53 P **P 12 49 41.2 +0.9**
baz=267,SNR=12
BELC Belle Mtn. Jos 94.20 56 P **P 12 49 41.6 +1.0**
baz=267,SNR=5.8
SWSC Sam W. Stewart 94.31 57 P **P 12 49 42.1 +1.1**
baz=267
TUQ Turquoise Moun 94.32 55 P **P 12 49 41.8 +0.6**
baz=268,SNR=7.0
GMRC Granite Mounta 94.51 56 P **P 12 49 43.0 +0.9**
baz=268,SNR=6.0
BC3 Big Chuckawall 94.63 57 P **P 12 49 42.6 0.0**

baz=268,SNR=5.4
R11A **Troy Canyon, C** 94.71 52 *e*P P 12 49 42.9 0.0
comp=Z,7.4nm,1.2s
R11A **Troy Canyon, C** 94.71 52 P P 12 49 43.5 +0.6
baz=268,SNR=12
AB31 **Akbulak array** 94.81 319 *i* P P 12 49 41.3 -1.6
AB31 pmax pmax
comp=Z,4.0nm,0.8s
ABKAR **Akbulak array** 94.81 319 *e*P P 12 49 41.5 -1.4
comp=Z,5.7nm,0.8s
WSAR **Wadi Sarin** 94.90 293 P P 12 49 43.6 -0.3
WSAR **Wadi Sarin** 94.90 293 P P 12 49 43.4 -0.5
comp=Z,8.2nm,0.7s,baz=138,slow=7.0,SNR=11
IRM **Iron Mountain** 94.91 56 P P 12 49 44.4 +0.7
baz=268,SNR=5.4
LDFC **Landfair** 94.97 55 *e*P P 12 49 43.7 -0.4
comp=Z,16nm,1.0s
SHPR **Sheep Range** 94.98 54 *e*P P 12 49 44.7 +0.5
comp=Z,7.0nm,0.9s
ELK **Elko** 95.06 50 *e*P P 12 49 44.5 -0.1
comp=Z,2.6nm,1.0s
ELK **Elko** 95.06 50 *e*P P 12 49 44.5 -0.1
ELK pmax pmax
comp=Z,3.0nm,1.0s
GLA **Glamis** 95.13 57 *e*P P 12 49 45.7 +0.9
comp=Z,9.9nm,1.1s
GLA **Glamis** 95.13 57 *e*P P 12 49 45.7 +0.9
GLA pmax pmax
comp=Z,10.0nm,1.1s
GLA **Glamis** 95.13 57 P P 12 49 45.6 +0.7
baz=268
BIDO **Bidbid** 95.37 293 P P 12 49 46.1 +0.1
SNR=5.9
MHTO **MHTO** 95.40 291 P P 12 49 44.8 -1.3
SNR=6.6
Y12C **Blythe** 95.41 57 P P 12 49 47.0 +1.0
baz=268
YKW3 **Yellowknife Ar** 95.62 28 *e*P P 12 49 46.0 -0.2
comp=Z,3.4nm,0.8s
YKA **Yellowknife Ar** 95.62 28 P P 12 49 46.6 +0.4
comp=Z,2.9nm,0.8s,baz=270,slow=4.9,SNR=49
YKA PKiKP **PKiKP** 12 54 25.5 +0.4
comp=Z,0.7nm,0.8s,baz=281,slow=1.7,SNR=8.7
YKA PKKPbc **PKKPdf** 13 06 35.1 -3.9
comp=Z,0.2nm,0.4s,baz=80,slow=3.1,SNR=6.0
YKB5 **Yellowknife Ar** 95.62 28 *e*P P 12 49 46.0 -0.2
ARU **Arti** 95.72 326 *e*P P 12 49 45.8 -1.1
comp=Z,13nm,0.8s
ARU **Arti** 95.72 326 *d* iP P 12 49 45.8 -1.1
ARU 12 53 38.2
ARU S **SKSac** 13 00 04.9 -2.5
ARU pmax pmax
comp=Z,15nm,0.8s
ARU MLR MLR
comp=Z,2μm,22.0s
HLID **Hailey** 95.74 47 *e*P P 12 49 47.9 +0.4
comp=Z,2.2nm,0.8s
HLID **Hailey** 95.74 47 P P 12 49 48.4 +0.9
baz=269
PDMCI **Parker Dam,Lak** 95.75 56 P P 12 49 48.5 +1.0
baz=268
GEYT **Alibeck** 95.87 308 P P 12 49 48.1 0.0
comp=Z,1.8nm,0.4s,baz=101,slow=1.5,SNR=5.8
AKTO **Aktyubinsk** 96.07 320 P P 12 49 47.9 -0.7
comp=Z,2.2nm,0.6s,baz=92,slow=4.7,SNR=9.7
PSUT **Pine Spring** 96.08 52 *e*P P 12 49 50.1 +0.9
comp=Z,5.5nm,1.0s
WALA **Waterton Lakes** 96.13 41 *e*P P 12 49 49.8 +0.8
comp=Z,16nm,1.2s
CCUT **Cedar City** 96.45 53 *e*P P 12 49 51.5 +0.6
comp=Z,5.5nm,1.1s
LCMT **Little Creek M** 96.54 53 *e*P P 12 49 52.3 +1.1
comp=Z,5.1nm,1.0s
SOHO **SOHO** 96.85 294 P P 12 49 52.0 -0.7
SNR=5.5
KNB **Kanab** 96.87 53 *e*P P 12 49 53.8 +1.0
comp=Z,14nm,1.2s
DUG **Dugway, Tooele** 96.90 50 P P 12 49 52.9 +0.1
baz=270
HVU **Hansel Valley** 96.93 49 *e*P P 12 49 53.2 +0.3
comp=Z,8.1nm,1.1s
HVU **Hansel Valley** 96.93 49 *e*P P 12 49 53.2 +0.3
HVU pmax pmax
comp=Z,8.0nm,1.1s
BANOM **Banah** 97.12 295 P P 12 49 52.8 -1.2
HATD **Hatta, Dubai** 97.24 294 P P 12 49 53.1 -1.4
ASHO **Ashiyiah** 97.31 294 P P 12 49 53.6 -1.2
MTPU **Mount Pierson** 97.39 52 *e*P Pdif 12 49 55.6 +0.2
comp=Z,3.2nm,0.9s
BOZ **Bozeman (W)** 97.72 45 P Pdif 12 49 56.6 +0.2
baz=271
ASUD **Al Ashush, Dub** 97.97 294 P P 12 49 56.8 -0.9
WUAZ **Wupatki** 98.04 55 *e*P Pdif 12 49 58.5 +0.4
WUAZ **Wupatki** 98.04 55 P Pdif 12 49 58.1 0.0
baz=270
TMUT **Trail Mountain** 98.14 51 *e*P P 12 49 58.5 -0.1
comp=Z,6.1nm,0.9s
Q16A **Castle Valley** 98.18 51 *e*P Pdif 12 49 59.2 +0.6
comp=Z,3.6nm,0.9s
FXWY **Fox Creek** 98.20 47 *e*P Pdif 12 49 59.2 +0.5
comp=Z,2.6nm,0.9s
TPAW **Teton Pass** 98.26 47 *e*P Pdif 12 49 59.1 +0.1
comp=Z,2.6nm,0.9s
YFT **Old Faithful** 98.31 46 *e*P Pdif 12 50 00.2 +1.0
comp=Z,3.6nm,0.6s
REDW **Red Top Meadow** 98.33 47 *e*P Pdif 12 49 59.5 +0.2
comp=Z,11nm,1.6s
MOOW **Moose Ponds** 98.40 47 *e*P Pdif 12 49 59.7 +0.1
comp=Z,1.6nm,0.8s
H17A **Grant Village** 98.50 46 P P 12 49 59.7 -0.3
baz=272
EGMT **Eagleton** 98.92 42 P Pdif 12 50 01.7 +0.1
baz=273
BW06 **Boulder Array** 99.30 48 *e*Pdif **Pdif** 12 50 03.7 +0.1
comp=Z,3.8nm,0.8s
BW06 **Boulder Array** 99.30 48 P **Pdif** 12 50 03.4 -0.2
baz=272
PD31 **Pinedale Array** 99.30 48 *e*Pdif **Pdif** 12 50 03.5 -0.2
comp=Z,3.5nm,0.8s
PDAR **Pinedale Array** 99.30 48 *e*Pdif **Pdif** 12 50 03.4 -0.3
PDAR **Pinedale Array** 99.30 48 P **Pdif** 12 50 03.9 +0.2
comp=Z,3.0nm,0.7s,baz=236,slow=2.6,SNR=34
PDAR LR LR 13 30 10.6
comp=Z,49nm,19.5s,baz=279,slow=32
RLMT **Red Lodge** 99.40 45 P **Pdif** 12 50 03.9 0.0
baz=273
PV04 **Paradox Valley** 99.96 52 *e*Pdif **Pdif** 12 50 07.2 +0.6
MVCO **Mesa Verde** 100.33 53 *e*Pdif **Pdif** 12 50 09.0 +0.7
MVCO **Mesa Verde** 100.33 53 P **Pdif** 12 50 08.0 -0.3
baz=272
O20A **White River Ci** 100.41 50 P **Pdif** 12 50 08.4 -0.1
baz=273
RES **Resolute Bay** 100.42 14 P **Pdif** 12 50 06.9 -0.6
comp=Z,1.3nm,1.0s,baz=300,slow=6.8,SNR=3.6
LAO **LASA Array** 101.41 43 P **Pdif** 12 50 12.8 +0.1
baz=276
SMCO **Snowmass** 101.43 51 *e*Pdif **Pdif** 12 50 14.5 +1.1
K22A **Casper** 101.54 48 P **Pdif** 12 50 14.1 +0.6
baz=274
S22A **4UR Ranch, Cre** 101.63 53 *e*Pdif **Pdif** 12 50 15.1 +0.9
S22A **4UR Ranch, Cre** 101.63 53 P **Pdif** 12 50 14.3 +0.1
baz=273
TASM **ASL Pad, Albuq** 102.07 55 P **Pdif** 12 50 16.9 +0.8
baz=273
TASM **ASL Pad, Albuq** 102.07 55 P **Pdif** 12 50 17.3 +1.2
baz=273
ANMO **Albuquerque** 102.08 55 P **Pdif** 12 50 16.6 +0.6
baz=273
N23A **Red Feather La** 102.11 49 *e*Pdif **Pdif** 12 50 16.6 +0.4
N23A **Red Feather La** 102.11 49 P **Pdif** 12 50 16.6 +0.4
baz=274
SDCO **Great Sand Dun** 102.68 52 P **Pdif** 12 50 19.2 +0.4
baz=274
RSSD **Black Hills** 103.21 46 *e*Pdif **Pdif** 12 50 21.3 +0.4
RSSD **Black Hills** 103.21 46 *e*P **Pdif** 12 50 21.3 +0.4
RSSD **Black Hills** 103.21 46 P **Pdif** 12 50 21.6 +0.6
baz=276
T25A **Trinidad** 103.59 53 P **Pdif** 12 50 23.1 +0.3
baz=275
TMCR **Tamitsa** 104.43 336 *e*P **Pdif** 12 50 24.7 -0.8
TXAR **Lajitas Array** 104.73 61 PKKPbc PKKPbc 13 06 13.2 +1.1
comp=Z,0.6nm,0.7s,baz=125,slow=4.4,SNR=9.7
TXAR PKKP **PKKPab** 13 06 30.9 +0.7
comp=Z,0.9nm,0.7s,baz=116,slow=4.1,SNR=11
ARCES **ARCESS Array B** 106.45 343 PKiKP **PKiKP** 12 54 44.8 +0.2
comp=Z,4.2nm,0.9s,baz=91,slow=1.9,SNR=11
ECSD **EROS Data Cent** 108.56 45 P **PKiKP** 12 54 49.6 +0.3
baz=282
FIA0 **FINESS Array S** 110.55 335 *e*Pdif **Pdif** 12 50 51.4 -1.5
FIA0 **FINESS Array S** 110.55 335 *e*P **Pdif** 12 50 51.4 -1.5
FINES **FINESS Array B** 110.55 335 Pdiff **Pdif** 12 50 51.4 -1.5
comp=Z,1.3nm,0.6s,baz=57,slow=5.1,SNR=8.7
FINES PKiKP **PKiKP** 12 54 52.4 0.0
comp=Z,2.5nm,0.8s,baz=86,slow=3.2,SNR=9.4
F39A **Loretta** 111.95 42 P **PKiKP** 12 54 55.9 +0.3
baz=287
C40A **Isle Royale Na** 112.49 40 P **PKiKP** 12 54 57.0 +0.5
baz=289
I40A **Norwalk** 112.73 44 P **PKiKP** 12 54 57.3 +0.1
baz=286
J40A **Soldiers Grove** 112.79 45 P **PKiKP** 12 54 57.8 +0.6
baz=286
U40A **Yellville** 112.89 52 P **PKiKP** 12 54 57.7 0.0
baz=282
F41A **Three Lakes** 113.21 42 P **PKiKP** 12 54 58.6 +0.6
baz=288
Q41A **Truxton** 113.57 49 P **PKiKP** 12 54 59.3 +0.5
baz=284
R41A **Rosebud** 113.61 50 P **PKiKP** 12 54 59.3 +0.3
baz=284
U41A **Viola** 113.62 52 P **PKiKP** 12 54 59.2 +0.1
baz=282
AKASG **Malin Array Be** 113.88 324 *c* iPKiKP **PKiKP** 12 55 01.6 +2.5
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG **Malin Array Be** 113.88 324 PKiKP **PKiKP** 12 54 58.6 -0.4
comp=Z,3.3nm,0.7s,baz=63,slow=2.2,SNR=9.1
AKASG PP **PP** 12 55 55.5 +0.9
comp=Z,0.5nm,0.4s,baz=60,slow=7.4,SNR=5.8
KIEV **Kiev** 113.89 324 ⇑*i*PKiKP **PKiKP** 12 54 59.2 +0.1
P42A **Winchester** 114.08 49 P **PKiKP** 12 54 60.0 +0.1
baz=285
G43A **Wallace** 114.31 42 P **PKiKP** 12 55 00.3 +0.2
baz=289
BR101 **Keskin Array S** 114.59 312 *e*PP **PP** 12 56 01.1 +0.8
BRTR **Keskin Array B** 114.59 312 PKP PKPdf 12 55 00.6 -0.5
comp=Z,1.5nm,0.7s,baz=180,slow=0.7,SNR=5.3
BRTR PP **PP** 12 56 01.1 +0.8
comp=Z,1.6nm,0.9s,baz=99,slow=6.4,SNR=4.2
R45A **Skylar, Fairfi** 115.97 49 P **PKPdf** 12 55 03.5 0.0
baz=286
D46A **Sault St. Mari** 116.10 39 P **PKiKP** 12 55 04.2 +0.7
baz=293
E46A **Sault Ste Mari** 116.13 40 P **PKiKP** 12 55 03.9 +0.4
baz=293
IAS **Iasi** 116.29 321 ⇑*i*P **PKPdf** 12 54 59.7 -4.1
IAS **Iasi** 116.29 321 ⇑PKiKP **PKPdf** 12 54 59.7 -4.1
N46A **Monticello** 116.36 46 P **PKiKP** 12 55 04.4 +0.2
baz=288
P46A **Rosedale** 116.41 48 P **PKiKP** 12 55 04.5 +0.2
baz=287
NB2 **NORSAR Subarra** 116.46 340 PKPdf **PKPdf** 12 55 03.0 -0.8
comp=Z,0.6nm,0.6s,baz=44,slow=1.9
NB200 **NORSAR Array S** 116.46 340 *e*PKPdf **PKPdf** 12 55 02.9 -1.0
NOA **NORSAR Array B** 116.46 340 PKP **PKPdf** 12 55 02.9 -1.0
comp=Z,2.7nm,0.7s,baz=46,slow=1.9,SNR=15
D47A **Chapleau** 116.62 39 P **PKPdf** 12 55 04.2 -0.3
baz=294
J47A **Sunmer** 116.94 43 P **PKiKP** 12 55 05.7 +0.5
baz=291
O47A **Sheridan** 116.98 47 P **PKPdf** 12 55 05.3 -0.1
baz=288
L47A **Sherwood** 117.11 45 P **PKPdf** 12 55 05.4 -0.2
baz=290
N47A **Urbana** 117.12 46 P **PKPdf** 12 55 05.5 -0.1
baz=289
V47A **Nunnelly** 117.21 52 P **PKPdf** 12 55 05.7 -0.2
baz=285
T47A **Sharon Grove** 117.22 51 P **PKPdf** 12 55 05.7 -0.3
baz=286
U47A **Clarksville** 117.23 51 P **PKiKP** 12 55 06.1 +0.1
baz=286
R47A **Wooly Knot Far** 117.30 49 P **PKiKP** 12 55 06.6 +0.5
baz=287
W47A **Westpoint** 117.30 53 P **PKPdf** 12 55 05.9 -0.3
baz=285
BIZ **Bicaz** 117.30 321 ⇑*i*P **PKiKP** 12 55 05.9 0.0
D48A **Paudash Townsh** 117.37 38 P **PKiKP** 12 55 06.1 +0.1
baz=295
WCI **Wyandotte Cave** 117.49 49 P **PKiKP** 12 55 07.0 +0.5
baz=287
BURAR **Bucovina Array** 117.56 322 ⇑*i*P **PKiKP** 12 55 07.4 +0.9
BURAR **Bucovina Array** 117.56 322 ⇑PKiKP **PKiKP** 12 55 07.4 +0.9
K48A **Perry** 117.57 44 P **PKiKP** 12 55 06.6 +0.1
baz=291
N48A **Decatur** 117.60 46 P **PKiKP** 12 55 07.0 +0.4
baz=289
D49A **Beulah Townshi** 117.61 38 P **PKiKP** 12 55 07.0 +0.5
baz=296
L48A **N Adams** 117.66 45 P **PKiKP** 12 55 06.9 +0.2
baz=290
Q48A **North Vernon** 117.70 48 P **PKiKP** 12 55 07.1 +0.3
baz=288
O48A **Farmland** 117.71 47 P **PKiKP** 12 55 07.0 +0.2
baz=289
P48A **Milroy** 117.77 48 P **PKiKP** 12 55 07.0 0.0
baz=288
U48A **Cassie Pea, Po** 117.79 51 P **PKiKP** 12 55 07.2 +0.1
baz=286
F49A **Sandfield** 117.81 40 P **PKiKP** 12 55 07.3 +0.4
baz=294
S48A **Wiedeman Farm,** 117.84 50 P **PKiKP** 12 55 07.3 +0.1
baz=287
MLR **Muntele Rosu** 118.00 320 ⇓*i*P **PKPdf** 12 55 07.2 -0.2
MLR **Muntele Rosu** 118.00 320 ⇓PKiKP **PKPdf** 12 55 07.2 -0.2
L49A **Milan** 118.06 44 P **PKPdf** 12 55 07.2 -0.2
baz=291
M49A **Liberty Center** 118.14 45 P **PKPdf** 12 55 07.4 -0.2
baz=291
DOPR **Dopca** 118.16 321 ⇑*i*P **PKiKP** 12 55 07.9 +0.3
N49A **Columbus Grove** 118.19 46 P **PKPdf** 12 55 07.1 -0.6
baz=290
P49A **Miami Univ. Ec** 118.26 47 P **PKiKP** 12 55 08.1 +0.1
baz=289
LRAL **Lakeview Retre** 118.32 55 P **PKiKP** 12 55 08.3 +0.1
baz=284
O49A **Covington** 118.32 46 P **PKiKP** 12 55 08.4 +0.4
baz=290
U49A **Red Boiling Sp** 118.38 51 P **PKPdf** 12 55 08.1 -0.1
baz=287
S49A **Springfield** 118.38 49 P **PKPdf** 12 55 08.1 -0.1
baz=288
W49A **Belvidere** 118.38 52 P **PKPdf** 12 55 08.1 -0.2
baz=286
T49A **Edmonton** 118.40 50 P **PKPdf** 12 55 08.1 -0.1
baz=287
VOIR 118.60 320 ⇑*i*P **PKPdf** 12 55 08.1 -0.4
VOIR 118.60 320 ⇑PKiKP **PKPdf** 12 55 08.1 -0.4
MATQ **Matagami** 118.64 34 P **PKPdf** 12 55 08.0 -0.3
baz=300
D51A **Lot 18 Range I** 118.90 38 P **PKiKP** 12 55 09.5 +0.5
baz=297
P50A **Jamestown** 118.91 47 P **PKPdf** 12 55 09.0 -0.2
baz=290
T50A **Nancy** 118.95 50 P **PKPdf** 12 55 09.2 -0.1
baz=288
N50A **Nevada** 118.97 45 P **PKPdf** 12 55 09.1 -0.2
baz=291
X50B **Fort Payne** 119.05 53 P **PKPdf** 12 55 09.0 -0.6
baz=286
S50A **Richmond** 119.08 49 P **PKiKP** 12 55 10.2 +0.6
baz=288
F51A **Arnstein** 119.09 39 P **PKiKP** 12 55 09.8 +0.5
baz=296
W50A **Signal Mountai** 119.11 52 P **PKPdf** 12 55 09.7 0.0
baz=286
U50A **Jamestown** 119.13 51 P **PKiKP** 12 55 09.7 0.0
baz=287
Z50A **Ashland** 119.14 54 P **PKiKP** 12 55 09.9 0.0
baz=285
KLBO **Killbear Provi** 119.15 40 P **PKiKP** 12 55 09.8 +0.4
baz=296
I51A **Listowel** 119.28 42 P **PKiKP** 12 55 10.2 +0.4
baz=294
ACSO **Alum Creek Sta** 119.28 46 P **PKiKP** 12 55 10.5 +0.5
baz=291
LSQQ **Lebel-sur-Quev** 119.36 35 P **PKPdf** 12 55 09.7 0.0
baz=300
DRGR 119.46 322 ⇓*i*P **PKiKP** 12 55 11.3 +1.1
DRGR 119.46 322 ⇓PKiKP **PKiKP** 12 55 11.3 +1.1
N51A **Ashland** 119.47 45 P **PKiKP** 12 55 10.4 +0.1
baz=292
F52A **Sundridge** 119.52 39 P **PKiKP** 12 55 10.4 +0.2
baz=297
D52A **ZEK Kipawa Sen** 119.54 37 P **PKiKP** 12 55 10.4 +0.2
baz=298
VLDQ **Val d'Or** 119.56 36 *e*PKPdf **PKPdf** 12 55 09.8 -0.3
O51A **Pataskala** 119.58 46 P **PKiKP** 12 55 10.8 +0.3
baz=291
T51A **Gray** 119.65 50 P **PKiKP** 12 55 10.8 +0.1
baz=288
S51A **Beattyville** 119.70 49 *e*PKPdf **PKiKP** 12 55 10.9 +0.1
S51A **Beattyville** 119.70 49 P **PKiKP** 12 55 10.8 +0.1
baz=289
E52A **Mattawa** 119.71 38 P **PKiKP** 12 55 10.7 +0.1
baz=298
151A **Opelika** 119.81 55 P **PKiKP** 12 55 11.5 +0.4
baz=285
251A **Midway** 119.85 56 P **PKiKP** 12 55 11.5 +0.2
baz=285
EZN **Ezine** 119.91 314 ⇑*i*P **PKPdf** 12 55 09.9 -1.1
EZN **Ezine** 119.91 314 ⇑PKiKP **PKPdf** 12 55 09.9 -1.1
D53A **Lac Vacive, Po** 119.92 37 P **PKiKP** 12 55 11.3 +0.3
baz=299
ACTO **Acton** 119.99 41 P **PKiKP** 12 55 11.4 +0.2
baz=295
N52A **McGinn's Farm,** 119.99 45 P **PKPdf** 12 55 11.1 -0.1
baz=292
GZR **Gura Zlata** 120.06 321 ⇑*i*P **PKPdf** 12 55 08.9 -2.3
GZR **Gura Zlata** 120.06 321 ⇑PKiKP **PKPdf** 12 55 09.0 -2.3
S52A **Salyersville** 120.08 49 P **PKiKP** 12 55 11.7 +0.1
baz=289
P52A **Corning** 120.11 46 P **PKiKP** 12 55 11.6 0.0
baz=291
W52A **Murphy** 120.23 52 P **PKiKP** 12 55 12.3 +0.3
baz=287
ALGO **Algonquin Park** 120.24 38 P **PKiKP** 12 55 11.5 0.0
baz=298
Q52A **Bidwell** 120.25 47 P **PKiKP** 12 55 12.1 +0.2
baz=291
G53A **Haliburton** 120.26 39 P **PKPdf** 12 55 11.6 0.0
baz=297
V52A **Sevierville** 120.27 51 P **PKiKP** 12 55 12.1 +0.2
baz=288
152A **Waverly Hall** 120.27 55 P **PKPdf** 12 55 11.9 0.0
baz=285
U52A **Thorn Hill** 120.27 50 P **PKiKP** 12 55 12.6 +0.6
baz=288
E53A **Dumoine, Ponti** 120.28 38 P **PKiKP** 12 55 12.1 +0.4
baz=298
TYNO **Tyneside** 120.33 42 P **PKiKP** 12 55 12.2 +0.3
baz=295
452A **Marianna** 120.34 57 P **PKiKP** 12 55 12.4 +0.2
baz=284
CHGQ **Chibougamau** 120.36 33 P **PKiKP** 12 55 11.7 0.0
baz=303
Z52A **Williamson** 120.38 54 P **PKiKP** 12 55 12.4 +0.1
baz=286
X52A **Dahlonega** 120.40 52 P **PKiKP** 12 55 12.7 +0.4
baz=287
PLCA **Paso Flores** 120.40 143 *e*PKPdf **PKPdf** 12 55 12.1 0.0
PLCA **Paso Flores** 120.40 143 PKP **PKPdf** 12 55 12.0 -0.1
comp=Z,2.3nm,0.7s,baz=242,slow=5.6,SNR=7.1
PLCA PKKPbc **PKKPbc** 13 05 19.7 -0.6
comp=Z,2.0nm,0.9s,baz=162,slow=3.0,SNR=4.0
252A **Lumpkin** 120.43 55 P **PKiKP** 12 55 12.4 0.0
baz=285
M53A **WI Miller and** 120.46 44 P **PKPdf** 12 55 12.1 0.0
baz=293
Y52A **Lilburn** 120.48 53 P **PKiKP** 12 55 12.6 +0.1
baz=286
D54A **Lac Fusel, La** 120.50 36 P **PKPdf** 12 55 12.0 0.0
baz=300
E54A **Lac Daplat, Po** 120.54 37 P **PKPdf** 12 55 11.8 -0.3
baz=299
O53A **New Philadelph** 120.54 45 P **PKiKP** 12 55 12.9 +0.5
baz=292
L53A **Girard** 120.54 43 P **PKiKP** 12 55 12.5 +0.2
baz=294
PSZ **Piszkesteto** 120.58 325 ⇓*i*P **PKPdf** 12 55 12.2 0.0
PSZ **Piszkesteto** 120.58 325 ⇓PKiKP **PKPdf** 12 55 12.2 0.0
N53A **Lisbon** 120.59 45 P **PKiKP** 12 55 13.2 +0.7
baz=293
BZS **Buzias** 120.68 322 ⇓*i*P **PKPdf** 12 55 11.9 -0.5
BZS **Buzias** 120.68 322 ⇓PKiKP **PKPdf** 12 55 11.9 -0.5
P53A **Whipple** 120.69 46 P **PKiKP** 12 55 13.0 +0.3
baz=292
R53A **Hurricane** 120.70 48 P **PKiKP** 12 55 12.9 +0.2
baz=290
BANO **Bancroft** 120.75 39 P **PKPdf** 12 55 12.5 0.0
baz=298
W53A **Cullowhee** 120.81 52 P **PKiKP** 12 55 13.5 +0.3
baz=288
Q53A **Leroy** 120.82 47 P **PKiKP** 12 55 13.3 +0.3
baz=291
Y53A **Monroe** 120.86 53 P **PKiKP** 12 55 13.5 +0.3
baz=287
PEMO **Pembroke** 120.86 38 P **PKiKP** 12 55 13.2 +0.4
baz=298
VYHS **Vyhne** 120.88 326 *e*PKiKP **PKPdf** 12 55 12.6 -0.1
VYHS **Vyhne** 120.88 326 *e*PKP **PKPdf** 12 55 12.6 -0.1
U53A **Fall Branch** 120.89 50 P **PKiKP** 12 55 13.5 +0.3
baz=289
MORC **Moravsky Berou** 120.89 327 *e*PKPdf **PKiKP** 12 55 13.0 +0.1
MORC **Moravsky Berou** 120.89 327 ⇓PKiKP **PKiKP** 12 55 13.4 +0.6
MORC **Moravsky Berou** 120.89 327 *e*PKP **PKiKP** 12 55 13.3 +0.5
V53A **Saluda** 120.92 51 P **PKPdf** 12 55 13.2 -0.1
baz=288
SCHQ **Schefferville** 120.95 25 PKP **PKPdf** 12 55 12.6 0.0
comp=Z,4.4nm,0.7s,baz=253,slow=5.1,SNR=3.8
LSZ **Lusaka** 120.97 249 *e*PKPdf **PKiKP** 12 55 14.0 0.0
VTS **Vitosha** 120.97 318 *e*PKPdf **PKPdf** 12 55 13.3 +0.1
VTS **Vitosha** 120.97 318 ⇑*i*P **PKPdf** 12 55 13.1 -0.1
VTS **Vitosha** 120.97 318 ⇑PKiKP **PKPdf** 12 55 13.1 -0.1
GOGA **Godfrey** 121.08 54 P **PKiKP** 12 55 13.9 +0.3
baz=287
N54A **Moraine State** 121.12 44 P **PKiKP** 12 55 13.5 0.0
baz=294
M54A **Oil Creek Stat** 121.13 43 P **PKiKP** 12 55 13.6 +0.1
baz=294
KRLC **Kraliky** 121.13 328 *e*PKPDF **PKiKP** 12 55 13.9 +0.6
KRLC **Kraliky** 121.13 328 *e*PKiKP **PKiKP** 12 55 13.9 +0.6
553A **Crawfordville** 121.13 57 P **PKiKP** 12 55 14.3 +0.5
baz=284
O54A **Avella** 121.16 45 P **PKiKP** 12 55 14.3 +0.7
baz=293
DPC **Dobruska-Polom** 121.21 328 *e*PKPDF **PKiKP** 12 55 14.0 +0.6
DPC **Dobruska-Polom** 121.21 328 *e*PKiKP **PKiKP** 12 55 14.0 +0.6
I55A **Frankford** 121.27 40 P **PKiKP** 12 55 13.6 0.0
baz=297
PLVO **Plevna** 121.27 39 P **PKiKP** 12 55 14.0 +0.3
baz=298
Q54A **Coxs Mills** 121.28 47 P **PKPdf** 12 55 13.6 -0.1
baz=292
P54A **Burton** 121.30 46 P **PKPdf** 12 55 13.7 -0.1
baz=292
JAVC **Velka Javorina** 121.33 326 *e*PKP **PKiKP** 12 55 15.1 +1.4
G55A **Calabogie** 121.39 38 P **PKPdf** 12 55 13.8 0.0
baz=299
T54A **Tazewell** 121.41 49 P **PKiKP** 12 55 14.7 +0.4
baz=290
H55A **Tweed** 121.44 39 P **PKPdf** 12 55 13.7 -0.1
baz=298
V54A **Nebo** 121.56 50 P **PKiKP** 12 55 14.9 +0.4
baz=289
Y54A **Tignall** 121.57 53 P **PKiKP** 12 55 15.0 +0.4
baz=287
VRAC **Vranov** 121.67 327 ⇓PKiKP **PKiKP** 12 55 14.8 +0.5
VRAC **Vranov** 121.67 327 *e*PKP **PKiKP** 12 55 14.6 +0.3
L55A **Hinsdale** 121.68 42 P **PKiKP** 12 55 14.8 +0.2
baz=296
K55A **Perry** 121.69 42 P **PKPdf** 12 55 14.4 0.0
baz=296
MCWV **Mont Chateau** 121.73 46 P **PKiKP** 12 55 15.1 +0.4
baz=293
M55A **Ridgway** 121.76 43 P **PKiKP** 12 55 15.1 +0.3
baz=295
BSEG **Bad Segeberg** 121.79 334 *e*PKPdf **PKiKP** 12 55 15.6 +1.2
baz=53,slow=1.9
P55A **Reedsville** 121.81 46 P **PKiKP** 12 55 15.2 +0.2
baz=293
MODS **Modra-Piesok** 121.82 326 *e*PKiKP **PKiKP** 12 55 15.6 +0.9
MODS **Modra-Piesok** 121.82 326 *e*PKP **PKiKP** 12 55 15.6 +0.9
Q55A **Buckhannon** 121.82 46 P **PKiKP** 12 55 15.4 +0.4
baz=292
N55A **Marion Center** 121.89 44 P **PKiKP** 12 55 15.6 +0.6
baz=294
O55A **Ligonier** 121.90 45 P **PKiKP** 12 55 15.4 +0.4
baz=294
KRUC **Moravsky** 121.91 327 *e*PKP **PKiKP** 12 55 15.1 +0.3
H56A **Elgin** 122.00 39 P **PKiKP** 12 55 15.4 +0.3

baz=299
U55A TA2, Sparta 122.00 49 P PKiKP 12 55 15.6 +0.1
baz=290
ORIO Orleans, Innes 122.04 38 P PKPdf 12 55 15.0 0.0
baz=300
R55A Marlinton 122.06 47 P PKPdf 12 55 15.4 +0.1
baz=292
BRG Berggiesshubel 122.11 330 *e*PKP PKiKP 12 55 15.2 +0.1
comp=Z,11nm,0.9s
BRG *e*SKP 12 58 35.6
comp=Z,45nm,2.3s
BRG Berggiesshubel 122.11 330 *e*PKPdf PKiKP 12 55 15.6 +0.5
baz=53,slow=1.9
BRG Berggiesshubel 122.11 330 *e*PKIKP PKiKP 12 55 15.2 +0.1
BRG pmax pmax
comp=Z,11nm,0.9s
BRG pmax pmax
comp=N,45nm,2.3s
Y55A Saluda 122.21 53 P PKiKP 12 55 16.2 +0.4
baz=288
X55A Gracelyn & Ava 122.22 52 P PKiKP 12 55 16.2 +0.4
baz=289
BLA Blacksburg 122.23 48 P PKiKP 12 55 16.2 +0.4
baz=291
KMSC Kings Mountain 122.24 51 P PKPdf 12 55 15.6 -0.1
baz=289
GOPC GO Pecny, Ondr 122.27 329 *e*PKPDF PKPdf 12 55 15.2 -0.1
GOPC GO Pecny, Ondr 122.27 329 *e*PKIKP PKPdf 12 55 15.2 -0.1
CLL Collm 122.30 331 *e*PKPdf PKPdf 12 55 15.3 0.0
CLL Collm 122.30 331 *e*PKPdf PKiKP 12 55 15.8 +0.3
baz=53,slow=1.9
CLL Collm 122.30 331 *i* PKPdf PKPdf 12 55 15.3 0.0
comp=Z,10.0nm,0.8s
CLL Collm 122.30 331 *e*PKIKP PKPdf 12 55 15.3 0.0
ALFO Alfred 122.33 37 P PKiKP 12 55 15.9 +0.2
baz=301
PRU Pruhonice 122.35 329 *e*PKPDF PKiKP 12 55 15.9 +0.3
PRU Pruhonice 122.35 329 *e*PKIKP PKiKP 12 55 15.9 +0.3
FBE Freiberg 122.37 330 *e*PKPdf PKiKP 12 55 16.4 +0.7
baz=53,slow=1.9
O56A Blue Knob Stat 122.39 44 P PKiKP 12 55 16.5 +0.4
baz=294
DIVS Divibare 122.42 321 *e*PKPdf PKPdf 12 55 15.9 0.0
LATQ La Tuque 122.63 35 P PKiKP 12 55 16.8 +0.5
baz=304
X56A White Oak 122.68 52 P PKiKP 12 55 17.3 +0.6
baz=289
SSPA Standing Stone 122.71 44 P PKiKP 12 55 17.1 +0.5
baz=295
CONA Conrad Observa 122.85 326 *e*PKiKP PKPdf 12 55 16.6 0.0
comp=Z,4.4nm,0.6s,SNR=7.1
NRDL Niedersach Rie 122.87 333 *e*PKPdf PKiKP 12 55 17.3 +0.8
baz=53,slow=1.9
656A Willston 122.93 58 P PKPdf 12 55 17.2 0.0
baz=285
NEUB Neuenburg 122.96 331 *e*PKPdf PKiKP 12 55 17.4 +0.6
baz=53,slow=1.9
FNA Florina 123.01 317 *e*PKPdf PKPdf 12 55 15.8 -1.3
FNA Florina 123.01 317 *e*PKIKP PKPdf 12 55 15.8 -1.3
LONY Lake Ozonia 123.03 38 P PKiKP 12 55 17.3 +0.2
baz=300
TANN Tannenbergstha 123.13 330 *e*PKPdf PKiKP 12 55 17.7 +0.5
baz=53,slow=1.9
CLZ Clausthal 123.19 333 *e*PKPdf PKiKP 12 55 17.9 +0.6
baz=53,slow=1.9
GUNZ Gunzen 123.23 330 *e*PKPdf PKiKP 12 55 17.7 +0.2
baz=53,slow=1.9
NKC Novy Kostel 123.25 330 *e*PKPDF PKiKP 12 55 17.5 0.0
NKC Novy Kostel 123.25 330 *e*PKIKP PKiKP 12 55 17.5 0.0
WERN Wernitzgruen 123.26 330 *e*PKPdf PKiKP 12 55 18.0 +0.5
baz=53,slow=1.9
157A Early Branch 123.28 54 P PKPdf 12 55 17.6 -0.2
baz=288
BINY Binghamton 123.30 41 P PKPdf 12 55 17.1 -0.5
baz=298
KHC Kasperske Hory 123.37 329 *e*PKPdf PKPdf 12 55 17.4 -0.1
KHC Kasperske Hory 123.37 329 *e*PKPDF PKiKP 12 55 17.9 +0.2
KHC Kasperske Hory 123.37 329 *e*PKIKP PKiKP 12 55 17.9 +0.2
GEC2 GERESS Array S 123.48 328 *e*PKPdf PKPdf 12 55 16.6 -1.2
GEC2 GERESS Array S 123.48 328 *e*PKPdf PKiKP 12 55 18.1 +0.1
baz=53,slow=1.9
GEC2 GERESS Array S 123.48 328 *e*PKIKP PKPdf 12 55 16.6 -1.2
GERES GERESS Array B 123.48 328 PKP PKiKP 12 55 18.1 +0.1
comp=Z,6.0nm,0.6s,baz=63,slow=1.7,SNR=46
GEA0 GERESS Array S 123.48 328 *e*PKPdf PKPdf 12 55 17.7 -0.1
GTTG Gvttingen 123.58 333 *e*PKPdf PKiKP 12 55 19.0 +0.9
baz=53,slow=1.9
MANZ Manzenberg 123.58 330 *e*PKPdf PKiKP 12 55 18.4 +0.3
baz=53,slow=1.9
ROTZ Rotzenmuhle 123.67 330 *e*PKPdf PKiKP 12 55 18.8 +0.5
baz=53,slow=1.9
WET Wettzell 123.72 329 *e*PKPdf PKiKP 12 55 18.8 +0.4
baz=53,slow=1.9
MOA Molln 123.77 327 *e*PKiKP PKPdf 12 55 18.2 -0.1
comp=Z,1.2nm,0.4s
SOKA Soboth 124.03 325 *e*PKiKP PKiKP 12 55 19.3 +0.1
comp=Z,10nm,1.1s
N59A State Game Lan 124.03 43 P PKiKP 12 55 19.7 +0.4
baz=297
IBBN Ibbenburen 124.03 334 *e*PKPdf PKiKP 12 55 19.7 +0.8
baz=53,slow=1.9
UBBA Unterbreizbach 124.06 332 *e*PKPdf PKiKP 12 55 19.3 +0.4
baz=53,slow=1.9
V59A Middlesex 124.39 49 P PKiKP 12 55 20.2 +0.1
baz=292
OBKA Obir 124.40 326 *e*PKiKP PKiKP 12 55 19.8 -0.1
comp=Z,6.8nm,1.1s
859A Kempfer Cattle 124.65 59 P PKiKP 12 55 20.8 0.0
baz=285
KBA Koelnbreinsper 124.73 327 *e*PKiKP PKPdf 12 55 20.2 -0.2
comp=Z,5.2nm,0.8s
MYKA Terra Mystica 124.84 326 *e*PKiKP PKPdf 12 55 20.4 0.0
comp=Z,2.8nm,0.5s
LBNH Lisbon 124.85 37 P PKiKP 12 55 21.0 +0.2
baz=303
BUG Bochum--Univer 124.86 334 *e*PKPdf PKiKP 12 55 21.2 +0.7
baz=53,slow=1.9
TNS Taunus Mts 125.19 332 *e*PKPdf PKiKP 12 55 21.6 +0.2
baz=53,slow=1.9
PAL Palisades 125.24 42 P PKiKP 12 55 22.0 +0.4
baz=299
ABTA Abfaltersbach 125.39 327 *i* PKiKP PKPdf 12 55 20.9 -0.6
comp=Z,16nm,1.3s
WATA Walderalm 125.53 328 *i* PKiKP PKiKP 12 55 22.7 +0.5
comp=Z,6.7nm,0.6s
MOTA Moosalm 125.77 328 *i* PKiKP PKPdf 12 55 22.4 +0.1
comp=Z,25nm,1.1s
SQTA Sankt Quirin 125.80 328 *i* PKiKP PKPdf 12 55 21.9 -0.4
comp=Z,14nm,1.0s
STU Stuttgart 125.82 330 *e*PKPdf PKiKP 12 55 22.5 -0.1
baz=53,slow=1.9
PKME Peaks-Kenny Pk 125.83 35 P PKiKP 12 55 22.5 -0.1
baz=306
MEM Membach 126.02 334 ⇓PKiKP PKiKP 12 55 23.1 +0.2
BEBN Eben Emael 126.03 334 ⇑PKiKP PKiKP 12 55 23.7 +0.9
UBR Ueberruh 126.08 329 *e*PKPdf PKPdf 12 55 23.0 +0.2
baz=53,slow=1.9
FETA Feichten 126.18 328 *i* PKiKP PKPdf 12 55 23.3 +0.2
comp=Z,17nm,1.1s,SNR=12
GO04 Tololo Observa 126.40 133 *e*PKPdf PKiKP 12 55 24.5 -0.1
DAVA Damuels 126.45 329 *i* PKiKP PKPdf 12 55 23.6 -0.1
comp=Z,7.9nm,0.8s
BFO Black Forest 126.54 331 *e*PKPdf PKiKP 12 55 24.3 +0.2
baz=53,slow=1.9
WLF Walferdange 126.63 333 ⇑PKiKP PKiKP 12 55 24.9 +0.8
FUORN Ofenpass-Fuorn 126.68 328 *e*PKPdf PKPdf 12 55 24.4 +0.2
SNF Seneffe 126.84 335 ⇓PKiKP PKiKP 12 55 24.8 +0.3
LCO Las Campanas 127.09 132 *e*PKPdf PKPdf 12 55 25.4 -0.2
LCO Las Campanas 127.09 132 *e*PKIKP PKPdf 12 55 25.4 -0.2
TUE Stuetta 127.26 328 *e*PKPdf PKPdf 12 55 24.8 -0.4
KEST Kesra 133.73 317 PKP PKPdf 12 55 38.2 +0.6
comp=Z,5.7nm,0.9s,baz=270,slow=4.9,SNR=4.3
KEST SKPbc **SKPbc** 12 58 51.0 -0.4
comp=Z,9.3nm,1.1s,baz=310,slow=6.3,SNR=4.0
LPAZ La Paz 135.20 119 *e*PKPdf PKPdf 12 55 39.2 -2.4
LPAZ La Paz 135.20 119 PKP PKiKP 12 55 42.6 -0.5
comp=Z,2.9nm,0.7s,baz=298,slow=1.0,SNR=5.8
LPAZ pPKP **pPKPdf** 12 56 23.6 -1.3
comp=Z,3.7nm,0.9s,baz=65,slow=2.4,SNR=3.1
LPAZ SKP 12 59 01.4
comp=Z,13nm,0.9s,baz=268,slow=2.0,SNR=21
CPUP Villa Florida 138.13 139 PKP PKPdf 12 55 46.6 +0.6
comp=Z,4.4nm,1.0s,baz=67,slow=2.1,SNR=4.8
ESDC Sonseca Array 138.88 331 PKP PKPdf 12 55 46.4 -0.7
comp=Z,0.2nm,0.4s,baz=44,slow=3.0,SNR=4.2
MVO Moncorvo 139.03 336 *e*PKP PKiKP 12 55 48.6 -1.0
PVRL Vila Real 139.22 336 *e*PKP PKPdf 12 55 47.2 -0.4
MTE Manteigas 139.89 336 *e*PKP PKiKP 12 55 50.5 -0.9
PCBR Castelo Branco 140.33 335 *e*PKP PKiKP 12 55 51.4 -0.8
SJG San Juan 140.36 67 PKP PKPdf 12 55 50.1 -0.1
comp=Z,6.5nm,0.2s,baz=22,slow=7.5,SNR=3.6
PMRV Marv??o 140.64 335 *e*PKP PKPdf 12 55 50.9 +0.7
PTOM Tomar 140.90 336 *e*PKP PKPdf 12 55 52.0 +1.3
SIV San Ignacio 141.40 123 PKP PKPdf 12 55 52.0 -0.3
comp=Z,4.0nm,0.6s,baz=183,slow=3.3,SNR=12
SIV SKPbc **SKiKP** 12 59 15.4 -0.6
comp=Z,6.6nm,0.8s,baz=254,slow=1.3,SNR=14
EVO Evora 141.65 334 *e*PKP PKiKP 12 55 57.3 +2.4
PBEJ Beja 142.01 334 *e*PKP PKiKP 12 55 55.6 -0.1
PNCL Nicolau / Gran 142.22 335 *e*PKP PKPdf 12 55 50.7 -2.4
PCVE Castro Verde 142.41 334 *e*PKP PKiKP 12 55 55.9 -0.6
TAM Tamanrasset 142.91 302 *e*PKPdf PKPdf 12 55 52.9 -2.0
TAM Tamanrasset 142.91 302 *e*PKIKP PKPdf 12 55 52.9 -2.0
SVB Belmont 146.07 73 *e*PKPdf PKPdf 12 56 00.4 0.0
PTGA Pitinga 147.62 99 *e*PKPbc PKPbc 12 56 05.9 -0.1
PTGA Pitinga 147.62 99 PKPbc PKPbc 12 56 06.2 +0.2
comp=Z,35nm,0.6s,baz=272,slow=4.7,SNR=66
TOA0 Torodi Ar. Sit 149.50 288 *e*PKPdf PKPdf 12 56 05.5 -0.6
TOA0 *e*PKPbc PKPbc 12 56 10.7 0.0
TOA0 *e*PKPab PKPab 12 56 16.5 +0.4
TOA0 Torodi Ar. Sit 149.50 288 P PKPbc 12 56 10.5 -0.2
SNR=16
TORD Torodi Ar. Bea 149.50 288 PKPbc PKPbc 12 56 08.9 -1.8
comp=Z,24nm,0.7s,baz=300,slow=12.3,SNR=166
TORD PP PP 12 59 43.9 -0.9
comp=Z,2.6nm,0.8s,baz=43,slow=6.6,SNR=6.8
TOA1 Torodi Ar. Sit 149.50 288 *e*PKPbc PKPbc 12 56 08.9 -1.8
BDFB Brasilia 151.76 136 *e*PKPdf PKPdf 12 56 09.4 -0.3
BDFB *e*PKPbc PKiKP 12 56 16.3 -0.2
BDFB *e*PKPab PKPab 12 56 23.2 -2.3
BDFB Brasilia 151.76 136 PKP PKPdf 12 56 09.4 -0.3
comp=Z,6.2nm,0.8s,baz=160,slow=4.8,SNR=6.2
BDFB PKPbc PKiKP 12 56 16.3 -0.2
comp=Z,22nm,0.5s,baz=220,slow=1.8,SNR=27
DBIC Dimbokro 156.89 276 *e*PKPab PKPab 12 56 47.0 -0.5
DBIC Dimbokro 156.89 276 *e*PKP2 PKPab 12 56 47.0 -0.5
DBIC Dimbokro 156.89 276 PKPbc PKPbc 12 56 30.0
comp=Z,4.4nm,0.8s,baz=45,slow=2.4,SNR=5.8
DBIC PKPab **PKPab** 12 56 47.5 +0.1
comp=Z,22nm,0.7s,baz=78,slow=4.3,SNR=21
RCBR Riachuelo 166.97 143 pPKPab pPKPab 12 58 13.6 +1.1
comp=Z,61nm,0.8s,baz=6.3,slow=2.4,SNR=3.7

ISCJB ***16*** *12:45:56.8±0.3,31°.85N±0°.03×104°.49E±0°.05,h10km, mb4.2/18, MS3.4/4, Error ellipse: s-maj=5.6km s-min=4.6km az=8.7*
IDC ***16*** *12:45:57.2±0.6,31°.68N×104°.40E,h0km,mb4.0/13, mb1 4.1/15,mb1mx3.8/55,mbtmp4.0/15,ML4.1/2,MS3.5/4, Ms1 3.5/4,ms1mx2.9/37, Error ellipse: s-maj=27.4km s-min=13.4km az=61.0*
BJI ***16*** *12:45:58.9,31°.89N×104°.32E,h10km,mb4.3/3,ML4.3/17, Ms3.8/11,Ms7 3.6/11*
NEIC ***16*** *12:46:02.0±0.3,31°.75N×104°.40E,h35km,mb4.3/10, Error ellipse: s-maj=8.1km s-min=5.4km az=64.0*
ISC 16 12:45:59.1±0.5, 31°.76N±0°.04×104°.43E±0°.04, h10km, n49, σ1s63/57, mb4.2/18, MS3.2/4, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
CD2	**Chengdu**	**1.02**	**214**	⇑Pn	**Pg**	**12 46 16.4**	**-2.3**
CD2				Pn	**Pn**	**12 46 20.8**	**+1.3**
CD2				Sg	**Sn**	**12 46 36.3**	**+2.4**
CD2				smax	smax		
	comp=N,10μm,0.6s						
CD2				smax	smax		
	comp=E,15μm,0.7s						
CD2	**Chengdu**	**1.02**	**214**	Pn	**Pn**	**12 46 20.8**	**+1.3**
CD2				Sg	**Sn**	**12 46 36.3**	**+2.4**
CD2				smax	smax		
	comp=E,10μm,0.6s						
CD2				smax	smax		
	comp=E,15μm,0.7s						
LZH	**Lanzhou**	**4.35**	**354**	*e*Pg	**Pb**	**12 47 16.4**	**+0.8**
LZH				Sg	**Sb**	**12 48 13.1**	**+4.9**
LZH				smax	smax		
	comp=E,550nm,0.7s						
LZH				smax	smax		
	comp=E,600nm,0.6s						
LZH				LR	LR		
	comp=E,1μm,7.0s						
LZH				LR	LR		
	comp=E,1μm,8.7s						
XAN	**Xi'an**	**4.41**	**58**	Pn	**Pn**	**12 47 05.6**	**-0.5**
XAN				Pg	**Pb**	**12 47 17.8**	**+1.1**
XAN				Sn	**Sn**	**12 47 58.0**	**+0.4**
XAN				Sg	**Sb**	**12 48 12.8**	**+2.9**
XAN				smax	smax		
	comp=E,840nm,0.8s						
XAN				smax	smax		
	comp=E,630nm,0.7s						
XAN	**Xi'an**	**4.41**	**58**	*e*Pn	**Pn**	**12 47 05.7**	**-0.5**
XAN				*e*Sn	**Sn**	**12 47 57.1**	**-0.5**
ENH	**Enshi**	**4.59**	**108**	*e*Pn	**Pn**	**12 47 09.3**	**+0.7**
ENH				*e*Sn	**Sn**	**12 48 02.0**	**+0.1**
GYA	**Guiyang**	**5.63**	**159**	Pn	**Pn**	**12 47 24.9**	**+1.9**
GYA				Sn	**Sn**	**12 48 30.5**	**+2.7**
GYA				Sg	**Sg**	**12 49 02.0**	**+2.1**
GYA				smax	smax		
	comp=E,170nm,0.8s						
GYA				smax	smax		
	comp=E,270nm,0.9s						
GYA				LR	LR		
	comp=E,260nm,8.6s						
GYA				LR	LR		
	comp=E,340nm,6.5s						
GYA				LR	LR		
	comp=E,370nm,6.1s						
WHN	**Wuhan**	**8.59**	**96**	⇓P	Pn	12 48 12.6	+9.2
WHN				LR	LR		
	comp=E,800nm,5.3s						
WHN				LR	LR		
	comp=E,540nm,12.1s						
HHC	**Hu-ho-hao-te**	**10.74**	**30**	*e*P	**Pn**	**12 48 32.0**	**-1.0**
HHC				sP		12 48 39.6	
HHC				S	**Sn**	**12 50 29.6**	**-3.8**
HHC				SS	**SnSn**	**12 50 48.1**	**+2.7**
HHC				pmax	pmax		
	comp=E,9.0nm,0.7s						
HHC				LR	LR		
	comp=E,260nm,5.3s						
HHC				LR	LR		
	comp=E,280nm,10.3s						
CM31	**Chiang Mai Arr**	**14.14**	**202**	*e*P	**P**	**12 49 24.6**	**-2.5**
CMAR	**Chiang Mai Arr**	**14.14**	**202**	Pn	**Pn**	**12 49 19.4**	**-0.1**
	comp=E,0.6nm,0.3s,baz=13,slow=10,SNR=4.3						
CM01	**Chiang Mai Arr**	**14.17**	**202**	*e*P	**P**	**12 49 25.8**	**-1.7**
SONA0	**Songino Array**	**16.13**	**5**	*e*Pn	**Pn**	**12 49 47.4**	**+1.5**
SONM	**Songino Array**	**16.13**	**5**	Pn	**Pn**	**12 49 47.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=184,slow=16,SNR=3.2						
WMQ	**Urumqi**	**17.85**	**317**	*e*P	**P**	**12 50 07.8**	**-0.4**
WMQ				sP	sP	12 50 13.8	+0.9
WMQ				LR	LR		
	comp=E,290nm,22.5s						
WMQ				LR	LR		
	comp=E,180nm,20.5s						
WMQ				LR	LR		
	comp=E,120nm,20.5s						
TLY	**Talaya**	**19.92**	**359**	*e*P	**P**	**12 50 30.4**	**-0.4**
	comp=E,5.0nm,1.3s						
KS15	**Wonju Array Si**	**20.10**	**67**	*e*P	**P**	**12 50 33.6**	**+0.7**
	comp=E,12nm,1.3s						
KSAR	**Wonju Array Be**	**20.10**	**67**	P	**P**	**12 50 31.9**	**-1.0**
KSRS	**Korea Array**	**20.13**	**67**	P	**P**	**12 50 31.9**	**-1.4**
	comp=E,0.8nm,0.7s,baz=260,slow=9.0,SNR=4.7						
MK31	**Makanchi Array**	**22.68**	**318**	*e*P	**P**	**12 50 58.0**	**-2.6**
	comp=E,11nm,1.6s						
MKAR	**Makanchi Array**	**22.68**	**318**	LR	LR	13 00 41.1	
	comp=E,105nm,18.2s,baz=109,slow=39						
AAK	**Ala-Archa**	**26.07**	**303**	LR	LR	13 03 39.7	
	comp=E,41nm,21.3s,baz=84,slow=41						
ZAA0	**Zalesovo Array**	**26.26**	**333**	*e*P	**P**	**12 51 33.3**	**-1.0**
	comp=E,3.2nm,0.6s						
ZALV	**Zalesovo Beam**	**26.26**	**333**	P	**P**	**12 51 33.7**	**-0.6**
	comp=E,0.6nm,0.4s,baz=136,slow=10.0,SNR=3.1						
ZAA1	**Zalesovo Array**	**26.26**	**333**	*e*P	**P**	**12 51 33.7**	**-0.7**
KURBB	**Kurchatov Arra**	**26.89**	**322**	P	**P**	**12 51 39.5**	**-0.5**
	comp=E,0.9nm,0.6s,baz=104,slow=7.9,SNR=4.3						
KLR	**Kul'dur**	**26.92**	**42**	LR	LR	13 02 21.1	
	comp=E,49nm,21.8s,baz=192,slow=36						
JHJ	**Hachijo jima 2**	**29.79**	**78**	LR	LR	13 05 31.1	
	comp=E,560nm,20.3s,baz=25,slow=39						
GEYT	**Alibeck**	**38.20**	**292**	P	**P**	**12 53 20.2**	**+1.2**
	comp=E,1.6nm,0.6s,baz=64,slow=8.2,SNR=2.8						
BATI	**Baumata**	**45.61**	**153**	P	**P**	**12 54 19.1**	**-0.6**
	comp=E,9.2nm,0.4s,baz=37,slow=4.9,SNR=4.4						
FITZ	**Fitzroy Crossi**	**53.59**	**155**	*e*P	**P**	**12 55 19.0**	**-1.4**
	comp=E,1nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.59**	**155**	P	**P**	**12 55 18.5**	**-1.9**
	comp=E,3.6nm,0.7s,baz=333,slow=3.8,SNR=8.6						
FIA1	**FINESS Array S**	**57.18**	**326**	*e*P	**P**	**12 55 44.6**	**-1.3**
	comp=E,12nm,1.3s						
FIA0	**FINESS Array S**	**57.18**	**326**	*e*P	**P**	**12 55 44.5**	**-1.3**
FINES	**FINESS Array B**	**57.18**	**326**	P	**P**	**12 55 44.5**	**-1.3**
	comp=E,0.6nm,0.5s,baz=90,slow=7.6,SNR=5.2						
WRAB	**Tennant Creek**	**58.86**	**147**	*e*P	**P**	**12 55 58.1**	**0.0**
	comp=E,8.6nm,0.6s						
WR1	**Warramunga Arr**	**58.86**	**147**	*e*P	**P**	**12 55 57.8**	**-0.4**
	comp=E,12nm,0.6s						
WRA	**Warramunga Arr**	**58.86**	**147**	P	**P**	**12 55 57.8**	**-0.4**
	comp=E,5.5nm,0.7s,baz=340,slow=7.8,SNR=108						
WB2	**Warramunga Arr**	**58.87**	**147**	*e*P	**P**	**12 55 57.3**	**-0.9**
AS31	**Alice Springs**	**61.91**	**149**	*e*P	**P**	**12 56 18.1**	**-0.9**
	comp=E,0.9nm,0.6s						
ASAR	**Alice Springs**	**61.91**	**149**	P	**P**	**12 56 17.8**	**-1.2**
	comp=E,2.2nm,0.6s,baz=334,slow=6.6,SNR=45						
AS01	**Alice Springs**	**61.92**	**149**	*e*P	**P**	**12 56 19.0**	**-0.1**
NB200	**NORSAR Array S**	**64.26**	**327**	*e*P	**P**	**12 56 33.1**	**-1.1**
NOA	**NORSAR Array B**	**64.26**	**327**	P	**P**	**12 56 33.1**	**-1.1**
	comp=E,1.1nm,0.9s,baz=79,slow=9.5,SNR=2.5						
ILAR	**Eielson Array**	**69.13**	**26**	P	**P**	**12 57 06.2**	**+1.0**
	comp=E,0.5nm,0.9s,baz=294,slow=5.6,SNR=4.6						
STKA	**Stephens Creek**	**72.41**	**147**	*e*P	**P**	**12 57 24.6**	**-0.8**
	comp=E,4.1nm,1.5s						
STKA	**Stephens Creek**	**72.41**	**147**	P	**P**	**12 57 25.4**	**-0.1**
	comp=E,1.6nm,0.6s,baz=342,slow=6.7,SNR=2.9						
YKB5	**Yellowknife Ar**	**80.99**	**17**	*e*P	**P**	**12 58 12.9**	**-0.7**
YKA	**Yellowknife Ar**	**80.99**	**17**	P	**P**	**12 58 15.5**	**+1.9**
	comp=E,0.5nm,0.6s,baz=330,slow=5.3,SNR=10						

SJA ***16*** *12:57:13.9±0.6,24°.13S×66°.95W,h200km±7km, ML2.1, MW2.5*
ISCJB ***16*** *12:57:15.0±1.2,24°.02S±0°.06×66°.96W±0°.08, h184km±16km, Error ellipse: s-maj=14.5km s-min=6.5km az=145.4*
GUC ***16*** *12:57:16.2±0.6,23°.88S×67°.41W,h231km±7km, ML3.6*
ISC 16 12:57:12.4±2.7, 24°.06S±0°.07×66°.91W±0°.09, h216km±25km, n22, σ1s47/38, 8C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
FSA	**Cafayete**	**2.21**	**158**	*e*P	**Pn**	**12 57 55.1**	**+0.7**
FSA				IAML		12 58 05.2	
	comp=Z,6.5nm,0.8s						
FSA				*e*S	**S**	**12 58 25.4**	**-1.7**
LVC	**Limon Verde**	**2.33**	**308**	*e*P	**Pn**	**12 57 57.4**	**+1.4**
LVC	**Limon Verde**	**2.33**	**308**	*e*P	**Pn**	**12 57 57.4**	**+1.4**
LVC				*e*S	**S**	**12 58 29.1**	**-0.5**
PB15	**IPOC Station P**	**2.50**	**289**	*e*P	**Pn**	**12 57 58.9**	**+1.4**
PB15				*e*S	**S**	**12 58 31.7**	**-0.6**
PB15	**IPOC Station P**	**2.50**	**289**	⇑*i*P	**Pn**	**12 57 58.9**	**+1.4**
PB15				*i* S	**S**	**12 58 31.9**	**-0.5**
GO02	**Mina Guanaco**	**2.67**	**245**	⇑*i*P	**Pn**	**12 58 00.7**	**+1.2**
GO02				*i* S	**S**	**12 58 35.9**	**-0.1**
PB06	**IPOC Station P**	**2.79**	**298**	*e*P	**Pn**	**12 58 02.2**	**+1.5**
PB06				*e*S	**S**	**12 58 37.4**	**-0.7**
PB06	**IPOC Station P**	**2.79**	**298**	⇑*i*P	**Pn**	**12 58 02.0**	**+1.3**
PB06				*i* S	**S**	**12 58 36.8**	**-1.3**
PB06				IAML		12 58 40.2	
	comp=N,113nm,0.3s						
PB09	**IPOC Station P**	**3.11**	**316**	*e*P	**Pn**	**12 58 06.3**	**+2.0**
PB09	**IPOC Station P**	**3.11**	**316**	*e*P	**Pn**	**12 58 06.4**	**+2.0**
PB09				*i* S	**S**	**12 58 44.4**	**-0.4**
PB09				IAML		12 58 46.0	
	comp=N,62nm,0.7s						
PB14	**IPOC Station P**	**3.23**	**259**	*e*P	**Pn**	**12 58 06.9**	**+0.9**
PB05	**IPOC Station P**	**3.25**	**291**	*e*P	**Pn**	**12 58 07.3**	**+1.3**
PB05	**IPOC Station P**	**3.25**	**291**	⇑*i*P	**Pn**	**12 58 07.0**	**+1.0**
PB05				*i* S	**S**	**12 58 45.5**	**-2.1**
PB05				IAML		12 58 49.8	
	comp=E,54nm,0.3s						
PB03	**IPOC Station P**	**3.29**	**307**	*e*P	**Pn**	**12 58 07.8**	**+1.3**
PB03				*e*S	**S**	**12 58 47.9**	**-0.6**
PB03	**IPOC Station P**	**3.29**	**307**	⇑*i*P	**Pn**	**12 58 07.5**	**+1.0**
PB03				*i* S	**S**	**12 58 46.7**	**-1.8**
PB03				IAML		12 58 51.7	
	comp=E,78nm,0.2s						
PB10	**IPOC Station P**	**3.38**	**278**	*e*P	**Pn**	**12 58 08.5**	**+1.2**
PB10	**IPOC Station P**	**3.38**	**278**	⇑*i*P	**Pn**	**12 58 08.6**	**+1.2**
PB10				*e*S	**S**	**12 58 47.9**	**-2.2**
PB10				IAML		12 58 54.8	
	comp=E,42nm,0.7s						
PB04	**IPOC Station P**	**3.44**	**299**	*e*P	**Pn**	**12 58 09.5**	**+1.3**
PB04	**IPOC Station P**	**3.44**	**299**	*e*P	**Pn**	**12 58 09.4**	**+1.3**
PB04				*i* S	**S**	**12 58 49.8**	**-1.8**
PB04				IAML		12 58 57.0	
	comp=N,88nm,0.5s						
PB07	**IPOC Station P**	**3.59**	**310**	⇑*i*P	**Pn**	**12 58 11.1**	**+1.1**
PB07				*i* S	**S**	**12 58 53.0**	**-2.0**
PB07				IAML		12 58 55.5	
	comp=E,94nm,0.4s						
PB01	**IPOC Station P**	**3.83**	**321**	⇑*i*P	**Pn**	**12 58 13.6**	**+0.8**
PB01				*i* S	**S**	**12 58 58.2**	**-1.9**
PB02	**IPOC Station P**	**3.88**	**314**	*e*P	**Pn**	**12 58 14.3**	**+0.9**
PB02				*i* S	**S**	**12 58 58.6**	**-2.5**
PB02				IAML		12 59 04.2	
	comp=E,80nm,0.1s						

ISCJB ***16*** *12:57:50.1±0.5,17°.65N±0°.09×46°.56W±0°.10,h12km, mb4.1/19,MS3.4/6,Error ellipse: s-maj=14.8km s-min=11.7km az=44.0*
IDC ***16*** *12:57:50.2±1.0,17°.65N×46°.52W,h0km,mb3.8/9, mb1 4.1/9,mb1mx3.7/49,mbtmp3.8/9,MS3.4/8,Ms1 3.4/8, ms1mx3.1/33,Error ellipse: s-maj=28.8km s-min=21.8km az=75.0*
NEIC ***16*** *12:57:51.5±0.3,17°.63N×46°.56W,h10km,mb4.5/11,Error ellipse: s-maj=9.3km s-min=7.2km az=42.0*
ISC 16 12:57:52.0±0.8, 17°.6N±0°.1×46°.5W±0°.2, h12km, n39, σ0s52/26, mb4.3/19, MS3.4/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
MDP	**Montagnes des**	**13.80**	**206**	LR	LR	13 05 10.5	
	comp=Z,82nm,22.0s,baz=296,slow=32						
H05S1	**Guadeloupe/Mar**	**14.10**	**259**	T	T	13 15 14.2	
	SNR=21						
SJG	**San Juan**	**18.67**	**274**	LR	LR	13 07 58.3	
	comp=Z,95nm,18.6s,baz=94,slow=32						
PTGA	**Pitinga**	**22.52**	**217**	LR	LR	13 10 40.2	
	comp=Z,99nm,18.0s,baz=30,slow=34						
ROSC	**El Rosal**	**30.00**	**248**	LR	LR	13 17 14.4	
	comp=Z,40nm,18.9s,baz=58,slow=39						
SIV	**San Ignacio**

TXAR				LR	LR	13 30 29.6		
	comp=Z,42nm,20.3s,baz=0.0,slow=37							
Q24A	**Divide**	**54.85**	**306**	*eP*	**P**	**13 07 21.3**	**-1.4**
	6.9nm,0.9s							
BW06	**Boulder Array**	**58.52**	**310**	*eP*	**P**	**13 07 48.2**	**-0.4**
	3.7nm,1.2s							
PD31	**Pinedale Array**	**58.52**	**310**	*eP*	**P**	**13 07 47.9**	**-0.7**
	3.3nm,1.2s							
PDAR	**Pinedale Array**	**58.52**	**310**	*eP*	**P**	**13 07 48.2**	**-0.4**
PDAR	**Pinedale Array**	**58.52**	**310**	P	**P**	**13 07 48.0**	**-0.7**
	1.2nm,1.0s,baz=79,slow=7.7,SNR=7.5							
TUC	**Tucson**	**59.27**	**297**	*eP*	**P**	**13 07 53.5**	**-0.3**
	3.9nm,1.3s							
NOA	**NORSAR Array B**	**59.30**	**29**	LR	LR	13 29 29.3		
	comp=Z,20nm,18.4s,baz=75,slow=32							
IMW	**Indian Meadow**	**59.61**	**311**	*eP*	**P**	**13 07 56.1**	**-0.2**
	3.9nm,1.1s							
WUAZ	**Wupatki**	**59.67**	**301**	*eP*	**P**	**13 07 56.8**	**+0.2**
	7.4nm,1.4s							
YMR	**Madison River**	**59.69**	**312**	*eP*	**P**	**13 07 57.1**	**+0.4**
	7.0nm,1.4s							
MSU	**Marysvale**	**60.31**	**305**	*eP*	**P**	**13 08 01.4**	**+0.3**
BGU	**Big Grassy Mou**	**61.01**	**307**	*eP*	**P**	**13 08 05.6**	**-0.2**
	3.1nm,1.0s							
ELK	**Elko**	**62.68**	**307**	*eP*	**P**	**13 08 16.9**	**-0.2**
	3.0nm,1.0s							
NEW	**Newport**	**64.17**	**316**	*eP*	**P**	**13 08 26.4**	**-0.2**
	3.7nm,1.1s							
YKA	**Yellowknife Ar**	**64.41**	**331**	P	**P**	**13 08 27.6**	**-0.2**
	0.4nm,0.8s,baz=94,slow=7.7,SNR=4.5							
NVAR	**Mina Array Bea**	**65.12**	**305**	P	**P**	**13 08 33.6**	**+0.5**
	0.2nm,0.6s,baz=90,slow=5.0,SNR=3.5							
KBZ	**Khabaz**	**77.64**	**48**	LR	LR	13 41 49.1		
	comp=Z,35nm,21.3s,baz=130,slow=34							
IL1	**Eielson Array**	**78.55**	**335**	*eP*	**P**	**13 09 52.7**	**-0.3**
ILAR	**Eielson Array**	**78.55**	**335**	P	**P**	**13 09 53.9**	**+0.8**
	0.3nm,1.0s,baz=77,slow=3.8,SNR=4.2							

DDA ***16*** *12:58:42.9,39.22N×34.36E,7km±3km,ML2.8*
ISK ***16*** *12:58:42.5,39.17N×34.40E,6km,ML2.6/5*

ISC 16 12:58:43.0±1.1,39.19N±0.04×34.39E±0.03,h10km±13km, n16,σ0.949/20,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KIRS	**Kırehir-Merke**	**0.37**	**262**	*i* P		**Pb**	**12 58 50.9**	**-0.8**
KIRS				*i* S		**Sg**	**12 58 55.5**	**+0.3**
CDAG	**Cicekdag**	**0.44**	**359**	*i* P		**Pg**	**12 58 51.0**	**-0.5**
CDAG				*i* S		**Sg**	**12 58 57.7**	**+0.4**
YAYX	**Yaylak**	**0.51**	**241**	PG		**Pg**	**12 58 53.1**	**+0.1**
YAYX				SG		**Sg**	**12 58 59.9**	**+0.2**
AVNS	**Nevsehir-Avano**	**0.52**	**136**	*i* P		**Pb**	**12 58 54.1**	**-0.3**
AVNS				*i* S		**Sb**	**12 59 02.3**	**+0.3**
SIRC	**Yozgat**	**0.61**	**76**	*i* P		**Pb**	**12 58 55.4**	**-0.5**
SIRC				IAML_P				
	comp=Z,2μm,0.1s							
SERE	**Sereflikochisa**	**0.68**	**250**	PG		**Pg**	**12 58 56.4**	**+0.2**
SERE				SG		**Sb**	**12 59 05.8**	**-0.9**
YOZ	**Yozgat**	**0.85**	**58**	PG		**Pg**	**12 58 59.0**	**-0.4**
DELI	**KIRIKKALE**	**0.89**	**336**	*i* P		**Pg**	**12 58 59.8**	**-0.2**
DELI				IAML_P				
	comp=Z,693nm,0.2s							
AFSR	**Afar-Bala (An**	**1.05**	**285**	PG		**Pb**	**12 59 03.2**	**-0.2**
KKUL	**Konya-Kulu**	**1.14**	**270**	*i* P		**Pn**	**12 59 05.7**	**+0.5**
KKUL				IAML_P				
	comp=Z,277nm,0.1s							
SULT	**Sultanhani-AKS**	**1.20**	**215**	PN		**Pg**	**12 59 05.7**	**-0.3**
CHBY	**Cihanbeyli**	**1.31**	**243**	PN		**Pg**	**12 59 08.3**	**+0.1**
YAHY	**KAYSERİ_Yahyal**	**1.33**	**145**	*i* P		Pg	12 59 15.7	+7.1
LOD	**Lodumlu**	**1.44**	**300**	PN		**Pg**	**12 59 10.9**	**+0.3**
CUSAR	**Sarkisla-SIVAS**	**1.46**	**80**	*i* P		**Pg**	**12 59 11.4**	**+0.5**
ELDT	**Eldivan**	**1.50**	**331**	*i* P		**Pg**	**12 59 12.5**	**+0.8**
ELDT				IAML_P				
	comp=Z,1μm,0.2s							

ISCJB ***16*** *13:32:47.6±0.6,67.63N±0.05×142.5E±0.2,h10km, mb3.4/4,Error ellipse: s-maj=8.3km s-min=6.8km az=173.8*
IDC ***16*** *13:32:48.5±1.4,67.90N×142.42E,h0km,mb3.5/4, mb1 3.7/6,mb1mx3.4/35,mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=32.1km s-min=19.3km az=17.0*
YARS ***16*** *13:32:48.8±0.4,67.62N±0.02×142.70E±0.06,h14km±7km*

ISC 16 13:32:48.2±0.8,67.60N±0.05×142.63E±0.05,h10km,n11, σ1.921/16,mb3.4/4,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.16**	**168**	*i* P		**Pn**	**13 33 09.6**	**-0.8**
MOMR				Pmax			13 33 09.6	
	comp=Z,208nm,0.4s							
MOMR				*e*S		**Sn**	**13 33 25.6**	**-0.7**
MOMR				Smax			13 33 25.6	
	comp=E,560nm,0.3s							
YBGR	**Belaya Gora**	**1.64**	**53**	*i* P		**Pn**	**13 33 16.7**	**-0.3**
YBGR				Pmax			13 33 16.7	
	comp=Z,199nm,0.2s							
YBGR				*e*S		**Sb**	**13 33 39.9**	**+0.8**
YBGR				Smax			13 33 39.9	
	comp=N,584nm,0.2s							
DEPR	**Deputatskiy**	**2.07**	**332**	*e*P		**Pn**	**13 33 23.8**	**+0.9**
DEPR				*e*P		**Pb**	**13 33 25.3**	**-0.5**
DEPR				Pmax			13 33 25.3	
	comp=Z,12nm,0.2s							
DEPR				*e*S		**Sb**	**13 33 52.8**	**+1.4**
DEPR				Smax			13 33 52.8	
	comp=E,247nm,0.3s							
BTGS	**Batagay**	**3.06**	**275**	*e*P		**Pn**	**13 33 37.2**	**+0.7**
BTGS				*e*P		**Pb**	**13 33 43.7**	**+1.1**
BTGS				Pmax			13 33 43.7	
	comp=Z,17nm,0.5s							
BTGS				*e*S		**Sg**	**13 34 24.8**	**-1.4**
BTGS				Smax			13 34 24.8	
	comp=E,197nm,0.4s							
SEY	**Seymchan**	**6.21**	**134**	Pn		Pn	13 34 26.1	+6.2
	comp=E,0.3nm,0.3s,baz=281,slow=12,SNR=6.4							
SEY				Lg		Lg	13 36 01.4	
	comp=E,0.9nm,0.3s,baz=211,slow=17,SNR=6.7							
TIXI	**Tiksi**	**6.29**	**317**	Pn		**Pn**	**13 34 20.0**	**-0.8**
	comp=E,1.3nm,0.3s,baz=128,slow=18,SNR=22							
TIXI				Sn		**Sn**	**13 35 29.6**	**-3.0**
	comp=E,3.6nm,0.3s,baz=16,slow=13,SNR=8.9							
TIXI				Lg		Lg	13 35 59.1	
	comp=E,2.5nm,0.3s,baz=44,slow=21,SNR=6.7							
MA2	**Magadan**	**8.82**	**152**	Lg		Lg	13 37 26.6	
	comp=E,0.5nm,0.3s,baz=234,slow=17,SNR=6.4							
ILAR	**Eielson Array**	**27.21**	**62**	P		**P**	**13 38 32.5**	**+0.8**
	comp=E,0.5nm,0.8s,baz=301,slow=7.8,SNR=5.8							
MKAR	**Makanchi Array**	**36.73**	**267**	P		**P**	**13 39 55.8**	**+0.6**
	comp=E,0.7nm,0.7s,baz=44,slow=6.8,SNR=8.5							
YKA	**Yellowknife Ar**	**38.86**	**46**	P		**P**	**13 40 12.9**	**0.0**
	comp=E,0.1nm,0.3s,baz=318,slow=10.0,SNR=5.3							
FINES	**FINESS Array B**	**43.31**	**321**	P		**P**	**13 40 49.5**	**0.0**
	comp=E,1.9nm,0.9s,baz=44,slow=11,SNR=3.4							

MEX 16 13:47:35.3±0.8,16.11N×98.21W,h5km±8km,MD3.6,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.29**	**16**	*i* P		Pg	13 47 39.9	-1.1
PNIG				*i* S		Sg	13 47 45.4	+0.4
TLIG	**Tlapa**	**1.49**	**347**	*i* P		Pn	13 47 59.9	-3.0
TLIG				*i* S		Sn	13 48 17.5	-5.2
VHO	**Vista Hermosa**	**1.71**	**56**	*i* P		Pn	13 48 02.1	-3.8
VHO				*i* S		Sn	13 48 22.9	-5.4
HUIG	**Huatulco**	**2.05**	**99**	*i* P		Pn	13 48 06.5	-3.9
HUIG				*i* S		Sn	13 48 31.8	-4.6

SOME ***16*** *13:53:17.1,40.05N×77.50E,h10km*
KRNET ***16*** *13:53:18.1±0.1,40.19N×77.48E,h18km,mb2.7*
NNC ***16*** *13:53:22.0±1.7,40.28N×77.29E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=12.0km s-min=9.5km az=176.0*

ISC 16 13:53:17.7±3.3,40.0N±0.1×77.47E±0.05,h2km±24km,n37, σ1.943/60,14C-13D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.71**	**8**	⇓*i*P		**Pn**	**13 53 47.4**	**-1.6**
	baz=9.0							
TARG				⇓*i*S		**Sn**	**13 54 08.6**	**-3.1**
NRN	**Naryn**	**1.79**	**322**	⇑*e*P		**Pn**	**13 53 49.1**	**-0.9**
	baz=17							
NRN				⇑*i*S		**Sn**	**13 54 11.9**	**-1.6**
	baz=17							
KDJ	**Kajisay**	**2.11**	**354**	⇓*i*P		**Pn**	**13 53 54.2**	**0.0**
	baz=54							
KDJ				⇓*i*S		**Sn**	**13 54 20.5**	**-0.6**
	baz=54							
ULHL	**Ulahol**	**2.40**	**338**	⇑*i*P		**Pn**	**13 53 58.4**	**+0.2**
	baz=36							
ULHL				⇑*i*S		**Sn**	**13 54 28.0**	**-0.3**
	baz=36							
PRZ	**Przheval'sk**	**2.55**	**16**	⇑*i*P		**Pn**	**13 54 00.4**	**+0.1**
	baz=17							
PRZ				⇑*i*S		**Sn**	**13 54 30.7**	**-1.3**
	baz=17							
KZA	**Kyzart**	**2.65**	**321**	⇑*e*P		**Pn**	**13 54 02.4**	**+0.6**
	baz=19							
KZA				⇑*i*S		**Sn**	**13 54 34.9**	**+0.2**
	baz=19							
BOOM	**Boomskoye usch**	**2.71**	**335**	⇓*i*P		**Pn**	**13 54 02.7**	**+0.2**
	baz=34							
BOOM				⇓*i*S		**Sn**	**13 54 35.5**	**-0.6**
	baz=34							
TNSS	**Tian-Shan**	**3.03**	**353**	Pg		**Pb**	**13 54 11.6**	**-1.0**
	24nm,0.6s							
TNSS				Lg		Lg	13 54 51.3	
	8.2nm,0.4s							
TNSS	**Tian-Shan**	**3.03**	**353**	*e*P		**Pb**	**13 54 11.6**	**-1.0**
	24nm,0.5s							
TNSS				*e*S		**Sb**	**13 54 50.6**	**+0.4**
	6.4nm,0.4s							
IZV	**Izvestkoviy**	**3.07**	**348**	Pg		**Pb**	**13 54 12.5**	**-0.7**
	92nm,0.2s							
IZV				Lg		Lg	13 54 52.6	
	16nm,0.6s							
IZV	**Izvestkoviy**	**3.07**	**348**	*e*P		**Pb**	**13 54 12.5**	**-0.7**
	92nm,0.2s							
IZV				*e*S		**Sb**	**13 54 52.6**	**+1.4**
	16nm,0.6s							
SATY	**Saty**	**3.10**	**13**	Pg		**Pb**	**13 54 13.3**	**-0.4**
	7.5nm,0.4s							
SATY				Lg		Lg	13 54 53.9	
	9.7nm,0.4s							
SATY	**Saty**	**3.10**	**13**	*e*P		**Pb**	**13 54 13.3**	**-0.4**
	7.5nm,0.4s							
SATY				*e*S		**Sb**	**13 54 53.9**	**+1.7**
	9.7nm,0.4s							
UCH	**Uchtor**	**3.13**	**315**	⇑*i*P		**Pn**	**13 54 09.1**	**+0.6**
	baz=13							
UCH				⇑*i*S		**Sn**	**13 54 46.7**	**0.0**
	baz=13							
MDOK	**Medeo**	**3.14**	**354**	Pn		**Pb**	**13 54 11.8**	**-2.6**
	5.0nm,0.5s							
MDOK				⇓Lg		Lg	13 54 53.6	
	8.6nm,0.5s							
MDOK	**Medeo**	**3.14**	**354**	Pg		**Pb**	**13 54 13.0**	**-1.4**
	6.0nm,1.2s							
MDOK				Lg		Lg	13 54 53.6	
	10nm,1.2s							
MDOK	**Medeo**	**3.14**	**354**	*e*P		**Pb**	**13 54 13.0**	**-1.4**
	6.0nm,1.2s							
MDOK				*e*S		**Sb**	**13 54 53.6**	**+0.3**
	10nm,1.2s							
KOTS	**Kotyrbulak**	**3.21**	**355**	Pg		**Pb**	**13 54 15.2**	**-0.4**
	9.3nm,0.4s							
KOTS				Lg		Lg	13 54 56.5	
	11nm,0.5s							
KOTS	**Kotyrbulak**	**3.21**	**355**	*e*P		**Pb**	**13 54 15.2**	**-0.4**
	9.3nm,0.4s							
KOTS				*e*S		**Sb**	**13 54 56.5**	**+1.3**
	11nm,0.5s							
TKM2	**Tokmak 2**	**3.21**	**335**	⇓Pg		**Pb**	**13 54 14.8**	**-0.8**
	2.2nm,0.6s							
TKM2				⇓Lg		Lg	13 54 56.7	
	5.6nm,0.9s							
TKM2	**Tokmak 2**	**3.21**	**335**	⇓*i*P		**Pn**	**13 54 09.7**	**+0.3**
	baz=33							
TKM2				⇓*i*S		**Sn**	**13 54 47.5**	**-0.9**
	baz=33							
KST	**Kastek**	**3.21**	**340**	Pg		**Pb**	**13 54 14.9**	**-0.7**
	4.0nm,0.5s							
KST				Lg		Lg	13 54 56.3	
	5.4nm,0.5s							
KST	**Kastek**	**3.21**	**340**	⇓*i*P		**Pb**	**13 54 14.9**	**-0.7**
	4.0nm,0.5s							
KST				*e*S		**Sb**	**13 54 56.2**	**+1.0**
	5.4nm,0.5s							
UZB	**Uzynbulak**	**3.32**	**20**	Pg		**Pb**	**13 54 13.4**	**+2.5**
	1.6nm,0.2s							
UZB				Lg		Lg	13 54 54.3	
	2.8nm,0.4s							
UZB	**Uzynbulak**	**3.32**	**20**	*e*P		**Pn**	**13 54 13.4**	**+2.5**
	1.6nm,0.2s							
UZB				*e*S		**Sb**	**13 54 54.3**	**-4.1**
	2.8nm,0.4s							
AAK	**Ala-Archa**	**3.43**	**320**	Pg		**Pb**	**13 54 19.1**	**-0.2**
	2.9nm,0.7s							
AAK				Lg		Lg	13 55 03.1	
	4.5nm,0.8s							
PDGK	**Podgornoye**	**3.62**	**24**	Pg		**Pb**	**13 54 19.8**	**-2.8**
	1.0nm,0.5s							
PDGK				Lg		Lg	13 55 05.2	
	2.9nm,0.4s							
PDGK	**Podgornoye**	**3.62**	**24**	⇓Pn		**Pn**	**13 54 17.6**	**+2.6**
	1.6nm,0.5s							
PDGK				⇑Sn		**Sn**	**13 55 00.3**	**+1.8**
	5.2nm,0.7s							
PDGK				⇑Lg		Lg	13 55 10.7	
	4.7nm,0.5s							
PDGK	**Podgornoye**	**3.62**	**24**	⇑*i*P		**Pn**	**13 54 15.6**	**+0.6**
	baz=25							
PDGK				⇑*i*S		**Sn**	**13 54 57.2**	**-1.3**
	baz=25							
KTBS	**Karatobe**	**3.72**	**351**	Pg		**Pb**	**13 54 23.5**	**-0.8**
	1.5nm,0.2s							
KTBS				Lg		Lg	13 55 11.7	
	7.1nm,0.3s							
KTBS	**Karatobe**	**3.72**	**351**	*e*P		**Pb**	**13 54 23.5**	**-0.8**
	1.5nm,0.2s							
KTBS				*e*S		**Sb**	**13 55 11.7**	**+1.8**
	7.1nm,0.3s							
CHKK	**Chushkaly**	**3.84**	**355**	Pg		**Pb**	**13 54 26.2**	**0.0**
	2.4nm,0.4s							
CHKK				Lg		Lg	13 55 15.4	
	15nm,0.3s							
CHKK	**Chushkaly**	**3.84**	**355**	*e*P		**Pb**	**13 54 25.7**	**-0.4**
	2.4nm,0.4s							
CHKK				*e*S		**Sb**	**13 55 15.1**	**+2.1**
	15nm,0.5s							
KTMS	**Ketmen**	**4.04**	**31**	*e*P		**Pb**	**13 54 29.1**	**-0.5**
	0.9nm,0.2s							
KTMS				*e*S		**Sb**	**13 55 20.7**	**+1.8**
	3.0nm,0.4s							
MNBS	**Baschi**	**4.10**	**9**	Pg		**Pb**	**13 54 30.8**	**0.0**
	1.2nm,0.5s							
MNBS				Lg		Lg	13 55 23.4	
	3.4nm,0.2s							
MNBS	**Baschi**	**4.10**	**9**	*e*P		**Pb**	**13 54 30.4**	**-0.3**
	1.2nm,0.5s							
MNBS				*e*S		**Sb**	**13 55 23.4**	**+2.6**
	3.4nm,0.2s							
MRKS	**Merke**	**4.19**	**312**	*e*P		**Pb**	**13 54 31.4**	**-0.8**
	1.3nm,0.4s							
MRKS				*e*S		**Sb**	**13 55 24.5**	**+1.3**
	2.3nm,0.7s							

ISCJB ***16*** *14:09:04.5±0.7,20.78S±0.1×169.59E±0.08,h72km, mb3.9/8,Error ellipse: s-maj=16.0km s-min=10.9km az=172.2*
IDC ***16*** *14:09:06.3±0.8,20.78S×169.55E,h72km±5km,mb3.8/8, mb1 4.0/9,mb1mx3.8/25,mbtmp4.2/9,MS3.5/4,Ms1 3.5/4, ms1mx3.0/23,Error ellipse: s-maj=19.6km s-min=12.1km az=151.0*

ISC 16 14:09:05.9±0.8,20.8S±0.1×169.6E±0.1,h72km,n18, σ0.979/21,mb3.9/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.22**	**245**	P		**Pn**	**14 09 54.7**	**+0.4**
	168nm,0.3s,baz=94,slow=7.6,SNR=4483							
DZM				S		**Sn**	**14 10 30.5**	**-1.1**
	224nm,0.3s,baz=73,slow=19,SNR=15							
URZ	**Urewera**	**18.61**	**161**	P		Pn	**14 13 19.2**	**+0.6**
	1.2nm,0.3s,baz=310,slow=4.1,SNR=8.7							
URZ				LR		LR	14 19 39.3	
	comp=Z,101nm,20.1s,baz=326,slow=34							
CTA	**Charters Tower**	**21.89**	**268**	P		**P**	**14 13 54.6**	**+1.4**
	3.3nm,0.8s,baz=88,slow=12,SNR=4.1							
RPZ	**Rata Peaks**	**22.93**	**177**	LR		LR	14 21 15.5	
	comp=Z,120nm,19.8s,baz=102,slow=32							
STKA	**Stephens Creek**	**27.36**	**240**	P		**P**	**14 14 44.8**	**+0.4**
	3.0nm,0.6s,baz=82,slow=13,SNR=5.3							
WRA	**Warramunga Arr**	**33.04**	**265**	P		**P**	**14 15 34.2**	**-0.5**
	1.9nm,0.9s,baz=102,slow=8.8,SNR=25							
WRA				pP		**pP**	**14 15 50.5**	**-0.5**
	0.8nm,0.8s,baz=94,slow=8.4,SNR=3.2							
ASAR	**Alice Springs**	**33.13**	**258**	P		**P**	**14 15 35.4**	**-0.1**
	6.3nm,0.7s,baz=82,slow=9.2,SNR=56							
ASAR				LR		LR	14 28 27.1	
	comp=Z,88nm,18.7s,baz=96,slow=35							
MJAR	**Matsushiro Arr**	**64.25**	**332**	P		**P**	**14 19 32.4**	**-1.1**
	1.3nm,0.7s,baz=225,slow=32,SNR=4.6							
QSPA	**South Pole Qui**	**69.31**	**180**	P		**P**	**14 20 05.3**	**-0.2**
	3.2nm,0.7s,baz=18,slow=1.2,SNR=19							
QSPA				pP		**pP**	**14 20 24.1**	**+0.2**
	1.4nm,0.8s,baz=335,slow=4.1,SNR=2.5							
PETK	**Petropavlovsk-**	**74.27**	**353**	LR		LR	14 48 08.7	
	comp=Z,26nm,21.0s,baz=88,slow=32							
CMAR	**Chiang Mai Arr**	**79.44**	**294**	P		**P**	**14 21 06.2**	**+1.3**
	0.2nm,0.4s,baz=141,slow=5.8,SNR=3.9							
CMAR				pP		**pwP**	**14 21 26.0**	**-0.1**
	0.5nm,0.5s,baz=126,slow=4.6,SNR=2.6							
SNAA	**Sanae**	**87.67**	**182**	P		**P**	**14 21 45.9**	**-0.3**
VNA3	**Neumayer Olymp**	**88.25**	**180**	P		**P**	**14 21 48.1**	**-0.9**
VNA2	**Neumayer--Watz**	**88.54**	**181**	P		**P**	**14 21 50.1**	**-0.2**
	baz=184,slow=3.9							
SONM	**Songino Array**	**88.63**	**323**	P		**P**	**14 21 51.4**	**+0.3**
	0.3nm,0.4s,baz=128,slow=2.4,SNR=3.6							
SONM				pP		**pP**	**14 22 10.7**	**+0.4**
	0.7nm,0.8s,baz=100,slow=5.0,SNR=4.3							
VNA1	**Neumayer--Stat**	**88.83**	**181**	P		**P**	**14 21 50.4**	**-1.2**
FINES	**FINESS Array B**	**132.11**	**337**	PKP		**PKPdf**	**14 28 09.9**	**-1.0**
	0.2nm,0.3s,baz=66,slow=1.7,SNR=4.5							
GERES	**GERESS Array B**	**145.98**	**331**	PKPbc		**PKPdf**	**14 28 37.0**	**+0.4**
	0.9nm,0.6s,baz=23,slow=3.2,SNR=7.0							
GERES				pPKPbc		pPKPbc	14 28 57.6	+0.3
	1.0nm,0.7s,baz=89,slow=4.0,SNR=6.4							

NNC ***16*** *14:10:28.4±5.2,36.43N×69.29E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=42.7km s-min=34.0km az=164.0*

ISC 16 14:10:27.5±3.5,36.1N±0.2×69.2E±0.1,h35km,n10, σ1.936/14,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.95**	**29**	P		**Pn**	**14 12 08.3**	**+1.2**
	SNR=15							
KK31	**Karatay Array**	**7.06**	**8**	⇑P		**Pn**	**14 12 10.4**	**+2.1**
	1.3nm,0.5s,baz=202,slow=16,SNR=50							
KK31				S		**Sn**	**14 13 28.2**	**+0.9**
	1.9nm,0.3s,baz=187,slow=20,SNR=7.2							
UCH	**Uchtor**	**7.37**	**32**	P		**Pn**	**14 12 13.9**	**+0.9**
	SNR=13							
EKS2	**Erkin-Say**	**7.44**	**27**	P		**Pn**	**14 12 15.3**	**+1.7**
	SNR=6.6							
KZA	**Kyzart**	**7.59**	**36**	P		**Pn**	**14 12 16.0**	**+0.1**
	SNR=8.1							
AAK	**Ala-Archa**	**7.70**	**30**	⇓P		**Pn**	**14 12 18.2**	**+1.0**
	2.9nm,0.3s							
AAK				⇑S		**Sn**	**14 13 44.1**	**+0.9**
	7.9nm,0.8s							
CHMS	**Chumysh**	**8.10**	**30**	P		**Pn**	**14 12 23.5**	**+0.9**
	SNR=5.4							
TKM2	**Tokmak 2**	**8.40**	**34**	P		**Pn**	**14 12 27.4**	**+0.4**
	SNR=7.7							
TKM2	**Tokmak 2**	**8.40**	**34**	⇓P		**Pn**	**14 12 26.6**	**-0.3**
	2.2nm,0.6s							
TKM2				⇓S		**Sn**	**14 13 58.7**	**-1.9**
	2.1nm,0.6s							
AB31	**Akbulak array**	**14.79**	**336**	⇑P		**Pn**	**14 13 53.3**	**-0.7**
	0.4nm,0.3s,baz=154,slow=13,SNR=31							
AB31				⇑S		**Sn**	**14 16 34.7**	**-1.8**
	0.5nm,0.6s,baz=155,slow=24,SNR=4.0							

IDC 16 14:56:29.9±2.0,8.80S×126.85E,h0km,mb3.1/1, mb1 3.4/5,mb1mx3.3/27,mbtmp3.2/5,ML3.2/4,Error ellipse: s-maj=36.2km s-min=29.1km az=68.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.44**	**246**	Pn		Pn	14 57 25.8	+0.9
	3.6nm,0.3s,baz=289,slow=4.2,SNR=6.0							
BATI				Sn		Sn	14 58 05.5	-0.9
	7.6nm,0.3s,baz=183,slow=23,SNR=7.7							
FITZ	**Fitzroy Crossi**	**9.32**	**187**	Pn		Pn	14 58 46.0	+0.4
	0.2nm,0.3s,baz=4.2,slow=9.1,SNR=13							
FITZ				Sn		Sn	15 00 21.9	-9.3
	0.6nm,0.3s,baz=357,slow=24,SNR=7.9							
WRA	**Warramunga Arr**	**13.24**	**148**	Pn		Pn	14 59 38.4	-1.0
	0.1nm,0.3s,baz=321,slow=14,SNR=17							
WRA				Sn		Sn	15 01 59.1	-8.4
	0.2nm,0.3s,baz=317,slow=23,SNR=6.8							
ASAR	**Alice Springs**	**16.26**	**156**	Pn		Pn	15 00 20.2	+0.3
	0.1nm,0.3s,baz=327,slow=12,SNR=11							
ASAR				Sn		Sn	15 03 11.3	-10
	0.1nm,0.3s,baz=318,slow=18,SNR=3.7							
MKAR	**Makanchi Array**	**68.07**	**329**	P		P	15 07 31.4	-0.1
	0.1nm,0.6s,baz=119,slow=6.0,SNR=3.3							

ISCJB ***16*** *15:19:45.8±0.4,40.06N±0.03×140.53E±0.04,h20km±5km, mb3.5/4,MS3.5/1,Error ellipse: s-maj=5.4km s-min=4.9km az=38.0*
IDC ***16*** *15:19:45.0±1.2,40.06N×140.53E,h0km,mb3.5/4, mb1 3.6/8,mb1mx3.3/71,mbtmp3.4/8,ML2.5/3,MS2.9/2, Ms1 2.9/2,ms1mx2.3

WRA	**Warramunga Arr**	**59.97**	**187**	P	**P**	**15 29 53.3**	**+0.5**
	0.4nm,0.8s,baz=4.9,slow=7.2,SNR=3.6						
KBZ	**Khabaz**	**68.43**	**309**	LR	LR	16 01 47.7	
	comp=Z,28nm,18.9s,baz=212,slow=37						

IDC ***16*** *15:43:48.6±1.6, 27.31N×129.34E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/46, mbtmp3.4/4, ML3.2/1, Error ellipse: s-maj=33.5km s-min=20.2km az=125.0*
ISCJB ***16*** *15:43:51.5±0.8, 27.24N±0.03×129.44E±0.04, h30km±6km, mb3.3/3, Error ellipse: s-maj=6.9km s-min=4.1km az=39.2*
JMA ***16*** *15:43:52.4±0.2, 27.25N×129.40E, h31km, M3.0*

ISC 16 15:43:51.2±0.8, 27.24N±0.04×129.40E±0.04, h21km±4km, n20, σ0.98/35, mb3.3/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.67**	**324**	P	**Pn**	**15 44 05.0**	**-0.4**
JTK				*eS*	**Sn**	**15 44 15.1**	**-0.2**
JOKE	**Okinoerabujima**	**0.74**	**279**	P	**Pn**	**15 44 06.5**	**0.0**
JOKE				*eS*	**Sn**	**15 44 15.8**	**-1.3**
JYRO	**Yoronjima**	**0.87**	**256**	P	**Pn**	**15 44 08.7**	**+0.5**
JYRO				S	**Sn**	**15 44 20.0**	**-0.2**
JAMN	**Amaminishikomi**	**1.01**	**349**	P	**Pn**	**15 44 10.3**	**+0.1**
JOW	**Kunigami**	**1.08**	**248**	P	**Pb**	**15 44 11.7**	**+0.5**
JOW				*eS*	**Sn**	**15 44 26.9**	**+1.5**
JOW	**Kunigami**	**1.08**	**248**	Pn	**Pb**	**15 44 11.8**	**+0.6**
	7.6nm,0.3s,baz=88,slow=20,SNR=72						
JOW				Sn	**Sn**	**15 44 26.0**	**+0.5**
	16nm,0.3s,baz=66,slow=19,SNR=14						
JAM	**Amami Oshima**	**1.18**	**9**	P	**Pb**	**15 44 12.7**	**-0.2**
JAM				*eS*	**Sn**	**15 44 27.9**	**+0.1**
JZK	**Kikaishima**	**1.18**	**25**	P	**Pb**	**15 44 13.7**	**+0.7**
JZK				S	**Sn**	**15 44 29.8**	**+1.8**
JIH	**Iheya**	**1.29**	**261**	P	**Pb**	**15 44 14.6**	**-0.2**
JIH				S	**Sb**	**15 44 32.2**	**+1.3**
JNTH	**Nagotoyohara**	**1.42**	**240**	P	**Pb**	**15 44 16.7**	**-0.4**
JNTH				*eS*	**Sb**	**15 44 34.3**	**-0.4**
JJT3	**Tamagusuku3**	**1.81**	**233**	P	**Pb**	**15 44 22.3**	**-1.4**
JJT3				*eS*	**Sb**	**15 44 45.1**	**-0.8**
JTAJ	**Takarajima**	**1.91**	**355**	P	**Pn**	**15 44 22.8**	**+0.3**
JTAJ				*eS*	**Sn**	**15 44 46.1**	**+0.2**
JAGN	**Aguni-jima**	**2.03**	**252**	P	**Pn**	**15 44 24.6**	**+0.5**
JMZ	**Minamidaito 2**	**2.17**	**131**	P	**Pn**	**15 44 26.4**	**+0.4**
JMZ				S	**Sn**	**15 44 50.9**	**-1.3**
JKE	**Kume jima 2**	**2.50**	**249**	P	**Pn**	**15 44 31.1**	**+0.4**
JKE				*eS*	**Sn**	**15 45 00.2**	**-0.4**
JYAK	**Yakushimahirau**	**3.14**	**18**	P	**Pn**	**15 44 39.8**	**+0.4**
JYAK				*eS*	**Sn**	**15 45 14.8**	**-1.4**
JNU	**Nakatsue**	**6.00**	**12**	Pn	**Pn**	**15 45 19.4**	**+0.7**
	0.7nm,0.3s,baz=198,slow=20,SNR=14						
JNU				Sn	**Sn**	**15 46 23.8**	**-3.0**
	0.2nm,0.3s,baz=114,slow=20,SNR=2.1						
MKAR	**Makanchi Array**	**41.65**	**311**	P	**P**	**15 51 36.9**	**-1.1**
	0.2nm,0.7s,baz=96,slow=9.2,SNR=3.2						
WRA	**Warramunga Arr**	**47.15**	**174**	P	**P**	**15 52 23.0**	**+0.8**
	0.2nm,0.7s,baz=353,slow=8.5,SNR=2.7						
FINES	**FINESS Array B**	**72.49**	**331**	P	**P**	**15 55 16.3**	**+0.3**
	0.9nm,0.6s,baz=64,slow=6.3,SNR=17						

IDC 16 15:47:46.5±11.0, 26.96S×66.78E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.5/46, mbtmp3.8/6, Error ellipse: s-maj=406.9km s-min=30.2km az=49.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**60.12**	**103**	P	P	15 57 56.0	-0.1
	0.4nm,0.7s,baz=252,slow=5.7,SNR=4.3						
WRA	**Warramunga Arr**	**61.74**	**99**	P	P	15 58 07.2	+0.1
	0.4nm,0.9s,baz=249,slow=6.2,SNR=4.8						
MKAR	**Makanchi Array**	**74.73**	**11**	P	P	15 59 27.4	-0.5
	0.4nm,0.7s,baz=194,slow=4.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**77.93**	**8**	P	P	15 59 46.4	+0.4
	0.3nm,0.4s,baz=209,slow=6.1,SNR=3.2						
BVAR	**Borovoye Array**	**79.70**	**2**	P	P	15 59 55.7	0.0
	0.3nm,0.5s,baz=231,slow=38,SNR=3.3						
ZALV	**Zalesovo Beam**	**82.07**	**11**	P	P	16 00 08.8	+0.5
	0.9nm,0.7s,baz=203,slow=6.0,SNR=4.7						

TAP 16 15:50:15.1, 23.15N×121.40E, h24km±1km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.06**	**212**	*e*P	Pb	15 50 19.7	+0.5
	baz=203						
CHKT				*e*S	Sb	15 50 22.9	+0.9
	baz=203						
CHKT	**Chengkung**	**0.06**	**212**	P	Pb	15 50 19.7	+0.5
	baz=148						
CHKT				*e*S	Sb	15 50 22.9	+0.9
	baz=148						
FULB	**Fuli**	**0.11**	**298**	*e*P	Pb	15 50 19.9	+0.2
	baz=299						
FULB				*e*S	Sb	15 50 23.8	+1.1
	baz=299						
FULB	**Fuli**	**0.11**	**298**	*e*P	Pb	15 50 19.9	+0.2
	baz=319						
FULB				*e*S	Sb	15 50 23.2	+0.5
	baz=319						
TWF1	**Yuli**	**0.22**	**336**	P	Pb	15 50 21.2	+0.3
	baz=324						
TWF1				S	Sb	15 50 26.3	+1.4
	baz=324						
TWF1	**Yuli**	**0.22**	**336**	*e*P	Pb	15 50 21.3	+0.4
	baz=351						
TWF1				*e*S	Sb	15 50 25.8	+0.9
	baz=351						
YULB	**Yu-li**	**0.26**	**339**	P	Pb	15 50 21.4	0.0
	baz=325						
YULB				S	Sb	15 50 26.0	+0.3
	baz=325						
YULB	**Yu-li**	**0.26**	**339**	*i* P	Pb	15 50 21.7	+0.2
	baz=350						
YULB				*e*S	Sb	15 50 26.4	+0.6
	baz=350						
HGSD	**Ruisui**	**0.34**	**4**	*e*P	Pb	15 50 23.1	+0.4
	baz=14						
ELDTW	**Lidau**	**0.35**	**277**	P	Pb	15 50 22.6	-0.2
	baz=276						
ELDTW				S	Sb	15 50 27.8	-0.4
	baz=276						
ELDTW	**Lidau**	**0.35**	**277**	P	Pb	15 50 22.7	-0.2
	baz=277						
ELDTW				S	Sb	15 50 27.7	-0.5
	baz=277						
EHY	**Hungye**	**0.36**	**349**	*e*P	Pb	15 50 23.4	+0.4
	baz=358						
VWDT	**VWDT**	**0.65**	**339**	*e*P	Pb	15 50 26.6	-1.2
	baz=346						

PGC 16 15:53:02.2±0.0, 60.58N×141.60W, h11km, ML2.7/11, 185km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKAV	**Rock Avalanche**	**0.31**	**155**	P	Pg	15 53 07.7	-0.7
RKAV				S	Sg	15 53 12.9	+0.2
CTGM	**Chitina Glacie**	**0.41**	**19**	P	Pg	15 53 10.0	-0.3
CTGM				S	Sg	15 53 16.1	+0.3
MESA	**MESA**	**0.44**	**203**	P	Pg	15 53 10.7	-0.1
MESA				S	Sb	15 53 17.8	-0.8
KIAG	**Kiagna River**	**0.51**	**313**	P	Pg	15 53 11.4	-0.7
KIAG				S	Sg	15 53 18.5	-0.3
BALM	**Baldy**	**0.58**	**322**	P	Pg	15 53 12.5	-1.1
BALM				S	Sg	15 53 20.8	-0.5
SAMH	**Samovar Hills**	**0.61**	**137**	P	Pg	15 53 13.3	-0.7
SAMH				S	Sb	15 53 23.2	-0.3
PTPK	**Patty Peak**	**0.74**	**326**	P	Pg	15 53 15.2	-1.3
PTPK				S	Sg	15 53 25.2	-1.1
YUK2	**White River**	**1.27**	**17**	P	Pn	15 53 24.7	-1.2
YUK2				S	Sb	15 53 41.9	-0.5
YUK3	**Moose Creek**	**1.32**	**24**	P	Pn	15 53 25.8	-1.0
YUK3				S	Sb	15 53 43.8	-0.2
PNL	**Peninsula**	**1.43**	**129**	Pn	Pn	15 53 25.1	-3.0
PNL				Sg	Sn	15 53 45.2	-1.7
YUK6	**Outpost Mounta**	**1.63**	**76**	Pn	Pn	15 53 30.8	-0.2
YUK6				Sg	Sn	15 53 52.0	-0.1
YUK4	**Talbot Arm**	**1.63**	**61**	Pn	Pb	15 53 32.7	+0.3
YUK4				Sg	Sg	15 53 56.4	+1.8
YUK7	**Dusty Glacier**	**1.71**	**90**	Pn	Pn	15 53 31.3	-0.8
YUK7				Sg	Sn	15 53 54.3	+0.4
BVCY	**Beaver Creek**	**1.88**	**11**	Pn	Pn	15 53 34.6	+0.5
BVCY				Sg	Sb	15 54 00.3	+0.5
YUK5	**Granite Creek**	**1.91**	**72**	Pn	Pn	15 53 34.9	+0.1
YUK5				Sg	Sb	15 53 60.0	-1.0
HYT	**Haines Junctio**	**2.03**	**81**	Pn	Pn	15 53 35.5	-0.8
HYT				Sg	Sn	15 54 01.6	-0.2
DIV	**Divide**	**2.11**	**287**	Pn	Pn	15 53 36.7	-0.7
DIV				Sn	Sn	15 54 02.9	-0.8
HARP	**HAARP**	**2.50**	**319**	Pn	Pn	15 53 42.5	-0.3
HARP				Sn	Sb	15 54 19.9	+2.1
PLBC	**Pleasant Camp**	**2.86**	**111**	Pn	Pn	15 53 46.5	-1.1
PLBC				Sn	Sn	15 54 20.8	-1.2
PAX	**Paxson**	**3.02**	**324**	Pn	Pn	15 53 50.0	+0.1
WHY	**Whitehorse**	**3.31**	**86**	Pn	Pn	15 53 52.6	-1.4
WHY				Sn	Sn	15 54 32.0	-1.4
DAWY	**Dawson**	**3.65**	**15**	Pn	Pn	15 53 58.7	+0.2
DAWY				Sg	Sg	15 54 55.2	-3.9
BESE	**Bessie Mountai**	**3.98**	**117**	Pn	Pn	15 54 00.9	-2.1

JMA 16 15:57:58.8±0.1, 36.92N×141.49E, h48km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.58**	**288**	P	Pn	15 58 10.9	-0.1
ONAJ				S	Sn	15 58 19.2	-0.6
JFK	**Kawauchi**	**0.66**	**312**	P	Pn	15 58 11.8	-0.2
JFK				S	Sn	15 58 21.1	-0.5
JFFD	**Fukushimafurud**	**0.76**	**283**	P	Pn	15 58 13.3	0.0
JFFD				S	Sn	15 58 23.4	-0.5
JHO	**Hitachi**	**0.80**	**248**	P	Pn	15 58 13.8	0.0
JHO				S	Sn	15 58 24.5	-0.2
JHYU	**Hitachinakayam**	**0.93**	**232**	P	Pn	15 58 15.4	-0.1
JHYU				S	Sn	15 58 28.0	+0.3
JMM	**Marumori**	**1.09**	**330**	P	Pn	15 58 18.0	+0.2
JMM				S	Sn	15 58 31.4	-0.4
JFT	**Otama**	**1.10**	**303**	P	Pn	15 58 19.2	+1.4
JFT				S	Sn	15 58 33.4	+1.5
MAT	**Matsushiro**	**2.66**	**263**	P	Pn	15 58 42.2	+3.0
MAT				S	Sn	15 59 17.2	+6.9

IDC ***16*** *16:17:15.9±0.8, 34.16S×73.80W, h0km, mb4.0/8, mb1 4.1/12, mb1mx4.0/29, mbtmp4.0/12, ML3.9/4, MS3.1/4, Ms1 3.1/4, ms1mx3.0/33, Error ellipse: s-maj=31.2km s-min=17.0km az=80.0*
ISCJB ***16*** *16:17:18.0±1.6, 34.16S±0.03×73.65W±0.04, h28km±12km, mb4.1/9, MS3.2/2, Error ellipse: s-maj=6.3km s-min=5.2km az=25.5*
GUC ***16*** *16:17:20.1±0.6, 34.24S×73.54W, h33km±3km, ML4.2*
NEIC ***16*** *16:17:20.0±0.0, 34.24S×73.54W, h33km, mb4.4/3, ML4.2(GUC), After GUC.*

ISC 16 16:17:20.5±3.9, 34.17S±0.04×73.62W±0.08, h32km±28km, n39, σ1.917/50, mb4.2/9, 2C-3D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**1.36**	**100**	⇓*i* P	**Pn**	**16 17 43.2**	**-0.1**
CHPI				*i* S	**Sn**	**16 17 59.8**	**-0.4**
GO05	**Huala**	**1.63**	**122**	*e*Pn	**Pn**	**16 17 45.8**	**-1.3**
GO05				*e*Sn	**Sn**	**16 18 05.1**	**-1.9**
GO05	**Huala**	**1.63**	**122**	⇑*i* P	**Pn**	**16 17 45.8**	**-1.3**
GO05				*i* S	**Sn**	**16 18 05.0**	**-1.9**
GO05				IAML		16 18 07.0	
	comp=N,3μm,0.5s						
ROC1	**El Roble**	**2.48**	**62**	*e*Pn	**Pn**	**16 17 57.8**	**-1.1**
ROC1				*e*Sn	**Sn**	**16 18 27.5**	**-0.8**
ROCH	**El Roble**	**2.48**	**62**	*e*P	**Pn**	**16 17 57.8**	**-1.2**
ROCH				*i* S	**Sn**	**16 18 27.6**	**-0.7**
ROCH				IAML		16 18 35.8	
	comp=N,832nm,0.5s						
ANTU	**Antumapu**	**2.56**	**77**	*e*P	**Pn**	**16 17 59.7**	**-0.1**
ANTU				*i* S	**Sn**	**16 18 29.7**	**-0.2**
ANTU				IAML		16 18 31.6	
	comp=N,2μm,0.5s						
PEL	**Peldehue**	**2.65**	**68**	*e*Pn	**Pn**	**16 18 00.7**	**-0.4**
PEL				*e*Sn	**Sn**	**16 18 33.1**	**+0.8**
PEL	**Peldehue**	**2.65**	**68**	⇓*i* P	**Pn**	**16 18 01.1**	**0.0**
PEL				*i* S	**Sn**	**16 18 33.1**	**+0.8**
PEL				IAML		16 18 35.0	
	comp=N,2μm,0.5s						
CLCH	**Cerro Calan**	**2.68**	**74**	*e*P	**Pn**	**16 18 01.0**	**-0.6**
CLCH				*i* S	**Sn**	**16 18 33.0**	**-0.1**
CLCH				IAML		16 18 35.8	
	comp=N,2μm,0.5s						
CCHI	**Chillan**	**2.74**	**153**	*e*P	**Pn**	**16 18 01.4**	**-0.9**
CCHI				*i* S	**Sn**	**16 18 32.5**	**-1.8**
CCHI				IAML		16 18 35.9	
	comp=N,2μm,0.3s						
LMEL	**Las Melosas**	**2.86**	**85**	*e*P	**Pn**	**16 18 03.9**	**-0.2**
LMEL				*e*S	**Sn**	**16 18 36.6**	**-0.9**
LMEL				IAML		16 18 40.1	
	comp=N,1μm,0.1s						
FCH	**Farellones**	**2.90**	**74**	⇓*i* P	**Pn**	**16 18 04.6**	**-0.2**
FCH				*e*S	**Sn**	**16 18 38.9**	**+0.2**
FCH				IAML		16 18 41.3	
	comp=N,1μm,0.5s						
CMCH	**Combarbala**	**3.71**	**37**	⇑*i* P	**Pn**	**16 18 13.9**	**-1.9**
CMCH				*e*S	**Sn**	**16 18 56.6**	**-1.9**
GO04	**Tololo Observa**	**4.65**	**32**	*e*Pn	**Pn**	**16 18 26.8**	**-2.0**
GO06	**Curarrehue**	**5.67**	**163**	*e*Pn	**Pn**	**16 18 42.0**	**-0.7**
LCO	**Las Campanas**	**5.71**	**27**	*e*Pn	**Pn**	**16 18 40.7**	**-2.7**
PLCA	**Paso Flores**	**6.99**	**160**	Pn	**Pn**	**16 19 00.5**	**-0.3**
	comp=N,1.0nm,0.3s,baz=355,slow=11,SNR=25						
PLCA				Sn	**Sn**	**16 20 21.9**	**+2.6**
	comp=N,0.1nm,0.3s,baz=288,slow=20,SNR=1.5						
LVC	**Limon Verde**	**12.24**	**21**	Pn	**Pn**	**16 20 13.7**	**+0.7**
	comp=N,0.2nm,0.3s,baz=210,slow=8.1,SNR=2.8						
LVC				LR	LR	16 24 35.3	
	comp=N,46nm,20.4s,baz=186,slow=36						
CPUP	**Villa Florida**	**16.09**	**65**	Pn	**Pn**	**16 21 05.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=217,slow=5.1,SNR=2.8						
CPUP				LR	LR	16 27 45.9	
	comp=N,68nm,19.7s,baz=228,slow=39						
LPAZ	**La Paz**	**18.48**	**17**	*e*P	**Pn**	**16 21 36.7**	**+1.9**
	comp=N,4.1nm,0.8s						
LPAZ	**La Paz**	**18.48**	**17**	P	**Pn**	**16 21 36.1**	**+1.3**
	comp=N,0.2nm,0.3s,baz=194,slow=8.3,SNR=9.1						
USHA	**Ushuaia**	**20.98**	**172**	P	Pn	16 22 02.3	-1.3
	comp=N,9.1nm,0.9s,baz=344,slow=7.2,SNR=4.9						
SIV	**San Ignacio**	**21.34**	**35**	P	**P**	**16 22 04.7**	**-0.4**
	comp=N,1.3nm,0.5s,baz=236,slow=11,SNR=11						
ATAH	**Atahualpa**	**27.26**	**350**	LR	LR	16 31 29.4	
	comp=N,40nm,19.6s,baz=190,slow=31						
BDFB	**Brasilia**	**29.52**	**58**	LR	LR	16 36 00.9	
	comp=N,85nm,19.4s,baz=266,slow=38						
SNAA	**Sanae**	**51.93**	**158**	P	**P**	**16 26 26.3**	**+0.3**
	comp=N,3.6nm,0.8s,baz=284,slow=7.6,SNR=7.1						
QSPA	**South Pole Qui**	**56.07**	**180**	*e*P	**P**	**16 26 57.7**	**+1.3**
	comp=N,5.2nm,0.8s						
TXAR	**Lajitas Array**	**69.25**	**332**	P	**P**	**16 28 24.9**	**+0.4**
	comp=N,0.9nm,0.7s,baz=148,slow=8.6,SNR=12						
WVT	**Waverly**	**71.18**	**348**	*e*P	**P**	**16 28 35.4**	**-0.6**
	comp=N,8.7nm,1.1s						
NVAR	**Mina Array Bea**	**83.28**	**326**	P	**P**	**16 29 43.8**	**-0.4**
	comp=N,0.7nm,0.8s,baz=144,slow=6.7,SNR=4.7						
PDAR	**Pinedale Array**	**83.33**	**334**	P	**P**	**16 29 44.0**	**-0.3**
	comp=N,0.3nm,0.7s,baz=134,slow=3.9,SNR=4.2						
TOA0	**Toroidi Ar. Sit**	**85.50**	**71**	*e*P	**P**	**16 29 54.0**	**-1.7**
TORD	**Toroidi Ar. Bea**	**85.50**	**71**	P	**P**	**16 29 55.9**	**+0.2**
	comp=N,2.1nm,1.1s,baz=263,slow=3.9,SNR=7.2						
ULM	**Lac du Bonnet**	**86.33**	**346**	P	**P**	**16 29 58.1**	**-0.8**
	comp=N,0.7nm,0.5s,baz=192,slow=5.3,SNR=3.4						
YKA	**Yellowknife Ar**	**101.80**	**342**	P	**Pdif**	**16 31 09.5**	**-0.3**
	comp=N,0.1nm,0.4s,baz=149,slow=3.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**155.06**	**31**	PKPbc	PKPdf	16 37 19.0	+9.3
	comp=N,0.7nm,0.5s,baz=313,slow=6.7,SNR=3.4						
ZALV				PKPab	**PKPab**	**16 37 35.3**	**+1.1**
	comp=N,0.5nm,0.4s,baz=339,slow=3.7,SNR=2.8						
MKAR	**Makanchi Array**	**157.86**	**48**	PKPab	**PKPab**	**16 37 47.5**	**+0.8**
	comp=N,1.1nm,0.7s,baz=289,slow=3.6,SNR=9.8						
MK01	**Makanchi Array**	**157.88**	**48**	*e*PKPab	**PKPab**	**16 37 47.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**163.00**	**155**	PKP	**PKPdf**	**16 37 20.2**	**0.0**
	comp=N,0.2nm,0.3s,baz=242,slow=3.9,SNR=4.1						

IDC 16 16:18:27.9±3.9, 12.56N×142.73E, h186km±55km, mb3.3/4, mb1 3.5/5, mb1mx3.1/37, mbtmp3.8/5, Error ellipse: s-maj=82.8km s-min=17.6km az=90.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.32**	**64**	P	Pn	16 19 09.1	+0.1
	16nm,0.3s,baz=42,slow=3.2,SNR=16						
GUMO				S	Sn	16 19 41.2	+0.3
	16nm,0.3s,baz=162,slow=20,SNR=4.6						
WRA	**Warramunga Arr**	**33.33**	**194**	P	P	16 24 48.4	-0.1
	1.0nm,0.5s,baz=13,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**37.02**	**194**	P	P	16 25 19.9	-0.1
	0.6nm,0.4s,baz=22,slow=11,SNR=22						
MKAR	**Makanchi Array**	**60.80**	**317**	P	P	16 28 20.8	+0.4
	0.2nm,0.8s,baz=108,slow=8.2,SNR=2.6						
FINES	**FINESS Array B**	**91.20**	**335**	P	P	16 31 11.1	-0.7
	1.1nm,0.9s,baz=79,slow=7.4,SNR=3.1						

IDC 16 16:22:58.8±6.4, 7.61S×148.01E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/26, mbtmp3.3/3, ML2.8/1, Error ellipse: s-maj=110.3km s-min=69.1km az=160.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.05**	**226**	P	Pn	16 27 10.6	-0.6
	0.0nm,0.3s,baz=53,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**20.93**	**219**	P	P	16 27 42.6	-0.7
	0.4nm,0.7s,baz=51,slow=9.5,SNR=6.7						
STKA	**Stephens Creek**	**24.87**	**193**	P	P	16 28 24.1	+0.8
	1.6nm,0.7s,baz=5.5,slow=9.5,SNR=2.9						

KRSC 16 16:26:34.5±10.0, 60.17N×163.33E, h25km±10km, ML3.8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.94**	**189**	*e*P	Pb	16 27 00.2	-0.2
OSSR				*e*S	Sn	16 27 04.3	-0.2
TILK	**Tilichiki**	**1.43**	**78**	*e*P	Pb	16 27 00.3	0.0
TILK				*e*S	Sb	16 27 18.2	+0.1
KMSK	**Kamenskaya**	**2.69**	**30**	P	Pn	16 27 18.8	+2.7

IDC ***16*** *16:30:21.9±1.4, 6.92S×148.51E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.8/28, mbtmp3.9/8, ML3.9/1, Error ellipse: s-maj=45.3km s-min=12.9km az=122.0*
ISCJB ***16*** *16:30:27.2±1.2, 7.05S±0.1×148.4E±0.2, h47km, mb3.9/7, Error ellipse: s-maj=34.4km s-min=16.7km az=22.8*

ISC 16 16:30:28.3±1.4, 6.95S±0.2×148.6E±0.3, h47km, n9, σ1.920/11, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.93**	**225**	P	**P**	**16 34 44.5**	**-1.1**
	0.4nm,0.3s,baz=50,slow=11,SNR=21						
WRA				S	**Sn**	**16 38 18.8**	**+0.9**
	baz=50,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**21.82**	**219**	P	**P**	**16 35 16.2**	**-0.6**
	3.8nm,0.6s,baz=52,slow=9.9,SNR=93						
ASAR				S	**S**	**16 39 17.2**	**+1.5**
	0.5nm,0.8s,baz=32,slow=21,SNR=3.7						
BATI	**Baumata**	**24.83**	**261**	P	**P**	**16 35 44.5**	**-2.0**
	4.9nm,0.5s,baz=107,slow=17,SNR=2.3						
FITZ	**Fitzroy Crossi**	**24.95**	**241**	P	**P**	**16 35 46.6**	**-1.0**
	11nm,0.8s,baz=57,slow=5.5,SNR=19						
STKA	**Stephens Creek**	**25.68**	**194**	P	**P**	**16 35 54.2**	**+0.2**
	1.7nm,0.7s,baz=25,slow=18,SNR=3.2						
SONM	**Songino Array**	**65.95**	**330**	P	**P**	**16 41 10.7**	**+1.0**
	0.3nm,0.5s,baz=130,slow=6.3,SNR=3.3						
MKAR	**Makanchi Array**	**79.18**	**320**	P	**P**	**16 42 29.2**	**+0.8**
	0.3nm,0.8s,baz=127,slow=5.5,SNR=2.4						
ILAR	**Eielson Array**	**85.70**	**23**	P	**P**	**16 43 01.6**	**-0.3**
	0.3nm,0.7s,baz=280,slow=5.4,SNR=3.7						
TORD	**Toroidi Ar. Bea**	**146.81**	**283**	PKPbc	**PKPbc**	**16 50 06.2**	**-0.2**
	1.4nm,0.8s,baz=23,slow=3.3,SNR=8.2						

KRSC 16 16:35:06.9±10.0, 55.59N×165.87E, h37km±10km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.40**	**171**	*e*P	Pn	16 35 17.1	+1.3
BKI				*e*S	Sn	16 35 23.3	+0.8
KBTR	**Krutoberegovo**	**1.82**	**291**	*e*P	Pn	16 35 37.0	+1.3
KBTR				*e*S	Sn	16 35 59.4	+1.9
KBG	**Krutoberegovo**	**1.90**	**292**	*e*S	Sn	16 36 01.9	+2.6
MKZ	**Mys Kozlova**	**2.60**	**248**	*e*P	Pn	16 35 49.4	+3.2
MKZ				S	Sn	16 36 20.7	+4.2
SMKR	**Semkarok**	**2.66**	**294**	*e*P	Pn	16 35 50.5	+3.3
BDR	**Baidarnaya**	**2.79**	**292**	*e*P	Pn	16 35 53.0	+4.0
SRKR	**Sorokina**	**2.84**	**294**	*e*P	Pn	16 35 52.9	+3.3
TUMD	**Tumrok D**	**3.15**	**265**	*e*P	Pn	16 35 58.2	+4.4
KZV	**Kizimen**	**3.22**	**264**	*e*P	Pn	16 35 58.6	+3.6
TUMR	**Tumrok**	**3.28**	**267**	*e*P	Pn	16 36 00.9	+5.2
KII	**Karymskiy**	**4.03**	**250**	*e*P	Pn	16 36 10.2	+4.2
SDLR	**Sedlovina**	**4.69**	**243**	*e*P	Pn	16 36 19.4	+4.2
SMAR	**Somma**	**4.74**	**243**	*e*P	Pn	16 36 20.2	+4.3
KRER	**Koryakskii**	**4.75**	**244**	*e*P	Pn	16 36 20.

HNR Honiara 10.39 108 P **Pn** **16 42 09.3 +0.9**
6.4nm,0.3s,baz=270,slow=4.0,SNR=7.8
GENI Genyem 10.41 290 P **Pn** **16 42 06.5 -2.2**
194nm,1.1s,3µm
MTSU Mount Surprise 13.04 204 P **Pn** **16 42 45.4 +0.8**
baz=13,SNR=117
CTA Charters Tower 14.23 194 P **Pn** **16 43 02.0 +1.3**
0.4nm,0.3s,baz=32,slow=13,SNR=12
CTA LR LR 16 48 32.7
comp=Z,5µm,19.1s,baz=5.5,slow=37
CTAO Charters Tower 14.23 194 *e*Pn **Pn** **16 43 01.6 +1.0**
CTAO Charters Tower 14.23 194 *e*P **Pn** **16 43 01.6 +1.0**
QIS Mount Isa 17.42 214 P **Pn** **16 43 40.8 -0.5**
baz=18,SNR=110
FAKI Fak Fak 17.95 280 P **P** **16 43 46.1 -1.8**
KDU Kakadu 18.39 248 P **P** **16 43 51.3 -1.4**
baz=18,SNR=16
SAUI Saumlaki 18.59 264 P **P** **16 43 54.3 -0.6**
255nm,0.9s,3µm
EIDS Eidsvold 19.05 177 P **Pn** **16 44 02.0 +0.9**
baz=19,SNR=37
EIDS Eidsvold 19.05 177 *e*P **Pn** **16 44 01.1 0.0**
85nm,0.8s
SIJI Sorong 19.39 285 P **P** **16 44 04.1 +0.4**
2.2nm,0.3s,baz=77,slow=8.8,SNR=15
MTN Manton Dam 19.68 249 P **P** **16 44 07.1 +0.3**
baz=20,SNR=46
MTN Manton Dam 19.68 249 *e*P **P** **16 44 07.2 +0.4**
143nm,0.8s
RMQ Roma 20.16 183 P Pn 16 44 14.2 -0.1
baz=20,SNR=313
GUMO Guam 20.34 346 *e*P **P** **16 44 10.1 -3.8**
724nm,1.3s
GUMO Guam 20.34 346 *e*P **P** **16 44 10.1 -3.8**
GUMO pmax pmax 16 49 05.8
comp=Z,724nm,1.3s
GUMO Guam 20.34 346 P **P** **16 44 12.7 -1.2**
comp=Z,310nm,1.0s,baz=182,slow=14,SNR=6.2
GUMO LR LR 16 51 14.9
comp=Z,3µm,20.8s,baz=157,slow=34
WRAB Tennant Creek 20.37 227 *e*P **P** **16 44 14.6 +0.3**
comp=Z,254nm,0.9s
WRAB Tennant Creek 20.37 227 *d i*P **P** **16 44 14.6 +0.3**
WRAB pmax pmax 16 49 05.8
comp=Z,226nm,0.8s
WB2 Warramunga Arr 20.38 227 *e*P **P** **16 44 13.6 -0.7**
WR1 Warramunga Arr 20.39 227 *e*P **P** **16 44 14.2 -0.3**
comp=Z,224nm,1.0s
WR1 *e*PcP **PcP** **16 48 26.2 +0.6**
WRA Warramunga Arr 20.39 227 *i*P **P** **16 44 13.0 -1.5**
WRA pmax pmax 16 49 05.8
comp=Z,181nm,0.7s
WRA Warramunga Arr 20.39 227 P **P** **16 44 14.2 -0.3**
comp=Z,181nm,0.7s,baz=53,slow=11,SNR=228
WRA S **S** **16 47 54.7 -5.3**
comp=Z,8.6nm,0.9s,baz=49,slow=24,SNR=3.9
WRA PcP **PcP** **16 48 26.2 +0.6**
comp=Z,7.6nm,0.9s,baz=48,slow=1.7,SNR=4.6
WRA ScP **ScP** **16 51 59.3 +1.7**
comp=Z,5.6nm,1.0s,baz=42,slow=2.6,SNR=4.7
WRA LR LR 16 52 56.4
comp=Z,6µm,19.2s,baz=55,slow=39
PALU Palau 20.51 311 P **P** **16 44 14.9 -0.9**
baz=20,SNR=6.1
DZM Mont Dzumac 22.39 136 *e*P **P** **16 44 36.9 +0.8**
comp=Z,85nm,0.8s
DZM *e*LQ LQ 16 49 05.8
comp=Z,7µm,26.3s
DZM *e*LR LR 16 50 04.4
comp=Z,11µm,22.9s
DZM Mont Dzumac 22.39 136 *e*P **P** **16 44 36.9 +0.8**
comp=Z,82nm,1.0s
DZM Mont Dzumac 22.39 136 P **P** **16 44 36.8 +0.7**
comp=Z,56nm,0.8s,baz=311,slow=19,SNR=46
KNRA Kununurra 22.80 244 P **P** **16 44 39.6 -0.7**
baz=23,SNR=50
NLAI Namlea 22.97 276 P **P** **16 44 41.4 -0.7**
MARNC Mare, Loyalty 23.14 133 *e*P **P** **16 44 43.4 -0.3**
comp=Z,163nm,0.9s
AS01 Alice Springs 23.18 220 *e*P **P** **16 44 43.9 -0.2**
AS31 Alice Springs 23.20 220 *e*P **P** **16 44 44.8 +0.4**
comp=Z,28nm,0.8s
ASAR Alice Springs 23.21 220 P **P** **16 44 44.3 -0.1**
comp=Z,19nm,0.6s,baz=53,slow=8.0,SNR=140
ASAR PcP **PcP** **16 48 31.7 +0.5**
comp=Z,5.8nm,0.8s,baz=55,slow=3.5,SNR=4.5
ASAR S **S** **16 48 51.3 -0.9**
comp=Z,1.8nm,0.8s,baz=45,slow=24,SNR=2.1
ASAR ScP **ScP** **16 52 08.0 +3.3**
comp=Z,6.2nm,1.0s,baz=50,slow=3.4,SNR=7.8
ASAR LR LR 16 54 12.4
comp=Z,4µm,19.8s,baz=16,slow=37
PINNC Pines Island, 23.45 136 *e*P **P** **16 44 48.4 +1.8**
comp=Z,50nm,0.8s
ARMA Armidale 24.10 176 P **P** **16 44 54.1 +1.4**
baz=24,SNR=15
ARMA Armidale 24.10 176 *e*P **P** **16 44 54.3 +1.6**
comp=Z,86nm,0.9s
TARA Tarawa 24.14 73 *e*P **P** **16 44 51.1 -2.0**
comp=Z,16nm,0.9s
SANI Sanana 24.26 279 P **P** **16 44 53.8 -0.4**
CMSA Cobar Meteorol 25.48 188 P **P** **16 45 05.6 +0.5**
baz=26,SNR=34
SOEI Soe 25.67 261 *e*P **P** **16 45 08.5 +1.3**
comp=Z,157nm,0.9s
SOEI Soe 25.67 261 P **P** **16 45 06.8 -0.4**
BATI Baumata 26.31 260 P **P** **16 45 12.6 -0.3**
BATI Baumata 26.31 260 P **P** **16 45 13.2 +0.3**
comp=Z,97nm,0.6s,baz=156,slow=2.2,SNR=26
BATI LR LR 16 58 06.7
comp=Z,5µm,20.1s,baz=104,slow=42
FITZ Fitzroy Crossi 26.49 241 P **P** **16 45 14.3 -0.1**
baz=26,SNR=114
FITZ Fitzroy Crossi 26.49 241 *e*P **P** **16 45 14.7 +0.3**
comp=Z,220nm,0.9s
FITZ Fitzroy Crossi 26.49 241 P **P** **16 45 14.3 -0.1**
comp=Z,73nm,0.7s,baz=60,slow=7.4,SNR=150
FITZ LR LR 16 57 07.7
comp=Z,4µm,18.1s,baz=40,slow=39
STKA Stephens Creek 26.68 196 P **P** **16 45 18.0 +2.1**
baz=27,SNR=36
STKA Stephens Creek 26.68 196 *e*P **P** **16 45 17.9 +2.0**
comp=Z,12nm,0.9s
STKA Stephens Creek 26.68 196 *e*P **P** **16 45 17.9 +2.0**
STKA pmax pmax 16 49 05.8
comp=Z,12nm,0.9s
STKA Stephens Creek 26.68 196 P **P** **16 45 17.6 +1.7**
comp=Z,48nm,0.9s,baz=3.1,slow=11,SNR=44
STKA LR LR 16 56 37.5
comp=Z,5µm,19.4s,baz=56,slow=38
MGCD Mangrove Creek 26.86 178 P **P** **16 45 19.8 +2.3**
baz=27
BBSI Bau Bau 27.25 270 P **P** **16 45 21.0 -0.3**
MMRI Maumere 27.58 263 *e*P **P** **16 45 22.3 -2.0**
comp=Z,172nm,0.8s
MMRI Maumere 27.58 263 P **P** **16 45 22.0 -2.3**
comp=Z,236nm,1.0s,comp=Z,2µm
LUWI Luwuk 27.61 280 P **P** **16 45 22.3 -2.2**
DAV Davao City (W) 27.68 298 LR LR 16 56 16.1
comp=Z,574nm,18.5s,baz=125,slow=36
WRKA Warakurna 27.92 226 P **P** **16 45 27.3 +0.1**
baz=28,SNR=124
KCP Kidapawan 28.09 298⇓ *e*P P 16 45 42.8 +14
EDFI Ende, Flores 28.13 263 P **P** **16 45 26.9 -2.4**
comp=Z,78nm,0.9s,comp=Z,864nm
APSI Ampana 28.73 280 P **P** **16 45 34.2 -0.3**
HTT Hallett 28.93 199 P **P** **16 45 38.1 +2.0**
baz=29,SNR=9.7
BASI Baing, Sumba 29.33 260 P **P** **16 45 39.7 -0.2**
BBOO Buckleboo 29.43 204 P **P** **16 45 44.2 +3.7**
baz=30,SNR=9.9
WSI Waingapu 29.56 261 P **P** **16 45 42.0 +0.1**
comp=Z,505nm,1.0s,comp=Z,5µm
MSVF Nonsavu 29.71 115 *e*P **P** **16 45 45.5 +2.2**
comp=Z,111nm,0.8s
MSVF Nonsavu 29.71 115⇓ *i*P **P** **16 45 45.4 +2.2**
MSVF pmax pmax 16 49 05.8
comp=Z,32nm,0.9s
BNSI Bone 29.77 272 P **P** **16 45 41.7 -2.1**
comp=Z,12nm,0.9s
ARPS Mount Arapiles 31.28 193 P **P** **16 45 58.0 +1.2**
baz=31,SNR=13
TOO Toolangi 31.45 187 P **P** **16 46 01.1 +2.8**
baz=32,SNR=5.2
FORT Forrest 31.91 217 P **P** **16 46 03.1 +0.8**
baz=32
FORT Forrest 31.91 217 *e*P **P** **16 46 03.2 +0.8**
comp=Z,86nm,0.9s
SJMP San Jose 34.16 303 *e*P **P** **16 46 26.2 +4.0**
TGY Tagaytay City 35.18 305 LR LR 17 00 17.2
comp=Z,525nm,20.5s,baz=118,slow=35
JAGI Jajag, Banyuwa 35.57 264 P **P** **16 46 32.5 -1.9**
comp=Z,111nm,1.3s
MEEK Meekatharra 36.09 232 P **P** **16 46 39.0 +0.3**
baz=36,SNR=52
MOO Moorlands 36.13 183 P **P** **16 46 41.5 +2.6**
baz=36,SNR=3.5
PWJI Pagerwojo 37.89 265 P **P** **16 46 52.5 -1.7**
comp=Z,73nm,1.1s
PCJI Pacitan 38.51 265 P **P** **16 46 58.4 -1.0**
comp=Z,114nm,1.1s
SBUM Sibu 38.65 282 P **P** **16 47 02.3 +1.6**
WOJI Wonogiri, Jawa 38.76 265 P **P** **16 47 00.4 -1.1**
comp=Z,71nm,0.6s
JOW Kunigami 39.01 328 LR LR 17 00 15.9
comp=Z,251nm,19.2s,baz=62,slow=32
UGM Wanagama 39.16 265 P **P** **16 47 04.8 -0.1**
MORW Morawa 39.25 231 P **P** **16 47 05.3 -0.1**
baz=39,SNR=4.3
KLBR Kellerberrin 39.27 226 P **P** **16 47 05.6 +0.1**
baz=39,SNR=16
URZ Urewera 40.27 146 P **P** **16 47 13.4 -0.4**
comp=Z,5.0nm,0.5s,baz=101,slow=8.1,SNR=6.5
URZ LR LR 17 02 06.7
comp=Z,3µm,19.9s,baz=340,slow=33
KSM Kuching 40.32 280 P **P** **16 47 17.7 +3.2**
NWAO Narrogin (SRO) 40.37 225 P **P** **16 47 14.2 -0.5**
comp=Z,9.7nm,0.9s,baz=35,slow=16,SNR=3.2
NWAO LR LR 17 05 18.2
comp=Z,4µm,18.1s,baz=50,slow=38
MUN Mundaring 40.59 227 P **P** **16 47 16.8 +0.4**
baz=41,SNR=7.1
YULB Yu-li 40.63 317 *e*P **P** **16 47 18.3 +1.4**
comp=Z,17nm,0.9s
KPJI Karang Pucung 40.74 266 P **P** **16 47 18.4 +0.4**
comp=Z,120nm,1.0s,comp=Z,2µm
THZ Tophouse 40.84 154 *e*P **P** **16 47 19.6 +1.2**
comp=Z,29nm,0.8s
TPUB Ta-pu 41.03 317 *e*P **P** **16 47 19.4 -0.8**
comp=Z,29nm,0.6s
JCJI Jatiwangi 41.42 267 P **P** **16 47 22.9 -0.7**
RPZ Rata Peaks 41.68 157 P **P** **16 47 24.7 -0.5**
comp=Z,27nm,0.8s,baz=284,slow=2.8,SNR=12
RPZ LR LR 17 02 06.3
comp=Z,2µm,21.8s,baz=328,slow=32
CISI Cisompet, Garu 41.84 266 *e*P **P** **16 47 25.8 -1.3**
comp=Z,239nm,1.0s
CISI Cisompet, Garu 41.84 266 P **P** **16 47 25.7 -1.4**
comp=Z,250nm,0.9s,comp=Z,2µm
CBJI Citeko 42.83 267 P **P** **16 47 33.9 -1.2**
SKJI Sukabumi 43.10 266 P **P** **16 47 34.3 -3.0**
comp=Z,272nm,0.7s,comp=Z,3µm
JNU Nakatsue 43.14 336 *e*P **P** **16 47 35.8 -1.4**
comp=Z,69nm,1.0s
JNU ScP **ScP** **16 53 12.6 -0.3**
JNU Nakatsue 43.14 336 P **P** **16 47 35.4 -1.9**
comp=Z,20nm,0.7s,baz=156,slow=3.7,SNR=18
JNU ScP **ScP** **16 53 12.6 -0.3**
comp=Z,10.0nm,1.0s,baz=97,slow=2.5,SNR=5.0
QZH Quanzhou 43.50 317⇑ *i*P **P** **16 47 39.3 -1.0**
QZH S **S** **16 54 02.6 -2.7**
QZH LR LR
comp=Z,930nm,23.4s
QZH LR LR
comp=Z,900nm,24.1s
QZH LR LR
comp=Z,2µm,26.6s
PPBI Pangkal Pinang 43.88 273 P **P** **16 47 42.8 -0.7**
MJAR Matsushiro Arr 43.96 346 P **P** **16 47 41.3 -2.5**
comp=Z,8.2nm,0.6s,baz=164,slow=5.7,SNR=28
MJAR ScP **ScP** **16 53 15.8 -0.4**
comp=Z,4.2nm,1.0s,baz=202,slow=6.9,SNR=5.5
MJAR LR LR 17 04 29.6
comp=Z,961nm,18.1s,baz=165,slow=34
MAJO Matsushiro 43.96 346 *e*P **P** **16 47 42.1 -1.7**
comp=Z,21nm,0.9s
MAJO *e*ScP **ScP** **16 53 15.8 -0.4**
MAJO Matsushiro 43.96 346⇑ *i*P **P** **16 47 42.5 -1.3**
MAJO pmax pmax
comp=Z,11nm,0.5s
MAJO Matsushiro 43.96 346 *e*P **P** **16 47 42.5 -1.3**
MAT Matsushiro 43.96 346 P **P** **16 47 41.9 -1.9**
MAT S **S** **16 54 09.0 -2.7**
MJB9 Matsu-Tunnel 43.97 346 *e*P **P** **16 47 42.9 -1.0**
comp=Z,21nm,0.9s
KASI Kota Agung 45.21 268 P **P** **16 47 52.0 -2.2**
comp=Z,67nm,0.8s
MDSI Maura Dua 45.60 270 P **P** **16 47 56.0 -1.2**
comp=Z,31nm,1.2s,comp=Z,452nm
DSRI Dabo 45.64 275 P **P** **16 47 56.5 -1.0**
comp=Z,4.7nm,0.7s
LWLI Liwa 45.68 269 P **P** **16 47 57.9 -0.1**
comp=Z,37nm,1.0s
SSE Sheshan 46.21 325 P **P** **16 48 00.8 -0.9**
SSE S **S** **16 54 44.4 +0.1**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,110nm,4.5s
SSE LR LR
comp=Z,620nm,19.2s
SSE LR LR
comp=Z,830nm,20.1s
MYKOM Kota Tinggi 46.72 278 P **P** **16 48 07.7 +1.7**
QIZ Qiongzhong 46.82 303 P **P** **16 48 03.9 -2.8**
QIZ sP **sP** **16 48 27.9 +0.1**
QIZ S **S** **16 54 59.9 +6.4**
QIZ sS **sS** **16 55 18.0 -0.1**
QIZ LR LR
comp=Z,520nm,21.0s
QIZ LR LR
comp=Z,630nm,19.0s
QIZ LR LR
comp=Z,960nm,18.6s
KGM Kluang 47.28 279 P **P** **16 48 12.5 +2.0**
TJN Taejon 47.39 335⇑ *e*P **P** **16 48 10.2 -0.6**
KSRS Korea Array 48.09 336 P **P** **16 48 15.3 -0.9**
comp=Z,15nm,0.9s,baz=151,slow=8.4,SNR=25
KSRS ScP **ScP** **16 53 33.0 -0.3**
comp=Z,3.9nm,1.1s,baz=138,slow=5.0,SNR=5.5
KSAR Wonju Array Be 48.09 336 P **P** **16 48 15.3 -1.0**
KSAR ScP **ScP** **16 53 33.0 -0.4**
KSAR Wonju Array Be 48.09 336 P **P** **16 48 15.3 -1.0**
KS01 Wonju Array Si 48.12 336 *e*P **P** **16 48 15.0 -1.5**
KTGM Kuala Trenggan 48.13 283 P **P** **16 48 18.4 +1.4**
NJ2 Nanjing 48.26 324 *e*P **P** **16 48 18.3 +0.7**
NJ2 S **S** **16 55 13.6 +0.2**
NJ2 sS **sS** **16 55 41.3 +3.2**
NJ2 pmax pmax
comp=Z,17nm,1.4s
NJ2 LR LR
comp=Z,1µm,17.3s
NJ2 LR LR
comp=Z,1µm,20.8s
NJ2 LR LR
comp=Z,2µm,21.7s
KRJI Kerinci 48.52 273 P **P** **16 48 19.4 -0.8**
IPM Ipoh 50.00 281 P **P** **16 48 33.1 +1.8**
WHN Wuhan 50.01 319⇑ P **P** **16 48 33.0 +2.0**
WHN S **S** **16 55 46.6 +8.6**
WHN LR LR
comp=Z,1µm,16.7s
WHN LR LR
comp=Z,3µm,17.8s
WHN LR LR
comp=Z,5µm,19.8s
YUK Yuzh-Kuril'sk 50.18 356 *e*P P 16 48 24.7 -7.4
YUK *e*S S 16 55 29.6 -10
YUK MLR MLR
comp=Z,980nm,21.0s
YUK MLR MLR
comp=N,947nm,16.0s
PANO Nakornpanom 50.47 298 P **P** **16 48 36.6 +1.8**
comp=N,0.4nm,1.0s
KULM Kulim 50.53 282 P **P** **16 48 36.7 +1.4**
ASAJ Asahikawa 50.56 353 P **P** **16 48 35.1 +0.1**
comp=N,60nm,1.0s,baz=213,slow=9.8,SNR=16
MNSI Mandailing Nat 50.77 276 P **P** **16 48 36.6 -0.5**
RAR Rarotonga 50.82 112 P **P** **16 48 38.7 +1.3**
comp=N,56nm,0.9s,baz=230,slow=8.4,SNR=5.9
RAR LR LR 17 05 59.9
comp=N,228nm,19.6s,baz=272,slow=31
SKNT Sakolnakorn 50.96 298 P **P** **16 48 38.1 -0.4**
comp=N,7.9nm,0.7s
KUR Kuril'sk 51.27 358*d i*P **P** **16 48 41.0 +0.7**
KUR *i* S **S** **16 55 55.3 +0.2**
KUR pmax pmax
comp=Z,219nm,1.0s
KUR pmax pmax
comp=N,123nm,1.3s
KUR pmax pmax
comp=E,64nm,1.1s
KUR pmax pmax
comp=Z,465nm,3.2s
KUR pmax pmax
comp=N,424nm,2.8s
KUR pmax pmax
comp=E,196nm,2.5s
KUR MLR MLR
comp=Z,632nm,15.0s
KUR MLR MLR
comp=N,448nm,18.0s
PSI Prapat 51.74 279 P **P** **16 48 44.3 -0.2**
comp=N,2.4nm,0.4s,baz=181,slow=9.3,SNR=3.5
DL2 Dalian 52.03 332⇑ *i*P **P** **16 48 45.4 -0.7**
DL2 S **S** **16 56 04.1 -1.6**
DL2 sS **sS** **16 56 28.3 -2.4**
DL2 pmax pmax
comp=N,31nm,1.2s
DL2 pmax pmax
comp=N,250nm,5.8s
DL2 LR LR
comp=N,750nm,18.4s
DL2 LR LR
comp=N,1µm,21.4s
DL2 LR LR
comp=N,2µm,22.2s
TIA Tai'an 52.26 326 P **P** **16 48 48.4 +0.5**
TIA pmax pmax
comp=N,6.0nm,1.0s
TIA LR LR
comp=N,710nm,19.0s
TIA LR LR
comp=N,590nm,19.6s
TIA LR LR
comp=N,1µm,20.2s
CHAI Chaiyaphum 52.33 295 P **P** **16 48 48.9 +0.2**
comp=N,2.8nm,0.6s
TEY Ternei 52.43 348⇑ *e*P **P** **16 48 47.2 -1.7**
TEY pmax pmax
comp=Z,20nm,1.0s
COCO West Island 52.70 259 *i*P **P** **16 48 54.0 +2.5**
USA0B Ussuriysk Arra 52.76 344 *e*P **P** **16 48 51.6 +0.2**
USRK Ussuriysk Ar. 52.76 344 P **P** **16 48 50.0 -1.4**
comp=Z,16nm,0.9s,baz=157,slow=8.1,SNR=14
USRK LR LR 17 09 04.4
comp=Z,1µm,21.6s,baz=147,slow=34
GSI Gunungsitoli 52.82 276 P P 16 49 01.9 +9.4
KCSI Kotacane, Aceh 53.00 279 P P 16 49 03.0 +9.2
GYA Guiyang 53.07 310 *e*P **P** **16 48 57.5 +3.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s
XMAS Kiritimati 53.16 83 *e*P **P** **16 48 54.6 -0.3**
comp=Z,258nm,0.9s
YSS Yuzh-Sakhalins 53.35 354 *e*P **P** **16 48 55.9 +0.3**
comp=Z,45nm,1.0s
YSS Yuzh-Sakhalins 53.35 354 *e*P **P** **16 48 55.8 +0.2**
YSS *e* 16 49 07.2
YSS *e* 16 49 15.9
YSS *e*PPP PPP 16 51 59.7
YSS *e*S **S** **16 56 21.8 -1.6**
YSS *e*PS **PKiKP** **16 56 41.0 +1.4**
YSS *e*SS **SS** **16 59 59.3 -4.9**
YSS pmax pmax
comp=Z,40nm,1.1s
YSS MLR MLR
comp=Z,800nm,20.0s
YSS MLR MLR
comp=N,600nm,16.0s
YSS MLR MLR
comp=E,400nm,21.0s
PBKT Sadao Pong 53.48 296 P **P** **16 49 00.8 +3.6**
comp=E,5.2nm,1.0s
SNY Shenyang 53.57 336⇑ P **P** **16 48 57.0 -0.3**
SNY S **S** **16 56 35.4 +8.8**
SNY pmax pmax
comp=E,370nm,11.4s
SNY LR LR
comp=E,730nm,18.8s
SNY LR LR
comp=E,770nm,20.2s
SNY LR LR
comp=E,1µm,21.7s
MDJ Mudanjiang 53.84 342 P **P** **16 48 59.8 +0.5**
MDJ S **S** **16 56 35.5 +5.3**
MDJ pmax pmax
comp=E,19nm,0.9s
MDJ pmax pmax
comp=E,340nm,2.8s
MDJ LR LR
comp=E,560nm,19.9s
MDJ LR LR
comp=E,500nm,17.2s
MDJ LR LR
comp=E,1µm,30.6s
MDJ Mudanjiang 53.84 342 *e*P **P** **16 48 60.0 +0.6**
comp=E,33nm,0.9s
UTTA Uttaradit 54.28 297 P **P** **16 49 03.9 +0.9**
comp=E,3.7nm,0.7s,comp=E,41nm
UTHA Uthaitani 54.51 294 P **P** **16 49 05.4 +0.7**
comp=E,3.1nm,0.9s,comp=E,46nm
CN2 Changchun 54.52 338 *e*P **P** **16 49 05.5 +1.2**
CN2 *e*sP sP 16 49 27.8 +2.2
CN2 *e*S **S** **16 56 47.0 +7.6**
CN2 pmax pmax
comp=E,10.0nm,1.0s
CN2 LR LR
comp=E,620nm,20.0s
CN2 LR LR
comp=E,790nm,20.0s
CN2 LR LR
comp=E,880nm,22.0s
NANT Nan 54.54 298 P **P** **16 49 06.0 +1.1**
comp=E,4.5nm,0.8s,comp=E,61nm
SUKH Sukhothai 55.01 296 P **P** **16 49 10.1 +1.8**
comp=E,3.3nm,0.7s
UMPA Umpang Tak 55.26 295 P **P** **16 49 11.9 +1.8**
comp=E,4.4nm,0.8s,comp=E,66nm
LAMP Lampang 55.38 297 P P 16 49 21.1 +10
KMI Kunming 55.49 306 P **P** **16 49 14.5 +2.5**
KMI pP pP 16 49 29.3 +2.4
KMI sP sP 16 49 36.8 +3.6
KMI S **S** **16 56 52.0 -1.6**
KMI sS sS 16 57 17.8 -0.9
KMI pmax pmax
comp=E,13nm,0.5s
KMI LR LR
comp=E,500nm,29.4s
KMI LR LR
comp=E,250nm,18.8s
KMI LR LR
comp=E,590nm,29.0s
BJI Beijing 55.59 329 P **P** **16 49 11.1 -0.9**
BJI S **S** **16 56 58.8 +5.0**
BJI LR LR
comp=E,780nm,21.6s
BJI LR LR
comp=E,860nm,21.8s
BJI LR LR
comp=E,1µm,29.9s
XAN Xi'an 55.77 319 P **P** **16 49 13.3 -0.2**
XAN pP pP 16 49 29.5 +0.9
XAN sP sP 16 49 36.5 +1.6
XAN PP **PP** **16 51 24.8 +6.2**
XAN ScS ScS 16 58 57.1 -1.1
XAN pmax pmax
comp=E,6.0nm,0.8s
XAN pmax pmax
comp=E,92nm,4.5s
XAN LR LR
comp=E,730nm,19.5s
XAN LR LR
comp=E,430nm,16.5s
XAN LR LR
comp=E,1µm,20.1s
XAN Xi'an 55.77 319 *e*P **P** **16 49 13.3 -0.2**
comp=E,24nm,1.1s
XAN Xi'an 55.77 319 *e*P **P** **16 49 13.4 -0.2**
XAN pmax pmax

comp=Z,24nm,1.1s
CM01 Chiang Mai Arr 55.94 297 *e*P P **16 49 13.6 -1.4**
CMAR Chiang Mai Arr 55.96 297 P P **16 49 14.7 -0.5**
comp=Z,2.5nm,0.9s,baz=116,slow=5.9,SNR=21
CMAR ScP **ScP** **16 54 09.3 +1.5**
comp=Z,2.4nm,1.0s,baz=119,slow=3.2,SNR=6.0
CMAR LR LR 17 12 47.7
comp=Z,262nm,21.8s,baz=128,slow=36
CMAR PKP2bc 17 19 25.7
comp=Z,1.9nm,0.9s,baz=294,slow=3.7,SNR=5.1
TIY Taiyuan 55.98 324 *e*P P **16 49 15.3 +0.3**
TIY PP **PP** **16 51 22.8 +2.4**
TIY S **S** **16 56 59.6 +0.3**
TIY SS **SS** **17 00 42.8 -3.4**
TIY pmax pmax
comp=Z,130nm,6.5s
TIY LR LR
comp=Z,1μm,21.7s
TIY LR LR
comp=Z,540nm,14.9s
TIY LR LR
comp=Z,2μm,20.0s
CMMT Chiang Mai 56.09 297 P P **16 49 16.7 +0.6**
comp=Z,8.6nm,1.2s,comp=Z,244nm
CHTO Chiang Mai 56.09 297 *e*P P **16 49 15.5 -0.6**
comp=Z,6.9nm,0.9s
CHTO Chiang Mai 56.09 297 *e*P P **16 49 15.5 -0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 56.09 297 P P **16 49 16.8 +0.7**
comp=Z,39nm,1.3s
CHTO Chiang Mai 56.09 297 *e*P P **16 49 16.2 +0.1**
SKR Severo-Kuril's 56.95 5 *e*P P **16 49 17.0 -4.5**
SKR *e*S S 16 57 27.1 +16
SKR pmax pmax
comp=Z,75nm,3.1s
SKR pmax pmax
comp=Z,600nm,9.1s
SKR pmax pmax
comp=Z,200nm,11.0s
SKR MLR MLR
comp=Z,1μm,18.0s
SKR MLR MLR
comp=Z,1μm,17.0s
TYV Tymovskoe 57.22 355 *e*P P **16 49 23.8 +0.3**
TYV pmax pmax
comp=Z,400nm,4.2s
TYV pmax pmax
comp=Z,34nm,1.1s
KLR Kul'dur 57.48 346 *de*P P **16 49 25.9 +0.5**
CD2 Chengdu 57.57 313 *e*P P **16 49 29.4 +3.0**
CD2 pP sP 16 49 44.9 -3.0
CD2 S **S** **16 57 26.4 +5.8**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,410nm,8.0s
CD2 LR LR
comp=Z,2μm,21.0s
CD2 LR LR
comp=Z,2μm,21.6s
CD2 LR LR
comp=Z,2μm,22.4s
GRNR Gornyy 57.97 350 *e*P P **16 49 29.0 +0.2**
GRNR pmax pmax
comp=Z,21nm,1.0s
HHC Hu-ho-hao-te 58.62 327 *e*P P **16 49 32.5 -1.1**
HHC pP pP 16 49 48.9 +0.1
HHC S **S** **16 57 32.8 -1.2**
HHC sS sS 16 58 04.3 +5.1
HHC SS **SS** **17 01 32.1 +4.3**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,140nm,5.2s
HHC LR LR
comp=Z,1μm,19.6s
HHC LR LR
comp=Z,1μm,19.8s
HHC LR LR
comp=Z,2μm,19.2s
PETK Petropavlovsk- 59.49 5 P P **16 49 37.2 -2.1**
comp=Z,12nm,0.8s,baz=175,slow=6.3,SNR=26
PETK LR LR 17 11 07.5
comp=Z,1μm,21.2s,baz=197,slow=32
PETK PKPPKP 17 19 09.4
comp=Z,7.7nm,1.0s,baz=145,slow=5.4,SNR=3.7
PEA1 Petropavlovsk- 59.49 5 *e*P P **16 49 37.2 -2.1**
PET Petropavlovsk 59.50 6 *e*P P **16 49 38.5 -0.8**
PET *e* 16 51 53.8
PET *e*S **S** **16 57 47.9 +3.3**
PET pmax pmax
comp=Z,200nm,10.6s
PET pmax pmax
comp=Z,11nm,0.8s
NKL Nikolayevsk 59.69 354 *e*P P **16 49 40.0 -0.6**
NKL pmax pmax
comp=Z,98nm,1.3s
PPT Papeete 60.01 107 P P **16 49 43.5 -0.1**
comp=Z,30nm,0.7s,baz=251,slow=17,SNR=4.1
PAE Paea 60.01 107 *e*P P **16 49 45.7 +2.2**
comp=Z,5.7nm,0.8s
PPT2 Papeete2 60.01 107 *e*P P **16 49 46.0 +2.4**
comp=Z,44nm,0.9s
PPT2 *e*S **S** **16 57 54.2 +1.5**
comp=Z,507nm,23.5s
PPT2 *e*LQ LQ 17 04 55.9
comp=Z,2μm,33.0s
PPT2 *e*LR LR 17 07 30.7
comp=Z,535nm,23.0s
TIAR Tiarei 60.23 107 *e*P P **16 49 47.5 +2.4**
comp=Z,37nm,0.9s
TVO Taravao 60.33 107 *e*P P **16 49 48.2 +2.4**
comp=Z,19nm,1.0s
LZH Lanzhou 60.34 318 ⇑P P **16 49 43.0 -2.6**
LZH pP sP 16 50 04.8 -2.4
LZH sP pP 16 50 12.1 +11
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,1μm,18.1s
LZH LR LR
comp=Z,2μm,18.6s
LZH LR LR
comp=Z,2μm,18.6s
TBI Tubuai 60.57 113 *e*P P **16 49 49.3 +2.0**
comp=Z,154nm,1.0s
TBI *e*S **S** **16 58 02.0 +2.4**
comp=Z,569nm,26.5s
TBI *e*LQ LQ 17 05 12.7
comp=Z,2μm,36.8s
TBI *e*LR LR 17 07 47.4
comp=Z,1μm,33.5s
PMOR Pomariorio Ree 61.54 104 *e*P P **16 49 56.4 +2.5**
comp=Z,169nm,0.9s
VAH Vaihoa 61.80 104 *e*P P **16 49 57.7 +2.0**
comp=Z,75nm,1.0s
ZEA Zeya 62.75 345 *e*P P **16 50 01.5 +0.2**
ZEA *e*S S 16 58 40.0 +14
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=Z,70nm,1.0s
ZEA pmax pmax
comp=Z,400nm,11.0s
ZEA smax smax
comp=N,600nm,7.0s
ZEA MLR MLR
comp=E,600nm,18.0s
ZEA MLR MLR
comp=Z,800nm,18.0s
ZEA MLR MLR
comp=N,500nm,16.0s
SHL Shillong 64.63 302 *e*P P **16 50 14.9 +0.4**
SHL Shillong 64.63 302 *e*P P **16 50 14.9 +0.4**
GTA Gaotai 64.83 319 P P **16 50 15.0 -0.5**
GTA pP pP 16 50 32.3 +1.4
GTA sP sP 16 50 39.3 +2.1
GTA S **S** **16 58 52.3 -0.4**
GTA sS sS 16 59 19.3 +1.0
GTA SS **SS** **17 03 05.1 -0.1**
GTA pmax pmax
comp=N,2.0nm,1.0s
GTA pmax pmax
comp=N,150nm,5.9s
GTA LR LR
comp=N,510nm,21.6s
GTA LR LR
comp=N,430nm,21.6s
GTA LR LR
comp=N,870nm,20.6s
MA2 Magadan 65.61 0 *e*P P **16 50 19.7 -0.2**
MA2 Magadan 65.61 0⇑ *e*P P **16 50 18.3 -1.7**
MA2 pmax pmax
comp=Z,13nm,1.3s
MA2 Magadan 65.61 0 LR LR 17 18 49.3
comp=Z,720nm,19.2s,baz=184,slow=36
ULN Ulaanbaatar 65.76 330 *e*P P **16 50 21.9 +0.5**
ULN Ulaanbaatar 65.76 330 *ce*P P **16 50 22.2 +0.8**
ULN pmax pmax
comp=Z,13nm,1.0s
SONA0 Songino Array 66.07 329 *e*P P **16 50 22.6 -0.7**
SONM Songino Array 66.07 329 P P **16 50 22.6 -0.7**
comp=Z,12nm,0.9s,baz=142,slow=5.6,SNR=39
SONM LR LR 17 18 37.1
comp=Z,824nm,21.6s,baz=136,slow=35
SONM PKP2bc 17 19 02.0
comp=Z,1.9nm,0.8s,baz=313,slow=2.7,SNR=9.9
LSA Lhasa 66.75 306 *e*P P **16 50 28.8 +0.3**
comp=Z,12nm,1.0s
LSA Lhasa 66.75 306 *e*P P **16 50 28.8 +0.3**
LSA pmax pmax
comp=Z,12nm,1.0s
ODAN Odare 68.86 302 *e*P P **16 50 41.6 +0.1**
comp=Z,35nm,0.7s
SEY Seymchan 69.00 1⇑ *e*P P **16 50 39.1 -2.2**
SEY Seymchan 69.00 1 PKP2bc **P'P'bc** **17 18 51.1 -0.5**
comp=Z,0.5nm,0.7s,baz=290,slow=14,SNR=4.0
SEY LR LR 17 24 05.7
comp=Z,339nm,18.0s,baz=176,slow=39
ZAK Zakamensk 69.28 330 *e*P P **16 50 41.4 -2.1**
ZAK pmax pmax
comp=Z,15nm,1.1s
YAK Yakutsk 69.85 350 *e*P P **16 50 47.3 +0.7**
YAK *e* 16 51 09.4
YAK *e* 16 53 23.4
YAK *e*PPP PPP 16 55 05.7
YAK *e**SS **sS** **17 00 21.3 +3.3**
YAK pmax pmax
comp=Z,103nm,1.1s
YAK pmax pmax
comp=N,29nm,0.9s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=Z,516nm,3.4s
YAK pmax pmax
comp=N,252nm,3.5s
YAK pmax pmax
comp=E,79nm,3.0s
YAK MLR MLR
comp=E,2μm,20.0s
TLY Talaya 69.94 331 *e*P P **16 50 47.6 +0.2**
TLY Talaya 69.94 331⇓ *e*P P **16 50 47.5 +0.1**
TLY pmax pmax
comp=Z,14nm,1.1s
JIRN Jiri 70.13 302 *e*P P **16 50 48.7 -0.8**
comp=Z,28nm,0.6s
BOD Bodaibo 70.16 340 *e*P P **16 50 46.5 -2.1**
BOD pmax pmax
comp=Z,9.0nm,2.0s
PALK Pallekele 70.38 280 P P **16 50 50.2 -0.7**
comp=Z,5.7nm,0.9s,baz=116,slow=11,SNR=3.4
GUN Gumba 70.47 302 *e*P P **16 50 50.7 -0.9**
comp=Z,44nm,0.5s
PKI Pulchoki 70.76 302 *e*P P **16 50 51.6 -1.7**
comp=Z,9.1nm,0.5s
PKIN Phulchoki 70.77 302 *e*P P **16 50 51.8 -1.5**
comp=Z,6.5nm,0.5s
KKN Kakani 70.93 302 *e*P P **16 50 53.3 -0.9**
DMN Daman 71.03 302 *e*P P **16 50 53.3 -1.5**
comp=Z,62nm,0.9s
MOY Mondy 71.22 330 *e*P P **16 50 54.9 -0.4**
MOY pmax pmax
comp=Z,26nm,2.5s
VNDA Vanda 71.52 177 *e*P P **16 50 58.1 +1.5**
comp=Z,17nm,0.9s
VNDA Vanda 71.52 177 *e*P P **16 50 58.1 +1.5**
VNDA pmax pmax
comp=Z,17nm,0.9s
VNDA Vanda 71.52 177 P P **16 50 57.5 +1.0**
comp=Z,15nm,0.8s,baz=323,slow=6.6,SNR=58
VNDA LR LR 17 19 03.9
comp=Z,622nm,19.1s,baz=17,slow=33
GKN Gorkha 71.54 302 *e*P P **16 50 56.7 -1.1**
comp=Z,34nm,0.7s
KOLN Koldanda 72.35 302 *e*P P **16 51 01.5 -1.2**
comp=Z,20nm,0.6s
DANN Dangsing 72.38 302 *e*P P **16 51 01.5 -1.5**
comp=Z,19nm,0.7s
PYUN Piuthan 72.96 302 *e*P P **16 51 04.3 -2.1**
comp=Z,34nm,0.8s
RKT Rikitea 73.86 112 *e*P P **16 51 12.8 +1.3**
comp=Z,57nm,0.9s
HYB Hyderabad 74.30 290 *i* P P **16 51 15.0 +0.8**
WMQ Urumqi 74.91 318 *e*P P **16 51 17.8 +0.6**
WMQ pP pP 16 51 33.6 +0.8
WMQ sP sP 16 51 38.5 -0.5
WMQ pmax pmax
comp=Z,55nm,0.9s
WMQ pmax pmax
comp=Z,370nm,5.7s
WMQ LR LR
comp=Z,930nm,25.7s
WMQ LR LR
comp=Z,850nm,22.7s
WMQ LR LR
comp=Z,1μm,24.3s
BILL Bilibino 75.00 6 *e*P P **16 51 15.5 -1.7**
comp=Z,18nm,1.0s
BILL Bilibino 75.00 6⇓ *e*P P **16 51 15.3 -1.9**
BILL *e*S **S** **17 00 58.3 +7.8**
BILL pmax pmax
comp=Z,19nm,1.0s
BILL MLR MLR
comp=Z,1μm,19.0s
DGAR Diego Garcia 76.87 264⇑ *e*P P **16 51 27.9 -1.0**
DGAR pmax pmax
comp=Z,48nm,1.0s
TIXI Tiksi 78.97 353 *de*P P **16 51 38.2 -1.2**
TIXI *i* *PP **pP** **16 51 54.9 -0.2**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
MK01 Makanchi Array 79.55 320 *e*P P **16 51 42.2 -0.9**
MK31 Makanchi Array 79.57 320 *e*P P **16 51 42.6 -0.7**
comp=Z,5.2nm,1.0s
MK31 Makanchi Array 79.57 320 *e*P P **16 51 42.6 -0.7**
MK31 pmax pmax
comp=Z,5.0nm,1.0s
MK32 Makanchi Array 79.57 320 *e*P P **16 51 42.2 -1.0**
MK32 *e*PKKPbc **PKKPbc** **17 10 32.1 -1.3**
MKAR Makanchi Array 79.57 320 P P **16 51 42.2 -1.0**
comp=Z,1.8nm,0.5s,baz=99,slow=7.6,SNR=31
MKAR PKKPbc **PKKPbc** **17 10 32.1 -1.3**
comp=Z,0.5nm,0.8s,baz=284,slow=4.9,SNR=4.4
MKAR LR LR 17 27 27.3
comp=Z,680nm,18.7s,baz=86,slow=36
MAKZ Makanchi 79.77 320 *e*P P **16 51 43.8 -0.6**
comp=Z,7.2nm,1.0s
MAKZ Makanchi 79.77 320 *e*P P **16 51 43.8 -0.6**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
ZAA0 Zalesovo Array 80.80 327 *e*P P **16 51 48.1 -1.5**
comp=Z,5.5nm,0.9s
ZALV Zalesovo Beam 80.80 327 P P **16 51 47.3 -2.3**
comp=Z,4.5nm,0.6s,baz=116,slow=6.3,SNR=17
ZALV PKKPbc **PKKPbc** **17 10 29.8 -1.2**
comp=Z,1.5nm,0.7s,baz=318,slow=1.9,SNR=5.4
ZALV LR LR 17 28 00.2
comp=Z,722nm,19.4s,baz=76,slow=36
ZAA1 Zalesovo Array 80.80 327 *e*P P **16 51 47.3 -2.3**
ZAA1 *e*PKKPbc **PKKPbc** **17 10 29.8 -1.2**
KDJ Kajisay 81.56 314 *e*P P **16 51 54.1 -0.1**
comp=Z,9.3nm,1.0s
KDJ Kajisay 81.56 314 *e*P P **16 51 54.1 -0.1**
KDJ pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 81.73 311 P P **16 51 55.8 +0.7**
KSH pP pP 16 52 12.6 +1.7
KSH S **S** **17 02 00.0 -4.1**
KSH sS sS 17 02 28.8 -1.9
KSH pmax pmax
comp=Z,49nm,4.0s
KSH LR LR
comp=Z,92nm,9.6s
KSH LR LR
comp=Z,180nm,11.1s
KSH LR LR
comp=Z,350nm,16.9s
NVS Novosibirsk 82.00 328 *e*P P **16 51 54.4 -1.6**
NVS pmax pmax
comp=Z,21nm,2.4s
NVS pmax pmax
comp=N,4.0nm,2.3s
NVS pmax pmax
comp=E,15nm,2.3s
NIL Nilore 82.46 305 *e*P P **16 51 58.0 -0.9**
comp=E,27nm,0.6s
SML Sawmill 82.61 25 *e*P P **16 51 57.8 -1.3**
comp=E,19nm,1.0s
SML Sawmill 82.61 25 *e*P P **16 51 57.8 -1.3**
SML pmax pmax
comp=Z,19nm,1.0s
IM3 Indian Mountai 82.69 20 *e*P P **16 51 57.5 -1.9**
RND Reindeer 83.16 23 *e*P P **16 51 58.7 -3.2**
comp=Z,9.3nm,0.8s
RND Reindeer 83.16 23 *e*P P **16 51 58.7 -3.2**
RND pmax pmax
comp=Z,9.0nm,0.8s
MAW Mawson 83.16 203 LR LR 17 27 18.8
comp=Z,1μm,20.4s,baz=88,slow=34
KURK Kurchatov 83.17 323 *e*P P **16 52 00.1 -2.1**
comp=Z,10nm,1.0s
KURK Kurchatov 83.17 323 *ce*P P **16 51 59.9 -2.3**
KURK pmax pmax
comp=Z,10.0nm,1.0s
DHY Denali Highway 83.59 24 *e*P P **16 52 05.1 +0.8**
comp=Z,7.3nm,0.9s
AAK Ala-Archa 83.61 314 *e*P P **16 52 04.3 -0.5**
comp=Z,6.5nm,1.0s
AAK Ala-Archa 83.61 314⇑ *e*P P **16 52 04.7 -0.2**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 83.61 314 LR LR 17 28 52.8
comp=Z,985nm,21.4s,baz=75,slow=35
QSPA South Pole Qui 83.73 180 *e*P P **16 52 05.8 +0.8**
comp=Z,40nm,0.8s
COLA College 84.24 22 *e*P P **16 52 03.3 -4.0**
comp=Z,12nm,1.0s
COLA College 84.24 22⇓ *e*P P **16 52 06.6 -0.7**
COLA pmax pmax
comp=Z,11nm,1.0s
COLA College 84.24 22 *e*P P **16 52 08.2 +0.9**
IL1 Eielson Array 84.56 23 *e*P P **16 52 05.0 -4.0**
ILAR Eielson Array 84.56 23 P P **16 52 04.9 -4.1**
comp=Z,2.8nm,0.7s,baz=246,slow=5.1,SNR=23
ILAR LR LR 17 26 10.5
comp=Z,409nm,20.6s,baz=263,slow=33
ILB Eielson Array 84.56 23 *e*P P **16 52 07.0 -1.9**
comp=Z,7.2nm,0.8s
DOT Dot Lake 85.19 24 *e*P P **16 52 10.1 -2.1**
comp=Z,8.6nm,0.9s
TOLK Toolik Lake Re 85.47 19 P P **16 52 14.4 +0.9**
baz=240
NRIK Noril'sk 86.42 342 P P **16 52 15.8 -2.3**
comp=Z,4.8nm,0.7s,baz=126,slow=4.7,SNR=6.6
NRIK LR LR 17 30 16.5
comp=Z,359nm,21.9s,baz=112,slow=35
EGAK Eagle 86.80 24 *e*P P **16 52 18.8 -1.3**
comp=Z,16nm,0.9s
DAWY Dawson 87.26 25 *e*P P **16 52 20.5 -1.9**
comp=Z,16nm,1.0s
BRVK Borovoye 88.77 324⇑ *e*P P **16 52 27.9 -1.8**
BRVK pmax pmax
comp=Z,4.0nm,1.2s
EPYK Eagle Plains 89.08 23 *e*P P **16 52 29.7 -1.3**
comp=Z,39nm,1.6s
EPYK Eagle Plains 89.08 23 P P **16 52 31.5 +0.5**
baz=252
BBB Bella Bella 89.95 38 LR LR 17 27 13.7
comp=Z,1μm,19.7s,baz=266,slow=32
DLBC Dease Lake 90.07 31 LR LR 17 30 02.0
comp=Z,1μm,18.4s,baz=316,slow=34
INK Inuvik 90.81 21 *e*P P **16 52 36.3 -2.6**
comp=Z,8.2nm,1.0s
INK Inuvik 90.81 21 *e*P P **16 52 36.3 -2.6**
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 90.81 21 LR LR 17 30 28.2
comp=Z,1μm,20.6s,baz=270,slow=34
HUMO Hull Mountain 92.04 48 *e*P P **16 52 44.3 -0.9**
comp=Z,32nm,1.0s
YBH Yreka Blue Hor 92.12 48 LR LR 17 27 19.5
comp=Z,1μm,20.9s,baz=254,slow=31
M04C Macdoel 92.78 48 P P **16 52 49.4 +0.5**
baz=264
J05D Fort Rock, OR 93.37 47 P P **16 52 51.2 -0.3**
baz=265
MOD Modoc Plateau 93.93 48 P P **16 52 51.3 -2.9**
comp=Z,4.3nm,0.9s
NVAR Mina Array Bea 95.20 52 P P **16 52 59.3 -0.9**
comp=Z,3.6nm,0.9s,baz=253,slow=6.4,SNR=12
NVAR PKiKP **PKiKP** **16 57 41.1 0.0**
comp=Z,0.7nm,0.7s,baz=237,slow=2.3,SNR=3.5
GEYT Ailbeck 95.24 307 LR LR 17 38 01.0
comp=Z,658nm,20.9s,baz=90,slow=37
CWC Cottonwood Cre 95.24 54 P P **16 53 00.2 -0.2**
baz=266
LRMC Laurel Mtn Rad 95.50 55 P P **16 53 02.2 +0.7**
baz=266
DAC Darwin (Calif) 95.62 54 *e*P P **16 52 59.7 -2.4**
comp=Z,6.0nm,1.0s
DAC Darwin (Calif) 95.62 54 *e*P P **16 52 59.7 -2.4**
DAC pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 96.74 54 P P **16 53 06.9 -0.2**
baz=267
ELK Elko 97.67 50 P P **16 53 11.2 -0.1**
comp=Z,1.3nm,1.0s,baz=169,slow=2.9
YKA Yellowknife Ar 98.01 28 P P **16 53 10.1 -1.9**
comp=Z,0.9nm,0.8s,baz=274,slow=4.9,SNR=9.8
YKA PKiKP **PKiKP** **16 57 43.9 -1.1**
comp=Z,0.5nm,0.7s,baz=271,slow=1.9,SNR=5.7
YKA PKKPbc **PKKPbc** **17 09 44.8 -3.1**
comp=Z,0.3nm,0.6s,baz=88,slow=2.8,SNR=5.7
NVL N'lazarevskaya 98.25 193 *e*P P **16 53 12.6 -0.4**
NVL pmax pmax
comp=Z,8.0nm,1.0s
NVL MLR MLR
comp=Z,726nm,17.0s
SNAA Sanae 100.21 188 P **Pdif** **16 53 21.4 -0.5**
VNA3 Neumayer Olymp 101.50 187 P **Pdif** **16 53 26.0 -1.5**
VNA2 Neumayer--Watz 101.52 187 P **Pdif** **16 53 26.6 -1.0**
baz=74,slow=1.7
PDAR Pinedale Array 101.91 48 P **Pdif** **16 53 28.5 -1.7**
comp=Z,1.0nm,0.9s,baz=242,slow=1.9,SNR=6.1
PDAR PKiKP **PKiKP** **16 57 51.8 -1.1**
comp=Z,0.3nm,0.6s,baz=289,slow=2.8,SNR=2.5
PRGR Permogore 102.26 332 *e*P **Pdif** **16 53 30.2 -0.8**
PRGR pmax pmax
comp=Z,4.0nm,0.4s
SDCO Great Sand Dun 105.29 53 P **PKiKP** **16 58 00.1 +0.7**
baz=274
MNTX Cornudas Mount 105.72 59 P **PKiKP** **16 58 00.5 +0.6**
baz=272
TXAR Lajitas Array 107.30 61 PKiKP **PKiKP** **16 58 03.4 +0.3**
comp=Z,2.0nm,1.0s,baz=284,slow=1.7,SNR=9.7
ARA0 ARCESS Array S 107.39 342 *e*PKiKP **PKiKP** **16 58 02.4 +0.4**
ARA0 *e*PKKPbc **PKKPbc** **17 09 17.8 -2.7**
ARCES ARCESS Array B 107.39 342 PKiKP **PKiKP** **16 58 02.4 +0.4**
comp=Z,5.9nm,0.9s,baz=132,slow=1.8,SNR=5.8
ARCES PKKPbc **PKKPbc** **17 09 17.8 -2.7**
comp=Z,7.1nm,1.1s,baz=274,slow=1.9,SNR=9.6
ULM Lac du Bonnet 110.13 39 PKiKP **PKiKP** **16 58 06.6 -1.0**
comp=Z,2.2nm,0.5s,baz=327,slow=3.0,SNR=5.8
WMOK Wichita Mounta 110.99 55 PKPdf **PKiKP** **16 58 07.8 -1.9**
WMOK Wichita Mounta 110.99 55 PKiKP **PKiKP** **16 58 07.9 -1.9**
WMOK Wichita Mounta 110.99 55 P **PKiKP** **16 58 09.2 -0.5**
baz=277
ECSD EROS Data Cent 111.16 45 *e*PKPdf **PKiKP** **16 58 08.9 -0.9**
ECSD EROS Data Cent 111.16 45 P **PKiKP** **16 58 09.1 -0.7**
baz=282
FIA0 FINESS Array S 111.16 335 *e*PKiKP **PKiKP** **16 58 08.4 -0.7**
FIA0 *e*PKKPbc **PKKPbc** **17 09 07.0 -1.1**
FIA0 FINESS Array S 111.16 335 *e*PKIKP **PKiKP** **16 58 08.5 -0.7**

FINES **FINESS Array B** 111.16 335 PKiKP **PKiKP** 16 58 08.4 -0.7
comp=Z,2.7nm,0.8s,baz=84,slow=4.0,SNR=8.9
FINES PKKPbc **PKKPbc** 17 09 07.0 -1.1
comp=Z,0.8nm,0.9s,baz=256,slow=5.7,SNR=4.6
KMBO **Kilima Mbogo** 112.43 266 PKiKP **PKiKP** 16 58 13.5 +0.2
comp=Z,1.7nm,0.8s,baz=47,slow=5.7,SNR=6.1
F37A **Hinrichs Farm,** 113.44 43 P **PKiKP** 16 58 13.8 -0.2
baz=286
EYMN **Ely** 113.54 40 P **PKiKP** 16 58 13.9 -0.3
baz=288
F38A **Pierce - Schro** 113.88 42 P **PKiKP** 16 58 14.4 -0.5
baz=287
AKASG **Malin Array Be** 113.98 323 PKiKP **PKiKP** 16 58 13.9 -1.0
comp=Z,3.1nm,0.8s,baz=60,slow=2.4,SNR=12
AKASG PKKPbc **PKKPbc** 17 08 56.8 -1.6
comp=Z,1.1nm,0.5s,baz=261,slow=3.7,SNR=15
KIEV **Kiev** 113.99 323 ⇑*i*P **PKiKP** 16 58 13.5 -1.4
KIEV **Kiev** 113.99 323 ⇑PKiKP **PKiKP** 16 58 13.5 -1.4
BR101 **Keskin Array S** 114.12 311 *e*PKiKP PKPdf 16 58 14.6 -1.2
BR101 *e*PKKPbc **PKKPbc** 17 08 57.6 -0.1
BRTR **Keskin Array B** 114.12 311 PKiKP PKPdf 16 58 14.6 -1.2
comp=Z,2.5nm,0.9s,baz=145,slow=3.8,SNR=8.8
BRTR PKKPbc **PKKPbc** 17 08 57.6 -0.1
comp=Z,1.5nm,0.9s,baz=132,slow=1.8,SNR=6.6
F39A **Loretta** 114.53 42 P PKPdf 16 58 15.4 -0.7
baz=288
G39A **Holcombe** 114.55 43 P PKPdf 16 58 15.7 -0.5
baz=287
E39A **Mellen** 114.63 42 P **PKiKP** 16 58 15.6 -0.7
baz=288
H39A **Augusta** 114.64 43 P **PKiKP** 16 58 15.7 -0.7
baz=287
J39A **Decorah** 114.72 45 P **PKiKP** 16 58 15.6 -1.0
baz=286
EIL **Elat** 114.77 300 PKiKP PKPdf 16 58 16.2 -0.9
comp=Z,3.3nm,0.7s,baz=53,slow=10,SNR=3.2
L39A **Vinton** 114.83 46 P **PKiKP** 16 58 16.4 -0.4
baz=285
M39A **Webster** 114.87 47 P **PKiKP** 16 58 16.7 -0.3
baz=284
W39A **Magazine** 114.97 54 P **PKiKP** 16 58 17.2 -0.1
baz=281
F40A **Park Falls** 115.06 42 P **PKiKP** 16 58 16.6 -0.6
baz=288
G40A **Rib Lake** 115.20 43 P **PKiKP** 16 58 17.0 -0.5
baz=288
H40A **Chili** 115.27 43 P **PKiKP** 16 58 17.0 -0.6
baz=287
K40A **Colesburg** 115.29 46 P **PKiKP** 16 58 16.9 -0.8
baz=286
M40A **Post Highland** 115.36 47 P **PKiKP** 16 58 17.7 -0.1
baz=285
N40A **Mertquake, Sal** 115.44 48 P **PKiKP** 16 58 17.8 -0.3
baz=285
U40A **Yellville** 115.50 53 P **PKiKP** 16 58 17.8 -0.5
baz=282
D41A **Chassel** 115.70 40 P **PKiKP** 16 58 18.3 0.0
baz=290
F41A **Three Lakes** 115.79 42 P **PKiKP** 16 58 18.3 -0.3
baz=289
CMIG **Matias Romero** 115.84 74 PKP **PKPdf** 16 58 18.6 -0.8
comp=Z,2.3nm,0.7s,baz=301,slow=5.9,SNR=2.5
J41A **Loganville** 115.90 45 P **PKPdf** 16 58 18.1 -0.7
baz=287
M41A **Milan** 116.08 47 P **PKPdf** 16 58 18.6 -0.6
baz=286
S41A **Jillco Farms,** 116.10 51 P **PKPdf** 16 58 18.6 -0.8
baz=283
P41A **Barry, Barry** 116.13 49 P **PKPdf** 16 58 19.1 -0.3
baz=284
O41A **Passleys Farm,** 116.16 48 P **PKPdf** 16 58 18.6 -0.8
baz=285
Q41A **Truxton** 116.18 50 P **PKPdf** 16 58 19.0 -0.5
baz=284
T41A **Mountain View** 116.21 52 P **PKPdf** 16 58 19.0 -0.7
baz=283
W41B **Gary Mavity, V** 116.22 54 P **PKPdf** 16 58 19.3 -0.4
baz=282
R41A **Rosebud** 116.22 50 P **PKPdf** 16 58 19.1 -0.5
baz=284
U41A **Viola** 116.24 53 P **PKPdf** 16 58 18.8 -0.9
baz=282
FRB **Frobisher Bay** 116.28 18 PKP **PKPdf** 16 58 17.8 -1.2
comp=Z,7.1nm,1.1s,baz=306,slow=4.3,SNR=5.4
CCM **Cathedral Cave** 116.38 51 *e*PKPdf **PKPdf** 16 58 19.1 -0.8
CCM **Cathedral Cave** 116.38 51 *e*PKiKP **PKPdf** 16 58 19.1 -0.8
CCM **Cathedral Cave** 116.38 51 P **PKPdf** 16 58 19.3 -0.6
baz=284
G42A **Mountain** 116.40 42 P **PKPdf** 16 58 19.0 -0.7
baz=289
CFR **Carcaliu** 116.56 318 ⇓*i*P **PKPdf** 16 58 19.1 -0.9
CFR **Carcaliu** 116.56 318 ⇓PKiKP **PKPdf** 16 58 19.1 -0.9
N42A **Yates City** 116.59 47 P **PKPdf** 16 58 19.6 -0.7
baz=286
R42A **Luebbering** 116.67 50 P **PKPdf** 16 58 20.2 -0.3
baz=284
MFTR **Murfatlar** 116.69 317 ⇑*i*P **PKPdf** 16 58 19.9 -0.4
P42A **Winchester** 116.69 49 P **PKPdf** 16 58 20.0 -0.5
baz=285
Q42A **Golden Eagle** 116.72 49 P **PKPdf** 16 58 20.4 -0.1
baz=284
S42A **Caledonia** 116.80 51 P **PKPdf** 16 58 20.0 -0.7
baz=284
TLB **Topalu** 116.81 317 ⇓*i*P **PKPdf** 16 58 19.7 -0.8
TLB **Topalu** 116.81 317 ⇓PKiKP **PKPdf** 16 58 19.7 -0.8
TESR **Tescani** 117.07 320 ⇑*i*P **PKPdf** 16 58 20.3 -0.7
YLV **Yalova** 117.08 313 ⇓*i*P **PKiKP** 16 58 22.4 +1.1
YLV **Yalova** 117.08 313 ⇓PKiKP **PKiKP** 16 58 22.4 +1.1
ICOR **Ion Corvin** 117.13 317 ⇑*i*P **PKPdf** 16 58 21.0 -0.2
VRI **Vrincioaia** 117.25 319 ⇑*i*P **PKPdf** 16 58 21.3 -0.1
VRI **Vrincioaia** 117.25 319 ⇑PKiKP **PKPdf** 16 58 21.3 -0.1
NB2 **NORSAR Subarra** 117.26 339 PKPdf **PKPdf** 16 58 20.1 -0.9
comp=Z,0.4nm,0.7s,baz=44,slow=1.9
NB200 **NORSAR Array S** 117.26 339 *e*PKPdf **PKPdf** 16 58 19.8 -1.2
NOA **NORSAR Array B** 117.26 339 PKP **PKPdf** 16 58 19.8 -1.2
comp=Z,1.7nm,0.9s,baz=45,slow=4.5,SNR=5.2
BIZ **Bicaz** 117.27 320 ⇓*i*P **PKPdf** 16 58 21.0 -0.4
P43A **Skaggs, Pawnee** 117.29 48 P **PKPdf** 16 58 21.3 -0.4
baz=286
T43A **Greenville** 117.35 51 P **PKPdf** 16 58 20.9 -0.9
baz=284
S43A **Fulton Ridge,** 117.40 51 P **PKPdf** 16 58 21.2 -0.7
baz=284
BURAR **Bucovina Array** 117.57 321 ⇓*i*P **PKPdf** 16 58 21.8 -0.3
BURAR **Bucovina Array** 117.57 321 ⇓PKiKP **PKPdf** 16 58 21.8 -0.3
MLR **Muntele Rosu** 117.90 319 ⇑*i*P **PKPdf** 16 58 22.4 -0.4
MLR **Muntele Rosu** 117.90 319 ⇑PKiKP **PKPdf** 16 58 22.4 -0.4
SECR 117.98 318 ⇓*i*P **PKPdf** 16 58 21.1 -1.7
P44A **Sand Creek, Wi** 118.01 48 P **PKPdf** 16 58 22.8 -0.2
baz=286
DOPR **Dopca** 118.09 319 ⇑*i*P **PKiKP** 16 58 23.2 +0.2
N45A **Kentland** 118.42 47 P **PKPdf** 16 58 23.5 -0.3
baz=288
LSZ **Lusaka** 118.48 249 *e*PKPdf **PKiKP** 16 58 24.9 +0.1
LSZ **Lusaka** 118.48 249 *e*PKiKP **PKiKP** 16 58 24.9 +0.1
VOIR 118.50 319 ⇓*i*P **PKiKP** 16 58 24.1 +0.2
VOIR 118.50 319 ⇓PKiKP **PKiKP** 16 58 24.1 +0.2
Q45A **Warren Harvey,** 118.51 49 P **PKPdf** 16 58 23.8 -0.2
baz=286
R45A **Skylar, Fairfi** 118.58 50 P **PKPdf** 16 58 24.0 -0.1
baz=286
P45A **Graceland, Par** 118.64 48 P **PKPdf** 16 58 23.9 -0.3
baz=287
D46A **Sault St. Mari** 118.65 39 P **PKPdf** 16 58 23.5 -0.6
baz=294
E46A **Sault Ste Mari** 118.69 40 P **PKPdf** 16 58 23.6 -0.5
baz=293
G46A **Petoskey** 118.73 41 P **PKPdf** 16 58 23.9 -0.3
baz=292
ARR **Arges** 118.80 319 ⇓*i*P **PKiKP** 16 58 24.8 +0.3
HUMR **Humele** 118.89 318 ⇓*i*P **PKPdf** 16 58 22.5 -2.1
CJR **Cluj-Napoca** 118.94 321 ⇑*i*P **PKPdf** 16 58 23.8 -0.9
CJR **Cluj-Napoca** 118.94 321 ⇑PKiKP **PKPdf** 16 58 23.8 -0.9
N46A **Monticello** 118.97 46 P **PKPdf** 16 58 24.5 -0.3
baz=288
TRPA **Tarpa** 119.00 323 ⇑*i*P **PKPdf** 16 58 23.7 -0.9
P46A **Rosedale** 119.01 48 P **PKPdf** 16 58 24.6 -0.3
baz=287
D47A **Chapleau** 119.17 39 P **PKPdf** 16 58 24.4 -0.7
baz=295
T46A **Princeton** 119.22 51 P **PKPdf** 16 58 25.3 -0.1
baz=286
E47A **Iron Bridge** 119.30 39 P **PKPdf** 16 58 24.7 -0.6
baz=294
V46A **Holladay** 119.36 52 P **PKPdf** 16 58 24.6 -1.2
baz=285
DRGR 119.46 321 ⇑*i*P **PKPdf** 16 58 24.6 -1.1
DRGR 119.46 321 ⇑PKiKP **PKPdf** 16 58 24.6 -1.1
WVT **Waverly** 119.50 52 P **PKPdf** 16 58 25.0 -1.0
baz=285
J47A **Sunmer** 119.52 43 P **PKPdf** 16 58 25.7 -0.1
baz=291
EZN **Ezine** 119.53 313 ⇑*i*P **PKPdf** 16 58 25.8 -0.1
EZN **Ezine** 119.53 313 ⇑PKiKP **PKPdf** 16 58 25.8 -0.1
O47A **Sheridan** 119.58 47 P **PKPdf** 16 58 25.7 -0.4
baz=288
K47A **Vermontville** 119.60 44 P **PKPdf** 16 58 25.3 -0.7
baz=291
DEV **Deva** 119.72 320 ⇑*i*P **PKPdf** 16 58 26.1 0.0
DEV **Deva** 119.72 320 ⇑PKiKP **PKPdf** 16 58 26.1 0.0
P47A **Martinsville** 119.74 48 P **PKPdf** 16 58 25.7 -0.6
baz=288
V47A **Nunnelly** 119.82 52 P **PKPdf** 16 58 25.9 -0.8
baz=285
T47A **Sharon Grove** 119.84 51 *e*PKPdf **PKPdf** 16 58 26.4 -0.2
T47A **Sharon Grove** 119.84 51 P **PKPdf** 16 58 26.2 -0.4
baz=286
U47A **Clarksville** 119.84 51 P **PKPdf** 16 58 25.9 -0.8
baz=286
R47A **Wooly Knot Far** 119.91 49 P **PKPdf** 16 58 26.2 -0.5
baz=287
W47A **Westpoint** 119.91 53 P **PKPdf** 16 58 25.7 -1.2
baz=285
D48A **Paudash Townsh** 119.92 38 P **PKPdf** 16 58 25.7 -0.8
baz=296
E48A **Lockeyer** 119.99 39 P **PKPdf** 16 58 26.2 -0.5
baz=295
GZR **Gura Zlata** 120.00 320 ⇓*i*P **PKPdf** 16 58 25.9 -0.9
GZR **Gura Zlata** 120.00 320 ⇓PKiKP **PKPdf** 16 58 25.9 -0.9
WCI **Wyandotte Cave** 120.10 49 *e*PKPdf **PKPdf** 16 58 26.7 -0.4
WCI **Wyandotte Cave** 120.10 49 *e*PKiKP **PKPdf** 16 58 26.7 -0.4
WCI **Wyandotte Cave** 120.10 49 P **PKPdf** 16 58 26.5 -0.6
baz=287
D49A **Beulah Townshi** 120.15 38 P **PKPdf** 16 58 26.5 -0.4
baz=296
K48A **Perry** 120.16 44 P **PKPdf** 16 58 26.4 -0.7
baz=292
N48A **Decatur** 120.20 46 P **PKPdf** 16 58 26.6 -0.6
baz=290
M48A **Edgerton** 120.21 45 *e*PKPdf **PKPdf** 16 58 27.1 -0.1
L48A **N Adams** 120.25 45 P **PKPdf** 16 58 26.7 -0.6
baz=291
PLCA **Paso Flores** 120.28 145 PKP **PKiKP** 16 58 27.8 +0.1
comp=Z,2.6nm,0.7s,baz=197,slow=1.4,SNR=6.4
O48A **Farmland** 120.31 47 P **PKPdf** 16 58 26.9 -0.5
baz=289
Q48A **North Vernon** 120.31 48 P **PKPdf** 16 58 27.1 -0.4
baz=288
SIRR **Siria** 120.34 321 ⇑*i*P **PKPdf** 16 58 27.0 -0.3
T48A **Bowling Green** 120.35 50 P **PKPdf** 16 58 27.3 -0.3
baz=287
P48A **Milroy** 120.37 48 P **PKPdf** 16 58 27.5 -0.1
baz=289
V48A **Smith Brothers** 120.39 52 P **PKPdf** 16 58 26.7 -1.0
baz=286
U48A **Cassie Pea, Po** 120.41 51 P **PKPdf** 16 58 26.9 -0.8
baz=286
HERR **Herculane** 120.44 319 ⇓*i*P **PKPdf** 16 58 25.7 -1.8
S48A **Wiedeman Farm,** 120.45 50 P **PKPdf** 16 58 27.0 -0.7
baz=287
W48A **Pulaski** 120.46 53 P **PKPdf** 16 58 26.5 -1.4
baz=285
X48A **Hartselle** 120.55 54 P **PKPdf** 16 58 26.9 -1.2
baz=285
BZS **Buzias** 120.65 320 ⇑*i*P **PKPdf** 16 58 26.9 -1.0
BZS **Buzias** 120.65 320 ⇑PKiKP **PKPdf** 16 58 26.9 -1.0
AAM **Ann Arbor** 120.66 44 P **PKPdf** 16 58 27.9 -0.1
baz=292
PSZ **Piszkesteto** 120.68 323 ⇓*i*P **PKiKP** 16 58 28.2 +0.1
PSZ **Piszkesteto** 120.68 323 ⇓PKiKP **PKiKP** 16 58 28.2 +0.1
M49A **Liberty Center** 120.74 45 P **PKPdf** 16 58 28.2 0.0
baz=291
OKC **Ostrava-Krasne** 120.76 326 *e*PKPDF **PKiKP** 16 58 28.2 +0.1
OKC AMS AMS 17 50 40.0
comp=Z,900nm,20.0s
OKC **Ostrava-Krasne** 120.76 326 *e*PKiKP **PKiKP** 16 58 28.2 +0.1
OKC MLR MLR
comp=Z,900nm,20.0s
VTS **Vitosha** 120.77 316 *e*PKPdf **PKPdf** 16 58 27.9 -0.6
VTS **Vitosha** 120.77 316 ⇓*i*P **PKPdf** 16 58 27.9 -0.6
VTS **Vitosha** 120.77 316 *e*PKiKP **PKPdf** 16 58 27.9 -0.6
N49A **Columbus Grove** 120.78 46 *e*PKPdf **PKPdf** 16 58 28.2 -0.1
N49A **Columbus Grove** 120.78 46 P **PKPdf** 16 58 28.0 -0.3
baz=290
P49A **Miami Univ. Ec** 120.87 47 P **PKPdf** 16 58 28.0 -0.6
baz=289
E50A **Wahnapitae** 120.91 39 P **PKPdf** 16 58 28.2 -0.1
baz=296
O49A **Covington** 120.93 46 *e*PKPdf **PKPdf** 16 58 28.2 -0.5
O49A **Covington** 120.93 46 P **PKPdf** 16 58 28.1 -0.5
baz=290
LRAL **Lakeview Retre** 120.93 55 *e*PKPdf **PKPdf** 16 58 28.5 -0.3
LRAL **Lakeview Retre** 120.93 55 P **PKPdf** 16 58 28.5 -0.3
baz=284
MDVR **Moldovita** 120.94 319 ⇑*i*P **PKPdf** 16 58 27.4 -1.2
U49A **Red Boiling Sp** 120.99 51 P **PKPdf** 16 58 28.6 -0.2
baz=287
S49A **Springfield** 120.99 49 P **PKPdf** 16 58 28.1 -0.7
baz=288
W49A **Belvidere** 121.00 53 P **PKPdf** 16 58 27.8 -1.1
baz=286
T49A **Edmonton** 121.01 50 P **PKPdf** 16 58 28.4 -0.5
baz=287
VYHS **Vyhne** 121.03 324 *e*PKiKP **PKPdf** 16 58 28.4 -0.2
VYHS **Vyhne** 121.03 324 *e*PKP **PKPdf** 16 58 28.4 -0.2
249A **Camden** 121.07 56 P **PKPdf** 16 58 28.3 -0.8
baz=283
V49A **McMinnville** 121.11 52 P **PKPdf** 16 58 27.9 -1.2
baz=286
MORC **Moravsky Berou** 121.13 326 ⇑*i*P **PKPdf** 16 58 28.5 -0.2
MORC **Moravsky Berou** 121.13 326 ⇑PKiKP **PKPdf** 16 58 28.5 -0.2
MORC **Moravsky Berou** 121.13 326 *e*PKP **PKPdf** 16 58 28.6 -0.2
149A **Jones** 121.20 56 P **PKPdf** 16 58 29.1 -0.2
baz=284
Y49A **Blount Mountai** 121.20 54 P **PKPdf** 16 58 28.7 -0.7
baz=285
SWET **Sewanee** 121.23 52 *e*PKPdf **PKPdf** 16 58 28.6 -0.8
Z49A **Columbiana** 121.27 55 P **PKPdf** 16 58 29.1 -0.3
baz=284
KRLC **Kraliky** 121.39 327 *e*PKPDF **PKPdf** 16 58 29.0 -0.3
KRLC **Kraliky** 121.39 327 *e*PKiKP **PKPdf** 16 58 29.0 -0.3
M50A **Fremont** 121.42 45 P **PKPdf** 16 58 29.0 -0.5
baz=292
D51A **Lot 18 Range I** 121.44 37 P **PKPdf** 16 58 28.9 -0.5
baz=298
O50A **Cable** 121.46 46 P **PKPdf** 16 58 29.0 -0.7
baz=290
DPC **Dobruska-Polom** 121.49 327 *e*PKPDF **PKPdf** 16 58 28.6 -0.9
DPC AMS AMS 17 51 50.0
comp=Z,1μm,20.0s
DPC **Dobruska-Polom** 121.49 327 *e*PKiKP **PKPdf** 16 58 28.6 -0.9
DPC MLR MLR
comp=Z,1μm,20.0s
P50A **Jamestown** 121.51 47 P **PKPdf** 16 58 29.1 -0.6
baz=290
JAVC **Velka Javorina** 121.52 325 *e*PKP **PKiKP** 16 58 30.4 +0.7
R50A **Paris** 121.56 49 P **PKPdf** 16 58 29.2 -0.7
baz=289
T50A **Nancy** 121.57 50 P **PKPdf** 16 58 29.3 -0.6
baz=288
N50A **Nevada** 121.57 45 P **PKPdf** 16 58 29.4 -0.5
baz=291
UPC **Upice** 121.58 327 AMS AMS 17 52 30.0
comp=Z,1μm,17.9s
E51A **G1948 Merrick** 121.62 38 P **PKPdf** 16 58 29.6 -0.2
baz=298
Q50A **Georgetown** 121.64 48 P **PKPdf** 16 58 29.2 -0.8
baz=289
F51A **Arnstein** 121.64 39 P **PKPdf** 16 58 29.5 -0.3
baz=297
BWLO **Walkerton** 121.64 41 P **PKiKP** 16 58 30.0 0.0
baz=295
X50B **Fort Payne** 121.66 53 P **PKPdf** 16 58 29.3 -0.9
baz=286
S50A **Richmond** 121.70 49 P **PKPdf** 16 58 29.5 -0.7
baz=288
KLBO **Killbear Provi** 121.71 40 P **PKPdf** 16 58 29.3 -0.6
baz=296
W50A **Signal Mountai** 121.73 52 P **PKPdf** 16 58 29.6 -0.8
baz=286
U50A **Jamestown** 121.74 51 P **PKPdf** 16 58 29.6 -0.7
baz=287
Z50A **Ashland** 121.75 55 *e*PKPdf **PKPdf** 16 58 30.0 -0.4
Z50A **Ashland** 121.75 55 P **PKPdf** 16 58 29.8 -0.6
baz=285
V50A **Pikevile** 121.76 52 P **PKPdf** 16 58 29.5 -0.9
baz=287
150A **Eclectic** 121.83 55 P **PKPdf** 16 58 30.1 -0.5
baz=284
LSQQ **Lebel-sur-Quev** 121.86 34 P **PKPdf** 16 58 29.6 -0.5
baz=301
ACSO **Alum Creek Sta** 121.88 46 *e*PKPdf **PKPdf** 16 58 30.0 -0.4
ACSO **Alum Creek Sta** 121.88 46 P **PKPdf** 16 58 29.5 -1.0
baz=291
VRAC **Vranov** 121.90 326 ⇓*i*P **PKPdf** 16 58 30.0 -0.2
VRAC **Vranov** 121.90 326 ⇓PKiKP **PKPdf** 16 58 30.0 -0.2
VRAC **Vranov** 121.90 326 *e*PKP **PKPdf** 16 58 30.0 -0.2
IDI **Anoyia** 121.96 308 PKP **PKPdf** 16 58 30.6 -0.3
comp=Z,17nm,0.8s,baz=314,slow=18,SNR=5.7
K51A **Iona Station** 121.97 43 P **PKPdf** 16 58 30.0 -0.5
baz=294
MODS **Modra-Piesok** 121.99 325 *e*PKiKP **PKiKP** 16 58 31.0 +0.4
MODS **Modra-Piesok** 121.99 325 *e*PKP **PKiKP** 16 58 31.0 +0.4
Q51A **Peebles** 122.04 47 P **PKPdf** 16 58 30.1 -0.7
baz=290
M51A **Elyria** 122.04 45 P **PKPdf** 16 58 30.2 -0.5
baz=292
N51A **Ashland** 122.06 45 *e*PKPdf **PKPdf** 16 58 30.5 -0.3
N51A **Ashland** 122.06 45 P **PKPdf** 16 58 30.2 -0.6
baz=292
F52A **Sundridge** 122.07 39 P **PKPdf** 16 58 30.0 -0.6
baz=297
D52A **ZEK Kipawa Sen** 122.07 37 P **PKPdf** 16 58 29.7 -0.9
baz=299
VLDQ **Val d'Or** 122.08 36 *e*PKPdf **PKPdf** 16 58 29.2 -1.3
P51A **Williamsport** 122.09 47 *e*PKPdf **PKPdf** 16 58 30.4 -0.5
P51A **Williamsport** 122.09 47 P **PKPdf** 16 58 30.3 -0.6
baz=291
R51A **Hillsboro** 122.11 48 P **PKPdf** 16 58 30.5 -0.5
baz=289
KRUC **Moravsky** 122.14 326 *e*PKP **PKPdf** 16 58 30.4 -0.3
W51A **Cleveland** 122.17 52 P **PKPdf** 16 58 31.0 -0.2
baz=287
O51A **Pataskala** 122.18 46 P **PKPdf** 16 58 30.7 -0.3
baz=291
E52A **Mattawa** 122.25 38 P **PKPdf** 16 58 30.6 -0.4
baz=298
T51A **Gray** 122.26 50 P **PKPdf** 16 58 31.0 -0.3
baz=288
Y51A **Rockmart** 122.28 54 P **PKPdf** 16 58 30.6 -0.8
baz=286
I52A **Shelburne** 122.29 41 P **PKPdf** 16 58 30.9 -0.3
baz=296
S51A **Beattyville** 122.31 49 *e*PKPdf **PKPdf** 16 58 31.1 -0.3
S51A **Beattyville** 122.31 49 P **PKPdf** 16 58 30.7 -0.6
baz=289
PVCC **Panska Ves** 122.33 328 *e*PKPDF **PKiKP** 16 58 31.2 0.0
PVCC AMS AMS 17 54 00.0
comp=Z,700nm,19.2s
PVCC **Panska Ves** 122.33 328 *e*PKiKP **PKiKP** 16 58 31.2 0.0
PVCC MLR MLR
comp=Z,700nm,19.2s
DIVS **Divibare** 122.34 319 *e*PKPdf **PKPdf** 16 58 30.8 -0.6
Z51A **Franklin** 122.34 54 P **PKPdf** 16 58 31.2 -0.3
baz=285
151A **Opelika** 122.42 55 P **PKPdf** 16 58 31.3 -0.4
baz=285
D53A **Lac Vacive, Po** 122.45 37 P **PKPdf** 16 58 31.0 -0.3
baz=300
251A **Midway** 122.46 56 P **PKPdf** 16 58 31.8 0.0
baz=284
BRG **Berggiesshubel** 122.46 329 *e*PKP **PKPdf** 16 58 30.6 -0.6
comp=Z,17nm,1.0s
BRG SS SS 17 17 24.0 +40
comp=N,337nm,20.6s
comp=E,602nm,22.2s
comp=Z,889nm,22.2s
BRG **Berggiesshubel** 122.46 329 *e*PKiKP **PKPdf** 16 58 30.6 -0.6
BRG pmax pmax
comp=Z,17nm,1.0s
BRG MLR MLR
comp=N,337nm,20.6s
BRG MLR MLR
comp=E,602nm,22.2s
BRG MLR MLR
comp=Z,889nm,22.2s
TREC **Trest** 122.52 326 *e*PKPDF **PKPdf** 16 58 31.5 +0.1
TREC AMS AMS 17 52 50.0
comp=Z,1μm,21.5s
TREC **Trest** 122.52 326 *e*PKiKP **PKPdf** 16 58 31.5 +0.1
TREC MLR MLR
comp=Z,1μm,21.5s
GOPC **GO Pecny, Ondr** 122.56 327 *e*PKPDF **PKPdf** 16 58 31.3 -0.2
GOPC **GO Pecny, Ondr** 122.56 327 *e*PKiKP **PKPdf** 16 58 31.3 -0.2
N52A **McGinn's Farm,** 122.59 45 P **PKPdf** 16 58 31.5 -0.3
baz=292
SADO **Sadowa** 122.65 40 *e*PKPdf **PKPdf** 16 58 31.2 -0.6
SADO **Sadowa** 122.65 40 PKP **PKPdf** 16 58 30.5 -1.3
comp=Z,12nm,0.8s,baz=314,slow=0.7,SNR=7.9
PRU **Pruhonice** 122.65 327 *e*PKPDF **PKPdf** 16 58 31.1 -0.5
PRU *e*PS **PS** 17 10 01.4 -4.0
PRU AMS AMS 17 53 30.0
comp=Z,600nm,17.7s
PRU **Pruhonice** 122.65 327 *e*PKiKP **PKPdf** 16 58 31.1 -0.5
PRU *e* 17 10 01.4
PRU MLR MLR
comp=Z,600nm,17.7s
S52A **Salyersville** 122.69 49 P **PKPdf** 16 58 31.8 -0.3
baz=290
CLL **Collm** 122.69 329 ⇓*i*PKPdf **PKPdf** 16 58 31.4 -0.2
comp=Z,14nm,1.0s
CLL *e*PP **PP** 17 00 14.0 +4.7
CLL *e*PPP PPP 17 02 42.0
CLL *e*PS **PS** 17 10 07.0 +1.3
CLL *e*SS SS 17 17 12.0 +25
CLL Lm MLR 17 52 00.0
comp=N,700nm,21.5s
CLL Lm MLR 17 52 00.0
comp=E,500nm,21.6s
CLL Lm MLR 17 52 00.0
comp=Z,1μm,21.3s
CLL **Collm** 122.69 329 ⇓PKiKP **PKPdf** 16 58 31.4 -0.2
CLL pmax pmax
comp=Z,14nm,1.0s
CLL MLR MLR
comp=Z,1μm,21.3s
TZTN **Tazewell** 122.70 50 *e*PKPdf **PKPdf** 16 58 32.3 +0.1
TZTN **Tazewell** 122.70 50 P **PKPdf** 16 58 32.1 -0.1
baz=288
P52A **Corning** 122.71 46 P **PKPdf** 16 58 31.3 -0.7
baz=291
O52A **Adamsville** 122.74 46 *e*PKPdf **PKPdf** 16 58 31.7 -0.5
O52A **Adamsville** 122.74 46 P **PKPdf** 16 58 31.4 -0.7
baz=292
FNA **Florina** 122.75 315 *e*PKPdf **PKPdf** 16 58 31.4 -0.8
FNA **Florina** 122.75 315 *e*PKiKP **PKPdf** 16 58 31.4 -0.8
ALGO **Algonquin Park** 122.78 38 P **PKPdf** 16 58 31.3 -0.7
baz=299
R52A **Catlettsburg** 122.79 48 P **PKPdf** 16 58 31.6 -0.6
baz=290
TKL **Tuckaleechee C** 122.80 51 *e*PKPdf **PKPdf** 16 58 32.4 0.0
TKL **Tuckaleechee C** 122.80 51 *e*PKiKP **PKPdf** 16 58 32.4 0.0
TKL **Tuckaleechee C** 122.80 51 PKP **PKPdf** 16 58 31.6 -0.7
comp=Z,31nm,1.1s,baz=184,slow=4.8,SNR=11
E53A **Dumoine, Ponti** 122.81 37 P **PKPdf** 16 58 31.4 -0.6
baz=299
G53A **Haliburton** 122.81 39 P **PKPdf** 16 58 31.9 -0.2
baz=298
CHGQ **Chibougamau** 122.83 33 P **PKPdf** 16 58 31.2 -0.8
baz=304
W52A **Murphy** 122.84 52 *e*PKPdf **PKPdf** 16 58 32.5 0.0
W52A **Murphy** 122.84 52 P **PKPdf** 16 58 32.3 -0.2
baz=287
Q52A **Bidwell** 122.85 47 P **PKPdf** 16 58 31.9 -0.4
baz=291
V52A **Sevierville** 122.88 51 *e*PKPdf **PKiKP** 16 58 32.7 0.0
V52A **Sevierville** 122.88 51 P **PKPdf** 16 58 32.4 -0.1
baz=288
152A **Waverly Hall** 122.88 55 P **PKPdf** 16 58 32.5 -0.1
baz=285
U52A **Thorn Hill** 122.88 50 P **PKPdf** 16 58 32.5 0.0
baz=288
452A **Marianna** 122.94 57 P **PKiKP** 16 58 33.0 0.0
baz=284
T52A **Hallie** 122.95 49 P **PKPdf** 16 58 32.7 0.0
baz=289
Z52A **Williamson** 122.99 54 P **PKPdf** 16 58 32.7 -0.1
baz=286

X52A	Dahlonega	123.01	53	P		PKiKP	16 58 33.0	-0.1
	baz=287							
D54A	Lac Fusel, La	123.03	36	P		PKPdf	16 58 31.5	-0.9
	baz=301							
CONA	Conrad Observa	123.04	325	*e*PKiKP		PKPdf	16 58 32.3	-0.2
	comp=Z,6.7nm,0.9s							
252A	Lumpkin	123.04	56	P		PKPdf	16 58 32.8	-0.1
	baz=285							
M53A	WI Miller and	123.05	44	P		PKPdf	16 58 32.1	-0.5
	baz=294							
E54A	Lac Daplat, Po	123.07	37	P		PKPdf	16 58 32.0	-0.6
	baz=300							
Y52A	Lilburn	123.09	53	P		PKPdf	16 58 32.8	-0.2
	baz=286							
O53A	New Philadelph	123.14	45	P		PKPdf	16 58 32.4	-0.5
	baz=292							
N53A	Lisbon	123.19	45	P		PKPdf	16 58 32.6	-0.4
	baz=293							
SCHQ	Schefferville	123.28	24	PKP		PKPdf	16 58 32.6	-0.1
	comp=Z,4.8nm,0.7s,baz=321,slow=1.8,SNR=4.5							
P53A	Whipple	123.30	46	*e*PKPdf		PKPdf	16 58 33.1	-0.1
P53A	Whipple	123.30	46	P		PKPdf	16 58 32.9	-0.3
	baz=292							
BANO	Bancroft	123.30	39	P		PKPdf	16 58 32.7	-0.3
	baz=298							
R53A	Hurricane	123.30	48	P		PKPdf	16 58 32.7	-0.5
	baz=291							
T53A	Wise	123.33	49	P		PKPdf	16 58 33.2	-0.2
	baz=290							
PEMO	Pembroke	123.41	38	P		PKPdf	16 58 32.5	-0.7
	baz=299							
W53A	Cullowhee	123.42	52	P		PKPdf	16 58 33.6	-0.1
	baz=288							
Q53A	Leroy	123.43	47	P		PKPdf	16 58 33.0	-0.4
	baz=291							
Y53A	Monroe	123.47	53	P		PKPdf	16 58 33.7	0.0
	baz=287							
U53A	Fall Branch	123.50	50	P		PKPdf	16 58 33.7	-0.1
	baz=289							
WLVO	Wesleyville	123.51	40	P		PKPdf	16 58 33.0	-0.5
	baz=297							
V53A	Saluda	123.54	51	*e*PKPdf		PKPdf	16 58 34.0	+0.1
V53A	Saluda	123.54	51	P		PKPdf	16 58 33.9	+0.1
	baz=288							
PDG	Podgorica	123.54	318	⇑*i*P		PKPdf	16 58 32.6	-0.9
ARSA	Arzberg	123.59	324	*e*PKiKP		PKPdf	16 58 33.2	-0.3
	comp=Z,5.9nm,1.1s							
NKC	Novy Kostel	123.61	329	*e*PKPDF		PKiKP	16 58 33.7	-0.1
NKC				AMS		AMS	17 52 40.0	
	comp=Z,900nm,21.1s							
NKC	Novy Kostel	123.61	329	*e*PKiKP		PKiKP	16 58 33.7	-0.1
NKC				MLR		MLR		
	comp=Z,900nm,21.1s							
353A	Camilla	123.63	56	P		PKiKP	16 58 34.3	0.0
	baz=285							
Z53A	Monticello	123.64	54	P		PKPdf	16 58 33.9	-0.2
	baz=286							
KHC	Kasperske Hory	123.65	327	*e*PKPdf		PKPdf	16 58 33.5	-0.1
KHC	Kasperske Hory	123.65	327	*e*PKPDF		PKPdf	16 58 33.3	-0.3
KHC				*ex*		x	16 58 43.1	
KHC				AMS		AMS	17 52 00.0	
	comp=Z,900nm,21.1s							
KHC	Kasperske Hory	123.65	327	*e*PKiKP		PKPdf	16 58 33.3	-0.3
KHC				*e*			16 58 43.1	
KHC				MLR		MLR		
	comp=Z,900nm,21.1s							
BG3	Lake Jocassee	123.65	52	*e*PKPdf		PKiKP	16 58 34.5	+0.3
GOGA	Godfrey	123.69	54	*e*PKPdf		PKPdf	16 58 34.0	-0.1
GOGA	Godfrey	123.69	54	P		PKPdf	16 58 34.0	-0.1
	baz=286							
M54A	Oil Creek Stat	123.71	43	*e*PKPdf		PKPdf	16 58 33.1	-0.9
M54A	Oil Creek Stat	123.71	43	P		PKPdf	16 58 33.7	-0.3
	baz=295							
N54A	Moraine State	123.71	44	*e*PKPdf		PKPdf	16 58 34.0	0.0
N54A	Moraine State	123.71	44	P		PKPdf	16 58 33.9	-0.1
	baz=294							
GEC2	GERESS Array S	123.75	327	*e*PKPdf		PKPdf	16 58 33.7	-0.2
GEC2	GERESS Array S	123.75	327	*e*PKiKP		PKPdf	16 58 33.7	-0.2
GERES	GERESS Array B	123.75	327	PKP		PKPdf	16 58 33.5	-0.4
	comp=Z,6.3nm,0.8s,baz=68,slow=1.7,SNR=44							
GERES				PKKPbc		PKKPbc	17 08 22.2	-0.5
	comp=Z,0.8nm,0.7s,baz=197,slow=2.8,SNR=5.9							
O54A	Avella	123.75	45	P		PKiKP	16 58 34.2	-0.1
	baz=293							
PLVO	Plevna	123.82	39	*e*PKPdf		PKPdf	16 58 33.7	-0.3
PLVO	Plevna	123.82	39	P		PKPdf	16 58 33.8	-0.3
	baz=299							
BLY	Banja Luka	123.84	321	⇑*i*P		PKPdf	16 58 34.0	-0.1
F55A	Otter Lake	123.87	38	P		PKPdf	16 58 33.5	-0.6
	baz=300							
Q54A	Coxs Mills	123.88	47	P		PKPdf	16 58 33.9	-0.4
	baz=292							
P54A	Burton	123.90	46	P		PKPdf	16 58 34.0	-0.4
	baz=293							
G55A	Calabogie	123.94	38	P		PKPdf	16 58 33.7	-0.6
	baz=300							
MOA	Molln	123.98	325	*e*PKiKP		PKPdf	16 58 33.5	-0.8
	comp=Z,4.0nm,0.8s							
H55A	Tweed	123.99	39	P		PKPdf	16 58 34.1	-0.2
	baz=299							
T54A	Tazewell	124.02	49	P		PKPdf	16 58 34.7	-0.1
	baz=290							
R54A	Victor	124.06	48	P		PKPdf	16 58 34.3	-0.5
	baz=291							
TIGA	Tifton	124.12	56	P		PKiKP	16 58 35.4	+0.1
	baz=285							
V54A	Nebo	124.17	51	P		PKPdf	16 58 34.9	-0.1
	baz=289							
SOKA	Soboth	124.17	324	*e*PKiKP		PKPdf	16 58 33.7	-1.1
	comp=Z,13nm,0.9s							
Y54A	Tignall	124.18	53	P		PKPdf	16 58 35.0	-0.1
	baz=287							
W54A	Cherokee Point	124.21	52	P		PKPdf	16 58 35.2	+0.1
	baz=288							
X54A	Belton	124.23	52	P		PKiKP	16 58 35.5	+0.1
	baz=288							
254A	Abbeville	124.24	55	P		PKPdf	16 58 35.3	+0.1
	baz=286							
Z54A	Sparta	124.24	54	P		PKPdf	16 58 35.3	+0.1
	baz=287							
L55A	Hinsdale	124.26	42	P		PKPdf	16 58 34.4	-0.6
	baz=296							
K55A	Perry	124.26	42	P		PKPdf	16 58 34.4	-0.6
	baz=297							
454A	Quitman	124.27	57	P		PKPdf	16 58 35.2	-0.1
	baz=285							
M55A	Ridgway	124.34	43	P		PKPdf	16 58 35.1	-0.1
	baz=295							
Q55A	Buckhannon	124.42	46	P		PKPdf	16 58 35.0	-0.4
	baz=293							
N55A	Marion Center	124.48	44	P		PKPdf	16 58 35.1	-0.4
	baz=295							
O55A	Ligonier	124.50	45	P		PKPdf	16 58 35.4	-0.1
	baz=294							
H56A	Elgin	124.55	39	P		PKPdf	16 58 34.9	-0.5
	baz=300							
OBKA	Obir	124.55	324	*e*PKiKP		PKPdf	16 58 35.1	-0.4
	comp=Z,7.0nm,1.1s							
GRF	Grafenberg Arr	124.57	329	*e*PKPdf		PKPdf	16 58 35.5	+0.1
	baz=54,slow=1.3							
ORIO	Orleans, Innes	124.58	38	P		PKPdf	16 58 35.1	-0.3
	baz=301							
T55A	Pulaski	124.60	49	P		PKPdf	16 58 35.6	-0.3
	baz=291							
U55A	TA2, Sparta	124.61	50	P		PKPdf	16 58 35.6	-0.3
	baz=290							
R55A	Marlinton	124.66	47	P		PKPdf	16 58 35.6	-0.4
	baz=292							
V55A	Taylorsville	124.71	50	P		PKPdf	16 58 35.9	-0.1
	baz=290							
Y55A	Saluda	124.82	53	P		PKPdf	16 58 36.4	+0.2
	baz=288							
X55A	Gracelyn & Ava	124.83	52	P		PKiKP	16 58 36.7	+0.1
	baz=289							
BLA	Blacksburg	124.83	49	*e*PKPdf		PKPdf	16 58 36.1	-0.2
BLA	Blacksburg	124.83	49	*e*PKiKP		PKPdf	16 58 36.1	-0.2
BLA	Blacksburg	124.83	49	P		PKPdf	16 58 35.7	-0.6
	baz=291							
KMSC	Kings Mountain	124.85	51	P		PKPdf	16 58 36.4	+0.1
	baz=289							
255A	Hazlehurst	124.91	55	P		PKiKP	16 58 36.8	0.0
	baz=286							
KBA	Koelnbreinsper	124.93	325	*e*PKiKP		PKPdf	16 58 35.2	-1.1
	comp=Z,11nm,0.9s,SNR=5.9							
555A	McAlpin	124.98	58	P		PKiKP	16 58 37.1	+0.1
	baz=285							
O56A	Blue Knob Stat	124.99	44	P		PKPdf	16 58 36.6	+0.1
	baz=295							
MYKA	Terra Mystica	125.01	324	*e*PKiKP		PKPdf	16 58 35.8	-0.6
	comp=Z,7.8nm,1.0s							
X56A	White Oak	125.30	52	P		PKiKP	16 58 37.6	+0.1
	baz=289							
SSPA	Standing Stone	125.30	44	*e*PKPdf		PKPdf	16 58 36.8	-0.1
SSPA	Standing Stone	125.30	44	P		PKPdf	16 58 36.9	-0.1
	baz=296							
W56A	Indian Trail	125.43	51	P		PKiKP	16 58 37.9	+0.1
	baz=290							
JTS	JuntasAbangare	125.56	82	*e*PKPdf		PKiKP	16 58 38.7	+0.1
LONY	Lake Ozonia	125.57	38	*e*PKPdf		PKPdf	16 58 36.8	-0.6
LONY	Lake Ozonia	125.57	38	P		PKPdf	16 58 37.2	-0.2
	baz=301							
ABTA	Abfaltersbach	125.59	325	*i* PKiKP		PKPdf	16 58 36.4	-1.1
	comp=Z,20nm,1.1s,SNR=9.1							
WATA	Walderalm	125.78	326	*i* PKiKP		PKPdf	16 58 37.1	-0.8
	comp=Z,8.5nm,0.6s,SNR=5.9							
V57A	Coltrane Farms	125.79	50	P		PKPdf	16 58 37.9	-0.2
	baz=291							
W57A	Gilead	125.88	51	P		PKPdf	16 58 38.4	+0.2
	baz=290							
Z57A	Bowman	125.93	53	P		PKiKP	16 58 39.2	+0.4
	baz=288							
MOTA	Moosalm	126.03	326	*i* PKiKP		PKPdf	16 58 37.6	-0.8
	comp=Z,26nm,1.0s,SNR=14							
SQTA	Sankt Quirin	126.05	326	*i* PKiKP		PKPdf	16 58 38.0	-0.4
	comp=Z,19nm,1.0s,SNR=7.1							
857A	Zephyrhills	126.05	60	P		PKPdf	16 58 39.0	+0.2
	baz=284							
FRNY	Flat Rock	126.06	37	*e*PKPdf		PKPdf	16 58 38.1	-0.2
NCB	Newcomb	126.12	39	*e*PKPdf		PKiKP	16 58 38.8	-0.2
RETA	Reutte	126.14	327	*i* PKiKP		PKPdf	16 58 38.3	-0.2
	comp=Z,7.8nm,1.0s							
PAGS	Pennsylvania G	126.28	44	*e*PKPdf		PKPdf	16 58 38.8	-0.1
R58B	Mineral	126.42	47	P		PKPdf	16 58 39.0	-0.2
	baz=294							
FETA	Feichten	126.43	326	*i* PKiKP		PKPdf	16 58 39.1	-0.1
	comp=Z,22nm,1.0s,SNR=10							
EKA	Eskdalemuir Ar	126.53	341	*e*PKiKP		PKPdf	16 58 38.0	-0.9
EKA	Eskdalemuir Ar	126.53	341	PKP		PKPdf	16 58 38.0	-0.9
	comp=Z,3.2nm,0.8s,baz=18,slow=2.2,SNR=7.6							
MEM	Membach	126.54	332	⇑PKiKP		PKPdf	16 58 39.3	+0.2
N59A	State Game Lan	126.61	43	*e*PKPdf		PKiKP	16 58 40.0	-0.1
N59A	State Game Lan	126.61	43	P		PKiKP	16 58 39.8	-0.2
	baz=298							
MVL	Millersville	126.63	44	*e*PKPdf		PKiKP	16 58 40.0	0.0
TIP	Timpagrande	126.65	315	⇑*i*P		PKPdf	16 58 39.7	0.0
TSUM	Tsumeb	126.72	241	*e*PKPdf		PKiKP	16 58 40.8	-0.2
DAVA	Damuels	126.74	327	*i* PKiKP		PKPdf	16 58 39.7	0.0
	comp=Z,13nm,0.9s							
DWPF	Disney Wildern	126.77	60	*e*P		PKiKP	16 58 43.2	+2.6
TRQA	Tornquist	126.85	149	*e*PKPdf		PKiKP	16 58 40.8	+0.2
BCLA	Clavier	126.99	332	⇓PKiKP		PKiKP	16 58 40.5	+0.1
DAVOX	Davos/Dischmat	127.04	326	PKP		PKPdf	16 58 38.9	-1.5
	comp=Z,17nm,1.0s,baz=128,slow=1.6,SNR=16							
WLF	Walferdange	127.11	331	⇓PKiKP		PKPdf	16 58 40.1	-0.1
SNF	Seneffe	127.40	333	⇑PKiKP		PKiKP	16 58 41.3	+0.1
LCO	Las Campanas	127.48	134	*e*PKPdf		PKiKP	16 58 42.9	+0.4
LCO	Las Campanas	127.48	134	*e*PKiKP		PKiKP	16 58 42.9	+0.4
LCO	Las Campanas	127.48	134	*e*P		PKiKP	16 58 43.5	+1.1
DOU	Dourbes	127.55	333	⇑PKiKP		PKiKP	16 58 41.6	0.0
OTAV	Otavalo	131.33	95	*e*P		PKiKP	16 58 52.3	+1.5
LVC	Limon Verde	132.38	128	*e*P		PKiKP	16 58 54.3	+1.7
POPC	Popayan, Colom	133.38	92	*e*P		PKPdf	16 58 52.2	-1.2
POPC	Popayan, Colom	133.38	92	*e*P		PKPdf	16 58 52.2	-1.2
SOTA	Rioblanco	133.40	93	*e*P		PKPdf	16 58 54.3	+0.5
SOTA	Rioblanco	133.40	93	*e*P		PKPdf	16 58 54.3	+0.5
KEST	Kesra	133.46	315	PKP		PKPdf	16 58 50.1	-2.7
	comp=Z,10nm,1.0s,baz=42,slow=3.4,SNR=2.8							
YOTC	Yotoco, Valle	133.84	90	*e*P		PKPdf	16 58 53.6	-0.5
YOTC	Yotoco, Valle	133.84	90	*e*P		PKPdf	16 58 53.6	-0.5
MARP	Paez Belalcaza	134.12	92	*e*P		PKPdf	16 58 55.5	+0.7
MARP	Paez Belalcaza	134.12	92	*e*P		PKPdf	16 58 55.5	+0.7
HELC	Santa Helena	134.79	87	*e*P		PKPdf	16 58 56.9	+0.7
HELC	Santa Helena	134.79	87	*e*P		PKPdf	16 58 56.9	+0.7
PTLC	Puerto Leguiza	134.94	96	*e*P		PKPdf	16 58 55.0	-1.1
PTLC	Puerto Leguiza	134.94	96	*e*P		PKPdf	16 58 55.0	-1.1
PRAC	Prado	135.27	91	*e*P		PKPdf	16 58 56.2	-0.5
PRAC	Prado	135.27	91	*e*P		PKPdf	16 58 56.2	-0.5
NORC	Norcasia	135.42	88	*e*P		PKPdf	16 58 56.2	-0.8
NORC				*e*P		PKiKP	16 58 57.5	-1.0
NORC	Norcasia	135.42	88	*e*P		PKPdf	16 58 56.2	-0.8
NORC				*e*P		PKiKP	16 58 57.5	-1.0
ZARC	Zaragoza, Cauc	135.50	86	*e*P		PKPpre	16 58 49.6	
ZARC	Zaragoza, Cauc	135.50	86	*e*P		PKPpre	16 58 49.6	
PTBC	PUERTO BERRIO	135.87	87	*e*P		PKPpre	16 58 48.3	
PTBC	PUERTO BERRIO	135.87	87	*e*P		PKPpre	16 58 48.3	
ROSC	El Rosal	135.92	89	*e*P		PKPdf	16 58 58.3	-0.1
ROSC	El Rosal	135.92	89	*e*P		PKPdf	16 58 58.3	-0.1
ROSC	El Rosal	135.92	89	PKP		PKPdf	16 58 58.1	-0.3
	comp=Z,32nm,0.9s,baz=137,slow=6.7,SNR=11							
CTAB	Cerro Tablazo,	136.04	89	*e*P		PKPdf	16 58 58.2	-0.5
CTAB	Cerro Tablazo,	136.04	89	*e*P		PKPdf	16 58 58.2	-0.5
SMRC	Santa Marta, M	136.09	80	*e*P		PKPdf	16 58 57.0	-1.2
SMRC	Santa Marta, M	136.09	80	*e*P		PKPdf	16 58 57.0	-1.2
LPAZ	La Paz	136.17	121	PKP		PKPdf	16 58 58.9	-0.1
	comp=Z,22nm,0.9s,baz=15,slow=2.6,SNR=26							
SMLC	San Martn de	136.30	84	*e*P		PKPpre	16 58 54.3	
SMLC	San Martn de	136.30	84	*e*P		PKPpre	16 58 54.3	
VILC	Villavicencio,	136.49	91	*e*P		PKPpre	16 58 51.6	
VILC	Villavicencio,	136.49	91	*e*P		PKPpre	16 58 51.6	
CODC	Agustn Codazz	136.90	82	*e*P		PKPdf	16 58 58.2	-1.4
CODC	Agustn Codazz	136.90	82	*e*P		PKPdf	16 58 58.2	-1.4
RUSC	La Rusia	137.21	88	*e*P		PKPpre	16 58 55.6	
RUSC	La Rusia	137.21	88	*e*P		PKPpre	16 58 55.6	
PAMC	Pamplona, Colo	137.64	86	*e*P		PKPdf	16 59 00.2	-1.5
PAMC	Pamplona, Colo	137.64	86	*e*P		PKPdf	16 59 00.2	-1.5
CPUP	Villa Florida	138.18	142	PKP		PKPdf	16 59 01.7	-0.1
	comp=Z,8.5nm,1.0s,baz=7.1,slow=1.9,SNR=6.4							
URIC	Uribia, Colomb	138.25	79	*e*P		PKPdf	16 59 01.6	-0.5
URIC	Uribia, Colomb	138.25	79	*e*P		PKPdf	16 59 01.6	-0.5
ESDC	Sonseca Array	139.27	329	PKhKP		PKPpre	16 59 00.1	
	comp=Z,0.2nm,0.3s,baz=24,slow=2.3,SNR=4.5							
CNLB	Canela	139.38	152	*e*P		PKiKP	16 59 07.2	+1.0
POLO	Lamas de Olo	139.78	334	*e*PKP		PKPdf	16 59 04.4	+0.1
PVRL	Vila Real	139.83	334	*e*PKP		PKPdf	16 59 05.3	+0.9
PMRV	Marv??o	141.16	332	*e*PKP		PKPpre	16 59 02.4	
EVO	Evora	142.16	331	*e*PKP		PKPdf	16 59 06.9	-1.7
PBEJ	Beja	142.49	331	*e*PKP		PKiKP	16 59 11.7	-0.6
PNCL	Nicolau / Gran	142.74	331	*e*PKP		PKPdf	16 59 07.9	-1.7
MESJ	Messejana	142.81	331	*e*PKPdf		PKPdf	16 59 09.4	-0.3
MESJ				*e*PP		PP	17 02 18.8	+0.8
MESJ				AMS		AMS	18 11 35.2	
	comp=Z,250nm,13.7s							
MESJ	Messejana	142.81	331	*e*PKiKP		PKPdf	16 59 09.4	-0.3
MESJ				*e*			17 02 18.8	
SJG	San Juan	142.87	68	PKhKP		PKPpre	16 59 05.7	
	comp=Z,24nm,0.9s,baz=350,slow=3.8,SNR=4.0							
PCVE	Castro Verde	142.89	330	*e*PKP		PKiKP	16 59 13.4	+0.3
MORF	Marmelete	143.44	331	*e*PKPdf		PKPdf	16 59 10.3	-0.6
MORF				*e*PP		PP	17 02 22.8	+0.9
MORF				AMS		AMS	18 04 43.9	
	comp=N,423nm,21.2s							
MORF	Marmelete	143.44	331	*e*PKiKP		PKPdf	16 59 10.4	-0.6
MORF				*e*			17 02 22.8	
CDVI	St. Croix	144.24	68	*e*PKPdf		PKPab	16 59 10.7	0.0
MDT	Midelt	144.51	321	PKP		PKPbc	16 59 12.0	+0.3
	comp=N,11nm,1.0s,baz=80,slow=3.5,SNR=22							
RCLB	Rio Claro- Sao	146.77	150	*e*P		PKPab	16 59 20.1	0.0
MLYT	Lee's Yard	146.88	69	*e*P		PKPbc	16 59 18.9	-0.4
BPA	Boggy Peak	147.10	68	*e*P		PKPab	16 59 21.6	0.0
BB19B	Bebedouro	147.35	147	*e*P		PKPab	16 59 21.8	-0.6
ITRB	Iturama	147.37	143	*e*P		PKPab	16 59 21.6	-0.9
BBL	Barber's Block	147.83	71	*e*P		PKPbc	16 59 20.5	-1.4
MDPO	Dominica; Chan	147.84	71	*e*P		PKPab	16 59 25.2	+0.8
MDN	Morne-Daniel	147.95	71	*e*		PKiKP	16 59 23.9	-0.1
DWS	Wesley	147.97	71	*e*		PKPab	16 59 29.8	+4.8
TOA0	Torodí Ar. Sit	148.00	285	*e*PKPbc		PKPbc	16 59 21.4	-1.0
TORD	Torodi Ar. Bea	148.00	285	PKPbc		PKPbc	16 59 21.2	-1.2
	comp=N,28nm,0.5s,baz=23,slow=2.8,SNR=94							
TOA1	Torodi Ar. Sit	148.00	285	*e*PKPbc		PKPbc	16 59 21.2	-1.2
DBCT	Belle View Cho	148.01	71	*e*		PKiKP	16 59 24.2	0.0
DLPL	La Plaine	148.09	71	*e*		PKPbc	16 59 22.8	+0.2
GRGR	Grenville	148.27	77	*e*PKPbc		PKPdf	16 59 20.9	+1.2
GRGR	Grenville	148.27	77	*e*		PKPdf	16 59 20.4	+0.6
GRHS	Sauteurs	148.27	77	*e*		PKPbc	16 59 23.5	+0.4
GRSS	Sisters	148.29	77	*e*		PKPbc	16 59 23.5	+0.4
FDF	Fort de France	148.31	72	*e*PKPbc		PKiKP	16 59 24.4	-0.5
FDF	Fort de France	148.31	72	*e*P		PKiKP	16 59 24.4	-0.5
FDF	Fort de France	148.31	72	*e*PKP2		PKiKP	16 59 24.4	-0.5
SVB	Belmont	148.49	75	*e*PKPbc		PKPbc	16 59 23.2	-0.4
SVB	Belmont	148.49	75	*e*P		PKPbc	16 59 22.3	-1.4
FCV	Fort Charlotte	148.51	75	*e*		PKPbc	16 59 23.6	-0.1
SVV	Soufriere Volc	148.51	75	*e*P		PKPbc	16 59 23.5	-0.2
SSV	Crater Summit	148.53	75	*e*P		PKPbc	16 59 22.8	-1.1
TPP	Pointe-a-Pierr	148.67	80	*e*P		PKiKP	16 59 26.7	+1.1
TRN	Trinidad (W)	148.69	80	*e*P		PKiKP	16 59 26.4	+0.8
VAS01	Vassouras-RJ	148.76	156	*e*P		PKPbc	16 59 24.2	-0.1
TBH	Brigand Hill	149.03	80	*e*P		PKPab	16 59 28.0	-1.3
TPR	Prospect	149.24	79	*e*P		PKiKP	16 59 27.4	+0.6
BSCB	Bom Sucesso	149.31	152	*e*P		PKPbc	16 59 25.2	-0.5
PTGA	Pitinga	149.34	102	*e*PKPbc		PKiKP	16 59 26.6	-0.4
PTGA	Pitinga	149.34	102	PKPbc		PKPbc	16 59 26.1	+0.2
	comp=N,116nm,0.9s,baz=247,slow=3.7,SNR=83							
PTGA	Pitinga	149.34	102	*e*P		PKPdf	16 59 23.1	+1.6
TOSP	Speyside	149.46	78	*e*P		PKiKP	16 59 27.6	+0.4
BDFB	Brasilia	151.90	141	PKP		PKPdf	16 59 26.2	+0.7
	comp=N,15nm,0.9s,baz=105,slow=3.7,SNR=13							
BDFB				PKPbc		PKPbc	16 59 31.9	-0.1
	comp=N,32nm,0.8s,baz=150,slow=0.8,SNR=22							
BDFB				PKPab		pPKPdf	16 59 41.6	-0.3
	comp=N,29nm,0.8s,baz=265,slow=1.5,SNR=12							
MCI6	Montes Claros	153.32	149	*e*P		PKPbc	16 59 31.6	-3.5
MCI8	Montes Claros	153.43	149	*e*P		PKPbc	16 59 31.6	-3.8
JANB	Januaria	154.55	146	*e*P		PKPbc	16 59 34.1	-3.7
KIC	Kosan Boka	154.85	272	*e*PKiKP		PKPdf	16 59 28.5	-1.2
	comp=N,80nm,1.0s							
DBIC	Dimbokro	154.97	272	PKP		PKPdf	16 59 28.6	-1.2
	comp=N,15nm,1.0s,baz=12,slow=2.5,SNR=8.7							
DBIC				PKPbc		PKPbc	16 59 37.8	-0.9
	comp=N,19nm,0.9s,baz=90,slow=2.2,SNR=3.1							
DBIC				PKPab		PKPab	16 59 53.8	-0.4
	comp=N,19nm,1.1s,baz=346,slow=6.2,SNR=3.8							
DBIC	Dimbokro	154.97	272	*e*P		PKPbc	16 59 34.3	-4.3
TIC	Toumodi	155.13	272	*e*PKiKP		PKPdf	16 59 28.9	-1.2
LIC	Lamto	155.13	271	*e*PKiKP		PKPdf	16 59 28.6	-1.5
	comp=N,75nm,1.0s							
MDP	Montagnes des	157.49	92	PKP		PKPdf	16 59 32.6	-0.6
	comp=N,34nm,1.0s,baz=236,slow=5.7,SNR=3.9							
MDP				PKPab		PKPab	17 00 04.6	-0.5
	comp=N,22nm,0.9s,baz=236,slow=4.9,SNR=4.1							

*ISCJB **16** 16:46:14.7±0.6, 31°.35S±0'.03×68°.62W±0'.04, h112km±5km, Error ellipse: s-maj=5.7km s-min=5.4km az=31.8*
*GUC **16** 16:46:14.5±0.4, 31°.35S×69°.15W, h183km±12km, ML2.9*
*SJA **16** 16:46:14.3±0.7, 31°.37S×68°.65W, h108km±2km, ML3.1, MW3.7*

ISC 16 16:46:15.5±1.4, 31°.35S±0'.04×68°.64W±0'.04, h106km±7km, n27, σ0.62/37, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RTLL	Cerro Villicun	0.14	83	*e*P		P	Pn	16 46 30.2	-0.2
RTLL						IAML		16 46 30.3	
	comp=Z,1μm,0.3s								
RTLL				*e*S		S	Sn	16 46 41.6	0.0
ZON	Zonda	0.

USRK	**Ussuriysk Ar.**	**50.47**	**4**	P	**P**	**16 54 43.1**	**+1.3**
	0.9nm,0.5s,baz=195,slow=5.1,SNR=3.1						
SONM	**Songino Array**	**57.32**	**343**	P	**P**	**16 55 33.8**	**+2.7**
	0.5nm,0.5s,baz=165,slow=7.6,SNR=4.2						
MKAR	**Makanchi Array**	**66.76**	**328**	P	**P**	**16 56 35.4**	**+2.3**
	0.9nm,0.4s,baz=118,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**70.27**	**334**	P	**P**	**16 56 55.1**	**+0.7**
	0.9nm,0.6s,baz=134,slow=4.2,SNR=3.4						

ISCJB ***16*** *16:58:55.6±1.4, 19.˙10N±0.˙04×62.˙82W±0.˙03, h7km±9km, mb4.0/19, MS4.2/1, Error ellipse: s-maj=6.4km s-min=5.4km az=176.6*

IDC ***16*** *16:58:56.2±0.6, 19.˙05N×62.˙83W, h0km, mb4.0/19, mb1 4.2/22, mb1mx4.0/61, mbtmp4.1/22, ML3.6/3, MS3.7/3, Ms1 3.7/3, ms1mx3.2/38, Error ellipse: s-maj=16.6km s-min=13.6km az=176.0*

NEIC ***16*** *16:58:57.6±0.2, 19.˙01N×62.˙83W, h10km, mb4.7/2, Error ellipse: s-maj=4.8km s-min=3.7km az=153.0*

ISC 16 16:58:56.9±1.8, 19.˙03N±0.˙05×62.˙84W±0.˙04, h6km±11km, n95, σ1§42/99, mb4.1/19, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMRT	**St. Maarten**	**1.00**	**193**	*e*Pg	**Pg**	**16 59 15.1**	**-0.9**
SMRT				*e*Sn	**Sn**	**16 59 31.1**	**-0.8**
SMRT	**St. Maarten**	**1.00**	**193**	*e*P	**Pn**	**16 59 17.3**	**-0.1**
SMRT	**St. Maarten**	**1.00**	**193**	*e*	**Sn**	**16 59 31.2**	**-0.7**
ABVI	**Anegada Island**	**1.45**	**258**	*e*Pn	**Pn**	**16 59 23.4**	**-0.2**
SEUS	**St. Eustatius**	**1.53**	**185**	*e*Pn	**Pb**	**16 59 25.6**	**-0.2**
SEUS	**St. Eustatius**	**1.53**	**185**	*e*P	**Pn**	**16 59 25.1**	**+0.3**
SEUS	**St. Eustatius**	**1.53**	**185**	*e*	**Sb**	**16 59 45.5**	**+0.1**
ANWB	**Willy Bob**	**1.68**	**143**	*e*Pn	**Pn**	**16 59 25.6**	**-1.2**
ANWB	**Willy Bob**	**1.68**	**143**	*e*P	Pn	16 59 18.6	-8.3
ANWB	**Willy Bob**	**1.68**	**143**	*e*P	**Pn**	**16 59 25.5**	**-1.4**
ANWB					*e*S	**Sn**	**16 59 44.9**	**-3.9**
NEV	**Hard Times**	**1.90**	**172**	*e*	**Pg**	**16 59 34.6**	**+1.4**
STVI	**Saint Thomas**	**2.11**	**252**	*e*Pn	**Pn**	**16 59 33.5**	**+0.7**
STVI					*e*Sn	**Sn**	**16 59 57.3**	**-2.2**
BPA	**Boggy Peak**	**2.18**	**154**	*e*	**Pb**	**16 59 37.5**	**+0.7**
BPA	**Boggy Peak**	**2.18**	**154**	*e*	**Sn**	**17 00 00.9**	**-0.3**
CDVI	**St. Croix**	**2.23**	**236**	*e*Pn	**Pb**	**16 59 36.3**	**-1.3**
CDVI					*e*Sn	**Sb**	**17 00 06.1**	**+0.6**
MLYT	**Lee's Yard**	**2.38**	**165**	*e*	**Pb**	**16 59 41.1**	**+1.0**
CUPR	**Culebra, Puert**	**2.42**	**253**	*e*Pn	**Pn**	**16 59 37.7**	**+0.6**
MTP	**Monte Pirata**	**2.73**	**251**	*e*Pn	**Pn**	**16 59 42.5**	**+1.1**
MTP					*e*Sn	**Sn**	**17 00 10.4**	**-4.4**
ABD	**La Joyeuse, An**	**2.85**	**153**	*e*P	**Pn**	**16 59 45.1**	**+2.2**
HUMP	**Col San Antoni**	**2.99**	**253**	*e*Pn	**Pn**	**16 59 45.6**	**+0.7**
CBE	**Ff, Capester**	**3.17**	**158**	*e*P	**Pn**	**16 59 46.8**	**-0.6**
SJG	**San Juan**	**3.27**	**254**	*e*Pn	**Pn**	**16 59 49.1**	**+0.3**
SJG					*e*Sn	**Sn**	**17 00 30.1**	**+2.1**
SJG	**San Juan**	**3.27**	**254**	Pn	**Pn**	**16 59 48.5**	**-0.3**
	18nm,0.3s,baz=93,slow=17,SNR=20						
SJG					Sn	**Sn**	**17 00 30.1**	**+2.1**
	21nm,0.3s,baz=72,slow=20,SNR=4.1						
SJG					LR	LR	17 01 24.0	
	comp=Z,542nm,20.4s,baz=75,slow=45						
TBG	**Guadaloupe-3**	**3.36**	**160**	*e*P	**Pn**	**16 59 50.6**	**+0.7**
TBG	**Guadaloupe-3**	**3.36**	**160**	*e*	**Sn**	**17 00 28.9**	**-1.3**
TDBA	**Terre de Bas,**	**3.36**	**160**	*e*P	**Pn**	**16 59 50.5**	**+0.4**
MAGL	**Barre d'Ile**	**3.40**	**154**	*e*P	**Pn**	**16 59 51.5**	**+1.0**
MDPV	**Dominica, Penn**	**3.64**	**158**	*e*	**Pb**	**17 00 08.8**	**-0.9**
MDPO	**Dominica; Chan**	**3.68**	**159**	*e*	**Pg**	**17 00 06.8**	**-0.6**
MDPO	**Dominica; Chan**	**3.68**	**159**	*e*	**Sn**	**17 00 34.3**	**-3.8**
OBIP	**Obispado Ponce**	**3.71**	**255**	*e*Pn	**Pn**	**16 59 54.6**	**-0.1**
BBL	**Barber's Block**	**3.72**	**159**	*e*	**Pn**	**16 59 56.1**	**+1.1**
DWS	**Wesley**	**3.74**	**157**	*e*	**Sn**	**17 00 36.8**	**-2.7**
AGP	**Aguadilla**	**4.12**	**262**	*e*Pn	**Pn**	**16 59 59.9**	**-0.6**
MPR	**Mayaguez**	**4.16**	**259**	*e*Pn	**Pn**	**17 00 01.4**	**+0.5**
CRPR	**Cabo Rojo, PR**	**4.18**	**257**	*e*Pn	**Pn**	**17 00 01.4**	**+0.2**
FDF	**Fort de France**	**4.56**	**159**	*e*	**Sn**	**17 01 03.6**	**+3.6**
PCDR	**Punta Cana, DR**	**5.28**	**265**	*e*Pn	**Pn**	**17 00 15.4**	**-1.0**
SDDR	**Presa de Saban**	**7.99**	**271**	*e*Pn	**Pn**	**17 00 54.0**	**+0.2**
OCAC	**Ocana**	**14.78**	**225**	*e*P	**P**	**17 02 32.2**	**-0.8**
OCAC	**Ocana**	**14.78**	**225**	*e*P	**P**	**17 02 32.2**	**-0.8**
SMLC	**San Martn de**	**14.90**	**228**	*e*P	**P**	**17 02 31.5**	**-2.5**
SMLC	**San Martn de**	**14.90**	**228**	*e*P	**P**	**17 02 31.5**	**-2.5**
PAMC	**Pamplona, Colo**	**15.06**	**221**	*e*P	**Pn**	**17 02 33.5**	**+2.6**
PAMC	**Pamplona, Colo**	**15.06**	**221**	*e*P	**Pn**	**17 02 33.5**	**+2.6**
ZARC	**Zaragoza, Cauc**	**16.37**	**227**	*e*P	**Pn**	**17 02 46.1**	**-1.3**
ZARC	**Zaragoza, Cauc**	**16.37**	**227**	*e*P	**Pn**	**17 02 46.1**	**-1.3**
PTBC	**PUERTO BERRIO,**	**16.79**	**224**	*e*P	**Pn**	**17 02 52.8**	**-0.1**
PTBC	**PUERTO BERRIO,**	**16.79**	**224**	*e*P	**Pn**	**17 02 52.8**	**-0.1**
HELC	**Santa Helena**	**17.76**	**226**	*e*P	**Pn**	**17 03 05.4**	**0.0**
HELC	**Santa Helena**	**17.76**	**226**	*e*P	**Pn**	**17 03 05.4**	**0.0**
NORC	**Norcasia**	**17.79**	**223**	*e*P	**P**	**17 03 06.0**	**-0.2**
NORC	**Norcasia**	**17.79**	**223**	*e*P	**P**	**17 03 06.0**	**-0.2**
ROSC	**El Rosal**	**18.01**	**220**	P	**Pn**	**17 03 08.5**	**+0.1**
	1.1nm,0.3s,baz=43,slow=22,SNR=4.6						
ROSC					LR	LR	17 11 31.9	
	comp=Z,221nm,18.4s,baz=78,slow=42						
PTGA	**Pitinga**	**19.84**	**172**	P	**P**	**17 03 28.3**	**-0.3**
	0.3nm,0.3s,baz=343,slow=14,SNR=3.0						
YOTC	**Yotoco, Valle**	**19.94**	**223**	*e*P	**P**	**17 03 28.7**	**-1.3**
YOTC	**Yotoco, Valle**	**19.94**	**223**	*e*P	**P**	**17 03 28.7**	**-1.3**
MALC	**Bahia Malaga**	**20.57**	**225**	*e*P	Pn	17 03 37.9	-0.9
MALC	**Bahia Malaga**	**20.57**	**225**	*e*P	Pn	17 03 37.9	-0.9
MARP	**Paez Belalcaza**	**20.58**	**220**	*e*P	**P**	**17 03 34.6**	**-2.4**
MARP	**Paez Belalcaza**	**20.58**	**220**	*e*P	**P**	**17 03 34.6**	**-2.4**
PCON	**Cinco Dias**	**21.25**	**220**	*e*P	**P**	**17 03 47.9**	**+3.3**
PCON	**Cinco Dias**	**21.25**	**220**	*e*P	**P**	**17 03 47.9**	**+3.3**
SOTA	**Rioblanco**	**21.53**	**220**	*e*P	**P**	**17 03 49.3**	**+1.7**
SOTA	**Rioblanco**	**21.53**	**220**	*e*P	**P**	**17 03 49.3**	**+1.7**
APG	**El Apazote**	**26.70**	**266**	P	**P**	**17 04 38.8**	**+1.3**
	9.3nm,0.7s,baz=1.4,slow=4.8,SNR=11						
LPAZ	**La Paz**	**35.48**	**189**	P	**P**	**17 05 54.5**	**-0.7**
	2.9nm,0.9s,baz=1.0,slow=6.5,SNR=5.3						
SCHQ	**Schefferville**	**35.87**	**356**	P	**P**	**17 05 56.7**	**-0.8**
	4.0nm,0.6s,baz=184,slow=15,SNR=3.9						
TXAR	**Lajitas Array**	**38.46**	**293**	P	**P**	**17 06 20.8**	**+0.7**
	1.3nm,1.0s,baz=107,slow=8.6,SNR=7.0						
TXAR					PcP	**PcP**	**17 08 34.4**	**+1.1**
	0.4nm,0.6s,baz=113,slow=6.9,SNR=4.2						
ULM	**Lac du Bonnet**	**40.75**	**328**	P	**P**	**17 06 38.2**	**-0.4**
	2.6nm,0.6s,baz=128,slow=8.1,SNR=7.4						
ANMO	**Albuquerque**	**41.63**	**301**	P	**P**	**17 06 46.7**	**+0.3**
	1.1nm,0.8s,baz=95,slow=5.9,SNR=4.6						
PD31	**Pinedale Array**	**45.83**	**312**	*e*P	**P**	**17 07 19.6**	**-0.4**
	9.9nm,1.8s						
PDAR	**Pinedale Array**	**45.83**	**312**	*e*P	**P**	**17 07 20.4**	**+0.3**
PDAR	**Pinedale Array**	**45.83**	**312**	P	**P**	**17 07 19.4**	**-0.7**
	1.3nm,0.7s,baz=105,slow=9.1,SNR=13						
NVAR	**Mina Array Bea**	**51.55**	**304**	P	**P**	**17 08 04.5**	**+0.3**
	0.8nm,0.8s,baz=110,slow=4.9,SNR=6.0						
NEW	**Newport**	**52.40**	**317**	P	**P**	**17 08 09.7**	**-0.4**
	1.6nm,0.6s,baz=122,slow=12,SNR=6.7						
MDT	**Midelt**	**53.54**	**63**	P	**P**	**17 08 19.1**	**+0.2**
	2.3nm,1.0s,baz=292,slow=6.9,SNR=4.1						
ESDC	**Sonseca Array**	**54.30**	**54**	P	**P**	**17 08 24.5**	**+0.2**
	0.3nm,0.5s,baz=263,slow=6.0,SNR=3.8						
YKA	**Yellowknife Ar**	**56.02**	**334**	P	**P**	**17 08 36.1**	**-0.1**
	1.2nm,0.6s,baz=108,slow=7.4,SNR=14						
DBIC	**Dimbokro**	**57.62**	**94**	P	**P**	**17 08 48.4**	**+0.1**
	2.1nm,0.6s,baz=269,slow=6.8,SNR=5.1						
RES	**Resolute Bay**	**58.30**	**350**	LR	LR	17 33 56.5	
	comp=Z,197nm,21.6s,baz=320,slow=36						
TOA1	**Torodi Ar. Sit**	**61.99**	**85**	*e*P	**P**	**17 09 18.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**62.00**	**85**	P	**P**	**17 09 18.9**	**+0.4**
	0.7nm,0.8s,baz=298,slow=9.3,SNR=3.2						
DLBC	**Dease Lake**	**62.06**	**327**	P	**P**	**17 09 18.0**	**-0.3**
	1.1nm,0.6s,baz=84,slow=12,SNR=3.7						
GERES	**GERESS Array B**	**67.12**	**44**	P	**P**	**17 09 51.1**	**-0.5**
	0.3nm,0.5s,baz=294,slow=7.2,SNR=3.7						
IL1	**Eielson Array**	**70.44**	**333**	*e*P	**P**	**17 10 11.8**	**0.0**
ILAR	**Eielson Array**	**70.44**	**333**	P	**P**	**17 10 11.7**	**-0.1**
	1.7nm,0.7s,baz=107,slow=4.0,SNR=35						
ILB	**Eielson Array**	**70.44**	**333**	*e*P	**P**	**17 10 12.0**	**+0.2**
	19nm,1.8s						
FIA0	**FINESS Array S**	**72.97**	**30**	*e*P	**P**	**17 10 27.5**	**+0.3**
FINES	**FINESS Array B**	**72.97**	**30**	P	**P**	**17 10 27.5**	**+0.3**
	1.3nm,0.8s,baz=273,slow=2.6,SNR=4.1						
BR101	**Keskin Array S**	**82.88**	**51**	*e*P	**P**	**17 11 23.9**	**+1.0**
BRTR	**Keskin Array B**	**82.88**	**51**	P	**P**	**17 11 23.9**	**+1.0**
	0.6nm,0.7s,baz=278,slow=5.2,SNR=3.9						
ASAR	**Alice Springs**	**163.74**	**251**	PKPab	**PKPab**	**17 19 53.4**	**-0.5**
	1.4nm,0.7s,baz=112,slow=4.1,SNR=16						
WR1	**Warramunga Arr**	**163.78**	**264**	*e*PKPab	**PKPab**	**17 19 55.0**	**+0.9**
WRA	**Warramunga Arr**	**163.78**	**264**	PKPab	**PKPab**	**17 19 55.0**	**+0.9**
	0.2nm,0.5s,baz=101,slow=4.4,SNR=3.8						

ISCJB ***16*** *17:01:36.9±0.7, 21.˙35S±0.˙07×174.˙4W±0.˙1, h10km, mb4.6/26, Error ellipse: s-maj=14.0km s-min=9.7km az=174.6*

IDC ***16*** *17:01:38.6±1.2, 21.˙42S×174.˙64W, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/41, mbtmp3.9/8, ML3.0/1, Error ellipse: s-maj=46.1km s-min=22.2km az=144.0*

NEIC ***16*** *17:01:38.6±0.6, 21.˙42S×174.˙31W, h10km, mb4.9/25, Error ellipse: s-maj=14.3km s-min=10.3km az=119.0*

ISC 16 17:01:38.7±0.6, 21.˙55S±0.˙1×174.˙3W±0.˙1, h10km, n42, σ1§74/40, mb5.0/26, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.72**	**61**	*e*Pn	**Pn**	**17 02 45.5**	**-4.5**
NIUE				*e*Sn	Sn	17 03 33.8	-11
MSVF	**Nonsavu**	**8.12**	**296**	*e*Pn	Pn	17 03 44.8	+8.0
RAR	**Rarotonga**	**13.52**	**92**	*e*Pn	Pn	17 04 43.5	-7.1
MARNC	**Mare, Loyalty**	**16.47**	**267**	*e*Pn	**Pn**	**17 05 30.3**	**+0.3**
	138nm,1.9s						
PINNC	**Pines Island,**	**16.99**	**263**	*e*Pn	**P**	**17 05 37.3**	**-1.1**
	110nm,2.0s						
DZM	**Mont Dzumac**	**17.92**	**264**	*e*Pn	**P**	**17 05 49.2**	**+0.4**
	22nm,1.6s						
DZM	**Mont Dzumac**	**17.92**	**264**	P	**Pn**	**17 05 44.8**	**-3.5**
	0.1nm,0.3s,baz=180,slow=19,SNR=1.6						
URZ	**Urewera**	**18.33**	**202**	*e*Pn	**Pn**	**17 05 52.3**	**-0.7**
	26nm,1.1s						
BKZ	**Black Stump Fm**	**19.35**	**202**	*e*P	**P**	**17 06 03.6**	**-0.8**
	32nm,1.7s						
BFZ	**Birch Farm**	**20.80**	**201**	*e*P	**P**	**17 06 19.3**	**-0.8**
	39nm,1.3s						
THZ	**Tophouse**	**22.96**	**205**	*e*P	**P**	**17 06 43.9**	**+0.6**
	96nm,2.0s						
KHZ	**Kahutara**	**23.27**	**203**	*e*P	**P**	**17 06 47.2**	**+0.8**
	70nm,1.7s						
LTZ	**Lake Taylor**	**24.07**	**205**	*e*P	**P**	**17 06 55.1**	**+0.9**
	50nm,1.7s						
CRLZ	**Canterbury Las**	**24.61**	**203**	*e*P	**P**	**17 07 00.3**	**+1.2**
	88nm,2.0s						
OXZ	**Oxford**	**24.62**	**204**	*e*P	**P**	**17 06 59.7**	**+0.5**
	22nm,1.2s						
MQZ	**McQueen's Vall**	**24.71**	**203**	*e*P	**P**	**17 06 59.5**	**-0.6**
	70nm,1.8s						
RPZ	**Rata Peaks**	**25.34**	**205**	*e*P	**P**	**17 07 06.4**	**+0.7**
	51nm,1.6s						
RPZ	**Rata Peaks**	**25.34**	**205**	P	**P**	**17 07 06.8**	**+1.1**
	7.1nm,0.6s,baz=71,slow=5.1,SNR=2.7						
FOZ	**Fox Glacier**	**25.70**	**207**	*e*P	**P**	**17 07 08.8**	**-0.2**
	87nm,1.5s						
TARA	**Tarawa**	**25.89**	**330**	*e*P	**P**	**17 07 09.0**	**-1.9**
	234nm,1.5s						
MLZ	**Mavora Lakes**	**27.89**	**207**	*e*P	**P**	**17 07 31.4**	**+2.5**
	47nm,1.7s						
WHZ	**Wether Hill Ro**	**28.39**	**207**	*e*P	**P**	**17 07 34.5**	**+1.4**
	37nm,1.3s						
DCZ	**Deep Cove**	**28.39**	**208**	*e*P	**P**	**17 07 35.0**	**+1.9**
	125nm,1.9s						
ARMA	**Armidale**	**31.84**	**247**	*e*P	**P**	**17 08 03.6**	**-0.4**
	106nm,2.0s						
AS01	**Alice Springs**	**47.65**	**257**	*e*P	**P**	**17 10 14.4**	**-1.1**
AS31	**Alice Springs**	**47.69**	**257**	*e*P	**P**	**17 10 14.1**	**-1.8**
	4.4nm,1.7s						
ASAR	**Alice Springs**	**47.69**	**257**	P	**P**	**17 10 14.6**	**-1.3**
	1.6nm,0.8s,baz=89,slow=8.0,SNR=12						
WB2	**Warramunga Arr**	**47.91**	**262**	*e*P	**P**	**17 10 14.8**	**-2.7**
	7.4nm,1.0s						
WR1	**Warramunga Arr**	**47.91**	**262**	*e*P	**P**	**17 10 15.8**	**-1.8**
	32nm,2.0s						
WRA	**Warramunga Arr**	**47.92**	**262**	P	**P**	**17 10 15.8**	**-1.8**
	1.8nm,0.8s,baz=96,slow=8.4,SNR=13						
FORT	**Forrest**	**52.12**	**247**	*e*P	**P**	**17 10 47.6**	**-1.8**
	41nm,1.0s						
SOEI	**Soe**	**60.00**	**271**	*e*P	**P**	**17 11 45.6**	**-0.5**
	12nm,0.9s						
QSPA	**South Pole Qui**	**68.63**	**180**	*e*P	**P**	**17 12 42.6**	**+0.7**
	23nm,1.9s						
MJAR	**Matsushiro Arr**	**73.07**	**322**	P	**P**	**17 13 10.0**	**+0.9**
	1.0nm,0.6s,baz=152,slow=6.4,SNR=5.4						
MAJO	**Matsushiro**	**73.07**	**322**	*e*P	**P**	**17 13 10.0**	**+0.9**
NV01	**Mina Array Sit**	**79.37**	**41**	*e*P	**P**	**17 13 47.5**	**+2.3**
NVAR	**Mina Array Bea**	**79.37**	**41**	P	**P**	**17 13 47.6**	**+2.4**
	0.5nm,0.7s,baz=232,slow=10,SNR=5.2						
PDAR	**Pinedale Array**	**87.31**	**42**	P	**P**	**17 14 27.8**	**+1.7**
	0.2nm,0.4s,baz=245,slow=3.6,SNR=2.1						
ILAR	**Eielson Array**	**88.51**	**11**	P	**P**	**17 14 32.4**	**+1.5**
	0.2nm,0.8s,baz=220,slow=9.3,SNR=2.3						
CMAR	**Chiang Mai Arr**	**93.71**	**288**	P	**P**	**17 14 59.1**	**+2.9**
	0.5nm,0.7s,baz=104,slow=2.0,SNR=6.4						
AKASG	**Malin Array Be**	**145.47**	**333**	PKPbc	**PKPab**	**17 21 17.9**	**+0.8**
	0.4nm,0.5s,baz=38,slow=4.3,SNR=4.8						
ESDC	**Sonseca Array**	**160.03**	**22**	PKPab	**PKPab**	**17 22 20.2**	**+2.2**
	0.2nm,0.4s,baz=330,slow=2.6,SNR=2.3						

IDC ***16*** *17:12:35.8±4.6, 2.˙49S×28.˙82E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/39, mbtmp3.4/5, ML3.3/1, Error ellipse: s-maj=108.6km s-min=33.5km az=6.0*

ISC 16 17:12:34.8±2.1, 3.˙0S±0.˙3×28.˙9E±0.˙1, h10km, n7, σ2§07/8, mb3.5/5, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBAT	**Babati**	**6.96**	**100**	*i*P	**Sn**	**17 15 34.7**	**-1.8**
KMBO	**Kilima Mbogo**	**8.58**	**77**	Pn	**Pn**	**17 14 41.1**	**+1.8**
	0.4nm,0.3s,baz=235,slow=15,SNR=8.2						
KMBO					Sn	**Sn**	**17 16 15.3**	**-1.0**
	0.5nm,0.3s,baz=346,slow=22,SNR=3.7						
KMBO					Lg	Lg	17 16 58.6	
	1.4nm,0.3s,baz=195,slow=16,SNR=5.7						
TORD	**Torodi Ar. Bea**	**31.41**	**301**	P	**P**	**17 18 55.8**	**-0.6**
	0.3nm,0.5s,baz=94,slow=4.8,SNR=2.1						
BRTR	**Keskin Array B**	**42.77**	**5**	P	**P**	**17 20 30.3**	**-2.4**
	0.8nm,0.9s,baz=181,slow=12,SNR=3.6						
GERES	**GERESS Array B**	**53.33**	**348**	P	**P**	**17 21 53.5**	**-0.7**
	0.1nm,0.3s,baz=184,slow=7.8,SNR=2.0						
FINES	**FINESS Array B**	**64.33**	**359**	P	**P**	**17 23 13.1**	**+2.7**
	1.0nm,0.7s,baz=145,slow=9.9,SNR=2.1						
MKAR	**Makanchi Array**	**68.23**	**36**	P	**P**	**17 23 36.0**	**+0.3**
	0.2nm,0.5s,baz=247,slow=5.4,SNR=4.3						

ISCJB ***16*** *17:20:04.6±0.6, 1.˙37N±0.˙05×123.˙3E±0.˙1, h32km, Error ellipse: s-maj=19.0km s-min=6.6km az=12.9*

DJA ***16*** *17:20:06.2±2.0, 1.˙1N±7.˙×12.˙3E±.˙, h22km±17km, M4.4/8, mb4.6/4, mB4.9/1, MLv4.3/8, Mw(mB)4.1/1*

ISC 16 17:20:06.5±1.3, 1.˙35N±0.˙09×123.˙3E±0.˙1, h32km, n11, σ0§83/11, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**2.44**	**193**	P	**Pn**	**17 20 43.9**	**-0.2**
APSI	**Ampana**	**2.80**	**217**	P	**Pn**	**17 20 49.2**	**0.0**
SANI	**Sanana**	**4.29**	**142**	P	**Pn**	**17 21 09.8**	**+0.2**
SKMP	**Bagumbayan, Su**	**5.28**	**13**	*e*P	**Pn**	**17 21 22.7**	**-0.5**
KDI	**Kendari**	**5.32**	**188**	P	**Pn**	**17 21 23.5**	**-0.2**
TTSI	**Tana Toraja**	**5.60**	**219**	P	**Pn**	**17 21 28.0**	**+0.3**
KCP	**Kidapawan**	**5.89**	**17**	*i*P	**Pn**	**17 21 33.6**	**+1.9**
IPIL	**Ipil**	**6.45**	**353**	*e*P	**Pn**	**17 21 38.4**	**-0.9**
PAGZ	**Pagadian**	**6.46**	**0**	*e*P	**Pn**	**17 21 40.3**	**+0.8**
BNSI	**Bone**	**6.56**	**209**	P	**Pn**	**17 21 40.9**	**+0.1**
BUKP	**Musuan**	**6.71**	**15**	*e*P	**Pn**	**17 21 42.8**	**-0.2**

NIED ***16*** *17:24:00, 36.˙20N×141.˙80E, h20km, Mw4.7 Best double couple: Mo1.13000×10¹⁶ NP1:φs252.00000°, δ31.00000°, λ147.00000°. NP2:φs11.00000°, δ74.00000°, λ64.00000°.*

IDC ***16*** *17:24:49.3±0.4, 36.˙14N×141.˙77E, h0km, mb4.5/32, mb1 4.6/39, mb1mx4.5/57, mbtmp4.5/39, ML4.2/6, MS4.0/11, Ms1 4.0/11, ms1mx3.7/45, Error ellipse: s-maj=12.4km s-min=9.5km az=104.0*

JMA ***16*** *17:24:52.3±0.3, 36.˙19N×141.˙77E, h47km, M4.8*

JMA Felt II J1.

ISCJB ***16*** *17:24:53.7±0.4, 36.˙14N±0.˙02×141.˙62E±0.˙03, h40km±3km, mb4.8/287, MS4.4/24, Error ellipse: s-maj=3.8km s-min=3.0km az=138.6*

BJI ***16*** *17:24:54.5, 36.˙18N×141.˙28E, h35km, mb4.9/72, mB4.9/44, Ms4.4/74, Ms7 4.3/66*

MOS ***16*** *17:24:54.8±0.9, 36.˙55N×141.˙61E, h35km, mb5.1/69, MS4.2/6, Error ellipse: s-maj=6.2km s-min=4.1km az=106.8*

BGR ***16*** *17:24:55.5±0.0, 35.˙60N×140.˙91E, h33km, mb5.1*

NEIC ***16*** *17:24:55.4±0.5, 36.˙12N×141.˙59E, h42km±4km, mb4.9/224, Error ellipse: s-maj=3.9km s-min=2.7km az=145.0*

NEIC Recorded [2 JMA] in Ibaraki.

ISC 16 17:24:54.0±0.3, 36.˙16N±0.˙03×141.˙87E±0.˙04, h38km±1km, h38km:pP-P, n622, σ1§73/559, mb4.8/292, MS4.3/25, 29C-27D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.94**	**241**	P	**Pn**	**17 25 08.5**	**-2.2**
JHYU	**Hitachinakayam**	**1.05**	**280**	P	**Pn**	**17 25 09.9**	**-2.3**
JHYU				S	**Sn**	**17 25 23.8**	**-1.9**
JIHU	**Itakohorinouch**	**1.11**	**260**	P	**Pn**	**17 25 11.3**	**-1.7**
JHO	**Hitachi**	**1.14**	**294**	P	**Pn**	**17 25 10.7**	**-2.8**
ONAJ	**Iwakimizuishiy**	**1.28**	**318**	P	**Pn**	**17 25 12.9**	**-2.5**
JFK	**Kawauchi**	**1.45**	**327**	P	**Pn**	**17 25 15.7**	**-2.0**
I30JP	**ISUMI INFRASON**	**1.53**	**237**	Pn	**Pn**	**17 25 18.5**	**-0.2**
	baz=32,slow=14,SNR=0.6						
BSO1	**Boso 1**	**1.67**	**206**	P	**Pn**	**17 25 19.6**	**-0.6**
BSO3	**Boso 3**	**1.75**	**220**	P	**Pn**	**17 25 20.9**	**-0.7**
JFT	**Otama**	**1.83**	**318**	P	**Pn**	**17 25 22.0**	**-0.9**
JMM	**Marumori**	**1.91**	**333**	P	**Pn**	**17 25 22.6**	**-1.4**
JAG	**Ashikaga**	**1.97**	**278**	P	**Pn**	**17 25 22.6**	**-2.3**
JFY	**Yanaizu**	**2.14**	**306**	P	**Pn**	**17 25 26.1**	**-1.1**
JKT	**Katashina**	**2.20**	**287**	P	**Pn**	**17 25 26.7**	**-1.4**
MJAR	**Matsushiro Arr**	**2.98**	**278**	Pn	**Pn**	**17 25 38.2**	**-0.5**
	17nm,0.3s,baz=218,slow=24,SNR=1332						
MJAR					Sn	**Sn**	**17 26 17.6**	**+4.3**
	13nm,0.3s,baz=234,slow=14,SNR=8.2						
MJAR					LR	LR	17 26 51.5	
	comp=Z,2μm,19.2s,baz=100,slow=43						
MAJO	**Matsushiro**	**2.98**	**278**	*e*Pn	**Pn**	**17 25 38.3**	**-0.5**
MAJO				*e*Sn	**Sn**	**17 26 17.6**	**+4.2**
MAJO	**Matsushiro**	**2.98**	**278**	*d i*P	**Pn**	**17 25 38.1**	**-0.7**
MAT	**Matsushiro**	**2.98**	**278**	P	**Pn**	**17 25 38.2**	**-0.6**
MAT				S	**Sn**	**17 26 16.9**	**+3.6**
MJB9	**Matsu-Tunnel**	**2.99**	**278**	*e*Pn	**Pn**	**17 25 38.4**	**-0.4**
JHJ2	**Mitsune**	**3.48**	**210**	*e*Pn	**Pn**	**17 25 45.3**	**-0.3**
JHJ2				*e*Sn	**Sn**	**17 26 22.6**	**-2.9**
JHJ	**Hachijo jima 2**	**3.49**	**210**	Pn	**Pn**	**17 25 45.2**	**-0.5**
	78nm,0.3s,baz=343,slow=21,SNR=43						
JHJ					Sn	**Sn**	**17 26 23.4**	**-2.4**
	293nm,0.3s,baz=40,slow=23,SNR=9.2						
INU	**Inuyama**	**4.03**	**260**	*

KLR **Kul'dur** 15.01 334⇑ *i*P **Pn** **17 28 21.5 -1.8**
KLR **Kul'dur** 15.01 334 Pn **Pn** **17 28 21.4 -1.9**
comp=Z,0.7nm,0.3s,baz=150,slow=11,SNR=16
KLR LR LR 17 34 09.6
comp=Z,348nm,18.8s,baz=134,slow=37
GRNR **Gornyy** 15.12 347 *e*P **Pn** **17 28 20.8 -3.9**
GRNR pmax pmax
comp=Z,5.0nm,0.6s
SNY **Shenyang** 15.30 297 ⇑P **Pn** **17 28 21.3 -5.8**
SNY pmax pmax
comp=Z,8.0nm,0.5s
SNY pmax pmax
comp=Z,180nm,3.8s
SNY LR LR
comp=Z,580nm,15.5s
SNY LR LR
comp=Z,1μm,16.6s
SNY LR LR
comp=Z,1μm,17.2s
DL2 **Dalian** 16.29 286⇓ *i*P **P** **17 28 41.4 -1.0**
DL2 pmax pmax
comp=Z,40nm,0.6s
DL2 pmax pmax
comp=Z,200nm,3.9s
DL2 LR LR
comp=Z,460nm,12.8s
DL2 LR LR
comp=Z,1μm,14.7s
DL2 LR LR
comp=Z,2μm,15.3s
NKL **Nikolayevsk** 17.01 358 *e*P **Pn** **17 28 43.3 -5.4**
NKL pmax pmax
comp=Z,13nm,0.8s
NKL MLR MLR
comp=E,800nm,16.0s
NKL MLR MLR
comp=Z,1μm,16.0s
SSE **Sheshan** 17.94 260 *e*Pn **Pn** **17 28 55.9 -4.6**
comp=Z,69nm,0.8s
NJ2 **Nanjing** 19.48 265 *e*P **Pn** **17 29 15.3 -3.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,370nm,16.3s
NJ2 LR LR
comp=Z,330nm,18.4s
NJ2 LR LR
comp=Z,560nm,19.5s
YOJ **Yonaguni jima** 19.99 240 *e*P **P** **17 29 18.3 -4.9**
comp=Z,405nm,2.0s
YOJ **Yonaguni jima** 19.99 240 *e*P **P** **17 29 18.3 -4.9**
YOJ pmax pmax
comp=Z,405nm,2.0s
ANA2 **Anatahan** 20.03 169 *e*P Pn 17 29 27.1 +1.4
comp=Z,106nm,0.5s
PEA0B **Petropavlovsk-** 20.27 28 *e*P Pn 17 29 28.6 +0.4
comp=Z,83nm,1.4s
PETK **Petropavlovsk-** 20.27 28 *e*P Pn 17 29 28.8 +0.6
PETK **Petropavlovsk-** 20.27 28 P Pn 17 29 28.2 0.0
comp=Z,7.5nm,1.0s,baz=228,slow=5.4,SNR=3.7
PEA1 **Petropavlovsk-** 20.27 28 *e*P Pn 17 29 28.2 0.0
ZEA **Zeya** 20.32 334 *e*P Pn 17 29 25.6 -3.2
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,26nm,0.8s
ZEA MLR MLR
comp=N,400nm,14.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,700nm,14.0s
BJT **Baijiatuan** 20.57 289 *e*P **P** **17 29 26.9 -2.5**
comp=Z,35nm,1.1s
BJT **Baijiatuan** 20.57 289 *e*P **P** **17 29 26.9 -2.5**
BJT pmax pmax
comp=Z,35nm,1.1s
TATO **Taipei** 20.75 243 *e*P **P** **17 29 26.3 -5.2**
comp=Z,206nm,1.8s
HIA **Hailar** 20.78 316 *e*P **P** **17 29 27.6 -4.1**
comp=Z,14nm,0.7s
HIA **Hailar** 20.78 316 *e*P **P** **17 29 27.6 -4.1**
HIA pmax pmax
comp=Z,14nm,0.7s
YHNB **Yeheng** 21.02 243 *e*P **P** **17 29 28.4 -6.0**
comp=Z,107nm,1.8s
NACB **Ninganchiao** 21.17 241 *e*P **P** **17 29 29.6 -6.4**
comp=Z,20nm,0.9s
SSLB **Suanglung** 21.86 241 *e*P **P** **17 29 38.4 -5.1**
comp=Z,17nm,0.8s
YULB **Yu-li** 21.87 240 *e*P **P** **17 29 37.6 -5.9**
comp=Z,14nm,0.8s
TWG **Pinlang** 22.40 239 *e*P **P** **17 29 43.8 -5.4**
comp=Z,236nm,1.3s
TPUB **Ta-pu** 22.40 241 *e*P **P** **17 29 44.8 -4.5**
comp=Z,45nm,1.2s
TIY **Taiyuan** 23.54 283 *e*P **P** **17 30 00.8 -0.1**
TIY S S 17 33 57.9 -14
TIY SS **SnSn** **17 34 46.9 -3.6**
TIY pmax pmax
comp=Z,160nm,7.0s
TIY LR LR
comp=Z,560nm,14.2s
TIY LR LR
comp=Z,930nm,12.8s
TIY LR LR
comp=Z,1μm,14.3s
WHN **Wuhan** 23.62 264 ⇑P **P** **17 29 59.8 -1.8**
WHN LR LR
comp=Z,580nm,9.2s
WHN LR LR
comp=Z,1μm,13.5s
WHN LR LR
comp=Z,2μm,14.0s
HHC **Hu-ho-hao-te** 24.11 290 *e*P **P** **17 30 03.9 -2.3**
HHC pP pP 17 30 12.4 -3.9
HHC S **S** **17 34 12.3 -9.1**
HHC sS sS 17 34 27.1 -8.8
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,210nm,6.0s
HHC LR LR
comp=Z,430nm,13.3s
HHC LR LR
comp=Z,380nm,12.4s
HHC LR LR
comp=Z,590nm,13.7s
MA2 **Magadan** 24.13 11 *e*P **P** **17 30 06.9 +0.9**
comp=Z,19nm,0.9s
MA2 **Magadan** 24.13 11 *de*P **P** **17 30 07.2 +1.1**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 **Magadan** 24.13 11 P **P** **17 30 07.0 +1.0**
comp=Z,5.1nm,0.7s,baz=194,slow=8.9,SNR=17
MA2 LR LR 17 39 52.9
comp=Z,212nm,18.3s,baz=228,slow=37
BTO **Baotou** 25.28 290 *e*P **P** **17 30 15.4 -1.4**
XAN **Xi'an** 26.97 275 P **P** **17 30 31.0 -1.1**
XAN pP pP 17 30 40.8 -1.5
XAN sP sP 17 30 44.5 -2.8
XAN pmax pmax
comp=Z,37nm,0.6s
XAN pmax pmax
comp=Z,170nm,4.0s
XAN LR LR
comp=Z,220nm,11.9s
XAN LR LR
comp=Z,250nm,12.5s
XAN LR LR
comp=Z,440nm,14.6s
XAN **Xi'an** 26.97 275 *e*P **P** **17 30 30.8 -1.3**
comp=Z,28nm,0.6s
XAN **Xi'an** 26.97 275 *e*P **P** **17 30 30.8 -1.3**
XAN pmax pmax
comp=Z,28nm,0.6s
YAK **Yakutsk** 27.00 347 *e*P **P** **17 30 31.9 -0.1**
YAK *e**PP **pP** **17 30 41.8 -0.2**
YAK *e* 17 31 11.7
YAK *e* 17 33 48.9
YAK *e*SS **S** **17 35 06.1 -0.5**
YAK *e**SS **sS** **17 35 23.1 +2.7**
YAK *e*SS SS 17 36 16.4 -44
YAK pmax pmax
comp=Z,316nm,1.0s
YAK pmax pmax
comp=E,48nm,1.0s
YAK pmax pmax
comp=N,161nm,1.1s
YAK pmax pmax
comp=Z,157nm,1.0s
YAK pmax pmax
comp=N,80nm,1.0s
YAK pmax pmax
comp=E,68nm,0.9s
YAK smax smax
comp=N,166nm,2.4s
YAK smax smax
comp=E,454nm,3.0s
YAK MLR MLR
comp=Z,3μm,15.0s
YAK MLR MLR
comp=N,2μm,15.0s
YAK MLR MLR
comp=E,1μm,12.0s
H11N2 **WAKE ISLAND Hy** 27.39 120 T T 17 59 57.1
baz=312,slow=75,SNR=61
H11N1 **WAKE ISLAND Hy** 27.40 120 T T 17 59 57.0
baz=312,slow=75,SNR=57
H11N3 **WAKE ISLAND Hy** 27.41 120 T T 18 00 10.5
baz=312,slow=75,SNR=50
SEY **Seymchan** 27.58 10⇑ *e*P **P** **17 30 38.6 +1.4**
SEY **Seymchan** 27.58 10 P **P** **17 30 38.9 +1.8**
comp=E,1.5nm,0.5s,baz=260,slow=21,SNR=14
ENH **Enshi** 27.64 267 *e*P **P** **17 30 36.7 -1.4**
comp=E,90nm,0.6s
H11S1 **WAKE ISLAND Hy** 28.08 122 T T 18 00 46.7
baz=313,slow=75,SNR=134
H11S3 **WAKE ISLAND Hy** 28.08 122 T T 18 00 50.4
baz=313,slow=75,SNR=66
H11S2 **WAKE ISLAND Hy** 28.09 122 T T 18 00 55.8
baz=313,slow=75,SNR=63
ULN **Ulaanbaatar** 28.16 305 *e*P **P** **17 30 41.5 -1.3**
comp=E,22nm,1.1s
ULN **Ulaanbaatar** 28.16 305 *de*P **P** **17 30 42.3 -0.4**
ULN pmax pmax
comp=Z,9.0nm,0.7s
ULN **Ulaanbaatar** 28.16 305 P **P** **17 30 42.8 +0.1**
SNR=15
BOD **Bodaibo** 28.46 328 *e*P **P** **17 30 44.9 -0.2**
BOD pmax pmax
comp=Z,38nm,1.5s
SONA0 **Songino Array** 28.58 305 *e*P **P** **17 30 46.3 -0.2**
SONM **Songino Array** 28.58 305 P **P** **17 30 46.3 -0.2**
comp=Z,19nm,0.8s,baz=106,slow=8.7,SNR=112
LZH **Lanzhou** 30.59 281 *e*P **P** **17 31 04.3 -0.1**
LZH pP pP 17 31 15.6 +1.0
LZH sP sP 17 31 20.3 +0.8
LZH PP **PP** **17 32 06.8 -7.0**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,850nm,15.7s
LZH LR LR
comp=Z,1μm,15.7s
LZH LR LR
comp=Z,1μm,16.8s
IRK **Irkutsk** 30.96 313 *e*P **P** **17 31 07.0 -0.3**
IRK *e* 17 32 20.7
IRK pmax pmax
comp=Z,26nm,3.7s
ZAK **Zakamensk** 31.10 309 *e*P **P** **17 31 08.4 -0.3**
ZAK pmax pmax
comp=Z,14nm,1.1s
TLY **Talaya** 31.18 312 *e*P **P** **17 31 09.5 +0.1**
comp=Z,24nm,0.8s
TLY **Talaya** 31.18 312 *c i*P **P** **17 31 09.4 +0.1**
TLY pmax pmax
comp=Z,58nm,0.9s
TLY **Talaya** 31.18 312 P **P** **17 31 09.7 +0.3**
SNR=12
GYA **Guiyang** 31.45 262⇓ *i*P **P** **17 31 10.9 -1.2**
GYA pP pwP 17 31 22.0 -2.5
GYA PP **PnPn** **17 32 14.3 -1.4**
GYA S **S** **17 36 13.0 -4.5**
GYA sS sS 17 36 31.4 -0.6
GYA SS **SnSn** **17 37 59.8 -4.1**
GYA pmax pmax
comp=Z,30nm,1.1s
GYA pmax pmax
comp=Z,120nm,7.2s
GYA LR LR
comp=Z,430nm,17.2s
GYA LR LR
comp=Z,400nm,17.0s
GYA LR LR
comp=Z,440nm,17.6s
CD2 **Chengdu** 32.06 272 ⇑P **P** **17 31 16.0 -1.2**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,760nm,17.4s
CD2 LR LR
comp=Z,1μm,14.8s
MOY **Mondy** 32.79 311 *e*P **P** **17 31 23.3 -0.2**
MOY pmax pmax
comp=Z,19nm,2.1s
GTA **Gaotai** 33.18 289 ⇓P **P** **17 31 26.6 -0.5**
GTA pP pP 17 31 34.4 -3.0
GTA sP sP 17 31 38.1 -4.2
GTA PcP **PcP** **17 34 11.1 +1.8**
GTA pmax pmax
comp=Z,14nm,1.0s
GTA LR LR
comp=Z,270nm,16.8s
GTA LR LR
comp=Z,390nm,17.5s
GTA LR LR
comp=Z,510nm,17.5s
BILL **Bilibino** 34.76 16 *e*P **P** **17 31 41.0 +0.7**
comp=Z,7.6nm,1.2s
BILL **Bilibino** 34.76 16⇓ *e*P **P** **17 31 41.2 +0.9**
BILL *i* 17 31 50.8
BILL *e* 17 32 58.6
BILL *e*S S 17 37 15.0 +7.2
BILL pmax pmax
comp=Z,4.0nm,1.0s
KMI **Kunming** 35.21 263 P **P** **17 31 44.3 -0.6**
KMI pmax pmax
comp=Z,20nm,0.6s
KMI LR LR
comp=Z,210nm,15.3s
KMI LR LR
comp=Z,340nm,15.8s
KMI LR LR
comp=Z,360nm,17.2s
KMI **Kunming** 35.21 263 *e*P **P** **17 31 40.4 -4.5**
comp=Z,23nm,0.4s
KMI **Kunming** 35.21 263 *e*P **P** **17 31 40.4 -4.5**
KMI pmax pmax
comp=Z,23nm,0.4s
TIXI **Tiksi** 36.20 353 *e*P **P** **17 31 53.1 +0.6**
comp=Z,5.4nm,0.8s
TIXI **Tiksi** 36.20 353⇓ *e*P **P** **17 31 53.1 +0.6**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI **Tiksi** 36.20 353 P **P** **17 31 53.3 +0.7**
comp=Z,5.3nm,0.9s,baz=147,slow=6.7,SNR=18
KDM **Kudat** 37.04 224 P P 17 32 03.0 +2.7
SDKM **Sandakan** 37.89 223 P **P** **17 32 08.7 +1.1**
KKM **Kota Kinabalu** 38.10 224 P P 17 32 11.6 +2.2
SIJI **Sorong** 38.14 197 P **P** **17 32 09.8 +0.1**
comp=Z,6.8nm,0.5s,baz=3.0,slow=16,SNR=6.1
SKNT **Sakonnakorn** 38.59 250 P **P** **17 32 14.6 +1.1**
comp=Z,5.0nm,0.9s
TSM **Tawau** 38.65 220 P P 17 32 16.1 +2.1
GAMB **Gambell** 39.27 31 *e*P P 17 32 24.7 +6.1
comp=Z,18nm,2.0s
FAKI **Fak Fak** 39.90 195 *e*P **P** **17 32 25.3 +0.9**
comp=Z,12nm,0.7s
CHAI **Chaiyaphum** 40.76 251 P **P** **17 32 31.3 -0.2**
comp=Z,6.4nm,0.7s,comp=Z,61nm
UTTA **Uttaradit** 40.78 254 P **P** **17 32 31.8 +0.1**
comp=Z,7.0nm,0.9s,comp=Z,61nm
SANI **Sanana** 40.80 205 P **P** **17 32 31.0 -0.8**
comp=Z,92nm,0.9s,comp=Z,804nm
LAMP **Lampang** 41.06 256 P **P** **17 32 34.5 +0.5**
comp=Z,7.3nm,0.8s,comp=Z,56nm
LUWI **Luwuk** 41.06 210 *e*P **P** **17 32 32.4 -1.6**
comp=Z,35nm,0.6s
PBKT **Sadao Pong** 41.14 253 P **P** **17 32 34.6 0.0**
comp=Z,23nm,1.3s,comp=Z,2μm
RABL **Rabaul** 41.28 164 *e*P P 17 32 42.5 +6.7
comp=Z,85nm,0.5s
CMMT **Chiang Mai** 41.44 257 P **P** **17 32 36.7 -0.5**
comp=Z,15nm,1.2s
CHTO **Chiang Mai** 41.45 257 *e*P **P** **17 32 37.3 +0.1**
comp=Z,10nm,0.9s
CHTO **Chiang Mai** 41.45 257 *e*P **P** **17 32 37.3 +0.1**
CHTO pmax pmax
comp=Z,10.0nm,0.9s
CHTO **Chiang Mai** 41.45 257 P **P** **17 32 36.5 -0.7**
SNR=6.0
CHTO P **P** **17 32 36.5 -0.7**
SNR=6.0
CHTO **Chiang Mai** 41.45 257 P **P** **17 32 36.8 -0.4**
comp=Z,66nm,1.3s
WMQ **Urumqi** 41.57 298 P **P** **17 32 38.8 +0.8**
WMQ pP pwP 17 32 50.0 -0.7
WMQ sP sP 17 32 53.1 -0.1
WMQ pmax pmax
comp=Z,130nm,0.9s
WMQ pmax pmax
comp=Z,630nm,3.7s
WMQ LR LR
comp=Z,560nm,20.5s
WMQ LR LR
comp=Z,400nm,18.9s
WMQ LR LR
comp=Z,340nm,19.7s
WMQ **Urumqi** 41.57 298 *e*P **P** **17 32 38.9 +1.0**
comp=Z,40nm,0.8s
CM31 **Chiang Mai Arr** 41.64 257 *e*P **P** **17 32 38.7 -0.1**
comp=Z,9.9nm,1.9s
CM31 **Chiang Mai Arr** 41.64 257 P **P** **17 32 38.6 -0.1**
SNR=5.2
CMAR **Chiang Mai Arr** 41.64 257 P **P** **17 32 38.6 -0.2**
comp=Z,3.3nm,0.7s,baz=48,slow=5.7,SNR=32
CMAR PcP **PcP** **17 34 37.1 +1.9**
comp=Z,0.5nm,0.8s,baz=52,slow=1.5,SNR=4.6
CMAR LR LR 17 50 27.8
comp=Z,136nm,20.7s,baz=52,slow=37
CM01 **Chiang Mai Arr** 41.65 257 *e*P **P** **17 32 38.5 -0.4**
SUKH **Sukhothai** 41.65 255 P **P** **17 32 39.3 +0.5**
comp=Z,6.5nm,0.9s
SRAK **Srakaew** 41.88 249 P **P** **17 32 38.3 -2.4**
comp=Z,28nm,0.7s
ANM **Nome** 42.15 31 *e*P **P** **17 32 44.4 +2.0**
comp=Z,5.2nm,0.6s
ANM **Nome** 42.15 31 *e*P **P** **17 32 44.4 +2.0**
ANM pmax pmax
comp=Z,5.0nm,0.6s
BTM **Bintulu** 42.21 226 P P 17 32 48.4 +5.0
LSA **Lhasa** 42.66 276 *e*P **P** **17 32 48.5 +0.9**
comp=Z,13nm,0.8s
LSA **Lhasa** 42.66 276 *i* P **P** **17 32 48.7 +1.1**
SNR=9.6
LSA **Lhasa** 42.66 276 *i* P **P** **17 32 48.7 +1.1**
SNR=9.6
ZAA0 **Zalesovo Array** 42.78 313 *e*P **P** **17 32 47.9 +0.3**
comp=Z,19nm,0.6s
ZAA1 **Zalesovo Array** 42.78 313 *e*P **P** **17 32 47.5 -0.1**
ZAA1 *e*PcP **PcP** **17 34 39.2 +0.8**
ZALV **Zalesovo Beam** 42.78 313 *e*P **P** **17 32 48.0 +0.4**
ZALV PcP **PcP** **17 34 39.2 +0.9**
ZALV **Zalesovo Beam** 42.78 313 *e*P **P** **17 32 48.0 +0.4**
ZALV 17 34 39.3
ZALV **Zalesovo Beam** 42.78 313 P **P** **17 32 47.5 -0.1**
comp=Z,22nm,0.7s,baz=91,slow=6.6,SNR=89
ZALV PcP **PcP** **17 34 39.2 +0.9**
comp=Z,6.6nm,0.9s,baz=79,slow=3.2,SNR=4.4
ZALV LR LR 17 51 21.1
comp=Z,280nm,19.0s,baz=70,slow=37
UTHA **Uthaitani** 42.92 253 P **P** **17 32 50.4 +1.2**
comp=Z,2.8nm,0.9s
UMPA **Umpang Tak** 42.99 254 P P 17 32 52.0 +2.2
comp=Z,6.1nm,0.9s
SBUM **Sibu** 43.31 226 *e*P **P** **17 32 49.5 -2.8**
comp=Z,8.3nm,1.1s
SBUM **Sibu** 43.31 226 P **P** **17 32 49.8 -2.6**
NVS **Novosibirsk** 43.71 314⇓ *i*P **P** **17 32 55.8 +0.7**
NVS *e* 17 33 07.0
NVS pmax pmax
comp=Z,24nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,18nm,1.0s
SHL **Shillong** 43.77 271 *e*P **P** **17 32 55.0 -1.2**
TTSI **Tana Toraja** 44.11 213 P **P** **17 32 59.1 +0.4**
NRIK **Noril'sk** 44.21 336 P **P** **17 32 58.8 -0.2**
comp=E,1.8nm,0.3s,baz=139,slow=6.1,SNR=5.2
NRIK LR LR 17 51 40.4
comp=E,276nm,19.0s,baz=140,slow=36
PHET **Kaeng Krachan** 44.39 250 P **P** **17 33 02.5 +1.5**
comp=E,7.4nm,0.8s
MK01 **Makanchi Array** 44.90 303 *e*P **P** **17 33 04.9 +0.1**
MK31 **Makanchi Array** 44.90 303 *e*P **P** **17 33 04.9 +0.1**
comp=E,15nm,0.8s
MK31 **Makanchi Array** 44.90 303 *e*P **P** **17 33 04.9 +0.1**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK32 **Makanchi Array** 44.90 303 *e*P **P** **17 33 04.9 +0.1**
MKAR **Makanchi Array** 44.90 303 P **P** **17 33 04.9 +0.1**
comp=Z,12nm,0.6s,baz=88,slow=9.9,SNR=112
MKAR LR LR 17 52 37.2
comp=Z,297nm,18.4s,baz=71,slow=37
MAKZ **Makanchi** 45.11 303 *e*P **P** **17 33 06.9 +0.4**
comp=Z,17nm,0.8s
MAKZ **Makanchi** 45.11 303 *e*P **P** **17 33 06.9 +0.4**
MAKZ pmax pmax
comp=Z,17nm,0.8s
BNSI **Bone** 45.20 211 P **P** **17 33 07.6 +0.2**
KSM **Kuching** 45.23 227 *e*P **P** **17 33 08.0 +0.4**
comp=Z,82nm,2.0s
KSM **Kuching** 45.23 227 P **P** **17 33 09.2 +1.5**
BRDH **Bariadhala** 45.30 267 P **P** **17 33 08.6 +0.3**
comp=Z,7.7nm,0.3s,baz=95,slow=5.2,SNR=4.3
KAPI **Kappang** 45.91 211 P **P** **17 33 13.5 +0.5**
SVW2 **Sparrevohn** 45.99 37 *e*P P 17 33 16.9 +3.7
comp=Z,29nm,1.4s
SII **Sitkinak Islan** 46.69 43 *e*P P 17 33 21.3 +2.5
comp=Z,249nm,1.8s
KURK **Kurchatov** 46.76 309 *e*P **P** **17 33 19.1 -0.3**
comp=Z,37nm,0.8s
KURK **Kurchatov** 46.76 309 *e*P **P** **17 33 19.1 -0.3**
KURK pmax pmax
comp=Z,37nm,0.8s
KURK **Kurchatov** 46.76 309 P **P** **17 33 19.3 -0.1**
SNR=15
KURBB **Kurchatov Arra** 46.83 309 P **P** **17 33 19.9 -0.1**
comp=Z,25nm,0.6s,baz=84,slow=8.0,SNR=140
ODAN **Odare** 46.84 275 *e*P **P** **17 33 20.7 +0.1**
IM3 **Indian Mountai** 47.22 30 *e*P **P** **17 33 24.7 +2.0**
RSO **Redoubt South** 47.36 38 *e*P **P** **17 33 26.1 +2.0**
RAMN **Ramite** 47.44 275 *e*P **P** **17 33 25.5 +0.2**
comp=Z,166nm,0.9s
JIRN **Jiri** 47.47 276 *e*P **P** **17 33 26.2 +0.5**
comp=Z,142nm,0.9s
KDAK **Kodiak Island** 47.51 41 *e*P P 17 33 27.8 +2.7
comp=Z,20nm,0.8s
KDAK **Kodiak Island** 47.51 41 *i* P P 17 33 28.4 +3.4
KDAK **Kodiak Island** 47.51 41 P **P** **17 33 26.4 +1.4**
comp=Z,3.1nm,0.6s,baz=320,slow=6.7,SNR=5.1
PDGK **Podgornoye** 47.51 299 P **P** **17 33 25.5 0.0**
PDGK pmax pmax
comp=Z,46nm,0.7s
GUN **Gumba** 47.62 277 *e*P **P** **17 33 27.0 +0.2**
comp=Z,30nm,0.5s
PPLA **Purkeypile** 47.67 34 *e*P P 17 33 29.2 +2.7
comp=Z,43nm,1.8s
PBKI **Pangkalan Bun** 47.85 223 P **P** **17 33 28.5 +0.3**
PKI **Pulchoki** 48.14 277 *e*P **P** **17 33 30.5 -0.3**
comp=Z,51nm,1.0s
PKIN **Phulchoki** 48.14 277 *e*P **P** **17 33 30.4 -0.4**
comp=Z,34nm,1.0s
KKN **Kakani** 48.15 277 *e*P **P** **17 33 30.8 +0.1**
comp=Z,66nm,1.0s
MMRI **Maumere** 48.24 206 *e*P **P** **17 33 31.0 -0.2**
comp=Z,21nm,0.8s
MMRI **Maumere** 48.24 206 P **P** **17 33 30.5 -0.7**
BRLK **Bradley Lake** 48.31 39 *e*P **P** **17 33 31.5 +0.2**
comp=Z,41nm,1.4s
SUA **Susitna One** 48.34 36 *e*P **P** **17 33 33.1 +1.5**

comp=Z,8.0nm,0.9s
DMN Daman 48.36 277 *e*P **P** **17 33 32.5 +0.1**
comp=Z,34nm,1.1s
MLY Manley 48.40 32 *e*P P 17 33 34.7 +2.7
comp=Z,8.3nm,0.9s
PRZ Przheval'sk 48.50 298 *e*P **P** **17 33 34.1 +0.9**
comp=Z,25nm,0.9s
PRZ Przheval'sk 48.50 298 *e*P **P** **17 33 34.1 +0.9**
PRZ pmax pmax
comp=Z,25nm,0.9s
EDFI Ende, Flores 48.54 207 P **P** **17 33 32.7 -0.9**
comp=Z,16nm,0.9s,comp=Z,675nm
TRF Thorofare Moun 48.55 34 *e*P **P** **17 33 35.0 +1.8**
comp=Z,6.3nm,1.0s
GKN Gorkha 48.58 277 *e*P **P** **17 33 34.1 +0.1**
comp=Z,87nm,0.8s
SOEI Soe 48.59 203 *e*P **P** **17 33 32.9 -1.1**
comp=Z,70nm,1.1s
SOEI *e*S **S** **17 40 27.9 -5.5**
SOEI Soe 48.59 203 P **P** **17 33 32.9 -1.1**
RC01 Rabbit Creek A 48.83 37 *e*P P 17 33 41.5 +6.3
comp=Z,14nm,1.2s
IPM Ipoh 49.01 240 *e*P **P** **17 33 36.4 -0.8**
comp=Z,21nm,0.9s
IPM Ipoh 49.01 240 P **P** **17 33 37.1 -0.2**
SEW Seward 49.02 38 *e*P P 17 33 41.9 +5.2
comp=Z,45nm,1.4s
MYKOM Kota Tinggi 49.05 235 P **P** **17 33 38.2 +0.8**
TOLK Toolik Lake Re 49.08 27 *e*P **P** **17 33 37.7 +0.6**
comp=Z,6.1nm,0.9s
PMR Palmer 49.11 36 *e*P **P** **17 33 39.6 +2.3**
PMR Palmer 49.11 36 *e*P **P** **17 33 39.6 +2.3**
PMR pmax pmax
comp=Z,40nm,1.8s
TARG Taragay, Kyrgy 49.12 297 *e*P **P** **17 33 35.9 -2.4**
comp=Z,17nm,0.8s
DANN Dangsing 49.13 278 *e*P **P** **17 33 38.9 +0.5**
comp=Z,104nm,0.6s
MCK McKinley 49.16 33 *e*P **P** **17 33 39.8 +2.0**
comp=Z,8.4nm,1.0s
MCK McKinley 49.16 33 *e*P **P** **17 33 39.8 +2.0**
MCK pmax pmax
comp=Z,8.0nm,1.0s
RND Reindeer 49.20 34 *e*P **P** **17 33 39.9 +1.8**
comp=Z,14nm,1.2s
RND Reindeer 49.20 34 *e*P **P** **17 33 39.9 +1.8**
RND pmax pmax
comp=Z,14nm,1.2s
GHO Glory Hole Cre 49.20 36 *e*P **P** **17 33 40.4 +2.3**
comp=Z,57nm,1.7s
GHO *e*PcP **PcP** **17 35 01.6 +0.7**
BATI Baumata 49.21 204 P **P** **17 33 37.6 -1.0**
BATI Baumata 49.21 204 P **P** **17 33 39.4 +0.8**
comp=Z,42nm,0.7s,baz=75,slow=0.8,SNR=12
KGM Kluang 49.23 235 P **P** **17 33 40.0 +1.1**
KNK Knik Glacier 49.44 36 *e*P P 17 33 42.8 +2.9
comp=Z,34nm,1.5s
MDM Murphy Dome 49.46 32 *e*P P 17 33 42.5 +2.4
comp=Z,15nm,0.9s
KDJ Kajisay 49.46 298 *e*P P 17 33 42.3 +1.7
comp=Z,11nm,0.8s
SML Sawmill 49.48 36 *e*P **P** **17 33 41.9 +1.6**
comp=Z,38nm,1.6s
SML Sawmill 49.48 36 *e*P **P** **17 33 41.9 +1.6**
SML pmax pmax
comp=Z,38nm,1.6s
KOLN Koldanda 49.51 278 *e*P **P** **17 33 41.3 +0.2**
WRH Wood River Hil 49.52 32 *e*P **P** **17 33 40.8 +0.3**
WRH *e*PcP **PcP** **17 35 03.3 +1.5**
COLA College 49.62 32⇓ *e*P P 17 33 44.2 +3.0
COLA pmax pmax
comp=Z,3.0nm,0.9s
CCB Clear Creek Bu 49.64 32 *e*P **P** **17 33 42.5 +1.1**
comp=Z,14nm,1.7s
MTN Manton Dam 49.78 194 *e*P **P** **17 33 40.8 -2.1**
comp=Z,22nm,1.0s
PYUN Piuthan 49.85 278 *e*P **P** **17 33 44.1 +0.3**
comp=Z,192nm,1.1s
COEN Coen 49.86 178 *e*P **P** **17 33 44.2 +0.7**
comp=Z,12nm,0.9s
DHY Denali Highway 49.87 34 *e*P **P** **17 33 44.7 +1.3**
comp=Z,16nm,1.6s
SCM Sheep Creek Mo 49.95 36 *e*P **P** **17 33 45.6 +1.8**
comp=Z,19nm,1.1s
SCM Sheep Creek Mo 49.95 36 *e*P **P** **17 33 45.7 +1.8**
SCM pmax pmax
comp=Z,19nm,1.1s
HDA Harding Lake 50.02 32 *e*P **P** **17 33 45.6 +1.3**
comp=Z,5.9nm,0.9s
IL1 Eielson Array 50.04 32 *e*P **P** **17 33 45.3 +0.9**
ILAR Eielson Array 50.04 32 P **P** **17 33 45.9 +1.5**
comp=Z,3.5nm,0.8s,baz=267,slow=6.2,SNR=28
ILB Eielson Array 50.04 32 *e*P **P** **17 33 46.0 +1.6**
comp=Z,6.3nm,0.8s
PLAI Plampang 50.17 212 P **P** **17 33 45.5 -0.4**
comp=Z,30nm,1.0s
TKM2 Tokmak 2 50.37 299 P **P** **17 33 48.6 +1.1**
SNR=43
TKM2 Tokmak 2 50.37 299 P **P** **17 33 48.3 +0.8**
TKM2 pmax pmax
comp=Z,16nm,0.6s
PBA Port Blair 50.45 254 *e*P P 17 33 44.7 -3.5
comp=Z,72nm,1.0s
NRN Naryn 50.50 297 *e*P **P** **17 33 49.4 +0.7**
comp=Z,14nm,1.2s
NRN Naryn 50.50 297 *e*P **P** **17 33 49.4 +0.7**
NRN pmax pmax
comp=Z,14nm,1.2s
PPBI Pangkal Pinang 50.62 229 P **P** **17 33 49.2 -0.2**
comp=Z,25nm,1.0s,comp=Z,3μm
KLU Klutina 50.65 36 *e*P P 17 33 51.6 +2.4
comp=Z,21nm,1.4s
KZA Kyzart 50.86 298 P P 17 33 53.0 +1.6
SNR=14
KBK Karagaybulak 50.91 299 P **P** **17 33 52.5 +0.9**
SNR=32
HARP HAARP 50.93 35 *e*P P 17 33 54.0 +2.7
comp=Z,74nm,1.7s
CHMS Chumysh 50.95 299 P **P** **17 33 52.5 +0.9**
SNR=9.5
GRJI Gresik 50.97 219 P **P** **17 33 51.7 -0.3**
USP Ospenovka 51.05 300 P **P** **17 33 53.0 +0.5**
SNR=17
FRU1 Bishkek 51.09 299 *e*P **P** **17 33 52.0 -0.7**
comp=Z,32nm,1.2s
FRU1 Bishkek 51.09 299 *e*P **P** **17 33 52.0 -0.7**
FRU1 pmax pmax
comp=Z,32nm,1.2s
FRU Bishkek 51.09 299 *e*P **P** **17 33 52.0 -0.7**
FRU *e* 17 34 02.0
KSH Kashi 51.10 295 P P 17 33 56.8 +3.8
KSH pP sP 17 34 07.8 -0.4
KSH sP pwP 17 34 10.5 +4.6
KSH S **S** **17 41 11.3 +3.1**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,96nm,4.1s
KSH LR LR
comp=Z,170nm,12.9s
KSH LR LR
comp=Z,150nm,10.6s
KSH LR LR
comp=Z,350nm,14.6s
AAK Ala-Archa 51.23 299 P **P** **17 33 54.4 +0.5**
SNR=17
AAK Ala-Archa 51.23 299 *e*P **P** **17 33 53.1 -0.8**
comp=Z,9.7nm,0.6s
AAK Ala-Archa 51.23 299 *i* P **P** **17 33 54.2 +0.3**
SNR=29
AAK Ala-Archa 51.23 299 *i* P **P** **17 33 54.2 +0.3**
SNR=29
AAK Ala-Archa 51.23 299*c i*P **P** **17 33 54.3 +0.3**
AAK pmax pmax
comp=Z,8.0nm,0.6s
AAK Ala-Archa 51.23 299 P **P** **17 33 54.6 +0.7**
SNR=7.1
OTUK Ortayu 51.24 307 P **P** **17 33 53.4 -0.3**
OTUK pmax pmax
comp=Z,14nm,0.7s
DOT Dot Lake 51.33 33 *e*P P 17 33 57.2 +3.0
comp=Z,5.0nm,0.7s
BRVK Borovoye 51.49 313 *e*P **P** **17 33 55.3 -0.2**
comp=Z,14nm,0.8s
BRVK Borovoye 51.49 313 *e*P **P** **17 33 55.3 -0.2**
BRVK pmax pmax
comp=Z,14nm,0.8s
BRVK Borovoye 51.49 313 P **P** **17 33 55.7 +0.2**
SNR=9.2
PSI Prapat 51.67 240 *e*P **P** **17 33 56.1 -1.3**
comp=Z,12nm,0.7s
PSI Prapat 51.67 240 *e*P **P** **17 33 56.1 -1.3**
PSI pmax pmax
comp=Z,13nm,0.7s
EKS2 Erkin-Say 51.73 299 P **P** **17 33 58.1 +0.5**
SNR=19
AML Almayashu 51.95 299 P **P** **17 34 00.8 +1.2**
SNR=37
EGAK Eagle 52.48 32 *e*P **P** **17 34 04.3 +1.6**
comp=Z,4.3nm,0.9s
ARSB Arslanbob 52.70 298 *e*P **P** **17 34 06.2 +1.3**
comp=Z,29nm,0.9s
UGM Wanagama 52.82 220 *e*P **P** **17 34 05.0 -0.8**
comp=Z,371nm,1.5s
MDSI Maura Dua 53.65 229 P **P** **17 34 11.0 -0.9**
GSI Gunungsitoli 53.68 240 *e*P **P** **17 34 11.7 -0.5**
comp=Z,60nm,0.8s
GSI Gunungsitoli 53.68 240 P **P** **17 34 11.3 -0.8**
KK31 Karatay Array 53.88 301 *e*P **P** **17 34 13.5 +0.1**
comp=Z,18nm,0.9s
KK31 Karatay Array 53.88 301 *e*P **P** **17 34 13.5 +0.1**
KK31 pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 53.88 301 *e*P **P** **17 34 13.5 +0.1**
comp=Z,18nm,0.9s
KKAR Karatay Array 53.88 301 *e*P **P** **17 34 13.5 +0.1**
KKAR pmax pmax
comp=Z,18nm,0.9s
CISI Cisompet, Garu 53.99 223 *e*P **P** **17 34 13.2 -1.2**
comp=Z,73nm,1.5s
EPYK Eagle Plains 54.10 29 *e*P P 17 34 17.4 +2.8
comp=Z,22nm,0.8s
BTK Batken 54.67 297 *e*P **P** **17 34 19.2 -0.1**
comp=Z,8.2nm,0.6s
BTK Batken 54.67 297 *e*P **P** **17 34 19.2 -0.1**
BTK pmax pmax
comp=Z,8.0nm,0.6s
HYT Haines Junctio 54.78 36 *e*P P 17 34 23.3 +3.5
comp=Z,69nm,1.9s
INK Inuvik 55.00 27 *e*P **P** **17 34 22.7 +1.7**
comp=Z,7.4nm,1.0s
INK Inuvik 55.00 27 *e*P **P** **17 34 22.7 +1.7**
INK pmax pmax
comp=Z,7.0nm,1.0s
INK Inuvik 55.00 27 P P 17 34 23.3 +2.3
comp=Z,3.5nm,0.6s,baz=304,slow=5.9,SNR=18
NIL Nilore 55.24 289 *e*P **P** **17 34 23.6 +0.2**
comp=Z,17nm,0.8s
GAR Garm 55.41 296 *e*P **P** **17 34 24.8 +0.2**
comp=Z,58nm,1.3s
GAR Garm 55.41 296 *e*P **P** **17 34 24.8 +0.2**
GAR pmax pmax
comp=Z,58nm,1.3s
SVE Sverdlovsk 56.05 319⇓ *e*P **P** **17 34 29.7 +1.0**
SVE pmax pmax
comp=Z,34nm,1.1s
SVE MLR MLR
comp=Z,594nm,19.0s
WHY Whitehorse 56.07 36 *e*P P 17 34 32.0 +3.0
comp=Z,38nm,1.7s
CTAO Charters Tower 56.09 175 *e*P **P** **17 34 30.6 +1.1**
comp=Z,53nm,1.8s
FITZ Fitzroy Crossi 56.11 199 *e*P **P** **17 34 30.4 +0.9**
comp=Z,44nm,1.8s
FITZ Fitzroy Crossi 56.11 199 P **P** **17 34 29.9 +0.4**
comp=Z,2.1nm,0.7s,baz=36,slow=9.8,SNR=6.3
WRAB Tennant Creek 56.24 189 *e*P **P** **17 34 30.5 0.0**
comp=Z,8.1nm,0.8s
WRAB Tennant Creek 56.24 189⇓ *e*P **P** **17 34 29.8 -0.7**
WRAB pmax pmax
comp=Z,13nm,1.7s
WB2 Warramunga Arr 56.25 189 *e*P **P** **17 34 30.3 -0.3**
WR1 Warramunga Arr 56.25 189 *e*P **P** **17 34 30.6 0.0**
comp=Z,12nm,0.9s
WRA Warramunga Arr 56.25 189 P **P** **17 34 30.6 0.0**
comp=Z,3.3nm,0.7s,baz=5.7,slow=7.4,SNR=43
CHGR Chuyangaron 56.38 296 *e*P **P** **17 34 31.1 -0.4**
KHLU Kahalu`u 56.55 89 *e*P P 17 34 36.9 +3.9
comp=Z,168nm,1.4s
ARU Arti 57.26 319 *e*P **P** **17 34 37.0 -0.4**
comp=Z,24nm,0.8s
ARU Arti 57.26 319*d i*P **P** **17 34 37.4 0.0**
ARU *PP **pP** **17 34 47.5 -0.6**
ARU **17 36 41.2**
ARU S **S** **17 42 29.8 -0.6**
ARU SS **SS** **17 46 15.9 -3.5**
ARU pmax pmax
comp=Z,26nm,0.9s
ARU MLR MLR
comp=Z,356nm,17.0s
KBL Kabul 58.08 292 *e*P **P** **17 34 43.2 -0.6**
comp=Z,10nm,1.0s
KBL Kabul 58.08 292 *e*P **P** **17 34 43.2 -0.6**
KBL pmax pmax
comp=Z,10.0nm,1.0s
HYB Hyderabad 58.55 269 *i* P **P** **17 34 47.0 -0.1**
AB31 Akbulak array 58.78 311 *i* P **P** **17 34 47.9 -0.3**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 58.78 311 *e*P **P** **17 34 48.1 -0.1**
comp=Z,14nm,0.6s
AS01 Alice Springs 59.97 188 *e*P **P** **17 34 56.5 -0.1**
AS31 Alice Springs 59.98 188 *e*P **P** **17 34 57.1 +0.5**
comp=Z,2.5nm,0.7s
ASAR Alice Springs 59.98 188 P **P** **17 34 56.9 +0.2**
comp=Z,1.3nm,0.7s,baz=14,slow=6.9,SNR=22
PRGR Permogore 61.70 327 *e*P **P** **17 35 06.4 -1.5**
PRGR *e*PP **pP** **17 35 17.7 -0.9**
PRGR *e* 17 35 49.2
PRGR pmax pmax
comp=Z,13nm,0.9s
EIDS Eidsvold 61.81 171 *e*P **P** **17 35 11.1 +2.1**
comp=Z,31nm,1.5s
DZM Mont Dzumac 62.41 154 *e*P P 17 35 15.9 +2.8
comp=Z,91nm,2.0s
DZM Mont Dzumac 62.41 154 P **P** **17 35 15.0 +1.8**
comp=Z,8.0nm,1.2s,baz=357,slow=7.4,SNR=3.8
PALK Pallekele 62.55 258 P **P** **17 35 15.3 +1.0**
PALK Pallekele 62.55 258 P **P** **17 35 15.3 +1.0**
OUENC Ouen Island, N 62.87 154 *e*P P 17 35 20.3 +4.2
comp=Z,10nm,0.9s
RES Resolute Bay 63.35 14 *e*P **P** **17 35 20.0 +1.3**
comp=Z,12nm,1.1s
RES Resolute Bay 63.35 14 *e*P **P** **17 35 20.0 +1.3**
RES pmax pmax
comp=Z,12nm,1.1s
TMCR Tamitsa 63.69 332 *e*P **P** **17 35 21.5 +0.4**
TMCR pmax pmax
comp=Z,27nm,1.1s
YKA Yellowknife Ar 64.38 30 P **P** **17 35 27.0 +1.4**
comp=Z,1.2nm,0.7s,baz=299,slow=6.7,SNR=18
YKB5 Yellowknife Ar 64.38 30 *e*P **P** **17 35 26.8 +1.2**
KEV Kevo 64.39 339 *e*P **P** **17 35 25.4 -0.2**
comp=Z,124nm,1.7s
KEV Kevo 64.39 339 *e*P **P** **17 35 25.4 -0.2**
KEV pmax pmax
comp=Z,124nm,1.7s
GEYT Alibeck 64.58 300 P **P** **17 35 28.1 +0.6**
comp=Z,3.0nm,0.6s,baz=62,slow=3.5,SNR=5.8
KLMR Klimovskoe 64.69 328 *e*P **P** **17 35 26.4 -1.3**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 64.69 328 *e*P **P** **17 35 26.4 -1.3**
KLMR AMP 17 35 39.3
comp=Z,12nm,0.8s
ARA0 ARCESS Array S 64.94 340 *e*P **P** **17 35 30.2 +0.9**
ARCES ARCESS Array B 64.94 340 *e*P **P** **17 35 29.3 +0.1**
ARCES ARCESS Array B 64.94 340 *e*P **P** **17 35 29.3 +0.1**
ARCES ARCESS Array B 64.94 340 P **P** **17 35 30.2 +0.9**
comp=Z,6.6nm,0.8s,baz=51,slow=9.6,SNR=14
TULEG Thule 65.92 8 *e*P **P** **17 35 36.3 +0.8**
comp=Z,10nm,1.1s
LLLB Lillooet 66.63 44 *e*P **P** **17 35 42.5 +2.0**
comp=Z,9.2nm,1.1s
DAG Danmarks Havn 66.67 355 *i* P **P** **17 35 41.1 +0.8**
comp=Z,9.9nm,1.2s
DAG *i* 17 35 54.0
DAG Danmarks Havn 66.67 355 *i* P **P** **17 35 41.1 +0.8**
DAG *i* 17 35 54.0
DAG pmax pmax
comp=Z,15nm,1.2s
NLWA Neilton Lookou 67.03 47 *e*P P 17 35 47.1 +4.0
comp=Z,26nm,1.0s
MOS Moscow 68.17 324 *e*P P 17 35 59.5 +9.5
MOS *e* 17 36 22.1
MOS pmax pmax
comp=Z,23nm,0.7s
VRH Novokhopyorsk 68.47 318 *e*P **P** **17 35 51.1 -0.9**
VRH *e*SP **pP** **17 36 00.9 -2.0**
VRH pmax pmax
comp=Z,10.0nm,0.7s
VRH MLR MLR
comp=Z,470nm,17.0s
LTY Liberty 68.99 46 *e*P **P** **17 35 57.3 +1.8**
comp=Z,5.2nm,0.6s
OBN Obninsk 69.02 324*ce*P **P** **17 35 55.5 +0.2**
OBN *i* 17 36 05.7
OBN pmax pmax
comp=Z,6.0nm,0.6s
OBN MLR MLR
comp=Z,235nm,15.0s
B08A Colville Reser 69.19 45 *e*P P 17 36 00.8 +4.1
comp=Z,13nm,1.2s
LPSR Galich'ya Gora 69.21 321 *e*P **P** **17 35 56.5 -0.1**
LPSR *e*SP **pP** **17 36 07.1 -0.3**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,560nm,16.0s
H04A Detroit Lake 69.39 49 *e*P **P** **17 35 59.3 +1.4**
comp=Z,12nm,0.9s
FIA1 FINESS Array S 69.76 333 *e*P **P** **17 35 59.8 0.0**
comp=Z,17nm,1.0s
FIA0 FINESS Array S 69.76 333 *e*P **P** **17 36 00.6 +0.8**
FIA0 FINESS Array S 69.76 333 *e*P **P** **17 36 00.6 +0.8**
FINES FINESS Array B 69.76 333 P **P** **17 36 00.6 +0.8**
comp=Z,9.1nm,0.8s,baz=63,slow=6.2,SNR=32
VSR Storozhevoye 69.83 319*ce*P **P** **17 36 00.4 0.0**
VSR pmax pmax
comp=Z,19nm,0.8s
HAWA Hanford 70.11 47 *e*P P 17 36 04.9 +2.7
comp=Z,8.2nm,1.0s
D08A Wollman Farm, 70.11 46 *e*P **P** **17 36 04.1 +1.9**
comp=Z,9.9nm,0.8s
NEW Newport 70.50 44 *e*P **P** **17 36 06.8 +2.2**
comp=Z,7.5nm,0.8s
NEW Newport 70.50 44 *e*P **P** **17 36 06.8 +2.2**
NEW pmax pmax
comp=Z,7.0nm,0.8s
YBH Yreka Blue Hor 70.59 52 *e*P P 17 36 10.4 +5.1
comp=Z,4.7nm,0.9s
YBH Yreka Blue Hor 70.59 52 *e*P P 17 36 10.5 +5.1
YBH pmax pmax
comp=Z,5.0nm,0.9s
PINE Pine Mountain 70.62 50 *e*P P 17 36 08.2 +2.5
comp=Z,15nm,0.8s
E09A Wood Farm, Sta 70.85 46 *e*P **P** **17 36 08.4 +1.6**
comp=Z,12nm,0.9s
G08A Pilot Rock 71.03 47 *e*P **P** **17 36 10.1 +2.0**
comp=Z,3.1nm,0.8s
I07A Izee 71.35 49 *e*P **P** **17 36 12.2 +2.2**
comp=Z,4.3nm,1.0s
VSU Vasula 71.39 330*de*P **P** **17 36 10.8 +1.0**
VSU pmax pmax
comp=Z,60nm,2.5s
VSU Vasula 71.39 330 *e*P **P** **17 36 10.6 +0.8**
VSU IAmb IAmb 17 36 23.5
comp=Z,54nm,0.9s
JLN Jalan Bani Buh 71.42 284 P **P** **17 36 11.1 +0.5**
WSAR Wadi Sarin 71.45 286 P **P** **17 36 10.9 +0.1**
SUMG Summit 71.56 0 *e*P **P** **17 36 11.5 +0.4**
comp=Z,7.1nm,0.9s
SUMG Summit 71.56 0 *i* P **P** **17 36 12.9 +1.8**
comp=Z,12nm,0.7s
SUMG Summit 71.56 0 *i* P **P** **17 36 12.9 +1.8**
SUMG pmax pmax
comp=Z,12nm,0.7s
F10A Beach Ranch, E 71.68 46 *e*P **P** **17 36 13.7 +1.8**
comp=Z,4.3nm,0.8s
KBZ Khabaz 71.75 311 P **P** **17 36 13.3 +1.1**
comp=Z,9.6nm,1.1s,baz=65,slow=1.8,SNR=6.6
KIV Kislovodsk 71.76 311 *e*P **P** **17 36 12.2 -0.3**
comp=Z,56nm,0.8s
KIV Kislovodsk 71.76 311⇑ *i*P **P** **17 36 13.1 +0.7**
KIV Kislovodsk 71.76 311 P **P** **17 36 12.7 +0.3**
KIV Kislovodsk 71.76 311 P **P** **17 36 12.7 +0.3**
KIV Kislovodsk 71.76 311 *e*P **P** **17 36 13.6 +1.2**
KIV pmax pmax
comp=Z,49nm,1.0s
SHME Shamm 71.89 289 *i* P **P** **17 36 14.0 +0.6**
SNR=7.8
SHME Shamm 71.89 289 *i* P **P** **17 36 14.0 +0.6**
SNR=7.8
MOD Modoc Plateau 72.02 51 *e*P **P** **17 36 15.9 +1.7**
comp=Z,5.6nm,0.9s
BMO Blue Mountains 72.25 47 *e*P P 17 36 17.9 +2.5
comp=Z,6.9nm,1.0s
BMO Blue Mountains 72.25 47 *e*P P 17 36 17.9 +2.5
BMO pmax pmax
comp=Z,7.0nm,1.0s
J08A Circle Bar Ran 72.37 49 *e*P P 17 36 18.6 +2.4
comp=Z,19nm,1.4s
HATD Hatta, Dubai 72.55 288 *i* P **P** **17 36 17.9 +0.6**
SNR=14
HATD Hatta, Dubai 72.55 288 *i* P **P** **17 36 17.9 +0.6**
SNR=14
SOHO SOHO 72.61 287 P **P** **17 36 18.1 +0.5**
ASHO Ashiyiah 72.68 288 *i* P **P** **17 36 18.6 +0.4**
SNR=8.1
ASHO Ashiyiah 72.68 288 *i* P **P** **17 36 18.6 +0.4**
SNR=8.1
ASHO Ashiyiah 72.68 288 P **P** **17 36 18.3 +0.2**
SNR=5.0
NAZ Nazwa, Dubai 72.82 289 P **P** **17 36 19.3 +0.4**
NAZ Nazwa, Dubai 72.82 289 P **P** **17 36 19.3 +0.4**
FAQ Al Faqa, Dubai 73.00 288 P **P** **17 36 20.0 0.0**
FAQ Al Faqa, Dubai 73.00 288 P **P** **17 36 20.0 0.0**
SCO Scoresbysund 73.02 354 *i* P P 17 36 21.4 +2.1
comp=Z,11nm,1.2s
SCO Scoresbysund 73.02 354 *i* P P 17 36 21.4 +2.1
SCO pmax pmax
comp=Z,11nm,1.2s
BEKR Beckworth 73.09 53 *e*P **P** **17 36 22.6 +2.0**
comp=Z,11nm,0.9s
MHTO MHTO 73.17 284 P **P** **17 36 21.3 +0.2**
SNR=7.6
ASUD Al Ashush, Dub 73.27 288 P **P** **17 36 22.1 +0.5**
ASUD Al Ashush, Dub 73.27 288 P **P** **17 36 22.1 +0.5**
IDID Didziasalis 73.41 327 *e*P **P** **17 36 22.5 +0.6**
IDID IAmb IAmb 17 36 35.8
comp=Z,7.1nm,0.9s
ISAL Salakas 73.51 328 *e*P **P** **17 36 23.1 +0.6**
ISAL IAmb IAmb 17 36 36.5
comp=Z,12nm,0.9s
NACGM Naroch 73.66 327 *e* **P** **17 36 23.0 -0.3**
NACGM *e*LR LR 17 41 02.0
NACGM LRM MLR 17 46 53.0
comp=Z,1.5nm,20.0s
PAHR Pah Rah Range 73.81 53 *e*P P 17 36 27.8 +3.0
comp=Z,6.9nm,1.0s
PNTR Pine Nut 74.01 53 *e*P **P** **17 36 27.5 +1.5**
comp=Z,18nm,1.5s
CMB Columbia Colle 74.08 54 *e*P **P** **17 36 28.5 +2.3**
comp=Z,15nm,1.4s
FFC Flin Flon 74.24 33 *e*P **P** **17 36 27.9 +1.1**
comp=Z,12nm,1.0s
FFC Flin Flon 74.24 33 *i* P **P** **17 36 28.6 +1.8**
YERR Yerington 74.30 53 *e*P **P** **17 36 29.5 +1.8**
comp=Z,14nm,1.1s
HRY Holter Researc 74.34 43 *e*P **P** **17 36 29.6 +2.0**
LRM Limekiln Ridge 74.51 44 *e*P **P** **17 36 30.5 +1.6**
FCC Fort Churchill 74.62 27 *e*P **P** **17 36 29.6 +0.8**
comp=Z,8.6nm,0.9s
FCC Fort Churchill 74.62 27 *e*P **P** **17 36 29.6 +0.8**
FCC pmax pmax
comp=Z,9.0nm,0.9s
EGMT Eagleton 74.68 41 *e*P **P** **17 36 31.1 +1.5**
comp=Z,13nm,1.0s
HLID Hailey 74.69 47 *e*P **P** **17 36 32.1 +2.2**
comp=Z,3.3nm,0.9s
DLMT Dillon 74.70 45 *e*P **P** **17 36 31.3 +1.4**
comp=Z,9.4nm,0.8s
BMN Battle Mountai 74.77 51 *e*P **P** **17 36 32.7 +2.3**
comp=Z,7.1nm,0.8s
NC405 NORSAR Array S 74.92 337 *e*P **P** **17 36 31.4 +0.8**
comp=Z,64nm,1.8s
RYN Ryan 74.96 53 *e*P P 17 36 34.7 +3.2
comp=Z,8.2nm,1.1s

KVN	**Kaiserville**	**75.00**	**53**	*e*P		P		17 36 34.6	+2.9
	comp=Z,14nm,1.1s								
NC204	**NORSAR Array S**	**75.09**	**338**	*e*P		**P**		**17 36 31.7**	**+0.1**
	comp=Z,16nm,0.7s								
BOZ	**Bozeman (W)**	**75.11**	**44**	*e*P		**P**		**17 36 34.5**	**+2.3**
	comp=Z,8.7nm,0.8s								
BOZ	**Bozeman (W)**	**75.11**	**44**	*e*P		**P**		**17 36 34.5**	**+2.3**
BOZ					pmax	pmax			
	comp=Z,9.0nm,0.8s								
NB2	**NORSAR Subarra**	**75.13**	**338**	P		**P**		**17 36 32.7**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=41,slow=5.9								
NB200	**NORSAR Array S**	**75.13**	**338**	*e*P		**P**		**17 36 32.6**	**+0.7**
NOA	**NORSAR Array B**	**75.13**	**338**	P		**P**		**17 36 32.6**	**+0.7**
	comp=Z,5.7nm,0.8s,baz=39,slow=5.8,SNR=21								
AKASG	**Malin Array Be**	**75.21**	**323**	P		**P**		**17 36 32.8**	**+0.3**
	comp=Z,11nm,0.6s,baz=47,slow=6.1,SNR=77								
AKBB	**Malin Array Si**	**75.21**	**323**	*e*P		**P**		**17 36 32.1**	**-0.3**
	comp=Z,13nm,0.8s								
NV01	**Mina Array Sit**	**75.22**	**53**	*e*P		P		17 36 35.5	+2.4
NVAR	**Mina Array Bea**	**75.22**	**53**	P		**P**		**17 36 34.4**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=297,slow=4.0,SNR=5.1								
KIEV	**Kiev**	**75.22**	**323**	*e*P		**P**		**17 36 31.9**	**-0.7**
	comp=Z,12nm,0.8s								
KIEV	**Kiev**	**75.22**	**323**	⇑*i*P		**P**		**17 36 32.7**	**+0.2**
KIEV	**Kiev**	**75.22**	**323**	*i* P		**P**		**17 36 32.7**	**+0.2**
	SNR=11								
KIEV	**Kiev**	**75.22**	**323**	*i* P		**P**		**17 36 32.7**	**+0.2**
	SNR=11								
KIEV	**Kiev**	**75.22**	**323**	*c i*P		**P**		**17 36 32.7**	**+0.2**
KIEV					pmax	pmax			
	comp=Z,12nm,0.9s								
AK11	**Malin Array Si**	**75.25**	**323**	*e*P		**P**		**17 36 32.1**	**-0.6**
NV11	**Mina Array Sit**	**75.31**	**53**	*e*P		P		17 36 37.4	+3.9
	comp=Z,1.4nm,1.5s								
QLMT	**Earthquake Lak**	**75.68**	**45**	*e*P		**P**		**17 36 36.4**	**+0.8**
SUW	**Suwalki**	**75.82**	**328**	*e*P		**P**		**17 36 36.1**	**+0.2**
	comp=Z,18nm,0.8s								
SUW	**Suwalki**	**75.82**	**328**	*e*P		**P**		**17 36 36.1**	**+0.2**
SUW					pmax	pmax			
	comp=Z,18nm,0.8s								
ELK	**Elko**	**75.83**	**50**	*e*P		P		17 36 39.2	+2.6
	comp=Z,3.0nm,0.7s								
ELK	**Elko**	**75.83**	**50**	*e*P		P		17 36 39.2	+2.7
ELK					pmax	pmax			
	comp=Z,3.0nm,0.7s								
YHB	**Horse Butte**	**75.86**	**45**	*e*P		**P**		**17 36 38.8**	**+2.1**
	comp=Z,9.3nm,0.9s								
YHH	**Holmes Hill**	**76.04**	**44**	*e*P		**P**		**17 36 39.5**	**+1.8**
	comp=Z,3.3nm,0.9s								
YFT	**Old Faithful**	**76.25**	**45**	*e*P		**P**		**17 36 40.3**	**+1.4**
	comp=Z,7.6nm,0.9s								
YPP	**Pitchstone Pla**	**76.38**	**45**	*e*P		P		17 36 42.0	+2.4
	comp=Z,3.6nm,0.9s								
H17A	**Grant Village**	**76.43**	**45**	*e*P		P		17 36 42.7	+2.8
	comp=Z,14nm,0.9s								
IMW	**Indian Meadow**	**76.53**	**45**	*e*P		P		17 36 43.4	+2.9
	comp=Z,9.2nm,1.0s								
FLWY	**Flagg Ranch**	**76.55**	**45**	*e*P		**P**		**17 36 42.1**	**+1.6**
	comp=Z,13nm,1.0s								
FXWY	**Fox Creek**	**76.63**	**46**	*e*P		P		17 36 44.0	+3.0
	comp=Z,10nm,1.2s								
HVU	**Hansel Valley**	**76.72**	**48**	*e*P		P		17 36 44.2	+2.7
	comp=Z,7.6nm,0.9s								
HVU	**Hansel Valley**	**76.72**	**48**	*e*P		P		17 36 44.2	+2.7
HVU					pmax	pmax			
	comp=Z,8.0nm,0.9s								
RLMT	**Red Lodge**	**76.72**	**44**	*e*P		P		17 36 43.8	+2.3
	comp=Z,7.2nm,0.6s								
MOOW	**Moose Ponds**	**76.73**	**45**	*e*P		P		17 36 44.1	+2.6
	comp=Z,12nm,1.4s								
TPAW	**Teton Pass**	**76.77**	**46**	*e*P		**P**		**17 36 43.4**	**+1.6**
	comp=Z,6.5nm,0.8s								
REDW	**Red Top Meadow**	**76.90**	**46**	*e*P		**P**		**17 36 44.6**	**+2.1**
	comp=Z,12nm,1.2s								
R11A	**Troy Canyon, C**	**77.01**	**52**	*e*P		**P**		**17 36 45.3**	**+2.1**
	comp=Z,7.6nm,1.0s								
BGU	**Big Grassy Mou**	**77.08**	**49**	*e*P		**P**		**17 36 45.3**	**+1.8**
	comp=Z,3.7nm,0.8s								
DMTO	**DMTO**	**77.35**	**283**	P		**P**		**17 36 45.0**	**-0.1**
LAO	**LASA Array**	**77.39**	**41**	*e*P		**P**		**17 36 46.5**	**+1.4**
	comp=Z,14nm,0.8s								
TPNV	**Topopah Spring**	**77.40**	**53**	*e*P		**P**		**17 36 47.7**	**+2.3**
	comp=Z,7.3nm,1.0s								
TPNV	**Topopah Spring**	**77.40**	**53**	*e*P		**P**		**17 36 47.7**	**+2.3**
TPNV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
HWUT	**Hardware Ranch**	**77.55**	**47**	*e*P		**P**		**17 36 48.3**	**+2.1**
	comp=Z,9.4nm,1.1s								
DUG	**Dugway, Tooele**	**77.65**	**49**	*e*P		P		17 36 49.4	+2.7
	comp=Z,12nm,0.9s								
DUG	**Dugway, Tooele**	**77.65**	**49**	*e*P		P		17 36 49.4	+2.7
DUG					pmax	pmax			
	comp=Z,12nm,0.9s								
TCUT	**Toone Canyon**	**77.94**	**48**	*e*P		**P**		**17 36 50.5**	**+2.1**
	comp=Z,72nm,1.8s								
GSC	**Goldstone, Bar**	**77.99**	**55**	*e*P		P		17 36 51.4	+2.8
	comp=Z,5.8nm,1.1s								
GSC	**Goldstone, Bar**	**77.99**	**55**	*e*P		P		17 36 51.4	+2.8
GSC					pmax	pmax			
	comp=Z,6.0nm,1.1s								
PSUT	**Pine Spring**	**78.00**	**51**	*e*P		**P**		**17 36 50.2**	**+1.5**
	comp=Z,9.9nm,1.1s								
BW06	**Boulder Array**	**78.01**	**46**	*e*P		**P**		**17 36 50.4**	**+1.6**
	comp=Z,7.5nm,0.8s								
PD31	**Pinedale Array**	**78.01**	**46**	*e*P		**P**		**17 36 50.6**	**+1.8**
	comp=Z,6.9nm,0.8s								
PDAR	**Pinedale Array**	**78.01**	**46**	*e*P		**P**		**17 36 50.1**	**+1.3**
PDAR	**Pinedale Array**	**78.01**	**46**	P		**P**		**17 36 50.5**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=236,slow=0.8,SNR=12								
JLU	**Jordanelle**	**78.23**	**48**	*e*P		**P**		**17 36 51.1**	**+1.1**
	comp=Z,6.8nm,1.1s								
NLU	**North Lily Min**	**78.24**	**49**	*e*P		**P**		**17 36 52.4**	**+2.3**
	comp=Z,8.7nm,0.9s								
SHPR	**Sheep Range**	**78.37**	**53**	*e*P		**P**		**17 36 52.9**	**+2.1**
	comp=Z,9.4nm,1.3s								
MPU	**Maple Canyon**	**78.48**	**49**	*e*P		**P**		**17 36 53.4**	**+2.0**
	comp=Z,12nm,1.0s								
CCUT	**Cedar City**	**78.89**	**52**	*e*P		**P**		**17 36 55.3**	**+1.6**
	comp=Z,6.3nm,1.2s								
KWP	**Kalwaria Pacla**	**79.05**	**325**	*e*P		**P**		**17 36 53.8**	**-0.3**
	comp=Z,276nm,1.2s								
KWP	**Kalwaria Pacla**	**79.05**	**325**	*e*P		**P**		**17 36 53.8**	**-0.3**
KWP					pmax	pmax			
	comp=Z,276nm,1.2s								
MSU	**Marysvale**	**79.06**	**50**	*e*P		P		17 36 57.0	+2.4
TMUT	**Trail Mountain**	**79.17**	**49**	*e*P		P		17 36 58.3	+2.9
	comp=Z,4.1nm,0.9s								
BUR08	**Bucovina Ar. S**	**79.21**	**322**	*e*P		**P**		**17 36 55.3**	**+0.2**
	comp=Z,6.9nm,1.0s								
PFO	**Pinyon Flats O**	**79.22**	**56**	*e*P		**P**		**17 36 56.2**	**+0.8**
	comp=Z,7.8nm,1.1s								
PFO	**Pinyon Flats O**	**79.22**	**56**	*e*P		**P**		**17 36 56.2**	**+0.8**
PFO					pmax	pmax			
	comp=Z,8.0nm,1.1s								
XPFO	**Pion Flat**	**79.22**	**56**	*e*P		**P**		**17 36 55.9**	**+0.5**
	comp=Z,8.3nm,1.1s								
BURAR	**Bucovina Array**	**79.22**	**322**	⇑*i*P		**P**		**17 36 56.2**	**+1.0**
BIZ	**Bicaz**	**79.23**	**321**	⇑*i*P		**P**		**17 36 56.6**	**+1.5**
TESR	**Tescani**	**79.24**	**321**	⇓*i*P		**P**		**17 36 56.0**	**+0.8**
LCMT	**Little Creek M**	**79.30**	**52**	*e*P		P		17 36 59.3	+3.5
	comp=Z,8.8nm,1.1s								
MTPU	**Mount Pierson**	**79.34**	**51**	*e*P		P		17 36 58.8	+2.5
	comp=Z,10.0nm,1.2s								
CFR	**Carcaliu**	**79.34**	**319**	⇑*i*P		**P**		**17 36 55.9**	**+0.2**
P17A	**Butcher Ranch,**	**79.35**	**49**	*e*P		P		17 36 58.6	+2.5
	comp=Z,13nm,0.8s								
Q16A	**Castle Valley**	**79.43**	**49**	*e*P		**P**		**17 36 58.8**	**+2.2**
	comp=Z,9.9nm,1.1s								
P18A	**Preston Nutter**	**79.56**	**48**	*e*P		P		17 37 00.1	+2.7
	comp=Z,26nm,1.5s								
KNB	**Kanab**	**79.56**	**52**	*e*P		P		17 37 00.5	+3.2
	comp=Z,13nm,1.1s								
VRI	**Vrincioaia**	**79.63**	**320**	⇑*i*P		**P**		**17 36 58.5**	**+1.2**
PLOR	**Plostina**	**79.68**	**320**	⇓*i*P		**P**		**17 36 58.1**	**+0.5**
BR101	**Keskin Array S**	**79.71**	**312**	*e*P		**P**		**17 36 58.5**	**+0.5**
BR131	**Keskin Array S**	**79.71**	**312**	*e*P		**P**		**17 36 56.9**	**-1.2**
	comp=Z,4.9nm,0.8s								
BRTR	**Keskin Array B**	**79.71**	**312**	P		**P**		**17 36 58.5**	**+0.5**
	comp=Z,5.8nm,1.0s,baz=106,slow=4.2,SNR=17								
SRU	**San Rafael Swe**	**79.71**	**49**	*e*P		**P**		**17 36 59.7**	**+1.6**
	comp=Z,12nm,0.8s								
SRU	**San Rafael Swe**	**79.71**	**49**	*e*P		**P**		**17 36 59.7**	**+1.6**
SRU					pmax	pmax			
	comp=Z,13nm,0.8s								
TLB	**Topalu**	**79.78**	**318**	⇓*i*P		**P**		**17 36 58.9**	**+0.8**
UZH	**Uzhgorod**	**79.95**	**324**	*e*P		**P**		**17 36 58.8**	**-0.1**
OZUR		**79.96**	**321**	⇑*i*P		**P**		**17 37 00.3**	**+1.1**
OJC	**Ojcow**	**79.97**	**326**	*e*P		**P**		**17 37 00.1**	**+1.0**
OJC	**Ojcow**	**79.97**	**326**	*e*P		**P**		**17 36 59.5**	**+0.5**
	comp=Z,16nm,1.2s								
OJC	**Ojcow**	**79.97**	**326**	*e*P		**P**		**17 36 59.5**	**+0.5**
OJC					pmax	pmax			
	comp=Z,16nm,1.2s								
ULM	**Lac du Bonnet**	**80.03**	**33**	P		**P**		**17 37 00.3**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=320,slow=5.3,SNR=5.5								
W13A	**Hualapai Mount**	**80.04**	**54**	*e*P		**P**		**17 37 01.5**	**+1.6**
	comp=Z,5.1nm,1.1s								
RWWY	**Rawlins**	**80.05**	**45**	*e*P		**P**		**17 37 01.5**	**+1.5**
	comp=Z,12nm,0.8s								
TRPA	**Tarpa**	**80.18**	**324**	⇑*i*P		**P**		**17 37 01.6**	**+1.4**
ICOR	**Ion Corvin**	**80.22**	**318**	⇓*i*P		**P**		**17 37 01.5**	**+1.0**
DOPR	**Dopca**	**80.25**	**321**	⇓*i*P		**P**		**17 37 02.0**	**+1.3**
U15A	**North Rim**	**80.26**	**52**	*e*P		**P**		**17 37 02.7**	**+1.4**
	comp=Z,7.8nm,1.1s								
NIE	**Niedzica**	**80.32**	**326**	*e*P		**P**		**17 36 59.7**	**-1.3**
NIE	**Niedzica**	**80.32**	**326**	*e*P		**P**		**17 36 59.7**	**-1.3**
O20A	**White River Ci**	**80.44**	**47**	*e*P		**P**		**17 37 03.8**	**+1.8**
	comp=Z,11nm,1.0s								
VOIR		**80.79**	**320**	⇑*i*P		**P**		**17 37 05.3**	**+1.6**
PV09	**Paradox Valley**	**80.94**	**49**	*e*P		P		17 37 07.5	+2.7
PV21	**Cone Mtn., Par**	**80.99**	**49**	*e*P		P		17 37 08.0	+2.9
	comp=Z,12nm,0.8s								
DRGR		**81.03**	**323**	⇑*i*P		**P**		**17 37 05.4**	**+0.5**
KSP	**Ksiaz**	**81.04**	**329**	*e*P		**P**		**17 37 05.9**	**+1.1**
KSP	**Ksiaz**	**81.04**	**329**	*e*P		**P**		**17 37 05.9**	**+1.1**
ARR	**Arges**	**81.05**	**321**	⇑*i*P		**P**		**17 37 06.3**	**+1.3**
PV10	**Paradox Valley**	**81.07**	**49**	*e*P		**P**		**17 37 06.7**	**+1.2**
	comp=Z,30nm,0.9s								
PV14	**Lion Creek, Pa**	**81.08**	**49**	*e*P		**P**		**17 37 07.4**	**+1.8**
	comp=Z,22nm,0.9s								
PV20	**West Nyswonger**	**81.14**	**49**	*e*P		P		17 37 08.6	+2.8
	comp=Z,82nm,1.7s								
PV04	**Paradox Valley**	**81.14**	**49**	*e*P		P		17 37 08.4	+2.6
	comp=Z,30nm,1.4s								
PV19	**Morning Glory**	**81.15**	**49**	*e*P		P		17 37 08.4	+2.5
	comp=Z,17nm,0.9s								
PV17	**East Wray Mesa**	**81.18**	**49**	*e*P		P		17 37 08.4	+2.4
	comp=Z,26nm,0.9s								
PV16	**Nyswonger Mesa**	**81.19**	**49**	*e*P		**P**		**17 37 08.3**	**+2.2**
	comp=Z,12nm,0.8s								
PV11	**David Mesa, Pa**	**81.22**	**49**	*e*P		P		17 37 09.3	+3.1
	comp=Z,53nm,1.5s								
PV05	**Paradox Valley**	**81.22**	**49**	*e*P		P		17 37 08.8	+2.5
	comp=Z,23nm,0.9s								
PV12	**Saucer Basin,**	**81.25**	**49**	*e*P		P		17 37 09.1	+2.6
	comp=Z,14nm,1.0s								
PV03	**Paradox Valley**	**81.27**	**49**	*e*P		P		17 37 09.2	+2.6
	comp=Z,35nm,1.5s								
PV07	**Paradox Valley**	**81.27**	**49**	*e*P		**P**		**17 37 08.5**	**+2.0**
	comp=Z,20nm,1.4s								
N23A	**Red Feather La**	**81.29**	**45**	*e*P		P		17 37 09.4	+2.8
	comp=Z,27nm,0.7s								
MORC	**Moravsky Berou**	**81.29**	**327**	*e*P		**P**		**17 37 06.6**	**+0.4**
	comp=Z,6.1nm,1.1s								
MORC	**Moravsky Berou**	**81.29**	**327**	⇓*i*P		**P**		**17 37 07.3**	**+1.1**
MORC	**Moravsky Berou**	**81.29**	**327**	*e*P		**P**		**17 37 06.6**	**+0.4**
MORC					pmax	pmax			
	comp=Z,6.0nm,1.1s								
RAYN	**Ar Rayn**	**81.33**	**293**	*e*P		**P**		**17 37 07.0**	**+0.1**
	comp=Z,6.8nm,0.8s								
RAYN	**Ar Rayn**	**81.33**	**293**	*i* P		**P**		**17 37 07.1**	**+0.2**
	SNR=8.9								
RAYN	**Ar Rayn**	**81.33**	**293**	*i* P		**P**		**17 37 07.1**	**+0.2**
	SNR=8.9								
PV13	**Radium Mtn., P**	**81.34**	**49**	*e*P		P		17 37 09.3	+2.3
	comp=Z,18nm,0.9s								
PV02	**Paradox Valley**	**81.36**	**49**	*e*P		**P**		**17 37 08.2**	**+1.2**
	comp=Z,12nm,0.9s								
DPC	**Dobruska-Polom**	**81.39**	**328**	*e*P		**P**		**17 37 08.1**	**+1.4**
DPC	**Dobruska-Polom**	**81.39**	**328**	*e*P		**P**		**17 37 08.1**	**+1.4**
WUAZ	**Wupatki**	**81.40**	**52**	*e*P		**P**		**17 37 08.7**	**+1.4**
	comp=Z,7.4nm,1.0s								
PV01	**Paradox Valley**	**81.51**	**49**	*e*P		**P**		**17 37 09.6**	**+1.8**
	comp=Z,12nm,1.0s								
PSZ	**Piszkesteto**	**81.58**	**325**	⇑*i*P		**P**		**17 37 09.2**	**+1.4**
VYHS	**Vyhne**	**81.65**	**326**	*e*P		**P**		**17 37 09.2**	**+1.1**
VYHS				*e*				17 37 24.7	
VYHS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
VYHS	**Vyhne**	**81.65**	**326**	*e*P		**P**		**17 37 09.2**	**+1.1**
VYHS				*es*P		**sP**		**17 37 24.7**	**+1.3**
SMCO	**Snowmass**	**81.80**	**47**	*e*P		**P**		**17 37 11.4**	**+1.9**
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**	**81.99**	**330**	*e*PKP		**P**		**17 37 09.6**	**-0.2**
	comp=Z,4.5nm,0.8s								
BRG	**Berggiesshubel**	**81.99**	**330**	*e*P		**P**		**17 37 09.6**	**-0.2**
BRG					pmax	pmax			
	comp=Z,5.0nm,0.8s								
PHSR	**Pinarhisar**	**82.03**	**316**	⇑*i*P		**P**		**17 37 11.1**	**+0.9**
CLL	**Collm**	**82.04**	**330**	*e*P		**P**		**17 37 10.0**	**0.0**
	comp=Z,6.6nm,0.8s								
CLL	**Collm**	**82.04**	**330**	*i* P		**P**		**17 37 10.5**	**+0.5**
	comp=Z,9.0nm,1.0s								
CLL				*e*pP		**pP**		**17 37 21.0**	**-0.1**
CLL	**Collm**	**82.04**	**330**	*i* P		**P**		**17 37 10.5**	**+0.5**
CLL					pmax	pmax			
	comp=Z,9.0nm,1.0s								
X16A	**Lo Mia Camp, P**	**82.04**	**53**	*e*P		**P**		**17 37 12.8**	**+2.2**
	comp=Z,4.8nm,1.0s								
VRAC	**Vranov**	**82.05**	**327**	⇓*i*P		**P**		**17 37 11.5**	**+1.3**
MVCO	**Mesa Verde**	**82.14**	**49**	*e*P		**P**		**17 37 12.6**	**+1.4**
	comp=Z,6.1nm,0.9s								
ISCO	**Idaho Springs**	**82.19**	**46**	*e*P		**P**		**17 37 12.8**	**+1.3**
	comp=Z,3.6nm,0.6s								
ISCO	**Idaho Springs**	**82.19**	**46**	*e*P		**P**		**17 37 12.8**	**+1.3**
ISCO					pmax	pmax			
	comp=Z,4.0nm,0.6s								
GOPC	**GO Pecny, Ondr**	**82.37**	**329**	*e*P		**P**		**17 37 13.1**	**+1.2**
GOPC	**GO Pecny, Ondr**	**82.37**	**329**	*e*P		**P**		**17 37 13.1**	**+1.2**
BZS	**Buzias**	**82.40**	**322**	⇑*i*P		**P**		**17 37 12.4**	**+0.4**
PRU	**Pruhonice**	**82.42**	**329**	*e*P		**P**		**17 37 13.1**	**+1.0**
PRU	**Pruhonice**	**82.42**	**329**	*e*P		**P**		**17 37 13.1**	**+1.0**
S22A	**4UR Ranch, Cre**	**82.81**	**48**	*e*P		P		17 37 17.2	+2.5
	comp=Z,14nm,1.5s								
MDVR	**Moldovita**	**82.94**	**322**	⇑*i*P		**P**		**17 37 15.1**	**+0.1**
KHC	**Kasperske Hory**	**83.48**	**329**	*e*P		**P**		**17 37 18.3**	**+0.7**
	comp=Z,2.6nm,0.9s								
KHC	**Kasperske Hory**	**83.48**	**329**	*e*P		**P**		**17 37 18.5**	**+0.9**
KHC	**Kasperske Hory**	**83.48**	**329**	*e*P		**P**		**17 37 18.3**	**+0.7**
KHC					pmax	pmax			
	comp=Z,3.0nm,0.9s								
SDCO	**Great Sand Dun**	**83.61**	**47**	*e*P		**P**		**17 37 20.8**	**+1.9**
	comp=Z,7.2nm,1.4s								
GEC2	**GERESS Array S**	**83.65**	**328**	*e*P		**P**		**17 37 18.6**	**0.0**
	comp=Z,23nm,1.9s								
GEC2	**GERESS Array S**	**83.65**	**328**	*e*P		**P**		**17 37 18.6**	**0.0**
GEC2					pmax	pmax			
	comp=Z,23nm,1.9s								
GERES	**GERESS Array B**	**83.65**	**328**	P		**P**		**17 37 19.2**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=45,slow=5.8,SNR=18								
GERES					PP	**PP**		**17 40 28.8**	**-2.0**
	comp=Z,0.4nm,0.7s,baz=27,slow=13,SNR=2.7								
GEA0	**GERESS Array S**	**83.65**	**328**	*e*P		**P**		**17 37 18.8**	**+0.2**
VTS	**Vitosha**	**83.68**	**319**	*e*P		**P**		**17 37 19.9**	**+1.0**
	comp=Z,8.9nm,1.0s								
VTS	**Vitosha**	**83.68**	**319**	⇑*i*P		**P**		**17 37 20.2**	**+1.3**
VTS	**Vitosha**	**83.68**	**319**	*e*P		**P**		**17 37 19.9**	**+1.0**
VTS					pmax	pmax			
	comp=Z,9.0nm,1.0s								
TUC	**Tucson**	**83.79**	**54**	*e*P		**P**		**17 37 20.6**	**+1.0**
	comp=Z,6.0nm,1.2s								
TUC	**Tucson**	**83.79**	**54**	*e*P		**P**		**17 37 20.6**	**+1.0**
TUC					pmax	pmax			
	comp=Z,6.0nm,1.2s								
PPT	**Papeete**	**83.91**	**117**	LR		LR		18 12 01.9	
	comp=Z,125nm,18.6s,baz=316,slow=34								
EZN	**Ezine**	**83.92**	**316**	⇑*i*P		**P**		**17 37 20.6**	**+0.7**
GRF	**Grafenberg Arr**	**84.01**	**330**	*e*P		**P**		**17 37 21.9**	**+1.6**
	comp=Z,8.5nm,0.9s,baz=48,slow=4.8								
T25A	**Trinidad**	**84.66**	**47**	*e*P		**P**		**17 37 24.6**	**+0.5**
	comp=Z,8.8nm,1.0s								
ANMO	**Albuquerque**	**84.87**	**50**	*e*P		**P**		**17 37 26.5**	**+1.4**
	comp=Z,8.1nm,1.1s								
ANMO	**Albuquerque**	**84.87**	**50**	⇓*e*P		P		17 37 28.7	+3.5
ANMO					pmax	pmax			
	comp=Z,7.0nm,2.5s								
PDG	**Podgorica**	**85.87**	**321**	⇑*i*P		**P**		**17 37 30.0**	**+0.3**
DOU	**Dourbes**	**86.19**	**334**	⇓pP		pP		17 37 46.4	+4.1
	comp=Z,24nm,3.0s								
TX31	**Lajitas Ar. Si**	**90.36**	**53**	*e*P		**P**		**17 37 53.2**	**+1.6**
TXAR	**Lajitas Array**	**90.36**	**53**	P		**P**		**17 37 53.6**	**+2.0**
	comp=Z,0.9nm,0.7s,baz=305,slow=4.7,SNR=12								
MIAR	**Mount Ida**	**92.71**	**43**	*e*P		**P**		**17 38 02.6**	**+0.4**
	comp=Z,6.6nm,1.0s								
MIAR	**Mount Ida**	**92.71**	**43**	*e*P		**P**		**17 38 02.6**	**+0.4**
MIAR					pmax	pmax			
	comp=Z,7.0nm,1.0s								
WHAR	**Wooly Hollow**	**92.85**	**42**	*e*P		**P**		**17 38 02.9**	**0.0**
	comp=Z,9.0nm,0.8s								
TOA1	**Torodi Ar. Sit**	**118.20**	**315**	*e*PP		PP		17 44 49.4	-3.0
TORD	**Torodi Ar. Bea**	**118.21**	**315**	PP		PP		17 44 49.4	-3.1
	comp=Z,1.0nm,0.9s,baz=10,slow=8.8,SNR=4.2								
LPAZ	**La Paz**	**146.80**	**61**	*e*PKPdf		**PKiKP**		**17 44 33.0**	**-2.9**
LPAZ	**La Paz**	**146.80**	**61**	*e*PKIKP		**PKiKP**		**17 44 33.0**	**-2.9**
LPAZ	**La Paz**	**146.80**	**61**	PKPbc		**PKiKP**		**17 44 34.4**	**-1.5**
	comp=Z,2.6nm,0.5s,baz=343,slow=2.0,SNR=16								
MNMC	**Minye Minye**	**147.56**	**67**	*e*PKPdf		**PKPab**		**17 44 35.7**	**-1.4**
PB11	**IPOC Station P**	**147.90**	**68**	*e*PKPbc		**PKPab**		**17 44 37.0**	**-1.2**
SIV	**San Ignacio**	**151.35**	**51**	PKPbc		**PKiKP**		**17 44 45.5**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=294,slow=1.7,SNR=23								
LCO	**Las Campanas**	**151.74**	**85**	*e*PKPbc		**PKiKP**		**17 44 45.4**	**0.0**
LCO				*e*PKPab		**pPKPbc**		**17 44 56.4**	**0.0**
LCO	**Las Campanas**	**151.74**	**85**	*e*PKiKP		**PKiKP**		**17 44 45.4**	**0.0**
LCO				*e*				17 44 56.4	
USHA	**Ushuaia**	**152.05**	**141**	PKPab		**PKPab**		**17 44 53.3**	**-0.8**
	comp=Z,9.1nm,0.9s,baz=154,slow=7.2,SNR=3.8								
GO04	**Tololo Observa**	**152.09**	**87**	*e*PKPbc		**PKiKP**		**17 44 46.2**	**+0.2**
GO04				*e*PKPab		**pPKPbc**		**17 44 56.3**	**-0.9**

IDC 16 17:28:37.6±3.0, 22°.71N×11°.88W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/41, mbtmp3.6/4, ML3.4/2, MS3.8/1, Ms1 3.8/1, ms1mx2.9/38, Error ellipse: s-maj=100.5km s-min=35.9km az=85.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I11CV	**MAIO ISLAND IN**	**13.00**	**237**	*i*		18 53 30.0	
	baz=52,slow=320,SNR=0.9						
TORD	**Torodi Ar. Bea**	**16.03**	**124**	Pn	Pn	17 32 25.1	+0.5
	0.1nm,0.3s,baz=321,slow=14,SNR=2.8						
TORD				Sn	S	17 35 32.6	-4.7
	0.1nm,0.3s,baz=315,slow=22,SNR=3.5						
I17CI	**DIMBOKRO INFRA**	**17.33**	**156**	*i*		19 17 10.0	
	baz=338,slow=319,SNR=0.7						
DBIC	**Dimbokro**	**17.33**	**156**	P	Pn	17 32 40.3	-0.8
	0.2nm,0.3s,baz=315,slow=8.6,SNR=3.5						
GERES	**GERESS Array B**	**33.03**	**32**	P	P	17 35 14.4	-0.3
	0.6nm,0.8s,baz=195,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**76.54**	**45**	P	P	17 40 30.0	+0.1
	0.3nm,0.5s,baz=287,slow=5.7,SNR=5.1						

	SNR=37								
GLBA					⇑S		Sg	17 38 01.8	+1.0
MAHB	**Mahabad**	**1.72**	**204**	*e*Pn			**Pg**	**17 37 40.3**	**+0.6**
MAHB					IAMB		IAmb	17 38 07.5	
	comp=Z,0.0nm,0.5s								
ASTR	**Astara**	**1.76**	**82**	⇑P			**Pb**	**17 37 38.7**	**-1.0**
	SNR=64								
ASTR					⇑S		**Sg**	**17 38 03.0**	**-0.2**
LKRN	**Lenkeran, Azer**	**1.77**	**78**	⇑P			**Pn**	**17 37 38.6**	**+0.2**
	SNR=20								
LKRN					⇓S		**Sb**	**17 38 02.3**	**-0.3**
MAKU	**Maku**	**1.78**	**305**	*e*Pn			**Pb**	**17 37 40.2**	**0.0**
MAKU	**Maku**	**1.78**	**305**	*e*Pn			**Pb**	**17 37 40.2**	**0.0**
MAKU					*e*Sg		**Sg**	**17 38 04.3**	**+0.5**
HYR	**Heyderabad**	**1.91**	**316**	⇓P			**Pb**	**17 37 41.6**	**-0.7**
HYR					⇑S		**Sn**	**17 38 05.1**	**0.0**
VADZ	**Vardenis**	**1.93**	**341**	*i* P			**Pb**	**17 37 43.0**	**+0.2**
VADZ					*i* S		**Sg**	**17 38 08.5**	**-0.1**
BRDA	**Brd**	**1.97**	**14**	⇑P			**Pb**	**17 37 42.5**	**-0.8**
	SNR=6.4								
BRDA					⇑S		**Sg**	**17 38 10.4**	**+0.5**
ZRD	**Zardab**	**2.11**	**24**	⇑P			**Pb**	**17 37 44.6**	**-1.1**
	SNR=7.9								
ZRD					⇓S		**Sg**	**17 38 14.4**	**-0.2**
CLDR	**Caldiran**	**2.22**	**292**	*e*P			**Pg**	**17 37 49.4**	**+0.2**
GNI	**Garni**	**2.29**	**322**	P			**Pb**	**17 37 49.2**	**+0.4**
GNI	**Garni**	**2.29**	**322**	*i* P			**Pb**	**17 37 48.8**	**0.0**
GNI					*i* S		**Sg**	**17 38 20.2**	**0.0**
GANJ	**Ganja**	**2.30**	**355**	⇓P			**Pb**	**17 37 47.3**	**-1.7**
	SNR=19								
GANJ					⇓S		**Sb**	**17 38 16.6**	**-1.3**
ZNJK	**Zanjan**	**2.38**	**134**	*e*Pn			**Pb**	**17 37 48.9**	**-1.5**
ZNJK	**Zanjan**	**2.38**	**134**	*e*Pn			**Pb**	**17 37 48.9**	**-1.5**
KDMR	**Kurdemir**	**2.38**	**31**	⇑P			**Pn**	**17 37 48.1**	**+1.3**
	SNR=5.4								
KDMR					⇓S		**Sb**	**17 38 20.4**	**+0.2**
TASB	**TASBURUN-IGDIR**	**2.44**	**313**	P			**Pb**	**17 37 50.4**	**-0.9**
GDB	**GEDABAY**	**2.45**	**345**	⇓P			**Pn**	**17 37 48.5**	**+0.6**
GDB					⇑S		**Sb**	**17 38 21.7**	**-0.7**
MNGR	**Mingechevir, A**	**2.45**	**9**	⇑P			**Pn**	**17 37 48.2**	**+0.4**
MNGR					⇓S		**Sn**	**17 38 19.7**	**+1.3**
ALIB	**Äli-Bayra**	**2.48**	**49**	⇓P			**Pn**	**17 37 49.2**	**+1.0**
VANB	**Van**	**2.50**	**277**	*e*P			**Pg**	**17 37 53.9**	**-0.8**
CUKT	**Cukurca**	**2.59**	**246**	*e*P			**Pg**	**17 37 55.4**	**-0.9**
IML	**Ismayilli**	**2.74**	**27**	⇑P			**Pn**	**17 37 53.6**	**+1.8**
	SNR=4.4								
IML					⇑S		**Sb**	**17 38 28.0**	**-2.6**
QBL	**Gabala**	**2.77**	**20**	⇑P			**Pn**	**17 37 53.9**	**+1.7**
	SNR=5.3								
QBL					⇑S		**Sb**	**17 38 29.3**	**-2.1**
AKDM	**Akdamar-Van**	**2.82**	**271**	*e*P			**Pb**	**17 37 58.1**	**+0.2**
GBS	**Qobustan**	**2.85**	**39**	⇑P			**Pn**	**17 37 55.0**	**+1.6**
	SNR=6.0								
GBS					⇑S		**Sg**	**17 38 38.6**	**+0.3**
QZX	**Qazax, Azerbai**	**2.86**	**342**	⇑P			**Pb**	**17 37 59.2**	**+0.8**
QZX					⇑S		**Sg**	**17 38 36.8**	**-1.7**
PQL	**Pirkuli**	**2.90**	**32**	⇑P			**Pn**	**17 37 55.9**	**+1.9**
	SNR=5.3								
PQL					⇓S		**Sb**	**17 38 33.2**	**-1.9**
SEKA	**Sheki**	**2.90**	**9**	⇓P			**Pn**	**17 37 55.0**	**+1.1**
	SNR=6.3								
SEKA					⇑S		**Sb**	**17 38 33.9**	**-1.2**
AGRB	**Hanur-Agry**	**3.04**	**295**	*e*P			**Pb**	**17 38 00.9**	**-0.8**
XNQ	**Khinaliq**	**3.07**	**23**	⇓P			**Pn**	**17 37 57.4**	**+0.9**
	SNR=27								
XNQ					⇑S		**Sb**	**17 38 39.8**	**-0.4**
ATGJ	**Altiaghaj**	**3.11**	**35**	⇓P			**Pn**	**17 37 57.8**	**+0.9**
DDFL	**Dedoflistskaro**	**3.11**	**354**	P			**Pb**	**17 38 03.4**	**+0.6**
DDFL					S		**Sg**	**17 38 47.3**	**+0.7**
SIZA	**Siyzn**	**3.26**	**33**	⇓P			**Pn**	**17 38 01.4**	**+2.4**
ZKTA	**Zakatala**	**3.28**	**1**	⇓P			**Pn**	**17 38 00.3**	**+1.1**
ZKTA					⇑S		**Sb**	**17 38 43.9**	**-2.3**
QUBA	**Quba, Azerbaij**	**3.35**	**26**	⇑P			**Pn**	**17 38 02.1**	**+2.0**
	SNR=4.4								
QSAR	**Qusar**	**3.42**	**22**	⇓P			**Pn**	**17 38 02.7**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.58**	**137**	*e*Pn			**Pn**	**17 38 05.8**	**+2.4**
TBLG	**Delisi**	**3.66**	**338**	*e*P			**Pn**	**17 38 07.7**	**+3.3**
TRLG	**Trialeti**	**3.71**	**330**	P			**Pb**	**17 38 12.3**	**-0.6**
TRLG					S		**Sg**	**17 39 02.5**	**-3.2**
QALM	**Alamut, Qazvin**	**3.77**	**119**	*e*Pn			**Pn**	**17 38 08.9**	**+2.7**
IRAZ	**Razeghan**	**3.99**	**136**	*e*Pn			**Pn**	**17 38 11.6**	**+2.5**
IRAZ					IAMB		IAmb	17 38 23.7	
	comp=Z,438nm,0.4s								

IDC ***16*** *17:38:16.0±3.4, 15°.02S×167°.82E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/27, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=74.6km s-min=39.7km az=97.0*
NEIC ***16*** *17:38:17.2±1.3, 15°.15S×167°.92E, h10km, mb4.2/2, Error ellipse: s-maj=28.1km s-min=11.5km az=76.0*
ISCJB ***16*** *17:38:19.3±1.5, 15°.26S±0°.08×167°.9E±0°.2, h36km, mb3.9/5, Error ellipse: s-maj=32.1km s-min=10.2km az=172.3*

ISC 16 17:38:21.0±2.2, 15°.2S±0°.1×167°.9E±0°.4, h36km, n11, σ0§87/13, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.99**	**191**	*e*Pn	**Pn**	**17 39 58.8**	**-2.1**
DZM				*e*Sn	**Sn**	**17 41 20.0**	**+0.8**
DZM	**Mont Dzumac**	**6.99**	**191**	Pn	**Pn**	**17 40 01.0**	**+0.1**
	0.7nm,0.3s,baz=15,slow=15,SNR=14						
DZM				Sn	**Sn**	**17 41 19.1**	**-0.1**
	baz=143,slow=20,SNR=1.4						
OUENC	**Ouen Island, N**	**7.26**	**188**	*e*Pn	**Pn**	**17 40 04.6**	**0.0**
PINNC	**Pines Island,**	**7.40**	**183**	*e*Pn	**Pn**	**17 40 06.5**	**0.0**
WR1	**Warramunga Arr**	**32.29**	**257**	*e*P	**P**	**17 44 46.4**	**-0.4**
	13nm,1.4s						
WRA	**Warramunga Arr**	**32.29**	**257**	P	**P**	**17 44 46.4**	**-0.4**
	0.4nm,0.7s,baz=84,slow=8.4,SNR=6.1						
AS01	**Alice Springs**	**33.02**	**250**	*e*P	**P**	**17 44 54.3**	**+1.2**
AS31	**Alice Springs**	**33.06**	**250**	*e*P	**P**	**17 44 54.2**	**+0.6**
	1.2nm,1.1s						
ASAR	**Alice Springs**	**33.07**	**250**	P	**P**	**17 44 54.0**	**+0.4**
	1.5nm,0.4s,baz=76,slow=9.1,SNR=71						
SONA0	**Songino Array**	**83.21**	**323**	*e*P	**P**	**17 50 43.8**	**+0.1**
SONM	**Songino Array**	**83.21**	**323**	P	**P**	**17 50 43.8**	**+0.1**
	0.2nm,0.3s,baz=143,slow=5.0,SNR=3.8						

IDC 16 17:50:29.0±383.0, 37°.63N×15°.09E, h0km, Error ellipse: s-maj=157.2km s-min=94.8km az=62.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I48TN	**KESRA INFRASON**	**4.98**	**250**	*i*		18 20 20.0	
	baz=67,slow=369,SNR=5.9						
I26DE	**FREYUNG INFRAS**	**11.26**	**355**	*i*		19 00 20.0	
	baz=173,slow=331,SNR=0.8						
I17CI	**DIMBOKRO INFRA**	**35.76**	**215**	*i*		21 45 30.0	
	baz=31,slow=359,SNR=3.6						
I19DJ	**I19DJ**	**36.21**	**129**	*i*		21 34 10.0	
	baz=324,slow=321,SNR=0.3						

IDC 16 17:56:55.1±2.0, 1°.89N×125°.28E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.3/42, mbtmp3.6/3, Error ellipse: s-maj=180.8km s-min=26.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.45**	**158**	P	P	18 02 06.6	+0.3
	1.1nm,0.3s,baz=337,slow=10.0,SNR=25						
ASAR	**Alice Springs**	**26.75**	**162**	P	P	18 02 36.0	-0.7
	0.3nm,0.8s,baz=340,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**58.26**	**327**	P	P	18 06 51.8	+0.2
	0.2nm,0.3s,baz=116,slow=8.8,SNR=4.2						

IDC ***16*** *18:03:20.9±1.5, 67°.35N×143°.17E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/63, mbtmp3.5/6, ML6.0/1, Error ellipse: s-maj=39.6km s-min=21.9km az=5.0*
ISCJB ***16*** *18:03:21.7±0.6, 67.57N±0°.04×143.0E±0°.1, h10km, mb3.4/5, Error ellipse: s-maj=8.3km s-min=6.3km az=17.7*
YARS ***16*** *18:03:22.4±0.2, 67°.57N±0°.01×142°.98E±0°.03, h10km±7km*

ISC 16 18:03:22.6±0.7, 67°.57N±0°.05×143°.08E±0°.05, h10km, n12, σ1§61/17, mb3.5/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOMR	**Moma**	**1.11**	**177**	*e*P	**Pb**	**18 03 42.3**	**-1.5**
MOMR				Pmax		18 03 42.3	
	comp=Z,127nm,0.6s						
MOMR				*e*S	**Sg**	**18 03 57.4**	**-0.8**
MOMR				Smax		18 03 57.4	
	comp=N,568nm,0.6s						
YBGR	**Belaya Gora**	**1.52**	**49**	*e*P	**Pn**	**18 03 49.7**	**0.0**
YBGR				Pmax		18 03 49.7	
	comp=Z,105nm,0.4s						
YBGR				*e*S	**Sb**	**18 04 10.2**	**+0.2**
YBGR				Smax		18 04 10.2	
	comp=E,520nm,0.5s						
DEPR	**Deputatskiy**	**2.17**	**329**	*e*P	**Pn**	**18 03 58.2**	**-0.6**
DEPR				*e*P	**Pb**	**18 04 00.8**	**-1.1**
DEPR				Pmax		18 04 00.8	
	comp=Z,41nm,0.6s						
DEPR				*e*S	**Sb**	**18 04 29.6**	**+0.7**
DEPR				Smax		18 04 29.6	
	comp=E,164nm,0.5s						
BTGS	**Batagay**	**3.23**	**275**	*e*P	**Pn**	**18 04 13.6**	**+0.3**
BTGS				*e*P	**Pb**	**18 04 19.5**	**-0.4**
BTGS				Pmax		18 04 19.5	
	comp=Z,31nm,0.5s						
BTGS				*e*S	**Sb**	**18 05 00.8**	**+1.5**
BTGS				Smax		18 05 00.8	
	comp=N,280nm,0.7s						
SEY	**Seymchan**	**6.07**	**136**	Pg	Pn	18 04 58.5	+6.3
	comp=N,0.2nm,0.3s,baz=0.0,slow=20,SNR=1.3						
SEY				Lg	Lg	18 06 35.6	
	comp=N,0.5nm,0.3s,baz=349,slow=2.1,SNR=8.2						
TIXI	**Tiksi**	**6.42**	**316**	Pn	**Pn**	**18 04 57.8**	**+0.7**
	comp=N,1.1nm,0.3s,baz=128,slow=18,SNR=26						
TIXI				Sn	**Sn**	**18 06 05.4**	**-4.9**
	comp=N,1.2nm,0.3s,baz=7.2,slow=18,SNR=5.3						
TIXI				Lg	Lg	18 06 36.8	
	comp=N,1.6nm,0.3s,baz=48,slow=17,SNR=7.5						
MA2	**Magadan**	**8.72**	**153**	Lg	Lg	18 07 57.3	
	comp=N,0.2nm,0.3s,baz=50,slow=14,SNR=3.5						
ILAR	**Eielson Array**	**27.07**	**62**	P	**P**	**18 09 05.2**	**+0.6**
	comp=N,0.8nm,0.8s,baz=291,slow=7.3,SNR=9.9						
MKAR	**Makanchi Array**	**36.91**	**267**	P	**P**	**18 10 31.1**	**+0.1**
	comp=N,0.2nm,0.5s,baz=37,slow=6.2,SNR=3.9						
YKA	**Yellowknife Ar**	**38.75**	**46**	P	**P**	**18 10 47.0**	**+0.6**
	comp=N,0.3nm,0.7s,baz=324,slow=8.9,SNR=5.4						
FINES	**FINESS Array B**	**43.44**	**321**	P	**P**	**18 11 26.7**	**+1.8**
	comp=N,2.0nm,1.0s,baz=36,slow=7.3,SNR=3.5						
PDAR	**Pinedale Array**	**57.29**	**57**	P	**P**	**18 13 10.8**	**+0.6**
	comp=N,0.3nm,0.7s,baz=337,slow=8.8,SNR=2.3						

IDC ***16*** *18:09:36.0±0.5, 9°.63N×125°.41E, h0km, mb4.3/25, mb1 4.5/27, mb1mx4.4/41, mbtmp4.3/27, ML4.4/2, MS3.6/15, Ms1 3.6/15, ms1mx3.4/44, Error ellipse: s-maj=18.3km s-min=10.3km az=70.0*
BJI ***16*** *18:09:36.7, 9°.38N×125°.47E, h20km, mb4.4/30, mB4.8/23, Ms4.3/23, Ms7 4.0/20*
MAN ***16*** *18:09:37.8, 9°.60N×125°.30E, h1km, MS4.4*
MAN INTENSITY IV - SURIGAO CITY; MALIMONO SURIGAO DEL NORTE; INTENSITY III - MAINIT SURIGAO DEL NORTE.
NEIC ***16*** *18:09:37.5±0.1, 9°.68N×125°.36E, h10km, mb4.9/95, Error ellipse: s-maj=5.1km s-min=3.1km az=75.0*
NEIC Felt [IV PIVS] at Malimono and Surigao and [III PIVS] at Mainit.
ISCJB ***16*** *18:09:38.8±0.7, 9°.66N±0°.02×125°.47E±0°.02, h29km±5km, mb4.7/124, MS3.7/19, Error ellipse: s-maj=4.4km s-min=2.9km az=152.4*
DJA ***16*** *18:09:39.3±0.4, 10°.N±4°.×12°.5E±°, h10km, M5.0/22, mB5.1/7, mb4.5/22, MLv5.6/1, Mw(mB)4.5/7*

ISC 16 18:09:38.1±1.1, 9°.62N±0°.02×125°.35E±0°.03, h11km±6km, n245, σ1§63/251, mb4.8/124, MS3.7/19, 6C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.70**	**157**	*e*P	**Pg**	**18 09 52.0**	**+0.3**
BUTP				*e*S	**Sn**	**18 10 05.8**	**+0.9**
MSLP	**MSLP**	**0.70**	**317**	*e*P	**Pb**	**18 09 52.7**	**+0.4**
MSLP				*e*S	**Sb**	**18 10 02.6**	**+0.5**
CGP	**Cagayan de Oro**	**1.32**	**209**	⇑*i* P	**Pg**	**18 10 02.3**	**-1.3**
CGP				*i* S	**Sn**	**18 10 21.3**	**+1.1**
TBP	**Tagbilaran**	**1.47**	**273**	*e*P	**Pn**	**18 10 04.7**	**+0.1**
TBP				*i* S	**Sn**	**18 10 24.9**	**+1.2**
LLP	**Lapu-Lapu**	**1.53**	**297**	*e*P	Pg	18 10 11.3	+3.9
LLP				*e*S	Sn	18 10 35.2	+10
PLP	**Palo**	**1.58**	**347**	⇓*i* P	**Pn**	**18 10 05.8**	**-0.3**
PLP				*i* S	**Sg**	**18 10 29.5**	**+0.6**
OCLP	**Ormoc**	**1.60**	**333**	*e*P	**Pn**	**18 10 06.6**	**+0.2**
OCLP				*e*S	**Sn**	**18 10 28.2**	**+1.2**
BIPH	**Bislig**	**1.74**	**145**	⇓*i* P	**Pn**	**18 10 08.1**	**-0.2**
BUKP	**Musuan**	**1.75**	**189**	*e*P	**Pn**	**18 10 08.9**	**+0.4**
BUKP				*e*S	**Sg**	**18 10 34.2**	**-0.3**
BESP	**Borongan**	**1.97**	**3**	*e*P	**Pn**	**18 10 12.1**	**+0.6**
BESP				*e*S	**Sg**	**18 10 44.8**	**+3.3**
SNPH	**Sibulan**	**2.10**	**263**	⇓*e*P	**Pb**	**18 10 15.3**	**-0.9**
SNPH				*i* S	**Sg**	**18 10 44.2**	**-1.4**
DAV	**Davao City (W)**	**2.54**	**175**	*e*Pn	**Pn**	**18 10 28.0**	**+1.5**
DAV				*e*Pg	**Pb**	**18 10 21.5**	**-2.3**
DAV				Sn	**Sg**	**18 11 06.4**	**+6.5**
DAV	**Davao City (W)**	**2.54**	**175**	Pn	**Pb**	**18 10 22.4**	**-1.4**
	60nm,0.3s,baz=264,slow=5.5,SNR=9.8						
DAV				Sn	**Sg**	**18 11 06.4**	**+6.5**
	181nm,0.3s,baz=277,slow=17,SNR=5.6						
DAV				LR	LR	18 11 27.6	
	comp=Z,1μm,20.3s,baz=44,slow=44						
KCP	**Kidapawan**	**2.61**	**186**	⇓*i* P	**Pn**	**18 10 21.9**	**+1.6**
KCP				*i* S	**Sg**	**18 11 04.3**	**+2.4**
CTBH	**Cotabato--PC H**	**2.62**	**205**	⇑*e*P	**Pn**	**18 10 21.3**	**+0.9**
PAGZ	**Pagadian**	**2.62**	**228**	*e*P	**Pn**	**18 10 21.5**	**+1.1**
PAGZ				*e*S	**Sn**	**18 10 50.0**	**-2.3**
MATI	**Mati**	**2.81**	**161**	*e*P	**Pn**	**18 10 23.6**	**+0.6**
MATI				*e*S	**Sb**	**18 11 05.4**	**+2.7**
GUIM	**Jordan**	**2.89**	**290**	*e*P	**Pn**	**18 10 24.5**	**+0.3**
GUIM				*e*S	**Sn**	**18 11 01.1**	**+2.1**
CNP	**Catarman**	**2.95**	**347**	*e*P	**Pb**	**18 10 29.2**	**-1.5**
CNP				*e*S	**Sg**	**18 11 10.8**	**-2.2**
SKMP	**Bagumbayan, Su**	**3.18**	**195**	*e*P	**Pn**	**18 10 29.4**	**+1.3**
SKMP				*e*S	Sg	18 11 36.0	+16
RCP	**Roxas**	**3.20**	**307**	⇑*e*P	**Pn**	**18 10 29.5**	**+1.1**
RCP	**Roxas**	**3.20**	**307**	⇑*e*P	**Pn**	**18 10 29.5**	**+1.1**
DDMP	**Don Marcelino,**	**3.51**	**174**	*e*P	**Pn**	**18 10 36.1**	**+3.4**
DDMP				*e*S	**Sb**	**18 11 21.1**	**-1.9**
JAP	**San Jose, Anti**	**3.53**	**289**	⇑*e*P	**Pn**	**18 10 36.0**	**+3.1**
JAP				*e*S	**Sn**	**18 11 14.5**	**-0.2**
PVCP	**Virac**	**4.12**	**344**	*e*P	**Pn**	**18 10 45.0**	**+3.9**
PVCP				*e*S	**Sb**	**18 11 44.2**	**+3.7**
TNTI	**Ternate**	**9.02**	**167**	*e*Pn	**Pn**	**18 11 48.4**	**0.0**
TNTI	**Ternate**	**9.02**	**167**	P	**Pn**	**18 11 48.9**	**+0.5**
I39PW	**PALAU INFRASON**	**9.33**	**102**	*i*		19 04 40.0	
	baz=287,slow=270,SNR=0.2						
LUWI	**Luwuk**	**10.90**	**194**	*e*Pn	Pn	18 12 08.0	-6.1
LUWI	**Luwuk**	**10.90**	**194**	P	**Pn**	**18 12 17.0**	**+2.9**
APSI	**Ampana**	**11.09**	**200**	P	Pn	18 12 35.3	+19
SANI	**Sanana**	**11.61**	**177**	P	**Pn**	**18 12 23.8**	**-0.1**
SIJI	**Sorong**	**11.97**	**150**	Pn	**Pn**	**18 12 29.8**	**+0.9**
	3.2nm,0.3s,baz=341,slow=23,SNR=19						
SIJI				Sn	**Sn**	**18 14 39.5**	**-3.1**
	0.4nm,0.3s,baz=163,slow=19,SNR=5.0						
NLAI	**Namlea**	**12.89**	**172**	P	**Pn**	**18 12 43.1**	**+1.6**
BKB	**Balikpapan**	**13.70**	**218**	P	Pn	18 12 43.1	-9.4
TTSI	**Tana Toraja**	**13.73**	**204**	P	**Pn**	**18 12 54.8**	**+1.9**
TWG	**Pinlang**	**13.75**	**343**	*e*Pn	**Pn**	**18 12 50.5**	**-2.7**
RKPI	**Ransiki, Papua**	**14.13**	**141**	P	**P**	**18 13 09.2**	**+3.2**
FAKI	**Fak Fak**	**14.23**	**151**	*e*Pn	**Pn**	**18 12 56.5**	**-3.2**
FAKI	**Fak Fak**	**14.23**	**151**	P	**Pn**	**18 13 01.6**	**+1.9**
YULB	**Yu-li**	**14.23**	**345**	*e*Pn	**Pn**	**18 12 56.8**	**-2.9**
TPUB	**Ta-pu**	**14.33**	**342**	*e*Pn	**Pn**	**18 12 57.4**	**-3.7**
SSLB	**Suanglung**	**14.70**	**344**	*e*Pn	Pn	18 13 01.1	-5.1
SBUM	**Sibu**	**14.86**	**242**	*e*Pn	**Pn**	**18 13 06.0**	**-2.4**
BNSI	**Bone**	**14.87**	**201**	P	**Pn**	**18 13 11.9**	**+3.4**
YHNB	**Yeheng**	**15.44**	**346**	*e*Pn	**Pn**	**18 13 12.3**	**-3.8**
	23nm,1.1s						
SRPI	**Serui, Papua**	**15.75**	**136**	P	**Pn**	**18 13 20.6**	**+0.5**
QIZ	**Qiongzhong**	**17.68**	**304**	P	**Pn**	**18 13 43.8**	**-0.8**
QIZ				S	**Sn**	**18 17 02.8**	**+1.1**
QIZ				LR	LR		
	comp=N,230nm,11.8s						
QIZ				LR	LR		
	comp=Z,290nm,17.2s						
MMRI	**Maumere**	**18.40**	**190**	*e*Pn	**Pn**	**18 13 51.4**	**-1.9**
	44nm,1.0s						
MMRI	**Maumere**	**18.40**	**190**	P	P	18 14 05.0	+12
EDFI	**Ende, Flores**	**18.61**	**191**	P	**Pn**	**18 13 57.8**	**+1.8**
GENI	**Genyem**	**19.11**	**129**	P	Pn	18 14 11.0	+8.9
SOEI	**Soe**	**19.28**	**183**	*e*P	**P**	**18 14 02.5**	**-0.7**
	61nm,1.1s						
SOEI	**Soe**	**19.28**	**183**	P	Pn	18 14 12.1	+7.9
JAY	**Jayapura**	**19.48**	**127**	P	**P**	**18 14 05.7**	**+0.4**
	0.9nm,0.3s,baz=298,slow=6.1,SNR=6.2						
JAY				LR	LR	18 23 10.5	
	comp=Z,124nm,18.0s,baz=196,slow=42						
BATI	**Baumata**	**19.77**	**185**	P	**Pn**	**18 14 10.3**	**+0.4**
BATI	**Baumata**	**19.77**	**185**	P	**Pn**	**18 14 10.9**	**+1.0**
	6.8nm,0.3s,baz=100,slow=1.1,SNR=14						
GRJI	**Gresik**	**20.84**	**218**	P	Pn	18 14 22.7	+0.2
JAGI	**Jajag, Banyuwa**	**21.15**	**212**	*e*P	**P**	**18 14 23.9**	**+0.5**
	51nm,1.1s						
NGJI	**Ngawi**	**21.82**	**220**	P	**P**	**18 14 33.3**	**+2.7**
SMRI	**Semarang**	**22.24**	**222**	*e*P	**P**	**18 14 35.4**	**+0.2**
	73nm,1.0s						
WOJI	**Wonogiri, Jawa**	**22.52**	**220**	P	**P**	**18 14 40.1**	**+2.0**
	53nm,1.8s						
MTN	**Manton Dam**	**23.05**	**165**	*e*P	**P**	**18 14 42.7**	**-1.0**
	24nm,0.6s						
NJ2	**Nanjing**	**23.12**	**346**	*e*P	**P**	**18 14 43.1**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
NJ2				LR	LR		
	comp=N,270nm,16.0s						
NJ2				LR	LR		
	comp=E,280nm,19.0s						
NJ2				LR	LR		
	comp=Z,340nm,13.0s						
WHN	**Wuhan**	**23.21**	**335**	⇑P	**P**	**18 14 49.1**	**+3.9**
WHN				S	**S**	**18 18 58.1**	**+1.0**
WHN				LR	LR		
	comp=N,1μm,18.8s						
WHN				LR	LR		
	comp=E,250nm,13.0s						
WHN				LR	LR		
	comp=Z,770nm,20.4s						
KPJI	**Karang Pucung**	**23.47**	**225**	P	P	18 14 58.2	+10
JCJ	**Cisichijima**	**23.56**	**40**	LR	LR	18 21 57.3	
	comp=Z,68nm,21.0s,baz=3.5,slow=32						
CHAI	**Chaiyaphum**	**23.61**	**288**	P	**P**	**18 14 51.0**	**+1.6**
	3.5nm,1.6s						
CHAI	**Chaiyaphum**	**23.61**	**288**	P	**P**	**18 14 51.0**	**+1.6**
	3.5nm,1.6s						
JNU	**Nakatsue**	**23.94**	**12**	*e*P	**P**	**18 14 51.3**	**-1.1**
	33nm,1.5s						
JNU	**Nakatsue**	**23.94**	**12**	LR	LR	18 23 25.0	
	comp=Z,82nm,18.7s,baz=194,slow=35						
CBJI	**Citeko**	**24.36**	**230**	P	**P**	**18 15 00.5**	**+4.0**
	52nm,0.7s						
CISI	**Cisompet, Garu**	**24.41**	**226**	*e*P	**P**	**18 14 57.8**	**+0.8**
	34nm,0.9s						
IPM	**Ipoh**	**24.66**	**260**	*e*P	**P**	**18 14 59.3**	**0.0**
	18nm,0.8s						
MANU	**Manus Island**	**24.81**	**117**	*e*P	**P**	**18 15 00.3**	**-0.2**
	120nm,1.5s						
ENH	**Enshi**	**25.32**	**326**	*e*P	**P**	**18 15 04.5**	**-0.6**
	14nm,1.2s						
MDSI	**Maura Dua**	**25.32**	**237**	P	**P**	**18 15 08.7**	**+3.5**
UTHA	**Uthaitani**	**25.94**	**286**	P	**P**	**18 15 13.8**	**+3.0**
	2.6nm,0.9s						
UTHA	**Uthaitani**	**25.94**	**286**	P	**P**	**18 15 13.8**	**+3.0**
KMI	**Kunming**	**26.45**	**309**	P	**P**	**18 15 16.3**	**+0.7**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JHJ	**Hachijo jima 2**	**26.91**	**28**	LR	LR	18 23 58.8	
	comp=Z,68nm,20.3s,baz=163,slow=32						
CM01	**Chiang Mai Arr**	**27.02**	**292**	*e*P	**P**	**18 15 20.9**	**+0.3**
CM31	**Chiang Mai Arr**	**27.05**	**292**	*e*P	**P**	**18 15 21.5**	**+0.7**
	7.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**27.05**	**292**	P	**P**	**18 15 22.1**	**+1.3**
	3.2nm,0.9s,baz=110,slow=7.1,SNR=23						
CMAR				LR	LR	18 25 34.5	
	comp=Z,128nm,20.2s,baz=120,slow=35						
PSI	**Prapat**	**27.11**	**257**	*e*P	**P**	**18 15 21.7**	**+0.1**
	17nm,1.1s						
PSI	**Prapat**	**27.11**	**257**

GTA					sP	sP	18 17 03.6	+8.3	
GTA					pmax	pmax			
	comp=Z,2.0nm,0.9s								
GTA					pmax	pmax			
	comp=Z,27nm,6.0s								
GTA					LR	LR			
	comp=Z,280nm,19.9s								
GTA					LR	LR			
	comp=Z,190nm,20.6s								
GTA					LR	LR			
	comp=Z,140nm,18.2s								
ASAJ	**Asahikawa**	**37.49**	**21**	P		**P**	**18 16 51.5**	**-0.4**	
	comp=Z,6.3nm,0.7s,baz=240,slow=8.1,SNR=3.5								
LSA	**Lhasa**	**37.67**	**307**	*eP*		**P**	**18 16 51.5**	**-2.8**	
	comp=Z,26nm,1.4s								
MORW	**Morawa**	**39.50**	**193**	*eP*		**P**	**18 17 08.7**	**-0.2**	
	comp=Z,86nm,2.0s								
FORT	**Forrest**	**40.25**	**176**	*eP*		**P**	**18 17 14.7**	**-0.4**	
	comp=Z,33nm,0.7s								
RAMN	**Ramite**	**40.42**	**300**	*eP*		**P**	**18 17 18.1**	**+1.1**	
	comp=Z,18nm,0.7s								
JIRN	**Jiri**	**40.98**	**301**	*eP*		**P**	**18 17 24.0**	**+2.2**	
	comp=Z,21nm,0.5s								
SONA0	**Songino Array**	**41.32**	**341**	*eP*		**P**	**18 17 24.2**	**+0.2**	
SONM	**Songino Array**	**41.32**	**341**	P		**P**	**18 17 24.2**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=160,slow=9.1,SNR=2.6								
SONM				LR		LR	18 34 58.0		
	comp=Z,111nm,18.6s,baz=148,slow=37								
GUN	**Gumba**	**41.32**	**302**	*eP*		**P**	**18 17 25.8**	**+1.2**	
	comp=Z,29nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**41.32**	**71**	T		T	19 00 45.5		
	baz=264,slow=74,SNR=55								
H11N2	**WAKE ISLAND Hy**	**41.33**	**71**	T		T	19 00 52.4		
	baz=264,slow=74,SNR=38								
H11N3	**WAKE ISLAND Hy**	**41.34**	**71**	T		T	19 00 46.7		
	baz=264,slow=74,SNR=54								
PKI	**Pulchoki**	**41.61**	**301**	*eP*		**P**	**18 17 27.5**	**+0.6**	
	comp=Z,6.6nm,0.6s								
PKIN	**Phulchoki**	**41.63**	**301**	*eP*		**P**	**18 17 27.5**	**+0.5**	
	comp=Z,7.9nm,0.9s								
DMN	**Daman**	**41.88**	**301**	*eP*		**P**	**18 17 29.8**	**+0.8**	
	comp=Z,20nm,1.3s								
GKN	**Gorkha**	**42.40**	**301**	*eP*		**P**	**18 17 34.6**	**+1.5**	
	comp=Z,8.6nm,0.8s								
EIDS	**Eidsvold**	**42.87**	**145**	*eP*		**P**	**18 17 35.7**	**-1.1**	
	comp=Z,64nm,1.9s								
NWAO	**Narrogin (SRO)**	**43.01**	**190**	*eP*		**P**	**18 17 39.1**	**+1.3**	
	comp=Z,64nm,1.3s								
KOLN	**Koldanda**	**43.21**	**300**	*eP*		**P**	**18 17 41.0**	**+1.2**	
	comp=Z,23nm,0.9s								
DANN	**Dangsing**	**43.24**	**301**	*eP*		**P**	**18 17 40.5**	**+0.4**	
	comp=Z,23nm,0.9s								
BBOO	**Buckleboo**	**43.41**	**167**	*eP*		**P**	**18 17 40.8**	**-0.2**	
	comp=Z,22nm,0.6s								
PYUN	**Piuthan**	**43.82**	**301**	*eP*		**P**	**18 17 45.3**	**+0.6**	
	comp=Z,44nm,0.9s								
STKA	**Stephens Creek**	**44.09**	**160**	*eP*		**P**	**18 17 46.7**	**+0.2**	
	comp=Z,3.0nm,1.0s								
STKA	**Stephens Creek**	**44.09**	**160**	P		**P**	**18 17 46.6**	**+0.2**	
	comp=Z,7.0nm,0.5s,baz=336,slow=9.3,SNR=19								
ARMA	**Armidale**	**47.15**	**149**	*eP*		**P**	**18 18 11.9**	**+1.0**	
	comp=Z,86nm,1.8s								
WMQ	**Urumqi**	**47.18**	**323**	*eP*		**P**	**18 18 11.4**	**+0.5**	
WMQ				pP		pP	18 18 16.8	+3.0	
WMQ				pmax		pmax			
	comp=Z,14nm,1.3s								
WMQ				pmax		pmax			
	comp=Z,16nm,3.8s								
WMQ				LR		LR			
	comp=Z,630nm,21.5s								
WMQ				LR		LR			
	comp=Z,280nm,20.3s								
WMQ				LR		LR			
	comp=Z,280nm,19.3s								
CAN	**Canberra**	**49.98**	**155**	*eP*		**P**	**18 18 33.3**	**+0.8**	
	comp=Z,26nm,1.0s								
TOO	**Toolangi**	**50.59**	**159**	*eP*		**P**	**18 18 37.9**	**+0.8**	
	comp=Z,86nm,1.9s								
PEA0B	**Petropavlovsk-**	**50.60**	**25**	*eP*		**P**	**18 18 38.0**	**+1.0**	
PETK	**Petropavlovsk-**	**50.60**	**25**	*eP*		**P**	**18 18 36.1**	**-0.9**	
PETK				*ePcP*		**PcP**	**18 19 55.9**	**+1.3**	
PETK	**Petropavlovsk-**	**50.60**	**25**	P		**P**	**18 18 36.5**	**-0.5**	
PETK				LR		LR	18 38 07.9		
	comp=Z,70nm,21.2s,baz=238,slow=34								
PEA1	**Petropavlovsk-**	**50.61**	**25**	*eP*		**P**	**18 18 36.5**	**-0.5**	
DZM	**Mont Dzumac**	**51.15**	**128**	*eP*		**P**	**18 18 40.9**	**-0.8**	
	comp=Z,14nm,0.7s								
DZM	**Mont Dzumac**	**51.15**	**128**	P		**P**	**18 18 41.1**	**-0.6**	
	comp=Z,14nm,0.6s,baz=246,slow=8.1,SNR=32								
OUENC	**Ouen Island, N**	**51.65**	**129**	*eP*		**P**	**18 18 43.6**	**-1.7**	
	comp=Z,16nm,1.0s								
MK01	**Makanchi Array**	**51.98**	**323**	*eP*		**P**	**18 18 47.2**	**-0.3**	
MK31	**Makanchi Array**	**52.00**	**323**	*eP*		**P**	**18 18 47.6**	**0.0**	
	comp=Z,3.9nm,0.9s								
MK32	**Makanchi Array**	**52.00**	**323**	*eP*		**P**	**18 18 47.8**	**+0.2**	
MKAR	**Makanchi Array**	**52.00**	**323**	P		**P**	**18 18 47.8**	**+0.2**	
	comp=Z,1.4nm,0.7s,baz=122,slow=7.6,SNR=20								
MARNC	**Mare, Loyalty**	**52.07**	**127**	*eP*		**P**	**18 18 49.3**	**+0.9**	
	comp=Z,108nm,1.6s								
MAKZ	**Makanchi**	**52.19**	**323**	*eP*		**P**	**18 18 48.8**	**-0.3**	
PINNC	**Pines Island,**	**52.22**	**128**	*eP*		**P**	**18 18 49.9**	**+0.4**	
	comp=Z,64nm,1.4s								
KSH	**Kashi**	**52.99**	**313**	P		**P**	**18 18 57.9**	**+2.7**	
KSH				pP		pP	18 19 01.9	+3.8	
KSH				sP		sP	18 19 04.4	+5.2	
KDJ	**Kajisay**	**53.12**	**316**	*eP*		**P**	**18 18 57.6**	**+1.4**	
	comp=Z,14nm,1.7s								
NIL	**Nilore**	**53.35**	**305**	*eP*		**P**	**18 18 57.4**	**-0.5**	
	comp=Z,20nm,1.1s								
MA2	**Magadan**	**53.40**	**16**	*eP*		**P**	**18 18 57.9**	**+0.2**	
	comp=Z,4.8nm,1.1s								
NRN	**Naryn**	**53.66**	**315**	*eP*		**P**	**18 18 59.8**	**-0.5**	
	comp=Z,3.4nm,1.1s								
ZAA0	**Zalesovo Array**	**54.76**	**332**	*eP*		**P**	**18 19 08.2**	**+0.5**	
	comp=Z,5.1nm,1.5s								
ZALV	**Zalesovo Beam**	**54.76**	**332**	*eP*		**P**	**18 19 07.0**	**-0.7**	
ZALV	**Zalesovo Beam**	**54.76**	**332**	P		**P**	**18 19 07.1**	**-0.6**	
	comp=Z,0.9nm,0.6s,baz=116,slow=6.6,SNR=4.7								
ZAA1	**Zalesovo Array**	**54.77**	**332**	*eP*		**P**	**18 19 07.1**	**-0.6**	
AAK	**Ala-Archa**	**55.15**	**316**	*eP*		**P**	**18 19 11.2**	**+0.3**	
	comp=Z,6.5nm,1.5s								
ARSB	**Arslanbob**	**55.75**	**314**	*eP*		**P**	**18 19 15.2**	**-0.2**	
	comp=Z,7.1nm,1.1s								
KURK	**Kurchatov**	**56.09**	**326**	*eP*		**P**	**18 19 16.5**	**-0.8**	
	comp=Z,8.4nm,1.0s								
BTK	**Batken**	**56.93**	**312**	*eP*		**P**	**18 19 23.2**	**-0.5**	
	comp=Z,6.8nm,1.1s								
KBL	**Kabul**	**56.95**	**305**	*eP*		**P**	**18 19 24.3**	**+0.2**	
	comp=Z,4.8nm,0.7s								
GAR	**Garm**	**57.01**	**310**	*eP*		**P**	**18 19 24.1**	**-0.2**	
CHGR	**Chuyangaron**	**57.80**	**310**	*eP*		**P**	**18 19 29.4**	**-0.4**	
KK31	**Karatay Array**	**58.06**	**315**	*eP*		**P**	**18 19 30.8**	**-0.8**	
	comp=Z,12nm,1.3s								
KKAR	**Karatay Array**	**58.06**	**315**	*eP*		**P**	**18 19 30.8**	**-0.8**	
	comp=Z,12nm,1.3s								
BRVK	**Borovoye**	**61.76**	**326**	*eP*		**P**	**18 19 53.4**	**-3.3**	
	comp=Z,3.7nm,0.9s								
TIXI	**Tiksi**	**62.02**	**1**	*eP*		**P**	**18 19 58.5**	**+0.4**	
	comp=Z,5.5nm,1.1s								
OUZ	**Omahuta**	**63.75**	**137**	*eP*		**P**	**18 20 12.8**	**+2.6**	
	comp=Z,165nm,1.8s								
BILL	**Bilibino**	**64.27**	**16**	*eP*		**P**	**18 20 14.4**	**+1.2**	
	comp=Z,6.0nm,1.1s								
GEYT	**Alibeck**	**66.21**	**307**	P		**P**	**18 20 27.1**	**+0.8**	
	comp=Z,6.4nm,1.0s,baz=67,slow=11,SNR=7.3								
GEYT				LR		LR	18 51 24.9		
	comp=Z,89nm,19.6s,baz=30,slow=38								
GYA0B	**ALIBECK ARRAY**	**66.21**	**307**	*eP*		**P**	**18 20 25.0**	**-1.3**	
	comp=Z,9.4nm,1.0s								
ABKAR	**Akbulak array**	**66.78**	**320**	*eP*		**P**	**18 20 28.5**	**-1.2**	
	comp=Z,7.9nm,1.4s								
THZ	**Tophouse**	**67.19**	**143**	*eP*		**P**	**18 20 31.4**	**-1.1**	
	comp=Z,74nm,1.6s								
LBZ	**Lake Benmore**	**67.32**	**147**	*eP*		**P**	**18 20 32.8**	**-0.4**	
	comp=Z,111nm,2.0s								
RPZ	**Rata Peaks**	**67.36**	**146**	*eP*		**P**	**18 20 34.4**	**+1.0**	
	comp=Z,28nm,1.2s								
LTZ	**Lake Taylor**	**67.45**	**144**	*eP*		**P**	**18 20 35.2**	**+1.2**	
	comp=Z,40nm,1.4s								
OXZ	**Oxford**	**67.66**	**145**	*eP*		**P**	**18 20 35.9**	**+0.6**	
	comp=Z,28nm,1.3s								
URZ	**Urewera**	**67.78**	**138**	*eP*		**P**	**18 20 34.8**	**-1.4**	
	comp=Z,41nm,1.3s								
BKZ	**Black Stump Fm**	**67.88**	**139**	*eP*		**P**	**18 20 37.5**	**+0.6**	
	comp=Z,20nm,0.6s								
KHZ	**Kahutara**	**67.96**	**143**	*eP*		**P**	**18 20 36.8**	**-0.4**	
	comp=Z,49nm,1.5s								
SNZO	**South Karori**	**68.00**	**142**	*eP*		**P**	**18 20 37.3**	**-0.1**	
	comp=Z,45nm,1.1s								
SPIA	**Saint Paul Isl**	**68.21**	**32**	*eP*		**P**	**18 20 38.1**	**-0.5**	
	comp=Z,262nm,1.5s								
MQZ	**McQueen's Vall**	**68.25**	**145**	*eP*		**P**	**18 20 39.0**	**0.0**	
	comp=Z,70nm,1.8s								
BFZ	**Birch Farm**	**68.58**	**141**	*eP*		**P**	**18 20 41.4**	**+0.2**	
	comp=Z,37nm,1.2s								
ARU	**Arti**	**69.27**	**327**	*eP*		**P**	**18 20 44.8**	**-0.4**	
	comp=Z,30nm,2.0s								
CHGN	**Chignik**	**74.42**	**34**	*eP*		**P**	**18 21 14.4**	**-1.7**	
	comp=Z,215nm,2.0s								
CASY	**Casey**	**76.48**	**186**	*eP*		**P**	**18 21 26.4**	**-1.2**	
	comp=Z,89nm,2.0s								
RAYN	**Ar Rayn**	**76.97**	**292**	*eP*		**P**	**18 21 31.0**	**-0.5**	
	comp=Z,3.9nm,0.8s								
IM3	**Indian Mountai**	**77.57**	**24**	*eP*		**P**	**18 21 32.9**	**-1.0**	
KDAK	**Kodiak Island**	**77.70**	**33**	*eP*		**P**	**18 21 33.8**	**-1.0**	
	comp=Z,147nm,2.0s								
KBZ	**Khabaz**	**77.98**	**313**	P		**P**	**18 21 37.2**	**+0.6**	
	comp=Z,3.1nm,0.9s,baz=68,slow=10,SNR=3.1								
BPAW	**Bear Paw Mtn.**	**78.64**	**26**	*eP*		**P**	**18 21 38.7**	**-1.3**	
	comp=Z,8.8nm,0.8s								
SUA	**Susitna One**	**78.70**	**29**	*eP*		**P**	**18 21 39.7**	**-0.8**	
	comp=Z,50nm,1.8s								
MLY	**Manley**	**78.77**	**25**	*eP*		**P**	**18 21 40.6**	**-0.1**	
	comp=Z,5.9nm,1.0s								
TRF	**Thorofare Moun**	**78.94**	**27**	*eP*		**P**	**18 21 41.0**	**-0.8**	
	comp=Z,11nm,1.2s								
COLD	**Coldfoot**	**79.05**	**23**	*eP*		**P**	**18 21 41.2**	**-1.0**	
	comp=Z,14nm,1.9s								
RC01	**Rabbit Creek A**	**79.19**	**30**	*eP*		**P**	**18 21 41.7**	**-1.3**	
	comp=Z,47nm,1.9s								
TOLK	**Toolik Lake Re**	**79.31**	**22**	*eP*		**P**	**18 21 42.5**	**-1.1**	
	comp=Z,16nm,1.6s								
MCK	**McKinley**	**79.55**	**27**	*eP*		**P**	**18 21 42.7**	**-2.3**	
	comp=Z,8.8nm,0.8s								
GHO	**Glory Hole Cre**	**79.57**	**29**	*eP*		**P**	**18 21 43.4**	**-1.8**	
	comp=Z,20nm,1.4s								
RND	**Reindeer**	**79.59**	**27**	*eP*		**P**	**18 21 43.4**	**-1.8**	
	comp=Z,21nm,1.4s								
MDM	**Murphy Dome**	**79.84**	**26**	*eP*		**P**	**18 21 46.0**	**-0.5**	
	comp=Z,5.5nm,1.1s								
SML	**Sawmill**	**79.85**	**29**	*eP*		**P**	**18 21 47.6**	**+0.9**	
	comp=Z,19nm,1.2s								
WRH	**Wood River Hil**	**79.91**	**26**	*eP*		**P**	**18 21 45.4**	**-1.5**	
	comp=Z,19nm,1.8s								
CCB	**Clear Creek Bu**	**80.03**	**26**	*eP*		**P**	**18 21 44.8**	**-2.7**	
	comp=Z,16nm,1.8s								
DHY	**Denali Highway**	**80.26**	**27**	*eP*		**P**	**18 21 48.6**	**-0.4**	
	comp=Z,13nm,1.5s								
SCM	**Sheep Creek Mo**	**80.33**	**29**	*eP*		**P**	**18 21 47.2**	**-2.1**	
	comp=Z,42nm,1.6s								
IL1	**Eielson Array**	**80.42**	**26**	*eP*		**P**	**18 21 48.4**	**-1.3**	
ILAR	**Eielson Array**	**80.42**	**26**	P		**P**	**18 21 47.9**	**-1.7**	
	comp=Z,0.8nm,0.8s,baz=232,slow=4.9,SNR=11								
ILB	**Eielson Array**	**80.42**	**26**	*eP*		**P**	**18 21 48.5**	**-1.1**	
	comp=Z,13nm,1.8s								
MENT	**Mentasta**	**81.94**	**28**	*eP*		**P**	**18 21 57.4**	**-0.4**	
	comp=Z,12nm,1.3s								
DAWY	**Dawson**	**83.72**	**26**	*eP*		**P**	**18 22 05.2**	**-1.9**	
	comp=Z,9.7nm,1.2s								
EPYK	**Eagle Plains**	**84.43**	**24**	*eP*		**P**	**18 22 09.8**	**-0.8**	
	comp=Z,18nm,1.4s								
ARA0	**ARCESS Array S**	**84.48**	**340**	*eP*		**P**	**18 22 09.2**	**-1.6**	
ARCES	**ARCESS Array B**	**84.48**	**340**	P		**P**	**18 22 09.2**	**-1.6**	
	comp=Z,3.2nm,1.0s,baz=90,slow=8.1,SNR=3.4								
INK	**Inuvik**	**85.22**	**21**	*eP*		**P**	**18 22 13.9**	**-0.5**	
	comp=Z,12nm,1.4s								
INK	**Inuvik**	**85.22**	**21**	P		**P**	**18 22 13.6**	**-0.9**	
	comp=Z,2.2nm,0.9s,baz=291,slow=4.8,SNR=5.4								
BR101	**Keskin Array S**	**85.24**	**309**	*eP*		**P**	**18 22 14.0**	**-1.4**	
BRTR	**Keskin Array B**	**85.24**	**309**	P		**P**	**18 22 14.0**	**-1.4**	
	comp=Z,0.8nm,0.8s,baz=37,slow=9.8,SNR=2.8								
FIA0	**FINESS Array S**	**86.03**	**332**	*eP*		**P**	**18 22 17.2**	**-1.3**	
FINES	**FINESS Array B**	**86.03**	**332**	P		**P**	**18 22 17.2**	**-1.3**	
	comp=Z,2.2nm,0.7s,baz=84,slow=4.4,SNR=12								
AKASG	**Malin Array Be**	**86.49**	**321**	P		**P**	**18 22 20.2**	**-0.9**	
	comp=Z,2.2nm,0.9s,baz=63,slow=4.6,SNR=7.5								
AKBB	**Malin Array Si**	**86.49**	**321**	*eP*		**P**	**18 22 20.8**	**-0.3**	
	comp=Z,7.8nm,1.2s								
AK11	**Malin Array Si**	**86.53**	**321**	*eP*		**P**	**18 22 20.0**	**-1.3**	
VNDA	**Malin Array Si**	**89.41**	**173**	*eP*		**P**	**18 22 33.7**	**-0.7**	
	comp=Z,4.1nm,0.8s								
VNDA	**Vanda**	**89.41**	**173**	P		**P**	**18 22 34.3**	**-0.1**	
	comp=Z,4.1nm,0.9s,baz=330,slow=5.2,SNR=7.3								
NOA	**NORSAR Array B**	**92.93**	**334**	LR		LR	19 07 53.8		
	comp=Z,64nm,20.0s,baz=235,slow=38								
YKA	**Yellowknife Ar**	**94.72**	**24**	P		**P**	**18 22 57.9**	**-1.5**	
	comp=Z,0.7nm,0.7s,baz=300,slow=4.6,SNR=15								
YKB5	**Yellowknife Ar**	**94.72**	**24**	*eP*		**P**	**18 22 58.5**	**-0.9**	
TORD	**Torodi Ar. Bea**	**119.66**	**291**	PKP		**PKPdf**	**18 28 27.9**	**-1.4**	
	comp=Z,0.4nm,0.8s,baz=38,slow=2.6,SNR=2.9								
TOA1	**Torodi Ar. Sit**	**119.66**	**291**	*ePKPdf*		**PKPdf**	**18 28 27.9**	**-1.4**	
HODGE	**Hodges**	**129.13**	**30**	*ePdif*		**Pdif**	**18 25 35.5**	**+2.1**	
PLCA	**Paso Flores**	**145.96**	**158**	PKPbc		**PKPdf**	**18 29 17.9**	**+0.3**	
	comp=Z,1.9nm,0.7s,baz=306,slow=4.1,SNR=6.0								

***KRSC* 16 18:11:09.2±10.0, 59.85N×163.71E, h54km±10km, ML4.6, FELT [III] at Ilpyrskiy., Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.69**	**209**	*eP*	Pn	18 11 23.5	+0.5
OSSR				*eS*	Sn	18 11 35.4	+2.4
TILK	**Tilichiki**	**1.35**	**63**	*eP*	Pn	18 11 31.5	-0.2
TILK				*eS*	Sn	18 11 50.6	+2.0
KMSK	**Kamenskaya**	**2.89**	**24**	*eP*	Pn	18 11 55.7	+3.1
KMSK				*eS*	Sn	18 12 31.2	+5.1
SRKR	**Sorokina**	**3.48**	**204**	P	Pn	18 12 03.1	+2.2
SMKR	**Semkarok**	**3.49**	**201**	P	Pn	18 12 03.6	+2.6
BDR	**Baidarnaya**	**3.55**	**203**	P	Pn	18 12 05.7	+3.8
KBG	**Krutoberegovo**	**3.65**	**189**	P	Pn	18 12 07.5	+4.4
KBTR	**Krutoberegovo**	**3.69**	**188**	P	Pn	18 12 08.8	+5.2

ISCJB ***16*** *18:12:45.2±0.6, 42.44N±0.03×41.03E±0.05, h3km±7km, Error ellipse: s-maj=6.9km s-min=3.9km az=159.4*
ISK ***16*** *18:12:46.3, 42.34N×40.91E, h8km±1km, ML2.4/2*
TIF ***16*** *18:12:47.2, 42.33N×40.94E, h42km±2km*
MOS ***16*** *18:12:49.0±0.0, 42.54N×41.15E, h9km, MPVA2.8*
DDA ***16*** *18:12:49.6, 41.85N×40.59E, h7km±5km, ML2.6*

ISC 16 18:12:45.6±1.3, 42.37N±0.03×41.06E±0.05, h5km±12km, n14, σ0°73/27, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.90**	**148**	PG	**Pn**	**18 13 05.2**	**+0.2**
BATM				SG	**Sn**	**18 13 18.5**	**+0.1**
BATM	**Batumi**	**0.90**	**148**	P	**Pn**	**18 13 05.2**	**+0.2**
BATM				S	**Sn**	**18 13 18.5**	**+0.1**
BCA	**Borcka**	**1.02**	**155**	PG	**Pn**	**18 13 06.5**	**-0.1**
BCA				SG	**Sn**	**18 13 20.9**	**-0.4**
DBOC	**Borcka**	**1.12**	**156**	*i* P	**Pn**	**18 13 08.6**	**+0.6**
DBOC				*i* S	**Sn**	**18 13 24.0**	**+0.1**
DBOC				IAML_P			
	comp=Z,1μm,0.1s						
ARXR	**Arkhyz**	**1.20**	**8**	*i* Pg	**Pn**	**18 13 09.2**	**-0.1**
ARXR				*i* Sg	**Sg**	**18 13 24.1**	**-0.1**
CHOM	**Cayeli-Rize**	**1.29**	**190**	PN	**Pn**	**18 13 10.8**	**+0.4**
CHOM				SN	**Sn**	**18 13 28.0**	**-0.1**
ARTV	**Artvin**	**1.35**	**151**	*i* P	**Pb**	**18 13 12.5**	**+0.9**
ARTV				*i* S	**Sn**	**18 13 30.6**	**+0.8**
ARTV				IAML_P			
	comp=Z,940nm,0.2s						
DBAD	**Bademkaya**	**1.44**	**160**	*i* P	**Pg**	**18 13 13.7**	**+0.6**
DBAD				*i* S	**Sb**	**18 13 28.7**	**-2.8**
DBAD				IAML_P			
	comp=Z,429nm,0.1s						
DAGI	**Agillar**	**1.45**	**153**	*i* P	**Pg**	**18 13 13.1**	**-0.2**
DAGI				*i* S	**Sn**	**18 13 32.4**	**+0.5**
DAGI				IAML_P			
	comp=Z,134nm,0.1s						
NEY	**Neytrino**	**1.51**	**54**	*i* Pg	**Pb**	**18 13 14.4**	**+0.2**
NEY				*e*Sg	**Sn**	**18 13 33.4**	**-0.2**
GUZR	**Guzeripl'**	**1.76**	**337**	*i* Pg	**Pb**	**18 13 18.7**	**+0.3**
GUZR				*i* Sg	**Sb**	**18 13 41.3**	**+0.4**
SHA1	**Shidzhatmaz**	**1.80**	**40**	*i* Pg	**Pb**	**18 13 19.7**	**+0.5**
SHA1				*i* Sg	**Sb**	**18 13 42.2**	**0.0**
KIV	**Kislovodsk**	**1.98**	**36**	PN	**Pb**	**18 13 22.1**	**-0.1**
LZRR	**Lazarevskoye**	**1.98**	**322**	*i* Pg	**Pg**	**18 13 23.8**	**+0.1**
LZRR				*i* Sg	**Sg**	**18 13 48.4**	**-1.0**

IDC ***16*** *18:27:53.2±0.9, 9.54S×119.42E, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.1/33, mbtmp4.2/12, ML4.2/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/33, Error ellipse: s-maj=34.0km s-min=18.2km az=55.0*
ISCJB ***16*** *18:27:56.0±0.2, 9.71S±0.03×119.35E±0.02, h35km, mb4.5/36, MS3.9/5, Error ellipse: s-maj=5.1km s-min=3.4km az=13.8*
DJA ***16*** *18:27:57.4±0.2, 10.3S±3°×11.9E±°, h10km, M4.5/19, mb4.7/9, mB5.0/6, MLv4.5/19, Mw(mB)4.4/6*
NEIC ***16*** *18:27:58.9±0.6, 9.69S×119.36E, h49km±6km, mb4.5/29, Error ellipse: s-maj=6.9km s-min=5.0km az=223.0*

ISC 16 18:27:57.3±0.4, 9.76S±0.05×119.36E±0.04, h35km, n111, σ2.924/120, mb4.5/36, MS4.0/5, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.93**	**85**	P	**Pn**	**18 28 14.9**	**+1.1**
WSI				S	**Sn**	**18 28 28.0**	**+2.1**
BASI	**Baing, Sumba**	**1.28**	**111**	P	**Pn**	**18 28 21.4**	**+2.7**
BASI				S	**Sn**	**18 28 39.1**	**+4.4**
PLAI	**Plampang**	**1.82**	**300**	P	**Pn**	**18 28 26.7**	**+0.6**
EDFI	**Ende, Flores**	**2.51**	**67**	P	**Pn**	**18 28 36.2**	**+0.5**
MMRI	**Maumere**	**3.05**	**69**	*e*Pn	**Pn**	**18 28 44.0**	**+0.9**
MMRI	**Maumere**	**3.05**	**69**	P	**Pn**	**18 28 44.8**	**+1.7**
DNP	**Denpasar**	**4.24**	**284**	P	**Pn**	**18 29 01.8**	**+2.4**
BATI	**Baumata**	**4.26**	**96**	P	**Pn**	**18 29 02.3**	**+2.5**
BATI	**Baumata**	**4.26**	**96**	Pn	**Pn**	**18 29 04.3**	**+4.6**
	56nm,0.3s,baz=20,slow=2.2,SNR=110						
BATI				Sn	**Sn**	**18 29 52.0**	**+3.7**
	12nm,0.3s,baz=216,slow=19,SNR=3.1						
SRBI	**Singaraja**	**4.42**	**292**	P	**Pn**	**18 29 04.1**	**+2.1**
KAPI	**Kappang**	**4.73**	**5**	*e*Pn	**Pn**	**18 29 05.8**	**-0.4**
KAPI				*e*Sn	**Sn**	**18 29 58.0**	**-1.8**
SOEI	**Soe**	**4.84**	**90**	*e*Pn	**Pn**	**18 29 12.0**	**+4.2**
SOEI	**Soe**	**4.84**	**90**	P	**Pn**	**18 29 11.6**	**+3.9**
JAGI	**Jajag, Banyuwa**	**5.30**	**284**	*e*Pn	**Pn**	**18 29 14.8**	**+0.8**
JAGI				*e*Sn	**Sn**	**18 30 13.1**	**-0.9**
JAGI	**Jajag, Banyuwa**	**5.30**	**284**	P	**Pn**	**18 29 15.8**	**+1.8**
BNSI	**Bone**	**5.38**	**8**	P	**Pn**	**18 29 18.0**	**+3.0**
	101nm,0.6s,806nm0.4nm						
KMMI	**Kalianget**	**5.98**	**296**	P	**Pn**	**18 29 26.2**	**+2.9**
BLJI	**Banyuglugur**	**6.04**	**289**	P	**Pn**	**18 29 26.9**	**+2.7**
TTSI	**Tana Toraja**	**6.69**	**4**	P	**Pn**	**18 29 36.5**	**+3.4**
GRJI	**Gresik**	**7.37**	**292**	P	**Pn**	**18 29 44.4**	**+1.9**
PWJI	**Pagerwojo**	**7.66**	**282**	P	**Pn**	**18 29 50.2**	**+3.7**
PCJI	**Pacitan**	**8.23**	**280**	P	**Pn**	**18 29 57.3**	**+3.0**
UGM	**Wanagama**	**8.93**	**281**	*e*Pn	**Pn**	**18 30 05.8**	**+1.9**
UGM				*e*Sn	**Sn**	**18 31 43.2**	**0.0**
LUWI	**Luwuk**	**9.30**	**22**	*e*Pn	**Pn**	**18 30 09.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**10.29**	**144**	*e*Pn	**Pn**	**18 30 24.4**	**+1.9**
FITZ				*e*Sn	**Sn**	**18 32 09.9**	**-6.7**
FITZ	**Fitzroy Crossi**	**10.29**	**144**	Pn	**P

KOLN	**Koldanda**	**50.90**	**318**	*e*P	**P**	**18 36 55.8**	**+0.4**
	6.6nm,0.5s						
DANN	**Dangsing**	**51.18**	**319**	*e*P	**P**	**18 36 57.5**	**-0.2**
	9.0nm,0.4s						
PYUN	**Piuthan**	**51.52**	**318**	*e*P	**P**	**18 37 00.1**	**0.0**
	11nm,0.6s						
GTA	**Gaotai**	**52.18**	**341**	P	**P**	**18 37 06.5**	**+1.7**
GTA				pP	sP	18 37 21.3	+1.7
GTA				sP	pP	18 37 28.0	+13
GTA				S	**S**	**18 44 21.5**	**-5.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,46nm,5.6s						
GTA				LR	LR		
	comp=N,120nm,17.5s						
GTA				LR	LR		
	comp=E,150nm,16.5s						
USA0B	**Ussuriysk Arra**	**54.91**	**11**	*e*P	**P**	**18 37 23.9**	**-0.6**
	39nm,1.9s						
USRK	**Ussuriysk Ar.**	**54.91**	**11**	P	**P**	**18 37 24.1**	**-0.4**
	2.5nm,0.5s,baz=202,slow=7.8,SNR=7.8						
SONA0	**Songino Array**	**58.48**	**350**	*e*P	**P**	**18 37 50.3**	**+0.4**
SONM	**Songino Array**	**58.48**	**350**	P	**P**	**18 37 50.3**	**+0.4**
	1.8nm,0.6s,baz=170,slow=8.8,SNR=18						
WMQ	**Urumqi**	**60.59**	**334**	*e*P	**P**	**18 38 06.3**	**+1.8**
WMQ				LR	LR		
	comp=N,120nm,25.7s						
WMQ				LR	LR		
	comp=E,62nm,23.1s						
KSH	**Kashi**	**63.42**	**324**	P	**P**	**18 38 24.3**	**+0.6**
KSH				pP	sP	18 38 39.8	+1.0
KSH				S	**S**	**18 46 48.1**	**-6.3**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,51nm,4.3s						
KDJ	**Kajisay**	**64.48**	**326**	*e*P	**P**	**18 38 31.4**	**+0.7**
	3.0nm,1.3s						
NRN	**Naryn**	**64.67**	**325**	*e*P	**P**	**18 38 32.1**	**0.0**
	9.2nm,1.9s						
KBL	**Kabul**	**64.88**	**315**	*e*P	**P**	**18 38 32.4**	**-1.1**
	4.4nm,0.6s						
MK01	**Makanchi Array**	**65.27**	**333**	*e*P	**P**	**18 38 35.0**	**-0.6**
MK31	**Makanchi Array**	**65.29**	**333**	*e*P	**P**	**18 38 35.8**	**+0.1**
	1.9nm,0.8s						
MK32	**Makanchi Array**	**65.29**	**333**	*e*P	**P**	**18 38 35.8**	**+0.1**
MKAR	**Makanchi Array**	**65.29**	**333**	P	**P**	**18 38 35.8**	**+0.1**
	1.8nm,0.6s,baz=144,slow=7.1,SNR=32						
MAKZ	**Makanchi**	**65.44**	**333**	*e*P	**P**	**18 38 36.6**	**0.0**
	8.6nm,1.7s						
AAK	**Ala-Archa**	**66.31**	**325**	*e*P	**P**	**18 38 42.5**	**0.0**
	5.8nm,1.4s						
ARSB	**Arslanbob**	**66.33**	**323**	*e*P	**P**	**18 38 42.9**	**+0.2**
	5.1nm,0.7s						
GAR	**Garm**	**66.55**	**320**	*e*P	**P**	**18 38 43.5**	**-0.6**
	6.3nm,0.7s						
BTK	**Batken**	**66.86**	**321**	*e*P	**P**	**18 38 45.3**	**-0.7**
	4.7nm,0.6s						
CHGR	**Chuyangaron**	**67.09**	**319**	*e*P	**P**	**18 38 46.2**	**-1.3**
KK31	**Karatay Array**	**68.88**	**324**	*e*P	**P**	**18 38 57.7**	**-0.8**
	3.6nm,0.3s						
KKAR	**Karatay Array**	**68.88**	**324**	*e*P	**P**	**18 38 57.6**	**-0.9**
	3.6nm,0.3s						
KURK	**Kurchatov**	**69.83**	**334**	*e*P	**P**	**18 39 03.7**	**-0.5**
	12nm,1.9s						
ZAA0	**Zalesovo Array**	**69.87**	**339**	*e*P	**P**	**18 39 03.9**	**-0.5**
	2.9nm,0.6s						
ZALV	**Zalesovo Beam**	**69.87**	**339**	*e*P	**P**	**18 39 03.5**	**-0.9**
ZALV	**Zalesovo Beam**	**69.87**	**339**	P	**P**	**18 39 03.9**	**-0.5**
	2.3nm,0.5s,baz=146,slow=4.9,SNR=13						
ZAA1	**Zalesovo Array**	**69.88**	**339**	*e*P	**P**	**18 39 03.9**	**-0.5**
MA2	**Magadan**	**73.55**	**16**	*e*P	**P**	**18 39 26.6**	**+0.2**
	16nm,1.9s						
ABKAR	**Akbulak array**	**78.38**	**325**	*e*P	**P**	**18 39 53.5**	**-0.7**
	12nm,1.8s						
EIL	**Elat**	**89.96**	**300**	LR	LR	19 22 10.3	
	comp=Z,25nm,20.8s,baz=255,slow=36						
FIA0	**FINESS Array S**	**100.07**	**331**	*e*Pdif	**Pdif**	**18 41 39.3**	**+0.5**
FINES	**FINESS Array B**	**100.07**	**331**	P	**Pdif**	**18 41 39.3**	**+0.5**
	0.7nm,0.7s,baz=103,slow=9.1,SNR=2.5						
VYHS	**Vyhne**	**104.21**	**318**	*e*PDIF	**Pdif**	**18 42 01.2**	**+3.5**
YKA	**Yellowknife Ar**	**114.73**	**24**	PKP	**PKiKP**	**18 46 34.2**	**+0.5**
	0.2nm,0.5s,baz=309,slow=1.8,SNR=3.3						
TORD	**Torodi Ar. Bea**	**118.94**	**280**	PKP	**PKPdf**	**18 46 44.4**	**+1.1**
	0.6nm,0.5s,baz=70,slow=1.9,SNR=5.6						
TOA1	**Torodi Ar. Sit**	**118.94**	**280**	*e*PKPdf	**PKPdf**	**18 46 44.4**	**+1.1**
DBIC	**Dimbokro**	**124.75**	**271**	PKP	**PKPdf**	**18 46 55.7**	**+1.3**
	3.4nm,1.0s,baz=87,slow=2.5,SNR=2.6						

ISCJB **16** *18:42:41.8±0.9, 6.57S±0.07×129.9E±0.1, h146km, mb3.5/1, Error ellipse: s-maj=14.2km s-min=9.7km az=1.6*
IDC **16** *18:42:43.0±2.1, 6.56S×130.10E, h138km±25km, mb3.3/1, mb1 3.7/6, mb1mx3.3/31, mbtmp4.1/6, Error ellipse: s-maj=38.0km s-min=19.8km az=95.0*
ISC 16 18:42:41.8±1.0, **6.57S**±0.07×**130.1E**±0.1, **h146**km, **n6, σ3s48/9, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.78**	**12**	P	**Pn**	**18 44 06.4**	**+0.9**
	5.5nm,0.3s,baz=162,slow=23,SNR=36						
SIJI				S	**Sn**	**18 45 06.4**	**-4.6**
	9.5nm,0.3s,baz=215,slow=20,SNR=8.8						
BATI	**Baumata**	**7.33**	**240**	P	**Pn**	**18 44 28.6**	**+2.4**
	7.7nm,0.3s,baz=63,slow=4.5,SNR=23						
BATI				S	**Sn**	**18 45 43.9**	**-4.4**
	7.2nm,0.3s,baz=44,slow=0.3,SNR=6.2						
FITZ	**Fitzroy Crossi**	**12.26**	**200**	P	**Pn**	**18 45 32.0**	**+0.4**
	0.6nm,0.3s,baz=28,slow=8.9,SNR=14						
FITZ				S	Sn	18 47 38.9	-8.2
	0.9nm,0.3s,baz=82,slow=17,SNR=3.6						
WRA	**Warramunga Arr**	**13.92**	**163**	P	**Pn**	**18 45 53.1**	**+0.2**
	0.8nm,0.3s,baz=343,slow=13,SNR=33						
WRA				S	Sn	18 48 19.4	-7.6
	1.1nm,0.3s,baz=345,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**17.39**	**168**	P	**Pn**	**18 46 38.1**	**+2.5**
	0.7nm,0.3s,baz=337,slow=8.7,SNR=41						
ASAR				S	**S**	**18 49 44.5**	**-4.0**
	0.2nm,0.3s,baz=346,slow=25,SNR=3.0						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**18 53 26.8**	**+2.1**
	0.5nm,0.5s,baz=111,slow=8.9,SNR=9.2						

MEX 16 18:52:44.3±0.5, **16.26N×98.03W, h5**km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.16**	**325**	*i* P	Pg	18 52 46.8	-0.7
PNIG				*i* S	Sg	18 52 49.6	+0.1
TLIG	**Tlapa**	**1.39**	**339**	*i* P	Pn	18 53 07.0	-3.5
TLIG				*i* S	Sb	18 53 24.1	-4.8
VHO	**Vista Hermosa**	**1.48**	**57**	*i* P	Pn	18 53 08.2	-3.6
VHO				*i* S	Sn	18 53 27.5	-4.3

ISCJB **16** *19:14:41.5±0.4, 24.50N±0.02×122.57E±0.02, h96km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=169.4*
JMA **16** *19:14:41.6±0.1, 24.48N×122.56E, h96km±2km, M2.1*
TAP **16** *19:14:41.7, 24.50N×122.57E, h95km, ML2.9, C*
ISC 16 19:14:41.6±1.3, **24.51N**±0.03×**122.58E**±0.02, **h98**km±7km, **n97, σ0s64/188, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.34**	**100**	P	**Pn**	**19 14 56.2**	**+0.1**
JYNG				S	**Sn**	**19 15 06.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.40**	**97**	P	**Pn**	**19 14 56.4**	**-0.1**
	baz=94						
YOJ				S	**Sn**	**19 15 07.2**	**-0.4**
	baz=94						
YOJ	**Yonaguni jima**	**0.40**	**97**	P	**Pn**	**19 14 56.6**	**+0.1**
YOJ				*e*S	**Sn**	**19 15 07.5**	**-0.1**
EOS1	**EOS1**	**0.41**	**276**	P	**Pn**	**19 14 57.0**	**+0.5**
	baz=276						
EOS1				S	**Sn**	**19 15 08.2**	**+0.6**
	baz=276						
TWC	**Suao**	**0.67**	**279**	P	**Pn**	**19 14 59.1**	**+0.6**
	baz=279						
TWC				*e*S	**Sn**	**19 15 10.4**	**-0.9**
	baz=279						
EGS		**0.68**	**300**	*e*P	**Pn**	**19 14 58.5**	**-0.1**
	baz=300						
EGS				*e*S	**Sn**	**19 15 11.6**	**+0.2**
	baz=300						
NANB	**Nanao**	**0.76**	**264**	P	**Pn**	**19 14 59.5**	**+0.2**
	baz=264						
NANB				*e*S	**Sn**	**19 15 12.2**	**-0.6**
	baz=264						
NTC	**Toucheng**	**0.76**	**297**	*e*P	**Pn**	**19 14 59.7**	**+0.3**
	baz=297						
NTC				*e*S	**Sn**	**19 15 11.9**	**-0.8**
	baz=297						
ENA	**Nanau**	**0.77**	**264**	P	**Pn**	**19 14 59.6**	**+0.2**
	baz=264						
ENA				*e*S	**Sn**	**19 15 12.2**	**-0.7**
	baz=264						
ILA	**Ilan**	**0.80**	**289**	*e*P	**Pn**	**19 14 59.7**	**0.0**
	baz=289						
ILA				*e*S	**Sn**	**19 15 13.3**	**-0.1**
	baz=289						
TIPB	**Shuangxi**	**0.83**	**304**	P	**Pn**	**19 15 00.2**	**+0.1**
	baz=304						
TIPB				S	**Sn**	**19 15 13.3**	**-0.7**
	baz=304						
TWE	**Neicheng**	**0.86**	**285**	P	**Pn**	**19 15 00.8**	**+0.4**
	baz=285						
TWE				*e*S	**Sn**	**19 15 13.7**	**-0.7**
	baz=285						
SLBB	**Yuanshan**	**0.89**	**286**	*e*P	**Pn**	**19 15 01.3**	**+0.6**
	baz=286						
SLBB				*e*S	**Sn**	**19 15 14.9**	**-0.3**
	baz=286						
NWF	**Wu-fen Shan**	**0.92**	**308**	*e*P	**Pn**	**19 15 01.0**	**-0.1**
	baz=308						
NWF				*e*S	**Sn**	**19 15 15.5**	**-0.2**
	baz=308						
WFSB	**Wu-fen Shan**	**0.92**	**308**	*e*P	**Pn**	**19 15 01.3**	**+0.3**
	baz=308						
WFSB				*e*S	**Sn**	**19 15 15.5**	**0.0**
	baz=308						
NACB	**Ninganchiao**	**0.96**	**250**	P	**Pn**	**19 15 01.3**	**-0.2**
	baz=249						
NACB				*e*S	**Sn**	**19 15 16.1**	**-0.3**
	baz=249						
NDT	**Datong Townshi**	**0.97**	**276**	P	**Pn**	**19 15 02.3**	**+0.6**
	baz=276						
NDT				*e*S	**Sn**	**19 15 16.4**	**-0.3**
	baz=276						
TWD	**Chiawan**	**0.99**	**245**	P	**Pn**	**19 15 01.7**	**-0.1**
	baz=244						
TWD				*e*S	**Sn**	**19 15 16.6**	**-0.3**
	baz=244						
NWLT	**Wulai**	**1.01**	**286**	*e*P	**Pn**	**19 15 02.4**	**+0.3**
	baz=285						
NWLT				*e*S	**Sn**	**19 15 16.8**	**-0.7**
	baz=285						
HWA	**Hwalien**	**1.03**	**239**	*e*P	**Pn**	**19 15 02.5**	**+0.3**
	baz=239						
HWA				*e*S	**Sn**	**19 15 17.7**	**-0.1**
	baz=239						
ETLH	**Xiulin Townshi**	**1.04**	**254**	P	**Pn**	**19 15 02.4**	**-0.1**
	baz=253						
ETLH				*e*S	**Sn**	**19 15 17.9**	**-0.3**
	baz=253						
NHDH	**Xindian Distri**	**1.06**	**296**	*e*P	**Pn**	**19 15 02.9**	**+0.3**
	baz=295						
NHDH				*e*S	**Sn**	**19 15 17.9**	**-0.4**
	baz=295						
IRIF	**Iriomote-Funau**	**1.06**	**99**	P	**Pn**	**19 15 02.8**	**+0.2**
IRIF				S	**Sn**	**19 15 18.6**	**+0.2**
ENLB	**Shoufeng**	**1.08**	**236**	P	**Pn**	**19 15 02.8**	**+0.1**
	baz=236						
ENLB				*e*S	**Sn**	**19 15 18.5**	**-0.1**
	baz=236						
NNSB	**Datong**	**1.09**	**266**	P	**Pn**	**19 15 03.4**	**+0.4**
	baz=266						
NNSB				*e*S	**Sn**	**19 15 18.9**	**-0.3**
	baz=266						
NNS	**Nan Shan**	**1.10**	**267**	P	**Pn**	**19 15 03.5**	**+0.3**
	baz=266						
NNS				*e*S	**Sn**	**19 15 18.9**	**-0.5**
	baz=266						
YHNB	**Yeheng**	**1.11**	**279**	P	**Pn**	**19 15 03.6**	**+0.4**
	baz=278						
YHNB				S	**Sn**	**19 15 19.3**	**-0.1**
	baz=278						
YM01	**YM01**	**1.11**	**305**	P	**Pn**	**19 15 03.1**	**-0.1**
	baz=305						
YM01				*e*S	**Sn**	**19 15 19.3**	**-0.2**
	baz=305						
YM11	**YM11**	**1.12**	**306**	*e*P	**Pn**	**19 15 03.8**	**+0.4**
	baz=306						
YM11				*e*S	**Sn**	**19 15 19.4**	**-0.3**
	baz=306						
NSK	**Sanguang**	**1.12**	**279**	*e*P	**Pn**	**19 15 03.6**	**+0.3**
	baz=278						
NSK				S	**Sn**	**19 15 19.5**	**-0.3**
	baz=278						
YM08	**YM08**	**1.12**	**307**	*e*P	**Pn**	**19 15 03.9**	**+0.6**
	baz=307						
YM08				*e*S	**Sn**	**19 15 19.3**	**-0.3**
	baz=307						
YM05	**YM05**	**1.13**	**306**	*e*P	**Pn**	**19 15 03.8**	**+0.4**
	baz=305						
YM05				*e*S	**Sn**	**19 15 19.2**	**-0.7**
	baz=305						
YM04	**YM04**	**1.15**	**304**	*e*P	**Pn**	**19 15 03.4**	**-0.1**
	baz=304						
YM04				*e*S	**Sn**	**19 15 19.0**	**-1.1**
	baz=304						
HATJ	**Hateruma jima**	**1.21**	**112**	*e*S	**Sn**	**19 15 22.3**	**+1.0**
WHF	**Hehuan Shan**	**1.25**	**253**	P	**Pn**	**19 15 05.4**	**+0.2**
	baz=253						
WHF				*e*S	**Sn**	**19 15 22.2**	**-0.8**
	baz=253						
ESL	**Shilin**	**1.25**	**237**	*e*P	**Pn**	**19 15 04.6**	**-0.2**
	baz=236						
ESL				*e*S	**Sn**	**19 15 21.8**	**-0.5**
	baz=236						
TWT	**Tachien**	**1.30**	**259**	*e*P	**Pn**	**19 15 05.6**	**0.0**
	baz=258						
TWT				*e*S	**Sn**	**19 15 23.6**	**0.0**
	baz=258						
TDCB	**Techi**	**1.32**	**259**	P	**Pn**	**19 15 06.6**	**+0.9**
	baz=259						
TDCB				S	**Sn**	**19 15 23.8**	**-0.1**
	baz=259						
JKRS	**Kuro-shima**	**1.33**	**101**	P	**Pn**	**19 15 06.4**	**+0.7**
JKRS				S	**Sn**	**19 15 24.4**	**+0.5**
EGFH	**Guangfu**	**1.34**	**232**	*e*P	**Pn**	**19 15 05.8**	**-0.1**
	baz=231						
EGFH				S	**Sn**	**19 15 24.4**	**+0.3**
	baz=231						
NCU	**National Centr**	**1.35**	**290**	*e*P	**Pn**	**19 15 06.4**	**+0.5**
	baz=290						
NCU				*e*S	**Sn**	**19 15 24.6**	**+0.3**
	baz=290						
NCUH	**Zhongli**	**1.35**	**290**	*e*P	**Pn**	**19 15 06.6**	**+0.7**
	baz=290						
NCUH				*e*S	**Sn**	**19 15 24.4**	**+0.2**
	baz=290						
CHGB	**Renai**	**1.36**	**251**	P	**Pn**	**19 15 06.8**	**+0.6**
	baz=251						
CHGB				*e*S	**Sn**	**19 15 24.6**	**-0.2**
	baz=251						
OWD	**Renai**	**1.39**	**247**	*e*P	**Pn**	**19 15 07.1**	**+0.5**
	baz=246						
OWD				*e*S	**Sn**	**19 15 24.9**	**-0.6**
	baz=246						
LIOB	**Emei**	**1.43**	**276**	P	**Pn**	**19 15 07.6**	**+0.7**
	baz=275						
LIOB				*e*S	**Sn**	**19 15 26.2**	**+0.1**
	baz=275						
JIJ	**Ishigaki jima**	**1.43**	**95**	P	**Pn**	**19 15 07.1**	**+0.2**
JIJ				S	**Sn**	**19 15 25.4**	**-0.7**
NSTT	**Nanjuang**	**1.44**	**275**	*e*P	**Pn**	**19 15 07.5**	**+0.5**
	baz=275						
NSTT				*e*S	**Sn**	**19 15 26.3**	**0.0**
	baz=275						
HGSD	**Ruisui**	**1.46**	**226**	P	**Pn**	**19 15 07.3**	**0.0**
	baz=226						
HGSD				*e*S	**Sn**	**19 15 27.0**	**+0.2**
	baz=226						
SBCB	**Hsinchu**	**1.48**	**281**	*e*P	**Pn**	**19 15 07.9**	**+0.4**
	baz=281						
SBCB				*e*S	**Sn**	**19 15 27.3**	**+0.2**
	baz=281						
WHP	**Taichung City**	**1.51**	**262**	P	**Pn**	**19 15 09.3**	**+1.4**
	baz=261						
WHP				*e*S	**Sn**	**19 15 28.0**	**+0.1**
	baz=261						
VWDT	**VWDT**	**1.51**	**241**	P	**Pn**	**19 15 08.6**	**+0.7**
	baz=240						
VWDT				*e*S	**Sn**	**19 15 28.1**	**+0.3**
	baz=240						
EHY	**Hungye**	**1.52**	**229**	P	**Pn**	**19 15 07.8**	**-0.2**
	baz=228						
EHY				*e*S	**Sn**	**19 15 28.2**	**+0.2**
	baz=228						
JISG	**Ishigakijimahi**	**1.58**	**87**	P	**Pn**	**19 15 08.9**	**+0.2**
JISG				S	**Sn**	**19 15 28.6**	**-0.7**
YULB	**Yu-li**	**1.61**	**227**	P	**Pn**	**19 15 09.1**	**-0.2**
	baz=226						
YULB				*e*S	**Sn**	**19 15 30.5**	**+0.3**
	baz=226						
NMLH	**Miaoli**	**1.63**	**271**	*e*P	**Pn**	**19 15 09.5**	**+0.2**
	baz=271						
NMLH				*e*S	**Sn**	**19 15 30.0**	**-0.4**
	baz=271						
TWF1	**Yuli**	**1.64**	**226**	P	**Pn**	**19 15 09.5**	**-0.1**
	baz=225						
TWF1				*e*S	**Sn**	**19 15 31.0**	**+0.2**
	baz=225						
SSLB	**Suanglung**	**1.65**	**245**	P	**Pn**	**19 15 10.4**	**+0.7**
	baz=244						
SSLB				*e*S	**Sn**	**19 15 31.2**	**+0.2**
	baz=244						
TWQ1	**Liyutan**	**1.65**	**265**	*e*P	**Pn**	**19 15 10.1**	**+0.4**
	baz=264						
TWQ1				*e*S	**Sn**	**19 15 31.1**	**0.0**
	baz=264						
SMLT	**Sun Moon Lake**	**1.66**	**248**	*e*P	**Pn**	**19 15 11.3**	**+1.5**
	baz=247						
SMLT				*e*S	**Sn**	**19 15 31.2**	**0.0**
	baz=247						
NSY	**Sanyi**	**1.66**	**267**	*e*P	**Pn**	**19 15 10.1**	**+0.3**
	baz=267						
NSY				*e*S	**Sn**	**19 15 31.4**	**+0.2**
	baz=267						
TYC	**Yuchr**	**1.68**	**249**	*e*P	**Pn**	**19 15 10.4**	**+0.4**
	baz=249						
TYC				*e*S	**Sn**	**19 15 31.9**	**+0.3**
	baz=249						
PTSB	**Yuanli**	**1.71**	**268**	*e*P	**Pn**	**19 15 10.7**	**+0.3**
	baz=268						
PTSB				*e*S	**Sn**	**19 15 32.7**	**+0.4**
	baz=268						
FULB	**Fuli**	**1.76**	**222**	*e*P	**Pn**	**19 15 11.3**	**+0.3**
	baz=222						
FULB				*e*S	**Sn**	**19 15 33.7**	**+0.3**
	baz=222						
WHYT	**Xinyi Township**	**1.77**	**243**	*e*P	**Pn**	**19 15 12.4**	**+1.2**
	baz=242						
WHYT				*e*S	**Sn**	**19 15 34.0**	**+0.3**
	baz=242						
TCU	**Taichung**	**1.77**	**259**	*e*P	**Pn**	**19 15 11.9**	**+0.8**
	baz=258						
TCU				*e*S	**Sn**	**19 15 33.1**	**-0.6**
	baz=258						
CHKT	**Chengkung**	**1.79**	**219**	*e*P	**Pn**	**19 15 11.0**	**-0.4**
	baz=218						
CHKT				*e*S	**Sn**	**19 15 33.1**	**-0.9**
	baz=218						
WJS	**Zhushan**	**1.82**	**248**	*e*P	**Pn**	**19 15 12.7**	**+0.8**
	baz=248						
WJS				*e*S	**Sn**	**19 15 34.9**	**0.0**
	baz=248						
WNT	**Mingjian**	**1.84**	**250**	*e*P	**Pn**	**19 15 12.9**	**+0.9**
	baz=250						
WNT				*e*S	**Sn**	**19 15 37.1**	**+1.8**
	baz=250						
ALS	**Alishan**	**1.90**	**239**	*e*P	**Pn**	**19 15 14.2**	**+1.0**
	baz=238						
ALS				*e*S	**Sn**	**19 15 36.7**	**-0.4**
	baz=238						
JTJ	**Tarama**	**1.94**	**86**	S	**Sn**	**19 15 37.4**	**0.0**
ELDTW	**Lidau**	**1.94**	**228**	*e*P	**Pn**	**19 15 13.4**	**0.0**
	baz=227						
ELDTW				*e*S	**Sn**	**19 15 36.7**	**-1.0**
	baz=227						
WDLH	**Douliu**	**2.04**	**247**	*e*P	**Pn**	**19 15 15.3**	**+0.8**
	baz=246						
WDLH				*e*S	**Sn**	**19 15 42.5**	**+2.8**
	baz=246						
RLNB	**Erlin**	**2.12**	**254**	*e*P	**Pn**	**19 15 16.1**	**+0.5**
	baz=253						
RLNB				*e*S	**Sn**	**19 15 41.2**	**-0.4**
	baz=253						
STYT	**Tauyuan**	**2.14**	**232**	*e*P	**Pn**	**19 15 16.5**	**+0.5**
	baz=231						
STYT				*e*S	**Sn**	**19 15 42.2**	**-0.1**
	baz=231						
TPUB	**Ta-pu**	**2.15**	**236**	*e*P	**Pn**	**19 15 17.3**	**+1.2**
	baz=236						
TPUB				*e*S	**Sn**	**19 15 42.8**	**+0.3**
	baz=236						
TWGBT	**Beinan**	**2.17**	**220**	*e*P	**Pn**	**19 15 15.9**	**-0.4**
	baz=219						
TWGBT				*e*S	**Sn**	**19 15 43.1**	**+0.1**
	baz=219						
TWG	**Pinlang**	**2.17**	**220**	*e*P	**Pn**	**19 15 16.3**	**-0.1**
	baz=219						
TWG				*e*S	**Sn**	**19 15 42.6**	**-0.4**
	baz=219						
WTCT	**Ta-ch'eng**	**2.19**	**253**	*e*S	**Sn**	**19 15 43.4**	**0.0**
	baz=253						
WTP	**Ta-pu**	**2.19**	**235**	*e*P	**Pn**	**19 15 18.3**	**+1.6**
	baz=234						
WTP				*e*S	**Sn**	**19 15 43.9**	**+0.4**
	baz=234						
CHY	**Chiayi**	**2.21**	**243**	*e*P	**Pn**	**19 15 17.1**	**+0.3**
	baz=242						
CHY				*e*S	**Sn**	**19 15 43.7**	**-0.2**
	baz=242						
SNST	**Tainan City**	**2.30**	**236**	*e*S	**Sn**	**19 15 44.8**	**-1.0**
	baz=236						
WLGB	**Puzi**	**2.32**	**244**	*e*S	**Sn**	**19 15 45.7**	**-0.8**
	baz=243						
SLGT	**Liugui**	**2.33**	**230**	*e*P	**Pn**	**19 15 19.8**	**+1.4**
	baz=229						
SLGT				*e*S	**Sn**	**19 15 46.6**	**0.0**
	baz=229						
JIRB	**Irabujima**	**2.38**	**82**	*e*S	**Sn**	**19 15 47.3**	**-0.5**
ECL	**Taimali**	**2.42**	**218**	*e*P	**Pn**	**19 15 19.5**	**0.0**
	baz=217						
ECL				*e*S	**Sn**	**19 15 46.5**	**-2.1**
	baz=217						
CHN8	**Yiju**	**2.46**	**242**	*e*P	**Pn**	**19 15 20.6**	**+0.5**
	baz=241						
CHN8				*e*S	**Sn**	**19 15 49.1**	**-0.5**
	baz=241						
SSD	**Sandimen**	**2.50**	**226**	*e*P	**Pn**	**19 15 21.1**	**+0.3**
	baz=225						
SSD				*e*S	**Sn**	**19 15 50.6**	**-0.1**
	baz=225						
MASBT	**Mashibuluo**	**2.60**	**224**	*e*P	**Pn**	**19 15 22.8**	**+0.9**
	baz=223						
MASBT				*e*S	**Sn**	**19 15 52.5**	**-0.4**
	baz=223						
LAY	**Lan-yu**	**2.63**	**201**	*e*P	**Pn**	**19 15 21.8**	**-0.7**
	baz=200						
LAY				*e*S	**Sn**	**19 15 52.8**	**-1.1**
	baz=200						
EAST	**Anshuo**	**2.65**	**217**	*e*P	**Pn**	**19 15 23.5**	**+0.8**
	baz=216						
EAST				*e*S	**Sn**	**19 15 53.4**	**-0.7**
	baz=216						
SCZT	**Fangliau**	**2.79**	**221**	*e*P	**Pn**	**19 15 25.2**	**+0.7**
	baz=220						
SCZT				*e*S	**Sn**	**19 15 56.5**	**-0.9**
	baz=220						
VWUC	**VWUC**	**2.89**	**280**	*e*P	**Pn**	**19 15 25.9**	**+0.1**
	baz=279						
VWUC				*e*S	**Sn**	**19 15 57.4**	**-2.4**
	baz=279						
PHUB	**P'eng-hu**	**2.92**	**251**	*e*P	**Pn**	**19 15 26.4**	**+0.1**
	baz=250						
PHUB				*e*S	**Sn**	**19 15 59.6**	**-1.1**
	baz=250						
WDGT	**Dungji**	**2.95**	**246**	*e*P	**Pn**	**19 15 26.4**	**-0.2**
	baz=245						
WDGT				*e*S	**Sn**	**19 16 00.6**	**-0.6**
	baz=245						
VCHM	**Qimei**	**3.16**	**

PTMZ				*e*S	**Sn**	**19 16 06.0**	**-1.1**
	baz=279							
XPSS	**Dashiqiu**	**3.23**	**319**	*e*P	**Pn**	**19 15 31.4**	**+1.0**
	baz=318							
XPSS				*e*S	**Sn**	**19 16 06.8**	**-1.3**
	baz=318							

IDC **16** *19:24:57.5±0.7,0.°95N×126.°59E,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.8/33,mbtmp3.9/9,ML3.6/1,MS3.2/1, Ms1 3.2/1,ms1mx2.5/32,Error ellipse: s-maj=52.6km s-min=13.6km az=75.0*

ISCJB **16** *19:25:01.3±0.3,0.°96N±0.°04×126.°43E±0.°05,h39km, mb4.1/20,MS3.1/1,Error ellipse: s-maj=6.9km s-min=5.3km az=151.9*

NEIC **16** *19:25:03.7±0.5,0.°92N×126.°50E,h47km±5km,mb4.1/15, Error ellipse: s-maj=5.8km s-min=4.0km az=66.0*

DJA **16** *19:25:04.2±1.2,1.°N±6.°×12.°7E±.°,h30km±21km,M4.0/8, mb4.2/4,mB4.5/1,MLv3.9/8,Mw(mB)3.7/1*

ISC 16 19:25:03.2±0.6,0.°92N±0.°07×126.°49E±0.°06,h39km,n46, σ1ᵍ35/54,mb4.2/20,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.89**	**100**	*e*Pn	**Pn**	**19 25 19.8**	**+0.6**
TNTI				*e*Sn	**Sn**	**19 25 32.6**	**+1.7**
TNTI	**Ternate**	**0.89**	**100**	P	**Pn**	**19 25 19.6**	**+0.4**
TNTI				S	**Sn**	**19 25 31.5**	**+0.7**
SANI	**Sanana**	**2.99**	**190**	P	**Pn**	**19 25 49.3**	**+1.1**
LUWI	**Luwuk**	**4.20**	**242**	*e*Pn	**Pn**	**19 26 05.3**	**+0.5**
LUWI	**Luwuk**	**4.20**	**242**	P	**Pn**	**19 26 07.0**	**+2.2**
SIJI	**Sorong**	**5.09**	**110**	Pn	**Pn**	**19 26 20.2**	**+3.2**
	0.9nm,0.3s,baz=313,slow=18,SNR=4.8						
APSI	**Ampana**	**5.17**	**249**	P	**Pn**	**19 26 20.5**	**+2.3**
KDI	**Kendari**	**6.20**	**219**	P	**Pn**	**19 26 34.4**	**+2.1**
FAKI	**Fak Fak**	**6.90**	**124**	*e*Pn	**Pn**	**19 26 43.0**	**+1.0**
KAPI	**Kappang**	**8.95**	**229**	*e*Pn	**Pn**	**19 27 09.7**	**-0.3**
SOEI	**Soe**	**10.84**	**192**	*e*Pn	**Pn**	**19 27 37.0**	**+1.0**
MTN	**Manton Dam**	**14.43**	**162**	*e*Pn	**Pn**	**19 28 24.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**18.92**	**183**	*e*P	**P**	**19 29 21.0**	**+0.2**
	5.7nm,1.2s						
FITZ	**Fitzroy Crossi**	**18.92**	**183**	P	**P**	**19 29 21.4**	**+0.6**
	0.2nm,0.3s,baz=13,slow=6.6,SNR=6.7						
WRAB	**Tennant Creek**	**22.11**	**160**	*e*P	**P**	**19 29 55.1**	**-0.3**
	7.0nm,0.8s						
WRA	**Warramunga Arr**	**22.11**	**160**	P	**P**	**19 29 55.3**	**-0.2**
	5.3nm,0.5s,baz=339,slow=11,SNR=96						
WRA				S	**S**	**19 33 52.8**	**-4.4**
	0.8nm,0.8s,baz=326,slow=18,SNR=5.5						
WR1	**Warramunga Arr**	**22.12**	**160**	*e*P	**P**	**19 29 55.3**	**-0.2**
	7.4nm,0.8s						
WR1				*e*S	**S**	**19 33 52.8**	**-4.4**
WB2	**Warramunga Arr**	**22.12**	**160**	*e*P	**P**	**19 29 55.1**	**-0.4**
	6.3nm,0.6s						
WC3	**Warramunga Arr**	**22.14**	**160**	*e*P	**P**	**19 29 55.1**	**-0.6**
	7.8nm,0.6s						
COEN	**Coen**	**22.17**	**132**	*e*P	**P**	**19 29 55.6**	**-0.6**
	3.7nm,1.0s						
TPUB	**Ta-pu**	**22.96**	**346**	*e*P	**P**	**19 30 03.7**	**-0.7**
	32nm,1.5s						
AS31	**Alice Springs**	**25.48**	**164**	*e*P	**P**	**19 30 27.9**	**0.0**
	2.1nm,1.0s						
ASAR	**Alice Springs**	**25.48**	**164**	P	**P**	**19 30 28.0**	**+0.1**
	2.8nm,0.4s,baz=346,slow=12,SNR=28						
ASAR				PcP	**PcP**	**19 33 59.5**	**+0.3**
	0.5nm,0.5s,baz=353,slow=2.2,SNR=8.4						
ASAR				S	**S**	**19 34 56.3**	**+3.6**
	0.5nm,0.6s,baz=347,slow=19,SNR=2.8						
AS01	**Alice Springs**	**25.49**	**164**	*e*P	**P**	**19 30 28.3**	**+0.3**
JCJ	**Chichijima**	**30.07**	**29**	LR	LR	19 40 20.1	
	comp=Z,49nm,20.5s,baz=286,slow=31						
STKA	**Stephens Creek**	**35.62**	**158**	*e*P	**P**	**19 31 57.1**	**-0.3**
	1.9nm,1.5s						
STKA	**Stephens Creek**	**35.62**	**158**	P	**P**	**19 31 57.3**	**-0.1**
	1.9nm,0.7s,baz=349,slow=9.4,SNR=5.9						
MAJO	**Matsushiro**	**37.07**	**16**	*e*P	**P**	**19 32 09.8**	**+0.1**
MJAR	**Matsushiro Arr**	**37.07**	**16**	P	**P**	**19 32 09.8**	**+0.1**
	0.4nm,0.4s,baz=188,slow=9.8,SNR=3.6						
MK01	**Makanchi Array**	**59.71**	**326**	*e*P	**P**	**19 35 03.7**	**-0.3**
MK01				*e*PcP	**PcP**	**19 35 50.6**	**0.0**
MK31	**Makanchi Array**	**59.73**	**326**	*e*P	**P**	**19 35 04.0**	**-0.1**
	0.8nm,0.7s						
MK32	**Makanchi Array**	**59.73**	**326**	*e*P	**P**	**19 35 04.5**	**+0.5**
MK32				*e*PcP	**PcP**	**19 35 50.8**	**+0.1**
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**19 35 04.5**	**+0.5**
	0.8nm,0.4s,baz=118,slow=8.6,SNR=21						
MKAR				PcP	**PcP**	**19 35 50.8**	**+0.1**
	0.6nm,0.5s,baz=121,slow=4.4,SNR=5.0						
MAKZ	**Makanchi**	**59.91**	**326**	*e*P	**P**	**19 35 05.1**	**-0.2**
	0.9nm,0.5s						
ZAA0	**Zalesovo Array**	**62.98**	**334**	*e*P	**P**	**19 35 25.0**	**-0.8**
	2.1nm,1.0s						
ZALV	**Zalesovo Beam**	**62.98**	**334**	*e*P	**P**	**19 35 24.9**	**-1.0**
ZALV	**Zalesovo Beam**	**62.98**	**334**	P	**P**	**19 35 25.8**	**-0.1**
	0.3nm,0.3s,baz=127,slow=11,SNR=3.8						
ZAA1	**Zalesovo Array**	**62.98**	**334**	*e*P	**P**	**19 35 25.8**	**-0.1**
KURK	**Kurchatov**	**63.98**	**328**	*e*P	**P**	**19 35 32.4**	**-0.1**
	4.1nm,0.4s						
ABKAR	**Akbulak array**	**74.17**	**321**	*e*P	**P**	**19 36 35.8**	**0.0**
	5.2nm,1.5s						
VNDA	**Vanda**	**80.69**	**173**	*e*P	**P**	**19 37 11.5**	**-0.2**
	1.6nm,1.2s						
VNDA	**Vanda**	**80.69**	**173**	P	**P**	**19 37 12.0**	**+0.3**
	0.8nm,0.5s,baz=324,slow=7.4,SNR=8.0						
IM3	**Indian Mountai**	**84.99**	**24**	*e*P	**P**	**19 37 33.8**	**-0.4**
IL1	**Eielson Array**	**87.72**	**25**	*e*P	**P**	**19 37 46.0**	**-1.7**
ILAR	**Eielson Array**	**87.72**	**25**	P	**P**	**19 37 46.8**	**-0.9**
	0.2nm,0.7s,baz=248,slow=4.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.52**	**286**	PKP	**PKiKP**	**19 43 57.6**	**-0.1**
	0.3nm,0.6s,baz=108,slow=4.7,SNR=2.8						

ISCJB **16** *19:39:11.9±0.8,35.°58N±0.°04×96.°75W±0.°03,h8km±6km, Error ellipse: s-maj=7.2km s-min=3.5km az=173.2*

TUL **16** *19:39:12.0,35.°52N×96.°78W,h5km,ML3.0*

ANF **16** *19:39:12.7±0.5,35.°60N×96.°78W,h7km±4km,ML3.6/9, Error ellipse: s-maj=9.0km s-min=2.2km az=168.0*

NEIC **16** *19:39:12.0±0.0,35.°52N×96.°78W,h5km,ML3.0(TUL), After TUL.*

NEIC Felt [II] at Prague. Also felt at Meeker, Muskogee, Noble and Spencer.

ISC 16 19:39:12.1±1.3,35.°53N±0.°05×96.°77W±0.°03,h2km±11km, n35,σ0ᵍ82/48,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK002	**Wilshire Harra**	**0.34**	**273**	*e*Pg	**Pg**	**19 39 19.4**	**+0.7**
TUL1	**Leonard**	**0.88**	**64**	*e*Pg	**Pg**	**19 39 28.8**	**-0.2**
TUL1				*e*Sg	**Sg**	**19 39 41.1**	**+0.6**
TUL1	**Leonard**	**0.88**	**64**	P	**Pg**	**19 39 28.9**	**-0.2**
	baz=249						
TUL1				S	**Sg**	**19 39 41.2**	**+0.7**
	baz=249						
X37A	**Clayton**	**1.49**	**129**	*e*Pn	**Pb**	**19 39 39.5**	**-0.9**
X37A				*e*Sn	**Sg**	**19 39 59.5**	**-0.3**
WMOK	**Wichita Mounta**	**1.83**	**245**	*e*Pn	**Pb**	**19 39 44.4**	**-1.8**
WMOK				*e*Sn	**Sb**	**19 40 08.8**	**-0.8**
WMOK	**Wichita Mounta**	**1.83**	**245**	P	**Pb**	**19 39 44.7**	**-1.5**
	baz=62						
WMOK				S	**Sb**	**19 40 08.7**	**-0.8**
	baz=62						
U32A	**Winter Ranch,**	**2.00**	**296**	*e*Pn	**Pb**	**19 39 47.3**	**-1.8**
U32A				*e*Sn	**Sb**	**19 40 14.3**	**-0.1**
HHAR	**Hobbs**	**2.42**	**71**	*e*Pn	**Pn**	**19 39 52.7**	**0.0**
W39A	**Magazine**	**2.47**	**97**	*e*Pn	**Pn**	**19 39 53.5**	**+0.1**
W39A				*e*Sn	**Sn**	**19 40 24.1**	**0.0**
W39A	**Magazine**	**2.47**	**97**	P	**Pn**	**19 39 53.5**	**+0.1**
	baz=280						
W39A				S	**Sn**	**19 40 24.4**	**+0.4**
	baz=280						
MIAR	**Mount Ida**	**2.80**	**110**	*e*Pn	**Pn**	**19 39 58.8**	**+0.8**
MIAR	**Mount Ida**	**2.80**	**110**	P	**Pn**	**19 39 58.7**	**+0.8**
	baz=293						
MIAR				S	**Sn**	**19 40 33.2**	**+0.8**
	baz=293						
U40A	**Yellville**	**3.29**	**74**	P	**Pn**	**19 40 04.8**	**+0.2**
	baz=258						
X40A	**Basin Creek Fa**	**3.40**	**107**	*e*Pn	**Pn**	**19 40 06.3**	**+0.2**
X40A	**Basin Creek Fa**	**3.40**	**107**	P	**Pn**	**19 40 06.4**	**+0.3**
	baz=290						
WLAR	**White Oak Lake**	**3.54**	**120**	*e*Pn	**Pn**	**19 40 08.0**	**0.0**
WHTX	**Lake Whitney,**	**3.58**	**189**	*e*Pn	**Pn**	**19 40 09.0**	**+0.4**
WHAR	**Wooly Hollow**	**3.67**	**92**	*e*Pn	**Pn**	**19 40 10.2**	**+0.3**
WHAR				*e*Sn	**Sn**	**19 40 53.2**	**-0.6**
UALR	**University of**	**3.71**	**100**	*e*Pn	**Pn**	**19 40 11.0**	**+0.6**
W41B	**Gary Mavity, V**	**3.72**	**94**	*e*Pn	**Pn**	**19 40 10.8**	**+0.3**
W41B				*e*Sn	**Sn**	**19 40 54.2**	**-0.7**
W41B	**Gary Mavity, V**	**3.72**	**94**	P	**Pn**	**19 40 10.9**	**+0.3**
	baz=278						
W41B				S	**Sn**	**19 40 54.7**	**-0.2**
	baz=278						
ABTX	**Abilene, Hawle**	**3.75**	**220**	*e*Pn	**Pn**	**19 40 11.7**	**+0.6**
U41A	**Viola**	**4.02**	**77**	P	**Pn**	**19 40 14.9**	**+0.2**
	baz=261						
U41A				S	**Sn**	**19 41 02.1**	**-0.3**
	baz=261						
CBKS	**Cedar Bluff**	**4.04**	**325**	*e*Pn	**Pn**	**19 40 16.8**	**+1.8**
R41A	**Rosebud**	**5.13**	**56**	P	**Pn**	**19 40 29.7**	**-0.2**
	baz=240						
MSTX	**Muleshoe**	**5.18**	**254**	*e*Pn	**Pn**	**19 40 32.1**	**+1.4**
PBMO	**Poplar Bluff**	**5.28**	**75**	*e*Sn	**Sn**	**19 41 33.2**	**-0.3**
Q41A	**Truxton**	**5.59**	**51**	P	**Pn**	**19 40 35.5**	**-0.7**
	baz=234						
P42A	**Winchester**	**6.51**	**50**	*e*Pn	**Pn**	**19 40 48.8**	**-0.1**
T45A	**Paducah**	**6.73**	**75**	*e*Pn	**Pn**	**19 40 51.9**	**0.0**
SDCO	**Great Sand Dun**	**7.36**	**290**	*e*Pn	**Pn**	**19 41 01.3**	**+0.5**
ECSD	**EROS Data Cent**	**8.19**	**1**	*e*Pn	**Pn**	**19 41 11.1**	**-0.9**
TX31	**Lajitas Ar. Si**	**8.49**	**225**	*e*Pn	**Pn**	**19 41 17.3**	**+1.0**
TMUT	**Trail Mountain**	**12.08**	**292**	*e*Pn	**Pn**	**19 42 07.1**	**+1.6**
MSU	**Marysvale**	**12.66**	**288**	*e*Pn	**Pn**	**19 42 15.0**	**+1.5**

IDC **16** *19:54:05.9±5.0,42.°39N×44.°74E,h0km,mb3.2/2, mb1 3.2/2,mb1mx3.0/24,mbtmp3.3/2,Error ellipse: s-maj=115.2km s-min=18.5km az=25.0*

DRS **16** *19:54:05.5±0.0,42.°89N×44.°54E,h15km*

AZER **16** *19:54:08.2±0.2,42.°93N×44.°32E,h36km±4km,ml3.2/12, Error ellipse: s-maj=63.6km s-min=4.3km az=316.0*

TIF **16** *19:54:09.7,42.°98N×44.°93E,h17km±1km*

NORS **16** *19:54:09.1±0.0,42.°83N×45.°02E,h15km,MPVA3.9*

MOS **16** *19:54:11.8±1.5,42.°89N×44.°98E,h11km,mb3.5/1,Error ellipse: s-maj=7.6km s-min=4.4km az=40.9*

ISK **16** *19:54:12.3,42.°83N×44.°65E,h5km,ML3.2/5*

ISC 16 19:54:11.4±1.0,42.°94N±0.°02×45.°04E±0.°01,h5km±7km, n109,σ1ᵍ54/191,mb3.2/3,25C-18D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMGR	**Komgaron**	**0.18**	**312**	*i*PG	**Pg**	**19 54 14.8**	**-0.2**
KMGR	**Komgaron**	**0.18**	**312**	*i* Pg	**Pg**	**19 54 14.8**	**-0.2**
KMGR				*e*Sg	**Sg**	**19 54 19.0**	**+1.7**
VLKR	**Vladikavkaz**	**0.29**	**292**	*e*PG	**Pg**	**19 54 16.7**	**-0.4**
VLKR				*e*S	**Sg**	**19 54 21.2**	**+0.2**
VLKR	**Vladikavkaz**	**0.29**	**292**	*e*Pg	**Pg**	**19 54 16.9**	**-0.2**
VLKR				*e*Sg	**Sg**	**19 54 21.7**	**+0.7**
LACR	**Lac**	**0.56**	**259**	*i* PG	**Pg**	**19 54 20.8**	**-1.4**
LACR				*e*S	**Sg**	**19 54 28.6**	**-0.9**
LACR				pmax	pmax		
	comp=Z,610nm,0.2s						
LACR				smax	smax		
	comp=N,1μm,0.4s						
LACR	**Lac**	**0.56**	**259**	*i* Pg	**Pg**	**19 54 20.9**	**-1.4**
LACR				*e*Sg	**Sg**	**19 54 28.6**	**-0.9**
BTKR	**Batakoyurt**	**0.57**	**320**	*e*PG	**Pb**	**19 54 22.7**	**-1.2**
BTKR				*e*S	**Sb**	**19 54 31.2**	**-1.1**
BTKR	**Batakoyurt**	**0.57**	**320**	*e*Pg	**Pb**	**19 54 22.7**	**-1.2**
BTKR				*e*Sg	**Sb**	**19 54 31.2**	**-1.1**
ARNR	**Ardon**	**0.61**	**294**	⇓*e*PG	**Pb**	**19 54 24.9**	**+0.4**
ARNR				*e*S	**Sb**	**19 54 35.0**	**+1.6**
ARNR	**Ardon**	**0.61**	**294**	*i* Pg	**Pb**	**19 54 24.9**	**+0.4**
ARNR				*e*Sg	**Sb**	**19 54 35.0**	**+1.6**
GROC	**Groznyy**	**0.61**	**64**	*e*PG	**Pn**	**19 54 24.7**	**-2.0**
GROC				*e*		19 54 34.9	
GROC				pmax	pmax		
	comp=Z,612nm,0.6s						
GROC				smax	smax		
	comp=N,1μm,1.2s						
GROC				smax	smax		
	comp=E,747nm,0.5s						
GROC				smax	smax		
	comp=E,2μm,1.3s						
GROC	**Groznyy**	**0.61**	**64**	*i* Pg	**Pn**	**19 54 25.2**	**-1.5**
GROC				*e*Sg	**Sn**	**19 54 36.5**	**-0.5**
GUDG	**Gudauri**	**0.63**	**222**	P	**Pg**	**19 54 22.5**	**-1.1**
GUDG				S	**Sg**	**19 54 31.1**	**-0.7**
KORR	**Kora**	**0.73**	**282**	*e*PG	**Pb**	**19 54 27.2**	**+0.5**
KORR				*e*S	**Sb**	**19 54 39.0**	**+2.1**
KORR	**Kora**	**0.73**	**282**	*e*Pg	**Pb**	**19 54 27.2**	**+0.5**
KORR				*e*Sg	**Sb**	**19 54 39.0**	**+2.1**
TRKR	**Terskaya**	**0.82**	**344**	*e*PG	**Pn**	**19 54 28.9**	**-0.7**
TRKR				*e*S	**Sn**	**19 54 41.4**	**-0.6**
TRKR	**Terskaya**	**0.82**	**344**	*e*Pg	**Pn**	**19 54 28.9**	**-0.7**
TRKR				*e*Sg	**Sn**	**19 54 41.4**	**-0.6**
STDR	**Stavd-Durt**	**0.84**	**301**	*e*PG	**Pn**	**19 54 29.0**	**0.0**
STDR				*e*S	**Sn**	**19 54 42.4**	**-0.1**
STDR	**Stavd-Durt**	**0.84**	**301**	*e*Pg	**Pn**	**19 54 29.9**	**0.0**
STDR				*e*Sg	**Sn**	**19 54 42.4**	**-0.1**
BTLR	**Botlikh**	**0.91**	**107**	⇑*e*PG	**Pg**	**19 54 28.2**	**-0.7**
BTLR				*e*		19 54 42.8	
BTLR				pmax	pmax		
	comp=Z,132nm,0.7s						
BTLR				smax	smax		
	comp=N,203nm,0.9s						
BTLR	**Botlikh**	**0.91**	**107**	*e*Pg	**Pg**	**19 54 28.3**	**-0.5**
BTLR				*e*Sg	**Sb**	**19 54 41.5**	**-0.6**
LSNR	**Lesken**	**0.95**	**291**	*e*PG	**Pb**	**19 54 31.0**	**+0.5**
LSNR				*e*S	**Sn**	**19 54 45.8**	**+0.3**
LSNR	**Lesken**	**0.95**	**291**	*e*Pg	**Pb**	**19 54 30.5**	**-0.2**
LSNR				*e*Sg	**Sb**	**19 54 44.2**	**+0.8**
PRTR	**Priterechnaya**	**0.98**	**326**	*e*PG	**Pn**	**19 54 31.4**	**-0.4**
PRTR				*e*S	**Sn**	**19 54 47.6**	**+1.5**
PRTR	**Priterechnaya**	**0.98**	**326**	*e*Pg	**Pn**	**19 54 31.4**	**-0.4**
PRTR				*e*Sg	**Sn**	**19 54 47.6**	**+1.5**
DIGR	**Digorskoe uzhe**	**1.08**	**268**	*e*PG	**Pg**	**19 54 30.3**	**-1.8**
DIGR				*e*S	**Sg**	**19 54 45.6**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.08**	**268**	*e*Pg	**Pg**	**19 54 30.3**	**-1.8**
DIGR				*e*Sg	**Sg**	**19 54 45.6**	**-0.4**
SEAG	**Tbilisi Sea**	**1.19**	**189**	P	**Pg**	**19 54 32.9**	**-1.3**
SEAG				S	**Sg**	**19 54 49.9**	**+0.3**
NCK	**Nalchik**	**1.20**	**298**	*e*PG	**Pb**	**19 54 34.4**	**-0.2**
NCK	**Nalchik**	**1.20**	**298**	*e*Pg	**Pn**	**19 54 34.7**	**-0.1**
NCK				*e*Sg	**Sn**	**19 54 53.0**	**+1.6**
TBLG	**Delisi**	**1.23**	**191**	PN	**Pg**	**19 54 33.7**	**-1.3**
TBLG				SN	**Sg**	**19 54 51.0**	**+0.1**
TBLG	**Delisi**	**1.23**	**191**	P	**Pg**	**19 54 33.6**	**-1.4**
TBLG				S	**Sg**	**19 54 51.7**	**+0.3**
TBLG	**Delisi**	**1.23**	**191**	PG	**Pg**	**19 54 33.5**	**-1.4**
TBLG				S	**Sg**	**19 54 51.2**	**+0.3**
TBLG	**Delisi**	**1.23**	**191**	*i* P	**Pg**	**19 54 34.4**	**-0.6**
TBLG				*i* S	**Sg**	**19 54 51.6**	**+0.7**
TBLG				IAML_P			
	comp=Z,6μm,0.3s						
TBLG	**Delisi**	**1.23**	**191**	*e*Pg	**Pg**	**19 54 33.6**	**-1.4**
TBLG				*e*Sg	**Sg**	**19 54 51.2**	**+0.3**
BTNK	**Botanikuri**	**1.27**	**188**	P	**Pn**	**19 54 34.2**	**-1.6**
BTNK				S	**Sg**	**19 54 52.2**	**0.0**
BTNK	**Botanikuri**	**1.27**	**188**	*i* P	**Pn**	**19 54 34.3**	**-1.5**
BTNK				*i* S	**Sg**	**19 54 53.1**	**+1.0**
BTNK				IAML_P			
	comp=Z,17μm,0.1s						
XNZR	**Khunzakh**	**1.29**	**107**	*e*PG	**Pg**	**19 54 35.0**	**-1.1**
XNZR				*e*S	**Sn**	**19 54 53.4**	**-0.4**
XNZR	**Khunzakh**	**1.29**	**107**	*e*Pg	**Pn**	**19 54 35.8**	**-0.4**
XNZR				*e*Sg	**Sn**	**19 54 54.6**	**+0.8**
DBC	**Dubki**	**1.31**	**86**	⇑*e*PG	**Pn**	**19 54 36.1**	**-0.3**
DBC				*e*		19 54 56.1	
DBC	**Dubki**	**1.31**	**86**	*i* Pg	**Pn**	**19 54 36.2**	**-0.2**
DBC				*e*Sg	**Sn**	**19 54 55.7**	**+1.4**
KRNR	**Karanay**	**1.37**	**94**	⇑*i*PG	**Pb**	**19 54 37.0**	**-0.6**
KRNR				*i* S	**Sn**	**19 54 57.0**	**+1.1**
KRNR				pmax	pmax		
	comp=Z,191nm,0.4s						
KRNR	**Karanay**	**1.37**	**94**	*i* Pg	**Pb**	**19 54 37.0**	**-0.6**
KRNR				*i* Sg	**Sn**	**19 54 57.0**	**+1.1**
LGD	**Lagodekhi**	**1.42**	**141**	P	**Pn**	**19 54 37.2**	**-0.6**
LGD				S	**Sg**	**19 54 58.4**	**+1.5**
LGD	**Lagodekhi**	**1.42**	**141**	PG	**Pn**	**19 54 37.1**	**-0.6**
LGD				S	**Sg**	**19 54 58.4**	**+1.5**
LGD	**Lagodekhi**	**1.42**	**141**	*e*Pg	**Pn**	**19 54 37.2**	**-0.6**
LGD				*e*Sg	**Sg**	**19 54 58.4**	**+1.5**
ARKR	**Arakani**	**1.48**	**102**	*i* PG	**Pg**	**19 54 39.0**	**-0.7**
ARKR				*i* S	**Sn**	**19 55 00.0**	**+1.7**
ARKR				pmax	pmax		
	comp=Z,67nm,0.3s						
ARKR	**Arakani**	**1.48**	**102**	*i* Pg	**Pg**	**19 54 39.0**	**-0.7**
ARKR				*i* Sg	**Sn**	**19 55 00.0**	**+1.7**
KBTC	**Kuba-Taba**	**1.48**	**307**	⇓*i*PG	**Pn**	**19 54 38.6**	**-0.1**
KBTC				*i* S	**Sg**	**19 55 00.2**	**+1.2**
KBTC	**Kuba-Taba**	**1.48**	**307**	*e*Pg	**Pn**	**19 54 38.7**	**-0.1**
KBTC				*e*Sg	**Sg**	**19 55 00.2**	**+1.2**
BUJR	**Buynaksk**	**1.52**	**94**	⇓*i*PG	**Pg**	**19 54 40.0**	**-0.6**
BUJR				*i* S	**Sg**	**19 55 06.0**	**+5.7**
BUJR				pmax	pmax		
	comp=Z,137nm,0.3s						
BUJR	**Buynaksk**	**1.52**	**94**	*i* Pg	**Pg**	**19 54 40.0**	**-0.6**
BUJR				*i* Sg	**Sg**	**19 55 06.0**	**+5.7**
TRLG	**Trialeti**	**1.56**	**207**	P	**Pn**	**19 54 39.0**	**-0.9**
TRLG				S	**Sn**	**19 55 00.2**	**-0.4**
KZRT	**Kazreti**	**1.62**	**197**	P	**Pn**	**19 54 39.4**	**-1.3**
KZRT				S	**Sn**	**19 55 01.5**	**-0.5**
DDFL	**Dedoflistskaro**	**1.69**	**151**	P	**Pg**	**19 54 43.8**	**-0.1**
DDFL				S	**Sg**	**19 55 12.6**	**+6.8**
KMKR	**Kumukh**	**1.72**	**117**	*e*PN	**Pb**	**19 54 43.0**	**-0.6**
KMKR				pmax	pmax		
	comp=Z,39nm,0.3s						
KMKR	**Kumukh**	**1.72**	**117**	*e*Pg	**Pb**	**19 54 43.0**	**-0.6**
KMKR				*e*Sg	**Sn**	**19 55 01.5**	**-3.1**
NEY	**Neytrino**	**1.73**	**281**	⇑*i*PN	**Pn**	**19 54 42.3**	**0.0**
NEY				*i* S	**Sn**	**19 55 05.5**	**+0.7**
NEY	**Neytrino**	**1.73**	**281**	*i* Pg	**Pn**	**19 54 42.8**	**+0.6**
NEY				*e*Sg	**Sn**	**19 55 05.5**	**+0.7**
ZKTA	**Zakatala**	**1.75**	**137**	⇑P	**Pb**	**19 54 43.5**	**-0.5**
	SNR=3.9						
ZKTA				⇓S	**Sg**	**19 55 09.8**	**+2.2**
KBZ	**Khabaz**	**1.75**	**297**	Pn	**Pn**	**19 54 42.2**	**-0.2**
	comp=Z,5.4nm,0.3s,baz=128,slow=3.8,SNR=59						
KBZ				Sn	**Sg**	**19 55 07.7**	**-0.1**
	comp=Z,4.0nm,0.3s,baz=5.2,slow=20,SNR=6.1						
MAK	**Makhachkala**	**1.81**	**88**	*e*PN	**Pg**	**19 54 46.6**	**+0.6**
MAK				*e*		19 55 14.8	
MAK				pmax	pmax		
	comp=Z,179nm,0.3s						
MAK				smax	smax		
	comp=E,532nm,0.6s						
MAK				smax	smax		
	comp=E,478nm,0.5s						
MAK	**Makhachkala**	**1.81**	**88**	*e*Pg	**Pg**	**19 54 45.7**	**-0.4**
MAK				*e*Sg	**Sg**	**19 55 11.1**	**+1.6**
PYA1	**Pyatigorsk**	**1.81**	**309**	⇑*i*PN	**Pn**	**19 54 43.0**	**-0.2**
PYA1				*e*S	**Sb**	**19 55 07.8**	**-0.2**
PYA1	**Pyatigorsk**	**1.81**	**309**	*i* Pg	**Pn**	**19 54 43.1**	**-0.1**
PYA1				*e*Sg	**Sg**	**19 55 08.9**	**-0.6**
QZX	**Qazax, Azerbai**	**1.90**	**172**	⇑P	**Pn**	**19 54 43.5**	**-0.9**
	SNR=61						
QZX				⇓S	**Sn**	**19 55 09.8**	**+1.1**
SHA1	**Shidzhatmaz**	**1.92**	**295**	⇓*i*PN	**Pn**	**19 54 45.2**	**+0.3**
SHA1				*i* S	**Sb**	**19 55 11.6**	**+0.4**
SHA1	**Shidzhatmaz**	**1.92**	**295**	*i* Pg	**Pn**	**19 54 45.2**	**+0.3**
SHA1				*i* Sg	**Sb**	**19 55 11.6**	**+0.4**
BEYR	**Belyy Ugol+**	**1.94**	**304**	⇑*i*PN	**Pn**	**19 54 44.2**	**-0.9**
BEYR	**Belyy Ugol+**	**1.94**	**304**	*i* Pg	**Pn**	**19 54 44.1**	**-0.9**
BEYR				*i* Sg	**Sb**	**19 55 11.0**	**-0.9**
KIV0	**Kislovodsk Arr**	**1.99**	**302**	*i* Pg	**Pn**	**19 54 46.6**	**+0.8**
KIV0				*i* Sg	**Sb**	**19 55 13.8**	**+0.6**
KIV	**Kislovodsk**	**2.00**	**301**	PN	**Pn**	**19 54 46.1**	**+0.3**
KIV	**Kislovodsk**	**2.00**	**301**	⇓*i*PN	**Pn**	**19 54 46.6**	**+0.8**
KIV				*i* S	**Sb**	**19 55 13.8**	**+0.4**
KIV	**Kislovodsk**	**2.00**	**301**	*e*Pg	**Pn**	**19 54 45.9**	**+0.1**
KIV				*e*Sg	**Sb**	**19 55 12.7**	**-0.7**
URKR	**Urkarakh**	**2.06**	**111**	⇑*e*PN	**Pg**

n9,σ1§06/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**97**	PG	**Pb**	**20 08 15.7**	**0.0**
VANB				SG	**Sb**	**20 08 19.9**	**+1.1**
TVAN	**Van**	**0.20**	**116**	*i* P	**Pb**	**20 08 16.6**	**+0.3**
TVAN				*i* S	**Sb**	**20 08 20.9**	**+1.1**
TVAN				IAML_P			
	comp=Z,7μm,0.1s						
GEVA	**Gevas**	**0.32**	**197**	*i* P	**Pb**	**20 08 18.6**	**+0.3**
GEVA				*i* S	**Sn**	**20 08 25.6**	**-1.8**
GEVA				IAML_P			
	comp=Z,5μm,0.2s						
AKDM	**Akdamar-Van**	**0.33**	**209**	PG	**Pb**	**20 08 18.3**	**-0.2**
ADCV	**BITLIS_Adilcev**	**0.41**	**298**	*i* P	**Pb**	**20 08 20.2**	**+0.3**
ADCV				*i* S	**Sb**	**20 08 27.6**	**+1.8**
ADCV				IAML_P			
	comp=Z,898nm,0.1s						
VMUR	**Van-Muradiye**	**0.48**	**39**	*i* P	**Pb**	**20 08 21.1**	**-0.1**
VMUR				*i* S	**Sn**	**20 08 30.1**	**-1.4**
VMUR				IAML_P			
	comp=Z,982nm,0.1s						
CLDR	**Caldiran**	**0.78**	**47**	PG	**Pg**	**20 08 26.1**	**-0.3**
CLDR	**Caldiran**	**0.78**	**47**	*i* P	**Pn**	**20 08 27.3**	**-0.2**
CLDR				*i* S	**Sn**	**20 08 39.7**	**+0.8**
AGRB	**Hanur-Agry**	**0.97**	**351**	PG	**Pb**	**20 08 28.7**	**-0.8**

ISK ***16*** *20:16:15.7,38°.79N×43°.21E,h5km,ML1.7/4*
ISCJB ***16*** *20:16:17.0±0.6,38°.82N±0°.04×43°.24E±0°.05,h13km,Error ellipse: s-maj=5.4km s-min=5.2km az=143.7*
DDA ***16*** *20:16:17.1,38°.78N×43°.25E,h7km,2km,ML2.6*

ISC 16 20:16:15.2±1.0,38°.84N±0°.06×43°.30E±0°.05,h13km,n8,σ0§73/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.26**	**55**	*i* P	**Pn**	**20 16 24.8**	**-0.1**
VMUR				IAML_P			
	comp=Z,2μm,0.1s						
VANB	**Van**	**0.26**	**165**	PG	**Pb**	**20 16 22.6**	**+0.8**
VANB				SG	**Sb**	**20 16 27.7**	**+1.5**
TVAN	**Van**	**0.33**	**165**	*i* P	**Pb**	**20 16 23.4**	**+0.4**
TVAN				*i* S	**Sb**	**20 16 28.4**	**+0.1**
TVAN				IAML_P			
	comp=Z,4μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.45**	**266**	*i* P	**Pb**	**20 16 26.1**	**+0.9**
ADCV				*i* S	**Sb**	**20 16 32.1**	**+0.2**
ADCV				IAML_P			
	comp=Z,277nm,0.1s						
GEVA	**Gevas**	**0.56**	**200**	*i* P	**Pb**	**20 16 26.8**	**-0.3**
GEVA				IAML_P			
	comp=Z,737nm,0.2s						
CLDR	**Caldiran**	**0.56**	**58**	PG	**Pn**	**20 16 28.8**	**-0.4**
CLDR				SG	**Sn**	**20 16 38.4**	**-0.2**
AKDM	**Akdamar-Van**	**0.57**	**206**	PG	**Pg**	**20 16 25.7**	**-0.8**
AGRB	**Hanur-Agry**	**0.77**	**342**	PG	**Pn**	**20 16 31.8**	**-0.2**

ISCJB ***16*** *20:18:07.5±0.2,47°.16N±0°.01×11°.20E±0°.01,h6km±1km, Error ellipse: s-maj=1.8km s-min=1.5km az=8.7*
VIE ***16*** *20:18:08.3±0.1,47°.12N×11°.19E,h9km,1km,mb2.2/11, ml3.1/14,Error ellipse: s-maj=1.0km s-min=0.8km az=6.0, felt 5 ems98 in Stubaier Alpen / Tyrol*
ROM ***16*** *20:18:08.7±0.1,47°.110N±0°.004×11°.206E±0°.007, h12km,ML2.7/28*
LDG ***16*** *20:18:09.4±0.2,47°.16N×11°.31E,h7km,Md3.0/1,Ml2.9/9, Error ellipse: s-maj=3.9km s-min=3.1km az=2.0*
BGR ***16*** *20:18:09.2±0.3,47°.14N×11°.22E,h10km,ML2.8/16,Error ellipse: s-maj=3.3km s-min=2.2km az=171.0*
BGR Swinging of buildings observed in Neustift, Stubaital. Felt also in Inntal and Oetztal.
PRU ***16*** *20:18:10.8±0.0,47°.24N×11°.23E,h4km*
STR ***16*** *20:18:17.0±0.6,47°.N±3°×1°.1E±°,h10km,M3.0/7,MLv3.0/6, MLv3.1/7*

ISC 16 20:18:08.8±0.8,47°.14N±0°.01×11°.20E±0°.01,h14km±5km, n125,σ1§44/198,3C-5D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SQTA	**Sankt Quirin**	**0.09**	**6**	*i* Pg	**Pg**	**20 18 11.3**	**-0.5**
	176nm,0.1s,SNR=8662						
SQTA				*e*Sg	**Sg**	**20 18 12.9**	**-1.1**
	4μm,0.2s						
MOTA	**Moosalm**	**0.22**	**343**	*i* Pg	**Pg**	**20 18 13.5**	**-0.2**
	227nm,0.1s,SNR=1017						
MOTA				*e*Sg	**Sg**	**20 18 16.8**	**-0.2**
	386nm,0.1s						
ROSI	**Rosskopf**	**0.26**	**145**	P	**Pg**	**20 18 13.8**	**-0.5**
ROSI				S	**Sg**	**20 18 17.4**	**-0.6**
ROSI				AML	AML		
	comp=E,3260μm,0.6s						
ROSI				AML	AML		
	comp=N,4645μm,0.3s						
ROSI				AML	AML		
	comp=E,3260μm,0.6s						
ROSI				AML	AML		
	comp=N,4645μm,0.3s						
ROSI				AML	AML		
	comp=E,3260μm,0.6s						
ROSI				AML	AML		
	comp=N,4645μm,0.3s						
ROSI				AML	AML		
	comp=N,4645μm,0.3s						
ROSI				AML	AML		
	comp=E,3260μm,0.6s						
WTTA	**Wattenberg**	**0.33**	**67**	*i* Pg	**Pg**	**20 18 15.1**	**-0.4**
	comp=E,146nm,0.1s						
WTTA				*e*Sg	**Sg**	**20 18 20.3**	**+0.1**
	comp=E,106nm,0.2s						
WTTA	**Wattenberg**	**0.33**	**67**	*e*Pg	**Pg**	**20 18 15.2**	**-0.4**
WTTA				*e*Sg	**Sg**	**20 18 20.5**	**+0.3**
WTTA	**Wattenberg**	**0.33**	**67**	P	**Pg**	**20 18 15.2**	**-0.4**
WTTA				S	**Sg**	**20 18 20.5**	**+0.3**
WTTA				AML	AML		
	comp=E,660μm,0.4s						
WTTA				AML	AML		
	comp=N,460μm,0.8s						
WTTA				AML	AML		
	comp=E,660μm,0.4s						
WTTA				AML	AML		
	comp=N,460μm,0.8s						
WTTA				AML	AML		
	comp=E,660μm,0.4s						
WTTA				AML	AML		
	comp=N,460μm,0.8s						
WATA	**Walderalm**	**0.33**	**52**	*e*Pg	**Pg**	**20 18 15.3**	**-0.2**
	comp=N,275nm,0.1s,SNR=804						
WATA				*e*Sg	**Sg**	**20 18 20.1**	**-0.1**
	comp=N,157nm,0.2s						
FETA	**Feichten**	**0.34**	**250**	*i* Pg	**Pg**	**20 18 15.2**	**-0.5**
	comp=N,43nm,0.0s,SNR=639						
FETA				*e*Sg	**Sg**	**20 18 19.6**	**-0.9**
	comp=N,177nm,0.1s						
ABSI	**Aberstueckl**	**0.42**	**168**	P	**Pg**	**20 18 16.9**	**-0.3**
ABSI				S	**Sg**	**20 18 22.3**	**-0.5**
ABSI				AML	AML		
	comp=E,2175μm,0.2s						
ABSI				AML	AML		
	comp=N,1390μm,0.4s						
ABSI				AML	AML		
	comp=E,2175μm,0.2s						
ABSI				AML	AML		
	comp=N,1390μm,0.4s						
ABSI				AML	AML		
	comp=E,2175μm,0.2s						
ABSI				AML	AML		
	comp=N,1390μm,0.4s						
ABSI				AML	AML		
	comp=E,2175μm,0.2s						
ABSI				AML	AML		
	comp=N,1390μm,0.4s						
RETA	**Reutte**	**0.46**	**320**	*e*Pg	**Pg**	**20 18 17.2**	**-0.7**
	comp=N,14nm,0.1s,SNR=29						
RETA				*e*Sg	**Sg**	**20 18 24.2**	**+0.2**
	comp=N,23nm,0.1s						
BRES	**Bressanone**	**0.57**	**140**	P	**Pg**	**20 18 19.8**	**-0.3**
BRES				S	**Sg**	**20 18 27.1**	**-0.6**
BRES				AML	AML		
	comp=E,585μm,0.2s						
BRES				AML	AML		
	comp=N,822μm,0.9s						
BRES				AML	AML		
	comp=E,586μm,0.2s						
BRES				AML	AML		
	comp=N,822μm,0.9s						
BRES				AML	AML		
	comp=E,586μm,0.2s						
BRES				AML	AML		
	comp=N,822μm,0.9s						
RISI	**Rein**	**0.63**	**107**	P	**Pg**	**20 18 20.7**	**-0.5**
RISI				S	**Sg**	**20 18 28.9**	**-0.7**
RISI				AML	AML		
	comp=E,875μm,0.5s						
RISI				AML	AML		
	comp=N,1440μm,0.4s						
RISI				AML	AML		
	comp=E,875μm,0.5s						
RISI				AML	AML		
	comp=N,1440μm,0.4s						
RISI				AML	AML		
	comp=E,875μm,0.5s						
RISI				AML	AML		
	comp=N,1440μm,0.4s						
RISI				AML	AML		
	comp=N,1440μm,0.4s						
RISI				AML	AML		
	comp=E,875μm,0.5s						
BOSI	**Bolzano**	**0.65**	**173**	P	**Pg**	**20 18 21.4**	**0.0**
BOSI				S	**Sg**	**20 18 29.7**	**-0.2**
BOSI				AML	AML		
	comp=E,1182μm,0.9s						
BOSI				AML	AML		
	comp=N,1685μm,1.5s						
BOSI				AML	AML		
	comp=E,1182μm,0.9s						
BOSI				AML	AML		
	comp=N,1685μm,1.5s						
BOSI				AML	AML		
	comp=E,1182μm,0.9s						
BOSI				AML	AML		
	comp=N,1685μm,1.5s						
BOSI				AML	AML		
	comp=E,1182μm,0.9s						
BOSI				AML	AML		
	comp=N,1685μm,1.5s						
APPI	**Appiano**	**0.66**	**178**	P	**Pg**	**20 18 21.2**	**-0.4**
APPI				S	**Sg**	**20 18 29.7**	**-0.6**
APPI				AML	AML		
	comp=E,790μm,0.7s						
APPI				AML	AML		
	comp=N,789μm,1.1s						
APPI				AML	AML		
	comp=E,790μm,0.7s						
APPI				AML	AML		
	comp=N,789μm,1.1s						
APPI				AML	AML		
	comp=E,790μm,0.7s						
APPI				AML	AML		
	comp=N,789μm,1.1s						
APPI				AML	AML		
	comp=N,789μm,1.1s						
APPI				AML	AML		
	comp=E,790μm,0.7s						
MOSI	**Grossmontoni**	**0.68**	**221**	P	**Pg**	**20 18 21.6**	**-0.5**
MOSI				S	**Sg**	**20 18 30.5**	**-0.7**
MOSI				AML	AML		
	comp=E,1212μm,0.7s						
MOSI				AML	AML		
	comp=N,982μm,1.6s						
MOSI				AML	AML		
	comp=E,1212μm,0.7s						
MOSI				AML	AML		
	comp=N,982μm,1.6s						
MOSI				AML	AML		
	comp=N,982μm,1.6s						
MOSI				AML	AML		
	comp=E,1212μm,0.7s						
OZOL	**Ozolo**	**0.74**	**188**	*e*Pg	**Pg**	**20 18 22.8**	**-0.3**
OZOL				*e*Sg	**Sg**	**20 18 32.1**	**-0.7**
CARE	**Lago del Cares**	**0.79**	**206**	*e*Pg	**Pg**	**20 18 23.4**	**-0.8**
FUORN	**Ofenpass-Fuorn**	**0.82**	**231**	P	**Pg**	**20 18 23.9**	**-0.8**
FUORN				AML	AML		
	comp=E,138μm,0.6s						
FUORN				AML	AML		
	comp=N,119μm,0.5s						
FUORN				AML	AML		
	comp=E,138μm,0.6s						
FUORN				AML	AML		
	comp=N,119μm,0.6s						
FUORN				AML	AML		
	comp=E,138μm,0.6s						
FUORN				AML	AML		
	comp=N,119μm,0.6s						
FUORN				AML	AML		
	comp=E,138μm,0.6s						
FUORN				AML	AML		
	comp=N,119μm,0.6s						
BRMO	**Bormio**	**0.87**	**221**	P	**Pg**	**20 18 24.6**	**-1.1**
BRMO				S	**Sg**	**20 18 35.5**	**-1.5**
BRMO				AML	AML		
	comp=E,338μm,0.7s						
BRMO				AML	AML		
	comp=N,190μm,0.3s						
BRMO				AML	AML		
	comp=E,338μm,0.7s						
BRMO				AML	AML		
	comp=N,190μm,0.3s						
BRMO				AML	AML		
	comp=N,190μm,0.3s						
BRMO				AML	AML		
	comp=E,338μm,0.7s						
ZIAN	**Ziano**	**0.90**	**164**	*e*Pg	**Pg**	**20 18 25.8**	**-0.4**
AFL	**Alpe Faloria**	**0.91**	**132**	*e*Pg	**Pg**	**20 18 26.2**	**-0.1**
AFL				*e*Sg	**Sg**	**20 18 38.1**	**-0.1**
DAVA	**Damuels**	**0.91**	**280**	*e*Pg	**Pg**	**20 18 25.8**	**-0.6**
	comp=E,4.8nm,0.2s,SNR=13						
DAVA				*e*Sg	**Sn**	**20 18 40.5**	**+0.1**
	comp=E,96nm,0.3s						
DAVA	**Damuels**	**0.91**	**280**	*e*Sg	**Sb**	**20 18 39.1**	**+0.6**
UBR	**Ueberruh**	**0.92**	**307**	*e*Pg	**Pb**	**20 18 26.8**	**+0.2**
UBR				*e*Sg	**Sn**	**20 18 39.8**	**-0.7**
DAVOX	**Davos/Dischmat**	**0.97**	**249**	P	**Pb**	**20 18 26.4**	**-1.1**
DAVOX				AML	AML		
	comp=E,176μm,0.7s						
DAVOX				AML	AML		
	comp=N,165μm,0.5s						
DAVOX				AML	AML		
	comp=E,176μm,0.7s						
DAVOX				AML	AML		
	comp=N,165μm,0.5s						
DAVOX				AML	AML		
	comp=N,165μm,0.5s						
DAVOX				AML	AML		
	comp=E,176μm,0.7s						
ABTA	**Abfaltersbach**	**0.98**	**113**	*e*Pg	**Pb**	**20 18 27.1**	**-0.5**
	comp=E,6.2nm,0.1s,SNR=44						
ABTA				*e*Sg	**Sb**	**20 18 39.5**	**-1.0**
	comp=E,11nm,0.1s						
FUR	**Furstenfeldbru**	**1.03**	**3**	*e*Pg	**Pn**	**20 18 28.8**	**-0.1**
FUR				*e*Sg	**Sn**	**20 18 43.7**	**+0.5**
AGOR	**Agordo**	**1.03**	**145**	*e*Pg	**Pb**	**20 18 28.1**	**-0.4**
AGOR	**Agordo**	**1.03**	**145**	P	**Pb**	**20 18 28.1**	**-0.4**
AGOR				AML	AML		
	comp=E,394μm,0.5s						
AGOR				AML	AML		
	comp=N,394μm,1.0s						
AGOR				AML	AML		
	comp=E,394μm,0.5s						
AGOR				AML	AML		
	comp=N,395μm,1.0s						
AGOR				AML	AML		
	comp=N,395μm,1.0s						
AGOR				AML	AML		
	comp=E,394μm,0.5s						
FAU	**Forcella Aurin**	**1.05**	**149**	*e*Pg	**Pb**	**20 18 28.3**	**-0.6**
GAGG	**Gaggia**	**1.07**	**189**	*e*Pg	**Pb**	**20 18 29.0**	**-0.1**
BERNI	**Berninapass**	**1.08**	**229**	P	**Pb**	**20 18 28.6**	**-0.9**
BERNI				S	**Sb**	**20 18 42.3**	**-1.3**
BERNI				AML	AML		
	comp=E,90μm,1.1s						
BERNI				AML	AML		
	comp=N,70μm,1.1s						
BERNI				AML	AML		
	comp=E,90μm,1.0s						
BERNI				AML	AML		
	comp=N,70μm,1.1s						
BERNI				AML	AML		
	comp=N,70μm,1.1s						
BERNI				AML	AML		
	comp=E,90μm,1.0s						
PANI	**Panarotta**	**1.09**	**175**	*e*Pg	**Pb**	**20 18 29.2**	**-0.4**
CTI	**Castel Tesino**	**1.13**	**164**	P	**Pb**	**20 18 29.8**	**-0.5**
CTI				S	**Sb**	**20 18 43.9**	**-1.0**
CTI				AML	AML		
	comp=E,1125μm,0.1s						
CTI				AML	AML		
	comp=N,1002μm,0.6s						
CTI				AML	AML		
	comp=E,1125μm,0.1s						
CTI				AML	AML		
	comp=N,1002μm,0.6s						
CTI				AML	AML		
	comp=N,1002μm,0.6s						
CTI				AML	AML		
	comp=E,1125μm,0.1s						
CSO	**Casso**	**1.16**	**138**	*e*Pg	**Pb**	**20 18 30.5**	**-0.2**
CSMI	**Casera Mimoias**	**1.18**	**121**	*e*Pg	**Pb**	**20 18 30.8**	**-0.2**
MABI	**Malga Bissina**	**1.18**	**204**	P	**Pn**	**20 18 30.3**	**-0.7**
MABI				S	**Sb**	**20 18 45.0**	**-1.2**
MABI				AML	AML		
	comp=E,152μm,0.5s						
MABI				AML	AML		
	comp=N,218μm,1.3s						
MABI				AML	AML		
	comp=E,152μm,0.5s						
MABI				AML	AML		
	comp=N,218μm,1.3s						
MABI				AML	AML		
	comp=N,218μm,1.3s						
MABI				AML	AML		
	comp=E,152μm,0.5s						
CIMO	**Cimolais**	**1.19**	**134**	*e*Pg	**Pn**	**20 18 31.0**	**0.0**
FVI	**Forni Avoltri**	**1.21**	**116**	P	**Pn**	**20 18 30.8**	**-0.6**
FVI				S	**Sb**	**20 18 46.6**	**-0.6**
FVI				AML	AML		
	comp=E,225μm,0.2s						
FVI				AML	AML		
	comp=N,202μm,0.4s						
FVI				AML	AML		
	comp=E,225μm,0.2s						
FVI				AML	AML		
	comp=N,202μm,0.4s						
FVI				AML	AML		
	comp=N,202μm,0.4s						
FVI				AML	AML		
	comp=E,225μm,0.2s						
PLONS	**Plons/SG**	**1.24**	**267**	*e*Pg	**Pb**	**20 18 32.4**	**+0.3**
PLONS				*e*Sg	**Sg**	**20 18 50.0**	**+1.1**
PLONS	**Plons/SG**	**1.24**	**267**	P	**Pn**	**20 18 31.9**	**0.0**
PLONS				AML	AML		
	comp=E,194μm,0.9s						
PLONS				AML	AML		
	comp=N,258μm,0.3s						
PLONS				AML	AML		
	comp=E,194μm,0.9s						
PLONS				AML	AML		
	comp=N,258μm,0.3s						
PLONS				AML	AML		
	comp=N,258μm,0.3s						
PLONS				AML	AML		
	comp=E,194μm,0.9s						
CGRP	**Cima Grappa**	**1.32**	**161**	P	**Pn**	**20 18 33.0**	**-0.1**
CGRP				AML	AML		
	comp=E,298μm,0.2s						
CGRP				AML	AML		
	comp=N,220μm,0.2s						
CGRP				AML	AML		
	comp=E,298μm,0.2s						
CGRP				AML	AML		
	comp=N,220μm,0.2s						
CGRP				AML	AML		
	comp=N,220μm,0.2s						
CGRP				AML	AML		
	comp=E,298μm,0.2s						
STAL	**STALIGIAL**	**1.36**	**130**	AML	AML		
	comp=E,204μm,0.5s						
STAL				AML	AML		
	comp=N,220μm,0.2s						
STAL				AML	AML		
	comp=E,204μm,0.5s						
STAL				AML	AML		
	comp=N,220μm,0.2s						
STAL				AML	AML		
	comp=N,220μm,0.2s						
STAL				AML	AML		
	comp=E,204μm,0.5s						
MAGA	**Magasa**	**1.42**	**196**	AML	AML		
	comp=N,416μm,0.4s						
MAGA				AML	AML		
	comp=E,526μm,0.3s						
MAGA				AML	AML		
	comp=N,416μm,0.4s						
MAGA				AML	AML		
	comp=E,526μm,0.3s						
MAGA				AML	AML		
	comp=E,526μm,0.3s						
MAGA				AML	AML		
	comp=N,416μm,0.4s						
POLC	**Polcenigo**	**1.43**	**141**	AML	AML		
	comp=E,434μm,0.3s						
POLC				AML	AML		
	comp=E,434μm,0.3s						
POLC				AML	AML		
	comp=N,380μm,1.0s						
POLC				AML	AML		
	comp=N,380μm,1.0s						
POLC				AML	AML		
	comp=N,380μm,1.0s						
POLC				AML	AML		
	comp=E,434μm,0.3s						
KBA	**Koelnbreinsper**	**1.47**	**91**	*e*Pn	**Pn**	**20 18 35.5**	**+0.5**
	comp=E,13nm,0.2s,SNR=25						
KBA				*e*Sn	**Sn**	**20 18 54.4**	**+0.2**
	comp=E,19nm,0.2s						
KBA	**Koelnbreinsper**	**1.47**	**91**	*e*Sg	**Sb**	**20 18 54.8**	**+0.2**
WILA	**Wila**	**1.58**	**281**	*e*Pg	**Pg**	**20 18 39.3**	**+0.1**
WILA				*e*Sg	**Sg**	**20 19 00.8**	**+1.1**
PTCC	**Patocco-Chiusa**	**1.65**	**115**	AML	AML		
	comp=E,101μm,0.5s						
PTCC				AML	AML		
	comp=E,101μm,0.5s						
PTCC				AML	AML		
	comp=N,103μm,1.6s						
PTCC				AML	AML		
	comp=E,101μm,0.5s						
PTCC				AML	AML		
	comp=N,103μm,1.6s						
PTCC				AML	AML		
	comp=N,103μm,1.6s						
ACOM	**Acomizza, Ital**	**1.69**	**109**	AML	AML		
	comp=E,217μm,0.3s						
ACOM				AML	AML		
	comp=N,260μm,0.4s						
ACOM				AML	AML		
	comp=E,216μm,0.3s						
ACOM				AML	AML		
	comp=N,260μm,0.4s						
ACOM				AML	AML		
	comp=E,216μm,0.3s						
ACOM				AML	AML		
	comp=N,260μm,0.4s						
MYKA	**Terra Mystica**	**1.75**	**106**	*e*Pg	**Pb**	**20 18 41.3**	**+0.5**
	comp=N,4.2nm,0.2s,SNR=5.8						
MYKA				*e*Sn	**Sb**	**20 19 03.4**	**+0.7**
	comp=N,11nm,0.3s						
FUSIO	**Fusio**	**1.87**	**250**	AML	AML		
	comp=N,110μm,0.7s						
FUSIO				AML	AML		
	comp=E,138μm,0.4s						
FUSIO				AML	AML		
	comp=N,110μm,0.7s						
FUSIO				AML	AML		
	comp=E,138μm,0.4s						
BNALP	**Bannalp**	**1.92**	**263**	AML	AML		
	comp=E,140μm,0.5s						
BNALP				AML	AML		
	comp=N,252μm,0.3s						
BNALP				AML	AML		
	comp=N,252μm,0.3s						
BNALP				AML	AML		
	comp=E,140μm,0.5s						
SLE	**Schleitheim**	**1.94**	**290**	*e*Sg	**Sg**	**20 19 10.8**	**-0.4**

SABO	**M.te Sabotino**	**2.02**	**124**		AML		AML		
	comp=E,249µm,0.7s								
SABO					AML		AML		
	comp=E,249µm,0.7s								
SABO					AML		AML		
	comp=N,164µm,0.7s								
SABO					AML		AML		
	comp=N,164µm,0.7s								
SULZ	**Cheisacher**	**2.13**	**282**	*e*Sg		**Sg**		**20 19 16.9**	**-0.5**
BERGE	**Lenzkirch (DE)**	**2.17**	**291**	*e*Sg		**Sg**		**20 19 18.0**	**-0.7**
MOA	**Molln**	**2.20**	**70**	*e*Pg		**Pb**		**20 18 49.2**	**+0.8**
	comp=N,3.1nm,0.2s								
MOA					Sg		**Sg**	**20 19 19.3**	**-0.1**
	comp=N,8.2nm,0.2s								
MOA	**Molln**	**2.20**	**70**	*e*Pg		**Pb**		**20 18 49.2**	**+0.8**
MOA					*e*Sg		**Sg**	**20 19 19.4**	**-0.1**
BFO	**Black Forest**	**2.27**	**303**	*e*Sg		**Sg**		**20 19 21.8**	**-0.1**
TRI	**Trieste**	**2.28**	**128**		AML		AML		
	comp=E,45µm,0.5s								
TRI					AML		AML		
	comp=N,26µm,0.8s								
TRI					AML		AML		
	comp=N,26µm,0.8s								
TRI					AML		AML		
	comp=E,45µm,0.5s								
WET	**Wettzell**	**2.30**	**29**	*e*Pn		**Pn**		**20 18 47.4**	**+1.0**
WET				*e*Sg		**Sg**		**20 19 21.7**	**-1.1**
KIZ	**Kirchzarten**	**2.37**	**291**	P		**Pb**		**20 18 50.3**	**-0.9**
KIZ				S		**Sn**		**20 19 16.1**	**-0.1**
OBKA	**Obir**	**2.39**	**104**	*e*Pg		**Pb**		**20 18 52.3**	**+0.7**
	comp=E,2.6nm,0.2s,SNR=7.7								
OBKA					Sg		**Sg**	**20 19 24.3**	**-1.1**
	comp=E,8.1nm,0.3s								
BALST	**Balsthal**	**2.39**	**276**	*e*Pg		**Pg**		**20 18 54.3**	**-0.4**
BALST				*e*Sg		**Sg**		**20 19 24.2**	**-1.5**
GEC2	**GERESS Array S**	**2.40**	**44**	*e*Pn		**Pn**		**20 18 48.8**	**+1.1**
GEC2				*e*Sg		**Sg**		**20 19 25.1**	**-0.8**
OPP	**Oppenau**	**2.44**	**305**	P		**Pn**		**20 18 49.5**	**+1.2**
OPP				S		**Sn**		**20 19 17.4**	**-0.6**
KHC	**Kasperske Hory**	**2.56**	**38**	*e*PN		**Pn**		**20 18 51.5**	**+1.6**
KHC				*e*PG		**Pb**		**20 18 55.7**	**+1.3**
KHC				*e*SN		**Sn**		**20 19 22.6**	**+1.8**
KHC				*e*SG		**Sg**		**20 19 29.3**	**-1.6**
	comp=E,26nm,0.3s								
KHC	**Kasperske Hory**	**2.56**	**38**	*e*Pg		**Pg**		**20 18 57.1**	**-0.7**
KHC				*e*Sg		**Sg**		**20 19 30.2**	**-0.7**
GRF	**Grafenberg Arr**	**2.56**	**0**	*e*Pg		**Pg**		**20 18 56.9**	**-0.9**
GRF				*e*Sg		**Sg**		**20 19 30.6**	**-0.3**
SOKA	**Soboth**	**2.67**	**98**	*e*Pn		**Pn**		**20 18 53.5**	**+2.1**
	comp=E,1.1nm,0.2s								
SOKA					Sg		**Sg**	**20 19 33.6**	**-0.9**
	comp=E,2.9nm,0.3s								
ROTZ	**Rotzenmuhle**	**2.72**	**14**	*e*Pn		**Pn**		**20 18 51.8**	**-0.3**
ROTZ				*e*Sg		**Sg**		**20 19 34.0**	**-2.0**
MOF	**Molkenrain**	**2.85**	**286**	P		**Pn**		**20 18 56.7**	**+2.8**
MOF				S		**Sn**		**20 19 28.8**	**+0.8**
WLS	**Welschbruch**	**2.89**	**298**	P		**Pn**		**20 18 56.0**	**+1.5**
WLS				S		**Sn**		**20 19 30.7**	**+1.7**
MANZ	**Manzenberg**	**2.92**	**12**	*e*Pn		**Pn**		**20 18 54.6**	**-0.2**
MANZ				*e*Sg		**Sg**		**20 19 41.1**	**-1.3**
LANF	**Langenberg**	**2.93**	**310**	P		**Pn**		**20 18 56.5**	**+1.5**
LANF				S		**Sn**		**20 19 29.0**	**-1.0**
ECH	**Echery**	**2.94**	**293**	P		**Pn**		**20 18 56.6**	**+1.5**
ECH				S		**Sn**		**20 19 31.2**	**+1.0**
CDF	**Champ du Feu**	**2.94**	**297**	*e*Pn		**Pn**		**20 18 56.3**	**+1.2**
CDF	**Champ du Feu**	**2.94**	**297**	*e*Pg		**Pg**		**20 19 04.1**	**-0.9**
CDF				*e*Sg		**Sg**		**20 19 42.1**	**-1.0**
	comp=E,17nm,0.3s								
ARSA	**Arzberg**	**2.95**	**86**	*e*Pg		**Pb**		**20 19 02.8**	**+1.6**
	comp=E,2.4nm,0.3s,SNR=7.3								
ARSA					Sn		**Sn**	**20 19 33.5**	**+2.9**
	comp=E,0.8nm,0.2s								
LOMF	**Lomont**	**2.98**	**276**	P		**Pn**		**20 18 58.0**	**+2.2**
LOMF				S		**Sn**		**20 19 32.3**	**+0.9**
HINF	**Hinteralfeld**	**3.02**	**285**	*e*Pn		**Pn**		**20 18 58.1**	**+1.8**
HINF				*e*Sn		**Sn**		**20 19 32.8**	**+0.4**
HINF				*e*Sg		**Sg**		**20 19 45.2**	**-0.7**
	comp=E,18nm,0.3s								
CHMF	**Charmoille**	**3.10**	**274**	P		**Pn**		**20 18 59.8**	**+2.4**
CHMF				S		**Sn**		**20 19 35.0**	**+0.7**
NKC	**Novy Kostel**	**3.21**	**15**	*e*SN		**Sn**		**20 19 36.5**	**-0.4**
NKC				*e*SG		**Sg**		**20 19 50.1**	**-1.7**
	comp=E,21nm,0.4s								
CONA	**Conrad Observa**	**3.26**	**74**	*i* Pn		**Pn**		**20 19 01.9**	**+2.4**
	comp=E,0.2nm,0.1s								
CONA				*e*Pg		**Pg**		**20 19 09.4**	**-1.8**
	comp=E,1.7nm,0.2s								
HAU	**Haudompre**	**3.40**	**287**	*e*Pn		**Pn**		**20 19 03.3**	**+1.9**
HAU				*e*Sg		**Sg**		**20 19 56.8**	**-1.0**
	comp=E,17nm,0.3s								
GIMEL	**St. Georges /**	**3.44**	**262**		AML		AML		
	comp=N,37µm,1.6s								
GIMEL					AML		AML		
	comp=E,46µm,1.6s								
GIMEL					AML		AML		
	comp=N,37µm,1.6s								
GIMEL					AML		AML		
	comp=E,46µm,1.6s								
LPG	**La Plagne**	**3.49**	**244**	*e*Pn		**Pn**		**20 19 06.5**	**+3.6**
LPL	**La Plagne**	**3.49**	**244**	*e*Pn		**Pn**		**20 19 06.6**	**+3.7**
MOX	**Moxa**	**3.52**	**4**	*e*Pn		**Pn**		**20 19 02.9**	**-0.3**
MOX				*e*Sg		**Sg**		**20 19 59.0**	**-2.9**
CABF	**La Chapelle**	**3.54**	**263**	*e*Pn		**Pn**		**20 19 05.1**	**+1.6**
CABF	**La Chapelle**	**3.54**	**263**	*e*Pg		**Pg**		**20 19 15.5**	**-1.1**
CABF				*e*SN		**Sn**		**20 19 44.9**	**-0.3**
CABF				*e*SG		**Sg**		**20 20 02.6**	**+0.1**
PRU	**Pruhonice**	**3.62**	**37**	*e*PG		**Pb**		**20 19 14.0**	**+1.5**
PRU				*e*SN		**Sn**		**20 19 47.6**	**+0.7**
PRU				*e*SG		**Sg**		**20 20 01.4**	**-3.5**
	comp=E,12nm,0.6s								
GOPC	**GO Pecny, Ondr**	**3.66**	**39**	*e*PN		**Pn**		**20 19 07.0**	**+1.9**
GOPC				*e*PG		**Pg**		**20 19 16.6**	**-2.3**
GOPC				*e*SN		**Sn**		**20 19 48.6**	**+0.5**
GOPC				*e*SG		**Sg**		**20 20 03.0**	**-3.4**
	comp=E,12nm,0.6s								
ABH	**Alteburg**	**3.67**	**320**	P		**Pn**		**20 19 07.2**	**+2.1**
THEF	**They Montfort**	**3.69**	**289**	P		**Pn**		**20 19 07.8**	**+2.4**
THEF				S		**Sn**		**20 19 48.6**	**-0.1**
MBDF	**Montbardon**	**3.92**	**234**	*e*Pn		**Pn**		**20 19 10.4**	**+1.7**
KRUC	**Moravsky**	**3.98**	**59**	*e*PN		**Pn**		**20 19 10.4**	**+1.0**
KRUC				*e*PG		**Pb**		**20 19 21.7**	**+3.0**
KRUC				*e*SN		**Sn**		**20 19 57.3**	**+1.4**
KRUC				*e*SG		**Sb**		**20 20 11.2**	**+4.5**
OG35	**Corcelles**	**4.03**	**256**	P		**Pn**		**20 19 12.1**	**+2.0**
BRG	**Berggiesshubel**	**4.15**	**25**	SG		**Sg**		**20 20 18.6**	**-3.5**
	comp=E,10nm,1.0s								
SBF	**Sospel**	**4.21**	**220**	*e*Pn		**Pn**		**20 19 16.1**	**+3.5**
OGAG	**Argentiere**	**4.22**	**232**	P		**Pn**		**20 19 14.9**	**+2.1**
MODS	**Modra-Piesok**	**4.29**	**71**	*e*		**Pb**		**20 19 22.0**	**-1.9**
SFTF	**Sexfontaines**	**4.30**	**287**	*e*Pn		**Pn**		**20 19 16.0**	**+2.3**
SFTF				*e*Sg		**Sg**		**20 20 25.9**	**-0.7**
	comp=E,5.5nm,0.4s								
ORIF	**Oris-en-Rattie**	**4.32**	**241**	*e*Pn		**Pn**		**20 19 17.4**	**+3.3**
ORIF				*e*Sn		**Sn**		**20 20 04.9**	**+0.6**
CLL	**Collm**	**4.34**	**15**	*i*		**Sb**		**20 20 16.6**	**-0.4**
CLL				*e*Sg		**Sg**		**20 20 27.0**	**-1.0**
	comp=Z,16nm,0.9s								
MEZF	**Maizieres J'vi**	**4.36**	**291**	*e*Sg		**Sg**		**20 20 27.3**	**-1.4**
	comp=Z,8.5nm,0.4s								
DPC	**Dobruska-Polom**	**4.67**	**45**	*e*SG		**Sg**		**20 20 35.0**	**-3.7**
	comp=Z,7.6nm,0.6s								
FRF	**La Foret Royal**	**4.80**	**224**	*e*Pn		**Pn**		**20 19 23.9**	**+3.2**
MORC	**Moravsky Berou**	**4.98**	**56**	*e*PN		**Pn**		**20 19 23.9**	**+0.7**
MORC				*e*SN		**Sn**		**20 20 19.5**	**-1.1**
MORC				*e*SG		**Sg**		**20 20 45.6**	**-3.0**
LOR	**Lormes**	**5.00**	**274**	*e*Pn		**Pn**		**20 19 24.6**	**+1.1**
	baz=100								
LOR				*e*Sg		**Sg**		**20 20 46.0**	**-3.3**
	comp=Z,3.2nm,0.3s								
LMR	**La Mourre**	**5.04**	**223**	*e*Pn		**Pn**		**20 19 26.5**	**+2.5**
SMRF	**Simiane la Rot**	**5.06**	**233**	*e*Pn		**Pn**		**20 19 25.3**	**+1.1**
SMF	**Signal de Mont**	**5.07**	**267**	*e*Pn		**Pn**		**20 19 25.7**	**+1.4**
SMF				*e*Sn		**Sn**		**20 20 20.6**	**-2.1**
SMF				*e*Sg		**Sg**		**20 20 51.0**	**-0.3**
VIVF	**Saint-Julien-l**	**5.08**	**246**	*e*Pn		**Pn**		**20 19 25.9**	**+1.3**
VIVF				*e*Sn		**Sn**		**20 20 21.8**	**-1.4**
	comp=Z,1.1nm,0.2s								
GIVF	**Givet**	**5.16**	**307**	*e*Pn		**Pn**		**20 19 28.0**	**+2.4**
GIVF				*e*Sn		**Sn**		**20 20 23.8**	**-1.2**
GIVF				*e*Sg		**Sg**		**20 20 53.9**	**-0.5**
	comp=Z,1.9nm,0.2s								
SSF	**Saint Saulge**	**5.25**	**272**	*e*Pn		**Pn**		**20 19 28.6**	**+1.7**
SSF				*e*Sg		**Sg**		**20 20 56.2**	**-1.1**
	comp=Z,1.3nm,0.3s								
DOU	**Dourbes**	**5.29**	**307**	P		**Pn**		**20 19 29.9**	**+2.6**
VYHS	**Vyhne**	**5.32**	**72**	*e*PN		Pn		20 19 19.5	-8.4
AVF	**Avril sur Loir**	**5.38**	**269**	*e*Pn		**Pn**		**20 19 30.1**	**+1.5**
BGF	**Bois d'Agland**	**5.76**	**267**	*e*Pn		**Pn**		**20 19 35.3**	**+1.5**
LASF	**Ste Croix**	**5.99**	**242**	*e*Pn		**Pn**		**20 19 38.3**	**+1.3**
LASF				*e*Sn		**Sn**		**20 20 44.5**	**-0.9**
TCF	**Toulx Ste Croi**	**6.24**	**265**	*e*Pn		**Pn**		**20 19 42.0**	**+1.6**
CAF	**Calviac**	**6.73**	**254**	*e*Pn		**Pn**		**20 19 48.7**	**+1.5**
MFF	**Saint Martin d**	**7.79**	**270**	*e*Pn		**Pn**		**20 20 03.3**	**+1.6**

ANF **16** *20:21:00.3±0.9, 32°.28N×115°.36W, h11km±5km, ML2.9/8, Error ellipse: s-maj=7.0km s-min=3.5km az=12.0*
SCEDC **16** *20:21:01.5, 32°.24N×115°.37W, h15km*
PAS **16** *20:21:01.1±0.0, 32°.24N×115°.37W, h8km*
NEIC **16** *20:21:02.0±0.0, 32°.31N×115°.33W, h5km, MD2.6, ML2.9*
ECX **16** *20:21:02.4±0.6, 32°.31N×115°.33W, h5km, MD2.6, ML2.9*
ISC 16 20:21:00.8±1.0, **32°.36N**±0°.05×**115°.31W**±0°.03, **h18**km±5km, **n35**, σ0**86**/46, **5C-2D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.06**	**7**	*e*P		**Pg**	**20 21 04.2**	**0.0**
CPBX				*e*S		**Sg**	**20 21 06.6**	**+0.3**
CPBX				IAML			20 21 08.2	
	comp=N,14µm,0.2s							
CPBX				⇓*e*			20 21 08.2	
CPBX				IAML			20 21 10.4	
	comp=E,17µm,0.4s							
CPBX				⇑*e*			20 21 10.4	
SGL	**Mount Signal**	**0.45**	**310**	⇑*i*P		**Pb**	**20 21 10.9**	**+0.6**
WESC	**Westside Schoo**	**0.53**	**319**	*e*P		**Pn**	**20 21 12.8**	**-0.8**
YUH	**Yuha Desert**	**0.59**	**299**	⇑*i*P		**Pg**	**20 21 12.8**	**+0.2**
RMX	**La Rumorosa**	**0.69**	**291**	*e*P		**Pg**	**20 21 13.4**	**-1.1**
RMX				*e*S		**Sg**	**20 21 21.8**	**-1.9**
RMX				IAML			20 21 21.9	
	comp=E,394nm,0.2s							
RMX				⇓*e*			20 21 21.9	
SWSC	**Sam W. Stewart**	**0.72**	**325**	P		**Pb**	**20 21 15.4**	**+0.6**
	baz=153,SNR=19							
SWSC				S		**Sn**	**20 21 25.7**	**-1.0**
	baz=153							
SWSC	**Sam W. Stewart**	**0.72**	**325**	*e*P		**Pb**	**20 21 15.5**	**+0.6**
IKP	**In-Ko-Pah, Jac**	**0.73**	**294**	P		**Pg**	**20 21 15.2**	**0.0**
	baz=123,SNR=54							
IKP				S		**Sg**	**20 21 24.6**	**-0.4**
	baz=123							
IKP	**In-Ko-Pah, Jac**	**0.73**	**294**	*e*P		**Pg**	**20 21 15.3**	**0.0**
GLA	**Glamis**	**0.80**	**30**	*e*Pg		**Pn**	**20 21 17.7**	**+0.3**
GLA				*e*Sg		**Sn**	**20 21 29.5**	**+0.5**
GLA	**Glamis**	**0.80**	**30**	P		**Pn**	**20 21 17.5**	**+0.1**
	baz=210,SNR=28							
GLA				S		**Sn**	**20 21 29.7**	**+0.7**
	baz=210							
GLA	**Glamis**	**0.80**	**30**	*e*P		**Pn**	**20 21 17.5**	**+0.1**
MONP2	**Monument Peak**	**1.08**	**300**	P		**Pb**	**20 21 21.1**	**0.0**
	baz=126,SNR=44							
MONP2				S		**Sb**	**20 21 35.4**	**+0.4**
	baz=126							
MONP2	**Monument Peak**	**1.08**	**300**	*e*P		**Pn**	**20 21 21.6**	**+0.3**
CBX	**Cerro Bola**	**1.14**	**268**	*e*P		**Pn**	**20 21 22.1**	**-0.1**
CBX				*e*S		**Sb**	**20 21 37.2**	**+0.4**
CBX				⇑*e*			20 21 38.5	
CBX				IAML			20 21 38.5	
	comp=N,305nm,0.4s							
TJIG	**Tijuana**	**1.16**	**274**	⇑*e*P		**Pn**	**20 21 22.0**	**-0.2**
BAR	**Barrett**	**1.19**	**286**	*e*Pg		**Pn**	**20 21 23.1**	**+0.3**
BAR				*e*Sg		**Sb**	**20 21 37.8**	**-0.4**
BAR	**Barrett**	**1.19**	**286**	*e*P		**Pn**	**20 21 23.0**	**+0.3**
ECNX	**Esteban Cantu**	**1.30**	**238**	*e*P		**Pn**	**20 21 24.2**	**0.0**
PBX	**Punta Banda**	**1.35**	**243**	*e*P		**Pn**	**20 21 25.2**	**+0.3**
113A	**Mohawk Valley,**	**1.37**	**72**	*e*Pn		**Pg**	**20 21 26.2**	**-1.1**
EML	**El Monte City P**	**1.40**	**293**	*e*P		**Pb**	**20 21 26.4**	**-0.1**
SDRC	**San Diego Road**	**1.43**	**286**	*e*P		**Pb**	**20 21 26.9**	**0.0**
Y12C	**Blythe**	**1.54**	**25**	*e*Pn		**Pg**	**20 21 28.9**	**-1.6**
XPFO	**Pion Flat**	**1.58**	**323**	*e*Pn		**Pn**	**20 21 28.2**	**+0.1**
PFO	**Pinyon Flats O**	**1.58**	**323**	*e*Pn		**Pn**	**20 21 28.1**	**0.0**
109C	**Camp Elliot, M**	**1.60**	**290**	P		**Pb**	**20 21 30.0**	**+0.1**
	baz=113,SNR=7.1							
109C				S		**Sb**	**20 21 50.1**	**+0.3**
	baz=113							
CPE	**Camp Elliot**	**1.60**	**290**	*e*Pn		**Pn**	**20 21 28.8**	**+0.5**
CPE				*e*Sn		**Sn**	**20 21 49.5**	**+0.9**
MURC	**Murrieta**	**2.01**	**309**	Sb		**Sg**	**20 22 04.7**	**-0.8**
	baz=131							
214A	**Organ Pipe Nat**	**2.16**	**100**	P		**Pn**	**20 21 36.0**	**0.0**
	baz=278							
BBRC	**Big Bear Solar**	**2.33**	**325**	Sb		**Sg**	**20 22 15.8**	**-0.1**
	baz=147							
Y14A	**Wickenburg**	**2.50**	**50**	*e*Pn		**Pb**	**20 21 43.8**	**-1.4**
MWC	**Mount Wilson**	**2.96**	**310**	*e*Pn		**Pn**	**20 21 48.6**	**+1.5**
X16A	**Lo Mia Camp, P**	**3.84**	**57**	*e*Pn		**Pn**	**20 22 01.8**	**+2.6**
X18A	**Snowflake**	**4.98**	**63**	*e*Pn		**Pn**	**20 22 17.2**	**+2.3**

KRSC 16 20:21:57.4±10.0, **52°.92N×167°.94E, h60**km±10km, **ML3.8, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**4.03**	**296**	*e*P		Pn	20 22 58.5	+2.0
MKZ				*e*S		Sn	20 23 46.9	+4.5
KZV	**Kizimen**	**5.01**	**299**	P		Pn	20 23 12.9	+2.8
KZV				S		Sn	20 24 09.5	+2.8
KII	**Karymskiy**	**5.19**	**286**	*e*P		Pn	20 23 15.4	+2.9
KII				*e*S		Sn	20 24 15.5	+4.5
SDLR	**Sedlovina**	**5.47**	**277**	*e*P		Pn	20 23 20.4	+4.1
UGLR	**Uglovaya**	**5.50**	**277**	*e*P		Pn	20 23 21.2	+4.4
SMAR	**Somma**	**5.52**	**277**	P		Pn	20 23 21.1	+4.1
KRER	**Koryakskii**	**5.55**	**278**	*e*P		Pn	20 23 22.0	+4.5
DALK	**Dalny**	**5.55**	**275**	*e*P		Pn	20 23 20.5	+3.2
AVH	**Avacha**	**5.55**	**277**	*e*P		Pn	20 23 21.8	+4.4
PET	**Petropavlovsk**	**5.61**	**275**	*e*P		Pn	20 23 22.4	+4.3
KOK	**Koryaka**	**5.62**	**278**	*e*P		Pn	20 23 22.6	+4.3
RUS	**Russkaya**	**5.75**	**269**	*e*P		Pn	20 23 24.0	+3.9
KRMR	**Karymshinskiy**	**5.94**	**273**	*e*P		Pn	20 23 26.2	+3.6
MTVR	**Mutnovka**	**5.95**	**270**	*e*P		Pn	20 23 27.5	+4.6
GNL	**Ganaly**	**6.04**	**281**	*e*P		Pn	20 23 29.1	+5.0
ASAK	**Asacha**	**6.13**	**269**	*e*P		Pn	20 23 30.0	+4.6
KDTR	**Khodutka, Kamc**	**6.14**	**263**	*e*P		Pn	20 23 29.2	+3.8
KDTR				*e*S		Sn	20 24 37.3	+3.1

PGC 16 20:30:14.4±1.0, **48°.80N×129°.08W, h10**km, **MLSn2.5/8, Mw3.1/8, Mw3.1/8, 234km west of Tofino, Bc Vancouver Island, Canada Region, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**0.85**	**181**	P		Pg	20 30 27.4	-3.3
KEMF	**NEPTUNE Canada**	**0.85**	**181**	P		Pg	20 30 27.4	-3.3
BPBC	**Brooks Peninsu**	**1.61**	**32**	Pn		Pn	20 30 39.8	-3.2
BPBC	**Brooks Peninsu**	**1.61**	**32**	Pn		Pn	20 30 39.8	-3.2
EDB	**Eliza Dome**	**1.68**	**49**	Pn		Pn	20 30 41.1	-2.7
EDB				Sn		Sn	20 31 00.2	-5.2
EDB	**Eliza Dome**	**1.68**	**49**	Pn		Pn	20 30 41.1	-2.7
EDB				Sn		Sn	20 31 00.2	-5.2
HOLB	**Holberg**	**1.95**	**18**	Pn		Pn	20 30 46.4	-1.2
HOLB				Sn		Sn	20 31 06.4	-5.7
HOLB	**Holberg**	**1.95**	**18**	Pn		Pn	20 30 46.4	-1.2
HOLB				Sn		Sn	20 31 06.4	-5.7
MAYB	**Maynard**	**2.03**	**37**	Pn		Pn	20 30 46.7	-2.1
MAYB	**Maynard**	**2.03**	**37**	Pn		Pn	20 30 46.7	-2.1
WOSB	**Woss**	**2.13**	**49**	Pn		Pn	20 30 48.2	-1.9
WOSB	**Woss**	**2.13**	**49**	Pn		Pn	20 30 48.2	-1.9
BTB	**Buttle Lake**	**2.44**	**73**	Pn		Pn	20 30 52.6	-1.8
BTB	**Buttle Lake**	**2.44**	**73**	Pn		Pn	20 30 52.6	-1.8
NCRB	**Newcastle Ridg**	**2.54**	**50**	Pn		Pn	20 30 54.6	-1.3
NCRB	**Newcastle Ridg**	**2.54**	**50**	Pn		Pn	20 30 54.6	-1.3
MGB	**Mount Grey**	**2.91**	**84**	Pn		Pn	20 30 58.7	-2.1
MGB	**Mount Grey**	**2.91**	**84**	Pn		Pn	20 30 58.7	-2.1
TXB	**Texada**	**3.18**	**72**	Pn		Pn	20 31 03.6	-0.8
TXB	**Texada**	**3.18**	**72**	Pn		Pn	20 31 03.6	-0.8
YOUB	**Youbou, Lake C**	**3.19**	**86**	Pn		Pn	20 31 03.0	-1.6
YOUB	**Youbou, Lake C**	**3.19**	**86**	Pn		Pn	20 31 03.0	-1.6
BBB	**Bella Bella**	**3.45**	**10**	Pn		Pn	20 31 06.3	-1.8
BBB				Sn		Sn	20 31 43.7	-5.4
BBB	**Bella Bella**	**3.45**	**10**	Pn		Pn	20 31 06.3	-1.8
BBB				Sn		Sn	20 31 43.7	-5.4
SHB	**Sechelt**	**3.51**	**75**	Pn		Pn	20 31 07.9	-1.2
SHB	**Sechelt**	**3.51**	**75**	Pn		Pn	20 31 07.9	-1.2

ISCJB **16** *20:41:48.9±0.3, 37°.46N±0°.04×71°.92E±0°.06, h100km, mb3.6/7, Error ellipse: s-maj=7.4km s-min=3.7km az=142.0*
IDC **16** *20:41:48.6±3.4, 37°.23N×72°.08E, h89km±26km, mb3.4/7, mb1 3.5/13, mb1mx3.3/44, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.2/33, Error ellipse: s-maj=32.4km s-min=21.7km az=158.0*
NNC **16** *20:41:52.1±3.9, 37°.97N×71°.50E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=35.3km s-min=18.3km az=146.0*
ISC 16 20:41:50.2±0.6, **37°.51N**±0°.05×**71°.93E**±0°.06, **h100**km, **n38**, σ2**32**/48, **mb3.6/7, 6C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.48**	**20**	⇑P		**Pn**	**20 43 12.2**	**+2.6**
	2.4nm,0.4s							
AAK				⇑S		**Sn**	**20 44 10.6**	**-0.7**
	8.8nm,0.5s							
AAK	**Ala-Archa**	**5.48**	**20**	P		**Pn**	**20 43 12.4**	**+2.8**
	1.3nm,0.3s,baz=160,slow=5.3,SNR=19							
AAK				S		**Sn**	**20 44 07.5**	**-3.9**
	1.1nm,0.3s,baz=122,slow=19,SNR=13							
KK31	**Karatay Array**	**5.69**	**349**	⇓P		**Pn**	**20 43 13.0**	**+0.9**
	8.5nm,0.3s,baz=165,slow=11,SNR=178							
KK31				⇑S		**Sn**	**20 44 14.1**	**-2.0**
	7.9nm,0.4s,baz=175,slow=24,SNR=11							
DHRM	**DHARAMSHALA**	**6.36**	**144**	*e*P		**Pn**	**20 43 25.8**	**+4.3**
DHRM				*e*S		**Sn**	**20 44 33.4**	**+0.5**
DHRM				IAML			20 44 37.9	
	comp=N,230nm,0.1s							
DHRM				IAML			20 44 40.6	
	comp=E,240nm,0.6s							
SMLA	**Simla**	**7.70**	**144**	*e*P		**Pn**	**20 43 42.8**	**+3.3**
SMLA				*e*S		**Sn**	**20 45 02.8**	**-2.4**
SMLA				IAML			20 45 05.1	
	comp=N,95nm,0.3s							
SMLA				IAML			20 45 06.8	
	comp=E,111nm,0.2s							
DDI	**Dehra Dun**	**8.79**	**143**	*e*S		**Sn**	**20 45 27.9**	**-3.9**
DDI				IAML			20 45 36.6	
	comp=E,98nm,0.2s							
JOSI	**Joshimath**	**9.39**	**135**	*e*P		**Pn**	**20 44 05.2**	**+2.5**
JOSI				*e*S		**Sn**	**20 45 41.7**	**-4.9**
JOSI				IAML			20 45 50.3	
	comp=N,63nm,0.2s							
JOSI				IAML			20 45 50.5	
	comp=E,63nm,0.4s							
KHET	**Khetri**	**9.96**	**160**	*e*S		**Sn**	**20 45 56.8**	**-3.4**
KHET				IAML			20 46 03.5	
	comp=N,18nm,0.1s							
KHET				IAML			20 46 03.5	
	comp=E,13nm,0.0s							
KUDL	**Kundal**	**10.10**	**156**	*e*P		**Pn**	**20 44 14.3**	**+2.1**
KUDL				*e*S		**Sn**	**20 46 00.5**	**-2.9**
KUDL				IAML			20 46 05.9	
	comp=N,7.9nm,0.5s							
GEYT	**Alibeck**	**10.95**	**276**	P		**Pn**	**20 44 24.4**	**+0.6**
	comp=N,1.3nm,0.3s,baz=98,slow=11,SNR=9.9							
GEYT				S		**Sn**	**20 46 20.8**	**-3.4**
	comp=N,0.7nm,0.3s,baz=117,slow=18,SNR=4

31nm,0.7s
ASAR Alice Springs 42.76 268 P **P** **21 13 28.4 -1.8**
4.6nm,0.3s,baz=105,slow=7.4,SNR=106
ASAR PcP **PP** **21 15 15.0 +2.5**
0.1nm,0.3s,baz=116,slow=4.2,SNR=3.0
WRAB Tennant Creek 43.80 273 *eP* **P** **21 13 36.8 -1.8**
5.3nm,0.5s
WRA Warramunga Arr 43.80 273 P **P** **21 13 37.0 -1.7**
12nm,0.4s,baz=112,slow=7.9,SNR=289
QSPA South Pole Qui 59.05 180 *eP* **P** **21 15 29.2 -2.3**
3.8nm,0.8s
SNAA Sanae 77.50 179 P **P** **21 17 28.2 +2.1**
VNA3 Neumayer Olymp 77.67 176 P **P** **21 17 29.9 +2.9**
VNA2 Neumayer--Watz 78.10 177 P **P** **21 17 32.3 +2.9**
baz=179,slow=4.3
VNA1 Neumayer--Stat 78.33 177 P **P** **21 17 33.5 +2.9**
MKAR Makanchi Array 117.95 310 PKP **PKiKP** **21 24 15.6 -0.5**
0.1nm,0.4s,baz=118,slow=1.4,SNR=6.3
ARCES ARCESS Array B 139.17 347 PKhKP PKPpre 21 24 49.7
6.8nm,1.0s,baz=72,slow=2.9,SNR=3.2
FINES FINESS Array B 145.65 339 PKPbc **PKPab** **21 25 08.9 +0.6**
3.8nm,0.7s,baz=56,slow=4.2,SNR=28
NB2 NORSAR Subarra149.35 351 PKP **PKiKP** **21 25 19.2 +0.2**
comp=Z,0.4nm,0.5s,baz=14,slow=2.6
NOA NORSAR Array B149.35 351 PKPbc **PKiKP** **21 25 19.2 +0.2**
comp=Z,0.3nm,0.6s,baz=16,slow=4.1,SNR=4.8
BRTR Keskin Array B 152.62 297 PKPbc **PKiKP** **21 25 26.2 -0.5**
comp=Z,0.3nm,0.5s,baz=125,slow=4.4,SNR=3.8
TORD Torodi Ar. Bea 162.17 180 PKPab **PKPab** **21 26 16.8 -2.2**
comp=Z,1.1nm,1.0s,baz=187,slow=6.0,SNR=4.6

TRN 16 21:16:59.3, 9.86N×61.37W, h64km, MD3.9, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUAY	**Buenos Aires**	**0.40**	**309**	*eP*	Pn	21 17 11.9	+1.2
BUAY				*eS*	Sn	21 17 19.1	+0.1
TPP	**Pointe-a-Pierr**	**0.46**	**350**	*eP*	Pn	21 17 11.3	0.0
TPP				*eS*	Sn	21 17 20.9	+0.8
TBH	**Brigand Hill**	**0.69**	**26**	*eP*	Pn	21 17 13.6	-0.2
TBH				*eS*	Sn	21 17 23.9	-0.5
TRN	**Trinidad (W)**	**0.79**	**358**	*eP*	Pn	21 17 14.8	-0.1
TRN	**Trinidad (W)**	**0.79**	**358**	*e*	Pn	21 17 24.5	+10
TRN				*eS*	Sn	21 17 26.9	+0.5
TPR	**Prospect**	**1.44**	**24**	*eP*	Pn	21 17 23.2	-0.3
TPR	**Prospect**	**1.44**	**24**	*e*	Pn	21 17 34.9	+11
TPR				*eS*	Sn	21 17 41.3	-0.3
TOSP	**Speyside**	**1.65**	**30**	*eP*	Pn	21 17 25.9	-0.2
TOSP	**Speyside**	**1.65**	**30**	*e*	Pn	21 17 36.7	+10
TOSP				*eS*	Sn	21 17 46.2	-0.3
GRGR	**Grenville**	**2.28**	**353**	*eP*	Pn	21 17 34.5	-0.1
GRGR				*eS*	Sn	21 18 00.6	-1.1
GRHS	**Sauteurs**	**2.37**	**354**	*eP*	Pn	21 17 35.7	-0.2
GRHS	**Sauteurs**	**2.37**	**354**	*e*	Pn	21 17 49.1	+13
GRHS				*eS*	Sn	21 18 02.3	-1.5
GRSS	**Sisters**	**2.44**	**354**	*eP*	Pn	21 17 37.5	+0.6
GRSS	**Sisters**	**2.44**	**354**	*e*	Pn	21 17 51.2	+14
GRSS				*eS*	Sn	21 18 04.2	-1.3
SVB	**Belmont**	**3.40**	**2**	*eP*	Pn	21 17 50.2	+0.3
SVB				*eS*	Sn	21 18 28.1	-0.9
SVCV	**St. Vincent, C**	**3.40**	**4**	*eP*	Pn	21 17 50.8	+0.8
SVCV				*eS*	Sn	21 18 28.4	-0.7
SVV	**Soufriere Volc**	**3.44**	**3**	*eP*	Pn	21 17 51.5	+1.0
SVV				*eS*	Sn	21 18 29.0	-1.2
SSV	**Crater Summit**	**3.45**	**3**	*eP*	Pn	21 17 51.5	+0.7
SSV				*eS*	Sn	21 18 30.1	-0.4
BBGH	**Gun Hill**	**3.72**	**28**	*eS*	Sn	21 18 36.1	-0.8
BBSP	**Saint Philip**	**3.73**	**30**	*eS*	Sn	21 18 36.6	-0.7
MCLT	**Moule a Chique**	**3.85**	**6**	*eP*	Pn	21 17 56.3	+0.2
SLB	**Belfond**	**3.96**	**5**	*eP*	Pn	21 17 58.1	+0.4
SLB				*eS*	Sn	21 18 42.3	-0.6

IDC 16 21:32:20.4±1.7, 11.21S×166.43E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/40, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=51.9km s-min=28.8km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.80**	**180**	Pn	Pn	21 34 57.7	+1.2
	0.1nm,0.3s,baz=300,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**32.06**	**250**	P	P	21 38 49.0	-0.2
	0.7nm,0.4s,baz=84,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**33.32**	**244**	P	P	21 38 59.0	-1.4
	0.5nm,0.6s,baz=69,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**39.99**	**255**	P	P	21 39 58.2	+1.1
	1.5nm,0.4s,baz=90,slow=6.1,SNR=10						
ILAR	**Eielson Array**	**83.46**	**18**	P	P	21 44 49.4	-0.1
	0.4nm,0.6s,baz=238,slow=5.9,SNR=8.9						

*CNRM **16** 21:32:54.9, 36.91N×3.54W, h10km, ml2.5*
*SFS **16** 21:32:55.0, 37.05N×3.65W, ML2.2, PADUL (ARGELIA)*
*MDD **16** 21:32:55.6±0.1, 37.05N×3.65W, h0km, mbLg2.4/25, Error ellipse: s-maj=1.8km s-min=1.4km az=109.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
*INMG **16** 21:32:55.8±1.3, 37.06N×3.65W, h0km, ML2.1, Error ellipse: s-maj=1.6km s-min=1.5km az=156.0*
*ISCJB **16** 21:32:55.0±0.5, 37.00N±0.03×3.64W±0.03, h21km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=171.0*
*IGIL **16** 21:32:56.0, 37.05N×3.66W, h2km*
ISC 16 21:32:54.5±0.9, 37.02N±0.02×3.59W±0.02, h17km±7km, n58, σ1§49/99, 4C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELGU	**Los Guajares,**	**0.16**	**190**	⇑Pg	**Pg**	**21 32 59.1**	**+0.3**
	94nm,0.1s,SNR=18						
ELGU				Lg	Lg	21 33 01.9	
	1µm,0.1s,SNR=7.9						
EQUE	**Quentar**	**0.22**	**34**	⇑Pg	**Pg**	**21 32 59.5**	**-0.2**
	27nm,0.1s,SNR=18						
EQUE				Lg	Lg	21 33 03.3	
	653nm,0.1s,SNR=7.9						
EGOR	**Sierra Gorda,**	**0.42**	**282**	⇑Pg	**Pg**	**21 33 01.9**	**-1.3**
	8.9nm,0.1s,SNR=18						
EGOR				Lg	Lg	21 33 07.6	
	121nm,0.1s,SNR=7.9						
EBER	**Berja**	**0.58**	**102**	⇑Pg	**Pb**	**21 33 07.4**	**+1.1**
	14nm,0.2s,SNR=18						
EBER				Lg	Lg	21 33 15.5	
	122nm,0.2s,SNR=22						
GORA	**Gorafe**	**0.63**	**44**	Pg	**Pb**	**21 33 07.6**	**+0.4**
	13nm,0.2s,SNR=7.9						
GORA				Lg	Lg	21 33 16.6	
	108nm,0.2s,SNR=7.9						
EMAL	**Malaga-Limoner**	**0.72**	**249**	P	**Pg**	**21 33 07.2**	**-1.4**
EMAL				S	**Sg**	**21 33 17.6**	**-0.6**
EMAL	**Malaga-Limoner**	**0.72**	**249**	*i* P	**Pg**	**21 33 07.2**	**-1.4**
EMAL				*eS*	**Sg**	**21 33 17.6**	**-0.6**
EQES	**Quesada**	**0.88**	**28**	Pg	**Pb**	**21 33 12.1**	**+0.6**
	2.1nm,0.1s,SNR=70						
EQES				Lg	Lg	21 33 23.6	
	44nm,0.2s,SNR=9.8						
EMIJ	**Mijas**	**1.05**	**245**	Pg	**Pg**	**21 33 13.1**	**-1.9**
	1.6nm,0.1s,SNR=26						
EMIJ				Lg	Lg	21 33 24.1	
	53nm,0.4s,SNR=5.0						
ENIJ	**Nijar**	**1.11**	**92**	Pg	**Pn**	**21 33 16.5**	**+1.1**
	8.8nm,0.2s,SNR=7.9						
ENIJ				Lg	Lg	21 33 32.0	
	48nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.38**	**326**	Pg	**Pb**	**21 33 20.3**	**+0.2**
	6.7nm,0.2s,SNR=81						
EADA				Lg	Lg	21 33 37.8	
	30nm,0.2s,SNR=11						
HORN	**Hornachuelos**	**1.56**	**302**	P	**Pb**	**21 33 22.9**	**-0.1**
HORN				S	**Sn**	**21 33 42.4**	**+1.0**
ECAB	**El Cabril**	**1.79**	**306**	Pg	**Pg**	**21 33 27.5**	**-1.5**
	4.3nm,0.4s,SNR=23						
ECAB				Sn	**Sn**	**21 33 47.7**	**+0.5**
	11nm,0.3s,SNR=7.9						
ECAB				Lg	Lg	21 33 51.0	
	19nm,0.4s,SNR=8.4						
ESPR	**Espera**	**1.82**	**266**	Pg	**Pb**	**21 33 28.3**	**+0.8**
	0.3nm,0.1s,SNR=7.9						
ESPR				Sn	**Sn**	**21 33 48.1**	**+0.3**
	8.0nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**2.04**	**66**	Pn	**Pb**	**21 33 31.0**	**-0.2**
	0.1nm,0.2s,SNR=19						
EMUR				Lg	Lg	21 33 59.8	
	11nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.29**	**44**	Pn	**Pb**	**21 33 34.4**	**-1.1**
	0.3nm,0.2s,SNR=14						
ETOB				Sn	**Sn**	**21 34 00.5**	**+1.0**
	2.6nm,0.2s,SNR=7.9						
ETOB				Lg	Lg	21 34 09.1	
	9.1nm,0.3s,SNR=5.9						
EMIN	**Mina Concepcio**	**2.56**	**288**	Pn	**Pn**	**21 33 36.0**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	**Sn**	**21 34 05.8**	**-0.3**
	1.2nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	21 34 14.4	
	2.1nm,0.2s						
PAB	**San Pablo**	**2.59**	**347**	Pn	**Pn**	**21 33 37.8**	**+2.0**
	0.1nm,0.2s,SNR=7.9						
PAB				Pg	**Pg**	**21 33 42.8**	**-1.3**
	0.2nm,0.1s,SNR=7.9						
PAB				Sn	**Sn**	**21 34 06.8**	**-0.1**
	0.6nm,0.1s,SNR=7.9						
PAB				Lg	Lg	21 34 15.0	
	3.2nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.66**	**354**	Pn	**Pn**	**21 33 38.2**	**+1.4**
	2.2nm,0.3s,baz=172,slow=16,SNR=12						
ESDC				Pg	**Pg**	**21 33 43.9**	**-1.6**
	1.2nm,0.3s,baz=176,slow=16,SNR=9.3						
ESDC				Lg	Lg	21 34 19.7	
	3.9nm,0.5s,baz=173,slow=26,SNR=11						
JBK	**JBK**	**2.81**	**162**	P	**Pn**	**21 33 39.1**	**+0.2**
JBK				S	**Sn**	**21 34 11.6**	**-0.9**
EBAD	**Badajoz**	**3.21**	**304**	Pn	**Pn**	**21 33 45.3**	**+1.0**
	0.1nm,0.1s,SNR=7.9						
EBAD				Pg	**Pb**	**21 33 53.1**	**+1.9**
	0.4nm,0.1s,SNR=4.0						
EBAD				Sn	**Sn**	**21 34 21.7**	**-0.5**
	2.3nm,0.1s,SNR=4.7						
EBAD				Lg	Lg	21 34 36.2	
	6.9nm,0.2s,SNR=7.9						
ECHE	**Chera**	**3.29**	**38**	Pn	**Pn**	**21 33 47.8**	**+2.4**
	0.1nm,0.2s,SNR=7.9						
ECHE				Pg	**Pg**	**21 33 56.9**	**-0.6**
	0.3nm,0.2s,SNR=7.9						
ECHE				Sn	**Sn**	**21 34 25.1**	**+0.9**
	0.3nm,0.2s,SNR=7.9						
ECHE				Lg	Lg	21 34 40.8	
	7.1nm,0.5s,SNR=7.9						
UCM	**Universidad Co**	**3.29**	**5**	*eP*	**Pg**	**21 33 56.4**	**-1.2**
UCM				*eS*	**Sg**	**21 34 38.9**	**-1.3**
PVAQ	**Vaqueiros**	**3.31**	**278**	*eP*	**Pn**	**21 33 47.1**	**+1.4**
PVAQ				*eSn*	**Sn**	**21 34 25.9**	**+1.2**
PVAQ	**Vaqueiros**	**3.31**	**278**	Pn	**Pn**	**21 33 47.1**	**+1.4**
PVAQ				Sn	**Sn**	**21 34 25.9**	**+1.2**
PBDV	**Barranco-do-Ve**	**3.48**	**275**	*ePn*	**Pn**	**21 33 50.1**	**+2.2**
PBDV				*eSn*	**Sn**	**21 34 30.1**	**+1.4**
PBDV	**Barranco-do-Ve**	**3.48**	**275**	Pn	**Pn**	**21 33 50.1**	**+2.2**
PBDV				Sn	**Sn**	**21 34 30.1**	**+1.4**
PCVE	**Castro Verde**	**3.60**	**281**	*eSg*	**Sg**	**21 34 48.7**	**-1.3**
PCVE				A	A	21 34 53.3	
	2.9nm,0.8s						
PCVE	**Castro Verde**	**3.60**	**281**	Lg	Lg	21 34 48.7	
	2.9nm,0.8s						
GUD	**Guadarrama**	**3.64**	**353**	Pg	**Pg**	**21 34 02.5**	**-1.8**
	0.0nm,0.1s,SNR=7.9						
GUD				Lg	Lg	21 34 47.2	
	5.3nm,0.4s,SNR=6.5						
PESTR	**Estremoz**	**3.66**	**301**	*ePn*	**Pn**	**21 33 52.6**	**+2.2**
PESTR				*eSn*	**Sn**	**21 34 33.9**	**+0.7**
PESTR				*eSg*	**Sg**	**21 34 53.2**	**+1.2**
PESTR				A	A	21 35 03.0	
	3.1nm,0.4s						
PESTR	**Estremoz**	**3.66**	**301**	P	**Pn**	**21 33 54.5**	**+4.1**
PESTR				S	**Sb**	**21 34 41.2**	**-1.7**
MESJ	**Messejana**	**3.77**	**284**	*eP*	**Pn**	**21 33 52.6**	**+0.6**
MESJ	**Messejana**	**3.77**	**284**	*ePn*	**Pn**	**21 33 53.6**	**+1.6**
MESJ				*eSn*	**Sn**	**21 34 37.2**	**+1.2**
MESJ				A	A	21 34 59.1	
	2.8nm,0.6s						
MESJ	**Messejana**	**3.77**	**284**	Pn	**Pn**	**21 33 53.6**	**+1.6**
MESJ				Sn	**Sn**	**21 34 37.2**	**+1.2**
	2.8nm,0.6s						
EVO	**Evora**	**3.81**	**295**	*ePn*	**Pn**	**21 33 56.5**	**+4.0**
EVO				*eSn*	**Sn**	**21 34 38.6**	**+1.6**
PMRV	**Marv??o**	**3.84**	**310**	*ePn*	**Pn**	**21 33 55.5**	**+2.6**
PMRV				*eSn*	**Sn**	**21 34 37.4**	**-0.2**
PMRV				*eSg*	**Sg**	**21 34 55.6**	**-2.1**
PMRV				A	A	21 35 04.4	
	3.6nm,0.4s						
PMRV	**Marv??o**	**3.84**	**310**	Pn	**Pn**	**21 33 55.5**	**+2.6**
PMRV				Sn	**Sn**	**21 34 37.4**	**-0.2**
PMRV				Lg	Lg	21 34 55.6	
	3.6nm,0.4s						
ETOR	**Torete**	**3.97**	**17**	Pn	**Pn**	**21 33 56.8**	**+1.9**
	0.5nm,0.2s,SNR=5.8						
ETOR				Pg	**Pg**	**21 34 08.2**	**-2.4**
	0.3nm,0.2s,SNR=5.6						
ETOR				Lg	Lg	21 35 00.6	
	2.6nm,0.3s						
PNCL	**Nicolau / Gran**	**4.07**	**287**	*ePn*	**Pn**	**21 33 57.4**	**+1.4**
PNCL				*eSn*	**Sn**	**21 34 44.6**	**+1.3**
PNCL				A	A	21 35 17.9	
	2.4nm,0.7s						
PNCL	**Nicolau / Gran**	**4.07**	**287**	Pn	**Pn**	**21 33 57.4**	**+1.4**
PTEO	**Sao Teotonio**	**4.13**	**279**	*eSn*	**Sn**	**21 34 45.3**	**+0.6**
PTEO	**Sao Teotonio**	**4.13**	**279**	Sn	**Sn**	**21 34 45.3**	**+0.6**
PCBR	**Castelo Branco**	**4.15**	**314**	*ePn*	**Pn**	**21 33 59.5**	**+2.4**
PCBR				*eSn*	**Sn**	**21 34 45.9**	**+0.6**
PCBR				A	A	21 35 23.8	
	2.4nm,0.7s						
PCBR	**Castelo Branco**	**4.15**	**314**	Pn	**Pn**	**21 33 59.5**	**+2.4**
PCBR				Sn	**Sn**	**21 34 45.9**	**+0.6**
	1.2nm,0.7s						
PFVI	**Vila Bisbo**	**4.19**	**273**	*ePn*	**Pn**	**21 33 59.5**	**+1.8**
PFVI				*eSn*	**Sn**	**21 34 46.9**	**+0.7**
PFVI	**Vila Bisbo**	**4.19**	**273**	Pn	**Pn**	**21 33 58.8**	**+1.1**
	0.3nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**21 34 44.9**	**-1.3**
	1.0nm,0.2s,SNR=4.0						
PMTG	**Montargil**	**4.19**	**301**	*ePn*	**Pn**	**21 33 59.2**	**+1.5**
PMTG				*eSn*	**Sn**	**21 34 45.6**	**-0.6**
PMTG				A	A	21 35 21.7	
	3.4nm,0.4s						
PMTG	**Montargil**	**4.19**	**301**	Pn	**Pn**	**21 33 59.2**	**+1.5**
PMTG				Sn	**Sn**	**21 34 45.6**	**-0.6**
	3.4nm,0.4s						
MD31	**MD31**	**4.26**	**193**	P	**Pn**	**21 33 59.6**	**+0.9**
MD31				S	**Sn**	**21 34 47.8**	**-0.3**
PTOM	**Tomar**	**4.59**	**306**	*eSn*	**Sn**	**21 34 56.3**	**+0.2**
PTOM	**Tomar**	**4.59**	**306**	Sn	**Sn**	**21 34 56.3**	**+0.2**
MVO	**Moncorvo**	**4.92**	**328**	*ePn*	**Pn**	**21 34 09.9**	**+2.1**
MVO				*eSn*	**Sn**	**21 35 04.0**	**-0.5**
MVO				A	A	21 35 44.7	
	3.1nm,0.8s						
MVO	**Moncorvo**	**4.92**	**328**	Pn	**Pn**	**21 34 09.9**	**+2.1**
	1.8nm,0.1s,SNR=5.9						
MVO				Sn	**Sn**	**21 35 03.5**	**-1.0**
	0.4nm,0.2s,SNR=7.9						
MVO				Lg	Lg	21 35 30.6	
	2.6nm,0.3s						
PVIS	**Viseu**	**4.99**	**319**	*ePn*	**Pn**	**21 34 10.3**	**+1.6**
PVIS				*eSn*	**Sn**	**21 35 05.2**	**-0.8**
PVIS	**Viseu**	**4.99**	**319**	Pn	**Pn**	**21 34 10.3**	**+1.6**
PVIS				Sn	**Sn**	**21 35 05.2**	**-0.8**
POLO	**Lamas de Olo**	**5.43**	**324**	*ePn*	**Pn**	**21 34 16.9**	**+2.0**
POLO	**Lamas de Olo**	**5.43**	**324**	Pn	**Pn**	**21 34 16.9**	**+2.0**

IDC 16 21:40:32.9±2.9, 6.88S×129.43E, h118km±39km, mb2.9/1, mb1 3.2/5, mb1mx3.0/32, mbtmp3.5/5, Error ellipse: s-maj=63.9km s-min=21.4km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.25**	**17**	P	Pn	21 42 03.3	+0.6
	1.3nm,0.3s,baz=260,slow=23,SNR=25						
SIJI				S	Sn	21 43 05.9	-6.9
	0.9nm,0.3s,baz=197,slow=19,SNR=3.4						
FITZ	**Fitzroy Crossi**	**11.74**	**198**	P	Pn	21 43 17.2	+0.4
	0.2nm,0.3s,baz=24,slow=10,SNR=13						
FITZ				S	Sn	21 45 20.6	-5.4
	0.1nm,0.3s,baz=66,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**13.83**	**160**	P	Pn	21 43 42.3	-1.7
	0.2nm,0.3s,baz=340,slow=13,SNR=11						
WRA				S	Sn	21 46 05.4	-11
	0.3nm,0.3s,baz=341,slow=21,SNR=7.7						
ASAR	**Alice Springs**	**17.23**	**166**	P	Pn	21 44 27.5	+1.1
	0.2nm,0.3s,baz=344,slow=11,SNR=13						
ASAR				S	Sn	21 47 27.0	-12
	0.1nm,0.3s,baz=336,slow=40,SNR=2.7						
MKAR	**Makanchi Array**	**67.82**	**327**	P	P	21 51 18.0	-0.3
	0.1nm,0.4s,baz=114,slow=7.2,SNR=4.5						

*ISCJB **16** 21:58:52.0±0.6, 36.62N±0.04×140.99E±0.06, h90km±4km, mb3.3/3, Error ellipse: s-maj=8.3km s-min=5.7km az=22.6*
*JMA **16** 21:58:53.7±0.1, 36.67N×140.85E, h87km±1km, M3.5*
JMA Felt I J1.
*IDC **16** 21:58:55.0±1.9, 36.45N×140.89E, h102km±19km, mb3.0/3, mb1 3.3/6, mb1mx3.0/43, mbtmp3.5/6, Error ellipse: s-maj=21.2km s-min=12.0km az=76.0*
ISC 16 21:58:53.1±1.0, 36.64N±0.04×140.97E±0.06, h88km±6km, n21, σ0§74/36, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.32**	**266**	P	**Pn**	**21 59 06.8**	**+0.4**
JHO				S	**Sn**	**21 59 16.0**	**-0.3**
JHYU	**Hitachinakayam**	**0.42**	**226**	P	**Pn**	**21 59 07.6**	**+0.6**
JHYU				S	**Sn**	**21 59 17.6**	**+0.2**
ONAJ	**Iwakimizuishiy**	**0.49**	**344**	P	**Pn**	**21 59 07.6**	**0.0**
ONAJ				S	**Sn**	**21 59 17.6**	**-0.7**
JFFD	**Fukushimafurud**	**0.56**	**324**	P	**Pn**	**21 59 08.3**	**+0.1**
JFFD				S	**Sn**	**21 59 18.8**	**-0.5**
JFK	**Kawauchi**	**0.73**	**354**	P	**Pn**	**21 59 09.8**	**0.0**
JFK				S	**Sn**	**21 59 21.4**	**-0.9**
JFT	**Otama**	**1.02**	**330**	P	**Pn**	**21 59 12.8**	**-0.1**
JFT				S	**Sn**	**21 59 27.0**	**-0.7**
JMM	**Marumori**	**1.24**	**354**	P	**Pn**	**21 59 15.3**	**-0.2**
JMM				S	**Sn**	**21 59 31.3**	**-1.0**
JAG	**Ashikaga**	**1.24**	**261**	P	**Pn**	**21 59 15.3**	**-0.2**
JAG				S	**Sn**	**21 59 30.9**	**-1.4**
JFY	**Yanaizu**	**1.27**	**308**	P	**Pn**	**21 59 15.6**	**-0.3**
JFY				S	**Sn**	**21 59 32.1**	**-1.0**
JKT	**Katashina**	**1.39**	**276**	P	**Pn**	**21 59 17.4**	**0.0**
JKT				S	**Sn**	**21 59 35.3**	**-0.5**
JHK	**Hiroka**	**1.68**	**292**	P	**Pn**	**21 59 20.8**	**-0.2**
JHK				S	**Sn**	**21 59 41.2**	**-1.0**
JYS	**Shirataka**	**1.74**	**336**	P	**Pn**	**21 59 21.6**	**-0.2**
JYS				S	**Sn**	**21 59 43.1**	**-0.5**
JNS	**Sasagawa**	**1.77**	**312**	P	**Pn**	**21 59 21.4**	**-0.8**
JRY	**Ryogami san**	**1.78**	**250**	P	**Pn**	**21 59 22.3**	**-0.1**
JRY				S	**Sn**	**21 59 43.5**	**-1.1**
MJAR	**Matsushiro Arr**	**2.22**	**268**	P	**Pn**	**21 59 28.1**	**-0.1**
	1.5nm,0.3s,baz=90,slow=13,SNR=125						
MJAR				S	**Sn**	**21 59 56.3**	**+1.3**
	1.5nm,0.3s,baz=97,slow=26,SNR=5.9						
MAT	**Matsushiro**	**2.23**	**268**	P	**Pn**	**21 59 28.5**	**+0.3**
MAT				*eS*	**Sn**	**21 59 55.6**	**+0.5**
JHJ	**Hachijo jima 2**	**3.64**	**196**	P	**Pn**	**21 59 46.7**	**-0.6**
	5.6nm,0.3s,baz=78,slow=19,SNR=2.1						
JHJ				S	**Sn**	**22 00 27.4**	**-1.8**
	8.0nm,0.3s,baz=73,slow=19,SNR=4.8						
ASAJ	**Asahikawa**	**7.58**	**9**	P	Pn	22 00 47.1	+6.4
	0.5nm,0.3s,baz=166,slow=18,SNR=10						
MKAR	**Makanchi Array**	**44.03**	**302**	P	**P**	**22 06 52.8**	**+0.8**
	0.1nm,0.5s,baz=86,slow=8.3,SNR=2.9						
ILAR	**Eielson Array**	**50.02**	**32**	P	**P**	**22 07 39.2**	**+0.9**
	0.5nm,1.0s,baz=271,slow=6.2,SNR=3.8						
WRA	**Warramunga Arr**	**56.62**	**187**	P	**P**	**22 08 26.5**	**-0.5**
	0.5nm,0.5s,baz=3.5,slow=7.1,SNR=11						

*SJA **16** 22:12:24.0±0.8, 33.22S×69.14W, h10km±7km, ML2.7, MW3.1*
*GUC **16** 22:12:26.9±0.3, 33.15S×69.17W, h33km±14km, ML2.7*
ISC 16 22:12:25.4±1.4, 33.18S±0.05×69.15W±0.05, h14km±10km, n14, σ1§09/25, 2C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	**Farellones**	**0.97**	**261**	⇑*i* P	**Pn**	**22 12 44.6**	**-0.3**
FCH				*i* S	**Sn**	**22 12 57.8**	**-0.8**
FCH				IAML		22 12 59.0	
	comp=N,409nm,0.2s						
AUSP	**Uspallata**	**0.97**	**348**	*e*P	**Pn**	**22 12 44.9**	**+0.1**
AUSP				*e*S	**Sn**	**22 12 58.6**	**0.0**
LMEL	**Las Melosas**	**1.11**	**232**	⇑*i* P	**Pg**	**22 12 46.9**	**+0.2**
LMEL				*i* S	**Sn**	**22 13 02.2**	**+0.4**
LMEL				IAML		22 13 03.9	
	comp=N,408nm,0.2s						
CLCH	**Cerro Calan**	**1.18**	**259**	*e*P	**Pg**	**22 12 48.0**	**-0.2**
CLCH				*i* S	**Sg**	**22 13 03.8**	**+0.2**
CLCH				IAML		22 13 09.8	
	comp=N,288nm,0.5s						
PEL	**Peldehue**	**1.29**	**271**	*e*P	**Pb**	**22 12 49.5**	**0.0**
PEL				*i* S	**Sg**	**22 13 07.0**	**0.0**
PEL				IAML		22 13 07.8	
	comp=N,282nm,0.2s						
RTLS	**Leoncito**	**1.38**	**355**	*e*P	**Pg**	**22 12 51.6**	**-0.3**
RTLS				*e*S	**Sg**	**22 13 12.1**	**+2.2**
RTLS				IAML		22 13 14.2	
	comp=Z,123nm,0.4s						
RTCV	**Cerro Valdivia**	**1.41**	**22**	*e*P	**Pb**	**22 12 51.4**	**0.0**
RTCV				*e*S	**Sg**	**22 13 11.4**	**+0.7**
ROCH	**El Roble**	**1.58**	**277**	*e*P	**Pb**	**22 12 54.6**	**+0.1**
ROCH				*e*S	**Sg**	**22 13 15.7**	**-0.5**
ROCH				IAML		22 13 17.8	
	comp=N,169nm,0.5s			

BCA					SG		Sb	23 06 38.6	+0.4
DBOC	**Borcka**	**1.16**	**154**	*i*	P		Pg	23 06 25.4	0.0
DBOC				*i*	S		Sn	23 06 41.9	-0.7
DBOC					IAML_P				
	comp=Z,461nm,0.1s								
ARXR	**Arkhyz**	**1.20**	**10**	*i*	Pg		Pg	23 06 25.3	-0.9
ARXR				*i*	Sg		Sg	23 06 40.0	-1.7
CHOM	**Cayeli-Rize**	**1.30**	**188**		PN		Pn	23 06 27.2	-1.0
CHOM					SN		Sn	23 06 45.3	-0.8
RPOR	**Krasnaya Polya**	**1.42**	**338**	*e*	Pg		Pn	23 06 30.4	+0.6
RPOR				*e*	Sg		Sb	23 06 48.9	+0.1
DBAD	**Bademkaya**	**1.47**	**159**	*i*	P		Pn	23 06 30.9	+0.3
DBAD				*i*	S		Sn	23 06 49.4	-0.9
DBAD					IAML_P				
	comp=Z,487nm,0.1s								
DAGI	**Agillar**	**1.48**	**152**	*i*	P		Pn	23 06 30.6	-0.2
DAGI				*i*	S		Sn	23 06 49.6	-1.1
NEY	**Neytrino**	**1.54**	**55**	*i*	Pg		Pn	23 06 31.5	-0.3
NEY				*e*	Sg		Sn	23 06 50.1	-2.2
GUZR	**Guzeripl'**	**1.73**	**339**	*i*	Pg		Pn	23 06 35.1	+0.9
GUZR				*i*	Sg		Sb	23 06 58.4	+0.6
SHA1	**Shidzhatmaz**	**1.82**	**42**	*i*	Pg		Pn	23 06 37.3	+1.6
SHA1				*i*	Sg		Sn	23 06 59.3	0.0
LZRR	**Lazarevskoye**	**1.94**	**323**	*e*	Pg		Pb	23 06 40.2	+1.0
LZRR				*i*	Sg		Sb	23 07 04.3	+0.3
KIV	**Kislovodsk**	**2.00**	**38**		PN		Pn	23 06 39.2	+1.2

IDC ***16*** *23:09:01.0±2.6, 35°.89N×71°.43E, h0km, mb3.8/7, mb1 4.0/12, mb1mx3.7/43, mbtmp3.9/12, ML3.9/4, Error ellipse: s-maj=51.7km s-min=21.0km az=144.0*

NEIC ***16*** *23:09:09.2±3.2, 36°.10N×71°.26E, h52km±18km, mb4.5/1, Error ellipse: s-maj=43.1km s-min=14.9km az=158.0*

NNC ***16*** *23:09:14.8±4.8, 36°.89N×70°.56E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=44.4km s-min=21.0km az=149.0*

ISC 16 23:09:15.1±0.7, 36°.39N±0°.06×71°.52E±0°.08, h114km, n48, σ2s26/53, mb4.0/7, 6C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
DHRM	**DHARAMSHALA**	**5.72**	**135**	*eP*		**Pn**	**23 10 40.4**	**+2.5**
DHRM				*eS*		**Sn**	**23 11 42.7**	**+0.4**
DHRM					IAML		23 11 48.0	
	comp=N,461nm,0.2s							
DHRM					IAML		23 11 48.2	
	comp=E,493nm,0.9s							
AML	**Almayashu**	**5.97**	**16**	P		**Pn**	**23 10 41.9**	**+0.5**
	SNR=65							
UCH	**Uchtor**	**6.27**	**21**	P		**Pn**	**23 10 46.3**	**+0.9**
	SNR=14							
KZA	**Kyzart**	**6.37**	**26**	P		**Pn**	**23 10 47.8**	**+1.0**
	SNR=12							
EKS2	**Erkin-Say**	**6.50**	**15**	P		**Pn**	**23 10 49.1**	**+0.8**
	SNR=7.6							
AAK	**Ala-Archa**	**6.64**	**19**	P		**Pn**	**23 10 51.2**	**+0.9**
	SNR=43							
AAK	**Ala-Archa**	**6.64**	**19**	*e*Pn		**Pn**	**23 10 51.0**	**+0.7**
	comp=E,1.9nm,0.4s							
AAK					Sn	**Sn**	**23 12 01.0**	**-3.6**
AAK	**Ala-Archa**	**6.64**	**19**	⇓P		**Pn**	**23 10 51.0**	**+0.7**
	comp=E,14nm,0.5s							
AAK				⇑S		**Sn**	**23 12 04.8**	**+0.2**
	comp=E,13nm,1.2s							
AAK	**Ala-Archa**	**6.64**	**19**	Pn		**Pn**	**23 10 50.8**	**+0.5**
	comp=E,5.6nm,0.3s,baz=187,slow=7.6,SNR=152							
AAK					Sn	**Sn**	**23 12 01.0**	**-3.6**
	baz=140,slow=18,SNR=2.7							
KK31	**Karatay Array**	**6.75**	**354**	⇓P		**Pn**	**23 10 49.9**	**-1.6**
	comp=E,15nm,0.7s,baz=179,slow=12,SNR=270							
KK31				⇑S		**Sn**	**23 12 02.8**	**-4.1**
	comp=E,6.4nm,0.5s,baz=184,slow=24							
KBK	**Karagaybulak**	**6.79**	**22**	P		**Pn**	**23 10 53.7**	**+1.5**
	SNR=10.0							
SMLA	**Simla**	**7.04**	**137**	*eP*		**Pn**	**23 10 57.2**	**+1.6**
SMLA				*eS*		**Sn**	**23 12 13.8**	**-0.3**
CHMS	**Chumysh**	**7.05**	**20**	P		**Pn**	**23 10 56.3**	**+0.7**
	SNR=19							
USP	**Ospenovka**	**7.24**	**18**	P		**Pn**	**23 10 59.3**	**+1.2**
	SNR=17							
KKR	**Kurukshetra**	**7.80**	**144**	*eS*		**Sn**	**23 12 31.0**	**-1.5**
KKR					IAML		23 13 42.3	
	comp=Z,516nm,0.3s							
DDI	**Dehra Dun**	**8.15**	**136**	*eS*		**Sn**	**23 12 41.6**	**+0.5**
DDI					IAML		23 12 48.6	
	comp=N,111nm,0.4s							
DDI					IAML		23 12 50.0	
	comp=E,147nm,0.5s							
JOSI	**Joshimath**	**8.88**	**129**	*eP*		**Pn**	**23 11 23.4**	**+2.8**
JOSI				*eS*		**Sn**	**23 12 55.4**	**-3.6**
BHGR	**Bahadurgarh**	**8.94**	**148**	*eS*		**Sn**	**23 12 58.0**	**-2.1**
KHET	**Khetri**	**9.05**	**155**	*eP*		**Pn**	**23 11 22.7**	**-0.1**
KHET				*eS*		**Sn**	**23 12 58.0**	**-5.0**
GEYT	**Alibeck**	**10.81**	**282**	Pn		Pn	23 11 39.4	-7.2
	comp=E,1.6nm,0.3s,baz=100,slow=10,SNR=12							
GEYT					Sn	Sn	23 13 29.1	-16
	comp=E,0.7nm,0.3s,baz=91,slow=11,SNR=3.6							
GYA0B	**ALIBECK ARRAY**	**10.81**	**282**	⇓P		Pn	23 11 39.6	-7.0
GYA0B				⇑S		Sn	23 13 32.1	-13
PYUN	**Piuthan**	**12.74**	**127**	*eP*		**Pn**	**23 12 12.5**	**+0.2**
	comp=E,24nm,0.4s							
DANN	**Dangsing**	**13.08**	**124**	*eP*		**Pn**	**23 12 16.7**	**-0.1**
	comp=E,10nm,0.3s							
MKAR	**Makanchi Array**	**13.13**	**34**	Pn		**Pn**	**23 12 17.1**	**-0.1**
	comp=E,0.1nm,0.3s,baz=224,slow=14,SNR=7.8							
BHJ	**Bhuj**	**13.19**	**188**	*eS*		Sn	23 14 28.7	-15
KOLN	**Koldanda**	**13.36**	**127**	*eP*		**Pn**	**23 12 20.2**	**-0.2**
	comp=E,6.0nm,0.4s							
GKN	**Gorkha**	**13.89**	**123**	*eP*		**Pn**	**23 12 27.4**	**+0.2**
	comp=E,8.9nm,0.3s							
BHPL	**Bhopal**	**14.07**	**157**	*ex*		**Sn**	**23 14 57.4**	**-7.1**
KKN	**Kakani**	**14.46**	**122**	*eP*		**Pn**	**23 12 33.8**	**-0.8**
PKIN	**Phulchoki**	**14.68**	**123**	*eP*		**Pn**	**23 12 36.7**	**-0.6**
	comp=E,5.5nm,0.4s							
PKI	**Pulchoki**	**14.69**	**123**	*eP*		**Pn**	**23 12 36.7**	**-0.9**
	comp=E,4.0nm,0.3s							
GUN	**Gumba**	**14.80**	**121**	*eP*		**Pn**	**23 12 39.0**	**+0.1**
	comp=E,9.1nm,0.4s							
KURBB	**Kurchatov Arra**	**15.09**	**17**	Pn		**Pn**	**23 12 39.3**	**-2.8**
	comp=E,0.0nm,0.3s,baz=210,slow=12,SNR=3.4							
JIRN	**Jiri**	**15.17**	**121**	*eP*		**Pn**	**23 12 43.4**	**-0.2**
	comp=E,18nm,0.3s							
AB31	**Akbulak array**	**15.38**	**330**	⇑P		**Pn**	**23 12 41.6**	**-4.2**
	comp=E,0.5nm,0.2s,baz=135,slow=12,SNR=65							
AB31				⇑S		Sn	23 15 24.0	-12
	comp=E,1.1nm,0.6s,baz=157,slow=23,SNR=2.7							
RAMN	**Ramite**	**15.90**	**122**	*eP*		**Pn**	**23 12 52.3**	**-0.3**
	comp=E,3.9nm,0.2s							
BVAR	**Borovoye Array**	**16.65**	**358**	P		**Pn**	**23 12 58.1**	**-3.3**
	comp=E,0.4nm,0.3s,baz=162,slow=11,SNR=13							
AKTO	**Aktyubinsk**	**17.09**	**329**	⇑P		**P**	**23 13 04.7**	**-2.0**
	comp=E,3.8nm,0.6s							
AKTO				⇓S		Sn	23 16 04.7	-12
	comp=E,4.6nm,1.4s							
AKTO	**Aktyubinsk**	**17.09**	**329**	P		**P**	**23 13 04.3**	**-2.4**
	comp=E,0.8nm,0.3s,baz=133,slow=12,SNR=10							
ZALV	**Zalesovo Beam**	**19.84**	**24**	P		**Pn**	**23 13 38.3**	**-1.1**
	comp=E,2.7nm,0.3s,baz=214,slow=11,SNR=15							
AKASG	**Malin Array Be**	**33.34**	**309**	P		**P**	**23 15 43.3**	**+1.3**
	comp=E,0.9nm,0.5s,baz=78,slow=7.4,SNR=5.0							
FINES	**FINESS Array B**	**37.81**	**326**	P		**P**	**23 16 21.9**	**+2.0**
	comp=E,0.8nm,0.4s,baz=120,slow=9.1,SNR=17							
ARCES	**ARCESS Array B**	**41.41**	**338**	P		**P**	**23 16 53.6**	**+3.9**
	comp=E,1.5nm,0.4s,baz=115,slow=8.7,SNR=20							
NB2	**NORSAR Subarra**	**44.72**	**323**	P		**P**	**23 17 18.2**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.72**	**323**	P		**P**	**23 17 16.7**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=100,slow=7.6,SNR=8.7							
TORD	**Torodi Ar. Bea**	**66.14**	**269**	P		**P**	**23 19 49.8**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=50,slow=4.8,SNR=3.9							
YKA	**Yellowknife Ar**	**81.33**	**3**	P		**P**	**23 21 21.5**	**+3.1**
	comp=Z,0.3nm,0.6s,baz=342,slow=5.3,SNR=4.7							
NLWA	**Neilton Lookou**	**95.46**	**10**	*eP*		**P**	**23 22 29.3**	**+2.5**
	comp=Z,0.5nm,0.3s							

ISCJB ***16*** *23:15:38.2±0.7, 36°.24N±0°.03×29°.21E±0°.03, h32km±6km, Error ellipse: s-maj=5.0km s-min=2.9km az=36.2*

DDA ***16*** *23:15:38.9, 36°.48N×29°.08E, h26km, ML3.3*

ATH ***16*** *23:15:38.3, 36°.51N×29°.11E, h38km±2km, ML2.5/2, Error ellipse: s-maj=3.6km s-min=1.1km az=164.0*

ISK ***16*** *23:15:38.8, 36°.43N×29°.07E, h18km, ML3.1/24*

GII ***16*** *23:15:41.0±0.0, 36°.17N×29°.36E, h17km*

ISC 16 23:15:38.9±0.9, 36°.40N±0°.03×29°.12E±0°.02, h26km±7km, n64, σ1s91/89, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
FETY	**Fethiye**	**0.24**	**353**		PG	**Pb**	**23 15 44.3**	**-0.9**
FETY					SG	**Sb**	**23 15 48.6**	**-0.9**
FETY	**Fethiye**	**0.24**	**353**	*i*	P	**Pb**	**23 15 44.8**	**-0.4**
FETY				*i*	S	**Sb**	**23 15 49.5**	**-0.1**
FETY					IAML_P			
	comp=Z,101μm,0.2s							
AKAS	**Kas**	**0.42**	**113**		PG	**Pb**	**23 15 49.1**	**+1.0**
AKAS	**Kas**	**0.42**	**113**	*i*	P	**Pb**	**23 15 49.0**	**+1.0**
AKAS					IAML_P			
	comp=Z,21μm,0.3s							
KSL	**Kastellorizo**	**0.45**	**124**		P	**Pb**	**23 15 49.7**	**+1.3**
KSL					S	**Sn**	**23 15 58.5**	**+1.6**
KSL					AML	AML	23 15 59.6	
	comp=E,1518μm,0.6s							
KSL					AML	AML	23 16 04.5	
	comp=N,874μm,0.3s							
DALY	**Dalyan (Mula)**	**0.56**	**318**		PG	**Pb**	**23 15 49.2**	**-1.0**
DALY					SG	**Sb**	**23 15 56.9**	**-1.0**
DALY	**Dalyan (Mula)**	**0.56**	**318**	*i*	P	**Pb**	**23 15 49.1**	**-1.1**
DALY				*i*	S	**Sn**	**23 15 57.6**	**-2.1**
DALY					IAML_P			
	comp=Z,4μm,0.1s							
TURN	**Turunc**	**0.63**	**319**		PG	**Pb**	**23 15 53.5**	**+1.3**
TURN	**Turunc**	**0.63**	**319**	*i*	P	**Pn**	**23 15 53.9**	**+1.7**
TURN				*i*	S	**Sn**	**23 16 07.7**	**+6.4**
TURN					IAML_P			
	comp=Z,6μm,0.1s							
ELL	**Elmali**	**0.72**	**61**		PG	**Pb**	**23 15 52.8**	**-0.2**
MRSB	**Marmaris-Mugla**	**0.81**	**293**		PG	**Pb**	**23 15 54.4**	**-0.2**
ARG	**Arkhangelos**	**0.82**	**258**		PG	**Pb**	**23 15 54.8**	**+0.2**
ARG	**Arkhangelos**	**0.82**	**258**		P	**Pn**	**23 15 55.0**	**+0.2**
ARG					S	**Sn**	**23 16 07.1**	**+0.9**
ARG					AML	AML	23 16 12.2	
	comp=E,852μm,0.8s							
ARG					AML	AML	23 16 12.9	
	comp=N,549μm,0.6s							
GOLH	**Golhisar**	**0.91**	**23**	*i*	P	**Pn**	**23 15 57.1**	**+1.0**
GOLH				*i*	S	**Sn**	**23 16 12.6**	**+4.2**
GOLH					IAML_P			
	comp=Z,9μm,0.2s							
AKUM	**Antalya-Kumluc**	**0.99**	**94**	*i*	P	**Pb**	**23 15 59.3**	**+1.9**
AKUM				*i*	S	**Sn**	**23 16 16.0**	**+5.8**
YER	**Yerkesik**	**1.00**	**318**		PG	**Pb**	**23 15 56.8**	**-0.8**
TAVA	**DENIZLI_Tavas**	**1.08**	**351**	*i*	P	**Pb**	**23 15 58.1**	**-0.8**
TAVA				*i*	S	**Sn**	**23 16 12.2**	**-0.4**
TAVA					IAML_P			
	comp=Z,3μm,0.2s							
KORT	**Korkueli**	**1.16**	**58**		PN	**Pb**	**23 16 01.1**	**+0.8**
KORT	**Korkueli**	**1.16**	**58**	*i*	P	**Pb**	**23 16 01.5**	**+1.2**
KORT				*i*	S	**Sb**	**23 16 19.2**	**+4.2**
KORT					IAML_P			
	comp=Z,2μm,0.1s							
KEMT	**Kemer-ANTALYA**	**1.17**	**80**		PN	**Pb**	**23 16 01.2**	**+0.7**
DATC	**Datca-Mugla**	**1.23**	**287**		PN	**Pb**	**23 16 01.5**	**0.0**
DAT	**Datca**	**1.29**	**285**		PN	**Pb**	**23 16 02.1**	**-0.4**
DAT	**Datca**	**1.29**	**285**	*i*	P	**Pb**	**23 16 02.9**	**+0.4**
DAT				*i*	S	**Sb**	**23 16 22.0**	**+3.3**
DAT					IAML_P			
	comp=Z,2μm,0.2s							
ANTB	**Antalya**	**1.33**	**67**		PN	**Pb**	**23 16 04.1**	**+0.9**
DENT	**Denizli**	**1.35**	**357**		PN	**Pb**	**23 16 02.6**	**-1.0**
BRDR	**BURDUR-Merkez**	**1.50**	**30**	*i*	P	**Pb**	**23 16 05.6**	**-0.5**
BRDR				*i*	S	**Sb**	**23 16 26.4**	**+1.7**
BRDR					IAML_P			
	comp=Z,3μm,0.3s							
BDRM	**Kayabasi**	**1.50**	**297**	*i*	P	**Pb**	**23 16 05.4**	**-0.7**
BDRM				*i*	S	**Sb**	**23 16 26.2**	**+1.4**
BCK	**Bucak**	**1.58**	**48**		PN	**Pb**	**23 16 07.4**	**-0.1**
BODT	**Bodrum**	**1.60**	**295**		PN	**Pb**	**23 16 06.5**	**-1.3**
AYDN	**Tasoluk**	**1.60**	**322**	*i*	P	**Pb**	**23 16 07.2**	**-0.7**
AYDN					IAML_P			
	comp=Z,2μm,0.2s							
KARP	**Karpathos**	**1.80**	**242**		PN	**Pn**	**23 16 09.4**	**+1.1**
KARP	**Karpathos**	**1.80**	**242**		P	**Pn**	**23 16 09.4**	**+1.1**
KARP					S	**Sn**	**23 16 32.0**	**+1.6**
ISP	**Isparta**	**1.81**	**38**		PN	**Pb**	**23 16 09.6**	**-1.8**
AYDB	**Zeytinkoy-Aydi**	**1.83**	**328**		PN	**Pb**	**23 16 09.6**	**-2.2**
KZIL	**AFYON_Kizioren**	**2.02**	**23**	*i*	P	**Pb**	**23 16 13.5**	**-1.6**
KZIL					IAML_P			
	comp=Z,508nm,0.2s							
KEPZ	**Antalya-Kepez**	**2.06**	**75**	*i*	P	**Pb**	**23 16 14.9**	**-0.7**
BAGO	**Egridir - ISPA**	**2.07**	**39**	*i*	P	**Pb**	**23 16 14.6**	**-1.3**
KULA	**Kula-Manisa**	**2.14**	**350**		PN	**Pb**	**23 16 14.1**	**-3.0**
SMG	**Samos**	**2.25**	**306**		P	**Pn**	**23 16 13.8**	**-0.6**
SMG					S	**Sn**	**23 16 40.3**	**-1.0**
USAK	**Uak-Merkez**	**2.31**	**358**	*i*	P	**Pn**	**23 16 15.8**	**+0.4**
DGB	**zmir**	**2.43**	**313**	*i*	P	**Pn**	**23 16 17.6**	**+0.7**
DGB					IAML_P			
	comp=Z,607nm,0.1s							
SHUT	**Suhut-Afyon**	**2.43**	**27**	PN		**Pb**	**23 16 18.9**	**-3.1**
BLCB	**Balcova**	**2.58**	**321**	PN		**Pn**	**23 16 19.7**	**+0.7**
ZKR	**Zakros**	**2.69**	**242**	PN		**Pn**	**23 16 21.7**	**+1.2**
ZKR	**Zakros**	**2.69**	**242**	P		**Pn**	**23 16 22.0**	**+1.5**
URLA	**Izmir**	**2.81**	**315**	PN		**Pn**	**23 16 23.2**	**+1.1**
TVSB	**Tavsanli**	**3.06**	**5**	PN		**Pn**	**23 16 27.4**	**+1.8**
CSS	**Mathiatis**	**3.71**	**111**	Pn		**Pn**	**23 16 34.0**	**-0.6**
CSS						Sn	**23 17 14.8**	**-2.7**
HNTI	**Hanita**	**5.98**	**122**	Pn		**Pn**	**23 17 04.6**	**-1.1**
HNTI						Sn	**23 18 10.4**	**-3.0**
MMA0B	**Mount Meron ar**	**6.18**	**121**	Pn		**Pn**	**23 17 07.8**	**-0.7**
MMA0B						Sn	**23 18 14.7**	**-3.6**
GEM	**Giv'at Ha'Em**	**6.25**	**119**	Pn		**Pn**	**23 17 09.1**	**-0.3**
GEM						Sn	**23 18 17.2**	**-2.8**
KSDI	**Kefar Szold**	**6.26**	**119**	Pn		**Pn**	**23 17 09.1**	**-0.4**
KSDI						Sn	**23 18 17.2**	**-3.0**
NATI	**Neve Ativ**	**6.28**	**118**	Pn		**Pn**	**23 17 09.3**	**-0.4**
SLTI	**Sal'it**	**6.42**	**129**	Pn		**Pn**	**23 17 11.4**	**-0.3**
KSHT	**Keshet**	**6.48**	**120**	Pn		**Pn**	**23 17 12.3**	**-0.3**
MMLI	**Mount Malkishu**	**6.54**	**125**	Pn		**Pn**	**23 17 13.4**	**0.0**
MMLI						Sn	**23 18 23.4**	**-3.7**
HMDT	**Nahal Hemdat**	**6.72**	**126**	Pn		**Pn**	**23 17 15.8**	**-0.1**
HMDT						Sn	**23 18 29.2**	**-2.4**
KZIT	**Kziot**	**7.02**	**140**	Pn		**Pn**	**23 17 19.4**	**-0.7**
KZIT						Sn	**23 18 35.2**	**-3.9**
DSI	**Dead Sea**	**7.08**	**131**	Pn		**Pn**	**23 17 21.3**	**+0.4**
DSI						Sn	**23 18 36.9**	**-3.7**
GHAJ	**Ghor Haditha**	**7.39**	**132**	Pn		**Pn**	**23 17 24.6**	**-0.4**
PRNI	**Paran**	**7.78**	**139**	Pn		**Pn**	**23 17 29.3**	**-1.2**
HRFI	**Mount Harif**	**8.05**	**140**	Pn		**Pn**	**23 17 33.7**	**-0.5**
MBRI	**Mt Berech**	**8.18**	**142**	Pn		**Pn**	**23 17 35.0**	**-1.1**
EIL	**Elat**	**8.30**	**142**	Pn		**Pn**	**23 17 37.1**	**-0.5**

THR ***16*** *23:19:38.1, 27°.80N×55°.97E, h14km, ML3.6*

ISCJB ***16*** *23:19:43.7±0.3, 28°.29N±0°.02×55°.67E±0°.04, h10km, mb3.6/15, Error ellipse: s-maj=4.8km s-min=3.0km az=172.0*

TEH ***16*** *23:19:44.9, 28°.25N×55°.61E, h20km, ML3.6*

DSN ***16*** *23:19:44.9±1.0, 28°.31N×55°.73E, h15km, ML3.4/9, Error ellipse: s-maj=22.0km s-min=6.5km az=65.0*

IDC ***16*** *23:19:46.6±2.4, 28°.07N×55°.41E, h58km±26km, mb3.5/16, mb1 3.5/18, mb1mx3.4/50, mbtmp3.8/18, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/40, Error ellipse: s-maj=17.2km s-min=14.5km az=60.0*

ISC 16 23:19:43.2±0.6, 28°.25N±0°.04×55°.62E±0°.04, h10km, n72, σ2s24/69, mb3.6/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
BNDS	**Bandar-Abbas**	**0.98**	**150**	*e*Pg		Pg	23 19 46.8	-15
BNDS	**Bandar-Abbas**	**0.98**	**150**	*e*Pg		Pg	23 19 46.8	-15
GENO	**Geno**	**0.98**	**150**		IAMB	IAmb	23 20 25.1	
	comp=Z,0.0nm,0.3s							
GENO				*e*Pg		**Pb**	**23 20 04.1**	**+1.8**
NIAN	**Nian**	**1.28**	**122**		IAMB	IAmb	23 20 35.1	
	comp=Z,0.0nm,0.4s							
NIAN				*e*Pg		**Pn**	**23 20 08.9**	**+1.8**
NGRK	**Negar Kerman**	**1.70**	**35**	*e*Pn		**Pn**	**23 20 13.9**	**+0.6**
JHRM	**Jahrom**	**1.82**	**279**	*e*Pn		**Pb**	**23 20 17.9**	**+1.3**
JHRM					IAMB	IAmb	23 20 52.0	
	comp=E,0.0nm,0.6s							
KRBR	**Kerman**	**2.00**	**30**	*e*Pn		**Pn**	**23 20 20.0**	**+2.7**
KRBR	**Kerman**	**2.00**	**30**	*e*AML		AML	23 20 51.9	
	comp=E,484nm,0.5s							
KRBR				*e*AML		AML	23 21 01.8	
	comp=N,410nm,0.5s							
KRBR	**Kerman**	**2.00**	**30**	*e*Pg		**Pn**	**23 20 20.0**	**+2.7**
TVBK	**TV Kerman**	**2.00**	**30**	*e*Pn		**Pn**	**23 20 19.1**	**+1.7**
TVBK					IAMB	IAmb	23 20 52.4	
	comp=Z,0.0nm,0.5s							
SHME	**Shamm**	**2.24**	**168**	P		**Pn**	**23 20 22.4**	**+2.1**
SHME	**Shamm**	**2.24**	**168**	*e*Pn		**Pn**	**23 20 23.3**	**+2.9**
KHGB	**Koh Gabri**	**2.25**	**19**	*e*Pn		**Pn**	**23 20 23.2**	**+2.5**
GHIR	**Ghir-Karzin**	**2.32**	**272**	*e*Pn		**Pn**	**23 20 22.7**	**+1.1**
GHIR	**Ghir-Karzin**	**2.32**	**272**	*e*AML		AML	23 21 06.6	
	comp=E,245nm,0.4s							
GHIR				*e*AML		AML	23 21 20.5	
	comp=N,204nm,0.6s							
GHIR	**Ghir-Karzin**	**2.32**	**272**	*e*Pn		**Pn**	**23 20 22.7**	**+1.1**
GHIR				*e*Sg		**Sg**	**23 21 02.2**	**+4.4**
CHMN	**Cheshme madani**	**2.33**	**46**	*e*Pn		**Pn**	**23 20 24.6**	**+2.7**
BANOM	**Banah**	**2.40**	**165**	*e*P		**Pn**	**23 20 24.1**	**+1.6**
	SNR=14							
BANOM					S	**Sn**	**23 20 54.7**	**+2.7**
ISRV	**Sarvestan**	**2.47**	**298**	*e*Pn		**Pn**	**23 20 26.3**	**+2.5**
ISRV					IAMB	IAmb	23 21 13.1	
	comp=Z,6μm,0.8s							
UMQ	**Umm Al-Quwin**	**2.71**	**179**	*e*Pn		**Pn**	**23 20 29.6**	**+2.8**
MSFE	**Esma-Masafi**	**2.92**	**170**	*e*P		**Pn**	**23 20 31.5**	**+1.8**
	SNR=13							
MSFE	**Esma-Masafi**	**2.92**	**170**	*e*Pn		**Pn**	**23 20 31.8**	**+2.1**
MDH	**Madha**	**3.00**	**168**	*i* P		**Pn**	**23 20 32.0**	**+1.2**
	SNR=9.1							
MDH	**Madha**	**3.00**	**168**	*e*Pn		**Pn**	**23 20 32.4**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.25**	**179**	P		**Pn**	**23 20 36.7**	**+2.5**
IMEH	**Mehriz**	**3.25**	**345**	*e*Pn		**Pn**	**23 20 37.3**	**+2.8**
IMEH					IAMB	IAmb	23 20 52.6	
	comp=Z,1μm,0.3s							
HATD	**Hatta, Dubai**	**3.44**	**172**	*i* P		**Pn**	**23 20 39.3**	**+2.4**
	SNR=13							
FAQ	**Al Faqa, Dubai**	**3.49**	**180**	P		**Pn**	**23 20 39.5**	**+1.9**
ASHO	**Ashiyiah**	**3.57**	**174**	*i* P		**Pn**	**23 20 40.6**	**+1.8**
	SNR=21							
ASHO	**Ashiyiah**	**3.57**	**174**	*e*Pn		**Pn**	**23 20 40.7**	**+2.0**
ASUD	**Al Ashush, Dub**	**3.62**	**184**	*i* P		**Pn**	**23 20 41.2**	**+1.9**
	SNR=15							
IKAZ	**Kazeroun**	**3.64**	**296**	*e*Pn		**Pn**	**23 20 41.7**	**+1.7**
IKAZ					IAMB	IAmb	23 21 31.5	
	comp=Z,2μm,0.6s							
AJN	**Ajban**	**3.71**	**189**	*e*Pn		**Pn**	**23 20 42.6**	**+2.0**
ISAD	**Sadrabad**	**4.02**	**336**	*e*Pn		**Pn**	**23 20 47.3**	**+2.2**
ISAD					IAMB	IAmb	23 21 02.1	
	comp=Z,790nm,0.4s							
ICHK	**Chekchek**	**4.12**	**346**	*e*Pn		**Pn**	**23 20 48.4**	**+2.0**
ICHK					IAMB	IAmb	23 21 25.2	
	comp=Z,682nm,0.5s							
ALNE	**Al Ain**	**4.18**	**178**	*e*Pn		**Pn**	**23 20 51.1**	**+4.1**
YZKH	**Yazd**	**4.22**	**348**	*e*Pn		**Pn**	**23 20 51.5**	**+3.8**
YZKH	**Yazd**	**4.22**	**348**	*e*Pn		**Pn**	**23 20 51.5**	**+3.8**
YZKH				*e*Sg		**Sg**	**23 22 04.2**	**+5.4**
IRAM	**Ramesheh**	**4.52**	**322**	*e*Pn		**Pn**	**23 20 52.7**	**+0.7**
IRAM					IAMB	IAmb	23 21 56.0	
	comp=Z,341nm,0.5s							
BSRN	**Basiran**	**4.79**	**39**	*e*Pn		**Pn**	**23 20 54.9**	**-0.7**
BSRN	**Basiran**	**4.79**	**39**	*e*Pn		**Pn**	**23 20 54.9**	**-0.7**
TPRV	**Parvadeh(Tabas**	**4.85**	**11**	*e*Pn		**Pn**	**23 20 58.8**	**+2.4**
IKOO	**Kooshah**	**5.09**	**34**	*e*Pn		**Pn**	**23 21 02.1

NIL	**Nilore**	**3.48**	**144**	*e*PN		**Pn**	**23 50 48.9**	**+0.2**
THW	**Thamme Wali**	**3.77**	**168**	P		**Pn**	**23 50 52.3**	**0.0**
KSH	**Kashi**	**5.09**	**52**	P		Pn	23 51 03.6	-5.6
KSH				S		Sn	23 51 54.0	-15
KSH				smax	smax			
	comp=N,1μm,0.7s							
KSH				smax	smax			
	comp=E,970nm,0.7s							
ARSB	**Arslanbob**	**5.13**	**19**	*e*Pn		**Pn**	**23 51 07.7**	**-1.9**
ARSB				*e*Sn		**Sn**	**23 52 05.2**	**-4.2**
AML	**Almayashu**	**6.07**	**21**	P		**Pn**	**23 51 20.7**	**-1.5**
	SNR=512							
DHRM	**DHARAMSHALA**	**6.22**	**131**	*e*P		**Pn**	**23 51 22.8**	**-1.2**
DHRM				*e*S		**Sn**	**23 52 30.7**	**-4.4**
DHRM				IAML			23 52 32.6	
	comp=E,1μm,0.6s							
NRN	**Naryn**	**6.40**	**38**	*e*Pn		**Pn**	**23 51 23.2**	**-3.1**
NRN	**Naryn**	**6.40**	**38**	*e*PN		**Pn**	**23 51 23.2**	**-3.1**
UCH	**Uchtor**	**6.42**	**26**	P		**Pn**	**23 51 25.3**	**-1.4**
	SNR=42							
KZA	**Kyzart**	**6.57**	**30**	P		**Pn**	**23 51 26.5**	**-2.2**
	SNR=52							
EKS2	**Erkin-Say**	**6.59**	**20**	P		**Pn**	**23 51 27.4**	**-1.2**
	SNR=18							
KK31	**Karatay Array**	**6.61**	**358**	*e*Pn		**Pn**	**23 51 27.6**	**-1.1**
KK31	**Karatay Array**	**6.61**	**358**	P		**Pn**	**23 51 24.9**	**-4.0**
	comp=E,16nm,0.3s,baz=188,slow=13,SNR=1108							
KK31				⇓S		**Sn**	**23 52 37.6**	**-6.4**
	comp=E,26nm,0.3s,baz=188,slow=25,SNR=13							
KK31	**Karatay Array**	**6.61**	**358**	*e*PN		**Pn**	**23 51 27.7**	**-1.1**
KKAR	**Karatay Array**	**6.61**	**358**	*e*Pn		**Pn**	**23 51 27.6**	**-1.1**
KKAR	**Karatay Array**	**6.61**	**358**	*e*PN		**Pn**	**23 51 27.7**	**-1.1**
AAK	**Ala-Archa**	**6.78**	**24**	P		**Pn**	**23 51 29.4**	**-1.8**
	SNR=52							
AAK	**Ala-Archa**	**6.78**	**24**	⇓P		**Pn**	**23 51 29.5**	**-1.6**
	comp=E,12nm,0.4s							
AAK				⇓S		**Sn**	**23 52 43.4**	**-4.8**
	comp=E,28nm,0.6s							
AAK	**Ala-Archa**	**6.78**	**24**	*d i*PN		**Pn**	**23 51 29.8**	**-1.3**
AAK				pmax	pmax			
	comp=E,16nm,0.6s							
AAK	**Ala-Archa**	**6.78**	**24**	P		**Pn**	**23 51 29.9**	**-1.3**
	comp=E,11nm,0.3s,baz=140,slow=2.0,SNR=161							
AAK				S		**Sn**	**23 52 42.6**	**-5.6**
	comp=E,3.0nm,0.3s,baz=158,slow=19,SNR=14							
BHK	**Bhakra**	**6.89**	**136**	*e*P		**Pn**	**23 51 29.0**	**-3.6**
BHK				*e*S		**Sn**	**23 52 43.0**	**-7.7**
KBK	**Karagaybulak**	**6.95**	**26**	P		**Pn**	**23 51 32.1**	**-1.3**
	SNR=35							
FRU1	**Bishkek**	**6.98**	**24**	*e*Pn		**Pn**	**23 51 33.1**	**-0.6**
FRU1	**Bishkek**	**6.98**	**24**	*e*PN		**Pn**	**23 51 33.1**	**-0.6**
ULHL	**Ulahol**	**7.14**	**35**	P		**Pn**	**23 51 34.0**	**-1.8**
	SNR=16							
CHMS	**Chumysh**	**7.19**	**24**	P		**Pn**	**23 51 34.7**	**-1.7**
	SNR=24							
USP	**Ospenovka**	**7.35**	**22**	P		**Pn**	**23 51 36.4**	**-2.1**
	SNR=17							
TKM2	**Tokmak 2**	**7.42**	**29**	P		**Pn**	**23 51 38.1**	**-1.5**
	SNR=25							
TKM2	**Tokmak 2**	**7.42**	**29**	⇓P		**Pn**	**23 51 37.9**	**-1.7**
	comp=E,23nm,0.7s							
TKM2				⇑S		**Sn**	**23 52 59.3**	**-4.1**
	comp=E,16nm,0.8s							
KDJ	**Kajisay**	**7.50**	**39**	*e*Pn		**Pn**	**23 51 39.8**	**-0.9**
KDJ	**Kajisay**	**7.50**	**39**	*e*PN		**Pn**	**23 51 39.8**	**-0.9**
SMLA	**Simla**	**7.53**	**133**	*e*P		**Pn**	**23 51 39.4**	**-1.5**
SMLA				*e*S		**Sn**	**23 53 00.3**	**-5.6**
SMLA				IAML			23 53 04.3	
	comp=E,499nm,0.6s							
MDOK	**Medeo**	**8.23**	**34**	⇑P		**Pn**	**23 51 49.2**	**-0.9**
	comp=E,16nm,1.1s							
MDOK				S		**Sn**	**23 53 23.0**	**+0.5**
	comp=E,6.7nm,0.7s							
PRZ	**Przheval'sk**	**8.40**	**42**	*e*Pn		**Pn**	**23 51 51.5**	**-0.9**
PRZ	**Przheval'sk**	**8.40**	**42**	*e*PN		**Pn**	**23 51 51.5**	**-0.9**
DDI	**Dehra Dun**	**8.64**	**133**	*e*P		**Pn**	**23 51 54.1**	**-1.5**
DDI				*e*S		**Sn**	**23 53 27.2**	**-5.2**
DDI				IAML			23 53 28.5	
	comp=N,309nm,0.3s							
DDI				IAML			23 53 29.0	
	comp=E,337nm,0.1s							
NDI	**New Delhi**	**9.48**	**143**	*e*P		**Pn**	**23 52 04.0**	**-2.5**
NDI				*e*S		**Sn**	**23 53 44.0**	**-8.5**
PDGK	**Podgornoye**	**9.56**	**42**	⇑P		**Pn**	**23 52 06.6**	**-0.9**
	comp=E,3.7nm,0.6s							
PDGK				⇑S		**Sn**	**23 53 59.5**	**+5.3**
	comp=E,14nm,1.3s							
GEYT	**Alibeck**	**10.21**	**282**	P		**Pn**	**23 52 13.8**	**-2.1**
	comp=E,1.8nm,0.3s,baz=96,slow=8.9,SNR=15							
GEYT				S		**Sn**	**23 54 02.1**	**-7.5**
	comp=E,1.9nm,0.3s,baz=116,slow=13,SNR=3.8							
GYA0B	**ALIBECK ARRAY**	**10.21**	**282**	*e*Pn		**Pn**	**23 52 14.7**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**10.21**	**282**	⇓P		**Pn**	**23 52 13.4**	**-2.5**
GYA0B				⇓S		**Sn**	**23 54 03.2**	**-6.4**
BHJ	**Bhuj**	**13.22**	**185**	*e*P		**Pn**	**23 52 54.0**	**-0.5**
MAKZ	**Makanchi**	**13.27**	**36**	*e*Pn		**Pn**	**23 52 54.4**	**-0.5**
MAKZ				*e*S		**S**	**23 55 31.9**	**+6.9**
MAKZ	**Makanchi**	**13.27**	**36**	*e*P		**Pn**	**23 52 54.4**	**-0.5**
PYUN	**Piuthan**	**13.28**	**126**	*e*P		**Pn**	**23 52 52.5**	**-2.9**
	comp=E,61nm,0.3s							
MK01	**Makanchi Array**	**13.39**	**36**	*e*Pn		**Pn**	**23 52 55.5**	**-1.0**
MK31	**Makanchi Array**	**13.40**	**36**	*e*Pn		**Pn**	**23 52 55.9**	**-0.7**
MK31	**Makanchi Array**	**13.40**	**36**	⇑P		**P**	**23 52 58.2**	**-1.5**
	comp=E,1.4nm,0.5s,baz=213,slow=12,SNR=58							
MK31	**Makanchi Array**	**13.40**	**36**	*e*P		**Pn**	**23 52 55.9**	**-0.7**
MKAR	**Makanchi Array**	**13.40**	**36**	P		**Pn**	**23 52 55.1**	**-1.5**
	comp=E,0.9nm,0.3s,baz=211,slow=9.3,SNR=21							
DANN	**Dangsing**	**13.63**	**123**	*e*P		**Pn**	**23 52 57.9**	**-2.0**
	comp=E,97nm,0.4s							
KOLN	**Koldanda**	**13.90**	**125**	*e*P		**Pn**	**23 53 01.3**	**-1.9**
	comp=E,42nm,0.2s							
BHPL	**Bhopal**	**14.40**	**155**	*e*P		**Pn**	**23 53 09.4**	**+0.2**
BHPL				IAmb		IAmb	23 53 13.2	
	comp=Z,30nm,0.7s							
BHPL				*ex*		x	23 55 38.5	
GKN	**Gorkha**	**14.45**	**122**	*e*P		**Pn**	**23 53 08.0**	**-1.9**
	comp=Z,128nm,0.4s							
WMQ	**Urumqi**	**14.85**	**55**	*e*P		**P**	**23 53 15.6**	**-0.1**
AB31	**Akbulak array**	**15.01**	**332**	P		**Pn**	**23 53 15.6**	**-0.9**
	comp=E,4.9nm,0.4s,baz=145,slow=12,SNR=145							
AB31				⇑S		**Sn**	**23 55 56.3**	**-7.8**
	comp=E,3.7nm,0.3s							
ABKAR	**Akbulak array**	**15.01**	**332**	*e*Pn		**Pn**	**23 53 15.3**	**-1.2**
	comp=Z,12nm,0.6s							
DMN	**Daman**	**15.02**	**122**	*e*P		**Pn**	**23 53 15.7**	**-1.3**
KKN	**Kakani**	**15.02**	**121**	*e*P		**Pn**	**23 53 15.2**	**-1.8**
	comp=Z,94nm,0.5s							
KURBB	**Kurchatov Arra**	**15.19**	**19**	P		**Pn**	**23 53 15.9**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=18							
PKIN	**Phulchoki**	**15.23**	**122**	*e*P		**Pn**	**23 53 18.3**	**-1.4**
	comp=Z,182nm,0.6s							
PKI	**Pulchoki**	**15.25**	**122**	*e*P		**Pn**	**23 53 18.5**	**-1.4**
	comp=Z,205nm,0.5s							
KURK	**Kurchatov**	**15.30**	**19**	*e*Pn		**Pn**	**23 53 18.5**	**-1.5**
	comp=Z,2.3nm,0.8s							
KURK	**Kurchatov**	**15.30**	**19**	⇑*i*P		**Pn**	**23 53 18.4**	**-1.5**
GUN	**Gumba**	**15.36**	**120**	*e*P		**Pn**	**23 53 20.2**	**-1.1**
	comp=Z,63nm,0.4s							
JBP	**Jabalpur**	**15.48**	**147**	⇑*e*P		**Pn**	**23 53 22.2**	**-0.2**
JBP				AMB		AMB	23 53 25.1	
	comp=Z,12nm,0.6s							
JBP				*ex*		x	23 56 01.6	
JIRN	**Jiri**	**15.73**	**120**	*e*P		**Pn**	**23 53 25.1**	**-0.8**
	comp=Z,159nm,0.4s							
RAMN	**Ramite**	**16.46**	**121**	*e*P		**P**	**23 53 33.4**	**-0.5**
	comp=Z,96nm,0.5s							
BVA0	**Borovoye Array**	**16.54**	**359**	⇓P		**Pn**	**23 53 36.0**	**+1.1**
	comp=Z,3.1nm,0.5s,baz=162,slow=11,SNR=49							
BVAR	**Borovoye Array**	**16.54**	**359**	P		**P**	**23 53 34.2**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=163,slow=11,SNR=41							
BRVK	**Borovoye**	**16.57**	**359**	*e*P		**P**	**23 53 34.7**	**+0.2**
	comp=Z,8.1nm,0.8s							
BRVK	**Borovoye**	**16.57**	**359**	⇑P		**Pn**	**23 53 35.7**	**+0.3**
	comp=Z,5.3nm,0.6s							
BRVK	**Borovoye**	**16.57**	**359**	*ce*P		**P**	**23 53 34.9**	**+0.3**
BRVK				pmax	pmax			
	comp=Z,7.0nm,0.7s							
AKTO	**Aktyubinsk**	**16.70**	**331**	⇓P		**Pn**	**23 53 37.3**	**+0.3**
	comp=Z,18nm,0.6s							
AKTO				⇓S		**S**	**23 56 39.2**	**-1.4**
	comp=Z,8.6nm,0.6s							
AKTO	**Aktyubinsk**	**16.70**	**331**	P		**Pn**	**23 53 37.5**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=146,slow=12,SNR=44							
AKTO				S		**S**	**23 56 32.0**	**-8.6**
	comp=Z,0.4nm,0.3s,baz=153,slow=18,SNR=2.9							
POO	**Poona**	**18.09**	**171**	*e*P		**P**	**23 53 51.1**	**-0.4**
BOK	**Bokaro**	**18.15**	**130**	*e*P		**Pn**	**23 53 53.4**	**-0.9**
BOK				IAmb		IAmb	23 53 55.0	
	comp=Z,39nm,0.2s							
ZAA0	**Zalesovo Array**	**20.00**	**25**	*e*P		**P**	**23 54 12.1**	**+0.4**
	comp=Z,6.8nm,0.6s							
ZALV	**Zalesovo Beam**	**20.00**	**25**	*e*P		**P**	**23 54 11.7**	**0.0**
ZALV	**Zalesovo Beam**	**20.00**	**25**	*e*P		**P**	**23 54 11.7**	**0.0**
ZALV	**Zalesovo Beam**	**20.00**	**25**	P		**P**	**23 54 12.0**	**+0.3**
	comp=Z,7.4nm,0.4s,baz=223,slow=12,SNR=24							
HYB	**Hyderabad**	**20.20**	**158**	*i*P		**P**	**23 54 16.5**	**+2.2**
HYB				*e*S		**S**	**23 57 54.0**	**+3.3**
HYB	**Hyderabad**	**20.20**	**158**	*e*P		**P**	**23 54 13.4**	**-0.9**
HYB				IAmb		IAmb	23 54 13.9	
	comp=Z,25nm,0.1s							
GNI	**Garni**	**20.73**	**288**	*e*P		Pn	23 54 24.2	-1.1
	comp=Z,19nm,1.0s							
GNI	**Garni**	**20.73**	**288**	⇑*e*P		Pn	23 54 23.1	-2.3
GNI				pmax	pmax			
	comp=Z,58nm,1.1s							
GNI	**Garni**	**20.73**	**288**	P		**P**	**23 54 20.7**	**+0.9**
	comp=Z,10.0nm,0.8s,baz=359,slow=4.6,SNR=7.8							
TBLG	**Delisi**	**20.84**	**293**	*e*P		Pn	23 54 24.5	-2.1
	comp=Z,14nm,0.9s							
TBLG	**Delisi**	**20.84**	**293**	*e*P		Pn	23 54 24.5	-2.1
TBLG				pmax	pmax			
	comp=Z,14nm,0.9s							
SHL	**Shillong**	**21.06**	**115**	*e*P		**P**	**23 54 23.2**	**-0.4**
GOA	**Goa**	**21.09**	**172**	*e*P		**P**	**23 54 24.2**	**+0.6**
SVE	**Sverdlovsk**	**21.46**	**345**	*e*P		**P**	**23 54 28.6**	**+1.4**
SVE				*e*S		Sn	23 58 25.6	-11
SVE				pmax	pmax			
	comp=Z,9.0nm,0.9s							
ARU	**Arti**	**21.59**	**341**	*e*P		**P**	**23 54 29.9**	**+1.4**
	comp=Z,9.3nm,1.0s							
ARU	**Arti**	**21.59**	**341**	*c i*P		**P**	**23 54 29.8**	**+1.3**
ARU							23 55 01.8	
ARU				S		**S**	**23 58 18.8**	**+3.8**
ARU				pmax	pmax			
	comp=Z,17nm,1.6s							
NCK	**Nalchik**	**21.91**	**297**	⇑*e*P		**P**	**23 54 34.5**	**+2.5**
NCK				pmax	pmax			
	comp=Z,11nm,1.0s							
KBZ	**Khabaz**	**22.45**	**297**	P		**P**	**23 54 36.4**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=116,slow=10.0,SNR=6.4							
KVAR	**Kislovodsk Arr**	**22.63**	**298**	P		**P**	**23 54 40.6**	**+1.8**
	comp=Z,6.3nm,1.1s,baz=129,slow=12,SNR=5.8							
KIV	**Kislovodsk**	**22.64**	**298**	*e*P		**P**	**23 54 39.7**	**+0.8**
KIV				pmax	pmax			
	comp=Z,14nm,1.1s							
GTA	**Gaotai**	**23.04**	**74**	*e*P		**P**	**23 54 41.1**	**-1.5**
GTA				pP	pP		23 55 16.3	-1.9
GTA				sP	PP		23 55 36.4	-2.6
GTA				S		**S**	**23 58 29.8**	**-9.3**
GTA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,24nm,4.3s							
GTA				LR	LR			
	comp=Z,100nm,15.5s							
GTA				LR	LR			
	comp=Z,95nm,18.5s							
GTA				LR	LR			
	comp=Z,39nm,16.2s							
MDRS	**Chennai**	**24.82**	**158**	*e*P		**P**	**23 54 59.6**	**+0.8**
KIRV	**Kirov**	**26.18**	**334**	P		**P**	**23 55 12.7**	**+2.1**
	comp=Z,6.5nm,0.5s,baz=113,slow=1.5,SNR=6.7							
LZH	**Lanzhou**	**26.58**	**81**	*e*P		**P**	**23 55 16.5**	**+1.8**
LZH				pP	pP		23 55 52.6	-1.6
LZH				PP	**PnPn**		**23 56 06.0**	**-1.3**
LZH				sP	sP		23 56 15.1	-1.6
LZH				pmax	pmax			
	comp=Z,19nm,1.0s							
LZH				pmax	pmax			
	comp=Z,190nm,4.3s							
VSR	**Storozhevoye**	**26.88**	**313**	⇑*e*P		**P**	**23 55 18.7**	**+1.7**
VSR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SONM	**Songino Array**	**28.49**	**55**	P		**P**	**23 55 30.0**	**-1.5**
SONM	**Songino Array**	**28.49**	**55**	P		**P**	**23 55 30.0**	**-1.5**
	comp=Z,0.9nm,0.5s,baz=253,slow=8.9,SNR=3.0							
KMI	**Kunming**	**29.57**	**103**	P		**P**	**23 55 43.4**	**+2.1**
KMI				pmax	pmax			
	comp=Z,6.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.60**	**118**	*ce*P		**P**	**23 55 52.2**	**+1.9**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**30.60**	**118**	P		**P**	**23 55 51.1**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=298,slow=8.0,SNR=14							
CM01	**Chiang Mai Arr**	**30.64**	**118**	*e*P		**P**	**23 55 52.2**	**+1.7**
SUKH	**Sukhothai**	**31.74**	**119**	P		**P**	**23 56 02.6**	**+2.4**
	comp=Z,3.5nm,0.7s							
HHC	**Hu-ho-hao-te**	**31.93**	**70**	*e*P		**P**	**23 56 04.0**	**+2.2**
HHC				pmax	pmax			
	comp=Z,10.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,73nm,6.2s							
UTTA	**Uttaradit**	**32.22**	**117**	P		**P**	**23 56 06.0**	**+1.6**
	comp=Z,5.0nm,0.6s,comp=Z,56nm							
AKASG	**Malin Array Be**	**32.82**	**309**	*ce*P		**P**	**23 56 11.1**	**+1.9**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**32.82**	**309**	P		**P**	**23 56 10.9**	**+1.7**
	comp=Z,2.9nm,0.6s,baz=79,slow=7.2,SNR=16							
KIEV	**Kiev**	**32.83**	**309**	⇓*i*P		**P**	**23 56 11.3**	**+2.0**
KIEV	**Kiev**	**32.83**	**309**	⇓P		**P**	**23 56 11.3**	**+2.0**
AK11	**Malin Array Si**	**32.85**	**309**	*e*P		**P**	**23 56 11.4**	**+1.9**
NRIK	**Noril'sk**	**34.17**	**11**	P		**P**	**23 56 20.9**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=166,slow=7.1,SNR=6.5							
GIRR	**Girov**	**34.25**	**302**	⇑*i*P		**P**	**23 56 23.5**	**+1.8**
MLR	**Muntele Rosu**	**34.63**	**299**	⇑*i*P		**P**	**23 56 29.5**	**+4.3**
MLR	**Muntele Rosu**	**34.63**	**299**	⇑P		**P**	**23 56 29.5**	**+4.3**
DOPR	**Dopca**	**35.02**	**300**	⇓*i*P		**P**	**23 56 29.3**	**+1.0**
BURAR	**Bucovina Array**	**35.15**	**303**	⇑*i*P		**P**	**23 56 32.0**	**+2.5**
BURAR	**Bucovina Array**	**35.15**	**303**	⇑P		**P**	**23 56 32.0**	**+2.5**
SKNT	**Sakolnakorn**	**35.20**	**115**	P		**P**	**23 56 31.5**	**+1.3**
	comp=Z,5.1nm,0.9s							
VOIR		**35.27**	**299**	⇑*i*P		**P**	**23 56 33.0**	**+2.5**
VOIR		**35.27**	**299**	⇑P		**P**	**23 56 33.0**	**+2.5**
FINES	**FINESS Array B**	**37.40**	**326**	P		**P**	**23 56 50.0**	**+1.9**
	comp=Z,1.7nm,0.4s,baz=119,slow=10,SNR=34							
NJ2	**Nanjing**	**39.65**	**82**	*e*P		**P**	**23 57 07.9**	**+0.5**
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
VRAC	**Vranov**	**40.87**	**306**	P		**P**	**23 57 19.0**	**+1.9**
	comp=Z,1.5nm,0.6s,baz=64,slow=21,SNR=4.7							
ARCES	**ARCESS Array B**	**41.09**	**338**	P		**P**	**23 57 20.6**	**+1.9**
	comp=Z,3.0nm,0.4s,baz=112,slow=8.2,SNR=43							
ARE0	**ARCESS Array S**	**41.09**	**338**	*e*P		**P**	**23 57 19.6**	**+0.9**
KTK1	**Kautokeino**	**41.56**	**336**	*e*P		**P**	**23 57 24.3**	**+1.8**
HAMF	**Hammerfest**	**42.17**	**339**	*e*P		**P**	**23 57 29.9**	**+2.4**
PSI	**Prapat**	**42.39**	**136**	*e*P		**P**	**23 57 29.9**	**-0.1**
	comp=Z,7.7nm,0.6s							
PSI	**Prapat**	**42.39**	**136**	*e*P		**P**	**23 57 29.9**	**-0.1**
PSI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
GSI	**Gunungsitoli**	**42.90**	**139**	*e*P		**P**	**23 57 35.4**	**+1.4**
	comp=Z,27nm,0.6s							
HFS	**Hagfors**	**42.97**	**322**	P		**P**	**23 57 35.4**	**+1.4**
	comp=Z,2.1nm,0.3s,baz=92,slow=13,SNR=28							
TRO	**Tromso**	**43.21**	**336**	*e*P		**P**	**23 57 36.1**	**+0.3**
MOR8	**Moi Rana**	**43.74**	**331**	*e*P		**P**	**23 57 41.3**	**+1.2**
STEI	**Steigen**	**43.91**	**333**	*e*P		**P**	**23 57 42.3**	**+1.0**
NC602	**NORSAR Array S**	**44.10**	**323**	*e*P		**P**	**23 57 44.3**	**+1.3**
NC303	**NORSAR Array S**	**44.23**	**323**	*e*P		**P**	**23 57 46.1**	**+2.1**
	comp=Z,134nm,2.0s							
NB201	**NORSAR Array S**	**44.25**	**323**	*e*P		**P**	**23 57 45.8**	**+1.6**
	comp=Z,117nm,1.9s							
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**	**23 57 45.6**	**+1.1**
	comp=Z,1.2nm,0.5s,baz=97,slow=7.9							
NB2	**NORSAR Subarra**	**44.28**	**323**	P		**P**	**23 57 45.6**	**+1.1**
	baz=97,slow=7.9							
NOA	**NORSAR Array B**	**44.28**	**323**	P		**P**	**23 57 45.8**	**+1.2**
	comp=Z,1.7nm,0.5s,baz=103,slow=8.2,SNR=18							
NSS	**Namsos**	**44.42**	**328**	*e*P		**P**	**23 57 45.2**	**-0.2**
NAO01	**NORSAR Array S**	**44.43**	**323**	*e*P		**P**	**23 57 47.6**	**+2.0**
	comp=Z,107nm,1.9s							
NBO00	**NORSAR Array S**	**44.50**	**323**	*e*P		**P**	**23 57 47.5**	**+1.4**
	comp=Z,56nm,1.5s							
NC204	**NORSAR Array S**	**44.53**	**323**	*e*P		**P**	**23 57 48.2**	**+1.8**
	comp=Z,60nm,1.6s							
LOF	**Lofoten**	**44.58**	**333**	*e*P		**P**	**23 57 46.0**	**-0.6**
KONO	**Kongsberg**	**44.98**	**321**	*e*P		**P**	**23 57 51.9**	**+1.9**
	comp=Z,114nm,1.6s							
KONO	**Kongsberg**	**44.98**	**321**	*e*P		**P**	**23 57 51.9**	**+1.9**
KONO				pmax	pmax			
	comp=Z,114nm,1.6s							
KONO	**Kongsberg**	**44.98**	**321**	*e*P		**P**	**23 57 49.5**	**-0.5**
DAVOX	**Davos/Dischmat**	**45.62**	**303**	P		**P**	**23 57 55.2**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=139,slow=20,SNR=4.2							
TIXI	**Tiksi**	**45.85**	**22**	*e*P		**P**	**23 57 57.8**	**+1.2**
	comp=Z,5.0nm,1.1s							
TIXI	**Tiksi**	**45.85**	**22**	*e*P		**P**	**23 57 57.8**	**+1.2**
TIXI				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BLS5	**Blasjo**	**46.58**	**321**	*e*P		**P**	**23 58 02.6**	**+0.1**
HSPB	**Hornsund (broa**	**47.10**	**345**	*e*P		**P**	**23 58 07.1**	**+0.8**
BER	**Bergen**	**47.14**	**322**	*e*P		**P**	**23 58 08.1**	**+1.3**
SENIN	**Lac Senin/Sane**	**47.45**	**303**	*e*P		**P**	**23 58 11.6**	**+1.9**
	comp=Z,40nm,1.8s							
SPA0	**Spitsbergen Ar**	**47.47**	**347**	*e*P		**P**	**23 58 11.7**	**+2.6**
	comp=Z,69nm,1.4s							
SPA0	**Spitsbergen Ar**	**47.47**	**347**	*e*P		**P**	**23 58 11.8**	**+2.7**
EKA	**Eskdalemuir Ar**	**52.17**	**316**	P		**P**	**23 58 45.9**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=88,slow=10,SNR=3.4							
ESDC	**Sonseca Array**	**57.31**	**298**	P		**P**	**23 59 22.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=45,slow=7.9,SNR=3.7							
BILL	**Bilibino**	**58.70**	**26**	⇑*e*P		**P**	**23 59 32.8**	**+1.7**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
TOA0	**Torodi Ar. Sit**	**65.54**	**269**	*e*P		**P**	**00 00 17.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**65.54**	**269**	P		**P**	**00 00 16.5**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=44,slow=6.0,SNR=31							
TOLK	**Toolik Lake Re**	**70.98**	**15**	*e*P		**P**	**00 00 52.5**	**+2.0**
	comp=Z,4.9nm,0.6s							
IM3	**Indian Mountai**	**72.24**	**18**	*e*P		**P**	**00 00 59.0**	**+1.1**
INK	**Inuvik**	**73.95**	**9**	*e*P		**P**	**00 01 09.6**	**+1.7**
	comp=Z,8.5nm,1.5s							
BPAW	**Bear Paw Mtn.**	**74.46**	**18**	*e*P		**P**	**00 01 12.2**	**+1.2**
	comp=Z,21nm,2.0s							
COLA	**College**	**74.54**	**16**	⇑*e*P		**P**	**00 01 12.5**	**+1.2**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
LBTB	**Lobatse**	**74.55**	**222**	*e*P		**P**	**00 01 14.3**	**+2.3**
	comp=Z,52nm,2.0s							
CAST	**Castle Rocks**	**74.75**	**18**	*e*P		**P**	**00 01 14.8**	**+2.1**
	comp=Z,2.6nm,0.8s							
IL1	**Eielson Array**	**74.84**	**16**	*e*P		**P**	**00 01 14.7**	**+1.6**
ILAR	**Eielson Array**	**74.84**	**16**	P		**P**	**00 01 13.9**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=322,slow=5.4,SNR=8.4							
FITZ	**Fitzroy Crossi**	**75.02**	**126**	P		**P**	**00 01 14.8**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=330,slow=5.0,SNR=6.3							
YKA	**Yellowknife Ar**	**81.27**	**3**	P		**P**	**00 01 49.6**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=350,slow=5.3,SNR=15							
YKA				pP		**pP**	**00 02 33.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=350,slow=5.5,SNR=3.3							
WRA	**Warramunga Arr**	**82.13**	**122**	P		**P**	**00 01 53.2**	**-0.4**

YJA	**Yavi**	**1.93**	**46**	*eP*	**Pn**	**00 24 51.3**	**+0.4**
YJA				IAML		00 24 52.8	
	comp=Z,17nm,0.4s						
YJA				*eS*	**S**	**00 25 21.5**	**0.0**
LVC	**Limon Verde**	**1.99**	**297**	*eP*	**Pn**	**00 24 52.3**	**+0.9**
LVC				IAML		00 24 53.5	
	comp=Z,32nm,0.2s						
LVC				*eS*	**S**	**00 25 22.4**	**+0.1**
LVC	**Limon Verde**	**1.99**	**297**	*eP*	**Pn**	**00 24 52.4**	**+1.0**
LVC				*i S*	**S**	**00 25 22.1**	**-0.2**
PB15	**IPOC Station P**	**2.29**	**278**	*eP*	**Pn**	**00 24 55.4**	**+1.1**
PB15	**IPOC Station P**	**2.29**	**278**	⇑*iP*	**Pn**	**00 24 55.5**	**+1.2**
PB15				*i S*	**S**	**00 25 27.5**	**+0.1**
PB06	**IPOC Station P**	**2.51**	**289**	*eP*	**Pn**	**00 24 57.2**	**+0.7**
PB06	**IPOC Station P**	**2.51**	**289**	⇑*iP*	**Pn**	**00 24 57.8**	**+1.2**
PB06				*i S*	**S**	**00 25 30.8**	**-0.7**
PB06				IAML		00 25 31.3	
	comp=N,218nm,0.3s						
PB09	**IPOC Station P**	**2.70**	**310**	*eP*	**Pn**	**00 24 59.8**	**+1.1**
PB09	**IPOC Station P**	**2.70**	**310**	⇑*iP*	**Pn**	**00 25 00.1**	**+1.4**
PB09				*i S*	**S**	**00 25 35.3**	**-0.1**
PB09				IAML		00 25 38.1	
	comp=N,58nm,0.3s						
GO02	**Mina Guanaco**	**2.86**	**235**	IAML		00 25 40.4	
	comp=N,215nm,0.3s						
PB03	**IPOC Station P**	**2.94**	**300**	*eP*	**Pn**	**00 25 02.4**	**+0.9**
PB03	**IPOC Station P**	**2.94**	**300**	⇑*iP*	**Pn**	**00 25 02.3**	**+0.9**
PB03				*i S*	**S**	**00 25 38.7**	**-1.5**
PB03				IAML		00 25 41.3	
	comp=N,119nm,0.4s						
PB05	**IPOC Station P**	**3.02**	**282**	*eP*	**Pn**	**00 25 03.3**	**+1.0**
PB05	**IPOC Station P**	**3.02**	**282**	⇑*iP*	**Pn**	**00 25 03.0**	**+0.8**
PB05				*i S*	**S**	**00 25 40.1**	**-1.7**
PB05				IAML		00 25 43.2	
	comp=N,65nm,0.2s						
PB04	**IPOC Station P**	**3.14**	**292**	*eP*	**Pn**	**00 25 04.7**	**+1.0**
PB04	**IPOC Station P**	**3.14**	**292**	⇑*iP*	**Pn**	**00 25 04.6**	**+0.9**
PB04				*i S*	**S**	**00 25 43.1**	**-1.3**
PB04				IAML		00 25 48.1	
	comp=N,120nm,0.3s						
PB07	**IPOC Station P**	**3.22**	**304**	*eP*	**Pn**	**00 25 05.5**	**+0.9**
PB07	**IPOC Station P**	**3.22**	**304**	⇑*iP*	**Pn**	**00 25 05.4**	**+0.8**
PB07				*i S*	**S**	**00 25 44.3**	**-1.7**
PB07				IAML		00 25 45.2	
	comp=N,154nm,0.3s						
PB10	**IPOC Station P**	**3.26**	**270**	*eP*	**Pn**	**00 25 06.0**	**+1.1**
PB10	**IPOC Station P**	**3.26**	**270**	⇑*iP*	**Pn**	**00 25 06.0**	**+1.1**
PB10				*i S*	**S**	**00 25 44.7**	**-1.9**
PB14	**IPOC Station P**	**3.29**	**250**	*eP*	**Pn**	**00 25 06.4**	**+0.8**
PB14	**IPOC Station P**	**3.29**	**250**	IAML		00 25 48.4	
	comp=N,58nm,0.3s						
PB01	**IPOC Station P**	**3.39**	**317**	*eP*	**Pn**	**00 25 07.4**	**+0.9**
PB01				*i S*	**S**	**00 25 48.3**	**-1.2**
PB01				IAML		00 25 51.0	
	comp=E,79nm,0.3s						
PB02	**IPOC Station P**	**3.47**	**309**	*eP*	**Pn**	**00 25 08.0**	**+0.5**
PB02				*eS*	**S**	**00 25 49.2**	**-2.1**
PB02				IAML		00 25 52.4	
	comp=E,127nm,0.3s						
MNMC	**Minye Minye**	**5.01**	**331**	*eP*	**Pn**	**00 25 28.0**	**+1.4**
MNMC				*i S*	**S**	**00 26 24.5**	**-1.4**

*JMA **17** 00:30:30.5±0.3, 33°.18N×138°.54E, h324km, M3.4*
*ISCJB **17** 00:30:34.4±0.8, 33°.5N±0°.1×138°.47E±0°.09, h300km, mb2.9/3, Error ellipse: s-maj=15.3km s-min=8.4km az=151.7*
*IDC **17** 00:30:35.1±2.2, 33°.37N×138°.18E, h286km±29km, mb2.8/3, mb1 2.9/4, mb1mx2.6/51, mbtmp3.3/4, Error ellipse: s-maj=79.4km s-min=22.2km az=73.0*

ISC 17 00:30:35.3±1.1, **33°.6N**±0°.1×**138°.45E**±0°.08, **h300**km, **n16, σ1s30/19, mb2.8/3, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**1.77**	**17**	P	**Pn**	**00 31 21.7**	**+1.4**
JNY	**Yasuok**	**1.85**	**345**	P	**Pn**	**00 31 21.6**	**+0.7**
BSO3	**Boso 3**	**2.11**	**54**	P	**Pn**	**00 31 21.9**	**-0.6**
BSO3				*eS*	**S**	**00 32 00.7**	**+0.5**
BSO4	**Boso 4**	**2.11**	**47**	P	**Pn**	**00 31 23.0**	**+0.2**
BSO1	**Boso 1**	**2.36**	**62**	P	**Pn**	**00 31 23.9**	**-0.5**
BSO1				*eS*	**S**	**00 32 04.3**	**+0.7**
JTNC	**Tanabenakahech**	**2.38**	**277**	P	**Pn**	**00 31 24.0**	**-1.2**
JWY	**Kouya**	**2.46**	**286**	P	**Pn**	**00 31 25.4**	**-0.6**
JRY	**Ryogami san**	**2.47**	**9**	P	**Pn**	**00 31 27.2**	**+1.2**
JAG	**Ashikaga**	**2.97**	**16**	P	**Pn**	**00 31 30.7**	**+0.1**
MJAR	**Matsushiro Arr**	**2.97**	**356**	P	**Pn**	**00 31 31.2**	**+0.5**
	0.1nm,0.3s,baz=183,slow=12,SNR=4.3						
JWT	**Wachi**	**3.04**	**305**	P	**Pn**	**00 31 31.1**	**-0.3**
JHO	**Hitachi**	**3.50**	**29**	P	**Pn**	**00 31 35.5**	**-0.5**
JHO				*eS*	**S**	**00 32 21.6**	**-3.0**
JFK	**Kawauchi**	**4.28**	**27**	*eS*	**S**	**00 32 37.2**	**-2.8**
MKAR	**Makanchi Array**	**43.99**	**305**	P	**P**	**00 38 14.3**	**+0.8**
	0.3nm,0.5s,baz=91,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**53.36**	**185**	P	**P**	**00 39 23.9**	**-0.6**
	0.1nm,0.3s,baz=360,slow=8.2,SNR=2.8						
FINES	**FINESS Array B**	**70.73**	**332**	P	**P**	**00 41 20.1**	**+1.3**
	0.9nm,0.8s,baz=54,slow=7.6,SNR=6.2						

*NEIC **17** 00:32:53.9±0.0, 16°.65N×94°.08W, h155km, MD4.2(MEX), After MEX.*

MEX 17 00:32:53.6±0.5, **16°.66N×94°.08W, h157**km±6km, **MD4.2, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.88**	**299**	*eP*	Pn	00 33 16.4	-1.8
CMIG				*eS*	Sn	00 33 35.0	-2.0
CMIG	**Matias Romero**	**0.88**	**299**	*eP*	Pn	00 33 16.4	-1.8
CMIG				*eS*	Sn	00 33 35.0	-2.0
PCIG		**1.26**	**139**	*eP*	Pn	00 33 20.1	-1.2
PCIG				*eS*	Sn	00 33 40.8	-1.8
PCIG		**1.26**	**139**	*eP*	Pn	00 33 20.1	-1.2
PCIG				*eS*	Sn	00 33 40.8	-1.8
HUIG	**Huatulco**	**2.14**	**246**	*eP*	Pn	00 33 29.0	-1.8
HUIG	**Huatulco**	**2.14**	**246**	*eP*	Pn	00 33 29.0	-1.8
HUIG				*i S*	Sn	00 33 57.4	-2.1
VHO	**Vista Hermosa**	**2.58**	**280**	*eP*	Pn	00 33 36.7	+0.5
VHO	**Vista Hermosa**	**2.58**	**280**	*i P*	Pn	00 33 35.8	-0.4
VHO				*i S*	Sn	00 34 07.2	-1.9

*ISCJB **17** 01:16:50.4±0.3, 61°.49N±0°.02×140°.01W±0°.04, h10km, mb3.1/2, Error ellipse: s-maj=3.0km s-min=2.3km az=28.0*
*PGC **17** 01:16:52.0, 61°.41N×140°.05W, h1km, ML3.5/11, 154km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada*
*IDC **17** 01:16:52.0±0.9, 61°.62N×139°.91W, h0km, mb3.2/3, mb1 3.6/9, mb1mx3.4/55, mbtmp3.3/9, ML3.1/6, MS2.7/1, Ms1 2.8/1, ms1mx2.1/25, Error ellipse: s-maj=17.5km s-min=9.8km az=39.0*

ISC 17 01:16:50.4±0.6, **61°.48N**±0°.02×**140°.06W**±0°.02, **h10**km, **n40, σ2s21/69, Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK3	**Moose Creek**	**0.35**	**327**	P	**Pb**	**01 16 59.2**	**+0.3**
YUK3				S	**Sb**	**01 17 04.7**	**+0.2**
YUK2	**White River**	**0.48**	**310**	P	**Pb**	**01 17 01.3**	**+0.3**
YUK2				S	**Sb**	**01 17 08.9**	**+0.7**
YUK4	**Talbot Arm**	**0.69**	**101**	P	**Pb**	**01 17 05.0**	**+0.3**
YUK4				S	**Sb**	**01 17 15.0**	**+0.7**
CTGM	**Chitina Glacie**	**0.81**	**230**	P	**Pg**	**01 17 05.2**	**-0.7**
CTGM				S	**Sg**	**01 17 15.7**	**-0.7**
YUK6	**Outpost Mounta**	**0.98**	**123**	P	**Pg**	**01 17 08.6**	**-0.7**
YUK6				S	**Sg**	**01 17 21.5**	**-0.6**
BVCY	**Beaver Creek**	**1.01**	**338**	P	**Pn**	**01 17 11.1**	**+0.5**
BVCY				S	**Sn**	**01 17 25.3**	**+0.4**
YUK5	**Granite Creek**	**1.12**	**107**	P	**Pg**	**01 17 11.2**	**-0.7**
YUK5				S	**Sg**	**01 17 25.1**	**-1.3**
BALM	**Baldy**	**1.19**	**249**	P	**Pb**	**01 17 12.5**	**-0.5**
BALM				S	**Sn**	**01 17 29.1**	**-0.4**
PTPK	**Patty Peak**	**1.20**	**257**	P	**Pb**	**01 17 12.8**	**-0.4**
PTPK				S	**Sn**	**01 17 29.4**	**-0.3**
KIAG	**Kiagna River**	**1.25**	**244**	P	**Pn**	**01 17 13.3**	**-0.7**
KIAG				S	**Sg**	**01 17 29.9**	**-0.5**
YUK7	**Dusty Glacier**	**1.34**	**135**	P	**Pn**	**01 17 14.8**	**-0.5**
YUK7				S	**Sg**	**01 17 33.7**	**+0.3**
RKAV	**Rock Avalanche**	**1.34**	**208**	P	**Pn**	**01 17 14.6**	**-0.7**
RKAV				S	**Sb**	**01 17 31.7**	**-1.3**
SAMH	**Samovar Hills**	**1.40**	**195**	P	**Pb**	**01 17 16.1**	**-0.6**
SAMH				S	**Sn**	**01 17 34.0**	**-0.6**
HYT	**Haines Junctio**	**1.41**	**117**	Pn	**Pn**	**01 17 15.7**	**-0.4**
HYT				Sg	**Sg**	**01 17 34.7**	**-0.8**
MESA	**MESA**	**1.60**	**216**	Pn	**Pg**	**01 17 20.3**	**-0.7**
MESA				Sn	**Sb**	**01 17 39.6**	**-0.9**
PNL	**Peninsula**	**1.85**	**169**	Pn	**Pb**	**01 17 23.5**	**-0.7**
PNL				Sn	**Sb**	**01 17 46.9**	**-0.5**
HARP	**HAARP**	**2.58**	**293**	Pn	**Pb**	**01 17 34.9**	**-1.8**
DAWY	**Dawson**	**2.61**	**6**	Pn	**Pb**	**01 17 35.4**	**-1.8**
DAWY				Sg	**Sg**	**01 18 14.5**	**+0.3**
WHY	**Whitehorse**	**2.65**	**106**	Pn	**Pn**	**01 17 33.8**	**+0.6**
WHY				Pg	**Pg**	**01 17 39.2**	**-1.9**
WHY				Sg	**Sg**	**01 18 12.5**	**-2.9**
PLBC	**Pleasant Camp**	**2.73**	**136**	Pn	**Pn**	**01 17 36.0**	**+1.7**
PLBC				Sg	**Sg**	**01 18 14.9**	**-3.2**
DIV	**Divide**	**2.78**	**265**	Pn	**Pn**	**01 17 34.5**	**-0.4**
DIV				Sg	**Sg**	**01 18 17.6**	**-1.9**
DOT	**Dot Lake**	**2.86**	**321**	Pn	**Pn**	**01 17 38.1**	**+2.1**
DOT				Sg	**Sg**	**01 18 22.9**	**+0.9**
PAX	**Paxson**	**2.94**	**303**	Pn	**Pn**	**01 17 40.0**	**+2.8**
PAX				Sg	**Sg**	**01 18 27.4**	**+2.8**
BESE	**Bessie Mountai**	**3.91**	**136**	Pn	**Pn**	**01 17 51.8**	**+1.4**
BESE				Sg	**Sg**	**01 18 52.9**	**-2.9**
ILAR	**Eielson Array**	**4.53**	**320**	Pn	**Pn**	**01 18 00.1**	**+1.3**
	0.9nm,0.3s,baz=144,slow=13,SNR=59						
ILAR				Lg	Lg	01 19 15.0	
	6.3nm,0.3s,baz=125,slow=26,SNR=9.5						
ILAR				LR	LR	01 19 59.8	
	comp=Z,75nm,18.2s,baz=124,slow=42						
DLBC	**Dease Lake**	**5.89**	**117**	Pn	**Pn**	**01 18 18.8**	**+1.1**
DLBC				Sg	**Sg**	**01 19 54.7**	**-4.6**
DLBC	**Dease Lake**	**5.89**	**117**	Pn	**Pn**	**01 18 20.9**	**+3.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=3.8						
DLBC				Pg	**Pb**	**01 18 35.4**	**+2.3**
	1.1nm,0.3s,baz=302,slow=11,SNR=5.7						
DLBC				Lg	Lg	01 19 53.7	
	2.8nm,0.3s,baz=60,slow=23,SNR=7.0						
COLD	**Coldfoot**	**7.24**	**327**	Pn	**Pn**	**01 18 38.9**	**+2.8**
COLD				Sg	**Sg**	**01 20 39.3**	**-3.3**
KDAK	**Kodiak Island**	**7.35**	**245**	Pn	**Pn**	**01 18 39.7**	**+2.1**
	1.2nm,0.3s,baz=55,slow=6.1,SNR=12						
INK	**Inuvik**	**7.39**	**19**	Pn	**Pn**	**01 18 40.5**	**+2.5**
INK				Sn	**Sn**	**01 20 01.0**	**-0.8**
INK	**Inuvik**	**7.39**	**19**	Pn	**Pn**	**01 18 38.4**	**+0.3**
	0.2nm,0.3s,baz=207,slow=19,SNR=13						
INK				Sn	**Sn**	**01 19 53.3**	**-8.6**
	0.6nm,0.3s,baz=255,slow=16,SNR=3.6						
INK				Lg	Lg	01 20 41.4	
	1.3nm,0.3s,baz=98,slow=15,SNR=3.6						
FNBB	**Fort Nelson**	**8.88**	**99**	Pn	**Pn**	**01 18 57.6**	**-0.9**
FNBB				Sg	**Sg**	**01 21 27.0**	**-7.9**
DHRN	**Dharma Camp**	**10.49**	**49**	Pn	**Pn**	**01 19 20.9**	**+0.4**
YKW3	**Yellowknife Ar**	**11.97**	**74**	Pn	**Pn**	**01 19 41.3**	**+0.5**
YKA	**Yellowknife Ar**	**11.98**	**74**	Pn	**Pn**	**01 19 40.7**	**-0.2**
	0.1nm,0.3s,baz=270,slow=13,SNR=4.7						
YKA				Lg	Lg	01 23 09.5	
	0.0nm,0.3s,baz=277,slow=30,SNR=5.0						
KUKN	**Kugluktuk,NWT**	**12.37**	**48**	Pn	**Pn**	**01 19 47.1**	**+0.9**
NEW	**Newport**	**18.55**	**125**	P	**Pn**	**01 21 10.8**	**+3.6**
	0.1nm,0.3s,baz=21,slow=5.7,SNR=3.5						
RES	**Resolute Bay**	**20.66**	**32**	P	Pn	01 21 32.0	0.0
	1.1nm,0.8s,baz=260,slow=11,SNR=5.1						
PDAR	**Pinedale Array**	**26.10**	**122**	P	**P**	**01 22 27.0**	**+2.7**
	0.6nm,0.9s,baz=334,slow=12,SNR=2.8						
TXAR	**Lajitas Array**	**40.10**	**126**	P	**P**	**01 24 29.5**	**+3.6**
	0.3nm,0.8s,baz=353,slow=6.6,SNR=3.4						

*NIED **17** 01:20:00, 36°.30N×141°.40E, h29km, Mw3.7 Best double couple: M0=4.02000×10^14 NP1:φs=212.00000°, δ=34.00000°, λ=123.00000°. NP2:φs=353.00000°, δ=62.00000°, λ=70.00000°.*
*ISCJB **17** 01:20:22.8±0.9, 36°.26N±0°.05×141°.45E±0°.08, h44km±9km, mb3.6/7, MS3.1/2, Error ellipse: s-maj=11.1km s-min=7.9km az=1.7*
*JMA **17** 01:20:23.2±0.1, 36°.30N×141°.38E, h52km±3km, M3.6*
*IDC **17** 01:20:36.6±1.9, 35°.67N×139°.90E, h113km±16km, mb3.2/6, mb1 3.4/8, mb1mx3.2/53, mbtmp3.6/8, MS2.8/5, Ms1 2.8/5, ms1mx2.7/25, Error ellipse: s-maj=38.5km s-min=15.8km az=72.0*

ISC 17 01:20:22.3±1.9, **36°.29N**±0°.05×**141°.49E**±0°.09, **h26**km±12km, **n34, σ0s98/27, mb3.6/7, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.73**	**274**	P	**Pb**	**01 20 36.5**	**+0.2**
JHYU				S	**Sb**	**01 20 45.7**	**-0.2**
CHOJ	**Chosi**	**0.77**	**221**	P	**Pb**	**01 20 37.5**	**+0.4**
JHO	**Hitachi**	**0.81**	**294**	P	**Pb**	**01 20 37.2**	**-0.5**
JHO				S	**Sb**	**01 20 48.1**	**-0.1**
JIHU	**Itakohorinouch**	**0.84**	**248**	P	**Pb**	**01 20 38.7**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.98**	**326**	P	**Pn**	**01 20 40.0**	**-0.5**
JYT	**Yasato**	**1.05**	**267**	P	**Pn**	**01 20 40.6**	**-0.7**
JYT				S	**Sb**	**01 20 53.9**	**-1.1**
JFK	**Kawauchi**	**1.18**	**336**	P	**Pn**	**01 20 43.0**	**-0.3**
JFT	**Otama**	**1.54**	**323**	P	**Pn**	**01 20 48.9**	**+0.8**
JFT				*eS*	**Sn**	**01 21 06.7**	**-0.5**
JAG	**Ashikaga**	**1.65**	**275**	P	**Pn**	**01 20 49.2**	**-0.4**
JMM	**Marumori**	**1.67**	**341**	P	**Pn**	**01 20 50.3**	**+0.4**
JFY	**Yanaizu**	**1.81**	**309**	P	**Pn**	**01 20 52.9**	**+1.0**
JKT	**Katashina**	**1.86**	**286**	P	**Pn**	**01 20 53.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.66**	**276**	P	**Pn**	**01 21 04.7**	**+1.2**
	1.4nm,0.3s,baz=120,slow=8.4,SNR=95						
MJAR				S	**Sn**	**01 21 34.0**	**-0.8**
	1.2nm,0.3s,baz=80,slow=16,SNR=5.2						
MJAR				LR	LR	01 21 37.5	
	comp=Z,26nm,19.4s,baz=130,slow=38						
MAT	**Matsushiro**	**2.66**	**276**	P	**Pn**	**01 21 04.7**	**+1.2**
MAT				S	**Sn**	**01 21 36.2**	**+1.3**
JHJ	**Hachijo jima 2**	**3.46**	**204**	P	**Pn**	**01 21 15.8**	**+1.4**
	24nm,0.3s,baz=101,slow=22,SNR=9.4						
JHJ				S	**Sn**	**01 21 51.9**	**-2.7**
	16nm,0.3s,baz=54,slow=18,SNR=3.8						
ASAJ	**Asahikawa**	**7.87**	**6**	LR	LR	01 26 16.5	
	comp=Z,24nm,20.4s,baz=333,slow=39						
JNU	**Nakatsue**	**9.29**	**253**	LR	LR	01 26 11.0	
	comp=Z,54nm,20.3s,baz=358,slow=42						
USRK	**Ussuriysk Ar.**	**10.72**	**320**	P	Pn	01 23 03.4	+9.2
	0.1nm,0.3s,baz=126,slow=9.1,SNR=2.9						
KSRS	**Korea Array**	**10.93**	**280**	LR	LR	01 26 43.3	
	comp=Z,38nm,21.6s,baz=53,slow=37						
PETK	**Petropavlovsk-**	**20.31**	**29**	LR	LR	01 32 55.9	
	comp=Z,19nm,20.5s,baz=105,slow=34						
H11N2	**WAKE ISLAND Hy**	**27.72**	**120**	T	T	01 55 33.1	
	baz=312,slow=75,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**27.73**	**120**	T	T	01 55 34.0	
	baz=312,slow=75,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**27.74**	**120**	T	T	01 55 34.8	
	baz=312,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**28.41**	**122**	T	T	01 56 22.8	
	baz=311,SNR=13						
H11S3	**WAKE ISLAND Hy**	**28.41**	**122**	T	T	01 56 22.7	
	baz=311,slow=74,SNR=9.1						
H11S2	**WAKE ISLAND Hy**	**28.43**	**122**	T	T	01 56 25.8	
	baz=311,slow=74,SNR=6.0						
DAV	**Davao City (W)**	**32.52**	**210**	LR	LR	01 40 32.9	
	comp=Z,163nm,19.5s,baz=354,slow=38						
ZALV	**Zalesovo Beam**	**42.46**	**313**	P	**P**	**01 28 14.7**	**-0.3**
	0.7nm,0.6s,baz=95,slow=4.8,SNR=3.6						
MKAR	**Makanchi Array**	**44.57**	**303**	P	**P**	**01 28 32.8**	**+0.8**
	0.6nm,0.8s,baz=88,slow=8.6,SNR=5.8						
WRA	**Warramunga Arr**	**56.33**	**188**	P	**P**	**01 30 01.2**	**+0.1**
	0.5nm,0.5s,baz=3.1,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**60.06**	**188**	P	**P**	**01 30 25.9**	**-1.2**
	0.4nm,0.7s,baz=22,slow=7.3,SNR=4.8						
YKA	**Yellowknife Ar**	**64.42**	**30**	P	P	01 31 08.6	+13
	0.4nm,0.9s,baz=303,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**74.92**	**322**	P	**P**	**01 32 01.4**	**+0.6**
	0.6nm,0.5s,baz=46,slow=6.8,SNR=4.5						
TXAR	**Lajitas Array**	**90.53**	**52**	P	P	01 33 36.5	+14
	0.2nm,0.7s,baz=308,slow=4.4,SNR=2.8						

PGC 17 01:21:52.7, 61°.41N×140°.06W, h1km, ML2.2/11, 154km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK3	**Moose Creek**	**0.41**	**333**	P	Pg	01 21 59.9	-0.8
YUK3				S	Sg	01 22 05.6	-0.4
YUK2	**White River**	**0.53**	**316**	P	Pg	01 22 02.0	-0.9
YUK2				S	Sg	01 22 09.4	-0.3
YUK4	**Talbot Arm**	**0.68**	**95**	P	Pg	01 22 05.7	-0.1
YUK4				S	Sg	01 22 15.5	+0.8
CTGM	**Chitina Glacie**	**0.76**	**235**	P	Pg	01 22 05.9	-1.4
CTGM				S	Sg	01 22 16.9	-0.3
YUK6	**Outpost Mounta**	**0.95**	**119**	P	Pg	01 22 09.5	-1.3
YUK6				S	Sg	01 22 22.8	-0.3
BVCY	**Beaver Creek**	**1.08**	**340**	P	Pg	01 22 11.9	-1.4
BVCY				S	Sg	01 22 26.6	-0.7
YUK5	**Granite Creek**	**1.10**	**104**	P	Pg	01 22 12.1	-1.7
YUK5				S	Sg	01 22 26.1	-1.9
BALM	**Baldy**	**1.17**	**252**	P	Pg	01 22 13.4	-1.7
BALM				S	Sg	01 22 29.4	-0.8
PTPK	**Patty Peak**	**1.18**	**260**	P	Pg	01 22 13.6	-1.8
PTPK				S	Sg	01 22 30.1	-0.6
KIAG	**Kiagna River**	**1.22**	**247**	P	Pg	01 22 14.1	-1.9
KIAG				S	Sg	01 22 29.8	-1.9
RKAV	**Rock Avalanche**	**1.28**	**210**	P	Pg	01 22 15.9	-1.4
RKAV				S	Sg	01 22 31.4	-2.4
YUK7	**Dusty Glacier**	**1.29**	**132**	P	Pg	01 22 15.6	-1.8
YUK7				S	Sg	01 22 32.7	-1.4
SAMH	**Samovar Hills**	**1.33**	**196**	P	Pg	01 22 17.2	-1.1
SAMH				S	Sg	01 22 34.7	-0.8
HYT	**Haines Junctio**	**1.37**	**114**	Pn	Pg	01 22 16.9	-2.1
HYT				Sg	Sg	01 22 35.5	-1.3
MESA	**MESA**	**1.55**	**218**	Pn	Pn	01 22 21.2	-0.4
MESA				Sg	Sg	01 22 42.2	-0.1
PNL	**Peninsula**	**1.78**	**169**	Pn	Pn	01 22 24.5	-0.1
PNL				Sg	Sg	01 22 49.6	-0.2
WHY	**Whitehorse**	**2.63**	**104**	Pn	Pn	01 22 35.6	-0.8
WHY				Pg	Pb	01 22 39.8	-0.9
WHY				Sg	Sb	01 23 14.3	+0.9
DAWY	**Dawson**	**2.68**	**6**	Pn	Pn	01 22 36.3	-0.7
DAWY				Sg	Sb	01 23 15.6	+0.7
PLBC	**Pleasant Camp**	**2.68**	**135**	Pg	Pb	01 22 41.2	-0.3
PLBC				Sg	Sg	01 23 17.0	-1.8

*ISCJB **17** 01:31:20.8±0.6, 20°.38S±0°.03×69°.02W±0°.10, h116km±5km, mb3.6/4, Error ellipse: s-maj=15.1km s-min=4.8km az=174.5*
*GUC **17** 01:31:20.9±0.6, 20°.39S×68°.97W, h103km±3km, ML3.6*
*SJA **17** 01:31:20.6±0.5, 20°.38S×68°.99W, h109km±3km, ML3.1, MW3.5*
*IDC **17** 01:31:22.0±1.4, 20°.44S×68°.44W, h115km±13km, mb3.4/5, mb1 3.6/8, mb1mx3.3/36, mbtmp3.9/8, Error ellipse: s-maj=34.6km s-min=13.0km az=108.0*

ISC 17 01:31:20.6±0.8, **20°.37S**±0°.03×**68°.93W**±0°.08, **h108**km±7km, **n36, σ1s05/50, mb3.7/4, 2C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.31**	**316**	*eP*	**Pn**	**01 31 37.1**	**+0.5**
PB08				*eS*	**Sn**	**01 31 49.5**	**+1.0**
PB08	**IPOC Station P**	**0.31**	**316**	⇓*eP*	**Pn**	**01 31 36.7**	**+0.1**
PB08				*eS*	**Sn**	**01 31 48.9**	**+0.4**
PB08				IAML		01 31 50.0	
	comp=E,5μm,0.1s						
PB01	**IPOC Station P**	**0.85**	**218**	*eP*	**Pn**	**01 31 40.6**	**+0.4**
PB01				*eS*	**Sn**	**01 31 55.8**	**+0.8**
PB01	**IPOC Station P**	**0.85**	**218**	*eP*	**Pn**	**01 31 40.4**	**+0.1**
PB01				*eS*	**Sn**	**01 31 54.7**	**-0.3**
PB01				IAML		01 31 57.4	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**0.91**	**311**	*eP*	**Pn**	**01 31 41.2**	**+0.3**
PB11				*eS*	**Sn**	**01 31 57.1**	**+1.0**
PB11	**IPOC Station P**	**0.91**	**311**	⇓*iP*	**Pn**	**01 31 41.2**	**+0.3**
PB11				*eS*	**Sn**	**01 31 56.7**	**+0.6**
PB11				IAML		01 31 58.2	
	comp=E,3μm,0.2s						
PB02	**IPOC Station P**	**1.31**	**224**	*eP*	**Pn**	**01 31 45.8**	**+0.7**
PB02	**IPOC Station P**	**1.31**	**224**	⇑*iP*	**Pn**	**01 31 45.5**	**+0.4**
PB02				*eS*	**Sn**	**01 32 03.8**	**+0.1**
PB02				IAML		01 32 08.3	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**1.36**	**304**	*eP*	**Pn**	**01 31 46.1**	**+0.4**
PSGC				*eS*	**Sn**	**01 32 05.1**	**+0.4**
PSGC				IAML		01 32 06.8	
	comp=N,624nm,0.3s

HEKM				IAML_P				
	comp=Z,612nm,0.2s							
KMRS	**Kahramanmaras**	**0.94**	**243**	PG	**Pg**	**01 57 37.0**	**-1.5**
CUGUR	**Gurin_SVAS**	**0.96**	**326**	*i* P	**Pn**	**01 57 41.6**	**+0.6**
CUGUR				*i* S	**Sn**	**01 57 54.9**	**-0.3**
GAZ	**Gaziantep**	**0.97**	**218**	PG	**Pg**	**01 57 38.5**	**-0.5**
GAZ				SG	**Sb**	**01 57 53.3**	**+0.2**
ELZG	**Elazig**	**0.98**	**55**	*i* P	**Pg**	**01 57 38.1**	**-1.1**
ELZG				*i* S	**Sg**	**01 57 52.8**	**+0.8**
ELZG				IAML_P				
	comp=Z,2µm,0.1s							
HCB	**Kahramanmara**	**1.02**	**235**	*i* P	**Pg**	**01 57 39.9**	**-0.1**
HCB				*i* S	**Sb**	**01 57 54.4**	**-0.3**
HCB				IAML_P				
	comp=Z,1µm,0.1s							
ANDN	**Andirin**	**1.33**	**255**	*i* P	**Pg**	**01 57 45.0**	**-0.9**
ANDN				*i* S	**Sn**	**01 58 04.8**	**+0.5**
ANDN				IAML_P				
	comp=Z,952nm,0.2s							
KEMA	**Kemaliye**	**1.40**	**17**	*i* P	**Pb**	**01 57 47.7**	**+0.5**
SAIM	**ADANA**	**1.49**	**272**	*i* P	**Pn**	**01 57 48.7**	**+0.5**
SAIM				IAML_P				
	comp=Z,522nm,0.2s							
CUALT	**Altinyayla-SIV**	**1.64**	**325**	*i* P	**Pg**	**01 57 51.9**	**+0.1**
CUALT				*i* S	**Sg**	**01 58 15.9**	**+2.9**
KOZT	**Kozan**	**1.75**	**256**	PN	**Pn**	**01 57 50.9**	**-0.9**
BNN	**Bunyan**	**1.90**	**300**	PN	**Pn**	**01 57 52.9**	**-1.0**
SVSK	**Karacayir**	**2.12**	**340**	PN	**Pn**	**01 57 55.8**	**-1.0**

IDC ***17*** *02:04:51.1±0.7,9.52S×159.12E, h0km, mb4.0/10, mb1 1.4/12, mb1mx3.9/37, mbtmp4.0/12, ML3.5/2, MS3.9/1, Ms1 3.9/1, ms1mx2.6/32, Error ellipse: s-maj=21.8km s-min=13.4km az=167.0*

NEIC ***17*** *02:04:52.8±6.6, 9.50S×159.07E, h12km±43km, mb4.1/3, Error ellipse: s-maj=19.4km s-min=8.4km az=149.0*

ISC 17 02:04:54.2±0.6,9.38S±0.1×159.20E±0.07, h27km, n25, σ0.96/26, mb4.1/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.80**	**66**	*i* P	**Pb**	**02 05 09.5**	**0.0**
HNR				*i* S	**Sb**	**02 05 20.0**	**0.0**
HNR	**Honiara**	**0.80**	**66**	Pn	**Pn**	**02 05 10.5**	**+0.8**
	158nm,0.3s,baz=234,slow=6.8,SNR=29						
HNR				Sn	**Sn**	**02 05 22.0**	**+1.2**
	970nm,0.3s,baz=307,slow=20,SNR=52						
DZM	**Mont Dzumac**	**14.08**	**151**	Pn	**P**	**02 08 17.5**	**-2.0**
	0.1nm,0.3s,baz=300,slow=20,SNR=2.8						
CTA	**Charters Tower**	**16.17**	**229**	Pn	**Pn**	**02 08 40.5**	**+0.8**
	0.2nm,0.3s,baz=39,slow=14,SNR=2.8						
WRAB	**Tennant Creek**	**26.03**	**244**	*e*P	**P**	**02 10 25.4**	**+0.1**
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**26.04**	**244**	P	**P**	**02 10 24.7**	**-0.8**
	0.7nm,0.6s,baz=70,slow=9.7,SNR=4.6						
STKA	**Stephens Creek**	**27.40**	**214**	P	**P**	**02 10 39.0**	**+1.5**
	2.5nm,0.8s,baz=28,slow=17,SNR=3.6						
ASAR	**Alice Springs**	**27.83**	**237**	P	**P**	**02 10 44.7**	**+3.1**
	0.4nm,0.5s,baz=64,slow=11,SNR=12						
RAR	**Rarotonga**	**41.02**	**111**	LR	LR	02 26 18.6	
	comp=Z,182nm,21.5s,baz=9.0,slow=31						
KSRS	**Korea Array**	**55.36**	**330**	P	**P**	**02 14 25.3**	**-0.5**
	0.8nm,0.5s,baz=143,slow=7.0,SNR=5.8						
KSAR	**Wonju Array Be**	**55.37**	**330**	P	**P**	**02 14 25.3**	**-0.6**
PETK	**Petropavlovsk-**	**62.63**	**359**	P	**P**	**02 15 15.7**	**-0.3**
	0.9nm,0.4s,baz=167,slow=7.0,SNR=2.5						
PEA1	**Petropavlovsk-**	**62.64**	**359**	*e*P	**P**	**02 15 15.7**	**-0.4**
KLR	**Kul'dur**	**63.50**	**340**	P	**P**	**02 15 21.9**	**0.0**
	1.0nm,0.5s,baz=173,slow=5.9,SNR=7.8						
CM01	**Chiang Mai Arr**	**65.70**	**295**	*e*P	**P**	**02 15 36.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**65.72**	**295**	P	**P**	**02 15 37.3**	**+0.3**
	2.3nm,0.8s,baz=126,slow=4.6,SNR=9.9						
ILAR	**Eielson Array**	**84.45**	**20**	P	**P**	**02 17 23.9**	**-0.1**
	0.5nm,0.4s,baz=247,slow=4.7,SNR=13						
ILB	**Eielson Array**	**84.45**	**20**	*e*P	**P**	**02 17 23.9**	**-0.1**
	15nm,1.9s						
MK01	**Makanchi Array**	**88.21**	**318**	*e*P	**P**	**02 17 42.7**	**-0.3**
MK31	**Makanchi Array**	**88.22**	**318**	*e*P	**P**	**02 17 42.7**	**-0.3**
	1.1nm,1.0s						
MK32	**Makanchi Array**	**88.22**	**318**	*e*P	**P**	**02 17 42.8**	**-0.3**
MKAR	**Makanchi Array**	**88.22**	**318**	P	**P**	**02 17 42.8**	**-0.3**
	0.9nm,0.5s,baz=101,slow=5.8,SNR=12						
KDJ	**Kajisay**	**90.62**	**313**	*e*P	**P**	**02 17 54.1**	**-0.5**
	2.8nm,1.3s						
YKA	**Yellowknife Ar**	**96.82**	**28**	P	**P**	**02 18 22.1**	**-0.2**
	0.1nm,0.6s,baz=259,slow=5.2,SNR=4.9						
YKB5	**Yellowknife Ar**	**96.82**	**28**	*e*P	**P**	**02 18 22.1**	**-0.2**

PGC 17 02:17:29.2±0.0,60.22N×141.50W,h1km, ML2.1/10, 153km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKAV	**Rock Avalanche**	**0.11**	**44**	P	Pg	02 17 30.7	-0.6
RKAV				S	Sg	02 17 32.8	+0.1
MESA	**MESA**	**0.23**	**260**	P	Pg	02 17 33.0	-0.5
MESA				S	Sg	02 17 37.6	+1.0
SAMH	**Samovar Hills**	**0.37**	**104**	P	Pg	02 17 35.2	-1.0
SAMH				S	Sg	02 17 41.2	+0.2
CTGM	**Chitina Glacie**	**0.75**	**6**	P	Pg	02 17 42.2	-1.4
CTGM				S	Sg	02 17 52.9	-0.4
KIAG	**Kiagna River**	**0.82**	**329**	P	Pg	02 17 43.7	-1.2
KIAG				S	Sg	02 17 55.1	-0.5
BALM	**Baldy**	**0.92**	**333**	P	Pg	02 17 45.2	-1.5
PTPK	**Patty Peak**	**1.08**	**334**	P	Pg	02 17 47.9	-1.9
PTPK				S	Sg	02 18 02.8	-1.0
PNL	**Peninsula**	**1.20**	**117**	P	Pg	02 17 49.5	-2.5
PNL				S	Sg	02 18 07.1	-0.4
YUK2	**White River**	**1.60**	**11**	Pn	Pn	02 17 57.3	-1.4
YUK2				Sg	Sn	02 18 19.0	-1.1
YUK3	**Moose Creek**	**1.64**	**18**	Pn	Pn	02 17 58.2	-1.1
YUK3				Sg	Sn	02 18 20.7	-0.5
YUK7	**Dusty Glacier**	**1.70**	**78**	Pn	Pn	02 17 59.6	-0.5
YUK7				Sg	Sn	02 18 22.1	-0.4
YUK6	**Outpost Mounta**	**1.71**	**64**	Pn	Pn	02 17 59.5	-0.7
YUK6				Sg	Sn	02 18 21.4	-1.5
YUK4	**Talbot Arm**	**1.80**	**50**	Pn	Pb	02 18 02.5	-0.5
YUK4				Sg	Sg	02 18 28.0	+1.1
YUK5	**Granite Creek**	**2.01**	**61**	Pn	Pn	02 18 04.7	+0.3
YUK5				Sg	Sn	02 18 30.8	+0.6
HYT	**Haines Junctio**	**2.07**	**71**	Pn	Pn	02 18 05.0	-0.1
HYT				Sg	Sb	02 18 33.0	-0.8
BVCY	**Beaver Creek**	**2.22**	**8**	Pn	Pn	02 18 07.8	+0.6
BVCY				Sg	Sb	02 18 38.8	+0.7
DIV	**Divide**	**2.29**	**295**	Pn	Pn	02 18 05.6	-2.5
DIV				Sg	Sn	02 18 37.7	+0.7
PLBC	**Pleasant Camp**	**2.70**	**104**	Pn	Pn	02 18 12.0	-1.7
PLBC				Sn	Sn	02 18 45.1	-1.9
HARP	**HAARP**	**2.81**	**323**	Pn	Pn	02 18 15.6	+0.4
WHY	**Whitehorse**	**3.31**	**79**	Pn	Pn	02 18 21.3	-0.8
WHY				Sn	Sn	02 19 00.8	-1.4
WHY				Sg	Sb	02 19 12.2	+2.7
PAX	**Paxson**	**3.35**	**327**	Pn	Pn	02 18 23.9	+1.2

IDC ***17*** *02:34:25.1±1.9, 0.07N×124.65E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/40, mbtmp3.3/3, Error ellipse: s-maj=203.3km s-min=26.8km az=63.0*

ISCJB ***17*** *02:34:30.8±0.7, 1.01S±0.09×123.54E±0.04, h10km, mb3.3/3, Error ellipse: s-maj=13.5km s-min=5.5km az=175.7*

DJA ***17*** *02:34:31.4±0.6, 1°S±4°×12°3E±°, h11km±5km, M4.2/7, MLv4.2/7*

ISC 17 02:34:31.3±1.0,1.04S±0.09×123.49E±0.05, h10km, n9, σ1.38/11, mb3.3/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.72**	**270**	P	**Pb**	**02 34 46.4**	**+0.5**
LUWI				S	**Sb**	**02 34 55.8**	**-0.1**
APSI	**Ampana**	**1.85**	**274**	P	**Pn**	**02 35 03.2**	**+0.1**
APSI				S	**Sb**	**02 35 27.4**	**-1.0**
SANI	**Sanana**	**2.69**	**112**	P	**Pn**	**02 35 14.3**	**-0.3**
KDI	**Kendari**	**3.02**	**197**	P	**Pn**	**02 35 21.5**	**+2.3**
TNTI	**Ternate**	**4.27**	**65**	P	**Pn**	**02 35 36.6**	**+0.2**
TNTI				S	**Sn**	**02 36 27.1**	**+0.7**
BNSI	**Bone**	**4.75**	**225**	P	**Pb**	**02 35 52.2**	**-2.5**
WRA	**Warramunga Arr**	**21.57**	**151**	P	**P**	**02 39 20.8**	**-0.5**
	0.7nm,0.8s,baz=333,slow=10.0,SNR=6.4						
ASAR	**Alice Springs**	**24.65**	**157**	P	**P**	**02 39 53.8**	**+1.4**
	0.4nm,0.5s,baz=335,slow=7.2,SNR=7.8						
MKAR	**Makanchi Array**	**59.76**	**328**	P	P	02 44 29.6	-6.9
	0.2nm,0.4s,baz=122,slow=8.3,SNR=4.4						

IDC ***17*** *02:38:04.1±0.7, 11.75N×143.14E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/46, mbtmp4.0/13, ML4.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/44, Error ellipse: s-maj=29.5km s-min=15.6km az=94.0*

ISCJB ***17*** *02:38:07.0±0.4, 11.71N±0.05×143.17E±0.09, h32km, mb4.1/17, MS3.0/2, Error ellipse: s-maj=12.9km s-min=6.6km az=20.3*

NEIC ***17*** *02:38:08.6±3.5, 11.71N×143.21E, h31km±25km, mb4.2/6, Error ellipse: s-maj=13.1km s-min=6.2km az=98.0*

ISC 17 02:38:08.9±0.6,11.74N±0.08×143.2E±0.1, h32km, n39, σ0.82/33, mb4.1/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.45**	**41**	Pn	**Pn**	**02 38 46.3**	**-0.3**
	37nm,0.3s,baz=81,slow=0.9,SNR=11						
GUMO				Sn	**Sn**	**02 39 15.3**	**-0.1**
	29nm,0.3s,baz=198,slow=19,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**23.62**	**71**	T	T	03 07 59.0	
	baz=252,slow=74,SNR=2.5						
H11S1	**WAKE ISLAND Hy**	**23.64**	**71**	T	T	03 08 00.4	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**23.64**	**71**	T	T	03 07 59.4	
	baz=252,slow=74,SNR=2.9						
JNU	**Nakatsue**	**24.10**	**334**	LR	LR	02 52 26.2	
	comp=Z,33nm,18.6s,baz=160,slow=36						
H11N1	**WAKE ISLAND Hy**	**24.11**	**68**	T	T	03 08 33.1	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**24.12**	**68**	T	T	03 08 35.3	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**24.13**	**68**	T	T	03 08 37.4	
	baz=255						
MJAR	**Matsushiro Arr**	**25.10**	**350**	P	**P**	**02 43 31.9**	**+1.1**
	1.0nm,0.7s,baz=169,slow=9.3,SNR=3.7						
MAJO	**Matsushiro**	**25.10**	**350**	*e*P	**P**	**02 43 31.9**	**+1.1**
COEN	**Coen**	**25.54**	**180**	*e*P	**P**	**02 43 34.6**	**-0.3**
	4.9nm,1.0s						
WB2	**Warramunga Arr**	**32.67**	**196**	*e*P	**P**	**02 44 37.7**	**-0.7**
WB2				*e*S	**S**	**02 49 53.4**	**+0.6**
WR1	**Warramunga Arr**	**32.68**	**196**	*e*P	**P**	**02 44 37.7**	**-0.8**
	9.2nm,1.0s						
WRA	**Warramunga Arr**	**32.68**	**196**	P	**P**	**02 44 37.7**	**-0.8**
	3.4nm,0.7s,baz=19,slow=9.8,SNR=30						
AS01	**Alice Springs**	**36.34**	**194**	*e*P	**P**	**02 45 09.0**	**-1.1**
AS31	**Alice Springs**	**36.35**	**194**	*e*P	**P**	**02 45 10.1**	**-0.2**
	1.4nm,1.3s						
ASAR	**Alice Springs**	**36.35**	**194**	P	**P**	**02 45 10.1**	**-0.2**
	0.7nm,0.7s,baz=16,slow=13,SNR=13						
KLR	**Kul'dur**	**38.56**	**348**	P	**P**	**02 45 28.6**	**-0.1**
	1.1nm,0.7s,baz=150,slow=16,SNR=4.4						
DZM	**Mont Dzumac**	**40.60**	**146**	*e*P	**P**	**02 45 46.4**	**+0.4**
	42nm,1.9s						
DZM	**Mont Dzumac**	**40.60**	**146**	P	**P**	**02 45 46.8**	**+0.7**
	4.5nm,0.6s,baz=280,slow=5.3,SNR=11						
PETK	**Petropavlovsk-**	**42.86**	**13**	LR	LR	03 06 42.0	
	comp=Z,22nm,18.3s,baz=190,slow=40						
MK01	**Makanchi Array**	**61.70**	**317**	*e*P	**P**	**02 48 24.4**	**+0.3**
MK32	**Makanchi Array**	**61.71**	**317**	*e*P	**P**	**02 48 24.6**	**+0.4**
MKAR	**Makanchi Array**	**61.71**	**317**	P	**P**	**02 48 24.6**	**+0.4**
	0.7nm,0.8s,baz=96,slow=8.6,SNR=5.9						
KURK	**Kurchatov**	**64.96**	**321**	*e*P	**P**	**02 48 45.0**	**-0.6**
BRVK	**Borovoye**	**70.44**	**322**	*e*P	**P**	**02 49 19.6**	**-0.5**
IL1	**Eielson Array**	**70.92**	**25**	*e*P	**P**	**02 49 21.0**	**-1.8**
ILAR	**Eielson Array**	**70.92**	**25**	P	**P**	**02 49 21.8**	**-1.0**
	0.6nm,0.5s,baz=248,slow=5.7,SNR=19						
INK	**Inuvik**	**76.68**	**22**	P	**P**	**02 49 56.0**	**-0.5**
	0.4nm,0.5s,baz=303,slow=4.2,SNR=3.9						
ABKAR	**Akbulak array**	**76.82**	**318**	*e*P	**P**	**02 49 58.2**	**+0.6**
	2.0nm,1.0s						
YKA	**Yellowknife Ar**	**85.23**	**27**	P	**P**	**02 50 42.7**	**+0.6**
	0.6nm,0.6s,baz=287,slow=4.9,SNR=8.8						
YKB5	**Yellowknife Ar**	**85.23**	**27**	*e*P	**P**	**02 50 41.9**	**-0.2**
RES	**Resolute Bay**	**86.71**	**13**	*e*P	**P**	**02 50 49.8**	**+0.6**
	1.0nm,0.6s						
ARA0	**ARCESS Array S**	**88.33**	**342**	*e*P	**P**	**02 50 56.8**	**-0.3**
ARCES	**ARCESS Array B**	**88.33**	**342**	P	**P**	**02 50 56.8**	**-0.3**
	3.4nm,0.9s,baz=74,slow=6.7,SNR=6.6						
NV01	**Mina Array Sit**	**89.33**	**51**	*e*P	**P**	**02 51 03.0**	**+0.2**
NVAR	**Mina Array Bea**	**89.33**	**51**	P	**P**	**02 51 04.5**	**+1.7**
	1.3nm,0.6s,baz=275,slow=5.2,SNR=6.1						
FIA0	**FINESS Array S**	**92.14**	**335**	*e*P	**P**	**02 51 13.7**	**-1.4**
FINES	**FINESS Array B**	**92.14**	**335**	P	**P**	**02 51 13.7**	**-1.4**
	1.4nm,0.7s,baz=54,slow=4.2,SNR=6.9						

IDC 17 02:44:49.6±1.8,3.96S×150.24E, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.5/31, mbtmp3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/26, Error ellipse: s-maj=125.0km s-min=27.1km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.06**	**120**	LR	LR	02 51 27.3	
	comp=Z,93nm,20.3s,baz=355,slow=36						
WRA	**Warramunga Arr**	**22.20**	**223**	P	P	02 49 47.4	-0.4
	2.1nm,0.6s,baz=49,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**25.15**	**217**	P	P	02 50 17.4	+0.6
	1.8nm,0.7s,baz=53,slow=8.5,SNR=23						
KSRS	**Korea Array**	**46.14**	**335**	LR	LR	03 13 31.6	
	comp=Z,14nm,18.3s,baz=226,slow=37						
ILAR	**Eielson Array**	**82.36**	**23**	P	P	02 57 13.7	+0.5
	0.6nm,1.1s,baz=243,slow=5.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.62**	**288**	PKPbc	PKPdf	03 04 35.5	+1.0
	0.5nm,0.9s,baz=59,slow=2.4,SNR=3.2						

ISC 17 03:04:55.2±2.0,51.55N±0.09×16.11E±0.05, h0km, n13, σ0.84/24, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**171**	*e*Pg	**Pb**	**03 05 09.4**	**-1.0**
KSP				*e*Sg	**Sg**	**03 05 19.0**	**+1.0**
UPC	**Upice**	**1.04**	**183**	*e*PG	**Pb**	**03 05 15.6**	**-0.5**
UPC				*e*SG	**Sg**	**03 05 28.7**	**+0.1**
	comp=Z,9.3nm,0.6s						
DPC	**Dobruska-Polom**	**1.21**	**174**	*e*PG	**Pg**	**03 05 18.2**	**-0.1**
DPC				*e*SG	**Sg**	**03 05 33.8**	**-0.1**
	comp=Z,5.7nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pn**	**03 05 21.2**	**-0.9**
PVCC				*e*SG	**Sg**	**03 05 39.9**	**-0.5**
BRG	**Berggiesshubel**	**1.52**	**244**	PG	**Pn**	**03 05 23.1**	**-0.5**
BRG				SG	**Sg**	**03 05 42.8**	**-1.2**
	14nm,0.3s						
KRLC	**Kraliky**	**1.54**	**164**	*e*PG	**Pn**	**03 05 23.4**	**-0.4**
KRLC				*e*SG	**Sb**	**03 05 44.1**	**-0.4**
	comp=Z,1.6nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.84**	**208**	*e*SG	**Sn**	**03 05 52.5**	**+0.5**
PRU	**Pruhonice**	**1.85**	**213**	*e*PG	**Pn**	**03 05 28.7**	**+0.6**
PRU				*e*SG	**Sn**	**03 05 52.7**	**+0.5**
CLL	**Collm**	**1.96**	**264**	*e*Pg	**Pn**	**03 05 30.0**	**+0.4**
CLL				*e*Sg	**Sn**	**03 05 56.0**	**+1.1**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*PN	**Pn**	**03 05 30.0**	**-0.1**
MORC				*e*SG	**Sg**	**03 06 00.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*SG	**Sg**	**03 06 04.3**	**+0.2**
NKC	**Novy Kostel**	**2.67**	**242**	*e*SG	**Sg**	**03 06 20.3**	**-0.5**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PG	**Pb**	**03 05 48.6**	**+0.6**
KHC				*e*SN	**Sn**	**03 06 16.8**	**-1.7**
KHC				*e*SG	**Sb**	**03 06 25.9**	**+1.8**

WEL ***17*** *03:05:43.0, 36.85S±0.9×174.91E±1.0, h7km, ML4.2/17*

ISCJB ***17*** *03:05:44.4±0.3, 36.76S±0.03×174.90E±0.03, h10km±2km, mb3.6/2, Error ellipse: s-maj=4.3km s-min=4.0km az=167.4*

IDC ***17*** *03:05:51.1±4.8, 36.96S×175.00E, h61km±60km, mb3.5/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=54.8km s-min=27.1km az=152.0*

ISC 17 03:05:44.2±0.8,36.78S±0.03×174.98E±0.03, h11km±5km, n108, σ1.91/47/115, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAZ	**Motutapu North**	**0.06**	**276**	P	**Pg**	**03 05 45.9**	**-0.6**
MBAZ				S	**Sg**	**03 05 47.2**	**-1.0**
WIAZ	**Waiheke Island**	**0.13**	**98**	P	**Pg**	**03 05 47.9**	**+0.6**
WIAZ				S	**Sg**	**03 05 50.6**	**+1.0**
ETAZ	**East Tamaki Re**	**0.18**	**192**	P	**Pg**	**03 05 48.3**	**+0.1**
ETAZ				S	**Sg**	**03 05 51.4**	**+0.4**
ABAZ	**Army Bay**	**0.21**	**326**	P	**Pg**	**03 05 48.3**	**-0.3**
ABAZ				S	**Sg**	**03 05 51.6**	**0.0**
HBAZ	**Herne Bay Bore**	**0.21**	**249**	P	**Pg**	**03 05 48.4**	**-0.2**
HBAZ				S	**Sg**	**03 05 50.9**	**-0.8**
EPAZ	**Eden Park BICE**	**0.21**	**242**	P	**Pg**	**03 05 48.5**	**-0.2**
EPAZ				S	**Sg**	**03 05 51.4**	**-0.4**
RVAZ	**Riverhead Bore**	**0.32**	**271**	P	**Pg**	**03 05 50.4**	**-0.2**
KBAZ	**Karaka Road Bo**	**0.33**	**192**	P	**Pb**	**03 05 51.2**	**-0.9**
MKAZ	**Moumakai**	**0.36**	**156**	P	**Pb**	**03 05 51.8**	**-0.9**
WTAZ	**Waiatarua**	**0.36**	**244**	P	**Pg**	**03 05 51.6**	**+0.2**
AWAZ	**Awhitu Peninsu**	**0.39**	**223**	P	**Pg**	**03 05 52.2**	**+0.2**
KUZ	**Kuaotunu**	**0.60**	**87**	P	**Pb**	**03 05 56.5**	**-0.2**
GRZ	**Great Barrier**	**0.65**	**37**	P	**Pb**	**03 05 57.3**	**-0.3**
WCZ	**Waipu Caves**	**0.98**	**328**	P	**Pg**	**03 06 01.7**	**-1.3**
TOZ	**Tahuroa Road**	**1.04**	**156**	P	**Pb**	**03 06 03.7**	**-0.6**
MYRZ	**Mayor Island**	**1.13**	**117**	P	**Pn**	**03 06 06.6**	**+0.7**
KMRZ	**Kaimai**	**1.32**	**145**	P	**Pb**	**03 06 08.4**	**-0.6**
TGRZ	**Tauranga**	**1.40**	**133**	P	**Pb**	**03 06 10.4**	**+0.1**
KARZ	**Kaharoa**	**1.60**	**141**	P	**Pn**	**03 06 12.6**	**+0.1**
TLZ	**Tolley Road**	**1.61**	**164**	P	**Pn**	**03 06 12.4**	**-0.2**
NGRZ	**Ngongotaha**	**1.64**	**144**	P	**Pn**	**03 06 12.9**	**-0.1**
OPRZ	**Ohinepanea**	**1.65**	**131**	P	**Pg**	**03 06 14.7**	**-1.2**
LIRZ	**Lichensteins R**	**1.66**	**138**	P	**Pg**	**03 06 15.2**	**-0.9**
UTU	**Utuhina**	**1.70**	**146**	P	**Pg**	**03 06 15.9**	**-1.0**
OMRZ	**Omania**	**1.73**	**141**	P	**Pg**	**03 06 15.8**	**-1.6**
HIZ	**Hauiti**	**1.74**	**183**	P	**Pn**	**03 06 14.0**	**-0.3**
MKRZ	**Makatiti**	**1.81**	**139**	P	**Pg**	**03 06 17.6**	**-1.3**
GRRZ	**Galatos Road**	**1.81**	**151**	P	**Pb**	**03 06 17.3**	**-0.1**
MARZ	**Manawahe**	**1.81**	**132**	P	**Pg**	**03 06 18.1**	**-0.9**
HSRZ	**Hossack Road**	**1.83**	**147**	P	**Pb**	**03 06 17.6**	**-0.2**
HLRZ	**Highlands Stat**	**1.84**	**144**	P	**Pb**	**03 06 18.6**	**-0.9**
KUTZ	**Kaahu Road**	**1.84**	**159**	P	**Pn**	**03 06 15.7**	**0.0**
TARZ	**Mount Tarawera**	**1.90**	**141**	P	**Pg**	**03 06 20.3**	**-0.3**
OUZ	**Omahuta**	**1.91**	**324**	P	**Pn**	**03 06 16.8**	**+0.1**
HRRZ	**Handcock Road**	**1.92**	**148**	P	**Pb**	**03 06 19.0**	**-0.2**
WPRZ	**Whakapapataran**	**1.98**	**152**	P	**Pg**	**03 06 21.0**	**-1.1**
WATZ	**Wairara**	**2.02**	**163**	P	**Pn**	**03 06 18.5**	**+0.3**
WHTZ	**Whakaora**	**2.04**	**158**	P	**Pg**	**03 06 22.8**	**-0.5**
PRRZ	**Plateau Road**	**2.06**	**147**	P	**Pg**	**03 06 24.1**	**+0.5**
ALRZ	**Allen Road**	**2.09**	**149**	P	**Pg**	**03 06 22.6**	**-1.6**
RATZ	**Rangitukua**	**2.18**	**163**	P	**Pn**	**03 06 20.9**	**+0.4**
URZ	**Urewera**	**2.25**	**132**	P	**Pb**	**03 06 23.8**	**-1.0**
	5.1nm,0.3s,baz=278,slow=6.3,SNR=21						
URZ	**Urewera**	**2.25**	**132**	P	**Pb**	**03 06 23.9**	**-1.0**
KATZ	**Kakaramea**	**2.27**	**166**	P	**Pn**	**03 06 23.0**	**+1.3**
RITZ	**Rihia Road**	**2.31**	**163**	P	**Pb**	**03 06 25.0**	**-0.9**
TWVZ	**Taurewa**	**2.32**	**171**	P	**Pn**	**03 06 22.4**	**0.0**
VRZ	**Vera Road**	**2.35**	**184**	P	**Pn**	**03 06 23.9**	**+1.1**
MHEZ	**Mangahewa**	**2.35**	**192**	P	**Pg**	**03 06 28.1**	**-1.3**
KRVZ	**Karewarewa**	**2.38**	**167**	P	**Pn**	**03 06 23.1**	**-0.1**
WTVZ	**West Tongariro**	**2.39**	**168**	P	**Pn**	**03 06 23.9**	**+0.6**
HAZ	**Te Kaha**	**2.44**	**114**	P	**Pn**	**03 06 24.4**	**+0.4**
RUGZ	**Raukumara Rang**	**2.46**	**120**	P	**Pn**	**03 06 24.2**	**-0.1**
FWVZ	**Far West T-bar**	**2.52**	**170**	P	**Pn**	**03 06 26.0**	**+0.7**
PKE	**Pukeiti**	**2.54**	**198**	P	**Pn**	**03 06 26.9**	**+1.6**
MTHZ	**Maungataniwha**	**2.55**	**145**	P	**Pb**	**03 06 28.7**	**-1.2**
TUVZ	**Tukino**	**2.55**	**168**	P	**Pn**	**03 06 26.6**	**+1.1**
WHVZ	**Whangaehu Hut**	**2.55**	**169**	P	**Pn**	**03 06 26.4**	**+0.7**
MWZ	**Matawai**	**2.56**	**128**	P	**Pn**	**03 06 27.0**	**+1.4**
TRVZ	**Turoa**	**2.56**	**170**	P	**Pn**	**03 06 26.2**	**+0.4**
KHEZ	**Kahui Hut**	**2.63**	**197**	P	**Pn**	**03 06 28.0**	**+1.3**
MTVZ	**Mangateitei**	**2.63**	**172**	P	**Pn**	**03 06 27.1**	**+0.4**

	comp=N,9260µm,1.3s								
CUC					AML	AML			
	comp=E,16950µm,1.2s								
CUC					AML	AML			
	comp=N,11450µm,1.3s								
CUC					AML	AML			
	comp=E,13750µm,1.2s								
CUC					AML	AML			
	comp=N,9260µm,1.3s								
CUC					AML	AML			
	comp=E,16950µm,1.2s								
CUC					AML	AML			
	comp=N,11450µm,1.3s								
CUC					AML	AML			
	comp=E,13800µm,1.2s								
CUC					AML	AML			
	comp=N,9265µm,1.3s								
CUC					AML	AML			
	comp=E,16950µm,1.2s								
CUC					AML	AML			
	comp=N,11450µm,1.3s								
CUC					AML	AML			
	comp=E,13800µm,1.2s								
CUC					AML	AML			
	comp=E,16950µm,1.2s								
CUC					AML	AML			
	comp=N,9265µm,1.3s								
CUC					AML	AML			
	comp=N,11450µm,1.3s								
SALB	**San Lorenzo Be**	**0.26**	**95**	*i* P		**Pg**	**03 10 51.8**	**-1.0**	
SALB				S		**Sg**	**03 10 55.7**	**-0.5**	
SALB				AML	AML				
	comp=E,14900µm,0.3s								
SALB					AML	AML			
	comp=N,8585µm,0.2s								
SALB					AML	AML			
	comp=E,15500µm,0.3s								
SALB					AML	AML			
	comp=N,9095µm,1.0s								
SALB					AML	AML			
	comp=E,14900µm,0.3s								
SALB					AML	AML			
	comp=N,8585µm,0.2s								
SALB					AML	AML			
	comp=E,15500µm,0.3s								
SALB					AML	AML			
	comp=N,9095µm,1.0s								
SALB					AML	AML			
	comp=E,14950µm,0.3s								
SALB					AML	AML			
	comp=N,8590µm,0.2s								
SALB					AML	AML			
	comp=E,15500µm,0.3s								
SALB					AML	AML			
	comp=N,9095µm,1.0s								
SALB					AML	AML			
	comp=E,15500µm,0.3s								
SALB					AML	AML			
	comp=E,14950µm,0.3s								
SALB					AML	AML			
	comp=N,9095µm,1.0s								
SALB					AML	AML			
	comp=N,8590µm,0.2s								
SIRI	**Monte Sirino -**	**0.30**	**338**	P		**Pg**	**03 10 53.0**	**-0.8**	
SIRI				S		**Sg**	**03 10 58.9**	**+1.2**	
SIRI				AML	AML				
	comp=E,9665µm,1.6s								
SIRI					AML	AML			
	comp=N,7925µm,1.4s								
SIRI					AML	AML			
	comp=E,9765µm,1.6s								
SIRI					AML	AML			
	comp=N,8010µm,1.4s								
SIRI					AML	AML			
	comp=E,9665µm,1.6s								
SIRI					AML	AML			
	comp=N,7930µm,1.4s								
SIRI					AML	AML			
	comp=E,9765µm,1.6s								
SIRI					AML	AML			
	comp=N,8010µm,1.4s								
SIRI					AML	AML			
	comp=E,9665µm,1.6s								
SIRI					AML	AML			
	comp=N,7930µm,1.4s								
SIRI					AML	AML			
	comp=E,9765µm,1.6s								
SIRI					AML	AML			
	comp=N,8010µm,1.4s								
SIRI					AML	AML			
	comp=N,8010µm,1.4s								
SIRI					AML	AML			
	comp=E,9765µm,1.6s								
SIRI					AML	AML			
	comp=E,9665µm,1.6s								
SIRI					AML	AML			
	comp=N,7930µm,1.4s								
ORI	**Oriolo Calabro**	**0.37**	**64**	*e*P		**Pg**	**03 10 54.1**	**-0.9**	
ORI				S		**Sb**	**03 11 00.9**	**-2.5**	
ORI				AML	AML				
	comp=E,17000µm,0.6s								
ORI					AML	AML			
	comp=N,12800µm,0.6s								
ORI					AML	AML			
	comp=E,17000µm,0.6s								
ORI					AML	AML			
	comp=N,12800µm,0.6s								
ORI					AML	AML			
	comp=N,12800µm,0.6s								
ORI					AML	AML			
	comp=E,17000µm,0.6s								
CET2	**Cetraro**	**0.38**	**187**	*i* P		**Pg**	**03 10 54.7**	**-0.4**	
CET2				S		**Sg**	**03 11 00.5**	**+0.5**	
CET2				AML	AML				
	comp=E,11300µm,0.4s								
CET2					AML	AML			
	comp=N,17100µm,0.4s								
CET2					AML	AML			
	comp=E,11300µm,0.4s								
CET2					AML	AML			
	comp=N,17100µm,0.4s								
CET2					AML	AML			
	comp=E,11300µm,0.4s								
CET2					AML	AML			
	comp=N,17100µm,0.4s								
CET2					AML	AML			
	comp=N,17100µm,0.4s								
CET2					AML	AML			
	comp=E,11300µm,0.4s								
MGR	**Morigerati**	**0.42**	**304**	P		**Pg**	**03 10 54.9**	**-1.1**	
MGR				S		**Sg**	**03 11 01.9**	**+0.3**	
MGR				AML	AML				
	comp=E,4015µm,0.7s								
MGR					AML	AML			
	comp=N,3450µm,1.6s								
MGR					AML	AML			
	comp=E,3955µm,0.4s								
MGR					AML	AML			
	comp=N,3485µm,0.3s								
MGR					AML	AML			
	comp=E,4015µm,0.7s								
MGR					AML	AML			
	comp=N,3450µm,1.6s								
MGR					AML	AML			
	comp=E,3950µm,0.4s								
MGR					AML	AML			
	comp=N,3485µm,0.3s								
MGR					AML	AML			
	comp=E,4015µm,0.7s								
MGR					AML	AML			
	comp=N,3445µm,1.6s								
MGR					AML	AML			
	comp=E,3950µm,0.4s								
MGR					AML	AML			
	comp=N,3485µm,0.3s								
MGR					AML	AML			
	comp=N,3445µm,1.6s								
MGR					AML	AML			
	comp=E,4015µm,0.7s								
MGR					AML	AML			
	comp=N,3485µm,0.3s								
MGR					AML	AML			
	comp=E,3950µm,0.4s								
MCEL	**Monticello**	**0.45**	**339**	P		**Pg**	**03 10 55.3**	**-1.3**	
MCEL				AML	AML				
	comp=E,2790µm,1.3s								
MCEL					AML	AML			
	comp=N,3045µm,0.8s								
MCEL					AML	AML			
	comp=E,2780µm,0.7s								
MCEL					AML	AML			
	comp=N,3080µm,0.8s								
MCEL					AML	AML			
	comp=E,2790µm,1.3s								
MCEL					AML	AML			
	comp=N,3045µm,0.8s								
MCEL					AML	AML			
	comp=E,2780µm,0.7s								
MCEL					AML	AML			
	comp=N,3080µm,0.8s								
MCEL					AML	AML			
	comp=E,2795µm,1.3s								
MCEL					AML	AML			
	comp=N,3080µm,0.8s								
MCEL					AML	AML			
	comp=N,3045µm,0.8s								
MCEL					AML	AML			
	comp=E,2780µm,0.7s								
MCEL					AML	AML			
	comp=E,2795µm,1.3s								
BULG	**Bulgheria - Ca**	**0.52**	**290**	P		**Pg**	**03 10 56.7**	**-1.1**	
BULG				AML	AML				
	comp=E,2845µm,0.6s								
BULG					AML	AML			
	comp=N,5055µm,0.4s								
BULG					AML	AML			
	comp=E,2875µm,0.6s								
BULG					AML	AML			
	comp=N,5150µm,0.4s								
BULG					AML	AML			
	comp=E,2845µm,0.6s								
BULG					AML	AML			
	comp=N,5050µm,0.4s								
BULG					AML	AML			
	comp=E,2870µm,0.6s								
BULG					AML	AML			
	comp=N,5150µm,0.4s								
BULG					AML	AML			
	comp=E,2850µm,0.6s								
BULG					AML	AML			
	comp=N,5055µm,0.4s								
BULG					AML	AML			
	comp=E,2870µm,0.6s								
BULG					AML	AML			
	comp=N,5150µm,0.4s								
BULG					AML	AML			
	comp=N,5055µm,0.4s								
SLCN	**Sala Consilina**	**0.57**	**329**	P		**Pg**	**03 10 57.7**	**-1.1**	
SLCN				AML	AML				
	comp=E,5555µm,0.4s								
SLCN					AML	AML			
	comp=N,4625µm,0.5s								
SLCN					AML	AML			
	comp=E,5895µm,0.5s								
SLCN					AML	AML			
	comp=N,4465µm,0.5s								
SLCN					AML	AML			
	comp=E,5560µm,0.5s								
SLCN					AML	AML			
	comp=N,4625µm,0.5s								
SLCN					AML	AML			
	comp=E,5895µm,0.5s								
SLCN					AML	AML			
	comp=N,4465µm,0.5s								
SLCN					AML	AML			
	comp=E,5560µm,0.5s								
SLCN					AML	AML			
	comp=N,4625µm,0.5s								
SLCN					AML	AML			
	comp=N,4465µm,0.5s								
SLCN					AML	AML			
	comp=E,5895µm,0.5s								
CELI	**Celico**	**0.63**	**142**	P		**Pg**	**03 10 59.4**	**-0.5**	
CELI				AML	AML				
	comp=E,1920µm,0.7s								
CELI					AML	AML			
	comp=N,3595µm,0.4s								
CELI					AML	AML			
	comp=E,4725µm,0.7s								
CELI					AML	AML			
	comp=N,8865µm,0.4s								
CELI					AML	AML			
	comp=E,1920µm,0.7s								
CELI					AML	AML			
	comp=N,3600µm,0.4s								
CELI					AML	AML			
	comp=E,4725µm,0.7s								
CELI					AML	AML			
	comp=N,8865µm,0.4s								
CELI					AML	AML			
	comp=N,8865µm,0.4s								
CELI					AML	AML			
	comp=N,3600µm,0.4s								
CELI					AML	AML			
	comp=E,4725µm,0.7s								
CELI					AML	AML			
	comp=E,1920µm,0.7s								
CMPR	**Campora**	**0.69**	**308**	P		**Pg**	**03 10 59.4**	**-1.7**	
CMPR				AML	AML				
	comp=E,2465µm,1.6s								
CMPR					AML	AML			
	comp=N,3750µm,0.5s								
CMPR					AML	AML			
	comp=E,2465µm,1.6s								
CMPR					AML	AML			
	comp=N,3750µm,0.5s								
CMPR					AML	AML			
	comp=N,3750µm,0.5s								
CMPR					AML	AML			
	comp=E,2465µm,1.6s								
PIPA	**Pietrapaola**	**0.75**	**124**	P		**Pg**	**03 11 02.0**	**-0.1**	
PIPA				AML	AML				
	comp=E,1052µm,0.7s								
PIPA					AML	AML			
	comp=N,978µm,0.5s								
PIPA					AML	AML			
	comp=E,1051µm,0.7s								
PIPA					AML	AML			
	comp=N,978µm,0.5s								
PIPA					AML	AML			
	comp=E,1051µm,0.7s								
PIPA					AML	AML			
	comp=N,978µm,0.5s								
MIGL	**Miglionico**	**0.78**	**25**	P		**Pg**	**03 11 00.8**	**-1.9**	
MIGL				AML	AML				
	comp=E,3510µm,0.4s								
MIGL					AML	AML			
	comp=N,3030µm,1.6s								
MIGL					AML	AML			
	comp=E,3510µm,0.4s								
MIGL					AML	AML			
	comp=N,3030µm,1.6s								
MIGL					AML	AML			
	comp=N,3030µm,1.6s								
MIGL					AML	AML			
	comp=E,3510µm,0.4s								
ACER	**Acerenza**	**0.89**	**357**	P		**Pg**	**03 11 03.5**	**-1.3**	
ACER				AML	AML				
	comp=E,3055µm,0.5s								
ACER					AML	AML			
	comp=N,2045µm,0.6s								
ACER					AML	AML			
	comp=E,3130µm,0.6s								
ACER					AML	AML			
	comp=N,2085µm,0.6s								
ACER					AML	AML			
	comp=E,3055µm,0.5s								
ACER					AML	AML			
	comp=N,2045µm,0.6s								
ACER					AML	AML			
	comp=E,3130µm,0.6s								
ACER					AML	AML			
	comp=N,2085µm,0.6s								
ACER					AML	AML			
	comp=E,3055µm,0.5s								
ACER					AML	AML			
	comp=E,3130µm,0.6s								
ACER					AML	AML			
	comp=N,2085µm,0.6s								
ACER					AML	AML			
	comp=N,2045µm,0.6s								
MATE	**Matera**	**0.92**	**35**	⇑*i* P		**Pb**	**03 11 05.3**	**-1.1**	
MATE	**Matera**	**0.92**	**35**	S		**Sn**	**03 11 21.2**	**-0.1**	
TIP	**Timpagrande**	**0.92**	**141**	⇑*i* P		**Pb**	**03 11 06.2**	**-0.4**	
TIP	**Timpagrande**	**0.92**	**141**	S		**Sn**	**03 11 22.0**	**+0.4**	
TIP	**Timpagrande**	**0.92**	**141**	P		**Pg**	**03 11 05.3**	**-0.3**	
TIP				AML	AML				
	comp=E,534µm,1.2s								
TIP					AML	AML			
	comp=N,542µm,1.0s								
TIP					AML	AML			
	comp=E,633µm,1.2s								
TIP					AML	AML			
	comp=N,682µm,1.0s								
TIP					AML	AML			
	comp=E,534µm,1.2s								
TIP					AML	AML			
	comp=N,542µm,1.0s								
TIP					AML	AML			
	comp=E,633µm,1.2s								
TIP					AML	AML			
	comp=N,682µm,1.0s								
TIP					AML	AML			
	comp=E,534µm,1.2s								
TIP					AML	AML			
	comp=N,682µm,1.0s								
TIP					AML	AML			
	comp=N,542µm,1.0s								
TIP					AML	AML			
	comp=E,633µm,1.2s								
LTRZ	**Laterza**	**0.93**	**41**	P		**Pg**	**03 11 03.9**	**-1.9**	
LTRZ				AML	AML				
	comp=E,1390µm,0.7s								
LTRZ					AML	AML			
	comp=N,1335µm,0.5s								
LTRZ					AML	AML			
	comp=E,1395µm,0.7s								
LTRZ					AML	AML			
	comp=N,1335µm,0.5s								
LTRZ					AML	AML			
	comp=E,1395µm,0.7s								
LTRZ					AML	AML			
	comp=N,1335µm,0.5s								
SERS	**Sersale**	**1.01**	**149**	P		**Pg**	**03 11 06.3**	**-0.9**	
SERS				AML	AML				
	comp=E,716µm,0.8s								
SERS					AML	AML			
	comp=N,726µm,0.6s								
SERS					AML	AML			
	comp=E,733µm,1.1s								
SERS					AML	AML			
	comp=N,704µm,0.7s								
SERS					AML	AML			
	comp=E,716µm,0.8s								
SERS					AML	AML			
	comp=N,726µm,0.6s								
SERS					AML	AML			
	comp=E,734µm,1.1s								
SERS					AML	AML			
	comp=N,704µm,0.7s								
SERS					AML	AML			
	comp=E,734µm,1.1s								
SERS					AML	AML			
	comp=N,726µm,0.6s								
SERS					AML	AML			
	comp=E,716µm,0.8s								
SERS					AML	AML			
	comp=N,704µm,0.7s								
SG1	**Sgolgore (BA)**	**1.07**	**28**	*e*Pg		**Pg**	**03 11 06.8**	**-1.5**	
SG1				Sg		**Sn**	**03 11 25.6**	**+0.5**	
GRI	**Girifalco**	**1.12**	**164**	P		**Pb**	**03 11 08.4**	**-1.6**	
GRI				AML	AML				
	comp=E,712µm,0.6s								
GRI					AML	AML			
	comp=N,624µm,0.4s								
GRI					AML	AML			
	comp=E,713µm,0.6s								
GRI					AML	AML			
	comp=N,624µm,0.4s								
GRI					AML	AML			
	comp=N,624µm,0.4s								
GRI					AML	AML			
	comp=E,713µm,0.6s								
MASS	**Massafra**	**1.13**	**49**	*e*Pg		**Pb**	**03 11 09.0**	**-1.1**	
MASS				Sg		**Sn**	**03 11 31.2**	**+4.5**	
TAR1	**Taranto**	**1.16**	**57**	*e*Pg		**Pb**	**03 11 09.6**	**-0.9**	
MRVN	**Minervino Murg**	**1.17**	**7**	P		**Pb**	**03 11 09.4**	**-1.3**	
MRVN				AML	AML				
	comp=E,522µm,1.1s								
MRVN					AML	AML			
	comp=N,358µm,0.6s								
MRVN					AML	AML			
	comp=E,522µm,1.1s								
MRVN					AML	AML			
	comp=N,357µm,0.6s								
MRVN					AML	AML			
	comp=E,522µm,1.1s								
MRVN					AML	AML			
	comp=N,357µm,0.6s								
NOCI	**Noci**	**1.20**	**42**	P		**Pb**	**03 11 09.6**	**-1.6**	
NOCI				AML	AML				
	comp=E,735µm,0.5s								
NOCI					AML	AML			
	comp=N,984µm,0.6s								
NOCI					AML	AML			
	comp=E,735µm,0.5s								
NOCI					AML	AML			
	comp=N,984µm,0.6s								
NOCI					AML	AML			
	comp=E,735µm,0.5s								
NOCI					AML	AML			
	comp=N,984µm,0.6s								
JOPP	**Joppolo**	**1.30**	**184**	P		**Pn**	**03 11 11.1**	**-1.8**	
JOPP				AML	AML				
	comp=E,648µm,1.3s								
JOPP					AML	AML			
	comp=N,764µm,0.6s								
JOPP					AML	AML			
	comp=E,648µm,1.3s								
JOPP					AML	AML			
	comp=N,764µm,0.6s								
JOPP					AML	AML			
	comp=N,764µm,0.6s								
JOPP					AML	AML			
	comp=E,648µm,1.3s								
CGL1	**Ceglie Messapi**	**1.35**	**56**	*e*Pg		**Pn**	**03 11 12.7**	**-0.9**	
CGL1				Sg		**Sg**	**03 11 33.5**	**+2.3**	
BAI	**Bari**	**1.37**	**28**	*e*Pg		**Pg**	**03 11 14.1**	**-0.1**	
BAI				Sg		**Sg**	**03 11 36.6**	**+4.6**	
FASA	**Fasano**	**1.37**	**48**	*e*Pg		**Pb**	**03 11 13.3**	**-0.9**	
FASA				Sg		**Sg**	**03 11 35.2**	**+3.2**	
PLAC	**Placanica**	**1.49**	**167**	P		**Pn**	**03 11 13.9**	**-1.6**	
PLAC				AML	AML				
	comp=E,390µm,0.7s								
PLAC					AML	AML			
	comp=N,396µm,1.2s								
PLAC					AML	AML			
	comp=E,390µm,0.7s								
PLAC					AML	AML			
	comp=N,396µm,1.2s								
PLAC					AML	AML			
	comp=N,396µm,1.2s								
PLAC					AML	AML			
	comp=E,390µm,0.7s								
MSAG	**Monte S. Angel**	**1.81**	**358**	P		**Pn**	**03 11 19.4**	**-0.7**	
MSAG				AML	AML				
	comp=E,334µm,1.1s								
MSAG					AML	AML			
	comp=N,390µm,0.9s								
MSAG					AML	AML			
	comp=E,310µm,1.1s								
MSAG					AML	AML			
	comp=N,392µm,0.9s								
MSAG					AML	AML			
	comp=E,333µm,1.1s								
MSAG					AML	AML			
	comp=N,390µm,0.9s								
MSAG					AML	AML			
	comp=E,311µm,1.1s								
MSAG					AML	AML			
	comp=N,392µm,0.9s								

MSAG				AML	AML			
	comp=E,333μm,1.1s							
MSAG				AML	AML			
	comp=N,392μm,0.9s							
MSAG				AML	AML			
	comp=N,390μm,0.9s							
MSAG				AML	AML			
	comp=E,311μm,1.1s							
MPNC	**Port Mandanici**	**1.83**	**197**	P	**Pn**	**03 11 18.3**	**-1.9**	
MPNC				AML	AML			
	comp=E,988μm,1.3s							
MPNC				AML	AML			
	comp=N,869μm,1.1s							
MPNC				AML	AML			
	comp=E,988μm,1.3s							
MPNC				AML	AML			
	comp=N,869μm,1.1s							
MELA	**Melanico ??? S**	**1.92**	**340**	AML	AML			
	comp=N,403μm,0.7s							
MELA				AML	AML			
	comp=E,480μm,1.1s							
MELA				AML	AML			
	comp=N,403μm,0.7s							
MELA				AML	AML			
	comp=E,480μm,1.1s							
HCRL	**Carlentini**	**2.73**	**197**	AML	AML			
	comp=N,138μm,1.5s							
HCRL				AML	AML			
	comp=E,178μm,1.2s							
HCRL				AML	AML			
	comp=N,138μm,1.5s							
HCRL				AML	AML			
	comp=E,178μm,1.2s							
VAE	**Valguarnera**	**2.73**	**208**	Pn	**Pn**	**03 11 34.7**	**+2.1**	
	comp=E,0.7nm,0.3s,baz=68,slow=16,SNR=5.3							
HVZN	**Vizzini**	**2.90**	**201**	AML	AML			
	comp=N,720μm,0.6s							
HVZN				AML	AML			
	comp=E,573μm,1.6s							
HVZN				AML	AML			
	comp=E,573μm,1.6s							
HVZN				AML	AML			
	comp=N,720μm,0.6s							
AQU	**L'Aquila**	**3.15**	**322**	*e*Pn	**Pb**	**03 11 43.8**	**-0.6**	
STON	**Ston**	**3.23**	**23**	*e*Pn	**Pn**	**03 11 38.1**	**-1.2**	
STON				Sn	**Sn**	**03 12 16.3**	**-2.0**	
STON	**Ston**	**3.23**	**23**	*e*Pn	**Pn**	**03 11 38.3**	**-1.1**	
TIR	**Tirane**	**3.27**	**63**	⇓*i*P	**Pn**	**03 11 40.7**	**+0.7**	
DRME	**Dracevica, Mon**	**3.31**	**45**	*e*Pn	**Pn**	**03 11 39.8**	**-0.8**	
TREB	**Trebinje**	**3.32**	**31**	*e*Pn	**Pn**	**03 11 37.1**	**-3.6**	
PDG	**Podgorica**	**3.52**	**43**	⇑*i*P	**Pn**	**03 11 42.9**	**-0.5**	
PDG	**Podgorica**	**3.52**	**43**	*e*Pn	**Pn**	**03 11 42.0**	**-1.4**	
BRY	**Bratogost**	**3.55**	**32**	*e*Pn	**Pn**	**03 11 44.3**	**+0.3**	
BIA	**Bitola**	**4.20**	**73**	*i* Pn	**Pn**	**03 11 54.6**	**+1.7**	
KRUS	**Krusevo**	**4.24**	**68**	*i* Pn	**Pn**	**03 11 53.6**	**+0.1**	
HAPS	**Han Pijesak,BI**	**4.72**	**27**	*e*Pn	**Pn**	**03 12 00.9**	**+0.9**	
NVLJ	**Novalja**	**4.74**	**350**	*e*Pn	**Pn**	**03 11 59.5**	**-0.7**	
NVLJ				Sn	**Sn**	**03 12 55.6**	**+0.1**	
BLY	**Banja Luka**	**4.92**	**10**	⇑*i*P	**Pn**	**03 12 00.9**	**-1.8**	
BLY	**Banja Luka**	**4.92**	**10**	S	**Sn**	**03 12 59.0**	**-1.1**	
BLY	**Banja Luka**	**4.92**	**10**	*e*Pn	**Pn**	**03 12 03.4**	**+0.7**	
STIP	**Stip**	**5.01**	**67**	*i* Pn	**Pn**	**03 12 06.2**	**+2.2**	
DIVS	**Divibare**	**5.13**	**34**	*e*Pn	**Pn**	**03 12 05.5**	**-0.2**	
BOJS	**Bojanci**	**5.63**	**355**	*i* Pn	**Pn**	**03 12 14.2**	**+1.8**	
BOJS				*i* Sn	**Sn**	**03 13 18.6**	**+1.1**	
CRES	**Cresnjev**	**5.94**	**356**	*e*Pn	**Pn**	**03 12 16.1**	**-0.5**	
CEY	**Cerknica**	**5.95**	**349**	*e*Pn	**Pn**	**03 12 18.6**	**+1.7**	
FRGS	**Fruska Gora**	**5.95**	**27**	*e*Pn	**Pn**	**03 12 14.3**	**-2.6**	
VISS	**Visnje**	**5.96**	**352**	*i* Pn	**Pn**	**03 12 18.4**	**+1.4**	
VISS				*i* Sn	**Sn**	**03 13 25.8**	**0.0**	
VTS	**Vitosha**	**6.08**	**61**	⇑*i*P	**Pn**	**03 12 19.2**	**+0.4**	
GOLS	**Golise**	**6.11**	**357**	*i* Pn	**Pn**	**03 12 20.5**	**+1.4**	
GOLS				*i* Sn	**Sn**	**03 13 30.2**	**+0.7**	
VOJS	**Vojsko**	**6.32**	**346**	*i* Pn	**Pn**	**03 12 23.4**	**+1.4**	
VOJS				*i* Sn	**Sn**	**03 13 37.0**	**+2.2**	
MDVR	**Moldovita**	**6.45**	**39**	⇓*i*P	**Pn**	**03 12 23.9**	**+0.2**	
OBKA	**Obir**	**6.69**	**351**	*e*Pn	**Pn**	**03 12 27.7**	**+0.6**	
	comp=N,1.7nm,0.5s							
OBKA				*e*Sn	**Sn**	**03 13 44.9**	**+1.1**	
	comp=N,3.4nm,0.7s							
KEST	**Kesra**	**6.72**	**234**	Pn	**Pn**	**03 12 29.5**	**+2.0**	
	comp=N,0.3nm,0.3s,baz=11,slow=5.5,SNR=6.3							
BZS	**Buzias**	**7.04**	**34**	⇑*i*P	**Pn**	**03 12 31.6**	**-0.2**	
ABTA	**Abfaltersbach**	**7.30**	**341**	*e*Pn	**Pn**	**03 12 37.9**	**+2.4**	
	comp=N,1.5nm,0.6s							
ABTA				Sn	**Sn**	**03 13 59.2**	**+0.3**	
	comp=N,1.4nm,0.7s							
ARSA	**Arzberg**	**7.36**	**357**	*e*Pn	**Pn**	**03 12 36.6**	**+0.5**	
	comp=N,0.3nm,0.2s							
ARSA				*e*Sn	**Sn**	**03 14 01.4**	**+1.3**	
	comp=N,0.5nm,0.4s							
CONA	**Conrad Observa**	**8.03**	**359**	Pn	**Pn**	**03 12 46.6**	**+1.2**	
	comp=N,0.8nm,0.5s							
MOA	**Molln**	**8.04**	**352**	*e*Pn	**Pn**	**03 12 46.3**	**+0.7**	
	comp=N,0.7nm,0.3s							
MOA				*e*Sn	**Sn**	**03 14 18.2**	**+1.1**	
	comp=N,1.5nm,0.5s							
SQTA	**Sankt Quirin**	**8.10**	**336**	Sn	**Sn**	**03 14 21.4**	**+2.7**	
	comp=N,2.0nm,0.5s							
DAVOX	**Davos/Dischmat**	**8.20**	**329**	Pn	**Pn**	**03 12 46.4**	**-1.4**	
	comp=N,0.1nm,0.3s,baz=108,slow=6.4,SNR=2.1							
IDI	**Anoyia**	**8.41**	**120**	Pn	**Pn**	**03 12 53.9**	**+3.2**	
	comp=N,0.4nm,0.3s,baz=309,slow=4.5,SNR=3.6							
IDI				Sn	**Sn**	**03 14 23.2**	**-3.1**	
	comp=N,0.3nm,0.3s,baz=194,slow=18,SNR=2.1							
VOIR		**8.65**	**47**	⇓*i*P	**Pn**	**03 12 53.6**	**-0.4**	
VYHS	**Vyhne**	**8.83**	**12**	*e*PN	Pn	03 12 49.2	-7.1	
VYHS				*e*		03 13 38.6		
GERES	**GERESS Array B**	**9.09**	**350**	Pn	**Pn**	**03 12 59.5**	**-0.5**	
	comp=N,0.1nm,0.3s,baz=167,slow=12,SNR=4.5							
GERES				Sn	**Sn**	**03 14 38.4**	**-4.5**	
	comp=N,0.1nm,0.3s,baz=155,slow=26,SNR=2.9							
BURAR	**Bucovina Array**	**10.18**	**38**	⇑*i*P	**Pn**	**03 13 14.7**	**-0.2**	
HFS	**Hagfors**	**20.31**	**357**	LR	LR	03 23 13.1		
	comp=N,28nm,18.4s,baz=217,slow=37							
FINES	**FINESS Array B**	**22.44**	**13**	P	**P**	**03 15 48.9**	**+1.3**	
	comp=N,0.4nm,0.5s,baz=171,slow=9.4,SNR=4.5							
MKAR	**Makanchi Array**	**47.40**	**59**	P	**P**	**03 19 24.8**	**+1.5**	
	comp=N,0.3nm,0.6s,baz=281,slow=5.9,SNR=5.0							

MEX 17 03:19:06.5±0.5, 15°71'N×93°98'W, h70km±11km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.74**	**90**	*e*P	Pn	03 19 20.2	-1.5
PCIG				*e*S	Sn	03 19 31.5	-1.6
THIG		**1.84**	**115**	*i* P	Pn	03 19 35.5	-0.5
THIG				*i* S	Sn	03 19 55.6	-2.7
CCIG	**Comitan**	**1.87**	**72**	*e*P	Pn	03 19 34.9	-1.6
CCIG				*e*S	Sn	03 19 57.6	-1.7

*IDC **17** 03:22:37.3±0.7, 3°.50S×143°.67E, h0km, mb4.3/16, mb1 4.4/18, mb1mx4.2/35, mbtmp4.3/18, ML3.8/2, MS3.5/7, Ms1 3.5/7, ms1mx3.1/35, Error ellipse: s-maj=21.8km s-min=10.2km az=109.0*

*BJI **17** 03:22:42.7, 3°.49S×144°.12E, h67km, mb4.6/25, mB4.8/16, Ms4.8/3*

*ISCJB **17** 03:22:43.2±0.3, 3°.47S±0°.05×143°.62E±0°.05, h50km, mb4.5/44, MS3.5/7, Error ellipse: s-maj=7.9km s-min=6.1km az=29.4*

*NEIC **17** 03:22:45.0±0.9, 3°.39S×143°.54E, h50km±8km, mb4.5/27, Error ellipse: s-maj=8.1km s-min=5.8km az=123.0*

ISC 17 03:22:45.3±0.5, 3°.43S±0°.07×143°.53E±0°.07, h50km, n74, σ1s51/73, mb4.5/44, MS3.5/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.96**	**288**	Pn	**Pn**	**03 23 26.9**	**-3.0**
	7.5nm,0.3s,baz=127,slow=8.2,SNR=12						
JAY				Sn	**Sn**	**03 24 07.6**	**+3.3**
	12nm,0.3s,baz=272,slow=6.0,SNR=5.7						
JAY				LR	LR	03 24 40.3	
	comp=Z,595nm,19.3s,baz=26,slow=39						
MANU	**Manus Island**	**4.07**	**70**	*e*Pn	**Pn**	**03 23 45.3**	**+0.2**
COEN	**Coen**	**10.47**	**182**	*e*Pn	**Pn**	**03 25 15.3**	**+2.4**
MTN	**Manton Dam**	**15.42**	**232**	*e*Pn	**Pn**	**03 26 20.9**	**+1.2**
	17nm,0.7s						
WRAB	**Tennant Creek**	**18.69**	**208**	*e*P	**P**	**03 26 58.6**	**-1.0**
	5.4nm,0.6s						
WB2	**Warramunga Arr**	**18.70**	**208**	*e*P	**P**	**03 26 59.4**	**-0.3**
	11nm,0.7s						
WRA	**Warramunga Arr**	**18.70**	**208**	P	**P**	**03 26 59.2**	**-0.6**
	0.4nm,0.3s,baz=28,slow=13,SNR=16						
WRA				S	**Sn**	**03 30 28.6**	**-0.6**
	0.0nm,0.3s,baz=26,slow=20,SNR=4.3						
SOEI	**Soe**	**20.13**	**251**	*e*P	**P**	**03 27 15.1**	**-0.5**
	56nm,1.0s						
BATI	**Baumata**	**20.83**	**250**	P	**P**	**03 27 23.6**	**+0.5**
	26nm,0.4s,baz=267,slow=1.1,SNR=5.4						
AS01	**Alice Springs**	**22.15**	**204**	*e*P	**P**	**03 27 37.2**	**+0.1**
AS31	**Alice Springs**	**22.17**	**204**	*e*P	**P**	**03 27 37.8**	**+0.5**
	2.9nm,0.7s						
ASAR	**Alice Springs**	**22.17**	**204**	P	**P**	**03 27 35.9**	**-1.4**
	1.3nm,0.6s,baz=32,slow=7.5,SNR=35						
ASAR				LR	LR	03 37 19.4	
	comp=Z,192nm,21.7s,baz=10,slow=40						
FITZ	**Fitzroy Crossi**	**22.80**	**229**	*e*P	**P**	**03 27 43.4**	**-0.6**
	8.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.80**	**229**	P	**P**	**03 27 40.6**	**-3.4**
	9.7nm,0.9s,baz=66,slow=10,SNR=23						
FITZ				LR	LR	03 38 22.7	
	comp=Z,46nm,18.2s,baz=100,slow=41						
STKA	**Stephens Creek**	**28.36**	**183**	LR	LR	03 41 29.2	
	comp=Z,225nm,18.2s,baz=15,slow=40						
NJ2	**Nanjing**	**42.36**	**328**	*e*P	**P**	**03 30 35.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KSRS	**Korea Array**	**43.18**	**342**	P	**P**	**03 30 40.6**	**-0.7**
	1.5nm,0.6s,baz=160,slow=9.1,SNR=8.0						
KSRS				LR	LR	03 47 09.7	
	comp=Z,29nm,18.1s,baz=140,slow=34						
KSAR	**Wonju Array Be**	**43.19**	**342**	P	**P**	**03 30 40.6**	**-0.8**
PANO	**Nakornpanom**	**43.52**	**299**	P	P	03 30 56.1	+12
	0.5nm,0.4s,109nm						
PSI	**Prapat**	**45.01**	**277**	*e*P	**P**	**03 30 55.5**	**-1.0**
	5.6nm,0.9s						
PSI	**Prapat**	**45.01**	**277**	P	**P**	**03 30 55.4**	**-1.2**
	2.6nm,0.5s,baz=176,slow=4.1,SNR=5.8						
USRK	**Ussuriysk Ar.**	**48.53**	**349**	P	**P**	**03 31 22.2**	**-1.2**
	2.8nm,0.7s,baz=207,slow=8.5,SNR=5.0						
KMI	**Kunming**	**48.70**	**308**	P	**P**	**03 31 27.6**	**+2.3**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
CMAR	**Chiang Mai Arr**	**48.99**	**298**	P	**P**	**03 31 28.2**	**+0.7**
	1.7nm,0.3s,baz=123,slow=5.7,SNR=3.7						
CMAR				LR	LR	03 53 56.7	
	comp=Z,10nm,18.0s,baz=170,slow=38						
XAN	**Xi'an**	**49.52**	**322**	P	**P**	**03 31 27.8**	**-3.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,40nm,4.3s						
CD2	**Chengdu**	**51.02**	**315**	*e*P	**P**	**03 31 45.3**	**+2.7**
HHC	**Hu-ho-hao-te**	**52.86**	**330**	*e*P	**P**	**03 31 59.8**	**+3.5**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,68nm,5.0s						
LZH	**Lanzhou**	**54.02**	**320**	*e*P	P	03 32 14.9	+10
LZH				pP	sP	03 32 29.9	+5.6
LZH				sP	pP	03 32 36.3	+18
LZH				pmax	pmax		
	comp=Z,24nm,1.1s						
HIA	**Hailar**	**56.39**	**342**	*e*P	**P**	**03 32 21.5**	**-0.1**
PETK	**Petropavlovsk-**	**57.58**	**10**	*e*P	**P**	**03 32 28.3**	**-1.6**
PETK	**Petropavlovsk-**	**57.58**	**10**	P	**P**	**03 32 29.6**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=166,slow=6.3,SNR=10						
SHL	**Shillong**	**57.73**	**303**	*e*P	**P**	**03 32 32.5**	**+0.8**
	comp=Z,8.0nm,1.0s						
GTA	**Gaotai**	**58.57**	**321**	P	**P**	**03 32 37.8**	**+0.5**
GTA				pP	sP	03 32 56.3	-0.5
GTA				sP	pP	03 33 05.6	+15
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,82nm,5.4s						
GTA				LR	LR		
	comp=Z,100nm,21.3s						
GTA				LR	LR		
	comp=Z,280nm,18.9s						
ULN	**Ulaanbaatar**	**60.23**	**333**	*e*P	**P**	**03 32 48.3**	**-0.2**
	comp=Z,2.1nm,0.6s						
SONM	**Songino Array**	**60.51**	**332**	P	**P**	**03 32 51.4**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=148,slow=6.7,SNR=3.4						
WMQ	**Urumqi**	**68.60**	**320**	*e*P	**P**	**03 33 44.8**	**+1.5**
MK01	**Makanchi Array**	**73.31**	**321**	*e*P	**P**	**03 34 11.9**	**+0.1**
MK31	**Makanchi Array**	**73.33**	**321**	*e*P	**P**	**03 34 12.1**	**+0.2**
	comp=Z,4.4nm,1.0s						
MKAR	**Makanchi Array**	**73.33**	**321**	P	**P**	**03 34 12.0**	**+0.1**
	comp=Z,4.0nm,0.9s,baz=110,slow=7.0,SNR=25						
MAKZ	**Makanchi**	**73.53**	**321**	*e*P	**P**	**03 34 13.3**	**+0.2**
	comp=Z,5.6nm,0.9s						
VNDA	**Vanda**	**74.69**	**176**	P	**P**	**03 34 17.7**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=333,slow=7.6,SNR=8.0						
ZAA0	**Zalesovo Array**	**75.02**	**328**	*e*P	**P**	**03 34 20.6**	**-0.9**
	comp=Z,4.6nm,0.8s						
ZALV	**Zalesovo Beam**	**75.02**	**328**	*e*P	**P**	**03 34 20.4**	**-1.0**
ZALV	**Zalesovo Beam**	**75.02**	**328**	P	**P**	**03 34 20.6**	**-0.8**
	comp=Z,4.3nm,0.8s,baz=108,slow=4.9,SNR=19						
KDJ	**Kajisay**	**75.04**	**315**	*e*P	**P**	**03 34 22.6**	**+0.5**
	comp=Z,6.8nm,0.9s						
KSH	**Kashi**	**75.10**	**312**	P	**P**	**03 34 24.9**	**+2.4**
KSH				pP	sP	03 34 44.4	+2.1
KSH				PP	**PP**	**03 37 16.8**	**+5.6**
KSH				pmax	pmax		
	comp=Z,130nm,5.0s						
NRN	**Naryn**	**75.66**	**314**	*e*P	**P**	**03 34 26.1**	**+0.2**
	comp=Z,2.8nm,0.8s						
AAK	**Ala-Archa**	**77.09**	**315**	*e*P	**P**	**03 34 33.9**	**+0.1**
	comp=Z,4.2nm,1.0s						
KURK	**Kurchatov**	**77.10**	**324**	*e*P	**P**	**03 34 33.1**	**-0.3**
KK31	**Karatay Array**	**80.03**	**315**	*e*P	**P**	**03 34 49.8**	**0.0**
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**80.03**	**315**	*e*P	**P**	**03 34 49.6**	**-0.1**
	comp=Z,5.0nm,0.9s						
RDOG	**Red Dog Mine**	**80.34**	**18**	*e*P	**P**	**03 34 50.9**	**0.0**
	comp=Z,6.6nm,0.9s						
NRIK	**Noril'sk**	**81.79**	**343**	P	**P**	**03 34 58.1**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=113,slow=7.1,SNR=4.9						
IM3	**Indian Mountai**	**82.35**	**22**	*e*P	**P**	**03 35 01.2**	**-0.3**
BRVK	**Borovoye**	**82.74**	**324**	*e*P	**P**	**03 35 04.0**	**+0.1**
SML	**Sawmill**	**82.86**	**26**	*e*P	**P**	**03 35 04.0**	**-0.3**
	comp=Z,20nm,1.0s						
RND	**Reindeer**	**83.22**	**25**	*e*P	**P**	**03 35 05.2**	**-1.1**
	comp=Z,9.8nm,0.8s						
MAW	**Mawson**	**83.28**	**202**	LR	LR	04 09 51.8	
	comp=Z,81nm,19.3s,baz=260,slow=34						
WRH	**Wood River Hil**	**83.92**	**24**	*e*P	**P**	**03 35 08.6**	**-1.1**
	comp=Z,10.0nm,1.1s						
CCB	**Clear Creek Bu**	**84.10**	**24**	*e*P	**P**	**03 35 09.3**	**-1.3**
	comp=Z,6.1nm,0.8s						
COLD	**Coldfoot**	**84.16**	**21**	*e*P	**P**	**03 35 10.6**	**-0.3**
	comp=Z,4.1nm,0.8s						
COLA	**College**	**84.17**	**24**	*e*P	**P**	**03 35 09.4**	**-1.5**
	comp=Z,2.1nm,0.5s						
ILAR	**Eielson Array**	**84.52**	**24**	P	**P**	**03 35 10.7**	**-2.0**
	comp=Z,4.3nm,0.7s,baz=256,slow=4.9,SNR=68						
ILB	**Eielson Array**	**84.52**	**24**	*e*P	**P**	**03 35 10.9**	**-1.8**
	comp=Z,6.9nm,0.8s						
IL1	**Eielson Array**	**84.52**	**24**	*e*P	**P**	**03 35 10.6**	**-2.1**
DOT	**Dot Lake**	**85.33**	**25**	*e*P	**P**	**03 35 15.9**	**-0.9**
	comp=Z,5.4nm,0.9s						
FYU	**Fort Yukon**	**85.76**	**22**	*e*P	**P**	**03 35 19.1**	**+0.2**
	comp=Z,13nm,1.3s						
EGAK	**Eagle**	**86.86**	**25**	*e*P	**P**	**03 35 23.4**	**-0.9**
	comp=Z,22nm,2.0s						
DAWY	**Dawson**	**87.43**	**25**	*e*P	**P**	**03 35 27.0**	**-0.2**
ABKAR	**Akbulak array**	**88.38**	**319**	*e*P	**P**	**03 35 30.8**	**-1.2**
	comp=Z,2.1nm,0.8s						
GEYT	**Alibeck**	**88.46**	**308**	P	**P**	**03 35 32.4**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=49,slow=4.4,SNR=3.3						
YKA	**Yellowknife Ar**	**98.50**	**27**	P	**P**	**03 36 17.3**	**-0.9**
	comp=Z,0.4nm,0.9s,baz=277,slow=4.6,SNR=6.2						
PLCA	**Paso Flores**	**126.14**	**148**	PKP	**PKiKP**	**03 41 43.0**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=191,slow=5.8,SNR=3.4						
DBIC	**Dimbokro**	**148.35**	**277**	PKPbc	**PKPbc**	**03 42 26.6**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=74,slow=3.9,SNR=5.6						

*DJA **17** 03:26:53.8±0.5, 3°S±4°×12°.7E±°, h10km, M4.0/5, mb4.8/1, MLv3.6/5*

*IDC **17** 03:26:54.6±1.5, 2°.91S×127°.52E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/38, mbtmp3.7/4, ML3.8/2, Error ellipse: s-maj=34.0km s-min=25.2km az=75.0*

*ISCJB **17** 03:26:57.3±0.7, 2°.94S±0°.08×127°.48E±0°.05, h42km, mb3.6/2, Error ellipse: s-maj=12.2km s-min=7.1km az=9.5*

ISC 17 03:26:59.2±1.0, 3°.30S±0°.1×127°.47E±0°.06, h42km, n7, σ2s64/10, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	**Sanana**	**1.74**	**302**	P	**Pn**	**03 27 24.7**	**-2.3**
SANI				S	**Sn**	**03 27 45.6**	**-2.5**
SIJI	**Sorong**	**4.33**	**61**	Pn	**Pn**	**03 28 02.0**	**-0.6**
	3.3nm,0.3s,baz=220,slow=8.8,SNR=6.3						
SIJI				Sn	**Sn**	**03 28 52.2**	**+0.4**
	2.4nm,0.3s,baz=65,slow=23,SNR=5.8						
FAKI	**Fak Fak**	**4.77**	**89**	P	**Pn**	**03 28 07.5**	**-1.1**
FAKI				S	**Sn**	**03 28 57.2**	**-5.5**
APSI	**Ampana**	**6.17**	**289**	P	**Pn**	**03 28 29.5**	**+1.6**
WRA	**Warramunga Arr**	**18.15**	**159**	P	**Pn**	**03 31 08.1**	**-0.2**
	0.4nm,0.3s,baz=340,slow=11,SNR=18						
ASAR	**Alice Springs**	**21.49**	**164**	P	**P**	**03 31 45.1**	**+0.6**
	1.2nm,0.5s,baz=343,slow=11,SNR=13						
MKAR	**Makanchi Array**	**63.50**	**327**	P	**P**	**03 37 26.6**	**+1.4**
	0.3nm,0.6s,baz=132,slow=8.1,SNR=4.3						

*NIED **17** 03:31:00, 34°.30N×133°.10E, h14km, Mw3.4 Best double couple: M0 1.25000×10^14 NP1:ϕs44.00000°, δ46.00000°, λ135.00000°. NP2:ϕs168.00000°, δ60.00000°, λ54.00000°.*

JMA 17 03:31:54.8, 34°.33N×133°.10E, h17km, M3.7, 6C-5D Broadband fault plane solution: P waves. NP1: ϕs155.00000°, δ75.00000°, λ29.00000°. **NP2:**ϕs57.00000°, δ62.00000°, λ163.00000°. **Principal axes:** T Plg31.0000°, Azm19.0000°; N Plg58.0000°, Azm181.0000°; P Plg8.0000°, Azm284.0000°; **Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJG	**Jouge**	**0.31**	**8**	⇑P	Pg	03 32 01.5	0.0
JJG				S	Sg	03 32 06.0	-0.1
JHM	**Kurahashi**	**0.51**	**248**	⇓P	Pg	03 32 04.7	-0.3
JHM				S	Sg	03 32 11.8	-0.1
JET	**Tanbara**	**0.55**	**184**	⇑P	Pg	03 32 05.4	-0.4
JET				S	Sg	03 32 12.6	-0.6
JHT	**Toyohira**	**0.65**	**301**	⇓P	Pg	03 32 07.1	-0.6
JHT				S	Sg	03 32 15.9	-0.5
JHS	**Saijyo**	**0.67**	**1**	⇑P	Pg	03 32 07.5	-0.5
JHS				S	Sg	03 32 16.4	-0.5
JJS	**Sakaide**	**0.69**	**86**	⇓P	Pg	03 32 07.5	-0.8
JJS				S	Sg	03 32 16.9	-0.6
JGT2	**ShimaneMisato**	**0.88**	**326**	⇓P	Pb	03 32 10.9	-0.7
JGT2				S	Sb	03 32 22.5	-0.6
JMN	**Monobe**	**0.88**	**133**	⇓P	Pb	03 32 11.3	-0.4
JMN				S	Sb	03 32 22.9	-0.3
JNA	**Nagahama**	**0.93**	**214**	⇑P	Pb	03 32 12.0	-0.4
JNA				S	Sb	03 32 24.1	-0.4
JKU	**Kubokawa**	**1.02**	**182**	⇑P	Pb	03 32 13.9	-0.1
JKU				S	Sb	03 32 27.3	+0.2
JAD	**Aida**	**1.07**	**55**	⇑P	Pb	03 32 13.9	-1.0
JAD				S	Sb	03 32 28.1	-0.5
MAT	**Matsushiro**	**4.72**	**61**	P	Pn	03 33 07.1	+1.9
MAT				*e*S	Sn	03 34 02.7	+3.2

*IDC **17** 03:41:12.9±0.8, 31°.72N×141°.78E, h0km, mb3.8/8, mb1 3.9/11, mb1mx3.7/59, mbtmp3.8/11, ML3.2/3 Error ellipse: s-maj=25.1km s-min=15.4km az=77.0*

*ISCJB **17** 03:41:16.4±0.6, 31°.70N±0°.06×141°.7E±0°.1, h40km, mb3.9/8, Error ellipse: s-maj=15.7km s-min=6.7km az=157.7*

ISC 17 03:41:18.7±0.7, 31°.71N±0°.08×141°.7E±0°.1, h40km, n12, σ0s85/14, mb3.9/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.11**	**312**	Pn	**Pn**	**03 41 50.0**	**-1.5**
	18nm,0.3s,baz=80,slow=22,SNR=7.3						
JHJ				Sn	**Sn**	**03 42 16.9**	**+0.4**
	31nm,0.3s,baz=56,slow=22,SNR=7.6						
JCJ	**Chichijima**	**4.62**	**174**	Pn	**Pn**	**03 42 25.0**	**-1.0**
	6.3nm,0.3s,baz=305,slow=22,SNR=6.2						
JCJ				Sn	**Sn**	**03 43 18.6**	**+0.1**
	3.1nm,0.3s,baz=288,slow=20,SNR=2.3						
MJAR	**Matsushiro Arr**	**5.60**	**330**	Pn	**Pn**	**03 42 39.7**	**+0.3**
	0.1nm,0.3s,baz=155,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**45.77**	**316**	PcP	**PcP**	**03 51 14.0**	**+0.9**
	0.4nm,0.3s,baz=145,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**47.27**	**306**	P	**P**	**03 49 48.6**	**+0.7**
	1.0nm,0.7s,baz=88,slow=9.8,SNR=13						
KURBB	**Kurchatov Arra**	**49.55**	**312**	P	**P**	**03 50 05.8**	**+0.4**
	1.5nm,0.7s,baz=87,slow=7.1,SNR=17						
WRA	**Warramunga Arr

BRG Berggiesshubel 1.61 242 P **Pb** 03 57 27.7 +0.3
BRG 03 57 49.8
BRG smax smax
comp=N,451nm,0.7s
BRG Berggiesshubel 1.61 242 *e*Pn **Pb** 03 57 27.7 +0.3
BRG *e*Sg **Sg** 03 57 50.2 +1.6
KRLC Kraliky 1.63 166‖ *i*PG **Pb** 03 57 27.8 +0.1
KRLC *e*SG **Sn** 03 57 47.9 -0.5
comp=N,40nm,0.6s
KRLC Kraliky 1.63 166‖ *i*P **Pb** 03 57 27.8 +0.1
KRLC *e* 03 57 47.9
KRLC smax smax
comp=N,40nm,0.6s
GKP Gorka Klasztor 1.74 21 *e*Pg Pg 03 57 40.1 +10
GKP *e*Sg Sg 03 58 03.6 +11
GKP Gorka Klasztor 1.74 21 *e*P Pg 03 57 40.1 +10
FBE Freiberg 1.92 249 *e*Pn **Pg** 03 57 34.9 +1.3
FBE *e*Sg **Sg** 03 58 01.1 +2.6
GOPC GO Pecny, Ondr 1.96 208‖ *e*PN **Pn** 03 57 32.2 +1.0
GOPC *e*PG **Pb** 03 57 34.1 +0.8
GOPC *e*SG **Sb** 03 57 58.5 +0.3
comp=N,182nm,0.9s
GOPC GO Pecny, Ondr 1.96 208 *e*P **Pn** 03 57 32.2 +1.0
GOPC *e* 03 57 58.5
GOPC smax smax
comp=N,182nm,0.9s
PRU Pruhonice 1.97 213‖ *e*PN **Pn** 03 57 32.4 +1.0
PRU *e*PG **Pg** 03 57 34.6 +0.1
PRU *e*SG **Sb** 03 57 58.5 0.0
comp=N,156nm,0.4s
PRU Pruhonice 1.97 213 *e*P **Pn** 03 57 32.4 +1.0
PRU *e* 03 57 58.5
PRU smax smax
comp=N,156nm,0.4s
PRU Pruhonice 1.97 213 *e*Pn **Pn** 03 57 32.3 +1.0
CLL Collm 2.02 261 *i*Pn **Pb** 03 57 33.8 -0.6
comp=Z,12nm,0.4s
CLL *i*Pg **Pg** 03 57 37.7 +2.2
CLL *e* 03 57 43.0
CLL *i*Sg **Sg** 03 58 03.5 +1.9
comp=Z,251nm,0.8s
CLL Collm 2.02 261 *i*P **Pb** 03 57 33.8 -0.6
CLL *i* 03 58 03.5
CLL pmax pmax
comp=Z,12nm,0.4s
CLL Collm 2.02 261 *e*Pn **Pb** 03 57 33.7 -0.6
CLL *e*Sg **Sg** 03 58 03.7 +2.0
RAC Raciborz 2.02 140 *e*P **Pg** 03 57 36.4 +0.9
RAC *e* 03 58 02.2
MORC Moravsky Berou 2.07 155‖ *i*P **Pn** 03 57 33.9 +1.1
MORC Moravsky Berou 2.07 155 S **Sn** 03 57 58.3 -1.0
MORC Moravsky Berou 2.07 155 *e*PN **Pn** 03 57 34.0 +1.1
MORC *e*SG **Sb** 03 58 01.8 +0.3
MORC Moravsky Berou 2.07 155 *e*Pn **Pn** 03 57 33.9 +1.1
baz=336
MORC *e*Sg **Sb** 03 58 01.8 +0.3
comp=Z,78nm,0.4s,baz=336
MORC Moravsky Berou 2.07 155 *e*Pn **Pn** 03 57 34.0 +1.1
MORC *e*Sg **Sg** 03 58 02.9 -0.2
OKC Ostrava-Krasne 2.21 145‖ *e*PN **Pn** 03 57 35.2 +0.6
OKC *e*PG **Pg** 03 57 39.5 +0.5
OKC *e*SG **Sg** 03 58 07.8 +0.2
comp=Z,127nm,0.6s
OKC Ostrava-Krasne 2.21 145 *e*P **Pn** 03 57 35.2 +0.6
OKC *e* 03 58 07.8
OKC smax smax
comp=N,127nm,0.6s
OKC Ostrava-Krasne 2.21 145 *e*Pn **Pn** 03 57 35.5 +0.9
CHZP Chorzow 2.24 127 *e*Pg **Pg** 03 57 41.6 +2.0
CHZP *e*Sg **Sg** 03 58 10.0 +1.3
VRAC Vranov 2.36 174‖ *i*P **Pn** 03 57 38.6 +1.8
VRAC Vranov 2.36 174 S **Sn** 03 58 07.5 +1.0
VRAC Vranov 2.36 174 *e*PN **Pn** 03 57 38.3 +1.5
VRAC *e*SG **Sb** 03 58 11.3 +1.3
VRAC Vranov 2.36 174 *e*Pn **Pn** 03 57 38.3 +1.5
baz=354
VRAC *e*Sg **Sb** 03 58 11.2 +1.3
comp=N,55nm,0.3s,baz=354
VRAC Vranov 2.36 174 *e*Pn **Pn** 03 57 38.3 +1.5
VRAC Vranov 2.36 174 Pn **Pn** 03 57 37.7 +0.9
comp=N,5.4nm,0.3s,baz=343,slow=14,SNR=61
VRAC Lg Lg 03 58 11.2
comp=N,31nm,0.3s,baz=264,slow=22,SNR=6.3
TREC Trest 2.41 191‖ *e*PG **Pg** 03 57 42.4 -0.4
TREC *e*SG **Sb** 03 58 12.7 +1.6
comp=N,88nm,0.6s
TREC Trest 2.41 191 *e*P **Pg** 03 57 42.4 -0.4
TREC *e* 03 58 12.7
TREC smax smax
comp=N,88nm,0.6s
TREC Trest 2.41 191 *e*Pn **Pn** 03 57 38.9 +1.5
KRUC Moravsky 2.60 177 *e*PN **Pn** 03 57 41.5 +1.4
KRUC *e*PG **Pb** 03 57 45.3 +1.1
KRUC *e*SG **Sb** 03 58 18.6 +1.9
KRUC Moravsky 2.60 177 *e*Pn **Pn** 03 57 41.4 +1.4
baz=358
KRUC Moravsky 2.60 177 *e*Pg **Pb** 03 57 45.3 +1.1
baz=358
KRUC *e*Sg **Sb** 03 58 18.5 +1.9
comp=N,34nm,0.3s,baz=358
KRUC Moravsky 2.60 177 *e*Pn **Pn** 03 57 42.1 +2.0
TANN Tannenbergstha 2.66 244 *e*Pn **Pn** 03 57 42.9 +2.0
OJC Ojcow 2.70 121 *e*Pn **Pn** 03 57 41.9 +0.5
OJC *e*Pg **Pg** 03 57 50.4 +1.9
OJC *e*Sn **Sn** 03 58 13.4 -1.4
OJC *e*Sg **Sg** 03 58 25.7 +2.3
OJC Ojcow 2.70 121 *e*P **Pn** 03 57 41.9 +0.5
OJC *e* 03 58 13.4
OJC Ojcow 2.70 121 *e*Pn **Pn** 03 57 42.3 +0.8
NKC Novy Kostel 2.76 240‖ *e*PN **Pn** 03 57 44.7 +2.4
NKC *e*PG **Pg** 03 57 51.3 +1.7
NKC *e*SG **Sg** 03 58 27.4 +2.0
comp=N,358nm,0.8s
NKC Novy Kostel 2.76 240 *e*P **Pn** 03 57 44.7 +2.4
NKC Novy Kostel 2.76 240 *e*Pn **Pn** 03 57 44.4 +2.1
JAVC Velka Javorina 2.96 161 *e*PN **Pn** 03 57 47.5 +2.5
JAVC Velka Javorina 2.96 161 *e*Pn **Pn** 03 57 47.5 +2.5
KHC Kasperske Hory 3.03 214‖ *e*PG **Pb** 03 57 53.4 +1.8
KHC *e*SN **Sn** 03 58 23.9 +1.0
KHC *e*SG **Sg** 03 58 32.7 -1.3
comp=N,85nm,0.6s
KHC Kasperske Hory 3.03 214 *e*P **Pn** 03 57 47.7 +1.7
KHC Kasperske Hory 3.03 214 *e*Pn **Pn** 03 57 47.0 +1.0
MOX Moxa 3.05 252 *e*Pn **Pn** 03 57 48.1 +1.9
MANZ Manzenberg 3.08 239 *e*Pn **Pn** 03 57 48.7 +2.0
ROTZ Rotzenmuhle 3.16 235 *e*Pn **Pn** 03 57 49.3 +1.6
GEC2 GERESS Array S 3.23 211 *e*Pn **Pn** 03 57 51.1 +2.2
GERES GERESS Array B 3.23 211 Pn **Pn** 03 57 50.2 +1.3
comp=N,1.8nm,0.3s,baz=31,slow=12,SNR=58
GERES Pg **Pg** 03 57 57.3 -1.4
comp=N,5.6nm,0.3s,baz=30,slow=16,SNR=60
GERES Lg Lg 03 58 36.9
comp=N,18nm,0.3s,baz=31,slow=27,SNR=11
SMOL Smolenice 3.25 165 *e*P **Pn** 03 57 51.9 +3.0
SMOL *e* 03 58 39.6
SMOL Smolenice 3.25 165 *e*PN **Pn** 03 57 51.9 +3.0
SMOL *e*PG **Pg** 03 57 59.2 +0.3
SMOL *e*SG **Sg** 03 58 39.5 -1.5
WET Wettzell 3.29 221 *e*Pn **Pn** 03 57 51.0 +1.5
MODS Modra-Piesok 3.36 167 *e*P **Pn** 03 57 52.7 +2.2
MODS *e* 03 58 41.8
MODS pmax pmax
comp=N,63nm,0.7s
MODS Modra-Piesok 3.36 167 *e*PN **Pn** 03 57 52.7 +2.2
MODS *e*PG **Pg** 03 58 01.3 +0.2
MODS *e*SG **Sb** 03 58 41.8 +3.2
MODS *e*LG Lg 03 58 57.0
NIE Niedzica 3.45 129 *e*Pn **Pn** 03 57 55.2 +3.5
NIE *e*Pg **Pg** 03 58 04.7 +1.8
NIE *e*Sg **Sg** 03 58 49.5 +1.9
NIE Niedzica 3.45 129 *e*P **Pn** 03 57 55.2 +3.5
ZST Bratislava 3.51 170 *e*P **Pn** 03 57 54.0 +1.4
ZST *e* 03 58 46.9
ZST Bratislava 3.51 170 *e*PN **Pn** 03 57 54.0 +1.4
ZST *e*SG **Sg** 03 58 46.9 -2.7
BSD Bornholm Skovb 3.55 348 *i*P **Pn** 03 57 56.2 +3.2
BSD *e*S **Sn** 03 58 37.9 +2.3
BSD Bornholm Skovb 3.55 348 *i*P **Pn** 03 57 56.2 +3.2
BSD *e*S **Sn** 03 58 37.9 +2.3
VYHS Vyhne 3.60 151 *e*P **Pn** 03 57 55.0 +1.3
VYHS pmax pmax
comp=N,19nm,1.0s
VYHS Vyhne 3.60 151 *e*PN **Pn** 03 57 55.0 +1.3
VYHS *e*PG **Pg** 03 58 06.0 +0.4
VYHS *e*SG **Sg** 03 58 50.8 -1.4
VYHS *e*LG Lg 03 59 12.1
CLZ Clausthal 3.62 275 *e*Pn **Pn** 03 57 57.4 +3.4
GRF Grafenberg Arr 3.72 240 *e*Pn **Pn** 03 57 57.4 +2.0
CONA Conrad Observa 3.74 183 *i*Pn **Pn** 03 57 57.5 +1.7
comp=N,2.7nm,0.2s,SNR=6.0
CONA Pg **Pg** 03 58 07.5 -0.9
comp=N,12nm,0.4s
CONA Sg **Sg** 03 58 55.3 -1.5
comp=N,33nm,0.3s
KLNR Kaliningrad 3.82 38‖ *e*P **Pn** 03 58 01.2 +4.4
SOP Sopron 3.98 176 *e*Pn **Pn** 03 58 00.1 +1.0
SOP *e*Pg **Pb** 03 58 09.1 +1.3
SOP Sn **Sn** 03 58 49.1 +2.6
SOP *e*Sg **Sg** 03 59 07.1 +2.4
MOA Molln 4.01 199 *e*Pn **Pn** 03 58 01.1 +1.6
comp=N,6.1nm,0.3s,SNR=9.6
MOA Sg **Sg** 03 59 05.6 +0.2
comp=N,52nm,0.8s
MOA Molln 4.01 199 *e*Pn **Pn** 03 58 01.0 +1.6
LUNU Lund 4.30 339 P **Pn** 03 58 06.5 +3.1
LUNU S **Sn** 03 58 55.2 +0.9
ARSA Arzberg 4.43 186 *e*Pn **Pn** 03 58 07.9 +2.6
comp=N,2.2nm,0.3s
ARSA Pg **Pg** 03 58 22.3 +0.7
comp=N,13nm,0.6s
ARSA Sg **Sg** 03 59 20.9 +1.9
comp=N,28nm,0.4s
ARSA Arzberg 4.43 186 *e*Pn **Pn** 03 58 07.8 +2.6
PSZ Piszkesteto 4.45 146‖ *i*P **Pn** 03 58 07.5 +2.0
PSZ Piszkesteto 4.45 146 *e*Pn **Pn** 03 58 07.1 +1.6
PSZ *e*Pg **Pg** 03 58 24.1 +2.2
PSZ Sn **Sn** 03 58 56.0 -1.9
PSZ *e*Sg **Sg** 03 59 20.0 +0.5
KWP Kalwaria Pacla 4.62 113 *e*Pg **Pg** 03 58 25.0 -0.2
KWP *e*Sg **Sg** 03 59 27.4 +2.3
KWP Kalwaria Pacla 4.62 113 *e*P **Pg** 03 58 25.0 -0.2
BLEU Blekinge 4.66 357 P **Pn** 03 58 12.2 +3.8
BLEU S **Sn** 03 59 03.2 +0.1
BJUU Bjuv 4.81 338 P **Pn** 03 58 12.6 +2.3
BJUU S **Sn** 03 59 06.4 -0.2
KBA Koelnbreinsper 4.94 203 *e*Pn **Pn** 03 58 14.4 +2.0
comp=N,0.5nm,0.1s,SNR=5.7
KBA Sg **Sg** 03 59 38.5 +3.0
comp=N,22nm,0.5s
KBA Koelnbreinsper 4.94 203 *e*Pn **Pn** 03 58 14.0 +1.6
UZH Uzhgorod 4.96 125 *e*P **Pn** 03 58 16.9 +4.5
UZH *e*S **Sn** 03 59 13.9 +3.5
DEL Delary 5.01 345 P **Pn** 03 58 16.4 +3.2
DEL S **Sn** 03 59 11.9 +0.2
KOGS Kog 5.21 180 *i*Pn **Pn** 03 58 18.6 +2.7
OBKA Obir 5.26 192 *e*Pn **Pn** 03 58 19.9 +3.2
comp=N,1.5nm,0.3s
OBKA Sg **Sg** 03 59 49.6 +3.9
comp=N,21nm,0.6s
WATA Walderalm 5.26 217 *e*Pn **Pn** 03 58 18.9 +2.1
comp=N,3.4nm,0.2s,SNR=20
MYKA Terra Mystica 5.30 199 Sg **Sg** 03 59 50.0 +3.1
comp=N,14nm,0.5s
WTTA Wattenberg 5.30 216 *e*Pn **Pn** 03 58 20.9 +3.6
comp=N,1.0nm,0.2s
WTTA Sg **Sg** 03 59 51.6 +4.5
comp=N,22nm,0.4s
LVV L'vov 5.31 107 *e*P Pn 03 58 22.1 +4.8
LVV *e*S **Sn** 03 59 21.4 +2.3
LVV *e*S **Sb** 03 59 32.9 -1.7
VXJU Vaexsjoe 5.33 353 P **Pn** 03 58 21.2 +3.7
TRPA Tarpa 5.41 128‖ *i*P **Pn** 03 58 20.3 +1.6
MOTA Moosalm 5.44 219 *e*Pn **Pn** 03 58 20.6 +1.5
comp=N,0.4nm,0.1s
ABTA Abfaltersbach 5.47 208 *e*Pn **Pn** 03 58 22.0 +2.5
comp=N,5.7nm,0.7s
SQTA Sankt Quirin 5.50 218 *e*Pn **Pn** 03 58 22.5 +2.5
comp=N,1.9nm,0.2s
DOBS Dobrina 5.53 185 *i*Pn **Pn** 03 58 23.3 +3.0
PBUR Paburg 5.54 36 *e*P **Sn** 03 59 29.0 +4.2
OSKU Oskarshamn 5.55 360 P **Pn** 03 58 24.4 +3.9
VNDS Vrh nad Dolski 5.64 191 *i*Pn **Pn** 03 58 23.9 +2.1
PDKS Podkum 5.65 188 *i*Pn **Pn** 03 58 24.7 +2.7
BYXU Byxelkrok 5.67 5 P **Pn** 03 58 26.4 +4.3
FABU Falkenberg 5.73 341 P **Pn** 03 58 26.1 +3.2
LEGS Legarje 5.74 186 *i*Pn **Pn** 03 58 25.5 +2.3
FETA Feichten 5.85 220 *e*Pn **Pn** 03 58 27.2 +2.4
comp=N,0.4nm,0.2s
FETA Sg **Sg** 04 00 10.8 +6.3
comp=N,12nm,0.7s
CRES Cresnjev 5.85 185 *i*Pn **Pn** 03 58 26.7 +1.9
DAVA Damuels 6.00 226 *e*Pn **Pn** 03 58 29.0 +2.1
comp=N,0.8nm,0.3s
BOJS Bojanci 6.19 186 *i*Pn **Pn** 03 58 31.4 +2.1
BMR Baia Mare 6.20 127‖ *i*P **Pn** 03 58 30.6 +1.2
DAVOX Davos/Dischmat 6.39 223 P **Pn** 03 58 34.0 +1.7
DAVOX Davos/Dischmat 6.39 223 Pn **Pn** 03 58 34.0 +1.7
comp=N,0.6nm,0.3s,baz=33,slow=12,SNR=9.6
DAVOX Lg Lg 04 00 13.5
comp=N,0.8nm,0.3s,baz=0.0,slow=20,SNR=3.1
DRGR 6.48 136‖ *i*P **Pn** 03 58 35.4 +2.0
SIRR Siria 6.48 144‖ *i*P **Pn** 03 58 35.3 +1.9
CDF Champ du Feu 6.59 244 *e*Pn **Pn** 03 58 36.9 +1.9
CDF *e*Sg **Sg** 04 00 26.3 -2.1
comp=N,49nm,0.8s
SLIT Slitere, Latvi 6.95 28 *e*P **Sn** 03 59 58.0 -1.4
BZS Buzias 7.03 147‖ *i*P **Pn** 03 58 42.5 +1.6
IIGN Ignalina 7.04 54 *e*P **Sn** 04 00 02.9 +1.3
ISAL Salakas 7.09 53 *e*P **Sn** 04 00 06.2 +3.3
BURAR Bucovina Array 7.12 121‖ *i*P **Pn** 03 58 43.5 +1.3
HINF Hinteralfeld 7.16 241 *e*Pn **Pn** 03 58 43.7 +0.9
HINF *e*Sg **Sg** 04 00 42.1 -4.6
comp=N,36nm,0.8s
IZAR Zarasai 7.24 52 *e*P Sn 03 59 54.1 -12
HAU Haudompre 7.33 244 *e*Pn **Pn** 03 58 46.3 +1.2
HAU *e*Sg **Sg** 04 00 47.5 -4.7
comp=N,46nm,0.9s
GIVF Givet 7.36 262 *e*Pn **Pn** 03 58 47.3 +2.0
GIVF Givet 7.36 262 *e*Pg **Pg** 03 59 16.8 -0.8
GIVF *e*Sn **Sn** 04 00 04.6 -4.9
GIVF *e*Sg **Sg** 04 00 51.6 -1.3
comp=N,6.3nm,0.4s
PAGF Fort de Pagny 7.41 249 *e*Sg **Sg** 04 00 53.0 -1.5
baz=69
BAIF Baives 7.75 263 *e*Pn **Pn** 03 58 52.8 +2.1
BAIF Baives 7.75 263 *e*Pg **Pg** 03 59 24.6 -0.5
BAIF *e*Sn **Sn** 04 00 15.7 -3.4
BAIF *e*Sg **Sg** 04 01 03.1 -2.3
comp=N,13nm,0.8s
MEZF Maizieres J'vi 7.83 251 *e*Pn **Pn** 03 58 52.4 +0.6
MEZF *e*Sg **Sg** 04 01 05.1 -2.8
comp=N,7.1nm,0.5s
SFTF Sexfontaines 7.98 249 *e*Pn **Pn** 03 58 55.8 +1.9
SFTF *e*Sg **Sg** 04 01 09.8 -3.0
comp=N,50nm,1.0s
KIEV Kiev 8.24 92‖ *e*P **Pn** 03 59 01.1 +3.6
AKASG Malin Array Be 8.25 92 *i*P **Pn** 03 58 59.7 +2.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 8.25 92 Pn **Pn** 03 58 58.8 +1.2
comp=Z,2.2nm,0.3s,baz=280,slow=12,SNR=12
AKASG Sn **Sn** 04 00 26.9 -4.5
comp=Z,2.3nm,0.3s,baz=219,slow=19,SNR=5.3
AKASG Lg Lg 04 01 25.2
comp=Z,0.7nm,0.3s,baz=271,slow=8,SNR=4.7
CABF La Chapelle 8.32 237 *e*Sg **Sg** 04 01 21.1 -2.8
comp=Z,86nm,1.2s
HFS Hagfors 8.61 352 Pn **Pn** 03 59 04.8 +2.2
comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=6.5
HFS Sn **Sn** 04 00 40.3 0.0
comp=Z,0.3nm,0.3s,baz=176,slow=21,SNR=3.8
LPG La Plagne 8.78 229 *e*Sg **Sg** 04 01 34.5 -3.9
comp=Z,52nm,1.2s
KONO Kongsberg 8.83 338‖ *e*P **Pn** 03 59 08.2 +2.7
LOR Lormes 9.15 246 *e*Pn **Pn** 03 59 10.5 +0.6
baz=66
LOR Lormes 9.15 246 *e*Pg Pn 03 59 49.5 +40
LOR *e*Sg Sn 04 01 46.3 +53
SSF Saint Saulge 9.46 246 *e*Pn **Pn** 03 59 14.1 -0.1
SSF Saint Saulge 9.46 246 *e*Pg Pn 03 59 55.5 +41
SSF *e*Sn **Sn** 04 00 57.8 -3.4
SSF *e*Sg 04 01 56.9
comp=Z,14nm,0.8s
SMF Signal de Mont 9.51 243 *e*Sg Sn 04 01 58.8 +56
comp=Z,25nm,0.9s
AVF Avril sur Loir 9.70 245 *e*Sg Sn 04 02 06.6 +60
comp=Z,22nm,0.9s
NOA NORSAR Array B 9.80 346 Pn **Pn** 03 59 19.6 +0.7
comp=Z,0.0nm,0.3s,baz=168,slow=16,SNR=4.7
NOA Sn **Sn** 04 01 05.0 -4.5
comp=Z,0.0nm,0.3s,baz=43,slow=20,SNR=2.4
BGF Bois d'Agland 10.12 245 *e*Sg Sn 04 02 16.6 +59
comp=Z,31nm,0.9s
FINES FINESS Array B 11.21 25 *e*P **Pn** 03 59 40.0 +1.9
FINES FINESS Array B 11.21 25 Pn **Pn** 03 59 40.2 +2.1
comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=15
FINES Sn **Sn** 04 01 40.3 -3.7
comp=Z,0.8nm,0.3s,baz=213,slow=22,SNR=7.5
EKA Eskdalemuir Ar 12.09 295 Pn **Pn** 03 59 48.2 -1.9
baz=104,slow=13,SNR=5.7
EKA Sn **Sn** 04 01 59.7 -5.7
baz=101,slow=25,SNR=4.6
VSR Storozhevoye 14.33 83‖ *e*P **P** 04 00 26.4 -1.7
ANN Anapa 15.70 108 *e*P **Pn** 04 00 35.4 -3.7
ANN *e*S **Sn** 04 03 24.1 -9.5
ANN pmax pmax
comp=Z,51nm,1.1s
ARCES ARCESS Array B 18.47 10 Pn **Pn** 04 01 14.2 +0.4
comp=Z,0.2nm,0.3s,baz=196,slow=13,SNR=9.5
GNI Garni 22.81 109‖ *e*P **P** 04 02 02.7 +1.5
ARU Arti 25.03 62‖ *e*P **P** 04 02 26.1 +3.9
ARU pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 32.41 66‖ *e*P **P** 04 03 30.4 +2.4
BRVK pmax pmax
comp=Z,1.0nm,1.0s

IDC 17 04:06:23.4±1.7,**3°31S**×**128°29E**,**h0**km,**mb3.3**/2,
mb1 3.8/4,**mb1mx3.4**/38,**mbtmpg3.6**/4,**ML3.7**/2,**Error ellipse: s-maj=46.2km s-min=27.5km az=81.0**,**Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.84**	**51**	Pn	Pn	04 07 24.4	+0.6
	3.7nm,0.3s,baz=229,slow=19,SNR=10						
SIJI				Sn	Sb	04 08 14.9	-4.3
	2.2nm,0.3s,baz=211,slow=19,SNR=5.9						
WRA	**Warramunga Arr**	**17.55**	**161**	P	P	04 10 30.4	-0.4
	0.3nm,0.3s,baz=341,slow=12,SNR=22						
ASAR	**Alice Springs**	**20.95**	**165**	P	P	04 11 07.1	-1.0
	1.0nm,0.5s,baz=344,slow=11,SNR=19						
MKAR	**Makanchi Array**	**64.22**	**327**	P	P	04 17 00.5	+0.3
	0.2nm,0.6s,baz=126,slow=7.1,SNR=3.0						

IDC 17 04:12:27.7±4.3,**7°12S**×**149°11E**,**h0**km,**mb3.0**/1,
mb1 3.3/2,**mb1mx3.1**/40,**mbtmpg3.0**/2,**ML3.1**/1,**Error ellipse: s-maj=163.2km s-min=52.5km az=117.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.18**	**227**	P	P	04 16 52.8	-0.4
	0.1nm,0.3s,baz=54,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**22.00**	**220**	P	P	04 17 24.6	+0.9
	0.4nm,0.6s,baz=54,slow=9.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**147.39**	**283**	PKPbc	PKPdf	04 32 13.3	+1.1
	0.8nm,1.0s,baz=98,slow=2.8,SNR=2.9						

ISCJB ***17*** *04:17:36.3*±*1.4,29.01N*±*0.03*×*95.75E*±*0.03,h22*km±*10*km*, mb4.2/35, MS3.3/10, Error ellipse: s-maj=5.5km s-min=3.9km az=146.8*

NDI ***17*** *04:17:36.0*±*2.5,29.05N*×*96.11E,h27*km*,mb4.4,ML4.5, mb4.4(NEIC)*

BJI ***17*** *04:17:38.5,29.04N*×*95.79E,h20*km*,mb4.5/24,mB4.5/13, ML3.9/12,Ms3.9/21,Ms7 3.8/18*

IDC ***17*** *04:17:39.2*±*0.5,29.06N*×*95.84E,h26*km*±2*km*,mb3.9/29, mb1 4.0/30,mb1mx3.9/51,mbtmp4.1/30,ML4.6/2,MS3.3/12, Ms1 3.3/12,ms1mx3.1/42,Error ellipse: s-maj=14.5km s-min=10.4km az=54.0*

NEIC ***17*** *04:17:39.5*±*0.2,29.10N*×*95.87E,mb4.4/11,Error ellipse: s-maj=6.4km s-min=4.8km az=56.0*

ISC 17 04:17:39.2±0.4,**28.98N**±0.04×**95.76E**±0.04,**h24**km±2km,
h24km:**pP-P,n99,**σ**2s48**/124,**mb4.2**/37,**MS3.3**/10,**Eastern Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.08**	**281**	Pn	**Pn**	**04 18 43.3**	**+2.8**
LSA				Pg	**Pb**	**04 18 49.3**	**-1.4**
LSA				Sn	**Sn**	**04 19 30.9**	**+3.1**
LSA				Sg	**Sb**	**04 19 45.0**	**+5.2**
LSA				smax	smax		
	comp=N,280nm,0.8s						
LSA				smax	smax		
	comp=E,220nm,1.0s						
LSA	**Lhasa**	**4.08**	**281**	*e*Pn	**Pn**	**04 18 43.1**	**+2.6**
GUWA	**GUWAHATI**	**4.55**	**233**	*e*P	**Pn**	**04 18 46.6**	**+0.1**
GUWA				*e*S	**Sn**	**04 19 38.7**	**0.0**
GUWA				IAML		04 20 03.9	
	comp=N,1μm,0.3s						
GUWA				IAML		04 20 04.4	
	comp=E,1μm,0.2s						
SHL	**Shillong**	**4.84**	**226**	*e*P	**Pn**	**04 18 50.7**	**0.0**
SHL				*e*S	**Sn**	**04 19 45.0**	**-1.2**
SHL				IAML		04 20 16.2	
	comp=E,2μm,0.4s						
SHL				IAML		04 20 18.0	
	comp=N,1μm,0.4s						
TURI	**Tura**	**5.91**	**236**	*e*P	**Pn**	**04 19 08.4**	**+3.1**
TURI				*e*S	**Sn**	**04 20 14.4**	**+2.1**
TURI				IAML		04 20 50.7	
	comp=E,1μm,0.5s						
TURI				IAML		04 20 50.9	
	comp=N,2μm,0.3s						
CD2	**Chengdu**	**7.21**	**73**	Pn	**Pn**	**04 19 22.5**	**-0.6**
CD2				Pg	Pb	04 19 49.8	+6.2
CD2				Sn	**Sn**	**04 20 40.1**	**-4.1**
CD2				Sg	Sb	04 21 21.3	+12
CD2				smax	smax		
	comp=N,100nm,1.7s						
CD2				smax	smax		
	comp=N,130nm,1.6s						
BRDH	**Bariadhala**	**7.29**	**211**	Pn	**Pn**	**04 19 26.6**	**+2.4**
	comp=N,31nm,0.3s,baz=68,slow=8.7,SNR=6.9						
BRDH				Sn	**Sn**	**04 20 47.0**	**+0.8**
	comp=N,73nm,0.3s,baz=250,slow=20,SNR=5.7						
BRDH				LR	LR	04 22 54.4	
	comp=N,125nm,20.1s,baz=45,slow=43						
KMI	**Kunming**	**7.32**	**120**	Pg	Pb	04 19 54.8	+9.2
KMI				Sg	Sb	04 21 33.1	+21
KMI				smax	smax		
	comp=N,110nm,1.4s						
KMI				smax	smax		
	comp=E,73nm,1.0s						
RAMN	**Ramite**	**8.35**	**258**	*e*Pn	**Pn**	**04 19 38.5**	**-0.4**
RAMN				*e*Sn	**Sn**	**04 21 11.9**	**-0.6**
	comp=E,193nm,0.5s						
JIRN	**Jiri**	**8.53**	**263**	*e*Pn	**Pn**	**04 19 42.3**	**+0.7**
JIRN				*e*Sn	**Sn**	**04 21 14.0**	**-3.3**
	comp=E,217nm,0.4s						
GUN	**Gumba**	**8.76**	**265**	*e*Pn	**Pn**	**04 19 44.6**	**-0.1**
GUN				*e*Sn	**Sn**	**04 21 19.1**	**-3.8**
PKI	**Pulchoki**	**9.23**	**264**	*e*Pn	**Pn**	**04 19 50.7**	**-0.4**
PKI				*e*Sn	**Sn**	**04 21 29.4**	**-5.0**
	comp=E,95nm,0.5s						
PKIN	**Phulchoki**	**9.24**	**264**	*e*Pn	**Pn**	**04 19 50.9**	**-0.3**
PKIN				*e*Sn	**Sn**	**04 21 29.3**	**-5.2**
	comp=E,84nm,0.5s						
KKN	**Kakani**	**9.30**	**265**	*e*Pn	**Pn**	**04 19 52.5**	**+0.5**
KKN				*e*Sn	**Sn**	**04 21 31.1**	**-4.9**
	comp=E,165nm,0.5s						
DMN	**Daman**	**9.49**	**264**	*e*Pn	**Pn**	**04 19 54.9**	**+0.3**
DMN				*e*Sn	**Sn**	**04 21 36.8**	**-3.8**
	comp=E,141nm,0.6s						
GKN	**Gorkha**	**9.83**	**267**	*e*Pn	**Pn**	**04 19 57.9**	**-1.3**
LZH	**Lanzhou**	**9.83**	**42**	*e*P	**Pn**	**04 19 58.9**	**-0.3**
LZH				pP		04 20 02.5	
LZH				S	**Sn**	**04 21 56.8**	**+7.9**
LZH				sS		04 22 02.8	
LZH				pmax	pmax		
	comp=E,29nm,1.2s						
LZH				pmax	pmax		
	comp=E,140nm,4.8s						
LZH				LR	LR		
	comp=E,990nm,10.3s						
LZH				LR	LR		
	comp=E,800nm,10.8s						

LZH LR LR
comp=E,1μm,12.5s
GYA Guiyang 9.99 102 P **Pn** **04 20 01.8 +0.5**
GYA S **Sn** **04 21 53.9 +1.2**
GYA pmax pmax
comp=E,20nm,0.7s
GYA LR LR
comp=E,150nm,12.3s
GYA LR LR
comp=E,340nm,11.6s
GYA LR LR
comp=E,450nm,12.9s
BOK Bokaro 10.24 242 *e*P **Pn** **04 20 04.1 -0.6**
BOK *e*S **Sn** **04 21 52.8 -6.1**
BOK IAML 04 23 04.5
comp=N,64nm,0.3s
BOK IAML 04 23 05.7
comp=E,64nm,0.2s
DANN Dangsing 10.55 269 *e*Pn **Pn** **04 20 07.8 -1.4**
DANN *e*Sn **Sn** **04 21 59.7 -7.2**
comp=E,99nm,0.5s
KOLN Koldanda 10.77 266 *e*Pn **Pn** **04 20 10.4 -1.8**
KOLN *e*Sn **Sn** **04 22 05.3 -6.8**
comp=E,64nm,0.5s
CMAR Chiang Mai Arr 10.88 164 Pn **Pn** **04 20 15.2 +1.8**
comp=E,0.6nm,0.3s,baz=338,slow=12,SNR=7.9
CMAR LR LR 04 24 28.1
comp=E,54nm,20.1s,baz=335,slow=37
GTA Gaotai 10.93 17 *e*P **Pn** **04 20 15.0 +0.8**
GTA pP 04 20 19.3
GTA sP 04 20 22.1
GTA S **Sn** **04 22 17.8 +2.1**
GTA pmax pmax
comp=E,4.0nm,0.9s
GTA pmax pmax
comp=E,63nm,5.4s
GTA LR LR
comp=E,280nm,11.3s
GTA LR LR
comp=E,250nm,14.4s
GTA LR LR
comp=E,380nm,11.7s
PYUN Piuthan 11.26 269 *e*Pn **Pn** **04 20 16.4 -2.4**
PYUN *e*Sn **Sn** **04 22 17.5 -6.5**
comp=E,61nm,0.4s
XAN Xi'an 12.31 63 P **Pn** **04 20 31.8 -1.2**
XAN S **Sn** **04 22 44.8 -4.7**
XAN pmax pmax
comp=E,11nm,0.9s
XAN LR LR
comp=E,430nm,7.6s
XAN LR LR
comp=E,380nm,10.6s
XAN LR LR
comp=E,310nm,10.8s
PANO Nakornpanom 14.32 143 P **Pn** **04 21 02.7 +2.3**
comp=E,0.4nm,0.9s
DDI Dehra Dun 15.45 279 *e*P **Pn** **04 21 16.5 +0.8**
DDI IAmb IAmb 04 21 17.7
comp=E,68nm,0.3s
VIS Vishakhapatnam 15.98 228 *i* P **Pn** **04 21 23.4 +0.9**
SRAK Srakaew 16.00 157 P **P** **04 21 30.9 +4.9**
WMQ Urumqi 16.15 339 *e*P **Pn** **04 21 25.6 +1.0**
WMQ sP pP 04 21 33.9 -1.3
WMQ LR LR
comp=E,250nm,19.5s
WMQ LR LR
comp=E,390nm,21.7s
WMQ LR LR
comp=E,97nm,22.5s
SMLA Simla 16.24 282 *e*P **Pn** **04 21 26.5 +0.8**
SMLA IAmb IAmb 04 21 27.9
comp=E,12nm,1.1s
NGP Nagpur 17.01 246 *ex* **Pn** **04 21 32.7 -2.9**
NGP IAmb IAmb 04 21 34.2
comp=E,12nm,0.4s
NGP *ex* x 04 25 06.8
DHRM DHARAMSHALA 17.06 286 *e*P **Pn** **04 21 35.5 -0.8**
DHRM IAmb IAmb 04 21 38.7
comp=Z,136nm,0.1s
BHPL Bhopal 17.42 255 *e*P **Pn** **04 21 39.3 -1.4**
BHPL IAmb IAmb 04 21 39.6
comp=Z,8.5nm,0.5s
HHC Hu-ho-hao-te 17.52 43 *e*P **P** **04 21 46.3 +3.4**
HHC PP **sP** **04 21 58.3 +4.3**
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,87nm,5.1s
HHC LR LR
comp=Z,360nm,13.1s
HHC LR LR
comp=Z,450nm,12.2s
HHC LR LR
comp=Z,570nm,15.6s
KSH Kashi 19.40 308 P Pn 04 22 13.8 +9.0
KSH pP sP 04 22 22.6 +8.0
KSH S **Sn** **04 25 48.1 +6.4**
KSH pmax pmax
comp=Z,6.0nm,0.6s
KSH pmax pmax
comp=Z,56nm,4.3s
HYB Hyderabad 19.53 238 *i* P **Pn** **04 22 07.0 +0.6**
SONM Songino Array 20.55 21 P **P** **04 22 15.1 -0.9**
comp=Z,3.8nm,1.0s,baz=209,slow=12,SNR=10
ULHL Ulahol 20.60 315 P pP 04 22 24.9 +0.5
SNR=13
MK01 Makanchi Array 20.64 333 *e*P **P** **04 22 16.0 -0.9**
MKAR Makanchi Array 20.66 333 P **P** **04 22 16.2 -0.9**
comp=Z,1.6nm,0.8s,baz=137,slow=14,SNR=17
MK31 Makanchi Array 20.66 333 *e*P **P** **04 22 15.8 -1.3**
comp=Z,6.3nm,1.0s
ULN Ulaanbaatar 20.79 22 *e*P **P** **04 22 17.1 -1.5**
comp=Z,6.1nm,0.8s
MAKZ Makanchi 20.80 333 *e*P **P** **04 22 17.7 -0.9**
comp=Z,6.9nm,0.6s
KZA Kyzart 21.13 314 P pP 04 22 30.3 -0.1
SNR=13
KBK Karagaybulak 21.62 315 P pP 04 22 36.5 +1.0
SNR=24
UCH Uchtor 21.67 313 P pP 04 22 36.3 0.0
SNR=13
AAK Ala-Archa 21.90 314 P pP 04 22 38.2 -0.2
SNR=14
AAK Ala-Archa 21.90 314 P **P** **04 22 30.7 0.0**
comp=Z,9.0nm,0.9s,baz=194,slow=7.8,SNR=3.6
AAK pP **pP** **04 22 38.5 +0.2**
comp=Z,9.1nm,0.8s,baz=112,slow=7.1,SNR=16
AAK LR LR 04 32 29.0
comp=Z,41nm,21.0s,baz=128,slow=41
CHMS Chumysh 21.93 315 P pP 04 22 38.7 +0.1
SNR=5.0
AML Almayashu 22.15 312 P pP 04 22 41.8 +0.4
SNR=12
USP Ospenovka 22.23 316 P pP 04 22 41.8 0.0
SNR=6.0
EKS2 Erkin-Say 22.36 313 P pP 04 22 46.5 +3.2
SNR=11
POO Poona 22.55 247 *e*P **P** **04 22 37.4 -0.3**
BTK Batken 23.25 305 *e*P **P** **04 22 50.1 +5.2**
comp=Z,44nm,1.3s
KBL Kabul 23.34 291 *e*P **P** **04 22 52.3 +6.3**
comp=Z,20nm,0.8s
KURBB Kurchatov Arra 25.22 334 P **P** **04 23 03.1 +0.1**
comp=Z,0.7nm,0.5s,baz=144,slow=10,SNR=8.0
KURBB pP **pP** **04 23 11.4 +0.2**
comp=Z,1.9nm,0.5s,baz=144,slow=10,SNR=11
KURK Kurchatov 25.26 334 *e*P **P** **04 23 02.3 -1.0**
comp=Z,4.2nm,0.6s
PALK Pallekele 25.84 216 LR LR 04 36 49.0
comp=Z,51nm,19.1s,baz=114,slow=44
ZAA0 Zalesovo Array 26.19 345 *e*P **P** **04 23 09.9 -1.8**
comp=Z,4.3nm,0.7s
ZALV Zalesovo Beam 26.19 345 *e*P **P** **04 23 09.5 -2.2**
ZALV pP **pP** **04 23 18.6 -1.3**
ZALV Zalesovo Beam 26.19 345 P **P** **04 23 10.8 -0.9**
comp=Z,3.3nm,0.6s,baz=166,slow=9.0,SNR=16
ZALV pP **pP** **04 23 18.6 -1.3**
comp=Z,3.9nm,0.6s,baz=162,slow=10,SNR=8.9
ZALV LR LR 04 34 21.6
comp=Z,40nm,18.4s,baz=284,slow=38
KSAR Wonju Array Be 28.07 64 P **P** **04 23 27.7 -1.1**
KSRS Korea Array 28.10 64 P **P** **04 23 27.7 -1.4**
comp=Z,2.0nm,0.8s,baz=253,slow=9.5,SNR=7.2
KSRS LR LR 04 36 17.6
comp=Z,55nm,19.1s,baz=251,slow=40

BVAR Borovoye Array 30.41 329 P **P** **04 23 49.9 +0.5**
comp=Z,0.7nm,0.6s,baz=123,slow=10,SNR=3.4
BVAR LR LR 04 36 02.4
comp=Z,46nm,18.1s,baz=121,slow=36
BRVK Borovoye 30.48 329 *e*P **P** **04 23 49.3 -0.8**
GEYT Alibeck 32.47 296 LR LR 04 40 12.6
comp=Z,90nm,21.2s,baz=160,slow=42
ABKAR Akbulak array 33.93 317 *e*P **P** **04 24 21.5 +1.2**
comp=Z,4.5nm,0.8s
KLR Kul'dur 34.03 44 P **P** **04 24 20.8 -0.4**
comp=Z,6.4nm,1.0s,baz=261,slow=10,SNR=15
KLR LR LR 04 39 39.4
comp=Z,205nm,18.3s,baz=196,slow=39
AKTO Aktyubinsk 35.54 318 P **P** **04 24 34.6 +0.4**
comp=Z,3.4nm,0.8s,baz=99,slow=9.3,SNR=3.6
AKTO pP **pP** **04 24 41.8 -0.4**
comp=Z,3.2nm,0.7s,baz=109,slow=18,SNR=8.5
MJAR Matsushiro Arr 36.26 67 P **P** **04 24 39.5 -1.1**
comp=Z,1.7nm,0.8s,baz=270,slow=9.7,SNR=5.6
ASAJ Asahikawa 40.00 55 P **P** **04 25 11.4 -0.6**
comp=Z,14nm,1.0s,baz=346,slow=3.3,SNR=3.9
KIRV Kirov 43.33 326 P **P** **04 25 39.6 +0.7**
comp=Z,5.7nm,0.6s,baz=243,slow=20,SNR=2.1
KBZ Khabaz 44.31 304 LR LR 04 48 18.9
comp=Z,39nm,18.7s,baz=131,slow=42
TIXI Tiksi 46.39 14 P **P** **04 26 01.0 -2.2**
comp=Z,2.2nm,0.3s,baz=190,slow=1.2,SNR=7.0
MA2 Magadan 47.88 34 *e*P **P** **04 26 14.5 -0.6**
comp=Z,24nm,1.0s
PETK Petropavlovsk- 50.73 43 P **P** **04 26 36.1 -0.8**
comp=Z,5.5nm,0.8s,baz=203,slow=7.1,SNR=7.0
PETK LR LR 04 50 27.2
comp=Z,112nm,18.2s,baz=259,slow=39
BRTR Keskin Array B 51.47 299 pP pP 04 26 49.5 -2.0
comp=Z,0.9nm,0.7s,baz=119,slow=7.6,SNR=4.9
AKASG Malin Array Be 53.56 314 P **P** **04 26 56.8 -1.2**
comp=Z,0.1nm,0.2s,baz=73,slow=6.4,SNR=1.8
AKASG pP **pP** **04 27 04.5 -1.9**
comp=Z,1.5nm,0.5s,baz=77,slow=6.7,SNR=4.6
AKASG sP **sP** **04 27 09.5 -0.2**
comp=Z,0.9nm,0.4s,baz=76,slow=6.9,SNR=4.3
FITZ Fitzroy Crossi 54.99 145 P **P** **04 27 07.6 -1.1**
comp=Z,0.9nm,0.6s,baz=351,slow=13,SNR=3.9
FINES FINESS Array B 55.32 327 P **P** **04 27 10.1 -0.5**
comp=Z,0.7nm,0.6s,baz=98,slow=9.8,SNR=3.7
FINES pP **pP** **04 27 18.2 -0.7**
comp=Z,1.9nm,0.7s,baz=72,slow=6.2,SNR=3.5
ARCES ARCESS Array B 56.26 337 P **P** **04 27 16.5 -0.8**
comp=Z,7.4nm,1.1s,baz=48,slow=6.7,SNR=2.7
ARCES pP **pP** **04 27 25.1 -0.5**
comp=Z,3.2nm,0.9s,baz=80,slow=7.5,SNR=1.7
WRA Warramunga Arr 61.26 138 P **P** **04 27 52.4 -0.2**
comp=Z,6.3nm,0.7s,baz=326,slow=7.7,SNR=72
WRAB Tennant Creek 61.26 138 *e*P **P** **04 27 51.9 -0.7**
comp=Z,7.1nm,0.8s
NB2 NORSAR Subarra 62.50 327 P **P** **04 27 58.9 -1.6**
comp=Z,1.1nm,0.7s,baz=80,slow=6.5
NOA NORSAR Array B 62.50 327 P **P** **04 27 59.2 -1.3**
comp=Z,1.6nm,0.8s,baz=80,slow=6.6,SNR=5.2
NOA pP **pP** **04 28 08.2 -0.8**
comp=Z,1.6nm,0.7s,baz=80,slow=6.6,SNR=4.5
CLL Collm 63.60 316 *e*P **P** **04 28 06.0 -1.9**
CLL epP **pP** **04 28 16.0 -0.4**
GERES GERESS Array B 63.77 313 P **P** **04 28 09.1 -0.1**
comp=Z,0.3nm,0.5s,baz=67,slow=7.6,SNR=4.7
GERES pP **pP** **04 28 16.6 -1.1**
comp=Z,1.1nm,0.6s,baz=59,slow=6.1,SNR=6.9
GERES LR LR 05 01 44.7
comp=Z,26nm,19.4s,baz=137,slow=42
ASAR Alice Springs 63.94 141 P **P** **04 28 10.7 +0.2**
comp=Z,3.0nm,0.7s,baz=325,slow=6.5,SNR=53
CTA Charters Tower 68.95 129 P **P** **04 28 42.6 0.0**
comp=Z,4.0nm,0.7s,baz=308,slow=13,SNR=4.3
KEST Kesra 71.04 301 P **P** **04 28 56.2 +0.8**
comp=Z,3.4nm,0.9s,baz=151,slow=23,SNR=1.9
KEST pP **pP** **04 29 04.4 +0.3**
comp=Z,4.0nm,1.1s,baz=27,slow=3.4,SNR=1.6
STKA Stephens Creek 74.58 141 P **P** **04 29 16.1 0.0**
comp=Z,4.1nm,0.8s,baz=326,slow=9.9,SNR=5.3
ILAR Eielson Array 74.75 23 P **P** **04 29 15.6 -1.2**
comp=Z,0.5nm,0.6s,baz=305,slow=4.7,SNR=7.4
ILAR pP **pP** **04 29 23.9 -1.5**
comp=Z,0.6nm,0.9s,baz=335,slow=5.2,SNR=3.9
INK Inuvik 76.41 17 P **P** **04 29 25.4 -0.8**
comp=Z,0.9nm,0.8s,baz=303,slow=7.7,SNR=4.6
ESDC Sonseca Array 78.91 309 pP pP 04 29 49.2 -0.3
comp=Z,0.8nm,0.8s,baz=64,slow=6.8,SNR=3.4
PAB San Pablo 79.23 309 *e*P **P** **04 29 42.2 -0.4**
comp=Z,4.5nm,1.1s
YKA Yellowknife Ar 85.64 14 P **P** **04 30 14.5 -1.0**
comp=Z,0.4nm,0.7s,baz=323,slow=4.6,SNR=9.2
YKA pP **pP** **04 30 23.3 -0.9**
comp=Z,0.3nm,0.7s,baz=328,slow=4.6,SNR=4.0
TORD Torodi Ar. Bea 87.22 283 P **P** **04 30 24.2 +0.1**
comp=Z,0.3nm,0.6s,baz=38,slow=7.3,SNR=3.1
TORD pP **pP** **04 30 31.8 -1.0**
comp=Z,1.4nm,0.9s,baz=65,slow=3.8,SNR=7.5
TXAR Lajitas Array 119.11 19 PKP **PKPdf** **04 36 25.6 -1.0**
comp=Z,0.1nm,0.5s,baz=344,slow=1.3,SNR=2.9

MEX 17 04:20:57.5±0.8, 16°70N×94°89W, h99km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.39**	**1**	*i* P	Pn	04 21 11.1	-1.4
CMIG				*i* S	Sn	04 21 21.6	-2.0
HUIG	**Huatulco**	**1.49**	**232**	*e*P	Pn	04 21 21.7	-1.9
HUIG				*e*S	Sn	04 21 42.4	-1.0
VHO	**Vista Hermosa**	**1.80**	**282**	*e*P	Pn	04 21 27.3	-0.4
VHO				*i* S	Sn	04 21 49.6	-1.1
PCIG		**1.89**	**121**	*e*P	Pn	04 21 27.9	-0.7
PCIG				*i* S	Sn	04 21 50.8	-1.5
CCIG	**Comitan**	**2.67**	**99**	*e*P	Pn	04 21 37.9	-1.2
CCIG				*i* S	Sn	04 22 10.1	-0.9

NNC 17 04:24:11.0±5.9, 37°51N×71°55E, h0km, mb3.6, mpv3.2, 2C-2D, Error ellipse: s-maj=48.0km s-min=40.7km az=148.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.60**	**23**	⇑P	Pn	04 25 35.8	+0.1
AAK	4.2nm,1.1s			⇓S	Sn	04 26 41.4	+0.6
KK31	**Karatay Array**	**5.65**	**352**	P	Pn	04 25 37.8	+1.6
KK31	1.5nm,0.6s,baz=166,slow=11,SNR=12			⇓S	Sn	04 26 43.1	+1.4
AB31	**Akbulak array**	**14.44**	**328**	⇑P	Pn	04 27 32.3	-4.3
	0.7nm,0.3s,baz=163,slow=18,SNR=8.1						
	0.8nm,0.8s,baz=147,slow=12,SNR=5.4						

MEX 17 04:28:17.2±0.3, 15°64N×93°86W, h83km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.62**	**84**	*e*P	Pn	04 28 30.9	-1.4
PCIG				*e*S	Sn	04 28 41.9	-1.6
CCIG	**Comitan**	**1.78**	**69**	*i* P	Pn	04 28 45.4	-1.0
CCIG				*e*S	Sn	04 29 06.5	-2.2

NIED ***17*** *04:33:00,38°40N×141°90E,h53km,Mw4.0 Best double couple: M₀1.07000×10¹⁵ NP1:φ₀228.00000°,δ31.00000°, λ72.00000°. NP2:φ₀69.00000°,δ61.00000°,λ101.00000°.*
ISCJB ***17*** *04:33:15.3±0.6,38°44N±0°04×141°94E±0°07,h61km±4km, mb3.8/17, Error ellipse: s-maj=9.9km s-min=5.2km az=19.8*
IDC ***17*** *04:33:16.5±0.8,38°43N×141°81E,h57km±7km, mb3.6/17, mb1 3.8/20,mb1mx3.7/37,mbtmp3.9/20, Error ellipse: s-maj=17.6km s-min=11.8km az=103.0*
JMA ***17*** *04:33:16.4,38°44N×141°90E,h55km±1km, M3.9*
JMA Felt II J1.
ISC 17 04:33:16.4±0.7, 38°42N±0°04×141°94E±0°07, h56km±5km, n46, σ0°96/56, mb3.9/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.39**	**254**	P	**Pn**	**04 33 26.5**	**-0.3**
JIKH				S	**Sn**	**04 33 33.7**	**-0.7**

JIO Ouri 0.46 275 P **Pn** **04 33 27.2 -0.4**
JIO S **Sn** **04 33 34.9 -0.8**
JKMT Kesennumamotoy 0.53 317 P **Pn** **04 33 28.0 -0.4**
JKMT S **Sn** **04 33 36.2 -0.9**
OFUJ Ofunato 0.69 343 P **Pn** **04 33 29.9 -0.4**
OFUJ S **Sn** **04 33 39.6 -0.9**
JMK Ichinoseki 0.77 314 P **Pn** **04 33 31.1 -0.2**
JMK S **Sn** **04 33 41.6 -0.6**
JOU Okura 1.00 267 P **Pn** **04 33 33.9 -0.4**
JOU *e*S **Sn** **04 33 46.9 -0.7**
JMM Marumori 1.06 239 P **Pn** **04 33 34.5 -0.5**
JMM S **Sn** **04 33 47.8 -1.0**
JOM Ohasama 1.17 335 P **Pn** **04 33 36.3 -0.2**
JOM S **Sn** **04 33 51.4 0.0**
JYK Kaneyama 1.33 292 P **Pn** **04 33 38.5 -0.2**
JYK S **Sn** **04 33 54.9 -0.5**
JFK Kawauchi 1.34 219 P **Pn** **04 33 38.7 -0.2**
JFK S **Sn** **04 33 55.2 -0.6**
JRG Rokugo 1.41 314 P **Pn** **04 33 39.5 -0.2**
JRG *e*S **Sn** **04 33 57.9 +0.6**
JYS Shirataka 1.48 263 P **Pn** **04 33 40.7 -0.1**
JYS S **Sn** **04 33 59.5 +0.4**
JFT Otama 1.55 235 P **Pn** **04 33 42.0 +0.3**
MJAR Matsushiro Arr 3.51 239 P **Pn** **04 34 10.2 +1.8**
0.7nm,0.3s,baz=36,slow=14,SNR=58
MAT Matsushiro 3.51 239 P **Pn** **04 34 10.0 +1.6**
JHJ Hachijo jima 2 5.57 199 S **Sn** **04 35 36.4 -3.0**
24nm,0.3s,baz=267,slow=23,SNR=6.8
ASAJ Asahikawa 5.71 5 P **Pn** **04 34 37.8 -0.7**
2.7nm,0.3s,baz=215,slow=11,SNR=13
ASAJ S **Sn** **04 35 41.3 -1.5**
2.8nm,0.3s,baz=62,slow=34,SNR=3.2
USRK Ussuriysk Ar. 9.45 311 P **Pn** **04 35 29.7 0.0**
0.4nm,0.3s,baz=119,slow=13,SNR=5.2
KSRS Korea Array 11.11 269 P **Pn** **04 35 56.0 +3.5**
0.4nm,0.3s,baz=78,slow=14,SNR=8.8
PETK Petropavlovsk- 18.29 31 P **Pn** **04 37 26.8 +0.9**
2.0nm,0.3s,baz=203,slow=9.9,SNR=4.1
MA2 Magadan 21.91 12 P **P** **04 38 04.8 +0.1**
6.9nm,0.6s,baz=198,slow=7.8,SNR=10
SEY Seymchan 25.35 11 P **P** **04 38 38.5 +0.7**
1.9nm,0.6s,baz=175,slow=5.1,SNR=11
SONM Songino Array 27.38 302 P **P** **04 38 55.4 -1.0**
0.2nm,0.4s,baz=119,slow=12,SNR=2.6
H11N2 WAKE ISLAND Hy 28.54 124 T T 05 09 24.1
baz=316,slow=75,SNR=453
H11N1 WAKE ISLAND Hy 28.54 124 T T 05 09 27.5
baz=316,slow=75,SNR=603
H11N3 WAKE ISLAND Hy 28.55 124 T T 05 09 27.1
baz=316,slow=75,SNR=474
H11S1 WAKE ISLAND Hy 29.30 126 T T 05 10 24.8
baz=318,slow=76,SNR=126
H11S3 WAKE ISLAND Hy 29.30 126 T T 05 10 24.9
baz=318,slow=76,SNR=135
H11S2 WAKE ISLAND Hy 29.31 126 T T 05 10 26.0
baz=318,slow=76,SNR=121
ZALV Zalesovo Beam 41.30 311 P **P** **04 40 55.7 -0.4**
1.1nm,0.4s,baz=84,slow=8.6,SNR=5.5
ZALV PcP **PcP** **04 42 53.5 -0.1**
0.6nm,0.5s,baz=49,slow=2.7,SNR=2.5
CMAR Chiang Mai Arr 42.26 254 pP pP 04 41 18.0 -0.9
1.1nm,0.4s,baz=38,slow=9.6,SNR=6.7
MKAR Makanchi Array 43.75 301 P **P** **04 41 15.6 -0.6**
0.7nm,0.6s,baz=73,slow=8.2,SNR=9.7
ILAR Eielson Array 48.11 33 P **P** **04 41 50.0 -0.1**
0.8nm,0.7s,baz=261,slow=6.1,SNR=12
ILAR pP **pP** **04 42 05.6 +0.9**
0.6nm,0.7s,baz=262,slow=5.6,SNR=3.4
INK Inuvik 52.97 28 P **P** **04 42 26.9 +0.3**
1.1nm,0.8s,baz=302,slow=4.5,SNR=6.4
INK pP **pP** **04 42 43.2 +1.7**
0.6nm,0.7s,baz=286,slow=8.2,SNR=2.7
WRA Warramunga Arr 58.49 188 P **P** **04 43 06.4 -0.4**
1.1nm,0.5s,baz=6.0,slow=7.1,SNR=24
WRA pP **pP** **04 43 21.2 -0.7**
1.1nm,0.6s,baz=5.9,slow=7.3,SNR=6.3
ASAR Alice Springs 62.22 188 P **P** **04 43 32.2 0.0**
0.5nm,0.6s,baz=5.7,slow=6.9,SNR=5.9
YKA Yellowknife Ar 62.41 31 P **P** **04 43 33.0 0.0**
0.5nm,0.6s,baz=302,slow=6.6,SNR=12
FINES FINESS Array B 67.78 332 P **P** **04 44 07.7 -0.2**
1.5nm,0.7s,baz=19,slow=8.1,SNR=8.0
NB2 NORSAR Subarra 73.07 337 P **P** **04 44 39.0 -1.2**
comp=Z,0.7nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.07 337 P **P** **04 44 39.8 -0.4**
comp=Z,1.1nm,0.7s,baz=39,slow=6.1,SNR=5.0
AKASG Malin Array Be 73.46 322 P **P** **04 44 41.8 -0.8**
comp=Z,0.6nm,0.4s,baz=45,slow=6.4,SNR=7.4
PDAR Pinedale Array 76.40 46 P **P** **04 45 00.5 +0.4**
comp=Z,0.9nm,0.5s,baz=265,slow=1.4,SNR=16
BRTR Keskin Array B 78.24 312 P **P** **04 45 10.1 -0.2**
comp=Z,0.4nm,0.6s,baz=74,slow=6.6,SNR=3.3
GERES GERESS Array B 81.75 328 P **P** **04 45 28.6 -0.3**
comp=Z,0.3nm,0.5s,baz=30,slow=6.0,SNR=3.2
TXAR Lajitas Array 88.95 53 P **P** **04 46 05.8 +0.6**
comp=Z,0.5nm,0.6s,baz=293,slow=3.5,SNR=8.2
LPAZ La Paz 145.63 58 PKPbc **PKPdf** **04 52 49.3 -0.2**
comp=Z,1.0nm,0.8s,baz=356,slow=4.7,SNR=4.0

IDC 17 04:40:26.9±3.2, 13°67N×92°38W, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/33, mbtmp3.3/4, ML3.3/3, MS2.3/1, Ms1 2.3/1, ms1mx2.1/29, Error ellipse: s-maj=55.7km s-min=28.2km az=3.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**2.28**	**54**	Pn	Pn	04 41 06.7	+0.7
APG	6.3nm,0.3s,baz=248,slow=9.3,SNR=135			Sn	Sn	04 41 35.9	+0.9
APG	10nm,0.3s,baz=33,slow=8.1,SNR=9.4			LR	LR	04 42 14.1	
	comp=Z,71nm,20.6s,baz=208,slow=47						
CMIG	**Matias Romero**	**4.17**	**325**	Pn	Pn	04 41 32.1	+0.2
CMIG	1.9nm,0.3s,baz=146,slow=12,SNR=12			Sn	Sn	04 42 23.6	+2.2
TXAR	**Lajitas Array**	**18.77**	**328**	P	Pn	04 44 49.3	+1.1
	2.8nm,0.3s,baz=91,slow=20,SNR=5.5						
YKA	**Yellowknife Ar**	**51.26**	**347**	P	P	04 49 30.5	-1.7
	0.0nm,0.3s,baz=141,slow=10,SNR=3.4						
CMAR	**Chiang Mai Arr**	**146.18**	**340**	PKPbc	PKPbc	05 00 10.1	0.0
	0.5nm,0.3s,baz=348,slow=4.0,SNR=3.0						

KRAR ***17*** *05:00:25.0±0.1, 52°59N×88°40E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC 17 05:00:17.9±2.0, 52°79N×87°22E, h0km, mb3.5, mpv3.1, 7C-4D, Error ellipse: s-maj=17.3km s-min=6.4km az=78.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**2.09**	**305**	⇑Pg	Pb	05 00 55.4	-1.2
ZAA0	0.6nm,0.6s			⇑Lg	Lg	05 01 24.9	
KURBB	**Kurchatov Arra**	**6.11**	**253**	⇑Pn	Pn	05 01 50.2	+0.8
KURBB	2.3nm,0.5s 2.7nm,0.7s			⇓Sn	Sn	05 03 01.7	+1.8
KURBB	6.5nm,0.7s 8.4nm,0.7s			⇓Lg	Lg	05 03 31.3	
MK31	**Makanchi Array**	**6.96**	**212**	⇓Pn	Pn	05 02 01.9	+0.8
MK31	2.6nm,0.6s,baz=34,slow=12,SNR=56 2.1nm,0.8s,baz=34,slow=25,SNR=5.5			⇑Sn	Sn	05 03 20.9	+0.1
MK31	2.1nm,0.8s,baz=43,slow=26,SNR=3.7			⇓Lg	Lg	05 03 56.6	
MAKZ	**Makanchi**	**7.05**	**214**	⇑Pn	Pn	05 02 03.3	+1.0
MAKZ	4.7nm,1.0s 1.0nm,0.5s			⇑Sn	Sn	05 03 24.1	+1.0
MAKZ	3.2nm,1.1s			⇑Lg	Lg	05 04 01.3	

TIR ***17*** *05:01:35.9,42°41N×18°87E,h3km,Md2.9/3*
SAR ***17*** *05:01:38.8±0.3,42°32N×18°94E,h2km±1km,ML2.8/1*
PDG ***17*** *05:01:38.7±0.1,42°34N×18°93E,h2km,MD2.8/6, ML2.8/12, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
ISCJB ***17*** *05:01:39.2±0.3,42°33N±0°02×18°89E±0°02,h10km, Error ellipse: s-maj=2.9km s-min=1.8km az=33.8*

*BEO **17** 05:01:39.6±0.5, 42°.33N×18°.92E, h0km, ML2.5/12*
ISC 17 05:01:39.6±0.7, **42°.34N**±0°.02×**18°.93E**±0°.02, **h10**km, **n68, σ1s57**/119, **18C-8D, Northwesters Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.05**	**210**	*i*Pg	**Pg**	**05 01 39.6**	**-2.1**
BUM				*e*Sg	**Sg**	**05 01 40.4**	**-2.8**
CEME	**Cevo**	**0.20**	**358** ⇑	*i*Pg	**Pg**	**05 01 42.6**	**-1.4**
CEME				*e*Sg	**Sg**	**05 01 46.1**	**-0.8**
DRME	**Dracevica, Mon**	**0.25**	**129** ⇓	*i*Pg	**Pg**	**05 01 43.1**	**-1.6**
DRME				*e*Sg	**Sg**	**05 01 47.0**	**-1.1**
DRME	**Dracevica, Mon**	**0.25**	**129** ⇓	*i*Pg	**Pg**	**05 01 43.2**	**-1.5**
DRME				*e*Sg	**Sg**	**05 01 47.0**	**-1.1**
PDG	**Podgorica**	**0.26**	**70**	*e*Pg	**Pg**	**05 01 43.5**	**-1.4**
PDG				*e*Sg	**Sg**	**05 01 47.0**	**-1.4**
PDG	**Podgorica**	**0.26**	**70** ⇑	*i*P	**Pg**	**05 01 43.3**	**-1.6**
PDG				S	**Sg**	**05 01 47.5**	**-1.0**
PDG	**Podgorica**	**0.26**	**70** ⇑	*i*Pg	**Pg**	**05 01 43.3**	**-1.6**
PDG				*e*Sg	**Sg**	**05 01 47.4**	**-1.0**
PDG	**Podgorica**	**0.26**	**70** ⇓	*i*Pg	**Pg**	**05 01 43.5**	**-1.4**
TTG				*e*Sg	**Sg**	**05 01 47.4**	**-1.0**
HCY	**Herceg Novi**	**0.34**	**288** ⇑	*i*Pg	**Pg**	**05 01 45.0**	**-1.4**
HCY				*e*Sg	**Sg**	**05 01 50.6**	**-0.3**
HCY	**Herceg Novi**	**0.34**	**288** ⇓	*i*Pg	**Pg**	**05 01 45.0**	**-1.4**
HCY				*e*Sg	**Sg**	**05 01 50.5**	**-0.3**
NKME	**Niksic**	**0.42**	**3** ⇓	*i*Pg	**Pg**	**05 01 46.5**	**-1.5**
NKME				*e*Sg	**Sg**	**05 01 53.1**	**-0.5**
ULC	**Ulcinj**	**0.45**	**148** ⇓	*i*Pg	**Pg**	**05 01 47.2**	**-1.2**
ULC				*e*Sg	**Sg**	**05 01 53.9**	**-0.4**
NKY	**Niksic**	**0.47**	**6** ⇑	*i*Pg	**Pg**	**05 01 47.3**	**-1.6**
NKY				*e*Sg	**Sg**	**05 01 54.9**	**-0.3**
TREB	**Trebinje**	**0.57**	**311**	*e*Pg	**Pg**	**05 01 49.5**	**-1.2**
TREB				*e*Sg	**Sg**	**05 01 57.7**	**-0.4**
TREB	**Trebinje**	**0.57**	**311** ⇑	*i*Pg	**Pg**	**05 01 49.3**	**-1.4**
TREB				*e*Sg	**Sg**	**05 01 57.4**	**-0.7**
BRY	**Bratogost**	**0.63**	**333** ⇓	*i*Pg	**Pg**	**05 01 50.3**	**-1.6**
BRY				*e*Sg	**Sb**	**05 02 00.4**	**-1.3**
BRY	**Bratogost**	**0.63**	**333**	*e*Pg	**Pg**	**05 01 49.9**	**-2.0**
BRY				*e*Sg	**Sg**	**05 02 00.0**	**-0.1**
PUK	**Puka**	**0.78**	**112**	*i* PG	**Pn**	**05 01 53.8**	**-0.8**
PUK				*i* SG	**Sn**	**05 02 07.1**	**-1.4**
PVY	**Plav**	**0.80**	**71** ⇑	*i*Pg	**Pg**	**05 01 53.7**	**-1.5**
PVY				*e*Sg	**Sb**	**05 02 06.2**	**-0.6**
BCI	**Bajram Curri**	**0.85**	**88**	*i* PG	**Pn**	**05 01 57.8**	**+0.1**
BCI				*i* SG	**Sb**	**05 02 07.2**	**-0.6**
IVA	**Berane**	**0.89**	**53** ⇑	*i*Pg	**Pg**	**05 01 55.2**	**-1.6**
IVA				*e*Sg	**Sb**	**05 02 08.9**	**-0.2**
PLE	**Pljevlja**	**1.04**	**19** ⇑	*i*Pg	**Pg**	**05 01 58.3**	**-1.4**
PLE				*e*Sg	**Sn**	**05 02 14.3**	**-0.9**
STON	**Ston**	**1.05**	**301**	*e*Pg	**Pg**	**05 01 58.1**	**-1.7**
STON				Sg	**Sn**	**05 02 14.6**	**-0.4**
STON	**Ston**	**1.05**	**301** ⇑	*i*Pg	**Pg**	**05 01 57.1**	**-2.7**
STON				*e*Sg	**Sg**	**05 02 13.0**	**-0.4**
TIR	**Tirane**	**1.22**	**145** ⇑	*i*P	**Pg**	**05 02 03.6**	**+0.6**
TIR				S	**Sn**	**05 02 20.5**	**+1.3**
PHP	**Peshkopia**	**1.31**	**120**	*i* PN	**Pn**	**05 02 03.1**	**-0.9**
PHP				*i* SN	**Sg**	**05 02 24.9**	**+3.3**
IVAS	**Ivanjica**	**1.53**	**36**	*e*Pn	**Pg**	**05 02 08.1**	**-0.8**
IVAS				*e*Sn	**Sg**	**05 02 28.7**	**0.0**
BBLS	**Lazići**	**1.56**	**13**	*e*Pn	**Pg**	**05 02 08.7**	**-0.9**
BBLS				*e*Sn	**Sg**	**05 02 31.1**	**+1.2**
BBLS	**Lazići**	**1.56**	**13** ⇑	*i*Pn	**Pb**	**05 02 08.2**	**-0.5**
BBLS				*e*Sn	**Sg**	**05 02 28.7**	**-1.2**
HAPS	**Han Pijesak,Bl**	**1.74**	**1**	*e*Pn	**Pn**	**05 02 10.3**	**+0.2**
HAPS				*e*Sg	**Sg**	**05 02 36.2**	**+0.5**
HAPS	**Han Pijesak,Bl**	**1.74**	**1** ⇑	*i*Pn	**Pb**	**05 02 10.5**	**-1.3**
HAPS				*e*Sn	**Sb**	**05 02 33.5**	**-0.3**
SELS	**Selova**	**1.84**	**61**	*e*Pn	**Pb**	**05 02 13.2**	**-0.1**
SELS				*e*Sn	**Sb**	**05 02 36.3**	**-0.1**
OHR	**Ohrid**	**1.86**	**131**	*i* Pn	**Pg**	**05 02 15.7**	**+0.3**
DIVS	**Divibare**	**1.92**	**24**	*e*Pn	**Pn**	**05 02 12.9**	**+0.4**
DIVS				*e*Sn	**Sb**	**05 02 38.0**	**-0.8**
DIVS	**Divibare**	**1.92**	**24**	*e*Pn	**Pn**	**05 02 12.5**	**+0.1**
DIVS				*e*Sn	**Sb**	**05 02 37.3**	**-1.5**
KRUS	**Krusevo**	**1.99**	**119**	*i* Pn	**Pb**	**05 02 15.4**	**-0.6**
GRUS	**Gruza**	**2.02**	**40**	*e*Pn	**Pn**	**05 02 14.6**	**+0.8**
GRUS				*e*Sn	**Sb**	**05 02 41.6**	**-0.2**
TRUS	**Trudelj**	**2.17**	**29**	*e*Pn	**Pb**	**05 02 16.9**	**-2.1**
TRUS				*e*Sn	**Sb**	**05 02 44.3**	**-1.6**
BARS	**Barje**	**2.19**	**77**	*e*Pn	**Pb**	**05 02 17.4**	**-1.9**
BARS				*e*Sn	**Sb**	**05 02 45.1**	**-1.3**
MATE	**Matera**	**2.38**	**225** ⇑	*i*P	**Pg**	**05 02 24.7**	**-0.5**
STIP	**Stip**	**2.51**	**104**	*i* Pn	**Pb**	**05 02 25.1**	**+0.3**
BOSS	**Bosilegrad**	**2.63**	**85**	*e*Pn	**Pn**	**05 02 23.7**	**+1.5**
BOSS				*e*Sn	**Sb**	**05 02 58.0**	**-1.4**
BLY	**Banja Luka**	**2.72**	**333** ⇑	*i*P	**Pb**	**05 02 27.8**	**-0.5**
BLY	**Banja Luka**	**2.72**	**333**	S	**Sb**	**05 03 01.2**	**-0.5**
BLY	**Banja Luka**	**2.72**	**333**	*e*Pn	**Pn**	**05 02 24.0**	**+0.6**
BLY				*e*Sn	**Sn**	**05 02 57.1**	**+0.8**
ZAPS	**Zajecar**	**2.83**	**58**	*e*Pn	**Pn**	**05 02 26.4**	**+1.5**
ZAPS	**Zavoj**	**2.88**	**70**	*e*Pn	**Pn**	**05 02 27.2**	**+1.6**
ZAPS				*e*Sn	**Sn**	**05 03 02.3**	**+1.9**
FRGS	**Fruska Gora**	**2.89**	**13**	*e*Pn	**Pn**	**05 02 27.2**	**+1.5**
FRGS				*e*Sn	**Sn**	**05 03 02.6**	**+2.1**
FRGS	**Fruska Gora**	**2.89**	**13**	*e*Pn	**Pn**	**05 02 26.3**	**+0.6**
FRGS				*e*Sn	**Sn**	**05 03 01.3**	**+0.8**
MDVR	**Moldovita**	**3.17**	**39** ⇑	*i*P	**Pn**	**05 02 29.7**	**+0.1**
MDVR	**Moldovita**	**3.17**	**39**	S	**Sn**	**05 03 08.4**	**+0.9**
NVLJ	**Novalja**	**3.69**	**308**	*i* Pn	**Pn**	**05 02 37.6**	**+0.9**
NVLJ				Sn	**Sn**	**05 03 21.6**	**+1.2**
BZS	**Buzias**	**3.81**	**30**	*e*Pn	**Pn**	**05 02 38.8**	**+0.5**
BZS	**Buzias**	**3.81**	**30** ⇑	*i*P	**Pn**	**05 02 39.9**	**+1.6**
BZS	**Buzias**	**3.81**	**30**	S	**Sn**	**05 03 25.5**	**+2.4**
BOJS	**Bojanci**	**4.13**	**321**	*i* Pn	**Pn**	**05 02 44.5**	**+1.8**
BOJS				*i* Sn	**Sn**	**05 03 34.6**	**+3.6**
CRES	**Cresnjev**	**4.29**	**326**	*e*Pn	**Pn**	**05 02 44.9**	**0.0**
CRES				*e*Sn	**Sn**	**05 03 34.2**	**-0.8**
SIRR	**Siria**	**4.39**	**26** ⇓	*i*P	**Pn**	**05 02 48.7**	**+2.4**
SIRR	**Siria**	**4.39**	**26**	S	**Sn**	**05 03 39.3**	**+1.9**
PDKS	**Podkum**	**4.67**	**324**	*i* Pn	**Pn**	**05 02 51.8**	**+1.6**
PDKS				*i* Sn	**Sn**	**05 03 47.3**	**+2.9**
CEY	**Cerknica**	**4.70**	**318**	*e*Pn	**Pn**	**05 02 50.2**	**-0.4**
CEY				*e*Sn	**Sn**	**05 03 44.1**	**-1.0**
JAVS	**Javornik**	**4.99**	**317**	*i* Pn	**Pn**	**05 02 56.1**	**+1.6**
JAVS				*i* Sn	**Sn**	**05 03 55.7**	**+3.4**
VOJS	**Vojsko**	**5.17**	**317**	*i* Pn	**Pn**	**05 02 58.1**	**+1.0**
VOJS				*i* Sn	**Sn**	**05 04 00.7**	**+3.8**
OBKA	**Obir**	**5.21**	**325**	*e*Pn	**Pn**	**05 03 00.0**	**+2.3**
	0.8nm,0.3s						
ARSA	**Arzberg**	**5.47**	**335**	*e*Pn	**Pn**	**05 03 03.5**	**+2.3**
	0.7nm,0.3s						
ARSA				*e*Sn	**Sn**	**05 04 06.6**	**+2.4**
	1.0nm,0.5s						
CONA	**Conrad Observa**	**5.99**	**340**	Pn	**Pn**	**05 03 12.5**	**+4.1**
	0.3nm,0.3s						
CONA				*e*Sn	**Sn**	**05 04 19.1**	**+2.1**
	0.8nm,0.4s						
VYHS	**Vyhne**	**6.15**	**359**	*e*SN	**Sn**	**05 04 24.4**	**+3.5**
MOA	**Molln**	**6.42**	**331**	Pn	Pn	05 03 19.7	+5.5
	0.3nm,0.4s						
MOA				Sn	**Sn**	**05 04 31.6**	**+4.2**
	1.6nm,0.4s						

*ISCJB **17** 05:13:55.0±0.3, 40°.74N±0°.02×21°.36E±0°.03, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.1km az=16.9*
*SKO **17** 05:13:54.3, 40°.74N×21°.39E, h15km, M2.2, ML2.5*
*ATH **17** 05:13:54.0, 40°.79N×21°.35E, h13km±1km, ML2.4/9, Error ellipse: s-maj=3.3km s-min=1.2km az=318.0*
*THE **17** 05:13:55.0, 40°.76N×21°.35E, h6km, ML2.3/7, Error ellipse: s-maj=1.1km s-min=0.6km az=300.0*
ISC 17 05:13:54.9±0.8, **40°.74N**±0°.02×**21°.36E**±0°.03, **h5**km±5km, **n33, σ0s87**/51, **3C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNA	**Florina**	**0.05**	**12**	P	**Pg**	**05 13 56.3**	**+0.1**
FNA				S	**Sg**	**05 13 57.3**	**+0.2**
FNA	**Florina**	**0.05**	**12** ⇑	*i*Pg	**Pg**	**05 13 56.3**	**+0.1**
FNA				*i* Sg	**Sg**	**05 13 57.4**	**+0.2**
FNA	**Florina**	**0.05**	**12**	P	**Pg**	**05 13 56.3**	**+0.1**
FNA				S	**Sg**	**05 13 57.4**	**+0.2**
FNA				AML	AML	05 13 57.4	
	comp=N,40729μm,0.1s						
FNA				AML	AML	05 13 57.4	
	comp=E,50356μm,0.2s						
BIA	**Bitola**	**0.28**	**354**	*i* Pg	**Pg**	**05 14 00.8**	**+0.3**
BIA				*i* Sg	**Sg**	**05 14 05.2**	**+1.0**
BIA				*e*Lg	Lg	05 14 07.3	
	comp=N,446nm,0.4s						
BIA				*e*Lg	Lg	05 14 07.7	
	comp=E,492nm,0.2s						
NEST	**Nestorio**	**0.40**	**217**	P	**Pg**	**05 14 02.5**	**-0.2**
NEST				S	**Sg**	**05 14 09.0**	**+1.0**
NEST	**Nestorio**	**0.40**	**217**	P	**Pg**	**05 14 02.6**	**-0.2**
NEST				S	**Sg**	**05 14 09.5**	**+1.5**
NEST				AML	AML	05 14 10.2	
	comp=N,1425μm,0.2s						
NEST				AML	AML	05 14 10.4	
	comp=E,2422μm,0.3s						
KZN	**Kozani**	**0.53**	**144**	P	**Pg**	**05 14 05.0**	**-0.1**
KZN				S	**Sg**	**05 14 13.3**	**+1.3**
KZN	**Kozani**	**0.53**	**144**	P	**Pg**	**05 14 05.2**	**+0.1**
KZN				AML	AML	05 14 16.9	
	comp=E,868μm,0.3s						
KZN				AML	AML	05 14 17.9	
	comp=N,835μm,0.3s						
PENT	**Pentalofos**	**0.57**	**198**	P	**Pg**	**05 14 05.7**	**-0.1**
PENT				S	**Sb**	**05 14 14.8**	**-1.1**
PENT				AML	AML	05 14 15.6	
	comp=N,711μm,0.4s						
PENT				AML	AML	05 14 17.3	
	comp=E,586μm,0.3s						
OHR	**Ohrid**	**0.57**	**311** ⇑	*i*Pg	**Pg**	**05 14 05.7**	**-0.2**
OHR				*i* Sg	**Sb**	**05 14 14.3**	**-1.6**
OHR				*e*Lg	Lg	05 14 16.1	
	comp=E,164nm,0.3s						
OHR				*e*Lg	Lg	05 14 16.1	
	comp=N,114nm,0.3s						
KRUS	**Krusevo**	**0.64**	**352** ⇑	*i*Pg	**Pg**	**05 14 06.8**	**-0.4**
KRUS				*i* Sg	**Sb**	**05 14 16.6**	**-1.4**
KRUS				*e*Lg	Lg	05 14 16.6	
	comp=N,100nm,0.3s						
KRUS				*e*Lg	Lg	05 14 17.4	
	comp=E,93nm,0.3s						
KTI	**Kastanea**	**0.67**	**121**	P	**Pg**	**05 14 08.1**	**+0.3**
KPRO	**Kipourio**	**0.78**	**180**	P	**Pg**	**05 14 10.3**	**+0.4**
KPRO				S	**Sb**	**05 14 22.1**	**+0.1**
KPRO	**Kipourio**	**0.78**	**180**	P	**Pg**	**05 14 09.4**	**-0.5**
KPRO				AML	AML	05 14 25.9	
	comp=E,618μm,0.4s						
KPRO				AML	AML	05 14 26.0	
	comp=N,382μm,0.4s						
MEV	**Metsovon**	**0.96**	**186**	P	**Pg**	**05 14 13.5**	**+0.3**
LIT	**Litokhoron**	**1.07**	**126**	P	**Pg**	**05 14 15.2**	**-0.2**
LIT				S	**Sn**	**05 14 31.7**	**-0.2**
LIT	**Litokhoron**	**1.07**	**126**	*e*Pg	**Pg**	**05 14 15.8**	**+0.4**
LIT				*i* Sg	**Sn**	**05 14 32.1**	**+0.1**
LIT	**Litokhoron**	**1.07**	**126**	P	**Pg**	**05 14 15.2**	**-0.2**
LIT				AML	AML	05 14 33.7	
	comp=N,319μm,0.3s						
LIT				AML	AML	05 14 34.1	
	comp=E,406μm,0.4s						
VAY	**Valandovo**	**1.08**	**57** ⇓	*i*Pg	**Pg**	**05 14 15.2**	**-0.5**
VAY				*i* Sg	**Sb**	**05 14 30.7**	**+0.1**
VAY				*e*Lg	Lg	05 14 36.0	
	comp=E,98nm,0.5s						
VAY				*e*Lg	Lg	05 14 36.2	
	comp=N,84nm,0.5s						
STIP	**Stip**	**1.14**	**33** ⇓	*i*Pg	**Pn**	**05 14 18.9**	**+1.3**
STIP				*i* Sg	**Sn**	**05 14 37.4**	**+3.7**
STIP				*e*Lg	Lg	05 14 38.2	
	comp=E,17nm,0.4s						
STIP				*e*Lg	Lg	05 14 38.9	
	comp=N,12nm,0.4s						
JAN	**Janina**	**1.15**	**200**	P	**Pg**	**05 14 16.8**	**-0.2**
KNT	**Kendrikon**	**1.24**	**69**	P	**Pn**	**05 14 17.9**	**-1.1**
KNT				S	**Sn**	**05 14 35.9**	**-0.2**
KNT	**Kendrikon**	**1.24**	**69**	*i* Pg	**Pn**	**05 14 17.9**	**-1.1**
KNT				*i* Sg	**Sn**	**05 14 35.9**	**-0.2**
KNT	**Kendrikon**	**1.24**	**69**	P	**Pn**	**05 14 18.0**	**-0.9**
KNT				AML	AML	05 14 40.0	
	comp=N,301μm,0.5s						
KNT				AML	AML	05 14 40.5	
	comp=E,164μm,0.4s						
THL	**Klokotos Trika**	**1.27**	**157**	P	**Pn**	**05 14 18.2**	**-1.2**
THL				AML	AML	05 14 41.3	
	comp=N,224μm,0.6s						
THL				AML	AML	05 14 41.8	
	comp=E,162μm,0.3s						
HORT	**Hortiatis**	**1.33**	**95**	P	**Pn**	**05 14 20.2**	**-0.1**
IGT	**Igoumenitsa**	**1.44**	**214**	P	**Pn**	**05 14 21.2**	**-0.5**
IGT				AML	AML	05 14 50.6	
	comp=E,151μm,0.4s						
IGT				AML	AML	05 14 50.9	
	comp=N,220μm,0.5s						
SOH	**Sokhos**	**1.51**	**86**	P	**Pn**	**05 14 21.8**	**-1.0**
SOH				S	**Sn**	**05 14 43.0**	**0.0**
SOH	**Sokhos**	**1.51**	**86**	P	**Pn**	**05 14 22.9**	**+0.1**
KEK	**Kerkira**	**1.57**	**230**	P	**Pb**	**05 14 24.5**	**-0.1**
PLG	**Polygyros**	**1.63**	**102**	P	**Pb**	**05 14 25.2**	**-0.3**
SRS	**Serrai**	**1.73**	**77**	P	**Pn**	**05 14 25.4**	**-0.3**
KLV	**Kalavryta, Ach**	**2.76**	**167**	P	**Pn**	**05 14 40.7**	**+0.8**

IDC 17 05:25:03.9±1.3, **1°.96N×126°.58E, h0**km, **mb3.6**/5, **mb1 3.7**/6, **mb1mx3.5**/45, **mbtmpg3.6**/6, **ML3.4**/1, **Error ellipse: s-maj=108.5km s-min=18.4km az=71.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.95**	**183**	P	Pn	05 29 38.7	-0.7
	0.1nm,0.3s,baz=5.4,slow=9.9,SNR=3.2						
WRA	**Warramunga Arr**	**23.06**	**161**	P	P	05 30 10.6	-0.5
	1.1nm,0.4s,baz=339,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.45**	**165**	P	P	05 30 42.9	+0.1
	0.3nm,0.4s,baz=344,slow=8.2,SNR=10						
SONM	**Songino Array**	**48.92**	**342**	P	P	05 33 52.4	+0.5
	0.3nm,0.5s,baz=148,slow=8.5,SNR=2.3						
MKAR	**Makanchi Array**	**58.92**	**326**	P	P	05 35 04.9	0.0
	0.3nm,0.3s,baz=116,slow=8.1,SNR=2.2						
KURBB	**Kurchatov Arra**	**63.15**	**328**	P	P	05 35 33.1	-0.4
	0.8nm,0.5s,baz=128,slow=6.1,SNR=9.0						

*ISCJB **17** 05:47:42.5±0.6, 17°.13N±0°.05×99°.98W±0°.04, h39km±9km, Error ellipse: s-maj=8.1km s-min=5.9km az=21.8*
*NEIC **17** 05:47:44.7±0.0, 17°.15N×99°.97W, h29km, mb4.0/2, MD4.1(MEX), After MEX.*
*MEX **17** 05:47:44.0±0.8, 17°.12N×100°.02W, h44km±7km, MD4.1*
ISC 17 05:47:43.4±1.1, **17°.14N**±0°.04×**99°.97W**±0°.03, **h33**km±3km, **n21, σ1s25**/33, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**0.27**	**162**	*e*P	**Pb**	**05 47 50.5**	**-0.4**
ACP2				*e*S	**Sb**	**05 47 56.7**	**+0.8**
CAIG	**El Cayaco**	**0.29**	**252**	*e*Pg	**Pb**	**05 47 50.3**	**-0.8**
CAIG				*e*Sg	**Sn**	**05 47 56.1**	**0.0**
CAIG	**El Cayaco**	**0.29**	**252**	*e*P	**Pb**	**05 47 50.3**	**-0.8**
CAIG				*e*S	**Sn**	**05 47 56.1**	**0.0**
MEIG	**Mezcala**	**0.85**	**23**	*e*Pn	**Pn**	**05 47 57.7**	**-1.5**
MEIG				*e*Sn	**Sn**	**05 48 09.2**	**-1.4**
MEIG	**Mezcala**	**0.85**	**23**	*e*P	**Pn**	**05 47 57.7**	**-1.5**
MEIG				*i* S	**Sn**	**05 48 09.2**	**-1.4**
ARIG	**Puente Sto Nin**	**1.19**	**343**	*e*P	**Pn**	**05 48 02.5**	**-1.3**
ARIG				*e*S	**Sn**	**05 48 18.0**	**-0.9**
ARIG	**Puente Sto Nin**	**1.19**	**343**	*e*P	**Pn**	**05 48 02.5**	**-1.3**
ARIG				*e*S	**Sn**	**05 48 18.0**	**-0.9**
PLIG	**Platanillo**	**1.33**	**20**	*e*Pn	**Pn**	**05 48 05.0**	**-0.7**
PLIG	**Platanillo**	**1.33**	**20**	*e*P	**Pn**	**05 48 05.0**	**-0.7**
PLIG				*i* S	**Sn**	**05 48 21.0**	**-1.3**
TLIG	**Tlapa**	**1.41**	**72**	*e*Pn	**Pn**	**05 48 06.6**	**-0.2**
TLIG				*e*Sn	**Sn**	**05 48 25.5**	**+1.1**
TLIG	**Tlapa**	**1.41**	**72**	*e*P	**Pn**	**05 48 06.6**	**-0.2**
TLIG				*i* S	**Sn**	**05 48 23.6**	**-0.8**
ZIIG	**Zihuatanejo**	**1.50**	**288**	*e*Pn	**Pn**	**05 48 08.1**	**+0.1**
ZIIG	**Zihuatanejo**	**1.50**	**288**	*e*P	**Pn**	**05 48 06.3**	**-1.6**
ZIIG				*i* S	**Sn**	**05 48 24.0**	**-2.4**
PNIG	**Pinotepa**	**1.92**	**112**	*e*Pn	**Pn**	**05 48 13.2**	**-0.6**
PNIG	**Pinotepa**	**1.92**	**112**	*e*P	**Pn**	**05 48 13.2**	**-0.6**
PNIG				*e*S	**Sn**	**05 48 35.1**	**-1.7**
UNM	**Universidad Na**	**2.31**	**19**	*e*Pn	**Pn**	**05 48 21.1**	**+1.8**
MOIG	**Morelia**	**2.78**	**336**	*e*Pn	**Pn**	**05 48 28.1**	**+2.3**
LVIG	**Laguna Verde**	**4.24**	**52**	*e*Pn	**Pn**	**05 48 46.7**	**+0.9**
ZAIG	**Zacatecas**	**6.11**	**337**	*e*Pn	**Pn**	**05 49 13.2**	**+1.5**
TUC	**Tucson**	**18.00**	**329**	*e*Pn	**P**	**05 51 52.7**	**+1.3**
	3.1nm,1.4s						
HBAR	**Harrisburg**	**20.13**	**23**	*e*P	**P**	**05 52 15.5**	**+0.9**
	44nm,1.1s						

IDC 17 06:11:34.1±2.0, **6°.80N×125°.25E, h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.4**/41, **mbtmpg3.8**/3, **MS3.5**/3, **Ms1 3.5**/3, **ms1mx2.7**/47, **Error ellipse: s-maj=207.8km s-min=21.2km az=65.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**0.43**	**51**	LR	LR	06 11 55.0	
	comp=Z,66nm,18.1s,baz=332,slow=49						
WRA	**Warramunga Arr**	**28.04**	**162**	P	P	06 17 27.5	+0.2
	0.6nm,0.3s,baz=341,slow=9.2,SNR=14						
ASAR	**Alice Springs**	**31.43**	**165**	P	P	06 17 57.1	-0.3
	0.9nm,0.5s,baz=344,slow=7.2,SNR=24						
HNR	**Honiara**	**38.15**	**115**	LR	LR	06 33 01.3	
	comp=Z,35nm,18.6s,baz=315,slow=34						
DZM	**Mont Dzumac**	**49.52**	**127**	LR	LR	06 42 18.0	
	comp=Z,112nm,19.5s,baz=244,slow=37						
MKAR	**Makanchi Array**	**54.21**	**325**	P	P	06 21 02.0	+0.4
	0.2nm,0.4s,baz=125,slow=6.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**58.38**	**327**	P	P	06 21 30.9	-0.4
	baz=121,slow=6.4						
AKTO	**Aktyubinsk**	**70.36**	**321**	LR	LR	06 54 01.6	
	comp=Z,21nm,19.6s,baz=120,slow=36						

IDC 17 06:18:00.8±8.6, **10°.27S×163°.66E, h0**km, **mb3.5**/3, **mb1 3.6**/3, **mb1mx3.3**/44, **mbtmpg3.5**/3, **Error ellipse: s-maj=262.2km s-min=52.8km az=122.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**28.73**	**6**	T	T	06 54 32.0	
	baz=184,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.74**	**6**	T	T	06 54 31.5	
	baz=184,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**28.75**	**6**	T	T	06 54 32.4	
	baz=184,slow=76,SNR=14						
WRA	**Warramunga Arr**	**29.85**	**248**	P	P	06 24 10.8	+0.7
	0.2nm,0.5s,baz=79,slow=9.4,SNR=4.0						
H11N1	**WAKE ISLAND Hy**	**29.96**	**6**	T	T	06 56 02.0	
	baz=184,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**29.97**	**6**	T	T	06 56 02.4	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**29.98**	**6**	T	T	06 56 03.4	
	baz=184,slow=76,SNR=18						
ASAR	**Alice Springs**	**31.34**	**241**	P	P	06 24 22.6	-0.7
	0.2nm,0.5s,baz=64,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**91.56**	**317**	P	P	06 31 09.6	-0.1
	0.4nm,0.7s,baz=117,slow=4.2,SNR=5.1						

*ISCJB **17** 06:27:57.4±5.1, 5°.2S±0°.7×154°.0E±0°.2, h74km, mb3.6/5, Error ellipse: s-maj=102.2km s-min=23.4km az=11.2*
*IDC **17** 06:27:59.5±4.0, 5°.34S×153°.87E, h66km±26km, mb3.7/6, mb1 3.8/6, mb1mx3.4/45, mbtmp4.0/6, Error ellipse: s-maj=40.6km s-min=27.6km az=21.0*
ISC 17 06:28:00.4±1.6, **5°.4S**±0°.2×**153°.9E**±0°.2, **h74**km, **n7, σ0s49**/12, **mb3.7**/5, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.57**	**145**	P	**P**	**06 32 33.1**	**-0.3**
	12nm,0.6s,baz=265,slow=7.8,SNR=40						
WRA	**Warramunga Arr**	**23.90**	**231**	P	**P**	**06 33 08.1**	**+0.5**
	1.7nm,0.5s,baz=54,slow=9.9,SNR=36						
WRA				PcP	**PcP**	**06 36 48.8**	**+0.2**
	0.2nm,0.5s,baz=74,slow=4.3,SNR=4.8						
WRA				ScP	**ScP**	**06 40 20.7**	**-0.1**
	0.2nm,0.6s,baz=52,slow=3.4,SNR=2.9						
ASAR	**Alice Springs**	**26.48**	**225**	P	**P**	**06 33 30.4**	**-0.5**
	0.6nm,0.6s,baz=57,slow=9.3,SNR=8.2						
ASAR				PcP	**PcP**	**06 36 55.0**	**+0.6**
	0.4nm,0.6s,

TRN	Trinidad (W)	4.67 183	eP	Pn	06 54 19.8	+1.1
TRN	Trinidad (W)	4.67 183	eS	Sn	06 55 11.0	-1.4

IDC 17 07:09:17.9±8.4, 12°28S×168°57E, h550km±144km, mb2.8/4, mb1 3.0/5, mb1mx2.7/39, mbtmp3.8/5, Error ellipse: s-maj=150.8km s-min=31.0km az=155.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.94**	**192**	P	P		07 11 35.6	+0.4
	0.3nm,0.3s,baz=49,slow=19,SNR=3.7							
WRA	**Warramunga Arr**	**33.71**	**252**	P	P		07 15 14.2	+0.1
	0.9nm,0.5s,baz=84,slow=8.6,SNR=22							
ASAR	**Alice Springs**	**34.77**	**246**	P	P		07 15 22.4	-0.6
	1.3nm,0.5s,baz=76,slow=9.6,SNR=32							
SONM	**Songino Array**	**81.31**	**323**	P	P		07 20 37.7	+0.5
	0.2nm,0.3s,baz=110,slow=5.1,SNR=2.7							
ILAR	**Eielson Array**	**83.83**	**18**	P	P		07 20 49.0	-0.3
	0.2nm,0.5s,baz=226,slow=5.2,SNR=4.5							

IDC 17 07:13:46.1±5.1, 6°65S×129°57E, h164km±66km, mb3.0/1, mb1 2.8/4, mb1mx2.7/35, mbtmp3.2/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/12, Error ellipse: s-maj=116.9km s-min=23.9km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.99**	**17**	P	Pn		07 15 12.4	-0.4
	0.3nm,0.3s,baz=197,slow=19,SNR=2.4							
SIJI				S	Sn		07 16 13.8	-7.1
	0.9nm,0.3s,baz=217,slow=20,SNR=5.1							
WRA	**Warramunga Arr**	**14.01**	**161**	P	Pn		07 16 58.3	+0.7
	0.1nm,0.3s,baz=339,slow=12,SNR=5.3							
WRA				S	Sn		07 19 19.5	-14
	0.1nm,0.3s,baz=336,slow=22,SNR=4.5							
ASAR	**Alice Springs**	**17.43**	**167**	P	P		07 17 37.4	-0.8
	0.1nm,0.3s,baz=345,slow=10,SNR=5.6							
GUMO	**Guam**	**25.20**	**37**	LR	LR		07 28 35.5	
	comp=Z,18nm,21.9s,baz=120,slow=35							
MKAR	**Makanchi Array**	**67.70**	**327**	P	P		07 24 26.0	+0.3
	0.2nm,0.4s,baz=124,slow=7.5,SNR=3.9							

IDC 17 07:20:04.7±5.0, 29°40N×142°09E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.2/40, mbtmp3.3/3, ML2.7/1, Error ellipse: s-maj=193.2km s-min=30.5km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.83**	**336**	Pn	Pn		07 21 58.7	-1.1
	0.1nm,0.3s,baz=153,slow=10,SNR=9.1							
MKAR	**Makanchi Array**	**48.97**	**308**	P	P		07 28 53.2	+0.3
	0.3nm,0.7s,baz=96,slow=7.7,SNR=3.7							
WRA	**Warramunga Arr**	**49.62**	**190**	P	P		07 28 57.7	-0.3
	0.2nm,0.3s,baz=6.8,slow=7.7,SNR=6.4							

IDC 17 07:20:41.2±3.6, 22°47S×68°70W, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/25, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=81.0km s-min=53.1km az=57.0
ISCJB 17 07:20:58.0±0.6, 21°31S±0.03×68°77W±0°08, h127km±7km, mb3.5/1, Error ellipse: s-maj=12.1km s-min=5.3km az=1.7
SJA 17 07:20:57.3±0.6, 21°33S×68°73W, h126km±3km, ML2.7, MW2.9
GUC 17 07:20:58.5±0.7, 21°29S×68°80W, h116km±4km, ML3.2

ISC 17 07:20:58.3±0.9, 21°31S±0.03×68°75W±0°07, h120km±8km, n32, σ0°76/47, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.67**	**224**	eP	Pn		07 21 17.7	+0.1
PB09				eS	Sn		07 21 32.9	+0.7
PB09	**IPOC Station P**	**0.67**	**224**	⇑iP	Pn		07 21 18.0	+0.4
PB09				eS	Sn		07 21 32.7	+0.6
PB09				IAML			07 21 35.5	
	comp=E,478nm,0.4s							
PB01	**IPOC Station P**	**0.74**	**291**	⇑iP	Pn		07 21 17.8	-0.3
PB01				eS	Sn		07 21 32.5	-0.5
PB01				IAML			07 21 34.5	
	comp=N,554nm,0.3s							
PB02	**IPOC Station P**	**1.07**	**269**	eP	Pn		07 21 21.4	+0.3
PB02	**IPOC Station P**	**1.07**	**269**	eP	Pn		07 21 21.2	0.0
PB02				eS	Sn		07 21 38.3	-0.1
PB02				IAML			07 21 41.5	
	comp=E,947nm,0.7s							
PB07	**IPOC Station P**	**1.14**	**249**	eP	Pn		07 21 22.4	+0.4
PB07				eS	Sn		07 21 40.4	+0.5
PB07	**IPOC Station P**	**1.14**	**249**	⇑iP	Pn		07 21 22.4	+0.4
PB07				eS	Sn		07 21 39.4	-0.4
PB07				IAML			07 21 42.5	
	comp=E,471nm,0.3s							
PB03	**IPOC Station P**	**1.19**	**232**	eP	Pn		07 21 22.6	+0.1
PB03	**IPOC Station P**	**1.19**	**232**	⇑iP	Pn		07 21 23.0	+0.5
PB03				eS	Sn		07 21 40.7	-0.1
PB03				IAML			07 21 42.2	
	comp=E,286nm,0.2s							
PB08	**IPOC Station P**	**1.23**	**342**	eP	Pn		07 21 23.5	+0.3
PB08				eS	Sn		07 21 43.1	+1.3
PB08	**IPOC Station P**	**1.23**	**342**	eP	Pn		07 21 23.4	+0.3
PB08				eS	Sn		07 21 42.0	+0.2
LVC	**Limon Verde**	**1.30**	**187**	eP	Pn		07 21 24.1	+0.2
LVC				IAML			07 21 24.8	
	comp=Z,156nm,0.5s							
LVC				eS	Sn		07 21 43.3	+0.1
LVC	**Limon Verde**	**1.30**	**187**	eP	Pn		07 21 24.4	+0.5
PB06	**IPOC Station P**	**1.58**	**209**	eP	Pn		07 21 27.1	+0.2
PB06	**IPOC Station P**	**1.58**	**209**	⇑iP	Pn		07 21 27.4	+0.5
PB06				eS	Sn		07 21 49.6	+0.9
PB06				IAML			07 21 51.5	
	comp=E,207nm,0.3s							
PB04	**IPOC Station P**	**1.65**	**232**	eP	Pn		07 21 27.9	+0.2
PB04	**IPOC Station P**	**1.65**	**232**	eP	Pn		07 21 28.4	+0.6
PB04				eS	Sn		07 21 50.8	+0.7
PB04				IAML			07 21 58.7	
	comp=E,204nm,0.3s							
PB11	**IPOC Station P**	**1.76**	**331**	eP	Pn		07 21 29.3	+0.2
PB11	**IPOC Station P**	**1.76**	**331**	eP	Pn		07 21 29.1	0.0
PB11				*i* S	Sn		07 21 52.8	+0.3
PB11				IAML			07 21 54.3	
	comp=N,220nm,0.4s							
PB15	**IPOC Station P**	**2.00**	**199**	eP	Pn		07 21 32.6	+0.6
PB15	**IPOC Station P**	**2.00**	**199**	⇑iP	Pn		07 21 32.6	+0.6
PB15				*i* S	Sn		07 21 58.9	+1.1
PB15				IAML			07 22 02.7	
	comp=N,1μm,0.4s							
PB05	**IPOC Station P**	**2.04**	**221**	eP	Pn		07 21 32.7	+0.3
PB05	**IPOC Station P**	**2.04**	**221**	eP	Pn		07 21 33.0	+0.5
PB05				eS	Sn		07 21 59.6	+1.0
PSGCX	**Pisagua**	**2.14**	**323**	eP	Pn		07 21 33.9	+0.2
MNMCX	**Minye Minye**	**2.31**	**340**	eP	Pn		07 21 36.7	+0.7
PB12	**IPOC Station P**	**3.07**	**331**	eP	Pn		07 21 45.8	+0.1
YJA	**Yavi**	**3.12**	**107**	eP	Pn		07 21 47.2	+0.5
YJA				IAML			07 21 50.9	
	comp=Z,10nm,0.8s							
PB14	**IPOC Station P**	**3.63**	**205**	eP	Pn		07 21 53.0	-0.3
LPAZ	**La Paz**	**5.03**	**7**	Pn	Pn		07 22 14.1	+1.7
	comp=Z,1.1nm,0.3s,baz=193,slow=8.5,SNR=17							
BDFB	**Brasilia**	**20.45**	**77**	P	P		07 25 24.0	-2.7
	comp=Z,1.0nm,0.5s,baz=239,slow=12,SNR=3.6							
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P	P		07 32 38.6	-0.8
	comp=Z,0.6nm,0.5s,baz=253,slow=6.0,SNR=6.7							
MKAR	**Makanchi Array**	**145.39**	**36**	PKPbc	PKPdf		07 40 23.9	+1.8
	comp=Z,0.3nm,0.8s,baz=318,slow=3.9,SNR=3.3							

IDC 17 07:44:22.7±0.7, 6°35S×151°56E, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/32, mbtmp4.0/12, MS3.0/2, Ms1 3.0/2, ms1mx2.6/32, Error ellipse: s-maj=25.2km s-min=17.9km az=114.0
ISCJB 17 07:44:25.8±0.4, 6°41S±0.06×151°57E±0°09, h30km, mb4.2/24, MS3.1/1, Error ellipse: s-maj=13.6km s-min=6.7km az=29.1
NEIC 17 07:44:27.2±2.2, 6°36S×151°59E, h29km±15km, mb4.4/15, Error ellipse: s-maj=10.1km s-min=5.2km az=116.0

ISC 17 07:44:27.3±0.5, 6°39S±0°08×151°6E±0°1, h30km, n48, σ0°93/45, mb4.3/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.25**	**14**	ePn	Pn		07 45 01.6	-0.9
HNR	**Honiara**	**8.77**	**111**	LR	LR		07 49 51.5	
	comp=Z,54nm,18.1s,baz=316,slow=37							
COEN	**Coen**	**11.22**	**227**	ePn	Pn		07 47 06.1	+0.3
EIDS	**Eidsvold**	**18.88**	**182**	eP	Pn		07 48 46.3	+0.2
	26nm,1.6s							
DZM	**Mont Dzumac**	**21.16**	**139**	eP	P		07 49 08.2	-2.1
	6.3nm,1.1s							
DZM	**Mont Dzumac**	**21.16**	**139**	P	P		07 49 10.8	+0.5
	2.7nm,0.7s,baz=348,slow=20,SNR=2.8							
MTN	**Manton Dam**	**21.20**	**251**	eP	P		07 49 10.7	+0.1
	9.5nm,0.8s							
WRAB	**Tennant Creek**	**21.52**	**230**	eP	P		07 49 14.6	+0.4
	16nm,1.1s							
WB2	**Warramunga Arr**	**21.53**	**230**	eP	P		07 49 14.8	+0.7
WR1	**Warramunga Arr**	**21.54**	**230**	eP	P		07 49 13.3	-0.9
	7.2nm,0.8s							
WR1				eS	Sn		07 53 16.3	-4.4
WRA	**Warramunga Arr**	**21.54**	**230**	P	P		07 49 13.3	-0.9
	5.0nm,0.8s,baz=56,slow=11,SNR=24							
WRA				PcP	PcP		07 53 16.3	0.0
	0.9nm,0.9s,baz=47,slow=1.9,SNR=4.6							
AS01	**Alice Springs**	**24.17**	**223**	eP	P		07 49 40.7	-0.5
AS31	**Alice Springs**	**24.20**	**223**	eP	P		07 49 41.0	-0.5
	1.5nm,0.6s							
ASAR	**Alice Springs**	**24.20**	**223**	P	P		07 49 41.0	-0.5
	3.7nm,0.7s,baz=56,slow=9.0,SNR=29							
STKA	**Stephens Creek**	**27.04**	**199**	eP	P		07 50 07.4	+0.3
	1.2nm,0.8s							
STKA	**Stephens Creek**	**27.04**	**199**	P	P		07 50 07.0	0.0
	4.5nm,0.7s,baz=1.7,slow=8.0,SNR=8.5							
FITZ	**Fitzroy Crossi**	**27.90**	**243**	eP	P		07 50 14.8	-0.1
	5.8nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.90**	**243**	P	P		07 50 14.3	-0.5
	2.2nm,0.5s,baz=56,slow=8.7,SNR=17							
CAN	**Canberra**	**28.89**	**184**	eP	P		07 50 23.5	-0.1
	51nm,1.4s							
DAV	**Davao City (W)**	**29.23**	**297**	LR	LR		08 01 22.4	
	comp=Z,46nm,20.8s,baz=22,slow=35							
PSI	**Prapat**	**53.41**	**278**	eP	P		07 53 45.3	+0.3
	5.5nm,0.4s							
SONA0	**Songino Array**	**67.06**	**329**	eP	P		07 55 17.4	-0.5
SONM	**Songino Array**	**67.06**	**329**	P	P		07 55 17.4	-0.5
	0.3nm,0.5s,baz=146,slow=5.8,SNR=3.9							
VNDA	**Vanda**	**71.30**	**178**	eP	P		07 55 43.6	+0.1
VNDA	**Vanda**	**71.30**	**178**	P	P		07 55 43.9	+0.4
	0.6nm,0.6s,baz=345,slow=5.7,SNR=6.2							
BILL	**Bilibino**	**74.97**	**6**	eP	P		07 56 05.8	+0.5
	3.9nm,1.0s							
MK32	**Makanchi Array**	**80.76**	**319**	eP	P		07 56 39.0	+0.9
MKAR	**Makanchi Array**	**80.76**	**319**	P	P		07 56 39.0	+0.9
	0.1nm,0.4s,baz=144,slow=2.7,SNR=3.3							
RC01	**Rabbit Creek A**	**81.09**	**25**	eP	P		07 56 37.7	-1.8
	5.7nm,0.6s							
ZALV	**Zalesovo Beam**	**81.83**	**327**	P	P		07 56 43.1	-0.3
	0.5nm,0.4s,baz=123,slow=5.3,SNR=3.0							
ZAA1	**Zalesovo Array**	**81.83**	**327**	eP	P		07 56 43.1	-0.3
IM3	**Indian Mountai**	**82.26**	**20**	eP	P		07 56 45.9	+0.4
CCB	**Clear Creek Bu**	**83.65**	**22**	eP	P		07 56 52.5	-0.3
	7.1nm,1.5s							
IL1	**Eielson Array**	**84.06**	**22**	eP	P		07 56 54.1	-0.7
ILAR	**Eielson Array**	**84.06**	**22**	P	P		07 56 53.9	-1.0
	1.5nm,0.7s,baz=242,slow=5.0,SNR=23							
ILB	**Eielson Array**	**84.06**	**22**	eP	P		07 56 54.7	-0.1
	9.2nm,1.6s							
DOT	**Dot Lake**	**84.64**	**24**	eP	P		07 56 57.6	-0.2
	4.0nm,0.8s							
HYT	**Haines Junctio**	**86.37**	**28**	eP	P		07 57 06.3	-0.3
	14nm,1.5s							
NV01	**Mina Array Sit**	**93.97**	**52**	eP	P		07 57 44.1	+1.2
NVAR	**Mina Array Bea**	**93.97**	**52**	P	P		07 57 44.1	+1.2
	0.6nm,0.6s,baz=245,slow=5.4,SNR=4.9							
G08A	**Pilot Rock**	**94.07**	**45**	eP	P		07 57 46.9	+3.7
	9.8nm,0.9s							
YKA	**Yellowknife Ar**	**97.36**	**28**	P	Pdif		07 57 58.6	+1.0
	0.2nm,0.7s,baz=268,slow=4.6,SNR=5.1							
YKB5	**Yellowknife Ar**	**97.36**	**28**	eP	Pdif		07 57 58.6	+1.0
PTGA	**Pitinga**	**147.67**	**102**	PKPbc	**PKPbc**		08 04 10.3	+0.2
	1.3nm,0.3s,baz=214,slow=1.6,SNR=6.5							
TOA0	**Torodi Ar. Sit**	**149.65**	**285**	ePKPbc	**PKPbc**		08 04 14.7	-0.5
TORD	**Torodi Ar. Bea**	**149.65**	**285**	PKPbc	**PKPbc**		08 04 14.2	-0.9
	1.7nm,0.6s,baz=98,slow=3.1,SNR=12							
TOA1	**Torodi Ar. Sit**	**149.65**	**285**	ePKPbc	**PKPbc**		08 04 14.2	-0.9
BDFB	**Brasilia**	**150.71**	**139**	PKPbc	**PKiKP**		08 04 17.6	-0.9
	3.7nm,0.6s,baz=219,slow=9.2,SNR=7.7							

ISCJB 17 07:50:35.7±0.5, 39°76N±0°04×43°62E±0°04, h12km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=145.7
ISK 17 07:50:35.1, 39°74N×43°62E, h5km, ML2.5/5
DDA 17 07:50:35.2, 39°78N×43°60E, h7km±2km, ML2.6

ISC 17 07:50:35.7±1.0, 39°77N±0°04×43°62E±0°03, h14km±10km, n12, σ0°76/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.23**	**166**	*i* P	Pg		07 50 41.2	+0.3
DYDN				*i* S	Sg		07 50 44.9	+0.6
DYDN				IAML_P				
	comp=Z,24μm,0.1s							
IGDI	**IGDIR**	**0.37**	**74**	*i* P	Pb		07 50 43.6	-0.4
IGDI				*i* S	Sb		07 50 48.9	-0.8
IGDI				IAML_P				
	comp=Z,3μm,0.2s							
AGRB	**Hanur-Agry**	**0.52**	**249**	PG	Pg		07 50 45.7	-0.3
AGRB				SG	Sg		07 50 53.1	+0.1
TASB	**TASBURUN-IGDIR**	**0.52**	**65**	PG	Pg		07 50 45.9	-0.1
TASB				SG	Sb		07 50 53.7	-0.5
CLDR	**Calderan**	**0.67**	**160**	*i* P	Pg		07 50 48.2	-0.6
CLDR				*i* S	Sg		07 50 56.0	-1.5
CLDR				IAML_P				
	comp=Z,2μm,0.2s							
DIGO	**Kars**	**0.67**	**344**	*i* P	Pg		07 50 48.1	-0.8
DIGO				IAML_P				
	comp=Z,4μm,0.2s							
TUTA	**Tutak**	**0.72**	**240**	*i* P	Pb		07 50 50.0	-0.1
TUTA				*i* S	Sb		07 50 59.5	-0.5
VMUR	**Van-Muradiye**	**0.78**	**183**	*i* P	Pb		07 50 51.4	+0.2
VMUR				IAML_P				
	comp=Z,34nm,0.1s							
EAK	**Akyaka**	**0.92**	**359**	*i* P	Pn		07 50 55.5	+1.2
EAK				IAML_P				
	comp=Z,583nm,0.3s							
GNI	**Garni**	**0.94**	**66**	PG	Pg		07 50 53.6	-0.4
GNI				SG	Sb		07 51 07.7	+1.3
MLAZ	**Malazgirt-MUS**	**1.04**	**233**	PG	Pb		07 50 55.3	-0.2
AKDM	**Akdamar-Van**	**1.52**	**199**	PN	Pb		07 51 03.5	-0.3

IDC 17 07:53:06.6±2.6, 67°63N×142°42E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.3/39, mbtmp3.4/4, Error ellipse: s-maj=87.0km s-min=26.7km az=167.0
ISCJB 17 07:53:07.3±0.6, 67°55N±0°05×142°6E±0°2, h10km, mb3.3/4, Error ellipse: s-maj=9.0km s-min=6.7km az=2.7
YARS 17 07:53:08.2±0.2, 67°57N±0°01×142°67E±0°04, h8km±4km

ISC 17 07:53:07.9±0.8, 67°54N±0°05×142°63E±0°05, h10km, n8, σ1°11/14, mb3.3/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.11**	**168**	eP	Pb		07 53 28.6	-0.4
MOMR				Pmax			07 53 28.6	
	comp=Z,73nm,0.3s							
MOMR				eS	Sg		07 53 43.3	-0.1
MOMR				Smax			07 53 43.3	
	comp=E,830nm,0.5s							
YBGR	**Belaya Gora**	**1.67**	**52**	eP	Pn		07 53 36.7	-0.3
YBGR				Pmax			07 53 36.7	
	comp=Z,103nm,0.5s							
YBGR				eS	Sn		07 53 59.5	+1.1
YBGR				Smax			07 53 59.5	
	comp=N,571nm,0.4s							
DEPR	**Deputatskiy**	**2.11**	**333**	eP	Pn		07 53 43.7	+0.5
DEPR				eP	Pb		07 53 45.7	-0.5
DEPR				Pmax			07 53 45.7	
	comp=Z,20nm,0.4s							
DEPR				eS	Sb		07 54 13.5	+1.1
DEPR				Smax			07 54 13.5	
	comp=E,182nm,0.4s							
BTGS	**Batagay**	**3.06**	**276**	eP	Pn		07 53 57.7	+1.5
BTGS				eP	Pb		07 54 03.0	+0.6
BTGS				Pmax			07 54 03.0	
	comp=Z,10.0nm,0.4s							
BTGS				eS	Sg		07 54 43.5	-2.6
				Smax			07 54 43.5	
	comp=E,151nm,0.5s							
ILAR	**Eielson Array**	**27.23**	**62**	P	P		07 58 51.8	+0.4
	comp=E,0.6nm,0.9s,baz=312,slow=9.5,SNR=5.0							
MKAR	**Makanchi Array**	**36.73**	**267**	P	P		08 00 14.4	-0.4
	comp=E,0.3nm,0.6s,baz=46,slow=8.8,SNR=4.0							
YKA	**Yellowknife Ar**	**38.89**	**46**	P	P		08 00 33.1	+0.3
	comp=E,1.6nm,1.0s,baz=34,slow=10,SNR=2.5							
FINES	**FINESS Array B**	**43.35**	**321**	P	P		08 01 08.6	-0.8

ISCJB 17 07:54:51.4±0.5, 19°34S±0°03×69°66W±0°07, h93km±3km, mb3.9/4, Error ellipse: s-maj=10.4km s-min=5.0km az=179.0
SJA 17 07:54:52.1±0.4, 19°41S×69°73W, h80km±1km, ML3.4, MW3.7
GUC 17 07:54:52.5±0.5, 19°42S×69°70W, h80km±2km, ML4.0
IDC 17 07:54:55.9±1.8, 19°35S×69°31W, h112km±16km, mb3.7/5, mb1 3.7/8, mb1mx3.4/28, mbtmp4.0/8, MS2.7/3, Ms1 2.7/3, ms1mx2.5/24, Error ellipse: s-maj=37.5km s-min=12.9km az=98.0

ISC 17 07:54:52.1±0.7, 19°37S±0°03×69°71W±0°07, h83km±5km, n40, σ1°48/49, mb4.1/4, 2C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNMC	**Minye Minye**	**0.26**	**24**	⇓iP	Pn		07 55 05.7	+0.7
MNMC				*i* S	Sn		07 55 15.4	+1.1
MNMCX	**Minye Minye**	**0.26**	**24**	eP	Pn		07 55 05.7	+0.7
MNMCX				eS	Sn		07 55 15.3	+0.9
PB11	**IPOC Station P**	**0.39**	**173**	eP	Pn		07 55 05.7	+0.1
PB11				eS	Sn		07 55 15.7	+0.2
PB11	**IPOC Station P**	**0.39**	**173**	⇓iP	Pn		07 55 05.7	+0.1
PB11				*i* S	Sn		07 55 15.7	+0.2
PSGC	**Pisagua**	**0.45**	**240**	⇓iP	Pn		07 55 06.1	+0.2
PSGC				*i* S	Sn		07 55 16.3	+0.1
PSGCX	**Pisagua**	**0.45**	**240**	eP	Pn		07 55 06.2	+0.3
PSGCX				eS	Sn		07 55 16.4	+0.2
PB08	**IPOC Station P**	**0.93**	**146**	eP	Pn		07 55 11.5	+0.5
PB08				eS	Sn		07 55 25.9	+1.0
PB08	**IPOC Station P**	**0.93**	**146**	⇓iP	Pn		07 55 11.3	+0.4
PB08				*i* S	Sn		07 55 25.4	+0.4
PB12	**IPOC Station P**	**0.95**	**322**	eP	Pn		07 55 11.8	+0.9
PB12	**IPOC Station P**	**0.95**	**322**	⇓iP	Pn		07 55 12.0	+1.0
PB12				*i* S	Sn		07 55 26.7	+1.7
PB01	**IPOC Station P**	**1.68**	**173**	⇑iP	Pn		07 55 20.3	+0.4
PB01				*i* S	Sn		07 55 41.3	+0.3
PB01				IAML			07 55 47.0	
	comp=N,2μm,0.3s							
PB02	**IPOC Station P**	**1.95**	**185**	eP	Pn		07 55 24.4	+0.9
PB02	**IPOC Station P**	**1.95**	**185**	⇑iP	Pn		07 55 23.9	+0.3
PB02				eS	Sn		07 55 48.1	+0.7
PB02				IAML			07 55 52.4	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**2.35**	**184**	eP	Pn		07 55 29.8	+0.9
PB07	**IPOC Station P**	**2.35**	**184**	eP	Pn		07 55 29.3	+0.4
PB07				eS	Sn		07 55 58.3	+1.2
PB07				IAML			07 56 06.4	
	comp=E,1μm,0.5s							
PB09	**IPOC Station P**	**2.45**	**170**	eP	Pn		07 55 31.7	+1.3
PB09	**IPOC Station P**	**2.45**	**170**	eP	Pn		07 55 31.5	+1.1
PB09				IAML			07 56 04.9	
	comp=N,860nm,0.8s							
PB03	**IPOC Station P**	**2.66**	**181**	eP	Pn		07 55 33.9	+0.7
PB03	**IPOC Station P**	**2.66**	**181**	eP	Pn		07 55 33.0	-0.1
PB03				eS	Sn		07 56 05.0	+0.4
PB03				IAML			07 56 12.9	
	comp=E,580nm,0.6s							
PB04	**IPOC Station P**	**2.98**	**188**	eP	Pn		07 55 34.0	-3.3
LVC	**Limon Verde**	**3.31**	**167**	eP	Pn		07 55 43.3	+1.2
LVC				IAML			07 56 42.1	
	comp=Z,94nm,0.5s							
LVC	**Limon Verde**	**3.31**	**167**	P	Pn		07 55 44.3	+2.3
	comp=Z,7.6nm,0.3s,baz=350,slow=7.2,SNR=52							
LVC				S	Sn		07 56 24.9	+4.4
	comp=Z,29nm,0.3s,baz=73,slow=19,SNR=15							
LPAZ	**La Paz**	**3.42**	**26**	eP	Pn		07 55 45.9	+2.2
LPAZ	**La Paz**	**3.42**	**26**	P	Pn		07 55 47.6	+3.9
	comp=Z,3.8nm,0.3s,baz=210,slow=6.4,SNR=72							
LPAZ				S	Sn		07 56 19.9	-3.5
	comp=Z,1.6nm,0.3s,baz=254,slow=11,SNR=3.6							
LPAZ				LR	LR		07 57 26.9	
	comp=Z,76nm,18.6s,baz=272,slow=47							
SIV	**San Ignacio**	**8.89**	**69**	P	Pn		07 56 56.1	-1.8
	comp=Z,0.6nm,0.3s,baz=261,slow=11,SNR=20							
SIV				LR	LR		08 00 03.8	
	comp=Z,27nm,21.0s,baz=256,slow=36							
PTGA	**Pitinga**	**20.84**	**28**	P	P		07 59 25.3	-1.9
	comp=Z,1.0nm,0.3s,baz=248,slow=19,SNR=2.7							
PTGA				LR	LR		08 07 28.9	
	comp=Z,39nm,18.5s,baz=190,slow=36							
SNAA	**Sanae**	**64.53**	**161**	P	P		08 05 20.1	+0.2
	comp=Z,2.7nm,1.1s,baz=294,slow=14,SNR=3.2							
ULM	**Lac du Bonnet**	**73.07**	**343**	P	P		08 06 13.2	+0.1
	comp=Z,1.4nm,0.5s,baz=165,slow=8.9,SNR=3.9							
TORD	**Torodi Ar. Bea**	**77.36**	**71**	P	P		08 06 37.0	-1.5
	comp=Z,0.2nm,0.4s,baz=253,slow=5.3,SNR=4.1							
YKA	**Yellowknife Ar**	**88.94**	**341**	P	P		08 07 37.7	+0.8
	comp=Z,1.4nm,0.7s,baz=135,slow=4.7,SNR=40							
H11S2	**WAKE ISLAND Hyl**	**126.84**	**279**	T	T		10 33 07.7	
	baz=101							
H11S1	**WAKE ISLAND Hyl**	**126.85**	**279**	T	T		10 33 11.2	
	baz=101							
H11S3	**WAKE ISLAND Hyl**	**126.86**	**279**	T	T		10 33 10.6	
	baz=101							
H11N3	**WAKE ISLAND Hyl**

ISC 17 08:09:01.6±0.5,44°11N±0°04×149°12E±0°04,h47km,3km, h47km:pP-P,n346,σ1§64/380,mb4.6/122,MS4.1/14, 31C-10D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.44**	**322**	*i* P		**Pn**	**08 09 24.0**	**-1.1**
KUR					AMB	AMB	08 09 25.0	
	2μm,0.4s							
KUR				*i* S		**Sn**	**08 09 42.6**	**-0.2**
KUR					A	A	08 09 47.0	
	6μm,0.4s							
KUR					A	A	08 09 47.0	
	3μm,0.4s							
KUR	**Kuril'sk**	**1.44**	**322** *c*	*i*PN		**Pn**	**08 09 24.2**	**-0.9**
KUR				*i* S		**Sn**	**08 09 44.0**	**+1.2**
KUR					pmax	pmax		
	comp=N,357nm,0.6s							
KUR					pmax	pmax		
	comp=E,338nm,0.6s							
KUR					pmax	pmax		
	comp=Z,1μm,0.6s							
KUR					smax	smax		
	comp=N,4μm,0.6s							
KUR					smax	smax		
	comp=E,3μm,0.6s							
SHO	**Shikotan**	**1.67**	**262**	*i* P		**Pn**	**08 09 27.4**	**-1.0**
SHO					AMB	AMB	08 09 28.4	
	comp=E,232nm,0.3s							
SHO				*i* S		**Sn**	**08 09 48.0**	**-0.7**
SHO					A	A	08 09 59.0	
	comp=E,3μm,0.4s							
SHO					A	A	08 09 59.0	
	comp=E,3μm,0.4s							
SHO					AMS	AMS	08 10 19.5	
	comp=E,5μm,13.0s							
SHO					AMS	AMS	08 10 19.5	
	comp=E,6μm,13.0s							
SHO					AMS	AMS	08 10 19.5	
	comp=E,4μm,13.0s							
SHO	**Shikotan**	**1.67**	**262** *c*	*i*PN		**Pn**	**08 09 27.3**	**-1.1**
SHO				*i* S		**Sn**	**08 09 48.2**	**-0.5**
SHO					pmax	pmax		
	comp=Z,232nm,0.4s							
SHO					pmax	pmax		
	comp=N,81nm,0.5s							
SHO					pmax	pmax		
	comp=E,139nm,0.4s							
SHO					smax	smax		
	comp=N,2μm,0.4s							
SHO					smax	smax		
	comp=E,923nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.35**	**269**	*i* P		**Pn**	**08 09 37.0**	**-0.7**
YUK					AMB	AMB	08 09 38.0	
	comp=E,347nm,0.4s							
YUK				*i* S		**Sn**	**08 10 05.7**	**+0.4**
YUK					A	A	08 10 14.0	
	comp=E,4μm,0.5s							
YUK					A	A	08 10 14.0	
	comp=E,3μm,0.5s							
YUK					AMS	AMS	08 11 07.0	
	comp=E,5μm,12.0s							
YUK					AMS	AMS	08 11 07.0	
	comp=E,4μm,12.0s							
YUK	**Yuzh-Kuril'sk**	**2.35**	**269** *d*	*i*PN		**Pn**	**08 09 37.4**	**-0.3**
YUK				*i* S		**Sn**	**08 10 05.6**	**+0.3**
YUK					pmax	pmax		
	comp=E,101nm,0.4s							
YUK					pmax	pmax		
	comp=Z,347nm,0.4s							
YUK					smax	smax		
	comp=E,3μm,0.4s							
YUK					smax	smax		
	comp=N,1μm,0.5s							
GRPR	**Tuman**	**2.42**	**268**	*e*P		**Pn**	**08 09 38.0**	**-0.6**
GRPR					AMB	AMB	08 09 39.0	
	comp=N,240nm,0.2s							
GRPR				*e*S		**Sn**	**08 10 07.0**	**0.0**
GRPR					A	A	08 10 14.0	
	comp=N,1μm,0.5s							
GRPR					A	A	08 10 14.0	
	comp=N,586nm,0.5s							
GRPR	**Tuman**	**2.42**	**268**	*e*PN		**Pn**	**08 09 38.0**	**-0.6**
GRPR				*e*S		**Sn**	**08 10 07.3**	**+0.3**
GRPR					pmax	pmax		
	comp=Z,240nm,0.3s							
GRPR					pmax	pmax		
	comp=N,59nm,0.1s							
GRPR					pmax	pmax		
	comp=E,53nm,0.2s							
GRPR					smax	smax		
	comp=N,1μm,0.5s							
GRPR					smax	smax		
	comp=E,586nm,0.2s							
NEM2	**Nemuro 2**	**2.56**	**254**	P		**Pn**	**08 09 39.4**	**-1.2**
NEM2				*e*S		**Sn**	**08 10 09.9**	**-0.6**
JRA	**Rausu**	**2.89**	**268**	P		**Pn**	**08 09 45.5**	**+0.4**
JRA				*e*S		**Sn**	**08 10 20.8**	**+2.2**
JNK	**Nakash**	**3.23**	**262**	P		**Pn**	**08 09 49.6**	**-0.2**
JNK				*e*S		**Sn**	**08 10 28.3**	**+1.3**
JAK	**Akkeshi**	**3.41**	**252**	P		**Pn**	**08 09 51.4**	**-0.8**
JTKR	**Abashiri--Toko**	**3.76**	**270**	P		**Pn**	**08 09 57.9**	**+0.8**
JAR	**Ashorobuto**	**3.97**	**260**	P		**Pn**	**08 10 00.2**	**+0.3**
JOB	**Onbets**	**4.03**	**254**	P		**Pn**	**08 10 00.4**	**-0.4**
HRK	**Horoka**	**4.39**	**264**	*e*P		**Pn**	**08 10 07.2**	**+1.5**
JCH	**Churui**	**4.46**	**252**	P		**Pn**	**08 10 06.4**	**-0.2**
JCH				*e*S		**Sn**	**08 10 59.1**	**+1.9**
JKK2	**Kamakawa 2**	**4.61**	**269**	P		**Pn**	**08 10 10.4**	**+1.7**
MYR	**Moyori**	**4.64**	**249**	*e*P		**Pn**	**08 10 09.5**	**+0.4**
MYR				*e*S		**Sn**	**08 11 02.0**	**+0.3**
JKA	**Kamikawa-asahi**	**4.70**	**272**	*e*P		**Pn**	**08 10 11.4**	**+1.5**
ASAJ	**Asahikawa**	**4.70**	**272**	P		**Pn**	**08 10 12.4**	**+2.5**
ASAJ	**Asahikawa**	**4.70**	**272**	Pn		**Pn**	**08 10 11.4**	**+1.5**
	comp=E,2.7nm,0.3s,baz=79,slow=12,SNR=17							
ASAJ					LR	LR	08 12 18.1	
	comp=E,1μm,19.5s,baz=158,slow=43							
JFR	**Furan**	**4.83**	**261**	P		**Pn**	**08 10 13.2**	**+1.4**
JEM	**Erimo**	**4.85**	**246**	P		**Pn**	**08 10 13.1**	**+1.2**
ERM	**Erimo**	**4.85**	**246**	*e*Pn		**Pn**	**08 10 13.5**	**+1.6**
ERM	**Erimo**	**4.85**	**246**	*e*P		**Pn**	**08 10 13.0**	**+1.0**
ERM	**Erimo**	**4.85**	**246** *c*	*e*PN		**Pn**	**08 10 13.0**	**+1.0**
ERM					pmax	pmax		
	comp=Z,67nm,0.6s							
JNBK	**Urakawa-nobuka**	**5.00**	**251**	P		**Pn**	**08 10 13.8**	**-0.3**
JNBK				*e*S		**Sn**	**08 11 10.2**	**-0.4**
JAB	**Ashibetsu**	**5.03**	**265**	P		**Pn**	**08 10 17.1**	**+2.6**
JBT2	**Biratori 2**	**5.10**	**257**	P		**Pn**	**08 10 15.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*Pn		**Pn**	**08 10 17.4**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*P		**Pn**	**08 10 19.4**	**+1.3**
YSS				*e*S		**Sn**	**08 11 18.9**	**+1.1**
YSS					AMS	AMS	08 12 40.0	
	comp=Z,560nm,14.0s							
YSS					AMS	AMS	08 12 40.0	
	comp=Z,780nm,14.0s							
YSS					AMS	AMS	08 12 40.0	
	comp=Z,860nm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.30**	**305**	*e*PN		**Pn**	**08 10 20.2**	**+2.1**
YSS				*e*S		**Sn**	**08 11 20.5**	**+2.7**
YSS					smax	smax		
	comp=E,40nm,0.8s							
YSS					MLR	MLR		
	comp=Z,800nm,14.0s							
YSS					MLR	MLR		
	comp=N,400nm,16.0s							
YSS					MLR	MLR		
	comp=E,700nm,13.0s							
JEW	**Eniwo**	**5.73**	**260**	P		**Pn**	**08 10 25.8**	**+1.8**
JNB	**Noboribetsu**	**6.12**	**257**	P		**Pn**	**08 10 29.9**	**+0.4**
JNB				*e*S		**Sn**	**08 11 38.1**	**-0.1**
JKB	**Kayabe**	**6.34**	**252**	P		**Pn**	**08 10 32.2**	**-0.2**
JKB				*e*S		**Sn**	**08 11 41.0**	**-2.4**
JYM2	**Yakumo 2**	**6.71**	**256**	P		**Pn**	**08 10 37.7**	**+0.2**
JANG	**Nango**	**6.77**	**239**	P		**Pn**	**08 10 36.2**	**-2.1**
JANG				*e*S		**Sn**	**08 11 47.7**	**-6.4**
JTM	**Tenmabayashi**	**6.82**	**244**	P		**Pn**	**08 10 38.1**	**-0.9**
JTM				*e*S		**Sn**	**08 11 51.5**	**-3.8**
JTH	**Tanohata**	**6.83**	**235**	P		**Pn**	**08 10 36.2**	**-2.9**
JTH				*e*S		**Sn**	**08 11 47.7**	**-7.8**
UGL	**Uglegorsk**	**6.95**	**318**	*e*P		**Pn**	**08 10 42.1**	**+1.4**
UGL					AMB	AMB	08 10 43.7	
	comp=E,23nm,0.7s							
UGL				*e*S		**Sn**	**08 11 58.9**	**+0.6**
UGL					AMS	AMS	08 13 45.6	
	comp=E,960nm,14.0s							
UGL					AMS	AMS	08 13 45.6	
	comp=E,1μm,14.0s							
UGL					AMS	AMS	08 13 45.6	
	comp=E,980nm,14.0s							
UGL	**Uglegorsk**	**6.95**	**318**	*e*PN		**Pn**	**08 10 41.8**	**+1.1**
UGL					pmax	pmax		
	comp=Z,23nm,1.0s							
UGL					MLR	MLR		
	comp=E,1μm,14.0s							
JOSM	**Okushiri--Mats**	**7.35**	**257**	P		**Pn**	**08 10 47.0**	**+0.8**
OFUJ	**Ofunato**	**7.51**	**231**	P		**Pn**	**08 10 45.8**	**-2.7**
OFUJ				*e*S		**Sn**	**08 12 06.4**	**-6.0**
JRG	**Rokugo**	**7.90**	**236**	P		**Pn**	**08 10 52.9**	**-1.0**
JRG				*e*S		**Sn**	**08 12 17.6**	**-4.3**
TYV	**Tymovskoe**	**8.05**	**329**	*e*P		**Pn**	**08 10 57.1**	**+1.3**
TYV					AMB	AMB	08 10 58.6	
	comp=E,6.0nm,0.6s							
TYV				*e*S		**Sn**	**08 12 25.0**	**-0.3**
TYV					AMS	AMS	08 13 20.5	
	comp=E,950nm,17.0s							
TYV					AMS	AMS	08 13 20.5	
	comp=E,850nm,17.0s							
TYV					AMS	AMS	08 13 20.5	
	comp=E,780nm,17.0s							
TYV	**Tymovskoe**	**8.05**	**329**	*e*PN		**Pn**	**08 10 56.8**	**+1.0**
TYV					pmax	pmax		
	comp=Z,6.0nm,0.6s							
JIO	**Ouri**	**8.13**	**229**	P		**Pn**	**08 10 55.0**	**-2.0**
JIO				*e*S		**Sn**	**08 12 19.4**	**-8.2**
TEY	**Ternei**	**8.99**	**280**	*e*P		**Pn**	**08 11 10.3**	**+1.6**
TEY					AMB	AMB	08 11 15.2	
	comp=Z,20nm,0.9s							
TEY					AMB	AMB	08 11 15.2	
	comp=Z,30nm,0.9s							
TEY	**Ternei**	**8.99**	**280**⇑	*e*PN		Pn	08 11 14.3	+5.6
TEY					pmax	pmax		
	comp=E,20nm,0.9s							
TEY					pmax	pmax		
	comp=Z,30nm,0.9s							
OKH	**Okha**	**10.28**	**339**	*e*rx		rx	08 11 02.5	
OKH					AMS	AMS	08 15 45.7	
	comp=Z,100nm,20.0s							
NKL	**Nikolayevsk**	**10.62**	**331**	*e*P		**Pn**	**08 11 30.8**	**-0.2**
NKL					AMB	AMB	08 11 38.0	
	comp=Z,22nm,1.0s							
NKL	**Nikolayevsk**	**10.62**	**331**	*e*PN		**Pn**	**08 11 30.8**	**-0.2**
PEA0B	**Petropavlovsk-**	**10.63**	**29**	*e*Pn		**Pn**	**08 11 30.2**	**-1.0**
PETK	**Petropavlovsk-**	**10.63**	**29**	*e*Pn		**Pn**	**08 11 30.5**	**-0.7**
PETK	**Petropavlovsk-**	**10.63**	**29**	*e*PN		**Pn**	**08 11 30.5**	**-0.7**
PETK	**Petropavlovsk-**	**10.63**	**29**	Pn		**Pn**	**08 11 28.3**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=181,slow=11,SNR=7.6							
GRNR	**Gornyy**	**10.87**	**312**	*e*P		**Pn**	**08 11 35.0**	**+0.6**
GRNR	**Gornyy**	**10.87**	**312**	*e*PN		**Pn**	**08 11 36.0**	**+1.6**
PET	**Petropavlovsk**	**10.92**	**32**	*e*Pn		**Pn**	**08 11 34.3**	**-0.7**
PET	**Petropavlovsk**	**10.92**	**32**	*e*PN		**Pn**	**08 11 34.3**	**-0.7**
MJAR	**Matsushiro Arr**	**11.24**	**231**	Pn		**Pn**	**08 11 38.2**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=11							
MJB9	**Matsu-Tunnel**	**11.24**	**231**	*e*Pn		**Pn**	**08 11 38.6**	**-1.0**
MAJO	**Matsushiro**	**11.24**	**231**	*e*Pn		**Pn**	**08 11 38.3**	**-1.3**
MAJO	**Matsushiro**	**11.24**	**231**	*e*P		**Pn**	**08 11 40.7**	**+1.1**
MAJO	**Matsushiro**	**11.24**	**231**	*i* PN		**Pn**	**08 11 40.7**	**+1.1**
USRK	**Ussuriysk Ar.**	**12.31**	**276**	Pn		**Pn**	**08 11 53.0**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=85,slow=15,SNR=8.7							
USRK					LR	LR	08 17 01.0	
	comp=Z,366nm,18.6s,baz=96,slow=39							
USA0B	**Ussuriysk Arra**	**12.31**	**276**	*e*Pn		**Pn**	**08 11 54.3**	**+0.2**
KLR	**Kul'dur**	**12.97**	**299**	*e*P		**Pn**	**08 12 05.4**	**+2.3**
KLR	**Kul'dur**	**12.97**	**299**	*i* PN		**Pn**	**08 12 05.4**	**+2.3**
KLR	**Kul'dur**	**12.97**	**299**	Pn		**Pn**	**08 12 06.6**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=93,slow=18,SNR=4.6							
EKMR	**Ekimchan**	**13.93**	**316**	*e*P		**Pn**	**08 12 14.0**	**-2.2**
EKMR					AMB	AMB	08 12 22.0	
	comp=Z,12nm,1.0s							
MDJ	**Mudanjiang**	**13.98**	**279**	P		**Pn**	**08 12 13.0**	**-3.9**
MDJ				S		**Sn**	**08 14 48.8**	**-1.8**
MDJ				sS		S	08 15 02.0	-8.2
MDJ					pmax	pmax		
	comp=Z,3.0nm,0.5s							
MDJ					pmax	pmax		
	comp=Z,230nm,4.4s							
MDJ					LR	LR		
	comp=Z,270nm,4.9s							
MDJ					LR	LR		
	comp=Z,350nm,10.4s							
MDJ	**Mudanjiang**	**13.98**	**279**	*e*Pn		**Pn**	**08 12 16.6**	**-0.3**
MDJ	**Mudanjiang**	**13.98**	**279**	*e*P		**Pn**	**08 12 16.6**	**-0.3**
MA2	**Magadan**	**15.52**	**3**	*e*Pn		**Pn**	**08 12 35.3**	**-1.8**
	comp=Z,6.1nm,1.1s							
MA2	**Magadan**	**15.52**	**3**	*e*P		**Pn**	**08 12 34.0**	**-3.0**
MA2	**Magadan**	**15.52**	**3** *c*	*e*P		**Pn**	**08 12 34.0**	**-3.0**
MA2					pmax	pmax		
	comp=Z,5.0nm,1.3s							
MA2	**Magadan**	**15.52**	**3**	Pn		**Pn**	**08 12 34.1**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=167,slow=6.5,SNR=7.2							
BMKR	**Bomnak**	**16.86**	**316**	*e*P		**Pn**	**08 12 52.0**	**-2.1**
BMKR					AMB	AMB	08 12 57.2	
	comp=Z,58nm,1.0s							
CN2	**Changchun**	**17.04**	**277**	*e*P		**Pn**	**08 12 56.9**	**+0.5**
CN2				*e*S		**Sn**	**08 16 07.0**	**+2.2**
CN2					pmax	pmax		
	comp=Z,90nm,0.8s							
CN2					pmax	pmax		
	comp=Z,200nm,6.0s							
CN2					LR	LR		
	comp=Z,200nm,15.0s							
CN2					LR	LR		
	comp=Z,300nm,15.0s							
CN2					LR	LR		
	comp=Z,400nm,20.0s							
ZEA	**Zeya**	**17.24**	**312**	*e*P		**Pn**	**08 12 57.0**	**-1.7**
ZEA					AMB	AMB	08 13 02.0	
	comp=Z,12nm,1.0s							
ZEA					AMS	AMS	08 20 38.0	
	comp=Z,300nm,15.0s							
ZEA					AMS	AMS	08 20 38.0	
	comp=Z,400nm,15.0s							
ZEA	**Zeya**	**17.24**	**312**	*e*P		**Pn**	**08 12 58.6**	**-0.1**
ZEA					pmax	pmax		
	comp=Z,12nm,1.0s							
ZEA					MLR	MLR		
	comp=Z,400nm,16.0s							
ZEA					MLR	MLR		
	comp=N,300nm,14.0s							
KSRS	**Korea Array**	**17.36**	**255**	P		**Pn**	**08 13 00.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=61,slow=11,SNR=8.9							
KSRS					LR	LR	08 19 24.0	
	comp=N,143nm,21.0s,baz=50,slow=36							
KS15	**Wonju Array Si**	**17.39**	**255**	*e*Pn		**P**	**08 13 02.3**	**+0.8**
	comp=N,13nm,1.3s							
KSAR	**Wonju Array Be**	**17.39**	**255**	P		**Pn**	**08 13 00.1**	**-0.6**
KSAR	**Wonju Array Be**	**17.39**	**255**	P		**Pn**	**08 13 00.1**	**-0.6**
KROS	**Kirovskiy**	**17.69**	**314**	*e*P		**Pn**	**08 13 01.4**	**-2.9**
KROS					AMB	AMB	08 13 04.0	
	comp=N,4.0nm,0.4s							
SEY	**Seymchan**	**18.95**	**5** *c*	*e*P		**P**	**08 13 16.8**	**-1.7**
SEY	**Seymchan**	**18.95**	**5**	P		**P**	**08 13 16.5**	**-2.0**
	comp=N,0.2nm,0.3s,baz=180,slow=9.6,SNR=32							
YAK	**Yakutsk**	**21.26**	**334**	*e*P		**P**	**08 13 40.9**	**-2.6**
YAK					pmax	pmax		
	comp=Z,154nm,1.0s							
YAK					pmax	pmax		
	comp=E,23nm,0.9s							
YAK					pmax	pmax		
	comp=N,40nm,1.1s							
YAK					MLR	MLR		
	comp=Z,705nm,18.0s							
YAK					MLR	MLR		
	comp=N,456nm,19.0s							
YAK					MLR	MLR		
	comp=E,523nm,17.0s							
BJI	**Beijing**	**24.70**	**272**	P		**P**	**08 14 19.3**	**+1.2**
BJI					pmax	pmax		
	comp=E,10.0nm,0.5s							
BJT	**Baijiatuau**	**24.71**	**272**	*e*P		**P**	**08 14 17.9**	**-0.3**
	comp=E,16nm,1.0s							
BJT	**Baijiatuau**	**24.71**	**272**	*e*P		**P**	**08 14 17.9**	**-0.3**
BJT					pmax	pmax		
	comp=Z,16nm,1.0s							
TIA	**Tai'an**	**25.58**	**263**	P		**P**	**08 14 28.3**	**+2.1**
TIA					pmax	pmax		
	comp=Z,9.0nm,0.5s							
BILL	**Bilibino**	**25.63**	**15**	*e*P		**P**	**08 14 24.3**	**-1.9**
	comp=Z,6.5nm,1.4s							
BILL	**Bilibino**	**25.63**	**15**	*e*P		**P**	**08 14 24.4**	**-1.9**
BILL	**Bilibino**	**25.63**	**15**⇓	*e*P		**P**	**08 14 24.4**	**-1.9**
BILL					*PP	**pP**	**08 14 36.0**	**-1.2**
BILL					*SP	**pwP**	**08 14 45.0**	**+2.3**
BILL							08 15 00.0	
BILL				S		**S**	**08 18 44.0**	**-6.9**
BILL				SSS		SSS	08 20 08.0	
BILL					pmax	pmax		
	comp=Z,46nm,1.4s							
BILL					MLR	MLR		
	comp=Z,173nm,17.0s							
NJ2	**Nanjing**	**26.54**	**253**	*e*P		**P**	**08 14 36.6**	**+1.7**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**27.73**	**276**	*e*P		**P**	**08 14 48.9**	**+3.2**
HHC				pP		sP	08 15 04.5	+2.9
HHC				S		**S**	**08 19 26.5**	**+1.6**
HHC				sS		sS	08 19 45.3	+2.3
HHC					pmax	pmax		
	comp=Z,22nm,1.1s							
HHC					pmax	pmax		
	comp=Z,140nm,5.7s							
HHC					LR	LR		
	comp=Z,160nm,15.9s							
HHC					LR	LR		
	comp=Z,210nm,14.1s							
HHC					LR	LR		
	comp=Z,490nm,13.8s							
ANA2	**Anatahan**	**27.83**	**187**	*e*P		**P**	**08 14 49.3**	**+2.8**
	comp=Z,182nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.48**	**143**	T		T	08 45 58.3	
	baz=333,slow=75,SNR=123							
H11N1	**WAKE ISLAND Hy**	**28.50**	**143**	T		T	08 45 59.4	
	baz=333,slow=75,SNR=36							
H11N3	**WAKE ISLAND Hy**	**28.50**	**143**	T		T	08 45 59.6	
	baz=333,slow=75,SNR=35							
BTO	**Baotou**	**28.92**	**277**	*e*P		**P**	**08 14 53.3**	**-2.9**
ULN	**Ulaanbaatar**	**29.21**	**292**	*e*P		**P**	**08 14 59.2**	**+0.4**
	comp=Z,5.5nm,1.0s							
ULN	**Ulaanbaatar**	**29.21**	**292**	*e*P		**P**	**08 14 59.4**	**+0.6**
ULN	**Ulaanbaatar**	**29.21**	**292** *c*	*e*P		**P**	**08 14 59.4**	**+0.6**
ULN					pmax	pmax		
	comp=Z,2.0nm,0.7s							
TIXI	**Tiksi**	**29.31**	**347**	*e*P		**P**	**08 14 55.5**	**-3.7**
	comp=Z,1.7nm,0.8s							
TIXI	**Tiksi**	**29.31**	**347**	*i* P		**P**	**08 14 55.1**	**-4.1**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.8s							
TIXI	**Tiksi**	**29.31**	**347**	P		**P**	**08 14 55.6**	**-3.6**
	comp=Z,2.0nm,0.3s,baz=137,slow=5.0,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**29.49**	**144**	T		T	08 47 09.1	
	baz=334,slow=76,SNR=44							
H11S3	**WAKE ISLAND Hy**	**29.49**	**144**	T		T	08 47 15.2	
	baz=334,slow=76,SNR=39							
H11S2	**WAKE ISLAND Hy**	**29.50**	**144**	T		T	08 47 10.4	
	baz=334,slow=76,SNR=42							
SONM	**Songino Array**	**29.65**	**292**	P		**P**	**08 15 03.3**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=79,slow=8.3,SNR=15							
SONM					LR	LR	08 28 08.2	
	comp=Z,230nm,18.9s,baz=95,slow=39							
TLY	**Talaya**	**30.99**	**300**	*e*P		**P**	**08 15 15.0**	**+0.7**
TLY	**Talaya**	**30.99**	**300**	*i* P		**P**	**08 15 15.0**	**+0.7**
ANM	**Nome**	**32.47**	**35**	*e*P		**P**	**08 15 27.7**	**+0.6**
	comp=Z,3.7nm,1.1s							
ANM	**Nome**	**32.47**	**35**	*e*P		**P**	**08 15 27.7**	**+0.6**
ANM					pmax	pmax		
	comp=Z,4.0nm,1.1s							
XAN	**Xi'an**	**32.51**	**266**	P		**P**	**08 15 28.6**	**+0.8**
XAN					pmax	pmax		
	comp=Z,6.0nm,0.7s							
XAN					pmax	pmax		
	comp=Z,67nm,4.9s							
ENH	**Enshi**	**34.13**	**260**	*e*P		**P**	**08 15 42.3**	**+0.3**
	comp=Z,9.7nm,1.1s							
RDOG	**Red Dog Mine**	**34.51**	**30**	*e*P		**P**	**08 15 44.6**	**-0.2**
	comp=Z,4.2nm,1.0s							
LZH	**Lanzhou**	**35.18**	**273**	*e*P		**P**	**08 15 53.0**	**+1.8**
LZH				pP		pP	08 16 04.8	+2.5
LZH				sP		sP	08 16 13.0	+5.7
LZH					pmax	pmax		
	comp=Z,37nm,1.0s							
LZH					pmax	pmax		
	comp=Z,100nm,4.7s							
LZH					LR	LR		
	comp=Z,560nm,13.0s							
LZH					LR	LR		
	comp=Z,400nm,11.9s							
LZH					LR	LR		
	comp=Z,610nm,14.6s							
GTA	**Gaotai**	**36.64**	**280**	*e*P		**P**	**08 16 04.9**	**+1.3**
GTA				pP		pwP	08 16 18.6	-1.9
GTA				sP		sP	08 16 23.8	+4.1
GTA				S		**S**	**08 21 40.9**	**-2.5**
GTA					pmax	pmax		
	comp=Z,6.0nm,1.2s							
GTA					pmax	pmax		
	comp=Z,70nm,5.4s							
GTA					LR	LR		
	comp=Z,170nm,16.1s							
GTA					LR	LR		
	comp=Z,340nm,16.8s							
GTA					LR	LR		
	comp=Z,170nm,14.8s							
IM3	**Indian Mountai**	**37.54**	**34**	*e*P		**P**	**08 16 10.9**	**+0.1**
CD2	**Chengdu**	**37.86**	**265**⇑	P		**P**	**08 16 15.3**	**+1.4**
CD2					pmax	pmax		
	comp=Z,20nm,0.5s							
CD2					pmax	pmax		
	comp=Z,110nm,5.1s							
KDAK	**Kodiak Island**	**37.95**	**48**	P		**P**	**08 16 14.5**	**+0.2**
	comp=Z,9.1nm,1.1s,baz=277,slow=16,SNR=2.7							
TOLK	**Toolik Lake Re**	**39.45**	**30**	*e*P		**P**	**08 16 27.1**	**+0.2**
	comp=Z,9.3nm,1.3s							
MDM	**Murphy Dome**	**39.77**	**36**	*e*P		**P**	**08 16 31.0**	**+1.5**
	comp=Z,12nm,1.4s							
SML	**Sawmill**	**39.81**	**41**	*e*P		**P**	**08 16 31.9**	**+2.1**
	comp=Z,12nm,0.9s							
COLA	**College**	**39.94**	**36**	*e*P		**P**	**08 16 31.7**	**+0.9**
COLA				*e*pP		**sP**	**08 16 44.9**	**-2.1**
COLA	**College**	**39.94**	**36**	*e*P		**P**	**08 16 31.6**	**+0.9**
COLA	**College**	**39.94**	**36**	*i* P		**P**	**08 16 30.9**	**+0.1**
COLA					pmax	pmax		
	comp=Z,3.0nm,0.8s							
HDA	**Harding Lake**	**40.33**	**37**	*e*P		**P**	**08 16 36.1**	**+2.0**
	comp=Z,4.1nm,0.7s							
ILAR	**Eielson Array**	**40.35**	**37**	P		**P**	**08 16 33.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=278,slow=9.5,SNR=9.3							
FYU	**Fort Yukon**	**41.01**	**34**	*e*P		**

INK pmax pmax
comp=Z,13nm,1.4s
INK Inuvik 45.37 31 P P 08 17 14.7 -0.1
comp=Z,3.4nm,0.8s,baz=273,slow=8.5,SNR=12
MK31 Makanchi Array 45.68 298 *eP* **P 08 17 18.2 +0.6**
comp=Z,7.8nm,0.8s
MK31 Makanchi Array 45.68 298 *eP* **P 08 17 18.2 +0.6**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MKAR Makanchi Array 45.68 298 P **P 08 17 18.0 +0.5**
comp=Z,6.5nm,0.7s,baz=75,slow=8.3,SNR=68
MKAR PcP **PcP 08 18 54.8 -0.1**
comp=Z,0.8nm,0.7s,baz=60,slow=1.6,SNR=2.4
MKAR LR LR 08 37 54.5
comp=Z,272nm,18.1s,baz=56,slow=38
MK01 Makanchi Array 45.68 298 *eP* **P 08 17 18.1 +0.5**
MAKZ Makanchi 45.87 298 *eP* **P 08 17 19.4 +0.3**
comp=Z,7.4nm,0.8s
MAKZ Makanchi 45.87 298 *eP* **P 08 17 19.4 +0.3**
MAKZ pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 46.51 304 *eP* **P 08 17 22.4 -1.6**
comp=Z,6.4nm,1.1s
KURK Kurchatov 46.51 304 *eP* **P 08 17 22.9 -1.1**
KURK Kurchatov 46.51 304 *ceP* **P 08 17 22.9 -1.1**
KURK pmax pmax
comp=Z,7.0nm,1.3s
SKNT Sakolnakorn 46.57 249 P P 08 17 41.4 +17
comp=Z,4.9nm,0.9s,comp=Z,525nm
UTTA Uttaradit 48.37 253 P P 08 17 55.0 +16
comp=Z,2.7nm,0.8s
LAMP Lampang 48.47 254 P P 08 17 56.0 +16
comp=Z,3.8nm,0.7s
CMMT Chiang Mai 48.75 255 P P 08 17 57.5 +16
comp=Z,12nm,0.9s,comp=Z,554nm
CHTO Chiang Mai 48.76 255 P P 08 17 57.6 +16
comp=Z,56nm,1.0s
CMAR Chiang Mai Arr 49.00 255 *eP* **P 08 17 47.4 +3.7**
CMAR Chiang Mai Arr 49.00 255 *i P* **P 08 17 47.4 +3.7**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 49.00 255 P **P 08 17 44.9 +1.2**
comp=Z,0.8nm,0.6s,baz=34,slow=7.3,SNR=4.2
CMAR LR LR 08 41 16.7
comp=Z,74nm,18.2s,baz=60,slow=40
SHL Shillong 49.48 268 *eP* **P 08 17 47.9 +0.4**
comp=Z,10nm,1.0s
SHL Shillong 49.48 268 *eP* **P 08 17 47.9 +0.4**
SHL pmax pmax
comp=Z,10.0nm,1.0s
SRAK Srakaew 49.98 248 P P 08 18 04.7 +14
comp=Z,13nm,0.9s
BRVK Borovoye 50.42 310 *eP* **P 08 17 54.1 0.0**
comp=Z,2.3nm,0.7s
BRVK Borovoye 50.42 310 *eP* **P 08 17 54.2 +0.2**
BRVK Borovoye 50.42 310 *i P* **P 08 17 54.2 +0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
UMPA Umpang Tak 50.60 253 P P 08 18 14.3 +18
comp=Z,9.0nm,0.9s,comp=Z,257nm
UTHA Uthaitani 50.65 252 P P 08 18 13.1 +17
comp=Z,2.7nm,0.9s
TARG Taragay, Kyrgy 50.75 294 *eP* **P 08 17 58.9 +1.6**
comp=Z,5.4nm,0.9s
KDJ Kajisay 50.97 294 *eP* **P 08 18 00.3 +1.7**
comp=Z,10nm,0.8s
KDJ Kajisay 50.97 294 *eP* **P 08 18 00.3 +1.7**
KDJ pmax pmax
comp=Z,10.0nm,0.8s
ULHL Ulahol 51.53 295 P **P 08 18 03.9 +1.1**
SNR=11
TKM2 Tokmak 2 51.63 296 P **P 08 18 04.8 +1.3**
SNR=16
USP Ospenovka 52.17 297 P **P 08 18 08.4 +1.0**
SNR=9.3
KBK Karagaybulak 52.18 296 P **P 08 18 09.2 +1.6**
SNR=6.9
KZA Kyzart 52.26 295 P **P 08 18 10.4 +1.9**
SNR=21
AAK Ala-Archa 52.48 296 P **P 08 18 10.8 +0.9**
SNR=10
AAK Ala-Archa 52.48 296 *eP* **P 08 18 10.6 +0.8**
comp=Z,12nm,1.2s
AAK Ala-Archa 52.48 296 *eP* **P 08 18 09.8 0.0**
AAK Ala-Archa 52.48 296 *ceP* **P 08 18 09.8 0.0**
AAK pmax pmax
comp=Z,12nm,1.3s
EKS2 Erkin-Say 52.93 297 P **P 08 18 14.3 +1.1**
SNR=14
KSH Kashi 53.05 292 *eP* **P 08 18 18.4 +4.4**
KSH pP pwP 08 18 30.8 -0.4
AML Almayashu 53.24 296 P **P 08 18 17.3 +1.5**
SNR=12
RES Resolute Bay 54.21 17 *eP* **P 08 18 22.1 +0.3**
comp=Z,4.9nm,1.0s
RES Resolute Bay 54.21 17 *eP* **P 08 18 22.1 +0.3**
RES Resolute Bay 54.21 17 P **P 08 18 21.4 -0.3**
comp=Z,1.8nm,0.6s,baz=319,slow=10,SNR=12
YKA Yellowknife Ar 54.70 34 P **P 08 18 25.3 -0.3**
comp=Z,0.7nm,0.8s,baz=298,slow=7.0,SNR=11
KK31 Karatay Array 54.80 299 *eP* **P 08 18 27.1 +0.5**
comp=Z,11nm,0.8s
KK31 Karatay Array 54.80 299 *eP* **P 08 18 27.1 +0.5**
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 54.80 299 *eP* **P 08 18 27.1 +0.5**
comp=Z,11nm,0.8s
KKAR Karatay Array 54.80 299 *eP* **P 08 18 27.1 +0.5**
KKAR pmax pmax
comp=Z,11nm,0.8s
ARU Arti 55.05 317 *eP* **P 08 18 27.7 -0.5**
ARU Arti 55.05 317 P **P 08 18 27.7 -0.5**
BTK Batken 56.17 295 *eP* **P 08 18 36.5 -0.1**
comp=Z,8.9nm,1.0s
BTK Batken 56.17 295 *eP* **P 08 18 36.5 -0.1**
BTK pmax pmax
comp=Z,9.0nm,1.0s
ABKAR Akbulak array 57.94 309 *eP* **P 08 18 49.1 +0.3**
comp=Z,8.2nm,0.7s
NIL Nilore 58.05 288 *eP* **P 08 18 51.1 +1.2**
comp=Z,24nm,1.0s
NIL Nilore 58.05 288 *eP* **P 08 18 51.1 +1.2**
NIL pmax pmax
comp=Z,24nm,1.0s
PRGR Permogore 58.05 327 *eP* **P 08 18 47.1 -2.3**
PRGR *e**PP **pP 08 19 02.7 +1.4**
PRGR pmax pmax
comp=Z,4.0nm,0.6s
ARCES ARCESS Array B 59.40 340 P **P 08 18 58.6 -0.1**
comp=Z,7.9nm,1.0s,baz=36,slow=9.4,SNR=3.6
PSI Prapat 60.38 242 *eP* **P 08 19 07.7 +1.4**
comp=Z,4.7nm,0.8s
PSI Prapat 60.38 242 *eP* **P 08 19 07.7 +1.4**
PSI pmax pmax
comp=Z,5.0nm,0.8s
PSI Prapat 60.38 242 P **P 08 19 07.8 +1.5**
comp=Z,4.2nm,0.8s,baz=2.6,slow=2.6,SNR=6.2
KBL Kabul 60.40 291 *eP* **P 08 19 06.2 -0.2**
comp=Z,8.4nm,0.8s
KBL Kabul 60.40 291 *eP* **P 08 19 06.2 -0.2**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KLMR Klimovskoe 60.89 328 *eP* **P 08 19 07.5 -1.4**
KLMR pmax pmax
comp=Z,11nm,1.0s
KLMR Klimovskoe 60.89 328 *eP* **P 08 19 07.5 -1.4**
KLMR AMP 08 19 09.4
comp=Z,11nm,1.0s
NGP Nagpur 61.45 272 *eP* **P 08 19 10.5 -2.8**
F10A Beach Ranch, E 62.28 52 *eP* **P 08 19 20.1 +1.3**
comp=Z,17nm,1.4s
F10A *eS* **S 08 27 43.0 +1.7**
SUMG Summit 63.49 3 *eP* **P 08 19 26.5 -0.2**
comp=Z,8.6nm,1.1s
SUMG Summit 63.49 3 *i P* **P 08 19 27.3 +0.6**
comp=Z,20nm,1.0s
SUMG Summit 63.49 3 *i P* **P 08 19 27.3 +0.6**
SUMG pmax pmax
comp=Z,20nm,1.0s
FFC Flin Flon 64.55 37 *eP* **P 08 19 33.3 -0.1**
comp=Z,6.6nm,1.1s
FFC Flin Flon 64.55 37 *eP* **P 08 19 34.4 +0.9**
FFC Flin Flon 64.55 37 *i P* **P 08 19 34.4 +0.9**
WRAB Tennant Creek 65.15 195 *eP* **P 08 19 41.7 +4.0**
comp=Z,13nm,1.0s
WRAB Tennant Creek 65.15 195 *ceP* **P 08 19 42.4 +4.7**
WRAB pmax pmax
comp=Z,13nm,1.0s
WB2 Warramunga Arr 65.16 195 *eP* **P 08 19 42.0 +4.3**
comp=Z,16nm,1.0s
FIA1 FINESS Array S 65.19 334 *eP* **P 08 19 37.3 -0.2**
FINES FINESS Array B 65.19 334 *eP* **P 08 19 37.1 -0.4**
FINES FINESS Array B 65.19 334 *i P* **P 08 19 37.2 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES FINESS Array B 65.19 334 P **P 08 19 36.9 -0.6**
comp=Z,9.1nm,0.7s,baz=45,slow=7.5,SNR=27
GEYT Alibeck 65.51 300 P **P 08 19 40.5 +0.5**
comp=Z,2.2nm,0.5s,baz=29,slow=6.8,SNR=5.2
SCO Scoresbysund 65.53 357 *i P* **P 08 19 39.2 -0.3**
comp=Z,6.0nm,1.0s
SCO Scoresbysund 65.53 357 *i P* **P 08 19 39.2 -0.3**
SCO pmax pmax
comp=Z,6.0nm,1.0s
BOZ Bozeman (W) 65.63 50 *eP* **P 08 19 41.5 +0.7**
comp=Z,2.3nm,0.6s
BOZ Bozeman (W) 65.63 50 *eP* **P 08 19 41.5 +0.7**
BOZ pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 65.86 324 *eP* **P 08 19 41.8 -0.1**
OBN Obninsk 65.86 324 *i P* **P 08 19 40.4 -1.5**
OBN *PP **pP 08 19 55.0 +1.0**
OBN 08 20 08.0
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,86nm,17.0s
NVAR Mina Array Bea 66.17 59 P **P 08 19 44.7 +0.2**
comp=Z,0.7nm,0.6s,baz=302,slow=7.4,SNR=4.1
VRH Novokhopyorsk 66.19 319 *eP* **P 08 19 43.6 -0.5**
VRH pmax pmax
comp=Z,20nm,0.9s
LPSR Galich'ya Gora 66.55 321 *eP* **P 08 19 46.0 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSU Vasula 67.21 331 *ceP* **P 08 19 51.4 +0.9**
VSU pmax pmax
comp=Z,121nm,2.5s
VSU Vasula 67.21 331 *eP* **P 08 19 50.0 -0.4**
VSU IAmb IAmb 08 19 50.9
comp=Z,28nm,0.8s
TPAW Teton Pass 67.33 51 *eP* **P 08 19 48.7 -3.2**
comp=Z,5.5nm,0.9s
VSR Storozhevoye 67.38 320 *d iP* **P 08 19 51.8 +0.2**
VSR pmax pmax
comp=Z,29nm,0.7s
PD31 Pinedale Array 68.58 51 *eP* **P 08 19 56.6 -3.1**
comp=Z,4.9nm,1.4s
PDAR Pinedale Array 68.58 51 P **P 08 19 59.6 0.0**
PDAR *ep*P **sP 08 20 14.9 -1.4**
PDAR Pinedale Array 68.58 51 P **P 08 19 59.6 0.0**
comp=Z,0.4nm,0.7s,baz=243,slow=1.0,SNR=4.9
ASAR Alice Springs 68.88 195 P **P 08 20 02.8 +1.5**
comp=Z,0.3nm,0.6s,baz=17,slow=7.1,SNR=4.4
NC405 NORSAR Array S 69.58 339 *eP* **P 08 20 05.5 +0.3**
comp=Z,17nm,0.8s
IDID Didziasalis 69.60 329 *eP* **P 08 20 04.0 -1.5**
IDID IAmb IAmb 08 20 06.9
comp=Z,11nm,0.9s
NC204 NORSAR Array S 69.68 340 *eP* **P 08 20 05.3 -0.6**
IIGN Ignalina 69.76 329 *eP* **P 08 20 06.5 +0.1**
IIGN IAmb IAmb 08 20 08.0
comp=Z,8.9nm,0.8s
NB2 NORSAR Subarra 69.77 340 P **P 08 20 05.3 -1.2**
comp=Z,3.4nm,0.6s,baz=29,slow=6.2
NOA NORSAR Array B 69.77 340 P **P 08 20 06.2 -0.3**
comp=Z,9.2nm,0.8s,baz=31,slow=6.7,SNR=34
NOA LR LR 08 54 18.8
comp=Z,29nm,20.2s,baz=30,slow=39
SRU San Rafael Swe 70.42 54 *eP* **P 08 20 11.7 +0.7**
SRU *ep*P **sP 08 20 27.4 -0.3**
SRU San Rafael Swe 70.42 54 *eP* **P 08 20 11.7 +0.7**
SRU *e**PP **sP 08 20 27.4 -0.3**
KNB Kanab 70.42 57 *eP* **P 08 20 12.5 +1.4**
comp=Z,4.9nm,1.2s
KNB Kanab 70.42 57 *eP* **P 08 20 12.5 +1.4**
KNB pmax pmax
comp=Z,5.0nm,1.2s
KBZ Khabaz 70.62 312 P **P 08 20 13.1 +1.2**
comp=Z,5.8nm,0.7s,baz=60,slow=5.1,SNR=14
KBZ LR LR 08 55 59.5
comp=Z,185nm,18.2s,baz=36,slow=40
U15A North Rim 71.13 57 *eP* **P 08 20 17.1 +1.6**
comp=Z,3.0nm,1.1s
PV17 East Wray Mesa 71.89 54 *eP* **P 08 20 21.2 +1.3**
PV17 *ep*P **sP 08 20 35.7 -1.0**
PV11 David Mesa, Pa 71.92 54 *eP* **P 08 20 21.7 +1.6**
PV11 *ep*P **sP 08 20 37.1 +0.2**
PV03 Paradox Valley 71.97 54 *eP* **P 08 20 21.1 +0.6**
comp=Z,2.9nm,0.8s
AKASG Malin Array Bo 72.12 325 P **P 08 20 20.6 -0.2**
comp=Z,6.9nm,0.8s,baz=37,slow=6.3,SNR=26
AKASG LR LR 08 54 16.7
comp=Z,38nm,19.5s,baz=20,slow=38
AKBB Malin Array Si 72.12 325 *eP* **P 08 20 20.6 -0.2**
comp=Z,12nm,0.9s
AKBB Malin Array Si 72.12 325 *eP* **P 08 20 20.6 -0.2**
AKBB pmax pmax
comp=Z,12nm,0.9s
KIEV Kiev 72.13 325 *eP* **P 08 20 20.8 -0.1**
comp=Z,11nm,0.9s
KIEV Kiev 72.13 325 *eP* **P 08 20 20.8 -0.1**
KIEV Kiev 72.13 325 *eP* **P 08 20 20.8 -0.1**
KIEV pmax pmax
comp=Z,11nm,0.9s
AK11 Malin Array Si 72.16 325 *eP* **P 08 20 19.9 -1.2**
X16A Lo Mia Camp, P 72.98 59 *eP* **P 08 20 27.5 +1.0**
comp=Z,3.3nm,1.0s
BUR08 Bucovina Ar. S 76.16 325 *eP* **P 08 20 45.1 +0.5**
comp=Z,4.9nm,1.0s
BURAR Bucovina Array 76.18 325 *i P* **P 08 20 45.3 +0.6**
BIR Birlad 76.20 322 *i P* **P 08 20 46.8 +2.1**
OJC Ojcow 76.21 329 *eP* **P 08 20 43.8 -0.9**
comp=Z,12nm,1.2s
OJC Ojcow 76.21 329 *eP* **P 08 20 43.8 -0.9**
OJC pmax pmax
comp=Z,12nm,1.2s
BIZ Bicaz 76.33 324 *i P* **P 08 20 45.5 0.0**
TESR Tescani 76.44 323 *i P* **P 08 20 46.6 +0.6**
TLCR 76.50 321 *i P* **P 08 20 47.3 +0.9**
UZH Uzhgorod 76.55 327 *eP* **P 08 20 48.4 +1.8**
UZH *e* 08 21 03.0
CFR Carcaliu 76.82 321 *i P* **P 08 20 48.6 +0.4**
TRPA Tarpa 76.86 326 *i P* **P 08 20 49.4 +1.1**
VRI Vrinceioaia 76.91 323 *i P* **P 08 20 50.6 +1.9**
PLOR Plostina 76.95 323 *i P* **P 08 20 51.2 +2.2**
ARCR ARCALIA 76.95 325 *i P* **P 08 20 51.1 +2.1**
TIRR Tirgusor 77.25 321 *i P* **P 08 20 51.8 +1.2**
TLB Topalu 77.32 321 *i P* **P 08 20 51.7 +0.7**
DPC Dobruska-Polom 77.34 331 *eP* **P 08 20 52.5 +1.4**
DPC Dobruska-Polom 77.34 331 *eP* **P 08 20 52.5 +1.4**
MORC Moravsky Berou 77.39 330 *i P* **P 08 20 52.4 +1.0**
DOPR Dopca 77.40 324 *i P* **P 08 20 53.8 +2.3**
MLR Muntele Rosu 77.54 323 *eP* **P 08 20 52.1 -0.3**
comp=Z,4.1nm,0.7s
MLR Muntele Rosu 77.54 323 *i P* **P 08 20 54.3 +1.9**
MLR Muntele Rosu 77.54 323 *eP* **P 08 20 52.1 -0.3**
MLR pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 77.64 334 *eP* **P 08 20 52.3 -0.4**
CLL *ep*P **pP 08 21 05.6 +0.9**
CLL Collm 77.64 334 *i P* **P 08 20 52.4 -0.3**
comp=Z,6.0nm,0.7s
CLL *i* pP **pP 08 21 06.6 +1.9**
comp=Z,6.0nm,0.6s
CLL Collm 77.64 334 *eP* **P 08 20 52.3 -0.4**
CLL Collm 77.64 334 *i P* **P 08 20 52.4 -0.3**
CLL *i* *PP **pP 08 21 06.6 +1.9**
CLL pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 77.70 333 *eP* **P 08 20 52.8 -0.3**
comp=Z,4.1nm,1.1s
BRG Berggiesshubel 77.70 333 *eP* **P 08 20 52.8 -0.3**
BRG Berggiesshubel 77.70 333 *eP* **P 08 20 52.8 -0.3**
BRG pmax pmax
comp=Z,4.0nm,1.1s
DRGR 77.86 326 *i P* **P 08 20 55.3 +1.2**
VOIR 77.97 323 *i P* **P 08 20 56.3 +1.5**
VYHS Vyhne 77.99 329 *eP* **P 08 20 56.0 +1.3**
VYHS pmax pmax
comp=Z,1.0nm,0.9s
VYHS Vyhne 77.99 329 *eP* **P 08 20 56.0 +1.3**
ARR Arges 78.20 324 *i P* **P 08 20 58.3 +2.3**
GOPC GO Pecny, Ondr 78.24 332 *eP* **P 08 20 56.2 +0.1**
GOPC GO Pecny, Ondr 78.24 332 *eP* **P 08 20 56.2 +0.1**
PRU Pruhonice 78.26 332 *eP* **P 08 20 56.8 +0.6**
PRU *ep*P **pP 08 21 10.3 +2.1**
PRU Pruhonice 78.26 332 *eP* **P 08 20 56.8 +0.6**
PRU Pruhonice 78.26 332 *eP* **P 08 20 56.8 +0.6**
PRU *e* 08 21 10.3
BRTR Keskin Array B 78.31 315 P **P 08 20 57.6 +0.7**
comp=Z,1.4nm,0.7s,baz=104,slow=3.1,SNR=6.4
MODS Modra-Piesok 78.66 330 *eP* **P 08 21 00.2 +1.7**
MODS pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 78.66 330 *eP* **P 08 21 00.2 +1.7**
SIRR Siria 78.72 326 *i P* **P 08 20 59.8 +1.0**
GZR Gura Zlata 78.97 325 *i P* **P 08 21 01.0 +0.8**
BZS Buzias 79.26 325 *i P* **P 08 21 02.7 +0.9**
KHC Kasperske Hory 79.32 332 *eP* **P 08 21 03.0 +0.9**
comp=Z,3.3nm,0.8s
KHC Kasperske Hory 79.32 332 *eP* **P 08 21 02.6 +0.5**
KHC *ep*P **pP 08 21 15.0 +0.9**
KHC Kasperske Hory 79.32 332 *eP* **P 08 21 03.0 +0.9**
KHC Kasperske Hory 79.32 332 *eP* **P 08 21 02.6 +0.5**
KHC *e* 08 21 15.0
GERES GERESS Array B 79.52 332 P **P 08 21 03.6 +0.3**
comp=Z,2.7nm,0.7s,baz=30,slow=6.2,SNR=20
GEA0 GERESS Array S 79.53 332 *eP* **P 08 21 03.7 +0.5**
CONA Conrad Observa 79.55 330 *eP* **P 08 21 04.5 +1.1**
comp=Z,4.0nm,0.7s
GRF Grafenberg Arr 79.61 334 *eP* **P 08 21 04.6 +1.1**
comp=Z,4.5nm,0.8s,baz=24,slow=4.6
MDVR Moldovita 79.90 325 *i P* **P 08 21 06.2 +0.9**
MOA Molln 80.18 331 *eP* **P 08 21 08.2 +1.4**
comp=Z,4.3nm,0.9s,SNR=5.2
BCLA Clavier 80.72 338 pP pP 08 21 23.0 +1.4
comp=Z,25nm,2.8s
SOKA Soboth 80.91 330 *eP* **P 08 21 11.2 +0.5**
comp=Z,8.5nm,1.0s
VTS Vitosha 81.01 323 *eP* **P 08 21 11.7 +0.3**
comp=Z,7.1nm,0.8s
VTS Vitosha 81.01 323 *i P* **P 08 21 12.9 +1.5**
VTS Vitosha 81.01 323 *eP* **P 08 21 11.7 +0.3**
VTS pmax pmax
comp=Z,7.0nm,0.8s
KBA Koelnbreinsper 81.17 331 *eP* **P 08 21 13.6 +1.3**
comp=Z,8.3nm,1.2s
DIVS Divibare 81.17 326 *eP* **P 08 21 12.1 0.0**
comp=Z,8.9nm,1.2s
TX31 Lajitas Ar. Si 81.26 58 *eP* **P 08 21 12.7 -0.2**
TX31 *ep*P **sP 08 21 29.6 -0.3**
TXAR Lajitas Array 81.26 58 P **P 08 21 12.9 0.0**
comp=Z,0.9nm,0.6s,baz=302,slow=3.8,SNR=10.0
WATA Walderalm 81.55 332 *ePcP* **P 08 21 15.8 +1.6**
comp=Z,11nm,1.0s
WTTA Wattenberg 81.59 332 *ePcP* **P 08 21 16.3 +1.8**
comp=Z,12nm,0.8s
RETA Reutte 81.68 333 *eP* **P 08 21 16.2 +1.4**
comp=Z,4.4nm,1.0s
MOTA Moosalm 81.69 333 *eP* **P 08 21 15.6 +0.6**
comp=Z,6.4nm,0.8s,SNR=5.6
ABTA Abfaltersbach 81.74 331 *eP* **P 08 21 15.4 +0.3**
comp=Z,4.9nm,1.1s
SQTA Sankt Quirin 81.77 333 *eP* **P 08 21 16.6 +1.3**
comp=Z,9.2nm,1.3s
FETA Feichten 82.10 333 *ePcP* **P 08 21 18.4 +1.3**
comp=Z,8.8nm,1.0s,SNR=5.6
DAVA Damuels 82.15 333 *ePcP* **P 08 21 18.9 +1.5**
comp=Z,3.8nm,0.7s
FUORN Ofenpass-Fuorn 82.61 333 *eP* **P 08 21 20.4 +0.5**
comp=Z,8.5nm,1.0s
PDG Podgorica 82.85 325 *i P* **P 08 21 22.5 +1.6**

IDC ***17*** *08:19:11.0±1.7, 15°.64S×174°.71W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.8/39, mbtmp3.6/8, Error ellipse: s-maj=80.7km s-min=22.5km az=153.0*
ISC 17 08:19:17.3±1.5, 15°.4S±0°.4×174°.7W±0°.3, h35km, n24,
σ1§46/11, mb3.6/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 49nm,1.4s	**19.02**	**247**	*eP*		**Pn**	**08 23 40.1**	**+2.8**
DZM	comp=Z,939nm,25.6s			*e*LR		LR	08 28 05.6	
PPT2	**Papeete2** comp=Z,441nm,25.5s,baz=293	**24.21**	**99**	*e*LR		LR	08 30 14.6	
PPT2	**Papeete2** 5.2nm,0.3s	**24.21**	**99**	*e*T		T	08 49 14.0	
TIAR	**Tiarei** 4.0nm,0.3s	**24.43**	**99**	*e*T		T	08 49 23.7	
TVO	**Taravao** 2.0nm,0.3s	**24.53**	**99**	*e*T		T	08 49 25.3	
TBI	**Tubuai** comp=Z,495nm,26.5s	**25.09**	**112**	*e*LR		LR	08 30 43.4	
TBI	**Tubuai** 11nm,0.3s	**25.09**	**112**	*e*T		T	08 50 16.1	
RKT	**Rikitea** 4.4nm,0.3s	**38.21**	**108**	*e*T		T	09 06 44.1	
H11S2	**WAKE ISLAND Hy** baz=150	**38.32**	**331**	T		T	09 07 32.2	
H11S3	**WAKE ISLAND Hy** baz=150	**38.33**	**331**	T		T	09 07 32.7	
H11S1	**WAKE ISLAND Hy** baz=150	**38.34**	**331**	T		T	09 07 34.1	
H11N3	**WAKE ISLAND Hy** baz=154,slow=76	**39.29**	**332**	T		T	09 08 44.3	
H11N1	**WAKE ISLAND Hy** baz=154,slow=76	**39.30**	**332**	T		T	09 08 44.6	
H11N2	**WAKE ISLAND Hy** baz=154,slow=76	**39.31**	**332**	T		T	09 08 45.7	
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=87,slow=7.1,SNR=4.7	**48.59**	**257**	P		**P**	**08 27 56.0**	**-1.9**
ASAR	**Alice Springs** 1.6nm,0.9s,baz=88,slow=8.4,SNR=10	**48.89**	**252**	P		**P**	**08 27 58.6**	**-1.5**
SIJI	**Sorong** 6.0nm,0.3s,baz=101,slow=10,SNR=4.7	**55.19**	**280**	P		**P**	**08 28 46.6**	**-0.5**
NVAR	**Mina Array Bea** 1.0nm,1.0s,baz=268,slow=6.3,SNR=3.0	**75.19**	**43**	P		**P**	**08 30 56.2**	**-0.4**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=209,slow=8.8,SNR=3.4	**81.68**	**57**	P		**P**	**08 31 33.1**	**+0.6**
SEY	**Seymchan** 0.3nm,0.4s,baz=129,slow=6.7,SNR=5.3	**82.19**	**345**	P		**P**	**08 31 34.8**	**+0.5**
ILAR	**Eielson Array** 0.4nm,1.1s,baz=215,slow=6.5,SNR=2.7	**82.70**	**12**	P		**P**	**08 31 37.4**	**+0.5**
PDAR	**Pinedale Array** 0.2nm,0.4s,baz=219,slow=7.0,SNR=3.2	**83.12**	**42**	P		**P**	**08 31 39.4**	**-0.5**
YKA	**Yellowknife Ar** 0.3nm,1.0s,baz=238,slow=4.1,SNR=2.6	**90.61**	**24**	P		**P**	**08 32 16.1**	**+0.5**
BRTR	**Keskin Array B** 0.9nm,0.8s,baz=28,slow=6.5,SNR=2.4	**145.34**	**320**	PKPbc		**PKPdf**	**08 38 50.7**	**-1.2**

IDC ***17*** *08:20:07.6±1.8, 15°.80S×174°.71W, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.0/40, mbtmp4.1/8, MS4.0/3, Ms1 4.0/3, ms1mx3.4/17, Error ellipse: s-maj=83.2km s-min=24.0km az=154.0*
ISCJB ***17*** *08:20:26.2±0.4, 15°.36S±0°.09×175°.38W±0°.08, h150km, mb4.2/17, Error ellipse: s-maj=14.3km s-min=8.3km az=145.9*
NEIC ***17*** *08:20:27.6±1.0, 15°.38S×175°.38W, h148km±10km, mb4.2/9, Error ellipse: s-maj=13.1km s-min=7.4km az=146.0*
ISC 17 08:20:27.6±0.6, 15°.4S±0°.1×175°.34W±0°.09, h150km, n37,
σ1§25/28, mb4.0/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.34**	**126**	*e*Pn		**Pn**	**08 21 59.9**	**+1.0**
MSVF	**Nonsavu**	**6.75**	**249**	*e*Pn		**Pn**	**08 22 02.9**	**-1.5**
KNTN	**Kanton**	**13.04**	**16**	*e*Pn		**Pn**	**08 23 28.4**	**+1.0**
DZM	**Mont Dzumac** 28nm,1.3s	**18.47**	**246**	*e*P		**P**	**08 24 32.8**	**+0.6**
DZM	**Mont Dzumac** comp=Z,639nm,19.3s,baz=72,slow=33	**18.47**	**246**	LR		LR	08 30 36.9	
MXZ	**Matakaoa Point** 120nm,1.1s	**22.78**	**193**	*e*P		**P**	**08 25 17.3**	**0.0**
XMAS	**Kiritimati** 111nm,1.1s	**24.78**	**47**	*e*P		**P**	**08 25 36.5**	**+0.8**
RPZ	**Rata Peaks** comp=Z,353nm,18.6s,baz=28,slow=35	**30.52**	**200**	LR		LR	08 37 48.7	
JOHN	**Johnston Islan** 285nm,1.3s	**32.44**	**10**	*e*P		**P**	**08 26 41.9**	**-1.7**
EIDS	**Eidsvold** 8.2nm,1.0s	**32.92**	**247**	*e*P		**P**	**08 26 46.5**	**-1.3**

H11S2 WAKE ISLAND Hy 38.03 332 T T 09 08 27.0
baz=150,slow=75
H11S3 WAKE ISLAND Hy 38.05 332 T T 09 08 30.5
baz=150,slow=75
H11S1 WAKE ISLAND Hy 38.05 332 T T 09 08 29.1
baz=150,slow=75
H11N3 WAKE ISLAND Hy 39.02 333 T T 09 09 40.6
baz=151,slow=76,SNR=26
H11N1 WAKE ISLAND Hy 39.02 333 T T 09 09 40.3
baz=151,slow=76,SNR=29
H11N2 WAKE ISLAND Hy 39.03 333 T T 09 09 41.4
baz=151,slow=76,SNR=26
JAY Jayapura 45.15 282 LR LR 08 46 16.7
comp=Z,81nm,21.0s,baz=157,slow=34
WR1 Warramunga Arr 48.02 257 *eP* **P 08 28 52.5 +0.5**
6.6nm,1.6s
WRA Warramunga Arr 48.02 257 P **P 08 28 52.5 +0.5**
0.9nm,0.9s,baz=93,slow=7.0,SNR=3.3
AS31 Alice Springs 48.33 252 *eP* **P 08 28 54.4 +0.1**
0.9nm,0.8s
ASAR Alice Springs 48.33 252 P **P 08 28 54.8 +0.4**
2.1nm,0.8s,baz=85,slow=8.3,SNR=6.3
SIJI Sorong 54.61 280 P **P 08 29 43.9 +2.8**
10nm,0.8s,baz=74,slow=10,SNR=2.7
NV01 Mina Array Sit 75.59 43 *eP* **P 08 31 54.8 -1.5**
NVAR Mina Array Bea 75.59 43 P **P 08 31 54.3 -2.0**
2.0nm,0.9s,baz=225,slow=9.4,SNR=3.9
F07A Phinny Hill Vi 78.84 36 *eP* **P 08 32 14.6 +0.7**
4.7nm,0.8s
SEY Seymchan 82.04 346 P **P 08 32 32.2 +1.6**
3.4nm,1.1s,baz=114,slow=5.5,SNR=5.5
TXAR Lajitas Array 82.17 57 P **P 08 32 30.0 -2.2**
0.6nm,1.0s,baz=207,slow=3.7,SNR=2.6
ANMO Albuquerque 82.24 51 *eP* **P 08 32 33.0 +0.4**
3.0nm,1.2s
ILAR Eielson Array 82.82 12 P **P 08 32 34.5 -0.1**
1.0nm,1.0s,baz=211,slow=6.8,SNR=3.3
ILB Eielson Array 82.82 12 *eP* **P 08 32 34.1 -0.5**
10nm,1.6s
S22A 4UR Ranch, Cre 83.15 48 *eP* **P 08 32 37.2 -0.1**
3.7nm,1.1s
PD31 Pinedale Array 83.52 43 *eP* **P 08 32 38.9 -0.1**
3.4nm,1.4s
PDAR Pinedale Array 83.52 43 P **P 08 32 36.6 -2.4**
1.1nm,0.9s,baz=220,slow=2.4,SNR=2.8
BR101 Keskin Array S 144.95 319 *e*PKPbc **PKPdf 08 39 47.6 +0.2**
BRTR Keskin Array B 144.95 319 PKPbc **PKPdf 08 39 47.6 +0.2**
5.1nm,1.2s,baz=48,slow=2.1,SNR=4.5
GEC2 GERESS Array S 145.83 349 *e*PKPdf **PKPbc 08 39 49.0 -0.3**
GERES GERESS Array B 145.83 349 PKPbc **PKPbc 08 39 49.1 -0.2**
1.4nm,1.0s,baz=5.7,slow=1.0,SNR=4.3

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*SJA **17** 08:30:30.4±0.8, 24.°09S×66.°82W, h215km±6km, ML2.2, MW2.6*
*ISCJB **17** 08:30:33.0±1.0, 23.°91S±0.°06×66.°92W±0.°05, h196km±11km, Error ellipse: s-maj=10.0km s-min=5.9km az=32.9*
*GUC **17** 08:30:33.3±0.5, 23.°72S×67.°30W, h242km±6km, ML3.6*
ISC 17 08:30:30.0±2.2, **24.°00S**±0.°06×**66.°85W**±0.°06, **h221**km±18km, **n27,** σ **1°80**/44, **7C-3D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.42**	**120**	*eP*	**Pn**	**08 31 06.8**	**+1.6**
SLA				IAML		08 31 08.3	
	comp=Z,26nm,0.7s						
SLA				*eS*	**Sn**	**08 31 30.7**	**-2.0**
HJA	**Humahuaca**	**1.54**	**59**	*eP*	**Pn**	**08 31 07.5**	**+1.0**
HJA				IAML		08 31 10.1	
	comp=Z,5.5nm,0.4s						
HJA				*eS*	**Sn**	**08 31 34.6**	**-0.2**
FSA	**Cafayete**	**2.24**	**159**	*eP*	**Pn**	**08 31 14.3**	**+1.5**
FSA				IAML		08 31 15.3	
	comp=Z,7.2nm,0.5s						
FSA				*eS*	**Sn**	**08 31 43.1**	**-3.3**
LVC	**Limon Verde**	**2.34**	**306**	*eP*	**Pn**	**08 31 15.5**	**+1.4**
LVC				*eS*	**Sn**	**08 31 48.5**	**0.0**
LVC	**Limon Verde**	**2.34**	**306**	⇓*iP*	**Pn**	**08 31 15.5**	**+1.4**
LVC				*eS*	**Sn**	**08 31 47.8**	**-0.6**
PB15	**IPOC Station P**	**2.53**	**288**	*eP*	**Pn**	**08 31 17.0**	**+1.2**
PB15				*eS*	**Sn**	**08 31 51.4**	**-0.2**
PB15	**IPOC Station P**	**2.53**	**288**	⇑*iP*	**Pn**	**08 31 17.4**	**+1.6**
PB15				*i* S	**Sn**	**08 31 51.4**	**-0.2**
PB06	**IPOC Station P**	**2.81**	**297**	*eP*	**Pn**	**08 31 20.4**	**+1.5**
PB06	**IPOC Station P**	**2.81**	**297**	⇑*iP*	**Pn**	**08 31 20.5**	**+1.5**
PB06				*i* S	**Sn**	**08 31 55.6**	**-1.5**
PB06				IAML		08 31 60.0	
	comp=E,87nm,0.2s						
PB09	**IPOC Station P**	**3.11**	**314**	⇑*iP*	**Pn**	**08 31 24.4**	**+2.1**
PB09				*i* S	**Sn**	**08 32 03.0**	**-0.3**
PB05	**IPOC Station P**	**3.28**	**290**	*eP*	**Pn**	**08 31 25.4**	**+1.3**
PB05	**IPOC Station P**	**3.28**	**290**	⇓*iP*	**Pn**	**08 31 25.5**	**+1.3**
PB14	**IPOC Station P**	**3.30**	**258**	*eP*	**Pn**	**08 31 26.3**	**+1.7**
PB03	**IPOC Station P**	**3.30**	**305**	*eP*	**Pn**	**08 31 26.1**	**+1.5**
PB03	**IPOC Station P**	**3.30**	**305**	⇑*iP*	**Pn**	**08 31 25.8**	**+1.3**
PB03				*i* S	**Sn**	**08 32 05.4**	**-2.0**
PB03				IAML		08 32 07.0	
	comp=E,46nm,0.1s						
PB10	**IPOC Station P**	**3.42**	**277**	⇑*iP*	**Pn**	**08 31 27.3**	**+1.6**
PB10				*i* S	**Sn**	**08 32 08.3**	**-1.3**
PB04	**IPOC Station P**	**3.46**	**298**	*eP*	**Pn**	**08 31 27.7**	**+1.4**
PB04	**IPOC Station P**	**3.46**	**298**	⇑*iP*	**Pn**	**08 31 27.5**	**+1.2**
PB04				*i* S	**Sn**	**08 32 08.4**	**-2.2**
PB04				IAML		08 32 13.2	
	comp=N,57nm,0.2s						
PB07	**IPOC Station P**	**3.60**	**308**	*eP*	**Pn**	**08 31 29.4**	**+1.3**
PB07	**IPOC Station P**	**3.60**	**308**	⇑*iP*	**Pn**	**08 31 29.2**	**+1.1**
PB07				*i* S	**Sn**	**08 32 10.7**	**-2.9**
PB07				IAML		08 32 13.8	
	comp=N,64nm,0.2s						
PB01	**IPOC Station P**	**3.82**	**320**	*i* S	**Sn**	**08 32 15.9**	**-2.4**
PB01				IAML		08 32 17.1	
	comp=N,40nm,0.4s						
PB02	**IPOC Station P**	**3.88**	**313**	*eP*	**Pn**	**08 31 32.6**	**+1.3**
PB02	**IPOC Station P**	**3.88**	**313**	⇓*iP*	**Pn**	**08 31 32.5**	**+1.0**
PB02				*i* S	**Sn**	**08 32 16.5**	**-3.1**
PB02				IAML		08 32 18.3	
	comp=E,70nm,0.3s						
PB08	**IPOC Station P**	**4.39**	**331**	*eP*	**Pn**	**08 31 40.0**	**+2.1**
PB08	**IPOC Station P**	**4.39**	**331**	*eP*	**Pn**	**08 31 40.5**	**+2.6**
PB08				*i* S	**Sn**	**08 32 30.3**	**-1.2**
PB11	**IPOC Station P**	**4.96**	**328**	*eP*	**Pn**	**08 31 45.6**	**+1.0**
PB11				*i* S	**Sn**	**08 32 40.7**	**-3.1**
MNMC	**Minye Minye**	**5.48**	**332**	*eP*	**Pn**	**08 31 53.1**	**+1.8**
MNMC				*i* S	**Sn**	**08 32 53.3**	**-2.5**

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*BEO **17** 08:50:26.6±0.6, 43.°34N×17.°40E, h0km, ML2.4/9*
*SAR **17** 08:50:27.6±0.3, 43.°31N×17.°53E, h4km±2km, ML2.4/1*
*VIE **17** 08:50:30.1±1.9, 43.°53N×17.°84E, h4km, mb2.6/3, ml2.1/5, ms3.5/1, Error ellipse: s-maj=40.7km s-min=16.8km az=57.0*
ISC 17 08:50:27.5±1.2, **43.°31N**±0.°03×**17.°56E**±0.°03, **h4**km±11km, **n45,** σ **1°37**/71, **8C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STON	**Ston**	**0.45**	**166**	*i* Pg	**Pg**	**08 50 35.8**	**-0.4**
STON				Sg	**Sg**	**08 50 43.0**	**+1.1**
STON	**Ston**	**0.45**	**166**	⇓*i*Pg	**Pg**	**08 50 35.7**	**-0.4**
STON				*e*Sg	**Sg**	**08 50 42.8**	**+0.8**
BRY	**Bratogost**	**0.83**	**119**	*e*Pg	**Pg**	**08 50 41.9**	**-1.4**
BRY				*e*Sg	**Sg**	**08 50 54.9**	**+0.8**
TREB	**Trebinje**	**0.83**	**135**	*e*Pg	**Pg**	**08 50 42.4**	**-1.0**
TREB				*e*Sg	**Sg**	**08 50 54.3**	**+0.1**
TREB	**Trebinje**	**0.83**	**135**	⇑*i*Pg	**Pg**	**08 50 42.1**	**-1.3**
TREB				*e*Sg	**Sb**	**08 50 55.2**	**-0.9**
HCY	**Herceg Novi**	**1.10**	**141**	⇑*i*Pg	**Pg**	**08 50 46.9**	**-1.7**
HCY				*e*Sg	**Sg**	**08 51 02.9**	**0.0**
HAPS	**Han Pijesak,BI**	**1.27**	**52**	*e*Pg	**Pn**	**08 50 51.8**	**-0.4**
HAPS				*e*Sg	**Sg**	**08 51 09.2**	**+0.8**
HAPS	**Han Pijesak,BI**	**1.27**	**52**	*e*Pg	**Pn**	**08 50 51.2**	**-1.0**
HAPS				*e*Sg	**Sb**	**08 51 08.3**	**-0.6**
BBLS	**Lazići**	**1.45**	**67**	*e*Sn	**Sg**	**08 51 16.4**	**+2.2**
BBLS	**Lazići**	**1.45**	**67**	*e*Pg	**Pn**	**08 50 54.2**	**-0.4**
BBLS				*e*Sg	**Sb**	**08 51 14.5**	**+0.5**
BLY	**Banja Luka**	**1.46**	**350**	*e*Pg	**Pn**	**08 50 53.4**	**-1.3**
BLY				*e*Sg	**Sn**	**08 51 12.1**	**-2.2**
BLY	**Banja Luka**	**1.46**	**350**	⇑*iP*	**Pn**	**08 50 54.3**	**-0.4**
BLY	**Banja Luka**	**1.46**	**350**	S	**Sb**	**08 51 14.1**	**-0.1**
BLY	**Banja Luka**	**1.46**	**350**	⇑*i*Pg	**Pn**	**08 50 54.2**	**-0.4**
BLY				*e*Sg	**Sn**	**08 51 13.6**	**-0.7**
PDG	**Podgorica**	**1.53**	**125**	*e*Pg	**Pb**	**08 50 56.2**	**-0.2**
PDG				*e*Sg	**Sg**	**08 51 19.6**	**+3.1**
PDG	**Podgorica**	**1.53**	**125**	⇑*iP*	**Pn**	**08 50 55.1**	**-0.5**
PDG	**Podgorica**	**1.53**	**125**	S	**Sg**	**08 51 19.8**	**+3.3**
PDG	**Podgorica**	**1.53**	**125**	*e*Pn	**Pb**	**08 50 55.9**	**-0.5**
PDG				*e*Sn	**Sg**	**08 51 17.0**	**+0.5**
DRME	**Dracevica, Mon**	**1.64**	**133**	*e*Pn	**Pn**	**08 50 57.2**	**0.0**
DRME				*e*Sn	**Sb**	**08 51 19.3**	**-0.1**
IVAS	**Ivanjica**	**1.91**	**81**	*e*Pn	**Pn**	**08 51 01.3**	**+0.4**
IVAS				*e*Sn	**Sb**	**08 51 28.1**	**+0.9**
DIVS	**Divibare**	**1.93**	**65**	*e*Pn	**Pn**	**08 51 01.7**	**+0.4**
DIVS				*e*Sn	**Sb**	**08 51 27.9**	**0.0**
DIVS	**Divibare**	**1.93**	**65**	*e*Pn	**Pn**	**08 51 01.6**	**+0.3**
DIVS				*e*Sn	**Sn**	**08 51 26.3**	**+0.2**
TRUS	**Trudelj**	**2.26**	**65**	*e*Pn	**Pn**	**08 51 07.2**	**+1.6**
NVLJ	**Novalja**	**2.31**	**304**	*e*Pn	**Pb**	**08 51 08.1**	**-1.6**
NVLJ				Sn	**Sb**	**08 51 38.5**	**0.0**
GRUS	**Gruza**	**2.37**	**75**	*e*Pn	**Pb**	**08 51 09.2**	**-1.5**
GRUS				*e*Sn	**Sb**	**08 51 39.2**	**-1.0**
FRGS	**Fruska Gora**	**2.46**	**40**	*e*Pn	**Pn**	**08 51 08.8**	**+0.4**
FRGS				*e*Sn	**Sn**	**08 51 39.9**	**+1.0**
FRGS	**Fruska Gora**	**2.46**	**40**	*e*Sn	**Sn**	**08 51 38.5**	**-0.4**
SELS	**Selova**	**2.60**	**91**	*e*Pn	**Pn**	**08 51 11.3**	**+0.9**
BOJS	**Bojanci**	**2.75**	**324**	*i* Pn	**Pn**	**08 51 14.3**	**+2.0**
CRES	**Cresnjev**	**2.93**	**330**	*i* Pn	**Pn**	**08 51 16.6**	**+1.7**
CRES				*i* Sn	**Sb**	**08 51 53.6**	**-2.8**
CRES	**Cresnjev**	**2.93**	**330**	*e*Pn	**Pn**	**08 51 14.7**	**-0.1**
CRES				*e*Sn	**Sn**	**08 51 50.3**	**-0.2**
PDKS	**Podkum**	**3.30**	**327**	*i* Pn	**Pn**	**08 51 21.6**	**+1.6**
PDKS				*i* Sn	**Sn**	**08 52 02.4**	**+2.7**
CEY	**Cerknica**	**3.30**	**318**	*e*Pn	**Pn**	**08 51 20.4**	**+0.4**
CEY				*e*Sn	**Sn**	**08 51 58.5**	**-1.2**
MDVR	**Moldovita**	**3.34**	**62**	⇑*iP*	**Pn**	**08 51 22.7**	**+2.2**
MDVR	**Moldovita**	**3.34**	**62**	S	**Sg**	**08 52 16.3**	**+1.6**
BZS	**Buzias**	**3.71**	**50**	*e*Sn	**Sn**	**08 52 08.9**	**-0.8**
BZS	**Buzias**	**3.71**	**50**	⇑*iP*	**Pn**	**08 51 27.6**	**+2.0**
BZS	**Buzias**	**3.71**	**50**	S	**Sn**	**08 52 08.3**	**-1.4**
OBKA	**Obir**	**3.84**	**327**	Pn	**Pn**	**08 51 30.1**	**+2.6**
	0.3nm,0.2s						
OBKA				Sg	**Sg**	**08 52 31.6**	**+0.7**
	4.1nm,0.6s						
SIRR	**Siria**	**4.16**	**43**	⇑*iP*	**Pb**	**08 51 41.2**	**0.0**
ARSA	**Arzberg**	**4.19**	**341**	*e*Pn	**Pn**	**08 51 32.4**	**+0.1**
	2.0nm,0.3s						
CONA	**Conrad Observa**	**4.77**	**346**	Pn	**Pn**	**08 51 40.9**	**+0.7**
	0.7nm,0.3s						
ABTA	**Abfaltersbach**	**4.96**	**316**	Pn	**Pn**	**08 51 44.9**	**+2.1**
	0.9nm,0.5s						
MOA	**Molln**	**5.09**	**334**	*e*Pn	**Pn**	**08 51 46.6**	**+2.0**
	0.8nm,0.4s						
MOA				*e*Sn	**Sn**	**08 52 45.2**	**+1.3**
	1.4nm,0.4s						
SQTA	**Sankt Quirin**	**5.94**	**313**	*e*Pn	**Pn**	**08 51 59.1**	**+2.7**
	0.6nm,0.2s						

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*NEIC **17** 08:55:54.2±0.0, 17.°66N×101.°37W, h47km, MD4.0(MEX), After MEX.*
MEX 17 08:55:53.5±0.3, **17.°67N×101.°37W, h51**km±3km, **MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.11**	**233**	*e*Pn	Pn	08 56 00.1	-1.4
ZIIG				*e*Sn	Sn	08 56 05.3	-1.8
ZIIG	**Zihuatanejo**	**0.11**	**233**	*i* P	Pn	08 56 00.1	-1.4
ZIIG				*e*S	Sn	08 56 05.3	-1.8
ARIG	**Puente Sto Nin**	**1.15**	**58**	*e*P	Pn	08 56 11.6	-1.7
ARIG				*e*S	Sn	08 56 26.0	-2.0
ARIG	**Puente Sto Nin**	**1.15**	**58**	*e*P	Pn	08 56 11.6	-1.7
ARIG				*e*S	Sn	08 56 26.0	-2.0
CAIG	**El Cayaco**	**1.23**	**120**	*e*Pn	Pn	08 56 12.5	-1.8
CAIG				*e*Sn	Sn	08 56 27.9	-1.9
CAIG	**El Cayaco**	**1.23**	**120**	*e*P	Pn	08 56 12.5	-1.8
CAIG				*e*S	Sn	08 56 27.9	-1.9
MEIG	**Mezcala**	**1.69**	**81**	*e*Pn	Pn	08 56 19.7	-1.0
MEIG				*e*Sn	Sn	08 56 39.3	-2.0
MEIG	**Mezcala**	**1.69**	**81**	*e*P	Pn	08 56 19.7	-1.0
MEIG				*e*S	Sn	08 56 38.9	-2.3
PLIG	**Platanillo**	**1.92**	**68**	*e*Pn	Pn	08 56 24.3	+0.5
PLIG				*e*Sn	Sn	08 56 47.3	+0.4
PLIG	**Platanillo**	**1.92**	**68**	*i* P	Pn	08 56 23.2	-0.6
PLIG				*i* S	Sn	08 56 41.1	-1.8
MMIG	**Aquila**	**1.98**	**288**	*i* P	Pn	08 56 23.7	-0.8
MMIG				*i* S	Sn	08 56 45.9	-2.2
MOIG	**Morelia**	**2.00**	**5**	*e*Pn	Pn	08 56 27.1	+2.0
TLIG	**Tlapa**	**2.68**	**92**	*e*Pn	Pn	08 56 35.0	+0.7
TLIG				*e*S	Sn	08 57 06.8	+1.2
TLIG	**Tlapa**	**2.68**	**92**	*e*P	Pn	08 56 33.0	-1.2
TLIG				*i* S	Sn	08 57 04.2	-1.4
451A	**Vernon**	**19.19**	**45**	*e*P	Pn	09 00 14.4	0.0
TMUT	**Trail Mountain**	**23.18**	**340**	*e*P	P	09 00 57.6	+1.5

PGC 17 08:56:30.8, 63.°09N×144.°22W, h1km, ML2.4/9, 244km northeast of Valdez, Ak Central Alaska, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOT	**Dot Lake**	**0.57**	**7**	P	Pg	08 56 41.1	-0.6
DOT				S	Sg	08 56 48.1	-0.8
PAX	**Paxson**	**0.58**	**259**	P	Pg	08 56 40.9	-1.0
PAX				S	Sg	08 56 48.5	-0.9
HARP	**HAARP**	**0.81**	**213**	P	Pg	08 56 45.4	-0.8
HARP				S	Sg	08 56 56.5	-0.2
BVCY	**Beaver Creek**	**1.69**	**112**	Pn	Pn	08 57 00.2	-1.2
BVCY				Sg	Sb	08 57 24.1	-0.3
YUK2	**White River**	**2.04**	**128**	Pn	Pn	08 57 05.0	-1.4
YUK2				Sg	Sb	08 57 34.0	-0.6
PTPK	**Patty Peak**	**2.08**	**156**	Pn	Pn	08 57 06.8	-0.1
PTPK				Sg	Sn	08 57 34.4	+0.9
DIV	**Divide**	**2.10**	**201**	Pn	Pn	08 57 05.8	-1.3
DIV				Sg	Sn	08 57 32.7	-1.0
YUK3	**Moose Creek**	**2.19**	**125**	Pn	Pn	08 57 07.3	-1.2
YUK3				Sg	Sb	08 57 39.0	0.0
BALM	**Baldy**	**2.24**	**156**	Pn	Pn	08 57 09.6	+0.5
KIAG	**Kiagna River**	**2.34**	**157**	Pn	Pn	08 57 10.1	-0.4
KIAG				Sg	Sb	08 57 42.0	-1.3
DAWY	**Dawson**	**2.37**	**63**	Pn	Pn	08 57 09.7	-1.2
DAWY				Sg	Sb	08 57 43.6	-0.5
CTGM	**Chitina Glacie**	**2.53**	**146**	Pn	Pn	08 57 12.7	-0.4
YUK4	**Talbot Arm**	**3.14**	**121**	Pn	Pn	08 57 20.0	-1.6
YUK4				Pg	Pb	08 57 26.2	-1.3
YUK4				Sg	Sb	08 58 08.5	+2.2
YUK6	**Outpost Mounta**	**3.50**	**125**	Pn	Pn	08 57 24.8	-1.7
YUK6				Sg	Sg	08 58 20.2	-2.9
YUK5	**Granite Creek**	**3.58**	**120**	Pn	Pn	08 57 26.0	-1.4
YUK5				Pg	Pb	08 57 34.1	-0.7
YUK5				Sg	Sb	08 58 21.6	+2.9
HYT	**Haines Junctio**	**3.90**	**123**	Pg	Pb	08 57 40.0	-0.4
HYT				Sg	Sb	08 58 31.2	+3.2
WHY	**Whitehorse**	**5.05**	**115**	Pn	Pn	08 57 46.6	-1.0
WHY				Pg	Pb	08 58 01.3	+1.4
WHY				Sg	Sg	08 59 07.1	-5.6

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*ISCJB **17** 09:02:21.9±0.3, 23.°81N±0.°01×122.°03E±0.°01, h24km±2km, Error ellipse: s-maj=2.5km s-min=1.7km az=36.3*
*JMA **17** 09:02:22.0±0.1, 23.°83N×121.°97E, h29km±3km, ML2.2*
*TAP **17** 09:02:23.0, 23.°87N×121.°97E, h35km, ML3.0, B*
ISC 17 09:02:22.4±1.0, **23.°83N**±0.°02×**121.°98E**±0.°02, **h30**km±9km, **n94,** σ **0°63**/177, **3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng**	**0.36**	**281**	P	**Pn**	**09 02 31.1**	**-0.4**
	baz=272						
ENLB				S	**Sn**	**09 02 37.8**	**+0.2**
	baz=272						
HWA	**Hwalien**	**0.38**	**292**	P	**Pn**	**09 02 31.7**	**-0.1**
	baz=284						
HWA				*e*S	**Sn**	**09 02 38.1**	**0.0**
	baz=284						
TWD	**Chiawan**	**0.43**	**305**	⇓*iP*	**Pb**	**09 02 31.7**	**-0.1**
	baz=296						
TWD				*i* S	**Sb**	**09 02 38.1**	**-0.1**
	baz=296						
NACB	**Ninganchiao**	**0.49**	**314**	⇓*iP*	**Pb**	**09 02 32.4**	**-0.4**
	baz=311						
NACB				*i* S	**Sb**	**09 02 39.5**	**-0.3**
	baz=311						
ESL	**Shilin**	**0.51**	**268**	*i* P	**Pb**	**09 02 32.8**	**-0.2**
	baz=258						
ESL				*i* S	**Sb**	**09 02 40.2**	**0.0**
	baz=258						
EGFH	**Guangfu**	**0.54**	**252**	P	**Pb**	**09 02 33.7**	**+0.2**
	baz=241						
EGFH				S	**Sn**	**09 02 42.2**	**+0.2**
	baz=241						
ETLH	**Xiulin Townshi**	**0.59**	**309**	P	**Pb**	**09 02 34.2**	**-0.2**
	baz=307						
ETLH				S	**Sn**	**09 02 43.1**	**-0.4**
	baz=307						
HGSD	**Ruisui**	**0.62**	**237**	*i* P	**Pb**	**09 02 34.9**	**+0.1**
	baz=226						
HGSD				*e*S	**Sn**	**09 02 44.1**	**+0.1**
	baz=226						
NANB	**Nanao**	**0.63**	**340**	*i* P	**Pb**	**09 02 34.7**	**-0.3**
	baz=331						
NANB				*i* S	**Sb**	**09 02 43.6**	**+0.1**
	baz=331						
ENA	**Nanau**	**0.63**	**339**	*i* P	**Pb**	**09 02 34.7**	**-0.3**
	baz=331						
ENA				*i* S	**Sb**	**09 02 43.9**	**+0.2**
	baz=331						
EOS1	**EOS1**	**0.72**	**10**	P	**Pb**	**09 02 36.7**	**+0.1**
	baz=21						
EOS1				S	**Sn**	**09 02 47.0**	**+0.4**
	baz=21						
WHF	**Hehuan Shan**	**0.73**	**295**	*i* P	**Pb**	**09 02 36.2**	**-0.7**
	baz=285						
WHF				*e*S	**Sn**	**09 02 47.0**	**-0.4**
	baz=285						
OWD	**Renai**	**0.75**	**279**	P	**Pn**	**09 02 36.7**	**-0.4**
	baz=276						
OWD				S	**Sb**	**09 02 46.5**	**-0.6**
	baz=276						
YULB	**Yu-li**	**0.77**	**235**	*i* P	**Pn**	**09 02 36.9**	**-0.3**
	baz=245						
YULB				S	**Sb**	**09 02 47.4**	**0.0**
	baz=245						
CHGB	**Renai**	**0.78**	**287**	⇓*iP*	**Pn**	**09 02 37.1**	**-0.4**
	baz=284						
CHGB				*e*S	**Sb**	**09 02 47.6**	**-0.3**
	baz=284						
VWDT	**VWDT**	**0.78**	**264**	*i* P	**Pb**	**09 02 37.5**	**+0.1**
	baz=261						
VWDT				S	**Sn**	**09 02 48.0**	**+0.1**
	baz=261						
TWC	**Suao**	**0.78**	**351**	*i* P	**Pn**	**09 02 37.3**	**0.0**
	baz=352						
TWC				S	**Sn**	**09 02 48.0**	**0.0**
	baz=352						
NNSB	**Datong**	**0.81**	**317**	*i* P	**Pn**	**09 02 37.4**	**-0.5**
	baz=316						
NNSB				S	**Sb**	**09 02 48.5**	**-0.2**
	baz=316						
NNS	**Nan Shan**	**0.82**	**317**	*i* P	**Pn**	**09 02 37.6**	**-0.5**
	baz=316						
NNS				S	**Sn**	**09 02 49.0**	**-0.3**
	baz=316						
TDCB	**Techi**	**0.86**	**299**	*i* P	**Pn**	**09 02 38.6**	**0.0**
	baz=297						
TDCB				*e*S	**Sn**	**09 02 49.7**	**-0.6**
	baz=297						
NDT	**Datong Townshi**	**0.88**	**331**	*i* P	**Pn**	**09 02 38.7**	**0.0**
	baz=330						
NDT				S	**Sb**	**09 02 51.0**	**+0.4**
	baz=330						
FULB	**Fuli**	**0.90**	**225**	P	**Pn**	**09 02 38.6**	**-0.3**
	baz=212						
FULB				S	**Sb**	**09 02 51.1**	**0.0**
	baz=212						
CHKT	**Chengkung**	**0.93**	**218**	P	**Pn**	**09 02 38.5**	**-0.8**
	baz=206						
CHKT				S	**Sn**	**09 02 50.3**	**-1.4**
	baz=206						
TWE	**Neicheng**	**0.93**	**342**	*i* P	**Pn**	**09 02 39.5**	**+0.1**
	baz=342						
TWE				*e*S	**Sb**	**09 02 52.0**	**0.0**
	baz=342						
SSLB	**Suanglung**	**0.94**	**267**	*i* P	**Pb**	**09 02 40.0**	**-0.3**
	baz=265						
SSLB				*e*S	**Sb**	**09 02 52.3**	**-0.2**
	baz=265						
SLBB	**Yuanshan**	**0.97**	**341**	*i* P	**Pb**	**09 02 40.3**	**-0.4**
	baz=340						
SLBB				S	**Sb**	**09 02 53.3**	**+0.1**
	baz=340						
SMLT	**Sun Moon Lake**	**0.99**	**273**	*i* P	**Pb**	**09 02 40.9**	**-0.2**
	baz=270						
SMLT				*i* S	**Sb**	**09 02 54.2**	**+0.2**
	baz=270						
YHNB	**Yeheng**	**1.00**	**326**	*i* P	**Pn**	**09 02 40.5**	**+0.1**
	baz=314						
YHNB				S	**Sn**	**09 02 52.8**	**-0.8**
	baz=314						
EGS		**1.01**	**357**	*e*P	**Pb**	**09 02 40.8**	**-0.5**
	baz=10.0						
EGS				S	**Sb**	**09 02 54.7**	**+0.4**
	baz=10.0						
NSK	**Sanguang**	**1.01**	**326**	P	**Pn**	**09 02 40.8**	**+0.1**
	baz=314						
NSK				*i* S	**Sn**	**09 02 53.1**	**-0.8**
	baz=314						
NTC	**Toucheng**	**1.02**	**352**	*e*P	**Pb**	**09 02 41.6**	**-0.1**
	baz=352						
NTC				S	**Sb**	**09 02 55.2**	**+0.4**
	baz=352						
TYC	**Yuchr**	**1.03**	**274**	P	**Pn**	**09 02 41.2**	**+0.3**
	baz=272						
TYC				S	**Sb**	**09 02 54.7**	**-0.3**
	baz=272						
NWLT	**Wulai**	**1.04**	**335**	P	**Pn**	**09 02 41.1**	**+0.2**
	baz=322						
NWLT				S	**Sb**	**09

	baz=327							
NHDH				S		Sb	09 02 59.0	-0.7
	baz=327							
WLTB	**Daxi**	**1.21**	**327**	P		Pb	09 02 44.9	+0.1
	baz=326							
WLTB				*e*S		Sb	09 03 00.1	0.0
	baz=326							
TWQ1	**Liyutan**	**1.22**	**295**	P		Pb	09 02 45.0	+0.1
	baz=293							
TWQ1				S		Sb	09 03 01.4	+1.1
	baz=293							
TATO	**Taipei**	**1.22**	**338**	*e*P		Pb	09 02 44.3	-0.6
	baz=338							
TATO				S		Sb	09 02 59.9	-0.4
	baz=338							
TCU	**Taichung**	**1.24**	**285**	*e*P		Pb	09 02 45.9	+0.7
	baz=283							
TCU				S		Sb	09 03 02.1	+1.4
	baz=283							
NWF	**Wu-fen Shan**	**1.25**	**351**	P		Pb	09 02 45.1	-0.3
	baz=351							
NWF				S		Sb	09 03 01.2	+0.1
	baz=351							
WFSB	**Wu-fen Shan**	**1.25**	**351**	P		Pb	09 02 45.2	-0.2
	baz=351							
WFSB				S		Sb	09 03 01.2	+0.2
	baz=351							
NSY	**Sanyi**	**1.26**	**298**	P		Pb	09 02 45.7	+0.1
	baz=296							
NSY				*e*S		Sb	09 03 01.7	+0.3
	baz=296							
NMLH	**Miaoli**	**1.29**	**303**	P		Pb	09 02 47.1	+0.9
	baz=288							
NMLH				S		Sb	09 03 03.6	+1.1
	baz=288							
TWGBT	**Beinan**	**1.31**	**220**	P		Pn	09 02 44.5	-0.2
	baz=227							
TWGBT				S		Sn	09 03 00.4	-0.7
	baz=227							
TWG	**Pinlang**	**1.31**	**220**	P		Pn	09 02 44.3	-0.3
	baz=227							
TWG				*e*S		Sn	09 03 01.3	+0.1
	baz=227							
WGK	**Gukeng**	**1.31**	**264**	*e*S		Sb	09 03 04.0	+1.0
	baz=261							
SBCB	**Hsinchu**	**1.32**	**316**	*e*P		Pb	09 02 45.7	-0.8
	baz=316							
WCHH	**Zhanghua**	**1.33**	**281**	*e*P		Pb	09 02 47.0	+0.3
	baz=278							
WCHH				*e*S		Sb	09 03 04.5	+1.2
	baz=278							
WDJ	**Dajia District**	**1.33**	**293**	*e*P		Pb	09 02 46.0	-0.8
	baz=291							
WDJ				*e*S		Sb	09 03 03.8	+0.3
	baz=291							
WDLH	**Douliu**	**1.33**	**264**	*e*P		Pb	09 02 46.8	0.0
	baz=262							
WDLH				*e*S		Sb	09 03 04.8	+1.3
	baz=262							
NCUH	**Zhongli**	**1.34**	**327**	*e*P		Pb	09 02 46.1	-0.9
	baz=326							
NCUH				*e*S		Sb	09 03 03.8	0.0
	baz=326							
TPUB	**Ta-pu**	**1.35**	**247**	*e*P		Pb	09 02 47.3	+0.2
	baz=245							
TPUB				*e*S		Sb	09 03 03.9	-0.2
	baz=245							
YM01	**YM01**	**1.36**	**344**	P		Pn	09 02 46.2	+0.8
	baz=327							
YM01				S		Sb	09 03 04.0	-0.3
	baz=327							
TWS1	**Kuangyinshan**	**1.36**	**338**	P		Pn	09 02 46.2	+0.9
	baz=337							
TWS1				S		Sb	09 03 03.8	-0.6
	baz=337							
YM04	**YM04**	**1.38**	**343**	*e*P		Pb	09 02 46.9	-0.7
	baz=332							
YM04				*e*S		Sb	09 03 03.7	-1.1
	baz=332							
YM05	**YM05**	**1.38**	**344**	*e*S		Sb	09 03 04.4	-0.5
	baz=328							
WTP	**Ta-pu**	**1.39**	**245**	*e*P		Pb	09 02 47.7	-0.1
	baz=243							
WTP				*e*S		Sb	09 03 05.8	+0.6
	baz=243							
NTST	**Danshui**	**1.41**	**340**	*e*P		Pn	09 02 46.9	+0.9
	baz=339							
NTST				*e*S		Sb	09 03 05.2	-0.6
	baz=339							
CHY	**Chiayi**	**1.47**	**257**	*e*S		Sb	09 03 07.3	-0.1
	baz=255							
SLGT	**Liugui**	**1.49**	**236**	P		Pb	09 02 48.6	-0.9
	baz=225							
SLGT				*e*S		Sb	09 03 07.6	-0.3
	baz=225							
RLNB	**Erlin**	**1.49**	**272**	*e*P		Pb	09 02 49.0	-0.5
	baz=270							
RLNB				S		Sb	09 03 08.8	+0.8
	baz=270							
SNST	**Tainan City**	**1.50**	**246**	*e*P		Pb	09 02 49.1	-0.5
	baz=244							
SNST				*e*S		Sb	09 03 08.4	+0.2
	baz=244							
WSF	**Szhu**	**1.63**	**263**	*e*S		Sb	09 03 12.0	+0.1
	baz=261							
IRIF	**Iriomote-Funau**	**1.67**	**72**	*e*S		Sn	09 03 10.5	+0.5
HATJ	**Hateruma jima**	**1.68**	**82**	P		Pn	09 02 50.0	+0.3
HATJ				S		Sn	09 03 10.3	+0.1
MASBT	**Mashibuluo**	**1.74**	**226**	P		Pn	09 02 51.2	+0.7
	baz=221							
MASBT				*e*S		Sb	09 03 14.8	-0.4
	baz=221							
EAST	**Anshuo**	**1.78**	**216**	*e*P		Pn	09 02 50.9	-0.3
	baz=206							
EAST				*e*S		Sn	09 03 12.1	-0.8
	baz=206							
LAY	**Lan-yu**	**1.83**	**193**	*e*P		Pn	09 02 51.5	-0.4
	baz=192							
LAY				*e*S		Sn	09 03 12.9	-1.2
	baz=192							
SSPT	**Xinbi**	**1.87**	**224**	*e*P		Pb	09 02 54.4	-1.6
	baz=216							
SSPT				*e*S		Sb	09 03 17.2	-1.8
	baz=216							
JKRS	**Kuro-shima**	**1.89**	**77**	*e*S		Sn	09 03 16.8	+1.3
SCZT	**Fangliau**	**1.92**	**221**	P		Pn	09 02 54.8	+1.7
	baz=216							
SCZT				*e*S		Sn	09 03 18.3	+2.0
	baz=216							
JIJ	**Ishigaki jima**	**2.04**	**75**	S		Sn	09 03 18.6	-0.6
TWKBT	**Hengchun**	**2.17**	**210**	*e*S		Sn	09 03 23.2	+0.8
	baz=201							
TWK1	**Hengchun**	**2.17**	**210**	*e*P		Pn	09 02 57.0	+0.5
	baz=201							
TWK1				*e*S		Sn	09 03 23.7	+1.2
	baz=201							
WDGT	**Dungji**	**2.21**	**255**	*e*P		Pn	09 02 57.4	+0.3
	baz=253							
WDGT				S		Sn	09 03 24.3	+1.0
	baz=253							
PHUB	**P'eng-hu**	**2.23**	**262**	*e*S		Sn	09 03 24.3	+0.3
	baz=247							
PNG	**Penghu**	**2.24**	**264**	*e*P		Pn	09 02 58.7	+1.2
	baz=261							
PNG				*e*S		Sn	09 03 25.5	+1.3
	baz=261							
JISG	**Ishigakijimahi**	**2.25**	**70**	P		Pn	09 02 58.1	+0.5
JISG				*e*S		Sn	09 03 23.8	-0.6
VCHM	**Qimei**	**2.43**	**256**	*e*P		Pn	09 03 00.8	+0.8
	baz=253							
VCHM				S		Sn	09 03 29.4	+0.7
	baz=253							
VWUC	**VWUC**	**2.58**	**297**	*e*P		Pn	09 03 02.1	-0.1
	baz=295							
VWUC				*e*S		Sn	09 03 30.8	-1.8
	baz=295							
JTJ	**Tarama**	**2.61**	**72**	*e*S		Sn	09 03 34.5	+1.4

MEX 17 09:16:35.1±0.3, 18°22N×100°66W, h57km±4km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.30**	**78**	*e*P	Pn	09 16 43.4	-1.6
ARIG				*e*S	Sn	09 16 50.4	-1.8
ZIIG	**Zihuatanejo**	**0.98**	**232**	*e*P	Pn	09 16 51.4	-1.4
ZIIG				*e*S	Sn	09 17 03.6	-2.1
MEIG	**Mezcala**	**1.03**	**106**	*e*P	Pn	09 16 52.4	-1.1
MEIG				*e*S	Sn	09 17 05.2	-2.0
PLIG	**Platanillo**	**1.11**	**81**	*e*P	Pn	09 16 53.8	-0.8
PLIG				*e*S	Sn	09 17 07.3	-1.9
CAIG	**El Cayaco**	**1.22**	**162**	*e*P	Pn	09 16 54.4	-1.6
CAIG				*e*S	Sn	09 17 09.7	-1.8
TLIG	**Tlapa**	**2.10**	**108**	*i* P	Pn	09 17 06.9	-1.1
TLIG				*i* S	Sn	09 17 30.9	-2.1

OMAN 17 09:21:26.3±0.5, 17°.85N×56°.51E, h35km±92km, ml4.0/10, Error ellipse: s-maj=18.2km s-min=3.2km az=329.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMTO	**DMTO**	**1.50**	**265**	P	Pn	09 21 50.1	-0.5
	SNR=119						
DMTO				S	Sn	09 22 09.5	+0.6
RBK	**Rabkut**	**2.23**	**261**	P	Pn	09 22 00.7	0.0
RBK				S	Sn	09 22 29.5	+2.4
DQM	**DQM**	**2.28**	**25**	P	Pn	09 22 01.5	+0.1
	SNR=17						
DQM				S	Sn	09 22 28.6	+0.2
WHFO	**Wadi Hawf**	**2.61**	**272**	P	Pn	09 22 05.7	-0.3
ABTO	**Aybut**	**3.10**	**261**	P	Pn	09 22 12.8	0.0
MHTO	**MHTO**	**3.41**	**24**	P	Pn	09 22 17.1	+0.2
	SNR=57						
MHTO				S	Sn	09 22 55.3	-0.8
JMDO	**Jabal Madar**	**4.74**	**18**	P	Pn	09 22 35.4	+0.2
JLN	**Jalan Bani Buh**	**5.07**	**32**	P	Pn	09 22 39.9	+0.1
	SNR=59						
WBK	**Wadi Bani Khal**	**5.27**	**26**	P	Pn	09 22 43.0	+0.5
SMDO	**Samad**	**5.38**	**15**	P	Pn	09 22 44.1	0.0
WSAR	**Wadi Sarin**	**5.71**	**20**	P	Pn	09 22 48.2	-0.5
SOHO	**SOHO**	**6.25**	**0**	P	Pn	09 22 57.0	+1.0
ASHO	**Ashiyiah**	**6.81**	**357**	P	Pn	09 23 04.5	+0.8
	SNR=8.0						

*IDC **17** 09:41:34.9±0.8, 5°.61S×149°.85E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.2/31, mbtmp4.3/12, MS3.3/5, Ms1 3.3/5, ms1mx3.1/21, Error ellipse: s-maj=27.0km s-min=15.9km az=88.0*

*ISCJB **17** 09:41:38.2±0.4, 5°.58S±0°.05×149°.92E±0°.07, h35km, mb4.4/27, MS3.6/5, Error ellipse: s-maj=10.8km s-min=6.1km az=20.6*

*NEIC **17** 09:41:39.8±0.4, 5°.56S×149°.95E, h35km, mb4.5/20, Error ellipse: s-maj=11.5km s-min=7.0km az=112.0*

ISC 17 09:41:40.0±0.5, 5°.58S±0°.06×149°.88E±0°.08, h35km, n56, σ1s83/59, mb4.5/27, MS3.5/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.66**	**59**	*e*Pn	**Pn**	**09 42 17.4**	**-3.0**
JAY	**Jayapura**	**9.65**	**288**	LR	LR	09 48 10.4	
	comp=Z,196nm,18.1s,baz=91,slow=41						
COEN	**Coen**	**10.62**	**218**	*e*Pn	**Pn**	**09 44 11.3**	**+1.4**
COEN				*e*Sn	**Sn**	**09 46 06.5**	**-1.2**
HNR	**Honiara**	**10.69**	**112**	LR	LR	09 47 49.8	
	comp=Z,161nm,19.4s,baz=272,slow=35						
FAKI	**Fak Fak**	**17.78**	**278**	*e*Pn	**Pn**	**09 45 39.0**	**-6.0**
	16nm,1.0s						
EIDS	**Eidsvold**	**19.71**	**177**	*e*P	**Pn**	**09 46 08.7**	**+0.6**
	20nm,1.1s						
MTN	**Manton Dam**	**19.85**	**247**	*e*P	**P**	**09 46 06.6**	**-1.6**
	19nm,0.7s						
WRAB	**Tennant Creek**	**20.78**	**225**	*e*P	**P**	**09 46 18.7**	**+0.5**
	21nm,0.7s						
WB2	**Warramunga Arr**	**20.78**	**225**	*e*P	**P**	**09 46 18.2**	**0.0**
	20nm,0.8s						
WR1	**Warramunga Arr**	**20.79**	**225**	*e*P	**P**	**09 46 18.2**	**-0.2**
	23nm,0.9s						
WR1				*e*S	**S**	**09 50 05.3**	**-3.3**
WRA	**Warramunga Arr**	**20.79**	**225**	P	**P**	**09 46 18.2**	**-0.2**
	18nm,0.8s,baz=50,slow=11,SNR=70						
WRA				S	**S**	**09 50 05.3**	**-3.3**
	0.6nm,0.8s,baz=40,slow=23,SNR=3.9						
DZM	**Mont Dzumac**	**22.92**	**137**	*e*P	**P**	**09 46 41.4**	**+0.2**
	15nm,0.9s						
DZM	**Mont Dzumac**	**22.92**	**137**	P	**P**	**09 46 41.1**	**-0.1**
	15nm,0.9s,baz=286,slow=6.7,SNR=14						
AS01	**Alice Springs**	**23.63**	**219**	*e*P	**P**	**09 46 48.3**	**+0.1**
AS31	**Alice Springs**	**23.66**	**219**	*e*P	**P**	**09 46 48.7**	**+0.3**
	2.5nm,0.6s						
ASAR	**Alice Springs**	**23.66**	**219**	P	**P**	**09 46 48.1**	**-0.3**
	5.2nm,0.6s,baz=50,slow=9.2,SNR=92						
ASAR				S	**S**	**09 51 07.9**	**+6.8**
	2.7nm,1.1s,baz=28,slow=24,SNR=9.3						
ASAR				LR	LR	09 55 32.7	
	comp=Z,104nm,20.0s,baz=44,slow=36						
FITZ	**Fitzroy Crossi**	**26.74**	**240**	*e*P	**P**	**09 47 15.4**	**-1.1**
	16nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.74**	**240**	P	**P**	**09 47 15.4**	**-1.1**
	13nm,0.8s,baz=67,slow=8.1,SNR=25						
STKA	**Stephens Creek**	**27.28**	**196**	*e*P	**P**	**09 47 20.5**	**-0.8**
	0.7nm,0.8s						
STKA	**Stephens Creek**	**27.28**	**196**	P	**P**	**09 47 20.4**	**-0.9**
	2.8nm,0.8s,baz=20,slow=9.2,SNR=4.9						
STKA				LR	LR	09 58 25.5	
	comp=Z,124nm,19.6s,baz=25,slow=37						
LBZ	**Lake Benmore**	**42.55**	**158**	*e*P	**P**	**09 49 33.7**	**+1.3**
	2.2nm,0.8s						
KSRS	**Korea Array**	**47.46**	**336**	P	**P**	**09 50 12.2**	**+0.7**
	2.2nm,0.9s,baz=148,slow=12,SNR=8.2						
KSAR	**Wonju Array Be**	**47.47**	**336**	P	**P**	**09 50 12.2**	**+0.7**
KMI	**Kunming**	**55.05**	**306**	P	**P**	**09 51 09.8**	**+0.9**
KMI				pmax	pmax		
	comp=Z,19nm,0.6s						
CMAR	**Chiang Mai Arr**	**55.60**	**297**	P	**P**	**09 51 13.6**	**+0.9**
	comp=Z,0.6nm,0.2s,baz=106,slow=4.5,SNR=4.8						
CMAR				LR	LR	10 14 52.5	
	comp=Z,8.8nm,18.6s,baz=75,slow=36						
HHC	**Hu-ho-hao-te**	**58.03**	**326**	*e*P	**P**	**09 51 29.6**	**-0.1**
HHC				S	**S**	**09 59 30.4**	**+2.2**
HHC				sS	sS	09 59 47.3	+1.8
HHC				pmax	pmax		
	comp=Z,17nm,1.0s						
HHC				pmax	pmax		
	comp=Z,93nm,5.2s						
HHC				LR	LR		
	comp=N,190nm,15.1s						
HHC				LR	LR		
	comp=E,210nm,15.7s						
HHC				LR	LR		
	comp=Z,330nm,14.2s						
PETK	**Petropavlovsk-**	**58.84**	**5**	*e*P	**P**	**09 51 35.3**	**+0.4**
PETK	**Petropavlovsk-**	**58.84**	**5**	P	**P**	**09 51 35.1**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=173,slow=8.1,SNR=6.2						
PEA1	**Petropavlovsk-**	**58.85**	**5**	*e*P	**P**	**09 51 35.1**	**+0.1**
LZH	**Lanzhou**	**59.80**	**318**	*e*P	**P**	**09 51 46.5**	**+4.3**
LZH				pP	sP	09 51 57.8	+0.9
LZH				sP	pP	09 52 02.0	+9.2
LZH				pmax	pmax		
	comp=Z,38nm,0.9s						
LZH				pmax	pmax		
	comp=Z,130nm,4.5s						
SHL	**Shillong**	**64.22**	**302**	*e*P	**P**	**09 52 12.3**	**+0.3**
	comp=Z,8.7nm,1.0s						
GTA	**Gaotai**	**64.29**	**319**	*e*P	**P**	**09 52 13.5**	**+1.3**
GTA				pP	pP	09 52 23.8	+0.9
GTA				sP	sP	09 52 27.8	+0.8
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
MA2	**Magadan**	**64.96**	**0**	*e*P	**P**	**09 52 15.2**	**-0.7**
	comp=Z,4.4nm,1.0s						
ULN	**Ulaanbaatar**	**65.16**	**330**	*e*P	**P**	**09 52 18.5**	**+0.8**
	comp=Z,5.6nm,1.1s						
SONA0	**Songino Array**	**65.47**	**329**	*e*P	**P**	**09 52 20.4**	**+0.7**
SONM	**Songino Array**	**65.47**	**329**	P	**P**	**09 52 20.4**	**+0.7**
	comp=Z,4.3nm,1.1s,baz=142,slow=5.5,SNR=12						
VNDA	**Vanda**	**72.17**	**177**	*e*P	**P**	**09 53 01.6**	**+0.9**
	comp=Z,1.3nm,1.1s						
VNDA	**Vanda**	**72.17**	**177**	P	**P**	**09 53 01.3**	**+0.5**
	comp=Z,1.7nm,1.0s,baz=303,slow=6.7,SNR=5.6						
WMQ	**Urumqi**	**74.37**	**318**	*e*P	**P**	**09 53 15.3**	**+0.9**
WMQ				pP	pP	09 53 18.1	-7.3
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,500nm,6.1s						
WMQ				LR	LR		
	comp=N,140nm,20.1s						
WMQ				LR	LR		
	comp=Z,62nm,21.5s						
MK01	**Makanchi Array**	**79.01**	**320**	*e*P	**P**	**09 53 41.1**	**+0.6**
MK31	**Makanchi Array**	**79.02**	**320**	*e*P	**P**	**09 53 40.8**	**+0.2**
	comp=Z,1.4nm,0.9s						
MK32	**Makanchi Array**	**79.02**	**320**	*e*P	**P**	**09 53 41.1**	**+0.6**
MKAR	**Makanchi Array**	**79.02**	**320**	P	**P**	**09 53 41.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=110,slow=5.3,SNR=11						
BRLK	**Bradley Lake**	**79.96**	**26**	*e*P	**P**	**09 53 45.5**	**+0.2**
	comp=Z,9.8nm,1.1s						
ZALV	**Zalesovo Beam**	**80.21**	**327**	*e*P	**P**	**09 53 48.6**	**+1.8**
ZALV	**Zalesovo Beam**	**80.21**	**327**	P	**P**	**09 53 46.3**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=116,slow=6.8,SNR=6.0						
ZAA1	**Zalesovo Array**	**80.21**	**327**	*e*P	**P**	**09 53 46.3**	**-0.5**
IM3	**Indian Mountai**	**82.10**	**20**	*e*P	**P**	**09 53 54.9**	**-1.8**
KURK	**Kurchatov**	**82.61**	**323**	*e*P	**P**	**09 53 58.8**	**-0.8**
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**83.98**	**23**	P	**P**	**09 54 03.5**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=256,slow=5.5,SNR=7.4						
ILB	**Eielson Array**	**83.98**	**23**	*e*P	**P**	**09 54 03.5**	**-2.8**
	comp=Z,1.9nm,0.9s						
KK31	**Karatay Array**	**86.06**	**314**	*e*P	**P**	**09 54 18.2**	**+0.8**
	comp=Z,3.9nm,1.0s						
KKAR	**Karatay Array**	**86.06**	**314**	*e*P	**P**	**09 54 17.9**	**+0.6**
	comp=Z,3.9nm,1.0s						
VYHS	**Vyhne**	**120.46**	**324**	*e*PKP	**PKiKP**	**10 00 29.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**147.75**	**286**	PKPbc	**PKPbc**	**10 01 21.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=72,slow=4.7,SNR=2.9						
TOA1	**Torodi Ar. Sit**	**147.75**	**286**	*e*PKPdf	**PKPbc**	**10 01 21.1**	**-1.0**

*ISCJB **17** 10:06:44.3±0.3, 24°.42N±0°.01×122°.00E±0°.02, h4km±3km, Error ellipse: s-maj=2.5km s-min=2.2km az=136.9*

*JMA **17** 10:06:44.8, 24°.43N×121°.95E, h21km±4km, M2.7*

*TAP **17** 10:06:44.8, 24°.46N×121°.95E, h13km, ML3.2, B*

ISC 17 10:06:44.3±0.8, 24°.43N±0°.02×121°.97E±0°.02, h14km±6km, n80, σ0s69/125, 13C-16D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.18**	**51**	⇓P	**Pg**	**10 06 49.4**	**+0.8**
	baz=53						
EOS1				*e*S	**Sb**	**10 06 53.1**	**+0.1**
	baz=53						
NANB	**Nanao**	**0.20**	**268**	⇓P	**Pg**	**10 06 49.2**	**+0.3**
	baz=268						
NANB				S	**Sg**	**10 06 52.0**	**0.0**
	baz=268						
TWC	**Suao**	**0.21**	**327**	⇑*i*P	**Pg**	**10 06 49.1**	**+0.1**
	baz=337						
TWC				*i* S	**Sg**	**10 06 51.7**	**-0.5**
	baz=337						
ENA	**Nanau**	**0.21**	**269**	⇓*i*P	**Pg**	**10 06 49.3**	**+0.2**
	baz=268						
ENA				S	**Sg**	**10 06 52.1**	**-0.2**
	baz=268						
ILA	**Ilan**	**0.39**	**328**	⇑P	**Pb**	**10 06 52.8**	**-0.2**
	baz=329						
ILA				*e*S	**Sb**	**10 06 58.5**	**-0.5**
	baz=329						
TWE	**Neicheng**	**0.40**	**316**	⇑*i*P	**Pg**	**10 06 52.6**	**+0.2**
	baz=320						
TWE				S	**Sg**	**10 06 57.7**	**-0.1**
	baz=320						
EGS		**0.41**	**355**	P	**Pg**	**10 06 53.0**	**+0.4**
	baz=350						
EGS				S	**Sg**	**10 06 58.0**	**-0.1**
	baz=350						
NACB	**Ninganchiao**	**0.43**	**233**	⇓P	**Pg**	**10 06 53.3**	**+0.4**
	baz=230						
NACB				S	**Sg**	**10 06 59.2**	**+0.5**
	baz=230						
NTC	**Toucheng**	**0.44**	**343**	⇑*e*P	**Pg**	**10 06 53.5**	**+0.4**
	baz=350						
SLBB	**Yuanshan**	**0.44**	**316**	⇑*i*P	**Pb**	**10 06 53.8**	**-0.2**
	baz=315						
SLBB				*e*S	**Sb**	**10 07 00.7**	**+0.2**
	baz=315						
NDT	**Datong Townshi**	**0.45**	**292**	⇑P	**Pb**	**10 06 53.9**	**-0.3**
	baz=290						
NDT				S	**Sg**	**10 06 59.3**	**-0.1**
	baz=290						
TWD	**Chiawan**	**0.49**	**224**	⇓P	**Pg**	**10 06 54.5**	**+0.4**
	baz=227						
TWD				S	**Sb**	**10 07 01.5**	**-0.4**
	baz=227						
ETLH	**Xiulin Townshi**	**0.50**	**243**	⇓P	**Pg**	**10 06 54.6**	**+0.3**
	baz=241						
ETLH				*e*S	**Sb**	**10 07 02.2**	**-0.1**
	baz=241						
NNSB	**Datong**	**0.54**	**270**	⇓P	**Pg**	**10 06 55.3**	**+0.3**
	baz=267						
NNSB				*e*S	**Sg**	**10 07 01.9**	**-0.3**
	baz=267						
NNS	**Nan Shan**	**0.55**	**271**	⇓*i*P	**Pg**	**10 06 55.4**	**+0.3**
	baz=268						
NNS				*e*S	**Sg**	**10 07 02.1**	**-0.3**
	baz=268						
NWLT	**Wulai**	**0.55**	**309**	*e*P	**Pb**	**10 06 55.7**	**-0.1**
	baz=300						
NWLT				*e*S	**Sb**	**10 07 02.8**	**-0.8**
	baz=300						
TIPB	**Shuangxi**	**0.55**	**346**	⇑P	**Pg**	**10 06 55.5**	**+0.3**
	baz=353						
TIPB				S	**Sg**	**10 07 02.9**	**+0.2**
	baz=353						
HWA	**Hwalien**	**0.56**	**217**	*e*P	**Pb**	**10 06 57.0**	**+1.0**
	baz=221						
YHNB	**Yeheng**	**0.59**	**293**	⇑P	**Pb**	**10 06 56.6**	**0.0**
	baz=297						
YHNB				S	**Sg**	**10 07 03.1**	**-0.8**
	baz=297						
NSK	**Sanguang**	**0.61**	**293**	⇑*i*P	**Pb**	**10 06 56.9**	**0.0**
	baz=297						
NSK				S	**Sg**	**10 07 04.0**	**-0.5**
	baz=297						
ENLB	**Shoufeng**	**0.63**	**213**	*e*P	**Pn**	**10 06 58.7**	**-0.2**
	baz=218						
TWA	**Mucha**	**0.65**	**327**	*e*P	**Pg**	**10 06 57.1**	**+0.1**
	baz=327						
NWF	**Wu-fen Shan**	**0.66**	**345**	*e*P	**Pb**	**10 06 57.8**	**+0.1**
	baz=333						
NWF				*e*S	**Sb**	**10 07 06.5**	**-0.4**
	baz=333						
WFSB	**Wu-fen Shan**	**0.66**	**345**	*e*P	**Pb**	**10 06 57.8**	**+0.2**
	baz=333						
WFSB				*e*S	**Sb**	**10 07 06.8**	**0.0**
	baz=333						
NHDH	**Xindian Distri**	**0.67**	**322**	*e*P	**Pb**	**10 06 58.3**	**+0.5**
	baz=315						
TATO	**Taipei**	**0.70**	**321**	⇑P	**Pb**	**10 06 58.8**	**+0.5**
	baz=311						
TATO				S	**Sg**	**10 07 06.9**	**-0.3**
	baz=311						
WHF	**Hehuan Shan**	**0.71**	**246**	⇓*i*P	**Pg**	**10 06 58.5**	**+0.3**
	baz=244						
TAP	**Taipei**	**0.74**	**325**	*e*P	**Pn**	**10 07 00.1**	**-0.3**
	baz=313						
TWT	**Tachien**	**0.75**	**256**	*e*P	**Pg**	**10 06 59.5**	**+0.5**
	baz=255						
TWT				*e*S	**Sb**	**10 07 09.8**	**+0.3**
	baz=255						
TDCB	**Techi**	**0.77**	**257**	P	**Pg**	**10 06 59.8**	**+0.6**
	baz=255						
TDCB				S	**Sb**	**10 07 09.2**	**-0.7**
	baz=255						
WLTB	**Daxi**	**0.78**	**303**	⇑P	**Pn**	**10 07 00.9**	**0.

YM08	**YM08**	**0.83**	**335**	*eP*	**Pg**	**10 07 01.0**	**+0.6**
	baz=334						
YM08				*eS*	**Sn**	**10 07 13.7**	**-0.1**
	baz=334						
TWS1	**Kuangyinshan**	**0.83**	**323**	*eP*	**Pn**	**10 07 01.8**	**0.0**
	baz=315						
TWS1				*eS*	**Sn**	**10 07 13.9**	**0.0**
	baz=315						
ANP	**Anpu**	**0.86**	**331**	*eP*	**Pn**	**10 07 01.9**	**-0.3**
	baz=331						
NTST	**Danshui**	**0.87**	**327**	*eP*	**Pn**	**10 07 02.2**	**0.0**
	baz=326						
OWD	**Renai**	**0.87**	**237**	*eP*	**Pg**	**10 07 01.5**	**+0.3**
	baz=230						
JYNG	**Yonagunijimaku**	**0.89**	**89**	P	**Pb**	**10 07 01.7**	**+0.2**
JYNG				S	**Sb**	**10 07 13.2**	**0.0**
NCU	**National Centr**	**0.89**	**307**	*eP*	**Pn**	**10 07 03.2**	**+0.7**
	baz=306						
NCU				*eS*	**Sn**	**10 07 15.4**	**+0.1**
	baz=306						
NCUH	**Zhongli**	**0.89**	**307**	*eP*	**Pn**	**10 07 03.4**	**+0.8**
	baz=306						
NCUH				*eS*	**Sn**	**10 07 16.9**	**+1.6**
	baz=306						
LIOB	**Emei**	**0.90**	**284**⇓	*eP*	**Pb**	**10 07 00.8**	**-0.9**
	baz=283						
LIOB				*eS*	**Sb**	**10 07 11.8**	**-1.8**
	baz=283						
NSTT	**Nanjuang**	**0.91**	**283**	*eP*	**Pn**	**10 07 02.6**	**-0.1**
	baz=281						
NSTT				*eS*	**Sg**	**10 07 14.2**	**+0.4**
	baz=281						
EGFH	**Guangfu**	**0.91**	**213**	*eP*	**Pb**	**10 07 01.9**	**-0.1**
	baz=225						
YOJ	**Yonaguni jima**	**0.95**	**88**	⇓P	**Pb**	**10 07 02.7**	**+0.1**
	baz=89						
YOJ				*eS*	**Sb**	**10 07 15.5**	**+0.6**
	baz=89						
YOJ	**Yonaguni jima**	**0.95**	**88**	P	**Pb**	**10 07 02.6**	**0.0**
YOJ				*eS*	**Sb**	**10 07 15.0**	**0.0**
WHP	**Taichung City**	**0.95**	**261**	⇓P	**Pn**	**10 07 03.7**	**+0.3**
	baz=260						
WHP				*eS*	**Sg**	**10 07 15.6**	**+0.4**
	baz=260						
SBCB	**Hsinchu**	**0.97**	**292**⇓	*eP*	**Pn**	**10 07 04.2**	**+0.6**
	baz=284						
SBCB				*eS*	**Sn**	**10 07 19.2**	**+2.0**
	baz=284						
VWDT	**VWDT**	**1.02**	**229**	*eP*	**Pn**	**10 07 04.2**	**-0.1**
	baz=234						
HGSD	**Ruisui**	**1.06**	**208**	*eP*	**Pg**	**10 07 06.0**	**+1.1**
	baz=208						
NMLH	**Miaoli**	**1.08**	**276**	*eP*	**Pg**	**10 07 06.9**	**+1.7**
	baz=274						
EHY	**Hungye**	**1.10**	**213**	*eP*	**Pg**	**10 07 06.0**	**+0.5**
	baz=225						
NSY	**Sanyi**	**1.10**	**269**	*eP*	**Pg**	**10 07 06.9**	**+1.2**
	baz=268						
SMLT	**Sun Moon Lake**	**1.12**	**241**	⇓P	**Pg**	**10 07 06.4**	**+0.4**
	baz=240						
SSLB	**Suanglung**	**1.13**	**236**	⇓P	**Pg**	**10 07 06.4**	**+0.2**
	baz=242						
SSLB				*eS*	**Sb**	**10 07 19.9**	**-0.5**
	baz=242						
TYC	**Yuchr**	**1.15**	**243**	*eP*	**Pg**	**10 07 06.8**	**+0.3**
	baz=242						
PTSB	**Yuanli**	**1.16**	**271**	*eP*	**Pg**	**10 07 08.1**	**+1.5**
	baz=270						
PTSB				*eS*	**Sg**	**10 07 23.8**	**+2.1**
	baz=270						
YULB	**Yu-li**	**1.21**	**211**	*eP*	**Pg**	**10 07 07.8**	**+0.2**
	baz=211						
WDJ	**Dajia District**	**1.22**	**266**	*eP*	**Pg**	**10 07 09.5**	**+1.7**
	baz=265						
WHYT	**Xinyi Township**	**1.26**	**235**	*eP*	**Pg**	**10 07 08.9**	**+0.3**
	baz=234						
WJS	**Zhushan**	**1.29**	**242**	*eP*	**Pg**	**10 07 10.2**	**+1.0**
	baz=234						
FULB	**Fuli**	**1.38**	**207**	*eP*	**Pg**	**10 07 11.5**	**+0.7**
	baz=224						
IRIF	**Iriomote-Funau**	**1.60**	**93**	P	**Pn**	**10 07 12.1**	**-0.2**
IRIF				*eS*	**Sn**	**10 07 32.7**	**-0.2**
STYT	**Tauyuan**	**1.69**	**222**	*eP*	**Pg**	**10 07 16.6**	**-0.1**
	baz=223						
TWGBT	**Beinan**	**1.81**	**207**	*eP*	**Pn**	**10 07 15.6**	**+0.5**
	baz=209						
SNST	**Tainan City**	**1.81**	**229**	*eP*	**Pg**	**10 07 19.2**	**+0.1**
	baz=231						
JKRS	**Kuro-shima**	**1.87**	**96**	P	**Pn**	**10 07 16.3**	**+0.4**
JKRS				S	**Sn**	**10 07 38.9**	**-0.4**
SLGT	**Liugui**	**1.88**	**221**	*eP*	**Pb**	**10 07 19.3**	**+0.8**
	baz=222						
JIJ	**Ishigaki jima**	**1.98**	**92**	P	**Pn**	**10 07 17.4**	**-0.1**
JIJ				S	**Sn**	**10 07 40.5**	**-1.6**
JISG	**Ishigakijimahi**	**2.13**	**85**	P	**Pn**	**10 07 19.1**	**-0.5**
JISG				S	**Sn**	**10 07 45.6**	**-0.3**
MASBT	**Mashibuluo**	**2.19**	**214**	*eP*	**Pb**	**10 07 22.7**	**-1.1**
	baz=217						
EAST	**Anshuo**	**2.29**	**207**	*eP*	**Pb**	**10 07 24.3**	**-1.2**
	baz=198						
VWUC	**VWUC**	**2.36**	**284**	*eP*	**Pn**	**10 07 23.1**	**+0.3**
	baz=282						
WDGT	**Dungji**	**2.42**	**242**	*eP*	**Pb**	**10 07 26.2**	**-1.5**
	baz=243						
MATB	**Ma-tsu**	**2.51**	**313**	*eP*	**Pn**	**10 07 25.3**	**+0.6**
	baz=311						
VCHM	**Qimei**	**2.63**	**243**	*eP*	**Pb**	**10 07 29.2**	**-2.1**
	baz=245						

IDC 17 10:59:58.0±2.2, 7°00S×128°38E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/23, mbtmp3.1/3, ML3.4/2, Error ellipse: s-maj=199.9km s-min=31.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.11**	**156**	Pn	Pn	11 03 20.1	+0.8
	0.2nm,0.3s,baz=331,slow=14,SNR=19						
WRA				Sn	Sn	11 05 43.0	-14
	0.6nm,0.3s,baz=333,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.40**	**163**	P	Pn	11 04 01.9	-0.6
	0.1nm,0.3s,baz=339,slow=10.0,SNR=8.1						
ASAR				S	Sn	11 07 05.5	-11
	0.1nm,0.3s,baz=348,slow=26,SNR=5.8						
MKAR	**Makanchi Array**	**67.35**	**328**	P	P	11 10 55.1	0.0
	0.1nm,0.4s,baz=131,slow=7.9,SNR=2.9						

ISCJB 17 11:26:28.6±0.7, 31°61S±0°03×69°58W±0°04, h122km±6km, Error ellipse: s-maj=5.9km s-min=4.1km az=21.1
GUC 17 11:26:28.3±0.6, 31°62S×70°03W, h151km±3km, ML3.8
SJA 17 11:26:28.4±0.6, 31°61S×69°64W, h111km±3km, ML3.6, MW3.7

ISC 17 11:26:28.4±1.5, 31°63S±0°03×69°59W±0°04, h124km±10km, n28, σ1§02/46, 5C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.30**	**124**	*eP*	**Pn**	**11 26 46.0**	**-0.2**
RTLS				*eS*	**Sn**	**11 26 58.7**	**-1.0**
AUSP	**Uspallata**	**0.61**	**164**	*eP*	**Pn**	**11 26 47.8**	**-0.1**
AUSP				*eS*	**Sn**	**11 27 02.3**	**-0.4**
ZON	**Zonda**	**0.78**	**84**	*eP*	**Pn**	**11 26 48.6**	**-0.3**
RTCV	**Cerro Valdivia**	**0.93**	**105**	*eP*	**Pn**	**11 26 50.3**	**+0.2**
RTCV				*eS*	**Sn**	**11 27 06.2**	**-0.3**
RTLL	**Cerro Villicun**	**1.00**	**73**	*eP*	**Pn**	**11 26 50.8**	**-0.1**
RTLL				*eS*	**Sn**	**11 27 07.5**	**-0.4**
RTLL				IAML		11 27 08.2	
	comp=E,788nm,0.5s						
RTLL	**Cerro Villicun**	**1.00**	**73**⇓	*iP*	**Pn**	**11 26 50.7**	**-0.1**
RTLL				*i* S	**Sn**	**11 27 07.2**	**-0.7**
ACCO	**Cerro Coronel**	**1.13**	**24**	*eP*	**Pn**	**11 26 52.8**	**+0.3**
ACCO				*eS*	**Sn**	**11 27 10.4**	**-0.3**
CFA	**Coronel Fontan**	**1.16**	**89**	*eP*	**Pn**	**11 26 52.5**	**+0.2**
CFA				*eS*	**Sn**	**11 27 10.7**	**+0.2**
AMOG	**MOGNA**	**1.17**	**54**	*eP*	**Pn**	**11 26 52.8**	**+0.3**
CMCH	**Combarbala**	**1.29**	**290**	*eP*	**Pn**	**11 26 54.1**	**+0.3**
CMCH				*i* S	**Sn**	**11 27 13.0**	**-0.2**
AROD	**Rodeo**	**1.46**	**4**	*eP*	**Pn**	**11 26 57.2**	**+1.1**
AROD				*eS*	**Sn**	**11 27 17.1**	**0.0**
ACDV	**Cuesta del Vie**	**1.51**	**16**	*eP*	**Pn**	**11 26 57.0**	**+0.6**
PEL	**Peldehue**	**1.77**	**211**	*eP*	**Pn**	**11 26 59.8**	**+0.4**
PEL	**Peldehue**	**1.77**	**211**⇓	*iP*	**Pn**	**11 26 59.7**	**+0.4**
PEL				*i* S	**Sn**	**11 27 23.1**	**+0.2**
PEL				IAML		11 27 24.1	
	comp=E,522nm,0.3s						
GO04	**Tololo Observa**	**1.79**	**324**	*eP*	**Pn**	**11 26 59.6**	**-0.1**
GO04	**Tololo Observa**	**1.79**	**324**⇑	*iP*	**Pn**	**11 26 59.9**	**+0.1**
GO04				*i* S	**Sn**	**11 27 24.0**	**+0.4**
FCH	**Farellones**	**1.79**	**199**⇑	*iP*	**Pn**	**11 27 01.2**	**+1.4**
FCH				*i* S	**Sn**	**11 27 25.9**	**+2.0**
FCH				IAML		11 27 26.9	
	comp=E,1μm,0.3s						
ROCH	**El Roble**	**1.80**	**222**⇓	*iP*	**Pn**	**11 26 59.9**	**+0.1**
ROCH				*i* S	**Sn**	**11 27 24.0**	**+0.2**
ROCH				IAML		11 27 27.9	
	comp=N,602nm,0.5s						
ROC1	**El Roble**	**1.80**	**222**	*eP*	**Pn**	**11 26 59.9**	**0.0**
CLCH	**Cerro Calan**	**1.93**	**204**⇑	*iP*	**Pn**	**11 27 02.3**	**+1.0**
CLCH				*i* S	**Sn**	**11 27 27.5**	**+1.0**
CLCH				IAML		11 27 31.3	
	comp=N,1μm,0.3s						
ANTU	**Antumapu**	**2.12**	**204**	*eP*	**Pn**	**11 27 04.1**	**+0.5**
ANTU				*i* S	**Sn**	**11 27 31.6**	**+0.9**
ANTU				IAML		11 27 34.3	
	comp=E,1μm,0.2s						
ACAN	**Cantantal**	**2.14**	**108**	*eP*	**Pn**	**11 27 04.5**	**+0.7**
LMEL	**Las Melosas**	**2.27**	**193**⇑	*iP*	**Pn**	**11 27 06.8**	**+1.2**
LMEL				*eS*	**Sn**	**11 27 36.1**	**+2.0**
LMEL				IAML		11 27 40.9	
	comp=N,679nm,0.1s						
AGUA	**GUANDACOL**	**2.34**	**24**	*eP*	**Pn**	**11 27 07.9**	**+1.4**
LCO	**Las Campanas**	**2.78**	**340**	*eP*	**Pn**	**11 27 12.5**	**+0.2**
LCO				*eS*	**Sn**	**11 27 45.4**	**-0.6**
LCO	**Las Campanas**	**2.78**	**340**⇑	*iP*	**Pn**	**11 27 12.4**	**+0.1**
GO05	**Huala**	**3.90**	**210**	*eP*	**Pn**	**11 27 24.3**	**-2.3**
GO05				*eS*	**Sn**	**11 28 07.8**	**-4.0**
TCA	**Tanti**	**4.28**	**87**	*eP*	**Pn**	**11 27 31.5**	**-0.3**

ISCJB 17 11:27:36.0±1.0, 24°16S±0°10×180°0E±0°2, h500km, mb4.0/6, Error ellipse: s-maj=22.6km s-min=12.8km az=1.3
IDC 17 11:27:36.4±2.0, 24°16S×179°99E, h498km±16km, mb3.6/6, mb1 3.8/7, mb1mx3.2/35, mbtmp4.5/7, Error ellipse: s-maj=34.8km s-min=20.8km az=148.0

ISC 17 11:27:36.5±0.9, 24°3S±0°1×179°9W±0°2, h500km, n11, σ1§26/16, mb4.0/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.78**	**277**	P	**P**	**11 30 25.2**	**+1.7**
	0.5nm,0.3s,baz=190,slow=8.8,SNR=10.0						
URZ	**Urewera**	**14.18**	**190**	P	**P**	**11 30 38.2**	**+0.3**
	0.6nm,0.3s,baz=180,slow=20,SNR=5.0						
URZ				S	**S**	**11 33 07.2**	**-0.3**
	1.2nm,0.3s,baz=206,slow=18,SNR=11						
STKA	**Stephens Creek**	**34.69**	**249**	P	**P**	**11 33 43.8**	**-0.2**
	3.5nm,0.4s,baz=93,slow=11,SNR=24						
ASAR	**Alice Springs**	**42.09**	**261**	P	**P**	**11 34 43.3**	**-1.0**
	4.9nm,0.5s,baz=95,slow=7.0,SNR=277						
ASAR				ScP	**ScP**	**11 39 30.4**	**+0.1**
	0.9nm,0.8s,baz=113,slow=4.6,SNR=7.2						
WRA	**Warramunga Arr**	**42.50**	**266**	P	**P**	**11 34 46.0**	**-1.6**
	13nm,0.5s,baz=98,slow=8.4,SNR=326						
WRA				ScP	**ScP**	**11 39 32.8**	**+0.8**
	2.0nm,1.1s,baz=97,slow=4.2,SNR=8.4						
PETK	**Petropavlovsk-**	**79.49**	**346**	P	**P**	**11 38 49.7**	**-0.7**
	1.5nm,0.6s,baz=160,slow=4.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.77**	**290**	P	**P**	**11 39 41.6**	**0.0**
	0.8nm,0.7s,baz=132,slow=3.1,SNR=7.0						
TXAR	**Lajitas Array**	**90.53**	**58**	P	**P**	**11 39 46.0**	**+1.0**
	0.6nm,0.7s,baz=213,slow=6.8,SNR=7.6						
FINES	**FINESS Array B**	**138.84**	**341**	PKP	**PKPdf**	**11 46 04.1**	**-0.8**
	1.7nm,1.0s,baz=40,slow=5.3,SNR=2.5						
FINES				SKPbc	**SKPbc**	**11 48 50.8**	**-1.7**
	0.9nm,0.5s,baz=62,slow=4.5,SNR=7.7						
AKASG	**Malin Array Be**	**145.35**	**327**	PKPbc	**PKPdf**	**11 46 16.0**	**-0.8**
	1.2nm,0.4s,baz=47,slow=4.4,SNR=7.6						
AKASG				SKPbc	**SKPbc**	**11 49 07.8**	**-1.2**
	0.1nm,0.3s,baz=42,slow=3.1,SNR=4.4						
BRTR	**Keskin Array B**	**147.89**	**307**	PKPbc	**PKPdf**	**11 46 24.1**	**+2.5**
	0.7nm,0.7s,baz=54,slow=3.3,SNR=3.0						

NIED 17 11:32:00, 40°20N×143°50E, h14km, Mw3.6 Best double couple: M₀2.68000×10¹⁴ NP1:φs340.00000°, δ33.00000°, λ-146.00000°. NP2:φs220.00000°, δ72.00000°, λ-61.00000°.
IDC 17 11:32:49.7±0.8, 40°14N×143°71E, h0km, mb3.6/11, mb1 3.7/14, mb1mx3.6/36, mbtmp3.6/14, ML2.8/3, Error ellipse: s-maj=22.6km s-min=15.9km az=102.0
JMA 17 11:32:52.5±0.2, 40°23N×143°51E, h18km±3km, M3.5

ISC 17 11:32:50.6±3.6, 40°20N±0°05×143°63E±0°07, h6km±23km, n35, σ1§28/39, mb3.6/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.38**	**260**	P	**Pn**	**11 33 15.7**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.47**	**271**	P	**Pn**	**11 33 16.8**	**-0.9**
JKEN				*eS*	**Sn**	**11 33 34.3**	**-2.9**
MIYJ	**Miyakonagasawa**	**1.52**	**247**	P	**Pn**	**11 33 18.1**	**-0.3**
MIYJ				S	**Sn**	**11 33 36.8**	**-1.8**
JANG	**Nango**	**1.63**	**277**	P	**Pn**	**11 33 19.5**	**-0.3**
JEM	**Erimo**	**1.85**	**349**	P	**Pb**	**11 33 23.8**	**-1.1**
JEM				*eS*	**Sn**	**11 33 45.9**	**-0.7**
JOM	**Ohasama**	**1.94**	**249**	P	**Pn**	**11 33 24.7**	**+0.6**
JTM	**Tenmabayashi**	**2.04**	**288**	P	**Pn**	**11 33 25.8**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.18**	**343**	P	**Pn**	**11 33 27.9**	**+0.4**
JNBK				*eS*	**Sn**	**11 33 54.2**	**-0.6**
JMK	**Ichinoseki**	**2.24**	**237**	P	**Pn**	**11 33 28.6**	**+0.4**
JMK				*eS*	**Sn**	**11 33 55.9**	**-0.3**
JOT	**Ohata**	**2.29**	**302**	P	**Pn**	**11 33 29.1**	**+0.2**
JOT				*eS*	**Sn**	**11 33 55.9**	**-1.5**
JAH	**Hinai**	**2.29**	**271**	P	**Pn**	**11 33 30.0**	**+1.0**
JCH	**Churui**	**2.42**	**355**	P	**Pn**	**11 33 30.8**	**0.0**
JCH				S	**Sn**	**11 33 59.4**	**-1.3**
JKB	**Kayabe**	**2.59**	**312**	P	**Pn**	**11 33 34.4**	**+1.3**
JYK	**Kaneyama**	**2.83**	**244**	P	**Pn**	**11 33 37.2**	**+0.8**
JYK				S	**Sn**	**11 34 10.5**	**-0.3**
JAK	**Akkeshi**	**2.91**	**16**	P	**Pn**	**11 33 37.3**	**-0.1**
JAK				S	**Sn**	**11 34 09.2**	**-3.5**
ASAJ	**Asahikawa**	**3.99**	**349**	Pn	**Pn**	**11 33 53.2**	**+0.9**
	1.0nm,0.3s,baz=240,slow=11,SNR=8.5						
ASAJ				Sn	**Sn**	**11 34 42.2**	**+2.8**
	1.1nm,0.3s,baz=201,slow=17,SNR=2.8						
MJAR	**Matsushiro Arr**	**5.61**	**231**	Pn	**Pn**	**11 34 16.3**	**+1.7**
	0.2nm,0.3s,baz=40,slow=11,SNR=24						
USRK	**Ussuriysk Ar.**	**9.52**	**299**	Pn	**Pn**	**11 35 10.8**	**+2.7**
	0.4nm,0.3s,baz=89,slow=14,SNR=7.0						
SEY	**Seymchan**	**23.37**	**10**	P	**P**	**11 37 59.9**	**+0.3**
	1.0nm,0.6s,baz=204,slow=8.6,SNR=10						
SONM	**Songino Array**	**27.63**	**298**	P	**P**	**11 38 39.0**	**0.0**
	0.5nm,0.6s,baz=79,slow=8.1,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**28.52**	**129**	T	T	12 09 01.8	
	baz=321,slow=75,SNR=8.1						
H11N1	**WAKE ISLAND Hy**	**28.53**	**129**	T	T	12 08 58.6	
	baz=321,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**28.54**	**129**	T	T	12 08 56.6	
	baz=321,slow=75,SNR=6.8						
H11S1	**WAKE ISLAND Hy**	**29.36**	**131**	T	T	12 09 41.0	
	baz=322						
H11S3	**WAKE ISLAND Hy**	**29.36**	**131**	T	T	12 09 41.0	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**29.38**	**131**	T	T	12 09 44.0	
	baz=322						
ZALV	**Zalesovo Beam**	**41.15**	**310**	P	**P**	**11 40 36.0**	**+0.6**
	0.9nm,0.5s,baz=94,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**43.99**	**300**	P	**P**	**11 40 58.7**	**+0.1**
	0.4nm,0.5s,baz=83,slow=11,SNR=6.5						
ILAR	**Eielson Array**	**45.90**	**34**	P	**P**	**11 41 13.9**	**+0.4**
	0.3nm,0.6s,baz=258,slow=5.8,SNR=5.9						
INK	**Inuvik**	**50.78**	**28**	P	**P**	**11 41 51.9**	**+0.8**
	0.4nm,0.4s,baz=298,slow=5.6,SNR=5.0						
YKA	**Yellowknife Ar**	**60.21**	**32**	P	**P**	**11 42 58.8**	**-0.2**
	0.1nm,0.5s,baz=302,slow=6.4,SNR=3.5						
WRA	**Warramunga Arr**	**60.45**	**190**	P	**P**	**11 43 00.1**	**-1.1**
	0.5nm,0.6s,baz=9.1,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**64.18**	**190**	P	**P**	**11 43 26.2**	**+0.2**
	0.3nm,0.9s,baz=14,slow=5.3,SNR=4.2						
FINES	**FINESS Array B**	**66.83**	**332**	P	**P**	**11 43 42.7**	**0.0**
	1.3nm,0.9s,baz=41,slow=6.1,SNR=3.4						
AKASG	**Malin Array Be**	**72.85**	**323**	P	**P**	**11 44 20.9**	**+0.8**
	0.3nm,0.4s,baz=45,slow=6.2,SNR=4.1						

MDD 17 11:37:20.8±1.1, 28°93N×16°34W, h55km±10km, mb3.7/9,
2C-3D, Error ellipse: s-maj=13.9km s-min=7.6km az=172.0, PRXIMO TT-model: canary, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EBAJ	**Bajamar**	**0.39**	**180**⇑	P	Pn	11 37 30.7	-0.5
	38nm,0.2s,SNR=18						
EBAJ				S	Sn	11 37 38.5	-0.2
	11nm,0.1s,SNR=15						
CRAJ	**Montana Rajada**	**0.70**	**199**	P	Pn	11 37 34.6	-0.5
	8.8nm,0.0s,SNR=7.9						
CRAJ				S	Sn	11 37 45.6	+0.1
	53nm,0.1s,SNR=5.6						
CCAN	**Las Canadas**	**0.74**	**198**⇓	P	Pn	11 37 35.1	-0.4
	6.6nm,0.1s,SNR=18						
CCAN				S	Sn	11 37 44.1	-2.2
	2.4nm,0.1s,SNR=13						
EGOM	**La Gomera**	**1.09**	**225**⇓	P	Pn	11 37 38.6	-1.1
	4.5nm,0.1s,SNR=18						
EGOM				S	Sn	11 37 52.2	-1.6
	61nm,0.1s,SNR=22						
EOSO	**Osorio**	**1.10**	**141**⇑	P	Pn	11 37 39.4	-0.7
	15nm,0.2s,SNR=18						
EOSO				S	Sn	11 37 53.3	-1.0
	19nm,0.1s,SNR=6.1						
EHIG	**Higuera**	**1.34**	**254**	S	Sn	11 37 57.2	-2.9
	28nm,0.1s,SNR=7.9						
TBT	**Taburiente**	**1.41**	**260**	P	Pn	11 37 43.6	-0.5
	16nm,0.2s,SNR=7.9						
TBT				S	Sn	11 37 56.6	-4.9
	32nm,0.1s,SNR=7.9						
CTIG	**El Hierro**	**1.80**	**231**	P	Pn	11 37 49.5	+0.1
	1.5nm,0.1s,SNR=7.9						
CTIG				S	Sn	11 38 09.8	-1.3
	16nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**1.87**	**230**	P	Pn	11 37 49.2	-1.1
	0.4nm,0.1s,SNR=7.9						
CHIE				S	Sn	11 38 11.9	-0.9
	2.1nm,0.2s,SNR=7.9						
CCUM	**Cumbre, El Hie**	**1.90**	**232**	P	Pn	11 37 50.1	-0.7
	2.3nm,0.1s,SNR=7.9						
CCUM				S	Sn	11 38 12.8	-0.9
	12nm,0.1s,SNR=7.9						
CMCL	**Mercadel, El H**	**1.92**	**231**⇓	P	Pn	11 37 51.1	-0.1
	13nm,0.1s,SNR=18						
CMCL				S	Sn	11 38 13.7	-0.5
	8.9nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**2.13**	**97**	S	Sn	11 38 12.8	-6.5
	4.6nm,0.0s,SNR=7.9						
EFAM	**Famara**	**2.47**	**85**	S	Sn	11 38 20.6	-7.0
	0.8nm,0.1s,SNR=7.9						

NIED 17 11:45:00, 37°50N×143°60E, h5km, Mw3.8 Best double couple: M₀6.43000×10¹⁴ NP1:φs65.00000°, δ34.00000°, λ-15.00000°. NP2:φs168.00000°, δ82.00000°, λ-123.00000°.
IDC 17 11:45:36.3±0.9, 37°38N×143°72E, h0km, mb3.6/8, mb1 3.8/13, mb1mx3.6/49, mbtmp3.8/13, ML3.7/5, MS2.7/5, Ms1 2.7/5, ms1mx2.4/42, Error ellipse: s-maj=23.1km s-min=15.6km az=104.0
ISCJB 17 11:45:38.7±0.5, 37°43N±0°03×143°57E±0°05, h33km, mb3.5/8, Error ellipse: s-maj=5.3km s-min=4.0km az=14.7
JMA 17 11:45:39.3±0.2, 37°49N×143°56E, h53km, M4.1

ISC 17 11:45:40.7±0.8, 37°48N±0°04×143°61E±0°07, h35km, n42, σ1§75/54, mb3.6/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.89**	**297**	P	**Pn**	**11 46 09.5**	**-0.9**
JIKH				S	**Sn**	**11 46 31.5**	**-1.4**
JIO	**Ouri**	**2.03**	**299**	P	**Pn**	**11 46 11.6**	**-0.8**
JIO				S	**Sn**	**11 46 35.1**	**-1.4**
JKMT	**Kesennumamotoy**	**2.15**	**309**	P	**Pn**	**11 46 13.0**	**-0.9**
JKMT				S	**Sn**	**11 46 38.0**	**-1.3**
JFK	**Kawauchi**	**2.18**	**268**	P	**Pn**	**11 46 13.4**	**-1.0**
JFK				S	**Sn**	**11 46 38.5**	**-1.7**
OFUJ	**Ofunato**	**2.21**	**317**	P	**Pn**	**11 46 13.7**	**-1.1**
OFUJ				S	**Sn**	**11 46 39.4**	**-1.6**
JMK	**Ichinoseki**	**2.39**	**309**	P	**Pn**	**11 46 16.6**	**-0.7**
JFT	**Otama**	**2.60**	**272**	P	**Pn**	**11 46 20.2**	**0.0**
JFT				S	**Sn**	**11 46 50.3**	**-0.3**
JOM	**Ohasama**	**2.70**	**318**	P	**Pn**	**11 46 21.0**	**-0.5**
JOM				S	**Sn**	**11 46 52.1**	**-0.8**
JYK	**Kaneyama**	**2.94**	**300**	P	**Pn**	**11 46 24.8**	**0.0**
JYK				S	**Sn**	**11 46 58.5**	**-0.3**
JANG	**Nango**	**3.32**	**331**	P	**Pn**	**11 46 29.9**	**-0.2**
JANG				S	**Sn**	**11 47 06.5**	**-1.9**
JAG	**Ashikaga**	**3.49**	**254**	P	**Pn**	**11 46 31.9**	**-0.5**
JAG				S	**Sn**	**11 47 10.9**	**-1.5**
BSO1	**Boso 1**	**3.53**	**218**	P	**Pn**	**11 46 31.1**	**-1.4**
BSO1				*eS*	**Sn**	**11 47 11.2**	**-1.5**
JAW	**Awa shima**	**3.58**	**287**	P	**Pn**	**11 46 34.1**	**+0.5**
JRY	**Ryogami san**	**4.05**	**250**	P	**Pn**	**11 46 39.4**	**-0.7**
JRY				S	**Sn**	**11 47 24.1**	**-2.2**
JOD2	**Odawara 2**	**4.26**	**240**	P	**Pn**	**11 46 42.4**	**-0.7**
JOD2				S	**Sn**	**11 47 28.0**	**-3.6**
JOT

*IDC **17** 11:49:21.5±2.3, 9.36S×116.24E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.7/52, mbtmp3.8/8, ML4.1/1, Error ellipse: s-maj=145.1km s-min=18.1km az=50.0*

*ISCJB **17** 11:49:24.3±0.4, 9.91S±0.04×115.91E±0.03, h33km, mb4.2/11, Error ellipse: s-maj=6.6km s-min=3.6km az=24.2*

*NEIC **17** 11:49:28.4±2.5, 9.79S×115.91E, h59km±5km, mb4.1/7, Error ellipse: s-maj=23.1km s-min=8.6km az=215.0*

*DJA **17** 11:49:29.3±0.8, 10°S±4°×11°6E±°, h33km±13km, M4.1/12, mb4.1/1, MLv4.1/12*

ISC 17 11:49:25.3±0.5, 9.96S±0.06×115.95E±0.04, h35km, n48, σ2§59/56, mb4.0/11, South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**1.47**	**330**	P	**Pn**	**11 49 49.3**	**0.0**
DNP				S	**Sn**	**11 50 05.9**	**-1.4**
SRBI	**Singaraja**	**2.00**	**338**	P	**Pn**	**11 49 58.1**	**+1.5**
PLAI	**Plampang**	**2.12**	**58**	P	**Pn**	**11 50 00.4**	**+2.1**
PLAI				S	**Sn**	**11 50 22.6**	**-0.8**
JAGI	**Jajag, Banyuwa**	**2.31**	**310**	*e*Pn	**Pn**	**11 50 01.8**	**+0.9**
JAGI				*e*Sn	**Sn**	**11 50 27.2**	**-1.0**
JAGI	**Jajag, Banyuwa**	**2.31**	**310**	P	**Pn**	**11 50 01.7**	**+0.8**
JAGI				S	**Sn**	**11 50 26.8**	**-1.4**
BLJI	**Banyuglugur**	**3.20**	**313**	P	**Pn**	**11 50 15.6**	**+2.4**
BLJI				S	**Sn**	**11 50 49.4**	**-0.7**
KMMI	**Kalianget**	**3.49**	**326**	P	**Pn**	**11 50 20.4**	**+3.2**
PWJI	**Pagerwojo**	**4.53**	**295**	P	**Pn**	**11 50 33.3**	**+1.9**
PWJI				S	**Sn**	**11 51 22.0**	**-0.8**
PCJI	**Pacitan**	**5.03**	**290**	P	**Pn**	**11 50 39.2**	**+0.9**
PCJI				S	**Sn**	**11 51 34.5**	**-0.8**
NGJI	**Ngawi**	**5.13**	**300**	P	**Pn**	**11 50 43.1**	**+3.4**
UGM	**Wanagama**	**5.74**	**290**	*e*Pn	Pn	11 50 52.8	+4.8
UGM				*e*Sn	**Sn**	**11 51 58.0**	**+5.3**
EDFI	**Ende, Flores**	**5.79**	**79**	P	**Pn**	**11 50 53.4**	**+4.6**
EDFI				S	**Sn**	**11 51 59.1**	**+5.0**
SMRI	**Semarang**	**6.17**	**297**	*e*Pn	Pn	11 50 58.9	+4.9
KAPI	**Kappang**	**6.19**	**38**	*e*Pn	**Pn**	**11 50 56.0**	**+1.8**
KAPI				*e*Sn	**Sn**	**11 52 03.5**	**-0.3**
MMRI	**Maumere**	**6.34**	**79**	*e*Pn	Pn	11 51 01.4	+5.0
FITZ	**Fitzroy Crossi**	**12.40**	**132**	*e*Pn	**Pn**	**11 52 19.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.40**	**132**	Pn	**Pn**	**11 52 20.6**	**+1.1**
	0.9nm,0.3s,baz=312,slow=9.8,SNR=19						
FITZ				Sn	**Sn**	**11 54 31.3**	**-5.1**
	0.9nm,0.3s,baz=348,slow=22,SNR=6.9						
GIRL	**Giralia**	**12.72**	**187**	*e*Pn	**Pn**	**11 52 24.9**	**+1.1**
WR1	**Warramunga Arr**	**20.33**	**121**	*e*P	Pn	11 54 01.2	+0.4
	1.2nm,0.8s						
WR1				*e*S	**S**	**11 57 37.7**	**-7.2**
WRA	**Warramunga Arr**	**20.33**	**121**	P	Pn	11 54 01.2	+0.4
	1.5nm,0.7s,baz=298,slow=12,SNR=17						
WRA				S	**S**	**11 57 37.7**	**-7.2**
	0.3nm,0.6s,baz=290,slow=25,SNR=3.4						
WB2	**Warramunga Arr**	**20.34**	**121**	*e*P	Pn	11 54 01.3	+0.3
ASAR	**Alice Springs**	**21.90**	**131**	P	**P**	**11 54 18.6**	**+3.0**
	1.3nm,0.7s,baz=302,slow=9.3,SNR=24						
ASAR				S	**S**	**11 58 20.0**	**+4.2**
	0.6nm,0.7s,baz=302,slow=23,SNR=7.7						
AS31	**Alice Springs**	**21.90**	**131**	*e*P	**P**	**11 54 18.5**	**+2.9**
	0.7nm,0.6s						
AS01	**Alice Springs**	**21.93**	**131**	*e*P	**P**	**11 54 18.7**	**+2.7**
UTTA	**Uttaradit**	**31.45**	**331**	P	**P**	**11 55 44.9**	**+1.3**
CM01	**Chiang Mai Arr**	**32.81**	**329**	*e*P	**P**	**11 55 55.5**	**-0.1**
CM31	**Chiang Mai Arr**	**32.85**	**329**	*e*P	**P**	**11 55 56.7**	**+0.8**
	2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**32.85**	**329**	P	**P**	**11 55 55.8**	**-0.1**
	1.8nm,0.8s,baz=157,slow=7.4,SNR=11						
YOJ	**Yonaguni jima**	**34.89**	**11**	*e*P	**P**	**11 56 14.8**	**+1.2**
	109nm,1.1s						
RABL	**Rabaul**	**36.37**	**84**	*e*P	**P**	**11 56 24.9**	**-1.7**
	141nm,0.4s						
SHL	**Shillong**	**42.38**	**327**	*e*P	**P**	**11 57 15.9**	**-0.8**
	3.4nm,0.7s						
SONA0	**Songino Array**	**58.16**	**352**	*e*P	**P**	**11 59 13.7**	**-2.1**
SONM	**Songino Array**	**58.16**	**352**	P	**P**	**11 59 13.7**	**-2.1**
	0.7nm,0.6s,baz=174,slow=8.7,SNR=6.1						
MK01	**Makanchi Array**	**63.97**	**335**	*e*P	**P**	**11 59 53.2**	**-1.8**
MK32	**Makanchi Array**	**63.99**	**335**	*e*P	**P**	**11 59 53.6**	**-1.5**
MKAR	**Makanchi Array**	**63.99**	**335**	P	**P**	**11 59 53.6**	**-1.5**
	0.5nm,0.5s,baz=157,slow=7.5,SNR=7.0						
ZALV	**Zalesovo Beam**	**68.91**	**341**	*e*P	**P**	**12 00 23.8**	**-2.7**
ZALV	**Zalesovo Beam**	**68.91**	**341**	P	**P**	**12 00 23.4**	**-3.0**
	1.1nm,0.6s,baz=149,slow=5.3,SNR=5.4						
ZAA1	**Zalesovo Array**	**68.91**	**341**	*e*P	**P**	**12 00 23.4**	**-3.0**
BVAR	**Borovoye Array**	**73.76**	**333**	P	**P**	**12 00 55.0**	**-0.8**
	0.6nm,0.6s,baz=126,slow=7.5,SNR=5.0						
G08A	**Pilot Rock**	**121.42**	**43**	*e*PKPdf	**PKPdf**	**12 08 14.2**	**-1.1**
WMOK	**Wichita Mounta**	**139.83**	**47**	*e*PKPdf	**PKPdf**	**12 08 50.5**	**+0.2**
P53A	**Whipple**	**146.77**	**25**	*e*PKPdf	**PKPab**	**12 09 05.4**	**+0.2**
SSPA	**Standing Stone**	**147.07**	**20**	*e*PKPdf	**PKPbc**	**12 09 05.0**	**+0.1**
N59A	**State Game Lan**	**147.46**	**17**	*e*PKPbc	**PKPbc**	**12 09 06.6**	**+0.6**
LUPA	**Lehigh Univers**	**147.87**	**16**	*e*PKPdf	**PKPdf**	**12 09 04.0**	**-0.1**
LRAL	**Lakeview Retre**	**148.78**	**39**	*e*PKPbc	**PKPbc**	**12 09 10.0**	**+0.3**
BDFB	**Brasilia**	**150.02**	**212**	*e*PKPbc	**PKiKP**	**12 09 16.5**	**+2.2**

*NIED **17** 11:57:00, 40.20N×143.60E, h11km, Mw3.6 Best double couple: M0 2.68000×10^14 NP1:φs 11.00000°, δ 30.00000°, λ -115.00000°. NP2:φs 219.00000°, δ 63.00000°, λ -76.00000°.*

*ISCJB **17** 11:57:56.3±0.6, 40.21N±0.04×143.70E±0.05, h6km, mb3.6/13, Error ellipse: s-maj=7.4km s-min=4.0km az=44.1*

*IDC **17** 11:57:56.7±0.8, 40.12N×143.76E, h0km, mb3.6/13, mb1 3.7/16, mb1mx3.6/54, mbtmp3.6/16, ML2.9/3, Error ellipse: s-maj=20.3km s-min=16.7km az=101.0*

*JMA **17** 11:57:57.8±0.2, 40.24N×143.64E, h13km±3km, M3.5*

ISC 17 11:57:57.7±0.8, 40.18N±0.06×143.70E±0.07, h6km, n34, σ1§40/37, mb3.5/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.43**	**261**	P	**Pn**	**11 58 23.0**	**-1.1**
JKEN	**Kujiedanarisaw**	**1.52**	**272**	P	**Pn**	**11 58 24.3**	**-1.1**
JKEN				S	**Sn**	**11 58 43.4**	**-2.1**
MIYJ	**Miyakonagasawa**	**1.57**	**248**	P	**Pn**	**11 58 25.3**	**-0.7**
MIYJ				S	**Sn**	**11 58 45.4**	**-1.2**
JANG	**Nango**	**1.68**	**277**	P	**Pn**	**11 58 26.5**	**-1.1**
JANG				*e*S	**Sn**	**11 58 47.1**	**-2.3**
JOM	**Ohasama**	**1.98**	**250**	P	**Pn**	**11 58 31.8**	**+0.1**
JTM	**Tenmabayashi**	**2.09**	**288**	P	**Pn**	**11 58 33.1**	**-0.2**
JTM				S	**Sn**	**11 58 58.5**	**-1.1**
JMK	**Ichinoseki**	**2.27**	**238**	P	**Pn**	**11 59 35.7**	**0.0**
JMK				S	**Sn**	**11 59 03.5**	**-0.6**
JCH	**Churui**	**2.44**	**354**	P	**Pn**	**11 58 37.7**	**-0.4**
JCH				S	**Sn**	**11 59 06.3**	**-1.9**
JKB	**Kayabe**	**2.64**	**311**	P	**Pn**	**11 58 41.8**	**+1.1**
JYK	**Kaneyama**	**2.87**	**245**	P	**Pn**	**11 58 44.5**	**+0.5**
JAK	**Akkeshi**	**2.91**	**15**	P	**Pn**	**11 58 44.2**	**-0.3**
JAK				*e*S	**Sn**	**11 59 17.1**	**-2.6**
JAR	**Ashorobuto**	**3.11**	**1**	P	**Pn**	**11 58 46.3**	**-1.0**
JAR				S	**Sn**	**11 59 21.3**	**-3.5**
ASAJ	**Asahikawa**	**4.02**	**349**	Pn	**Pn**	**11 59 00.3**	**+0.6**
	1.3nm,0.3s,baz=199,slow=16,SNR=10						
ASAJ				Sn	**Sn**	**11 59 50.0**	**+3.0**
	0.9nm,0.3s,baz=16,slow=19,SNR=2.5						
MJAR	**Matsushiro Arr**	**5.64**	**232**	Pn	**Pn**	**11 59 22.6**	**+0.6**
	0.1nm,0.3s,baz=40,slow=11,SNR=17						
USRK	**Ussuriysk Ar.**	**9.57**	**299**	Pn	**Pn**	**12 00 18.2**	**+2.3**
	0.4nm,0.3s,baz=142,slow=9.6,SNR=4.9						
SEY	**Seymchan**	**23.37**	**10**	P	**P**	**12 03 05.6**	**-1.1**
	0.8nm,0.7s,baz=249,slow=22,SNR=6.1						
SONM	**Songino Array**	**27.68**	**299**	P	**P**	**12 03 46.4**	**-0.1**
	0.4nm,0.5s,baz=65,slow=8.5,SNR=5.0						
H11N2	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	12 33 55.7	
	baz=321,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**28.48**	**129**	T	T	12 33 45.9	
	baz=321,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**28.49**	**129**	T	T	12 33 45.6	
	baz=321,slow=75,SNR=15						
H11S1	**WAKE ISLAND Hy**	**29.31**	**131**	T	T	12 34 46.9	
	baz=322,slow=76,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**29.32**	**131**	T	T	12 34 45.5	
	baz=322,slow=76,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**29.33**	**131**	T	T	12 34 46.6	
	baz=322,slow=76,SNR=6.4						
ZALV	**Zalesovo Beam**	**41.20**	**310**	P	**P**	**12 05 42.9**	**+0.1**
	0.9nm,0.5s,baz=98,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**44.04**	**300**	P	**P**	**12 06 07.0**	**+0.9**
	0.3nm,0.4s,baz=91,slow=8.6,SNR=7.1						
KURBB	**Kurchatov Arra**	**45.54**	**306**	P	**P**	**12 06 17.9**	**0.0**
	1.9nm,0.4s,baz=79,slow=8.5,SNR=8.7						
ILAR	**Eielson Array**	**45.88**	**34**	P	**P**	**12 06 21.0**	**+0.5**
	0.4nm,0.7s,baz=270,slow=6.4,SNR=7.4						
BVAR	**Borovoye Array**	**49.83**	**311**	P	**P**	**12 06 52.9**	**+1.8**
	0.4nm,0.6s,baz=64,slow=10,SNR=4.1						
INK	**Inuvik**	**50.77**	**28**	P	**P**	**12 06 58.5**	**+0.5**
	0.5nm,0.4s,baz=284,slow=5.1,SNR=5.7						
WRA	**Warramunga Arr**	**60.45**	**190**	P	**P**	**12 08 07.3**	**-0.8**
	0.4nm,0.5s,baz=9.2,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**64.17**	**190**	P	**P**	**12 08 32.5**	**-0.6**
	0.3nm,0.9s,baz=9.8,slow=4.4,SNR=4.1						
FINES	**FINESS Array B**	**66.86**	**332**	P	**P**	**12 08 51.2**	**+1.2**
	1.8nm,1.0s,baz=283,slow=25,SNR=3.4						
AKASG	**Malin Array Be**	**72.89**	**323**	P	**P**	**12 09 27.0**	**-0.3**
	0.3nm,0.4s,baz=48,slow=5.9,SNR=2.7						
PDAR	**Pinedale Array**	**74.20**	**47**	P	**P**	**12 09 36.3**	**+0.8**
	0.2nm,0.5s,baz=343,slow=2.8,SNR=4.1						

IDC 17 11:59:14.6±7.3, 27.08N×87.41E, h0km, mb3.1/3, mb1 3.5/3, mb1mx3.1/51, mbtmp3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/14, Error ellipse: s-maj=403.1km s-min=32.2km az=66.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.29**	**110**	*e*P	Pg	12 00 37.0	+0.2
MKAR	**Makanchi Array**	**20.09**	**350**	P	P	12 03 49.7	+0.1
	0.1nm,0.3s,baz=170,slow=11,SNR=3.4						
AKASG	**Malin Array Be**	**49.58**	**315**	LR	LR	12 31 59.7	
	comp=Z,13nm,19.7s,baz=210,slow=40						
WRA	**Warramunga Arr**	**65.21**	**131**	P	P	12 09 58.4	+0.3
	0.2nm,0.4s,baz=322,slow=6.5,SNR=9.6						
ASAR	**Alice Springs**	**67.54**	**134**	P	P	12 10 12.7	-0.3
	0.3nm,0.6s,baz=311,slow=6.3,SNR=8.4						

IDC 17 12:20:12.3±3.5, 18.91S×167.49E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.6/26, mbtmp3.6/4, ML3.0/1, Error ellipse: s-maj=74.1km s-min=31.6km az=96.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.29**	**197**	Pn	Pn	12 21 05.9	+0.6
	1.7nm,0.3s,baz=78,slow=11,SNR=164						
DZM				Sn	Sn	12 21 44.4	-0.8
	17nm,0.3s,baz=143,slow=17,SNR=20						
WRA	**Warramunga Arr**	**31.25**	**263**	P	P	12 26 33.4	-0.7
	0.3nm,1.0s,baz=96,slow=8.9,SNR=3.0						
ASAR	**Alice Springs**	**31.60**	**255**	P	P	12 26 37.8	+0.6
	1.5nm,0.8s,baz=82,slow=8.7,SNR=15						
SONM	**Songino Array**	**85.97**	**324**	P	P	12 32 54.5	-0.1
	0.3nm,0.4s,baz=117,slow=4.7,SNR=4.4						

IDC 17 12:20:33.5±1.9, 6.57S×148.58E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=99.3km s-min=27.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.18**	**225**	P	Pn	12 24 59.8	0.0
	0.1nm,0.3s,baz=50,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**22.09**	**218**	P	P	12 25 30.1	-0.4
	0.6nm,0.8s,baz=52,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**25.13**	**241**	P	P	12 26 00.2	-0.2
	0.8nm,0.5s,baz=57,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**85.39**	**23**	P	P	12 33 12.7	+0.1
	0.3nm,0.9s,baz=229,slow=5.4,SNR=3.3						

*ISCJB **17** 12:43:44.6±0.1, 20.51S±0.03×178.60W±0.05, h587km, mb4.2/111, Error ellipse: s-maj=6.6km s-min=3.1km az=19.5*

*NEIC **17** 12:43:47.0±0.6, 20.44S×178.68W, h602km±7km, mb4.3/99, Error ellipse: s-maj=7.9km s-min=5.1km az=111.0*

*IDC **17** 12:43:48.6±2.1, 20.39S×178.70W, h618km±25km, mb3.4/19, mb1 3.6/20, mb1mx3.5/36, mbtmp4.4/20, Error ellipse: s-maj=18.1km s-min=9.7km az=154.0*

ISC 17 12:43:45.5±0.4, 20.49S±0.07×178.52W±0.08, h587km, n251, σ1§15/258, mb4.2/111, 11C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.25**	**310**	*e*P	P	**12 45 13.8**	**+1.8**
RAO	**Raoul Island**	**8.74**	**177**	*e*P	P	12 46 01.3	+10
GLKZ	**Green Lake**	**8.75**	**177**	S	**S**	**12 47 32.3**	**-2.6**
MARNC	**Mare, Loyalty**	**12.60**	**263**	*e*P	**P**	**12 46 29.9**	**-0.5**
PINNC	**Pines Island,**	**13.23**	**258**	*e*P	**P**	**12 46 36.7**	**0.0**
DZM	**Mont Dzumac**	**14.10**	**261**	*e*P	**P**	**12 46 46.6**	**+0.8**
DZM	**Mont Dzumac**	**14.10**	**261**	P	**P**	**12 46 45.4**	**-0.4**
	0.5nm,0.3s,baz=257,slow=23,SNR=8.8						
OUZ	**Omahuta**	**16.23**	**204**	*e*P	**P**	**12 47 08.0**	**+2.5**
	57nm,0.8s						
OUZ	**Omahuta**	**16.23**	**204**	P	**P**	**12 47 07.8**	**+2.3**
GRZ	**Great Barrier**	**16.56**	**197**	P	**P**	**12 47 10.5**	**+2.1**
WCZ	**Waipu Caves**	**16.61**	**201**	P	**P**	**12 47 11.3**	**+2.4**
KUZ	**Kuaotunu**	**16.96**	**196**	P	**P**	**12 47 13.6**	**+1.6**
WIAZ	**Waiheke Island**	**17.16**	**198**	P	**P**	**12 47 15.9**	**+2.0**
EPAZ	**Eden Park BICE**	**17.35**	**198**	P	**P**	**12 47 18.5**	**+3.0**
ETAZ	**East Tamaki Re**	**17.37**	**199**	P	**P**	**12 47 17.9**	**+2.1**
MKAZ	**Mokai**	**17.44**	**197**	P	**P**	**12 47 18.1**	**+1.6**
WTAZ	**Waiatarua**	**17.45**	**199**	P	**P**	**12 47 19.0**	**+2.4**
WMGZ	**Waiomatatini S**	**17.47**	**188**	P	**P**	**12 47 15.4**	**-1.2**
HAZ	**Te Kaha**	**17.50**	**190**	P	**P**	**12 47 15.1**	**-1.9**
PKGZ	**Pakihiroa**	**17.58**	**189**	P	**P**	**12 47 20.1**	**+2.3**
PUZ	**Puketiti**	**17.74**	**188**	P	**P**	**12 47 17.3**	**-1.9**
TWGZ	**Tauwhareparae**	**17.88**	**189**	P	**P**	**12 47 19.6**	**-1.0**
TOZ	**Tahuroa Road**	**17.94**	**196**	P	**P**	**12 47 22.4**	**+1.4**
URZ	**Urewera**	**18.10**	**191**	*e*P	**P**	**12 47 21.6**	**-0.9**
	31nm,0.9s						
URZ	**Urewera**	**18.10**	**191**	P	**P**	**12 47 20.7**	**-1.8**
	2.6nm,0.3s,baz=16,slow=2.1,SNR=14						
URZ	**Urewera**	**18.10**	**191**	P	**P**	**12 47 20.0**	**-2.4**
MWZ	**Matawai**	**18.10**	**190**	P	**P**	**12 47 20.5**	**-2.1**
CNGZ	**Cargh Statio**	**18.15**	**188**	P	**P**	**12 47 22.1**	**-0.8**
RRRZ	**Republican Roa**	**18.30**	**193**	P	**P**	**12 47 24.1**	**-0.2**
RIGZ	**Rimuhau**	**18.43**	**189**	P	**P**	**12 47 24.7**	**-0.8**
MTHZ	**Maungatapiwha**	**18.73**	**191**	P	**P**	**12 47 28.2**	**0.0**
RAHZ	**Arahi**	**18.75**	**191**	P	**P**	**12 47 28.2**	**-0.2**
KNZ	**Kokohu**	**18.75**	**189**	P	**P**	**12 47 27.8**	**-0.6**
HIZ	**Hauiti**	**18.85**	**196**	*e*P	**P**	**12 47 32.9**	**+3.6**
	26nm,1.0s						
MHGZ	**Mahia Peninsul**	**18.85**	**189**	P	**P**	**12 47 30.6**	**+1.4**
NMHZ	**Naumai**	**18.97**	**191**	P	**P**	**12 47 29.4**	**-1.0**
BKZ	**Black Stump Fm**	**19.10**	**192**	*e*P	**P**	**12 47 29.4**	**-2.2**
	10.0nm,0.9s						
BKZ	**Black Stump Fm**	**19.10**	**192**	P	**P**	**12 47 29.5**	**-2.1**
KWHZ	**Kaweka Forest**	**19.36**	**192**	P	**P**	**12 47 32.9**	**-1.1**
BHHZ	**Black Hill Sta**	**19.50**	**193**	P	**P**	**12 47 33.7**	**-1.6**
KRHZ	**Kereru**	**19.58**	**192**	P	**P**	**12 47 34.7**	**-1.3**
TSZ	**Takapari Road**	**20.07**	**192**	P	**P**	**12 47 39.8**	**-0.5**
DVHZ	**Dannevirke**	**20.26**	**192**	P	**P**	**12 47 41.3**	**-0.7**
BFZ	**Birch Farm**	**20.61**	**191**	*e*P	**P**	**12 47 44.2**	**-1.0**
	21nm,0.7s						
BFZ	**Birch Farm**	**20.61**	**191**	P	**P**	**12 47 44.0**	**-1.2**
MRZ	**Mangatainoka R**	**20.72**	**193**	P	**P**	**12 47 44.6**	**-1.6**
OGWZ	**Otaki Gorge**	**20.96**	**193**	P	**P**	**12 47 47.2**	**-1.1**
HOWZ	**Holdsworth Sta**	**20.96**	**193**	P	**P**	**12 47 48.3**	**-0.1**
SNZO	**South Karori**	**21.53**	**194**	*e*P	**P**	**12 47 52.8**	**-0.6**
	85nm,1.1s						
TCW	**Tory Channel**	**21.54**	**195**	P	**P**	**12 47 54.6**	**+1.1**
QRZ	**Quartz Range**	**21.65**	**199**	P	**P**	**12 47 54.8**	**+0.3**
NNZ	**Nelson**	**21.77**	**197**	P	**P**	**12 47 55.0**	**-0.6**
THZ	**Tophouse**	**22.41**	**197**	*e*P	**P**	**12 48 02.1**	**+0.8**
	32nm,1.2s						
KHZ	**Kahutara**	**22.86**	**195**	*e*P	**P**	**12 48 04.0**	**-1.2**
	47nm,1.1s						
LTZ	**Lake Taylor**	**23.53**	**197**	*e*P	**P**	**12 48 11.4**	**+0.1**
	11nm,0.6s						
OXZ	**Oxford**	**24.10**	**197**	*e*P	**P**	**12 48 15.9**	**-0.4**
	18nm,1.0s						
CRLZ	**Canterbury Las**	**24.18**	**196**	*e*P	**P**	**12 48 16.0**	**-0.9**
	18nm,1.1s						
MQZ	**McQueen's Vall**	**24.29**	**196**	*e*P	**P**	**12 48 17.1**	**-0.8**
	18nm,1.0s						
RPZ	**Rata Peaks**	**24.74**	**198**	*e*P	**P**	**12 48 22.9**	**+1.0**
	25nm,1.2s						
LBZ	**Lake Benmore**	**25.61**	**199**	*e*P	**P**	**12 48 29.1**	**-0.4**
	4.1nm,1.0s						
MLZ	**Mavora Lakes**	**27.15**	**201**	*e*P	**P**	**12 48 43.5**	**+0.5**
	16nm,0.6s						
WHZ	**Wether Hill Ro**	**27.67**	**201**	*e*P	**P**	**12 48 48.7**	**+1.1**
	39nm,0.6s						
EIDS	**Eidsvold**	**28.38**	**254**	*e*P	**P**	**12 48 54.8**	**+0.7**
	11nm,1.1s						
CTA	**Charters Tower**	**33.01**	**264**	P	**P**	**12 49 34.0**	**+0.3**
	4.7nm,0.3s,baz=89,slow=12,SNR=15						
CTAO	**Charters Tower**	**33.01**	**264**	*e*P	**P**	**12 49 34.0**	**+0.3**
	7.1nm,0.9s						
TOO	**Toolangi**	**35.51**	**234**	*e*P	**P**	**12 49 54.8**	**+0.4**
	8.4nm,1.1s						
COEN	**Coen**	**37.09**	**274**	*e*P	**P**	**12 50 07.8**	**+0.2**
	4.7nm,0.8s						
STKA	**Stephens Creek**	**37.35**	**244**	*e*P	**P**	**12 50 10.3**	**+0.8**
	0.6nm,0.7s						
STKA	**Stephens Creek**	**37.35**	**244**	P	**P**	**12 50 09.8**	**+0.3**
	3.1nm,0.7s,baz=95,slow=14,SNR=7.3						
BBOO	**Buckleboo**	**42.11**	**243**	*e*P	**P**	**12 50 47.5**	**0.0**
	9.1nm,0.8s						
AS01	**Alice Springs**	**44.00**	**257**	*e*P	**P**	**12 51 02.3**	**-0.1**
AS01				*e*PcP	**PcP**	**12 52 34.8**	**-0.1**
AS31	**Alice Springs**	**44.04**	**257**	*e*P	**P**	**12 51 02.6**	**-0.1**
	0.9nm,0.9s						
AS31				*e*PcP	**PcP**	**12 52 35.1**	**+0.1**
ASAR	**Alice Springs**	**44.05**	**257**	P	**P**	**12 51 02.5**	**-0.3**
	3.3nm,0.7s,baz=89,slow=7.9,SNR=62						
ASAR				PcP	**PcP**	**12 52 34.0**	**-1.1**
	1.5nm,0.8s,baz=104,slow=4.1,SNR=8.6						
ASAR				S	**S**	**12 56 51.9**	**-1.6**
	0.9nm,1.0s,baz=78,slow=19,SNR=6.2						
WB2	**Warramunga Arr**	**44.11**	**262**	*e*P	**P**	**12 51 02.9**	**-0.3**
	4.6nm,1.0s						
WRA	**Warramunga Arr**	**44.12**	**262**	P	**P**	**12 51 02.4**	**-0.9**
	0.7nm,0.3s,baz=97,slow=7.6,SNR=42						
WRA				PcP	**PcP**	**12 52 35.0**	**-0.3**
	0.7nm,0.8s,baz=93,slow=3.9,SNR=4.5						
WRA				S	**S**	**12 56 51.2**	**-3.4**
	0.2nm,0.8s,baz=99,slow=15,SNR=3.0						
HMH	**Humu'ula Sheep**	**45.79**	**31**	*e*P	**P**	**12 51 16.4**	**0.0**
FORT	**Forrest**	**48.85**	**247**	*e*P	**P**	**12 51 38.6**	**-0.2**
	18nm,1.0s						
SBA	**Scott Base**	**57.84**	**184**	*e*P	**P**	**12 52 44.7**	**+3.2**
	7.4nm,1.0s						
VNDA	**Vanda**	**57.87**	**185**	*e*P	**P**	**12 52 43.6**	**+1.9**
	2.6nm,0.8s						
VNDA	**Vanda**	**57.87**	**185**	P	**P**	**12 52 43.6**	**+1.9**
	1.6nm,0.6s,baz=348,slow=6.4,SNR=12						
CASY	**Casey**	**63.76**	**205**	*e*P	**P**	**12 53 21.0**	**+0.6**
	12nm,1.1s						
QSPA	**South Pole Qui**	**69.57**	**180**	*e*P	**P**	**12 53 57.4**	**+1.0**
	10nm,0.9s						
MJAR	**Matsushiro Arr**	**69.92**	**324**	P	**P**	**12 53 57.6**	**-1.1**
	1.9nm,0.6s,baz=164,slow=6.4,SNR=11						
MAJO	**Matsushiro**	**69.92**	**324**	*e*P	**P**	**12 53 58.5**	**-0.2**
	2.7nm,0.8s						
MJB9	**Matsu-Tunnel**	**69.92**	**324**	*e*P	**P**	**12 53 58.5**	**-0.2**
	2.7nm,0.7s						
ADK	**Adak**	**72.08**	**1**	*e*P	**P**	**12 54 10.4**	**-0.5**
	38nm,0.9s						
SSLB	**Suanglung**	**73.56**	**304**	*e*P	**P**	**12 54 19.5**	**-0.7**
	10nm,1.1s						
TPUB	**Ta-pu**	**73.56**	**303**	*e*P	**P**	**12 54 18.9**	**-1.2**
	11nm,0.8s						
NIKH	**Nikolski High**	**73.64**	**6**	*e*P	**P**	**12 54 19.8**	**0.0**
	32nm,0.8s						
UNV	**Unalaska Valle

DHY	Denali Highway	86.83	14	*e*P		P		12 55 25.9	-2.4
	3.8nm,1.1s								
SRU	San Rafael Swe	86.87	46	*e*P		P		12 55 30.6	+1.6
	2.2nm,0.7s								
BPAW	Bear Paw Mtn.	87.00	12	*e*P		P		12 55 27.6	-1.3
	1.9nm,0.9s								
MCK	McKinley	87.07	13	*e*P		P		12 55 28.7	-0.5
	5.8nm,0.7s								
TX31	Lajitas Ar. Si	87.46	58	*e*P		P		12 55 33.6	+1.6
	3.3nm,0.9s								
TXAR	Lajitas Array	87.46	58	P		P		12 55 33.0	+1.1
	2.3nm,0.8s,baz=220,slow=6.4,SNR=16								
PV09	Paradox Valley	87.52	47	*e*P		P		12 55 33.3	+1.0
HYT	Haines Junctio	87.53	19	*e*P		P		12 55 32.1	+0.6
	2.0nm,0.8s								
ANMO	Albuquerque	87.78	51	P		P		12 55 32.8	-0.6
	1.0nm,0.6s,baz=204,slow=8.9,SNR=5.3								
MLY	Manley	87.89	11	*e*P		P		12 55 31.6	-1.4
	4.0nm,0.6s								
WRH	Wood River Hil	87.90	13	*e*P		P		12 55 32.2	-0.9
	10nm,0.8s								
DOT	Dot Lake	88.08	15	*e*P		P		12 55 33.6	-0.3
	3.6nm,0.8s								
HDA	Harding Lake	88.09	13	*e*P		P		12 55 33.2	-0.7
	7.8nm,0.6s								
CCB	Clear Creek Bu	88.12	13	*e*P		P		12 55 32.9	-1.1
	9.3nm,0.6s								
WHY	Whitehorse	88.21	20	*e*P		P		12 55 35.3	+0.6
	3.5nm,0.8s								
IM3	Indian Mountai	88.23	10	*e*P		P		12 55 34.2	-0.4
DLBC	Dease Lake	88.24	23	*e*P		P		12 55 35.8	+1.0
	3.3nm,1.0s								
DLBC	Dease Lake	88.24	23	P		P		12 55 34.8	-0.1
	0.8nm,0.6s,baz=229,slow=14,SNR=4.1								
MDM	Murphy Dome	88.31	12	*e*P		P		12 55 33.7	-1.2
	6.0nm,0.7s								
COLA	College	88.31	13	*e*P		P		12 55 34.6	-0.3
	8.3nm,0.8s								
SCRK	Sand Creek	88.38	14	*e*P		P		12 55 35.3	-0.2
	3.7nm,1.0s								
IL1	Eielson Array	88.42	13	*e*P		P		12 55 34.4	-1.1
ILAR	Eielson Array	88.42	13	P		P		12 55 34.2	-1.2
	4.0nm,0.9s,baz=221,slow=5.5,SNR=44								
ILB	Eielson Array	88.42	13	*e*P		P		12 55 34.4	-1.0
	6.6nm,1.1s								
KMI	Kunming	88.91	297	P		P		12 55 40.8	+1.8
KMI				pmax		pmax			
	comp=Z,14nm,0.5s								
BILL	Bilibino	88.98	354	*e*P		P		12 55 38.6	+0.6
	comp=Z,1.9nm,0.6s								
HHC	Hu-ho-hao-te	89.00	315	*e*P		P		12 55 40.8	+1.9
HHC				pmax		pmax			
	comp=Z,4.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,83nm,5.2s								
BW06	Boulder Array	89.29	43	*e*P		P		12 55 40.5	+0.2
	comp=Z,2.6nm,0.7s								
PD31	Pinedale Array	89.29	43	*e*P		P		12 55 40.9	+0.5
	comp=Z,2.4nm,0.7s								
PDAR	Pinedale Array	89.29	43	*e*P		P		12 55 40.8	+0.5
PDAR	Pinedale Array	89.29	43	P		P		12 55 40.5	+0.1
	comp=Z,2.2nm,0.6s,baz=209,slow=2.7,SNR=17								
DAWY	Dawson	89.59	16	*e*P		P		12 55 41.0	+0.1
	comp=Z,6.3nm,1.0s								
CMAR	Chiang Mai Arr	89.65	290	P		P		12 55 43.4	+1.1
	comp=Z,1.5nm,0.8s,baz=124,slow=2.8,SNR=13								
EGAK	Eagle	89.73	15	*e*P		P		12 55 41.5	0.0
	comp=Z,4.1nm,0.8s								
CD2	Chengdu	90.38	303	*e*P		P		12 55 46.3	+0.9
YKA	Yellowknife Ar	96.71	25	P		P		12 56 12.7	-0.7
	comp=Z,0.3nm,0.7s,baz=248,slow=4.5,SNR=8.0								
ZALV	Zalesovo Beam	110.18	321	PKiKP		PKiKP		13 01 09.4	-1.6
	comp=Z,0.4nm,0.3s,baz=196,slow=1.1,SNR=4.3								
MKAR	Makanchi Array	110.84	313	PKiKP		PKiKP		13 01 11.0	-1.6
	comp=Z,0.5nm,0.6s,baz=86,slow=0.6,SNR=8.8								
ARU	Arti	124.92	325	*e*PKPdf		PKPdf		13 01 38.8	-0.5
ARCES	ARCESS Array B	128.83	349	*e*PKPdf		PKPdf		13 01 46.3	-0.1
ARCES	ARCESS Array B	128.83	349	PKP		PKPdf		13 01 45.4	-1.0
	comp=Z,2.4nm,0.6s,baz=29,slow=2.8,SNR=9.2								
FINES	FINESS Array B	135.63	343	PKP		PKPdf		13 01 59.1	-0.2
	comp=Z,0.7nm,0.5s,baz=29,slow=4.4,SNR=6.0								
NB2	NORSAR Subarra	138.92	353	PKP		PKPpre		13 01 56.6	
	comp=Z,0.1nm,0.4s,baz=17,slow=2.6								
AKASG	Malin Array Be	142.77	331	PKhKP		PKPpre		13 02 08.8	
	comp=Z,6.5nm,0.5s,baz=42,slow=4.4,SNR=61								
AKBB	Malin Array Si	142.77	331	*e*PKPpre		PKPpre		13 02 08.7	
KIEV	Kiev	142.78	331	*e*PKPpre		PKPpre		13 02 08.9	
KIEV	Kiev	142.78	331	⇑*i*P		PKPdf		13 02 08.8	-3.9
AK11	Malin Array Si	142.81	331	*e*PKPpre		PKPpre		13 02 08.9	
BEL	Belsk	145.28	339	*e*PKP		PKPbc		13 02 18.5	+0.3
KWP	Kalwaria Pacla	146.37	335	*e*PKPbc		PKPbc		13 02 20.9	-0.4
BRTR	Keskin Array B	146.47	312	PKPbc		PKPdf		13 02 20.9	+1.3
	comp=Z,2.1nm,0.7s,baz=130,slow=4.3,SNR=6.9								
TLCR		146.62	324	⇑*i*P		PKPbc		13 02 21.2	-0.9
BUR08	Bucovina Ar. S	146.80	330	*e*PKPbc		PKPbc		13 02 22.8	+0.1
BURAR	Bucovina Array	146.82	330	⇓*i*P		PKPbc		13 02 22.7	0.0
BIZ	Bicaz	146.87	329	⇓*i*P		PKPbc		13 02 23.0	+0.2
TESR	Tescani	146.90	327	⇑*i*P		PKPbc		13 02 22.1	-0.8
CFR	Carcaliu	147.00	324	⇓*i*P		PKPbc		13 02 22.4	-0.7
TIRR	Tirgusor	147.29	323	*e*PKPbc		PKPbc		13 02 24.5	+0.6
TIRR	Tirgusor	147.29	323	⇓*i*P		PKPbc		13 02 23.1	-0.8
VRI	Vrincioaia	147.29	323	⇓*i*P		PKPbc		13 02 23.2	-0.7
TLB	Topalu	147.42	324	⇓*i*P		PKPbc		13 02 23.9	-0.3
KSP	Ksiaz	147.54	342	*e*PKP		PKPbc		13 02 24.6	+0.2
TRPA	Tarpa	147.62	333	⇓*i*P		PKPbc		13 02 23.6	-1.0
DOPR	Dopca	147.91	328	⇓*i*P		PKPbc		13 02 25.6	+0.1
UPC	Upice	147.92	342	⇑*e*PKP		PKPbc		13 02 25.3	-0.1
CLL	Collm	147.94	346	*e*PKPbc		PKPbc		13 02 25.2	-0.1
CLL	Collm	147.94	346	*i* PKPbc		PKPbc		13 02 25.0	-0.4
	comp=Z,15nm,0.8s								
CLL				*e*PKPab		PKPab		13 02 30.0	-0.2
	comp=Z,7.0nm,1.0s								
MLR	Muntele Rosu	147.95	327	*e*PKPbc		PKPbc		13 02 24.9	-0.9
MLR	Muntele Rosu	147.95	327	⇓*i*P		PKPbc		13 02 25.0	-0.8
DPC	Dobruska-Polom	147.97	342	*e*PKP		PKPbc		13 02 25.8	+0.2
DPC				*e*PKPAB		PKPab		13 02 30.8	+0.4
MORC	Moravsky Berou	148.11	340	⇓*i*P		PKPbc		13 02 25.8	-0.1
BRG	Berggiesshubel	148.13	345	*i* PKP		PKPbc		13 02 25.7	-0.2
	comp=Z,7.2nm,0.9s								
BRG				*i*				13 02 30.4	
	comp=Z,9.9nm,1.3s								
PVCC	Panska Ves	148.29	344	⇑*e*PKP		PKPbc		13 02 26.4	+0.1
DRGR		148.57	331	⇓*i*P		PKPbc		13 02 26.7	-0.5
ARR	Arges	148.70	328	⇑*i*P		PKiKP		13 02 28.3	-0.3
VYHS	Vyhne	148.77	337	*e*PKP		PKPbc		13 02 27.5	0.0
VYHS				*e*				13 02 33.8	
PRU	Pruhonice	148.79	344	⇑*e*PKP		PKPbc		13 02 27.3	-0.2
PRU				*e*PKPAB		PKPab		13 02 33.1	-0.6
GOPC	GO Pecny, Ondr	148.79	343	⇑*e*PKP		PKPbc		13 02 27.2	-0.4
GOLR		148.91	327	⇓*i*P		PKPdf		13 02 23.8	+0.6
TREC	Trest	149.16	342	⇑*e*PKP		PKPbc		13 02 26.1	-2.4
MODS	Modra-Piesok	149.41	339	*e*PKP		PKiKP		13 02 29.6	-0.3
GZR	Gura Zlata	149.59	330	⇓*i*P		PKPbc		13 02 28.8	-0.9
KHC	Kasperske Hory	149.83	344	*e*PKPbc		PKPbc		13 02 30.0	-0.1
KHC				*e*PKPab		PKPab		13 02 38.5	+0.3
KHC	Kasperske Hory	149.83	344	*e*PKPDF		PKPdf		13 02 25.1	+0.5
KHC				⇑*e*PKP		PKPbc		13 02 30.0	-0.1
KHC				*e*PKPAB		PKPab		13 02 38.5	+0.3
GRF	Grafenberg Arr	149.85	347	*e*PKPdf		PKPbc		13 02 30.0	-0.1
	baz=8.6,slow=1.8								
BZS	Buzias	149.96	331	⇓*i*P		PKPbc		13 02 29.3	-1.1
GEC2	GERESS Array S	150.06	344	*e*PKPbc		PKPbc		13 02 30.4	-0.4
GERES	GERESS Array B	150.06	344	PKPbc		PKPbc		13 02 30.3	-0.4
	comp=Z,2.0nm,0.7s,baz=49,slow=2.5,SNR=16								
GEA0	GERESS Array S	150.07	344	*e*PKPbc		PKPbc		13 02 30.1	-0.7
HERR	Herculane	150.14	329	⇓*i*P		PKPbc		13 02 29.7	-1.2
CONA	Conrad Observa	150.26	340	*e*PKiKP		PKPbc		13 02 31.3	+0.1
	comp=Z,2.8nm,0.6s								
MDVR	Moldovita	150.55	330	⇓*i*P		PKPbc		13 02 31.1	-0.8
MOA	Molln	150.81	342	*e*PKPbc		PKPbc		13 02 31.9	-0.5
	comp=Z,1.1nm,0.5s								
EZN	Ezine	151.30	318	⇓*i*P		PKPbc		13 02 33.3	-0.4
VTS	Vitosha	151.34	325	*e*PKPbc		PKPbc		13 02 33.8	-0.2
VTS	Vitosha	151.34	325	⇓*i*P		PKPbc		13 02 33.3	-0.6
BFO	Black Forest	151.69	350	*e*PKPbc		PKPbc		13 02 34.2	-0.1
DIVS	Divibare	151.87	331	*e*PKPdf		PKPdf		13 02 26.6	-1.3
DIVS				*e*PKPbc		PKiKP		13 02 35.5	+0.3
WATA	Walderalm	152.00	345	*e*PKPbc		PKPbc		13 02 34.6	-0.6
	comp=Z,1.5nm,0.4s								
MOTA	Moosalm	152.10	346	*e*PKPbc		PKPbc		13 02 34.8	-0.6
	comp=Z,0.6nm,0.4s								
SQTA	Sankt Quirin	152.19	346	*e*PKPbc		PKPbc		13 02 34.5	-1.1
	comp=Z,2.5nm,0.7s								
ABTA	Abfaltersbach	152.31	344	*e*PKPbc		PKPbc		13 02 34.8	-1.0
	comp=Z,4.7nm,0.6s								

FUORN	Ofenpass-Fuorn	152.97	347	*e*PKPab		PKPab		13 02 53.1	+1.4
LIT	Litokhoron	153.46	322	*e*PKPab		PKPab		13 02 53.1	-0.7
FNA	Florina	153.62	324	*e*PKPbc		PKPbc		13 02 37.6	-1.2
SANT	Santorini	153.74	312	*e*PKPdf		PKPdf		13 02 27.1	-3.7
SENIN	Lac Senin/Sane	153.76	351	*e*PKPbc		PKPbc		13 02 38.5	-0.6
AGG	Agios Georgios	154.25	320	*e*PKPbc		PKiKP		13 02 39.0	-1.2

IDC **17** *12:55:15.2±1.7, 14°.20N×93°.12W, h0km, mb3.8/5, mb1 1.1/8, mb1mx3.7/42, mbtmp3.8/8, ML3.7/3, MS3.1/7, Ms1 3.1/7, ms1mx2.9/36, Error ellipse: s-maj=37.8km s-min=20.4km az=33.0*

NEIC **17** *12:55:20.1±0.0, 14°.35N×93°.19W, h17km, mb4.2/15, MD4.1(MEX), After MEX.*

MEX **17** *12:55:20.2±0.4, 14°.38N×93°.03W, h74km±20km, MD4.1*

UCR **17** *12:55:48.7±4.0, 13°.66N×90°.56W, h81km±93km, MD3.9, ML4.6, mb4.2(NEIC)*

ISC 17 12:55:17.6±0.8, 14°.26N±0°.08×93°.07W±0°.07, h22km±5km, n69, σ2§07/66, mb4.2/20, MS3.4/4, 10C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		1.01	50	*e*P		Pb	12 55 36.4	0.0
THIG				*i* S		Sb	12 55 49.5	+0.2
THIG		1.01	50	*e*P		Pb	12 55 36.4	0.0
THIG				*e*S		Sb	12 55 48.9	-0.4
PCIG		1.45	354	*e*P		Pn	12 55 40.5	-2.0
PCIG				*i* S		Sn	12 55 55.0	-6.0
PCIG		1.45	354	*e*P		Pn	12 55 41.4	-1.2
PCIG				*i* S		Sn	12 55 58.9	-2.0
FUG	Fuego 3	2.16	85	*e*S		Sn	12 56 19.7	+0.9
CCIG	Comitan	2.21	24	*e*Pn		Pb	12 55 55.5	-1.5
CCIG				*e*Sn		Sb	12 56 28.9	+5.0
CCIG	Comitan	2.21	24	*i* P		Pn	12 55 52.1	-1.1
CCIG				*e*S		Sn	12 56 15.9	-4.0
PCG	Pacaya	2.39	86	*e*S		Sn	12 56 24.9	+0.4
APG	El Apazote	2.63	73	Pn		Pn	12 56 00.4	+1.4
	12nm,0.3s,baz=348,slow=8.8,SNR=79							
APG				Sn		Sb	12 56 35.4	-0.7
	17nm,0.3s,baz=330,slow=20,SNR=5.2							
APG				LR		LR	12 56 46.8	
	comp=Z,40nm,20.1s,baz=276,slow=34							
CMIG	Matias Romero	3.32	328	Pn		Pn	12 56 07.7	-0.6
	7.1nm,0.3s,baz=156,slow=12,SNR=109							
CMIG				Sn		Sn	12 56 47.5	+0.3
	9.6nm,0.3s,baz=145,slow=10,SNR=3.7							
CMIG				Lg		Lg	12 57 01.3	
	18nm,0.3s,baz=69,slow=18,SNR=7.9							
CMIG				LR		LR	12 57 31.6	
	comp=Z,186nm,19.5s,baz=204,slow=41							
BOQS	Boqueron	3.71	98	⇑*i*P		Pn	12 56 14.3	+0.3
CLUB	San Salvador	3.73	98	*e*P		Pn	12 56 13.6	-0.5
UEES	San Salvador	3.75	98	⇑*i*P		Pn	12 56 13.3	-1.0
UEES				AML		AML	12 56 17.5	
	comp=Z,13μm,0.2s							
SNET	Serv Nac Est T	3.77	98	⇑*i*P		Pn	12 56 13.1	-1.5
OPAM	San Salvador	3.79	98	*e*P		Pn	12 56 12.6	-2.3
UESS	San Salvador	3.79	98	*i* P		Pn	12 56 12.8	-2.1
LOMA	San Marcos	3.83	99	*i* P		Pn	12 56 12.2	-3.1
	comp=Z,29μm,0.4s							
UDBS	Soyapango	3.83	97	*e*P		Pn	12 56 11.8	-3.6
LFU	La Fuente	3.87	97	⇓*i*P		Pn	12 56 11.6	-4.4
LBRS	Las Brisas	3.94	97	⇑*i*P		Pn	12 56 11.4	-5.5
LFRS	El Faro	3.94	99	⇑*i*P		Pn	12 56 11.5	-5.5
LLGN	La Laguna	3.99	91	*i* P		Pn	12 56 18.5	+0.9
PAVA	Las Pavas	4.04	97	⇑*i*P		Pn	12 56 12.6	-5.8
SNVI	San Vicente	4.15	98	*i* P		Pn	12 56 14.6	-5.3
UESV	Ojushtada	4.24	101	⇑*i*P		Pn	12 56 15.1	-6.0
VICT	Victoria	4.30	93	⇑*i*P		Pn	12 56 18.9	-3.1
TECA	Tecapa	4.50	99	⇑*e*P		Pn	12 56 20.9	-3.8
LCY	Lacayo	4.71	100	*e*P		Pn	12 56 24.9	-2.7
CAHU	Cacaocuatique	4.74	95	⇑*i*P		Pn	12 56 25.1	-2.9
CNCH	Conchagua	5.18	100	*e*P		Pn	12 56 32.5	-1.5
TGUH	Tegucigalpa,Un	5.62	91	*e*Pn		Pn	12 56 40.0	0.0
TLIG	Tlapa	6.23	303	*e*Pn		Pn	12 56 50.6	+2.1
LVIG	Laguna Verde	6.31	330	*e*Pn		Pn	12 56 48.5	-0.9
TEIG	Tepich	7.50	37	*e*Pn		Pn	12 57 08.7	+2.9
TXAR	Lajitas Array	17.93	329	P		P	12 59 27.1	+0.8
	comp=Z,0.1nm,0.3s,baz=156,slow=9.5,SNR=9.8							
TXAR				LR		LR	13 06 24.1	
	comp=Z,49nm,18.4s,baz=0.0,slow=37							
TX31	Lajitas Ar. Si	17.93	329	*e*Pn		P	12 59 29.4	+3.1
MIAR	Mount Ida	20.21	359	*e*P		Pn	12 59 55.2	+2.2
	comp=Z,6.8nm,0.9s							
GDL2	Guadalupe Moun	20.63	332	*e*P		P	12 59 56.8	+1.0
MNTX	Cornudas Mount	20.70	329	*e*P		Pn	12 59 58.4	-0.6
	comp=Z,2.9nm,0.8s							
AMTX	Amarillo	21.96	341	*e*P		P	13 00 10.8	+0.6
	comp=Z,8.9nm,0.8s							
TKL	Tuckaleechee C	22.89	20	LR		LR	13 10 26.7	
	comp=Z,58nm,18.6s,baz=190,slow=40							
ANMO	Albuquerque	23.88	332	P		P	13 00 31.6	+1.6
	comp=Z,1.5nm,0.9s,baz=144,slow=15,SNR=4.7							
T25A	Trinidad	24.93	338	*e*P		P	13 00 41.3	+1.6
	comp=Z,4.9nm,1.0s							
AGP	Aguadilla	25.21	77	*e*P		P	13 00 40.8	-1.2
	comp=Z,117nm,1.0s							
SDCO	Great Sand Dun	25.88	337	*e*P		P	13 00 50.4	+2.1
	comp=Z,2.8nm,1.1s							
PDAR	Pinedale Array	31.77	337	P		P	13 01 41.2	+0.6
	comp=Z,0.2nm,0.3s,baz=129,slow=7.2,SNR=3.1							
REDW	Red Top Meadow	32.78	336	*e*P		P	13 01 51.5	+2.0
	comp=Z,7.2nm,0.9s							
SNOW	Snow King Moun	32.83	336	*e*P		P	13 01 52.0	+2.0
	comp=Z,14nm,0.9s							
NV01	Mina Array Sit	32.83	322	*e*P		P	13 01 52.5	+2.5
NVAR	Mina Array Bea	32.83	322	P		P	13 01 52.3	+2.3
	comp=Z,1.6nm,0.7s,baz=136,slow=8.9,SNR=14							
LKWY	Lake	33.62	337	*e*P		P	13 01 56.8	-0.1
	comp=Z,26nm,0.9s							
WDC	Whiskeytown Da	36.73	321	*e*P		P	13 02 24.3	+0.9
	comp=Z,2.6nm,1.1s							
LPAZ	La Paz	39.09	140	LR		LR	13 17 42.5	
	comp=Z,58nm,21.1s,baz=154,slow=34							
RPN	Rapa Nui	44.06	201	LR		LR	13 16 48.6	
	comp=Z,59nm,21.7s,baz=351,slow=29							
SCHQ	Schefferville	45.35	21	LR		LR	13 24 26.9	
	comp=Z,65nm,19.6s,baz=322,slow=39							
YKA	Yellowknife Ar	50.55	347	P		P	13 04 14.2	0.0
	comp=Z,2.0nm,0.7s,baz=151,slow=7.3,SNR=46							
YKB5	Yellowknife Ar	50.55	347	*e*P		P	13 04 14.1	-0.1
PTCN	Pitcairn Islan	53.21	223	*e*P		P	13 04 31.9	-2.7
	comp=Z,173nm,0.5s							
INK	Inuvik	59.90	344	*e*P		P	13 05 22.0	+0.4
	comp=Z,4.2nm,1.0s							
RES	Resolute Bay	60.43	359	*e*P		P	13 05 24.9	-0.3
	comp=Z,1.3nm,0.8s							
DOT	Dot Lake	60.57	337	*e*P		P	13 05 28.1	+1.8
	comp=Z,2.7nm,1.2s							
PAX	Paxson	60.80	335	*e*P		P	13 05 29.4	+1.4
	comp=Z,2.2nm,1.0s							
ILAR	Eielson Array	62.20	337	P		P	13 05 38.5	+1.2
	comp=Z,0.7nm,0.9s,baz=134,slow=4.6,SNR=7.3							
TRF	Thorofare Moun	62.97	335	*e*P		P	13 05 43.8	+1.1
	comp=Z,2.5nm,0.9s							
TOLK	Toolik Lake Re	64.93	340	*e*P		P	13 05 56.2	+0.8
	comp=Z,0.8nm,0.8s							
WR1	Warramunga Arr	134.45	256	*e*PKPdf		PKPdf	13 14 35.5	+0.4
WRA	Warramunga Arr	134.45	256	PKP		PKPdf	13 14 35.5	+0.4
	comp=Z,0.3nm,0.9s,baz=84,slow=2.4,SNR=4.2							
CMAR	Chiang Mai Arr	145.41	340	PKPbc		PKPbc	13 14 54.9	+0.1
	comp=Z,0.9nm,0.6s,baz=340,slow=3.4,SNR=7.9							
CM01	Chiang Mai Arr	145.44	340	*e*PKPdf		PKPbc	13 14 54.4	-0.5

IDC **17** *13:16:47.9±1.5, 15°.25S×177°.45W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/25, mbtmp3.9/8, MS3.7/15, Ms1 3.7/15, ms1mx3.5/28, Error ellipse: s-maj=95.9km s-min=19.7km az=146.0*

ISCJB **17** *13:16:50.7±0.5, 15°.6S±0°.1×177°.26W±0°.09, h35km, mb4.1/12, MS3.7/15, Error ellipse: s-maj=19.3km s-min=9.6km az=154.9*

NEIC **17** *13:16:52.8±2.0, 15°.58S×177°.30W, h38km±21km, mb4.5/7, Error ellipse: s-maj=31.3km s-min=9.6km az=163.0*

ISC 17 13:16:52.9±0.6, 15°.5S±0°.2×177°.2W±0°.1, h35km, n40, σ1§45/26, mb4.1/12, MS3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	5.02	243	*e*Pn		Pn	13 18 06.1	+0.2
NIUE	Niue	7.83	118	*e*Pn		Pn	13 18 44.0	-0.3

DZM	Mont Dzumac	16.76	245	*e*P		P		13 20 51.0	+3.9
	28nm,1.4s								
DZM	Mont Dzumac	16.76	245	*e*Pn		Pn		13 20 43.1	-2.0
	66nm,2.0s								
URZ	Urewera	23.19	191	LR		LR		13 29 45.1	
	comp=Z,173nm,18.3s,baz=14,slow=33								
PPT2	Papeete2	26.59	98	*e*LQ		LQ		13 27 55.0	
	432nm,25.5s								
PPT2				*e*LR		LR		13 28 59.4	
	comp=Z,147nm,26.2s								
PPT	Papeete	26.59	98	LR		LR		13 30 12.9	
	comp=Z,45nm,20.1s,baz=274,slow=30								
TBI	Tubuai	27.29	111	*e*LR		LR		13 29 24.0	
	comp=Z,339nm,28.5s								
STKA	Stephens Creek	40.78	239	*e*P		P		13 24 31.0	0.0
	4.9nm,1.2s								
STKA	Stephens Creek	40.78	239	P		P		13 24 31.3	+0.3
	8.1nm,0.9s,baz=47,slow=8.4,SNR=9.6								
STKA				LR		LR		13 39 59.5	
	comp=Z,84nm,18.5s,baz=34,slow=34								
WR1	Warramunga Arr	46.21	257	*e*P		P		13 25 12.8	-2.2
	22nm,1.8s								
WRA	Warramunga Arr	46.21	257	P		P		13 25 12.8	-2.2
	0.5nm,0.8s,baz=86,slow=8.1,SNR=5.2								
AS31	Alice Springs	46.55	252	*e*P		P		13 25 16.5	-1.1
	0.9nm,0.6s								
ASAR	Alice Springs	46.55	252	P		P		13 25 16.6	-1.0
	2.0nm,0.6s,baz=84,slow=8.2,SNR=51								
MJAR	Matsushiro Arr	66.70	322	LR		LR		13 56 09.8	
	comp=Z,11nm,18.7s,baz=230,slow=36								
JNU	Nakatsue	69.22	315	LR		LR		13 53 48.3	
	comp=Z,26nm,19.3s,baz=162,slow=32								
PETK	Petropavlovsk-	71.69	344	LR		LR		13 57 01.7	
	comp=Z,42nm,18.6s,baz=130,slow=34								
KSRS	Korea Array	73.70	317	LR		LR		13 56 54.3	
	comp=Z,39nm,19.2s,baz=137,slow=33								
USRK	Ussuriysk Ar.	75.30	325	LR		LR		13 57 26.8	
	comp=Z,38nm,19.6s,baz=119,slow=32								
NV01	Mina Array Sit	76.94	44	*e*P		P		13 28 40.5	-1.7
NVAR	Mina Array Bea	76.94	44	P		P		13 28 41.1	-1.2
	1.0nm,1.0s,baz=212,slow=9.5,SNR=4.1								
KLR	Kul'dur	78.65	329	LR		LR		13 58 27.6	
	comp=Z,65nm,19.2s,baz=152,slow=32								
IM3	Indian Mountai	83.16	9	*e*P		P		13 29 14.3	-0.6
IL1	Eielson Array	83.33	13	*e*P		P		13 29 14.9	-0.9
ILAR	Eielson Array	83.33	13	P		P		13 29 14.4	-1.4
	1.8nm,1.0s,baz=227,slow=6.1,SNR=10					

Sta	Name	Dist	Azi	Phase	Phase	Time Res
VWDT				S	Sg	13 53 28.5 +0.5
	baz=71					
ALS	**Alishan**	**0.22**	**213**	⇑*i*P	**Pg**	**13 53 25.2 -0.1**
	baz=210					
ALS				*i* S	Sg	13 53 28.8 +0.1
	baz=210					
TYC	**Yuchr**	**0.22**	**342**	⇑*i*P	**Pg**	**13 53 25.4 +0.2**
	baz=351					
TYC				S	Sb	13 53 29.4 -0.8
	baz=351					
WJS	**Zhushan**	**0.23**	**304**	⇑*i*P	**Pb**	**13 53 26.1 -0.3**
	baz=306					
WJS				*i* S	Sb	13 53 30.9 +0.4
	baz=306					
WNT	**Mingjian**	**0.29**	**309**	⇓*i*P	**Pb**	**13 53 27.5 0.0**
	baz=311					
WNT				*i* S	Sb	13 53 32.8 +0.5
	baz=311					
WGK	**Gukeng**	**0.34**	**269**	⇓*i*P	**Pb**	**13 53 28.0 -0.3**
	baz=270					
WGK				*e*S	Sb	13 53 33.2 -0.4
	baz=270					
OWD	**Renai**	**0.34**	**41**	⇓P	**Pg**	**13 53 27.6 +0.1**
	baz=41					
OWD				S	Sg	13 53 32.0 -0.2
	baz=41					
WDLH	**Douliu**	**0.36**	**269**	⇓*i*P	**Pb**	**13 53 28.5 -0.2**
	baz=270					
WDLH				S	Sb	13 53 35.3 +1.1
	baz=270					
EHY	**Hungye**	**0.40**	**117**	⇓*i*P	**Pg**	**13 53 28.6 +0.1**
	baz=117					
EHY				S	Sg	13 53 34.4 +0.4
	baz=117					
CHGB	**Renai**	**0.43**	**31**	⇓P	**Pg**	**13 53 28.9 -0.1**
	baz=32					
CHGB				*e*S	Sg	13 53 34.3 -0.6
	baz=32					
CHN2	**Minshiung**	**0.45**	**249**	⇓*i*P	**Pb**	**13 53 30.1 -0.1**
	baz=249					
CHN2				*e*S	Sb	13 53 37.6 +0.9
	baz=249					
YULB	**Yu-li**	**0.45**	**132**	*e*Pg	**Pg**	**13 53 29.0 -0.4**
YULB	**Yu-li**	**0.45**	**132**	⇓P	**Pg**	**13 53 29.2 -0.2**
	baz=122					
YULB				S	Sg	13 53 35.3 -0.1
	baz=122					
EGFH	**Guangfu**	**0.46**	**93**	⇓P	**Pg**	**13 53 29.4 0.0**
	baz=93					
EGFH				S	Sg	13 53 35.7 +0.2
	baz=93					
ESL	**Shilin**	**0.47**	**75**	⇓*i*P	**Pg**	**13 53 30.0 +0.2**
	baz=81					
ESL				S	Sg	13 53 36.1 -0.1
	baz=81					
TWF1	**Yuli**	**0.48**	**135**	⇓*i*P	**Pg**	**13 53 29.9 0.0**
	baz=126					
TWF1				*e*S	Sg	13 53 36.0 -0.3
	baz=126					
TPUB	**Ta-pu**	**0.48**	**215**	*e*Pg	**Pg**	**13 53 30.0 +0.1**
TPUB	**Ta-pu**	**0.48**	**215**	⇓P	**Pg**	**13 53 29.9 0.0**
	baz=211					
TPUB				S	Sb	13 53 37.2 -0.5
	baz=211					
HGSD	**Ruisui**	**0.49**	**114**	⇓P	**Pb**	**13 53 30.7 -0.3**
	baz=113					
HGSD				S	Sb	13 53 38.0 -0.1
	baz=113					
CHY	**Chiayi**	**0.51**	**247**	⇓*i*P	**Pb**	**13 53 30.9 -0.2**
	baz=247					
CHY				*e*S	Sb	13 53 39.0 +0.6
	baz=247					
ELDTW	**Lidau**	**0.51**	**171**	⇓*i*P	**Pg**	**13 53 30.1 -0.4**
	baz=169					
ELDTW				S	Sg	13 53 36.3 -1.0
	baz=169					
TCU	**Taichung**	**0.51**	**333**	⇓P	**Pb**	**13 53 31.5 +0.3**
	baz=319					
TCU				*e*S	Sb	13 53 40.0 +1.4
	baz=319					
WCHH	**Zhanghua**	**0.51**	**318**	⇓*i*P	**Pb**	**13 53 31.5 +0.2**
	baz=319					
WCHH				S	Sb	13 53 40.0 +1.3
	baz=319					
WTP	**Ta-pu**	**0.53**	**213**	⇓*i*P	**Pg**	**13 53 31.0 +0.1**
	baz=208					
WTP				*e*S	Sb	13 53 39.0 -0.3
	baz=208					
WHF	**Hehuan Shan**	**0.54**	**34**	⇓*i*P	**Pg**	**13 53 31.4 +0.1**
	baz=36					
WHF				*e*S	Sb	13 53 39.4 -0.6
	baz=36					
STYT	**Tauyuan**	**0.55**	**197**	⇑*i*P	**Pg**	**13 53 31.1 -0.2**
	baz=189					
STYT				*e*S	Sg	13 53 38.2 -0.4
	baz=189					
RLNB	**Erlin**	**0.56**	**291**	⇓P	**Pg**	**13 53 31.8 +0.3**
	baz=291					
RLNB				S	Sb	13 53 40.4 +0.4
	baz=291					
WHP	**Taichung City**	**0.58**	**1**	*e*P	**Pg**	**13 53 32.0 +0.1**
	baz=7.0					
WHP				S	Sb	13 53 41.2 +0.4
	baz=7.0					
FULB	**Fuli**	**0.59**	**146**	⇓*i*P	**Pb**	**13 53 32.6 -0.1**
	baz=153					
FULB				S	Sb	13 53 40.8 -0.2
	baz=153					
TDCB	**Techi**	**0.59**	**20**	⇓P	**Pg**	**13 53 31.6 -0.6**
	baz=28					
TDCB				*e*S	Sg	13 53 38.4 -1.7
	baz=28					
TWT	**Tachien**	**0.60**	**22**	*e*P	**Pg**	**13 53 31.9 -0.4**
	baz=29					
TWT				*e*S	Sg	13 53 38.7 -1.5
	baz=29					
SNST	**Tainan City**	**0.62**	**220**	⇓P	**Pg**	**13 53 32.7 +0.2**
	baz=220					
SNST				*e*S	Sb	13 53 42.1 +0.5
	baz=220					
WLGB	**Puzi**	**0.62**	**250**	⇓P	**Pg**	**13 53 32.8 +0.3**
	baz=250					
WLGB				S	Sb	13 53 42.8 +1.1
	baz=250					
WTCT	**Ta-ch'eng**	**0.62**	**286**	⇓*i*P	**Pg**	**13 53 32.6 0.0**
	baz=287					
WTCT				S	Sb	13 53 42.0 +0.3
	baz=287					
ENLB	**Shoufeng**	**0.65**	**71**	⇓P	**Pb**	**13 53 33.2 -0.4**
	baz=71					
ENLB				*e*S	Sg	13 53 41.7 0.0
	baz=71					
WSF	**Szhu**	**0.65**	**265**	⇓*i*P	**Pg**	**13 53 33.0 -0.2**
	baz=265					
WSF				*i* S	Sb	13 53 43.0 +0.4
	baz=265					
WMLT	**Mailiao**	**0.66**	**280**	*e*P	**Pg**	**13 53 32.9 -0.4**
	baz=280					
WMLT				*e*S	Sb	13 53 43.2 +0.4
	baz=280					
TWQ1	**Liyutan**	**0.67**	**347**	⇓*i*P	**Pb**	**13 53 34.4 +0.4**
	baz=334					
TWQ1				*e*S	Sb	13 53 43.7 +0.5
	baz=334					
HWA	**Hwalien**	**0.68**	**65**	⇓*i*P	**Pb**	**13 53 34.0 -0.1**
	baz=75					
HWA				*e*S	Sb	13 53 43.5 +0.1
	baz=75					
WDJ	**Dajia District**	**0.70**	**338**	⇓P	**Pb**	**13 53 35.1 +0.6**
	baz=339					
WDJ				*e*S	Sn	13 53 46.1 -0.7
	baz=339					
CHKT	**Chengkung**	**0.71**	**146**	⇓*e*P	**Pb**	**13 53 35.1 +0.4**
	baz=145					
CHKT				*e*S	Sb	13 53 45.0 +0.6
	baz=145					
ETLH	**Xiulin Townshi**	**0.72**	**44**	P	**Pg**	**13 53 33.9 -0.5**
	baz=41					
ETLH				*e*S	Sb	13 53 44.4 -0.2
	baz=41					
TWD	**Chiawan**	**0.72**	**58**	⇓*i*P	**Pg**	**13 53 34.1 -0.3**
	baz=58					
TWD				*e*S	Sg	13 53 43.5 -0.4
	baz=58					
NSY	**Sanyi**	**0.74**	**348**	⇓*i*P	**Pn**	**13 53 35.9 -0.7**
	baz=337					
NSY				*i* S	Sn	13 53 47.1 -0.6
	baz=337					

Sta	Name	Dist	Azi	Phase	Phase	Time Res
SLGT	**Liugui**	**0.74**	**201**	⇓*e*P	**Pb**	**13 53 35.2 -0.1**
	baz=201					
CHN8	**Yiju**	**0.75**	**243**	⇓*i*P	**Pg**	**13 53 34.9 -0.1**
	baz=242					
CHN8				S	Sb	13 53 46.3 +0.9
	baz=242					
NACB	**Ninganchiao**	**0.77**	**52**	*e*Pg	**Pg**	**13 53 35.0 -0.5**
NACB	**Ninganchiao**	**0.77**	**52**	⇓P	**Pg**	**13 53 34.9 -0.5**
	baz=52					
NACB				S	Sg	13 53 44.9 -0.7
	baz=52					
PTSB	**Yuanli**	**0.78**	**345**	P	**Pb**	**13 53 36.5 +0.6**
	baz=346					
PTSB				S	Sn	13 53 48.0 -0.7
	baz=346					
CHN3	**Shinhua**	**0.81**	**220**	⇓*e*P	**Pb**	**13 53 36.8 +0.5**
	baz=234					
CHN3				S	Sn	13 53 50.3 +1.0
	baz=234					
NNSB	**Datong**	**0.84**	**29**	⇓P	**Pg**	**13 53 35.9 -0.8**
	baz=30					
NNSB				*e*S	Sb	13 53 48.8 +0.6
	baz=30					
NNS	**Nan Shan**	**0.85**	**28**	*e*P	**Pg**	**13 53 36.2 -0.7**
	baz=30					
NNS				*e*S	Sb	13 53 49.2 +0.8
	baz=30					
NMLH	**Miaoli**	**0.85**	**351**	⇑P	**Pn**	**13 53 37.9 -0.2**
	baz=352					
NMLH				*e*S	Sn	13 53 50.1 -0.3
	baz=352					
SCLT	**Jiali**	**0.85**	**233**	*e*P	**Pg**	**13 53 36.9 -0.1**
	baz=232					
SCLT				*e*S	Sn	13 53 50.3 -0.1
	baz=232					
TWG	**Pinlang**	**0.88**	**172**	*e*Pg	**Pg**	**13 53 37.2 -0.2**
TWG	**Pinlang**	**0.88**	**172**	⇓P	**Pg**	**13 53 37.1 -0.2**
	baz=164					
TWG				*e*S	Sn	13 53 51.0 -0.1
	baz=164					
TWGBT	**Beinan**	**0.88**	**171**	⇓P	**Pg**	**13 53 37.1 -0.4**
	baz=164					
TWGBT				*e*S	Sn	13 53 51.2 0.0
	baz=164					
TAI1	**Yung-k'ang**	**0.92**	**225**	*e*P	**Pb**	**13 53 38.4 +0.2**
	baz=237					
TAI1				*e*S	Sn	13 53 53.2 +1.2
	baz=237					
NSTT	**Nanjuang**	**0.94**	**4**	⇑*i*P	**Pn**	**13 53 39.0 -0.3**
	baz=353					
NSTT				*e*S	Sb	13 53 51.3 +0.5
	baz=353					
LIOB	**Emei**	**0.95**	**5**	⇑*e*P	**Pb**	**13 53 37.1 -1.7**
	baz=354					
LIOB				*e*S	Sg	13 53 50.8 -0.5
	baz=354					
TTN	**Taitung**	**0.96**	**168**	*e*P	**Pn**	**13 53 39.5 0.0**
	baz=167					
SSD	**Sandimen**	**0.98**	**196**	⇑*i*P	**Pg**	**13 53 39.3 -0.1**
	baz=188					
SSD				*e*S	Sn	13 53 53.6 -0.1
	baz=188					
ENA	**Nanau**	**1.04**	**45**	⇓*i*P	**Pb**	**13 53 39.9 -0.4**
	baz=47					
ENA				*e*S	Sn	13 53 55.5 +0.4
	baz=47					
NANB	**Nanao**	**1.05**	**45**	⇓P	**Pb**	**13 53 39.8 -0.6**
	baz=47					
NANB				*e*S	Sg	13 53 54.4 +0.1
	baz=47					
SGLT	**Jiouru**	**1.05**	**203**	*e*P	**Pn**	**13 53 41.8 +1.1**
	baz=201					
SGLT				*e*S	Sn	13 53 58.3 +3.1
	baz=201					
NDT	**Datong Townshi**	**1.05**	**30**	⇓*e*P	**Pb**	**13 53 39.8 -0.7**
	baz=23					
NSK	**Sanguang**	**1.05**	**22**	⇓P	**Pb**	**13 53 39.8 -0.8**
	baz=22					
YHNB	**Yeheng**	**1.05**	**23**	*e*Pg	**Pb**	**13 53 40.0 -0.6**
YHNB	**Yeheng**	**1.05**	**23**	⇓P	**Pb**	**13 53 39.8 -0.8**
	baz=24					
YHNB				*e*S	Sn	13 53 55.1 -0.5
	baz=24					
SNJT	**Kaohsiung City**	**1.08**	**211**	*e*P	**Pg**	**13 53 42.5 +1.1**
	baz=211					
ECL	**Taimali**	**1.09**	**179**	*e*P	**Pb**	**13 53 40.6 -0.5**
	baz=177					
ECL				*e*S	Sn	13 53 57.1 +0.8
	baz=177					
SBCB	**Hsinchu**	**1.09**	**3**	⇑*e*P	**Pn**	**13 53 41.4 -0.1**
	baz=4.0					
SBCB				S	Sn	13 53 57.4 +0.9
	baz=4.0					
MASBT	**Mashibuluo**	**1.11**	**194**	⇑P	**Pb**	**13 53 41.4 -0.1**
	baz=193					
MASBT				*e*S	Sn	13 53 56.9 +0.1
	baz=193					
WLTB	**Daxi**	**1.19**	**14**	P	**Pg**	**13 53 43.2 -0.1**
	baz=24					
WLTB				*e*S	Sg	13 53 59.8 +0.9
	baz=24					
NWLT	**Wulai**	**1.20**	**26**	*e*P	**Pn**	**13 53 42.8 -0.1**
	baz=26					
TWE	**Neicheng**	**1.22**	**33**	⇓P	**Pn**	**13 53 43.1 -0.1**
	baz=44					
SLBB	**Yuanshan**	**1.24**	**31**	*e*P	**Pn**	**13 53 43.4 -0.1**
	baz=20					
TWC	**Suao**	**1.24**	**42**	⇓*i*P	**Pn**	**13 53 43.4 -0.1**
	baz=35					
TWC				*e*S	Sg	13 54 01.6 +1.2
	baz=35					
WDGT	**Dungji**	**1.25**	**250**	⇓P	**Pn**	**13 53 42.0 -1.4**
	baz=249					
WDGT				*e*S	Sb	13 53 58.8 -0.9
	baz=249					
SSPT	**Xinbi**	**1.25**	**196**	*e*P	**Pg**	**13 53 44.5 +0.1**
	baz=183					
PHUB	**P'eng-hu**	**1.26**	**262**	⇓P	**Pn**	**13 53 42.3 -1.4**
	baz=261					
PHUB				*e*S	Sb	13 53 58.9 -1.3
	baz=261					
PNG	**Penghu**	**1.27**	**265**	⇓*i*P	**Pn**	**13 53 42.5 -1.3**
	baz=264					
PNG				*e*S	Sb	13 53 59.7 -0.7
	baz=264					
NCUH	**Zhongli**	**1.29**	**10**	*e*P	**Pg**	**13 53 45.1 -0.2**
	baz=9.0					
NCU	**National Centr**	**1.29**	**10**	*e*P	**Pn**	**13 53 44.2 0.0**
	baz=10.0					
ILA	**Ilan**	**1.30**	**35**	*e*P	**Pg**	**13 53 45.1 -0.3**
	baz=20					
EAST	**Anshuo**	**1.31**	**183**	⇑P	**Pb**	**13 53 45.0 +0.1**
	baz=176					
TAW	**Tawu**	**1.33**	**181**	*e*P	**Pg**	**13 53 45.6 -0.5**
	baz=170					
SCZT	**Fangliau**	**1.35**	**192**	*e*P	**Pb**	**13 53 45.2 -0.3**
	baz=180					
TATO	**Taipei**	**1.37**	**22**	*e*Pn	**Pb**	**13 53 45.6 -0.4**
TATO	**Taipei**	**1.37**	**22**	⇑*e*P	**Pn**	**13 53 45.5 +0.2**
	baz=28					
TATO				*e*S	Sg	13 54 04.7 -0.1
	baz=28					
NHDH	**Xindian Distri**	**1.38**	**23**	*e*P	**Pb**	**13 53 45.6 -0.4**
	baz=25					
NHDH				*e*S	Sg	13 54 05.8 +1.0
	baz=25					
EOS1	**EOS1**	**1.39**	**52**	*e*P	**Pg**	**13 53 46.9 -0.2**
	baz=68					
TWA	**Mucha**	**1.41**	**25**	*e*P	**Pb**	**13 53 46.2 -0.5**
	baz=4.0					
NTC	**Toucheng**	**1.42**	**35**	*e*P	**Pb**	**13 53 47.0 +0.3**
	baz=21					
WLCH	**Liuqiu**	**1.43**	**201**	*e*P	**Pb**	**13 53 47.1 +0.2**
	baz=203					
TAP	**Taipei**	**1.44**	**21**	*e*P	**Pb**	**13 53 46.7 -0.4**
	baz=21					
TWP	**Hsiaoliuchiu**	**1.44**	**201**	*e*P	**Pb**	**13 53 46.9 -0.2**
	baz=203					
VCHM	**Qimei**	**1.46**	**251**	*e*P	**Pn**	**13 53 45.1 -1.4**
	baz=250					
VCHM				*e*S	Sn	13 54 04.7 -0.8
	baz=250					
EGS		**1.47**	**38**	*e*P	**Pg**	**13 53 48.0 -0.6**
	baz=39					
TWS1	**Kuangyinshan**	**1.47**	**17**	*e*P	**Pn**	**13 53 46.7 +0.1**
	baz=19					
TWS1				*e*S	Sg	13 54 09.0 +1.2
	baz=19					

Sta	Name	Dist	Azi	Phase	Phase	Time Res
TIPB	**Shuangxi**	**1.51**	**32**	⇑P	**Pb**	**13 53 48.4 0.0**
	baz=34					
TIPB				*e*S	Sg	13 54 09.2 0.0
	baz=34					
NTST	**Danshui**	**1.54**	**18**	*e*P	**Pn**	**13 53 47.9 +0.3**
	baz=359					
YM04	**YM04**	**1.56**	**21**	*e*P	**Pn**	**13 53 47.7 -0.1**
YM01	**YM01**	**1.56**	**22**	⇑P	**Pn**	**13 53 48.0 +0.1**
	baz=20					
YM05	**YM05**	**1.57**	**21**	⇑P	**Pn**	**13 53 48.1 0.0**
	baz=23					
YM05				*e*S	Sb	13 54 09.1 -0.2
	baz=23					
NWF	**Wu-fen Shan**	**1.57**	**29**	*e*P	**Pb**	**13 53 48.9 -0.6**
	baz=16					
NWF				*e*S	Sg	13 54 11.0 -0.2
	baz=16					
WFSB	**Wu-fen Shan**	**1.57**	**29**	*e*P	**Pb**	**13 53 49.3 -0.1**
	baz=16					
WFSB				*e*S	Sg	13 54 10.5 -0.7
	baz=16					
YM11	**YM11**	**1.58**	**22**	⇑P	**Pn**	**13 53 48.2 0.0**
	baz=20					
ANP	**Anpu**	**1.58**	**20**	*e*P	**Pn**	**13 53 48.1 -0.1**
	baz=360					
YM08	**YM08**	**1.60**	**22**	*e*P	**Pn**	**13 53 47.8 -0.7**
	baz=20					
HEN	**Hengchun**	**1.69**	**186**	*e*P	**Pg**	**13 53 52.4 -0.5**
	baz=185					
LAY	**Lan-yu**	**1.74**	**161**	*e*P	**Pn**	**13 53 49.6 -0.7**
	baz=149					
TWK1	**Hengchun**	**1.75**	**184**	*e*P	**Pb**	**13 53 51.5 -0.8**
	baz=202					
TWKBT	**Hengchun**	**1.75**	**184**	*e*P	**Pb**	**13 53 52.4 0.0**
	baz=202					
TSEB	**Hengchuen, Pin**	**1.79**	**181**	*e*P	**Pg**	**13 53 54.8 +0.1**
	baz=199					
VWUC	**VWUC**	**1.87**	**314**	*e*P	**Pn**	**13 53 50.6 -1.5**
	baz=313					
JYNG	**Yonagunijimaku**	**1.99**	**67**	P	**Pn**	**13 53 54.2 +0.5**
JYNG				*e*S	**Sn**	**13 54 19.2 +0.7**
YOJ	**Yonaguni jima**	**2.05**	**68**	*e*Pn	**Pn**	**13 53 55.1 +0.6**
YOJ	**Yonaguni jima**	**2.05**	**68**	*e*P	**Pn**	**13 53 55.1 +0.6**
	baz=69					
YOJ	**Yonaguni jima**	**2.05**	**68**	P	**Pn**	**13 53 55.2 +0.6**
YOJ				*e*S	**Sb**	**13 54 21.3 -1.6**
PTTC	**Pingtan**	**2.09**	**330**	*e*P	**Pn**	**13 53 53.8 -1.2**
	baz=329					
PTMZ	**Houxiangcun**	**2.13**	**309**	*e*P	**Pn**	**13 53 55.0 -0.7**
	baz=308					
PCYT	**Pengchaiyu**	**2.19**	**28**	*e*P	**Pn**	**13 53 57.0 +0.5**
	baz=12					
KNM	**Kinmen**	**2.40**	**288**	*e*P	**Pn**	**13 53 59.8 +0.5**
	baz=286					
KNMB	**Chin-men Tao**	**2.45**	**289**	⇓*e*P	**Pn**	**13 53 58.8 -1.3**
	baz=288					
QZH	**Quanzhou**	**2.47**	**301**	Pn	**Pn**	**13 53 59.6 -0.8**
QZH				Sn	**Sn**	**13 54 28.6 -1.8**
QZH				smax	smax	
	comp=N,440nm,0.5s					
QZH				smax	smax	
	comp=E,430nm,0.8s					
MATB	**Ma-tsu**	**2.61**	**340**	*e*P	**Pn**	**13 54 00.9 -1.3**
	baz=338					
IRIF	**Iriomote-Funau**	**2.64**	**75**	P	**Pn**	**13 54 03.3 +0.6**
IRIF				S	**Sn**	**13 54 35.7 +1.2**
HATJ	**Hateruma jima**	**2.66**	**82**	P	**Pn**	**13 54 03.3 +0.4**
HATJ				*e*S	**Sn**	**13 54 35.7 +0.8**
JKRS	**Kuro-shima**	**2.87**	**78**	P	**Pn**	**13 54 07.0 +1.2**
JKRS				*e*S	**Sn**	**13 54 41.5 +1.3**
ZPLA	**Ao Xicun**	**2.92**	**275**	⇓*e*P	**Pn**	**13 54 05.7 -0.9**
	baz=275					
MHZQ	**Yeshan**	**2.95**	**325**	*e*P	**Pn**	**13 54 06.1 -0.9**
	baz=323					
AXDP	**Jialang**	**2.96**	**295**	*e*P	**Pn**	**13 54 06.3 -0.8**
	baz=293					
JIJ	**Ishigaki jima**	**3.01**	**77**	P	**Pn**	**13 54 08.0 +0.2**
JIJ				*e*S	**Sn**	**13 54 43.9 +0.2**
LYJJ	**Jianjiangzhen**	**3.04**	**340**	*e*P	**Pn**	**13 54 06.9 -1.3**
	baz=338					
ZZJH	**Jiuhuzhen**	**3.12**	**285**	*e*P	**Pn**	**13 54 08.4 -0.8**
	baz=284					
JISG	**Ishigakijimahi**	**3.21**	**73**	P	**Pn**	**13 54 10.7 +0.1**
JISG				*e*S	**Sn**	**13 54 48.7 0.0**
XPSS	**Dashiqiu**	**3.29**	**348**	*e*P	**Pn**	**13 54 10.7 -1.0**
	baz=347					
JTJ	**Tarama**	**3.57**	**74**	P	**Pn**	**13 54 16.1 +0.6**
JTJ				S	**Sn**	**13 54 59.4 +1.9**
JIRB	**Irabujima**	**4.03**	**73**	P	**Pn**	**13 54 22.4 +0.6**
JIRB				*e*S	**Sn**	**13 55 09.4 +0.5**
JIKM	**Ikemajima**	**4.12**	**72**	P	**Pn**	**13 54 23.8 +0.7**
JIKM				*e*S	**Sn**	**13 55 12.9 +1.7**
JOGS	**Gusukube**	**4.22**	**75**	P	**Pn**	**13 54 25.7 +1.3**
JOGS				*e*S	**Sn**	**13 55 15.0 +1.4**
GZH	**Guangzhou**	**7.00**	**267**	P	Pn	13 54 57.8 -4.8
GZH				S	Sn	13 56 08.5 -14
GZH				smax	smax	
	comp=N,190nm,0.7s					
GZH				smax	smax	
	comp=E,120nm,0.8s					
JOW	**Kunigami**	**7.34**	**63**	*e*Pn	**Pn**	**13 55 06.8 -0.6**
XAN	**Xi'an**	**14.72**	**317**	P	P	13 57 00.5 +6.0
XAN				S	**Sn**	**13 59 38.8 +7.5**
XAN				pmax	pmax	
	comp=Z,5.0nm,0.7s					
XAN				LR	LR	
	comp=N,220nm,8.9s					
XAN				LR	LR	
	comp=E,260nm,9.2s					
XAN				LR	LR	
	comp=Z,250nm,11.7s					
KSRS	**Korea Array**	**14.97**	**22**	P	**Pn**	**13 56 53.9 +2.1**
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=13					
HHC	**Hu-ho-hao-te**	**18.83**	**338**	*e*P	**Pn**	**13 57 42.6 +2.0**
HHC				pmax	pmax	
	comp=Z,12nm,0.9s					
MJAR	**Matsushiro Arr**	**19.64**	**45**	LR	LR	14 05 46.8
	comp=Z,40nm,18.9s,baz=205,slow=38					
CMAR	**Chiang Mai Arr**	**21.16**	**260**	P	**P**	**13 58 09.6 +4.1**
	comp=Z,0.4nm,0.7s,baz=61,slow=7.7,SNR=3.0					
SONM	**Songino Array**	**26.73**	**338**	P	**P**	**13 59 00.3 +0.6**
	comp=Z,0.9nm,0.8s,baz=153,slow=8.5,SNR=6.2					
KLR	**Kul'dur**	**26.88**	**16**	P	**P**	**13 58 58.6 -2.1**
	comp=Z,0.8nm,0.6s,baz=250,slow=7.3,SNR=4.9					
WMQ	**Urumqi**	**33.83**	**315**	*e*P	**P**	**14 00 02.4 -0.1**
WMQ				LR	LR	
	comp=Z,71nm,19.3s					
WMQ				LR	LR	
	comp=Z,75nm,25.9s					
WMQ				LR	LR	
	comp=Z,87nm,21.1s					
MKAR	**Makanchi Array**	**38.53**	**316**	P	**P**	**14 00 43.3 +0.7**
	comp=Z,1.7nm,0.7s,baz=113,slow=9.8,SNR=28					
ZALV	**Zalesovo Beam**	**40.53**	**328**	*e*P	**P**	**14 00 58.0 -1.1**
ZALV	**Zalesovo Beam**	**40.53**	**328**	P	**P**	**14 00 58.7 -0.4**
	comp=Z,3.2nm,0.9s,baz=123,slow=7.4,SNR=6.3					
KURBB	**Kurchatov Arra**	**42.34**	**320**	P	**P**	**14 01 16.5 +2.5**
	comp=Z,0.3nm,0.6s,baz=152,slow=2.1,SNR=4.6					
H11N1	**WAKE ISLAND Hy**	**42.75**	**86**	T	T	14 46 23.0
	baz=283,slow=75,SNR=6.4					
H11N2	**WAKE ISLAND Hy**	**42.75**	**86**	T	T	14 46 22.5
	baz=283,slow=75,SNR=9.0					
H11N3	**WAKE ISLAND Hy**	**42.76**	**86**	T	T	14 46 25.9
	baz=283,slow=75,SNR=9.2					
H11S3	**WAKE ISLAND Hy**	**42.87**	**88**	T	T	14 46 31.7
	baz=284,slow=74,SNR=14					
H11S1	**WAKE ISLAND Hy**	**42.87**	**88**	T	T	14 46 35.2
	baz=284,slow=74,SNR=7.3					
H11S2	**WAKE ISLAND Hy**	**42.88**	**88**	T	T	14 46 31.5
	baz=284,slow=74,SNR=7.3					
WRA	**Warramunga Arr**	**45.30**	**162**	P	**P**	**14 01 35.2 -2.9**
	comp=Z,0.8nm,0.5s,baz=345,slow=8.7,SNR=11					
BVAR	**Borovoye Array**	**47.91**	**321**	P	**P**	**14 01 58.7 +0.4**
	comp=Z,0.8nm,0.7s,baz=111,slow=8.0,SNR=2.5					
ASAR	**Alice Springs**	**48.73**	**164**	P	**P**	**14 02 02.5 -2.4**
	comp=Z,0.3nm,0.3s,baz=341,slow=7.1,SNR=12					
ASAR				PcP	**PcP**	**14 03 27.7 -2.2**
	comp=Z,0.4nm,0.5s,baz=340,slow=3.3,SNR=5.3					
STKA	**Stephens Creek**	**58.69**	**159**	P	**P**	**14 03 15.8 -1.8**
	comp=Z,1.2nm,0.6s,baz=338,slow=8.1,SNR=3.2					
ILAR	**Eielson Array**	**69.75**	**27**	P	**P**	**14 04 29.4 -0.6**
	comp=Z,0.4nm,1.0s,baz=307,slow=6.1,SNR=4.6					
FINES	**FINESS Array B**	**71.75**	**330**	P	**P**	**14 04 41.4 -0.7**
	comp=Z,0.7nm,0.5s,baz=90,slow=9.5,SNR=4.9					
NOA	**NORSAR Array B**	**78.55**	**332**	P	**P**	**14 05 20.5 -0.9**
	comp=Z,0.8nm,0.8s,baz=68,slow=5.0,SNR=2.9					

YKA Yellowknife Ar 83.51 23 P P 14 05 46.5 -1.2
comp=Z,0.3nm,0.4s,baz=315,slow=4.7,SNR=8.3

*DDA **17** 14:03:04.5,39˚.27N×27˚.88E,h28km, ML3.9*
*ISK **17** 14:03:04.9,39˚.28N×27˚.85E,h8km, ML3.8/48*
*ISCJB **17** 14:03:06.2±0.2,39˚.29N±0˚.01×27˚.85E±0˚.02,h18km±2km, Error ellipse: s-maj=2.2km s-min=2.0km az=147.2*
*THE **17** 14:03:07.1,39˚.38N×28˚.04E,h30km±5km,ML3.1/9, Error ellipse: s-maj=5.7km s-min=0.6km az=46.0*
ISC 17 14:03:05.8±0.8,**39˚.27N**±0˚.02×**27˚.84E**±0˚.01,**h16**km±6km, **n163,**σ1§**20**/195,**19C-9D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STEP	**BALIKESIR_Sava**	**0.14**	**319**	*i* P	**Pg**	**14 03 09.6**	**-0.1**
STEP				*i* S	**Sg**	**14 03 12.4**	**+0.2**
STEP				IAML_P			
	comp=Z,419μm,0.1s						
BALB	**Balikesir**	**0.37**	**5**	PG	**Pg**	**14 03 12.9**	**-0.5**
BALB				SG	**Sg**	**14 03 18.7**	**+0.1**
AKHS	**Akhisar**	**0.39**	**182**	*i* P	**Pb**	**14 03 13.3**	**-1.1**
AKHS				*i* S	**Sb**	**14 03 20.2**	**0.0**
AKHS				IAML_P			
	comp=Z,35μm,0.3s						
AKS	**Akhisar**	**0.39**	**183**	PG	**Pg**	**14 03 12.9**	**-0.9**
AKS				SG	**Sb**	**14 03 19.8**	**-0.4**
BALY	**Balya**	**0.50**	**340**	*i* P	**Pg**	**14 03 15.9**	**+0.2**
GOMA	**Golmarmara-Man**	**0.57**	**173**	PG	**Pb**	**14 03 16.8**	**-0.6**
GOMA				SG	**Sb**	**14 03 25.0**	**-0.2**
DURS	**Dursunbey**	**0.59**	**56**	*i* P	**Pg**	**14 03 16.9**	**-0.7**
DURS				*i* S	**Sg**	**14 03 25.2**	**-0.3**
DURS				IAML_P			
	comp=Z,22μm,0.1s						
ZEDA	**zmir-Bergama**	**0.66**	**243**	*i* P	**Pb**	**14 03 19.7**	**+0.7**
ZEDA				*i* S	**Sb**	**14 03 28.8**	**+0.8**
ZEDA				IAML_P			
	comp=Z,54μm,0.1s						
DST	**Dursunbey**	**0.69**	**61**	PG	**Pg**	**14 03 17.9**	**-1.5**
GONE	**Gonen-Balikesi**	**0.78**	**352**	PG	**Pg**	**14 03 20.6**	**-0.5**
GONE				SG	**Sg**	**14 03 31.5**	**+0.1**
AYVA	**Ayvalik**	**0.89**	**273**	*i* P	**Pb**	**14 03 23.1**	**+0.2**
AYVA				*i* S	**Sn**	**14 03 36.6**	**+0.4**
AYVA				IAML_P			
	comp=Z,46μm,0.4s						
SMAA	**Simav-Kutahya**	**0.91**	**100**	PG	**Pg**	**14 03 22.9**	**-0.5**
MANT	**Manisa**	**0.96**	**144**	*i* P	**Pb**	**14 03 24.7**	**+0.5**
MANT				*i* S	**Sb**	**14 03 36.8**	**0.0**
KULA	**Kula-Manisa**	**0.99**	**139**	PG	**Pg**	**14 03 23.8**	**-1.2**
KULA				SG	**Sg**	**14 03 36.7**	**-1.4**
KULA	**Kula-Manisa**	**0.99**	**139**	P	**Pg**	**14 03 23.8**	**-1.2**
KULA				S	**Sg**	**14 03 36.5**	**-1.6**
FOCM	**Foa**	**1.02**	**237**	PG	**Pb**	**14 03 24.9**	**-0.3**
KNL	**Balıkesir**	**1.03**	**347**	*i* P	**Pg**	**14 03 25.2**	**-0.4**
KNL				*i* S	**Sg**	**14 03 39.5**	**+0.4**
KNL				IAML_P			
	comp=Z,7μm,0.2s						
KCTX	**Karacabey (Bur**	**1.07**	**22**	PG	**Pg**	**14 03 25.3**	**-1.2**
EDC	**Edincik**	**1.07**	**1**	PG	**Pg**	**14 03 25.6**	**-1.0**
USAK	**Uak-Merkez**	**1.08**	**121**	*i* P	**Pg**	**14 03 25.6**	**-1.1**
USAK				*i* S	**Sg**	**14 03 39.8**	**-0.9**
USAK				IAML_P			
	comp=Z,87μm,0.3s						
BLCB	**Balcova**	**1.08**	**215**	PN	**Pb**	**14 03 26.1**	**0.0**
BAYC	**CANAKKALE_Bayr**	**1.10**	**296**	*i* P	**Pn**	**14 03 27.2**	**+0.6**
BAYC				*i* S	**Sb**	**14 03 41.6**	**+0.9**
BAYC				IAML_P			
	comp=Z,44μm,0.2s						
SHAP	**Saphane-Kutahy**	**1.11**	**103**	PN	**Pb**	**14 03 26.8**	**+0.1**
ORLT	**Orhaneli**	**1.13**	**46**	PN	**Pg**	**14 03 26.3**	**-1.3**
KRBG	**Karabiga-Canak**	**1.19**	**340**	PN	**Pg**	**14 03 27.9**	**-1.0**
PRK	**Paraskevi**	**1.21**	**269**	P	**Pn**	**14 03 29.5**	**+1.4**
PRK				S	**Sn**	**14 03 46.7**	**+2.4**
GEDZ	**Gediz**	**1.25**	**100**	PN	**Pb**	**14 03 29.6**	**+0.6**
TVSB	**Tavsanli**	**1.27**	**81**	PN	**Pg**	**14 03 29.6**	**-0.8**
EZN	**Ezine**	**1.29**	**296**	PN	**Pg**	**14 03 29.8**	**-0.9**
GDZ	**Gediz**	**1.29**	**98**	*i* P	**Pg**	**14 03 29.3**	**-1.4**
GDZ				*i* S	**Sg**	**14 03 46.9**	**-0.7**
AYDB	**Zeytinkoy-Aydi**	**1.32**	**178**	PN	**Pg**	**14 03 29.5**	**-1.8**
URLA	**Izmir**	**1.33**	**227**	PN	**Pg**	**14 03 29.7**	**-1.7**
URLA	**Izmir**	**1.33**	**227**	*i* P	**Pn**	**14 03 30.4**	**+0.6**
URLA				*i* S	**Sn**	**14 03 48.9**	**+1.7**
URLA				IAML_P			
	comp=Z,13μm,0.5s						
GPNR	**Gulpinar-Canak**	**1.33**	**278**	PN	**Pg**	**14 03 29.8**	**-1.7**
MRMT	**Marmara Adasi**	**1.34**	**352**	PN	**Pg**	**14 03 30.4**	**-1.3**
MDNY	**Mudanya-Bursa**	**1.36**	**36**	PN	**Pn**	**14 03 30.2**	**0.0**
LPK	**Lapseki**	**1.38**	**323**	PN	**Pn**	**14 03 30.9**	**+0.5**
DGB	**zmir**	**1.43**	**212**	*i* P	**Pn**	**14 03 31.4**	**+0.3**
DGB				*i* S	**Sn**	**14 03 51.7**	**+2.1**
ZEY	**zmir**	**1.47**	**226**	*i* P	**Pn**	**14 03 31.7**	**+0.1**
ZEY				IAML_P			
	comp=Z,6μm,0.2s						
BOZC	**Bozcaada**	**1.49**	**293**	PN	**Pn**	**14 03 32.5**	**+0.5**
BOZC	**Bozcaada**	**1.49**	**293**	*i* P	**Pn**	**14 03 32.7**	**+0.7**
BOZC				*i* S	**Sg**	**14 03 52.4**	**-1.5**
BOZC				IAML_P			
	comp=Z,28μm,0.2s						
RKY	**Sarkoy-Tekirda**	**1.50**	**341**	PN	**Pn**	**14 03 32.5**	**+0.3**
SART	**Tekirdag**	**1.50**	**341**	*i* P	**Pn**	**14 03 32.8**	**+0.5**
SART				*i* S	**Sn**	**14 03 52.1**	**+0.6**
ARMT	**Armutlu**	**1.52**	**31**	PN	**Pn**	**14 03 31.9**	**-0.4**
CESE	**eme**	**1.52**	**232**	PN	**Pg**	**14 03 34.1**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.54**	**317**	PN	**Pn**	**14 03 33.5**	**+0.9**
SIGR	**SIGRI**	**1.54**	**268**	PN	**Pn**	**14 03 33.1**	**+0.5**
SIGR	**SIGRI**	**1.54**	**268**	P	**Pn**	**14 03 33.1**	**+0.5**
SIGR				S	**Sg**	**14 03 54.6**	**-0.8**
GEMT	**Gemlik**	**1.56**	**41**	PN	**Pn**	**14 03 33.1**	**+0.2**
SBT4	**Kumbag-Tekirda**	**1.57**	**352**	PN	**Pn**	**14 03 33.9**	**+1.0**
KHAL	**Karahalli**	**1.58**	**124**	*i* P	**Pn**	**14 03 33.7**	**+0.5**
KHAL				IAML_P			
	comp=Z,7μm,0.4s						
AYDN	**Tasoluk**	**1.61**	**179**	*i* P	**Pn**	**14 03 33.4**	**-0.3**
KHL	**Karahalli**	**1.62**	**125**	PN	**Pb**	**14 03 35.2**	**-0.3**
ERIK	**Erikli-Kesan**	**1.73**	**324**	PN	**Pn**	**14 03 35.9**	**+0.7**
TKIR	**Tekirdag**	**1.73**	**352**	PN	**Pg**	**14 03 34.9**	**-0.4**
GOKC	**Gokceada-Canak**	**1.75**	**303**	PN	**Pn**	**14 03 36.1**	**+0.6**
SMG	**Samos**	**1.75**	**207**	P	**Pg**	**14 03 37.5**	**-1.8**
YLV	**Yalova**	**1.75**	**42**	PN	**Pn**	**14 03 35.2**	**-0.4**
YLV	**Yalova**	**1.75**	**42**	*i*P	**Pn**	**14 03 37.8**	**+2.2**
YLV	**Yalova**	**1.75**	**42**	S	**Sn**	**14 03 58.8**	**+1.1**
KESN	**Edirne-Kesan**	**1.79**	**331**	*i* P	**Pn**	**14 03 36.8**	**+0.4**
KESN				IAML_P			
	comp=Z,3μm,0.2s						
CAVI	**Cavuskoy**	**1.81**	**58**	PN	**Pn**	**14 03 37.5**	**+1.2**
AUBOZ	**BOZOYUK**	**1.81**	**69**	PN	**Pn**	**14 03 38.6**	**+2.1**
AUBOZ	**BOZOYUK**	**1.81**	**69**	*i* P	**Pb**	**14 03 39.2**	**+0.5**
CRLT	**Corlu**	**1.86**	**358**	PN	**Pn**	**14 03 38.4**	**+1.4**
BUY	**Buyukada**	**1.86**	**32**	PN	**Pn**	**14 03 38.2**	**+1.2**
BUY	**Buyukada**	**1.86**	**32**	*i* P	**Pn**	**14 03 37.1**	**+0.1**
ELBA	**Catalca**	**1.93**	**13**	*i* P	**Pn**	**14 03 40.1**	**+2.1**
ENEZ	**Enez**	**1.95**	**319**	PN	**Pn**	**14 03 39.4**	**+1.1**
SLVT	**Silivri**	**1.98**	**8**	PN	**Pn**	**14 03 38.3**	**-0.4**
AFYO	**Afyonkarahisar**	**1.98**	**103**	*i* P	**Pn**	**14 03 40.2**	**+1.4**
AFYO				*i* S	**Sg**	**14 04 09.5**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.99**	**154**	*i* P	**Pn**	**14 03 39.9**	**+0.9**
KAVV	**Kandilli-Istan**	**2.02**	**27**	PN	**Pn**	**14 03 39.1**	**-0.2**
ISK	**Istanbul-Kandi**	**2.02**	**27**	PN	**Pn**	**14 03 38.7**	**-0.6**
CTKS	**Kestanelik-??a**	**2.03**	**14**	PN	**Pn**	**14 03 40.8**	**+1.4**
BGKT	**Bogazkoy**	**2.04**	**20**	PN	**Pn**	**14 03 40.0**	**+0.5**
KZIL	**AFYON_Kizioren**	**2.07**	**119**	*i* P	**Pn**	**14 03 40.3**	**+0.3**
KZIL				IAML_P			
	comp=Z,2μm,0.2s						
AUKIR	**Kırka- Seyitga**	**2.09**	**89**	*i* P	**Pg**	**14 03 45.7**	**-0.3**
AUKIR				*i* S	**Sg**	**14 04 12.0**	**-1.1**
BORA	**Eskisehir**	**2.11**	**72**	PN	**Pn**	**14 03 41.5**	**+0.9**
BORA	**Eskisehir**	**2.11**	**72**	P	**Pn**	**14 03 42.0**	**+1.4**
SMTH	**Samothraki Isl**	**2.14**	**305**	P	**Pn**	**14 03 41.6**	**+0.7**
SMTH				S	**Sn**	**14 04 08.1**	**+0.9**
LIA	**Limnos Island**	**2.14**	**288**	P	**Pn**	**14 03 41.6**	**+0.7**
LIA				S	**Sn**	**14 04 08.8**	**+1.6**
YER	**Yerkesik**	**2.16**	**170**	P	**Pn**	**14 03 41.1**	**-0.2**
YER				S	**Sn**	**14 04 09.5**	**+1.7**
KLYT	**Kilyos**	**2.18**	**25**	PN	**Pn**	**14 03 42.3**	**+0.8**
KLYT	**Kilyos**	**2.18**	**25**	*i*P	**Pn**	**14 03 41.3**	**-0.2**
KLYT	**Kilyos**	**2.18**	**25**	S	**Sn**	**14 04 08.1**	**-0.1**
BDRM	**Kayabasi**	**2.22**	**188**	*i* P	**Pg**	**14 03 47.9**	**-0.5**
GEYV	**SAKARYA_Geyve**	**2.25**	**57**	*i* P	**Pb**	**14 03 47.7**	**+1.7**
SRCK	**Saricakaya, Es**	**2.29**	**69**	PN	**Pn**	**14 03 44.2**	**+1.3**
SILT	**Sile**	**2.33**	**36**	PN	**Pn**	**14 03 44.5**	**+0.9**
SILT	**Sile**	**2.33**	**36**	*i*P	**Pn**	**14 03 43.7**	**+0.1**
SILT	**Sile**	**2.33**	**36**	S	**Sn**	**14 04 12.2**	**+0.3**
BRDR	**BURDUR-Merkez**	**2.35**	**131**	*i* P	**Pn**	**14 03 44.1**	**+0.2**
BRDR				IAML_P			
	comp=Z,1μm,0.4s						
GULT	**Gulveren**	**2.37**	**60**	PN	**Pn**	**14 03 45.4**	**+1.3**
SPNC	**Sapanca-Adapaz**	**2.37**	**53**	PN	**Pn**	**14 03 45.0**	**+1.0**
PHSR	**Pinarhisar**	**2.37**	**354**	PN	**Pn**	**14 03 45.0**	**+0.9**
PHSR	**Pinarhisar**	**2.37**	**354**	*i*P	**Pn**	**14 03 44.2**	**+0.1**
PHSR	**Pinarhisar**	**2.37**	**354**	S	**Sn**	**14 04 07.4**	**-5.4**
SAUV	**Serdivan-Sakar**	**2.41**	**52**	PN	**Pn**	**14 03 46.3**	**+1.7**
GOLH	**Golhisar**	**2.44**	**146**	*i* P	**Pn**	**14 03 47.6**	**+2.4**
TURN	**Turunc**	**2.47**	**166**	*i* P	**Pn**	**14 03 46.5**	**+1.1**
TURN				IAML_P			
	comp=Z,1μm,0.3s						
BOLV	**Bolvadin**	**2.49**	**102**	*i* P	**Pn**	**14 03 47.1**	**+1.2**
DALY	**Dalyan (Mula)**	**2.53**	**165**	*i* P	**Pn**	**14 03 47.6**	**+1.4**
DAT	**Datca**	**2.55**	**185**	*i* P	**Pg**	**14 03 54.6**	**0.0**
ISP	**Isparta**	**2.56**	**124**	*i*P	**Pn**	**14 03 46.7**	**0.0**
ISP	**Isparta**	**2.56**	**124**	S	**Sg**	**14 04 28.8**	**+0.8**
KAND	**Kocaeli-Kandir**	**2.56**	**44**	*i* P	**Pn**	**14 03 47.4**	**+0.6**
KAND				IAML_P			
	comp=Z,472nm,0.2s						
RDO	**Rodhopi**	**2.57**	**318**	P	**Pn**	**14 03 47.4**	**+0.6**
RDO				S	**Sn**	**14 04 17.1**	**-0.6**
KIRK	**Kırklareli**	**2.57**	**348**	*i* P	**Pn**	**14 03 47.0**	**+0.2**
BAGO	**Egridir - ISPA**	**2.64**	**118**	*i* P	**Pn**	**14 03 49.0**	**+1.1**
THAS	**Thassos island**	**2.74**	**300**	P	**Pn**	**14 03 49.5**	**+0.4**
THAS				S	**Sn**	**14 04 22.3**	**+0.3**
BTAS	**Taskesti**	**2.76**	**61**	*i* P	**Pn**	**14 03 49.6**	**+0.2**
BTAS				IAML_P			
	comp=Z,342nm,0.2s						
SAHE	**Sakarya_HENDEK**	**2.80**	**55**	*i* P	**Pn**	**14 03 50.9**	**+0.8**
SAHE				IAML_P			
	comp=Z,225nm,0.4s						
APE	**Apeiranthos**	**2.85**	**220**	*i*P	**Pb**	**14 03 57.2**	**+0.8**
APE	**Apeiranthos**	**2.85**	**220**	S	**Sg**	**14 04 35.8**	**-1.6**
APE	**Apeiranthos**	**2.85**	**220**	P	**Pn**	**14 03 52.7**	**+2.0**
APE				S	**Sn**	**14 04 27.5**	**+2.7**
AUSIV	**SIVRIHISAR**	**2.88**	**85**	*i* P	**Pn**	**14 03 59.9**	**-1.1**
AUMIH	**MIHALICIK**	**2.88**	**77**	*i* P	**Pg**	**14 03 59.4**	**-1.6**
AUMIH				*i* S	**Sg**	**14 04 36.5**	**-2.0**
KDZ	**Kurdzhali**	**3.01**	**323**	P	**Pn**	**14 03 54.7**	**+1.8**
KORT	**Korkueli**	**3.01**	**138**	*i* P	**Pn**	**14 03 54.9**	**+1.9**
ARG	**Arkhangelos**	**3.06**	**176**	P	**Pn**	**14 03 54.3**	**+0.8**
ARG				S	**Sn**	**14 04 31.1**	**+1.3**
KAVA	**Kavala**	**3.07**	**305**	P	**Pn**	**14 03 54.5**	**+0.8**
KAVA				S	**Sn**	**14 04 31.3**	**+1.1**
OUR	**Ouranopolis**	**3.15**	**291**	P	**Pn**	**14 03 55.9**	**+1.1**
DOGA	**KONYA_Doganhis**	**3.22**	**110**	*i* P	**Pn**	**14 03 57.0**	**+1.2**
PAIG	**Paliouri**	**3.28**	**283**	P	**Pn**	**14 03 57.5**	**+1.0**
DIM	**Dimitrovgrad**	**3.28**	**328**	P	**Pn**	**14 03 56.8**	**+0.2**
KIBS	**BOLU**	**3.30**	**68**	*i* P	**Pg**	**14 04 07.7**	**-1.3**
KDHN	**Kadinhani**	**3.42**	**101**	*e*P	**Pn**	**14 03 58.4**	**-0.3**
KDZE	**Karadeniz Ereo**	**3.43**	**52**	*i*P	**Pn**	**14 04 01.8**	**+3.1**
SANT	**Santorini**	**3.45**	**214**	*i*P	**Pb**	**14 04 06.6**	**0.0**
BCAM	**Yenicaga**	**3.59**	**63**	*i* P	**Pn**	**14 04 02.2**	**+1.2**
PLD	**Plovdiv**	**3.70**	**321**	P	**Pn**	**14 04 03.0**	**+0.7**
CMDR	**Camlidere-ANKA**	**3.77**	**70**	*i* P	**Pn**	**14 04 13.2**	**+1.1**
MMB	**Musomiste**	**3.90**	**308**	P	**Pn**	**14 04 06.4**	**+1.0**
KKUL	**Konya-Kulu**	**3.95**	**90**	*i* P	**Pg**	**14 04 20.7**	**-0.7**
KBUK	**KARABUK-Merkez**	**4.16**	**60**	*i* P	**Pb**	**14 04 21.1**	**+2.4**
VTS	**Vitosha**	**4.83**	**315**	*i*P	**Pn**	**14 04 19.5**	**+1.6**
VTS	**Vitosha**	**4.83**	**315**	S	Sn	14 05 06.5	-7.1
VTS	**Vitosha**	**4.83**	**315**	P	**Pn**	**14 04 19.0**	**+1.1**
ICOR	**Ion Corvin**	**4.84**	**360**	§*i*P	**Pn**	**14 04 17.9**	**-0.1**
STIP	**Stip**	**4.94**	**301**	*i* Pn	**Pn**	**14 04 19.2**	**-0.2**
SGRR	**Singureni**	**5.14**	**345**	*i*P	**Pn**	**14 04 20.5**	**-1.6**
TIRR	**Tirgusor**	**5.20**	**5**	*i*P	**Pn**	**14 04 23.2**	**+0.3**
TLB	**Topalu**	**5.31**	**2**	§*i*P	**Pn**	**14 04 24.7**	**+0.2**
KRUS	**Krusevo**	**5.45**	**295**	*e*Pn	**Pn**	**14 04 28.7**	**+2.2**
CFR	**Carcaliu**	**5.91**	**2**	*i*P	**Pn**	**14 04 33.1**	**+0.5**
MLR	**Muntele Rosu**	**6.37**	**348**	*i*P	**Pn**	**14 04 38.5**	**-0.7**
MLR	**Muntele Rosu**	**6.37**	**348**	S	**Sn**	**14 05 48.8**	**-2.8**
VOIR		**6.50**	**342**	§*i*P	**Pn**	**14 04 40.5**	**-0.3**
ARR	**Arges**	**6.54**	**340**	§*i*P	**Pn**	**14 04 39.5**	**-1.9**
PLOR	**Plostina**	**6.63**	**353**	*i*P	**Pn**	**14 04 41.7**	**-1.0**
VRI	**Vrincioaia**	**6.64**	**353**	*i*P	**Pn**	**14 04 41.5**	**-1.3**
DOPR	**Dopca**	**6.93**	**346**	§*i*P	**Pn**	**14 04 46.5**	**-0.2**
MDVR	**Moldovita**	**7.15**	**322**	§*i*P	**Pn**	**14 04 48.3**	**-1.4**
MDVR	**Moldovita**	**7.15**	**322**	S	**Sn**	**14 06 07.8**	**-2.8**
GZR	**Gura Zlata**	**7.17**	**330**	*i*P	**Pn**	**14 04 48.0**	**-2.1**
PDG	**Podgorica**	**7.23**	**299**	*i*P	**Pn**	**14 04 51.5**	**+0.7**
PDG	**Podgorica**	**7.23**	**299**	S	**Sn**	**14 06 11.0**	**-1.5**
TESR	**Tescani**	**7.29**	**354**	*i*P	**Pn**	**14 04 49.9**	**-1.7**
BIZ	**Bicaz**	**7.77**	**351**	*i*P	**Pn**	**14 04 57.8**	**-0.4**
BZS	**Buzias**	**7.83**	**326**	§*i*P	**Pn**	**14 04 57.3**	**-1.7**
DRGR		**8.40**	**335**	*i*P	**Pn**	**14 05 05.2**	**-1.7**
BURAR	**Bucovina Array**	**8.55**	**348**	§*i*P	**Pn**	**14 05 09.4**	**+0.3**

*DRS **17** 14:03:56.2±0.0,43˚.41N×45˚.85E,h15km*
*MOS **17** 14:03:57.6±2.8,43˚.09N×46˚.00E,h9km,mb3.8/1, Error ellipse: s-maj=9.7km s-min=5.0km az=40.0*
*NORS **17** 14:03:57.6±0.0,43˚.09N×46˚.00E,h9km,MPVA3.8*
ISC 17 14:04:00.2±1.1,**43˚.12N**±0˚.03×**45˚.95E**±0˚.02,**h5**km±9km, **n63,**σ1§**23**/103,**5C-1D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTLR	**Botlikh**	**0.50**	**156**	§*e*PG	**Pb**	**14 04 10.1**	**-1.4**
BTLR				*e*		14 04 18.6	
BTLR				pmax	pmax		
	comp=Z,53nm,0.3s						
BTLR				smax	smax		
	comp=N,81nm,0.5s						
BTLR	**Botlikh**	**0.50**	**156**	*e*Pg	**Pg**	**14 04 09.9**	**+0.1**
BTLR				*e*Sg	**Sb**	**14 04 18.6**	**-0.5**
DBC	**Dubki**	**0.65**	**99**	§*e*PG	**Pg**	**14 04 11.1**	**-1.6**
DBC				*e*		14 04 21.4	
DBC	**Dubki**	**0.65**	**99**	*e*Pg	**Pg**	**14 04 11.1**	**-1.6**
DBC				*e*Sg	**Sg**	**14 04 21.1**	**-0.1**
KRNR	**Karanay**	**0.76**	**112**	*i* PG	**Pg**	**14 04 13.5**	**-1.3**
KRNR				*i* S	**Sb**	**14 04 26.0**	**-0.7**
KRNR				pmax	pmax		
	comp=Z,41nm,0.2s						
KRNR	**Karanay**	**0.76**	**112**	*i* Pg	**Pg**	**14 04 13.5**	**-1.3**
KRNR				*i* Sg	**Sb**	**14 04 26.0**	**-0.7**
XNZR	**Khunzakh**	**0.80**	**136**	§*e*PG	**Pb**	**14 04 16.0**	**-0.7**
XNZR				*e*		14 04 29.7	
XNZR	**Khunzakh**	**0.80**	**136**	*e*Pg	**Pb**	**14 04 16.0**	**-0.7**
XNZR				*e*Sg	**Sn**	**14 04 29.6**	**-1.1**
BUJR	**Buynaksk**	**0.90**	**109**	*e*PG	**Pg**	**14 04 17.0**	**-0.4**
BUJR				*e*S	**Sn**	**14 04 31.5**	**-1.4**
BUJR	**Buynaksk**	**0.90**	**109**	*e*Pg	**Pg**	**14 04 17.0**	**-0.4**
BUJR				*e*Sg	**Sn**	**14 04 31.5**	**-1.4**
ARKR	**Arakani**	**0.93**	**124**	*i* PG	**Pg**	**14 04 17.7**	**-0.2**
ARKR				*e*S	**Sn**	**14 04 34.1**	**+0.5**
ARKR				pmax	pmax		
	comp=Z,50nm,0.2s						
ARKR	**Arakani**	**0.93**	**124**	*i* Pg	**Pg**	**14 04 17.7**	**-0.2**
ARKR				*e*Sg	**Sn**	**14 04 34.1**	**+0.5**
GNBR	**Gunib**	**1.05**	**134**	§*e*PG	**Pb**	**14 04 20.2**	**-0.6**
GNBR				*e*		14 04 37.1	
GNBR				pmax	pmax		
	comp=Z,102nm,0.4s						
GNBR				smax	smax		
	comp=N,172nm,0.5s						
GNBR	**Gunib**	**1.05**	**134**	*e*Pg	**Pb**	**14 04 20.3**	**-0.6**
GNBR				*e*Sg	**Sn**	**14 04 36.8**	**+0.2**
BTKR	**Batakoyurt**	**1.06**	**284**	*e*PG	**Pn**	**14 04 22.0**	**+0.3**
BTKR				*e*S	**Sn**	**14 04 38.7**	**+1.8**
BTKR	**Batakoyurt**	**1.06**	**284**	*e*Pg	**Pn**	**14 04 22.0**	**+0.3**
BTKR				*e*Sg	**Sn**	**14 04 38.7**	**+1.8**
TRKR	**Terskaya**	**1.07**	**305**	*e*PG	**Pg**	**14 04 19.3**	**-1.4**
TRKR	**Terskaya**	**1.07**	**305**	*e*Pg	**Pb**	**14 04 20.8**	**-0.4**
TRKR				*e*Sg	**Sn**	**14 04 38.1**	**+1.0**
MAK	**Makhachkala**	**1.15**	**97**	*e*PG	**Pn**	**14 04 25.3**	**+2.4**
MAK				pmax	pmax		
	comp=Z,114nm,0.3s						
MAK	**Makhachkala**	**1.15**	**97**	*e*Pg	**Pn**	**14 04 22.8**	**-0.2**
MAK				*e*Sg	**Sn**	**14 04 40.1**	**+1.1**
ARNR	**Ardon**	**1.22**	**273**	*e*PG	**Pb**	**14 04 23.2**	**-0.5**
ARNR				*e*S	**Sn**	**14 04 42.7**	**+1.9**
ARNR	**Ardon**	**1.22**	**273**	*e*Pg	**Pb**	**14 04 23.2**	**-0.5**
ARNR				*e*Sg	**Sn**	**14 04 42.7**	**+1.9**
LACR	**Lac**	**1.25**	**257**	*e*PG	**Pg**	**14 04 23.0**	**-1.0**
LACR				pmax	pmax		
	comp=Z,86nm,0.3s						
LACR	**Lac**	**1.25**	**257**	*e*Pg	**Pg**	**14 04 23.1**	**-1.0**
LACR				*e*Sg	**Sn**	**14 04 41.3**	**-0.3**
GUDG	**Gudauri**	**1.27**	**239**	P	**Pg**	**14 04 23.9**	**-0.6**
GUDG				S	**Sn**	**14 04 41.2**	**-1.0**
KMKR	**Kumukh**	**1.30**	**139**	*e*PG	**Pb**	**14 04 25.5**	**+0.2**
KMKR				*e*S	**Sn**	**14 04 44.0**	**+0.9**
KMKR				pmax	pmax		
	comp=Z,82nm,0.4s						
KMKR	**Kumukh**	**1.30**	**139**	*e*Pg	**Pb**	**14 04 25.5**	**+0.2**
KMKR				*e*Sg	**Sn**	**14 04 44.0**	**+0.9**
LGD	**Lagodekhi**	**1.30**	**170**	P	**Pg**	**14 04 26.4**	**+1.2**
LGD	**Lagodekhi**	**1.30**	**170**	PG	**Pg**	**14 04 26.3**	**+1.2**
LGD	**Lagodekhi**	**1.30**	**170**	*e*Pg	**Pg**	**14 04 26.4**	**+1.2**
PRTR	**Priterechnaya**	**1.37**	**298**	*e*PG	**Pn**	**14 04 25.2**	**-0.7**
PRTR				*e*S	**Sn**	**14 04 45.5**	**+1.1**
PRTR	**Priterechnaya**	**1.37**	**298**	*e*Pg	**Pn**	**14 04 25.2**	**-0.7**
PRTR				*e*Sg	**Sn**	**14 04 45.5**	**+1.1**
KORR	**Kora**	**1.38**	**269**	*e*PG	**Pn**	**14 04 25.4**	**-0.7**
KORR				pmax	pmax		
	comp=Z,51nm,0.4s						
KORR	**Kora**	**1.38**	**269**	*e*Pg	**Pn**	**14 04 25.6**	**-0.5**
KORR				*e*Sg	**Sn**	**14 04 46.6**	**+1.9**
STDR	**Stavd-Durt**	**1.40**	**281**	*e*PG	**Pn**	**14 04 25.5**	**-0.9**
STDR				*e*S	**Sg**	**14 04 46.7**	**+1.6**
STDR	**Stavd-Durt**	**1.40**	**281**	*e*Pg	**Pn**	**14 04 25.6**	**-0.9**
STDR				*e*Sg	**Sg**	**14 04 46.7**	**+1.6**
LSNR	**Lesken**	**1.56**	**277**	*e*PG	**Pn**	**14 04 28.3**	**-0.3**
LSNR				*e*S	**Sg**	**14 04 50.6**	**+0.3**
LSNR	**Lesken**	**1.56**	**277**	*e*Pg	**Pn**	**14 04 28.3**	**-0.3**
LSNR				*e*Sg	**Sg**	**14 04 50.6**	**+0.3**
URKR	**Urkarakh**	**1.57**	**127**	§*e*PG	**Pb**	**14 04 29.4**	**-0.3**
URKR				*e*		14 04 52.9	
URKR	**Urkarakh**	**1.57**	**127**	*e*Pg	**Pb**	**14 04 29.4**	**-0.3**
URKR				*e*Sg	**Sg**	**14 04 51.9**	**+1.3**
NCK	**Nalchik**	**1.76**	**283**	*i* PN	**Pn**	**14 04 31.1**	**-0.2**
NCK	**Nalchik**	**1.76**	**283**	*e*Pg	**Pn**	**14 04 31.1**	**-0.2**
KBTC	**Kuba-Taba**	**1.98**	**291**	*e*PN	**Pn**	**14 04 34.0**	**-0.3**
KBTC				*e*S	**Sb**	**14 05 01.5**	**-0.1**
KBTC	**Kuba-Taba**	**1.98**	**291**	*e*Pg	**Pn**	**14 04 34.0**	**-0.3**
KBTC				*e*Sg	**Sb**	**14 05 00.5**	**-1.1**
DRN	**Derbent**	**2.07**	**121**	*

*ISCJB **17** 15:21:52.8±0.3, 34˚.13N±0˚.03×135˚.45E±0˚.03, h69km±2km, mb4.0/16, Error ellipse: s-maj=5.0km s-min=3.5km az=177.8*
*IDC **17** 15:21:53.0±1.2, 34˚.12N×135˚.45E, h55km±12km, mb3.7/13, mb1 3.9/20, mb1mx3.6/63, mbtmp4.0/20, MS2.3/4, Ms1 2.3/4, ms1mx2.2/44, Error ellipse: s-maj=12.0km s-min=8.4km az=10.0*
*NEIC **17** 15:21:54.4±0.8, 34˚.10N×135˚.50E, h74km±10km, mb4.2/2, Error ellipse: s-maj=15.6km s-min=7.8km az=173.0*
*JMA **17** 15:21:54.0±0.1, 34˚.11N×135˚.46E, h63km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs256.00000°, δ85.00000°, λ122.00000°. NP2: ϕs354.00000°, δ32.00000°, λ9.00000°. Principal axes: T Plg41.0000°, Azm196.0000°; N Plg32.0000°, Azm74.0000°; P Plg33.0000°, Azm320.0000°;*
JMA Felt II J1.

ISC 17 15:21:54.0±0.7, 34˚.13N±0˚.04×135˚.45E±0˚.03, h64km±5km, n58, σ0s77/68, mb4.1/16, 10C-4D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JWY	**Kouya**	**0.15**	**53**	⇑P		**Pn**	**15 22 03.8**	**0.0**
JWY				S		**Sn**	**15 22 10.6**	**-0.3**
JWM	**Minabe**	**0.29**	**196**	⇓P		**Pn**	**15 22 04.2**	**-0.3**
JWM				S		**Sn**	**15 22 11.3**	**-0.7**
JTNC	**Tanabenakahech**	**0.34**	**156**	P		**Pn**	**15 22 04.6**	**-0.3**
JTNC				S		**Sn**	**15 22 12.0**	**-0.7**
JAJ2	**Tsuna**	**0.55**	**302**	⇑P		**Pn**	**15 22 07.0**	**+0.2**
JAJ2				S		**Sn**	**15 22 16.0**	**-0.1**
JHE	**Heguri**	**0.56**	**20**	⇑P		**Pn**	**15 22 06.8**	**-0.1**
JHE				S		**Sn**	**15 22 15.9**	**-0.5**
JKN2	**Miekihoku**	**0.69**	**81**	⇑P		**Pn**	**15 22 08.2**	**-0.2**
JKN2				S		**Sn**	**15 22 18.9**	**-0.1**
JAI	**Aioi**	**0.89**	**248**	⇑P		**Pn**	**15 22 10.8**	**-0.1**
JAI				S		**Sn**	**15 22 23.0**	**-0.3**
JKS	**Kasai**	**0.99**	**330**	⇑P		**Pn**	**15 22 12.0**	**0.0**
JKS				S		**Sn**	**15 22 24.9**	**-0.5**
TSUJ	**Tsu 2**	**0.99**	**54**	⇑P		**Pn**	**15 22 11.8**	**-0.3**
TSUJ				S		**Sn**	**15 22 24.5**	**-0.9**
JIE	**Ise**	**1.07**	**76**	P		**Pn**	**15 22 13.0**	**-0.2**
JIE				S		**Sn**	**15 22 27.1**	**-0.3**
JWT	**Wachi**	**1.15**	**358**	⇑P		**Pn**	**15 22 14.0**	**-0.2**
JWT				S		**Sn**	**15 22 28.6**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.22**	**114**	⇓P		**Pn**	**15 22 14.8**	**0.0**
TTO1				X			15 22 31.5	
JJS	**Sakaide**	**1.28**	**281**	⇓P		**Pn**	**15 22 15.5**	**-0.4**
JJS				S		**Sn**	**15 22 31.2**	**-1.0**
JAD	**Aida**	**1.33**	**308**	⇑P		**Pn**	**15 22 16.2**	**-0.3**
JAD				S		**Sn**	**15 22 33.0**	**-0.4**
JMN	**Monobe**	**1.36**	**253**	⇑P		**Pn**	**15 22 16.8**	**-0.2**
JMN				S		**Sn**	**15 22 33.7**	**-0.6**
TTO2	**TONANKAI O.B.S**	**1.37**	**106**	⇓P		**Pn**	**15 22 16.8**	**0.0**
TTO2				X			15 22 35.1	
INU	**Inuyama**	**1.77**	**46**	*e*P		**Pn**	**15 22 23.6**	**+1.1**
MAJO	**Matsushiro**	**3.30**	**42**	*e*Pn		**Pn**	**15 22 43.4**	**+0.2**
MAT	**Matsushiro**	**3.30**	**42**	P		**Pn**	**15 22 43.6**	**+0.4**
MAT				*e*S		**Sn**	**15 23 20.0**	**-1.3**
MJAR	**Matsushiro Arr**	**3.30**	**42**	P		**Pn**	**15 22 43.1**	**-0.1**
	1.9nm,0.3s,baz=245,slow=22,SNR=130							
MJAR				LR		LR	15 23 57.8	
	comp=Z,19nm,18.2s,baz=220,slow=38							
MJB9	**Matsu-Tunnel**	**3.30**	**42**	*e*Pn		**Pn**	**15 22 43.2**	**0.0**
JHJ	**Hachijo jima 2**	**3.75**	**104**	P		**Pn**	**15 22 49.7**	**+0.2**
	124nm,0.3s,baz=325,slow=17,SNR=44							
JHJ				S		**Sn**	**15 23 30.8**	**-1.6**
	65nm,0.3s,baz=91,slow=21,SNR=5.6							
JHJ2	**Mitsune**	**3.78**	**104**	*e*P		**Pn**	**15 22 49.9**	**+0.1**
JNU	**Nakatsue**	**3.94**	**257**	P		**Pn**	**15 22 52.5**	**+0.5**
	7.0nm,0.3s,baz=161,slow=8.0,SNR=82							
JNU				S		**Sn**	**15 23 35.5**	**-1.6**
	9.5nm,0.3s,baz=244,slow=15,SNR=8.6							
JNU				LR		LR	15 23 53.6	
	comp=Z,9.2nm,18.9s,baz=292,slow=31							
KSRS	**Korea Array**	**6.96**	**301**	P		**Pn**	**15 23 33.8**	**+0.5**
	2.0nm,0.3s,baz=115,slow=14,SNR=42							
KSRS				S		**Sn**	**15 24 50.6**	**-0.3**
	1.6nm,0.3s,baz=117,slow=24,SNR=13							
KSRS				LR		LR	15 26 17.0	
	comp=Z,51nm,19.3s,baz=144,slow=38							
KS15	**Wonju Array Si**	**6.98**	**300**	*e*P		**Pn**	**15 23 35.0**	**+1.5**
KS01	**Wonju Array Si**	**6.99**	**301**	*e*P		**Pn**	**15 23 34.6**	**+1.0**
JCJ	**Chichijima**	**9.10**	**139**	P		**Pn**	**15 24 03.5**	**+0.9**
	2.8nm,0.3s,baz=287,slow=20,SNR=3.4							
USRK	**Ussuriysk Ar.**	**10.41**	**346**	P		**Pn**	**15 24 21.1**	**+0.8**
	0.2nm,0.3s,baz=173,slow=14,SNR=3.6							
KLR	**Kul'dur**	**15.34**	**351**	P		**Pn**	**15 25 27.5**	**+1.1**
	0.3nm,0.3s,baz=155,slow=10,SNR=10							
HHC	**Hu-ho-hao-te**	**20.07**	**296**	*e*P		Pn	15 26 23.8	-0.7
HHC				pmax		pmax		
	comp=Z,8.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,53nm,4.8s							
SONM	**Songino Array**	**25.68**	**311**	P		**P**	**15 27 17.7**	**-0.3**
	3.9nm,0.9s,baz=124,slow=9.0,SNR=21							
SONM				LR		LR	15 38 22.1	
	comp=Z,32nm,18.2s,baz=84,slow=38							
KMI	**Kunming**	**29.71**	**261**	P		**P**	**15 27 56.9**	**+2.5**
KMI				pmax		pmax		
	comp=Z,12nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**31.34**	**109**	T		T	16 00 39.4	
	baz=303,slow=75,SNR=17							
H11N1	**WAKE ISLAND Hy**	**31.35**	**109**	T		T	16 00 43.0	
	baz=303,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**31.36**	**109**	T		T	16 00 44.2	
	baz=303,slow=75,SNR=22							
H11S3	**WAKE ISLAND Hy**	**31.88**	**111**	T		T	16 01 20.4	
	baz=304,slow=75,SNR=39							
H11S1	**WAKE ISLAND Hy**	**31.88**	**111**	T		T	16 01 22.8	
	baz=304,slow=75,SNR=27							
H11S2	**WAKE ISLAND Hy**	**31.90**	**111**	T		T	16 01 26.1	
	baz=304,slow=75,SNR=25							
CMAR	**Chiang Mai Arr**	**36.04**	**254**	P		**P**	**15 28 49.9**	**+0.6**
	0.2nm,0.5s,baz=67,slow=8.1,SNR=2.8							
TIXI	**Tiksi**	**37.74**	**357**	P		**P**	**15 29 02.5**	**-0.7**
	1.8nm,0.5s,baz=145,slow=5.5,SNR=12							
WMQ	**Urumqi**	**37.91**	**299**	*e*P		**P**	**15 29 06.4**	**+1.3**
WMQ				LR		LR		
	comp=N,66nm,21.9s							
WMQ				LR		LR		
	comp=E,68nm,18.1s							
WMQ				LR		LR		
	comp=Z,60nm,14.3s							
MK01	**Makanchi Array**	**41.62**	**304**	*e*P		**P**	**15 29 35.8**	**+0.1**
MK31	**Makanchi Array**	**41.62**	**304**	*e*P		**P**	**15 29 36.3**	**+0.5**
	3.4nm,0.9s							
MKAR	**Makanchi Array**	**41.62**	**304**	P		**P**	**15 29 36.3**	**+0.5**
	2.8nm,0.7s,baz=90,slow=11,SNR=34							
MAKZ	**Makanchi**	**41.84**	**304**	*e*P		**P**	**15 29 36.5**	**-1.1**
	3.5nm,0.9s							
KSH	**Kashi**	**47.17**	**295**	*e*P		P	15 30 25.6	+5.3
WRA	**Warramunga Arr**	**53.78**	**181**	P		**P**	**15 31 09.9**	**-0.2**
	5.2nm,0.5s,baz=357,slow=7.7,SNR=10							
ILAR	**Eielson Array**	**54.51**	**31**	P		**P**	**15 31 15.3**	**+0.4**
	0.2nm,0.5s,baz=260,slow=6.6,SNR=4.6							
ASAR	**Alice Springs**	**57.49**	**182**	P		**P**	**15 31 36.8**	**+0.1**
	1.4nm,0.6s,baz=12,slow=9.5,SNR=8.0							
INK	**Inuvik**	**59.14**	**26**	P		**P**	**15 31 48.3**	**+0.7**
	0.3nm,0.6s,baz=310,slow=8.1,SNR=4.1							
ARCES	**ARCESS Array B**	**64.96**	**339**	P		**P**	**15 32 26.1**	**-0.5**
	5.1nm,1.0s,baz=39,slow=6.4,SNR=6.8							
STKA	**Stephens Creek**	**65.91**	**174**	P		**P**	**15 32 33.0**	**-0.1**
	2.1nm,0.6s,baz=343,slow=7.6,SNR=5.2							
RES	**Resolute Bay**	**66.56**	**13**	P		**P**	**15 32 36.7**	**-0.1**
	1.0nm,0.8s,baz=313,slow=7.8,SNR=4.3							
FINES	**FINESS Array B**	**69.05**	**331**	P		**P**	**15 32 52.3**	**-0.3**
	1.3nm,0.8s,baz=54,slow=9.7,SNR=4.4							
AKASG	**Malin Array Be**	**73.52**	**320**	P		**P**	**15 33 19.1**	**-0.7**
	0.2nm,0.4s,baz=53,slow=6.1,SNR=2.6							
VYHS	**Vyhne**	**80.22**	**323**	*e*P		**P**	**15 33 55.2**	**-2.4**
CLL	**Collm**	**81.06**	**328**	*e*P		**P**	**15 34 02.0**	**0.0**

*ISCJB **17** 15:23:59.2±0.7, 6˚.67S±0˚.06×129˚.97E±0˚.09, h146km, mb3.6/3, Error ellipse: s-maj=12.1km s-min=8.3km az=12.0*
*IDC **17** 15:24:00.5±2.1, 6˚.69S×130˚.16E, h146km±23km, mb3.5/3, mb1 3.6/8, mb1mx3.3/31, mbtmp3.9/8, Error ellipse: s-maj=33.3km s-min=18.4km az=99.0*

ISC 17 15:23:59.2±0.8, 6˚.76S±0˚.06×130˚.2E±0˚.1, h146km, n8, σ2s76/12, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
SIJI	**Sorong**	**5.96**	**11**	P		**Pn**	**15 25 26.5**	**+1.1**
	4.3nm,0.3s,baz=196,slow=22,SNR=28							
SIJI				S		**Sn**	**15 26 28.1**	**-4.6**
	10nm,0.3s,baz=168,slow=23,SNR=18							
BATI	**Baumata**	**7.28**	**241**	P		**Pn**	**15 25 44.3**	**+1.3**
	7.0nm,0.3s,baz=68,slow=1.9,SNR=18							
BATI				S		**Sn**	**15 27 01.3**	**-3.1**
	7.5nm,0.3s,baz=220,slow=23,SNR=11							
FITZ	**Fitzroy Crossi**	**12.10**	**201**	P		**Pn**	**15 26 48.1**	**+1.2**
	0.4nm,0.3s,baz=22,slow=11,SNR=17							
FITZ				S		Sn	15 28 52.7	-7.9
	0.9nm,0.3s,baz=129,slow=21,SNR=9.7							
WRA	**Warramunga Arr**	**13.72**	**163**	P		**Pn**	**15 27 10.3**	**+2.5**
	0.5nm,0.3s,baz=347,slow=13,SNR=30							
WRA				S		**Sn**	**15 29 35.9**	**-3.8**
	1.0nm,0.3s,baz=327,slow=22,SNR=8.2							
ASAR	**Alice Springs**	**17.19**	**168**	P		**Pn**	**15 27 53.3**	**+2.6**
	0.2nm,0.3s,baz=337,slow=8.3,SNR=17							
ASAR				S		**S**	**15 31 00.2**	**-1.6**
	0.4nm,0.3s,baz=349,slow=24,SNR=6.3							
MJAR	**Matsushiro Arr**	**43.73**	**9**	P		**P**	**15 31 49.5**	**-0.6**
	1.5nm,0.8s,baz=193,slow=9.8,SNR=5.1							
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**15 34 44.9**	**+1.5**
	1.2nm,0.5s,baz=120,slow=7.8,SNR=18							
ILAR	**Eielson Array**	**93.07**	**25**	P		**P**	**15 36 56.5**	**+0.5**
	0.2nm,0.7s,baz=271,slow=5.3,SNR=3.4							

*THE **17** 15:25:06.7, 35˚.25N×27˚.32E, h1km±2km, ML3.0/4, Error ellipse: s-maj=3.8km s-min=1.6km az=138.0*
*ISCJB **17** 15:25:07.1±1.2, 35˚.26N±0˚.05×27˚.31E±0˚.05, h8km±7km, Error ellipse: s-maj=9.7km s-min=4.4km az=148.4*
*ATH **17** 15:25:07.0, 35˚.32N×27˚.34E, h24km±1km, ML2.9/8, Error ellipse: s-maj=2.9km s-min=1.0km az=143.0*

ISC 17 15:25:06.3±1.4, 35˚.27N±0˚.05×27˚.35E±0˚.04, h10km±10km, n33, σ0s85/47, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KARP	**Karpathos**	**0.32**	**332**	P		**Pg**	**15 25 13.0**	**+0.2**
KARP				S		**Sb**	**15 25 19.0**	**-0.3**
KARP	**Karpathos**	**0.32**	**332**	P		**Pg**	**15 25 13.0**	**+0.2**
KARP				S		**Sb**	**15 25 18.9**	**-0.5**
KARP				AML		AML	15 25 19.5	
	comp=N,6463μm,0.5s							
KARP				AML		AML	15 25 19.9	
	comp=E,6900μm,0.6s							
ZKR	**Zakros**	**0.94**	**261**	P		**Pg**	**15 25 23.4**	**-1.0**
ZKR				S		**Sn**	**15 25 39.3**	**+0.3**
ZKR	**Zakros**	**0.94**	**261**	P		**Pg**	**15 25 24.6**	**+0.3**
ZKR				S		**Sn**	**15 25 38.6**	**-0.3**
ZKR				AML		AML	15 25 47.7	
	comp=N,635μm,0.5s							
ZKR				AML		AML	15 25 48.6	
	comp=E,1326μm,0.5s							
STIA	**Sitia Lasithi**	**1.03**	**267**	P		**Pb**	**15 25 25.2**	**-1.0**
STIA				S		**Sg**	**15 25 39.9**	**+0.3**
ARG	**Arkhangelos**	**1.14**	**34**	P		**Pb**	**15 25 28.4**	**+0.3**
ARG				S		**Sn**	**15 25 45.0**	**+1.0**
ARG	**Arkhangelos**	**1.14**	**34**	P		**Pb**	**15 25 28.4**	**+0.3**
ARG				S		**Sb**	**15 25 43.2**	**+0.2**
ARG				AML		AML	15 25 49.3	
	comp=N,948μm,0.8s							
ARG				AML		AML	15 25 51.0	
	comp=E,1825μm,0.6s							
NPS	**Neapolis**	**1.42**	**270**	P		**Pb**	**15 25 33.0**	**+0.1**
NPS	**Neapolis**	**1.42**	**270**	P		**Pb**	**15 25 33.2**	**+0.3**
NPS				AML		AML	15 26 00.6	
	comp=N,682μm,1.0s							
NPS				AML		AML	15 26 08.7	
	comp=E,650μm,0.7s							
DAT	**Datca**	**1.47**	**7**	*i* P		**Pb**	**15 25 34.0**	**+0.1**
DAT				*i* S		**Sg**	**15 25 53.9**	**+0.3**
DAT				IAML_P				
	comp=Z,2μm,0.2s							
LAST	**Lasithi**	**1.53**	**267**	P		**Pn**	**15 25 34.3**	**+0.5**
LAST	**Lasithi**	**1.53**	**267**	P		**Pb**	**15 25 35.0**	**+0.1**
LAST				S		**Sg**	**15 25 55.3**	**-0.3**
LAST				AML		AML	15 26 06.1	
	comp=E,446μm,0.7s							
LAST				AML		AML	15 26 13.6	
	comp=N,346μm,0.6s							
ANAF	**Anafi Island**	**1.68**	**311**	P		**Pb**	**15 25 36.5**	**-0.8**
ANAF				S		**Sb**	**15 25 58.8**	**+0.3**
ANAF	**Anafi Island**	**1.68**	**311**	P		**Pb**	**15 25 36.6**	**-0.7**
ANAF				S		**Sb**	**15 25 57.8**	**-0.7**
ANAF				AML		AML	15 26 02.0	
	comp=N,2248μm,0.5s							
ANAF				AML		AML	15 26 02.2	
	comp=E,2740μm,0.5s							
BDRM	**Kayabasi**	**1.80**	**2**	*i* P		**Pb**	**15 25 38.6**	**-0.7**
BDRM				IAML_P				
	comp=Z,588nm,0.1s							
DALY	**Dalyan (Mula)**	**1.87**	**34**	*i* P		**Pb**	**15 25 41.2**	**+0.6**
DALY				IAML_P				
	comp=Z,1μm,0.3s							
SANT	**Santorini**	**1.89**	**306**	P		**Pb**	**15 25 39.8**	**-1.1**
TURN	**Turunc**	**1.90**	**32**	*i* P		**Pn**	**15 25 37.3**	**-1.4**
TURN				*i* S		**Sn**	**15 26 01.1**	**-1.6**
TURN				IAML_P				
	comp=Z,1μm,0.2s							
THR6	**Thira Island,**	**1.92**	**305**	P		**Pb**	**15 25 40.3**	**-1.1**
THR2	**Thira Island,**	**1.95**	**308**	P		**Pb**	**15 25 40.7**	**-1.2**
THR3	**Thira Island,**	**1.95**	**306**	P		**Pn**	**15 25 40.0**	**+0.6**
AMGA	**Amorgos Island**	**1.96**	**323**	P		**Pn**	**15 25 40.1**	**+0.6**
AMGA	**Amorgos Island**	**1.96**	**323**	P		**Pn**	**15 25 40.1**	**+0.6**
AMGA				S		**Sn**	**15 26 04.3**	**+0.2**
AMGA				AML		AML	15 26 09.3	
	comp=N,411μm,0.5s							
AMGA				AML		AML	15 26 09.9	
	comp=E,538μm,0.5s							
CMBO	**Columbo, Santo**	**1.98**	**308**	P		**Pn**	**15 25 41.0**	**+1.1**
THR5	**Thira Island,**	**1.99**	**306**	P		**Pn**	**15 25 41.0**	**+1.0**
SIVA	**Sivas**	**2.09**	**264**	P		**Pn**	**15 25 42.7**	**+1.3**
APE	**Apeiranthos**	**2.32**	**321**	P		**Pn**	**15 25 45.0**	**+0.4**
APE	**Apeiranthos**	**2.32**	**321**	P		**Pn**	**15 25 45.0**	**+0.9**
APE				AML		AML	15 26 17.7	
	comp=E,266μm,0.5s							
APE				AML		AML	15 26 18.6	
	comp=N,232μm,0.5s							
AYDN	**Tasoluk**	**2.43**	**10**	*i* P		**Pn**	**15 25 47.9**	**+1.8**
AYDN				IAML_P				
	comp=Z,720nm,0.3s							
SMG	**Samos**	**2.47**	**351**	P		**Pn**	**15 25 47.3**	**+0.6**
SMG	**Samos**	**2.47**	**351**	P		**Pn**	**15 25 47.2**	**+0.6**
TAVA	**DENIZLI_Tavas**	**2.53**	**29**	*i* P		**Pb**	**15 25 50.4**	**-1.5**
TAVA				*i* S		**Sb**	**15 26 23.9**	**+0.8**
TAVA				IAML_P				
	comp=Z,418nm,0.3s							
GOLH	**Golhisar**	**2.66**	**42**	*i* P		**Pb**	**15 25 52.5**	**-1.6**
GOLH				IAML_P				
	comp=Z,464nm,0.3s							

*BJI **17** 15:42:29.5, 1˚.97N×128˚.91E, h232km, mb4.2/31, mB4.6/22*
*IDC **17** 15:42:35.7±1.2, 2˚.49N×128˚.65E, h235km±11km, mb3.9/19, mb1 4.0/22, mb1mx3.7/43, mbtmp4.5/22, Error ellipse: s-maj=17.1km s-min=7.5km az=74.0*
*ISCJB **17** 15:42:35.6±0.2, 2˚.43N±0˚.03×128˚.56E±0˚.04, h250km, mb4.3/56, Error ellipse: s-maj=5.8km s-min=3.5km az=160.0*
*NEIC **17** 15:42:35.7±0.5, 2˚.50N×128˚.64E, h238km±6km, mb4.5/28, Error ellipse: s-maj=6.2km s-min=3.7km az=59.0*
*DJA **17** 15:42:36.5±0.7, 3˚N±10˚×12˚8E±1˚, h218km±7km, M4.4/6, mb4.3/4, mB5.0/2, MLv4.4/6, Mw(mB)4.3/2*
*KLM **17** 15:42:44.0, 2˚.65N×128˚.85E, h344km, mb4.7*

ISC 17 15:42:37.2±0.4, 2˚.40N±0˚.04×128˚.48E±0˚.06, h250km, n120, σ1s82/138, mb4.3/56, 2C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
TNTI	**Ternate**	**1.97**	**214**	*e*Pn		**Pn**	**15 43 17.5**	**-1.9**
TNTI	**Ternate**	**1.97**	**214**	P		**Pn**	**15 43 17.6**	**-1.9**
TNTI				S		**S**	**15 43 49.0**	**-3.7**
SWI	**Sorong**	**4.27**	**139**	P		**Pn**	**15 43 43.2**	**-1.1**
SIJI	**Sorong**	**4.28**	**139**	P		**Pn**	**15 43 43.5**	**-0.9**
	14nm,0.3s,baz=331,slow=14,SNR=97							
DDMP	**Don Marcelino,**	**4.60**	**323**	*e*P		**Pn**	**15 43 44.5**	**-3.7**
DDMP				*e*S		**S**	**15 44 37.9**	**-6.7**
MATI	**Mati**	**5.03**	**334**	*e*P		**Pn**	**15 43 54.1**	**+0.7**
MATI				*e*S		**S**	**15 44 48.5**	**-5.6**
SANI	**Sanana**	**5.08**	**209**	P		**Pn**	**15 43 51.4**	**-2.6**
SANI				S		**S**	**15 44 49.0**	**-6.2**
SKMP	**Bagumbayan, Su**	**5.67**	**316**	*e*P		**Pn**	**15 43 59.3**	**-1.9**
SKMP				*e*S		**S**	**15 45 05.1**	**-3.3**
KCP	**Kidapawan**	**5.69**	**324**	⇑*i*P		**Pn**	**15 43 58.7**	**-2.8**
KCP	**Kidapawan**	**5.69**	**324**	⇑*i*P		**S**	**15 45 08.2**	**-0.8**
NLAI	**Namlea**	**5.77**	**194**	P		**Pn**	**15 44 02.6**	**0.0**
BUKP	**Musuan**	**6.42**	**328**	*e*P		**Pn**	**15 44 07.7**	**-2.9**
BUKP				*e*S		S	15 45 15.4	-10
FAKI	**Fak Fak**	**6.49**	**144**	*e*Pn		**Pn**	**15 44 10.8**	**-0.8**
LUWI	**Luwuk**	**6.65**	**239**	*e*Pn		**Pn**	**15 44 11.2**	**-2.4**
LUWI	**Luwuk**	**6.65**	**239**	P		**Pn**	**15 44 13.5**	**-0.1**
LUWI				S		**S**	**15 45 29.2**	**-1.6**
APSI	**Ampana**	**7.58**	**244**	P		**Pn**	**15 44 23.7**	**-1.6**
SDKM	**Sandakan**	**11.70**	**286**	P		P	15 45 26.5	+5.8
MMRI	**Maumere**	**12.61**	**209**	*e*Pn		**Pn**	**15 45 29.4**	**+0.9**
KKM	**Kota Kinabalu**	**12.75**	**287**	*e*Pn		**Pn**	**15 45 30.4**	**0.0**
KKM	**Kota Kinabalu**	**12.75**	**287**	P		**P**	**15 45 33.6**	**+1.2**
SOEI	**Soe**	**12.79**	**199**	*e*Pn		**Pn**	**15 45 27.8**	**-3.0**
JAY	**Jayapura**	**13.16**	**112**	P		**P**	**15 45 37.4**	**+0.5**
JAY	**Jayapura**	**13.16**	**112**	P		**Pn**	**15 45 34.0**	**-1.4**
	1.9nm,0.3s,baz=284,slow=6.9,SNR=8.3							
BATI	**Baumata**	**13.41**	**201**	P		**P**	**15 45 39.5**	**-0.1**
	5.3nm,0.3s,baz=77,slow=0.9,SNR=8.8							
MTN	**Manton Dam**	**15.38**	**170**	*e*P		**P**	**15 46 00.5**	**-0.9**
	43nm,1.3s							
BTM	**Bintulu**	**15.40**	**273**	P		**Pn**	**15 46 04.5**	**+2.2**
SBUM	**Sibu**	**16.24**	**271**	*e*P		**Pn**	**15 46 13.0**	**+0.6**
	43nm,0.8s							
JAGI	**Jajag, Banyuwa**	**17.91**	**233**	*e*P		**Pn**	**15 46 30.9**	**-1.0**
	45nm,1.2s							
KSM	**Kuching**	**18.18**	**267**	*e*P		**Pn**	**15 46 33.8**	**-1.4**
	26nm,0.9s							
KSM	**Kuching**	**18.18**	**267**	P		**Pn**	**15 46 34.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.56**	**188**	P		**P**	**15 46 57.0**	**-0.4**
	1.7nm,0.3s,baz=18,slow=11,SNR=17							
COEN	**Coen**	**21.83**	**139**	*e*P		**P**	**15 47 07.9**	**-1.9**
	7.1nm,0.9s							
TPUB	**Ta-pu**	**22.12**	**341**	*e*P		**P**	**15 47 10.3**	**-2.1**
	21nm,0.5s							
SSLB	**Suanglung**	**22.47**	**342**	*e*P		**P**	**15 47 14.1**	**-1.5**
	47nm,1.7s							
WRAB	**Tennant Creek**	**22.93**	**166**	*e*P		**P**	**15 47 19.2**	**-0.7**
	18nm,0.8s							
WRA	**Warramunga Arr**	**22.94**	**166**	P		**P**	**15 47 19.6**	**-0.4**
	12nm,0.4s,baz=345,slow=10.0,SNR=173							
WRA				S		**S**	**15 51 16.9**	**+5.8**
	2.3nm,0.9s,baz=339,slow=19,SNR=6.1							
WRA				ScP		**ScP**	**15 54 17.8**	**+1.6**
	0.8nm,0.5s,baz=343,slow=3.1,SNR=9.2							
WB2	**Warramunga Arr**	**22.94**	**166**	*e*P		**P**	**15 47 19.7**	**-0.3**
YHNB	**Yeheng**	**23.17**	**343**	*e*P		**P**	**15 47 21.2**	**-0.9**
	105nm,1.8s							
MYKOM	**Kota Tinggi**	**24.62**	**269**	P		**P**	**15 47 39.5**	**+4.3**
KGM	**Kluang**	**25.14**	**270**	P		**P**	**15 47 44.7**	**+4.7**
KTGM	**Kuala Trenggan**	**25.45**	**277**	P		**P**	**15 47 44.9**	**+2.2**
AS31	**Alice Springs**	**26.45**	**169**	*e*P		**P**	**15 47 51.3**	**-0.3**
	3.9nm,0.5s							
ASAR	**Alice Springs**	**26.45**	**169**	P		**P**	**15 47 51.8**	**+0.2**
	6.8nm,0.5s,baz=354,slow=7.8,SNR=235							
ASAR				PcP		**PcP**	**15 51 10.7**	**+0.7**
	1.5nm,0.4s,baz=356,slow=2.1,SNR=11							
ASAR				S		**S**	**15 52 06.1**	**-0.5**
	1.3nm,0.8s,baz=350,slow=21,SNR=6.9							
ASAR				ScP		**ScP**	**15 54 27.8**	**+1.7**
	1.4nm,0.8s,baz=358,slow=2.3,SNR=11							
AS01	**Alice Springs**	**26.45**	**169**	*e*P		**P**	**15 47 51.2**	**-0.5**
IPM	**Ipoh**	**27.48**	**275**	P		**P**	**15 48 02.4**	**+1.5**
PANO	**Nakornpanom**	**27.65**	**304**	P		**P**	**15 48 04.5**	**+2.2**
KULM	**Kulim**	**27.91**	**277**	P		**P**	**15 48 06.1**	**+1.4**
SKNT	**Sakolnakorn**	**28.09**	**303**	P		**P**	**15 48 07.6**	**+1.3**
CTA	**Charters Tower**	**28.35**	**143**	P		**P**	**15 48 08.6**	**+0.1**
	3.5nm,0.6s,baz=321,slow=13,SNR=2.8							
KHON	**Khomkaen**	**28.79**	**300**	P		**P**	**15 48 14.2**	**+1.8**
	13nm,0.7s,0.1nm							

SHL	Shillong	42.06 307	eP	P	15 50 05.0	-0.2
GTA	Gaotai	45.13 328	‖P	P	15 50 29.8	+0.5
GTA			pP	pP	15 51 18.8	-2.7
GTA			sP	sP	15 51 45.5	-4.0
GTA			pmax	pmax		
	comp=Z,6.0nm,0.8s					
RAMN	Ramite	46.94 305	eP	P	15 50 44.9	+1.2
	45nm,0.5s					
JIRN	Jiri	47.56 306	eP	P	15 50 49.4	+0.8
	33nm,0.4s					
GUN	Gumba	47.91 306	eP	P	15 50 52.0	+0.7
	35nm,0.7s					
PKI	Pulchoki	48.16 306	eP	P	15 50 53.3	+0.2
	6.2nm,0.4s					
PKIN	Phulchoki	48.17 306	eP	P	15 50 53.3	+0.2
	5.2nm,0.3s					
KKN	Kakani	48.35 306	eP	P	15 50 55.0	+0.6
	3.6nm,0.3s					
DMN	Daman	48.42 305	eP	P	15 50 55.6	+0.6
	15nm,0.6s					
ULN	Ulaanbaatar	48.92 341	eP	P	15 50 58.3	-0.1
	5.8nm,0.9s					
GKN	Gorkha	48.95 306	eP	P	15 50 59.2	+0.2
	11nm,0.8s					
SONM	Songino Array	49.11 340	P	P	15 50 59.7	0.0
	1.7nm,0.7s,baz=149,slow=7.9,SNR=15					
KOLN	Koldanda	49.71 305	eP	P	15 51 05.7	+1.0
	43nm,0.6s					
DANN	Dangsing	49.80 306	eP	P	15 51 06.1	+0.6
	51nm,0.6s					
PYUN	Piuthan	50.33 305	eP	P	15 51 10.2	+0.8
	30nm,0.5s					
WMQ	Urumqi	54.81 325	eP	P	15 51 42.8	+1.1
MK01	Makanchi Array	59.62 325	eP	P	15 52 14.9	-0.2
MK31	Makanchi Array	59.63 325	eP	P	15 52 15.2	-0.1
	2.7nm,0.8s					
MKAR	Makanchi Array	59.63 325	P	P	15 52 15.4	+0.1
	3.6nm,0.4s,baz=116,slow=8.3,SNR=87					
MKAR			PcP	PcP	15 53 00.1	+0.5
	0.3nm,0.4s,baz=123,slow=7.0,SNR=2.1					
MKAR			ScP	ScP	15 56 37.5	+1.2
	0.6nm,0.7s,baz=123,slow=4.5,SNR=6.0					
MAKZ	Makanchi	59.82 325	eP	P	15 52 16.2	-0.3
	5.0nm,0.5s					
KSH	Kashi	60.21 315	P	P	15 52 21.4	+2.0
KSH			PcP	PcP	15 53 03.0	+0.8
KSH			pmax	pmax		
	comp=Z,100nm,4.9s					
KDJ	Kajisay	60.49 318	eP	P	15 52 22.5	+1.2
	2.8nm,0.6s					
ZALV	Zalesovo Beam	62.56 333	eP	P	15 52 33.3	-1.3
ZALV	Zalesovo Beam	62.56 333	P	P	15 52 33.5	-1.1
	1.2nm,0.4s,baz=97,slow=4.7,SNR=6.8					
KURBB	Kurchatov Arra	63.79 327	P	P	15 52 42.5	-0.2
	9.2nm,0.6s,baz=127,slow=6.0,SNR=71					
KURK	Kurchatov	63.79 327	eP	P	15 52 42.3	-0.5
	10nm,0.7s					
KK31	Karatay Array	65.39 317	eP	P	15 52 52.9	-0.4
	4.8nm,1.3s					
KKAR	Karatay Array	65.39 317	eP	P	15 52 53.0	-0.3
	4.8nm,1.3s					
BVAR	Borovoye Array	69.38 327	P	P	15 53 17.7	-0.3
	3.4nm,0.8s,baz=97,slow=7.6,SNR=11					
NRIK	Noril'sk	72.13 346	P	P	15 53 34.2	0.0
	1.9nm,0.3s,baz=162,slow=10,SNR=4.6					
ABKAR	Akbulak array	74.27 321	eP	P	15 53 46.6	-0.5
	1.8nm,0.9s					
VNDA	Vanda	81.90 173	eP	P	15 54 29.1	+0.8
	4.3nm,0.9s					
VNDA	Vanda	81.90 173	P	P	15 54 29.3	+0.9
	2.1nm,0.5s,baz=315,slow=6.9,SNR=25					
MAW	Mawson	83.13 201	P	P	15 54 36.3	+1.5
	4.8nm,0.8s,baz=53,slow=10,SNR=3.1					
ILAR	Eielson Array	85.55 25	P	P	15 54 46.5	-0.6
	0.2nm,0.6s,baz=244,slow=5.6,SNR=3.7					
FINES	FINESS Array B	93.82 332	P	P	15 55 24.6	-1.3
	1.9nm,1.1s,baz=64,slow=9.4,SNR=4.2					

IDC 17 16:09:23.4±1.1,53°41N×159°07E,h150km±16km,mb2.9/3, mb1 3.3/3,mb1mx2.8/39,mbtmp3.4/3,Error ellipse: s-maj=55.1km s-min=27.8km az=14.0,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	0.88	251	P	Pn	16 09 46.9	-0.2
	23nm,0.3s,baz=70,slow=14,SNR=346						
PETK				S	Sn	16 10 06.0	+0.9
	2.9nm,0.3s,baz=7.3,slow=24,SNR=2.2						
MKAR	Makanchi Array	47.46	295	P	P	16 17 42.5	-0.2
	0.3nm,0.5s,baz=54,slow=7.3,SNR=5.1						
NVAR	Mina Array Bea	56.21	70	P	P	16 18 47.4	-0.4
	0.3nm,0.6s,baz=291,slow=10,SNR=2.4						
TXAR	Lajitas Array	71.08	66	P	P	16 20 25.7	+0.5
	0.1nm,0.4s,baz=316,slow=5.0,SNR=2.3						

IDC 17 16:16:38.7±2.4,30°.88S×69°.43W,h105km±20km,mb3.5/7, mb1 3.7/11,mb1mx3.6/26,mbtmp3.9/11,MS2.6/1, Ms1 2.5/1,ms1mx2.3/14,Error ellipse: s-maj=30.0km s-min=16.4km az=91.0
ISCJB 17 16:16:39.6±0.3,31°.04S±0°.03×68°.92W±0°.04,h127km±3km, mb3.6/7,Error ellipse: s-maj=5.5km s-min=4.1km az=22.4
SJA 17 16:16:39.7±0.7,31°.06S×68°.95W,h117km±3km,ML4.0, MW4.0
GUC 17 16:16:40.3±0.7,31°.00S×69°.06W,h130km±35km,ML4.0
ISC 17 16:16:40.0±0.7,31°.00S±0°.04×68°.94W±0°.04,h119km±5km, n45,σ1°30/60,mb3.8/7,4C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMOG	MOGNA	0.39	80	eP	Pn	16 16 58.0	+0.7
ACCO	Cerro Coronel	0.43	345	eP	Pn	16 16 58.8	+1.0
ACCO				eS	Sn	16 17 12.7	+1.5
RTLL	Cerro Villicun	0.51	129	eP	Pn	16 16 58.3	+0.3
RTLL				eS	Sn	16 17 11.4	0.0
RTLL				IAML		16 17 12.2	
	comp=E,6μm,0.4s						
ZON	Zonda	0.58	158	IAML		16 17 12.9	
	comp=Z,3μm,0.3s						
SJA	San Juan	0.61	148	IAML		16 16 59.6	
	comp=Z,4μm,0.2s						
SJA				AMPG		16 16 59.6	
	comp=Z,52μm,0.2s						
ACDV	Cuesta del Vie	0.84	349	eP	Pn	16 17 01.7	+1.1
ACDV				IAML		16 17 18.8	
	comp=Z,894nm,0.2s						
CFA	Coronel Fontan	0.85	135	eP	Pn	16 17 00.6	+0.1
CFA				eS	Sn	16 17 15.9	-0.2
RTLS	Leoncito	0.85	201	eP	Pn	16 17 01.3	+0.5
RTLS				eS	Sn	16 17 16.9	+0.3
RTLS				IAML		16 17 18.1	
	comp=Z,3μm,0.4s						
RTCV	Cerro Valdivia	0.92	158	eP	Pn	16 17 01.4	+0.3
RTCV				eS	Sn	16 17 16.6	-0.7
AROD	Rodeo	0.95	331	eP	Pn	16 17 03.2	+1.4
AROD				eS	Sn	16 17 20.2	+1.9
AUSP	Uspallata	1.27	197	eP	Pn	16 17 05.7	+0.6
AGUA	GUANDACOL	1.56	14	eP	Pn	16 17 10.0	+1.9
AGUA				eS	Sn	16 17 31.2	+1.7
CMCH	Combarbala	1.78	264	eP	Pn	16 17 11.5	+0.8
CMCH				i S	Sn	16 17 34.6	+0.4
GO04	Tololo Observa	1.81	297	eP	Pn	16 17 12.2	+1.0
GO04	Tololo Observa	1.81	297	↑P	Pn	16 17 12.3	+1.0
GO04				eS	Sn	16 17 35.9	+0.9
GO04				IAML		16 17 44.4	
	comp=N,2μm,0.6s						
ACAN	Cantantal	1.96	131	eP	Pn	16 17 14.0	+1.2
ACAN				eS	Sn	16 17 37.9	-0.2
APLL	PUNTA DE LOS L	2.16	74	eP	Pn	16 17 16.5	+1.1
APLL				IAML		16 17 43.9	
	comp=Z,629nm,0.2s						
ACLC	CERRO LA CRUZ	2.33	48	eP	Pn	16 17 19.2	+1.4
LCO	Las Campanas	2.51	322	↑P	Pn	16 17 21.2	+1.2
LCO				IAML		16 17 55.1	
	comp=E,394nm,0.4s						
FCH	Farellones	2.58	206	↑P	Pn	16 17 22.4	+1.3
FCH				i S	Sn	16 17 54.7	+2.0
FCH				IAML		16 17 58.6	
	comp=E,484nm,0.2s						
PEL	Peldehue	2.60	214	↑P	Pn	16 17 21.3	+0.3
PEL				eS	Sn	16 17 52.9	+0.4
PEL				IAML		16 17 57.5	
	comp=E,325nm,0.3s						

ROCH	El Roble	2.64	221	eP	Pn	16 17 21.3	-0.4
ROCH				i S	Sn	16 17 53.7	0.0
ROCH				IAML		16 17 58.0	
	comp=N,528nm,0.3s						
ROC1	El Roble	2.64	221	eP	Pn	16 17 21.6	-0.2
CLCH	Cerro Calan	2.74	209	eP	Pn	16 17 23.8	+0.8
CLCH				i S	Sn	16 17 57.0	+1.0
CLCH				IAML		16 18 03.2	
	comp=E,772nm,0.4s						
ANTU	Antumapu	2.93	209	eP	Pn	16 17 26.0	+0.6
ANTU				eS	Sn	16 18 00.6	+0.3
ANTU				IAML		16 18 04.7	
	comp=E,556nm,0.4s						
LMEL	Las Melosas	3.03	200	eP	Pn	16 17 28.0	+1.2
LMEL				IAML		16 18 14.6	
	comp=N,289nm,0.3s						
CYA	Choya	3.74	48	eP	Pn	16 17 36.8	+0.7
TCA	Tanti	3.74	96	eP	Pn	16 17 36.8	+0.7
TCA				IAML		16 18 19.6	
	comp=Z,116nm,0.7s						
RFA	San Rafael	3.78	174	eP	Pn	16 17 36.3	-0.3
RFA				IAML		16 18 41.6	
	comp=Z,132nm,0.3s						
LVC	Limon Verde	8.36	0	P	Pn	16 18 36.9	-1.8
	comp=Z,1.6nm,0.3s,baz=174,slow=7.7,SNR=17						
LVC				S	Sn	16 20 08.0	-3.6
	comp=Z,0.6nm,0.3s,baz=207,slow=10,SNR=1.9						
PLCA	Paso Flores	9.79	187	P	Pn	16 18 56.3	-1.4
	comp=Z,0.4nm,0.3s,baz=18,slow=12,SNR=18						
PLCA				LR	LR	16 23 01.6	
	comp=Z,32nm,19.8s,baz=193,slow=39						
CPUP	Villa Florida	11.21	68	P	Pn	16 19 14.8	-1.9
	comp=Z,0.4nm,0.3s,baz=261,slow=13,SNR=6.9						
LPAZ	La Paz	14.67	3	P	Pn	16 20 02.1	-0.2
	comp=Z,0.2nm,0.3s,baz=169,slow=8.3,SNR=15						
SIV	San Ignacio	16.58	27	P	P	16 20 26.3	+0.3
	comp=Z,0.2nm,0.3s,baz=222,slow=14,SNR=9.2						
USHA	Ushuaia	23.82	179	P	P	16 21 44.2	+2.5
	comp=Z,3.6nm,0.9s,baz=4.4,slow=13,SNR=2.6						
TXAR	Lajitas Array	68.51	328	P	P	16 27 26.4	-3.2
	comp=Z,0.3nm,0.6s,baz=159,slow=11,SNR=2.7						
DBIC	Dimbokro	71.72	70	P	P	16 27 51.1	+1.6
	comp=Z,1.6nm,0.5s,baz=206,slow=3.9,SNR=3.6						
TORD	Torodi Ar. Bea	80.70	69	P	P	16 28 42.0	+1.7
	comp=Z,1.0nm,0.6s,baz=256,slow=4.3,SNR=6.8						
PDAR	Pinedale Array	82.35	331	P	P	16 28 47.3	-1.3
	comp=Z,0.3nm,0.7s,baz=127,slow=5.7,SNR=2.5						
NVAR	Mina Array Bea	83.00	323	P	P	16 28 51.8	-0.3
	comp=Z,0.4nm,0.6s,baz=161,slow=8.6,SNR=3.0						
ULM	Lac du Bonnet	84.35	343	P	P	16 28 56.4	-2.0
	comp=Z,1.7nm,0.7s,baz=166,slow=5.1,SNR=4.4						
ASAR	Alice Springs	121.40	205	PKP	PKPdf	16 35 19.5	-0.3
	comp=Z,0.3nm,0.7s,baz=139,slow=1.8,SNR=5.5						
WRA	Warramunga Arr	124.63	207	PKP	PKPdf	16 35 26.8	+0.8
	comp=Z,0.4nm,0.4s,baz=166,slow=1.4,SNR=6.0						
ZALV	Zalesovo Beam	150.30	32	PKPbc	PKiKP	16 36 17.8	+0.4
	comp=Z,1.9nm,0.4s,baz=301,slow=3.8,SNR=11						
MKAR	Makanchi Array	152.82	46	PKPbc	PKiKP	16 36 24.3	+1.4
	comp=Z,0.4nm,0.7s,baz=312,slow=1.9,SNR=6.1						
MKAR				PKPab	PKPab	16 36 35.7	+1.5
	comp=Z,0.5nm,0.6s,baz=296,slow=3.9,SNR=5.8						

ISCJB 17 16:20:43.0±0.9,46°.9N±0°.1×153°.1E±0°.2,h56km,mb3.5/6, MS2.4/2,Error ellipse: s-maj=22.1km s-min=10.0km az=41.3
IDC 17 16:20:45.8±2.9,46°.93N×153°.05E,h68km±25km,mb3.2/7, mb1 3.5/12,mb1mx3.2/47,mbtmp3.6/12,MS2.5/2, Ms1 2.5/2,ms1mx2.2/24,Error ellipse: s-maj=29.8km s-min=18.7km az=123.0
ISC 17 16:20:44.8±1.1,46°.9N±0°.1×153°.1E±0°.1,h56km,n19, σ0°69/13,mb3.5/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	6.87	24	P	Pn	16 22 23.7	+0.9
	0.1nm,0.3s,baz=189,slow=12,SNR=3.8						
ASAJ	Asahikawa	7.88	253	P	Pn	16 22 37.3	+0.5
	0.4nm,0.3s,baz=18,slow=13,SNR=4.4						
MA2	Magadan	12.75	355	P	Pn	16 23 43.5	+0.4
	0.2nm,0.3s,baz=159,slow=5.9,SNR=4.1						
USRK	Ussuriysk Ar.	15.02	267	P	Pn	16 24 13.6	0.0
	0.1nm,0.3s,baz=83,slow=13,SNR=2.3						
MJAR	Matsushiro Arr	15.17	232	P	Pn	16 24 16.8	+1.3
	0.0nm,0.3s,baz=38,slow=9.4,SNR=3.8						
KSRS	Korea Array	20.83	252	P	P	16 25 21.9	+0.3
	0.9nm,0.8s,baz=63,slow=7.6,SNR=4.1						
KSRS				LR	LR	16 33 55.8	
	comp=Z,7.3nm,19.4s,baz=110,slow=38						
H11N2	WAKE ISLAND Hy	29.38	153	T	T	16 58 03.2	
	baz=340,slow=76,SNR=20						
H11N1	WAKE ISLAND Hy	29.40	153	T	T	16 58 02.2	
	baz=340,slow=76,SNR=20						
H11N3	WAKE ISLAND Hy	29.40	153	T	T	16 58 02.8	
	baz=340,slow=76,SNR=17						
H11S1	WAKE ISLAND Hy	30.47	154	T	T	16 59 29.7	
	baz=341,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	30.48	154	T	T	16 59 32.8	
	baz=341,slow=76,SNR=27						
H11S2	WAKE ISLAND Hy	30.49	154	T	T	16 59 32.8	
	baz=341,slow=76,SNR=35						
MKAR	Makanchi Array	46.84	297	P	P	16 29 08.9	-0.1
	0.4nm,0.8s,baz=68,slow=8.0,SNR=3.2						
FINES	FINESS Array B	63.87	335	P	P	16 31 10.4	-0.7
	0.3nm,0.4s,baz=27,slow=6.4,SNR=9.0						
NB2	NORSAR Subarra	68.06	341	P	P	16 31 38.1	+0.1
	comp=Z,0.2nm,0.5s,baz=25,slow=6.5						
NOA	NORSAR Array B	68.06	341	P	P	16 31 38.0	0.0
	comp=Z,1.1nm,0.9s,baz=30,slow=6.6,SNR=4.3						
NOA				LR	LR	17 03 15.0	
	comp=Z,4.5nm,18.2s,baz=10.0,slow=38						
WRA	Warramunga Arr	68.67	199	P	P	16 31 41.5	-0.7
	comp=Z,0.7nm,1.2s,baz=10,slow=7.1,SNR=4.0						
AKASG	Malin Array Be	71.39	326	P	P	16 31 57.7	-0.9
	comp=Z,0.3nm,0.4s,baz=28,slow=6.9,SNR=4.7						
TXAR	Lajitas Array	77.42	61	P	P	16 32 34.2	+0.1
	comp=Z,0.2nm,0.4s,baz=308,slow=5.5,SNR=5.5						

NEIC 17 16:24:47.4±0.0,19°.46N×65°.45W,h43km,MD3.1(RSPR), After RSPR.
RSPR 17 16:24:47.4,19°.46N×65°.45W,h43km±10km,MD3.1/9, 10C-11D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUPR	Culebra, Puert	1.16	172	eS	Sn	16 25 22.4	+0.5
CUPR	Culebra, Puert	1.16	172	‖eP	Pn	16 25 07.3	+0.1
CUPR	Culebra, Puert	1.16	172	‖eP	Pn	16 25 07.3	+0.1
CUPR				eS	Sn	16 25 22.4	+0.5
CBYP	Canovanas	1.24	198	‖eP	Pn	16 25 06.9	-1.5
CBYP				eS	Sn	16 25 23.1	-1.0
CBYP	Canovanas	1.24	198	‖eP	Pn	16 25 06.8	-1.6
CBYP	Canovanas	1.24	198	‖eP	Pn	16 25 06.8	-1.6
CBYP				eS	Sn	16 25 23.0	-1.0
MTP	Monte Pirata	1.36	184	eS	Sn	16 25 25.7	-1.2
MTP	Monte Pirata	1.36	184	‖eP	Pn	16 25 09.3	-0.7
MTP	Monte Pirata	1.36	184	‖eP	Pn	16 25 09.3	-0.7
MTP				eS	Sn	16 25 25.7	-1.2
HUMP	Col San Antoni	1.36	196	eS	Sn	16 25 25.5	-1.4
HUMP	Col San Antoni	1.36	196	‖eP	Pn	16 25 08.7	-1.3
HUMP	Col San Antoni	1.36	196	‖eP	Pn	16 25 08.7	-1.3
HUMP				eS	Sn	16 25 25.5	-1.4
EMPR	Esperanza - Ma	1.41	226	eS	Sn	16 25 26.9	-1.1
EMPR	Esperanza - Ma	1.41	226	‖eP	Pn	16 25 09.5	-1.2
EMPR	Esperanza - Ma	1.41	226	‖eP	Pn	16 25 09.5	-1.2
EMPR				eS	Sn	16 25 26.9	-1.1
SJG	San Juan	1.50	206	↑eP	Pn	16 25 11.0	-0.9
SJG	San Juan	1.50	206	eS	Sn	16 25 29.0	-1.1
SJG	San Juan	1.50	206	↑eP	Pn	16 25 11.0	-0.9
SJG				eS	Sn	16 25 29.0	-1.1
CELP	Cerrillos	1.74	218	↑eP	Pn	16 25 14.3	-0.9
CELP				eS	Sn	16 25 35.2	-1.1
CELP	Cerrillos	1.74	218	↑eP	Pn	16 25 14.3	-0.9
CELP				eS	Sn	16 25 35.2	-1.1
OBIP	Obispado Ponce	1.78	218	‖eP	Pn	16 25 14.6	-1.2
OBIP	Obispado Ponce	1.78	218	eS	Sn	16 25 36.0	-1.3
OBIP	Obispado Ponce	1.78	218	‖eP	Pn	16 25 14.6	-1.2
OBIP				eS	Sn	16 25 36.0	-1.3
LSP	Las Mesas	2.01	231	↑eP	Pn	16 25 18.2	-0.7
LSP	Las Mesas	2.01	231	eS	Sn	16 25 41.9	-0.9
LSP	Las Mesas	2.01	231	↑eP	Pn	16 25 18.2	-0.7
LSP				eS	Sn	16 25 41.9	-0.9
CRPR	Cabo Rojo, PR	2.13	228	‖eP	Pn	16 25 19.6	-1.0
CRPR	Cabo Rojo, PR	2.13	228	eS	Sn	16 25 45.0	-0.9
CRPR	Cabo Rojo, PR	2.13	228	‖eP	Pn	16 25 19.6	-1.0
CRPR				eS	Sn	16 25 45.0	-0.9
SDDR	Presa de Saban	5.53	266	ePn	Pn	16 26 07.2	-0.2

IDC 17 17:02:37.1±1.1,3°.80S×133°.50E,h0km,mb3.6/5, mb1 3.9/9,mb1mx3.7/31,mbtmp3.8/9,ML4.0/4,Error ellipse: s-maj=35.3km s-min=17.1km az=64.0
ISCJB 17 17:02:39.8±0.8,3°.96S±0°.06×133°.3E±0°.1,h33km,mb3.5/4, Error ellipse: s-maj=18.3km s-min=6.8km az=162.5
ISC 17 17:02:41.6±0.9,4°.08S±0°.07×133°.3E±0°.1,h35km,n10, σ3s12/14,mb3.7/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	Sorong	3.77	328	Pn	Pn	17 03 36.4	-0.8
	3.8nm,0.3s,baz=244,slow=22,SNR=37						
SIJI				Sn	Sn	17 04 17.8	-2.6
	6.7nm,0.3s,baz=237,slow=22,SNR=1.5						
SIJI				Lg	Lg	17 04 34.6	
	12nm,0.3s,baz=358,slow=23,SNR=6.3						
BATI	Baumata	11.32	237	Pn	Pn	17 05 24.8	+3.8
	1.3nm,0.3s,baz=15,slow=20,SNR=3.3						
WRA	Warramunga Arr	15.80	176	Pn	Pn	17 06 21.0	-0.7
	0.5nm,0.3s,baz=356,slow=13,SNR=22						
WRA				Sn	Sn	17 09 10.8	-5.0
	0.3nm,0.3s,baz=360,slow=23,SNR=6.6						
FITZ	Fitzroy Crossi	15.81	208	Pn	Pn	17 06 23.7	+2.0
	0.7nm,0.3s,baz=37,slow=12,SNR=19						
FITZ				Sn	Sn	17 09 11.3	-4.7
	0.1nm,0.3s,baz=46,slow=20,SNR=1.4						
ASAR	Alice Springs	19.49	178	P	P	17 07 09.4	+3.6
	0.4nm,0.3s,baz=1.8,slow=10,SNR=41						
ASAR				S	S	17 10 40.9	-3.3
	0.1nm,0.3s,baz=359,slow=27,SNR=4.1						
CTA	Charters Tower	20.33	143	P	P	17 07 17.4	+2.5
	1.8nm,0.7s,baz=321,slow=13,SNR=3.6						
CMAR	Chiang Mai Arr	40.57	305	P	P	17 10 18.4	+0.3
	0.2nm,0.6s,baz=126,slow=7.3,SNR=3.2						
MKAR	Makanchi Array	67.66	325	P	P	17 13 36.2	+1.0
	1.1nm,0.7s,baz=116,slow=7.5,SNR=12						
ZALV	Zalesovo Beam	70.48	332	P	P	17 13 52.0	-0.5
	0.4nm,0.7s,baz=114,slow=1.7,SNR=2.9						
ILAR	Eielson Array	89.33	25	P	P	17 15 32.8	-1.4
	0.4nm,0.8s,baz=246,slow=5.3,SNR=4.9						

ISCJB 17 17:05:07.7±0.6,45°.56N±0°.02×26°.59E±0°.03,h115km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=34.6
SOF 17 17:05:07.6,45°.59N×26°.57E,h100km
BUC 17 17:05:08.7±0.8,45°.56N×26°.55E,h111km±8km,MD3.5/5, Error ellipse: s-maj=8.3km s-min=6.1km az=33.0
ISC 17 17:05:07.3±1.3,45°.58N±0°.03×26°.56E±0°.03,h123km±6km, n84,σ0°94/111,41C-22D,Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLOR	Plostina	0.28	13	↑P	Pn	17 05 24.7	+0.1
PLOR				i S	Sn	17 05 36.3	-1.3
PLOR	Plostina	0.28	13	↑P	Pn	17 05 24.7	+0.1
VRI	Vrincioaia	0.31	22	↑P	Pn	17 05 25.0	+0.4
VRI				i S	Sn	17 05 36.9	-0.9
VRI	Vrincioaia	0.31	22	↑P	Pn	17 05 25.0	+0.4
GRER		0.35	124	↑P	Pn	17 05 25.9	+1.1
GRER				i S	Sn	17 05 37.8	-0.1
GRER		0.35	124	↑P	Pn	17 05 25.9	+1.1
ODBI	Odobesti	0.39	62	↑P	Pn	17 05 26.0	+1.1
ODBI				i S	Sn	17 05 37.7	-0.6
ODBI	Odobesti	0.39	62	↑P	Pn	17 05 26.0	+1.1
MLR	Muntele Rosu	0.44	259	‖P	Pn	17 05 25.9	+0.5
MLR				i S	Sn	17 05 38.8	-0.2
MLR	Muntele Rosu	0.44	259	‖P	Pn	17 05 25.9	+0.5
ISR	Istrita	0.46	182	↑P	Pn	17 05 26.0	+0.6
ISR				i S	Sn	17 05 38.5	-0.5
ISR	Istrita	0.46	182	↑P	Pn	17 05 26.0	+0.6
PETR	Petresti	0.49	73	↑P	Pn	17 05 26.2	+0.8
PETR				i S	Sn	17 05 39.2	+0.1
PETR	Petresti	0.49	73	↑P	Pn	17 05 26.2	+0.8
SECR		0.65	213	‖P	Pn	17 05 27.5	+1.0
SECR				i S	Sn	17 05 40.6	-0.5
SECR		0.65	213	‖P	Pn	17 05 27.5	+1.0
OZUR		0.75	314	‖P	Pn	17 05 27.4	+0.1
OZUR				i S	Sn	17 05 41.0	-1.5
OZUR		0.75	314	‖P	Pn	17 05 27.4	+0.1
DOPR	Dopca	0.91	296	‖P	Pn	17 05 29.0	+0.3
DOPR				i S	Sn	17 05 44.0	-0.9
DOPR	Dopca	0.91	296	‖P	Pn	17 05 29.0	+0.3
TESR	Tescani	0.93	4	‖P	Pn	17 05 29.1	+0.2
TESR				i S	Sn	17 05 43.9	-1.4
TESR	Tescani	0.93	4	‖P	Pn	17 05 29.1	+0.2
BIR	Birlad	1.01	47	‖P	Pn	17 05 30.2	+0.6
BIR				i S	Sn	17 05 45.8	-0.8
BIR	Birlad	1.01	47	‖P	Pn	17 05 30.2	+0.6
VOIR		1.07	263	↑P	Pn	17 05 30.9	+0.5
VOIR				i S	Sn	17 05 47.3	-0.5
VOIR		1.07	263	↑P	Pn	17 05 30.9	+0.5
AMRR	Amara	1.11	150	i S	Sn	17 05 47.9	-0.4
AMRR	Amara	1.11	150	S	Sn	17 05 47.9	-0.4
MTUR	Matau	1.11	252	↑P	Pn	17 05 31.7	+0.9
LEHL	Lehliu	1.12	171	i S	Sn	17 05 48.7	+0.2
LEHL	L

GZR	**Gura Zlata**	**2.67**	**267**	⇑*i*P	**Pn**	**17**	**05**	**49.1**	**-0.3**
HERR	**Herculane**	**3.01**	**258**	*i*S	**Sn**	**17**	**06**	**27.4**	**-2.2**
HERR	**Herculane**	**3.01**	**258**	S	**Sn**	**17**	**06**	**27.4**	**-2.2**
BZS	**Buzias**	**3.47**	**272**	⇓*i*P	**Pn**	**17**	**06**	**00.8**	**+1.0**
BZS	**Buzias**	**3.47**	**272**	⇓*i*P	**Pn**	**17**	**06**	**00.8**	**+1.0**
MDVR	**Moldovita**	**3.52**	**259**	⇑*i*P	**Pn**	**17**	**06**	**00.9**	**+0.4**
MDVR				*i*S	**Sn**	**17**	**06**	**39.1**	**-2.6**
MDVR	**Moldovita**	**3.52**	**259**	⇑*i*P	**Pn**	**17**	**06**	**00.9**	**+0.4**

JMA 17 17:11:02.1±0.1, **41°.56N**×**142°.06E**, **h65**km±2km, **M2.6, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAHD	**Aomorihigashid**	**0.62**	**242**	Op P		Pn	17 11 16.2	+0.5
JAHD				*e*S		Sn	17 11 26.3	+0.6
JARK	**Aomorirokkasho**	**0.76**	**224**	P		Pn	17 11 17.2	-0.1
JARK				*e*S		Sn	17 11 28.1	-0.5
JOT	**Ohata**	**0.78**	**257**	P		Pn	17 11 17.7	+0.1
JKB	**Kayabe**	**0.84**	**293**	P		Pn	17 11 18.1	-0.2
JNBK	**Urakawa-nobuka**	**0.89**	**35**	P		Pn	17 11 18.5	-0.4
JEM	**Erimo**	**0.94**	**61**	P		Pn	17 11 19.5	0.0
JTM	**Tenmabayashi**	**1.08**	**224**	P		Pn	17 11 21.7	+0.4
JTM				*e*S		Sn	17 11 35.8	+0.2
JNB	**Noboribetsu**	**1.19**	**320**	P		Pn	17 11 22.5	-0.2
JNB				*e*S		Sn	17 11 37.5	-0.6
JSR	**Shiriuchi**	**1.23**	**269**	P		Pn	17 11 23.9	+0.6
JBT2	**Biratori 2**	**1.24**	**10**	P		Pn	17 11 24.2	+0.8
JBT2				*e*S		Sn	17 11 40.6	+1.2
JANG	**Nango**	**1.25**	**199**	P		Pn	17 11 23.7	0.0
JANG				*e*S		Sn	17 11 39.3	-0.5
JEW	**Eniwo**	**1.36**	**341**	P		Pn	17 11 25.6	+0.6
JEW				*e*S		Sn	17 11 42.9	+0.7
JYM2	**Yakumo 2**	**1.38**	**294**	P		Pn	17 11 26.0	+0.7
JCH	**Churui**	**1.43**	**42**	P		Pn	17 11 27.0	+1.0
JFR	**Furan**	**1.65**	**14**	P		Pn	17 11 29.4	+0.5

IDC 17 17:11:06.4±2.3, **37°.98N**×**142°.79E**, **h0**km, **mb3.5**/4, **mb1 3.5**/5, **mb1mx3.2**/37, **mbtmp3.4**/5, **ML1.9**/1, **Error ellipse: s-maj=46.9km s-min=34.0km az=78.0, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**3.93**	**250**	Pn		Pn	17 12 07.8	-0.1
	0.1nm,0.3s,baz=74,slow=9.0,SNR=6.3							
MJAR				Sn		Sn	17 12 54.4	-0.3
	0.1nm,0.3s,baz=129,slow=37,SNR=1.6							
H11N2	**WAKE ISLAND Hy 27.73**	**124**		T		T	17 46 09.9	
	baz=316,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy 27.74**	**124**		T		T	17 46 09.1	
	baz=316,slow=75,SNR=12							
H11N3	**WAKE ISLAND Hy 27.75**	**124**		T		T	17 46 11.4	
	baz=316,slow=75,SNR=12							
H11S1	**WAKE ISLAND Hy 28.50**	**126**		T		T	17 47 11.9	
	baz=317,slow=76,SNR=7.5							
H11S3	**WAKE ISLAND Hy 28.50**	**126**		T		T	17 47 12.1	
	baz=317,slow=76,SNR=7.9							
H11S2	**WAKE ISLAND Hy 28.51**	**126**		T		T	17 47 09.6	
	baz=317,slow=76,SNR=7.9							
ZALV	**Zalesovo Beam**	**42.09**	**312**	P		P	17 18 59.2	-0.6
	0.3nm,0.4s,baz=81,slow=8.9,SNR=3.0							
MKAR	**Makanchi Array**	**44.55**	**302**	P		P	17 19 20.8	+0.9
	0.1nm,0.4s,baz=82,slow=10,SNR=2.7							
KURBB	**Kurchatov Arra**	**46.29**	**307**	P		P	17 19 32.9	-0.6
	0.7nm,0.2s,baz=81,slow=7.9,SNR=2.7							
WRA	**Warramunga Arr**	**58.16**	**189**	P		P	17 21 01.9	-0.1
	0.2nm,0.8s,baz=6.8,slow=6.9,SNR=2.7							

*IDC **17** 17:15:27.3*±2.8, *33°.76N*×*84°.51E*, *h0*km, *mb3.1/4, mb1 3.3/6, mb1mx3.2/33, mbtmp3.1/6, ML3.1/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/19, Error ellipse: s-maj=82.1km s-min=25.7km az=74.0*

*ISCJB **17** 17:15:33.7*±0.7, *34°.20N*±0°.05×*85°.6E*±0°.2, *h33*km, *mb3.3/2, Error ellipse: s-maj=26.4km s-min=7.7km az=1.6*

ISC 17 17:15:35.7±1.0, **34°.19N**±0°.09×**85°.5E**±0°.2, **h35**km, **n16**, σ**0**.**95**/15, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.00**	**195**	*e*P		**Pn**	**17 17 02.3**	**0.0**
	8.9nm,0.4s							
GKN	**Gorkha**	**6.21**	**187**	*e*P		**Pn**	**17 17 06.3**	**+1.3**
	4.4nm,0.4s							
GUN	**Gumba**	**6.27**	**177**	*e*P		**Pn**	**17 17 07.0**	**+0.9**
	15nm,0.6s							
KKN	**Kakani**	**6.38**	**181**	*e*P		**Pn**	**17 17 08.8**	**+1.3**
	6.5nm,0.5s							
JIRN	**Jiri**	**6.54**	**174**	*e*P		**Pn**	**17 17 11.1**	**+1.3**
	12nm,0.3s							
DMN	**Daman**	**6.57**	**183**	*e*P		**Pn**	**17 17 10.9**	**+0.8**
	5.6nm,0.5s							
PKIN	**Phulchoki**	**6.59**	**181**	*e*P		**Pn**	**17 17 11.0**	**+0.6**
	11nm,0.6s							
KOLN	**Koldanda**	**6.60**	**195**	*e*P		**Pn**	**17 17 09.7**	**-0.7**
	5.1nm,0.5s							
PKI	**Pulchoki**	**6.60**	**180**	*e*P		**Pn**	**17 17 11.3**	**+0.8**
	8.0nm,0.4s							
RAMN	**Ramite**	**7.28**	**172**	*e*P		**Pn**	**17 17 19.6**	**-0.3**
	12nm,0.4s							
MKAR	**Makanchi Array**	**12.82**	**350**	Pn		**Pn**	**17 18 35.7**	**+0.3**
	0.0nm,0.3s,baz=179,slow=14,SNR=3.0							
MKAR				LR		LR	17 23 58.6	
	comp=Z,21nm,18.0s,baz=170,slow=39							
CMAR	**Chiang Mai Arr**	**19.75**	**139**	P		**P**	**17 20 02.2**	**-0.4**
	0.1nm,0.3s,baz=325,slow=12,SNR=2.8							
ZALV	**Zalesovo Beam**	**19.76**	**359**	P		**Pn**	**17 20 03.7**	**-0.4**
	0.7nm,0.6s,baz=190,slow=13,SNR=4.7							
SONM	**Songino Array**	**20.77**	**43**	P		Pn	17 20 19.1	+2.8
	0.2nm,0.3s,baz=224,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**71.14**	**132**	P		**P**	**17 26 49.6**	**-1.3**
	0.3nm,0.9s,baz=327,slow=6.7,SNR=3.5							
ILAR	**Eielson Array**	**73.24**	**21**	P		**P**	**17 27 03.5**	**+0.7**
	0.3nm,0.7s,baz=310,slow=3.9,SNR=3.7							

*IDC **17** 17:24:10.6*±3.0, *39°.15N*×*143°.46E*, *h0*km, *mb3.3/3, mb1 3.4/4, mb1mx3.2/32, mbtmp3.2/4, ML2.2/1, Error ellipse: s-maj=71.5km s-min=36.8km az=72.0*

*ISCJB **17** 17:24:11.7*±2.0, *39°.25N*±0°.06×*142°.96E*±0°.08, *h2*km±*12*km, *mb3.4/3, Error ellipse: s-maj=11.0km s-min=9.7km az=152.9*

*JMA **17** 17:24:12.6*±0.1, *39°.25N*×*143°.00E*, *h21*km±*2*km, *M3.2*

ISC 17 17:24:12.3±3.7, **39°.26N**±0°.06×**142°.91E**±0°.09, **h2**km±24km, **n15**, σ**1**823/21, **mb3.6**/3, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.90**	**291**	P		**Pb**	**17 24 30.3**	**-0.4**
MIYJ				*e*S		**Sb**	**17 24 43.3**	**+0.1**
OFUJ	**Ofunato**	**0.98**	**260**	P		**Pb**	**17 24 31.7**	**-0.4**
OFUJ				*e*S		**Sb**	**17 24 45.6**	**+0.1**
JTH	**Tanohata**	**1.05**	**310**	P		**Pb**	**17 24 32.8**	**-0.5**
JKMT	**Kesennumamotoy**	**1.21**	**249**	P		**Pn**	**17 24 35.3**	**-0.9**
JKMT				*e*S		**Sb**	**17 24 51.6**	**-0.3**
JOM	**Ohasama**	**1.27**	**280**	P		**Pn**	**17 24 36.5**	**-0.6**
JOM				*e*S		**Sn**	**17 24 53.9**	**-0.9**
JMK	**Ichinoseki**	**1.35**	**257**	P		**Pn**	**17 24 37.6**	**-0.6**
JMK				*e*S		**Sn**	**17 24 56.2**	**-0.5**
JKZ	**Kuzumaki**	**1.42**	**301**	P		**Pn**	**17 24 38.9**	**-0.3**
JKZ				*e*S		**Sn**	**17 24 57.8**	**-0.7**
JIO	**Ouri**	**1.46**	**237**	P		**Pn**	**17 24 38.8**	**-0.9**
JANG	**Nango**	**1.55**	**316**	P		**Pn**	**17 24 39.8**	**-1.1**
JRG	**Rokugo**	**1.77**	**275**	P		**Pn**	**17 24 45.2**	**+1.2**
JAH	**Hinai**	**1.98**	**299**	P		**Pn**	**17 24 48.4**	**+1.5**
MJAR	**Matsushiro Arr**	**4.61**	**235**	Pn		**Pn**	**17 25 25.5**	**+2.6**
	0.1nm,0.3s,baz=41,slow=10,SNR=7.7							
MKAR	**Makanchi Array**	**43.97**	**300**	P		**P**	**17 32 22.7**	**+1.8**
	0.1nm,0.4s,baz=69,slow=7.9,SNR=2.5							
KURBB	**Kurchatov Arra**	**45.60**	**306**	P		**P**	**17 32 35.4**	**+1.8**
	0.7nm,0.7s,baz=83,slow=8.0,SNR=3.2							
WRA	**Warramunga Arr**	**59.44**	**189**	P		**P**	**17 34 14.8**	**-1.7**
	0.5nm,1.0s,baz=6.5,slow=7.4,SNR=2.5							

*ISCJB **17** 17:29:48.7*±0.3, *38°.92N*±0°.02×*27°.06E*±0°.03, *h7*km±*3*km, *Error ellipse: s-maj=4.5km s-min=3.0km az=28.9*

*ISK **17** 17:29:48.3, 38°.90N×27°.07E, h10*km, *ML2.1/10*

*DDA **17** 17:29:48.4, 38°.94N×27°.06E, h6*km, *ML2.5*

ISC 17 17:29:48.6±0.9, **38°.92N**±0°.02×**27°.06E**±0°.03, **h9**km±6km, **n24**, σ**0**843/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZEDA	**zmir-Bergama**	**0.05**	**16**	*i*P		**Pg**	**17 29 50.5**	**+0.1**
ZEDA				*i*S		**Sg**	**17 29 51.7**	**-0.2**
ZEDA				IAML_P				
	comp=Z,26μm,0.1s							
FOCM	**Foa**	**0.33**	**231**	PG		**Pg**	**17 29 54.9**	**-0.2**
FOCM				SG		**Sg**	**17 29 59.8**	**+0.3**
AYVA	**Ayvalik**	**0.48**	**323**	*i*P		**Pb**	**17 29 58.8**	**-0.4**
AYVA				*i*S		**Sb**	**17 30 05.8**	**-0.6**
AYVA				IAML_P				
	comp=Z,279nm,0.1s							
KRBN	**Karaburun**	**0.51**	**231**	PG		**Pg**	**17 29 58.8**	**+0.3**
KRBN				SG		**Sb**	**17 30 06.4**	**-0.9**
BLCB	**Balcova**	**0.54**	**182**	PG		**Pg**	**17 29 58.7**	**-0.3**
BLCB				SG		**Sg**	**17 30 06.6**	**+0.6**
AKHS	**Akhisar**	**0.59**	**94**	*i*P		**Pb**	**17 30 00.7**	**-0.4**
AKHS				*i*S		**Sb**	**17 30 08.6**	**-0.8**
URLA	**Izmir**	**0.67**	**213**	PG		**Pg**	**17 30 01.3**	**-0.2**
URLA				SG		**Sb**	**17 30 11.4**	**-0.3**
URLA	**Izmir**	**0.67**	**213**	*i*P		**Pb**	**17 30 02.1**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.69**	**48**	*i*P		**Pb**	**17 30 02.7**	**0.0**
STEP				*i*S		**Sb**	**17 30 11.7**	**-0.5**
STEP				IAML_P				
	comp=Z,856nm,0.1s							
ZEY	**zmir**	**0.81**	**213**	*i*P		**Pb**	**17 30 04.8**	**+0.1**
ZEY				*i*S		**Sb**	**17 30 16.0**	**+0.2**
ZEY				IAML_P				
	comp=Z,689nm,0.1s							
DGB	**zmir**	**0.88**	**189**	*i*P		**Pb**	**17 30 06.3**	**+0.4**
DGB				*i*S		**Sb**	**17 30 17.4**	**-0.4**
DGB				IAML_P				
	comp=Z,442nm,0.2s							
BAYC	**CANAKKALE_Bayr**	**0.91**	**334**	*i*P		**Pg**	**17 30 06.1**	**0.0**
BAYC				*i*S		**Sg**	**17 30 18.1**	**+0.1**
BALB	**Balikesir**	**0.96**	**41**	PG		**Pb**	**17 30 07.5**	**+0.2**
SIGR	**SIGRI**	**0.98**	**288**	PG		**Pb**	**17 30 07.5**	**-0.2**
EZN	**Ezine**	**1.07**	**328**	PN		**Pn**	**17 30 09.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**1.17**	**146**	PN		**Pg**	**17 30 10.6**	**-0.5**
BOZC	**Bozcaada**	**1.21**	**320**	PN		**Pn**	**17 30 12.2**	**+0.6**
DURS	**Dursunbey**	**1.29**	**58**	*i*P		**Pg**	**17 30 13.8**	**+0.5**
DURS				*i*S		**Sn**	**17 30 30.3**	**0.0**
DURS				IAML_P				
	comp=Z,213nm,0.1s							
LPK	**Lapseki**	**1.47**	**351**	PN		**Pb**	**17 30 15.7**	**-0.3**
KRBG	**Karabiga-Canak**	**1.48**	**7**	PN		**Pb**	**17 30 16.4**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.54**	**343**	PN		**Pn**	**17 30 16.6**	**+0.4**
KCTX	**Karacabey (Bur**	**1.68**	**36**	PN		**Pn**	**17 30 18.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.77**	**3**	PN		**Pn**	**17 30 20.1**	**+0.8**
ERIK	**Erikli-Kesan**	**1.80**	**347**	PN		**Pn**	**17 30 20.3**	**+0.6**

*IDC **17** 17:35:48.3*±0.6, *9°.01S*×*80°.66W*, *h0*km, *mb4.4/15, mb1 4.5/21, mb1mx4.4/36, mbtmp4.4/21, ML3.6/6, MS3.8/20, Ms1 3.8/20, ms1mx3.7/28, Error ellipse: s-maj=20.2km s-min=12.0km az=56.0*

*ARE **17** 17:35:51.0*±0.0, *8°.91S*×*80°.85W*, *h57*km

*ISCJB **17** 17:35:51.5*±0.3, *9°.01S*±*0°.04*×*80°.51W*±*0°.05*, *h33*km, *mb4.7/52, MS3.9/17, Error ellipse: s-maj=7.7km s-min=4.6km az=143.7*

*MOS **17** 17:35:51.9*±1.0, *8°.94S*×*80°.55W*, *h33*km, *mb5.0/20, Error ellipse: s-maj=21.1km s-min=7.7km az=116.9*

*NEIC **17** 17:35:53.8*±0.2, *9°.00S*×*80°.59W*, *h35*km, *mb4.9/39, ML4.5(ARE), Error ellipse: s-maj=7.8km s-min=4.5km az=56.0*

NEIC Felt [II] at Trujillo.

*BJI **17** 17:35:54.0, 9°.10S×80°.40W, h35*km, *mB5.0/5, Ms5.1/4, Ms7 4.8/3*

ISC 17 17:35:53.6±0.4, **9°.07S**±0°.05×**80°.51W**±0°.07, **h35**km, **n297**, σ**1**909/292, **mb4.8**/52, **MS4.0**/18, **5C, Off coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.84**	**48**	Pn		**Pn**	**17 36 37.9**	**+1.0**
	17nm,0.3s,baz=242,slow=2.3,SNR=93							
ATAH				Sn		**Sn**	**17 37 13.0**	**+2.8**
	55nm,0.3s,baz=96,slow=13,SNR=17							
ATAH				LR		LR	17 37 59.7	
	comp=Z,3μm,20.6s,baz=243,slow=45							
NNA	**Nana**	**4.63**	**129**	*e*Pn		**Pn**	**17 36 59.7**	**-1.4**
NNA				Sn		**Sn**	**17 37 52.3**	**-1.4**
NNA	**Nana**	**4.63**	**129**	*e*P		**Pn**	**17 36 59.7**	**-1.4**
NNA							17 37 52.3	
NNA	**Nana**	**4.63**	**129**	Pn		**Pn**	**17 37 00.6**	**-0.5**
	13nm,0.3s,baz=338,slow=13,SNR=22							
NNA				Sn		**Sn**	**17 37 52.3**	**-1.4**
	51nm,0.3s,baz=244,slow=20,SNR=5.5							
NNA				LR		LR	17 39 05.9	
	comp=Z,662nm,18.7s,baz=316,slow=41							
OTAV	**Otavalo**	**9.47**	**13**	*e*Pn		**Pn**	**17 38 07.5**	**-0.6**
OTAV	**Otavalo**	**9.47**	**13**	*e*P		**Pn**	**17 38 06.4**	**-1.7**
OTAV	**Otavalo**	**9.47**	**13**	*e*P		**Pn**	**17 38 07.5**	**-0.6**
OTAV	**Otavalo**	**9.47**	**13**	*e*P		**Pn**	**17 38 06.4**	**-1.7**
PTLC	**Puerto Leguiza**	**10.80**	**32**	*e*P		Pn	17 38 17.1	-8.8
PTLC	**Puerto Leguiza**	**10.80**	**32**	*e*P		Pn	17 38 17.1	-8.8
FLOC	**Florencia**	**11.64**	**25**	*e*P		Pn	17 38 32.3	-5.1
FLOC	**Florencia**	**11.64**	**25**	*e*P		Pn	17 38 32.3	-5.1
PCON	**Cinco Dias**	**12.04**	**20**	*e*P		**Pn**	**17 38 41.6**	**-1.8**
PCON	**Cinco Dias**	**12.04**	**20**	*e*P		**Pn**	**17 38 41.6**	**-1.8**
MARP	**Paez Belalcaza**	**12.68**	**21**	*e*P		**Pn**	**17 38 48.9**	**-2.9**
MARP	**Paez Belalcaza**	**12.68**	**21**	*e*P		**Pn**	**17 38 48.9**	**-2.9**
YOTC	**Yotoco, Valle**	**13.62**	**18**	*e*P		Pn	17 38 57.6	-6.9
YOTC	**Yotoco, Valle**	**13.62**	**18**	*e*P		Pn	17 38 57.6	-6.9
PRAC	**Prado**	**13.88**	**24**	*e*P		**Pn**	**17 39 04.2**	**-3.9**
PRAC	**Prado**	**13.88**	**24**	*e*P		**Pn**	**17 39 04.2**	**-3.9**
LPAZ	**La Paz**	**14.04**	**122**	*e*P		**P**	**17 39 15.9**	**-2.3**
LPAZ	**La Paz**	**14.04**	**122**	*e*P		**P**	**17 39 15.9**	**-2.3**
LPAZ	**La Paz**	**14.04**	**122**	Pn		**Pn**	**17 39 11.7**	**+1.0**
	0.1nm,0.3s,baz=321,slow=13,SNR=4.1							
LPAZ				LR		LR	17 45 24.0	
	comp=Z,748nm,19.5s,baz=268,slow=41							
VILC	**Villavicencio,**	**14.76**	**28**	*e*P		**Pn**	**17 39 15.6**	**-4.4**
VILC	**Villavicencio,**	**14.76**	**28**	*e*P		**Pn**	**17 39 15.6**	**-4.4**
ROSC	**El Rosal**	**15.13**	**24**	Pn		**Pn**	**17 39 24.8**	**-0.5**
	0.5nm,0.3s,baz=228,slow=15,SNR=2.0							
ROSC				LR		LR	17 45 26.5	
	comp=Z,334nm,18.4s,baz=210,slow=38							
CHIC	**Chingaza**	**15.20**	**27**	*e*P		**Pn**	**17 39 23.5**	**-2.7**
CHIC	**Chingaza**	**15.20**	**27**	*e*P		**Pn**	**17 39 23.5**	**-2.7**
NORC	**Norcasia**	**15.59**	**21**	*e*P		**P**	**17 39 34.8**	**0.0**
NORC	**Norcasia**	**15.59**	**21**	*e*P		**P**	**17 39 34.8**	**0.0**
HELC	**Santa Helena**	**15.95**	**18**	*e*P		**P**	**17 39 40.1**	**+0.9**
HELC	**Santa Helena**	**15.95**	**18**	*e*P		**P**	**17 39 40.1**	**+0.9**
RUSC	**La Rusia**	**16.61**	**27**	*e*P		**P**	**17 39 45.5**	**-1.1**
RUSC	**La Rusia**	**16.61**	**27**	*e*P		**P**	**17 39 45.5**	**-1.1**
LVC	**Limon Verde**	**17.47**	**142**	*e*Pn		**P**	**17 39 56.7**	**+0.8**
	16nm,1.0s							
LVC	**Limon Verde**	**17.47**	**142**	*e*P		**P**	**17 39 56.7**	**+0.8**
LVC				pmax	pmax			
	comp=Z,16nm,1.0s							
LVC	**Limon Verde**	**17.47**	**142**	P		**P**	**17 39 56.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=301,slow=6.1,SNR=6.0							
JTS	**JuntasAbangare**	**19.74**	**347**	*i*P		**Pn**	**17 40 24.1**	**+1.9**
JTS				pmax	pmax			
	comp=Z,7.0nm,1.2s							
JTS	**JuntasAbangare**	**19.74**	**347**	P		**P**	**17 40 18.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=204,slow=20,SNR=3.7							
JTS				LR		LR	17 46 55.0	
	comp=Z,170nm,18.1s,baz=236,slow=34							
SIV	**San Ignacio**	**20.17**	**112**	P		**P**	**17 40 26.1**	**+0.8**
	comp=Z,8.4nm,0.6s,baz=297,slow=10,SNR=37							
SIV				LR		LR	17 49 26.8	
	comp=Z,179nm,18.2s,baz=307,slow=40							
PTGA	**Pitinga**	**22.07**	**69**	*e*P		**P**	**17 40 46.1**	**+0.4**
	comp=Z,79nm,0.8s							
PTGA	**Pitinga**	**22.07**	**69**	P		**P**	**17 40 45.4**	**-0.3**
	comp=Z,76nm,0.8s,baz=247,slow=12,SNR=102							
PTGA				LR		LR	17 50 18.2	
	comp=Z,793nm,19.2s,baz=250,slow=39							
APG	**El Apazote**	**25.88**	**337**	P		**P**	**17 41 21.4**	**-1.1**
	comp=Z,4.5nm,1.0s,baz=143,slow=5.1,SNR=2.6							
APG				LR		LR	17 49 25.3	
	comp=Z,118nm,18.5s,baz=234,slow=32							
CPUP	**Villa Florida**	**27.88**	**131**	P		**P**	**17 41 41.7**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=236,slow=3.6,SNR=1.9							
CMIG	**Matias Romero**	**29.63**	**331**	LR		LR	17 51 36.7	
	comp=Z,68nm,18.7s,baz=195,slow=32							
MDP	**Montagnes des**	**31.14**	**64**	LR		LR	17 55 21.5	
	comp=Z,216nm,19.7s,baz=204,slow=38							
GO06	**Curarrehue**	**31.44**	**167**	*e*P		**P**	**17 42 10.9**	**-1.0**
	comp=Z,4.1nm,0.8s							
BDFB	**Brasilia**	**32.38**	**105**	P		**P**	**17 42 22.5**	**+2.2**
	comp=Z,2.0nm,0.6s,baz=270,slow=16,SNR=2.4							
BDFB				LR		LR	17 56 05.0	
	comp=Z,308nm,21.1s,baz=291,slow=37							
PLCA	**Paso Flores**	**32.75**	**166**	P		**P**	**17 42 24.4**	**+1.1**
	comp=Z,6.8nm,1.0s,baz=2.2,slow=11,SNR=12							
PLCA				PcP		**PcP**	**17 45 08.3**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=2.8,slow=4.7,SNR=5.2							
NATX	**Nacogdoches**	**42.80**	**342**	*e*P		**P**	**17 43 48.5**	**+0.3**
	comp=Z,36nm,1.0s							
NATX	**Nacogdoches**	**42.80**	**342**	P		**P**	**17 43 48.4**	**+0.3**
	baz=159							
JCT	**Junction City**	**43.47**	**336**	P		**P**	**17 43 53.6**	**0.0**
	baz=152							
X52A	**Dahlonega**	**43.55**	**356**	P		**P**	**17 43 55.3**	**+1.2**
	baz=175							
X50B	**Fort Payne**	**43.57**	**354**	P		**P**	**17 43 55.4**	**+1.1**
	baz=173							
X49A	**Woodville**	**43.70**	**353**	P		**P**	**17 43 55.8**	**+0.6**
	baz=172							
X48A	**Hartselle**	**43.73**	**352**	P		**P**	**17 43 56.0**	**+0.5**
	baz=171							
X47A	**Russelville**	**43.91**	**351**	P		**P**	**17 43 57.5**	**+0.6**
	baz=170							
WHTX	**Lake Whitney,**	**43.93**	**339**	P		**P**	**17 43 57.2**	**0.0**
	baz=156							
W56A	**Indian Trail**	**43.97**	**360**	P		**P**	**17 43 58.7**	**+1.3**
	baz=180							
W53A	**Cullowhee**	**44.07**	**357**	P		**P**	**17 43 58.5**	**0.0**
	baz=176							
W51A	**Cleveland**	**44.17**	**355**	P		**P**	**17 44 00.1**	**+1.0**
	baz=174							
TXAR	**Lajitas Array**	**44.23**	**331**	P		**P**	**17 43 59.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=146,slow=9.1,SNR=6.2							
TXAR				PcP		**PP**	**17 45 43.3**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=147,slow=5.2,SNR=5.1							
TXAR				LR		LR	18 00 06.2	
	comp=Z,34nm,18.4s,baz=0.0,slow=33							
W49A	**Belvidere**	**44.29**	**353**	P		**P**	**17 44 01.2**	**+1.2**
	baz=172							
V49A	**McMinnville**	**44.89**	**354**	P		**P**	**17 44 04.7**	**-0.1**
	baz=173							
MIAR	**Mount Ida**	**45.11**	**345**	P		**P**	**17 44 06.4**	**-0.2**
	baz=162							
ABTX	**Abilene, Hawle**	**45.30**	**337**	P		**P**	**17 44 08.2**	**0.0**
	baz=153,SNR=10							
U51A	**La Follette**	**45.33**	**356**	P		**P**	**17 44 08.0**	**-0.3**
	baz=175							
U47A	**Clarksville**	**45.72**	**352**	P		**P**	**17 44 11.8**	**+0.5**
	baz=171							
W39A	**Magazine**	**45.78**	**345**	P		**P**	**17 44 12.4**	**+0.6**
	baz=162							
U41A	**Viola**	**46.43**	**347**	P		**P**	**17 44 17.5**	**+0.5**
	baz=164							
S51A	**Beattyville**	**46.55**	**357**	P		**P**	**17 44 18.0**	**+0.1**
	baz=176							
S52A	**Salyersville**	**46.57**	**357**	P		**P**	**17 44 18.7**	**+0.7**
	baz=177							
USHA	**Ushuaia**	**46.64**	**170**	P		**P**	**17 44 19.0**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=319,slow=3.8,SNR=5.2							
U40A	**Yellville**	**46.66**	**346**	P		**P**	**17 44 19.0**	**+0.2**
	baz=163							
S48A	**Wiedeman Farm,**	**46.77**	**354**	P		**P**	**17 44 18.2**	**-1.5**
	baz=173							
T43A	**Greenville**	**46.82**	**349**	P		**P**	**17 44 19.4**	**-0.6**
	baz=167							
HHAR	**Hobbs**	**46.85**	**345**	*e*P		**P**	**17 44 19.7**	**-0.6**
	comp=Z,11nm,1.0s							
WMOK	**Wichita Mounta**	**46.88**	**339**	*e*P		**P**	**17 44 20.1**	**-0.5**
	comp=Z,11nm,1.0s							
WMOK	**Wichita Mounta**	**46.88**	**339**	*e*P		**P**	**17 44 20.1**	**-0.5**
WMOK				pmax	pmax			
	comp

comp=Z,14nm,0.9s
SDCO Great Sand Dun 52.11 335 P P 17 45 00.9 +0.1
baz=148,SNR=13
K40A Colesburg 52.43 350 P P 17 45 02.2 -0.5
baz=167
K39A Oelwein 52.56 349 P P 17 45 03.3 -0.4
baz=166
S22A 4UR Ranch, Cre 52.68 334 P P 17 45 05.1 +0.1
baz=147,SNR=6.0
J41A Loganville 52.90 351 P P 17 45 06.8 +0.6
baz=168
MVCO Mesa Verde 52.99 332 *e*P P 17 45 06.6 -0.7
comp=Z,11nm,1.0s
MVCO Mesa Verde 52.99 332 P P 17 45 07.2 0.0
baz=145,SNR=6.7
Q24A Divide 53.00 336 P P 17 45 06.9 -0.5
baz=149
J40A Soldiers Grove 53.04 351 P P 17 45 06.6 -0.6
baz=167
WUAZ Wupatki 53.06 328 P P 17 45 06.6 -1.0
baz=141
I45A Fountain 53.11 355 P P 17 45 08.3 +0.6
baz=173
Y12C Blythe 53.45 325 P P 17 45 10.4 0.0
baz=137
LBNH Lisbon 53.63 8 P P 17 45 12.8 +1.4
baz=191
ISCO Idaho Springs 53.90 336 P P 17 45 14.0 0.0
baz=149,SNR=5.9
PV15 Paradox Valley 53.90 333 *e*P P 17 45 13.8 -0.1
comp=Z,36nm,0.9s
BC3 Big Chuckawall 53.92 324 P P 17 45 14.2 +0.2
baz=136
MONP2 Monument Peak 53.96 322 P P 17 45 14.4 0.0
baz=134
IRM Iron Mountain 54.10 324 P P 17 45 15.0 -0.2
baz=136,SNR=8.6
H40A Chili 54.19 351 P P 17 45 15.5 -0.1
baz=168
H39A Augusta 54.38 351 P P 17 45 16.9 0.0
baz=167
PFO Pinyon Flats O 54.48 323 P P 17 45 17.6 -0.5
baz=135
BELC Belle Mtn. Jos 54.49 324 P P 17 45 18.5 +0.4
baz=135
H38A Maiden Rock 54.55 350 P P 17 45 17.0 -1.2
baz=166
ECSD EROS Data Cent 54.55 346 P P 17 45 16.8 -1.5
baz=160
ALGO Algonquin Park 54.82 2 P P 17 45 20.3 +0.2
baz=183
GMRC Granite Mounta 54.85 325 P P 17 45 20.6 -0.2
baz=136
MURC Murrieta 54.92 322 P P 17 45 21.0 -0.1
baz=134
G38A Ridgeland 54.95 350 P P 17 45 20.7 -0.4
baz=166
G39A Holcombe 54.95 351 P P 17 45 20.9 -0.2
baz=167
KNB Kanab 54.96 328 *e*P P 17 45 21.2 -0.2
comp=Z,14nm,1.2s
KNB Kanab 54.96 328 *e*P P 17 45 21.3 -0.2
KNB pmax pmax
comp=Z,14nm,1.2s
N23A Red Feather La 54.97 337 P P 17 45 20.6 -1.1
baz=149
PKCU Pink Cliffs 55.02 329 *e*P P 17 45 21.6 -0.6
comp=Z,30nm,1.1s
F41A Three Lakes 55.10 353 P P 17 45 22.1 -0.1
baz=170
HEC Hector,Ludlow 55.27 324 P P 17 45 24.1 +0.4
baz=136,SNR=7.2
O20A White River Ci 55.27 334 P P 17 45 23.8 0.0
baz=146
SCI2 San Clemente I 55.32 321 P P 17 45 23.9 -0.1
baz=132
TUQ Turquoise Moun 55.47 325 P P 17 45 25.2 +0.1
baz=136
Q16A Castle Valley 55.62 331 *e*P P 17 45 26.0 -0.3
comp=Z,9.7nm,0.8s
BFSC Mount Baldy Ra 55.64 323 P P 17 45 26.4 0.0
baz=134
F38A Pierce - Schro 55.72 350 P P 17 45 25.9 -0.7
baz=166,SNR=7.7
MSU Marysvale 55.78 330 *e*P P 17 45 26.8 -0.7
MSU Marysvale 55.78 330 *e*P P 17 45 26.8 -0.7
GSC Goldstone, Bar 55.88 324 P P 17 45 28.1 0.0
baz=135,SNR=5.1
E40A Wakefield 55.90 352 P P 17 45 27.5 -0.4
baz=169
D47A Chapleau 55.92 358 P P 17 45 27.2 -0.9
baz=177
E39A Mellen 55.93 352 P P 17 45 27.7 -0.4
baz=168
D48A Paudash Townsh 56.01 359 P P 17 45 28.0 -0.7
baz=179
EDW2 Edwards Air Fo 56.28 323 P P 17 45 31.0 +0.1
baz=134
E38A The Farm, Brul 56.30 351 P P 17 45 30.5 -0.3
baz=167
BLG Laguna Peak, P 56.40 322 P P 17 45 31.7 0.0
baz=132
LRMC Laurel Mtn Rad 56.51 324 P P 17 45 32.9 +0.3
baz=134,SNR=5.2
FURC Furnace Creek, 56.74 325 P P 17 45 34.1 +0.1
baz=136
TPNV Topopah Spring 56.74 326 *e*P P 17 45 34.0 -0.3
comp=Z,9.6nm,1.1s
TPNV Topopah Spring 56.74 326 *e*P P 17 45 34.0 -0.3
TPNV pmax pmax
comp=Z,10.0nm,1.1s
TPNV Topopah Spring 56.74 326 P P 17 45 34.8 +0.5
baz=136
MPMC Manual Prospec 56.80 324 P P 17 45 34.6 -0.2
baz=135,SNR=7.5
ARVC Arvin 56.95 323 P P 17 45 35.9 +0.3
baz=133
RSSD Black Hills 57.08 340 *e*P P 17 45 36.1 -0.5
comp=Z,13nm,1.2s
RSSD Black Hills 57.08 340 *e*P P 17 45 36.1 -0.5
RSSD pmax pmax
comp=Z,13nm,1.2s
RSSD Black Hills 57.08 340 P P 17 45 36.2 -0.5
baz=152
DUG Dugway, Tooele 57.40 331 *e*P P 17 45 39.3 +0.4
comp=Z,27nm,1.3s
DUG Dugway, Tooele 57.40 331 *e*P P 17 45 39.3 +0.4
DUG pmax pmax
comp=Z,27nm,1.3s
DUG Dugway, Tooele 57.40 331 P P 17 45 39.3 +0.4
baz=141,SNR=15
R11A Troy Canyon, C 57.40 328 *e*P P 17 45 39.5 +0.5
comp=Z,8.7nm,0.9s
R11A Troy Canyon, C 57.40 328 P P 17 45 39.5 +0.5
baz=138,SNR=20
CWC Cottonwood Cre 57.41 324 P P 17 45 38.9 -0.1
baz=134
VES Vestal, Richgr 57.59 323 P P 17 45 40.4 +0.4
baz=133,SNR=6.0
EYMN Ely 57.60 351 P P 17 45 39.4 -0.5
baz=167
HWUT Hardware Ranch 57.94 333 P P 17 45 41.2 -1.4
PDAR Pinedale Array 58.01 335 *e*P P 17 45 42.3 -0.9
PDAR Pinedale Array 58.01 335 P P 17 45 42.6 -0.6
comp=Z,4.1nm,0.8s,baz=131,slow=6.7,SNR=22
PDAR LR LR 18 11 03.7
comp=Z,29nm,18.2s,baz=67,slow=36
HVU Hansel Valley 58.62 332 *e*P P 17 45 46.6 -0.8
comp=Z,14nm,0.8s
HVU Hansel Valley 58.62 332 *e*P P 17 45 46.6 -0.8
HVU pmax pmax
comp=Z,14nm,0.8s
MATQ Matagami 58.63 2 P P 17 45 46.0 -1.1
baz=183
AGMN Agassiz Nation 58.71 348 P P 17 45 47.0 -0.7
baz=162,SNR=7.2
NV11 Mina Array Sit 58.85 326 *e*P P 17 45 49.1 0.0
comp=Z,1.0nm,1.1s
NV01 Mina Array Sit 58.94 326 *e*P P 17 45 50.0 +0.2
NVAR Mina Array Bea 58.94 326 P P 17 45 50.0 +0.3
comp=Z,7.3nm,0.8s,baz=144,slow=6.7,SNR=36
CHGQ Chibougamau 58.98 5 P P 17 45 48.8 -0.7
baz=187
ELK Elko 59.01 330 *e*P P 17 45 50.6 +0.4
comp=Z,16nm,0.8s
ELK Elko 59.01 330 *e*P P 17 45 50.6 +0.4
ELK pmax pmax
comp=Z,16nm,0.8s
MDND Maddock 59.14 345 P P 17 45 50.3 -0.4
baz=158
RYN Ryan 59.20 326 *e*P P 17 45 51.2 -0.2
comp=Z,6.7nm,1.0s
KVN Kaiserville 59.26 326 *e*P P 17 45 51.8 -0.2
comp=Z,8.5nm,1.1s
KVN Kaiserville 59.26 326 *e*P P 17 45 51.8 -0.2
KVN pmax pmax
comp=Z,9.0nm,1.1s
RLMT Red Lodge 59.84 337 *e*P P 17 45 54.9 -1.0
comp=Z,7.7nm,0.8s
RLMT Red Lodge 59.84 337 P P 17 45 55.7 -0.2
baz=147,SNR=9.3
ULM Lac du Bonnet 60.58 349 P P 17 45 59.6 -0.9
comp=Z,8.5nm,0.9s,baz=176,slow=6.4,SNR=19
HLID Hailey 60.77 332 *e*P P 17 46 02.3 +0.1
comp=Z,13nm,1.0s
HLID Hailey 60.77 332 P P 17 46 02.8 +0.6
baz=141,SNR=15
BOZ Bozeman (W) 61.18 336 *e*P P 17 46 03.6 -1.3
comp=Z,16nm,1.3s
BOZ Bozeman (W) 61.18 336 *e*P P 17 46 03.6 -1.3
BOZ pmax pmax
comp=Z,16nm,1.3s
BOZ Bozeman (W) 61.18 336 P P 17 46 05.0 +0.1
baz=144,SNR=15
ORV Oroville 61.51 325 *e*P P 17 46 07.4 +0.3
comp=Z,22nm,1.0s
ORV Oroville 61.51 325 *e*P P 17 46 07.4 +0.3
ORV pmax pmax
comp=Z,23nm,1.0s
WVOR Wild Horse Val 61.98 329 P P 17 46 07.5 -2.8
comp=Z,13nm,1.1s
WVOR Wild Horse Val 61.98 329 P P 17 46 07.5 -2.8
WVOR pmax pmax
comp=Z,13nm,1.1s
O03E Paynes Creek 62.18 325 P P 17 46 10.8 -0.9
baz=133
EGMT Eagleton 62.46 338 P P 17 46 12.8 -0.6
baz=147
MOD Modoc Plateau 62.47 327 *e*P P 17 46 14.0 +0.4
comp=Z,19nm,0.8s
O02D Mt. Diablo Mer 62.66 325 P P 17 46 15.0 +0.1
baz=132
MSO Missoula 63.12 335 *e*P P 17 46 17.7 -0.2
comp=Z,22nm,1.1s
MSO Missoula 63.12 335 P P 17 46 18.1 +0.2
baz=143,SNR=8.2
M04C Macdoel 63.21 326 P P 17 46 18.5 -0.1
baz=133
M02C Callahan 63.51 326 P P 17 46 19.7 -0.8
baz=132
YBH Yreka Blue Hor 63.66 326 *e*P P 17 46 20.5 -1.0
comp=Z,8.1nm,0.8s
YBH Yreka Blue Hor 63.66 326 *e*P P 17 46 20.5 -1.0
YBH pmax pmax
comp=Z,8.0nm,0.8s
K04D Chiloquin, OR 63.74 327 P P 17 46 22.2 +0.1
baz=134
L04D Klamath Falls 63.76 326 P P 17 46 21.5 -0.7
baz=133
J05D Fort Rock, OR 63.92 328 P P 17 46 23.5 +0.2
baz=134
J04D Umpqua Nationa 64.36 327 P P 17 46 26.3 +0.1
baz=134
L02E Cave Junction 64.44 326 P P 17 46 27.1 +0.6
baz=132
SCHQ Schefferville 64.69 9 P P 17 46 27.6 -0.3
comp=Z,3.7nm,0.8s,baz=202,slow=8.7,SNR=3.4
SCHQ LR LR 18 14 29.3
comp=Z,24nm,21.3s,baz=297,slow=36
I05D Terrebonne, OR 64.71 329 P P 17 46 29.2 +0.9
baz=135
K02D Willamette Mer 64.83 326 P P 17 46 29.7 +0.6
baz=132
WALA Waterton Lakes 64.89 336 *e*P P 17 46 29.2 -0.2
comp=Z,16nm,0.8s
I04A Tendick Farm, 64.89 328 P P 17 46 29.7 +0.2
baz=133
J01E Myrtle Point 65.28 326 P P 17 46 32.7 +0.7
baz=132
G05D Wamic, OR 65.34 329 P P 17 46 33.2 +0.8
baz=135
NEW Newport 65.60 334 P P 17 46 33.9 -0.1
baz=140,SNR=6.8
FFC Flin Flon 66.07 347 *i* P P 17 46 36.3 -0.5
B08A Colville Reser 66.64 333 *e*P P 17 46 40.6 0.0
comp=Z,4.8nm,0.8s
FCC Fort Churchill 68.49 352 *e*P P 17 46 51.7 -0.3
comp=Z,13nm,0.8s
FCC Fort Churchill 68.49 352 *e*P P 17 46 51.7 -0.3
FCC pmax pmax
comp=Z,13nm,0.8s
YKA Yellowknife Ar 76.05 344 P P 17 47 36.1 -1.0
comp=Z,3.5nm,0.9s,baz=138,slow=5.8,SNR=33
DBIC Dimbokro 77.00 81 LR LR 18 19 26.8
comp=Z,126nm,21.1s,baz=232,slow=34
SNAA Sanae 77.57 162 *i* P P 17 47 45.8 +0.1
SNAA pmax pmax
comp=Z,273nm,1.0s
DLBC Dease Lake 78.23 336 *e*P P 17 47 50.7 +1.1
comp=Z,12nm,0.9s
QSPA South Pole Qui 81.04 180 *e*P P 17 48 06.1 +1.2
comp=Z,9.9nm,1.0s
TORD Torodi Ar. Bea 84.54 76 P P 17 48 24.8 +0.9
comp=Z,2.7nm,1.0s,baz=282,slow=4.1,SNR=10
TORD LR LR 18 23 30.3
comp=Z,95nm,21.8s,baz=290,slow=34
EPYK Eagle Plains 85.52 340 P P 17 48 27.7 0.0
baz=125
VNDA Vanda 86.95 191 LR LR 18 18 11.8
comp=Z,92nm,20.2s,baz=192,slow=29
HDA Harding Lake 88.26 337 P P 17 48 41.0 0.0
baz=115
IL1 Eielson Array 88.39 337 *e*P P 17 48 40.6 -1.0
ILAR Eielson Array 88.39 337 P P 17 48 41.0 -0.6
comp=Z,1.5nm,0.9s,baz=154,slow=3.7,SNR=14
COLA College 88.81 337 *i* P P 17 48 41.6 -1.9
COLA pmax pmax
comp=Z,4.0nm,1.1s
KEST Kesra 95.11 55 LR LR 18 31 19.4
comp=Z,51nm,20.1s,baz=258,slow=35
NOA NORSAR Array B 98.70 29 LR LR 18 32 33.9
comp=Z,13nm,19.7s,baz=250,slow=34
MAW Mawson 99.15 167 LR LR 18 32 55.7
comp=Z,90nm,19.1s,baz=249,slow=34
VYHS Vyhne 102.92 42 *e*P **Pdif** 17 49 49.2 +1.0
VYHS Vyhne 102.92 42 *e*PDIF **Pdif** 17 49 49.2 +1.0
OBN Obninsk 112.74 34 *e*Pdif **Pdif** 17 50 30.7 -1.0
BRTR Keskin Array B 114.29 51 *i* PKIKP **PKiKP** 17 54 36.5 +6.4
BRTR pmax pmax
comp=Z,2.0nm,1.1s
BRVK Borovoye 130.18 23 *c i* PKIKP **PKiKP** 17 55 01.5 +0.7
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 130.25 23 PKP **PKPdf** 17 55 00.0 -0.1
comp=Z,1.0nm,0.8s,baz=321,slow=2.0,SNR=5.0
KLR Kul'dur 131.74 332 PKP **PKPdf** 17 55 02.2 -0.9
comp=Z,0.8nm,0.8s,baz=37,slow=5.0,SNR=3.9
GEYT Alibeck 133.00 46 PKP **PKPdf** 17 55 06.4 +0.5
comp=Z,1.0nm,0.7s,baz=316,slow=6.0,SNR=3.2
ASAR Alice Springs 133.20 225 PKhKP PKPpre 17 54 57.8
comp=Z,1.0nm,1.2s,baz=122,slow=3.2,SNR=3.3
ASAR PKP **PKPdf** 17 55 06.1 -0.6
comp=Z,0.8nm,0.7s,baz=127,slow=2.0,SNR=5.5
ZALV Zalesovo Beam 133.72 12 PKIKP **PKPdf** 17 55 06.0 -0.6
ZALV Zalesovo Beam 133.72 12 PKP **PKPdf** 17 55 06.0 -0.6
comp=Z,1.9nm,0.8s,baz=242,slow=3.1,SNR=9.6
KURBB Kurchatov Arra 135.09 19 PKP **PKPdf** 17 55 09.5 +0.2
comp=Z,1.4nm,0.7s,baz=327,slow=2.4,SNR=13
WB2 Warramunga Arr 135.18 230 *e*PKPdf **PKPdf** 17 55 09.8 -0.6
WRAB Tennant Creek 135.18 230 *c i* PKIKP **PKiKP** 17 55 11.7 -0.2
WRAB pmax pmax
comp=Z,9.0nm,1.7s
WRA Warramunga Arr 135.19 230 PKP **PKPdf** 17 55 09.5 -1.0
comp=Z,3.0nm,0.8s,baz=131,slow=1.5,SNR=23
MKAR Makanchi Array 139.65 18 *c i* PKIKP **PKiKP** 17 55 21.7 +1.4
MKAR Makanchi Array 139.65 18 PKP **PKPdf** 17 55 17.7 -0.2
comp=Z,0.8nm,0.8s,baz=356,slow=3.6,SNR=7.1
AAK Ala-Archa 140.02 29 *c i* PKIKP **PKiKP** 17 55 21.1 -0.2
AAK pmax pmax
comp=Z,5.0nm,1.3s
AAK Ala-Archa 140.02 29 PKP **PKPdf** 17 55 18.7 -0.2
comp=Z,0.5nm,0.4s,baz=350,slow=6.1,SNR=4.2
SONM Songino Array 140.93 353 PKhKP PKPpre 17 55 13.1
comp=Z,1.5nm,0.9s,baz=360,slow=0.6,SNR=4.5
SONM PKP **PKPdf** 17 55 20.1 -0.2
comp=Z,1.6nm,0.9s,baz=16,slow=0.8,SNR=9.8
KSRS Korea Array 141.82 322 PKP **PKPdf** 17 55 22.2 +0.2
comp=Z,4.4nm,0.8s,baz=22,slow=1.5,SNR=15
KS01 Wonju Array Si 141.82 322 *e*PKPdf **PKPdf** 17 55 21.8 -0.3
KSAR Wonju Array Be 141.85 322 PKP **PKPdf** 17 55 22.2 +0.1
KSAR Wonju Array Be 141.85 322 PKIKP **PKPdf** 17 55 22.2 +0.1
WMQ Urumqi 143.89 15 *e*PKP PKPbc 17 55 24.4 +1.1
WMQ LR LR
comp=Z,120nm,35.5s
WMQ LR LR
comp=Z,100nm,19.5s
WMQ LR LR
comp=Z,98nm,17.9s
HHC Hu-ho-hao-te 146.59 343 *e*PKPbc **PKPdf** 17 55 29.4 -1.0
BTO Baotou 147.23 345 *e*PKPbc **PKPdf** 17 55 31.4 -0.1
GTA Gaotai 149.79 360 PKPbc **PKPdf** 17 55 36.3 +0.6
GTA pPKP PKPab 17 55 47.0 +1.2
GTA sPKP 17 55 51.3
GTA LR LR
comp=Z,110nm,17.9s
GTA LR LR
comp=Z,130nm,19.6s
NJ2 Nanjing 150.92 325 *e*PKPbc **PKPdf** 17 55 35.9 -1.6
LZH Lanzhou 152.82 352 *e*PKPbc **PKPdf** 17 55 40.3 -0.2
LZH pPKP pPKPdf 17 55 50.6 +0.2
LZH sPKP 17 55 55.8
LZH LR LR
comp=Z,160nm,13.3s
LZH LR LR
comp=Z,260nm,15.4s
GYA Guiyang 161.42 339 *e*PKP **PKPdf** 17 55 49.3 -2.3
GYA PKPab **PKPab** 17 56 36.0 +0.3
GYA PKS **PKSdf** 17 59 21.4 -3.7
GYA PP **PP** 18 00 20.8 +3.1
GYA AMB AMB
comp=Z,120nm,7.9s
CMAR Chiang Mai Arr 170.66 3 PKP **PKPdf** 17 55 59.0 +0.1
comp=Z,1.6nm,0.8s,baz=315,slow=1.5,SNR=14
CMAR PKPab **PKPab** 17 57 15.7 -0.6
comp=Z,1.0nm,0.9s,baz=335,slow=4.4,SNR=6.0

IDC 17 17:40:08.7±1.9, 9°28S×124°88E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/24, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=208.1km s-min=32.1km az=57.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.00**	**140**	Pn	Pn	17 43 27.6	-1.0
	0.2nm,0.3s,baz=323,slow=14,SNR=16						
WRA				Sn	Sn	17 45 55.8	-9.0
	0.1nm,0.3s,baz=313,slow=27,SNR=5.0						
ASAR	**Alice Springs**	**16.71**	**150**	Pn	Pn	17 44 05.2	+0.8
	0.1nm,0.3s,baz=318,slow=11,SNR=19						
ASAR				Sn	Sn	17 47 04.1	-6.7
	0.1nm,0.3s,baz=317,slow=20,SNR=4.1						
MKAR	**Makanchi Array**	**67.48**	**330**	P	P	17 51 06.6	0.0
	0.2nm,0.5s,baz=149,slow=6.3,SNR=6.7						

MEX 17 18:12:25.9±0.5, 18°18N×100°49W, h54km±4km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.17**	**54**	*e*P	Pn	18 12 32.8	-1.8
ARIG				*i* S	Sn	18 12 39.2	-1.7
MEIG	**Mezcala**	**0.87**	**107**	*i* P	Pn	18 12 40.6	-1.5
MEIG				*i* S	Sn	18 12 52.1	-1.8
PLIG	**Platanillo**	**0.96**	**77**	*e*P	Pn	18 12 41.9	-1.5
PLIG				*i* S	Sn	18 12 54.2	-2.1
CAIG	**El Cayaco**	**1.15**	**169**	*e*P	Pn	18 12 44.5	-1.2
CAIG				*i* S	Sn	18 12 58.6	-1.8
YAIG	**Yautepec**	**1.51**	**63**	*e*P	Pn	18 12 49.7	-1.1
YAIG				*i* S	Sn	18 13 07.7	-1.9
TLIG	**Tlapa**	**1.93**	**108**	*e*P	Pn	18 12 54.8	-1.8
TLIG				*i* S	Sn	18 13 17.5	-2.3

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*IDC **17** 18:21:26.8±0.5, 8°06N×117°35E, h0km, mb4.0/22, mb1 4.2/24, mb1mx4.1/45, mbtmp4.0/24, ML4.1/2, MS3.5/6, Ms1 3.6/6, ms1mx3.2/38, Error ellipse: s-maj=29.1km s-min=11.2km az=62.0*

*MOS **17** 18:21:30.3±1.1, 8°02N×117°22E, h33km, mb4.5/14, Error ellipse: s-maj=15.0km s-min=7.4km az=117.9*

*ISCJB **17** 18:21:31.0±1.3, 7°90N±0°05×117°09E±0°06, h39km±13km, mb4.2/38, MS3.6/5, Error ellipse: s-maj=10.1km s-min=8.1km az=149.0*

*NEIC **17** 18:21:32.3±0.3, 7°92N×117°18E, h35km, mb4.4/12, Error ellipse: s-maj=9.2km s-min=6.1km az=79.0*

NEIC Felt [IV PIVS] on Balabac Island, Philippines.

*MAN **17** 18:21:37.0, 7°88N×116°99E, h10km, MS4.4*

MAN INTENSITY IV - BALABAC PALAWAN.

ISC 17 18:21:32.2±0.7, 7°87N±0°05×117°06E±0°07, h33km±3km, n79, σ1°62/91, mb4.2/38, MS3.8/5, 7C-3D, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**2.00**	**205**	*e*Pn	**Pn**	**18 22 04.3**	**+0.5**
KKM				*e*Sn	**Sn**	**18 22 27.2**	**-0.6**
CTBH	**Cotabato--PC H**	**7.15**	**95**	*i* P	**Pn**	**18 23 17.2**	**+2.6**
SBUM	**Sibu**	**7.23**	**222**	*e*Pn	**Pn**	**18 23 16.2**	**+0.5**
SBUM				*e*Sn	**Sn**	**18 24 34.5**	**-2.2**
TGY	**Tagaytay City**	**7.27**	**31**	LR	LR	18 26 23.8	
	comp=Z,596nm,19.4s,baz=275,slow=43						
DAV	**Davao City (W)**	**8.48**	**95**	LR	LR	18 27 20.0	
	comp=Z,218nm,19.4s,baz=332,slow=43						
KSM	**Kuching**	**9.25**	**227**	*e*Pn	**Pn**	**18 23 43.8**	**+0.3**
KSM				*e*Sn	**Sn**	**18 25 22.5**	**-4.0**
SSLB	**Suanglung**	**16.26**	**13**	*e*Pn	**P**	**18 25 23.3**	**+2.2**
	69nm,1.7s						
PSI	**Prapat**	**18.74**	**255**	P	**Pn**	**18 25 51.9**	**+2.6**
	0.6nm,0.3s,baz=1.5,slow=2.9,SNR=9.7						
PSI				LR	LR	18 33 51.3	
	comp=Z,206nm,19.1s,baz=30,slow=39						
UTHA	**Uthaitani**	**18.85**	**295**	P	Pn	18 25 58.3	+7.8
	2.6nm,1.1s						
SOEI	**Soe**	**18.92**	**158**	*e*P	**Pn**	**18 25 53.9**	**+2.5**
	19nm,0.9s						
BATI	**Baumata**	**19.12**	**160**	P	**P**	**18 25 52.5**	**-0.2**
	0.5nm,0.3s,baz=323,slow=17,SNR=4.8						
NANT	**Nan**	**19.25**	**306**	P	**Pn**	**18 26 02.1**	**+6.8**
	1.9nm,0.7s						
GSI	**Gunungsitoli**	**20.48**	**252**	*e*P	**P**	**18 26 08.4**	**+0.9**
	49nm,1.0s						
CM01	**Chiang Mai Arr**	**20.49**	**303**	*e*P	**P**	**18 26 08.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**20.52**	**303**	P	**P**	**18 26 08.7**	**+0.8**
	3.4nm,0.9s,baz=119,slow=9.1,SNR=19						
CMAR				PcP	**PcP**	**18 30 20.1**	**+1.3**
	0.4nm,0.7s,baz=199,slow=1.0,SNR=4.9						
CMAR				LR	LR	18 34 47.0	
	comp=Z,85nm,18.1s,baz=127,slow=39						
CMMT	**Chiang Mai**	**20.68**	**304**	P	Pn	18 26 12.6	+0.4
	6.7nm,1.5s						
CHTO	**Chiang Mai**	**20.69**	**304**	*e*P	**P**	**18 26 11.8**	**+2.0**
	6.7nm,1.0s						
CHTO	**Chiang Mai**	**20.69**	**304**	*e*P	**P**	**18 26 11.8**	**+2.0**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**20.69**	**304**	P	Pn	18 26 12.7	+0.5
	comp=Z,30nm,1.1s						
ENH	**Enshi**	**23.39**	**343**	*e*P	**P**	**18 26 38.6**	**+0.3**
	comp=Z,11nm,1.1s						
FITZ	**Fitzroy Crossi**	**27.16**	**162**	*e*P	**P**	**18 27 15.2**	**+2.5**
	comp=Z,9.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.16**	**162**	P	**P**	**18 27 13.1**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=13,slow=9.5,SNR=9.8						
KSAR	**Wonju Array Be**	**31.03**	**17**	P	**P**	**18 27 45.2**	**-1.8**
KSAR	**Wonju Array Be**	**31.03**	**17**	P	**P**	**18 27 45.2**	**-1.8**
KSRS	**Korea Array**	**31.06**	**17**	P	**P**	**18 27 45.2**	**-2.0**
	comp=Z,0.5nm,0.7s,baz=207,slow=9.1,SNR=2.3						
KSRS				LR	LR	18 41 50.9	
	comp=Z,66nm,18.5s,baz=196,slow=40						
WRAB	**Tennant Creek**	**32.45**	**149**	*i* P	**P**	**18 28 02.1**	**+2.4**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**32.45**	**149**	P	**P**	**18 27 58.9**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=333,slow=9.5,SNR=42						
WRA				PcP	**PcP**	**18 30 44.9**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=344,slow=2.6,SNR=3.3						
GTA	**Gaotai**	**35.01**	**336**	*e*P	**P**	**18 28 22.1**	**+0.1**
GTA				pP	pP	18 28 25.3	-6.2
GTA				sP	sP	18 28 28.3	-7.2

GTA				S	S	18 34 58.3	+66		
GTA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GTA				pmax	pmax				
	comp=Z,89nm,4.3s								
GTA				LR	LR				
	comp=N,150nm,15.1s								
GTA				LR	LR				
	comp=E,170nm,20.3s								
GTA				LR	LR				
	comp=Z,160nm,14.4s								
ASAR	**Alice Springs**	**35.40**	**153**	P	**P**	**18 28 25.4**	**0.0**		
	comp=Z,1.1nm,0.7s,baz=340,slow=9.7,SNR=14								
ASAR				PcP	**PcP**	**18 30 54.0**	**-1.0**		
	comp=Z,0.5nm,0.7s,baz=348,slow=3.0,SNR=5.9								
ULN	**Ulaanbaatar**	**40.75**	**350**	*i* P	**P**	**18 29 08.4**	**-1.9**		
ULN				pmax	pmax				
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**40.84**	**349**	P	**P**	**18 29 07.7**	**-3.4**		
	comp=Z,0.7nm,0.7s,baz=164,slow=7.5,SNR=2.9								
SONM				PcP	**PcP**	**18 31 10.2**	**-1.4**		
	comp=Z,0.3nm,0.6s,baz=174,slow=3.4,SNR=2.4								
SONM				LR	LR	18 46 46.1			
	comp=Z,112nm,18.5s,baz=168,slow=37								
KLR	**Kul'dur**	**43.03**	**14**	*i* P	**P**	**18 29 27.9**	**-0.8**		
STKA	**Stephens Creek**	**45.95**	**151**	P	**P**	**18 29 51.3**	**-1.0**		
	comp=Z,2.2nm,0.7s,baz=329,slow=11,SNR=5.3								
NIL	**Nilore**	**47.82**	**309**	*e*P	**P**	**18 30 07.4**	**+0.4**		
	comp=Z,16nm,0.8s								
NIL	**Nilore**	**47.82**	**309**	*e*P	**P**	**18 30 07.4**	**+0.4**		
NIL				pmax	pmax				
	comp=Z,17nm,0.8s								
KSH	**Kashi**	**48.41**	**317**	P	**P**	**18 30 12.8**	**+1.3**		
KSH				pP	pP	18 30 17.8	-3.6		
KSH				PP	**PP**	**18 32 05.8**	**+1.4**		
KSH				pmax	pmax				
	comp=Z,94nm,4.9s								
MK01	**Makanchi Array**	**48.83**	**329**	*e*P	**P**	**18 30 13.8**	**-0.7**		
MK01				*e*PcP	**PcP**	**18 31 39.0**	**+0.1**		
MKAR	**Makanchi Array**	**48.85**	**329**	*i* P	**P**	**18 30 14.8**	**+0.1**		
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**48.85**	**329**	P	**P**	**18 30 14.4**	**-0.4**		
	comp=Z,1.0nm,0.7s,baz=128,slow=8.0,SNR=14								
MKAR				PcP	**PcP**	**18 31 39.0**	**0.0**		
	comp=Z,1.1nm,0.7s,baz=121,slow=4.2,SNR=10								
KDJ	**Kajisay**	**48.97**	**321**	*e*P	**P**	**18 30 18.1**	**+2.2**		
	comp=Z,2.0nm,0.9s								
KDJ	**Kajisay**	**48.97**	**321**	*e*P	**P**	**18 30 18.1**	**+2.2**		
KDJ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
AAK	**Ala-Archa**	**50.93**	**320**	*e*P	**P**	**18 30 32.0**	**+1.2**		
	comp=Z,3.8nm,0.9s								
AAK				PcP	**PcP**	**18 31 47.2**	**+0.4**		
AAK	**Ala-Archa**	**50.93**	**320**	*ce*P	**P**	**18 30 31.3**	**+0.5**		
AAK				pmax	pmax				
	comp=Z,5.0nm,1.3s								
AAK	**Ala-Archa**	**50.93**	**320**	P	**P**	**18 30 30.4**	**-0.3**		
	comp=Z,3.1nm,0.9s,baz=133,slow=7.4,SNR=15								
AAK				PcP	**PcP**	**18 31 47.2**	**+0.4**		
	comp=Z,1.1nm,0.7s,baz=145,slow=0.9,SNR=4.2								
ZAA0	**Zalesovo Array**	**52.77**	**337**	*e*P	**P**	**18 30 43.6**	**-0.4**		
	comp=Z,2.4nm,0.6s								
ZALV	**Zalesovo Beam**	**52.77**	**337**	*e*P	**P**	**18 30 43.1**	**-0.9**		
ZALV	**Zalesovo Beam**	**52.77**	**337**	P	**P**	**18 30 43.6**	**-0.4**		
	comp=Z,2.7nm,0.5s,baz=138,slow=6.7,SNR=15								
KURBB	**Kurchatov Arra**	**53.23**	**330**	P	**P**	**18 30 47.4**	**-0.1**		
	comp=Z,1.3nm,0.6s,baz=133,slow=7.2,SNR=7.0								
KURBB				PcP	**PcP**	**18 31 54.7**	**-0.3**		
	comp=Z,0.6nm,0.8s,baz=120,slow=3.6,SNR=2.6								
KURK	**Kurchatov**	**53.25**	**330**	*e*P	**P**	**18 30 47.9**	**+0.2**		
	comp=Z,2.9nm,0.8s								
KURK	**Kurchatov**	**53.25**	**330**	*ce*P	**P**	**18 30 47.4**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
NVS	**Novosibirsk**	**54.05**	**337**	*e*P	**P**	**18 30 52.5**	**-0.9**		
MA2	**Magadan**	**57.55**	**20**	*ce*P	**P**	**18 31 19.1**	**+0.7**		
MA2				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BVAR	**Borovoye Array**	**58.73**	**329**	P	**P**	**18 31 26.5**	**-0.3**		
	comp=Z,0.6nm,0.5s,baz=130,slow=9.2,SNR=3.6								
BRVK	**Borovoye**	**58.80**	**329**	*i* P	**P**	**18 31 27.9**	**+0.6**		
BRVK				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SEY	**Seymchan**	**60.61**	**18**	*i* P	**P**	**18 31 39.9**	**+0.3**		
TIXI	**Tiksi**	**64.14**	**4**	*ce*P	**P**	**18 32 01.4**	**-1.6**		
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.3s								
AKTO	**Aktyubinsk**	**64.50**	**323**	P	**P**	**18 32 04.2**	**-1.6**		
	comp=Z,1.6nm,0.8s,baz=108,slow=17,SNR=6.2								
ARU	**Arti**	**66.38**	**329**	*d* iP	**P**	**18 32 17.2**	**-0.6**		
ARU						18 34 42.9			
ARU				S	**S**	**18 41 05.8**	**+0.3**		
ARU				pmax	pmax				
	comp=Z,10.0nm,1.1s								
BILL	**Bilibino**	**68.32**	**18**	*e*P	**P**	**18 32 30.2**	**+0.3**		
BILL				*PP	**pP**	**18 32 39.0**	**-1.1**		
BILL				*SP	**sP**	**18 32 44.0**	**+0.1**		
BILL						18 32 53.0			
BILL				pmax	pmax				
	comp=Z,11nm,1.7s								
BILL				MLR	MLR				
	comp=Z,46nm,16.0s								
KBZ	**Khabaz**	**73.16**	**313**	P	**P**	**18 33 00.1**	**+0.3**		
	comp=Z,2.4nm,0.8s,baz=102,slow=9.3,SNR=3.5								
PRGR	**Permogore**	**74.33**	**332**	*e*P	**P**	**18 33 05.0**	**-1.3**		
PRGR				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KLMR	**Klimovskoe**	**77.10**	**331**	*e*P	**P**	**18 33 18.0**	**-4.2**		
KLMR				pmax	pmax				
	comp=Z,11nm,1.5s								
KLMR	**Klimovskoe**	**77.10**	**331**	*e*P	**P**	**18 33 18.0**	**-4.2**		
KLMR				AMP		18 33 30.5			
	comp=Z,11nm,1.4s								
OBN	**Obninsk**	**78.15**	**325**	*e*P	**P**	**18 33 28.5**	**+0.4**		
OBN				*e*		18 33 36.3			
OBN				*SP	**sP**	**18 33 42.0**	**-0.3**		
OBN				pmax	pmax				
	comp=Z,58nm,2.5s								
BRTR	**Keskin Array B**	**79.97**	**309**	*ce*P	**P**	**18 33 37.5**	**-1.2**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
BRTR	**Keskin Array B**	**79.97**	**309**	P	**P**	**18 33 38.4**	**-0.3**		
	comp=Z,1.0nm,0.8s,baz=120,slow=7.3,SNR=5.1								
IM3	**Indian Mountai**	**82.54**	**24**	*e*P	**P**	**18 33 52.5**	**+0.9**		
AKASG	**Malin Array Be**	**82.60**	**320**	*ce*P	**P**	**18 33 53.2**	**+1.0**		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**82.60**	**320**	P	**P**	**18 33 51.9**	**-0.3**		
	comp=Z,0.2nm,0.4s,baz=79,slow=4.3,SNR=6.1								
ARCES	**ARCESS Array B**	**83.23**	**339**	P	**P**	**18 33 54.8**	**-0.3**		
	comp=Z,5.2nm,0.8s,baz=74,slow=6.7,SNR=4.3								
FINES	**FINESS Array B**	**83.62**	**331**	*i* P	**P**	**18 33 55.9**	**-1.3**		
FINES				pmax	pmax				
	comp=Z,2.0nm,0.6s								
FINES	**FINESS Array B**	**83.62**	**331**	P	**P**	**18 33 56.2**	**-1.0**		
	comp=Z,1.6nm,0.6s,baz=101,slow=10,SNR=6.2								
BUR08	**Bucovina Ar. S**	**85.50**	**317**	*e*P	**P**	**18 34 07.6**	**+0.4**		
	comp=Z,4.5nm,0.8s								
ILAR	**Eielson Array**	**85.52**	**25**	P	**P**	**18 34 04.3**	**-2.4**		
	comp=Z,0.2nm,0.7s,baz=282,slow=4.2,SNR=4.3								
VNDA	**Vanda**	**88.84**	**171**	P	**P**	**18 34 22.6**	**+0.1**		
	comp=Z,1.1nm,0.8s,baz=304,slow=7.3,SNR=6.3								
NOA	**NORSAR Array B**	**90.73**	**332**	P	**P**	**18 34 30.9**	**-0.9**		
	comp=Z,0.7nm,0.8s,baz=72,slow=4.8,SNR=3.1								
GERES	**GERESS Array B**	**92.81**	**320**	P	**P**	**18 34 41.3**	**-0.5**		
	comp=Z,0.5nm,0.8s,baz=30,slow=8.0,SNR=4.0								
TXAR	**Lajitas Array**	**126.10**	**45**	PKP	**PKiKP**	**18 40 32.4**	**-0.2**		
	comp=Z,0.4nm,0.8s,baz=232,slow=4.4,SNR=2.7								
PLCA	**Paso Flores**	**146.58**	**169**	PKPbc	**PKPbc**	**18 41 11.0**	**+0.2**		
	comp=Z,1.9nm,0.7s,baz=204,slow=2.4,SNR=10								

ISCJB ***17*** *18:43:33.6± 1.2, 2.6N± 0.2× 69.0E± 0.1, h10km, mb3.7/9, MS3.3/10, Error ellipse: s-maj=28.3km s-min=17.1km az=30.1*

IDC ***17*** *18:43:34.2± 1.4, 2.54N× 68.98E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.5/43, mbtmp3.6/9, ML4.6/1, MS3.3/11, Ms1 3.4/11, ms1mx3.1/38, Error ellipse: s-maj=42.8km s-min=23.3km az=44.0*

ISC 17 18:43:35.3± 1.5, 2.5N± 0.2× 68.9E± 0.2, h10km, n26, ₀0s86/11, mb3.8/9, MS3.3/10, North Indian Ocean

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

H08N2	**Diego Garcia H**	**9.00**	**167**	T		T	18 54 50.1		
	baz=346,slow=74								
H08N3	**Diego Garcia H**	**9.02**	**167**	T		T	18 54 51.4		
	baz=346,slow=74								
H08N1	**Diego Garcia H**	**9.02**	**167**	T		T	18 54 52.0		
	baz=346,slow=74								
PALK	**Pallekele**	**12.65**	**68**	Pn		**Pn**	**18 46 35.6**	**0.0**	
	3.5nm,0.3s,baz=296,slow=9.7,SNR=37								
PALK				Sn		Sn	18 48 40.4	-16	
	0.0nm,0.3s,baz=113,slow=7.7,SNR=1.9								
PALK				LR		LR	18 50 44.3		
	comp=Z,214nm,18.4s,baz=295,slow=34								
WSAR	**Wadi Sarin**	**22.91**	**335**	LR		LR	18 56 02.5		
	comp=Z,148nm,19.2s,baz=197,slow=33								
BRDH	**Bariadhala**	**29.80**	**46**	LR		LR	19 01 58.0		
	comp=Z,56nm,18.1s,baz=228,slow=37								
CMAR	**Chiang Mai Arr**	**33.41**	**60**	LR		LR	19 04 10.8		
	comp=Z,14nm,18.3s,baz=340,slow=37								
GEYT	**Alibeck**	**36.63**	**346**	LR		LR	19 05 07.7		
	comp=Z,80nm,20.9s,baz=205,slow=35								
MKAR	**Makanchi Array**	**45.63**	**13**	P		**P**	**18 51 56.0**	**0.0**	
	0.4nm,0.9s,baz=179,slow=8.6,SNR=3.8								
KURBB	**Kurchatov Arra**	**48.64**	**8**	P		**P**	**18 52 17.5**	**-1.8**	
	1.0nm,0.8s,baz=199,slow=8.4,SNR=2.2								
BRTR	**Keskin Array B**	**48.97**	**324**	P		**P**	**18 52 23.1**	**+0.8**	
	0.8nm,0.7s,baz=99,slow=9.3,SNR=4.9								
ZALV	**Zalesovo Beam**	**52.93**	**12**	P		**P**	**18 52 51.4**	**-0.1**	
	0.4nm,0.6s,baz=218,slow=8.4,SNR=2.8								
ZALV				LR		LR	19 16 06.8		
	comp=Z,30nm,18.1s,baz=268,slow=37								
SONM	**Songino Array**	**55.52**	**30**	P		**P**	**18 53 11.5**	**+0.7**	
	0.8nm,0.8s,baz=224,slow=7.6,SNR=5.9								
H01W3	**Cape Leeuwin H**	**56.36**	**136**	T		T	19 53 56.8		
	baz=302								
H01W2	**Cape Leeuwin H**	**56.36**	**136**	T		T	19 53 58.8		
	baz=302								
H01W1	**Cape Leeuwin H**	**56.37**	**136**	T		T	19 54 06.6		
	baz=302								
DAV	**Davao City (W)**	**56.61**	**83**	LR		LR	19 18 46.0		
	comp=Z,25nm,18.7s,baz=132,slow=37								
AKASG	**Malin Array Be**	**58.52**	**332**	P		**P**	**18 53 31.7**	**-0.2**	
	0.4nm,0.5s,baz=138,slow=5.8,SNR=4.7								
KSRS	**Korea Array**	**64.17**	**49**	LR		LR	19 26 54.5		
	comp=Z,17nm,18.0s,baz=184,slow=41								
WRA	**Warramunga Arr**	**67.89**	**113**	P		**P**	**18 54 35.3**	**+0.6**	
	0.3nm,0.8s,baz=292,slow=5.8,SNR=4.0								
ASAR	**Alice Springs**	**68.27**	**117**	P		**P**	**18 54 36.4**	**-0.6**	
	0.3nm,0.9s,baz=289,slow=6.3,SNR=4.4								
NOA	**NORSAR Array B**	**72.69**	**334**	LR		LR	19 29 14.0		
	comp=Z,17nm,18.4s,baz=165,slow=38								
ARCES	**ARCESS Array B**	**72.80**	**345**	P		**P**	**18 55 03.9**	**+0.1**	
	4.0nm,0.9s,baz=132,slow=7.0,SNR=4.2								
GUMO	**Guam**	**75.76**	**77**	LR		LR	19 23 17.2		
	comp=Z,11nm,20.9s,baz=304,slow=32								
MA2	**Magadan**	**83.72**	**30**	LR		LR	19 34 16.8		
	comp=Z,41nm,19.0s,baz=43,slow=36								
TXAR	**Lajitas Array**	**147.57**	**348**	PKPbc		**PKPab**	**19 03 21.9**	**-0.8**	
	0.2nm,0.4s,baz=64,slow=4.1,SNR=3.0								

ISCJB ***17*** *18:54:38.2± 0.2, 36.53N± 0.01× 5.35W± 0.02, h70km± 3km, Error ellipse: s-maj=2.5km s-min=2.2km az=24.4*

CNRM ***17*** *18:54:39.8, 36.37N× 5.52W, h81km, ml2.9*

IGIL ***17*** *18:54:40.2, 36.46N× 5.31W, h31km, ML3.3*

SFS ***17*** *18:54:40.0, 37.00N× 5.30W, ML3.8, CASARES (MALAGA)*

MDD ***17*** *18:54:40.9± 0.3, 36.52N× 5.31W, h38km± 3km, mbLg3.1/53, Error ellipse: s-maj=3.9km s-min=2.3km az=5.0, PRXIMO*

LDG ***17*** *18:54:41.0, 36.48N× 5.34W, h30km*

INMG ***17*** *18:54:41.0± 1.8, 36.55N× 5.32W, h31km± 5km, ML2.9, Error ellipse: s-maj=2.6km s-min=2.4km az=75.0*

ISC 17 18:54:38.1± 0.9, 36.53N± 0.02× 5.32W± 0.02, h52km± 5km, n148, ₀2s16/267, 23C-3D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
REAL	**Reales**	**0.10**	**117**	⇑P		**Pn**	**18 54 46.8**	**+0.4**
REAL				S		**Sn**	**18 54 50.6**	**-1.7**
REAL	**Reales**	**0.10**	**117**	*i*P		**Pn**	**18 54 46.8**	**+0.4**
REAL				*i* S		**Sn**	**18 54 50.6**	**-1.7**
EJIF	**Jimena Fronter**	**0.14**	**237**	⇑P		**Pn**	**18 54 47.1**	**+0.8**
	275nm,0.2s,SNR=18							
EJIF				S		**Sn**	**18 54 52.3**	**0.0**
	288nm,0.2s,SNR=7.9							
ALJ	**Aljibe**	**0.27**	**270**	⇓P		**Pn**	**18 54 48.8**	**+1.6**
ALJ	**Aljibe**	**0.27**	**270**	⇓*i*P		**Pn**	**18 54 48.8**	**+1.6**
ALJ				*i* S		**Sn**	**18 54 56.7**	**+3.1**
LIJA	**Lijar**	**0.38**	**350**	⇑P		**Pn**	**18 54 50.5**	**+2.2**
LIJA	**Lijar**	**0.38**	**350**	⇑*i*P		**Pn**	**18 54 50.5**	**+2.2**
LIJA				*i* S		**Sn**	**18 54 58.1**	**+2.5**
EMIJ	**Mijas**	**0.44**	**85**	⇑P		**Pn**	**18 54 49.9**	**+1.0**
	137nm,0.2s,SNR=18							
EMIJ				S		**Sn**	**18 54 57.5**	**+1.0**
	993nm,0.3s,SNR=5.0							
ESPR	**Espera**	**0.55**	**308**	⇑P		**Pn**	**18 54 52.3**	**+2.3**
	13nm,0.2s,SNR=18							
ESPR				S		**Sn**	**18 55 01.4**	**+2.8**
	SNR=7.9							
GIBL	**Gibalbin**	**0.60**	**300**	⇑P		**Pn**	**18 54 52.8**	**+2.1**
GIBL	**Gibalbin**	**0.60**	**300**	⇑*i*P		**Pn**	**18 54 52.8**	**+2.1**
GIBL				*i* S		**Sn**	**18 55 02.6**	**+2.7**
CNIL	**Conil**	**0.61**	**255**	⇑P		**Pn**	**18 54 53.3**	**+2.5**
CNIL	**Conil**	**0.61**	**255**	⇑*i*P		**Pn**	**18 54 53.3**	**+2.5**
CEU	**Ceuta**	**0.63**	**184**	*i* P		**Pn**	**18 54 53.2**	**+2.1**
CEU				*e*S		**Sn**	**18 55 02.8**	**+2.4**
ECEU	**Ceuta**	**0.63**	**184**	P		**Pn**	**18 54 53.1**	**+2.0**
	45nm,0.2s,SNR=7.9							
ECEU				S		**Sn**	**18 55 02.2**	**+1.7**
	SNR=7.9							
CEUT	**Ceuta**	**0.65**	**181**	P		**Pn**	**18 54 53.2**	**+2.0**
CEUT				S		**Sn**	**18 55 03.7**	**+2.9**
SFS	**San Fernando**	**0.72**	**265**	⇓*i*P		**Pn**	**18 54 55.1**	**+3.0**
EMAL	**Malaga-Limoner**	**0.75**	**72**	⇑*i*P		**Pn**	**18 54 54.6**	**+2.1**
EMAL				*i* S		**Sn**	**18 55 06.3**	**+3.2**
SMIR	**Smir Dam**	**0.85**	**183**	P		**Pn**	**18 54 56.5**	**+2.6**
SMIR				S		**Sn**	**18 55 06.3**	**+0.9**
EGOR	**Sierra Gorda,**	**1.13**	**59**	P		**Pn**	**18 54 59.8**	**+2.1**
	0.4nm,0.1s,SNR=7.9							
EGOR				S		**Sn**	**18 55 13.8**	**+1.5**
	167nm,0.4s,SNR=7.9							
HORN	**Hornachuelos**	**1.31**	**2**	P		**Pn**	**18 55 03.8**	**+3.6**
HORN				S		**Sn**	**18 55 21.4**	**+4.8**
ELGU	**Los Guajares,**	**1.40**	**76**	P		**Pn**	**18 55 02.9**	**+1.5**
	11nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**18 55 19.8**	**+1.0**
	163nm,0.3s,SNR=7.9							
CHEFC	**Chefchaouen**	**1.42**	**181**	P		**Pn**	**18 55 05.0**	**+3.3**
CHEFC				S		**Sn**	**18 55 22.0**	**+2.7**
ECAB	**El Cabril**	**1.54**	**357**	P		**Pn**	**18 55 05.3**	**+2.0**
	6.2nm,0.2s,SNR=77							
ECAB				S		**Sn**	**18 55 24.1**	**+1.9**
	51nm,0.2s,SNR=6.4							
EMIN	**Mina Concepcio**	**1.64**	**319**	P		**Pn**	**18 55 06.4**	**+1.8**
	1.6nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**18 55 24.8**	**+0.3**
	10nm,0.1s,SNR=7.9							
EQUE	**Quentar**	**1.65**	**65**	P		**Pn**	**18 55 06.4**	**+1.6**
	0.7nm,0.1s,SNR=14							
EQUE				S		**Sn**	**18 55 27.2**	**+2.3**
	39nm,0.3s,SNR=5.0							
RSA	**Sarsar**	**1.69**	**194**	S		**Sn**	**18 55 28.6**	**+2.7**
PALE	**Palemas**	**1.72**	**139**	S		**Sn**	**18 55 28.6**	**+2.0**
EADA	**Adamuz**	**1.74**	**20**	P		**Pn**	**18 55 08.4**	**+2.5**
	2.2nm,0.2s,SNR=42							
EADA				S		**Sn**	**18 55 28.9**	**+1.9**
	38nm,0.1s,SNR=7.9							
EBER	**Berja**	**1.99**	**79**	P		**Pn**	**18 55 11.4**	**+2.0**
	4.5nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**2.00**	**301**	⇑P		**Pn**	**18 55 11.4**	**+1.9**
	10.0nm,0.1s,SNR=18							
EGRO				S		**Sn**	**18 55 33.3**	**0.0**
	141nm,0.3s,SNR=7.9							
GORA	**Gorafe**	**2.05**	**62**	P		**Pn**	**18 55 13.1**	**+2.9**
	0.5nm,0.0s,SNR=7.9							
GORA				S		**Sn**	**18 55 35.7**	**+1.0**
	120nm,0.2s,SNR=7.9							
PVAQ	**Vaqueiros**	**2.11**	**295**	⇑*e*Pn		**Pn**	**18 55 12.7**	**+1.8**
PVAQ				*e*Sn		**Sn**	**18 55 36.0**	**0.0**
PVAQ	**Vaqueiros**	**2.11**	**295**	P		**Pn**	**18 55 12.7**	**+1.8**
PVAQ				S		**Sn**	**18 55 36.0**	**0.0**
PVAQ	**Vaqueiros**	**2.11**	**295**	P		**Pn**	**18 55 14.2**	**+3.2**
PVAQ				S		**Sn**	**18 55 37.7**	**+1.7**
PBAR	**Barrancos**	**2.14**	**321**	*e*Pn		**Pn**	**18 55 13.4**	**+2.1**
PBAR				*e*Sn		**Sn**	**18 55 37.1**	**+0.4**
PBAR				A		A	18 55 40.6	
	38nm,0.5s							
PBAR	**Barrancos**	**2.14**	**321**	P		**Pn**	**18 55 13.4**	**+2.1**
PBAR				S		**Sn**	**18 55 37.1**	**+0.4**
	38nm,0.5s							
EQES	**Quesada**	**2.20**	**54**	P		**Pn**	**18 55 15.0**	**+2.7**
	1.3nm,0.1s,SNR=17							
EQES				S		**Sn**	**18 55 40.1**	**+1.8**
	34nm,0.2s,SNR=5.0							
PBDV	**Barranco-do-Ve**	**2.21**	**290**	⇑*i*Pn		**Pn**	**18 55 14.3**	**+1.9**
PBDV				*e*Sn		**Sn**	**18 55 39.0**	**+0.5**
PBDV				A		A	18 55 39.6	
	51nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.21**	**290**	P		**Pn**	**18 55 14.3**	**+1.9**
PBDV				Sn		**Sn**	**18 55 39.0**	**+0.5**
	51nm,0.2s							
EMEL	**Melilla**	**2.28**	**122**	P		**Pn**	**18 55 14.9**	**+1.7**
	1.1nm,0.2s,SNR=7.9							
EMEL				S		**Sn**	**18 55 40.1**	**0.0**
	88nm,0.2s,SNR=7.9							
GOG	**Mont Gurugu**	**2.29**	**124**	S		**Sn**	**18 55 44.3**	**+3.6**
MELI	**Melilla**	**2.29**	**122**	P		**Pn**	**18 55 15.1**	**+1.6**
	SNR=7.9							
MELI				S		**Sn**	**18 55 39.3**	**-1.2**
	SNR=7.9							
AKLM	**AKL**	**2.34**	**149**	S		**Sn**	**18 55 40.3**	**-1.4**
PCVE	**Castro Verde**	**2.44**	**298**	⇑*i*Pn		**Pn**	**18 55 16.9**	**+1.5**
PCVE				*e*Sn		**Sn**	**18 55 44.2**	**+0.2**
PCVE				A		A	18 55 44.9	
	46nm,0.5s							
PCVE	**Castro Verde**	**2.44**	**298**	P		**Pn**	**18 55 16.9**	**+1.5**
PCVE				S		**Sn**	**18 55 44.2**	**+0.2**
	46nm,0.5s							
PBEJ	**Beja**	**2.52**	**307**	⇑*e*Pn		**Pn**	**18 55 19.5**	**+2.9**
PBEJ				*e*Sn		**Sn**	**18 55 47.2**	**+1.1**
PBEJ				A		A	18 55 50.2	
	28nm,0.2s							
PBEJ	**Beja**	**2.52**	**307**	P		**Pn**	**18 55 19.5**	**+2.9**
PBEJ				S		**Sn**	**18 55 47.2**	**+1.1**
	14nm,0.2s							
ENIJ	**Nijar**	**2.54**	**79**	P		**Pn**	**18 55 19.2**	**+2.4**
	1.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**2.60**	**329**	P		**Pn**	**18 55 19.6**	**+2.0**
	1.9nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**18 55 48.2**	**+0.2**
	56nm,0.2s,SNR=7.9							
MESJ	**Messejana**	**2.66**	**300**	*e*P		**Pn**	**18 55 20.4**	**+1.9**
MESJ				*e*S		**Sn**	**18 55 49.2**	**-0.3**
MESJ				AML		AML	18 55 52.1	
	comp=N,104nm,0.2s							
MESJ	**Messejana**	**2.66**	**300**	⇑*i*Pn		**Pn**	**18 55 20.4**	**+1.9**
MESJ				*e*Sn		**Sn**	**18 55 49.2**	**-0.3**
MESJ				A		A	18 55 50.8	
	comp=N,55nm,0.4s							
MESJ	**Messejana**	**2.66**	**300**	P		**Pn**	**18 55 20.4**	**+1.9**
MESJ				S		**Sn**	**18 55 49.2**	**-0.3**
	comp=N,104nm,0.2s							
MORF	**Marmelete**	**2.78**	**287**	*e*P		**Pn**	**18 55 21.8**	**+1.6**
MORF				*e*S		**Sn**	**18 55 51.9**	**-0.6**
MORF				AML		AML	18 55 54.4	
	comp=N,139nm,0.1s							
MORF	**Marmelete**	**2.78**	**287**	⇑*i*Pn		**Pn**	**18 55 21.8**	**+1.6**
MORF				*e*Sn		**Sn**	**18 55 52.3**	**-0.2**
MORF				A		A	18 55 55.8	
	comp=N,81nm,0.1s							
MORF	**Marmelete**	**2.78**	**287**	P		**Pn**	**18 55 21.8**	**+1.6**
MORF				S		**Sn**	**18 55 51.9**	**-0.6**
	comp=N,139nm,0.1s							
LCRM	**LCR**	**2.86**	**172**	S		**Sn**	**18 55 56.7**	**+2.0**
PFVI	**Vila Bisbo**	**2.88**	**283**	*e*Pn		**Pn**	**18 55 23.2**	**+1.7**
PFVI				*e*Sn		**Sn**	**18 55 54.5**	**-0.4**
PFVI				A		A	18 55 57.5	

comp=N,26nm,0.3s
PTOM Tomar 3.93 323 P **Pn** 18 55 39.0 +3.1
PTOM S **Sn** 18 56 20.5 -0.2
comp=N,13nm,0.3s
PMAFR Mafra 3.97 309 *e*Pn **Pn** 18 55 38.7 +2.3
PMAFR *e*Sn **Sn** 18 56 21.9 +0.3
PMAFR A A 18 56 23.8
comp=N,42nm,0.4s
PMAFR Mafra 3.97 309 P **Pn** 18 55 38.7 +2.3
comp=N,1.1nm,0.2s,SNR=7.9
PMAFR S **Sn** 18 56 21.8 +0.3
comp=N,53nm,0.2s,SNR=7.9
UCM Universidad Co 4.11 23 ⇑ *i*P **Pn** 18 55 41.7 +3.3
UCM *i* S **Sn** 18 56 26.5 +1.3
GUD Guadarrama 4.21 12 P **Pn** 18 55 42.7 +2.9
comp=N,0.0nm,0.2s,SNR=47
GUD S **Sn** 18 56 26.2 -1.6
comp=N,8.5nm,0.4s,SNR=7.9
MTE Manteigas 4.24 336 *e*Pn **Pn** 18 55 43.5 +3.3
MTE *e*Sn **Sn** 18 56 27.7 -0.7
MTE A A 18 56 30.0
comp=N,23nm,0.5s
MTE Manteigas 4.24 336 Pn **Pn** 18 55 43.5 +3.3
MTE Sn **Sn** 18 56 27.7 -0.7
comp=N,12nm,0.5s
AFON Font Roja 4.35 59 P **Pn** 18 55 44.0 +2.2
comp=N,1.4nm,0.1s,SNR=7.9
AFON S **Sn** 18 56 30.5 -0.7
comp=N,15nm,0.5s,SNR=7.9
COI Coimbra 4.40 327 *e*Sn **Sn** 18 56 31.6 -0.7
COI Coimbra 4.40 327 S **Sn** 18 56 31.6 -0.7
SRHM Skhour des Reh 4.58 208 P **Pn** 18 55 46.2 +1.4
SRHM S **Sn** 18 56 37.3 +0.6
ECHE Chera 4.60 47 P **Pn** 18 55 47.0 +2.0
comp=N,3.8nm,0.3s,SNR=7.9
ECHE S **Sn** 18 56 35.8 -1.4
comp=N,5.4nm,0.3s,SNR=7.9
EBEN2 Beniarda presa 4.60 61 P **Pn** 18 55 47.9 +2.8
comp=N,3.5nm,0.2s,SNR=7.9
EBEN2 S **Sn** 18 56 36.7 -0.6
comp=N,13nm,0.5s,SNR=7.9
PVIS Viseu 4.64 335 *e*Pn **Pn** 18 55 48.6 +2.9
PVIS *e*Sn **Sn** 18 56 37.2 -1.0
PVIS A A 18 56 38.7
comp=N,20nm,0.2s
PVIS Viseu 4.64 335 P **Pn** 18 55 48.6 +2.9
PVIS S **Sn** 18 56 37.2 -1.0
comp=N,10.0nm,0.2s
MVO Moncorvo 4.82 344 *e*Pn **Pn** 18 55 51.2 +3.1
MVO *e*Sn **Sn** 18 56 41.6 -1.0
MVO A A 18 56 43.6
comp=N,27nm,0.3s
MVO Moncorvo 4.82 344 P **Pn** 18 55 51.2 +3.1
comp=N,7.2nm,0.1s,SNR=15
MVO S **Sn** 18 56 41.0 -1.6
comp=N,56nm,0.3s,SNR=7.9
OKGL Djebel Kef Gue 4.84 94 P **Pn** 18 55 51.3 +2.9
comp=N,16nm,0.1s,SNR=7.9
ETOR Torete 4.99 30 P **Pn** 18 55 53.1 +2.6
comp=N,1.6nm,0.2s,SNR=18
ETOR S **Sn** 18 56 46.1 -0.7
comp=N,12nm,0.3s,SNR=7.9
PVRL Vila Real 5.09 339 *e*Pn **Pn** 18 55 54.3 +2.4
PVRL *e*Sn **Sn** 18 56 47.4 -2.0
PVRL A A 18 56 50.3
comp=N,33nm,0.3s
PVRL Vila Real 5.09 339 P **Pn** 18 55 54.3 +2.4
PVRL S **Sn** 18 56 47.4 -2.0
comp=N,17nm,0.3s
POLO Lamas de Olo 5.21 339 *e*Pn **Pn** 18 55 56.3 +2.8
POLO *e*Sn **Sn** 18 56 50.5 -1.7
POLO A A 18 57 07.4
comp=N,3.8nm,0.5s
POLO Lamas de Olo 5.21 339 P **Pn** 18 55 56.3 +2.8
POLO S **Sn** 18 56 50.5 -1.7
comp=N,3.8nm,0.5s
PBRG Braganca 5.38 349 *e*Pn **Pn** 18 55 58.6 +2.8
PBRG *e*Sn **Sn** 18 56 55.0 -1.5
PBRG A A 18 56 55.4
comp=N,6.8nm,0.2s
PBRG Braganca 5.38 349 P **Pn** 18 55 58.6 +2.8
PBRG S **Sn** 18 56 55.0 -1.5
comp=N,3.4nm,0.2s
EMOS Mosqueruela 5.40 43 P **Pn** 18 55 59.5 +3.3
comp=N,0.1nm,0.1s,SNR=7.9
EMOS S **Sn** 18 56 55.6 -1.4
comp=N,3.6nm,0.2s,SNR=7.9
ECAL Calabor 5.51 349 P **Pn** 18 56 00.4 +2.7
comp=N,3.1nm,0.2s,SNR=7.9
ECAL S **Sn** 18 56 58.6 -1.2
comp=N,4.2nm,0.2s,SNR=7.9
PCAB Cabril 5.58 339 *e*Sn **Sn** 18 56 59.6 -1.8
PCAB A A 18 57 16.1
comp=N,9.4nm,0.5s
PCAB Cabril 5.58 339 S **Sn** 18 56 59.6 -1.8
comp=N,4.7nm,0.5s
OUK Oukaimeden 5.72 202 P **Pn** 18 56 02.0 +1.2
OUK S **Sn** 18 57 01.6 -3.6
OUZM OUZ 5.73 192 P **Pn** 18 56 02.0 +1.2
OUZM S **Sn** 18 57 04.8 -0.5
ELOB Lobios 5.74 339 P **Pn** 18 56 03.6 +2.8
comp=N,0.0nm,0.1s,SNR=7.9
ELOB S **Sn** 18 57 03.5 -1.8
comp=N,8.8nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 5.89 338 *e*Pn **Pn** 18 56 06.3 +3.5
PGAV *e*Sn **Sn** 18 57 06.7 -2.3
PGAV A A 18 57 09.9
comp=N,7.1nm,0.7s
PGAV Gavieira, Arco 5.89 338 P **Pn** 18 56 06.3 +3.5
PGAV S **Sn** 18 57 06.7 -2.3
comp=N,7.1nm,0.7s
ERTA Horta de San J 6.25 43 P **Pn** 18 56 10.7 +3.0
comp=N,0.2nm,0.1s,SNR=4.0
ERTA S **Sn** 18 57 15.0 -2.7
comp=N,3.3nm,0.3s,SNR=7.9
ESAC San Caprasio 6.41 35 P **Pn** 18 56 13.0 +3.1
comp=N,0.9nm,0.2s,SNR=4.0
ESAC S **Sn** 18 57 18.5 -3.2
comp=N,13nm,0.3s,SNR=7.9
TTIG Tnine Tigouga, 6.51 204 P **Pn** 18 56 09.8 -1.6
TTIG S **Sn** 18 57 19.2 -5.2
EAGO Agolada(Pontev 6.62 342 P **Pn** 18 56 16.0 +3.3
comp=N,0.5nm,0.2s,SNR=7.9
EAGO S **Sn** 18 57 24.6 -2.2
comp=N,2.7nm,0.2s,SNR=7.9
EARI Arriondas 6.76 1 P **Pn** 18 56 17.7 +2.9
comp=N,0.5nm,0.3s,SNR=7.9
EARI S **Sn** 18 57 28.6 -1.8
comp=N,2.6nm,0.4s,SNR=7.9
ELAN Lanestosa 6.85 12 P **Pn** 18 56 18.4 +2.4
comp=N,0.4nm,0.3s,SNR=7.9
ELAN S **Sn** 18 57 29.7 -2.7
comp=N,7.4nm,0.2s,SNR=7.9
EARA Aranguren 6.87 24 P **Pn** 18 56 19.1 +2.9
comp=N,2.4nm,0.2s,SNR=7.9
EPOB Poblet 6.93 44 P **Pn** 18 56 19.8 +2.7
comp=N,0.5nm,0.2s,SNR=7.9
EPOB S **Sn** 18 57 30.5 -4.1
comp=N,1.0nm,0.3s,SNR=7.9
EPON Pontenova 6.93 349 P **Pn** 18 56 19.6 +2.5
comp=N,1.1nm,0.2s,SNR=7.9
EPON S **Sn** 18 57 31.2 -3.3
comp=N,1.9nm,0.3s,SNR=7.9
EORO Oroz-Betelu 7.06 25 P Pn 18 56 24.2 +5.3
SNR=7.9
EORO S **Sn** 18 57 37.8 0.0
SNR=7.9
SJPF Ste Jean 7.29 24 *e*Pn **Pn** 18 56 24.6 +2.7
SJPF *e*Sn **Sn** 18 57 40.2 -3.1
comp=N,1.7nm,0.2s
EALK Alkurruntz 7.29 23 P **Pn** 18 56 25.2 +3.1
comp=N,1.0nm,0.1s,SNR=7.9
EALK S **Sn** 18 57 42.1 -1.4
comp=N,11nm,0.3s,SNR=7.9
ETSF Etsaut 7.34 29 *e*Pn **Pn** 18 56 25.7 +3.0
ETSF *e*Sn **Sn** 18 57 41.5 -3.1
comp=N,2.5nm,0.3s
ATE Arette 7.45 27 P **Pn** 18 56 26.6 +2.5
comp=N,0.3nm,0.3s,SNR=7.9
ATE S **Sn** 18 57 45.8 -1.3
comp=N,2.5nm,0.2s,SNR=7.9
ECHI Chisagues Biel 7.46 33 P **Pn** 18 56 26.7 +2.3
comp=N,1.1nm,0.2s,SNR=7.9
ECHI S **Sn** 18 57 46.5 -1.1
comp=N,4.1nm,0.6s,SNR=7.9
EPF Esparros 7.82 32 *e*Pn **Pn** 18 56 31.5 +2.3
EPF *e*Sn **Sn** 18 57 54.7 -1.6
comp=N,2.9nm,0.3s
LFF La Frestale 9.57 27 *e*Pn **Pn** 18 56 55.3 +2.2
LFF *e*Sn **Sn** 18 58 35.9 -3.3
CAF Calviac 10.08 31 *e*Pn **Pn** 18 57 02.2 +2.1
RJF Les Rejaudoux 10.17 28 *e*Pn **Pn** 18 57 03.4 +2.0
RJF *e*Sn **Sn** 18 58 50.5 -3.4
MFF Saint Martin d 10.78 19 *e*Pn **Pn** 18 57 11.5 +1.9
MFF *e*Sn **Sn** 18 59 05.2 -3.5
QUIF Quistinic 11.49 7 *e*Pn **Pn** 18 57 21.2 +1.9
QUIF *e*Sn **Sn** 18 59 21.8 -4.2
SGMF Saint Gilles 11.89 9 *e*Pn **Pn** 18 57 26.5 +1.7
ROSF Rostrenen 11.89 7 *e*Sn **Sn** 18 59 31.0 -4.9
ROSF Rostrenen 11.89 7 S **Sn** 18 59 31.0 -4.9
GRR Gorron 12.30 14 *e*Pn **Pn** 18 57 31.7 +1.4
LDF La Druitiere 12.64 16 *e*Pn **Pn** 18 57 36.7 +1.6
FLN La Foliniere 12.73 15 *e*Pn **Pn** 18 57 38.0 +1.8
FLN La Foliniere 12.73 15 P **Pn** 18 57 38.0 +1.8

DJA 17 19:01:14.0±0.6, 9°S±4°×11°8E±°, h31km±6km, M3.6/11, mb3.4/1, MLv3.7/11, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.59**	**3**	P	Pb	19 01 26.0	0.0
PLAI				S	Sn	19 01 35.8	+1.0
WSI	**Waingapu**	**2.52**	**96**	P	Pn	19 01 53.1	+0.2
DNP	**Denpasar**	**2.62**	**286**	P	Pn	19 01 54.3	+0.2
DNP				S	Sn	19 02 24.9	0.0
SRBI	**Singaraja**	**2.84**	**298**	P	Pn	19 01 58.2	+1.0
SRBI				S	Sn	19 02 31.2	+0.9
JAGI	**Jajag, Banyuwa**	**3.68**	**285**	P	Pn	19 02 08.7	-0.1
JAGI				S	Sn	19 02 49.9	-1.2
EDFI	**Ende, Flores**	**3.95**	**81**	P	Pn	19 02 12.5	-0.1
BSSI	**Bau Bau, Buton**	**4.24**	**40**	P	Pn	19 02 17.9	+1.4
BSSI				S	Sn	19 03 04.4	-0.6
MMRI	**Maumere**	**4.50**	**80**	P	Pn	19 02 19.1	-1.0
BATI	**Baumata**	**5.88**	**98**	P	Pn	19 02 38.7	-0.4

IDC 17 19:06:26.7±4.1, 7°40S×147°79E, h0km, mb2.9/2, mb1 3.2/3, mb1mx3.1/24, mbtmp3.1/3, ML3.1/1, Error ellipse: s-maj=118.2km s-min=36.4km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.05**	**225**	P	Pn	19 10 38.2	-1.0
	0.1nm,0.3s,baz=48,slow=12,SNR=6.5						
ASAR	**Alice Springs**	**20.96**	**218**	P	P	19 11 10.8	-0.7
	0.1nm,0.4s,baz=51,slow=8.9,SNR=4.4						
MKAR	**Makanchi Array**	**79.07**	**320**	P	P	19 18 33.8	+0.7
	0.2nm,0.7s,baz=104,slow=6.1,SNR=3.5						

DDA 17 19:37:41.9, 37°.57N×38°.62E, h24km±1km, ML3.1
ISCJB 17 19:37:42.7±0.7, 37°.51N±0°.04×38°.66E±0°.03, h5km±6km, Error ellipse: s-maj=7.3km s-min=4.3km az=171.9
ISK 17 19:37:42.5, 37°.47N×38°.67E, h10km, ML2.6/7
ISC 17 19:37:42.4±0.9, 37°.47N±0°.04×38°.71E±0°.03, h15km±6km, n15, σ0s88/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.09**	**111**	PG	**Pg**	**19 37 45.8**	**0.0**
URFA				SG	**Sg**	**19 37 48.1**	**+0.1**
ATAB	**Bozova**	**0.33**	**269**	*i* P	**Pg**	**19 37 49.3**	**-0.1**
ATAB				*i* S	**Sg**	**19 37 53.8**	**-0.3**
ATAB				*i* S	Sn	19 38 07.6	+8.3
ATAB				IAML_P			
	comp=Z,20μm,0.1s						
SURC	**SANLIURFA_SURC**	**0.60**	**188**	*i* P	**Pn**	**19 37 55.9**	**-0.5**
SURC				*i* S	**Sg**	**19 38 01.3**	**-0.9**
ELZG	**Elazig**	**1.04**	**12**	*i* P	**Pb**	**19 38 01.8**	**-0.5**
ELZG				*i* S	**Sb**	**19 38 14.2**	**-1.7**
GAZ	**Gaziantep**	**1.23**	**256**	PN	**Pb**	**19 38 05.7**	**+0.2**
GAZ				SN	**Sg**	**19 38 23.9**	**+1.5**
KMRS	**Kahramanmaras**	**1.44**	**272**	PN	**Pn**	**19 38 08.2**	**+0.2**
HCB	**Kahramanmara**	**1.44**	**265**	*i* P	**Pn**	**19 38 08.0**	**0.0**
HCB				*i* S	**Sn**	**19 38 26.7**	**0.0**
DARE	**Darende-Malaty**	**1.46**	**319**	PN	**Pb**	**19 38 09.7**	**+0.3**
DARE				SN	**Sg**	**19 38 29.0**	**-0.7**
MARD	**Mardin**	**1.65**	**95**	*i* P	**Pg**	**19 38 13.8**	**-0.4**
MARD				*i* S	**Sg**	**19 38 35.9**	**+0.2**
MARD				IAML_P			
	comp=Z,2μm,0.3s						
ANDN	**Andirin**	**1.89**	**274**	*i* P	**Pg**	**19 38 18.4**	**-0.3**
ANDN				*i* S	**Sb**	**19 38 39.7**	**-0.3**
ANDN				IAML_P			
	comp=Z,528nm,0.1s						
BTMN	**Batman**	**2.07**	**78**	*i* P	**Pb**	**19 38 20.3**	**+0.6**
BTMN				IAML_P			
	comp=Z,66nm,0.2s						
SAIM	**ADANA**	**2.15**	**284**	*i* P	**Pn**	**19 38 19.0**	**+1.3**
SAIM				IAML_P			
	comp=Z,571nm,0.1s						
BNGB	**Bingl**	**2.17**	**45**	PN	**Pb**	**19 38 20.5**	**-0.9**
KOZT	**Kozan**	**2.30**	**271**	PN	**Pn**	**19 38 20.5**	**+0.8**
GURO	**Guroymak-BITLI**	**2.83**	**67**	PN	**Pn**	**19 38 29.4**	**+2.2**

IDC 17 19:43:48.1±1.6, 6°.71S×148°.41E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/31, mbtmp4.0/7, ML3.9/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/28, Error ellipse: s-maj=48.3km s-min=23.9km az=114.0
ISCJB 17 19:43:53.1±1.5, 6°.9S±0°.2×148°.4E±0°.2, h46km, mb3.9/6, MS3.1/3, Error ellipse: s-maj=36.3km s-min=21.1km az=21.1
ISC 17 19:43:54.8±1.4, 6°8S±0°.2×148°4E±0°3, h46km, n9, σ1s06/10, mb4.0/6, MS3.2/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.91**	**225**	P	**P**	**19 48 11.2**	**-0.6**
	0.4nm,0.3s,baz=58,slow=12,SNR=21						
WRA				S	**Sn**	**19 51 44.3**	**+0.6**
	baz=49,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**21.82**	**218**	P	**P**	**19 48 43.2**	**-0.2**
	3.8nm,0.5s,baz=56,slow=9.1,SNR=114						
ASAR				S	**S**	**19 52 43.2**	**+0.9**
	0.5nm,0.8s,baz=39,slow=20,SNR=4.4						
DZM	**Mont Dzumac**	**23.15**	**133**	LR	LR	19 55 32.4	
	comp=Z,90nm,18.5s,baz=342,slow=30						
BATI	**Baumata**	**24.68**	**260**	P	**P**	**19 49 12.4**	**+0.7**
	9.8nm,0.6s,baz=110,slow=7.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**24.87**	**241**	P	**P**	**19 49 13.7**	**+0.3**
	10.0nm,0.6s,baz=48,slow=8.7,SNR=42						
FITZ				LR	LR	20 00 06.3	
	comp=Z,29nm,18.3s,baz=87,slow=39						
STKA	**Stephens Creek**	**25.78**	**193**	P	**P**	**19 49 20.4**	**-1.0**
	2.8nm,0.9s,baz=12,slow=11,SNR=4.8						
STKA				LR	LR	20 00 27.0	
	comp=Z,66nm,18.3s,baz=251,slow=39						
MKAR	**Makanchi Array**	**78.95**	**320**	P	**P**	**19 55 52.4**	**-1.3**
	0.1nm,0.3s,baz=117,slow=6.7,SNR=2.9						
ILAR	**Eielson Array**	**85.64**	**23**	P	**P**	**19 56 29.9**	**+1.6**
	0.3nm,0.8s,baz=240,slow=5.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**146.60**	**284**	PKPbc	**PKPbc**	**20 03 31.8**	**-0.6**
	0.7nm,0.7s,baz=86,slow=3.1,SNR=6.3						

IDC 17 20:10:29.9±1.7, 33°.35S×179°.20W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/25, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=45.5km s-min=33.6km az=64.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.75**	**210**	Pn	Pn	20 11 54.5	-1.9
	7.5nm,0.3s,baz=255,slow=5.3,SNR=23						
URZ				Sn	Sn	20 12 56.0	-7.0
	5.9nm,0.3s,baz=92,slow=20,SNR=7.3						
ASAR	**Alice Springs**	**42.03**	**271**	P	P	20 18 24.1	+0.8
	0.7nm,0.8s,baz=113,slow=7.4,SNR=9.2						
ASAR				PcP	PcP	20 20 17.6	-0.8
	0.3nm,0.9s,baz=117,slow=3.2,SNR=3.1						
WRA	**Warramunga Arr**	**43.28**	**276**	P	P	20 18 33.1	-0.4
	0.6nm,0.5s,baz=117,slow=7.8,SNR=22						
WRA				PcP	PcP	20 20 22.3	-0.4
	0.2nm,0.8s,baz=102,slow=3.2,SNR=2.8						
QSPA	**South Pole Qui**	**56.77**	**180**	P	P	20 20 16.1	+0.6
	1.1nm,0.7s,baz=45,slow=1.4,SNR=5.5						
FINES	**FINESS Array B**	**147.51**	**338**	PKPbc	PKPbc	20 30 14.0	-1.1
	2.2nm,1.0s,baz=35,slow=3.4,SNR=7.2						

IDC 17 20:14:36.9±2.6, 34°.35N×139°.16E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.1/48, mbtmp3.1/3, ML2.4/1, Error ellipse: s-maj=88.3km s-min=23.8km az=76.0
ISCJB 17 20:14:40.9±0.7, 34°.84N±0°.04×140°.05E±0°.05, h71km±5km, mb3.1/2, Error ellipse: s-maj=7.1km s-min=6.3km az=21.1
JMA 17 20:14:41.1±0.1, 34°.87N×140°.04E, h70km±2km, M2.6
ISC 17 20:14:41.8±1.0, 34°.85N±0°.05×140°.03E±0°.05, h66km±7km, n24, σ0s57/30, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATJ	**Tateyama 2**	**0.22**	**327**	P	**Pn**	**20 14 52.3**	**+0.3**
TATJ				*e*S	**Sn**	**20 15 00.6**	**+1.2**
BSO4	**Boso 4**	**0.29**	**61**	P	**Pn**	**20 14 52.6**	**+0.3**
BSO4				*e*X		20 15 00.6	
JKUC	**kamogawauchiur**	**0.34**	**24**	P	**Pn**	**20 14 52.4**	**-0.4**
JKUC				S	**Sn**	**20 15 00.5**	**-0.3**
KTR	**Katsuura**	**0.38**	**38**	P	**Pn**	**20 14 52.8**	**-0.3**
KTR				S	**Sn**	**20 15 01.0**	**-0.3**
BSO3	**Boso 3**	**0.40**	**97**	P	**Pn**	**20 14 53.2**	**+0.3**
BSO3				*e*X		20 15 01.9	
JIM2	**Oshima 3**	**0.51**	**255**	P	**Pn**	**20 14 54.2**	**-0.2**
JIM2				S	**Sn**	**20 15 02.8**	**-0.8**
JTHY	**Toshimahigashi**	**0.69**	**242**	P	**Pn**	**20 14 56.1**	**-0.2**
JTHY				S	**Sn**	**20 15 08.0**	**+1.0**
BSO1	**Boso 1**	**0.80**	**104**	P	**Pn**	**20 14 57.0**	**-0.1**
BSO1				X		20 15 08.6	
JOD2	**Odawara 2**	**0.88**	**298**	P	**Pn**	**20 14 58.2**	**-0.6**
JOD2				S	**Sn**	**20 15 10.0**	**-1.0**
JIZS	**Izushimoda**	**0.96**	**262**	P	**Pn**	**20 14 59.7**	**+0.1**
JIZS				S	**Sn**	**20 15 12.7**	**0.0**
JMKN	**Mikurajimanish**	**1.02**	**201**	S	**Sn**	**20 15 14.5**	**+0.3**
JFNN	**Fujinakano**	**1.16**	**288**	P	**Pn**	**20 15 02.1**	**0.0**
JFNN				S	**Sn**	**20 15 17.4**	**+0.1**
JYN	**Shimob**	**1.38**	**298**	P	**Pn**	**20 15 05.1**	**0.0**
JYN				S	**Sn**	**20 15 22.8**	**+0.2**
JRY	**Ryogami san**	**1.49**	**322**	P	**Pn**	**20 15 06.3**	**-0.2**
JRY				*e*S	**Sn**	**20 15 24.1**	**-1.0**
MJAR	**Matsushiro Arr**	**2.25**	**319**	Pn	**Pn**	**20 15 17.1**	**+0.4**
	1.0nm,0.3s,baz=156,slow=12,SNR=92						
MJAR				Sn	**Sn**	**20 15 44.1**	**+0.7**
	0.8nm,0.3s,baz=211,slow=6.5,SNR=8.2						
MAT	**Matsushiro**	**2.25**	**319**	P	**Pn**	**20 15 17.4**	**+0.6**
MAT				S	**Sn**	**20 15 44.3**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.11**	**115**	T	T	20 50 10.9	
	baz=308						
H11N1	**WAKE ISLAND Hy**	**28.12**	**115**	T	T	20 50 11.2	
	baz=308						
H11N3	**WAKE ISLAND Hy**	**28.13**	**115**	T	T	20 50 12.4	
	baz=308						
H11S3	**WAKE ISLAND Hy**	**28.73**	**118**	T	T	20 50 57.7	
	baz=310						
H11S1	**WAKE ISLAND Hy**	**28.73**	**118**	T	T	20 51 01.0	
	baz=310						
H11S2	**WAKE ISLAND Hy**	**28.74**	**118**	T	T	20 50 57.8	
	baz=310						
MKAR	**Makanchi Array**	**44.36**	**304**	P	**P**	**20 22 46.0**	**+0.5**
	0.1nm,0.5s,baz=90,slow=8.6,SNR=2.6						
WRA	**Warramunga Arr**	**54.76**	**187**	P	**P**	**20 24 04.1**	**-0.6**
	0.3nm,0.7s,baz=3.7,slow=7.6,SNR=5.9						

IDC 17 20:16:42.1±2.9, 33°.55S×179°.21W, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.5/26, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=70.4km s-min=45.2km az=121.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.57**	**211**	Pn	Pn	20 18 06.0	-0.1
	2.0nm,0.3s,baz=261,slow=3.7,SNR=10.0						
URZ				Sn	Sn	20 19 06.5	-4.3
	1.2nm,0.3s,baz=239,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**42.02**	**271**	P	P	20 24 35.4	-0.1
	0.3nm,0.8s,baz=112,slow=8.3,SNR=4.6						
WRA	**Warramunga Arr**	**43.30**	**276**	P	P	20 24 45.6	-0.2
	0.4nm,0.6s,baz=118,slow=7.6,SNR=6.3						
FINES	**FINESS Array B**	**147.70**	**337**	PKPbc	PKPbc	20 36 27.1	-0.7
	2.6nm,1.0s,baz=29,slow=3.2,SNR=2.6						

IDC 17 20:25:22.4±1.0, 36°.60N×25°.64E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.4/36, mbtmp3.5/7, ML3.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.2/38, Error ellipse: s-maj=22.2km s-min=15.5km az=124.0
ATH 17 20:25:24.2, 36°.61N×25°.72E, h26km, ML3.4/18, Error ellipse: s-maj=0.9km s-min=0.6km az=267.0
ISK 17 20:25:24.4, 36°.62N×25°.70E, h16km, ML3.4/22
GII 17 20:25:25.1±0.0, 35°.11N×25°.32E, h2km
THE 17 20:25:25.4, 36°.62N×25°.74E, h13km±1km, ML3.4/7, Error ellipse: s-maj=1.6km s-min=0.6km az=111.0
ISCJB 17 20:25:25.1±0.3, 36°.61N±0°.02×25°.72E±0°.02, h21km±2km, mb3.4/4, MS3.5/1, Error ellipse: s-maj=3.0km s-min=2.7km az=164.3
DDA 17 20:25:31.3, 37°.06N×26°.25E, h16km±3km, ML3.0
ISC 17 20:25:25.0±0.8, 36°.60N±0°.02×25°.72E±0°.02, h18km±2km, n142, σ1s28/169, mb3.6/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANAF	**Anafi Island**	**0.25**	**170**	P	**Pg**	**20 25 30.7**	**0.0**
ANAF				S	**Sb**	**20 25 35.5**	**+1.0**
ANAF	**Anafi Island**	**0.25**	**170**	P	**Pg**	**20 25 30.8**	**0.0**
ANAF				S	**Sg**	**20 25 35.2**	**+0.6**
ANAF				AML	AML	20 25 35.8	
	comp=N,91162μm,0.2s						
ANAF				AML	AML	20 25 36.1	
	comp=E,44334μm,0.3s						
AMGA	**Amorgos Island**	**0.27**	**31**	P	**Pg**	**20 25 30.7**	**-0.4**
AMGA				S	**Sb**	**20 25 35.1**	**-0.2**
AMGA	**Amorgos Island**	**0.27**	**31**	P	**Pg**	**20 25 30.7**	**-0.4**
AMGA				S	**Sb**	**20 25 35.2**	**-0.2**
AMGA				AML	AML	20 25 35.4	
	comp=E,46176μm,0.1s						
AMGA				AML	AML	20 25 35.9	
	comp=N,29915μm,0.2s						
THR2	**Thira island,**	**0.28**	**236**	P	**Pg**	**20 25 31.1**	**-0.1**
THR2	**Thira island,**	**0.28**	**236**	P	**Pg**	**20 25 31.2**	**-0.1**
CMBO	**Columbo, Santo**	**0.28**	**243**	P	**Pg**	**20 25 31.2**	**-0.1**
CMBO				S	**Sb**	**20 25 36.8**	**+0.9**
CMBO	**Columbo, Santo**	**0.28**	**243**	P	**Pg**	**20 25 31.3**	**-0.1**
CMBO				S	**Sg**	**20 25 35.8**	**+0.1**
CMBO				AML	AML	20 25 42.5	
	comp=N,17249μm,0.5s						
CMBO				AML	AML	20 25 44.2	
	comp=E,13040μm,0.5s						
THT2	**Imerovigli**	**0.29**	**236**	P	**Pg**	**20 25 31.6**	**+0.1**
THT2				S	**Sg**	**20 25 36.0**	**+0.1**
SFIR	**Foira Santorin**	**0.30**	**233**	P	**Pg**	**20 25 31.7**	**+0.2**
SFIR				S	**Sb**	**20 25 37.6**	**+1.4**
THR7	**Fira-Santorini**	**0.30**	**233**	P	**Pg**	**20 25 31.6**	**+0.1**
SANT	**Santorini**	**0.31**	**223**	PG	**Pg**	**20 25 31.7**	**-0.1**
SANT				SG	**Sg**	**20 25 36.3**	**-0.1**
SANT	**Santorini**	**0.31**	**223**	P	**Pg**	**20 25 31.6**	**-0.1**
SANT				S	**Sg**	**20 25 36.6**	**+0.2**
SANT				AML	AML	20 25 36.7	
	comp=N,4672μm,0.2s						
SANT				AML	AML	20 25 37.5	
	comp=E,19744μm,0.2s						
THT1	**Athinios (Pele**	**0.32**	**228**	P	**Pg**	**20 25 31.6**	**-0.2**
THT1				S	**Sg**	**20 25 36.4**	**-0.2**
THR3	**Thira Island,**	**0.32**	**234**	P	**Pg**	**20 25 32.0**	**+0.1**
THR5	**Thira Island,**	**0.35**	**239**	P	**Pg**	**20 25 32.6**	**+0.1**
THR6	**Thira Island,**	**0.36**	**227**	P	**Pg**	**20 25 32.7**	**+0.2**
APE	**Apeiranthos**	**0.49**	**342**	PG	**Pg**	**20 25 34.4**	**-0.6**
APE	**Apeiranthos**	**0.49**	**342**	P	**Pg**	**20 25 34.3**	**-0.7**
APE				S	**Sb**	**20 25 42.5**	**+0.4**
APE	**Apeiranthos**	**0.49**	**342**	P	**Pg**	**20 25 34.3**	**-

	comp=E,2574µm,0.2s							
MHLA	**Plaka, Milos I**	**1.05**	**278**	P	**Pb**	**20 25 44.5**	**-0.2**
MHLA				S	**Sg**	**20 25 59.1**	**-0.3**
MHLA				AML	AML	20 26 04.4	
	comp=N,6248µm,0.6s						
MHLA				AML	AML	20 26 06.8	
	comp=E,5417µm,0.6s						
MHLO	**Agia Marina, M**	**1.06**	**275**	P	**Pn**	**20 25 45.3**	**+0.3**
MHLO				S	**Sn**	**20 26 00.0**	**+0.7**
MHLO	**Agia Marina, M**	**1.06**	**275**	P	**Pb**	**20 25 45.2**	**+0.3**
MHLO				S	**Sn**	**20 25 59.7**	**+0.4**
MHLO				AML	AML	20 26 01.2	
	comp=E,15980µm,0.3s						
MHLO				AML	AML	20 26 02.5	
	comp=N,11895µm,0.6s						
SERI	**Serifos**	**1.14**	**300**	P	**Pb**	**20 25 45.4**	**-0.7**
SERI				S	**Sn**	**20 26 01.4**	**+0.2**
SERI	**Serifos**	**1.14**	**300**	P	**Pb**	**20 25 45.4**	**-0.7**
SERI				S	**Sn**	**20 26 01.3**	**+0.2**
SERI				AML	AML	20 26 02.8	
	comp=E,3130µm,0.6s						
SERI				AML	AML	20 26 02.9	
	comp=N,5145µm,0.5s						
NPS	**Neapolis**	**1.34**	**184**	P	**Pn**	**20 25 48.5**	**-0.3**
NPS				AML	AML	20 26 08.9	
	comp=N,1780µm,0.4s						
NPS				AML	AML	20 26 12.2	
	comp=E,3291µm,0.3s						
BODT	**Bodrum**	**1.35**	**70**	PN	**Pn**	**20 25 49.4**	**+0.4**
IACM	**Heraklion**	**1.40**	**202**	P	**Pb**	**20 25 50.6**	**+0.1**
SMG	**Samos**	**1.42**	**39**	P	**Pn**	**20 25 49.6**	**-0.4**
SMG				AML	AML	20 26 17.0	
	comp=N,1722µm,0.3s						
SMG				AML	AML	20 26 17.3	
	comp=E,1903µm,0.5s						
LAST	**Lasithi**	**1.45**	**188**	P	**Pn**	**20 25 49.9**	**-0.5**
LAST				AML	AML	20 26 16.1	
	comp=N,1368µm,0.5s						
LAST				AML	AML	20 26 18.2	
	comp=E,863µm,0.5s						
BDRM	**Kayabasi**	**1.46**	**71**	*i* P	**Pn**	**20 25 51.2**	**+0.8**
BDRM				*i* S	**Sg**	**20 26 13.7**	**+1.5**
IDI	**Anoyia**	**1.47**	**208**	Pn	**Pn**	**20 25 50.5**	**-0.2**
	comp=E,6.6nm,0.3s,baz=24,slow=12,SNR=35						
IDI				Sn	**Sn**	**20 26 08.5**	**-1.0**
	comp=E,33nm,0.3s,baz=308,slow=19,SNR=20						
DAT	**Datca**	**1.50**	**85**	PN	**Pn**	**20 25 51.4**	**+0.3**
DAT	**Datca**	**1.50**	**85**	*i* P	**Pn**	**20 25 52.0**	**+0.9**
DAT				*i* S	**Sg**	**20 26 14.7**	**+1.2**
ZKR	**Zakros**	**1.54**	**165**	PN	**Pn**	**20 25 52.1**	**+0.6**
ZKR	**Zakros**	**1.54**	**165**	P	**Pn**	**20 25 52.3**	**+0.9**
ZKR				AML	AML	20 26 17.2	
	comp=E,2363µm,0.4s						
ZKR				AML	AML	20 26 21.6	
	comp=N,730µm,0.5s						
KARP	**Karpathos**	**1.57**	**132**	PN	**Pn**	**20 25 52.7**	**+0.7**
KARP	**Karpathos**	**1.57**	**132**	P	**Pn**	**20 25 52.7**	**+0.7**
KARP				AML	AML	20 26 21.8	
	comp=N,2411µm,0.6s						
KARP				AML	AML	20 26 24.1	
	comp=E,2146µm,0.6s						
VAM	**Vamos**	**1.71**	**226**	P	**Pn**	**20 25 54.5**	**+0.5**
VAM				AML	AML	20 26 27.1	
	comp=N,1014µm,0.5s						
VAM				AML	AML	20 26 29.8	
	comp=E,570µm,0.4s						
DGB	**zmir**	**1.72**	**32**	*i* P	**Pg**	**20 25 57.7**	**-0.4**
DGB				*i* S	**Sg**	**20 26 22.4**	**+1.9**
DGB				IAML_P			
	comp=Z,2µm,0.1s						
SIVA	**Sivas**	**1.75**	**205**	P	**Pn**	**20 25 55.1**	**+0.8**
SIVA				AML	AML	20 26 22.9	
	comp=N,1716µm,0.6s						
SIVA				AML	AML	20 26 26.4	
	comp=E,2756µm,0.6s						
ZEY	**zmir**	**1.75**	**21**	*i* P	**Pn**	**20 25 54.3**	**-0.1**
ZEY				*i* S	**Sg**	**20 26 21.3**	**-0.2**
ZEY				IAML_P			
	comp=Z,2µm,0.2s						
IMMV	**Iera Moni Meta**	**1.81**	**232**	PN	**Pn**	**20 25 55.9**	**+0.7**
IMMV	**Iera Moni Meta**	**1.81**	**232**	P	**Pn**	**20 25 56.0**	**+0.7**
IMMV				S	**Sb**	**20 26 19.8**	**-0.2**
IMMV	**Iera Moni Meta**	**1.81**	**232**	P	**Pn**	**20 25 55.5**	**+0.3**
IMMV				AML	AML	20 26 34.1	
	comp=E,1058µm,0.6s						
IMMV				AML	AML	20 26 36.9	
	comp=N,857µm,0.7s						
URLA	**Izmir**	**1.89**	**21**	PN	**Pn**	**20 25 56.1**	**-0.3**
URLA	**Izmir**	**1.89**	**21**	*i* P	**Pn**	**20 25 56.7**	**+0.4**
URLA				*i* S	**Sg**	**20 26 26.2**	**+0.3**
PSRA	**Psara**	**1.94**	**356**	P	**Pn**	**20 25 57.9**	**+0.8**
ARG	**Arkhangelos**	**1.98**	**100**	PN	**Pn**	**20 25 58.5**	**+1.0**
ARG	**Arkhangelos**	**1.98**	**100**	P	**Pn**	**20 25 58.8**	**+1.2**
VLY	**Voula,Athens**	**1.98**	**310**	P	**Pn**	**20 25 57.8**	**+0.2**
AYDN	**Tasoluk**	**2.02**	**58**	*i* P	**Pn**	**20 25 59.6**	**+1.4**
AYDN				*i* S	**Sg**	**20 26 31.7**	**+1.5**
AYDN				IAML_P			
	comp=Z,283nm,0.1s						
ATHU	**Athens Univers**	**2.06**	**312**	P	**Pn**	**20 25 59.1**	**+0.4**
BLCB	**Balcova**	**2.07**	**30**	PN	**Pn**	**20 25 59.6**	**+0.8**
PTL	**Penteli**	**2.07**	**315**	P	**Pn**	**20 25 59.5**	**+0.6**
ANKY	**Antikythira Is**	**2.09**	**250**	P	**Pn**	**20 25 59.8**	**+0.8**
KRBN	**Karaburun**	**2.10**	**18**	PN	**Pn**	**20 25 59.4**	**+0.2**
ATH	**Athens Observa**	**2.12**	**311**	P	**Pn**	**20 25 59.9**	**+0.6**
YER	**Yerkesik**	**2.12**	**75**	PN	**Pn**	**20 26 00.9**	**+1.3**
KERA	**Keramoti**	**2.14**	**236**	P	**Pn**	**20 26 01.1**	**+1.2**
KYTH	**Kithira**	**2.18**	**262**	P	**Pn**	**20 26 01.2**	**+0.8**
KYTH				AML	AML	20 26 41.7	
	comp=E,517µm,0.7s						
KYTH				AML	AML	20 26 41.7	
	comp=N,554µm,0.5s						
DID	**Didima**	**2.18**	**295**	P	**Pn**	**20 26 00.5**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**2.19**	**52**	PN	**Pn**	**20 26 01.1**	**+0.5**
KRND	**KRANIDI**	**2.20**	**292**	P	**Pn**	**20 26 01.0**	**+0.3**
GVD	**Gavdhos**	**2.20**	**218**	PN	**Pn**	**20 26 01.5**	**+0.8**
GVD	**Gavdhos**	**2.20**	**218**	P	**Pn**	**20 26 01.0**	**+0.3**
VLI	**Veliai**	**2.24**	**274**	P	**Pn**	**20 26 01.8**	**+0.6**
EREA	**Eretria**	**2.31**	**322**	P	**Pn**	**20 26 02.5**	**+0.4**
EPID	**Epidavros**	**2.31**	**297**	P	**Pn**	**20 26 02.8**	**+0.6**
TURN	**Turunc**	**2.33**	**82**	PN	**Pn**	**20 25 59.9**	**-2.5**
TURN	**Turunc**	**2.33**	**82**	*i* P	**Pn**	**20 26 02.0**	**-0.4**
TURN				IAML_P			
	comp=Z,404nm,0.2s						
DALY	**Dalyan (Mula)**	**2.37**	**84**	PN	**Pn**	**20 26 03.9**	**+1.0**
SKY	**Skiros Island**	**2.46**	**338**	P	**Pn**	**20 26 04.5**	**+0.4**
VIL2	**Platees**	**2.53**	**310**	P	**Pn**	**20 26 05.0**	**-0.2**
LOUT	**Loutraki**	**2.59**	**303**	P	**Pn**	**20 26 06.8**	**+0.8**
ZEDA	**zmir-Bergama**	**2.59**	**24**	*i* P	**Pg**	**20 26 13.2**	**-1.6**
ZEDA				IAML_P			
	comp=Z,589nm,0.3s						
SIGR	**SIGRI**	**2.61**	**2**	PN	**Pn**	**20 26 05.9**	**-0.3**
LTK	**Loutraki**	**2.62**	**304**	P	**Pn**	**20 26 06.9**	**+0.5**
PRK	**Paraskevi**	**2.68**	**9**	P	**Pn**	**20 26 08.3**	**+1.2**
TAVA	**DENIZLI_Tavas**	**2.70**	**70**	*i* P	**Pn**	**20 26 10.1**	**+2.6**
MRKA	**Markates**	**2.70**	**322**	P	**Pn**	**20 26 08.1**	**+0.6**
FETY	**Fethiye**	**2.71**	**88**	PN	**Pn**	**20 26 09.2**	**+1.6**
VLX	**Vlachokerasia**	**2.78**	**287**	P	**Pn**	**20 26 09.7**	**+0.9**
PROD	**Prodromos**	**2.79**	**307**	P	**Pn**	**20 26 09.5**	**+0.8**
AKHS	**Akhisar**	**2.81**	**35**	*i* P	**Pg**	**20 26 19.4**	**+0.4**
TRIP	**Tripoli**	**2.91**	**290**	P	**Pn**	**20 26 11.8**	**+1.4**
MANT	**Manisa**	**2.94**	**49**	*i* P	**Pg**	**20 26 22.2**	**+0.8**
AOS	**Alonnisos**	**2.95**	**331**	PN	**Pn**	**20 26 11.3**	**+0.4**
AOS	**Alonnisos**	**2.95**	**331**	P	**Pn**	**20 26 11.5**	**+0.6**
LKR	**Lokris**	**2.98**	**314**	P	**Pn**	**20 26 12.1**	**+0.8**
ATAL	**Atalanti**	**2.99**	**315**	P	**Pn**	**20 26 12.2**	**+0.7**
GUR	**Goura**	**3.01**	**297**	P	**Pn**	**20 26 12.1**	**+0.3**
KULA	**Kula-Manisa**	**3.02**	**50**	PN	**Pn**	**20 26 13.3**	**+1.4**
SMIA	**Simia**	**3.02**	**320**	P	**Pn**	**20 26 13.1**	**+1.1**
ITM	**Ithomi**	**3.10**	**282**	PN	**Pn**	**20 26 14.4**	**+1.4**
ITM	**Ithomi**	**3.10**	**282**	P	**Pn**	**20 26 14.4**	**+1.4**
DSF	**Desfina**	**3.12**	**306**	P	**Pn**	**20 26 13.6**	**+0.3**
SKIA	**Skiathos**	**3.12**	**326**	P	**Pn**	**20 26 14.2**	**+0.9**
GOLH	**Golhisar**	**3.14**	**77**	*i* P	**Pb**	**20 26 20.2**	**-0.2**
GOLH				IAML_P			
	comp=Z,244nm,0.3s						
STEP	**BALIKESIR_Sava**	**3.19**	**29**	*i* P	**Pg**	**20 26 26.0**	**-0.1**
STEP				IAML_P			
	comp=Z,887nm,0.7s						
KLV	**Kalavryta, Ach**	**3.19**	**298**	P	**Pn**	**20 26 15.5**	**+1.2**
BAYC	**CANAKKALE_Bayr**	**3.20**	**11**	*i* P	**Pn**	**20 26 14.0**	**-0.4**
BAYC				IAML_P			
	comp=Z,220nm,0.1s						
PYL	**PYLOS**	**3.21**	**276**	P	**Pn**	**20 26 15.1**	**+0.6**
EZN	**Ezine**	**3.25**	**8**	PN	**Pn**	**20 26 16.2**	**+1.1**
LIA	**Limnos Island**	**3.32**	**353**	P	**Pn**	**20 26 15.8**	**-0.2**
AMT	**Artemida-Makis**	**3.34**	**287**	P	**Pn**	**20 26 17.2**	**+0.8**
USAK	**Uak-Merkez**	**3.36**	**50**	*i* P	**Pn**	**20 26 19.0**	**+2.3**
USAK				IAML_P			
	comp=Z,99nm,0.1s						
KALE	**Kalithea**	**3.36**	**303**	P	**Pn**	**20 26 18.2**	**+1.6**
ELL	**Elmali**	**3.37**	**86**	PN	**Pn**	**20 26 18.6**	**+1.8**
TRIZ	**Trizonia**	**3.40**	**302**	P	**Pn**	**20 26 18.4**	**+1.4**
LAKA	**Lakka**	**3.40**	**300**	P	**Pn**	**20 26 18.3**	**+1.2**
XOR	**Xorichti**	**3.41**	**325**	P	**Pn**	**20 26 17.8**	**+0.5**
SERG	**Sergoula**	**3.43**	**305**	P	**Pn**	**20 26 18.6**	**+1.1**
DRO	**Drossia**	**3.47**	**294**	P	**Pn**	**20 26 19.6**	**+1.4**
BALB	**Balikesir**	**3.48**	**29**	PN	**Pn**	**20 26 18.9**	**+0.7**
FYTO	**Fytoko, Volos**	**3.56**	**323**	P	**Pn**	**20 26 20.4**	**+1.1**
AGG	**Agios Georgios**	**3.61**	**313**	PN	**Pn**	**20 26 21.6**	**+1.5**
AGG	**Agios Georgios**	**3.61**	**313**	P	**Pn**	**20 26 21.6**	**+1.5**
KORT	**Korkueli**	**3.74**	**82**	PN	**Pn**	**20 26 23.7**	**+1.8**
EVR	**Evrytania**	**3.87**	**308**	P	**Pn**	**20 26 24.9**	**+1.2**
PVO	**Paravola**	**3.89**	**302**	P	**Pn**	**20 26 25.8**	**+1.9**
THL	**Klokotos Trika**	**4.16**	**316**	P	**Pn**	**20 26 28.8**	**+1.2**
CSS	**Mathiatis**	**6.40**	**103**	Pn	**Pn**	**20 27 02.6**	**+4.3**
CSS				Sn	**Sn**	**20 28 14.4**	**+3.5**
BRTR	**Keskin Array B**	**6.97**	**61**	Pn	**Pn**	**20 27 08.7**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=246,slow=14,SNR=7.0						
MMA0B	**Mount Meron ar**	**8.73**	**111**	Pn	**Pn**	**20 27 31.6**	**+1.2**
MMA0B				Sn	**Sn**	**20 29 08.6**	**+0.3**
MMAI	**Mount Meron Ar**	**8.73**	**111**	Pn	**Pn**	**20 27 29.6**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=329,slow=13,SNR=5.5						
MMAI				Sn	**Sn**	**20 29 03.8**	**-4.5**
	comp=Z,0.9nm,0.3s,baz=296,slow=24,SNR=4.0						
MLR	**Muntele Rosu**	**8.88**	**1**	Pn	**Pn**	**20 27 32.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=202,slow=11,SNR=2.8						
MMLI	**Mount Malkishu**	**9.02**	**115**	Pn	**Pn**	**20 27 33.6**	**-0.7**
AMAZ	**Amatzia**	**9.15**	**121**	Pn	**Pn**	**20 27 33.8**	**-2.3**
AMAZ				Sn	**Sn**	**20 29 13.2**	**-5.4**
HMDT	**Nahal Hemdat**	**9.19**	**115**	Sn	**Sn**	**20 29 18.9**	**-0.5**
YTIR	**Yattir**	**9.38**	**121**	Sn	**Sn**	**20 29 20.4**	**-4.1**
DSI	**Dead Sea**	**9.45**	**119**	Pn	**Pn**	**20 27 38.5**	**-1.7**
DSI				Sn	**Sn**	**20 29 24.0**	**-3.9**
MZDA	**Masada**	**9.59**	**121**	Sn	**Sn**	**20 29 24.3**	**-4.9**
KRMI	**Paran Flat**	**9.92**	**128**	Sn	Sn	20 29 27.3	-10
PRNI	**Paran**	**9.94**	**126**	Sn	Sn	20 29 29.6	-8.5
EIL	**Elat**	**10.37**	**129**	Sn	Sn	20 29 39.6	-8.9
	comp=Z,0.7nm,0.3s,baz=72,slow=3.2,SNR=4.3						
ESDC	**Sonseca Array**	**23.50**	**287**	P	**P**	**20 30 32.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=85,slow=9.2,SNR=2.9						
EKA	**Eskdalemuir Ar**	**27.15**	**323**	P	**P**	**20 31 07.8**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=124,slow=9.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**31.77**	**229**	P	**P**	**20 31 48.4**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=32,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**42.61**	**58**	P	**P**	**20 33 21.0**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=281,slow=6.6,SNR=13						
SONM	**Songino Array**	**58.23**	**51**	LR	LR	21 05 42.7	
	comp=Z,36nm,18.1s,baz=280,slow=42						

MEX 17 20:29:16.6±0.3, 16°38N×98°47W, h14km±7km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**89**	*i* P	Pg	20 29 22.9	-0.4
PNIG				*i* S	Sg	20 29 27.9	+0.1
TLIG	**Tlapa**	**1.18**	**355**	*e*P	Pn	20 29 35.1	-3.7
TLIG				*i* S	Sb	20 29 49.7	-4.3

*IDC **17** 20:53:35.7±1.2, 34°.09N×25°.06E, h0km, mb3.8/8, mb1 3.9/12, mb1mx3.6/38, mbtmp3.8/12, ML4.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/56, Error ellipse: s-maj=23.3km s-min=18.4km az=63.0*

*ISK **17** 20:53:36.8, 33°.90N×25°.12E, h16km, ML3.6/15*

*ISCJB **17** 20:53:40.1±0.3, 34°.03N±0°.02×25°.17E±0°.03, h68km±5km, mb3.6/8, Error ellipse: s-maj=4.7km s-min=3.2km az=140.1*

*HLW **17** 20:53:43.0, 33°.94N×25°.48E, h12km±22km, Md3.6, Ml3.5*

*THE **17** 20:53:43.1, 34°.13N×25°.08E, h62km±10km, ML2.9/8, Error ellipse: s-maj=10.7km s-min=1.5km az=353.0*

*ATH **17** 20:53:44.1, 34°.42N×25°.08E, h76km±3km, ML3.0/8, Error ellipse: s-maj=6.3km s-min=1.7km az=177.0*

*GII **17** 20:53:46.7±0.0, 33°.91N×25°.81E, h20km, MD3.6/2*

ISC 17 20:53:41.4±1.0, 34°.03N±0°.03×25°.29E±0°.05, h52km±12km, n134, σ1°77/155, mb3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SIVA	**Sivas**	**1.06**	**338**	P	**Pn**	**20 53 58.9**	**-1.1**
SIVA				S	**Sn**	**20 54 12.4**	**-1.4**
SIVA	**Sivas**	**1.06**	**338**	P	**Pn**	**20 53 59.0**	**-1.1**
SIVA				AML	AML	20 54 19.4	
	comp=N,5982µm,0.6s						
SIVA				AML	AML	20 54 26.3	
	comp=E,7483µm,0.7s						
TMBK	**Timbaki Herakl**	**1.13**	**338**	P	**Pn**	**20 54 00.2**	**-0.7**
TMBK				S	**Sn**	**20 54 14.2**	**-1.1**
LAST	**Lasithi**	**1.14**	**8**	P	**Pn**	**20 54 01.4**	**+0.2**
LAST				S	**Sn**	**20 54 16.8**	**+0.9**
LAST	**Lasithi**	**1.14**	**8**	P	**Pn**	**20 54 01.7**	**+0.5**
LAST				AML	AML	20 54 18.9	
	comp=E,753µm,0.7s						
LAST				AML	AML	20 54 28.4	
	comp=N,1233µm,0.6s						
NPS	**Neapolis**	**1.26**	**12**	P	**Pn**	**20 54 03.9**	**+1.2**
NPS	**Neapolis**	**1.26**	**12**	P	**Pn**	**20 54 03.7**	**+1.0**
NPS				AML	AML	20 54 29.5	
	comp=E,979µm,0.8s						
NPS				AML	AML	20 54 35.0	
	comp=N,475µm,0.9s						
GVD	**Gavdhos**	**1.28**	**310**	PN	**Pn**	**20 54 01.3**	**-1.6**
GVD	**Gavdhos**	**1.28**	**310**	P	**Pn**	**20 54 02.2**	**-0.8**
GVD	**Gavdhos**	**1.28**	**310**	P	**Pn**	**20 54 02.2**	**-0.8**
GVD				AML	AML	20 54 39.4	
	comp=E,2042µm,0.6s						
GVD				AML	AML	20 54 43.5	
	comp=N,2140µm,0.5s						
KSTL	**Kastelli Herak**	**1.29**	**352**	P	**Pn**	**20 54 01.6**	**-1.4**
KSTL				S	**Sn**	**20 54 16.3**	**-2.9**
IDI	**Anoyia**	**1.30**	**346**	Pn	**Pn**	**20 54 01.8**	**-1.5**
	comp=N,25nm,0.3s,baz=175,slow=14,SNR=219						
IDI				Sn	**Sn**	**20 54 19.2**	**-0.4**
	comp=N,37nm,0.3s,baz=1.6,slow=15,SNR=10						
ZKR	**Zakros**	**1.33**	**35**	PN	**Pn**	**20 54 03.8**	**+0.2**
ZKR	**Zakros**	**1.33**	**35**	P	**Pn**	**20 54 05.3**	**+1.7**
ZKR				S	**Sn**	**20 54 23.6**	**+3.3**
ZKR	**Zakros**	**1.33**	**35**	P	**Pn**	**20 54 05.8**	**+2.2**
ZKR				AML	AML	20 54 36.0	
	comp=N,367µm,0.5s						
ZKR				AML	AML	20 54 36.1	
	comp=E,1251µm,0.6s						
STIA	**Sitia Lasithi**	**1.35**	**29**	P	**Pn**	**20 54 05.3**	**+1.5**
PRNS	**Prines Rethymn**	**1.48**	**334**	P	**Pn**	**20 54 05.2**	**-0.5**
VAM	**Vamos**	**1.64**	**327**	P	**Pn**	**20 54 07.2**	**-0.7**
VAM	**Vamos**	**1.64**	**327**	P	**Pn**	**20 54 07.3**	**-0.6**
VAM				AML	AML	20 54 38.0	
	comp=N,751µm,0.5s						
VAM				AML	AML	20 54 45.6	
	comp=E,1766µm,0.6s						
IMMV	**Iera Moni Meta**	**1.79**	**323**	PN	**Pn**	**20 54 08.9**	**-1.0**
IMMV				SN	**Sn**	**20 54 30.8**	**-0.7**
IMMV	**Iera Moni Meta**	**1.79**	**323**	P	**Pn**	**20 54 09.6**	**-0.3**
IMMV	**Iera Moni Meta**	**1.79**	**323**	P	**Pn**	**20 54 09.6**	**-0.3**
IMMV				AML	AML	20 54 50.7	
	comp=N,876µm,0.7s						
IMMV				AML	AML	20 54 53.0	
	comp=E,873µm,0.7s						
KERA	**Keramoti**	**1.96**	**314**	P	**Pn**	**20 54 11.0**	**-1.2**
KERA				AML	AML	20 54 52.3	
	comp=E,491µm,0.7s						
KERA				AML	AML	20 55 00.4	
	comp=N,264µm,0.7s						
KARP	**Karpathos**	**2.16**	**45**	PN	**Pn**	**20 54 16.3**	**+1.3**
KARP				SN	**Sn**	**20 54 44.8**	**+4.1**
KARP	**Karpathos**	**2.16**	**45**	P	**Pn**	**20 54 17.9**	**+2.9**
KARP	**Karpathos**	**2.16**	**45**	P	**Pn**	**20 54 18.0**	**+3.0**
THR6	**Thira Island,**	**2.33**	**2**	P	**Pn**	**20 54 17.3**	**+0.1**
THR6	**Thira Island,**	**2.33**	**2**	P	**Pn**	**20 54 16.7**	**-0.5**
SANT	**Santorini**	**2.34**	**3**	PN	**Pn**	**20 54 17.8**	**+0.3**
SANT	**Santorini**	**2.34**	**3**	P	**Pn**	**20 54 16.4**	**-1.1**
ANAF	**Anafi Island**	**2.36**	**10**	P	**Pn**	**20 54 17.7**	**0.0**
ANAF	**Anafi Island**	**2.36**	**10**	P	**Pn**	**20 54 17.6**	**-0.1**
THR3	**Thira Island,**	**2.38**	**2**	P	**Pn**	**20 54 17.5**	**-0.4**
THR3	**Thira Island,**	**2.38**	**2**	P	**Pn**	**20 54 17.5**	**-0.4**
THR5	**Thira Island,**	**2.39**	**1**	P	**Pn**	**20 54 17.8**	**-0.2**
THR5	**Thira Island,**	**2.39**	**1**	P	**Pn**	**20 54 16.9**	**-1.1**
THT2	**Imerovigli**	**2.41**	**3**	P	**Pn**	**20 54 16.5**	**-1.8**
THR2	**Thira island,**	**2.42**	**3**	P	**Pn**	**20 54 18.4**	**-0.1**
THR2	**Thira island,**	**2.42**	**3**	P	**Pn**	**20 54 18.1**	**-0.4**
ANKY	**Antikythira Is**	**2.46**	**319**	P	**Pn**	**20 54 18.8**	**-0.2**
SLUM	**Salum**	**2.53**	**181**	P	**Pn**	**20 54 21.6**	**+1.7**
	baz=186						
SLUM				AMP		20 54 00.0	
	baz=186						
SLUM				S	**Sn**	**20 54 50.8**	**+1.3**
	baz=186						
MHLO	**Agia Marina, M**	**2.75**	**345**	P	**Pn**	**20 54 22.0**	**-1.1**
MHLO	**Agia Marina, M**	**2.75**	**345**	P	**Pn**	**20 54 21.9**	**-1.2**
MHLA	**Plaka, Milos I**	**2.80**	**346**	P	**Pn**	**20 54 22.9**	**-0.9**
AMGA	**Amorgos Island**	**2.84**	**10**	P	**Pn**	**20 54 23.9**	**-0.4**
KYTH	**Kithira**	**2.89**	**321**	P	**Pn**	**20 54 24.7**	**-0.3**
KTHR	**Kythira**	**2.91**	**321**	P	**Pn**	**20 54 25.4**	**+0.2**
APE	**Apeiranthos**	**3.04**	**4**	PN	**Pn**	**20 54 26.8**	**-0.3**
APE	**Apeiranthos**	**3.04**	**4**	P	**Pn**	**20 54 26.4**	**-0.7**
MATC	**Matruh**	**3.13**	**148**	P	**Pn**	**20 54 30.4**	**+2.1**
	baz=149						
ARG	**Arkhangelos**	**3.19**	**46**	PN	**Pn**	**20 54 30.8**	**+1.7**
ARG	**Arkhangelos**	**3.19**	**46**	P	**Pn**	**20 54 31.9**	**+2.9**
SERI	**Serifos**	**3.20**	**348**	P	**Pn**	**20 54 27.9**	**-1.2**
DAT	**Datca**	**3.28**	**34**	PN	**Pn**	**20 54 31.6**	**+1.2**
DAT	**Datca**	**3.28**	**34**	*i* P	**Pn**	**20 54 32.6**	**+2.2**
VLI	**Veliai**	**3.30**	**325**	P	**Pn**	**20 54 29.2**	**-1.4**
VLI	**Veliai**	**3.30**	**325**	P	**Pn**	**20 54 29.1**	**-1.4**
BODT	**Bodrum**	**3.45**	**28**	PN	**Pn**	**20 54 33.8**	**+1.2**
BDRM	**Kayabasi**	**3.51**	**29**	*i* P	**Pn**	**20 54 35.2**	**+1.8**
KRND	**KRANIDI**	**3.77**	**333**	P	**Pn**	**20 54 35.2**	**-1.9**
DID	**Didima**	**3.85**	**335**	P	**Pn**	**20 54 36.3**	**-1.8**
SMG	**Samos**	**3.88**	**18**	P	**Pn**	**20 54 38.6**	**0.0**
DALY	**Dalyan (Mula)**	**3.91**	**44**	PN	**Pn**	**20 54 40.8**	**+1.9**
DALY	**Dalyan (Mula)**	**3.91**	**44**	*i* P	**Pn**	**20 54 41.9**	**+2.9**
DALY				IAML_P			
	comp=Z,507nm,0.2s						
TURN	**Turunc**	**3.92**	**43**	PN	**Pn**	**20 54 36.9**	**-2.2**
TURN	**Turunc**	**3.92**	**43**	*i* P	**Pn**	**20 54 37.6**	**-1.4**
TURN				*i* S	**Sn**	**20 55 16.8**	**-7.1**
YER	**Yerkesik**	**3.95**	**37**	PN	**Pn**	**20 54 40.9**	**+1.4**
EPID	**Epidavros**	**3.99**	**334**	P	**Pn**	**20 54 38.5**	**-1.5**
VLY	**Voula,Athens**	**4.01**	**343**	P	**Pn**	**20 54 39.2**	**-1.0**
FETY	**Fethiye**	**4.05**	**49**	PN	**Pn**	**20 54 42.4**	**+1.5**
AKAS	**Kas**	**4.17**	**57**	PN	**Pn**	**20 54 43.8**	**+1.2**
AKAS	**Kas**	**4.17**	**57**	*i* P	**Pn**	**20 54 44.1**	**+1.5**
ITM	**Ithomi**	**4.17**	**320**	PN	**Pn**	**20 54 41.4**	**-1.1**
ITM	**Ithomi**	**4.17**	**320**	P	**Pn**	**20 54 41.3**	**-1.2**
ITM	**Ithomi**	**4.17**	**320**	P	**Pn**	**20 54 41.3**	**-1.2**
PTL	**Penteli**	**4.18**	**344**	P	**Pn**	**20 54 41.4**	**-1.2**
AYDN	**Tasoluk**	**4.19**	**29**	*i* P	**Pn**	**20 54 44.5**	**+1.7**
AYDN				IAML_P			
	comp=Z,498nm,0.2s						
TRIP	**Tripoli**	**4.27**	**326**	P	**Pn**	**20 54 43.0**	**-0.9**
VIL2	**Platees**	**4.49**	**339**	P	**Pn**	**20 54 44.4**	**-2.5**
TAVA	**DENIZLI_Tavas**	**4.53**	**40**	*i* P	**Pn**	**20 54 49.9**	**+2.5**
TAVA				*i* S	**Sn**	**20 55 37.9**	**-0.9**
TAVA				IAML_P			
	comp=Z,133nm,0.1s						
AMT	**Artemida-Makis**	**4.55**	**321**	P	**Pn**	**20 54 46.7**	**-1.0**
ELL	**Elmali**	**4.65**	**53**	PN	**Pn**	**20 54 51.7

SEUS	**St. Eustatius**	**1.06**	**206**	*e*P		Pn	20 57 42.4	+1.2
SEUS				*e*S		Sn	20 57 56.9	+2.1
NEV	**Hard Times**	**1.31**	**183**	*e*P		Pn	20 57 46.8	+2.1
NEV				*e*S		Sn	20 58 02.8	+1.8
BPA	**Boggy Peak**	**1.53**	**156**	*e*P		Pn	20 57 49.5	+1.9
BPA				*e*S		Sn	20 58 08.2	+1.9
MLYT	**Lee's Yard**	**1.75**	**170**	*e*P		Pn	20 57 53.2	+2.6
MLYT				*e*S		Sn	20 58 13.8	+2.0
TBG	**Guadaloupe-3**	**2.71**	**162**	*e*P		Pn	20 58 05.4	+1.5
TBG				*e*S		Sn	20 58 36.5	+1.1
MDPV	**Dominica, Penn**	**3.00**	**160**	*e*P		Pn	20 58 09.3	+1.5
MDPO	**Dominica; Chan**	**3.03**	**160**	*e*P		Pn	20 58 09.9	+1.7
MDPO				*e*S		Sn	20 58 45.2	+1.9
BBL	**Barber's Block**	**3.08**	**161**	*e*P		Pn	20 58 10.2	+1.4
BBL				*e*S		Sn	20 58 45.8	+1.3
DWS	**Wesley**	**3.09**	**158**	*e*P		Pn	20 58 10.5	+1.5

MEX 17 21:14:13.0±0.4, 14°09N×91°72W, h122km±7km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.97**	**327**	*i* P	Pn	21 14 33.2	-1.7
THIG				*i* S	Sn	21 14 49.8	-1.7
PCIG		**2.16**	**318**	*e*P	Pn	21 14 47.5	-1.1
PCIG				*e*S	Sn	21 15 14.0	-1.9
CCIG	**Comitan**	**2.22**	**350**	*i* P	Pn	21 14 48.1	-1.4
CCIG				*i* S	Sn	21 15 15.9	-1.5

IDC 17 21:21:10.6±3.8, 19°10N×145°86E, h180km±28km, mb3.2/7, mb1 3.5/9, mb1mx3.2/44, mbtmp3.8/9, Error ellipse: s-maj=83.8km s-min=16.2km az=83.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.56**	**190**	P	Pn	21 22 31.3	-0.6
	6.7nm,0.3s,baz=253,slow=19,SNR=2.9						
GUMO				S	Sn	21 23 36.8	+1.0
	4.9nm,0.3s,baz=0.0,slow=20,SNR=2.1						
MJAR	**Matsushiro Arr**	**18.64**	**340**	P	P	21 25 14.7	0.0
	0.2nm,0.3s,baz=165,slow=8.5,SNR=11						
KSRS	**Korea Array**	**24.09**	**323**	P	P	21 26 08.8	-0.7
	1.4nm,0.6s,baz=149,slow=8.3,SNR=6.4						
WRA	**Warramunga Arr**	**40.41**	**197**	P	P	21 28 31.1	-0.2
	0.4nm,0.3s,baz=16,slow=8.4,SNR=16						
SONM	**Songino Array**	**42.93**	**321**	P	P	21 28 51.8	+0.1
	0.2nm,0.6s,baz=136,slow=8.0,SNR=3.2						
MKAR	**Makanchi Array**	**58.30**	**314**	P	P	21 30 47.3	+0.8
	0.1nm,0.5s,baz=95,slow=8.4,SNR=3.1						
KURBB	**Kurchatov Arra**	**61.13**	**318**	P	P	21 31 05.5	-0.2
	0.2nm,0.4s,baz=93,slow=7.5,SNR=3.7						
ARCES	**ARCESS Array B**	**82.16**	**342**	P	P	21 33 12.0	+1.1
	4.3nm,1.0s,baz=64,slow=8.2,SNR=3.8						
FINES	**FINESS Array B**	**86.59**	**335**	P	P	21 33 32.2	-1.0
	0.8nm,0.5s,baz=60,slow=4.6,SNR=5.8						

*IDC **17** 21:25:10.5±1.9, 33°81N×141°67E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/33, mbtmp3.6/5, ML3.5/2, Error ellipse: s-maj=36.2km s-min=24.3km az=56.0*
*ISCJB **17** 21:25:12.4±1.0, 34°00N±0°05×141°59E±0°09, h24km, mb3.3/3, Error ellipse: s-maj=10.6km s-min=6.8km az=179.0*
*JMA **17** 21:25:14.9±0.5, 34°04N×141°41E, h34km±3km, M3.3*
ISC 17 21:25:13.2±1.3, 33°92N±0°05×141°54E±0°09, h24km, n18, σ1°34/23, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.87**	**328**	P	**Pb**	**21 25 28.4**	**-0.9**
BSO3	**Boso 3**	**1.23**	**316**	P	**Pb**	**21 25 34.4**	**-1.2**
BSO4	**Boso 4**	**1.46**	**317**	P	**Pb**	**21 25 38.2**	**-1.5**
JMKN	**Mikurajimanish**	**1.62**	**270**	P	**Pb**	**21 25 40.6**	**-1.9**
JMKN				*e*S	**Sn**	**21 25 59.2**	**-1.3**
JHJ2	**Mitsune**	**1.65**	**241**	P	**Pb**	**21 25 42.3**	**-0.6**
JKUC	**kamogawauchiur**	**1.67**	**319**	P	**Pn**	**21 25 40.5**	**-0.4**
JHJ	**Hachijo jima 2**	**1.67**	**242**	Pn	**Pb**	**21 25 41.6**	**-1.7**
	38nm,0.3s,baz=22,slow=13,SNR=11						
JHJ				Sn	**Sb**	**21 26 05.1**	**+1.2**
	45nm,0.3s,baz=249,slow=22,SNR=4.1						
KTJ3	**Kamata3**	**2.28**	**297**	P	**Pn**	**21 25 48.8**	**-0.6**
JYT	**Yasato**	**2.56**	**335**	P	**Pn**	**21 25 53.7**	**+0.6**
JHU	**Hanno**	**2.68**	**317**	P	**Pn**	**21 25 55.0**	**+0.2**
JHU				S	**Sn**	**21 26 24.9**	**-1.7**
JHO	**Hitachi**	**2.80**	**344**	P	**Pn**	**21 25 54.7**	**-1.8**
JAG	**Ashikaga**	**3.03**	**326**	P	**Pn**	**21 25 59.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.78**	**315**	Pn	**Pn**	**21 26 10.5**	**+0.5**
	1.3nm,0.3s,baz=159,slow=14,SNR=50						
MJAR				Sn	**Sn**	**21 26 53.8**	**0.0**
	0.2nm,0.3s,baz=79,slow=26,SNR=6.5						
MAT	**Matsushiro**	**3.79**	**315**	P	**Pn**	**21 26 11.3**	**+1.3**
MAT				S	**Sn**	**21 26 54.6**	**+0.8**
JCJ	**Chichijima**	**6.82**	**175**	Pn	**Pn**	**21 26 50.4**	**-1.3**
	2.0nm,0.3s,baz=53,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**45.92**	**305**	P	**P**	**21 33 36.6**	**+2.7**
	0.1nm,0.5s,baz=87,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**54.00**	**188**	P	**P**	**21 34 34.4**	**-0.9**
	0.2nm,0.3s,baz=3.9,slow=7.8,SNR=9.8						
ASAR	**Alice Springs**	**57.72**	**188**	P	**P**	**21 35 03.5**	**+1.4**
	0.2nm,0.4s,baz=356,slow=5.7,SNR=4.4						

TRN 17 21:28:26.0, 10°56N×61°03W, h66km, MD3.6, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.08**	**205**	*e*P	Pn	21 28 35.7	0.0
TBH				*e*S	Sn	21 28 43.5	+0.7
TRN	**Trinidad (W)**	**0.38**	**283**	*e*P	Pn	21 28 36.5	-0.8
TRN				*e*S	Sn	21 28 45.7	+0.2
TPP	**Pointe-a-Pierr**	**0.48**	**240**	*e*P	Pn	21 28 37.7	-0.5
TPP				*e*S	Sn	21 28 47.8	+0.6
TPR	**Prospect**	**0.67**	**22**	*e*P	Pn	21 28 40.7	+0.4
TPR				*e*S	Sn	21 28 51.1	+0.3
TOSP	**Speyside**	**0.88**	**34**	*e*P	Pn	21 28 42.8	0.0
TOSP				*e*S	Sn	21 28 54.7	-0.5
GRGR	**Grenville**	**1.68**	**339**	*e*P	Pn	21 28 52.8	-0.4
GRGR				*e*S	Sn	21 29 13.8	-0.1
GRHS	**Sauteurs**	**1.76**	**340**	*e*P	Pn	21 28 54.7	+0.4
GRHS				*e*S	Sn	21 29 15.6	-0.2
GRSS	**Sisters**	**1.82**	**342**	*e*P	Pn	21 28 56.0	+0.9
GRSS				*e*S	Sn	21 29 16.9	-0.2
FCV	**Fort Charlotte**	**2.59**	**355**	*e*P	Pn	21 29 05.7	+0.1
FCV				*e*S	Sn	21 29 35.2	-0.7
SVCV	**St. Vincent, C**	**2.70**	**358**	*e*P	Pn	21 29 08.1	+1.0
SVCV				*e*S	Sn	21 29 37.8	-0.8
SVB	**Belmont**	**2.70**	**355**	*e*P	Pn	21 29 07.1	-0.1
SVV	**Soufriere Volc**	**2.75**	**356**	*e*P	Pn	21 29 08.2	+0.5
SVV				*e*S	Sn	21 29 38.7	-1.1
SSV	**Crater Summit**	**2.75**	**357**	*e*P	Pn	21 29 09.0	+1.1
SSV				*e*S	Sn	21 29 39.1	-1.0
MCLT	**Moule a Chique**	**3.13**	**2**	*e*P	Pn	21 29 14.4	+1.1
MCLT				*e*S	Sn	21 29 48.2	-1.0
SLB	**Belfond**	**3.25**	**360**	*e*S	Sn	21 29 50.8	-1.3
FDF	**Fort de France**	**4.15**	**358**	*e*P	Pn	21 29 28.1	+1.1
FDF				*e*S	Sn	21 30 11.9	-2.3
MDN	**Morne-Daniel**	**4.74**	**356**	*e*P	Pn	21 29 34.9	-0.1
DLPL	**La Plaine**	**4.75**	**357**	*e*P	Pn	21 29 35.6	+0.6
BBL	**Barber's Block**	**4.95**	**355**	*e*P	Pn	21 29 38.3	+0.4
DWS	**Wesley**	**4.99**	**357**	*e*P	Pn	21 29 39.0	+0.7

IDC 17 21:45:08.2±1.9, 0°37N×125°68E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/52, mbtmp3.3/3, Error ellipse: s-maj=187.0km s-min=24.8km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.90**	**158**	P	P	21 50 02.1	-1.1
	0.6nm,0.5s,baz=336,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**25.20**	**162**	P	P	21 50 36.5	+0.7
	0.4nm,0.3s,baz=344,slow=11,SNR=10.0						
MKAR	**Makanchi Array**	**59.73**	**327**	P	P	21 55 14.8	-0.1
	0.1nm,0.3s,baz=139,slow=8.2,SNR=2.8						

*IDC **17** 21:47:26.1±6.6, 36°92N×72°40E, h98km±67km, mb1 3.1/5, mb1mx2.8/54, mbtmp3.5/5, ML3.1/5, Error ellipse: s-maj=87.4km s-min=28.4km az=139.0*
*ISCJB **17** 21:47:27.5±0.8, 37°12N±0°05×72°2E±0°1, h100km, Error ellipse: s-maj=13.1km s-min=5.8km az=163.8*
ISC 17 21:47:26.8±1.0, 36°98N±0°08×72°3E±0°1, h100km, n22, σ1°50/24, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.25**	**12**	P	**Pn**	**21 48 43.5**	**+0.2**
	SNR=30						
UCH	**Uchtor**	**5.51**	**18**	P	**Pn**	**21 48 48.2**	**+1.4**
	SNR=8.9						
KZA	**Kyzart**	**5.58**	**23**	P	**Pn**	**21 48 49.4**	**+1.7**
	SNR=5.5						
EKS2	**Erkin-Say**	**5.79**	**11**	P	**Pn**	**21 48 51.0**	**+0.7**
	SNR=6.5						
AAK	**Ala-Archa**	**5.90**	**16**	P	**Pn**	**21 48 53.2**	**+1.4**
	SNR=6.2						
AAK	**Ala-Archa**	**5.90**	**16**	⇑P	**Pn**	**21 48 53.1**	**+1.3**
	2.7nm,0.4s						
AAK				⇑S	**Sn**	**21 49 57.1**	**-1.0**
	3.1nm,0.5s						
AAK	**Ala-Archa**	**5.90**	**16**	P	**Pn**	**21 48 52.8**	**+1.0**
	1.8nm,0.3s,baz=188,slow=7.4,SNR=28						
AAK				S	**Sn**	**21 49 57.0**	**-1.0**
	0.6nm,0.3s,baz=350,slow=18,SNR=2.7						
KK31	**Karatay Array**	**6.26**	**348**	⇓P	**Pn**	**21 48 53.6**	**-3.0**
	0.9nm,0.2s,baz=173,slow=11,SNR=45						
KK31				S	Sn	21 49 57.0	-10
	1.2nm,0.3s,baz=174,slow=22,SNR=6.0						
CHMS	**Chumysh**	**6.30**	**17**	P	**Pn**	**21 48 57.9**	**+0.8**
	SNR=7.5						
GEYT	**Alibeck**	**11.30**	**279**	P	**Pn**	**21 50 05.9**	**+0.7**
	0.4nm,0.3s,baz=102,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**12.30**	**34**	P	**Pn**	**21 50 18.6**	**+0.2**
	0.0nm,0.3s,baz=222,slow=14,SNR=4.1						
PYUN	**Piuthan**	**12.64**	**131**	*e*P	**Pn**	**21 50 23.7**	**+0.5**
	2.9nm,0.3s						
DANN	**Dangsing**	**12.94**	**128**	*e*P	**P**	**21 50 31.0**	**-2.9**
	2.6nm,0.3s						
GKN	**Gorkha**	**13.73**	**127**	*e*P	**P**	**21 50 41.5**	**-1.1**
	6.5nm,0.6s						
KKN	**Kakani**	**14.29**	**126**	*e*P	**P**	**21 50 48.2**	**-0.7**
	2.8nm,0.3s						
DMN	**Daman**	**14.30**	**127**	*e*P	**P**	**21 50 46.7**	**-2.4**
	2.4nm,0.3s						
KURBB	**Kurchatov Arra**	**14.35**	**16**	P	**Pn**	**21 50 46.0**	**+0.9**
	0.1nm,0.3s,baz=205,slow=11,SNR=3.5						
PKIN	**Phulchoki**	**14.51**	**127**	*e*P	**P**	**21 50 50.3**	**-1.1**
	2.7nm,0.5s						
PKI	**Pulchoki**	**14.52**	**127**	*e*P	**P**	**21 50 50.4**	**-1.2**
	2.0nm,0.4s						
GUN	**Gumba**	**14.60**	**124**	*e*P	**P**	**21 50 54.5**	**+2.0**
	11nm,1.0s						
JIRN	**Jiri**	**14.97**	**124**	*e*P	**P**	**21 50 57.9**	**+1.3**
	9.9nm,0.5s						
ZALV	**Zalesovo Beam**	**19.06**	**23**	P	**P**	**21 51 40.2**	**-0.8**
	0.3nm,0.3s,baz=212,slow=9.2,SNR=4.3						

*NIED **17** 21:53:00, 36°50N×140°60E, h62km, Mw4.3 Best double couple: M0 3.29000×10^15 NP1:φ=158.00000°, δ=20.00000°, λ=46.00000°. NP2:φ=24.00000°, δ=76.00000°, λ=104.00000°.*
*ISCJB **17** 21:53:37.8±0.3, 36°44N±0°02×140°60E±0°03, h61km±2km, mb4.6/116, Error ellipse: s-maj=4.8km s-min=3.4km az=28.0*
*BJI **17** 21:53:38.0, 36°36N×140°45E, h67km, mb4.6/49, mB4.8/28, Ms4.1/8, Ms7 3.9/2*
*IDC **17** 21:53:38.5±1.3, 36°42N×140°58E, h57km±12km, mb4.2/33, mb1 4.3/39, mb1mx4.2/54, mbtmp4.5/39, MS3.1/12, Ms1 3.1/12, ms1mx3.0/40, Error ellipse: s-maj=11.9km s-min=8.1km az=96.0*
*MOS **17** 21:53:38.9±0.9, 36°62N×140°48E, h61km, mb4.8/38, Error ellipse: s-maj=8.6km s-min=4.8km az=111.6*
*NEIC **17** 21:53:39.1±0.6, 36°44N×140°59E, h59km±5km, mb4.6/59, Error ellipse: s-maj=5.6km s-min=4.6km az=125.0*
NEIC Felt [V] at Mito; [IV] at Shirakawa and Tsukuba; [III] at Tokyo and Utsunomiya. Felt in many parts of east-central Honshu. Recorded [4 JMA] in Ibaraki.
*JMA **17** 21:53:39.0±0.1, 36°45N×140°58E, h56km±1km, M4.4 Broadband fault plane solution: P waves. NP1: φ=22.00000°, δ=60.00000°, λ=93.00000°. NP2:φ=196.00000°, δ=30.00000°, λ=85.00000°. Principal axes: T Plg75.0000°, Azm301.0000°; N Plg3.0000°, Azm201.0000°; P Plg15.0000°, Azm110.0000°;*
JMA Felt IV J1.
ISC 17 21:53:38.8±0.5, 36°45N±0°03×140°55E±0°04, h56km±4km, n310, σ1°20/340, mb4.7/127, MS3.3/10, 39C-28D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.12**	**163**	P	**Pn**	**21 53 47.7**	**+0.3**
JHYU				S	**Sn**	**21 53 53.8**	**+0.3**
JHO	**Hitachi**	**0.16**	**7**	⇑P	**Pn**	**21 53 47.9**	**+0.3**
JHO				S	**Sn**	**21 53 53.8**	**-0.1**
JYT	**Yasato**	**0.36**	**232**	⇑P	**Pn**	**21 53 49.6**	**+0.6**
JYT				S	**Sn**	**21 53 56.9**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.68**	**17**	⇑P	**Pn**	**21 53 52.3**	**-0.4**
ONAJ				S	**Sn**	**21 54 02.0**	**-0.7**
JAG	**Ashikaga**	**0.88**	**269**	⇓P	**Pn**	**21 53 56.0**	**+0.8**
JAG				S	**Sn**	**21 54 07.7**	**+0.5**
JFK	**Kawauchi**	**0.95**	**16**	⇑P	**Pn**	**21 53 55.5**	**-0.6**
JFK				S	**Sn**	**21 54 07.4**	**-1.4**
JFT	**Otama**	**1.08**	**351**	⇓P	**Pn**	**21 53 58.1**	**+0.3**
JFT				S	**Sn**	**21 54 12.0**	**+0.2**
JKT	**Katashina**	**1.09**	**287**	⇓P	**Pn**	**21 53 58.9**	**+0.9**
JKT				S	**Sn**	**21 54 14.0**	**+1.8**
JFY	**Yanaizu**	**1.17**	**325**	⇓P	**Pn**	**21 53 59.6**	**+0.6**
JFY				S	**Sn**	**21 54 15.3**	**+1.3**
JMM	**Marumori**	**1.43**	**8**	⇓P	**Pn**	**21 54 02.6**	**+0.2**
JMM				S	**Sn**	**21 54 19.9**	**-0.2**
MJAR	**Matsushiro Arr**	**1.89**	**273**	P	**Pn**	**21 54 08.6**	**-0.1**
	40nm,0.3s,baz=51,slow=9.3,SNR=1239						
MJAR				S	**Sn**	**21 54 24.4**	**-6.9**
	49nm,0.3s,baz=95,slow=16,SNR=32						
MJAR				LR	LR	21 54 53.3	
	comp=Z,474nm,21.6s,baz=105,slow=40						
MAJO	**Matsushiro**	**1.89**	**273**	*e*Pn	**Pn**	**21 54 10.0**	**+1.4**
MAJO				*e*Sn	**Sn**	**21 54 25.4**	**-6.0**
MAJO	**Matsushiro**	**1.89**	**273**	*i* P	**Pn**	**21 54 10.1**	**+1.4**
MAT	**Matsushiro**	**1.89**	**273**	P	**Pn**	**21 54 09.8**	**+1.1**
MAT				*e*S	**Sn**	**21 54 34.0**	**+2.6**
MJB9	**Matsu-Tunnel**	**1.89**	**274**	*e*Pn	**Pn**	**21 54 10.3**	**+1.6**
MJB9				*e*Sn	**Sn**	**21 54 25.3**	**-6.2**
INU	**Inuyama**	**3.07**	**250**	*e*Pn	**Pn**	**21 54 26.6**	**+1.7**
INU				*e*Sn	**Sn**	**21 54 58.5**	**-1.8**
JHJ	**Hachijo jima 2**	**3.38**	**191**	P	**Pn**	**21 54 30.3**	**+1.1**
	97nm,0.3s,baz=303,slow=21,SNR=23						
JHJ				S	**Sn**	**21 55 07.3**	**-0.7**
	156nm,0.3s,baz=80,slow=23,SNR=7.1						
JHJ2	**Mitsune**	**3.39**	**190**	*e*Pn	**Pn**	**21 54 30.6**	**+1.4**
JHJ2				*e*Sn	**Sn**	**21 55 09.0**	**+0.9**
ERM	**Erimo**	**5.91**	**19**	*e*Pn	**Pn**	**21 55 03.5**	**-0.3**
ERM				*e*Sn	**Sn**	**21 56 06.2**	**-3.9**
ERM	**Erimo**	**5.91**	**19**	*i* P	**Pn**	**21 55 02.8**	**-1.0**
ASAJ	**Asahikawa**	**7.81**	**11**	P	**Pn**	**21 55 28.0**	**-1.8**
	4.7nm,0.3s,baz=234,slow=10.0,SNR=30						
ASAJ				S	**Sn**	**21 56 56.0**	**-0.8**
	3.2nm,0.3s,baz=46,slow=17,SNR=3.8						
ASAJ				LR	LR	21 59 24.1	
	comp=Z,58nm,20.3s,baz=158,slow=44						
JNU	**Nakatsue**	**6.62**	**250**	P	**Pn**	**21 55 41.4**	**+0.5**
	0.6nm,0.3s,baz=55,slow=17,SNR=3.2						
JNU				LR	LR	21 59 09.5	
	comp=Z,129nm,21.6s,baz=22,slow=38						
TEY	**Ternei**	**9.08**	**342**	*e*P	Pn	21 55 38.3	-8.8
CBIJ	**Chichi jima**	**9.43**	**171**	*e*Pn	**Pn**	**21 55 49.7**	**-2.3**
CBIJ				*e*Sn	Sn	21 57 26.1	-11
JCJ	**Chichijima**	**9.43**	**171**	P	**Pn**	**21 55 49.7**	**-2.3**
	24nm,0.3s,baz=310,slow=22,SNR=19						
JCJ				S	Sn	21 57 26.1	-11
	9.6nm,0.3s,baz=253,slow=19,SNR=4.4						
USA0B	**Ussuriysk Arra**	**10.12**	**322**	*e*Pn	**Pn**	**21 56 03.8**	**+2.4**
USA0B				*e*Sn	**Sn**	**21 57 48.6**	**-4.7**
USRK	**Ussuriysk Ar.**	**10.12**	**322**	P	**Pn**	**21 56 01.8**	**+0.4**
	0.9nm,0.3s,baz=148,slow=14,SNR=22						
USRK				LR	LR	22 00 00.4	
	comp=Z,99nm,18.1s,baz=137,slow=38						
KSRS	**Korea Array**	**10.15**	**279**	P	**Pn**	**21 56 05.6**	**+3.8**
	0.9nm,0.3s,baz=94,slow=14,SNR=34						
KSRS				LR	LR	21 59 49.8	
	comp=Z,125nm,20.0s,baz=69,slow=36						
KS15	**Wonju Array Si**	**10.18**	**279**	*e*Pn	**Pn**	**21 56 03.3**	**+1.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**10.62**	**8**	*e*P	**Pn**	**21 56 09.8**	**+1.6**
MDJ	**Mudanjiang**	**11.65**	**318**	P	**Pn**	**21 56 21.4**	**-0.8**
MDJ				sP		21 56 41.8	
MDJ				ScP	**ScP**	**22 05 35.6**	**-0.8**
MDJ				PcS	**PcS**	**22 05 43.8**	**+1.5**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ				LR	LR		
	comp=N,210nm,3.8s						
MDJ				LR	LR		
	comp=E,210nm,3.9s						
MDJ	**Mudanjiang**	**11.65**	**318**	*e*Pn	Pn	21 56 27.4	+5.1
CN2	**Changchun**	**13.68**	**307**	*e*P	**P**	**21 56 57.3**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KLR	**Kul'dur**	**14.29**	**336**	P	**Pn**	**21 56 57.9**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=157,slow=7.2,SNR=11						
KLR				LR	LR	22 02 13.9	
	comp=Z,50nm,19.9s,baz=144,slow=36						
NKL	**Nikolayevsk**	**16.70**	**0**	*e*P	**Pn**	**21 57 28.6**	**-0.2**
NJ2	**Nanjing**	**18.45**	**263**	*e*P	**P**	**21 57 49.5**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
TIA	**Tai'an**	**18.87**	**276**	P	**P**	**21 57 54.0**	**-0.4**
TIA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI	**Beijing**	**19.46**	**288**	⇑*e*P	**P**	**21 58 00.5**	**-0.3**
BJI				pmax	pmax		
	comp=Z,12nm,0.5s						
PETK	**Petropavlovsk-**	**20.54**	**30**	P	**P**	**21 58 13.2**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=223,slow=5.9,SNR=5.8						
PETK				LR	LR	22 06 42.0	
	comp=Z,28nm,19.4s,baz=192,slow=38						
PEA1	**Petropavlovsk-**	**20.54**	**30**	*e*P	**P**	**21 58 13.2**	**+0.8**
HHC	**Hu-ho-hao-te**	**23.00**	**290**	*e*P	**P**	**21 58 39.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,70nm,4.5s						
MA2	**Magadan**	**24.07**	**13**	*e*P	**P**	**21 58 49.3**	**+0.6**
	comp=Z,14nm,0.7s						
MA2	**Magadan**	**24.07**	**13**	P	**P**	**21 58 49.1**	**+0.4**
	comp=Z,11nm,0.6s,baz=196,slow=9.8,SNR=16						
MA2				LR	LR	22 08 20.6	
	comp=Z,26nm,21.2s,baz=260,slow=37						
XAN	**Xi'an**	**25.88**	**274**	P	**P**	**21 59 05.0**	**-0.4**
XAN				pmax	pmax		
	comp=Z,12nm,0.5s						
XAN				pmax	pmax		
	comp=Z,74nm,3.5s						
YAK	**Yakutsk**	**26.49**	**349**	*e*P	**P**	**21 59 09.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,104nm,1.0s						
YAK				pmax	pmax		
	comp=N,44nm,1.1s						
YAK				pmax	pmax		
	comp=E,16nm,1.2s						
ENH	**Enshi**	**26.59**	**266**	*e*P	**P**	**21 59 11.3**	**-0.5**
	comp=E,19nm,0.6s						
ULN	**Ulaanbaatar**	**27.11**	**305**	*e*P	**P**	**21 59 16.3**	**-0.2**
	comp=E,3.8nm,0.6s						
ULN	**Ulaanbaatar**	**27.11**	**305**	*ce*P	**P**	**21 59 15.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
SEY	**Seymchan**	**27.50**	**12**	P	**P**	**21 59 19.5**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=212,slow=7.6,SNR=26						
SONA0	**Songino Array**	**27.54**	**305**	*e*P	**P**	**21 59 19.6**	**-0.7**
SONA0				*e*PcP	**PcP**	**22 02 35.8**	**-1.2**
SONM	**Songino Array**	**27.54**	**305**	P	**P**	**21 59 19.6**	**-0.7**
	comp=Z,4.4nm,0.7s,baz=104,slow=9.0,SNR=34						
SONM				PcP	**PcP**	**22 02 35.8**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=70,slow=1.7,SNR=4.4						
SONM				LR	LR	22 10 01.7	
	comp=Z,43nm,19.3s,baz=118,slow=36						
BOD	**Bodaibo**	**27.66**	**329**	⇓*i*P	**P**	**21 59 20.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,620nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**28.46**	**119**	T	T	22 29 27.5	
	baz=312,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.47**	**119**	T	T	22 29 27.5	
	baz=312,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.48**	**119**	T	T	22 29 23.8	
	baz=312,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	22 30 11.0	
	baz=314,slow=75						
H11S3	**WAKE ISLAND Hy**	**29.14**	**121**	T	T	22 30 22.6	
	baz=314,slow=75						
H11S2	**WAKE ISLAND Hy**	**29.16**	**121**	T	T	22 30 18.6	
	baz=314,slow=75						
LZH	**Lanzhou**	**29.48**	**280**	*e*P	**P**	**21 59 40.0**	**+2.3**
LZH				pP	sP	21 59 56.3	-2.1
LZH				sP	pP	22 00 02.3	+10
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
TLY	**Talaya**	**30.19**	**312**	*e*P	**P**	**21 59 43.2**	**-0.5**
	comp=Z,2.0nm,0.8s						
TLY	**Talaya**	**30.19**	**312**	*i* P	**P**	**21 59 43.1**	**-0.6**
CD2	**Chengdu**	**30.

NVS pmax pmax
comp=E,7.0nm,0.6s
NVS pmax pmax
comp=Z,9.0nm,0.6s
NRIK Noril'sk 43.51 336 P **P 22 01 35.4 -0.9**
comp=Z,3.1nm,0.4s,baz=77,slow=4.1,SNR=5.5
MK01 Makanchi Array 43.84 302 *eP* **P 22 01 39.1 -0.2**
MK31 Makanchi Array 43.84 302 *eP* **P 22 01 39.3 0.0**
comp=Z,4.8nm,0.7s
MK31 Makanchi Array 43.84 302 *eP* **P 22 01 39.3 0.0**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MK32 Makanchi Array 43.84 302 *eP* **P 22 01 39.7 +0.4**
MK32 *e*PP **PP 22 03 23.3 +1.2**
MKAR Makanchi Array 43.84 302 P **P 22 01 39.7 +0.4**
comp=Z,6.4nm,0.8s,baz=90,slow=10.0,SNR=66
MKAR PcP **PP 22 03 23.3 +1.2**
comp=Z,0.8nm,0.8s,baz=74,slow=5.1,SNR=2.4
MKAR LR LR 22 20 22.5
comp=Z,35nm,19.5s,baz=92,slow=37
MAKZ Makanchi 44.05 303 *eP* **P 22 01 41.5 +0.5**
comp=Z,6.2nm,0.9s
MAKZ Makanchi 44.05 303 *eP* **P 22 01 41.5 +0.5**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 45.74 308 *eP* **P 22 01 54.0 -0.3**
comp=Z,8.9nm,0.8s
KURK Kurchatov 45.74 308*ceP* **P 22 01 54.1 -0.3**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURBB Kurchatov Arra 45.81 308 P **P 22 01 54.6 -0.3**
comp=Z,5.8nm,0.5s,baz=81,slow=7.7,SNR=30
RAMN Ramite 46.35 274 *eP* **P 22 02 00.0 +0.2**
comp=Z,58nm,0.7s
JIRN Jiri 46.38 275 *eP* **P 22 02 00.7 +0.6**
comp=Z,61nm,0.7s
GUN Gumba 46.52 276 *eP* **P 22 02 01.6 +0.4**
comp=Z,28nm,0.5s
PKI Pulchoki 47.04 276 *eP* **P 22 02 05.2 -0.1**
comp=Z,22nm,0.7s
PKIN Phulchoki 47.05 276 *eP* **P 22 02 05.2 0.0**
comp=Z,15nm,0.7s
KKN Kakani 47.05 276 *eP* **P 22 02 05.3 +0.1**
comp=Z,31nm,0.8s
PRZ Przheval'sk 47.41 297 *eP* **P 22 02 09.0 +1.2**
comp=Z,7.6nm,0.8s
PRZ Przheval'sk 47.41 297 *eP* **P 22 02 09.0 +1.2**
PRZ pmax pmax
comp=Z,8.0nm,0.8s
GKN Gorkha 47.48 276 *eP* **P 22 02 08.7 +0.3**
comp=Z,61nm,0.7s
KDAK Kodiak Island 48.00 42 *eP* **P 22 02 10.1 -1.7**
comp=Z,24nm,1.2s
KDAK Kodiak Island 48.00 42 *i* P **P 22 02 12.8 +1.0**
KDAK Kodiak Island 48.00 42 P **P 22 02 10.1 -1.7**
comp=Z,5.7nm,0.8s,baz=256,slow=6.5,SNR=6.5
DANN Dangsing 48.03 277 *eP* **P 22 02 13.4 +0.5**
comp=Z,101nm,0.7s
TARG Taragay, Kyrgy 48.03 297 *eP* **P 22 02 13.9 +1.0**
comp=Z,6.9nm,0.8s
KDJ Kajisay 48.38 297 *eP* **P 22 02 17.1 +1.8**
comp=Z,3.4nm,0.6s
KDJ Kajisay 48.38 297 *eP* **P 22 02 17.1 +1.8**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
KOLN Koldanda 48.41 277 *eP* **P 22 02 15.9 +0.2**
comp=Z,18nm,0.6s
SOEI Soe 48.45 202 *eP* **P 22 02 16.0 +0.1**
comp=Z,25nm,1.0s
PYUN Piuthan 48.75 277 *eP* **P 22 02 18.7 +0.3**
comp=Z,35nm,0.6s
NRN Naryn 49.42 297 *eP* **P 22 02 24.1 +0.7**
comp=Z,2.8nm,0.5s
NRN Naryn 49.42 297 *eP* **P 22 02 24.1 +0.7**
NRN pmax pmax
comp=Z,3.0nm,0.5s
MDM Murphy Dome 49.78 32 *eP* **P 22 02 27.1 +1.7**
comp=Z,4.9nm,0.8s
KSH Kashi 50.01 294 P **P 22 02 32.0 +4.3**
KSH pP sP 22 02 47.0 -2.0
KSH sP pP 22 02 55.1 +13
KSH pmax pmax
comp=Z,5.0nm,0.8s
AAK Ala-Archa 50.15 299 *eP* **P 22 02 29.3 +0.5**
comp=Z,2.5nm,0.8s
AAK Ala-Archa 50.15 299*ceP* **P 22 02 29.8 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s
COEN Coen 50.20 177 *eP* **P 22 02 30.2 +1.1**
comp=Z,5.2nm,0.9s
HDA Harding Lake 50.35 33 *eP* **P 22 02 30.3 +0.5**
comp=Z,5.0nm,1.0s
ILAR Eielson Array 50.36 32 P **P 22 02 30.2 +0.5**
comp=Z,2.6nm,0.8s,baz=270,slow=6.0,SNR=34
ILB Eielson Array 50.36 32 *eP* **P 22 02 30.6 +0.9**
comp=Z,6.8nm,1.3s
IL1 Eielson Array 50.36 32 *eP* **P 22 02 29.9 +0.1**
BVAR Borovoye Array 50.45 313 P **P 22 02 30.5 -0.1**
comp=Z,1.2nm,0.4s,baz=97,slow=7.9,SNR=18
BVAR PcP **PcP 22 03 48.1 0.0**
comp=Z,1.1nm,0.6s,baz=83,slow=4.9,SNR=2.9
BRVK Borovoye 50.51 313 *i* P **P 22 02 32.0 +0.9**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
PRP Porcupine Dome 50.90 31 *eP* **P 22 02 35.5 +1.5**
comp=Z,4.9nm,1.0s
ARSB Arslanbob 51.62 297 *eP* **P 22 02 41.0 +1.2**
comp=Z,8.1nm,0.7s
SCRK Sand Creek 51.67 33 *eP* **P 22 02 39.1 -0.7**
comp=Z,5.3nm,1.1s
KK31 Karatay Array 52.81 300 *eP* **P 22 02 49.3 +0.8**
comp=Z,8.0nm,1.3s
KK31 Karatay Array 52.81 300 *eP* **P 22 02 49.3 +0.8**
KK31 pmax pmax
comp=Z,8.0nm,1.3s
KKAR Karatay Array 52.81 300 *eP* **P 22 02 49.3 +0.8**
comp=Z,8.0nm,1.3s
KKAR Karatay Array 52.81 300 *eP* **P 22 02 49.3 +0.8**
KKAR pmax pmax
comp=Z,8.0nm,1.3s
GSI Gunungsitoli 52.90 239 *eP* **P 22 02 50.0 +0.6**
comp=Z,30nm,0.5s
BTK Batken 53.59 297 *eP* **P 22 02 54.3 0.0**
comp=Z,2.6nm,0.8s
BTK Batken 53.59 297 *eP* **P 22 02 54.3 0.0**
BTK pmax pmax
comp=Z,3.0nm,0.8s
NIL Nilore 54.14 288 *eP* **P 22 02 59.1 +0.8**
comp=Z,4.6nm,0.7s
NIL Nilore 54.14 288 *eP* **P 22 02 59.1 +0.8**
NIL pmax pmax
comp=Z,5.0nm,0.7s
EPYK Eagle Plains 54.38 29 *eP* **P 22 03 01.4 +1.8**
comp=Z,12nm,0.9s
SVE Sverdlovsk 55.12 319 *eP* **P 22 03 05.0 0.0**
INK Inuvik 55.22 27 *eP* **P 22 03 06.7 +1.1**
comp=Z,4.1nm,0.8s
INK Inuvik 55.22 27 *eP* **P 22 03 06.7 +1.1**
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 55.22 27 P **P 22 03 05.6 +0.1**
comp=Z,3.1nm,0.7s,baz=279,slow=7.6,SNR=7.9
ARU Arti 56.34 319 *eP* **P 22 03 13.2 -0.5**
comp=Z,11nm,0.9s
ARU Arti 56.34 319*c i*P **P 22 03 13.3 -0.5**
ARU 22 05 16.8
ARU S **S 22 11 01.5 +1.8**
ARU SS **SS 22 14 47.7 +1.1**
ARU pmax pmax
comp=Z,10.0nm,0.8s
WRAB Tennant Creek 56.38 187*ceP* **P 22 03 15.1 +0.7**
WRAB pmax pmax
comp=Z,18nm,2.5s
WB2 Warramunga Arr 56.39 187 *eP* **P 22 03 13.4 -1.1**
WR1 Warramunga Arr 56.39 187 *eP* **P 22 03 13.8 -0.7**
comp=Z,6.5nm,0.6s
WRA Warramunga Arr 56.39 187 P **P 22 03 13.8 -0.7**
comp=Z,4.8nm,0.6s,baz=3.0,slow=7.5,SNR=95
KBL Kabul 56.97 291 *eP* **P 22 03 18.7 -0.2**
comp=Z,5.0nm,1.1s
KBL Kabul 56.97 291 *eP* **P 22 03 18.7 -0.2**
KBL pmax pmax
comp=Z,5.0nm,1.1s
HYB Hyderabad 57.49 268 *i* P **P 22 03 23.0 +0.5**
ABKAR Akbulak array 57.78 310 *eP* **P 22 03 23.8 -0.3**
comp=Z,4.7nm,0.6s
AKTO Aktyubinsk 58.55 312 P **P 22 03 28.8 -0.6**
comp=Z,2.5nm,0.7s,baz=87,slow=4.7,SNR=7.6
AS01 Alice Springs 60.12 187 *eP* **P 22 03 40.0 -0.4**
AS31 Alice Springs 60.12 187 *eP* **P 22 03 40.5 0.0**
comp=Z,2.3nm,1.3s
ASAR Alice Springs 60.12 187 P **P 22 03 40.2 -0.3**
comp=Z,2.5nm,0.7s,baz=12,slow=6.5,SNR=25
KIRV Kirov 60.29 323 P **P 22 03 41.2 0.0**
comp=Z,22nm,0.5s,baz=335,slow=1.5,SNR=13
TMCR Tamitsa 62.92 331 *eP* **P 22 03 58.9 0.0**
TMCR pmax pmax
comp=Z,22nm,1.5s
RES Resolute Bay 63.34 14 *eP* **P 22 04 01.5 0.0**
comp=Z,6.0nm,0.8s
RES Resolute Bay 63.34 14 *eP* **P 22 04 01.5 0.0**
RES pmax pmax
comp=Z,6.0nm,0.8s
GEYT Alibeck 63.51 299 P **P 22 04 03.5 +0.2**
comp=Z,2.4nm,0.8s,baz=80,slow=9.2,SNR=5.2
KLMR Klimovskoe 63.88 328 *eP* **P 22 04 03.4 -1.8**
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 63.88 328 *eP* **P 22 04 03.5 -1.8**
KLMR AMP 22 04 05.6
comp=Z,7.0nm,0.6s
ARA0 ARCESS Array S 64.29 339 *eP* **P 22 04 07.7 -0.2**
ARCES ARCESS Array B 64.29 339 P **P 22 04 07.7 -0.2**
comp=Z,5.8nm,0.9s,baz=51,slow=5.3,SNR=15
YKA Yellowknife Ar 64.66 30 P **P 22 04 10.4 +0.1**
comp=Z,1.0nm,0.8s,baz=303,slow=6.9,SNR=17
YKB5 Yellowknife Ar 64.66 30 *eP* **P 22 04 10.4 +0.1**
DAG Danmarks Havn 66.29 355⇑*iP* **P 22 04 20.6 -0.1**
comp=Z,5.6nm,0.6s
DAG Danmarks Havn 66.29 355⇑*iP* **P 22 04 20.6 -0.1**
DAG pmax pmax
comp=Z,4.0nm,0.6s
VRH Novokhopyorsk 67.54 318 *eP* **P 22 04 27.8 -1.2**
VRH pmax pmax
comp=Z,10.0nm,0.6s
STKA Stephens Creek 67.98 179 *eP* **P 22 04 30.8 -1.1**
comp=Z,2.0nm,1.4s
STKA Stephens Creek 67.98 179 P **P 22 04 30.8 -1.1**
comp=Z,0.6nm,0.3s,baz=333,slow=10,SNR=3.1
OBN Obninsk 68.14 323 *eP* **P 22 04 31.7 -1.0**
comp=Z,8.9nm,0.6s
OBN Obninsk 68.14 323⇓*eP* **P 22 04 32.6 -0.1**
OBN *PP **pP 22 04 48.9 +0.7**
OBN pmax pmax
comp=Z,34nm,2.5s
OBN Obninsk 68.14 323 P **P 22 04 31.7 -1.0**
comp=Z,2.1nm,0.5s,baz=202,slow=14,SNR=5.5
LPSR Galich'ya Gora 68.30 320 *eP* **P 22 04 33.5 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 68.91 319 *eP* **P 22 04 36.6 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.8s
FIA1 FINESS Array S 69.00 332 *eP* **P 22 04 37.6 -0.3**
FIA0 FINESS Array S 69.00 332 *eP* **P 22 04 37.9 -0.1**
FIA0 FINESS Array S 69.00 332 *eP* **P 22 04 37.9 -0.1**
FINES FINESS Array B 69.00 332 P **P 22 04 37.9 -0.1**
comp=Z,4.0nm,0.7s,baz=38,slow=8.3,SNR=40
WSAR Wadi Sarin 70.34 285 P **P 22 04 46.8 -0.1**
comp=Z,4.5nm,0.7s,baz=112,slow=1.8,SNR=5.0
KBZ Khabaz 70.75 310 P **P 22 04 49.5 +0.6**
comp=Z,6.2nm,0.8s,baz=36,slow=3.2,SNR=10
SUMG Summit 71.26 360 *eP* **P 22 04 52.5 +0.4**
comp=Z,9.9nm,1.1s
SUMG Summit 71.26 360 *i* P **P 22 04 53.0 +0.9**
comp=Z,6.2nm,0.6s
SUMG Summit 71.26 360 *i* P **P 22 04 53.0 +0.9**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
SCO Scoresbysund 72.62 354 *eP* **P 22 05 00.2 +0.5**
comp=Z,2.9nm,0.7s
SCO Scoresbysund 72.62 354 *i* P **P 22 05 00.8 +1.0**
comp=Z,2.5nm,0.6s
SCO Scoresbysund 72.62 354 *i* P **P 22 05 00.8 +1.0**
SCO pmax pmax
comp=Z,3.0nm,0.6s
WVOR Wild Horse Val 73.40 49 *eP* **P 22 05 05.8 +0.8**
comp=Z,10.0nm,0.8s
WVOR Wild Horse Val 73.40 49 *eP* **P 22 05 05.9 +0.8**
WVOR pmax pmax
comp=Z,10.0nm,0.8s
AKASG Malin Array Be 74.33 322 P **P 22 05 09.7 -0.5**
comp=Z,4.8nm,0.5s,baz=47,slow=6.0,SNR=44
AKASG LR LR 22 39 35.5
comp=Z,30nm,19.6s,baz=205,slow=37
AKBB Malin Array Si 74.33 322 *eP* **P 22 05 09.7 -0.4**
comp=Z,12nm,1.0s
KIEV Kiev 74.34 322 *eP* **P 22 05 09.7 -0.5**
comp=Z,11nm,1.0s
KIEV Kiev 74.34 322⇑*iP* **P 22 05 10.0 -0.2**
KIEV Kiev 74.34 322⇑*iP* **P 22 05 10.0 -0.2**
AK11 Malin Array Si 74.37 322 *eP* **P 22 05 10.2 -0.3**
NC204 NORSAR Array S 74.41 337 *eP* **P 22 05 10.8 +0.2**
comp=Z,30nm,0.9s
NB2 NORSAR Subarra 74.45 337 P **P 22 05 10.3 -0.5**
comp=Z,2.6nm,0.5s,baz=42,slow=5.9
NB200 NORSAR Array S 74.45 337 *eP* **P 22 05 10.7 -0.1**
NOA NORSAR Array B 74.45 337 P **P 22 05 10.7 -0.1**
comp=Z,6.9nm,0.7s,baz=39,slow=5.8,SNR=28
NOA LR LR 22 41 13.3
comp=Z,13nm,19.0s,baz=0.0,slow=38
FFC Flin Flon 74.57 32 *i* P **P 22 05 12.8 +1.3**
NBO00 NORSAR Array S 74.59 337 *eP* **P 22 05 12.2 +0.6**
comp=Z,17nm,1.3s
NV01 Mina Array Sit 75.89 53 *eP* **P 22 05 19.2 -0.5**
NVAR Mina Array Bea 75.89 53 P **P 22 05 19.2 -0.5**
comp=Z,0.9nm,0.6s,baz=276,slow=5.4,SNR=4.3
LKWY Lake 76.97 44 *eP* **P 22 05 28.4 +2.7**
comp=Z,18nm,0.9s
LKWY Lake 76.97 44 *eP* **P 22 05 28.4 +2.7**
LKWY pmax pmax
comp=Z,18nm,0.9s
PRAR RASCA 77.99 321⇑*iP* **P 22 05 30.9 -0.2**
KWP Kalwaria Pacla 78.19 324 *eP* **P 22 05 32.7 +0.6**
comp=Z,152nm,0.8s
KWP Kalwaria Pacla 78.19 324 *eP* **P 22 05 32.7 +0.6**
KWP pmax pmax
comp=Z,152nm,0.8s
BUR08 Bucovina Ar. S 78.32 321 *eP* **P 22 05 33.5 +0.5**
comp=Z,5.2nm,0.8s
BIZ Bicaz 78.33 320⇑*iP* **P 22 05 33.7 +0.8**
TESR Tescani 78.33 320⇑*iP* **P 22 05 33.1 +0.1**
BURAR Bucovina Array 78.33 321⇑*iP* **P 22 05 33.3 +0.2**
BURAR Bucovina Array 78.33 321 ⇑P **P 22 05 33.3 +0.2**
CFR Carcaliu 78.42 318⇓*iP* **P 22 05 33.4 0.0**
CFR Carcaliu 78.42 318 ⇓P **P 22 05 33.4 0.0**
PETR Petresti 78.54 319⇑*iP* **P 22 05 35.2 +1.1**
PD31 Pinedale Array 78.57 45 *eP* **P 22 05 34.8 +0.1**
comp=Z,4.6nm,1.5s
PDAR Pinedale Array 78.57 45 P **P 22 05 34.8 +0.1**
comp=Z,0.5nm,0.6s,baz=249,slow=2.5,SNR=2.8
ODBI Odobesti 78.61 319⇑*iP* **P 22 05 35.2 +0.7**
BR101 Keskin Array S 78.71 311 *eP* **P 22 05 35.5 +0.1**
BR131 Keskin Array S 78.71 311 *eP* **P 22 05 35.9 +0.5**
comp=Z,9.9nm,1.4s
BRTR Keskin Array B 78.71 311 P **P 22 05 35.5 +0.1**
comp=Z,2.0nm,0.7s,baz=126,slow=4.9,SNR=13
VRI Vrincioaia 78.72 319⇓*iP* **P 22 05 36.0 +0.9**
VRI Vrincioaia 78.72 319 ⇓P **P 22 05 36.0 +0.9**
PLOR Plostina 78.77 319⇑*iP* **P 22 05 36.4 +1.0**
PLOR Plostina 78.77 319 ⇑P **P 22 05 36.4 +1.0**
TLB Topalu 78.85 318⇓*iP* **P 22 05 35.9 +0.1**
TLB Topalu 78.85 318 ⇓P **P 22 05 35.9 +0.1**
OZUR 79.06 320⇑*iP* **P 22 05 37.8 +0.8**
BMR Baia Mare 79.15 322⇑*iP* **P 22 05 38.4 +1.0**
BMR Baia Mare 79.15 322 ⇑P **P 22 05 38.4 +1.0**
PGOR Pogoanele 79.21 318⇓*iP* **P 22 05 39.2 +1.4**
ICOR Ion Corvin 79.29 317⇑*iP* **P 22 05 39.1 +0.9**
TRPA Tarpa 79.31 323⇓*iP* **P 22 05 39.0 +0.8**
DOPR Dopca 79.35 320⇓*iP* **P 22 05 39.9 +1.3**
MLR Muntele Rosu 79.38 319⇓*iP* **P 22 05 40.2 +1.3**
MLR Muntele Rosu 79.38 319 ⇓P **P 22 05 40.2 +1.3**
VOIR 79.88 320⇓*iP* **P 22 05 42.7 +1.2**
VOIR 79.88 320 ⇓P **P 22 05 42.7 +1.2**
ARR Arges 80.14 320⇓*iP* **P 22 05 44.0 +1.1**
DRGR 80.15 322⇓*iP* **P 22 05 43.1 +0.2**
DRGR 80.15 322 ⇓P **P 22 05 43.1 +0.2**
RAYN Ar Rayn 80.23 292 *eP* **P 22 05 44.1 +0.4**
comp=Z,6.1nm,0.9s
RAYN Ar Rayn 80.23 292 *eP* **P 22 05 44.1 +0.4**
RAYN pmax pmax
comp=Z,6.0nm,0.9s
MORC Moravsky Berou 80.46 327 *eP* **P 22 05 45.0 +0.5**
comp=Z,4.9nm,1.0s
MORC Moravsky Berou 80.46 327⇑*iP* **P 22 05 45.2 +0.7**
MORC Moravsky Berou 80.46 327 ⇑P **P 22 05 45.2 +0.7**
MORC Moravsky Berou 80.46 327 *eP* **P 22 05 44.8 +0.3**
DPC Dobruska-Polom 80.58 328 *eP* **P 22 05 45.8 +0.7**
DPC Dobruska-Polom 80.58 328 *eP* **P 22 05 45.8 +0.7**
UPC Upice 80.59 328 *eP* **P 22 05 45.7 +0.5**
UPC Upice 80.59 328 *eP* **P 22 05 45.7 +0.5**
PSZ Piszkesteto 80.72 324 *eP* **P 22 05 46.8 +0.8**
comp=Z,8.9nm,1.1s
PSZ Piszkesteto 80.72 324⇑*iP* **P 22 05 46.6 +0.6**
PSZ Piszkesteto 80.72 324 ⇑P **P 22 05 46.6 +0.6**
VYHS Vyhne 80.80 325 *eP* **P 22 05 46.9 +0.5**
VYHS pmax pmax
comp=Z,2.0nm,0.7s
VYHS Vyhne 80.80 325 *eP* **P 22 05 46.9 +0.5**
GZR Gura Zlata 81.08 321⇑*iP* **P 22 05 48.1 +0.2**
GZR Gura Zlata 81.08 321 ⇑P **P 22 05 48.1 +0.2**
PVCC Panska Ves 81.19 328 *eP* **P 22 05 48.7 +0.3**
PVCC Panska Ves 81.19 328 *eP* **P 22 05 48.7 +0.3**
BRG Berggiesshubel 81.19 329 *eP* **P 22 05 48.3 0.0**
comp=Z,7.3nm,1.0s
BRG Berggiesshubel 81.19 329 *eP* **P 22 05 48.3 0.0**
BRG pmax pmax
comp=Z,7.0nm,1.0s
VRAC Vranov 81.23 327⇓*iP* **P 22 05 49.2 +0.6**
VRAC Vranov 81.23 327 ⇓P **P 22 05 49.2 +0.6**
VRAC Vranov 81.23 327 *eP* **P 22 05 48.9 +0.3**
CLL Collm 81.25 330 *eP* **P 22 05 48.5 -0.2**
comp=Z,10nm,0.8s
CLL Collm 81.25 330 *i* P **P 22 05 48.4 -0.2**
comp=Z,11nm,0.8s
CLL Collm 81.25 330 *i* P **P 22 05 48.4 -0.2**
CLL pmax pmax
comp=Z,11nm,0.8s
KRUC Moravsky 81.50 327 *eP* **P 22 05 50.1 +0.1**
BZS Buzias 81.51 322⇓*iP* **P 22 05 49.8 -0.3**
BZS Buzias 81.51 322 ⇓P **P 22 05 49.8 -0.3**
GOPC GO Pecny, Ondr 81.56 328 *eP* **P 22 05 50.7 +0.3**
GOPC GO Pecny, Ondr 81.56 328 *eP* **P 22 05 50.7 +0.3**
MODS Modra-Piesok 81.61 326 *eP* **P 22 05 51.8 +1.2**
MODS Modra-Piesok 81.61 326 *eP* **P 22 05 51.8 +1.2**
PRU Pruhonice 81.61 328 *eP* **P 22 05 51.0 +0.4**
PRU Pruhonice 81.61 328 *eP* **P 22 05 51.0 +0.4**
PV20 West Nyswonger 81.75 48 *eP* **P 22 05 54.0 +2.2**
comp=Z,31nm,0.9s
NKC Novy Kostel 82.30 329 *eP* **P 22 05 54.8 +0.6**
NKC Novy Kostel 82.30 329 *eP* **P 22 05 54.8 +0.6**
CONA Conrad Observa 82.58 326 *eP* **P 22 05 56.6 +0.8**
comp=Z,3.7nm,0.9s
KHC Kasperske Hory 82.67 328 *eP* **P 22 05 56.5 +0.3**
KHC Kasperske Hory 82.67 328 *eP* **P 22 05 56.5 +0.3**
VTS Vitosha 82.79 319 *eP* **P 22 05 57.8 +0.7**
comp=Z,4.6nm,0.8s
VTS Vitosha 82.79 319⇑*iP* **P 22 05 58.2 +1.1**
VTS Vitosha 82.79 319 ⇑P **P 22 05 58.2 +1.1**
GEC2 GERESS Array S 82.83 328 *eP* **P 22 05 56.6 -0.5**
comp=Z,2.7nm,0.6s
GEC2 GERESS Array S 82.83 328 *eP* **P 22 05 56.6 -0.5**
GEC2 pmax pmax
comp=Z,3.0nm,0.6s
GERES GERESS Array B 82.83 328 P **P 22 05 56.6 -0.5**
comp=Z,1.7nm,0.4s,baz=38,slow=6.2,SNR=22
GEA0 GERESS Array S 82.84 328 *eP* **P 22 05 56.9 -0.3**
ARSA Arzberg 83.23 326 *eP* **P 22 05 58.7 -0.4**
comp=Z,3.3nm,1.0s
SOKA Soboth 83.89 326 *eP* **P 22 06 02.8 +0.2**
comp=Z,7.4nm,0.9s
KBA Koelnbreinsper 84.34 327 *eP* **P 22 06 04.7 -0.3**
comp=Z,8.1nm,1.1s
MYKA Terra Mystica 84.55 326 *eP* **P 22 06 04.5 -1.4**
comp=Z,2.6nm,0.6s
WATA Walderalm 84.91 328 *e*PcP **P 22 06 08.2 +0.4**
comp=Z,1.6nm,0.5s
LIT Litokhoron 84.91 317 *eP* **P 22 06 08.0 +0.2**
comp=Z,13nm,0.8s
LIT Litokhoron 84.91 317 *eP* **P 22 06 08.0 +0.2**
LIT pmax pmax
comp=Z,13nm,0.8s
BCLA Clavier 84.93 333 ⇓P **P 22 06 07.4 -0.2**
MOTA Moosalm 85.10 328 *eP* **P 22 06 08.5 -0.3**
comp=Z,0.5nm,0.4s
RETA Reutte 85.14 328 *eP* **P 22 06 08.9 +0.1**
comp=Z,5.6nm,0.7s
SQTA Sankt Quirin 85.15 328 *eP* **P 22 06 08.9 -0.1**
comp=Z,2.6nm,0.7s
ANMO Albuquerque 85.49 49*ceP* **P 22 06 13.8 +2.8**
ANMO pmax pmax
comp=Z,5.0nm,2.5s
FUORN Ofenpass-Fuorn 86.03 328 *eP* **P 22 06 13.8 +0.3**
comp=Z,16nm,1.3s
TXAR Lajitas Array 91.03 52 P **P 22 06 38.1 +0.7**
comp=Z,0.8nm,0.7s,baz=298,slow=3.2,SNR=7.1
TRQ Mont Tremblant 91.85 24 *eP* **P 22 06 39.3 -1.5**
PVMO Portageville 93.80 38 *eP* **P 22 06 51.2 +1.3**
comp=Z,260nm,0.4s
BRYW Bryant College 96.67 24 *eP* **P 22 07 00.7 -2.2**
comp=Z,26nm,0.5s
TOA1 Torodi Ar. Sit 117.24 314 *e*PKPdf **PKPdf 22 12 15.8 -2.6**
TORD Torodi Ar. Bea 117.24 314 PKP **PKPdf 22 12 15.8 -2.6**
comp=Z,0.4nm,0.8s,baz=31,slow=1.8,SNR=3.5
LPAZ La Paz 147.59 59 PKPbc **PKPdf 22 13 15.4 +0.1**
comp=Z,0.9nm,0.6s,baz=314,slow=3.4,SNR=5.5

SOME ***17*** *22:03:23.9, 40.23N×77.48E, h5km*
KRNET ***17*** *22:03:23.6±0.1, 40.23N×77.39E, h6km, mb3.4*
NNC ***17*** *22:03:26.8±0.9, 40.33N×77.47E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=6.3km s-min=5.9km az=147.0

ISC 17 22:03:26.7±1.9,**40.29N**±0.09×**77.38E**±0.04,**h10**km,**n68,**
σ1²**69**/101,**23C-24D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=12	**1.47**	**12**	⇑*iP*		**Pn**	**22 03 52.3**	**-1.3**
TARG				⇑*iS*		**Sg**	**22 04 13.7**	**-0.3**
NRN	**Naryn** baz=18	**1.55**	**318**	⇑*iP*		**Pn**	**22 03 53.6**	**-1.0**
NRN				⇑*iS*		**Sb**	**22 04 15.6**	**+0.2**
KDJ	**Kajisay** baz=56	**1.84**	**355**	⇓*iP*		**Pb**	**22 03 59.4**	**-1.1**
KDJ				⇓*iS*		**Sg**	**22 04 25.2**	**-0.7**
ULHL	**Ulahol** SNR=30	**2.13**	**337**	P		**Pb**	**22 04 04.5**	**-1.0**
ULHL	**Ulahol** baz=37	**2.13**	**337**	⇑*iP*		**Pb**	**22 04 03.7**	**-1.8**
ULHL				⇑*iS*		**Sb**	**22 04 32.5**	**+0.4**
KZA	**Kyzart** SNR=22	**2.40**	**319**	P		**Pb**	**22 04 08.7**	**-1.6**
KZA	**Kyzart** baz=20	**2.40**	**319**	⇑*iP*		**Pn**	**22 04 07.5**	**+1.1**
KZA				⇑*iS*		**Sb**	**22 04 39.0**	**-1.1**
BOOM	**Boomskoye usch** baz=35	**2.45**	**334**	⇓*iP*		**Pn**	**22 04 07.8**	**+0.9**
BOOM				⇓*iS*		**Sb**	**22 04 40.5**	**-0.7**
TNSS	**Tian-Shan** 102nm,0.6s	**2.76**	**353**	Pg		**Pb**	**22 04 16.5**	**+0.2**
TNSS				Lg		Lg	22 04 55.3	
TNSS	**Tian-Shan** 102nm,0.6s	**2.76**	**353**	*eP*		**Pb**	**22 04 16.5**	**+0.2**
TNSS				⇓*iS*		**Sg**	**22 04 55.3**	**-0.1**
ARLS	**Aral** baz=6.0	**2.79**	**305**	⇓*iP*		**Pn**	**22 04 12.3**	**+0.7**
ARLS				⇓*iS*		**Sn**	**22 04 47.4**	**+2.0**
IZV	**Izvestkoviy** 148nm,0.2s	**2.80**	**348**	Pg		**Pb**	**22 04 16.7**	**-0.1**
IZV				Lg		Lg	22 04 55.9	
IZV	**Izvestkoviy** 148nm,0.2s	**2.80**	**348**	*eP*		**Pb**	**22 04 16.7**	**-0.1**
IZV				*eS*		**Sg**	**22 04 55.9**	**-0.7**
SATY	**Saty** 47nm,0.3s	**2.87**	**15**	Pg		**Pb**	**22 04 17.9**	**-0.1**

SATY Lg Lg 22 04 57.4
99nm,0.5s
SATY Saty 2.87 15 *e*P Pb 22 04 17.9 -0.1
47nm,0.3s
SATY ⇓*i*S Sg **22 04 57.4 -1.4**
99nm,0.5s
MDOK Medeo 2.88 355 ⇓Pn Pn **22 04 14.7 +1.9**
MDOK ⇑Lg Lg 22 04 58.0
MDOK Medeo 2.88 355 Pg Pb **22 04 17.9 -0.3**
35nm,0.4s
MDOK Lg Lg 22 04 58.2
60nm,0.5s
MDOK Medeo 2.88 355 *e*P Pb **22 04 17.9 -0.3**
35nm,0.4s
MDOK *e*S Sg **22 04 57.5 -1.6**
60nm,0.5s
UCH Uchtor 2.90 313 P Pb **22 04 15.7 -3.0**
SNR=8.9
UCH Uchtor 2.90 313 ⇑*i*P Pn **22 04 14.0 +0.7**
baz=14
UCH ⇑*i*S Sn **22 04 50.8 +2.3**
baz=14
MTBS Maitube 2.92 346 Pg Pb **22 04 18.8 -0.1**
13nm,0.4s
MTBS Lg Lg 22 04 59.4
67nm,0.5s
MTBS Maitube 2.92 346 *e*P Pb **22 04 18.9 -0.1**
13nm,0.4s
MTBS *e*S Sg **22 04 59.4 -1.1**
67nm,0.5s
AAA Alma-Ata 2.93 353 Pg Pb **22 04 19.9 +0.8**
60nm,0.4s
AAA Lg Lg 22 05 00.9
92nm,0.4s
AAA Alma-Ata 2.93 353 *e*P Pb **22 04 19.9 +0.8**
60nm,0.4s
AAA *e*S Sg **22 05 00.9 0.0**
92nm,0.4s
KNDC Almaty 2.94 354 ⇑Pn Pb **22 04 15.7 -3.5**
KNDC ⇑Lg Lg 22 04 59.8
KOTS Kotyrbulak 2.94 356 Pg Pb **22 04 19.6 +0.3**
41nm,0.4s
KOTS Lg Lg 22 05 00.5
118nm,0.4s
KOTS Kotyrbulak 2.94 356 *e*P Pb **22 04 19.6 +0.3**
41nm,0.4s
KOTS *e*S Sg **22 05 00.5 -0.8**
118nm,0.4s
KST Kastek 2.95 339 Pg Pb **22 04 19.1 -0.2**
14nm,0.5s
KST Lg Lg 22 05 00.1
50nm,0.6s
KST Kastek 2.95 339 *e*P Pb **22 04 19.1 -0.2**
14nm,0.5s
KST *e*S Sg **22 05 00.1 -1.2**
50nm,0.6s
TKM2 Tokmak 2 2.95 334 P Pb **22 04 16.2 -3.2**
SNR=6.0
TKM2 Tokmak 2 2.95 334 ⇑Pn Pn **22 04 16.0 +2.2**
8.2nm,0.5s
TKM2 ⇑Lg Lg 22 04 59.8
44nm,1.1s
TKM2 Tokmak 2 2.95 334 ⇓*i*P Pn **22 04 14.7 +1.0**
baz=34
TKM2 ⇓*e*S Sn **22 04 52.0 +2.7**
baz=34
KBK Karagaybulak 2.99 323 P Pb **22 04 19.9 -0.2**
SNR=10
KBK Karagaybulak 2.99 323 ⇑*i*P Pn **22 04 15.1 +0.8**
baz=24
KBK ⇑*i*S Sn **22 04 52.8 +2.6**
baz=24
UZB Uzynbulak 3.10 23 Pg Pb **22 04 21.3 -0.7**
8.2nm,0.5s
UZB Lg Lg 22 05 04.3
21nm,0.6s
UZB Uzynbulak 3.10 23 *e*P Pb **22 04 21.3 -0.7**
8.2nm,0.5s
UZB *e*S Sg **22 05 03.2 -3.2**
21nm,0.6s
DGS Degeres 3.18 338 Pg Pb **22 04 23.5 +0.1**
0.3nm,0.3s
DGS Lg Lg 22 05 07.5
49nm,0.5s
DGS Degeres 3.18 338 *e*P Pb **22 04 23.5 +0.1**
0.3nm,0.3s
DGS *e*S Sg **22 05 07.5 -1.3**
49nm,0.5s
AAK Ala-Archa 3.19 318 P Pn **22 04 19.8 +2.8**
SNR=6.0
AAK Ala-Archa 3.19 318 ⇓Pg Pb **22 04 25.4 +1.8**
10.0nm,0.6s
AAK ⇓Lg Lg 22 05 07.4
28nm,0.8s
AAK Ala-Archa 3.19 318 ⇓*e*P Pn **22 04 18.0 +0.9**
baz=19
AAK ⇓*i*S Sn **22 04 57.6 +2.3**
baz=19
KURS Kuram 3.25 10 Pg Pb **22 04 24.5 +0.1**
14nm,0.5s
KURS Lg Lg 22 05 09.5
21nm,0.8s
KURS Kuram 3.25 10 *e*P Pb **22 04 24.5 +0.1**
14nm,0.5s
KURS *e*S Sg **22 05 08.9 -2.0**
21nm,0.8s
FRU1 Bishkek 3.25 321 ⇓*e*P Pn **22 04 18.7 +0.9**
baz=22
FRU1 ⇓*i*S Sn **22 04 59.2 +2.6**
baz=22
AML Almayashu 3.33 305 P Pn **22 04 22.1 +2.9**
SNR=9.8
AML Almayashu 3.33 305 ⇑*i*P Pn **22 04 20.2 +1.0**
baz=6.0
AML ⇑*i*S Sn **22 05 01.2 +2.1**
baz=6.0
CHMS Chumysh 3.34 325 P Sg **22 05 11.5 -2.6**
SNR=7.9
CHMS Chumysh 3.34 325 ⇓*e*P Pn **22 04 20.1 +1.1**
baz=25
CHMS ⇓*i*S Sn **22 05 01.4 +2.5**
baz=25
PDGK Podgornoye 3.42 27 Pg Pb **22 04 26.8 -0.6**
8.1nm,0.4s
PDGK Lg Lg 22 05 13.1
25nm,0.5s
PDGK Podgornoye 3.42 27 ⇑Pn Pn **22 04 21.0 +0.8**
13nm,0.6s
PDGK ⇓Lg Lg 22 05 12.4
45nm,0.6s
PDGK Podgornoye 3.42 27 ⇑*i*P Pn **22 04 20.9 +0.8**
baz=26
PDGK ⇑*i*S Sn **22 05 03.1 +2.3**
baz=26
KTBS Karatobe 3.46 352 Pg Pb **22 04 28.5 +0.5**
7.0nm,0.4s
KTBS Lg Lg 22 05 16.1
55nm,0.5s
KTBS Karatobe 3.46 352 *e*P Pb **22 04 28.5 +0.5**
7.0nm,0.4s
KTBS *e*S Sg **22 05 16.1 -1.5**
55nm,0.5s
EKS2 Erkin-Say 3.60 312 ⇓*i*P Pn **22 04 23.7 +1.1**
baz=13
EKS2 ⇓*i*S Sn **22 05 07.6 +2.4**
baz=13
USP Ospenovka 3.67 325 P Pb **22 04 31.5 -0.2**
SNR=8.6
KUU Kurty 3.68 348 Pg Pb **22 04 31.8 0.0**
5.4nm,0.4s
KUU Lg Lg 22 05 21.8
29nm,0.5s
KUU Kurty 3.68 348 *e*P Pb **22 04 31.8 0.0**
5.4nm,0.4s
KUU *e*S Sg **22 05 21.8 -3.0**
29nm,0.5s
MNBS Baschi 3.86 11 Pg Pb **22 04 35.1 +0.2**
4.8nm,0.5s
MNBS Lg Lg 22 05 27.4
20nm,0.3s
MNBS Baschi 3.86 11 *e*P Pb **22 04 35.1 +0.2**
4.8nm,0.5s
MNBS *e*S Sg **22 05 27.4 -3.1**
20nm,0.3s
ARXS Arharly 3.93 5 Pg Pb **22 04 37.1 +1.0**
7.8nm,0.4s
ARXS Lg Lg 22 05 30.8
32nm,0.6s
ARXS Arharly 3.93 5 *e*P Pb **22 04 37.1 +1.0**
7.8nm,0.4s
ARXS *e*S Sg **22 05 30.8 -2.0**
32nm,0.6s
MRKS Merke 3.97 309 *e*P Pb **22 04 36.7 -0.1**
2.5nm,0.3s
MRKS *e*S Sb **22 05 30.1 +5.3**
9.0nm,0.4s
DJR Jarkent 4.41 23 Pg Pb **22 04 45.3 +1.0**
1.7nm,0.5s
DJR Lg Lg 22 05 45.0
4.5nm,0.5s
DJR Jarkent 4.41 23 *e*P Pb **22 04 45.3 +1.0**
1.7nm,0.5s
DJR *e*S Sg **22 05 45.0 -3.3**
4.5nm,0.5s
KAPS Kapalarasan 5.20 16 Pg Pb **22 05 00.6 +2.9**
4.1nm,0.7s
KAPS Lg Lg 22 06 11.9
4.8nm,0.5s
KAPS Kapalarasan 5.20 16 *e*P Pb **22 05 00.6 +2.9**
4.1nm,0.7s
KAPS *e*S Sg **22 06 11.4 -2.0**
4.8nm,0.5s
KK31 Karatay Array 5.86 301 ⇓Pg Pg **22 05 15.3 -3.6**
0.9nm,0.6s,baz=133,slow=17,SNR=5.3
KK31 ⇓Lg Lg 22 06 32.9
1.9nm,0.6s,baz=113,slow=27,SNR=5.9
MK31 Makanchi Array 7.41 27 ⇑Lg Lg 22 07 21.7
0.7nm,0.6s,baz=198,slow=27,SNR=4.6

*ISCJB **17** 22:18:34.9±0.9, 15°.21N±0°.09×92°.15E±0°.10, h10km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=12.5km az=139.3*
*IDC **17** 22:18:36.1±1.6, 15°.27N×92°.14E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.4/37, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=36.7km s-min=28.5km az=71.0*
ISC 17 22:18:36.5±1.0, **15°.4N**±0°.1×**92°.22E**±0°.08, **h10**km, **n15, σ2$40/16, mb3.5/4, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**7.14**	**63**	Pn	**Pn**		**22 20 22.2**	**+1.2**
	0.2nm,0.3s,baz=248,slow=15,SNR=6.9							
CMAR				Sn	**Sn**		**22 21 38.6**	**-3.6**
	1.4nm,0.3s,baz=250,slow=28,SNR=12							
CHTO	**Chiang Mai**	**7.29**	**61**	P	**Sn**		**22 21 44.0**	**-2.1**
	56nm,0.8s							
CMMT	**Chiang Mai**	**7.29**	**61**	P	**Sn**		**22 21 44.0**	**-2.1**
	13nm,0.8s							
JIRN	**Jiri**	**13.46**	**336**	*e*P	**P**		**22 21 54.1**	**-3.3**
	9.8nm,0.3s							
PKI	**Pulchoki**	**13.70**	**334**	*e*P	**Pn**		**22 21 53.5**	**+2.3**
	6.4nm,0.3s							
GUN	**Gumba**	**13.81**	**336**	*e*P	**P**		**22 21 57.3**	**-3.9**
	9.3nm,0.6s							
PALK	**Pallekele**	**13.85**	**236**	Pn	**Pn**		**22 21 51.2**	**-1.9**
	0.2nm,0.3s,baz=116,slow=9.9,SNR=3.2							
PALK				Sn			22 24 12.8	-14
	0.3nm,0.3s,baz=24,slow=0.1,SNR=5							
DMN	**Daman**	**13.87**	**333**	*e*P	**Pn**		**22 21 54.8**	**+1.4**
	8.1nm,0.4s							
GKN	**Gorkha**	**14.41**	**332**	*e*P	**Pn**		**22 22 02.0**	**+1.2**
	13nm,0.3s							
KOLN	**Koldanda**	**14.71**	**328**	*e*P	**Pn**		**22 22 05.5**	**+0.5**
	8.6nm,0.5s							
DANN	**Dangsing**	**15.12**	**330**	*e*P	**Pn**		**22 22 11.1**	**+0.6**
	9.4nm,0.5s							
MKAR	**Makanchi Array**	**32.42**	**347**	P	**P**		**22 25 08.4**	**+1.8**
	0.6nm,0.9s,baz=156,slow=9.2,SNR=5.5							
SONM	**Songino Array**	**34.44**	**17**	P	**P**		**22 25 26.3**	**+1.9**
	0.4nm,0.6s,baz=198,slow=8.9,SNR=3.4							
ZALV	**Zalesovo Beam**	**38.94**	**353**	P	**P**		**22 26 04.4**	**+2.0**
	0.7nm,0.6s,baz=182,slow=9.7,SNR=4.7							
WRA	**Warramunga Arr**	**54.27**	**129**	P	**P**		**22 28 04.6**	**+1.5**
	0.5nm,0.8s,baz=312,slow=7.9,SNR=3.9							

IDC 17 22:32:52.4±68.0, **20°.49S×177°.98W, h0**km, **mb3.7**/3, **mb1 3.9**/3, **mb1mx3.5**/35, **mbtmp3.7**/3, **MS4.2**/1, **Ms1 4.2**/1, **ms1mx2.8**/34, **Error ellipse: s-maj=1247.0km s-min=173.4km az=83.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAO	**Raoul Island**	**8.73**	**180**	LR	LR		22 37 12.0	
	comp=Z,2μm,21.1s,baz=163,slow=30							
STKA	**Stephens Creek**	**37.81**	**244**	P	P		22 40 10.4	-0.4
	1.1nm,0.5s,baz=90,slow=8.8,SNR=3.3							
ASAR	**Alice Springs**	**44.54**	**257**	P	P		22 41 05.8	-0.6
	0.9nm,0.8s,baz=97,slow=8.1,SNR=6.7							
WRA	**Warramunga Arr**	**44.62**	**262**	P	P		22 41 07.5	+0.5
	0.3nm,0.3s,baz=96,slow=8.3,SNR=8.6							

*SJA **17** 22:56:21.5±0.6, 24°.94S×71°.37W, h10km±5km, ML4.4, MW4.8*
*VAO **17** 22:56:25.8±0.4, 24°.92S×71°.39W, h10km, mb4.8*
*ISCJB **17** 22:56:29.7±0.4, 24°.88S±0°.02×70°.66W±0°.05, h41km±4km, mb4.9/142, MS4.1/14, Error ellipse: s-maj=7.0km s-min=2.8km az=177.3*
*MOS **17** 22:56:29.8±1.5, 25°.01S×70°.76W, h33km, mb5.1/39, Error ellipse: s-maj=12.3km s-min=6.4km az=100.8*
*NEIC **17** 22:56:30.0±0.0, 24°.82S×70°.67W, h44km, mb4.9/134, ML4.4(GUC), After GUC.*
NEIC Felt [III] at Copiapo, Taltal and Tierra Amarilla.
*GUC **17** 22:56:31.0±0.7, 24°.82S×70°.66W, h44km±2km, ML4.4*
*IDC **17** 22:56:32.4±2.5, 24°.92S×70°.57W, h42km±21km, mb4.4/15, mb1 4.5/20, mb1mx4.4/33, mbtmp4.5/20, ML3.9/5, MS4.0/17, Ms1 4.0/17, ms1mx3.9/23, Error ellipse: s-maj=19.3km s-min=12.7km az=67.0*
*BJI **17** 22:56:32.0, 24°.90S×70°.70W, h24km, mB5.1/9, Ms5.2/4, Ms7 4.9/4*
ISC 17 22:56:29.8±0.8, **24°.93S**±0°.03×**70°.90W**±0°.05, **h26**km±5km, **n800, σ1$32/818, mb4.9**/142, **MS4.1**/14, **16C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PB14	**IPOC Station P**	**0.54**	**56**	*e*P	**Pb**		**22 56 40.6**	**-0.4**
PB14				*e*S	**Sb**		**22 56 47.8**	**-0.8**
PB14	**IPOC Station P**	**0.54**	**56**	*e*P	**Pb**		**22 56 40.4**	**-0.6**
PB14				*i* S	**Sb**		**22 56 47.0**	**-1.5**
PB14				IAML			22 56 48.8	
	comp=N,52μm,0.5s							
GO02	**Mina Guanaco**	**1.21**	**101**	*e*Pn	**Pn**		**22 56 50.2**	**-1.2**
GO02				*e*Sn	**Sn**		**22 57 01.3**	**-5.7**
GO02	**Mina Guanaco**	**1.21**	**101**	⇑*i*P	**Pn**		**22 56 50.1**	**-1.2**
GO02				*i* S	**Sn**		**22 57 05.0**	**-2.1**
GO02				IAML			22 57 07.8	
	comp=N,32μm,0.1s							
PB10	**IPOC Station P**	**1.45**	**13**	*e*Pn	**Pn**		**22 56 53.4**	**-0.9**
PB10				*e*Sn	**Sn**		**22 57 07.6**	**-4.9**
PB10	**IPOC Station P**	**1.45**	**13**	*e*P	**Pn**		**22 56 53.2**	**-1.1**
PB10				*e*S	**Sb**		**22 57 15.4**	**+1.3**
PB10	**IPOC Station P**	**1.45**	**13**	⇑*i*P	**Pn**		**22 56 53.6**	**-0.8**
PB10				*i* S	**Sn**		**22 57 11.5**	**-1.1**
PB10				IAML			22 57 13.2	
	comp=N,3μm,0.5s							
PB15	**IPOC Station P**	**2.16**	**38**	*e*P	**Pn**		**22 57 05.5**	**+1.2**
PB15				*e*S	**Sb**		**22 57 37.3**	**+2.6**
PB05	**IPOC Station P**	**2.17**	**17**	*e*P	**Pn**		**22 57 03.8**	**-0.5**
PB05	**IPOC Station P**	**2.17**	**17**	⇑*i*P	**Pn**		**22 57 03.6**	**-0.8**
PB05				*i* S	**Sn**		**22 57 28.6**	**-1.9**
PB05				IAML			22 57 43.0	
	comp=E,3μm,0.4s							
PB06	**IPOC Station P**	**2.53**	**29**	*e*P	**Pn**		**22 57 08.6**	**-0.7**
PB04	**IPOC Station P**	**2.68**	**15**	*e*Pn	**Pn**		**22 57 10.4**	**-1.0**
PB04				*e*Sn	**Sn**		**22 57 37.8**	**-5.3**
PB04	**IPOC Station P**	**2.68**	**15**	⇑*i*P	**Pn**		**22 57 10.4**	**-1.0**
PB04				*e*S	**Sn**		**22 57 40.5**	**-2.7**
PB04				IAML			22 58 01.0	
	comp=N,4μm,0.5s							
GO03	**Copiap**	**2.72**	**167**	*e*Pn	**Pn**		**22 57 11.6**	**-0.4**
GO03				*e*Sn	**Sn**		**22 57 43.1**	**-0.8**
GO03	**Copiap**	**2.72**	**167**	*e*P	**Pn**		**22 57 11.1**	**-0.8**
GO03	**Copiap**	**2.72**	**167**	⇑*i*P	**Pn**		**22 57 11.5**	**-0.4**
GO03				*i* S	**Sn**		**22 57 43.0**	**-1.0**
LVC	**Limon Verde**	**2.94**	**39**	*e*Pn	**Pn**		**22 57 16.0**	**+0.7**
LVC				*e*Sn	**Sn**		**22 57 46.6**	**-3.4**
LVC	**Limon Verde**	**2.94**	**39**	*e*P	**Pn**		**22 57 17.1**	**+1.9**
LVC				IAML			22 58 07.8	
	comp=Z,2μm,0.5s							
LVC	**Limon Verde**	**2.94**	**39**	*e*P	**Pn**		**22 57 16.0**	**+0.7**
LVC				*e*			22 57 46.6	
LVC	**Limon Verde**	**2.94**	**39**	P	**Pn**		**22 57 16.0**	**+0.7**
	comp=Z,36nm,0.3s,baz=179,slow=6.1,SNR=84							
LVC				S	**Sn**		**22 57 51.0**	**+1.0**
	comp=Z,140nm,0.3s,baz=279,slow=18,SNR=4.0							
LVC				LR	LR		22 58 32.3	
	comp=Z,5μm,18.6s,baz=200,slow=44							
LVC	**Limon Verde**	**2.94**	**39**	*e*P	**Pn**		**22 57 16.5**	**+1.2**
PB03	**IPOC Station P**	**3.06**	**20**	*e*P	**Pn**		**22 57 16.9**	**+0.2**
PB03	**IPOC Station P**	**3.06**	**20**	*e*P	**Pn**		**22 57 15.8**	**-0.8**
PB03				*i* S	**Sn**		**22 57 50.2**	**-2.3**
PB03				IAML			22 58 18.4	
	comp=E,2μm,0.3s							
PB07	**IPOC Station P**	**3.32**	**16**	*e*P	**Pn**		**22 57 20.1**	**-0.3**
PB07	**IPOC Station P**	**3.32**	**16**	*e*P	**Pn**		**22 57 19.5**	**-0.8**
PB07				*i* S	**Sn**		**22 57 56.6**	**-2.5**
PB07				IAML			22 58 26.6	
	comp=E,2μm,0.6s							
PB09	**IPOC Station P**	**3.47**	**26**	*e*P	**Pn**		**22 57 23.1**	**+0.7**
LCO	**Las Campanas**	**4.07**	**178**	*e*Pn	**Pn**		**22 57 28.6**	**-2.0**
LCO				*e*Sn	**Sn**		**22 58 17.9**	**+0.4**
LCO	**Las Campanas**	**4.07**	**178**	*e*P	**Pn**		**22 57 28.6**	**-2.0**
LCO				*e*			22 58 17.9	
LCO	**Las Campanas**	**4.07**	**178**	*e*P	**Pn**		**22 57 28.9**	**-1.7**
PB01	**IPOC Station P**	**4.08**	**19**	*e*Pn	**Pn**		**22 57 30.0**	**-0.8**
PB01				*e*Sn	**Sn**		**22 58 13.2**	**-4.6**
FSA	**Cafayete**	**4.60**	**106**	*e*P	**Pn**		**22 57 42.2**	**+4.4**
AGUA	**GUANDACOL**	**5.02**	**155**	*e*P	**Pn**		**22 57 44.8**	**+1.2**
GO04	**Tololo Observa**	**5.22**	**179**	*e*Pn	**Pn**		**22 57 44.6**	**-1.8**
GO04				*e*Sn	**Sn**		**22 58 46.5**	**+0.5**
PB11	**IPOC Station P**	**5.27**	**13**	*e*Pn	**Pn**		**22 57 44.9**	**-2.3**
PB11				*e*Sn	**Sn**		**22 58 41.5**	**-5.7**
PB11	**IPOC Station P**	**5.27**	**13**	*e*P	**Pn**		**22 57 45.6**	**-1.6**
AHML	**Horco Molle**	**5.34**	**111**	*e*P	**Pn**		**22 57 52.0**	**+4.0**
AHML				IAML			22 58 17.6	
	comp=Z,171nm,0.5s							
PSGCX	**Pisagua**	**5.36**	**8**	*e*P	**Pn**		**22 57 46.8**	**-1.5**
AROD	**Rodeo**	**5.37**	**167**	*e*P	**Pn**		**22 57 48.9**	**+0.4**
YJA	**Yavi**	**5.65**	**62**	*e*P	**Pn**		**22 57 57.1**	**+4.5**
YJA				IAML			22 58 09.3	
	comp=Z,46nm,0.6s							
ACLC	**CERRO LA CRUZ**	**5.69**	**143**	*e*P	**Pn**		**22 57 54.7**	**+1.8**
CYA	**Choya**	**5.74**	**129**	*e*P	**Pn**		**22 57 55.5**	**+2.0**
ACCO	**Cerro Coronel**	**5.86**	**164**	*e*P	**Pn**		**22 57 55.9**	**+0.5**
MNMC	**Minye Minye**	**5.90**	**12**	*e*Pn	**Pn**		**22 57 54.6**	**-1.3**
MNMC				*e*Sn	**Sn**		**22 58 56.6**	**-6.2**
MNMCX	**Minye Minye**	**5.90**	**12**	*e*P	**Pn**		**22 57 55.3**	**-0.6**
AMOG	**MOGNA**	**6.35**	**161**	*e*P	**Pn**		**22 58 02.3**	**+0.5**
APLL	**PUNTA DE LOS L**	**6.68**	**146**	*e*P	**Pn**		**22 58 06.8**	**+0.5**
APLL				IAML			23 00 06.1	
	comp=Z,117nm,0.6s							
RTLL	**Cerro Villicun**	**6.72**	**162**	⇓*e*P	**Pn**		**22 58 07.1**	**+0.2**
RTLS	**Leoncito**	**6.99**	**169**	*e*P	**Pn**		**22 58 10.6**	**-0.2**
RTLS				IAML			23 00 19.3	
	comp=Z,296nm,0.6s							
CFA	**Coronel Fontan**	**7.05**	**161**	*e*P	**Pn**		**22 58 11.2**	**-0.2**
RTCV	**Cerro Valdivia**	**7.21**	**164**	*e*P	**Pn**		**22 58 13.3**	**-0.3**
AUSP	**Uspallata**	**7.38**	**170**	*e*P	**Pn**		**22 58 15.7**	**-0.6**
ROC1	**El Roble**	**8.02**	**181**	*e*Pn	**Pn**		**22 58 22.1**	**-2.8**
ROC1				*e*Sn	**Sn**		**22 59 52.5**	**-2.3**
ROC1	**El Roble**	**8.02**	**181**	*e*P	**Pn**		**22 58 22.6**	**-2.2**
PEL	**Peldehue**	**8.18**	**179**	*e*Pn	**Pn**		**22 58 24.3**	**-2.7**
PEL				*e*Sn	**Sn**		**22 59 55.4**	**-3.3**
PEL	**Peldehue**	**8.18**	**179**	*e*P	**Pn**		**22 58 24.3**	**-2.7**
PEL				*e*			22 59 55.4	
LPAZ	**La Paz**	**8.98**	**17**	*e*Pn	**Pn**		**22 58 39.5**	**+1.0**
LPAZ				*e*Sn	**Sn**		**23 00 11.3**	**-7.9**
LPAZ	**La Paz**	**8.98**	**17**	*e*P	**Pn**		**22 58 39.5**	**+1.0**
LPAZ	**La Paz**	**8.98**	**17**	P	**Pn**		**22 58 39.1**	**+0.7**
	comp=Z,2.1nm,0.3s,baz=168,slow=4.8,SNR=54							
LPAZ				S	**Sn**		**23 00 21.4**	**+2.2**
	baz=299,slow=18,SNR=1.6							
LPAZ				LR	LR		23 02 39.2	
	comp=Z,2μm,18.0s,baz=220,slow=41							
LPAZ	**La Paz**	**8.98**	**17**	*e*P	**Pn**		**22 58 37.9**	**-0.6**
GO05	**Huala**	**10.08**	**185**	*e*Pn	Pn		22 58 47.7	-5.3
CPUP	**Villa Florida**	**12.32**	**99**	*e*Pn	**Pn**		**22 59 25.8**	**+2.1**
CPUP	**Villa Florida**	**12.32**	**99**	*e*P	**Pn**		**22 59 25.8**	**+2.1**
CPUP	**Villa Florida**	**12.32**	**99**	P	**Pn**		**22 59 22.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=320,slow=17,SNR=2.1							
CPUP				LR	LR		23 04 29.5	
	comp=Z,1μm,18.6s,baz=278,slow=40							
CPUP	**Villa Florida**	**12.32**	**99**	*e*P	**Pn**		**22 59 28.2**	**+4.5**
SIV	**San Ignacio**	**12.80**	**48**	P	**Pn**		**22 59 27.6**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=245,slow=8.8,SNR=18							
SIV				LR	LR		23 04 46.4	
	comp=Z,232nm,20.4s,baz=263,slow=39							
NNA	**Nana**	**14.05**	**335**	LR	LR		23 04 23.8	
	comp=Z,486nm,20.8s,baz=162,slow=33							
GO06	**Curarrehue**	**14.62**	**182**	*e*Pn	Pn		22 59 49.7	-5.3
AQDB	**Aquidauana**	**14.71**	**75**	*e*P	**P**		**22 59 59.6**	**-2.5**
TRQA	**Tornquist**	**15.12**	**152**	*e*Pn	**Pn**		**22 59 58.1**	**-3.7**
	comp=Z,86nm,0.8s							
TRQA	**Tornquist**	**15.12**	**152**	*e*P	**Pn**		**22 59 58.1**	**-3.7**
TRQA				pmax	pmax			
	comp=Z,86nm,0.8s							
PLCA	**Paso Flores**	**15.76**	**179**	*e*Pn	**Pn**		**23 00 08.9**	**-1.1**
	comp=Z,93nm,1.5s							
PLCA	**Paso Flores**	**15.76**	**179**	*e*P	**Pn**		**23 00 09.0**	**-1.1**
PLCA				pmax	pmax			
	comp=Z,93nm,1.5s							
PLCA	**Paso Flores**	**15.76**	**179**	P	**Pn**		**23 00 08.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=24,slow=14,SNR=7.3							
PLCA				LR	LR		23 06 28.3	
	comp=Z,802nm,18.8s,baz=32,slow=38							
PLCA	**Paso Flores**	**15.76**	**179**	*e*P	**Pn**		**23 00 08.2**	**-1.9**
PLTB	**Pedras Altas**	**16.67**	**118**	*e*P	**P**		**23 00 25.1**	**+1.3**
TRCB	**Terra Rica**	**16.84**	**87**	*e*P	**P**		**23 00 28.2**	**+2.3**
PTGB	**Pitanga**	**17.10**	**93**	*e*P	**P**		**23 00 31.4**	**+2.6**
ATAH	**Atahualpa**	**19.10**	**337**	P	**Pn**		**23 00 53.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=176,slow=14,SNR=1.8							
FRTB	**Fartura**	**19.54**	**90**	*e*P	**Pn**		**23 00 59.0**	**+2.0**
TER01	**Tubaro-SC**	**19.77**	**105**	*e*P	**Pn**		**23 00 59.9**	**+0.3**
BB19B	**Bebedouro**	**20.94**	**84**	*e*P	Pn		23 01 13.4	-0.1
SPB	**Sao Paulo**	**21.43**	**91**	*e*P	**P**		**23 01 18.0**	**+1.9**
BDFB	**Brasilia**	**23.34**	**71**	P	**P**		**23 01 33.7**	**-2.7**
	comp=Z,8.6nm,0.8s,baz=232,slow=11,SNR=12							
BDFB				LR	LR		23 11 49.0	
	comp=Z,559nm,18.2s,baz=265,slow=40							
BSCB	**Bom Sucesso**	**24.36**	**86**	*e*P	**P**		**23 01 48.8**	**+2.8**
PEXB	**Peixe**	**24.89**	**63**	*e*P	**P**		**23 01 51.5**	**+0.8**
OTAV	**Otavalo**	**26.07**	**343**	*e*P	**P**		**23 02 02.7**	**+0.8**
	comp=Z,12nm,1.1s							
OTAV	**Otavalo**	**26.07**	**343**	*e*P	**P**		**23 02 02.7**	**+0.8**
OTAV				pmax	pmax			
	comp=Z,12nm,1.1s							
PTGA	**Pitinga**	**26.28**	**25**	*e*P	**P**		**23 02 02.7**	**-0.6**
	comp=Z,14nm,0.8s							
PTGA	**Pitinga**	**26.28**	**25**	P	**P**		**23 02 02.3**	**-1.0**
	comp=Z,2.7nm,0.4s,baz=226,slow=8.2,SNR=9.5							
PTGA				LR	LR		23 13 31.5	
	comp=Z,557nm,18.7s,baz=206,slow=39							
PTGA	**Pitinga**	**26.28**	**25**	*e*P	**P**		**23 02 04.0**	**+0.7**
GO09	**Cerro Castillo**	**26.32**	**182**	*e*P	**P**		**23 02 05.2**	**+1.8**
	comp=Z,32nm,1.3s							
JANB	**Januaria**	**26.80**	**74**	*e*P	**P**		**23 02 09.2**	**+1.1**
PRAC	**Prado**	**28.74**	**352**	*e*P	P		23 02 36.1	+11
PRAC	**Prado**	**28.74**	**352**	*e*P	P		23 02 36.1	+11
ROSC	**El Rosal**	**29.78**	**353**	LR	LR		23 14 40.2	
	comp=Z,230nm,20.6s,baz=216,slow=36							
USHA	**Ushuaia**	**29.92**	**177**	P	**P**		**23 02 35.0**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=13,slow=13,SNR=3.8							
USHA				PcP	**PcP**		**23 05 38.0**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=341,slow=4.5,SNR=3.1							
USHA				LR	LR		23 16 05.2	
	comp=Z,430nm,18.7s,baz=357,slow=39							
RUSC	**La Rusia**	**30.71**	**356**	*e*P	**P**		**23 02 43.3**	**-0.1**
RUSC	**La Rusia**	**30.71**	**356**	*e*P	**P**		**23 02 43.3**	**-0.1**
BARC	**Barichara**	**31

comp=Z,7.4nm,1.0s
VNA3 **Neumayer Olymp** 57.45 160 P P 23 06 15.9 -0.2
351A **Pinckard** 57.63 345 P P 23 06 17.7 -0.1
baz=164
352A **Blakely** 57.68 346 P P 23 06 17.0 -1.0
baz=165
VNA1 **Neumayer--Stat** 57.70 160 P P 23 06 18.0 +0.2
254A **Abbeville** 57.78 348 P P 23 06 18.8 0.0
baz=166
BRAL **Brewton** 57.89 344 P P 23 06 19.8 +0.3
baz=162
RKT **Rikitea** 58.06 257 *e*T T 00 09 14.4
comp=Z,1.7nm,0.2s
VNA2 **Neumayer--Watz** 58.06 160 P P 23 06 20.1 -0.2
349A **Repton** 58.10 344 P P 23 06 21.7 +0.7
baz=162
155A **Kite** 58.29 349 P P 23 06 21.9 -0.4
baz=167
H06S1 **SOCORRO T** 58.35 314 T T 00 09 50.7
SNR=14
H06E1 **SOCORRO T-PHAS** 58.37 314 T T 00 09 39.3
SNR=81
251A **Midway** 58.38 346 P P 23 06 22.2 -0.7
baz=164,SNR=5.4
NHSC **New Hope** 58.39 351 P P 23 06 23.1 +0.1
baz=170
154A **Montrose** 58.40 348 P P 23 06 22.6 -0.4
baz=167
250A **Grady** 58.47 345 P P 23 06 23.2 -0.4
baz=163
Z58A **St. Stephen** 58.56 351 P P 23 06 24.2 0.0
baz=170
Z57A **Bowman** 58.66 350 P P 23 06 25.0 +0.1
baz=169
249A **Camden** 58.67 344 P P 23 06 25.1 +0.1
baz=162
151A **Opelika** 58.77 346 P P 23 06 25.2 -0.5
baz=164
152A **Waverly Hall** 58.78 346 P P 23 06 25.2 -0.5
baz=165
Z56A **Williston** 58.79 350 P P 23 06 25.4 -0.3
baz=169
Z54A **Sparta** 58.95 348 P P 23 06 26.1 -0.9
baz=167
150A **Eclectic** 59.01 345 P P 23 06 26.7 -0.6
baz=164
Z53A **Monticello** 59.13 348 P P 23 06 27.2 -1.0
baz=166
149A **Jones** 59.19 344 P P 23 06 27.8 -0.7
baz=163
Z52A **Williamson** 59.22 347 P P 23 06 28.4 -0.4
baz=166
GOGA **Godfrey** 59.24 348 P P 23 06 28.4 -0.5
baz=166
Y55A **Saluda** 59.47 349 P P 23 06 30.0 -0.4
baz=168
Z51A **Franklin** 59.50 346 P P 23 06 30.3 -0.4
baz=165
Y54A **Tignall** 59.53 349 P P 23 06 30.5 -0.4
baz=167
Z50A **Ashland** 59.61 345 *e*P P 23 06 30.5 -1.0
comp=Z,14nm,0.8s
Z50A **Ashland** 59.61 345 P P 23 06 30.8 -0.7
baz=164,SNR=11
833A **Chaparral WMA,** 59.63 331 *e*P P 23 06 33.3 +1.6
comp=Z,18nm,0.8s
LRAL **Lakeview Retre** 59.65 344 P P 23 06 31.4 -0.4
baz=163
SNAA **Sanae** 59.67 160 P P 23 06 31.1 -0.5
SNAA **Sanae** 59.67 160 *e*P P 23 06 31.0 -0.6
comp=Z,46nm,1.1s
SNAA **Sanae** 59.67 160 *i* P P 23 06 30.4 -1.2
SNAA **Sanae** 59.67 160 P P 23 06 31.2 -0.5
comp=Z,18nm,0.6s,baz=272,slow=6.6,SNR=12
Z49A **Columbiana** 59.69 345 P P 23 06 31.8 -0.3
baz=163
X58A **Rowland** 59.70 352 P P 23 06 32.1 0.0
baz=171
Y52A **Lilburn** 59.80 347 P P 23 06 32.2 -0.5
baz=166
X56A **White Oak** 59.88 350 P P 23 06 33.2 -0.1
baz=169
X55A **Gracelyn & Ava** 59.95 350 P P 23 06 34.0 +0.2
baz=168
W60A **Pink Hill** 60.01 354 P P 23 06 33.9 -0.2
baz=173
Y51A **Rockmart** 60.04 346 P P 23 06 33.7 -0.8
baz=165,SNR=5.0
X54A **Belton** 60.15 349 P P 23 06 35.1 -0.1
baz=168
Y50A **Piedmont** 60.18 346 P P 23 06 34.9 -0.5
baz=164
X53A **Estanollee** 60.27 348 P P 23 06 35.7 -0.3
baz=167
Y49A **Blount Mountai** 60.30 345 P P 23 06 35.2 -1.0
baz=164
W57A **Gilead** 60.38 351 P P 23 06 36.1 -0.6
baz=170
W56A **Indian Trail** 60.44 351 P P 23 06 36.5 -0.7
baz=170
X52A **Dahlonega** 60.48 348 P P 23 06 37.0 -0.5
baz=166
Y48A **Jasper** 60.53 344 P P 23 06 36.9 -1.0
baz=163
KMSC **Kings Mountain** 60.56 350 P P 23 06 37.3 -0.7
baz=169
X51A **Calhoun** 60.64 347 *e*P P 23 06 38.5 0.0
comp=Z,22nm,0.9s
X51A **Calhoun** 60.64 347 P P 23 06 38.2 -0.3
baz=165
W54A **Cherokee Point** 60.64 349 P P 23 06 38.6 0.0
baz=168
X50B **Fort Payne** 60.70 346 P P 23 06 38.1 -0.9
baz=164
V59A **Middlesex** 60.77 353 P P 23 06 39.4 0.0
baz=172
NATX **Nacogdoches** 60.78 337 P P 23 06 39.9 +0.4
baz=155
W53A **Cullowhee** 60.89 349 P P 23 06 40.1 -0.3
baz=167
X49A **Woodville** 60.91 345 P P 23 06 39.8 -0.5
baz=164
W52A **Murphy** 60.96 348 P P 23 06 40.2 -0.6
baz=166
X48A **Hartselle** 61.02 345 *e*P P 23 06 40.2 -0.9
comp=Z,13nm,0.8s
X48A **Hartselle** 61.02 345 P P 23 06 40.4 -0.7
baz=163,SNR=5.1
V57A **Coltrane Farms** 61.07 352 P P 23 06 40.6 -0.8
baz=171
W51A **Cleveland** 61.19 347 P P 23 06 41.7 -0.6
baz=165,SNR=5.1
SHEL **Horse Pasture** 61.22 95 *e*P P 23 06 41.6 -1.4
comp=Z,77nm,0.9s
SHEL **Horse Pasture** 61.22 95 *e*P P 23 06 41.6 -1.4
SHEL pmax pmax
comp=Z,77nm,0.9s
V55A **Taylorsville** 61.24 350 P P 23 06 42.9 +0.4
baz=169
X47A **Russelville** 61.28 344 P P 23 06 42.0 -0.8
baz=162
V54A **Nebo** 61.28 350 P P 23 06 42.9 0.0
baz=168
V53A **Saluda** 61.32 349 *e*P P 23 06 43.2 0.0
comp=Z,48nm,1.8s
V53A **Saluda** 61.32 349 P P 23 06 42.6 -0.6
baz=168
W50A **Signal Mountai** 61.34 347 *e*P P 23 06 43.0 -0.3
comp=Z,22nm,0.9s
W50A **Signal Mountai** 61.34 347 P P 23 06 43.1 -0.3
baz=165,SNR=7.6
CPCT **Cooper Cave** 61.42 347 *e*P P 23 06 43.8 0.0
comp=Z,18nm,1.0s
W49A **Belvidere** 61.47 346 P P 23 06 43.4 -0.8
baz=164
TKL **Tuckaleechee C** 61.48 348 *e*P P 23 06 43.9 -0.3
comp=Z,18nm,1.0s
TKL **Tuckaleechee C** 61.48 348 *e*P P 23 06 43.9 -0.3
TKL pmax pmax
comp=Z,18nm,1.0s
SWET **Sewanee** 61.49 346 *e*P P 23 06 44.2 -0.2
comp=Z,22nm,0.8s
X46A **Booneville** 61.50 343 P P 23 06 44.2 -0.1
baz=162
V52A **Sevierville** 61.63 348 *e*P P 23 06 44.9 -0.3
comp=Z,21nm,1.1s
V52A **Sevierville** 61.63 348 P P 23 06 44.6 -0.6
baz=167

W48A **Pulaski** 61.65 345 P P 23 06 45.0 -0.4
baz=163
JCT **Junction City** 61.67 332 *e*P P 23 06 46.9 +1.2
comp=Z,16nm,0.8s
JCT **Junction City** 61.67 332 *e*P P 23 06 46.9 +1.2
JCT pmax pmax
comp=Z,16nm,0.8s
JCT **Junction City** 61.67 332 P P 23 06 46.4 +0.7
baz=150,SNR=5.6
OXF **Oxford** 61.67 343 P P 23 06 44.6 -0.9
baz=161
V51A **Loudon** 61.73 348 P P 23 06 45.3 -0.6
baz=166
V50A **Pikevile** 61.76 347 P P 23 06 45.7 -0.4
baz=165,SNR=8.9
U55A **TA2, Sparta** 61.85 351 P P 23 06 46.4 -0.4
baz=169
W47A **Westpoint** 61.91 345 P P 23 06 46.4 -0.7
baz=163
U53A **Fall Branch** 61.96 349 P P 23 06 46.9 -0.6
baz=168
U54A **Nelsons Funny** 61.99 350 P P 23 06 47.4 -0.3
baz=169
W46A **Michie** 61.99 344 P P 23 06 47.0 -0.7
baz=162
V49A **McMinnville** 62.02 346 P P 23 06 46.9 -0.9
baz=164,SNR=11
U52A **Thorn Hill** 62.12 349 P P 23 06 48.4 -0.2
baz=167
V48A **Smith Brothers** 62.20 345 *e*P P 23 06 48.6 -0.4
comp=Z,18nm,0.9s
V48A **Smith Brothers** 62.20 345 P P 23 06 48.3 -0.8
baz=164,SNR=9.4
U51A **La Follette** 62.23 348 P P 23 06 48.6 -0.7
baz=166
TZTN **Tazewell** 62.30 349 P P 23 06 49.6 -0.2
baz=167
T55A **Pulaski** 62.42 351 P P 23 06 50.9 +0.3
baz=170
U50A **Jamestown** 62.42 347 P P 23 06 49.8 -0.8
baz=166,SNR=5.4
V47A **Nunnelly** 62.44 345 P P 23 06 49.5 -1.2
baz=163
TXAR **Lajitas Array** 62.47 328 P P 23 06 52.3 +1.2
comp=Z,1.8nm,0.8s,baz=146,slow=9.1,SNR=12
TXAR PcP PcP 23 07 31.6 +1.3
comp=Z,1.2nm,0.9s,baz=153,slow=6.1,SNR=3.8
TX31 **Lajitas Ar. Si** 62.47 328 *e*P P 23 06 52.6 +1.4
T54A **Tazewell** 62.48 350 P P 23 06 50.6 -0.4
baz=169
T53A **Wise** 62.55 350 P P 23 06 51.0 -0.5
baz=168
V46A **Holladay** 62.56 344 P P 23 06 50.6 -0.9
baz=162
X40A **Basin Creek Fa** 62.66 340 P P 23 06 51.2 -0.9
baz=157
U49A **Red Boiling Sp** 62.71 347 P P 23 06 51.8 -0.6
baz=165
T52A **Hallie** 62.75 349 P P 23 06 52.0 -0.8
baz=167
T51A **Gray** 62.78 348 P P 23 06 52.3 -0.6
baz=166
WVT **Waverly** 62.80 345 *e*P P 23 06 52.1 -1.0
comp=Z,14nm,0.8s
WVT **Waverly** 62.80 345 *e*P P 23 06 52.1 -1.0
WVT pmax pmax
comp=Z,14nm,0.8s
WVT **Waverly** 62.80 345 P P 23 06 52.3 -0.8
baz=162
U48A **Cassie Pea, Po** 62.87 346 P P 23 06 53.3 -0.2
baz=164
R58B **Mineral** 62.91 354 *e*P P 23 06 54.6 +0.9
comp=Z,23nm,1.0s
R58B **Mineral** 62.91 354 P P 23 06 54.2 +0.5
baz=173
MIAR **Mount Ida** 62.95 339 *e*P P 23 06 54.5 +0.4
comp=Z,34nm,1.6s
MIAR **Mount Ida** 62.95 339 *e*P P 23 06 54.5 +0.4
MIAR pmax pmax
comp=Z,34nm,1.6s
MIAR **Mount Ida** 62.95 339 P P 23 06 54.5 +0.4
baz=157,SNR=5.9
U47A **Clarksville** 62.97 345 P P 23 06 53.4 -0.8
baz=163,SNR=7.3
T50A **Nancy** 63.01 348 P P 23 06 53.8 -0.6
baz=166
S55A **Lewisburg** 63.02 351 P P 23 06 53.9 -0.7
baz=170
U46A **Springville** 63.11 344 P P 23 06 54.3 -0.8
baz=162
W41B **Gary Mavity, V** 63.11 340 *e*P P 23 06 55.4 +0.3
comp=Z,11nm,1.0s
W41B **Gary Mavity, V** 63.11 340 P P 23 06 55.0 -0.1
baz=158
S53A **Williamson** 63.17 350 P P 23 06 55.0 -0.6
baz=168
T49A **Edmonton** 63.23 347 *e*P P 23 06 55.3 -0.6
comp=Z,28nm,1.1s
T49A **Edmonton** 63.23 347 P P 23 06 55.1 -0.8
baz=165,SNR=8.9
WHAR **Wooly Hollow** 63.23 340 *e*P P 23 06 56.3 +0.3
comp=Z,9.8nm,0.9s
S52A **Salyersville** 63.32 349 P P 23 06 55.7 -0.9
baz=167
S51A **Beattyville** 63.37 349 P P 23 06 56.2 -0.6
baz=167
T48A **Bowling Green** 63.41 346 P P 23 06 56.3 -0.8
baz=164
T47A **Sharon Grove** 63.45 346 *e*P P 23 06 57.1 -0.3
comp=Z,28nm,1.0s
T47A **Sharon Grove** 63.45 346 P P 23 06 56.7 -0.7
baz=163,SNR=11
ABTX **Abilene, Hawle** 63.46 333 *e*P P 23 06 57.1 -0.5
comp=Z,31nm,1.2s
ABTX **Abilene, Hawle** 63.46 333 P P 23 06 56.8 -0.8
baz=151,SNR=8.6
R54A **Victor** 63.49 351 P P 23 06 57.1 -0.6
baz=170
S50A **Richmond** 63.56 348 P P 23 06 57.4 -0.7
baz=163,SNR=6.2
X37A **Clayton** 63.59 338 *e*P P 23 06 56.3 -2.1
comp=Z,12nm,1.0s
W39A **Magazine** 63.61 339 *e*P P 23 06 59.5 +1.1
comp=Z,17nm,1.1s
W39A **Magazine** 63.61 339 P P 23 06 58.9 +0.5
baz=157
U44A **Portageville** 63.63 343 P P 23 06 58.3 -0.2
baz=161
T46A **Princeton** 63.69 345 P P 23 06 58.3 -0.6
baz=163,SNR=11
R53A **Hurricane** 63.78 350 P P 23 06 58.9 -0.6
baz=169
S49A **Springfield** 63.83 347 P P 23 06 58.7 -1.1
baz=165
S48A **Wiedeman Farm,** 63.87 347 P P 23 06 58.8 -1.3
baz=164
S47A **Hartford** 63.98 346 P P 23 06 59.7 -1.2
baz=163,SNR=9.1
R51A **Hillsboro** 64.02 349 P P 23 07 00.4 -0.7
baz=167
PBMO **Poplar Bluff** 64.08 343 *e*P P 23 07 01.2 -0.4
comp=Z,13nm,0.8s
U41A **Viola** 64.10 341 P P 23 07 01.1 -0.5
baz=159,SNR=9.3
R50A **Paris** 64.13 348 P P 23 07 01.5 -0.4
baz=166
T44A **Benton** 64.15 343 P P 23 07 01.9 -0.1
baz=161
Q55A **Buckhannon** 64.17 352 P P 23 07 02.5 +0.3
baz=170
Q53A **Leroy** 64.23 351 P P 23 07 02.8 +0.3
baz=169
S46A **Don Dixon Farm** 64.26 345 P P 23 07 01.7 -1.0
baz=163
R49A **Shelbyville** 64.30 348 P P 23 07 02.0 -0.9
baz=165
NVL **N'lazarevskaya** 64.30 159⇓ *i*P P 23 07 01.7 -0.9
NVL pmax pmax
comp=Z,25nm,0.9s
T43A **Greenville** 64.33 343 P P 23 07 02.5 -0.6
baz=160,SNR=11
U40A **Yellville** 64.39 340 P P 23 07 03.4 -0.2
baz=158,SNR=12
Q52A **Bidwell** 64.44 350 P P 23 07 03.7 -0.1
baz=168
WCI **Wyandotte Cave** 64.47 347 *e*P P 23 07 03.0 -1.0
comp=Z,22nm,0.8s
WCI **Wyandotte Cave** 64.47 347 *e*P P 23 07 03.0 -1.0

WCI pmax pmax
comp=Z,22nm,0.8s
WCI **Wyandotte Cave** 64.47 347 P P 23 07 03.0 -1.0
baz=164
R48A **Northridge Ran** 64.55 347 P P 23 07 03.6 -0.9
baz=165
R47A **Wooly Knot Far** 64.58 346 P P 23 07 03.4 -1.4
baz=164
Q50A **Georgetown** 64.61 349 P P 23 07 03.9 -1.0
baz=167
S44A **Carbondale** 64.64 344 P P 23 07 04.6 -0.6
baz=161,SNR=5.8
P55A **Reedsville** 64.65 352 P P 23 07 05.3 +0.1
baz=171
SIUC **Southern Illin** 64.65 344 *e*P P 23 07 04.9 -0.3
comp=Z,24nm,0.8s
HHAR **Hobbs** 64.66 340 *e*P P 23 07 06.2 +0.8
comp=Z,8.2nm,0.9s
Q51A **Peebles** 64.68 349 P P 23 07 04.6 -0.8
baz=167
T41A **Mountain View** 64.70 342 P P 23 07 05.2 -0.4
baz=159,SNR=12
R46A **Gibon Southern** 64.72 346 P P 23 07 04.4 -1.2
baz=163
S43A **Fulton Ridge,** 64.74 343 P P 23 07 05.2 -0.6
baz=161,SNR=7.8
P54A **Burton** 64.82 352 P P 23 07 06.1 -0.3
baz=170
P53A **Whipple** 64.83 351 P P 23 07 06.6 +0.2
baz=169
TUL1 **Leonard** 64.93 338 *e*P P 23 07 07.5 +0.4
comp=Z,14nm,0.8s
TUL1 **Leonard** 64.93 338 P P 23 07 07.1 0.0
baz=155,SNR=5.3
Q49A **Aurora** 64.94 348 P P 23 07 06.1 -1.0
baz=166
WMOK **Wichita Mounta** 64.97 335 *e*P P 23 07 06.8 -0.6
comp=Z,20nm,1.9s
WMOK **Wichita Mounta** 64.97 335 *e*P P 23 07 06.8 -0.6
WMOK pmax pmax
comp=Z,20nm,1.9s
WMOK **Wichita Mounta** 64.97 335 P P 23 07 06.8 -0.6
baz=152
R45A **Skylar, Fairfi** 64.97 345 P P 23 07 06.4 -0.9
baz=162
Q48A **North Vernon** 65.03 347 P P 23 07 06.6 -1.0
baz=165
P52A **Corning** 65.08 350 P P 23 07 07.3 -0.7
baz=169
S42A **Caledonia** 65.11 343 P P 23 07 07.3 -1.0
baz=160,SNR=5.8
R44A **Waltonville** 65.12 344 P P 23 07 07.3 -1.0
baz=162
Q47A **Bedord North L** 65.18 347 P P 23 07 07.8 -0.8
baz=164
S41A **Jillco Farms,** 65.21 342 P P 23 07 08.6 -0.3
baz=159,SNR=18
FVM **French Village** 65.22 343 *e*P P 23 07 09.2 +0.3
comp=Z,28nm,0.8s
FVM **French Village** 65.22 343 *e*P P 23 07 09.2 +0.3
FVM pmax pmax
comp=Z,28nm,0.8s
MNTX **Cornudas Mount** 65.25 328 P P 23 07 09.6 +0.3
baz=145
O56A **Blue Knob Stat** 65.26 354 P P 23 07 09.9 +0.7
baz=172
QSPA **South Pole Qui** 65.27 180 *e*P P 23 07 09.7 +0.5
comp=Z,62nm,1.6s
O55A **Ligonier** 65.28 353 P P 23 07 09.2 -0.1
baz=171
P50A **Jamestown** 65.33 349 P P 23 07 08.9 -0.7
baz=167
R43A **Red Bud** 65.36 344 P P 23 07 09.8 -0.1
baz=161
O54A **Avella** 65.38 352 P P 23 07 09.4 -0.5
baz=170
P49A **Miami Univ. Ec** 65.42 348 P P 23 07 09.0 -1.1
baz=166
P48A **Milroy** 65.48 348 P P 23 07 09.3 -1.3
baz=165
CCM **Cathedral Cave** 65.50 342 *e*P P 23 07 10.6 -0.2
comp=Z,17nm,0.8s
CCM **Cathedral Cave** 65.50 342 *e*P P 23 07 10.6 -0.2
CCM pmax pmax
comp=Z,17nm,0.8s
CCM **Cathedral Cave** 65.50 342 P P 23 07 10.6 -0.2
baz=160
O52A **Adamsville** 65.51 351 P P 23 07 10.6 -0.2
baz=169
Q45A **Warren Harvey,** 65.52 345 P P 23 07 09.8 -1.0
baz=163,SNR=5.9
O53A **New Philadelph** 65.55 351 P P 23 07 10.3 -0.7
baz=170
R42A **Luebbering** 65.59 343 P P 23 07 10.9 -0.4
baz=160,SNR=8.5
O51A **Pataskala** 65.66 350 P P 23 07 10.4 -1.3
baz=168
P47A **Martinsville** 65.67 347 P P 23 07 10.7 -1.1
baz=164
Q44A **Meyer Farm, Va** 65.73 345 P P 23 07 11.2 -1.0
baz=162
R41A **Rosebud** 65.77 342 P P 23 07 12.2 -0.2
baz=159,SNR=13
ACSO **Alum Creek Sta** 65.80 350 *e*P P 23 07 12.3 -0.3
comp=Z,19nm,0.8s
ACSO **Alum Creek Sta** 65.80 350 P P 23 07 11.9 -0.8
baz=168,SNR=5.4
N55A **Marion Center** 65.81 353 P P 23 07 13.0 +0.2
baz=172
O50A **Cable** 65.82 349 P P 23 07 12.1 -0.7
baz=167
Q43A **New Douglas** 65.93 344 P P 23 07 12.9 -0.7
baz=161
MSTX **Muleshoe** 65.95 331 *e*P P 23 07 14.9 +1.0
comp=Z,29nm,1.0s
MSTX **Muleshoe** 65.95 331 P P 23 07 14.1 +0.2
baz=148,SNR=5.8
O49A **Covington** 65.98 349 P P 23 07 12.9 -0.9
baz=166
P46A **Rosele** 66.00 346 P P 23 07 13.0 -0.9
baz=164
P45A **Graceland, Par** 66.03 346 *e*P P 23 07 13.6 -0.5
comp=Z,115nm,1.8s
P45A **Graceland, Par** 66.03 346 P P 23 07 13.1 -1.0
baz=163
N54A **Moraine State** 66.10 352 P P 23 07 14.5 -0.1
baz=171
Q42A **Golden Eagle** 66.12 343 P P 23 07 14.3 -0.4
baz=160,SNR=12
P44A **Sand Creek, Wi** 66.17 345 P P 23 07 14.3 -0.8
baz=162
N52A **McGinn's Farm,** 66.17 351 P P 23 07 14.4 -0.6
baz=169
O48A **Farmland** 66.20 348 P P 23 07 13.9 -1.4
baz=166
AMTX **Amarillo** 66.26 333 P P 23 07 14.9 -0.9
baz=149
Q41A **Truxton** 66.34 343 P P 23 07 15.6 -0.5
baz=160,SNR=8.4
N50A **Nevada** 66.35 350 P P 23 07 15.3 -0.9
baz=168
O47A **Sheridan** 66.38 347 P P 23 07 15.3 -1.0
baz=165
M55A **Ridgway** 66.47 354 P P 23 07 16.9 0.0
baz=172
P43A **Skaggs, Pawnee** 66.55 344 P P 23 07 16.7 -0.8
baz=161
M54A **Oil Creek Stat** 66.60 353 P P 23 07 17.7 -0.1
baz=171
M53A **WI Miller and** 66.65 352 P P 23 07 18.4 +0.3
baz=170
N49A **Columbus Grove** 66.67 349 *e*P P 23 07 17.9 -0.4
comp=Z,22nm,0.9s
N49A **Columbus Grove** 66.67 349 P P 23 07 17.6 -0.6
baz=167
P42A **Winchester** 66.70 344 *e*P P 23 07 18.1 -0.3
comp=Z,16nm,0.9s
P42A **Winchester** 66.70 344 P P 23 07 17.7 -0.8
baz=161
SFIN **Lafayette** 66.70 347 P P 23 07 17.5 -0.9
baz=164
O45A **Potomac** 66.71 346 P P 23 07 17.3 -1.2
baz=163
N48A **Decatur** 66.76 348 P P 23 07 18.0 -0.8
baz=166
O44A **Mansfield** 66.79 345 P P 23 07 18.1 -0.9
baz=162
M52A **Chesterland** 66.84 351 P P 23 07 17.7 -1.6

baz=170
319A Douglas 66.95 325 eP P 23 07 22.9 +2.5
comp=Z,16nm,0.8s
P41A Barry, Barry 66.97 343 P P 23 07 19.5 -0.6
baz=160
121A Cookes Peak, D 67.11 327 P P 23 07 22.5 +1.0
baz=144
L55A Hinsdale 67.14 354 P P 23 07 21.1 -0.1
baz=172
M49A Liberty Center 67.17 349 P P 23 07 20.9 -0.4
baz=167
PLIO Pelee Island, 67.23 351 P P 23 07 20.6 -1.1
baz=168
ERPA Erie 67.24 353 P P 23 07 21.4 -0.4
baz=171
O41A Passleys Farm, 67.34 344 P P 23 07 21.7 -0.8
baz=160,SNR=5.0
HDIL Hopedale 67.36 345 P P 23 07 22.0 -0.6
baz=162
M46A Old House Fiel 67.54 347 P P 23 07 23.3 -0.4
baz=165
L50A Kingsville 67.54 350 P P 23 07 23.3 -0.4
baz=168
K55A Perry 67.65 354 P P 23 07 23.8 -0.5
baz=173
N43A Stutzman Famil 67.70 345 P P 23 07 23.9 -0.9
baz=162
L48A N Adams 67.71 349 P P 23 07 24.0 -0.8
baz=166
L49A Milan 67.76 350 P P 23 07 24.7 -0.3
baz=167
N42A Yates City 67.80 344 P P 23 07 24.8 -0.5
baz=161
BNM Barren Site 67.86 328 eP P 23 07 28.0 +1.9
L47A Sherwood 67.87 349 P P 23 07 24.7 -1.1
baz=166
N41A Harden Midland 67.89 344 eP P 23 07 26.3 +0.3
comp=Z,30nm,0.9s
N41A Harden Midland 67.89 344 P P 23 07 25.5 -0.4
baz=160
K52A Tillsonburg 67.98 352 P P 23 07 25.2 -1.3
baz=170
LENM Lemitar 68.03 328 eP P 23 07 29.6 +2.4
KSU1 Kansas State U 68.09 339 P P 23 07 27.0 -0.2
baz=155
L46A Eue Claire 68.11 348 P P 23 07 26.3 -1.0
baz=165
M43A Waltham Townsh 68.12 345 P P 23 07 27.2 -0.2
baz=162
N40A Mertquake, Sal 68.25 343 P P 23 07 27.7 -0.5
baz=160,SNR=7.3
LAZ Ladron 68.30 328 eP P 23 07 30.4 +1.5
K49A Clarkson 68.37 350 P P 23 07 28.5 -0.4
baz=168
J52A Paris 68.41 352 P P 23 07 28.6 -0.5
baz=170
ANMO Albuquerque 68.43 329 eP P 23 07 31.6 +1.9
comp=Z,7.8nm,0.8s
ANMO Albuquerque 68.43 329 ceP P 23 07 30.3 +0.6
ANMO pmax pmax
comp=Z,19nm,2.5s
TASM ASL Pad, Albuq 68.43 329 P P 23 07 31.2 +1.5
baz=145,SNR=7.2
TASM ASL Pad, Albuq 68.43 329 P P 23 07 31.3 +1.6
baz=145,SNR=6.5
M41A Milan 68.44 344 P P 23 07 28.7 -0.6
baz=161
ELFO Elginfield 68.46 352 P P 23 07 29.0 -0.5
baz=170
TUC Tucson 68.48 324 eP P 23 07 32.1 +2.2
comp=Z,15nm,1.2s
TUC Tucson 68.48 324 eP P 23 07 32.1 +2.2
TUC pmax pmax
comp=Z,15nm,1.2s
TUC Tucson 68.48 324 P P 23 07 30.6 +0.7
baz=141
K48A Perry 68.49 350 P P 23 07 29.1 -0.6
baz=167
K46A Dorr 68.67 348 P P 23 07 29.4 -1.3
baz=165
M40A Post Highland 68.72 343 P P 23 07 30.5 -0.6
baz=160,SNR=7.7
PECO Prince Edward 68.76 355 P P 23 07 31.5 +0.2
baz=174
L43A Garden Prairie 68.79 346 P P 23 07 31.1 -0.4
baz=162
DRWO Darlington Wes 68.84 354 P P 23 07 32.5 +0.7
baz=172
DRCO St. Marys Ceme 68.84 354 P P 23 07 31.8 0.0
baz=172
J49A Marlette 68.88 350 P P 23 07 31.9 -0.2
baz=168
J48A Bridge Port 68.92 350 P P 23 07 31.6 -0.7
baz=166
CBKS Cedar Bluff 68.92 336 eP P 23 07 33.8 +1.3
comp=Z,24nm,0.8s
CBKS Cedar Bluff 68.92 336 eP P 23 07 33.8 +1.3
CBKS pmax pmax
comp=Z,24nm,0.8s
CBKS Cedar Bluff 68.92 336 P P 23 07 33.5 +1.0
baz=152
M39A Webster 68.96 343 P P 23 07 32.4 -0.2
baz=159
PKRO Pickering 68.97 354 P P 23 07 32.9 +0.3
baz=172
I51A Listowel 69.03 352 P P 23 07 33.0 0.0
baz=170
J47A Sunmer 69.03 349 P P 23 07 32.1 -0.9
baz=166
I55A Frankford 69.09 355 P P 23 07 33.2 -0.1
baz=173
L41A Preston 69.09 344 P P 23 07 33.5 0.0
baz=161
I52A Shelburne 69.19 353 P P 23 07 33.6 -0.4
baz=171
K43A Burlington 69.19 346 P P 23 07 33.5 -0.5
baz=163
L40A Anamosa 69.26 344 eP P 23 07 34.4 -0.1
comp=Z,42nm,1.0s
L40A Anamosa 69.26 344 P P 23 07 33.9 -0.5
baz=160,SNR=9.5
LONY Lake Ozonia 69.30 357 P P 23 07 35.1 +0.4
baz=176
214A Organ Pipe Nat 69.30 323 P P 23 07 37.1 +2.1
baz=140,SNR=7.3
T25A Trinidad 69.34 332 eP P 23 07 37.5 +2.1
comp=Z,46nm,1.9s
T25A Trinidad 69.34 332 P P 23 07 35.3 -0.1
baz=148
BWLO Walkerton 69.35 352 P P 23 07 35.1 +0.1
baz=170
H55A Tweed 69.38 355 P P 23 07 35.0 -0.2
baz=174
DELO Deloro Mine 69.39 355 P P 23 07 33.6 -1.5
baz=173
K42A Prairie Point, 69.49 346 P P 23 07 35.4 -0.4
baz=162,SNR=5.5
J45A Montague 69.51 348 P P 23 07 36.0 0.0
baz=165
L39A Vinton 69.52 343 P P 23 07 35.6 -0.4
baz=159
K41A Shullsburg 69.55 345 P P 23 07 36.2 -0.1
baz=161
I47A Gladwin 69.74 350 P P 23 07 36.9 -0.4
baz=167
I48A Sherman Twp 69.78 350 P P 23 07 36.7 -0.9
baz=167
I46A Reed City 69.82 349 P P 23 07 36.8 -1.1
baz=166
JFWS Jewell Farm 69.83 345 eP P 23 07 38.5 +0.5
comp=Z,25nm,1.0s
JFWS Jewell Farm 69.83 345 eP P 23 07 38.5 +0.5
JFWS pmax pmax
comp=Z,25nm,1.0s
JFWS Jewell Farm 69.83 345 P P 23 07 38.0 0.0
baz=161
BMRO Meriville Lake 69.83 352 P P 23 07 36.7 -1.3
baz=170
K40A Colesburg 69.84 344 P P 23 07 38.5 +0.4
baz=160,SNR=9.2
J43A Natural Harves 69.86 346 P P 23 07 37.7 -0.4
baz=163
PKME Peaks-Kenny Pk 69.87 1 eP P 23 07 38.8 +0.7
comp=Z,168nm,1.9s
PKME Peaks-Kenny Pk 69.87 1 P P 23 07 38.1 0.0
baz=181
BANO Bancroft 69.91 355 P P 23 07 38.1 -0.3
baz=173

J42A Columbus 69.95 346 P P 23 07 38.8 0.0
baz=162
K39A Oelwein 70.03 344 P P 23 07 39.0 -0.2
baz=160
G55A Calabogie 70.05 356 P P 23 07 39.0 -0.3
baz=174
G53A Haliburton 70.07 354 P P 23 07 39.4 0.0
baz=172,SNR=5.2
KSCO Kaye Shedlock' 70.20 334 P P 23 07 41.2 +0.7
baz=149
J41A Loganville 70.20 345 P P 23 07 40.3 0.0
baz=161
H47A Mio 70.26 350 P P 23 07 40.8 +0.2
baz=167
ALFO Alfred 70.31 357 P P 23 07 40.9 +0.1
baz=176
SDCO Great Sand Dun 70.32 331 eP P 23 07 40.0 -1.5
comp=Z,20nm,1.3s
SDCO Great Sand Dun 70.32 331 P P 23 07 40.8 -0.6
baz=147
H46A Fife Lake 70.36 349 P P 23 07 40.9 -0.3
baz=166
J40A Soldiers Grove 70.40 345 P P 23 07 41.0 -0.4
baz=161
I42A Draeger Farm, 70.45 346 eP P 23 07 41.6 -0.2
comp=Z,24nm,1.1s
I42A Draeger Farm, 70.45 346 P P 23 07 41.6 -0.2
baz=162
X16A Lo Mia Camp, P 70.46 325 eP P 23 07 44.4 +2.1
comp=Z,10nm,1.1s
BUKO Buck Lake 70.46 354 P P 23 07 41.9 +0.1
baz=172
KLBO Killbear Provi 70.46 353 P P 23 07 41.4 -0.3
baz=171
PEMO Pembroke 70.51 355 P P 23 07 42.3 +0.3
baz=174
J39A Decorah 70.58 344 P P 23 07 42.2 -0.3
baz=160
BGNE Belgrade 70.68 339 P P 23 07 43.2 0.0
baz=154
TBI Tubuai 70.69 253 eT T 00 25 01.2
comp=Z,6.2nm,0.2s
G47A Hillman 70.76 350 P P 23 07 44.1 +0.5
baz=167
H43A Windswept, Lux 70.77 347 P P 23 07 43.7 0.0
baz=164
F52A Sundridge 70.81 354 P P 23 07 43.8 0.0
baz=172
I41A Arkdale 70.82 346 P P 23 07 43.6 -0.4
baz=162
ALGO Algonquin Park 70.85 355 P P 23 07 43.8 -0.3
baz=173
S22A 4UR Ranch, Cre 70.90 331 P P 23 07 46.0 +0.9
baz=146
G45A Suttons Bay 70.93 349 P P 23 07 44.1 -0.6
baz=166
H42A Shiocton 70.96 347 P P 23 07 44.4 -0.4
baz=163
F51A Arnstein 71.00 353 P P 23 07 44.2 -0.8
baz=171
I39A Houston 71.02 344 eP P 23 07 45.4 +0.2
comp=Z,16nm,0.9s
I39A Houston 71.02 344 P P 23 07 45.0 -0.2
baz=160
F49A Sandfield 71.08 352 P P 23 07 45.4 -0.1
baz=169
LIC Lamto 71.11 74 eP P 23 07 45.3 -1.1
comp=Z,78nm,1.8s
LIC Lamto 71.11 74 eP P 23 07 45.3 -1.1
Q24A Divide 71.19 332 eP P 23 07 48.8 +2.0
comp=Z,12nm,0.8s
Q24A Divide 71.19 332 P P 23 07 48.4 +1.6
baz=147,SNR=5.1
F48A Evansville 71.22 351 P P 23 07 46.5 +0.1
baz=169
MVCO Mesa Verde 71.23 329 P P 23 07 48.4 +1.4
baz=144
E52A Mattawa 71.23 354 P P 23 07 46.7 +0.3
baz=172
E53A Dumoine, Ponti 71.24 355 P P 23 07 46.5 +0.1
baz=173
GLA Glamis 71.24 322 P P 23 07 48.4 +1.5
baz=138
E54A Lac Daplat, Po 71.26 355 P P 23 07 46.8 +0.2
baz=174
WUAZ Wupatki 71.28 326 P P 23 07 49.2 +1.9
baz=141
TIC Toumodi 71.31 73 eP P 23 07 46.6 -1.1
TIC Toumodi 71.31 73 eP P 23 07 46.6 -1.1
TIC Toumodi 71.31 73 eP P 23 07 46.6 -1.1
KIC Kosan Boka 71.42 74 eP P 23 07 47.4 -1.0
comp=Z,26nm,0.8s
KIC Kosan Boka 71.42 74 eP P 23 07 47.4 -1.0
DBIC Dimbokro 71.47 73 eP P 23 07 47.6 -1.0
comp=Z,18nm,1.0s
DBIC Dimbokro 71.47 73 eP P 23 07 47.6 -1.0
DBIC pmax pmax
comp=Z,18nm,1.0s
DBIC Dimbokro 71.47 73 P P 23 07 47.6 -1.0
comp=Z,9.8nm,0.7s,baz=221,slow=5.8,SNR=15
DBIC LR LR 23 37 16.0
comp=Z,232nm,20.6s,baz=210,slow=34
DBIC Dimbokro 71.47 73 eP P 23 07 48.3 -0.3
H40A Chili 71.48 345 P P 23 07 48.8 +0.8
baz=161
E50A Wahnapitae 71.58 353 P P 23 07 48.6 +0.1
baz=170
Y12C Blythe 71.59 323 eP P 23 07 51.5 +2.6
comp=Z,8.5nm,0.9s
Y12C Blythe 71.59 323 P P 23 07 50.9 +2.0
baz=139
G42A Mountain 71.64 347 P P 23 07 49.1 +0.1
baz=163
IKP In-Ko-Pah, Jac 71.67 321 P P 23 07 50.8 +1.3
baz=137
SWSC Sam W. Stewart 71.71 321 P P 23 07 50.6 +1.0
baz=137
H39A Augusta 71.74 345 P P 23 07 49.9 +0.4
baz=160
G41A Antigo 71.77 346 P P 23 07 49.5 -0.2
baz=162
PDMCI Parker Dam,Lak 71.80 323 P P 23 07 50.9 +0.8
baz=139
E48A Lockeyer 71.81 352 P P 23 07 49.8 -0.1
baz=169
D52A ZEK Kipawa Sen 71.89 355 P P 23 07 50.5 +0.1
baz=173
E47A Iron Bridge 71.93 351 P P 23 07 50.5 -0.1
baz=168
D54A Lac Fusel, La 71.93 356 P P 23 07 50.5 -0.2
baz=174
D53A Lac Vacive, Po 71.94 355 P P 23 07 50.8 +0.2
baz=173
F43A Flat Rock, Esc 71.96 348 P P 23 07 51.1 +0.3
baz=164
F44A Big Bay de Noc 71.97 349 P P 23 07 51.2 +0.4
baz=165
H38A Maiden Rock 71.98 344 P P 23 07 51.4 +0.4
baz=159
E46A Sault Ste Mari 72.00 350 P P 23 07 50.6 -0.4
baz=167
LATQ La Tuque 72.00 359 P P 23 07 51.3 +0.2
baz=178
PV01 Paradox Valley 72.01 330 eP P 23 07 54.2 +2.5
comp=Z,11nm,1.1s
BAR Barrett 72.02 321 eP P 23 07 53.1 +1.6
comp=Z,24nm,1.6s
MONP2 Monument Peak 72.03 321 P P 23 07 52.7 +0.9
baz=137
BC3 Big Chuckawall 72.04 322 P P 23 07 53.5 +1.7
baz=138,SNR=6.3
G40A Rib Lake 72.05 346 P P 23 07 51.5 +0.1
baz=161
ISCO Idaho Springs 72.08 333 eP P 23 07 53.9 +1.8
comp=Z,5.8nm,1.0s
ISCO Idaho Springs 72.08 333 P P 23 07 53.6 +1.5
baz=147,SNR=6.3
D51A Lot 18 Range I 72.09 354 P P 23 07 51.7 +0.1
baz=172
E45A Wooded Hills, 72.12 350 P P 23 07 52.6 +0.8
baz=166
SBA Scott Base 72.13 191 eP P 23 07 53.1 +1.5
comp=Z,18nm,1.2s
SBA Scott Base 72.13 191 eP P 23 07 53.1 +1.5
SBA pmax pmax
comp=Z,18nm,1.2s
PV15 Paradox Valley 72.14 330 eP P 23 07 55.5 +3.1
comp=Z,15nm,1.1s

PV13 Radium Mtn., P 72.14 329 eP P 23 07 55.0 +2.6
comp=Z,14nm,1.1s
SMCO Snowmass 72.15 331 eP P 23 07 54.7 +2.0
comp=Z,13nm,1.0s
PV03 Paradox Valley 72.23 329 eP P 23 07 55.5 +2.5
comp=Z,11nm,1.3s
IRM Iron Mountain 72.24 323 P P 23 07 53.9 +1.0
baz=138
F41A Three Lakes 72.26 347 P P 23 07 52.2 -0.5
baz=162
W13A Hualapai Mount 72.27 324 eP P 23 07 55.7 +2.5
comp=Z,5.8nm,1.1s
G39A Holcombe 72.28 345 P P 23 07 52.4 -0.4
baz=160
ECSD EROS Data Cent 72.30 341 eP P 23 07 53.2 +0.2
comp=Z,12nm,0.9s
ECSD EROS Data Cent 72.30 341 P P 23 07 52.9 0.0
baz=155,SNR=10
G38A Ridgeland 72.34 345 P P 23 07 53.0 -0.1
baz=160
D48A Paudash Townsh 72.44 352 P P 23 07 53.5 -0.3
baz=169
U15A North Rim 72.46 326 eP P 23 07 57.2 +2.8
comp=Z,9.7nm,1.0s
E43A Lone Tree Farm 72.46 348 P P 23 07 53.5 -0.3
baz=164
D46A Sault St. Mari 72.47 351 P P 23 07 53.4 -0.5
baz=167
D49A Beulah Townshi 72.48 353 P P 23 07 53.7 -0.3
baz=170
D47A Chapleau 72.50 351 P P 23 07 53.7 -0.4
baz=168
TPFO Pinon Flats 72.57 321 P P 23 07 56.5 +1.6
baz=137
XPFO Pion Flat 72.57 321 eP P 23 07 57.3 +2.4
comp=Z,10nm,1.1s
PFO Pinyon Flats O 72.57 321 eP P 23 07 56.5 +1.5
comp=Z,6.5nm,1.1s
PFO Pinyon Flats O 72.57 321 eP P 23 07 56.5 +1.5
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 72.57 321 P P 23 07 56.5 +1.5
comp=Z,1.9nm,0.8s,baz=142,slow=6.9,SNR=3.8
BELC Belle Mtn. Jos 72.60 322 P P 23 07 57.2 +2.0
baz=138
F40A Park Falls 72.65 346 P P 23 07 54.7 -0.3
baz=162,SNR=7.3
E42A Champion 72.68 348 P P 23 07 54.9 -0.2
baz=164
PPT2 Papeete2 72.79 258 eLR LR 23 30 19.3
comp=Z,227nm,26.2s
F39A Loretta 72.82 346 P P 23 07 55.9 -0.1
baz=161
E41A Kenton 72.92 347 P P 23 07 56.7 +0.1
baz=163
MURC Murrieta 72.98 321 P P 23 07 59.9 +2.6
baz=137
GMRC Granite Mounta 72.99 323 P P 23 07 59.4 +2.0
baz=138,SNR=10
F37A Hinrichs Farm, 73.05 344 P P 23 07 57.1 -0.2
baz=159
F38A Pierce - Schro 73.08 345 P P 23 07 57.5 -0.1
baz=160,SNR=5.2
E40A Wakefield 73.10 346 P P 23 07 57.6 0.0
baz=162,SNR=6.8
VNDA Vanda 73.16 190 eP P 23 07 59.4 +1.6
comp=Z,11nm,1.1s
VNDA Vanda 73.16 190 eP P 23 07 59.4 +1.6
VNDA pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 73.16 190 P P 23 07 59.3 +1.6
comp=Z,5.2nm,0.7s,baz=132,slow=6.0,SNR=27
E39A Mellen 73.18 346 P P 23 07 58.0 -0.1
baz=161,SNR=6.8
KNB Kanab 73.18 326 eP P 23 08 00.5 +2.0
comp=Z,34nm,1.2s
LCMT Little Creek M 73.39 326 eP P 23 08 02.3 +2.5
comp=Z,4.5nm,0.9s
HEC Hector,Ludlow 73.40 322 P P 23 08 01.7 +2.0
baz=137,SNR=5.4
D41A Chassel 73.41 347 eP P 23 07 59.6 +0.1
comp=Z,32nm,0.8s
D41A epP sP 23 08 10.2 +0.4
D41A Chassel 73.41 347 P P 23 07 59.4 -0.1
baz=163,SNR=5.5
E38A The Farm, Brul 73.62 345 P P 23 08 01.0 +0.4
baz=160
TUQ Turquoise Moun 73.62 323 P P 23 08 02.6 +1.5
baz=138,SNR=6.2
FMP Fort Macarthur 73.70 320 P P 23 08 03.2 +1.7
baz=136
LSQQ Lebel-sur-Quev 73.85 356 P P 23 08 01.6 -0.4
baz=174
Q16A Castle Valley 73.85 328 eP P 23 08 04.0 +1.5
comp=Z,8.1nm,0.9s
CCUT Cedar City 73.87 326 eP P 23 08 05.3 +2.7
comp=Z,17nm,0.9s
GSC Goldstone, Bar 74.01 322 eP P 23 08 05.7 +2.3
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 74.01 322 eP P 23 08 05.7 +2.3
GSC pmax pmax
comp=Z,9.0nm,1.1s
GSC Goldstone, Bar 74.01 322 P P 23 08 05.7 +2.3
baz=137
SHPR Sheep Range 74.01 324 eP P 23 08 05.9 +2.5
comp=Z,10nm,1.2s
MSU Marysvale 74.02 327 eP P 23 08 06.0 +2.4
MSU Marysvale 74.02 327 eP P 23 08 06.0 +2.4
C40A Isle Royale Na 74.35 347 P P 23 08 06.6 +1.7
baz=163
EDW2 Edwards Air Fo 74.37 321 P P 23 08 07.3 +1.9
baz=136
MATQ Matagami 74.60 355 P P 23 08 05.9 -0.4
baz=173
LRMC Laurel Mtn Rad 74.62 322 P P 23 08 09.0 +2.0
baz=137
PSUT Pine Spring 74.87 326 eP P 23 08 10.9 +2.4
comp=Z,9.7nm,0.9s
EYMN Ely 74.87 346 eP P 23 08 07.9 -0.1
comp=Z,12nm,1.0s
FURC Furnace Creek, 74.89 323 P P 23 08 10.3 +2.0
baz=137
TPNV Topopah Spring 74.92 324 eP P 23 08 11.4 +2.7
comp=Z,12nm,1.0s
TPNV Topopah Spring 74.92 324 eP P 23 08 11.4 +2.7
TPNV pmax pmax
comp=Z,12nm,1.0s
TPNV Topopah Spring 74.92 324 P P 23 08 10.9 +2.2
baz=138
MPMC Manual Prospec 74.94 322 P P 23 08 10.7 +1.8
baz=137
MPU Maple Canyon 74.94 329 eP P 23 08 11.2 +2.3
comp=Z,7.1nm,0.9s
NLU North Lily Min 75.10 328 eP P 23 08 12.0 +2.3
comp=Z,15nm,1.5s
DAC Darwin (Calif) 75.16 323 eP P 23 08 11.9 +1.8
comp=Z,8.7nm,1.1s
DAC Darwin (Calif) 75.16 323 eP P 23 08 11.9 +1.8
DAC pmax pmax
comp=Z,9.0nm,1.1s
JLU Jordanelle 75.32 329 eP P 23 08 13.1 +2.1
comp=Z,8.1nm,0.8s
PKM Mcpherson Peak 75.42 320 P P 23 08 13.7 +2.0
baz=135
CWC Cottonwood Cre 75.54 322 P P 23 08 14.4 +2.1
baz=136
R11A Troy Canyon, C 75.61 325 eP P 23 08 15.2 +2.5
comp=Z,8.9nm,1.2s
R11A Troy Canyon, C 75.61 325 P P 23 08 14.8 +2.1
baz=139,SNR=9.8
DUG Dugway, Tooele 75.64 328 eP P 23 08 15.0 +2.2
comp=Z,13nm,1.1s
DUG Dugway, Tooele 75.64 328 eP P 23 08 15.0 +2.2
DUG pmax pmax
comp=Z,13nm,1.1s
DUG Dugway, Tooele 75.64 328 P P 23 08 14.6 +1.8
baz=141,SNR=7.8
VES Vestal, Richgr 75.67 321 P P 23 08 13.9 +1.0
baz=136
TCUT Toone Canyon 75.71 330 eP P 23 08 15.6 +2.3
comp=Z,14nm,0.9s
SMMC Simmler 75.82 320 P P 23 08 15.3 +1.5
baz=135
TIN Tinemaha, Big 76.07 323 P P 23 08 17.2 +1.9
baz=136
HWUT Hardware Ranch 76.17 330 eP P 23 08 17.3 +1.5
comp=Z,7.8nm,0.9s
BW06 Boulder Array 76.21 332 P P 23 08 16.7 +0.7

baz=144
PD31 Pinedale Array 76.21 332 *e*P P **23 08 17.1 +1.0**
comp=Z,4.6nm,1.2s
PDAR Pinedale Array 76.21 332 *e*P P **23 08 16.6 +0.5**
PDAR Pinedale Array 76.21 332 P P **23 08 16.9 +0.8**
comp=Z,1.9nm,1.0s,baz=152,slow=6.7,SNR=8.0
PDAR LR LR 23 40 04.9
comp=Z,22nm,21.3s,baz=138,slow=34
AGMN Agassiz Nation 76.26 343 *e*P P **23 08 16.2 +0.3**
comp=Z,8.9nm,0.8s
AGMN Agassiz Nation 76.26 343 P P **23 08 15.9 0.0**
baz=157,SNR=5.8
HVU Hansel Valley 76.86 329 *e*P P **23 08 21.3 +1.6**
comp=Z,8.2nm,0.9s
HVU Hansel Valley 76.86 329 *e*P P **23 08 21.3 +1.6**
HVU pmax pmax
comp=Z,8.0nm,0.9s
AHID Auburn Hatcher 76.88 331 *e*P P **23 08 21.5 +1.7**
comp=Z,17nm,0.9s
OMMB Old Mammoth Mi 76.90 323 *e*P P **23 08 22.3 +2.1**
comp=Z,12nm,1.0s
MDND Maddock 76.91 341 *e*P P **23 08 20.9 +1.3**
comp=Z,40nm,0.8s
MDND Maddock 76.91 341 P P **23 08 20.5 +0.9**
baz=153
NV11 Mina Array Sit 77.03 324 *e*P P **23 08 22.7 +2.0**
comp=Z,0.4nm,1.1s
NV01 Mina Array Sit 77.11 324 *e*P P **23 08 22.7 +1.5**
NVAR Mina Array Bea 77.11 324 P P **23 08 23.1 +1.9**
comp=Z,3.4nm,0.8s,baz=155,slow=6.4,SNR=17
ELK Elko 77.25 327 *e*P P **23 08 23.5 +1.5**
comp=Z,6.9nm,0.9s
ELK Elko 77.25 327 *e*P P **23 08 23.5 +1.5**
ELK pmax pmax
comp=Z,7.0nm,0.9s
REDW Red Top Meadow 77.25 331 *e*P P **23 08 23.7 +1.7**
comp=Z,11nm,1.0s
LOHW Long Hollow 77.34 332 *e*P P **23 08 23.6 +1.1**
comp=Z,12nm,1.1s
RYN Ryan 77.37 324 *e*P P **23 08 24.8 +2.1**
comp=Z,12nm,1.3s
TPAW Teton Pass 77.39 331 *e*P P **23 08 23.6 +0.8**
comp=Z,11nm,1.0s
KVN Kaiserville 77.45 324 *e*P P **23 08 24.9 +1.8**
comp=Z,9.3nm,1.1s
KVN Kaiserville 77.45 324 *e*P P **23 08 24.9 +1.8**
KVN pmax pmax
comp=Z,9.0nm,1.1s
MOOW Moose Ponds 77.51 332 *e*P P **23 08 24.9 +1.5**
comp=Z,7.0nm,1.3s
FXWY Fox Creek 77.54 331 *e*P P **23 08 24.8 +1.3**
comp=Z,6.9nm,1.1s
FLWY Flagg Ranch 77.76 332 *e*P P **23 08 27.0 +2.2**
comp=Z,15nm,0.9s
WAKR Walker 77.78 323 *e*P P **23 08 27.6 +2.6**
comp=Z,10nm,1.1s
RLMT Red Lodge 78.00 333 P P **23 08 27.4 +1.4**
baz=145
YERR Yerington 78.02 323 *e*P P **23 08 28.6 +2.3**
comp=Z,9.5nm,0.9s
ULM Lac du Bonnet 78.06 344 *e*P P **23 08 26.0 +0.1**
comp=Z,18nm,1.3s
ULM Lac du Bonnet 78.06 344 *e*P P **23 08 26.0 +0.1**
ULM pmax pmax
comp=Z,18nm,1.3s
ULM Lac du Bonnet 78.06 344 P P **23 08 26.1 +0.1**
comp=Z,6.3nm,1.0s,baz=145,slow=5.9,SNR=7.3
PNTR Pine Nut 78.28 323 *e*P P **23 08 30.3 +2.5**
comp=Z,18nm,0.8s
YHH Holmes Hill 78.39 332 *e*P P **23 08 30.7 +2.4**
comp=Z,18nm,1.1s
YHB Horse Butte 78.51 332 *e*P P **23 08 31.4 +2.5**
comp=Z,14nm,1.0s
AFDM Forest Hills D 78.94 322 *e*P P **23 08 32.8 +1.7**
comp=Z,12nm,1.4s
HLID Hailey 79.01 329 *e*P P **23 08 33.5 +1.9**
comp=Z,15nm,1.0s
HLID Hailey 79.01 329 P P **23 08 33.4 +1.9**
baz=140,SNR=20
BEKR Beckworth 79.25 323 *e*P P **23 08 35.1 +2.1**
comp=Z,8.1nm,0.9s
MCMT McKenzie Canyo 79.28 331 *e*P P **23 08 35.5 +2.3**
SCHG Schefferville 79.51 2 LR LR 23 43 29.1
comp=Z,41nm,21.0s,baz=307,slow=35
ORV Oroville 79.65 323 *e*P P **23 08 37.1 +2.1**
comp=Z,14nm,1.0s
ORV Oroville 79.65 323 *e*P P **23 08 37.1 +2.1**
ORV pmax pmax
comp=Z,14nm,1.0s
TOA0 Torodi Ar. Sit 80.22 71 *e*P P **23 08 37.7 -0.9**
TOA1 Torodi Ar. Sit 80.22 71 *e*P P **23 08 35.7 -2.9**
TORD Torodi Ar. Bea 80.22 71 P P **23 08 35.7 -2.9**
comp=Z,5.4nm,0.6s,baz=305,slow=8.1,SNR=84
TORD LR LR 23 44 13.6
comp=Z,203nm,18.2s,baz=290,slow=36
O03E Paynes Creek 80.34 323 P P **23 08 39.2 +0.4**
baz=134
MOD Modoc Plateau 80.67 325 *e*P P **23 08 42.1 +1.4**
comp=Z,14nm,1.0s
J08A Circle Bar Ran 80.80 327 *e*P P **23 08 42.9 +1.6**
comp=Z,10nm,1.0s
TSUM Tsumeb 80.81 107 *e*P P **23 08 41.6 -0.4**
comp=Z,23nm,1.4s
WDC Whiskeytown Da 80.94 323 *e*P P **23 08 42.2 +0.3**
comp=Z,8.8nm,0.9s
WDC Whiskeytown Da 80.94 323 *e*P P **23 08 42.2 +0.3**
WDC pmax pmax
comp=Z,9.0nm,0.9s
N02D Trinity Center 81.30 323 P P **23 08 45.1 +1.2**
baz=134
BMO Blue Mountains 81.34 329 *e*P P **23 08 45.5 +1.4**
comp=Z,19nm,1.6s
M04C Macdoel 81.40 324 P P **23 08 45.8 +1.3**
baz=134,SNR=7.4
MAW Mawson 81.57 164 *e*P P **23 08 45.5 +0.6**
comp=Z,6.3nm,0.8s
MAW Mawson 81.57 164 *e*P P **23 08 45.5 +0.6**
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW Mawson 81.57 164 P P **23 08 45.2 +0.3**
comp=Z,26nm,0.8s,baz=216,slow=6.1,SNR=10
MAW LR LR 23 44 15.6
comp=Z,82nm,20.6s,baz=241,slow=35
YBH Yreka Blue Hor 81.83 324 *e*P P **23 08 47.2 +0.5**
comp=Z,5.5nm,0.8s
YBH Yreka Blue Hor 81.83 324 *e*P P **23 08 47.2 +0.5**
YBH pmax pmax
comp=Z,6.0nm,0.8s
YBH Yreka Blue Hor 81.83 324 P P **23 08 46.9 +0.2**
comp=Z,4.1nm,0.8s,baz=72,slow=5.1,SNR=11
I07A Izee 81.84 327 *e*P P **23 08 48.6 +1.9**
comp=Z,12nm,1.1s
L04D Klamath Falls 81.95 324 P P **23 08 48.1 +0.7**
baz=134
F10A Beach Ranch, E 82.14 329 *e*P P **23 08 49.0 +0.8**
comp=Z,13nm,1.1s
J05D Fort Rock, OR 82.14 325 P P **23 08 49.3 +0.9**
baz=135
PINE Pine Mountain 82.35 326 *e*P P **23 08 51.3 +1.7**
comp=Z,16nm,0.9s
J04D Umpqua Nationa 82.56 325 P P **23 08 51.7 +1.0**
baz=134
L02E Cave Junction 82.61 323 P P **23 08 51.9 +1.3**
baz=133
I05D Terrebonne, OR 82.94 326 P P **23 08 54.0 +1.6**
baz=135
K02D Willamette Mer 83.01 324 P P **23 08 54.0 +1.2**
baz=133
WALA Waterton Lakes 83.06 333 *e*P P **23 08 54.3 +1.3**
I04A Tendick Farm, 83.11 325 P P **23 08 54.8 +1.6**
baz=134
I03D Drain, OR 83.53 325 P P **23 08 56.7 +1.3**
baz=133
HAWA Hanford 83.53 328 *e*P P **23 08 56.6 +1.3**
comp=Z,7.8nm,0.9s
G05D Wamic, OR 83.57 327 P P **23 08 56.4 +0.8**
baz=135
FFC Flin Flon 83.71 342 *e*P P **23 08 56.2 +0.1**
comp=Z,21nm,1.6s
FFC Flin Flon 83.71 342 *i*P P **23 08 56.5 +0.5**
NEW Newport 83.81 331 *e*P P **23 08 57.9 +1.1**
comp=Z,6.0nm,1.0s
NEW Newport 83.81 331 *e*P P **23 08 57.9 +1.1**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 83.81 331 P P **23 08 57.9 +1.1**
baz=139
C09A Chrisman Ranch 83.98 330 *e*P P **23 08 59.0 +1.3**
comp=Z,7.1nm,0.8s
LBTB Lobatse 85.23 115 *e*P P **23 09 03.7 -1.0**
LBTB Lobatse 85.23 115 *e*P P **23 09 03.7 -1.0**
LLLB Lillooet 87.65 330 *e*P P **23 09 15.9 +0.1**
comp=Z,12nm,1.3s
CASY Casey 89.07 181 *e*P P **23 09 23.5 +1.1**
comp=Z,13nm,0.8s
ESDC Sonseca Array 89.55 45 LR LR 23 50 05.3
comp=Z,73nm,18.2s,baz=265,slow=36
YKA Yellowknife Ar 93.82 341 P P **23 09 44.0 -0.1**
comp=Z,3.6nm,0.8s,baz=138,slow=4.4,SNR=67
YKB5 Yellowknife Ar 93.82 341 *e*P P **23 09 43.8 -0.4**
YKW3 Yellowknife Ar 93.87 341 *e*P P **23 09 44.3 -0.1**
comp=Z,4.9nm,0.7s
INK Inuvik 103.53 340 Pdiff Pdif **23 10 27.8 +0.1**
comp=Z,1.9nm,1.0s,baz=214,slow=1.1,SNR=4.9
FINES FINESS Array B 114.88 32 *i*PKIKP PKiKP **23 15 08.6 +1.0**
FINES pmax pmax
comp=Z,1.0nm,0.8s
KIEV Kiev 115.14 44 *i*PKIKP **PKPdf 23 15 07.3 -1.2**
AKASG Malin Array Be 115.15 44*c i*PKIKP **PKPdf 23 15 07.1 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 115.15 44 PKP **PKPdf 23 15 07.5 -1.0**
comp=Z,0.1nm,0.2s,baz=267,slow=3.1,SNR=7.2
AKBB Malin Array Si 115.15 44 *e*PKiKP **PKPdf 23 15 07.5 -1.0**
AKBB Malin Array Si 115.15 44 *e*PKIKP **PKPdf 23 15 07.5 -1.0**
BR101 Keskin Array S 116.27 56 *e*PKPdf **PKPdf 23 15 10.6 -0.6**
BRTR Keskin Array B 116.27 56*c i*PKIKP **PKPdf 23 15 10.8 -0.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR Keskin Array B 116.27 56 PKP **PKPdf 23 15 10.6 -0.6**
comp=Z,1.3nm,0.9s,baz=177,slow=2.5,SNR=5.5
OBN Obninsk 119.98 39 *i*PKIKP **PKPdf 23 15 17.2 -0.4**
OBN SS SS 23 33 06.0 -0.9
OBN pmax pmax
comp=Z,6.0nm,1.0s
OBN MLR MLR
comp=Z,61nm,16.0s
KLMR Klimovskoe 121.37 33 *e*PKIKP **PKPdf 23 15 18.6 -1.5**
KLMR pmax pmax
comp=Z,21nm,1.9s
KLMR Klimovskoe 121.37 33 *e*PKPdf **PKPdf 23 15 18.6 -1.5**
KLMR AMP 23 15 31.3
comp=Z,21nm,1.9s
KBZ Khabaz 123.66 53 PKP **PKiKP 23 15 25.4 +0.1**
comp=Z,3.8nm,0.9s,baz=44,slow=10,SNR=4.0
BILL Bilibino 125.00 337 *i*PKIKP **PKiKP 23 15 27.8 +0.5**
BILL *i* 23 22 19.6
BILL pmax pmax
comp=Z,7.0nm,1.7s
BILL MLR MLR
comp=Z,36nm,15.0s
AS01 Alice Springs 126.02 208 *e*PKPdf **PKPdf 23 15 29.9 -0.5**
AS31 Alice Springs 126.04 208 *e*PKPdf **PKPdf 23 15 30.0 -0.5**
ASAR Alice Springs 126.04 208 PKP **PKPdf 23 15 30.0 -0.4**
comp=Z,3.5nm,0.7s,baz=136,slow=2.2,SNR=29
H11S2 WAKE ISLAND Hyl 126.42 275 T T 01 35 05.4
baz=108,slow=75,SNR=1171
H11S1 WAKE ISLAND Hyl 126.44 275 T T 01 35 07.7
baz=108,slow=75,SNR=662
H11S3 WAKE ISLAND Hyl 126.44 275 T T 01 35 06.0
baz=108,slow=75,SNR=792
H11N3 WAKE ISLAND Hyl 126.60 277 T T 01 35 22.6
baz=108,slow=75,SNR=54
H11N1 WAKE ISLAND Hyl 126.62 277 T T 01 35 22.0
baz=108,slow=75,SNR=42
H11N2 WAKE ISLAND Hyl 126.62 277 T T 01 35 21.0
baz=108,slow=75,SNR=41
WB2 Warramunga Arr 129.08 211 *e*PKPdf **PKPdf 23 15 36.0 -0.2**
WR1 Warramunga Arr 129.08 211 *e*PKPdf **PKPdf 23 15 36.1 -0.1**
WRA Warramunga Arr 129.08 211 PKP **PKPdf 23 15 36.1 -0.2**
comp=Z,5.9nm,0.8s,baz=156,slow=1.7,SNR=32
WRAB Tennant Creek 129.09 211*c i*PKIKP **PKPdf 23 15 36.5 +0.2**
WRAB pmax pmax
comp=Z,10.0nm,1.3s
TIXI Tiksi 131.93 352*c i*PKIKP **PKiKP 23 15 40.8 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,2.5s
ARU Arti 132.00 35 *i*PKIKP **PKiKP 23 15 41.6 0.0**
ARU 23 18 02.6
ARU SS SS 23 35 34.5 -2.6
SEY Seymchan 132.47 335*c i*PKIKP **PKiKP 23 15 42.7 +0.3**
SEY Seymchan 132.47 335 PKP **PKPdf 23 15 41.6 +0.3**
comp=Z,3.2nm,0.7s,baz=76,slow=4.1,SNR=10
ABKAR Akbulak array 134.89 44 *e*PKPdf **PKPdf 23 15 46.7 +0.5**
MA2 Magadan 134.91 331 PKP **PKPdf 23 15 46.0 +0.1**
comp=Z,2.0nm,0.3s,baz=54,slow=2.1,SNR=3.5
GEYT Alibeck 135.12 61 PKP **PKPdf 23 15 47.2 +0.1**
comp=Z,1.5nm,0.7s,baz=260,slow=8.9,SNR=4.0
BRVK Borovoye 139.57 36*c i*PKIKP **PKiKP 23 15 56.6 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
BVAR Borovoye Array 139.64 36 PKhKP PKPpre 23 15 51.2
comp=Z,1.6nm,0.8s,baz=270,slow=1.5,SNR=6.1
BVAR PKP **PKPdf 23 15 55.7 +0.8**
comp=Z,1.8nm,0.8s,baz=270,slow=3.0,SNR=12
NKL Nikolayevsk 143.18 328 *e*PKIKP PKPbc 23 15 58.2 0.0
NKL pmax pmax
comp=Z,11nm,0.9s
NVS Novosibirsk 144.54 26 *e*PKIKP **PKPab 23 16 02.1 +0.1**
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 145.19 34 *e*PKPbc **PKPab 23 16 04.7 +0.2**
KURK Kurchatov 145.19 34 *e*PKIKP **PKPab 23 16 04.7 +0.2**
KURBB Kurchatov Arra 145.19 35 PKPbc **PKPdf 23 16 04.8 0.0**
comp=Z,14nm,0.9s,baz=301,slow=3.5,SNR=86
YSS Yuzh-Sakhalins 145.40 318 *e*PKP2 **PKPdf 23 16 05.4 +0.1**
YSS pmax pmax
comp=Z,30nm,0.9s
ZAA1 Zalesovo Array 145.82 26 *e*PKPdf **PKPbc 23 16 06.4 +0.1**
ZAA0 Zalesovo Array 145.82 26 *e*PKPdf **PKPdf 23 16 05.7 -0.1**
ZALV Zalesovo Beam 145.82 26 *e*PKPdf **PKPdf 23 16 06.0 +0.3**
ZALV Zalesovo Beam 145.82 26 *e*PKP2 **PKPdf 23 16 06.1 +0.3**
ZALV Zalesovo Beam 145.82 26 PKPbc **PKPbc 23 16 06.4 +0.1**
comp=Z,14nm,0.7s,baz=305,slow=4.4,SNR=61
ARSB Arslanbob 145.91 52 *e*PKPdf **PKPab 23 16 08.0 +0.2**
AML Almayashu 146.16 51 P **PKPbc 23 16 08.4 0.0**
SNR=19
USP Ospenovka 146.32 48 P **PKPbc 23 16 08.4 +0.1**
SNR=11
AAK Ala-Archa 146.55 49 P **PKPbc 23 16 09.3 +0.1**
SNR=23
AAK Ala-Archa 146.55 49*c i*PKP2 **PKPbc 23 16 09.0 -0.2**
AAK pmax pmax
comp=Z,39nm,1.7s
AAK Ala-Archa 146.55 49 PKPbc **PKPbc 23 16 08.9 -0.2**
comp=Z,13nm,0.8s,baz=206,slow=2.4,SNR=51
FRU Bishkek 146.56 49 *e*PKP2 **PKPdf 23 16 08.0 +0.5**
FRU1 Bishkek 146.58 49 *e*PKPdf **PKPbc 23 16 09.2 +0.1**
FRU1 Bishkek 146.58 49 *e*PKP2 **PKPbc 23 16 09.2 +0.1**
CHMS Chumysh 146.59 49 P **PKPab 23 16 10.2 0.0**
SNR=10.0
UCH Uchtor 146.70 50 P **PKPbc 23 16 09.5 -0.5**
SNR=32
GRNR Gornyy 146.73 328 *e*PKP2 **PKPbc 23 16 09.4 +0.2**
GRNR pmax pmax
comp=Z,21nm,1.0s
ASAJ Asahikawa 146.73 314 PKPbc **PKPbc 23 16 09.6 +0.1**
comp=Z,17nm,0.9s,baz=353,slow=4.5,SNR=5.4
BOD Bodaibo 146.95 355 *e*PKP2 **PKPbc 23 16 08.7 -0.9**
BOD pmax pmax
comp=Z,20nm,1.2s
KZA Kyzart 147.27 50 P **PKPbc 23 16 10.9 -0.6**
SNR=12
PALK Pallekele 147.67 118 *e*PKPbc **PKPbc 23 16 13.1 +0.1**
NIL Nilore 147.68 66 *e*PKPdf **PKPdf 23 16 09.6 -0.1**
NIL Nilore 147.68 66 *e*PKIKP **PKPdf 23 16 09.6 -0.1**
CISI Cisompet, Garu 147.68 178 *e*PKPdf **PKPbc 23 16 12.5 -0.6**
ULHL Ulahol 147.89 49 P **PKiKP 23 16 14.5 -0.4**
SNR=12
NRN Naryn 148.02 51 *e*PKPdf **PKPdf 23 16 11.1 +0.7**
NRN Naryn 148.02 51 *e*PKIKP **PKPdf 23 16 11.1 +0.7**
ZEA Zeya 148.18 339 *e*PKP2 **PKPbc 23 16 13.1 0.0**
ZEA pmax pmax
comp=Z,37nm,1.4s
KDJ Kajisay 148.58 49 *e*PKPdf **PKPbc 23 16 13.2 -1.6**
KSH Kashi 148.63 54 PKPbc **PKPdf 23 16 11.5 +0.3**
KSH pPKP pPKPbc 23 16 22.8 0.0
KSH PP **PP 23 19 47.4 +2.5**
KSH AMB AMB
comp=Z,100nm,5.3s
TARG Taragay, Kyrgy 149.17 49 *e*PKPbc **PKPbc 23 16 17.1 +0.6**
PRZ Przheval'sk 149.27 48 *e*PKPbc **PKiKP 23 16 17.8 +0.1**
MAKZ Makanchi 149.28 38 *e*PKPbc **PKPbc 23 16 15.7 -0.5**
MK31 Makanchi Array 149.47 38 *e*PKPbc **PKPbc 23 16 16.7 +0.1**
MK32 Makanchi Array 149.47 38 *e*PKPdf **PKPdf 23 16 12.3 +0.2**
MK32 *e*PKPbc **PKPbc 23 16 16.6 0.0**
MKAR Makanchi Array 149.47 38*c i*PKHKP **PKPdf 23 16 14.1 +1.9**
MKAR pmax pmax
comp=Z,15nm,0.8s
MKAR Makanchi Array 149.47 38 PKP **PKPdf 23 16 12.3 +0.2**
comp=Z,15nm,0.8s,baz=336,slow=2.7,SNR=92
MKAR PKPbc **PKPbc 23 16 16.6 0.0**
comp=Z,15nm,0.8s,baz=318,slow=2.5,SNR=109
MK01 Makanchi Array 149.49 38 *e*PKPbc **PKPbc 23 16 16.5 -0.2**
KLR Kul'dur 149.98 330 PKP **PKPdf 23 16 13.1 +0.3**
comp=Z,4.9nm,0.8s,baz=14,slow=4.2,SNR=5.3
KLR PKPbc **PKPbc 23 16 17.9 +0.1**
comp=Z,6.2nm,1.0s,baz=5.4,slow=6.1,SNR=16
HYB Hyderabad 150.60 99 *i*PKP **PKPbc 23 16 20.0 -0.2**
HYB *e* 23 16 30.0
MJAR Matsushiro Arr 152.54 302 PKPbc **PKPbc 23 16 24.3 +0.1**
comp=Z,1.5nm,0.8s,baz=100,slow=3.6,SNR=5.8
MAJO Matsushiro 152.54 302 *e*PKPbc **PKPbc 23 16 24.3 +0.1**
MAJO Matsushiro 152.54 302 *e*PKIKP **PKPbc 23 16 24.3 +0.1**
MAJO Matsushiro 152.54 302 *e*P **PKPdf 23 16 15.3 -1.9**
TLY Talaya 152.97 7*c i*PKP2 **PKPab 23 16 37.9 +2.1**
TLY pmax pmax
comp=Z,10.0nm,1.3s
USRK Ussuriysk Ar. 153.23 322 PKPbc **PKiKP 23 16 26.0 +0.5**
comp=Z,2.9nm,0.7s,baz=57,slow=3.4,SNR=5.7
WMQ Urumqi 154.30 38 *e*PKPbc **PKPdf 23 16 19.4 -0.2**
WMQ LR LR
comp=Z,96nm,24.7s
WMQ LR LR
comp=Z,89nm,24.7s
WMQ LR LR
comp=Z,92nm,19.5s
DAV Davao City (W) 156.25 224 *e*P **PKPdf 23 16 21.6 -1.4**
CN2 Changchun 156.92 329 *e*PKP **PKPdf 23 16 27.9 +4.9**
SONA0 Songino Array 157.04 5 *e*PKPdf **PKPdf 23 16 23.7 +0.6**
SONA0 *e*PKPab **PKPab 23 16 54.1 +0.6**
SONM Songino Array 157.04 5 PKP **PKPdf 23 16 23.7 +0.6**
comp=Z,1.4nm,0.8s,baz=69,slow=0.2,SNR=9.1
SONM PKPab **PKPab 23 16 54.1 +0.6**
comp=Z,2.6nm,0.8s,baz=332,slow=3.9,SNR=11
SBUM Sibu 157.45 188 *e*PKPab **PKPab 23 16 56.9 +1.0**
KSRS Korea Array 159.67 312 PKPab **PKPab 23 17 06.6 +1.5**
comp=Z,0.3nm,0.3s,baz=40,slow=6.5,SNR=4.2
KS15 Wonju Array Si 159.71 312 *e*PKPab **PKPab 23 17 06.6 +1.3**
GTA Gaotai 163.58 26 PKP **PKPdf 23 16 31.6 +0.9**
GTA pPKP sPKPdf 23 16 40.5 -0.9
GTA sPKP 23 16 44.3
GTA PKPab **PKPab 23 17 22.6 +0.4**
HHC Hu-ho-hao-te 163.99 353 *e*PKP **PKPdf 23 16 28.3 -2.7**
LZH Lanzhou 168.00 21 *e*PKP **PKPdf 23 16 32.3 -2.1**
LZH pPKP pPKPdf 23 16 43.3 +0.9
LZH sPKP 23 16 48.3
LZH LR LR
comp=Z,170nm,13.5s
LZH LR LR
comp=Z,190nm,15.4s
LZH LR LR
comp=Z,220nm,16.7s
CM31 Chiang Mai Arr 168.57 122 *e*PKPdf **PKPdf 23 16 35.4 +0.3**
CM31 *e*PKPab **PKPab 23 17 43.6 -1.1**
CMAR Chiang Mai Arr 168.57 122 PKP **PKPdf 23 16 35.4 +0.3**
comp=Z,0.6nm,0.3s,baz=294,slow=2.6,SNR=6.7
CMAR PKPab **PKPab 23 17 43.6 -1.1**
comp=Z,1.2nm,0.8s,baz=240,slow=3.8,SNR=5.2
CHTO Chiang Mai 168.78 121 *e*P **PKPdf 23 16 35.4 +0.2**
NJ2 Nanjing 168.87 312 *e*PKP **PKPdf 23 16 35.6 +0.7**
CD2 Chengdu 172.40 37 *e*PKP **PKPdf 23 16 36.6 -0.3**
GYA Guiyang 177.33 55 *e*PKP **PKPdf 23 16 38.0 -0.6**
GYA PKPab PKPab 23 18 24.0 +0.4
GYA PKS **PKSdf 23 20 08.4 -2.5**
GYA PP **PP 23 22 17.8 +1.1**
GYA AMB AMB
comp=Z,120nm,8.2s

ISCJB ***17*** *23:03:14.4±1.3, 22°.4S±0°.2×179°.3W±0°.2, h485km, mb3.8/6, Error ellipse: s-maj=30.7km s-min=20.6km az=1.9*
IDC ***17*** *23:03:15.1±3.4, 22°.38S×179°.20W, h491km±33km, mb3.4/6, mb1 3.6/7, mb1mx3.2/33, mbtmp4.3/7, Error ellipse: s-maj=32.0km s-min=27.3km az=152.0*

ISC 17 23:03:14.6±1.2, 22°.4S±0°.2×179°.2W±0°.3, h485km, n15, σ0s75/14, mb3.9/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.14**	**190**	P	**P**	**23 06 36.6**	**-0.2**
	1.6nm,0.3s,baz=47,slow=2.2,SNR=3.2						
RPZ	**Rata Peaks**	**22.75**	**198**	P	**P**	**23 07 39.6**	**+0.9**
	9.1nm,0.6s,baz=86,slow=0.9,SNR=4.3						
STKA	**Stephens Creek**	**35.97**	**246**	P	**P**	**23 09 33.2**	**-0.3**
	2.2nm,0.5s,baz=81,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**43.01**	**259**	P	**P**	**23 10 31.0**	**+0.4**
	3.7nm,0.8s,baz=94,slow=8.2,SNR=24						
ASAR				PcP	**PcP**	**23 12 10.0**	**-0.3**
	0.7nm,0.5s,baz=112,slow=3.5,SNR=5.5						
WRA	**Warramunga Arr**	**43.25**	**264**	P	**P**	**23 10 32.4**	**-0.1**
	0.8nm,0.3s,baz=95,slow=8.0,SNR=19						
WRA				PcP	**PcP**	**23 12 10.2**	**-0.9**
	0.5nm,0.8s,baz=92,slow=2.9,SNR=3.0						
WRA				ScP	**ScP**	**23 15 14.9**	**-1.0**
	0.6nm,0.7s,baz=88,slow=4.3,SNR=4.3						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**23 15 21.8**	**+1.0**
	0.5nm,0.3s,baz=156,slow=2.6,SNR=6.6						
ILAR	**Eielson Array**	**90.39**	**13**	P	**P**	**23 15 23.3**	**+0.4**
	0.7nm,1.1s,baz=248,slow=1.0,SNR=4.0						
FINES	**FINESS Array B**	**137.23**	**342**	PKhKP	PKPpre	23 21 35.3	
	1.8nm,1.0s,baz=116,slow=3.2,SNR=12						
NOA	**NORSAR Array B**	**140.69**	**352**	PKhKP	PKPpre	23 21 41.6	
	0.7nm,0.8s,baz=34,slow=2.7,SNR=3.2						
HFS	**Hagfors**	**141.19**	**350**	PKhKP	PKPpre	23 21 43.0	
	1.0nm,0.4s,baz=90,slow=3.0,SNR=12						
AKASG	**Malin Array Be**	**144.06**	**329**	PKP	PKPbc	23 21 51.9	**-1.5**
	0.8nm,0.3s,baz=44,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**147.20**	**309**	PKPbc	**PKPbc**	**23 22 02.2**	**-1.0**
	0.9nm,0.6s,baz=150,slow=5.7,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.70**	**297**	PKPbc	**PKPbc**	**23 22 05.0**	**+0.4**
	1.6nm,0.3s,baz=77,slow=7.8,SNR=17						
MLR	**Muntele Rosu**	**149.13**	**324**	PKPbc	**PKPbc**	**23 22 07.1**	**-0.7**
	1.1nm,0.7s,baz=316,slow=6.0,SNR=5.6						
GERES	**GERESS Array B**	**151.66**	**342**	PKPbc	**PKPbc**	**23 22 12.9**	**-0.6**
	0.2nm,0.5s,baz=5.7,slow=3.0,SNR=2.7						

MAN 17 23:08:14.3, 6°.84N×126°.63E, h62km, MS3.7, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.39**	**286**	*e*P	Pn	23 08 27.1	+1.7
MATI				*e*S	Sn	23 08 36.7	+3.3
DMPH	**Davao City--Mi**	**1.14**	**282**	*e*P	Pn	23 08 35.8	+1.5
DDMP	**Don Marcelino,**	**1.17**	**231**	*e*P	Pn	23 08 35.5	+0.8
DDMP				*e*S	Sn	23 08 51.5	+1.6
KCP	**Kidapawan**	**1.54**	**276**	*i*P	Pn	23 08 40.8	+1.1
BUKP	**Musuan**	**1.87**	**304**	*e*P	Pn	23 08 45.1	+1.0
BUKP				*e*S	Sn	23 09 05.6	-1.0
SKMP	**Bagumbayan, Su**	**2.10**	**261**	*e*P	Pn	23 08 47.8	+0.7
SKMP				*e*S	Sn	23 09 13.5	+1.3
CTBH	**Cotabato--PC H**	**2.40**	**279**	*i*P	Pn	23 08 51.9	+0.7
PAGZ	**Pagadian**	**3.38**	**287**	*e*P	Pn	23 09 05.9	+1.3
PAGZ				*e*S	Pn	23 09 06.6	+2.0

DJA 17 23:10:52.3±1.1, 8°S±10°×10°8E±°, h35km±9km, M3.7/7, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.45**	**29**	S	Sn	23 11 11.6	+2.5
CISI	**Cisompet, Garu**	**0.74**	**326**	P	Pn	23 11 06.2	-0.2
CISI				S	Sn	23 11 17.3	+0.8
KPJI	**Karang Pucung**	**1.09**	**40**	P	Pn	23 11 13.4	+2.3
SKJI	**Sukabumi**	**2.03**	**305**	P	Pn	23 11 27.3	+3.3
SKJI				S	Sn	23 11 47.3	-0.9
UGM	**Wanagama**	**2.29**	**83**	P	Pn	23 11 27.9	+0.3
UGM				S	Sn	23 11 54.7	+0.1
PCJI	**Pacitan**	**2.92**	**90**	P	Pn	23 11 37.3	+1.1
PCJI				S	Sn	23 12 10.0	-0.1
PWJI	**Pagerwojo**	**3.54**	**88**	P	Pn	23 11 45.4	+0.6

PWJI S Sn 23 12 24.9 -0.6

*IDC **17** 23:16:30.9±2.6, 49.57N×97.33E, h0km, mb1 2.8/1, mb1mx2.7/45, mbtmp2.8/1, ML2.7/1, Error ellipse: s-maj=58.0km s-min=17.8km az=14.0*
*MOS **17** 23:16:32.2±3.1, 49.51N×97.35E, h4km, mb3.6/1, Error ellipse: s-maj=51.9km s-min=21.3km az=50.0*
ISC 17 23:16:25.3±12.0, 49.4N±0.3×96.3E±0.9, h10km, n10, σ1s45/6, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MOY	**Mondy**	**3.74**	**51**	*e*PN		**Pn**	**23 17 21.1**	**-2.1**
MOY				*e*			23 17 28.9	
MOY				*e*			23 18 11.0	
MOY	comp=Z,59nm,0.6s			pmax	pmax			
MOY	comp=E,439nm,0.6s			smax	smax			
ORL	**Orlik**	**3.84**	**34**	*e*PN		**Pb**	**23 17 33.7**	**+0.5**
ORL				*e*			23 18 17.6	
ORL	comp=Z,39nm,0.4s			pmax	pmax			
ORL	comp=N,114nm,1.0s			smax	smax			
ZAK	**Zakamensk**	**4.60**	**75**	*e*PN		**Pn**	**23 17 35.1**	**+0.1**
ZAK				*e*			23 17 42.5	
ZAK				*e*			23 18 34.0	
ZAK	comp=Z,33nm,0.7s			pmax	pmax			
ZAK	comp=N,183nm,1.2s			smax	smax			
ARS	**Arshan**	**4.62**	**55**	*e*PN		Pb	23 17 44.9	-1.6
ARS				*e*			23 18 36.6	
ARS	comp=Z,31nm,0.5s			pmax	pmax			
ARS	comp=N,455nm,0.8s			smax	smax			
IRK	**Irkutsk**	**5.78**	**57**	*e*PN		Pb	23 18 03.5	-2.7
IRK				*e*			23 19 13.1	
IRK	comp=Z,99nm,0.1s			pmax	pmax			
IRK	comp=N,380nm,1.0s			smax	smax			
SONM	**Songino Array**	**6.85**	**99**	Pn		**Pn**	**23 18 06.1**	**+0.2**
SONM	comp=N,0.2nm,0.3s,baz=287,slow=16,SNR=4.1			Pg		**Pb**	**23 18 24.3**	**-0.2**
SONM	comp=N,2.2nm,0.3s,baz=282,slow=19,SNR=22			Lg		Lg	23 19 47.0	
OGRR	comp=N,4.5nm,0.3s,baz=287,slow=31,SNR=12 **Ongureny**	**8.21**	**55**	*e*P		**Pn**	**23 18 25.6**	**+1.2**
OGRR				pmax	pmax			
ZALV	comp=Z,5.0nm,0.7s **Zalesovo Beam**	**8.48**	**307**	Pg		Pg	23 19 13.7	+6.1
ZALV	comp=Z,0.1nm,0.3s,baz=114,slow=18,SNR=3.4			Lg		Lg	23 21 10.5	
MKAR	comp=Z,0.4nm,0.3s,baz=116,slow=24,SNR=5.2 **Makanchi Array**	**9.75**	**260**	Pg			23 19 47.6	
MKAR	comp=Z,0.1nm,0.3s,baz=73,slow=20,SNR=4.4			Lg		Lg	23 22 02.1	
KURBB	comp=Z,0.1nm,0.3s,baz=72,slow=32,SNR=3.5 **Kurchatov Arra**	**11.52**	**283**	Lg		Lg	23 22 57.1	
	comp=Z,0.0nm,0.3s,baz=86,slow=33,SNR=4.9							

*IDC **17** 23:29:02.3±7.6, 23.57N×95.89E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.2/39, mbtmp3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.6/31, Error ellipse: s-maj=772.9km s-min=24.2km az=59.0*
*NDI **17** 23:29:12.4±2.2, 23.21N×94.00E, h10km, ML3.6*
*ISCJB **17** 23:29:13.3±1.2, 23.19N±0.05×93.98E±0.08, h100km, mb3.3/4, Error ellipse: s-maj=11.6km s-min=6.7km az=22.7*
ISC 17 23:29:11.6±1.1, 23.06N±0.06×94.14E±0.08, h100km, n12, σ1s92/18, mb3.3/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAIH	**SAIHA**	**1.20**	**242**	*e*P		**Pn**	**23 29 34.3**	**-0.1**
SAIH				*e*S		**Sn**	**23 29 52.7**	**+1.0**
SAIH	comp=E,1μm,0.2s			IAML			23 29 58.8	
SAIH	comp=N,418nm,0.3s			IAML			23 29 59.1	
BELO	**BELONIA**	**2.48**	**275**	*e*P		**Pn**	**23 29 50.5**	**+0.1**
BELO				*e*S		**Sn**	**23 30 20.4**	**+0.1**
KOHI	**KOHIMA**	**2.65**	**359**	*e*P		**Pn**	**23 29 53.9**	**+1.0**
KOHI				*e*S		**Sn**	**23 30 26.4**	**+1.8**
KOHI	comp=N,2μm,0.2s			IAML			23 30 31.8	
KOHI	comp=E,2μm,0.3s			IAML			23 30 32.3	
SHL	**Shillong**	**3.24**	**321**	*e*P		**Pn**	**23 30 01.5**	**+0.8**
SHL				*e*S		**Sn**	**23 30 37.1**	**-1.5**
SHL	comp=N,130nm,0.2s			IAML			23 30 38.1	
SHL	comp=E,109nm,0.1s			IAML			23 30 38.3	
TEZP	**TEZPUR**	**3.75**	**341**	*e*P		**Pn**	**23 30 06.4**	**-0.9**
TEZP				*e*S		**Sn**	**23 30 47.2**	**-3.3**
TURI	**Tura**	**4.27**	**306**	*e*P		**Pn**	**23 30 14.8**	**+0.5**
TURI				*e*S		**Sn**	**23 31 01.1**	**-2.0**
TAWA	**Tawang**	**4.96**	**336**	*e*P		**Pn**	**23 30 24.6**	**+0.4**
TAWA				*e*S		**Sn**	**23 31 18.2**	**-2.3**
MKAR	**Makanchi Array**	**25.54**	**341**	P		**P**	**23 34 33.0**	**+2.1**
KURBB	comp=E,0.4nm,0.5s,baz=149,slow=11,SNR=7.6 **Kurchatov Arra**	**30.09**	**340**	P		**P**	**23 35 14.8**	**+3.4**
JCJ	comp=E,0.3nm,0.7s,baz=146,slow=10,SNR=2.7 **Chichijima**	**43.50**	**74**	LR		LR	23 53 08.8	
WRA	comp=E,104nm,21.4s,baz=132,slow=35 **Warramunga Arr**	**58.01**	**134**	P		**P**	**23 38 51.9**	**-2.3**
ASAR	comp=E,0.3nm,0.6s,baz=318,slow=7.8,SNR=3.5 **Alice Springs**	**60.41**	**138**	P		**P**	**23 39 08.8**	**-1.9**
	comp=E,0.3nm,0.5s,baz=321,slow=7.2,SNR=3.0							

*IDC **17** 23:46:21.7±1.1, 23.33N×143.14E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.6/48, mbtmp3.7/9, ML4.0/1, MS2.8/5, Ms1 2.8/5, ms1mx2.6/34, Error ellipse: s-maj=33.4km s-min=24.4km az=93.0*
*ISCJB **17** 23:46:25.8±0.9, 23.42N±0.08×143.1E±0.2, h39km, mb3.6/8, MS2.6/3, Error ellipse: s-maj=29.1km s-min=11.3km az=170.8*
ISC 17 23:46:27.6±1.1, 23.4N±0.1×143.1E±0.2, h39km, n19, σ0s69/10, mb3.7/8, MS2.8/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**3.77**	**348**	Pn		**Pn**	**23 47 23.4**	**+0.2**
JCJ	11nm,0.3s,baz=113,slow=11,SNR=15			Sn		**Sn**	**23 48 05.3**	**-1.0**
MJAR	29nm,0.3s,baz=107,slow=19,SNR=8.3 **Matsushiro Arr**	**13.76**	**343**	LR		LR	23 54 43.3	
KSRS	comp=Z,47nm,18.2s,baz=5.0,slow=36 **Korea Array**	**19.12**	**321**	LR		LR	23 57 41.2	
ASAJ	comp=Z,26nm,18.2s,baz=166,slow=35 **Asahikawa**	**20.67**	**359**	LR		LR	23 59 26.8	
H11N1	comp=Z,12nm,20.9s,baz=346,slow=38 **WAKE ISLAND Hy**	**22.45**	**95**	T		T	00 15 03.1	
H11N2	baz=284 **WAKE ISLAND Hy**	**22.45**	**95**	T		T	00 15 02.0	
H11N3	baz=284,slow=74,SNR=4.4 **WAKE ISLAND Hy**	**22.47**	**95**	T		T	00 15 03.7	
H11S3	baz=284,slow=74,SNR=4.5 **WAKE ISLAND Hy**	**22.58**	**98**	T		T	00 14 50.9	
H11S1	baz=281 **WAKE ISLAND Hy**	**22.59**	**98**	T		T	00 14 49.2	
H11S2	baz=281 **WAKE ISLAND Hy**	**22.60**	**98**	T		T	00 14 52.6	
KLR	baz=281 **Kul'dur**	**27.29**	**344**	P		**P**	**23 52 07.8**	**-0.5**
KLR	0.6nm,0.5s,baz=162,slow=20,SNR=3.1			LR		LR	00 04 03.4	
SONM	comp=Z,22nm,18.3s,baz=171,slow=39 **Songino Array**	**37.98**	**319**	P		**P**	**23 53 42.6**	**+0.9**
CMAR	0.3nm,0.5s,baz=106,slow=8.1,SNR=2.9 **Chiang Mai Arr**	**41.39**	**272**	LR		LR	00 10 12.0	
WRA	comp=Z,16nm,19.7s,baz=340,slow=34 **Warramunga Arr**	**43.91**	**192**	P		**P**	**23 54 30.0**	**-0.7**
MKAR	0.7nm,0.5s,baz=14,slow=8.3,SNR=6.8 **Makanchi Array**	**53.48**	**312**	P		**P**	**23 55 44.4**	**+0.3**
ILAR	0.2nm,0.4s,baz=85,slow=8.5,SNR=7.4 **Eielson Array**	**60.59**	**28**	P		**P**	**23 56 33.8**	**-0.2**

	0.9nm,0.8s,baz=253,slow=5.3,SNR=10							
INK	**Inuvik**	**66.07**	**24**	P		**P**	**23 57 10.7**	**+0.6**
	0.4nm,0.5s,baz=287,slow=7.0,SNR=5.0							
YKA	**Yellowknife Ar**	**75.01**	**28**	P		**P**	**23 58 05.1**	**+0.4**
	0.5nm,0.4s,baz=292,slow=6.0,SNR=9.1							
FINES	**FINESS Array B**	**81.61**	**334**	P		**P**	**23 58 40.7**	**-0.5**
	1.3nm,0.9s,baz=74,slow=6.4,SNR=4.7							

DJA 17 23:53:27.2±1.2, 8°S±12°×10°8E±°, h38km±29km, M3.5/6, MLv3.5/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CISI	**Cisompet, Garu**	**0.85**	**332**	P		Pn	23 53 41.0	-1.7
KPJI	**Karang Pucung**	**1.20**	**36**	P		Pn	23 53 48.3	+0.9
SKJI	**Sukabumi**	**2.10**	**308**	P		Pn	23 54 03.0	+3.2
UGM	**Wanagama**	**2.31**	**80**	P		Pn	23 54 03.0	+0.2
UGM				S		Sn	23 54 29.8	-0.3
PCJI	**Pacitan**	**2.93**	**88**	P		Pn	23 54 12.0	+0.8
PCJI				S		Sn	23 54 45.0	-0.2
PWJI	**Pagerwojo**	**3.56**	**86**	P		Pn	23 54 20.4	+0.5
PWJI				S		Sn	23 54 59.6	-1.1

IDC 17 23:54:05.3±8.9, 15.39S×177.95W, h477km±101km, mb3.0/6, mb1 3.4/6, mb1mx3.0/33, mbtmp3.8/6, Error ellipse: s-maj=104.5km s-min=30.1km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**45.57**	**257**	P		P	00 01 41.6	-0.3
	0.4nm,0.6s,baz=95,slow=6.8,SNR=3.3							
ASAR	**Alice Springs**	**45.94**	**252**	P		P	00 01 44.6	-0.1
	3.0nm,0.6s,baz=86,slow=8.0,SNR=20							
NVAR	**Mina Array Bea**	**77.32**	**44**	P		P	00 05 10.6	+0.3
	0.3nm,0.4s,baz=229,slow=11,SNR=2.7							
ILAR	**Eielson Array**	**83.35**	**13**	P		P	00 05 41.0	0.0
	0.7nm,0.6s,baz=228,slow=6.5,SNR=9.6							
TXAR	**Lajitas Array**	**84.28**	**58**	P		P	00 05 46.5	-0.1
	0.6nm,0.9s,baz=206,slow=8.3,SNR=4.4							
YKA	**Yellowknife Ar**	**91.87**	**25**	P		P	00 06 20.9	-0.5
	0.4nm,0.8s,baz=250,slow=4.1,SNR=4.2							
ARCES	**ARCESS Array B**	**123.92**	**350**	PKP		PKPdf	00 12 08.1	+0.2
	4.1nm,1.0s,baz=27,slow=6.1,SNR=2.9							
BRTR	**Keskin Array B**	**143.28**	**317**	PKP		PKPbc	00 12 44.1	+0.8
	1.6nm,0.8s,baz=68,slow=2.7,SNR=7.3							
GERES	**GERESS Array B**	**145.29**	**346**	PKPbc		PKPdf	00 12 48.5	+0.2
	0.4nm,0.6s,baz=335,slow=4.3,SNR=3.0							

*IDC **17** 23:59:14.1±18.0, 24.97S×179.25W, h492km±138km, mb2.8/3, mb1 3.2/4, mb1mx3.0/23, mbtmp3.8/4, Error ellipse: s-maj=275.8km s-min=42.4km az=142.0*
ISC 17 23:59:00.7±2.0, 26.1S±0.6×178.3W±0.2, h400km, n9, σ1s55/8, mb3.2/3, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**14.53**	**283**	P		**P**	**00 02 08.2**	**0.0**
	0.3nm,0.3s,baz=92,slow=17,SNR=10.0							
ASAR	**Alice Springs**	**43.28**	**262**	P		**P**	**00 06 26.3**	**+1.2**
	0.7nm,0.8s,baz=92,slow=8.3,SNR=4.8							
WRA	**Warramunga Arr**	**43.87**	**268**	P		**P**	**00 06 29.0**	**-0.8**
	1.1nm,0.6s,baz=97,slow=8.2,SNR=9.4							
ILAR	**Eielson Array**	**93.76**	**13**	P		**P**	**00 11 33.8**	**+1.1**
	0.2nm,0.9s,baz=241,slow=3.7,SNR=3.7							
ARCES	**ARCESS Array B**	**134.31**	**349**	PKP		**PKPdf**	**00 17 29.4**	**-1.5**
	3.4nm,0.9s,baz=100,slow=2.0,SNR=2.6							
FINES	**FINESS Array B**	**140.99**	**342**	PKhKP		PKPpre	00 17 38.7	
	0.6nm,0.7s,baz=116,slow=4.4,SNR=4.8							
NOA	**NORSAR Array B**	**144.44**	**352**	PKP		**PKPdf**	**00 17 49.7**	**+0.1**
	1.0nm,1.0s,baz=38,slow=2.9,SNR=3.0							
AKASG	**Malin Array Be**	**147.64**	**327**	PKPbc		**PKPbc**	**00 17 56.3**	**-2.2**
	0.5nm,0.3s,baz=44,slow=3.3,SNR=4.5							
BRTR	**Keskin Array B**	**150.12**	**305**	PKPbc		**PKiKP**	**00 18 07.2**	**+1.3**
	0.6nm,0.6s,baz=129,slow=3.9,SNR=3.3							

*HEL **18** 00:26:38.6, 67.80N×20.08E, h0km, ML1.8, Explosion*
UPP 18 00:26:39.4±0.0, 67.85N×20.20E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUA	**Kurravaara**	**0.11**	**28**	P		Pg	00 26 41.9	+0.3
KUA				S		Sg	00 26 43.4	+0.4
KUA	**Kurravaara**	**0.11**	**28**	*i* P		Pg	00 26 41.9	+0.3
KUA				*i* S		Sg	00 26 43.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**263**	P		Pg	00 26 44.1	+0.2
RATU	**Laukkuluspa**	**0.23**	**263**	*i* P		Pg	00 26 44.1	+0.2
NIKU	**Nikkaluokta**	**0.44**	**272**	P		Pg	00 26 48.0	+0.1
NIKU	**Nikkaluokta**	**0.44**	**272**	*i* P		Pg	00 26 48.0	+0.1
LANU	**Lannavaara**	**0.70**	**73**	P		Pg	00 26 52.8	-0.1
LANU	**Lannavaara**	**0.70**	**73**	*i* P		Pg	00 26 52.8	-0.1
MASU	**Masugnsbyn**	**0.80**	**119**	P		Pg	00 26 54.5	-0.2
MASU	**Masugnsbyn**	**0.80**	**119**	*i* P		Pg	00 26 54.5	-0.2
SALU	**Saltoluokta**	**0.80**	**234**	P		Pg	00 26 54.5	-0.2
SALU	**Saltoluokta**	**0.80**	**234**	*i* P		Pg	00 26 54.5	-0.2
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	00 27 02.1	+0.2
KIF	**Kilpisjarvi**	**1.18**	**11**	*e*P		Pg	00 27 01.8	-0.1
KIF	baz=192			MSG			00 27 17.2	
KIF	comp=Z,13nm,0.2s			*e*SB		Sb	00 27 18.3	0.0
PAJU	**Pajala**	**1.40**	**125**	P		Pn	00 27 05.0	-1.2
PAJU	**Pajala**	**1.40**	**125**	*e*P		Pn	00 27 05.0	-1.2
HEF	**Hetta**	**1.41**	**65**	*e*P		Pn	00 27 05.5	-0.9
HEF	**Hetta**	**1.41**	**65**	*e*PG		Pn	00 27 05.3	-1.0
HEF	baz=241			MSG			00 27 22.9	
HEF	comp=Z,7.7nm,0.2s			*e*SB		Sg	00 27 23.9	-0.7
ERTU	**Ertsjaerv**	**1.52**	**148**	P		Pn	00 27 07.0	-0.8
ERTU	**Ertsjaerv**	**1.52**	**148**	*e*S		Sg	00 27 23.7	-4.4
HARU	**Harads**	**1.73**	**169**	P		Pn	00 27 10.6	0.0
HARU	**Harads**	**1.73**	**169**	*e*P		Pn	00 27 10.6	0.0
TOF	**Tornio**	**2.41**	**136**	*e*PB		Pn	00 27 21.4	+1.4
TOF	baz=321			MSG			00 27 49.6	
TOF	comp=Z,4.3nm,0.2s			*e*SG		Sb	00 27 54.1	+0.3
SGF	**Sodankyl**	**2.46**	**97**	*e*PB		Pb	00 27 22.6	-1.7
SGF				*e*SB		Sn	00 27 53.0	+1.7
ARE0	**ARCESS Array S**	**2.57**	**47**	*e*P		Pn	00 27 22.8	+0.6
ARE0	baz=225			*e*S		Sn	00 27 51.5	-2.7
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB		Pn	00 27 23.9	+1.5
RNF				*e*SG		Sb	00 27 58.8	0.0
KEV	**Kevo**	**3.12**	**49**	*e*PB		Pb	00 27 34.6	-1.1
KEV	comp=Z,2.2nm,0.2s			MSG			00 28 12.4	
BURU	**Burvik**	**3.32**	**171**	*e*P		Pn	00 27 34.5	+2.0
	baz=5.0							
OUL	**Oulu**	**3.60**	**138**	*e*PG		Pb	00 27 44.3	+0.5
	baz=321							
OUL				*e*SB		Sb	00 28 28.4	+0.5
MSF	**Maaselka**	**4.00**	**115**	*e*P		Pn	00 27 43.8	+2.1
KU6	**Riekki**	**4.23**	**111**	*e*PG		Pb	00 27 55.1	+0.5
	baz=297							

UPP 18 00:26:54.9±0.2, 67.85N×20.23E, h0km, ML2.0, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUA	**Kurravaara**	**0.12**	**21**	P		Pg	00 26 57.4	+0.3
KUA				S		Sg	00 26 59.1	+0.5
RATU	**Laukkuluspa**	**0.24**	**265**	P		Pg	00 26 59.7	+0.2
PAJU	**Pajala**	**1.39**	**125**	P		Pg	00 27 20.6	-0.9

*IDC **18** 00:38:01.6±2.4, 29.98N×132.21E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/45, mbtmp3.7/4, ML2.4/1, Error ellipse: s-maj=69.8km s-min=28.9km az=85.0*
*JMA **18** 00:38:11.0±0.1, 30.14N×131.32E, h25km±1km, M3.1*
ISC 18 00:38:04.1±2.0, 29.96N±0.04×131.56E±0.08, h6km±11km, n14, σ1s56/22, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JMTN	**Minamitane**	**0.72**	**308**	P		**Pb**	**00 38 20.0**	**+1.0**
JMTN				S		**Sg**	**00 38 26.3**	**-1.0**
JTN	**Tanegashima 3**	**0.86**	**324**	P		**Pn**	**00 38 22.7**	**0.0**
JTN				S		**Sg**	**00 38 30.7**	**-1.0**
JYAK	**Yakushimahirau**	**0.95**	**287**	P		**Pn**	**00 38 24.4**	**+0.4**
JYAK				S		**Sg**	**00 38 34.3**	**-0.4**
JKC	**Kuchinoerabu**	**1.28**	**293**	P		**Pg**	**00 38 30.0**	**+1.3**
JKC				S		**Sb**	**00 38 43.2**	**-2.2**
JTSR	**Tashiro 2**	**1.32**	**336**	P		**Pg**	**00 38 30.5**	**+1.0**
JNAR	**Kushima--Naru**	**1.58**	**351**	P		**Pg**	**00 38 34.8**	**+0.4**
JSU	**Suzuyama**	**1.81**	**329**	P		**Pb**	**00 38 37.3**	**-0.4**
JSU				S		**Sn**	**00 38 57.0**	**-2.2**
JAM	**Amami Oshima**	**2.30**	**228**	P		**Pb**	**00 38 47.6**	**+1.6**
JAM				*e*S		**Sb**	**00 39 14.7**	**0.0**
JAMN	**Amaminishikomi**	**2.70**	**231**	P		**Pb**	**00 38 53.0**	**+0.2**
JAMN				*e*S		**Sb**	**00 39 24.6**	**-1.5**
JOW	**Kunigami**	**4.25**	**224**	Pn		**Pb**	**00 39 15.6**	**-3.7**
JOW	0.3nm,0.3s,baz=182,slow=14,SNR=2.2			Sn		**Sn**	**00 40 01.2**	**+1.8**
SONM	2.6nm,0.3s,baz=100,slow=17,SNR=18 **Songino Array**	**26.32**	**320**	P		**P**	**00 43 41.2**	**+0.5**
MKAR	0.6nm,0.8s,baz=134,slow=9.4,SNR=5.2 **Makanchi Array**	**41.40**	**308**	P		**P**	**00 45 52.3**	**+1.1**
FITZ	0.3nm,0.6s,baz=91,slow=10,SNR=4.3 **Fitzroy Crossi**	**48.12**	**188**	P		**P**	**00 46 43.1**	**-1.7**
FINES	0.9nm,0.7s,baz=11,slow=5.2,SNR=1.6 **FINESS Array B**	**71.07**	**331**	P		**P**	**00 49 24.2**	**+1.5**
	1.3nm,0.6s,baz=72,slow=6.2,SNR=7.3							

IDC 18 00:40:05.8±4.8, 20.53S×170.22E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/33, mbtmp3.5/2, Error ellipse: s-maj=252.2km s-min=41.5km az=153.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**33.63**	**265**	P		P	00 46 46.4	-2.0
	0.5nm,0.8s,baz=100,slow=7.7,SNR=2.9							
ASAR	**Alice Springs**	**33.73**	**258**	P		P	00 46 50.8	+1.4
	0.3nm,0.4s,baz=75,slow=9.1,SNR=5.3							
EKA	**Eskdalemuir Ar**	**144.90**	**353**	PKP		PKPab	00 59 43.4	-0.3
	4.2nm,1.0s,baz=347,slow=2.5,SNR=4.1							
GERES	**GERESS Array B**	**146.06**	**332**	PKPbc		PKPbc	00 59 47.6	-0.2
	1.1nm,0.7s,baz=33,slow=3.7,SNR=8.4							
IDI	**Anoyia**	**146.21**	**303**	PKPbc		PKPdf	00 59 47.4	-0.2
	7.4nm,0.9s,baz=63,slow=6.8,SNR=2.2							
DAVOX	**Davos/Dischmat**	**149.30**	**333**	PKPbc		PKPbc	00 59 56.3	-0.5
	1.2nm,0.3s,baz=35,slow=1.8,SNR=12							

DJA 18 00:46:21.9±2.0, 9°S±11°9E±°, h23km±19km, M3.6/6, MLv3.6/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLAI	**Plampang**	**0.96**	**299**	P		Pb	00 46 38.9	-1.0
PLAI				S		Sb	00 46 51.3	-0.9
WSI	**Waingapu**	**1.69**	**103**	P		Pb	00 46 51.7	-0.6
WSI				S		Sn	00 47 07.1	-3.8
EDFI	**Ende, Flores**	**3.07**	**80**	P		Pn	00 47 07.2	-1.9
BSSI	**Bau Bau, Buton**	**3.63**	**31**	P		Pn	00 47 17.9	+1.1
BSSI				S		Sn	00 47 58.9	0.0
JAGI	**Jajag, Banyuwa**	**4.50**	**280**	P		Pn	00 47 28.1	-0.6
BATI	**Baumata**	**5.04**	**101**	P		Pn	00 47 36.9	+0.7

*IDC **18** 00:54:52.0±4.6, 36.16N×70.88E, h209km±45km, mb3.2/5, mb1 3.2/9, mb1mx2.9/58, mbtmp3.8/9, Error ellipse: s-maj=44.4km s-min=31.4km az=135.0*
*ISCJB **18** 00:54:53.7±0.7, 36.55N±0.04×70.64E±0.09, h200km, mb3.5/4, Error ellipse: s-maj=11.1km s-min=4.9km az=156.9*
*NNC **18** 00:54:58.9±9.7, 36.89N×70.94E, h212km±104km, mb2.6, mpv3.8, Error ellipse: s-maj=94.6km s-min=55.7km az=173.0*
ISC 18 00:54:54.6±0.8, 36.63N±0.07×70.82E±0.09, h200km, n34, σ2s24/39, mb3.5/4, 6C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**5.93**	**21**	P		**Pn**	**00 56 24.1**	**+2.8**
UCH	SNR=56 **Uchtor**	**6.28**	**26**	P		**Pn**	**00 56 28.5**	**+2.7**
KZA	SNR=25 **Kyzart**	**6.43**	**31**	P		**Pn**	**00 56 30.7**	**+2.9**
EKS2	SNR=9.3 **Erkin-Say**	**6.44**	**20**	P		**Pn**	**00 56 30.7**	**+3.1**
KK31	SNR=6.5 **Karatay Array**	**6.47**	**358**	⇓P		**Pn**	**00 56 30.9**	**+3.0**
KK31	1.9nm,0.3s,baz=178,slow=13,SNR=102			⇑S		**Sn**	**00 57 41.5**	**-0.5**
AAK	4.1nm,0.5s,baz=181,slow=23,SNR=4.3 **Ala-Archa**	**6.64**	**24**	P		**Pn**	**00 56 33.7**	**+3.5**
AAK	SNR=12 **Ala-Archa**	**6.64**	**24**	P		**Pn**	**00 56 32.7**	**+2.4**
AAK	4.0nm,0.5s			S		**Sn**	**00 57 47.0**	**+0.9**
AAK	8.2nm,0.6s **Ala-Archa**	**6.64**	**24**	P		**Pn**	**00 56 32.9**	**+2.7**
AAK	3.4nm,0.3s,baz=136,slow=3.5,SNR=53			S		**Sn**	**00 57 47.7**	**+1.6**
KBK	1.5nm,0.3s,baz=325,slow=19,SNR=10 **Karagaybulak**	**6.81**	**27**	P		**Pn**	**00 56 35.4**	**+2.9**
ULHL	SNR=5.6 **Ulahol**	**7.00**	**35**	P		**Pn**	**00 56 38.1**	**+3.1**
TKM2	SNR=6.2 **Tokmak 2**	**7.28**	**29**	⇑P		**Pn**	**00 56 36.4**	**-2.2**
TKM2	9.1nm,0.9s			⇑S		**Sn**	**00 57 56.5**	**-4.8**
MK31	9.4nm,0.8s **Makanchi Array**	**13.27**	**37**	P		**Pn**	**00 57 55.2**	**-0.2**
MKAR	0.2nm,0.3s,baz=237,slow=13,SNR=7.1 **Makanchi Array**	**13.27**	**37**	P		**Pn**	**00 57 55.3**	**-0.1**
PYUN	0.1nm,0.3s,baz=225,slow=15,SNR=9.7 **Piuthan**	**13.34**	**126**	*e*P		**Pn**	**00 57 57.1**	**+0.5**
DANN	6.7nm,0.4s **Dangsing**	**13.68**	**123**	*e*P		**Pn**	**00 58 01.7**	**+0.8**
KOLN	5.4nm,0.3s **Koldanda**	**13.96**	**126**	*e*P		**P**	**00 58 05.1**	**-1.1**
GKN	3.7nm,0.3s **Gorkha**	**14.50**	**122**	*e*P		**P**	**00 58 12.3**	**+0.2**
AB31	6.6nm,0.3s **Akbulak array**	**14.90**	**331**	⇑P		**P**	**00 58 17.2**	**+1.0**
KURBB	0.1nm,0.3s,baz=151,slow=9.7,SNR=5.3 **Kurchatov Arra**	**15.05**	**19**	P		**Pn**	**00 58 16.8**	**-0.5**
KURBB	0.1nm,0.3s,baz=211,slow=9.0,SNR=4.9			S		**S**	**01 00 57.8**	**-6.4**
DMN	0.1nm,0.3s,baz=336,slow=19,SNR=4.8 **Daman**	**15.07**	**123**	*e*P		**P**	**00 58 18.9**	**+0.4**
**KKN

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.85**	**257**	P	Pn	01 03 57.6	+0.2
	2.0nm,0.3s,baz=80,slow=16,SNR=29						
DZM				S	Sn	01 04 43.5	+0.2
	1.6nm,0.3s,baz=30,slow=20,SNR=1.7						
STKA	**Stephens Creek**	**27.84**	**242**	P	P	01 08 31.4	-0.6
	1.2nm,0.4s,baz=49,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**33.82**	**266**	P	P	01 09 24.4	-0.3
	1.1nm,0.5s,baz=98,slow=8.1,SNR=20						
ASAR	**Alice Springs**	**33.84**	**259**	P	P	01 09 25.3	+0.5
	5.4nm,0.3s,baz=78,slow=9.6,SNR=11						

BJI ***18*** *01:07:39.2,36˚.53N×69˚.95E,h220km,mb4.8/50,mB4.8/38*
ISCJB ***18*** *01:07:39.8±0.2,36˚.51N±0˚.01×70˚.07E±0˚.02,h218km±2km, mb4.5/135,Error ellipse: s-maj=2.7km s-min=2.2km az=9.3*
MOS ***18*** *01:07:40.3±0.9,36˚.52N×70˚.14E,h221km,mb4.7/38,Error ellipse: s-maj=5.6km s-min=3.4km az=77.1*
NNC ***18*** *01:07:41.8±2.8,36˚.73N×69˚.90E,h196km±35km,mb4.3, mpv5.5,Error ellipse: s-maj=33.8km s-min=11.7km az=163.0*
IDC ***18*** *01:07:42.2±0.6,36˚.43N×70˚.16E,h230km±5km,mb4.1/36, mb1 4.2/41,mb1mx4.1/50,mbtmp4.7/41,Error ellipse: s-maj=8.8km s-min=6.1km az=13.0*
NEIC ***18*** *01:07:42.1±1.8,36˚.48N×70˚.09E,h230km±5km,mb4.6/79, Error ellipse: s-maj=10.3km s-min=8.7km az=132.0*
ISC 18 01:07:40.6±0.4**,36˚.50N**±0˚.03×**70˚.07E**±0˚.03**,h216**km±3km**, h215km:pP-P,n423,σ1s43/485,mb4.5/142,39C-19D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.12**	**203**	*e*Pn	**Pn**	**01 08 23.1**	**+1.2**
KBL				*e*S	**S**	**01 08 54.1**	**+0.4**
KBL	**Kabul**	**2.12**	**203**	*e*PN	**Pn**	**01 08 23.1**	**+1.2**
KBL				*e*S	**S**	**01 08 54.1**	**+0.4**
CEP	**Cherat**	**3.06**	**150**	⇑P	**Pn**	**01 08 33.9**	**+1.9**
CEP				S	**S**	**01 09 13.0**	**+1.1**
BTK	**Batken**	**3.60**	**9**	*e*Pn	**Pn**	**01 08 40.4**	**+2.2**
BTK				*e*S	**S**	**01 09 23.9**	**+0.6**
BTK	**Batken**	**3.60**	**9**	*e*PN	**Pn**	**01 08 40.4**	**+2.2**
BTK				*e*S	**S**	**01 09 23.9**	**+0.6**
CHCP	**Chirah Chowk**	**3.86**	**136**	⇓P	**Pn**	**01 08 43.3**	**+2.0**
NIL	**Nilore**	**3.86**	**136**	*e*Pn	**Pn**	**01 08 43.4**	**+2.1**
NIL				*e*S	**S**	**01 09 28.4**	**-0.4**
NIL	**Nilore**	**3.86**	**136**	*e*PN	**Pn**	**01 08 43.4**	**+2.1**
NIL				*e*S	**S**	**01 09 28.4**	**-0.4**
THW	**Thamme Wali**	**3.94**	**159**	⇓P	**Pn**	**01 08 43.5**	**+1.1**
SARP	**Sargodha**	**5.05**	**154**	P	**Pn**	**01 08 56.7**	**+0.6**
ARSB	**Arslanbob**	**5.33**	**24**	*e*Pn	**Pn**	**01 09 00.0**	**+0.4**
ARSB				*e*S	**S**	**01 10 01.1**	**-0.9**
KSH	**Kashi**	**5.55**	**55**	⇓*i*P	**Pn**	**01 08 58.5**	**-4.0**
KSH				S	S	01 09 54.9	-12
KSH				smax	smax		
	comp=N,2μm,0.5s						
KSH				smax	smax		
	comp=E,1μm,0.3s						
IUG	**luzhnay**	**5.64**	**360**	*e*PN	**Pn**	**01 09 02.5**	**-1.0**
IUG				*i* S	**S**	**01 10 06.1**	**-3.1**
IUG				smax	smax		
	comp=E,11μm,0.8s						
IUG	**luzhnay**	**5.64**	**360**	*e*P	**Pn**	**01 09 02.6**	**-1.0**
	comp=E,19μm,0.5s						
IUG				*i* S	**S**	**01 10 06.1**	**-3.1**
	comp=E,11μm,0.8s						
CHM	**Chimkent**	**5.83**	**357**	*e*PN	**Pn**	**01 09 05.6**	**-0.1**
CHM				*i* S	**S**	**01 10 10.4**	**-2.9**
CHM				smax	smax		
	comp=E,15μm,1.0s						
CHM	**Chimkent**	**5.83**	**357**	*e*P	**Pn**	**01 09 05.7**	**-0.1**
	comp=E,16μm,0.6s						
CHM				*i* S	**S**	**01 10 10.4**	**-2.9**
	comp=E,15μm,1.0s						
AML	**Almayashu**	**6.29**	**25**	P	**Pn**	**01 09 12.5**	**+0.4**
	SNR=2128						
DZA	**Taraz**	**6.46**	**8**	*e*PN	**Pn**	**01 09 13.6**	**-0.3**
DZA				*e*S	**S**	**01 10 25.3**	**-2.7**
DZA				smax	smax		
	comp=E,6μm,1.4s						
DZA	**Taraz**	**6.46**	**8**	*e*P	**Pn**	**01 09 13.7**	**-0.3**
	comp=E,11μm,0.5s						
DZA				*e*S	**S**	**01 10 25.4**	**-2.7**
	comp=E,6μm,1.4s						
KK31	**Karatay Array**	**6.61**	**3**	*e*Pn	**Pn**	**01 09 16.1**	**+0.4**
KK31				*e*S	**S**	**01 10 28.6**	**-2.9**
KK31	**Karatay Array**	**6.61**	**3**	⇑P	**Pn**	**01 09 15.9**	**+0.1**
	comp=E,18nm,0.2s,baz=186,slow=13,SNR=1319						
KK31				⇓S	**S**	**01 10 26.8**	**-4.7**
	comp=E,75nm,0.5s,baz=184,slow=21,SNR=5.9						
KK31	**Karatay Array**	**6.61**	**3**	*e*PN	**Pn**	**01 09 16.2**	**+0.4**
KK31				*e*S	**S**	**01 10 28.6**	**-2.9**
KKAR	**Karatay Array**	**6.61**	**3**	*e*Pn	**Pn**	**01 09 16.1**	**+0.3**
KKAR	**Karatay Array**	**6.61**	**3**	*e*PN	**Pn**	**01 09 16.1**	**+0.3**
DHRM	**DHARAMSHALA**	**6.67**	**128**	*e*P	**Pn**	**01 09 17.4**	**+0.4**
DHRM				*e*S	**S**	**01 10 30.6**	**-2.8**
DHRM				IAML		01 10 33.2	
	comp=N,3μm,0.1s						
DHRM				IAML		01 10 33.6	
	comp=E,3μm,0.7s						
UCH	**Uchtor**	**6.68**	**30**	P	**Pn**	**01 09 17.5**	**+0.4**
	SNR=983						
NRN	**Naryn**	**6.76**	**41**	*e*Pn	**Pn**	**01 09 17.2**	**-0.8**
NRN				*e*S	**S**	**01 10 32.4**	**-3.1**
NRN	**Naryn**	**6.76**	**41**	*e*PN	**Pn**	**01 09 17.3**	**-0.8**
NRN				*e*S	**S**	**01 10 32.4**	**-3.1**
EKS2	**Erkin-Say**	**6.79**	**24**	P	**Pn**	**01 09 19.1**	**+0.8**
	SNR=966						
KZA	**Kyzart**	**6.87**	**34**	P	**Pn**	**01 09 19.2**	**-0.4**
	SNR=798						
AAK	**Ala-Archa**	**7.02**	**28**	P	**Pn**	**01 09 22.0**	**+0.7**
	SNR=980						
AAK	**Ala-Archa**	**7.02**	**28**	*e*Pn	**Pn**	**01 09 22.0**	**+0.7**
AAK				*e*S	**S**	**01 10 41.8**	**+0.4**
AAK	**Ala-Archa**	**7.02**	**28**	⇑P	**Pn**	**01 09 21.8**	**+0.5**
	comp=E,310nm,0.5s						
AAK				⇑S	**S**	**01 10 39.1**	**-2.3**
	comp=E,361nm,0.6s						
AAK	**Ala-Archa**	**7.02**	**28**	*i* P	**Pn**	**01 09 22.0**	**+0.7**
	SNR=920						
AAK	**Ala-Archa**	**7.02**	**28**	PN	**Pn**	**01 09 21.8**	**+0.5**
AAK				S	**S**	**01 10 39.1**	**-2.3**
AAK				pmax	pmax		
	comp=Z,310nm,0.5s						
AAK				smax	smax		
	comp=N,361nm,0.6s						
AAK	**Ala-Archa**	**7.02**	**28**	P	**Pn**	**01 09 22.0**	**+0.7**
	SNR=83						
AAK	**Ala-Archa**	**7.02**	**28**	P	**Pn**	**01 09 22.0**	**+0.7**
	comp=N,134nm,0.3s,baz=195,slow=7.9,SNR=1578						
AAK				S	**S**	**01 10 39.4**	**-2.0**
	comp=N,40nm,0.3s,baz=321,slow=22,SNR=7.8						
KBK	**Karagaybulak**	**7.21**	**30**	P	**Pn**	**01 09 24.7**	**+0.9**
	SNR=207						
FRU1	**Bishkek**	**7.22**	**28**	*e*Pn	**Pn**	**01 09 24.8**	**+1.1**
FRU1	**Bishkek**	**7.22**	**28**	*e*PN	**Pn**	**01 09 24.8**	**+1.1**
FRU	**Bishkek**	**7.23**	**28**	⇓*e*PN	**Pn**	**01 09 23.0**	**-0.9**
FRU				*e*S	**S**	**01 10 43.0**	**-3.2**
FRU				pmax	pmax		
	comp=Z,460nm,1.2s						
FRU				smax	smax		
	comp=N,1μm,2.0s						
BHK	**Bhakra**	**7.31**	**132**	*e*P	**Pn**	**01 09 26.0**	**+0.9**
BHK				*e*S	**S**	**01 10 43.8**	**-4.4**
CHMS	**Chumysh**	**7.43**	**28**	P	**Pn**	**01 09 26.6**	**+0.2**
	SNR=115						
ULHL	**Ulahol**	**7.47**	**38**	P	**Pn**	**01 09 27.4**	**+0.3**
	SNR=171						
USP	**Ospenovka**	**7.57**	**25**	P	**Pn**	**01 09 28.0**	**-0.2**
	SNR=312						
TKM2	**Tokmak 2**	**7.70**	**32**	P	**Pn**	**01 09 30.4**	**+0.4**
	SNR=104						
TKM2	**Tokmak 2**	**7.70**	**32**	⇑P	**Pn**	**01 09 29.9**	**-0.2**
	comp=N,287nm,0.7s						
TKM2	**Tokmak 2**	**7.70**	**32**	PN	**Pn**	**01 09 29.9**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,287nm,0.7s						
KDJ	**Kajisay**	**7.87**	**42**	*e*Pn	**Pn**	**01 09 33.5**	**+1.2**
KDJ	**Kajisay**	**7.87**	**42**	*e*PN	**Pn**	**01 09 33.5**	**+1.2**
TARG	**Taragay, Kyrgy**	**7.96**	**47**	*e*Pn	**Pn**	**01 09 33.7**	**0.0**
SMLA	**Simla**	**7.97**	**130**	*e*P	**Pn**	**01 09 33.6**	**+0.1**
SMLA				*e*S	**S**	**01 10 59.3**	**-4.4**
SMLA				IAML		01 11 02.9	
	comp=N,1μm,0.1s						
SMLA				IAML		01 11 03.6	
	comp=E,1μm,0.3s						
MTBS	**Maitube**	**8.23**	**35**	*e*PN	**Pn**	**01 09 36.4**	**-0.4**
MTBS				*i* S	**S**	**01 11 08.5**	**-1.4**
MTBS				pmax	pmax		
	comp=Z,2μm,0.5s						
MTBS				smax	smax		
	comp=N,1μm,1.0s						
MTBS	**Maitube**	**8.23**	**35**	*e*P	**Pn**	**01 09 36.5**	**-0.4**
	comp=N,2μm,0.5s						
MTBS				*i* S	**S**	**01 11 08.5**	**-1.4**
	comp=N,1μm,1.0s						
TNSS	**Tian-Shan**	**8.41**	**37**	*e*PN	**Pn**	**01 09 38.1**	**-1.3**
TNSS				*e*S	**S**	**01 11 13.6**	**-0.8**
TNSS				pmax	pmax		
	comp=Z,2μm,0.6s						
TNSS	**Tian-Shan**	**8.41**	**37**	*e*P	**Pn**	**01 09 38.1**	**-1.3**
	comp=E,2μm,0.6s						
TNSS				*e*S	**S**	**01 11 13.6**	**-0.8**
AAA	**Alma-Ata**	**8.52**	**36**	*d i* PN	**Pn**	**01 09 39.9**	**-0.6**
AAA				pmax	pmax		
	comp=Z,2μm,1.1s						
AAA	**Alma-Ata**	**8.52**	**36**	⇓*i* P	**Pn**	**01 09 39.9**	**-0.6**
	comp=Z,2μm,1.1s						
MDOK	**Medeo**	**8.55**	**37**	⇑P	**Pn**	**01 09 41.5**	**+0.5**
	comp=E,252nm,0.8s						
MDOK	**Medeo**	**8.55**	**37**	*e*PN	**Pn**	**01 09 39.5**	**-1.5**
MDOK				*e*S	**S**	**01 11 16.6**	**-0.8**
MDOK				pmax	pmax		
	comp=Z,2μm,0.8s						
MDOK				smax	smax		
	comp=E,488nm,1.4s						
MDOK	**Medeo**	**8.55**	**37**	*e*P	**Pn**	**01 09 39.5**	**-1.5**
	comp=E,2μm,0.8s						
MDOK				*e*S	**S**	**01 11 16.7**	**-0.8**
	comp=E,488nm,1.4s						
KNDC	**Almaty**	**8.55**	**36**	⇑P	**Pn**	**01 09 42.1**	**+1.1**
	comp=E,188nm,0.4s						
PRZ	**Przheval'sk**	**8.79**	**45**	*e*Pn	**Pn**	**01 09 44.9**	**+0.8**
PRZ	**Przheval'sk**	**8.79**	**45**	*e*PN	**Pn**	**01 09 44.9**	**+0.8**
KUU	**Kurty**	**8.81**	**31**	*e*PN	**Pn**	**01 09 42.9**	**-1.2**
KUU				pmax	pmax		
	comp=Z,409nm,0.6s						
KUU	**Kurty**	**8.81**	**31**	*e*P	**Pn**	**01 09 42.9**	**-1.2**
	comp=Z,409nm,0.6s						
BTLS	**Baital**	**9.05**	**18**	*d i* P	**Pn**	**01 09 45.5**	**-1.7**
BTLS				pmax	pmax		
	comp=Z,912nm,0.8s						
BTLS	**Baital**	**9.05**	**18**	⇓*i* P	**Pn**	**01 09 45.6**	**-1.7**
	comp=Z,912nm,0.8s						
DDI	**Dehra Dun**	**9.08**	**130**	*e*P	**Pn**	**01 09 48.5**	**+0.6**
DDI				*e*S	**S**	**01 11 23.9**	**-6.2**
DDI				IAML		01 11 29.0	
	comp=N,695nm,0.2s						
DDI				IAML		01 11 31.7	
	comp=E,688nm,0.2s						
SATY	**Saty**	**9.17**	**42**	*e*P	**Pn**	**01 09 47.1**	**-1.8**
SATY				*e*S	**S**	**01 11 28.8**	**-3.3**
SATY				pmax	pmax		
	comp=Z,3μm,0.8s						
SATY	**Saty**	**9.17**	**42**	*e*P	**Pn**	**01 09 47.2**	**-1.8**
	comp=Z,3μm,0.8s						
SATY				*e*S	**S**	**01 11 28.9**	**-3.3**
ZHN	**Zhinishke**	**9.26**	**41**	*e*P	**Pn**	**01 09 48.5**	**-1.6**
ZHN				pmax	pmax		
	comp=Z,2μm,0.9s						
ZHN	**Zhinishke**	**9.26**	**41**	*e*P	**Pn**	**01 09 48.6**	**-1.6**
	comp=Z,2μm,0.9s						
UZB	**Uzynbulak**	**9.56**	**43**	*e*P	**Pn**	**01 09 52.2**	**-1.8**
UZB				pmax	pmax		
	comp=Z,2μm,0.6s						
UZB	**Uzynbulak**	**9.56**	**43**	*e*P	**Pn**	**01 09 52.3**	**-1.8**
	comp=Z,2μm,0.6s						
KPKS	**Kokpek**	**9.60**	**41**	*e*P	**Pn**	**01 09 52.9**	**-1.5**
KPKS				pmax	pmax		
	comp=Z,5μm,0.8s						
KPKS	**Kokpek**	**9.60**	**41**	*e*P	**Pn**	**01 09 52.9**	**-1.5**
	comp=Z,5μm,0.8s						
GEYT	**Alibeck**	**9.64**	**282**	P	**Pn**	**01 09 54.0**	**-0.9**
	comp=Z,9.3nm,0.3s,baz=94,slow=10.0,SNR=88						
GEYT				S	**S**	**01 11 40.5**	**-2.7**
	comp=Z,4.6nm,0.3s,baz=84,slow=15,SNR=2.9						
GYA0B	**ALIBECK ARRAY**	**9.64**	**282**	*e*Pn	**Pn**	**01 09 53.9**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**9.64**	**282**	⇓P	**Pn**	**01 09 53.5**	**-1.5**
GYA0B				⇑S	**S**	**01 11 38.1**	**-5.1**
NDI	**New Delhi**	**9.85**	**140**	*e*P	**Pn**	**01 09 59.5**	**+1.8**
NDI				*e*S	**S**	**01 11 40.0**	**-8.3**
PDGK	**Podgornoye**	**9.94**	**44**	⇓P	**Pn**	**01 09 58.4**	**-0.6**
	comp=Z,98nm,0.5s						
PDGK				⇓S	**S**	**01 11 45.8**	**-4.7**
	comp=Z,152nm,1.0s						
PDGK	**Podgornoye**	**9.94**	**44**	P	**Pn**	**01 09 58.3**	**-0.6**
PDGK				S	**S**	**01 11 45.7**	**-4.7**
PDGK				pmax	pmax		
	comp=Z,98nm,0.5s						
PDGK				smax	smax		
	comp=N,152nm,1.0s						
TDK	**Taldyqorghan**	**10.59**	**34**	*e*P	**Pn**	**01 10 06.2**	**-0.8**
TDK				pmax	pmax		
	comp=Z,989nm,0.8s						
TDK	**Taldyqorghan**	**10.59**	**34**	*e*P	**Pn**	**01 10 06.2**	**-0.8**
	comp=Z,989nm,0.8s						
BHJ	**Bhuj**	**13.20**	**182**	*e*P	**Pn**	**01 10 40.2**	**0.0**
BHJ				IAmb	IAmb	01 10 42.9	
	comp=Z,146nm,0.6s						
MAKZ	**Makanchi**	**13.60**	**37**	*e*Pn	**Pn**	**01 10 45.0**	**+0.1**
MAKZ	**Makanchi**	**13.60**	**37**	⇑P	**Pn**	**01 10 44.8**	**-0.1**
	comp=Z,78nm,0.8s						
MAKZ	**Makanchi**	**13.60**	**37**	*e*P	**Pn**	**01 10 45.0**	**+0.1**
MK01	**Makanchi Array**	**13.73**	**38**	*e*Pn	**Pn**	**01 10 46.2**	**-0.3**
MK31	**Makanchi Array**	**13.74**	**38**	*e*Pn	**Pn**	**01 10 46.6**	**-0.1**
MK31	**Makanchi Array**	**13.74**	**38**	⇓P	**Pn**	**01 10 46.3**	**-0.4**
	comp=Z,9.4nm,0.3s,baz=218,slow=11,SNR=575						
MK31	**Makanchi Array**	**13.74**	**38**	*i* P	**Pn**	**01 10 46.3**	**-0.4**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.3s						
MK32	**Makanchi Array**	**13.74**	**38**	*e*Pn	**Pn**	**01 10 47.0**	**+0.3**
MK32				*e*S	**S**	**01 13 20.4**	**+1.6**
MKAR	**Makanchi Array**	**13.74**	**38**	P	**Pn**	**01 10 47.0**	**+0.3**
	comp=Z,4.8nm,0.3s,baz=228,slow=13,SNR=180						
MKAR				S	**S**	**01 13 20.4**	**+1.6**
	baz=204,slow=21,SNR=2.1						
PYUN	**Piuthan**	**13.76**	**124**	*e*P	**Pn**	**01 10 47.0**	**-0.2**
	comp=Z,268nm,0.3s						
DANN	**Dangsing**	**14.12**	**121**	*e*P	**Pn**	**01 10 51.7**	**-0.1**
	comp=Z,109nm,0.2s						
KOLN	**Koldanda**	**14.38**	**123**	*e*P	**Pn**	**01 10 54.7**	**-0.2**
	comp=Z,98nm,0.3s						
BHPL	**Bhopal**	**14.66**	**152**	*e*P	**Pn**	**01 10 57.3**	**-0.9**
BHPL				IAmb	IAmb	01 11 01.6	
	comp=Z,25nm,0.3s						
AB31	**Akbulak array**	**14.73**	**333**	P	**Pn**	**01 10 58.3**	**-0.4**
	comp=Z,5.6nm,0.5s,baz=147,slow=13,SNR=224						
AB31	**Akbulak array**	**14.73**	**333**	P	**Pn**	**01 10 58.3**	**-0.4**
AB31				S	**S**	**01 13 36.3**	**-5.3**
AB31				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AB31				smax	smax		
	comp=N,7.0nm,0.5s						
ABKAR	**Akbulak array**	**14.73**	**333**	*e*Pn	**Pn**	**01 10 58.4**	**-0.3**
GKN	**Gorkha**	**14.94**	**120**	*e*P	**Pn**	**01 11 01.5**	**-0.2**
	comp=N,253nm,0.4s						
WMQ	**Urumqi**	**15.32**	**56**	P	**P**	**01 11 07.0**	**+1.0**
WMQ				sP	sP	01 12 03.5	-6.2
WMQ				S	**S**	**01 13 51.8**	**-3.5**
WMQ				pmax	pmax		
	comp=N,140nm,0.7s						
WMQ				pmax	pmax		
	comp=N,340nm,3.8s						
WMQ				LR	LR		
	comp=N,130nm,15.1s						
WMQ				LR	LR		
	comp=N,190nm,11.9s						
WMQ				LR	LR		
	comp=N,280nm,17.1s						
WMQ	**Urumqi**	**15.32**	**56**	*e*P	**Pn**	**01 11 05.8**	**-0.2**
	comp=N,50nm,0.8s						
WMQ	**Urumqi**	**15.32**	**56**	*e*P	**Pn**	**01 11 05.8**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,50nm,0.8s						
KURBB	**Kurchatov Arra**	**15.38**	**21**	⇓P	**P**	**01 11 05.1**	**-1.4**
	comp=Z,15nm,0.4s						
KURBB	**Kurchatov Arra**	**15.38**	**21**	P	**P**	**01 11 05.8**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=211,slow=10,SNR=72						
KURBB				S	**S**	**01 13 53.7**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=214,slow=16,SNR=3.1						
KURK	**Kurchatov**	**15.49**	**21**	*e*P	**P**	**01 11 07.1**	**-0.6**
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**15.49**	**21**	⇑P	**P**	**01 11 07.5**	**-0.2**
	comp=Z,9.2nm,0.6s						
KURK	**Kurchatov**	**15.49**	**21**	*cc*P	**P**	**01 11 07.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,11nm,0.6s						
KURK	**Kurchatov**	**15.49**	**21**	P	**P**	**01 11 07.3**	**-0.3**
	SNR=6.1						
DMN	**Daman**	**15.51**	**121**	*e*P	**Pn**	**01 11 08.6**	**-0.1**
	comp=Z,105nm,0.3s						
KKN	**Kakani**	**15.52**	**120**	*e*P	**P**	**01 11 08.3**	**-0.2**
	comp=Z,328nm,0.4s						
SEM	**Semipalatinsk**	**15.72**	**25**	*d i* P	**P**	**01 11 09.6**	**-0.9**
SEM				pmax	pmax		
	comp=Z,120nm,0.5s						
SEM	**Semipalatinsk**	**15.72**	**25**	⇓*i* P	**P**	**01 11 09.7**	**-0.9**
	comp=Z,120nm,0.5s						
PKIN	**Phulchoki**	**15.73**	**120**	*e*P	**P**	**01 11 10.8**	**-0.1**
	comp=Z,223nm,0.3s						
PKI	**Pulchoki**	**15.75**	**120**	*e*P	**P**	**01 11 11.1**	**0.0**
	comp=Z,406nm,0.4s						
BANOM	**Banah**	**15.79**	**232**	*i* P	**P**	**01 11 11.0**	**-0.2**
	SNR=71						
BANOM	**Banah**	**15.79**	**232**	P	**P**	**01 11 11.3**	**0.0**
	SNR=7.2						
SHME	**Shamm**	**15.80**	**233**	*i* P	**P**	**01 11 11.6**	**+0.1**
	SNR=28						
GUN	**Gumba**	**15.87**	**118**	*e*P	**P**	**01 11 12.5**	**0.0**
	comp=Z,340nm,0.5s						
MDH	**Madha**	**16.24**	**230**	*i* P	**P**	**01 11 15.4**	**-0.7**
	SNR=7.0						
MDH	**Madha**	**16.24**	**230**	P	**P**	**01 11 15.7**	**-0.5**
	SNR=6.0						
JIRN	**Jiri**	**16.24**	**118**	*e*P	**Pn**	**01 11 17.4**	**-0.1**
	comp=Z,307nm,0.3s						
MSFE	**Esma-Masafi**	**16.28**	**231**	*i* P	**P**	**01 11 16.4**	**-0.3**
	SNR=5.8						
AKTO	**Aktyubinsk**	**16.42**	**332**	⇓P	**Pn**	**01 11 19.0**	**0.0**
	comp=Z,12nm,0.6s						
AKTO	**Aktyubinsk**	**16.42**	**332**	P	**Pn**	**01 11 19.3**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=134,slow=7.9,SNR=77						
AKTO				S	**S**	**01 14 16.9**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=165,slow=19,SNR=2.7						
WSAR	**Wadi Sarin**	**16.50**	**220**	P	**Pn**	**01 11 20.7**	**+0.4**
	SNR=8.0						
WSAR	**Wadi Sarin**	**16.50**	**220**	P	**Pn**	**01 11 21.3**	**+1.0**
	comp=Z,12nm,0.3s,baz=81,slow=9.5,SNR=100						
BVA0	**Borovoye Array**	**16.53**	**1**	⇑P	**Pn**	**01 11 19.9**	**-0.4**
	comp=Z,11nm,0.5s						
BVA0	**Borovoye Array**	**16.53**	**1**	P	**Pn**	**01 11 20.0**	**-0.3**
BVA0				pmax	pmax		
	comp=Z,11nm,0.5s						
BVAR	**Borovoye Array**	**16.53**	**1**	P	**Pn**	**01 11 20.2**	**-0.1**
	comp=Z,3.2nm,0.3s,baz=162,slow=10,SNR=58						
BVAR				S	**S**	**01 14 19.1**	**-1.7**
	baz=162,slow=20,SNR=3.5						
BRVK	**Borovoye**	**16.56**	**0**	*e*P	**Pn**	**01 11 20.6**	**0.0**
	comp=Z,16nm,0.6s						
BRVK	**Borovoye**	**16.56**	**0**	⇓*i* P	**Pn**	**01 11 20.2**	**-0.4**
BRVK	**Borovoye**	**16.56**	**0**	P	**Pn**	**01 11 21.0**	**+0.4**
	SNR=9.4						
HATD	**Hatta, Dubai**	**16.68**	**230**	*i* P	**P**	**01 11 20.4**	**-0.7**
	SNR=39						
ASHO	**Ashiyiah**	**16.83**	**230**	*i* P	**Pn**	**01 11 23.9**	**-0.3**
	SNR=166						
ASHO	**Ashiyiah**	**16.83**	**230**	P	**Pn**	**01 11 24.1**	**-0.1**
	SNR=68						
WBK	**Wadi Bani Khal**	**16.85**	**218**	P	**Pn**	**01 11 25.1**	**+0.7**
	SNR=8.4						
NAZ	**Nazwa, Dubai**	**16.86**	**231**	*i* P	**Pn**	**01 11 24.7**	**+0.3**
	SNR=19						
HOQ	**Hoqain**	**16.94**	**224**	P	**P**	**01 11 24.3**	**+0.5**
	SNR=6.6						
SMDO	**Samad**	**16.95**	**221**	P	**Pn**	**01 11 26.3**	**+0.6**
	SNR=8.1						
SOHO	**SOHO**	**16.96**	**227**	P	**Pn**	**01 11 25.4**	**-0.2**
	SNR=10						
RAMN	**Ramite**	**16.96**	**119**	*e*P	**Pn**	**01 11 25.5**	**-0.5**
	comp=Z,331nm,0.5s						
JLN	**Jalan Bani Buh**	**17.03**	**216**	P	**Pn**	**01 11 26.8**	**+0.3**
	SNR=26						
FAQ	**Al Faqa, Dubai**	**17.08**	**231**	*i* P	**P**	**01 11 25.8**	**+0.4**
	SNR=9.9						
NGP	**Nagpur**	**17.18**	**150**	*e*P	**Pn**	**01 11 27.6**	**-0.7**
NGP				IAmb	IAmb	01 11 27.9	
	comp=Z,11nm,0.4s						
ASUD	**Al Ashush, Dub**	**17.33**	**231**	*i* P	**Pn**	**01 11 29.2**	**-0.7**
	SNR=23						
ALNE	**Al Ain**	**17.48**	**229**	*i* P	**Pn**	**01 11 31.0**	**-0.9**
	SNR=68						
JMDO	**Jabal Madar**	**17.49**	**220**	P	**Pn**	**01 11 32.3**	**+0.3**
	SNR=8.0						
ARQ	**Araqi**	**17.58**	**225**	P	**Pn**	**01 11 33.5**	**+0.6**
	SNR=11						
AJN	**Ajban**	**17.59**	**232**	*i* P	**Pn**	**01 11 32.0**	**-1.1**
	SNR=7.7						
AJN	**Ajban**	**17.59**	**232**	P	**Pn**	**01 11 31.9**	**-1.1**
	SNR=13						
BSY	**Bisya**	**17.66**	**223**	P	**Pn**	**01 11 33.5**	**-0.5**
	SNR=12						
POO	**Poona**	**18.21**	**168**	*e*P	**P**	**01 11 38.1**	**+0.3**
POO				IAmb	IAmb	01 11 40.0	

SVE pmax pmax
comp=Z,38nm,1.3s
NCK Nalchik 21.39 297 *i* P **P 01 12 12.0 +0.5**
NCK pmax pmax
comp=Z,11nm,1.0s
ARU Arti 21.40 342 *e*P **P 01 12 12.2 +0.9**
comp=Z,42nm,1.0s
ARU Arti 21.40 342 *e*P **P 01 12 12.2 +0.9**
ARU pmax pmax
comp=Z,41nm,1.0s
SHL Shillong 21.59 114 *e*P **P 01 12 13.8 0.0**
comp=Z,64nm,1.0s
SHL Shillong 21.59 114 *e*P **P 01 12 13.8 0.0**
SHL pmax pmax
comp=Z,64nm,1.0s
SHL Shillong 21.59 114 *e*P **P 01 12 13.3 -0.5**
SHL IAmb IAmb 01 12 14.9
comp=Z,91nm,1.5s
KBZ Khabaz 21.93 298 P **P 01 12 17.2 +0.5**
comp=Z,5.4nm,0.8s,baz=114,slow=8.6,SNR=10
VIS Vishakhapatnam 22.07 144 *i* P **P 01 12 19.0 +0.8**
VIS *i* S **S 01 16 04.9 -0.9**
DMTO DMTO 22.99 220 P **P 01 12 27.1 +0.5**
WHFO Wadi Hawf 23.44 222 P **P 01 12 31.0 +0.3**
SNR=10
RBK Rabkut 23.55 221 P **P 01 12 31.9 +0.2**
GTA Gaotai 23.59 74 ⇑P **P 01 12 33.5 +1.5**
GTA pP pP 01 13 17.0 +4.1
GTA sP sP 01 13 45.3 +4.8
GTA S **S 01 16 29.8 -0.4**
GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,70nm,4.3s
ABTO Aybut 24.16 222 P **P 01 12 39.4 +2.1**
SNR=16
RAYN Ar Rayn 24.81 245 *e*P **P 01 12 43.6 +0.5**
comp=Z,34nm,0.5s
RAYN Ar Rayn 24.81 245 *i* P **P 01 12 43.5 +0.4**
SNR=19
RAYN Ar Rayn 24.81 245 *e*P **P 01 12 43.6 +0.4**
RAYN pmax pmax
comp=Z,34nm,0.5s
VRH Novokhopyorsk 24.98 315 *e*P **P 01 12 47.2 +2.9**
VRH *e**PP **pP 01 13 25.9 -0.3**
VRH pmax pmax
comp=Z,7.0nm,0.8s
KIRV Kirov 25.92 335 P **P 01 12 54.0 +1.3**
KIRV Kirov 25.92 335 P **P 01 12 54.0 +1.3**
comp=Z,30nm,0.5s,baz=330,slow=1.3,SNR=17
ANN Anapa 25.98 299 *e*P **P 01 12 52.3 -1.0**
ANN *e**PP **pP 01 13 35.8 -0.5**
ANN *e* 01 13 45.5
ANN *e* 01 16 12.3
ANN eS **S 01 17 07.3 -0.2**
ANN *e**SS **sS 01 18 21.6 -4.5**
ANN pmax pmax
comp=Z,34nm,1.0s
VSR Storozhevoye 26.46 314 *e*P **P 01 12 59.0 +1.4**
VSR *e**PP **pP 01 13 37.6 -3.1**
VSR pmax pmax
comp=Z,6.0nm,1.0s
MOY Mondy 26.64 46 *e*P **P 01 13 01.2 +1.8**
MOY pmax pmax
comp=Z,22nm,2.1s
LPSR Galich'ya Gora 27.13 316 *e*P **P 01 13 04.3 +0.8**
LPSR *e**PP **pP 01 13 45.1 -1.7**
LPSR pmax pmax
comp=Z,7.0nm,0.8s
LZH Lanzhou 27.15 81 ⇑P **P 01 13 04.9 +0.7**
LZH pP pP 01 13 48.1 -0.4
LZH PP **PnPn 01 14 01.3 +0.5**
LZH sP sP 01 14 14.6 +0.9
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,85nm,4.9s
ZAK Zakamensk 27.56 49 *e*P **P 01 13 08.7 +1.2**
ZAK *e* 01 13 53.4
ZAK pmax pmax
comp=Z,8.0nm,0.9s
ZAK pmax pmax
comp=Z,6.0nm,0.9s
TLY Talaya 28.19 47 *e*P **P 01 13 14.2 +1.2**
comp=Z,10nm,0.6s
TLY Talaya 28.19 47 *e*P **P 01 13 14.2 +1.2**
TLY pmax pmax
comp=Z,10.0nm,0.6s
TLY Talaya 28.19 47 P **P 01 13 15.6 +2.6**
CD2 Chengdu 28.48 91 ⇑P **P 01 13 17.6 +1.7**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 pmax pmax
comp=Z,160nm,4.0s
MMAI Mount Meron Ar 28.60 273 P **P 01 13 18.6 +1.7**
comp=Z,3.1nm,0.6s,baz=76,slow=6.1,SNR=5.5
BR101 Keskin Array S 28.72 288 *e*P **P 01 13 19.4 +1.4**
BR131 Keskin Array S 28.72 288 *e*P **P 01 13 19.1 +1.1**
comp=Z,2.4nm,0.8s
BRTR Keskin Array B 28.72 288*ce*P **P 01 13 19.3 +1.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 28.72 288 P **P 01 13 19.4 +1.4**
comp=Z,2.1nm,0.8s,baz=93,slow=8.7,SNR=10
SONA0 Songino Array 28.96 56 *e*P **P 01 13 21.7 +1.7**
SONM Songino Array 28.96 56 P **P 01 13 21.7 +1.7**
comp=Z,19nm,0.7s,baz=264,slow=8.9,SNR=141
ULN Ulaanbaatar 29.40 56 *e*P **P 01 13 25.2 +1.3**
comp=Z,20nm,0.8s
ULN Ulaanbaatar 29.40 56*ce*P **P 01 13 24.7 +0.8**
ULN pmax pmax
comp=Z,22nm,0.8s
ULN Ulaanbaatar 29.40 56 P **P 01 13 25.5 +1.6**
SNR=7.7
OBN Obninsk 29.45 320 *e*P **P 01 13 23.9 -0.1**
OBN pmax pmax
comp=Z,4.0nm,1.0s
PRGR Permogore 29.47 336 *e*P **P 01 13 24.3 +0.2**
PRGR *e**PP **pP 01 14 07.6 -0.2**
PRGR pmax pmax
comp=Z,20nm,0.6s
KMI Kunming 30.13 103 P **P 01 13 32.3 +1.6**
KMI pmax pmax
comp=Z,42nm,0.6s
KMI pmax pmax
comp=Z,81nm,4.4s
KMI Kunming 30.13 103 *e*P **P 01 13 29.8 -0.9**
comp=Z,33nm,0.6s
KMI Kunming 30.13 103 *e*P **P 01 13 29.8 -0.9**
KMI pmax pmax
comp=Z,33nm,0.6s
CHTO Chiang Mai 30.89 117 *e*P **P 01 13 37.7 +0.6**
comp=Z,5.4nm,1.0s
CHTO Chiang Mai 30.89 117 *e*P **P 01 13 37.7 +0.6**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CM31 Chiang Mai Arr 31.12 118 *e*P **P 01 13 39.5 +0.3**
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 31.12 118 P **P 01 13 39.5 +0.3**
comp=Z,5.9nm,0.8s,baz=298,slow=8.0,SNR=31
CMAR PcP **PcP 01 16 29.3 +0.4**
comp=Z,1.2nm,0.3s,baz=296,slow=4.8,SNR=5.3
CMAR ScP **ScP 01 19 49.2 -2.0**
comp=Z,1.7nm,0.6s,baz=297,slow=4.7,SNR=8.2
KLMR Klimovskoe 31.12 331 *e*P **P 01 13 38.0 -0.6**
KLMR pmax pmax
comp=Z,14nm,1.0s
KLMR Klimovskoe 31.12 331 *e*P **P 01 13 38.1 -0.6**
KLMR AMP 01 13 39.8
comp=Z,14nm,1.0s
CM01 Chiang Mai Arr 31.15 118 *e*P **P 01 13 39.6 +0.2**
CM01 *e*PcP **PcP 01 16 27.8 -1.2**
LAMP Lampang 31.57 117 P **P 01 13 45.6 +2.5**
comp=Z,3.5nm,0.9s
XAN Xi'an 31.68 83 P **P 01 13 44.6 +0.7**
XAN pmax pmax
comp=Z,23nm,1.0s
NANT Nan 32.17 115 P **P 01 13 47.8 -0.5**
comp=Z,4.8nm,0.8s,comp=Z,158nm
AKASG Malin Array Be 32.36 309*ce*P **P 01 13 50.7 +1.1**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 32.36 309 P **P 01 13 50.3 +0.7**
comp=Z,1.7nm,0.5s,baz=81,slow=7.0,SNR=14
AKBB Malin Array Si 32.36 309 *e*P **P 01 13 50.3 +0.7**
AKBB Malin Array Si 32.36 309 *e*P **P 01 13 50.3 +0.7**
KIEV Kiev 32.37 309 ⇑*i*P **P 01 13 50.3 +0.6**
KIEV Kiev 32.37 309 ⇑P **P 01 13 50.3 +0.6**
AK11 Malin Array Si 32.39 309 *e*P **P 01 13 49.9 0.0**
HHC Hu-ho-hao-te 32.47 69 *e*P **P 01 13 52.3 +1.5**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,120nm,5.0s
CFR Carcaliu 32.58 299 ⇑*i*P **P 01 13 53.0 +1.4**
CFR Carcaliu 32.58 299 ⇑P **P 01 13 53.0 +1.4**
GYA Guiyang 32.61 97 ⇑*i*P **P 01 13 52.3 +0.1**
GYA pP pP 01 14 38.3 +1.0
GYA PP **PP 01 15 11.0 +0.5**
GYA sS sS 01 20 10.0 -1.6
GYA pmax pmax
comp=Z,50nm,0.9s
GYA pmax pmax
comp=Z,110nm,4.8s
UTTA Uttaradit 32.74 117 P **P 01 13 53.9 +0.7**
comp=Z,12nm,0.7s,comp=Z,96nm
ENH Enshi 33.33 89 *e*P **P 01 13 58.8 +0.5**
comp=Z,15nm,0.6s
UTHA Uthaitani 33.42 121 P **P 01 14 01.2 +2.0**
comp=Z,5.3nm,0.8s,comp=Z,121nm
TMCR Tamitsa 33.73 335 *e*P **P 01 14 02.0 +0.7**
TMCR pmax pmax
comp=Z,13nm,0.6s
PBKT Sadao Pong 33.81 118 *e*P **P 01 14 03.4 +0.9**
comp=Z,15nm,0.6s
PBKT Sadao Pong 33.81 118 P **P 01 14 03.8 +1.3**
comp=Z,21nm,0.6s
MLR Muntele Rosu 34.12 299 *e*P **P 01 14 06.9 +1.8**
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 34.12 299 ⇑*i*P **P 01 14 07.9 +2.8**
MLR Muntele Rosu 34.12 299 ⇑P **P 01 14 07.9 +2.8**
MLR Muntele Rosu 34.12 299 P **P 01 14 07.1 +2.0**
comp=Z,5.0nm,0.8s,baz=134,slow=2.1,SNR=15
NRIK Noril'sk 34.27 11 P **P 01 14 07.5 +1.6**
comp=Z,29nm,0.5s,baz=201,slow=6.3,SNR=50
KARP Karpathos 34.51 281 *e*P **P 01 14 08.5 +0.2**
comp=Z,79nm,0.9s
BURAR Bucovina Array 34.66 303 ⇑*i*P **P 01 14 11.0 +1.4**
BURAR Bucovina Array 34.66 303 ⇑P **P 01 14 11.0 +1.4**
VOIR 34.76 299 ⇑*i*P **P 01 14 12.0 +1.5**
VOIR 34.76 299 ⇑P **P 01 14 12.0 +1.5**
CHAI Chaiyaphum 34.98 117 P **P 01 14 13.8 +1.2**
comp=Z,6.2nm,0.9s
KHON Khomkaen 35.30 116 P **P 01 14 16.2 +1.0**
PHET Kaeng Krachan 35.43 124 P **P 01 14 18.3 +1.9**
comp=Z,10.0nm,0.8s
APE Apeiranthos 35.43 285 ⇑*i*P **P 01 14 17.5 +1.3**
APE Apeiranthos 35.43 285 P **P 01 14 17.6 +1.3**
SKNT Sakolnakorn 35.73 114 P **P 01 14 19.2 +0.2**
comp=Z,14nm,0.9s
BOD Bodaibo 35.83 39 *e*P **P 01 14 19.6 +0.3**
BOD pmax pmax
comp=Z,19nm,1.0s
VTS Vitosha 36.25 294 ⇑*i*P **P 01 14 23.4 +0.1**
VTS Vitosha 36.25 294 ⇑P **P 01 14 23.4 +0.1**
SRAK Srakaew 36.30 120 P **P** 01 14 29.4 +5.6
comp=Z,27nm,0.6s
IDI Anoyia 36.36 282 P **P 01 14 24.3 0.0**
comp=Z,2.9nm,0.3s,baz=44,slow=5.4,SNR=19
FIA1 FINESS Array S 37.07 326 *e*P **P 01 14 30.4 +0.7**
FIA0 FINESS Array S 37.07 326 *e*P **P 01 14 30.6 +0.9**
FIA0 FINESS Array S 37.07 326 *e*P **P 01 14 30.6 +0.9**
FINES FINESS Array B 37.07 326 *i* P **P 01 14 30.7 +1.0**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 37.07 326 P **P 01 14 30.6 +0.9**
comp=Z,4.5nm,0.6s,baz=124,slow=10,SNR=18
HIA Hailar 37.91 54 *e*P **P 01 14 37.6 +0.6**
comp=Z,16nm,0.9s
HIA Hailar 37.91 54 *e*P **P 01 14 37.6 +0.6**
HIA pmax pmax
comp=Z,16nm,0.9s
VYHS Vyhne 38.94 304 *e*P **P 01 14 46.2 +0.7**
VYHS Vyhne 38.94 304 *e*P **P 01 14 46.2 +0.7**
FURI Furi 39.59 234 *e*P **P 01 14 52.0 +0.4**
comp=Z,14nm,0.6s
NJ2 Nanjing 40.22 82 *e*P **P 01 14 56.8 +0.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ARA0 ARCESS Array S 40.86 338 *e*P **P 01 15 01.9 +0.9**
ARCES ARCESS Array B 40.86 338 P **P 01 15 01.9 +0.9**
comp=Z,7.3nm,0.7s,baz=118,slow=6.9,SNR=37
CONA Conrad Observa 40.95 304 pP pP 01 15 45.9 -1.8
comp=Z,12nm,1.8s
ARSA Arzberg 41.24 303 *e*pP pP 01 15 51.7 +1.7
comp=Z,4.9nm,1.1s
OBKA Obir 41.98 302 pP pP 01 15 56.7 +0.5
comp=Z,12nm,1.1s
BRG Berggiesshubel 42.03 308 *e*P pP 01 15 55.1 -1.3
comp=Z,5.1nm,1.1s
CN2 Changchun 42.27 62 *e*P **P 01 15 13.4 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
GERES GERESS Array B 42.32 305 P **P 01 15 14.8 +1.6**
comp=Z,0.2nm,0.3s,baz=74,slow=7.3,SNR=2.5
GERES ScP **ScP 01 20 30.7 -1.7**
comp=Z,0.4nm,0.8s,baz=118,slow=5.7,SNR=3.7
HFS Hagfors 42.60 322 P **P 01 15 15.9 +0.7**
comp=Z,2.6nm,0.3s,baz=102,slow=11,SNR=34
ZEA Zeya 42.62 47 *e*P **P 01 15 17.2 +1.7**
ZEA pmax pmax
comp=Z,43nm,1.2s
IPM Ipoh 42.70 131 *e*P **P 01 15 16.2 -0.5**
comp=Z,25nm,0.8s
KBA Koelnbreinsper 42.74 303 pP pP 01 15 59.6 -2.9
comp=Z,10nm,1.2s
PSI Prapat 42.81 135 *e*P **P 01 15 17.3 -0.2**
comp=Z,9.7nm,0.5s
PSI Prapat 42.81 135 *e*P **P 01 15 17.3 -0.2**
PSI pmax pmax
comp=Z,10.0nm,0.5s
PSI Prapat 42.81 135 P **P 01 15 16.8 -0.7**
comp=Z,8.2nm,0.5s,baz=0,1,slow=4.8,SNR=7.5
GSI Gunungsitoli 43.29 138 *e*P **P 01 15 21.5 +0.2**
comp=Z,36nm,0.5s
NB2 NORSAR Subarra 43.93 323 P **P 01 15 25.6 -0.3**
comp=Z,2.2nm,0.6s,baz=96,slow=7.9
NB200 NORSAR Array S 43.93 323 *e*P **P 01 15 26.0 +0.1**
NOA NORSAR Array B 43.93 323 P **P 01 15 26.0 +0.1**
comp=Z,2.2nm,0.6s,baz=163,slow=9.4,SNR=13
RETA Reutte 44.42 304 P **P 01 15 27.9 -2.1**
comp=Z,10nm,1.7s
FETA Feichten 44.52 303 P **P 01 15 27.5 -3.4**
comp=Z,10nm,1.5s
DAVA Damuels 45.05 303 P **P 01 15 34.1 -1.0**
comp=Z,6.4nm,1.0s
MDJ Mudanjiang 45.06 60 P **P 01 15 34.8 -0.2**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,210nm,3.6s
DAVOX Davos/Dischmat 45.13 303 P **P 01 15 36.3 +0.6**
comp=Z,1.6nm,0.8s,baz=45,slow=13,SNR=3.5
KS01 Wonju Array Si 45.56 71 *e*P **P 01 15 38.9 -0.1**
KS15 Wonju Array Si 45.56 71 *e*P **P 01 15 39.6 +0.6**
comp=Z,19nm,0.8s
KSRS Korea Array 45.59 71 P **P 01 15 39.4 +0.2**
comp=Z,9.1nm,0.4s,baz=282,slow=6.4,SNR=38
KLR Kul'dur 45.75 54*c i*P **P 01 15 40.9 +0.6**
TIXI Tiksi 46.06 22 *e*P **P 01 15 42.9 +0.5**
comp=Z,17nm,0.9s
TIXI Tiksi 46.06 22*ce*P **P 01 15 42.6 +0.2**
TIXI pmax pmax
comp=Z,19nm,1.0s
MYKOM Kota Tinggi 46.55 130 *e*P **P 01 15 47.0 +0.1**
comp=Z,15nm,0.6s
USRK Ussuriysk Ar. 46.83 60 P **P 01 15 49.1 +0.4**
comp=Z,6.5nm,0.7s,baz=277,slow=7.5,SNR=16
KMBO Kilima Mbogo 48.28 227 *e*P **P 01 16 01.8 +1.3**
comp=Z,12nm,0.6s
KMBO Kilima Mbogo 48.28 227 *i* P **P 01 16 01.8 +1.3**
SNR=23
KMBO Kilima Mbogo 48.28 227 P **P 01 16 01.8 +1.3**
comp=Z,11nm,0.6s,baz=35,slow=11,SNR=64
KEST Kesra 48.32 288 P **P 01 16 01.2 +0.8**
comp=Z,3.3nm,0.7s,baz=40,slow=1.3,SNR=9.9
GRNR Gornyy 48.49 51 *e*P **P 01 16 03.7 +2.2**
GRNR pmax pmax
comp=Z,25nm,1.0s
JNU Nakatsue 49.32 75 *e*P **P 01 16 08.4 +0.3**
comp=Z,33nm,1.0s
JNU Nakatsue 49.32 75 P **P 01 16 08.8 +0.8**
comp=Z,24nm,0.9s,baz=245,slow=2.0,SNR=6.1
NKL Nikolayevsk 50.67 47 *i* P **P 01 16 18.0 +0.3**
NKL pmax pmax
comp=E,32nm,1.1s
NKL pmax pmax
comp=Z,130nm,1.1s
PPBI Pangkal Pinang 51.05 131 P **P 01 16 23.6 +2.5**
EKA Eskdalemuir Ar 51.77 316 P **P 01 16 26.0 +0.1**
EKA Eskdalemuir Ar 51.77 316 P **P 01 16 26.0 +0.1**
comp=Z,1.8nm,0.7s,baz=74,slow=7.5,SNR=6.2
TYV Tymovskoe 52.34 50 *e*P **P 01 16 31.6 +1.4**
TYV pmax pmax
comp=Z,13nm,0.8s
KLI Kotabumi 52.44 134 P **P 01 16 34.3 +2.9**
YSS Yuzh-Sakhalins 53.44 55 *e*P **P 01 16 38.9 +0.7**
comp=Z,74nm,0.9s
YSS Yuzh-Sakhalins 53.44 55 ⇓*i*P **P 01 16 39.1 +0.8**
MAJO Matsushiro 53.65 68 *e*P **P 01 16 40.1 +0.1**
MAJO Matsushiro 53.65 68 *e*P **P 01 16 40.2 +0.1**
MAT Matsushiro 53.65 68 P **P 01 16 39.7 -0.3**
MJAR Matsushiro Arr 53.65 68 P **P 01 16 40.1 +0.1**
comp=Z,7.5nm,0.9s,baz=286,slow=10,SNR=9.2
DAG Danmarks Havn 54.52 344 *i* P **P 01 16 46.2 +0.6**
DAG *e* 01 17 39.7
DAG Danmarks Havn 54.52 344 *i* P **P 01 16 46.2 +0.6**
DAG *e* 01 17 39.7
MA2 Magadan 54.83 38 *e*P **P 01 16 48.3 +0.2**
comp=Z,8.8nm,0.9s
MA2 Magadan 54.83 38*ce*P **P 01 16 49.5 +1.4**
MA2 pmax pmax
comp=Z,19nm,1.7s
SEY Seymchan 54.84 34*ce*P **P 01 16 49.8 +1.7**
TAM Tamanrasset 56.79 275 *e*P **P 01 17 02.9 +0.1**
comp=Z,1.4nm,0.7s
TAM Tamanrasset 56.79 275 *e*P **P 01 17 02.9 +0.1**
TAM pmax pmax
comp=Z,1.0nm,0.7s
ESDC Sonseca Array 56.79 298 P **P 01 17 03.2 +0.7**
comp=Z,0.2nm,0.4s,baz=45,slow=9.5,SNR=4.1
ESDC pP **pP 01 17 53.3 +2.4**
comp=Z,1.5nm,0.7s,baz=56,slow=7.4,SNR=4.2
BILL Bilibino 58.94 26 *e*P **P 01 17 17.8 +1.0**
comp=Z,8.1nm,0.9s
BILL Bilibino 58.94 26*ce*P **P 01 17 18.1 +1.3**
BILL pmax pmax
comp=Z,5.0nm,0.6s
PEA1 Petropavlovsk- 60.49 44 *e*P **P 01 17 27.8 +0.2**
PETK Petropavlovsk- 60.49 44 P **P 01 17 27.8 +0.2**
comp=Z,5.0nm,0.6s,baz=204,slow=3.3,SNR=7.4
SUMG Summit 60.82 341 *e*P **P 01 17 30.4 +0.4**
comp=Z,5.5nm,0.9s
SUMG Summit 60.82 341 *i* P **P 01 17 31.2 +1.2**
comp=Z,17nm,1.1s
SUMG *e* 01 17 45.0
SUMG *i* 01 18 22.8
SUMG Summit 60.82 341 *i* P **P 01 17 31.2 +1.2**
SUMG *i* 01 18 22.8
SUMG pmax pmax
comp=Z,17nm,1.1s
TOA1 Torodi Ar. Sit 64.97 268 *e*P **P 01 17 54.9 -2.7**
TOA0 Torodi Ar. Sit 64.97 268 *e*P **P 01 17 56.5 -1.1**
TORD Torodi Ar. Bea 64.97 268 P **P 01 17 54.9 -2.8**
comp=Z,2.6nm,0.6s,baz=52,slow=6.0,SNR=56
SIJI Sorong 67.71 109 P **P 01 18 13.8 -1.3**
comp=Z,5.3nm,0.3s,baz=327,slow=8.2,SNR=4.2
BATI Baumata 68.50 122 P **P 01 18 18.1 -1.8**
comp=Z,21nm,0.5s,baz=304,slow=2.3,SNR=6.3
TOLK Toolik Lake Re 71.11 14 *e*P **P 01 18 36.0 +0.9**
comp=Z,20nm,0.8s
COLD Coldfoot 72.17 15 *e*P **P 01 18 42.1 +0.8**
comp=Z,9.1nm,1.0s
IM3 Indian Mountai 72.40 17 *e*P **P 01 18 42.8 +0.1**
FYU Fort Yukon 73.75 14 *e*P **P 01 18 51.7 +1.1**
comp=Z,18nm,0.9s
DBIC Dimbokro 73.95 266 pP pP 01 19 45.1 +1.3
comp=Z,7.1nm,0.8s,baz=36,slow=7.6,SNR=7.8
INK Inuvik 74.03 9 *e*P **P 01 18 53.0 +0.9**
comp=Z,15nm,0.8s
INK Inuvik 74.03 9 *e*P **P 01 18 53.0 +0.9**
INK pmax pmax
comp=Z,15nm,0.8s
INK Inuvik 74.03 9 P **P 01 18 53.3 +1.1**
comp=Z,13nm,0.7s,baz=357,slow=7.3,SNR=77
INK pP **pP 01 19 47.1 +3.5**
comp=Z,3.2nm,0.8s,baz=35,slow=7.6,SNR=2.8
LBTB Lobatse 74.18 221 *e*P **P 01 18 53.2 -0.5**
comp=Z,6.5nm,0.6s
LBTB Lobatse 74.18 221 *e*P **P 01 18 53.2 -0.5**
LBTB pmax pmax
comp=Z,7.0nm,0.6s
MDM Murphy Dome 74.53 16 *e*P **P 01 18 56.0 +0.8**
comp=Z,20nm,1.1s
PRP Porcupine Dome 74.62 15 *e*P **P 01 18 57.0 +1.1**
comp=Z,3.7nm,0.8s
BPAW Bear Paw Mtn. 74.62 17 *e*P **P 01 18 56.0 +0.3**
comp=Z,15nm,1.2s
COLA College 74.69 16 *e*P **P 01 18 57.0 +1.0**
comp=Z,21nm,0.8s
COLA College 74.69 16 *e*P **P 01 18 57.0 +1.0**
COLA pmax pmax
comp=Z,21nm,0.8s
CCB Clear Creek Bu 74.89 16 *e*P **P 01 18 56.8 -0.4**
comp=Z,2.9nm,1.0s
BWN Browne 74.92 17 *e*P **P 01 18 57.9 +0.5**
comp=Z,26nm,1.0s
IL1 Eielson Array 74.98 15 *e*P **P 01 18 56.9 -0.9**
ILAR Eielson Array 74.98 15 P **P 01 18 57.7 -0.1**
comp=Z,5.9nm,0.9s,baz=321,slow=4.7,SNR=58
ILAR pP **pP 01 19 51.9 +2.3**
comp=Z,0.8nm,0.6s,baz=1.4,slow=3.4,SNR=2.6
ILAR PP **PP 01 21 49.0 +1.1**
comp=Z,0.5nm,0.9s,baz=325,slow=12,SNR=3.3
ILB Eielson Array 74.98 15 *e*P **P 01 18 57.5 -0.3**
comp=Z,12nm,1.1s
HDA Harding Lake 75.29 16 *e*P **P 01 18 58.9 -0.6**
comp=Z,5.5nm,0.8s
PPLA Purkeypile 75.33 19 *e*P **P 01 19 00.1 +0.2**
comp=Z,8.2nm,0.6s
EPYK Eagle Plains 75.40 11 *e*P **P 01 19 00.0 -0.2**
comp=Z,7.7nm,1.0s
FITZ Fitzroy Crossi 75.50 126 *e*P **P 01 19 00.8 -0.5**
comp=Z,4.5nm,0.9s
RND Reindeer 75.72 17 *e*P **P 01 19 01.8 -0.3**
comp=Z,9.3nm,0.7s
RND Reindeer 75.72 17 *e*P **P 01 19 01.8 -0.3**
RND pmax pmax
comp=Z,9.0nm,0.7s
EGAK Eagle 76.12 13 *e*P **P 01 19 04.5 +0.3**
comp=Z,5.7nm,0.9s
SCRK Sand Creek 76.29 15 *e*P **P 01 19 06.0 +0.7**
comp=Z,12nm,0.9s
RIDG Independ'e Rid 76.32 15 *e*P **P 01 19 05.3 -0.1**
comp=Z,6.0nm,0.8s
DHY Denali Highway 76.35 17 *e*P **P 01 19 05.5 -0.2**
comp=Z,12nm,0.7s
DOT Dot Lake 76.57 15 *e*P **P 01 19 07.1 +0.3**
comp=Z,7.6nm,0.8s
PAX Paxson 76.87 16 *e*P **P 01 19 08.7 +0.2**
comp=Z,11nm,0.6s
PAX Paxson 76.87 16 *e*P **P 01 19 08.7 +0.2**
PAX pmax pmax
comp=Z,11nm,0.6s
SUA Susitna One 76.90 19 *e*P **P 01 19 08.6 -0.2**
comp=Z,19nm,1.2s
DAWY Dawson 77.09 13 *e*P **P 01 19 10.2 +0.5**
comp=Z,12nm,1.0s
DAWY *e*PP **PP 01 22 02.6 -3.0**
GHO Glory Hole Cre 77.10 18 *e*P **P 01 19 10.1 +0.3**
comp=Z,9.4nm,0.7s
SML Sawmill 77.22 18 *e*P **P 01 19 10.7 +0.2**
comp=Z,24nm,0.8s
SML Sawmill 77.22 18 *e*P **P 01 19 10.7 +0.2**
SML pmax pmax
comp=Z,24nm,0.8s
HARP HAARP 77.43 16 *e*P **P 01 19 12.9 +1.3**
comp=Z,54nm,0.9s
SCM Sheep Creek Mo 77.44 17 *e*P **P 01 19 12.0 +0.3**
comp=Z,31nm,1.1s
SCM Sheep Creek Mo 77.44 17 *e*P **P 01 19 12.0 +0.3**
SCM pmax pmax
comp=Z,31nm,1.1s
KNK Knik Glacier 77.53 18 *e*P **P 01 19 12.6 +0.5**
comp=Z,25nm,1.1s
KLU Klutina 78.06 17 *e*P **P 01 19 15.9 +0.7**
comp=Z,15nm,1.0s

KDAK	**Kodiak Island**	**79.48**	**22**	*i* P		**P**	**01 19 22.9**	**+0.1**
HYT	**Haines Junctio**	**80.43**	**13**	*e*P		**P**	**01 19 29.0**	**+1.0**
	comp=Z,8.6nm,0.8s							
YKW3	**Yellowknife Ar**	**81.21**	**2**	*e*P		**P**	**01 19 31.9**	**0.0**
	comp=Z,12nm,1.1s							
YKA	**Yellowknife Ar**	**81.28**	**2**	P		**P**	**01 19 32.7**	**+0.5**
	comp=Z,4.6nm,0.5s,baz=348,slow=5.3,SNR=114							
YKB5	**Yellowknife Ar**	**81.28**	**2**	*e*P		**P**	**01 19 32.5**	**+0.2**
SCHQ	**Schefferville**	**81.80**	**336**	P		**P**	**01 19 35.2**	**0.0**
	comp=Z,3.0nm,0.8s,baz=50,slow=11,SNR=4.2							
WR1	**Warramunga Arr**	**82.63**	**121**	*e*PKKPbc	PKKPbc		01 38 03.6	+0.7
	comp=Z,9.6nm,0.6s							
WRA	**Warramunga Arr**	**82.63**	**121**	P		**P**	**01 19 38.2**	**-1.7**
	comp=Z,8.9nm,0.8s,baz=323,slow=4.8,SNR=79							
WRA				PKKPbc	**PKKPbc**		**01 38 03.6**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=132,slow=2.2,SNR=7.7							
WRAB	**Tennant Creek**	**82.63**	**121**	*ce*P		**P**	**01 19 38.7**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.6s							
WB2	**Warramunga Arr**	**82.64**	**121**	*e*P		**P**	**01 19 37.9**	**-2.2**
FCC	**Fort Churchill**	**84.18**	**352**	*e*P		**P**	**01 19 47.9**	**+0.7**
	comp=Z,7.4nm,0.9s							
FCC	**Fort Churchill**	**84.18**	**352**	*e*P		**P**	**01 19 47.9**	**+0.7**
FCC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
AS31	**Alice Springs**	**84.87**	**124**	*e*P		**P**	**01 19 49.9**	**-1.4**
	comp=Z,3.4nm,0.6s							
ASAR	**Alice Springs**	**84.87**	**124**	P		**P**	**01 19 49.6**	**-1.6**
	comp=Z,8.6nm,0.6s,baz=312,slow=5.0,SNR=86							
ASAR				pP		**pP**	**01 20 47.4**	**+2.5**
	comp=Z,1.5nm,0.8s,baz=321,slow=5.5,SNR=1.9							
FORT	**Forrest**	**86.21**	**133**	*e*P		**P**	**01 19 56.9**	**-0.8**
	comp=Z,28nm,0.6s							
FFC	**Flin Flon**	**88.89**	**355**	*e*P		**P**	**01 20 10.7**	**+0.5**
	comp=Z,4.1nm,0.8s							
FFC	**Flin Flon**	**88.89**	**355**	*i* P		**P**	**01 20 10.9**	**+0.7**
CTAO	**Charters Tower**	**91.22**	**114**	*e*P		**P**	**01 20 20.3**	**-1.3**
	comp=Z,10nm,0.9s							
CTAO	**Charters Tower**	**91.22**	**114**	*e*P		**P**	**01 20 20.3**	**-1.3**
CTAO				pmax	pmax			
	comp=Z,11nm,0.9s							
ULM	**Lac du Bonnet**	**92.74**	**351**	P		**P**	**01 20 27.8**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=354,slow=5.9,SNR=8.2							
STKA	**Stephens Creek**	**95.39**	**126**	P		**P**	**01 20 38.8**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=339,slow=8.6,SNR=3.1							
NV01	**Mina Array Sit**	**105.04**	**7**	*e*Pdif		**Pdif**	**01 21 23.0**	**-1.0**
NVAR	**Mina Array Bea**	**105.04**	**7**	PKiKP		**PKiKP**	**01 25 37.4**	**0.0**
	comp=Z,0.4nm,0.7s,baz=285,slow=1.8,SNR=2.4							
SIV	**San Ignacio**	**132.22**	**282**	PKP		**PKPdf**	**01 26 28.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=149,slow=18,SNR=2.4							
CPUP	**Villa Florida**	**134.46**	**267**	PKP		**PKPdf**	**01 26 32.1**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=27,slow=11,SNR=3.6							
PLCA	**Paso Flores**	**149.12**	**250**	*e*PKPbc		**PKPbc**	**01 27 02.6**	**-0.7**
PLCA	**Paso Flores**	**149.12**	**250**	PKPbc		**PKPbc**	**01 27 02.7**	**-0.6**
	comp=Z,4.0nm,1.0s,baz=156,slow=4.1,SNR=6.4							
PLCA				pPKPbc		**pPKPbc**	**01 28 00.7**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=163,slow=4.2,SNR=4.3							

MEX 18 01:11:56.8±0.5,**16°.08N**×**98°.71W, h6**km±17km**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.64**	**61**	*e*P	Pg	01 12 07.9	-1.2
PNIG				*e*S	Sg	01 12 17.3	-0.1
TLIG	**Tlapa**	**1.48**	**5**	*e*P	Pn	01 12 20.4	-3.7
TLIG				*i* S	Sn	01 12 38.7	-5.1
VHO	**Vista Hermosa**	**2.13**	**62**	*i* P	Pn	01 12 29.8	-3.4
VHO				*i* S	Sn	01 12 55.0	-5.1
TPIG	**Tehuac#an**	**2.66**	**29**	*i* P	Pn	01 12 36.8	-3.6
TPIG				*i* S	Sn	01 13 09.4	-3.6

TRN 18 01:16:30.5, 9°.81N×**62°.02W, h116**km**, MD3.5, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUAY	**Buenos Aires**	**0.44**	**48**	*e*P	Pn	01 16 46.9	-0.8
BUAY				*e*S	Sn	01 17 01.1	+0.5
TPP	**Pointe-a-Pierr**	**0.75**	**48**	*e*P	Pn	01 16 50.1	+0.1
TPP				*e*S	Sn	01 17 03.9	-0.7
TRN	**Trinidad (W)**	**1.03**	**36**	*e*P	Pn	01 16 53.5	+0.9
TRN				*e*S	Sn	01 17 08.8	-0.3
TBH	**Brigand Hill**	**1.15**	**54**	*e*P	Pn	01 16 53.8	0.0
TBH				*e*S	Sn	01 17 10.9	-0.5
GRGR	**Grenville**	**2.34**	**9**	*e*P	Pn	01 17 07.3	-0.8
GRGR				*e*S	Sn	01 17 35.5	-1.4
GRHS	**Sauteurs**	**2.43**	**9**	*e*P	Pn	01 17 09.7	+0.4
GRHS				*e*S	Sn	01 17 38.2	-0.8
GRSS	**Sisters**	**2.51**	**9**	*e*P	Pn	01 17 10.3	+0.1
GRSS				*e*S	Sn	01 17 39.3	-1.5
FCV	**Fort Charlotte**	**3.41**	**13**	*e*P	Pn	01 17 22.3	+0.1
SVCV	**St. Vincent, C**	**3.55**	**14**	*e*P	Pn	01 17 23.9	-0.1
SVV	**Soufriere Volc**	**3.58**	**13**	*e*P	Pn	01 17 24.8	+0.5
SSV	**Crater Summit**	**3.59**	**13**	*e*P	Pn	01 17 25.2	+0.6
SLB	**Belfond**	**4.11**	**13**	*e*P	Pn	01 17 31.7	+0.2

*BJI **18** 01:19:32.8, 36°.32N×69°.64E, h142km, mb4.6/14, mB4.7/11*
*IDC **18** 01:19:34.5±2.1, 36°.21N×69°.87E, h140km±19km, mb3.6/13, mb1 3.8/19, mb1mx3.5/49, mbtmp4.1/19, Error ellipse: s-maj=13.8km s-min=12.1km az=160.0*
*ISCJB **18** 01:19:34.3±0.3, 36°.26N±0°.02×69°.89E±0°.04, h150km, mb3.9/22, Error ellipse: s-maj=4.3km s-min=2.6km az=168.8*
*MOS **18** 01:19:34.4±0.9, 36°.27N×69°.92E, h148km, mb4.0/6, Error ellipse: s-maj=10.0km s-min=4.4km az=75.5*
*NEIC **18** 01:19:35.8±2.5, 36°.29N×69°.81E, h142km±18km, mb4.1/12, Error ellipse: s-maj=24.5km s-min=15.4km az=138.0*
*NNC **18** 01:19:35.2±3.9, 36°.40N×69°.79E, h130km±103km, mb4.1, mpv4.7, Error ellipse: s-maj=38.6km s-min=17.4km az=159.0*

ISC 18 01:19:35.1±0.4,**36°.25N**±0°.04×**69°.85E**±0°.04,**h150**km**, n148,** σ**2s 07**/179**, mb3.9**/22**, 8C-8D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.83**	**201**	*e*Pn	**Pn**	**01 20 09.2**	**+0.6**
KBL				*e*Sn	**Sn**	**01 20 32.9**	**-1.3**
KBL	**Kabul**	**1.83**	**201**	*e*PN	**Pn**	**01 20 09.2**	**+0.6**
KBL				*e*		01 20 32.9	
CEP	**Cherat**	**2.95**	**145**	⇓P	**Pn**	**01 20 22.8**	**+0.7**
CEP				S	**Sn**	**01 20 58.0**	**-0.3**
THW	**Thamme Wali**	**3.79**	**155**	P	**Pn**	**01 20 32.3**	**-0.4**
NIL	**Nilore**	**3.81**	**132**	*e*Pn	**Pn**	**01 20 33.8**	**+0.8**
NIL				*e*Sn	Sn	01 21 09.1	-8.8
NIL	**Nilore**	**3.81**	**132**	*e*PN	**Pn**	**01 20 33.8**	**+0.8**
CHCP	**Chirah Chowk**	**3.81**	**132**	⇓P	**Pn**	**01 20 33.7**	**+0.7**
BTK	**Batken**	**3.88**	**11**	*e*Pn	**Pn**	**01 20 35.5**	**+1.7**
BTK				*e*Sn	**Sn**	**01 21 19.6**	**+0.2**
ARSB	**Arslanbob**	**5.62**	**25**	*e*Pn	**Pn**	**01 20 56.6**	**-0.3**
ARSB				*e*Sn	**Sn**	**01 21 54.6**	**-6.2**
KSH	**Kashi**	**5.84**	**54**	P	**Pn**	**01 20 56.4**	**-3.3**
KSH				sP		01 21 28.5	
KSH				S	Sn	01 21 54.9	-11
IUG	**Iuzhnay**	**5.89**	**1**	*e*PN	**Pn**	**01 21 00.3**	**-0.1**
IUG				*i* S	**Sn**	**01 22 06.6**	**-0.4**
	comp=Z,3μm,0.6s						
IUG				smax	smax		
	comp=E,4μm,1.2s						
IUG	**Iuzhnay**	**5.89**	**1**	*e*P	**Pn**	**01 21 00.3**	**-0.1**
	comp=E,3μm,0.6s						
IUG				*i* S	**Sn**	**01 22 06.7**	**-0.3**
	comp=E,4μm,1.2s						
CHM	**Chimkent**	**6.06**	**358**	*e*PN	**Pn**	**01 21 02.9**	**+0.4**
CHM				pmax	pmax		
	comp=Z,9μm,0.6s						
CHM	**Chimkent**	**6.06**	**358**	*e*P	**Pn**	**01 21 03.0**	**+0.4**
	comp=Z,9μm,0.6s						
CHM				*i* S	**Sn**	**01 22 08.6**	**-2.5**
	comp=Z,2μm,1.3s						
AML	**Almayashu**	**6.58**	**26**	P	**Pn**	**01 21 10.3**	**+0.4**
	SNR=300						
DHRM	**DHARAMSHALA**	**6.67**	**125**	*e*P	**Pn**	**01 21 10.2**	**-0.7**
DHRM				*e*S	**Sn**	**01 22 21.8**	**-4.1**
DHRM				IAML		01 22 24.6	
	comp=N,316nm,0.2s						
DHRM				IAML		01 22 25.7	
	comp=E,336nm,0.6s						
DZA	**Taraz**	**6.73**	**9**	*e*PN	**Pn**	**01 21 11.4**	**-0.1**
DZA				*i* S	**Sn**	**01 22 26.0**	**-1.0**
DZA				pmax	pmax		
	comp=Z,6μm,0.6s						
DZA				smax	smax		
	comp=E,1μm,1.4s						
DZA	**Taraz**	**6.73**	**9**	*e*P	**Pn**	**01 21 11.5**	**-0.1**
	comp=E,6μm,0.6s						
DZA				*i* S	**Sn**	**01 22 26.1**	**-1.0**
	comp=E,1μm,1.4s						
BRLS	**Borolday**	**6.77**	**360**	*e*P	Pn	01 21 07.3	-4.7
KK31	**Karatay Array**	**6.86**	**4**	*e*Pn	**Pn**	**01 21 13.8**	**+0.6**
KK31				*e*Sn	**Sn**	**01 22 26.6**	**-3.6**
KK31	**Karatay Array**	**6.86**	**4**	⇓P	**Pn**	**01 21 13.5**	**+0.2**
	comp=E,50nm,0.4s,baz=195,slow=13,SNR=624						
KK31				⇓S	**Sn**	**01 22 27.6**	**-2.6**
	comp=E,13nm,0.3s,baz=180,slow=23,SNR=5.6						
KK31	**Karatay Array**	**6.86**	**4**	*e*PN	**Pn**	**01 21 13.8**	**+0.6**
KKAR	**Karatay Array**	**6.86**	**4**	*e*Pn	**Pn**	**01 21 13.8**	**+0.6**
KKAR				*e*Sn	**Sn**	**01 22 28.6**	**-1.6**
KKAR	**Karatay Array**	**6.86**	**4**	*e*PN	**Pn**	**01 21 13.8**	**+0.6**
UCH	**Uchtor**	**6.98**	**30**	P	**Pn**	**01 21 15.6**	**+0.4**
	SNR=73						
NRN	**Naryn**	**7.05**	**41**	*e*Pn	**Pn**	**01 21 15.2**	**-1.0**
NRN				*e*Sn	**Sn**	**01 22 28.6**	**-6.7**
NRN	**Naryn**	**7.05**	**41**	*e*PN	**Pn**	**01 21 15.2**	**-1.0**
EKS2	**Erkin-Say**	**7.08**	**24**	P	**Pn**	**01 21 17.0**	**+0.7**
	SNR=61						
KZA	**Kyzart**	**7.17**	**34**	P	**Pn**	**01 21 17.7**	**0.0**
	SNR=40						
BHK	**Bhakra**	**7.29**	**130**	*e*S	**Sn**	**01 22 35.0**	**-5.5**
AAK	**Ala-Archa**	**7.32**	**28**	P	**Pn**	**01 21 20.2**	**+0.7**
	SNR=79						
AAK	**Ala-Archa**	**7.32**	**28**	*e*Pn	**Pn**	**01 21 20.2**	**+0.7**
AAK				*e*Sn	Sn	01 22 31.4	-10
AAK	**Ala-Archa**	**7.32**	**28**	P	**Pn**	**01 21 15.7**	**-3.8**
	comp=E,15nm,0.5s						
AAK				S	**Sn**	**01 22 38.8**	**-2.6**
	comp=E,85nm,0.9s						
AAK	**Ala-Archa**	**7.32**	**28**	PN	Pn	01 21 24.8	+5.3
AAK				pmax	pmax		
	comp=Z,15nm,0.5s						
AAK	**Ala-Archa**	**7.32**	**28**	P	**Pn**	**01 21 20.2**	**+0.7**
	comp=Z,19nm,0.3s,baz=194,slow=8.4,SNR=229						
AAK				S	**Sn**	**01 22 39.7**	**-1.6**
	comp=Z,6.8nm,0.3s,baz=128,slow=22,SNR=10						
KBK	**Karagaybulak**	**7.51**	**30**	P	**Pn**	**01 21 23.0**	**+0.9**
	SNR=39						
FRU1	**Bishkek**	**7.52**	**28**	*e*Pn	**Pn**	**01 21 23.5**	**+1.5**
FRU1				*e*Sn	**Sn**	**01 22 47.5**	**+1.5**
FRU1	**Bishkek**	**7.52**	**28**	*e*PN	**Pn**	**01 21 23.5**	**+1.5**
FRU1				*e*		01 22 47.5	
FRU	**Bishkek**	**7.53**	**28**	*e*PN	**Pn**	**01 21 21.0**	**-1.2**
FRU				pmax	pmax		
	comp=Z,100nm,1.2s						
CHMS	**Chumysh**	**7.72**	**28**	P	**Pn**	**01 21 25.2**	**+0.4**
	SNR=135						
ULHL	**Ulahol**	**7.77**	**38**	P	**Pn**	**01 21 26.3**	**+0.8**
	SNR=16						
USP	**Ospenovka**	**7.87**	**26**	P	**Pn**	**01 21 26.9**	**+0.2**
	SNR=71						
SMLA	**Simla**	**7.95**	**128**	*e*P	**Pn**	**01 21 26.4**	**-1.4**
SMLA				*e*S	**Sn**	**01 22 51.2**	**-5.3**
SMLA				IAML		01 22 58.2	
	comp=N,143nm,0.3s						
SMLA				IAML		01 22 58.8	
	comp=E,139nm,0.3s						
TKM2	**Tokmak 2**	**8.00**	**32**	P	**Pn**	**01 21 29.0**	**+0.4**
	SNR=11						
TKM2	**Tokmak 2**	**8.00**	**32**	⇑P	**Pn**	**01 21 28.5**	**-0.1**
	comp=E,27nm,0.6s						
TKM2				⇑S	**Sn**	**01 22 55.7**	**-2.1**
	comp=E,23nm,0.7s						
TKM2	**Tokmak 2**	**8.00**	**32**	PN	**Pn**	**01 21 28.5**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,27nm,0.6s						
KDJ	**Kajisay**	**8.17**	**42**	*e*Pn	**Pn**	**01 21 31.7**	**+0.8**
KDJ	**Kajisay**	**8.17**	**42**	*e*PN	**Pn**	**01 21 31.7**	**+0.8**
TARG	**Taragay, Kyrgy**	**8.26**	**46**	*e*Pn	**Pn**	**01 21 32.7**	**+0.4**
MTBS	**Maitube**	**8.53**	**34**	*e*PN	**Pn**	**01 21 34.1**	**-1.5**
MTBS				pmax	pmax		
	comp=Z,123nm,0.8s						
MTBS	**Maitube**	**8.53**	**34**	*e*P	**Pn**	**01 21 34.2**	**-1.5**
	comp=Z,123nm,0.8s						
MDOK	**Medeo**	**8.85**	**37**	⇓P	**Pn**	**01 21 40.3**	**+0.4**
	comp=Z,16nm,0.8s						
MDOK	**Medeo**	**8.85**	**37**	*e*PN	**Pn**	**01 21 39.6**	**-0.3**
MDOK				pmax	pmax		
	comp=Z,141nm,0.9s						
MDOK	**Medeo**	**8.85**	**37**	*e*P	**Pn**	**01 21 39.6**	**-0.3**
	comp=Z,141nm,0.9s						
DDI	**Dehra Dun**	**9.06**	**128**	*e*S	**Sn**	**01 23 22.6**	**-0.7**
KUU	**Kurty**	**9.11**	**31**	*e*P	**Pn**	**01 21 41.9**	**-1.2**
KUU				pmax	pmax		
	comp=Z,29nm,0.7s						
KUU	**Kurty**	**9.11**	**31**	*e*P	**Pn**	**01 21 41.9**	**-1.2**
	comp=Z,29nm,0.7s						
BTLS	**Baital**	**9.34**	**19**	*e*P	**Pn**	**01 21 45.1**	**-1.1**
BTLS				pmax	pmax		
	comp=Z,87nm,0.6s						
BTLS	**Baital**	**9.34**	**19**	*e*P	**Pn**	**01 21 45.1**	**-1.1**
	comp=Z,87nm,0.6s						
SATY	**Saty**	**9.47**	**42**	*e*P	**Pn**	**01 21 46.1**	**-2.0**
SATY				pmax	pmax		
	comp=Z,80nm,1.0s						
SATY	**Saty**	**9.47**	**42**	*e*P	**Pn**	**01 21 46.1**	**-2.0**
	comp=Z,80nm,1.0s						
GEYT	**Alibeck**	**9.52**	**284**	P	**Pn**	**01 21 48.8**	**0.0**
	comp=Z,2.0nm,0.3s,baz=112,slow=9.6,SNR=38						
GEYT				S	**Sn**	**01 23 30.1**	**-4.2**
	comp=Z,3.4nm,0.3s,baz=102,slow=13,SNR=6.8						
GYA0B	**ALIBECK ARRAY**	**9.52**	**284**	*e*Pn	**Pn**	**01 21 48.6**	**-0.2**
GYA0B				*e*Sn	**Sn**	**01 23 32.1**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**9.52**	**284**	⇑P	**Pn**	**01 21 48.4**	**-0.4**
GYA0B				⇓S	**Sn**	**01 23 29.9**	**-4.5**
ZHN	**Zhinishke**	**9.56**	**41**	*e*P	**Pn**	**01 21 48.0**	**-1.2**
ZHN				pmax	pmax		
	comp=Z,33nm,1.0s						
ZHN	**Zhinishke**	**9.56**	**41**	*e*P	**Pn**	**01 21 48.1**	**-1.2**
	comp=Z,33nm,1.0s						
NDI	**New Delhi**	**9.78**	**138**	*e*S	Sn	01 23 33.0	-7.5
UZB	**Uzynbulak**	**9.86**	**43**	*e*P	**Pn**	**01 21 51.1**	**-2.2**
UZB				pmax	pmax		
	comp=Z,47nm,0.8s						
UZB	**Uzynbulak**	**9.86**	**43**	*e*P	**Pn**	**01 21 51.2**	**-2.2**
	comp=Z,47nm,0.8s						
KPKS	**Kokpek**	**9.89**	**41**	*e*P	**Pn**	**01 21 52.7**	**-1.0**
KPKS				pmax	pmax		
	comp=Z,168nm,0.9s						
KPKS	**Kokpek**	**9.89**	**41**	*e*P	**Pn**	**01 21 52.8**	**-1.0**
	comp=Z,168nm,0.9s						
PDGK	**Podgornoye**	**10.24**	**43**	⇑P	**Pn**	**01 21 57.3**	**-1.0**
	comp=Z,2.7nm,0.5s						
PDGK				⇑S	**Sn**	**01 23 49.2**	**-2.5**
	comp=Z,26nm,1.1s						
PDGK	**Podgornoye**	**10.24**	**43**	P	**Pn**	**01 21 57.3**	**-1.0**
PDGK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
OTUK	**Ortayu**	**12.12**	**8**	⇑P	**Pn**	**01 22 22.5**	**-0.4**
	comp=Z,18nm,0.5s						
OTUK				⇓S	**Sn**	**01 24 30.3**	**-6.5**
	comp=Z,11nm,0.9s						
OTUK	**Ortayu**	**12.12**	**8**	P	**Pn**	**01 22 22.4**	**-0.4**
OTUK				S	**Sn**	**01 24 30.2**	**-6.5**
OTUK				pmax	pmax		
	comp=Z,18nm,0.5s						
OTUK				smax	smax		
	comp=N,11nm,0.9s						
BHJ	**Bhuj**	**12.96**	**181**	*e*P	**Pn**	**01 22 32.6**	**-1.2**
BHJ				IAmb	IAmb	01 22 33.0	
	comp=Z,96nm,0.3s						
PYUN	**Piuthan**	**13.77**	**122**	*e*P	**Pn**	**01 22 42.9**	**-1.4**
	comp=Z,27nm,0.3s						
MAKZ	**Makanchi**	**13.90**	**37**	*e*Pn	**P**	**01 22 47.9**	**-1.1**
MAKZ				*e*S	**S**	**01 25 32.5**	**+2.9**
MAKZ	**Makanchi**	**13.90**	**37**	*e*P	**P**	**01 22 47.9**	**-1.1**
MK01	**Makanchi Array**	**14.03**	**38**	*e*Pn	**Pn**	**01 22 48.1**	**+0.8**
MK31	**Makanchi Array**	**14.04**	**38**	*e*Pn	**Pn**	**01 22 48.4**	**+1.0**
MK31	**Makanchi Array**	**14.04**	**38**	*e*P	**Pn**	**01 22 48.4**	**+1.0**
MKAR	**Makanchi Array**	**14.04**	**38**	*i* P	**P**	**01 22 51.2**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**14.04**	**38**	P	**Pn**	**01 22 47.6**	**+0.1**
	comp=Z,3.0nm,0.3s,baz=214,slow=9.6,SNR=51						
MKAR				S	**S**	**01 25 31.8**	**-0.7**
	baz=225,slow=24,SNR=2.2						
DANN	**Dangsing**	**14.15**	**120**	*e*P	**Pn**	**01 22 47.1**	**-2.1**
KOLN	**Koldanda**	**14.40**	**122**	*e*P	**Pn**	**01 22 51.0**	**-1.2**
	comp=Z,12nm,0.3s						
BHPL	**Bhopal**	**14.53**	**151**	*e*P	**Pn**	**01 22 52.9**	**-0.9**
BHPL				*ex*	x	01 25 24.7	
AB31	**Akbulak array**	**14.88**	**334**	⇓P	**Pn**	**01 22 57.9**	**+0.1**
	comp=Z,8.2nm,0.3s,baz=147,slow=12,SNR=543						
AB31	**Akbulak array**	**14.88**	**334**	*e*P	**Pn**	**01 22 57.8**	**+0.1**
AB31				S	Sn	01 25 33.0	-10
AB31				pmax	pmax		
	comp=Z,8.0nm,0.3s						
AB31				smax	smax		
	comp=N,5.0nm,0.5s						
ABKAR	**Akbulak array**	**14.88**	**334**	*e*Pn	**Pn**	**01 22 58.1**	**+0.3**
ABKAR				*e*Sn	Sn	01 25 33.2	-10
GKN	**Gorkha**	**14.97**	**119**	*e*P	**Pn**	**01 22 59.4**	**0.0**
	comp=N,26nm,0.3s						
DMN	**Daman**	**15.54**	**119**	*e*P	**Pn**	**01 23 05.9**	**-0.6**
	comp=N,16nm,0.4s						
KKN	**Kakani**	**15.56**	**118**	*e*P	**Pn**	**01 23 05.8**	**-0.8**
	comp=N,40nm,0.5s						
WMQ	**Urumqi**	**15.60**	**56**	*e*P	**P**	**01 23 09.5**	**+1.6**
WMQ	**Urumqi**	**15.60**	**56**	*e*Pn	**Pn**	**01 23 07.1**	**+0.2**
	comp=N,7.2nm,0.9s						
WMQ	**Urumqi**	**15.60**	**56**	*e*P	**Pn**	**01 23 07.1**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURBB	**Kurchatov Arra**	**15.67**	**21**	P	**Pn**	**01 23 06.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=214,slow=12,SNR=8.5						
PKIN	**Phulchoki**	**15.77**	**119**	*e*P	**Pn**	**01 23 09.1**	**-0.2**
	comp=Z,24nm,0.4s						
KURK	**Kurchatov**	**15.78**	**21**	*e*Pn	**Pn**	**01 23 08.2**	**-0.7**
	comp=Z,5.8nm,0.8s						
KURK	**Kurchatov**	**15.78**	**21**	*e*P	**Pn**	**01 23 08.2**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PKI	**Pulchoki**	**15.78**	**119**	*e*P	**Pn**	**01 23 08.9**	**-0.6**
	comp=Z,17nm,0.2s						
GUN	**Gumba**	**15.91**	**117**	*e*P	**Pn**	**01 23 10.9**	**-0.3**
	comp=Z,26nm,0.3s						
JIRN	**Jiri**	**16.28**	**117**	*e*P	**Pn**	**01 23 15.1**	**-0.6**
	comp=Z,45nm,0.3s						
AKTO	**Aktyubinsk**	**16.55**	**333**	P	**Pn**	**01 23 20.1**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=122,slow=6.2,SNR=31						
AKTO				S	**S**	**01 26 12.8**	**-9.3**
	comp=Z,0.5nm,0.3s,baz=233,slow=20,SNR=5.8						
BVAR	**Borovoye Array**	**16.77**	**1**	P	**P**	**01 23 21.0**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=186,slow=6.9,SNR=18						
BVAR				S	**S**	**01 26 24.9**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=176,slow=22,SNR=2.6						
BRVK	**Borovoye**	**16.81**	**1**	*e*P	**Pn**	**01 23 22.1**	**+0.7**
	comp=Z,6.0nm,0.4s						
BRVK				*e*S	**S**	**01 26 20.8**	**-7.3**
BRVK	**Borovoye**	**16.81**	**1**	*i* P	**P**	**01 23 21.2**	**+0.2**
RAMN	**Ramite**	**17.00**	**118**	*e*P	**P**	**01 23 23.4**	**-0.3**
	comp=Z,17nm,0.3s						
BOK	**Bokaro**	**18.59**	**127**	*e*P	**P**	**01 23 42.4**	**+1.5**
GNI	**Garni**	**20.09**	**289**	*e*P	**P**	**01 23 56.4**	**-0.7**
	comp=Z,8.9nm,0.9s						
GNI	**Garni**	**20.09**	**289**	*e*P	**P**	**01 23 56.4**	**-0.7**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
ZAA0	**Zalesovo Array**	**20.53**	**26**	*e*P	**P**	**01 24 02.9**	**+1.4**
	comp=Z,14nm,0.5s						
ZALV	**Zalesovo Beam**	**20.53**	**26**	*e*P	**P**	**01 24 02.7**	**+1.2**
ZALV	**Zalesovo Beam**	**20.53**	**26**	P	**P**	**01 24 02.9**	**+1.4**
	comp=Z,13nm,0.4s,baz=213,slow=11,SNR=73						
ZALV				S	**S**	**01 27 42.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=206,slow=19,SNR=2.8						
NVS	**Novosibirsk**	**20.75**	**22**	*i* P	**P**	**01 24 05.7**	**+1.9**
ARU	**Arti**	**21.58**	**343**	*c i* P	**P**	**01 24 15.5**	**+2.8**
ARU						01 24 42.1	
ARU				S	**S**	**01 28 09.0**	**+7.0**
ARU				pmax	pmax		
	comp=Z,18nm,2.1s						
SHL	**Shillong**	**21.65**	**113**	*e*P	**P**	**01 24 13.9**	**0.0**
	comp=Z,18nm,0.3s						
SHL	**Shillong**	**21.65**	**113**	*e*P	**P**	**01 24 13.9**	**0.0**
SHL				pmax	pmax		
	comp=Z,18nm,0.3s						
GTA	**Gaotai**	**23.82**	**73**	*e*P	**P**	**01 24 35.8**	**+1.4**
GTA				pP	pP	01 25 03.3	-1.7
GTA				sP	sP

MEX 18 01:22:46.5±0.3, 14.88°N×93.16°W, h61km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		**0.82**	**356**	eP	Pn	01 23 00.9	-1.4
PCIG				eS	Sn	01 23 12.1	-1.9
THIG		**0.87**	**88**	i P	Pn	01 23 01.2	-1.7
THIG				eS	Sn	01 23 12.9	-2.1
CCIG	**Comitan**	**1.71**	**35**	eP	Pn	01 23 12.6	-1.6
CCIG				i S	Sn	01 23 33.2	-1.9

IDC 18 01:35:10.1±1.8, 5.65°S×123.44°E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/28, mbtmp3.4/3, ML3.3/1, MS2.5/1, Ms1 2.5/1, ms1mx2.3/14, Error ellipse: s-maj=242.7km s-min=29.4km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**12.81**	**10**	LR	LR	01 42 26.5	
	comp=Z,24nm,21.7s,baz=148,slow=34						
WRA	**Warramunga Arr**	**17.73**	**144**	P	Pn	01 39 17.9	-0.7
	0.1nm,0.3s,baz=316,slow=13,SNR=8.1						
ASAR	**Alice Springs**	**20.56**	**152**	P	P	01 39 51.1	+0.6
	0.6nm,0.6s,baz=330,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**63.65**	**330**	P	P	01 45 43.0	-0.1
	0.3nm,0.6s,baz=121,slow=7.9,SNR=3.7						

*IDC **18** 01:53:07.3±1.8, 22.86°S×68.50°W, h91km±13km, mb3.5/2, mb1 3.5/4, mb1mx3.2/31, mbtmp3.7/4, Error ellipse: s-maj=49.5km s-min=34.7km az=157.0*
*ISCJB **18** 01:53:08.3±0.4, 22.77°S±0.03°×68.78°W±0.05°, h121km±5km, mb3.6/2, Error ellipse: s-maj=7.9km s-min=4.8km az=1.4*
*NEIC **18** 01:53:09.0±0.0, 22.68°S×68.75°W, h110km, mb3.9/1, ML4.0(GUC), After GUC.*
NEIC Felt [III] at Calama and [II] at San Pedro de Atacama.
*GUC **18** 01:53:09.1±0.6, 22.68°S×68.75°W, h110km±4km, ML4.0*
*SJA **18** 01:53:09.1±0.7, 22.69°S×68.68°W, h96km±3km, ML2.8, MW3.4*
ISC 18 01:53:08.5±0.8, 22.76°S±0.03°×68.71°W±0.05°, h105km±6km, n42, σ1.44/62, 8C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.24**	**308**	ePn	**Pn**	**01 53 24.1**	**+0.1**
LVC				eSn	**Sn**	**01 53 33.8**	**-1.7**
LVC	**Limon Verde**	**0.24**	**308**	i P	**Pn**	**01 53 23.9**	**0.0**
LVC				i S	**Sn**	**01 53 34.8**	**-0.7**
LVC	**Limon Verde**	**0.24**	**308**	P	**Pn**	**01 53 24.0**	**+0.1**
	baz=95,slow=12						
LVC				S	**Sn**	**01 53 35.1**	**-0.4**
	720nm,0.3s,baz=301,slow=19,SNR=32						
PB06	**IPOC Station P**	**0.80**	**274⇑**	iP	**Pn**	**01 53 28.5**	**+1.0**
PB06				eS	**Sn**	**01 53 43.6**	**+1.8**
PB06				IAML		01 53 44.5	
	comp=N,8μm,0.1s						
PB15	**IPOC Station P**	**0.83**	**238**	i P	**Pn**	**01 53 29.7**	**+1.8**
PB15	**IPOC Station P**	**0.83**	**238⇑**	eP	**Pn**	**01 53 29.5**	**+1.6**
PB15				eS	**Sn**	**01 53 45.3**	**+2.8**
PB09	**IPOC Station P**	**1.08**	**332**	i P	**Pn**	**01 53 31.0**	**+0.6**
PB09	**IPOC Station P**	**1.08**	**332⇑**	iP	**Pn**	**01 53 31.1**	**+0.6**
PB09				eS	**Sn**	**01 53 47.0**	**+0.2**
PB03	**IPOC Station P**	**1.20**	**306**	i P	**Pn**	**01 53 32.5**	**+0.7**
PB03	**IPOC Station P**	**1.20**	**306⇑**	iP	**Pn**	**01 53 32.4**	**+0.7**
PB03				eS	**Sn**	**01 53 50.0**	**+0.7**
PB03				IAML		01 53 51.0	
	comp=E,5μm,0.3s						
PB05	**IPOC Station P**	**1.39**	**266**	i P	**Pn**	**01 53 35.1**	**+1.3**
PB05	**IPOC Station P**	**1.39**	**266⇑**	eP	**Pn**	**01 53 34.9**	**+1.2**
PB05				eS	**Sn**	**01 53 54.3**	**+1.4**
PB05				IAML		01 53 59.0	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**1.40**	**287**	ePn	**Pn**	**01 53 35.0**	**+0.9**
PB04				eSn	**Sn**	**01 53 55.3**	**+1.9**
PB04	**IPOC Station P**	**1.40**	**287**	i P	**Pn**	**01 53 35.1**	**+1.1**
PB04	**IPOC Station P**	**1.40**	**287⇑**	eP	**Pn**	**01 53 34.9**	**+0.9**
PB04				eS	**Sn**	**01 53 54.5**	**+1.2**
PB04				IAML		01 53 57.0	
	comp=N,2μm,0.3s						
PB07	**IPOC Station P**	**1.50**	**313**	i P	**Pn**	**01 53 35.9**	**+0.7**
PB07	**IPOC Station P**	**1.50**	**313⇑**	eP	**Pn**	**01 53 35.9**	**+0.7**
PB07				eS	**Sn**	**01 53 56.3**	**+0.8**
PB07				IAML		01 53 58.5	
	comp=E,3μm,0.6s						
PB02	**IPOC Station P**	**1.81**	**322**	i P	**Pn**	**01 53 39.7**	**+0.6**
PB02	**IPOC Station P**	**1.81**	**322**	eP	**Pn**	**01 53 39.6**	**+0.6**
PB02				eS	**Sn**	**01 54 02.6**	**+0.4**
PB02				IAML		01 54 08.4	
	comp=E,3μm,0.4s						
PB01	**IPOC Station P**	**1.86**	**337**	ePn	**Pn**	**01 53 40.1**	**+0.5**
PB01				eSn	**Sn**	**01 54 04.5**	**+1.2**
PB01	**IPOC Station P**	**1.86**	**337⇑**	iP	**Pn**	**01 53 40.0**	**+0.3**
PB01				eS	**Sn**	**01 54 02.9**	**-0.4**
PB01				IAML		01 54 05.4	
	comp=E,3μm,0.5s						
PB10	**IPOC Station P**	**1.86**	**246**	ePn	**Pn**	**01 53 41.3**	**+1.7**
PB10				eSn	**Sn**	**01 54 02.4**	**-0.7**
PB10	**IPOC Station P**	**1.86**	**246**	i P	**Pn**	**01 53 41.2**	**+1.7**
PB10	**IPOC Station P**	**1.86**	**246**	eP	**Pn**	**01 53 41.0**	**+1.4**
PB10				eS	**Sn**	**01 54 04.7**	**+1.5**
GO02	**Mina Guanaco**	**2.52**	**199**	ePn	**Pn**	**01 53 49.0**	**+0.6**
GO02				eSn	**Sn**	**01 54 16.0**	**-3.0**
YJA	**Yavi**	**3.01**	**79**	i P	**Pn**	**01 53 57.0**	**+2.0**
YJA				IAML		01 53 58.6	
	comp=Z,11nm,0.8s						
HJA	**Humahuaca**	**3.07**	**99**	i P	**Pn**	**01 53 57.6**	**+2.0**
HJA				IAML		01 53 58.1	
	comp=Z,51nm,0.4s						
PB11	**IPOC Station P**	**3.11**	**343**	ePn	**Pn**	**01 53 55.5**	**-0.6**
PB11				eSn	Sn	01 54 22.8	-10
SLA	**San Lorenzo**	**3.52**	**124**	i P	**Pn**	**01 54 04.2**	**+2.7**
SLA				IAML		01 54 05.7	
	comp=Z,88nm,0.6s						
MNMC	**Minye Minye**	**3.71**	**347**	ePn	**Pn**	**01 54 03.5**	**-0.6**
MNMC				eSn	Sn	01 54 33.4	-14
FSA	**Cafayete**	**4.16**	**144⇓**	iP	**Pn**	**01 54 12.6**	**+2.5**
FSA				IAML		01 54 17.2	
	comp=Z,4.1nm,0.6s						
GO03	**Copiap**	**5.01**	**196**	ePn	**Pn**	**01 54 20.2**	**-1.2**
GO03				eSn	**Sn**	**01 55 16.8**	**-1.4**
AHML	**Horco Molle**	**5.04**	**143**	i P	**Pn**	**01 54 24.3**	**+2.4**
AHML				IAML		01 54 25.0	
	comp=Z,4.5nm,0.3s						
LPAZ	**La Paz**	**6.46**	**5**	ePn	**Pn**	**01 54 43.6**	**+1.9**
LPAZ	**La Paz**	**6.46**	**5**	P	**Pn**	**01 54 43.3**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=204,slow=2.3,SNR=10						
LCO	**Las Campanas**	**6.48**	**196**	ePn	**Pn**	**01 54 39.9**	**-1.7**
LCO				eSn	**Sn**	**01 55 55.2**	**+1.0**
GO04	**Tololo Observa**	**7.62**	**194**	ePn	**Pn**	**01 54 54.4**	**-2.6**
GO04				eSn	**Sn**	**01 56 21.1**	**-0.7**
SIV	**San Ignacio**	**9.86**	**48**	P	**Pn**	**01 55 24.1**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=244,slow=8.5,SNR=16						
SIV				S	Sn	01 57 04.9	-11
	comp=Z,0.1nm,0.3s,baz=120,slow=20,SNR=3.1						
TRQA	**Tornquist**	**16.30**	**161**	ePn	**P**	**01 56 52.9**	**+0.6**
	comp=Z,3.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**77.60**	**70**	P	**P**	**02 04 52.9**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=263,slow=5.6,SNR=12						
YKA	**Yellowknife Ar**	**92.43**	**341**	P	**P**	**02 06 07.3**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=131,slow=4.5,SNR=7.5						
MKAR	**Makanchi Array**	**146.53**	**37**	PKPbc	**PKPbc**	**02 12 37.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=331,slow=2.7,SNR=5.9						

*ISCJB **18** 01:54:20.6±1.3, 5.41°N±0.02°×75.99°W±0.03°, h11km±9km, mb3.3/3, Error ellipse: s-maj=5.4km s-min=3.6km az=24.6*
*RSNC **18** 01:54:21.7±1.0, 5.40°N×75.99°W, h4km±5km, ML3.4, Mw3.7*
*IDC **18** 01:54:25.9±3.9, 5.43°N×75.70°W, h91km±27km, mb3.2/3, mb1 3.3/3, mb1mx3.0/38, mbtmp3.5/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/12, Error ellipse: s-maj=63.0km s-min=31.9km az=51.0*
ISC 18 01:54:19.4±1.3, 5.36°N±0.03°×75.98°W±0.03°, h9km±10km, n29, σ1.49/41, mb3.5/3, 2C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HELC	**Santa Helena**	**0.94**	**29⇑**	eP	**Pg**	**01 54 38.1**	**+0.5**
HELC				eS	**Sg**	**01 54 50.8**	**+0.8**
HELC				i		01 54 51.5	
	comp=Z,720nm,0.2s						
ANIL	**Santa Ana**	**1.04**	**146**	eS	**Sb**	**01 54 54.2**	**+0.6**
NORC	**Norcasia**	**1.13**	**80**	eP	**Pg**	**01 54 41.0**	**-0.1**
NORC				eS	**Sg**	**01 54 54.8**	**-1.0**
NORC				i		01 54 56.5	
	comp=Z,785nm,0.7s						
YOTC	**Yotoco, Valle**	**1.41**	**195**	eP	**Pn**	**01 54 45.1**	**-0.4**
YOTC				eS	**Sb**	**01 55 04.5**	**+0.2**
YOTC				i		01 55 07.3	
	comp=N,376nm,0.3s						
SOLC	**Bahia Solano**	**1.66**	**301⇓**	eP	**Pn**	**01 54 49.1**	**+0.4**
SOLC				eS	**Sn**	**01 55 10.0**	**-0.1**
SOLC				i		01 55 12.9	
	comp=E,378nm,0.4s						
DBBC	**Dabeiba**	**1.66**	**352**	eP	**Pn**	**01 54 50.4**	**+1.5**
ROSC	**El Rosal**	**1.74**	**107**	eP	**Pb**	**01 54 51.8**	**+0.1**
ROSC				eS	**Sg**	**01 55 15.2**	**-0.1**
ROSC	**El Rosal**	**1.74**	**107**	P	**Pb**	**01 54 51.9**	**+0.1**
	comp=E,82nm,0.3s,baz=338,slow=3.8,SNR=208						
ROSC				S	**Sn**	**01 55 11.6**	**-1.1**
	comp=E,28nm,0.3s,baz=182,slow=18,SNR=3.9						
ROSC				LR	LR	01 55 13.5	
	comp=E,42nm,21.0s,baz=197,slow=32						
CTAB	**Cerro Tablazo,**	**1.81**	**101**	eP	**Pb**	**01 54 52.9**	**-0.1**
MALC	**Bahia Malaga**	**1.90**	**225**	eP	**Pn**	**01 54 54.0**	**+2.0**
MALC				eS	**Sg**	**01 55 21.6**	**+1.1**
MALC				i		01 55 26.1	
	comp=N,470nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.92**	**52**	eP	**Pn**	**01 54 53.0**	**+0.6**
PRAC	**Prado**	**1.97**	**146⇑**	eP	**Pb**	**01 54 55.6**	**+0.1**
PRAC				eS	**Sg**	**01 55 21.2**	**-1.5**
PRAC				i		01 55 29.8	
	comp=N,116nm,0.6s						
CHIC	**Chingaza**	**2.36**	**108**	eP	**Pn**	**01 55 00.5**	**+1.8**
CHIC				i		01 55 21.2	
	comp=N,140nm,0.6s						
ZARC	**Zaragoza, Cauc**	**2.40**	**28**	eP	**Pn**	**01 55 00.2**	**+1.3**
ZARC				eS	**Sn**	**01 55 29.5**	**+1.1**
ZARC				i		01 55 42.7	
	comp=N,137nm,0.4s						
MARP	**Paez Belalcaza**	**2.50**	**179**	eP	**Pn**	**01 55 03.0**	**+2.4**
MARP				eS	**Sb**	**01 55 34.6**	**-1.1**
VILC	**Villavicencio,**	**2.60**	**118**	eP	**Pn**	**01 55 03.9**	**+2.1**
BRRC	**Barranca, Sant**	**2.85**	**52**	eP	**Pn**	**01 55 05.7**	**+0.5**
BRRC				i		01 55 50.4	
	comp=N,371nm,0.8s						
POPC	**Popayan, Colom**	**2.88**	**194**	eP	**Pn**	**01 55 08.2**	**+2.4**
POPC				eS	**Sn**	**01 55 42.6**	**+1.8**
RUSC	**La Rusia**	**2.94**	**79**	eP	**Pn**	**01 55 07.8**	**+1.1**
RUSC				eS	**Sn**	**01 55 44.9**	**+2.5**
PCON	**Cinco Dias**	**3.04**	**188**	eP	**Pb**	**01 55 11.9**	**-2.2**
PCON				eS	**Sb**	**01 55 50.3**	**-1.2**
BARC	**Barichara**	**3.04**	**66**	eP	**Pn**	**01 55 09.2**	**+1.1**
SOTA	**Rioblanco**	**3.26**	**191**	eP	**Pn**	**01 55 14.3**	**+3.0**
SOTA				eS	**Sn**	**01 55 51.5**	**+1.0**
FLOC	**Florencia**	**3.77**	**175**	eP	**Pn**	**01 55 19.2**	**+1.4**
FLOC				i		01 56 28.4	
	comp=N,52nm,0.6s						
PAMC	**Pamplona, Colo**	**3.81**	**59**	eP	**Pn**	**01 55 20.0**	**+1.2**
OCAC	**Ocana**	**3.90**	**43**	eP	**Pn**	**01 55 20.6**	**+0.9**
OCAC				eS	**Sn**	**01 56 04.9**	**-0.8**
JTS	**JuntasAbangare**	**10.14**	**299**	LR	LR	02 00 37.6	
	comp=N,83nm,21.9s,baz=179,slow=36						
SIV	**San Ignacio**	**25.84**	**145**	P	**P**	**01 59 48.2**	**-3.3**
	comp=N,0.6nm,0.5s,baz=317,slow=12,SNR=2.3						
YKA	**Yellowknife Ar**	**63.68**	**341**	P	P	02 04 47.4	-3.5
	comp=N,0.1nm,0.4s,baz=138,slow=5.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.82**	**78**	P	P	02 06 07.0	-5.5
	comp=N,0.3nm,0.5s,baz=288,slow=6.3,SNR=6.3						

*NIED **18** 01:55:00, 44.50°N×149.30°E, h32km, Mw3.9 Best double couple: M0 6.78000×10^14 NP1:φs175.00000°, δ37.00000°, λ43.00000°. NP2:φs49.00000°, δ66.00000°, λ119.00000°.*
*ISCJB **18** 01:55:43.5±0.6, 44.04°N±0.07°×149.30°E±0.06°, h36km, mb3.7/14, Error ellipse: s-maj=10.5km s-min=4.6km az=153.8*
*JMA **18** 01:55:43.6±0.8, 44.46°N×149.28°E, h30km, M3.8*
*SKHL **18** 01:55:44.1±0.6, 44.05°N×149.38°E, h38km±7km, mb4.3/4*
*IDC **18** 01:55:52.9±4.0, 44.40°N×149.16°E, h89km±40km, mb3.4/13, mb1 3.5/15, mb1mx3.3/50, mbtmp3.7/15, MS3.0/2, Ms1 3.0/2, ms1mx2.5/35, Error ellipse: s-maj=64.8km s-min=22.5km az=173.0*
ISC 18 01:55:45.8±0.9, 44.10°N±0.09°×149.25°E±0.08°, h36km, n42, σ1.00/44, mb3.7/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.50**	**319**	i P	**Pn**	**01 56 09.6**	**-0.5**
KUR				AMB	AMB	01 56 10.0	
	43nm,0.5s						
KUR				AMB	AMB	01 56 10.0	
	50nm,0.5s						
KUR				AMB	AMB	01 56 10.0	
	184nm,0.5s						
KUR				i S	**Sn**	**01 56 29.3**	**+0.9**
KUR				A	A	01 56 34.0	
	680nm,0.4s						
KUR				A	A	01 56 34.0	
	390nm,0.4s						
SHO	**Shikotan**	**1.76**	**263**	eP	**Pn**	**01 56 12.8**	**-0.9**
SHO				AMB	AMB	01 56 13.0	
	46nm,0.4s						
SHO				eS	**Sn**	**01 56 34.0**	**-0.9**
SHO				A	A	01 56 37.0	
	410nm,0.4s						
SHO				A	A	01 56 37.0	
	270nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.44**	**270**	eP	**Pn**	**01 56 22.9**	**-0.2**
YUK				AMB	AMB	01 56 23.0	
	23nm,0.3s						
YUK				AMB	AMB	01 56 23.0	
	26nm,0.3s						
YUK				AMB	AMB	01 56 23.0	
	44nm,0.3s						
YUK				i S	**Sn**	**01 56 51.7**	**0.0**
YUK				A	A	01 56 59.0	
	200nm,0.5s						
YUK				A	A	01 56 59.0	
	340nm,0.5s						
GRPR	**Tuman**	**2.51**	**269**	eP	**Pn**	**01 56 24.0**	**0.0**
GRPR				AMB	AMB	01 56 25.0	
	33nm,0.3s						
GRPR				AMB	AMB	01 56 25.0	
	25nm,0.3s						
GRPR				AMB	AMB	01 56 25.0	
	70nm,0.3s						
GRPR				eS	**Sn**	**01 56 54.0**	**+0.7**
GRPR				A	A	01 56 55.0	
	243nm,0.4s						
GRPR				A	A	01 56 55.0	
	141nm,0.4s						
NEM2	**Nemuro 2**	**2.65**	**255**	P	**Pn**	**01 56 25.1**	**-0.8**
NEM2				eS	**Sn**	**01 56 55.3**	**-1.4**
JNK	**Nakash**	**3.32**	**263**	P	**Pn**	**01 56 34.4**	**-0.7**
JNK				eS	**Sn**	**01 57 13.9**	**+0.6**
JAK	**Akkeshi**	**3.49**	**253**	P	**Pn**	**01 56 37.0**	**-0.5**
JAK				eS	**Sn**	**01 57 17.1**	**-0.4**
JTKR	**Abashiri--Toko**	**3.85**	**270**	P	**Pn**	**01 56 41.6**	**-0.9**
JMP	**Maruseppu**	**4.25**	**271**	P	**Pn**	**01 56 48.9**	**+1.0**
HRK	**Horoka**	**4.48**	**264**	eP	**Pn**	**01 56 52.6**	**+1.5**
JCH	**Churui**	**4.54**	**253**	P	**Pn**	**01 56 52.4**	**+0.4**
JCH				eS	**Sn**	**01 57 44.1**	**+0.6**
MYR	**Moyori**	**4.72**	**250**	eP	**Pn**	**01 56 55.1**	**+0.7**
MYR				eS	**Sn**	**01 57 47.3**	**-0.6**
ASAJ	**Asahikawa**	**4.79**	**272**	P	Pn	01 57 02.2	+6.8
	0.5nm,0.3s,baz=110,slow=15,SNR=2.0						
ASAJ				LR	LR	01 59 12.8	
	comp=Z,168nm,18.3s,baz=155,slow=42						
JFR	**Furan**	**4.92**	**261**	P	**Pn**	**01 56 58.3**	**+1.1**
JEM	**Erimo**	**4.93**	**247**	P	**Pn**	**01 56 58.9**	**+1.7**
JNBK	**Urakawa-nobuka**	**5.09**	**251**	P	**Pn**	**01 56 59.4**	**0.0**
JBT2	**Biratori 2**	**5.19**	**258**	P	**Pn**	**01 57 01.0**	**+0.2**
JNB	**Noboribetsu**	**6.21**	**258**	P	**Pn**	**01 57 15.3**	**+0.4**
JKB	**Kayabe**	**6.42**	**253**	P	**Pn**	**01 57 17.6**	**-0.1**
JKB				eS	**Sn**	**01 58 26.5**	**-3.2**
KSRS	**Korea Array**	**17.44**	**255**	P	**P**	**01 59 50.1**	**+3.1**
	0.3nm,0.3s,baz=74,slow=10,SNR=2.7						
JNU	**Nakatsue**	**18.02**	**239**	LR	LR	02 07 28.8	
	comp=Z,47nm,20.4s,baz=350,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.42**	**143**	T	T	02 32 40.4	
	baz=333,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**28.44**	**143**	T	T	02 32 43.0	
	baz=333,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.44**	**143**	T	T	02 32 43.3	
	baz=333,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**29.43**	**145**	T	T	02 33 51.8	
	baz=334,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**29.43**	**145**	T	T	02 34 00.9	
	baz=334,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**29.44**	**145**	T	T	02 33 57.8	
	baz=334,slow=76,SNR=9.4						
SONM	**Songino Array**	**29.74**	**293**	P	**P**	**02 01 49.1**	**+0.4**
	0.6nm,0.3s,baz=83,slow=8.6,SNR=4.3						
ILAR	**Eielson Array**	**40.30**	**36**	P	**P**	**02 03 18.6**	**-0.5**
	0.1nm,0.5s,baz=270,slow=8.1,SNR=1.5						
MKAR	**Makanchi Array**	**45.76**	**298**	P	**P**	**02 04 03.5**	**0.0**
	0.9nm,0.7s,baz=75,slow=8.1,SNR=14						
KURBB	**Kurchatov Arra**	**46.67**	**304**	P	**P**	**02 04 09.3**	**-1.3**
	0.2nm,0.4s,baz=74,slow=8.7,SNR=2.8						
BVAR	**Borovoye Array**	**50.45**	**310**	P	**P**	**02 04 39.7**	**+0.1**
	0.1nm,0.3s,baz=76,slow=6.1,SNR=2.3						
YKA	**Yellowknife Ar**	**54.66**	**34**	P	**P**	**02 05 10.9**	**+0.4**
	0.1nm,0.5s,baz=300,slow=7.0,SNR=3.3						
AKTO	**Aktyubinsk**	**58.45**	**311**	P	**P**	**02 05 37.9**	**+0.1**
	0.6nm,0.5s,baz=39,slow=6.5,SNR=3.8						
ARCES	**ARCESS Array B**	**59.44**	**340**	P	**P**	**02 05 43.3**	**-1.0**
	16nm,1.2s,baz=336,slow=17,SNR=4.1						
FINES	**FINESS Array B**	**65.24**	**334**	P	**P**	**02 06 22.2**	**-1.0**
	1.3nm,0.7s,baz=30,slow=8.7,SNR=4.2						
NB2	**NORSAR Subarra**	**69.81**	**340**	P	**P**	**02 06 51.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.81**	**340**	P	**P**	**02 06 51.8**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=32,slow=6.6,SNR=9.3						
HFS	**Hagfors**	**69.94**	**338**	P	**P**	**02 06 52.2**	**-0.6**
	comp=Z,5.5nm,1.0s,baz=33,slow=3.4,SNR=8.9						
AKASG	**Malin Array Be**	**72.18**	**325**	P	**P**	**02 07 06.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=41,slow=6.6,SNR=4.6						
GERES	**GERESS Array B**	**79.58**	**332**	P	**P**	**02 07 49.1**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=50,slow=5.2,SNR=3.7						
TXAR	**Lajitas Array**	**81.19**	**58**	P	**P**	**02 07 58.4**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=294,slow=3.3,SNR=4.3						

MEX 18 01:59:24.3±0.5, 16.01°N×98.36°W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.45**	**30**	eP	Pg	01 59 32.0	-0.9
PNIG				i S	Sg	01 59 38.7	0.0
TLIG	**Tlapa**	**1.56**	**353**	eP	Pn	01 59 48.8	-4.1
TLIG				i S	Sn	02 00 08.9	-4.6
VHO	**Vista Hermosa**	**1.89**	**56**	i P	Pn	01 59 54.2	-3.2
VHO				i S	Sn	02 00 17.4	-4.3
TPIG	**Tehuac#an**	**2.58**	**22**	i P	Pn	02 00 04.3	-2.6
TPIG				i S	Sn	02 00 35.5	-3.3

*IDC **18** 02:40:50.8±1.1, 43.26°N×11.43°E, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.5/39, mbtmp3.5/7, ML3.7/2, MS2.8/6, Ms1 2.8/6, ms1mx2.5/36, Error ellipse: s-maj=24.1km s-min=13.6km az=106.0*
*PRU **18** 02:40:50.7±0.0, 43.21°N×11.59°E, h0km*
*ISCJB **18** 02:40:51.1±0.2, 43.17°N±0.02°×11.43°E±0.02°, h21km±2km, mb3.5/3, MS3.3/2, Error ellipse: s-maj=2.7km s-min=2.2km az=1.3*
*ROM **18** 02:40:51.0±0.1, 43.156°N±0.004°×11.454°E±0.005°, h9km±1km, ML3.4/21*
*LDG **18** 02:40:52.5±0.1, 43.11°N×11.50°E, h10km, Ml3.3/10, Error ellipse: s-maj=3.4km s-min=2.7km az=25.0*
ISC 18 02:40:51.3±0.9, 43.20°N±0.02°×11.49°E±0.02°, h10km±7km, n129, σ1.62/161, mb3.6/3, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FROS	**Frosini**	**0.24**	**272**	P	**Pg**	**02 40 56.2**	**-0.1**
FROS				S	**Sg**	**02 40 59.8**	**+0.1**
FROS				AML	AML		
	comp=E,77000μm,0.4s						
FROS				AML	AML		
	comp=N,33650μm,0.6s						
FROS				AML	AML		
	comp=E,77000μm,0.4s						
FROS				AML	AML		
	comp=N,33650μm,0.6s						
FROS				AML	AML		
	comp=E,77000μm,0.4s						
FROS				AML	AML		
	comp=N,33650μm,0.6s						
FROS				AML	AML		
	comp=E,77000μm,0.4s						
FROS				AML	AML		
	comp=N,33650μm,0.6s						
CSNT	**Castellina Chi**	**0.31**	**332**	P	**Pg**	**02 40 57.6**	**+0.1**
CSNT				S	**Sb**	**02 41 02.8**	**-1.3**
CSNT				AML	AML		
	comp=E,46250μm,0.3s						
CSNT				AML	AML		
	comp=N,43650μm,0.2s						
CSNT				AML	AML		
	comp=E,46250μm,0.3s						
CSNT				AML	AML		
	comp=N,43650μm,0.2s						
CSNT				AML	AML		
	comp=E,46250μm,0.3s						
CSNT				AML	AML		
	comp=N,43650μm,0.2s						
CSNT				AML	AML		
	comp=E,46250μm,0.3s						
CSNT				AML	AML		
	comp=N,43650μm,0.2s						
ARCI	**Arcidosso**	**0.35**	**181**	P	**Pg**	**02 40 57.4**	**-0.9**
ARCI				S	**Sg**	**02 41 01.9**	**-1.1**
ARCI				AML	AML		
	comp=E,29250μm,1.0s						
ARCI				AML	AML		
	comp=N,30750μm,0.4s						
ARCI				AML	AML		
	comp=E,29250μm,1.0s						
ARCI				AML	AML		
	comp=N,30750μm,0.4s						
ARCI				AML	AML		
	comp=E,29250μm,1.0s						
ARCI				AML	AML		
	comp=N,30750μm,0.4s						
ARCI				AML	AML		
	comp=E,29250μm,1.0s						
ARCI				AML	AML		
	comp=N,30750μm,0.4s						
CAFI	**Castiglion Fio**	**0.37**	**70**	P	**Pb**	**02 40 59.2**	**-0.8**
CAFI				S	**Sb**	**02 41 04.5**	**-1.4**
CAFI				AML	AML		
	comp=E,12200μm,0.4s						
CAFI				AML	AML		
	comp=N,10165μm,1.2s						
CAFI				AML	AML		
	comp=E,12450μm,0.3s						
CAFI				AML	AML		
	comp=N,10450μm,1.3s						
CAFI				AML	AML		
	comp=E,12200μm,0.4s						
CAFI				AML	AML		
	comp=N,10200μm,1.2s						
CAFI				AML	AML		
	comp=E,12450μm,0.3s						
CAFI				AML	AML		
	comp=N,10450μm,1.3s						
CAFI				AML	AML		
	comp=E,12200μm,0.4s						
CAFI				AML	AML		
	comp=N,10200μm,1.2s						
CAFI				AML	AML		
	comp=E,12450μm,0.3s						
CAFI				AML	AML		
	comp=N,10450μm,1.3s						
CAFI				AML	AML		
	comp=N,10450μm,1.3s						
CAFI				AML	AML		
	comp=E,12450μm,0.3s						
CAFI				AML	AML		
	comp=E,12200μm,0.4s						
CAFI				AML	AML		
	comp=N,10200μm,1.2s						
TRIF	**Trifonti**	**0.44**	**259**	P	**Pg**	**02 40 59.7**	**-0.2**
TRIF				S	**Sg**	**02 41 05.4**	**-0.3**
TRIF				AML	AML		
	comp=E,12750μm,0.8s						
TRIF				AML	AML		
	comp=N,15400μm,0.6s						

TRIF AML AML
comp=E,12750µm,0.8s
TRIF AML AML
comp=N,15400µm,0.6s
TRIF AML AML
comp=E,12750µm,0.8s
TRIF AML AML
comp=N,15400µm,0.6s
TRIF AML AML
comp=E,12750µm,0.8s
TRIF AML AML
comp=N,15400µm,0.6s
MCIV Monte Civitell 0.44 162 P **Pg 02 40 59.4 -0.7**
SACS San Casciano d 0.47 138 P **Pg 02 41 00.2 -0.3**
SACS S **Sg 02 41 07.2 +0.6**
MGAB Montegabbione 0.54 122 P **Pg 02 41 01.6 -0.3**
MGAB S **Sb 02 41 10.1 -0.6**
ATMC Monte Cedrone 0.57 64 P **Pb 02 41 03.0 -0.5**
ATMC S **Sb 02 41 11.9 +0.3**
SSP9 Sansepolcro 0.60 51 P **Pb 02 41 03.6 -0.3**
CDCA Citt' di Caste 0.60 64 P **Pb 02 41 03.3 -0.7**
CASP Castiglione de 0.61 228 P **Pg 02 41 02.8 -0.5**
CASP AML AML
comp=E,9625µm,0.7s
CASP AML AML
comp=N,9770µm,0.5s
CASP AML AML
comp=E,9625µm,0.7s
CASP AML AML
comp=N,9770µm,0.5s
CASP AML AML
comp=E,9625µm,0.7s
CASP AML AML
comp=N,9770µm,0.5s
CASP AML AML
comp=E,9625µm,0.7s
CASP AML AML
comp=N,9770µm,0.5s
BADI Badiali 0.63 60 P **Pb 02 41 04.0 -0.5**
ASQU Asqua 0.64 20 P **Pb 02 41 04.1 -0.5**
ASQU S **Sb 02 41 14.5 +1.0**
ASQU AML AML
comp=E,5085µm,0.5s
ASQU AML AML
comp=N,4115µm,0.9s
ASQU AML AML
comp=E,5085µm,0.5s
ASQU AML AML
comp=N,4115µm,0.9s
ASQU AML AML
comp=E,5085µm,0.5s
ASQU AML AML
comp=N,4115µm,0.9s
ATVO AVT- Monte Val 0.69 75 P **Pb 02 41 05.1 -0.5**
CRMI Carmignano 0.70 328 P **Pb 02 41 05.3 -0.4**
CRMI AML AML
comp=E,2450µm,1.5s
CRMI AML AML
comp=N,2060µm,0.6s
CRMI AML AML
comp=E,994µm,1.5s
CRMI AML AML
comp=N,840µm,0.6s
CRMI AML AML
comp=E,2455µm,1.5s
CRMI AML AML
comp=N,2055µm,0.6s
CRMI AML AML
comp=E,994µm,1.5s
CRMI AML AML
comp=N,841µm,0.6s
CRMI AML AML
comp=N,841µm,0.6s
CRMI AML AML
comp=N,2055µm,0.6s
CRMI AML AML
comp=E,994µm,1.5s
CRMI AML AML
comp=E,2455µm,1.5s
PARC Parchiule 0.71 50 P **Pb 02 41 05.4 -0.3**
ATPI Pietralunga - 0.71 69 P **Pb 02 41 05.2 -0.6**
SFI Santa Sofia 0.75 20 P **Pb 02 41 06.5 0.0**
SFI AML AML
comp=E,2815µm,1.0s
SFI AML AML
comp=N,2905µm,0.6s
SFI AML AML
comp=E,2815µm,1.0s
SFI AML AML
comp=N,3045µm,0.6s
SFI AML AML
comp=E,2815µm,1.0s
SFI AML AML
comp=N,2905µm,0.6s
SFI AML AML
comp=E,2810µm,1.0s
SFI AML AML
comp=N,3050µm,0.6s
SFI AML AML
comp=N,3050µm,0.6s
SFI AML AML
comp=E,2815µm,1.0s
SFI AML AML
comp=E,2810µm,1.0s
SFI AML AML
comp=N,2905µm,0.6s
MURB Monte Urbino 0.76 85 P **Pb 02 41 06.2 -0.5**
ATPC Poggio Castell 0.76 68 P **Pb 02 41 06.3 -0.4**
MAON Monte Argentar 0.81 199 P **Pg 02 41 05.9 -1.2**
MAON AML AML
comp=E,3280µm,0.7s
MAON AML AML
comp=N,2615µm,0.8s
MAON AML AML
comp=E,3280µm,0.7s
MAON AML AML
comp=N,2615µm,0.8s
MAON AML AML
comp=N,2615µm,0.8s
MAON AML AML
comp=E,3280µm,0.7s
PTF Prato 0.82 338 P **Pb 02 41 07.5 -0.1**
ATBU Serra di Buran 0.82 70 P **Pb 02 41 07.7 -0.1**
PIEI Pieia 0.83 66 P **Pb 02 41 07.5 -0.4**
ATCC AVT- Casa Cast 0.84 91 P **Pb 02 41 07.5 -0.6**
CPGN Carpegna, Ital 0.85 45 AML AML
comp=E,3895µm,0.9s
CPGN AML AML
comp=N,3650µm,1.6s
CPGN AML AML
comp=E,3610µm,0.9s
CPGN AML AML
comp=N,3575µm,1.6s
CPGN AML AML
comp=E,3895µm,0.9s
CPGN AML AML
comp=N,3650µm,1.6s
CPGN AML AML
comp=E,3605µm,0.9s
CPGN AML AML
comp=N,3570µm,1.6s
CPGN AML AML
comp=N,3650µm,1.6s
CPGN AML AML
comp=E,3895µm,0.9s
CPGN AML AML
comp=E,3605µm,0.9s
CPGN AML AML
comp=N,3570µm,1.6s
SEI Scarperia 0.86 354 P **Pb 02 41 08.5 +0.2**
SEI AML AML
comp=E,4710µm,0.8s
SEI AML AML
comp=N,6845µm,0.6s
SEI AML AML
comp=E,4710µm,0.8s
SEI AML AML
comp=N,6845µm,0.6s
SEI AML AML
comp=E,4710µm,0.8s
SEI AML AML
comp=N,6845µm,0.6s
ASSB Assisi San Ben 0.87 100 P **Pg 02 41 07.6 -0.5**
PE3 Peglio 0.89 56 P **Pb 02 41 08.8 0.0**
MOMA Monte Martano 0.89 116 P **Pg 02 41 07.9 -0.5**
MTCR Monte La Croce 0.90 337 P **Pb 02 41 08.9 -0.2**
FRON Frontone 0.96 70 P **Pb 02 41 09.9 -0.1**

SSFR Montelago di S 0.97 76 P **Pb 02 41 10.1 -0.3**
CESX Cesi 1.00 126 P **Pg 02 41 10.1 -0.4**
POPM Popiglio 1.00 328 P **Pb 02 41 10.8 +0.1**
POPM AML AML
comp=E,1075µm,0.8s
POPM AML AML
comp=N,1240µm,0.2s
POPM AML AML
comp=E,1075µm,0.8s
POPM AML AML
comp=N,1240µm,0.2s
POPM AML AML
comp=N,1240µm,0.2s
POPM AML AML
comp=E,1075µm,0.8s
MAIM Mastiano 1.02 315 P **Pg 02 41 10.5 -0.4**
MAIM AML AML
comp=E,808µm,0.4s
MAIM AML AML
comp=N,722µm,0.4s
MAIM AML AML
comp=E,808µm,0.4s
MAIM AML AML
comp=N,722µm,0.4s
MAIM AML AML
comp=N,722µm,0.4s
MAIM AML AML
comp=E,808µm,0.4s
MPAG Monte Paganucc 1.02 65 P **Pb 02 41 10.8 -0.3**
CELB S.Piero in Cam 1.04 245 P **Pg 02 41 10.8 -0.6**
CELB AML AML
comp=E,3310µm,0.6s
CELB AML AML
comp=N,2805µm,0.7s
CELB AML AML
comp=E,3310µm,0.6s
CELB AML AML
comp=N,2805µm,0.7s
CELB AML AML
comp=E,3310µm,0.6s
CELB AML AML
comp=N,2805µm,0.7s
CESI CESI - Serrava 1.06 100 P **Pg 02 41 11.1 -0.5**
FSSB Fossombrone 1.06 62 P **Pb 02 41 11.6 -0.2**
SNTG Esanatoglia 1.06 87 P **Pb 02 41 11.3 -0.5**
BDI Bagni Di Lucca 1.08 323 P **Pg 02 41 11.7 -0.4**
BDI AML AML
comp=E,1470µm,0.9s
BDI AML AML
comp=N,1705µm,1.1s
BDI AML AML
comp=E,1605µm,1.0s
BDI AML AML
comp=N,1910µm,1.1s
BDI AML AML
comp=E,1465µm,0.9s
BDI AML AML
comp=N,1705µm,1.1s
BDI AML AML
comp=E,1605µm,1.0s
BDI AML AML
comp=N,1910µm,1.1s
BDI AML AML
comp=N,1910µm,1.1s
BDI AML AML
comp=N,1705µm,1.1s
BDI AML AML
comp=E,1465µm,0.9s
BDI AML AML
comp=E,1605µm,1.0s
ARVD Arcevia 1.10 74 P **Pn 02 41 12.5 -0.3**
ARRO Arrone 1.13 123 P **Pb 02 41 12.5 -0.4**
FDMO Fiordimonte 1.18 97 P **Pb 02 41 13.2 -0.7**
NRCA Norcia 1.25 107 P **Pn 02 41 14.6 -0.3**
VLC Villacollemand 1.25 321 P **Pn 02 41 14.3 -0.5**
VLC AML AML
comp=E,602µm,1.2s
VLC AML AML
comp=N,1018µm,0.9s
VLC AML AML
comp=E,614µm,1.3s
VLC AML AML
comp=N,1012µm,0.9s
VLC AML AML
comp=E,602µm,1.2s
VLC AML AML
comp=N,1018µm,0.9s
VLC AML AML
comp=E,614µm,1.3s
VLC AML AML
comp=N,1012µm,0.9s
VLC AML AML
comp=E,614µm,1.3s
VLC AML AML
comp=N,1018µm,0.9s
VLC AML AML
comp=N,1012µm,0.9s
VLC AML AML
comp=E,602µm,1.2s
CSP1 Cessapalombo 1.26 94 P **Pb 02 41 14.9 -0.4**
SARO Sassorosso 1.26 322 P **Pn 02 41 14.8 -0.3**
SARO AML AML
comp=E,1105µm,0.5s
SARO AML AML
comp=N,1100µm,1.4s
SARO AML AML
comp=E,1105µm,0.5s
SARO AML AML
comp=N,1100µm,1.4s
SARO AML AML
comp=E,1105µm,0.5s
SARO AML AML
comp=N,1100µm,1.4s
AQU L'Aquila 1.64 120 *e*Pn **Pb 02 41 21.2 -0.5**
PGF Pioggiola 1.94 251 *e*Pn **Pn 02 41 22.9 -1.5**
PGF *e*Sn **Sn 02 41 47.7 -1.2**
comp=N,88nm,0.5s
NVLJ Novalja 2.80 60 *e*Pn **Pn 02 41 36.3 +0.2**
NVLJ Sn **Sn 02 42 07.0 -2.9**
MABI Malga Bissina 2.94 347 AML AML
comp=N,75µm,1.6s
MABI AML AML
comp=E,70µm,1.0s
MABI AML AML
comp=N,75µm,1.6s
MABI AML AML
comp=E,70µm,1.0s
RIY Rijeka 3.02 44 *e*Pn **Pn 02 41 39.6 +0.4**
CEY Cerknica 3.30 39 *e*Pn **Pn 02 41 42.1 -0.9**
ABSI Aberstueckl 3.53 358 AML AML
comp=N,225µm,0.8s
ABSI AML AML
comp=E,244µm,0.7s
ABSI AML AML
comp=N,225µm,0.8s
ABSI AML AML
comp=E,244µm,0.7s
FRF La Foret Royal 3.55 277 *e*Pn **Pn 02 41 45.5 -0.9**
FRF *e*Sn **Sn 02 42 25.8 -2.6**
comp=E,19nm,0.6s
LJU Ljubljana 3.58 36 *e*Pn **Pn 02 41 46.5 -0.3**
ABTA Abfaltersbach 3.62 11 *e*Pn **Pn 02 41 48.6 +1.1**
comp=E,12nm,0.5s
ABTA Sn **Sn 02 42 32.1 +1.8**
comp=E,34nm,0.7s
LMR La Mourre 3.64 274 *e*Pn **Pn 02 41 46.1 -1.6**
LMR *e*Sn **Sn 02 42 28.5 -2.1**
comp=E,3.1nm,0.2s
MBDF Montbardon 3.73 296 *e*Pn **Pn 02 41 48.7 -0.4**
MYKA Terra Mystica 3.75 23 *e*Pn **Pn 02 41 49.2 -0.2**
comp=E,0.6nm,0.2s
MYKA *e*Sn **Sn 02 42 35.0 +1.4**
comp=E,25nm,0.6s
DAVOX Davos/Dischmat 3.76 343 Pn **Pn 02 41 52.6 +3.1**
comp=E,4.1nm,0.3s,baz=166,slow=13,SNR=49
DAVOX Sn **Sn 02 42 36.0 +2.2**
comp=E,3.2nm,0.3s,baz=294,slow=19,SNR=2.9
DAVOX LR LR 02 42 45.5
comp=E,78nm,19.1s,baz=102,slow=31
FETA Feichten 3.86 352 *e*Pn **Pn 02 41 53.2 +2.4**
comp=E,22nm,0.6s,SNR=12
FETA Sn **Sn 02 42 37.9 +1.6**
comp=E,20nm,0.8s
CRES Cresnjev 3.87 46 *e*Pn **Pn 02 41 51.6 +0.8**
OBKA Obir 3.96 32 *e*Pn **Pn 02 41 53.1 +1.0**
comp=E,6.3nm,0.5s
OBKA Sn **Sn 02 42 41.7 +3.1**

comp=E,43nm,0.6s
SQTA Sankt Quirin 4.03 357 *e*Pn **Pn 02 41 54.8 +1.7**
comp=E,12nm,0.5s,SNR=8.0
SQTA Sn **Sn 02 42 41.6 +1.3**
comp=E,33nm,0.5s
WTTA Wattenberg 4.07 1 *e*Pn **Pn 02 41 55.9 +2.2**
comp=E,4.0nm,0.3s
WTTA Sn **Sn 02 42 42.3 +0.9**
comp=E,16nm,0.5s
KBA Koelnbreinsper 4.09 18 *e*Pn **Pn 02 41 55.2 +1.1**
comp=E,8.1nm,0.4s
KBA Sn **Sn 02 42 42.7 +0.6**
comp=E,11nm,0.4s
LPG La Plagne 4.10 306 *e*Pn **Pn 02 41 54.7 +0.4**
LPG *e*Sn **Sn 02 42 37.6 -4.8**
comp=E,23nm,0.8s
LPL La Plagne 4.12 306 *e*Pn **Pn 02 41 55.3 +0.8**
LPL *e*Sn **Sn 02 42 41.1 -1.8**
comp=E,20nm,0.9s
WATA Walderalm 4.14 1 *e*Pn **Pn 02 41 56.2 +1.6**
comp=E,1.0nm,0.2s,SNR=13
ZAG Zagreb 4.15 49 *e*Pn **Pg 02 42 07.8 -3.1**
MOTA Moosalm 4.15 356 *e*Pn **Pn 02 41 56.9 +2.0**
comp=E,5.0nm,0.5s,SNR=20
MOTA *e*Sn **Sn 02 42 45.3 +1.8**
comp=E,15nm,0.5s
DAVA Damuels 4.24 345 *e*Pn **Pn 02 41 58.5 +2.4**
comp=E,4.5nm,0.3s
DAVA *e*Sn **Sn 02 42 48.6 +2.9**
comp=E,55nm,0.8s
SOKA Soboth 4.29 35 *e*Pn **Pn 02 41 59.7 +2.9**
comp=E,1.1nm,0.2s
SOKA *e*Sn **Sn 02 42 47.1 +0.2**
comp=E,0.5nm,0.2s
RETA Reutte 4.32 353 *e*Pn **Pn 02 41 58.8 +1.7**
comp=E,0.8nm,0.2s
RETA Sn **Sn 02 42 47.1 -0.3**
comp=E,43nm,0.7s
SMRF Simiane la Rot 4.37 282 *e*Pn **Pn 02 41 57.6 -0.1**
ORIF Oris-en-Rattie 4.39 295 *e*Pn **Pn 02 41 58.6 +0.5**
ORIF *e*Sn **Sn 02 42 48.0 -1.3**
comp=E,24nm,0.6s
BLY Banja Luka 4.39 67 *e*Pn **Pn 02 42 01.1 +3.1**
STON Ston 4.57 92 *e*Pn **Pn 02 42 00.3 -0.1**
STON Ston 4.57 92 *e*Pn **Pn 02 41 59.7 -0.7**
ARSA Arzberg 4.95 34 *e*Pn **Pn 02 42 05.6 -0.1**
comp=E,6.8nm,0.5s
BEHE Becsehely 4.98 47 *e*Pn **Pg 02 42 22.2 -4.5**
MOA Molln 5.04 22 *e*Pn **Pn 02 42 07.9 +0.9**
comp=E,6.5nm,0.4s
MOA *e*Sn **Sn 02 43 06.7 +1.4**
comp=E,32nm,1.1s
TREB Trebinje 5.06 93 *e*Pn **Pn 02 42 08.4 +1.2**
CABF La Chapelle 5.13 314 *e*Pn **Pn 02 42 08.2 -0.1**
CABF *e*Sn **Sn 02 43 04.6 -3.0**
BRY Bratogost 5.18 91 *e*Pn **Pn 02 42 11.4 +2.5**
VIVF Saint-Julien-l 5.18 291 *e*Pn **Pn 02 42 08.4 -0.5**
HAPS Han Pijesak,BI 5.49 78 *e*Pn **Pn 02 42 14.2 +1.0**
LASF Ste Croix 5.61 282 *e*Pn **Pn 02 42 14.0 -0.7**
CONA Conrad Observa 5.64 31 *i* Pn **Pn 02 42 14.7 -0.5**
comp=E,3.7nm,0.7s
HINF Hinteralfeld 5.65 326 *e*Pn **Pn 02 42 15.3 0.0**
HINF *e*Sn **Sn 02 43 18.5 -1.7**
comp=E,22nm,0.8s
DRME Dracevica, Mon 5.76 98 *e*Pn **Pn 02 42 16.9 +0.1**
PDG Podgorica 5.76 95 *e*Pn **Pn 02 42 19.0 +2.1**
BBLS Lazići 5.79 81 *e*Pn **Pn 02 42 19.3 +2.0**
GERES GERESS Array B 5.85 14 Pn **Pn 02 42 18.2 0.0**
comp=E,1.5nm,0.3s,baz=190,slow=13,SNR=40
GERES Sn **Sn 02 43 25.2 -0.1**
comp=E,0.7nm,0.3s,baz=193,slow=25,SNR=3.9
GERES LR LR 02 44 04.8
comp=E,27nm,18.7s,baz=210,slow=33
HAU Haudompre 6.01 325 *e*Pn **Pn 02 42 20.9 +0.7**
HAU *e*Sn **Sn 02 43 27.0 -2.0**
comp=E,13nm,0.5s
KHC Kasperske Hory 6.11 13 *e*PN **Pn 02 42 21.1 -0.5**
KHC *e*SN **Sn 02 43 29.2 -2.3**
KHC *e*SG **Sg 02 44 05.5 -1.8**
VAE Valguarnera 6.14 158 Lg Lg 02 44 10.4
comp=E,0.5nm,0.3s,baz=28,slow=9.8,SNR=3.3
DIVS Divibare 6.24 79 *e*Pn **Pn 02 42 25.9 +2.5**
SMF Signal de Mont 6.43 305 *e*Pn **Pn 02 42 26.2 +0.2**
MODS Modra-Piesok 6.57 36 *e*PN **Pn 02 42 29.9 +2.0**
PAGF Fort de Pagny 6.70 325 *e*Pn **Pn 02 42 31.0 +1.4**
SFTF Sexfontaines 6.74 320 *e*Pn **Pn 02 42 29.9 -0.3**
baz=135
LOR Lormes 6.75 310 *e*Pn **Pn 02 42 31.1 +0.7**
baz=130
LOR *e*Sn **Sn 02 43 44.0 -3.3**
comp=E,3.3nm,0.5s
MTLF Montolieu 6.77 274 *e*Pn **Pn 02 42 29.8 -0.9**
AVF Avril sur Loir 6.79 305 *e*Pn **Pn 02 42 31.0 0.0**
SSF Saint Saulge 6.84 307 *e*Pn **Pn 02 42 31.3 -0.3**
MEZF Maizieres J'vi 6.95 322 *e*Pn **Pn 02 42 32.2 -0.9**
BGF Bois d'Agland 7.00 302 *e*Pn **Pn 02 42 34.5 +0.7**
VRAC Vranov 7.06 28 LR LR 02 45 13.0
comp=E,22nm,18.0s,baz=210,slow=37
GOPC GO Pecny, Ondr 7.09 18 *e*PN **Pn 02 42 34.3 -0.8**
TCF Toulx Ste Croi 7.29 298 *e*Pn **Pn 02 42 37.7 -0.1**
VYHS Vyhne 7.37 42 *e*PN **Pn 02 42 40.3 +1.4**
KEST Kesra 7.64 193 Pn **Pn 02 42 45.9 +3.2**
comp=E,0.6nm,0.3s,baz=302,slow=5.0,SNR=12
KEST Sn **Sn 02 44 10.5 +1.1**
baz=30,slow=16,SNR=1.8
BRG Berggiesshubel 7.86 11 PG **Pn 02 42 44.9 -0.7**
BRG SG Sn 02 44 24.1 +10
comp=E,2.9nm,0.7s
DPC Dobruska-Polom 7.88 23 *e*SN **Sn 02 44 11.3 -3.9**
LFF La Frestale 7.93 286 *e*Pn **Pn 02 42 46.7 +0.1**
CLL Collm 8.18 7 *e*Pn Pn 02 42 57.0 +7.1
CLL *e*Sn **Sn 02 44 14.0 -8.3**
CLL *e* 02 44 57.0
CLL *e*(Sg) **Sg 02 45 16.0 +2.5**
FLN La Foliniere 10.01 308 *e*Pn **Pn 02 43 11.3 -3.8**
MLR Muntele Rosu 10.61 73 Pn **Pn 02 43 26.1 +2.8**
baz=229,slow=17
MLR LR LR 02 48 01.0
comp=E,31nm,18.1s,baz=250,slow=40
ESDC Sonseca Array 12.12 258 Pn **Pn 02 43 47.4 +3.4**
comp=E,0.1nm,0.3s,baz=62,slow=14,SNR=3.1
FINES FINESS Array B 20.24 20 P **P 02 45 26.4 0.0**
comp=E,1.4nm,0.8s,baz=211,slow=19,SNR=3.3
FINES LR LR 02 53 43.9
comp=E,65nm,19.8s,baz=218,slow=38
TORD Torodi Ar. Bea 31.12 199 P **P 02 47 11.4 +1.4**
comp=E,0.2nm,0.6s,baz=360,slow=9.9,SNR=2.8
MKAR Makanchi Array 48.64 60 P **P 02 49 35.1 -0.1**
comp=E,0.9nm,0.8s,baz=297,slow=5.3,SNR=10
SCHQ Schefferville 50.06 312 LR LR 03 08 10.3
comp=E,61nm,18.4s,baz=286,slow=33
YKA Yellowknife Ar 66.16 336 P **P 02 51 39.0 +0.6**
comp=E,0.3nm,0.7s,baz=42,slow=6.2,SNR=5.6

SJA 18 02:52:37.5±0.5,21°36S×69°45W,h82km±3km,ML1.8, MW3.8,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.31**	**353**	*i* P		Pn	02 52 49.9	-0.3
PB01				*i* S		Sn	02 52 59.3	-0.3
PB02	**IPOC Station P**	**0.42**	**275**	*i* P		Pn	02 52 51.5	+0.6
PB02				*i* S		Sn	02 53 02.2	+1.3
PB09	**IPOC Station P**	**0.48**	**156**	*i* P		Pn	02 52 51.9	+0.4
PB09				*i* S		Sn	02 53 02.9	+1.1
PB07	**IPOC Station P**	**0.55**	**228**	*i* P		Pn	02 52 52.7	+0.6
PB07				*i* S		Sn	02 53 04.2	+1.3
PB03	**IPOC Station P**	**0.75**	**202**	*i* P		Pn	02 52 54.8	+0.8
PB03				*i* S		Sn	02 53 08.0	+1.7
HJA	**Humahuaca**	**4.17**	**117**	*i* P		Pn	02 53 41.5	+2.4
HJA					IAML		02 54 08.4	
	comp=Z,1.0nm,0.4s							

MEX 18 03:32:41.1±0.8,19°20N×104°02W,h18km±5km,MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
R15V		**0.05**	**133**	*e*P		Pg	03 32 43.2	-1.3
R15V				*e*S		Sg	03 32 45.9	-0.9
EZ5V		**0.48**	**55**	*e*P		Pg	03 32 49.8	-1.2
EZ5V				*i* S		Sg	03 32 56.4	-1.2
MMIG	**Aquila**	**1.11**	**145**	*e*P		Pn	03 32 58.7	-3.1

MMIG *i* S Sb 03 33 12.3 -3.6

NEIC ***18*** *03:34:04.6±0.0, 16°.27N×93°.68W, h143km, MD4.1(MEX), After MEX.*

MEX 18 03:34:04.0±0.6, **16°.41N×93°.66W, h155**km±6km, **MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.82**	**149**	*e*P	Pn	03 34 26.9	-1.1
PCIG				*e*S	Sn	03 34 44.0	-2.2
CMIG	**Matias Romero**	**1.35**	**300**	*i* P	Pn	03 34 31.6	-0.9
CMIG				*i* S	Sn	03 34 52.1	-2.2
CMIG	**Matias Romero**	**1.35**	**300**	*i* P	Pn	03 34 31.6	-0.9
CMIG				*i* S	Sn	03 34 52.1	-2.2
CCIG	**Comitan**	**1.47**	**95**	*e*P	Pn	03 34 32.3	-1.6
CCIG				*i* S	Sn	03 34 54.1	-2.5
CCIG	**Comitan**	**1.47**	**95**	*e*P	Pn	03 34 32.3	-1.6
CCIG				*i* S	Sn	03 34 54.1	-2.5
HUIG	**Huatulco**	**2.44**	**255**	*i* P	Pn	03 34 42.5	-2.1
HUIG	**Huatulco**	**2.44**	**255**	*i* P	Pn	03 34 42.5	-2.1
HUIG				*i* S	Sn	03 35 13.3	-2.6
VHO	**Vista Hermosa**	**3.02**	**283**	*i* P	Pn	03 34 51.3	-0.7
VHO				*i* S	Sn	03 35 28.1	-1.0
VHO	**Vista Hermosa**	**3.02**	**283**	*i* P	Pn	03 34 51.3	-0.7
VHO				*i* S	Sn	03 35 27.1	-1.9
LVIG	**Laguna Verde**	**4.21**	**322**	*e*Pn	Pn	03 35 07.7	+0.6
LVIG				*e*Sn	Sn	03 35 51.1	-5.2
TLIG	**Tlapa**	**4.83**	**284**	*e*Pn	Pn	03 35 16.3	+0.9

ATH ***18*** *03:34:14.4, 39°.70N×25°.52E, h30km±1km, ML1.7/4, Error ellipse: s-maj=2.4km s-min=1.0km az=213.0*
ISK ***18*** *03:34:14.1, 39°.71N×25°.55E, h9km, ML2.0/8*
ISCJB ***18*** *03:34:15.5±0.4, 39°.70N±0°.03×25°.52E±0°.03, h20km±6km, Error ellipse: s-maj=5.1km s-min=3.6km az=21.3*
DDA ***18*** *03:34:16.6, 39°.74N×25°.67E, h19km±1km, ML2.6*

ISC 18 03:34:14.6±1.0, **39°.72N**±0°.03×**25°.55E**±0°.02, **h17**km±8km, **n25**, **σ0°53/39**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.34**	**302**	P	**Pb**	**03 34 22.1**	**-0.1**
LIA				S	**Sb**	**03 34 27.3**	**+0.1**
LIA				AML	AML	03 34 31.8	
	comp=E,110μm,0.3s						
LIA				AML	AML	03 34 32.1	
	comp=N,174μm,0.4s						
BOZC	**Bozcaada**	**0.40**	**72**	PG	**Pg**	**03 34 22.9**	**0.0**
BOZC				SG	**Sg**	**03 34 28.7**	**+0.2**
BOZC	**Bozcaada**	**0.40**	**72**	*i* P	**Pb**	**03 34 23.9**	**+0.6**
BOZC				*i* S	**Sb**	**03 34 29.3**	**+0.1**
BOZC				IAML_P			
	comp=Z,1μm,0.1s						
EFSA	**Agios Efstrati**	**0.47**	**248**	P	**Pb**	**03 34 25.0**	**+0.5**
EFSA				S	**Sb**	**03 34 31.6**	**+0.5**
SIGR	**SIGRI**	**0.56**	**155**	PG	**Pb**	**03 34 25.3**	**-0.7**
SIGR				SG	**Sg**	**03 34 33.5**	**+0.2**
SIGR	**SIGRI**	**0.56**	**155**	P	**Pb**	**03 34 25.3**	**-0.7**
SIGR				S	**Sg**	**03 34 33.7**	**+0.4**
SIGR				AML	AML	03 34 33.9	
	comp=E,196μm,0.3s						
SIGR				AML	AML	03 34 34.1	
	comp=N,187μm,0.4s						
EZN	**Ezine**	**0.60**	**80**	PG	**Pb**	**03 34 26.3**	**-0.4**
EZN				SG	**Sg**	**03 34 34.9**	**+0.2**
PRK	**Paraskevi**	**0.73**	**130**	P	**Pn**	**03 34 29.6**	**-0.5**
PRK				S	**Sn**	**03 34 40.2**	**-0.7**
PRK				AML	AML	03 34 43.6	
	comp=N,204μm,0.5s						
PRK				AML	AML	03 34 45.4	
	comp=E,146μm,0.5s						
SMTH	**Samothraki Isl**	**0.75**	**359**	P	**Pn**	**03 34 30.1**	**-0.4**
SMTH				S	**Sn**	**03 34 41.2**	**-0.2**
SMTH				AML	AML	03 34 42.7	
	comp=N,138μm,0.2s						
SMTH				AML	AML	03 34 42.9	
	comp=E,136μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.77**	**88**	*i* P	**Pg**	**03 34 29.8**	**+0.2**
BAYC				*i* S	**Sn**	**03 34 42.3**	**+0.4**
AYVA	**Ayvalik**	**0.97**	**115**	*i* P	**Pg**	**03 34 34.0**	**+0.5**
AYVA				*i* S	**Sn**	**03 34 48.0**	**+1.1**
AYVA				IAML_P			
	comp=Z,93nm,0.1s						
GELI	**Tayfur-Gelibol**	**0.98**	**46**	PG	**Pn**	**03 34 33.4**	**-0.2**
GELI				SG	**Sn**	**03 34 48.1**	**+1.1**
THAS	**Thassos island**	**1.09**	**324**	P	**Pg**	**03 34 35.3**	**-0.4**
THAS				S	**Sg**	**03 34 50.1**	**+0.1**
ENEZ	**Enez**	**1.11**	**24**	PN	**Pg**	**03 34 36.1**	**-0.1**
LPK	**Lapseki**	**1.13**	**55**	PN	**Pg**	**03 34 36.3**	**-0.2**
ERIK	**Erikli-Kesan**	**1.20**	**37**	PN	**Pg**	**03 34 37.6**	**-0.2**
OUR	**Ouranopolis**	**1.35**	**297**	PN	**Pb**	**03 34 39.2**	**-0.2**
OUR	**Ouranopolis**	**1.35**	**297**	P	**Pb**	**03 34 39.3**	**-0.2**
KESN	**Edirne-Kesan**	**1.40**	**38**	*i* P	**Pg**	**03 34 42.2**	**+0.5**
KESN				*i* S	**Sg**	**03 35 00.0**	**0.0**
KESN				IAML_P			
	comp=Z,155nm,0.2s						
RDO	**Rodhopi**	**1.42**	**360**	PN	**Pb**	**03 34 40.7**	**0.0**
RDO	**Rodhopi**	**1.42**	**360**	P	**Pb**	**03 34 40.6**	**-0.1**
PAIG	**Paliouri**	**1.46**	**279**	P	**Pb**	**03 34 40.3**	**-0.9**
KRBG	**Karabiga-Canak**	**1.50**	**63**	PN	**Pb**	**03 34 41.6**	**-0.4**
KAVA	**Kavala**	**1.50**	**328**	P	**Pn**	**03 34 40.9**	**+0.2**
EDC	**Edincik**	**1.88**	**70**	PN	**Pb**	**03 34 47.2**	**-1.3**

ISK ***18*** *03:43:16.6, 39°.71N×25°.56E, h8km, ML2.0/10*
ISCJB ***18*** *03:43:17.4±0.5, 39°.72N±0°.03×25°.57E±0°.03, h8km±5km, Error ellipse: s-maj=5.7km s-min=3.6km az=15.9*
ATH ***18*** *03:43:17.4, 39°.72N×25°.55E, h20km±3km, ML1.6/3, Error ellipse: s-maj=4.0km s-min=1.0km az=228.0*
DDA ***18*** *03:43:23.9, 39°.86N×26°.05E, h6km±1km, ML2.7*

ISC 18 03:43:17.5±1.0, **39°.71N**±0°.03×**25°.55E**±0°.02, **h13**km±10km, **n23**, **σ0°40/34**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.34**	**304**	P	**Pg**	**03 43 24.5**	**+0.1**
LIA				S	**Sg**	**03 43 29.5**	**+0.4**
LIA				AML	AML	03 43 34.6	
	comp=N,182μm,0.4s						
LIA				AML	AML	03 43 34.7	
	comp=E,125μm,0.3s						
BOZC	**Bozcaada**	**0.41**	**71**	PG	**Pg**	**03 43 25.3**	**-0.4**
BOZC				SG	**Sg**	**03 43 31.1**	**-0.2**
BOZC	**Bozcaada**	**0.41**	**71**	*i* P	**Pg**	**03 43 25.6**	**-0.1**
BOZC				*i* S	**Sg**	**03 43 31.7**	**+0.4**
EFSA	**Agios Efstrati**	**0.47**	**249**	P	**Pb**	**03 43 27.6**	**0.0**
EFSA				S	**Sb**	**03 43 34.1**	**-0.2**
SIGR	**SIGRI**	**0.55**	**154**	PG	**Pg**	**03 43 27.7**	**-0.6**
SIGR				SG	**Sg**	**03 43 35.9**	**+0.2**
SIGR	**SIGRI**	**0.55**	**154**	P	**Pg**	**03 43 28.2**	**-0.1**
SIGR				S	**Sg**	**03 43 36.1**	**+0.4**
SIGR				AML	AML	03 43 36.4	
	comp=E,181μm,0.3s						
SIGR				AML	AML	03 43 36.6	
	comp=N,176μm,0.4s						
EZN	**Ezine**	**0.61**	**79**	PG	**Pg**	**03 43 28.9**	**-0.5**
EZN				SG	**Sg**	**03 43 37.3**	**-0.2**
PRK	**Paraskevi**	**0.73**	**129**	P	**Pb**	**03 43 32.1**	**+0.1**
PRK				S	**Sb**	**03 43 42.1**	**+0.3**
SMTH	**Samothraki Isl**	**0.76**	**359**	P	**Pn**	**03 43 32.2**	**-0.1**
SMTH				S	**Sb**	**03 43 43.2**	**+0.4**
SMTH				AML	AML	03 43 45.2	
	comp=N,138μm,0.2s						
SMTH				AML	AML	03 43 45.4	
	comp=E,122μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.77**	**87**	*i* P	**Pb**	**03 43 32.9**	**+0.2**
BAYC				*i* S	**Sb**	**03 43 43.0**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.99**	**46**	PG	**Pg**	**03 43 35.8**	**-0.8**
THAS	**Thassos island**	**1.10**	**325**	P	**Pg**	**03 43 37.9**	**-0.8**
THAS				S	**Sb**	**03 43 52.9**	**+0.3**
ENEZ	**Enez**	**1.12**	**24**	PN	**Pg**	**03 43 38.4**	**-0.8**
LPK	**Lapseki**	**1.14**	**54**	PN	**Pg**	**03 43 39.0**	**-0.5**
ERIK	**Erikli-Kesan**	**1.21**	**37**	PN	**Pb**	**03 43 40.3**	**0.0**
OUR	**Ouranopolis**	**1.36**	**298**	PN	**Pn**	**03 43 41.9**	**-0.2**
OUR	**Ouranopolis**	**1.36**	**298**	P	**Pn**	**03 43 41.8**	**-0.2**
KESN	**Edirne-Kesan**	**1.41**	**37**	*i* P	**Pg**	**03 43 45.2**	**+0.5**
KESN				IAML_P			
	comp=Z,158nm,0.2s						
RDO	**Rodhopi**	**1.44**	**360**	PN	**Pn**	**03 43 43.2**	**+0.1**
RDO	**Rodhopi**	**1.44**	**360**	P	**Pn**	**03 43 43.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.51**	**62**	PN	**Pn**	**03 43 44.4**	**+0.3**
KAVA	**Kavala**	**1.51**	**329**	P	**Pg**	**03 43 46.2**	**-0.4**
EDC	**Edincik**	**1.89**	**70**	PN	**Pn**	**03 43 49.7**	**+0.3**

BJI ***18*** *03:54:32.0, 6°.49S×131°.16E, h78km, mb5.2/57, mB5.1/32, Ms4.6/11, Ms7 4.4/4*
MOS ***18*** *03:54:34.5±0.8, 6°.25S×130°.90E, h77km, mb5.3/31, Error ellipse: s-maj=11.1km s-min=6.1km az=113.0*
IDC ***18*** *03:54:36.0±1.8, 6°.24S×130°.90E, h71km±16km, mb4.7/21, mb1 4.7/23, mb1mx4.6/34, mbtmp5.0/23, MS3.5/16, Ms1 3.6/16, ms1mx3.4/33, Error ellipse: s-maj=14.8km s-min=10.4km az=65.0*
ISCJB ***18*** *03:54:35.0±0.2, 6°.33S±0°.02×130°.94E±0°.02, h86km, mb5.0/106, Error ellipse: s-maj=3.5km s-min=3.2km az=163.2*
DJA ***18*** *03:54:36.1±0.2, 6°S±2°×13°1E±°, h84km±3km, M5.2/42, mB5.6/25, mb5.2/42, MLv5.8/11, Mw(mB)5.1/25*
NEIC ***18*** *03:54:36.1±2.0, 6°.29S×130°.91E, h80km±5km, mb5.1/62, Error ellipse: s-maj=12.9km s-min=9.8km az=78.0*

ISC 18 03:54:36.3±0.3, **6°32S**±0°.03×**130°.95E**±0°.04, **h86**km, **n306**, **σ1s63/323**, **mb5.0/106**, **9C-7D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.69**	**168**	*e*Pn	**Pn**	**03 55 05.1**	**+0.6**
SAUI				*e*Sn	**Sn**	**03 55 24.3**	**-1.3**
SAUI	**Saumlaki**	**1.69**	**168**	P	**Pn**	**03 55 05.0**	**+0.6**
BNDI	**Bandanaira**	**2.07**	**330**	P	**Pn**	**03 55 08.7**	**-0.6**
BNDI				S	**Sn**	**03 55 34.3**	**-0.2**
FAKI	**Fak Fak**	**3.61**	**21**	*e*Pn	**Pn**	**03 55 29.1**	**-1.1**
FAKI				*e*Sn	**Sn**	**03 56 08.7**	**-3.1**
FAKI	**Fak Fak**	**3.61**	**21**	P	**Pn**	**03 55 29.2**	**-0.9**
FAKI				S	**Sn**	**03 56 09.6**	**-2.2**
NLAI	**Namlea**	**4.91**	**308**	P	**Pn**	**03 55 48.2**	**+0.5**
SIJI	**Sorong**	**5.42**	**3**	P	**Pn**	**03 55 52.7**	**-2.0**
	390nm,0.3s,baz=230,slow=22,SNR=352						
SIJI				S	**Sn**	**03 56 48.0**	**-7.8**
	151nm,0.3s,baz=7.9,slow=20,SNR=9.4						
RKPI	**Ransiki, Papua**	**5.76**	**34**	P	**Pn**	**03 55 59.2**	**-0.1**
	3μm,0.8s,30μm47nm						
RKPI				S	**Sn**	**03 57 01.1**	**-2.9**
	3μm,0.8s,30μm47nm						
MTN	**Manton Dam**	**6.49**	**178**	*e*Pn	**Pn**	**03 56 07.6**	**-1.6**
MTN				*e*Sn	**Sn**	**03 57 16.0**	**-5.9**
SANI	**Sanana**	**6.52**	**310**	P	**Pn**	**03 56 10.0**	**+0.3**
	363nm,0.5s,5μm1.5nm						
BAKI	**Biak**	**7.24**	**45**	P	**Pn**	**03 56 19.7**	**+0.2**
SOEI	**Soe**	**7.45**	**242**	*e*Pn	**Pn**	**03 56 22.4**	**-0.1**
SOEI				*e*Sn	**Sn**	**03 57 43.5**	**-2.1**
SOEI	**Soe**	**7.45**	**242**	P	**Pn**	**03 56 22.2**	**-0.3**
	250nm,0.7s,2μm3.6nm						
TNTI	**Ternate**	**7.90**	**333**	*e*Pn	**Pn**	**03 56 27.2**	**-1.4**
TNTI	**Ternate**	**7.90**	**333**	P	**Pn**	**03 56 28.7**	**+0.1**
	72nm,0.7s,0.3nm						
BATI	**Baumata**	**8.18**	**241**	P	**Pn**	**03 56 32.0**	**-0.4**
	98nm,0.5s,1μm						
BATI	**Baumata**	**8.18**	**241**	P	**Pn**	**03 56 32.1**	**-0.4**
	54nm,0.3s,baz=118,slow=4.8,SNR=29						
BATI				S	**Sn**	**03 57 59.9**	**-3.5**
	67nm,0.3s,baz=99,slow=21,SNR=8.3						
KDI	**Kendari**	**8.63**	**285**	P	**Pn**	**03 56 38.4**	**-0.1**
MMRI	**Maumere**	**8.94**	**255**	*e*Pn	**Pn**	**03 56 43.7**	**+0.9**
MMRI	**Maumere**	**8.94**	**255**	P	**Pn**	**03 56 43.3**	**+0.5**
	177nm,1.5s,2μm						
EDFI	**Ende, Flores**	**9.50**	**255**	P	**Pn**	**03 56 51.0**	**+0.6**
	62nm,0.8s						
LUWI	**Luwuk**	**9.70**	**302**	*e*Pn	**Pn**	**03 56 54.5**	**+1.4**
LUWI	**Luwuk**	**9.70**	**302**	P	**Pn**	**03 56 53.7**	**+0.6**
	123nm,0.9s,6μm						
GENI	**Genyem**	**9.90**	**68**	P	**Pn**	**03 56 55.9**	**0.0**
	400nm,0.7s,4μm						
BSSI	**Bau Bau, Buton**	**10.40**	**270**	P	**Pn**	**03 57 03.9**	**+1.2**
	351nm,1.0s,3μm						
JAY	**Jayapura**	**10.43**	**69**	P	**Pn**	**03 57 02.5**	**-0.6**
	713nm,0.6s,18μm						
JAY	**Jayapura**	**10.43**	**69**	P	**Pn**	**03 57 02.6**	**-0.6**
	15nm,0.3s,baz=202,slow=13,SNR=26						
JAY				S	**Sn**	**03 58 55.0**	**-3.3**
	2.2nm,0.3s,baz=270,slow=20,SNR=5.6						
APSI	**Ampana**	**10.72**	**300**	P	**Pn**	**03 57 07.7**	**+0.6**
	78nm,0.9s,826nm						
BKSI	**Bulukumba**	**10.82**	**275**	P	**Pn**	**03 57 09.2**	**+0.8**
	48nm,1.4s,736nm						
BASI	**Baing, Sumba**	**10.97**	**249**	P	**Pn**	**03 57 11.1**	**+0.6**
	230nm,0.8s,3μm						
KAPI	**Kappang**	**11.22**	**276**	*e*Pn	**Pn**	**03 57 16.1**	**+2.2**
KAPI	**Kappang**	**11.22**	**276**	*e*P	**Pn**	**03 57 16.1**	**+2.2**
MRSI	**Marisa**	**11.25**	**307**	P	**Pn**	**03 57 14.2**	**0.0**
	88nm,0.8s,665nm						
SPSI	**Sidrap Palu**	**11.38**	**281**	P	**Pn**	**03 57 16.0**	**0.0**
FITZ	**Fitzroy Crossi**	**12.81**	**203**	*e*Pn	Pn	03 57 30.6	-4.6
FITZ				*e*Sn	Sn	03 59 40.1	-16
FITZ	**Fitzroy Crossi**	**12.81**	**203**	P	Pn	03 57 30.7	-4.5
	24nm,0.3s,baz=32,slow=10,SNR=248						
FITZ				S	Sn	03 59 42.1	-14
	18nm,0.3s,baz=115,slow=23,SNR=9.3						
FITZ				LR	LR	04 03 21.7	
	comp=Z,329nm,19.9s,baz=28,slow=41						
MPSI	**Mapaga**	**12.86**	**301**	P	**Pn**	**03 57 38.2**	**+2.2**
	12nm,0.6s						
PLAI	**Plampang**	**13.30**	**258**	P	**Pn**	**03 57 38.4**	**-3.4**
	109nm,0.6s,1μm						
WRAB	**Tennant Creek**	**13.93**	**167**	*e*Pn	Pn	03 57 44.8	-5.2
WRAB				*e*Sn	Sn	04 00 10.4	-13
WRAB	**Tennant Creek**	**13.93**	**167**	*ce*P	Pn	03 57 44.2	-5.8
WRAB				pmax	pmax		
	comp=Z,68nm,0.7s						
WR1	**Warramunga Arr**	**13.94**	**167**	*e*Pn	Pn	03 57 44.8	-5.4
WR1				*e*Sn	Sn	04 00 10.8	-13
WRA	**Warramunga Arr**	**13.94**	**167**	P	Pn	03 57 44.8	-5.4
	comp=Z,19nm,0.3s,baz=351,slow=13,SNR=210						
WRA				S	Sn	04 00 10.8	-13
	comp=Z,63nm,0.3s,baz=350,slow=21,SNR=16						
WRA				LR	LR	04 04 09.3	
	comp=Z,288nm,18.4s,baz=335,slow=41						
WB2	**Warramunga Arr**	**13.94**	**167**	*e*Pn	Pn	03 57 45.4	-4.7
WB2				*e*Sn	Sn	04 00 10.0	-14
COEN	**Coen**	**14.22**	**123**	*e*Pn	**Pn**	**03 57 52.4**	**-1.4**
COEN				*e*Sn	Sn	04 00 16.9	-13
DAV	**Davao City (W)**	**14.34**	**338**	*e*Pn	**Pn**	**03 57 54.4**	**-0.9**
DAV	**Davao City (W)**	**14.34**	**338**	LR	LR	04 04 14.2	
	comp=Z,194nm,21.3s,baz=116,slow=41						
KCP	**Kidapawan**	**14.47**	**336**	*i*,*i*P	**Pn**	**03 57 56.7**	**-0.4**
KCP				*i* S	**P**	**03 58 05.1**	**+3.7**
TSM	**Tawau**	**16.78**	**309**	P	**P**	**03 58 31.7**	**+4.7**
JAGI	**Jajag, Banyuwa**	**16.80**	**262**	*e*Pn	**Pn**	**03 58 21.9**	**-4.4**
	comp=Z,37nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.80**	**262**	P	**Pn**	**03 58 21.7**	**-4.7**
KMMI	**Kalianget**	**16.89**	**267**	P	**Pn**	**03 58 27.8**	**+0.3**
	comp=Z,41nm,0.7s						
MANU	**Manus Island**	**16.91**	**76**	*e*Pn	**Pn**	**03 58 24.9**	**-2.9**
	comp=Z,88nm,0.9s						
GMJI	**Gumukmas**	**17.48**	**263**	P	**Pn**	**03 58 32.4**	**-2.3**
	comp=Z,25nm,0.5s						
AS31	**Alice Springs**	**17.48**	**171**	*e*Pn	**P**	**03 58 31.9**	**-2.7**
	comp=Z,47nm,1.0s						
AS31				*e*Sn	Sn	04 01 31.8	-17
ASAR	**Alice Springs**	**17.48**	**171**	P	**P**	**03 58 32.1**	**-2.6**
	comp=Z,17nm,0.3s,baz=338,slow=9.1,SNR=448						
ASAR				S	Sn	04 01 31.8	-17
	comp=Z,3.7nm,0.3s,baz=345,slow=22,SNR=4.4						
ASAR				LR	LR	04 05 46.9	
	comp=Z,294nm,20.1s,baz=348,slow=38						
AS01	**Alice Springs**	**17.49**	**171**	*e*Pn	**P**	**03 58 32.4**	**-2.4**
AS01				*e*Sn	Sn	04 01 32.1	-17
SDKM	**Sandakan**	**18.16**	**311**	P	**Pn**	**03 58 46.1**	**+3.1**
PWJI	**Pagerwojo**	**19.08**	**264**	P	**P**	**03 58 51.0**	**-1.2**
	comp=Z,30nm,0.4s						
KKM	**Kota Kinabalu**	**19.16**	**310**	*e*P	**P**	**03 58 53.0**	**-0.2**
	comp=Z,35nm,0.6s						
KKM	**Kota Kinabalu**	**19.16**	**310**	P	**Pn**	**03 58 54.5**	**-0.5**
KDM	**Kudat**	**19.27**	**313**	P	**Pn**	**03 59 01.8**	**+5.6**
RCP	**Roxas**	**19.55**	**335**	*e*P	**P**	**03 58 58.3**	**+0.9**
PCJI	**Pacitan**	**19.71**	**263**	P	**P**	**03 58 56.9**	**-2.2**
	comp=Z,72nm,0.6s						
WOJI	**Wonogiri, Jawa**	**19.93**	**264**	P	**P**	**03 58 58.9**	**-2.7**
	comp=Z,20nm,0.7s						
BTM	**Bintulu**	**20.19**	**297**	P	Pn	03 59 06.5	-0.6
CTA	**Charters Tower**	**20.20**	**134**	P	**P**	**03 59 07.1**	**+2.6**
	comp=Z,46nm,0.7s,baz=310,slow=13,SNR=46						
CTA				S	**S**	**04 02 46.7**	**+0.1**
	comp=Z,17nm,0.8s,baz=43,slow=21,SNR=3.9						
CTAO	**Charters Tower**	**20.20**	**134**	*e*P	**P**	**03 59 07.0**	**+2.6**
	comp=Z,63nm,0.9s						
CTAO	**Charters Tower**	**20.20**	**134**	*e*P	**P**	**03 59 07.0**	**+2.6**
CTAO				pmax	pmax		
	comp=Z,63nm,0.9s						
UGM	**Wanagama**	**20.34**	**264**	P	**P**	**03 59 06.1**	**+0.2**
	comp=Z,81nm,1.8s						
SMRI	**Semarang**	**20.39**	**267**	*e*P	**P**	**03 59 05.9**	**-0.6**
	comp=Z,327nm,2.0s						
SBUM	**Sibu**	**20.63**	**294**	*e*P	**P**	**03 59 09.7**	**+0.6**
	comp=Z,19nm,0.9s						
SBUM	**Sibu**	**20.63**	**294**	P	**P**	**03 59 10.3**	**+1.2**
RABL	**Rabaul**	**21.23**	**85**	*e*P	**P**	**03 59 17.1**	**+1.6**
	comp=Z,201nm,0.4s						
KPJI	**Karang Pucung**	**21.89**	**266**	P	**P**	**03 59 20.9**	**-1.7**
	comp=Z,68nm,0.6s						
KSM	**Kuching**	**22.02**	**290**	*e*P	**P**	**03 59 19.9**	**-4.0**
	comp=Z,18nm,1.0s						
KSM	**Kuching**	**22.02**	**290**	P	**P**	**03 59 25.3**	**+1.4**
TGY	**Tagaytay City**	**22.59**	**334**	P	**P**	**03 59 31.0**	**+0.9**
TGY	**Tagaytay City**	**22.59**	**334**	P	**P**	**03 59 31.0**	**+0.9**
	comp=Z,199nm,0.3s,baz=163,slow=6.9,SNR=6.9						
TGY				LR	LR	04 09 31.1	
	comp=Z,115nm,20.1s,baz=206,slow=40						
GIRL	**Giralia**	**22.88**	**223**	P	**P**	**03 59 33.5**	**+0.6**
	baz=23,SNR=14						
GIRL	**Giralia**	**22.88**	**223**	*e*P	**P**	**03 59 33.6**	**+0.7**
	comp=Z,64nm,0.6s						
CISI	**Cisompet, Garu**	**23.00**	**266**	*e*P	**P**	**03 59 31.2**	**-3.0**
	comp=Z,176nm,0.8s						
MEEK	**Meekatharra**	**23.38**	**209**	P	**P**	**03 59 37.5**	**-0.2**
	baz=24,SNR=22						
GUMO	**Guam**	**24.12**	**35**	P	**P**	**03 59 45.9**	**+1.5**
	comp=Z,54nm,0.5s,baz=188,slow=17,SNR=4.2						
FORT	**Forrest**	**24.49**	**186**	P	**P**	**03 59 48.6**	**+1.1**
	baz=25,SNR=33						
FORT	**Forrest**	**24.49**	**186**	*e*P	**P**	**03 59 48.6**	**+1.1**
	comp=Z,168nm,0.6s						
XMIS	**Christmas Isla**	**25.36**	**259**	*e*P	**P**	**03 59 54.2**	**-1.5**
	comp=Z,32nm,0.8s						
MORW	**Morawa**	**26.66**	**210**	P	**P**	**04 00 09.5**	**+2.3**
	baz=27,SNR=6.2						
MORW	**Morawa**	**26.66**	**210**	*e*P	**P**	**04 00 07.7**	**+0.4**
	comp=Z,29nm,1.3s						
BBOO	**Buckleboo**	**26.79**	**170**	P	**P**	**04 00 09.0**	**+0.6**
	baz=27,SNR=15						
BBOO	**Buckleboo**	**26.79**	**170**	*e*P	**P**	**04 00 08.6**	**+0.3**
	comp=Z,86nm,1.3s						
STKA	**Stephens Creek**	**27.31**	**160**	P	**P**	**04 00 14.3**	**+1.3**
	baz=28,SNR=8.8						
STKA	**Stephens Creek**	**27.31**	**160**	*e*P	**P**	**04 00 14.2**	**+1.3**
	comp=Z,5.3nm,0.6s						
STKA	**Stephens Creek**	**27.31**	**160**	P	**P**	**04 00 14.3**	**+1.3**
	comp=Z,5.9nm,0.6s,baz=345,slow=8.4,SNR=8.7						
STKA				LR	LR	04 12 00.2	
	comp=Z,305nm,18.5s,baz=344,slow=38						
BLDU	**Ballidu**	**27.63**	**207**	P	**P**	**04 00 17.1**	**+1.2**
	baz=28,SNR=5.7						
HTT	**Hallett**	**27.98**	**166**	P	**P**	**04 00 20.1**	**+1.1**
	baz=28,SNR=6.4						
CMSA	**Cobar Meteorol**	**28.63**	**153**	P	**P**	**04 00 26.2**	**+1.3**
	baz=29,SNR=31						
HNR	**Honiara**	**28.88**	**98**	*e*P	**P**	**04 00 28.2**	**+0.9**
	comp=Z,101nm,0.9s						
HNR	**Honiara**	**28.88**	**98**	*e*P	**P**	**04 00 28.2**	**+0.9**
HNR				pmax	pmax		
	comp=Z,101nm,0.9s						
HNR	**Honiara**	**28.88**	**98**	P	**P**	**04 00 28.4**	**+1.2**
	comp=Z,52nm,0.4s,baz=203,slow=7.3,SNR=4.7						
HNR				LR	LR	04 12 12.3	
	comp=Z,138nm,21.9s,baz=260,slow=36						
NWAO	**Narrogin (SRO)**	**29.39**	**204**	P	**P**	**04 00 33.1**	**+1.6**
	baz=30,SNR=5.8						
NWAO	**Narrogin (SRO)**	**29.39**	**204**	P	**P**	**04 00 33.3**	**+1.7**
	comp=Z,3.9nm,0.3s,baz=54,slow=8.5,SNR=6.8						
NWAO				LR	LR	04 13 39.5	
	comp=Z,89nm,18.1s,baz=12,slow=39						
ARMA	**Armidale**	**30.86**	**144**	P	**P**	**04 00 45.4**	**+0.7**
	baz=31,SNR=6.1						
SSLB	**Suanglung**	**31.47**	**342**	*e*P	**P**	**04 00 48.4**	**-1.6**
	comp=Z,18nm,0.9s						
YNG	**Young**	**32.18**	**152**	P	**P**	**04 00 58.1**	**+2.0**
	baz=32,SNR=6.4						
PSI	**Prapat**	**33.24**	**285**	*e*P	**P**	**04 01 04.6**	**-1.2**
	comp=Z,14nm,0.9s

ENH Enshi 41.80 332 *e*P P 04 02 17.6 -0.1
comp=Z,33nm,0.8s
TJN Taejon 42.60 356 *ce*P P 04 02 25.0 +1.0
MJAR Matsushiro Arr 43.17 9 P P 04 02 28.1 -0.5
comp=Z,16nm,0.8s,baz=193,slow=10,SNR=26
MJAR pP **sP** 04 02 53.8 -2.1
comp=Z,9.0nm,0.8s,baz=192,slow=11,SNR=4.8
MJAR LR LR 04 19 06.7
comp=Z,62nm,21.7s,baz=190,slow=34
MAJO Matsushiro 43.17 9 *e*P P 04 02 28.5 -0.2
comp=Z,30nm,0.8s
MAJO Matsushiro 43.17 9 *e*P P 04 02 28.5 -0.2
MAJO pmax pmax
comp=Z,30nm,0.8s
MAT Matsushiro 43.17 9 P P 04 02 28.2 -0.5
MJB9 Matsu-Tunnel 43.17 9 *e*P P 04 02 28.5 -0.2
comp=Z,31nm,0.8s
KS15 Wonju Array Si 43.63 356 *e*P P 04 02 33.5 +1.2
comp=Z,22nm,0.9s
KS15 *e*PP **PP** 04 04 09.7 -5.8
KSRS Korea Array 43.63 357 P P 04 02 33.4 +1.1
comp=Z,13nm,0.6s,baz=172,slow=8.5,SNR=56
KSRS LR LR 04 21 07.0
comp=Z,25nm,20.6s,baz=186,slow=36
KS01 Wonju Array Si 43.66 356 *e*P P 04 02 32.7 +0.1
XAN Xi'an 45.23 334 P P 04 02 44.6 -0.6
XAN pmax pmax
comp=Z,41nm,0.8s
CD2 Chengdu 45.25 326 *e*P P 04 02 46.3 +0.9
CD2 pmax pmax
comp=Z,120nm,5.0s
BJT Baijiatuan 48.08 345 *e*P P 04 03 07.5 +0.2
comp=Z,46nm,0.7s
BJT Baijiatuan 48.08 345 *e*P P 04 03 07.5 +0.2
BJT pmax pmax
comp=Z,46nm,0.7s
BJI Beijing 48.10 345 P P 04 03 08.0 +0.6
BJI pmax pmax
comp=Z,45nm,0.6s
LZH Lanzhou 49.26 331 *e*P P 04 03 17.9 +1.2
LZH pP pP 04 03 36.8 +1.0
LZH sP sP 04 03 45.6 +0.9
LZH PP **PP** 04 05 14.3 +2.9
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,98nm,7.2s
LZH LR LR
comp=Z,410nm,13.5s
LZH LR LR
comp=Z,400nm,14.3s
LZH LR LR
comp=Z,560nm,17.6s
SHL Shillong 49.45 311 *e*P P 04 03 17.2 -1.1
comp=Z,11nm,0.5s
SHL Shillong 49.45 311 *e*P P 04 03 17.2 -1.1
SHL pmax pmax
comp=Z,11nm,0.5s
SHL Shillong 49.45 311 *e*P P 04 03 17.0 -1.3
CN2 Changchun 50.13 355 *e*P P 04 03 22.8 -0.1
CN2 *e*sP sP 04 03 50.5 -0.1
CN2 pmax pmax
comp=Z,20nm,0.5s
HHC Hu-ho-hao-te 50.20 341 *e*P P 04 03 24.5 +0.9
HHC S **S** 04 10 32.8 +3.4
HHC sS sS 04 11 03.9 +1.8
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,83nm,5.7s
USA0B Ussuriysk Arra 50.29 1 *e*P P 04 03 24.4 +0.3
comp=Z,26nm,0.6s
USRK Ussuriysk Ar. 50.29 1 P P 04 03 25.1 +1.0
comp=Z,22nm,0.6s,baz=188,slow=7.6,SNR=44
MDJ Mudanjiang 50.71 359 P P 04 03 28.0 +0.7
MDJ pmax pmax
comp=Z,36nm,0.8s
MDJ pmax pmax
comp=Z,96nm,3.6s
MDJ Mudanjiang 50.71 359 *e*P P 04 03 27.4 +0.2
comp=Z,27nm,0.8s
MDJ *e*PcP **PcP** 04 04 39.8 -3.6
GTA Gaotai 53.84 330 ||P P 04 03 51.8 +1.1
GTA pP pP 04 04 09.9 -0.1
GTA sP sP 04 04 19.5 +0.7
GTA S **S** 04 11 25.3 +5.9
GTA sS sS 04 11 57.4 +1.7
GTA pmax pmax
comp=Z,21nm,0.9s
GTA pmax pmax
comp=Z,90nm,5.2s
GTA LR LR
comp=Z,150nm,19.9s
GTA LR LR
comp=Z,240nm,21.9s
YSS Yuzh-Sakhalins 54.06 10 *e*P P 04 03 52.4 +0.4
comp=Z,46nm,0.4s
YSS Yuzh-Sakhalins 54.06 10 ||*e*P P 04 03 52.7 +0.7
YSS pmax pmax
comp=Z,40nm,0.4s
RAMN Ramite 54.19 310 *e*P P 04 03 53.7 +0.1
comp=Z,54nm,0.3s
JIRN Jiri 54.86 310 *e*P P 04 03 58.4 -0.2
comp=Z,16nm,0.3s
GUN Gumba 55.23 310 *e*P P 04 04 01.1 -0.1
comp=Z,60nm,0.8s
KLR Kul'dur 55.32 1 *d*P P 04 04 01.6 +0.6
PKI Pulchoki 55.41 310 *e*P P 04 04 02.4 -0.1
comp=Z,6.3nm,0.3s
KKN Kakani 55.62 310 *e*P P 04 04 04.0 +0.1
comp=Z,20nm,0.6s
DMN Daman 55.66 310 *e*P P 04 04 04.5 +0.2
comp=Z,33nm,0.7s
GKN Gorkha 56.22 310 *e*P P 04 04 08.2 +0.1
comp=Z,40nm,0.5s
KOLN Koldanda 56.90 309 *e*P P 04 04 13.0 0.0
comp=Z,46nm,0.9s
DANN Dangsing 57.06 310 *e*P P 04 04 14.0 -0.2
comp=Z,22nm,0.6s
PYUN Piuthan 57.53 309 *e*P P 04 04 17.4 -0.1
comp=Z,80nm,0.9s
TYV Tymovskoe 57.84 9 *e*P P 04 04 20.2 +1.3
TYV pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 57.92 341 *e*P P 04 04 20.9 +1.2
comp=Z,32nm,0.7s
ULN Ulaanbaatar 57.92 341 *e*P P 04 04 20.9 +1.2
ULN pmax pmax
comp=Z,32nm,0.7s
SONA0 Songino Array 58.11 341 *e*P P 04 04 22.1 +1.1
SONM Songino Array 58.11 341 P P 04 04 22.1 +1.1
comp=Z,11nm,0.5s,baz=161,slow=6.7,SNR=107
NKL Nikolayevsk 59.81 7 *i*P P 04 04 33.7 +1.3
NKL pmax pmax
comp=Z,40nm,0.8s
ZEA Zeya 59.91 357 *e*P P 04 04 33.8 +0.6
ZEA pmax pmax
comp=N,22nm,0.9s
ZEA pmax pmax
comp=Z,30nm,0.9s
ZAK Zakamensk 61.34 340 *e*P P 04 04 43.6 +0.5
ZAK pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 62.33 341 *i*P P 04 04 50.0 +0.4
MOY Mondy 63.20 340 *e*P P 04 04 57.0 +1.5
MOY pmax pmax
comp=Z,18nm,1.9s
WMQ Urumqi 63.35 326 P P 04 04 58.1 +1.5
WMQ sP pwP 04 05 25.8 +1.1
WMQ PcP **PcP** 04 05 31.6 -1.3
WMQ pmax pmax
comp=Z,88nm,0.9s
WMQ pmax pmax
comp=Z,490nm,5.1s
WMQ LR LR
comp=Z,160nm,27.3s
WMQ LR LR
comp=Z,120nm,19.3s
WMQ Urumqi 63.35 326 *e*P P 04 04 57.8 +1.2
comp=Z,31nm,0.6s
WMQ Urumqi 63.35 326 *e*P P 04 04 57.8 +1.2
WMQ pmax pmax
comp=Z,31nm,0.6s
PETK Petropavlovsk- 63.39 18 P P 04 04 58.1 +1.5
comp=Z,15nm,0.8s,baz=186,slow=6.8,SNR=18
PEA1 Petropavlovsk- 63.39 18 *e*P P 04 04 58.1 +1.5

BOD Bodaibo 65.39 350 *e*P P 04 05 09.2 -0.3
BOD pmax pmax
comp=Z,15nm,1.0s
MA2 Magadan 67.55 11 *e*P P 04 05 24.0 +0.7
comp=Z,16nm,0.8s
MA2 Magadan 67.55 11 *ce*P P 04 05 24.3 +1.0
MA2 pmax pmax
comp=Z,6.0nm,0.7s
PDGK Podgornoye 67.84 322 P P 04 05 26.4 +0.8
PDGK pmax pmax
comp=Z,16nm,0.6s
TARG Taragay, Kyrgy 68.05 320 *e*P P 04 05 28.3 +0.9
comp=Z,8.5nm,1.0s
YAK Yakutsk 68.15 359 *e*P P 04 05 27.7 +0.7
YAK pmax pmax
comp=Z,341nm,0.8s
YAK pmax pmax
comp=N,96nm,0.9s
YAK pmax pmax
comp=E,25nm,0.8s
KSH Kashi 68.16 317 P P 04 05 29.5 +1.8
KSH pP pP 04 05 49.3 +1.6
KSH S **S** 04 14 18.9 -2.5
KSH pmax pmax
comp=E,13nm,0.9s
KSH pmax pmax
comp=E,130nm,4.2s
MK01 Makanchi Array 68.16 326 *e*P P 04 05 28.4 +0.9
MK31 Makanchi Array 68.18 326 *e*P P 04 05 28.8 +1.2
comp=E,38nm,0.9s
MK31 Makanchi Array 68.18 326 *e*P P 04 05 28.6 +1.0
MK31 pmax pmax
comp=Z,20nm,0.4s
MK32 Makanchi Array 68.18 326 *e*P P 04 05 28.6 +1.1
MKAR Makanchi Array 68.18 326 P P 04 05 28.6 +1.1
comp=Z,44nm,0.4s,baz=114,slow=8.0,SNR=749
MKAR pP **PcP** 04 05 54.6 +1.8
comp=Z,8.5nm,0.5s,baz=130,slow=7.8,SNR=3.1
MKAR S **S** 04 14 21.1 0.0
comp=Z,0.2nm,0.6s,baz=168,slow=12,SNR=3.7
MKAR LR LR 04 36 13.9
comp=Z,20nm,21.2s,baz=114,slow=37
MAKZ Makanchi 68.36 326 *e*P P 04 05 29.7 +1.0
comp=Z,51nm,0.4s
MAKZ Makanchi 68.36 326 *e*P P 04 05 29.7 +1.0
MAKZ pmax pmax
comp=Z,51nm,0.4s
KDJ Kajisay 68.66 320 *e*P P 04 05 32.7 +1.9
comp=Z,20nm,0.7s
KDJ Kajisay 68.66 320 *e*P P 04 05 32.7 +1.9
KDJ pmax pmax
comp=Z,20nm,0.7s
NRN Naryn 69.08 319 *e*P P 04 05 34.1 +0.5
comp=Z,13nm,0.7s
NRN Naryn 69.08 319 *e*P P 04 05 34.1 +0.5
NRN pmax pmax
comp=Z,13nm,0.7s
ULHL Ulahol 69.32 320 P P 04 05 36.2 +1.2
SNR=11
KZA Kyzart 69.88 319 P P 04 05 40.5 +1.8
SNR=33
TKM2 Tokmak 2 70.07 320 P P 04 05 40.9 +1.3
SNR=18
TKM2 Tokmak 2 70.07 320 P P 04 05 40.5 +0.9
TKM2 pmax pmax
comp=Z,16nm,0.6s
KBK Karagaybulak 70.36 320 P P 04 05 42.8 +1.5
SNR=14
UCH Uchtor 70.43 319 P P 04 05 43.7 +1.7
SNR=36
AAK Ala-Archa 70.64 319 P P 04 05 44.5 +1.6
SNR=18
AAK Ala-Archa 70.64 319 *e*P P 04 05 44.2 +1.3
comp=Z,14nm,0.6s
AAK *e*PP **PP** 04 08 13.8 -6.9
AAK Ala-Archa 70.64 319 *ce*P P 04 05 43.7 +0.7
AAK pmax pmax
comp=Z,32nm,1.7s
CHMS Chumysh 70.65 320 P P 04 05 43.8 +0.9
SNR=6.3
FRU Bishkek 70.65 320 *e*P P 04 05 43.0 +0.1
FRU *e* 04 06 15.0
AML Almayashu 70.92 319 P P 04 05 46.3 +1.3
SNR=37
USP Ospenovka 70.94 320 P P 04 05 45.8 +1.2
SNR=20
ARSB Arslanbob 71.03 318 *e*P P 04 05 46.5 +1.2
comp=Z,38nm,0.7s
KBL Kabul 71.06 310 *e*P P 04 05 46.3 +0.6
comp=Z,9.8nm,0.8s
KBL Kabul 71.06 310 *e*P P 04 05 46.3 +0.6
KBL pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 71.12 319 P P 04 05 47.5 +1.7
SNR=24
ZAA0 Zalesovo Array 71.40 333 *e*P P 04 05 47.1 0.0
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 71.40 333 *e*P P 04 05 46.9 -0.2
ZALV Zalesovo Beam 71.40 333 *e*P P 04 05 46.9 -0.2
ZALV Zalesovo Beam 71.40 333 P P 04 05 47.0 -0.1
comp=Z,7.6nm,0.5s,baz=112,slow=4.8,SNR=35
ZALV LR LR 04 43 02.2
comp=Z,18nm,18.3s,baz=72,slow=41
ZAA1 Zalesovo Array 71.40 333 *e*P P 04 05 47.0 -0.1
BTK Batken 71.95 316 *e*P P 04 05 51.9 +1.0
comp=Z,15nm,0.5s
BTK Batken 71.95 316 *e*P P 04 05 51.9 +1.0
BTK pmax pmax
comp=Z,15nm,0.5s
KURK Kurchatov 72.44 328 *e*P P 04 05 54.0 +0.7
comp=Z,20nm,0.9s
KURK Kurchatov 72.44 328 *ce*P P 04 05 53.0 -0.4
KURK pmax pmax
comp=Z,22nm,1.0s
NVS Novosibirsk 72.68 333 *i*P P 04 05 55.1 +0.4
VNDA Vanda 73.01 173 *e*P P 04 05 57.5 +1.2
VNDA Vanda 73.01 173 *e*P P 04 05 57.6 +1.2
VNDA Vanda 73.01 173 P P 04 05 58.1 +1.7
comp=Z,1.1nm,0.6s,baz=326,slow=7.6,SNR=6.6
VNDA LR LR 04 37 15.5
comp=Z,157nm,19.0s,baz=198,slow=35
KK31 Karatay Array 73.46 318 *e*P P 04 06 00.5 +0.9
comp=Z,12nm,0.9s
KK31 Karatay Array 73.46 318 *i*P P 04 06 00.1 +0.5
KK31 pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 73.46 318 *e*P P 04 06 00.4 +0.8
comp=Z,12nm,0.9s
KKAR Karatay Array 73.46 318 *e*P P 04 06 00.4 +0.8
KKAR pmax pmax
comp=Z,12nm,0.9s
OTUK Ortayu 74.65 324 P P 04 06 07.3 +0.8
OTUK pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 77.82 359 *e*P P 04 06 23.1 -0.7
comp=Z,12nm,0.8s
TIXI Tiksi 77.82 359 *ce*P P 04 06 24.1 +0.2
TIXI pmax pmax
comp=Z,15nm,1.0s
BVA0 Borovoye Array 78.00 327 P P 04 06 25.6 +0.3
BVA0 pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 78.07 327 *e*P P 04 06 25.7 +0.1
comp=Z,14nm,0.8s
BRVK Borovoye 78.07 327 ||*i*P P 04 06 25.9 +0.2
BRVK pmax pmax
comp=Z,15nm,0.8s
BILL Bilibino 78.24 13 *e*P P 04 06 25.9 -0.4
BILL *e* 04 06 35.7
BILL *e* 04 09 20.1
BILL *e*PPP PPP 04 11 12.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
GEYT Alibeck 80.50 310 P P 04 06 40.3 +1.0
comp=Z,4.9nm,0.6s,baz=166,slow=3.1,SNR=8.1
NRIK Noril'sk 81.13 346 P P 04 06 43.0 +1.1
comp=Z,13nm,0.7s,baz=132,slow=6.4,SNR=10
AB31 Akbulak array 82.57 321 *i*P P 04 06 49.8 -0.1
AB31 pmax pmax
comp=Z,4.0nm,0.7s
ABKAR Akbulak array 82.57 321 *e*P P 04 06 50.0 +0.1
comp=Z,5.5nm,1.0s
QSPA South Pole Qui 83.66 180 *e*P P 04 06 56.6 +1.2
comp=Z,8.2nm,0.9s
AKTO Aktyubinsk 84.12 322 P P 04 06 58.6 +0.8
comp=Z,4.9nm,0.6s,baz=115,slow=7.5,SNR=16

SYO Syowa Base 84.64 201 ↑*e*X P 04 07 17.4 +17
ARU Arti 85.63 328 *e*P P 04 07 04.9 -0.4
comp=Z,15nm,1.1s
ARU Arti 85.63 328 *d*P P 04 07 05.1 -0.2
ARU 04 10 23.7
ARU S **S** 04 17 24.0 -6.3
ARU pmax pmax
comp=Z,11nm,1.0s
KDAK Kodiak Island 88.15 31 *i*P P 04 07 19.3 +1.9
IM3 Indian Mountai 89.80 23 *e*P P 04 07 24.5 -0.5
KIRV Kirov 90.94 329 P P 04 07 31.7 +1.2
comp=Z,9.8nm,0.4s,baz=231,slow=1.4,SNR=2.8
RND Reindeer 91.23 26 *e*P P 04 07 32.0 +0.2
comp=Z,6.9nm,0.7s
RND Reindeer 91.23 26 *e*P P 04 07 32.0 +0.2
RND pmax pmax
comp=Z,7.0nm,0.7s
WRH Wood River Hil 91.77 25 *e*P P 04 07 34.3 +0.1
comp=Z,4.9nm,0.9s
DHY Denali Highway 91.82 27 *e*P P 04 07 35.3 +0.6
comp=Z,5.2nm,0.8s
CCB Clear Creek Bu 91.92 25 *e*P P 04 07 34.8 -0.1
comp=Z,5.2nm,0.7s
TOLK Toolik Lake Re 92.02 21 *e*P P 04 07 36.3 +1.0
comp=Z,5.8nm,0.5s
IL1 Eielson Array 92.33 25 *e*P P 04 07 35.8 -1.0
ILAR Eielson Array 92.33 25 P P 04 07 36.0 -0.8
comp=Z,2.5nm,0.6s,baz=266,slow=4.3,SNR=61
ILAR pP **sP** 04 08 04.2 -1.7
comp=Z,1.0nm,0.8s,baz=241,slow=5.9,SNR=3.3
ILB Eielson Array 92.33 25 *e*P P 04 07 36.2 -0.6
comp=Z,17nm,1.8s
RIDG Independ'e Rid 93.05 26 *e*P P 04 07 40.5 +0.3
comp=Z,24nm,1.7s
KVAR Kislovodsk Arr 93.08 314 LR LR 04 57 09.4
comp=Z,44nm,18.6s,baz=137,slow=40
DAWY Dawson 95.48 26 *e*P P 04 07 50.8 -0.5
comp=Z,8.3nm,1.1s
OBN Obninsk 97.65 325 *e*P Pdif 04 08 02.1 +0.8
OBN *e*PPP PPP 04 14 04.3
OBN pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 99.62 309 LR LR 04 58 23.3
comp=Z,14nm,21.6s,baz=136,slow=38
ARA0 ARCESS Array S 101.27 340 *e*Pdif **Pdif** 04 08 16.7 -0.5
ARCES ARCESS Array B 101.27 340 P **Pdif** 04 08 16.7 -0.4
comp=Z,6.1nm,0.9s,baz=80,slow=4.4,SNR=7.7
FIA0 FINESS Array S 102.62 332 *e*Pdif **Pdif** 04 08 22.5 -0.8
FIA0 FINESS Array S 102.62 332 *e*P **Pdif** 04 08 22.5 -0.8
FINES FINESS Array B 102.62 332 *i*P **Pdif** 04 08 23.2 -0.1
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 102.62 332 P **Pdif** 04 08 22.5 -0.8
comp=Z,1.5nm,0.8s,baz=41,slow=6.1,SNR=4.0
YKA Yellowknife Ar 106.72 26 P **Pdif** 04 08 43.0 +1.5
YKA Yellowknife Ar 106.72 26 Pdiff **Pdif** 04 08 43.0 +1.5
comp=Z,0.2nm,0.6s,baz=289,slow=4.4,SNR=4.4
YKA PKiKP **PKiKP** 04 12 52.1 +0.7
comp=Z,0.5nm,0.5s,baz=296,slow=1.9,SNR=10
YKA PKKPab **PKKPdf** 04 24 20.7 -4.0
comp=Z,0.1nm,0.4s,baz=106,slow=2.9,SNR=3.7
GERES GERESS Array B 112.50 321 PKiKP **PKiKP** 04 13 03.5 +0.7
comp=Z,0.5nm,0.6s,baz=57,slow=3.6,SNR=4.0
PD31 Pinedale Array 115.74 45 *e*PKPdf **PKiKP** 04 13 08.5 -1.0
PDAR Pinedale Array 115.74 45 SKP **SKPdf** 04 16 38.3 +0.9
comp=Z,0.5nm,0.8s,baz=343,slow=1.5,SNR=3.9
ULM Lac du Bonnet 121.36 33 PKiKP **PKPdf** 04 13 20.0 +0.3
ULM Lac du Bonnet 121.36 33 PKP **PKPdf** 04 13 19.9 +0.3
comp=Z,1.1nm,0.4s,baz=207,slow=2.3,SNR=3.2
TOA0 Torodi Ar. Sit 129.60 282 *e*PKPdf **PKPdf** 04 13 37.7 +1.3
TORD Torodi Ar. Bea 129.60 282 PKP **PKPdf** 04 13 36.9 +0.5
comp=Z,1.0nm,0.6s,baz=89,slow=2.7,SNR=9.9
TORD pPKP **sPKPdf** 04 14 03.6 -2.9
comp=Z,0.7nm,0.7s,baz=122,slow=2.4,SNR=3.6
TORD SKPbc SKPab 04 16 51.2 +0.8
comp=Z,1.4nm,0.6s,baz=46,slow=3.4,SNR=12
TOA1 Torodi Ar. Sit 129.61 282 *e*PKPdf **PKPdf** 04 13 36.9 +0.5
DBIC Dimbokro 136.10 273 *e*PKPdf **PKPdf** 04 13 46.6 -2.1
DBIC Dimbokro 136.10 273 PKP **PKPdf** 04 13 47.9 -0.9
comp=Z,2.2nm,0.5s,baz=248,slow=2.7,SNR=3.9
LVC Limon Verde 145.29 147 *e*PKPbc **PKPbc** 04 14 05.5 +0.1
LVC Limon Verde 145.29 147 *e*PKiKP **PKPbc** 04 14 05.5 +0.1
CPUP Villa Florida 146.57 166 PKPbc **PKPbc** 04 14 10.3 +1.6
comp=Z,1.7nm,0.8s,baz=163,slow=1.9,SNR=3.8
MNMC Minye Minye 147.60 142 *e*PKPbc **PKiKP** 04 14 14.9 +0.7
LPAZ La Paz 150.65 140 *e*PKPbc **PKPbc** 04 14 19.0 -1.3
LPAZ La Paz 150.65 140 *e*PKiKP **PKPbc** 04 14 19.0 -1.3
LPAZ La Paz 150.65 140 PKPbc **PKiKP** 04 14 22.4 +1.5
comp=Z,2.0nm,0.6s,baz=46,slow=3.8,SNR=12

*SAR **18** 04:50:07.7±0.3, 45°.07N×18°.35E, h4km±2km, ML2.5/1*
*BEO **18** 04:50:08.8±0.4, 45°.07N×18°.38E, h17km±4km, ML2.2/8*
*VIE **18** 04:50:11.4±0.6, 45°.89N×18°.02E, h4km±2km, mb2.2/2, ml2.1/4, Error ellipse: s-maj=5.1km s-min=2.7km az=165.0*

ISC 18 04:50:06.6±1.1, 45°.11N±0°.02×18°.31E±0°.02, h8km±9km, n36, σ1s01/62, 3C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOB	**Doboj**	**0.40**	**201**	||*i*Pg	**Pg**	**04 50 14.3**	**-0.1**
DOB				*e*Sg	**Sg**	**04 50 21.0**	**+1.3**
BLJ	**Bijeljina**	**0.76**	**115**	*e*Pg	**Pg**	**04 50 19.7**	**-1.4**
BLJ				*e*Sg	**Sg**	**04 50 29.6**	**-1.4**
BLY	**Banja Luka**	**0.87**	**246**	*e*Pg	**Pn**	**04 50 25.2**	**+0.1**
BLY				*e*Sg	**Sn**	**04 50 37.6**	**-0.4**
BLY	**Banja Luka**	**0.87**	**246**	||*i*P	**Pn**	**04 50 25.9**	**+0.8**
BLY				S	**Sn**	**04 50 38.5**	**+0.5**
BLY	**Banja Luka**	**0.87**	**246**	||*i*Pg	**Pg**	**04 50 23.4**	**+0.1**
BLY				*e*Sg	**Sb**	**04 50 36.4**	**+0.6**
MRAK	**Mrakovica**	**1.00**	**265**	*e*Pg	**Pg**	**04 50 25.7**	**-0.1**
MRAK				*e*Sg	**Sb**	**04 50 40.1**	**+0.6**
FRGS	**Fruska Gora**	**1.07**	**87**	*e*Pg	**Pg**	**04 50 26.7**	**-0.3**
FRGS				*e*Sg	**Sg**	**04 50 40.5**	**-0.4**
FRGS	**Fruska Gora**	**1.07**	**87**	||*i*Pg	**Pg**	**04 50 26.7**	**-0.3**
FRGS				*e*Sg	**Sb**	**04 50 41.0**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.12**	**156**	*e*Pg	**Pn**	**04 50 28.7**	**+0.1**
HAPS				*e*Sg	**Sg**	**04 50 42.3**	**-0.4**
HAPS	**Han Pijesak,Bl**	**1.12**	**156**	↑||*i*Pg	**Pg**	**04 50 27.3**	**-0.8**
HAPS				*e*Sg	**Sg**	**04 50 41.7**	**-1.0**
BBLS	**Lazići**	**1.47**	**147**	*e*Sg	**Pn**	**04 50 33.9**	**+0.5**
BBLS	**Lazići**	**1.47**	**147**	*e*Pg	**Sn**	**04 50 53.4**	**+0.5**
BBLS	**Lazići**	**1.47**	**147**	*e*Pg	**Pn**	**04 50 32.9**	**-0.5**
BBLS				*e*Sg	**Sn**	**04 50 52.8**	**-0.1**
DIVS	**Divibare**	**1.57**	**129**	*e*Pn	**Pb**	**04 50 35.7**	**-0.2**
DIVS				*e*Sg	**Sg**	**04 50 56.8**	**-0.3**
DIVS	**Divibare**	**1.57**	**129**	*e*Pn	**Pb**	**04 50 36.1**	**+0.2**
DIVS				*e*Sg	**Sb**	**04 50 56.0**	**0.0**
BEHE	**Becsehely**	**1.73**	**322**	*e*Pn	**Pb**	**04 50 38.6**	**0.0**
BEHE				*e*Sn	**Sg**	**04 51 02.8**	**+0.6**
TRUS	**Trudelj**	**1.74**	**120**	*e*Pn	**Pn**	**04 50 36.8**	**-0.3**
TRUS				*e*Sg	**Sg**	**04 51 02.0**	**-0.5**
TIH	**Tihany**	**1.81**	**351**	*e*Pn	**Pn**	**04 50 38.1**	**0.0**
TIH				Sn	**Sn**	**04 51 00.1**	**-1.1**
IVAS	**Ivanjica**	**2.03**	**139**	*e*Pn	**Pn**	**04 50 41.3**	**+0.3**
IVAS				*e*Sg	**Sg**	**04 51 12.2**	**+0.6**
GRUS	**Gruza**	**2.11**	**124**	*e*Pn	**Pn**	**04 50 41.7**	**-0.5**
GRUS				*e*Sg	**Sg**	**04 51 14.1**	**-0.3**
CRES	**Cresnjev**	**2.13**	**291**	*e*Pn	**Pb**	**04 50 44.9**	**-0.4**
CRES				*e*Sn	**Sb**	**04 51 11.5**	**-0.4**
STON	**Ston**	**2.28**	**191**	*i*Pn	**Pb**	**04 50 46.6**	**-1.3**
STON				Sn	**Sb**	**04 51 15.2**	**-1.0**
BZS	**Buzias**	**2.39**	**77**	*e*Pn	**Pn**	**04 50 47.0**	**+1.0**
BZS				*e*Sg	**Sg**	**04 51 24.1**	**+0.8**
BZS	**Buzias**	**2.39**	**77**	↑||*i*P	**Pg**	**04 50 53.3**	**+1.0**
BZS	**Buzias**	**2.39**	**77**	S	**Sg**	**04 51 25.4**	**+2.1**
TREB	**Trebinje**	**2.39**	**179**	*e*Pn	**Pn**	**04 50 46.8**	**+0.8**
TREB				*e*Sn	**Sn**	**04 51 16.4**	**+0.9**
PDG	**Podgorica**	**2.77**	**165**	*e*Sn	**Sn**	**04 51 26.3**	**+1.6**
SELS	**Selova**	**2.77**	**132**	*e*Pn	**Pn**	**04 50 52.5**	**+1.3**
ARSA	**Arzberg**	**2.88**	**319**	*e*Pg	**Pn**	**04 50 53.8**	**+1.0**
	1.0nm,0.2s						
ARSA				Sg	**Sn**	**04 51 23.9**	**-3.8**
	1.9nm,0.4s						
DRME	**Dracevica, Mon**	**2.99**	**167**	*e*Pn	**Pn**	**04 50 55.3**	**+1.1**
GZR	**Gura Zlata**	**3.17**	**83**	↑||*i*P	**Pb**	**04 51 04.8**	**+1.6**
GZR	**Gura Zlata**	**3.17**	**83**	S	**Sg**	**04 51 47.6**	**-0.8**
CONA	**Conrad Observa**	**3.29**	**330**	*e*Pg	**Pn**	**04 50 59.3**	**+1.0**
	0.5nm,0.2s						
CONA				Sg	**Sn**	**04 51 35.6**	**-2.0**
	2.4nm,0.4s						
MODS	**Modra-Piesok**	**3.34**	**348**	*e*PN	**Pn**	**04 50 59.7**	**+0.6**
MODS				*e*SN	**Sn**	**04 51 37.5**	**-1.4**

VYHS	**Vyhne**	**3.41**	**6**	*e*PN	**Pn**	04 51 00.2	**+0.3**
VYHS				*e*SN	**Sn**	04 51 40.0	**-0.5**
MOA	**Molln**	**3.91**	**316**	*e*Pg	**Pn**	04 51 08.5	**+1.6**
	0.4nm,0.1s						
MOA				*i* Sn	Sn	04 51 43.0	-10
	0.5nm,0.2s						

DDA ***18*** *05:05:04.5,38°.31N×31°.94E,h7km±2km,ML2.5*
ISCJB ***18*** *05:05:05.4±0.5,38°.30N±0°.03×31°.96E±0°.04,h5km±7km, Error ellipse: s-maj=5.4km s-min=4.7km az=145.5*
ISK ***18*** *05:05:05.2,38°.29N×32°.00E,h4km,ML2.1/10*

ISC 18 05:05:05.4±0.9, 38°.29N±0°.03×31°.97E±0°.03, h12km±10km, n18, σ0°64/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.26**	**26**	*i* P	**Pg**	05 05 10.3	**-0.5**
KDHN				*i* S	**Sg**	05 05 14.9	**+0.4**
KDHN	comp=Z,2μm,0.1s			IAML_P			
DOGA	**KONYA_Doganhis**	**0.30**	**232**	*i* P	**Pg**	05 05 11.5	**-0.1**
DOGA				*i* S	**Sg**	05 05 16.1	**+0.3**
DOGA	comp=Z,2μm,0.1s			IAML_P			
LADK	**Ladik-KONYA**	**0.32**	**106**	PG	**Pg**	05 05 11.6	**-0.4**
LADK				SG	**Sg**	05 05 16.6	**+0.2**
KONT	**Konya--Tatoy**	**0.46**	**138**	PG	**Pg**	05 05 14.4	**-0.1**
KONT				SG	**Sg**	05 05 21.2	**+0.5**
KONT	**Konya--Tatoy**	**0.46**	**138**	*i* P	**Pg**	05 05 14.6	**+0.1**
KONT				*i* S	**Sg**	05 05 20.7	**+0.1**
KMER	**Konya-Meram**	**0.61**	**149**	*i* P	**Pb**	05 05 17.7	**-0.5**
KMER				*i* S	**Sb**	05 05 26.5	**-0.2**
KMER	comp=Z,320nm,0.1s			IAML_P			
CHBY	**Cihanbeyli**	**0.78**	**68**	PG	**Pb**	05 05 20.4	**-0.6**
CHBY				SG	**Sg**	05 05 31.6	**+0.9**
BOLV	**Bolvadin**	**0.91**	**298**	*i* P	**Pb**	05 05 21.7	**-1.6**
BOLV				*i* S	**Sb**	05 05 34.2	**-1.1**
BOLV	comp=Z,513nm,0.2s			IAML_P			
KULU	**Kulu**	**1.10**	**47**	PG	**Pb**	05 05 26.6	**+0.1**
SHUT	**Suhut-Afyon**	**1.15**	**284**	PN	**Pb**	05 05 28.2	**+0.9**
AUSIV	**SIVRIHISAR**	**1.19**	**344**	PN	**Pb**	05 05 28.6	**+0.5**
SULT	**Sultanhani-AKS**	**1.22**	**94**	PN	**Pb**	05 05 28.7	**+0.2**
ISP	**Isparta**	**1.24**	**248**	PN	**Pg**	05 05 29.9	**+0.7**
CIFT	**Cifteler, Eski**	**1.28**	**327**	PN	**Pn**	05 05 29.7	**+0.4**
AFSR	**Afar-Bala (An**	**1.44**	**36**	PN	**Pb**	05 05 32.6	**+0.4**
YAYX	**Yaylak**	**1.58**	**65**	PN	**Pb**	05 05 34.4	**-0.3**
AUMIH	**MIHALICIK**	**1.62**	**347**	PN	**Pb**	05 05 35.5	**+0.1**
BORA	**Eskisehir**	**1.98**	**324**	PN	**Pb**	05 05 40.5	**-0.9**

IDC 18 05:24:26.4±3.7, 8°.45S×120°.18E, h184km±20km, mb3.1/2, mb1 3.3/5, mb1mx3.0/40, mbtmpg3.7/5, Error ellipse: s-maj=58.6km s-min=31.0km az=27.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.86**	**117**	P	Pn	05 25 26.4	+0.5
	8.5nm,0.3s,baz=101,slow=4.5,SNR=9.0						
BATI				S	Sn	05 26 12.5	+0.1
	18nm,0.3s,baz=176,slow=3.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**10.97**	**152**	P	Pn	05 26 58.2	-0.2
	0.3nm,0.3s,baz=325,slow=11,SNR=15						
FITZ				S	S	05 29 01.3	+0.3
	0.4nm,0.3s,baz=188,slow=13,SNR=6.9						
WRA	**Warramunga Arr**	**17.84**	**131**	P	P	05 28 21.7	0.0
	0.2nm,0.3s,baz=311,slow=10,SNR=4.8						
WRA				S	S	05 31 38.1	+0.8
	0.4nm,0.3s,baz=306,slow=23,SNR=9.1						
ASAR	**Alice Springs**	**20.05**	**141**	P	P	05 28 45.8	+0.3
	0.5nm,0.3s,baz=325,slow=13,SNR=7.5						
STKA	**Stephens Creek**	**30.66**	**142**	P	P	05 30 23.2	-0.4
	0.7nm,0.3s,baz=306,slow=13,SNR=2.9						

IDC ***18*** *05:25:52.8±4.4,33°.12S×179°.73E,h170km±38km, mb3.9/5, mb1 4.1/6,mb1mx3.7/26,mbtmpg4.4/6, Error ellipse: s-maj=33.5km s-min=21.3km az=33.0*
ISCJB ***18*** *05:25:59.9±0.7,33°.92S±0°.04×179°.4E±0°.1,h250km, mb4.0/10, Error ellipse: s-maj=13.2km s-min=4.9km az=177.4*
WEL ***18*** *05:25:59.0,34°.03S×179°.66E,h248km*
NEIC ***18*** *05:25:59.8±1.6,34°.03S×179°.66E,h248km±16km, mb4.3/6, Error ellipse: s-maj=19.3km s-min=17.4km az=68.0*

ISC 18 05:26:00.1±1.0, 33°.98S±0°.07×179°.7E±0°.1, h250km, n87, σ1s75/99, mb4.1/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.73**	**197**	*e*Pn	**Pn**	05 27 01.5	**+0.8**
MXZ				*e*S	**S**	05 27 48.0	**-0.9**
MXZ	**Matakaoa Point**	**3.73**	**197**	P	**Pn**	05 27 03.2	**+2.5**
MXZ				S	**S**	05 27 50.2	**+1.4**
WMGZ	**Waiomatatini S**	**3.96**	**194**	P	**Pn**	05 27 06.5	**+3.2**
HAZ	**Te Kaha**	**4.06**	**201**	P	**Pn**	05 27 07.1	**+2.6**
PKGZ	**Pakihiroa**	**4.10**	**198**	P	**Pn**	05 27 07.9	**+2.9**
KUZ	**Kuaotunu**	**4.23**	**228**	P	**Pn**	05 27 09.6	**+3.1**
PUZ	**Puketiti**	**4.23**	**195**	P	**Pn**	05 27 09.1	**+2.6**
RUGZ	**Raukumara Rang**	**4.28**	**201**	P	**Pn**	05 27 09.5	**+2.2**
TWGZ	**Tauwhareparae**	**4.40**	**197**	P	**Pn**	05 27 11.3	**+2.7**
TWGZ				S	**S**	05 28 05.7	**+2.6**
OPRZ	**Ohinepanea**	**4.60**	**212**	P	**Pn**	05 27 12.5	**+1.6**
CNGZ	**Carnagh Statio**	**4.64**	**194**	P	**Pn**	05 27 13.5	**+2.1**
MWZ	**Matawai**	**4.67**	**201**	P	**Pn**	05 27 12.9	**+1.1**
MWZ				S	**S**	05 28 09.7	**+0.7**
TKGZ	**Te Karaka**	**4.68**	**198**	P	**Pn**	05 27 12.6	**+0.8**
TKGZ				S	**S**	05 28 11.1	**+2.0**
URZ	**Urewera**	**4.74**	**205**	*e*Pn	**Pn**	05 27 13.0	**+0.5**
URZ				S	**S**	05 28 10.4	**+0.1**
URZ	**Urewera**	**4.74**	**205**	P	**Pn**	05 27 13.0	**+0.5**
	7.9nm,0.3s,baz=274,slow=4.7,SNR=80						
URZ				S	**S**	05 28 10.8	**+0.5**
	53nm,0.3s,baz=88,slow=22,SNR=36						
URZ	**Urewera**	**4.74**	**205**	P	**Pn**	05 27 14.1	**+1.6**
WCZ	**Waipu Caves**	**4.77**	**244**	P	**Pn**	05 27 14.3	**+1.3**
MKAZ	**Moumakai**	**4.80**	**228**	P	**Pn**	05 27 17.0	**+3.7**
RAGZ	**Rawiri**	**4.85**	**201**	P	**Pn**	05 27 16.3	**+2.3**
ETAZ	**East Tamaki Re**	**4.86**	**231**	P	**Pn**	05 27 18.1	**+4.0**
RIGZ	**Rimuhau**	**4.95**	**197**	P	**Pn**	05 27 16.9	**+1.7**
MUGZ	**Murupara**	**5.05**	**207**	P	**Pn**	05 27 17.9	**+1.5**
RTZ	**Ruatahuna**	**5.10**	**204**	P	**Pn**	05 27 17.5	**+0.5**
PRGZ	**Paritu Road**	**5.13**	**196**	P	**Pn**	05 27 19.7	**+2.3**
SNGZ	**Shannon Statio**	**5.14**	**201**	P	**Pn**	05 27 18.4	**+0.9**
SNGZ				S	**S**	05 28 20.4	**+1.1**
OUZ	**Omahuta**	**5.14**	**254**	P	**Pn**	05 27 17.2	**-0.3**
KNZ	**Kokohu**	**5.27**	**197**	P	**Pn**	05 27 20.3	**+1.2**
WPRZ	**Whakapapatarin**	**5.33**	**211**	P	**Pn**	05 27 23.7	**+3.8**
RAHZ	**Arahi**	**5.34**	**202**	P	**Pn**	05 27 21.1	**+1.2**
MHGZ	**Mahia Peninsul**	**5.35**	**195**	P	**Pn**	05 27 21.1	**+1.1**
MTHZ	**Maungataniwha**	**5.36**	**204**	P	**Pn**	05 27 21.5	**+1.3**
WHHZ	**Waihua**	**5.44**	**200**	P	**Pn**	05 27 23.6	**+2.5**
MRHZ	**Matea Rd**	**5.50**	**207**	P	**Pn**	05 27 24.2	**+2.3**
NMHZ	**Naumai**	**5.59**	**203**	P	**Pn**	05 27 23.9	**+0.8**
ARHZ	**Aropaoanui**	**5.69**	**201**	P	**Pn**	05 27 24.4	**+0.3**
BKZ	**Black Stump Fm**	**5.76**	**205**	*e*Pn	**Pn**	05 27 25.5	**+0.3**
BKZ				*e*S	**S**	05 28 35.0	**+1.7**
BKZ	**Black Stump Fm**	**5.76**	**205**	P	**Pn**	05 27 25.3	**+0.2**
KWHZ	**Kaweka Forest**	**6.02**	**205**	P	**Pn**	05 27 28.4	**0.0**
KRHZ	**Kereru**	**6.23**	**204**	P	**Pn**	05 27 30.4	**-0.6**
PXZ	**Pawanui**	**6.43**	**199**	P	**Pn**	05 27 32.1	**-1.4**
BFZ	**Birch Farm**	**7.21**	**201**	*e*Pn	**Pn**	05 27 43.9	**+0.5**
BFZ				*e*S	**S**	05 29 04.2	**-2.1**
BFZ	**Birch Farm**	**7.21**	**201**	P	**Pn**	05 27 42.0	**-1.4**
MRZ	**Mangatainoka R**	**7.41**	**205**	P	**Pn**	05 27 43.9	**-1.9**
HOWZ	**Holdsworth Sta**	**7.64**	**204**	P	**Pn**	05 27 47.0	**-1.7**
OGWZ	**Otaki Gorge**	**7.70**	**206**	P	**Pn**	05 27 47.7	**-1.6**
TMWZ	**Te Maipa**	**7.71**	**202**	P	**Pn**	05 27 47.9	**-1.8**
KIW	**Kapiti Island**	**7.83**	**207**	P	**Pn**	05 27 49.4	**-1.8**
MTW	**Mount Morrison**	**7.88**	**203**	P	**Pn**	05 27 49.9	**-1.8**
CAW	**Cannon Point**	**7.99**	**206**	P	**Pn**	05 27 51.1	**-2.0**
TRWZ	**Traveller**	**8.04**	**202**	P	**Pn**	05 27 52.1	**-1.6**
DUWZ	**D'Urville Isla**	**8.19**	**212**	P	**Pn**	05 27 53.9	**-1.7**
MSWZ	**Moikau Station**	**8.20**	**204**	P	**Pn**	05 27 54.8	**-1.0**
SNZO	**South Karori**	**8.30**	**207**	*e*Pn	**Pn**	05 27 54.3	**-2.6**
SNZO				*e*S	**S**	05 29 29.1	**-2.1**
BHW	**Baring Head**	**8.32**	**206**	P	**Pn**	05 27 54.8	**-2.5**
PLWZ	**Palliser**	**8.33**	**203**	P	**Pn**	05 27 55.4	**-2.1**
TCW	**Tory Channel**	**8.38**	**209**	P	**Pn**	05 27 55.8	**-2.2**
TUWZ	**Tuamarina**	**8.70**	**210**	P	**Pn**	05 27 59.6	**-2.5**
NNZ	**Nelson**	**8.77**	**213**	P	**Pn**	05 28 01.2	**-1.7**
QRZ	**Quartz Range**	**8.87**	**218**	P	**Pn**	05 28 04.2	**0.0**
BSWZ	**Blackbirch Sta**	**8.96**	**209**	P	**Pn**	05 28 04.5	**-0.9**
THZ	**Tophouse**	**9.42**	**212**	*e*Pn	**Pn**	05 28 10.7	**-0.5**
THZ				*e*S	**S**	05 29 58.0	**+0.6**
KHZ	**Kahutara**	**9.69**	**208**	*e*Pn	**Pn**	05 28 12.4	**-2.2**
KHZ				*e*S	**S**	05 29 59.6	**-4.0**
LTZ	**Lake Taylor**	**10.52**	**211**	*e*Pn	**Pn**	05 28 23.6	**-1.4**
OXZ	**Oxford**	**11.06**	**210**	*e*Pn	**Pn**	05 28 30.9	**-0.9**
MQZ	**McQueen's Vall**	**11.13**	**207**	*e*Pn	**Pn**	05 28 31.1	**-1.6**
FOZ	**Fox Glacier**	**12.23**	**216**	*e*Pn	**Pn**	05 28 45.3	**-1.1**
LBZ	**Lake Benmore**	**12.71**	**212**	*e*Pn	**Pn**	05 28 51.6	**-0.7**
ODZ	**Otahua Downs**	**13.04**	**209**	*e*Pn	**Pn**	05 28 56.3	**0.0**
WKZ	**Wanaka**	**13.58**	**214**	*e*Pn	**Pn**	05 29 02.3	**-0.7**
WHZ	**Wather Hill Ro**	**14.88**	**213**	*e*Pn	**P**	05 29 18.1	**-0.3**
DZM	**Mont Dzumac**	**16.61**	**312**	*e*P	**P**	05 29 35.9	**-1.9**
	12nm,0.6s						
STKA	**Stephens Creek**	**31.89**	**263**	P	**P**	05 32 04.1	**+1.9**
	1.7nm,0.6s,baz=124,slow=5.3,SNR=3.6						
CTAO	**Charters Tower**	**32.65**	**286**	*e*P	**P**	05 32 08.9	**0.0**
	7.6nm,0.8s						
COEN	**Coen**	**38.55**	**292**	*e*P	**P**	05 32 59.1	**+0.1**
	11nm,1.1s						
AS01	**Alice Springs**	**41.04**	**272**	*e*P	**P**	05 33 20.2	**+0.7**
AS31	**Alice Springs**	**41.08**	**272**	*e*P	**P**	05 33 20.8	**+1.0**
	2.7nm,0.7s						
ASAR	**Alice Springs**	**41.08**	**272**	P	**P**	05 33 20.5	**+0.7**
	9.1nm,0.8s,baz=110,slow=7.6,SNR=60						
WB2	**Warramunga Arr**	**42.39**	**277**	*e*P	**P**	05 33 30.4	**0.0**
WR1	**Warramunga Arr**	**42.40**	**277**	*e*P	**P**	05 33 30.5	**+0.1**
	12nm,0.6s						
WRA	**Warramunga Arr**	**42.40**	**277**	P	**P**	05 33 30.5	**+0.1**
	9.4nm,0.6s,baz=116,slow=7.5,SNR=42						
FITZ	**Fitzroy Crossi**	**50.49**	**274**	*e*P	**P**	05 34 34.2	**+1.1**
	3.7nm,1.0s						
QSPA	**South Pole Qui**	**56.14**	**180**	P	P	05 35 20.6	+7.0
	2.0nm,0.5s,baz=252,slow=1.3,SNR=16						
NVAR	**Mina Array Bea**	**92.21**	**44**	P	**P**	05 38 41.9	**+0.3**
	0.4nm,0.7s,baz=213,slow=6.5,SNR=2.3						
FIA0	**FINESS Array S**	**147.72**	**336**	*e*PKPdf	**PKPbc**	05 45 13.3	**-1.1**
FINES	**FINESS Array B**	**147.72**	**336**	PKPbc	**PKPbc**	05 45 13.3	**-1.1**
	1.1nm,0.5s,baz=24,slow=5.2,SNR=5.6						
NB200	**NORSAR Array S**	**151.91**	**348**	*e*PKPdf	**PKPbc**	05 45 22.9	**-1.7**
NOA	**NORSAR Array B**	**151.91**	**348**	PKPbc	**PKPbc**	05 45 22.9	**-1.7**
	1.3nm,1.0s,baz=12,slow=4.4,SNR=3.0						

IDC 18 05:31:01.2±4.4, 31°.87N×87°.04E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/35, mbtmpg3.3/6, ML2.7/1, Error ellipse: s-maj=242.0km s-min=22.6km az=67.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.34**	**348**	Pn	Pn	05 34 37.6	-1.4
	baz=153,slow=15,SNR=2.6						
KURBB	**Kurchatov Arra**	**19.77**	**344**	P	P	05 35 32.4	-0.3
	0.0nm,0.3s,baz=157,slow=10,SNR=2.7						
ZALV	**Zalesovo Beam**	**22.12**	**357**	P	P	05 35 58.8	+0.7
	1.0nm,0.6s,baz=182,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**68.62**	**132**	P	P	05 42 06.5	+0.2
	0.4nm,0.8s,baz=326,slow=6.6,SNR=4.8						
ASAR	**Alice Springs**	**71.12**	**135**	P	P	05 42 21.8	+0.1
	0.2nm,0.4s,baz=322,slow=5.9,SNR=4.1						
YKA	**Yellowknife Ar**	**84.36**	**10**	P	P	05 43 34.3	-0.7
	0.2nm,0.7s,baz=338,slow=4.4,SNR=6.5						

ISCJB ***18*** *06:00:57.1±0.6,37°.34N±0°.05×71°.88E±0°.09,h130km, mb3.5/7, Error ellipse: s-maj=10.9km s-min=5.0km az=155.5*
IDC ***18*** *06:01:00.9±4.8,37°.50N×72°.39E,h169km±31km, mb3.3/7, mb1 3.4/13,mb1mx3.2/46,mbtmpg3.8/13,MS3.2/2, Ms1 3.2/2,ms1mx2.3/40, Error ellipse: s-maj=45.5km s-min=24.8km az=160.0*
NNC ***18*** *06:01:00.8±14.0,37°.51N×71°.69E,h79km±314km,mb3.9, mpv4.2, Error ellipse: s-maj=140.7km s-min=93.5km az=139.0*

ISC 18 06:00:57.2±0.8, 37°.32N±0°.07×72°.06E±0°.09, h130km, n41, σ2s17/43, mb3.6/7, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.78**	**53**	Pn	**Pn**	06 01 52.4	**-1.7**
KSH				Sn	Sn	06 02 29.1	-9.1
KSH				smax	smax		
	comp=N,320nm,0.7s						
KSH				smax	smax		
	comp=E,250nm,0.5s						
AML	**Almayashu**	**4.97**	**14**	P	**Pn**	06 02 12.4	**+2.2**
	SNR=194						
UCH	**Uchtor**	**5.25**	**20**	P	**Pn**	06 02 15.7	**+1.6**
	SNR=80						
KZA	**Kyzart**	**5.35**	**26**	P	**Pn**	06 02 16.6	**+1.3**
	SNR=16						
EKS2	**Erkin-Say**	**5.50**	**13**	P	**Pn**	06 02 19.3	**+2.3**
	SNR=53						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	06 02 21.2	**+2.3**
	SNR=60						
AAK	**Ala-Archa**	**5.63**	**19**	⇑P	**Pn**	06 02 19.7	**+0.8**
	comp=E,30nm,0.4s						
AAK				⇓S	**Sn**	06 03 19.7	**-2.8**
	comp=E,21nm,0.7s						
AAK	**Ala-Archa**	**5.63**	**19**	P	**Pn**	06 02 21.1	**+2.3**
	comp=E,23nm,0.3s,baz=160,slow=6.0,SNR=190						
AAK				S	**Sn**	06 03 20.0	**-2.5**
	comp=E,2.4nm,0.3s,baz=152,slow=23,SNR=10						
KBK	**Karagaybulak**	**5.78**	**22**	P	**Pn**	06 02 23.4	**+2.5**
	SNR=18						
ULHL	**Ulahol**	**5.88**	**32**	P	**Pn**	06 02 23.1	**+0.9**
	SNR=15						
KK31	**Karatay Array**	**5.90**	**349**	P	**Pn**	06 02 25.3	**+3.0**
	comp=E,3.5nm,0.3s,baz=159,slow=11,SNR=138						
KK31				⇑S	**Sn**	06 03 26.0	**-2.8**
	comp=E,24nm,0.3s,baz=170,slow=23,SNR=8.0						
CHMS	**Chumysh**	**6.04**	**19**	P	**Pn**	06 02 25.9	**+1.8**
	SNR=9.0						
TKM2	**Tokmak 2**	**6.22**	**25**	P	**Pn**	06 02 28.2	**+1.4**
	SNR=24						
TKM2	**Tokmak 2**	**6.22**	**25**	⇓P	**Pn**	06 02 28.0	**+1.2**
	comp=E,7.0nm,0.3s						
TKM2				⇓S	**Sn**	06 03 45.2	**+8.4**
	comp=E,3.9nm,0.6s						
USP	**Ospenovka**	**6.23**	**17**	P	**Pn**	06 02 27.9	**+1.1**
	SNR=8.9						
MKAR	**Makanchi Array**	**12.13**	**35**	P	**Pn**	06 03 45.0	**-0.7**
	baz=220,slow=14,SNR=6.1						
PYUN	**Piuthan**	**13.00**	**132**	*e*P	**Pn**	06 03 59.1	**+1.8**
	comp=E,17nm,0.5s						
DANN	**Dangsing**	**13.28**	**129**	*e*P	**Pn**	06 04 03.6	**+2.5**
	comp=E,23nm,0.4s						
KOLN	**Koldanda**	**13.60**	**131**	*e*P	**Pn**	06 04 07.7	**+2.6**
	comp=E,7.5nm,0.4s						
GKN	**Gorkha**	**14.08**	**128**	*e*P	**P**	06 04 13.5	**-1.2**
	comp=E,20nm,0.5s						
KURBB	**Kurchatov Arra**	**14.09**	**17**	P	**Pn**	06 04 10.1	**-0.7**
	comp=E,0.0nm,0.3s,baz=205,slow=10,SNR=4.3						
DMN	**Daman**	**14.65**	**128**	*e*P	**P**	06 04 20.4	**-0.8**
	comp=E,8.0nm,0.4s						
AB31	**Akbulak array**	**14.82**	**327**	P	**Pn**	06 04 20.9	**+0.9**
	comp=E,1.7nm,0.5s,baz=130,slow=11,SNR=34						
PKIN	**Phulchoki**	**14.85**	**127**	*e*P	**P**	06 04 23.2	**-0.3**
	comp=E,4.6nm,0.2s						
PKI	**Pulchoki**	**14.87**	**127**	*e*P	**P**	06 04 23.4	**-0.3**
GUN	**Gumba**	**14.94**	**125**	*e*P	**P**	06 04 24.0	**-0.5**
	comp=E,11nm,0.4s						
JIRN	**Jiri**	**15.31**	**125**	*e*P	**P**	06 04 29.5	**+0.9**
	comp=E,29nm,0.4s						
BVAR	**Borovoye Array**	**15.75**	**356**	P	**P**	06 04 33.3	**+0.4**
	comp=E,0.2nm,0.3s,baz=169,slow=9.7,SNR=4.2						
AKTO	**Aktyubinsk**	**16.53**	**327**	⇑P	**P**	06 04 43.3	**+1.7**
	comp=E,1.8nm,0.3s						
AKTO	**Aktyubinsk**	**16.53**	**327**	P	**P**	06 04 42.1	**+0.6**
	comp=E,1.1nm,0.3s,baz=124,slow=12,SNR=8.7						
ZALV	**Zalesovo Beam**	**18.82**	**24**	P	**P**	06 05 04.5	**-2.1**
	comp=E,0.6nm,0.3s,baz=215,slow=8.7,SNR=8.1						
OBN	**Obninsk**	**29.89**	**318**	LR	LR	06 19 59.4	
	comp=E,62nm,18.4s,baz=204,slow=38						
MLR	**Muntele Rosu**	**35.13**	**298**	LR	LR	06 26 09.9	
	comp=E,22nm,21.9s,baz=66,slow=43						
FINES	**FINESS Array B**	**37.29**	**325**	P	**P**	06 07 56.4	**+0.2**
	comp=E,0.9nm,0.7s,baz=120,slow=12,SNR=5.6						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	06 08 24.1	**-0.5**
	comp=E,3.1nm,0.7s,baz=116,slow=6.9,SNR=16						
NB2	**NORSAR Subarra**	**44.24**	**322**	P	**P**	06 08 52.8	**-0.5**
	comp=Z,0.5nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**322**	P	**P**	06 08 53.1	**-0.2**
	comp=Z,0.5nm,0.4s,baz=94,slow=7.6,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.58**	**269**	P	**P**	06 11 34.2	**+0.4**
	comp=Z,0.2nm,0.4s,baz=50,slow=6.0,SNR=4.9						
INK	**Inuvik**	**72.96**	**10**	P	**P**	06 12 10.2	**-1.7**
	comp=Z,0.6nm,0.4s,baz=338,slow=5.9,SNR=7.9						
ILAR	**Eielson Array**	**73.76**	**16**	P	**P**	06 12 14.1	**-2.6**
	comp=Z,0.4nm,0.9s,baz=302,slow=3.2,SNR=4.6						
YKA	**Yellowknife Ar**	**80.39**	**3**	P	**P**	06 12 52.0	**-1.7**
	comp=Z,0.5nm,0.4s,baz=349,slow=5.5,SNR=19						

ISCJB ***18*** *06:13:55.8±0.7,10°.67S±0°.08×161°.29E±0°.09,h61km, mb3.8/9, Error ellipse: s-maj=14.4km s-min=9.8km az=144.0*
IDC ***18*** *06:13:56.4±2.8,10°.65S×161°.33E,h53km±22km,mb3.6/9, mb1 3.8/11,mb1mx3.6/42,mbtmpg3.9/11,ML3.6/2,MS3.6/8, Ms1 3.6/8,ms1mx3.4/18, Error ellipse: s-maj=22.8km s-min=16.2km az=76.0*

ISC 18 06:13:57.1±0.8, 10°.65S±0°.1×161°.3E±0°.1, h61km, n20, σ0s97/16, mb3.8/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.77**	**313**	*e*P	**Pn**	06 14 24.0	**-1.5**
HNR				*e*S	**Sn**	06 14 46.0	**-1.0**
HNR	**Honiara**	**1.77**	**313**	P	**Pn**	06 14 24.3	**-1.2**
	64nm,0.3s,baz=179,slow=9.8,SNR=12						
HNR				S	**Sn**	06 14 47.9	**+0.9**
	257nm,0.3s,baz=43,slow=10,SNR=11						
HNR				LR	LR	06 15 14.8	
	comp=Z,1μm,19.6s,baz=164,slow=43						
DZM	**Mont Dzumac**	**12.40**	**157**	*e*Pn	**Pn**	06 16 50.4	**-0.7**
	0.8nm,0.2s						
DZM				*e*LR	LR	06 19 44.2	
	comp=Z,247nm,24.6s						
DZM	**Mont Dzumac**	**12.40**	**157**	P	**Pn**	06 16 49.6	**-1.5**
	0.2nm,0.3s,baz=355,slow=12,SNR=11						
DZM				LR	LR	06 21 14.7	
	comp=Z,234nm,19.2s,baz=334,slow=35						
CTA	**Charters Tower**	**17.25**	**235**	P	**P**	06 17 55.5	**+0.8**
	0.2nm,0.3s,baz=97,slow=17,SNR=4.3						
WRA	**Warramunga Arr**	**27.54**	**247**	P	**P**	06 19 38.9	**+0.5**
	1.8nm,1.0s,baz=75,slow=9.4,SNR=8.9						
WRA				LR	LR	06 30 33.9	
	comp=Z,211nm,18.3s,baz=60,slow=36						
STKA	**Stephens Creek**	**27.88**	**218**	LR	LR	06 30 51.0	
	comp=Z,140nm,19.5s,baz=33,slow=36						
ASAR	**Alice Springs**	**29.11**	**240**	P	**P**	06 19 53.2	**+0.8**
	0.5nm,0.7s,baz=66,slow=9.3,SNR=5.3						
ASAR				LR	LR	06 31 46.1	
	comp=Z,214nm,18.5s,baz=94,slow=37						
FITZ	**Fitzroy Crossi**	**35.25**	**254**	P	**P**	06 20 46.3	**+0.1**
	1.7nm,0.8s,baz=103,slow=6.2,SNR=7.1						
PPT	**Papeete**	**48.06**	**104**	LR	LR	06 40 31.5	
	comp=Z,51nm,18.5s,baz=313,slow=33						
PPT2	**Papeete2**	**48.06**	**104**	*e*LR	LR	06 36 16.9	
	comp=Z,137nm,25.8s						
MJAR	**Matsushiro Arr**	**51.71**	**336**	LR	LR	06 46 51.5	
	comp=Z,13nm,18.7s,baz=110,slow=38						
KSRS	**Korea Array**	**57.15**	**329**	LR	LR	06 47 07.2	
	comp=Z,30nm,19.5s,baz=85,slow=35						
SONM	**Songino Array**	**75.78**	**325**	P	**P**	06 25 37.7	**+1.0**
	0.7nm,0.5s,baz=140,slow=5.2,SNR=4.4						
ILAR	**Eielson Array**	**84.57**	**20**	P	**P**	06 26 23.6	**+0.2**
	0.3nm,0.8s,baz=240,slow=7.1,SNR=6.0						
NVAR	**M

MSRU				AML	AML			
	comp=N,872µm,0.3s							
GRI	**Girifalco**	**1.13**	**117**	P	**Pn**	**06 21 54.3**	**+0.5**	
GRI				S	**S**	**06 22 24.1**	**-0.3**	
GRI				AML	AML			
	comp=E,804µm,0.8s							
GRI				AML	AML			
	comp=N,960µm,1.0s							
GRI				AML	AML			
	comp=E,804µm,0.8s							
GRI				AML	AML			
	comp=N,960µm,1.0s							
GRI				AML	AML			
	comp=E,804µm,0.8s							
GRI				AML	AML			
	comp=N,960µm,1.0s							
MPNC	**Port Mandanici**	**1.21**	**172**	P	**Pn**	**06 21 53.6**	**-0.7**	
CEL	**Celeste**	**1.24**	**151**	P	**Pn**	**06 21 53.7**	**-0.8**	
CEL				AML	AML			
	comp=E,222µm,0.3s							
CEL				AML	AML			
	comp=N,239µm,0.3s							
CEL				AML	AML			
	comp=E,254µm,0.2s							
CEL				AML	AML			
	comp=N,300µm,1.2s							
CEL				AML	AML			
	comp=E,784µm,1.3s							
CEL				AML	AML			
	comp=N,557µm,0.4s							
CEL				AML	AML			
	comp=E,968µm,1.3s							
CEL				AML	AML			
	comp=N,676µm,0.4s							
CEL				AML	AML			
	comp=E,785µm,1.3s							
CEL				AML	AML			
	comp=N,557µm,0.4s							
CEL				AML	AML			
	comp=E,968µm,1.3s							
CEL				AML	AML			
	comp=N,676µm,0.4s							
CEL				AML	AML			
	comp=N,676µm,0.4s							
CEL				AML	AML			
	comp=E,968µm,1.3s							
CEL				AML	AML			
	comp=E,785µm,1.3s							
CEL				AML	AML			
	comp=N,557µm,0.4s							
ORI	**Oriolo Calabro**	**1.24**	**55**	P	**Pn**	**06 21 57.0**	**+2.7**	
SERS	**Sersale**	**1.25**	**104**	P	**Pn**	**06 21 55.5**	**+0.8**	
SERS				S	**S**	**06 22 24.8**	**-1.0**	
SERS				AML	AML			
	comp=E,780µm,0.3s							
SERS				AML	AML			
	comp=N,546µm,0.4s							
SERS				AML	AML			
	comp=E,595µm,0.4s							
SERS				AML	AML			
	comp=N,835µm,0.3s							
SERS				AML	AML			
	comp=E,780µm,0.3s							
SERS				AML	AML			
	comp=N,546µm,0.4s							
SERS				AML	AML			
	comp=E,595µm,0.4s							
SERS				AML	AML			
	comp=N,835µm,0.3s							
SERS				AML	AML			
	comp=E,595µm,0.4s							
SERS				AML	AML			
	comp=N,835µm,0.3s							
SERS				AML	AML			
	comp=E,780µm,0.3s							
SERS				AML	AML			
	comp=N,546µm,0.4s							
TIP	**Timpagrande**	**1.28**	**97**	⇑*i*P	**Pn**	**06 21 55.7**	**+1.0**	
TIP	**Timpagrande**	**1.28**	**97**	P	**Pn**	**06 21 55.8**	**+1.1**	
TIP				S	**S**	**06 22 25.2**	**-0.7**	
TIP				AML	AML			
	comp=E,480µm,1.0s							
TIP				AML	AML			
	comp=N,294µm,0.7s							
TIP				AML	AML			
	comp=E,548µm,1.0s							
TIP				AML	AML			
	comp=N,372µm,0.7s							
TIP				AML	AML			
	comp=E,480µm,1.0s							
TIP				AML	AML			
	comp=N,294µm,0.7s							
TIP				AML	AML			
	comp=E,548µm,1.0s							
TIP				AML	AML			
	comp=N,372µm,0.7s							
TIP				AML	AML			
	comp=E,548µm,1.0s							
TIP				AML	AML			
	comp=N,372µm,0.7s							
TIP				AML	AML			
	comp=N,294µm,0.7s							
TIP				AML	AML			
	comp=E,480µm,1.0s							
MCSR	**Castroreale**	**1.29**	**176**	P	**Pn**	**06 21 54.9**	**0.0**	
MCSR				AML	AML			
	comp=E,1380µm,0.4s							
MCSR				AML	AML			
	comp=N,1680µm,1.5s							
MCSR				AML	AML			
	comp=E,1380µm,0.4s							
MCSR				AML	AML			
	comp=N,1675µm,1.5s							
MCSR				AML	AML			
	comp=N,1675µm,1.5s							
MCSR				AML	AML			
	comp=E,1380µm,0.4s							
PIPA	**Pietrapaola**	**1.31**	**84**	P	**Pn**	**06 21 56.5**	**+1.6**	
PIPA				AML	AML			
	comp=E,578µm,1.2s							
PIPA				AML	AML			
	comp=N,378µm,1.1s							
PIPA				AML	AML			
	comp=E,577µm,1.2s							
PIPA				AML	AML			
	comp=N,378µm,1.1s							
PIPA				AML	AML			
	comp=E,577µm,1.2s							
PIPA				AML	AML			
	comp=N,378µm,1.1s							
MUCR	**Ucria**	**1.32**	**189**	P	**Pn**	**06 21 54.8**	**-0.3**	
MUCR				AML	AML			
	comp=E,276µm,0.7s							
MUCR				AML	AML			
	comp=N,268µm,0.6s							
MUCR				AML	AML			
	comp=E,275µm,0.7s							
MUCR				AML	AML			
	comp=N,268µm,0.6s							
MUCR				AML	AML			
	comp=E,275µm,0.7s							
MUCR				AML	AML			
	comp=N,268µm,0.6s							
NOV	**Novara**	**1.32**	**180**	P	**Pn**	**06 21 55.5**	**+0.4**	
NOV				AML	AML			
	comp=E,710µm,1.4s							
NOV				AML	AML			
	comp=N,402µm,0.5s							
NOV				AML	AML			
	comp=E,710µm,1.4s							
NOV				AML	AML			
	comp=N,402µm,0.5s							
NOV				AML	AML			
	comp=E,710µm,1.4s							
NOV				AML	AML			
	comp=N,402µm,0.5s							
PLAC	**Placanica**	**1.36**	**131**	P	**Pn**	**06 21 55.2**	**0.0**	
PLAC				S	**S**	**06 22 24.6**	**-2.3**	
PLAC				AML	AML			
	comp=E,1715µm,0.6s							
PLAC				AML	AML			
	comp=N,856µm,0.4s							
PLAC				AML	AML			
	comp=E,1715µm,0.6s							
PLAC				AML	AML			
	comp=N,856µm,0.4s							
PLAC				AML	AML			
	comp=E,1715µm,0.6s							
PLAC				AML	AML			
	comp=N,856µm,0.4s							
MSFR	**San Fratello**	**1.38**	**198**	P	**Pn**	**06 21 55.9**	**+0.4**	
MTTG	**Motta San Giov**	**1.42**	**162**	P	**Pn**	**06 21 55.3**	**-0.3**	
MTTG				AML	AML			
	comp=E,680µm,0.4s							
MTTG				AML	AML			
	comp=N,744µm,0.7s							
MTTG				AML	AML			
	comp=E,680µm,0.4s							
MTTG				AML	AML			
	comp=N,744µm,0.5s							
MTTG				AML	AML			
	comp=E,680µm,0.4s							
MTTG				AML	AML			
	comp=N,744µm,0.5s							
SOI	**Samo**	**1.47**	**150**	P	**Pn**	**06 21 55.3**	**-0.6**	
SOI				S	**S**	**06 22 25.2**	**-3.0**	
SOI				AML	AML			
	comp=E,362µm,0.5s							
SOI				AML	AML			
	comp=N,446µm,0.8s							
SOI				AML	AML			
	comp=E,362µm,0.5s							
SOI				AML	AML			
	comp=N,447µm,0.8s							
SOI				AML	AML			
	comp=E,362µm,0.5s							
SOI				AML	AML			
	comp=N,447µm,0.8s							
GALF	**Gagliano Caste**	**1.69**	**195**	P	**Pn**	**06 21 58.4**	**+0.8**	
GALF				AML	AML			
	comp=E,394µm,0.4s							
GALF				AML	AML			
	comp=N,490µm,0.7s							
GALF				AML	AML			
	comp=E,393µm,0.4s							
GALF				AML	AML			
	comp=N,490µm,0.7s							
GALF				AML	AML			
	comp=E,393µm,0.4s							
GALF				AML	AML			
	comp=N,490µm,0.7s							
CAGR	**Agira**	**1.79**	**196**	P	**Pn**	**06 21 59.5**	**+1.1**	
CAGR				AML	AML			
	comp=E,672µm,0.5s							
CAGR				AML	AML			
	comp=N,1225µm,0.4s							
CAGR				AML	AML			
	comp=E,672µm,0.5s							
CAGR				AML	AML			
	comp=N,1220µm,0.4s							
CAGR				AML	AML			
	comp=E,672µm,0.5s							
CAGR				AML	AML			
	comp=N,1220µm,0.4s							
LTRZ	**Laterza**	**1.81**	**45**	P	**Pn**	**06 21 59.8**	**+1.6**	
ALJA	**Alia**	**1.93**	**214**	P	**Pn**	**06 22 00.4**	**+0.9**	
ALJA				AML	AML			
	comp=E,397µm,0.5s							
ALJA				AML	AML			
	comp=N,352µm,0.8s							
ALJA				AML	AML			
	comp=E,397µm,0.5s							
ALJA				AML	AML			
	comp=N,352µm,0.8s							
ALJA				AML	AML			
	comp=N,352µm,0.8s							
ALJA				AML	AML			
	comp=E,397µm,0.5s							
VAE	**Valguarnera**	**1.95**	**197**	P	**Pn**	**06 22 00.7**	**+1.0**	
	comp=E,11nm,0.3s,baz=211,slow=20,SNR=15							
VAE				S	**S**	**06 22 40.9**	**+5.9**	
	comp=E,3.9nm,0.3s,baz=143,slow=2.5,SNR=3.8							
HCRL	**Carlentini**	**2.06**	**182**	P	**Pn**	**06 21 59.8**	**-0.7**	
HCRL				AML	AML			
	comp=E,286µm,0.3s							
HCRL				AML	AML			
	comp=N,385µm,1.0s							
HCRL				AML	AML			
	comp=E,286µm,0.3s							
HCRL				AML	AML			
	comp=N,386µm,1.0s							
HCRL				AML	AML			
	comp=N,386µm,1.0s							
HCRL				AML	AML			
	comp=E,286µm,0.3s							
HVZN	**Vizzini**	**2.19**	**189**	P	**Pn**	**06 22 01.3**	**-0.4**	
HVZN				AML	AML			
	comp=E,1825µm,0.7s							
HVZN				AML	AML			
	comp=N,2895µm,1.4s							
HVZN				AML	AML			
	comp=E,1825µm,0.7s							
HVZN				AML	AML			
	comp=N,2895µm,1.4s							
SSY	**Sortino**	**2.19**	**181**	P	**Pn**	**06 22 00.7**	**-1.0**	
SSY				AML	AML			
	comp=E,365µm,0.7s							
SSY				AML	AML			
	comp=N,810µm,0.9s							
SSY				AML	AML			
	comp=N,810µm,0.9s							
SSY				AML	AML			
	comp=E,365µm,0.7s							
RAFF	**Raffo Rosso**	**2.21**	**196**	P	**Pn**	**06 22 01.6**	**-0.2**	
RAFF				AML	AML			
	comp=E,200µm,0.7s							
RAFF				AML	AML			
	comp=N,222µm,1.6s							
RAFF				AML	AML			
	comp=N,222µm,1.6s							
RAFF				AML	AML			
	comp=E,200µm,0.7s							
MEU	**Monte Lauro**	**2.25**	**184**	P	**Pn**	**06 22 01.4**	**-0.9**	
MEU				AML	AML			
	comp=E,432µm,1.4s							
MEU				AML	AML			
	comp=N,596µm,0.4s							
MEU				AML	AML			
	comp=E,432µm,1.4s							
MEU				AML	AML			
	comp=N,596µm,0.4s							
HAVL	**Avola**	**2.38**	**180**	P	**Pn**	**06 22 02.4**	**-1.1**	
HAVL				AML	AML			
	comp=E,436µm,1.1s							
HAVL				AML	AML			
	comp=N,594µm,1.4s							
HAVL				AML	AML			
	comp=E,436µm,1.1s							
HAVL				AML	AML			
	comp=N,594µm,1.4s							
MMGO	**Monte Magaggia**	**2.38**	**226**	P	**Pn**	**06 22 03.5**	**+0.1**	
HMDC	**Modica**	**2.40**	**187**	P	**Pn**	**06 22 03.1**	**-0.5**	
HMDC				AML	AML			
	comp=E,294µm,0.5s							
HMDC				AML	AML			
	comp=N,340µm,1.0s							
HMDC				AML	AML			
	comp=N,340µm,1.0s							
HMDC				AML	AML			
	comp=E,294µm,0.5s							
PGF	**Pioggiola**	**5.63**	**307**	*e*P	**Pn**	**06 22 39.5**	**0.0**	
PGF				*e*Sn	**S**	**06 23 46.6**	**-0.5**	
	comp=E,0.8nm,0.2s							
KEST	**Kesra**	**5.84**	**234**	P	**Pn**	**06 22 43.4**	**+1.3**	
	comp=E,0.2nm,0.3s,baz=217,slow=8.7,SNR=4.6							
VTS	**Vitosha**	**6.95**	**59**	⇑*i*P	**Pn**	**06 22 58.3**	**+2.7**	
OBKA	**Obir**	**7.17**	**357**	*e*Pn	**Pn**	**06 23 01.7**	**+3.5**	
	comp=E,8.4nm,0.6s							
SOKA	**Soboth**	**7.33**	**359**	*e*Pn	**Pn**	**06 23 02.9**	**+2.8**	
	comp=E,3.6nm,0.5s							
MYKA	**Terra Mystica**	**7.36**	**352**	*e*Pn	**Pn**	**06 23 05.3**	**+4.7**	
	comp=E,3.2nm,0.5s							
LMR	**La Mourre**	**7.61**	**304**	*e*Sn	**S**	**06 24 29.5**	**-1.7**	
	comp=E,1.3nm,0.3s							
FRF	**La Foret Royal**	**7.63**	**306**	*e*Sn	**S**	**06 24 31.1**	**-0.7**	
	comp=E,3.5nm,0.3s							
ABTA	**Abfaltersbach**	**7.64**	**346**	*e*Pn	**Pn**	**06 23 07.8**	**+3.7**	
	comp=E,21nm,0.7s							
KBA	**Koelnbreinsper**	**7.83**	**351**	Pn	**Pn**	**06 23 09.9**	**+3.4**	
	comp=E,13nm,1.1s							
ARSA	**Arzberg**	**7.90**	**2**	*e*Pn	**Pn**	**06 23 11.2**	**+3.9**	
	comp=E,6.3nm,1.1s							
MBDF	**Montbardon**	**8.22**	**314**	*e*P	**Pn**	**06 23 11.9**	**+0.6**	
MBDF				*e*S	**S**	**06 24 42.3**	**-3.0**	
MBDF				*e*Sn	**S**	**06 24 45.1**	**-0.2**	
	comp=E,0.2nm,0.2s							
FETA	**Feichten**	**8.31**	**339**	*e*Pn	**Pn**	**06 23 16.3**	**+3.8**	
	comp=E,11nm,0.8s							
DAVOX	**Davos/Dischmat**	**8.36**	**334**	P	**Pn**	**06 23 14.6**	**+1.5**	
	comp=E,0.6nm,0.3s,baz=166,slow=8.3,SNR=6.4							
SQTA	**Sankt Quirin**	**8.37**	**341**	*e*Pn	**Pn**	**06 23 14.3**	**+1.1**	
	comp=E,25nm,0.5s							
WATA	**Walderalm**	**8.39**	**343**	*e*Pn	**Pn**	**06 23 13.5**	**0.0**	
	comp=E,29nm,0.5s							
MOTA	**Moosalm**	**8.51**	**341**	*e*Pn	**P**	**06 23 18.7**	**-2.8**	
	comp=E,7.9nm,0.6s							
SMRF	**Simiane la Rot**	**8.51**	**306**	*e*Pn	**P**	**06 23 18.3**	**-3.1**	
SMRF				*e*Sn	**S**	**06 24 51.0**	**-0.9**	
	comp=E,217nm,1.6s							
MOA	**Molln**	**8.52**	**356**	*e*Pn	**P**	**06 23 18.5**	**-2.9**	
	comp=E,4.2nm,0.5s							
CONA	**Conrad Observa**	**8.59**	**3**	*e*Pn	**P**	**06 23 19.3**	**-3.0**	
	comp=E,3.9nm,0.8s							
LPG	**La Plagne**	**8.72**	**317**	*e*P	**Pn**	**06 23 19.2**	**+1.4**	
LPG				*e*Sn	**S**	**06 24 56.6**	**-0.4**	
	comp=E,1.7nm,0.4s							
RETA	**Reutte**	**8.73**	**340**	*e*Pn	**P**	**06 23 21.3**	**-2.5**	
	comp=E,5.1nm,0.5s							
LPL	**La Plagne**	**8.74**	**318**	*e*P	**Pn**	**06 23 19.3**	**+1.3**	
LPL				*e*Sn	**S**	**06 24 57.3**	**-0.2**	
	comp=E,0.5nm,0.2s							
IDI	**Anoyia**	**8.77**	**114**	P	**Pn**	**06 23 18.0**	**-0.3**	
	comp=E,0.8nm,0.3s,baz=315,slow=15,SNR=7.6							
DAVA	**Damuels**	**8.81**	**336**	*e*Pn	**P**	**06 23 22.5**	**-2.2**	
	comp=E,7.7nm,0.6s							
ORIF	**Oris-en-Rattie**	**8.84**	**312**	*e*P	**Pn**	**06 23 19.6**	**+0.6**	
ORIF				*e*Sn	**S**	**06 24 58.6**	**-0.8**	
	comp=E,0.5nm,0.3s							
VIVF	**Saint-Julien-l**	**9.52**	**309**	*e*P	**P**	**06 23 31.9**	**-0.8**	
VIVF				*e*Sn	**S**	**06 25 13.3**	**-1.6**	
	comp=E,0.7nm,0.2s							
VOIR		**9.53**	**47**	⇑*i*P	**P**	**06 23 31.4**	**-1.4**	
GERES	**GERESS Array B**	**9.55**	**354**	P	**Pn**	**06 23 28.1**	**+0.3**	
	comp=E,0.3nm,0.3s,baz=171,slow=13,SNR=9.9							
LASF	**Ste Croix**	**9.66**	**303**	*e*P	**Pn**	**06 23 29.6**	**+0.4**	
LASF				*e*Sn	**S**	**06 25 17.4**	**-0.7**	
	comp=E,0.6nm,0.3s							
CABF	**La Chapelle**	**9.82**	**321**	*e*P	**Pn**	**06 23 32.7**	**+1.5**	
VRAC	**Vranov**	**10.01**	**6**	⇑*i*P	**Pn**	**06 23 35.3**	**+1.8**	
VRAC	**Vranov**	**10.01**	**6**	P	**Pn**	**06 23 35.1**	**+1.7**	
	comp=E,0.9nm,0.3s,baz=187,slow=11,SNR=7.0							
MLR	**Muntele Rosu**	**10.08**	**49**	⇑*i*P	**P**	**06 23 40.1**	**+1.2**	
HINF	**Hinteralfeld**	**10.37**	**327**	*e*Sn	**S**	**06 25 35.5**	**+1.1**	
	comp=E,2.1nm,0.5s							
MORC	**Moravsky Berou**	**10.57**	**9**	⇑*i*P	**Pn**	**06 23 42.1**	**+1.7**	
HAU	**Haudompre**	**10.73**	**327**	*e*P	**Pn**	**06 23 44.2**	**+1.8**	
HAU				*e*Sn	**S**	**06 25 42.1**	**-0.5**	
	comp=E,0.7nm,0.2s							
SMF	**Signal de Mont**	**11.02**	**315**	*e*P	**Pn**	**06 23 46.8**	**+0.9**	
SMF				*e*Sn	**S**	**06 25 47.0**	**-2.1**	
	comp=E,1.2nm,0.2s							
BURAR	**Bucovina Array**	**11.04**	**38**	⇓*i*P	**P**	**06 23 51.9**	**+2.4**	
AVF	**Avril sur Loir**	**11.37**	**315**	*e*P	**P**	**06 23 52.0**	**-1.2**	
AVF				*e*Sn	**S**	**06 25 56.3**	**-0.9**	
	comp=E,0.4nm,0.2s							
LOR	**Lormes**	**11.40**	**318**	*e*P	**Pn**	**06 23 51.6**	**+1.0**	
SSF	**Saint Saulge**	**11.45**	**316**	*e*P	**Pn**	**06 23 52.1**	**+0.8**	
EPF	**Esparros**	**11.73**	**293**	*e*Sn	**S**	**06 26 01.6**	**-4.1**	
	comp=E,1.1nm,0.3s							
BRTR	**Keskin Array B**	**14.29**	**83**	P	**Pn**	**06 24 26.5**	**+0.4**	
	comp=E,0.2nm,0.3s,baz=265,slow=11,SNR=10							
LDF	**La Druitiere**	**14.33**	**315**	*e*P	**Pn**	**06 24 26.5**	**+0.3**	
FLN	**La Foliniere**	**14.62**	**315**	*e*P	**Pn**	**06 24 30.8**	**+1.1**	
ESDC	**Sonseca Array**	**14.75**	**277**	P	**Pn**	**06 24 33.1**	**+1.7**	
	comp=E,0.2nm,0.3s,baz=74,slow=10,SNR=7.1							
AKASG	**Malin Array Be**	**15.07**	**37**	P	**Pn**	**06 24 34.6**	**-0.5**	
	comp=E,1.5nm,0.3s,baz=231,slow=10.0,SNR=11							
SGMF	**Saint Gilles**	**15.54**	**311**	*e*P	**Pn**	**06 24 40.2**	**-0.4**	
ROSF	**Rostrenen**	**16.00**	**310**	*e*P	**Pn**	**06 24 45.4**	**-0.6**	
MDT	**Midelt**	**17.22**	**254**	P	**Pn**	**06 25 01.4**	**+0.9**	
	comp=E,0.1nm,0.3s,baz=81,slow=13,SNR=2.9							
EIL	**Elat**	**18.94**	**115**	P	**P**	**06 25 17.1**	**+0.8**	
	comp=E,0.8nm,0.3s,baz=328,slow=9.9,SNR=5.4							
EKA	**Eskdalemuir Ar**	**20.13**	**329**	P	**P**	**06 25 28.8**	**+0.2**	
	comp=E,1.0nm,0.3s,baz=138,slow=11,SNR=12							
HFS	**Hagfors**	**20.83**	**358**	P	**P**	**06 25 35.2**	**-0.5**	
	comp=E,1.8nm,0.5s,baz=185,slow=10,SNR=11							
NB2	**NORSAR Subarra**	**21.85**	**355**	P	**P**	**06 25 46.1**	**+0.7**	
	comp=Z,0.2nm,0.4s,baz=172,slow=11							
NOA	**NORSAR Array B**	**21.85**	**355**	P	**P**	**06 25 45.4**	**0.0**	
	comp=Z,1.1nm,0.6s,baz=174,slow=9.4,SNR=3.6							
FINES	**FINESS Array B**	**23.13**	**13**	P	**P**	**06 25 57.9**	**+0.9**	
	comp=Z,4.5nm,0.4s,baz=190,slow=8.8,SNR=47							
ARCES	**ARCESS Array B**	**30.75**	**7**	P	**P**	**06 27 04.0**	**-0.6**	
	comp=Z,4.6nm,0.9s,baz=187,slow=8.6,SNR=15							
SPITS	**Spitsbergen Ar**	**38.94**	**0**	P	**P**	**06 28 15.3**	**+1.1**	
	comp=Z,15nm,1.1s,baz=162,slow=11,SNR=13							
ZALV	**Zalesovo Beam**	**48.05**	**48**	P	**P**	**06 29 26.3**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=299,slow=7.5,SNR=2.8							
MKAR	**Makanchi Array**	**48.27**	**58**	P	**P**	**06 29 29.3**	**+0.7**	
	comp=Z,0.3nm,0.5s,baz=284,slow=6.5,SNR=6.0							
YKA	**Yellowknife Ar**	**70.78**	**338**	P	**P**	**06 32 02.0**	**+0.8**	
	comp=Z,1.2nm,0.6s,baz=40,slow=5.7,SNR=32							
PDAR	**Pinedale Array**	**84.13**	**323**	P	**P**	**06 33 14.9**	**-0.7**	
	comp=Z,0.2nm,0.4s,baz=57,slow=5.5,SNR=4.1							

TEH ***18*** *06:26:22.3, 33.˚54N×48.˚81E, h5km, ML3.5*
ISCJB ***18*** *06:26:24.7±0.4, 33.˚52N±0.˚04×48.˚76E±0.˚04, h13km, Error ellipse: s-maj=6.8km s-min=4.1km az=24.9*
THR ***18*** *06:26:24.6, 33.˚56N×49.˚01E, h15km, ML3.3*

ISC 18 06:26:23.1±0.9, 33.˚57N±0.˚03×48.˚87E±0.˚03, h13km, n41, σ1§42/37, Western Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IKMR	**Kamar-syah**	**0.41**	**263**	*e*Pg		**Pg**	**Pg**	**06 26 30.6**	**-0.7**
IKMR						IAMB	IAmb	06 26 39.8	
	comp=Z,0.0nm,0.1s								
IDOB	**Doab**	**0.62**	**291**	*e*Pg		**Pg**	**Pg**	**06 26 34.5**	**-0.7**
IDOB				*e*Sg		**Sg**	**Sg**	**06 26 43.2**	**-0.2**
IDOB						IAMB	IAmb	06 26 51.9	
	comp=Z,0.0nm,0.6s								
IKFM	**Kafar-mosalman**	**0.86**	**267**	*e*Pn		**Pg**	**Pg**	**06 26 38.4**	**-1.2**
IKFM						IAMB	IAmb	06 26 57.9	
	comp=Z,0.0nm,0.4s								
KHMZ	**Khomeyn**	**0.92**	**79**	*e*Pg		**Pg**	**Pg**	**06 26 40.3**	**-0.7**
KHMZ	**Khomeyn**	**0.92**	**79**	*e*Pg		**Pg**	**Pg**	**06 26 40.3**	**-0.7**
IKOM	**Komasi**	**1.28**	**298**	*e*Pn		**Pn**	**Pn**	**06 26 46.0**	**-0.8**
IKOM						IAMB	IAmb	06 27 19.5	
	comp=Z,0.0nm,0.9s								
ASAO	**Ashtian**	**1.37**	**44**	*e*Pn		**Pb**	**Pb**	**06 26 48.6**	**-0.1**
ASAO	**Ashtian**	**1.37**	**44**	*e*Pg		**Pb**	**Pb**	**06 26 48.6**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.46**	**182**	*e*Pg		**Pg**	**Pg**	**06 26 51.3**	**+0.2**
SHGR	**Shooshtar-Gavs**	**1.46**	**182**	*e*AML		AML	AML	06 27 16.4	
	comp=N,799nm,0.3s								
SHGR	**Shooshtar-Gavs**	**1.46**	**182**	*e*Pg		**Pg**	**Pg**	**06 26 51.3**	**+0.2**
KCHF	**Cheshme Sefid,**	**1.68**	**295**	*e*Pn		**Pb**	**Pb**	**06 26 54.9**	**+1.0**
KCHF						IAMB	IAmb	06 27 27.1	
	comp=Z,0.0nm,0.4s								
HSRG	**Sareghieh**	**1.74**	**344**	*e*Pn		**Pb**	**Pb**	**06 26 55.9**	**+0.9**
IPIR	**Pirpir**	**1.91**	**117**	*e*Pn		**Pb**	**Pb**	**06 26 58.5**	**+0.5**
IPIR						IAMB	IAmb	06 27 35.1	
	comp=E,7µm,0.7s								
IVIS	**Veis**	**1.93**	**300**	*e*Pn		**Pb**	**Pb**	**06 26 58.6**	**+0.4**
IVIS						IAMB	IAmb	06 27 36.4	
	comp=Z,3µm,0.6s								
SNGE	**Sanandaj**	**1.97**	**321**	*e*Pn		**Pg**	**Pg**	**06 27 00.9**	**0.0**
SNGE	**Sanandaj**	**1.97**	**321**	*e*AML		AML	AML	06 27 40.0	
	comp=N,178nm,0.5s								
SNGE				*e*AML		AML	AML	06 27 41.3	
	comp=E,159nm,0.5s								
SNGE	**Sanandaj**	**1.97**	**321**	*e*Pn		**Pg**	**Pg**	**06 27 00.9**	**0.0**
JHBN	**Jahan bin**	**2.02**	**131**	*e*Pn		**Pb**	**Pb**	**06 27 00.1**	**+0.3**
JHBN						IAMB	IAmb	06 27 03.6	
	comp=Z,0.0nm,0.2s								
IRAZ	**Razeghan**	**2.03**	**25**	*e*Pn		**Pb**	**Pb**	**06 26 59.6**	**-0.3**
IRAZ						IAMB	IAmb	06 27 42.2	
	comp=Z,4µm,0.7s								
IGHG	**Ghaleghazi**	**2.06**	**292**	*e*Pn		**Pb**	**Pb**	**06 27 00.5**	**+0.1**
IGHG						IAMB	IAmb	06 27 43.3	
	comp=Z,6µm,0.7s								
ROKH	**ROKH**	**2.19**	**123**	*e*Pn		**Pb**	**Pb**	**06 27 03.1**	**+0.4**
ROKH						IAMB	IAmb	06 27 52.0	
	comp=Z,0.0nm,1.3s								
GHVR	**GHOM**	**2.21**	**65**	*e*Pn		**Pb**	**Pb**	**06 27 01.6**	**-1.3**
GHVR	**GHOM**	**2.21**	**65**	*e*AML		AML	AML	06 27

GHVR	**GHOM**	**2.21**	**65**	*e*Pn	**Pb**	**06 27 01.6**	**-1.3**
ZNGN	**Zangian**	**2.21**	**130**	*e*Pn	**Pb**	**06 27 03.1**	**0.0**
ZNGN				IAMB	IAmb	06 27 42.5	
	comp=E,0.0nm,0.7s						
QABG	**Abgarm-Qazvin**	**2.21**	**15**	*e*Pn	**Pb**	**06 27 03.2**	**+0.1**
QABG				IAMB	IAmb	06 27 44.5	
	comp=Z,0.0nm,0.8s						
AHWZ	**Ahwaz**	**2.24**	**185**	IAMB	IAmb	06 27 14.4	
	comp=Z,0.0nm,0.1s						
IKLH	**Kolahrood**	**2.28**	**96**	*e*Pn	**Pb**	**06 27 04.6**	**+0.4**
IKLH				IAMB	IAmb	06 27 43.9	
	comp=Z,3µm,0.6s						
IMHD	**Mahdasht**	**2.58**	**35**	*e*Pn	**Pb**	**06 27 10.0**	**+0.8**
IMHD				IAMB	IAmb	06 27 45.0	
	comp=E,3µm,0.3s						
IGAR	**Gharneh**	**2.91**	**113**	*e*Pn	**Pb**	**06 27 12.6**	**-2.3**
IGAR				IAMB	IAmb	06 28 01.0	
	comp=Z,1µm,0.6s						
IZEF	**Zefreh**	**2.98**	**102**	*e*Pn	**Pb**	**06 27 14.0**	**-2.1**
IZEF				IAMB	IAmb	06 27 24.8	
	comp=Z,848nm,0.5s						
CHTH	**Charan**	**2.98**	**38**	*e*Pn	**Pn**	**06 27 12.4**	**+2.1**
CHTH	**Charan**	**2.98**	**38**	*e*Pn	**Pn**	**06 27 12.4**	**+2.1**
ZNJK	**Zanjan**	**3.10**	**357**	*e*Pn	**Pb**	**06 27 15.7**	**-2.4**
ZNJK	**Zanjan**	**3.10**	**357**	*e*Pn	**Pb**	**06 27 15.7**	**-2.4**
QALM	**Alamut, Qazvin**	**3.21**	**27**	*e*Pn	**Pb**	**06 27 17.5**	**-2.5**
QALM				IAMB	IAmb	06 28 12.9	
	comp=Z,0.0nm,0.6s						
DAMV	**Damavand**	**3.28**	**50**	*e*Pn	**Pn**	**06 27 16.7**	**+2.3**
DAMV	**Damavand**	**3.28**	**50**	*e*Pn	**Pn**	**06 27 16.6**	**+2.3**
IRAM	**Ramesheh**	**3.44**	**120**	*e*Pn	**Pb**	**06 27 20.8**	**-3.2**
IRAM				IAMB	IAmb	06 27 34.3	
	comp=Z,520nm,0.4s						
IANJ	**Anjilo**	**4.57**	**64**	IAMB	IAmb	06 29 05.9	
	comp=Z,242nm,1.0s						

*ISCJB **18** 06:26:59.6±0.7,25°.47N±0°.06×109°.56W±0°.10, h10km, mb3.2/2, MS2.9/1, Error ellipse: s-maj=14.4km s-min=6.6km az=30.8*

*IDC **18** 06:26:59.1±1.3,25°.48N×109°.79W, h0km, mb3.2/2, mb1 3.6/7, mb1mx3.5/36, mbtmp3.2/7, ML3.3/5, MS3.1/7, Ms1 3.1/7, ms1mx2.9/22, Error ellipse: s-maj=24.8km s-min=14.7km az=118.0*

ISC 18 06:26:59.9±0.9, 25°.49N±0°.07×109°.8W±0°.1, h10km, n10, σ1§29/10, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.46**	**199**	Pn	**Pb**	**06 27 27.1**	**0.0**
LPIG	19nm,0.3s,baz=160,slow=2.1,SNR=8.3			Sn	**Sg**	**06 27 47.1**	**+0.2**
LPIG	21nm,0.3s,baz=350,slow=3.3,SNR=7.7			LR	LR	06 28 07.1	
TXAR	comp=Z,265nm,18.5s,baz=358,slow=47 **Lajitas Array**	**6.65**	**53**	Pn	**Pn**	**06 28 38.4**	**+0.5**
TXAR	0.1nm,0.3s,baz=232,slow=13,SNR=7.2			Sn	**Sn**	**06 29 52.9**	**-1.0**
TXAR	0.5nm,0.3s,baz=244,slow=11,SNR=4.0			Lg	Lg	06 30 30.2	
TXAR	1.1nm,0.3s,baz=244,slow=32,SNR=7.0			LR	LR	06 31 36.5	
ANMO	comp=Z,173nm,19.9s,baz=0.0,slow=42 **Albuquerque**	**9.86**	**16**	Pn	**Pn**	**06 29 24.0**	**+2.1**
ANMO	0.1nm,0.3s,baz=182,slow=18,SNR=2.4			Lg	Lg	06 32 06.2	
ANMO	0.1nm,0.3s,baz=186,slow=17,SNR=3.3			LR	LR	06 33 39.3	
NVAR	comp=Z,92nm,20.0s,baz=196,slow=41 **Mina Array Bea**	**14.78**	**333**	Pn	**P**	**06 30 33.2**	**-2.0**
NVAR	0.1nm,0.3s,baz=159,slow=13,SNR=7.1			LR	LR	06 35 38.5	
ELK	comp=Z,66nm,20.1s,baz=282,slow=35 **Elko**	**15.88**	**345**	Pn	**P**	**06 30 46.5**	**-1.0**
ELK	0.1nm,0.3s,baz=184,slow=7.4,SNR=6.3			LR	LR	06 36 40.0	
CMIG	comp=Z,87nm,21.2s,baz=174,slow=37 **Matias Romero**	**16.20**	**118**	LR	LR	06 36 49.1	
PDAR	comp=Z,94nm,20.7s,baz=199,slow=36 **Pinedale Array**	**17.24**	**1**	P	**P**	**06 31 02.4**	**-0.2**
PDAR	0.0nm,0.3s,baz=161,slow=9.4,SNR=5.1			LR	LR	06 37 52.7	
APG	comp=Z,102nm,20.6s,baz=202,slow=38 **El Apazote**	**20.89**	**116**	LR	LR	06 39 27.7	
YKA	comp=Z,49nm,21.2s,baz=307,slow=36 **Yellowknife Ar**	**37.14**	**356**	P	**P**	**06 34 10.2**	**-0.3**
ILAR	0.2nm,0.8s,baz=162,slow=8.4,SNR=3.4 **Eielson Array**	**45.92**	**339**	P	**P**	**06 35 23.3**	**+0.7**
	0.4nm,0.8s,baz=143,slow=7.1,SNR=6.3						

JMA 18 06:28:55.9, 39°.37N×141°.40E, h13km±1km, M3.5, 5C-2D Broadband fault plane solution: P waves. NP1: ϕ_s176.00000°, δ88.00000°, λ-117.00000°. **NP2:** ϕ_s82.00000°, δ27.00000°, λ-5.00000°. **Principal axes:** T Plg37.0000°, Azm290.0000°; N Plg27.0000°, Azm177.0000°; P Plg41.0000°, Azm61.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOM	**Ohasama**	**0.13**	**321**	⇓P	Pg	06 28 59.2	-0.1
JOM				S	Sg	06 29 01.7	0.0
OFUJ	**Ofunato**	**0.36**	**144**	⇑P	Pg	06 29 03.1	0.0
OFUJ				S	Sg	06 29 08.5	+0.6
JMK	**Ichinoseki**	**0.44**	**199**	⇓P	Pg	06 29 04.2	-0.4
JMK				*e*S	Sg	06 29 10.3	-0.2
JKMT	**Kesennumamotoy**	**0.56**	**174**	P	Pg	06 29 06.5	-0.4
JRG	**Rokugo**	**0.59**	**273**	⇑P	Pg	06 29 07.5	0.0
JRG				S	Sg	06 29 15.5	+0.1
JKZ	**Kuzumaki**	**0.62**	**355**	⇑P	Pg	06 29 07.4	-0.6
JKZ				S	Sg	06 29 15.5	-0.6
JIO	**Ouri**	**0.92**	**183**	P	Pg	06 29 12.6	-1.0
JYK	**Kaneyama**	**0.93**	**241**	⇑P	Pg	06 29 13.4	-0.4
JYK				S	Sg	06 29 25.8	-0.1
JANG	**Nango**	**1.01**	**5**	P	Pb	06 29 14.3	-0.9
JANG				S	Sb	06 29 27.7	-0.7
JAH	**Hinai**	**1.01**	**324**	⇑P	Pb	06 29 14.4	-0.8
JAH				S	Sb	06 29 28.2	-0.2

MEX 18 06:32:21.0±0.4, 16°.15N×98°.89W, h23km±19km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.77**	**71**	*i* P	Pb	06 32 33.2	-2.5
PNIG				*i* S	Sb	06 32 42.8	-3.0
TLIG	**Tlapa**	**1.44**	**12**	*e*P	Pn	06 32 43.6	-2.3
TLIG				*i* S	Sn	06 32 59.9	-4.3
CAIG	**El Cayaco**	**1.60**	**304**	*i* P	Pn	06 32 44.9	-3.0
CAIG				*i* S	Sn	06 33 03.5	-4.3
VHO	**Vista Hermosa**	**2.26**	**66**	*e*P	Pn	06 32 55.4	-1.8
VHO				*i* S	Sn	06 33 20.8	-3.8
TPIG	**Tehuac#an**	**2.69**	**33**	*i* P	Pn	06 33 00.1	-3.0
TPIG				*i* S	Sn	06 33 31.9	-3.2

*IDC **18** 06:43:45.9±7.8,51°.26N×178°.97W, h0km, mb3.2/3, mb1 3.8/4, mb1mx3.3/52, mbtmp3.5/4, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/18, Error ellipse: s-maj=136.1km s-min=82.4km az=87.0*

*NEIC **18** 06:43:49.4±0.0,51°.24N×179°.32W, h46km, ML3.4(AEIC), After AEIC.*

ISC 18 06:43:47.3±2.9, 51°.1N±0°.1×178°.9W±0°.1, h17km±12km, n20, σ1§47/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAEA	**Gareloi East**	**0.73**	**7**	*e*Pn	**Pn**	**06 44 02.8**	**-0.1**
GAEA				*e*Sn	**Sn**	**06 44 11.2**	**-2.4**
TASE	**Tanaga Southea**	**0.94**	**34**	*e*Pn	**Pn**	**06 44 07.5**	**+1.7**
TAFP	**Tanaga Falls P**	**1.01**	**34**	*e*Pn	**Pn**	**06 44 08.1**	**+1.4**
TAFP				*e*Sn	**Sn**	**06 44 22.4**	**+1.8**
KIMD	**Kanaga Island**	**1.25**	**55**	P	**Pg**	**06 44 12.4**	**+1.0**
KIWB	**Kanaga Island**	**1.35**	**53**	*e*Pn	**Pg**	**06 44 13.7**	**+0.5**
KIWB				*e*Sn	**Sg**	**06 44 32.6**	**+1.8**
KIKV	**Kanaga Island**	**1.35**	**52**	*e*Pn	**Pg**	**06 44 14.2**	**+0.9**
KIRH	**Kanaga Island**	**1.40**	**52**	*e*Pn	**Pg**	**06 44 14.9**	**+0.7**
KINC	**Kanaga Island**	**1.41**	**51**	*e*Pn	**Pg**	**06 44 15.6**	**+1.3**
ADK	**Adak**	**1.61**	**58**	*e*Pn	**Pg**	**06 44 17.6**	**-0.5**
ADK				*e*Sn	**Sg**	**06 44 39.2**	**+0.1**
ADAG	**Mount Adagdak**	**1.70**	**56**	*e*Pn	**Pg**	**06 44 19.4**	**-0.5**
ETKA	**Kagalaska Isla**	**1.75**	**62**	*e*Pn	**Pg**	**06 44 19.8**	**-1.0**
GSSP	**Great Sitkin S**	**1.98**	**58**	P	**Pg**	**06 44 24.1**	**-1.3**
GSMY	**Great Sitkin M**	**2.02**	**60**	*e*Pn	**Pg**	**06 44 24.0**	**-2.1**
GSMY				*e*Sn	**Sg**	**06 44 50.6**	**-1.7**
GSTR	**Great Sitkin T**	**2.05**	**59**	*e*Pn	**Pg**	**06 44 23.8**	**-2.8**
GSTR				*e*Sn	**Sb**	**06 44 48.3**	**-0.9**
UNV	**Unalaska Valle**	**8.06**	**65**	*e*Pn	Pn	06 45 49.2	+5.7
PETK	**Petropavlovsk-**	**14.53**	**287**	LR	LR	06 52 03.9	
	comp=Z,40nm,20.9s,baz=139,slow=34						
KDAK	**Kodiak Island**	**16.65**	**56**	Pn	**Pn**	**06 47 38.7**	**-0.8**
	0.1nm,0.3s,baz=248,slow=4.4,SNR=4.6						
ILAR	**Eielson Array**	**21.53**	**38**	P	**P**	**06 48 34.8**	**-0.4**
	0.2nm,0.7s,baz=238,slow=8.0,SNR=4.2						
YKA	**Yellowknife Ar**	**35.49**	**46**	P	**P**	**06 50 42.0**	**-0.5**
	0.3nm,0.7s,baz=280,slow=8.1,SNR=7.0						
PDAR	**Pinedale Array**	**46.46**	**72**	P	**P**	**06 52 14.8**	**+1.4**
	0.7nm,0.6s,baz=305,slow=6.5,SNR=13						

*ISCJB **18** 07:21:55.0±0.7, 49°.99N±0°.03×78°.6E±0°.1, h0km, Error ellipse: s-maj=9.7km s-min=4.1km az=171.9*

*NNC **18** 07:21:55.4±0.4, 50°.02N×78°.77E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=6.9km s-min=2.0km az=75.0, Suspected Mining explosion.*

*IDC **18** 07:21:56.1±1.0, 50°.04N×78°.72E, h0km, mb1 2.9/2, mb1mx2.8/49, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=12.9km s-min=6.4km az=67.0*

ISC 18 07:21:56.5±0.9, 50°.03N±0°.05×78°.78E±0°.06, h0km, n20, σ0§82/30, 21C-6D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.57**	**343**	⇑P	**Pg**	**07 22 06.7**	**-0.8**
KUR07				⇓S	**Sg**	**07 22 15.4**	**+0.4**
KUR06	**Kurchatov Arra**	**0.59**	**344**	⇑P	**Pg**	**07 22 07.0**	**-0.8**
KUR06				⇑S	**Sg**	**07 22 15.7**	**+0.2**
KUR14	**Kurchatov Arra**	**0.59**	**348**	⇑P	**Pg**	**07 22 07.0**	**-0.9**
KUR14				⇑S	**Sg**	**07 22 15.9**	**+0.4**
KUR15	**Kurchatov Arra**	**0.60**	**347**	⇑P	**Pg**	**07 22 07.2**	**-0.9**
KUR15				⇓S	**Sg**	**07 22 16.6**	**+0.7**
KURBB	**Kurchatov Arra**	**0.61**	**345**	⇑P	**Pg**	**07 22 07.4**	**-0.8**
KURBB	26nm,0.3s			⇑S	**Sg**	**07 22 16.3**	**+0.2**
MAKZ	76nm,0.6s **Makanchi**	**3.87**	**145**	⇑Pg	**Pb**	**07 23 07.0**	**+1.5**
MAKZ	1.3nm,0.5s			⇑Lg	Lg	07 23 55.8	
MK31	9.2nm,0.7s **Makanchi Array**	**4.00**	**143**	⇑Pn	**Pn**	**07 22 59.7**	**+0.7**
MK31	0.2nm,0.1s,baz=322,slow=10,SNR=56			Pg	**Pb**	**07 23 06.7**	**-1.0**
MK31	0.4nm,0.2s,baz=321,slow=14,SNR=23			Lg	Lg	07 24 02.6	
MKAR	15nm,0.7s,baz=335,slow=29,SNR=19 **Makanchi Array**	**4.00**	**143**	Pn	**Pn**	**07 22 59.7**	**+0.7**
MKAR	0.3nm,0.3s,baz=322,slow=10,SNR=92			Pg	**Pb**	**07 23 06.2**	**-1.6**
MKAR	0.7nm,0.3s,baz=327,slow=14,SNR=22			Lg	Lg	07 24 02.5	
OTUK	1.4nm,0.3s,baz=328,slow=27,SNR=17 **Ortayu**	**4.59**	**250**	⇑Pn	**Pn**	**07 23 06.9**	**-0.2**
OTUK	0.7nm,0.1s			⇓Pg	**Pb**	**07 23 18.4**	**+0.5**
OTUK	0.6nm,0.4s			⇑Lg	Lg	07 24 20.2	
ZALV	6.4nm,0.7s **Zalesovo Beam**	**5.41**	**41**	Pn	**Pn**	**07 23 19.8**	**+1.4**
ZALV	0.7nm,0.3s,baz=233,slow=13,SNR=12			Lg	Lg	07 24 49.7	
I46RU	0.3nm,0.3s,baz=228,slow=27,SNR=5.3 **ZALESOVO INFRA**	**5.41**	**41**	*i*		07 55 20.0	
BVAR	baz=223,slow=256,SNR=1.4 **Borovoye Array**	**6.03**	**303**	Sn	**Sn**	**07 24 36.0**	**-0.6**
	0.5nm,0.3s,baz=113,slow=22,SNR=6.5						
PDGK	**Podgornoye**	**6.72**	**176**	⇑Lg	Lg	07 25 29.5	
AAK	5.4nm,0.7s **Ala-Archa**	**7.97**	**203**	Lg	Lg	07 26 10.9	
	0.1nm,0.3s,baz=60,slow=24,SNR=5.8						

*NNC **18** 07:46:25.9±4.1,53°.57N×87°.68E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=40.0km s-min=27.5km az=169.0, Suspected Mining explosion.*

KRAR 18 07:46:20.2±0.1, 53°.62N×87°.96E, M2.4, 2C-7D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.44**	**247**	⇓Pn	Pn	07 48 00.4	+4.2
KURK	2.6nm,1.4s			⇓Sn	Sn	07 49 13.4	+3.1
KURK	2.0nm,0.8s			⇓Lg	Lg	07 49 46.7	
KURBB	20nm,1.1s **Kurchatov Arra**	**6.54**	**246**	⇓Pn	Pn	07 48 01.0	+3.5
KURBB	1.8nm,0.7s			⇑Sn	Sn	07 49 13.4	+0.7
KURBB	4.8nm,0.7s			⇓Lg	Lg	07 49 49.0	
MK31	9.4nm,0.8s **Makanchi Array**	**7.74**	**210**	⇓Pn	Pn	07 48 16.4	+2.4
MK31	0.3nm,0.2s,baz=185,slow=14,SNR=8.4			⇑Sn	Sn	07 49 47.4	+5.0
MK31	1.3nm,0.8s,baz=34,slow=27,SNR=3.6			⇓Lg	Lg	07 50 30.3	
	4.3nm,0.9s,baz=28,slow=28,SNR=4.3						

IDC 18 07:46:34.2±17.0, 18°.67S×173°.94W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.7/46, mbtmp4.1/5, Error ellipse: s-maj=321.2km s-min=149.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.51**	**261**	P	P	07 53 50.7	+0.5
	4.0nm,1.0s,baz=80,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**42.02**	**243**	P	P	07 54 27.5	-0.1
	0.8nm,0.4s,baz=102,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**48.67**	**260**	P	P	07 55 20.1	-0.4
	1.0nm,0.3s,baz=96,slow=7.6,SNR=49						
ASAR	**Alice Springs**	**48.67**	**255**	P	P	07 55 20.4	-0.2
	2.1nm,0.5s,baz=93,slow=7.7,SNR=29						
FITZ	**Fitzroy Crossi**	**57.08**	**260**	P	P	07 56 22.6	-0.2
	0.7nm,0.4s,baz=83,slow=3.3,SNR=6.5						

IDC 18 07:48:28.2±2.0, 1°.31N×126°.88E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/34, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/14, Error ellipse: s-maj=170.3km s-min=24.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**14.34**	**105**	LR	LR	07 57 58.1	
	comp=Z,39nm,19.0s,baz=160,slow=40						
WRA	**Warramunga Arr**	**22.35**	**161**	P	P	07 53 27.8	-0.1
	0.6nm,0.5s,baz=340,slow=12,SNR=13						
ASAR	**Alice Springs**	**25.75**	**165**	P	P	07 54 00.8	+0.1
	0.4nm,0.5s,baz=344,slow=7.2,SNR=10.0						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	07 58 34.0	-0.1
	0.1nm,0.4s,baz=119,slow=6.6,SNR=2.1						

*ISCJB **18** 07:53:00.2±0.4, 24°.25S±0°.04×67°.28W±0°.04, h180km±4km, mb3.5/5, Error ellipse: s-maj=7.2km s-min=4.9km az=37.9*

*IDC **18** 07:53:00.7±1.5, 24°.15S×67°.06W, h164km±14km, mb3.3/5, mb1 3.6/10, mb1mx3.4/30, mbtmp3.9/10, Error ellipse: s-maj=19.5km s-min=16.6km az=125.0*

*SJA **18** 07:53:00.0±0.7, 24°.25S×67°.25W, h184km±8km, ML3.0, MW3.6*

*GUC **18** 07:53:02.4±0.6, 24°.22S×67°.74W, h204km±8km, ML4.3*

ISC 18 07:53:00.8±0.8, 24°.23S±0°.05×67°.27W±0°.04, h176km±7km, n30, σ1§10/46, mb3.6/5, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.68**	**107**	*e*P	**Pn**	**07 53 35.2**	**+0.8**
SLA				IAML		07 53 35.9	
	comp=Z,494nm,0.6s						
SLA				*e*S	**Sn**	**07 54 00.4**	**0.0**
HJA	**Humahuaca**	**1.99**	**60**	*e*P	**Pn**	**07 53 38.8**	**+0.9**
FSA	**Cafayete**	**2.21**	**148**	*e*P	**Pn**	**07 53 40.3**	**+0.2**
LVC	**Limon Verde**	**2.21**	**317**	P	**Pn**	**07 53 41.3**	**+1.0**
LVC				*e*S	**Sn**	**07 54 11.1**	**+0.3**
LVC	**Limon Verde**	**2.21**	**317**	P	**Pn**	**07 53 41.3**	**+1.0**
	comp=Z,38nm,0.3s,baz=140,slow=6.3,SNR=336						
LVC				S	**Sn**	**07 54 11.2**	**+0.3**
	comp=Z,53nm,0.3s,baz=13,slow=17,SNR=23						
PB15	**IPOC Station P**	**2.26**	**296**	*e*P	**Pn**	**07 53 41.8**	**+1.1**
PB15				*e*S	**Sn**	**07 54 11.7**	**0.0**
PB15	**IPOC Station P**	**2.26**	**296**	⇑*i*P	**Pn**	**07 53 41.7**	**+0.9**
PB15				*e*S	**Sn**	**07 54 11.4**	**-0.2**
GO02	**Mina Guanaco**	**2.30**	**246**	⇑*i*P	**Pn**	**07 53 41.9**	**+0.6**
GO02				*e*S	**Sn**	**07 54 12.7**	**0.0**
PB06	**IPOC Station P**	**2.60**	**305**	*e*P	**Pn**	**07 53 45.0**	**+0.3**
PB06				*e*S	**Sn**	**07 54 19.0**	**+0.3**
PB06	**IPOC Station P**	**2.60**	**305**	⇑*i*P	**Pn**	**07 53 45.5**	**+0.8**
PB06				*e*S	**Sn**	**07 54 17.9**	**-0.8**
PB06				IAML		07 54 19.1	
	comp=E,1µm,0.1s						
YJA	**Yavi**	**2.61**	**39**	*e*P	**Pn**	**07 53 45.6**	**+0.5**
YJA				IAML		07 53 47.3	
	comp=Z,15nm,0.3s						
PB14	**IPOC Station P**	**2.88**	**262**	*e*P	**Pn**	**07 53 48.1**	**0.0**
PB14				*e*S	**Sn**	**07 54 22.8**	**-2.1**
PB14				IAML		07 54 25.2	
	comp=E,762nm,0.4s						
PB05	**IPOC Station P**	**3.02**	**297**	⇑*e*P	**Pn**	**07 53 50.1**	**+0.4**
PB05				*e*S	**Sn**	**07 54 25.6**	**-2.0**
PB05				IAML		07 54 29.3	
	comp=N,431nm,0.6s						
PB09	**IPOC Station P**	**3.03**	**323**	⇑*i*P	**Pn**	**07 53 51.0**	**+1.1**
PB09				*i* S	**Sn**	**07 54 28.3**	**+0.3**
PB09				IAML		07 54 29.3	
	comp=N,441nm,0.5s						
AHML	**Horco Molle**	**3.09**	**146**	*e*P	**Pn**	**07 53 50.2**	**-0.2**
AHML				IAML		07 53 51.8	
	comp=Z,18nm,0.7s						
AHML				*e*S	**Sn**	**07 54 27.3**	**-1.8**
PB10	**IPOC Station P**	**3.09**	**283**	*e*P	**Pn**	**07 53 51.0**	**+0.6**
PB10				*e*S	**Sn**	**07 54 28.4**	**-0.6**
PB10	**IPOC Station P**	**3.09**	**283**	*e*P	**Pn**	**07 53 50.2**	**-0.1**
PB10				*e*S	**Sn**	**07 54 26.1**	**-2.8**
PB10				IAML		07 54 32.5	
	comp=E,313nm,0.3s						
PB03	**IPOC Station P**	**3.15**	**313**	⇑*i*P	**Pn**	**07 53 51.7**	**+0.3**
PB03				*i* S	**Sn**	**07 54 29.2**	**-1.4**
PB03				IAML		07 54 30.6	
	comp=E,685nm,0.3s						
PB04	**IPOC Station P**	**3.25**	**305**	*e*P	**Pn**	**07 53 53.0**	**+0.4**
PB04				IAML		07 54 37.4	
	comp=E,591nm,0.4s						
LPAZ	**La Paz**	**7.95**	**354**	P	**Pn**	**07 54 53.3**	**-0.8**
	comp=E,1.9nm,0.3s,baz=151,slow=6.3,SNR=64						
LPAZ				S	**Sn**	**07 56 23.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=317,slow=19,SNR=2.5						
SIV	**San Ignacio**	**10.06**	**37**	P	**Pn**	**07 55 18.9**	**-2.5**
	comp=E,0.9nm,0.3s,baz=224,slow=13,SNR=29						
PLCA	**Paso Flores**	**16.68**	**189**	P	**Pn**	**07 56 46.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=18,slow=7.9,SNR=5.1						
BDFB	**Brasilia**	**20.00**	**68**	P	**P**	**07 57 19.0**	**-1.2**
	comp=E,1.8nm,0.3s,baz=241,slow=10,SNR=24						
PTGA	**Pitinga**	**24.41**	**18**	P	**P**	**07 58 02.9**	**-0.4**
	comp=E,0.8nm,0.3s,baz=147,slow=18,SNR=3.9						
TXAR	**Lajitas Array**	**63.72**	**325**	P	**P**	**08 03 15.3**	**+1.4**
	comp=E,0.4nm,0.9s,baz=135,slow=10,SNR=3.5						
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**08 03 29.8**	**+1.7**
	comp=E,0.6nm,0.6s,baz=116,slow=2.4,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.89**	**69**	P	**P**	**08 04 32.9**	**-1.2**
	comp=E,1.5nm,0.6s,baz=249,slow=5.9,SNR=9.5						
YKA	**Yellowknife Ar**	**94.26**	**340**	P	**P**	**08 06 00.1**	**+0.6**
	comp=E,0.2nm,0.7s,baz=132,slow=4.7,SNR=4.2						
WRA	**Warramunga Arr**	**131.30**	**207**	PKP	**PKiKP**	**08 11 53.5**	**-0.4**
	comp=E,0.1nm,0.6s,baz=176,slow=1.7,SNR=5.5						
MKAR	**Makanchi Array**	**146.86**	**40**	PKPbc	**PKiKP**	**08 12 23.6**	**-1.2**
	comp=E,0.7nm,0.6s,baz=305,slow=3.4,SNR=10						

IDC 18 08:10:08.8±1.9, 6°.53S×128°.47E, h0km, mb4.0/1, mb1 4.1/3, mb1mx3.6/20, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=114.4km s-min=29.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.50**	**157**	Pn	Pn	08 13 34.5	-1.1
WRA	0.7nm,0.3s,baz=336,slow=14,SNR=23			Sn	Sn	08 16 03.0	-14
ASAR	1.2nm,0.3s,baz=335,slow=21,SNR=8.7 **Alice Springs**	**17.82**	**164**	P	P	08 14 19.2	-0.1
ASAR	0.8nm,0.3s,baz=348,slow=9.4,SNR=53			S	Sn	08 17 29.7	-8.3
MKAR	0.2nm,0.3s,baz=352,slow=27,SNR=6.9 **Makanchi Array**	**67.00**	**327**	P	P	08 21 03.7	0.0
	0.7nm,0.4s,baz=129,slow=7.4,SNR=16						

MEX 18 08:12:42.8±0.4, 14°.99N×93°.35W, h12km±26km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.72**	**10**	*e*P	Pg	08 12 54.7	-2.2
PCIG				*i* S	Sg	08 13 04.4	-2.0
THIG		**1.05**	**94**	*i* P	Pb	08 13 00.1	-2.8
THIG				*i* S	Sb	08 13 12.5	-4.1
CCIG	**Comitan**	**1.74**	**42**	*e*P	Pn	08 13 10.0	-3.0
CCIG				*i* S	Sn	08 13 30.1	-5.0

IDC 18 08:33:03.6±3.2, 30°.89S×177°.61W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/35, mbtmp4.0/4, ML3.0/1, Error ellipse: s-maj=71.0km s-min=36.5km az=113.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.54**	**209**	Pn	Pn	08 35 07.8	-0.7
	0.2nm,0.3s,baz=6.7,slow=17,SNR=2.4						
URZ				Sn	S

	0.7nm,0.3s,baz=258,slow=8.2,SNR=5.0							
OPO				LR	LR	08 46 59.1		
	comp=Z,204nm,21.6s,baz=165,slow=32							
SUR	**Sutherland**	**23.76**	**275**	LR	LR	08 49 43.2		
	comp=Z,142nm,18.9s,baz=142,slow=33							
LSZ	**Lusaka**	**29.28**	**315**	*eP*	**P**	**08 42 51.0**	**+0.6**	
	9.8nm,1.3s							
LSZ	**Lusaka**	**29.28**	**315**	P	**P**	**08 42 50.8**	**+0.4**	
	1.7nm,0.4s,baz=150,slow=11,SNR=2.4							
LSZ				LR	LR	08 53 30.2		
	comp=Z,269nm,18.4s,baz=152,slow=34							
MAW	**Mawson**	**30.57**	**170**	LR	LR	08 52 48.2		
	comp=Z,208nm,18.7s,baz=304,slow=31							
H08S1	**Diego Carcia H**	**36.94**	**41**	T	T	09 22 45.1		
	baz=211,slow=76,SNR=20							
H08S2	**Diego Garcia H**	**36.95**	**41**	T	T	09 22 51.0		
	baz=211,slow=76,SNR=9.3							
H08S3	**Diego Garcia H**	**36.96**	**41**	T	T	09 22 46.6		
	baz=211,slow=76,SNR=24							
H01W2	**Cape Leeuwin H**	**51.41**	**108**	T	T	09 40 54.3		
	baz=247,slow=75,SNR=21							
H01W3	**Cape Leeuwin H**	**51.42**	**108**	T	T	09 40 55.1		
	baz=247,slow=75,SNR=27							
H01W1	**Cape Leeuwin H**	**51.43**	**108**	T	T	09 40 57.8		
	baz=247,slow=75,SNR=21							
QSPA	**South Pole Qui**	**52.11**	**180**	*eP*	**P**	**08 45 59.2**	**+1.4**	
QSPA	**South Pole Qui**	**52.11**	**180**	P	**P**	**08 45 58.9**	**+1.1**	
	5.8nm,1.1s,baz=264,slow=4.6,SNR=4.7							
PALK	**Pallekele**	**53.87**	**40**	LR	LR	09 04 56.8		
	comp=Z,54nm,18.1s,baz=287,slow=31							
VNDA	**Vanda**	**57.78**	**166**	LR	LR	09 09 11.1		
	comp=Z,166nm,19.4s,baz=198,slow=34							
WSAR	**Wadi Sarin**	**61.65**	**10**	LR	LR	09 06 49.0		
	comp=Z,58nm,20.6s,baz=212,slow=29							
TORD	**Torodi Ar. Bea**	**67.58**	**309**	P	**P**	**08 47 44.7**	**+0.1**	
	0.7nm,0.9s,baz=124,slow=7.2,SNR=4.3							
TORD				LR	LR	09 17 12.3		
	comp=Z,49nm,18.2s,baz=335,slow=36							
TOA1	**Torodi Ar. Sit**	**67.59**	**309**	*eP*	**P**	**08 47 44.7**	**+0.1**	
ASAR	**Alice Springs**	**71.89**	**106**	P	**P**	**08 48 11.2**	**-0.1**	
	0.8nm,0.7s,baz=233,slow=5.3,SNR=12							
AS01	**Alice Springs**	**71.93**	**106**	*eP*	**P**	**08 48 11.1**	**-0.4**	
STKA	**Stephens Creek**	**72.92**	**117**	P	**P**	**08 48 17.4**	**+0.1**	
	1.5nm,0.7s,baz=257,slow=5.3,SNR=2.9							
STKA				LR	LR	09 13 46.0		
	comp=Z,51nm,19.7s,baz=203,slow=30							
PBKT	**Sadao Pong**	**72.94**	**52**	*eP*	**P**	**08 48 20.4**	**+3.0**	
	6.2nm,1.2s							
CM31	**Chiang Mai Arr**	**73.15**	**49**	*eP*	**P**	**08 48 19.2**	**+0.5**	
	7.9nm,0.4s							
CMAR	**Chiang Mai Arr**	**73.15**	**49**	P	**P**	**08 48 18.0**	**-0.6**	
	1.4nm,0.4s,baz=217,slow=7.0,SNR=5.3							
CMAR				LR	LR	09 15 28.5		
	comp=Z,17nm,19.9s,baz=255,slow=32							
WR1	**Warramunga Arr**	**74.33**	**103**	*eP*	**P**	**08 48 25.1**	**-0.6**	
	29nm,1.9s							
WRA	**Warramunga Arr**	**74.33**	**103**	P	**P**	**08 48 25.1**	**-0.6**	
	2.2nm,1.0s,baz=231,slow=5.0,SNR=11							
WB2	**Warramunga Arr**	**74.34**	**103**	*eP*	**P**	**08 48 26.9**	**+1.1**	
BRTR	**Keskin Array B**	**78.72**	**348**	LR	LR	09 22 50.8		
	comp=Z,26nm,18.3s,baz=125,slow=35							
KEST	**Kesra**	**82.16**	**328**	LR	LR	09 27 21.0		
	comp=Z,71nm,18.7s,baz=326,slow=37							
PLCA	**Paso Flores**	**84.12**	**222**	*eP*	**P**	**08 49 19.7**	**+0.7**	
	24nm,1.9s							
PLCA	**Paso Flores**	**84.12**	**222**	P	**P**	**08 49 18.7**	**-0.3**	
	1.4nm,0.8s,baz=98,slow=5.5,SNR=4.1							
AKASG	**Malin Array Be**	**90.12**	**348**	LR	LR	09 30 59.2		
	comp=Z,12nm,18.3s,baz=265,slow=36							
INK	**Inuvik**	**149.69**	**2**	PKPbc	**PKPbc**	**08 56 34.7**	**-1.8**	
	1.3nm,0.8s,baz=262,slow=1.6,SNR=5.6							
PRP	**Porcupine Dome**	**151.23**	**13**	*e*PKPbc	**PKPbc**	**08 56 39.9**	**-0.6**	
EPYK	**Eagle Plains**	**151.47**	**5**	*e*PKPbc	**PKiKP**	**08 56 40.7**	**-0.7**	
IL1	**Eielson Array**	**151.65**	**14**	*e*PKPbc	**PKPbc**	**08 56 40.2**	**-1.1**	
ILAR	**Eielson Array**	**151.65**	**14**	PKPbc	**PKPbc**	**08 56 39.8**	**-1.5**	
	0.9nm,0.7s,baz=329,slow=2.9,SNR=9.1							
ILB	**Eielson Array**	**151.65**	**14**	*e*PKPdf	**PKPdf**	**08 56 36.3**	**+1.3**	
ILB				*e*PKPbc	**pPKPbc**	**08 56 42.6**	**-1.4**	
YKA	**Yellowknife Ar**	**153.60**	**343**	PKPbc	**PKPbc**	**08 56 43.8**	**-1.8**	
	0.7nm,1.0s,baz=39,slow=2.3,SNR=4.8							
YKB5	**Yellowknife Ar**	**153.60**	**343**	*e*PKPbc	**PKPbc**	**08 56 45.2**	**-0.5**	

KRSC 18 08:40:43.3±10.0, 52.30N×158.67E, h136km±10km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.17**	**325**	*eP*	Pn	08 41 02.8	+1.0
RUS				*eS*	Sn	08 41 16.7	+0.9
MTVR	**Mutnovka**	**0.35**	**302**	*eP*	Pn	08 41 03.4	+0.9
MTVR				*eS*	Sn	08 41 18.8	+1.7
ASAK	**Asacha**	**0.48**	**281**	*eP*	Pn	08 41 04.3	+1.3
ASAK				*eS*	Sn	08 41 19.5	+1.5
KDTR	**Khodutka, Kamc**	**0.61**	**217**	*eP*	Pn	08 41 04.5	+0.8
KDTR				*eS*	Sn	08 41 19.6	+0.5
KRK	**Karymshinskiy**	**0.63**	**329**	*eP*	Pn	08 41 04.6	+0.8
KRMR				*eS*	Sn	08 41 20.5	+1.1
PET	**Petropavlovsk**	**0.73**	**359**	*eP*	Pn	08 41 05.4	+0.9
PET				*eS*	Sn	08 41 21.4	+0.8
UGLR	**Uglovaya**	**0.92**	**6**	*eP*	Pn	08 41 07.4	+1.3
UGLR				*eS*	Sn	08 41 24.8	+1.2
NLC	**Nalytchevo**	**0.97**	**25**	*eS*	Sn	08 41 24.8	+0.8
AVH	**Avacha**	**0.97**	**2**	*eP*	Pn	08 41 07.9	+1.3
AVH				*eS*	Sn	08 41 25.6	+1.3
SMAR	**Somma**	**0.97**	**5**	*eP*	Pn	08 41 07.9	+1.2
SDLR	**Sedlovina**	**0.99**	**7**	*eP*	Pn	08 41 07.6	+0.8
SDLR				*eS*	Sn	08 41 25.5	+0.8
KOK	**Koryaka**	**1.00**	**359**	*eP*	Pn	08 41 08.0	+1.2
KRER	**Koryakskii**	**1.01**	**3**	*eP*	Pn	08 41 08.2	+1.1
KRER				*eS*	Sn	08 41 26.8	+1.6
KRX	**Arik**	**1.06**	**359**	*eP*	Pn	08 41 08.4	+0.9
APC	**Apacha**	**1.12**	**305**	*eP*	Pn	08 41 08.1	+0.3
SPN	**Mys Shipunski**	**1.15**	**45**	*eP*	Pn	08 41 09.6	+1.5
SPN				*eS*	Sn	08 41 28.2	+1.2
GNL	**Ganaly**	**1.47**	**343**	*eP*	Pn	08 41 11.7	+0.1
MKZ	**Mys Kozlova**	**2.91**	**38**	*eP*	Pn	08 41 29.7	+0.8
KZV	**Kizimen**	**2.98**	**18**	*eP*	Pn	08 41 32.3	+2.3
KBTR	**Krutoberegovo**	**4.61**	**30**	*eP*	Pn	08 41 53.5	+2.3

*IDC **18** 08:41:14.7±1.5, 50.08N×145.98E, h577km±20km, mb2.8/8, mb1 3.0/12, mb1mx2.7/45, mbtmp3.8/12, Error ellipse: s-maj=18.7km s-min=13.8km az=97.0*
*ISCJB **18** 08:41:15.6±0.7, 50.12N±0.1×145.9E±0.2, h600km, mb3.2/8, Error ellipse: s-maj=20.1km s-min=12.8km az=16.4*
ISC 18 08:41:15.8±0.9, 50.1N±0.1×146.0E±0.2, h600km, n12, σ1s54/12, mb3.2/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**6.36**	**202**	P	**P**	**08 42 56.3**	**-3.8**
	0.3nm,0.3s,baz=108,slow=19,SNR=4.0						
MA2	**Magadan**	**9.94**	**14**	P	**P**	**08 43 33.5**	**-0.1**
	0.4nm,0.3s,baz=209,slow=9.3,SNR=5.6						
SEY	**Seymchan**	**13.39**	**13**	P	**P**	**08 44 07.7**	**-0.4**
	0.6nm,0.3s,baz=177,slow=7.2,SNR=8.8						
MJAR	**Matsushiro Arr**	**14.61**	**205**	P	**P**	**08 44 21.6**	**+1.1**
	0.0nm,0.3s,baz=6.5,slow=9.5,SNR=4.3						
TIXI	**Tiksi**	**23.03**	**346**	P	**P**	**08 45 35.9**	**-0.1**
	2.2nm,0.4s,baz=121,slow=12,SNR=6.4						
ZALV	**Zalesovo Beam**	**36.81**	**300**	P	**P**	**08 47 34.3**	**+0.2**
	0.7nm,0.3s,baz=69,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**41.24**	**291**	P	**P**	**08 48 10.6**	**+0.9**
	0.3nm,0.5s,baz=60,slow=7.3,SNR=5.0						
FINES	**FINESS Array B**	**58.93**	**331**	P	**P**	**08 50 17.4**	**-0.6**
	1.0nm,0.6s,baz=36,slow=7.1,SNR=6.8						
NVAR	**Mina Array Bea**	**65.01**	**60**	P	**P**	**08 50 58.6**	**+0.5**
	0.2nm,0.5s,baz=312,slow=8.2,SNR=2.7						
PDAR	**Pinedale Array**	**66.53**	**51**	P	**P**	**08 51 07.7**	**+0.2**
	0.4nm,0.7s,baz=337,slow=3.4,SNR=4.3						
WRA	**Warramunga Arr**	**70.43**	**192**	P	**P**	**08 51 31.3**	**+0.5**
	0.2nm,0.4s,baz=8.2,slow=6.3,SNR=6.4						
ASAR	**Alice Springs**	**74.16**	**191**	P	**P**	**08 51 54.1**	**+1.9**
	0.5nm,0.5s,baz=6.5,slow=5.5,SNR=14						

IDC 18 08:51:57.0±11.0, 27.98S×65.78E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/40, mbtmp3.6/3, Error ellipse: s-maj=605.1km s-min=31.3km az=35.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**60.76**	**103**	P	P	09 02 11.1	0.0
	0.5nm,0.9s,baz=247,slow=6.7,SNR=5.1						
WRA	**Warramunga Arr**	**62.46**	**99**	P	P	09 02 22.3	-0.3
	0.4nm,0.9s,baz=250,slow=6.1,SNR=3.8						
BRTR	**Keskin Array B**	**73.71**	**335**	P	P	09 03 32.5	-0.4
	0.3nm,0.3s,baz=152,slow=16,SNR=3.0						
YKA	**Yellowknife Ar**	**145.49**	**0**	PKPbc	PKPab	09 11 36.7	0.0
	0.2nm,0.7s,baz=344,slow=3.2,SNR=5.1						

*NNC **18** 09:12:54.9±2.4, 53.40N×87.58E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=18.3km s-min=15.4km az=17.0, Suspected Mining explosion.*
IDC 18 09:12:53.2±2.6, 53.52N×87.69E, h0km, mb1 3.2/2, mb1mx3.0/44, mbtmp3.2/2, ML2.8/2, 5C-4D, Error ellipse: s-maj=22.3km s-min=14.6km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**285**	*i*		09 26 56.7	
	baz=106,slow=339,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.76**	**285**	Pn	Pn	09 13 23.8	-1.2
	3.8nm,0.3s,baz=104,slow=14,SNR=36						
ZALV				Lg	Lg	09 13 48.9	
	5.3nm,0.3s,baz=100,slow=24,SNR=14						
KURK	**Kurchatov**	**6.25**	**247**	⇑Pn	Pn	09 14 26.9	+0.2
	0.7nm,0.6s						
KURK				⇓Sn	Sn	09 15 39.4	+0.7
	0.5nm,0.4s						
KURK				⇓Lg	Lg	09 16 11.8	
	2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**6.35**	**247**	⇑Pn	Pn	09 14 27.8	-0.2
	1.6nm,0.6s						
KURBB				⇓Sn	Sn	09 15 40.6	-0.5
	2.1nm,0.5s						
KURBB				⇑Lg	Lg	09 16 15.2	
	4.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.35**	**247**	Pn	Pn	09 14 28.5	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=10						
KURBB				Sn	Sn	09 15 40.6	-0.5
	0.1nm,0.3s,baz=56,slow=22,SNR=3.1						
KURBB				Lg	Lg	09 16 14.7	
	0.1nm,0.3s,baz=63,slow=32,SNR=6.9						
MK31	**Makanchi Array**	**7.57**	**209**	⇓Pn	Pn	09 14 46.1	+1.3
	0.3nm,0.5s,baz=28,slow=13,SNR=13						
MK31				⇑Sn	Sn	09 16 10.1	-1.1
	0.3nm,0.5s						
MK31				⇑Lg	Lg	09 16 53.4	
	0.8nm,0.6s,baz=27,slow=30,SNR=4.0						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	09 14 46.2	+1.5
	0.4nm,0.3s,baz=28,slow=13,SNR=14						
MKAR				Sn	Sn	09 16 10.9	-0.4
	0.1nm,0.3s,baz=29,slow=25,SNR=3.8						
MKAR				Lg	Lg	09 16 55.1	
	0.2nm,0.3s,baz=27,slow=31,SNR=6.1						

JMA 18 09:21:05.1±0.1, 36.88N×141.12E, h49km±1km, M3.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.34**	**311**	P	Pn	09 21 14.3	-0.3
ONAJ				S	Sn	09 21 20.7	-0.6
JFFD	**Fukushimafurud**	**0.49**	**295**	P	Pn	09 21 16.2	-0.1
JFFD				S	Sn	09 21 24.0	-0.2
JHO	**Hitachi**	**0.52**	**239**	P	Pn	09 21 16.3	-0.2
JHO				S	Sn	09 21 24.2	-0.5
JFK	**Kawauchi**	**0.52**	**338**	P	Pn	09 21 16.3	-0.3
JFK				S	Sn	09 21 24.0	-0.9
JFT	**Otama**	**0.89**	**316**	P	Pn	09 21 22.2	+0.8
JFT				S	Sn	09 21 34.3	+1.0
JMM	**Marumori**	**1.02**	**345**	P	Pn	09 21 22.8	-0.2
JMM				S	Sn	09 21 36.1	-0.2
MAT	**Matsushiro**	**2.37**	**263**	P	Pn	09 21 44.2	+2.8
MAT				S	Sn	09 22 14.8	+5.5

*IDC **18** 09:21:05.3±1.2, 38.34N×71.70E, h0km, mb3.5/4, mb1 3.7/8, mb1mx3.4/43, mbtmp3.5/8, ML3.1/4, Error ellipse: s-maj=25.6km s-min=19.7km az=136.0*
*NNC **18** 09:21:07.5±3.6, 38.50N×71.00E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=34.6km s-min=19.8km az=159.0*
*ISCJB **18** 09:21:10.1±1.0, 38.42N±0.08×71.2E±0.1, h47km, mb3.4/4, Error ellipse: s-maj=13.7km s-min=10.1km az=34.5*
ISC 18 09:21:11.6±1.2, 38.4N±0.1×71.1E±0.1, h47km, n19, σ2s21/23, mb3.4/4, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.23**	**27**	P	**Pn**	**09 22 11.5**	**-2.4**
	SNR=11						
UCH	**Uchtor**	**4.63**	**33**	P	**Pn**	**09 22 18.9**	**-0.6**
	SNR=6.9						
EKS2	**Erkin-Say**	**4.73**	**24**	P	**Pn**	**09 22 22.0**	**+1.6**
	SNR=11						
KK31	**Karatay Array**	**4.74**	**355**	⇑Pn	**Pn**	**09 22 18.5**	**-2.0**
	2.6nm,0.3s,baz=175,slow=13,SNR=11						
KK31				⇓Sn	**Sn**	**09 23 14.4**	**+0.2**
	2.8nm,0.4s,baz=179,slow=20,SNR=3.6						
KK31				⇑Lg	Lg	09 23 31.0	
	7.8nm,0.5s,baz=156,slow=29,SNR=4.3						
AAK	**Ala-Archa**	**4.97**	**30**	P	**Pn**	**09 22 21.7**	**-2.0**
	SNR=10						
AAK	**Ala-Archa**	**4.97**	**30**	⇓Pn	**Pn**	**09 22 23.6**	**-0.2**
	4.1nm,0.5s						
AAK				⇑Sn	**Sn**	**09 23 23.3**	**+3.3**
	6.9nm,0.6s						
AAK	**Ala-Archa**	**4.97**	**30**	Pn	**Pn**	**09 22 21.7**	**-2.0**
	1.7nm,0.3s,baz=182,slow=4.5,SNR=14						
AAK				Sn	**Sn**	**09 23 23.8**	**+3.9**
	0.6nm,0.3s,baz=127,slow=13,SNR=3.8						
CHMS	**Chumysh**	**5.37**	**30**	P	**Pn**	**09 22 29.9**	**+0.7**
	SNR=7.3						
TKM2	**Tokmak 2**	**5.67**	**35**	P	**Pn**	**09 22 33.6**	**+0.2**
	SNR=5.8						
TKM2	**Tokmak 2**	**5.67**	**35**	⇑Pn	**Pn**	**09 22 31.7**	**-1.7**
	1.9nm,0.5s						
TKM2				⇓Sn	**Sn**	**09 23 38.0**	**+0.8**
	5.2nm,0.7s						
MKAR	**Makanchi Array**	**11.75**	**41**	Pn	**Pn**	**09 23 53.2**	**-3.3**
	0.0nm,0.3s,baz=225,slow=14,SNR=3.1						
AB31	**Akbulak array**	**13.52**	**327**	P	**Pn**	**09 24 16.9**	**-3.7**
	1.0nm,0.7s,baz=165,slow=10.0,SNR=15						
AKTO	**Aktyubinsk**	**15.23**	**326**	⇓P	**Pn**	**09 24 43.9**	**+0.5**
	3.6nm,0.8s						
AKTO	**Aktyubinsk**	**15.23**	**326**	Pn	**Pn**	**09 24 44.4**	**+1.0**
	0.3nm,0.3s,baz=130,slow=15,SNR=10						
ZALV	**Zalesovo Beam**	**18.18**	**27**	P	**P**	**09 25 17.2**	**-2.8**
	0.1nm,0.3s,baz=216,slow=7.1,SNR=2.9						
ARCES	**ARCESS Array B**	**39.45**	**337**	P	**P**	**09 28 36.6**	**-0.2**
	2.5nm,0.9s,baz=102,slow=8.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**65.87**	**268**	P	**P**	**09 31 55.0**	**+2.4**
	0.3nm,0.9s,baz=48,slow=5.2,SNR=2.6						
YKA	**Yellowknife Ar**	**79.36**	**3**	P	**P**	**09 33 14.5**	**+2.5**
	0.1nm,0.5s,baz=349,slow=5.8,SNR=6.1						
WRA	**Warramunga Arr**	**82.90**	**122**	P	**P**	**09 33 30.2**	**-1.2**
	0.3nm,0.8s,baz=324,slow=5.2,SNR=3.7						

*ISCJB **18** 09:21:43.3±2.5, 29.24S±0.05×71.6W±0.1, h21km±15km, Error ellipse: s-maj=21.6km s-min=6.4km az=12.9*
*GUC **18** 09:21:45.5±0.6, 29.27S×71.21W, h58km±5km, ML3.6*
*SJA **18** 09:21:45.0±0.5, 29.31S×71.40W, h15km±4km, ML3.0, MW3.7*
ISC 18 09:21:43.1±3.6, 29.28S±0.05×71.5W±0.1, h10km±24km, n13, σ1s06/21, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.74**	**69**	*i* P	**Pb**	**09 21 58.8**	**+0.6**
LCO				*i* S	**Sb**	**09 22 08.7**	**+0.2**
LCO	**Las Campanas**	**0.74**	**69**	⇓*i*P	**Pb**	**09 21 59.3**	**+1.0**
LCO				*i* S	**Sb**	**09 22 09.2**	**+0.7**
LCO				IAML		09 22 09.8	
	comp=E,3μm,0.6s						
GO04	**Tololo Observa**	**1.08**	**146**	*i* P	**Pb**	**09 22 04.3**	**+0.3**
GO04				*i* S	**Sn**	**09 22 18.9**	**-0.8**
GO04	**Tololo Observa**	**1.08**	**146**	⇓*i*P	**Pn**	**09 22 04.8**	**+0.3**
GO04				*i* S	**Sn**	**09 22 19.2**	**-0.5**
GO04				IAML		09 22 20.4	
	comp=N,8μm,0.4s						
CMCH	**Combarbala**	**1.94**	**168**	*e*P	**Pn**	**09 22 16.9**	**+0.6**
CMCH				*i* S	**Sn**	**09 22 41.6**	**+0.8**
AROD	**Rodeo**	**1.96**	**117**	*i* P	**Pb**	**09 22 19.2**	**0.0**
GO03	**Copiap**	**2.01**	**34**	*e*P	**Pn**	**09 22 16.7**	**-0.5**
GO03				*i* S	**Sn**	**09 22 41.0**	**-1.3**
GO03				IAML		09 22 49.2	
	comp=E,313nm,0.3s						
ACDV	**Cuesta del Vie**	**2.25**	**114**	*i* P	**Pb**	**09 22 23.3**	**-0.6**
ACCO	**Cerro Coronel**	**2.48**	**122**	*i* P	**Pb**	**09 22 27.1**	**-0.8**
RTLS	**Leoncito**	**3.15**	**144**	*i* P	**Pb**	**09 22 36.5**	**-2.9**
RTLS				IAML		09 23 22.4	
	comp=Z,46nm,0.6s						
ROCH	**El Roble**	**3.71**	**174**	*e*P	**Pn**	**09 22 41.2**	**+0.5**
ROCH				*e*S	**Sn**	**09 23 24.2**	**-0.4**
ROCH				IAML		09 23 50.1	
	comp=E,67nm,0.3s						
PEL	**Peldehue**	**3.92**	**170**	*e*P	**Pn**	**09 22 44.5**	**+1.1**
PEL				*e*S	**Sn**	**09 23 29.6**	**+0.1**
PEL				IAML		09 23 51.6	
	comp=E,50nm,0.7s						
FCH	**Farellones**	**4.17**	**166**	*e*P	**Pn**	**09 22 48.7**	**+1.5**

KRSC 18 09:28:30.3±10.0, 50.61N×157.75E, h48km±10km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**1.04**	**326**	*e*P	Pn	09 28 50.2	+1.7
PAU				*e*S	Sn	09 29 03.3	+1.4
SKR	**Severo-Kuril's**	**1.04**	**274**	*e*P	Pn	09 28 49.2	+0.7
SKR				*e*S	Sn	09 29 01.6	-0.3
KDTR	**Khodutka, Kamc**	**1.22**	**10**	*e*P	Pn	09 28 52.3	+1.4
KDTR				*e*S	Sn	09 29 07.7	+1.5
ASAK	**Asacha**	**1.77**	**3**	*e*P	Pn	09 29 00.8	+2.2
RUS	**Russkaya**	**1.89**	**14**	*e*P	Pn	09 29 01.6	+1.6
RUS				*e*S	Sn	09 29 23.8	+1.2
MTVR	**Mutnovka**	**1.89**	**8**	*e*P	Pn	09 29 02.5	+2.2
MTVR				*e*S	Sn	09 29 25.0	+2.0
KRMR	**Karymshinskiy**	**2.23**	**6**	*e*P	Pn	09 29 08.2	+3.4
APC	**Apacha**	**2.34**	**351**	*e*P	Pn	09 29 09.2	+2.9
PET	**Petropavlovsk**	**2.48**	**13**	*e*S	Sn	09 29 39.8	+2.6
DALK	**Dalny**	**2.50**	**14**	*e*P	Pn	09 29 11.1	+2.6
DALK				*e*S	Sn	09 29 40.8	+3.1
UGLR	**Uglovaya**	**2.68**	**14**	*e*P	Pn	09 29 14.7	+3.6
AVH	**Avacha**	**2.73**	**13**	*e*P	Pn	09 29 15.4	+3.8
AVH				*e*S	Sn	09 29 47.3	+3.9
SMAR	**Somma**	**2.73**	**13**	*e*P	Pn	09 29 15.4	+3.5
KOK	**Koryaka**	**2.74**	**11**	*e*P	Pn	09 29 16.0	+4.2
KOK				*e*S	Sn	09 29 49.0	+5.3
SDLR	**Sedlovina**	**2.76**	**14**	*e*P	Pn	09 29 14.8	+2.6
KRX	**Arik**	**2.81**	**11**	*e*P	Pn	09 29 17.2	+4.4
KRX				*e*S	Sn	09 29 50.7	+5.2
SPN	**Mys Shipunski**	**2.86**	**29**	*e*P	Pn	09 29 17.5	+4.1
GNL	**Ganaly**	**3.09**	**2**	*e*P	Pn	09 29 20.1	+3.4
MKZ	**Mys Kozlova**	**4.64**	**30**	*e*P	Pn	09 29 40.0	+2.3
KBTR	**Krutoberegovo**	**6.37**	**26**	*e*P	Pn	09 30 05.1	+3.6

*ISK **18** 09:34:34.7, 35.86N×26.93E, h8km, ML2.6/7*
*ISCJB **18** 09:34:35.5±0.7, 35.87N±0.03×26.98E±0.03, h2km±6km, Error ellipse: s-maj=5.0km s-min=3.2km az=150.8*
*ATH **18** 09:34:35.1, 35.84N×27.03E, h28km±4km, ML2.6/5, Error ellipse: s-maj=5.6km s-min=1.0km az=132.0*
*DDA **18** 09:34:36.6, 35.85N×27.16E, h17km±2km, ML3.0*
*THE **18** 09:34:36.5, 35.85N×27.04E, h1km±2km, ML2.6/7, Error ellipse: s-maj=3.0km s-min=0.7km az=130.0*
ISC 18 09:34:36.1±1.0, 35.84N±0.03×27.05E±0.03, h18km±5km, n33, σ1s16/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.31**	**163**	PG	**Pg**	**09 34 42.5**	**-0.3**
KARP				SG	**Sg**	**09 34 48.0**	**+0.6**
KARP	**Karpathos**	**0.31**	**163**	P	**Pg**	**09 34 42.6**	**-0.3**
KARP				S	**Sg**	**09 34 48.2**	**+0.6**
KARP	**Karpathos**	**0.31**	**163**	P	**Pg**	**09 34 42.5**	**-0.3**
KARP				S	**Sg**	**09 34 47.8**	**+0.5**
KARP				AML	AML	09 34 48.5	
	comp=E,2844μm,0.3s						
KARP				AML	AML	09 34 48.9	
	comp=N,2925μm,0.1s						
ARG	**Arkhangelos**	**0.95**	**66**	PG	**Pg**	**09 34 54.9**	**+0.3**
ARG	**Arkhangelos**	**0.95**	**66**	P	**Pg**	**09 34 54.9**	**+0.3**
ARG				S	**Sg**	**09 35 07.3**	**+0.2**
ARG	**Arkhangelos**	**0.95**	**66**	P	**Pb**	**09 34 54.6**	**+0.5**
ARG				S	**Sg**	**09 35 07.1**	**0.0**
ARG				AML	AML	09 35 09.9	
	comp=N,693μm,0.4s						
ARG				AML	AML	09 35 11.5	
	comp=E,732μm,0.6s						

s-min=10.8km az=18.0
*TEH **18** 09:53:24.4, 38˚.40N×46˚.66E, h4km, ML4.0*
*MOS **18** 09:53:25.4±2.0, 38˚.21N×46˚.53E, h15km, mb4.0/7, Error ellipse: s-maj=10.9km s-min=5.6km az=95.7*
*NNC **18** 09:53:37.9±9.2, 39˚.40N×46˚.98E, h0km, mb3.9, Error ellipse: s-maj=356.8km s-min=76.2km az=118.0*

ISC 18 09:53:24.7±1.2, 38˚.42N±0˚.02×46˚.62E±0˚.02, h0km±8km, n116, σ2°00/151, mb3.9/16, 36C-28D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
ITBZ	**Tabriz**	**0.42**	**243**	*e*Pg	**Pg**	**Pg**	**09 53 33.1**	**+0.5**
ITBZ				*e*Sg	**Sb**	**Sb**	**09 53 39.7**	**-2.2**
ITBZ				IAMB	IAmb	IAmb	09 53 43.4	
	comp=Z,75μm,0.4s							
ORD	**Ordubad**	**0.70**	**316**	*e*Pg	**Pg**	**Pg**	**09 53 38.1**	**-0.1**
ORD	**Ordubad**	**0.70**	**316**	⇑P	**Pg**	**Pg**	**09 53 38.1**	**-0.1**
ORD				⇓S	**Sg**	**Sg**	**09 53 48.2**	**+1.0**
IBST	**Bostanabad**	**0.75**	**163**	*e*Pg	**Pg**	**Pg**	**09 53 37.5**	**-1.6**
IBST				*e*Sg	**Sg**	**Sg**	**09 53 48.8**	**0.0**
IBST				IAMB	IAmb	IAmb	09 53 49.0	
	comp=Z,86μm,0.4s							
IMRD	**Marand**	**0.78**	**292**	*e*Pg	**Pg**	**Pg**	**09 53 39.5**	**0.0**
IMRD				IAMB	IAmb	IAmb	09 53 56.9	
	comp=Z,48μm,0.3s							
IAZR	**Azarshahr**	**0.90**	**214**	*e*Pg	**Pg**	**Pg**	**09 53 41.6**	**-0.3**
IAZR				IAMB	IAmb	IAmb	09 54 01.4	
	comp=E,7μm,0.4s							
IAZR				IAMB	IAmb	IAmb	09 54 03.0	
	comp=Z,65μm,0.4s							
NAX	**Nakhchivan**	**1.16**	**311**	PG	**Pb**	**Pb**	**09 53 46.4**	**-1.2**
NAX	**Nakhchivan**	**1.16**	**311**	*e*Pg	**Pb**	**Pb**	**09 53 46.4**	**-1.2**
NAX	**Nakhchivan**	**1.16**	**311**	⇑P	**Pb**	**Pb**	**09 53 46.4**	**-1.2**
NAX				⇓S	**Sn**	**Sn**	**09 54 03.1**	**-1.6**
SBZ	**Shahbuz**	**1.28**	**320**	*e*Pg	**Pn**	**Pn**	**09 53 48.2**	**-1.7**
SBZ	**Shahbuz**	**1.28**	**320**	⇓P	**Pn**	**Pn**	**09 53 48.2**	**-1.7**
SBZ				⇑S	**Sn**	**Sn**	**09 54 08.3**	**+0.5**
LRK	**Lerik**	**1.37**	**80**	*e*Pg	**Pn**	**Pn**	**09 53 49.6**	**-1.5**
LRK	**Lerik**	**1.37**	**80**	⇓P	**Pn**	**Pn**	**09 53 49.6**	**-1.5**
LRK				⇓S	**Sb**	**Sb**	**09 54 08.7**	**-0.6**
GLBA	**Clilabad**	**1.61**	**59**	*e*Pn	**Pb**	**Pb**	**09 53 54.5**	**-0.7**
GLBA	**Clilabad**	**1.61**	**59**	⇑P	**Pb**	**Pb**	**09 53 54.5**	**-0.7**
GLBA				⇑S	**Sg**	**Sg**	**09 54 17.8**	**+1.5**
ASTR	**Astara**	**1.71**	**85**	*e*Pn	**Pb**	**Pb**	**09 53 56.0**	**-0.9**
ASTR	**Astara**	**1.71**	**85**	⇓P	**Pb**	**Pb**	**09 53 56.1**	**-0.9**
ASTR				⇓S	**Sb**	**Sb**	**09 54 18.9**	**-0.1**
LKRN	**Lenkeran, Azer**	**1.72**	**80**	PN	**Pb**	**Pb**	**09 53 56.7**	**-0.3**
LKRN	**Lenkeran, Azer**	**1.72**	**80**	*e*Pn	**Pb**	**Pb**	**09 53 56.7**	**-0.3**
LKRN	**Lenkeran, Azer**	**1.72**	**80**	⇓P	**Pb**	**Pb**	**09 53 56.7**	**-0.3**
LKRN				⇓S	**Sb**	**Sb**	**09 54 19.1**	**-0.1**
MAHB	**Mahabad**	**1.81**	**204**	*e*Pn	**Pb**	**Pb**	**09 53 57.7**	**-1.0**
MAHB				IAMB	IAmb	IAmb	09 53 59.3	
	comp=Z,0.0nm,0.3s							
BRDA	**Brd**	**1.89**	**13**	*e*Pn	**Pb**	**Pb**	**09 53 59.7**	**-0.3**
BRDA	**Brd**	**1.89**	**13**	⇓P	**Pb**	**Pb**	**09 53 59.8**	**-0.3**
BRDA				⇑S	**Sg**	**Sg**	**09 54 27.2**	**+1.9**
HYR	**Heyderabad**	**1.89**	**314**	*e*Pn	**Pb**	**Pb**	**09 53 58.8**	**-1.3**
HYR	**Heyderabad**	**1.89**	**314**	⇓P	**Pb**	**Pb**	**09 53 58.8**	**-1.3**
HYR				⇑S	**Sg**	**Sg**	**09 54 25.9**	**+0.5**
SAAT	**Saatly**	**2.01**	**44**	⇑S	**Sb**	**Sb**	**09 54 26.6**	**-0.9**
ZRD	**Zardab**	**2.03**	**24**	*e*Pn	**Pb**	**Pb**	**09 54 02.0**	**-0.3**
ZRD	**Zardab**	**2.03**	**24**	⇓P	**Pb**	**Pb**	**09 54 02.1**	**-0.3**
ZRD				⇑S	**Sg**	**Sg**	**09 54 31.9**	**+2.0**
GANJ	**Ganja**	**2.23**	**354**	*e*Pn	**Pb**	**Pb**	**09 54 04.4**	**-1.5**
GANJ	**Ganja**	**2.23**	**354**	⇓P	**Pb**	**Pb**	**09 54 04.5**	**-1.5**
GANJ				⇓S	**Sb**	**Sb**	**09 54 33.3**	**-0.8**
GNI	**Garni**	**2.26**	**320**	*d i*PN	**Pb**	**Pb**	**09 54 05.6**	**-0.8**
GNI				pmax	pmax			
	comp=Z,2μm,0.6s							
GNI	**Garni**	**2.26**	**320**	*i*P	**Pb**	**Pb**	**09 54 05.6**	**-0.8**
GNI				*i*S	**Sg**	**Sg**	**09 54 37.5**	**+0.3**
GNI	**Garni**	**2.26**	**320**	Pn	**Pb**	**Pb**	**09 54 06.2**	**-0.2**
	comp=Z,60nm,0.3s,baz=140,slow=0.5,SNR=152							
GNI				Lg	Lg	Lg	09 54 38.1	
	comp=Z,98nm,0.3s,baz=346,slow=24,SNR=8.3							
KDMR	**Kurdemir**	**2.30**	**31**	*e*Pn	**Pb**	**Pb**	**09 54 06.9**	**0.0**
KDMR	**Kurdemir**	**2.30**	**31**	⇓P	**Pb**	**Pb**	**09 54 06.9**	**0.0**
KDMR				⇑S	**Sg**	**Sg**	**09 54 38.5**	**+0.1**
MNGR	**Mingechevir, A**	**2.38**	**9**	PN	**Pb**	**Pb**	**09 54 06.9**	**-1.4**
MNGR	**Mingechevir, A**	**2.38**	**9**	*e*Pn	**Pb**	**Pb**	**09 54 06.9**	**-1.4**
MNGR	**Mingechevir, A**	**2.38**	**9**	⇑P	**Pb**	**Pb**	**09 54 07.0**	**-1.4**
MNGR				⇓S	**Sb**	**Sb**	**09 54 39.8**	**+1.7**
GDB	**GEDABAY**	**2.39**	**344**	*e*Pn	**Pb**	**Pb**	**09 54 06.9**	**-1.7**
GDB	**GEDABAY**	**2.39**	**344**	⇑P	**Pb**	**Pb**	**09 54 07.0**	**-1.7**
GDB				⇓S	**Sb**	**Sb**	**09 54 39.8**	**+1.0**
ALIB	**Äli-Bayra**	**2.41**	**50**	*e*Pn	**Pb**	**Pb**	**09 54 09.0**	**+0.2**
ALIB	**Äli-Bayra**	**2.41**	**50**	⇓P	**Pb**	**Pb**	**09 54 09.0**	**+0.2**
IML	**Ismayilli**	**2.66**	**27**	*e*Pn	**Pb**	**Pb**	**09 54 10.6**	**+1.8**
IML	**Ismayilli**	**2.66**	**27**	⇑P	**Pb**	**Pb**	**09 54 10.6**	**+1.8**
IML				⇓S	**Sb**	**Sb**	**09 54 43.6**	**-2.7**
QBL	**Gabala**	**2.69**	**20**	*e*Pn	**Pb**	**Pn**	**09 54 10.7**	**+1.5**
QBL	**Gabala**	**2.69**	**20**	⇑P	**Pb**	**Pn**	**09 54 10.8**	**+1.5**
QBL				⇓S	**Sb**	**Sb**	**09 54 47.5**	**+0.2**
QZX	**Qazax, Azerbai**	**2.80**	**340**	*e*Pn	**Pb**	**Pb**	**09 54 15.2**	**-0.4**
QZX	**Qazax, Azerbai**	**2.80**	**340**	⇑P	**Pb**	**Pb**	**09 54 15.3**	**-0.4**
QZX				⇑S	**Sb**	**Sb**	**09 54 52.9**	**+2.4**
PQL	**Pirkuli**	**2.81**	**32**	*e*Pn	**Pn**	**Pn**	**09 54 12.6**	**+1.6**
PQL	**Pirkuli**	**2.81**	**32**	⇑P	**Pn**	**Pn**	**09 54 12.7**	**+1.6**
PQL				⇑S	**Sb**	**Sb**	**09 54 51.2**	**+0.3**
SEKA	**Sheki**	**2.82**	**9**	PN	**Pn**	**Pn**	**09 54 12.4**	**+1.4**
SEKA	**Sheki**	**2.82**	**9**	*e*Pn	**Pn**	**Pn**	**09 54 12.4**	**+1.4**
SEKA	**Sheki**	**2.82**	**9**	⇑P	**Pn**	**Pn**	**09 54 12.4**	**+1.4**
SEKA				⇑S	**Sb**	**Sb**	**09 54 50.1**	**-0.9**
XNQ	**Khinaliq**	**2.99**	**23**	*e*Pn	**Pn**	**Pn**	**09 54 13.7**	**+0.3**
XNQ	**Khinaliq**	**2.99**	**23**	⇑P	**Pn**	**Pn**	**09 54 13.7**	**+0.3**
XNQ				⇓S	**Sn**	**Sn**	**09 54 51.8**	**+1.7**
ATGJ	**Altiaghaj**	**3.02**	**36**	*e*Pn	**Pb**	**Pb**	**09 54 16.6**	**-2.8**
ATGJ	**Altiaghaj**	**3.02**	**36**	⇑P	**Pb**	**Pb**	**09 54 16.7**	**-2.8**
ATGJ				⇑S	**Sb**	**Sb**	**09 54 58.8**	**+1.9**
DDFL	**Dedoflistskaro**	**3.04**	**353**	P	**Pb**	**Pb**	**09 54 18.4**	**-1.4**
DDFL				S	**Sg**	**Sg**	**09 55 01.1**	**-1.3**
AKT	**Akhty**	**3.17**	**15**	*e*PN	**Pb**	**Pb**	**09 54 19.6**	**-2.3**
SIZA	**Siyzn**	**3.18**	**33**	*e*Pn	**Pn**	**Pn**	**09 54 18.2**	**+2.2**
SIZA	**Siyzn**	**3.18**	**33**	⇑P	**Pn**	**Pn**	**09 54 18.3**	**+2.2**
SIZA				⇑S	**Sb**	**Sb**	**09 54 59.7**	**-1.7**
ZKTA	**Zakatala**	**3.21**	**0**	PN	**Pb**	**Pb**	**09 54 19.9**	**-2.7**
ZKTA	**Zakatala**	**3.21**	**0**	*e*Pn	**Pb**	**Pb**	**09 54 19.9**	**-2.7**
ZKTA	**Zakatala**	**3.21**	**0**	⇓P	**Pb**	**Pb**	**09 54 19.9**	**-2.7**
ZKTA				⇑S	**Sb**	**Sb**	**09 55 01.8**	**-0.5**
QUBA	**Quba**	**3.24**	**24**	*e*Pn	**Pn**	**Pn**	**09 54 19.8**	**+2.8**
QUBA	**Quba, Azerbaij**	**3.27**	**26**	⇑P	**Pn**	**Pn**	**09 54 19.8**	**+2.7**
QUBA				⇑S	**Sb**	**Sb**	**09 55 01.5**	**-2.3**
QSAR	**Qusar**	**3.34**	**22**	*e*Pn	**Pn**	**Pn**	**09 54 21.0**	**+2.9**
QSAR	**Qusar**	**3.34**	**22**	⇓P	**Pn**	**Pn**	**09 54 21.0**	**+2.9**
QSAR				⇓S	**Sb**	**Sb**	**09 55 02.3**	**-3.5**
KZRT	**Kazreti**	**3.42**	**331**	P	**Pb**	**Pb**	**09 54 26.3**	**+0.2**
KZRT				S	**Sg**	**Sg**	**09 55 12.7**	**-1.8**
LGD	**Lagodekhi**	**3.42**	**355**	P	**Pn**	**Pn**	**09 54 22.3**	**+3.1**
LGD				S	**Sb**	**Sb**	**09 55 08.5**	**+0.2**
LGD	**Lagodekhi**	**3.42**	**355**	PN	**Pn**	**Pn**	**09 54 22.3**	**+3.1**
LGD				S	**Sb**	**Sb**	**09 55 08.5**	**+0.2**
BTNK	**Botanikuri**	**3.54**	**337**	P	**Pb**	**Pb**	**09 54 28.4**	**+0.2**
BTNK				S	**Sg**	**Sg**	**09 55 16.3**	**-2.2**
QABG	**Abgarm-Qazvin**	**3.60**	**138**	*e*Pn	**Pn**	**Pn**	**09 54 22.3**	**+0.4**
TBLG	**Delisi**	**3.61**	**337**	P	**Pb**	**Pb**	**09 54 29.2**	**-0.1**
TBLG				S	**Sg**	**Sg**	**09 55 18.9**	**-1.6**
TBLG	**Delisi**	**3.61**	**337**	PN	**Pb**	**Pb**	**09 54 29.2**	**-0.1**
TBLG				S	**Sg**	**Sg**	**09 55 18.9**	**-1.6**
QALM	**Alamut, Qazvin**	**3.77**	**121**	*e*Pn	**Pn**	**Pn**	**09 54 25.3**	**+1.0**
GNBR	**Gunib**	**3.97**	**4**	*e*PN	**Pn**	**Pb**	**09 54 32.7**	**-2.8**
IMHD	**Mahdasht**	**4.24**	**129**	IAMB	IAmb	IAmb	09 55 45.1	
	comp=Z,929nm,0.4s							
IKOM	**Komasi**	**4.30**	**170**	*e*Pn	**Pn**	**Pn**	**09 54 34.8**	**+3.3**
GUDG	**Gudauri**	**4.36**	**339**	P	**Pb**	**Pb**	**09 54 42.2**	**0.0**
GROC	**Groznyy**	**4.82**	**353**	*e*PN	Pb	Pb	09 54 45.3	-4.6
GROC				*e*			09 54 58.5	
GROC				*e*S	**Sb**	**Sb**	**09 55 46.2**	**-2.2**
GROC				pmax	pmax			
	comp=Z,24nm,0.6s							
GROC				smax	smax			
	comp=N,53nm,1.2s							
GROC				smax	smax			
	comp=E,156nm,2.3s							
ZEI	**Tsey**	**4.83**	**335**	*e*PN	Pb	Pb	09 54 45.2	-5.0
ZEI				pmax	pmax			
	comp=Z,18nm,0.5s							
KBZ	**Khabaz**	**6.00**	**333**	Pg	**Pb**	**Pb**	**09 55 11.7**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=151,slow=16,SNR=3.7							
KBZ				Lg	Lg	Lg	09 56 37.4	
	comp=Z,0.2nm,0.3s,baz=59,slow=19,SNR=3.0							
KIV	**Kislovodsk**	**6.27**	**333**	*e*P	**Pn**		**09 54 59.0**	**+0.5**
KIV				pmax	pmax			
	comp=Z,22nm,0.9s							
KIV				MLR	MLR			
	comp=Z,39nm,8.0s							
GEYT	**Alibeck**	**9.07**	**90**	Pn	**Pn**		**09 55 36.4**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=291,slow=18,SNR=3.9							
ANN	**Anapa**	**9.37**	**316**	*e*P	**Pn**		**09 55 38.7**	**-2.2**
ANN				pmax	pmax			
	comp=Z,41nm,1.0s							
BRTR	**Keskin Array B**	**10.18**	**281**	Pn	**Pn**		**09 55 53.1**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=134,slow=17,SNR=2.9							
AB31	**Akbulak array**	**14.46**	**37**	⇑Pn	**Pn**		**09 56 48.2**	**-2.2**
	comp=Z,0.7nm,0.4s,baz=223,slow=14,SNR=30							
AB31				⇓Sn	**Sn**		**09 59 23.2**	**-8.2**
	comp=Z,0.8nm,0.5s,baz=220,slow=21,SNR=3.9							
AKTO	**Aktyubinsk**	**14.49**	**30**	⇓Pn	**Pn**		**09 56 49.3**	**-1.6**
	comp=Z,4.4nm,0.8s							
AKTO				⇑Sn	**Sn**		**09 59 24.0**	**-8.1**
	comp=Z,1.6nm,0.6s							
AKTO	**Aktyubinsk**	**14.49**	**30**	Pn	**Pn**		**09 56 47.8**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=199,slow=12,SNR=9.4							
AKASG	**Malin Array Be**	**17.39**	**321**	*ce*P	**P**		**09 57 29.0**	**-1.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WSAR	**Wadi Sarin**	**18.29**	**142**	LR	LR		10 06 09.4	
	comp=Z,47nm,18.4s,baz=9.5,slow=42							
ARU	**Arti**	**19.69**	**20**	*c i*P	**Pn**		**09 57 56.3**	**-0.3**
ARU				S	**Sn**		**10 01 40.6**	**+2.5**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.7s							
AAK	**Ala-Archa**	**21.56**	**70**	*ce*P	**P**		**09 58 20.9**	**+5.2**
AAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**21.56**	**70**	P	**P**		**09 58 15.4**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=228,slow=16,SNR=1.9							
BRVK	**Borovoye**	**21.92**	**40**	⇓*e*P	**P**		**09 58 24.2**	**+4.8**
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BVA0	**Borovoye Array**	**21.96**	**41**	P	**P**		**09 58 24.7**	**+4.9**
	comp=Z,1.4nm,0.6s,baz=241,slow=8.0,SNR=11							
BVAR	**Borovoye Array**	**21.96**	**41**	P	**P**		**09 58 19.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=250,slow=7.1,SNR=3.7							
VYHS	**Vyhne**	**22.43**	**306**	*e*P	**P**		**09 58 29.2**	**+4.3**
VYHS	**Vyhne**	**22.43**	**306**	*e*P	**P**		**09 58 29.2**	**+4.3**
KLMR	**Klimovskoe**	**22.89**	**351**	*e*P	**P**		**09 58 30.1**	**+0.5**
KLMR				pmax	pmax			
	comp=Z,11nm,1.2s							
KLMR	**Klimovskoe**	**22.89**	**351**	*e*P	**P**		**09 58 30.1**	**+0.5**
KLMR				AMP			09 58 38.6	
	comp=Z,11nm,1.2s							
KURBB	**Kurchatov Arra**	**25.60**	**51**	P	**P**		**09 58 55.6**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=261,slow=9.4,SNR=7.7							
KURK	**Kurchatov**	**25.68**	**51**	⇑*e*P	**P**		**09 58 56.6**	**+0.5**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GERES	**GERESS Array B**	**25.82**	**304**	*e*P	**P**		**09 58 59.0**	**+1.5**
GERES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**25.82**	**304**	P	**P**		**09 58 57.4**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=98,slow=9.6,SNR=9.0							
FINES	**FINESS Array B**	**26.34**	**338**	P	**P**		**09 59 02.5**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=165,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**27.36**	**61**	*e*P	**P**		**09 59 15.5**	**+4.1**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**27.36**	**61**	P	**P**		**09 59 11.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=266,slow=11,SNR=5.6							
HFS	**Hagfors**	**30.03**	**327**	P	**P**		**09 59 35.9**	**+0.9**
	comp=Z,4.7nm,1.0s,baz=157,slow=15,SNR=2.8							
ARCES	**ARCESS Array B**	**33.17**	**347**	P	**P**		**10 00 03.3**	**+0.8**
	comp=Z,3.6nm,0.9s,baz=135,slow=14,SNR=2.7							
ULN	**Ulaanbaatar**	**44.07**	**57**	*ce*P	**P**		**10 01 36.3**	**+1.9**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**47.03**	**250**	P	**P**		**10 01 56.3**	**-1.7**
	comp=Z,1.0nm,1.0s,baz=25,slow=8.9,SNR=5.5							
CMAR	**Chiang Mai Arr**	**49.42**	**98**	P	**P**		**10 02 15.8**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=304,slow=9.2,SNR=5.2							
SEY	**Seymchan**	**63.08**	**30**	⇑*e*P	**P**		**10 03 56.1**	**+2.7**
YKA	**Yellowknife Ar**	**78.30**	**351**	P	**P**		**10 05 25.6**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=7.6,slow=5.6,SNR=5.3							

*ISCJB **18** 09:54:10.8±1.0, 54˚.2N±0˚.2×34˚.7W±0˚.3, h10km, mb3.4/6, MS3.2/6, Error ellipse: s-maj=33.7km s-min=18.9km az=30.7*
*IDC **18** 09:54:10.6±1.0, 54˚.17N×34˚.64W, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.3/71, mbtmp3.4/6, MS3.3/6, Ms1 3.3/6, ms1mx2.9/34, Error ellipse: s-maj=38.7km s-min=21.9km az=37.0*

ISC 18 09:54:12.1±1.0, 54˚.2N±0˚.2×34˚.6W±0˚.2, h10km, n12, σ1°39/8, mb3.4/6, MS3.3/6, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
NOA	**NORSAR Array B**	**25.05**	**56**	LR	LR	LR	10 08 44.0	
	comp=Z,19nm,18.9s,baz=15,slow=5.5							
ESDC	**Sonseca Array**	**25.21**	**113**	P	**P**	**P**	**09 59 39.4**	**+1.6**
	0.2nm,0.3s,baz=314,slow=10.0,SNR=2.6							
DAVOX	**Davos/Dischmat**	**28.86**	**86**	LR	LR		10 11 47.5	
	comp=Z,63nm,19.0s,baz=259,slow=37							
ULM	**Lac du Bonnet**	**36.71**	**290**	LR	LR		10 14 59.7	
	comp=Z,43nm,19.5s,baz=18,slow=34							
YKA	**Yellowknife Ar**	**40.20**	**315**	P	**P**		**10 01 47.2**	**-0.8**
	0.3nm,0.6s,baz=65,slow=8.3,SNR=4.9							
YKA				PcP	**PcP**		**10 03 50.7**	**-1.2**
	0.4nm,0.8s,baz=61,slow=3.5,SNR=4.7							
INK	**Inuvik**	**44.19**	**328**	LR	LR		10 18 48.0	
	comp=Z,54nm,18.7s,baz=61,slow=33							
PDAR	**Pinedale Array**	**48.72**	**289**	LR	LR		10 20 44.0	
	comp=Z,46nm,19.5s,baz=56,slow=33							
TORD	**Torodi Ar. Bea**	**49.88**	**131**	P	**P**		**10 03 04.1**	**-1.4**
	0.3nm,0.8s,baz=318,slow=6.9,SNR=2.3							
TIXI	**Tiksi**	**53.94**	**6**	P	**P**		**10 03 34.8**	**-0.3**
	0.8nm,0.5s,baz=353,slow=6.4,SNR=9.4							
TXAR	**Lajitas Array**	**54.70**	**272**	P	**P**		**10 03 42.8**	**+1.4**
	0.3nm,0.8s,baz=59,slow=4.8,SNR=4.0							
TXAR				LR	LR		10 24 59.2	
	comp=Z,23nm,18.0s,baz=0.0,slow=34							
SONM	**Songino Array**	**73.16**	**26**	P	**P**		**10 05 43.7**	**+1.1**
	0.3nm,0.8s,baz=343,slow=4.6,SNR=3.6							
ASAR	**Alice Springs**	**148.35**	**20**	PKPbc	**PKPbc**		**10 13 58.1**	**-0.3**
	1.2nm,0.7s,baz=353,slow=2.4,SNR=23							

*SJA **18** 09:55:09.1±0.7, 33˚.99S×71˚.38W, h20km±4km, ML3.7, MW4.8*
*GUC **18** 09:55:10.6±0.8, 33˚.94S×71˚.43W, h51km±6km, ML3.7*

ISC 18 09:55:10.9±1.1, 33˚.95S±0˚.04×71˚.43W±0˚.05, h25km±15km, n18, σ0°99/29, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
CHPI	**Pichilemu**	**0.65**	**227**	⇓*i*P	**Pb**	**Pb**	**09 55 24.1**	**+0.5**
CHPI				*i*S	**Sb**	**Sb**	**09 55 33.6**	**+1.3**
ANTU	**Antumapu**	**0.77**	**61**	*e*P	**Pb**	**Pb**	**09 55 25.4**	**-0.3**
ANTU				*i*S	**Sb**	**Sb**	**09 55 36.0**	**+0.3**
ANTU				IAML			09 55 37.7	
	comp=N,5μm,0.1s							
CLCH	**Cerro Calan**	**0.93**	**54**	⇓*i*P	**Pb**	**Pb**	**09 55 27.8**	**-0.6**
CLCH				*i*S	**Sb**	**Sb**	**09 55 40.6**	**+0.2**
CLCH				IAML			09 55 46.7	
	comp=E,2μm,0.2s							
PEL	**Peldehue**	**1.02**	**38**	*i*P	**Pb**	**Pb**	**09 55 28.7**	**-1.2**
PEL				*i*S	**Sb**	**Sb**	**09 55 43.9**	**+1.1**
PEL	**Peldehue**	**1.02**	**38**	⇓*i*P	**Pb**	**Pb**	**09 55 29.0**	**-0.9**
PEL				*i*S	**Sb**	**Sb**	**09 55 42.6**	**-0.2**
PEL				IAML			09 55 46.7	
	comp=N,2μm,0.2s							
LMEL	**Las Melosas**	**1.03**	**85**	⇓*i*P	**Pb**	**Pb**	**09 55 29.5**	**-0.7**
LMEL				*i*S	**Sb**	**Sb**	**09 55 43.5**	**+0.2**
LMEL				IAML			09 55 46.6	
	comp=N,6μm,0.2s							
ROC1	**El Roble**	**1.03**	**20**	*i*P	**Pb**	**Pb**	**09 55 29.4**	**-0.8**
ROC1				*i*S	**Sb**	**Sb**	**09 55 44.7**	**+1.3**
ROCH	**El Roble**	**1.03**	**20**	⇑*i*P	**Pb**	**Pb**	**09 55 29.4**	**-0.9**
ROCH				*i*S	**Sb**	**Sb**	**09 55 43.5**	**0.0**
ROCH				IAML			09 55 45.1	
	comp=N,3μm,0.4s							
FCH	**Farellones**	**1.14**	**57**	⇓*i*P	**Pn**	**Pn**	**09 55 30.8**	**-0.8**
FCH				*i*S	**Sb**	**Sb**	**09 55 45.8**	**-0.7**
FCH				IAML			09 55 47.1	
	comp=E,3μm,0.2s							
GO05	**Huala**	**1.14**	**201**	*i*P	**Pn**	**Pn**	**09 55 30.6**	**-0.7**
GO05				*i*S	**Sb**	**Sb**	**09 55 46.1**	**-0.2**
GO05	**Huala**	**1.14**	**201**	⇑*i*P	**Pn**	**Pn**	**09 55 30.4**	**-0.8**
GO05				*i*S	**Sb**	**Sb**	**09 55 46.4**	**+0.1**
AUSP	**Uspallata**	**2.43**	**46**	*i*P	**Pn**	**Pn**	**09 55 51.3**	**+2.1**
CCHI	**Chillan**	**2.70**	**191**	IAML			09 56 40.7	
	comp=N,518nm,0.5s							
CMCH	**Combarbala**	**2.79**	**8**	*i*P	**Pn**	**Pn**	**09 55 53.6**	**-0.5**
CMCH				*i*S	**Sn**	**Sn**	**09 56 27.0**	**+0.1**
RTLS	**Leoncito**	**2.80**	**41**	*i*P	**Pn**	**Pn**	**09 55 56.3**	**+2.0**
RTLS				IAML			09 56 14.9	
	comp=Z,135nm,0.3s							
RTCV	**Cerro Valdivia**	**3.20**	**50**	*i*P	**Pn**	**Pn**	**09 56 00.8**	**+1.1**
RTLL	**Cerro Villicun**	**3.61**	**45**	*i*P	**Pn**	**Pn**	**09 56 06.7**	**+1.4**
RTLL				IAML			09 56 57.5	
	comp=N,341nm,0.5s							
GO04	**Tololo Observa**	**3.80**	**8**	*e*P	**Pn**	**Pn**	**09 56 07.2**	**-0.9**

*ISCJB **18** 10:10:19.0±0.6, 67˚.57N±0˚.05×142˚.7E±0˚.2, h10km, mb3.3/4, Error ellipse: s-maj=8.5km s-min=6.6km az=0.1*
*IDC **18** 10:10:18.6±1.3, 67˚.63N×142˚.56E, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.3/43, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=31.2km s-min=16.1km az=32.0*
*YARS **18** 10:10:20.5±0.2, 67˚.58N±0˚.01×142˚.82E±0˚.04, h17km±3km*

ISC 18 10:10:19.2±0.7, 67˚.61N±0˚.04×142˚.69E±0˚.04, h10km, n11, σ1°03/17, mb3.2/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
MOMR	**Moma**	**1.17**	**170**	*i*P	**Pb**	**Pb**	**10 10 40.6**	**-0.8**
MOMR				Pmax			10 10 40.6	
	comp=Z,126nm,0.2s							
MOMR				*e*S	**Sb**	**S

17nm,0.3s,baz=135,slow=6.2,SNR=12
BATI Sn **Sn** **11 04 50.3 +0.6**
37nm,0.3s,baz=139,slow=19,SNR=18
MMRI Maumere 3.33 297 P **Pn** **11 04 52.2 -1.6**
EDFI Ende, Flores 3.77 291 P **Pn** **11 04 57.9 -2.1**
WRA Warramunga Arr 13.10 139 Pn **Pn** **11 07 09.4 +1.3**
0.5nm,0.3s,baz=311,slow=14,SNR=41
WRA Sn **Sn** **11 09 30.4 -3.6**
0.5nm,0.3s,baz=313,slow=24,SNR=6.8
ASAR Alice Springs 15.78 149 Pn **Pn** **11 07 46.0 +1.9**
0.3nm,0.3s,baz=320,slow=11,SNR=29
ASAR Sn **Sn** **11 10 33.8 -5.3**
0.1nm,0.3s,baz=323,slow=23,SNR=3.1
STKA Stephens Creek 26.39 147 P **P** **11 09 40.6 +2.2**
1.2nm,0.6s,baz=310,slow=17,SNR=3.4
MKAR Makanchi Array 68.42 330 P **P** **11 15 06.2 +2.4**
0.2nm,0.6s,baz=132,slow=8.0,SNR=2.5

IDC 18 11:40:32.3±2.1,0.55N×125.32E,h0km,mb3.1/3,
mb1 3.3/3,mb1mx3.2/31,mbtmp3.2/3,MS2.9/1,Ms1 3.1/1,
ms1mx2.4/16,Error ellipse: s-maj=184.5km
s-min=28.2km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.20**	**157**	P	P	11 45 31.6	+1.1
	0.3nm,0.3s,baz=336,slow=10,SNR=17						
ASAR	**Alice Springs**	**25.48**	**161**	P	P	11 46 01.2	-1.2
	0.1nm,0.5s,baz=341,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**31.42**	**306**	LR	LR	12 00 47.7	
	comp=Z,21nm,18.1s,baz=198,slow=39						
MKAR	**Makanchi Array**	**59.39**	**327**	P	P	11 50 36.7	+0.1
	0.3nm,0.8s,baz=145,slow=7.9,SNR=2.5						

AZER ***18*** *11:59:45.9±0.1,38.51N×46.65E,h6km,ml3.0/15,Error ellipse: s-maj=5.8km s-min=0.6km az=19.0*
TEH ***18*** *11:59:47.5,38.42N×46.68E,h5km,ML3.1*
NSSP ***18*** *11:59:47.8,38.45N×46.53E,h12km,Ms3.1*
ISC 18 11:59:48.1±1.1,38.37N±0.03×46.58E±0.03,h8km±10km,
n22,σ0.82/37,15C-14D,Iran-Armenia-Azerbaijan border
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITBZ	**Tabriz**	**0.37**	**248**	*e*Pg	**Pg**	**11 59 56.2**	**+0.8**
ITBZ				*e*Sg	**Sb**	**12 00 02.8**	**0.0**
ITBZ				IAMB	IAmb	12 00 03.6	
	comp=Z,22μm,0.2s						
IBST	**Bostanabad**	**0.71**	**160**	*e*Pg	**Pg**	**12 00 01.2**	**-0.7**
IBST				IAMB	IAmb	12 00 14.1	
	comp=Z,13μm,0.2s						
ORD	**Ordubad**	**0.72**	**321**	⇑P	**Pg**	**12 00 02.2**	**+0.2**
ORD				⇓S	**Sg**	**12 00 11.9**	**+0.5**
IMRD	**Marand**	**0.77**	**297**	IAMB	IAmb	12 00 19.3	
	comp=Z,15μm,0.2s						
IMRD				*e*Pg	**Pg**	**12 00 03.0**	**+0.1**
IAZR	**Azarshahr**	**0.84**	**215**	IAMB	IAmb	12 00 18.3	
	comp=Z,7μm,0.2s						
IAZR				*e*Pg	**Pb**	**12 00 05.0**	**0.0**
IAZR				IAMB	IAmb	12 00 19.8	
	comp=N,18μm,0.2s						
NAX	**Nakhchivan**	**1.17**	**314**	⇓P	**Pb**	**12 00 10.4**	**-0.2**
NAX				⇑S	**Sn**	**12 00 26.8**	**-0.1**
SBZ	**Shahbuz**	**1.30**	**322**	⇑P	**Pb**	**12 00 12.7**	**-0.1**
SBZ				⇑S	**Sn**	**12 00 30.4**	**+0.1**
LRK	**Lerik**	**1.41**	**78**	⇓P	**Pb**	**12 00 14.6**	**-0.1**
LRK				⇑S	**Sg**	**12 00 33.5**	**0.0**
STKZ		**1.45**	**5**	⇑*i*P	**Pg**	**12 00 15.7**	**-0.1**
STKZ				⇓*i*S	**Sg**	**12 00 35.5**	**+0.9**
GLBA	**Clilabad**	**1.66**	**58**	⇓P	**Pn**	**12 00 18.0**	**+0.5**
GLBA				⇓S	**Sg**	**12 00 41.3**	**-0.3**
MAHB	**Mahabad**	**1.75**	**204**	*e*Pn	**Pg**	**12 00 21.4**	**-0.2**
MAHB				IAMB	IAmb	12 00 48.8	
	comp=N,0.0nm,0.5s						
ASTR	**Astara**	**1.75**	**83**	⇑P	**Pb**	**12 00 19.9**	**-0.4**
ASTR				⇑S	**Sg**	**12 00 44.3**	**0.0**
LKRN	**Lenkeran, Azer**	**1.76**	**78**	⇑P	**Pn**	**12 00 19.4**	**+0.6**
LKRN				⇓S	**Sg**	**12 00 44.3**	**-0.4**
HYR	**Heyderabad**	**1.90**	**316**	⇑P	**Pb**	**12 00 22.1**	**-0.9**
HYR				⇑S	**Sg**	**12 00 49.2**	**-0.1**
BRDA	**Brd**	**1.95**	**14**	⇑S	**Sg**	**12 00 51.7**	**+1.1**
GNI	**Garni**	**2.28**	**322**	*i* P	**Pb**	**12 00 29.4**	**-0.1**
GNI				*i* S	**Sg**	**12 00 59.4**	**-1.9**
GANJ	**Ganja**	**2.28**	**355**	⇓P	**Pn**	**12 00 26.8**	**+0.8**
GANJ				⇓S	**Sb**	**12 00 57.2**	**-0.6**
GDB	**GEDABAY**	**2.43**	**345**	⇑P	**Pb**	**12 00 31.1**	**-1.1**
GDB				⇓S	**Sb**	**12 01 01.7**	**-0.6**
QZX	**Qazax, Azerbai**	**2.84**	**341**	⇑P	**Pb**	**12 00 39.7**	**+0.7**
QZX				⇓S	**Sb**	**12 01 11.5**	**-2.5**
PQL	**Pirkuli**	**2.87**	**32**	⇑P	**Pn**	**12 00 35.6**	**+1.3**
PQL				⇑S	**Sn**	**12 01 10.6**	**+1.5**
SEKA	**Sheki**	**2.88**	**9**	⇓P	**Pn**	**12 00 34.6**	**+0.3**
XNQ	**Khinaliq**	**3.05**	**23**	⇓P	**Pn**	**12 00 36.9**	**+0.2**

AZER ***18*** *12:15:09.6±0.1,39.58N×52.02E,h13km,ml3.3/14,Error ellipse: s-maj=25.6km s-min=1.9km az=275.0*
ISC 18 12:15:07.6±3.3,39.61N±0.07×52.36E±0.07,h15km±23km,
n16,σ2.917/28,11C-19D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDR	**Nardaran**	**2.06**	**299**	⇓Pn	**Pb**	**12 15 43.3**	**-1.3**
NDR				⇓Sn	**Sb**	**12 16 09.7**	**-0.4**
GOBA	**Gobu**	**2.16**	**292**	⇓Pn	**Pn**	**12 15 44.2**	**+1.1**
GOBA				⇓Sn	**Sb**	**12 16 13.7**	**+0.6**
ATGJ	**Altiaghaj**	**2.90**	**297**	⇑Pn	**Pn**	**12 15 55.1**	**+1.8**
ATGJ				⇑Sn	**Sb**	**12 16 32.6**	**-1.7**
LKRN	**Lenkeran, Azer**	**2.92**	**253**	⇓Pn	**Pn**	**12 15 55.1**	**+1.6**
LKRN				⇓Sn	**Sn**	**12 16 29.6**	**+1.3**
ASTR	**Astara**	**2.97**	**250**	⇓Pn	**Pn**	**12 15 55.9**	**+1.7**
ASTR				⇓Sn	**Sn**	**12 16 31.1**	**+1.7**
SIZA	**Siyzn**	**3.02**	**300**	⇑Pn	**Pn**	**12 15 57.0**	**+2.0**
SIZA				⇓Sn	**Sb**	**12 16 34.8**	**-3.0**
GLBA	**Clilabad**	**3.09**	**264**	⇓Pn	**Pn**	**12 15 56.8**	**+1.0**
GLBA				⇓Sn	**Sn**	**12 16 31.7**	**-0.8**
PQL	**Pirkuli**	**3.11**	**293**	⇓Pn	**Pn**	**12 15 58.5**	**+2.2**
LRK	**Lerik**	**3.27**	**254**	⇓Pn	**Pb**	**12 16 02.9**	**-2.5**
	SNR=5.8						
LRK				⇑Sn	**Sn**	**12 16 37.0**	**-0.2**
QUBA	**Quba, Azerbaij**	**3.42**	**302**	⇓Pn	**Pn**	**12 16 03.2**	**+2.7**
QUBA				⇑Sn	**Sb**	**12 16 47.8**	**-1.5**
XNQ	**Khinaliq**	**3.58**	**297**	⇓Pn	**Pn**	**12 16 04.3**	**+1.6**
	SNR=8.7						
XNQ				⇑Sn	**Sb**	**12 16 53.3**	**-0.7**
QSAR	**Qusar**	**3.65**	**303**	⇑Pn	**Pn**	**12 16 04.9**	**+1.3**
	SNR=7.1						
QSAR				⇓Sn	**Sn**	**12 16 49.9**	**+3.5**
SEKA	**Sheki**	**4.25**	**294**	⇓Pn	**Pn**	**12 16 13.2**	**+1.4**
GDB	**GEDABAY**	**5.18**	**284**	⇓Pn	**Pn**	**12 16 26.3**	**+1.6**
	SNR=5.8						
GDB				⇓Sn	Sn	12 17 14.6	-10
AB31	**Akbulak array**	**11.06**	**27**	⇑Pn	**Pn**	**12 17 47.4**	**+2.3**
	0.3nm,0.4s,baz=211,slow=14,SNR=16						
AB31				⇑Sn	**Sn**	**12 19 43.1**	**-5.3**
	0.4nm,0.2s,baz=220,slow=24,SNR=9.9						
AKTO	**Aktyubinsk**	**11.54**	**18**	⇓Pn	**Pn**	**12 17 53.3**	**+1.6**
	0.7nm,0.4s						
AKTO				⇑Sn	Sn	12 19 50.8	-9.3
	4.9nm,0.8s						

ISCJB ***18*** *12:23:15.0±0.2,11.60S±0.04×166.55E±0.05,h100km,*
mb4.6/79,Error ellipse: s-maj=6.4km s-min=5.5km az=9.7
MOS ***18*** *12:23:18.4±0.9,11.63S×166.48E,h131km,mb4.7/20,*
Error ellipse: s-maj=14.5km s-min=11.3km az=167.0
NEIC ***18*** *12:23:19.1±0.8,11.59S×166.54E,h125km±7km,mb4.7/50,*
Error ellipse: s-maj=4.5km s-min=3.8km az=55.0
BJI ***18*** *12:23:19.6,11.38S×166.32E,h123km,mb4.7/21,*
mB4.9/13
IDC ***18*** *12:23:21.9±2.9,11.57S×166.52E,h148km±26km,*
mb4.2/23,mb1 4.3/25,mb1mx4.2/42,mbtmp4.6/25,MS3.3/5,
Ms1 3.3/5,ms1mx2.9/30,Error ellipse: s-maj=15.2km
s-min=12.4km az=80.0
ISC 18 12:23:15.9±0.4,11.57S±0.07×166.79E±0.07,h100km,
n154,σ1.930/153,mb4.7/79,3C-3D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.06**	**287**	*e*P	**Pn**	**12 24 58.0**	**+1.4**
HNR				*e*S	**Sn**	**12 26 16.0**	**+0.6**
HNR	**Honiara**	**7.06**	**287**	*e*Pn	**Pn**	**12 24 56.8**	**+0.2**
HNR				*e*Sn	**Sn**	**12 26 20.6**	**+5.3**
HNR	**Honiara**	**7.06**	**287**	*e*P	**Pn**	**12 24 56.8**	**+0.2**
HNR				*e*		12 26 20.6	
HNR	**Honiara**	**7.06**	**287**	P	**Pn**	**12 24 59.6**	**+3.0**
	22nm,0.3s,baz=166,slow=3.4,SNR=11						
HNR				S	**Sn**	**12 26 20.6**	**+5.3**
	baz=246,slow=20,SNR=2.1						
HNR				LR	LR	12 27 54.9	
	comp=Z,113nm,18.5s,baz=97,slow=40						
DZM	**Mont Dzumac**	**10.45**	**182**	*e*Pn	**Pn**	**12 25 45.7**	**+2.9**
DZM	**Mont Dzumac**	**10.45**	**182**	P	Pn	12 25 48.0	+5.2
	1.1nm,0.3s,baz=122,slow=23,SNR=17						
DZM				LR	LR	12 29 15.3	
	comp=Z,87nm,19.3s,baz=30,slow=34						
PINNC	**Pines Island,**	**11.00**	**177**	*e*Pn	**Pn**	**12 25 51.4**	**+1.3**
EIDS	**Eidsvold**	**20.23**	**225**	*e*P	**P**	**12 27 43.9**	**+0.8**
	85nm,0.8s						
CTA	**Charters Tower**	**21.48**	**244**	P	**P**	**12 27 56.4**	**-0.2**
	20nm,0.8s,baz=74,slow=12,SNR=22						
CTAO	**Charters Tower**	**21.48**	**244**	*e*P	**P**	**12 27 55.6**	**-1.0**
	22nm,0.8s						
CTAO	**Charters Tower**	**21.48**	**244**	*e*P	**P**	**12 27 55.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,22nm,0.8s						
COEN	**Coen**	**23.15**	**262**	*e*P	**P**	**12 28 12.1**	**-1.8**
	comp=Z,11nm,0.8s						
ARMA	**Armidale**	**23.45**	**215**	*e*P	**P**	**12 28 17.0**	**+0.4**
	comp=Z,26nm,0.7s						
URZ	**Urewera**	**28.13**	**163**	P	**P**	**12 29 00.6**	**+2.1**
	comp=Z,9.6nm,0.9s,baz=304,slow=11,SNR=2.9						
CAN	**Canberra**	**28.63**	**211**	*e*P	**P**	**12 29 03.0**	**-0.1**
	comp=Z,7.4nm,1.1s						
CAN	**Canberra**	**28.63**	**211**	*e*P	**P**	**12 29 03.0**	**-0.1**
CAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
BKZ	**Black Stump Fm**	**28.81**	**164**	*e*P	**P**	**12 29 06.4**	**+1.9**
	comp=Z,8.7nm,0.5s						
BFZ	**Birch Farm**	**30.17**	**166**	*e*P	**P**	**12 29 16.8**	**+0.2**
	comp=Z,28nm,0.9s						
THZ	**Tophouse**	**30.55**	**171**	*e*P	**P**	**12 29 20.9**	**+1.0**
	comp=Z,16nm,1.0s						
STKA	**Stephens Creek**	**30.78**	**225**	*e*P	**P**	**12 29 22.2**	**+0.1**
	comp=Z,4.1nm,0.8s						
STKA	**Stephens Creek**	**30.78**	**225**	*e*P	**P**	**12 29 22.7**	**+0.6**
STKA	**Stephens Creek**	**30.78**	**225**	P	**P**	**12 29 22.5**	**+0.4**
	comp=Z,14nm,0.6s,baz=44,slow=8.9,SNR=42						
KHZ	**Kahutara**	**31.29**	**170**	*e*P	**P**	**12 29 26.5**	**+0.1**
	comp=Z,30nm,1.0s						
LTZ	**Lake Taylor**	**31.46**	**172**	*e*P	**P**	**12 29 28.3**	**+0.4**
	comp=Z,22nm,0.8s						
OXZ	**Oxford**	**31.96**	**173**	*e*P	**P**	**12 29 33.0**	**+0.7**
	comp=Z,23nm,1.0s						
TOO	**Toolangi**	**32.17**	**213**	*e*P	**P**	**12 29 34.1**	**-0.2**
	comp=Z,12nm,0.7s						
TOO	**Toolangi**	**32.17**	**213**	*e*P	**P**	**12 29 34.1**	**-0.2**
TOO				pmax	pmax		
	comp=Z,12nm,0.7s						
RPZ	**Rata Peaks**	**32.24**	**174**	*e*P	**P**	**12 29 36.2**	**+1.5**
	comp=Z,14nm,1.1s						
RPZ	**Rata Peaks**	**32.24**	**174**	P	**P**	**12 29 36.5**	**+1.8**
	comp=Z,26nm,0.9s,baz=284,slow=3.3,SNR=8.3						
WC3	**Warramunga Arr**	**32.25**	**251**	*e*P	**P**	**12 29 33.5**	**-1.7**
	comp=Z,32nm,1.1s						
WRAB	**Tennant Creek**	**32.26**	**251**	*e*P	**P**	**12 29 33.3**	**-1.9**
	comp=Z,28nm,1.0s						
WRAB	**Tennant Creek**	**32.26**	**251**	*d iP*	**P**	**12 29 33.6**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,30nm,1.1s						
WB2	**Warramunga Arr**	**32.26**	**251**	*e*P	**P**	**12 29 33.5**	**-1.7**
	comp=Z,28nm,1.1s						
WR1	**Warramunga Arr**	**32.27**	**251**	*e*P	**P**	**12 29 34.0**	**-1.4**
	comp=Z,42nm,1.1s						
WRA	**Warramunga Arr**	**32.27**	**251**	*i* P	**P**	**12 29 34.0**	**-1.4**
WRA				pmax	pmax		
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**32.27**	**251**	P	**P**	**12 29 34.0**	**-1.4**
	comp=Z,19nm,0.8s,baz=85,slow=9.2,SNR=163						
MQZ	**McQueen's Vall**	**32.42**	**172**	*e*P	**P**	**12 29 37.7**	**+1.5**
	comp=Z,31nm,0.9s						
RAR	**Rarotonga**	**33.41**	**111**	LR	LR	12 42 30.0	
	comp=Z,72nm,18.9s,baz=254,slow=34						
AS01	**Alice Springs**	**33.44**	**244**	*e*P	**P**	**12 29 43.5**	**-2.0**
AS31	**Alice Springs**	**33.48**	**244**	*e*P	**P**	**12 29 44.2**	**-1.7**
	comp=Z,5.6nm,0.6s						
ASAR	**Alice Springs**	**33.48**	**244**	P	**P**	**12 29 44.1**	**-1.8**
	comp=Z,17nm,0.7s,baz=71,slow=9.6,SNR=285						
WHZ	**Wether Hill Ro**	**34.22**	**179**	*e*P	**P**	**12 29 52.6**	**+0.7**
	comp=Z,19nm,1.1s						
MTN	**Manton Dam**	**34.86**	**264**	*e*P	**P**	**12 29 56.5**	**-1.3**
	comp=Z,11nm,1.1s						
BBOO	**Buckleboo**	**35.23**	**228**	*e*P	**P**	**12 30 00.2**	**-0.6**
	comp=Z,36nm,1.0s						
FITZ	**Fitzroy Crossi**	**40.24**	**256**	P	**P**	**12 30 42.3**	**-0.9**
	comp=Z,19nm,0.8s,baz=95,slow=8.1,SNR=19						
FORT	**Forrest**	**40.59**	**236**	*e*P	**P**	**12 30 45.0**	**-0.9**
	comp=Z,63nm,1.1s						
BATI	**Baumata**	**42.34**	**268**	P	**P**	**12 31 00.3**	**-0.2**
	comp=Z,13nm,0.6s,baz=348,slow=4.7,SNR=3.7						
EDFI	**Ende, Flores**	**44.45**	**269**	P	**P**	**12 31 17.2**	**-0.3**
	comp=Z,7.9nm,1.7s,comp=Z,634nm						
BNSI	**Bone**	**46.73**	**275**	*e*P	**P**	**12 31 35.2**	**-0.1**
KAPI	**Kappang**	**46.95**	**274**	*e*P	**P**	**12 31 35.5**	**-1.6**
	comp=Z,8.8nm,0.8s						
KAPI	**Kappang**	**46.95**	**274**	*e*P	**P**	**12 31 35.5**	**-1.6**
KAPI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
MPSI	**Mapaga**	**48.05**	**281**	P	**P**	**12 31 44.6**	**-1.0**
NWAO	**Narrogin (SRO)**	**50.03**	**237**	*e*P	**P**	**12 31 59.1**	**-1.4**
	comp=Z,9.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**50.03**	**237**	*e*P	**P**	**12 31 59.1**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**50.03**	**237**	P	**P**	**12 31 59.7**	**-0.7**
	comp=Z,7.5nm,0.6s,baz=74,slow=7.4,SNR=14						
MORW	**Morawa**	**50.28**	**242**	*e*P	**P**	**12 32 01.3**	**-1.1**
KKM	**Kota Kinabalu**	**53.27**	**287**	*e*P	**P**	**12 32 23.7**	**-1.2**
	comp=Z,34nm,0.7s						
KKM	**Kota Kinabalu**	**53.27**	**287**	P	**P**	**12 32 25.0**	**+0.1**
SBUM	**Sibu**	**56.01**	**281**	P	**P**	**12 32 44.9**	**+0.3**
KPJI	**Karang Pucung**	**57.16**	**269**	P	**P**	**12 32 51.5**	**-1.3**
KSM	**Kuching**	**57.60**	**279**	P	**P**	**12 32 58.8**	**+2.9**
ASAJ	**Asahikawa**	**59.63**	**340**	P	**P**	**12 33 09.8**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=222,slow=5.4,SNR=7.3						
KSRS	**Korea Array**	**60.89**	**325**	P	**P**	**12 33 17.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=134,slow=6.2,SNR=4.5						
BLSI	**Bandar Lampung**	**61.09**	**270**	P	**P**	**12 33 18.7**	**-1.3**
NJ2	**Nanjing**	**63.11**	**315**	*e*P	**P**	**12 33 32.4**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,28nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.88**	**333**	P	**P**	**12 33 37.6**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=188,slow=4.4,SNR=5.0						
KGM	**Kluang**	**64.50**	**278**	P	**P**	**12 33 42.9**	**+0.3**
KTGM	**Kuala Trenggan**	**65.51**	**281**	P	**P**	**12 33 49.6**	**+0.5**
VNDA	**Vanda**	**65.99**	**181**	*e*P	**P**	**12 33 51.6**	**+0.5**
	comp=Z,4.1nm,1.0s						
VNDA	**Vanda**	**65.99**	**181**	*e*P	**P**	**12 33 51.6**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	**Vanda**	**65.99**	**181**	P	**P**	**12 33 52.3**	**+1.1**
	comp=Z,2.7nm,0.7s,baz=16,slow=7.9,SNR=7.1						
CASY	**Casey**	**66.27**	**202**	*e*P	**P**	**12 33 52.4**	**-0.6**
	comp=Z,0.6nm,0.9s						
BKNI	**Bangkinang**	**66.34**	**275**	*e*P	**P**	**12 33 52.8**	**-1.7**
	comp=Z,50nm,0.9s						
CN2	**Changchun**	**66.72**	**329**	*e*P	**P**	**12 33 56.3**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
IPM	**Ipoh**	**67.32**	**280**	*e*P	**P**	**12 33 59.5**	**-1.2**
	comp=Z,23nm,1.2s						
IPM	**Ipoh**	**67.32**	**280**	P	**P**	**12 34 00.6**	**-0.1**
MNSI	**Mandailing Nat**	**67.87**	**276**	P	**P**	**12 34 03.2**	**-0.9**
KLR	**Kul'dur**	**67.95**	**336**	P	**P**	**12 34 04.7**	**+0.8**
	comp=Z,2.3nm,0.6s,baz=189,slow=7.1,SNR=3.9						
SKNT	**Sakolnakorn**	**68.24**	**294**	P	**P**	**12 34 06.4**	**0.0**
	comp=Z,6.7nm,1.0s						
PSI	**Prapat**	**68.96**	**278**	*e*P	**P**	**12 34 09.3**	**-1.7**
	comp=Z,15nm,0.9s						
PSI	**Prapat**	**68.96**	**278**	*e*P	**P**	**12 34 09.4**	**-1.7**
PSI				pmax	pmax		
	comp=Z,15nm,0.9s						
ENH	**Enshi**	**69.02**	**309**	*e*P	**P**	**12 34 09.8**	**-1.3**
	comp=Z,13nm,0.8s						
GYA	**Guiyang**	**69.56**	**304**	P	**P**	**12 34 14.8**	**+0.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GSI	**Gunungsitoli**	**69.93**	**276**	*e*P	**P**	**12 34 15.9**	**-1.1**
	comp=Z,33nm,0.8s						
GSI	**Gunungsitoli**	**69.93**	**276**	P	**P**	**12 34 16.7**	**-0.3**
PBKT	**Sadao Pong**	**70.83**	**292**	P	**P**	**12 34 23.3**	**+1.0**
	comp=Z,6.7nm,0.9s						
XAN	**Xi'an**	**71.23**	**312**	P	**P**	**12 34 24.5**	**0.0**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN	**Xi'an**	**71.23**	**312**	*e*P	**P**	**12 34 23.7**	**-0.8**
	comp=Z,9.0nm,0.8s						
XAN	**Xi'an**	**71.23**	**312**	*e*P	**P**	**12 34 23.7**	**-0.8**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
LAMP	**Lampang**	**72.66**	**294**	P	**P**	**12 34 34.1**	**+0.8**
HHC	**Hu-ho-hao-te**	**72.89**	**319**	*e*P	**P**	**12 34 35.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,76nm,4.6s						
CM01	**Chiang Mai Arr**	**73.23**	**293**	*e*P	**P**	**12 34 36.0**	**-0.7**
CM31	**Chiang Mai Arr**	**73.26**	**293**	*e*P	**P**	**12 34 36.9**	**0.0**
	comp=Z,9.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**73.26**	**293**	*i* P	**P**	**12 34 37.7**	**+0.9**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.26**	**293**	P	**P**	**12 34 37.2**	**+0.4**
	comp=Z,7.1nm,0.8s,baz=122,slow=4.3,SNR=35						
CMMT	**Chiang Mai**	**73.37**	**294**	P	**P**	**12 34 37.9**	**+0.4**
CHTO	**Chiang Mai**	**73.37**	**294**	*e*P	**P**	**12 34 36.7**	**-0.8**
	comp=Z,7.7nm,1.0s						
CHTO	**Chiang Mai**	**73.37**	**294**	*e*P	**P**	**12 34 36.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**73.37**	**294**	P	**P**	**12 34 38.0**	**+0.5**
	comp=Z,48nm,1.0s,comp=Z,1μm						
CD2	**Chengdu**	**73.73**	**307**	⇑P	**P**	**12 34 39.9**	**+0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,160nm,4.0s						
KDAK	**Kodiak Island**	**76.69**	**21**	LR	LR	13 01 41.0	
	comp=Z,33nm,19.7s,baz=120,slow=30						
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P	**P**	**12 35 05.5**	**-0.1**
	comp=Z,19nm,1.0s						
ULN	**Ulaanbaatar**	**79.33**	**324**	*e*P	**P**	**12 35 10.1**	**-0.7**
	comp=Z,7.9nm,1.1s						
ULN	**Ulaanbaatar**	**79.33**	**324**	*de*P	**P**	**12 35 11.0**	**+0.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
BILL	**Bilibino**	**79.40**	**360**	*e*P	**P**	**12 35 10.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s						
SONA0	**Songino Array**	**79.69**	**323**	*e*P	**P**	**12 35 12.6**	**-0.1**
SONM	**Songino Array**	**79.69**	**323**	P	**P**	**12 35 12.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=139,slow=6.1,SNR=4.7						
GTA	**Gaotai**	**80.16**	**314**	*e*P	**P**	**12 35 15.8**	**+0.4**
GTA				pP	pP	12 35 45.6	+4.4
GTA				sP	sP	12 35 58.4	+6.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
IM3	**Indian Mountai**	**82.66**	**15**	*e*P	**P**	**12 35 29.2**	**+1.4**
TLY	**Talaya**	**83.13**	**326**	⇑*e*P	**P**	**12 35 30.9**	**+0.3**
COLA	**College**	**83.47**	**18**	⇑*e*P	**P**	**12 35 33.7**	**+1.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RIDG	**Independ'e Rid**	**83.62**	**20**	*e*P	**P**	**12 35 33.7**	**+0.8**
	comp=Z,13nm,1.2s						
IL1	**Eielson Array**	**83.69**	**18**	*e*P	**P**	**12 35 33.6**	**+0.4**
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**12 35 33.4**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=258,slow=4.8,SNR=19						
ILB	**Eielson Array**	**83.69**	**18**	*e*P	**P**	**12 35 33.6**	**+0.5**
	comp=Z,1.1nm,0.9s						
AFDM	**Forest Hills D**	**83.78**	**48**	*e*P	**P**	**12 35 35.9**	**+1.7**
	comp=Z,5.2nm,1.1s						
SCRK	**Sand Creek**	**84.06**	**20**	*e*P	**P**	**12 35 36.1**	**+0.8**
	comp=Z,5.7nm,1.0s						
BBB	**Bella Bella**	**84.43**	**34**	LR	LR	13 05 06.2	
	comp=Z,29nm,21.4s,baz=166,slow=30						
NV01	**Mina Array Sit**	**85.58**	**50**	*e*P	**P**	**12 35 44.8**	**+1.2**
NVAR	**Mina Array Bea**	**85.58**	**50**	P	**P**	**12 35 45.9**	**+2.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.72**	**71**	P	**Pn**	**12 24 21.4**	**-2.2**
KRJI				S	**Sn**	**12 24 33.7**	**-1.4**
PPSI	**Pulau Pagai**	**0.88**	**240**	P	**Pn**	**12 24 23.8**	**-1.5**
PPSI				S	**Sn**	**12 24 40.2**	**+2.1**
PDSI	**Padang**	**1.44**	**347**	P	**Pn**	**12 24 30.1**	**-2.3**
SDSI	**Sungai Dareh**	**1.53**	**25**	P	**Pn**	**12 24 32.7**	**-0.9**
SISI	**Saibi**	**1.96**	**300**	P	**Pn**	**12 24 38.1**	**-1.1**
SISI				S	**Sn**	**12 25 00.7**	**-2.2**
BKNI	**Bangkinang**	**2.65**	**6**	*e*Pn	**Pn**	**12 24 46.6**	**-1.9**
BKNI	**Bangkinang**	**2.65**	**6**	P	**Pn**	**12 24 47.9**	**-0.7**
MNAI	**Manna**	**2.97**	**133**	*e*Pn	**Pn**	**12 24 52.4**	**-0.5**
MNAI	**Manna**	**2.97**	**133**	P	**Pn**	**12 24 54.8**	**+1.9**
LHSI	**Lahat**	**3.12**	**119**	P	**Pn**	**12 24 57.2**	**+2.2**
MNSI	**Mandailing Nat**	**3.32**	**339**	P	**Pn**	**12 24 57.0**	**-0.8**
PBSI	**Pulau Batu**	**3.36**	**312**	P	**Pn**	**12 24 57.6**	**-0.7**
MDSI	**Maura Dua**	**4.02**	**122**	P	**Pn**	**12 25 08.6**	**+1.4**
DSRI	**Dabo**	**4.22**	**64**	P	**Pn**	**12 25 09.8**	**-0.2**
LWLI	**Liwa**	**4.23**	**129**	P	**Pn**	**12 25 12.3**	**+2.1**
GSI	**Gunungsitoli**	**4.82**	**318**	*e*Pn	**Pn**	**12 25 16.3**	**-1.9**
GSI	**Gunungsitoli**	**4.82**	**318**	P	**Pn**	**12 25 16.6**	**-1.6**
KASI	**Kota Agung**	**4.88**	**131**	P	**Pn**	**12 25 19.7**	**+0.6**
TPRI	**Tanjung Pinang**	**4.94**	**49**	P	**Pn**	**12 25 19.7**	**-0.2**
KGM	**Kluang**	**5.01**	**31**	P	**Pn**	**12 25 20.9**	**+0.2**
MYKOM	**Kota Tinggi**	**5.12**	**37**	*e*Pn	**Pn**	**12 25 21.4**	**-0.8**
PSI	**Prapat**	**5.42**	**340**	*e*Pn	**Pn**	**12 25 22.6**	**-3.9**
PSI	**Prapat**	**5.42**	**340**	*e*P	**Pn**	**12 25 22.6**	**-3.9**
PSI	**Prapat**	**5.42**	**340**	P	**Pn**	**12 25 23.6**	**-2.9**
	4.6nm,0.3s,baz=180,slow=10,SNR=23						
PSI				LR	LR	12 27 54.2	
	comp=Z,595nm,19.4s,baz=151,slow=44						
IPM	**Ipoh**	**6.76**	**2**	*e*Pn	**Pn**	**12 25 43.8**	**-1.0**
IPM	**Ipoh**	**6.76**	**2**	P	**Pn**	**12 25 46.3**	**+1.5**
KULM	**Kulim**	**7.57**	**359**	*e*Pn	**Pn**	**12 25 54.2**	**-1.5**
KULM	**Kulim**	**7.57**	**359**	P	**Pn**	**12 25 56.8**	**+1.1**
KTGM	**Kuala Trenggan**	**7.96**	**17**	P	**Pn**	**12 26 03.5**	**+2.4**
SKLT	**Songkhla**	**9.43**	**359**	P	**Pn**	**12 26 23.6**	**+2.3**
	44nm,0.9s						
SBUM	**Sibu**	**12.38**	**68**	*e*Pn	**Pn**	**12 27 01.4**	**-0.1**
JAGI	**Jajag, Banyuwa**	**14.64**	**115**	*e*Pn	**Pn**	**12 27 30.0**	**-1.5**
SRAK	**Srakaew**	**16.28**	**4**	P	**P**	**12 27 54.8**	**+0.8**
	36nm,0.8s,331nm						
UTHA	**Uthaitani**	**17.82**	**356**	P	**P**	**12 28 12.4**	**+1.4**
	3.7nm,0.7s						
CHAI	**Chaiyaphum**	**18.15**	**4**	P	Pn	12 28 24.3	+9.0
SDKM	**Sandakan**	**18.21**	**64**	P	**Pn**	**12 28 18.0**	**+1.9**
PBKT	**Sadao Pong**	**18.78**	**1**	P	**Pn**	**12 28 27.6**	**+4.8**
KAPI	**Kappang**	**19.12**	**99**	*e*P	**P**	**12 28 24.9**	**-0.5**
	26nm,0.9s						
KAPI	**Kappang**	**19.12**	**99**	*e*P	**P**	**12 28 24.9**	**-0.5**
KAPI				pmax	pmax		
	comp=Z,26nm,0.9s						
SKNT	**Sakolnakorn**	**19.44**	**9**	P	**P**	**12 28 27.4**	**-1.4**
	comp=Z,5.4nm,1.0s,comp=Z,535nm						
PANO	**Nakornpanom**	**19.72**	**11**	P	**Pn**	**12 28 33.7**	**-0.2**
	comp=Z,0.4nm,0.8s						
CM01	**Chiang Mai Arr**	**20.69**	**355**	*e*P	**P**	**12 28 40.4**	**-2.0**
CM31	**Chiang Mai Arr**	**20.73**	**355**	*e*P	**P**	**12 28 40.3**	**-2.5**
	comp=Z,9.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**20.73**	**355**	*ce*P	**P**	**12 28 40.2**	**-2.6**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**20.73**	**355**	P	**P**	**12 28 39.8**	**-3.0**
	comp=Z,3.9nm,0.6s,baz=184,slow=10.0,SNR=24						
CMAR				PcP	**PcP**	**12 32 51.4**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=193,slow=2.7,SNR=5.1						
CMAR				LR	LR	12 37 31.5	
	comp=Z,84nm,18.0s,baz=194,slow=39						
LAMP	**Lampang**	**20.75**	**357**	P	Pn	12 28 45.3	-0.7
	comp=Z,3.5nm,0.7s,comp=Z,71nm						
CMMT	**Chiang Mai**	**21.08**	**355**	P	**P**	**12 28 47.2**	**+0.6**
	comp=Z,6.6nm,0.9s						
CHTO	**Chiang Mai**	**21.08**	**355**	*e*P	**P**	**12 28 44.3**	**-2.3**
	comp=Z,4.3nm,0.8s						
CHTO	**Chiang Mai**	**21.08**	**355**	*e*P	**P**	**12 28 44.3**	**-2.3**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CHTO	**Chiang Mai**	**21.08**	**355**	P	**P**	**12 28 47.2**	**+0.6**
	comp=Z,29nm,0.9s						
KMI	**Kunming**	**27.35**	**4**	P	**P**	**12 29 49.0**	**+2.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,71nm,4.2s						
FITZ	**Fitzroy Crossi**	**28.99**	**124**	*e*P	**P**	**12 30 00.6**	**-0.4**
	comp=Z,2.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.99**	**124**	P	**P**	**12 30 00.6**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=122,slow=2.3,SNR=5.3						
FAKI	**Fak Fak**	**31.44**	**92**	*e*P	**P**	**12 30 22.1**	**-0.8**
	comp=Z,25nm,1.4s						
JIRN	**Jiri**	**32.96**	**336**	*e*P	**P**	**12 30 37.4**	**+1.1**
	comp=Z,182nm,0.8s						
CD2	**Chengdu**	**33.17**	**5**	*e*P	**P**	**12 30 40.3**	**+2.5**
PKI	**Pulchoki**	**33.21**	**335**	*e*P	**P**	**12 30 39.0**	**+0.6**
	comp=Z,21nm,0.7s						
PKIN	**Phulchoki**	**33.22**	**335**	*e*P	**P**	**12 30 39.0**	**+0.5**
	comp=Z,16nm,0.7s						
GUN	**Gumba**	**33.30**	**336**	*e*P	**P**	**12 30 40.4**	**+1.1**
	comp=Z,173nm,0.8s						
KKN	**Kakani**	**33.45**	**335**	*e*P	**P**	**12 30 41.2**	**+0.7**
	comp=Z,54nm,0.9s						
GKN	**Gorkha**	**33.92**	**334**	*e*P	**P**	**12 30 45.2**	**+0.8**
	comp=Z,41nm,0.5s						
KOLN	**Koldanda**	**34.19**	**332**	*e*P	**P**	**12 30 47.9**	**+1.1**
	comp=Z,52nm,0.7s						
DANN	**Dangsing**	**34.61**	**333**	*e*P	**P**	**12 30 51.4**	**+0.9**
	comp=Z,68nm,0.4s						
H01W3	**Cape Leeuwin H**	**34.70**	**161**	T	T	13 07 47.4	
	baz=337,slow=76,SNR=3.3						
H01W2	**Cape Leeuwin H**	**34.71**	**161**	T	T	13 07 50.1	
	baz=337,slow=76,SNR=7.3						
H01W1	**Cape Leeuwin H**	**34.71**	**160**	T	T	13 07 48.5	
	baz=337,slow=76,SNR=2.7						
PYUN	**Piuthan**	**34.75**	**332**	*e*P	**P**	**12 30 52.4**	**+0.7**
	comp=Z,43nm,0.8s						
XAN	**Xi'an**	**36.98**	**11**	P	**P**	**12 31 09.3**	**-1.2**
XAN				pmax	pmax		
	comp=Z,14nm,0.7s						
XAN	**Xi'an**	**36.98**	**11**	*e*P	**P**	**12 31 09.2**	**-1.2**
	comp=Z,10nm,0.6s						
XAN	**Xi'an**	**36.98**	**11**	*e*P	**P**	**12 31 09.2**	**-1.2**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WR1	**Warramunga Arr**	**37.16**	**121**	*e*P	**P**	**12 31 11.8**	**-0.4**
	comp=Z,7.7nm,0.9s						
WR1				*e*PcP	**PcP**	**12 33 31.9**	**+0.8**
WRA	**Warramunga Arr**	**37.16**	**121**	P	**P**	**12 31 11.8**	**-0.4**
	comp=Z,9.3nm,0.7s,baz=300,slow=9.0,SNR=20						
WRA				PcP	**PcP**	**12 33 31.9**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=309,slow=2.4,SNR=6.5						
WRAB	**Tennant Creek**	**37.16**	**121**	*e*P	**P**	**12 31 11.6**	**-0.6**
	comp=Z,7.1nm,0.6s						
WRAB	**Tennant Creek**	**37.16**	**121**	*de*P	**P**	**12 31 11.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WB2	**Warramunga Arr**	**37.17**	**121**	*e*P	**P**	**12 31 11.7**	**-0.6**
NJ2	**Nanjing**	**38.25**	**25**	*e*P	**P**	**12 31 20.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
LZH	**Lanzhou**	**38.32**	**4**	*e*P	**P**	**12 31 23.5**	**+1.6**
LZH				pP	pP	12 31 40.3	+0.6
LZH				sP	sP	12 31 47.3	-0.9
LZH				*e*PP	**PnPn**	**12 32 56.8**	**+3.4**
LZH				pmax	pmax		
	comp=Z,24nm,1.2s						
LZH				pmax	pmax		
	comp=Z,82nm,5.0s						
LZH				LR	LR		
	comp=Z,350nm,13.2s						
LZH				LR	LR		
	comp=Z,360nm,13.5s						
LZH				LR	LR		
	comp=Z,410nm,16.7s						
AS31	**Alice Springs**	**38.44**	**126**	*e*P	**P**	**12 31 23.0**	**0.0**
	comp=Z,4.5nm,0.7s						
ASAR	**Alice Springs**	**38.44**	**126**	P	**P**	**12 31 23.1**	**+0.1**
	comp=Z,14nm,0.7s,baz=305,slow=8.0,SNR=70						
ASAR				PcP	**PcP**	**12 33 35.6**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=311,slow=2.8,SNR=8.3						
ASAR				S	**S**	**12 37 10.6**	**-2.4**
	comp=Z,2.3nm,1.0s,baz=303,slow=14,SNR=12						
AS01	**Alice Springs**	**38.47**	**126**	*e*P	**P**	**12 31 23.2**	**-0.1**
AS01				*e*PcP	**PcP**	**12 33 36.0**	**+0.8**
GTA	**Gaotai**	**41.54**	**359**	*e*P	**P**	**12 31 51.4**	**+2.9**
GTA				pP	pP	12 32 06.5	0.0
GTA				sP	sP	12 32 13.3	-1.7
GTA				PcP	**PcP**	**12 33 45.5**	**+0.8**
GTA				S	**S**	**12 38 02.8**	**+3.7**
GTA				sS	sS	12 38 31.1	+1.4
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,26nm,5.1s						
GTA				LR	LR		
	comp=Z,91nm,20.8s						
GTA				LR	LR		
	comp=Z,130nm,20.8s						
GTA				LR	LR		
	comp=Z,87nm,19.4s						
HHC	**Hu-ho-hao-te**	**44.08**	**12**	*e*P	**P**	**12 32 10.1**	**+1.1**
HHC				pP	pP	12 32 25.3	-1.9
HHC				S	**S**	**12 38 39.6**	**+3.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,110nm,5.8s						
HHC				LR	LR		
	comp=Z,170nm,13.7s						
HHC				LR	LR		
	comp=Z,180nm,12.5s						
HHC				LR	LR		
	comp=Z,240nm,14.7s						
NIL	**Nilore**	**44.20**	**326**	*e*P	**P**	**12 32 09.7**	**-0.3**
	comp=Z,29nm,0.8s						
NIL	**Nilore**	**44.20**	**326**	*e*P	**P**	**12 32 09.7**	**-0.3**
NIL				pmax	pmax		
	comp=Z,29nm,0.8s						
BBOO	**Buckleboo**	**44.88**	**136**	*e*P	**P**	**12 32 16.0**	**+0.6**
	comp=Z,4.3nm,0.7s						
JNU	**Nakatsue**	**45.29**	**36**	*e*P	**P**	**12 32 18.1**	**-0.6**
	comp=Z,38nm,1.4s						
KSRS	**Korea Array**	**46.91**	**30**	P	**P**	**12 32 31.0**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=230,slow=8.7,SNR=5.1						
KSRS				LR	LR	12 53 28.7	
	comp=Z,19nm,19.1s,baz=231,slow=38						
WMQ	**Urumqi**	**47.42**	**347**	P	**P**	**12 32 36.0**	**+0.8**
WMQ				sP	sP	12 32 58.8	-3.1
WMQ				pmax	pmax		
	comp=Z,69nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,520nm,7.1s						
WMQ				LR	LR		
	comp=Z,65nm,21.9s						
WMQ				LR	LR		
	comp=Z,63nm,17.7s						
WMQ				LR	LR		
	comp=Z,81nm,23.1s						
WMQ	**Urumqi**	**47.42**	**347**	*e*P	**P**	**12 32 35.2**	**0.0**
	comp=Z,24nm,0.8s						
WMQ	**Urumqi**	**47.42**	**347**	*e*P	**P**	**12 32 35.2**	**0.0**
WMQ				pmax	pmax		
	comp=Z,24nm,0.8s						
KSH	**Kashi**	**47.46**	**334**	P	**P**	**12 32 34.9**	**-0.8**
KSH				pP	pP	12 32 51.4	-2.6
KSH				S	**S**	**12 39 23.8**	**-1.2**
KSH				pmax	pmax		
	comp=Z,110nm,4.5s						
CTA	**Charters Tower**	**47.76**	**115**	P	**P**	**12 32 38.0**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=268,slow=12,SNR=5.4						
STKA	**Stephens Creek**	**48.35**	**132**	*e*P	**P**	**12 32 43.1**	**+0.4**
	comp=Z,1.4nm,0.6s						
STKA	**Stephens Creek**	**48.35**	**132**	*e*P	**P**	**12 32 43.1**	**+0.4**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**48.35**	**132**	P	**P**	**12 32 43.7**	**+1.1**
	comp=Z,5.3nm,0.6s,baz=306,slow=7.7,SNR=13						
STKA				LR	LR	12 53 58.8	
	comp=Z,55nm,20.7s,baz=209,slow=37						
TARG	**Taragay, Kyrgy**	**48.56**	**337**	*e*P	**P**	**12 32 43.7**	**-0.8**
	comp=Z,7.1nm,0.7s						
NRN	**Naryn**	**49.04**	**335**	*e*P	**P**	**12 32 47.7**	**-0.3**
	comp=Z,7.7nm,0.8s						
NRN	**Naryn**	**49.04**	**335**	*e*P	**P**	**12 32 47.7**	**-0.3**
NRN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KDJ	**Kajisay**	**49.14**	**337**	*e*P	**P**	**12 32 48.8**	**+0.1**
	comp=Z,16nm,0.8s						
KDJ	**Kajisay**	**49.14**	**337**	*e*P	**P**	**12 32 48.8**	**+0.1**
KDJ				pmax	pmax		
	comp=Z,16nm,0.8s						
GAR	**Garm**	**49.77**	**329**	*e*P	**P**	**12 32 53.5**	**0.0**
	comp=Z,9.2nm,0.6s						
GAR	**Garm**	**49.77**	**329**	*e*P	**P**	**12 32 53.5**	**0.0**
GAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SONA0	**Songino Array**	**50.20**	**5**	*e*P	**P**	**12 32 56.4**	**-0.1**
SONM	**Songino Array**	**50.20**	**5**	P	**P**	**12 32 56.4**	**-0.1**
	comp=Z,5.5nm,0.7s,baz=184,slow=9.0,SNR=31						
SONM				LR	LR	12 56 28.5	
	comp=Z,40nm,18.6s,baz=202,slow=39						
ARSB	**Arslanbob**	**50.27**	**333**	*e*P	**P**	**12 32 57.0**	**-0.2**
	comp=Z,17nm,0.9s						
ULN	**Ulaanbaatar**	**50.28**	**5**	*e*P	**P**	**12 32 56.8**	**-0.5**
	comp=Z,4.1nm,0.7s						
ULN	**Ulaanbaatar**	**50.28**	**5**⇑	*e*P	**P**	**12 32 57.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BTK	**Batken**	**50.31**	**330**	*e*P	**P**	**12 32 57.5**	**0.0**
	comp=Z,7.6nm,0.6s						
BTK	**Batken**	**50.31**	**330**	*e*P	**P**	**12 32 57.5**	**0.0**
BTK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
AAK	**Ala-Archa**	**50.66**	**335**	*e*P	**P**	**12 33 00.3**	**+0.1**
	comp=Z,3.2nm,0.6s						
AAK	**Ala-Archa**	**50.66**	**335**⇓	*i*P	**P**	**12 33 01.5**	**+1.3**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s						
AAK	**Ala-Archa**	**50.66**	**335**	P	**P**	**12 33 01.1**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=137,slow=6.5,SNR=5.4						
CN2	**Changchun**	**50.98**	**23**	*e*P	**P**	**12 33 00.9**	**-1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MK01	**Makanchi Array**	**51.53**	**344**	*e*P	**P**	**12 33 06.0**	**-0.5**
MK31	**Makanchi Array**	**51.55**	**344**	*e*P	**P**	**12 33 06.3**	**-0.3**
	comp=Z,17nm,0.6s						
MK31	**Makanchi Array**	**51.55**	**344**	*e*P	**P**	**12 33 06.3**	**-0.3**
MK31				pmax	pmax		
	comp=Z,17nm,0.6s						
MK32	**Makanchi Array**	**51.55**	**344**	*e*P	**P**	**12 33 06.6**	**0.0**
MKAR	**Makanchi Array**	**51.55**	**344**	P	**P**	**12 33 06.6**	**0.0**
	comp=Z,26nm,0.6s,baz=148,slow=8.1,SNR=308						
MKAR				LR	LR	12 59 40.8	
	comp=Z,22nm,18.0s,baz=132,slow=42						
MAKZ	**Makanchi**	**51.65**	**344**	*e*P	**P**	**12 33 06.9**	**-0.5**
	comp=Z,11nm,0.8s						
MAKZ	**Makanchi**	**51.65**	**344**	*e*P	**P**	**12 33 06.9**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**52.04**	**38**	LR	LR	12 55 50.8	
	comp=Z,11nm,18.3s,baz=235,slow=37						
EIDS	**Eidsvold**	**53.52**	**120**	*e*P	**P**	**12 33 21.6**	**+0.1**
	comp=Z,29nm,1.4s						
TLY	**Talaya**	**53.86**	**2**⇓	*e*P	**P**	**12 33 24.3**	**+0.8**
USRK	**Ussuriysk Ar.**	**54.08**	**27**	P	**P**	**12 33 24.7**	**-0.6**
	comp=Z,6.2nm,0.6s,baz=228,slow=4.5,SNR=12						
USRK				LR	LR	12 57 15.0	
	comp=Z,38nm,21.1s,baz=169,slow=37						
KURBB	**Kurchatov Arra**	**56.08**	**343**	P	**P**	**12 33 39.5**	**0.0**
	comp=Z,9.8nm,0.8s,baz=162,slow=7.1,SNR=70						
KURK	**Kurchatov**	**56.14**	**343**	*e*P	**P**	**12 33 39.7**	**-0.2**
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**56.14**	**343**	*e*P	**P**	**12 33 39.7**	**-0.2**
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
GEYT	**Alibeck**	**56.20**	**320**	P	**P**	**12 33 41.1**	**+0.5**
	comp=Z,2.5nm,0.4s,baz=165,slow=6.2,SNR=5.4						
GEYT				LR	LR	12 59 36.8	
	comp=Z,37nm,20.1s,baz=290,slow=38						
ZAA0	**Zalesovo Array**	**57.63**	**349**	*e*P	**P**	**12 33 50.1**	**-0.4**
	comp=Z,35nm,0.9s						
ZALV	**Zalesovo Beam**	**57.63**	**349**	*e*P	**P**	**12 33 49.8**	**-0.6**
ZALV	**Zalesovo Beam**	**57.63**	**349**	P	**P**	**12 33 50.0**	**-0.4**
	comp=Z,27nm,0.7s,baz=174,slow=5.6,SNR=138						
ZALV				LR	LR	13 01 04.5	
	comp=Z,24nm,19.0s,baz=70,slow=39						
ZAA1	**Zalesovo Array**	**57.64**	**349**	*e*P	**P**	**12 33 50.0**	**-0.4**
KLR	**Kul'dur**	**57.92**	**23**⇑	*e*P	**P**	**12 33 52.1**	**-0.4**
KLR	**Kul'dur**	**57.92**	**23**	P	**P**	**12 33 51.7**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=229,slow=7.1,SNR=12						
NVS	**Novosibirsk**	**58.79**	**348**	*i* P	**P**	**12 33 57.7**	**-0.8**
ASAJ	**Asahikawa**	**59.45**	**34**	P	**P**	**12 34 02.7**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=217,slow=14,SNR=7.0						
BVAR	**Borovoye Array**	**60.76**	**340**	P	**P**	**12 34 11.4**	**-0.7**
	comp=Z,3.0nm,0.5s,baz=146,slow=9.2,SNR=19						
BRVK	**Borovoye**	**60.82**	**339**	*e*P	**P**	**12 34 11.8**	**-0.6**
	comp=Z,3.0nm,0.6s						
BRVK	**Borovoye**	**60.82**	**339**⇑	*e*P	**P**	**12 34 11.9**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BOD	**Bodaibo**	**60.89**	**8**	*e*P	**P**	**12 34 11.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**61.35**	**31**	*e*P	**P**	**12 34 17.1**	**+0.9**
ABKAR	**Akbulak array**	**62.30**	**331**	*e*P	**P**	**12 34 22.1**	**-0.4**
	comp=Z,14nm,0.8s						
AKTO	**Aktyubinsk**	**64.01**	**331**	P	**P**	**12 34 32.8**	**-1.1**
	comp=Z,2.8nm,0.7s,baz=114,slow=7.6,SNR=6.9						
SVE	**Sverdlovsk**	**67.28**	**337**	*e*P	**P**	**12 34 55.2**	**+0.5**
ARU	**Arti**	**67.81**	**336***c*	*i*P	**P**	**12 34 55.1**	**-3.0**
ARU						12 35 20.5	
ARU				S	**S**	**12 43 46.5**	**-4.0**
ARU				SS	**SS**	**12 48 10.0**	**-3.4**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NCK	**Nalchik**	**68.50**	**319**⇓	*e*P	**P**	**12 35 04.1**	**+1.3**
KBZ	**Khabaz**	**69.06**	**319**	*e*P	**P**	**12 35 07.0**	**+0.9**
KBZ	**Khabaz**	**69.06**	**319**	P	**P**	**12 35 07.0**	**+0.9**
	comp=Z,5.7nm,0.7s,baz=120,slow=5.5,SNR=10						
KIV	**Kislovodsk**	**69.30**	**319**	*e*P	**P**	**12 35 08.7**	**+0.9**
KIV				pmax	pmax		
	comp=Z,30nm,1.0s						
KIV				MLR	MLR		
	comp=Z,37nm,17.0s						
NRIK	**Noril'sk**	**72.09**	**355**	P	**P**	**12 35 22.8**	**-1.3**
	comp=Z,5.4nm,0.5s,baz=158,slow=6.4,SNR=7.9						
MA2	**Magadan**	**73.01**	**24**⇓	*i*P	**P**	**12 35 30.2**	**+0.5**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.3s						
MA2	**Magadan**	**73.01**	**24**	LR	LR	13 10 25.9	
	comp=Z,17nm,19.1s,baz=244,slow=38						
VRH	**Novokhopyorsk**	**73.03**	**326**	*e*P	**P**	**12 35 29.5**	**-0.5**
VRH				pmax	pmax		
	comp=Z,20nm,0.7s						
BR101	**Keskin Array S**	**74.11**	**312**	*e*P	**P**	**12 35 36.5**	**-0.3**
BRTR	**Keskin Array B**	**74.11**	**312**	*i* P	**P**	**12 35 36.7**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**74.11**	**312**	P	**P**	**12 35 36.5**	**-0.3**
	comp=Z,2.4nm,0.6s,baz=134,slow=7.1,SNR=14						
RPZ	**Rata Peaks**	**74.20**	**135**	*e*P	**P**	**12 35 37.7**	**+0.5**
	comp=Z,64nm,1.4s						
VSR	**Storozhevoye**	**74.49**	**325**	*e*P	**P**	**12 35 37.5**	**-1.0**
VSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LPSR	**Galich'ya Gora**	**75.19**	**326**	*e*P	**P**	**12 35 42.9**	**+0.3**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SEY	**Seymchan**	**75.64**	**22**⇓	*i*P	**P**	**12 35 45.3**	**+0.4**
TIXI	**Tiksi**	**76.06**	**9**	*e*P	**P**	**12 35 45.9**	**-1.3**
	comp=Z,13nm,1.4s						
TIXI	**Tiksi**	**76.06**	**9**	*e*P	**P**	**12 35 45.9**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,13nm,1.4s						
TIXI	**Tiksi**	**76.06**	**9**	P	**P**	**12 35 45.7**	**-1.4**
	comp=Z,4.4nm,0.6s,baz=242,slow=1.6,SNR=20						
PRGR	**Permogore**	**76.28**	**336**	*e*P	**P**	**12 35 48.0**	**-0.6**
PRGR				*e*		12 36 00.3	
PRGR				pmax	pmax		
	comp=Z,13nm,0.7s						
BKZ	**Black Stump Fm**	**77.47**	**129**	*e*P	**P**	**12 35 56.1**	**+0.3**
	comp=Z,13nm,1.0s						
OBN	**Obninsk**	**77.48**	**328**	*e*P	**P**	**12 35 56.0**	**+0.6**
OBN				*e*		12 36 07.4	
OBN				*e*		12 38 50.6	
OBN				*e*PPP	PPP	12 40 35.5	
OBN				pmax	pmax		
	comp=Z,28nm,1.7s						
OBN				MLR	MLR		
	comp=Z,50nm,17.0s						
KLMR	**Klimovskoe**	**78.46**	**334**	*e*P	**P**	**12 36 00.4**	**-0.4**
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	**Klimovskoe**	**78.46**	**334**	*e*P	**P**	**12 36 00.4**	**-0.4**
KLMR				AMP		12 36 18.6	
	comp=Z,14nm,1.3s						
AKASG	**Malin Array Be**	**80.22**	**322**	*i* P	**P**	**12 36 08.3**	**-2.3**
AKASG	**Malin Array Be**	**80.22**	**322**	P	**P**	**12 36 10.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=90,slow=4.5,SNR=4.1						
KIEV	**Kiev**	**80.22**	**322**⇓	*e*P	**P**	**12 36 10.9**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,22nm,3.7s						
BUR08	**Bucovina Ar. S**	**82.03**	**319**	*e*P	**P**	**12 36 21.2**	**+0.7**
	comp=Z,5.0nm,1.0s						
ITM	**

4.0nm,0.3s,baz=167,slow=16,SNR=40
KK31 ⇑Sn **Sn** **12 32 01.7 -1.6**
8.5nm,0.5s,baz=170,slow=32,SNR=18
BRLS Borolday 2.27 339 *eP* **Pn** **12 31 37.9 +1.3**
0.3nm,0.2s
BRLS *eS* **Sn** **12 32 05.2 +0.5**
7.2nm,0.5s
AML Almayashu 2.39 59⇑*iP* **Pn** **12 31 39.4 +0.8**
baz=55
AML ⇑*iS* **Sn** **12 32 08.3 -0.1**
baz=55
MRKS Merke 2.50 42 *eP* **Pn** **12 31 41.0 +1.3**
2.5nm,0.2s
MRKS *eS* **Sn** **12 32 10.8 +0.3**
7.0nm,0.3s
ARLS Aral 2.71 69⇑*iP* **Pn** **12 31 43.6 +0.9**
baz=65
ARLS ⇑*iS* **Sn** **12 32 15.5 -0.3**
baz=65
EKS2 Erkin-Say 2.74 50⇑*iP* **Pn** **12 31 45.1 +2.0**
baz=47
EKS2 ⇑*iS* **Sn** **12 32 17.9 +1.3**
baz=47
UCH Uchtor 2.98 63⇑*iP* **Pn** **12 31 47.4 +0.7**
baz=60
UCH ⇑*iS* **Sn** **12 32 21.6 -1.3**
baz=60
AAK Ala-Arcba 3.16 56 ⇑Pn **Pb** **12 31 53.6 -1.5**
0.8nm,0.3s
AAK ⇑Sn **Sb** **12 32 32.5 -1.4**
1.6nm,0.5s
AAK Ala-Arcba 3.16 56⇑*iP* **Pn** **12 31 50.1 +1.2**
baz=53
AAK ⇑*iS* **Sn** **12 32 26.8 -0.2**
baz=53

NIED ***18*** *12:33:00,37.°70N×142.°90E,h29km,Mw3.4 Best double couple: M₀1.31000×10¹⁴ NP1:φ=235.00000°,δ42.00000°, λ110.00000°. NP2:φ=29.00000°,δ51.00000°,λ73.00000°.*
JMA 18 12:33:30.4±0.2,37.°66N×142.°93E,h30km±4km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.33**	**300**	P	Pn	12 33 53.7	+0.8
JIKH				*eS*	Sn	12 34 10.2	+0.7
JIO	**Ouri**	**1.48**	**303**	*e*P	Pn	12 33 55.8	+0.8
JIO				*eS*	Sb	12 34 14.5	-1.1
JKMT	**Kesennumamotoy**	**1.62**	**316**	P	Pn	12 33 57.9	+1.0
JKMT				S	Sn	12 34 17.8	+1.0
JFK	**Kawauchi**	**1.66**	**260**	P	Pn	12 33 58.4	+0.9
JFK				*eS*	Sn	12 34 18.4	+0.6
JMM	**Marumori**	**1.71**	**278**	P	Pn	12 33 59.0	+0.9
JMM				*eS*	Sn	12 34 19.7	+0.8
JMK	**Ichinoseki**	**1.86**	**314**	P	Pn	12 34 01.2	+0.9
JMK				*eS*	Sn	12 34 24.1	+1.3
JOU	**Okura**	**1.92**	**292**	P	Pn	12 34 02.7	+1.6
JOU				*eS*	Sb	12 34 26.5	-1.9
JFT	**Otama**	**2.06**	**267**	P	Pn	12 34 05.1	+2.1
JFT				*eS*	Sb	12 34 30.6	-1.9
JOM	**Ohasama**	**2.22**	**325**	P	Pn	12 34 06.4	+1.2
JOM				*eS*	Sb	12 34 34.7	-2.2
JYK	**Kaneyama**	**2.38**	**303**	P	Pn	12 34 09.9	+2.5
JANG	**Nango**	**2.92**	**338**	P	Pn	12 34 17.9	+3.0
JAG	**Ashikaga**	**3.04**	**247**	P	Pn	12 34 18.5	+2.0
JAG				*eS*	Sn	12 34 54.4	+2.5
JRY	**Ryogami san**	**3.62**	**244**	P	Pn	12 34 26.8	+2.3
JRY				*eS*	Sn	12 35 07.2	+0.9

NEIC ***18*** *12:53:27.9±0.0,52.°38N×173.°74W,h12km,ML3.0(AEIC), After AEIC.*
IDC ***18*** *12:53:42.5±10.0,52.°76N×174.°13W,h162km±102km, mb2.8/3,mb1 3.1/5,mb1mx2.8/37,mbtmp3.4/5,MS3.1/1, Ms1 3.1/1,ms1mx2.4/8, Error ellipse: s-maj=142.0km s-min=41.8km az=127.0*
ISC 18 12:53:25.9±3.3,52.°0N±0.°2×173.°60W±0.°05,h12km±19km, n24,σ1§14/24,mb3.4/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.40**	**310**	P	**Pb**	**12 53 34.9**	**0.0**
KOFP				S	**Sg**	**12 53 38.9**	**-0.2**
GSMY	**Great Sitkin M**	**1.52**	**272**	P	**Pn**	**12 53 53.4**	**+0.5**
GSTR	**Great Sitkin T**	**1.52**	**274**	*e*Pn	**Pn**	**12 53 53.6**	**+0.7**
GSTD	**Great Sitkin T**	**1.57**	**272**	P	**Pn**	**12 53 54.5**	**+0.8**
GSTD				S	**Sb**	**12 54 15.3**	**+0.6**
ETKA	**Kagalaska Isla**	**1.74**	**266**	P	**Pn**	**12 53 56.5**	**+0.5**
ETKA				S	**Sn**	**12 54 18.9**	**+0.9**
ADAG	**Mount Adagdak**	**1.85**	**270**	P	**Pb**	**12 53 59.2**	**-0.4**
ADK	**Adak**	**1.91**	**267**	*e*Pn	**Pn**	**12 53 59.4**	**+1.1**
ADK				*eS*n	**Sb**	**12 54 23.6**	**-0.9**
KIWB	**Kanaga Island**	**2.20**	**267**	*e*Pn	**Pn**	**12 54 03.8**	**+1.5**
KIWB				*eS*n	**Sn**	**12 54 30.6**	**+1.2**
KIMD	**Kanaga Island**	**2.27**	**265**	P	**Pn**	**12 54 04.2**	**+1.1**
KIMD				S	**Sb**	**12 54 34.5**	**-0.1**
TAFP	**Tanaga Falls P**	**2.71**	**269**	P	**Pn**	**12 54 11.4**	**+2.1**
NIKH	**Nikolski High**	**3.05**	**70**	*e*Pn	**Pn**	**12 54 14.8**	**+0.9**
UNV	**Unalaska Valle**	**4.67**	**64**	*e*Pn	**Pn**	**12 54 38.0**	**+2.0**
AKUT	**Akutan**	**5.17**	**63**	*e*Pn	**Pn**	**12 54 44.7**	**+1.7**
KDAK	**Kodiak Island**	**13.37**	**56**	P	**P**	**12 56 44.6**	**-0.2**
	0.4nm,0.3s,baz=297,slow=6.8,SNR=5.5						
ILAR	**Eielson Array**	**18.75**	**37**	P	**P**	**12 57 43.6**	**-0.7**
	0.1nm,0.3s,baz=241,slow=9.0,SNR=14						
INK	**Inuvik**	**25.09**	**34**	P	**P**	**12 58 48.4**	**-1.4**
	0.6nm,0.7s,baz=263,slow=8.1,SNR=3.0						
INK				LR	LR	13 08 07.1	
	comp=Z,39nm,19.4s,baz=21,slow=35						
YKA	**Yellowknife Ar**	**32.42**	**48**	P	**P**	**12 59 54.2**	**-1.0**
	0.1nm,0.5s,baz=274,slow=8.8,SNR=2.7						
H11N2	**WAKE ISLAND Hy 35.65 213**			T	T	13 38 05.9	
	baz=21,slow=76,SNR=21						
H11N3	**WAKE ISLAND Hy 35.66 213**			T	T	13 38 12.9	
	baz=21,slow=76,SNR=28						
H11N1	**WAKE ISLAND Hy 35.67 213**			T	T	13 38 14.0	
	baz=21,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy 36.86 212**			T	T	13 39 39.5	
	baz=20,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy 36.87 212**			T	T	13 39 35.4	
	baz=20,slow=76,SNR=26						
H11S3	**WAKE ISLAND Hy 36.88 212**			T	T	13 39 35.3	
	baz=20,slow=76,SNR=20						
ASAR	**Alice Springs**	**88.22**	**227**	P	**P**	**13 06 16.2**	**-0.5**
	0.3nm,0.6s,baz=27,slow=4.7,SNR=4.8						

SJA ***18*** *12:55:28.7±0.7,23.°96S×66.°75W,h225km±10km,ML2.8, MW3.8*
ISCJB ***18*** *12:55:29.6±0.4,23.°96S±0.°03×66.°83W±0.°03,h213km±4km, mb3.2/5, Error ellipse: s-maj=5.4km s-min=4.5km az=142.8*
IDC ***18*** *12:55:30.4±1.4,23.°86S×66.°61W,h198km±10km,mb3.2/5, mb1 3.4/9,mb1mx3.3/27,mbtmp3.6/9, Error ellipse: s-maj=23.4km s-min=16.7km az=16.0*
GUC ***18*** *12:55:31.8±0.6,23.°85S×67.°27W,h241km±9km,ML4.1*
NEIC ***18*** *12:55:31.7±0.0,23.°85S×67.°36W,h252km,ML4.2(GUC), After GUC.*
ISC 18 12:55:30.4±0.7,23.°93S±0.°04×66.°81W±0.°04,h209km±6km, n48,σ1§32/73,mb3.3/5,11C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.43**	**124**	*i*P	**Pn**	**12 56 04.6**	**+0.1**
SLA				*i*S	**S**	**12 56 30.7**	**-0.1**
SLA				IAML		12 56 31.0	
	comp=N,54nm,0.5s						
HJA	**Humahuaca**	**1.47**	**61**	*i*P	**Pn**	**12 56 05.1**	**-0.1**
HJA				IAML		12 56 08.4	
	comp=Z,62nm,0.6s						
HJA				*i*S	**S**	**12 56 32.7**	**+0.9**
YJA	**Yavi**	**2.11**	**35**	*i*P	**Pn**	**12 56 11.8**	**+0.5**
YJA				*i*S	**S**	**12 56 43.3**	**+0.6**
YJA				IAML		12 56 46.0	
	comp=Z,13nm,0.5s						
FSA	**Cafayete**	**2.30**	**161**	*i*P	**Pn**	**12 56 12.7**	**-0.2**
FSA				IAML		12 56 13.1	
	comp=Z,45nm,0.5s						
FSA				*i*S	**S**	**12 56 44.4**	**-1.4**
LVC	**Limon Verde**	**2.34**	**304**	*e*Pn	**Pn**	**12 56 13.8**	**+0.3**
LVC				*eS*	**S**	**12 56 46.9**	**+0.2**
LVC	**Limon Verde**	**2.34**	**304**⇑*iP*		**Pn**	**12 56 14.8**	**+1.2**
LVC				*eS*	**S**	**12 56 47.5**	**+0.9**
LVC	**Limon Verde**	**2.34**	**304**	P	**Pn**	**12 56 14.8**	**+1.2**
	comp=Z,19nm,0.3s,baz=148,slow=5.8,SNR=82						
LVC				S	**S**	**12 56 47.9**	**+1.3**
	comp=Z,31nm,0.3s,baz=264,slow=19,SNR=32						
PB15	**IPOC Station P**	**2.55**	**286**	*i*P	**Pn**	**12 56 16.5**	**+0.8**
PB15	**IPOC Station P**	**2.55**	**286**⇑*iP*		**Pn**	**12 56 16.8**	**+1.2**
PB15				*i*S	**S**	**12 56 50.8**	**+0.4**
GO02	**Mina Guanaco**	**2.81**	**244**	*e*Pn	**Pn**	**12 56 18.5**	**-0.2**
GO02				*eS*	**S**	**12 56 55.6**	**-0.4**
GO02	**Mina Guanaco**	**2.81**	**244**⇑*iP*		**Pn**	**12 56 19.5**	**+0.8**
GO02				*i*S	**S**	**12 56 56.6**	**+0.5**
PB06	**IPOC Station P**	**2.82**	**295**⇑*iP*		**Pn**	**12 56 19.7**	**+1.1**
PB06				*i*S	**S**	**12 56 55.8**	**-0.1**
PB06				IAML		12 56 57.7	
	comp=N,686nm,0.4s						
PB09	**IPOC Station P**	**3.09**	**313**⇑*iP*		**Pn**	**12 56 23.2**	**+1.4**
PB09				*i*S	**S**	**12 57 02.8**	**+1.3**
PB09				IAML		12 57 08.0	
	comp=E,184nm,0.3s						
PB03	**IPOC Station P**	**3.30**	**304**⇑*iP*		**Pn**	**12 56 24.9**	**+0.7**
PB05	**IPOC Station P**	**3.30**	**288**	*i*P	**Pn**	**12 56 24.4**	**+0.2**
PB05	**IPOC Station P**	**3.30**	**288**⇑*iP*		**Pn**	**12 56 24.6**	**+0.4**
PB05				*i*S	**S**	**12 57 04.3**	**-1.5**
PB05				IAML		12 57 08.4	
	comp=E,253nm,0.3s						
PB14	**IPOC Station P**	**3.35**	**257**	*i*P	**Pn**	**12 56 25.1**	**+0.1**
PB14	**IPOC Station P**	**3.35**	**257**	*e*P	**Pn**	**12 56 25.5**	**+0.4**
PB10	**IPOC Station P**	**3.46**	**276**	*e*Pn	**Pn**	**12 56 25.4**	**-0.5**
PB10				*eS*	**S**	**12 57 05.8**	**-3.2**
PB10	**IPOC Station P**	**3.46**	**276**	*i*P	**Pn**	**12 56 26.4**	**+0.4**
PB10	**IPOC Station P**	**3.46**	**276**⇑*iP*		**Pn**	**12 56 26.7**	**+0.7**
PB10				*i*S	**S**	**12 57 08.4**	**-0.6**
PB04	**IPOC Station P**	**3.46**	**297**	*e*Pn	**Pn**	**12 56 25.3**	**-0.9**
PB04				*eS*	**S**	**12 57 08.0**	**-1.4**
PB04	**IPOC Station P**	**3.46**	**297**	*i*P	**Pn**	**12 56 26.2**	**0.0**
PB04	**IPOC Station P**	**3.46**	**297**⇑*iP*		**Pn**	**12 56 26.8**	**+0.6**
PB04				*i*S	**S**	**12 57 08.5**	**-0.9**
PB07	**IPOC Station P**	**3.59**	**307**⇑*iP*		**Pn**	**12 56 28.3**	**+0.5**
PB07				*i*S	**S**	**12 57 10.6**	**-1.6**
PB01	**IPOC Station P**	**3.79**	**319**	*e*Pn	**Pn**	**12 56 29.6**	**-0.5**
PB01				*eS*	**S**	**12 57 14.4**	**-2.2**
PB01	**IPOC Station P**	**3.79**	**319**	*i*P	**Pn**	**12 56 30.6**	**+0.4**
PB01				*i*S	**S**	**12 57 15.8**	**-0.8**
PB02	**IPOC Station P**	**3.86**	**312**	*i*P	**Pn**	**12 56 31.1**	**+0.1**
PB08	**IPOC Station P**	**4.35**	**330**⇑*iP*		**Pn**	**12 56 38.3**	**+0.9**
PB08				*i*S	**S**	**12 57 29.4**	**-0.2**
GO03	**Copiap**	**4.78**	**220**	*e*Pn	**Pn**	**12 56 41.5**	**-0.8**
GO03				*eS*	**S**	**12 57 37.2**	**-1.5**
PB11	**IPOC Station P**	**4.92**	**327**	*e*Pn	**Pn**	**12 56 43.0**	**-1.2**
PB11				*eS*	**S**	**12 57 39.5**	**-2.6**
MNMC	**Minye Minye**	**5.43**	**331**	*e*Pn	**Pn**	**12 56 50.5**	**-0.5**
MNMC				*eS*	**S**	**12 57 51.2**	**-3.0**
LCO	**Las Campanas**	**6.15**	**214**	*e*Pn	**Pn**	**12 56 58.3**	**-1.7**
GO04	**Tololo Observa**	**7.16**	**209**	*e*Pn	**Pn**	**12 57 10.6**	**-2.4**
LPAZ	**La Paz**	**7.70**	**350**	*e*Pn	**Pn**	**12 57 17.2**	**-3.3**
LPAZ	**La Paz**	**7.70**	**350**	P	**Pn**	**12 57 21.3**	**+0.8**
	comp=E,0.4nm,0.3s,baz=141,slow=5.4,SNR=7.3						
LPAZ				S	**S**	**12 58 45.0**	**-3.1**
	baz=114,slow=20,SNR=1.4						
CPUP	**Villa Florida**	**8.92**	**108**	P	**Pn**	**12 57 33.2**	**-2.3**
	comp=E,0.3nm,0.3s,baz=294,slow=10,SNR=6.6						
SIV	**San Ignacio**	**9.56**	**35**	P	**Pn**	**12 57 42.3**	**-1.7**
	comp=E,0.4nm,0.3s,baz=221,slow=13,SNR=12						
ROC1	**El Roble**	**9.74**	**201**	*e*Pn	**Pn**	**12 57 44.9**	**-1.5**
TXAR	**Lajitas Array**	**63.72**	**324**	P	**P**	**13 05 41.7**	**+1.7**
	comp=E,1.1nm,0.4s,baz=134,slow=8.9,SNR=3.3						
TORD	**Torodi Ar. Bea**	**76.38**	**69**	P	**P**	**13 06 57.0**	**-0.1**
	comp=E,0.4nm,0.7s,baz=234,slow=7.1,SNR=3.2						
PDAR	**Pinedale Array**	**77.18**	**329**	P	**P**	**13 07 03.1**	**+1.9**
	comp=E,0.2nm,0.4s,baz=116,slow=8.4,SNR=2.6						
ULM	**Lac du Bonnet**	**78.22**	**341**	P	**P**	**13 07 07.2**	**+0.7**
	comp=E,1.1nm,0.7s,baz=180,slow=8.1,SNR=2.1						
YKA	**Yellowknife Ar**	**94.12**	**340**	P	**P**	**13 08 26.1**	**+1.5**
	comp=E,0.3nm,0.6s,baz=137,slow=4.5,SNR=12						
ASAR	**Alice Springs**	**128.59**	**205**	PKP	**PKiKP**	**13 14 14.0**	**+0.1**
	comp=E,0.5nm,0.8s,baz=133,slow=1.5,SNR=6.9						
WRA	**Warramunga Arr**	**131.77**	**207**	PKP	**PKiKP**	**13 14 20.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=156,slow=1.7,SNR=10						
ZALV	**Zalesovo Beam**	**143.25**	**28**	PKP	**PKPdf**	**13 14 37.8**	**-1.5**
	comp=E,0.8nm,0.7s,baz=278,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**146.36**	**40**	PKPbc	**PKPab**	**13 14 46.6**	**-1.2**
	comp=E,1.0nm,0.5s,baz=284,slow=3.6,SNR=10						

MEX 18 13:17:14.7±0.4,15.°22N×93.°24W,h92km±6km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.48**	**3**	*e*P	Pn	13 17 28.4	-1.2
PCIG				*i*S	Sn	13 17 38.6	-1.9
THIG		**0.99**	**108**	*e*P	Pn	13 17 33.4	-1.0
THIG				*i*S	Sn	13 17 48.1	-1.1
CCIG	**Comitan**	**1.50**	**45**	*i*P	Pn	13 17 40.2	-0.5
CCIG				*i*S	Sn	13 17 58.8	-1.6

NNC ***18*** *13:26:29.6±1.0,50.°85N×73.°75E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=9.9km s-min=8.2km az=11.0, Suspected Mining explosion.*
IDC ***18*** *13:26:33.7±0.8,50.°79N×73.°71E,h0km,mb3.3/1, mb1 3.2/7,mb1mx3.1/53,mbtmp3.0/7,ML2.4/6, Error ellipse: s-maj=12.5km s-min=8.6km az=38.0*
ISC 18 13:26:31.3±0.8,50.°88N±0.°06×73.°58E±0.°06,h0km,n18, σ2§26/15,6C-10D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.76**	**198**	⇑Pg	**Pn**	**13 27 19.1**	**+2.3**
	7.1nm,0.6s						
OTUK				⇓Lg	Lg	13 27 58.6	
	36nm,0.8s						
BVA0	**Borovoye Array**	**2.92**	**319**	⇓Pg	**Pg**	**13 27 25.6**	**-1.5**
	4.6nm,0.8s						
BVA0				⇓Lg	Lg	13 28 05.7	
	29nm,0.8s,baz=126,slow=28,SNR=14						
BVAR	**Borovoye Array**	**2.92**	**319**	Pn	**Pb**	**13 27 23.3**	**-0.8**
	0.5nm,0.3s,baz=133,slow=14,SNR=24						
BVAR				Lg	Lg	13 28 05.8	
	3.1nm,0.3s,baz=126,slow=30,SNR=18						
KURBB	**Kurchatov Arra**	**3.15**	**93**	⇑Pg	**Pn**	**13 27 23.3**	**+1.2**
	9.1nm,0.7s						
KURBB				⇑Lg	Lg	13 28 10.4	
	177nm,0.8s						
KURBB	**Kurchatov Arra**	**3.15**	**93**	Pn	**Pn**	**13 27 23.4**	**+1.2**
	0.1nm,0.3s,baz=278,slow=14,SNR=30						
KURBB				Lg	Lg	13 28 09.2	
	0.3nm,0.3s,baz=279,slow=31,SNR=13						
KURK	**Kurchatov**	**3.20**	**91**	⇑Pg	**Pn**	**13 27 24.7**	**+1.9**
	1.6nm,0.3s						
KURK				⇓Lg	Lg	13 28 10.6	
	37nm,0.7s						
MK31	**Makanchi Array**	**7.05**	**122**	⇓Pg	**Pb**	**13 28 35.9**	**+1.3**
	0.6nm,0.6s,baz=305,slow=10,SNR=3.7						
MK31				⇑Lg	Lg	13 30 13.4	
	12nm,0.8s,baz=314,slow=27,SNR=6.4						
MKAR	**Makanchi Array**	**7.05**	**122**	Pn	**Pn**	**13 28 17.0**	**+1.3**
	0.0nm,0.3s,baz=309,slow=11,SNR=4.1						
MKAR				Sn	**Sn**	**13 29 33.1**	**-3.5**
	0.1nm,0.3s,baz=307,slow=20,SNR=2.6						
MKAR				Lg	Lg	13 30 13.4	
	0.3nm,0.3s,baz=312,slow=30,SNR=9.5						
ZALV	**Zalesovo Beam**	**7.53**	**62**	Pn	**Pn**	**13 28 23.8**	**+1.6**
	0.1nm,0.3s,baz=246,slow=14,SNR=3.3						
ZALV				Sn	**Sn**	**13 29 45.6**	**-2.6**
	0.1nm,0.3s,baz=250,slow=21,SNR=2.4						
ZALV				Lg	Lg	13 30 38.5	
	0.1nm,0.3s,baz=247,slow=26,SNR=3.3						
KK31	**Karatay Array**	**8.06**	**196**	⇓Lg	Lg	13 30 48.7	
	4.2nm,0.8s,baz=2.3,slow=26,SNR=3.9						
TKM2	**Tokmak 2**	**8.08**	**169**	⇓Lg	Lg	13 30 44.8	
	22nm,0.8s						
AAK	**Ala-Archa**	**8.27**	**175**	⇓Lg	Lg	13 30 54.3	
	13nm,0.8s						
AAK	**Ala-Archa**	**8.27**	**175**	Pn	**Pn**	**13 28 33.9**	**+1.3**
	0.2nm,0.3s,baz=24,slow=12,SNR=2.4						
AAK				Sn	**Sn**	**13 30 02.6**	**-4.2**
	0.1nm,0.3s,baz=150,slow=20,SNR=3.0						
AAK				Lg	Lg	13 30 56.8	
	0.2nm,0.3s,baz=195,slow=21,SNR=6.2						
PDGK	**Podgornoye**	**8.56**	**150**	⇑Lg	Lg	13 31 04.4	
	15nm,0.9s						
AB31	**Akbulak array**	**8.93**	**265**	⇓Lg	Lg	13 31 16.6	
	3.3nm,0.8s						
AKTO	**Aktyubinsk**	**9.90**	**273**	⇓Lg	Lg	13 31 41.7	
	10nm,1.3s						
AKTO	**Aktyubinsk**	**9.90**	**273**	Pn	**Pn**	**13 28 56.0**	**+1.3**
	0.2nm,0.3s,baz=80,slow=17,SNR=3.1						
AKTO				Lg	Lg	13 31 46.2	
	0.1nm,0.3s,baz=280,slow=4.5,SNR=4.4						
ILAR	**Eielson Array**	**60.49**	**19**	P	**P**	**13 36 43.6**	**+1.2**
	0.2nm,0.6s,baz=331,slow=6.3,SNR=4.9						

ISK ***18*** *13:34:19.1,37.°40N×37.°16E,h5km,ML1.7/3*
DDA ***18*** *13:34:21.2,37.°35N×37.°13E,h7km±2km,ML2.6*
ISC 18 13:34:21.2±1.0,37.°33N±0.°06×37.°14E±0.°04,h13km±8km, n8,σ0§82/12,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.16**	**158**	P	**Pg**	**13 34 24.5**	**-0.7**
GAZ				SG	**Sb**	**13 34 28.7**	**-0.7**
HCB	**Kahramanmara**	**0.18**	**276**	*i*P	**Pg**	**13 34 25.9**	**+0.4**
HCB				*i*S	**Sg**	**13 34 28.8**	**+0.4**
HCB				IAML_P			
	comp=Z,4μm,0.1s						
KUZU	**Kuzuini**	**0.55**	**185**	*i*P	**Pb**	**13 34 33.8**	**+1.1**
KUZU				IAML_P			
	comp=Z,1μm,0.1s						
ANDN	**Andirin**	**0.68**	**292**	*i*P	**Pg**	**13 34 34.6**	**+0.1**
ANDN				IAML_P			
	comp=Z,483nm,0.1s						
KOZT	**Kozan**	**1.05**	**279**	PG	**Pb**	**13 34 40.0**	**-1.3**
KOZT				SG	**Sn**	**13 34 56.8**	**+0.6**
SAIM	**ADANA**	**1.06**	**308**	*i*P	**Pg**	**13 34 42.2**	**+0.6**
SAIM				IAML_P			
	comp=Z,685nm,0.1s						
SURC	**SANLIURFA_SURC**	**1.26**	**110**	*i*P	**Pb**	**13 34 45.4**	**+0.5**
URFA	**Urfa**	**1.35**	**85**	PN	**Pn**	**13 34 45.3**	**-0.5**
URFA				SN	**Sg**	**13 35 05.0**	**+0.3**

ISCJB ***18*** *13:35:11.4±1.8,42.°5N±0.°1×41.°06E±0.°06,h12km±30km, Error ellipse: s-maj=18.1km s-min=6.5km az=9.1*
MOS ***18*** *13:35:14.5±0.0,42.°60N×41.°13E,h5km,MPVA3.1*
NORS ***18*** *13:35:15.9±0.0,42.°50N×41.°19E,h33km,MPVA3.1*
DDA ***18*** *13:35:32.1,41.°31N×41.°67E,h7km±3km,ML2.2*
ISC 18 13:35:12.4±1.5,42.°42N±0.°03×41.°12E±0.°06,h3km±13km, n11,σ1§62/16,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.93**	**152**	P	**Pg**	**13 35 30.9**	**+0.8**
BATM				S	**Sg**	**13 35 44.6**	**+2.5**
DOMR	**Dombai**	**0.94**	**23**	*e*Pg	**Pg**	**13 35 29.3**	**-1.3**
DOMR				*e*Sg	**Sg**	**13 35 41.1**	**-1.7**
DBOC	**Borcka**	**1.15**	**159**	*i*P	**Pb**	**13 35 34.5**	**-0.5**
NEY	**Neytrino**	**1.44**	**55**	*i*Pg	**Pn**	**13 35 40.1**	**+0.5**
NEY				*e*Sg	**Sn**	**13 35 59.2**	**+0.1**
DBAD	**Bademkaya**	**1.47**	**163**	*i*P	Pn	13 35 38.4	-1.5
DBAD				IAML_P			
	comp=Z,891nm,0.1s						
DAGI	**Agillar**	**1.47**	**156**	*i*P	**Pn**	**13 35 40.0**	**+0.1**
DDEM	**Demirkent**	**1.60**	**163**	*i*P	**Pn**	**13 35 40.8**	**-0.9**
DDEM				IAML_P			
	comp=Z,1μm,0.1s						
SHA1	**Shidzhatmaz**	**1.73**	**40**	*i*Pg	**Pn**	**13 35 45.3**	**+1.7**
SHA1				*i*Sg	**Sb**	**13 36 06.9**	**-0.3**
GUZR	**Guzeripl'**	**1.73**	**335**	*i*Pg	**Pn**	**13 35 43.7**	**+0.2**
GUZR				*i*Sg	**Sn**	**13 36 06.5**	**+0.4**
MACK	**Trabzon**	**1.79**	**215**	*i*P	**Sn**	**13 36 04.4**	**-3.1**
LZRR	**Lazarevskoye**	**1.97**	**321**	*e*Pg	**Pn**	**13 35 48.6**	**+1.9**
LZRR				*i*Sg	**Sn**	**13 36 13.6**	**+1.7**

SFS ***18*** *13:37:25.0,32.°36N×7.°55W,ML3.6,BENGUERIR (MARRUECOS)*
MDD ***18*** *13:37:25.3±4.5,32.°36N×7.°57W,h0km,mb3.8/3,Error ellipse: s-maj=52.7km s-min=38.9km az=79.0,PRXIMO SOLUCIN POBRE*
INMG ***18*** *13:37:28.5±1.4,32.°31N×7.°70W,h31km,ML2.4,Error ellipse: s-maj=6.9km s-min=4.9km az=115.0*
ISC 18 13:37:27.2±3.4,32.°5N±0.°2×7.°66W±0.°10,h10km,n12, σ1§51/21,1D,Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AVE	**Averroes**	**0.82**	**15**⇓*iP*		**Pn**	**13 37 45.9**	**+1.2**
AVE				*eS*	**Sn**	**13 38 01.7**	**+4.8**
IFR	**Ifrane**	**2.35**	**64**	*e*P	**Pb**	**13 38 09.6**	**-0.2**
IFR				*eS*	**Sg**	**13 38 43.0**	**+0.2**
PFVI	**Vila Bisbo**	**4.71**	**349**	*e*Pn	**Pn**	**13 38 38.2**	**-0.1**
PFVI	**Vila Bisbo**	**4.71**	**349**	P	**Pn**	**13 38 38.2**	**-0.1**
	1.2nm,0.1s,SNR=5.7						
PFVI				S	**Sn**	**13 39 33.0**	**0.0**
	0.8nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.89**	**359**	*e*Pn	**Pn**	**13 38 40.7**	**0.0**
PVAQ				*e*Sn	**Sn**	**13 39 37.5**	**+0.2**
EGRO	**El Granado**	**5.02**	**2**	P	**Pn**	**13 38 42.6**	**+0.2**
	1.2nm,0.3s,SNR=7.9						
EGRO				S	**Sn**	**13 39 39.7**	**-0.9**
	0.7nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**5.12**	**357**	*e*Pn	**Pn**	**13 38 43.8**	**

ML4.0,mb4.3(NEIC)
*NEIC **18** 13:56:13.3±0.7, 12.18N×87.57W, h67km±6km, mb4.3/28, MD4.1(SNET), Error ellipse: s-maj=11.4km s-min=5.3km az=200.0*
NEIC Felt at Chinandega. Felt [I] at La Union, El Salvador.

ISC 18 13:56:13.3±0.9, 12°32'N±0'07×87°42'W±0.05, h69km±8km, n89, σ0.91/97, mb4.2/30, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.52**	**44**	*eP*	**Pn**	**13 56 26.5**	**+0.1**
CRIN				*eS*	**Sn**	**13 56 37.0**	**+1.2**
TEL3	**Telica 3**	**0.61**	**66**	*eP*	**Pn**	**13 56 26.9**	**-0.3**
TELN	**Telica**	**0.64**	**64**	*eP*	**Pn**	**13 56 27.1**	**-0.5**
TELN				*eS*	**Sn**	**13 56 38.0**	**-0.1**
CNGN	**Cerro Negro**	**0.72**	**76**	*eP*	**Pn**	**13 56 27.9**	**-0.6**
COPN	**Copaltepe**	**0.82**	**100**	*eP*	**Pn**	**13 56 28.9**	**-0.7**
MOMN	**Momotombo**	**0.86**	**84**	*eP*	**Pn**	**13 56 29.6**	**-0.5**
CNCH	**Conchagua**	**1.03**	**337**	*eP*	**Pn**	**13 56 32.2**	**-0.1**
CNCH				*eS*	**Sn**	**13 56 45.2**	**-1.2**
APYN	**Apoyeque**	**1.05**	**95**	*eP*	**Pn**	**13 56 32.0**	**-0.4**
XAVN	**Gruta Xavier**	**1.08**	**99**	*eP*	**Pn**	**13 56 32.9**	**+0.1**
LCND	**La Caada**	**1.08**	**335**	*iP*	**Pn**	**13 56 32.7**	**-0.1**
LCND				*eS*	**Sn**	**13 56 47.3**	**-0.1**
BRAN	**Las Pilas**	**1.11**	**69**	*eP*	**Pn**	**13 56 32.3**	**-0.9**
MGAN	**Managua**	**1.16**	**99**	*eP*	**Pn**	**13 56 33.5**	**-0.3**
MGAN				*eS*	**Sn**	**13 56 49.1**	**0.0**
MASN	**Masaya**	**1.28**	**105**	*eP*	**Pn**	**13 56 37.7**	**+0.2**
VSM	**San Miguel**	**1.38**	**323**	*eP*	**Pn**	**13 56 37.0**	**+0.1**
LCY	**Lacayo**	**1.39**	**322**	*eP*	**Pn**	**13 56 36.8**	**-0.1**
LCY				*eS*	**Sn**	**13 56 54.6**	**0.0**
TECA	**Tecapa**	**1.57**	**318**	*eP*	**Pn**	**13 56 39.2**	**-0.2**
MATN	**Matagalpa**	**1.58**	**67**	*eP*	**Pn**	**13 56 39.6**	**+0.2**
CAHU	**Cacacuatique**	**1.63**	**332**	*eP*	**Pn**	**13 56 40.5**	**+0.2**
TGUH	**Tegucigalpa,Un**	**1.73**	**5**	*ePn*	**Pn**	**13 56 42.7**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.73**	**5**	*eP*	**Pn**	**13 56 42.6**	**+1.3**
SNVI	**San Vicente**	**1.89**	**313**	*eP*	**Pn**	**13 56 43.7**	**+0.1**
VICT	**Victoria**	**2.02**	**324**	*eP*	**Pn**	**13 56 45.5**	**+0.2**
VICT				*eS*	**Sn**	**13 57 10.0**	**+0.4**
PAVA	**Las Pavas**	**2.02**	**313**	*eP*	**Pn**	**13 56 45.8**	**+0.3**
LFRS	**El Faro**	**2.06**	**309**	*eP*	**Pn**	**13 56 45.6**	**-0.2**
LBRS	**Las Brisas**	**2.12**	**312**	*eP*	**Pn**	**13 56 46.9**	**+0.3**
LOMA	**San Marcos**	**2.16**	**308**	*eP*	**Pn**	**13 56 46.9**	**-0.2**
LFU	**La Fuente**	**2.18**	**311**	*eP*	**Pn**	**13 56 48.0**	**+0.5**
ACON	**Acoyapa**	**2.22**	**99**	*eP*	**Pn**	**13 56 47.4**	**-0.6**
BQOS	**Boqueron**	**2.29**	**308**	*eP*	**Pn**	**13 56 49.4**	**+0.2**
BQOS				*eS*	**Sn**	**13 57 16.4**	**-0.1**
CEVE	**Cerro Verde**	**2.62**	**305**	*eP*	**Pn**	**13 56 54.2**	**+0.6**
CEVE				IAML		13 57 40.2	
	comp=Z,2µm,0.4s						
SBLS	**San Blas**	**2.62**	**305**	*eP*	**Pn**	**13 56 53.8**	**+0.1**
SNJE	**San Jose**	**2.63**	**306**	*eP*	**Pn**	**13 56 54.2**	**+0.6**
RTR	**El Retiro**	**2.68**	**306**	*eP*	**Pn**	**13 56 55.2**	**+0.9**
ESPN	**Las Esperanzas**	**3.05**	**92**	*ePn*	**Pn**	**13 57 01.9**	**+2.7**
JTS	**JuntasAbangare**	**3.15**	**130**	*ePn*	**Pn**	**13 57 00.7**	**+0.1**
JTS	**JuntasAbangare**	**3.15**	**130**	P	**Pn**	**13 57 01.0**	**+0.3**
	comp=Z,7.6nm,0.3s,baz=28,slow=16,SNR=21						
JTS				S	**Sn**	**13 57 37.0**	**-0.1**
	comp=Z,7.6nm,0.3s,baz=26,slow=18,SNR=5.3						
IXG	**Ixpaco**	**3.48**	**302**	*eP*	**Pn**	**13 57 07.1**	**+1.8**
IXG				*eS*	**Sn**	**13 57 45.8**	**+0.4**
NBG	**Las Nubes**	**3.63**	**309**	*eP*	**Pn**	**13 57 06.2**	**-1.2**
APG	**El Apazote**	**3.98**	**312**	P	**Pn**	**13 57 14.1**	**+1.9**
	comp=Z,2.3nm,0.3s,baz=124,slow=10,SNR=7.9						
CCIG	**Comitan**	**6.03**	**311**	*ePn*	**Pn**	**13 57 39.1**	**-1.1**
CMIG	**Matias Romero**	**8.64**	**304**	P	**Pn**	**13 58 17.9**	**+2.2**
	comp=Z,2.0nm,0.3s,baz=143,slow=11,SNR=21						
CMIG				S	**Sn**	**13 59 52.0**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=266,slow=19,SNR=2.9						
TLIG	**Tlapa**	**11.96**	**297**	*ePn*	**Pn**	**13 59 00.7**	**-0.5**
MOIG	**Morelia**	**15.12**	**301**	*ePn*	**Pn**	**13 59 42.5**	**-0.8**
	comp=Z,47nm,0.4s						
DWPF	**Disney Wildern**	**16.67**	**19**	*ePn*	**P**	**14 00 05.0**	**+1.1**
	comp=Z,124nm,1.6s						
LNIG	**Linares**	**16.92**	**319**	*ePn*	**Pn**	**14 00 06.0**	**+0.3**
555A	**McAlpin**	**18.19**	**12**	*eP*	**Pn**	**14 00 23.1**	**+2.0**
	comp=Z,33nm,1.0s						
HKT	**Hockley**	**19.20**	**337**	*eP*	**Pn**	**14 00 34.1**	**+0.9**
	comp=Z,5.8nm,1.0s						
PCDR	**Punta Cana, DR**	**19.35**	**69**	*eP*	**P**	**14 00 34.5**	**+1.1**
	comp=Z,236nm,1.0s						
833A	**Chaparral WMA,**	**19.46**	**327**	*eP*	**P**	**14 00 35.5**	**+1.0**
	comp=Z,11nm,0.8s						
MPR	**Mayaguez**	**20.41**	**71**	*eP*	Pn	14 00 47.7	+0.1
	comp=Z,65nm,0.8s						
ATAH	**Atahualpa**	**21.31**	**155**	P	**P**	**14 00 56.7**	**+1.7**
	comp=Z,5.6nm,0.9s,baz=329,slow=12,SNR=4.0						
WHTX	**Lake Whitney,**	**21.64**	**336**	*eP*	**P**	**14 00 59.4**	**+1.3**
	comp=Z,8.9nm,0.8s						
HPIG		**22.46**	**313**	*eP*	**P**	**14 01 08.5**	**+1.3**
	comp=Z,8.9nm,1.2s						
TXAR	**Lajitas Array**	**22.69**	**321**	P	**P**	**14 01 09.8**	**+0.4**
	comp=Z,5.8nm,0.7s,baz=141,slow=8.3,SNR=50						
TX31	**Lajitas Ar. Si**	**22.69**	**321**	*eP*	**P**	**14 01 09.7**	**+0.2**
X37A	**Clayton**	**23.32**	**343**	*eP*	**P**	**14 01 15.9**	**+0.4**
	comp=Z,8.8nm,0.8s						
TKL	**Tuckaleechee C**	**23.46**	**7**	P	**P**	**14 01 16.6**	**-0.2**
	comp=Z,9.6nm,1.1s,baz=191,slow=13,SNR=3.6						
WMOK	**Wichita Mounta**	**24.59**	**337**	*eP*	**P**	**14 01 27.0**	**0.0**
	comp=Z,5.4nm,0.8s						
TUL1	**Leonard**	**24.67**	**344**	*eP*	**P**	**14 01 29.1**	**+1.3**
	comp=Z,15nm,0.8s						
MNTX	**Cornudas Mount**	**25.41**	**322**	*eP*	**P**	**14 01 34.7**	**+0.2**
	comp=Z,2.8nm,0.7s						
MSTX	**Muleshoe**	**25.69**	**329**	*eP*	**P**	**14 01 37.0**	**-0.2**
	comp=Z,8.3nm,0.8s						
ANMO	**Albuquerque**	**28.38**	**326**	LR	LR	14 14 18.5	
	comp=Z,37nm,19.7s,baz=150,slow=38						
PV03	**Paradox Valley**	**32.12**	**327**	*eP*	**P**	**14 02 35.3**	**+0.9**
	comp=Z,3.3nm,0.7s						
PV12	**Saucer Basin,**	**32.14**	**327**	*eP*	**P**	**14 02 35.7**	**+1.1**
	comp=Z,5.5nm,0.7s						
PV16	**Nyswonger Mesa**	**32.20**	**327**	*eP*	**P**	**14 02 35.5**	**+0.4**
	comp=Z,9.6nm,1.4s						
PV17	**East Wray Mesa**	**32.20**	**327**	*eP*	**P**	**14 02 36.1**	**+1.0**
	comp=Z,5.2nm,0.6s						
MTPU	**Mount Pierson**	**33.82**	**324**	*eP*	**P**	**14 02 50.1**	**+0.6**
	comp=Z,2.7nm,0.7s						
P17A	**Butcher Ranch,**	**34.02**	**327**	*eP*	**P**	**14 02 51.6**	**+0.6**
	comp=Z,4.1nm,0.7s						
LPAZ	**La Paz**	**34.23**	**146**	LR	LR	14 17 54.2	
	comp=Z,38nm,18.1s,baz=249,slow=38						
PSUT	**Pine Spring**	**35.13**	**323**	*eP*	**P**	**14 03 01.2**	**+0.6**
	comp=Z,3.7nm,1.0s						
PD31	**Pinedale Array**	**35.90**	**332**	*eP*	**P**	**14 03 06.3**	**-0.9**
	comp=Z,12nm,2.0s						
PDAR	**Pinedale Array**	**35.90**	**332**	*eP*	**P**	**14 03 06.8**	**-0.3**
PDAR	**Pinedale Array**	**35.90**	**332**	P	**P**	**14 03 07.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=122,slow=10,SNR=12						
REDW	**Red Top Meadow**	**36.96**	**331**	*eP*	**P**	**14 03 16.5**	**+0.3**
	comp=Z,11nm,0.4s						
LOHW	**Long Hollow**	**37.04**	**332**	*eP*	**P**	**14 03 17.1**	**+0.3**
	comp=Z,8.1nm,1.5s						
TPAW	**Teton Pass**	**37.11**	**331**	*eP*	**P**	**14 03 17.4**	**-0.1**
	comp=Z,3.3nm,0.6s						
MOOW	**Moose Ponds**	**37.21**	**332**	*eP*	**P**	**14 03 18.6**	**+0.3**
	comp=Z,2.8nm,0.9s						
FXWY	**Fox Creek**	**37.26**	**331**	*eP*	**P**	**14 03 19.5**	**+0.8**
	comp=Z,2.1nm,1.0s						
IMW	**Indian Meadow**	**37.41**	**332**	*eP*	**P**	**14 03 19.9**	**-0.1**
	comp=Z,3.6nm,1.3s						
NVAR	**Mina Array Bea**	**37.82**	**319**	P	**P**	**14 03 24.9**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=125,slow=7.7,SNR=9.3						
KVN	**Kaiserville**	**38.05**	**320**	*eP*	**P**	**14 03 25.9**	**+0.4**
	comp=Z,1.9nm,0.7s						
ULM	**Lac du Bonnet**	**38.45**	**351**	P	**P**	**14 03 26.4**	**-1.9**
	comp=Z,2.8nm,0.6s,baz=174,slow=8.3,SNR=5.5						
MCMT	**McKenzie Canyo**	**39.01**	**331**	*eP*	**P**	**14 03 34.7**	**+1.2**
SCHQ	**Schefferville**	**45.39**	**17**	P	**P**	**14 04 22.5**	**-2.4**
	comp=Z,1.7nm,0.4s,baz=198,slow=6.4,SNR=1.7						
YKA	**Yellowknife Ar**	**53.74**	**345**	P	**P**	**14 05 26.9**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=139,slow=7.5,SNR=11						
ILAR	**Eielson Array**	**66.15**	**336**	P	**P**	**14 06 52.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=154,slow=4.7,SNR=7.1						
LZH	**Lanzhou**	**130.69**	**348**	*ePKP*	**PKPdf**	**14 15 15.6**	**-1.7**
LZH				pPKP	pPKPdf	14 15 37.3	+0.2
LZH				sPKP		14 15 46.3	
ASAR	**Alice Springs**	**139.25**	**248**	PKhKP	PKPpre	14 15 27.2	
	comp=Z,0.3nm,0.9s,baz=106,slow=2.6,SNR=3.1						
ASAR				PKP	**PKPdf**	**14 15 33.9**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=108,slow=2.6,SNR=3.7						
WRA	**Warramunga Arr**	**139.26**	**254**	PKhKP	PKPpre	14 15 25.4	
	comp=Z,0.3nm,0.9s,baz=89,slow=3.4,SNR=3.1						
WRA				PKP	**PKPdf**	**14 15 33.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=90,slow=2.4,SNR=6.7						

KRSC 18 13:57:02.5±10.0, 53.47N×162.95E, h62km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.31**	**327**	*eP*	Pn	13 57 25.9	+1.3
MKZ				*eS*	Sn	13 57 42.6	+1.5
SPN	**Mys Shipunski**	**1.80**	**259**	*eP*	Pn	13 57 33.2	+2.0
SPN				*eS*	Sn	13 57 54.4	+1.4
KII	**Karymskiy**	**2.16**	**287**	*eP*	Pn	13 57 38.9	+2.7
KII				*eS*	Sn	13 58 05.0	+3.1
NLC	**Nalytchevo**	**2.19**	**264**	*eP*	Pn	13 57 39.0	+2.5
KZV	**Kizimen**	**2.27**	**318**	*eP*	Pn	13 57 40.1	+2.3
KZV				*eS*	Sn	13 58 06.9	+2.2
TUMD	**Tumrok D**	**2.29**	**320**	*eP*	Pn	13 57 40.2	+2.2
SDLR	**Sedlovina**	**2.45**	**267**	*eP*	Pn	13 57 43.0	+2.8
SDLR				*eS*	Sn	13 58 11.6	+2.6
TUMR	**Tumrok**	**2.45**	**319**	*eP*	Pn	13 57 43.2	+3.0
UGLR	**Uglovaya**	**2.49**	**266**	*eP*	Pn	13 57 43.8	+3.0
UGLR				*eS*	Sn	13 58 13.3	+3.3
SMAR	**Somma**	**2.50**	**267**	*eP*	Pn	13 57 43.7	+2.8
KRER	**Koryakskii**	**2.52**	**268**	*eP*	Pn	13 57 44.5	+3.2
KRER				*eS*	Sn	13 58 14.4	+3.4
AVH	**Avacha**	**2.53**	**267**	*eP*	Pn	13 57 44.4	+3.1
AVH				*eS*	Sn	13 58 13.9	+2.8
DALK	**Dalny**	**2.56**	**262**	*eP*	Pn	13 57 44.4	+2.8
DALK				*eS*	Sn	13 58 14.0	+2.4
KRX	**Arik**	**2.58**	**269**	*eP*	Pn	13 57 44.9	+2.9
KRX				*eS*	Sn	13 58 15.0	+2.8
KOK	**Koryaka**	**2.59**	**268**	*eP*	Pn	13 57 45.1	+3.0
KOK				*eS*	Sn	13 58 15.4	+2.9
PET	**Petropavlovsk**	**2.62**	**262**	*eP*	Pn	13 57 46.5	+4.1
KBTR	**Krutoberegovo**	**2.75**	**358**	*eP*	Pn	13 57 45.0	+0.9
RUS	**Russkaya**	**2.88**	**251**	*eP*	Pn	13 57 47.9	+2.0
KRMR	**Karymshinskiy**	**2.98**	**259**	*eP*	Pn	13 57 50.3	+3.1
KRMR				*eS*	Sn	13 58 24.5	+2.8
GNL	**Ganaly**	**3.00**	**276**	*eP*	Pn	13 57 51.8	+4.1
GNL				*eS*	Sn	13 58 26.4	+4.0
MTVR	**Mutnovka**	**3.05**	**253**	*eP*	Pn	13 57 50.8	+2.4
MTVR				*eS*	Sn	13 58 25.5	+1.8
KLY	**Klyuchi**	**3.14**	**336**	*eP*	Pn	13 57 51.6	+2.1
ASAK	**Asacha**	**3.25**	**252**	*eP*	Pn	13 57 54.1	+3.0
ASAK				*eS*	Sn	13 58 32.0	+3.5
BDR	**Baidarnaya**	**3.26**	**343**	*eP*	Pn	13 57 54.7	+3.4
KDTR	**Khodutka, Kamc**	**3.41**	**243**	*eP*	Pn	13 57 54.8	+1.7
KDTR				*eS*	Sn	13 58 32.4	+0.2
APC	**Apacha**	**3.53**	**263**	*eS*	Sn	13 58 40.0	+4.8

*MOS **18** 14:15:33.2±1.0, 48.32N×156.10E, h30km, mb4.2/1, Error ellipse: s-maj=18.4km s-min=4.5km az=74.6*
*ISCJB **18** 14:15:35.4±0.6, 48.65N±0.07×155.4E±0.1, h36km, mb3.3/8, Error ellipse: s-maj=14.5km s-min=3.5km az=39.6*
*SKHL **18** 14:15:36.2±0.1, 48.51N×155.83E, h76km±2km, mb4.7/8*
*KRSC **18** 14:15:36.1±10.0, 48.64N×156.57E, h32km±10km, ML4.6*
*IDC **18** 14:15:43.3±2.2, 49.32N×154.44E, h118km±19km, mb3.0/8, mb1 3.3/13, mb1mx3.1/39, mbtmp3.5/13, Error ellipse: s-maj=28.9km s-min=13.3km az=137.0*

ISC 18 14:15:35.2±0.8, 48.54N±0.08×155.63E±0.10, h36km, n80, σ2.28/77, mb3.4/8, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.16**	**8**	*eP*	**Pn**	**14 16 09.9**	**+1.2**
SKR				*eS*	**Sn**	**14 16 33.4**	**-0.8**
SKR	**Severo-Kuril's**	**2.16**	**8**	*eP*	**Pn**	**14 16 09.9**	**+1.2**
SKR				AMB	AMB	14 16 10.9	
	110nm,0.3s						
SKR				*eS*	**Sn**	**14 16 35.2**	**+1.0**
SKR				A	A	14 16 37.2	
	130nm,0.4s						
SKR				A	A	14 16 37.2	
	250nm,0.4s						
SKR	**Severo-Kuril's**	**2.16**	**8**	PN	**Pn**	**14 16 09.9**	**+1.2**
PAU	**Pauzhetka**	**3.02**	**14**	*eP*	**Pn**	**14 16 22.3**	**+1.8**
PAU				*eS*	**Sn**	**14 16 54.6**	**-0.8**
PAU	**Pauzhetka**	**3.02**	**14**	*eP*	**Pn**	**14 16 22.3**	**+1.8**
PAU				AMB	AMB	14 16 25.4	
	70nm,0.2s						
PAU				*eS*	**Sn**	**14 16 56.8**	**+1.4**
PAU				A	A	14 16 57.7	
	200nm,0.4s						
PAU	**Pauzhetka**	**3.02**	**14**	PN	**Pn**	**14 16 22.3**	**+1.8**
KDTR	**Khodutka, Kamc**	**3.63**	**25**	*eP*	**Pn**	**14 16 30.4**	**+1.6**
KDTR	**Khodutka, Kamc**	**3.63**	**25**	PN	**Pn**	**14 16 30.4**	**+1.6**
ASAK	**Asacha**	**4.11**	**20**	*eP*	**Pn**	**14 16 37.9**	**+2.4**
ASAK	**Asacha**	**4.11**	**20**	PN	**Pn**	**14 16 37.9**	**+2.4**
MTVR	**Mutnovka**	**4.27**	**21**	*eP*	**Pn**	**14 16 40.3**	**+2.6**
MTVR				*eS*	**Sn**	**14 17 26.3**	**0.0**
MTVR	**Mutnovka**	**4.27**	**21**	PN	**Pn**	**14 16 40.3**	**+2.6**
RUS	**Russkaya**	**4.31**	**24**	*eP*	**Pn**	**14 16 39.4**	**+1.3**
RUS	**Russkaya**	**4.31**	**24**	*eP*	**Pn**	**14 16 39.4**	**+1.3**
RUS	**Russkaya**	**4.31**	**24**	PN	**Pn**	**14 16 39.4**	**+1.3**
APC	**Apacha**	**4.49**	**12**	*eP*	**Pn**	**14 16 43.3**	**+2.7**
APC	**Apacha**	**4.49**	**12**	PN	**Pn**	**14 16 43.3**	**+2.7**
KRMR	**Karymshinskiy**	**4.58**	**19**	*eP*	**Pn**	**14 16 44.2**	**+2.4**
KRMR	**Karymshinskiy**	**4.58**	**19**	PN	**Pn**	**14 16 44.2**	**+2.4**
PETK	**Petropavlovsk-**	**4.75**	**15**	P	**Pn**	**14 16 46.2**	**+2.0**
	2.4nm,0.3s,baz=181,slow=13,SNR=40						
PETK				S	**Sn**	**14 17 37.6**	**-0.4**
	0.9nm,0.3s,baz=156,slow=22,SNR=2.6						
PET	**Petropavlovsk**	**4.88**	**22**	*eP*	**Pn**	**14 16 47.9**	**+2.0**
PET	**Petropavlovsk**	**4.88**	**22**	*eP*	**Pn**	**14 16 48.4**	**+2.5**
PET				*eS*	**Sn**	**14 17 40.6**	**-0.5**
PET				A	A	14 17 56.6	
	130nm,0.5s						
PET				A	A	14 17 56.6	
	60nm,0.5s						
PET	**Petropavlovsk**	**4.88**	**22**	*ePN*	**Pn**	**14 16 48.4**	**+2.5**
UGLR	**Uglovaya**	**5.09**	**22**	*eP*	**Pn**	**14 16 51.4**	**+2.4**
UGLR	**Uglovaya**	**5.09**	**22**	PN	**Pn**	**14 16 51.4**	**+2.4**
AVH	**Avacha**	**5.12**	**21**	*eP*	**Pn**	**14 16 52.3**	**+3.0**
AVH	**Avacha**	**5.12**	**21**	PN	**Pn**	**14 16 52.3**	**+3.0**
KOK	**Koryaka**	**5.12**	**21**	*eP*	**Pn**	**14 16 52.2**	**+2.8**
KOK	**Koryaka**	**5.12**	**21**	*eP*	**Pn**	**14 16 52.2**	**+2.8**
KOK	**Koryaka**	**5.12**	**21**	PN	**Pn**	**14 16 52.2**	**+2.8**
SMAR	**Somma**	**5.13**	**22**	*eP*	**Pn**	**14 16 52.1**	**+2.4**
SMAR	**Somma**	**5.13**	**22**	PN	**Pn**	**14 16 52.1**	**+2.4**
KRER	**Koryakskii**	**5.16**	**21**	*eP*	**Pn**	**14 16 52.9**	**+2.9**
KRER	**Koryakskii**	**5.16**	**21**	PN	**Pn**	**14 16 52.9**	**+2.9**
SDLR	**Sedlovina**	**5.17**	**22**	*eP*	**Pn**	**14 16 51.6**	**+1.6**
SDLR	**Sedlovina**	**5.17**	**22**	PN	**Pn**	**14 16 51.6**	**+1.6**
KRX	**Arik**	**5.18**	**20**	*eP*	**Pn**	**14 16 52.9**	**+2.6**
KRX	**Arik**	**5.18**	**20**	PN	**Pn**	**14 16 52.9**	**+2.6**
GNL	**Ganaly**	**5.36**	**15**	*eP*	**Pn**	**14 16 54.5**	**+1.8**
GNL	**Ganaly**	**5.36**	**15**	PN	**Pn**	**14 16 54.5**	**+1.8**
KUR	**Kuril'sk**	**6.27**	**241**	*eP*	Pn	14 17 10.3	+5.3
KUR				AMB	AMB	14 17 13.3	
	9.0nm,0.4s						
KUR				AMB	AMB	14 17 13.3	
	6.0nm,0.4s						
KUR				AMB	AMB	14 17 13.3	
	24nm,0.4s						
KUR	**Kuril'sk**	**6.27**	**241**	*iP*	Pn	14 17 10.9	+5.9
KUR				pmax	pmax		
	comp=Z,24nm,0.4s						
KUR				pmax	pmax		
	comp=N,9.0nm,0.3s						
KUR				pmax	pmax		
	comp=E,6.0nm,0.2s						
MKZ	**Mys Kozlova**	**7.12**	**30**	*eP*	**Pn**	**14 17 17.0**	**+0.3**
MKZ	**Mys Kozlova**	**7.12**	**30**	PN	**Pn**	**14 17 17.0**	**+0.3**
KZV	**Kizimen**	**7.18**	**22**	*eP*	**Pn**	**14 17 19.4**	**+1.7**
KZV	**Kizimen**	**7.18**	**22**	PN	**Pn**	**14 17 19.4**	**+1.7**
TUMD	**Tumrok D**	**7.29**	**22**	*eP*	**Pn**	**14 17 21.8**	**+2.7**
TUMR	**Tumrok**	**7.30**	**21**	PN	**Pn**	**14 17 21.8**	**+2.5**
SHO	**Shikotan**	**7.69**	**236**	*eP*	**Pn**	**14 17 25.8**	**+1.3**
SHO				AMB	AMB	14 17 29.9	
	comp=E,26nm,0.4s						
SHO				*eS*	**Sn**	**14 18 47.6**	**-2.6**
SHO	**Shikotan**	**7.69**	**236**	*ePN*	**Pn**	**14 17 25.8**	**+1.3**
SHO				pmax	pmax		
	comp=Z,26nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**8.13**	**240**	*eP*	**Pn**	**14 17 34.0**	**+3.4**
YUK				AMB	AMB	14 17 39.6	
	comp=Z,57nm,0.6s						
YUK				AMB	AMB	14 17 39.6	
	comp=Z,89nm,0.6s						
YUK				AMB	AMB	14 17 39.6	
	comp=Z,59nm,0.6s						
YUK				*eS*	**Sn**	**14 19 02.3**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**8.13**	**240**	*iP*	**Pn**	**14 17 33.9**	**+3.4**
YUK				pmax	pmax		
	comp=Z,59nm,0.8s						
YUK				pmax	pmax		
	comp=N,57nm,0.4s						
YUK				pmax	pmax		
	comp=E,89nm,0.4s						
GRPR	**Tuman**	**8.21**	**240**	*eP*	**Pn**	**14 17 36.4**	**+4.8**
GRPR				AMB	AMB	14 17 39.4	
	comp=E,31nm,0.4s						
GRPR	**Tuman**	**8.21**	**240**	*ePN*	**Pn**	**14 17 36.4**	**+4.8**
GRPR				pmax	pmax		
	comp=Z,62nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.82**	**264**	*eP*	**Pn**	**14 17 41.0**	**+0.9**
YSS				AMB	AMB	14 17 42.5	
	comp=Z,10.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**8.82**	**264**	*ePN*	**Pn**	**14 17 41.0**	**+0.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KBTR	**Krutoberegovo**	**8.84**	**27**	*eP*	**Pn**	**14 17 40.4**	**+0.1**
KBTR	**Krutoberegovo**	**8.84**	**27**	PN	**Pn**	**14 17 40.4**	**+0.1**
JKA	**Kamikawa-asahi**	**10.04**	**249**	*eP*	**Pn**	**14 17 59.6**	**+2.8**
ASAJ	**Asahikawa**	**10.04**	**249**	P	**Pn**	**14 17 59.5**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=62,slow=14,SNR=22						
MA2	**Magadan**	**11.41**	**347**	P	Pn	14 18 09.9	-5.5
	comp=Z,0.2nm,0.3s,baz=158,slow=7.6,SNR=4.8						
SEY	**Seymchan**	**14.54**	**354**	P	Pn	14 18 52.1	-5.9
	comp=Z,0.1nm,0.3s,baz=152,slow=9.9,SNR=2.6						
EKMR	**Ekimchan**	**15.01**	**296**	*eP*	**Pn**	**14 19 04.0**	**-0.5**
EKMR				AMB	AMB	14 19 04.2	
	comp=Z,6.0nm,0.6s						
KLR	**Kul'dur**	**15.71**	**281**	P	**Pn**	**14 19 10.2**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=70,slow=12,SNR=3.1						
MJAR	**Matsushiro Arr**	**17.52**	**233**	P	**P**	**14 19 37.8**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=3.1						
KSRS	**Korea Array**	**22.97**	**251**	P	**P**	**14 20 33.0**	**-3.4**
KSRS	**Korea Array**	**22.97**	**251**	P	**P**	**14 20 33.0**	**-3.4**
	comp=Z,0.5nm,0.6s,baz=56,slow=10,SNR=2.6						
TIXI	**Tiksi**	**26.27**	**341**	P	P	14 20 58.3	-8.4
	comp=Z,0.3nm,0.3s,baz=140,slow=13,SNR=4.0						
H11N2	**WAKE ISLAND Hy**	**30.15**	**159**	T	T	14 54 22.8	
	baz=342,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**30.17**	**159**	T	T	14 54 25.7	
	baz=342,slow=75,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.17**	**158**	T	T	14 54 32.1	
	baz=342,slow=75,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**31.28**	**159**	T	T	14 55 37.7	
	baz=345,slow=76,SNR=131						
H11S3	**WAKE ISLAND Hy**	**31.29**	**159**	T	T	14 55 50.4	
	baz=345,slow=76,SNR=147						
H11S2	**WAKE ISLAND Hy**	**31.30**	**159**	T

EGFH				*e*S		**Sn**	14 44 29.4	+0.1
	baz=266							
ESL	**Shilin**	**0.16**	**315**	P		**Pn**	14 44 24.5	-0.3
	baz=313							
ESL				*e*S		**Sn**	14 44 29.2	-0.5
	baz=313							
ENLB	**Shoufeng**	**0.20**	**12**	*e*P		**Pn**	14 44 25.2	0.0
	baz=18							
ENLB				*e*S		**Sn**	14 44 32.1	+1.8
	baz=18							
HGSD	**Ruisui**	**0.24**	**210**	*e*P		**Pn**	14 44 26.2	+0.7
	baz=219							
HGSD				*e*S		**Sn**	14 44 32.8	+2.0
	baz=219							
EHY	**Hungye**	**0.29**	**228**	P		**Pn**	14 44 25.3	-0.7
	baz=232							
EHY				*e*S		**Sn**	14 44 30.6	-1.1
	baz=232							
VWDT	**VWDT**	**0.38**	**278**	*e*P		**Pn**	14 44 27.2	+0.2
	baz=279							
VWDT				*e*S		**Sn**	14 44 33.9	+0.3
	baz=279							
YULB	**Yu-li**	**0.39**	**218⇑**	*e*P		**Pn**	14 44 26.3	-0.9
	baz=224							
YULB				*e*S		**Sn**	14 44 32.2	-1.5
	baz=224							
TWF1	**Yuli**	**0.42**	**214**	P		**Pn**	14 44 26.7	-0.9
	baz=219							
TWF1				*e*S		**Sn**	14 44 33.3	-1.1
	baz=219							
OWD	**Renai**	**0.43**	**306**	*e*P		**Pn**	14 44 27.8	0.0
	baz=307							
NACB	**Ninganchiao**	**0.47**	**4⇑**	*e*P		**Pn**	14 44 27.4	-0.8
	baz=357							
NACB				*e*S		**Sn**	14 44 34.8	-0.7
	baz=357							
CHGB	**Renai**	**0.50**	**316⇑**	*e*P		**Pn**	14 44 28.7	-0.1
	baz=320							
CHGB				*e*S		**Sn**	14 44 36.0	-0.5
	baz=320							
ETLH	**Xiulin Townshi**	**0.51**	**352**	*e*P		**Pn**	14 44 28.1	-0.7
	baz=353							
ETLH				*e*S		**Sn**	14 44 35.2	-1.2
	baz=353							
WHF	**Hehuan Shan**	**0.52**	**329**	⇑P		**Pn**	14 44 28.7	-0.5
	baz=330							
WHF				S		**Sn**	14 44 36.4	-0.8
	baz=330							
FULB	**Fuli**	**0.56**	**206**	*e*P		**Pn**	14 44 28.9	-0.5
	baz=214							
FULB				*e*S		**Sn**	14 44 37.7	+0.2
	baz=214							
SSLB	**Suanglung**	**0.56**	**279**	*e*P		**Pn**	14 44 30.4	+1.0
	baz=280							
SSLB				*e*S		**Sn**	14 44 38.1	+0.5
	baz=280							
CHKT	**Chengkung**	**0.62**	**196**	*e*P		**Pn**	14 44 28.6	-1.6
	baz=187							
SMLT	**Sun Moon Lake**	**0.63**	**287**	⇑P		**Pn**	14 44 30.3	-0.1
	baz=288							
SMLT				*e*S		**Sn**	14 44 40.1	+0.7
	baz=288							
WHYT	**Xinyi Township**	**0.64**	**270**	*e*P		**Pn**	14 44 30.8	+0.3
	baz=266							
TDCB	**Techi**	**0.66**	**327**	*e*P		**Pn**	14 44 30.8	-0.1
	baz=327							
TDCB				*e*S		**Sn**	14 44 39.2	-0.9
	baz=327							
TYC	**Yuchr**	**0.67**	**288**	P		**Pn**	14 44 30.8	0.0
	baz=289							
TYC				*e*S		**Sn**	14 44 40.5	+0.3
	baz=289							
ELDTW	**Lidau**	**0.71**	**224**	P		**Pn**	14 44 30.6	-0.9
	baz=220							
ELDTW				*e*S		**Sn**	14 44 40.0	-1.3
	baz=220							
NNSB	**Datong**	**0.74**	**348**	*e*P		**Pn**	14 44 31.5	-0.4
	baz=352							
NNSB				*e*S		**Sn**	14 44 40.8	-1.3
	baz=352							
ENA	**Nanau**	**0.74**	**13**	P		**Pn**	14 44 31.1	-0.8
	baz=4.0							
ENA				*e*S		**Sn**	14 44 40.8	-1.2
	baz=4.0							
NANB	**Nanao**	**0.74**	**14**	*e*P		**Pn**	14 44 31.0	-0.8
	baz=5.0							
NANB				*e*S		**Sn**	14 44 40.8	-1.2
	baz=5.0							
NNS	**Nan Shan**	**0.75**	**347**	P		**Pn**	14 44 31.7	-0.4
	baz=352							
NNS				*e*S		**Sn**	14 44 40.9	-1.5
	baz=352							
WJS	**Zhushan**	**0.77**	**279**	*e*P		**Pn**	14 44 32.4	+0.2
	baz=280							
WHP	**Taichung City**	**0.80**	**316**	P		**Pn**	14 44 33.2	+0.5
	baz=316							
WHP				*e*S		**Sn**	14 44 44.1	+0.6
	baz=316							
WNT	**Mingjian**	**0.82**	**283**	*e*P		**Pn**	14 44 33.5	+0.6
	baz=283							
NDT	**Datong Townshi**	**0.90**	**357**	*e*P		**Pn**	14 44 33.7	-0.3
	baz=3.0							
NDT				*e*S		**Sn**	14 44 45.2	-0.6
	baz=3.0							
STYT	**Tauyuan**	**0.91**	**234**	P		**Pn**	14 44 34.3	+0.2
	baz=229							
STYT				*e*S		**Sn**	14 44 46.7	+0.6
	baz=229							
WGK	**Gukeng**	**0.91**	**269**	*e*P		**Pn**	14 44 35.2	+1.1
	baz=270							
WGK				*e*S		**Sn**	14 44 47.4	+1.3
	baz=270							
WDLH	**Douliu**	**0.93**	**269**	*e*P		**Pn**	14 44 35.2	+0.8
	baz=269							
TPUB	**Ta-pu**	**0.94**	**245**	*e*P		**Pn**	14 44 34.8	+0.3
	baz=245							
TPUB				*e*S		**Sn**	14 44 47.6	+0.8
	baz=245							
TWC	**Suao**	**0.94**	**16**	*e*P		**Pn**	14 44 34.0	-0.6
	baz=6.0							
TWC				*e*S		**Sn**	14 44 46.1	-0.7
	baz=6.0							
TWQ1	**Liyutan**	**0.96**	**312**	P		**Pn**	14 44 35.4	+0.5
	baz=312							
TWQ1				*e*S		**Sn**	14 44 48.2	+0.8
	baz=312							
WTP	**Ta-pu**	**0.98**	**243**	*e*P		**Pn**	14 44 35.5	+0.4
	baz=242							
WTP				*e*S		**Sn**	14 44 48.9	+1.1
	baz=242							
YHNB	**Yeheng**	**0.98**	**350⇑**	*e*P		**Pn**	14 44 35.2	+0.1
	baz=358							
YHNB				*e*S		**Sn**	14 44 47.2	-0.7
	baz=358							
TWG	**Pinlang**	**0.98**	**207**	*e*P		**Pn**	14 44 33.3	-1.8
	baz=197							
TWG				*e*S		**Sn**	14 44 45.0	-2.9
	baz=197							
TWGBT	**Beinan**	**0.98**	**207**	*e*P		**Pn**	14 44 33.3	-1.8
	baz=197							
TWGBT				*e*S		**Sn**	14 44 45.4	-2.4
	baz=197							
NSK	**Sanguang**	**0.99**	**349**	⇑P		**Pn**	14 44 35.3	0.0
	baz=358							
NSK				*e*S		**Sn**	14 44 47.6	-0.4
	baz=358							
WCHH	**Zhanghua**	**0.99**	**293**	*e*P		**Pn**	14 44 36.0	+0.9
	baz=305							
EOS1	**EOS1**	**0.99**	**32**	*e*P		**Pn**	14 44 36.4	+1.2
	baz=42							
TWE	**Neicheng**	**1.02**	**6**	*e*P		**Pn**	14 44 35.0	-0.6
	baz=6.0							
TWE				*e*S		**Sn**	14 44 48.0	-0.7
	baz=6.0							
SLBB	**Yuanshan**	**1.05**	**4**	*e*P		**Pn**	14 44 35.7	-0.4
	baz=11							
SLBB				*e*S		**Sn**	14 44 48.4	-1.1
	baz=11							
NSTT	**Nanjuang**	**1.05**	**331**	*e*P		**Pn**	14 44 36.6	+0.5
	baz=320							
NSTT				*e*S		**Sn**	14 44 49.9	+0.2
	baz=320							
LIOB	**Emei**	**1.06**	**332**	*e*P		**Pn**	14 44 34.5	-1.8
	baz=321							
LIOB				*e*S		**Sn**	14 44 49.0	-0.9
	baz=321							
NWLT	**Wulai**	**1.07**	**357**	*e*P		**Pn**	14 44 36.1	-0.3
	baz=357							
NWLT				*e*S		**Sn**	14 44 49.3	-0.7
	baz=357							
SLGT	**Liugui**	**1.09**	**230**	*e*P		**Pn**	14 44 37.4	+0.8
	baz=238							
SLGT				*e*S		**Sn**	14 44 52.1	+1.5
	baz=238							
RLNB	**Erlin**	**1.11**	**280**	*e*P		**Pn**	14 44 35.5	-1.3
	baz=280							
WLTB	**Daxi**	**1.18**	**346**	*e*P		**Pn**	14 44 38.9	+1.1
	baz=358							
WSF	**Szhu**	**1.23**	**267**	*e*P		**Pn**	14 44 37.6	-0.8
	baz=267							
ECL	**Taimali**	**1.23**	**207**	*e*P		**Pn**	14 44 36.5	-2.0
	baz=201							
NHDH	**Xindian Distri**	**1.26**	**359**	*e*P		**Pn**	14 44 38.4	-0.5
	baz=5.0							
NHDH				*e*S		**Sn**	14 44 54.3	-0.2
	baz=5.0							
TATO	**Taipei**	**1.27**	**357**	*e*P		**Pn**	14 44 39.0	0.0
	baz=4.0							
TATO				*e*S		**Sn**	14 44 54.8	-0.1
	baz=4.0							
SSD	**Sandimen**	**1.28**	**222**	*e*P		**Pn**	14 44 39.5	+0.4
	baz=222							
SSD				*e*S		**Sn**	14 44 56.6	+1.5
	baz=222							
TIPB	**Shuangxi**	**1.29**	**11**	*e*P		**Pn**	14 44 39.5	+0.2
	baz=3.0							
TIPB				*e*S		**Sn**	14 44 54.8	-0.6
	baz=3.0							
MASBT	**Mashibuluo**	**1.38**	**218**	*e*P		**Pn**	14 44 40.5	0.0
	baz=205							
MASBT				*e*S		**Sn**	14 44 59.2	+1.6
	baz=205							
NWF	**Wu-fen Shan**	**1.38**	**9**	*e*P		**Pn**	14 44 40.6	0.0
	baz=8.0							
WFSB	**Wu-fen Shan**	**1.38**	**9**	*e*P		**Pn**	14 44 40.6	0.0
	baz=7.0							
WFSB				*e*S		**Sn**	14 44 57.6	0.0
	baz=7.0							
YM01	**YM01**	**1.44**	**1**	*e*P		**Pn**	14 44 41.0	-0.4
	baz=360							
YM05	**YM05**	**1.46**	**0**	*e*P		**Pn**	14 44 41.2	-0.5
	baz=359							
YM05				*e*S		**Sn**	14 44 59.2	-0.4
	baz=359							
YM11	**YM11**	**1.46**	**1**	*e*P		**Pn**	14 44 41.2	-0.5
	baz=360							
EAST	**Anshuo**	**1.47**	**207**	*e*P		**Pn**	14 44 41.6	-0.2
	baz=198							
JYNG	**Yonagunijimaku**	**1.47**	**59**	P		**Pn**	14 44 41.6	-0.2
JYNG				*e*S		**Sn**	14 45 01.3	+1.4
YOJ	**Yonaguni jima**	**1.53**	**60**	P		**Pn**	14 44 43.4	+0.8
YOJ				S		**Sn**	14 45 01.4	+0.1
SCZT	**Fangliau**	**1.58**	**213**	*e*P		**Pn**	14 44 44.1	+0.8
	baz=213							
LAY	**Lan-yu**	**1.66**	**180**	*e*P		**Pn**	14 44 43.9	-0.5
	baz=180							
IRIF	**Iriomote-Funau**	**2.08**	**72**	P		**Pn**	14 44 51.8	+1.6
IRIF				S		**Sn**	14 45 15.9	+0.9
JKRS	**Kuro-shima**	**2.31**	**76**	P		**Pn**	14 44 54.9	+1.6
JKRS				*e*S		**Sn**	14 45 21.4	+1.0
JIJ	**Ishigaki jima**	**2.46**	**74**	P		**Pn**	14 44 55.4	+0.1
JIJ				S		**Sn**	14 45 24.1	0.0
JISG	**Ishigakijimahi**	**2.67**	**70**	P		**Pn**	14 44 58.6	+0.4
JISG				*e*S		**Sn**	14 45 28.6	-0.7
JTJ	**Tarama**	**3.02**	**71**	S		**Sn**	14 45 38.5	+0.4

MEX 18 14:56:48.7±0.4, 15°.08N×93°.14W, h73km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.62**	**353**	*e*P	Pn	14 57 01.5	-1.5
PCIG				*i* S	Sn	14 57 11.9	-1.6
THIG		**0.86**	**102**	*i* P	Pn	14 57 04.6	-1.0
THIG				*e*S	Sn	14 57 16.4	-1.9
CCIG	**Comitan**	**1.53**	**39**	*e*P	Pn	14 57 13.0	-1.3
CCIG				*i* S	Sn	14 57 32.0	-1.7

IDC 18 15:59:24.8±2.6, 0°.83S×26°.71E, h0km, mb3.9/4, mb1 3.8/5, mb1mx3.6/27, mbtmp3.8/5, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/24, Error ellipse: s-maj=68.9km s-min=24.0km az=1.0, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**10.55**	**92**	Pn	Pn	16 01 59.4	+1.8
	0.3nm,0.3s,baz=72,slow=20,SNR=3.3						
KMBO				Sn	Sn	16 03 57.6	+0.9
	0.4nm,0.3s,baz=212,slow=19,SNR=3.5						
KMBO				Lg	Lg	16 04 46.6	
	0.5nm,0.3s,baz=217,slow=17,SNR=6.0						
KMBO				LR	LR	16 06 05.6	
	comp=Z,98nm,18.5s,baz=86,slow=38						
TORD	**Torodi Ar. Bea**	**28.43**	**300**	P	P	16 05 21.3	-0.2
	1.1nm,0.6s,baz=109,slow=7.4,SNR=11						
TORD				Lg	Lg	16 14 25.6	
	0.6nm,1.0s,baz=118,slow=15,SNR=3.3						
TORD				LR	LR	16 16 45.3	
	comp=Z,56nm,19.4s,baz=330,slow=37						
DBIC	**Dimbokro**	**32.37**	**284**	P	P	16 05 56.8	+0.4
	1.3nm,0.5s,baz=100,slow=11,SNR=1.9						
BRTR	**Keskin Array B**	**40.86**	**8**	P	P	16 07 09.3	+0.7
	1.1nm,0.5s,baz=184,slow=9.0,SNR=7.6						
MKAR	**Makanchi Array**	**67.80**	**38**	P	P	16 10 23.6	-1.1
	0.4nm,0.6s,baz=244,slow=4.9,SNR=5.5						

*IDC **18** 16:01:58.1±1.7, 9°.60S×124°.20E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/27, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=30.1km s-min=13.4km az=127.0*
*ISCJB **18** 16:02:02.3±0.6, 10°.20S±0°.05×123°.64E±0°.05, h36km, mb3.2/1, Error ellipse: s-maj=8.8km s-min=5.3km az=139.1*
*DJA **18** 16:02:05.1±0.7, 10°S±12°×12°4E±°, h34km±18km, M3.7/7, mb3.9/1, MLv3.6/7*
ISC 18 16:02:02.6±0.9, 10°.14S±0°.05×123°.78E±0°.03, h36km, n11, σ2s72/18, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.13**	**238**	P	Pn	16 02 14.1	+0.7
BATI				S	Sn	16 02 23.6	-0.2
BATI	**Baumata**	**0.13**	**238**	Pg	Pn	16 02 14.9	+1.5
	1µm,0.3s,baz=15,slow=4.1,SNR=2072						
BATI				Lg	Lg	16 02 23.6	
	517nm,0.3s,baz=330,slow=20,SNR=41						
BATI				LR	LR	16 02 43.7	
	comp=Z,257nm,18.6s,baz=126,slow=57						
SOEI	**Soe**	**0.62**	**52**	P	Pn	16 02 17.2	+2.2
SOEI				S	Sn	16 02 27.2	+3.5
MMRI	**Maumere**	**2.13**	**314**	P	Pn	16 02 35.9	+0.3
MMRI				S	Sn	16 03 00.5	-0.3
EDFI	**Ende, Flores**	**2.48**	**304**	P	Pn	16 02 40.3	-0.2
EDFI				S	Sn	16 03 08.7	-0.8
BSSI	**Bau Bau, Buton**	**5.13**	**320**	P	Pn	16 03 18.3	+1.4
BKSI	**Bulukumba**	**6.00**	**323**	P	Pn	16 03 30.1	+1.3
FITZ	**Fitzroy Crossi**	**8.12**	**167**	Pn	Pn	16 04 02.6	+4.7
	0.4nm,0.3s,baz=348,slow=10,SNR=9.0						
FITZ				Sn	Sn	16 05 30.9	+2.4
	4.7nm,0.3s,baz=70,slow=23,SNR=17						
WRA	**Warramunga Arr**	**14.10**	**135**	Pn	Pn	16 05 20.5	+0.6
	0.2nm,0.3s,baz=312,slow=14,SNR=5.7						
WRA				Sn	Sn	16 07 49.7	-5.5
	0.8nm,0.3s,baz=241,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.57**	**146**	Pn	P	16 05 54.6	+0.2
	0.2nm,0.3s,baz=319,slow=12,SNR=19						
ASAR				Sn	Sn	16 08 49.9	-5.3
	0.4nm,0.3s,baz=314,slow=21,SNR=12						
MKAR	**Makanchi Array**	**67.68**	**331**	P	P	16 12 55.1	-1.0
	0.1nm,0.4s,baz=131,slow=7.0,SNR=4.7						

*ISCJB **18** 16:13:06.1±0.5, 32°.99N±0°.05×138°.49E±0°.08, h330km, mb3.0/7, Error ellipse: s-maj=8.8km s-min=6.2km az=176.2*
*JMA **18** 16:13:06.8±0.4, 33°.04N×138°.50E, h330km, M3.6*
*IDC **18** 16:13:07.7±1.8, 33°.05N×138°.35E, h318km±19km, mb2.9/7, mb1 3.0/12, mb1mx2.9/38, mbtmp3.7/12, Error ellipse: s-maj=19.4km s-min=14.6km az=95.0*
ISC 18 16:13:07.2±0.7, 33°.01N±0°.07×138°.52E±0°.08, h330km, n28, σ1s54/32, mb3.0/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**2.30**	**12**	P	Pn	16 13 59.2	+0.3
JNY	**Yasuok**	**2.41**	**347**	P	Pn	16 14 00.0	+0.2
BSO3	**Boso 3**	**2.44**	**42**	P	Pn	16 13 59.9	+0.2
JYN	**Shimob**	**2.48**	**0**	P	Pn	16 14 01.0	+0.5
BSO4	**Boso 4**	**2.49**	**37**	P	Pn	16 14 00.9	+0.6
BSO1	**Boso 1**	**2.62**	**51**	P	Pn	16 14 01.4	+0.4
BSO1				*e*S	S	16 14 44.2	0.0
JWY	**Kouya**	**2.72**	**297**	P	Pn	16 14 01.4	-1.2
JHU	**Hanno**	**2.90**	**12**	P	Pn	16 14 03.9	-0.2
JRY	**Ryogami san**	**3.02**	**6**	P	Pn	16 14 05.6	+0.4
JWT	**Wachi**	**3.44**	**312**	P	Pn	16 14 07.8	-1.4
JAG	**Ashikaga**	**3.49**	**12**	P	Pn	16 14 08.9	-0.8
JYT	**Yasato**	**3.49**	**23**	P	Pn	16 14 09.0	-0.7
MJAR	**Matsushiro Arr**	**3.53**	**356**	P	Pn	16 14 09.5	-0.6
	0.6nm,0.3s,baz=178,slow=11,SNR=40						
MAT	**Matsushiro**	**3.53**	**356**	P	Pn	16 14 09.7	-0.5
MAT				S	S	16 14 57.8	-3.0
JHO	**Hitachi**	**3.97**	**25**	P	Pn	16 14 13.7	-0.9
JFK	**Kawauchi**	**4.75**	**23**	P	Pn	16 14 22.6	-0.5
JCJ	**Chichijima**	**6.70**	**151**	P	Pn	16 14 44.1	-1.6
	3.6nm,0.3s,baz=342,slow=20,SNR=6.2						
JCJ				S	S	16 16 00.9	-4.5
	22nm,0.3s,baz=267,slow=23,SNR=9.3						
KSRS	**Korea Array**	**9.73**	**300**	P	Pn	16 15 20.8	-1.1
	0.8nm,0.3s,baz=110,slow=13,SNR=15						
ASAJ	**Asahikawa**	**11.54**	**15**	P	P	16 15 43.6	-0.7
	0.4nm,0.3s,baz=196,slow=11,SNR=7.6						
ASAJ				S	S	16 17 48.8	-3.6
	0.2nm,0.3s,baz=232,slow=19,SNR=4.2						
USRK	**Ussuriysk Ar.**	**12.28**	**337**	P	P	16 15 52.5	-0.1
	0.3nm,0.3s,baz=145,slow=8.4,SNR=6.0						
KLR	**Kul'dur**	**16.98**	**345**	P	P	16 16 43.9	-0.1
	0.2nm,0.3s,baz=176,slow=12,SNR=4.5						
MA2	**Magadan**	**27.79**	**13**	P	P	16 18 26.9	+0.4
	1.1nm,0.6s,baz=191,slow=9.8,SNR=4.2						
SONM	**Songino Array**	**28.34**	**311**	P	P	16 18 32.3	+0.6
	2.1nm,0.8s,baz=108,slow=9.3,SNR=10						
CMAR	**Chiang Mai Arr**	**38.25**	**258**	P	P	16 19 57.6	+0.9
	0.2nm,0.5s,baz=51,slow=7.1,SNR=3.1						
MKAR	**Makanchi Array**	**44.37**	**305**	P	P	16 20 45.5	-0.3
	0.5nm,0.4s,baz=87,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**52.81**	**185**	P	P	16 21 51.1	+1.4
	0.2nm,0.3s,baz=0.5,slow=7.7,SNR=8.1						
ILAR	**Eielson Array**	**54.16**	**31**	P	P	16 22 01.7	+2.8
	0.5nm,0.7s,baz=281,slow=6.9,SNR=5.9						
ASAR	**Alice Springs**	**56.53**	**185**	P	P	16 22 17.9	+1.7
	0.2nm,0.6s,baz=1.2,slow=6.5,SNR=8.1						

*ISCJB **18** 16:16:34.3±0.2, 16°.59S±0°.03×72°.34W±0°.05, h100km, mb4.5/32, Error ellipse: s-maj=7.8km s-min=2.7km az=149.5*
*NEIC **18** 16:16:34.7±0.6, 16°.51S×72°.25W, h84km±6km, mb4.7/24, ML4.3(ARE), Error ellipse: s-maj=10.2km s-min=5.6km az=59.0*
NEIC Felt [III] at Camana and [II] at Arequipa.
*GUC **18** 16:16:36.3±0.6, 16°.73S×72°.37W, h70km, ML4.6*
*IDC **18** 16:16:37.4±1.9, 16°.59S×72°.26W, h111km±17km, mb4.0/12, mb1 4.1/17, mb1mx4.0/29, mbtmp4.3/17, MS3.2/8, Ms1 3.2/8, ms1mx3.0/23, Error ellipse: s-maj=19.2km s-min=13.5km az=43.0*
ISC 18 16:16:35.0±0.5, 16°.64S±0°.05×72°.39W±0°.06, h100km, n100, σ1s59/107, mb4.6/31, 1C-5D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**2.78**	**135**	*e*P	Pn	16 17 19.2	+1.2
PB12				*e*S	Sn	16 17 50.8	-0.2
PB12	**IPOC Station P**	**2.78**	**135**	⇓*i*P	Pn	16 17 18.6	+0.7
PB12				*i* S	Sn	16 17 50.2	-0.7
PB12				IAML		16 18 05.9	
	comp=N,1µm,0.6s						
MNMC	**Minye Minye**	**3.64**	**133**	*e*P	Pn	16 17 30.4	+0.8
MNMC	**Minye Minye**	**3.64**	**133**	⇓*i*P	Pn	16 17 30.4	+0.8
MNMC				*e*S	Sn	16 18 12.0	+0.3
MNMC				IAML		16 18 23.1	
	comp=N,2µm,0.5s						
PSGC	**Pisagua**	**3.65**	**144**	⇓*i*P	Pn	16 17 30.2	+0.6
PSGC				*i* S	Sn	16 18 11.1	-0.6
PSGC				IAML		16 18 19.3	
	comp=E,545nm,0.6s						
PSGCX	**Pisagua**	**3.65**	**144**	*e*P	Pn	16 17 30.2	+0.6
PSGCX				*e*S	Sn	16 18 11.2	-0.6
PB11	**IPOC Station P**	**4.05**	**140**	*e*Pn	Pn	16 17 35.5	+0.5
PB11	**IPOC Station P**	**4.05**	**140**	*e*P	Pn	16 17 35.9	+0.8
PB11				*e*S	Sn	16 18 20.8	-0.8
PB11	**IPOC Station P**	**4.05**	**140**	⇓*i*P	Pn	16 17 35.7	+0.6
PB11				*e*S	Sn	16 18 20.6	-1.0
LPAZ	**La Paz**	**4.11**	**86**	*e*P	Pn	16 17 39.1	+2.9
LPAZ	**La Paz**	**4.11**	**86**	⇑*i*P	Pn	16 17 39.1	+2.9
LPAZ				*i* S	Sn	16 18 26.3	+2.7
LPAZ	**La Paz**	**4.11**	**86**	P	Pn	16 17 39.0	+2.8
	comp=E,23nm,0.3s,baz=271,slow=9.4,SNR=538						
LPAZ				S	Sn	16 18 25.4	+1.8
	baz=282,slow=18,SNR=1.4						
PB08	**IPOC Station P**	**4.64**	**139**	*e*P	Pn	16 17 44.8	+1.5
PB08	**IPOC Station P**	**4.64**	**139**	⇓*i*P	Pn	16 17 44.4	+1.0
PB08				*i* S	Sn	16 18 35.5	-0.8
PB01	**IPOC Station P**	**5.17**	**148**	*e*Pn	Pn	16 17 50.5	+0.3
PB01	**IPOC Station P**	**5.17**	**148**	*e*P	Pn	16 17 50.6	+0.5
PB02	**IPOC Station P**	**5.22**	**153**	*e*P	Pn	16 17 51.8	+0.9
PB02	**IPOC Station P**	**5.22**	**153**	*e*P	Pn	16 17 51.6	+0.8
PB07	**IPOC Station P**	**5.58**	**155**	*e*P	Pn	16 17 57.1	+1.2
PB07	**IPOC Station P**	**5.58**	**155**	*e*P	Pn	16 17 56.4	+0.5
PB03	**IPOC Station P**	**5.93**	**156**	*e*P	Pn	16 18 01.6	+1.0
PB09	**IPOC Station P**	**5.93**	**150**	*e*P	Pn	16 18 02.1	+1.6
PB04	**IPOC Station P**	**6.04**	**160**	*e*Pn	Pn	16 18 02.3	+0.2
PB04	**IPOC Station P**	**6.04**	**160**	*e*P	Pn	16 18 02.9	+0.8
NNA	**Nana**	**6.32**	**316**	*e*Pn	Pn	16 18 04.8	-1.1
NNA				S	Sn	16 19 16.4	-0.4
NNA	**Nana**	**6.32**	**316**	P	Pn	16 18 06.1	+0.2
	comp=E,14nm,0.3s,baz=150,slow=8.4,SNR=20						
NNA				S	Sn	16 19 16.4	-0.4
	comp=E,21nm,0.3s,baz=299,slow=12,SNR=4.3						
NNA				LR	LR	16 19 59.7	
	comp=E,80nm,22.0s,baz=151,slow=32						
PB05	**IPOC Station P**	**6.51**	**162**	*e*P	Pn	16 18 08.8	+0.4
PB06	**IPOC Station P**	**6.59**	**157**	*e*P	Pn	16 18 10.3	+0.7

ROSC	**El Rosal**	**21.43**	**355**	P	**P**	**16 21 16.6**	**+1.0**
	comp=Z,16nm,0.5s,baz=242,slow=23,SNR=8.9							
ROSC				LR	LR	16 30 55.7		
	comp=Z,35nm,19.8s,baz=90,slow=40							
BDFB	**Brasilia**	**23.44**	**91**	*e*P	**P**	**16 21 35.7**	**-0.1**
	comp=Z,22nm,0.7s							
BDFB	**Brasilia**	**23.44**	**91**	P	**P**	**16 21 35.4**	**-0.3**
	comp=Z,25nm,0.8s,baz=256,slow=12,SNR=25							
JTS	**JuntasAbangare**	**29.50**	**334**	LR	LR	16 32 30.4		
	comp=Z,37nm,21.9s,baz=12,slow=32							
LNIG	**Linares**	**49.00**	**327**	*e*P	**P**	**16 25 12.7**	**+0.8**
	comp=Z,5.7nm,0.7s							
152A	**Waverly Hall**	**50.43**	**346**	*e*P	**P**	**16 25 22.3**	**-0.1**
	comp=Z,14nm,0.8s							
WVT	**Waverly**	**54.48**	**345**	*e*P	**P**	**16 25 51.7**	**-0.6**
	comp=Z,33nm,1.9s							
TX31	**Lajitas Ar. Si**	**54.78**	**326**	*e*P	**P**	**16 25 53.6**	**-1.1**
TXAR	**Lajitas Array**	**54.78**	**326**	P	**P**	**16 25 54.5**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=144,slow=6.7,SNR=5.3							
T49A	**Edmonton**	**54.88**	**347**	*e*P	**P**	**16 25 54.7**	**-0.4**
	comp=Z,11nm,0.7s							
SIUC	**Southern Illin**	**56.34**	**344**	*e*P	**P**	**16 26 05.9**	**+0.3**
	comp=Z,18nm,0.7s							
SDCO	**Great Sand Dun**	**62.42**	**331**	*e*P	**P**	**16 26 49.5**	**+1.7**
	comp=Z,4.7nm,1.0s							
ECSD	**EROS Data Cent**	**64.05**	**341**	*e*P	**P**	**16 26 58.8**	**+0.7**
	comp=Z,12nm,0.6s							
PV21	**Cone Mtn., Par**	**64.73**	**329**	*e*P	**P**	**16 27 02.3**	**-0.7**
	comp=Z,21nm,0.8s							
PHWY	**Pilot Hill**	**65.28**	**333**	*e*P	**P**	**16 27 08.5**	**+2.0**
	comp=Z,21nm,0.9s							
MTPU	**Mount Pierson**	**65.99**	**326**	*e*P	**P**	**16 27 12.0**	**+0.7**
	comp=Z,4.1nm,1.0s							
AGMN	**Agassiz Nation**	**67.96**	**343**	*e*P	**P**	**16 27 24.3**	**+1.3**
	comp=Z,5.8nm,0.7s							
R11A	**Troy Canyon, C**	**68.06**	**325**	*e*P	**P**	**16 27 26.5**	**+2.3**
	comp=Z,1.4nm,0.6s							
PDAR	**Pinedale Array**	**68.28**	**331**	P	**P**	**16 27 27.2**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=137,slow=9.1,SNR=5.2							
PDAR				LR	LR	17 02 38.1		
	comp=Z,20nm,19.0s,baz=218,slow=40							
FXWY	**Fox Creek**	**69.64**	**331**	*e*P	**P**	**16 27 36.0**	**+2.1**
	comp=Z,18nm,2.0s							
NV01	**Mina Array Sit**	**69.65**	**323**	*e*P	**P**	**16 27 36.7**	**+2.6**
NVAR	**Mina Array Bea**	**69.65**	**323**	P	**P**	**16 27 37.0**	**+2.8**
	comp=Z,1.3nm,0.8s,baz=152,slow=7.8,SNR=9.3							
ULM	**Lac du Bonnet**	**69.74**	**344**	P	**P**	**16 27 35.0**	**+0.9**
	comp=Z,4.3nm,0.6s,baz=173,slow=5.7,SNR=8.0							
FLWY	**Flagg Ranch**	**69.83**	**332**	*e*P	**P**	**16 27 37.4**	**+2.3**
	comp=Z,6.6nm,0.9s							
LIC	**Lamto**	**70.36**	**77**	*e*P	**P**	**16 27 39.1**	**+0.4**
	comp=Z,77nm,1.9s							
YHH	**Holmes Hill**	**70.44**	**332**	*e*P	**P**	**16 27 41.3**	**+2.4**
	comp=Z,8.8nm,1.6s							
TIC	**Toumodi**	**70.51**	**77**	*e*P	**P**	**16 27 39.8**	**+0.2**
DBIC	**Dimbokro**	**70.67**	**77**	*e*P	**P**	**16 27 40.6**	**+0.1**
	comp=Z,9.3nm,0.8s							
DBIC	**Dimbokro**	**70.67**	**77**	P	**P**	**16 27 40.7**	**+0.1**
	comp=Z,7.6nm,0.7s,baz=222,slow=6.3,SNR=13							
KIC	**Kosan Boka**	**70.67**	**77**	*e*P	**P**	**16 27 40.9**	**+0.3**
	comp=Z,23nm,0.7s							
PAHR	**Pah Rah Range**	**71.14**	**323**	*e*P	**P**	**16 27 45.1**	**+2.1**
	comp=Z,4.3nm,0.8s							
SCHQ	**Schefferville**	**71.34**	**3**	P	**P**	**16 27 44.2**	**+0.5**
	comp=Z,3.1nm,0.9s,baz=180,slow=11,SNR=3.3							
TOA0	**Torodi Ar. Sit**	**78.95**	**73**	*e*P	**P**	**16 28 29.1**	**+0.8**
	comp=Z,17nm,0.6s							
TORD	**Torodi Ar. Bea**	**78.95**	**73**	P	**P**	**16 28 27.8**	**-0.5**
	comp=Z,12nm,0.6s,baz=251,slow=5.8,SNR=88							
TORD				LR	LR	17 01 54.1		
	comp=Z,73nm,18.3s,baz=315,slow=34							
ESDC	**Sonseca Array**	**84.78**	**46**	P	**P**	**16 28 59.6**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=256,slow=5.2,SNR=3.6							
YKA	**Yellowknife Ar**	**85.55**	**342**	P	**P**	**16 29 03.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=136,slow=4.9,SNR=37							
YKB5	**Yellowknife Ar**	**85.55**	**342**	*e*P	**P**	**16 29 03.0**	**+1.3**
YKW3	**Yellowknife Ar**	**85.61**	**342**	*e*P	**P**	**16 29 03.2**	**+1.4**
	comp=Z,17nm,1.6s							
ILAR	**Eielson Array**	**98.47**	**335**	P	Pdif	16 30 03.3	+1.6	
	comp=Z,0.2nm,0.7s,baz=165,slow=3.7,SNR=3.0							
H11N3	**WAKE ISLAND Hyd**	**123.81**	**283**	T	T	18 51 13.2		
	baz=98							
H11N2	**WAKE ISLAND Hyd**	**123.83**	**283**	T	T	18 51 12.6		
	baz=98							
H11N1	**WAKE ISLAND Hyd**	**123.83**	**283**	T	T	18 51 11.4		
	baz=98							
H11S2	**WAKE ISLAND Hyd**	**123.84**	**281**	T	T	18 51 15.4		
	baz=99							
H11S1	**WAKE ISLAND Hyd**	**123.85**	**281**	T	T	18 51 19.7		
	baz=99							
H11S3	**WAKE ISLAND Hyd**	**123.86**	**281**	T	T	18 51 19.6		
	baz=99							
ASAR	**Alice Springs**	**132.41**	**213**	PKP	**PKiKP**	**16 35 40.9**	**+1.3**	
	comp=Z,0.3nm,0.9s,baz=166,slow=1.6,SNR=2.9							
WRA	**Warramunga Arr**	**135.15**	**217**	PKP	**PKiKP**	**16 35 46.3**	**+1.1**	
	comp=Z,0.2nm,0.7s,baz=134,slow=2.2,SNR=3.4							
KSH	**Kashi**	**144.27**	**44**	*e*PKP	**PKiKP**	**16 36 01.6**	**-1.8**	
WMQ	**Urumqi**	**148.08**	**28**	*e*PKPbc	**PKPbc**	**16 36 06.4**	**-2.9**	
SONM	**Songino Array**	**148.88**	**2**	PKPbc	**PKiKP**	**16 36 12.2**	**-0.4**	
	comp=Z,0.3nm,0.4s,baz=298,slow=3.1,SNR=2.4							
HHC	**Hu-ho-hao-te**	**155.63**	**353**	*e*PKP	**PKPdf**	**16 36 16.8**	**-0.7**	
LZH	**Lanzhou**	**160.35**	**9**	*e*PKP	**PKPdf**	**16 36 22.4**	**-1.1**	
LZH				pPKP	pPKPdf	16 36 48.1	-3.4	
LZH				sPKP		16 36 58.3		
LZH				LR	LR			
	comp=Z,75nm,18.1s							
LZH				LR	LR			
	comp=Z,83nm,18.0s							
LZH				LR	LR			
	comp=Z,97nm,20.2s							
NJ2	**Nanjing**	**161.57**	**328**	*e*PKP	**PKPdf**	**16 36 22.3**	**-2.4**	

IDC 18 16:35:00.7±3.6, 13°.31N×143°.86E, h111km±48km, mb3.6/4, mb1 3.7/4, mb1mx3.1/31, mbtmp3.9/4, Error ellipse: s-maj=96.3km s-min=22.1km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.02**	**74**	P	Pn	16 35 22.3	+0.2
	64nm,0.3s,baz=268,slow=4.2,SNR=55						
GUMO				S	Sn	16 35 38.6	+0.3
	62nm,0.3s,baz=152,slow=20,SNR=31						
WRA	**Warramunga Arr**	**34.34**	**196**	P	P	16 41 37.4	+0.4
	0.9nm,0.6s,baz=17,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**38.02**	**195**	P	P	16 42 08.5	+0.2
	0.2nm,0.4s,baz=14,slow=13,SNR=14						
STKA	**Stephens Creek**	**44.98**	**183**	P	P	16 43 03.2	-1.8
	2.1nm,0.9s,baz=5.7,slow=10,SNR=3.0						
NRIK	**Noril'sk**	**66.08**	**341**	P	P	16 45 35.5	+0.1
	2.5nm,0.3s,baz=180,slow=2.0,SNR=5.5						

*ISCJB **18** 16:53:58.9±0.8, 37°.42N±0°.05×72°.1E±0°.1, h113km, Error ellipse: s-maj=14.0km s-min=5.1km az=160.5*
*NNC **18** 16:54:04.1±6.7, 37°.95N×71°.92E, h0km, mb3.7, mpv3.1, Error ellipse: s-maj=68.2km s-min=37.4km az=147.0*

ISC 18 16:53:59.7±1.3, 37°.37N±0°.09×72°.1E±0°.1, h113km, n15, σ1°27/18, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.58**	**19**	⇑Pn	**Pn**	**16 55 22.7**	**+2.2**
	3.1nm,0.4s						
AAK				⇓Sn	**Sn**	**16 56 22.4**	**-1.0**
	12nm,0.6s						
KK31	**Karatay Array**	**5.85**	**349**	Pn	**Pn**	**16 55 26.4**	**+2.4**
	0.5nm,0.2s,baz=166,slow=11,SNR=24						
KK31				⇓Sn	**Sn**	**16 56 27.9**	**-1.8**
	4.3nm,0.3s,baz=221,slow=38,SNR=5.5						
TKM2	**Tokmak 2**	**6.16**	**25**	⇑Pn	**Pn**	**16 55 30.3**	**+1.9**
	0.7nm,0.5s						
TKM2				⇓Sn	**Sn**	**16 56 35.9**	**-1.7**
	2.1nm,0.7s						
PYUN	**Piuthan**	**13.03**	**132**	*e*P	**Pn**	**16 57 00.5**	**-0.3**
	1.8nm,0.2s						
DANN	**Dangsing**	**13.31**	**129**	*e*P	**Pn**	**16 57 04.7**	**+0.2**
	3.6nm,0.3s						
KOLN	**Koldanda**	**13.63**	**131**	*e*P	**Pn**	**16 57 08.2**	**-0.4**
	5.3nm,0.7s						
GKN	**Gorkha**	**14.10**	**128**	*e*P	**Pn**	**16 57 14.2**	**-0.4**
	4.8nm,0.5s						
KKN	**Kakani**	**14.66**	**127**	*e*P	**Pn**	**16 57 21.5**	**-0.3**
	1.7nm,0.2s						
DMN	**Daman**	**14.68**	**128**	*e*P	**Pn**	**16 57 21.1**	**-0.9**
	1.6nm,0.3s						
AB31	**Akbulak array**	**14.77**	**327**	P	**Pn**	**16 57 22.2**	**-0.6**
	1.1nm,0.7s,baz=131,slow=13,SNR=12						
PKIN	**Phulchoki**	**14.88**	**127**	*e*P	**Pn**	**16 57 24.3**	**-0.3**
	2.5nm,0.6s						
PKI	**Pulchoki**	**14.89**	**127**	*e*P	**Pn**	**16 57 24.5**	**-0.3**
	1.4nm,0.3s						
GUN	**Gumba**	**14.96**	**125**	*e*P	**Pn**	**16 57 25.1**	**-0.6**
	6.8nm,0.7s						
JIRN	**Jiri**	**15.33**	**125**	*e*P	**Pn**	**16 57 30.2**	**-0.2**
	6.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.49**	**327**	⇑P	**P**	**16 57 44.1**	**-0.7**
	1.2nm,0.5s						

NNC 18 17:02:10.1±6.9, 37°.68N×71°.80E, h0km, mb3.7, mpv3.2, 5C-2D, Error ellipse: s-maj=69.7km s-min=39.0km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.37**	**22**	⇑Pn	Pn	17 03 32.9	+1.3
	1.2nm,0.3s						
AAK				⇑Sn	Sn	17 04 35.5	+1.3
	3.6nm,0.4s						
KK31	**Karatay Array**	**5.51**	**350**	Pn	Pn	17 03 36.4	+2.9
	1.2nm,0.5s,baz=163,slow=11,SNR=13						
KK31				⇑Sn	Sn	17 04 40.5	+3.1
	1.6nm,0.3s,baz=174,slow=24,SNR=6.6						
TKM2	**Tokmak 2**	**5.99**	**28**	⇓Pn	Pn	17 03 40.2	+0.1
	1.4nm,0.6s						
TKM2				⇑Sn	Sn	17 04 48.8	-0.7
	1.0nm,0.5s						
AB31	**Akbulak array**	**14.40**	**327**	⇑P	Pn	17 05 32.4	-2.8
	0.4nm,0.4s,baz=6.5,slow=26,SNR=16						
AKTO	**Aktyubinsk**	**16.11**	**327**	⇓P	Pn	17 05 52.1	-5.8
	2.3nm,0.6s						

*DDA **18** 17:08:07.6, 36°.77N×25°.88E, h7km±3km, ML2.8*
*ISK **18** 17:08:12.6, 36°.93N×26°.18E, h5km, ML2.9/15*
*ISCJB **18** 17:08:13.7±0.5, 36°.90N±0°.03×26°.20E±0°.02, h6km±4km, Error ellipse: s-maj=4.6km s-min=2.6km az=154.0*
*ATH **18** 17:08:13.8, 36°.89N×26°.17E, h17km±3km, ML2.6/8, Error ellipse: s-maj=3.1km s-min=1.0km az=302.0*
*THE **18** 17:08:13.9, 36°.88N×26°.21E, h4km±2km, ML2.7/9, Error ellipse: s-maj=2.2km s-min=0.7km az=225.0*

ISC 18 17:08:14.1±0.9, 36°.88N±0°.02×26°.18E±0°.02, h11km±8km, n48, σ1°9/14/71, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMGA	**Amorgos Island**	**0.23**	**258**	P	**Pg**	**17 08 18.6**	**-0.4**
AMGA				S	**Sg**	**17 08 22.8**	**+0.5**
AMGA	**Amorgos Island**	**0.23**	**258**	P	**Pg**	**17 08 18.8**	**-0.2**
AMGA				S	**Sg**	**17 08 22.7**	**+0.5**
AMGA				AML	AML	17 08 23.2		
	comp=N,3993μm,0.2s						
AMGA				AML	AML	17 08 29.4		
	comp=E,2555μm,0.4s						
APE	**Apeiranthos**	**0.56**	**290**	PG	**Pg**	**17 08 24.4**	**-0.5**
APE				SG	**Sg**	**17 08 32.4**	**+0.1**
APE	**Apeiranthos**	**0.56**	**290**	P	**Pg**	**17 08 24.9**	**0.0**
APE				S	**Sb**	**17 08 34.7**	**+0.8**
APE	**Apeiranthos**	**0.56**	**290**	P	**Pg**	**17 08 24.9**	**0.0**
APE				S	**Sg**	**17 08 32.4**	**+0.1**
APE				AML	AML	17 08 37.8		
	comp=N,1793μm,0.4s						
APE				AML	AML	17 08 39.0		
	comp=E,1202μm,0.3s						
ANAF	**Anafi Island**	**0.62**	**212**	P	**Pg**	**17 08 25.8**	**-0.3**
ANAF				S	**Sb**	**17 08 35.8**	**+0.2**
ANAF	**Anafi Island**	**0.62**	**212**	P	**Pg**	**17 08 25.8**	**-0.3**
ANAF				S	**Sg**	**17 08 34.6**	**+0.5**
ANAF				AML	AML	17 08 36.1		
	comp=E,8615μm,0.4s						
ANAF				AML	AML	17 08 36.1		
	comp=N,5746μm,0.3s						
THR2	**Thira island,**	**0.74**	**235**	P	**Pg**	**17 08 28.5**	**+0.1**
CMBO	**Columbo, Santo**	**0.74**	**237**	P	**Pg**	**17 08 28.6**	**+0.1**
CMBO				S	**Sb**	**17 08 40.7**	**+1.4**
SANT	**Santorini**	**0.77**	**229**	PG	**Pg**	**17 08 28.8**	**-0.3**
SANT				SG	**Sb**	**17 08 41.5**	**+1.4**
SANT	**Santorini**	**0.77**	**229**	P	**Pg**	**17 08 28.7**	**-0.3**
SANT				S	**Sb**	**17 08 40.8**	**+0.7**
THR3	**Thira Island,**	**0.78**	**233**	P	**Pg**	**17 08 29.2**	**0.0**
SAP3	**Santorini-Thir**	**0.81**	**237**	P	**Pg**	**17 08 29.3**	**-0.3**
SAP3				S	**Sn**	**17 08 42.7**	**-0.7**
NISR	**Nisiros**	**0.81**	**109**	P	**Pb**	**17 08 30.0**	**-0.2**
NISR				S	**Sb**	**17 08 41.0**	**-0.1**
NISR				AML	AML	17 08 43.1		
	comp=E,1961μm,0.3s						
NISR				AML	AML	17 08 44.1		
	comp=N,1358μm,0.3s						
THR5	**Thira Island,**	**0.81**	**236**	P	**Pb**	**17 08 30.0**	**-0.3**
THR6	**Thira Island,**	**0.82**	**231**	P	**Pb**	**17 08 30.1**	**-0.3**
YKAV	**Yalikavak-Bodr**	**0.91**	**74**	PG	**Pg**	**17 08 31.2**	**-0.4**
BODT	**Bodrum**	**0.92**	**78**	PG	**Pg**	**17 08 31.2**	**-0.7**
BODT				SG	**Sb**	**17 08 45.1**	**+0.6**
SMG	**Samos**	**0.98**	**32**	P	**Pg**	**17 08 31.9**	**-1.1**
SMG				S	**Sn**	**17 08 47.3**	**-0.5**
SMG	**Samos**	**0.98**	**32**	P	**Pg**	**17 08 32.0**	**-1.0**
SMG				S	**Sg**	**17 08 45.4**	**-0.4**
SMG				AML	AML	17 08 49.9		
	comp=N,950μm,0.4s						
SMG				AML	AML	17 08 50.9		
	comp=E,906μm,0.3s						
DIDI	**Didim-Aydin**	**0.98**	**59**	PG	**Pg**	**17 08 32.2**	**-0.8**
BDRM	**Kayabasi**	**1.03**	**79**	*i* P	**Pg**	**17 08 33.5**	**-0.4**
BDRM				*i* S	**Sb**	**17 08 48.5**	**+1.0**
BDRM				IAML_P			
	comp=Z,2μm,0.2s						
DAT	**Datca**	**1.13**	**97**	PN	**Pg**	**17 08 34.6**	**-1.3**
DAT	**Datca**	**1.13**	**97**	*i* P	**Pg**	**17 08 34.2**	**-1.7**
DAT				*i* S	**Sn**	**17 08 53.1**	**+1.5**
DAT				IAML_P			
	comp=Z,166nm,0.1s						
DATC	**Datca-Mugla**	**1.19**	**95**	PN	**Pb**	**17 08 36.8**	**0.0**
DGB	**zmir**	**1.30**	**25**	*i* P	**Pn**	**17 08 36.1**	**-2.1**
DGB				*i* S	**Sn**	**17 08 57.1**	**+1.6**
DGB				IAML_P			
	comp=Z,713nm,0.3s						
ZEY	**zmir**	**1.38**	**11**	*i* P	**Pn**	**17 08 37.7**	**-1.7**
ZEY				*i* S	**Sg**	**17 09 00.5**	**+1.9**
ZEY				IAML_P			
	comp=Z,712nm,0.2s						
SERI	**Serifos**	**1.39**	**282**	P	**Pn**	**17 08 38.4**	**-1.1**
SERI				S	**Sg**	**17 08 58.2**	**-0.5**
SERI	**Serifos**	**1.39**	**282**	P	**Pg**	**17 08 40.3**	**-0.4**
SERI				AML	AML	17 09 01.9		
	comp=E,274μm,0.3s						
SERI				AML	AML	17 09 07.0		
	comp=N,189μm,0.4s						
URLA	**Izmir**	**1.52**	**12**	PN	**Pn**	**17 08 41.3**	**0.0**
URLA	**Izmir**	**1.52**	**12**	*i* P	**Pn**	**17 08 39.6**	**-1.7**
URLA				*i* S	**Sg**	**17 09 04.6**	**+1.7**
KARP	**Karpathos**	**1.55**	**149**	P	**Pn**	**17 08 40.5**	**-1.2**
AYDN	**Tasoluk**	**1.56**	**60**	*i* P	**Pn**	**17 08 42.5**	**+0.5**
AYDN				*i* S	**Sg**	**17 09 06.6**	**+2.2**
AYDN				IAML_P			
	comp=Z,1μm,0.2s						
BLCB	**Balcova**	**1.65**	**24**	PN	**Pn**	**17 08 43.3**	**+0.2**
NPS	**Neapolis**	**1.68**	**196**	P	**Pb**	**17 08 44.6**	**-0.5**
NPS				AML	AML	17 09 12.8		
	comp=E,258μm,0.3s						
NPS				AML	AML	17 09 19.5		
	comp=N,253μm,0.6s						
ARG	**Arkhangelos**	**1.70**	**112**	PN	**Pn**	**17 08 44.2**	**+0.4**
YER	**Yerkesik**	**1.70**	**81**	PN	**Pn**	**17 08 44.6**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.73**	**51**	PN	**Pn**	**17 08 44.6**	**+0.3**
KRBN	**Karaburun**	**1.74**	**10**	PN	**Pn**	**17 08 44.4**	**+0.1**
ZKR	**Zakros**	**1.76**	**179**	PN	**Pb**	**17 08 46.4**	**-0.1**
ZKR	**Zakros**	**1.76**	**179**	P	**Pn**	**17 08 45.5**	**+0.9**
ZKR				AML	AML	17 09 16.3		
	comp=N,88μm,0.6s						
ZKR				AML	AML	17 09 17.3		
	comp=E,172μm,0.6s						
LAST	**Lasithi**	**1.81**	**199**	P	**Pn**	**17 08 44.2**	**-1.1**
TURN	**Turunc**	**1.94**	**89**	PN	**Pn**	**17 08 44.1**	**-3.0**
TURN	**Turunc**	**1.94**	**89**	*i* P	**Pn**	**17 08 42.5**	**-4.6**
TURN				*i* S	**Sn**	**17 09 09.9**	**-1.6**
TURN				IAML_P			
	comp=Z,80nm,0.2s						
DALY	**Dalyan (Mula)**	**1.98**	**91**	PN	**Pn**	**17 08 48.7**	**+1.1**
FETY	**Fethiye**	**2.34**	**95**	PN	**Pn**	**17 08 54.1**	**+1.5**
SIGR	**SIGRI**	**2.34**	**354**	P	**Pn**	**17 08 51.5**	**-1.1**
KULA	**Kula-Manisa**	**2.56**	**50**	PN	**Pn**	**17 08 56.3**	**+0.7**

*ISCJB **18** 17:13:32.0±0.6, 56°.08S±0°.08×27°.2W±0°.3, h112km, mb4.2/7, Error ellipse: s-maj=23.4km s-min=10.7km az=166.0*
*IDC **18** 17:13:33.2±6.2, 56°.04S×27°.27W, h108km±55km, mb4.0/7, mb1 4.1/8, mb1mx3.8/23, mbtmp4.3/8, MS3.4/1, Ms1 3.4/1, ms1mx2.9/19, Error ellipse: s-maj=28.2km s-min=17.3km az=73.0*
*NEIC **18** 17:13:35.4±3.2, 56°.12S×27°.35W, h130km±28km, mb4.4/2, Error ellipse: s-maj=16.3km s-min=11.0km az=72.0*

ISC 18 17:13:33.4±0.7, 56°.1S±0°.1×27°.3W±0°.2, h112km, n29, σ0°61/26, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.99**	**160**	P	**Pn**	**17 17 23.2**	**-0.6**
VNA2	**Neumayer--Watz**	**17.20**	**158**	P	**P**	**17 17 26.5**	**+0.3**
	baz=319,slow=12						
SNAA	**Sanae**	**18.75**	**156**	P	**P**	**17 17 43.4**	**+0.1**
SNAA	**Sanae**	**18.75**	**156**	*e*P	**P**	**17 17 42.9**	**-0.3**
	20nm,0.8s						
SNAA	**Sanae**	**18.75**	**156**	P	**P**	**17 17 43.3**	**+0.1**
	3.4nm,0.3s,baz=302,slow=9.8,SNR=137						
QSPA	**South Pole Qui**	**34.18**	**180**	P	**P**	**17 20 07.9**	**+0.3**
	2.7nm,0.5s,baz=17,slow=1.9,SNR=18						
QSPA				PcP	**PcP**	**17 22 41.8**	**+0.1**
	1.5nm,0.8s,baz=216,slow=1.9,SNR=3.6						
LVC	**Limon Verde**	**45.26**	**300**	P	**P**	**17 21 39.8**	**-0.1**
	4.5nm,0.7s,baz=135,slow=6.7,SNR=5.1						
VNDA	**Vanda**	**46.55**	**183**	*e*P	**P**	**17 21 49.5**	**+0.5**
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**17 21 49.7**	**+0.6**
	2.5nm,0.6s,baz=181,slow=6.7,SNR=7.7						
SIV	**San Ignacio**	**47.55**	**314**	LR	LR	17 39 16.4	
	comp=Z,38nm,20.4s,baz=129,slow=32						
H10S2	**ASCENSION HYDR**	**48.03**	**17**	T	T	18 14 49.4	
	baz=190						
H10S3	**ASCENSION HYDR**	**48.04**	**17**	T	T	18 14 46.7	
	baz=190						
H10S1	**ASCENSION HYDR**	**48.05**	**17**	T	T	18 14 42.2	
	baz=190						
LPAZ	**La Paz**	**50.34**	**305**	*e*P	**P**	**17 22 19.5**	**0.0**
	12nm,1.9s						
LPAZ	**La Paz**	**50.34**	**305**	P	**P**	**17 22 19.6**	**+0.2**
	1.4nm,0.5s,baz=94,slow=8.0,SNR=7.0						
DBIC	**Dimbokro**	**65.21**	**25**	P	**P**	**17 24 02.3**	**-0.3**
	4.4nm,1.2s,baz=180,slow=5.1,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**73.10**	**30**	*e*P	**P**	**17 24 52.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**73.10**	**30**	P	**P**	**17 24 51.8**	**+0.6**
	1.0nm,0.6s,baz=198,slow=6.7,SNR=6.2						
TOA1	**Torodi Ar. Sit**	**73.10**	**30**	*e*P	**P**	**17 24 51.9**	**+0.5**
ASAR	**Alice Springs**	**98.99**	**163**	P	**Pdif**	**17 27 00.5**	**-0.8**
	0.5nm,0.6s,baz=188,slow=4.4,SNR=10						
CMAR	**Chiang Mai Arr**	**125.11**	**111**	PKP	**PKiKP**	**17 32 20.8**	**0.0**
	0.4nm,0.7s,baz=212,slow=3.2,SNR=3.7						
YKA	**Yellowknife Ar**	**136.15**	**318**	PKP	**PKPdf**	**17 32 39.3**	**-0.5**
	0.4nm,0.5s,baz=125,slow=2.1,SNR=8.2						
MK32	**Makanchi Array**	**136.95**	**71**	*e*PKPdf	**PKPdf**	**17 32 40.8**	**-1.2**
MKAR	**Makanchi Array**	**136.95**	**71**	PKP	**PKPdf**	**17 32 40.8**	**-1.2**
	0.2nm,0.6s,baz=96,slow=1.4,SNR=2.8						
IL1	**Eielson Array**	**150.08**	**312**	*e*PKPbc	**PKPbc**	**17 33 09.1**	**-0.3**
ILAR	**Eielson Array**	**150.08**	**312**	PKPbc	**PKPbc**	**17 33 08.9**	**-0.4**
	2.3nm,0.8s,baz=135,slow=2.0,SNR=18						
ILB	**Eielson Array**	**150.08**	**312**	*e*PKPbc	**PKPbc**	**17 33 09.6**	**+0.3**
SONA0	**Songino Array**	**150.79**	**87**	*e*PKPbc	**PKPbc**	**17 33 11.9**	**+0.2**
SONM	**Songino Array**	**150.79**	**87**	PKPbc	**PKPbc**	**17 33 11.9**	**+0.2**
	1.9nm,0.5s,baz=210,slow=3.6,SNR=13						

*IDC **18** 17:27:33.8±2.8, 7°.50N×123°.45E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/30, mbtmp3.2/3, Error ellipse: s-maj=327.4km s-min=27.4km az=63.0*
*MAN **18** 17:27:36.6, 7°.74N×124°.17E, h20km, MS3.4*

ISC 18 17:27:35.2±1.9, 7°.74N±0°.04×124°.07E±0°.05, h7km±14km, n13, σ1°25/18, mb3.1/3, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.55**	**161**	⇓*i*P	**Pb**	**17 27 47.9**	**+0.8**
CTBH				*i* S	**Sb**	**17 27 56.6**	**+1.5**
PAGZ	**Pagadian**	**0.69**	**279**	*e*P	**Pn**	**17 27

PB06	**IPOC Station P**	**1.74 218**	*e*P		**Pn**	**17 40 52.9**	**-0.2**
PB06	**IPOC Station P**	**1.74 218**	⇑*i*P		**Pn**	**17 40 52.9**	**-0.2**
PB06			*i* S		**Sn**	**17 41 15.9**	**-0.6**
PB06			IAML			17 41 17.6	
	comp=E,850nm,0.3s						
PB04	**IPOC Station P**	**1.90 238**	*e*P		**Pn**	**17 40 54.2**	**-0.7**
PB04	**IPOC Station P**	**1.90 238**	⇑*i*P		**Pn**	**17 40 54.2**	**-0.7**
PB04			*i* S		**Sn**	**17 41 18.8**	**-1.0**
PB04			IAML			17 41 26.6	
	comp=E,650nm,0.2s						
PB11	**IPOC Station P**	**1.94 323**	*e*P		**Pn**	**17 40 55.9**	**+0.4**
PB11	**IPOC Station P**	**1.94 323**	⇑*i*P		**Pn**	**17 40 55.6**	**+0.1**
PB11			*e*S		**Sn**	**17 41 20.7**	**0.0**
PB11			IAML			17 41 24.6	
	comp=N,783nm,0.3s						
PB15	**IPOC Station P**	**2.12 207**	*e*P		**Pn**	**17 40 58.0**	**+0.3**
PB15	**IPOC Station P**	**2.12 207**	⇑*i*P		**Pn**	**17 40 57.7**	**0.0**
PB15			*i* S		**Sn**	**17 41 24.7**	**0.0**
PB05	**IPOC Station P**	**2.25 227**	*e*P		**Pn**	**17 40 58.4**	**-0.9**
PB05	**IPOC Station P**	**2.25 227**	⇑*i*P		**Pn**	**17 40 58.4**	**-0.9**
PSGC	**Pisagua**	**2.34 317**	IAML			17 41 36.3	
	comp=N,404nm,0.4s						
PSGCX	**Pisagua**	**2.34 317**	*e*P		**Pn**	**17 41 00.3**	**-0.2**
MNMC	**Minye Minye**	**2.44 333**	⇑*i*P		**Pn**	**17 41 02.7**	**+0.7**
MNMC			*i* S		**Sn**	**17 41 33.7**	**+1.5**
MNMCX	**Minye Minye**	**2.44 333**	*e*P		**Pn**	**17 41 03.1**	**+1.1**
YJA	**Yavi**	**2.83 108**	*e*P		**Pn**	**17 41 08.4**	**+1.3**
YJA			IAML			17 41 09.1	
	comp=Z,35nm,0.4s						
PB10	**IPOC Station P**	**2.94 222**	*e*P		Pn	17 41 01.8	-6.3
PB10	**IPOC Station P**	**2.94 222**	*e*P		**Pn**	**17 41 08.0**	**-0.2**
PB12	**IPOC Station P**	**3.24 326**	*e*P		**Pn**	**17 41 11.7**	**-0.4**
HJA	**Humahuaca**	**3.36 125**	*e*P		**Pn**	**17 41 15.7**	**+1.8**
HJA			IAML			17 41 17.7	
	comp=Z,93nm,0.4s						
PB14	**IPOC Station P**	**3.76 209**	*e*P		**Pn**	**17 41 18.8**	**-0.5**
LPAZ	**La Paz**	**5.01 3**	P		**Pn**	**17 41 38.4**	**+2.1**
	comp=Z,2.1nm,0.3s,baz=220,slow=3.7,SNR=29						
LPAZ			S		**Sn**	**17 42 37.7**	**+4.1**
	comp=Z,0.3nm,0.3s,baz=168,slow=16,SNR=2.5						
SIV	**San Ignacio**	**8.75 54**	P		**Pn**	**17 42 23.2**	**-3.0**
	comp=Z,6.2nm,0.3s,baz=252,slow=12,SNR=172						
SIV			S		**Sn**	**17 43 57.5**	**-5.7**
	baz=314,slow=12,SNR=3.6						
CPUP	**Villa Florida**	**11.31 118**	P		**Pn**	**17 42 59.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=320,slow=14,SNR=4.1						
BDFB	**Brasília**	**20.15 77**	P		**P**	**17 44 45.8**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=186,slow=9.2,SNR=2.6						
PTGA	**Pitinga**	**22.07 23**	P		**P**	**17 45 06.0**	**-1.6**
	comp=Z,2.2nm,0.3s,baz=226,slow=19,SNR=4.6						
SNAA	**Sanae**	**62.30 161**	P		**P**	**17 50 32.1**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=270,slow=10,SNR=7.4						
DBIC	**Dimbokro**	**68.25 73**	P		**P**	**17 51 09.8**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=270,slow=4.9,SNR=4.1						
PDAR	**Pinedale Array**	**74.19 330**	P		**P**	**17 51 47.1**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=104,slow=7.5,SNR=2.4						
ULM	**Lac du Bonnet**	**75.29 342**	P		**P**	**17 51 52.3**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=153,slow=4.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**76.86 70**	P		**P**	**17 52 01.5**	**0.0**
	comp=Z,2.0nm,0.7s,baz=258,slow=5.3,SNR=14						
YKA	**Yellowknife Ar**	**91.17 340**	P		**P**	**17 53 14.0**	**+1.0**
	comp=Z,2.7nm,0.6s,baz=133,slow=4.4,SNR=48						
ASAR	**Alice Springs**	**130.28 207**	PKP		**PKiKP**	**17 59 19.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=128,slow=1.8,SNR=22						
WRA	**Warramunga Arr**	**133.34 210**	PKP		**PKiKP**	**17 59 25.9**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=150,slow=1.8,SNR=14						
ZALV	**Zalesovo Beam**	**141.60 25**	PKP		**PKPdf**	**17 59 39.4**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=321,slow=2.7,SNR=3.5						
MKAR	**Makanchi Array**	**145.22 36**	PKPbc		**PKPab**	**17 59 46.4**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=323,slow=3.2,SNR=26						
KLR	**Kul'dur**	**147.86 335**	PKPbc		**PKiKP**	**17 59 53.2**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=225,slow=1.4,SNR=3.8						

NIED ***18*** *17:49:00,39.00N×142.50E,h38km,Mw3.8 Best double couple: M₀5.49000×10¹⁴ NP1:φs300.00000°,δ15.00000°, λ-137.00000°. NP2:φs167.00000°,δ80.00000°, λ-79.00000°.*

JMA ***18*** *17:49:37.9±0.1,39.03N×142.45E,h32km±1km,M4.0 JMA Felt I J1.*

ISCJB ***18*** *17:49:38.1±1.0,39.02N±0.04×142.45E±0.08,h40km±9km, mb3.8/13,MS3.0/1,Error ellipse: s-maj=11.5km s-min=5.1km az=20.3*

IDC ***18*** *17:49:42.0±2.2,39.06N×142.51E,h60km±20km,mb3.5/13, mb1 3.7/18,mb1mx3.6/46,mbtmp3.8/18,ML3.4/4,MS2.9/5, Ms1 2.9/5,ms1mx2.6/33,Error ellipse: s-maj=22.8km s-min=9.8km az=117.0*

ISC 18 17:49:38.1±1.8,38.98N±0.05×142.42E±0.07,h26km±12km, n39,σ1§47/45,mb3.9/13,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.59**	**280**	P		**Pb**	**17 49 50.0**	**+0.1**
OFUJ				S		**Sb**	**17 49 58.2**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.75**	**322**	P		**Pn**	**17 49 51.6**	**-1.4**
MIYJ				*e*S		**Sb**	**17 50 01.6**	**-0.9**
JKMT	**Kesennumamotoy**	**0.76**	**257**	P		**Pn**	**17 49 52.5**	**-0.5**
JKMT				S		**Sn**	**17 50 02.4**	**-1.2**
JMK	**Ichinoseki**	**0.94**	**269**	P		**Pn**	**17 49 55.2**	**-0.3**
JMK				S		**Sn**	**17 50 07.6**	**-0.4**
JIO	**Ouri**	**0.99**	**238**	P		**Pn**	**17 49 55.8**	**-0.4**
JIO				S		**Sn**	**17 50 08.5**	**-0.8**
JOM	**Ohasama**	**1.00**	**300**	P		**Pn**	**17 49 56.1**	**-0.3**
JOM				S		**Sn**	**17 50 09.1**	**-0.6**
JTH	**Tanohata**	**1.05**	**336**	P		**Pn**	**17 49 56.3**	**-0.8**
JTH				*e*S		**Sb**	**17 50 09.7**	**-1.2**
JKZ	**Kuzumaki**	**1.31**	**320**	P		**Pn**	**17 50 00.5**	**-0.2**
JKZ				S		**Sn**	**17 50 16.8**	**-0.5**
JRG	**Rokugo**	**1.45**	**287**	P		**Pn**	**17 50 03.2**	**+0.7**
JRG				S		**Sb**	**17 50 22.3**	**0.0**
JOU	**Okura**	**1.50**	**246**	P		**Pn**	**17 50 03.9**	**+0.5**
JOU				*e*S		**Sb**	**17 50 23.7**	**-0.3**
JANG	**Nango**	**1.55**	**334**	P		**Pn**	**17 50 03.8**	**-0.2**
JANG				S		**Sb**	**17 50 23.5**	**-1.9**
JYK	**Kaneyama**	**1.61**	**268**	P		**Pn**	**17 50 05.3**	**+0.6**
MJAR	**Matsushiro Arr**	**4.13**	**235**	P		**Pn**	**17 50 42.3**	**+2.8**
	1.3nm,0.3s,baz=33,slow=14,SNR=53							
MJAR				S		**Sb**	**17 51 36.2**	**-3.3**
	baz=16,slow=19,SNR=1.5							
MJAR				LR		LR	17 52 30.0	
	comp=Z,175nm,18.4s,baz=70,slow=40							
MAT	**Matsushiro**	**4.13**	**235**	P		**Pn**	**17 50 43.2**	**+3.7**
MAT				S		**Sb**	**17 51 35.3**	**-4.2**
ASAJ	**Asahikawa**	**5.13**	**1**	P		**Pn**	**17 50 54.0**	**+0.8**
	1.5nm,0.3s,baz=213,slow=14,SNR=20							
ASAJ				S		**Sn**	**17 51 51.7**	**+0.2**
	1.2nm,0.3s,baz=186,slow=11,SNR=3.7							
USRK	**Ussuriysk Ar.**	**9.39**	**307**	P		**Pn**	**17 51 53.0**	**+1.5**
	0.2nm,0.3s,baz=113,slow=17,SNR=2.9							
JNU	**Nakatsue**	**11.02**	**241**	P		**Pn**	**17 52 17.1**	**+3.2**
	0.4nm,0.3s,baz=100,slow=6.1,SNR=3.9							
JNU				LR		LR	17 57 00.3	
	comp=Z,66nm,18.1s,baz=359,slow=39							
KSRS	**Korea Array**	**11.51**	**267**	P		**Pn**	**17 52 23.7**	**+3.2**
	0.1nm,0.3s,baz=84,slow=13,SNR=4.9							
KSRS				LR		LR	17 56 26.2	
	comp=Z,56nm,18.1s,baz=100,slow=35							
KLR	**Kul'dur**	**12.78**	**327**	LR		LR	17 57 33.0	
	comp=Z,38nm,19.9s,baz=131,slow=37							
MA2	**Magadan**	**21.29**	**12**	P		**P**	**17 54 22.4**	**+0.1**
	7.1nm,0.7s,baz=196,slow=9.5,SNR=24							
SEY	**Seymchan**	**24.73**	**11**	P		**P**	**17 54 56.9**	**0.0**
	4.1nm,0.3s,baz=160,slow=1.9,SNR=11							
H11N2	**WAKE ISLAND Hy**	**28.54**	**125**	T		T	18 25 57.6	
	baz=317,slow=75,SNR=306							
H11N1	**WAKE ISLAND Hy**	**28.55**	**125**	T		T	18 25 56.0	
	baz=317,slow=75,SNR=302							
H11N3	**WAKE ISLAND Hy**	**28.56**	**125**	T		T	18 25 59.5	
	baz=317,slow=75,SNR=138							
H11S1	**WAKE ISLAND Hy**	**29.33**	**127**	T		T	18 26 58.8	
	baz=318,slow=76,SNR=47							
H11S3	**WAKE ISLAND Hy**	**29.33**	**127**	T		T	18 27 11.0	
	baz=318,slow=76,SNR=61							
H11S2	**WAKE ISLAND Hy**	**29.34**	**127**	T		T	18 26 57.5	
	baz=318,slow=76,SNR=44							
ZALV	**Zalesovo Beam**	**41.22**	**311**	P		**P**	**17 57 20.5**	**+0.1**
	0.8nm,0.3s,baz=88,slow=7.9,SNR=5.3							
NRIK	**Noril'sk**	**41.85**	**334**	LR		LR	18 15 44.5	
	comp=Z,24nm,21.3s,baz=75,slow=37							
CMAR	**Chiang Mai Arr**	**42.78**	**254**	P		**P**	**17 57 33.6**	**+0.1**
	0.3nm,0.5s,baz=30,slow=8.4,SNR=4.2							
MKAR	**Makanchi Array**	**43.78**	**301**	P		**P**	**17 57 41.5**	**+0.1**
	1.1nm,0.5s,baz=85,slow=9.7,SNR=18							
ILAR	**Eielson Array**	**47.43**	**33**	P		**P**	**17 58 10.0**	**0.0**
	1.3nm,0.7s,baz=268,slow=6.4,SNR=16							
INK	**Inuvik**	**52.30**	**28**	P		**P**	**17 58 47.4**	**+0.6**
	0.8nm,0.4s,baz=271,slow=2.2,SNR=5.9							
WRA	**Warramunga Arr**	**59.10**	**189**	P		**P**	**17 59 35.5**	**-0.6**
	0.7nm,0.4s,baz=7.8,slow=7.7,SNR=22							
YKA	**Yellowknife Ar**	**61.73**	**31**	P		**P**	**17 59 53.3**	**-0.4**
	0.3nm,0.6s,baz=299,slow=6.6,SNR=4.7							
ASAR	**Alice Springs**	**62.83**	**189**	P		**P**	**18 00 01.4**	**-0.1**
	0.3nm,0.6s,baz=16,slow=5.4,SNR=8.8							
AKASG	**Malin Array Be**	**73.24**	**322**	P		**P**	**18 01 05.8**	**-0.8**
	0.4nm,0.5s,baz=44,slow=6.7,SNR=4.9							
PDAR	**Pinedale Array**	**75.74**	**46**	P		**P**	**18 01 21.1**	**-0.5**
	0.3nm,0.5s,baz=160,slow=0.6,SNR=3.4							
TXAR	**Lajitas Array**	**88.31**	**53**	P		**P**	**18 02 27.6**	**0.0**
	0.1nm,0.4s,baz=306,slow=3.1,SNR=2.4							

IDC ***18*** *18:01:33.7±1.5,30.52S×177.78W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.9/27,mbtmp4.2/4,Error ellipse: s-maj=36.0km s-min=21.2km az=105.0*

ISC 18 18:01:38.4±1.7,30.6S±0.1×177.7W±0.3,h35km,n9, σ1§28/9,mb4.3/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.31**	**352**	Pn		**Pn**	**18 01 58.3**	**-1.8**
	42nm,0.3s,baz=107,slow=19,SNR=3.1							
RAO				Sn		**Sn**	**18 02 18.5**	**+2.1**
	350nm,0.3s,baz=106,slow=20,SNR=8.2							
URZ	**Urewera**	**8.79**	**208**	Pn		Pn	18 03 38.4	-4.5
	0.3nm,0.3s,baz=38,slow=19,SNR=4.2							
URZ				Sn		Sn	18 05 14.0	-6.7
	2.0nm,0.3s,baz=294,slow=18,SNR=13							
CTA	**Charters Tower**	**34.06**	**279**	P		**P**	**18 08 19.8**	**+0.2**
	3.6nm,0.7s,baz=114,slow=10.0,SNR=3.4							
STKA	**Stephens Creek**	**34.68**	**257**	P		**P**	**18 08 25.3**	**+0.5**
	8.6nm,0.8s,baz=110,slow=9.4,SNR=16							
ASAR	**Alice Springs**	**43.34**	**267**	P		**P**	**18 09 36.6**	**-0.7**
	0.8nm,0.7s,baz=104,slow=7.9,SNR=7.4							
WRA	**Warramunga Arr**	**44.34**	**272**	P		**P**	**18 09 44.9**	**-0.5**
	2.5nm,0.7s,baz=112,slow=7.8,SNR=5.4							
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc		**PKPbc**	**18 21 12.1**	**+0.3**
	3.1nm,0.7s,baz=64,slow=4.4,SNR=7.8							
AKASG	**Malin Array Be**	**151.57**	**323**	PKPbc		**PKPbc**	**18 21 28.4**	**0.0**
	1.2nm,0.7s,baz=48,slow=3.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**162.67**	**178**	PKPab		**PKPab**	**18 22 26.5**	**+0.9**
	0.5nm,0.8s,baz=174,slow=1.4,SNR=2.9							

ISCJB ***18*** *18:02:58.2±0.6,7.27S±0.05×129.41E±0.06,h139km, mb3.3/1,Error ellipse: s-maj=9.1km s-min=5.8km az=40.2*

IDC ***18*** *18:02:59.4±2.0,7.35S×129.55E,h117km±18km,mb3.1/1, mb1 3.5/6,mb1mx3.2/33,mbtmp3.8/6,Error ellipse: s-maj=37.0km s-min=20.7km az=93.0*

DJA ***18*** *18:02:59.5±0.6,7.5S±0.2×129.9E±1,h123km±31km,M3.9/6, mb3.8/4,mB4.5/2,MLv4.0/6,Mw(mB)3.6/2*

ISC 18 18:02:59.6±0.8,7.22S±0.07×129.40E±0.08,h139km,n10, σ2§19/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.03**	**112**	P		**Pn**	**18 03 35.4**	**+0.9**
FAKI	**Fak Fak**	**5.13**	**34**	P		**Pn**	**18 04 14.1**	**-0.6**
	10nm,0.9s,0.1nm							
FAKI				S		**Sn**	**18 05 11.6**	**-1.5**
	10nm,0.9s,0.1nm							
SOEI	**Soe**	**5.66**	**243**	P		**Pn**	**18 04 21.8**	**0.0**
	12nm,0.6s							
SOEI				S		**Sn**	**18 05 25.2**	**-0.8**
	12nm,0.6s							
BATI	**Baumata**	**6.39**	**242**	P		**Pn**	**18 04 31.4**	**-0.2**
	4.7nm,0.7s							
BATI				S		**Sn**	**18 05 41.7**	**-1.8**
	4.7nm,0.7s							
BATI	**Baumata**	**6.39**	**242**	P		**Pn**	**18 04 33.0**	**+1.4**
	2.9nm,0.3s,baz=37,slow=5.1,SNR=6.3							
BATI				S		**Sn**	**18 05 41.2**	**-2.3**
	6.4nm,0.3s,baz=105,slow=23,SNR=13							
SIJI	**Sorong**	**6.58**	**17**	P		**Pn**	**18 04 34.6**	**+0.5**
	1.9nm,0.3s,baz=234,slow=19,SNR=12							
SIJI				S		**Sn**	**18 05 44.3**	**-3.6**
	0.7nm,0.3s,baz=253,slow=19,SNR=5.0							
FITZ	**Fitzroy Crossi**	**11.41**	**198**	P		**Pn**	**18 05 36.5**	**-2.0**
	0.5nm,0.3s,baz=20,slow=13,SNR=23							
FITZ				S		Sn	18 07 36.1	-8.5
	0.5nm,0.3s,baz=315,slow=20,SNR=3.7							
WRA	**Warramunga Arr**	**13.52**	**160**	P		**Pn**	**18 06 04.0**	**-2.0**
	0.7nm,0.3s,baz=342,slow=13,SNR=34							
WRA				S		Sn	18 08 24.1	-11
	0.8nm,0.3s,baz=332,slow=22,SNR=12							
ASAR	**Alice Springs**	**16.91**	**166**	P		**P**	**18 06 48.5**	**+0.7**
	0.4nm,0.3s,baz=340,slow=10,SNR=41							
ASAR				S		S	18 09 48.0	-9.1
	0.1nm,0.3s,baz=354,slow=27,SNR=5.8							
ASAR				ScP		**ScP**	**18 14 52.5**	**+3.6**
	0.0nm,0.3s,baz=356,slow=1.8,SNR=3.1							
MKAR	**Makanchi Array**	**68.08**	**327**	P		**P**	**18 13 47.9**	**+3.5**
	0.2nm,0.3s,baz=119,slow=7.8,SNR=5.0							

ISCJB ***18*** *18:10:18.7±0.5,40.07N±0.03×37.70E±0.03,h1km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=8.8*

DDA ***18*** *18:10:18.4,40.04N×37.74E,h7km±4km,ML2.7*

ISK ***18*** *18:10:18.1,40.03N×37.69E,h10km,ML2.3/6*

ISC 18 18:10:18.5±1.0,40.07N±0.03×37.74E±0.03,h13km±8km, n17,σ0§55/25,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CUZAR	**Zara_SIVAS**	**0.18**	**172**	*i* P		**Pg**	**18 10 22.8**	**+0.1**
CUZAR				*i* S		**Sg**	**18 10 25.5**	**-0.2**
SUSE	**Susehri**	**0.38**	**68**	*i* P		**Pb**	**18 10 27.4**	**+0.2**
SUSE				*i* S		**Sb**	**18 10 33.6**	**+0.4**
SUSE				IAML_P				
	comp=Z,3μm,0.1s							
RSDY	**Resadiye-TOKAT**	**0.46**	**316**	PG		**Pg**	**18 10 27.6**	**+0.1**
RSDY				SG		**Sg**	**18 10 34.5**	**+0.9**
SVSK	**Karacayir**	**0.59**	**255**	PG		**Pg**	**18 10 29.2**	**-0.7**
SVSK				SG		**Sg**	**18 10 37.3**	**-0.4**
CUKAN	**kangal_SIVAS**	**0.78**	**196**	*i* P		**Pg**	**18 10 32.6**	**-1.0**
TOKT	**Tokat**	**0.95**	**286**	PG		**Pb**	**18 10 36.1**	**-0.7**
TOKT				SG		**Sb**	**18 10 49.3**	**0.0**
ERBA	**Erbaa**	**0.97**	**310**	*i* P		**Pn**	**18 10 38.2**	**+0.4**
ERBA				IAML_P				
	comp=Z,676nm,0.2s							
KEMA	**Kemaliye**	**0.99**	**144**	*i* P		**Pb**	**18 10 37.5**	**0.0**
KEMA				*i* S		**Sn**	**18 10 52.1**	**+0.1**
KEMA				IAML_P				
	comp=Z,754nm,0.1s							
REFA	**Refahiye_ERZN**	**1.04**	**130**	*i* P		Pb	18 10 33.5	-4.9
REFA				IAML_P				
	comp=Z,5μm,0.1s							
CUALT	**Altinyayla-SIV**	**1.10**	**224**	*i* P		**Pn**	**18 10 40.1**	**+0.4**
CUALT				*i* S		**Sn**	**18 10 55.1**	**+0.2**
KELT	**Kelkit**	**1.17**	**86**	*i* P		**Pn**	**18 10 40.6**	**-0.2**
KELT				IAML_P				
	comp=Z,550nm,0.1s							
CUSAR	**Sarkisla-SIVAS**	**1.32**	**241**	*i* P		**Pn**	**18 10 42.8**	**0.0**
CUSAR				*i* S		**Sg**	**18 11 02.0**	**+0.9**
DARE	**Darende-Malaty**	**1.51**	**188**	PN		**Pn**	**18 10 45.2**	**-0.1**
AKCD	**Akcadag**	**1.78**	**175**	*i* P		**Pb**	**18 10 51.7**	**+0.8**
AKCD				*i* S		**Sg**	**18 11 16.1**	**+0.5**
AKCD				IAML_P				
	comp=Z,265nm,0.3s							
KTUT	**Trabzon**	**1.80**	**59**	PN		**Pb**	**18 10 50.9**	**-0.4**
BAYT	**Aydıntepe-Bayb**	**1.87**	**79**	PN		**Pb**	**18 10 51.6**	**-1.0**
YOZ	**Yozgat**	**1.91**	**258**	PN		**Pn**	**18 10 50.9**	**0.0**

JMA 18 18:18:31.0±0.3,27.00N×124.90E,h218km,M3.6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.82**	**111**	P		Pn	18 19 10.0	+0.9
JIKM	**Ikemajima**	**2.09**	**171**	S		S	18 19 43.6	+0.1
JAGN	**Aguni-jima**	**2.13**	**101**	P		Pn	18 19 12.6	+0.4
JIRB	**Irabujima**	**2.18**	**173**	P		Pn	18 19 13.1	+0.4
JIRB				*e*S		S	18 19 44.5	-0.5
JMJ	**Miyako jima 2**	**2.21**	**171**	P		Pn	18 19 13.8	+0.8
JMJ				S		S	18 19 45.7	+0.2
JOGS	**Gusukube**	**2.28**	**168**	P		Pn	18 19 14.6	+0.9
JOGS				*e*S		S	18 19 46.9	0.0
JTJ	**Tarama**	**2.36**	**184**	P		Pn	18 19 15.1	+0.6
JTJ				S		S	18 19 47.6	-0.7
JISG	**Ishigakijimahi**	**2.46**	**193**	P		Pn	18 19 15.8	+0.1
JISG				*e*S		S	18 19 49.5	-0.8
JIJ	**Ishigaki jima**	**2.71**	**195**	P		Pn	18 19 17.8	-0.6
JIJ				S		S	18 19 52.9	-2.4
JJT3	**Tamagusuku3**	**2.72**	**108**	P		Pn	18 19 13.3	+0.9
JJT3				*e*S		S	18 19 55.4	+0.1
JIH	**Iheya**	**2.74**	**89**	P		Pn	18 19 18.7	+0.1
JIH				S		S	18 19 54.4	-1.2
JNTH	**Nagotoyohara**	**2.83**	**99**	P		Pn	18 19 19.7	0.0
JNTH				S		S	18 19 55.3	-2.2
IRIF	**Iriomote-Funau**	**2.86**	**202**	P		Pn	18 19 19.5	-0.5
IRIF				S		S	18 19 57.3	-0.8
JOW	**Kunigami**	**3.02**	**92**	P		Pn	18 19 21.6	-0.2
JOW				*e*S		S	18 19 58.6	-2.7
YOJ	**Yonaguni jima**	**3.05**	**214**	P		Pn	18 19 22.4	+0.2
HATJ	**Hateruma jima**	**3.09**	**199**	*e*S		S	18 20 01.1	-1.9
JYRO	**Yoronjima**	**3.17**	**89**	P		Pn	18 19 23.0	-0.5
JYRO				*e*S		S	18 20 01.2	-3.2
JOKE	**Okinoerabujima**	**3.29**	**83**	P		Pn	18 19 24.2	-0.7
JOKE				*e*S		S	18 20 03.5	-3.5
JAMN	**Amaminishikomi**	**3.99**	**71**	P		Pn	18 19 31.8	-1.5
JAM	**Amami Oshima**	**4.40**	**70**	*e*S		S	18 20 27.8	-3.5

MEX 18 18:22:54.3±0.5,15.43N×96.52W,h16km±41km,MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.52**	**49**	*e*P		Pg	18 23 02.8	-1.8
HUIG				*i* S		Sg	18 23 09.3	-2.3
VHO	**Vista Hermosa**	**1.65**	**353**	*e*P		Pn	18 23 19.9	-2.8
VHO				*i* S		Sn	18 23 38.1	-5.6
PNIG	**Pinotepa**	**1.82**	**302**	*i* P		Pn	18 23 21.9	-3.1
PNIG				*i* S		Sn	18 23 42.3	-5.5
CMIG	**Matias Romero**	**2.28**	**43**	*e*P		Pn	18 23 28.7	-2.6
CMIG				*i* S		Sn	18 23 54.5	-4.6
PCIG		**3.19**	**85**	*i* P		Pn	18 23 41.5	-2.4
PCIG				*i* S		Sn	18 24 17.0	-4.5

ISCJB ***18*** *18:31:36.7±0.9,55.8N±0.3×34.6W±0.3,h10km,mb3.4/6, MS3.5/7,Error ellipse: s-maj=42.1km s-min=17.1km az=33.7*

IDC ***18*** *18:31:37.0±1.1,55.82N×34.61W,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.4/47,mbtmp3.4/6,MS3.5/7,Ms1 3.5/7, ms1mx3.0/35,Error ellipse: s-maj=49.6km s-min=20.9km az=32.0*

ISC 18 18:31:38.4±1.1,55.8N±0.3×34.6W±0.2,h10km,n12, σ1§34/7,mb3.5/6,MS3.6/7,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**25.88**	**116**	P		**P**	**18 37 12.1**	**+2.0**
	0.1nm,0.2s,baz=321,slow=10,SNR=4.5							
ESDC				LR		LR	18 46 03.0	
	comp=Z,42nm,19.0s,baz=300,slow=34							
GERES	**GERESS Array B**	**29.81**	**83**	LR		LR	18 47 13.2	
	comp=Z,33nm,21.0s,baz=282,slow=31							
ULM	**Lac du Bonnet**	**36.19**	**288**	LR		LR	18 51 50.2	
	comp=Z,85nm,19.5s,baz=268,slow=34							
YKA	**Yellowknife Ar**	**39.05**	**313**	P		**P**	**18 39 05.7**	**+0.9**
	0.5nm,0.9s,baz=60,slow=9.1,SNR=5.3							
PDAR	**Pinedale Array**	**48.21**	**287**	P		**P**	**18 40 18.5**	**-0.6**
	0.5nm,0.8s,baz=58,slow=8.6,SNR=2.4							
PDAR				LR		LR	18 59 06.1	
	comp=Z,76nm,19.7s,baz=98,slow=34							
ILAR	**Eielson Array**	**49.16**	**328**	P		**P**	**18 40 26.2**	**+0.5**
	0.4nm,0.8s,baz=43,slow=6.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**50.97**	**132**	P		**P**	**18 40 39.2**	**-0.8**
	0.6nm,0.9s,baz=342,slow=9.1,SNR=4.1					

UWA2	Uwa jima 2	3.27	8	S	Sn	19 01 11.2	-4.6	
JNU	Nakatsue	3.30	342	Pn	Pn	19 00 38.1	+0.4	
	6.1nm,0.3s,baz=189,slow=14,SNR=72							
JNU				Sn	Sn	19 01 13.7	-3.0	
	3.8nm,0.3s,baz=267,slow=18,SNR=4.1							
JOW	Kunigami	4.58	228	Pn	Pn	19 00 53.9	-1.3	
	0.5nm,0.3s,baz=327,slow=21,SNR=12							
JOW				Sn	Sn	19 01 43.5	-4.6	
	1.4nm,0.3s,baz=64,slow=29,SNR=9.8							
MAJO	Matsushiro	8.33	37	ePn	Pn	19 01 48.4	+1.6	
MJAR	Matsushiro Arr	8.33	37	Pn	Pn	19 01 48.4	+1.6	
	0.1nm,0.3s,baz=203,slow=13,SNR=8.1							
KLR	Kul'dur	19.23	359	P	P	19 04 10.7	+0.6	
	0.1nm,0.3s,baz=160,slow=11,SNR=3.1							
DAV	Davao City (W)	23.59	196	LR	LR	19 13 02.5		
	comp=Z,21nm,21.3s,baz=184,slow=34							
SONA0	Songino Array	26.59	319	eP	P	19 05 25.1	+0.9	
SONM	Songino Array	26.59	319	P	P	19 05 25.1	+0.9	
	0.3nm,0.6s,baz=125,slow=9.0,SNR=3.0							
SONM				LR	LR	19 16 15.7		
	comp=Z,30nm,19.8s,baz=87,slow=37							
MK32	Makanchi Array	41.74	308	eP	P	19 07 36.5	+1.5	
MKAR	Makanchi Array	41.74	308	P	P	19 07 36.5	+1.5	
	0.9nm,0.9s,baz=96,slow=10,SNR=9.3							
TIXI	Tiksi	41.76	358	P	P	19 07 34.6	-0.2	
	baz=265,slow=16,SNR=4.3							
WR1	Warramunga Arr	49.67	177	eP	P	19 08 38.0	+0.2	
	3.3nm,0.9s							
WR1				ePcP	PcP	19 09 59.5	+0.4	
WRA	Warramunga Arr	49.67	177	P	P	19 08 38.0	+0.2	
	2.1nm,0.9s,baz=354,slow=8.4,SNR=12							
WRA				PcP	PcP	19 09 59.5	+0.4	
	0.5nm,1.0s,baz=2.6,slow=4.8,SNR=3.2							
BVAR	Borovoye Array	49.85	316	P	P	19 08 39.2	+0.3	
	0.7nm,0.6s,baz=73,slow=10,SNR=5.7							
ASAR	Alice Springs	53.36	178	P	P	19 09 05.5	+0.1	
	0.9nm,0.8s,baz=0.0,slow=5.9,SNR=14							
ABKAR	Akbulak array	56.63	312	eP	P	19 09 29.8	+1.0	
	5.7nm,1.5s							
AKTO	Aktyubinsk	57.68	313	P	P	19 09 37.5	+1.2	
	1.4nm,0.8s,baz=98,slow=8.1,SNR=5.2							
GEYT	Alibeck	60.40	299	LR	LR	19 40 43.0		
	comp=Z,33nm,19.1s,baz=40,slow=41							
STKA	Stephens Creek	62.17	171	P	P	19 10 07.6	+0.4	
	2.4nm,0.8s,baz=339,slow=11,SNR=3.7							
INK	Inuvik	64.11	24	P	P	19 10 20.3	+0.7	
	0.7nm,0.5s,baz=313,slow=2.4,SNR=3.0							
FIA0	FINESS Array S	71.27	331	eP	P	19 11 05.2	+0.2	
FINES	FINESS Array B	71.27	331	P	P	19 11 05.2	+0.2	
	0.5nm,0.5s,baz=76,slow=8.0,SNR=3.8							
YKA	Yellowknife Ar	73.70	26	P	P	19 11 19.4	0.0	
	0.5nm,0.9s,baz=306,slow=5.4,SNR=4.3							
AKASG	Malin Array Be	74.87	320	P	P	19 11 26.3	-0.1	
	0.9nm,0.7s,baz=57,slow=5.7,SNR=3.9							
BR101	Keskin Array S	77.39	309	eP	P	19 11 41.6	+0.4	
BRTR	Keskin Array B	77.39	309	P	P	19 11 41.6	+0.4	
	0.9nm,0.7s,baz=77,slow=6.2,SNR=5.6							
BRTR				LR	LR	19 48 48.6		
	comp=Z,20nm,18.1s,baz=284,slow=38							
NB200	NORSAR Array S	77.43	335	eP	P	19 11 40.2	-0.6	
NOA	NORSAR Array B	77.43	335	P	P	19 11 40.2	-0.6	
	1.0nm,0.9s,baz=49,slow=4.9,SNR=2.5							
GERES	GERESS Array B	84.21	324	P	P	19 12 17.6	+0.2	
	0.7nm,0.7s,baz=46,slow=5.8,SNR=4.8							
NV01	Mina Array Sit	85.48	48	eP	P	19 12 24.0	-0.2	
NVAR	Mina Array Bea	85.48	48	P	P	19 12 23.4	-0.8	
	0.7nm,0.5s,baz=297,slow=5.1,SNR=7.7							

*IDC **18** 18:59:45.3±0.8,35°.27N×21°.39E, h0^{km}, mb4.0/19, mb1 4.0/30,mb1mx3.9/77,mbtmp4.0/30,ML3.8/8,MS3.1/3, Ms1 3.1/3,ms1mx2.5/44,Error ellipse: s-maj=16.8km s-min=13.1km az=163.0*

*MOS **18** 18:59:49.1±1.0,35°.41N×21°.39E,h33^{km},mb4.5/13,Error ellipse: s-maj=14.9km s-min=6.2km az=60.4*

*ATH **18** 18:59:50.7,35°.34N×21°.57E,h92^{km}±7^{km},ML3.5/38,Error ellipse: s-maj=8.4km s-min=1.4km az=46.0*

*THE **18** 18:59:52.1,35°.32N×21°.45E,h41^{km}±36^{km},ML3.5/13, Error ellipse: s-maj=36.2km s-min=1.0km az=60.0*

*HLW **18** 18:59:52.1,34°.91N×21°.22E,h10^{km}±31^{km},Md4.1,Ml4.1*

ISC 18 18:59:48.5±2.2,35°26N±0°.04×21°36E±0°.04,h25^{km}±16^{km}, n157,σ1^{s}87/181,mb4.2/27,2C-6D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MES2	Methoni	1.59	10	P		Pn	19 00 16.3	+1.3
MES2				S		Sn	19 00 35.8	+1.1
MES2				AML		AML	19 00 56.7	
	comp=E,2063μm,1.1s							
MES2				AML		AML	19 00 57.1	
	comp=N,1738μm,1.1s							
PYL	PYLOS	1.66	11	P		Pn	19 00 17.1	+1.0
PYL	PYLOS	1.66	11	P		Pn	19 00 17.5	+1.5
PYL				S		Sb	19 00 39.1	+0.2
PYL				AML		AML	19 00 57.4	
	comp=N,732μm,1.0s							
PYL				AML		AML	19 01 02.7	
	comp=E,851μm,1.1s							
KTHR	Kythira	1.67	53	P		Pn	19 00 17.7	+1.5
ANKY	Antikythira Is	1.70	69	P		Pn	19 00 18.2	+1.7
ANKY	Antikythira Is	1.70	69	P		Pn	19 00 18.2	+1.7
ANKY				AML		AML	19 00 51.3	
	comp=E,2203μm,0.6s							
ANKY				AML		AML	19 01 01.9	
	comp=N,1613μm,0.7s							
KYTH	Kithira	1.70	53	P		Pn	19 00 18.3	+1.7
KYTH	Kithira	1.70	53	P		Pn	19 00 18.3	+1.7
KYTH				S		Sn	19 00 36.4	-1.2
KYTH				AML		AML	19 00 41.6	
	comp=E,1648μm,0.4s							
KYTH				AML		AML	19 00 51.5	
	comp=N,1266μm,0.5s							
KERA	Keramoti	1.80	86	P		Pn	19 00 19.2	+1.2
KERA				AML		AML	19 00 47.0	
	comp=E,1185μm,0.6s							
KERA				AML		AML	19 00 56.1	
	comp=N,1152μm,0.6s							
VLI	Veliai	1.94	41	P		Pn	19 00 22.0	+2.1
VLI	Veliai	1.94	41	P		Pn	19 00 21.9	+2.0
VLI				AML		AML	19 00 54.6	
	comp=N,1187μm,0.5s							
VLI				AML		AML	19 01 19.6	
	comp=E,1340μm,0.8s							
ITM	Ithomi	1.97	13	P		Pn	19 00 21.7	+1.4
ITM				S		Sn	19 00 44.3	+0.1
ITM	Ithomi	1.97	13	P		Pn	19 00 22.0	+1.7
ITM				S		Sn	19 00 44.6	+0.4
ITM				AML		AML	19 00 46.5	
	comp=N,829μm,0.4s							
ITM				AML		AML	19 01 16.5	
	comp=E,570μm,0.9s							
MNVA	Monemvasia	1.97	43	P		Pn	19 00 21.7	+1.4
MES3	Kyparissia	2.00	7	P		Pn	19 00 22.3	+1.6
MES3				S		Sn	19 00 46.1	+1.2
IMMV	Iera Moni Meta	2.15	84	P		Pn	19 00 23.9	+1.1
IMMV				S		Sn	19 00 49.7	+0.9
IMMV	Iera Moni Meta	2.15	84	P		Pn	19 00 24.0	+1.1
IMMV				AML		AML	19 00 52.8	
	comp=N,1104μm,0.5s							
IMMV				AML		AML	19 00 57.5	
	comp=E,1537μm,0.4s							
CHAN	Chania	2.21	83	P		Pn	19 00 24.9	+1.3
CHAN				S		Sn	19 00 50.7	+0.6
VLX	Vlachokerasia	2.26	21	P		Pn	19 00 26.9	+2.5
VLX	Vlachokerasia	2.26	21	P		Pn	19 00 25.9	+1.5
VLX				S		Sn	19 00 51.2	-0.3
VLX				AML		AML	19 01 09.8	
	comp=N,921μm,0.9s							
VLX				AML		AML	19 01 19.0	
	comp=E,910μm,1.0s							
GVD	Gavdhos	2.28	100	P		Pn	19 00 25.2	+0.6
GVD				S		Sn	19 00 53.6	+1.7
GVD	Gavdhos	2.28	100	P		Pn	19 00 25.2	+0.6
GVD				AML		AML	19 00 54.3	
	comp=E,2690μm,0.5s							
GVD				AML		AML	19 00 54.3	
	comp=N,2549μm,0.5s							
AMT	Artemida-Makis	2.29	7	P		Pn	19 00 26.8	+2.1
AMT	Artemida-Makis	2.29	7	P		Pn	19 00 26.3	+1.6
AMT				AML		AML	19 00 59.5	
	comp=N,853μm,0.7s							
AMT				AML		AML	19 01 03.7	
	comp=E,891μm,0.8s							
VAM	Vamos	2.33	86	P		Pn	19 00 26.2	+1.0
VAM				S		Sn	19 00 55.2	+2.1
VAM	Vamos	2.33	86	P		Pn	19 00 26.3	+1.0
VAM				AML		AML	19 00 56.6	
	comp=N,1039μm,0.6s							
VAM				AML		AML	19 01 01.9	
	comp=E,1064μm,0.5s							
KRND	KRANIDI	2.57	34	P		Pn	19 00 29.3	+0.8
KRND	KRANIDI	2.57	34	P		Pn	19 00 29.7	+1.3
KRND				AML		AML	19 01 06.6	
	comp=E,562μm,0.4s							
KRND				AML		AML	19 01 07.5	
	comp=N,642μm,0.4s							
DRO	Drossia	2.70	6	P		Pn	19 00 32.8	+2.4
DRO				S		Sn	19 01 02.9	+0.6
DRO	Drossia	2.70	6	P		Pn	19 00 33.2	+2.8
DRO				AML		AML	19 01 13.5	
	comp=N,570μm,0.5s							
DRO				AML		AML	19 01 18.7	
	comp=E,898μm,0.4s							
DID	Didima	2.71	34	P		Pn	19 00 31.3	+0.9
DID				S		Sn	19 01 02.8	+0.4
DID	Didima	2.71	34	P		Pn	19 00 31.3	+0.9
DID				AML		AML	19 01 09.3	
	comp=E,842μm,0.4s							
DID				AML		AML	19 01 12.5	
	comp=N,488μm,0.6s							
GUR	Goura	2.79	16	P		Pn	19 00 33.8	+2.2
GUR	Goura	2.79	16	P		Pn	19 00 34.0	+2.4
GUR				AML		AML	19 01 12.9	
	comp=E,819μm,0.6s							
GUR				AML		AML	19 01 14.1	
	comp=N,1061μm,0.5s							
RLS	Riolos of Patr	2.79	2	P		Pn	19 00 33.8	+2.2
RLS	Riolos of Patr	2.79	2	P		Pn	19 00 33.9	+2.2
RLS				AML		AML	19 01 08.7	
	comp=N,379μm,0.5s							
RLS				AML		AML	19 01 08.9	
	comp=E,337μm,0.5s							
SIVA	Sivas	2.84	94	P		Pn	19 00 33.7	+1.4
SIVA				AML		AML	19 01 14.3	
	comp=E,1308μm,0.8s							
SIVA				AML		AML	19 01 14.7	
	comp=N,912μm,0.6s							
KLV	Kalavryta, Ach	2.85	13	P		Pn	19 00 35.0	+2.5
KLV				S		Sn	19 01 07.1	+1.1
KLV	Kalavryta, Ach	2.85	13	P		Pn	19 00 35.0	+2.5
KLV				AML		AML	19 01 13.8	
	comp=E,323μm,0.5s							
KLV				AML		AML	19 01 21.5	
	comp=N,222μm,1.1s							
MHLO	Agia Marina, M	2.85	59	P		Pn	19 00 32.8	+0.3
MHLO				AML		AML	19 01 16.9	
	comp=N,2108μm,0.6s							
MHLO				AML		AML	19 01 18.4	
	comp=E,2033μm,0.5s							
IDI	Anoyia	2.89	88	Pn		Pn	19 00 33.6	+0.6
	comp=E,16nm,0.3s,baz=285,slow=14,SNR=126							
IDI				Sn		Sn	19 01 07.4	+0.3
	comp=E,24nm,0.3s,baz=343,slow=21,SNR=10.0							
MHLA	Plaka, Milos I	2.89	58	P		Pn	19 00 33.5	+0.5
MHLA				AML		AML	19 01 38.7	
	comp=E,818μm,1.2s							
MHLA				AML		AML	19 01 39.2	
	comp=N,1096μm,1.0s							
LAKA	Lakka	3.02	9	P		Pn	19 00 37.6	+2.9
KALE	Kalithea	3.19	11	P		Pn	19 00 40.0	+2.9
EFP	Efpalio	3.19	8	P		Pn	19 00 39.9	+2.8
EFP				S		Sn	19 01 16.2	+1.9
EFP	Efpalio	3.19	8	P		Pn	19 00 39.9	+2.8
EFP				AML		AML	19 01 21.7	
	comp=N,363μm,0.4s							
EFP				AML		AML	19 01 23.7	
	comp=E,339μm,0.4s							
SERG	Sergoula	3.20	10	P		Pn	19 00 40.4	+3.2
VLY	Voula,Athens	3.25	36	P		Pn	19 00 39.6	+1.7
VLY				AML		AML	19 01 32.4	
	comp=E,326μm,0.6s							
VLY				AML		AML	19 01 52.3	
	comp=N,298μm,1.1s							
DSF	Desfina	3.28	16	P		Pn	19 00 39.8	+1.4
DSF	Desfina	3.28	16	P		Pn	19 00 39.2	+0.8
DSF				AML		AML	19 01 28.9	
	comp=N,298μm,0.5s							
DSF				AML		AML	19 01 34.3	
	comp=E,298μm,0.4s							
VILL	Villia	3.30	28	P		Pn	19 00 39.9	+1.3
PVO	Paravola	3.35	2	P		Pn	19 00 42.2	+2.9
PVO				S		Sn	19 01 19.2	+0.9
PVO	Paravola	3.35	2	P		Pn	19 00 42.4	+3.1
LAST	Lasithi	3.38	91	P		Pn	19 00 41.0	+1.3
LAST				S		Sn	19 01 21.1	+2.1
LAST	Lasithi	3.38	91	P		Pn	19 00 40.8	+1.1
LAST				AML		AML	19 01 24.4	
	comp=E,368μm,0.6s							
LAST				AML		AML	19 01 32.5	
	comp=N,384μm,0.5s							
EVGI	Lefkada island	3.40	351	P		Pn	19 00 41.4	+1.4
EVGI	Lefkada island	3.40	351	P		Pn	19 00 41.8	+1.8
PTL	Penteli	3.44	35	P		Pn	19 00 41.5	+1.0
PTL	Penteli	3.44	35	P		Pn	19 00 41.0	+0.5
PTL				AML		AML	19 01 20.4	
	comp=E,311μm,0.8s							
PTL				AML		AML	19 01 21.5	
	comp=N,263μm,0.5s							
SAP3	Santorini-Thir	3.45	69	P		Pn	19 00 40.9	+0.3
NPS	Neapolis	3.48	89	P		Pn	19 00 42.3	+1.2
NPS				AML		AML	19 01 27.0	
	comp=E,389μm,0.5s							
NPS				AML		AML	19 01 28.7	
	comp=N,295μm,0.7s							
CMBO	Columbo, Santo	3.50	69	P		Pn	19 00 41.7	+0.3
CMBO				AML		AML	19 01 24.2	
	comp=E,600μm,0.4s							
CMBO				AML		AML	19 01 28.8	
	comp=N,764μm,0.5s							
SANT	Santorini	3.51	70	P		Pn	19 00 41.7	+0.1
SANT				AML		AML	19 01 25.8	
	comp=E,449μm,0.3s							
SANT				AML		AML	19 01 26.0	
	comp=N,168μm,0.5s							
LKD2	Lefkada island	3.56	351	P		Pn	19 00 44.0	+1.7
LKD2				S		Sn	19 01 25.9	+2.3
LKD2	Lefkada island	3.56	351	P		Pn	19 00 44.1	+1.9
TSLK	Tsoukalades, L	3.60	351	P		Pn	19 00 44.6	+1.8
EVR	Evrytania	3.67	6	P		Pn	19 00 45.9	+2.2
EVR				AML		AML	19 01 32.6	
	comp=E,586μm,0.6s							
EVR				AML		AML	19 01 32.8	
	comp=N,429μm,0.8s							
ANAF	Anafi Island	3.75	72	P		Pn	19 00 44.8	0.0
ANAF				AML		AML	19 01 35.1	
	comp=E,727μm,0.4s							
ANAF				AML		AML	19 01 38.4	
	comp=N,922μm,0.4s							
APE	Apeiranthos	3.83	61	eP		Pn	19 00 45.8	-0.1
APE	Apeiranthos	3.83	61	P		Pn	19 00 46.0	+0.1
APE				AML		AML	19 01 30.9	
	comp=N,256μm,0.5s							
APE				AML		AML	19 01 31.2	
	comp=E,270μm,0.5s							
AGG	Agios Georgios	3.83	11	P		Pn	19 00 47.7	+1.7
AGG				S		Sn	19 01 32.2	+2.0
AGG	Agios Georgios	3.83	11	P		Pn	19 00 48.0	+2.1
AGG				AML		AML	19 01 33.6	
	comp=N,481μm,0.4s							
AGG				AML		AML	19 01 34.9	
	comp=E,353μm,0.4s							
ZKR	Zakros	3.98	91	P		Pn	19 00 49.7	+1.7
ZKR				AML		AML	19 01 38.5	
	comp=E,284μm,0.4s							
ZKR				AML		AML	19 02 02.1	
	comp=N,114μm,0.8s							
AMGA	Amorgos Island	4.00	66	P		Pn	19 00 48.2	0.0
THL	Klokotos Trika	4.33	7	P		Pn	19 00 54.3	+1.6
THL				AML		AML	19 01 44.8	
	comp=E,361μm,0.4s							
THL				AML		AML	19 01 45.5	
	comp=N,302μm,0.4s							
XOR	Xorichti	4.35	19	P		Pn	19 00 53.7	+0.6
XOR	Xorichti	4.35	19	P		Pn	19 00 54.3	+1.2
MEV	Metsovon	4.52	359	P		Pn	19 00 57.7	+2.2
KPRO	Kipourio	4.69	0	P		Pn	19 01 00.0	+2.3
KPRO				S		Sn	19 01 52.5	+1.2
KPRO	Kipourio	4.69	0	P		Pn	19 01 00.2	+2.5
KPRO				AML		AML	19 01 53.8	
	comp=E,611μm,0.6s							
KPRO				AML		AML	19 01 54.5	
	comp=N,465μm,0.4s							
LIT	Litokhoron	4.92	10	P		Pn	19 01 02.2	+1.4
LIT				AML		AML	19 01 57.7	
	comp=N,328μm,0.4s							
LIT				AML		AML	19 01 59.3	
	comp=E,367μm,0.4s							
SLUM	Salum	4.95	138	P		Pn	19 01 02.6	+1.3
	baz=134							
SLUM				AMP			19 01 00.0	
	baz=134							
KZN	Kozani	5.05	4	P		Pn	19 01 04.3	+1.6
KZN				AML		AML	19 02 02.3	
	comp=N,557μm,0.5s							
KZN				AML		AML	19 02 02.6	
	comp=E,1103μm,0.5s							
NEST	Nestorio	5.15	357	P		Pn	19 01 06.5	+2.4
VAE	Valguarnera	6.02	294	Pn		Pn	19 01 19.8	+3.7
	comp=E,1.2nm,0.3s,baz=76,slow=4.2,SNR=3.5							
VAE				Sn		Sn	19 02 21.6	-2.6
	comp=E,3.2nm,0.3s,baz=100,slow=18,SNR=3.9							
KRUS	Krusevo	6.10	359	i Pn		Pn	19 01 17.4	+0.3
VAY	Valandovo	6.12	9	i Pn		Pn	19 01 17.9	+0.5
FASA	Fasano	6.38	332	ePn		Pn	19 01 24.4	+3.5
STIP	Stip	6.46	6	i Pn		Pn	19 01 24.0	+2.0
SG1	Sgolgore (BA)	6.68	328	ePn		Pn	19 01 25.2	+0.2
SG1				Sn		Sn	19 02 30.7	-10
BAI	Bari	6.82	330	ePn		Pn	19 01 27.2	+0.3
BAI				Sn		Sn	19 02 37.6	-6.1
SWA2		6.93	149	P		Pn	19 01 28.9	+0.4
	baz=146							
SWA2				S		Sn	19 02 38.9	-7.6
	baz=146							
STON	Ston	8.11	341	i Pn		Pn	19 01 43.4	-1.2
STON				Sn		Sn	19 03 07.3	-8.2
KEST	Kesra	9.80	276	Pn		Pn	19 02 07.7	-0.3
	comp=E,0.1nm,0.3s,baz=86,slow=18,SNR=4.7							
KEST				Sn		Sn	19 03 54.5	-2.8
	comp=E,0.1nm,0.3s,baz=36,slow=19,SNR=3.8							
HFRF	Wahat Farafira	10.04	142	P		Pn	19 02 11.0	-0.1
	baz=140							
BRTR	Keskin Array B	10.73	62	Pn		Pn	19 02 22.1	+1.5
	comp=E,0.5nm,0.3s,baz=261,slow=13,SNR=17							
MLR	Muntele Rosu	10.80	17	Pn		Pn	19 02 23.2	+1.6
	comp=E,0.2nm,0.3s,baz=236,slow=15,SNR=2.0							
MMAI	Mount Meron Ar	11.85	97	Pn		Pn	19 02 33.5	-2.5
	comp=E,1.0nm,0.3s,baz=304,slow=11,SNR=6.5							
MMAI				Sn		Sn	19 04 35.6	-12
	comp=E,1.6nm,0.3s,baz=281,slow=26,SNR=4.0							
HDK1	Dakhla	11.91	142	P		Pn	19 02 37.8	+0.9
	baz=140							
EIL	Elat	12.76	112	Pn		Pn	19 02 47.5	-0.8
	comp=E,0.7nm,0.3s,baz=350,slow=2.0,SNR=9.8							
EIL				Sn		Sn	19 04 57.6	-12
	comp=E,1.1nm,0.3s,baz=18,slow=20,SNR=7.4							
ASF	Jabal al Asfar	13.30	99	Sn		Sn	19 05 12.5	-10
	comp=E,0.1nm,0.3s,baz=342,slow=20,SNR=3.2							
VRAC	Vranov	14.47	347	LR		LR	19 10 34.4	
	comp=E,75nm,18.7s,baz=168,slow=45							
GERES	GERESS Array B	14.70	340	Pn		Pn	19 03 15.5	+0.6
	comp=E,0.1nm,0.3s,baz=163,slow=14,SNR=3.4							
GERES				Sn		Sn	19 05 45.5	-11
	comp=E,0.2nm,0.3s,baz=150,slow=22,SNR=5.1							
ANN	Anapa	15.54	47	eP		Pn	19 03 22.2	-3.7
ANN				eS		Sn	19 06 11.1	-6.2
ANN				pmax		pmax		
	comp=Z,24nm,1.0s							
KIEV	Kiev	16.44	18	eP		Pn	19 03 35.7	-1.7
KIEV				pmax		pmax		
	comp=Z,4.0nm,1.1s							
AKASG	Malin Array Be	16.45	18	eP		Pn	19 03 35.7	-1.8
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
AKASG	Malin Array Be	16.45	18	Pn		Pn	19 03 34.4	-3.2
	comp=Z,3.0nm,0.3s,baz=204,slow=9.5,SNR=15							
NEY	Neytrino	18.34	58	eP		P	19 04 02.0	+0.8
NEY				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KIV	Kislovodsk	18.55	56	eP		P	19 04 03.5	+0.1
KIV				pmax		pmax		
	comp=Z,27nm,1.1s							
KIV				MLR		MLR		
	comp=Z,64nm,14.0s							
KVAR	Kislovodsk Arr	18.55	56	P		P	19 04 02.6	-0.9
	baz=211,slow=12,SNR=2.8							
KBZ	Khabaz	18.61	57	P		P	19 04 04.9	+1.0
	comp=Z,0.2nm,0.3s,baz=234,slow=6.3,SNR=7.7							
GNI	Garni	19.12	68	eP		P	19 04 10.7	+1.0
GNI				pmax		pmax		
	comp=Z,11nm,0.7s							
GNI	Garni	19.12	68	P		P	19 04 10.5	+0.7
	comp=Z,0.8nm,0.3s,baz=320,slow=5.1,SNR=5.2							
GNI				LR		LR	19 12 52.2	
	comp=Z,26nm,19.4s,baz=238,slow=41							
VSR	Storozhevoye	20.47	33	eP		P	19 04 23.5	-0.7
VSR				pmax		pmax		
	comp=Z,9.0nm,0.4s							
ESDC	Sonseca Array	20.55	290	P		Pn	19 04 27.0	-0.6
	comp=Z,1.2nm,0.7s,baz=88,slow=9.8,SNR=4.1							
LPSR	Galich'ya Gora	21.36	30	eP		P	19 04 32.0	-1.8
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
VRH	Novokhopyorsk	21.66	36	eP		P	19 04 36.1	-0.9
VRH				pmax		pmax		
	comp=Z,20nm,0.6s							
OBN	Obninsk	22.47	23	eP		P	19 04 44.3	-1.3
OBN				e			19 08 44.5	
OBN				pmax		pmax		
	comp=Z,15nm,0.8s							
OBN				MLR		MLR		
	comp=Z,63nm,18.0s							
OBN	Obninsk	22.47	23	P		P	19 04 44.6	-1.0
	comp=Z,2.0nm,0.4s,baz=235,slow=9.6,SNR=5.3							
VSU	Vasula	23.48	7	eP		P	19 04 56.6	+0.6
VSU				pmax		pmax		
	comp=Z,25nm,0.9s							
HFS	Hagfors	25.38	351	P		P	19 05 13.0	-0.5
	comp=Z,1.4nm,0.6s,baz=158,slow=12,SNR=6.2							
FINES	FINESS Array B	26.38	5	eP		P	19 05 22.7	+0.2
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
FINES	FINESS Array B	26.38	5	P		P	19 05 22.6	+0.1
	comp=Z,2.2nm,0.8

GKN	**Gorkha**	**53.58**	**79**	*e*P		**P**	**19 09 08.3**	**+0.5**
	comp=Z,26nm,0.6s							
DMN	**Daman**	**54.12**	**79**	*e*P		**P**	**19 09 12.7**	**+0.9**
	comp=Z,29nm,0.7s							
KKN	**Kakani**	**54.18**	**79**	*e*P		**P**	**19 09 12.8**	**+0.5**
	comp=Z,14nm,0.6s							
PKIN	**Phulchoki**	**54.36**	**79**	*e*P		**P**	**19 09 14.1**	**+0.4**
	comp=Z,12nm,0.6s							
PKI	**Pulchoki**	**54.38**	**79**	*e*P		**P**	**19 09 14.2**	**+0.4**
	comp=Z,16nm,0.6s							
GUN	**Gumba**	**54.61**	**79**	*e*P		**P**	**19 09 16.1**	**+0.6**
	comp=Z,13nm,0.5s							
JIRN	**Jiri**	**54.97**	**79**	*e*P		**P**	**19 09 18.7**	**+0.6**
	comp=Z,19nm,0.7s							
SONM	**Songino Array**	**61.81**	**50**	P		**P**	**19 10 06.0**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=281,slow=8.0,SNR=9.8							
TIXI	**Tiksi**	**62.15**	**20**	P		**P**	**19 10 07.1**	**0.0**
	comp=Z,0.7nm,0.2s,baz=304,slow=4.6,SNR=3.8							
ULN	**Ulaanbaatar**	**62.21**	**49**	*d* P		**P**	**19 10 08.8**	**+0.7**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BOD	**Bodaibo**	**62.27**	**37**	*e*P		**P**	**19 10 07.7**	**-0.4**
BOD				pmax		pmax		
	comp=Z,5.0nm,2.4s							
CMAR	**Chiang Mai Arr**	**69.64**	**81**	P		**P**	**19 10 57.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=306,slow=7.7,SNR=3.5							
BILL	**Bilibino**	**73.70**	**13**	*e*P		**P**	**19 11 19.6**	**-0.1**
BILL				*e*			19 11 35.2	
BILL				*e*			19 14 01.8	
BILL				*e*PPP		PPP	19 15 46.7	
BILL				pmax		pmax		
	comp=Z,1.0nm,1.0s							
KLR	**Kul'dur**	**75.70**	**39**	P		**P**	**19 11 33.1**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=259,slow=5.2,SNR=3.3							
ILAR	**Eielson Array**	**79.87**	**355**	P		**P**	**19 11 56.3**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=341,slow=3.0,SNR=3.5							

NIED ***18*** *19:04:00,29˚.90N×142˚.30E,h44km,Mw4.3 Best double couple: M₀2.98000×10¹⁵ NP1:φs125.00000°,δ8.00000°, λ-148.00000°. NP2:φs3.00000°,δ86.00000°,λ-83.00000°.*
IDC ***18*** *19:04:32.3±0.7,29˚.98N×143˚.05E,h0km,mb3.9/22, mb1 4.1/27,mb1mx4.0/62,mbtmp4.0/27,ML3.5/5,MS2.6/3, Ms1 2.7/3,ms1mx2.4/36,Error ellipse: s-maj=19.5km s-min=14.6km az=88.0*
NEIC ***18*** *19:04:33.9±0.2,29˚.99N×143˚.06E,h10km,mb4.6/12,Error ellipse: s-maj=6.0km s-min=4.7km az=66.0*
ISCJB ***18*** *19:04:35.4±0.4,30˚.07N±0˚.05×143˚.00E±0˚.07,h30km, mb4.1/31,MS2.7/1,Error ellipse: s-maj=9.0km s-min=6.6km az=165.7*
JMA ***18*** *19:04:36.5±0.2,29˚.94N×142˚.34E,h47km,M4.0*

ISC 18 19:04:36.9±0.5,29˚.99N±0˚.05×142˚.93E±0˚.09,h30km,n67, σt1̂39/73,mb4.1/32,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.95**	**193**	*e*Pn	Op	**Pn**	**19 05 20.9**	**-0.8**
CBIJ				*e*Sn		**Sn**	**19 05 53.4**	**-2.7**
CBIJ	**Chichi jima**	**2.95**	**193**	P		**Pn**	**19 05 20.5**	**-1.2**
CBIJ				*e*S		**Sn**	**19 05 53.1**	**-3.1**
JCJ	**Chichijima**	**2.95**	**193**	Pn		**Pn**	**19 05 20.9**	**-0.8**
	15nm,0.3s,baz=7.3,slow=20,SNR=25							
JCJ				Sn		**Sn**	**19 05 53.4**	**-2.8**
	40nm,0.3s,baz=102,slow=24,SNR=9.0							
JHJ	**Hachijo jima 2**	**4.12**	**320**	Pn		**Pn**	**19 05 35.9**	**-1.9**
	15nm,0.3s,baz=72,slow=20,SNR=2.3							
JHJ				Sn		**Sn**	**19 06 19.7**	**-5.3**
	21nm,0.3s,baz=114,slow=20,SNR=2.9							
JOD2	**Odawara 2**	**6.18**	**329**	P		**Pn**	**19 06 05.4**	**-0.7**
JHU	**Hanno**	**6.61**	**333**	P		**Pn**	**19 06 10.6**	**-1.3**
JRY	**Ryogami san**	**6.90**	**332**	P		**Pn**	**19 06 15.0**	**-1.0**
JAG	**Ashikaga**	**7.05**	**336**	P		**Pn**	**19 06 17.9**	**-0.1**
MJAR	**Matsushiro Arr**	**7.64**	**330**	Pn		**Pn**	**19 06 24.9**	**-1.3**
	0.2nm,0.3s,baz=158,slow=11,SNR=11							
MJAR				Sn		**Sn**	**19 07 48.3**	**-3.4**
	0.1nm,0.3s,baz=157,slow=19,SNR=4.7							
MAJO	**Matsushiro**	**7.64**	**330**	*e*Pn		**Pn**	**19 06 25.1**	**-1.0**
MAJO				*e*Sn		**Sn**	**19 07 48.3**	**-3.5**
MJB9	**Matsu-Tunnel**	**7.65**	**330**	*e*Pn		**Pn**	**19 06 25.4**	**-0.8**
JNU	**Nakatsue**	**10.75**	**290**	LR		LR	19 10 04.7	
	comp=Z,23nm,21.7s,baz=152,slow=31							
ASAJ	**Asahikawa**	**14.11**	**359**	Pn		**Pn**	**19 07 51.9**	**-2.6**
	0.4nm,0.3s,baz=238,slow=10,SNR=5.1							
ASAJ				Sn		Sn	19 10 16.9	-13
	0.1nm,0.3s,baz=252,slow=20,SNR=3.8							
KSRS	**Korea Array**	**14.53**	**305**	Pn		**Pn**	**19 08 01.8**	**+1.4**
	0.1nm,0.3s,baz=105,slow=13,SNR=4.6							
KSRS				LR		LR	19 13 22.6	
	comp=Z,26nm,18.2s,baz=116,slow=36							
KSAR	**Wonju Array Be**	**14.56**	**305**	Pn		**Pn**	**19 08 01.8**	**+1.1**
KLR	**Kul'dur**	**21.02**	**339**	P		**P**	**19 09 18.9**	**+1.0**
	2.3nm,0.6s,baz=152,slow=7.9,SNR=15							
SONA0	**Songino Array**	**33.16**	**313**	*e*P		**P**	**19 11 11.9**	**+1.2**
SONM	**Songino Array**	**33.16**	**313**	P		**P**	**19 11 11.9**	**+1.2**
	0.6nm,0.6s,baz=98,slow=8.1,SNR=2.8							
SEY	**Seymchan**	**33.52**	**8**	P		**P**	**19 11 13.7**	**+0.3**
	0.9nm,0.6s,baz=174,slow=9.2,SNR=12							
CMAR	**Chiang Mai Arr**	**41.50**	**264**	LR		LR	19 32 38.1	
	comp=Z,9.2nm,18.4s,baz=90,slow=40							
TIXI	**Tiksi**	**42.42**	**353**	P		**P**	**19 12 28.0**	**-0.4**
	0.9nm,0.4s,baz=86,slow=21,SNR=8.6							
ZALV	**Zalesovo Beam**	**47.78**	**317**	P		**P**	**19 13 10.9**	**-0.2**
	0.7nm,0.7s,baz=83,slow=4.8,SNR=3.5							
ZALV				PcP		**PcP**	**19 14 40.1**	**+0.4**
	1.0nm,0.5s,baz=88,slow=4.6,SNR=6.1							
ZAA1	**Zalesovo Array**	**47.78**	**317**	*e*P		**P**	**19 13 10.9**	**-0.2**
ZAA1				*e*PcP		**PcP**	**19 14 40.1**	**+0.4**
MK01	**Makanchi Array**	**49.19**	**308**	*e*P		**P**	**19 13 23.1**	**+1.0**
MK31	**Makanchi Array**	**49.19**	**308**	*e*P		**P**	**19 13 22.9**	**+0.7**
	1.9nm,1.1s							
MK32	**Makanchi Array**	**49.19**	**308**	*e*P		**P**	**19 13 22.9**	**+0.7**
MKAR	**Makanchi Array**	**49.19**	**308**	P		**P**	**19 13 22.9**	**+0.7**
	1.2nm,0.8s,baz=90,slow=9.7,SNR=9.8							
JIRN	**Jiri**	**49.33**	**282**	*e*P		**P**	**19 13 25.4**	**+1.4**
	7.5nm,0.4s							
MAKZ	**Makanchi**	**49.41**	**308**	*e*P		**P**	**19 13 24.9**	**+1.1**
	7.0nm,1.6s							
GUN	**Gumba**	**49.52**	**283**	*e*P		**P**	**19 13 27.1**	**+1.7**
	8.0nm,0.7s							
PKI	**Pulchoki**	**50.02**	**282**	*e*P		**P**	**19 13 30.3**	**+1.1**
	2.1nm,0.5s							
DMN	**Daman**	**50.27**	**282**	*e*P		**P**	**19 13 32.0**	**+1.1**
	3.5nm,0.6s							
WR1	**Warramunga Arr**	**50.33**	**191**	*e*P		**P**	**19 13 30.8**	**-0.2**
	14nm,0.9s							
WRA	**Warramunga Arr**	**50.33**	**191**	P		**P**	**19 13 30.8**	**-0.2**
	0.7nm,0.6s,baz=6.7,slow=7.8,SNR=13							
GKN	**Gorkha**	**50.55**	**283**	*e*P		**P**	**19 13 34.2**	**+1.2**
	8.4nm,1.0s							
DANN	**Dangsing**	**51.19**	**284**	*e*P		**P**	**19 13 39.8**	**+1.9**
	8.7nm,0.9s							
KURK	**Kurchatov**	**51.47**	**313**	*e*P		**P**	**19 13 39.8**	**+0.5**
	2.6nm,0.9s							
KOLN	**Koldanda**	**51.49**	**283**	*e*P		**P**	**19 13 41.2**	**+1.1**
	7.8nm,0.8s							
PYUN	**Piuthan**	**51.91**	**284**	*e*P		**P**	**19 13 44.5**	**+1.3**
	9.5nm,0.4s							
ASAR	**Alice Springs**	**54.05**	**190**	P		**P**	**19 13 58.4**	**-0.2**
	0.2nm,0.7s,baz=11,slow=7.8,SNR=3.8							
ILAR	**Eielson Array**	**54.88**	**30**	P		**P**	**19 14 03.1**	**-1.0**
	0.9nm,0.8s,baz=261,slow=6.3,SNR=8.6							
ILB	**Eielson Array**	**54.88**	**30**	*e*P		**P**	**19 14 03.9**	**-0.3**
	16nm,2.0s							
BVAR	**Borovoye Array**	**56.39**	**316**	P		**P**	**19 14 16.0**	**+0.7**
	0.9nm,0.5s,baz=107,slow=6.8,SNR=9.4							
KK31	**Karatay Array**	**57.96**	**305**	*e*P		**P**	**19 14 27.8**	**+1.2**
	2.8nm,0.9s							
KKAR	**Karatay Array**	**57.96**	**305**	*e*P		**P**	**19 14 27.8**	**+1.2**
	2.8nm,0.9s							
GAR	**Garm**	**59.09**	**300**	*e*P		**P**	**19 14 36.0**	**+1.4**
	7.3nm,1.1s							
INK	**Inuvik**	**60.14**	**25**	*e*P		**P**	**19 14 41.6**	**+0.5**
	14nm,2.0s							
INK	**Inuvik**	**60.14**	**25**	P		**P**	**19 14 41.1**	**0.0**
	1.5nm,0.6s,baz=281,slow=8.0,SNR=4.8							
ABKAR	**Akbulak array**	**63.57**	**313**	*e*P		**P**	**19 15 05.2**	**+0.6**
	6.4nm,1.6s							
AKTO	**Aktyubinsk**	**64.44**	**315**	P		**P**	**19 15 11.1**	**+0.8**
	0.9nm,0.7s,baz=45,slow=13,SNR=3.8							
RES	**Resolute Bay**	**69.11**	**14**	P		**P**	**19 15 39.1**	**-0.4**
	0.7nm,0.8s,baz=319,slow=6.0,SNR=4.7							
YKA	**Yellowknife Ar**	**69.30**	**29**	P		**P**	**19 15 40.8**	**-0.1**
	1.3nm,0.8s,baz=294,slow=6.3,SNR=14							
YKB5	**Yellowknife Ar**	**69.30**	**29**	*e*P		**P**	**19 15 41.0**	**0.0**
FIA0	**FINESS Array S**	**75.65**	**334**	*e*P		**P**	**19 16 19.1**	**+0.3**
FINES	**FINESS Array B**	**75.65**	**334**	P		**P**	**19 16 19.1**	**+0.3**
	1.6nm,0.7s,baz=70,slow=4.8,SNR=9.6							
WVOR	**Wild Horse Val**	**76.11**	**49**	*e*P		**P**	**19 16 21.3**	**-0.7**
	7.1nm,0.6s							
KBZ	**Khabaz**	**76.53**	**313**	P		**P**	**19 16 25.5**	**+1.4**
	3.0nm,0.8s,baz=70,slow=3.2,SNR=5.6							
NVAR	**Mina Array Bea**	**78.23**	**52**	P		**P**	**19 16 34.8**	**+0.7**
	1.0nm,0.6s,baz=291,slow=5.3,SNR=6.8							
NV01	**Mina Array Sit**	**78.23**	**52**	*e*P		**P**	**19 16 33.9**	**-0.1**
AKASG	**Malin Array Be**	**80.68**	**324**	P		**P**	**19 16 47.1**	**+0.2**
	1.0nm,0.5s,baz=50,slow=5.7,SNR=5.7							
HFS	**Hagfors**	**81.03**	**337**	P		**P**	**19 16 48.7**	**+0.1**
	3.7nm,0.9s,baz=96,slow=4.5,SNR=4.7							
NB200	**NORSAR Array S**	**81.18**	**338**	*e*P		**P**	**19 16 49.6**	**+0.2**
NOA	**NORSAR Array B**	**81.18**	**338**	P		**P**	**19 16 49.6**	**+0.2**
	1.2nm,0.8s,baz=39,slow=5.3,SNR=4.3							
BR101	**Keskin Array S**	**84.52**	**313**	*e*P		**P**	**19 17 08.2**	**+0.9**
BRTR	**Keskin Array B**	**84.52**	**313**	P		**P**	**19 17 08.2**	**+0.9**
	1.3nm,0.7s,baz=97,slow=3.7,SNR=8.7							
N23A	**Red Feather La**	**84.99**	**45**	*e*P		**P**	**19 17 09.0**	**-0.8**
	17nm,0.8s							
TXAR	**Lajitas Array**	**93.35**	**53**	P		**P**	**19 17 49.8**	**+0.3**
	0.8nm,0.8s,baz=331,slow=4.9,SNR=4.3							

STR ***18*** *19:08:47.9±0.7,43˚.N±3˚×˚±˚,h5km,M3.3/7,MLv3.3/7*
INMG ***18*** *19:08:47.3±1.8,42˚.75N×1˚.78W,h0km,ML3.2, Error ellipse: s-maj=2.8km s-min=1.9km az=145.0*
SFS ***18*** *19:08:47.0,42˚.72N×1˚.73W,h1km,ML2.9,UTERGA (NAVARRA)*
MDD ***18*** *19:08:47.3±0.2,42˚.73N×1˚.75W,h0km,mbLg3.4/45,Error ellipse: s-maj=3.1km s-min=1.9km az=147.0,PRXIMO*
MDD EMS: III INTENSIDADD MAXIMA.
IGIL ***18*** *19:08:48.3,42˚.72N×1˚.74W,h1km,ML3.1*
LDG ***18*** *19:08:48.1±0.1,42˚.75N×1˚.74W,h2km,Md3.1/2,Ml3.5/25, Error ellipse: s-maj=1.6km s-min=1.1km az=146.0*

ISC 18 19:08:46.8±0.9,42.72N±0.02×1.80W±0.02,h12km±7km, n144,σ2̂14/258,4C-1D,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.17**	**71**	⇑Pg	Op	**Pg**	**19 08 49.5**	**-1.3**
	156nm,0.1s,SNR=18							
EARA				Lg		Lg	19 08 51.7	
	4µm,0.1s,SNR=5.0							
EORO	**Oroz-Betelu**	**0.41**	**64**	Pg		**Pg**	**19 08 54.4**	**-0.5**
	14nm,0.2s,SNR=7.9							
EORO				Lg		Lg	19 08 58.9	
	2µm,0.5s,SNR=7.9							
IELO	**Elcoad**	**0.44**	**73**	⇑Pg		**Pg**	**19 08 54.6**	**-0.9**
	130nm,0.2s,SNR=18							
IELO				Lg		Lg	19 09 01.0	
	2µm,0.6s,SNR=7.9							
EALK	**Alkurruntz**	**0.55**	**23**	Pg		**Pg**	**19 08 57.1**	**-0.5**
	35nm,0.1s,SNR=173							
EALK				Lg		Lg	19 09 05.3	
	2µm,0.4s,SNR=27							
EALK	**Alkurruntz**	**0.55**	**23**	Pg		**Pg**	**19 08 58.0**	**+0.4**
EALK				Sg		**Sg**	**19 09 05.6**	**+0.7**
SJPF	**Ste Jean**	**0.58**	**47**	*e*Pg		**Pg**	**19 08 57.2**	**-1.0**
	SNR=1.0							
SJPF				*e*Sg		**Sb**	**19 09 06.5**	**-0.7**
	284nm,0.2s							
OSSF	**Osses**	**0.67**	**36**	Pg		**Pg**	**19 08 58.8**	**-1.1**
OSSF				Sg		**Sg**	**19 09 08.4**	**-0.3**
ATE	**Arette**	**0.89**	**65**	Pg		**Pg**	**19 09 03.4**	**-0.7**
	2.9nm,0.2s,SNR=7.9							
ATE				Lg		Lg	19 09 15.0	
	650nm,0.6s,SNR=7.9							
ATE	**Arette**	**0.89**	**65**	Pg		**Pg**	**19 09 03.9**	**-0.1**
ATE				Sg		**Sb**	**19 09 16.4**	**+0.3**
ETSF	**Etsaut**	**0.93**	**78**	*e*Pg		**Pg**	**19 09 04.4**	**-0.5**
	SNR=1.0							
ETSF				*e*Sg		**Sb**	**19 09 18.6**	**+1.2**
	107nm,0.2s,SNR=1.0							
TERF	**Tercis-les-Bai**	**1.09**	**27**	Pn		**Pb**	**19 09 08.9**	**+1.3**
TERF				Sn		**Sn**	**19 09 25.2**	**+2.3**
ELAN	**Lanestosa**	**1.30**	**294**	Pg		**Pg**	**19 09 12.3**	**+0.4**
	1.1nm,0.3s,SNR=376							
ELAN				Lg		Lg	19 09 30.4	
	563nm,0.3s,SNR=5.0							
PYLO	**Lourdes**	**1.35**	**73**	Pn		**Pn**	**19 09 13.8**	**+2.3**
PYLO				Sg		**Sn**	**19 09 31.4**	**+2.1**
VIEF	**Viey**	**1.35**	**82**	Pg		**Pg**	**19 09 11.9**	**-0.9**
VIEF				Sg		**Sn**	**19 09 32.2**	**+2.5**
ESAC	**San Caprasio**	**1.40**	**135**	⇑Pg		**Pg**	**19 09 13.8**	**0.0**
	158nm,0.2s,SNR=18							
ESAC				Lg		Lg	19 09 32.7	
	3µm,0.4s,SNR=7.9							
LABF	**Labassere**	**1.42**	**76**	Pg		**Pg**	**19 09 13.1**	**-1.0**
LABF				Sg		**Sn**	**19 09 34.0**	**+2.9**
ECHI	**Chisagues Biel**	**1.47**	**91**	Pg		**Pn**	**19 09 14.5**	**+1.1**
	14nm,0.1s,SNR=7.9							
ECHI				Lg		Lg	19 09 34.1	
	39nm,0.1s,SNR=7.9							
ECHI	**Chisagues Biel**	**1.47**	**91**	Pn		**Pn**	**19 09 14.3**	**+1.0**
ECHI				Sg		**Sn**	**19 09 34.5**	**+1.8**
EPF	**Esparros**	**1.61**	**78**	*e*Pg		**Pn**	**19 09 16.7**	**+1.6**
EPF				*e*Sg		**Sg**	**19 09 38.3**	**-0.2**
MELF	**Melles**	**1.89**	**84**	Pg		**Pg**	**19 09 22.5**	**-0.6**
MELF				Sg		**Sg**	**19 09 49.3**	**+1.6**
ETOR	**Torete**	**1.90**	**186**	Pg		**Pn**	**19 09 21.3**	**+2.1**
	9.1nm,0.4s,SNR=72							
ETOR				Sn		**Sn**	**19 09 44.5**	**+1.4**
	8.5nm,0.4s,SNR=5.9							
ETOR				Lg		Lg	19 09 49.2	
	541nm,0.7s,SNR=11							
MLS	**Moulis**	**2.15**	**83**	Pn		**Pn**	**19 09 24.5**	**+2.1**
CSOR	**Sort**	**2.20**	**98**	Pg		**Pb**	**19 09 27.0**	**+0.4**
	275nm,0.2s,SNR=7.9							
CSOR				Lg		Lg	19 09 55.3	
	214nm,0.6s,SNR=7.9							
ERTA	**Horta de San J**	**2.37**	**137**	Pn		**Pn**	**19 09 25.9**	**+0.3**
	1.9nm,0.2s,SNR=12							
ERTA				Pg		**Pg**	**19 09 32.8**	**+0.5**
	6.0nm,0.2s,SNR=7.9							
ERTA				Sn		**Sn**	**19 09 53.8**	**-0.9**
	9.0nm,0.3s,SNR=5.8							
ERTA				Lg		Lg	19 10 00.0	
	176nm,0.5s,SNR=9.8							
EPOB	**Poblet**	**2.54**	**121**	Pn		**Pn**	**19 09 28.1**	**+0.1**
	2.1nm,0.3s,SNR=11							
EPOB				Pg		**Pb**	**19 09 33.7**	**+1.3**
	2.2nm,0.1s,SNR=7.9							
EPOB				Sn		**Sn**	**19 09 57.9**	**-0.9**
	0.2nm,0.3s,SNR=7.9							
EPOB				Lg		Lg	19 10 06.9	
	128nm,0.4s,SNR=9.1							
EMOS	**Mosqueruela**	**2.55**	**157**	Pn		**Pn**	**19 09 29.6**	**+1.4**
	0.8nm,0.5s,SNR=7.9							
EMOS				Pg		**Pb**	**19 09 34.9**	**+2.2**
	3.6nm,0.3s,SNR=7.9							
EMOS				Lg		Lg	19 10 08.0	
	182nm,0.6s,SNR=7.9							
EBR	**Ebro Roquetas**	**2.56**	**137**	Lg		Lg	19 10 08.0	
	1µm,0.6s,SNR=7.9							
EARI	**Arriondas**	**2.57**	**284**	Pn		**Pn**	**19 09 29.8**	**+1.5**
	0.5nm,0.1s,SNR=12							
EARI				Sn		**Sn**	**19 10 01.0**	**+1.5**
	6.0nm,0.3s,SNR=7.4							
EARI				Lg		Lg	19 10 10.6	
	414nm,1.0s,SNR=4.8							
EMIR	**Miracle**	**2.60**	**107**	Pn		**Pn**	**19 09 29.6**	**+0.9**
	2.5nm,0.2s,SNR=8.8							
EMIR				Lg		Lg	19 10 08.9	
	130nm,0.6s,SNR=11							
UCM	**Universidad Co**	**2.64**	**205**	*i* P		**Pn**	**19 09 30.4**	**+1.1**
UCM				*i* S		**Sn**	**19 10 02.9**	**+1.8**
GUD	**Guadarrama**	**2.72**	**221**	Pn		**Pn**	**19 09 32.0**	**+1.6**
	0.7nm,0.3s,SNR=28							
GUD				Sn		**Sn**	**19 10 04.4**	**+1.1**
	1.1nm,0.4s,SNR=8.5							
GUD				Lg		Lg	19 10 12.4	
	86nm,0.5s,SNR=6.1							
MONQ	**Montcuq**	**2.74**	**52**	Pn		**Pn**	**19 09 31.6**	**+1.1**
CLLI	**Llivia**	**2.80**	**94**	Pn		**Pn**	**19 09 30.4**	**-1.2**
	0.5nm,0.3s,SNR=11							
CLLI				Lg		Lg	19 10 15.6	
	123nm,0.4s,SNR=7.9							
VALF	**Valcebollere**	**2.84**	**95**	Pg		**Pg**	**19 09 40.8**	**-0.4**
CARF	**Carcanieres**	**2.88**	**89**	Pg		**Pg**	**19 09 40.4**	**-1.7**
FNEB	**Nbias**	**2.88**	**85**	Pn		**Pn**	**19 09 35.0**	**+2.4**
LFF	**La Frestale**	**2.89**	**39**	*e*Pn		**Pn**	**19 09 33.3**	**+0.7**
	SNR=1.0							
LFF				*e*Sn		**Sn**	**19 10 06.6**	**-0.7**
	189nm,0.6s							
LFF				*e*Sg		**Sg**	**19 10 19.5**	**0.0**
	151nm,0.6s,SNR=1.0							
MTLF	**Montolieu**	**3.01**	**77**	*e*Pn		**Pn**	**19 09 34.8**	**+0.4**
	SNR=1.0							
MTLF				*e*Sn		**Sn**	**19 10 08.8**	**-1.6**
	38nm,0.5s,SNR=1.0							
MTLF	**Montolieu**	**3.01**	**77**	Pn		**Pn**	**19 09 35.7**	**+1.3**
ECHE	**Chera**	**3.18**	**168**	Pn		**Pn**	**19 09 39.7**	**+2.9**
	0.0nm,0.3s,SNR=7.9							
ECHE				Pg		**Pg**	**19 09 47.7**	**-0.1**
	0.6nm,0.3s,SNR=7.9							
ECHE				Lg		Lg	19 10 27.0	
	175nm,0.6s,SNR=7.9							
CFON	**Fontmartina**	**3.29**	**105**	Pn		**Pn**	**19 09 39.0**	**+0.7**
	13nm,0.2s,SNR=27							
CFON				Pg		**Pb**	**19 09 47.7**	**+2.6**
	11nm,0.2s,SNR=7.9							
CFON				Lg		Lg	19 10 30.0	
	55nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**3.45**	**209**	Pn		**Pn**	**19 09 41.7**	**+1.3**
	0.2nm,0.2s,baz=33,slow=13,SNR=51							
ESDC				Sn		**Sn**	**19 10 21.4**	**+0.2**
	baz=34,slow=24,SNR=7.9							
ESDC				Lg		Lg	19 10 36.5	
	30nm,0.5s,baz=25,slow=28,SNR=7.9							
SJAF	**Saint Jean de**	**3.47**	**92**	Pn		**Pn**	**19 09 41.5**	**+0.9**
	0.4nm,0.3s,SNR=7.9							
SJAF				Pg		**Pb**	**19 09 50.2**	**+2.0**
	1.2nm,0.4s,SNR=7.9							
SJAF				Lg		Lg	19 10 36.6	
	95nm,0.8s,SNR=7.9							
EJON	**La Jonquera**	**3.48**	**93**	Pn		**Pn**	**19 09 41.5**	**+0.7**
	1.8nm,0.3s,SNR=7.9							
EJON				Pg		**Pb**	**19 09 50.7**	**+2.4**
	SNR=7.9							
EJON				Lg		Lg	19 10 37.9	
	115nm,0.6s,SNR=7.9							
RJF	**Les Rejaudoux**	**3.53**	**42**	*e*Pn		**Pn**	**19 09 41.7**	**+0.3**
	SNR=1.0							
RJF				*e*Sn		**Sn**	**19 10 21.5**	**-1.6**
	14nm,0.2s,SNR=1.0							
CAF	**Calviac**	**3.57**	**50**	*e*Pn		**Pn**	**19 09 42.0**	**0.0**
CAF				*e*Sn		**Sn**	**19 10 21.9**	**-2.2**
	17nm,0.2s,SNR=1.0							
PAB	**San Pablo**	**3.70**	**212**	Pn		**Pn**	**19 09 44.8**	**+0.9**
	0.5nm,0.4s,SNR=7.9							
PAB				Pg		**Pb**	**19 09 55.9**	**+3.7**
	14nm,0.6s,SNR=7.9							
PAB				Sn		**Sn**	**19 10 27.7**	**+0.2**
	19nm,0.5s,SNR=7.9							
PAB				Lg		Lg	19 10 44.8	
	104nm,0.8s,SNR=7.9							
ECAL	**Calabor**	**3.74**	**260**	Pn		**Pn**	**19 09 45.7**	**+1.3**
	4.2nm,0.4s,SNR=26							
ECAL				Sn		**Sn**	**19 10 29.0**	**+0.6**
	0.2nm,0.4s,SNR=7.9							
ECAL				Lg		Lg	19 10 44.6	
	110nm,0.3s,SNR=5.0							
PBRG	**Braganca**	**3.78**	**258**	*e*Pn		**Pn**	**19 09 46.0**	**+1.1**
PBRG				*e*Sn		**Sn**	**19 10 28.6**	**-0.7**
PBRG				*e*Sg		**Sg**	**19 10 46.4**	**-1.7**
PBRG				A		A	19 10 49.4	
	30nm,0.4s							
EPON	**Pontenova**	**3.97**	**281**	Pn		**Pn**	**19 09 49.2**	**+1.8**
	1.6nm,0.3s,SNR=12							
EPON				Sn		**Sn**	**19 10 34.3**	**+0.3**
	5.4nm,0.2s,SNR=4.9							
EPON				Lg		Lg	19 10 55.6	
	53nm,0.6s,SNR=5.0							
MFF	**Saint Martin d**	**4.06**	**16**	*e*Pn		**Pn**	**19 09 48.7**	**-0.1**
	SNR=1.0							
MFF				*e*Sn		**Sn**	**19 10 34.1**	**-2.2**
	SNR=1.0			

EADA					Lg	Lg	19 11 25.7		
	54nm,0.6s,SNR=7.9								
BGF	**Bois d'Agland**	**5.08**	**39**	*e*Pn	**Pn**		**19 10 02.1**	**-0.6**	
	SNR=1.0								
BGF				*e*Sn	**Sn**		**19 10 57.2**	**-4.1**	
	60nm,0.4s								
PCBR	**Castelo Branco**	**5.15**	**238**	*e*Pn	**Pn**		**19 10 04.1**	**+0.4**	
PCBR				*e*Sn	**Sn**		**19 11 02.1**	**-1.0**	
PCBR				*e*Sg	**Sg**		**19 11 28.6**	**-3.5**	
PCBR				A	A		19 11 40.8		
	21nm,0.9s								
VIVF	**Saint-Julien-l**	**5.15**	**63**	*e*Pn	**Pn**		**19 10 04.0**	**+0.2**	
	SNR=1.0								
VIVF				*e*Sn	**Sn**		**19 11 00.9**	**-2.3**	
	16nm,0.4s								
EMAZ	**Mazaricos**	**5.28**	**275**	Pn	**Pn**		**19 10 06.1**	**+0.6**	
	7.9nm,0.3s,SNR=7.9								
EMAZ				Sn	**Sn**		**19 11 04.4**	**-1.9**	
	1.7nm,0.3s,SNR=7.9								
QUIF	**Quistinic**	**5.29**	**350**	*e*Pn	**Pn**		**19 10 05.1**	**-0.5**	
	SNR=1.0								
QUIF				*e*Sn	**Sn**		**19 11 00.7**	**-5.8**	
	15nm,0.3s,SNR=1.0								
PMRV	**Marv??o**	**5.35**	**234**	*e*Pn	**Pn**		**19 10 06.9**	**+0.4**	
PMRV				*e*Sn	**Sn**		**19 11 06.2**	**-1.8**	
PMRV				*e*Sg	**Sg**		**19 11 36.5**	**-2.0**	
PMRV				A	A		19 11 43.3		
	22nm,0.5s								
ECAB	**El Cabril**	**5.39**	**212**	Pn	**Pn**		**19 10 08.0**	**+0.9**	
	0.3nm,0.4s,SNR=7.9								
ECAB				Sn	**Sn**		**19 11 06.9**	**-2.3**	
	0.5nm,0.4s,SNR=7.9								
ECAB				Lg	Lg		19 11 41.4		
	23nm,0.7s,SNR=7.9								
AVF	**Avril sur Loir**	**5.49**	**40**	*e*Pn	**Pn**		**19 10 07.7**	**-0.6**	
	SNR=1.0								
AVF				*e*Sn	**Sn**		**19 11 06.3**	**-5.0**	
	12nm,0.5s,SNR=1.0								
SMRF	**Simiane la Rot**	**5.53**	**74**	*e*Pn	**Pn**		**19 10 09.1**	**+0.2**	
	SNR=1.0								
SMRF				*e*Sn	**Sn**		**19 11 10.0**	**-2.4**	
	5.0nm,0.4s								
HYF	**Humbligny**	**5.54**	**33**	*e*Pn	**Pn**		**19 10 09.0**	**0.0**	
HYF				*e*Sn	**Sn**		**19 11 10.1**	**-2.5**	
COI	**Coimbra**	**5.56**	**245**	*e*Sg	**Sg**		**19 11 40.9**	**-4.4**	
SGMF	**Saint Gilles**	**5.56**	**355**	*e*Pn	**Pn**		**19 10 09.1**	**-0.3**	
SGMF				*e*Sn	**Sn**		**19 11 08.3**	**-5.0**	
	4.4nm,0.3s								
EBAD	**Badajoz**	**5.59**	**227**	Pn	**Pn**		**19 10 10.3**	**+0.4**	
	0.5nm,0.3s,SNR=12								
EBAD				Sn	**Sn**		**19 11 11.5**	**-2.5**	
	0.9nm,0.4s,SNR=7.9								
EBAD				Lg	Lg		19 11 45.0		
	33nm,0.6s,SNR=7.9								
SMF	**Signal de Mont**	**5.62**	**44**	*e*Pn	**Pn**		**19 10 10.1**	**-0.2**	
SMF				*e*Sn	**Sn**		**19 11 12.2**	**-2.6**	
	20nm,0.6s,SNR=1.0								
EQUE	**Quentar**	**5.64**	**193**	Lg	Lg		19 11 48.6		
	35nm,0.5s,SNR=7.9								
GRR	**Gorron**	**5.71**	**6**	*e*Pn	**Pn**		**19 10 11.0**	**-0.4**	
	SNR=1.0								
GRR				*e*Sn	**Sn**		**19 11 12.2**	**-4.7**	
	5.1nm,0.2s,SNR=1.0								
ROSF	**Rostrenen**	**5.72**	**350**	*e*Pn	**Pn**		**19 10 10.9**	**-0.6**	
	SNR=1.0								
ROSF				*e*Sn	**Sn**		**19 11 11.4**	**-5.6**	
	10nm,0.3s,SNR=1.0								
ENIJ	**Nijar**	**5.74**	**183**	Pg	**Pg**		**19 10 34.2**	**-2.6**	
	SNR=7.9								
ENIJ				Lg	Lg		19 11 51.2		
	56nm,0.9s,SNR=7.9								
SSF	**Saint Saulge**	**5.75**	**39**	*e*Pn	**Pn**		**19 10 11.2**	**-0.8**	
	SNR=1.0								
SSF				*e*Sn	**Sn**		**19 11 15.3**	**-2.6**	
	10nm,0.4s								
PESTR	**Estremoz**	**5.83**	**231**	*e*Pn	**Pn**		**19 10 14.1**	**+0.9**	
PESTR				*e*Sn	**Sn**		**19 11 17.6**	**-2.4**	
PESTR				*e*Sg	**Sg**		**19 11 50.8**	**-3.3**	
PESTR				A	A		19 11 58.3		
	22nm,0.6s								
PTOM	**Tomar**	**5.87**	**240**	*e*Sg	**Sg**		**19 11 53.0**	**-2.1**	
PTOM				A	A		19 12 11.1		
	24nm,0.6s								
EBER	**Berja**	**5.87**	**189**	Pn	**Pn**		**19 10 15.6**	**+1.8**	
	0.1nm,0.3s,SNR=14								
EBER				Sn	**Sn**		**19 11 19.6**	**-1.5**	
	0.4nm,0.5s,SNR=7.9								
EBER				Lg	Lg		19 11 54.2		
	93nm,0.8s,SNR=5.0								
EGOR	**Sierra Gorda,**	**5.87**	**198**	Pn	**Pn**		**19 10 14.8**	**+1.0**	
	0.2nm,0.2s,SNR=7.9								
EGOR				Sn	**Sn**		**19 11 20.0**	**-1.0**	
	0.8nm,0.2s,SNR=7.9								
EGOR				Lg	Lg		19 11 55.8		
	32nm,0.5s,SNR=7.9								
ORIF	**Oris-en-Rattie**	**5.98**	**66**	*e*Pn	**Pn**		**19 10 15.0**	**-0.2**	
	SNR=1.0								
ORIF				*e*Sn	**Sn**		**19 11 20.7**	**-2.9**	
	14nm,0.6s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**5.98**	**66**	Pn	**Pn**		**19 10 15.0**	**-0.2**	
ORIF				Sn	**Sn**		**19 11 20.7**	**-2.9**	
	6.8nm,0.6s								
LDF	**La Druitiere**	**6.00**	**11**	*e*Pn	**Pn**		**19 10 14.4**	**-0.9**	
	SNR=1.0								
LDF				*e*Sn	**Sn**		**19 11 18.0**	**-5.9**	
	4.1nm,0.2s,SNR=1.0								
ELGU	**Los Guajares,**	**6.01**	**194**	Pn	**Pn**		**19 10 17.5**	**+1.9**	
	7.2nm,0.6s,SNR=7.9								
ELGU				Lg	Lg		19 12 03.1		
	49nm,0.7s,SNR=7.9								
LOR	**Lormes**	**6.07**	**39**	*e*Pn	**Pn**		**19 10 15.9**	**-0.5**	
	baz=206,SNR=1.0								
LOR				*e*Sn	**Sn**		**19 11 22.8**	**-2.9**	
	6.9nm,0.4s,SNR=1.0								
LOR	**Lormes**	**6.07**	**39**	Pn	**Pn**		**19 10 15.9**	**-0.5**	
LOR				Sn	**Sn**		**19 11 22.8**	**-2.9**	
	3.5nm,0.4s								
PMTG	**Montargil**	**6.08**	**235**	*e*Pn	**Pn**		**19 10 17.4**	**+0.9**	
PMTG				*e*Sn	**Sn**		**19 11 23.8**	**-2.1**	
PMTG				*e*Sg	**Sg**		**19 11 57.5**	**-4.3**	
PMTG				A	A		19 12 10.8		
	19nm,0.7s								
FLN	**La Foliniere**	**6.12**	**8**	*e*Pn	**Pn**		**19 10 16.3**	**-0.7**	
	baz=187,SNR=1.0								
FLN				*e*Sn	**Sn**		**19 11 21.8**	**-5.1**	
	3.3nm,0.2s,SNR=1.0								
FLN	**La Foliniere**	**6.12**	**8**	Pn	**Pn**		**19 10 16.3**	**-0.7**	
FLN				Sn	**Sn**		**19 11 21.8**	**-5.1**	
	1.7nm,0.2s								
LMR	**La Mourre**	**6.12**	**81**	*e*Pn	**Pn**		**19 10 16.9**	**-0.2**	
LMR	**La Mourre**	**6.12**	**81**	Pn	**Pn**		**19 10 16.9**	**-0.2**	
EMIN	**Mina Concepcio**	**6.19**	**219**	Pn	**Pn**		**19 10 18.3**	**+0.3**	
	0.3nm,0.2s,SNR=7.9								
EMIN				Sn	**Sn**		**19 11 24.7**	**-3.9**	
	0.9nm,0.2s,SNR=7.9								
EMIN				Lg	Lg		19 12 05.7		
	18nm,0.6s,SNR=7.9								
ALMR	**Almeirim**	**6.24**	**238**	*e*P	**Pn**		**19 10 19.9**	**+1.2**	
ALMR				*e*S	**Sn**		**19 11 26.2**	**-3.7**	
ALMR				AML	AML		19 11 28.6		
	comp=E,20nm,0.6s								
ALMR	**Almeirim**	**6.24**	**238**	*e*Pn	**Pn**		**19 10 20.2**	**+1.5**	
ALMR				*e*Sn	**Sn**		**19 11 28.5**	**-1.4**	
ALMR				*e*Sg	**Sg**		**19 12 05.9**	**-1.2**	
ALMR				A	A		19 12 29.3		
	comp=E,40nm,0.6s								
ALMR	**Almeirim**	**6.24**	**238**	P	**Pn**		**19 10 19.9**	**+1.2**	
ALMR				S	**Sn**		**19 11 26.2**	**-3.7**	
	comp=E,9.8nm,0.6s								
FRF	**La Foret Royal**	**6.24**	**79**	*e*Pn	**Pn**		**19 10 19.0**	**+0.3**	
	SNR=1.0								
FRF				*e*Sn	**Sn**		**19 11 26.2**	**-3.7**	
FRF	**La Foret Royal**	**6.24**	**79**	Pn	**Pn**		**19 10 19.0**	**+0.3**	
FRF				Sn	**Sn**		**19 11 26.2**	**-3.7**	
EVO	**Evora**	**6.30**	**231**	*e*Pn	**Pn**		**19 10 22.7**	**+3.1**	
EVO				*e*Sn	**Sn**		**19 11 29.4**	**-2.2**	
EVO				*e*Sg	**Sg**		**19 12 08.0**	**-1.2**	
EVO				A	A		19 12 28.1		
	comp=E,12nm,0.6s								
EVO	**Evora**	**6.30**	**231**	*i* P	**Pn**		**19 10 22.8**	**+3.2**	
EVO				*e*S	**Sn**		**19 11 31.9**	**+0.3**	
MBDF	**Montbardon**	**6.53**	**69**	*e*Pn	**Pn**		**19 10 22.6**	**-0.2**	
MBDF				*e*Sn	**Sn**		**19 11 34.0**	**-3.3**	
	comp=E,14nm,0.6s								
MBDF	**Montbardon**	**6.53**	**69**	Pn	**Pn**		**19 10 22.6**	**-0.2**	
MBDF				Sn	**Sn**		**19 11 34.0**	**-3.3**	
	comp=E,7.1nm,0.6s								
EMIJ	**Mijas**	**6.55**	**201**	Lg	Lg		19 12 17.8		
	comp=E,21nm,0.7s,SNR=7.9								
PBEJ	**Beja**	**6.58**	**227**	*e*Sn	**Sn**		**19 11 36.8**	**-1.6**	
PBEJ				*e*Sg	**Sg**		**19 12 15.4**	**-2.7**	
PBEJ				A	A		19 12 26.8		
	comp=E,7.8nm,0.4s								
ESPR	**Espera**	**6.62**	**209**	Lg	Lg		19 12 23.9		
	comp=E,21nm,0.8s,SNR=7.9								
LPL	**La Plagne**	**6.75**	**63**	*e*Pn	**Pn**		**19 10 25.7**	**-0.2**	
	SNR=1.0								
LPL	**La Plagne**	**6.75**	**63**	Pn	**Pn**		**19 10 25.7**	**-0.2**	
LPG	**La Plagne**	**6.76**	**63**	*e*Pn	**Pn**		**19 10 26.1**	**0.0**	
	SNR=1.0								
LPG	**La Plagne**	**6.76**	**63**	Pn	**Pn**		**19 10 26.1**	**0.0**	
EGRO	**El Granado**	**6.76**	**222**	Pn	**Pn**		**19 10 26.3**	**+0.5**	
	comp=E,0.4nm,0.2s,SNR=5.8								
EGRO				Sn	**Sn**		**19 11 39.0**	**-3.8**	
	comp=E,0.7nm,0.2s,SNR=7.9								
EGRO				Lg	Lg		19 12 20.6		
	comp=E,47nm,1.1s,SNR=5.7								
SBF	**Sospel**	**6.84**	**77**	*e*Pn	**Pn**		**19 10 26.8**	**-0.2**	
SBF	**Sospel**	**6.84**	**77**	Pn	**Pn**		**19 10 26.8**	**-0.2**	
CABF	**La Chapelle**	**6.84**	**53**	*e*Pn	**Pn**		**19 10 26.9**	**-0.1**	
CABF	**La Chapelle**	**6.84**	**53**	Pn	**Pn**		**19 10 26.9**	**-0.1**	
PNCL	**Nicolau / Gran**	**6.89**	**230**	*e*Pn	**Pn**		**19 10 28.1**	**+0.5**	
PNCL				*e*Sn	**Sn**		**19 11 44.2**	**-1.7**	
PNCL				*e*Sg	**Sg**		**19 12 24.9**	**-2.9**	
PNCL				A	A		19 12 38.5		
	comp=E,8.8nm,0.5s								
MESJ	**Messejana**	**6.91**	**227**	*e*P	**Pn**		**19 10 28.3**	**+0.4**	
MESJ	**Messejana**	**6.91**	**227**	*e*Pn	**Pn**		**19 10 29.2**	**+1.3**	
MESJ				*e*Sg	**Sg**		**19 12 23.2**	**-5.3**	
MESJ				A	A		19 12 37.0		
	comp=E,12nm,0.6s								
MESJ	**Messejana**	**6.91**	**227**	P	**Pn**		**19 10 28.3**	**+0.4**	
PCVE	**Castro Verde**	**6.97**	**225**	*e*Pn	**Pn**		**19 10 28.7**	**0.0**	
PCVE				*e*Sn	**Sn**		**19 11 42.8**	**-5.1**	
PCVE				*e*Sg	**Sg**		**19 12 25.6**	**-4.8**	
PCVE				A	A		19 12 36.3		
	comp=E,8.7nm,0.4s								
PVAQ	**Vaqueiros**	**6.98**	**222**	*e*Pn	**Pn**		**19 10 29.9**	**+1.1**	
PVAQ				*e*Sn	**Sn**		**19 11 44.8**	**-3.3**	
PVAQ				*e*Sg	**Sg**		**19 12 29.7**	**-1.0**	
PBDV	**Barranco-do-Ve**	**7.21**	**223**	*e*Pn	**Pn**		**19 10 32.7**	**+0.7**	
PBDV				*e*Sn	**Sn**		**19 11 50.9**	**-3.0**	
PBDV				*e*Sg	**Sg**		**19 12 39.2**	**+1.1**	
PBDV				A	A		19 12 50.0		
	comp=E,15nm,0.6s								
SFTF	**Sexfontaines**	**7.30**	**39**	*e*Pn	**Pn**		**19 10 32.6**	**-0.6**	
SFTF	**Sexfontaines**	**7.30**	**39**	Pn	**Pn**		**19 10 32.6**	**-0.6**	
PTEO	**Sao Teotonio**	**7.40**	**228**	*e*Pn	**Pn**		**19 10 34.2**	**-0.4**	
PTEO				*e*Sn	**Sn**		**19 11 55.8**	**-2.6**	
PTEO				A	A		19 12 57.9		
	comp=E,14nm,0.5s								
MORF	**Marmelete**	**7.53**	**226**	*e*P	**Pn**		**19 10 36.4**	**-0.2**	
MORF	**Marmelete**	**7.53**	**226**	*e*Pn	**Pn**		**19 10 36.7**	**+0.2**	
MORF				*e*Sn	**Sn**		**19 11 58.4**	**-3.5**	
MORF				A	A		19 13 06.9		
	comp=E,5.1nm,0.7s								
MORF	**Marmelete**	**7.53**	**226**	P	**Pn**		**19 10 36.4**	**-0.2**	
PFVI	**Vila Bisbo**	**7.76**	**226**	*e*Pn	**Pn**		**19 10 39.7**	**+0.2**	
PFVI				*e*Sn	**Sn**		**19 12 03.7**	**-3.6**	
PFVI				A	A		19 13 02.6		
	comp=E,6.9nm,0.6s								
HINF	**Hinteralfeld**	**7.95**	**47**	*e*Pn	**Pn**		**19 10 43.2**	**+0.9**	
HINF	**Hinteralfeld**	**7.95**	**47**	Pn	**Pn**		**19 10 43.2**	**+0.9**	
DOU	**Dourbes**	**8.60**	**29**	⇓P	**Pn**		**19 10 52.3**	**+1.2**	
WLF	**Walferdange**	**8.87**	**36**	⇑P	**Pn**		**19 10 56.5**	**+1.7**	

*ISCJB **18** 19:08:48.5±0.5, 43.°73N±0.°03×105.°15W±0.°06, h0km, mb3.8/2, Error ellipse: s-maj=6.5km s-min=4.2km az=9.0*
*NEIC **18** 19:08:49.6±0.6, 43.°78N×105.°10W, h0km, ML3.1, Error ellipse: s-maj=7.9km s-min=5.3km az=91.0, Suspected Mining explosion.*
NEIC 66 km [41 miles] SSE of Gillette.
*ANF **18** 19:08:49.3±0.6, 43.°59N×105.°09W, ML3.5/8, Error ellipse: s-maj=10.3km s-min=4.9km az=122.0*
*IDC **18** 19:08:50.9±0.8, 44.°08N×105.°65W, h0km, mb3.7/2, mb1 3.6/9, mb1mx3.4/59, mbtmp3.4/9, ML3.3/7, Error ellipse: s-maj=16.4km s-min=8.0km az=143.0*

ISC 18 19:08:49.6±0.8, **43.°76N**±0.°04×**105.°15W**±0.°06, **h0km, n61,**
σ1=36/63, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RSSD	**Black Hills**	**0.88**	**65**	P	**Pn**		**19 09 08.0**	**-1.6**
	baz=246							
K22A	**Casper**	**1.49**	**223**	*e*Pg	**Pn**		**19 09 16.1**	**-1.8**
K22A	**Casper**	**1.49**	**223**	P	**Pn**		**19 09 16.2**	**-1.7**
	baz=42							
K22A				S	**Sg**		**19 09 38.2**	**+0.6**
	baz=42							
RWWY	**Rawlins**	**2.56**	**217**	*e*Pn	**Pn**		**19 09 33.5**	**+0.8**
N23A	**Red Feather La**	**2.92**	**192**	*e*Pn	**Pn**		**19 09 38.7**	**+1.2**
N23A	**Red Feather La**	**2.92**	**192**	Pb	**Pn**		**19 09 39.0**	**+1.5**
	baz=12							
N23A				Sb	**Sn**		**19 10 16.4**	**+2.9**
	baz=12							
LAO	**LASA Array**	**3.03**	**346**	P	**Pn**		**19 09 38.9**	**+0.1**
	baz=164							
LAO				S	**Sb**		**19 10 21.8**	**-0.1**
	baz=164							
RLMT	**Red Lodge**	**3.25**	**296**	*e*Pn	**Pn**		**19 09 41.2**	**-0.9**
RLMT	**Red Lodge**	**3.25**	**296**	P	**Pn**		**19 09 41.4**	**-0.6**
	baz=113							
BW06	**Boulder Array**	**3.37**	**254**	*e*Pn	**Pn**		**19 09 43.5**	**-0.2**
BW06	**Boulder Array**	**3.37**	**254**	P	**Pn**		**19 09 44.3**	**+0.6**
	baz=71							
PD31	**Pinedale Array**	**3.37**	**254**	*e*Pn	**Pn**		**19 09 44.0**	**+0.3**
PD31				*e*Lg	Lg		19 10 28.2	
PDAR	**Pinedale Array**	**3.37**	**254**	*e*Pn	**Pn**		**19 09 42.9**	**-0.8**
PDAR				Lg	Lg		19 10 28.2	
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	**Pn**		**19 09 44.0**	**+0.3**
	3.6nm,0.3s,baz=73,slow=16,SNR=37							
PDAR				Lg	Lg		19 10 28.2	
	9.7nm,0.3s,baz=73,slow=25,SNR=5.7							
LOHW	**Long Hollow**	**3.96**	**270**	*e*Pn	**Pn**		**19 09 52.4**	**+0.6**
H17A	**Grant Village**	**3.96**	**281**	*e*Pn	**Pn**		**19 09 52.2**	**+0.4**
ISCO	**Idaho Springs**	**3.97**	**185**	*e*Pn	**Pn**		**19 09 54.0**	**+2.0**
FLWY	**Flagg Ranch**	**4.02**	**277**	*e*Pn	**Pn**		**19 09 52.6**	**0.0**
MOOW	**Moose Ponds**	**4.05**	**272**	*e*Pn	**Pn**		**19 09 53.1**	**0.0**
SNOW	**Snow King Moun**	**4.08**	**268**	*e*Pn	**Pn**		**19 09 54.2**	**+0.7**
YNR	**Norris Junctio**	**4.09**	**285**	*e*Pn	**Pn**		**19 09 56.4**	**+2.9**
YFT	**Old Faithful**	**4.15**	**282**	*e*Pn	**Pn**		**19 09 55.9**	**+1.4**
REDW	**Red Top Meadow**	**4.16**	**267**	*e*Pn	**Pn**		**19 09 55.0**	**+0.4**
IMW	**Indian Meadow**	**4.19**	**274**	*e*Pn	**Pn**		**19 09 56.4**	**+1.4**
TPAW	**Teton Pass**	**4.22**	**268**	*e*Pn	**Pn**		**19 09 56.0**	**+0.6**
YHH	**Holmes Hill**	**4.22**	**286**	*e*Pn	**Pn**		**19 09 56.5**	**+1.0**
FXWY	**Fox Creek**	**4.26**	**270**	*e*Pn	**Pn**		**19 09 56.2**	**+0.2**
O20A	**White River Ci**	**4.29**	**214**	*e*Pn	**Pn**		**19 09 56.5**	**+0.2**
AHID	**Auburn Hatcher**	**4.46**	**259**	*e*Pn	**Pn**		**19 09 58.8**	**+0.2**
DGMT	**Dagmar**	**4.76**	**8**	P	**Pn**		**19 10 04.4**	**+1.8**
	baz=188							
DGMT				Sb	**Sb**		**19 11 15.8**	**+4.0**
	baz=188							
BOZ	**Bozeman (W)**	**4.97**	**294**	*e*Pn	**Pn**		**19 10 09.2**	**+3.6**
BOZ	**Bozeman (W)**	**4.97**	**294**	P	**Pn**		**19 10 05.5**	**-0.2**
	baz=110							
KSCO	**Kaye Shedlock'**	**5.11**	**157**	*e*Pn	**Pb**		**19 10 17.2**	**-2.7**
EGMT	**Eagleton**	**5.34**	**325**	*e*Pn	**Pn**		**19 10 10.5**	**-0.1**
JLU	**Jordanelle**	**5.64**	**238**	*e*Pn	**Pn**		**19 10 13.6**	**-1.3**
SPUT	**South Promonto**	**5.92**	**248**	*e*Pn	**Pn**		**19 10 18.1**	**-0.6**
PV07	**Paradox Valley**	**5.93**	**208**	*e*Pn	**Pn**		**19 10 19.3**	**+0.4**
PV21	**Cone Mtn., Par**	**5.94**	**210**	*e*Pn	**Pn**		**19 10 18.4**	**-0.6**
PV23	**Carpenter Ridg**	**6.05**	**210**	*e*Pn	**Pn**		**19 10 20.9**	**+0.4**
PV04	**Paradox Valley**	**6.06**	**209**	*e*Pn	**Pn**		**19 10 21.4**	**+0.8**
PV11	**David Mesa, Pa**	**6.14**	**209**	*e*Pn	**Pn**		**19 10 23.7**	**+2.0**
PV16	**Nyswonger Mesa**	**6.14**	**209**	*e*Pn	**Pn**		**19 10 23.0**	**+1.3**
SRU	**San Rafael Swe**	**6.15**	**223**	*e*Pn	**Pn**		**19 10 21.9**	**0.0**
PV19	**Morning Glory**	**6.16**	**209**	*e*Pn	**Pn**		**19 10 23.0**	**+0.9**
PV03	**Paradox Valley**	**6.17**	**208**	*e*Pn	**Pn**		**19 10 23.5**	**+1.4**
PV01	**Paradox Valley**	**6.18**	**206**	*e*Pn	**Pn**		**19 10 23.9**	**+1.5**
TMUT	**Trail Mountain**	**6.36**	**228**	*e*Pn	**Pn**		**19 10 25.0**	**+0.1**
T25A	**Trinidad**	**6.63**	**175**	*e*Pn	Pn		19 10 34.8	+6.3
DUG	**Dugway, Tooele**	**6.73**	**241**	*e*Pn	**Pn**		**19 10 28.7**	**-1.1**
MSU	**Marysvale**	**7.45**	**228**	*e*Pn	**Pn**		**19 10 39.6**	**-0.2**
MTPU	**Mount Pierson**	**7.81**	**225**	*e*Pn	**Pn**		**19 10 44.5**	**-0.2**
ELK	**Elko**	**8.06**	**252**	Pn	**Pn**		**19 10 50.6**	**+2.4**
	0.3nm,0.3s,baz=72,slow=13,SNR=4.3							
PSUT	**Pine Spring**	**8.38**	**234**	*e*Pn	**Pn**		**19 10 53.3**	**+0.7**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**Pn**		**19 11 00.7**	**-1.0**
	0.8nm,0.3s,baz=233,slow=11,SNR=8.9							
ULM				Lg	Lg		19 13 32.4	
	0.4nm,0.3s,baz=180,slow=19,SNR=2.7							
NEW	**Newport**	**9.47**	**303**	Pn	Pn		19 11 01.3	-5.9
	0.2nm,0.3s,baz=115,slow=19,SNR=3.1							
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn	**Pn**		**19 11 33.0**	**+1.1**
	0.1nm,0.3s,baz=59,slow=14,SNR=3.5							
TXAR	**Lajitas Array**	**14.44**	**175**	Pn	**P**		**19 12 23.4**	**+0.9**
	0.1nm,0.3s,baz=355,slow=18,SNR=2.5							
TXAR				Pg			19 13 18.9	
	0.1nm,0.3s,baz=352,slow=11,SNR=2.8							
TXAR				Lg	Lg		19 16 29.8	
	0.0nm,0.3s,baz=0.0,slow=27,SNR=3.5							
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**P**		**19 13 17.6**	**-1.1**
	0.1nm,0.3s,baz=159,slow=12,SNR=6.0							
ZAA1	**Zalesovo Array**	**82.29**	**354**	*e*P	**P**		**19 21 11.6**	**-1.0**
ZALV	**Zalesovo Beam**	**82.30**	**354**	P	**P**		**19 21 11.6**	**-1.1**
	0.3nm,0.3s,baz=6.7,slow=4.9,SNR=2.7							
BVAR	**Borovoye Array**	**83.52**	**3**	P	**P**		**19 21 17.9**	**-1.1**
	0.4nm,0.7s,baz=353,slow=3.3,SNR=3.0							

*IDC **18** 19:10:41.3±1.0, 8.°84S×125.°71E, h0km, mb3.9/5, mb1 4.1/9, mb1mx3.8/32, mbtmp3.9/9, ML3.7/4, MS3.3/3, Ms1 3.3/3, ms1mx2.7/32, Error ellipse: s-maj=36.7km s-min=18.3km az=91.0*
*ISCJB **18** 19:10:43.6±0.6, 8.°93S±0.°05×125.°73E±0.°05, h33km, mb3.8/5, MS3.5/1, Error ellipse: s-maj=7.7km s-min=6.5km az=9.9*
*DJA **18** 19:10:46.2±0.3, 9.°3S±3.°×12.°5E±.°, h10km, M4.4/17, mb4.6/12, mB5.0/5, MLv4.3/17, Mw(mB)4.3/5*

ISC 18 19:10:45.5±0.8, **9.°03S**±0.°06×**125.°81E**±0.°07, **h35km, n27,**
σ1=85/29, mb3.9/5, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SOEI	**Soe**	**1.68**	**245**	P	**Pn**		**19 11 13.1**	**+0.5**
SOEI				S	**Sn**		**19 11 31.3**	**-1.7**
BATI	**Baumata**	**2.42**	**241**	P	**Pn**		**19 11 22.2**	**-0.4**
BATI	**Baumata**	**2.42**	**241**	Pn	**Pn**		**19 11 22.6**	**0.0**
	15nm,0.3s,baz=84,slow=3.6,SNR=27							
BATI				Sn	**Sn**		**19 11 52.7**	**+1.7**
	24nm,0.3s,baz=86,slow=19,SNR=6.1							
MMRI	**Maumere**	**3.55**	**276**	P	**Pn**		**19 11 36.5**	**-1.7**
EDFI	**Ende, Flores**	**4.08**	**274**	P	**Pn**		**19 11 43.6**	**-2.0**
BBSI	**Bau Bau**	**4.77**	**317**	P	**Pn**		**19 11 52.9**	**-2.0**
BASI	**Baing, Sumba**	**5.29**	**257**	P	**Pn**		**19 12 01.2**	**-0.9**
WSI	**Waingapu**	**5.48**	**263**	P	**Pn**		**19 12 03.1**	**-1.6**
KDI	**Kendari**	**5.96**	**328**	P	**Pn**		**19 12 09.8**	**-1.4**
	28nm,1.0s,0.2nm							
BSSI	**Bau Bau, Buton**	**6.00**	**298**	P	**Pn**		**19 12 09.6**	**-2.3**
	50nm,0.9s,952nm0.2nm							
BNDI	**Bandanaira**	**6.05**	**42**	P	Pn		19 12 18.1	+5.6
	69nm,1.0s							
BKSI	**Bulukumba**	**6.74**	**303**	P	**Pn**		**19 12 20.6**	**-1.4**
	8.8nm,0.7s							
SANI	**Sanana**

RTLS IAML 19 15 46.9
comp=Z,4μm,0.8s
GO04 Tololo Observa 2.44 21 *e*Pn **Pn 19 15 42.4 +1.3**
GO04 Tololo Observa 2.44 21 *e*P **Pb 19 15 46.2 +1.1**
UTNM Universidad Te 2.55 101 *e*P **Pb 19 15 46.3 -0.5**
GO05 Huala 2.55 182 *e*Pn **Pn 19 15 42.1 -0.3**
ZON Zonda 2.83 72 *e*P **Pb 19 15 51.3 -0.2**
ZON IAML 19 16 41.8
comp=Z,1μm,0.7s
RTCV Cerro Valdivia 2.85 79 *e*P **Pb 19 15 52.1 +0.2**
SJA San Juan 2.93 72 IAML 19 16 06.8
comp=Z,1μm,0.6s
ACCO Cerro Coronel 3.00 52 *e*P **Pb 19 15 53.9 -0.9**
AROD Rodeo 3.04 42 *e*P **Pb 19 15 54.1 -1.3**
RTLL Cerro Villicun 3.06 69 *e*P **Pb 19 15 53.9 -1.8**
RTLL IAML 19 16 51.8
comp=Z,1μm,0.6s
CFA Coronel Fontan 3.17 75 *e*P **Pb 19 15 55.2 -2.1**
AMOG MOGNA 3.22 63 *e*P **Pb 19 15 56.4 -1.9**
ACDV Cuesta del Vie 3.25 46 *e*P **Pb 19 15 57.1 -1.8**
LCO Las Campanas 3.57 16 *e*Pn **Pn 19 15 57.7 +1.1**
LCO Las Campanas 3.57 16 *e*P **Pn 19 15 57.8 +1.2**
LCO Las Campanas 3.57 16 *e*P **Pn 19 15 57.7 +1.1**
RFA San Rafael 3.63 130 *e*P **Pb 19 16 01.1 -4.2**
RFA IAML 19 17 06.7
comp=Z,767nm,0.7s
ACAN Cantantal 3.93 89 *e*P **Pn 19 16 05.4 +4.0**
AGUA GUANDACOL 4.12 45 *e*P **Pb 19 16 09.7 -3.9**
APLL PUNTA DE LOS L 4.97 67 *e*P Pn 19 16 20.8 +5.0
APLL IAML 19 17 28.6
comp=Z,395nm,0.7s
GO03 Copiap 5.04 16 *e*Pn **Pn 19 16 17.1 +0.5**
ACLC CERRO LA CRUZ 5.16 55 *e*P Pn 19 16 23.3 +4.9
MRA San Martin 5.17 91 IAML 19 17 31.0
comp=Z,629nm,0.7s
TCA Tanti 6.25 82 *e*P **Pn 19 16 37.1 +3.8**
TCA IAML 19 17 59.0
comp=Z,1μm,0.8s
CYA Choya 6.56 54 *e*P Pn 19 16 42.7 +5.1
CYA IAML 19 18 30.1
comp=Z,277nm,0.7s
GO06 Curarrehue 7.12 178 *e*Pn **Pn 19 16 45.7 +0.4**
GO02 Mina Guanaco 7.53 16 *e*Pn **Pn 19 16 49.5 -1.6**
FSA Cafayete 8.12 40 *e*P **Pn 19 17 00.0 +0.9**
PB10 IPOC Station P 8.98 8 *e*Pn **Pn 19 17 09.0 -1.7**
TRQA Tornquist 9.80 128 *e*Pn **Pn 19 17 23.6 +1.6**
TRQA Tornquist 9.80 128 *e*P **Pn 19 17 23.6 +1.6**
LVC Limon Verde 10.14 15 Pn **Pn 19 17 24.3 -2.7**
comp=Z,1.0nm,0.3s,baz=174,slow=8.1,SNR=6.2
LVC Sn **Sn 19 19 20.3 -0.7**
comp=Z,0.7nm,0.3s,baz=252,slow=20,SNR=1.9
LVC LR LR 19 21 14.9
comp=Z,1μm,19.7s,baz=212,slow=37
PB01 IPOC Station P 11.56 11 *e*Pn Pn 19 17 40.6 -5.6
PB11 IPOC Station P 12.79 9 *e*Pn **Pn 19 18 03.0 -0.1**
MNMC Minye Minye 13.42 9 *e*Pn **Pn 19 18 09.3 -2.4**
CPUP Villa Florida 14.03 68 *e*Pn **Pn 19 18 19.6 -0.1**
CPUP *e*Sn **Sn 19 20 55.1 -0.5**
CPUP Villa Florida 14.03 68 *e*P **Pn 19 18 19.7 -0.1**
CPUP *e* 19 20 55.1
CPUP Villa Florida 14.03 68 Pn **Pn 19 18 21.0 +1.2**
comp=Z,0.5nm,0.3s,baz=242,slow=12,SNR=5.7
CPUP Sn **Sn 19 20 55.1 -0.5**
comp=Z,0.2nm,0.3s,baz=249,slow=17,SNR=2.5
CPUP LR LR 19 24 02.8
comp=Z,1μm,20.9s,baz=248,slow=39
LPAZ La Paz 16.44 13 *e*Pn **Pn 19 18 53.8 +1.4**
comp=Z,49nm,0.8s
LPAZ La Paz 16.44 13 *e*P **Pn 19 18 53.9 +1.5**
LPAZ La Paz 16.44 13 Pn **Pn 19 18 53.4 +1.0**
comp=Z,1.3nm,0.3s,baz=192,slow=8.6,SNR=64
SIV San Ignacio 19.08 33 P **P 19 19 23.2 -0.6**
comp=Z,0.7nm,0.3s,baz=231,slow=12,SNR=27
SIV LR LR 19 28 04.3
comp=Z,1μm,18.1s,baz=232,slow=41
NNA Nana 20.89 346 P **P 19 19 44.4 +1.0**
comp=Z,5.3nm,0.4s,baz=180,slow=9.1,SNR=2.7
NNA LR LR 19 26 43.3
comp=Z,256nm,18.2s,baz=172,slow=34
EFI East Falkland 21.69 156 *c*eP **P 19 19 52.7 +0.9**
EFI pmax pmax
comp=Z,30nm,1.3s
USHA Ushuaia 22.50 175 P **P 19 20 01.9 +1.5**
comp=Z,15nm,1.0s,baz=18,slow=9.7,SNR=4.0
USHA LR LR 19 30 13.1
comp=Z,456nm,20.5s,baz=18,slow=41
ATAH Atahualpa 25.92 345 LR LR 19 30 11.8
comp=Z,201nm,18.2s,baz=190,slow=35
BDFB Brasilia 27.34 58 *e*P **P 19 20 45.6 -0.8**
comp=Z,40nm,0.9s
BDFB Brasilia 27.34 58 *e*P **P 19 20 45.6 -0.8**
BDFB pmax pmax
comp=Z,40nm,0.9s
BDFB Brasilia 27.34 58 P **P 19 20 46.0 -0.4**
comp=Z,49nm,1.1s,baz=230,slow=8.4,SNR=28
BDFB LR LR 19 32 01.9
comp=Z,572nm,20.7s,baz=260,slow=38
PTGA Pitinga 33.48 22 *e*P **P 19 21 40.7 +0.2**
comp=Z,30nm,0.9s
PTGA Pitinga 33.48 22 P **P 19 21 40.4 -0.1**
comp=Z,30nm,1.0s,baz=199,slow=9.6,SNR=33
SDV Santo Domingo 41.12 2 *e*P **P 19 22 45.7 +0.2**
comp=Z,9.2nm,1.1s
MDP Montagnes des 41.57 30 P **P 19 22 49.2 +0.2**
comp=Z,23nm,1.0s,baz=240,slow=8.1,SNR=3.2
VNA3 Neumayer Olymp 50.72 158 P **P 19 24 01.3 +0.8**
VNA2 Neumayer--Watz 51.37 158 P **P 19 24 05.5 +0.2**
baz=291,slow=8.9
SNAA Sanae 52.95 158 P **P 19 24 18.0 +0.8**
SNAA Sanae 52.95 158 *e*P **P 19 24 18.0 +0.8**
comp=Z,24nm,1.2s
SNAA Sanae 52.95 158 ||*i*P **P 19 24 17.5 +0.4**
SNAA Sanae 52.95 158 P **P 19 24 18.0 +0.8**
comp=Z,6.3nm,0.5s,baz=270,slow=8.1,SNR=40
NVL N'lazarevskaya 57.67 157 *e*P **P 19 24 51.2 +0.1**
NVL pmax pmax
comp=Z,8.0nm,0.9s
QSPA South Pole Qui 57.78 180 *e*P **P 19 24 52.8 +0.6**
comp=Z,27nm,1.0s
SYO Syowa Base 67.24 159 ||*e*P **P 19 25 54.2 -0.8**
SYO Syowa Base 67.24 159 ||*e*sP sP 19 26 04.2 +5.3
TBI Tubuai 67.86 256 *e*LR LR 19 46 22.3
comp=Z,367nm,26.0s
TBI Tubuai 67.86 256 *e*T T 20 39 49.4
comp=Z,4.3nm,0.3s
X48A Hartselle 68.07 346 P **P 19 26 01.8 +1.2**
baz=166
W53A Cullowhee 68.11 350 P **P 19 26 01.9 +0.9**
baz=170
W51A Cleveland 68.35 349 P **P 19 26 03.3 +0.9**
baz=168
TX31 Lajitas Ar. Si 68.48 330 *e*P **P 19 26 03.3 -0.2**
TXAR Lajitas Array 68.48 330 P **P 19 26 04.0 +0.5**
comp=Z,0.8nm,0.7s,baz=134,slow=7.7,SNR=6.6
TXAR LR LR 19 51 36.1
comp=Z,135nm,18.3s,baz=0.0,slow=32
W50A Signal Mountai 68.48 348 P **P 19 26 04.2 +0.9**
baz=168
V55A Taylorsville 68.52 352 P **P 19 26 04.6 +1.2**
baz=172
V54A Nebo 68.53 351 P **P 19 26 04.6 +1.1**
baz=171
V53A Saluda 68.55 350 P **P 19 26 04.4 +0.7**
baz=170
V52A Sevierville 68.83 350 P **P 19 26 05.8 +0.4**
baz=169
V50A Pikevile 68.90 348 P **P 19 26 06.8 +1.0**
baz=168
V49A McMinnville 69.14 348 P **P 19 26 07.7 +0.4**
baz=167
U54A Nelsons Funny 69.25 351 P **P 19 26 08.4 +0.3**
baz=171
V48A Smith Brothers 69.28 347 *e*P **P 19 26 08.8 +0.7**
comp=Z,18nm,1.1s
V48A Smith Brothers 69.28 347 P **P 19 26 09.1 +0.9**
baz=167
V47A Nunnelly 69.50 346 P **P 19 26 10.4 +0.9**
baz=166
T56A Rocky Mt 69.55 353 P **P 19 26 10.8 +0.9**
baz=173
WVT Waverly 69.85 346 *e*P **P 19 26 12.1 +0.4**
comp=Z,17nm,0.9s
WVT Waverly 69.85 346 *e*P **P 19 26 12.1 +0.4**
WVT pmax pmax
comp=Z,17nm,0.9s
WVT Waverly 69.85 346 P **P 19 26 12.3 +0.6**
baz=166
W41B Gary Mavity, V 69.95 342 P **P 19 26 12.4 +0.1**
baz=162
U48A Cassie Pea, Po 69.97 347 P **P 19 26 13.4 +0.9**
baz=167
T51A Gray 69.98 350 P **P 19 26 13.1 +0.6**
baz=169
U47A Clarksville 70.05 347 P **P 19 26 13.5 +0.6**
baz=166
U46A Springville 70.15 346 P **P 19 26 14.7 +1.2**
baz=165
W39A Magazine 70.38 341 *e*P **P 19 26 15.8 +0.8**
comp=Z,16nm,1.0s
W39A Magazine 70.38 341 P **P 19 26 16.2 +1.2**
baz=160
S51A Beattyville 70.59 350 P **P 19 26 16.6 +0.4**
baz=170
PPT2 Papeete2 70.64 261 *e*LR LR 19 47 39.0
comp=Z,171nm,24.5s
PPT Papeete 70.65 261 LR LR 19 48 45.5
comp=Z,104nm,18.4s,baz=184,slow=29
S50A Richmond 70.75 349 P **P 19 26 18.0 +0.8**
baz=169
R54A Victor 70.79 352 P **P 19 26 18.2 +0.8**
baz=172
S48A Wiedeman Farm, 71.00 348 P **P 19 26 18.9 +0.2**
baz=167
U40A Yellville 71.23 342 P **P 19 26 20.7 +0.6**
baz=161
T43A Greenville 71.30 344 P **P 19 26 21.1 +0.7**
baz=164
WCI Wyandotte Cave 71.60 348 *e*P **P 19 26 19.9 -2.4**
comp=Z,35nm,1.1s
WCI Wyandotte Cave 71.60 348 *e*P **P 19 26 19.9 -2.4**
WCI pmax pmax
comp=Z,35nm,1.1s
T41A Mountain View 71.61 343 P **P 19 26 23.2 +0.9**
baz=162
Q52A Bidwell 71.71 351 P **P 19 26 23.6 +0.7**
baz=171
S43A Fulton Ridge, 71.72 345 P **P 19 26 23.4 +0.4**
baz=164
Q51A Peebles 71.92 351 *e*P **P 19 26 22.8 -1.4**
comp=Z,19nm,0.4s
Q51A Peebles 71.92 351 P **P 19 26 24.6 +0.4**
baz=170
S42A Caledonia 72.07 344 P **P 19 26 25.2 0.0**
baz=163
S41A Jillco Farms, 72.12 343 P **P 19 26 26.6 +1.2**
baz=162
P53A Whipple 72.13 352 P **P 19 26 26.8 +1.3**
baz=172
Q49A Aurora 72.13 349 P **P 19 26 25.7 +0.3**
baz=168
P54A Burton 72.14 353 P **P 19 26 26.3 +0.7**
baz=172
Q48A North Vernon 72.19 349 P **P 19 26 25.9 +0.1**
baz=168
P51A Williamsport 72.33 351 P **P 19 26 26.9 +0.2**
baz=170
P52A Corning 72.36 352 P **P 19 26 27.3 +0.5**
baz=171
CCM Cathedral Cave 72.44 344 *e*P **P 19 26 26.9 -0.4**
comp=Z,10nm,0.9s
CCM Cathedral Cave 72.44 344 *e*P **P 19 26 27.0 -0.4**
CCM pmax pmax
comp=Z,11nm,0.9s
CCM Cathedral Cave 72.44 344 P **P 19 26 27.9 +0.6**
baz=163
P50A Jamestown 72.56 350 P **P 19 26 27.8 -0.2**
baz=170
P48A Milroy 72.66 349 P **P 19 26 28.6 0.0**
baz=168
O51A Pataskala 72.92 351 P **P 19 26 30.9 +0.7**
baz=170
SSPA Standing Stone 72.94 355 P **P 19 26 31.0 +0.8**
baz=175
Q43A New Douglas 72.95 346 P **P 19 26 30.8 +0.5**
baz=164
ACSO Alum Creek Sta 73.06 351 *e*P **P 19 26 31.1 +0.1**
comp=Z,24nm,0.8s
ACSO Alum Creek Sta 73.06 351 P **P 19 26 31.6 +0.7**
baz=170
O50A Cable 73.06 351 P **P 19 26 31.5 +0.5**
baz=170
N59A State Game Lan 73.10 357 *e*P **P 19 26 32.0 +0.8**
comp=Z,23nm,1.2s
N59A State Game Lan 73.10 357 P **P 19 26 32.8 +1.6**
baz=176
Q42A Golden Eagle 73.10 345 P **P 19 26 32.4 +1.1**
baz=164
N55A Marion Center 73.17 354 P **P 19 26 32.6 +0.9**
baz=174
O49A Covington 73.20 350 P **P 19 26 32.3 +0.5**
baz=169
Q41A Truxton 73.30 344 P **P 19 26 33.2 +0.8**
baz=163
N53A Lisbon 73.37 353 P **P 19 26 34.4 +1.6**
baz=172
O47A Sheridan 73.54 349 P **P 19 26 33.9 +0.1**
baz=168
P43A Skaggs, Pawnee 73.59 346 P **P 19 26 34.4 +0.4**
baz=165
N50A Nevada 73.61 351 P **P 19 26 34.6 +0.4**
baz=170
P42A Winchester 73.71 345 P **P 19 26 35.4 +0.7**
baz=164
M55A Ridgway 73.84 355 P **P 19 26 36.6 +1.0**
baz=174
N49A Columbus Grove 73.90 350 *e*P **P 19 26 35.4 -0.5**
comp=Z,22nm,0.8s
N49A Columbus Grove 73.90 350 P **P 19 26 36.3 +0.4**
baz=169
N47A Urbana 74.09 349 P **P 19 26 36.4 -0.6**
baz=168
LIC Lamto 74.12 72 *e*P **P 19 26 37.9 0.0**
comp=Z,52nm,0.8s
LIC Lamto 74.12 72 *e*P **P 19 26 37.9 0.0**
O41A Passleys Farm, 74.33 345 P **P 19 26 38.3 -0.2**
baz=163
QUA2 Belchertown 74.37 360 *e*P **P 19 26 39.8 +1.2**
comp=Z,42nm,1.2s
TIC Toumodi 74.37 71 *e*P **P 19 26 39.5 +0.1**
TIC Toumodi 74.37 71 *e*P **P 19 26 39.5 +0.1**
TIC Toumodi 74.37 71 *e*P **P 19 26 39.5 +0.1**
KIC Kosan Boka 74.43 72 *e*P **P 19 26 40.0 +0.3**
comp=Z,75nm,0.9s
KIC Kosan Boka 74.43 72 *e*P **P 19 26 40.0 +0.3**
ANMO Albuquerque 74.52 331 ||*i*P **P 19 26 41.7 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
L55A Hinsdale 74.52 355 P **P 19 26 40.4 +0.9**
baz=174
DBIC Dimbokro 74.52 72 *e*P **P 19 26 40.5 +0.3**
comp=Z,26nm,0.7s
DBIC Dimbokro 74.52 72 *e*P **P 19 26 40.5 +0.3**
DBIC pmax pmax
comp=Z,26nm,0.7s
DBIC Dimbokro 74.52 72 P **P 19 26 40.6 +0.4**
comp=Z,32nm,0.8s,baz=211,slow=6.2,SNR=39
DBIC LR LR 19 55 55.8
comp=Z,130nm,21.7s,baz=202,slow=33
M48A Edgerton 74.53 350 P **P 19 26 39.4 -0.1**
baz=169
HRV Adam Dziewonsk 74.59 0 P **P 19 26 41.1 +1.1**
baz=180
MAW Mawson 74.61 164 LR LR 20 01 51.8
comp=Z,262nm,18.9s,baz=250,slow=38
L48A N Adams 74.94 350 P **P 19 26 41.7 -0.2**
baz=169
L47A Sherwood 75.08 350 P **P 19 26 42.8 +0.1**
baz=168
SUR Sutherland 75.42 119 *e*P **P 19 26 46.5 +1.0**
comp=Z,23nm,0.9s
T25A Trinidad 75.63 334 P **P 19 26 48.4 +2.1**
baz=152
L40A Anamosa 76.27 345 *e*P **P 19 26 49.8 +0.3**
comp=Z,23nm,1.0s
LBNH Lisbon 76.33 360 *e*P **P 19 26 51.1 +1.3**
comp=Z,20nm,0.9s
LBNH Lisbon 76.33 360 *e*P **P 19 26 51.1 +1.3**
LBNH pmax pmax
comp=Z,20nm,0.9s
LBNH Lisbon 76.33 360 P **P 19 26 51.5 +1.7**
baz=180
LONY Lake Ozonia 76.75 358 P **P 19 26 53.2 +1.0**
baz=178
H56A Elgin 76.79 357 P **P 19 26 53.2 +0.9**
baz=176
K40A Colesburg 76.86 346 P **P 19 26 53.2 +0.3**
baz=163
J41A Loganville 77.27 347 P **P 19 26 55.5 +0.4**
baz=164
PKME Peaks-Kenny Pk 77.39 2 *e*P **P 19 26 56.7 +1.0**
comp=Z,25nm,0.9s
PKME Peaks-Kenny Pk 77.39 2 P **P 19 26 57.2 +1.5**
baz=182
J40A Soldiers Grove 77.44 346 P **P 19 26 56.2 +0.1**
baz=164
ALFO Alfred 77.77 358 P **P 19 26 58.6 +0.8**
baz=177
ALGO Algonquin Park 78.25 356 P **P 19 27 01.0 +0.4**
baz=175
TRQ Mont Tremblant 78.35 358 *e*P **P 19 27 01.6 +0.4**
ISCO Idaho Springs 78.41 334 P **P 19 27 03.4 +1.3**
baz=152
ECSD EROS Data Cent 79.14 342 *e*P **P 19 27 05.5 0.0**
comp=Z,12nm,0.9s
ECSD EROS Data Cent 79.14 342 P **P 19 27 05.9 +0.4**
baz=159
D54A Lac Fusel, La 79.36 357 P **P 19 27 06.7 +0.1**
baz=176
TSUM Tsumeb 79.47 106 *e*P **P 19 27 08.1 -0.1**
comp=Z,13nm,1.1s
CCUT Cedar City 79.70 328 *e*P **P 19 27 09.9 +0.9**
comp=Z,3.6nm,0.9s
SRU San Rafael Swe 79.76 330 *e*P **P 19 27 09.0 -0.3**
comp=Z,5.0nm,0.5s
SRU San Rafael Swe 79.76 330 *e*P **P 19 27 09.0 -0.3**
SRU pmax pmax
comp=Z,5.0nm,0.5s
F39A Loretta 79.90 347 P **P 19 27 10.1 +0.5**
baz=164
F38A Pierce Schro 80.13 346 P **P 19 27 11.7 +0.8**
baz=163
VLDQ Val d'Or 80.36 356 *e*P **P 19 27 12.2 +0.2**
comp=Z,14nm,0.9s
TPNV Topopah Spring 80.56 325 P **P 19 27 15.7 +2.1**
baz=143
D41A Chassel 80.57 348 P **P 19 27 14.1 +0.9**
baz=166
DAC Darwin (Calif) 80.68 324 *e*P **P 19 27 14.6 +0.3**
comp=Z,3.2nm,0.8s
DAC Darwin (Calif) 80.68 324 *e*P **P 19 27 14.6 +0.3**
DAC pmax pmax
comp=Z,3.0nm,0.8s
LSQQ Lebel-sur-Quev 81.28 357 P **P 19 27 17.5 +0.6**
baz=176
R11A Troy Canyon, C 81.36 327 *e*P **P 19 27 19.3 +1.4**
comp=Z,3.3nm,1.0s
R11A Troy Canyon, C 81.36 327 P **P 19 27 19.8 +1.8**
baz=144
CASY Casey 81.57 181 *e*P **P 19 27 19.2 +0.8**
comp=Z,11nm,1.0s
DUG Dugway, Tooele 81.63 329 P **P 19 27 20.5 +1.3**
baz=146
EYMN Ely 81.96 347 P **P 19 27 20.7 +0.1**
baz=163
MATQ Matagami 82.01 356 P **P 19 27 21.4 +0.6**
baz=175
PD31 Pinedale Array 82.47 333 *e*P **P 19 27 23.0 -0.7**
comp=Z,30nm,0.9s
PDAR Pinedale Array 82.47 333 P **P 19 27 23.6 -0.1**
comp=Z,0.8nm,0.8s,baz=160,slow=8.4,SNR=4.7
PDAR LR LR 20 00 25.8
comp=Z,89nm,20.3s,baz=170,slow=33
NV01 Mina Array Sit 82.72 325 *e*P **P 19 27 25.4 +0.3**
NVAR Mina Array Bea 82.72 325 P **P 19 27 25.9 +0.9**
comp=Z,1.7nm,0.7s,baz=156,slow=6.2,SNR=11
LBTB Lobatse 82.79 115 *e*P **P 19 27 25.5 -0.3**
LBTB Lobatse 82.79 115 *e*P **P 19 27 25.5 -0.3**
RYN Ryan 82.98 325 *e*P **P 19 27 26.4 0.0**
comp=Z,3.1nm,1.0s
KVN Kaiserville 83.11 325 *e*P **P 19 27 26.3 -0.8**
comp=Z,15nm,1.9s
KVN Kaiserville 83.11 325 *e*P **P 19 27 26.3 -0.8**
KVN pmax pmax
comp=Z,15nm,1.9s
ELK Elko 83.14 328 *e*P **P 19 27 27.8 +0.6**
comp=Z,2.1nm,0.8s
ELK Elko 83.14 328 *e*P **P 19 27 27.8 +0.6**
ELK pmax pmax
comp=Z,2.0nm,0.8s
TOA0 Torodi Ar. Sit 83.52 70 *e*P **P 19 27 29.3 -0.2**
comp=Z,23nm,0.8s
TORD Torodi Ar. Bea 83.52 70 P **P 19 27 27.9 -1.6**
comp=Z,16nm,0.9s,baz=279,slow=3.8,SNR=70
TORD LR LR 20 05 10.6
comp=Z,162nm,18.1s,baz=280,slow=36
TOA1 Torodi Ar. Sit 83.52 70 *e*P **P 19 27 27.9 -1.6**
YHH Holmes Hill 84.68 333 *e*P **P 19 27 35.7 +0.6**
comp=Z,10nm,1.1s
ULM Lac du Bonnet 85.06 345 *e*P **P 19 27 36.1 -0.3**
comp=Z,7.4nm,0.9s
ULM Lac du Bonnet 85.06 345 *e*P **P 19 27 36.1 -0.3**
ULM pmax pmax
comp=Z,7.0nm,0.9s
ULM Lac du Bonnet 85.06 345 P **P 19 27 36.0 -0.5**
comp=Z,6.6nm,0.8s,baz=160,slow=5.0,SNR=10
J08A Circle Bar Ran 86.68 328 *e*P **P 19 27 44.9 +0.1**
comp=Z,5.7nm,0.8s
ESDC Sonseca Array 95.38 46 LR LR 20 11 36.9
comp=Z,70nm,18.4s,baz=205,slow=36
FRB Frobisher Bay 95.91 1 LR LR 20 12 10.1
comp=Z,66nm,20.1s,baz=212,slow=36
YKA Yellowknife Ar 100.65 341 P **Pdif 19 28 48.4 -0.1**
comp=Z,0.3nm,0.6s,baz=140,slow=4.3,SNR=5.4
DZM Mont Dzumac 102.29 234 *e*LR LR 20 02 19.6
comp=Z,136nm,22.3s
MODS Modra-Piesok 112.91 46 *e*P **Pdif 19 29 47.0 +3.6**
MODS Modra-Piesok 112.91 46 *e*PDIF **Pdif 19 29 47.0 +3.6**
COLA College 113.31 333 ||*i*PKIKP **PKiKP 19 33 35.3 -2.7**
VYHS Vyhne 113.91 47 *e*P **Pdif 19 29 54.1 +6.2**
VYHS Vyhne 113.91 47 *e*PDIF **Pdif 19 29 54.1 +6.2**
TOLK Toolik Lake Re 115.54 337 P **PKiKP 19 33 43.1 +0.8**
baz=114
KLNR Kaliningrad 116.86 41 ||*i*PKIKP **PKPdf 19 33 41.2 -3.9**
ASAR Alice Springs 119.02 207 PKP **PKPdf 19 33 49.5 -1.0**
comp=Z,0.7nm,0.8s,baz=143,slow=3.0,SNR=6.6
ASAR PKKPbc **PKKPbc 19 44 03.6 -0.4**
comp=Z,0.6nm,0.8s,baz=339,slow=3.6,SNR=4.6
BR101 Keskin Array S 120.92 60 *e*PKPdf **PKPdf 19 33 53.2 -0.4**
BR131 Keskin Array S 120.92 60 *e*PKPdf **PKPdf 19 33 53.1 -0.6**
BRTR Keskin Array B 120.92 60 PKP **PKPdf 19 33 53.2 -0.4**
comp=Z,1.2nm,0.7s,baz=162,slow=1.8,SNR=7.6
AK11 Malin Array Si 120.97 47 *e*PKPdf **PKPdf 19 33 51.8 -1.4**
KiEV Kiev 121.00 47 ||*i*PKIKP **PKPdf 19 33 53.0 -0.2**
AKASG Malin Array Be 121.01 47 PKP **PKPdf 19 33 52.4 -0.9**
comp=Z,0.7nm,0.5s,baz=262,slow=2.9,SNR=7.8
AKBB Malin Array Si 121.01 47 *e*PKPdf **PKPdf 19 33 52.4 -0.9**
AKBB Malin Array Si 121.01 47 *e*PKIKP **PKPdf 19 33 52.4 -0.9**
VSU Vasula 121.37 37 ||*i*PKIKP **PKPdf 19 33 53.5 -0.2**
WB2 Warramunga Arr 122.19 209 *e*PKPdf **PKPdf 19 33 55.9 -0.8**
WR1 Warramunga Arr 122.19 209 *e*PKPdf **PKPdf 19 33 55.9 -0.8**
WRA Warramunga Arr 122.19 209 PKP **PKPdf 19 33 55.9 -0.8**
comp=Z,1.5nm,0.6s,baz=154,slow=1.6,SNR=25
WRAB Tennant Creek 122.20 209 ||*i*PKIKP **PKiKP 19 33 57.1 +0.3**
H11S2 WAKE ISLAND Hyl 125.96 270 T T 21 53 05.1
baz=118,slow=75,SNR=13
H11S1 WAKE ISLAND Hyl 125.97 270 T T 21 53 03.8
baz=118,slow=75,SNR=108
H11S3 WAKE ISLAND Hyl 125.97 270 T T 21 53 06.4
baz=118,slow=75,SNR=75
OBN Obninsk 126.19 42 *e*PKIKP **PKPdf 19 34 02.3 -0.7**
OBN *e* 19 35 58.3
OBN *e*PPP PPP 19 38 42.4
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,93nm,17.0s
H11N3 WAKE ISLAND Hyl 126.33 272 T T 21 53 33.3
baz=117,slow=75,SNR=10
H11N1 WAKE ISLAND Hyl 126.34 272 T T 21 53 33.3
baz=117,slow=75,SNR=3.9
H11N2 WAKE ISLAND Hyl 126.35 272 T T 21 53 34.0
baz=117,slow=75,SNR=13
KLMR Klimovskoe 128.05 35 *e*PKIKP **PKPdf 19 34 06.3 -0.1**
KLMR pmax pmax
comp=Z,16nm,1.5s
KLMR Klimovskoe 128.05 35 *e*PKPdf **PKPdf 19 34 06.3 -0.1**
KLMR AMP 19 34 16.2
comp=Z,16nm,1.5s
KIV Kislovodsk 128.52 57 *i* PKIKP **PKiKP 19 34 08.7 0.0**
KIV pmax pmax
comp=Z,26nm,1.1s

BILL	**Bilibino**	**131.52**	**335**	*i* PKIKP	**PKPdf**	**19 34 13.2**	**+0.3**
BILL				*e*		19 36 30.3	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARU	**Arti**	**138.45**	**40**	*i* PKIKP	**PKPdf**	**19 34 26.9**	**+0.8**
ARU						19 37 14.9	
SEY	**Seymchan**	**138.78**	**331**	⇓*i* PKIKP	**PKiKP**	**19 34 28.0**	**-0.7**
SEY	**Seymchan**	**138.78**	**331**	PKP	**PKPdf**	**19 34 27.4**	**+0.8**
	comp=Z,4.9nm,0.8s,baz=111,slow=3.0,SNR=24						
GEYT	**Alibeck**	**139.13**	**68**	PKP	**PKiKP**	**19 34 29.8**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=320,slow=3.2,SNR=4.1						
TIXI	**Tiksi**	**139.21**	**350**	⇓*e*PKIKP	**PKPdf**	**19 34 27.2**	**+0.1**
TIXI	**Tiksi**	**139.21**	**350**	PKhKP	PKPpre	19 34 17.2	
	comp=Z,0.4nm,0.2s,baz=48,slow=4.1,SNR=4.0						
TIXI				PKP	**PKiKP**	**19 34 28.8**	**-0.5**
	comp=Z,1.8nm,0.7s,baz=18,slow=2.8,SNR=11						
AB31	**Akbulak array**	**140.58**	**50**	*i* PKHKP	PKPpre	19 34 22.4	
AB31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**140.58**	**50**	*e*PKPpre	PKPpre	19 34 22.1	
MA2	**Magadan**	**140.94**	**327**⇓	*e*PKIKP	**PKPdf**	**19 34 30.5**	**-0.1**
BRVK	**Borovoye**	**145.95**	**41**	*e*PKPdf	**PKPab**	**19 34 40.7**	**-0.2**
BRVK	**Borovoye**	**145.95**	**41**⇑	*i*PKP2	**PKPdf**	**19 34 39.9**	**+0.3**
BVA0	**Borovoye Array**	**146.02**	**41**	*i* PKP2	**PKPbc**	**19 34 40.8**	**+0.2**
BVA0				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK	**Yakutsk**	**147.33**	**341**	*e*PKP2	**PKPbc**	**19 34 43.8**	**-0.2**
YAK				pmax	pmax		
	comp=Z,146nm,0.8s						
YAK				pmax	pmax		
	comp=N,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,16nm,0.8s						
KBL	**Kabul**	**147.44**	**75**	*e*PKPdf	**PKPdf**	**19 34 41.7**	**-1.3**
KBL	**Kabul**	**147.44**	**75**	*e*PKIKP	**PKPdf**	**19 34 41.7**	**-1.3**
KK31	**Karatay Array**	**148.63**	**59**	*e*PKPbc	**PKPbc**	**19 34 48.0**	**-0.1**
KK31	**Karatay Array**	**148.63**	**59**	*i* PKP2	**PKPbc**	**19 34 47.8**	**-0.4**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**148.63**	**59**	*e*PKPbc	**PKPbc**	**19 34 48.3**	**+0.1**
GAR	**Garm**	**148.75**	**67**	*e*PKPbc	**PKPdf**	**19 34 46.8**	**+1.9**
GAR	**Garm**	**148.75**	**67**	*e*PKIKP	**PKPdf**	**19 34 46.8**	**+1.9**
OTUK	**Ortayu**	**148.80**	**49**	PKP2	**PKPbc**	**19 34 49.1**	**+0.7**
OTUK				pmax	pmax		
	comp=Z,24nm,1.1s						
NKL	**Nikolayevsk**	**148.84**	**321**	*e*PKP2	**PKPbc**	**19 34 49.0**	**+0.7**
NKL				pmax	pmax		
	comp=Z,110nm,0.8s						
PSI	**Prapat**	**149.25**	**162**	*e*PKPbc	**PKPbc**	**19 34 49.9**	**-0.8**
PSI	**Prapat**	**149.25**	**162**	*e*PKP2	**PKPbc**	**19 34 49.9**	**-0.8**
HYB	**Hyderabad**	**149.38**	**112**	*i* PKP	**PKPbc**	**19 34 50.0**	**-0.8**
HYB				*e*		19 35 00.5	
SBUM	**Sibu**	**149.91**	**188**	*e*PKPbc	**PKPbc**	**19 34 51.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**149.99**	**309**	*e*PKIKP	**PKPbc**	**19 34 50.6**	**-0.7**
YSS				*e*		19 35 06.3	
ARSB	**Arslanbob**	**150.66**	**62**	*e*PKPbc	**PKiKP**	**19 34 53.9**	**-0.1**
ASAJ	**Asahikawa**	**150.78**	**303**	PKPbc	**PKPbc**	**19 34 53.5**	**+0.2**
	comp=Z,12nm,1.1s,baz=100,slow=3.8,SNR=4.8						
NIL	**Nilore**	**150.79**	**78**	*e*PKPbc	**PKPbc**	**19 34 53.4**	**-0.4**
EKS2	**Erkin-Say**	**151.07**	**59**	P	**PKiKP**	**19 34 55.4**	**+0.5**
	SNR=16						
AML	**Almayashu**	**151.09**	**61**	P	**PKiKP**	**19 34 55.9**	**+0.6**
	SNR=13						
IPM	**Ipoh**	**151.38**	**165**	*e*PKPbc	**PKPbc**	**19 34 54.7**	**-1.0**
USP	**Óspenovka**	**151.49**	**58**	P	**PKiKP**	**19 34 55.8**	**+0.2**
	SNR=12						
NVS	**Novosibirsk**	**151.53**	**31**	*e*PKIKP	**PKiKP**	**19 34 55.6**	**+0.4**
NVS				pmax	pmax		
	comp=Z,20nm,0.9s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.3s						
AAK	**Ala-Archa**	**151.59**	**59**	P	**PKiKP**	**19 34 56.6**	**+0.6**
	SNR=23						
AAK	**Ala-Archa**	**151.59**	**59**	*e*PKPbc	**PKiKP**	**19 34 56.5**	**+0.5**
AAK	**Ala-Archa**	**151.59**	**59**⇓	*i* PKIKP	**PKPdf**	**19 34 50.5**	**+1.2**
KURK	**Kurchatov**	**151.62**	**41**	*e*PKPbc	**PKPbc**	**19 34 55.3**	**+0.2**
KURK	**Kurchatov**	**151.62**	**41**⇑	*e*PKPdf	**PKPdf**	**19 34 49.3**	**+0.5**
KURK				*i*		19 34 54.8	
FRU	**Bishkek**	**151.65**	**59**	*e*PKIKP	**PKiKP**	**19 34 56.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,30nm,2.0s						
FRU1	**Bishkek**	**151.66**	**59**	*e*PKPbc	**PKiKP**	**19 34 56.6**	**+0.6**
UCH	**Uchtor**	**151.68**	**60**	P	**PKiKP**	**19 34 56.8**	**+0.3**
	SNR=22						
CHMS	**Chumysh**	**151.72**	**59**	P	**PKiKP**	**19 34 56.5**	**+0.5**
	SNR=8.3						
KBK	**Karagaybulak**	**151.92**	**59**	P	**PKiKP**	**19 34 57.3**	**+0.6**
	SNR=8.2						
KZA	**Kyzart**	**152.24**	**60**	P	**PKiKP**	**19 34 58.4**	**+0.7**
	SNR=8.5						
TKM2	**Tokmak 2**	**152.34**	**58**	P	**PKiKP**	**19 34 58.0**	**+0.4**
	SNR=14						
TKM2	**Tokmak 2**	**152.34**	**58**	PKIKP	**PKPbc**	**19 34 57.2**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,14nm,1.0s						
ZAA1	**Zalesovo Array**	**152.82**	**31**	*e*PKPdf	**PKPdf**	**19 34 50.4**	**-0.1**
ZAA1				*e*PKPbc	**PKiKP**	**19 34 58.0**	**+0.1**
ZAA1				*e*PKPab	**PKPab**	**19 35 07.4**	**-1.2**
ZAA0	**Zalesovo Array**	**152.82**	**31**	*e*PKPbc	**PKiKP**	**19 34 57.9**	**0.0**
ZALV	**Zalesovo Beam**	**152.82**	**31**	PKP	**PKPdf**	**19 34 50.4**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=268,slow=3.9,SNR=5.2						
ZALV				PKPbc	**PKiKP**	**19 34 58.0**	**+0.1**
	comp=Z,17nm,0.7s,baz=293,slow=3.3,SNR=62						
ZALV				PKPab	**PKPab**	**19 35 07.4**	**-1.2**
	comp=Z,10.0nm,0.7s,baz=300,slow=3.5,SNR=8.7						
NRN	**Naryn**	**152.90**	**61**	*e*PKPbc	**PKPbc**	**19 34 58.8**	**+0.1**
KSH	**Kashi**	**153.11**	**66**	PKPbc	**PKiKP**	**19 34 59.3**	**+0.2**
KSH				PP	**PP**	**19 38 44.3**	**-0.1**
KSH				AMB	AMB		
	comp=Z,87nm,7.0s						
TARG	**Taragay, Kyrgy**	**154.18**	**60**	*e*PKPbc	**PKPbc**	**19 35 01.1**	**-0.5**
BOD	**Bodaibo**	**154.32**	**353**	*e*PKIKP	**PKPbc**	**19 35 00.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,12nm,0.9s						
MAKZ	**Makanchi**	**155.40**	**47**	*e*PKPdf	**PKPdf**	**19 34 54.0**	**-0.4**
MAKZ	**Makanchi**	**155.40**	**47**	*e*PKIKP	**PKPdf**	**19 34 54.0**	**-0.4**
MK31	**Makanchi Array**	**155.60**	**47**	*e*PKPdf	**PKPdf**	**19 34 54.4**	**-0.3**
MK31	**Makanchi Array**	**155.60**	**47**	*e*PKIKP	**PKPdf**	**19 34 54.4**	**-0.3**
MK32	**Makanchi Array**	**155.60**	**47**	*e*PKPdf	**PKPdf**	**19 34 54.8**	**+0.1**
MK32				*e*PKPab	**PKPab**	**19 35 20.6**	**-0.1**
MKAR	**Makanchi Array**	**155.60**	**47**	PKP	**PKPdf**	**19 34 54.8**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=336,slow=2.7,SNR=7.1						
MKAR				PKPab	**PKPab**	**19 35 20.6**	**-0.1**
	comp=Z,6.3nm,0.7s,baz=294,slow=3.9,SNR=25						
MK01	**Makanchi Array**	**155.61**	**47**	*e*PKPdf	**PKPdf**	**19 34 54.4**	**-0.3**
KLR	**Kul'dur**	**155.68**	**320**	PKP	**PKPdf**	**19 34 54.6**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=72,slow=3.2,SNR=3.0						
MDJ	**Mudanjiang**	**159.38**	**312**	PKP	**PKPdf**	**19 34 59.6**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,350nm,3.9s						
WMQ	**Urumqi**	**160.35**	**49**	*e*PKP	**PKPdf**	**19 35 00.9**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,350nm,4.9s						
WMQ				LR	LR		
	comp=Z,79nm,19.5s						
WMQ				LR	LR		
	comp=Z,100nm,21.1s						
WMQ				LR	LR		
	comp=Z,98nm,18.7s						
CM01	**Chiang Mai Arr**	**163.75**	**147**	*e*PKPdf	**PKPdf**	**19 35 04.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**163.77**	**147**	PKP	**PKPdf**	**19 35 05.2**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=262,slow=2.0,SNR=7.5						
SONA0	**Songino Array**	**164.58**	**5**	*e*PKPdf	**PKPdf**	**19 35 04.0**	**-0.8**
SONA0				*e*PKPab	**PKPab**	**19 36 00.4**	**+0.6**
SONA0				*e*PP	**PP**	**19 39 43.9**	**-1.4**
SONM	**Songino Array**	**164.58**	**5**	PKP	**PKPdf**	**19 35 04.0**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=79,slow=3.1,SNR=2.8						
SONM				PKPab	**PKPab**	**19 36 00.4**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=350,slow=4.4,SNR=9.3						
SONM				PP	**PP**	**19 39 43.9**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=19,slow=4.9,SNR=3.7						
ULN	**Ulaanbaatar**	**164.58**	**3**	*e*PKPab	**PKPab**	**19 36 00.6**	**+0.7**
ULN	**Ulaanbaatar**	**164.58**	**3**	*e*PKP2	**PKPab**	**19 36 00.6**	**+0.7**
GTA	**Gaotai**	**170.30**	**42**	PKP	**PKPdf**	**19 35 10.3**	**+1.1**
GTA				pPKP	sPKPdf	19 35 21.1	+7.8
GTA				PKPab	**PKPab**	**19 36 26.3**	**+0.8**
GTA				LR	LR		
	comp=Z,140nm,24.9s						
GTA				LR	LR		
	comp=Z,170nm,22.8s						
GTA				LR	LR		
	comp=Z,110nm,21.1s						
NJ2	**Nanjing**	**170.94**	**270**	*e*PKP	**PKPdf**	**19 35 08.5**	**-1.1**
HHC	**Hu-ho-hao-te**	**171.19**	**343**	*e*PKP	**PKPdf**	**19 35 06.3**	**-3.3**
KMI	**Kunming**	**171.28**	**146**	PKP	**PKPdf**	**19 35 09.8**	**-0.5**
KMI				AMB	AMB		
	comp=Z,130nm,5.7s						
GYA	**Guiyang**	**173.88**	**167**	*e*PKP	**PKPdf**	**19 35 10.0**	**-1.2**
GYA				PKS	**PKSdf**	**19 38 41.8**	**-1.9**
GYA				PP	**PP**	**19 40 35.5**	**+3.1**
GYA				AMB	AMB		
	comp=Z,120nm,8.2s						
LZH	**Lanzhou**	**174.91**	**43**	*e*PKP	**PKPdf**	**19 35 09.6**	**-1.8**
LZH				pPKP	sPKPdf	19 35 16.3	+0.9
LZH				sPKP		19 35 18.5	
LZH				LR	LR		
	comp=Z,180nm,17.9s						
LZH				LR	LR		
	comp=Z,190nm,18.1s						
LZH				LR	LR		
	comp=Z,260nm,20.0s						
CD2	**Chengdu**	**175.94**	**111**	*e*PKP	**PKPdf**	**19 35 11.1**	**-0.5**

*IDC **18** 19:17:50.9±1.0, 32.°44S×71.°69W, h0km, mb4.3/5, mb1 4.4/6, mb1mx4.0/27, mbtmp4.3/6, ML3.9/1, Error ellipse: s-maj=36.4km s-min=29.6km az=101.0*
*GUC **18** 19:17:54.8±0.5, 32.°45S×71.°77W, h32km±6km, ML4.0*
*NEIC **18** 19:17:54.0±0.0, 32.°44S×71.°76W, h28km, ML4.0(GUC), After GUC.*
NEIC Felt [II] at Villa Alemana.
ISC 18 19:17:56.0±2.9, 32.°42S±0.°07×71.°7W±0.°2, h32km±17km, n23, σ0°82/24, mb4.3/5, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.82**	**132**	⇓*i* P	**Pn**	**19 18 11.2**	**-0.5**
ROCH				*i* S	**Sb**	**19 18 23.0**	**+0.1**
ROCH				IAML		19 18 25.4	
	comp=N,9μm,0.7s						
PEL	**Peldehue**	**1.14**	**129**	⇓*i* P	**Pn**	**19 18 16.4**	**+0.6**
PEL				*i* S	**Sb**	**19 18 32.4**	**+0.6**
CMCH	**Combarbala**	**1.40**	**27**	*e*P	**Pb**	**19 18 20.6**	**-0.9**
CMCH				*e*S	**Sb**	**19 18 40.0**	**+1.0**
CLCH	**Cerro Calan**	**1.40**	**134**	⇓*i* P	**Pn**	**19 18 20.2**	**+0.8**
CLCH				*i* S	**Sb**	**19 18 39.4**	**+0.2**
CLCH				IAML		19 18 42.9	
	comp=E,5μm,0.5s						
ANTU	**Antumapu**	**1.47**	**141**	*e*P	**Pn**	**19 18 21.2**	**+0.8**
ANTU				*i* S	**Sb**	**19 18 41.2**	**0.0**
ANTU				IAML		19 18 42.7	
	comp=N,4μm,0.3s						
FCH	**Farellones**	**1.52**	**127**⇑	*i* P	**Pn**	**19 18 22.3**	**+1.1**
FCH				*i* S	**Sb**	**19 18 43.2**	**+0.4**
FCH				IAML		19 18 45.3	
	comp=E,3μm,0.3s						
LMEL	**Las Melosas**	**1.92**	**138**⇑	*i* P	**Pn**	**19 18 28.1**	**+1.5**
LMEL				*i* S	**Sb**	**19 18 53.7**	**-0.4**
LMEL				IAML		19 18 58.6	
	comp=N,2μm,0.3s						
LPAZ	**La Paz**	**16.39**	**12**	Pn	**Pn**	**19 21 45.2**	**+0.8**
	comp=N,0.2nm,0.3s,baz=194,slow=9.8,SNR=2.6						
BDFB	**Brasilia**	**27.26**	**58**	P	**P**	**19 23 36.0**	**-1.6**
	comp=N,7.2nm,0.8s,baz=190,slow=6.1,SNR=3.3						
SNAA	**Sanae**	**52.95**	**158**	P	**P**	**19 27 09.1**	**+0.1**
	comp=N,3.3nm,0.9s,baz=306,slow=8.7,SNR=4.9						
DBIC	**Dimbokro**	**74.44**	**72**	P	**P**	**19 29 31.6**	**+0.3**
	comp=N,3.7nm,0.6s,baz=230,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**82.74**	**325**	P	**P**	**19 30 17.0**	**+0.2**
	comp=N,0.2nm,0.4s,baz=162,slow=6.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**83.44**	**70**	P	**P**	**19 30 20.2**	**-0.5**
	comp=N,0.7nm,0.5s,baz=246,slow=4.4,SNR=4.4						
WRA	**Warramunga Arr**	**122.26**	**209**	PKP	**PKPdf**	**19 36 47.2**	**-1.1**
	comp=N,0.5nm,0.8s,baz=159,slow=1.6,SNR=3.6						
H11S2	**WAKE ISLAND Hyd**	**126.03**	**270**	T	T	21 55 58.1	
	baz=118,slow=75,SNR=43						
H11S1	**WAKE ISLAND Hyd**	**126.04**	**270**	T	T	21 55 54.2	
	baz=118,slow=75,SNR=41						
H11S3	**WAKE ISLAND Hyd**	**126.05**	**270**	T	T	21 55 57.7	
	baz=118,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hyd**	**126.40**	**272**	T	T	21 56 25.3	
	baz=117						
H11N1	**WAKE ISLAND Hyd**	**126.42**	**272**	T	T	21 56 30.4	
	baz=117						
H11N2	**WAKE ISLAND Hyd**	**126.42**	**272**	T	T	21 56 29.9	
	baz=117						
SEY	**Seymchan**	**138.78**	**331**	PKP	**PKPdf**	**19 37 18.9**	**+0.8**
	comp=N,1.3nm,0.9s,baz=72,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**152.75**	**31**	PKPbc	**PKiKP**	**19 37 49.0**	**-0.2**
	comp=N,3.0nm,0.7s,baz=301,slow=2.9,SNR=3.8						
MKAR	**Makanchi Array**	**155.52**	**47**	PKPab	**PKPab**	**19 38 12.3**	**+0.3**
	comp=N,1.0nm,0.7s,baz=275,slow=2.5,SNR=4.7						

DJA 18 19:21:32.6±1.1, 11.°S±10.°×11.°9E.°, h10km, M3.8/7, mb4.2/3, MLv3.7/7, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**2.21**	**60**	P	Pn	19 22 09.4	0.0
BASI				S	Pn	19 22 09.3	-0.1
WSI	**Waingapu**	**2.33**	**44**	P	Pn	19 22 11.1	0.0
WSI				S	Sn	19 22 40.1	+0.3
PLAI	**Plampang**	**2.65**	**341**	P	Pn	19 22 15.0	-0.4
BSSI	**Bau Bau, Buton**	**5.49**	**20**	P	Pn	19 22 55.0	+0.5
	15nm,0.6s,0.1nm						
SOEI	**Soe**	**5.75**	**75**	P	Pn	19 22 57.9	-0.4
	53nm,0.8s,0.5nm						
BKSI	**Bulukumba**	**6.17**	**14**	P	Pn	19 23 04.2	+0.4

*GUC **18** 19:43:14.3±0.6, 32.°44S×71.°70W, h28km±4km, ML3.3*
*SJA **18** 19:43:14.5±0.8, 32.°63S×71.°84W, h20km±12km, ML3.3, MW3.8*
ISC 18 19:43:13.0±2.5, 32.°43S±0.°04×71.°8W±0.°1, h11km±14km, n20, σ1°25/30, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.86**	**130**	*e*P	**Pb**	**19 43 30.1**	**0.0**
ROC1				*e*S	**Sb**	**19 43 41.1**	**-0.7**
ROCH	**El Roble**	**0.86**	**129**	⇓*i* P	**Pb**	**19 43 30.1**	**0.0**
ROCH				*i* S	**Sg**	**19 43 42.1**	**+1.2**
ROCH				IAML		19 43 47.0	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.18**	**127**	*e*P	**Pn**	**19 43 35.4**	**-0.2**
PEL				*e*S	**Sg**	**19 43 51.6**	**+0.5**
PEL	**Peldehue**	**1.18**	**127**	⇓*i* P	**Pn**	**19 43 35.3**	**-0.2**
PEL				*e*S	**Sn**	**19 43 50.8**	**-0.9**
PEL				IAML		19 43 54.8	
	comp=E,1μm,0.3s						
CMCH	**Combarbala**	**1.42**	**29**	⇑*i* P	**Pb**	**19 43 39.4**	**-0.2**
CMCH				*i* S	**Sg**	**19 43 58.8**	**0.0**
CLCH	**Cerro Calan**	**1.44**	**133**	⇑*i* P	**Pn**	**19 43 39.3**	**+0.2**
CLCH				*i* S	**Sb**	**19 43 58.2**	**0.0**
CLCH				IAML		19 44 04.6	
	comp=E,815nm,0.3s						
ANTU	**Antumapu**	**1.51**	**140**	*e*P	**Pn**	**19 43 40.3**	**+0.3**
ANTU				*i* S	**Sb**	**19 44 00.2**	**+0.1**
ANTU				IAML		19 44 06.1	
	comp=N,898nm,0.3s						
FCH	**Farellones**	**1.56**	**126**⇑	*i* P	**Pn**	**19 43 41.2**	**+0.3**
FCH				*i* S	**Sb**	**19 44 02.0**	**+0.1**
FCH				IAML		19 44 04.8	
	comp=E,756nm,0.2s						
LMEL	**Las Melosas**	**1.95**	**137**⇓	*i* P	**Pn**	**19 43 47.3**	**+1.1**
LMEL				*i* S	**Sb**	**19 44 12.4**	**-0.7**
LMEL				IAML		19 44 18.5	
	comp=N,693nm,0.2s						
AUSP	**Uspallata**	**2.06**	**85**	*e*P	**Pb**	**19 43 51.5**	**+0.9**
AUSP				*e*S	**Sg**	**19 44 19.2**	**+0.1**
RTLS	**Leoncito**	**2.22**	**74**	*e*P	**Pg**	**19 43 55.0**	**-0.6**
RTLS				IAML		19 44 33.1	
	comp=Z,258nm,0.7s						
GO04	**Tololo Observa**	**2.41**	**21**	*e*P	**Pb**	**19 43 56.4**	**-0.1**
RTCV	**Cerro Valdivia**	**2.83**	**79**	*e*P	**Pb**	**19 44 03.0**	**-0.5**
ACCO	**Cerro Coronel**	**2.97**	**53**	*e*P	**Pb**	**19 44 06.6**	**+0.4**
AROD	**Rodeo**	**3.01**	**42**	*e*P	**Pb**	**19 44 07.0**	**+0.2**
RTLL	**Cerro Villicun**	**3.04**	**70**	*e*P	**Pb**	**19 44 05.4**	**-1.7**
RTLL				IAML		19 44 10.8	
	comp=Z,53nm,0.3s						
CFA	**Coronel Fontan**	**3.14**	**76**	*e*P	**Pb**	**19 44 06.7**	**-2.2**
AMOG	**MOGNA**	**3.19**	**63**	*e*P	**Pb**	**19 44 07.9**	**-1.8**
ACAN	**Cantantal**	**3.91**	**89**	*e*P	**Pn**	**19 44 17.2**	**+4.2**
AGUA	**GUANDACOL**	**4.08**	**45**	*e*P	**Pb**	**19 44 22.7**	**-2.3**

*SJA **18** 19:44:14.4±0.8, 32.°78S×71.°94W, h30km±3km, ML3.6, MW3.9*
*GUC **18** 19:44:14.1±0.6, 32.°44S×71.°78W, h28km±6km, ML3.5*
ISC 18 19:44:12.6±2.5, 32.°49S±0.°04×72.°0W±0.°1, h32km±20km, n17, σ0°95/26, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.94**	**122**	*e*P	**Pb**	**19 44 30.7**	**+0.1**
ROC1				*e*S	**Sn**	**19 44 42.7**	**+0.4**
ROCH	**El Roble**	**0.94**	**121**	*i* P	**Pb**	**19 44 30.6**	**+0.1**
ROCH				IAML		19 44 47.4	
	comp=E,2μm,0.3s						
PEL	**Peldehue**	**1.26**	**122**	*e*P	**Pb**	**19 44 35.8**	**-0.1**
PEL				*e*S	**Sb**	**19 44 52.4**	**+0.6**
PEL	**Peldehue**	**1.26**	**122**⇓	*i* P	**Pb**	**19 44 35.9**	**-0.1**
PEL				*i* S	**Sb**	**19 44 52.0**	**+0.1**
PEL				IAML		19 44 53.7	
	comp=E,2μm,0.5s						
CLCH	**Cerro Calan**	**1.51**	**127**	*i* P	**Pb**	**19 44 39.7**	**-0.3**
CLCH				*i* S	**Sb**	**19 44 59.0**	**+0.1**
CLCH				IAML		19 45 08.0	
	comp=E,1μm,0.6s						
CMCH	**Combarbala**	**1.54**	**32**	*e*P	**Pb**	**19 44 39.9**	**-0.8**
CMCH				*i* S	**Sb**	**19 44 59.4**	**-0.5**
ANTU	**Antumapu**	**1.56**	**134**	*e*P	**Pb**	**19 44 40.5**	**-0.3**
ANTU				*e*S	**Sb**	**19 45 00.3**	**+0.1**
ANTU				IAML		19 45 06.6	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.64**	**121**⇑	*i* P	**Pb**	**19 44 41.8**	**-0.7**
FCH				*i* S	**Sb**	**19 45 02.8**	**-0.1**
FCH				IAML		19 45 04.4	
	comp=E,1μm,0.2s						
LMEL	**Las Melosas**	**2.01**	**133**	*e*P	**Pb**	**19 44 47.8**	**-0.8**
LMEL				*i* S	**Sb**	**19 45 13.9**	**+0.6**
LMEL				IAML		19 45 19.0	
	comp=N,1μm,0.2s						
AUSP	**Uspallata**	**2.20**	**84**	*e*P	**Pb**	**19 44 52.2**	**+0.3**
AUSP				*e*S	**Sb**	**19 45 20.4**	**+1.5**
RTLS	**Leoncito**	**2.37**	**74**	*e*P	**Pb**	**19 44 55.5**	**+0.8**
RTLS				IAML		19 45 33.6	
	comp=Z,261nm,0.6s						
GO04	**Tololo Observa**	**2.51**	**24**	*e*P	**Pb**	**19 44 57.4**	**+0.2**
RTCV	**Cerro Valdivia**	**2.97**	**79**	*e*P	**Pb**	**19 45 04.2**	**-0.7**
ACCO	**Cerro Coronel**	**3.12**	**53**	*e*P	**Pb**	**19 45 07.6**	**+0.1**
AROD	**Rodeo**	**3.15**	**43**	*e*P	**Pb**	**19 45 09.2**	**+1.1**
RTLL	**Cerro Villicun**	**3.19**	**70**	*e*P	**Pb**	**19 45 06.2**	**-2.4**
RTLL				IAML		19 45 55.5	
	comp=Z,132nm,0.4s						
CFA	**Coronel Fontan**	**3.29**	**75**	*e*P	**Pb**	**19 45 07.7**	**-2.5**

*NEIC **18** 19:53:26.3±0.0, 15.°40N×96.°53W, h16km, MD4.1(MEX), After MEX.*
MEX 18 19:53:26.3±0.6, 15.°40N×96.°53W, h17km±10km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.54**	**48**	*i* P	Pg	19 53 35.1	-2.0
HUIG				*i* S	Sg	19 53 42.2	-2.3
HUIG	**Huatulco**	**0.54**	**48**	*i* P	Pg	19 53 35.1	-2.0
HUIG				*i* S	Sg	19 53 42.2	-2.3
VHO	**Vista Hermosa**	**1.67**	**353**	*e*P	Pn	19 53 52.2	-2.8
VHO				*e*S	Sn	19 54 11.9	-4.3
VHO	**Vista Hermosa**	**1.67**	**353**	*e*P	Pn	19 53 52.2	-2.8
VHO				*e*S	Sn	19 54 11.9	-4.3
PNIG	**Pinotepa**	**1.83**	**303**	*e*P	Pn	19 53 54.0	-3.0
PNIG				*e*S	Sn	19 54 15.2	-4.5
PNIG	**Pinotepa**	**1.83**	**303**	*e*P	Pn	19 53 54.0	-3.0
PNIG				*i* S	Sn	19 54 15.3	-4.5
CMIG	**Matias Romero**	**2.31**	**43**	*e*P	Pn	19 54 01.1	-2.4
CMIG				*i* S	Sn	19 54 27.3	-4.1
CMIG	**Matias Romero**	**2.31**	**43**	*e*P	Pn	19 54 01.1	-2.4
CMIG				*i* S	Sn	19 54 27.6	-3.8
TLIG	**Tlapa**	**2.91**	**318**	*e*P	Pn	19 54 11.2	-0.8
TLIG				*e*S	Sn	19 54 42.1	-4.5
**T

ROCH	**El Roble**	**1.08**	**114**	*e*P		**Pb**	**20 40 30.9**	**-0.4**
ROCH				*i* S		**Sb**	**20 40 42.9**	**-2.8**
ROCH				IAML			20 40 47.9	
	comp=E,8μm,0.4s							
PEL	**Peldehue**	**1.40**	**116**	*e*Pn		**Pn**	**20 40 36.2**	**0.0**
PEL	**Peldehue**	**1.40**	**116**	*e*P		**Pn**	**20 40 36.2**	**0.0**
PEL				*e*S		**Sn**	**20 40 52.6**	**-2.3**
PEL	**Peldehue**	**1.40**	**116**	⇓*i*P		**Pn**	**20 40 36.3**	**+0.2**
PEL				*i* S		**Sn**	**20 40 52.4**	**-2.5**
PEL				IAML			20 40 53.8	
	comp=E,8μm,0.3s							
CLCH	**Cerro Calan**	**1.63**	**122**	⇓*i*P		**Pn**	**20 40 40.2**	**+0.8**
CLCH				*i* S		**Sn**	**20 40 59.0**	**-1.6**
CLCH				IAML			20 41 03.3	
	comp=E,6μm,0.4s							
ANTU	**Antumapu**	**1.66**	**129**	*e*P		**Pn**	**20 40 41.2**	**+1.5**
ANTU				*i* S		**Sn**	**20 41 01.2**	**-0.1**
ANTU				IAML			20 41 06.4	
	comp=N,5μm,0.5s							
FCH	**Farellones**	**1.78**	**117**	⇑*i*P		**Pn**	**20 40 42.3**	**+0.7**
FCH				*i* S		**Sn**	**20 41 03.0**	**-1.5**
FCH				IAML			20 41 04.8	
	comp=N,2μm,0.2s							
LMEL	**Las Melosas**	**2.12**	**129**	⇑*i*P		**Pn**	**20 40 48.1**	**+2.0**
LMEL				*e*S		**Sn**	**20 41 13.7**	**+1.0**
LMEL				IAML			20 41 19.0	
	comp=N,2μm,0.3s							
AUSP	**Uspallata**	**2.38**	**83**	*e*P		**Pn**	**20 40 52.2**	**+2.4**
GO05	**Huala**	**2.48**	**175**	*e*Pn		**Pn**	**20 40 52.8**	**+1.8**
GO05	**Huala**	**2.48**	**175**	IAML			20 41 54.8	
	comp=E,337nm,0.5s							
RTLS	**Leoncito**	**2.55**	**74**	*e*P		**Pn**	**20 40 54.9**	**+2.7**
RTLS				IAML			20 41 34.4	
	comp=Z,748nm,0.6s							
GO04	**Tololo Observa**	**2.63**	**27**	*e*Pn		**Pn**	**20 40 53.2**	**0.0**
GO04	**Tololo Observa**	**2.63**	**27**	*e*P		**Pn**	**20 40 54.7**	**+1.4**
GO04	**Tololo Observa**	**2.63**	**27**	⇑*i*P		**Pn**	**20 40 54.1**	**+0.8**
GO04				*i* S		**Sn**	**20 41 24.6**	**-0.9**
UTNM	**Universidad Te**	**2.83**	**98**	*e*P		**Pb**	**20 41 01.1**	**+0.1**
ZON	**Zonda**	**3.13**	**73**	*e*P		**Pn**	**20 41 04.1**	**+4.2**
RTCV	**Cerro Valdivia**	**3.16**	**79**	*e*P		**Pn**	**20 41 04.2**	**+3.9**
ACCO	**Cerro Coronel**	**3.29**	**55**	*e*P		**Pn**	**20 41 05.2**	**+2.8**
AROD	**Rodeo**	**3.30**	**45**	*e*P		**Pn**	**20 41 05.7**	**+3.1**
RTLL	**Cerro Villicun**	**3.37**	**70**	*e*P		**Pn**	**20 41 06.3**	**+3.1**
CFA	**Coronel Fontan**	**3.47**	**76**	*e*P		**Pn**	**20 41 06.4**	**+1.8**
ACDV	**Cuesta del Vie**	**3.52**	**49**	*e*P		**Pn**	**20 41 09.0**	**+3.6**
AMOG	**MOGNA**	**3.52**	**64**	*e*P		**Pn**	**20 41 07.9**	**+2.5**
LCO	**Las Campanas**	**3.73**	**20**	*e*Pn		**Pn**	**20 41 08.3**	**-0.1**
LCO	**Las Campanas**	**3.73**	**20**	*e*P		**Pn**	**20 41 09.1**	**+0.6**
RFA	**San Rafael**	**3.82**	**127**	*e*P		**Pn**	**20 41 12.9**	**+3.4**
ACAN	**Cantantal**	**4.23**	**88**	*e*P		**Pn**	**20 41 17.7**	**+2.6**
AGUA	**GUANDACOL**	**4.38**	**47**	*e*P		**Pn**	**20 41 19.8**	**+2.5**
GO03	**Copiap**	**5.20**	**19**	*e*Pn		**Pn**	**20 41 28.6**	**+0.2**
APLL	**PUNTA DE LOS L**	**5.28**	**68**	*e*P		**Pn**	**20 41 32.8**	**+3.3**
APLL				IAML			20 42 40.3	
	comp=Z,170nm,0.8s							
ACLC	**CERRO LA CRUZ**	**5.45**	**57**	*e*P		**Pn**	**20 41 36.1**	**+4.1**
MRA	**San Martin**	**5.46**	**91**	*e*P		**Pn**	**20 41 34.9**	**+2.8**
MRA				IAML			20 42 41.9	
	comp=Z,130nm,0.6s							
TCA	**Tanti**	**6.56**	**82**	*e*P		**Pn**	**20 41 48.2**	**+1.1**
CYA	**Choya**	**6.85**	**55**	*e*P		**Pn**	**20 41 53.9**	**+2.9**
AHML	**Horco Molle**	**8.26**	**48**	*e*P		**Pn**	**20 42 13.1**	**+2.6**
TRQA	**Tornquist**	**9.99**	**126**	*e*Pn		**Pn**	**20 42 34.8**	**+0.7**
LVC	**Limon Verde**	**10.30**	**17**	Pn		**Pn**	**20 42 35.1**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=1.7							
LVC				LR		LR	20 46 37.4	
	comp=Z,132nm,18.5s,baz=196,slow=38							
CPUP	**Villa Florida**	**14.33**	**68**	LR		LR	20 49 31.2	
	comp=Z,199nm,18.5s,baz=232,slow=40							
LPAZ	**La Paz**	**16.58**	**14**	Pn		**Pn**	**20 44 03.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=177,slow=9.4,SNR=9.8							
SIV	**San Ignacio**	**19.31**	**34**	P		**P**	**20 44 35.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=238,slow=12,SNR=12							
SIV				LR		LR	20 52 57.7	
	comp=Z,56nm,19.2s,baz=188,slow=40							
BDFB	**Brasilia**	**27.64**	**58**	P		**P**	**20 45 57.3**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=230,slow=2.9,SNR=3.9							
BDFB				LR		LR	20 56 49.8	
	comp=Z,57nm,20.9s,baz=182,slow=36							
SNAA	**Sanae**	**52.99**	**158**	P		**P**	**20 49 28.7**	**+1.7**
	comp=Z,1.4nm,0.8s,baz=297,slow=9.0,SNR=5.1							
DBIC	**Dimbokro**	**74.83**	**72**	*e*P		**P**	**20 51 50.5**	**-1.1**
	comp=Z,8.5nm,1.0s							
DBIC	**Dimbokro**	**74.83**	**72**	P		**P**	**20 51 51.5**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=218,slow=5.3,SNR=5.7							
NV01	**Mina Array Sit**	**82.61**	**325**	*e*P		**P**	**20 52 33.3**	**-0.9**
TOA0	**Torodi Ar. Sit**	**83.82**	**70**	*e*P		**P**	**20 52 40.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**83.82**	**70**	P		**P**	**20 52 39.7**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=253,slow=5.0,SNR=14							
TOA1	**Torodi Ar. Sit**	**83.83**	**70**	*e*P		**P**	**20 52 39.7**	**-1.0**
PLID	**Pearl Lake**	**86.90**	**331**	*e*P		**P**	**20 52 57.9**	**+2.2**
	comp=Z,5.5nm,0.9s							
WR1	**Warramunga Arr**	**121.98**	**210**	*e*PKPdf		**PKPdf**	**20 59 06.9**	**+1.0**
WRA	**Warramunga Arr**	**121.98**	**210**	PKP		**PKPdf**	**20 59 06.9**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=154,slow=1.8,SNR=4.3							
H11S2	**WAKE ISLAND Hyl**	**25.66**	**270**	T		T	23 18 19.4	
	baz=116							
H11S1	**WAKE ISLAND Hyl**	**25.67**	**270**	T		T	23 18 20.5	
	baz=116							
H11S3	**WAKE ISLAND Hyl**	**25.68**	**270**	T		T	23 18 21.1	
	baz=116							
H11N3	**WAKE ISLAND Hyl**	**26.04**	**272**	T		T	23 18 46.9	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**26.05**	**272**	T		T	23 18 52.2	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.05**	**272**	T		T	23 18 44.8	
	baz=117							
NIL	**Nilore**	**151.09**	**78**	*e*PKPbc		**PKPbc**	**21 00 04.2**	**+0.1**
AAK	**Ala-Archa**	**151.89**	**59**	*e*PKPbc		**PKiKP**	**21 00 07.8**	**+1.6**
ZAA1	**Zalesovo Array**	**153.03**	**31**	*e*PKPbc		**PKPbc**	**21 00 08.6**	**+0.8**
ZAA1				*e*PKPab		**PKPab**	**21 00 18.3**	**-0.9**
ZALV	**Zalesovo Beam**	**153.04**	**31**	PKPbc		**PKPbc**	**21 00 08.6**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=300,slow=2.3,SNR=9.3							
ZALV				PKPab		**PKPab**	**21 00 18.3**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=316,slow=6.2,SNR=5.9							
MK32	**Makanchi Array**	**155.87**	**46**	*e*PKPab		**PKPab**	**21 00 31.6**	**0.0**
MKAR	**Makanchi Array**	**155.87**	**46**	PKPab		**PKPab**	**21 00 31.6**	**0.0**
	comp=Z,0.7nm,0.7s,baz=296,slow=3.9,SNR=5.6							

*ISCJB **18** 20:42:04.7±0.4,39°.10N±0°.02×30°.15E±0°.03,h5km±5km,*
Error ellipse: s-maj=4.1km s-min=3.4km az=178.8
*DDA **18** 20:42:04.4,39°.10N×30°.14E,h7km±2km,ML2.5*
*ISK **18** 20:42:04.2,39°.08N×30°.15E,h5km,ML2.1/14*
ISC 18 20:42:04.6±1.0,**39°.11N**±0°.03×**30°.14E**±0°.02,**h14**km±10km,
n25,σ0°39/34,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUKIR	**Kırka- Seyitga**	**0.35**	**61**	*i* P	**Pb**	**20 42 12.9**	**+0.3**
AUKIR				*i* S	**Sb**	**20 42 17.8**	**-0.2**
AFYO	**Afyonkarahisar**	**0.35**	**159**	*i* P	**Pg**	**20 42 11.9**	**+0.2**
AFYO				*i* S	**Sg**	**20 42 16.9**	**+0.3**
AFYO				IAML_P			
	comp=Z,4μm,0.2s						
GDZ	**Gediz**	**0.51**	**268**	*i* P	**Pb**	**20 42 15.7**	**+0.2**
GDZ				*i* S	**Sb**	**20 42 22.4**	**-0.5**
GDZ				IAML_P			
	comp=Z,649nm,0.2s						
GEDZ	**Gediz**	**0.57**	**264**	PG	**Pg**	**20 42 16.1**	**+0.2**
GEDZ				SG	**Sg**	**20 42 23.9**	**+0.4**
TVSB	**Tavsanli**	**0.63**	**303**	PG	**Pb**	**20 42 17.4**	**0.0**
TVSB				SG	**Sb**	**20 42 26.2**	**+0.1**
SHUT	**Suhut-Afyon**	**0.64**	**150**	PG	**Pg**	**20 42 16.7**	**-0.5**
SHUT				SG	**Sg**	**20 42 25.0**	**-0.8**
ESKT	**Eskisehir**	**0.69**	**53**	PG	**Pg**	**20 42 17.3**	**-0.7**
SHAP	**Saphane-Kutahy**	**0.72**	**263**	PG	**Pb**	**20 42 18.9**	**-0.1**
BOLV	**Bolvadin**	**0.74**	**122**	*i* P	**Pb**	**20 42 19.8**	**+0.4**
BOLV				*i* S	**Sg**	**20 42 28.5**	**-0.4**
BOLV				IAML_P			
	comp=Z,901nm,0.1s						
CIFT	**Cifteler, Eski**	**0.76**	**71**	PG	**Pg**	**20 42 19.4**	**0.0**
AUBOZ	**BOZOYUK**	**0.80**	**354**	PG	**Pb**	**20 42 20.9**	**+0.5**
BORA	**Eskisehir**	**0.81**	**17**	PG	**Pb**	**20 42 20.6**	**+0.2**
BORA	**Eskisehir**	**0.81**	**17**	*i* P	**Pg**	**20 42 20.0**	**-0.3**
BORA				IAML_P			
	comp=Z,5μm,0.1s						
KHAL	**Karahalli**	**0.90**	**215**	*i* P	**Pn**	**20 42 22.6**	**-0.3**
KHAL				*i* S	**Sb**	**20 42 34.6**	**+0.8**
KHAL				IAML_P			
	comp=Z,259nm,0.1s						
USAK	**Uak-Merkez**	**0.96**	**246**	*i* P	**Pb**	**20 42 23.4**	**+0.3**
USAK				*i* S	**Sn**	**20 42 36.9**	**-0.3**
USAK				IAML_P			
	comp=Z,239nm,0.1s						
SRCK	**Saricakaya, Es**	**1.00**	**22**	PG	**Pg**	**20 42 23.8**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.12**	**72**	PN	**Pn**	**20 42 26.5**	**+0.5**
AUSIV	**SIVRIHISAR**	**1.13**	**73**	PN	**Pn**	**20 42 26.4**	**+0.2**
AUMIH	**MIHALICIK**	**1.28**	**54**	PN	**Pg**	**20 42 29.5**	**+0.1**
KULA	**Kula-Manisa**	**1.30**	**243**	PN	**Pg**	**20 42 29.5**	**-0.2**
GULT	**Gulveren**	**1.35**	**12**	PN	**Pg**	**20 42 30.6**	**0.0**
YLV	**Yalova**	**1.57**	**338**	PN	**Pb**	**20 42 33.9**	**+0.4**
MDUB	**Mudurnu**	**1.58**	**31**	PN	**Pb**	**20 42 33.9**	**+0.2**
ARMT	**Armutlu**	**1.75**	**326**	PN	**Pb**	**20 42 36.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.79**	**311**	PN	**Pb**	**20 42 37.1**	**-0.2**

*SOME **18** 20:48:10.6,40°.28N×70°.30E,h5km*
*KRNET **18** 20:48:10.7±0.1,40°.19N×70°.22E,h14km,mb2.5*
*NNC **18** 20:48:20.9±13.0,40°.46N×70°.62E,h0km,mb3.0,mpv2.6,*
Error ellipse: s-maj=124.2km s-min=42.0km az=2.0
ISC 18 20:48:08.6±2.0,**40°.07N**±0°.07×**70°.02E**±0°.06,**h3**km±13km,
n15,σ1°48/28,14C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.61**	**91**	⇑*i*P	**Pg**	**20 48 19.8**	**-0.6**
	baz=6.0						
BTK				⇑*i*S	**Sg**	**20 48 26.7**	**-1.6**
	baz=6.0						
TAS	**Tashkent**	**1.38**	**336**	⇓*i*P	**Pn**	**20 48 35.4**	**+0.6**
	baz=29						
TAS				⇓*i*S	**Sn**	**20 48 53.8**	**+0.2**
	baz=29						
DRK	**Karamyk**	**1.49**	**113**	⇑*i*P	**Pb**	**20 48 36.9**	**-0.2**
	baz=20						
DRK				⇑*i*S	**Sb**	**20 48 55.9**	**-0.7**
	baz=20						
IUG	**Iuzhnay**	**2.08**	**0**	*e*P	**Pn**	**20 48 45.4**	**+0.9**
	35nm,0.2s						
IUG				*e*S	**Sn**	**20 49 10.9**	**-0.1**
	64nm,0.3s						
ARK	**Arkit**	**2.27**	**40**	⇑*i*P	**Pn**	**20 48 48.3**	**+1.1**
	baz=39						
ARK				⇑*i*S	**Sn**	**20 49 15.3**	**-0.5**
	baz=39						
ARSB	**Arslanbob**	**2.58**	**60**	⇓*i*P	**Pn**	**20 48 52.5**	**+1.1**
	baz=61						
ARSB				⇓*i*S	**Sn**	**20 49 22.5**	**-0.9**
	baz=61						
BRLS	**Boroldoy**	**2.96**	**357**	*e*P	**Pn**	**20 48 58.2**	**+1.6**
	0.1nm,0.1s						
BRLS				*e*S	**Sn**	**20 49 32.7**	**0.0**
	4.1nm,0.2s						
DZA	**Taraz**	**2.99**	**19**	*e*P	**Pb**	**20 49 01.0**	**-1.5**
	6.2nm,0.1s						
DZA				*e*S	**Sb**	**20 49 36.9**	**-2.6**
	18nm,0.4s						
KK31	**Karatay Array**	**3.06**	**7**	⇑Pn	**Pb**	**20 49 03.0**	**-0.7**
	0.6nm,0.2s,baz=184,slow=17,SNR=30						
KK31				⇑Sn	**Sb**	**20 49 40.5**	**-0.9**
	1.3nm,0.3s,baz=173,slow=24,SNR=7.1						
AML	**Almayashu**	**3.46**	**52**	⇑*i*P	**Pn**	**20 49 03.6**	**-0.1**
	baz=52						
AML				⇑*i*S	**Sn**	**20 49 43.2**	**-2.2**
	baz=52						
MRKS	**Merke**	**3.60**	**41**	*e*P	**Pb**	**20 49 12.3**	**-0.8**
	0.5nm,0.1s						
MRKS				*e*S	**Sb**	**20 49 56.3**	**-0.8**
	15nm,0.4s						
ARLS	**Aral**	**3.72**	**60**	⇑*i*P	**Pn**	**20 49 08.6**	**+1.5**
	baz=60						
ARLS				⇑*i*S	**Sn**	**20 49 49.9**	**-1.6**
	baz=60						
AAK	**Ala-Archa**	**4.23**	**51**	⇓Pg	**Pb**	**20 49 26.3**	**+2.4**
	0.8nm,0.5s						
AAK				⇑Lg	Lg	20 50 15.0	
	1.5nm,0.6s						
TKM2	**Tokmak 2**	**5.07**	**54**	⇑Pg	**Pg**	**20 49 47.1**	**+1.4**
	1.4nm,0.7s						
TKM2				⇓Lg	Lg	20 50 43.2	
	1.0nm,0.5s						
KST	**Kastek**	**5.36**	**54**	*e*P	**Pb**	**20 49 43.6**	**+0.6**
	0.6nm,0.1s						
KST				*e*S	**Sb**	**20 50 51.3**	**+3.6**
	0.7nm,0.1s						

*SOME **18** 20:53:34.6,40°.28N×70°.33E,h0km*
*KRNET **18** 20:53:35.4±0.1,40°.20N×70°.18E,h11km,mb3.3*
*NNC **18** 20:53:42.5±4.2,40°.29N×70°.52E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=36.0km s-min=22.3km az=13.0
ISC 18 20:53:37.1±1.5,**40°.34N**±0°.04×**70°.42E**±0°.04,**h13**km±14km,
n20,σ1°98/34,19C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.41**	**133**	⇑*i*P	**Pb**	**20 53 45.4**	**-0.9**
	baz=6.0						
BTK				⇑*i*S	**Sb**	**20 53 52.4**	**-0.2**
	baz=6.0						
TAS	**Tashkent**	**1.31**	**319**	⇑*i*P	**Pn**	**20 54 00.2**	**-1.0**
	baz=30						
TAS				⇑*i*S	**Sb**	**20 54 17.7**	**-0.7**
	baz=30						
DRK	**Karamyk**	**1.36**	**129**	⇑*i*P	**Pn**	**20 54 02.1**	**0.0**
	baz=19						
DRK				⇑*i*S	**Sg**	**20 54 22.3**	**+1.2**
	baz=19						
IUG	**Iuzhnay**	**1.83**	**351**	*e*P	**Pb**	**20 54 11.0**	**+0.4**
	52nm,0.3s						
IUG				*e*S	**Sg**	**20 54 36.5**	**+0.5**
	391nm,0.4s						
ARK	**Arkit**	**1.86**	**38**	⇑*i*P	**Pg**	**20 54 13.2**	**+0.3**
	baz=40						
ARK				⇑*i*S	**Sg**	**20 54 40.9**	**+3.8**
	baz=40						
ARSB	**Arslanbob**	**2.18**	**62**	⇑*i*P	**Pb**	**20 54 17.6**	**+1.1**
	baz=61						
ARSB				⇑*i*S	**Sg**	**20 54 48.3**	**+1.2**
	baz=61						
DZA	**Taraz**	**2.64**	**15**	*e*P	**Pg**	**20 54 26.8**	**-0.9**
	27nm,0.1s						
DZA				*e*S	**Sg**	**20 55 04.1**	**+2.2**
	196nm,0.2s						
BRLS	**Boroldoy**	**2.72**	**351**	*e*P	**Pb**	**20 54 23.4**	**-2.3**
	0.1nm,0.1s						
BRLS				*e*S	**Sb**	**20 54 58.6**	**-0.5**
	26nm,0.2s						
KK31	**Karatay Array**	**2.76**	**1**	⇓Pn	**Pg**	**20 54 28.5**	**-1.5**
	4.7nm,0.2s,baz=186,slow=17,SNR=12						
KK31				⇑Sn	**Sg**	**20 55 06.2**	**+0.3**
	9.9nm,0.3s,baz=192,slow=32,SNR=10						
AML	**Almayashu**	**3.05**	**53**	⇑*i*P	**Pb**	**20 54 29.7**	**-1.8**
	baz=53						
AML				⇑*i*S	**Sb**	**20 55 09.7**	**+1.0**
	baz=53						
MRKS	**Merke**	**3.19**	**40**	*e*P	**Pg**	**20 54 36.5**	**-1.8**
	2.9nm,0.3s						
MRKS				*e*S	**Sg**	**20 55 21.7**	**+2.0**
	111nm,0.4s						
ARLS	**Aral**	**3.32**	**61**	⇓*e*P	**Pb**	**20 54 34.2**	**-1.7**
	baz=61						
ARLS				⇓*i*S	**Sb**	**20 55 15.9**	**-0.3**
	baz=61						
UCH	**Uchtor**	**3.61**	**57**	⇑*i*P	**Pb**	**20 54 38.0**	**-3.1**
	baz=57						
UCH				⇑*i*S	**Sb**	**20 55 23.5**	**-1.6**
	baz=57						
AAK	**Ala-Archa**	**3.82**	**52**	⇓Pn	**Pb**	**20 54 42.6**	**-1.9**
	1.2nm,0.3s						
AAK				⇑Pg	**Pg**	**20 54 53.6**	**+3.2**
	4.4nm,0.5s						
AAK				⇑Lg	Lg	20 55 40.6	
	10nm,0.5s						
TKM2	**Tokmak 2**	**4.66**	**55**	⇓Pg	**Pg**	**20 55 05.9**	**-0.3**
	2.9nm,0.5s						
TKM2				⇑Lg	Lg	20 56 07.2	
	8.3nm,0.6s						
DGS	**Degeres**	**4.94**	**52**	*e*P	**Pg**	**20 55 09.0**	**-2.7**
	0.2nm,0.3s						
DGS				*e*S	**Sg**	**20 56 16.5**	**+0.8**
	21nm,0.7s						
MNBS	**Baschi**	**7.00**	**55**	*e*P	**Pg**	**20 55 46.5**	**-4.6**
	0.2nm,0.1s						
MNBS				*e*S	**Sg**	**20 57 22.1**	**+0.4**
	2.8nm,0.1s						
PDGK	**Podgornoye**	**7.40**	**63**	⇑Lg	Lg	20 57 39.2	
	3.9nm,0.9s						
OTUK	**Ortayu**	**8.02**	**9**	⇓Lg	Lg	20 57 52.0	
	3.0nm,0.8s						
AB31	**Akbulak array**	**11.60**	**324**	⇓Pn	**Pn**	**20 56 25.8**	**+3.5**
	0.3nm,0.4s,baz=140,slow=12,SNR=4.6						

*DDA **18** 21:04:06.4,41°.39N×44°.04E,h7km±1km,ML2.6*
*TIF **18** 21:04:06.3,41°.41N×44°.06E,h15km±1km*
*NORS **18** 21:04:08.4±0.0,41°.47N×44°.16E,h1km,MPVA3.1*
ISC 18 21:04:07.2±1.0,**41°.37N**±0°.04×**44°.03E**±0°.03,**h6**km±10km,
n16,σ0°78/31,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRLG	**Trialeti**	**0.17**	**17**	P	**Pg**	**21 04 10.4**	**-0.4**
TRLG				S	**Sg**	**21 04 12.7**	**-0.5**
KZRT	**Kazreti**	**0.28**	**87**	P	**Pg**	**21 04 12.6**	**0.0**
KZRT				S	**Sg**	**21 04 16.5**	**+0.2**
BGD	**Bogdanovka**	**0.34**	**252**	P	**Pg**	**21 04 14.3**	**+0.4**
BGD				S	**Sg**	**21 04 19.5**	**+1.0**
TBLG	**Delisi**	**0.64**	**56**	P	**Pg**	**21 04 18.7**	**-0.8**
TBLG				S	**Sg**	**21 04 27.8**	**0.0**
TBLG	**Delisi**	**0.64**	**56**	*i* P	**Pg**	**21 04 19.6**	**+0.2**
TBLG				*i* S	**Sg**	**21 04 28.7**	**+0.9**
TBLG				IAML_P			
	comp=Z,3μm,0.1s						
BTNK	**Botanikuri**	**0.65**	**61**	P	**Pg**	**21 04 19.2**	**-0.5**
BTNK				S	**Sg**	**21 04 27.9**	**-0.4**
BTNK	**Botanikuri**	**0.65**	**61**	*i* P	**Pg**	**21 04 19.2**	**-0.5**
BTNK				*i* S	**Sg**	**21 04 28.7**	**+0.4**
BTNK				IAML_P			
	comp=Z,2μm,0.1s						
EAK	**Akyaka**	**0.76**	**205**	*i* P	**Pg**	**21 04 22.2**	**+0.5**
EAK				*i* S	**Sb**	**21 04 33.0**	**-0.5**
EAK				IAML_P			
	comp=Z,1μm,0.2s						
EPOS	**Posof**	**0.99**	**278**	*i* P	**Pb**	**21 04 25.8**	**-0.9**
LACR	**Lac**	**1.47**	**8**	*e*Pg	**Pn**	**21 04 33.8**	**-0.4**
LACR				*e*Sg	**Sn**	**21 04 53.3**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.56**	**348**	*e*Pg	**Pb**	**21 04 36.8**	**+0.2**
DIGR				*e*Sg	**Sb**	**21 04 57.6**	**+0.9**
DDFL	**Dedoflistskaro**	**1.57**	**87**	P	**Pg**	**21 04 37.5**	**+0.3**
DDFL				S	**Sg**	**21 04 59.7**	**+2.0**
KORR	**Kora**	**1.71**	**1**	*e*Pg	**Pb**	**21 04 39.8**	**+0.7**
KORR				*e*Sg	**Sb**	**21 05 02.5**	**+1.7**
LGD	**Lagodekhi**	**1.72**	**74**	P	**Pb**	**21 04 38.5**	**-0.7**
LGD				S	**Sg**	**21 05 02.5**	**0.0**
BATM	**Batumi**	**1.77**	**278**	P	**Pb**	**21 04 39.2**	**-0.9**
BATM				S	**Sb**	**21 05 02.4**	**-0.1**
BTLR	**Botlikh**	**2.08**	**51**	*e*Pg	**Pb**	**21 04 45.1**	**-0.2**
BTLR				*e*Sg	**Sb**	**21 05 12.3**	**+0.9**

*JMA **18** 21:07:36.4±0.1,23°.99N×121°.64E,h25km±1km,M2.8*
*TAP **18** 21:07:36.9,24°.03N×121°.65E,h30km,ML3.6,B*
*ISCJB **18** 21:07:37.3±0.2,24°.03N±0°.01×121°.69E±0°.01,h27km±1km,*
Error ellipse: s-maj=2.6km s-min=1.7km az=42.9
ISC 18 21:07:37.3±0.9,**24°.02N**±0°.02×**121°.65E**±0°.02,**h30**km±4km,
n114,σ0°84/178,5C-17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.06**	**225**	P	**Pb**	**21 07 42.7**	**+0.3**
	baz=200						
HWA				*e*S	**Sb**	**21 07 47.5**	**+1.7**
	baz=200						
TWD	**Chiawan**	**0.08**	**319**	⇑*i*P	**Pb**	**21 07 42.4**	**-0.1**
	baz=314						
TWD				S	**Sb**	**21 07 46.2**	**+0.1**
	baz=314						
ENLB	**Shoufeng**	**0.12**	**202**	⇑P	**Pn**	**21 07 42.8**	**-0.4**
	baz=190						
ENLB				S	**Sn**	**21 07 47.6**	**+0.9**
	baz=190						
NACB	**Ninganchiao**	**0.16**	**341**	⇓P	**Pb**	**21 07 42.8**	**-0.3**
	baz=334						
NACB				S	**Sn**	**21 07 47.1**	**-0.5**
	baz=334						
ETLH	**Xiulin Townshi**	**0.24**	**320**	⇓P	**Pb**	**21 07 43.6**	**-0.5**
	baz=320						
ETLH				*e*S	**Sb**	**21 07 48.5**	**-0.2**
	baz=320						
ESL	**Shilin**	**0.29**	**224**	⇓*i*P	**Pb**	**21 07 44.0**	**-0.5**
	baz=230						
WHF	**Hehuan Shan**	**0.38**	**289**	⇓*i*P	**Pb**	**21 07 45.6**	**-0.5**
	baz=282						
WHF				S	**Sb**	**21 07 51.6**	**-0.5**
	baz=282						
EGFH	**Guangfu**	**0.41**	**211**	*e*P	**Pb**	**21 07 45.8**	**-0.4**
	baz=219						
ENA	**Nanau**	**0.41**	**11**	⇑*i*P	**Pb**	**21 07 46.0**	**-0.4**
	baz=9.0						
ENA				S	**

NSK					S		Sb	21 07 59.4	-1.2
	baz=338								
YULB	**Yu-li**	**0.70**	**208**	*eP*			**Pb**	21 07 49.4	-1.7
	baz=207								
TYC	**Yuchr**	**0.74**	**261**	⇓	*iP*		**Pn**	21 07 51.1	-0.5
	baz=259								
TYC					S		**Sb**	21 08 00.6	-0.7
	baz=259								
ILA	**Ilan**	**0.75**	**7**	*eP*			**Pb**	21 07 52.0	+0.2
NWLT	**Wulai**	**0.77**	**350**	*eP*			**Pn**	21 07 51.5	-0.5
	baz=342								
NWLT					*eS*		**Sb**	21 08 00.8	-1.4
	baz=342								
WHYT	**Xinyi Township**	**0.80**	**246**	*eP*			**Pb**	21 07 52.8	+0.1
	baz=247								
WHYT					*eS*		**Sn**	21 08 04.0	+0.5
	baz=247								
NTC	**Toucheng**	**0.85**	**11**	*eP*			**Pb**	21 07 53.2	-0.2
	baz=357								
NTC					*eS*		**Sb**	21 08 04.7	+0.3
	baz=357								
NSTT	**Nanjuang**	**0.85**	**316**	⇓	*iP*		**Pb**	21 07 53.6	+0.1
	baz=315								
NSTT					S		**Sb**	21 08 04.5	-0.2
	baz=315								
LIOB	**Emei**	**0.85**	**317**	⇓	*eP*		**Pn**	21 07 51.6	-1.6
	baz=316								
LIOB					*eS*		**Sn**	21 08 02.8	-1.9
	baz=316								
EGS		**0.86**	**17**	*eP*			**Pb**	21 07 54.2	+0.5
	baz=30								
EGS					*eS*		**Sb**	21 08 07.9	+3.0
	baz=30								
TWQ1	**Liyutan**	**0.87**	**292**		P		**Pb**	21 07 54.3	+0.5
	baz=292								
TWQ1					S		**Sb**	21 08 06.0	+0.9
	baz=292								
WJS	**Zhushan**	**0.87**	**257**	*eP*			**Pb**	21 07 54.1	+0.3
	baz=257								
WJS					*eS*		**Sb**	21 08 06.5	+1.3
	baz=257								
FULB	**Fuli**	**0.88**	**202**	*eP*			**Pb**	21 07 53.7	-0.4
	baz=213								
WNT	**Mingjian**	**0.90**	**261**	*eP*			**Pb**	21 07 54.7	+0.4
	baz=261								
WNT					*eS*		**Sb**	21 08 07.2	+1.3
	baz=261								
TCU	**Taichung**	**0.90**	**278**	*eP*			**Pb**	21 07 55.3	+0.9
	baz=278								
WLTB	**Daxi**	**0.91**	**336**	*eP*			**Pb**	21 07 55.3	+0.9
	baz=338								
WLTB					*eS*		**Sb**	21 08 06.9	+0.7
	baz=338								
ALS	**Alishan**	**0.93**	**237**	*eP*			**Pb**	21 07 54.7	-0.3
	baz=227								
ALS					*eS*		**Sb**	21 08 06.8	-0.3
	baz=227								
NMLH	**Miaoli**	**0.94**	**303**	*eP*			**Pb**	21 07 56.0	+1.0
	baz=302								
NMLH					*eS*		**Sb**	21 08 09.1	+1.9
	baz=302								
NHDH	**Xindian Distri**	**0.94**	**353**	*eP*			**Pb**	21 07 54.7	-0.4
	baz=358								
CHKT	**Chengkung**	**0.95**	**196**	*eP*			**Pn**	21 07 54.6	0.0
	baz=206								
TWA	**Mucha**	**0.96**	**356**	*eP*			**Pb**	21 07 55.1	-0.3
	baz=5.0								
TIPB	**Shuangxi**	**0.96**	**9**	*eP*			**Pb**	21 07 55.0	-0.4
	baz=357								
TIPB					*eS*		**Sb**	21 08 08.1	+0.4
	baz=357								
TATO	**Taipei**	**0.96**	**351**	*eP*			**Pb**	21 07 55.1	-0.3
	baz=351								
PTSB	**Yuanli**	**0.96**	**296**	*eP*			**Pb**	21 07 56.1	+0.7
	baz=295								
PTSB					*eS*		**Sb**	21 08 09.3	+1.5
	baz=295								
SBCB	**Hsinchu**	**0.98**	**322**	*eP*			**Pb**	21 07 56.2	+0.5
	baz=331								
WDJ	**Dajia District**	**0.98**	**290**	*eP*			**Pb**	21 07 55.2	-0.5
	baz=289								
WCHH	**Zhanghua**	**1.00**	**274**	*eP*			**Pb**	21 07 56.5	+0.4
	baz=273								
ELDTW	**Lidau**	**1.01**	**215**	*eP*			**Pb**	21 07 54.5	-1.0
	baz=204								
TAP	**Taipei**	**1.02**	**353**	*eP*			**Pb**	21 07 57.1	+0.7
	baz=352								
NCUH	**Zhongli**	**1.03**	**336**	*eP*			**Pb**	21 07 56.6	-0.1
	baz=334								
NCU	**National Centr**	**1.04**	**336**	*eP*			**Pb**	21 07 56.7	+0.1
	baz=334								
NCU					*eS*		**Sb**	21 08 10.8	+0.9
	baz=334								
NWF	**Wu-fen Shan**	**1.05**	**6**	*eP*			**Pb**	21 07 56.6	-0.4
	baz=354								
WFSB	**Wu-fen Shan**	**1.05**	**6**	*eP*			**Pb**	21 07 56.2	-0.7
	baz=353								
WFSB					*eS*		**Sb**	21 08 10.0	-0.3
	baz=353								
WGK	**Gukeng**	**1.05**	**252**	*eP*			**Pb**	21 07 56.9	0.0
	baz=252								
WGK					*eS*		**Sb**	21 08 12.0	+1.6
	baz=252								
WDLH	**Douliu**	**1.07**	**252**	*eP*			**Pb**	21 07 57.1	-0.2
	baz=252								
TWS1	**Kuangyinshan**	**1.10**	**349**	*eP*			**Pb**	21 07 57.0	-0.7
	baz=359								
TWS1					*eS*		**Sb**	21 08 11.5	-0.1
	baz=359								
YM01	**YM01**	**1.12**	**356**	*eP*			**Pn**	21 07 56.9	-0.2
	baz=355								
YM04	**YM04**	**1.13**	**355**	*eP*			**Pb**	21 07 57.4	-1.0
	baz=354								
YM05	**YM05**	**1.14**	**356**	*eP*			**Pb**	21 07 57.5	-1.0
	baz=356								
YM11	**YM11**	**1.14**	**356**	*eP*			**Pn**	21 07 57.1	-0.2
	baz=355								
NTST	**Danshui**	**1.15**	**351**	*eP*			**Pb**	21 07 59.3	+0.6
	baz=360								
NTST					*eS*		**Sb**	21 08 14.1	+0.9
	baz=360								
YM08	**YM08**	**1.16**	**357**	*eP*			**Pb**	21 07 58.8	0.0
	baz=356								
ANP	**Anpu**	**1.17**	**354**	*eP*			**Pn**	21 07 57.5	-0.1
	baz=354								
TPUB	**Ta-pu**	**1.18**	**233**	*eP*			**Pb**	21 07 58.9	-0.2
	baz=224								
TPUB					*eS*		**Sb**	21 08 15.1	+1.0
	baz=224								
CHN2	**Minshiung**	**1.18**	**246**	*eP*			**Pb**	21 07 59.1	0.0
	baz=246								
CHN2					*eS*		**Sb**	21 08 16.3	+2.2
	baz=246								
STYT	**Tauyuan**	**1.19**	**224**	*eP*			**Pb**	21 07 58.2	-0.9
	baz=223								
RLNB	**Erlin**	**1.19**	**264**	*eP*			**Pb**	21 07 59.5	+0.3
	baz=277								
RLNB					S		**Sb**	21 08 15.3	+1.1
	baz=277								
WTP	**Ta-pu**	**1.23**	**231**	*eP*			**Pb**	21 07 59.5	-0.4
	baz=218								
CHY	**Chiayi**	**1.24**	**245**	*eP*			**Pb**	21 08 00.0	-0.1
	baz=246								
JYNG	**Yonagunijimaku**	**1.26**	**70**		P		**Pn**	21 07 58.5	-0.3
JYNG					*eS*		**Sn**	21 08 14.8	+0.2
WTCT	**Ta-ch'eng**	**1.26**	**263**	*eP*			**Pb**	21 08 00.5	0.0
	baz=276								
WTCT					*eS*		**Sb**	21 08 17.7	+1.3
	baz=276								
TWG	**Pinlang**	**1.31**	**204**	*eP*			**Pb**	21 08 00.3	-0.9
	baz=191								
TWGBT	**Beinan**	**1.31**	**204**	*eP*			**Pn**	21 07 59.4	-0.1
	baz=191								
YOJ	**Yonaguni jima**	**1.31**	**70**	*eP*			**Pn**	21 07 59.6	0.0
	baz=71								
YOJ	**Yonaguni jima**	**1.31**	**70**		P		**Pn**	21 07 59.7	+0.1
YOJ					*eS*		**Sb**	21 08 16.7	-1.2
SNST	**Tainan City**	**1.33**	**233**	*eP*			**Pb**	21 08 01.5	0.0
	baz=234								
WSF	**Szhu**	**1.36**	**254**	*eP*			**Pb**	21 08 01.8	-0.4
	baz=254								
WSF					*eS*		**Sb**	21 08 21.1	+1.9
	baz=254								
SLGT	**Liugui**	**1.38**	**222**	*eP*			**Pb**	21 08 02.0	-0.4
	baz=222								
SLGT					*eS*		**Sb**	21 08 20.9	+1.2
	baz=222								
CHN8	**Yiju**	**1.48**	**243**	*eP*			**Pb**	21 08 03.5	-0.7
	baz=244								
CHN8					*eS*		**Sb**	21 08 23.5	+0.9
	baz=244								
ECL	**Taimali**	**1.56**	**205**	*eP*			**Pn**	21 08 02.3	-0.6
	baz=193								
SSD	**Sandimen**	**1.58**	**217**	*eP*			**Pb**	21 08 04.7	-1.1
	baz=202								
SCLT	**Jiali**	**1.58**	**238**	*eP*			**Pb**	21 08 06.2	+0.4
	baz=238								
MASBT	**Mashibuluo**	**1.69**	**214**	⇑	P		**Pb**	21 08 06.5	-1.2
	baz=213								
MASBT					S		**Sb**	21 08 28.2	-0.3
	baz=213								
EAST	**Anshuo**	**1.79**	**205**	*eP*			**Pn**	21 08 05.5	-0.6
	baz=195								
SSPT	**Xinbi**	**1.83**	**213**	*eP*			**Pb**	21 08 09.0	-1.0
	baz=198								
IRIF	**Iriomote-Funau**	**1.92**	**80**		P		**Pn**	21 08 08.1	+0.2
IRIF					*eS*		**Sn**	21 08 31.2	+0.1
HATJ	**Hateruma jima**	**1.97**	**89**		P		**Pn**	21 08 09.0	+0.4
HATJ					*eS*		**Sn**	21 08 32.4	+0.2
PHUB	**P'eng-hu**	**1.97**	**256**	*eP*			**Pn**	21 08 09.3	+0.7
	baz=257								
PNG	**Penghu**	**1.97**	**257**	*eP*			**Pn**	21 08 09.1	+0.4
	baz=260								
PNG					*eS*		**Sb**	21 08 34.1	-2.6
	baz=260								
WDGT	**Dungji**	**1.98**	**248**	*eP*			**Pn**	21 08 09.4	+0.7
	baz=250								
JKRS	**Kuro-shima**	**2.16**	**84**		P		**Pn**	21 08 12.0	+0.7
JKRS					*eS*		**Sn**	21 08 38.8	+1.7
VCHM	**Qimei**	**2.19**	**249**	*eP*			**Pn**	21 08 12.3	+0.6
	baz=241								
VCHM					*eS*		**Sn**	21 08 38.1	+0.3
	baz=241								
TWK1	**Hengchun**	**2.21**	**201**	*eP*			**Pn**	21 08 13.5	+1.6
	baz=190								
TWKBT	**Hengchun**	**2.21**	**201**	*eP*			**Pb**	21 08 14.0	-2.6
	baz=190								
VWUC	**VWUC**	**2.23**	**296**	*eP*			**Pn**	21 08 12.1	0.0
	baz=294								
VWUC					*eS*		**Sn**	21 08 37.1	-1.5
	baz=294								
PTTC	**Pingtan**	**2.26**	**311**	*eP*			**Pn**	21 08 12.5	-0.1
	baz=309								
JIJ	**Ishigaki jima**	**2.30**	**81**		P		**Pn**	21 08 13.2	+0.1
JIJ					S		**Sn**	21 08 39.5	-0.9
JISG	**Ishigakijimahi**	**2.49**	**76**		P		**Pn**	21 08 15.8	+0.1
JISG					*eS*		**Sn**	21 08 44.3	-0.8
PTMZ	**Houxiangcun**	**2.52**	**294**	*eP*			**Pn**	21 08 15.9	-0.2
	baz=294								
MATB	**Ma-tsu**	**2.63**	**324**	*eP*			**Pn**	21 08 17.8	+0.1
	baz=321								
JTJ	**Tarama**	**2.85**	**77**		P		**Pn**	21 08 21.5	+0.8
JTJ					*eS*		**Sn**	21 08 54.4	+0.4
KNM	**Kinmen**	**2.96**	**278**	*eP*			**Pn**	21 08 23.9	+1.6
	baz=278								
KNMB	**Chin-men Tao**	**3.01**	**279**	*eP*			**Pn**	21 08 23.2	+0.3
	baz=280								
LYJJ	**Jianjiangzhen**	**3.05**	**326**	*eP*			**Pn**	21 08 23.7	+0.3
	baz=323								
XPSS	**Dashiqiu**	**3.18**	**336**	*eP*			**Pn**	21 08 24.9	-0.4
	baz=332								
AXDP	**Jialang**	**3.47**	**285**	*eP*			**Pn**	21 08 29.6	+0.4
	baz=285								
ZPLA	**Ao Xicun**	**3.57**	**269**	*eP*			**Pn**	21 08 30.4	-0.2
	baz=270								

DJA 18 21:16:33.1±1.1, 8°S±9°×10°7E±°, h10km, M3.6/7, MLv3.6/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.78**	**71**	P		Pg	21 16 48.1	-0.1
CISI				S		Sb	21 16 59.8	+0.3
SKJI	**Sukabumi**	**0.95**	**327**	P		Pg	21 16 50.1	-1.3
SKJI				S		Sb	21 17 04.4	+0.1
JCJI	**Jatiwangi**	**1.77**	**42**	P		Pn	21 17 01.5	-2.3
KPJI	**Karang Pucung**	**1.91**	**76**	P		Pn	21 17 04.9	-0.8
MDSI	**Maura Dua**	**4.38**	**319**	P		Pn	21 17 40.7	+1.0

MEX 18 21:20:31.3±0.8, 18°55N×104°23W, h20km±3km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
R15V		**0.66**	**21**	*i* P		Pb	21 20 41.6	-2.6
R15V				*eS*		Sb	21 20 49.6	-3.4
MMIG	**Aquila**	**0.88**	**107**	*eP*		Pb	21 20 45.4	-2.5
MMIG				*i* S		Sb	21 20 56.0	-3.2
EZ5V		**1.10**	**33**	*eP*		Pb	21 20 48.7	-3.1
EZ5V				*i* S		Sb	21 21 02.4	-3.4
CJM	**Chamela**	**1.22**	**321**	*i* P		Pn	21 20 49.9	-3.3
CJM				*eS*		Sb	21 21 04.3	-4.7
ANIG	**Ahuacatlan**	**2.51**	**354**	*eP*		Pn	21 21 08.8	-2.3
ANIG				*eS*		Sn	21 21 38.4	-2.7
ZIIG	**Zihuatanejo**	**2.79**	**109**	*i* P		Pn	21 21 12.1	-2.7
ZIIG				*i* S		Sn	21 21 44.0	-3.9
MOIG	**Morelia**	**3.09**	**68**	*i* P		Pn	21 21 16.7	-2.4
MOIG				*i* S		Sn	21 21 52.0	-3.6

IDC 18 21:29:06.5±2.5, 10°34S×122°92E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=221.1km s-min=33.9km az=52.0, Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.57**	**132**	Pn		Pn	21 32 32.2	-2.0
	baz=310,slow=14,SNR=1.7							
WRA				Sn		Sn	21 35 08.4	-8.2
	0.0nm,0.3s,baz=310,slow=24,SNR=2.3							
ASAR	**Alice Springs**	**16.89**	**143**	Pn		P	21 33 06.0	-0.7
	0.1nm,0.3s,baz=316,slow=12,SNR=12							
MKAR	**Makanchi Array**	**67.45**	**331**	P		P	21 40 04.0	0.0
	0.2nm,0.7s,baz=129,slow=6.7,SNR=3.6							

*DRS **18** 21:54:53.8±0.0, 41°72N×46°17E, h10km*
*TIF **18** 21:54:56.4, 41°94N×46°32E, h9km±2km*
*ISCJB **18** 21:54:58.0±0.4, 41°80N±0°02×46°35E±0°02, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=2.7*
*MOS **18** 21:54:57.0±0.0, 41°84N×46°36E, h14km, MPVA3.4*
*NORS **18** 21:54:58.1±0.0, 41°85N×46°46E, h12km, MPVA3.4*

ISC 18 21:54:58.4±0.9, 41°78N±0°03×46°32E±0°02, h6km±6km, n27, σ0°93/53, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LGD	**Lagodekhi**	**0.08**	**318**	P		**Pg**	21 55 00.1	-0.2
LGD				S		**Sg**	21 55 02.0	+0.3
LGD	**Lagodekhi**	**0.08**	**318**	*eP*		**Pg**	21 55 00.1	-0.2
LGD				*eSg*		**Sg**	21 55 02.0	+0.3
DDFL	**Dedoflistskaro**	**0.36**	**204**	P		**Pb**	21 55 07.2	0.0
KMKR	**Kumukh**	**0.68**	**58**	*eP*		**Pg**	21 55 11.2	-0.3
KMKR				*eSg*		**Sg**	21 55 21.1	+0.5
GNBR	**Gunib**	**0.78**	**38**	*i* Pg		**Pg**	21 55 12.7	-0.7
GNBR				*eSg*		**Sg**	21 55 23.4	-0.1
XNZR	**Khunzakh**	**0.82**	**21**	*eP*		**Pg**	21 55 13.3	-0.8
XNZR				*eSg*		**Sg**	21 55 24.0	-0.8
BTLR	**Botlikh**	**0.89**	**356**	*eP*		**Pg**	21 55 14.3	-1.2
BTLR				*eSg*		**Sg**	21 55 25.9	-1.2
AKT	**Akhty**	**1.10**	**105**	*eP*		**Pg**	21 55 19.1	-0.4
AKT				*eSg*		**Sg**	21 55 34.4	+0.6
BTNK	**Botanikuri**	**1.14**	**266**	P		**Pg**	21 55 19.1	-1.1
BTNK				S		**Sb**	21 55 36.2	+0.7
BTNK	**Botanikuri**	**1.14**	**266**	*i* P		**Pg**	21 55 19.8	-0.4
BTNK				*i* S		**Sb**	21 55 36.2	+0.7
BTNK				IAML_P				
	comp=Z,3μm,0.1s							
KRNR	**Karanay**	**1.14**	**22**	*ePg*		**Pb**	21 55 20.0	-0.5
KRNR				*i* Sg		**Sb**	21 55 35.0	-0.6
TBLG	**Delisi**	**1.18**	**268**	P		**Pg**	21 55 19.8	-1.3
TBLG				S		**Sg**	21 55 36.7	+0.4
TBLG	**Delisi**	**1.18**	**268**	*i* P		**Pg**	21 55 20.9	-0.1
TBLG				*i* S		**Sn**	21 55 37.6	-0.2
TBLG				IAML_P				
	comp=Z,3μm,0.2s							
TBLG	**Delisi**	**1.18**	**268**	*ePg*		**Pg**	21 55 19.8	-1.3
TBLG				*eSg*		**Sn**	21 55 39.7	+1.9
DVE	**Vedeno**	**1.19**	**353**	*ePg*		**Pb**	21 55 21.0	-0.4
DVE				*eSg*		**Sb**	21 55 36.2	-0.8
DBC	**Dubki**	**1.30**	**17**	*ePg*		**Pb**	21 55 23.9	+0.6
DBC				*eSg*		**Sn**	21 55 40.3	-0.6
KSMR	**Kasumkent**	**1.37**	**97**	*ePg*		**Pg**	21 55 25.5	+0.9
KSMR				*eSg*		**Sn**	21 55 43.5	+1.0
GROC	**Groznyy**	**1.48**	**345**	*ePg*		**Pg**	21 55 27.0	+0.3
GROC				*eSg*		**Sg**	21 55 46.9	+1.0
KZRT	**Kazreti**	**1.49**	**256**	P		**Pn**	21 55 24.5	-1.2
KZRT				S		**Sn**	21 55 43.7	-1.8
DRN	**Derbent**	**1.53**	**80**	*ePg*		**Pb**	21 55 26.6	-0.4
DRN				*eSg*		**Sb**	21 55 46.5	0.0
GUDG	**Gudauri**	**1.53**	**297**	P		**Pn**	21 55 25.9	-0.5
GUDG				S		**Sg**	21 55 48.3	+0.7
KMGR	**Komgaron**	**1.67**	**321**	*ePg*		**Pg**	21 55 30.7	+0.3
KMGR				*eSg*		**Sg**	21 55 55.1	+3.0
TRLG	**Trialeti**	**1.68**	**263**	P		**Pn**	21 55 27.5	-0.8
TRLG				S		**Sn**	21 55 49.7	-0.5
LACR	**Lac**	**1.83**	**306**	*ePg*		**Pn**	21 55 31.1	+0.7
LACR				*eSg*		**Sg**	21 55 56.0	-1.2
ZEI	**Tsey**	**2.06**	**300**	*ePg*		**Pn**	21 55 33.7	+0.1
ZEI				*eSg*		**Sb**	21 56 02.7	+0.6
KORR	**Kora**	**2.12**	**309**	*ePg*		**Pn**	21 55 35.5	+1.2
KORR				*eSg*		**Sb**	21 56 03.3	-0.4
DIGR	**Digorskoe uzhe**	**2.32**	**300**	*ePn*		**Pn**	21 55 38.3	+1.1
DIGR				*eSn*		**Sn**	21 56 07.3	+1.2

IDC 18 21:55:04.1±4.0, 12°88N×86°83W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.5/46, mbtmp3.6/3, Error ellipse: s-maj=163.3km s-min=58.7km az=42.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TXAR	**Lajitas Array**	**22.64**	**319**	P		P	22 00 06.5	-0.5
	3.7nm,0.7s,baz=136,slow=12,SNR=19							
PDAR	**Pinedale Array**	**35.69**	**331**	P		P	22 02 04.9	+0.4
	0.3nm,0.7s,baz=128,slow=10,SNR=2.8							
YKA	**Yellowknife Ar**	**53.36**	**344**	P		P	22 04 24.9	-0.1
	0.3nm,0.7s,baz=136,slow=7.8,SNR=6.3							
CMAR	**Chiang Mai Arr**	**148.34**	**350**	PKPbc		PKPbc	22 14 52.6	-0.8
	0.8nm,0.3s,baz=51,slow=2.9,SNR=3.9							

*MAN **18** 22:01:51.2, 3°18N×127°12E, h21km, MS5.2*
*DJA **18** 22:02:05.2±1.4, 4°N±14°×12°7E±°, h10km, M4.3/10, mb4.4/6, mB4.8/4, MLv4.4/10, Mw(mB)4.0/4*
*ISCJB **18** 22:02:06.9±0.3, 4°04N±0°03×126°77E±0°04, h75km, mb4.1/31, Error ellipse: s-maj=6.3km s-min=3.7km az=168.1*
*NEIC **18** 22:02:07.7±1.1, 4°11N×126°92E, h75km±11km, mb4.3/20, Error ellipse: s-maj=14.3km s-min=7.2km az=73.0*
*IDC **18** 22:02:08.9±1.7, 4°09N×126°73E, h71km±16km, mb3.8/15, mb1 3.9/17, mb1mx3.7/61, mbtmp4.1/17, MS3.3/7, Ms1 3.3/7, ms1mx3.0/36, Error ellipse: s-maj=25.0km s-min=8.8km az=77.0*

ISC 18 22:02:08.6±0.5, 4°00N±0°04×126°75E±0°06, h75km, n94, σ1°95/94, mb4.2/31, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**1.26**	**256**	P		**Pn**	**22 02 28.4**	**-2.3**
SGSI				S		**Sn**	**22 02 45.2**	**-2.0**
DDMP	**Don Marcelino,**	**2.33**	**334**	*eP*		**Pn**	**22 02 41.0**	**-3.9**
MATI	**Mati**	**2.97**	**350**	*eP*		**Pn**	**22 02 52.3**	**-1.2**
MATI				*eS*		**Sn**	**22 03 32.6**	**+4.6**
DAV	**Davao City (W)**	**3.26**	**339**	*ePn*		**Pn**	**22 02 58.0**	**+0.5**
DAV				*eSn*		**Sn**	**22 03 34.3**	**-1.0**
DAV	**Davao City (W)**	**3.26**	**339**	P		**Pn**	**22 02 56.7**	**-0.8**
	105nm,0.3s,baz=58,slow=8.5,SNR=2.8							
DAV				S		**Sn**	**22 03 34.1**	**-1.2**
	75nm,0.3s,baz=120,slow=23,SNR=4.5							
TNTI	**Ternate**	**3.27**	**169**	*ePn*		**Pn**	**22 02 58.6**	**+1.1**
TNTI				*eSn*		**Sn**	**22 03 35.3**	**0.0**
TNTI	**Ternate**	**3.27**	**169**	P		**Pn**	**22 03 00.5**	**+2.9**
SKMP	**Bagumbayan, Su**	**3.33**	**319**	*eP*		**Pn**	**22 02 56.5**	**-2.0**
SKMP				*eS*		**Sn**	**22 03 33.0**	**-3.9**
KCP	**Kidapawan**	**3.42**	**331**	⇑	*iP*	**Pn**	**22 02 57.2**	**-2.4**
KCP				*i* S		Sn	22 03 47.7	+8.7
CTBH	**Cotabato--PC H**	**4.05**	**322**	⇓	*eP*	**Pn**	**22 03 05.3**	**-3.0**
BUKP	**Musuan**	**4.20**	**337**	*eP*		**Pn**	**22 03 11.9**	**+1.5**
BUKP				*eS*		**Sn**	**22 04 04.8**	**+6.5**
KMSI	**Cibinong**	**4.39**	**219**	P		**Pn**	**22 03 17.3**	**+4.5**
CGP	**Cagayan de Oro**	**4.87**	**335**	⇓	*eP*	Pn	22 03 24.4	+4.9
CGP				*eS*		Sn	22 04 25.9	+11
BUTP	**Butuan**	**5.06**	**347**	*eP*		**Pn**	**22 03 24.7**	**+2.6**
BUTP				*eS*		Sn	22 04 34.8	+16
MRSI	**Marisa**	**5.95**	**234**	P		**Pn**	**22 03 35.8**	**+1.7**
	55nm,0.7s,522nm							
SANI	**Sanana**	**6.06**	**187**	P		**Pn**	**22 03 35.9**	**+0.2**
	21nm,0.9s,524nm							
MSLP	**Maasin**	**6.38**	**343**	*eP*		**Pn**	**22 03 42.9**	**+2.9**
MSLP				*eS*		Sn	22 05 00.2	+8.8
LUWI	**Luwuk**	**6.40**	**219**	*ePn*		**Pn**	**22 03 43.3**	**+3.0**
SIJI	**Sorong**	**6.62**	**137**	P		**Pn**	**22 03 42.8**	**-0.5**
	3.9nm,0.3s,baz=345,slow=16,SNR=8.1							
APSI	**Ampana**	**7.06**	**226**	P		**Pn**	**22 03 50.7**	**+1.4**
MPSI	**Mapaga**	**7.75**	**242**	P		**Pn**	**22 03 59.3**	**+0.5**
FAKI	**Fak Fak**	**8.80**	**141**	*ePn*		**Pn**	**22 04 11.0**	**-2.2**
FAKI				*eSn*		Sn	22 05 35.6	-15
TTSI	**Tana Toraja**	**9.85**	**225**	P		Pn	22 04 32.6	+5.1
BNSI	**Bone**	**10.66**	**219**	P		Pn	22 04 45.0

LZH				sP	sP	22 09 53.0	+5.1		
LZH				PP	**PnPn**	**22 10 55.8**	**+2.4**		
LZH				pmax	pmax				
	comp=Z,18nm,1.2s								
LZH				pmax	pmax				
	comp=Z,45nm,5.4s								
STKA	**Stephens Creek**	**38.37**	**159**	*e*P	**P**	**22 09 20.6**	**-2.0**		
	comp=Z,0.9nm,0.8s								
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**22 09 25.6**	**+3.0**		
	comp=Z,4.6nm,0.8s,baz=324,slow=9.1,SNR=7.6								
STKA				LR	LR	22 26 07.2			
	comp=Z,30nm,19.8s,baz=215,slow=37								
HHC	**Hu-ho-hao-te**	**39.15**	**342**	*e*P	**P**	**22 09 30.1**	**+1.0**		
HHC				pmax	pmax				
	comp=Z,11nm,1.0s								
HHC				pmax	pmax				
	comp=Z,72nm,5.4s								
SHL	**Shillong**	**39.73**	**306**	*e*P	**P**	**22 09 32.6**	**-1.7**		
	comp=Z,8.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**40.30**	**6**	P	**P**	**22 09 39.6**	**+1.1**		
	comp=Z,2.4nm,0.8s,baz=115,slow=6.5,SNR=3.1								
ASAJ	**Asahikawa**	**42.33**	**17**	P	**P**	**22 09 55.2**	**+0.1**		
	comp=Z,2.2nm,0.5s,baz=47,slow=13,SNR=3.7								
JIRN	**Jiri**	**45.23**	**306**	*e*P	**P**	**22 10 19.6**	**+0.5**		
	comp=Z,8.8nm,0.6s								
GUN	**Gumba**	**45.58**	**306**	*e*P	**P**	**22 10 21.6**	**-0.3**		
	comp=Z,16nm,0.9s								
GKN	**Gorkha**	**46.63**	**305**	*e*P	**P**	**22 10 29.9**	**0.0**		
	comp=Z,4.8nm,0.7s								
ULN	**Ulaanbaatar**	**46.87**	**342**	*e*P	**P**	**22 10 30.0**	**-1.4**		
	comp=Z,1.3nm,0.7s								
SONA0	**Songino Array**	**47.05**	**341**	*e*P	**P**	**22 10 32.9**	**+0.1**		
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**22 10 32.9**	**+0.1**		
	comp=Z,0.7nm,0.7s,baz=166,slow=7.5,SNR=5.4								
KOLN	**Koldanda**	**47.39**	**305**	*e*P	**P**	**22 10 35.8**	**-0.1**		
	comp=Z,14nm,0.7s								
DANN	**Dangsing**	**47.48**	**305**	*e*P	**P**	**22 10 36.8**	**+0.2**		
	comp=Z,22nm,0.6s								
PYUN	**Piuthan**	**48.01**	**305**	*e*P	**P**	**22 10 40.8**	**+0.1**		
	comp=Z,14nm,0.9s								
WMQ	**Urumqi**	**52.52**	**325**	*e*P	**P**	**22 11 16.3**	**+2.0**		
WMQ				LR	LR				
	comp=N,160nm,19.5s								
WMQ				LR	LR				
	comp=E,110nm,18.5s								
WMQ				LR	LR				
	comp=Z,76nm,19.1s								
MK01	**Makanchi Array**	**57.33**	**325**	*e*P	**P**	**22 11 48.5**	**-0.4**		
MK31	**Makanchi Array**	**57.35**	**325**	*e*P	**P**	**22 11 49.0**	**-0.1**		
	comp=Z,1.6nm,0.6s								
MK32	**Makanchi Array**	**57.35**	**325**	*e*P	**P**	**22 11 48.7**	**-0.3**		
MKAR	**Makanchi Array**	**57.35**	**325**	P	**P**	**22 11 48.7**	**-0.3**		
	comp=Z,1.3nm,0.5s,baz=120,slow=6.8,SNR=26								
MKAR				LR	LR	22 37 33.8			
	comp=Z,46nm,18.8s,baz=84,slow=37								
MAKZ	**Makanchi**	**57.53**	**325**	*e*P	**P**	**22 11 49.1**	**-1.3**		
	comp=Z,3.7nm,1.1s								
NIL	**Nilore**	**57.78**	**308**	*e*P	**P**	**22 11 52.2**	**-0.1**		
	comp=Z,5.2nm,0.9s								
KSH	**Kashi**	**57.87**	**315**	*e*P	P	22 12 01.1	+8.1		
ZALV	**Zalesovo Beam**	**60.36**	**333**	*e*P	**P**	**22 12 09.1**	**-0.7**		
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**22 12 09.2**	**-0.5**		
	comp=Z,0.7nm,0.4s,baz=108,slow=4.8,SNR=4.8								
ZALV				LR	LR	22 38 17.6			
	comp=Z,25nm,20.1s,baz=72,slow=36								
ZAA1	**Zalesovo Array**	**60.36**	**333**	*e*P	**P**	**22 12 09.2**	**-0.5**		
KURK	**Kurchatov**	**61.52**	**327**	*e*P	**P**	**22 12 16.2**	**-1.5**		
	comp=Z,3.8nm,0.6s								
ABKAR	**Akbulak array**	**71.95**	**321**	*e*P	**P**	**22 13 23.9**	**-0.2**		
	comp=Z,0.7nm,0.6s								
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**	**22 14 35.9**	**+1.0**		
	comp=Z,0.5nm,0.7s,baz=237,slow=6.3,SNR=4.1								
KLMR	**Klimovskoe**	**85.18**	**331**	*e*P	**P**	**22 14 37.1**	**+0.6**		
KLMR				AMP		22 14 50.1			
	comp=Z,18nm,1.4s								
ARA0	**ARCESS Array S**	**90.20**	**340**	*e*P	**P**	**22 14 59.0**	**-1.5**		
ARCES	**ARCESS Array B**	**90.20**	**340**	P	**P**	**22 14 59.0**	**-1.5**		
	comp=Z,4.7nm,0.8s,baz=65,slow=8.7,SNR=4.2								
FIA0	**FINESS Array S**	**91.60**	**332**	*e*P	**P**	**22 15 07.5**	**+0.4**		
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**22 15 07.5**	**+0.4**		
	comp=Z,1.2nm,0.8s,baz=66,slow=5.4,SNR=2.5								
NOA	**NORSAR Array B**	**98.56**	**334**	LR	LR	23 06 57.2			
	comp=Z,14nm,18.3s,baz=285,slow=40								
VYHS	**Vyhne**	**98.76**	**320**	*e*PDIF	Pdif	22 15 42.3	+2.2		
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	**PKiKP**	**22 20 58.4**	**+1.0**		
	comp=Z,0.4nm,0.8s,baz=0.0,slow=4.3,SNR=2.9								
TOA1	**Torodi Ar. Sit**	**122.86**	**288**	*e*PKPdf	**PKiKP**	**22 20 58.4**	**+1.0**		

*ISK **18** 22:03:33.8,38°.98N×26°.02E, h10km, ML2.3/10*
*DDA **18** 22:03:34.5,39°.02N×26°.07E, h7km±2km, ML2.6*
*ATH **18** 22:03:34.2,39°.01N×26°.02E, h20km±1km, ML1.9/2, Error ellipse: s-maj=2.3km s-min=1.0km az=308.0*
*ISCJB **18** 22:03:35.2±0.4,39°.01N±0°.02×26°.00E±0°.04, h17km±6km, Error ellipse: s-maj=5.2km s-min=3.5km az=172.8*

ISC 18 22:03:34.6±0.9, 39°.00N±0°.02×26°.01E±0°.03, h15km±7km, n24, σ0s48/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.24**	**331**	PG	**Pg**	**22 03 39.8**	**-0.1**
SIGR				SG	**Sg**	**22 03 43.7**	**+0.2**
SIGR	**SIGRI**	**0.24**	**331**	P	**Pg**	**22 03 39.9**	**0.0**
SIGR				S	**Sg**	**22 03 43.9**	**+0.4**
SIGR				AML	AML	22 03 44.2	
	comp=E,1184μm,0.3s						
SIGR				AML	AML	22 03 44.5	
	comp=N,1769μm,0.2s						
PRK	**Paraskevi**	**0.32**	**40**	P	**Pg**	**22 03 41.4**	**+0.1**
PRK				S	**Sg**	**22 03 45.5**	**-0.3**
PRK				AML	AML	22 03 47.4	
	comp=N,307μm,0.3s						
PRK				AML	AML	22 03 48.9	
	comp=E,313μm,0.2s						
PSRA	**Psara**	**0.57**	**217**	P	**Pg**	**22 03 45.5**	**-0.4**
PSRA				S	**Sb**	**22 03 54.4**	**+0.1**
AYVA	**Ayvalik**	**0.61**	**60**	*i* P	**Pg**	**22 03 46.2**	**-0.4**
AYVA				*i* S	**Sg**	**22 03 54.8**	**0.0**
AYVA				IAML_P			
	comp=Z,340nm,0.2s						
URLA	**Izmir**	**0.79**	**144**	PG	**Pg**	**22 03 49.3**	**-0.6**
URLA				SG	**Sb**	**22 04 00.4**	**-0.1**
URLA	**Izmir**	**0.79**	**144**	*i* P	**Pb**	**22 03 50.2**	**+0.2**
URLA				*i* S	**Sb**	**22 04 01.2**	**+0.7**
URLA				IAML_P			
	comp=Z,2μm,0.2s						
ZEDA	**zmir-Bergama**	**0.83**	**92**	*i* P	**Pn**	**22 03 51.2**	**-0.6**
ZEDA				*i* S	**Sb**	**22 04 02.2**	**+0.4**
ZEDA				IAML_P			
	comp=Z,1μm,0.1s						
BOZC	**Bozcaada**	**0.84**	**2**	PG	**Pb**	**22 03 49.9**	**-1.0**
BOZC				SG	**Sn**	**22 04 03.7**	**-0.2**
BOZC	**Bozcaada**	**0.84**	**2**	*i* P	**Pb**	**22 03 50.3**	**-0.6**
BOZC				*i* S	**Sn**	**22 04 04.8**	**+0.9**
BOZC				IAML_P			
	comp=Z,694nm,0.1s						
BAYC	**CANAKKALE_Bayr**	**0.85**	**29**	*i* P	**Pg**	**22 03 51.3**	**+0.2**
BAYC				*i* S	**Sb**	**22 04 02.8**	**+0.5**
BAYC				IAML_P			
	comp=Z,737nm,0.1s						
ZEY	**zmir**	**0.85**	**153**	*i* P	**Pn**	**22 03 51.9**	**-0.1**
ZEY				*i* S	**Sg**	**22 04 03.0**	**+0.5**
ZEY				IAML_P			
	comp=Z,407nm,0.2s						
EZN	**Ezine**	**0.86**	**17**	PG	**Pb**	**22 03 50.3**	**-0.9**
EZN				SG	**Sn**	**22 04 03.7**	**-0.7**
BLCB	**Balcova**	**1.02**	**127**	PG	**Pb**	**22 03 53.4**	**-0.5**
LIA	**Limnos Island**	**1.10**	**325**	P	**Pg**	**22 03 55.7**	**-0.1**
LIA				S	**Sn**	**22 04 10.6**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.44**	**14**	PN	**Pb**	**22 04 00.6**	**-0.5**
SMG	**Samos**	**1.45**	**153**	P	**Pb**	**22 04 01.5**	**+0.3**
SMG				S	**Sg**	**22 04 21.3**	**+0.1**
LPK	**Lapseki**	**1.49**	**23**	PN	**Pn**	**22 04 01.2**	**+0.4**
SMTH	**Samothraki Isl**	**1.51**	**346**	P	**Pb**	**22 04 01.9**	**-0.5**
BALB	**Balikesir**	**1.59**	**66**	PN	**Pn**	**22 04 02.6**	**+0.5**
KRBG	**Karabiga-Canak**	**1.71**	**35**	PN	**Pn**	**22 04 03.9**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.82**	**125**	PN	**Pn**	**22 04 05.6**	**+0.2**
EDC	**Edincik**	**1.96**	**46**	PN	**Pn**	**22 04 08.1**	**+0.8**
APE	**Apeiranthos**	**1.97**	**191**	PN	**Pn**	**22 04 07.4**	**0.0**

*TIF **18** 22:46:22.3,42°.34N×40°.85E, h41km±1km*
*ISK **18** 22:46:22.8,42°.35N×40°.95E, h11km, ML2.6/5*
*MOS **18** 22:46:23.6±0.0,42°.51N×41°.07E, h8km, MPVA3.4*

ISC 18 22:46:23.8±1.2, 42°.38N±0°.02×40°.94E±0°.05, h23km±16km, n21, σ1s01/39, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.96**	**144**	PG	**Pn**	**22 46 41.2**	**-0.7**
BATM				SG	**Sb**	**22 46 54.9**	**+0.9**
BATM	**Batumi**	**0.96**	**144**	P	**Pn**	**22 46 41.1**	**-0.8**
BATM				S	**Sb**	**22 46 55.0**	**+1.0**
DOMR	**Dombai**	**1.04**	**29**	*e*Pg	**Pn**	**22 46 41.9**	**-1.3**
DOMR				*e*Sg	**Sn**	**22 46 54.0**	**-3.1**
BCA	**Borcka**	**1.07**	**151**	PG	**Pn**	**22 46 42.3**	**-1.1**
BCA				SG	**Sn**	**22 46 57.3**	**-0.2**
DBOC	**Borcka**	**1.17**	**152**	*i* P	**Pn**	**22 46 44.8**	**0.0**
DBOC				*i* S	**Sb**	**22 47 00.4**	**+0.3**
DBOC				IAML_P			
	comp=Z,2μm,0.1s						
CHOM	**Cayeli-Rize**	**1.29**	**186**	PN	**Pb**	**22 46 47.1**	**-0.3**
CHOM				SN	**Sb**	**22 47 04.2**	**+0.7**
RPOR	**Krasnaya Polya**	**1.41**	**340**	*i* Pg	**Pb**	**22 46 48.8**	**-0.6**
RPOR				*i* Sg	**Sb**	**22 47 07.7**	**+0.8**
DBAD	**Bademkaya**	**1.48**	**157**	*i* P	**Pn**	**22 46 49.2**	**+0.1**
DBAD				*i* S	**Sn**	**22 47 08.0**	**+0.3**
DBAD				IAML_P			
	comp=Z,870nm,0.1s						
DAGI	**Agillar**	**1.49**	**150**	*i* P	**Pn**	**22 46 49.1**	**-0.2**
DAGI				*i* S	**Sn**	**22 47 08.4**	**+0.3**
DAGI				IAML_P			
	comp=Z,423nm,0.2s						
SOC	**Sochi**	**1.50**	**324**	*e*Pg	**Pb**	**22 46 50.4**	**-0.5**
SOC				*i* Sg	**Sb**	**22 47 10.2**	**+0.7**
NEY	**Neytrino**	**1.57**	**56**	*i* Pg	**Pn**	**22 46 50.2**	**-0.3**
NEY				*e*Sg	**Sn**	**22 47 09.9**	**-0.4**
EPOS	**Posof**	**1.60**	**123**	*i* P	**Pn**	**22 46 51.1**	**+0.2**
EPOS				*i* S	**Sn**	**22 47 12.0**	**+1.2**
DDEM	**Demirkent**	**1.61**	**157**	*i* P	**Pn**	**22 46 51.6**	**+0.7**
DDEM				*i* S	**Sb**	**22 47 12.5**	**-0.2**
DDEM				IAML_P			
	comp=Z,1μm,0.2s						
KTUT	**Trabzon**	**1.65**	**213**	PN	**Pb**	**22 46 51.9**	**-1.5**
KTUT				SN	**Sb**	**22 47 13.1**	**-0.6**
GUZR	**Guzeripl'**	**1.72**	**340**	*i* Pg	**Pb**	**22 46 53.5**	**-1.3**
GUZR				*i* Sg	**Sb**	**22 47 16.5**	**+0.5**
SHA1	**Shidzhatmaz**	**1.85**	**42**	*i* Pg	**Pn**	**22 46 55.5**	**+1.1**
SHA1				*i* Sg	**Sn**	**22 47 18.4**	**+1.2**
LZRR	**Lazarevskoye**	**1.93**	**324**	*i* Pg	**Pb**	**22 46 58.4**	**+0.1**
LZRR				*i* Sg	**Sb**	**22 47 24.0**	**+2.2**
KIV	**Kislovodsk**	**2.03**	**39**	PN	**Pn**	**22 46 57.9**	**+1.2**
KRIK	**Erzurum-spir**	**2.04**	**180**	*i* P	**Pb**	**22 46 59.9**	**-0.4**
KRIK				*i* S	**Sb**	**22 47 25.8**	**+0.4**
KRIK				IAML_P			
	comp=Z,228nm,0.2s						
BAYT	**Aydıntepe-Bayb**	**2.07**	**197**	PN	**Pn**	**22 46 58.2**	**+0.8**
SENK	**Senkaya-Erzuru**	**2.11**	**149**	PN	**Pn**	**22 46 58.7**	**+0.9**

*IDC **18** 22:51:31.6±1.0,7°.58N×94°.05E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/42, mbtmp3.8/11, ML3.8/2, MS3.1/5, Ms1 3.2/5, ms1mx2.9/33, Error ellipse: s-maj=38.4km s-min=16.9km az=52.0*
*ISCJB **18** 22:51:33.1±0.7,7°.6N±0°.1×94°.3E±0°.2, h20km, mb3.8/9, MS3.2/2, Error ellipse: s-maj=26.5km s-min=9.6km az=144.6*

ISC 18 22:51:34.7±0.9, 7°.6N±0°.1×94°.2E±0°.2, h20km, n26, σ1s30/21, mb4.1/18, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.71**	**135**	Pn	**Pn**	**22 53 11.7**	**-0.6**
	0.4nm,0.3s,baz=360,slow=23,SNR=6.6						
PSI				LR	LR	22 56 33.4	
	comp=Z,172nm,19.5s,baz=267,slow=44						
CMAR	**Chiang Mai Arr**	**11.74**	**23**	Pn	**Pn**	**22 54 20.2**	**-1.0**
	0.6nm,0.3s,baz=196,slow=13,SNR=4.9						
CMAR				LR	LR	22 59 03.7	
	comp=Z,64nm,18.6s,baz=206,slow=38						
PALK	**Pallekele**	**13.37**	**269**	LR	LR	22 59 09.5	
	comp=Z,93nm,21.0s,baz=116,slow=35						
RAMN	**Ramite**	**20.54**	**340**	*e*P	**P**	**22 56 13.9**	**+1.5**
	25nm,0.7s						
JIRN	**Jiri**	**21.34**	**340**	*e*P	**P**	**22 56 22.9**	**+1.8**
	55nm,1.1s						
PKI	**Pulchoki**	**21.53**	**338**	*e*P	**P**	**22 56 25.3**	**+2.2**
	19nm,1.0s						
PKIN	**Phulchoki**	**21.54**	**338**	*e*P	**P**	**22 56 25.4**	**+2.3**
	7.7nm,0.6s						
GUN	**Gumba**	**21.67**	**340**	*e*P	**P**	**22 56 24.9**	**+0.2**
	14nm,0.7s						
DMN	**Daman**	**21.68**	**338**	*e*P	**P**	**22 56 26.7**	**+2.1**
	16nm,0.8s						
GKN	**Gorkha**	**22.21**	**337**	*e*P	**P**	**22 56 30.1**	**-0.1**
	13nm,0.7s						
KOLN	**Koldanda**	**22.42**	**335**	*e*P	**P**	**22 56 33.0**	**+0.4**
	12nm,0.9s						
DANN	**Dangsing**	**22.86**	**336**	*e*P	**P**	**22 56 37.3**	**-0.1**
	20nm,1.0s						
PYUN	**Piuthan**	**22.97**	**334**	*e*P	**P**	**22 56 37.9**	**-0.5**
H08S3	**Diego Garcia H**	**26.40**	**236**	T	T	23 24 04.3	
	baz=54,slow=75,SNR=62						
H08S2	**Diego Garcia H**	**26.41**	**235**	T	T	23 24 05.2	
	baz=54,slow=75,SNR=71						
H08S1	**Diego Garcia H**	**26.42**	**235**	T	T	23 23 56.0	
	baz=54,slow=75,SNR=49						
MKAR	**Makanchi Array**	**40.36**	**347**	P	**P**	**22 59 11.0**	**-0.1**
	2.1nm,0.7s,baz=169,slow=8.0,SNR=29						
SONM	**Songino Array**	**41.41**	**12**	P	**P**	**22 59 20.6**	**+0.6**
	1.3nm,0.9s,baz=205,slow=9.1,SNR=7.9						
KSRS	**Korea Array**	**42.64**	**41**	LR	LR	23 17 18.9	
	comp=Z,22nm,18.6s,baz=190,slow=36						
GEYT	**Alibeck**	**44.43**	**318**	P	**P**	**22 59 44.4**	**0.0**
	1.3nm,0.6s,baz=116,slow=9.8,SNR=3.3						
GEYT				LR	LR	23 21 07.9	
	comp=Z,33nm,18.5s,baz=270,slow=40						
ZALV	**Zalesovo Beam**	**46.83**	**352**	P	**P**	**23 00 03.3**	**+0.3**
	3.4nm,0.5s,baz=182,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**48.07**	**125**	P	**P**	**23 00 12.8**	**-0.6**
	0.3nm,0.8s,baz=305,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**49.71**	**130**	P	**P**	**23 00 28.3**	**+2.4**
	0.2nm,0.4s,baz=310,slow=7.2,SNR=3.6						
BRTR	**Keskin Array B**	**62.64**	**311**	P	**P**	**23 01 56.8**	**-1.4**
	0.4nm,0.8s,baz=127,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**72.97**	**332**	P	**P**	**23 03 02.2**	**-0.5**
	2.4nm,0.7s,baz=83,slow=3.8,SNR=6.8						
GERES	**GERESS Array B**	**78.05**	**318**	P	**P**	**23 03 32.4**	**+0.1**
	0.3nm,0.6s,baz=88,slow=8.1,SNR=2.8						

*ISCJB **18** 22:59:56.2±0.8, 7°.33S±0°.05×130°.06E±0°.08, h50km, mb3.7/1, Error ellipse: s-maj=11.4km s-min=7.6km az=8.8*
*IDC **18** 22:59:58.7±7.8, 7°.28S×130°.02E, h65km±88km, mb3.5/1, mb1 3.8/5, mb1mx3.5/29, mbtmp3.9/5, ML3.9/4, Error ellipse: s-maj=72.1km s-min=27.8km az=18.0*

ISC 18 22:59:57.8±1.1, 7°.44S±0°.07×130°.1E±0°.1, h50km, n6, σ2s90/10, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.63**	**10**	S	**Sn**	**23 02 46.2**	**-0.8**
	1.3nm,0.3s,baz=241,slow=23,SNR=7.0						
BATI	**Baumata**	**6.95**	**246**	P	**Pn**	**23 01 38.9**	**+1.7**
	4.8nm,0.3s,baz=80,slow=6.1,SNR=3.8						
BATI				S	**Sn**	**23 02 55.7**	**+0.7**
	3.7nm,0.3s,baz=72,slow=20,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.46**	**202**	P	**Pn**	**23 02 40.7**	**+1.8**
	0.6nm,0.3s,baz=26,slow=10.0,SNR=9.0						
FITZ				S	**Sn**	**23 04 39.5**	**-5.9**
	0.4nm,0.3s,baz=127,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**13.08**	**162**	P	**Pn**	**23 03 03.8**	**+2.8**
	0.5nm,0.3s,baz=339,slow=13,SNR=14						
WRA				S	**Sn**	**23 05 23.2**	**-1.9**
	0.3nm,0.3s,baz=327,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**16.53**	**168**	P	**P**	**23 03 49.1**	**+0.8**
	0.3nm,0.3s,baz=341,slow=11,SNR=14						
ASAR				S	**Sn**	**23 06 48.8**	**-0.3**
	0.1nm,0.3s,baz=354,slow=27,SNR=3.8						
MKAR	**Makanchi Array**	**68.66**	**327**	P	**P**	**23 10 53.9**	**-2.1**
	0.4nm,0.4s,baz=131,slow=7.0,SNR=15						

*ISCJB **18** 23:14:24.9±0.5, 60°.09N±0°.06×163°.31E±0°.09, h10km, mb3.7/22, MS2.9/4, Error ellipse: s-maj=9.6km s-min=6.2km az=157.2*
*IDC **18** 23:14:25.7±0.8, 60°.26N×163°.43E, h0km, mb3.6/14, mb1 3.8/16, mb1mx3.7/35, mbtmp3.6/16, ML4.6/1, MS3.0/5, Ms1 3.0/5, ms1mx2.6/48, Error ellipse: s-maj=22.4km s-min=10.7km az=171.0*
*NEIC **18** 23:14:27.5±1.6, 60°.07N×163°.34E, h16km±3km, mb4.0/11, Error ellipse: s-maj=24.4km s-min=12.0km az=139.0*

ISC 18 23:14:26.7±0.6, 60°.12N±0°.08×163°.22E±0°.06, h10km, n42, σ1s92/44, mb3.8/21, MS2.9/4, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEY	**Seymchan**	**5.90**	**303**	Pn	**Pn**	**23 15 54.5**	**+0.4**
	0.6nm,0.3s,baz=17,slow=19,SNR=3.8						
SEY				Lg	Lg	23 17 34.2	
	2.0nm,0.3s,baz=46,slow=22,SNR=4.4						
MA2	**Magadan**	**6.30**	**270**	*e*Pn	**Pn**	**23 16 01.0**	**+1.4**
MA2				*e*Sn	**Sn**	**23 17 08.5**	**-3.0**
MA2	**Magadan**	**6.30**	**270**	Pn	**Pn**	**23 16 00.5**	**+1.0**
	1.4nm,0.3s,baz=156,slow=20,SNR=3.7						
MA2				Sn	**Sn**	**23 17 14.8**	**+3.3**
	2.5nm,0.3s,baz=177,slow=19,SNR=2.4						
MA2				Lg	Lg	23 17 49.4	
	0.4nm,0.3s,baz=150,slow=20,SNR=3.1						
PETK	**Petropavlovsk-**	**7.66**	**206**	LR	LR	23 20 14.0	
	comp=Z,38nm,18.4s,baz=16,slow=44						
BILL	**Bilibino**	**8.06**	**8**	*e*Pn	**Pn**	**23 16 25.1**	**+1.4**
BILL				*e*Sn	**Sn**	**23 17 58.7**	**+4.0**
TIXI	**Tiksi**	**17.83**	**324**	*e*Pn	**P**	**23 18 35.1**	**0.0**
	1.6nm,0.5s						
TIXI				*e*Sn	**Sn**	**23 21 45.2**	**-7.6**
TIXI	**Tiksi**	**17.83**	**324**	P	**P**	**23 18 36.4**	**+1.2**
	0.1nm,0.3s,baz=341,slow=4.3,SNR=3.3						
IM3	**Indian Mountai**	**20.02**	**55**	*e*P	**Pn**	**23 18 59.5**	**-1.4**
KLR	**Kul'dur**	**20.99**	**253**	P	**P**	**23 19 12.6**	**+2.7**
	1.2nm,0.7s,baz=33,slow=11,SNR=5.8						
KLR				LR	LR	23 28 06.0	
	comp=Z,30nm,18.2s,baz=353,slow=39						
MLY	**Manley**	**21.36**	**57**	*e*P	**P**	**23 19 13.6**	**-0.2**
	3.6nm,1.0s						
TOLK	**Toolik Lake Re**	**21.56**	**47**	*e*P	**P**	**23 19 16.1**	**+0.3**
	3.3nm,0.8s						
WRH	**Wood River Hil**	**22.58**	**58**	*e*P	**P**	**23 19 26.7**	**-0.1**
	4.2nm,1.1s						
KDAK	**Kodiak Island**	**22.60**	**76**	LR	LR	23 29 49.7	
	comp=Z,59nm,18.8s,baz=112,slow=41						
IL1	**Eielson Array**	**23.03**	**57**	*e*P	**P**	**23 19 30.9**	**-0.6**
ILAR	**Eielson Array**	**23.03**	**57**	P	**P**	**23 19 30.9**	**-0.6**
	0.8nm,0.8s,baz=275,slow=9.7,SNR=11						
ILB	**Eielson Array**	**23.03**	**57**	*e*P	**P**	**23 19 30.9**	**-0.6**
	2.2nm,1.1s						
USRK	**Ussuriysk Ar.**	**24.59**	**244**	P	**P**	**23 19 50.0**	**+3.3**
	1.7nm,0.6s,baz=32,slow=5.6,SNR=3.6						
MJB9	**Matsu-Tunnel**	**28.53**	**225**	*e*P	**P**	**23 20 19.6**	**-2.6**
	8.6nm,1.1s						
MAJO	**Matsushiro**	**28.53**	**225**	*e*P	**P**	**23 20 19.1**	**-3.1**
	8.3nm,1.1s						
MJAR	**Matsushiro Arr**	**28.53**	**225**	LR	LR	23 33 14.5	
	comp=Z,25nm,19.2s,baz=110,slow=39						
SONA0	**Songino Array**	**34.49**	**275**	*e*P	**P**	**23 21 14.0**	**-0.6**
SONA0				*e*PcP	**PcP**	**23 23 50.4**	**+0.9**
SONM	**Songino Array**	**34.49**	**275**	P	**P**	**23 21 14.0**	**-0.6**
	0.1nm,0.4s,baz=68,slow=8.0,SNR=2.2						
SONM				PcP	**PcP**	**23 23 50.4**	**+0.9**
	0.4nm,0.5s,baz=66,slow=2.7,SNR=4.0						
YKA	**Yellowknife Ar**	**37.03**	**50**	P	**P**	**23 21 34.8**	**-1.2**
	0.4nm,0.6s,baz=304,slow=8.1,SNR=6.3						
ZALV	**Zalesovo Beam**	**40.74**	**297**	LR	LR	23 40 59.9	
	comp=Z,26nm,18.7s,baz=352,slow=39						
KURK	**Kurchatov**	**45.72**	**298**	*e*P	**P**	**23 22 48.4**	**+0.9**
	1.8nm,0.5s						
MK31	**Makanchi Array**	**46.91**	**292**	*e*P	**P**	**23 22 57.8**	**+0.8**
	0.7nm,0.8s						
MK32	**Makanchi Array**	**46.91**	**292**	*e*P	**P**	**23 22 57.4**	**+0.4**
MKAR	**Makanchi Array**	**46.91**	**292**	P	**P**	**23 22 57.4**	**+0.4**
	0.5nm,0.6s,baz=45,slow=6.8,SNR=8.0						
MK01	**Makanchi Array**	**46.92**	**292**	*e*P	**P**	**23 22 57.9**	**+0.8**
EGMT	**Eagleton**	**48.77**	**63**	*e*P	**P**	**23 23 10.7**	**-0.8**
PDAR	**Pinedale Array**	**52.88**	**67**	P	**P**	**23 23 41.8**	**-0.9**
	0.2nm,0.4s,baz=302,slow=5.2,SNR=3.4						
FIA0	**FINESS Array S**	**54.35**	**336

TNTI **Ternate** 3.45 124 *e*Pn **Pn** 23 45 06.3 +0.9
TNTI *e*S **S** 23 45 54.6 0.0
TNTI Ternate 3.45 124 P **Pn** 23 45 06.5 +1.2
DDMP Don Marcelino, 3.56 20 *e*P **Pn** 23 45 06.3 -0.2
DDMP *e*S **S** 23 45 53.2 -3.7
SKMP Bagumbayan, Su 3.77 0 *e*P **Pn** 23 45 09.0 +0.3
SKMP *e*S **S** 23 45 58.5 -2.2
LUWI Luwuk 4.12 205 *e*Pn **Pn** 23 45 12.6 +0.2
LUWI *e*S **S** 23 46 05.2 -2.4
LUWI Luwuk 4.12 205 P **Pn** 23 45 12.3 -0.1
KCP Kidapawan 4.30 8⇑ *i*P **Pn** 23 45 14.6 +0.3
KCP *i*S **S** 23 46 13.4 +2.3
DMPH Davao City--Mi 4.44 13⇑ *e*P Pn 23 45 10.1 -5.8
DMPH *e*S **S** 23 46 13.4 -0.5
DAV Davao City (W) 4.45 14 *e*Pn **Pn** 23 45 15.9 0.0
DAV *e*S **S** 23 46 09.9 -4.0
DAV Davao City (W) 4.45 14 P **Pn** 23 45 17.2 +1.3
68nm,0.3s,baz=213,slow=2.5,SNR=9.2
DAV S **S** 23 46 10.7 -3.2
77nm,0.3s,baz=151,slow=18,SNR=3.8
CTBH Cotabato--PC H 4.48 357⇑ *i*P **Pn** 23 45 16.5 +0.3
APSI Ampana 4.61 218 P **Pn** 23 45 18.8 +1.1
SANI Sanana 4.96 163 P **Pn** 23 45 21.3 -0.4
368nm,1.0s,17µm9.6nm
BUKP Musuan 5.15 6 *e*P **Pn** 23 45 24.0 +0.1
MPSI Mapaga 5.19 243 P **Pn** 23 45 25.9 +1.6
64nm,0.8s,0.3nm
PAGZ Pagadian 5.21 348 *e*P **Pn** 23 45 25.4 +0.8
BUTP Butuan 6.30 10 *e*P **Pn** 23 45 38.7 +1.5
TSM Tawau 6.81 283 P **Pn** 23 45 44.0 +0.7
KDI Kendari 6.90 196 P **Pn** 23 45 45.1 +0.7
117nm,0.9s,1µm0.3nm
MSLP Maasin 7.37 3 *e*P **Pn** 23 45 50.8 +0.8
TTSI Tana Toraja 7.41 219 P **Pn** 23 45 52.4 +2.0
415nm,1.1s,4µm1.6nm
SIJI Sorong 7.63 118 P **Pn** 23 45 56.0 +2.7
11nm,0.3s,baz=319,slow=9.3,SNR=31
SDKM Sandakan 7.86 292 P **Pn** 23 45 56.9 +0.9
SMKI Samarinda 7.95 247 P **Pn** 23 46 00.3 +3.2
317nm,0.9s,4µm1.4nm
SPSI Sidrap Palu 8.16 216 P **Pn** 23 46 00.9 +1.3
81nm,0.8s,778nm
OCLP Ormoc 8.28 1 *e*P **P** 23 46 06.7 +1.4
BNSI Bone 8.34 212 P **P** 23 46 03.9 -2.0
618nm,0.9s,6µm1.9nm
BBSI Bau Bau 8.38 193 P **P** 23 46 04.9 -1.5
31nm,1.2s,600nm0.1nm
PLP Palo 8.40 3⇑ *i*P **Pn** 23 46 02.2 -0.2
PLP *i*S **P** 23 46 05.7 -0.9
BKB Balikpapan 8.58 243 P **P** 23 46 07.9 -1.0
272nm,1.2s,2µm0.9nm
CUYO Cuyo Island 8.79 337 *e*P **Pn** 23 46 06.9 -0.3
KKM Kota Kinabalu 8.91 292 *e*Pn **Pn** 23 46 08.5 -0.2
KKM Kota Kinabalu 8.91 292 P **Pn** 23 46 09.0 +0.2
RCP Roxas 8.95 349‖ *e*P **Pn** 23 46 09.0 -0.2
BNDI Bandanaira 8.99 143 P **Pn** 23 46 11.7 +2.1
730nm,0.8s,6µm
BKSI Bulukumba 9.12 209 P **Pn** 23 46 12.1 +1.0
129nm,1.0s,1µm
FAKI Fak Fak 9.55 126 *e*Pn **P** 23 46 18.6 -1.0
FAKI Fak Fak 9.55 126 P **P** 23 46 18.6 -1.0
53nm,0.8s
BSSI Bau Bau, Buton 9.68 205 P **Pn** 23 46 19.4 +1.4
141nm,1.1s,1µm
ENPP El Nido 9.82 329 *e*P **Pn** 23 46 19.7 -0.1
OTRP Odiongan 9.89 346 *e*P **Pn** 23 46 19.7 -0.8
BUSP Coron 10.16 335 *e*P **Pn** 23 46 24.2 +0.4
SJMP San Jose 10.24 341 *e*P **Pn** 23 46 25.7 +0.9
PVCP Virac 10.81 358 *e*P **Pn** 23 46 31.9 +0.3
BTM Bintulu 11.43 273 P **P** 23 46 40.8 +0.3
MMRI Maumere 11.51 191 *e*Pn **P** 23 46 43.0 +1.6
MMRI Maumere 11.51 191 P **P** 23 46 41.6 +0.2
231nm,1.2s
EDFI Ende, Flores 11.74 194 P **P** 23 46 45.8 +1.7
200nm,0.9s,2µm
TGY Tagaytay City 11.85 343 P **P** 23 46 45.4 +0.2
101nm,0.3s,baz=310,slow=8.4,SNR=4.6
SBUM Sibu 12.29 269 *e*Pn **P** 23 46 51.7 +1.7
SOEI Soe 12.40 181 *e*Pn **P** 23 46 54.7 +3.3
SOEI Soe 12.40 181 P **P** 23 46 55.0 +3.6
487nm,1.1s,4µm
SAUI Saumlaki 12.61 148 *e*Pn **P** 23 46 55.6 +2.0
SAUI *e*S **S** 23 49 08.1 -5.0
SAUI Saumlaki 12.61 148 P **P** 23 46 55.6 +2.0
543nm,0.8s
BATI Baumata 12.87 184 P **Pn** 23 46 59.7 +3.2
504nm,0.5s,7µm
BATI Baumata 12.87 184 P **Pn** 23 46 59.9 +3.3
213nm,0.3s,baz=335,slow=0.9,SNR=165
BATI S **S** 23 49 22.0 +3.2
11nm,0.3s,baz=339,slow=4.6,SNR=3.1
BALP Baler 13.26 348 *e*P **Pn** 23 47 01.1 +0.1
PLAI Plampang 13.29 210 P **Pn** 23 47 03.5 +1.9
240nm,0.8s,2µm
BASI Baing, Sumba 13.44 197 P **Pn** 23 47 04.3 +1.0
210nm,0.9s,7µm
SRBI Singaraja 14.19 221 P **Pn** 23 47 13.1 +0.9
24nm,0.9s
KSM Kuching 14.25 265 *e*P **Pn** 23 47 13.2 +0.2
KSM Kuching 14.25 265 P **Pn** 23 47 14.1 +1.2
BOLP Bolinao 14.31 342 *e*P **Pn** 23 47 13.0 -0.6
KMMI Kalianget 14.32 227 P **Pn** 23 47 14.9 +1.2
63nm,0.8s
JAGI Jajag, Banyuwa 15.18 223 *e*P **Pn** 23 47 24.0 +0.2
54nm,0.6s
JAGI Jajag, Banyuwa 15.18 223 P **Pn** 23 47 23.9 +0.1
76nm,0.6s
APYP Conner 15.38 348 *e*P **Pn** 23 47 25.3 -0.8
NGJI Ngawi 16.44 232 P **Pn** 23 47 38.3 -0.1
109nm,0.9s
GENI Genyem 16.51 109 P Pn 23 47 53.9 +15
PWJI Pagerwojo 16.57 230 P **P** 23 47 38.3 +1.2
41nm,0.7s
MTN Manton Dam 16.80 157 *e*P **Pn** 23 47 41.4 -1.3
268nm,0.5s
JAY Jayapura 17.00 108 P **Pn** 23 47 44.8 -0.3
2.2nm,0.3s,baz=248,slow=9.7,SNR=6.7
SMRI Semarang 17.07 235 *e*P **Pn** 23 47 44.6 -1.3
183nm,0.8s
SMRI Semarang 17.07 235 P **Pn** 23 47 46.9 +1.1
242nm,0.9s,7µm
WOJI Wonogiri, Jawa 17.14 232 P **Pn** 23 47 46.9 +0.3
40nm,0.8s
PCJI Pacitan 17.16 231 P **Pn** 23 47 45.4 -1.4
59nm,0.6s
UGM Wanagama 17.50 233 *e*P **Pn** 23 47 50.7 -0.2
109nm,0.9s
UGM Wanagama 17.50 233 P **Pn** 23 47 49.9 -1.0
135nm,0.8s
TPI Tanjungpandan 17.71 252 P **P** 23 47 49.8 +0.4
50nm,1.2s,23µm
KPJI Karang Pucung 18.48 237 P **P** 23 47 58.9 +1.3
118nm,0.9s
CMJI Cimerak 19.13 237 P **P** 23 48 05.5 +1.0
126nm,1.0s
CISI Cisompet, Garu 19.54 238 *e*P **P** 23 48 08.9 -0.2
89nm,1.1s
CISI Cisompet, Garu 19.54 238 P **P** 23 48 10.4 +1.4
78nm,1.0s,4µm
CBJI Citeko 19.84 243 P **P** 23 48 14.1 +2.0
184nm,1.0s
DSRI Dabo 20.18 261 P **P** 23 48 12.6 -3.0
75nm,0.7s,4µm
TWG Pinlang 20.26 351 *e*P **P** 23 48 13.9 -2.3
91nm,0.5s
SBJI Serang 20.35 244 P **P** 23 48 19.3 +2.1
212nm,1.4s,7µm
MYKOM **Kota Tinggi** 20.67 268 *e*P **P** 23 48 20.9 +0.6
62nm,0.8s
FITZ Fitzroy Crossi 20.72 177 *e*P **P** 23 48 21.5 +0.8
183nm,0.4s
FITZ *e*S **S** 23 51 50.5 -0.7
FITZ Fitzroy Crossi 20.72 177 P **P** 23 48 21.4 +0.8
130nm,0.3s,baz=9.7,slow=6.4,SNR=356
FITZ S **S** 23 51 50.5 -0.7
5.0nm,0.7s,baz=133,slow=19,SNR=2.6
YULB Yu-li 20.78 352 *e*P **P** 23 48 21.6 +0.3
19nm,0.8s
TPUB Ta-pu 20.80 350 *e*P **P** 23 48 20.3 -1.1
72nm,0.9s
TPUB *e*S **S** 23 51 52.9 +0.5
KGM Kluang 21.19 269 P **P** 23 48 26.9 +1.8
SSLB Suanglung 21.22 351 *e*P **P** 23 48 26.7 +1.3
23nm,0.8s
SSLB *e*S **S** 23 52 02.0 +2.8

KTGM Kuala Trenggan 21.48 278 P **P** 23 48 28.9 +1.1
MDSI Maura Dua 21.55 251 P **P** 23 48 29.1 +0.7
33nm,0.6s
KASI Kota Agung 21.61 248 P **P** 23 48 29.4 +0.5
90nm,0.9s
LWLI Liwa 21.84 249 P **P** 23 48 34.8 +3.7
54nm,0.5s,13µm
LHSI Lahat 21.96 253 P **P** 23 48 32.4 +0.2
41nm,1.0s
XMIS Christmas Isla 22.91 235 *e*P **P** 23 48 40.6 -0.1
45nm,0.6s
IPM Ipoh 23.51 275 P **P** 23 48 46.6 +0.3
KRJI Kerinci 23.54 259 P **P** 23 48 51.4 +4.8
BKNI Bangkinang 23.59 265 *e*P **P** 23 48 48.2 +1.2
88nm,0.7s
KULM Kulim 23.94 277 P **P** 23 48 50.4 +0.3
PANO Nakornpanom 24.24 308 P **P** 23 48 53.3 +0.5
0.3nm,0.8s
PDSI Padang 24.32 262 P **P** 23 48 54.0 +0.5
26nm,0.6s,5µm
WRAB Tennant Creek 24.50 157 *e*P **P** 23 48 56.4 +1.4
286nm,0.3s
WRAB Tennant Creek 24.50 157 *c i*P **P** 23 48 56.4 +1.4
WRAB pmax pmax
comp=Z,77nm,0.4s
WR1 Warramunga Arr 24.50 157 *e*P **P** 23 48 55.7 +0.6
comp=Z,186nm,0.5s
WR1 *e*S **S** 23 52 49.8 -1.9
WR1 *e*ScP **ScP** 23 55 31.6 -0.6
WRA Warramunga Arr 24.50 157 P **P** 23 48 55.7 +0.6
comp=Z,97nm,0.3s,baz=335,slow=10,SNR=589
WRA S **S** 23 52 49.8 -1.9
comp=Z,10nm,0.7s,baz=338,slow=16,SNR=8.3
WRA ScP **ScP** 23 55 31.6 -0.6
comp=Z,2.4nm,0.9s,baz=332,slow=3.9,SNR=4.1
WB2 Warramunga Arr 24.51 157 *e*P **P** 23 48 56.5 +1.4
SKNT Sakolnakorn 24.65 306 P **P** 23 48 56.9 +0.4
comp=Z,9.1nm,1.0s,comp=Z,837nm
COEN Coen 24.84 132 *e*P **P** 23 48 59.4 +1.2
comp=Z,17nm,1.1s
SRAK Srakaew 24.87 298 P **P** 23 48 54.0 -4.4
comp=Z,115nm,0.8s,comp=Z,963nm
MNSI Mandailing Nat 25.00 266 P **P** 23 48 59.9 +0.3
comp=Z,23nm,0.7s
PSI Prapat 25.56 271 *e*P **P** 23 49 04.7 -0.1
comp=Z,19nm,0.8s
PSI Prapat 25.56 271 *e*P **P** 23 49 04.7 -0.1
PSI pmax pmax
comp=Z,19nm,0.8s
PSI Prapat 25.56 271 P **P** 23 49 04.6 -0.1
comp=Z,14nm,0.7s,baz=38,slow=0.1,SNR=17
SISI Saibi 25.73 261 P **P** 23 49 06.0 -0.2
comp=Z,44nm,0.6s
CHAI Chaiyaphum 25.76 302 P **P** 23 49 06.2 -0.2
comp=Z,24nm,0.7s,comp=Z,167nm
PKDT Phuket 26.56 282 P **P** 23 49 14.5 +0.9
comp=Z,12nm,0.7s
PHET Kaeng Krachan 26.62 294 P **P** 23 49 14.9 +0.8
comp=Z,9.3nm,0.8s
KCSI Kotacane, Aceh 26.71 272 P **P** 23 49 14.0 -1.0
comp=Z,10nm,1.1s
PBKT Sadao Pong 26.93 302 *e*P **P** 23 49 17.1 +0.3
comp=Z,10.0nm,0.7s
PBKT Sadao Pong 26.93 302 P **P** 23 49 17.1 +0.3
comp=Z,16nm,0.7s,comp=Z,894nm
GSI Gunungsitoli 26.96 268 *e*P **P** 23 49 16.2 -0.9
comp=Z,44nm,1.1s
GSI Gunungsitoli 26.96 268 P **P** 23 49 17.6 +0.5
comp=Z,39nm,0.9s
AS31 Alice Springs 27.78 161 *e*P **P** 23 49 26.1 +1.8
comp=Z,15nm,0.3s
ASAR Alice Springs 27.78 161 P **P** 23 49 26.1 +1.8
comp=Z,21nm,0.4s,baz=344,slow=7.4,SNR=300
ASAR S **S** 23 53 43.6 +0.5
comp=Z,4.7nm,0.9s,baz=325,slow=12,SNR=7.1
ASAR ScP **ScP** 23 55 42.1 +0.3
comp=Z,2.8nm,0.6s,baz=356,slow=2.8,SNR=8.3
AS01 Alice Springs 27.79 161 *e*P **P** 23 49 25.8 +1.4
UTHA Uthaitani 27.80 299 P **P** 23 49 24.7 +0.2
comp=Z,18nm,0.7s,comp=Z,152nm
UTTA Uttaradit 27.84 304 P **P** 23 49 25.4 +0.5
comp=Z,7.4nm,0.8s,comp=Z,56nm
NANT Nan 28.26 306 P **P** 23 49 29.6 +1.0
comp=Z,24nm,0.6s,comp=Z,255nm
SUKH Sukhothai 28.49 303 P **P** 23 49 31.4 +0.8
comp=Z,11nm,0.7s
UMPA Umpang Tak 28.58 300 P **P** 23 49 31.7 +0.3
comp=Z,9.1nm,0.8s,comp=Z,141nm
LAMP Lampang 28.99 305 P **P** 23 49 37.1 +2.1
comp=Z,4.2nm,1.1s
GYA Guiyang 29.16 326⇑ *i*P **P** 23 49 37.8 +1.2
GYA pP pP 23 50 38.0 +2.2
GYA PP **PP** 23 50 50.5 +0.4
GYA S **S** 23 54 07.8 +2.8
GYA sS sS 23 55 54.3 +0.6
GYA pmax pmax
comp=Z,10.0nm,0.7s
GYA pmax pmax
comp=Z,110nm,4.8s
CM01 Chiang Mai Arr 29.50 304 *e*P **P** 23 49 39.1 -0.3
CM01 *e*PcP **PcP** 23 52 37.0 +0.8
CM31 Chiang Mai Arr 29.53 304 *e*P **P** 23 49 40.1 +0.3
comp=Z,7.7nm,0.8s
CMAR Chiang Mai Arr 29.53 304 P **P** 23 49 40.3 +0.5
comp=Z,5.9nm,0.9s,baz=121,slow=7.0,SNR=22
CMAR PcP **PcP** 23 52 35.8 -0.5
comp=Z,2.5nm,0.7s,baz=150,slow=1.4,SNR=7.9
NJ2 Nanjing 29.66 350 *e*P **P** 23 49 41.4 +0.8
NJ2 pmax pmax
comp=Z,16nm,0.5s
CMMT Chiang Mai 29.70 304 P **P** 23 49 41.5 +0.3
comp=Z,22nm,0.7s,comp=Z,290nm
CHTO Chiang Mai 29.70 304 *e*P **P** 23 49 41.7 +0.4
comp=Z,14nm,0.8s
CHTO Chiang Mai 29.70 304 *e*P **P** 23 49 41.7 +0.4
CHTO pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 29.70 304 P **P** 23 49 41.6 +0.3
comp=Z,97nm,0.7s,comp=Z,1µm
KMI Kunming 30.59 319 P **P** 23 49 51.3 +2.0
KMI pmax pmax
comp=Z,16nm,0.5s
KMI pmax pmax
comp=Z,94nm,3.7s
ENH Enshi 30.88 334 *e*P **P** 23 49 51.9 +0.5
comp=Z,26nm,0.7s
MORW Morawa 32.64 194 *e*P **P** 23 50 07.8 +1.2
comp=Z,11nm,0.6s
FORT Forrest 33.48 174 *e*P **P** 23 50 15.8 +1.9
comp=Z,102nm,0.6s
CD2 Chengdu 34.22 327 ⇑P **P** 23 50 20.6 +0.3
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,90nm,4.0s
XAN Xi'an 34.39 337 P **P** 23 50 21.5 -0.2
XAN pmax pmax
comp=Z,12nm,0.9s
XAN Xi'an 34.39 337 *e*P **P** 23 50 22.9 +1.2
comp=Z,9.3nm,0.6s
XAN Xi'an 34.39 337 *e*P **P** 23 50 22.9 +1.2
XAN pmax pmax
comp=Z,9.0nm,0.6s
KSRS Korea Array 34.71 5 P **P** 23 50 24.4 +0.1
comp=Z,1.0nm,0.6s,baz=185,slow=9.4,SNR=3.6
MJAR Matsushiro Arr 35.95 19 P **P** 23 50 33.9 -1.0
comp=Z,5.3nm,0.6s,baz=194,slow=9.1,SNR=9.0
MAJO Matsushiro 35.95 19 *e*P **P** 23 50 33.9 -1.0
MAJO Matsushiro 35.95 19 *e*P **P** 23 50 33.9 -1.0
NWAO Narrogin (SRO) 36.12 190 *e*P **P** 23 50 37.1 +0.8
comp=Z,17nm,0.4s
NWAO Narrogin (SRO) 36.12 190 *e*P **P** 23 50 37.1 +0.8
NWAO pmax pmax
comp=Z,17nm,0.4s
NWAO Narrogin (SRO) 36.12 190 P **P** 23 50 37.3 +1.0
comp=Z,14nm,0.4s,baz=27,slow=7.6,SNR=44
BBOO Buckleboo 36.99 164 *e*P **P** 23 50 45.7 +2.1
comp=Z,54nm,0.8s
BRDH Bariadhala 37.54 305 P **P** 23 50 48.8 +0.4
comp=Z,58nm,0.6s,baz=79,slow=6.8,SNR=13
STKA Stephens Creek 38.04 156 *e*P **P** 23 50 55.2 +2.8
comp=Z,13nm,0.9s
STKA Stephens Creek 38.04 156 *e*P **P** 23 50 55.2 +2.8
STKA pmax pmax
comp=Z,13nm,0.9s
STKA Stephens Creek 38.04 156 P **P** 23 50 54.6 +2.2
comp=Z,35nm,0.4s,baz=328,slow=8.6,SNR=106

LZH Lanzhou 38.31 333 ⇑P **P** 23 50 54.3 -0.4
LZH pP pP 23 51 56.9 +0.6
LZH PP **sP** 23 52 31.5 -0.8
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.2s
SHL Shillong 38.73 309 *e*P **P** 23 50 58.8 +0.3
comp=Z,43nm,0.8s
SHL Shillong 38.73 309 *e*P **P** 23 50 58.8 +0.3
SHL pmax pmax
comp=Z,43nm,0.8s
SHL Shillong 38.73 309 *e*P **P** 23 50 59.0 +0.5
HHC Hu-ho-hao-te 39.72 345 *e*P **P** 23 51 08.3 +2.1
HHC sP PP 23 52 45.4 +0.1
HHC S **S** 23 56 53.1 +7.6
HHC sS sS 23 58 44.4 +6.7
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,85nm,5.3s
LSA Lhasa 41.49 314 *e*P **P** 23 51 22.9 +1.7
comp=Z,34nm,1.0s
LSA Lhasa 41.49 314 *e*P **P** 23 51 22.9 +1.7
LSA pmax pmax
comp=Z,34nm,1.0s
USRK Ussuriysk Ar. 41.83 8 P **P** 23 51 23.9 +0.8
comp=Z,3.1nm,0.8s,baz=191,slow=7.8,SNR=8.9
ARMA Armidale 41.90 144 *e*P **P** 23 51 26.4 +2.3
comp=Z,22nm,0.7s
MDJ Mudanjiang 41.96 5 P **P** 23 51 26.5 +2.4
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,340nm,3.6s
GTA Gaotai 42.87 332 ⇑P **P** 23 51 32.3 +0.6
GTA S **S** 23 57 37.1 +5.2
GTA sS sS 23 59 33.3 +7.9
GTA pmax pmax
comp=Z,13nm,0.9s
GTA pmax pmax
comp=Z,51nm,4.3s
GTA LR LR
comp=Z,100nm,19.0s
GTA LR LR
comp=Z,150nm,20.2s
GTA LR LR
comp=Z,110nm,18.0s
RAMN Ramite 43.56 307 *e*P **P** 23 51 37.8 +0.3
comp=Z,120nm,0.9s
PALK Pallekele 43.86 278 *e*P **P** 23 51 40.1 +0.3
comp=Z,8.0nm,0.8s
PALK Pallekele 43.86 278 *e*P **P** 23 51 40.1 +0.3
PALK pmax pmax
comp=Z,8.0nm,0.8s
PALK Pallekele 43.86 278 P **P** 23 51 40.1 +0.3
comp=Z,5.1nm,0.6s,baz=117,slow=7.0,SNR=5.9
JIRN Jiri 44.20 308 *e*P **P** 23 51 42.7 0.0
comp=Z,126nm,0.7s
ASAJ Asahikawa 44.22 19 P **P** 23 51 42.8 +0.6
comp=Z,4.7nm,0.4s,baz=93,slow=32,SNR=4.0
CAN Canberra 44.26 151 *e*P **P** 23 51 46.5 +3.9
comp=Z,39nm,0.6s
CAN Canberra 44.26 151 *e*P **P** 23 51 46.5 +3.9
CAN pmax pmax
comp=Z,39nm,0.6s
GUN Gumba 44.56 308 *e*P **P** 23 51 45.5 0.0
comp=Z,182nm,0.7s
TOO Toolangi 44.57 156 *e*P **P** 23 51 47.3 +2.3
comp=Z,24nm,0.6s
TOO Toolangi 44.57 156 *e*P **P** 23 51 47.3 +2.3
TOO pmax pmax
comp=Z,24nm,0.6s
PKI Pulchoki 44.78 307 *e*P **P** 23 51 46.8 -0.4
comp=Z,31nm,0.6s
PKIN Phulchoki 44.79 307 *e*P **P** 23 51 46.9 -0.3
comp=Z,28nm,0.6s
KKN Kakani 44.98 308 *e*P **P** 23 51 48.2 -0.5
comp=Z,105nm,1.0s
DMN Daman 45.04 307 *e*P **P** 23 51 48.8 -0.4
comp=Z,91nm,0.9s
GKN Gorkha 45.59 307 *e*P **P** 23 51 52.9 -0.4
comp=Z,87nm,0.8s
KOLN Koldanda 46.31 307 *e*P **P** 23 51 59.1 +0.1
comp=Z,225nm,0.7s
DANN Dangsing 46.43 307 *e*P **P** 23 51 59.8 -0.2
comp=Z,251nm,0.7s
KLR Kul'dur 46.75 7‖ *i*P **P** 23 52 01.4 -0.3
KLR Kul'dur 46.75 7 P **P** 23 52 02.1 +0.5
comp=Z,4.6nm,0.5s,baz=188,slow=6.7,SNR=22
PYUN Piuthan 46.94 307 *e*P **P** 23 52 04.0 +0.2
comp=Z,306nm,0.8s
HYB Hyderabad 47.39 291 *i*P **P** 23 52 07.5 +0.3
comp=Z,75nm,1.0s
ULN Ulaanbaatar 47.43 344 *e*P **P** 23 52 06.8 -0.3
comp=Z,6.9nm,1.0s
ULN Ulaanbaatar 47.43 344 *c i*P **P** 23 52 07.2 +0.1
ULN pmax pmax
comp=Z,10.0nm,1.2s
SONA0 Songino Array 47.59 344 *e*P **P** 23 52 07.7 -0.6
SONA0 *e*PcP **PcP** 23 53 31.7 -0.8
SONA0 *e*ScP **ScP** 23 56 54.2 -1.5
SONM Songino Array 47.59 344 P **P** 23 52 07.7 -0.6
comp=Z,5.0nm,0.8s,baz=156,slow=7.9,SNR=31
SONM PcP **PcP** 23 53 31.7 -0.8
comp=Z,3.1nm,0.8s,baz=172,slow=3.0,SNR=7.2
SONM ScP **ScP** 23 56 54.2 -1.5
comp=Z,0.7nm,0.8s,baz=167,slow=4.6,SNR=3.3
TLY Talaya 51.83 344 *e*P **P** 23 52 40.2 +0.4
comp=Z,7.1nm,0.6s
TLY Talaya 51.83 344⇑ *e*P **P** 23 52 39.1 -0.7
NKL Nikolayevsk 52.01 12 *i*P **P** 23 52 42.0 +0.9
NKL *e* 23 53 53.0
NKL pmax pmax
comp=Z,33nm,0.9s
WMQ Urumqi 52.31 327 *e*P **P** 23 52 45.0 +1.4
WMQ pP PcP 23 53 50.3 +0.3
WMQ PP **PP** 23 54 48.8 +2.8
WMQ pmax pmax
comp=Z,65nm,0.9s
WMQ pmax pmax
comp=Z,320nm,4.9s
WMQ Urumqi 52.31 327 *e*P **P** 23 52 44.1 +0.5
comp=Z,27nm,0.9s
WMQ Urumqi 52.31 327 *e*P **P** 23 52 44.1 +0.5
WMQ pmax pmax
comp=Z,27nm,0.9s
H08N1 Diego Carcia H 54.17 260 P **P** 23 52 53.3 -3.8
baz=114,slow=4.0,SNR=13
H08N2 Diego Garcia H 54.18 260 P **P** 23 52 53.4 -3.7
baz=114,slow=4.0,SNR=11
H08N3 Diego Garcia H 54.19 260 P P 23 52 50.8 -6.4
baz=114,slow=4.0,SNR=8.8
NIL Nilore 56.81 309 *e*P **P** 23 53 15.6 -0.2
comp=Z,18nm,0.7s
NIL Nilore 56.81 309 *e*P **P** 23 53 15.6 -0.2
NIL pmax pmax
comp=Z,18nm,0.7s
MK01 Makanchi Array 57.13 327 *e*P **P** 23 53 17.4 -0.4
MK01 *e*PcP **PcP** 23 54 08.3 -0.2
MK31 Makanchi Array 57.15 327 *e*P **P** 23 53 17.6 -0.2
comp=Z,12nm,0.8s
MK31 *e*PcP **PcP** 23 54 07.9 -0.6
MK31 Makanchi Array 57.15 327 *e*P **P** 23 53 17.7 -0.2
MK31 *e* 23 54 07.9
MK31 pmax pmax
comp=Z,12nm,0.8s
MK32 Makanchi Array 57.15 327 *e*P **P** 23 53 17.6 -0.3
MK32 *e*PcP **PcP** 23 54 08.3 -0.3
MK32 *e*ScP **ScP** 23 57 35.7 -1.5
MKAR Makanchi Array 57.15 327 P **P** 23 53 17.6 -0.3
comp=Z,10nm,0.5s,baz=122,slow=7.2,SNR=147
MKAR PcP **PcP** 23 54 08.3 -0.3
comp=Z,8.1nm,0.7s,baz=116,slow=4.4,SNR=11
MKAR ScP **ScP** 23 57 35.7 -1.5
comp=Z,1.2nm,0.6s,baz=126,slow=5.0,SNR=4.4
PETK Petropavlovsk- 57.20 23 P **P** 23 53 19.9 +1.7
comp=Z,8.0nm,0.6s,baz=203,slow=4.4,SNR=18
PEA1 Petropavlovsk- 57.21 23 *e*P **P** 23 53 19.9 +1.7
KSH Kashi 57.22 316 P **P** 23 53 20.5 +1.8
KSH pP pwP 23 54 29.5 -2.9
KSH S **S** 00 00 45.3 -3.7
KSH pmax pmax
comp=Z,10.0nm,0.7s
KSH pmax pmax
comp=Z,100nm,5.0s

MAKZ	**Makanchi**	**57.33**	**327**	*e*P		**P**	**23 53 18.8**	**-0.4**
	comp=Z,16nm,0.8s								
MAKZ				*e*PcP		**PcP**	**23 54 08.7**	**-0.6**
MAKZ	**Makanchi**	**57.33**	**327**	*e*P		**P**	**23 53 18.8**	**-0.4**
MAKZ				*e*			23 54 08.7	
MAKZ				pmax	pmax			
	comp=Z,16nm,0.8s								
YAK	**Yakutsk**	**59.30**	**3**	*e*P		**P**	**23 53 32.1**	**-0.2**
YAK				*e*			23 54 14.6	
YAK				*e*			23 55 47.6	
YAK				*e*S		**S**	**00 01 16.2**	**+1.6**
YAK				pmax	pmax			
	comp=Z,71nm,0.6s								
YAK				pmax	pmax			
	comp=N,17nm,0.7s								
YAK				pmax	pmax			
	comp=Z,191nm,2.3s								
YAK				pmax	pmax			
	comp=N,91nm,2.3s								
YAK				pmax	pmax			
	comp=E,269nm,2.6s								
YAK				smax	smax			
	comp=N,168nm,2.2s								
YAK				smax	smax			
	comp=E,145nm,1.9s								
AAK	**Ala-Archa**	**59.64**	**319**	⇑*e*P		**P**	**23 53 35.8**	**+0.5**
AAK				pmax	pmax			
	comp=Z,9.0nm,0.9s								
FRU	**Bishkek**	**59.65**	**319**	*e*P		**P**	**23 53 36.0**	**+0.8**
MA2	**Magadan**	**60.23**	**15**	*e*P		**P**	**23 53 39.8**	**+1.1**
	comp=Z,18nm,0.7s								
MA2	**Magadan**	**60.23**	**15**	*d*P		**P**	**23 53 40.2**	**+1.5**
MA2				pmax	pmax			
	comp=Z,18nm,0.7s								
KBL	**Kabul**	**60.40**	**309**	*e*P		**P**	**23 53 40.2**	**-0.4**
	comp=Z,17nm,0.6s								
ZAA0	**Zalesovo Array**	**60.50**	**334**	*e*P		**P**	**23 53 38.9**	**-1.8**
	comp=Z,3.0nm,1.0s								
ZALV	**Zalesovo Beam**	**60.50**	**334**	*e*P		**P**	**23 53 38.9**	**-1.8**
ZALV				*e*PcP		**PcP**	**23 54 19.9**	**-1.9**
ZALV	**Zalesovo Beam**	**60.50**	**334**	*e*P		**P**	**23 53 38.9**	**-1.8**
ZALV				*e*			23 54 19.9	
ZALV	**Zalesovo Beam**	**60.50**	**334**	P		**P**	**23 53 39.2**	**-1.5**
	comp=Z,3.3nm,0.4s,baz=131,slow=6.1,SNR=21								
ZAA1	**Zalesovo Array**	**60.51**	**334**	*e*P		**P**	**23 53 39.2**	**-1.5**
GAR	**Garm**	**60.99**	**314**	*e*P		**P**	**23 53 44.0**	**-0.4**
	comp=Z,64nm,1.2s								
GAR	**Garm**	**60.99**	**314**	*e*P		**P**	**23 53 44.0**	**-0.4**
GAR				pmax	pmax			
	comp=Z,64nm,1.2s								
KURBB	**Kurchatov Arra**	**61.41**	**329**	P		**P**	**23 53 46.1**	**-0.7**
	comp=Z,15nm,0.7s,baz=128,slow=6.4,SNR=84								
KURK	**Kurchatov**	**61.42**	**329**	*e*P		**P**	**23 53 46.1**	**-0.7**
	comp=Z,32nm,0.6s								
KURK	**Kurchatov**	**61.42**	**329**	*e*P		**P**	**23 53 46.1**	**-0.7**
KURK				pmax	pmax			
	comp=Z,33nm,0.6s								
NVS	**Novosibirsk**	**61.79**	**334**	*i* P		**P**	**23 53 48.1**	**-1.1**
KK31	**Karatay Array**	**62.48**	**318**	*e*P		**P**	**23 53 53.6**	**-0.4**
	comp=Z,9.1nm,0.6s								
KK31	**Karatay Array**	**62.48**	**318**	*e*P		**P**	**23 53 53.7**	**-0.4**
KK31				pmax	pmax			
	comp=Z,9.0nm,0.6s								
KKAR	**Karatay Array**	**62.48**	**318**	*e*P		**P**	**23 53 53.6**	**-0.4**
	comp=Z,9.1nm,0.6s								
KKAR	**Karatay Array**	**62.48**	**318**	*e*P		**P**	**23 53 53.7**	**-0.4**
KKAR				pmax	pmax			
	comp=Z,9.0nm,0.6s								
SEY	**Seymchan**	**63.52**	**14**	⇓*i*P		**P**	**23 54 01.8**	**+1.4**
WSAR	**Wadi Sarin**	**66.80**	**294**	P		**P**	**23 54 20.5**	**-1.7**
	comp=Z,2.7nm,0.5s,baz=121,slow=8.7,SNR=6.5								
BRVK	**Borovoye**	**67.04**	**328**	*e*P		**P**	**23 54 22.5**	**-0.6**
	comp=Z,24nm,1.0s								
BRVK	**Borovoye**	**67.04**	**328**	⇑*i*P		**P**	**23 54 22.6**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,24nm,1.0s								
TIXI	**Tiksi**	**68.89**	**1**	*e*P		**P**	**23 54 33.5**	**-0.6**
	comp=Z,20nm,0.4s								
TIXI	**Tiksi**	**68.89**	**1**	*e*P		**P**	**23 54 33.5**	**-0.6**
TIXI				pmax	pmax			
	comp=Z,20nm,0.4s								
GEYT	**Alibeck**	**69.81**	**309**	P		**P**	**23 54 39.6**	**-0.9**
	comp=Z,8.5nm,0.9s,baz=102,slow=3.6,SNR=12								
GYA0B	**ALIBECK ARRAY**	**69.81**	**309**	*e*P		**P**	**23 54 40.0**	**-0.5**
	comp=Z,9.3nm,0.8s								
GYA0B				*e*PcP		**PcP**	**23 55 01.0**	**+0.2**
NRIK	**Noril'sk**	**70.89**	**347**	P		**P**	**23 54 46.1**	**-0.2**
	comp=Z,16nm,0.6s,baz=133,slow=5.9,SNR=35								
BILL	**Bilibino**	**71.09**	**15**	*e*P		**P**	**23 54 47.9**	**+0.4**
BILL				*e**PP		**pwP**	**23 56 01.6**	**-3.0**
BILL				*e*			23 57 30.4	
BILL				pmax	pmax			
	comp=Z,4.0nm,1.2s								
ABKAR	**Akbulak array**	**71.54**	**321**	*e*P		**P**	**23 54 49.6**	**-0.9**
	comp=Z,12nm,0.8s								
SVE	**Sverdlovsk**	**73.67**	**329**	*e*P		**P**	**23 55 02.4**	**-0.4**
SVE				pmax	pmax			
	comp=Z,40nm,0.7s								
ARU	**Arti**	**74.61**	**328**	*e*P		**P**	**23 55 06.8**	**-1.4**
	comp=Z,20nm,0.7s								
ARU	**Arti**	**74.61**	**328**	*c i*P		**P**	**23 55 07.0**	**-1.2**
ARU							23 57 55.4	
ARU				S		**S**	**00 04 14.7**	**-2.2**
ARU				pmax	pmax			
	comp=Z,20nm,0.7s								
GAMB	**Gambell**	**76.21**	**24**	*e*P		**P**	**23 55 18.8**	**+1.7**
	comp=Z,3.4nm,1.0s								
RAYN	**Ar Rayn**	**78.84**	**293**	*e*P		**P**	**23 55 31.5**	**-1.0**
	comp=Z,20nm,1.0s								
RAYN	**Ar Rayn**	**78.84**	**293**	*e*P		**P**	**23 55 31.5**	**-1.0**
RAYN				pmax	pmax			
	comp=Z,20nm,1.0s								
OPO	**Ambohidratompo**	**78.88**	**251**	P		**P**	**23 55 32.4**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=352,slow=7.3,SNR=4.0								
ABPO	**Ambohimpanom**	**78.89**	**250**	*e*P		**P**	**23 55 33.0**	**0.0**
	comp=Z,6.9nm,0.9s								
ABPO	**Ambohimpanom**	**78.89**	**250**	*e*P		**P**	**23 55 33.0**	**0.0**
ABPO				pmax	pmax			
	comp=Z,7.0nm,0.9s								
ZEI	**Tsey**	**81.27**	**313**	*e*P		**P**	**23 55 43.2**	**-2.0**
ZEI				pmax	pmax			
	comp=Z,8.0nm,0.6s								
KBZ	**Khabaz**	**82.06**	**314**	P		**P**	**23 55 49.1**	**+0.1**
	comp=Z,4.9nm,1.0s,baz=145,slow=8.7,SNR=5.7								
NEY	**Neytrino**	**82.16**	**313**	⇓*e*P		**P**	**23 55 51.7**	**+1.9**
NEY				pmax	pmax			
	comp=Z,3.0nm,1.0s								
PRGR	**Permogore**	**82.33**	**332**	*e*P		**P**	**23 55 48.8**	**-1.2**
PRGR				pmax	pmax			
	comp=Z,33nm,0.7s								
VRH	**Novokhopyorsk**	**83.37**	**321**	*e*P		**P**	**23 55 54.1**	**-1.4**
VRH				pmax	pmax			
	comp=Z,30nm,0.6s								
KDAK	**Kodiak Island**	**83.92**	**32**	*i* P		**P**	**23 55 59.9**	**+1.8**
IM3	**Indian Mountai**	**84.16**	**24**	*e*P		**P**	**23 56 00.4**	**+1.2**
VSR	**Storozhevoye**	**84.97**	**321**	*de*P		**P**	**23 56 02.1**	**-1.5**
VSR				pmax	pmax			
	comp=Z,36nm,0.5s								
LPSR	**Galich'ya Gora**	**85.17**	**322**	*e*P		**P**	**23 56 03.8**	**-0.7**
LPSR				pmax	pmax			
	comp=Z,40nm,0.7s								
KLMR	**Klimovskoe**	**85.19**	**331**	*e*P		**P**	**23 56 03.2**	**-1.2**
KLMR				pmax	pmax			
	comp=Z,30nm,0.6s								
KLMR	**Klimovskoe**	**85.19**	**331**	*e*P		**P**	**23 56 03.2**	**-1.2**
KLMR				AMP			23 56 06.6	
	comp=Z,30nm,0.7s								
COLD	**Coldfoot**	**85.67**	**23**	*e*P		**P**	**23 56 08.5**	**+1.8**
	comp=Z,2.2nm,0.6s								
TOLK	**Toolik Lake Re**	**85.99**	**21**	*e*P		**P**	**23 56 09.9**	**+1.7**
	comp=Z,5.5nm,1.0s								
MOS	**Moscow**	**86.01**	**326**	*e*P		**P**	**23 56 07.2**	**-1.3**
MOS				pmax	pmax			
	comp=Z,57nm,0.6s								
TMCR	**Tamitsa**	**86.03**	**334**	*e*P		**P**	**23 56 07.1**	**-1.3**
TMCR				pmax	pmax			
	comp=Z,9.0nm,0.6s								
OBN	**Obninsk**	**86.61**	**325**	*e*P		**P**	**23 56 11.8**	**+0.4**
OBN				*e**PP		**pwP**	**23 57 32.9**	**+1.6**
OBN				*e*			23 59 35.3	
OBN				pmax	pmax			
	comp=Z,28nm,0.9s								
ILAR	**Eielson Array**	**86.96**	**25**	P		**P**	**23 56 12.4**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=252,slow=4.5,SNR=16								
KMBO	**Kilima Mbogo**	**87.32**	**269**	*e*P		**P**	**23 56 17.1**	**+1.0**
	comp=Z,8.8nm,0.9s								
KMBO	**Kilima Mbogo**	**87.32**	**269**	P		**P**	**23 56 16.4**	**+0.3**
	comp=Z,5.8nm,0.8s,baz=54,slow=8.1,SNR=11								
MMAI	**Mount Meron Ar**	**87.79**	**303**	P		**P**	**23 56 17.9**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=80,slow=7.1,SNR=8.9								
SIM	**Simferopol'**	**88.38**	**315**	*e*P		**P**	**23 56 19.0**	**-1.1**
SIM				pmax	pmax			
	comp=Z,18nm,0.6s								
BR101	**Keskin Array S**	**88.95**	**310**	*e*P		**P**	**23 56 21.4**	**-1.7**
BR131	**Keskin Array S**	**88.95**	**310**	*e*P		**P**	**23 56 23.5**	**+0.4**
	comp=Z,2.3nm,0.7s								
BRTR	**Keskin Array B**	**88.95**	**310**	*i* P		**P**	**23 56 21.3**	**-1.8**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s								
BRTR	**Keskin Array B**	**88.95**	**310**	P		**P**	**23 56 21.4**	**-1.7**
	comp=Z,2.1nm,0.7s,baz=119,slow=5.1,SNR=14								
CSS	**Mathiatis**	**89.43**	**305**	*e*P		**P**	**23 56 24.9**	**-0.3**
	comp=Z,16nm,0.8s								
ARA0	**ARCESS Array S**	**90.62**	**340**	*e*P		**P**	**23 56 28.1**	**-1.9**
ARCES	**ARCESS Array B**	**90.62**	**340**	P		**P**	**23 56 28.1**	**-1.9**
	comp=Z,14nm,1.0s,baz=81,slow=5.5,SNR=15								
SYO	**Syowa Base**	**90.70**	**201**	⇓*e*X		**P**	**23 56 28.8**	**-1.4**
SYO	**Syowa Base**	**90.70**	**201**	⇑*e*X		**P**	**23 56 30.0**	**-0.2**
AKASG	**Malin Array Be**	**91.27**	**321**	P		**P**	**23 56 31.9**	**-1.4**
	comp=Z,3.4nm,0.6s,baz=69,slow=4.7,SNR=13								
AKBB	**Malin Array Si**	**91.27**	**321**	*e*P		**P**	**23 56 31.9**	**-1.4**
	comp=Z,6.9nm,0.9s								
AKBB	**Malin Array Si**	**91.27**	**321**	*e*P		**P**	**23 56 31.9**	**-1.4**
AKBB				pmax	pmax			
	comp=Z,7.0nm,0.9s								
KIEV	**Kiev**	**91.28**	**321**	⇓*i*P		**P**	**23 56 34.0**	**+0.6**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.0s								
AK11	**Malin Array Si**	**91.31**	**321**	*e*P		**P**	**23 56 31.6**	**-1.9**
FIA1	**FINESS Array S**	**91.66**	**332**	*e*P		**P**	**23 56 33.2**	**-1.7**
FIA0	**FINESS Array S**	**91.67**	**332**	*e*P		**P**	**23 56 33.6**	**-1.3**
FIA0	**FINESS Array S**	**91.67**	**332**	*e*P		**P**	**23 56 33.6**	**-1.3**
FINES	**FINESS Array B**	**91.67**	**332**	P		**P**	**23 56 33.6**	**-1.3**
	comp=Z,6.4nm,0.6s,baz=47,slow=6.2,SNR=35								
VSU	**Vasula**	**91.77**	**329**	⇓*e*P		**P**	**23 56 33.9**	**-1.6**
VSU				pmax	pmax			
	comp=Z,140nm,3.7s								
TESR	**Tescani**	**93.46**	**317**	⇑*i*P		**P**	**23 56 42.9**	**-0.7**
MLR	**Muntele Rosu**	**94.08**	**316**	⇓*i*P		**P**	**23 56 46.2**	**-0.4**
MLR	**Muntele Rosu**	**94.08**	**316**	⇓P		**P**	**23 56 46.2**	**-0.4**
BURAR	**Bucovina Array**	**94.27**	**318**	⇑*i*P		**P**	**23 56 47.1**	**-0.3**
BURAR	**Bucovina Array**	**94.27**	**318**	⇑P		**P**	**23 56 47.1**	**-0.3**
BUR08	**Bucovina Ar. S**	**94.28**	**318**	*e*P		**P**	**23 56 47.2**	**-0.2**
	comp=Z,11nm,0.9s								
SUW	**Suwalki**	**94.46**	**325**	*e*P		**P**	**23 56 47.1**	**-0.8**
	comp=Z,35nm,1.0s								
SUW	**Suwalki**	**94.46**	**325**	*e*P		**P**	**23 56 47.1**	**-0.8**
SUW				pmax	pmax			
	comp=Z,35nm,1.0s								
TRPA	**Tarpa**	**95.96**	**319**	⇑*i*P		**P**	**23 56 54.3**	**-0.6**
DRGR		**96.09**	**317**	⇑*i*P		**P**	**23 56 55.4**	**-0.3**
DRGR		**96.09**	**317**	⇑P		**P**	**23 56 55.4**	**-0.3**
IDI	**Anoyia**	**96.29**	**306**	P		**P**	**23 56 55.2**	**-1.6**
	comp=Z,4.1nm,0.8s,baz=92,slow=4.3								
VTS	**Vitosha**	**96.45**	**313**	⇑*i*P		**P**	**23 56 56.5**	**-1.0**
VTS	**Vitosha**	**96.45**	**313**	⇑P		**P**	**23 56 56.5**	**-1.0**
PSZ	**Piszkesteto**	**97.74**	**319**	⇓*i*P		**P**	**23 57 02.0**	**-1.0**
PSZ	**Piszkesteto**	**97.74**	**319**	⇓P		**P**	**23 57 02.1**	**-1.0**
VYHS	**Vyhne**	**98.30**	**320**	*e*P		Pdif	23 57 06.6	+1.2
VYHS	**Vyhne**	**98.30**	**320**	*e*PDIF		Pdif	23 57 06.6	+1.2
NB2	**NORSAR Subarra**	**98.69**	**333**	P		Pdif	23 57 04.3	-2.6
	comp=Z,0.9nm,0.6s,baz=71,slow=4.6								
NB200	**NORSAR Array S**	**98.69**	**333**	*e*P		Pdif	23 57 04.3	-2.6
NOA	**NORSAR Array B**	**98.69**	**333**	P		Pdif	23 57 04.3	-2.6
	comp=Z,1.5nm,0.7s,baz=70,slow=4.6,SNR=6.2								
YKA	**Yellowknife Ar**	**101.32**	**24**	P		**Pdif**	**23 57 18.6**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=298,slow=3.9,SNR=4.2								
YKA				PKiKP		**PKiKP**	**00 01 40.5**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=303,slow=1.6,SNR=6.8								
YKA				PKKPbc		**PKKPbc**	**00 13 26.2**	**-3.3**
	comp=Z,0.3nm,0.4s,baz=121,slow=3.3,SNR=9.8								
YKB5	**Yellowknife Ar**	**101.32**	**24**	*e*PKiKP		**PKiKP**	**00 01 40.5**	**-0.5**
GERES	**GERESS Array B**	**101.48**	**321**	P		**Pdif**	**23 57 18.1**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=77,slow=4.2,SNR=2.9								
ESDC	**Sonseca Array**	**116.72**	**317**	PKP		**PKPdf**	**00 02 10.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=35,slow=1.3,SNR=3.9								
ULM	**Lac du Bonnet**	**116.89**	**28**	PKP		**PKPdf**	**00 02 09.7**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=205,slow=2.9,SNR=4.2								
TOA0	**Torodi Ar. Sit**	**121.11**	**287**	*e*PKPdf		**PKPdf**	**00 02 19.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**121.11**	**287**	PKP		**PKPdf**	**00 02 17.9**	**-1.8**
	comp=Z,2.0nm,0.6s,baz=102,slow=2.0,SNR=23								
TOA1	**Torodi Ar. Sit**	**121.11**	**287**	*e*PKPdf		**PKPdf**	**00 02 17.9**	**-1.8**
SCHQ	**Schefferville**	**121.88**	**8**	*e*PKPdf		**PKiKP**	**00 02 20.6**	**+0.2**
SCHQ	**Schefferville**	**121.88**	**8**	PKP		**PKPdf**	**00 02 19.6**	**-0.6**
	comp=Z,5.5nm,0.6s,baz=19,slow=2.8,SNR=17								
TX31	**Lajitas Ar. Si**	**123.96**	**52**	*e*PKPdf		**PKiKP**	**00 02 25.4**	**+0.1**
TXAR	**Lajitas Array**	**123.96**	**52**	PKP		**PKiKP**	**00 02 25.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=231,slow=0.5,SNR=9.1								
JCT	**Junction City**	**126.38**	**49**	*e*PKPdf		**PKiKP**	**00 02 30.7**	**+0.6**
JCT	**Junction City**	**126.38**	**49**	*e*PKiKP		**PKiKP**	**00 02 30.7**	**+0.6**
DBIC	**Dimbokro**	**128.61**	**281**	PKP		**PKPdf**	**00 02 33.2**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=32,slow=6.6,SNR=4.0								
TRQA	**Tornquist**	**144.33**	**171**	*e*PKPbc		**PKPdf**	**00 03 02.7**	**+0.2**
TRQA	**Tornquist**	**144.33**	**171**	*e*PKiKP		**PKPdf**	**00 03 02.7**	**+0.2**
LCO	**Las Campanas**	**150.11**	**153**	*e*PKPdf		**PKPbc**	**00 03 15.8**	**-2.3**
LCO	**Las Campanas**	**150.11**	**153**	*e*PKiKP		**PKPbc**	**00 03 15.8**	**-2.3**

*KRNET **18** 23:52:30.6±0.1, 41.79N×77.21E, h16km, mb2.5*
*SOME **18** 23:52:31.0, 41.80N×77.22E, h15km*
*NNC **18** 23:52:32.9±0.8, 41.91N×77.22E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=6.3km s-min=3.3km az=173.0
*KNET **18** 23:52:33.5±0.6, 41.86N×77.04E, h14km±2km, ml2.1, Error*
ellipse: s-maj=5.0km s-min=3.0km az=45.0

ISC 18 23:52:30.5±1.1, 41.79N±0.03×77.22E±0.02, h12km±9km, n48, σ0s84/87, 42C-12D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.34**	**356**	⇑*i*P		**Pg**	**23 52 37.7**	**+0.1**
	baz=58							
KDJ				⇑*i*S		**Sg**	**23 52 42.5**	**+0.2**
	baz=58							
TARG	**Targay, Kyrgy**	**0.44**	**97**	⇑*i*P		**Pg**	**23 52 39.4**	**0.0**
	baz=97							
TARG				⇑*i*S		**Sg**	**23 52 45.3**	**-0.1**
	baz=97							
ULHL	**Ulahol**	**0.86**	**303**	⇑P		**Pg**	**23 52 46.7**	**-0.5**
	9.6nm,0.1s,SNR=74							
ULHL				⇑S		**Sg**	**23 52 58.6**	**+0.2**
	20nm,0.1s							
ULHL	**Ulahol**	**0.86**	**303**	⇑*i*P		**Pg**	**23 52 46.7**	**-0.5**
	baz=3.0							
ULHL				⇑*i*S		**Sg**	**23 52 58.4**	**0.0**
	baz=3.0							
NRN	**Naryn**	**0.98**	**249**	⇑*i*P		**Pb**	**23 52 49.6**	**0.0**
	baz=49							
NRN				⇑*i*S		**Sg**	**23 53 03.0**	**+0.8**
	baz=49							
PRZ	**Przheval'sk**	**1.12**	**51**	⇑*i*P		**Pb**	**23 52 51.9**	**-0.1**
	baz=52							
PRZ				⇑*i*S		**Sb**	**23 53 06.7**	**0.0**
	baz=52							
BOOM	**Boomskoye usch**	**1.18**	**307**	⇑*i*P		**Pn**	**23 52 52.5**	**-0.6**
	baz=7.0							
BOOM				⇑*i*S		**Sn**	**23 53 08.9**	**-0.3**
	baz=7.0							
MDOK	**Medeo**	**1.38**	**355**	⇓P		**Pn**	**23 52 55.8**	**0.0**
MDOK				⇑S		**Sn**	**23 53 13.1**	**-0.9**
AAA	**Alma-Ata**	**1.44**	**351**	P		**Pb**	**23 52 57.7**	**+0.4**
	60nm,0.2s							
AAA				S		**Sg**	**23 53 17.4**	**+0.5**
	108nm,0.2s							
KNDC	**Almaty**	**1.44**	**353**	⇓P		**Pn**	**23 52 56.8**	**+0.2**
KNDC				⇑S		**Sg**	**23 53 16.8**	**-0.2**
KOTS	**Kotyrbulak**	**1.45**	**357**	P		**Pb**	**23 52 57.5**	**-0.1**
	24nm,0.2s							
KOTS				S		**Sg**	**23 53 16.9**	**-0.4**
	53nm,0.3s							
KOTS	**Kotyrbulak**	**1.45**	**357**	*e*P		**Pb**	**23 52 57.5**	**-0.1**
	24nm,0.2s							
KOTS				*e*S		**Sg**	**23 53 16.9**	**-0.4**
	53nm,0.3s							
KZA	**Kyzart**	**1.50**	**282**	⇓P		**Pb**	**23 52 58.7**	**+0.2**
	4.1nm,0.2s,SNR=13							
KZA				⇑S		**Sg**	**23 53 18.8**	**0.0**
	9.8nm,0.2s							
KZA	**Kyzart**	**1.50**	**282**	⇑*i*P		**Pb**	**23 52 58.5**	**0.0**
	baz=82							
KZA				⇑*i*S		**Sb**	**23 53 18.2**	**+0.6**
	baz=82							
SATY	**Saty**	**1.55**	**34**	P		**Pb**	**23 52 59.0**	**-0.3**
	32nm,0.1s							
SATY				S		**Sb**	**23 53 18.9**	**0.0**
	59nm,0.2s							
SATY	**Saty**	**1.55**	**34**	*e*P		**Pb**	**23 52 59.0**	**-0.3**
	32nm,0.1s							
SATY				*e*S		**Sb**	**23 53 18.9**	**0.0**
	59nm,0.2s							
KST	**Kastek**	**1.56**	**324**	P		**Pb**	**23 52 59.5**	**0.0**
	8.1nm,0.1s							
KST				S		**Sb**	**23 53 20.0**	**+0.8**
	16nm,0.3s							
KST	**Kastek**	**1.56**	**324**	*e*P		**Pb**	**23 52 59.5**	**0.0**
	2.2nm,0.2s							
KST				*e*S		**Sb**	**23 53 20.0**	**+0.8**
	18nm,0.5s							
TKM2	**Tokmak 2**	**1.65**	**314**	⇓P		**Pb**	**23 53 01.2**	**+0.2**
	5.6nm,0.2s,SNR=27							
TKM2				⇑S		**Sg**	**23 53 23.3**	**-0.4**
	22nm,0.1s							
TKM2	**Tokmak 2**	**1.65**	**314**	⇓P		**Pb**	**23 53 00.9**	**-0.1**
	1.7nm,0.3s							
TKM2				⇓S		**Sg**	**23 53 23.3**	**-0.4**
	5.0nm,0.2s							
TKM2	**Tokmak 2**	**1.65**	**314**	⇑*i*P		**Pb**	**23 53 01.0**	**-0.1**
	baz=14							
TKM2				⇑*i*S		**Sg**	**23 53 23.0**	**-0.7**
	baz=14							
DGS	**Degeres**	**1.81**	**324**	P		**Pb**	**23 53 04.1**	**+0.5**
	3.8nm,0.1s							
DGS				S		**Sg**	**23 53 27.8**	**-0.8**
	35nm,0.3s							
DGS	**Degeres**	**1.81**	**324**	*e*P		**Pb**	**23 53 04.1**	**+0.5**
DGS				*e*S		**Sg**	**23 53 27.8**	**-0.8**
	30nm,0.3s							
KBK	**Karagaybulak**	**1.90**	**298**	⇑P		**Pb**	**23 53 05.8**	**+0.6**
	3.4nm,0.2s,SNR=15							
KBK	**Karagaybulak**	**1.90**	**298**	⇑*i*P		**Pb**	**23 53 05.4**	**+0.2**
	baz=98							
KBK				⇑*i*S		**Sg**	**23 53 30.5**	**-1.0**
	baz=98							
UZB	**Uzunbulak**	**1.91**	**44**	P		**Pb**	**23 53 04.9**	**-0.4**
UZB				S		**Sb**	**23 53 29.6**	**+0.4**
UZB	**Uzunbulak**	**1.91**	**44**	*e*P		**Pb**	**23 53 04.9**	**-0.4**
UZB				*e*S		**Sb**	**23 53 29.6**	**+0.4**
	248nm,0.2s							
KTBS	**Karatobe**	**1.96**	**349**	Pg		**Pb**	**23 53 06.5**	**+0.2**
	4.6nm,0.2s							
KTBS				Lg		Lg	23 53 32.1	
	65nm,0.4s							
KTBS	**Karatobe**	**1.96**	**349**	*e*P		**Pb**	**23 53 06.5**	**+0.2**
	4.6nm,0.2s							
KTBS				*e*S		**Sb**	**23 53 32.1**	**+1.3**
	65nm,0.4s							
UCH	**Uchtor**	**2.06**	**283**	⇑P		**Pb**	**23 53 09.2**	**+1.0**
	2.0nm,0.2s,SNR=7.2							
UCH	**Uchtor**	**2.06**	**283**	⇑*i*P		**Pb**	**23 53 07.8**	**-0.4**
	baz=83							
UCH				⇑*i*S		**Sb**	**23 53 34.5**	**+0.6**
	baz=83							
ARLS	**Aral**	**2.16**	**273**	⇑*i*P		**Pb**	**23 53 09.0**	**-0.7**
	baz=73							
ARLS				⇑*i*S		**Sb**	**23 53 36.3**	**-0.3**
	baz=73							
CHMS	**Chumysh**	**2.19**	**304**	⇑*i*P		**Pb**	**23 53 09.3**	**-0.8**
	baz=4.0							
CHMS				⇑*i*S		**Sb**	**23 53 37.5**	**+0.3**
	baz=4.0							
AAK	**Ala-Archa**	**2.19**	**294**	⇑P		**Pb**	**23 53 11.0**	**+0.7**
	6.0nm,0.3s,SNR=7.4							
AAK	**Ala-Archa**	**2.19**	**294**	⇑Pn		**Pb**	**23 53 11.3**	**+1.1**
	2.4nm,0.3s							
AAK				⇓Sn		**Sb**	**23 53 39.3**

CSS	Mathiatis	1.34	113	PN		Pn	00 01 21.4	-0.3
CSS	Mathiatis	1.34	113	P		Pn	00 01 21.9	+0.2
	baz=301							
LFK	Lefkose	1.41	98	PN		Pn	00 01 22.4	-0.2
KEPZ	Antalya-Kepez	1.41	353	*i* P		Pn	00 01 22.0	-0.7
KEPZ				*i* S		Sn	00 01 39.0	-1.3
KEPZ				IAML_P				
	comp=Z,10μm,0.2s							
BERE	Bereket-Mersin	1.41	53	PN		Pn	00 01 22.5	-0.3
YORU	Yoruktepe-Mers	1.44	63	PN		Pn	00 01 22.8	-0.2
ERMK	Ermenek	1.44	37	*i* P		Pn	00 01 23.7	+0.5
ERMK				*i* S		Sn	00 01 42.1	+0.9
ERMK				IAML_P				
	comp=Z,9μm,0.1s							
AKUM	Antalya-Kumluc	1.46	305	*i* P		Pn	00 01 24.3	+1.0
AKUM				*i* S		Sn	00 01 49.4	+8.0
AKUM				IAML_P				
	comp=Z,2μm,0.1s							
OREN	Orenkoy-Mersin	1.50	61	PN		Pn	00 01 23.0	-0.8
KEMT	Kemer-ANTALYA	1.51	317	PN		Pn	00 01 24.4	+0.5
AKK2	Akkuyu-Mersin	1.54	65	PN		Pn	00 01 24.3	0.0
AKKU	Akkuyu-Mersin	1.55	64	PN		Pn	00 01 24.2	-0.2
GULN	MERSIN_Gulnar	1.55	63	*i* P		Pn	00 01 24.8	+0.3
GULN				*i* S		Sn	00 01 42.4	-1.2
GULN				IAML_P				
	comp=Z,2μm,0.2s							
TEPE	Tepekoy-Mersin	1.58	62	PN		Pn	00 01 24.7	-0.2
TEVE	Tevekalti-Mers	1.61	54	PN		Pn	00 01 25.2	-0.2
YESI	Yesilovacik-Me	1.63	64	PN		Pn	00 01 25.6	+0.1
IKL	Isikli	1.68	63	PN		Pn	00 01 25.9	-0.3
KEBE	Keben-Mersin	1.80	58	PN		Pn	00 01 28.2	+0.3
PHNC	Paralimni	1.87	105	P		Pn	00 01 29.9	+1.1
	baz=290							
EREN	Erenkoy	1.91	88	PN		Pn	00 01 29.8	+0.4
KORT	Korkueli	1.92	322	PN		Pn	00 01 29.7	+0.1
KORT	Korkueli	1.92	322	*i* P		Pn	00 01 29.3	-0.3
KORT				IAML_P				
	comp=Z,367nm,0.1s							
AKAS	Kas	1.95	293	PN		Pn	00 01 30.9	+0.9
ELL	Elmali	1.99	309	PN		Pn	00 01 31.1	+0.5
KIZK	Mersin	2.12	62	PN		Pn	00 01 32.5	+0.3
KIZK	Mersin	2.12	62	*i* P		Pn	00 01 33.8	+1.6
KIZK				*i* S		Sn	00 01 58.2	+0.9
KIZK				IAML_P				
	comp=Z,4μm,0.1s							
BCK	Bucak	2.20	333	PN		Pn	00 01 34.1	+0.7
KMER	Konya-Meram	2.31	11	*i* P		Pn	00 01 36.2	+1.3
KMER				*i* S		Sn	00 02 05.2	+3.0
KMER				IAML_P				
	comp=Z,1μm,0.2s							
KONT	Konya--Tatoy	2.48	10	PN		Pn	00 01 38.5	+1.3
KONT	Konya--Tatoy	2.48	10	*i* P		Pn	00 01 39.2	+2.0
KONT				IAML_P				
	comp=Z,2μm,0.2s							
FETY	Fethiye	2.50	298	PN		Pn	00 01 38.1	+0.7
FETY	Fethiye	2.50	298	P		Pn	00 01 38.0	+0.7
FETY				S		Sn	00 02 06.6	-0.1
ISP	Isparta	2.55	336	PN		Pn	00 01 38.8	+0.7
ISP	Isparta	2.55	336	P		Pn	00 01 39.4	+1.3
ISP				S		Sn	00 02 09.2	+1.2
MERS	Mersin	2.57	57	PN		Pn	00 01 38.9	+0.4
DOGA	KONYA_Doganhis	2.60	357	*i* P		Pn	00 01 40.9	+1.9
DOGA				IAML_P				
	comp=Z,3μm,0.3s							
BAGO	Egridir - ISPA	2.62	342	*i* P		Pn	00 01 41.7	+2.5
BAGO				IAML_P				
	comp=Z,3μm,0.3s							
KERG	Konya-Eregli	2.66	43	*i* P		Pn	00 01 41.2	+1.4
KERG				*i* S		Sn	00 02 13.7	+2.8
KERG				IAML_P				
	comp=Z,722nm,0.2s							
LADK	Ladik-KONYA	2.73	9	PN		Pn	00 01 41.4	+0.7
DALY	Dalyan (Mula)	2.89	298	PN		Pn	00 01 42.9	+0.2
GULE	Gulek	2.97	52	*i* P		Pn	00 01 46.5	+2.5
GULE				IAML_P				
	comp=Z,2μm,0.2s							
SULT	Sultanhani-AKS	3.02	26	PN		Pn	00 01 45.4	+0.9
KRTS	Karatas	3.07	69	PN		Pn	00 01 46.1	+1.0
ARG	Arkhangelos	3.09	284	PN		Pn	00 01 45.7	+0.2
ARG	Arkhangelos	3.09	284	P		Pn	00 01 45.6	+0.1
ARG				S		Sn	00 02 19.9	-1.3
KARA	Karaisali	3.14	55	PN		Pn	00 01 47.2	+1.0
CHBY	Cihanbeyli	3.19	15	PN		Pn	00 01 47.9	+0.9
SHUT	Suhut-Afyon	3.21	342	PN		Pn	00 01 48.6	+1.3
YER	Yerkesik	3.30	301	P		Pn	00 01 49.2	+0.9
YURE	YUREGIR	3.35	66	PN		Pn	00 01 50.0	+0.9
CEYT	Ceyhan	3.51	63	PN		Pn	00 01 51.9	+0.7
DQRL	Deir Qamar	3.57	119	*e*P		Pn	00 01 52.5	+0.4
HWQ	Hawqa	3.60	109	*e*P		Pn	00 01 54.5	+2.0
KULU	Kulu	3.66	14	PN		Pn	00 01 54.4	+1.0
KOZT	Kozan	3.78	57	PN		Pn	00 01 56.1	+1.2
YAYX	Yaylak	3.78	24	PN		Pn	00 01 55.3	+0.3
KARP	Karpathos	3.81	272	P		Pn	00 01 55.9	+0.6
KARP				S		Sn	00 02 38.7	-0.2
MMAI	Mount Meron Ar	3.86	129	P		Pn	00 01 56.5	+0.4
	comp=Z,7.1nm,0.3s,baz=310,slow=12,SNR=125							
MMAI				S		Sn	00 02 40.3	+0.1
	comp=Z,13nm,0.3s,baz=307,slow=25,SNR=11							
RCY	Rachaya	3.87	120	*e*P		Pn	00 01 57.0	+0.8
SHBL	Chebaa	3.88	122	*e*P		Pn	00 01 57.3	+0.9
CIFT	Cifteler, Eski	3.90	351	PN		Pn	00 01 57.4	+0.7
AUSIV	SIVRIHISAR	3.94	357	PN		Pn	00 01 58.6	+1.4
SVRH	Sivrihisar-ESK	3.95	357	PN		Pn	00 01 58.8	+1.5
AFSR	Afar-Bala (An	4.06	14	PN		Pn	00 02 00.7	+1.8
MMLI	Mount Malkishu	4.27	135	PN		Pn	00 02 03.4	+1.7
BRTR	Keskin Array B	4.46	18	P		Pn	00 02 03.9	-0.5
	comp=Z,0.7nm,0.3s,baz=189,slow=16,SNR=26							
BRTR				S		Sn	00 02 53.1	-1.9
	comp=Z,0.2nm,0.3s,baz=192,slow=21,SNR=3.3							
KMRS	Kahramanmaras	4.55	62	PN		Pn	00 02 07.0	+1.5
SMG	Samos	4.58	300	P		Pn	00 02 05.2	-0.7
ZKR	Zakros	4.61	267	P		Pn	00 02 06.5	+0.3
ZKR				S		Sn	00 02 56.5	-1.9
BNN	Bunyan	4.64	43	PN		Pn	00 02 07.5	+0.7
GAZ	Gaziantep	4.66	67	PN		Pn	00 02 07.9	+0.9
KZIT	Kziot	5.06	154	PN		Pn	00 02 14.9	+2.4
NPS	Neapolis	5.08	269	P		Pn	00 02 13.4	+0.6
NPS				S		Sn	00 03 08.9	-1.3
ASF	Jabal al Asfar	5.37	127	P		Pn	00 02 18.2	+1.5
	comp=Z,0.2nm,0.3s,baz=252,slow=16,SNR=2.4							
ASF				S		Sn	00 03 18.9	+1.7
	comp=Z,0.3nm,0.3s,baz=21,slow=17,SNR=2.2							
HHAG	Hagoal	5.54	178	P		Pn	00 02 21.0	+2.0
	baz=175							
HHAG				AMP			00 03 00.0	
	baz=175							
KOT	Kottamia	5.55	180	P		Pn	00 02 20.8	+1.5
	baz=178							
KOT				AMP			00 03 00.0	
	baz=178							
IDI	Anoyia	5.67	270	P		Pn	00 02 20.2	-0.7
	comp=Z,1.6nm,0.3s,baz=354,slow=7.5,SNR=18							
IDI				S		Sn	00 03 20.4	-4.3
	comp=Z,4.1nm,0.3s,baz=344,slow=18,SNR=9.1							
GLL	Jalalah	5.91	181	P		Pn	00 02 25.6	+1.5
	baz=179							
EIL	Elat	6.38	155	P		Pn	00 02 31.7	+1.1
	comp=Z,0.6nm,0.3s,baz=340,slow=4.4,SNR=18							
EIL				S		Sn	00 03 41.3	-0.8
	comp=Z,2.8nm,0.3s,baz=143,slow=20,SNR=8.0							
SLUM	Salum	6.82	236	P		Pn	00 02 37.1	+0.6
	baz=236							
NBNS	Bani Suef	6.87	184	P		Pn	00 02 38.4	+1.1
	baz=183							
NBNS				S		Sn	00 03 52.4	-1.7
	baz=183							
HKAT	Jabal Katrina	7.19	165	P		Pn	00 02 43.7	+1.8
	baz=162							
SWA2		8.24	223	P		Pn	00 02 57.0	+0.9
	baz=222							
SWA2				AMP			00 04 00.0	
	baz=222							
SWA2				S		Sn	00 04 22.7	-4.9
	baz=222							
HFRF	Wahat Farafira	8.85	201	P		Pn	00 03 05.4	+1.1
	baz=200							
GERES	GERESS Array B	18.87	321	P		P	00 05 14.7	+0.2
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=2.9							
FINES	FINESS Array B	26.22	354	P		P	00 06 26.6	-1.5
	comp=Z,1.5nm,0.7s,baz=156,slow=12,SNR=8.8							
ARCES	ARCESS Array B	34.27	356	P		P	00 07 38.1	-1.1
	comp=Z,4.1nm,1.1s,baz=162,slow=9.1,SNR=5.5							
TORD	Torodi Ar. Bea	35.11	238	P		P	00 07 47.3	+0.4
	comp=Z,0.6nm,1.1s,baz=27,slow=8.6,SNR=3.4							

KURBB	Kurchatov Arra	36.67	51	P		P	00 08 00.1	+0.1
	comp=Z,0.2nm,0.5s,baz=265,slow=8.5,SNR=2.9							
MKAR	Makanchi Array	39.02	57	P		P	00 08 20.6	+0.7
	comp=Z,0.4nm,0.9s,baz=270,slow=5.6,SNR=4.0							
ZALV	Zalesovo Beam	40.83	46	P		P	00 08 34.6	-0.2
	comp=Z,0.2nm,0.3s,baz=265,slow=8.0,SNR=2.8							
SONM	Songino Array	55.01	52	P		P	00 10 24.4	-0.2
	comp=Z,0.4nm,0.7s,baz=285,slow=8.3,SNR=3.6							
CMAR	Chiang Mai Arr	61.11	87	P		P	00 11 06.7	-0.8
	comp=Z,0.8nm,0.3s,baz=276,slow=8.1,SNR=3.1							

MAN 19 00:13:40.6, 5°.45N×126°.44E, h97km, MS3.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	Don Marcelino,	0.97	312	*e*P	Pn	00 14 00.7	+0.2
DDMP				*e*S	Sn	00 14 16.4	+0.9
KCP	Kidapawan	2.05	319	‖ *i*P	Pn	00 14 15.0	+1.2
SKMP	Bagumbayan, Su	2.16	299	*e*P	Pn	00 14 15.4	+0.1
SKMP				*e*S	Sn	00 14 41.9	+0.2

*ISK **19** 00:19:29.2, 38°.91N×43°.62E, h10km, ML2.2/9*
*DDA **19** 00:19:29.6, 38°.89N×43°.61E, h7km±3km, ML2.7*
*ISCJB **19** 00:19:30.0±0.6, 38°.91N±0°.04×43°.61E±0°.07, h12km±4km, Error ellipse: s-maj=9.7km s-min=5.2km az=32.2*

ISC 19 00:19:29.7±1.0, 38°.89N±0°.04×43°.64E±0°.04, h11km±8km, n15, σ0s59/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	Van-Muradiye	0.11	332	*i* P	Pg	00 19 32.2	-0.5
VMUR				*i* S	Sg	00 19 35.7	+0.7
VMUR				IAML_P			
	comp=Z,7μm,0.2s						
ERCV	ERCIS-VAN	0.27	298	PG	Pg	00 19 34.8	-0.5
CLDR	Caldiran	0.33	41	PG	Pg	00 19 36.2	-0.3
CLDR				SG	Sg	00 19 41.7	+0.7
CLDR	Caldiran	0.33	41	*i* P	Pg	00 19 36.1	-0.4
CLDR				*i* S	Sb	00 19 42.9	-0.3
CLDR				IAML_P			
	comp=Z,5μm,0.1s						
VANB	Van	0.36	213	PG	Pb	00 19 37.7	-0.4
VANB				SG	Sb	00 19 45.2	+1.5
TVAN	Van	0.41	207	*i* P	Pb	00 19 38.5	-0.5
TVAN				IAML_P			
	comp=Z,2μm,0.2s						
DYDN	Diyadin	0.65	3	*i* P	Pg	00 19 42.4	0.0
DYDN				*i* S	Sb	00 19 52.2	-0.2
DYDN				IAML_P			
	comp=Z,936nm,0.1s						
AKDM	Akdamar-Van	0.76	223	PG	Pg	00 19 43.9	-0.6
TUTA	Tutak	0.82	309	*i* P	Pg	00 19 45.2	-0.4
TUTA				IAML_P			
	comp=Z,2μm,0.2s						
AGRB	Hanur-Agry	0.85	324	PG	Pg	00 19 45.5	-0.6
MLAZ	Malazgirt-MUS	0.88	287	PG	Pb	00 19 46.8	-0.3
TASB	TASBURUN-IGDIR	1.18	23	PN	Pb	00 19 52.1	-0.1
GURO	Guroymak-BITLI	1.30	255	PN	Pb	00 19 53.9	-0.3
GNI	Garni	1.52	34	PN	Pn	00 19 56.8	-0.1
KOPR	Koprukoy-ERZUR	1.76	309	PN	Pn	00 20 00.8	+0.5

*NEIC **19** 00:33:44.3±0.0, 15°.75N×96°.28W, h59km, MD4.0(MEX), After MEX.*

MEX 19 00:33:44.2±0.5, 15°.76N×96°.27W, h60km±5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.16	87	*e*P	Pn	00 33 52.5	-1.1
HUIG				*e*S	Sn	00 33 58.1	-2.1
HUIG	Huatulco	0.16	87	*e*P	Pn	00 33 52.5	-1.1
HUIG				*e*S	Sn	00 33 58.1	-2.1
CMIG	Matias Romero	1.88	45	*e*P	Pn	00 34 11.8	-2.2
CMIG				*e*S	Sn	00 34 35.5	-1.2
CMIG	Matias Romero	1.88	45	*e*P	Pn	00 34 12.0	-2.0
CMIG				*i* S	Sn	00 34 35.0	-1.7
PNIG	Pinotepa	1.89	290	*e*P	Pn	00 34 12.7	-1.5
PNIG				*e*S	Sn	00 34 38.6	+1.6
PNIG	Pinotepa	1.89	290	*e*P	Pn	00 34 12.7	-1.5
PNIG				*e*S	Sn	00 34 34.9	-2.1
TLIG	Tlapa	2.84	310	*e*P	Pn	00 34 26.5	-0.7
TLIG				*e*S	Sn	00 35 01.8	+1.5
TLIG	Tlapa	2.84	310	*e*P	Pn	00 34 26.5	-0.7
TLIG				*e*S	Sn	00 34 59.1	-1.1
MEIG	Mezcala	3.86	304	*e*P	Pn	00 34 44.8	+3.6
MEIG				*e*S	Sn	00 35 36.3	+11
MEIG	Mezcala	3.86	304	*e*P	Pn	00 34 40.8	-0.4
MEIG				*i* S	Sn	00 35 23.5	-1.9
LVIG	Laguna Verde	3.94	358	*e*Pn	Pn	00 34 45.5	+3.3
CCIG	Comitan	4.01	82	*e*Pn	Pn	00 34 45.4	+2.1

*IDC **19** 00:36:53.9±0.5, 53°.65N×165°.50W, h0km, mb4.4/36, mb1 4.6/38, mb1mx4.5/46, mbtmp4.4/38, ML4.0/2, MS3.9/30, Ms1 3.9/30, ms1mx3.8/39, Error ellipse: s-maj=14.5km s-min=8.8km az=173.0*
*AEIC **19** 00:36:58.1±0.0, 53°.43N×165°.23W, h24km*
*ISCJB **19** 00:36:59.7±0.3, 53°.62N±0°.03×165°.29W±0°.03, h59km±2km, mb4.6/110, MS3.9/33, Error ellipse: s-maj=4.8km s-min=2.5km az=174.2*
*MOS **19** 00:37:00.7±1.2, 53°.53N×165°.44W, h67km, mb4.9/32, Error ellipse: s-maj=10.2km s-min=7.2km az=93.6*
*NEIC **19** 00:37:01.6±0.3, 53°.79N×165°.45W, h54km±3km, mb4.6/57, ML4.5(AEIC), Error ellipse: s-maj=6.7km s-min=3.0km az=163.0*
NEIC Felt at Akutan, Dutch Harbor and Unalaska.

ISC 19 00:37:00.9±0.8, 53°.65N±0°.06×165°.36W±0°.03, h49km±6km, n615, σ1s38/626, mb4.6/112, MS4.0/34, 23C-18D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKSA	Akutan Strait	0.52	338	P	Pn	00 37 12.3	-0.1
AHB	Akutan Harbor	0.54	330	P	Pn	00 37 12.8	+0.2
AKUT	Akutan	0.54	333	P	Pn	00 37 12.8	+0.2
AKUT				S	Sn	00 37 23.3	+2.3
ZRO	Akutan Zero	0.57	320	P	Pn	00 37 13.1	0.0
AKMO	Akutan Morgan	0.58	319	P	Pn	00 37 13.2	0.0
AKMO				S	Sn	00 37 24.2	+2.2
AKRB	Akutan Reef Bi	0.64	319	P	Pn	00 37 14.0	+0.1
AKGG	Akutan Green G	0.66	326	P	Pn	00 37 14.4	+0.3
AKGG				S	Sn	00 37 26.0	+2.3
UNV	Unalaska Valle	0.71	286	P	Pn	00 37 13.7	-1.0
UNV				S	Sn	00 37 24.6	-0.1
MREP	Makushin Rep't	0.84	281	P	Pn	00 37 15.8	-0.8
MTBL	Makushin Table	0.84	293	P	Pn	00 37 16.4	-0.2
MSW	Makushin Switc	0.89	288	P	Pn	00 37 16.7	-0.4
MSW				S	Sn	00 37 29.7	+0.7
WESP	Westdahl Peak	0.92	24	P	Pn	00 37 18.0	+0.4
MCIR	Makushin Cirqu	0.96	289	P	Pn	00 37 18.2	+0.1
SSLS	Shishaldin Sou	1.33	36	P	Pn	00 37 22.6	-0.6
SSBA	Shishaldin	1.34	32	P	Pn	00 37 23.1	-0.2
SSBA				S	Sn	00 37 44.5	+4.6
SSLW	Shishaldin Wes	1.34	32	P	Pn	00 37 23.1	-0.1
BRPK	Brown Peak	1.38	43	P	Pn	00 37 22.6	-1.1
OKER	Okmok East Rim	1.62	264	P	Pn	00 37 26.2	-0.9
OKTU	Okmok Mt. Tuli	1.62	262	P	Pn	00 37 26.1	-1.0
FALS	False Pass	1.66	43	P	Pn	00 37 26.9	-0.6
FALS				S	Sn	00 37 49.9	+2.2
OKWE	Okmok W'ng Wal	1.73	265	P	Pn	00 37 27.8	-0.8
OKAK	Okmok	1.79	269	P	Pn	00 37 29.6	+0.2
NIKH	Nikolski High	2.21	253	P	Pn	00 37 33.7	-1.3
NIKH				S	Sn	00 37 59.8	-1.3
DRIA	Deer Island	2.24	53	P	Pn	00 37 34.6	-0.9
DT1	Dutton Round H	2.32	50	P	Pn	00 37 36.5	-0.1
DOL	Dolgoi Island	2.53	52	P	Pn	00 37 39.4	-0.2
PS4A	Pavlof South-4	2.66	49	P	Pn	00 37 42.2	+1.0
SDPT	Sand Point	3.31	57	P	Pn	00 37 50.1	-0.1
VNFG	Veniaminof 2	4.26	49	P	Pn	00 38 04.7	+1.4
VNSS	Veniaminof 8	4.27	50	P	Pn	00 38 05.3	+1.8
SPIA	Saint Paul Isl	4.50	324	*e*Pn	Pn	00 38 08.5	+2.1
CHGN	Chignik	4.80	54	P	Pn	00 38 11.2	+0.7
KOFP	Korovin Flat P	5.46	259	P	Pn	00 38 20.4	+0.7
ETKA	Kagalaska Isla	6.94	259	P	Pn	00 38 41.2	+1.2
ADK	Adak	7.10	260	*e*Pn	Pn	00 38 42.8	+0.7
ADK				*e*Sn	Sn	00 40 01.9	+0.6
ADK	Adak	7.10	260	*e*P	Pn	00 38 42.8	+0.7
ADK				*e*		00 40 01.9	
KIMD	Kanaga Island	7.46	260	P	Pn	00 38 47.7	+0.6
KDAK	Kodiak Island	8.31	55	*e*Pn	Pn	00 38 57.2	-1.5
KDAK				Sn	Sn	00 40 27.0	-4.0
KDAK	Kodiak Island	8.31	55	*i* P	Pn	00 38 57.1	-1.5
KDAK	Kodiak Island	8.31	55	Pn	Pn	00 38 56.7	-1.9
	3.2nm,0.3s,baz=231,slow=6.1,SNR=30						
KDAK				Sn	Sn	00 40 27.0	-4.0
	1.6nm,0.3s,baz=22,slow=19,SNR=1.7						
SVW2	Sparrevohn	9.13	31	*e*Pn	Pn	00 39 12.5	+2.6
ILS	Iliamna Low So	9.23	42	P	Pn	00 39 13.2	+1.8
ILW	Iliamna West	9.27	41	P	Pn	00 39 15.6	+3.7
RED	Redoubt Volcan	9.63	40	P	Pn	00 39 20.0	+3.2
BRLK	Bradley Lake	10.03	47	*e*Pn	Pn	00 39 26.1	+3.9
GAMB	Gambell	10.67	345	*e*Pn	Pn	00 39 33.1	+2.2
SUA	Susitna One	11.06	39	*e*Pn	Pn	00 39 36.6	+0.2
RC01	Rabbit Creek A	11.23	42	*e*Pn	Pn	00 39 37.5	-1.1
PPLA	Purkeypile	11.54	31	*e*Pn	Pn	00 39 46.2	+3.3
PMR	Palmer	11.76	41	*e*Pn	Pn	00 39 45.0	-0.7
PMR	Palmer	11.76	41	*e*P	Pn	00 39 45.0	-0.7
KNK	Knik Glacier	11.92	43	*e*Pn	Pn	00 39 46.6	-1.5
GHO	Glory Hole Cre	11.94	41	*e*Pn	Pn	00 39 48.2	-0.1
SML	Sawmill	12.19	41	*e*Pn	Pn	00 39 50.7	-1.0
SML	Sawmill	12.19	41	*e*P	Pn	00 39 50.7	-1.0
TRF	Thorofare Moun	12.54	33	*e*Pn	Pn	00 39 59.3	+2.7
EYAK	Cordova Ski Ar	12.66	49	*e*Pn	Pn	00 39 55.5	-2.6
BPAW	Bear Paw Mtn.	12.80	29	*e*Pn	Pn	00 40 02.3	+2.3
DIV	Divide	12.91	47	*e*Pn	Pn	00 39 59.2	-2.3
RND	Reindeer	12.99	35	*e*Pn	Pn	00 40 05.4	+2.8
RND	Reindeer	12.99	35	*e*P	Pn	00 40 05.4	+2.8
KLU	Klutina	13.01	45	*e*Pn	Pn	00 40 00.1	-2.8
KLU				*e*Sn	Sn	00 42 29.4	+3.3
HMT	Hamilton	13.27	51	*e*Pn	Pn	00 40 05.2	-1.2
DHY	Denali Highway	13.30	38	*e*Pn	Pn	00 40 04.5	-2.4
BWN	Browne	13.31	31	*e*Pn	P	00 40 13.2	-2.2
IM3	Indian Mountai	13.64	20	*e*Pn	Pn	00 40 13.8	+2.4
HARP	HAARP	13.78	42	*e*Pn	Pn	00 40 11.7	-1.7
PAX	Paxson	13.95	40	*e*Pn	Pn	00 40 14.3	-1.4
PAX	Paxson	13.95	40	*e*P	Pn	00 40 14.3	-1.4
WRH	Wood River Hil	13.95	32	*e*Pn	Pn	00 40 14.9	-0.8
CCB	Clear Creek Bu	14.16	32	*e*Pn	Pn	00 40 15.8	-2.7
MDM	Murphy Dome	14.25	31	*e*Pn	P	00 40 24.1	-1.7
HDA	Harding Lake	14.28	34	*e*Pn	Pn	00 40 17.8	-2.3
HDA	Harding Lake	14.28	34	P	Pn	00 40 16.4	-3.7
	baz=230						
COLA	College	14.31	31	*e*Pn	Pn	00 40 20.5	+0.1
	6.6nm,0.6s						
COLA	College	14.31	31	‖ *i*P	P	00 40 24.3	-2.0
RDOG	Red Dog Mine	14.50	4	*e*P	P	00 40 28.9	+0.4
IL1	Eielson Array	14.54	33	*e*Pn	Pn	00 40 24.8	+1.3
ILAR	Eielson Array	14.54	33	Pn	Pn	00 40 20.4	-3.1
	0.4nm,0.3s,baz=220,slow=13,SNR=12						
ILAR				Sn	Sn	00 42 58.4	-4.7
	baz=200,slow=7.7,SNR=3.3						
ILAR				LR	LR	00 46 28.7	
	comp=Z,1μm,19.0s,baz=236,slow=39						
ILB	Eielson Array	14.54	33	*e*Pn	Pn	00 40 21.1	-2.4
POKR	Poker Flat Res	14.60	31	P	Pn	00 40 20.7	-3.6
	baz=227						
RIDG	Independ'e Rid	14.61	38	*e*Pn	Pn	00 40 25.3	+0.8
MENT	Mentasta	14.62	42	*e*Pn	Pn	00 40 22.3	-2.2
DOT	Dot Lake	14.85	39	*e*Pn	P	00 40 30.7	-1.8
SCRK	Sand Creek	15.06	38	*e*Pn	Pn	00 40 27.9	-2.5
	12nm,0.7s						
COLD	Coldfoot	15.46	22	*e*Pn	P	00 40 40.1	+1.0
	9.7nm,0.9s						
PRP	Porcupine Dome	15.47	32	*e*Pn	Pn	00 40 37.2	+1.5
	11nm,0.9s						
FYU	Fort Yukon	16.26	29	*e*Pn	P	00 40 47.4	-0.6
	10nm,0.8s						
EGAK	Eagle	16.53	38	*e*Pn	Pn	00 40 47.6	-1.4
HYT	Haines Junctio	16.60	53	*e*Pn	P	00 40 53.5	+1.6
	28nm,0.8s						
TOLK	Toolik Lake Re	16.76	20	*e*Pn	Pn	00 40 50.3	-1.7
TOLK	Toolik Lake Re	16.76	20	P	Pn	00 40 49.4	-2.6
	baz=214,SNR=13						
DAWY	Dawson	16.86	42	*e*Pn	P	00 40 54.2	-0.5
	21nm,0.7s						
SKAG	Skagway	17.44	59	*e*Pn	P	00 41 04.6	+3.6
	21nm,0.9s						
BESE	Bessie Mountai	17.61	62	*e*Pn	P	00 41 06.2	+3.2

baz=307
J05D **Fort Rock, OR** 30.57 92 P P 00 43 11.8 +1.9
baz=306,SNR=17
YBH **Yreka Blue Hor** 30.62 95 eP P 00 43 12.8 +2.5
comp=Z,6.1nm,0.8s
YBH **Yreka Blue Hor** 30.62 95 eP P 00 43 12.8 +2.5
YBH pmax pmax
comp=Z,6.0nm,0.8s
M02C **Callahan** 30.74 96 P P 00 43 13.1 +1.8
baz=308
N02D **Trinity Center** 31.09 97 P P 00 43 15.9 +1.5
baz=309
M04C **Macdoel** 31.11 95 P P 00 43 16.4 +1.8
baz=308,SNR=9.0
I07A **Izee** 31.15 89 eP P 00 43 16.3 +1.4
comp=Z,8.1nm,0.9s
O02D **Mt. Diablo Mer** 31.54 98 P P 00 43 20.1 +1.7
baz=310
O03E **Paynes Creek** 32.05 97 P P 00 43 24.0 +1.2
baz=310
J08A **Circle Bar Ran** 32.17 89 eP P 00 43 25.6 +1.7
comp=Z,5.4nm,0.8s
WVOR **Wild Horse Val** 32.62 91 eP P 00 43 29.3 +1.4
comp=Z,7.3nm,0.8s
TIXI **Tiksi** 32.91 328⇑ eP P 00 43 32.7 +2.8
TIXI pmax pmax
comp=Z,1.0nm,0.7s
TIXI **Tiksi** 32.91 328 P P 00 43 27.3 -2.6
comp=Z,2.5nm,0.3s,baz=335,slow=1.3,SNR=12
TIXI PcP PcP 00 46 12.8 -0.2
comp=Z,2.3nm,0.7s,baz=78,slow=8.9,SNR=6.9
MSO **Missoula** 32.96 81 eP P 00 43 31.4 +0.6
comp=Z,2.6nm,0.8s
MSO **Missoula** 32.96 81 P P 00 43 31.0 +0.3
baz=302
PAHR **Pah Rah Range** 33.86 95 eP P 00 43 40.4 +1.7
comp=Z,8.1nm,0.6s
VCNR **Virginia City** 33.96 96 eP P 00 43 42.3 +2.6
comp=Z,9.9nm,0.8s
PNTR **Pine Nut** 34.13 96 eP P 00 43 43.2 +2.1
comp=Z,20nm,0.8s
RES **Resolute Bay** 34.15 26 P P 00 43 40.0 -0.6
comp=Z,5.0nm,0.7s,baz=264,slow=11,SNR=27
RES PcP PcP 00 46 16.5 0.0
comp=Z,1.7nm,0.6s,baz=338,slow=3.4,SNR=4.5
HRY **Holter Researc** 34.26 79 eP P 00 43 43.7 +1.7
YERR **Yerington** 34.41 96 eP P 00 43 45.5 +1.9
comp=Z,11nm,0.8s
HLID **Hailey** 34.47 86 eP P 00 43 45.1 +1.1
comp=Z,2.3nm,0.9s
HLID **Hailey** 34.47 86 P P 00 43 44.3 +0.3
baz=306
WAKR **Walker** 34.60 97 eP P 00 43 47.3 +2.1
comp=Z,7.7nm,0.9s
MCMT **McKenzie Canyo** 34.68 83 eP P 00 43 46.8 +0.9
EGMT **Eagleton** 34.78 76 eP P 00 43 47.3 +0.8
comp=Z,20nm,1.0s
EGMT **Eagleton** 34.78 76 P P 00 43 46.5 0.0
baz=301
ASAJ **Asahikawa** 34.80 276 P P 00 43 46.2 -0.4
comp=Z,8.6nm,0.7s,baz=150,slow=20,SNR=3.4
BOZ **Bozeman (W)** 34.97 81 eP P 00 43 48.6 +0.3
comp=Z,4.7nm,0.6s
BOZ **Bozeman (W)** 34.97 81 eP P 00 43 48.6 +0.3
BOZ pmax pmax
comp=Z,5.0nm,0.6s
BOZ **Bozeman (W)** 34.97 81 P P 00 43 48.5 +0.2
baz=303,SNR=6.3
RYN **Ryan** 35.06 96 eP P 00 43 50.9 +1.7
comp=Z,7.1nm,0.8s
NVAR **Mina Array Bea** 35.32 96 P P 00 43 52.6 +1.1
comp=Z,9.7nm,0.7s,baz=297,slow=8.1,SNR=61
NVAR PcP PcP 00 46 21.2 +0.3
comp=Z,1.6nm,0.6s,baz=289,slow=2.4,SNR=6.0
NVAR LR LR 00 55 39.6
comp=Z,216nm,19.4s,baz=301,slow=32
OMMB **Old Mammoth Mi** 35.45 98 eP P 00 43 54.7 +2.0
comp=Z,8.0nm,1.1s
ELK **Elko** 35.67 90 eP P 00 43 55.9 +1.5
comp=Z,2.7nm,0.7s
ELK **Elko** 35.67 90 eP P 00 43 55.9 +1.5
ELK pmax pmax
comp=Z,3.0nm,0.7s
GCMT **Greycliff** 36.02 79 eP P 00 43 58.9 +1.6
VES **Vestal, Richgr** 36.61 100 P P 00 44 02.8 +0.6
baz=314
RLMT **Red Lodge** 36.62 80 eP P 00 44 02.9 +0.4
comp=Z,14nm,0.8s
RLMT **Red Lodge** 36.62 80 P P 00 44 03.5 +1.0
baz=304,SNR=16
CWC **Cottonwood Cre** 36.79 98 P P 00 44 04.5 +0.6
baz=313
PKM **Mcpherson Peak** 36.85 102 P P 00 44 05.1 +0.6
baz=315
R11A **Troy Canyon, C** 36.99 94 P P 00 44 06.2 +0.5
baz=311,SNR=9.3
ISA **Isabella, Lake** 37.09 100 P P 00 44 07.0 +0.6
baz=314
DAC **Darwin (Calif)** 37.19 98 eP P 00 44 08.3 +0.9
comp=Z,5.9nm,0.7s
DAC **Darwin (Calif)** 37.19 98 eP P 00 44 08.3 +0.9
DAC pmax pmax
comp=Z,6.0nm,0.7s
MPMC **Manual Prospec** 37.40 98 P P 00 44 10.1 +1.0
baz=314,SNR=7.7
DUG **Dugway, Tooele** 37.45 89 eP P 00 44 10.1 +0.5
comp=Z,4.7nm,1.0s
DUG **Dugway, Tooele** 37.45 89 eP P 00 44 10.1 +0.5
DUG pmax pmax
comp=Z,5.0nm,1.0s
DUG **Dugway, Tooele** 37.45 89 P P 00 44 10.0 +0.5
baz=309
FURC **Furnace Creek,** 37.49 97 P P 00 44 11.1 +1.5
baz=313
TPNV **Topopah Spring** 37.52 96 P P 00 44 11.1 +1.0
baz=313,SNR=19
LAO **LASA Array** 37.53 76 eP P 00 44 10.8 +0.8
comp=Z,19nm,0.6s
LAO **LASA Array** 37.53 76 P P 00 44 11.0 +1.0
baz=303,SNR=8.9
BW06 **Boulder Array** 37.81 83 P P 00 44 12.6 -0.1
baz=307
PDAR **Pinedale Array** 37.81 83 P P 00 44 12.8 +0.1
comp=Z,3.5nm,0.7s,baz=298,slow=5.2,SNR=12
PDAR PcP PcP 00 46 28.8 +0.5
comp=Z,0.3nm,0.5s,baz=51,slow=0.6,SNR=2.8
PDAR LR LR 00 58 03.2
comp=Z,85nm,18.1s,baz=322,slow=34
SHOC **Shoshone, Teco** 38.22 97 P P 00 44 16.7 +0.8
baz=314
FCC **Fort Churchill** 38.24 53 eP P 00 44 16.1 +0.4
comp=Z,9.9nm,0.6s
KLR **Kul'dur** 38.31 290⇑ eP P 00 44 15.2 -1.3
KLR **Kul'dur** 38.31 290 P P 00 44 14.0 -2.5
comp=Z,1.7nm,0.5s,baz=79,slow=7.8,SNR=8.8
GSC **Goldstone, Bar** 38.32 99 P P 00 44 17.6 +0.8
baz=314,SNR=9.5
BFSC **Mount Baldy Ra** 38.56 101 P P 00 44 19.9 +1.0
baz=315
GMRC **Granite Mounta** 39.35 98 P P 00 44 25.9 +0.3
baz=315,SNR=8.8
K22A **Casper** 39.67 81 P P 00 44 28.0 -0.2
baz=307
BELC **Belle Mtn. Jos** 39.70 99 P P 00 44 29.0 +0.5
baz=315
PFO **Pinyon Flats O** 39.71 100 P P 00 44 29.0 +0.5
baz=316
PFO **Pinyon Flats O** 39.71 100 P P 00 44 27.7 -0.8
comp=Z,1.8nm,0.6s,baz=340,slow=7.0,SNR=3.7
H11N2 **WAKE ISLAND Hy** 40.01 223 T T 01 27 13.5
baz=25,slow=76,SNR=1189
H11N3 **WAKE ISLAND Hy** 40.02 223 T T 01 27 14.0
baz=25,slow=76,SNR=2004
H11N1 **WAKE ISLAND Hy** 40.03 223 T T 01 27 12.7
baz=25,slow=76,SNR=1135
IRM **Iron Mountain** 40.10 98 P P 00 44 32.3 +0.8
baz=315,SNR=5.5
O20A **White River Ci** 40.21 86 P P 00 44 32.3 -0.4
baz=310,SNR=5.6
MONP2 **Monument Peak** 40.24 101 P P 00 44 33.1 +0.1
baz=316
RSSD **Black Hills** 40.25 78 eP P 00 44 32.8 -0.2
comp=Z,6.8nm,0.5s
RSSD **Black Hills** 40.25 78 eP P 00 44 32.8 -0.2
RSSD pmax pmax
comp=Z,7.0nm,0.5s
RSSD **Black Hills** 40.25 78 P P 00 44 33.3 +0.3
baz=306

BC3 **Big Chuckawall** 40.27 99 P P 00 44 33.9 +0.8
baz=316
PDMCI **Parker Dam,Lak** 40.59 97 P P 00 44 36.3 +0.8
baz=315
IKP **In-Ko-Pah, Jac** 40.60 101 P P 00 44 36.7 +0.8
baz=316
MDND **Maddock** 40.66 70 P P 00 44 36.6 +0.5
baz=304
Y12C **Blythe** 40.75 98 P P 00 44 37.6 +0.7
baz=315
USRK **Ussuriysk Ar.** 40.98 283 P P 00 44 37.1 -1.6
comp=Z,2.1nm,0.7s,baz=54,slow=9.8,SNR=3.3
USRK LR LR 01 01 28.2
comp=Z,121nm,21.9s,baz=44,slow=36
GLA **Glamis** 41.07 99 P P 00 44 40.1 +0.5
baz=316
N23A **Red Feather La** 41.09 83 P P 00 44 40.3 +0.3
baz=309
H11S1 **WAKE ISLAND Hy** 41.19 222 T T 01 28 43.1
baz=25,slow=76,SNR=2614
H11S2 **WAKE ISLAND Hy** 41.20 222 T T 01 28 44.3
baz=25,slow=76,SNR=1521
H11S3 **WAKE ISLAND Hy** 41.21 222 T T 01 28 44.3
baz=25,slow=76,SNR=1580
WUAZ **Wupatki** 41.39 94 P P 00 44 42.9 +0.6
baz=314
ULM **Lac du Bonnet** 41.41 65 P P 00 44 41.6 -0.5
comp=Z,3.8nm,0.8s,baz=315,slow=6.2,SNR=7.0
ULM LR LR 01 03 06.6
comp=Z,113nm,18.1s,baz=306,slow=38
MVCO **Mesa Verde** 41.95 89 P P 00 44 47.2 +0.1
baz=312
MAJO **Matsushiro** 42.15 270⇓ eP P 00 44 45.0 -3.4
MAJO pmax pmax
comp=Z,39nm,2.0s
MJAR **Matsushiro Arr** 42.15 270 P P 00 44 47.8 -0.6
comp=Z,4.4nm,0.7s,baz=1.2,slow=13,SNR=7.8
MJAR LR LR 01 00 18.8
comp=Z,120nm,21.7s,baz=65,slow=33
Q24A **Divide** 42.79 85 P P 00 44 54.0 +0.1
baz=311
SUSD **Miller** 43.00 74 P P 00 44 55.2 0.0
baz=307
214A **Organ Pipe Nat** 43.04 99 P P 00 44 56.0 +0.4
baz=316
BOD **Bodaibo** 43.06 309 eP P 00 44 54.3 -1.2
BOD pmax pmax
comp=Z,5.0nm,1.0s
OGNE **Ogallala** 43.37 80 eP P 00 44 58.8 +0.6
comp=Z,34nm,0.8s
OGNE **Ogallala** 43.37 80 P P 00 44 58.6 +0.4
baz=310
SDCO **Great Sand Dun** 43.38 86 P P 00 44 58.9 +0.2
baz=312
TUC **Tucson** 43.98 96 P P 00 45 03.8 +0.5
baz=316
KSCO **Kaye Shedlock'** 44.26 83 P P 00 45 06.3 +0.8
baz=311
T25A **Trinidad** 44.43 86 P P 00 45 07.4 +0.3
baz=312
TASM **ASL Pad, Albuq** 44.70 90 P P 00 45 08.9 -0.2
baz=314
TASM **ASL Pad, Albuq** 44.70 90 P P 00 45 07.9 -1.3
baz=314
ANMO **Albuquerque** 44.70 90⇑ eP P 00 45 02.7 -6.5
ANMO pmax pmax
comp=Z,8.0nm,3.3s
ANMO **Albuquerque** 44.70 90 P P 00 45 07.7 -1.5
baz=314
ANMO **Albuquerque** 44.70 90 P P 00 45 09.2 +0.1
comp=Z,0.5nm,0.5s,baz=306,slow=8.7,SNR=2.6
ANMO PcP PcP 00 46 50.8 0.0
comp=Z,3.2nm,0.7s,baz=301,slow=3.8,SNR=11
ECSD **EROS Data Cent** 44.77 74 eP P 00 45 08.3 -1.1
comp=Z,13nm,0.8s
ECSD **EROS Data Cent** 44.77 74 P P 00 45 08.4 -1.0
baz=308,SNR=11
CN2 **Changchun** 44.98 287 eP P 00 45 10.3 -0.7
CN2 pmax pmax
comp=Z,20nm,0.6s
BGNE **Belgrade** 45.34 77 P P 00 45 13.2 -0.7
baz=310,SNR=7.6
121A **Cookes Peak, D** 45.60 94 P P 00 45 16.7 +0.5
baz=316
F37A **Hinrichs Farm,** 45.80 69 P P 00 45 17.1 -0.4
baz=308
F38A **Pierce - Schro** 46.07 68 P P 00 45 19.5 -0.1
baz=308
CBKS **Cedar Bluff** 46.09 81 eP P 00 45 20.1 +0.2
comp=Z,17nm,0.8s
CBKS **Cedar Bluff** 46.09 81 eP P 00 45 20.1 +0.2
CBKS pmax pmax
comp=Z,17nm,0.8s
CBKS **Cedar Bluff** 46.09 81 P P 00 45 19.5 -0.4
baz=312,SNR=6.3
NRIK **Noril'sk** 46.44 332 P P 00 45 21.9 -0.2
comp=Z,0.8nm,0.3s,baz=37,slow=18,SNR=2.9
NRIK LR LR 01 09 05.8
comp=Z,186nm,18.8s,baz=41,slow=42
G38A **Ridgeland** 46.57 69 P P 00 45 23.0 -0.5
baz=308
H38A **Maiden Rock** 46.63 70 P P 00 45 23.6 -0.5
baz=309
G39A **Holcombe** 46.87 69 P P 00 45 24.8 -1.1
baz=309
F40A **Park Falls** 47.06 67 P P 00 45 26.0 -1.4
baz=308
H39A **Augusta** 47.19 69 P P 00 45 27.1 -1.3
baz=309
MSTX **Muleshoe** 47.57 88 P P 00 45 31.6 0.0
baz=315
I39A **Houston** 47.57 70 P P 00 45 30.8 -0.6
baz=310
MNTX **Cornudas Mount** 47.62 92 eP P 00 45 32.9 +1.0
comp=Z,6.3nm,0.8s
MNTX **Cornudas Mount** 47.62 92 P P 00 45 32.3 +0.3
baz=316,SNR=12
KSRS **Korea Array** 47.64 278 P P 00 45 32.2 +0.3
comp=Z,4.9nm,0.7s,baz=50,slow=7.4,SNR=20
KSRS PcP PcP 00 47 01.5 +0.7
comp=Z,1.6nm,0.7s,baz=63,slow=4.5,SNR=4.0
KSRS LR LR 01 06 25.2
comp=Z,22nm,20.4s,baz=56,slow=37
KSAR **Wonju Array Be** 47.67 278 P P 00 45 32.2 +0.1
KSAR PcP PcP 00 47 01.5 +0.5
KSAR **Wonju Array Be** 47.67 278 P P 00 45 32.3 +0.1
KSAR 00 47 01.5
F41A **Three Lakes** 47.73 67 P P 00 45 32.5 -0.1
baz=309
KSU1 **Kansas State U** 47.73 79 eP P 00 45 32.1 -0.6
comp=Z,18nm,0.8s
KSU1 **Kansas State U** 47.73 79 P P 00 45 31.8 -0.9
baz=312,SNR=5.0
J39A **Decorah** 47.80 71 P P 00 45 32.0 -1.2
baz=310,SNR=5.6
K39A **Oelwein** 48.10 72 P P 00 45 34.3 -1.2
baz=310
DAG **Danmarks Havn** 48.14 10⇑ iP P 00 45 35.3 0.0
comp=Z,18nm,0.8s
DAG **Danmarks Havn** 48.14 10⇑ iP P 00 45 35.3 0.0
DAG pmax pmax
comp=Z,13nm,0.8s
J40A **Soldiers Grove** 48.30 70 P P 00 45 35.9 -1.2
baz=310
I41A **Arkdale** 48.37 69 P P 00 45 36.4 -1.1
baz=310
L39A **Vinton** 48.41 72 P P 00 45 36.5 -1.4
baz=311
SPITS **Spitsbergen Ar** 48.43 360 P P 00 45 37.3 -0.2
comp=Z,3.3nm,0.5s,baz=38,slow=4.2,SNR=11
K40A **Coalsburg** 48.53 71 P P 00 45 37.9 -0.8
baz=310
J41A **Loganville** 48.73 70 P P 00 45 39.2 -1.1
baz=310
M39A **Webster** 48.73 73 P P 00 45 39.1 -1.3
baz=311,SNR=5.3
SUMG **Summit** 48.81 19⇑ iP P 00 45 41.9 +0.9
comp=Z,53nm,0.7s
SUMG **Summit** 48.81 19⇑ iP P 00 45 41.9 +0.9
SUMG pmax pmax
comp=Z,53nm,0.7s
JFWS **Jewell Farm** 48.89 70 P P 00 45 40.4 -1.2
baz=310
L40A **Anamosa** 48.89 72 P P 00 45 40.3 -1.3
baz=311
I42A **Draeger Farm,** 49.01 69 P P 00 45 41.7 -0.8
baz=310
K41A **Shullsburg** 49.06 71 P P 00 45 41.7 -1.2

baz=311
M40A **Post Highland** 49.16 73 P P 00 45 42.7 -0.9
baz=311
J42A **Columbus** 49.26 69 P P 00 45 43.5 -0.9
baz=311
L41A **Preston** 49.29 71 P P 00 45 43.7 -0.9
baz=311
WMOK **Wichita Mounta** 49.41 84 eP P 00 45 45.6 0.0
comp=Z,5.6nm,0.6s
WMOK **Wichita Mounta** 49.41 84 eP P 00 45 45.6 0.0
WMOK pmax pmax
comp=Z,6.0nm,0.6s
WMOK **Wichita Mounta** 49.41 84 P P 00 45 45.6 0.0
baz=314
I43A **Langenfeld Bro** 49.43 68 P P 00 45 44.7 -1.0
baz=310
N40A **Mertquake, Sal** 49.46 73 P P 00 45 45.0 -0.9
baz=312
K42A **Prairie Point,** 49.48 70 P P 00 45 45.1 -1.0
baz=311
J43A **Natural Harves** 49.61 69 P P 00 45 45.8 -1.2
baz=311
F45A **CMU Biological** 49.71 65 P P 00 45 47.3 -0.4
baz=310
M41A **Milan** 49.73 72 P P 00 45 47.1 -0.8
baz=311
D46A **Sault St. Mari** 49.73 63 P P 00 45 47.3 -0.6
baz=310
N41A **Harden Midland** 49.99 73 P P 00 45 48.7 -1.2
baz=312
TXAR **Lajitas Array** 50.35 93 P P 00 45 53.0 +0.1
comp=Z,7.7nm,0.7s,baz=299,slow=5.4,SNR=101
TXAR LR LR 01 05 17.7
comp=Z,95nm,19.6s,baz=0.0,slow=34
TUL1 **Leonard** 50.36 81 P P 00 45 52.4 -0.5
baz=314
O41A **Passleys Farm,** 50.37 74 P P 00 45 51.6 -1.2
baz=312,SNR=15
N42A **Yates City** 50.37 72 P P 00 45 51.7 -1.1
baz=312
ABTX **Abilene, Hawle** 50.38 87 P P 00 45 52.5 -0.5
baz=316
P41A **Barry, Barry** 50.56 74 P P 00 45 53.2 -1.1
baz=312,SNR=20
O42A **Bath** 50.77 73 P P 00 45 55.2 -0.6
baz=312
N43A **Stutzman Famil** 50.79 72 P P 00 45 55.1 -0.9
baz=312
Q41A **Truxton** 50.95 75 P P 00 45 56.0 -1.2
baz=313,SNR=22
HDIL **Hopedale** 50.98 72 eP P 00 45 56.6 -0.8
comp=Z,45nm,0.7s
HDIL **Hopedale** 50.98 72 P P 00 45 56.4 -1.0
baz=312,SNR=7.0
P42A **Winchester** 51.03 74 P P 00 45 56.5 -1.3
baz=313,SNR=11
MATQ **Matagami** 51.17 56 P P 00 45 57.6 -1.1
baz=310
R41A **Rosebud** 51.30 76 P P 00 45 58.2 -1.7
baz=313,SNR=17
Q42A **Golden Eagle** 51.37 75 P P 00 45 59.4 -1.0
baz=313,SNR=28
P43A **Skaggs, Pawnee** 51.46 73 P P 00 45 59.3 -1.7
baz=313,SNR=6.9
TLY **Talaya** 51.51 307 ciP P 00 46 01.2 -0.1
TLY pmax pmax
comp=Z,24nm,0.9s
CCM **Cathedral Cave** 51.55 76 eP P 00 45 59.7 -2.0
comp=Z,56nm,0.8s
CCM **Cathedral Cave** 51.55 76 eP P 00 45 59.7 -2.0
CCM pmax pmax
comp=Z,56nm,0.8s
CCM **Cathedral Cave** 51.55 76 P P 00 45 60.0 -1.7
baz=313
S41A **Jillco Farms,** 51.58 77 P P 00 45 59.7 -2.2
baz=314,SNR=19
R42A **Luebbering** 51.65 75 P P 00 46 00.8 -1.7
baz=313
O44A **Mansfield** 51.72 72 P P 00 46 00.7 -2.3
baz=313
U40A **Yellville** 51.78 79 P P 00 46 01.5 -1.9
baz=314,SNR=13
JCT **Junction City** 51.82 89 eP P 00 46 03.5 -0.4
comp=Z,8.1nm,0.7s
JCT **Junction City** 51.82 89 eP P 00 46 03.5 -0.4
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT **Junction City** 51.82 89 P P 00 46 03.4 -0.4
baz=317
Q43A **New Douglas** 51.83 74 P P 00 46 02.6 -1.2
baz=313,SNR=14
LSQQ **Lebel-sur-Quev** 51.95 57 P P 00 46 03.7 -0.9
baz=311
S42A **Caledonia** 52.00 76 P P 00 46 03.4 -1.7
baz=314
D51A **Lot 18 Range I** 52.04 60 P P 00 46 04.2 -1.0
baz=311
W39A **Magazine** 52.04 80 P P 00 46 04.4 -0.9
baz=315
O45A **Potomac** 52.07 71 P P 00 46 04.0 -1.6
baz=313
P44A **Sand Creek, Wi** 52.09 73 P P 00 46 04.5 -1.2
baz=313,SNR=9.4
R43A **Red Bud** 52.15 75 P P 00 46 04.9 -1.3
baz=313,SNR=12
Q44A **Meyer Farm, Va** 52.25 74 P P 00 46 05.6 -1.3
baz=313
U41A **Viola** 52.33 78 P P 00 46 05.9 -1.7
baz=314
SFIN **Lafayette** 52.34 71 P P 00 46 06.6 -0.9
baz=313
T42A **Van Buren** 52.34 77 P P 00 46 05.2 -2.4
baz=314
ULN **Ulaanbaatar** 52.34 302 eP P 00 46 07.5 -0.2
comp=Z,11nm,0.8s
ULN **Ulaanbaatar** 52.34 302 ceP P 00 46 07.3 -0.4
ULN pmax pmax
comp=Z,11nm,0.8s
ZAK **Zakamensk** 52.54 306 eP P 00 46 08.6 -0.4
ZAK pmax pmax
comp=Z,2.0nm,0.9s
P45A **Graceland, Par** 52.55 72 P P 00 46 08.2 -0.9
baz=313
S43A **Fulton Ridge,** 52.55 75 P P 00 46 07.8 -1.4
baz=314,SNR=21
MIAR **Mount Ida** 52.61 81 eP P 00 46 09.1 -0.6
comp=Z,4.6nm,0.7s
MIAR **Mount Ida** 52.61 81 eP P 00 46 09.1 -0.6
MIAR pmax pmax
comp=Z,5.0nm,0.7s
MIAR **Mount Ida** 52.61 81 P P 00 46 09.3 -0.4
baz=315
R44A **Waltonville** 52.66 74 P P 00 46 08.4 -1.6
baz=314,SNR=9.4
CHGQ **Chibougamau** 52.67 54 P P 00 46 08.7 -1.2
baz=312
SONM **Songino Array** 52.70 302 P P 00 46 09.9 -0.3
comp=Z,4.3nm,0.7s,baz=34,slow=7.9,SNR=26
SONM PcP PcP 00 47 19.7 +0.2
comp=Z,2.5nm,0.7s,baz=61,slow=2.0,SNR=7.6
SONM LR LR 01 08 41.2
comp=Z,159nm,22.0s,baz=58,slow=36
BMRO **Meriville Lake** 52.73 63 P P 00 46 08.8 -1.6
baz=312
Q45A **Warren Harvey,** 52.74 73 P P 00 46 09.6 -1.0
baz=314,SNR=7.5
T43A **Greenville** 52.77 76 P P 00 46 09.0 -1.8
baz=314,SNR=20
N47A **Urbana** 52.78 70 P P 00 46 09.2 -1.6
baz=313
P46A **Rosedale** 52.79 72 P P 00 46 10.2 -0.7
baz=313
SCHQ **Schefferville** 52.82 46 P P 00 46 10.9 0.0
comp=Z,3.7nm,0.4s,baz=322,slow=6.2,SNR=21
SCHQ LR LR 01 10 12.2
comp=Z,253nm,20.1s,baz=336,slow=38
BASO **Ashfield** 52.88 64 P P 00 46 09.9 -1.6
baz=312
S44A **Carbondale** 52.94 75 P P 00 46 10.5 -1.5
baz=314,SNR=9.2
O47A **Sheridan** 52.95 70 P P 00 46 09.8 -2.3
baz=313
W41B **Gary Mavity, V** 52.95 79 P P 00 46 10.6 -1.5
baz=315
R45A **Skylar, Fairfi** 53.09 74 P P 00 46 12.0 -1.1
baz=314,SNR=10
N48A **Decatur** 53.17 69 P P 00 46 12.5 -1.2
baz=313

T44A	**Benton**	53.17	76	P		P	00 46 12.2	-1.5
	baz=314,SNR=7.3							
S45A	**Carrier Mills**	53.34	74	P		P	00 46 13.8	-1.2
	baz=314							
E53A	**Dumoine, Ponti**	53.39	60	P		P	00 46 14.5	-0.8
	baz=312							
H52A	**Wyevale**	53.40	62	P		P	00 46 14.0	-1.3
	baz=313							
SCO	**Scoresbysund**	53.40	14	*i* P		P	00 46 15.4	+0.4
	comp=Z,4,8nm,0.7s							
SCO	**Scoresbysund**	53.40	14	*i* P		P	00 46 15.4	+0.4
SCO				pmax		pmax		
	comp=Z,5.0nm,0.7s							
P47A	**Martinsville**	53.41	71	P		P	00 46 13.9	-1.6
	baz=314,SNR=6.2							
O48A	**Farmland**	53.51	70	P		P	00 46 14.2	-2.0
	baz=313,SNR=5.8							
N49A	**Columbus Grove**	53.59	68	P		P	00 46 15.5	-1.3
	baz=313							
E54A	**Lac Daplat, Po**	53.59	59	P		P	00 46 15.4	-1.3
	baz=313							
Q47A	**Bedord North L**	53.70	72	P		P	00 46 16.0	-1.6
	baz=314,SNR=6.3							
T45A	**Paducah**	53.76	75	P		P	00 46 17.1	-0.9
	baz=314							
S46A	**Don Dixon Farm**	53.83	74	P		P	00 46 17.1	-1.4
	baz=314							
K51A	**Iona Station**	53.83	65	P		P	00 46 16.8	-1.7
	baz=313							
P48A	**Milroy**	53.90	71	P		P	00 46 17.5	-1.6
	baz=314							
PEMO	**Pembroke**	54.08	60	P		P	00 46 19.7	-0.5
	baz=313							
R47A	**Wooly Knot Far**	54.08	72	P		P	00 46 19.4	-1.0
	baz=314							
Q48A	**North Vernon**	54.09	71	P		P	00 46 19.6	-0.9
	baz=314							
BANO	**Bancroft**	54.17	61	P		P	00 46 20.0	-1.0
	baz=313							
T46A	**Princeton**	54.17	74	P		P	00 46 20.1	-0.9
	baz=314,SNR=10.0							
P49A	**Miami Univ. Ec**	54.25	70	P		P	00 46 20.0	-1.6
	baz=314							
WCI	**Wyandotte Cave**	54.26	72	P		P	00 46 20.1	-1.5
	baz=314							
S47A	**Hartford**	54.37	73	P		P	00 46 21.3	-1.2
	baz=314							
O50A	**Cable**	54.44	69	P		P	00 46 21.4	-1.5
	baz=314							
U46A	**Springville**	54.49	75	P		P	00 46 22.4	-1.0
	baz=315,SNR=13							
Q49A	**Aurora**	54.51	71	P		P	00 46 21.8	-1.7
	baz=314							
DRCO	**St. Marys Ceme**	54.54	62	P		P	00 46 21.1	-2.5
	baz=313							
G55A	**Calabogie**	54.64	60	P		P	00 46 22.8	-1.5
	baz=313							
T47A	**Sharon Grove**	54.66	74	P		P	00 46 23.6	-1.1
	baz=315,SNR=12							
HHC	**Hu-ho-hao-te**	54.69	293	*e*P		P	00 46 26.8	+1.9
HHC				pP		pP	00 46 40.8	+2.4
HHC				S		**S**	**00 54 04.8**	**+3.4**
HHC				sS		sS	00 54 28.4	+4.7
HHC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,200nm,7.7s							
HHC				LR		LR		
	comp=N,170nm,17.3s							
HHC				LR		LR		
	comp=E,180nm,17.6s							
HHC				LR		LR		
	comp=Z,210nm,18.1s							
P50A	**Jamestown**	54.71	69	P		P	00 46 23.4	-1.5
	baz=314							
S48A	**Wiedeman Farm,**	54.79	73	P		P	00 46 24.2	-1.4
	baz=315,SNR=9.2							
WVT	**Waverly**	54.85	75	P		P	00 46 25.4	-0.6
	baz=315							
V46A	**Holladay**	54.91	76	P		P	00 46 25.4	-1.0
	baz=315,SNR=16							
U47A	**Clarksville**	54.94	75	P		P	00 46 25.4	-1.3
	baz=315							
T48A	**Bowling Green**	54.98	73	P		P	00 46 25.8	-1.2
	baz=315							
J54A	**Appleton**	54.99	63	P		P	00 46 25.7	-1.2
	baz=314							
O51A	**Pataskala**	55.00	68	P		P	00 46 25.8	-1.2
	baz=314							
OXF	**Oxford**	55.07	78	*e*P		P	00 46 26.8	-0.8
	comp=Z,58nm,0.6s							
OXF	**Oxford**	55.07	78	*e*P		P	00 46 26.8	-0.8
OXF				pmax		pmax		
	comp=Z,58nm,0.6s							
OXF	**Oxford**	55.07	78	P		P	00 46 26.6	-1.0
	baz=316,SNR=12							
Q50A	**Georgetown**	55.14	70	P		P	00 46 27.1	-0.9
	baz=314							
S49A	**Springfield**	55.14	72	P		P	00 46 27.1	-1.0
	baz=315							
W46A	**Michie**	55.23	76	P		P	00 46 27.6	-1.1
	baz=315,SNR=5.3							
V47A	**Nunnelly**	55.24	75	P		P	00 46 27.4	-1.4
	baz=315,SNR=8.2							
ALFO	**Alfred**	55.32	59	P		P	00 46 28.1	-1.1
	baz=314							
U48A	**Cassie Pea, Po**	55.32	74	P		P	00 46 28.5	-0.9
	baz=315,SNR=13							
H56A	**Elgin**	55.33	60	P		P	00 46 28.2	-1.0
	baz=314							
R50A	**Paris**	55.34	71	P		P	00 46 28.4	-1.1
	baz=315							
Q51A	**Peebles**	55.37	70	P		P	00 46 28.9	-0.8
	baz=314							
O52A	**Adamsville**	55.44	68	P		P	00 46 29.6	-0.6
	baz=314							
T49A	**Edmonton**	55.48	73	P		P	00 46 29.3	-1.2
	baz=315,SNR=5.5							
X46A	**Booneville**	55.52	77	P		P	00 46 29.5	-1.3
	baz=316							
W47A	**Westpoint**	55.60	76	P		P	00 46 30.1	-1.3
	baz=316,SNR=6.7							
V48A	**Smith Brothers**	55.70	75	P		P	00 46 31.0	-1.1
	baz=315							
S50A	**Richmond**	55.72	72	P		P	00 46 30.9	-1.3
	baz=315							
R51A	**Hillsboro**	55.74	70	P		P	00 46 31.3	-1.1
	baz=315,SNR=11							
U49A	**Red Boiling Sp**	55.75	73	P		P	00 46 31.4	-1.1
	baz=315							
N54A	**Moraine State**	55.87	66	P		P	00 46 32.1	-1.1
	baz=314							
T50A	**Nancy**	55.93	72	P		P	00 46 32.4	-1.4
	baz=315,SNR=6.7							
X47A	**Russelville**	55.97	77	P		P	00 46 32.8	-1.3
	baz=316							
W48A	**Pulaski**	56.06	75	P		P	00 46 33.2	-1.5
	baz=316,SNR=6.4							
P53A	**Whipple**	56.13	68	P		P	00 46 33.9	-1.3
	baz=315							
LONY	**Lake Ozonia**	56.17	59	P		P	00 46 34.3	-1.1
	baz=314							
M55A	**Ridgway**	56.17	65	P		P	00 46 34.5	-0.9
	baz=315							
O54A	**Avella**	56.20	67	P		P	00 46 34.4	-1.2
	baz=315							
V49A	**McMinnville**	56.21	74	P		P	00 46 34.4	-1.4
	baz=316,SNR=5.7							
R52A	**Catlettsburg**	56.24	70	P		P	00 46 34.7	-1.2
	baz=315							
U50A	**Jamestown**	56.35	73	P		P	00 46 35.6	-1.2
	baz=315							
W49A	**Belvidere**	56.46	75	P		P	00 46 36.4	-1.1
	baz=316							
T51A	**Gray**	56.48	72	P		P	00 46 36.2	-1.5
	baz=315,SNR=7.2							
X48A	**Hartselle**	56.49	76	P		P	00 46 36.0	-1.8
	baz=316,SNR=6.7							
Q53A	**Leroy**	56.49	69	P		P	00 46 36.4	-1.4
	baz=315							
N55A	**Marion Center**	56.54	65	P		P	00 46 36.2	-1.8
	baz=315							
P54A	**Burton**	56.55	67	P		P	00 46 36.8	-1.4
	baz=315							
R53A	**Hurricane**	56.63	69	P		P	00 46 37.8	-0.9
	baz=315							
V50A	**Pikevile**	56.74	74	P		P	00 46 38.0	-1.5
	baz=316,SNR=5.4							
O55A	**Ligonier**	56.77	66	P		P	00 46 38.8	-0.9
	baz=315							
Q54A	**Coxs Mills**	56.79	68	P		P	00 46 38.9	-0.9
	baz=315							
Y48A	**Jasper**	56.80	77	P		P	00 46 38.0	-2.0
	baz=316,SNR=5.9							
U51A	**La Follette**	56.85	72	P		P	00 46 39.0	-1.3
	baz=316							
MCWV	**Mont Chateau**	56.86	67	P		P	00 46 39.3	-1.1
	baz=315							
X49A	**Woodville**	56.86	76	P		P	00 46 38.7	-1.7
	baz=316,SNR=9.1							
ARCES	**ARCESS Array B**	56.87	355	P		P	00 46 38.8	-1.2
	comp=Z,8.4nm,0.8s,baz=7.4,slow=7.1,SNR=13							
ARCES				PcP		PcP	00 47 34.9	0.0
	comp=Z,2.8nm,0.9s,baz=11,slow=5.1,SNR=5.0							
T52A	**Hallie**	56.92	71	P		P	00 46 39.8	-1.0
	baz=316							
W50A	**Signal Mountai**	56.95	74	P		P	00 46 39.7	-1.4
	baz=316,SNR=5.1							
P55A	**Reedsville**	56.97	67	P		P	00 46 39.3	-1.9
	baz=315							
TZTN	**Tazewell**	57.00	72	P		P	00 46 40.1	-1.3
	baz=316							
147A	**Livingston**	57.05	78	P		P	00 46 40.9	-0.9
	baz=317							
V51A	**Loudon**	57.07	73	P		P	00 46 40.1	-1.7
	baz=316							
O56A	**Blue Knob Stat**	57.12	65	P		P	00 46 41.4	-0.8
	baz=315							
BINY	**Binghamton**	57.14	62	P		P	00 46 41.2	-1.1
	baz=315							
Q55A	**Buckhannon**	57.20	68	P		P	00 46 42.2	-0.5
	baz=315							
U52A	**Thorn Hill**	57.21	72	P		P	00 46 42.1	-0.8
	baz=316							
SSPA	**Standing Stone**	57.23	65	P		P	00 46 42.2	-0.8
	baz=315							
T53A	**Wise**	57.26	71	P		P	00 46 42.1	-1.2
	baz=316							
R54A	**Victor**	57.27	69	P		P	00 46 42.2	-1.1
	baz=316							
Y49A	**Blount Mountai**	57.28	76	P		P	00 46 41.3	-2.1
	baz=316,SNR=6.3							
X50B	**Fort Payne**	57.28	75	P		P	00 46 41.4	-2.0
	baz=316,SNR=6.3							
W51A	**Cleveland**	57.29	74	P		P	00 46 42.1	-1.4
	baz=316							
V52A	**Sevierville**	57.47	73	P		P	00 46 43.0	-1.7
	baz=316,SNR=5.3							
TKL	**Tuckaleechee C**	57.50	73	P		P	00 46 42.8	-2.1
	comp=Z,4.6nm,0.5s,baz=354,slow=4.7,SNR=14							
LRAL	**Lakeview Retre**	57.53	77	*e*P		P	00 46 43.3	-1.8
	comp=Z,8.7nm,0.7s							
LRAL	**Lakeview Retre**	57.53	77	P		P	00 46 43.2	-1.9
	baz=317							
Y50A	**Piedmont**	57.65	76	P		P	00 46 44.1	-1.8
	baz=316,SNR=5.0							
X51A	**Calhoun**	57.66	74	P		P	00 46 45.2	-0.9
	baz=316							
U53A	**Fall Branch**	57.67	71	P		P	00 46 44.9	-1.2
	baz=316							
Z49A	**Columbiana**	57.69	77	P		P	00 46 44.2	-2.0
	baz=317,SNR=5.5							
T54A	**Tazewell**	57.74	70	P		P	00 46 44.9	-1.8
	baz=316							
W52A	**Murphy**	57.82	73	P		P	00 46 45.7	-1.5
	baz=316							
S55A	**Lewisburg**	57.83	69	P		P	00 46 46.4	-0.8
	baz=316							
149A	**Jones**	57.97	77	P		P	00 46 46.7	-1.5
	baz=317,SNR=11							
U54A	**Nelsons Funny**	57.99	71	P		P	00 46 46.6	-1.9
	baz=316							
Z50A	**Ashland**	57.99	76	P		P	00 46 46.7	-1.8
	baz=317,SNR=6.4							
Y51A	**Rockmart**	58.02	75	P		P	00 46 46.3	-2.4
	baz=316							
V53A	**Saluda**	58.04	72	P		P	00 46 47.5	-1.2
	baz=316							
ZALV	**Zalesovo Beam**	58.08	319	P		P	00 46 47.6	-1.0
	comp=Z,1.0nm,0.3s,baz=47,slow=6.8,SNR=9.9							
ZALV				PcP		PcP	00 47 39.6	-0.3
	comp=Z,2.3nm,0.5s,baz=41,slow=4.0,SNR=9.2							
ZALV				LR		LR	01 13 07.4	
	comp=Z,195nm,20.9s,baz=69,slow=38							
T55A	**Pulaski**	58.14	70	P		P	00 46 48.7	-0.7
	baz=316							
N59A	**State Game Lan**	58.16	63	P		P	00 46 48.9	-0.6
	baz=316							
X52A	**Dalonega**	58.19	74	P		P	00 46 48.2	-1.6
	baz=316,SNR=5.6							
W53A	**Cullowhee**	58.20	73	P		P	00 46 48.6	-1.4
	baz=316							
BLA	**Blacksburg**	58.28	69	*e*P		P	00 46 49.9	-0.5
	comp=Z,22nm,1.0s							
BLA	**Blacksburg**	58.28	69	*e*P		P	00 46 49.9	-0.5
BLA				pmax		pmax		
	comp=Z,21nm,1.0s							
BLA	**Blacksburg**	58.28	69	P		P	00 46 49.3	-1.1
	baz=316							
150A	**Eclectic**	58.41	77	P		P	00 46 49.6	-1.7
	baz=317							
U55A	**TA2, Sparta**	58.44	70	P		P	00 46 50.6	-1.0
	baz=316							
V54A	**Nebo**	58.45	71	P		P	00 46 50.2	-1.4
	baz=316							
X53A	**Estanollee**	58.60	73	P		P	00 46 50.9	-1.7
	baz=317							
T56A	**Rocky Mt**	58.62	69	P		P	00 46 51.9	-0.9
	baz=316							
Y52A	**Lilburn**	58.63	74	P		P	00 46 51.8	-1.0
	baz=317							
349A	**Repton**	58.64	79	P		P	00 46 51.9	-1.0
	baz=317							
250A	**Grady**	58.72	78	P		P	00 46 52.9	-0.6
	baz=317							
V55A	**Taylorsville**	58.81	71	P		P	00 46 52.9	-1.2
	baz=316							
W54A	**Cherokee Point**	58.81	72	P		P	00 46 52.8	-1.3
	baz=317							
151A	**Opelika**	58.87	76	P		P	00 46 52.5	-2.0
	baz=317							
Y53A	**Monroe**	58.91	74	P		P	00 46 53.1	-1.7
	baz=317							
Z52A	**Williamson**	58.91	75	P		P	00 46 53.3	-1.5
	baz=317							
T57A	**Hurt**	59.08	69	P		P	00 46 55.3	-0.7
	baz=316							
X54A	**Belton**	59.09	73	P		P	00 46 54.7	-1.4
	baz=317							
GOGA	**Godfrey**	59.30	74	P		P	00 46 55.8	-1.6
	baz=317							
Z53A	**Monticello**	59.33	75	P		P	00 46 55.7	-2.0
	baz=317							
Y54A	**Tignall**	59.41	73	P		P	00 46 56.8	-1.4
	baz=317							
X55A	**Gracelyn & Ava**	59.57	72	P		P	00 46 58.1	-1.2
	baz=317							
W56A	**Indian Trail**	59.68	71	P		P	00 46 59.5	-0.6
	baz=317							
Z54A	**Sparta**	59.78	74	P		P	00 46 59.1	-1.6
	baz=317							
Y55A	**Saluda**	59.83	73	P		P	00 46 58.7	-2.5
	baz=317							
352A	**Blakely**	59.86	77	P		P	00 46 59.7	-1.7
	baz=318							
X56A	**White Oak**	59.90	72	P		P	00 47 00.3	-1.2
	baz=317							
W57A	**Gilead**	60.00	71	P		P	00 47 00.6	-1.7
	baz=317							
X57A	**Johnson Farm,**	60.45	71	P		P	00 47 04.7	-0.7
	baz=317							
V59A	**Middlesex**	60.53	69	P		P	00 47 05.3	-0.6
	baz=317							
Y57A	**Sumter**	60.60	72	P		P	00 47 05.5	-0.9
	baz=317							
Z57A	**Bowman**	60.95	73	P		P	00 47 07.8	-1.0
	baz=318							
Y58A	**Scranton**	61.10	71	P		P	00 47 09.5	-0.2
	baz=318							
NHSC	**New Hope**	61.39	72	P		P	00 47 10.7	-1.1
	baz=318							
GTA	**Gaotai**	62.01	299	*e*P		P	00 47 15.5	-0.5
GTA				pP		pP	00 47 20.3	-9.4
GTA				sP		sP	00 47 23.1	-12
GTA				pmax		pmax		
	comp=Z,13nm,0.6s							
556A	**Lake Butler**	62.41	76	P		P	00 47 18.0	-0.6
	baz=318							
557A	**Orange Park**	62.79	76	P		P	00 47 20.3	-0.8
	baz=319							
KURK	**Kurchatov**	62.98	320	⇓*e*P		P	00 47 22.3	+0.2
KURK				pmax		pmax		
	comp=Z,9.0nm,1.8s							
BVAR	**Borovoye Array**	64.02	326	LR		LR	01 18 03.3	
	comp=Z,163nm,19.8s,baz=34,slow=39							
BRVK	**Borovoye**	64.03	326	*e*P		P	00 47 28.7	-0.3
	comp=Z,4.7nm,0.7s							
BRVK	**Borovoye**	64.03	326	⇑*e*P		P	00 47 29.4	+0.4
BRVK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
ARU	**Arti**	64.54	335	*c i*P		P	00 47 32.1	-0.2
ARU				*PP		pP	00 47 45.6	-0.4
ARU							00 48 05.1	
ARU							00 49 51.0	
ARU				S		S	00 56 08.5	+1.0
ARU				pmax		pmax		
	comp=Z,3.0nm,0.7s							
WMQ	**Urumqi**	64.61	310	*e*P		P	00 47 36.3	+3.3
WMQ				LR		LR		
	comp=N,220nm,21.9s							
WMQ				LR		LR		
	comp=E,180nm,22.9s							
WMQ				LR		LR		
	comp=Z,260nm,22.9s							
MKAR	**Makanchi Array**	64.64	315	P		P	00 47 32.1	-1.1
	comp=Z,1.1nm,0.4s,baz=49,slow=6.9,SNR=36							
MKAR				LR		LR	01 17 05.5	
	comp=Z,200nm,20.3s,baz=20,slow=37							
FINES	**FINESS Array B**	64.89	354	*i* P		P	00 47 33.5	-1.0
FINES				pmax		pmax		
	comp=Z,7.0nm,0.7s							
FINES	**FINESS Array B**	64.89	354	P		P	00 47 33.6	-0.8
	comp=Z,7.3nm,0.7s,baz=27,slow=5.9,SNR=26							
FINES				LR		LR	01 19 03.7	
	comp=Z,113nm,18.1s,baz=20,slow=39							
NB2	**NORSAR Subarra**	65.62	2	P		P	00 47 39.0	-0.3
	comp=Z,2.6nm,0.5s,baz=359,slow=6.2							
NOA	**NORSAR Array B**	65.62	2	P		P	00 47 39.1	-0.3
	comp=Z,6.0nm,0.7s,baz=359,slow=6.5,SNR=27							
NOA				LR		LR	01 16 57.1	
	comp=Z,54nm,20.4s,baz=350,slow=37							
TAOE	**Nuku Hiva Isla**	65.84	153	*e*T		T	01 59 20.7	
	comp=Z,37nm,0.2s							
CD2	**Chengdu**	66.24	290	⇓P		P	00 47 44.3	+0.5
CD2				pmax		pmax		
	comp=Z,50nm,0.8s							
CD2				pmax		pmax		
	comp=Z,280nm,6.0s							
VSU	**Vasula**	67.81	353	⇑*e*P		P	00 47 53.7	+0.5
PMOR	**Pomariorio Ree**	70.00	162	*e*T		T	02 04 33.0	
	comp=Z,23nm,0.2s							
AKTO	**Aktyubinsk**	70.06	332	LR		LR	01 21 02.5	
	comp=Z,35nm,18.9s,baz=26,slow=38							
AAK	**Ala-Archa**	71.23	318	*e*P		P	00 48 14.4	-0.4
	comp=Z,1.9nm,0.8s							
AAK	**Ala-Archa**	71.23	318	⇓*e*P		P	00 48 15.6	+0.8
AAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
PPT	**Papeete**	72.22	164	LR		LR	01 11 43.3	
	comp=Z,294nm,20.8s,baz=354,slow=29							
PPT2	**Papeete2**	72.24	164	*e*LR		LR	01 10 23.2	
	comp=Z,345nm,23.5s							
KSH	**Kashi**	73.24	315	P		P	00 48 29.4	+2.6
KSH				sP		sP	00 48 46.5	+0.2
KSH				S		S	00 57 50.6	-0.7
KSH				pmax		pmax		
	comp=Z,9.0nm,1.1s							
KSH				pmax		pmax		
	comp=Z,110nm,4.3s							
VSR	**Storozhevoye**	73.49	344	⇓*e*P		P	00 48 27.0	-0.9
VSR				pmax		pmax		
	comp=Z,6.0nm,0.5s							
LSA	**Lhasa**	74.02	298	*e*P		P	00 48 32.3	+0.4
	comp=Z,17nm,0.8s							
LSA	**Lhasa**	74.02	298	*e*P		P	00 48 32.3	+0.4
LSA				pmax		pmax		
	comp=Z,17nm,0.8s							
AKASG	**Malin Array Be**	75.30	350	P		P	00 48 37.4	-1.0
	comp=Z,6.2nm,0.5s,baz=15,slow=6.0,SNR=22							
AKASG				LR		LR	01 26 59.6	
	comp=Z,97nm,18.6s,baz=315,slow=40							
KIEV	**Kiev**	75.31	350	*e*P		P	00 48 37.4	-1.0
	comp=Z,9.4nm,0.8s							
KIEV	**Kiev**	75.31	350	⇑*i*P		P	00 48 37.7	-0.7
KIEV	**Kiev**	75.31	350	⇓*e*P		P	00 48 37.2	-1.2
KIEV				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CLL	**Collm**	75.40	1	*i* P		P	00 48 39.2	+0.2
	comp=Z,6.0nm,1.0s							
CLL				L		L	01 18 00.0	
	comp=Z,100nm,19.9s							
CLL	**Collm**	75.40	1	*i* P		P	00 48 39.2	+0.2
CLL				pmax		pmax		
	comp=Z,6.0nm,1.0s							
BRG	**Berggiesshubel**	75.84	0	*e*(P)		P	00 48 42.4	+0.9
	comp=Z,6.9nm,1.1s							
BRG	**Berggiesshubel**	75.84	0	*e*P		P	00 48 42.4	+0.9
BRG				pmax		pmax		
	comp=Z,7.0nm,1.1s							
MEM	**Membach**	75.86	6	⇑P		P	00 48 41.8	+0.2
BCLA	**Clavier**	76.00	6	⇑P		P	00 48 43.3	+0.9
DOU	**Dourbes**	76.28	7	⇑P		P	00 48 45.0	+1.0
DPC	**Dobruska-Polom**	76.36	359	*e*P		P	00 48 45.2	+0.7
DPC	**Dobruska-Polom**	76.36	359	*e*P		P	00 48 45.2	+0.7
NKC	**Novy Kostel**	76.47	1	*e*P		P	00 48 45.5	+0.4
NKC	**Novy Kostel**	76.47	1	*e*P		P	00 48 45.5	+0.4
KRLC	**Kraliky**	76.63	359	*e*P		P	00 48 48.0	+2.0
KRLC	**Kraliky**	76.63	359	*e*P		P	00 48 48.0	+2.0
PRU	**Pruhonice**	76.73	0	*e*P		P	00 48 47.0	+0.4
PRU	**Pruhonice**	76.73	0	*e*P		P	00 48 47.0	+0.4
WLF	**Walferdange**	76.81	6	⇓P		P	00 48 47.4	+0.4
SKNT	**Sakolnakorn**	76.90	281	P		P	00 48 48.3	+0.3
MORC	**Moravsky Berou**	76.92	358	⇑*i*P		P	00 48 48.3	+0.6
VRAC	**Vranov**	77.40	359	⇓*i*P		P	00 48 51.3	+1.0
KHC	**Kasperske Hory**	77.59	1	*e*P		P	00 48 52.3	+0.9
KHC	**Kasperske Hory**	77.59	1	*e*P		P	00 48 52.3	+0.9
GERES	**GERESS Array B**	77.87	1	P		P	00 48 53.4	+0.2
	comp=Z,1.4nm,0.7s,baz=15,slow=5.5,SNR=6.1							
TBI	**Tubuai**	77.91	165	*e*LR		LR	01 13 04.6	
	comp=Z,318nm,27.5s							
VYHS	**Vyhne**	78.17	357	*e*P		P	00 48 55.4	+0.8
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
VYHS	**Vyhne**	78.17	357	*e*P		P	00 48 55.4	+0.8
GUN	**Gumba**	78.19	301	*e*P		P	00 48 55.4	-0.1
	comp=Z,27nm,0.4s							
JIRN	**Jiri**	78.23	301	*e*P		P	00 48 55.9	+0.1
	comp=Z,64nm,0.4s							
MODS	**Modra-Piesok**	78.32	358	*e*P		P	00 48 57.1	+1.6
MODS	**Modra-Piesok**	78.32	358	*e*P		P	00 48 57.1	+1.6
TRPA	**Tarpa**	78.37	355	⇑*i*P		P	00 48 56.1	+0.4
KKN	**Kakani**	78.59	301	*e*P		P	00 48 57.5	-0.1
	comp=Z,15nm,0.4s							
RAMN	**Ramite**	78.60	300	*e*P		P	00 48 57.4	-0.3
	comp=Z,46nm,0.8s							
CMAR	**Chiang Mai Arr**	78.65	286	P		P	00 48 58.0	+0.3
	comp=Z,3.5

	comp=Z,26nm,0.7s							
SQTA	**Sankt Quirin**	**79.46**	**2**	*e*P		**P**	**00 49 03.0**	**+1.2**
	comp=Z,7.0nm,0.8s							
ARSA	**Arzberg**	**79.47**	**359**	*e*P		**P**	**00 49 02.9**	**+1.1**
	comp=Z,3.5nm,0.8s							
PYUN	**Piuthan**	**79.49**	**303**	*e*P		**P**	**00 49 02.4**	**0.0**
	comp=Z,50nm,0.7s							
KBA	**Koelnbreinsper**	**79.64**	**1**	*e*PcP		**P**	**00 49 04.5**	**+1.6**
	comp=Z,11nm,0.9s							
FETA	**Feichten**	**79.65**	**3**	*i* P		**P**	**00 49 04.5**	**+1.6**
	comp=Z,8.1nm,0.9s							
DRGR		**79.70**	**354**	*i*P		**P**	**00 49 03.4**	**+0.3**
KIV	**Kislovodsk**	**79.84**	**340**	*i*P		**P**	**00 49 05.0**	**+1.0**
KIV	**Kislovodsk**	**79.84**	**340**	*e*P		**P**	**00 49 04.5**	**+0.5**
KIV				pmax	pmax			
	comp=Z,32nm,1.0s							
KIV				MLR	MLR			
	comp=Z,351nm,19.0s							
KBZ	**Khabaz**	**80.02**	**340**	P		**P**	**00 49 05.8**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=301,slow=2.4,SNR=8.5							
KBZ				LR	LR		01 27 57.0	
	comp=Z,146nm,21.6s,baz=4.0,slow=38							
SOKA	**Soboth**	**80.04**	**360**	*i* PcP		**P**	**00 49 06.5**	**+1.5**
	comp=Z,7.6nm,1.0s							
OBKA	**Obir**	**80.21**	**0**	*i* P		**P**	**00 49 07.0**	**+1.1**
	comp=Z,16nm,0.9s							
DOPR	**Dopca**	**80.33**	**352**	*i*P		**P**	**00 49 07.3**	**+0.8**
ZEI	**Tsey**	**80.70**	**339**	*e*P		**P**	**00 49 06.6**	**-2.2**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.6s							
TLCR		**80.79**	**350**	*i*P		**P**	**00 49 09.1**	**+0.2**
VOIR		**80.89**	**353**	*i*P		**P**	**00 49 10.2**	**+0.7**
BZS	**Buzias**	**80.93**	**355**	*i*P		**P**	**00 49 09.7**	**+0.1**
ARR	**Arges**	**80.99**	**353**	*i*P		**P**	**00 49 14.2**	**+4.1**
GZR	**Gura Zlata**	**81.08**	**354**	*i*P		**P**	**00 49 10.9**	**+0.3**
GEYT	**Alibeck**	**81.36**	**327**	P		**P**	**00 49 12.4**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=316,slow=4.1,SNR=7.7							
GEYT				LR	LR		01 30 52.3	
	comp=Z,106nm,18.1s,baz=10.0,slow=40							
BRTR	**Keskin Array B**	**85.56**	**345**	*i* P		**P**	**00 49 34.2**	**+0.4**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BRTR	**Keskin Array B**	**85.56**	**345**	P		**P**	**00 49 34.0**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=49,slow=2.1,SNR=25							
BRTR				LR	LR		01 32 33.4	
	comp=Z,64nm,18.7s,baz=7.5,slow=39							
ESDC	**Sonseca Array**	**85.67**	**14**	P		**P**	**00 49 34.1**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=345,slow=5.0,SNR=9.0							
OTAV	**Otavalo**	**87.97**	**92**	*e*P		**P**	**00 49 45.9**	**-0.3**
	comp=Z,2.8nm,0.8s							
OTAV	**Otavalo**	**87.97**	**92**	*e*P		**P**	**00 49 45.9**	**-0.3**
OTAV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WRA	**Warramunga Arr**	**89.71**	**235**	P		**P**	**00 49 51.7**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=34,slow=5.9,SNR=10							
WRA				LR	LR		01 24 25.9	
	comp=Z,49nm,21.9s,baz=220,slow=32							
HYB	**Hyderabad**	**90.62**	**301**	*i* P		**P**	**00 49 58.0**	**-0.2**
ASAR	**Alice Springs**	**93.09**	**233**	P		**P**	**00 50 08.0**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=39,slow=4.2,SNR=12							
ASAR				LR	LR		01 28 42.3	
	comp=Z,74nm,19.4s,baz=78,slow=33							
STKA	**Stephens Creek**	**96.77**	**223**	LR	LR		01 32 40.6	
	comp=Z,51nm,18.3s,baz=25,slow=35							

PGC 19 00:51:36.8±0.5, 62.19N×137.35W, h1km, ML2.6/11, 160km northeast of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
YUK4	**Talbot Arm**	**1.04**	**217**	P	Pg		00 51 53.8	-3.0
YUK5	**Granite Creek**	**1.08**	**193**	P	Pg		00 51 56.1	-1.4
YUK5				S	Sg		00 52 10.2	-1.3
YUK6	**Outpost Mounta**	**1.34**	**202**	P	Pg		00 52 01.2	-1.2
YUK6				S	Sg		00 52 18.1	-1.6
HYT	**Haines Junctio**	**1.37**	**183**	Pn	Pg		00 52 01.2	-1.7
YUK3	**Moose Creek**	**1.52**	**256**	Pn	Pn		00 52 04.3	-1.0
YUK3				Sg	Sg		00 52 24.0	-1.7
BVCY	**Beaver Creek**	**1.66**	**280**	Pn	Pn		00 52 06.2	-0.8
BVCY				Sg	Sn		00 52 28.9	0.0
YUK2	**White River**	**1.70**	**258**	Pn	Pn		00 52 06.7	-0.9
YUK2				Sg	Sn		00 52 29.7	-0.3
YUK7	**Dusty Glacier**	**1.70**	**193**	Pn	Pn		00 52 07.0	-0.8
YUK7				Sg	Sn		00 52 29.0	-1.4
WHY	**Whitehorse**	**1.94**	**141**	Pn	Pn		00 52 08.7	-2.2
WHY				Sg	Sn		00 52 36.3	+0.4
DAWY	**Dawson**	**2.10**	**335**	Pn	Pn		00 52 11.8	-1.3
DAWY				Sg	Sb		00 52 41.3	-1.1
CTGM	**Chitina Glacie**	**2.27**	**239**	Pn	Pn		00 52 15.3	-0.2
CTGM				Sg	Sb		00 52 48.1	+1.1
PCA	**Pinnacle**	**2.53**	**215**	Sg	Sb		00 52 54.4	-0.1
PTPK	**Patty Peak**	**2.64**	**250**	Pn	Pn		00 52 20.1	-0.5
PTPK				Sg	Sb		00 52 58.8	+1.0
SAMH	**Samovar Hills**	**2.65**	**220**	Pg	Pb		00 52 25.0	0.0
SAMH				Sg	Sb		00 52 58.5	+0.5
BALM	**Baldy**	**2.65**	**246**	Pn	Pn		00 52 20.9	+0.2
BALM				Sg	Sb		00 52 57.9	-0.2
RKAV	**Rock Avalanche**	**2.70**	**227**	Sn	Sn		00 52 54.6	-0.3
KIAG	**Kiagna River**	**2.71**	**244**	Sg	Sb		00 52 21.6	-0.1
KIAG				Sg	Sb		00 52 58.7	-1.2
PNL	**Peninsula**	**2.72**	**203**	Pn	Pn		00 52 21.8	+0.3
PNL				Sn	Sn		00 52 56.1	+1.1
PLBC	**Pleasant Camp**	**2.78**	**170**	Pn	Pn		00 52 21.8	-0.6
PLBC				Sg	Sb		00 53 01.5	-0.2
DOT	**Dot Lake**	**3.40**	**299**	Pn	Pn		00 52 30.4	-0.7
DOT				Sg	Sb		00 53 21.3	+1.6
BESE	**Bessie Mountai**	**3.82**	**160**	Pn	Pn		00 52 36.9	+0.1
BESE				Sg	Sb		00 53 33.6	+1.8
PAX	**Paxson**	**3.84**	**285**	Sg	Sb		00 53 35.2	+3.0
DLBC	**Dease Lake**	**5.23**	**133**	Pn	Pn		00 52 55.6	-0.5
DLBC				Sg	Sg		00 54 18.6	-6.0
INK	**Inuvik**	**6.35**	**13**	Pn	Pn		00 53 09.5	-1.9
INK				Sn	Sn		00 54 18.3	-6.2
FNBB	**Fort Nelson**	**7.80**	**109**	Pn	Pn		00 53 28.8	-2.5
FNBB				Sn	Sn		00 54 54.0	-6.2
DHRN	**Dharma Camp**	**9.05**	**50**	Pn	Pn		00 53 46.5	-1.9
DHRN				Sn	Sn		00 55 24.2	-6.7

*IDC **19** 01:13:22.3±1.3, 45.16N×149.64E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.4/28, mbtmp3.5/5, Error ellipse: s-maj=33.9km s-min=28.6km az=111.0*
*ISCJB **19** 01:13:42.8±1.0, 44.61N±0.10×148.1E±0.1, h138km±6km, mb3.3/5, Error ellipse: s-maj=20.5km s-min=9.5km az=44.5*
*SKHL **19** 01:13:44.6±0.4, 44.52N×148.29E, h115km±2km, mb4.5/4, msh5.1/4*
*JMA **19** 01:13:46.2±0.5, 44.44N×148.00E, h130km, M3.7*
ISC 19 01:13:42.6±1.3, 44.61N±0.10×148.2E±0.1, h140km±7km, n21, σ1°75/29, mb3.4/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**0.66**	**340**	*i* P		**Pn**	**01 14 04.0**	**+0.4**
KUR				AMB	AMB		01 14 05.0	
	140nm,0.3s							
KUR				*i* S		**Sn**	**01 14 18.5**	**-1.2**
KUR				A	A		01 14 19.0	
	240nm,0.3s							
KUR				A	A		01 14 19.0	
	187nm,0.3s							
SHO	**Shikotan**	**1.23**	**233**	*e*P		**Pn**	**01 14 09.0**	**+0.6**
SHO				AMB	AMB		01 14 10.0	
	47nm,0.2s							
SHO				*i* S		**Sn**	**01 14 27.0**	**-1.1**
SHO				A	A		01 14 28.0	
	160nm,0.2s							
SHO				A	A		01 14 28.0	
	200nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.77**	**252**	*i* P		**Pn**	**01 14 15.6**	**+1.3**
YUK				AMB	AMB		01 14 17.0	
	135nm,0.3s							
YUK				*i* S		**Sn**	**01 14 38.9**	**+0.4**
YUK				A	A		01 14 40.0	
	157nm,0.3s							
YUK				A	A		01 14 40.0	
	369nm,0.3s							
GRPR	**Tuman**	**1.84**	**251**	*i* P		**Pn**	**01 14 16.0**	**+0.8**
GRPR				AMB	AMB		01 14 17.0	
	141nm,0.4s							
GRPR				*i* S		**Sn**	**01 14 40.0**	**-0.1**
GRPR				A	A		01 14 41.0	
	250nm,0.5s							
GRPR				A	A		01 14 41.0	
	244nm,0.5s							
NEM2	**Nemuro 2**	**2.16**	**236**	P		**Pn**	**01 14 19.9**	**+0.9**
NEM2				*e*S		**Sn**	**01 14 45.7**	**-1.2**
JRA	**Rausu**	**2.30**	**254**	P		**Pn**	**01 14 22.1**	**+1.4**
JKHN	**Kushirohamanak**	**2.67**	**236**	P		**Pn**	**01 14 26.6**	**+1.3**
JKHN				*e*S		**Sn**	**01 14 57.2**	**-1.0**
JNK	**Nakash**	**2.70**	**249**	P		**Pn**	**01 14 27.3**	**+1.6**
JAK	**Akkeshi**	**3.00**	**239**	P		**Pn**	**01 14 30.6**	**+1.1**
JAK				*e*S		**Sn**	**01 15 04.6**	**-1.1**
JTKR	**Abashiri--Toko**	**3.14**	**260**	P		**Pn**	**01 14 32.3**	**+1.1**
JTKR				*e*S		**Sn**	**01 15 09.5**	**+0.6**
JAR	**Ashorobuto**	**3.45**	**249**	P		**Pn**	**01 14 37.5**	**+2.2**
JKK2	**Kamakawa 2**	**3.98**	**261**	P		**Pn**	**01 14 44.2**	**+2.0**
JCH	**Churui**	**4.03**	**242**	P		**Pn**	**01 14 44.1**	**+1.2**
JCH				*e*S		**Sn**	**01 15 28.5**	**-1.3**
JNBK	**Urakawa-nobuka**	**4.59**	**241**	P		**Pn**	**01 14 50.9**	**+0.6**
JKB	**Kayabe**	**5.89**	**245**	*e*S		**Sn**	**01 16 10.2**	**-3.9**
JOT	**Ohata**	**6.15**	**241**	*e*S		**Sn**	**01 16 15.7**	**-4.6**
SONM	**Songino Array**	**28.84**	**291**	P		**P**	**01 19 28.6**	**+0.9**
	0.3nm,0.4s,baz=79,slow=8.3,SNR=3.7							
ILAR	**Eielson Array**	**40.35**	**37**	P		P	01 20 51.6	-14
	0.2nm,0.9s,baz=260,slow=8.1,SNR=3.1							
MKAR	**Makanchi Array**	**44.85**	**297**	P		**P**	**01 21 42.5**	**-0.1**
	0.9nm,0.8s,baz=73,slow=7.9,SNR=9.8							
FINES	**FINESS Array B**	**64.44**	**333**	P		**P**	**01 24 01.1**	**-2.3**
	1.1nm,0.6s,baz=46,slow=8.2,SNR=6.7							
WRA	**Warramunga Arr**	**65.48**	**194**	P		**P**	**01 24 12.4**	**+1.8**
	0.3nm,1.0s,baz=9.5,slow=6.2,SNR=3.1							

MEX 19 01:15:21.0±0.3, 15.82N×95.93W, h30km±4km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HUIG	**Huatulco**	**0.18**	**254**	*i* P		Pb	01 15 25.6	-1.4
HUIG				*i* S		Sb	01 15 29.4	-1.6
VHO	**Vista Hermosa**	**1.47**	**328**	*i* P		Pn	01 15 43.3	-2.4
VHO				*i* S		Sn	01 16 00.8	-3.1
CMIG	**Matias Romero**	**1.62**	**38**	*i* P		Pn	01 15 45.6	-2.0
CMIG				*i* S		Sn	01 16 04.6	-2.8

MEX 19 01:29:50.7±0.3, 15.63N×93.32W, h110km±4km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PCIG		**0.12**	**53**	*e*P		Pn	01 30 04.7	-1.3
PCIG				*e*S		Sn	01 30 15.3	-2.0
THIG		**1.25**	**125**	*e*P		Pn	01 30 13.9	-0.7
THIG				*i* S		Sn	01 30 31.0	-1.6
CCIG	**Comitan**	**1.31**	**60**	*i* P		Pn	01 30 14.3	-1.2
CCIG				*i* S		Sn	01 30 32.5	-1.8

MEX 19 01:36:47.2±0.4, 15.59N×95.88W, h15km±9km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HUIG	**Huatulco**	**0.28**	**310**	*i* P		Pg	01 36 52.9	-0.4
HUIG				*i* S		Sg	01 36 56.7	-0.6
VHO	**Vista Hermosa**	**1.69**	**331**	*e*P		Pn	01 37 13.7	-2.7
VHO				*i* S		Sn	01 37 33.0	-4.9
CMIG	**Matias Romero**	**1.78**	**33**	*e*P		Pn	01 37 13.5	-4.0
CMIG				*i* S		Sn	01 37 35.5	-4.3
PNIG	**Pinotepa**	**2.30**	**291**	*i* P		Pn	01 37 21.3	-3.3
PNIG				*i* S		Sn	01 37 48.2	-4.6
PCIG		**2.57**	**87**	*i* P		Pn	01 37 25.3	-3.0
PCIG				*i* S		Sn	01 37 55.4	-3.9

UCR 19 01:37:45.2±1.7, 13.57N×91.42W, h22km±13km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FUG	**Fuego 3**	**1.04**	**32**	*e*P		Pb	01 38 04.5	-0.1
IXG	**Ixpaco**	**1.12**	**58**	*e*P		Pn	01 38 05.1	-0.7
PCG	**Pacaya**	**1.13**	**44**	*e*P		Pb	01 38 06.2	-0.1
NBG	**Las Nubes**	**1.45**	**46**	*e*P		Pb	01 38 11.4	-0.3
NBG				*e*S		Sb	01 38 30.6	+0.8
RTR	**El Retiro**	**1.75**	**79**	*e*P		Pn	01 38 14.4	-0.1
RTR				*e*S		Sn	01 38 35.9	-0.3
SBLS	**San Blas**	**1.76**	**81**	*e*P		Pn	01 38 14.3	-0.4
SNJE	**San Jose**	**1.78**	**80**	*e*P		Pn	01 38 14.7	-0.2
LFU	**La Fuente**	**2.25**	**85**	*e*P		Pn	01 38 21.8	+0.6
LFRS	**El Faro**	**2.29**	**88**	*e*P		Pn	01 38 22.7	+0.9
LFRS				*e*S		Sn	01 38 50.6	+1.1
TECA	**Tecapa**	**2.83**	**91**	*e*P		Pn	01 38 31.2	+1.9

*ISCJB **19** 01:47:12.1±0.3, 23.11N±0.03×101.10E±0.03, h10km, mb4.2/24, MS3.5/14, Error ellipse: s-maj=4.4km s-min=3.6km az=161.1*
*IDC **19** 01:47:12.2±0.7, 23.13N×101.19E, h0km, mb3.8/12, mb1 4.0/13, mb1mx3.7/57, mbtmp3.8/13, ML3.8/1, MS3.4/14, Ms1 3.4/14, ms1mx3.2/40, Error ellipse: s-maj=25.3km s-min=13.2km az=82.0*
*NEIC **19** 01:47:13.9±2.8, 23.11N×101.14E, h10km±2km, mb4.3/15, Error ellipse: s-maj=13.0km s-min=10.5km az=65.0*
*PLV **19** 01:47:15.8±2.2, 23.53N×101.48E, h7km±29km, ML3.7*
*BJI **19** 01:47:15.0, 23.11N×100.96E, h10km, mb4.1/5, mB4.3/1, ML4.0/7, Ms4.1/7, Ms7 3.8/7*
ISC 19 01:47:13.6±0.4, 23.15N±0.03×101.18E±0.04, h10km, n68, σ2°26/72, mb4.1/24, MS3.5/14, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MLAV	**Muong La stati**	**2.14**	**121**	*e*Pg		**Pg**	**01 47 55.6**	**+0.9**
MLAV				*e*Sg		**Sg**	**01 48 23.8**	**+1.4**
MLAV				IAML			01 48 34.9	
	comp=N,635nm,0.4s							
MLAV				IAML			01 48 36.1	
	comp=E,601nm,0.6s							
KMI	**Kunming**	**2.43**	**36**	Pn		**Pg**	**01 48 01.9**	**+1.7**
KMI				Sn		**Sg**	**01 48 31.3**	**-0.4**
KMI				smax	smax			
	comp=E,490nm,1.3s							
KMI				smax	smax			
	comp=E,490nm,0.9s							
KMI	**Kunming**	**2.43**	**36**	*e*Pn		**Pn**	**01 47 54.3**	**+0.7**
KMI				*e*Pg		**Pg**	**01 48 01.2**	**+1.0**
TGV	**Tuan Giao**	**2.59**	**126**	*e*Pg		**Pg**	**01 48 05.2**	**+1.7**
TGV				*e*Sg		**Sg**	**01 48 41.7**	**+4.7**
TGV				IAML			01 48 44.9	
	comp=E,373nm,0.6s							
TGV				IAML			01 48 44.9	
	comp=N,293nm,0.5s							
SLVN	**Son La**	**3.11**	**125**	*e*Pn		**Pn**	**01 48 04.7**	**+1.8**
SLVN				*e*Sn		**Sn**	**01 48 38.9**	**-1.2**
TTVN	**Tram Tau**	**3.39**	**119**	*e*Pn		**Pn**	**01 48 09.5**	**+3.0**
TTVN				IAML			01 49 12.0	
	comp=E,120nm,0.7s							
TTVN				IAML			01 49 20.9	
	comp=N,137nm,0.5s							
CHTO	**Chiang Mai**	**4.79**	**206**	*e*Pn		**Pn**	**01 48 25.4**	**-0.6**
CHTO				*e*Sn		**Sn**	**01 49 22.2**	**+0.5**
CHTO	**Chiang Mai**	**4.79**	**206**	P		**Pn**	**01 48 27.0**	**+1.0**
	comp=N,371nm,1.1s,comp=N,5μm							
CMMT	**Chiang Mai**	**4.79**	**206**	P		**Pn**	**01 48 26.9**	**+0.9**
	comp=N,82nm,1.1s,comp=N,1μm							
CM31	**Chiang Mai Arr**	**5.12**	**205**	*e*Pn		**Pn**	**01 48 29.9**	**-0.5**
CM31				*e*Sn		**Sn**	**01 49 27.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**5.12**	**205**	Pn		**Pn**	**01 48 29.9**	**-0.5**
	comp=N,0.9nm,0.3s,baz=16,slow=13,SNR=14							
CMAR				Pg		**Pb**	**01 48 47.0**	**+3.7**
	comp=N,3.5nm,0.3s,baz=21,slow=16,SNR=59							
CMAR				Sn		**Sn**	**01 49 27.8**	**-1.8**
	comp=N,1.9nm,0.3s,baz=16,slow=17,SNR=5.2							
CMAR				Lg	Lg		01 49 52.2	
	comp=N,8.3nm,0.3s,baz=11,slow=29,SNR=12							
CMAR				LR	LR		01 50 22.7	
	comp=N,127nm,20.1s,baz=20,slow=37							
CM01	**Chiang Mai Arr**	**5.14**	**204**	*e*Pn		**Pn**	**01 48 31.0**	**+0.2**
CM01				*e*Pg		**Pb**	**01 48 46.6**	**+2.9**
CM01				*e*Sn		**Sn**	**01 49 31.6**	**+1.3**
UTTA	**Uttaradit**	**5.41**	**186**	P		**Pb**	**01 48 44.7**	**-3.6**
	comp=N,16nm,0.6s,comp=N,178nm							
SUKH	**Sukhothai**	**5.83**	**195**	P		Pb	01 49 00.6	+5.3
GYA	**Guiyang**	**5.97**	**55**	Pn		**Pn**	**01 48 40.0**	**-2.3**
GYA				Pg		**Pb**	**01 49 01.0**	**+3.0**
GYA				Sn		**Sn**	**01 49 43.5**	**-7.3**
GYA				Sg		**Sg**	**01 50 20.0**	**-5.5**
GYA				smax	smax			
	comp=N,40nm,0.8s							
GYA				smax	smax			
	comp=E,50nm,0.8s							
GYA				LR	LR			
	comp=N,950nm,9.5s							
GYA				LR	LR			
	comp=E,640nm,10.0s							
GYA				LR	LR			
	comp=Z,390nm,7.6s							
PBKT	**Sadao Pong**	**6.55**	**182**	P		Pg	01 49 15.3	-3.8
SKNT	**Sakolnakorn**	**6.69**	**156**	P		**Pg**	**01 49 22.0**	**+0.3**
	comp=Z,15nm,1.3s,comp=Z,1μm							
PANO	**Nakornpanom**	**6.79**	**151**	P		**Pg**	**01 49 24.8**	**+1.1**
	comp=Z,9.9nm,1.3s							
KHON	**Khomkaen**	**6.95**	**167**	P		**Pg**	**01 49 30.0**	**+3.2**
CHAI	**Chaiyaphum**	**7.25**	**174**	P		**Pg**	**01 49 29.8**	**-2.8**
CD2	**Chengdu**	**8.06**	**16**	*e*P		Pn	01 49 18.8	+7.9
CD2				smax	smax			
	comp=Z,200nm,2.1s							
CD2				smax	smax			
	comp=Z,270nm,1.5s							
CD2				LR	LR			
	comp=Z,3μm,11.8s							
SHL	**Shillong**	**8.81**	**288**	*e*Pn		**Pn**	**01 49 19.4**	**-1.8**
LZH	**Lanzhou**	**13.10**	**10**	*e*P		**Pn**	**01 50 23.3**	**+3.4**
LZH				pP		P	01 50 25.3	-4.9
LZH				*e*PP		**PnPn**	**01 50 34.0**	**+6.1**
LZH				LR	LR			
	comp=Z,470nm,11.9s							
LZH				LR	LR			
	comp=Z,450nm,13.0s							
LZH				LR	LR			
	comp=Z,310nm,15.4s							
KRAB	**Krabi**	**14.97**	**188**	P		**Pn**	**01 50 39.7**	**-5.7**
	comp=Z,2μm,0.5s,comp=Z,183μm							
PSI	**Prapat**	**20.35**	**186**	*e*P		**P**	**01 51 51.8**	**+1.3**
	comp=Z,16nm,1.2s							
PSI	**Prapat**	**20.35**	**186**	P		**P**	**01 51 50.9**	**+0.5**
	comp=Z,5.6nm,0.8s,baz=360,slow=9.2,SNR=2.4							
PSI				LR	LR		02 01 19.3	
	comp=Z,100nm,18.5s,baz=80,slow=42							
HYB	**Hyderabad**	**21.96**	**259**	*i* P		**P**	**01 52 05.0**	**-2.8**
WMQ	**Urumqi**	**23.42**	**335**	*e*P		**P**	**01 52 25.8**	**+2.9**
WMQ				LR	LR			
	comp=Z,110nm,14.9s							
WMQ				LR	LR			
	comp=Z,180nm,18.7s							
WMQ				LR	LR			
	comp=Z,220nm,21.5s							
SONA0	**Songino Array**	**24.98**	**8**	*e*P		**P**	**01 52 38.2**	**+0.7**
SONM	**Songino Array**	**24.98**	**8**	P		**P**	**01 52 38.2**	**+0.7**
	comp=Z,1.4nm,1.0s,baz=188,slow=9.9,SNR=6.5							
NIL	**Nilore**	**26.62**	**299**	*e*P		**P**	**01 52 51.0**	**-1.4**
	comp=Z,5.2nm,0.8s							
MNAI	**Manna**	**27.40**	**176**	*e*P		**P**	**01 52 57.8**	**-1.7**
	comp=Z,147nm,1.1s							
JNU	**Nakatsue**	**27.93**	**63**	LR		LR	02 06 03.5	
	comp=Z,25nm,18.4s,baz=192,slow=40							
MK01	**Makanchi Array**	**28.04**	**332**	*e*P		**P**	**01 53 06.2**	**+1.1**
MK31	**Makanchi Array**	**28.07**	**332**	*e*P		**P**	**01 53 06.7**	**+1.4**
	comp=Z,2.7nm,1.0s							
MK32	**Makanchi Array**	**28.07**	**332**	*e*P		**P**	**01 53 06.3**	**+1.1**
MKAR	**Makanchi Array**	**28.07**	**332**	P		**P**	**01 53 06.3**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=141,slow=9.6,SNR=19							
MNCI	**Minicoy**	**30.75**	**246**	*e*P		**P**	**01 53 28.3**	**-1.1**
	comp=Z,124nm,1.4s							
KURK	**Kurchatov**	**32.63**	**333**	*e*P		**P**	**01 53 47.1**	**+1.6**
	comp=Z,2.6nm,0.8s							
ZAA0	**Zalesovo Array**	**33.14**	**342**	*e*P		**P**	**01 53 49.2**	**-0.6**
	comp=Z,2.5nm,0.8s							
ZALV	**Zalesovo Beam**	**33.14**	**342**	*e*P		**P**	**01 53 50.2**	**+0.3**
ZALV	**Zalesovo Beam**	**33.14**	**342**	P		**P**	**01 53 48.8**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=151,slow=9.4,SNR=6.8							
ZALV				LR		LR	02 08 39.7	
	comp=Z,62nm,18.8s,baz=72,slow=39							
ZAA1	**Zalesovo Array**	**33.14**	**342**	*e*P		**P**	**01 53 48.8**	**-1.2**
BVAR	**Borovoye Array**	**37.89**	**330**	P		**P**	**01 54 31.6**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=126,slow=9.5,SNR=11							
BVAR				LR		LR	02 11 48.7	
	comp=Z,75nm,22.0s,baz=136,slow=39							
BRVK	**Borovoye**	**37.96**	**330**	*e*P		**P**	**01 54 31.9**	**+0.5**
	comp=Z,4.9nm,0.8s							
BATI	**Baumata**	**39.80**	**144**	LR		LR	02 12 08.4	
	comp=Z,98nm,19.7s,baz=282,slow=38							
ABKAR	**Akbulak array**	**41.51**	**319**	*e*P		**P**	**01 55 02.4**	**+1.5**
	comp=Z,22nm,0.9s							
AKTO	**Aktyubinsk**	**43.12**	**320**	P		**P**	**01 55 15.6**	**+1.5**
	comp=Z,1.1nm,0.7s,baz=123,slow=14,SNR=4.1							
AKTO				LR		LR	02 15 56.6	
	comp=Z,41nm,18.7s,baz=142,slow=40							
ARU	**Arti**	**45.46**	**328**	*e*P		**P**	**01 55 33.9**	**+1.2**
	comp=Z,7.7nm,1.2s							
NRIK	**Noril'sk**	**46.92**	**353**	LR		LR	02 16 30.1	
	comp=Z,93nm,

H08S3	**Diego Garcia H** baz=76,slow=75	**26.86**	**254**	T	T	02 29 01.3		
H08S1	**Diego Garcia H** baz=76,slow=75	**26.87**	**254**	T	T	02 29 03.5		
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=301,slow=9.1,SNR=12	**40.11**	**121**	P	**P**	**02 03 11.7**	**-0.2**	
WRA	comp=Z,44nm,19.1s,baz=210,slow=37			LR	LR	02 20 27.9		
ASAR	**Alice Springs** 0.4nm,0.4s,baz=306,slow=7.9,SNR=7.7	**41.41**	**126**	P	**P**	**02 03 23.4**	**+0.7**	
SONM	**Songino Array** 0.3nm,0.5s,baz=179,slow=8.3,SNR=3.8	**48.58**	**7**	P	**P**	**02 04 21.9**	**+2.5**	
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=163,slow=8.7,SNR=5.5	**49.13**	**345**	P	**P**	**02 04 25.2**	**+1.7**	
ZALV	**Zalesovo Beam** 0.3nm,0.5s,baz=160,slow=8.9,SNR=2.3	**55.38**	**350**	P	**P**	**02 05 10.1**	**+0.4**	

IDC 19 02:06:27.0±47.0, 17°.04S×174°.19W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/35, mbtmp4.0/3, Error ellipse: s-maj=889.7km s-min=178.0km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 0.7nm,0.3s,baz=99,slow=8.6,SNR=3.3	**42.58**	**241**	P	P	02 14 24.6	-0.3
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=95,slow=6.9,SNR=14	**48.75**	**258**	P	P	02 15 13.4	-0.5
ASAR	**Alice Springs** 3.3nm,0.6s,baz=88,slow=8.6,SNR=36	**48.90**	**253**	P	P	02 15 15.4	+0.3

IDC 19 02:13:57.8±2.0, 1°.07S×127°.68E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/39, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=160.0km s-min=25.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=340,slow=12,SNR=5.5	**19.86**	**161**	P	P	02 18 30.8	+0.2
ASAR	**Alice Springs** 0.5nm,0.4s,baz=345,slow=11,SNR=11	**23.26**	**165**	P	P	02 19 07.0	-0.1
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=129,slow=7.6,SNR=3.6	**62.03**	**326**	P	P	02 24 20.0	-0.1

IDC 19 02:15:40.6±5.2, 15°.93S×173°.95W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.5/3, Error ellipse: s-maj=392.8km s-min=33.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.6s,baz=93,slow=7.1,SNR=6.1	**49.21**	**257**	P	P	02 24 30.9	-0.1
ASAR	**Alice Springs** 0.7nm,0.4s,baz=88,slow=8.2,SNR=9.5	**49.44**	**252**	P	P	02 24 32.8	-0.1
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=220,slow=8.3,SNR=2.8	**75.08**	**42**	P	P	02 27 24.8	0.0

MEX 19 02:25:43.0±0.9, 16°.36N×98°.33W, h9km±5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.20**	**81**	*i* P	Pg	02 25 46.9	-0.2
PNIG				*e*S	Sg	02 25 49.6	-0.4
TLIG	**Tlapa**	**1.22**	**349**	*i* P	Pb	02 26 02.9	-3.5
TLIG				*i* S	Sb	02 26 18.5	-3.7

MAN 19 02:37:11.0, 4°.73N×126°.13E, h103km, MS3.8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.43**	**343**	*e*P	Pn	02 37 37.0	+0.4
DDMP				*e*S	Sn	02 37 56.7	+0.8
SKMP	**Bagumbayan, Su**	**2.38**	**318**	*e*P	Pn	02 37 48.5	-0.1
SKMP				*e*S	Sn	02 38 18.4	+0.9
KCP	**Kidapawan**	**2.49**	**335**	⇓*e*P	Pn	02 37 51.7	+1.6
BUKP	**Musuan**	**3.30**	**341**	*e*P	Pn	02 38 02.4	+1.5
BUKP				*e*S	Sn	02 38 28.8	-11

JMA ***19*** *02:50:02.0±0.3, 23°.93N×121°.75E, h0km*
TAP ***19*** *02:50:03.0, 23°.93N×121°.71E, h8km, ML3.5, C*
ISCJB ***19*** *02:50:03.1±0.4, 23°.92N±0°.01×121°.75E±0°.02, h5km±2km, Error ellipse: s-maj=3.3km s-min=1.8km az=25.6*

ISC 19 02:50:03.2±0.9, 23°.92N±0°.02×121°.73E±0°.03, h10km±6km, n83, σ0s58/127, 20C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENLB	**Shoufeng** baz=255	**0.12**	**262**	⇓P	**Pg**	**02 50 06.0**	**-0.1**
ENLB				S	**Sg**	**02 50 08.3**	**+0.1**
HWA	**Hwalien** baz=294	**0.13**	**296**	⇓*i*P	**Pg**	**02 50 06.1**	**-0.1**
HWA				*i* S	**Sg**	**02 50 08.7**	**+0.3**
TWD	**Chiawan** baz=312	**0.20**	**322**	⇑*i*P	**Pg**	**02 50 07.3**	**-0.1**
TWD				S	**Sg**	**02 50 10.5**	**+0.2**
NACB	**Ninganchiao** baz=323	**0.28**	**333**	⇑P	**Pg**	**02 50 08.8**	**-0.2**
NACB				S	**Sg**	**02 50 12.8**	**+0.1**
ESL	**Shilin** baz=250	**0.29**	**249**	⇑*i*P	**Pg**	**02 50 09.0**	**-0.1**
ESL				S	**Sg**	**02 50 13.0**	**-0.1**
ETLH	**Xiulin Townshi** baz=319	**0.37**	**321**	⇑P	**Pg**	**02 50 10.2**	**-0.2**
ETLH				*e*S	**Sg**	**02 50 15.2**	**-0.2**
EGFH	**Guangfu** baz=235	**0.38**	**228**	P	**Pg**	**02 50 11.2**	**+0.6**
EGFH				S	**Sb**	**02 50 17.5**	**-0.3**
WHF	**Hehuan Shan** baz=294	**0.48**	**298**	⇑*i*P	**Pg**	**02 50 12.3**	**-0.4**
WHF				S	**Sg**	**02 50 18.9**	**-0.3**
ENA	**Nanau** baz=347	**0.51**	**1**	⇑*i*P	**Pg**	**02 50 13.4**	**+0.4**
ENA				S	**Sg**	**02 50 20.4**	**+0.6**
NANB	**Nanao** baz=347	**0.51**	**2**	⇑P	**Pg**	**02 50 13.4**	**+0.4**
NANB				S	**Sb**	**02 50 21.2**	**-0.3**
OWD	**Renai** baz=269	**0.51**	**274**	*e*P	**Pg**	**02 50 13.2**	**0.0**
OWD				*e*S	**Sg**	**02 50 20.3**	**+0.3**
HGSD	**Ruisui** baz=198	**0.51**	**214**	*e*P	**Pb**	**02 50 14.0**	**-0.3**
HGSD				*e*S	**Sn**	**02 50 23.8**	**-1.5**
CHGB	**Renai** baz=281	**0.53**	**285**	⇑P	**Pg**	**02 50 13.5**	**-0.1**
CHGB				S	**Sg**	**02 50 21.2**	**+0.6**
EHY	**Hungye** baz=207	**0.56**	**222**	P	**Pg**	**02 50 14.3**	**+0.2**
EHY				S	**Sg**	**02 50 22.2**	**+0.8**
VWDT	**VWDT** baz=256	**0.57**	**253**	P	**Pg**	**02 50 14.5**	**+0.3**
VWDT				S	**Sb**	**02 50 22.5**	**-0.7**
NNSB	**Datong** baz=327	**0.60**	**328**	P	**Pg**	**02 50 14.7**	**-0.1**
NNSB				S	**Sg**	**02 50 22.6**	**-0.1**
TWT	**Tachien** baz=300	**0.61**	**303**	*e*P	**Pg**	**02 50 15.1**	**+0.1**
TWT				*e*S	**Sb**	**02 50 23.9**	**-0.8**
NNS	**Nan Shan** baz=327	**0.61**	**328**	*e*P	**Pg**	**02 50 15.2**	**+0.1**
NNS				S	**Sg**	**02 50 23.5**	**+0.3**
	baz=327						
TDCB	**Techi** baz=300	**0.62**	**302**	⇑P	**Pg**	**02 50 15.3**	**0.0**
TDCB				S	**Sg**	**02 50 24.1**	**+0.7**
YULB	**Yu-li** baz=215	**0.66**	**217**	*e*P	**Pg**	**02 50 16.1**	**+0.2**
YULB				*e*S	**Sb**	**02 50 26.0**	**0.0**
TWC	**Suao** baz=359	**0.69**	**9**	*e*P	**Pg**	**02 50 16.9**	**+0.3**
TWC				*e*S	**Sb**	**02 50 28.0**	**+1.0**
TWF1	**Yuli** baz=223	**0.69**	**215**	*e*P	**Pg**	**02 50 16.6**	**0.0**
TWF1				*e*S	**Sb**	**02 50 27.2**	**+0.3**
NDT	**Datong Townshi** baz=331	**0.71**	**344**	⇑*i*P	**Pb**	**02 50 17.2**	**-0.4**
NDT				*e*S	**Sb**	**02 50 27.0**	**-0.4**
EOS1	**EOS1** baz=51	**0.72**	**30**	*e*P	**Pn**	**02 50 19.1**	**-0.3**
SSLB	**Suanglung** baz=265	**0.73**	**260**	⇑*e*P	**Pb**	**02 50 18.5**	**+0.6**
SSLB				S	**Sb**	**02 50 27.7**	**-0.2**
SMLT	**Sun Moon Lake** baz=274	**0.76**	**267**	⇑*i*P	**Pg**	**02 50 18.0**	**0.0**
SMLT				S	**Sg**	**02 50 28.1**	**+0.2**
TWE	**Neicheng** baz=346	**0.80**	**356**	P	**Pb**	**02 50 19.1**	**0.0**
TWE				S	**Sb**	**02 50 30.3**	**+0.3**
TYC	**Yuchr** baz=275	**0.80**	**269**	⇑*i*P	**Pg**	**02 50 18.6**	**-0.1**
TYC				S	**Sb**	**02 50 29.6**	**-0.5**
WHP	**Taichung City** baz=285	**0.80**	**296**	⇑P	**Pb**	**02 50 19.0**	**-0.3**
WHP				S	**Sb**	**02 50 30.2**	**0.0**
YHNB	**Yeheng** baz=335	**0.81**	**336**	⇑P	**Pb**	**02 50 19.2**	**-0.3**
YHNB				S	**Sg**	**02 50 29.8**	**+0.2**
NSK	**Sanguang** baz=334	**0.83**	**336**	⇑*i*P	**Pg**	**02 50 19.3**	**+0.1**
NSK				S	**Sb**	**02 50 31.0**	**+0.2**
SLBB	**Yuanshan** baz=342	**0.83**	**354**	⇑P	**Pb**	**02 50 19.8**	**+0.1**
SLBB				*e*S	**Sn**	**02 50 32.0**	**-1.3**
WHYT	**Xinyi Township** baz=259	**0.84**	**255**	⇓*e*P	**Pb**	**02 50 19.7**	**-0.1**
WHYT				*e*S	**Sb**	**02 50 31.6**	**+0.4**
NWLT	**Wulai** baz=332	**0.88**	**346**	⇑P	**Pb**	**02 50 20.2**	**-0.3**
NWLT				*e*S	**Sg**	**02 50 31.5**	**-0.1**
CHKT	**Chengkung** baz=201	**0.89**	**203**	*e*P	**Pg**	**02 50 20.0**	**-0.2**
WJS	**Zhushan** baz=254	**0.93**	**264**	*e*P	**Pb**	**02 50 21.6**	**+0.3**
EGS		**0.94**	**11**	*e*P	**Pn**	**02 50 22.2**	**-0.1**
WNT	**Mingjian** baz=264	**0.96**	**268**	*e*P	**Pn**	**02 50 22.4**	**-0.3**
WNT				*e*S	**Sn**	**02 50 36.2**	**-0.2**
NSTT	**Nanjuang** baz=314	**0.97**	**317**	⇑*e*P	**Pb**	**02 50 22.0**	**-0.1**
LIOB	**Emei** baz=314	**0.97**	**318**	*e*P	**Pg**	**02 50 20.0**	**-1.9**
LIOB				*e*S	**Sg**	**02 50 33.0**	**-1.7**
TWQ1	**Liyutan** baz=292	**0.97**	**296**	*e*P	**Pn**	**02 50 22.5**	**-0.4**
TWQ1				*e*S	**Sn**	**02 50 36.6**	**-0.1**
ELDTW	**Lidau** baz=219	**0.98**	**222**	*e*P	**Pg**	**02 50 21.6**	**-0.4**
TCU	**Taichung** baz=280	**0.99**	**283**	*e*P	**Pn**	**02 50 23.3**	**+0.2**
NSY	**Sanyi** baz=296	**1.02**	**299**	*e*P	**Pn**	**02 50 23.6**	**+0.2**
WLTB	**Daxi** baz=332	**1.03**	**335**	*e*P	**Pn**	**02 50 25.1**	**+1.5**
TIPB	**Shuangxi** baz=353	**1.05**	**5**	⇑P	**Pn**	**02 50 23.7**	**-0.3**
TIPB				*e*S	**Sg**	**02 50 36.6**	**-0.5**
NHDH	**Xindian Distri** baz=348	**1.05**	**350**	*e*P	**Pn**	**02 50 23.7**	**-0.3**
NMLH	**Miaoli** baz=302	**1.06**	**306**	*e*P	**Pn**	**02 50 24.7**	**+0.7**
TATO	**Taipei** baz=346	**1.07**	**348**	*e*P	**Pg**	**02 50 23.8**	**-0.1**
TATO				*e*S	**Sg**	**02 50 38.3**	**+0.5**
PTSB	**Yuanli** baz=295	**1.08**	**299**	*e*P	**Pn**	**02 50 24.4**	**+0.1**
WDJ	**Dajia District** baz=289	**1.08**	**293**	*e*P	**Pn**	**02 50 24.9**	**+0.5**
WCHH	**Zhanghua** baz=274	**1.09**	**279**	*e*P	**Pn**	**02 50 24.9**	**+0.5**
SBCB	**Hsinchu** baz=319	**1.10**	**322**	*e*P	**Pn**	**02 50 26.1**	**+1.4**
WDLH	**Douliu** baz=253	**1.12**	**258**	*e*P	**Pn**	**02 50 25.0**	**+0.2**
NWF	**Wu-fen Shan** baz=347	**1.15**	**2**	*e*P	**Pg**	**02 50 25.6**	**+0.3**
WFSB	**Wu-fen Shan** baz=341	**1.15**	**2**	*e*P	**Pg**	**02 50 25.6**	**+0.3**
NCU	**National Centr** baz=332	**1.16**	**335**	*e*P	**Pg**	**02 50 25.6**	**+0.2**
STYT	**Tauyuan** baz=214	**1.17**	**230**	*e*P	**Pb**	**02 50 25.4**	**-0.1**
STYT				*e*S	**Sn**	**02 50 41.6**	**-0.1**
TPUB	**Ta-pu** baz=234	**1.19**	**239**	*e*P	**Pn**	**02 50 25.8**	**0.0**
TPUB				*e*S	**Sn**	**02 50 42.2**	**+0.2**
TWS1	**Kuangyinshan** baz=344	**1.21**	**346**	*e*P	**Pg**	**02 50 27.2**	**+0.7**
WTP	**Ta-pu** baz=233	**1.23**	**237**	*e*P	**Pg**	**02 50 26.8**	**0.0**
WTP				*e*S	**Sn**	**02 50 44.1**	**+1.0**
YM01	**YM01** baz=350	**1.23**	**353**	*e*P	**Pg**	**02 50 27.4**	**+0.6**
YM04	**YM04** baz=349	**1.24**	**352**	*e*P	**Pg**	**02 50 27.9**	**+0.9**
YM05	**YM05** baz=350	**1.25**	**353**	*e*P	**Pg**	**02 50 27.3**	**+0.1**
YM11	**YM11** baz=350	**1.25**	**353**	*e*P	**Pg**	**02 50 27.3**	**+0.1**
TWG	**Pinlang** baz=191	**1.25**	**209**	*e*P	**Pn**	**02 50 26.3**	**-0.4**
TWGBT	**Beinan** baz=191	**1.25**	**209**	*e*P	**Pn**	**02 50 25.4**	**-1.3**
RLNB	**Erlin** baz=263	**1.26**	**269**	*e*P	**Pg**	**02 50 27.3**	**-0.1**
RLNB				*e*S	**Sg**	**02 50 45.1**	**+1.4**
CHY	**Chiayi** baz=246	**1.27**	**251**	*e*P	**Pg**	**02 50 27.9**	**+0.2**
ANP	**Anpu** baz=349	**1.27**	**351**	*e*P	**Pg**	**02 50 27.5**	**-0.2**
SNST	**Tainan City** baz=234	**1.33**	**239**	*e*P	**Pb**	**02 50 28.0**	**-0.2**
SNST				*e*S	**Sg**	**02 50 47.7**	**+1.7**
SLGT	**Liugui** baz=224	**1.36**	**227**	*e*P	**Pb**	**02 50 29.0**	**+0.3**
SSD	**Sandimen** baz=209	**1.55**	**221**	*e*P	**Pn**	**02 50 30.5**	**-0.3**
MASBT	**Mashibuluo** baz=209	**1.65**	**218**	*e*P	**Pb**	**02 50 33.7**	**+0.1**
MASBT				*e*S	**Sg**	**02 50 55.8**	**-0.5**
IRIF	**Iriomote-Funau**	**1.87**	**77**	*e*S	**Sb**	**02 51 00.6**	**-0.2**
WDGT	**Dungji** baz=246	**2.01**	**251**	*e*P	**Pn**	**02 50 38.0**	**+0.8**
PHUB	**P'eng-hu** baz=253	**2.02**	**259**	*e*P	**Pn**	**02 50 38.0**	**+0.7**
VCHM	**Qimei** baz=246	**2.23**	**252**	*e*P	**Pn**	**02 50 39.1**	**-1.1**
JIJ	**Ishigaki jima**	**2.25**	**78**	*e*S	**Sn**	**02 51 08.0**	**-0.1**
VWUC	**VWUC** baz=292	**2.34**	**298**	*e*P	**Pn**	**02 50 40.6**	**-1.0**
JISG	**Ishigakijimahi**	**2.44**	**74**	*e*S	**Sn**	**02 51 13.4**	**+0.4**
KNM	**Kinmen** baz=273	**3.05**	**280**	*e*P	**Pn**	**02 50 53.2**	**+1.7**
KNMB	**Chin-men Tao** baz=274	**3.10**	**281**	*e*P	**Pn**	**02 50 52.0**	**-0.1**

ISCJB ***19*** *03:11:29.5±0.1, 36°.56N±0°.01×5°.50W±0°.01, h57km±2km, mb4.0/20, MS3.2/4, Error ellipse: s-maj=2.3km s-min=1.8km az=32.1*
IDC ***19*** *03:11:30.2±3.5, 36°.45N×5°.13W, h35km±28km, mb3.6/14, mb1 3.9/19, mb1mx3.7/45, mbtmp3.9/19, ML4.3/5, MS2.9/5, Ms1 2.9/5, ms1mx2.6/72, Error ellipse: s-maj=24.6km s-min=14.2km az=98.0*
MED_RC ***19*** *03:11:30.0±0.8, 36°.50N×5°.52W, h63km±12km, MW4.5/6, Moment Tensor Solution.Mantle waves: s6,c7; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.03±1.82; Mθθ2.74±3.04; Mϕϕ-2.72±1.88; Mrθ-0.30±.68; Mθϕ5.96±1.75; Mϕr1.07±.55; Best double couple: M₀6.65000×10¹⁵ NP1:ϕs193.00000°, δ86.00000°, λ-172.00000°. NP2:ϕs102.00000°, δ82.00000°, λ-4.00000°. Principal axes: T 6.5800, Plg3.0000°, Azm327.0000°; N 0.1300, Plg81.0000°, Azm220.0000°; P -6.7100, Plg9.0000°, Azm58.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
LDG ***19*** *03:11:30.1±0.3, 36°.52N×5°.55W, h45km, Ml4.3/33 Error ellipse: s-maj=6.5km s-min=4.3km az=2.0*
MDD ***19*** *03:11:31.5±0.3, 36°.47N×5°.52W, h43km±3km, mb5.5/52, Error ellipse: s-maj=4.0km s-min=2.8km az=22.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
IGIL ***19*** *03:11:31.4, 36°.47N×5°.50W, h30km, ML4.5*
INMG ***19*** *03:11:31.7±1.6, 36°.53N×5°.53W, h31km±6km, MD3.6, ML4.3, Error ellipse: s-maj=2.1km s-min=1.8km az=35.0*
SFS ***19*** *03:11:31.0, 36°.40N×5°.40W, h46km, ML4.8, JIMENA DE LA FTRA. (CADIZ)*
NEIC ***19*** *03:11:31.6±0.0, 36°.46N×5°.55W, h45km, mb4.0/11, After MDD.*
NEIC Felt in the Estepona area, Spain.
CNRM ***19*** *03:11:32.0, 36°.27N×5°.73W, h73km, ml4.2*

ISC 19 03:11:29.3±0.5, 36°.52N±0°.02×5°.50W±0°.02, h44km±6km, n314, σ2s36/487, mb3.9/20, MS2.9/4, 28C-18D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EJIF	**Jimena Fronter**	**0.08**	**160**	P	**Pn**	**03 11 37.6**	**+1.3**
EJIF	**Jimena Fronter** SNR=18	**0.08**	**160**	⇑P	**Pn**	**03 11 37.8**	**+1.5**
ALJ	**Aljibe**	**0.12**	**273**	⇓*i*P	**Pn**	**03 11 38.2**	**+1.7**
REAL	**Reales**	**0.24**	**100**	⇓*i*P	**Pn**	**03 11 39.1**	**+1.5**
LIJA	**Lijar**	**0.39**	**12**	⇑*i*P	**Pn**	**03 11 41.5**	**+2.5**
ESPR	**Espera** 2μm,0.3s,SNR=18	**0.45**	**320**	⇓P	**Pn**	**03 11 42.1**	**+2.5**
ESPR				S	**Sn**	**03 11 49.8**	**+3.0**
CNIL	**Conil** 20μm,0.4s,SNR=7.9	**0.47**	**251**	⇑*i*P	**Pn**	**03 11 41.8**	**+2.0**
CNIL				*i* S	**Sn**	**03 11 49.9**	**+2.7**
GIBL	**Gibalbin**	**0.48**	**309**	⇓*i*P	**Pn**	**03 11 42.4**	**+2.4**
GIBL				*e*S	**Sn**	**03 11 49.8**	**+2.2**
SFS	**San Fernando**	**0.57**	**264**	*e*Pn	**Pn**	**03 11 43.3**	**+2.2**
SFS	**San Fernando**	**0.57**	**264**	⇑*i*P	**Pn**	**03 11 43.6**	**+2.5**
SFS				*e*S	**Sn**	**03 11 53.5**	**+4.0**
EMIJ	**Mijas** 3μm,0.3s,SNR=18	**0.59**	**86**	⇑P	**Pn**	**03 11 42.8**	**+1.4**
EMIJ				S	**Sn**	**03 11 51.8**	**+1.8**
CEU	**Ceuta** 6μm,0.3s,SNR=27	**0.63**	**170**	⇓*i*P	**Pn**	**03 11 43.5**	**+1.6**
CEU				*i* S	**Sn**	**03 11 52.1**	**+1.2**
ECEU	**Ceuta** 2μm,0.1s,SNR=18	**0.63**	**171**	⇓P	**Pn**	**03 11 43.5**	**+1.5**
ECEU				S	**Sn**	**03 11 51.6**	**+0.6**
SMIR	**Smir Dam** 4μm,0.5s,SNR=12	**0.85**	**173**	P	**Pn**	**03 11 46.2**	**+1.4**
SMIR				S	**Sn**	**03 11 57.3**	**+1.2**
EMAL	**Malaga-Limoner**	**0.90**	**74**	⇑P	**Pn**	**03 11 47.6**	**+2.1**
EMAL				S	**Sn**	**03 12 00.5**	**+3.2**
EMAL	**Malaga-Limoner**	**0.90**	**74**	⇑*i*P	**Pn**	**03 11 47.6**	**+2.1**
EMAL				*e*S	**Sn**	**03 12 00.5**	**+3.2**
EGOR	**Sierra Gorda,** 314nm,0.4s,SNR=18	**1.26**	**62**	⇑P	**Pn**	**03 11 53.7**	**+3.1**
EGOR				S	**Sn**	**03 12 09.2**	**+2.7**
ELGU	**Los Guajares,** 183nm,0.1s,SNR=7.9	**1.55**	**77**	P	**Pn**	**03 11 55.9**	**+1.4**
ELGU				S	**Sn**	**03 12 13.7**	**+0.3**
ECAB	**El Cabril** 806nm,0.3s,SNR=634	**1.55**	**2**	P	**Pn**	**03 11 56.5**	**+2.0**
ECAB				S	**Sn**	**03 12 15.9**	**+2.5**
EMIN	**Mina Concepcio** 64nm,0.1s,SNR=18	**1.55**	**323**	⇓P	**Pn**	**03 11 56.3**	**+1.8**
EMIN				S	**Sn**	**03 12 14.1**	**+0.6**
RSA	**Sarsar** 356nm,0.1s,SNR=20	**1.66**	**189**	P	**Pn**	**03 11 57.9**	**+1.9**
RSA				S	**Sn**	**03 12 17.0**	**+0.9**
EQUE	**Quentar** 239nm,0.3s,SNR=18	**1.79**	**67**	⇑P	**Pn**	**03 12 00.8**	**+3.0**
EQUE				S	**Sn**	**03 12 20.9**	**+1.6**
EADA	**Adamuz** 941nm,0.3s,SNR=9.1 86nm,0.1s,SNR=18	**1.80**	**24**	⇓P	**Pn**	**03 12 00.3**	**+2.4**
EADA				S	**Sn**	**03 12 20.8**	**+1.2**
PALE	**Palemas** 742nm,0.1s,SNR=7.9	**1.82**	**135**	P	**Pn**	**03 12 00.3**	**+2.1**
PALE				S	**Sn**	**03 12 22.7**	**+2.7**
EGRO	**El Granado** 199nm,0.1s,SNR=18	**1.88**	**303**	⇑P	**Pn**	**03 12 00.6**	**+1.7**
EGRO				S	**Sn**	**03 12 21.8**	**+0.4**
PVAQ	**Vaqueiros** 1μm,0.1s,SNR=7.9	**1.98**	**297**	⇑*i*Pn	**Pn**	**03 12 01.8**	**+1.5**
PVAQ				*e*Sn	**Sn**	**03 12 24.2**	**+0.3**
PVAQ	**Vaqueiros**	**1.98**	**297**	*e*Pn	**Pn**	**03 12 01.6**	**+1.3**
PVAQ				Sn	**Sn**	**03 12 23.8**	**-0.2**
PBAR	**Barrancos**	**2.05**	**324**	*e*Pn	**Pn**	**03 12 03.2**	**+1.8**
PBAR				*e*Sn	**Sn**	**03 12 26.4**	**+0.7**
PBAR	2μm,0.4s			A	A	03 12 28.1	
PBDV	**Barranco-do-Ve** 560nm,0.5s	**2.08**	**291**	⇑*i*Pn	**Pn**	**03 12 03.3**	**+1.6**
PBDV				*e*Sn	**Sn**	**03 12 26.6**	**+0.3**
PBDV				A	A	03 12 27.6	
EBER	**Berja** 90nm,0.2s,SNR=7.9	**2.13**	**79**	P	**Pn**	**03 12 04.3**	**+1.6**
EBER				S	**Sn**	**03 12 30.5**	**+2.5**
GORA	**Gorafe** 513nm,0.4s,SNR=8.4	**2.19**	**63**	⇑P	**Pn**	**03 12 06.1**	**+2.8**
GORA				S	**Sn**	**03 12 30.1**	**+0.9**
PCVE	**Castro Verde** 865nm,0.6s,SNR=18 2μm,0.2s,SNR=7.9	**2.31**	**299**	⇑*i*Pn	**Pn**	**03 12 06.0**	**+1.1**
PCVE				*e*Sn	**Sn**	**03 12 31.8**	**-0.3**
PCVE				A	A	03 12 33.0	
EQES	**Quesada** 2μm,0.4s 110nm,0.2s,SNR=104	**2.32**	**56**	P	**Pn**	**03 12 07.6**	**+2.4**
EQES				S	**Sn**	**03 12 34.8**	**+2.2**
EMEL	**Melilla** 1μm,0.4s,SNR=7.3 294nm,0.1s,SNR=7.9	**2.40**	**120**	P	**Pn**	**03 12 07.0**	**+0.9**
EMEL				S	**Sn**	**03 12 33.7**	**-0.6**
PBEJ	**Beja** 839nm,0.2s,SNR=7.9	**2.41**	**309**	⇑*e*Pn	**Pn**	**03 12 08.9**	**+2.7**
PBEJ				*e*Sn	**Sn**	**03 12 35.4**	**+0.9**
PBEJ				A	A	03 12 39.1	
GOG	**Mont Gurugu** 1μm,0.4s	**2.42**	**122**	P	**Pn**	**03 12 07.7**	**+1.3**
GOG				S	**Sn**	**03 12 36.4**	**+1.6**
MELI	**Melilla** 218nm,0.2s,SNR=7.9	**2.42**	**120**	P	**Pn**	**03 12 07.1**	**+0.7**
MELI				S	**Sn**	**03 12 34.3**	**-0.4**
MELI	**Melilla** 634nm,0.3s,SNR=7.9	**2.42**	**120**	⇓*i*P	**Pn**	**03 12 07.2**	**+0.8**
MELI				*e*S	**Sn**	**03 12 34.3**	**-0.4**

EBAD Badajoz 2.53 332 ⇓P Pn 03 12 09.9 +2.0
66nm,0.1s,SNR=18
EBAD S Sn 03 12 37.8 +0.4
361nm,0.1s,SNR=32
MESJ Messejana 2.54 302 *e*P Pn 03 12 09.6 +1.6
MESJ *e*S Sn 03 12 37.3 -0.3
MESJ AML AML 03 12 39.7
comp=N,2µm,0.5s
MESJ Messejana 2.54 302⇑ *e*Pn Pn 03 12 09.6 +1.6
MESJ *e*Sn Sn 03 12 37.5 -0.1
MESJ A A 03 12 38.8
comp=N,2µm,0.5s
MESJ Messejana 2.54 302 P Pn 03 12 09.6 +1.6
MESJ S Sn 03 12 37.3 -0.3
comp=N,2µm,0.5s
MORF Marmelete 2.64 288 *e*P Pn 03 12 10.6 +1.2
MORF *e*S Sn 03 12 39.9 -0.4
MORF AML AML 03 12 41.7
comp=E,1µm,0.6s
MORF Marmelete 2.64 288⇑ *i*Pn Pn 03 12 10.7 +1.2
MORF *e*Sn Sn 03 12 40.2 -0.1
MORF A A 03 12 41.7
comp=E,327nm,0.3s
MORF Marmelete 2.64 288 P Pn 03 12 10.6 +1.2
MORF S Sn 03 12 39.9 -0.4
comp=E,1µm,0.6s
ENIJ Nijar 2.68 79 P Pn 03 12 12.1 +2.1
comp=E,78nm,0.3s,SNR=7.9
ENIJ S Sn 03 12 40.7 -0.6
comp=E,285nm,0.3s,SNR=7.9
PFVI Vila Bisbo 2.74 284⇑ *i*Pn Pn 03 12 11.8 +1.1
PFVI *e*Sn Sn 03 12 41.8 -0.7
PFVI A A 03 12 54.0
comp=E,299nm,0.6s
PFVI Vila Bisbo 2.74 284 *e*Pn Pn 03 12 11.7 +0.9
PFVI *e*Sn Sn 03 12 41.6 -0.9
PFVI Vila Bisbo 2.74 284⇑ P Pn 03 12 11.8 +1.1
comp=E,144nm,0.1s,SNR=18
PFVI S Sn 03 12 41.4 -1.1
comp=E,293nm,0.1s,SNR=7.6
RTC Rabat Centre 2.76 204 *e*Pn Pn 03 12 10.8 -0.3
RTC *e*Sn Sn 03 12 37.1 -6.1
RTC Rabat Centre 2.76 204 P Pn 03 12 11.6 +0.5
RTC S Sn 03 12 41.1 -2.1
PTEO Sao Teotonio 2.77 293⇑ *i*Pn Pn 03 12 12.1 +0.9
PTEO *e*Sn Sn 03 12 42.9 -0.5
PTEO A A 03 12 47.3
comp=E,509nm,0.4s
EVO Evora 2.83 316 *e*Pn Pn 03 12 16.1 +4.1
EVO *e*Sn Sn 03 12 46.7 +1.9
EVO A A 03 12 49.0
comp=E,2µm,0.1s
EVO Evora 2.83 316⇓ *i*P Pn 03 12 16.2 +4.1
EVO *i*S Sn 03 12 46.7 +1.9
PESTR Estremoz 2.87 325⇓ *e*Pn Pn 03 12 14.4 +1.9
PESTR *e*Sn Sn 03 12 46.0 +0.2
PESTR A A 03 12 48.6
comp=E,504nm,0.6s
PESTR Estremoz 2.87 325 *e*Pn Pn 03 12 13.8 +1.3
PESTR *e*Sn Sn 03 12 45.3 -0.5
LCRM LCR 2.88 169 P Pn 03 12 12.9 0.0
LCRM S Sn 03 12 46.8 +0.4
PNCL Nicolau / Gran 2.89 304⇑ *e*Pn Pn 03 12 14.5 +1.7
PNCL *e*Sn Sn 03 12 45.5 -0.7
PNCL A A 03 12 48.1
comp=E,733nm,0.4s
IFR Ifrane 3.02 174⇓ *i*P Pn 03 12 14.6 -0.2
IFR *e*S Sn 03 12 46.5 -3.3
PAB San Pablo 3.15 16 *e*Pn Pn 03 12 18.6 +2.1
PAB *e*Sn Sn 03 12 51.3 -1.6
PAB San Pablo 3.15 16 P Pn 03 12 18.7 +2.1
comp=E,17nm,0.1s,SNR=7.9
PAB S Sn 03 12 52.3 -0.7
comp=E,334nm,0.2s,SNR=7.9
PMRV Marv??o 3.26 333⇓ *e*Pn Pn 03 12 20.1 +2.1
PMRV *e*Sn Sn 03 12 55.9 +0.4
PMRV A A 03 12 57.7
comp=E,691nm,0.4s
PMTG Montargil 3.33 320 *e*Pn Pn 03 12 20.8 +1.9
PMTG *e*Sn Sn 03 12 57.5 +0.3
PMTG A A 03 13 00.1
comp=E,612nm,0.6s
ESDC Sonseca Array 3.37 21 P Pn 03 12 21.5 +2.0
comp=E,38nm,0.2s,baz=205,slow=13,SNR=866
ESDC S Sn 03 12 57.4 -0.9
comp=E,162nm,0.2s,baz=202,slow=24,SNR=38
ESDC Sonseca Array 3.37 21 Pn Pn 03 12 21.2 +1.7
comp=E,90nm,0.3s,baz=202,slow=13,SNR=893
ESDC Sn Sn 03 12 57.2 -1.0
comp=E,294nm,0.3s,baz=202,slow=22,SNR=43
ESDC Lg Lg 03 13 15.4
comp=E,105nm,0.3s,baz=201,slow=31,SNR=6.5
ESDC LR LR 03 13 38.7
comp=E,54nm,20.1s,baz=165,slow=38
ESLA Sonseca Array 3.37 21 *e*Pn Pn 03 12 21.5 +2.0
ESLA *e*Sn Sn 03 12 56.8 -1.5
ES06 SONSECA Array 3.38 21 *e*Pn Pn 03 12 21.1 +1.5
ES06 *e*Sn Sn 03 12 57.0 -1.4
ALMR Almeirim 3.58 318 *e*P Pn 03 12 24.3 +2.0
ALMR *e*S Sn 03 13 02.6 -0.7
ALMR AML AML 03 13 05.9
comp=N,2µm,0.3s
ALMR Almeirim 3.58 318 *e*Pn Pn 03 12 24.4 +2.1
ALMR *e*Sn Sn 03 13 03.7 +0.3
ALMR A A 03 13 05.5
comp=N,1µm,0.4s
ALMR Almeirim 3.58 318 P Pn 03 12 24.3 +2.0
ALMR S Sn 03 13 02.6 -0.7
comp=N,1µm,0.3s
AVE Averroes 3.58 207⇓ *i*P Pn 03 12 22.6 +0.3
AVE *e*S Sn 03 12 59.8 -3.6
LIS Lisbon 3.63 308 *e*P Pn 03 12 25.2 +2.2
LIS *e*S Sn 03 13 04.4 -0.2
LIS AML AML 03 13 06.7
comp=E,2µm,0.6s
LIS Lisbon 3.63 308 *e*Pn Pn 03 12 25.3 +2.3
LIS *e*Sn Sn 03 13 05.4 +0.9
LIS A A 03 13 06.4
comp=E,392nm,0.3s
LIS Lisbon 3.63 308 P Pn 03 12 25.2 +2.2
LIS S Sn 03 13 04.4 -0.2
comp=E,2µm,0.6s
EMUR La Murta 3.65 68⇑ P Pn 03 12 25.1 +1.8
comp=E,35nm,0.4s,SNR=18
EMUR S Sn 03 13 02.4 -2.7
comp=E,179nm,0.5s,SNR=5.9
INMG Instituto de M 3.65 309 *e*Pn Pn 03 12 25.9 +2.7
INMG *e*Sn Sn 03 13 05.7 +0.7
PCBR Castelo Branco 3.66 335 *e*Pn Pn 03 12 25.6 +2.2
PCBR *e*Sn Sn 03 13 04.8 -0.5
PCBR A A 03 13 07.1
comp=E,1µm,0.5s
PMST Lisbon--Monsan 3.66 308 *e*Pn Pn 03 12 25.6 +2.2
PMST *e*Sn Sn 03 13 05.0 -0.4
PMST A A 03 13 09.1
comp=E,324nm,0.4s
MD31 MD31 3.70 170 P Pn 03 12 24.4 +0.3
MD31 S Sn 03 13 03.1 -3.4
CART Cartagena 3.75 72 *e*Pn Pn 03 12 26.0 +1.3
CART *e*Sn Sn 03 13 06.7 -0.9
CART Cartagena 3.75 72 *i*P Pn 03 12 26.3 +1.7
CART *i*S Sn 03 13 06.2 -1.4
MDT Midelt 3.77 168 Pn Pn 03 12 25.3 +0.2
comp=E,23nm,0.3s,baz=24,slow=13,SNR=1178
MDT Sn Sn 03 13 04.9 -3.4
comp=E,193nm,0.3s,baz=205,slow=17,SNR=49
MDT Midelt 3.77 168 P Pn 03 12 25.4 +0.3
MDT S Sn 03 13 05.0 -3.3
ETOB Tobarra 3.79 55⇑ P Pn 03 12 27.1 +1.9
comp=E,47nm,0.2s,SNR=18
ETOB S Sn 03 13 08.2 -0.4
comp=E,367nm,0.1s,SNR=17
PTOM Tomar 3.85 324 *e*Pn Pn 03 12 28.2 +2.2
PTOM *e*Sn Sn 03 13 10.0 +0.1
PTOM A A 03 13 12.2
comp=E,952nm,0.6s
PMAFR Mafra 3.86 310⇑ *e*Pn Pn 03 12 28.1 +2.0
PMAFR *e*Sn Sn 03 13 09.8 -0.4
PMAFR A A 03 13 12.3
comp=E,815nm,0.7s
PMAFR Mafra 3.86 310 P Pn 03 12 28.2 +2.0
comp=E,45nm,0.1s,SNR=93
PMAFR S Sn 03 13 10.3 +0.1
comp=E,2µm,0.3s,SNR=23

ETRV Los Montesinos 4.06 67 P Pn 03 12 30.6 +1.6
comp=E,44nm,0.2s,SNR=7.9
ETRV S Sn 03 13 12.7 -2.5
comp=E,155nm,0.3s,SNR=7.9
UCM Universidad Co 4.17 24⇓ *i*P Pn 03 12 33.6 +3.1
UCM *e*S Sn 03 13 17.5 -0.5
MTE Manteigas 4.19 338 *e*Pn Pn 03 12 32.9 +2.2
MTE *e*Sn Sn 03 13 18.1 -0.3
MTE A A 03 13 20.2
comp=E,708nm,0.6s
MTE Manteigas 4.19 338 *e*Pn Pn 03 12 32.7 +2.0
MTE *e*Sn Sn 03 13 17.8 -0.7
GUD Guadarrama 4.25 14 P Pn 03 12 33.5 +2.0
comp=E,218nm,0.3s,SNR=898
GUD S Sn 03 13 18.5 -1.4
comp=E,157nm,0.3s,SNR=14
COI Coimbra 4.33 329 *e*Pn Pn 03 12 35.1 +2.5
COI *e*Sn Sn 03 13 21.3 -0.5
COI A A 03 13 22.6
comp=E,966nm,0.4s
COI Coimbra 4.33 329 *e*Pn Pn 03 12 35.0 +2.4
AFON Font Roja 4.48 60⇓ P Pn 03 12 36.5 +1.7
comp=E,31nm,0.2s,SNR=18
AFON S Sn 03 13 22.5 -3.3
comp=E,305nm,0.4s,SNR=6.7
SRHM Skhour des Reh 4.50 207 P Pn 03 12 37.7 +2.7
SRHM S Sn 03 13 24.3 -1.8
PVIS Viseu 4.58 337 *e*Pn Pn 03 12 38.1 +1.9
PVIS *e*Sn Sn 03 13 27.3 -0.9
PVIS A A 03 13 29.2
comp=E,429nm,0.5s
ECHE Chera 4.71 48 P Pn 03 12 39.6 +1.8
comp=E,18nm,0.2s,SNR=7.9
ECHE S Sn 03 13 29.9 -1.3
comp=E,155nm,0.3s,SNR=7.9
EBEN2 Beniarda presa 4.73 61 P Pn 03 12 39.8 +1.6
comp=E,38nm,0.1s,SNR=7.9
EBEN2 S Sn 03 13 30.4 -1.4
comp=E,149nm,0.4s,SNR=7.9
MVO Moncorvo 4.78 346 *e*Pn Pn 03 12 41.1 +2.2
MVO *e*Sn Sn 03 13 32.1 -1.0
MVO A A 03 13 34.4
comp=E,636nm,0.5s
MVO Moncorvo 4.78 346⇓ P Pn 03 12 41.6 +2.7
comp=E,212nm,0.1s,SNR=18
MVO S Sn 03 13 32.0 -1.1
comp=E,612nm,0.4s,SNR=16
GOLM Goulmima 4.83 174 P Pn 03 12 40.7 +1.1
GOLM S Sn 03 13 35.6 +1.3
OKGL Djebel Kef Gue 4.99 94 P Pn 03 12 43.2 +1.5
comp=E,78nm,0.1s,SNR=7.9
OKGL S Sn 03 13 38.3 +0.2
comp=E,304nm,0.4s,SNR=7.9
PVRL Vila Real 5.05 341 *e*Pn Pn 03 12 44.6 +2.1
PVRL *e*Sn Sn 03 13 37.9 -1.7
PVRL A A 03 13 40.2
comp=E,731nm,0.3s
ETOR Torete 5.07 31 P Pn 03 12 45.3 +2.5
comp=E,182nm,0.2s,SNR=551
ETOR S Sn 03 13 36.9 -3.1
comp=E,309nm,0.2s,SNR=5.8
POLO Lamas de Olo 5.16 340 *e*Pn Pn 03 12 46.3 +2.2
POLO *e*Sn Sn 03 13 40.6 -1.8
POLO A A 03 13 42.8
comp=E,155nm,0.4s
ARF Arif 5.19 168 P Pn 03 12 46.1 +1.6
ARF S Sn 03 13 42.8 -0.4
PTO Porto 5.20 333 *e*Pn Pn 03 12 46.8 +2.2
PTO *e*Sn Sn 03 13 41.9 -1.4
PTO A A 03 13 44.5
comp=E,753nm,0.5s
PBRG Braganca 5.36 350 *e*Pn Pn 03 12 49.3 +2.5
PBRG *e*Sn Sn 03 13 45.5 -1.7
PBRG A A 03 13 48.3
comp=E,135nm,0.6s
ECAL Calabor 5.49 350 P Pn 03 12 50.9 +2.2
comp=E,203nm,0.2s,SNR=698
ECAL S Sn 03 13 49.5 -1.0
comp=E,532nm,0.6s,SNR=7.9
EMOS Mosqueruela 5.50 44⇑ P Pn 03 12 51.5 +2.6
comp=E,27nm,0.4s,SNR=18
EMOS S Sn 03 13 48.8 -2.2
comp=E,93nm,0.3s,SNR=7.9
PCAB Cabril 5.54 340 *e*Pn Pn 03 12 51.3 +2.1
PCAB *e*Sn Sn 03 13 49.7 -1.9
PCAB A A 03 13 52.9
comp=E,229nm,0.5s
FIGM Figuig 5.61 140 S Sn 03 13 57.3 +3.7
OUK Oukaimeden 5.66 201 P Pn 03 12 50.7 -0.5
OUK S Sn 03 13 48.7 -6.3
ELOB Lobios 5.69 340 P Pn 03 12 53.4 +2.0
comp=E,30nm,0.1s,SNR=161
ELOB S Sn 03 13 53.6 -1.9
comp=E,374nm,0.3s,SNR=7.9
OUZM OUZ 5.70 191 S Sn 03 13 53.2 -2.5
PGAV Gavieira, Arco 5.84 339 *e*Pn Pn 03 12 55.4 +1.9
PGAV *e*Sn Sn 03 13 57.0 -2.2
PGAV A A 03 13 59.4
comp=E,138nm,0.4s
EIBI Ibiza 5.97 63 P Pn 03 12 56.3 +1.2
comp=E,9.9nm,0.3s,SNR=8.8
EIBI S Sn 03 13 59.1 -3.1
comp=E,53nm,0.5s,SNR=7.9
ERTA Horta de San J 6.35 44 P Pn 03 13 02.7 +2.2
comp=E,5.1nm,0.1s,SNR=20
ERTA S Sn 03 14 11.3 -0.4
comp=E,51nm,0.3s,SNR=5.7
EBR Ebro Roquetas 6.36 46 S Sn 03 14 12.6 +1.0
comp=E,307nm,0.5s,SNR=7.9
TTIG Tnine Tigouga, 6.45 203 P Pn 03 12 59.3 -2.5
ESAC San Caprasio 6.50 35 P Pn 03 13 04.5 +2.0
comp=E,78nm,0.2s,SNR=39
ESAC S Sn 03 14 13.9 -1.4
comp=E,664nm,0.3s,SNR=8.7
EAGO Agolada(Pontev 6.58 343 P Pn 03 13 05.9 +2.4
comp=E,33nm,0.1s,SNR=7.9
EAGO S Sn 03 14 15.3 -1.9
comp=E,68nm,0.2s,SNR=7.9
EARI Arriondas 6.77 2⇑ P Pn 03 13 08.8 +2.6
comp=E,44nm,0.2s,SNR=18
EARI S Sn 03 14 19.7 -2.3
comp=E,25nm,0.3s,SNR=7.9
ELAN Lanestosa 6.88 13 P Pn 03 13 10.0 +2.3
comp=E,14nm,0.1s,SNR=162
ELAN S Sn 03 14 21.8 -2.9
comp=E,76nm,0.2s,SNR=7.9
EPON Pontenova 6.91 350 P Pn 03 13 10.6 +2.6
comp=E,67nm,0.3s,SNR=110
EPON S Sn 03 14 23.1 -2.3
comp=E,54nm,0.4s,SNR=7.9
EARA Aranguren 6.93 25 P Pn 03 13 11.2 +2.8
comp=E,53nm,0.2s,SNR=20
EARA S Sn 03 14 23.8 -2.1
comp=E,124nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.95 338 P Pn 03 13 10.4 +1.8
comp=E,14nm,0.1s,SNR=7.9
EMAZ S Sn 03 14 23.2 -3.1
comp=E,60nm,0.3s,SNR=7.9
EPOB Poblet 7.04 45 P Pn 03 13 11.8 +1.9
comp=E,4.5nm,0.2s,SNR=22
EPOB S Sn 03 14 25.9 -2.6
comp=E,24nm,0.3s,SNR=10.0
IELO Elcoad 7.12 26⇑ P Pn 03 13 13.9 +3.0
comp=E,88nm,0.2s,SNR=18
IELO S Sn 03 14 29.2 -1.3
comp=E,79nm,0.3s,SNR=7.9
EORO Oroz-Betelu 7.13 26 P Pn 03 13 14.0 +2.9
comp=E,3.3nm,0.3s,SNR=7.9
ETOS Mallorca 7.31 61 P Pn 03 13 15.3 +1.8
comp=E,2.1nm,0.3s,SNR=7.8
ETOS S Sn 03 14 31.1 -4.1
comp=E,6.7nm,0.2s,SNR=7.9
SJPF Ste Jean 7.36 25 *e*Pn Pn 03 13 16.8 +2.6
SJPF *e*Sn Sn 03 14 33.8 -2.5
comp=E,67nm,0.3s
SJPF Ste Jean 7.36 25 *e*Pn Pn 03 13 16.8 +2.6
SJPF *e*Sn Sn 03 14 33.8 -2.5
EALK Alkurruntz 7.36 23 P Pn 03 13 17.2 +3.0
comp=E,91nm,0.2s,SNR=298
EALK S Sn 03 14 34.4 -2.0
comp=E,439nm,0.4s,SNR=5.4
ETSF Etsaut 7.42 29 *e*Pn Pn 03 13 16.8 +1.8
SNR=1.0
ETSF *e*Sn Sn 03 14 35.6 -2.3
comp=E,106nm,0.3s
ETSF Etsaut 7.42 29 *e*Pn Pn 03 13 16.8 +1.8

ETSF *e*Sn Sn 03 14 35.6 -2.3
ATE Arette 7.52 28 P Pn 03 13 19.0 +2.5
comp=E,64nm,0.4s,SNR=7.9
ATE S Sn 03 14 38.0 -2.4
comp=E,100nm,0.3s,SNR=7.9
ECHI Chisagues Biel 7.54 34 P Pn 03 13 19.0 +2.2
comp=E,30nm,0.2s,SNR=7.9
ECHI S Sn 03 14 37.4 -3.7
comp=E,53nm,0.2s,SNR=7.9
EMIR Miracle 7.66 43 P Pn 03 13 20.4 +2.0
comp=E,7.2nm,0.2s,SNR=32
EMIR S Sn 03 14 42.6 -1.2
comp=E,44nm,0.3s,SNR=5.6
CSOR Sort 7.78 39 P Pn 03 13 22.5 +2.5
comp=E,284nm,0.4s,SNR=5.0
CSOR S Sn 03 14 42.9 -3.8
comp=E,89nm,0.4s,SNR=7.9
EPF Esparros 7.90 33 *e*Pn Pn 03 13 23.5 +1.9
SNR=1.0
EPF *e*Sn Sn 03 14 46.6 -3.1
comp=E,149nm,0.3s
EPF Esparros 7.90 33 *e*Pn Pn 03 13 23.5 +1.9
EPF *e*Sn Sn 03 14 46.6 -3.1
CFON Fontmartina 8.09 47 P Pn 03 13 26.0 +1.8
comp=E,5.0nm,0.2s,SNR=12
CLLI Llivia 8.29 42 P Pn 03 13 29.0 +1.9
comp=E,7.5nm,0.3s,SNR=7.9
CLLI S Sn 03 14 55.7 -3.7
comp=E,18nm,0.3s,SNR=7.1
EJON La Jonquera 8.78 45 P Pn 03 13 36.1 +2.4
comp=E,3.4nm,0.3s,SNR=7.9
EJON S Sn 03 15 08.2 -3.0
comp=E,19nm,0.7s,SNR=7.9
MTLF Montolieu 9.03 39 *e*Pn Pn 03 13 38.3 +1.3
SNR=1.0
MTLF *e*Sn Sn 03 15 15.6 -1.6
comp=E,15nm,0.3s
MTLF Montolieu 9.03 39 *e*Pn Pn 03 13 38.3 +1.3
MTLF *e*Sn Sn 03 15 15.6 -1.6
TANT Tantan 9.43 212 P Pn 03 13 41.6 -0.9
LFF La Frestale 9.65 27 *e*Pn Pn 03 13 46.9 +1.4
SNR=1.0
LFF *e*Sn Sn 03 15 29.4 -3.0
comp=E,36nm,0.3s
LFF La Frestale 9.65 27 *e*Pn Pn 03 13 46.9 +1.4
LFF *e*Sn Sn 03 15 29.4 -3.0
CAF Calviac 10.16 32 *e*Pn Pn 03 13 53.6 +1.0
SNR=1.0
CAF *e*Sn Sn 03 15 40.9 -4.3
comp=E,14nm,0.3s
CAF Calviac 10.16 32 *e*Pn Pn 03 13 53.6 +1.0
CAF *e*Sn Sn 03 15 40.9 -4.3
RJF Les Rejaudoux 10.25 29 *e*Pn Pn 03 13 54.6 +0.9
SNR=1.0
RJF *e*Sn Sn 03 15 42.4 -4.8
comp=E,20nm,0.3s
RJF Les Rejaudoux 10.25 29 *e*Pn Pn 03 13 54.6 +0.9
RJF *e*Sn Sn 03 15 42.4 -4.8
LASF Ste Croix 10.39 41 *e*Pn Pn 03 13 56.4 +0.8
SNR=1.0
LASF *e*Sn Sn 03 15 48.0 -2.6
comp=E,3.7nm,0.2s
LASF Ste Croix 10.39 41 *e*Pn Pn 03 13 56.4 +0.8
LASF *e*Sn Sn 03 15 48.0 -2.6
MFF Saint Martin d 10.84 20 *e*Pn Pn 03 14 03.3 +1.6
SNR=1.0
MFF *e*Sn Sn 03 15 55.0 -6.6
comp=E,26nm,0.4s,SNR=1.0
MFF Saint Martin d 10.84 20 *e*Pn Pn 03 14 03.3 +1.6
MFF *e*Sn Sn 03 15 55.0 -6.6
SMRF Simiane la Rot 11.26 45 *e*Pn Pn 03 14 10.2 +2.5
SMRF *e*Sn Sn 03 16 10.1 -2.0
comp=E,1.9nm,0.4s
SMRF Simiane la Rot 11.26 45 *e*Pn Pn 03 14 10.2 +2.5
SMRF *e*Sn Sn 03 16 10.1 -2.0
TCF Toulx Ste Croi 11.34 28 *e*Pn Pn 03 14 09.5 +0.9
SNR=1.0
TCF *e*Sn Sn 03 16 08.2 -5.7
comp=E,7.4nm,0.2s
TCF Toulx Ste Croi 11.34 28 *e*Pn Pn 03 14 09.5 +0.9
TCF *e*Sn Sn 03 16 08.2 -5.7
VIVF Saint-Julien-l 11.35 40 *e*Pn Pn 03 14 09.3 +0.5
SNR=1.0
VIVF *e*Sn Sn 03 16 11.0 -3.1
comp=E,1.7nm,0.3s
VIVF Saint-Julien-l 11.35 40 *e*Pn Pn 03 14 09.3 +0.5
VIVF *e*Sn Sn 03 16 11.0 -3.1
LMR La Mourre 11.45 50 *e*Pn Pn 03 14 12.3 +2.1
LMR *e*Sn Sn 03 16 13.9 -2.7
comp=E,3.2nm,0.3s
LMR La Mourre 11.45 50 *e*Pn Pn 03 14 12.3 +2.1
QUIF Quistinic 11.52 8 *e*Pn Pn 03 14 12.0 +1.0
SNR=1.0
QUIF *e*Sn Sn 03 16 11.8 -6.3
comp=E,34nm,0.4s
QUIF Quistinic 11.52 8 *e*Pn Pn 03 14 12.0 +1.0
QUIF *e*Sn Sn 03 16 11.8 -6.3
FRF La Foret Royal 11.66 49 *e*Pn Pn 03 14 14.0 +1.0
FRF *e*Sn Sn 03 16 19.2 -2.5
comp=E,4.3nm,0.3s
FRF La Foret Royal 11.66 49 *e*Pn Pn 03 14 14.0 +1.0
BGF Bois d'Agland 11.81 29 *e*Pn Pn 03 14 16.0 +1.0
SNR=1.0
BGF *e*Sn Sn 03 16 20.9 -4.4
comp=E,45nm,0.4s
BGF Bois d'Agland 11.81 29 *e*Pn Pn 03 14 16.0 +1.0
BGF *e*Sn Sn 03 16 20.9 -4.4
ROSF Rostrenen 11.92 7 *e*Pn Pn 03 14 17.4 +0.9
SNR=1.0
ROSF *e*Sn Sn 03 16 20.9 -7.1
comp=E,24nm,0.3s,SNR=1.0
ROSF Rostrenen 11.92 7 *e*Pn Pn 03 14 17.4 +0.9
ROSF *e*Sn Sn 03 16 20.9 -7.1
SGMF Saint Gilles 11.92 10 *e*Pn Pn 03 14 17.7 +1.1
SNR=1.0
SGMF *e*Sn Sn 03 16 21.9 -6.2
comp=E,16nm,0.3s
SGMF Saint Gilles 11.92 10 *e*Pn Pn 03 14 17.7 +1.1
SGMF *e*Sn Sn 03 16 21.9 -6.2
ORIF Oris-en-Rattie 12.03 42 *e*Pn Pn 03 14 21.3 +3.2
ORIF *e*Sn Sn 03 16 23.4 -7.4
ORIF Oris-en-Rattie 12.03 42 *e*Pn Pn 03 14 21.3 +3.2
ORIF *e*Sn Sn 03 16 23.4 -7.4
KEST Kesra 12.04 89 *e*Pn Pn 03 14 21.8 +3.5
KEST *e*Sn Sn 03 16 28.7 -2.5
KEST Kesra 12.04 89 Pn Pn 03 14 20.7 +2.4
comp=E,0.6nm,0.3s,baz=284,slow=8.3,SNR=12
AVF Avril sur Loir 12.20 30 *e*Pn Pn 03 14 22.0 +1.6
SNR=1.0
AVF *e*Sn Sn 03 16 31.7 -3.2
comp=E,6.0nm,0.4s
AVF Avril sur Loir 12.20 30 *e*Pn Pn 03 14 22.0 +1.6
AVF *e*Sn Sn 03 16 31.7 -3.2
SMF Signal de Mont 12.29 32 *e*Pn Pn 03 14 22.2 +0.6
SNR=1.0
SMF *e*Sn Sn 03 16 33.3 -3.7
comp=E,2.6nm,0.4s
SMF Signal de Mont 12.29 32 *e*Pn Pn 03 14 22.2 +0.6
SMF *e*Sn Sn 03 16 33.3 -3.7
SBF Sospel 12.30 49 *e*Pn Pn 03 14 21.2 -0.7
SBF *e*Sn Sn 03 16 30.7 -6.9
SBF Sospel 12.30 49 *e*Pn Pn 03 14 21.2 -0.7
HYF Humbligny 12.32 27 *e*Pn Pn 03 14 23.2 +1.2
HYF *e*Sn Sn 03 16 33.7 -4.2
HYF Humbligny 12.32 27 *e*Pn Pn 03 14 23.2 +1.2
HYF *e*Sn Sn 03 16 33.7 -4.2
GRR Gorron 12.34 15 *e*Pn Pn 03 14 23.0 +0.7
SNR=1.0
GRR *e*Sn Sn 03 16 30.1 -8.2
comp=E,18nm,0.3s
GRR Gorron 12.34 15 *e*Pn Pn 03 14 23.0 +0.7
GRR *e*Sn Sn 03 16 30.1 -8.2
MBDF Montbardon 12.40 45 *e*Pn Pn 03 14 26.4 +3.1
MBDF *e*Sn Sn 03 16 36.5 -3.6
comp=E,0.4nm,0.2s
MBDF Montbardon 12.40 45 *e*Pn Pn 03 14 26.4 +3.1
SSF Saint Saulge 12.48 30 *e*Pn Pn 03 14 25.3 +1.1
SSF *e*Sn Sn 03 16 37.4 -4.4
comp=E,5.7nm,0.3s,SNR=1.0
SSF Saint Saulge 12.48 30 *e*Pn Pn 03 14 25.3 +1.1
SSF *e*Sn Sn 03 16 37.4 -4.4
LDF La Druitiere 12.69 16 *e*Pn Pn 03 14 28.1 +1.0
SNR=1.0
LDF *e*Sn Sn 03 16 38.9 -8.0
comp=E,9.4nm,0.4s

LDF	**La Druitiere**	**12.69**	**16**	*e*Pn	**Pn**	**03 14 28.1 +1.0**			
LDF				*e*Sn	Sn	03 16 38.9 -8.0			
PGF	**Pioggiola**	**12.70**	**57**	*e*Pn	**Pn**	**03 14 27.5 +0.1**			
PGF				*e*Sn	Sn	03 16 37.8 -10			
PGF	**Pioggiola**	**12.70**	**57**	*e*Pn	**Pn**	**03 14 27.5 +0.1**			
PGF				*e*Sn	Sn	03 16 37.8 -10			
FLN	**La Foliniere**	**12.77**	**15**	*e*Pn	**Pn**	**03 14 29.0 +0.8**			
	baz=200,SNR=1.0								
FLN				*e*Sn	**Sn**	**03 16 41.5 -7.4**			
	comp=E,4.5nm,0.3s,baz=214								
FLN	**La Foliniere**	**12.77**	**15**	*e*Pn	**Pn**	**03 14 29.0 +0.8**			
FLN				*e*Sn	**Sn**	**03 16 41.5 -7.4**			
FLN	**La Foliniere**	**12.77**	**15**	Pn	**Sn**	**03 14 29.0 +0.8**			
FLN				Sn	**Sn**	**03 16 41.5 -7.4**			
	comp=E,2.2nm,0.3s								
LOR	**Lormes**	**12.79**	**30**	*e*Pn	**Pn**	**03 14 30.1 +1.7**			
	baz=218,SNR=1.0								
LOR				*e*Sn	**Sn**	**03 16 45.3 -4.0**			
	comp=E,3.8nm,0.3s,baz=206								
LOR	**Lormes**	**12.79**	**30**	*e*Pn	**Pn**	**03 14 30.1 +1.7**			
LOR				*e*Sn	**Sn**	**03 16 45.3 -4.0**			
LOR	**Lormes**	**12.79**	**30**	Pn	**Pn**	**03 14 30.1 +1.7**			
CLF	**Chambon-Foret**	**12.84**	**24**	*e*Pn	**Pn**	**03 14 30.3 +1.2**			
CLF				*e*Sn	**Sn**	**03 16 44.6 -5.9**			
LPG	**La Plagne**	**12.87**	**42**	*e*Pn	**Pn**	**03 14 31.6 +1.8**			
LPG	**La Plagne**	**12.87**	**42**	*e*Pn	**Pn**	**03 14 31.6 +1.8**			
LPG	**La Plagne**	**12.87**	**42**	Pn	**Pn**	**03 14 31.6 +1.8**			
LPL	**La Plagne**	**12.87**	**42**	*e*Pn	**Pn**	**03 14 30.6 +0.8**			
LPL				*e*Sn	**Sn**	**03 16 48.5 -3.2**			
	comp=E,0.5nm,0.3s								
LPL	**La Plagne**	**12.87**	**42**	*e*Pn	**Pn**	**03 14 30.6 +0.8**			
LPL	**La Plagne**	**12.87**	**42**	Pn	**Pn**	**03 14 30.6 +0.8**			
JSA	**Saint Aubin**	**12.89**	**10**	*e*P	**Pn**	**03 14 31.2 +1.5**			
JSA				IAmb	IAmb	03 14 33.7			
	comp=Z,18nm,0.5s								
JRS	**Jersey**	**12.90**	**10**	*e*P	**Pn**	**03 14 31.3 +1.4**			
CABF	**La Chapelle**	**13.28**	**37**	*e*Pn	**Pn**	**03 14 36.1 +0.8**			
	SNR=1.0								
CABF	**La Chapelle**	**13.28**	**37**	*e*Pn	**Pn**	**03 14 36.1 +0.8**			
CABF	**La Chapelle**	**13.28**	**37**	Pn	**Pn**	**03 14 36.1 +0.8**			
CCA1	**Carnmenellis**	**13.66**	**1**	*e*P	**Pn**	**03 14 41.4 +1.2**			
DYA	**Yadsworthy**	**13.95**	**4**	*e*P	**Pn**	**03 14 46.6 +2.3**			
DYA				IAmb	IAmb	03 14 47.7			
	comp=Z,17nm,0.6s								
SFTF	**Sexfontaines**	**14.02**	**30**	*e*Pn	**Pn**	**03 14 45.1 -0.1**			
SFTF	**Sexfontaines**	**14.02**	**30**	*e*Pn	**Pn**	**03 14 45.1 -0.1**			
MEZF	**Maizieres J'vi**	**14.26**	**30**	*e*Pn	**Pn**	**03 14 49.5 +1.1**			
MEZF	**Maizieres J'vi**	**14.26**	**30**	*e*Pn	**Pn**	**03 14 49.5 +1.1**			
MEZF	**Maizieres J'vi**	**14.26**	**30**	Pn	**Pn**	**03 14 49.5 +1.1**			
HAU	**Haudompre**	**14.42**	**34**	*e*Pn	**Pn**	**03 14 50.6 0.0**			
HAU	**Haudompre**	**14.42**	**34**	*e*Pn	**Pn**	**03 14 50.6 0.0**			
HTL	**Hartland**	**14.48**	**3**	*e*P	**Pn**	**03 14 52.7 +1.4**			
HTL				IAmb	IAmb	03 14 53.7			
	comp=Z,47nm,1.0s								
HINF	**Hinteralfeld**	**14.51**	**35**	*e*Pn	**Pn**	**03 14 52.8 +0.9**			
HINF	**Hinteralfeld**	**14.51**	**35**	*e*Pn	**Pn**	**03 14 52.8 +0.9**			
HINF	**Hinteralfeld**	**14.51**	**35**	Pn	**Pn**	**03 14 52.8 +0.9**			
PAGF	**Fort de Pagny**	**14.57**	**31**	*e*Pn	**Pn**	**03 14 53.1 +0.5**			
PAGF	**Fort de Pagny**	**14.57**	**31**	*e*Pn	**Pn**	**03 14 53.1 +0.5**			
HMNX	**Herstmonceux**	**14.94**	**14**	*e*P	**Pn**	**03 14 58.7 +1.3**			
HMNX				IAmb	IAmb	03 15 00.1			
	comp=Z,38nm,0.5s								
CDF	**Champ du Feu**	**15.14**	**34**	*e*Pn	**Pn**	**03 15 01.1 +0.9**			
CDF	**Champ du Feu**	**15.14**	**34**	*e*Pn	**Pn**	**03 15 01.1 +0.9**			
CDF	**Champ du Feu**	**15.14**	**34**	Pn	**Pn**	**03 15 01.1 +0.9**			
SWN1	**Swindon**	**15.22**	**9**	*e*P	**Pn**	**03 15 03.9 -1.5**			
BAIF	**Baives**	**15.24**	**24**	*e*Pn	**Pn**	**03 15 03.2 +1.8**			
	SNR=1.0								
BAIF				*e*Sn	**Sn**	**03 17 42.8 -6.2**			
	comp=Z,2.2nm,0.3s								
BAIF	**Baives**	**15.24**	**24**	*e*Pn	**Pn**	**03 15 03.2 +1.8**			
BAIF				*e*Sn	**Sn**	**03 17 42.8 -6.2**			
BAIF	**Baives**	**15.24**	**24**	Pn	**Pn**	**03 15 03.2 +1.8**			
OLDB	**Oldbury-Upon-S**	**15.28**	**7**	*e*P	**P**	**03 15 04.0 -2.0**			
OLDB				IAmb	IAmb	03 15 04.5			
	comp=Z,31nm,0.4s								
ELSH	**Elham, Standar**	**15.37**	**16**	*e*P	**Pn**	**03 15 04.8 +1.7**			
DAVOX	**Davos/Dischmat**	**15.37**	**43**	Pn	**P**	**03 15 09.3 +2.0**			
	comp=Z,0.1nm,0.3s,baz=221,slow=19,SNR=3.3								
DOU	**Dourbes**	**15.41**	**25**	P	**Pn**	**03 15 05.2 +1.7**			
	comp=Z,13nm,0.5s								
MONM	**Monmouth**	**15.43**	**6**	*e*P	**P**	**03 15 06.2 -1.6**			
STRD	**Stroud**	**15.43**	**8**	*e*P	**P**	**03 15 06.1 -1.7**			
STRD				IAmb	IAmb	03 15 07.9			
	comp=Z,41nm,0.5s								
BBOU	**Bougnies**	**15.44**	**23**	P	**P**	**03 15 06.2 -1.6**			
GIVF	**Givet**	**15.49**	**26**	*e*Pn	**Pn**	**03 15 06.2 +1.6**			
	SNR=1.0								
GIVF				*e*Sn	**Sn**	**03 17 49.1 -5.9**			
	comp=Z,3.0nm,0.3s								
GIVF	**Givet**	**15.49**	**26**	*e*Pn	**Pn**	**03 15 06.2 +1.6**			
GIVF				*e*Sn	**Sn**	**03 17 49.1 -5.9**			
GIVF	**Givet**	**15.49**	**26**	Pn	**Pn**	**03 15 06.2 +1.6**			
MCH1	**Michaelchurch**	**15.57**	**6**	*e*P	**P**	**03 15 07.6 -1.7**			
MCH1				IAmb	IAmb	03 15 08.7			
	comp=Z,19nm,0.5s								
LPW	**Lampeter**	**15.62**	**3**	*e*P	**P**	**03 15 09.1 -0.7**			
WLF	**Walferdange**	**15.62**	**29**	*e*Pn	**Pn**	**03 15 06.6 +0.3**			
	comp=Z,57nm,1.1s								
WLF	**Walferdange**	**15.62**	**29**	P	**Pn**	**03 15 07.7 +1.4**			
BMRD	**Maredsous**	**15.64**	**25**	P	**P**	**03 15 08.3 -1.7**			
BSKQ	**Steenkerk**	**15.71**	**23**	P	**P**	**03 15 09.9 -1.0**			
BRQR	**Ronquire**	**15.72**	**23**	P	**P**	**03 15 09.7 -1.3**			
BGES	**Gesves**	**15.82**	**26**	P	**P**	**03 15 10.7 -1.4**			
BCLA	**Clavier**	**15.93**	**26**	P	**P**	**03 15 11.8 -1.4**			
	comp=Z,8.9nm,0.7s								
UCC	**Uccle**	**15.93**	**23**	*e*Pn	**Pn**	**03 15 10.5 +0.2**			
	comp=Z,12nm,0.5s								
UCC	**Uccle**	**15.93**	**23**	⇑P	**P**	**03 15 11.9 -1.4**			
VAE	**Valguarnera**	**15.94**	**81**	Pn	**Pn**	**03 15 08.1 -2.5**			
	comp=Z,3.6nm,0.3s,baz=230,slow=13,SNR=2.0								
HLM1	**Long Mynd**	**16.10**	**6**	*e*P	**P**	**03 15 15.6 +0.5**			
BSTI	**Sart Tilman**	**16.16**	**26**	P	**P**	**03 15 16.0 +0.2**			
BLCH	**La Chartreuse**	**16.21**	**26**	P	**P**	**03 15 16.8 +0.4**			
MEM	**Membach**	**16.33**	**27**	P	**P**	**03 15 17.7 0.0**			
CWF	**Charnwood Fore**	**16.48**	**9**	*e*P	**P**	**03 15 19.9 +0.6**			
CWF				IAmb	IAmb	03 15 25.0			
	comp=Z,21nm,0.9s								
TAM	**Tamanrasset**	**16.69**	**142**	*e*Pn	**P**	**03 15 28.3 +6.3**			
	comp=Z,1.6nm,0.7s								
STNC	**Stoke**	**16.73**	**7**	*e*P	**P**	**03 15 23.9 +1.8**			
STNC				IAmb	IAmb	03 15 26.7			
	comp=Z,16nm,0.6s								
DSB	**Dublin**	**16.73**	**358**	*e*Pn	**P**	**03 15 22.2 +0.1**			
	comp=Z,51nm,1.4s								
GEA0	**GERESS Array S**	**18.66**	**43**	*e*P	**Pn**	**03 15 46.0 +1.8**			
GEC2	**GERESS Array S**	**18.67**	**43**	*e*P	**P**	**03 15 43.7 0.0**			
	comp=Z,5.0nm,1.4s								
GERES	**GERESS Array B**	**18.67**	**43**	P	**P**	**03 15 43.7 0.0**			
	comp=Z,0.3nm,0.3s,baz=231,slow=10,SNR=6.1								
GERES				LR	LR	03 22 36.5			
	comp=Z,57nm,20.4s,baz=224,slow=36								
KHC	**Kasperske Hory**	**18.77**	**42**	*e*P	**Pn**	**03 15 45.7 +0.3**			
	comp=Z,1.7nm,0.7s								
KHC	**Kasperske Hory**	**18.77**	**42**	*e*P	**Pn**	**03 15 47.9 +2.5**			
EKA	**Eskdalemuir Ar**	**18.88**	**4**	P	**Pn**	**03 15 47.9 +1.2**			
	baz=170,slow=8.6,SNR=3.3								
KRUC	**Moravsky**	**20.29**	**45**	*e*P	Pn	03 16 03.3 -0.2			
MODS	**Modra-Piesok**	**20.48**	**48**	*e*P	Pn	03 16 05.9 +0.2			
VRAC	**Vranov**	**20.53**	**45**	*e*P	Pn	03 16 05.6 -0.7			
VRAC	**Vranov**	**20.53**	**45**	P	Pn	03 16 04.9 -1.4			
	comp=Z,4.0nm,0.7s,baz=244,slow=12,SNR=6.0								
VRAC				LR	LR	03 25 14.3			
	comp=Z,49nm,21.9s,baz=219,slow=40								
SMOL	**Smolenice**	**20.63**	**47**	*e*P	Pn	03 16 07.9 +0.4			
UPC	**Upice**	**20.84**	**41**	*e*P	Pn	03 16 11.6 +1.5			
SRO	**Srobarova**	**20.86**	**50**	*e*P	Pn	03 16 11.2 +1.0			
DPC	**Dobruska-Polom**	**20.92**	**42**	*e*P	Pn	03 16 11.6 +0.6			
KRLC	**Kraliky**	**21.02**	**43**	*e*P	**P**	**03 16 12.2 +3.0**			
MORC	**Moravsky Berou**	**21.30**	**44**	*e*P	**P**	**03 16 14.9 +2.8**			
	comp=Z,6.9nm,0.7s								
MORC	**Moravsky Berou**	**21.30**	**44**	*e*P	**P**	**03 16 14.8 +2.7**			
TOA1	**Torodi Ar. Sit**	**24.15**	**163**	*e*P	**P**	**03 16 41.8 +0.4**			
TOA0	**Torodi Ar. Sit**	**24.16**	**163**	*e*P	**P**	**03 16 42.2 +0.8**			
	comp=Z,3.7nm,0.7s								
TORD	**Torodi Ar. Bea**	**24.16**	**163**	P	**P**	**03 16 41.8 +0.4**			
	comp=Z,0.9nm,0.8s,baz=335,slow=8.3,SNR=8.6								
IDI	**Anoyia**	**24.60**	**84**	P	**P**	**03 16 44.8 -0.7**			
	comp=Z,3.9nm,0.8s,baz=284,slow=19,SNR=2.3								
MLR	**Muntele Rosu**	**25.23**	**59**	P	**P**	**03 16 50.5 -0.7**			
	comp=Z,1.1nm,0.7s,baz=294,slow=20,SNR=2.2								
HFS	**Hagfors**	**26.65**	**22**	P	**P**	**03 17 04.8 +1.1**			
	comp=Z,5.9nm,1.1s,baz=186,slow=11,SNR=3.2								
NB200	**NORSAR Array S**	**26.73**	**18**	*e*P	**P**	**03 17 06.3 +1.8**			
NOA	**NORSAR Array B**	**26.73**	**18**	P	**P**	**03 17 06.3 +1.8**			
	comp=Z,1.8nm,1.0s,baz=212,slow=8.6,SNR=2.3								
NOA				LR	LR	03 29 53.0			
	comp=Z,28nm,18.6s,baz=215,slow=41								
AKASG	**Malin Array Be**	**28.56**	**49**	P	**P**	**03 17 19.6 -1.3**			
	comp=Z,0.1nm,0.3s,baz=254,slow=9.3,SNR=2.4								
AKBB	**Malin Array Si**	**28.56**	**49**	*e*P	**P**	**03 17 19.6 -1.3**			
	comp=Z,3.0nm,1.0s								
FIA0	**FINESS Array S**	**31.85**	**28**	*e*P	**P**	**03 17 51.6 +1.9**			
FINES	**FINESS Array B**	**31.85**	**28**	P	**P**	**03 17 51.6 +1.9**			
	comp=Z,2.8nm,0.9s,baz=256,slow=7.7,SNR=5.1								
FINES				LR	LR	03 29 32.2			
	comp=Z,30nm,21.8s,baz=240,slow=34								
FIA1	**FINESS Array S**	**31.85**	**28**	*e*P	**P**	**03 17 52.3 +2.5**			
NRS	**Narsarsuaq**	**35.13**	**327**	*e*P	P	03 18 22.6 +4.3			
	comp=Z,80nm,1.4s								
ARA0	**ARCESS Array S**	**37.10**	**17**	*e*P	**P**	**03 18 37.5 +2.3**			
ARCES	**ARCESS Array B**	**37.10**	**17**	*e*P	**P**	**03 18 37.1 +1.9**			
ARCES	**ARCESS Array B**	**37.10**	**17**	P	**P**	**03 18 37.5 +2.3**			
	comp=Z,5.0nm,0.7s,baz=222,slow=8.2,SNR=11								
KURK	**Kurchatov**	**59.34**	**47**	*e*P	**P**	**03 21 28.2 +1.5**			
	comp=Z,2.2nm,0.7s								
ZAA1	**Zalesovo Array**	**61.62**	**42**	*e*P	**P**	**03 21 42.2 0.0**			
ZALV	**Zalesovo Beam**	**61.62**	**42**	P	**P**	**03 21 42.2 0.0**			
	comp=Z,0.5nm,0.6s,baz=309,slow=9.1,SNR=3.1								
MK31	**Makanchi Array**	**63.14**	**50**	*e*P	**P**	**03 21 54.2 +1.7**			
	comp=Z,0.9nm,0.9s								
MK32	**Makanchi Array**	**63.14**	**50**	*e*P	**P**	**03 21 52.7 +0.2**			
MKAR	**Makanchi Array**	**63.14**	**50**	P	**P**	**03 21 52.7 +0.2**			
	comp=Z,0.8nm,0.8s,baz=292,slow=6.4,SNR=8.6								
HDIL	**Hopedale**	**63.25**	**302**	*e*P	**P**	**03 21 55.1 +1.8**			
	comp=Z,57nm,0.6s								
YKA	**Yellowknife Ar**	**66.27**	**331**	P	**P**	**03 22 14.3 +1.7**			
	comp=Z,0.2nm,0.7s,baz=62,slow=6.4,SNR=4.4								
ILAR	**Eielson Array**	**74.59**	**344**	P	P	03 23 07.6 +4.2			
	comp=Z,0.1nm,0.6s,baz=33,slow=3.5,SNR=2.3								
ILAR				LR	LR	03 57 25.8			
	comp=Z,115nm,21.0s,baz=248,slow=37								
CPUP	**Villa Florida**	**79.32**	**226**	P	**P**	**03 23 32.8 +2.4**			
	comp=Z,0.9nm,0.7s,baz=57,slow=5.4,SNR=5.4								

ISCJB ***19*** *03:28:54.1±1.6, 58.°94S±0.°03×24.°48W±0.°07, h0km±9km, mb5.8/106, MS5.8/723, Error ellipse: s-maj=6.6km s-min=3.7km az=142.2*

IDC ***19*** *03:28:55.4±0.2, 58.°92S×24.°42W, h0km, mb5.4/33, mb1 5.4/34, mb1mx5.4/38, mbtmp5.4/34, ML5.9/2, MS5.7/21, Ms1 5.7/21, ms1mx5.7/23, Error ellipse: s-maj=10.0km s-min=9.3km az=28.0*

NEIC ***19*** *03:28:58.8±2.0, 58.°89S×24.°33W, h20km, mb6.0/89, ME5.6, MS5.8/756, MW5.9, MW6.0, MW5.9, Error ellipse: s-maj=14.2km s-min=11.6km az=224.0, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁷Nm; Mrr6.04; Mθθ-7.22; Mφφ 1.18; Mrθ-0.50; Mθφ3.25; Mφr3.08; Best double couple: M₀8.10000×10¹⁷ NP1:φs84.00000°, δ46.00000°, λ51.00000°. NP2:φs313.00000°, δ57.00000°, λ123.00000°. Principal axes: T 7.6000, Plg62.0000°, Azm279.0000°; N 0.8800, Plg27.0000°, Azm114.0000°; P -8.4900, Plg6.0000°, Azm20.0000°; Apparent Stress 0.17 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from MT mechanism.*

BJI ***19*** *03:28:58.5, 58.°855S×24.°40W, h30km, mB5.8/51, Ms6.0/64, Ms7 5.9/58*

MOS ***19*** *03:28:59.3±1.0, 58.°98S×24.°47W, h33km, mb5.9/33, MS5.7/57, Error ellipse: s-maj=19.5km s-min=8.8km az=104.3*

NEIC ***19*** *03:29:00.0±0.0, 58.°82S×24.°22W, h40km Best double couple: NP1:φs319.00000°, δ64.00000°, λ112.00000°. NP2:φs96.00000°, δ34.00000°, λ52.00000°. Principal axes: T 0.9500, Plg64.0000°, Azm266.0000°; N 0.0900, Plg19.0000°, Azm129.0000°; P -1.0400, Plg16.0000°, Azm33.0000°;*

GCMT ***19*** *03:29:03.8±0.1, 59.°10S×23.°87W, h35km, MW6.0/125, Moment Tensor Solution. s122,c255; s125,c400; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.73±.01; Mθθ-0.82±.01; Mφφ0.09±.01; Mrθ-0.07±.01; Mθφ0.53±.01; Mφr0.69±.01; Best double couple: M₀1.16500×10¹⁸ NP1:φs325.00000°, δ65.00000°, λ127.00000°. NP2:φs85.00000°, δ43.00000°, λ38.00000°. Principal axes: T 1.1950, Plg55.0000°, Azm282.0000°; N -0.0590, Plg33.0000°, Azm127.0000°; P -1.1360, Plg12.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***19*** *03:29:23.2±0.0, 58.°17S×24.°13W, h43km Best double couple: NP1:φs319.00000°, δ56.00000°, λ124.00000°. NP2:φs89.00000°, δ47.00000°, λ50.00000°. Principal axes: T 1.2400, Plg62.0000°, Azm287.0000°; N -0.0100, Plg28.0000°, Azm118.0000°; P -1.2300, Plg5.0000°, Azm26.0000°;*

ISC 19 03:29:02.7±0.5, 58.°98S±0.°03×24.°57W±0.°04, h52km±4km, n1452, s1°90/1143, mb5.8/101, MS5.8/731, 33C-15D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.08**	**300**	Op *e*Pn		**Pn**	**03 31 01.5**	**+4.3**
HOPE				*e*Sn		**Sn**	**03 32 28.0**	**+1.0**
VNA1	**Neumayer--Stat**	**13.54**	**156**	P		**Pn**	**03 32 09.0**	**-2.6**
VNA1				S		Sn	03 34 30.2	-10
I27DE	**GEORG VON NEUM**	**13.57**	**157**	Pn		**Pn**	**03 32 09.3**	**-2.8**
	baz=316,slow=12,SNR=0.5							
VNA3	**Neumayer Olymp**	**13.75**	**160**	P		**Pn**	**03 32 10.9**	**-3.7**
VNA3				S		Sn	03 34 28.2	-17
VNA2	**Neumayer--Watz**	**13.93**	**156**	P		**Pn**	**03 32 13.5**	**-3.5**
	baz=314,slow=13							
VNA2				S		Sn	03 34 34.7	-15
	baz=323,slow=16							
SNAA	**Sanae**	**15.48**	**154**	P		**Pn**	**03 32 34.7**	**-2.6**
SNAA				S		Sn	03 35 12.9	-15
SNAA	**Sanae**	**15.48**	**154**	*e*Pn		**Pn**	**03 32 34.3**	**-3.1**
	865nm,0.5s							
SNAA				*e*Sn		**Sn**	**03 35 28.9**	**+1.3**
SNAA	**Sanae**	**15.48**	**154**	Pn		**Pn**	**03 32 34.3**	**-3.1**
	205nm,0.3s,baz=320,slow=14,SNR=1008							
SNAA				Sn		**Sn**	**03 35 29.4**	**+1.9**
	4.2nm,0.3s,baz=330,slow=20,SNR=2.0							
SNAA				LR		LR	03 37 40.4	
	comp=Z,21μm,18.4s,baz=316,slow=34							
NVL	**N'lazarevskaya**	**19.05**	**143**	⇑*i*P		**P**	**03 33 19.2**	**-0.9**
NVL				*i* S		**S**	**03 36 50.1**	**-3.0**
NVL				pmax		pmax		
	comp=Z,58nm,0.9s							
NVL				MLR		MLR		
	comp=Z,8μm,17.0s							
PMSA	**Palmer Station**	**19.23**	**236**	P		**Pn**	**03 33 23.5**	**+0.1**
	comp=Z,9.0nm,0.3s,baz=71,slow=6.5,SNR=19							
PMSA				S		**Sn**	**03 37 01.6**	**+3.7**
	comp=Z,0.4nm,0.3s,baz=73,slow=14,SNR=1.7							
PMSA				LR		LR	03 40 19.9	
	comp=Z,34μm,18.5s,baz=84,slow=35							
PMSA	**Palmer Station**	**19.23**	**236**	*e*P		**Pn**	**03 33 24.7**	**+1.2**
EFI	**East Falkland**	**20.23**	**276**	*e*P		Pn	03 33 34.5	-0.9
	comp=Z,1μm,1.2s							
EFI				*e*S		**S**	**03 37 12.8**	**-4.2**
EFI				LR		LR		
	comp=Z,31μm,22.0s							
EFI	**East Falkland**	**20.23**	**276**	*e*P		Pn	03 33 34.5	-1.0
EFI				*e*S		**S**	**03 37 12.8**	**-4.2**
EFI				pmax		pmax		
	comp=Z,1μm,1.2s							
EFI				MLR		MLR		
	comp=Z,31μm,22.0s							
TRIS	**Tristan da Cun**	**23.33**	**25**	PFAKE			03 34 10.0	+3.9
TRIS				LR		LR		
	comp=Z,25μm,21.0s							
USHA	**Ushuaia**	**23.97**	**261**	P		**P**	**03 34 11.9**	**+0.1**
	comp=Z,125nm,0.5s,baz=109,slow=12,SNR=57							
USHA				PcP		**PcP**	**03 37 53.2**	**+0.8**
	comp=Z,16nm,0.7s,baz=117,slow=8.5,SNR=4.0							
USHA				S		**S**	**03 38 27.1**	**+2.4**
	comp=Z,13nm,1.0s,baz=108,slow=13,SNR=1.9							
USHA				LR		LR	03 41 27.9	
	comp=Z,42μm,21.7s,baz=102,slow=31							
GO10	**Punta Arenas**	**26.14**	**262**	*e*P		**P**	**03 34 31.9**	**+0.2**
	comp=Z,468nm,0.8s							
GO10				LR		LR		
	comp=Z,29μm,20.0s							
GO09	**Cerro Castillo**	**27.84**	**265**	*e*P		**P**	**03 34 45.7**	**-1.2**
	comp=Z,193nm,0.8s							
GO09				LR		LR		
	comp=Z,28μm,18.0s							
SYO	**Syowa Base**	**28.44**	**137**	*e*P		P	03 34 42.0	-10
QSPA	**South Pole Qui**	**31.26**	**180**	*e*P		**P**	**03 35 18.1**	**+0.9**
	comp=Z,336nm,1.4s							
QSPA				*e*PcP		**PcP**	**03 38 11.1**	**+0.9**
QSPA				*e*S		**S**	**03 40 20.4**	**+0.5**
QSPA				LR		LR		
	comp=Z,14μm,18.0s							
QSPA	**South Pole Qui**	**31.26**	**180**	P		**P**	**03 35 18.3**	**+1.1**
	comp=Z,25nm,0.6s,baz=204,slow=2.5,SNR=106							
QSPA				PcP		**PcP**	**03 38 11.0**	**+0.9**
	comp=Z,32nm,0.8s,baz=180,slow=1.0,SNR=2.1							
QSPA				S		**S**	**03 40 16.3**	**-3.5**
	comp=Z,3.6nm,0.6s,baz=163,slow=19,SNR=1.1							
QSPA				PKiKP		**PKiKP**	**03 45 38.6**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=221,slow=1.7,SNR=7.9							
QSPA				LR		LR	03 47 52.8	
	comp=Z,13μm,18.3s,baz=191,slow=36							
OGAUY	**Aigu**	**31.69**	**308**	*e*P		**P**	**03 35 19.9**	**-1.2**
TRQA	**Tornquist**	**31.80**	**294**	*e*P		**P**	**03 35 21.6**	**-0.5**
	comp=Z,148nm,0.9s							
TRQA				LR		LR		
	comp=Z,23μm,21.0s							
TRQA	**Tornquist**	**31.80**	**294**	*e*P		**P**	**03 35 21.6**	**-0.5**
TRQA				pmax		pmax		
	comp=Z,148nm,0.9s							
TRQA				MLR		MLR		
	comp=Z,23μm,21.0s							
LPA	**La Plata**	**32.56**	**303**	*i* P		P	03 35 21.6	-7.0
LPA				PP		**PnPn**	**03 36 27.6**	**-10**
LPA				S		**S**	**03 40 43.0**	**+2.8**
PLTB	**Pedras Altas**	**33.51**	**312**	*e*P		**P**	**03 35 36.1**	**-0.8**
GO07	**Milladeo Hill,**	**33.81**	**276**	*e*P		**P**	**03 35 39.6**	**+0.1**
	comp=Z,754nm,0.7s							
CPSB	**Cacapava Do Su**	**34.65**	**313**	*e*P		**P**	**03 35 46.4**	**-0.5**
CNLB	**Canela**	**34.69**	**317**	*c i*P		**P**	**03 35 47.3**	**0.0**
CNLB				*i*			03 35 49.0	
CNLB				*i*			03 35 54.3	
CNLB				*i*			03 36 33.3	
CNLB				*i*			03 36 56.5	
CNLB				*i*			03 38 21.9	
CNLB				*i*			03 38 43.1	
CNLB	**Canela**	**34.69**	**317**	*e*P		**P**	**03 35 47.4**	**+0.1**
GO06	**Curarrehue**	**35.28**	**282**	*e*P		**P**	**03 35 51.2**	**-1.2**
	comp=Z,163nm,0.6s							
GO06				LR		LR		
	comp=Z,9μm,18.0s							
GO06	**Curarrehue**	**35.28**	**282**	*i* P		**P**	**03 35 51.2**	**-1.2**
CANA	**Caviahue**	**36.37**	**285**	*i* P		**P**	**03 36 00.8**	**-0.9**
CANA				IAML			03 36 02.9	
	comp=Z,81nm,0.6s							
MAW	**Mawson**	**36.96**	**140**	P		**P**	**03 36 06.3**	**+0.1**
	baz=38,SNR=14							
MAW	**Mawson**	**36.96**	**140**	*e*P		**P**	**03 36 06.5**	**+0.3**
	comp=Z,18nm,0.7s							
MAW				*e*S		**S**	**03 41 44.6**	**-2.7**
MAW				LR		LR		
	comp=Z,3μm,20.0s							
MAW	**Mawson**	**36.96**	**140**	P		**P**	**03 36 05.9**	**-0.3**
MAW				S		**S**	**03 41 44.6**	**-2.7**
MAW				*e*S		**S**	**03 41 44.6**	**-2.7**
MAW				MLR		MLR		
	comp=Z,3μm,20.0s							
MAW	**Mawson**	**36.96**	**140**	P		**P**	**03 36 05.

PMNB *i* 03 37 02.5
PMNB *i* 03 37 07.4
PMNB *e* 03 37 31.7
PMNB *i* 03 38 45.1
PMNB *e* 03 39 08.3
PMNB Patos De Minas 43.42 329 *e*P **P 03 37 01.3 +1.0**
ITRB Iturama 43.45 323 *e*P **P 03 37 00.9 +0.5**
VNDA Vanda 43.69 182 *e*P **P 03 37 04.0 +2.3**
comp=Z,82nm,1.0s
VNDA *e*PP **PP 03 38 44.8 +1.0**
VNDA eS **S 03 43 26.1 -1.3**
VNDA Vanda 43.69 182 P **P 03 37 03.6 +1.8**
comp=Z,21nm,0.9s,baz=191,slow=7.4,SNR=25
VNDA S **S 03 43 26.1 -1.3**
comp=Z,1.2nm,0.5s,baz=148,slow=19,SNR=2.3
MCI6 Montes Claros 44.45 333 *e*P **P 03 37 08.8 +0.3**
MCI9 Montes Claros 44.55 333 *e*P **P 03 37 09.7 +0.4**
MCI8 Montes Claros 44.59 333 *e*P **P 03 37 09.9 +0.3**
SHEL Horse Pasture 45.15 26 *e*P **P 03 37 11.3 -2.7**
comp=Z,190nm,1.1s
SHEL Horse Pasture 45.15 26 *e*P **P 03 37 11.3 -2.7**
SHEL pmax pmax
comp=Z,190nm,1.1s
CRZF Crozet Islands 45.42 109 PFAKE 03 37 30.0 +14
CRZF LR LR
comp=Z,8µm,21.0s
GO02 Mina Guanaco 46.10 297 *e*P **P 03 37 21.2 -0.5**
comp=Z,308nm,0.9s
GO02 *e*PcP **PcP 03 38 58.8 +1.6**
GO02 LR LR
comp=Z,7µm,19.0s
JANB Januaria 46.23 333 *e*P **P 03 37 23.0 +0.4**
BDFB Brasilia 46.61 328 *e*P **P 03 37 26.7 +1.0**
BDFB *e*P **P 03 37 26.8 +1.2**
BDFB eS **S 03 44 10.7 -0.2**
BDFB LR LR
comp=Z,10µm,21.0s
BDFB Brasilia 46.61 328 P **P 03 37 26.7 +1.0**
comp=Z,241nm,0.9s,baz=149,slow=6.6,SNR=202
BDFB S **S 03 44 10.7 -0.2**
comp=Z,2.3nm,0.6s,baz=146,slow=15,SNR=1.7
BDFB LR LR 03 55 08.6
comp=Z,9µm,20.2s,baz=155,slow=34
PB10 IPOC Station P 47.96 297 *e*P **P 03 37 35.2 -0.7**
comp=Z,158nm,1.0s
PB10 *e*PcP **PcP 03 39 04.3 +0.9**
PB10 LR LR
comp=Z,4µm,19.0s
LVC Limon Verde 47.99 300 *e*P **P 03 37 36.2 -0.4**
LVC *e*PcP **PcP 03 39 03.9 -0.2**
LVC *e*ScP **ScP 03 43 00.1 +6.4**
LVC LR LR
comp=Z,6µm,19.0s
LVC Limon Verde 47.99 300 P **P 03 37 36.2 -0.4**
comp=Z,126nm,0.9s,baz=165,slow=8.4,SNR=91
LVC PcP **PcP 03 39 05.4 +1.3**
comp=Z,107nm,0.9s,baz=170,slow=3.7,SNR=8.2
LVC ScP **ScP 03 43 00.1 +6.4**
comp=Z,9.4nm,0.8s,baz=190,slow=11,SNR=5.4
LVC LR LR 03 58 46.7
comp=Z,6µm,20.2s,baz=155,slow=37
LVC Limon Verde 47.99 300 *e*P **P 03 37 36.6 0.0**
LBTB Lobatse 48.65 68 P **P 03 37 40.1 -1.3**
comp=Z,31nm,0.8s,baz=214,slow=8.3,SNR=51
SALV Santo Antonio 48.74 319 *e*P **P 03 37 41.6 -0.4**
PB04 IPOC Station P 48.79 298 *e*P **P 03 37 42.0 -0.6**
comp=Z,313nm,0.9s
PB04 LR LR
comp=Z,6µm,18.0s
PB01 IPOC Station P 49.62 300 *e*P **P 03 37 47.8 -1.0**
comp=Z,197nm,0.9s
PB01 LR LR
comp=Z,4µm,20.0s
TSUM Tsumeb 50.02 56 *e*P **P 03 37 51.8 -0.2**
comp=Z,30nm,0.9s
TSUM eS **S 03 44 58.8 -0.3**
TSUM LR LR
comp=Z,12µm,20.0s
TSUM Tsumeb 50.02 56 P **P 03 37 51.8 -0.2**
comp=Z,22nm,0.8s,baz=201,slow=6.1,SNR=27
TSUM S **S 03 44 58.8 -0.3**
comp=Z,1.7nm,0.6s,baz=225,slow=20,SNR=3.9
TSUM LR LR 03 54 21.7
comp=Z,12µm,20.9s,baz=222,slow=31
PEXB Peixe 50.06 329 *e*P **P 03 37 53.5 +1.4**
H10S2 ASCENSION HYDR 50.48 13 T T 04 32 25.8
baz=188,slow=74,SNR=93
H10S3 ASCENSION HYDR 50.49 13 T T 04 32 23.4
baz=188,slow=74,SNR=92
H10S1 ASCENSION HYDR 50.50 13 T T 04 32 25.2
baz=188,slow=74,SNR=96
SIV San Ignacio 50.61 312 P **P 03 37 55.1 -1.2**
comp=Z,64nm,0.5s,baz=171,slow=7.4,SNR=342
SIV PcP **PcP 03 39 13.7 +0.5**
comp=Z,33nm,0.8s,baz=179,slow=4.3,SNR=5.9
SIV LR LR 03 58 30.3
comp=Z,3µm,21.2s,baz=160,slow=35
CASY Casey 50.66 158 *e*P **P 03 37 56.4 +0.4**
comp=Z,232nm,1.3s
CASY LR LR
comp=Z,14µm,20.0s
PB11 IPOC Station P 50.81 301 *e*P **P 03 37 57.0 -0.9**
comp=Z,315nm,1.3s
PB11 LR LR
comp=Z,3µm,18.0s
MNMC Minye Minye 51.34 301 *e*P **P 03 38 00.9 -1.1**
comp=Z,285nm,0.9s
MNMC LR LR
comp=Z,4µm,18.0s
ASCN Ascension 51.53 13 *e*P **P 03 38 03.3 +0.2**
comp=Z,256nm,1.2s
ASCN LR LR
comp=Z,4µm,20.0s
H10N1 ASCENSION HYDR 51.60 13 T T 04 33 47.7
baz=181,slow=71,SNR=9.4
H10N3 ASCENSION HYDR 51.60 13 T T 04 33 48.3
baz=181,slow=71,SNR=73
H10N2 ASCENSION HYDR 51.62 13 T T 04 33 48.3
baz=181,slow=71,SNR=16
LPAZ La Paz 53.21 304 P **P 03 38 16.0 -0.3**
comp=Z,123nm,0.8s,baz=146,slow=5.9,SNR=366
LPAZ PcP **PcP 03 39 25.1 +1.4**
comp=Z,50nm,0.9s,baz=122,slow=3.2,SNR=4.6
LPAZ S **S 03 45 38.8 -5.2**
comp=Z,0.9nm,0.8s,baz=221,slow=11,SNR=1.7
LPAZ LR LR 04 02 29.7
comp=Z,4µm,20.1s,baz=148,slow=38
LPAZ La Paz 53.21 304 *e*P **P 03 38 16.1 -0.2**
RCBR Riachuelo 53.74 346 *e*P **P 03 38 20.2 +0.7**
comp=Z,63nm,1.2s
RCBR eS **S 03 45 43.2 -6.7**
RCBR LR LR
comp=Z,6µm,21.0s
RCBR Riachuelo 53.74 346 *e*P **P 03 38 20.2 +0.7**
RCBR eS **S 03 45 43.2 -6.7**
RCBR pmax pmax
comp=Z,63nm,1.2s
RCBR MLR MLR
comp=Z,6µm,21.0s
RCBR Riachuelo 53.74 346 S **S 03 45 43.2 -6.7**
comp=Z,26nm,0.7s,baz=133,slow=0.2,SNR=1.8
LSZ Lusaka 58.23 65 *e*P **P 03 38 50.4 -1.3**
comp=Z,48nm,1.0s
LSZ eS **S 03 46 46.6 -3.2**
LSZ LR LR
comp=Z,11µm,20.0s
LSZ Lusaka 58.23 65 *e*P **P 03 38 50.4 -1.3**
LSZ eS **S 03 46 46.6 -3.2**
LSZ pmax pmax
comp=Z,48nm,1.0s
LSZ MLR MLR
comp=Z,11µm,20.0s
LSZ Lusaka 58.23 65 P **P 03 38 50.5 -1.3**
SNR=11
LSZ Lusaka 58.23 65 S **S 03 46 46.6 -3.2**
comp=Z,0.5nm,0.3s,baz=117,slow=4.5,SNR=2.0
NNA Nana 60.88 298 *e*P **P 03 39 09.7 -0.2**
comp=Z,160nm,1.0s
NNA LR LR
comp=Z,7µm,22.0s
NNA Nana 60.88 298 *i* P **P 03 39 10.0 +0.1**
NNA Nana 60.88 298 P **P 03 39 09.5 -0.4**
comp=Z,103nm,0.9s,baz=154,slow=6.2,SNR=35
PTGA Pitinga 64.35 320 *e*P **P 03 39 32.3 -0.6**
comp=Z,56nm,0.9s
PTGA *e*PcP **PcP 03 40 08.3 +1.3**
PTGA *e*PP **PP 03 41 49.2 -5.7**
PTGA LR LR
comp=Z,4µm,18.0s
PTGA Pitinga 64.35 320 P **P 03 39 31.9 -1.0**
comp=Z,38nm,0.9s,baz=165,slow=7.2,SNR=62
PTGA PcP **PcP 03 40 08.3 +1.3**
comp=Z,19nm,0.8s,baz=163,slow=3.8,SNR=5.7
PTGA PP **PP 03 41 49.2 -5.7**
comp=Z,21nm,1.0s,baz=166,slow=5.2,SNR=4.3
ABPO Ambohimpanom 64.52 85 *e*P **P 03 39 35.2 +1.0**
comp=Z,39nm,1.1s
ABPO LR LR
comp=Z,4µm,20.0s
ABPO Ambohimpanom 64.52 85 *e*P **P 03 39 35.2 +1.0**
ABPO pmax pmax
comp=Z,39nm,1.1s
ABPO MLR MLR
comp=Z,4µm,20.0s
ATAH Atahualpa 65.86 299 P **P 03 39 44.3 +1.1**
comp=Z,94nm,1.0s,baz=156,slow=4.3,SNR=60
LIC Lamto 66.86 21 *e*P **P 03 39 48.3 -0.7**
comp=Z,260nm,0.9s
KIC Kosan Boka 67.04 21 *e*P **P 03 39 49.4 -0.8**
comp=Z,223nm,1.0s
RER Riviere de l'E 67.15 93 PFAKE 03 40 00.0 +9.0
RER LR LR
comp=Z,5µm,20.0s
TIC Toumodi 67.27 21 *e*P **P 03 39 51.0 -0.6**
DBIC Dimbokro 67.32 21 *e*P **P 03 39 51.8 -0.1**
comp=Z,48nm,0.6s
DBIC *e*S **S 03 48 40.1 -3.1**
DBIC Dimbokro 67.32 21 P **P 03 39 51.9 -0.1**
comp=Z,40nm,0.9s,baz=173,slow=7.4,SNR=32
DBIC S **S 03 48 40.1 -3.1**
comp=Z,8.3nm,1.2s,baz=130,slow=17,SNR=2.0
DBIC LR LR 04 02 18.3
comp=Z,3µm,20.6s,baz=156,slow=30
MDP Montagnes des 67.69 330 P **P 03 39 54.5 +0.2**
comp=Z,100nm,0.9s,baz=152,slow=7.4,SNR=26
PTLC Puerto Leguiza 70.81 306 *e*P **P 03 40 09.9 -3.7**
PTLC Puerto Leguiza 70.81 306 *e*P **P 03 40 09.9 -3.7**
MBAR Mbarara 72.32 60 S **S 03 49 46.4 +4.0**
comp=Z,1.9nm,0.2s,baz=141,slow=13,SNR=2.7
OTAV Otavalo 72.44 302 *e*P **P 03 40 24.4 +0.4**
comp=Z,236nm,1.4s
OTAV LR LR
comp=Z,3µm,22.0s
OTAV Otavalo 72.44 302 *e*P **P 03 40 22.6 -1.4**
OTAV Otavalo 72.44 302 *e*P **P 03 40 24.4 +0.4**
OTAV pmax pmax
comp=Z,236nm,1.4s
OTAV MLR MLR
comp=Z,3µm,22.0s
OTAV Otavalo 72.44 302 *e*P **P 03 40 22.6 -1.4**
OTAV Otavalo 72.44 302 *e*P **P 03 40 24.6 +0.6**
FLOC Florencia 72.44 305 *e*P **P 03 40 21.9 -1.6**
FLOC Florencia 72.44 305 *e*P **P 03 40 21.9 -1.6**
CMBC Cumbal 72.79 303 *e*P **P 03 40 26.8 +0.7**
CMBC Cumbal 72.79 303 *e*P **P 03 40 26.8 +0.7**
GCUF Volcan Galeras 72.84 304 *e*P **P 03 40 26.1 -0.3**
GCUF Volcan Galeras 72.84 304 *e*P **P 03 40 26.1 -0.3**
CRUC La Cruz 72.98 304 *e*P **P 03 40 26.8 -0.2**
CRUC La Cruz 72.98 304 *e*P **P 03 40 26.8 -0.2**
SOTA Rioblanco 73.34 305 *e*P **P 03 40 29.6 +0.3**
SOTA Rioblanco 73.34 305 *e*P **P 03 40 29.6 +0.3**
PCON Cinco Dias 73.42 305 *e*P **P 03 40 29.6 -0.3**
PCON Cinco Dias 73.42 305 *e*P **P 03 40 29.6 -0.3**
SACV Santiago Islan 73.69 1 PFAKE 03 40 40.0 +9.3
SACV LR LR
comp=Z,3µm,21.0s
MARP Paez Belalcaza 73.70 306 *e*P **P 03 40 30.3 -0.9**
MARP Paez Belalcaza 73.70 306 *e*P **P 03 40 30.3 -0.9**
POPC Popayan, Colom 73.73 305 *e*P **P 03 40 30.3 -1.0**
POPC Popayan, Colom 73.73 305 *e*P **P 03 40 30.3 -1.0**
TUMC Tumaco 73.98 303 *e*P **P 03 40 33.9 +1.4**
TUMC Tumaco 73.98 303 *e*P **P 03 40 33.9 +1.4**
PRAC Prado 74.04 307 *e*P **P 03 40 31.7 -1.2**
PRAC Prado 74.04 307 *e*P **P 03 40 31.7 -1.2**
CHIC Chingaza 74.40 308 *e*P **P 03 40 32.4 -3.0**
CHIC Chingaza 74.40 308 *e*P **P 03 40 32.4 -3.0**
PYZ Puysegur Point 74.80 188 PFAKE 03 40 50.0 +13
PYZ LR LR
comp=Z,4µm,18.0s
ROSC El Rosal 74.83 308 *e*P **P 03 40 38.5 +0.6**
comp=Z,63nm,1.3s
ROSC LR LR
comp=Z,4µm,22.0s
ROSC El Rosal 74.83 308 *e*P **P 03 40 36.7 -1.2**
ROSC El Rosal 74.83 308 *e*P **P 03 40 36.7 -1.2**
ROSC El Rosal 74.83 308 P **P 03 40 37.6 -0.3**
comp=Z,27nm,0.9s,baz=156,slow=3.1,SNR=27
ROSC LR LR 04 13 57.4
comp=Z,5µm,21.8s,baz=159,slow=36
KMBO Kilima Mbogo 74.86 66 *e*P **P 03 40 41.2 +3.2**
comp=Z,53nm,1.4s
KMBO LR LR
comp=Z,15µm,20.0s
KMBO Kilima Mbogo 74.86 66 P **P 03 40 40.7 +2.8**
SNR=9.8
KMBO Kilima Mbogo 74.86 66 P **P 03 40 39.8 +1.9**
comp=Z,4.4nm,0.9s,baz=205,slow=5.8,SNR=12
KMBO LR LR 04 10 32.9
comp=Z,15µm,19.6s,baz=187,slow=33
ELOV Elorza 74.90 313 *e*P **P 03 40 37.4 -0.5**
ELOV Elorza 74.90 313 *e*P **P 03 40 37.4 -0.5**
TOC4 Torodi Ar. Sit 74.96 27 PFAKE 03 40 50.0 +12
TOC4 LR LR
comp=Z,6µm,19.0s
TOC5 Torodi Ar. Sit 74.96 26 PFAKE 03 40 50.0 +12
TOC5 LR LR
comp=Z,7µm,19.0s
TOB4 Torodi Ar. Sit 74.98 26 PFAKE 03 40 50.0 +12
TOB4 LR LR
comp=Z,6µm,19.0s
WHZ Wether Hill Ro 74.98 189 *e*P **P 03 40 39.1 +1.1**
comp=Z,44nm,0.9s
TOB3 Torodi Ar. Sit 74.98 27 PFAKE 03 40 50.0 +12
TOB3 LR LR
comp=Z,6µm,19.0s
TOA3 Torodi Ar. Sit 74.98 27 PFAKE 03 40 50.0 +12
TOA3 LR LR
comp=Z,6µm,19.0s
TOC3 Torodi Ar. Sit 74.98 27 PFAKE 03 40 50.0 +12
TOC3 LR LR
comp=Z,6µm,19.0s
TOA0 Torodi Ar. Sit 74.99 27 *e*P **P 03 40 38.3 +0.1**
comp=Z,96nm,0.5s
TOA0 LR LR
comp=Z,6µm,19.0s
TOA0 Torodi Ar. Sit 74.99 27 P **P 03 40 38.4 +0.1**
SNR=31
TORD Torodi Ar. Bea 74.99 27 P **P 03 40 37.0 -1.2**
comp=Z,34nm,0.6s,baz=211,slow=4.0,SNR=320
TORD S **SKiKP 03 50 01.0 +3.7**
comp=Z,0.3nm,0.8s,baz=126,slow=3.7,SNR=2.2
TORD PKKPbc PKKPbc 04 00 15.3 +15
comp=Z,0.6nm,0.9s,baz=27,slow=7.0,SNR=2.9
TORD LR LR 04 08 23.6
comp=Z,5µm,19.0s,baz=275,slow=32
TOB5 Torodi Ar. Sit 74.99 26 PFAKE 03 40 50.0 +12
TOB5 LR LR
comp=Z,6µm,19.0s
TOA1 Torodi Ar. Sit 74.99 27 *e*P **P 03 40 37.0 -1.2**
TOA1 LR LR
comp=Z,6µm,20.0s
TOB2 Torodi Ar. Sit 75.00 27 PFAKE 03 40 50.0 +12
TOB2 LR LR
comp=Z,6µm,20.0s
TOC7 Torodi Ar. Sit 75.00 26 PFAKE 03 40 50.0 +12
TOC7 LR LR
comp=Z,6µm,19.0s
TOC2 Torodi Ar. Sit 75.00 27 PFAKE 03 40 50.0 +12
TOC2 LR LR
comp=Z,6µm,19.0s
TOC1 Torodi Ar. Sit 75.01 27 PFAKE 03 40 50.0 +12
TOC1 LR LR
comp=Z,6µm,19.0s
KOWA Kowa 75.12 21 PFAKE 03 40 50.0 +11
KOWA LR LR
comp=Z,4µm,18.0s
TPP Pointe-a-Pierr 75.20 322 *e* **P 03 40 41.3 +1.8**
TBH Brigand Hill 75.24 323 *e* **P 03 40 41.5 +1.8**
RUSC La Rusia 75.28 310 *e*P **P 03 40 38.1 -2.6**
RUSC La Rusia 75.28 310 *e*P **P 03 40 38.1 -2.6**
RREF El Recreo 75.31 307 *e*P **P 03 40 38.8 -2.2**
RREF El Recreo 75.31 307 *e*P **P 03 40 38.8 -2.2**
MALC Bahia Malaga 75.34 305 *e*P **P 03 40 42.3 +1.9**
MALC Bahia Malaga 75.34 305 *e*P **P 03 40 42.3 +1.9**
MLZ Mavora Lakes 75.49 189 *e*P **P 03 40 41.8 +0.9**
comp=Z,123nm,1.5s
MLZ LR LR
comp=Z,5µm,18.0s
ODZ Otahua Downs 75.58 191 *e*P **P 03 40 42.7 +1.3**
comp=Z,16nm,0.9s
ODZ LR LR
comp=Z,5µm,19.0s
NORC Norcasia 75.71 308 *e*P **P 03 40 38.8 -3.8**
NORC Norcasia 75.71 308 *e*P **P 03 40 38.8 -3.8**
TPR Prospect 75.81 323 *e* **P 03 40 44.5 +1.5**
TOSP Speyside 75.84 324 *e* **P 03 40 43.4 +0.2**
WKZ Wanaka 75.95 190 PFAKE 03 41 00.0 +16
WKZ LR LR
comp=Z,7µm,20.0s
BARC Barichara 75.96 310 *e*P **P 03 40 39.5 -4.7**
BARC Barichara 75.96 310 *e*P **P 03 40 39.5 -4.7**
LBZ Lake Benmore 76.28 191 *e*P **P 03 40 46.0 +0.6**
comp=Z,68nm,1.4s
LBZ LR LR
comp=Z,5µm,19.0s
GIRC Giron, Santand 76.41 310 *e*P P 03 40 40.2 -6.4
GIRC Giron, Santand 76.41 310 *e*P P 03 40 40.2 -6.4
PTBC PUERTO BERRIO, 76.42 309 *e*P P 03 40 41.6 -5.0
PTBC PUERTO BERRIO, 76.42 309 *e*P P 03 40 41.6 -5.0
SOCV Socops 76.60 313 *e*P **P 03 40 45.8 -1.7**
SOCV Socops 76.60 313 *e*P **P 03 40 45.8 -1.7**
MQZ McQueen's Vall 76.69 193 PFAKE 03 41 00.0 +12
MQZ LR LR
comp=Z,3µm,18.0s
CAPV Capacho 76.78 311 *e*P **P 03 40 45.8 -3.0**
CAPV Capacho 76.78 311 *e*P **P 03 40 45.8 -3.0**
RPZ Rata Peaks 76.85 192 *e*P **P 03 40 48.6 -0.1**
RPZ *e*P **P 03 40 50.4 +1.7**
RPZ LR LR
comp=Z,5µm,18.0s
RPZ Rata Peaks 76.85 192 P **P 03 40 48.6 -0.1**
comp=Z,26nm,0.6s,baz=174,slow=4.2,SNR=14
GRGR Grenville 76.97 323 *e*P **P 03 40 50.8 +1.2**
comp=Z,729nm,1.3s
GRGR Grenville 76.97 323 *e* **P 03 40 50.1 +0.6**
GRHS Sauteurs 77.06 323 *e* **P 03 40 51.3 +1.3**
PAYG Puerto Ayora 77.12 291 *e*P **P 03 40 52.9 +2.4**
comp=Z,99nm,1.4s
PAYG LR LR
comp=Z,6µm,19.0s
GRSS Sisters 77.12 323 *e* **P 03 40 52.4 +2.0**
FOZ Fox Glacier 77.16 191 PFAKE 03 41 00.0 +10
FOZ LR LR
comp=Z,5µm,19.0s
BBGH Gun Hill 77.29 325 PFAKE 03 41 00.0 +8.7
BBGH LR LR
comp=Z,6µm,20.0s
LTZ Lake Taylor 77.64 193 *e*P **P 03 40 54.8 +1.6**
comp=Z,106nm,1.4s
FCV Fort Charlotte 77.81 323 *e* **P 03 40 57.7 +3.5**
KHZ Kahutara 77.85 194 PFAKE 03 41 10.0 +16
KHZ LR LR
comp=Z,4µm,20.0s
SVB Belmont 77.92 324 *e*P **P 03 40 56.0 +1.1**
SVB Belmont 77.92 324 *e* **P 03 40 55.3 +0.4**
SVV Soufriere Volc 77.96 324 *e* **P 03 40 58.5 +3.5**
SSV Crater Summit 77.96 324 *e* **P 03 40 57.9 +2.7**
SFAN Fancy Village 78.00 324 *e* **P 03 40 59.4 +4.1**
MCLT Moule a Chique 78.24 324 *e* **P 03 40 57.0 +0.4**
TAU Tasmania Unive 78.25 174 *e*P **P 03 40 56.9 +0.4**
comp=Z,135nm,1.2s
TAU LR LR
comp=Z,12µm,19.0s
TAU Tasmania Unive 78.25 174 *e*P **P 03 40 56.9 +0.4**
TAU pmax pmax
comp=Z,135nm,1.2s
TAU MLR MLR
comp=Z,12µm,19.0s
SMLC San Martn de 78.32 310 *e*P **P 03 40 53.5 -3.6**
SMLC San Martn de 78.32 310 *e*P **P 03 40 53.5 -3.6**
SLB Belfond 78.38 324 *e* **P 03 41 00.4 +2.9**
THZ Tophouse 78.57 193 *e*P **P 03 41 00.6 +2.2**
comp=Z,77nm,0.7s
THZ LR LR
comp=Z,4µm,20.0s
MOO Moorlands 78.71 174 P **P 03 40 59.5 +0.5**
baz=79,SNR=3.9
SNZO South Karori 78.80 195 PFAKE 03 41 10.0 +11
SNZO LR LR
comp=Z,7µm,18.0s
H05S1 Guadeloupe/Mar 78.89 324 P **P 03 41 01.0 +0.9**
SNR=5.9
DABV Dabajuro 78.94 314 *e*P **P 03 40 57.0 -3.4**
DABV Dabajuro 78.94 314 *e*P **P 03 40 57.0 -3.4**
BFZ Birch Farm 79.20 196 PFAKE 03 41 10.0 +8.3
BFZ LR LR
comp=Z,6µm,20.0s
FDF Fort de France 79.27 324 *e*P **P 03 41 03.0 +0.7**
comp=Z,294nm,0.9s
FDF LR LR
comp=Z,2µm,21.0s
FDF Fort de France 79.27 324 *e* **P 03 41 03.3 +1.0**
FDF Fort de France 79.27 324 *e*P **P 03 41 03.0 +0.7**
FDF pmax pmax
comp=Z,294nm,0.9s
FDF MLR MLR
comp=Z,2µm,21.0s
MDN Morne-Daniel 79.90 324 *e* **P 03 41 08.1 +2.5**
AZU Azuero 79.98 304 *e*P **P 03 41 04.8 -1.4**
AZU Azuero 79.98 304 *e*P **P 03 41 04.8 -1.4**
DWS Wesley 80.11 324 *e* **P 03 41 07.0 +0.2**
BBL Barber's Block 80.12 324 *e* **P 03 41 08.0 +1.1**
MDPO Dominica; Chan 80.16 324 *e* **P 03 41 11.4 +4.3**
MDPV Dominica, Penn 80.20 324 *e* **P 03 41 07.0 -0.3**
RKT Rikitea 80.34 241 *e*P **P 03 41 10.2 +2.1**
comp=Z,107nm,0.9s
TBG Guadaloupe-3 80.48 324 *e* **P 03 41 10.3 +1.6**
BKZ Black Stump Fm 80.65 196 *e*P **P 03 41 11.5 +1.8**
comp=Z,99nm,1.3s
BKZ LR LR
comp=Z,4µm,21.0s
H05N1 Guadeloupe/Mar 80.74 325 P **P 03 41 10.4 +0.3**
SNR=10
ZANG Zanguenga, Cho 80.85 305 *e*P **P 03 41 09.1 -1.8**
ICCO Coco Island 81.02 297 *e*P **P 03 41 12.3 +0.5**
BCIP Isla Barro Col 81.03 305 PFAKE 03 41 20.0 +8.2
BCIP LR LR
comp=Z,3µm,22.0s
RKGY Rocky Gully 81.42 149 P **P 03 41 13.6 -0.1**
baz=82,SNR=4.0
URZ Urewera 81.45 197 *e*P **P 03 41 14.5 +0.7**
URZ LR LR
comp=Z,3µm,21.0s
URZ Urewera 81.45 197 P **P 03 41 14.5 +0.7**
comp=Z,12nm,0.6s,baz=195,slow=2.1,SNR=8.2
MLYT Lee's Yard 81.46 324 *e* **P 03 41 15.0 +1.0**
HIZ Hauiti 81.53 195 PFAKE 03 41 30.0 +16
HIZ LR LR
comp=Z,4µm,20.0s
BPA Boggy Peak 81.67 324 *e* **P 03 41 16.3 +1.2**
MXZ Matakaoa Point 81.94 198 PFAKE 03 41 30.0 +14
MXZ LR LR
comp=Z,4µm,20.0s
ANWB Willy Bob 82.23 324 *e*P **P 03 41 18.8 +0.8**
comp=Z,289nm,1.1s
ANWB LR LR
comp=Z,3µm,22.0s
ANWB Willy Bob 82.23 324 *e* **P 03 41 18.3 +0.3**
SEUS St. Eustatius 82.43 323 PFAKE 03 41 30.0 +11
SEUS LR LR
comp=Z,4µm,22.0s
SEUS St. Eustatius 82.43 323 *e* **P 03 41 19.4 +0.4**
SMRT St. Maarten 82.99 323 *e*P **P 03 41 21.9 -0.1**
comp=Z,124nm,0.9s
SMRT LR LR
comp=Z,3µm,21.0s
SMRT St. Maarten 82.99 323 *e* **P 03 41 21.8 -0.1**
NWAO Narrogin (SRO) 83.08 148 P **P 03 41 21.9 -0.5**
baz=84,SNR=5.4
NWAO Narrogin (SRO) 83.08 148 *e*P **P 03 41 22.0 -0.5**
comp=Z,89nm,1.4s
NWAO LR LR
comp=Z,3µm,20.0s
NWAO Narrogin (SRO) 83.08 148 *e*P **P 03 41 22.0 -0.5**
NWAO pmax pmax
comp=Z,89nm,1.4s

NWAO MLR MLR
comp=Z,3µm,20.0s
CDVI St. Croix 83.24 322 *e*P **P** **03 41 23.9 +0.7**
comp=Z,175nm,1.0s
LCR2 La Lucha 2 83.35 301 *e*P **P** **03 41 24.6 +0.4**
TOO Toolangi 83.45 172 P **P** **03 41 24.6 +0.3**
baz=84,SNR=4.1
TOO Toolangi 83.45 172 *e*P **P** **03 41 24.5 +0.1**
comp=Z,76nm,1.3s
TOO LR LR
comp=Z,7µm,18.0s
TOO Toolangi 83.45 172 *e*P **P** **03 41 24.5 +0.1**
TOO pmax pmax
comp=Z,76nm,1.3s
TOO MLR MLR
comp=Z,7µm,18.0s
HDC Heredia 83.63 301 *e*P **P** **03 41 26.0 +0.4**
comp=Z,179nm,1.3s
HDC LR LR
comp=Z,2µm,19.0s
MUN Mundaring 83.69 147 P **P** **03 41 25.2 -0.4**
baz=84,SNR=6.0
MTP Monte Pirata 83.82 321 *e*P **P** **03 41 26.2 0.0**
comp=Z,137nm,0.9s
MTP LR LR
comp=Z,2µm,20.0s
STVI Saint Thomas 83.86 322 *e*P **P** **03 41 25.5 -0.9**
comp=Z,285nm,0.9s
STVI LR LR
comp=Z,3µm,21.0s
CUPR Culebra, Puert 83.93 321 *e*P **P** **03 41 27.0 +0.3**
comp=Z,343nm,0.9s
CUPR LR LR
comp=Z,2µm,20.0s
HUMP Col San Antoni 83.96 321 *e*P **P** **03 41 26.7 -0.2**
comp=Z,188nm,0.9s
HUMP LR LR
comp=Z,3µm,19.0s
ABVI Anegada Island 84.02 322 PFAKE 03 41 40.0 +13
ABVI LR LR
comp=Z,2µm,21.0s
SJG San Juan 84.03 321 *e*P **P** **03 41 26.6 -0.6**
SJG LR LR
comp=Z,2µm,20.0s
SJG San Juan 84.03 321 *e*P **P** **03 41 26.7 -0.6**
SJG MLR MLR
comp=Z,2µm,20.0s
SJG San Juan 84.03 321 P **P** **03 41 26.6 -0.6**
comp=Z,78nm,0.8s,baz=114,slow=1.3,SNR=21
CBYP Canovanas 84.08 321 *e*P **P** **03 41 27.4 -0.2**
comp=Z,210nm,0.9s
CBYP LR LR
comp=Z,3µm,20.0s
OBIP Obispado Ponce 84.11 320 *e*P **P** **03 41 25.9 -1.8**
comp=Z,81nm,0.9s
OBIP LR LR
comp=Z,3µm,20.0s
MILA Mila 84.18 175 P **P** **03 41 28.5 +0.4**
baz=84,SNR=4.1
CRPR Cabo Rojo, PR 84.25 320 PFAKE 03 41 40.0 +12
CRPR LR LR
comp=Z,2µm,18.0s
JTS JuntasAbangare 84.26 301 *e*P **P** **03 41 29.1 +0.5**
comp=Z,114nm,1.3s
JTS LR LR
comp=Z,1µm,20.0s
JTS JuntasAbangare 84.26 301 *c i*P **P** **03 41 29.0 +0.4**
JTS JuntasAbangare 84.26 301 P **P** **03 41 29.2 +0.6**
comp=Z,29nm,0.9s,baz=215,slow=4.2,SNR=26
JTS JuntasAbangare 84.26 301 *e*P **P** **03 41 28.5 -0.1**
ARE1 Arenal 1 84.31 301 *e*P **P** **03 41 25.8 -3.0**
FURI Furi 84.32 62 PFAKE 03 41 40.0 +11
FURI LR LR
comp=Z,10µm,20.0s
MPR Mayaguez 84.45 320 *e*P **P** **03 41 28.6 -0.7**
comp=Z,147nm,0.9s
KLBR Kellerberrin 84.48 148 P **P** **03 41 28.6 -1.0**
baz=85,SNR=5.0
CUI Cuipilapa 84.68 301 *e*P **P** **03 41 30.9 +0.2**
MESS Mesas 84.77 301 *e*P **P** **03 41 30.9 -0.3**
BUEV Buena Vista 84.91 301 *e*P **P** **03 41 30.4 -1.6**
OUZ Omahuta 84.94 195 *e*P **P** **03 41 32.7 +0.9**
comp=Z,169nm,1.4s
BLDU Ballidu 85.11 147 P **P** **03 41 32.4 -0.5**
baz=86,SNR=6.3
TAM Tamanrasset 85.18 28 *e*P **P** **03 41 34.1 +0.9**
comp=Z,39nm,1.2s
TAM LR LR
comp=Z,5µm,20.0s
TAM Tamanrasset 85.18 28 *e*P **P** **03 41 34.1 +0.9**
TAM pmax pmax
comp=Z,39nm,1.2s
TAM MLR MLR
comp=Z,5µm,20.0s
SDD Santo Domingo 85.63 317 PFAKE 03 41 50.0 +15
SDD LR LR
comp=Z,2µm,20.0s
ESPN Las Esperanzas 85.66 302 *e*P **P** **03 41 35.4 -0.2**
comp=Z,50nm,0.9s
ESPN LR LR
comp=Z,2µm,20.0s
BANI BANI 85.72 317 *e*P **P** **03 41 36.2 +0.2**
ACON Acoyapa 85.84 301 *e*P **P** **03 41 36.2 -0.3**
CAN Canberra 85.90 175 *e*P **P** **03 41 37.0 +0.2**
comp=Z,94nm,1.2s
CAN LR LR
comp=Z,5µm,19.0s
CAN Canberra 85.90 175 *e*P **P** **03 41 37.0 +0.2**
CAN pmax pmax
comp=Z,94nm,1.2s
CAN MLR MLR
comp=Z,5µm,19.0s
CNB Canberra Magne 85.92 175 P **P** **03 41 37.5 +0.7**
baz=86,SNR=6.5
TBI Tubuai 86.28 229 *e*PP PP 03 44 56.7 -2.7
comp=Z,524nm,33.0s
TBI *e*S **S** **03 52 11.0 +1.2**
comp=Z,2µm,29.2s
TBI Tubuai 86.28 229 *e*LR LR 04 08 58.5
comp=Z,3µm,26.0s,baz=136
MORW Morawa 86.38 146 P **P** **03 41 38.1 -1.0**
baz=87,SNR=5.8
MORW Morawa 86.38 146 *e*P **P** **03 41 38.6 -0.5**
comp=Z,16nm,1.1s
MORW LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 86.60 316 *e*P **P** **03 41 40.8 +0.6**
comp=Z,65nm,0.9s
SDDR LR LR
comp=Z,3µm,22.0s
YNG Young 86.88 174 P **P** **03 41 42.7 +1.1**
baz=87,SNR=6.7
HTT Hallett 86.91 166 P **P** **03 41 42.1 +0.4**
baz=87,SNR=7.0
CNGN Cerro Negro 86.99 300 *e*P **P** **03 41 40.3 -1.9**
MATN Matagalpa 87.03 301 *e*P **P** **03 41 40.6 -1.8**
H08S1 Diego Garcia H 87.13 100 P **P** **03 41 43.2 +0.6**
baz=320,slow=4.2,SNR=3.8
H08S2 Diego Garcia H 87.14 100 P **P** **03 41 44.0 +1.3**
baz=320,slow=4.2,SNR=5.3
BBOO Buckleboo 87.14 164 P **P** **03 41 42.7 -0.1**
baz=88,SNR=7.7
BBOO Buckleboo 87.14 164 PFAKE 03 41 50.0 +7.2
BBOO LR LR
comp=Z,3µm,20.0s
H08S3 Diego Garcia H 87.15 100 P **P** **03 41 43.7 +1.0**
baz=320,slow=4.2,SNR=5.6
DGAR Diego Garcia 87.31 100 *e*P **P** **03 41 44.6 +0.7**
comp=Z,62nm,0.9s
DGAR LR LR
comp=Z,4µm,20.0s
DGAR Diego Garcia 87.31 100 ⇓ *i*P **P** **03 41 44.3 +0.5**
H08N3 Diego Garcia H 87.48 98 P **P** **03 41 42.3 -1.9**
baz=218,slow=8.2,SNR=6.0
H08N1 Diego Garcia H 87.49 98 P **P** **03 41 41.9 -2.4**
baz=218,slow=8.2,SNR=5.5
H08N2 Diego Garcia H 87.50 98 P **P** **03 41 42.6 -1.7**
baz=218,slow=8.2,SNR=4.9
FORT Forrest 87.72 157 P **P** **03 41 45.5 -0.1**
baz=88,SNR=16
FORT Forrest 87.72 157 *e*P **P** **03 41 45.5 -0.1**
comp=Z,228nm,1.4s
FORT LR LR
comp=Z,3µm,22.0s
STH Stony Hill 87.83 311 ⇑ *i*P **P** **03 41 47.9 +1.8**
MCJ Malvern 88.04 310 ⇓ *i*P **P** **03 41 49.5 +2.4**
MTDJ Mount Denham 88.25 311 PFAKE 03 42 00.0 +12
MTDJ LR LR
comp=Z,5µm,22.0s
BBJ Bamboo Saint A 88.29 311 ⇑ *i*P **P** **03 41 50.0 +1.7**
ATD Arta Tunnel 88.57 65 *e*P **P** **03 41 51.2 +1.5**
ATD LR LR
comp=Z,5µm,20.0s
ATD Arta Tunnel 88.57 65 P **P** **03 41 51.2 +1.5**
comp=Z,12nm,0.8s,baz=229,slow=19,SNR=2.7
ATD S **SKSac** **03 52 20.0 +5.6**
comp=Z,4.7nm,0.7s,baz=292,slow=19,SNR=2.8
TGUH Tegucigalpa,Un 88.62 300 *e*P **P** **03 41 50.7 +0.9**
comp=Z,85nm,1.1s
TGUH LR LR
comp=Z,2µm,20.0s
STKA Stephens Creek 88.75 168 P **P** **03 41 50.4 -0.2**
baz=89,SNR=14
STKA Stephens Creek 88.75 168 *e*P **P** **03 41 50.2 -0.2**
comp=Z,23nm,1.4s
STKA LR LR
comp=Z,2µm,18.0s
STKA Stephens Creek 88.75 168 P **P** **03 41 50.3 -0.2**
comp=Z,6.7nm,0.7s,baz=198,slow=4.8,SNR=16
GTBY Guantanamo Bay 88.86 313 *e*P **P** **03 41 52.2 +1.3**
comp=Z,180nm,0.9s
GTBY LR LR
comp=Z,4µm,20.0s
GRTK Grand Turk 88.87 317 PFAKE 03 42 00.0 +9.1
GRTK LR LR
comp=Z,2µm,21.0s
MEEK Meekatharra 89.40 148 P **P** **03 41 52.6 -1.0**
baz=90,SNR=6.5
CMSA Cobar Meteorol 89.46 172 P **P** **03 41 54.0 +0.2**
baz=90,SNR=17
LHI Lord Howe Isla 89.79 183 PFAKE 03 42 10.0 +15
LHI LR LR
comp=Z,2µm,20.0s
OUZM OUZ 90.77 15 P **P** **03 42 03.0 +3.3**
ARMA Armidale 90.88 177 *e*P **P** **03 42 01.1 +0.5**
comp=Z,45nm,1.3s
ARMA LR LR
comp=Z,5µm,19.0s
APG El Apazote 90.90 298 P **P** **03 42 00.9 +0.1**
comp=Z,28nm,0.9s,baz=181,slow=5.6,SNR=14
APG PKKP **PKKPdf** **03 59 16.6 -3.1**
comp=Z,3.9nm,0.7s,baz=341,slow=13,SNR=5.0
OUK Oukaimeden 90.92 14 P **P** **03 42 04.0 +3.3**
TVO Taravao 91.21 232 *e*P **P** **03 42 03.0 +0.8**
comp=Z,43nm,1.3s
PPT2 Papeete2 91.51 231 *e*PP PP 03 45 39.4 -2.1
comp=Z,395nm,25.0s
PPT2 *e*S **S** **03 52 59.8 +0.5**
comp=Z,1µm,28.8s
PPT2 Papeete2 91.51 231 *e*PS PS 03 54 14.5 +0.4
comp=Z,3µm,31.0s
PPT2 Papeete2 91.51 231 *e*LR LR 04 11 20.2
comp=Z,7µm,27.0s,baz=161
PPT Papeete 91.53 231 LR LR 04 16 54.6
comp=Z,5µm,18.5s,baz=169,slow=31
ARF Arif 91.66 17 P **P** **03 42 07.0 +3.2**
PMOZ Porto Moniz, M 91.67 6 *e*LR LR 04 11 24.7
comp=Z,2µm,20.0s
GOLM Goulmima 91.81 17 P **P** **03 42 08.0 +3.4**
GIRL Giralia 91.86 142 PFAKE 03 42 20.0 +15
GIRL LR LR
comp=Z,3µm,19.0s
DAMY Dhamar 91.94 65 PFAKE 03 42 20.0 +14
DAMY LR LR
comp=Z,12µm,20.0s
SRHM Skhour des Reh 92.16 14 P **P** **03 42 09.0 +2.9**
CCIG Comitan 92.78 297 *e*P **P** **03 42 09.9 +0.4**
comp=Z,42nm,1.4s
CCIG LR LR
comp=Z,3µm,22.0s
VAH Vaihoa 92.82 234 *e*P **P** **03 42 10.3 +0.7**
comp=Z,134nm,1.0s
FIGM Figuig 92.83 20 P **P** **03 42 12.0 +2.8**
MDT Midelt 92.95 17 P **P** **03 42 11.4 +1.7**
comp=Z,11nm,0.9s,baz=210,slow=4.0,SNR=22
MDT Midelt 92.95 17 P **P** **03 42 12.8 +3.1**
AVE Averroes 93.04 14 *i* Pdif **P** **03 42 13.0 +3.0**
AVE *i* S S 03 53 20.8 +9.1
PMOR Pomariorio Ree 93.14 234 *e*P **P** **03 42 11.9 +0.8**
comp=Z,99nm,1.0s
WRKA Warakurna 93.33 156 P **P** **03 42 11.6 -0.3**
baz=94,SNR=22
RTC Rabat Centre 93.79 15 PFAKE 03 42 20.0 +6.6
RTC LR LR
comp=Z,23µm,21.0s
TEIG Tepich 94.51 302 *e*P **P** **03 42 20.1 +3.1**
comp=Z,85nm,0.9s
TEIG LR LR
comp=Z,2µm,19.0s
CMIG Matias Romero 94.76 295 P **P** **03 42 18.6 +0.3**
comp=Z,13nm,0.8s,baz=180,slow=2.0,SNR=27
COCO West Island 94.84 123 PFAKE 03 42 30.0 +11
COCO LR LR
comp=Z,4µm,20.0s
TAOE Nuku Hiva Isla 95.17 244 *e*LQ LQ 04 09 12.2
comp=Z,3µm,33.3s
TAOE *e*LR LR 04 13 14.6
comp=Z,14µm,26.2s,baz=168
TAOE Nuku Hiva Isla 95.17 244 PFAKE 03 42 30.0 +9.5
TAOE LR LR
comp=Z,6µm,20.0s
MELI Melilla 95.64 18 *i* Pdif **P** **03 42 25.1 +3.3**
MELI *i* SKS S 03 53 20.2 -14
ASAR Alice Springs 95.75 160 P **P** **03 42 21.9 -1.1**
comp=Z,2.8nm,0.6s,baz=186,slow=3.7,SNR=36
ASAR PP **PP** **03 46 11.6 -2.6**
comp=Z,1.5nm,0.8s,baz=188,slow=6.2,SNR=3.3
ASAR PKKPbc PKKPdf 03 58 59.6 -8.9
comp=Z,0.5nm,0.5s,baz=33,slow=2.7,SNR=4.4
ASAR PKKP **PKKPbc** **03 59 10.2 +0.8**
comp=Z,2.3nm,0.8s,baz=13,slow=2.0,SNR=13
ASAR PKPPKP 04 07 18.1
comp=Z,1.6nm,0.9s,baz=42,slow=1.0,SNR=8.4
ASAR LR LR 04 24 21.2
comp=Z,4µm,18.6s,baz=188,slow=35
AS31 Alice Springs 95.75 160 *e*P **P** **03 42 22.3 -0.7**
comp=Z,5.1nm,0.9s
AS31 *e*PP **PP** **03 46 11.6 -2.6**
AS31 LR LR
comp=Z,100nm,18.0s
AS01 Alice Springs 95.76 160 *e*P **P** **03 42 21.2 -1.9**
MYIG Mrida 95.79 302 PFAKE 03 42 30.0 +7.1
MYIG LR LR
comp=Z,2µm,20.0s
CEU Ceuta 95.87 16 *i* Pdif **P** **03 42 25.8 +2.9**
CEU *i* S **S** **03 53 42.2 +5.9**
EIDS Eidsvold 95.89 176 PFAKE 03 42 40.0 +16
EIDS LR LR
comp=Z,4µm,19.0s
SFS San Fernando 96.32 15 PFAKE 03 42 40.0 +15
SFS LR LR
comp=Z,3µm,20.0s
SFS San Fernando 96.32 15 *i* Pdif **P** **03 42 28.3 +3.4**
SFS *i* SKS **SKSac** **03 53 02.8 +6.4**
061Z Ochoppi 96.46 311 PFAKE 03 42 40.0 +14
061Z LR LR
comp=Z,4µm,20.0s
061Z Ochoppi 96.46 311 P **P** **03 42 26.9 +1.1**
baz=154
PFVI Vila Bisbo 96.65 13 *e*SKS **SKSac** **03 53 03.2 +5.0**
PFVI *i* LQ LQ 03 55 08.6
PFVI *e*SS SS 04 00 31.6 +12
PFVI Vila Bisbo 96.65 13 PFAKE 03 42 40.0 +14
PFVI LR LR
comp=Z,3µm,19.0s
060Z West Palm Beac 96.81 312 P **P** **03 42 28.8 +1.4**
baz=154
MORF Marmelete 96.84 13 *e*P **P** **03 42 28.1 +0.7**
MORF *e*SKSac **SKSac** **03 53 02.5 +3.2**
MORF *e*SS **SS** **04 00 25.1 +2.7**
MORF AMS AMS 04 20 28.8
comp=Z,2µm,22.7s
MORF Marmelete 96.84 13 *e*SKS **SKSac** **03 53 05.2 +5.9**
MORF *i* LQ LQ 03 55 08.7
MORF *e*SS SS 04 00 44.8 +22
MORF Marmelete 96.84 13 *e*P **P** **03 42 28.1 +0.7**
MORF *e* 03 53 02.5
MORF *e*SS SS 04 00 25.1 +2.8
EMAL Malaga-Limoner 96.85 16 *i* Pdif **P** **03 42 27.7 +0.4**
EMAL Malaga-Limoner 96.85 16 *i* PS PS 03 54 53.3 -19
PBDV Barranco-do-Ve 96.87 13 *e*SKS **SKSac** **03 53 00.2 +0.9**
PBDV *i* LQ LQ 03 54 38.5
PBDV *e*SS **SS** **04 00 32.6 +10**
TLIG Tlapa 96.91 293 PFAKE 03 42 40.0 +12
TLIG LR LR
comp=Z,3µm,18.0s
BBSR BB Station 96.94 327 PFAKE 03 42 40.0 +12
BBSR LR LR
comp=Z,3µm,21.0s
PVAQ Vaqueiros 97.05 13 *e*SKS **SKSac** **03 53 05.5 +5.3**
PVAQ *e*SS SS 04 00 37.6 +13
059Z Ave Maria 97.10 311 P Pdif 03 42 30.1 +1.3
baz=154
PCVE Castro Verde 97.24 13 *e*SKS **SKSac** **03 53 05.9 +4.7**
PCVE *i* LQ LQ 03 55 05.8
PCVE *e*SS SS 04 00 44.7 +17
060A Indiantown 97.30 312 PFAKE 03 42 40.0 +10
060A LR LR
comp=Z,5µm,22.0s
060A Indiantown 97.30 312 P Pdif 03 42 31.2 +1.5
baz=154
MESJ Messejana 97.42 13 *e*P **P** **03 42 29.5 -0.4**
MESJ *e*SKSac **SKSac** **03 53 05.8 +3.7**
MESJ AMS AMS 04 23 58.9
comp=Z,2µm,14.9s
MESJ Messejana 97.42 13 *e*P **P** **03 42 29.5 -0.4**
MESJ *e* 03 53 05.8
059A Moore Haven 97.54 311 PFAKE 03 42 40.0 +9.2
059A LR LR
comp=Z,3µm,20.0s
PNCL Nicolau / Gran 97.66 13 *e*SKS **SKSac** **03 53 05.1 +1.9**
PNCL *i* LQ LQ 03 55 20.0
PNCL *e*SS **SS** **04 00 38.9 +5.3**
LVIG Laguna Verde 97.76 295 PFAKE 03 42 40.0 +8.1
LVIG LR LR
comp=Z,2µm,22.0s
959A Okeechobee 97.94 312 P Pdif 03 42 33.9 +1.4
baz=154
EVO Evora 98.13 13 *i* Pdif Pdif 03 42 45.4 +12
EVO *i* SKS **SKSac** **03 53 12.2 +6.5**
CART Cartagena 98.19 19 PFAKE 03 42 40.0 +6.6
CART LR LR
comp=Z,2µm,21.0s
CART Cartagena 98.19 19 *e*Pdif **P** **03 42 32.1 -1.3**
CART *i* S S 03 54 09.7 +14
PMAFR Mafra 98.41 12 *e*SKS **SKSac** **03 53 12.0 +4.9**
PMAFR *i* LQ LQ 03 55 29.2
PMAFR *e*SS SS 04 00 55.2 +11
KEST Kesra 98.50 27 *e*P Pdif 03 42 36.2 +1.3
comp=Z,26nm,1.4s
KEST LR LR
comp=Z,6µm,18.0s
KEST Kesra 98.50 27 P Pdif 03 42 36.2 +1.3
comp=Z,3.5nm,0.9s,baz=190,slow=19,SNR=2.5
KEST LR LR 04 22 53.0
comp=Z,4µm,19.7s,baz=161,slow=33
PESTR Estremoz 98.51 13 *e*SKS **SKSac** **03 53 09.7 +2.1**
PESTR *i* LQ LQ 03 55 27.7
PESTR *e*SS **SS** **04 00 46.7 +1.1**
PESTR Estremoz 98.51 13 PFAKE 03 42 50.0 +15
PESTR LR LR
comp=Z,1µm,19.0s
957A Wimauma 98.60 311 PFAKE 03 42 50.0 +15
957A LR LR
comp=Z,3µm,19.0s
PMTG Montargil 98.64 13 *e*SKS **SKSac** **03 53 12.5 +4.3**
PMTG *i* LQ LQ 03 55 29.4
PMTG *e*SS **SS** **04 00 49.4 +2.1**
DWPF Disney Wildern 98.68 312 PFAKE 03 42 50.0 +14
DWPF LR LR
comp=Z,4µm,21.0s
ALMR Almeirim 98.68 13 *e*SKSac **SKSac** **03 53 11.9 +3.5**
ALMR AMS AMS 04 22 31.9
comp=Z,4µm,17.9s
UNM Universidad Na 98.72 293 PFAKE 03 42 50.0 +13
UNM LR LR
comp=Z,3µm,18.0s
DZM Mont Dzumac 98.74 190 *e*SP SP 03 55 22.5 -4.1
comp=Z,791nm,25.8s
DZM Mont Dzumac 98.74 190 *e*LR LR 04 14 25.1
comp=Z,4µm,21.3s
DZM Mont Dzumac 98.74 190 *e*P Pdif 03 42 37.8 +1.3
comp=Z,26nm,1.2s
DZM LR LR
comp=Z,4µm,22.0s
DZM Mont Dzumac 98.74 190 P Pdif 03 42 37.8 +1.3
comp=Z,8.8nm,0.8s,baz=200,slow=15,SNR=3.8
PMRV Marv??o 99.09 13 *e*SKS **SKSac** **03 53 18.4 +7.9**
PMRV *i* LQ LQ 03 55 33.5
PMRV *e*SS **SS** **04 00 59.8 +6.1**
PMRV Marv??o 99.09 13 *e*LR LR 04 15 58.9
comp=Z,2µm,18.0s
FITZ Fitzroy Crossi 99.40 151 P **Pdif** **03 42 39.5 +0.1**
baz=100,SNR=4.2
WC4 Warramunga Arr 99.45 160 PFAKE 03 42 50.0 +10
WC4 LR LR
comp=Z,4µm,20.0s
WC3 Warramunga Arr 99.46 160 PFAKE 03 42 50.0 +10
WC3 LR LR
comp=Z,4µm,20.0s
WR1 Warramunga Arr 99.47 160 *e*P **Pdif** **03 42 38.3 -1.5**
comp=Z,10.0nm,1.3s
WR1 *e*PP **PP** **03 46 42.8 +0.1**
WR1 LR LR
comp=Z,4µm,19.0s
WR2 Warramunga Arr 99.47 160 PFAKE 03 42 50.0 +10
WR2 LR LR
comp=Z,4µm,20.0s
WRA Warramunga Arr 99.47 160 P **Pdif** **03 42 38.3 -1.5**
comp=Z,0.7nm,0.6s,baz=196,slow=4.2,SNR=12
WRA PP **PP** **03 46 42.8 +0.1**
comp=Z,1.5nm,0.9s,baz=188,slow=6.0,SNR=4.6
WRA PKKPbc PKKPbc 03 58 50.9 -8.4
comp=Z,0.6nm,0.8s,baz=42,slow=2.8,SNR=4.8
WRA PKKP **PKKPdf** **03 59 01.4 -0.6**
comp=Z,2.2nm,0.9s,baz=354,slow=2.7,SNR=8.1
WRA PKPPKP 04 07 12.1
comp=Z,1.2nm,1.0s,baz=333,slow=2.0,SNR=7.3
WRA LR LR 04 26 37.2
comp=Z,4µm,18.8s,baz=190,slow=35
WB2 Warramunga Arr 99.47 160 *e*P **Pdif** **03 42 38.2 -1.5**
WB2 LR LR
comp=Z,8µm,20.0s
WR3 Warramunga Arr 99.47 160 PFAKE 03 42 50.0 +10
WR3 LR LR
comp=Z,4µm,20.0s
WR4 Warramunga Arr 99.47 160 PFAKE 03 42 50.0 +10
WR4 LR LR
comp=Z,4µm,20.0s
WR5 Warramunga Arr 99.47 160 PFAKE 03 42 50.0 +10
WR5 LR LR
comp=Z,4µm,19.0s
WR6 Warramunga Arr 99.48 160 PFAKE 03 42 50.0 +10
WR6 LR LR
comp=Z,5µm,20.0s
WRAB Tennant Creek 99.48 160 PFAKE 03 42 50.0 +10
WRAB LR LR
comp=Z,5µm,20.0s
WRAB Tennant Creek 99.48 160 ⇓ *i*P **Pdif** **03 42 38.6 -1.2**
WRAB pmax pmax
comp=Z,12nm,1.7s
WR7 Warramunga Arr 99.48 160 PFAKE 03 42 50.0 +10
WR7 LR LR
comp=Z,5µm,19.0s
WR9 Warramunga Arr 99.48 160 PFAKE 03 42 50.0 +10
WR9 LR LR
comp=Z,5µm,19.0s
WC1 Warramunga Arr 99.49 160 PFAKE 03 42 50.0 +10
WC1 LR LR
comp=Z,3µm,20.0s
WR0 Warramunga Arr 99.49 160 PFAKE 03 42 50.0 +10
WR0 LR LR
comp=Z,5µm,19.0s
WB3 Warramunga Arr 99.49 160 PFAKE 03 42 50.0 +10
WB3 LR LR
comp=Z,4µm,20.0s
WB4 Warramunga Arr 99.51 160 PFAKE 03 42 50.0 +10
WB4 LR LR
comp=Z,4µm,20.0s
WB5 Warramunga Arr 99.53 160 PFAKE 03 42 50.0 +10
WB5 LR LR
comp=Z,4µm,21.0s
WB6 Warramunga Arr 99.56 160 PFAKE 03 42 50.0 +10
WB6 LR LR
comp=Z,4µm,20.0s
PAB San Pablo 99.60 16 PFAKE 03 42 50.0 +10
PAB LR LR
comp=Z,3µm,21.0s

WB8 **Warramunga Arr** **99.60 160** PFAKE 03 42 50.0 +10
WB8 LR LR
comp=Z,4µm,20.0s
WB9 **Warramunga Arr** **99.62 160** PFAKE 03 42 50.0 +10
WB9 LR LR
comp=Z,9µm,20.0s
WB0 **Warramunga Arr** **99.65 160** PFAKE 03 42 50.0 +9.4
WB0 LR LR
comp=Z,4µm,20.0s
COI **Coimbra** **99.74 12** *i* LQ LQ 03 55 40.1
ESDC **Sonseca Array** **99.78 16** P **Pdif** **03 42 42.0 +1.5**
comp=Z,2.1nm,0.9s,baz=186,slow=4.8,SNR=12
ESDC PKKP **PKKPbc** **03 59 01.1 +1.3**
comp=Z,0.4nm,0.6s,baz=354,slow=3.7,SNR=5.0
ESDC LR LR 04 25 03.7
comp=Z,2µm,18.3s,baz=145,slow=34
ESLA **Sonseca Array** **99.78 16** PFAKE 03 42 50.0 +10
ESLA LR LR
comp=Z,3µm,19.0s
658A **Bunnell** **99.79 312** PFAKE 03 42 50.0 +9.3
658A LR LR
comp=Z,5µm,22.0s
WDD **Wied Dalam** **99.91 31** PFAKE 03 42 50.0 +9.0
WDD LR LR
comp=Z,2µm,20.0s
MOIG **Morelia** **99.99 291** PFAKE 03 42 50.0 +7.9
MOIG LR LR
comp=Z,3µm,18.0s
MTE **Manteigas** **100.03 13** *e*SKS **SKSac** **03 53 21.8 +6.6**
MTE *i* LQ LQ 03 55 41.8
MTE *e*SS SS 04 01 17.8 +11
MTE **Manteigas** **100.03 13** *e*LR LR 04 16 07.8
comp=Z,2µm,20.0s
MTE **Manteigas** **100.03 13** PFAKE 03 42 50.0 +8.4
MTE LR LR
comp=Z,2µm,21.0s
XMIS **Christmas Isla** **100.04 130** PFAKE 03 42 50.0 +7.7
XMIS LR LR
comp=Z,2µm,22.0s
657A **Interlachen** **100.17 312** P **Pdif** **03 42 44.1 +1.7**
baz=154
RAYN **Ar Rayn** **100.22 61** PFAKE 03 42 50.0 +7.1
RAYN LR LR
comp=Z,12µm,20.0s
656A **Willston** **100.23 311** PFAKE 03 42 50.0 +7.3
656A LR LR
comp=Z,5µm,22.0s
UCM **Universidad Co** **100.51 16** *i* Pdif **Pdif** **03 42 49.9 +6.2**
UCM *i* SKS 03 53 30.4
MVO **Moncorvo** **100.84 13** *e*SKS **SKSac** **03 53 25.1 +5.9**
MVO *i* LQ LQ 03 55 39.7
MVO **Moncorvo** **100.84 13** *e*LR LR 04 16 16.6
comp=Z,2µm,20.0s
CTAO **Charters Tower** **100.86 171** PFAKE 03 43 00.0 +14
CTAO LR LR
comp=Z,8µm,18.0s
MNCY **Minicoy** **100.95 92** *e*P **Pdif** **03 42 45.8 -0.5**
POLO **Lamas de Olo** **100.96 13** *i* LQ LQ 03 55 55.8
POLO *e*SS SS 04 01 24.2 +4.2
555A **McAlpin** **101.07 311** PFAKE 03 43 00.0 +14
555A LR LR
comp=Z,5µm,22.0s
EIL **Elat** **101.11 50** S **SKSac** **03 53 21.4 +0.5**
comp=Z,4.5nm,1.1s,baz=209,slow=19,SNR=1.7
CLTB **Caltabellotta** **101.21 30** PFAKE 03 43 00.0 +13
CLTB LR LR
comp=Z,2µm,18.0s
456A **Hilliard** **101.24 312** PFAKE 03 43 00.0 +13
456A LR LR
comp=Z,4µm,22.0s
MSVF **Nonsavu** **101.34 202** PFAKE 03 43 00.0 +12
MSVF LR LR
comp=Z,4µm,20.0s
MAHO **Mahon** **101.39 22** *i* Pdif **Pdif** **03 42 55.5 +7.9**
MAHO *i* S **pS** **03 54 41.3 +0.7**
PGAV **Gavieira, Arco** **101.49 12** *e*SKS **SKSac** **03 53 28.4 +6.1**
PGAV *i* LQ LQ 03 56 03.0
PGAV *e*SS **SS** **04 01 29.7 +2.4**
PGAV **Gavieira, Arco** **101.49 12** *e*LR LR 04 16 38.7
comp=Z,4µm,20.0s
PBRG **Braganca** **101.51 14** *i* LQ LQ 03 55 54.8
257A **Skidaway Islan** **101.98 314** PFAKE 03 43 00.0 +10
257A LR LR
comp=Z,3µm,22.0s
453A **Whigham** **102.25 311** PFAKE 03 43 00.0 +8.4
453A LR LR
comp=Z,4µm,21.0s
TIGA **Tifton** **102.48 311** PFAKE 03 43 00.0 +7.4
TIGA LR LR
comp=Z,4µm,22.0s
255A **Hazlehurst** **102.49 312** PFAKE 03 43 00.0 +7.4
255A LR LR
comp=Z,3µm,22.0s
IDI **Anoyia** **102.51 40** S **SKSac** **03 53 27.2 -0.2**
comp=Z,4.5nm,1.0s,baz=214,slow=18,SNR=2.2
451A **Vernon** **102.61 309** PFAKE 03 43 10.0 +17
451A LR LR
comp=Z,2µm,20.0s
NHSC **New Hope** **102.68 315** PFAKE 03 43 10.0 +17
NHSC LR LR
comp=Z,2µm,19.0s
352A **Blakely** **103.04 310** PFAKE 03 43 10.0 +15
352A LR LR
comp=Z,4µm,21.0s
TRD **Trivandrum** **103.19 95** *e*P **Pdif** **03 42 55.8 -0.5**
253A **Americus** **103.25 311** PFAKE 03 43 10.0 +14
253A LR LR
comp=Z,5µm,22.0s
ZAIG **Zacatecas** **103.28 292** PFAKE 03 43 10.0 +13
ZAIG LR LR
comp=Z,4µm,18.0s
ITM **Ithomi** **103.30 37** PFAKE 03 43 10.0 +14
ITM LR LR
comp=Z,2µm,21.0s
154A **Montrose** **103.34 312** PFAKE 03 43 10.0 +14
154A LR LR
comp=Z,3µm,22.0s
252A **Lumpkin** **103.43 311** P **Pdif** **03 42 57.6 +0.8**
baz=152
KARP **Karpathos** **103.51 41** PFAKE 03 43 10.0 +13
KARP LR LR
comp=Z,3µm,20.0s
CISI **Cisompet, Garu** **103.55 131** PFAKE 03 43 10.0 +12
CISI LR LR
comp=Z,3µm,21.0s
BRAL **Brewton** **103.62 309** PFAKE 03 43 10.0 +12
BRAL LR LR
comp=Z,2µm,21.0s
LNIG **Linares** **103.63 296** PFAKE 03 43 10.0 +12
LNIG LR LR
comp=Z,2µm,19.0s
TIP **Timpagrande** **103.65 32** PFAKE 03 43 10.0 +12
TIP LR LR
comp=Z,3µm,20.0s
SANT **Santorini** **103.69 40** PFAKE 03 43 10.0 +12
SANT LR LR
comp=Z,1µm,19.0s
251A **Midway** **103.78 310** P **Pdif** **03 42 59.2 +0.8**
baz=152
CNNC **Cliffs of the** **103.78 317** PFAKE 03 43 10.0 +12
CNNC LR LR
comp=Z,2µm,21.0s
Z54A **Sparta** **103.79 313** P **Pdif** **03 42 59.5 +1.1**
baz=153
152A **Waverly Hall** **104.01 311** PFAKE 03 43 10.0 +11
152A LR LR
comp=Z,5µm,22.0s
152A **Waverly Hall** **104.01 311** P **Pdif** **03 43 00.3 +0.9**
baz=152
250A **Grady** **104.02 310** PFAKE 03 43 10.0 +11
250A LR LR
comp=Z,3µm,21.0s
250A **Grady** **104.02 310** P **Pdif** **03 43 00.3 +0.8**
baz=152
Y55A **Saluda** **104.05 314** P **Pdif** **03 43 00.7 +1.2**
baz=153
PALK **Pallekele** **104.06 99** PFAKE 03 43 10.0 +10
PALK LR LR
comp=Z,3µm,21.0s
ASF **Jabal al Asfar** **104.10 50** PP PP 03 47 28.2 +9.5
comp=Z,0.9nm,0.4s,baz=144,slow=6.8,SNR=3.6
ASF S **SKSac** **03 53 33.2 -1.8**
comp=Z,0.9nm,0.5s,baz=310,slow=7.9,SNR=2.5
JSC **Jenkinsville** **104.13 314** PFAKE 03 43 10.0 +10
JSC LR LR
comp=Z,2µm,21.0s
GOGA **Godfrey** **104.19 312** PFAKE 03 43 10.0 +10
GOGA LR LR
comp=Z,3µm,20.0s
UGM **Wanagama** **104.26 134** PFAKE 03 43 10.0 +8.9
UGM LR LR
comp=Z,3µm,22.0s
Z52A **Williamson** **104.36 312** P **Pdif** **03 43 02.1 +1.2**
baz=152
HODGE **Hodges** **104.46 314** PFAKE 03 43 10.0 +8.7
HODGE LR LR
comp=Z,2µm,19.0s
MNAI **Manna** **104.47 125** PFAKE 03 43 10.0 +7.9
MNAI LR LR
comp=Z,1µm,20.0s
Y53A **Monroe** **104.63 312** P **Pdif** **03 43 03.2 +1.1**
baz=153
Y52A **Lilburn** **104.82 312** PFAKE 03 43 10.0 +7.0
Y52A LR LR
comp=Z,3µm,20.0s
PAULI **Pauline** **104.82 314** PFAKE 03 43 10.0 +7.1
PAULI LR LR
comp=Z,2µm,20.0s
KMSC **Kings Mountain** **104.93 315** PFAKE 03 43 20.0 +17
KMSC LR LR
comp=Z,2µm,21.0s
Z50A **Ashland** **105.00 310** PFAKE 03 47 30.0 +12
Z50A LR LR
comp=Z,5µm,22.0s
SMRI **Semarang** **105.02 133** PFAKE 03 47 30.0 +11
SMRI LR LR
comp=Z,4µm,22.0s
JAGI **Jajag, Banyuwa** **105.06 137** PFAKE 03 47 30.0 +11
JAGI LR LR
comp=Z,2µm,21.0s
AGG **Agios Georgios** **105.12 36** PFAKE 03 43 20.0 +16
AGG LR LR
comp=Z,2µm,21.0s
KVTX **Kingsville** **105.16 298** PFAKE 03 47 30.0 +11
KVTX LR LR
comp=Z,2µm,20.0s
CSS **Mathiatis** **105.19 46** PFAKE 03 47 30.0 +11
CSS LR LR
comp=Z,2µm,22.0s
LRAL **Lakeview Retre** **105.24 309** PFAKE 03 47 30.0 +11
LRAL LR LR
comp=Z,3µm,21.0s
BG3 **Lake Jocassee** **105.39 314** PFAKE 03 47 30.0 +11
BG3 LR LR
comp=Z,2µm,20.0s
147A **Livingston** **105.43 308** PFAKE 03 47 30.0 +11
147A LR LR
comp=Z,3µm,22.0s
Y49A **Blount Mountai** **105.73 310** PFAKE 03 47 30.0 +10
Y49A LR LR
comp=Z,4µm,22.0s
X51A **Calhoun** **105.74 312** PFAKE 03 47 30.0 +10
X51A LR LR
comp=Z,2µm,20.0s
MTN **Manton Dam** **105.75 155** PFAKE 03 47 30.0 +10
MTN LR LR
comp=Z,4µm,19.0s
AQU **L'Aquila** **105.76 28** PFAKE 03 47 30.0 +11
AQU LR LR
comp=Z,4µm,20.0s
W52A **Murphy** **105.85 313** PFAKE 03 47 30.0 +10
W52A LR LR
comp=Z,2µm,20.0s
V53A **Saluda** **105.94 314** PFAKE 03 47 30.0 +10
V53A LR LR
comp=Z,3µm,20.0s
VBMS **Vicksburg** **105.96 306** PFAKE 03 47 30.0 +10
VBMS LR LR
comp=Z,1µm,21.0s
LIT **Litokhoron** **106.16 36** PFAKE 03 47 30.0 +10
LIT LR LR
comp=Z,1µm,21.0s
WSAR **Wadi Sarin** **106.21 72** PP **PKiKP** **03 47 24.2 +3.4**
comp=Z,2.6nm,0.8s,baz=306,slow=8.7,SNR=2.2
R58B **Mineral** **106.23 319** PFAKE 03 47 30.0 +10
R58B LR LR
comp=Z,2µm,20.0s
CBN **Corbin Frederi** **106.28 319** PFAKE 03 47 30.0 +10
CBN LR LR
comp=Z,2µm,19.0s
HKT **Hockley** **106.29 301** PFAKE 03 47 30.0 +9.4
HKT LR LR
comp=Z,1µm,21.0s
TKL **Tuckaleechee C** **106.29 313** *e*PKiKP **PKiKP** **03 47 21.1 +0.5**
TKL LR LR
comp=Z,2µm,20.0s
TKL **Tuckaleechee C** **106.29 313** PP **PKiKP** **03 47 21.1 +0.5**
comp=Z,5.0nm,1.1s,baz=154,slow=8.6,SNR=3.1
V52A **Sevierville** **106.39 313** PFAKE 03 47 30.0 +9.3
V52A LR LR
comp=Z,2µm,20.0s
BLA **Blacksburg** **106.44 316** PFAKE 03 47 30.0 +9.2
BLA LR LR
comp=Z,2µm,20.0s
FNA **Florina** **106.45 35** PFAKE 03 47 30.0 +9.2
FNA LR LR
comp=Z,2µm,20.0s
W50A **Signal Mountai** **106.48 312** PFAKE 03 47 30.0 +9.0
W50A LR LR
comp=Z,3µm,20.0s
X48A **Hartselle** **106.50 310** PFAKE 03 47 30.0 +9.0
X48A LR LR
comp=Z,5µm,22.0s
833A **Chaparral WMA,** **106.51 297** PFAKE 03 47 30.0 +8.8
833A LR LR
comp=Z,1µm,20.0s
COEN **Coen** **106.64 168** PFAKE 03 47 30.0 +8.1
COEN LR LR
comp=Z,8µm,18.0s
V51A **Loudon** **106.64 313** PFAKE 03 47 30.0 +8.8
V51A LR LR
comp=Z,2µm,19.0s
MANT **Manisa** **106.64 41** PFAKE 03 47 30.0 +8.6
MANT LR LR
comp=Z,6µm,19.0s
SSB **Saint Sauveur** **106.64 21** PFAKE 03 47 30.0 +9.1
SSB LR LR
comp=Z,5µm,20.0s
ISP **Isparta** **106.72 43** PFAKE 03 47 30.0 +8.6
ISP LR LR
comp=Z,1µm,20.0s
SWET **Sewanee** **106.73 311** PFAKE 03 47 30.0 +8.6
SWET LR LR
comp=Z,2µm,22.0s
VLC **Villacollemand** **106.76 26** PFAKE 03 47 30.0 +8.8
VLC LR LR
comp=Z,4µm,21.0s
BNI **Bardonecchia** **106.83 23** PFAKE 03 47 30.0 +8.6
BNI LR LR
comp=Z,6µm,20.0s
TZTN **Tazewell** **106.99 314** PFAKE 03 47 30.0 +8.2
TZTN LR LR
comp=Z,2µm,21.0s
SOEI **Soe** **107.03 148** PFAKE 03 47 30.0 +7.2
SOEI LR LR
comp=Z,4µm,20.0s
GSI **Gunungsitoli** **107.15 118** PFAKE 03 47 30.0 +7.1
GSI LR LR
comp=Z,3µm,22.0s
GSI **Gunungsitoli** **107.15 118** P **Pdif** **03 43 15.7 +1.8**
SDMD **Soldier's Deli** **107.18 320** PFAKE 03 47 30.0 +7.9
SDMD LR LR
comp=Z,1µm,19.0s
NATX **Nacogdoches** **107.33 303** PFAKE 03 47 30.0 +7.4
NATX LR LR
comp=Z,1µm,21.0s
TTG **Podgorica** **107.36 32** PFAKE 03 47 30.0 +7.7
TTG LR LR
comp=Z,4µm,20.0s
PLAL **Pickwick Lake** **107.37 310** PFAKE 03 47 30.0 +7.4
PLAL LR LR
comp=Z,4µm,22.0s
GOA **Goa** **107.45 89** *e*P **Pdif** **03 43 14.6 -0.5**
OXF **Oxford** **107.50 308** PFAKE 03 47 40.0 +17
OXF LR LR
comp=Z,2µm,22.0s
OXF **Oxford** **107.50 308** P **PKiKP** **03 47 23.8 +1.0**
baz=150
MMRI **Maumere** **107.51 145** PFAKE 03 47 40.0 +16
MMRI LR LR
comp=Z,1µm,21.0s
V48A **Smith Brothers** **107.54 311** PFAKE 03 47 40.0 +17
V48A LR LR
comp=Z,2µm,19.0s
MVL **Millersville** **107.55 321** PFAKE 03 47 30.0 +7.3
MVL LR LR
comp=Z,2µm,20.0s
BRNJ **Basking Ridge** **107.60 322** PFAKE 03 47 30.0 +7.2
BRNJ LR LR
comp=Z,3µm,21.0s
SLBS **Sierra La Lagu** **107.66 286** PFAKE 03 47 40.0 +16
SLBS LR LR
comp=Z,3µm,18.0s
YLE **Yale** **107.67 324** PFAKE 03 47 40.0 +17
YLE LR LR
comp=Z,3µm,21.0s
PAL **Palisades** **107.68 323** PFAKE 03 47 40.0 +17
PAL LR LR
comp=Z,3µm,22.0s
LUPA **Lehigh Univers** **107.78 322** PFAKE 03 47 40.0 +17
LUPA LR LR
comp=Z,300nm,22.0s
435B **Jarrell** **107.79 300** PFAKE 03 47 40.0 +17
435B LR LR
comp=Z,700nm,20.0s
BRYW **Bryant College** **107.80 325** PFAKE 03 47 40.0 +17
BRYW LR LR
comp=Z,2µm,21.0s
Z41A **Richland Creek** **107.82 305** PFAKE 03 47 40.0 +17
Z41A LR LR
comp=Z,1µm,20.0s
BKNI **Bangkinang** **107.84 121** PFAKE 03 47 40.0 +16
BKNI LR LR
comp=Z,4µm,21.0s
PAGS **Pennsylvania G** **107.88 321** PFAKE 03 47 40.0 +17
PAGS LR LR
comp=Z,2µm,22.0s
ODNJ **Ogdensburg** **107.97 322** PFAKE 03 47 40.0 +17
ODNJ LR LR
comp=Z,3µm,22.0s
S51A **Beattyville** **107.98 314** PFAKE 03 47 40.0 +16
S51A LR LR
comp=Z,2µm,20.0s
X43A **Marvell** **108.11 307** PFAKE 03 47 40.0 +16
X43A LR LR
comp=Z,3µm,22.0s
WES **Weston** **108.16 325** PFAKE 03 47 40.0 +16
WES LR LR
comp=Z,2µm,21.0s
N59A **State Game Lan** **108.19 322** PFAKE 03 47 40.0 +16
N59A LR LR
comp=Z,3µm,21.0s
SENIN **Lac Senin/Sane** **108.22 23** PFAKE 03 47 40.0 +16
SENIN LR LR
comp=Z,8µm,20.0s
T49A **Edmonton** **108.24 313** PFAKE 03 47 40.0 +16
T49A LR LR
comp=Z,2µm,21.0s
MET **Memphis--Engin** **108.24 308** PFAKE 03 47 40.0 +16
MET LR LR
comp=Z,2µm,22.0s
WVT **Waverly** **108.27 310** PFAKE 03 47 40.0 +16
WVT LR LR
comp=Z,3µm,22.0s
HPIG **108.29 292** PFAKE 03 47 40.0 +15
HPIG LR LR
comp=Z,3µm,20.0s
WLAR **White Oak Lake** **108.32 305** PFAKE 03 47 40.0 +16
WLAR LR LR
comp=Z,1µm,22.0s
HRV **Adam Dziewonsk** **108.34 325** PFAKE 03 47 40.0 +16
HRV LR LR
comp=Z,3µm,22.0s
QUA2 **Belchertown** **108.37 325** PFAKE 03 47 40.0 +16
QUA2 LR LR
comp=Z,3µm,21.0s
GBN **Guysborough** **108.40 334** PFAKE 03 47 40.0 +16
GBN LR LR
comp=Z,2µm,22.0s
MCWV **Mont Chateau** **108.42 318** PFAKE 03 47 40.0 +16
MCWV LR LR
comp=Z,1µm,21.0s
JCT **Junction City** **108.53 298** PFAKE 03 47 40.0 +15
JCT LR LR
comp=Z,1µm,21.0s
O56A **Blue Knob Stat** **108.53 319** PFAKE 03 47 40.0 +15
O56A LR LR
comp=Z,3µm,19.0s
SSPA **Standing Stone** **108.64 320** PFAKE 03 47 40.0 +15
SSPA LR LR
comp=Z,2µm,20.0s
HALT **Halls** **108.68 309** PFAKE 03 47 40.0 +15
HALT LR LR
comp=Z,4µm,22.0s
VTS **Vitosha** **108.69 35** PFAKE 03 47 40.0 +15
VTS LR LR
comp=Z,2µm,20.0s
MDRS **Chennai** **108.74 96** *e*P **Pdif** **03 43 20.4 -0.4**
MDRS IAMs_20 IAMs_20 04 24 21.0
comp=Z,2µm,16.2s
T47A **Sharon Grove** **108.74 311** PFAKE 03 47 40.0 +15
T47A LR LR
comp=Z,2µm,20.0s
TUE **Stuetta** **108.74 24** PFAKE 03 47 40.0 +15
TUE LR LR
comp=Z,2µm,20.0s
WHTX **Lake Whitney,** **108.76 301** PFAKE 03 47 40.0 +15
WHTX LR LR
comp=Z,2µm,22.0s
KSPA **Keystone Colle** **108.77 322** PFAKE 03 47 40.0 +15
KSPA LR LR
comp=Z,3µm,21.0s
P53A **Whipple** **108.81 317** PFAKE 03 47 40.0 +15
P53A LR LR
comp=Z,2µm,21.0s
X40A **Basin Creek Fa** **108.89 306** PFAKE 03 47 40.0 +15
X40A LR LR
comp=Z,2µm,22.0s
CLF **Chambon-Foret** **108.90 19** PFAKE 03 47 40.0 +15
CLF LR LR
comp=Z,2µm,22.0s
HBAR **Harrisburg** **108.91 308** PFAKE 03 47 40.0 +15
HBAR LR LR
comp=Z,2µm,22.0s
GLAT **Glass** **108.97 309** PFAKE 03 47 40.0 +14
GLAT LR LR
comp=Z,4µm,22.0s
GNAR **Gosnell** **109.00 309** PFAKE 03 47 40.0 +14
GNAR LR LR
comp=Z,2µm,20.0s
TRI **Trieste** **109.01 27** PFAKE 03 47 40.0 +15
TRI LR LR
comp=Z,3µm,21.0s
FUORN **Ofenpass-Fuorn** **109.08 25** PFAKE 03 47 40.0 +14
FUORN LR LR
comp=Z,4µm,20.0s
PSI **Prapat** **109.08 118** PFAKE 03 47 40.0 +13
PSI LR LR
comp=Z,5µm,22.0s
PSI **Prapat** **109.08 118** PKKPbc PKKPbc 03 58 33.6 +2.9
comp=Z,5.4nm,0.8s,baz=184,slow=6.8,SNR=5.7
Q51A **Peebles** **109.11 315** PFAKE 03 47 40.0 +14
Q51A LR LR
comp=Z,2µm,20.0s
DAVOX **Davos/Dischmat** **109.14 24** PKiKP **PKiKP** **03 47 25.5 -0.3**
DAVOX PKKPbc **PKKPbc** **03 58 33.8 +2.1**
baz=354,slow=19
TRY **Troy** **109.18 324** PFAKE 03 47 40.0 +14
TRY LR LR
comp=Z,2µm,20.0s
EMMW **East Machias** **109.22 329** PFAKE 03 47 40.0 +14
EMMW LR LR
comp=Z,2µm,22.0s
W41B **Gary Mavity, V** **109.24 307** PFAKE 03 47 40.0 +14
W41B LR LR
comp=Z,2µm,21.0s
FFD **Franklin Falls** **109.25 326** PFAKE 03 47 40.0 +14
FFD LR LR
comp=Z,3µm,22.0s
MIAR **Mount Ida** **109.25 305** PFAKE 03 47 40.0 +14
MIAR LR LR
comp=Z,1µm,22.0s
PVMO **Portageville** **109.26 309** PFAKE 03 47 40.0 +14
PVMO LR LR
comp=Z,4µm,21.0s

ANTO **Ankara** **109.35 43** PFAKE 03 47 40.0 +14
ANTO LR LR
comp=Z,3µm,22.0s
WHAR **Wooly Hollow** **109.35 307** PFAKE 03 47 40.0 +14
WHAR LR LR
comp=Z,2µm,21.0s
TXAR **Lajitas Array** **109.36 295** Pdiff **Pdif** **03 43 25.0 +1.6**
comp=Z,0.2nm,0.8s,baz=84,slow=9.3,SNR=2.6
TXAR PKiKP **PKiKP** **03 47 27.1 +0.5**
comp=Z,2.6nm,0.9s,baz=167,slow=4.6,SNR=9.7
TXAR PKKP **PKKPdf** **03 58 45.5 -0.7**
comp=Z,0.4nm,0.7s,baz=305,slow=3.2,SNR=3.6
T45A **Paducah** **109.37 310** PFAKE 03 47 40.0 +14
T45A LR LR
comp=Z,3µm,22.0s
P51A **Williamsport** **109.41 316** PFAKE 03 47 40.0 +14
P51A LR LR
comp=Z,2µm,20.0s
BINY **Binghamton** **109.42 322** PFAKE 03 47 40.0 +14
BINY LR LR
comp=Z,3µm,21.0s
GGN **Saint George** **109.44 330** PFAKE 03 47 40.0 +14
GGN LR LR
comp=Z,2µm,20.0s
PARMO **Parma** **109.50 309** PFAKE 03 47 40.0 +14
PARMO LR LR
comp=Z,4µm,21.0s
WCI **Wyandotte Cave** **109.51 313** PFAKE 03 47 40.0 +14
WCI LR LR
comp=Z,2µm,20.0s
BR101 **Keskin Array S** **109.52 44** *e*PKiKP **PKiKP** **03 47 26.4 -0.2**
BRTR **Keskin Array B** **109.52 44** PKiKP **PKiKP** **03 47 26.4 -0.2**
comp=Z,0.6nm,0.8s,baz=216,slow=4.0,SNR=3.7
BRTR PKKPbc **PKKPbc** **03 58 30.6 +0.4**
comp=Z,0.8nm,0.8s,baz=66,slow=4.0,SNR=4.2
BRTR PKKP **PKKPdf** **03 58 45.1 -1.4**
comp=Z,0.5nm,0.6s,baz=38,slow=1.9,SNR=3.8
O52A **Adamsville** **109.53 317** PFAKE 03 47 40.0 +14
O52A LR LR
comp=Z,2µm,21.0s
LMN **Caledonia Moun** **109.61 331** PFAKE 03 47 40.0 +14
LMN LR LR
comp=Z,2µm,21.0s
DAVA **Damuels** **109.63 24** *e*PKiKP **PKiKP** **03 47 28.2 +1.6**
comp=Z,8.2nm,1.0s
N54A **Moraine State** **109.64 319** PFAKE 03 47 40.0 +13
N54A LR LR
comp=Z,3µm,22.0s
HNH **Hanover** **109.65 325** PFAKE 03 47 40.0 +13
HNH LR LR
comp=Z,3µm,21.0s
WVL **Waterville** **109.69 327** PFAKE 03 47 40.0 +13
WVL LR LR
comp=Z,2µm,22.0s
USIN **University of** **109.81 311** PFAKE 03 47 40.0 +13
USIN LR LR
comp=Z,2µm,20.0s
SQTA **Sankt Quirin** **109.85 25** *i* PKiKP **PKiKP** **03 47 30.9 +3.9**
comp=Z,27nm,1.5s
PBMO **Poplar Bluff** **109.87 309** PFAKE 03 47 40.0 +13
PBMO LR LR
comp=Z,4µm,21.0s
W39A **Magazine** **109.90 305** PFAKE 03 47 40.0 +13
W39A LR LR
comp=Z,2µm,19.0s
W39A **Magazine** **109.90 305** P **PKiKP** **03 47 27.6 +0.3**
baz=149
Q48A **North Vernon** **109.91 313** P **PKiKP** **03 47 27.8 +0.6**
baz=151
ECH **Echery** **109.96 22** PFAKE 03 47 40.0 +13
ECH LR LR
comp=Z,4µm,19.0s
M54A **Oil Creek Stat** **110.01 319** PFAKE 03 47 40.0 +13
M54A LR LR
comp=Z,2µm,21.0s
LBNH **Lisbon** **110.04 326** PFAKE 03 47 40.0 +13
LBNH LR LR
comp=Z,3µm,21.0s
ACSO **Alum Creek Sta** **110.04 316** PFAKE 03 47 40.0 +13
ACSO LR LR
comp=Z,2µm,21.0s
X37A **Clayton** **110.06 304** PFAKE 03 47 40.0 +12
X37A LR LR
comp=Z,2µm,21.0s
KBA **Koelnbreinsper** **110.20 27** *i* PKiKP **PKiKP** **03 47 30.6 +2.9**
comp=Z,15nm,1.6s
SIUC **Southern Illin** **110.20 310** PFAKE 03 47 40.0 +12
SIUC LR LR
comp=Z,2µm,20.0s
SOKA **Soboth** **110.22 28** *i* PKiKP **PKiKP** **03 47 29.9 +2.3**
comp=Z,18nm,1.4s
PKME **Peaks-Kenny Pk** **110.23 328** PFAKE 03 47 40.0 +12
PKME LR LR
comp=Z,2µm,21.0s
ABTX **Abilene, Hawle** **110.27 300** PFAKE 03 47 40.0 +12
ABTX LR LR
comp=Z,1µm,22.0s
ABTX **Abilene, Hawle** **110.27 300** P **PKiKP** **03 47 28.8 +0.7**
baz=148
ALLY **Alegheny Colle** **110.30 319** PFAKE 03 47 40.0 +12
ALLY LR LR
comp=Z,2µm,21.0s
BFO **Black Forest** **110.30 23** PFAKE 03 47 40.0 +12
BFO LR LR
comp=Z,6µm,20.0s
LHMI **Lhok Sumawe** **110.31 115** PFAKE 03 47 40.0 +11
LHMI LR LR
comp=Z,4µm,20.0s
T42A **Van Buren** **110.36 308** PFAKE 03 47 40.0 +12
T42A LR LR
comp=Z,3µm,22.0s
VT1 **Waterbury** **110.36 325** PFAKE 03 47 40.0 +12
VT1 LR LR
comp=Z,3µm,22.0s
MYKOM **Kota Tinggi** **110.38 123** PFAKE 03 47 40.0 +11
MYKOM LR LR
comp=Z,2µm,20.0s
BLO **Bloomington** **110.42 313** PFAKE 03 47 40.0 +12
BLO LR LR
comp=Z,3µm,20.0s
CMBY **CAMPBELL BAY** **110.42 111** *e*P **PKiKP** **03 47 27.9 -1.0**
N51A **Ashland** **110.43 317** PFAKE 03 47 40.0 +12
N51A LR LR
comp=Z,2µm,20.0s
NCB **Newcomb** **110.48 324** PFAKE 03 47 40.0 +12
NCB LR LR
comp=Z,2µm,21.0s
O49A **Covington** **110.49 315** PFAKE 03 47 40.0 +12
O49A LR LR
comp=Z,3µm,20.0s
MMNY **Mt. Morris Dam** **110.52 321** PFAKE 03 47 40.0 +12
MMNY LR LR
comp=Z,4µm,22.0s
OLIL **Olney** **110.64 312** PFAKE 03 47 40.0 +11
OLIL LR LR
comp=Z,2µm,20.0s
ERPA **Erie** **110.67 319** PFAKE 03 47 40.0 +11
ERPA LR LR
comp=Z,2µm,21.0s
HHAR **Hobbs** **110.89 306** PFAKE 03 47 40.0 +11
HHAR LR LR
comp=Z,2µm,22.0s
STU **Stuttgart** **110.90 23** PFAKE 03 47 40.0 +11
STU LR LR
comp=Z,5µm,20.0s
FVM **French Village** **110.91 309** PFAKE 03 47 40.0 +11
FVM LR LR
comp=Z,4µm,22.0s
R43A **Red Bud** **110.97 310** P **PKiKP** **03 47 29.9 +0.7**
baz=150
FRNY **Flat Rock** **111.07 325** PFAKE 03 47 40.0 +11
FRNY LR LR
comp=Z,3µm,21.0s
N49A **Columbus Grove** **111.08 316** PFAKE 03 47 40.0 +11
N49A LR LR
comp=Z,2µm,21.0s
M50A **Fremont** **111.10 317** PFAKE 03 47 40.0 +11
M50A LR LR
comp=Z,2µm,20.0s
S41A **Jillco Farms,** **111.10 308** P **PKiKP** **03 47 30.2 +0.7**
baz=149
Q44A **Meyer Farm, Va** **111.15 311** PFAKE 03 47 40.0 +10
Q44A LR LR
comp=Z,2µm,20.0s
WLF **Walferdange** **111.16 21** PFAKE 03 47 40.0 +11
WLF LR LR
comp=Z,17µm,22.0s
LONY **Lake Ozonia** **111.17 324** PFAKE 03 47 40.0 +11
LONY LR LR
comp=Z,2µm,19.0s
PQI **Presque Isle** **111.19 329** PFAKE 03 47 40.0 +11
PQI LR LR
comp=Z,2µm,19.0s
P45A **Graceland, Par** **111.19 312** PFAKE 03 47 40.0 +10
P45A LR LR
comp=Z,2µm,18.0s
BATG **Bathurst New B** **111.25 331** PFAKE 03 47 40.0 +11
BATG LR LR
comp=Z,3µm,21.0s
CCM **Cathedral Cave** **111.30 309** PFAKE 03 47 40.0 +10
CCM LR LR
comp=Z,3µm,21.0s
TUL1 **Leonard** **111.36 304** PFAKE 03 47 40.0 +10
TUL1 LR LR
comp=Z,2µm,20.0s
SLM **Saint Louis** **111.40 310** PFAKE 03 47 40.0 +10
SLM LR LR
comp=Z,1µm,20.0s
HYB **Hyderabad** **111.52 92** *i* P **PKiKP** **03 47 30.0 -0.9**
HYB *e*SKS **SKSac** **03 54 08.0 +0.4**
HYB *e* 03 55 06.0
HYB *e*PS **PS** **03 57 44.0 -0.6**
HYB *e*PKKP **PKKPbc** **03 58 26.0 +3.1**
HYB *e* 03 58 36.5
HYB **Hyderabad** **111.52 92** *e*P **PKiKP** **03 47 31.4 +0.5**
HYB IAMs_20 IAMs_20 04 24 57.3
comp=Z,4µm,24.8s
IPM **Ipoh** **111.52 119** PFAKE 03 47 40.0 +8.9
IPM LR LR
comp=Z,3µm,20.0s
WMOK **Wichita Mounta** **111.67 301** PFAKE 03 47 40.0 +9.3
WMOK LR LR
comp=Z,1µm,20.0s
SFIN **Lafayette** **111.69 313** PFAKE 03 47 40.0 +10
SFIN LR LR
comp=Z,3µm,20.0s
HNR **Honiara** **111.72 185** PFAKE 03 47 40.0 +8.5
HNR LR LR
comp=Z,2µm,21.0s
M48A **Edgerton** **111.77 315** PFAKE 03 47 40.0 +9.4
M48A LR LR
comp=Z,2µm,21.0s
BHJ **Bhuj** **111.77 81** *e*P **PKiKP** **03 47 30.7 -0.5**
BHJ IAMs_20 IAMs_20 04 25 48.1
comp=Z,4µm,19.2s
SRIG **Santa Rosalia** **111.83 287** PFAKE 03 47 40.0 +8.8
SRIG LR LR
comp=Z,2µm,19.0s
UCC **Uccle** **111.93 19** PFAKE 03 47 40.0 +9.4
UCC LR LR
comp=Z,4µm,21.0s
GEC2 **GERESS Array S** **111.94 26** *e*PKiKP **PKiKP** **03 47 30.3 -0.5**
GEC2 LR LR
comp=Z,3µm,19.0s
GEC2 **GERESS Array S** **111.94 26** *e*PKIKP **PKiKP** **03 47 30.3 -0.5**
GEC2 MLR MLR
comp=Z,3µm,19.0s
GERES **GERESS Array B** **111.94 26** PKiKP **PKiKP** **03 47 30.3 -0.5**
comp=Z,1.9nm,0.8s,baz=194,slow=2.8,SNR=7.7
KULM **Kulim** **112.07 119** PFAKE 03 47 40.0 +7.9
KULM LR LR
comp=Z,3µm,21.0s
AAM **Ann Arbor** **112.10 317** PFAKE 03 47 40.0 +8.8
AAM LR LR
comp=Z,2µm,21.0s
SNOP **Sinop** **112.10 44** PFAKE 03 47 40.0 +8.8
SNOP LR LR
comp=Z,2µm,21.0s
MLR **Muntele Rosu** **112.11 36** *e*PKiKP **PKiKP** **03 47 30.8 -0.5**
MLR LR LR
comp=Z,2µm,20.0s
MLR **Muntele Rosu** **112.11 36** ||*i* P **PKiKP** **03 47 34.8 +3.5**
MLR **Muntele Rosu** **112.11 36** PKiKP **PKiKP** **03 47 30.8 -0.5**
comp=Z,1.7nm,0.7s,baz=235,slow=12,SNR=3.4
MNTX **Cornudas Mount** **112.14 295** PFAKE 03 47 40.0 +8.3
MNTX LR LR
comp=Z,2µm,18.0s
KHC **Kasperske Hory** **112.18 26** PFAKE 03 47 40.0 +8.8
KHC LR LR
comp=Z,1µm,22.0s
KHC **Kasperske Hory** **112.18 26** *e*PKP **PKiKP** **03 47 29.0 -2.2**
KHC *ex* x 03 48 29.5
KHC *e*PS **PS** **03 57 50.0 -0.2**
KHC *e*PKKP **PKKPab** **03 58 30.0 +2.2**
KHC *ex* x 03 58 47.5
KHC *ex* x 04 04 12.5
KHC AMS AMS 04 28 20.0
comp=Z,3µm,23.4s
KHC **Kasperske Hory** **112.18 26** *e*PKIKP **PKiKP** **03 47 29.0 -2.2**
KHC *e*PS PKKPbc 03 57 50.0 -32
KHC *e*SS SS 04 04 12.5 +20
KHC MLR MLR
comp=Z,3µm,23.4s
GRFO **Grafenberg** **112.19 24** PFAKE 03 47 40.0 +8.8
GRFO LR LR
comp=Z,3µm,20.0s
GRA1 **Grafenberg Arr** **112.19 24** PFAKE 03 47 40.0 +8.8
GRA1 LR LR
comp=Z,3µm,20.0s
P42A **Winchester** **112.26 310** PFAKE 03 47 40.0 +8.4
P42A LR LR
comp=Z,2µm,20.0s
M46A **Old House Fiel** **112.30 314** PFAKE 03 47 40.0 +8.4
M46A LR LR
comp=Z,2µm,19.0s
PLVO **Plevna** **112.32 323** PFAKE 03 47 40.0 +8.4
PLVO LR LR
comp=Z,2µm,21.0s
HSIG **112.59 289** PFAKE 03 47 40.0 +7.4
HSIG LR LR
comp=Z,2µm,18.0s
PSZ **Piszkesteto** **112.61 31** PFAKE 03 47 40.0 +7.9
PSZ LR LR
comp=Z,2µm,21.0s
HDIL **Hopedale** **112.68 312** PFAKE 03 47 40.0 +7.6
HDIL LR LR
comp=Z,2µm,21.0s
VRI **Vrincioaia** **112.69 36** ||*i* P **PKiKP** **03 47 35.5 +3.2**
SADO **Sadowa** **112.74 321** PFAKE 03 47 40.0 +7.6
SADO LR LR
comp=Z,2µm,22.0s
KSM **Kuching** **112.78 130** PFAKE 03 47 50.0 +17
KSM LR LR
comp=Z,1µm,21.0s
TREC **Trest** **112.78 27** AMS AMS 04 32 10.0
comp=Z,2µm,16.8s
MSTX **Muleshoe** **112.82 298** PFAKE 03 47 50.0 +17
MSTX LR LR
comp=Z,1µm,20.0s
MSTX **Muleshoe** **112.82 298** P **PKiKP** **03 47 33.6 +0.5**
baz=147
VYHS **Vyhne** **112.86 30** *e*PKIKP **PKiKP** **03 47 32.2 -0.3**
VYHS **Vyhne** **112.86 30** *e*PKP **PKiKP** **03 47 32.2 -0.3**
M44A **Midewin, Midew** **112.92 313** PFAKE 03 47 50.0 +17
M44A LR LR
comp=Z,3µm,20.0s
NKC **Novy Kostel** **112.97 25** *e*SS SS 04 04 22.7 +20
NKC AMS AMS 04 33 40.0
comp=Z,2µm,16.5s
VRAC **Vranov** **113.06 28** PKiKP **PKiKP** **03 47 32.1 -0.7**
comp=Z,3.5nm,0.4s,baz=186,slow=8.1,SNR=4.7
VRAC PKKPab **PKKPab** **03 58 26.8 +2.8**
comp=Z,1.8nm,0.6s,baz=12,slow=14,SNR=3.9
AMTX **Amarillo** **113.08 299** PFAKE 03 47 50.0 +17
AMTX LR LR
comp=Z,2µm,20.0s
AMTX **Amarillo** **113.08 299** P **PKiKP** **03 47 34.3 +0.8**
baz=147
U32A **Winter Ranch,** **113.14 302** PFAKE 03 47 50.0 +17
U32A LR LR
comp=Z,2µm,21.0s
GOPC **GO Pecny, Ondr** **113.19 26** *e*PS PS 03 57 59.9 +0.4
GOPC AMS AMS 04 31 20.0
comp=Z,3µm,19.9s
PRU **Pruhonice** **113.20 26** *e*PS PS 03 57 57.8 -1.7
PRU *ex* x 04 04 26.7
PRU AMS AMS 04 29 20.0
comp=Z,2µm,22.8s
N41A **Harden Midland** **113.42 311** PFAKE 03 47 50.0 +16
N41A LR LR
comp=Z,2µm,20.0s
TRPA **Tarpa** **113.52 32** ||*i* P **PKiKP** **03 47 33.9 +0.2**
PVCC **Panska Ves** **113.72 26** AMS AMS 04 31 40.0
comp=Z,3µm,19.2s
MORC **Moravsky Berou** **113.72 28** PFAKE 03 47 50.0 +16
MORC LR LR
comp=Z,2µm,20.0s
MORC **Moravsky Berou** **113.72 28** ||*i* P **PKiKP** **03 47 34.2 +0.1**
319A **Douglas** **113.73 292** PFAKE 03 47 50.0 +15
319A LR LR
comp=Z,2µm,19.0s
PBA **Port Blair** **113.86 108** *e*P PKiKP 03 47 35.1 -0.3
BRG **Berggiesshubel** **113.90 26** *e*PKP **PKiKP** **03 47 34.4 0.0**
comp=Z,12nm,1.3s
BRG *e* 03 47 51.6
comp=Z,7.6nm,1.2s
BRG PP **PP** **03 48 30.0 +0.5**
BRG SKS **SKKSac** **03 55 27.0 +1.8**
BRG SDIFF 03 56 16.0
BRG SP **SP** **03 58 06.0 +6.2**
BRG SS SKKSdf 04 05 34.0 -12
comp=N,1µm,19.4s
comp=E,2µm,18.4s
comp=Z,1µm,19.2s
BRG **Berggiesshubel** **113.90 26** *e*PKIKP **PKiKP** **03 47 34.4 0.0**
BRG 03 48 30.0
BRG SP SP 03 58 06.0 +6.2
BRG pmax pmax
comp=Z,12nm,1.3s
BRG MLR MLR
comp=N,1µm,19.4s
BRG MLR MLR
comp=E,2µm,18.4s
BRG MLR MLR
comp=Z,1µm,19.2s
UZH **Uzhgorod** **113.90 32** *e*PKIKP **PKiKP** **03 47 41.8 +7.4**
UZH *e* 03 47 49.5
UZH *e*SS SS 04 04 12.0 -2.9
UZH MLR MLR
comp=Z,100nm,18.0s
OKC **Ostrava-Krasne** **113.93 29** *e*PS PS 03 58 12.0 +5.9
OKC AMS AMS 04 31 10.0
comp=Z,2µm,19.6s
DPC **Dobruska-Polom** **113.96 27** *e*PS PS 03 58 13.4 +6.9
DPC *ex* x 04 04 37.0
DPC AMS AMS 04 32 00.0
comp=Z,3µm,20.1s
121A **Cookes Peak, D** **113.97 293** P **PKiKP** **03 47 36.1 +0.7**
baz=146
UPC **Upice** **114.03 27** *e*PS PS 03 58 08.7 +1.6
UPC *e*SS SS 04 04 40.8 +24
UPC AMS AMS 04 32 30.0
comp=Z,4µm,20.2s
L42A **Oliver, Polo** **114.07 312** PFAKE 03 47 50.0 +15
L42A LR LR
comp=Z,2µm,20.0s
CLL **Collm** **114.10 25** PFAKE 03 47 50.0 +15
CLL LR LR
comp=Z,3µm,20.0s
CLL **Collm** **114.10 25** *e*Pdif **Pdif** **03 43 48.0 +4.3**
CLL *e*PP **PP** **03 48 30.0 -0.9**
CLL *e*PS **PKKPbc** **03 58 08.0 -7.1**
CLL *e*SS SS 04 04 19.0 +1.6
CLL *e*SSS SSS 04 08 24.0
CLL Lm MLR 04 31 00.0
comp=N,1µm,20.7s
CLL Lm MLR 04 31 00.0
comp=E,900nm,21.0s
CLL Lm MLR 04 31 00.0
comp=Z,2µm,20.4s
CLL **Collm** **114.10 25** *e*P **Pdif** **03 43 48.0 +4.3**
CLL *e*PS **PKKPbc** **03 58 08.0 -7.1**
CLL MLR MLR
comp=Z,2µm,20.4s
GNI **Garni** **114.15 52** PFAKE 03 47 50.0 +15
GNI LR LR
comp=Z,3µm,21.0s
GNI **Garni** **114.15 52** ||*i* PKIKP **PKiKP** **03 47 36.2 +0.7**
GNI **Garni** **114.15 52** PKKPab PKKPab 03 58 23.8 +3.6
comp=Z,3.7nm,0.5s,baz=151,slow=4.9,SNR=3.1
K43A **Burlington** **114.16 314** PFAKE 03 47 50.0 +15
K43A LR LR
comp=Z,3µm,20.0s
KIS **Kishinev** **114.35 37** *e*PKP **PKiKP** **03 47 36.0 +0.7**
KIS **Kishinev** **114.35 37** *e*PP PP 03 48 39.0 +6.2
KIS **Kishinev** **114.35 37** *e*PS PS 03 58 14.0 +4.0
KIS **Kishinev** **114.35 37** *e*PPS PPS 03 59 26.0
KIS LRM MLR 04 34 50.0
comp=Z,1µm,20.0s
KIS **Kishinev** **114.35 37** *e*PKIKP **PKiKP** **03 47 36.0 +0.7**
KIS *e* 03 48 39.0
KIS *e*PS **PKKPbc** **03 58 14.0 -0.1**
KIS *e*PPS PPS 03 59 26.0
KIS MLR MLR
comp=N,1µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KSU1 **Kansas State U** **114.40 306** PFAKE 03 47 50.0 +14
KSU1 LR LR
comp=Z,3µm,21.0s
SBUM **Sibu** **114.42 131** PFAKE 03 47 50.0 +13
SBUM LR LR
comp=Z,3µm,21.0s
GLMI **Grayling** **114.65 317** PFAKE 03 47 50.0 +14
GLMI LR LR
comp=Z,2µm,18.0s
GLMI **Grayling** **114.65 317** P **PKiKP** **03 47 38.0 +1.9**
baz=150
L40A **Anamosa** **114.72 311** PFAKE 03 47 50.0 +14
L40A LR LR
comp=Z,3µm,19.0s
Y22D **IRIS PASSCAL I** **114.83 295** PFAKE 03 47 50.0 +13
Y22D LR LR
comp=Z,2µm,18.0s
LUWI **Luwuk** **114.86 144** PFAKE 03 47 50.0 +13
LUWI LR LR
comp=Z,1µm,20.0s
NGP **Nagpur** **114.88 90** *e*P PKPdf 03 47 36.5 -0.7
NGP IAmb IAmb 03 47 37.7
comp=Z,3.3nm,0.6s
KWP **Kalwaria Pacla** **114.93 32** PFAKE 03 47 50.0 +14
KWP LR LR
comp=Z,25µm,20.0s
JFWS **Jewell Farm** **115.07 312** PFAKE 03 47 50.0 +13
JFWS LR LR
comp=Z,2µm,22.0s
SOC **Sochi** **115.11 46** *i* PKIKP PKPpre 03 47 27.9
SOC *e* 03 51 05.9
SOC *e* 03 54 18.4
SOC *e*PS **PKKPab** **03 58 14.8 -0.7**
SOC *i* SS SS 04 04 44.2 +13
SOC *e*SSS SSS 04 08 47.1
VLDQ **Val d'Or** **115.18 324** PFAKE 03 47 50.0 +13
VLDQ LR LR
comp=Z,3µm,21.0s
TUC **Tucson** **115.22 291** *e*PKPdf **PKiKP** **03 47 38.8 +1.1**
TUC LR LR
comp=Z,2µm,18.0s
TUC **Tucson** **115.22 291** P **PKiKP** **03 47 37.9 +0.3**
baz=145
DGPR **DIGLIPUR** **115.26 107** *e*P **PKiKP** **03 47 38.4 +0.3**
ANMO **Albuquerque** **115.33 296** *e*PKPdf **PKiKP** **03 47 38.4 +0.5**
ANMO LR LR
comp=Z,2µm,19.0s
ANMO **Albuquerque** **115.33 296** P **PKiKP** **03 47 38.1 +0.2**
baz=145
ANMO **Albuquerque** **115.33 296** PKiKP **PKiKP** **03 47 38.1 +0.2**
comp=Z,2.6nm,0.8s,baz=139,slow=4.5,SNR=10.0
ANMO PKKPbc **PKKPbc** **03 58 10.6 -0.1**
comp=Z,2.1nm,0.9s,baz=300,slow=2.6,SNR=5.7
ANMO PKKP **PKKPdf** **03 58 29.9 -5.3**
comp=Z,2.4nm,0.9s,baz=297,slow=2.7,SNR=4.7
TASM **ASL Pad, Albuq** **115.33 296** P **PKiKP** **03 47 38.0 +0.1**
baz=145
TASM **ASL Pad, Albuq** **115.33 296** P **PKPdf** **03 47 37.8 -0.1**
baz=145
SCIA **State Center** **115.37 310** PFAKE 03 47 50.0 +12
SCIA LR LR
comp=Z,3µm,20.0s
I42A **Draeger Farm,** **115.40 314** PFAKE 03 47 50.0 +13
I42A LR LR
comp=Z,3µm,20.0s
LVV **L'vov** **115.46 33** *e*P **Pdif** **03 43 52.2 +2.3**
LVV *e* 03 54 20.0
H43A **Windswept, Lux** **115.47 315** PFAKE 03 47 50.0 +12
H43A LR LR

comp=Z,2µm,22.0s
CBKS Cedar Bluff 115.50 303 ePKPdf PKiKP 03 47 38.4 +0.5
CBKS LR LR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 115.50 303 ePKIKP PKiKP 03 47 38.4 +0.5
CBKS MLR MLR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 115.50 303 P PKiKP 03 47 37.9 -0.1
baz=146
FAKI Fak Fak 115.61 154 PFAKE 03 47 50.0 +11
FAKI LR LR
comp=Z,1µm,19.0s
BHPL Bhopal 115.76 87 eP PKPdf 03 47 38.6 -0.3
H42A Shiocton 115.78 314 PFAKE 03 47 50.0 +12
H42A LR LR
comp=Z,3µm,20.0s
CHGQ Chibougamau 115.89 327 P PKiKP 03 47 38.3 0.0
baz=154
I41A Arkdale 115.90 313 PFAKE 03 47 50.0 +12
I41A LR LR
comp=Z,3µm,19.0s
J39A Decorah 115.99 312 P PKPdf 03 47 38.4 -0.3
baz=148
I40A Norwalk 116.04 313 P PKPdf 03 47 38.6 -0.1
baz=148
G43A Wallace 116.12 315 PFAKE 03 47 50.0 +11
G43A LR LR
comp=Z,2µm,21.0s
T25A Trinidad 116.19 299 ePKPdf PKiKP 03 47 39.9 +0.4
T25A LR LR
comp=Z,1µm,22.0s
T25A Trinidad 116.19 299 P PKPdf 03 47 39.2 -0.4
baz=145
D46A Sault St. Mari 116.24 319 P PKPdf 03 47 38.6 -0.4
baz=150
H41A Junction City 116.29 314 PFAKE 03 47 50.0 +11
H41A LR LR
comp=Z,3µm,20.0s
H41A Junction City 116.29 314 P PKPdf 03 47 39.0 -0.2
baz=148
I39A Houston 116.36 312 ePKPdf PKiKP 03 47 39.4 0.0
I39A LR LR
comp=Z,2µm,20.0s
I39A Houston 116.36 312 P PKPdf 03 47 38.9 -0.4
baz=148
G42A Mountain 116.37 315 PFAKE 03 47 50.0 +11
G42A LR LR
comp=Z,2µm,20.0s
KBZ Khabaz 116.45 48 PKP PKPdf 03 47 39.5 +0.1
comp=Z,2.0nm,0.8s,baz=180,slow=6.1,SNR=3.9
KIV Kislovodsk 116.56 48 PFAKE 03 47 50.0 +10
KIV LR LR
comp=Z,2µm,19.0s
KIV Kislovodsk 116.56 48 i PKIKP PKPdf 03 47 36.7 -3.2
KIV e 03 48 44.8
KIV e 03 58 28.4
KIV pmax pmax
comp=Z,20nm,1.1s
KIV MLR MLR
comp=Z,7µm,21.0s
H40A Chili 116.58 313 P PKPdf 03 47 39.6 -0.1
baz=148
X18A Snowflake 116.63 293 ePKPdf PKiKP 03 47 41.7 +1.2
X18A LR LR
comp=Z,2µm,18.0s
E44A Grand Marais A 116.66 317 PFAKE 03 47 50.0 +10
E44A LR LR
comp=Z,2µm,22.0s
MATQ Matagami 116.70 325 P PKiKP 03 47 39.9 +0.1
baz=152
E43A Lone Tree Farm 116.83 317 PFAKE 03 47 50.0 +10
E43A LR LR
comp=Z,2µm,20.0s
KSCO Kaye Shedlock' 116.92 301 PFAKE 03 47 50.0 +9.2
KSCO LR LR
comp=Z,2µm,19.0s
H39A Augusta 116.96 313 P PKiKP 03 47 40.6 +0.1
baz=148
RABL Rabaul 116.97 176 PFAKE 03 47 50.0 +8.4
RABL LR LR
comp=Z,2µm,21.0s
BGNE Belgrade 116.97 306 PFAKE 03 47 50.0 +9.3
BGNE LR LR
comp=Z,4µm,22.0s
W18A Petrified Fore 117.01 294 PFAKE 03 47 50.0 +8.8
W18A LR LR
comp=Z,2µm,18.0s
W18A Petrified Fore 117.01 294 P PKPdf 03 47 40.8 -0.3
baz=145
113A Mohawk Valley, 117.05 289 ePKPdf PKiKP 03 47 41.9 +0.8
F41A Three Lakes 117.05 315 PFAKE 03 47 50.0 +9.3
F41A LR LR
comp=Z,2µm,22.0s
F41A Three Lakes 117.05 315 P PKiKP 03 47 41.0 +0.3
baz=148
G40A Rib Lake 117.05 314 PFAKE 03 47 50.0 +9.3
G40A LR LR
comp=Z,2µm,20.0s
G40A Rib Lake 117.05 314 P PKiKP 03 47 40.8 +0.1
baz=148
SDCO Great Sand Dun 117.18 298 ePKPdf PKiKP 03 47 41.8 +0.3
SDCO LR LR
comp=Z,2µm,18.0s
SDCO Great Sand Dun 117.18 298 P PKPdf 03 47 41.2 -0.4
baz=145
E42A Champion 117.20 316 P PKiKP 03 47 41.1 +0.2
baz=149
RGN Rugen 117.20 24 PFAKE 03 47 50.0 +9.4
RGN LR LR
comp=Z,2µm,19.0s
X16A Lo Mia Camp, P 117.25 292 ePKPdf PKiKP 03 47 42.5 +0.8
X16A LR LR
comp=Z,2µm,22.0s
H38A Maiden Rock 117.34 312 P PKPdf 03 47 41.0 -0.2
baz=147
COWI Conover 117.37 315 PFAKE 03 47 50.0 +8.7
COWI LR LR
comp=Z,2µm,20.0s
G39A Holcombe 117.43 313 P PKPdf 03 47 41.1 -0.3
baz=148
G38A Ridgeland 117.59 313 P PKPdf 03 47 41.2 -0.5
baz=147
E41A Kenton 117.61 315 P PKPdf 03 47 41.5 -0.2
baz=148
Y14A Wickenburg 117.62 290 ePKPdf PKiKP 03 47 43.0 +0.8
Y14A LR LR
comp=Z,1µm,19.0s
MAK Makhachkala 117.64 52 eP Pdif 03 43 59.9 +0.2
MAK i 03 47 43.4
MAK e 03 48 55.5
MAK ePPP PPP 03 51 25.1
MAK e 03 54 32.8
MAK ePS PS **03 58 42.8 +2.7**
MAK eSS SS 04 05 07.7 +3.8
MAK eSSS SSS 04 09 29.6
MAK pmax pmax
comp=Z,185nm,0.9s
AK11 Malin Array Si 117.72 35 ePKPdf PKPdf 03 47 40.8 -0.9
KIEV Kiev 117.75 35 ePKPdf PKPdf 03 47 40.2 -1.5
KIEV LR LR
comp=Z,1µm,20.0s
KIEV Kiev 117.75 35⇑ iP PKPdf 03 47 41.0 -0.7
KIEV Kiev 117.75 35⇓ iPKIKP PKPdf 03 47 41.3 -0.4
AKASG Malin Array Be 117.75 35 PKP PKPdf 03 47 40.9 -0.9
comp=Z,2.1nm,0.5s,baz=240,slow=1.6,SNR=15
AKASG PP PP 03 49 05.0 +8.4
comp=Z,4.5nm,1.1s,baz=211,slow=7.0,SNR=7.3
AKASG PKKPbc **PKKPbc 03 58 01.9 -0.4**
comp=Z,1.3nm,0.6s,baz=36,slow=4.7,SNR=8.6
AKBB Malin Array Si 117.75 35 ePKPdf PKPdf 03 47 41.2 -0.6
AKBB ePP PP 03 49 05.0 +8.4
AKBB LR LR
comp=Z,1µm,20.0s
AKBB Malin Array Si 117.75 35 ePKIKP PKPdf 03 47 41.2 -0.6
AKBB e 03 49 05.0
AKBB MLR MLR
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 117.79 297 ePKPdf PKiKP 03 47 43.8 +1.0
S22A LR LR
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 117.79 297 P PKiKP 03 47 43.3 +0.5
baz=144
GLA Glamis 117.80 288 ePKPdf PKiKP 03 47 43.6 +1.1
GLA LR LR
comp=Z,2µm,18.0s
GLA Glamis 117.80 288 P PKiKP 03 47 43.2 +0.6
baz=144
TNTI Ternate 117.93 148 PFAKE 03 48 00.0 +17
TNTI LR LR
comp=Z,800nm,19.0s
D41A Chassel 117.97 316 PFAKE 03 47 50.0 +7.6
D41A LR LR
comp=Z,2µm,19.0s
Q24A Divide 118.01 299 PFAKE 03 48 00.0 +17
Q24A LR LR
comp=Z,2µm,20.0s
IKP In-Ko-Pah, Jac 118.10 287 P PKiKP 03 47 43.9 +0.7
baz=144
WUAZ Wupatki 118.11 293 ePKPdf PKiKP 03 47 44.2 +1.0
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 118.11 293 P PKiKP 03 47 43.8 +0.5
baz=144
E39A Mellen 118.12 314 P PKiKP 03 47 43.3 +0.6
baz=148
MVCO Mesa Verde 118.13 296 ePKPdf PKPdf 03 47 43.2 -0.1
MVCO LR LR
comp=Z,2µm,18.0s
MVCO Mesa Verde 118.13 296 P PKiKP 03 47 43.7 +0.4
baz=144
GEYT Alibeck 118.13 63 PKP PKiKP 03 47 43.3 +0.2
comp=Z,0.8nm,0.4s,baz=226,slow=7.2,SNR=2.8
GEYT PKKPbc **PKKPab 03 58 02.9 -0.3**
comp=Z,3.3nm,0.7s,baz=69,slow=5.2,SNR=5.8
GYA0B ALIBECK ARRAY 118.13 63 PFAKE 03 47 50.0 +6.9
GYA0B LR LR
comp=Z,3µm,20.0s
SWSC Sam W. Stewart 118.19 287 P PKiKP 03 47 44.0 +0.7
baz=144
Y12C Blythe 118.21 289 ePKPdf PKiKP 03 47 44.2 +0.9
Y12C LR LR
comp=Z,2µm,19.0s
Y12C Blythe 118.21 289 P PKiKP 03 47 43.9 +0.6
baz=144
OGNE Ogallala 118.25 303 PFAKE 03 48 00.0 +17
OGNE LR LR
comp=Z,2µm,20.0s
OGNE Ogallala 118.25 303 P PKiKP 03 47 43.4 +0.1
baz=145
F38A Pierce - Schro 118.27 313 P PKiKP 03 47 43.1 +0.1
baz=147
ECSD EROS Data Cent 118.27 308 ePKPdf PKPdf 03 47 43.0 -0.1
ECSD LR LR
comp=Z,3µm,22.0s
ECSD EROS Data Cent 118.27 308 P PKPdf 03 47 42.8 -0.3
baz=146
F37A Hinrichs Farm, 118.36 312 P PKiKP 03 47 43.4 +0.3
baz=147
BAR Barrett 118.41 287 ePKPdf PKiKP 03 47 44.8 +1.0
SCHQ Schefferville 118.43 334 ePKPdf PKiKP 03 47 43.0 0.0
SCHQ ePP PP **03 48 59.9 -1.3**
SCHQ LR LR
comp=Z,2µm,20.0s
SCHQ Schefferville 118.43 334 PKP PKPdf 03 47 42.6 -0.4
comp=Z,8.7nm,0.6s,baz=192,slow=2.6,SNR=23
SCHQ PP PP **03 48 59.9 -1.3**
comp=Z,12nm,1.0s,baz=154,slow=5.1,SNR=2.5
MONP2 Monument Peak 118.45 287 P PKiKP 03 47 44.6 +0.5
baz=144
PDMCI Parker Dam,Lak 118.47 290 P PKiKP 03 47 44.3 +0.5
baz=144
BC3 Big Chuckawall 118.59 288 P PKiKP 03 47 44.8 +0.6
baz=144
E38A The Farm, Brul 118.69 314 PFAKE 03 48 00.0 +16
E38A LR LR
comp=Z,2µm,20.0s
109C Camp Elliot, M 118.79 286 P PKiKP 03 47 45.2 +0.8
baz=144
CPE Camp Elliot 118.79 286 PFAKE 03 48 00.0 +16
CPE LR LR
comp=Z,2µm,19.0s
MANU Manus Island 118.82 171 PFAKE 03 48 00.0 +15
MANU LR LR
comp=Z,2µm,20.0s
IRM Iron Mountain 118.84 289 P PKiKP 03 47 45.5 +0.9
baz=144
ISCO Idaho Springs 118.90 300 ePKPdf PKiKP 03 47 45.1 +0.2
ISCO LR LR
comp=Z,1µm,20.0s
ISCO Idaho Springs 118.90 300 ePKIKP PKiKP 03 47 45.1 +0.2
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO Idaho Springs 118.90 300 P PKiKP 03 47 45.6 +0.7
baz=144
C40A Isle Royale Na 118.91 316 PFAKE 03 48 00.0 +16
C40A LR LR
comp=Z,1µm,20.0s
W13A Hualapai Mount 118.99 290 ePKPdf PKiKP 03 47 45.8 +0.8
W13A LR LR
comp=Z,1µm,18.0s
SMCO Snowmass 119.02 298 PFAKE 03 48 00.0 +15
SMCO LR LR
comp=Z,2µm,20.0s
SUW Suwalki 119.02 30 ePKPdf PKPdf 03 47 42.3 -1.8
SUW LR LR
comp=Z,2µm,21.0s
SUW Suwalki 119.02 30 ePKIKP PKPdf 03 47 42.3 -1.8
SUW MLR MLR
comp=Z,2µm,21.0s
XPFO Pion Flat 119.05 287 ePKPdf PKiKP 03 47 46.3 +1.2
XPFO LR LR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 119.05 287 ePKPdf PKiKP 03 47 46.3 +1.2
PFO LR LR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 119.05 287 ePKIKP PKiKP 03 47 46.3 +1.2
PFO MLR MLR
comp=Z,2µm,18.0s
PFO Pinyon Flats O 119.05 287 P PKiKP 03 47 46.1 +0.9
baz=144
NEE2 Needles Airpor 119.08 290 P PKiKP 03 47 45.3 +0.3
baz=144
BELC Belle Mtn. Jos 119.14 288 P PKiKP 03 47 46.3 +1.0
baz=144
KKM Kota Kinabalu 119.24 134 PFAKE 03 48 00.0 +14
KKM LR LR
comp=Z,2µm,22.0s
U15A North Rim 119.29 292 ePKPdf PKiKP 03 47 46.7 +1.0
U15A LR LR
comp=Z,2µm,20.0s
MURC Murrieta 119.41 287 P PKiKP 03 47 46.4 +0.7
baz=144
LDFC Landfair 119.57 289 ePKPdf PKiKP 03 47 47.4 +1.4
LDFC LR LR
comp=Z,2µm,18.0s
SCI2 San Clemente I 119.58 285 P PKiKP 03 47 46.6 +0.7
baz=144
GMRC Granite Mounta 119.60 289 P PKiKP 03 47 47.2 +1.0
baz=143
EYMN Ely 119.79 315 PFAKE 03 48 00.0 +14
EYMN LR LR
comp=Z,2µm,21.0s
BBRC Big Bear Solar 119.80 288 P PKiKP 03 47 47.6 +0.9
baz=143
SUSD Miller 119.81 307 P PKPdf 03 47 45.9 -0.1
baz=145
N23A Red Feather La 119.94 300 ePKPdf PKiKP 03 47 47.1 +0.3
N23A LR LR
comp=Z,2µm,21.0s
N23A Red Feather La 119.94 300 P PKiKP 03 47 47.0 +0.3
baz=144
HEC Hector,Ludlow 119.97 288 P PKiKP 03 47 47.7 +0.9
baz=143
KNB Kanab 120.01 292 ePKPdf PKiKP 03 47 47.9 +1.0
KNB LR LR
comp=Z,1µm,21.0s
KNB Kanab 120.01 292 ePKIKP PKiKP 03 47 47.9 +1.0
KNB MLR MLR
comp=Z,1µm,21.0s
PHWY Pilot Hill 120.05 301 ePKPdf PKiKP 03 47 47.0 0.0
PHWY LR LR
comp=Z,2µm,22.0s
PKCU Pink Cliffs 120.11 293 ePKPdf PKiKP 03 47 48.1 +0.8
PKCU LR LR
comp=Z,2µm,22.0s
BFSC Mount Baldy Ra 120.15 287 P PKiKP 03 47 47.6 +0.4
baz=143
LCMT Little Creek M 120.21 292 ePKPdf PKiKP 03 47 48.2 +0.9
TUQ Turquoise Moun 120.25 289 P PKiKP 03 47 48.0 +0.6
baz=143
SNCC San Nicolas Is 120.28 285 PFAKE 03 48 00.0 +13
SNCC LR LR
comp=Z,3µm,20.0s
SNCC San Nicolas Is 120.28 285 P PKiKP 03 47 47.5 +0.2
baz=143
RRX Edison Barstow 120.33 288 P PKiKP 03 47 48.1 +0.7
baz=143
MWC Mount Wilson 120.33 287 PFAKE 03 48 00.0 +12
MWC LR LR
comp=Z,2µm,21.0s
PASC Pasadena Art C 120.36 286 ePKPdf PKiKP 03 47 48.6 +1.2
PASC LR LR
comp=Z,1µm,20.0s
O20A White River Ci 120.36 298 ePKPdf PKPdf 03 47 47.1 -0.3
O20A LR LR
comp=Z,2µm,18.0s
O20A White River Ci 120.36 298 P PKiKP 03 47 47.5 0.0
baz=143
DECC Green Verdugo 120.49 286 P PKiKP 03 47 48.4 +0.6
baz=143
MTPU Mount Pierson 120.53 294 ePKPdf PKiKP 03 47 49.4 +1.3
MTPU LR LR
comp=Z,2µm,19.0s
GSC Goldstone, Bar 120.58 288 ePKPdf PKiKP 03 47 49.2 +1.2
GSC LR LR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 120.58 288 ePKIKP PKiKP 03 47 49.2 +1.2
GSC MLR MLR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 120.58 288 P PKiKP 03 47 48.7 +0.7
baz=143
BOK Bokaro 120.60 94 eP PKPdf 03 47 47.5 -0.7
BOK IAmb IAmb 03 47 51.2
comp=Z,6.4nm,0.3s
BOK IAMs_20 IAMs_20 04 31 51.0
comp=Z,2µm,8.8s
SRU San Rafael Swe 120.60 296 PFAKE 03 48 00.0 +12
SRU LR LR
comp=Z,2µm,19.0s
SZCU Shurtz Canyon 120.60 293 ePKPdf PKiKP 03 47 49.1 +1.0
SZCU LR LR
comp=Z,1µm,18.0s
KBL Kabul 120.65 73 PFAKE 03 48 00.0 +12
KBL LR LR
comp=Z,1µm,21.0s
CCUT Cedar City 120.70 292 ePKPdf PKiKP 03 47 49.7 +1.4
CCUT LR LR
comp=Z,2µm,19.0s
MICGM Minsk 120.72 33 e PKPdf 03 47 45.0 -2.3
MICGM eLR LR 04 33 40.0
MICGM LRM MLR 04 37 32.0
comp=Z,3.8nm,20.0s
MICGM LRM MLR 04 37 40.0
comp=E,2.5nm,20.0s
MNK Minsk 120.72 33 ePKIKP PKPdf 03 47 45.0 -2.3
MNK MLR MLR
comp=Z,4µm,20.0s
SHPR Sheep Range 120.73 290 ePKPdf PKiKP 03 47 49.5 +1.1
SHPR LR LR
comp=Z,1µm,19.0s
BLG Laguna Peak, P 120.74 286 P PKiKP 03 47 49.2 +0.9
baz=143
Q16A Castle Valley 120.75 295 ePKPdf PKiKP 03 47 49.0 +0.7
Q16A LR LR
comp=Z,2µm,19.0s
SHOC Shoshone, Teco 120.79 289 P PKiKP 03 47 48.9 +0.6
baz=143
EDW2 Edwards Air Fo 120.83 287 P PKiKP 03 47 49.1 +0.7
baz=143
MSU Marysvale 120.90 294 ePKPdf PKiKP 03 47 49.6 +0.9
OSI Osito Audit: C 120.98 286 PFAKE 03 48 00.0 +11
OSI LR LR
comp=Z,2µm,21.0s
IIGN Ignalina 121.01 31 eP PKPdf 03 47 46.8 -1.1
IIGN IAmb IAmb 03 47 49.1
comp=Z,11nm,1.1s
TMUT Trail Mountain 121.07 295 ePKPdf PKiKP 03 47 49.5 +0.4
TMUT LR LR
comp=Z,1µm,21.0s
TCRU Three Creeks R 121.11 294 ePKPdf PKiKP 03 47 50.4 +1.3
TCRU LR LR
comp=Z,2µm,19.0s
IDID Didziasalis 121.12 31 eP PKPdf 03 47 47.1 -1.0
IDID IAmb IAmb 03 47 49.1
comp=Z,7.5nm,1.1s
RWWY Rawlins 121.14 300 PFAKE 03 48 00.0 +11
RWWY LR LR
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 121.15 288 P PKiKP 03 47 50.1 +1.0
baz=143
ISAL Salakas 121.18 31 eP PKPdf 03 47 46.7 -1.5
ISAL IAmb IAmb 03 47 48.3
comp=Z,4.2nm,0.9s
SBC Santa Barbara 121.33 285 P PKiKP 03 47 50.0 +0.6
baz=143
IZAR Zarasai 121.37 31 eP PKPdf 03 47 47.8 -0.8
IZAR IAmb IAmb 03 47 49.9
comp=Z,8.8nm,0.6s
VSR Storozhevoye 121.40 41⇑ iPKIKP PKPdf 03 47 47.6 -1.2
ARVC Arvin 121.44 287 P PKiKP 03 47 50.4 +0.8
baz=143
MPMC Manual Prospec 121.51 288 P PKiKP 03 47 50.7 +0.8
baz=143
FURC Furnace Creek, 121.53 289 P PKiKP 03 47 50.8 +1.2
baz=143
K22A Casper 121.60 301 ePKPdf PKPdf 03 47 49.5 -0.2
K22A LR LR
comp=Z,2µm,20.0s
K22A Casper 121.60 301 P PKPdf 03 47 49.5 -0.2
baz=143
TPNV Topopah Spring 121.61 290 ePKPdf PKiKP 03 47 51.0 +0.9
TPNV LR LR
comp=Z,2µm,20.0s
TPNV Topopah Spring 121.61 290 P PKiKP 03 47 50.9 +0.9
baz=142
ISA Isabella, Lake 121.69 287 ePKPdf PKiKP 03 47 51.7 +1.5
ISA LR LR
comp=Z,2µm,20.0s
ISA Isabella, Lake 121.69 287 P PKiKP 03 47 51.3 +1.1
baz=143
RSSD Black Hills 121.69 304 ePKPdf PKPdf 03 47 49.5 -0.4
RSSD LR LR
comp=Z,3µm,21.0s
RSSD Black Hills 121.69 304 ePKIKP PKPdf 03 47 49.5 -0.4
RSSD MLR MLR
comp=Z,3µm,21.0s
RSSD Black Hills 121.69 304 P PKPdf 03 47 49.6 -0.4
baz=143
PSUT Pine Spring 121.71 293 ePKPdf PKPdf 03 47 49.0 -1.1
PSUT LR LR
comp=Z,1µm,20.0s
AGMN Agassiz Nation 121.73 312 PFAKE 03 48 00.0 +10
AGMN LR LR
comp=Z,3µm,20.0s
PKM Mcpherson Peak 121.74 286 P PKiKP 03 47 51.4 +1.0
baz=143
DAC Darwin (Calif) 121.74 288 ePKPdf PKiKP 03 47 51.2 +0.8
DAC LR LR
comp=Z,2µm,22.0s
MPU Maple Canyon 121.84 295 ePKPdf PKiKP 03 47 51.1 +0.7
MPU LR LR
comp=Z,2µm,19.0s
DDI Dehra Dun 121.84 83 eP PKPdf 03 47 50.5 +0.1
DDI IAMs_20 IAMs_20 04 28 13.3
comp=Z,7µm,29.1s
NLU North Lily Min 122.00 295 ePKPdf PKiKP 03 47 51.5 +0.7
NLU LR LR
comp=Z,2µm,20.0s
SMLA Simla 122.03 82 eP PKPdf 03 47 50.1 -0.6
SMLA IAMs_20 IAMs_20 04 32 26.2
comp=Z,3µm,18.2s
NIL Nilore 122.05 77 ePKPdf PKPdf 03 47 50.5 -0.2
NIL LR LR
comp=Z,3µm,22.0s
NIL Nilore 122.05 77 ePKIKP PKPdf 03 47 50.5 -0.2
NIL MLR MLR
comp=Z,3µm,22.0s
PBKT Sadao Pong 122.08 113 ePKPdf PKPdf 03 47 51.3 +0.1
CWC Cottonwood Cre 122.11 288 P PKiKP 03 47 52.0 +0.9
baz=142
VES Vestal, Richgr 122.13 287 P PKiKP 03 47 51.6 +0.7
baz=142
SMMC Simmler 122.16 286 P PKiKP 03 47 52.6 +1.5
baz=142
GRAC Grapevine Rang 122.19 289 P PKiKP 03 47 52.0 +0.9
baz=142
JLU Jordanelle 122.22 296 ePKPdf PKiKP 03 47 52.2 +1.0
JLU LR LR

comp=Z,2µm,21.0s
VRH Novokhopyorsk 122.27 43 *e*PKIKP **PKPdf** 03 47 49.0 -1.4
VRH pmax pmax
comp=Z,20nm,1.1s
VRH MLR MLR
comp=Z,1µm,17.0s
R11A Troy Canyon, C 122.40 291 *e*PKPdf **PKiKP** 03 47 52.4 +0.8
R11A LR LR
comp=Z,2µm,19.0s
R11A Troy Canyon, C 122.40 291 P **PKiKP** 03 47 52.5 +0.9
baz=142
CTU Camp Tracy 122.43 296 *e*PKPdf **PKiKP** 03 47 52.5 +0.9
CTU LR LR
comp=Z,2µm,20.0s
LPSR Galich'ya Gora 122.48 40 *e*PKIKP **PKPdf** 03 47 49.4 -1.4
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,2µm,23.0s
DHRM DHARAMSHALA 122.48 81 *e*P **PKPdf** 03 47 51.7 -0.1
DHRM IAmb IAmb 03 47 53.4
comp=Z,24nm,0.6s
DHRM IAMs_20 IAMs_20 04 31 47.2
comp=Z,3µm,23.1s
DUG Dugway, Tooele 122.53 295 *e*PKPdf **PKiKP** 03 47 51.7 0.0
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 122.53 295 *e*PKIKP **PKiKP** 03 47 51.7 0.0
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 122.53 295 P **PKiKP** 03 47 52.4 +0.7
baz=142
TCUT Toone Canyon 122.61 296 *e*PKPdf **PKiKP** 03 47 53.0 +1.0
PYUN Piuthan 122.61 89 *e*P **PKPdf** 03 47 50.7 -1.5
comp=Z,41nm,1.0s
PAGB Antelope Grade 122.62 286 *e*PKPdf **PKiKP** 03 47 53.6 +1.7
PAGB LR LR
comp=Z,3µm,18.0s
NAO01 NORSAR Array S 122.64 20 *e*PKPdf **PKiKP** 03 47 51.0 0.0
KOLN Koldanda 122.66 90 *e*P **PKPdf** 03 47 50.9 -1.4
comp=Z,39nm,0.9s
TIN Tinemaha, Big 122.67 288 P **PKiKP** 03 47 53.0 +0.9
baz=142
CM01 Chiang Mai Arr 122.70 110 *e*PKPdf **PKPdf** 03 47 51.5 -0.9
CM31 Chiang Mai Arr 122.72 110 *e*PKPdf **PKPdf** 03 47 52.1 -0.3
CM31 *e*PP **PP** 03 49 29.7 -1.0
CM31 *e*PKKPbc **PKKPab** 03 57 47.5 +1.5
CM31 Chiang Mai Arr 122.72 110 PKPdf **PKPdf** 03 47 52.2 -0.3
SNR=5.8
CMAR Chiang Mai Arr 122.72 110 PKP **PKPdf** 03 47 52.1 -0.3
comp=Z,6.8nm,0.8s,baz=228,slow=3.7,SNR=23
CMAR PP **PP** 03 49 29.7 -1.0
comp=Z,11nm,0.7s,baz=35,slow=18,SNR=4.1
CMAR PKKPbc **PKKPab** 03 57 47.5 +1.5
comp=Z,5.5nm,0.8s,baz=2.6,slow=3.3,SNR=21
MDND Maddock 122.83 309 *e*PKPdf **PKPdf** 03 47 51.7 0.0
MDND LR LR
comp=Z,2µm,20.0s
MDND Maddock 122.83 309 P **PKPdf** 03 47 51.1 -0.6
baz=143
NB2 NORSAR Subarra 122.88 20 PKPdf **PKPdf** 03 47 50.9 -0.4
comp=Z,6.0nm,0.7s,baz=196,slow=1.8
NB2 NORSAR Subarra 122.88 20 PKP **PKKPbc** 03 57 44.6 +1.2
comp=Z,3.7nm,0.8s,baz=22,slow=4.3
NB2 NORSAR Subarra 122.88 20 PKPdf **PKPdf** 03 47 50.9 -0.4
baz=196,slow=1.8
NB200 NORSAR Array S 122.88 20 *e*PKPdf **PKPdf** 03 47 51.0 -0.4
NB200 *e*PKKPbc **PKKPbc** 03 57 43.9 +0.5
NOA NORSAR Array B 122.88 20 PKIKP **PKPdf** 03 47 51.0 -0.4
NOA NORSAR Array B 122.88 20 PKP **PKPdf** 03 47 51.0 -0.4
comp=Z,15nm,0.9s,baz=194,slow=1.7,SNR=34
NOA PKKPbc **PKKPbc** 03 57 43.9 +0.5
comp=Z,1.1nm,0.6s,baz=24,slow=2.9,SNR=10
NB201 NORSAR Array S 122.90 20 *e*PKPdf **PKiKP** 03 47 51.6 0.0
NC204 NORSAR Array S 123.02 19 *e*PKPdf **PKiKP** 03 47 51.9 0.0
CHTO Chiang Mai 123.03 110 *e*PKPdf **PKPdf** 03 47 52.9 0.0
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 123.03 110 PKPdf **PKPdf** 03 47 52.5 -0.5
SNR=7.2
CHTO Chiang Mai 123.03 110 PKP PKiKP 03 48 05.4 +12
CHTO Chiang Mai 123.03 110 *e*P PKiKP 03 48 03.1 +10
BW06 Boulder Array 123.06 299 *e*PKPdf **PKPdf** 03 47 52.0 -0.6
BW06 LR LR
comp=Z,3µm,19.0s
BW06 Boulder Array 123.06 299 P **PKPdf** 03 47 52.2 -0.3
baz=142
PD31 Pinedale Array 123.06 299 *e*PKPdf **PKPdf** 03 47 52.0 -0.6
PD31 *e*PKKPbc **PKKPbc** 03 57 43.0 +0.5
PDAR Pinedale Array 123.06 299 PKP **PKPdf** 03 47 52.0 -0.6
comp=Z,4.9nm,0.8s,baz=138,slow=3.4,SNR=23
PDAR PKKPbc **PKKPbc** 03 57 43.0 +0.5
comp=Z,0.2nm,0.5s,baz=336,slow=1.5,SNR=4.3
NC303 NORSAR Array S 123.08 20 *e*PKPdf **PKPdf** 03 47 51.7 0.0
KCP Kidapawan 123.18 143 *i*P **PKPdf** 03 47 53.1 -0.4
KCP *i*S **pPKPdf** 03 48 09.4 +1.7
DANN Dangsing 123.21 89 *e*P **PKPdf** 03 47 52.2 -1.2
comp=Z,55nm,0.8s
BGU Big Grassy Mou 123.21 295 *e*PKPdf **PKiKP** 03 47 53.7 +0.6
BGU LR LR
comp=Z,2µm,18.0s
SPUT South Promonto 123.24 296 *e*PKPdf **PKiKP** 03 47 53.7 +0.6
SPUT LR LR
comp=Z,2µm,20.0s
DMN Daman 123.31 91 *e*P **PKPdf** 03 47 52.5 -1.1
comp=Z,16nm,0.7s
ULM Lac du Bonnet 123.32 313 *e*PKPdf **PKPdf** 03 47 51.8 -0.7
ULM LR LR
comp=Z,2µm,18.0s
ULM Lac du Bonnet 123.32 313 PKP **PKPdf** 03 47 51.9 -0.7
comp=Z,20nm,0.8s,baz=149,slow=0.6,SNR=29
ULM PP **PP** 03 49 34.1 -0.6
comp=Z,8.5nm,0.9s,baz=125,slow=6.7,SNR=3.5
ULM PKKPab **PKKPbc** 03 57 42.4 +1.0
comp=Z,1.6nm,0.5s,baz=345,slow=2.4,SNR=4.4
GKN Gorkha 123.38 90 *e*P **PKPdf** 03 47 52.0 -1.6
DAV Davao City (W) 123.39 144 *e*P PKiKP 03 48 04.0 +10
MLAC Mammoth, Mammt 123.42 288 P **PKiKP** 03 47 55.1 +1.4
baz=142
PKIN Phulchoki 123.43 91 *e*P **PKPdf** 03 47 52.5 -1.3
comp=Z,20nm,0.7s
PKI Pulchoki 123.43 91 *e*P **PKPdf** 03 47 52.7 -1.2
comp=Z,21nm,0.7s
OMMB Old Mammoth Mi 123.48 288 *e*PKPdf **PKiKP** 03 47 55.5 +1.5
OMMB LR LR
comp=Z,2µm,21.0s
MDPB Devils Postpil 123.54 288 *e*PKPdf **PKiKP** 03 47 55.5 +1.6
MDPB LR LR
comp=Z,2µm,21.0s
KKN Kakani 123.54 91 *e*P **PKPdf** 03 47 52.8 -1.2
RAMN Ramite 123.54 93 *e*P **PKPdf** 03 47 53.2 -0.8
comp=Z,38nm,0.6s
NV11 Mina Array Sit 123.71 290 *e*PKPdf **PKiKP** 03 47 55.1 +1.0
NV11 LR LR
comp=Z,100nm,21.0s
AHID Auburn Hatcher 123.76 298 *e*PKPdf **PKiKP** 03 47 54.2 +0.1
AHID LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 123.76 296 *e*PKPdf **PKiKP** 03 47 54.8 +0.7
HVU LR LR
comp=Z,2µm,20.0s
HVU Hansel Valley 123.76 296 *e*PKIKP **PKiKP** 03 47 54.8 +0.7
HVU MLR MLR
comp=Z,2µm,20.0s
NV01 Mina Array Sit 123.78 289 *e*PKPdf **PKiKP** 03 47 55.4 +1.0
NV01 *e*PP **PP** 03 49 38.2 0.0
NVAR Mina Array Bea 123.78 289 PKP **PKiKP** 03 47 55.5 +1.1
comp=Z,9.8nm,0.8s,baz=184,slow=4.3,SNR=47
NVAR PP **PP** 03 49 38.2 0.0
comp=Z,5.0nm,1.0s,baz=116,slow=10,SNR=3.9
OBN Obninsk 123.82 37 PFAKE 03 48 10.0 +16
OBN LR LR
comp=Z,3µm,20.0s
OBN Obninsk 123.82 37 *c i*PKIKP **PKPdf** 03 47 52.7 -0.5
OBN *e* 03 49 36.7
OBN *e* 03 54 50.8
OBN *e*SS SS 04 06 31.5 +8.8
OBN pmax pmax
comp=Z,27nm,0.9s
OBN MLR MLR
comp=Z,2µm,19.0s
VSU Vasula 123.89 30 *c i*PKIKP **PKPdf** 03 47 53.3 0.0
VSU Vasula 123.89 30 *e*P **PKPdf** 03 47 52.9 -0.4
VSU IAmb IAmb 03 47 54.4
comp=Z,100nm,0.8s
JIRN Jiri 123.91 92 *e*P **PKPdf** 03 47 53.9 -1.0
GUN Gumba 123.95 92 *e*P **PKPdf** 03 47 54.0 -0.9
SAO San Andreas Ge 124.03 286 *e*PKPdf **PKiKP** 03 47 56.8 +2.2
SAO LR LR
comp=Z,3µm,19.0s
RYN Ryan 124.04 289 *e*PKPdf **PKiKP** 03 47 56.4 +1.6
RYN LR LR
comp=Z,1µm,22.0s
ELK Elko 124.11 293 *e*PKPdf **PKiKP** 03 47 55.8 +0.8
ELK LR LR
comp=Z,2µm,21.0s
ELK Elko 124.11 293 *e*PKIKP **PKiKP** 03 47 55.8 +0.8
ELK MLR MLR
comp=Z,2µm,21.0s
REDW Red Top Meadow 124.11 298 *e*PKPdf **PKiKP** 03 47 55.1 +0.2
REDW LR LR
comp=Z,2µm,19.0s
SNOW Snow King Moun 124.14 299 *e*PKPdf **PKiKP** 03 47 55.8 +0.8
SNOW LR LR
comp=Z,2µm,19.0s
KVN Kaiserville 124.17 290 *e*PKPdf **PKiKP** 03 47 56.0 +1.0
KVN LR LR
comp=Z,1µm,19.0s
LOHW Long Hollow 124.19 299 *e*PKPdf **PKiKP** 03 47 55.2 +0.2
LOHW LR LR
comp=Z,3µm,20.0s
TPAW Teton Pass 124.26 299 *e*PKPdf **PKPdf** 03 47 54.7 -0.2
TPAW LR LR
comp=Z,2µm,19.0s
MOOW Moose Ponds 124.36 299 *e*PKPdf **PKiKP** 03 47 55.6 +0.3
MOOW LR LR
comp=Z,3µm,20.0s
WAKR Walker 124.39 289 *e*PKPdf **PKiKP** 03 47 57.6 +2.1
WAKR LR LR
comp=Z,2µm,22.0s
FXWY Fox Creek 124.41 299 *e*PKPdf **PKiKP** 03 47 55.7 +0.3
CMB Columbia Colle 124.50 288 *e*PKPdf **PKiKP** 03 47 56.9 +1.3
CMB LR LR
comp=Z,3µm,21.0s
IMW Indian Meadow 124.57 299 *e*PKPdf **PKiKP** 03 47 56.5 +0.6
IMW LR LR
comp=Z,3µm,21.0s
FLWY Flagg Ranch 124.60 299 *e*PKPdf **PKiKP** 03 47 56.5 +0.6
FLWY LR LR
comp=Z,3µm,20.0s
LAO LASA Array 124.66 304 *e*PKPdf **PKiKP** 03 47 55.8 +0.1
LAO LR LR
comp=Z,4µm,22.0s
LAO LASA Array 124.66 304 P **PKiKP** 03 47 55.8 +0.1
baz=141
ANGG Ammassalik, Gr 124.67 353 *e*PKPdf **PKPdf** 03 47 54.6 +0.1
YERR Yerington 124.67 289 *e*PKPdf **PKiKP** 03 47 57.6 +1.6
YERR LR LR
comp=Z,2µm,19.0s
MOS Moscow 124.67 37 *i* PKIKP **PKPdf** 03 47 53.5 -1.4
MOS *e* 03 48 09.8
MOS *e* 03 54 49.7
MOS pmax pmax
comp=Z,27nm,0.9s
MOS MLR MLR
comp=Z,2µm,20.0s
MOS MLR MLR
comp=N,1µm,19.0s
MOS MLR MLR
comp=E,700nm,18.0s
RLMT Red Lodge 124.77 301 *e*PKPdf **PKiKP** 03 47 56.6 +0.5
RLMT LR LR
comp=Z,3µm,19.0s
RLMT Red Lodge 124.77 301 P **PKiKP** 03 47 56.3 +0.2
baz=141
GAR Garm 124.79 71 *e*PKPdf **PKiKP** 03 47 56.2 -0.1
H17A Grant Village 124.79 299 *e*PKPdf **PKiKP** 03 47 57.9 +1.7
H17A LR LR
comp=Z,4µm,19.0s
H17A Grant Village 124.79 299 P **PKiKP** 03 47 57.3 +1.1
baz=141
YPP Pitchstone Pla 124.80 299 *e*PKPdf **PKiKP** 03 47 57.2 +0.9
YPP LR LR
comp=Z,3µm,20.0s
BMN Battle Mountai 124.81 292 PFAKE 03 48 10.0 +14
BMN LR LR
comp=Z,2µm,20.0s
LKWY Lake 124.84 300 *e*PKPdf **PKiKP** 03 47 57.9 +1.6
LKWY LR LR
comp=Z,3µm,18.0s
PNTR Pine Nut 124.93 289 *e*PKPdf **PKiKP** 03 47 58.4 +1.8
PNTR LR LR
comp=Z,2µm,19.0s
YFT Old Faithful 124.95 299 *e*PKPdf **PKiKP** 03 47 58.6 +2.1
YFT LR LR
comp=Z,4µm,19.0s
YNR Norris Junctio 125.09 300 *e*PKPdf **PKiKP** 03 47 58.7 +1.9
YNR LR LR
comp=Z,2µm,19.0s
VCNR Virginia City 125.11 289 *e*PKPdf **PKiKP** 03 47 58.5 +1.6
VCNR LR LR
comp=Z,2µm,21.0s
SHL Shillong 125.14 99 *e*PKPdf **PKPdf** 03 47 56.9 -0.2
SHL Shillong 125.14 99 *e*P **PKPdf** 03 47 56.4 -0.7
RUBR Rubicon Trail 125.17 289 *e*PKPdf **PKiKP** 03 47 59.1 +2.0
RUBR LR LR
comp=Z,3µm,22.0s
YMR Madison River 125.18 299 *e*PKPdf **PKiKP** 03 47 58.2 +1.3
YMR LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 125.20 307 *e*PKPdf **PKiKP** 03 47 56.6 0.0
DGMT LR LR
comp=Z,3µm,20.0s
DGMT Dagmar 125.20 307 P **PKiKP** 03 47 56.8 +0.2
baz=141
YHH Holmes Hill 125.22 300 *e*PKPpre PKPpre 03 47 52.6
YHH LR LR
comp=Z,2µm,18.0s
PAHR Pah Rah Range 125.30 290 *e*PKPdf **PKiKP** 03 47 58.3 +1.0
PAHR LR LR
comp=Z,1µm,20.0s
YHB Horse Butte 125.35 299 *e*PKPdf **PKiKP** 03 47 58.8 +1.5
YHB LR LR
comp=Z,2µm,20.0s
GCMT Greycliff 125.47 301 *e*PKPdf **PKiKP** 03 47 57.6 +0.2
AFDM Forest Hills D 125.49 288 *e*PKPdf **PKiKP** 03 47 58.4 +0.9
AFDM LR LR
comp=Z,2µm,20.0s
QLMT Earthquake Lak 125.51 299 *e*PKPdf **PKiKP** 03 47 58.9 +1.3
MCCM Marconi Confer 125.82 286 PFAKE 03 48 10.0 +12
MCCM LR LR
comp=Z,2µm,20.0s
BTK Batken 125.85 71 *e*PKPdf **PKPdf** 03 47 57.6 -0.3
BTK LR LR
comp=Z,5µm,20.0s
BEKR Beckworth 125.90 289 *e*PKPdf **PKiKP** 03 47 59.3 +0.8
BEKR LR LR
comp=Z,2µm,21.0s
HLID Hailey 125.90 296 *e*PKPdf **PKiKP** 03 47 59.0 +0.6
HLID LR LR
comp=Z,1µm,20.0s
HLID Hailey 125.90 296 P **PKiKP** 03 47 58.9 +0.6
baz=140
MCMT McKenzie Canyo 126.16 298 *e*PKPdf **PKiKP** 03 47 59.0 +0.1
BOZ Bozeman (W) 126.19 300 *e*PKPdf **PKiKP** 03 47 59.3 +0.5
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 126.19 300 P **PKiKP** 03 47 59.3 +0.5
baz=140
ORV Oroville 126.22 288 *e*PKPdf **PKiKP** 03 48 00.0 +1.1
ORV LR LR
comp=Z,3µm,20.0s
NSS Namsos 126.26 19 *e*P **PKiKP** 03 47 59.0 +0.9
NSS IVmB_BB 03 48 07.4
comp=Z,3µm,4.6s
NSS *e*SKSac **SKSac** 03 54 59.5 +1.8
NSS IVMs_BB IVMs_BB 03 56 28.9
comp=Z,4µm,3.5s
GDXM Geysers 126.29 286 PFAKE 03 48 10.0 +11
GDXM LR LR
comp=Z,3µm,19.0s
FIA0 FINESS Array S 126.33 27 *e*PKPdf **PKPdf** 03 47 57.5 -0.4
FINES FINESS Array B 126.33 27 PKP **PKPdf** 03 47 57.5 -0.4
comp=Z,14nm,0.5s,baz=151,slow=2.3,SNR=150
FIA1 FINESS Array S 126.33 27 *e*PKPdf **PKPdf** 03 47 56.8 -1.1
FIA1 *e*PKPdf **PKiKP** 03 47 57.5 -0.9
DLMT Dillon 126.45 299 *e*PKPdf **PKiKP** 03 48 00.3 +0.9
DLMT LR LR
comp=Z,2µm,21.0s
HOPS Hopland Field 126.57 286 PFAKE 03 48 10.0 +10
HOPS LR LR
comp=Z,3µm,20.0s
HLP Hilina Pali 126.89 243 PFAKE 03 48 10.0 +9.1
HLP LR LR
comp=Z,5µm,21.0s
O03E Paynes Creek 126.94 288 P **PKiKP** 03 48 00.5 +0.1
baz=140,SNR=32
BYL Byron's Ledge 126.96 244 PFAKE 03 48 10.0 +8.9
BYL LR LR
comp=Z,4µm,19.0s
WRMHI West Rim 126.98 244 PFAKE 03 48 10.0 +8.8
WRMHI LR LR
comp=Z,4µm,18.0s
CHM Chimkent 127.00 68 *d i*PKIKP PKPpre 03 47 55.3
CHM *e* 03 50 05.6
CHM Chimkent 127.00 68 ⇓ *i*PKP PKPpre 03 47 55.4
CHM *e*PP **PP** 03 50 05.7 +6.3
WVOR Wild Horse Val 127.03 292 *e*PKPdf **PKiKP** 03 48 01.5 +0.9
WVOR LR LR
comp=Z,1µm,19.0s
IUG Iuzhnay 127.07 68 *e*PKIKP **PKPdf** 03 47 57.9 -2.2
IUG MLR MLR
comp=Z,1µm,22.0s
IUG Iuzhnay 127.07 68 *e*PKP **PKPdf** 03 47 58.0 -2.2
IUG *e*LR LR 04 41 30.3
comp=Z,1µm,21.5s
HRY Holter Researc 127.14 300 *e*PKPdf **PKiKP** 03 48 01.2 +0.6
SFJD Kangerlussuaq 127.14 347 *e*PKPdf **PKPdf** 03 47 59.3 0.0
SFJD *e*PKPdf **PKiKP** 03 47 59.5 -0.3
SFJD LR LR
comp=Z,5µm,19.0s
SFJD Kangerlussuaq 127.14 347 *i* P **PKPdf** 03 47 58.9 -0.4
comp=Z,33nm,1.1s
comp=Z,4µm,18.0s
SFJD Kangerlussuaq 127.14 347 *i* PKIKP **PKPdf** 03 47 58.9 -0.4
SFJD pmax pmax
comp=Z,33nm,1.1s
SFJD MLR MLR
comp=Z,4µm,18.0s
SFJD Kangerlussuaq 127.14 347 PKP **PKPdf** 03 47 59.3 0.0
comp=Z,18nm,0.9s,baz=146,slow=2.8,SNR=6.4
SFJD Kangerlussuaq 127.14 347 *e*P **PKiKP** 03 48 06.1 +6.3
EGMT Eagleton 127.22 303 *e*PKPdf **PKiKP** 03 48 00.8 +0.1
EGMT LR LR
comp=Z,2µm,22.0s
EGMT Eagleton 127.22 303 P **PKiKP** 03 48 01.0 +0.3
baz=140
O02D Mt. Diablo Mer 127.33 287 P **PKiKP** 03 48 01.8 +0.6
baz=140
KCPM Cahto Peak 127.35 287 PFAKE 03 48 10.0 +8.7
KCPM LR LR
comp=Z,3µm,21.0s
MOD Modoc Plateau 127.43 291 *e*PKPdf **PKPdf** 03 48 00.6 -0.3
MOD LR LR
comp=Z,2µm,20.0s
WDC Whiskeytown Da 127.52 288 *e*PKPdf **PKiKP** 03 48 01.8 +0.4
WDC LR LR
comp=Z,2µm,20.0s
JBG Jabagly 127.53 68 *c i*PKIKP **PKPdf** 03 47 59.2 -1.8
JBG MLR MLR
comp=Z,1µm,21.0s
J08A Circle Bar Ran 127.66 293 *e*PKPdf **PKiKP** 03 48 02.5 +0.7
J08A LR LR
comp=Z,2µm,21.0s
KMRM Mail Ridge 127.82 287 *e*PKPdf **PKiKP** 03 48 04.2 +2.0
KMRM LR LR
comp=Z,2µm,21.0s
AB31 Akbulak array 127.87 56 *i* PKIKP **PKPdf** 03 48 00.5 -0.7
AB31 pmax pmax
comp=Z,90nm,1.4s
ABKAR Akbulak array 127.87 56 *e*PKPpre PKPpre 03 47 55.0
ARSB Arslanbob 127.88 71 *e*PKPdf **PKPdf** 03 48 01.5 -0.3
ARSB LR LR
comp=Z,9µm,20.0s
N02D Trinity Center 127.90 288 P **PKiKP** 03 48 02.6 +0.3
baz=139,SNR=19
AKTO Aktyubinsk 127.95 54 PKP **PKPdf** 03 48 01.1 -0.3
comp=Z,19nm,0.8s,baz=166,slow=3.1,SNR=55
KSH Kashi 127.98 75 PKP **PKPdf** 03 48 00.6 -1.4
KSH sPKP 03 48 14.9
KSH PP **PP** 03 50 04.8 -1.2
KSH SS SS 04 07 11.6 -4.0
KSH AMB AMB
comp=Z,170nm,5.5s
KSH LR LR
comp=Z,500nm,13.2s
KSH LR LR
comp=Z,870nm,16.6s
KSH LR LR
comp=Z,1µm,17.9s
KK31 Karatay Array 128.03 68 *e*PKPdf **PKPdf** 03 48 01.7 -0.1
KK31 Karatay Array 128.03 68 *i* PKIKP **PKPdf** 03 47 59.8 -2.0
KK31 pmax pmax
comp=Z,54nm,1.5s
KKAR Karatay Array 128.03 68 *e*PKPdf **PKPdf** 03 48 01.7 -0.1
M04C Macdoel 128.09 290 P **PKiKP** 03 48 03.3 +0.5
baz=139
LSA Lhasa 128.11 95 PFAKE 03 48 10.0 +6.4
LSA LR LR
comp=Z,3µm,21.0s
MSO Missoula 128.17 299 *e*PKPdf **PKiKP** 03 48 02.9 +0.2
MSO LR LR
comp=Z,2µm,20.0s
MSO Missoula 128.17 299 P **PKiKP** 03 48 02.9 +0.2
baz=139
MOR8 Moi Rana 128.19 19 IVMs_BB IVMs_BB 03 57 07.3
comp=Z,3µm,3.5s
MOR8 *e*SP SP 04 00 11.1 +4.2
BMO Blue Mountains 128.24 295 *e*PKPdf **PKiKP** 03 48 02.8 -0.1
BMO LR LR
comp=Z,2µm,20.0s
KONS Konsvik 128.27 18 *e*P **PKiKP** 03 48 01.8 -0.2
KONS IVmB_BB 03 48 06.5
comp=Z,3µm,6.0s
KONS *e*SS SS 04 07 24.4 +6.3
M02C Callahan 128.29 288 P **PKiKP** 03 48 03.6 +0.5
baz=139,SNR=12
QIZ Qiongzhong 128.32 121 PKP **PKiKP** 03 48 04.3 +0.6
QIZ PP **PP** 03 50 08.6 +0.8
QIZ SS SS 04 07 23.4 +4.4
QIZ LR LR
comp=Z,1µm,21.0s
QIZ LR LR
comp=Z,660nm,19.2s
QIZ LR LR
comp=Z,2µm,27.7s
QIZ Qiongzhong 128.32 121 PFAKE 03 48 20.0 +16
QIZ LR LR
comp=Z,2µm,20.0s
KHMM Horse Mountain 128.33 287 *e*PKPdf **PKiKP** 03 48 04.6 +1.3
KHMM LR LR
comp=Z,2µm,22.0s
JCC Jacoby Creek, 128.44 287 PFAKE 03 48 10.0 +6.8
JCC LR LR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 128.48 289 *e*PKPdf **PKiKP** 03 48 03.5 +0.1
YBH LR LR
comp=Z,1µm,20.0s
L04D Klamath Falls 128.65 290 P **PKiKP** 03 48 03.8 0.0
baz=139,SNR=9.6
K04D Chiloquin, OR 128.68 290 P **PKiKP** 03 48 04.2 +0.4
baz=139
I07A Izee 128.69 293 *e*PKPdf **PKiKP** 03 48 04.4 +0.6
I07A LR LR
comp=Z,2µm,18.0s
AML Almayashu 128.84 71 P **PKPdf** 03 48 03.6 -0.3
SNR=14
J05D Fort Rock, OR 128.93 291 P **PKiKP** 03 48 04.7 +0.4
baz=139,SNR=16
F10A Beach Ranch, E 129.04 296 *e*PKPdf **PKiKP** 03 48 04.0 -0.4
F10A LR LR
comp=Z,2µm,22.0s
FFC Flin Flon 129.15 313 *e*PKPdf **PKiKP** 03 48 04.0 -0.2
FFC LR LR
comp=Z,2µm,22.0s
FFC Flin Flon 129.15 313 *i* PKIKP **PKiKP** 03 48 04.0 -0.2
PINE Pine Mountain 129.16 292 *e*PKPdf **PKiKP** 03 48 05.7 +0.8
PINE LR LR
comp=Z,2µm,20.0s
SCO Scoresbysund 129.19 1 *e*PKPdf **PKiKP** 03 48 03.7 -0.1
SCO LR LR
comp=Z,2µm,19.0s
SCO Scoresbysund 129.19 1 ⇑ *i*P **PKiKP** 03 48 04.2 +0.4
comp=Z,34nm,1.2s
SCO Scoresbysund 129.19 1 ⇑ *i*PKIKP **PKiKP** 03 48 04.2 +0.4
SCO pmax pmax
comp=Z,34nm,1.2s

L02E Cave Junction 129.24 289 P PKiKP 03 48 05.6 +0.7
baz=139
HUMO Hull Mountain 129.25 289 *e*PKPpre PKPpre 03 47 58.0
HUMO LR LR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 129.28 71 P PKPdf 03 48 04.0 -0.4
SNR=12
UCH Uchtor 129.31 71 P PKPdf 03 48 04.6 -0.2
SNR=12
J04D Umpqua Nationa 129.32 291 P PKiKP 03 48 05.4 +0.2
baz=138,SNR=13
ILULI Ilulissat 129.32 348 *e*PKPdf PKPdf 03 48 03.3 0.0
ILULI LR LR
comp=Z,5μm,21.0s
ILULI Ilulissat 129.32 348 *i* P PKPdf 03 48 03.1 -0.3
comp=Z,40nm,1.1s
comp=Z,4μm,19.0s
ILULI Ilulissat 129.32 348 *i* PKIKP PKPdf 03 48 03.1 -0.3
ILULI pmax pmax
comp=Z,40nm,1.1s
ILULI MLR MLR
comp=Z,4μm,19.0s
G08A Pilot Rock 129.34 294 *e*PKPpre PKPpre 03 47 57.0
G08A LR LR
comp=Z,2μm,21.0s
KLMR Klimovskoe 129.43 35 *e*PKIKP PKPdf 03 48 02.1 -1.7
KLMR *e* 03 50 14.4
KLMR pmax pmax
comp=Z,98nm,1.3s
KLMR Klimovskoe 129.43 35 *e*PKPdf PKPdf 03 48 02.2 -1.6
KLMR AMP 03 48 21.3
comp=Z,98nm,1.2s
KLMR *e*PP PP 03 50 14.4 -0.6
KLMR *e*SKP 03 51 29.4
NRN Naryn 129.45 73 *e*PKPdf PKPdf 03 48 04.8 -0.2
NRN LR LR
comp=Z,4μm,20.0s
FCC Fort Churchill 129.47 321 *e*PKPdf PKPdf 03 48 03.4 -0.5
FCC LR LR
comp=Z,3μm,21.0s
KZA Kyzart 129.56 72 P PKPpre 03 47 58.0
SNR=5.9
AAK Ala-Archa 129.61 71 P PKPdf 03 48 04.6 -0.4
SNR=13
AAK Ala-Archa 129.61 71 *e*PKPdf PKPdf 03 48 04.6 -0.4
AAK *e*PKPdf PKPdf 03 48 04.9 -0.2
AAK LR LR
comp=Z,6μm,20.0s
AAK Ala-Archa 129.61 71⇑ *i*PKIKP PKPdf 03 48 04.5 -0.5
AAK Ala-Archa 129.61 71 PKP PKPdf 03 48 04.9 -0.2
comp=Z,7.1nm,0.6s,baz=190,slow=2.6,SNR=21
K02D Willamette Mer 129.67 289 P PKiKP 03 48 06.3 +0.5
baz=138
I05D Terrebonne, OR 129.76 292 P PKiKP 03 48 06.3 +0.5
baz=138
FRU Bishkek 129.81 71 *i* PKIKP PKPdf 03 48 04.0 -1.2
FRU pmax pmax
comp=Z,160nm,2.2s
FRU MLR MLR
comp=E,5.0nm,20.0s
WALA Waterton Lakes 129.82 301 *e*PKPdf PKiKP 03 48 05.5 -0.5
KBK Karagaybulak 129.85 71 P PKiKP 03 48 06.5 +0.2
SNR=6.6
E09A Wood Farm, Sta 129.87 296 *e*PKPdf PKiKP 03 48 06.2 +0.2
E09A LR LR
comp=Z,2μm,19.0s
I04A Tendick Farm, 129.88 291 P PKiKP 03 48 05.8 -0.3
baz=138
STEI Steigen 129.92 18 *e*P PKiKP 03 48 05.0 -0.3
STEI IVmB_BB 03 48 08.1
comp=Z,2μm,3.8s
STEI *e*PP PP 03 50 17.0 -1.0
STEI IVMs_BB IVMs_BB 03 55 28.7
comp=Z,2μm,6.0s
G06A Carlson Farm, 130.09 293 *e*PKPdf PKiKP 03 48 06.7 +0.1
J01E Myrtle Point 130.15 289 P PKPdf 03 48 05.6 -0.2
baz=138
KMI Kunming 130.22 109 PKP PKiKP 03 48 08.0 +0.3
KMI AMB AMB
comp=Z,1μm,5.5s
KMI LR LR
comp=Z,2μm,22.4s
KMI LR LR
comp=Z,1μm,21.2s
KMI LR LR
comp=Z,2μm,24.2s
KMI Kunming 130.22 109 *e*PKPpre PKPpre 03 47 56.0
KMI LR LR
comp=Z,2μm,21.0s
KMI Kunming 130.22 109 *e*PKHKP PKPpre 03 47 56.0
KMI MLR MLR
comp=Z,2μm,21.0s
F07A Phinny Hill Vi 130.25 294 *e*PKPdf PKiKP 03 48 07.6 +0.9
F07A LR LR
comp=Z,2μm,20.0s
I03D Drain, OR 130.26 290 P PKPdf 03 48 06.2 +0.2
baz=138
E08A Dider Farm, El 130.28 295 *e*PKPdf PKiKP 03 48 07.3 +0.5
E08A LR LR
comp=Z,2μm,18.0s
TKM2 Tokmak 2 130.36 72 P PKPdf 03 48 06.0 -0.5
SNR=6.4
G05D Wamic, OR 130.42 293 P PKiKP 03 48 07.4 +0.3
baz=137
HAWA Hanford 130.43 295 *e*PKPdf PKiKP 03 48 07.7 +0.6
H04A Detroit Lake 130.43 292 *e*PKPdf PKiKP 03 48 07.1 -0.1
H04A LR LR
comp=Z,2μm,21.0s
KDJ Kajisay 130.56 73 PFAKE 03 48 20.0 +12
KDJ LR LR
comp=Z,4μm,20.0s
TARG Taragay, Kyrgy 130.57 74 *e*PKPdf PKiKP 03 48 08.1 0.0
H04D Lebanon 130.57 291 P PKiKP 03 48 07.4 0.0
baz=138
D08A Wollman Farm, 130.63 296 *e*PKPdf PKiKP 03 48 08.0 +0.5
D08A LR LR
comp=Z,2μm,19.0s
NEW Newport 130.68 298 *e*PKPdf PKPdf 03 48 06.2 -0.5
NEW LR LR
comp=Z,2μm,20.0s
NEW Newport 130.68 298 P PKPdf 03 48 06.3 -0.4
baz=137
NEW Newport 130.68 298 SKPbc SKPab 03 51 30.9 +4.9
comp=Z,6.5nm,0.8s,baz=2.0,slow=20,SNR=6.6
I02D Swisshome 130.80 290 P PKiKP 03 48 08.1 +0.3
baz=138
C09A Chrisman Ranch 130.87 297 *e*PKPdf PKPdf 03 48 07.0 -0.1
C09A LR LR
comp=Z,2μm,21.0s
COR Corvallis 130.89 291 PFAKE 03 48 20.0 +12
COR LR LR
comp=Z,2μm,21.0s
F05D White Salmon 130.96 293 P PKiKP 03 48 08.6 +0.4
baz=137
BTLS Baital 131.17 69 *e*PKHKP PKPpre 03 47 57.0
BTLS Baital 131.17 69 *e*PKP PKPpre 03 47 57.0
BTLS *e*PP PP 03 50 15.8 -11
BTLS *i* SKP 03 51 24.6
BTLS *e*LR LR 04 49 41.1
comp=Z,423nm,16.0s
AAA Alma-Ata 131.22 72 *e*PKIKP PKPdf 03 48 07.6 -0.3
AAA *e* 03 50 25.7
AAA MLR MLR
comp=Z,1μm,21.0s
AAA Alma-Ata 131.22 72 *e*PKP PKPdf 03 48 07.7 -0.3
AAA *e*PP PP 03 50 25.8 -1.3
AAA *i* SKP 03 51 21.2
AAA *e*LR LR 04 44 44.7
comp=Z,1μm,20.6s
MDOK Medeo 131.26 72 *c i*PKIKP PKPdf 03 48 06.8 -1.3
MDOK MLR MLR
comp=Z,3μm,23.0s
MDOK Medeo 131.26 72⇑ *i*PKP PKPdf 03 48 06.9 -1.3
MDOK *e*LR LR 04 44 32.5
comp=Z,3μm,23.3s
G03D McMinnville, O 131.33 291 P PKiKP 03 48 09.3 +0.4
baz=137
LTY Liberty 131.59 295 *e*PKPdf PKiKP 03 48 09.2 -0.3
LTY LR LR
comp=Z,2μm,19.0s
SUMG Summit 131.63 354 *e*PKPdf PKPdf 03 48 08.7 +0.5
SUMG LR LR
comp=Z,2μm,20.0s
SUMG Summit 131.63 354⇑ *i*P PKPdf 03 48 08.1 -0.1
comp=Z,466nm,1.6s
SUMG *i* 03 51 39.4
SUMG Summit 131.63 354⇑ *i*PKIKP PKPdf 03 48 08.1 -0.1
SUMG pmax pmax
comp=Z,470nm,1.6s
LON Longmire 131.76 294 *e*PKPdf PKiKP 03 48 09.8 -0.1
LON LR LR
comp=Z,2μm,21.0s
B08A Colville Reser 131.77 297 *e*PKPpre PKPpre 03 47 53.2
B08A *e*PKPdf PKPdf 03 48 09.1 +0.4
B08A LR LR
comp=Z,2μm,20.0s
F04D Rainier, OR 131.85 292 P PKiKP 03 48 10.5 +0.6
baz=136
SATY Saty 131.85 74 *e*LR LR 04 45 28.0
comp=Z,2μm,19.1s
PRGR Permogore 131.90 37 *e*PKIKP PKPdf 03 48 08.3 -0.2
PRGR *e* 03 48 23.8
PRGR *e* 03 50 37.1
PRGR pmax pmax
comp=Z,89nm,1.5s
E04D Cinebar 131.98 293 P PKiKP 03 48 10.0 -0.2
baz=136
TRO Tromso 132.05 19 *e*P PKPdf 03 48 08.2 -0.3
TRO IVmB_BB 03 48 51.2
comp=Z,2μm,3.0s
D05A Enumclaw 132.16 294 *e*PKPdf PKiKP 03 48 10.9 +0.4
D05A LR LR
comp=Z,2μm,21.0s
KTK1 Kautokeino 132.28 21 *e*Pdif Pdif 03 45 04.5 +0.3
KTK1 *e*P PKPdf 03 48 08.6 -0.4
KTK1 IVmB_BB 03 48 36.0
comp=Z,2μm,3.2s
KPKS Kokpek 132.29 73 *e*PKIKP PKPdf 03 48 08.0 -2.0
KPKS MLR MLR
comp=Z,4μm,22.0s
KPKS Kokpek 132.29 73 *e*PKP PKPdf 03 48 08.1 -2.0
KPKS *e*LR LR 04 45 49.6
comp=Z,4μm,21.8s
SHLS Shalkode 132.45 74 *e*PKIKP PKiKP 03 48 11.0 -0.4
SHLS MLR MLR
comp=Z,2μm,21.0s
SHLS Shalkode 132.45 74 *e*PKP PKiKP 03 48 11.1 -0.4
SHLS *e*LR LR 04 45 51.8
comp=Z,2μm,20.6s
D04E Lakebay 132.53 294 P PKiKP 03 48 11.9 +0.7
baz=136
ARU Arti 132.60 49 *e*PKPdf PKPdf 03 48 10.3 +0.3
ARU LR LR
comp=Z,3μm,21.0s
ARU Arti 132.60 49 *i* PKIKP PKPdf 03 48 09.8 -0.2
ARU 03 50 33.8
ARU MLR MLR
comp=Z,2μm,20.0s
B06A Marblemount 132.88 296 *e*PKPdf PKiKP 03 48 11.6 -0.4
B06A LR LR
comp=Z,2μm,21.0s
D03D Eldon 132.93 294 P PKiKP 03 48 12.5 +0.4
baz=136
B05A Bryant 132.98 295 P PKiKP 03 48 11.9 -0.2
baz=135
ARA0 ARCESS Array S 133.15 22 *e*PKPpre PKPpre 03 47 58.3
ARA0 *e*PKPdf PKPdf 03 48 10.1 -0.5
ARA0 *e*PP PP 03 50 40.9 +2.0
ARA0 *e*SKPbc SKiKP 03 51 39.4 -3.7
ARCES ARCESS Array B 133.15 22 *e*PKPdf PKPdf 03 48 09.8 -0.9
ARCES ARCESS Array B 133.15 22 PKiKP PKPpre 03 47 58.3
comp=Z,1.3nm,0.6s,baz=208,slow=1.7,SNR=4.7
ARCES PKP PKPdf 03 48 10.1 -0.6
comp=Z,23nm,0.7s,baz=202,slow=1.7,SNR=28
ARCES PP PP 03 50 40.9 +2.0
comp=Z,4.8nm,0.9s,baz=28,slow=5.5,SNR=2.6
ARCES SKPbc SKiKP 03 51 39.4 -3.7
comp=Z,4.3nm,0.9s,baz=204,slow=2.0,SNR=2.5
ARE0 ARCESS Array S 133.15 22 *e*PKPdf PKPdf 03 48 10.3 -0.4
ARE0 LR LR
comp=Z,200nm,21.0s
ARE0 ARCESS Array S 133.15 22 *e*P PKPdf 03 48 10.3 -0.4
ARE0 *e*PKPdf PKiKP 03 48 12.6 +0.7
ARE0 IVmB_BB 03 48 56.0
comp=Z,2μm,3.4s
ARE0 *e*SKPdf SKiKP 03 51 44.0 +0.9
ARE0 IVMs_BB IVMs_BB 03 57 42.1
comp=Z,3μm,3.9s
NLWA Neilton Lookou 133.20 293 *e*PKPdf PKiKP 03 48 13.2 +0.6
NLWA LR LR
comp=Z,2μm,20.0s
APA Apatity 133.20 27⇓ *i*PKIKP PKPpre 03 48 07.0
APA *i* 03 50 38.7
APA pmax pmax
comp=Z,14nm,0.8s
GYA Guiyang 133.24 112 Pdif Pdif 03 45 11.0 +1.3
GYA PKP PKPdf 03 48 12.8 +0.4
GYA PP PP 03 50 45.6 +5.7
GYA PKS 03 51 49.3
GYA SKKS 03 57 32.8
GYA SS SS 04 08 23.0 +3.3
GYA AMB AMB
comp=Z,180nm,7.9s
GYA LR LR
comp=Z,210nm,20.6s
GYA LR LR
comp=Z,240nm,21.0s
GYA LR LR
comp=Z,250nm,20.9s
TDK Taldyqorghan 133.27 72 *e*PKIKP PKPpre 03 48 07.6
TDK MLR MLR
comp=Z,2μm,22.0s
TDK Taldyqorghan 133.27 72 *e*PKP PKPpre 03 48 07.6
TDK *e*SKP 03 51 29.9
TDK *e*LR LR 04 45 21.8
comp=Z,2μm,22.4s
GZH Guangzhou 133.43 122 PKP PKiKP 03 48 14.3 +0.4
GZH PP PP 03 50 47.3 +6.5
GZH PKS 03 51 46.8
GZH LR LR
comp=Z,2μm,17.7s
GZH LR LR
comp=Z,2μm,17.3s
A04D Lummi Island 133.59 295 P PKiKP 03 48 13.1 -0.2
baz=135
KEV Kevo 133.63 22 PFAKE 03 48 20.0 +7.2
KEV LR LR
comp=Z,3μm,19.0s
KEV Kevo 133.63 22 *e*P PKiKP 03 48 19.6 +6.8
SVE Sverdlovsk 133.69 49 *i* PKIKP PKPdf 03 48 12.0 0.0
SVE pmax pmax
comp=Z,51nm,1.8s
SVE MLR MLR
comp=Z,2μm,22.0s
HAMF Hammerfest 133.75 20 *e*P PKiKP 03 48 12.7 -0.3
HAMF *ep*PKPdf PKPdf 03 48 18.8 +7.1
HAMF IVmB_BB 03 48 48.0
comp=Z,4μm,4.1s
HAMF *e*SKPdf SKiKP 03 51 43.3 -0.9
HAMF IVMs_BB IVMs_BB 03 56 10.1
comp=Z,4μm,5.4s
HAMF *e*SS SS 04 08 29.2 +4.2
LVZ Lovozero 133.75 27⇓ *i*PKIKP PKPdf 03 48 11.2 -0.7
LLLB Lillooet 134.53 298 PFAKE 03 48 30.0 +15
LLLB LR LR
comp=Z,4μm,21.0s
KULLO Kullorsuaq 135.04 348 *i* P PKPdf 03 48 12.8 -1.3
KULLO *i* 03 51 17.0
comp=Z,4μm,18.0s
KULLO Kullorsuaq 135.04 348 *i* PKIKP PKPdf 03 48 12.8 -1.3
KULLO MLR MLR
comp=Z,4μm,18.0s
BRVK Borovoye 135.11 58 *e*PKPdf PKPdf 03 48 13.1 -1.7
BRVK LR LR
comp=Z,3μm,22.0s
BRVK Borovoye 135.11 58 *ce*PKIKP PKPdf 03 48 14.1 -0.7
BVA0 Borovoye Array 135.14 59 PKIKP PKPpre 03 48 10.9
BVA0 pmax pmax
comp=Z,39nm,1.3s
BVAR Borovoye Array 135.14 59 PKhKP PKPpre 03 48 01.6
BVAR PKP PKPdf 03 48 15.2 +0.3
comp=Z,16nm,0.9s,baz=249,slow=1.2,SNR=4.2
BVAR SKP 03 51 51.5
comp=Z,2.0nm,0.8s,baz=205,slow=3.0,SNR=2.3
CD2 Chengdu 135.50 106 PKP PKiKP 03 48 18.3 +0.4
CD2 sPKP 03 48 32.4
CD2 PP PP 03 50 57.5 +3.3
CD2 SKS SKSdf 03 55 24.0 +1.2
CD2 AMB AMB
comp=Z,410nm,5.5s
CD2 LR LR
comp=Z,3μm,22.5s
CD2 LR LR
comp=Z,2μm,20.9s
CD2 LR LR
comp=Z,3μm,20.5s
DAG Danmarks Havn 135.55 2 *i* P PKPdf 03 48 13.1 -1.9
comp=Z,38nm,0.8s
comp=Z,2μm,21.0s
DAG Danmarks Havn 135.55 2 *i* PKIKP PKPdf 03 48 13.1 -1.9
DAG pmax pmax
comp=Z,29nm,0.8s
DAG MLR MLR
comp=Z,2μm,21.0s
MAKZ Makanchi 136.31 72 *e*PKPpre PKPpre 03 48 07.7
MAKZ *e*PKPdf PKPdf 03 48 16.3 -1.0
MAKZ LR LR
comp=Z,3μm,20.0s
MAKZ Makanchi 136.31 72 PKHKP PKPpre 03 48 07.3
MAKZ pmax pmax
comp=Z,34nm,1.5s
TWG Pinlang 136.41 131 PFAKE 03 48 30.0 +10
TWG LR LR
comp=Z,3μm,19.0s
MK01 Makanchi Array 136.44 73 *e*PKPpre PKPpre 03 48 04.7
MK31 Makanchi Array 136.45 73 *e*PKPpre PKPpre 03 48 05.1
MK31 Makanchi Array 136.45 73 *i* PKHKP PKPpre 03 48 02.3
MK31 pmax pmax
comp=Z,38nm,1.4s
MK32 Makanchi Array 136.45 73 *e*PKPpre PKPpre 03 48 05.7
MK32 *e*PKPdf PKPdf 03 48 15.4 -2.2
MKAR Makanchi Array 136.45 73 PKhKP PKPpre 03 48 05.7
comp=Z,2.4nm,0.8s,baz=229,slow=3.3,SNR=14
MKAR PKP PKPdf 03 48 15.4 -2.2
comp=Z,2.8nm,0.7s,baz=247,slow=3.0,SNR=12
MKAR SKP 03 51 54.7
comp=Z,3.7nm,1.2s,baz=214,slow=2.3,SNR=2.1
MKAR PKKP PKKPdf 03 58 17.2 +23
comp=Z,1.5nm,1.0s,baz=35,slow=4.4,SNR=4.2
MKAR SKKPbc SKKPbc 04 00 25.1 -15
comp=Z,1.4nm,0.9s,baz=45,slow=5.3,SNR=4.1
TPUB Ta-pu 136.67 130 PFAKE 03 48 30.0 +10
TPUB LR LR
comp=Z,900nm,19.0s
ANA2 Anatahan 136.82 166 PFAKE 03 48 30.0 +9.0
ANA2 LR LR
comp=Z,2μm,22.0s
YULB Yu-li 137.02 131 PFAKE 03 48 30.0 +8.8
YULB LR LR
comp=Z,1μm,21.0s
WMQ Urumqi 137.08 80 PKP PKiKP 03 48 20.0 -0.7
WMQ sPKP 03 48 35.3
WMQ PP PP 03 51 07.8 +3.6
WMQ PKS 03 51 53.9
WMQ SKKS 03 57 55.4
WMQ SS SS 04 09 08.8 +2.9
WMQ LR LR
comp=Z,3μm,19.5s
WMQ LR LR
comp=Z,3μm,19.7s
WMQ LR LR
comp=Z,4μm,20.9s
WMQ Urumqi 137.08 80 PFAKE 03 48 30.0 +9.3
WMQ LR LR
comp=Z,3μm,21.0s
SSLB Suanglung 137.24 130 PFAKE 03 48 30.0 +8.3
SSLB LR LR
comp=Z,900nm,20.0s
KURBB Kurchatov Arra 137.24 66 PKhKP PKPpre 03 48 08.4
comp=Z,1.3nm,0.6s,baz=230,slow=3.3,SNR=9.9
KURBB PKP PKPdf 03 48 17.6 -1.3
comp=Z,3.5nm,0.7s,baz=236,slow=3.3,SNR=13
KURBB PP PP 03 51 04.2 -0.9
comp=Z,2.0nm,1.1s,baz=238,slow=5.5,SNR=4.9
KURBB SKKPbc SKKPbc 04 00 18.4 -19
comp=Z,1.6nm,0.9s,baz=34,slow=5.1,SNR=4.4
QZH Quanzhou 137.31 127 *i* PKP PKPdf 03 48 20.0 +0.2
QZH PP PP 03 51 10.5 +5.3
QZH SS SS 04 09 11.3 +3.5
QZH AMB AMB
comp=Z,580nm,11.4s
QZH LR LR
comp=Z,550nm,23.2s
QZH LR LR
comp=Z,1μm,22.3s
QZH LR LR
comp=Z,2μm,19.9s
KURK Kurchatov 137.35 66 *e*PKPpre PKPpre 03 48 13.8
KURK LR LR
comp=Z,3μm,20.0s
KURK Kurchatov 137.35 66 *de*PKIKP PKPdf 03 48 17.5 -1.5
ENH Enshi 137.78 112 *e*PKPdf PKiKP 03 48 22.8 +0.2
ENH LR LR
comp=Z,2μm,22.0s
NACB Ninganchiao 137.84 131 PFAKE 03 48 30.0 +7.2
NACB LR LR
comp=Z,1μm,22.0s
TULEG Thule 138.14 346 *e*PKPpre PKPpre 03 48 12.0
TULEG LR LR
comp=Z,3μm,19.0s
YHNB Yeheng 138.20 130 PFAKE 03 48 30.0 +6.4
YHNB LR LR
comp=Z,1μm,20.0s
BBB Bella Bella 138.48 295 PFAKE 03 48 30.0 +6.8
BBB LR LR
comp=Z,3μm,22.0s
TATO Taipei 138.51 130 PFAKE 03 48 30.0 +5.8
TATO LR LR
comp=Z,1μm,20.0s
YOJ Yonaguni jima 138.65 132 PFAKE 03 48 30.0 +5.6
YOJ LR LR
comp=Z,2μm,20.0s
YKA Yellowknife Ar 139.27 315 PKhKP PKPpre 03 48 12.9
comp=Z,2.5nm,0.6s,baz=125,slow=3.5,SNR=36
YKA PKP PKPdf 03 48 22.9 +0.7
comp=Z,19nm,0.7s,baz=126,slow=2.4,SNR=59
YKA PP PP 03 51 13.9 -3.5
comp=Z,9.0nm,1.1s,baz=120,slow=5.9,SNR=6.3
YKA SKP 03 51 57.7
comp=Z,8.3nm,0.9s,baz=131,slow=4.0,SNR=4.4
YKA PKKP PKKPdf 03 57 48.6 -0.9
comp=Z,0.3nm,0.6s,baz=312,slow=1.9,SNR=5.7
YKB5 Yellowknife Ar 139.27 315 *e*PKPpre PKPpre 03 48 12.1
YKB5 *e*PKPdf PKPdf 03 48 22.9 +0.7
YKB5 *e*PP PP 03 51 13.9 -3.5
YKW3 Yellowknife Ar 139.32 315 *e*PKPpre PKPpre 03 48 12.6
YKW3 LR LR
comp=Z,2μm,20.0s
KBS Kingsbay 139.36 10 PFAKE 03 48 30.0 +5.7
KBS LR LR
comp=Z,2μm,19.0s
LZH Lanzhou 139.67 101 PKP PKPdf 03 48 23.5 -0.5
LZH sPKP 03 48 37.4
LZH PP PP 03 51 23.3 +3.0
LZH PKS 03 51 58.4
LZH SKKS 03 58 08.4
LZH SS SS 04 09 37.6 +1.1
LZH AMB AMB
comp=Z,680nm,9.3s
LZH LR LR
comp=Z,2μm,17.3s
LZH LR LR
comp=Z,2μm,17.4s
LZH LR LR
comp=Z,2μm,20.6s
GTA Gaotai 140.13 94 *e*PKP PKPdf 03 48 19.0 -5.7
GTA SKKS 03 58 07.5
GTA SS SS 04 09 39.8 -2.2
GTA AMB AMB
comp=Z,220nm,10.5s
GTA LR LR
comp=Z,2μm,20.6s
GTA LR LR
comp=Z,2μm,22.2s
GTA LR LR
comp=Z,3μm,21.9s
WHN Wuhan 140.30 117 PKP PKPdf 03 48 19.0 -6.1
WHN PP PP 03 51 26.4 +2.6
WHN LR LR
comp=Z,4μm,25.1s
WHN LR LR
comp=Z,4μm,22.8s
WHN LR LR
comp=Z,6μm,23.8s
XAN Xi'an 140.59 108 pPKP PKPdf 03 48 24.0 -1.6
XAN PP PP 03 51 45.6 +20
XAN PKS PKSdf 03 52 00.8 -0.8

XAN	**Xi'an**	**140.59**	**108**	*e*PKPdf	**PKPdf**	**03 48 25.5**	**-0.2**		
XAN				LR	LR				
	comp=Z,2μm,21.0s								
RES	**Resolute Bay**	**141.11**	**337**	*e*PKPpre	PKPpre	03 48 19.0			
RES				*e*SKPbc	**SKPab**	**03 52 05.3**	**-5.6**		
RES				LR	LR				
	comp=Z,2μm,21.0s								
RES	**Resolute Bay**	**141.11**	**337**	*e*PKHKP	PKPpre	03 48 19.0			
RES				MLR	MLR				
	comp=Z,2μm,21.0s								
RES	**Resolute Bay**	**141.11**	**337**	SKPbc	**SKPab**	**03 52 05.3**	**-5.6**		
	comp=Z,9.2nm,1.0s,baz=110,slow=16,SNR=3.0								
DIB	**Dawson Inlet,**	**141.18**	**294**	*e*PKPpre	PKPpre	03 48 22.4			
DIB				LR	LR				
	comp=Z,2μm,22.0s								
NVS	**Novosibirsk**	**142.13**	**64**	*e*PKIKP	**PKPdf**	**03 48 26.2**	**-1.4**		
NVS				pmax	pmax				
	comp=N,32nm,1.5s								
NVS				pmax	pmax				
	comp=Z,68nm,1.5s								
NVS				pmax	pmax				
	comp=E,26nm,1.4s								
ZAA0	**Zalesovo Array**	**142.34**	**66**	*e*PKPpre	PKPpre	03 48 22.6			
ZAA0				LR	LR				
	comp=Z,2μm,20.0s								
ZALV	**Zalesovo Beam**	**142.34**	**66**	*e*PKPpre	PKPpre	03 48 21.6			
ZALV	**Zalesovo Beam**	**142.34**	**66**	PKhKP	PKPpre	03 48 21.9			
	comp=Z,3.4nm,0.5s,baz=227,slow=4.7,SNR=12								
ZALV				PKP	**PKPdf**	**03 48 29.4**	**+1.4**		
	comp=Z,5.6nm,0.5s,baz=242,slow=3.4,SNR=13								
ZAA1	**Zalesovo Array**	**142.34**	**66**	*e*PKPpre	PKPpre	03 48 21.9			
ZAA1				*e*PKPdf	**PKPdf**	**03 48 29.4**	**+1.4**		
WRAK	**Wrangell Islan**	**143.04**	**298**	*e*PKPpre	PKPpre	03 48 27.8			
WRAK				LR	LR				
	comp=Z,2μm,19.0s								
DLBC	**Dease Lake**	**143.15**	**302**	*e*PKPpre	PKPpre	03 48 27.3			
DLBC				LR	LR				
	comp=Z,2μm,20.0s								
NJ2	**Nanjing**	**143.60**	**121**	*e*PKP	PKPbc	03 48 28.5	0.0		
NJ2				LR	LR				
	comp=Z,1μm,19.0s								
NJ2				LR	LR				
	comp=Z,1μm,21.1s								
NJ2				LR	LR				
	comp=Z,1μm,21.1s								
SSE	**Sheshan**	**143.79**	**125**	PKP	**PKPdf**	**03 48 30.5**	**-0.8**		
SSE				PP	**PP**	**03 51 43.8**	**-1.1**		
SSE				SS	SS	04 10 24.1	+0.5		
SSE				AMB	AMB				
	comp=Z,240nm,10.3s								
SSE				LR	LR				
	comp=Z,470nm,20.1s								
SSE				LR	LR				
	comp=Z,560nm,19.0s								
SSE	**Sheshan**	**143.79**	**125**	PFAKE		03 48 40.0	+5.2		
SSE				LR	LR				
	comp=Z,2μm,20.0s								
SIT	**Sitka**	**144.76**	**298**	*e*PKPdf	**PKPdf**	**03 48 33.1**	**+1.0**		
SIT	**Sitka**	**144.76**	**298**	*e*PKIKP	**PKPdf**	**03 48 33.1**	**+1.0**		
JIS	**Juneau Island**	**144.99**	**300**	*e*PKPbc	**PKPdf**	**03 48 33.6**	**+1.2**		
JIS				LR	LR				
	comp=Z,2μm,19.0s								
TIY	**Taiyuan**	**145.23**	**108**	*e*PKPbc	**PKPbc**	**03 48 32.8**	**-0.7**		
TIY				PP	**PP**	**03 52 00.6**	**+6.8**		
TIY				SS	SS	04 10 41.1	+0.5		
TIY				AMB	AMB				
	comp=Z,290nm,8.6s								
TIY				LR	LR				
	comp=Z,2μm,19.2s								
TIY				LR	LR				
	comp=Z,770nm,18.1s								
TIY				LR	LR				
	comp=Z,2μm,19.2s								
BESE	**Bessie Mountai**	**145.36**	**300**	*e*PKPbc	**PKPab**	**03 48 34.7**	**+1.2**		
BESE				LR	LR				
	comp=Z,2μm,20.0s								
SKAG	**Skagway**	**146.02**	**301**	*e*PKPdf	**PKPab**	**03 48 36.5**	**+0.7**		
SKAG				LR	LR				
	comp=Z,2μm,19.0s								
BTO	**Baotou**	**146.25**	**103**	*e*PKPbc	**PKPdf**	**03 48 34.9**	**-0.5**		
TIA	**Tai'an**	**146.28**	**115**	PKPbc	**PKPdf**	**03 48 35.1**	**-0.4**		
TIA				SS	SS	04 10 58.3	+6.0		
TIA				AMB	AMB				
	comp=Z,140nm,4.9s								
TIA				LR	LR				
	comp=Z,510nm,19.6s								
TIA				LR	LR				
	comp=Z,320nm,19.8s								
TIA				LR	LR				
	comp=Z,700nm,20.3s								
WHY	**Whitehorse**	**146.41**	**303**	*e*PKPdf	**PKPdf**	**03 48 34.3**	**-0.8**		
WHY				LR	LR				
	comp=Z,2μm,20.0s								
CBIJ	**Chichi jima**	**146.82**	**158**	*e*PKPdf	**PKPdf**	**03 48 37.5**	**+0.9**		
JCJ	**Chichijima**	**146.82**	**158**	PKPbc	**PKPdf**	**03 48 37.5**	**+0.9**		
	comp=Z,66nm,0.8s,baz=279,slow=3.2,SNR=4.3								
HHC	**Hu-ho-hao-te**	**147.21**	**104**	*e*PKPbc	**PKPdf**	**03 48 36.0**	**-1.0**		
HHC				PP	**PP**	**03 52 10.4**	**+4.9**		
HHC				SKKS		03 58 56.5			
HHC				AMB	AMB				
	comp=Z,540nm,7.8s								
HHC				LR	LR				
	comp=Z,1μm,20.0s								
HHC				LR	LR				
	comp=Z,1μm,19.0s								
HHC				LR	LR				
	comp=Z,2μm,21.0s								
HYT	**Haines Junctio**	**147.63**	**303**	*e*PKPdf	**PKPdf**	**03 48 36.6**	**-0.5**		
HYT				LR	LR				
	comp=Z,2μm,22.0s								
BCPM	**Bancas Point**	**148.18**	**300**	*e*PKPbc	**PKiKP**	**03 48 42.8**	**0.0**		
BCPM				LR	LR				
	comp=Z,2μm,20.0s								
PCA	**Pinnacle**	**148.52**	**300**	PFAKE		03 48 50.0	+4.1		
PCA				LR	LR				
	comp=Z,3μm,22.0s								
BJT	**Baijiatuau**	**148.85**	**110**	*e*PKPbc	**PKPbc**	**03 48 43.5**	**-0.1**		
BJT				LR	LR				
	comp=Z,1μm,20.0s								
BJI	**Beijing**	**148.87**	**110**	PKPbc	**PKPdf**	**03 48 39.8**	**+0.2**		
BJI				SS	SS	04 11 25.0	+3.5		
BJI				LR	LR				
	comp=Z,780nm,20.1s								
BJI				LR	LR				
	comp=Z,880nm,20.1s								
BJI				LR	LR				
	comp=Z,1μm,19.6s								
INK	**Inuvik**	**148.94**	**317**	*e*PKPdf	**PKPdf**	**03 48 36.6**	**-2.2**		
INK				*e*PKPbc	**PKPbc**	**03 48 43.3**	**+0.4**		
INK				LR	LR				
	comp=Z,3μm,20.0s								
INK	**Inuvik**	**148.94**	**317**	PKPbc	**PKPbc**	**03 48 43.4**	**+0.4**		
	comp=Z,162nm,0.8s,baz=106,slow=3.6,SNR=225								
MOY	**Mondy**	**148.97**	**79**	*e*PKIKP	**PKPdf**	**03 48 38.5**	**-1.1**		
MOY				pmax	pmax				
	comp=Z,390nm,2.6s								
JNU	**Nakatsue**	**149.38**	**137**	*e*PKPbc	**PKPbc**	**03 48 44.9**	**-0.3**		
JNU				LR	LR				
	comp=Z,1μm,20.0s								
JNU	**Nakatsue**	**149.38**	**137**	PKPbc	**PKPbc**	**03 48 44.8**	**-0.3**		
	comp=Z,16nm,0.7s,baz=168,slow=3.3,SNR=16								
ZAK	**Zakamensk**	**149.38**	**83**	*e*PKHKP	**PKPdf**	**03 48 39.4**	**-0.9**		
ZAK				pmax	pmax				
	comp=Z,167nm,1.6s								
SONA0	**Songino Array**	**149.42**	**89**	*e*PKPbc	**PKPbc**	**03 48 44.7**	**-0.3**		
SONM	**Songino Array**	**149.42**	**89**	PKPbc	**PKPbc**	**03 48 44.7**	**-0.3**		
	comp=Z,23nm,0.6s,baz=210,slow=2.4,SNR=57								
EPYK	**Eagle Plains**	**149.50**	**313**	PFAKE		03 48 50.0	+0.4		
EPYK				LR	LR				
	comp=Z,3μm,21.0s								
EPYK	**Eagle Plains**	**149.50**	**313**	P	**PKPbc**	**03 48 44.6**	**+0.1**		
	baz=109								
DAWY	**Dawson**	**149.76**	**308**	*e*PKPdf	**PKPdf**	**03 48 38.1**	**-2.3**		
DAWY				LR	LR				
	comp=Z,3μm,22.0s								
ULN	**Ulaanbaatar**	**149.78**	**90**	*e*PKPdf	**PKPdf**	**03 48 40.5**	**-0.5**		
ULN				LR	LR				
	comp=Z,2μm,20.0s								
ULN	**Ulaanbaatar**	**149.78**	**90**	*ce*PKIKP	**PKPdf**	**03 48 39.9**	**-1.2**		
ULN	**Ulaanbaatar**	**149.78**	**90**	PKPdf	**PKPdf**	**03 48 39.8**	**-1.3**		
	SNR=51								
BALM	**Baldy**	**149.85**	**301**	PFAKE		03 48 50.0	-1.4		
BALM				LR	LR				
	comp=Z,2μm,21.0s								
TGL	**Tana Glacier**	**149.96**	**300**	*e*PKPdf	**PKPdf**	**03 48 41.2**	**+0.4**		
TGL				LR	LR				
	comp=Z,2μm,18.0s								
TLY	**Talaya**	**150.33**	**81**	*e*PKPdf	**PKPdf**	**03 48 40.1**	**-1.5**		
TLY				LR	LR				
	comp=Z,2μm,20.0s								
TLY	**Talaya**	**150.33**	**81**	*c i*PKIKP	**PKPdf**	**03 48 40.5**	**-1.1**		
TLY	**Talaya**	**150.33**	**81**	PKPdf	**PKPdf**	**03 48 41.0**	**-0.6**		
	SNR=66								
NRIK	**Noril'sk**	**150.34**	**42**	PKPbc	**PKPbc**	**03 48 46.3**	**0.0**		
	comp=Z,29nm,0.9s,baz=224,slow=2.6,SNR=31								
HMT	**Hamilton**	**150.43**	**299**	*e*PKPbc	**PKiKP**	**03 48 48.5**	**+1.0**		
HMT				LR	LR				
	comp=Z,2μm,20.0s								
DL2	**Dalian**	**150.56**	**118**⇑	*i*PKPbc	**PKPdf**	**03 48 41.3**	**-1.0**		
DL2				PKPab	**pPKPdf**	**03 48 59.3**	**+2.9**		
DL2				PP	**PP**	**03 52 22.8**	**-1.9**		
DL2				SS	SS	04 11 42.3	+2.2		
DL2				AMB	AMB				
	comp=Z,520nm,6.3s								
DL2				LR	LR				
	comp=Z,910nm,21.5s								
DL2				LR	LR				
	comp=Z,470nm,24.5s								
DL2				LR	LR				
	comp=Z,1μm,24.0s								
EGAK	**Eagle**	**150.72**	**308**	*e*PKPdf	**PKPdf**	**03 48 39.3**	**-2.5**		
EGAK				LR	LR				
	comp=Z,2μm,21.0s								
TJN	**Taejon**	**150.92**	**129**⇑	*i*PKIKP	**PKPbc**	**03 48 47.7**	**-1.0**		
IRK	**Irkutsk**	**150.97**	**81**	*e*PKIKP	**PKPdf**	**03 48 40.8**	**-1.8**		
IRK				*e*		03 52 36.9			
IRK				pmax	pmax				
	comp=Z,323nm,1.8s								
MENT	**Mentasta**	**151.18**	**304**	*e*PKPdf	**PKPdf**	**03 48 41.6**	**-1.0**		
MENT				*e*PKPbc	**PKiKP**	**03 48 49.5**	**+0.5**		
MENT				LR	LR				
	comp=Z,2μm,20.0s								
EYAK	**Cordova Ski Ar**	**151.19**	**299**	*e*PKPbc	**PKiKP**	**03 48 49.8**	**+0.8**		
EYAK				LR	LR				
	comp=Z,4μm,22.0s								
DIV	**Divide**	**151.42**	**300**	*e*PKPdf	**PKPdf**	**03 48 43.1**	**+0.1**		
DIV				LR	LR				
	comp=Z,2μm,21.0s								
DOT	**Dot Lake**	**151.56**	**305**	*e*PKPdf	**PKPdf**	**03 48 40.9**	**-2.2**		
DOT				LR	LR				
	comp=Z,2μm,19.0s								
HARP	**HAARP**	**151.61**	**303**	*e*PKPbc	**PKiKP**	**03 48 50.8**	**+0.9**		
HARP				LR	LR				
	comp=Z,2μm,20.0s								
KLU	**Klutina**	**151.62**	**300**	PFAKE		03 49 00.0	+1.3		
KLU				LR	LR				
	comp=Z,2μm,21.0s								
SCRK	**Sand Creek**	**151.63**	**306**	*e*PKPdf	**PKPdf**	**03 48 41.0**	**-2.3**		
SCRK				LR	LR				
	comp=Z,2μm,19.0s								
RIDG	**Independ'e Rid**	**151.92**	**305**	*e*PKPdf	**PKPdf**	**03 48 42.2**	**-1.6**		
RIDG				LR	LR				
	comp=Z,3μm,20.0s								
PAX	**Paxson**	**151.94**	**304**	*e*PKPbc	**PKPbc**	**03 48 50.3**	**-0.1**		
KS15	**Wonju Array Si**	**152.05**	**128**	*e*PKPbc	**PKPbc**	**03 48 51.4**	**+0.1**		
KS15				*e*PKPab	**PKPab**	**03 49 01.3**	**+0.4**		
KSRS	**Korea Array**	**152.07**	**128**	PKPbc	**PKPbc**	**03 48 51.3**	**0.0**		
	comp=Z,9.0nm,0.6s,baz=197,slow=2.2,SNR=34								
KSRS				PKPab	**PKPab**	**03 49 01.3**	**+0.3**		
	comp=Z,8.5nm,0.8s,baz=214,slow=2.7,SNR=13								
KS01	**Wonju Array Si**	**152.08**	**128**	*e*PKPdf	**PKPdf**	**03 48 43.8**	**-0.9**		
JHJ	**Hachijo jima 2**	**152.09**	**151**	PKPbc	**PKPbc**	**03 48 51.5**	**0.0**		
	comp=Z,170nm,0.7s,baz=216,slow=18,SNR=4.2								
SCM	**Sheep Creek Mo**	**152.37**	**301**	*e*PKPdf	**PKPdf**	**03 48 45.3**	**+0.8**		
SCM				LR	LR				
	comp=Z,1μm,21.0s								
PRP	**Porcupine Dome**	**152.70**	**309**	*e*PKPdf	**PKPdf**	**03 48 44.5**	**-0.5**		
PRP				LR	LR				
	comp=Z,2μm,20.0s								
SEW	**Seward**	**152.72**	**296**	PFAKE		03 49 00.0	-3.1		
SEW				LR	LR				
	comp=Z,2μm,21.0s								
KNK	**Knik Glacier**	**152.74**	**299**	*e*PKPbc	**PKiKP**	**03 48 52.2**	**-0.1**		
KNK				LR	LR				
	comp=Z,2μm,21.0s								
DHY	**Denali Highway**	**152.80**	**303**	*e*PKPdf	**PKPdf**	**03 48 43.8**	**-1.3**		
DHY				LR	LR				
	comp=Z,2μm,20.0s								
SML	**Sawmill**	**152.81**	**300**	*e*PKPdf	**PKPdf**	**03 48 42.8**	**-2.2**		
SML				LR	LR				
	comp=Z,2μm,22.0s								
SML	**Sawmill**	**152.81**	**300**	*e*PKIKP	**PKPdf**	**03 48 42.8**	**-2.2**		
SML				MLR	MLR				
	comp=Z,2μm,22.0s								
FYU	**Fort Yukon**	**152.84**	**311**	*e*PKPdf	**PKPdf**	**03 48 43.6**	**-1.2**		
FYU				LR	LR				
	comp=Z,2μm,20.0s								
HDA	**Harding Lake**	**153.00**	**306**	*e*PKPdf	**PKPdf**	**03 48 43.0**	**-2.2**		
HDA				LR	LR				
	comp=Z,2μm,20.0s								
HDA	**Harding Lake**	**153.00**	**306**	P	**PKPbc**	**03 48 52.4**	**-0.2**		
	baz=105								
GHO	**Glory Hole Cre**	**153.07**	**300**	*e*PKPdf	**PKPdf**	**03 48 46.9**	**+1.4**		
GHO				LR	LR				
	comp=Z,1μm,20.0s								
ILAR	**Eielson Array**	**153.07**	**307**	PKPbc	**PKiKP**	**03 48 53.5**	**+0.6**		
	comp=Z,64nm,0.8s,baz=120,slow=3.0,SNR=167								
ILAR				PKPab	**PKPab**	**03 49 05.3**	**+0.8**		
	comp=Z,80nm,0.9s,baz=125,slow=3.9,SNR=24								
ILAR				PP	**PP**	**03 52 38.0**	**-1.0**		
	comp=Z,3.6nm,1.1s,baz=116,slow=2.1,SNR=3.2								
ILB	**Eielson Array**	**153.07**	**307**	*e*PKPbc	**PKiKP**	**03 48 53.5**	**+0.6**		
ILB				*e*PKPab	**PKPab**	**03 49 05.3**	**+0.8**		
ILB				*e*PP	**PP**	**03 52 38.0**	**-1.0**		
PMR	**Palmer**	**153.10**	**299**	PFAKE		03 49 00.0	-4.7		
PMR				LR	LR				
	comp=Z,2μm,19.0s								
RC01	**Rabbit Creek A**	**153.20**	**298**	*e*PKPdf	**PKPdf**	**03 48 47.4**	**+1.8**		
RC01				*e*PKPbc	**PKiKP**	**03 48 54.4**	**+1.2**		
RC01				LR	LR				
	comp=Z,2μm,19.0s								
BRLK	**Bradley Lake**	**153.26**	**295**	*e*PKPbc	**PKiKP**	**03 48 53.9**	**+0.5**		
BRLK				LR	LR				
	comp=Z,2μm,20.0s								
KDAK	**Kodiak Island**	**153.28**	**290**	*e*PKPbc	**PKiKP**	**03 48 54.3**	**+0.9**		
KDAK				LR	LR				
	comp=Z,3μm,20.0s								
KDAK	**Kodiak Island**	**153.28**	**290**	*i* PKIKP	**PKiKP**	**03 48 54.0**	**+0.5**		
POKR	**Poker Plat Res**	**153.38**	**308**	P	**PKPbc**	**03 48 53.3**	**-0.1**		
	baz=104								
CCB	**Clear Creek Bu**	**153.42**	**306**	PFAKE		03 49 00.0	-6.0		
CCB				LR	LR				
	comp=Z,2μm,20.0s								
COLA	**College**	**153.50**	**307**	*e*PKPbc	**PKiKP**	**03 48 53.9**	**+0.2**		
COLA				LR	LR				
	comp=Z,2μm,19.0s								
COLA	**College**	**153.50**	**307**⇑	*i*PKIKP	**PKPbc**	**03 48 53.2**	**-0.4**		
WRH	**Wood River Hil**	**153.50**	**306**	PFAKE		03 49 00.0	+6.3		
WRH				LR	LR				
	comp=Z,2μm,19.0s								
TCOL	**CIGO, UAF Yank**	**153.50**	**307**	P	**PKPbc**	**03 48 53.5**	**-0.1**		
	baz=104								
SII	**Sitkinak Islan**	**153.53**	**287**	*e*PKPbc	**PKiKP**	**03 48 56.1**	**+2.0**		
SII				LR	LR				
	comp=Z,4μm,20.0s								
RND	**Reindeer**	**153.54**	**303**	*e*PKPdf	**PKPdf**	**03 48 44.6**	**-1.5**		
RND				LR	LR				
	comp=Z,2μm,20.0s								
RND	**Reindeer**	**153.54**	**303**	*e*PKIKP	**PKPdf**	**03 48 44.6**	**-1.5**		
RND				MLR	MLR				
	comp=Z,2μm,20.0s								
HOM	**Homer**	**153.57**	**294**	*e*PKPbc	**PKiKP**	**03 48 57.2**	**+3.2**		
HOM				LR	LR				
	comp=Z,2μm,21.0s								
MCK	**McKinley**	**153.66**	**304**	PFAKE		03 49 00.0	+5.9		
MCK				LR	LR				
	comp=Z,2μm,22.0s								
MDM	**Murphy Dome**	**153.67**	**307**	PFAKE		03 49 00.0	+5.9		
MDM				LR	LR				
	comp=Z,2μm,20.0s								
SUA	**Susitna One**	**153.79**	**299**	*e*PKPbc	**PKiKP**	**03 48 55.3**	**+0.7**		
SUA				LR	LR				
	comp=Z,2μm,19.0s								
BWN	**Browne**	**154.00**	**305**	*e*PKPdf	**PKPdf**	**03 48 45.7**	**-0.9**		
BWN				LR	LR				
	comp=Z,2μm,21.0s								
TRF	**Thorofare Moun**	**154.17**	**303**	PFAKE		03 49 00.0	+4.6		
TRF				LR	LR				
	comp=Z,2μm,20.0s								
BPAW	**Bear Paw Mtn.**	**154.63**	**304**	PFAKE		03 49 00.0	+3.9		
BPAW				LR	LR				
	comp=Z,2μm,20.0s								
MLY	**Manley**	**154.73**	**307**	PFAKE		03 49 00.0	+3.7		
MLY				LR	LR				
	comp=Z,2μm,20.0s								
TOLK	**Toolik Lake Re**	**154.80**	**315**	PFAKE		03 49 00.0	+3.6		
TOLK				LR	LR				
	comp=Z,2μm,21.0s								
TOLK	**Toolik Lake Re**	**154.80**	**315**	P	**PKiKP**	**03 48 56.9**	**+0.5**		
	baz=95								
PPLA	**Purkeypile**	**154.86**	**301**	PFAKE		03 49 00.0	+3.2		
PPLA				LR	LR				
	comp=Z,3μm,21.0s								
COLD	**Coldfoot**	**154.88**	**312**	PFAKE		03 49 00.0	+3.5		
COLD				LR	LR				
	comp=Z,1μm,21.0s								
MAJO	**Matsushiro**	**154.89**	**146**	*e*PKPdf	**PKPdf**	**03 48 47.8**	**-1.0**		
MAJO				*e*PKPbc	**PKiKP**	**03 48 57.7**	**+0.2**		
MAJO				*e*PKPab	**pPKPbc**	**03 49 14.3**	**+2.6**		
MAJO				LR	LR				
	comp=Z,2μm,22.0s								
MAJO	**Matsushiro**	**154.89**	**146**	*e*PKIKP	**PKPdf**	**03 48 47.8**	**-1.0**		
MAJO				*e*		03 48 57.7			
MAJO				MLR	MLR				
	comp=Z,2μm,22.0s								
MAJO	**Matsushiro**	**154.89**	**146**	*e*P	**PKiKP**	**03 49 00.4**	**+2.9**		
MAT	**Matsushiro**	**154.89**	**146**	PKP	**PKPdf**	**03 48 49.2**	**+0.4**		
MJAR	**Matsushiro Arr**	**154.89**	**146**	PKP	**PKPdf**	**03 48 47.8**	**-1.1**		
	comp=Z,1.0nm,0.7s,baz=250,slow=1.8,SNR=3.0								
MJAR				PKPbc	**PKiKP**	**03 48 57.7**	**+0.2**		
	comp=Z,3.8nm,0.7s,baz=184,slow=2.9,SNR=8.6								
MJAR				PKPab	**PKPab**	**03 49 12.9**	**-0.1**		
	comp=Z,17nm,1.0s,baz=209,slow=4.7,SNR=12								
CAST	**Castle Rocks**	**154.94**	**303**	PFAKE		03 49 00.0	+3.2		
CAST				LR	LR				
	comp=Z,2μm,20.0s								
CHGN	**Chignik**	**155.53**	**284**	PFAKE		03 49 00.0	+11		
CHGN				LR	LR				
	comp=Z,2μm,22.0s								
CIT	**Chita**	**155.62**	**88**	*e*PKP2	**PKPab**	**03 49 14.1**	**-1.8**		
SVW2	**Sparrevohn**	**155.90**	**296**	*e*PKPdif	PKPdf	03 48 59.0	+10		
SVW2				LR	LR				
	comp=Z,2μm,21.0s								
SDPT	**Sand Point**	**156.15**	**281**	PFAKE		03 49 00.0	+10		
SDPT				LR	LR				
	comp=Z,2μm,21.0s								
CN2	**Changchun**	**156.18**	**116**	*e*PKP	**PKPdf**	**03 48 49.3**	**-1.0**		
CN2				*e*PP	**PP**	**03 52 59.3**	**+2.8**		
CN2				*e*SS	SS	04 12 44.1	+2.4		
CN2				LR	LR				
	comp=Z,910nm,20.0s								
CN2				LR	LR				
	comp=Z,670nm,20.0s								
CN2				LR	LR				
	comp=Z,2μm,20.0s								
HIA	**Hailar**	**157.21**	**99**	PFAKE		03 49 00.0	+8.5		
HIA				LR	LR				
	comp=Z,3μm,20.0s								
FALS	**False Pass**	**157.43**	**277**	PFAKE		03 49 00.0	+8.5		
FALS				LR	LR				
	comp=Z,3μm,22.0s								
VLA	**Vladivostok**	**158.47**	**127**	*de*PKIKP	**PKPdf**	**03 48 53.4**	**+0.3**		
BOD	**Bodaibo**	**158.51**	**75**	*e*PKIKP	**PKPdf**	**03 48 50.3**	**-2.4**		
BOD				pmax	pmax				
	comp=Z,30nm,1.6s								
MDJ	**Mudanjiang**	**158.70**	**121**	PKP	**PKPdf**	**03 48 52.4**	**-1.0**		
MDJ				AMB	AMB				
	comp=Z,920nm,11.1s								
MDJ	**Mudanjiang**	**158.70**	**121**	*e*PKPdif	PKPdf	03 49 05.4	+12		
MDJ				LR	LR				
	comp=Z,2μm,22.0s								
USRK	**Ussuriysk Ar.**	**159.40**	**126**	PKP	**PKPdf**	**03 48 55.3**	**+1.1**		
	comp=Z,2.3nm,0.7s,baz=140,slow=39,SNR=2.7								
USRK				PKPab	**PKPab**	**03 49 32.0**	**-0.3**		
	comp=Z,4.5nm,0.5s,baz=214,slow=4.2,SNR=9.5								
RDOG	**Red Dog Mine**	**159.74**	**314**	PFAKE		03 49 10.0	+16		
RDOG				LR	LR				
	comp=Z,2μm,22.0s								
KLR	**Kul'dur**	**163.12**	**115**	PKP	**PKPdf**	**03 48 56.3**	**-1.7**		
	comp=Z,5.8nm,1.0s,baz=314,slow=2.6,SNR=12								
KLR				PKPab	**PKPab**	**03 49 47.1**	**-1.3**		
	comp=Z,4.4nm,0.6s,baz=224,slow=3.3,SNR=16								
TIXI	**Tiksi**	**163.36**	**30**⇑	*i*PKIKP	**PKPdf**	**03 48 52.9**	**-4.6**		
TIXI	**Tiksi**	**163.36**	**30**	PKPab	**PKPab**	**03 49 48.6**	**-0.3**		
	comp=Z,10nm,0.9s,baz=323,slow=3.2,SNR=6.1								
TIXI				PP	**PP**	**03 53 33.7**	**-1.2**		
	comp=Z,8.9nm,0.9s,baz=328,slow=2.1,SNR=5.2								
ZEA	**Zeya**	**163.60**	**96**	*i* PKIKP	**PKPdf**	**03 48 56.7**	**-1.6**		
ZEA				*e*		03 49 50.0			
ZEA				*e*		03 53 38.0			
ZEA				pmax	pmax				
	comp=Z,180nm,2.0s								
ZEA				pmax	pmax				
	comp=Z,1μm,10.0s								
ZEA				pmax	pmax				
	comp=Z,800nm,12.0s								
ZEA				pmax	pmax				
	comp=Z,700nm,9.0s								
YUK	**Yuzh-Kuril'sk**	**163.92**	**154**	*c i*PKIKP	**PKPdf**	**03 49 00.0**	**+1.1**		
YUK				*e*		03 53 39.2			
YUK				*e*SS	SS	04 14 07.3	+5.1		
YUK				*e*SSS	SSS	04 20 29.3			
YSS	**Y

MA2				PP	**PP**		**03 54 47.1**	**+0.9**
	comp=Z,2.2nm,0.2s,baz=247,slow=8.0,SNR=2.2								

*IDC **19** 03:31:28.9±4.7, 32.˙67S×179.˙80E, h236km±43km, mb3.4/3, mb1 3.7/6, mb1mx3.5/32, mbtmp4.4/6, MS3.3/1, Ms1 3.3/1, ms1mx3.0/13, Error ellipse: s-maj=48.2km s-min=40.4km az=69.0*

*WEL **19** 03:31:30.1±0.4, 33˚S±5˙×18˚0W±1˙0, h12km, ML5.5/24*

ISC 19 03:31:27.0±1.0, **32.˙64S**±0.˙07×**179.˙7W**±0.˙1, **h250**km, **n109, s206/92, mb3.6/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.70**	**25**	P	**Pn**	**03 32 28.9**	**+1.5**
GLKZ				S	S	03 33 12.1	-3.2
RIZ	**Raoul Island**	**3.71**	**25**	S	**S**	**03 33 13.5**	**-2.0**
MXZ	**Matakaoa Point**	**5.17**	**198**	P	**Pn**	**03 32 47.2**	**+2.3**
MXZ				S	**S**	**03 33 45.3**	**-1.6**
GRZ	**Great Barrier**	**5.38**	**227**	P	Pn	03 32 50.6	+3.2
WMGZ	**Waiomatatini S**	**5.39**	**196**	P	**Pn**	**03 32 48.8**	**+1.3**
WMGZ				S	**S**	**03 33 53.2**	**+1.3**
HAZ	**Te Kaha**	**5.50**	**201**	P	**Pn**	**03 32 50.5**	**+1.7**
HAZ				S	**S**	**03 33 55.1**	**+0.8**
PKGZ	**Pakihiroa**	**5.54**	**198**	P	**Pn**	**03 32 52.1**	**+2.7**
KUZ	**Kuaotunu**	**5.56**	**221**	P	Pn	03 32 53.4	+3.7
PUZ	**Puketiti**	**5.67**	**196**	P	**Pn**	**03 32 51.7**	**+0.7**
PUZ				S	**S**	**03 33 57.7**	**-0.5**
RUGZ	**Raukumara Rang**	**5.73**	**201**	P	**Pn**	**03 32 53.5**	**+1.7**
TWGZ	**Tauwhareparae**	**5.84**	**198**	P	**Pn**	**03 32 55.8**	**+2.7**
WHRZ	**Whale Island**	**5.87**	**207**	P	Pn	03 32 58.7	+5.3
WCZ	**Waipu Caves**	**5.92**	**235**	P	Pn	03 32 56.9	+2.9
OPRZ	**Ohinepanea**	**6.03**	**209**	P	Pn	03 33 00.1	+4.7
MBAZ	**Motutapu North**	**6.06**	**226**	P	Pn	03 32 59.5	+3.8
CNGZ	**Carnagh Statio**	**6.08**	**196**	P	**Pn**	**03 32 57.0**	**+1.0**
MARZ	**Manawahe**	**6.10**	**208**	P	Pn	03 33 01.0	+4.7
MWZ	**Matawai**	**6.11**	**201**	P	**Pn**	**03 32 56.8**	**+0.3**
TKGZ	**Te Karaka**	**6.12**	**198**	P	**Pn**	**03 32 58.0**	**+1.5**
OUZ	**Omahuta**	**6.13**	**243**	P	**Pn**	**03 32 58.5**	**+1.8**
MKAZ	**Moumakai**	**6.13**	**222**	P	Pn	03 33 00.8	+4.1
ETAZ	**East Tamaki Re**	**6.16**	**224**	P	Pn	03 33 02.0	+4.9
EDRZ	**Edgecumbe**	**6.18**	**207**	P	Pn	03 33 01.5	+4.2
URZ	**Urewera**	**6.18**	**204**	P	**Pn**	**03 32 57.1**	**-0.1**
	26nm,0.3s,baz=11,slow=14,SNR=67						
URZ				S	**S**	**03 34 06.9**	**-2.7**
	49nm,0.3s,baz=124,slow=22,SNR=24						
URZ	**Urewera**	**6.18**	**204**	P	**Pn**	**03 32 58.2**	**+0.9**
RAGZ	**Rawiri**	**6.30**	**201**	P	**Pn**	**03 33 02.7**	**+3.8**
KARZ	**Kaharoa**	**6.30**	**210**	P	Pn	03 33 04.2	+5.3
WTAZ	**Waiatarua**	**6.36**	**226**	P	Pn	03 33 04.5	+4.9
TARZ	**Mount Tarawera**	**6.38**	**208**	P	Pn	03 33 05.5	+5.6
RIGZ	**Rimuhau**	**6.39**	**198**	P	**Pn**	**03 33 02.2**	**+2.2**
TOZ	**Tahuroa Road**	**6.42**	**216**	P	Pn	03 33 04.5	+4.3
HLRZ	**Highlands Stat**	**6.46**	**209**	P	Pn	03 33 05.4	+4.5
RRRZ	**Republican Roa**	**6.47**	**207**	P	**Pn**	**03 33 05.0**	**+4.1**
MUGZ	**Murupara**	**6.49**	**205**	P	**Pn**	**03 33 01.6**	**+0.4**
RTZ	**Ruatahuna**	**6.54**	**203**	P	**Pn**	**03 33 03.5**	**+1.5**
PRGZ	**Paritu Road**	**6.57**	**197**	P	**Pn**	**03 33 04.6**	**+2.4**
SNGZ	**Shannon Statio**	**6.58**	**201**	P	**Pn**	**03 33 02.9**	**+0.5**
PRRZ	**Plateau Road**	**6.65**	**207**	P	**Pn**	**03 33 07.0**	**+3.8**
KNZ	**Kokohu**	**6.71**	**198**	P	**Pn**	**03 33 06.4**	**+2.4**
ALRZ	**Allen Road**	**6.73**	**207**	P	**Pn**	**03 33 07.9**	**+3.7**
WPRZ	**Whakapapataris**	**6.76**	**209**	P	Pn	03 33 09.1	+4.4
MHGZ	**Mahia Peninsul**	**6.78**	**196**	P	**Pn**	**03 33 06.5**	**+1.6**
RAHZ	**Arahi**	**6.78**	**202**	P	**Pn**	**03 33 04.9**	**0.0**
MTHZ	**Maungataniwha**	**6.80**	**203**	P	**Pn**	**03 33 07.0**	**+1.8**
TLZ	**Tolley Road**	**6.87**	**213**	P	Pn	03 33 11.0	+5.0
KUTZ	**Kaahu Road**	**6.88**	**211**	P	Pn	03 33 10.9	+4.8
WHHZ	**Waihua**	**6.89**	**200**	P	**Pn**	**03 33 09.2**	**+3.0**
MRHZ	**Matea Rd**	**6.94**	**206**	P	**Pn**	**03 33 09.7**	**+2.8**
WHTZ	**Whakaora**	**6.97**	**209**	P	Pn	03 33 11.6	+4.3
NMHZ	**Naumai**	**7.04**	**203**	P	**Pn**	**03 33 09.4**	**+1.3**
WATZ	**Wairara**	**7.10**	**210**	P	**Pn**	**03 33 12.7**	**+3.8**
HATZ	**Hinemaiaia**	**7.11**	**207**	P	**Pn**	**03 33 12.3**	**+3.3**
ARHZ	**Aropaoanui**	**7.13**	**201**	P	**Pn**	**03 33 09.5**	**+0.3**
BKZ	**Black Stump Fm**	**7.20**	**204**	P	**Pn**	**03 33 09.3**	**-0.9**
RATZ	**Rangitukua**	**7.22**	**209**	P	**Pn**	**03 33 13.8**	**+3.4**
RITZ	**Rihia Road**	**7.28**	**208**	P	**Pn**	**03 33 14.4**	**+3.3**
KATZ	**Kakaramea**	**7.34**	**209**	P	**Pn**	**03 33 15.1**	**+3.1**
HIZ	**Hauiti**	**7.34**	**216**	P	Pn	03 33 16.3	+4.4
MCHZ	**McNeill Hill**	**7.39**	**202**	P	**Pn**	**03 33 14.2**	**+1.7**
KWHZ	**Kaweka Forest**	**7.46**	**204**	P	**Pn**	**03 33 12.7**	**-0.8**
KRVZ	**Karewarewa**	**7.46**	**209**	P	**Pn**	**03 33 16.0**	**+2.5**
CKHZ	**Cape Kidnapper**	**7.47**	**199**	P	**Pn**	**03 33 16.3**	**+2.8**
WTVZ	**West Tongariro**	**7.50**	**209**	P	**Pn**	**03 33 16.7**	**+2.7**
OTVZ	**Oturere**	**7.51**	**209**	P	**Pn**	**03 33 16.0**	**+1.8**
TWVZ	**Taurewa**	**7.53**	**210**	P	**Pn**	**03 33 17.2**	**+2.8**
NGZ	**Ngauruhoe**	**7.55**	**209**	P	**Pn**	**03 33 17.7**	**+3.0**
TUVZ	**Tukino**	**7.61**	**208**	P	**Pn**	**03 33 17.7**	**+2.3**
FWVZ	**Far West T-bar**	**7.64**	**209**	P	**Pn**	**03 33 17.4**	**+1.6**
BHHZ	**Black Hill Sta**	**7.64**	**205**	P	**Pn**	**03 33 15.0**	**-0.8**
WHVZ	**Whangaehu Hut**	**7.65**	**209**	P	**Pn**	**03 33 18.2**	**+2.2**
DRZ	**Dome Shelter**	**7.65**	**209**	P	**Pn**	**03 33 18.5**	**+2.4**
KAHZ	**Kahuranaki**	**7.66**	**200**	P	**Pn**	**03 33 17.6**	**+1.7**
KRHZ	**Kereru**	**7.67**	**203**	P	**Pn**	**03 33 14.4**	**-1.7**
KRHZ	**Kereru**	**7.67**	**203**	P	**Pn**	**03 33 14.3**	**-1.8**
TRVZ	**Turoa**	**7.68**	**209**	P	**Pn**	**03 33 19.1**	**+2.2**
MOVZ	**Moawhango**	**7.69**	**207**	P	**Pn**	**03 33 16.8**	**+0.5**
VRZ	**Vera Road**	**7.87**	**213**	P	**Pn**	**03 33 22.1**	**+3.5**
PXZ	**Pawanui**	**7.88**	**200**	P	**Pn**	**03 33 19.3**	**+0.7**
PNHZ	**Pukenui**	**7.97**	**203**	P	**Pn**	**03 33 17.7**	**-2.3**
WPHZ	**Waipukurau**	**8.03**	**202**	P	**Pn**	**03 33 21.9**	**+1.3**
PRHZ	**Porangahau**	**8.16**	**200**	P	**Pn**	**03 33 23.0**	**+0.7**
WAZ	**Wanganui**	**8.29**	**210**	P	**Pn**	**03 33 25.3**	**+1.4**
WAZ	**Wanganui**	**8.29**	**210**	P	**Pn**	**03 33 25.3**	**+1.4**
PKE	**Pukeiti**	**8.30**	**216**	P	Pn	03 33 29.0	+4.9
DVHZ	**Dannevirke**	**8.33**	**202**	P	**Pn**	**03 33 24.6**	**+0.1**
ANWZ	**Angora Road**	**8.39**	**200**	P	**Pn**	**03 33 27.0**	**+1.9**
POWZ	**Post Office Ro**	**8.55**	**204**	P	**Pn**	**03 33 27.7**	**+0.5**
PRWZ	**Pori Road**	**8.63**	**202**	P	**Pn**	**03 33 29.1**	**+0.9**
BFZ	**Birch Farm**	**8.66**	**201**	P	**Pn**	**03 33 27.3**	**-1.2**
MRZ	**Mangatainoka R**	**8.85**	**204**	P	**Pn**	**03 33 28.1**	**-2.9**
TIWZ	**Tintock**	**8.86**	**202**	P	**Pn**	**03 33 31.7**	**+0.6**
CPWZ	**Castlepoint**	**8.88**	**200**	P	**Pn**	**03 33 33.2**	**+1.9**
HOWZ	**Holdsworth Sta**	**9.00**	**204**	P	**Pn**	**03 33 33.8**	**-0.2**
OGWZ	**Otaki Gorge**	**9.14**	**205**	P	**Pn**	**03 33 31.7**	**-2.9**
TMWZ	**Te Maipa**	**9.16**	**201**	P	**Pn**	**03 33 34.5**	**-0.3**
KIW	**Kapiti Island**	**9.27**	**206**	P	**Pn**	**03 33 33.8**	**-2.5**
MTW	**Mount Morrison**	**9.33**	**203**	P	**Pn**	**03 33 36.2**	**-0.7**
CAW	**Cannon Point**	**9.43**	**205**	P	**Pn**	**03 33 36.3**	**-2.0**
DUWZ	**D'Urville Isla**	**9.61**	**210**	P	**Pn**	**03 33 39.8**	**-0.8**
MSWZ	**Moikau Station**	**9.64**	**203**	P	**Pn**	**03 33 40.1**	**-0.8**
BHW	**Baring Head**	**9.76**	**205**	P	**Pn**	**03 33 40.6**	**-1.8**
PLWZ	**Palliser**	**9.78**	**203**	P	**Pn**	**03 33 41.1**	**-1.6**
RPZ	**Rata Peaks**	**13.22**	**211**	P	**Pn**	**03 34 23.4**	**-2.1**
	4.7nm,0.3s,baz=34,slow=3.8,SNR=6.8						
RPZ				S	S	03 36 39.6	-13
	12nm,0.3s,baz=126,slow=23,SNR=16						
DZM	**Mont Dzumac**	**16.17**	**307**	P	**Pn**	**03 34 59.2**	**-2.1**
	0.5nm,0.3s,baz=138,slow=12,SNR=9.0						
RAR	**Rarotonga**	**21.07**	**62**	LR	LR	03 43 08.0	
	comp=Z,89nm,20.4s,baz=260,slow=33						
STKA	**Stephens Creek**	**32.61**	**261**	P	**P**	**03 37 34.5**	**-0.9**
	1.5nm,0.7s,baz=50,slow=7.9,SNR=3.7						
ASAR	**Alice Springs**	**41.59**	**270**	P	**P**	**03 38 51.0**	**+0.2**
	0.6nm,0.4s,baz=105,slow=7.4,SNR=8.5						
WRA	**Warramunga Arr**	**42.78**	**275**	P	**P**	**03 39 00.3**	**-0.2**
	1.1nm,0.4s,baz=115,slow=7.7,SNR=41						
FINES	**FINESS Array B**	**146.69**	**338**	PKPbc	**PKPbc**	**03 50 40.9**	**+2.3**
	2.8nm,0.9s,baz=60,slow=3.7,SNR=1.6						

*ISCJB **19** 03:47:04.6±0.4, 23˚.˙11N±0.˙03×101.˙08E±0.˙04, h10km, mb4.0/12, MS4.0/4, Error ellipse: s-maj=5.3km s-min=4.4km az=154.7*

*BJI **19** 03:47:04.8, 23.˙08N×100.˙96E, h5km, ML4.1/4, Ms3.9/3, Ms7 3.8/4*

*PLV **19** 03:47:05.9±1.6, 23.˙33N×101.˙12E, h6km±37km, ML3.3*

*IDC **19** 03:47:05.1±0.9, 23.˙07N×101.˙06E, h0km, mb3.9/7, mb1 3.9/8, mb1mx3.6/60, mbtmp3.8/8, ML3.8/1, MS3.5/3, Ms1 3.5/3, ms1mx3.2/39, Error ellipse: s-maj=30.3km s-min=14.8km az=83.0*

*NEIC **19** 03:47:06.7±0.6, 23.˙10N×101.˙06E, h10km, mb4.2/5, Error ellipse: s-maj=13.3km s-min=8.9km az=69.0*

ISC 19 03:47:06.3±0.6, **23.˙02N**±0.˙04×**100.˙97E**±0.˙04, **h10**km, **n35, s1189/39, mb3.9/12, MS3.7/4, Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**2.25**	**115**	*e*Pg	**Pb**	**03 47 47.8**	**+0.7**
MLAV					IAML	03 48 27.6	
	comp=N,163nm,0.5s						
MLAV					IAML	03 48 28.4	
	comp=E,339nm,0.6s						
KMI	**Kunming**	**2.65**	**37**	Pg	**Pb**	**03 47 54.6**	**+0.6**
KMI				Sg	**Sb**	**03 48 28.5**	**+1.9**
KMI				smax	smax		
	comp=E,400nm,1.0s						
KMI				smax	smax		
	comp=E,380nm,1.1s						
TGV	**Tuan Giao**	**2.68**	**122**	*e*Pg	**Pg**	**03 47 58.1**	**+0.3**
TGV					IAML	03 48 37.1	
	comp=E,124nm,0.7s						
TGV					IAML	03 48 38.2	
	comp=N,103nm,0.7s						
SLVN	**Son La**	**3.20**	**121**	Pn	**Pn**	**03 47 57.9**	**+1.1**
SLVN				Sn	**Sn**	**03 48 31.7**	**-3.4**
TTVN	**Tram Tau**	**3.50**	**116**	*e*Pn	**Pn**	**03 48 01.7**	**+0.9**
TTVN				*e*Sg	**Sg**	**03 48 59.7**	**+0.8**
TTVN					IAML	03 49 08.1	
	comp=N,52nm,0.6s						
TTVN					IAML	03 49 08.7	
	comp=E,56nm,0.5s						
CMMT	**Chiang Mai**	**4.59**	**205**	P	**Pg**	**03 48 34.5**	**+0.1**
	comp=E,46nm,0.7s,comp=E,769nm						
CHTO	**Chiang Mai**	**4.59**	**205**	*e*Pn	**Pn**	**03 48 18.8**	**+2.9**
CHTO				*e*Sn	**Sn**	**03 49 14.2**	**+4.8**
CHTO	**Chiang Mai**	**4.59**	**205**	P	**Pg**	**03 48 34.6**	**+0.2**
	comp=E,311nm,1.3s,comp=E,3µm						
CM31	**Chiang Mai Arr**	**4.92**	**203**	*e*Pn	**Pn**	**03 48 20.6**	**+0.2**
CM31				*e*Sn	**Sg**	**03 49 43.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**4.92**	**203**	Pn	**Pn**	**03 48 20.6**	**+0.2**
	comp=E,0.9nm,0.3s,baz=16,slow=12,SNR=8.4						
CMAR				Pg	**Pg**	**03 48 38.2**	**-2.4**
	comp=E,3.2nm,0.3s,baz=18,slow=12,SNR=43						
CMAR				Lg	Lg	03 49 43.1	
	comp=E,2.1nm,0.3s,baz=39,slow=16,SNR=4.9						
CMAR				LR	LR	03 49 47.5	
	comp=E,88nm,19.1s,baz=78,slow=32						
SHL	**Shillong**	**8.66**	**289**	*e*Pn	**Pn**	**03 49 13.9**	**+1.9**
LZH	**Lanzhou**	**13.26**	**10**	*e*P	**Pn**	**03 50 11.5**	**-3.3**
LZH				*e*PP	**PnPn**	**03 50 22.3**	**-0.5**
LZH				LR	LR		
	comp=E,310nm,11.7s						
LZH				LR	LR		
	comp=E,320nm,12.8s						
LZH				LR	LR		
	comp=E,310nm,15.2s						
HHC	**Hu-ho-hao-te**	**19.89**	**24**	*e*P	**Pn**	**03 51 43.0**	**+3.4**
HHC				pP	sP	03 51 48.8	+6.0
HHC				S	**Sn**	**03 55 25.8**	**+2.5**
HHC				LR	LR		
	comp=E,290nm,8.4s						
HHC				LR	LR		
	comp=E,280nm,8.4s						
HHC				LR	LR		
	comp=E,350nm,10.7s						
PSI	**Prapat**	**20.20**	**186**	*e*P	Pn	03 51 44.6	+1.1
PSI	**Prapat**	**20.20**	**186**	P	Pn	03 51 46.8	+3.4
	comp=E,2.5nm,0.3s,baz=360,slow=10,SNR=4.1						
WMQ	**Urumqi**	**23.46**	**335**	*e*P	**P**	**03 52 15.4**	**-0.6**
WMQ				LR	LR		
	comp=E,150nm,16.7s						
SONA0	**Songino Array**	**25.14**	**9**	*e*P	**P**	**03 52 31.2**	**-0.4**
SONM	**Songino Array**	**25.14**	**9**	P	**P**	**03 52 31.2**	**-0.4**
	comp=E,0.9nm,0.6s,baz=182,slow=6.8,SNR=2.7						
TARG	**Taragay, Kyrgy**	**26.89**	**319**	*e*P	**P**	**03 52 43.5**	**-4.4**
	comp=E,15nm,1.4s						
MK32	**Makanchi Array**	**28.09**	**332**	*e*P	**P**	**03 52 58.8**	**+0.6**
MKAR	**Makanchi Array**	**28.09**	**332**	P	**P**	**03 52 58.8**	**+0.6**
	comp=E,1.3nm,0.5s,baz=139,slow=10.0,SNR=13						
MKAR				LR	LR	04 04 53.2	
	comp=E,132nm,18.8s,baz=164,slow=38						
JNU	**Nakatsue**	**28.16**	**62**	LR	LR	04 05 28.1	
	comp=E,268nm,18.9s,baz=286,slow=39						
KURBB	**Kurchatov Arra**	**32.63**	**333**	P	**P**	**03 53 38.5**	**+0.3**
	comp=E,1.3nm,0.8s,baz=133,slow=7.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**33.20**	**343**	P	**P**	**03 53 43.6**	**+0.4**
	comp=E,1.3nm,0.7s,baz=151,slow=6.3,SNR=3.3						
ZAA1	**Zalesovo Array**	**33.20**	**343**	*e*P	**P**	**03 53 43.5**	**+0.4**
BVAR	**Borovoye Array**	**37.90**	**330**	P	**P**	**03 54 23.1**	**-0.5**
	comp=E,0.8nm,0.5s,baz=132,slow=8.2,SNR=4.1						
BRVK	**Borovoye**	**37.98**	**330**	*e*P	**P**	**03 54 23.1**	**-1.1**
	comp=E,5.5nm,0.9s						
SOEI	**Soe**	**39.77**	**142**	*e*P	**P**	**03 54 38.7**	**-1.1**
	comp=E,15nm,0.8s						
WR1	**Warramunga Arr**	**53.70**	**140**	*e*P	**P**	**03 56 28.6**	**-0.1**
	comp=E,1.2nm,1.0s						
WRA	**Warramunga Arr**	**53.70**	**140**	P	**P**	**03 56 28.6**	**-0.1**
	comp=E,1.1nm,0.8s,baz=331,slow=8.0,SNR=7.5						
AS31	**Alice Springs**	**56.38**	**143**	*e*P	**P**	**03 56 48.4**	**+0.3**
	comp=E,0.5nm,0.6s						
ASAR	**Alice Springs**	**56.38**	**143**	P	**P**	**03 56 48.4**	**+0.3**
	comp=E,1.0nm,0.7s,baz=323,slow=6.9,SNR=13						
AS01	**Alice Springs**	**56.40**	**143**	*e*P	**P**	**03 56 44.5**	**-3.8**
BRTR	**Keskin Array B**	**58.57**	**303**	LR	LR	04 29 32.9	
	comp=E,775nm,18.2s,baz=198,slow=44						
CLL	**Collm**	**71.14**	**318**	*e*P	**P**	**03 58 25.0**	**-0.1**

SJA 19 04:22:16.3±0.7, **22.˙79S**×**68.˙77W**, **h111**km±5km, **ML1.8, MW3.5, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.22**	**325**	*i* P	Pn	04 22 33.4	+1.0
LVC				*i* S	Sn	04 22 45.2	+0.8
PB06	**IPOC Station P**	**0.74**	**276**	*i* P	Pn	04 22 36.2	+0.8
PB06				*i* S	Sn	04 22 50.6	+1.0
PB15	**IPOC Station P**	**0.77**	**237**	*i* P	Pn	04 22 36.7	+1.1
PB15				*i* S	Sn	04 22 51.0	+0.9
PB03	**IPOC Station P**	**1.17**	**309**	*i* P	Pn	04 22 40.4	+0.8
PB03				*i* S	Sn	04 22 58.1	+0.9
FSA	**Cafayete**	**4.17**	**143**	*i* P	Pn	04 23 19.3	+1.1
FSA					IAML	04 23 45.5	
	comp=Z,1.0nm,0.3s						

*JMA **19** 04:23:28.5±0.4, 43.˙98N×148.˙31E, h0km, M4.2*

*ISCJB **19** 04:23:29.9±0.9, 44.˙14N±0.˙05×148.˙50E±0.˙07, h43km±8km, mb3.8/19, MS3.7/1, Error ellipse: s-maj=11.3km s-min=5.8km az=135.4*

*MOS **19** 04:23:31.5±1.2, 44.˙29N×148.˙42E, h53km, mb4.1/5, Error ellipse: s-maj=14.5km s-min=9.6km az=83.0*

*SKHL **19** 04:23:31.3±0.2, 44.˙06N×148.˙48E, h57km±5km, mb4.5/5*

*IDC **19** 04:23:35.8±2.6, 44.˙30N×148.˙46E, h74km±22km, mb3.6/17, mb1 3.8/20, mb1mx3.6/49, mbtmp3.9/20, Error ellipse: s-maj=26.2km s-min=13.9km az=163.0*

ISC 19 04:23:31.3±0.6, **44.˙13N**±0.˙06×**148.˙51E**±0.˙09, **h39**km±4km, **n65, σ1137/73, mb3.9/19, 3C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.20**	**338**	*i* P	**Pn**	**04 23 51.0**	**-0.5**
KUR				AMB	AMB	04 23 55.0	
	250nm,0.3s						
KUR				*i* S	**Sn**	**04 24 05.9**	**-0.6**
KUR				A	A	04 24 09.0	
	2µm,0.4s						
KUR				A	A	04 24 09.0	
	1µm,0.4s						
KUR	**Kuril'sk**	**1.20**	**338**	*d i* PN	**Pn**	**04 23 51.0**	**-0.5**
KUR				*i* S	**Sn**	**04 24 06.0**	**-0.6**
KUR				pmax	pmax		
	comp=Z,507nm,0.2s						
KUR				pmax	pmax		
	comp=E,150nm,0.3s						
KUR				pmax	pmax		
	comp=N,101nm,0.1s						
KUR				smax	smax		
	comp=N,2µm,0.5s						
KUR				smax	smax		
	comp=E,1µm,0.3s						
SHO	**Shikotan**	**1.24**	**259**	*e*S	**Sn**	**04 24 06.4**	**-1.1**
SHO				A	A	04 24 10.0	
	comp=E,410nm,0.2s						
SHO				A	A	04 24 10.0	
	comp=E,330nm,0.2s						
SHO				A	A	04 24 10.0	
	comp=E,190nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**268**	*i* P	**Pn**	**04 24 00.3**	**-1.0**
YUK				AMB	AMB	04 24 03.0	
	comp=E,174nm,0.3s						
YUK				*e*S	**Sn**	**04 24 21.9**	**-2.2**
YUK				A	A	04 24 26.0	
	comp=E,848nm,0.4s						
YUK				A	A	04 24 26.0	
	comp=E,208nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.91**	**268**	⇑*i* PN	**Pn**	**04 24 00.2**	**-1.0**
YUK				*e*S	**Sn**	**04 24 22.2**	**-1.9**
YUK				pmax	pmax		
	comp=N,46nm,0.2s						
YUK				pmax	pmax		
	comp=Z,174nm,0.2s						
YUK				pmax	pmax		
	comp=E,79nm,0.1s						
YUK				smax	smax		
	comp=N,848nm,0.5s						
YUK				smax	smax		
	comp=E,2µm,0.6s						
GRPR	**Tuman**	**1.98**	**267**	*i* P	**Pn**	**04 24 02.0**	**-0.2**
GRPR				AMB	AMB	04 24 06.0	
	comp=E,244nm,0.3s						
GRPR				*e*S	**Sn**	**04 24 25.0**	**-0.8**
GRPR				A	A	04 24 29.0	
	comp=E,880nm,0.5s						
GRPR				A	A	04 24 29.0	
	comp=E,1µm,0.5s						
GRPR	**Tuman**	**1.98**	**267**	⇓*i* PN	**Pn**	**04 24 02.0**	**-0.2**
GRPR				*e*S	**Sn**	**04 24 25.2**	**-0.6**
GRPR				pmax	pmax		
	comp=E,95nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,244nm,0.3s						
GRPR				pmax	pmax		
	comp=N,118nm,0.1s						
GRPR				smax	smax		
	comp=E,1µm,0.6s						
GRPR				smax	smax		
	comp=N,880nm,0.4s						
NEM2	**Nemuro 2**	**2.15**	**250**	P	**Pn**	**04 24 03.4**	**-1.1**
NEM2				*e*S	**Sn**	**04 24 28.6**	**-1.2**
JRA	**Rausu**	**2.45**	**267**	P	**Pn**	**04 24 08.3**	**-0.4**
JRA				*e*S	**Sn**	**04 24 37.9**	**+0.5**
JKHN	**Kushirohamanak**	**2.65**	**248**	P	**Pn**	**04 24 11.3**	**-0.1**
JNK	**Nakash**	**2.80**	**260**	P	**Pn**	**04 24 13.2**	**-0.2**
JNK				*e*S	**Sn**	**04 24 45.1**	**-0.8**
JAK	**Akkeshi**	**2.99**	**249**	P	**Pn**	**04 24 16.1**	**0.0**
JAK				*e*S	**Sn**	**04 24 50.8**	**0.0**
JTKR	**Abashiri--Toko**	**3.32**	**269**	P	**Pn**	**04 24 20.3**	**-0.3**
JAR	**Ashorobuto**	**3.54**	**258**	P	**Pn**	**04 24 25.0**	**+1.4**
JAR				*e*S	**Sn**	**04 25 07.0**	**+2.8**
JCH	**Churui**	**4.05**	**250**	P	**Pn**	**04 24 31.6**	**+1.0**
JCH				*e*S	**Sn**	**04 25 18.0**	**+1.3**
JKA	**Kamikawa-asahi**	**4.26**	**272**	*e*P	**Pn**	**04 24 37.7**	**+4.2**
ASAJ	**Asahikawa**	**4.26**	**272**	P	**Pn**	**04 24 37.7**	**+4.1**
	comp=N,2.1nm,0.3s,baz=78,slow=14,SNR=4.8						
ASAJ				S	**Sn**	**04 25 26.9**	**+5.0**
	comp=N,2.1nm,0.3s,baz=229,slow=26,SNR=1.2						
JNBK	**Urakawa-nobuka**	**4.60**	**248**	P	**Pn**	**04 24 38.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.94**	**307**	*e*P	**Pn**	**04 24 44.3**	**+1.5**
JKB	**Kayabe**	**5.92**	**250**	P	**Pn**	**04 24 56.8**	**+0.5**
JKB				*e*S	**Sn**	**04 26 00.4**	**-2.5**
JANG	**Nango**	**6.40**	**237**	P	**Pn**	**04 25 01.4**	**-1.6**
PETK	**Petropavlovsk-**	**10.84**	**31**	P	**Pn**	**04 26 04.8**	**+1.1**
	comp=N,0.6nm,0.3s,baz=204,slow=15,SNR=8.4						
EKMR	**Ekimchan**	**13.62**	**317**	*e*P	**Pn**	**04 26 41.5**	**-0.2**
EKMR				AMB	AMB	04 26 47.5	
	comp=N,5.0nm,0.7s						
MA2	**Magadan**	**15.54**	**4**	*e*P	**Pn**	**04 27 04.6**	**-2.6**
MA2	**Magadan**	**15.54**	**4**	*i* P	**Pn**	**04 27 04.6**	**-2.6**
BMKR	**Bomnak**	**16.55**	**317**	*erx*	rx	04 27 23.9	
SEY	**Seymchan**	**18.98**	**5**	⇑*e*P	**P**	**04 27 47.9**	**-1.1**
SEY	**Seymchan**	**18.98**	**5**	P	**P**	**04 27 48.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=183,slow=10,SNR=4.5						
BILL	**Bilibino**	**25.73**	**15**	*e*P	**P**	**04 28 58.5**	**+0.9**
BILL	**Bilibino**	**25.73**	**15**	⇓*e*P	**P**	**04 28 58.5**	**+0.9**
BILL				*e*		04 29 33.6	
BILL				*i* S	**S**

	5.5nm,0.6s									
AAK	**Ala-Archa**	**0.71**	**175**	⇑	*i*P		**Pg**	04 27 24.7	+0.5	
AAK	baz=78			⇑	*i*S		**Sg**	04 27 33.6	+0.1	
	baz=78									
EKS2	**Erkin-Say**	**0.83**	**214**	⇑	*i*P		**Pb**	04 27 27.5	+0.2	
EKS2	baz=19			⇑	*i*S		**Sb**	04 27 38.6	-0.1	
	baz=19									
TKM2	**Tokmak 2**	**0.97**	**116**	⇑	P		**Pg**	04 27 27.9	-1.2	
TKM2	1.8nm,0.7s			⇑	S		**Sg**	04 27 41.9	+0.3	
	6.4nm,0.5s									
TKM2	**Tokmak 2**	**0.97**	**116**	⇑	*i*P		**Pg**	04 27 29.4	+0.3	
TKM2	baz=14			⇑	*i*S		**Sg**	04 27 41.7	+0.1	
	baz=14									
DGS	**Degeres**	**1.00**	**95**		P		**Pg**	04 27 30.0	+0.3	
DGS	2.7nm,0.3s				S		**Sb**	04 27 43.8	+0.1	
	15nm,0.6s									
DGS	**Degeres**	**1.00**	**95**		*e*P		**Pg**	04 27 30.0	+0.3	
DGS	baz=92				*e*S		**Sb**	04 27 43.8	+0.1	
	baz=92									
DGS	**Degeres**	**1.00**	**95**		*e*P		**Pg**	04 27 30.0	+0.3	
DGS	2.7nm,0.2s				*e*S		**Sb**	04 27 43.8	+0.1	
	15nm,0.6s									
MRKS	**Merke**	**1.06**	**236**		P		**Pn**	04 27 31.8	-0.1	
MRKS	1.7nm,0.3s				S		**Sn**	04 27 46.8	0.0	
	3.5nm,0.3s									
MRKS	**Merke**	**1.06**	**236**		*e*P		**Pn**	04 27 31.8	-0.1	
	1.4nm,0.2s									
UCH	**Uchtor**	**1.12**	**176**	⇑	*i*P		**Pg**	04 27 32.2	+0.2	
UCH	baz=78			⇑	*i*S		**Sg**	04 27 46.8	+0.2	
	baz=78									
KST	**Kastek**	**1.18**	**104**		P		**Pg**	04 27 32.8	-0.3	
KST	6.7nm,0.5s				S		**Sg**	04 27 48.6	+0.3	
	9.5nm,0.7s									
KST	**Kastek**	**1.18**	**104**		*e*P		**Pg**	04 27 32.7	-0.3	
KST	baz=2.0				*e*S		**Sg**	04 27 48.6	+0.3	
	baz=2.0									
KST	**Kastek**	**1.18**	**104**		*e*P		**Pg**	04 27 32.7	-0.3	
KST	7.1nm,0.6s				*e*S		**Sg**	04 27 48.6	+0.3	
	10nm,0.7s									
AML	**Almayashu**	**1.32**	**204**	⇓	*i*P		**Pb**	04 27 36.3	+0.4	
AML	baz=6.0			⇓	*i*S		**Sn**	04 27 53.9	0.0	
	baz=6.0									
KZA	**Kyzart**	**1.41**	**154**	⇓	*i*P		**Pn**	04 27 37.3	+0.3	
KZA	baz=54			⇓	*i*S		**Sb**	04 27 55.7	0.0	
	baz=54									
BOOM	**Boomskoye usch**	**1.41**	**127**	⇓	*i*P		**Pb**	04 27 37.3	0.0	
BOOM	baz=26			⇓	*i*S		**Sb**	04 27 55.6	0.0	
	baz=26									
ARLS	**Aral**	**1.48**	**183**	⇓	*i*P		**Pb**	04 27 38.8	+0.3	
ARLS	baz=84			⇓	*i*S		**Sg**	04 27 58.3	0.0	
	baz=84									
MTBS	**Maitube**	**1.49**	**98**		P		**Pg**	04 27 39.8	+0.7	
MTBS	4.0nm,0.3s				S		**Sg**	04 28 00.9	+2.4	
	16nm,0.5s									
MTBS	**Maitube**	**1.49**	**98**		*e*P		**Pg**	04 27 39.8	+0.7	
MTBS	4.0nm,0.3s				*e*S		**Sg**	04 28 00.9	+2.4	
	16nm,0.5s									
KTBS	**Karatobe**	**1.69**	**77**		P		**Pb**	04 27 42.3	+0.2	
KTBS	4.8nm,0.5s				S		**Sg**	04 28 04.9	0.0	
	13nm,0.5s									
KTBS	**Karatobe**	**1.69**	**77**		*e*P		**Pb**	04 27 42.2	+0.2	
KTBS	4.8nm,0.5s				*e*S		**Sg**	04 28 04.9	0.0	
	13nm,0.5s									
BTLS	**Baital**	**1.72**	**351**		P		**Pn**	04 27 40.9	+0.1	
BTLS	1.9nm,0.4s				S		**Sn**	04 28 02.8	-0.2	
	6.9nm,0.5s									
BTLS	**Baital**	**1.72**	**351**		*e*P		**Pn**	04 27 40.9	+0.1	
BTLS	1.9nm,0.4s				*e*S		**Sn**	04 28 02.8	-0.2	
	6.9nm,0.5s									
ULHL	**Ulahol**	**1.74**	**129**	⇑	*i*P		**Pb**	04 27 42.7	-0.2	
ULHL	baz=28			⇑	*i*S		**Sb**	04 28 05.3	+0.3	
	baz=28									
TNSS	**Tian-Shan**	**1.88**	**99**		P		**Pb**	04 27 45.4	0.0	
TNSS	3.6nm,0.3s				S		**Sg**	04 28 10.4	-0.5	
	18nm,0.5s									
TNSS	**Tian-Shan**	**1.88**	**99**		*e*P		**Pb**	04 27 45.4	0.0	
TNSS	baz=97				*e*S		**Sg**	04 28 10.5	-0.5	
	baz=97									
TNSS	**Tian-Shan**	**1.88**	**99**		*e*P		**Pb**	04 27 45.4	0.0	
TNSS	3.6nm,0.3s				*e*S		**Sg**	04 28 10.4	-0.5	
	18nm,0.5s									
MDOK	**Medeo**	**1.94**	**94**		Pn		**Pn**	04 27 43.9	-0.1	
MDOK	4.2nm,0.5s				Sn		**Sg**	04 28 12.6	-0.2	
	13nm,0.7s									
MDOK	**Medeo**	**1.94**	**94**		Pg		**Pb**	04 27 46.8	+0.5	
MDOK	5.9nm,0.5s				Lg		Lg	04 28 12.5		
	13nm,0.7s									
MDOK	**Medeo**	**1.94**	**94**		*e*P		**Pb**	04 27 46.8	+0.5	
MDOK	baz=93				*e*S		**Sg**	04 28 12.5	-0.2	
	baz=93									
MDOK	**Medeo**	**1.94**	**94**		*e*P		**Pb**	04 27 46.8	+0.5	
MDOK	5.9nm,0.5s				*e*S		**Sg**	04 28 12.5	-0.2	
	13nm,0.7s									
KOTS	**Kotyrbulak**	**1.98**	**92**		Pg		Pg	04 27 48.2	-0.2	
KOTS	4.2nm,0.5s				Lg		Lg	04 28 15.0		
	17nm,0.5s									
KOTS	**Kotyrbulak**	**1.98**	**92**		*e*P		**Pg**	04 27 48.2	-0.2	
KOTS	4.2nm,0.5s				*e*S		**Sg**	04 28 15.0	+1.0	
	17nm,0.5s									
KDJ	**Kajisay**	**2.37**	**120**	⇑	*i*P		**Pb**	04 27 53.2	-0.5	
KDJ	baz=19			⇑	*i*S		**Sb**	04 28 22.7	-0.6	
	baz=19									
ARXS	**Arharly**	**2.62**	**70**		Pg		**Pb**	04 27 59.0	+1.1	
ARXS	3.6nm,0.6s				Lg		Lg	04 28 33.5		
	10nm,0.6s									
ARXS	**Arharly**	**2.62**	**70**		*e*P		**Pb**	04 27 59.0	+1.1	
ARXS	3.6nm,0.6s				*e*S		**Sg**	04 28 33.5	-1.3	
	10nm,0.6s									
KK31	**Karatay Array**	**2.86**	**266**	⇓	Pn		**Pn**	04 27 56.1	-0.5	
KK31	0.5nm,0.5s,baz=186,slow=52,SNR=5.3			⇑	Lg		Lg	04 28 40.0		
	0.9nm,0.4s,baz=78,slow=30									
PDGK	**Podgornoye**	**3.71**	**89**	⇓	Pg		**Pg**	04 28 19.4	-2.2	
PDGK	0.6nm,0.6s			⇑	Lg		Lg	04 29 05.8		
	4.6nm,1.0s									

PGC 19 04:27:38.9±0.0, 66°34N×135°62W, h20km, ML3.0/8, 133km southwest of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.14**	**21**	Pn	Pn	04 28 13.3	0.0
INK				Sn	Sn	04 28 37.8	-1.5
DAWY	**Dawson**	**2.78**	**217**	Pn	Pn	04 28 21.1	-1.2
DAWY				Sn	Sn	04 28 53.1	-2.1
DOT	**Dot Lake**	**4.49**	**237**	Pn	Pn	04 28 45.1	-0.6
DOT				Sn	Sn	04 29 33.4	-3.8
BVCY	**Beaver Creek**	**4.55**	**212**	Pn	Pn	04 28 45.7	-0.8
BVCY				Sn	Sn	04 29 35.2	-3.6
YUK3	**Moose Creek**	**5.05**	**207**	Pn	Pn	04 28 52.9	-0.7
YUK3				Sn	Sn	04 29 47.0	-4.3
YUK2	**White River**	**5.11**	**209**	Pn	Pn	04 28 53.3	-1.1
YUK2				Sn	Sn	04 29 48.0	-4.7
YUK4	**Talbot Arm**	**5.19**	**196**	Pn	Pn	04 28 53.8	-1.7
YUK5	**Granite Creek**	**5.32**	**192**	Pn	Pn	04 28 56.7	-0.5
YUK5				Sg	Sb	04 30 20.9	+6.3
PAX	**Paxson**	**5.41**	**236**	Pn	Pn	04 28 57.9	-0.6
YUK6	**Outpost Mounta**	**5.55**	**194**	Pn	Pn	04 29 00.4	-0.1
YUK6				Sg	Sb	04 30 29.0	+7.6
HYT	**Haines Junctio**	**5.60**	**190**	Pn	Pn	04 29 00.7	-0.4
HYT				Sg	Sb	04 30 29.5	+7.0
COLD	**Coldfoot**	**5.83**	**285**	Pn	Pn	04 29 03.1	-1.1
YUK7	**Dusty Glacier**	**5.94**	**192**	Sg	Sb	04 30 41.5	+9.1
DHRN	**Dharma Camp**	**6.43**	**76**	Pn	Pn	04 29 12.0	-0.3
DHRN				Sn	Sn	04 30 19.2	-5.8
KUKN	**Kugluktuk,NWT**	**8.14**	**70**	Pn	Pn	04 29 35.9	+0.2
KUKN				Sn	Sn	04 30 58.2	-8.8
YKW3	**Yellowknife Ar**	**9.81**	**103**	Pn	Pn	04 29 57.2	-1.4
YKW3				Sn	Sn	04 31 38.3	-10
YKW1	**Yellowknife Ar**	**9.88**	**103**	Pn	Pn	04 29 58.4	-1.2

*IDC **19** 04:31:18.8±12.0, 1°.64S×77°.12W, h119km±130km, mb3.3/3, mb1 3.3/4, mb1mx3.1/24, mbtmp3.6/4, ML3.6/1, Error ellipse: s-maj=106.7km s-min=32.8km az=48.0*

*ISCJB **19** 04:31:19.3±0.9, 2°.26S±0°.08×77°.51W±0°.10, h161km±7km, mb3.3/3, Error ellipse: s-maj=19.2km s-min=7.2km az=38.8*

*IGQ **19** 04:31:20.3±0.6, 2°.5S±6°×7°.7W±°, h31km, MLv3.7*

ISC 19 04:31:19.5±1.4, 2°.3S±0°.1×77°.5W±0°.1, h152km±9km, n63, σ0s98/68, mb3.0/3, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUYO	**Puyo, Santa Ro**	**0.94**	**323**	P	**Pn**	**04 31 44.4**	**+0.4**
APUY	**Puyo**	**0.95**	**326**	P	**Pn**	**04 31 44.5**	**+0.3**
APUY				S	**Sn**	**04 32 02.9**	**0.0**
BPAT	**Tungurahua Vol**	**1.22**	**307**	P	**Pn**	**04 31 47.2**	**+0.3**
PAT1	**Patacocha**	**1.22**	**307**	P	**Pn**	**04 31 47.5**	**+0.6**
ARRY	**Arrayan**	**1.24**	**306**	P	**Pn**	**04 31 47.1**	**+0.1**
BULB	**Ulba Tungurahu**	**1.24**	**310**	P	**Pn**	**04 31 47.3**	**+0.2**
BULB				S	**Sn**	**04 32 07.5**	**-0.6**
BRUN	**Tungurahua Vol**	**1.26**	**311**	P	**Pn**	**04 31 47.5**	**+0.3**
BRUN				S	**Sn**	**04 32 08.1**	**-0.1**
BMAS	**Trigal station**	**1.26**	**306**	P	**Pn**	**04 31 47.5**	**+0.3**
BMAS				S	**Sn**	**04 32 08.4**	**+0.1**
RETU	**Refugio**	**1.26**	**309**	P	**Pn**	**04 31 47.6**	**+0.2**
RUN5	**Runtun**	**1.27**	**311**	P	**Pn**	**04 31 47.6**	**+0.4**
POND	**Pondoa**	**1.29**	**310**	P	**Pn**	**04 31 47.6**	**+0.2**
ARDO	**Archidona, Ten**	**1.29**	**345**	P	**Pn**	**04 31 46.8**	**-0.3**
ARDO				S	**Sn**	**04 32 07.0**	**-1.4**
BBIL	**Ulba Tungurahu**	**1.30**	**308**	P	**Pn**	**04 31 48.0**	**+0.5**
JUI6	**Juive**	**1.30**	**309**	P	**Pn**	**04 31 47.8**	**+0.3**
BIL2	**Estacion Bilba**	**1.30**	**307**	P	**Pn**	**04 31 47.5**	**0.0**
PISA	**Pisayambo**	**1.50**	**322**	P	**Pn**	**04 31 50.3**	**+0.5**
COV1	**Cotopaxi Volc**	**1.81**	**331**	P	**Pn**	**04 31 55.1**	**+2.0**
COHC	**Cochancay**	**1.81**	**263**	P	Pn	04 31 53.2	+0.7
COHC				S	**Sn**	**04 32 18.5**	**+0.7**
BMOR	**Cotopaxi Volca**	**1.81**	**326**	P	**Pn**	**04 31 54.1**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.82**	**329**	P	**Pn**	**04 31 54.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**1.84**	**329**	P	**Pn**	**04 31 54.3**	**+0.7**
BREF	**Cotopaxi Volca**	**1.85**	**328**	P	**Pn**	**04 31 55.5**	**+1.9**
VC1	**Cotopaxi 1**	**1.85**	**329**	P	**Pn**	**04 31 54.6**	**+1.0**
ANTM	**Antisana-La Mi**	**1.86**	**336**	P	**Pn**	**04 31 54.3**	**+0.6**
BNAS	**Cotopaxi Volca**	**1.87**	**327**	P	**Pn**	**04 31 54.9**	**+1.1**
ANTS	**Antisana-Sarah**	**1.88**	**338**	P	**Pn**	**04 31 54.5**	**+0.5**
NAS2	**Nasa**	**1.88**	**328**	P	**Pn**	**04 31 55.4**	**+1.4**
ANTG	**Antisana-Guama**	**1.91**	**335**	P	**Pn**	**04 31 54.9**	**+0.7**
ANTI	**Antisana**	**1.92**	**339**	P	**Pn**	**04 31 54.9**	**+0.5**
PITA	**Cotopaxi Volc**	**1.94**	**330**	P	**Pn**	**04 31 56.1**	**+1.6**
MILO	**Milagro-Astudi**	**2.09**	**269**	P	**Pn**	**04 31 55.7**	**-0.1**
MILO				S	**Sn**	**04 32 23.4**	**-0.3**
REVS	**Reventador Sur**	**2.13**	**356**	P	**Pn**	**04 31 56.6**	**0.0**
LAV4	**Lava4-Reventad**	**2.15**	**355**	P	**Pn**	**04 31 56.9**	**+0.1**
NINA	**Atacazo Ninahu**	**2.18**	**328**	P	**Pn**	**04 31 58.5**	**+1.2**
CAYA	**Cayambe**	**2.36**	**347**	P	**Pn**	**04 32 00.8**	**+1.2**
CASC	**Dorado de Casc**	**2.37**	**3**	P	**Pn**	**04 31 59.1**	**-0.2**
CASC				S	**Sn**	**04 32 28.9**	**-1.0**
YANA	**Yana**	**2.39**	**332**	P	**Pn**	**04 32 00.1**	**+0.3**
OTAV	**Otavalo**	**2.66**	**338**	*e*P	**Pn**	**04 32 02.8**	**-0.4**
OTAV	**Otavalo**	**2.66**	**338**	*e*P	**Pn**	**04 32 02.8**	**-0.4**
CUIC	**Cuicocha-Domo**	**2.69**	**340**	P	**Pn**	**04 32 03.9**	**+0.4**
URCU	**Urcuqui**	**2.78**	**343**	P	**Pn**	**04 32 05.4**	**+0.8**
PAC1	**Pacto, Paraso**	**2.83**	**332**	P	**Pn**	**04 32 05.2**	**+0.3**
MORR	**Playas El Morr**	**2.90**	**262**	P	**Pn**	**04 32 05.4**	**-0.3**
CMBC	**Cumbal**	**3.19**	**353**	*e*P	**Pn**	**04 32 12.8**	**+3.0**
CMBC	**Cumbal**	**3.19**	**353**	*e*P	**Pn**	**04 32 12.8**	**+3.0**
MCRA	**Macar, Loja**	**3.26**	**230**	P	Pn	04 32 08.7	-1.6
GCUF	**Volcan Galeras**	**3.45**	**2**	*e*P	**Pn**	**04 32 14.2**	**+1.1**
GCUF	**Volcan Galeras**	**3.45**	**2**	*e*P	**Pn**	**04 32 14.2**	**+1.1**
CRUC	**La Cruz**	**3.82**	**8**	*e*P	**Pn**	**04 32 17.7**	**-0.2**
CRUC	**La Cruz**	**3.82**	**8**	*e*P	**Pn**	**04 32 17.7**	**-0.2**
SOTA	**Rioblanco**	**4.43**	**11**	*e*P	**Pn**	**04 32 27.3**	**+1.3**
SOTA	**Rioblanco**	**4.43**	**11**	*e*P	**Pn**	**04 32 27.3**	**+1.3**
POPC	**Popayan, Colom**	**4.82**	**9**	*e*P	**Pn**	**04 32 31.4**	**+0.7**
POPC	**Popayan, Colom**	**4.82**	**9**	*e*P	**Pn**	**04 32 31.4**	**+0.7**
MALC	**Bahia Malaga**	**6.22**	**1**	*e*P	**Pn**	**04 32 47.4**	**-1.7**
MALC	**Bahia Malaga**	**6.22**	**1**	*e*P	**Pn**	**04 32 47.4**	**-1.7**
PRAC	**Prado**	**6.46**	**23**	*e*P	**Pn**	**04 32 52.8**	**+0.4**
PRAC	**Prado**	**6.46**	**23**	*e*P	**Pn**	**04 32 52.8**	**+0.4**
LPAZ	**La Paz**	**16.70**	**147**	P	P	04 35 10.3	+5.2
	0.1nm,0.3s,baz=328,slow=14,SNR=3.3						
ULM	**Lac du Bonnet**	**54.63**	**346**	P	**P**	**04 40 31.4**	**-0.9**
	2.6nm,0.5s,baz=155,slow=8.9,SNR=7.2						
YKA	**Yellowknife Ar**	**70.41**	**343**	P	**P**	**04 42 16.7**	**0.0**
	0.1nm,0.4s,baz=142,slow=6.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**79.96**	**76**	P	**P**	**04 43 12.8**	**+0.4**
	0.2nm,0.6s,baz=276,slow=5.4,SNR=5.0						
WRA	**Warramunga Arr**	**141.79**	**233**	PKP	**PKiKP**	**04 50 38.0**	**+1.0**
	0.1nm,0.4s,baz=114,slow=2.1,SNR=3.7						

*ISCJB **19** 04:31:39.8±0.5, 1°.80N±0°.03×126°.59E±0°.04, h60km±4km, mb4.5/48, Error ellipse: s-maj=6.8km s-min=3.9km az=165.2*

*IDC **19** 04:31:39.8±1.8, 1°.62N×126°.45E, h45km±15km, mb4.1/21, mb1 4.1/23, mb1mx4.1/32, mbtmp4.3/23, ML3.6/2, Error ellipse: s-maj=20.8km s-min=8.6km az=74.0*

*NEIC **19** 04:31:41.1±2.7, 1°.69N×126°.56E, h55km±3km, mb4.5/31, Error ellipse: s-maj=14.9km s-min=10.5km az=52.0*

*DJA **19** 04:31:41.2±0.5, 2°.1N±5°×12°.7E±°, h50km±6km, M4.5/11, mb4.6/11, mB4.8/4, MLv4.5/11, Mw(mB)4.1/4*

ISC 19 04:31:41.6±0.8, 1°.78N±0°.04×126°.59E±0°.05, h60km±7km, n104, σ1s49/119, mb4.4/48, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**142**	*e*Pn	**Pn**	**04 32 01.9**	**-1.3**
TNTI				*e*Sn	**Sn**	**04 32 20.1**	**+0.8**
TNTI	**Ternate**	**1.27**	**142**	P	**Pn**	**04 32 01.7**	**-1.5**
SGSI	**Sangihe**	**2.17**	**331**	P	**Pn**	**04 32 13.7**	**-1.7**
KMSI	**Cibinong**	**2.87**	**245**	P	**Pn**	**04 32 24.4**	**-0.6**
SANI	**Sanana**	**3.85**	**189**	P	**Pn**	**04 32 36.3**	**-2.1**
DDMP	**Don Marcelino,**	**4.38**	**348**	*e*P	**Pn**	**04 32 46.7**	**+1.0**
LUWI	**Luwuk**	**4.74**	**234**	*e*Pn	**Pn**	**04 32 48.9**	**-1.6**
LUWI				*e*Sn	**Sn**	**04 33 47.3**	**+3.0**
LUWI	**Luwuk**	**4.74**	**234**	P	**Pn**	**04 32 51.0**	**+0.5**
MRSI	**Marisa**	**4.83**	**254**	P	**Pn**	**04 32 53.5**	**+1.7**
SKMP	**Bagumbayan, Su**	**5.13**	**337**	*e*P	**Pn**	**04 32 54.9**	**-1.0**
SKMP				*e*S	**Sn**	**04 33 51.3**	**-2.5**
SIJI	**Sorong**	**5.37**	**119**	P	**Pn**	**04 32 56.8**	**-2.4**
	1.2nm,0.3s,baz=339,slow=9.1,SNR=4.2						
KCP	**Kidapawan**	**5.40**	**344**	⇑ *i*P	**Pn**	**04 33 00.4**	**+0.7**
APSI	**Ampana**	**5.62**	**242**	P	**Pn**	**04 33 04.0**	**+1.4**
CTBH	**Cotabato--PC H**	**5.89**	**337**	⇓ *i*P	**Pn**	**04 33 06.1**	**-0.1**
BUKP	**Musuan**	**6.24**	**346**	*e*P	**Pn**	**04 33 13.3**	**+2.0**
BUKP				*e*S	Sn	04 34 12.2	-9.1
PAGZ	**Pagadian**	**6.82**	**332**	*e*P	**Pn**	**04 33 18.4**	**-0.7**
IPIL	**Ipil**	**7.18**	**326**	*e*P	**Pn**	**04 33 23.2**	**-0.9**
FAKI	**Fak Fak**	**7.33**	**130**	*e*Pn	**Pn**	**04 33 26.7**	**+0.6**
FAKI	**Fak Fak**	**7.33**	**130**	P	**Pn**	**04 33 30.2**	**+4.1**
TTSI	**Tana Toraja**	**8.30**	**235**	P	**Pn**	**04 33 39.0**	**-0.3**
SPSI	**Sidrap Palu**	**8.89**	**230**	P	**Pn**	**04 33 47.8**	**+0.3**
BNSI	**Bone**	**8.93**	**227**	P	Pn	04 33 53.7	+5.7
BKSI	**Bulukumba**	**9.57**	**222**	P	**Pn**	**04 33 57.5**	**+0.8**
BSSI	**Bau Bau, Buton**	**9.96**	**218**	P	**Pn**	**04 34 03.8**	**+1.8**
KKM	**Kota Kinabalu**	**11.18**	**293**	*e*Pn	**Pn**	**04 34 20.7**	**+1.8**
EDFI	**Ende, Flores**	**11.55**	**205**	P	**Pn**	**04 34 23.5**	**-0.4**
SOEI	**Soe**	**11.69**	**191**	*e*Pn	**Pn**	**04 34 26.6**	**+0.7**
SOEI	**Soe**	**11.69**	**191**	P	Pn	04 34 33.1	+7.2
SBUM	**Sibu**	**14.38**	**273**	*e*Pn	**P**	**04 35 05.7**	**-1.7**
MTN	**Manton Dam**	**15.21**	**163**	*e*Pn	**Pn**	**04 35 13.1**	**+0.1**
	13nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.78**	**183**	*e*P	**P**	**04 36 05.3**	**-1.7**
	6.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.78**	**183**	P	**P**	**04 36 04.3**	**-2.7**
	0.2nm,0.3s,baz=8.4,slow=11,SNR=7.7						
MANU	**Manus Island**	**21.12**	**100**	*e*P	**P**	**04 36 17.5**	**-4.1**
	64nm,0.3s						
TWG	**Pinlang**	**21.59**	**346**	*e*P	**P**	**04 36 23.7**	**-2.8**
	58nm,0.5s						
YULB	**Yu-li**	**22.09**	**347**	*e*P	**P**	**04 36 29.3**	**-2.6**
	23nm,1.4s						
TPUB	**Ta-pu**	**22.16**	**345**	*e*P	**P**	**04 36 33.1**	**+0.5**
	33nm,0.9s						
SSLB	**Suanglung**	**22.55**	**346**	*e*P	**P**	**04 36 35.5**	**-1.3**
	10nm,0.7s						
COEN	**Coen**	**22.69**	**134**	*e*P	**P**	**04 36 38.7**	**+0.3**
	4.6nm,0.8s						
WRAB	**Tennant Creek**	**22.89**	**161**	*e*P	**P**	**04 36 38.9**	**-1.5**
	40nm,0.8s						
WRA	**Warramunga Arr**	**22.89**	**161**	P	**P**	**04 36 38.9**	**-1.6**
	28nm,0.5s,baz=340,slow=11,SNR=97						
WRA				PcP	**PcP**	**04 40 30.4**	**+0.9**
	1.0nm,0.5s,baz=322,slow=2.4,SNR=5.4						
WRA				S	**S**	**04 40 42.4**	**-3.5**
	1.4nm,0.9s,baz=337,slow=19,SNR=4.3						
WRA				ScP	**ScP**	**04 44 03.8**	**+1.3**
	0.7nm,0.8s,baz=333,slow=3.0,SNR=7.2						
WR1	**Warramunga Arr**	**22.89**	**161**	*e*P	**P**	**04 36 38.9**	**-1.6**
	51nm,0.6s						
WR1				*e*PcP	**PcP**	**04 40 30.4**	**+0.9**
WR1				*e*S	**S**	**04 40 42.4**	**-3.5**
WR1				*e*ScP	**ScP**	**04 44 03.8**	**+1.4**
WB2	**Warramunga Arr**	**22.89**	**161**	*e*P	**P**	**04 36 38.2**	**-2.3**
WB2				*e*PcP	**PcP**	**04 40 29.8**	**+0.3**
MDSI	**Maura Dua**	**23.25**	**254**	P	**P**	**04 36 45.3**	**+1.3**
JOW	**Kunigami**	**24.96**	**4**	*e*P	**P**	**04 37 03.2**	**+3.7**
	42nm,1.2s						
JOW	**Kunigami**	**24.96**	**4**	P	**P**	**04 37 01.1**	**+1.6**
	3.0nm,0.8s,baz=183,slow=12,SNR=6.4						
AS31	**Alice Springs**	**26.28**	**165**	*e*P	**P**	**04 37 11.3**	**-0.3**
	4.6nm,0.7s						
AS31				*e*PcP	**PcP**	**04 40 37.0**	**+0.1**
AS31				*e*S	**S**	**04 41 40.6**	**+0.4**
AS31				*e*ScP	**ScP**	**04 44 13.9**	**+2.1**
ASAR	**Alice Springs**	**26.28**	**165**	P	**P**	**04 37 11.3**	**-0.3**
	5.8nm,0.5s,baz=344,slow=9.7,SNR=56						
ASAR				PcP	**PcP**	**04 40 37.0**	**+0.1**
	1.2nm,0.5s,baz=352,slow=2.4,SNR=6.4						
ASAR				S	**S**	**04 41 40.6**	**+0.4**
	0.2nm,0.3s,baz=344,slow=20,SNR=4.4						
ASAR				ScP	**ScP**	**04 44 13.9**	**+2.1**
	0.3nm,0.5s,baz=354,slow=2.8,SNR=4.0						
AS01	**Alice Springs**	**26.29**	**165**	*e*P	**P**	**04 37 12.1**	**+0.4**
AS01				*e*PcP	**PcP**	**04 40 37.0**	**+0.1**
PANO	**Nakornpanom**	**26.46**	**307**	P	**P**	**04 37 13.2**	**-0.1**
	0.3nm,0.8s						
PSI	**Prapat**	**27.66**	**273**	*e*P	**P**	**04 37 24.1**	**-0.2**
	7.4nm,1.0s						
PSI	**Prapat**	**27.66**	**273**	P	**P**	**04 37 23.0**	**-1.3**
	3.7nm,0.6s,baz=300,slow=0.1,SNR=5.0						
KCSI	**Kotacane, Aceh**	**28.84**	**274**	P	**P**	**04 37 36.5**	**+1.8**
NANT	**Nan**	**30.49**	**305**	P	**P**	**04 37 49.9**	**+0.7**
	3.4nm,0.6s,127nm						
JNU	**Nakatsue**	**31.43**	**7**	*e*P	**P**	**04 37 58.0**	**+0.6**
	17nm,1.0s						
JNU	**Nakatsue**	**31.43**	**7**	P	**P**	**04 37 58.0**	**+0.6**
	9.8nm,0.9s,baz=160,slow=4.7,SNR=5.5						
CM31	**Chiang Mai Arr**	**31.77**	**303**	*e*P	**P**	**04 38 00.6**	**+0.1**
	4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**31.77**	**303**	P	**P**	**04 38 00.6**	**0.0**
	2.0nm,0.8s,baz=115,slow=6.4,SNR=9.9						
MORW	**Morawa**	**32.30**	**197**	*e*P	**P**	**04 38 02.6**	**-2.3**
	3.7nm,0.8s						
FORT	**Forrest**	**32.41**	**178**	*e*P	**P**	**04 38 04.0**	**-1.9**
	46nm,0.7s						
KS15	**Wonju Array Si

region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.42**	**260**	P	P	05 01 24.5	-0.8
	1.0nm,0.8s,baz=93,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**39.75**	**254**	P	P	05 01 28.2	0.0
	1.7nm,0.9s,baz=78,slow=9.2,SNR=16						
NVAR	**Mina Array Bea**	**82.84**	**46**	P	P	05 06 20.2	+0.1
	0.2nm,0.3s,baz=236,slow=6.4,SNR=1.9						
CMAR	**Chiang Mai Arr**	**83.61**	**291**	P	P	05 06 25.9	+1.6
	0.9nm,0.4s,baz=118,slow=5.2,SNR=2.3						
ILAR	**Eielson Array**	**86.63**	**15**	P	P	05 06 37.3	-1.0
	0.5nm,0.9s,baz=224,slow=6.2,SNR=3.1						
TXAR	**Lajitas Array**	**90.30**	**59**	P	P	05 06 57.0	+0.2
	0.4nm,0.9s,baz=237,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**145.39**	**339**	PKPbc	PKPbc	05 13 32.2	-1.1
	0.3nm,0.4s,baz=48,slow=1.5,SNR=3.5						

IDC 19 05:08:49.2±1.4, 11°.11S×164°.67E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/37, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=46.1km s-min=29.3km az=136.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.03**	**171**	Pn	Pn	05 11 27.9	-0.5
	1.6nm,0.3s,baz=120,slow=5.1,SNR=54						
H11S2	**WAKE ISLAND Hy**	**29.48**	**4**	T	T	05 46 07.5	
	baz=184,slow=76,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**29.48**	**4**	T	T	05 46 10.4	
	baz=184,slow=76,SNR=4.3						
H11S1	**WAKE ISLAND Hy**	**29.50**	**4**	T	T	05 46 07.4	
	baz=184,slow=76,SNR=4.1						
WRA	**Warramunga Arr**	**30.47**	**250**	P	P	05 15 04.8	+0.7
	0.6nm,0.7s,baz=81,slow=9.2,SNR=6.7						
WRA				PcP	PcP	05 18 04.1	+0.4
	0.3nm,0.6s,baz=74,slow=3.0,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**30.71**	**4**	T	T	05 47 39.8	
	baz=183,slow=74						
H11N3	**WAKE ISLAND Hy**	**30.71**	**4**	T	T	05 47 34.8	
	baz=183						
H11N2	**WAKE ISLAND Hy**	**30.73**	**4**	T	T	05 47 40.1	
	baz=183,slow=74						
ASAR	**Alice Springs**	**31.82**	**243**	P	P	05 15 15.5	-0.5
	0.4nm,0.6s,baz=70,slow=9.6,SNR=3.1						
ASAR				PcP	PcP	05 18 07.5	+0.2
	0.1nm,0.3s,baz=76,slow=1.4,SNR=4.6						
FITZ	**Fitzroy Crossi**	**38.34**	**255**	P	P	05 16 11.4	-0.8
	1.7nm,0.8s,baz=82,slow=9.8,SNR=3.1						
ILAR	**Eielson Array**	**83.91**	**19**	P	P	05 21 20.3	-0.4
	0.3nm,0.7s,baz=228,slow=4.7,SNR=3.7						

*IDC **19** 05:30:44.4±0.6,2°.75S×138°.60E, h0km, mb4.2/10, mb1 4.3/16, mb1mx4.1/39, mbtmp4.2/16, ML4.0/6, Error ellipse: s-maj=18.4km s-min=11.4km az=91.0*

*MOS **19** 05:30:47.8±1.2,2°.77S×138°.65E, h33km, mb4.8/11, Error ellipse: s-maj=13.9km s-min=8.5km az=105.8*

*ISCJB **19** 05:30:48.2±0.3,2°.80S±0°.04×138°.69E±0°.04, h35km, mb4.4/32, Error ellipse: s-maj=5.1km s-min=5.0km az=23.5*

*NEIC **19** 05:30:49.0±2.8,2°.73S×138°.67E, h28km±20km, mb4.4/15, Error ellipse: s-maj=9.1km s-min=7.8km az=57.0*

*DJA **19** 05:30:48.0±0.4,3°.5S×13°.9E±°, h10km, M4.5/6, mb4.5/6, mB5.2/1, MLv4.6/4, Mw(mB)4.6/1*

ISC 19 05:30:50.1±0.4, 2°.80S±0°.05×138°.70E±0°.05, h35km, n86, σ1§76/97, mb4.4/32, 3C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.48**	**82**	P	Pn	05 31 13.9	-0.3
JAY	**Jayapura**	**2.02**	**82**	Pn	Pn	05 31 21.4	-0.3
	34nm,0.3s,baz=239,slow=10,SNR=76						
JAY				Sn	Sn	05 31 46.2	+0.5
	45nm,0.3s,baz=262,slow=20,SNR=6.6						
SRPI	**Serui, Papua**	**2.63**	**290**	P	Pn	05 31 29.5	-0.5
BAKI	**Biak**	**3.05**	**301**	P	Pn	05 31 35.9	+0.1
RKPI	**Ransiki, Papua**	**4.70**	**286**	P	Pn	05 31 59.2	+0.6
FAKI	**Fak Fak**	**6.45**	**269**	*e*Pn	Pn	05 32 23.2	+0.6
FAKI				*e*Sn	Sn	05 33 38.0	+3.0
FAKI	**Fak Fak**	**6.45**	**269**	P	Pn	05 32 23.5	+0.9
	27nm,1.0s						
SIJI	**Sorong**	**7.68**	**284**	Pn	Pn	05 32 36.4	-3.1
	0.8nm,0.3s,baz=270,slow=20,SNR=2.1						
NLAI	**Namlea**	**11.60**	**268**	P	Pn	05 33 34.7	+1.5
COEN	**Coen**	**11.94**	**159**	*e*Pn	Pn	05 33 39.5	+1.6
MTN	**Manton Dam**	**12.48**	**216**	*e*Pn	Pn	05 33 46.1	+0.8
SOEI	**Soe**	**15.92**	**244**	*e*Pn	P	05 34 35.7	+0.7
	136nm,1.1s						
SOEI	**Soe**	**15.92**	**244**	P	Pn	05 34 33.8	+2.0
BATI	**Baumata**	**16.65**	**243**	P	P	05 34 45.2	+2.2
BATI	**Baumata**	**16.65**	**243**	Pn	Pn	05 34 40.1	-0.8
	3.2nm,0.3s,baz=64,slow=8.5,SNR=1.6						
WRAB	**Tennant Creek**	**17.56**	**194**	*e*Pn	P	05 34 53.6	+0.6
	25nm,0.8s						
WRAB	**Tennant Creek**	**17.56**	**194**	*i* P	Pn	05 34 52.2	0.0
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WB2	**Warramunga Arr**	**17.57**	**194**	*e*Pn	Pn	05 34 49.9	-2.4
	comp=Z,21nm,0.8s						
WB2				*e*Pn	P	05 34 50.6	-2.5
WR1	**Warramunga Arr**	**17.57**	**194**	*e*Pn	Pn	05 34 51.2	-1.1
	comp=Z,31nm,1.1s						
WR1				*e*Sn	Sn	05 38 00.8	-6.3
WRA	**Warramunga Arr**	**17.57**	**194**	P	Pn	05 34 51.2	-1.1
	comp=Z,0.9nm,0.3s,baz=16,slow=13,SNR=28						
WRA				S	Sn	05 38 00.8	-6.3
	baz=15,slow=22,SNR=3.0						
CTA	**Charters Tower**	**18.70**	**157**	P	P	05 35 05.8	+0.2
	comp=Z,0.3nm,0.3s,baz=332,slow=10,SNR=2.0						
FITZ	**Fitzroy Crossi**	**19.88**	**219**	*e*P	P	05 35 19.3	+0.7
	comp=Z,10nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.88**	**219**	P	P	05 35 18.4	-0.2
	comp=Z,0.1nm,0.3s,baz=55,slow=9.6,SNR=8.8						
AS01	**Alice Springs**	**21.25**	**192**	*e*P	P	05 35 32.8	-0.5
AS31	**Alice Springs**	**21.26**	**192**	*e*P	P	05 35 34.9	+1.4
	comp=Z,9.3nm,0.8s						
AS31				*e*S	S	05 39 29.5	+1.5
ASAR	**Alice Springs**	**21.26**	**192**	P	P	05 35 34.2	+0.8
	comp=Z,9.9nm,1.0s,baz=22,slow=10,SNR=49						
ASAR				S	S	05 39 29.5	+1.5
	comp=Z,6.6nm,0.9s,baz=19,slow=23,SNR=4.0						
TGY	**Tagaytay City**	**24.34**	**314**	P	P	05 36 04.7	-0.2
	comp=Z,120nm,0.3s,baz=135,slow=13,SNR=4.2						
EIDS	**Eidsvold**	**25.41**	**153**	*e*P	P	05 36 16.4	+1.9
	comp=Z,8.1nm,0.8s						
PSI	**Prapat**	**40.15**	**278**	P	P	05 38 21.3	-2.0
	comp=Z,3.9nm,0.4s,baz=179,slow=3.3,SNR=6.8						
WHN	**Wuhan**	**40.49**	**327**	P	P	05 38 27.6	+1.9
CMAR	**Chiang Mai Arr**	**44.48**	**300**	*i* P	P	05 38 55.5	-2.8
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**44.48**	**300**	P	P	05 38 55.8	-2.6
	comp=Z,0.8nm,0.3s,baz=117,slow=7.2,SNR=5.8						
XAN	**Xi'an**	**46.14**	**325**	P	P	05 39 09.3	-2.1
XAN				pP	pP	05 39 19.6	-2.2
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
CD2	**Chengdu**	**47.24**	**318**	*e*P	P	05 39 22.4	+2.4
HHC	**Hu-ho-hao-te**	**50.01**	**333**	*e*P	P	05 39 43.9	+2.7
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,98nm,5.8s						
LZH	**Lanzhou**	**50.55**	**323**	*e*P	P	05 39 47.5	+2.0
LZH				pP	sP	05 39 59.1	-1.1
LZH				sP	pP	05 40 04.0	+8.0
LZH				*e*PP	PP	05 41 44.6	+3.0
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,48nm,7.6s						
LZH				LR	LR		
	comp=N,110nm,15.4s						
LZH				LR	LR		
	comp=E,110nm,15.6s						
LZH				LR	LR		
	comp=Z,150nm,18.0s						
KLR	**Kul'dur**	**52.17**	**354**	*i* P	P	05 39 55.3	-1.8
KLR	**Kul'dur**	**52.17**	**354**	P	P	05 39 56.6	-0.5
	comp=Z,2.2nm,0.7s,baz=223,slow=2.4,SNR=7.7						
HIA	**Hailar**	**54.40**	**345**	*i* P	P	05 40 12.9	-0.7
HIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZEA	**Zeya**	**57.14**	**352**	*e*P	P	05 40 32.2	-0.9
ZEA				pmax	pmax		
	comp=Z,18nm,1.2s						
ULN	**Ulaanbaatar**	**57.54**	**335**	*i* P	P	05 40 36.1	-0.2
ULN				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONA0	**Songino Array**	**57.79**	**335**	*e*P	P	05 40 37.1	-0.9
SONM	**Songino Array**	**57.79**	**335**	P	P	05 40 37.1	-0.9
	comp=Z,1.0nm,0.7s,baz=155,slow=9.0,SNR=6.8						
ZAK	**Zakamensk**	**61.06**	**335**	*e*P	P	05 40 59.9	-0.6
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
TLY	**Talaya**	**61.89**	**336**	*i* P	P	05 41 05.9	-0.1
MA2	**Magadan**	**62.91**	**7**	*i* P	P	05 41 14.0	+1.4
MA2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WMQ	**Urumqi**	**65.07**	**322**	*e*P	P	05 41 28.8	+1.6
WMQ				LR	LR		
	comp=N,280nm,22.1s						
WMQ				LR	LR		
	comp=E,330nm,17.3s						
WMQ				LR	LR		
	comp=Z,420nm,17.7s						
SEY	**Seymchan**	**66.37**	**7**	*i* P	P	05 41 33.1	-2.0
MK01	**Makanchi Array**	**69.84**	**322**	*e*P	P	05 41 56.9	-0.3
MK31	**Makanchi Array**	**69.85**	**322**	*e*P	P	05 41 57.8	+0.4
	comp=Z,3.6nm,1.1s						
MK31	**Makanchi Array**	**69.85**	**322**	*e*P	P	05 41 57.8	+0.4
MK31				pmax	pmax		
	comp=Z,4.0nm,1.1s						
MK32	**Makanchi Array**	**69.85**	**322**	*e*P	P	05 41 56.7	-0.6
MKAR	**Makanchi Array**	**69.85**	**322**	P	P	05 41 56.7	-0.6
	comp=Z,4.2nm,1.0s,baz=116,slow=7.5,SNR=21						
MAKZ	**Makanchi**	**70.05**	**322**	*e*P	P	05 41 58.6	0.0
	comp=Z,8.0nm,1.0s						
MAKZ	**Makanchi**	**70.05**	**322**	*e*P	P	05 41 58.6	0.0
MAKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSH	**Kashi**	**71.14**	**313**	P	P	05 42 09.8	+4.3
KSH				pP	sP	05 42 22.9	+2.3
KSH				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,83nm,4.2s						
ZALV	**Zalesovo Beam**	**72.01**	**330**	*e*P	P	05 42 10.6	+0.4
ZALV	**Zalesovo Beam**	**72.01**	**330**	*e*P	P	05 42 10.6	+0.4
ZALV	**Zalesovo Beam**	**72.01**	**330**	P	P	05 42 08.3	-1.9
	comp=Z,0.7nm,0.4s,baz=122,slow=7.2,SNR=4.2						
ZAA1	**Zalesovo Array**	**72.01**	**330**	*e*P	P	05 42 08.3	-2.0
BILL	**Bilibino**	**73.25**	**10**	*e*P	P	05 42 16.2	-1.2
BILL				*e*		05 42 35.1	
BILL				*e*		05 44 57.5	
BILL				*e*S	S	05 51 37.8	-5.2
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,311nm,18.0s						
AAK	**Ala-Archa**	**73.26**	**316**	*i* P	P	05 42 18.8	+0.6
AAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
AAK	**Ala-Archa**	**73.26**	**316**	P	P	05 42 17.9	-0.2
	comp=Z,0.4nm,0.3s,baz=146,slow=7.3,SNR=3.8						
KURK	**Kurchatov**	**73.78**	**325**	*e*P	P	05 42 20.6	-0.2
	comp=Z,5.0nm,1.1s						
KURK	**Kurchatov**	**73.78**	**325**	*i* P	P	05 42 21.4	+0.6
KURK				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KURBB	**Kurchatov Arra**	**73.79**	**325**	P	P	05 42 20.2	-0.6
	comp=Z,4.2nm,1.1s,baz=122,slow=5.0,SNR=9.3						
TIXI	**Tiksi**	**74.59**	**357**	*i* P	P	05 42 27.2	+2.1
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TIXI	**Tiksi**	**74.59**	**357**	P	P	05 42 23.8	-1.3
	baz=68,slow=2.5						
BRVK	**Borovoye**	**79.45**	**325**	*e*P	P	05 42 52.4	-0.4
	comp=Z,6.6nm,1.0s						
BRVK	**Borovoye**	**79.45**	**325**	*e*P	P	05 42 52.4	-0.4
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ABKAR	**Akbulak array**	**84.78**	**320**	*e*P	P	05 43 20.8	-0.1
	comp=Z,2.1nm,1.0s						
IL1	**Eielson Array**	**85.91**	**24**	*e*P	P	05 43 24.8	-1.4
ILAR	**Eielson Array**	**85.91**	**24**	P	P	05 43 24.6	-1.6
	comp=Z,1.7nm,0.7s,baz=260,slow=4.7,SNR=11						
ILB	**Eielson Array**	**85.91**	**24**	*e*P	P	05 43 25.5	-0.7
	comp=Z,2.3nm,0.8s						
TOLK	**Toolik Lake Re**	**86.00**	**20**	*e*P	P	05 43 27.0	+0.3
	comp=Z,5.8nm,1.1s						
ARU	**Arti**	**86.86**	**327**	*c i*P	P	05 43 32.5	+1.5
ARU						05 46 49.6	
ARU				S	SKSac	05 53 56.0	+0.7
ARU				SS	SS	05 59 49.2	0.0
ARU				pmax	pmax		
	comp=Z,21nm,3.1s						
QSPA	**South Pole Qui**	**87.15**	**180**	*e*P	P	05 43 33.5	+1.1
	comp=Z,3.9nm,0.8s						
KIV	**Kislovodsk**	**96.27**	**314**	*e*P	P	05 44 17.3	+2.1
KIV				pmax	pmax		
	comp=Z,15nm,1.1s						
OBN	**Obninsk**	**99.22**	**325**	*i*P	Pdif	05 44 28.3	+0.2
OBN				*e*		05 48 29.0	
OBN				*e*PPP	PPP	05 50 40.0	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,104nm,21.0s						
YKA	**Yellowknife Ar**	**100.14**	**27**	P	Pdif	05 44 31.1	-0.9
	comp=Z,0.2nm,0.7s,baz=289,slow=4.3,SNR=3.7						
CPUP	**Villa Florida**	**147.15**	**153**	*e*PKPbc	PKPbc	05 50 29.9	-0.4
CPUP	**Villa Florida**	**147.15**	**153**	*e*PKP2	PKPbc	05 50 29.9	-0.4
CPUP	**Villa Florida**	**147.15**	**153**	PKPbc	PKPbc	05 50 31.2	+0.9
	comp=Z,3.1nm,0.9s,baz=271,slow=2.2,SNR=4.6						
LPAZ	**La Paz**	**147.40**	**126**	*e*PKPbc	PKPab	05 50 34.0	0.0
LPAZ	**La Paz**	**147.40**	**126**	*e*PKP2	PKPab	05 50 34.0	0.0
LPAZ	**La Paz**	**147.40**	**126**	PKPbc	PKPbc	05 50 33.0	+1.0
	comp=Z,2.4nm,0.9s,baz=270,slow=3.5,SNR=8.2						

*IDC **19** 05:32:05.0±0.5,2°.76S×138°.59E, h0km, mb4.4/18, mb1 4.5/24, mb1mx4.4/38, mbtmp4.4/24, ML4.2/6, MS4.0/5, Ms1 4.0/5, ms1mx3.6/32, Error ellipse: s-maj=16.7km s-min=10.4km az=90.0*

*ISCJB **19** 05:32:08.4±0.3,2°.75S±0°.04×138°.59E±0°.04, h35km, mb4.6/39, MS3.7/1, Error ellipse: s-maj=5.7km s-min=4.9km az=23.8*

*NEIC **19** 05:32:10.9±0.8,2°.77S×138°.64E, h42km±8km, mb4.7/28, Error ellipse: s-maj=6.7km s-min=5.5km az=101.0*

ISC 19 05:32:10.2±0.4, 2°.81S±0°.05×138°.60E±0°.06, h35km, n73, σ1§52/80, mb4.6/39, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.12**	**82**	Pn	Pn	05 32 42.8	-0.4
	55nm,0.3s,baz=234,slow=13,SNR=9.4						
JAY				Sn	Sn	05 33 06.3	-2.1
	20nm,0.3s,baz=101,slow=18,SNR=2.3						
JAY				LR	LR	05 33 52.8	
	comp=Z,4μm,21.3s,baz=273,slow=51						
SIJI	**Sorong**	**7.58**	**285**	Pn	Pn	05 33 57.1	-1.2
	3.8nm,0.3s,baz=71,slow=9.8,SNR=6.2						
SIJI				Sn	Sn	05 35 23.3	+0.2
	0.7nm,0.3s,baz=56,slow=15,SNR=3.7						
SIJI				LR	LR	05 37 33.8	
	comp=Z,2μm,19.5s,baz=101,slow=44						
COEN	**Coen**	**11.96**	**158**	*e*Pn	Pn	05 34 58.7	+0.4
MTN	**Manton Dam**	**12.41**	**216**	*e*Pn	Pn	05 35 06.0	+1.5
SOEI	**Soe**	**15.82**	**244**	*e*Pn	P	05 35 55.3	+1.2
	151nm,0.8s						
LUWI	**Luwuk**	**15.92**	**276**	*e*Pn	Pn	05 35 55.2	+3.5
	84nm,0.9s						
DAV	**Davao City (W)**	**16.29**	**307**	LR	LR	05 43 14.6	
	comp=Z,412nm,18.1s,baz=20,slow=41						
BATI	**Baumata**	**16.55**	**243**	Pn	Pn	05 35 59.0	-0.9
	0.3nm,0.3s,baz=88,slow=0.9,SNR=1.7						
GUMO	**Guam**	**17.44**	**21**	LR	LR	05 43 01.0	
	comp=Z,431nm,18.8s,baz=250,slow=38						
WRAB	**Tennant Creek**	**17.52**	**193**	*e*Pn	Pn	05 36 13.8	+2.0
	50nm,0.8s						
WB2	**Warramunga Arr**	**17.53**	**193**	*e*Pn	Pn	05 36 13.0	+1.0
WB2				*e*Pn	P	05 36 13.2	+0.3
WR1	**Warramunga Arr**	**17.53**	**193**	*e*Pn	Pn	05 36 13.4	+1.4
	52nm,0.8s						
WR1				*e*Sn	Sn	05 39 20.4	-5.9
WRA	**Warramunga Arr**	**17.53**	**193**	P	Pn	05 36 13.4	+1.4
	2.0nm,0.3s,baz=8.3,slow=12,SNR=12						
WRA				S	Sn	05 39 20.4	-5.9
	0.6nm,0.3s,baz=12,slow=21,SNR=4.9						
CTA	**Charters Tower**	**18.73**	**157**	P	P	05 36 26.6	+0.6
	0.3nm,0.3s,baz=328,slow=9.5,SNR=1.9						
FITZ	**Fitzroy Crossi**	**19.81**	**219**	*e*P	P	05 36 39.0	+1.1
	15nm,0.8s						
FITZ				*e*S	S	05 40 16.9	-2.4
FITZ	**Fitzroy Crossi**	**19.81**	**219**	P	P	05 36 39.0	+1.1
	0.6nm,0.3s,baz=51,slow=13,SNR=3.2						
FITZ				S	S	05 40 16.9	-2.4
	0.6nm,0.3s,baz=164,slow=17,SNR=3.8						
AS01	**Alice Springs**	**21.22**	**192**	*e*P	P	05 36 52.2	-0.9
AS31	**Alice Springs**	**21.23**	**192**	*e*P	P	05 36 54.1	+0.9
	16nm,0.8s						
AS31				*e*S	S	05 40 50.4	+2.9
ASAR	**Alice Springs**	**21.23**	**192**	P	P	05 36 54.5	+1.2
	17nm,0.8s,baz=15,slow=10,SNR=8.1						
ASAR				S	S	05 40 50.4	+2.8
	11nm,0.9s,baz=16,slow=25,SNR=5.6						
TGY	**Tagaytay City**	**24.27**	**314**	P	P	05 37 25.0	+0.5
	234nm,0.4s,baz=109,slow=7.5,SNR=6.2						
MORW	**Morawa**	**33.80**	**217**	*e*P	P	05 38 49.6	+0.4
	14nm,1.0s						
PSI	**Prapat**	**40.05**	**278**	*e*P	P	05 39 40.4	-2.3
	17nm,1.1s						
PSI	**Prapat**	**40.05**	**278**	P	P	05 39 42.2	-0.4
	6.1nm,0.4s,baz=180,slow=3.0,SNR=6.2						
GSI	**Gunungsitoli**	**41.22**	**275**	*e*P	P	05 39 51.5	-0.7
	12nm,0.9s						
KSAR	**Wonju Array Be**	**41.27**	**347**	P	P	05 39 51.4	-0.7
KSRS	**Korea Array**	**41.27**	**347**	P	P	05 39 51.4	-0.7
	1.6nm,0.9s,baz=164,slow=9.1,SNR=3.8						
KSRS				LR	LR	05 55 26.1	
	comp=Z,102nm,21.3s,baz=155,slow=34						
CMAR	**Chiang Mai Arr**	**44.40**	**300**	P	P	05 40 17.9	+0.1
	1.9nm,0.5s,baz=116,slow=6.4,SNR=7.7						
ASAJ	**Asahikawa**	**46.85**	**4**	P	P	05 40 36.5	-0.3
	13nm,0.9s,baz=202,slow=11,SNR=3.5						
USRK	**Ussuriysk Ar.**	**47.17**	**354**	P	P	05 40 39.2	-0.2
	3.7nm,0.9s,baz=134,slow=11,SNR=4.8						
KLR	**Kul'dur**	**52.17**	**354**	P	P	05 41 17.4	0.0
	6.9nm,0.9s,baz=171,slow=4.9,SNR=14						
ULN	**Ulaanbaatar**	**57.51**	**335**	*e*P	P	05 41 55.4	-0.8
	4.5nm,1.0s						
SONA0	**Songino Array**	**57.76**	**335**	*e*P	P	05 41 58.5	+0.6
SONM	**Songino Array**	**57.76**	**335**	P	P	05 41 58.5	+0.6
	2.0nm,0.7s,baz=152,slow=7.9,SNR=10						
PETK	**Petropavlovsk-**	**57.98**	**13**	P	P	05 41 59.4	+0.2
	3.9nm,0.8s,baz=183,slow=8.7,SNR=2.8						
PEA1	**Petropavlovsk-**	**57.99**	**13**	*e*P	P	05 41 59.4	+0.2
MA2	**Magadan**	**62.94**	**7**	*e*P	P	05 42 33.0	+0.1
	15nm,0.9s						
MK01	**Makanchi Array**	**69.79**	**322**	*e*P	P	05 43 17.1	0.0
MK31	**Makanchi Array**	**69.80**	**322**	*e*P	P	05 43 17.7	+0.5
	4.7nm,1.0s						
MK32	**Makanchi Array**	**69.80**	**322**	*e*P	P	05 43 17.4	+0.2
MKAR	**Makanchi Array**	**69.80**	**322**	P	P	05 43 17.4	+0.2
	3.9nm,0.8s,baz=114,slow=7.3,SNR=11						
MAKZ	**Makanchi**	**70.00**	**322**	*e*P	P	05 43 18.4	0.0
	7.2nm,0.8s						
ZALV	**Zalesovo Beam**	**71.97**	**330**	*e*P	P	05 43 28.8	-1.4
ZALV	**Zalesovo Beam**	**71.97**	**330**	P	P	05 43 29.4	-0.8
	1.9nm,0.7s,baz=121,slow=7.4,SNR=4.8						
ZAA1	**Zalesovo Array**	**71.97**	**330**	*e*P	P	05 43 29.4	-0.8
AAK	**Ala-Archa**	**73.20**	**316**	P	P	05 43 37.0	-1.0
	1.5nm,0.7s,baz=117,slow=6.8,SNR=2.3						
KURK	**Kurchatov**	**73.74**	**325**	*e*P	P	05 43 40.1	-0.6
	7.6nm,1.1s						
KURBB	**Kurchatov Arra**	**73.75**	**325**	P	P	05 43 39.4	-1.3
	2.8nm,0.8s,baz=116,slow=5.5,SNR=11						
TIXI	**Tiksi**	**74.60**	**357**	*e*P	P	05 43 44.3	-1.0
	4.2nm,0.8s						
VNDA	**Vanda**	**75.69**	**175**	P	P	05 43 51.5	0.0
	2.6nm,0.7s,baz=339,slow=8.6,SNR=4.7						
BRVK	**Borovoye**	**79.40**	**325**	*e*P	P	05 44 11.9	-0.8
	7.1nm,0.9s						
NRIK	**Noril'sk**	**79.79**	**344**	P	P	05 44 14.2	-0.2
	2.4nm,0.4s,baz=148,slow=4.6,SNR=4.3						
IM3	**Indian Mountai**	**83.62**	**22**	*e*P	P	05 44 34.6	-0.2
GEYT	**Alibeck**	**84.22**	**308**	P	P	05 44 38.8	+0.3
	1.4nm,0.5s,baz=132,slow=2.1,SNR=3.1						
ABKAR	**Akbulak array**	**84.73**	**320**	*e*P	P	05 44 40.5	-0.2
	3.0nm,0.7s						
RND	**Reindeer**	**84.76**	**26**	*e*P	P	05 44 39.9	-0.8
	9.3nm,1.1s						
DHY	**Denali Highway**	**85.31**	**26**	*e*P	P	05 44 43.5	0.0
	12nm,1.1s						
WRH	**Wood River Hil**	**85.39**	**25**	*e*P	P	05 44 42.9	-0.8
	7.7nm,1.1s						
CCB	**Clear Creek Bu**	**85.55**	**24**	*e*P	P	05 44 43.5	-1.0
	7.0nm,1.1s						
HDA	**Harding Lake**	**85.85**	**25**	*e*P	P	05 44 44.9	-1.2
	6.8nm,1.2s						
ILAR	**Eielson Array**	**85.97**	**24**	P	P	05

*ISCJB **19** 05:39:47.5±0.9,55°.3N±0°.2×35°.0W±0°.2, h10km, mb3.6/8, Error ellipse: s-maj=22.9km s-min=12.6km az=0.3*
*IDC **19** 05:39:47.7±1.0,55°.26N×35°.07W, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.6/40, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=33.9km s-min=16.9km az=11.0*

ISC 19 05:39:49.1±0.9,55°.2N±0°.2×35°.1W±0°.1, h10km, n11, σ0.97/11, mb3.5/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.72**	**30**	Pn		**Pn**	**05 42 36.6**	**+0.4**
	0.2nm,0.3s,baz=263,slow=16,SNR=1.9							
SCHQ	**Schefferville**	**18.13**	**282**	P		**P**	**05 44 01.7**	**+0.7**
	0.4nm,0.3s,baz=68,slow=7.8,SNR=7.7							
ULM	**Lac du Bonnet**	**36.11**	**288**	P		**P**	**05 46 51.7**	**+0.9**
	2.0nm,0.9s,baz=45,slow=11,SNR=3.4							
AKASG	**Malin Array Be**	**37.76**	**69**	P		**P**	**05 47 04.1**	**-0.7**
	0.1nm,0.2s,baz=307,slow=8.7,SNR=4.0							
YKA	**Yellowknife Ar**	**39.25**	**314**	P		**P**	**05 47 16.9**	**-0.3**
	0.5nm,0.7s,baz=60,slow=9.1,SNR=8.6							
BRTR	**Keskin Array B**	**46.99**	**79**	P		**P**	**05 48 21.2**	**+0.9**
	1.4nm,0.7s,baz=326,slow=6.1,SNR=6.8							
PDAR	**Pinedale Array**	**48.13**	**288**	P		**P**	**05 48 29.3**	**+0.1**
	0.2nm,0.5s,baz=65,slow=6.4,SNR=3.0							
ILAR	**Eielson Array**	**49.50**	**328**	P		**P**	**05 48 37.2**	**-1.9**
	0.4nm,0.7s,baz=39,slow=7.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**50.79**	**131**	P		**P**	**05 48 48.9**	**-0.6**
	0.4nm,0.7s,baz=350,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**65.50**	**42**	P		**P**	**05 50 32.9**	**+0.7**
	0.4nm,0.6s,baz=338,slow=6.5,SNR=6.1							
ASAR	**Alice Springs**	**147.42**	**19**	PKPbc		**PKPbc**	**05 59 32.7**	**-0.2**
	0.2nm,0.3s,baz=5.2,slow=2.0,SNR=3.4							

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*IDC **19** 05:41:55.6±0.4,55°.61N×34°.91W, h0km, mb4.4/31, mb1 4.5/35, mb1mx4.5/44, mbtmp4.4/35, ML3.7/4, MS4.3/29, Ms1 4.3/29, ms1mx4.1/51, Error ellipse: s-maj=12.6km s-min=9.5km az=178.0*
*MOS **19** 05:41:56.3±1.0,55°.58N×35°.06W, h10km, mb5.0/65, MS4.4/4, Error ellipse: s-maj=8.5km s-min=5.9km az=88.7*
*BJI **19** 05:41:56.1,55°.70N×35°.10W, h10km, mb4.9/29, mB5.3/21, Ms5.0/9, Ms7 4.7/9*
*NEIC **19** 05:41:57.8±0.2,55°.53N×34°.93W, h10km, mb4.9/215, Error ellipse: s-maj=4.6km s-min=2.7km az=172.0*
*ISCJB **19** 05:41:57.2±0.1,55°.61N±0°.03×35°.07W±0°.03, h14km, mb4.8/254, MS4.3/38, Error ellipse: s-maj=4.1km s-min=2.3km az=162.5*
*GCMT **19** 05:41:57.8±0.2,55°.78N±0°.02×35°.01W±0°.02, h12km, MW5.0/95, Moment Tensor Solution. s30,c35; s95,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.99±.10; $M_{\theta\theta}$0.31±.11; $M_{\phi\phi}$3.69±.08; $M_{r\theta}$1.43±.44; $M_{\theta\phi}$1.24±.08; $M_{\phi r}$-0.56±.29; Best double couple: M=4.30900×10^{16} NP1:ϕs=360.00000°, δ49.00000°, λ-116.00000°. NP2: ϕs=216.00000°, δ47.00000°, λ-64.00000°. Principal axes: T 4.0970, Plg1.0000°, Azm108.0000°; N 0.4310, Plg19.0000°, Azm18.0000°; P -4.5220, Plg71.0000°, Azm200.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 05:41:58.6±0.3,55°.54N±0°.06×35°.07W±0°.04, h14km, n769, σ1.00/767, mb4.8/255, MS4.3/39, 13C, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.83**	**320**	*e*Pn		**Pn**	**05 43 52.3**	**+0.4**
NRS				*e*Sn		Sn	05 45 10.0	-10
NRS	**Narsarsuaq**	**7.83**	**320**	*e*P		**Pn**	**05 43 52.3**	**+0.4**
BORG	**Borgarnes**	**11.47**	**31**	*e*Pn		**Pn**	**05 44 44.5**	**+2.8**
BORG	**Borgarnes**	**11.47**	**31**	*e*P		**Pn**	**05 44 44.5**	**+2.8**
BORG	**Borgarnes**	**11.47**	**31**	Pn		**Pn**	**05 44 45.8**	**+4.2**
	1.4nm,0.3s,baz=235,slow=3.8,SNR=8.5							
BORG				LR		LR	05 47 58.5	
	comp=Z,2μm,20.7s,baz=248,slow=32							
SFJD	**Kangerlussuaq**	**13.65**	**333**	*e*Pn		**Pn**	**05 45 10.2**	**-1.3**
SFJD				*e*Pn		**Pn**	**05 45 10.8**	**-0.6**
SFJD	**Kangerlussuaq**	**13.65**	**333**	*i* P		**Pn**	**05 45 10.7**	**-0.8**
	29nm,1.1s							
SFJD	**Kangerlussuaq**	**13.65**	**333**	Pn		**Pn**	**05 45 10.2**	**-1.3**
	0.3nm,0.3s,baz=147,slow=15,SNR=6.1							
SFJD				LR		LR	05 49 32.6	
	comp=Z,2μm,20.5s,baz=139,slow=34							
ILULI	**Ilulissat**	**15.52**	**338**	*e*Pn		**Pn**	**05 45 34.5**	**-2.1**
	15nm,0.8s							
ILULI	**Ilulissat**	**15.52**	**338**	*e*P		**Pn**	**05 45 34.5**	**-2.1**
ILULI				pmax		pmax		
	comp=Z,15nm,0.8s							
SCO	**Scoresbysund**	**16.07**	**16**	*e*Pn		**Pn**	**05 45 44.0**	**+0.2**
	comp=Z,7.3nm,0.9s							
SCO	**Scoresbysund**	**16.07**	**16**	*i*P		**P**	**05 45 49.5**	**+2.4**
	comp=Z,19nm,1.2s							
SCO	**Scoresbysund**	**16.07**	**16**	*i*P		**P**	**05 45 49.5**	**+2.4**
SCO				pmax		pmax		
	comp=Z,19nm,1.2s							
SUMG	**Summit**	**17.17**	**357**	*e*Pn		**Pn**	**05 45 56.9**	**-1.1**
	comp=Z,19nm,1.0s							
SUMG	**Summit**	**17.17**	**357**	*i* P		**Pn**	**05 45 55.9**	**-2.1**
	comp=Z,49nm,1.0s							
SUMG	**Summit**	**17.17**	**357**	*i* P		**Pn**	**05 45 55.9**	**-2.1**
SUMG				pmax		pmax		
	comp=Z,49nm,1.0s							
EKA	**Eskdalemuir Ar**	**18.03**	**77**	P		**Pn**	**05 46 06.1**	**-2.3**
	baz=287,slow=9.6,SNR=2.7							
SCHQ	**Schefferville**	**18.07**	**281**	*e*Pn		**Pn**	**05 46 08.6**	**-0.4**
	comp=Z,21nm,0.8s							
SCHQ	**Schefferville**	**18.07**	**281**	P		**Pn**	**05 46 08.9**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=72,slow=7.7,SNR=24							
SCHQ				LR		LR	05 51 43.8	
	comp=Z,1μm,20.7s,baz=78,slow=32							
FRB	**Frobisher Bay**	**18.61**	**310**	P		**P**	**05 46 13.8**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=114,slow=12,SNR=6.7							
FRB				LR		LR	05 51 56.5	
	comp=Z,2μm,18.3s,baz=85,slow=32							
BATG	**Bathurst New B**	**20.88**	**260**	*e*P		**P**	**05 46 40.6**	**+0.6**
	comp=Z,35nm,1.0s							
KULLO	**Kullorsuaq**	**21.00**	**344**	*i* P		**P**	**05 46 40.6**	**-0.5**
	comp=Z,79nm,1.2s							
KULLO	**Kullorsuaq**	**21.00**	**344**	*i* P		**P**	**05 46 40.6**	**-0.5**
KULLO				pmax		pmax		
	comp=Z,79nm,1.2s							
PGAV	**Gavieira, Arco**	**22.11**	**117**	*e*LR		LR	05 52 03.6	
	comp=Z,1μm,20.0s							
DAG	**Danmarks Havn**	**22.16**	**10**	*i* P		**P**	**05 46 54.2**	**+0.7**
	comp=Z,23nm,1.1s							
DAG	**Danmarks Havn**	**22.16**	**10**	*i* P		**P**	**05 46 54.2**	**+0.7**
DAG				pmax		pmax		
	comp=Z,29nm,1.1s							
PQI	**Presque Isle**	**22.32**	**260**	*e*P		**P**	**05 46 57.8**	**+2.3**
	comp=Z,34nm,1.1s							
MVO	**Moncorvo**	**23.32**	**116**	*e*LR		LR	05 52 51.7	
	comp=Z,2μm,20.0s							
MTE	**Manteigas**	**23.64**	**118**	*e*P		**P**	**05 47 10.9**	**+1.7**
MTE				*e*LR		LR	05 52 48.9	
	comp=Z,1μm,20.0s							
PKME	**Peaks-Kenny Pk**	**23.88**	**259**	P		**P**	**05 47 10.4**	**-0.9**
	baz=52							
CHGQ	**Chibougamau**	**24.21**	**273**	P		**P**	**05 47 13.8**	**-0.7**
	baz=61							
PMTG	**Montargil**	**24.32**	**121**	*e*P		**P**	**05 47 15.3**	**-0.2**
TULEG	**Thule**	**24.42**	**342**	*e*P		**P**	**05 47 16.2**	**+0.1**
	comp=Z,13nm,0.9s							
PMRV	**Marv??o**	**24.45**	**120**	*e*P		**P**	**05 47 20.2**	**+3.4**
PMRV				*e*LR		LR	05 53 22.6	
	comp=Z,1μm,20.0s							
NB2	**NORSAR Subarra**	**24.51**	**58**	P		**P**	**05 47 16.7**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=279,slow=10							
NB200	**NORSAR Array S**	**24.51**	**58**	*e*P		**P**	**05 47 15.8**	**-1.3**
NOA	**NORSAR Array B**	**24.51**	**58**	P		**P**	**05 47 15.8**	**-1.3**
	comp=Z,3.6nm,0.9s,baz=279,slow=9.6,SNR=5.9							
NOA				LR		LR	05 55 04.9	
	comp=Z,468nm,21.6s,baz=275,slow=32							
BCLA	**Clavier**	**24.58**	**85**	P		**P**	**05 47 18.5**	**+0.7**
LATQ	**La Tuque**	**24.61**	**267**	P		**P**	**05 47 18.0**	**-0.1**
	baz=56							
PESTR	**Estremoz**	**24.79**	**121**	*e*P		**P**	**05 47 20.9**	**+1.1**
PNCL	**Nicolau / Gran**	**24.93**	**123**	*e*P		**P**	**05 47 21.7**	**+0.6**
MESJ	**Messejana**	**25.29**	**123**	*e*P		**P**	**05 47 26.0**	**+1.7**
MOQ	**Mont Orford**	**25.51**	**262**	*e*P		**P**	**05 47 27.1**	**+0.8**
PCVE	**Castro Verde**	**25.55**	**123**	*e*P		**P**	**05 47 28.1**	**+1.5**
HFS	**Hagfors**	**25.87**	**60**	P		**P**	**05 47 27.9**	**-1.5**
	comp=Z,8.4nm,0.9s,baz=237,slow=9.6,SNR=5.4							
HFS				LR		LR	05 56 45.1	
	comp=Z,491nm,18.4s,baz=296,slow=34							
LBNH	**Lisbon**	**25.98**	**260**	P		**P**	**05 47 30.7**	**+0.1**
	baz=51							
ESDC	**Sonseca Array**	**26.00**	**115**	P		**P**	**05 47 30.6**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=312,slow=8.3,SNR=10							
ESDC				LR		LR	05 55 30.9	
	comp=Z,922nm,21.1s,baz=310,slow=31							
ES06	**SONSECA Array**	**26.00**	**115**	*e*P		**P**	**05 47 31.0**	**+0.1**
LSQQ	**Lebel-sur-Quev**	**26.11**	**273**	P		**P**	**05 47 31.8**	**+0.1**
	baz=60							
MATQ	**Matagami**	**26.14**	**275**	P		**P**	**05 47 31.0**	**-0.9**
	baz=61							
FRNY	**Flat Rock**	**26.55**	**262**	*e*P		**P**	**05 47 36.9**	**+1.2**
	comp=Z,19nm,1.1s							
ALFO	**Alfred**	**26.80**	**265**	P		**P**	**05 47 37.4**	**-0.5**
	baz=54							
D54A	**Lac Fusel, La**	**26.94**	**269**	P		**P**	**05 47 38.7**	**-0.5**
	baz=56							
ORIO	**Orleans, Innes**	**27.26**	**265**	P		**P**	**05 47 41.1**	**-1.0**
	baz=54,SNR=5.6							
E54A	**Lac Daplat, Po**	**27.64**	**269**	P		**P**	**05 47 44.7**	**-0.8**
	baz=55							
E53A	**Dumoine, Ponti**	**27.95**	**269**	P		**P**	**05 47 47.4**	**-0.8**
	baz=55							
G55A	**Calabogie**	**28.07**	**266**	P		**P**	**05 47 48.9**	**-0.4**
	baz=53							
PEMO	**Pembroke**	**28.11**	**267**	P		**P**	**05 47 49.3**	**-0.4**
	baz=54							
CLL	**Collm**	**28.49**	**78**	*e*P		**P**	**05 47 53.0**	**0.0**
CLL				L		L	05 58 00.0	
	comp=Z,700nm,20.1s							
D51A	**Lot 18 Range I**	**28.52**	**272**	P		**P**	**05 47 53.7**	**+0.4**
	baz=56							
SPITS	**Spitsbergen Ar**	**28.59**	**20**	LR		LR	05 56 08.9	
	comp=Z,274nm,19.3s,baz=35,slow=30							
NKC	**Novy Kostel**	**28.70**	**81**	AMS		AMS	06 00 20.0	
	comp=Z,800nm,17.7s							
DAVOX	**Davos/Dischmat**	**29.06**	**88**	LR		LR	05 59 18.2	
	comp=Z,2μm,18.1s,baz=328,slow=36							
F52A	**Sundridge**	**29.23**	**269**	P		**P**	**05 47 59.2**	**-0.4**
	baz=54							
G53A	**Haliburton**	**29.23**	**268**	P		**P**	**05 47 59.5**	**-0.1**
	baz=53							
RES	**Resolute Bay**	**29.65**	**332**	*e*P		**P**	**05 48 03.2**	**+0.2**
	comp=Z,8.8nm,1.0s							
RES	**Resolute Bay**	**29.65**	**332**	*e*P		**P**	**05 48 03.3**	**+0.2**
RES				pmax		pmax		
	comp=Z,9.0nm,1.0s							
RES	**Resolute Bay**	**29.65**	**332**	P		**P**	**05 48 03.1**	**+0.2**
	comp=Z,6.4nm,1.0s,baz=101,slow=6.3,SNR=12							
RES				LR		LR	05 59 55.3	
	comp=Z,361nm,18.4s,baz=112,slow=36							
ARA0	**ARCESS Array S**	**29.73**	**38**	*e*P		**P**	**05 48 00.4**	**-3.5**
ARCES	**ARCESS Array B**	**29.73**	**38**	P		**P**	**05 48 00.4**	**-3.5**
	comp=Z,3.4nm,0.8s,baz=272,slow=5.7,SNR=10.0							
SADO	**Sadowa**	**29.73**	**267**	P		**P**	**05 48 02.9**	**-1.2**
	comp=Z,10nm,0.9s,baz=27,slow=2.5,SNR=3.3							
SADO				LR		LR	05 58 46.3	
	comp=Z,514nm,19.1s,baz=98,slow=34							
PVCC	**Panska Ves**	**29.74**	**79**	AMS		AMS	06 00 40.0	
	comp=Z,600nm,18.4s							
KHC	**Kasperske Hory**	**29.88**	**82**	*e*P		**P**	**05 48 08.6**	**+3.1**
KHC				AMS		AMS	06 00 00.0	
	comp=Z,600nm,16.2s							
KHC	**Kasperske Hory**	**29.88**	**82**	*e*P		**P**	**05 48 08.6**	**+3.1**
KHC				MLR		MLR		
	comp=Z,600nm,16.2s							
PRU	**Pruhonice**	**29.99**	**80**	AMS		AMS	06 01 30.0	
	comp=Z,600nm,15.6s							
KLBO	**Killbear Provi**	**29.99**	**269**	P		**P**	**05 48 06.0**	**-0.4**
	baz=54							
GERES	**GERESS Array B**	**30.10**	**82**	P		**P**	**05 48 04.0**	**-3.5**
GERES	**GERESS Array B**	**30.10**	**82**	P		**P**	**05 48 04.0**	**-3.5**
GERES	**GERESS Array B**	**30.10**	**82**	P		**P**	**05 48 04.0**	**-3.5**
	comp=Z,0.8nm,0.6s,baz=276,slow=9.8,SNR=5.1							
GERES				LR		LR	05 59 15.7	
	comp=Z,582nm,20.2s,baz=312,slow=35							
GOPC	**GO Pecny, Ondr**	**30.16**	**80**	AMS		AMS	06 00 10.0	
	comp=Z,600nm,14.6s							
J54A	**Appleton**	**30.37**	**265**	P		**P**	**05 48 09.7**	**0.0**
	baz=51							
UPC	**Upice**	**30.55**	**78**	*e*P		**P**	**05 48 11.8**	**+0.5**
UPC				AMS		AMS	06 01 10.0	
	comp=Z,900nm,14.5s							
UPC	**Upice**	**30.55**	**78**	*e*P		**P**	**05 48 11.8**	**+0.5**
UPC				MLR		MLR		
	comp=Z,900nm,14.5s							
DPC	**Dobruska-Polom**	**30.80**	**78**	*e*P		**P**	**05 48 13.9**	**+0.4**
DPC				AMS		AMS	06 01 20.0	
	comp=Z,700nm,16.4s							
DPC	**Dobruska-Polom**	**30.80**	**78**	*e*P		**P**	**05 48 13.9**	**+0.4**
DPC				MLR		MLR		
	comp=Z,700nm,16.4s							
TREC	**Trest**	**30.87**	**80**	AMS		AMS	06 01 50.0	
	comp=Z,800nm,15.3s							
L55A	**Hindale**	**30.96**	**263**	P		**P**	**05 48 14.4**	**-0.5**
	baz=49							
D46A	**Sault St. Mari**	**31.27**	**275**	P		**P**	**05 48 17.4**	**-0.3**
	baz=56							
FCC	**Fort Churchill**	**31.28**	**301**	*e*P		**P**	**05 48 18.1**	**+0.5**
	comp=Z,18nm,1.0s							
FIA0	**FINESS Array S**	**31.43**	**54**	*e*P		**P**	**05 48 16.2**	**-2.7**
FIA0	**FINESS Array S**	**31.43**	**54**	*e*P		**P**	**05 48 16.2**	**-2.7**
FINES	**FINESS Array B**	**31.43**	**54**	P		**P**	**05 48 16.2**	**-2.7**
	comp=Z,2.9nm,1.0s,baz=292,slow=7.4,SNR=3.8							
FINES				LR		LR	05 59 21.0	
	comp=Z,228nm,21.3s,baz=276,slow=33							
OKC	**Ostrava-Krasne**	**32.07**	**78**	AMS		AMS	06 02 30.0	
	comp=Z,1μm,15.9s							
M54A	**Oil Creek Stat**	**32.09**	**263**	P		**P**	**05 48 25.1**	**+0.2**
	baz=49							
L53A	**Girard**	**32.13**	**264**	P		**P**	**05 48 25.5**	**+0.2**
	baz=49							
G47A	**Hillman**	**32.17**	**272**	P		**P**	**05 48 25.4**	**-0.2**
	baz=53							
I49A	**Point Hope**	**32.33**	**269**	P		**P**	**05 48 27.0**	**0.0**
	baz=52							
N54A	**Moraine State**	**32.64**	**263**	P		**P**	**05 48 29.7**	**0.0**
	baz=48							
VSU	**Vasula**	**32.75**	**59**	*i* P		**P**	**05 48 29.8**	**-0.7**
VSU				pmax		pmax		
	comp=Z,24nm,0.9s							
GLMI	**Grayling**	**32.81**	**272**	P		**P**	**05 48 30.9**	**-0.3**
	baz=53							
M52A	**Chesterland**	**33.03**	**265**	P		**P**	**05 48 33.5**	**+0.4**
	baz=49							
LANS	**Liptovska Anna**	**33.17**	**78**	*e*P		**P**	**05 48 35.6**	**+1.3**
LANS	**Liptovska Anna**	**33.17**	**78**	*e*P		**P**	**05 48 35.6**	**+1.3**
N53A	**Lisbon**	**33.22**	**263**	P		**P**	**05 48 35.8**	**+1.0**
	baz=48							
O54A	**Avella**	**33.38**	**262**	P		**P**	**05 48 37.3**	**+1.1**
	baz=47							
K49A	**Clarkson**	**33.41**	**268**	P		**P**	**05 48 36.6**	**+0.1**
	baz=50							
MCWV	**Mont Chateau**	**33.44**	**261**	P		**P**	**05 48 37.2**	**+0.5**
	baz=46							
R58B	**Mineral**	**33.53**	**257**	P		**P**	**05 48 37.8**	**+0.3**
	baz=44							
P55A	**Reedsville**	**33.53**	**260**	P		**P**	**05 48 38.2**	**+0.6**
	baz=46							
D41A	**Chassel**	**33.74**	**278**	P		**P**	**05 48 38.9**	**-0.4**
	baz=55							
P54A	**Burton**	**33.83**	**261**	P		**P**	**05 48 41.1**	**+0.9**
	baz=47							
N51A	**Ashland**	**34.01**	**265**	P		**P**	**05 48 42.2**	**+0.5**
	baz=48							
M50A	**Fremont**	**34.07**	**266**	P		**P**	**05 48 43.1**	**+0.9**
	baz=49							
O52A	**Adamsville**	**34.25**	**263**	P		**P**	**05 48 44.4**	**+0.7**
	baz=47							
V61A	**Roper**	**34.40**	**252**	P		**P**	**05 48 45.6**	**+0.6**
	baz=42							
P53A	**Whipple**	**34.42**	**262**	P		**P**	**05 48 46.1**	**+0.8**
	baz=47							
Q54A	**Coxs Mills**	**34.46**	**261**	P		**P**	**05 48 46.0**	**+0.5**
	baz=46							
L48A	**N Adams**	**34.51**	**268**	P		**P**	**05 48 46.6**	**+0.6**
	baz=50							
N50A	**Nevada**	**34.55**	**265**	P		**P**	**05 48 46.7**	**+0.3**
	baz=48							
O51A	**Pataskala**	**34.66**	**264**	P		**P**	**05 48 47.5**	**+0.1**
	baz=47							
G42A	**Mountain**	**34.72**	**276**	P		**P**	**05 48 48.2**	**+0.4**
	baz=53							
P52A	**Corning**	**34.74**	**263**	P		**P**	**05 48 48.3**	**+0.3**
	baz=47							
K46A	**Dorr**	**34.80**	**270**	P		**P**	**05 48 48.5**	**+0.1**
	baz=50							
ACSO	**Alum Creek Sta**	**34.81**	**264**	*e*P		**P**	**05 48 49.0**	**+0.3**
	comp=Z,34nm,1.0s							
ACSO	**Alum Creek Sta**	**34.81**	**264**	P		**P**	**05 48 49.2**	**+0.5**
	baz=48							
E40A	**Wakefield**	**34.84**	**278**	P		**P**	**05 48 48.9**	**+0.1**
	baz=54							
EYMN	**Ely**	**34.88**	**282**	P		**P**	**05 48 49.1**	**0.0**
	baz=56							
L47A	**Sherwood**	**34.92**	**269**	P		**P**	**05 48 49.7**	**+0.1**
	baz=50							
Q53A	**Leroy**	**34.93**	**261**	P		**P**	**05 48 49.9**	**+0.2**
	baz=46							
M48A	**Edgerton**	**34.97**	**267**	P		**P**	**05 48 50.2**	**+0.2**
	baz=49							
T57A	**Hurt**	**34.98**	**257**	P		**P**	**05 48 50.6**	**+0.4**
	baz=44							
N49A	**Columbus Grove**	**35.03**	**266**	*e*P		**P**	**05 48 51.9**	**+1.3**
	comp=Z,33nm,0.9s							
N49A	**Columbus Grove**	**35.03**	**266**	P		**P**	**05 48 50.9**	**+0.3**
	baz=48							
S55A	**Lewisburg**	**35.12**	**259**	P		**P**	**05 48 52.4**	**+1.0**
	baz=45							
O50A	**Cable**	**35.23**	**265**	P		**P**	**05 48 52.7**	**+0.4**
	baz=48,SNR=6.6							
F40A	**Park Falls**	**35.27**	**278**	P		**P**	**05 48 52.8**	**+0.2**
	baz=54							
Q52A	**Bidwell**	**35.28**	**262**	P		**P**	**05 48 53.7**	**+1.0**
	baz=46							
V59A	**Middlesex**	**35.32**	**254**	P		**P**	**05 48 54.3**	**+1.2**
	baz=42							
P51A	**Williamsport**	**35.37**	**263**	*e*P		**P**	**05 48 54.7**	**+1.3**
	comp=Z,20nm,1.1s							
P51A	**Williamsport**	**35.37**	**263**	P		**P**	**05 48 53.8**	**+0.4**
	baz=47							
T56A	**Rocky Mt**	**35.39**	**258**	P		**P**	**05 48 54.3**	**+0.7**
	baz=44							
BLA	**Blacksburg**	**35.48**	**258**	P		**P**	**05 48 55.3**	**+0.9**
	baz=44							
CNNC	**Cliffs of the**	**35.52**	**253**	P		**P**	**05 48 56.0**	**+1.3**
	baz=42							
R53A	**Hurricane**	**35.54**	**261**	P		**P**	**05 48 55.9**	**+1.0**
	baz=46							
N48A	**Decatur**	**35.56**	**267**	P		**P**	**05 48 55.2**	**+0.1**
	baz=48							
O49A	**Covington**	**35.61**	**265**	P		**P**	**05 48 55.9**	**+0.4**
	baz=48							
P50A	**Jamestown**	**35.70**	**264**	P		**P**	**05 48 56.3**	**0.0**
	baz=47							
TMCR	**Tamitsa**	**35.72**	**46**	*e*P		**P**	**05 48 56.7**	**+0.6**
F39A	**Loretta**	**35.73**	**278**	P		**P**	**05 48 56.7**	**+0.3**
	baz=54							
T55A	**Pulaski**	**35.74**	**258**	P		**P**	**05 48 57.9**	**+1.1**
	baz=44							
H41A	**Junction City**	**35.79**	**276**	P		**P**	**05 48 57.1**	**0.0**
	baz=52							
I42A	**Draeger Farm,**	**35.82**	**274**	P		**P**	**05 48 57.8**	**+0.6**
	baz=52							
Q51A	**Peebles**	**35.84**	**263**	P		**P**	**05 48 58.4**	**+0.9**
	baz=46							
N47A	**Urbana**	**35.92**	**268**	P		**P**	**05 48 57.9**	**-0.2**
	baz=48							
R52A	**Catlettsburg**	**35.92**	**262**	P		**P**	**05 48 59.1**	**+0.9**
	baz=46							
ULM	**Lac du Bonnet**	**36.02**	**288**	*e*P		**P**	**05 48 58.7**	**-0.2**
	comp=Z,35nm,1.1s							
ULM	**Lac du Bonnet**	**36.02**	**288**	*e*P		**P**	**05 48 58.7**	**-0.2**
ULM				pmax		pmax		
	comp=Z,35nm,1.1s							
ULM	**Lac du Bonnet**	**36.02**	**288**	P		**P**	**05 48 58.4**	**-0.5**
	comp=Z,20nm,1.0s,baz=60,slow=8.7,SNR=15							
ULM				LR		LR	06 02 24.7	
	comp=Z,1μm,19.2s,baz=76,slow=34							
O48A	**Farmland**	**36.03**	**266**	P		**P**	**05 48 59.0**	**-0.1**
	baz=48							
KEST	**Kesra**	**36.03**	**105**	P		**P**	**05 48 57.6**	**-1.6**
	comp=Z,4.9nm,0.9s,baz=58,slow=2.0,SNR=4.5							
KEST				LR		LR	06 02 03.7	
	comp=Z,518nm,19.2s,baz=358,slow=34							
X60A	**Albert Glenn T**	**36.06**	**253**	P		**P**	**05 49 00.1**	**+0.7**
	baz=41							
V57A	**Coltrane Farms**	**36.08**	**256**	P		**P**	**05 48 59.8**	**+0.3**
	baz=43							
T54A	**Tazewell**	**36.23**	**259**	P		**P**	**05 49 01.7**	**+0.8**
	baz=44							
F38A	**Pierce - Schro**	**36.24**	**279**	P		**P**	**05 49 00.8**	**0.0**
	baz=54,SNR=6.4							
I41A	**Arkdale**	**36.26**	**275**	P		**P**	**05 49 01.2**	**+0.2**
	baz=52							
P49A	**Miami Univ. Ec**	**36.27**	**265**	P		**P**	**05 49 01.9**	**+0.7**
	baz=47							
J42A	**Columbus**	**36.30**	**273**	P		**P**	**05 49 01.8**	**+0.4**
	baz=51							
U55A	**TA2, Sparta**	**36.33**	**258**	P		**P**	**05 49 02.6**	**+0.7**
	baz=44							
R51A	**Hillsboro**	**36.48**	**262**	P		**P**	**05 49 04.1**	**+1.1**
	baz=46							
N46A	**Monticello**	**36.50**	**268**	P		**P**	**05 49 03.7**	**+0.5**
	baz=48							
**O

baz=47
AK11 Malin Array Si 37.63 70 *e*P **P** **05 49 12.1 -0.5**
KIEV Kiev 37.65 70 *e*P **P** **05 49 12.0 -0.8**
comp=Z,12nm,1.0s
KIEV Kiev 37.65 70 *i* P **P** **05 49 12.2 -0.5**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
AKASG Malin Array Be 37.65 70 P **P** **05 49 11.3 -1.5**
comp=Z,6.1nm,0.7s,baz=306,slow=8.3,SNR=23
AKASG LR LR 06 06 06.7
comp=Z,492nm,18.3s,baz=290,slow=39
AKBB Malin Array Si 37.65 70 *e*P **P** **05 49 12.4 -0.4**
comp=Z,11nm,0.9s
AKBB Malin Array Si 37.65 70 *e*P **P** **05 49 12.4 -0.4**
AKBB pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 37.69 51 *e*P **P** **05 49 11.1 -1.9**
KLMR pmax pmax
comp=Z,45nm,1.5s
KLMR Klimovskoe 37.69 51 *e*P **P** **05 49 11.1 -1.9**
KLMR AMP 05 49 23.4
comp=Z,45nm,1.4s
TZTN Tazewell 37.70 260 P **P** **05 49 14.0 +0.6**
baz=44
U52A Thorn Hill 37.71 260 P **P** **05 49 14.4 +0.9**
baz=44
J39A Decorah 37.75 275 P **P** **05 49 13.5 -0.2**
baz=51
X56A White Oak 37.80 256 P **P** **05 49 15.2 +1.0**
baz=42
S49A Springfield 37.80 263 P **P** **05 49 15.1 +1.0**
baz=45
K40A Colesburg 37.83 274 P **P** **05 49 14.9 +0.5**
baz=50
L41A Preston 37.87 273 P **P** **05 49 15.2 +0.5**
baz=50
V53A Saluda 37.92 259 *e*P **P** **05 49 16.5 +1.2**
comp=Z,19nm,1.1s
V53A Saluda 37.92 259 P **P** **05 49 16.1 +0.8**
baz=43
P45A Graceland, Par 37.99 268 P **P** **05 49 16.1 +0.3**
baz=47
W54A Cherokee Point 38.00 257 P **P** **05 49 17.3 +1.4**
baz=42
WCI Wyandotte Cave 38.06 265 P **P** **05 49 16.4 +0.1**
baz=46
U51A La Follette 38.08 261 P **P** **05 49 17.1 +0.5**
baz=44
T50A Nancy 38.09 262 P **P** **05 49 17.3 +0.7**
baz=45
R47A Wooly Knot Far 38.15 265 P **P** **05 49 17.9 +0.8**
baz=46
V52A Sevierville 38.23 260 P **P** **05 49 18.3 +0.4**
baz=43
S48A Wiedeman Farm, 38.32 264 P **P** **05 49 18.9 +0.3**
baz=45
M41A Milan 38.35 272 P **P** **05 49 19.2 +0.5**
baz=49
NHSC New Hope 38.37 253 P **P** **05 49 19.7 +0.7**
baz=40
T49A Edmonton 38.42 263 *e*P **P** **05 49 19.4 +0.1**
comp=Z,22nm,1.1s
T49A Edmonton 38.42 263 P **P** **05 49 19.9 +0.5**
baz=45
N42A Yates City 38.42 271 P **P** **05 49 19.7 +0.3**
baz=48
Y56A Pelion 38.47 255 P **P** **05 49 20.5 +0.7**
baz=41
W53A Cullowhee 38.48 258 P **P** **05 49 20.7 +0.7**
baz=43
BG3 Lake Jocassee 38.48 258 *e*P **P** **05 49 20.1 +0.2**
comp=Z,19nm,1.1s
X54A Belton 38.50 257 P **P** **05 49 21.5 +1.4**
baz=42
U50A Jamestown 38.52 261 P **P** **05 49 21.2 +0.9**
baz=44
P44A Sand Creek, Wi 38.53 268 P **P** **05 49 20.6 +0.3**
baz=47
Q45A Warren Harvey, 38.66 267 P **P** **05 49 22.2 +0.8**
baz=47
158A Hollywood 38.66 253 P **P** **05 49 22.8 +1.4**
baz=40
Y55A Saluda 38.67 256 P **P** **05 49 22.6 +1.1**
baz=41
V51A Loudon 38.68 260 P **P** **05 49 22.3 +0.6**
baz=44
L39A Vinton 38.69 274 P **P** **05 49 22.1 +0.5**
baz=50
S47A Hartford 38.83 265 P **P** **05 49 23.8 +0.9**
baz=45
Z56A Williston 38.86 255 P **P** **05 49 23.7 +0.6**
baz=41
MLR Muntele Rosu 38.87 79 LR LR 06 06 03.3
comp=Z,638nm,18.8s,baz=326,slow=37
T48A Bowling Green 38.90 264 P **P** **05 49 24.2 +0.7**
baz=45
P43A Skaggs, Pawnee 38.92 269 P **P** **05 49 24.1 +0.5**
baz=47
W52A Murphy 38.96 259 P **P** **05 49 24.5 +0.5**
baz=43
N41A Harden Midland 38.97 272 *e*P **P** **05 49 23.6 -0.4**
comp=Z,29nm,0.9s
N41A Harden Midland 38.97 272 P **P** **05 49 24.5 +0.6**
baz=48
U49A Red Boiling Sp 38.98 262 P **P** **05 49 24.6 +0.5**
baz=44
USIN University of 39.02 266 *e*P **P** **05 49 24.1 -0.4**
comp=Z,43nm,1.0s
YKW3 Yellowknife Ar 39.02 314 *e*P **P** **05 49 23.3 -0.8**
comp=Z,9.2nm,1.0s
X53A Estanollee 39.05 258 P **P** **05 49 25.3 +0.6**
baz=42
YKA Yellowknife Ar 39.05 314 P **P** **05 49 23.7 -0.6**
comp=Z,5.8nm,0.9s,baz=61,slow=9.3,SNR=52
YKA PcP **PcP** **05 51 33.1 -0.9**
comp=Z,1.7nm,1.0s,baz=61,slow=3.5,SNR=7.7
YKA LR LR 06 04 15.8
comp=Z,74nm,18.4s,baz=52,slow=34
YKB5 Yellowknife Ar 39.05 314 *e*P **P** **05 49 23.5 -0.8**
YKB5 e*e*PcP **PcP** **05 51 32.7 -1.3**
OBN Obninsk 39.08 60 *e*P **P** **05 49 23.5 -1.2**
OBN e 05 50 56.2
OBN e*e*PPP PPP 05 51 14.3
OBN pmax pmax
comp=Z,43nm,1.7s
Q44A Meyer Farm, Va 39.14 268 *e*P **P** **05 49 25.9 +0.5**
comp=Z,20nm,0.9s
Q44A Meyer Farm, Va 39.14 268 P **P** **05 49 25.9 +0.5**
baz=47
R45A Skylar, Fairfi 39.14 267 P **P** **05 49 25.7 +0.3**
baz=46
Y54A Tignall 39.18 257 P **P** **05 49 26.6 +0.8**
baz=42
V50A Pikevile 39.20 261 P **P** **05 49 26.5 +0.5**
baz=44
M39A Webster 39.21 274 P **P** **05 49 25.9 -0.1**
baz=49
S46A Don Dixon Farm 39.24 265 P **P** **05 49 26.5 +0.2**
baz=46
N40A Mertquake, Sal 39.27 272 P **P** **05 49 26.9 +0.4**
baz=48
X52A Dahlonega 39.30 259 P **P** **05 49 27.6 +0.7**
baz=42
Z55A Blythe 39.36 255 P **P** **05 49 28.0 +0.8**
baz=41
O41A Passleys Farm, 39.38 271 P **P** **05 49 27.6 +0.2**
baz=48
W51A Cleveland 39.38 260 P **P** **05 49 28.3 +0.9**
baz=43
T47A Sharon Grove 39.39 264 *e*P **P** **05 49 28.2 +0.7**
comp=Z,12nm,1.1s
T47A Sharon Grove 39.39 264 P **P** **05 49 27.7 +0.2**
baz=45
MDND Maddock 39.40 287 *e*P **P** **05 49 27.6 +0.1**
comp=Z,55nm,1.1s
MDND Maddock 39.40 287 P **P** **05 49 27.9 +0.3**
baz=54
U48A Cassie Pea, Po 39.41 263 P **P** **05 49 28.3 +0.6**
baz=44
P42A Winchester 39.43 270 *e*P **P** **05 49 28.2 +0.3**
comp=Z,32nm,0.9s
P42A Winchester 39.43 270 P **P** **05 49 28.1 +0.3**
baz=47,SNR=8.6
V49A McMinnville 39.58 262 P **P** **05 49 29.8 +0.7**
baz=44
R44A Waltonville 39.63 267 P **P** **05 49 30.1 +0.6**
baz=46
W50A Signal Mountai 39.66 261 P **P** **05 49 30.6 +0.8**
baz=43
Y53A Monroe 39.68 257 P **P** **05 49 30.7 +0.7**
baz=42
Z54A Sparta 39.73 256 P **P** **05 49 31.3 +0.9**
baz=41
P41A Barry, Barry 39.78 271 P **P** **05 49 31.3 +0.6**
baz=47
T46A Princeton 39.80 265 P **P** **05 49 31.6 +0.7**
baz=45
X51A Calhoun 39.87 259 P **P** **05 49 32.4 +0.9**
baz=42
U47A Clarksville 39.88 264 P **P** **05 49 32.2 +0.6**
baz=44,SNR=10
Y52A Lilburn 39.94 258 P **P** **05 49 33.1 +0.9**
baz=42
GOGA Godfrey 39.95 257 P **P** **05 49 33.0 +0.8**
baz=41
155A Kite 39.99 255 P **P** **05 49 33.5 +1.0**
baz=40
Q42A Golden Eagle 39.99 269 P **P** **05 49 33.2 +0.7**
baz=47
SIUC Southern Illin 40.07 267 *e*P **P** **05 49 33.9 +0.7**
comp=Z,43nm,1.0s
R43A Red Bud 40.09 268 P **P** **05 49 34.1 +0.8**
baz=46
Z53A Monticello 40.11 257 P **P** **05 49 34.8 +1.3**
baz=41
S44A Carbondale 40.11 267 P **P** **05 49 34.5 +1.0**
baz=46
V48A Smith Brothers 40.12 263 *e*P **P** **05 49 34.5 +0.9**
comp=Z,27nm,1.1s
V48A Smith Brothers 40.12 263 P **P** **05 49 34.5 +0.9**
baz=44
256A Glennville 40.16 254 P **P** **05 49 35.4 +1.5**
baz=40
W49A Belvidere 40.25 261 P **P** **05 49 35.2 +0.5**
baz=43
ECSD EROS Data Cent 40.26 280 *e*P **P** **05 49 35.7 +0.9**
comp=Z,17nm,0.9s
ECSD EROS Data Cent 40.26 280 P **P** **05 49 35.2 +0.4**
baz=50,SNR=11
154A Montrose 40.35 256 P **P** **05 49 36.4 +0.8**
baz=41
Q41A Truxton 40.36 270 P **P** **05 49 36.1 +0.5**
baz=47
X50B Fort Payne 40.39 260 P **P** **05 49 36.6 +0.7**
baz=43
WVT Waverly 40.41 264 *e*P **P** **05 49 36.2 +0.2**
comp=Z,15nm,1.0s
WVT Waverly 40.41 264 *e*P **P** **05 49 36.2 +0.2**
WVT pmax pmax
comp=Z,15nm,1.0s
WVT Waverly 40.41 264 P **P** **05 49 36.5 +0.5**
baz=44
V47A Nunnelly 40.45 263 P **P** **05 49 37.0 +0.6**
baz=44
Y51A Rockmart 40.48 259 P **P** **05 49 36.7 +0.1**
baz=42
FVM French Village 40.57 268 *e*P **P** **05 49 38.0 +0.7**
comp=Z,21nm,1.1s
FVM French Village 40.57 268 *e*P **P** **05 49 38.0 +0.7**
FVM pmax pmax
comp=Z,21nm,1.1s
R42A Luebbering 40.58 269 P **P** **05 49 37.3 -0.1**
baz=46
W48A Pulaski 40.62 262 P **P** **05 49 37.5 -0.2**
baz=43
Z52A Williamson 40.64 258 P **P** **05 49 38.2 +0.3**
baz=41,SNR=5.7
S43A Fulton Ridge, 40.66 267 P **P** **05 49 38.0 0.0**
baz=46
153A Fort Valley 40.72 257 P **P** **05 49 39.1 +0.4**
baz=41
X49A Woodville 40.73 261 P **P** **05 49 38.7 0.0**
baz=43
356A Blackshear 40.80 254 P **P** **05 49 39.2 0.0**
baz=40
V46A Holladay 40.80 264 P **P** **05 49 39.3 0.0**
baz=44
Y50A Piedmont 40.85 260 P **P** **05 49 39.8 +0.1**
baz=42
R41A Rosebud 40.90 269 P **P** **05 49 39.9 -0.1**
baz=46,SNR=7.2
W47A Westpoint 40.91 263 P **P** **05 49 40.3 +0.2**
baz=43
S42A Caledonia 40.93 268 P **P** **05 49 40.3 0.0**
baz=46
254A Abbeville 40.96 255 P **P** **05 49 40.9 +0.4**
baz=40
CCM Cathedral Cave 40.99 269 *e*P **P** **05 49 39.8 -1.0**
comp=Z,18nm,1.0s
CCM Cathedral Cave 40.99 269 *e*P **P** **05 49 39.8 -1.0**
CCM pmax pmax
comp=Z,18nm,1.0s
CCM Cathedral Cave 40.99 269 P **P** **05 49 40.9 +0.1**
baz=46
T43A Greenville 41.12 267 P **P** **05 49 41.9 0.0**
baz=45,SNR=9.9
355A Pearson 41.18 254 P **P** **05 49 43.2 +0.9**
baz=40
X48A Hartselle 41.18 261 P **P** **05 49 43.0 +0.6**
baz=43
152A Waverly Hall 41.20 257 P **P** **05 49 43.3 +0.7**
baz=41
253A Americus 41.33 256 P **P** **05 49 44.3 +0.6**
baz=40
PBMO Poplar Bluff 41.42 267 *e*P **P** **05 49 44.6 +0.3**
comp=Z,31nm,1.1s
Z50A Ashland 41.43 259 P **P** **05 49 44.9 +0.4**
baz=42
DGMT Dagmar 41.51 290 *e*P **P** **05 49 45.7 +0.7**
comp=Z,20nm,1.0s
DGMT Dagmar 41.51 290 P **P** **05 49 45.3 +0.4**
baz=53,SNR=9.1
X47A Russelville 41.59 262 P **P** **05 49 45.9 +0.2**
baz=43
S41A Jillco Farms, 41.60 269 P **P** **05 49 45.9 +0.1**
baz=46
T42A Van Buren 41.62 268 *e*P **P** **05 49 46.0 +0.1**
comp=Z,13nm,1.0s
T42A Van Buren 41.62 268 P **P** **05 49 46.3 +0.4**
baz=45
Y48A Jasper 41.64 261 P **P** **05 49 46.5 +0.3**
baz=42
151A Opelika 41.64 258 P **P** **05 49 47.0 +0.8**
baz=41
252A Lumpkin 41.72 257 P **P** **05 49 47.7 +0.9**
baz=40
455A Stateville 41.73 254 P **P** **05 49 47.9 +1.0**
baz=39
Z49A Columbiana 41.82 260 P **P** **05 49 48.1 +0.5**
baz=42
X46A Booneville 41.97 263 P **P** **05 49 48.7 -0.1**
baz=43,SNR=7.8
150A Eclectic 41.97 259 P **P** **05 49 49.5 +0.6**
baz=41
251A Midway 42.02 257 P **P** **05 49 49.8 +0.6**
baz=41
LRAL Lakeview Retre 42.20 260 *e*P **P** **05 49 50.7 0.0**
comp=Z,14nm,1.1s
LRAL Lakeview Retre 42.20 260 P **P** **05 49 50.9 +0.1**
baz=42
149A Jones 42.41 259 P **P** **05 49 52.8 +0.4**
baz=41
OXF Oxford 42.47 264 *e*P **P** **05 49 52.8 -0.1**
comp=Z,57nm,1.0s
OXF Oxford 42.47 264 *e*P **P** **05 49 52.8 -0.1**
OXF pmax pmax
comp=Z,57nm,1.0s
OXF Oxford 42.47 264 P **P** **05 49 52.9 0.0**
baz=43
VSR Storozhevoye 42.55 64 *i* P **P** **05 49 55.1 +1.8**
VSR pmax pmax
comp=Z,10.0nm,1.1s
U41A Viola 42.57 268 P **P** **05 49 54.0 +0.2**
baz=45
250A Grady 42.58 258 *e*P **P** **05 49 56.4 +2.5**
comp=Z,29nm,1.0s
250A Grady 42.58 258 P **P** **05 49 54.8 +1.0**
baz=41
BGNE Belgrade 42.63 278 *e*P **P** **05 49 54.0 -0.2**
comp=Z,34nm,0.9s
BGNE Belgrade 42.63 278 P **P** **05 49 54.5 +0.3**
baz=48
452A Marianna 42.84 256 P **P** **05 49 56.2 +0.3**
baz=40
INK Inuvik 42.89 327 *e*P **P** **05 49 55.3 -0.6**
comp=Z,6.9nm,1.1s
INK Inuvik 42.89 327 *e*P **P** **05 49 55.3 -0.6**
INK pmax pmax
comp=Z,7.0nm,1.1s
INK Inuvik 42.89 327 P **P** **05 49 54.6 -1.3**
comp=Z,7.4nm,1.1s,baz=39,slow=9.5,SNR=10
553A Crawfordville 42.93 255 P **P** **05 49 57.2 +0.6**
baz=39
350A Dozier 43.04 258 P **P** **05 49 57.5 0.0**
baz=40
249A Camden 43.06 259 P **P** **05 49 58.2 +0.5**
baz=41
U40A Yellville 43.09 268 P **P** **05 49 58.8 +0.8**
baz=45
147A Livingston 43.18 261 *e*P **P** **05 49 59.3 +0.7**
comp=Z,48nm,1.1s
147A Livingston 43.18 261 P **P** **05 49 59.3 +0.7**
baz=42
X43A Marvell 43.29 265 P **P** **05 50 00.1 +0.5**
baz=43
KSU1 Kansas State U 43.32 274 P **P** **05 49 60.0 +0.2**
baz=47
451A Vernon 43.33 256 P **P** **05 50 00.8 +0.9**
baz=40
552A Lynn Haven 43.45 256 P **P** **05 50 02.5 +1.6**
baz=39
WHAR Wooly Hollow 43.53 267 *e*P **P** **05 50 01.8 +0.3**
comp=Z,19nm,1.0s
349A Repton 43.57 258 P **P** **05 50 02.1 +0.3**
baz=40
W41B Gary Mavity, V 43.59 267 *e*P **P** **05 50 02.2 +0.2**
comp=Z,20nm,0.9s
W41B Gary Mavity, V 43.59 267 P **P** **05 50 02.1 +0.1**
baz=44
LAO LASA Array 43.69 289 *e*P **P** **05 50 04.3 +1.6**
comp=Z,69nm,0.9s
LAO LASA Array 43.69 289 P **P** **05 50 02.7 0.0**
baz=51,SNR=32
HHAR Hobbs 43.77 269 *e*P **P** **05 50 02.8 -0.6**
comp=Z,16nm,0.9s
CCAR Cane Creek 44.24 265 *e*P **P** **05 50 08.0 +0.8**
comp=Z,49nm,1.1s
TAM Tamanrasset 44.34 121 *e*P **P** **05 50 09.9 +1.6**
comp=Z,4.4nm,1.1s
TAM Tamanrasset 44.34 121 *e*P **P** **05 50 09.9 +1.6**
TAM pmax pmax
comp=Z,4.0nm,1.1s
059Z Ave Maria 44.36 248 P **P** **05 50 09.8 +1.6**
baz=36
X40A Basin Creek Fa 44.42 267 *e*P **P** **05 50 08.7 0.0**
comp=Z,24nm,1.0s
X40A Basin Creek Fa 44.42 267 P **P** **05 50 08.9 +0.2**
baz=43
W39A Magazine 44.45 268 *e*P **P** **05 50 09.2 +0.3**
comp=Z,27nm,1.1s
W39A Magazine 44.45 268 P **P** **05 50 08.9 0.0**
baz=44,SNR=8.2
EGMT Eagleton 44.72 293 *e*P **P** **05 50 12.2 +1.2**
comp=Z,61nm,1.0s
EGMT Eagleton 44.72 293 P **P** **05 50 11.3 +0.3**
baz=51,SNR=26
VBMS Vicksburg 44.78 262 *e*P **P** **05 50 09.3 -2.2**
comp=Z,33nm,0.8s
VBMS Vicksburg 44.78 262 P **P** **05 50 11.6 0.0**
baz=42
MIAR Mount Ida 44.80 267 *e*P **P** **05 50 12.0 +0.3**
comp=Z,30nm,1.0s
MIAR Mount Ida 44.80 267 *e*P **P** **05 50 12.0 +0.3**
MIAR pmax pmax
comp=Z,30nm,1.0s
MIAR Mount Ida 44.80 267 P **P** **05 50 11.6 -0.1**
baz=43,SNR=16
EPYK Eagle Plains 45.04 326 *e*P **P** **05 50 12.6 -0.7**
comp=Z,18nm,1.0s
EPYK Eagle Plains 45.04 326 P **P** **05 50 12.3 -1.0**
baz=52,SNR=15
TUL1 Leonard 45.08 270 *e*P **P** **05 50 13.2 -0.7**
comp=Z,23nm,1.0s
TUL1 Leonard 45.08 270 P **P** **05 50 13.7 -0.2**
baz=44
IDI Anoyia 45.09 91 LR LR 06 08 45.3
comp=Z,258nm,21.6s,baz=330,slow=36
WLAR White Oak Lake 45.16 266 *e*P **P** **05 50 14.4 -0.1**
comp=Z,36nm,1.1s
CBKS Cedar Bluff 45.28 276 P **P** **05 50 15.6 0.0**
baz=46
Z41A Richland Creek 45.30 265 *e*P **P** **05 50 15.5 -0.1**
comp=Z,41nm,1.0s
Z41A Richland Creek 45.30 265 P **P** **05 50 16.2 +0.5**
baz=42
GCMT Greycliff 46.10 291 *e*P **P** **05 50 23.1 +1.0**
WALA Waterton Lakes 46.21 297 *e*P **P** **05 50 23.4 +0.5**
comp=Z,17nm,1.1s
RLMT Red Lodge 46.32 290 *e*P **P** **05 50 25.1 +1.2**
comp=Z,31nm,1.1s
RLMT Red Lodge 46.32 290 P **P** **05 50 24.6 +0.8**
baz=49,SNR=36
K22A Casper 46.47 285 *e*P **P** **05 50 24.1 -1.0**
comp=Z,20nm,1.1s
K22A Casper 46.47 285 P **P** **05 50 24.8 -0.2**
baz=48,SNR=7.9
HRY Holter Researc 46.64 293 *e*P **P** **05 50 27.2 +0.9**
KSCO Kaye Shedlock' 46.78 279 *e*P **P** **05 50 27.6 +0.2**
comp=Z,37nm,1.1s
KSCO Kaye Shedlock' 46.78 279 P **P** **05 50 27.0 -0.5**
baz=46
BR101 Keskin Array S 46.93 80 *e*P **P** **05 50 28.4 -0.2**
BR131 Keskin Array S 46.93 80 *e*P **P** **05 50 30.1 +1.5**
comp=Z,12nm,0.9s
BRTR Keskin Array B 46.93 80 *i* P **P** **05 50 30.0 +1.4**
BRTR pmax pmax
comp=Z,8.0nm,0.7s
BRTR Keskin Array B 46.93 80 P **P** **05 50 28.5 -0.2**
comp=Z,7.9nm,0.7s,baz=313,slow=5.5,SNR=30
BRTR LR LR 06 11 09.8
comp=Z,204nm,20.8s,baz=300,slow=38
TOLK Toolik Lake Re 47.22 333 *e*P **P** **05 50 30.9 +0.5**
comp=Z,7.8nm,1.1s
TOLK Toolik Lake Re 47.22 333 P **P** **05 50 29.9 -0.5**
baz=45,SNR=13
BOZ Bozeman (W) 47.27 292 *e*P **P** **05 50 31.8 +0.6**
comp=Z,31nm,1.0s
BOZ Bozeman (W) 47.27 292 *e*P **P** **05 50 31.8 +0.6**
BOZ pmax pmax
comp=Z,31nm,1.0s
BOZ Bozeman (W) 47.27 292 P **P** **05 50 31.5 +0.4**
baz=49,SNR=37
LKWY Lake 47.29 290 *e*P **P** **05 50 32.1 +0.6**
comp=Z,12nm,1.0s
LKWY Lake 47.29 290 *e*P **P** **05 50 32.1 +0.6**
LKWY pmax pmax
comp=Z,13nm,1.0s
N23A Red Feather La 47.33 283 *e*P **P** **05 50 32.5 +0.6**
comp=Z,16nm,1.1s
N23A Red Feather La 47.33 283 P **P** **05 50 32.1 +0.2**
baz=47,SNR=8.0
DAWY Dawson 47.39 325 *e*P **P** **05 50 32.6 +0.8**
comp=Z,9.9nm,1.1s
YHH Holmes Hill 47.39 290 *e*P **P** **05 50 33.8 +1.4**
comp=Z,4.1nm,0.9s
NATX Nacogdoches 47.46 266 P **P** **05 50 32.3 -0.4**
baz=42
EGAK Eagle 47.48 326 *e*P **P** **05 50 32.4 0.0**
comp=Z,17nm,1.1s
FYU Fort Yukon 47.49 329 *e*P **P** **05 50 34.1 +1.6**
comp=Z,26nm,1.2s
H17A Grant Village 47.50 290 *e*P **P** **05 50 34.2 +1.0**
comp=Z,17nm,1.0s
H17A Grant Village 47.50 290 P **P** **05 50 33.1 0.0**
baz=48
YFT Old Faithful 47.60 290 *e*P **P** **05 50 35.4 +1.4**
comp=Z,22nm,1.0s
WMOK Wichita Mounta 47.62 272 *e*P **P** **05 50 34.1 +0.2**
comp=Z,13nm,1.0s
WMOK Wichita Mounta 47.62 272 *e*P **P** **05 50 34.1 +0.2**
WMOK pmax pmax
comp=Z,13nm,1.0s
WMOK Wichita Mounta 47.62 272 P **P** **05 50 33.6 -0.4**
baz=44,SNR=10
DLBC Dease Lake 47.63 315 *e*P **P** **05 50 34.2 +0.4**
comp=Z,18nm,1.1s
MSO Missoula 47.66 294 *e*P **P** **05 50 34.4 +0.1**
comp=Z,12nm,1.1s
MSO Missoula 47.66 294 P **P** **05 50 33.9 -0.4**
baz=49
YPP Pitchstone Pla 47.71 290 *e*P **P** **05 50 36.2 +1.4**
comp=Z,12nm,1.1s
FLWY Flagg Ranch 47.77 289 *e*P **P** **05 50 36.4 +1.2**
comp=Z,11nm,1.0s

ISCO **Idaho Springs** 47.90 282 *e*P P 05 50 37.3 +0.9
comp=Z,15nm,1.0s
ISCO **Idaho Springs** 47.90 282 *e*P P 05 50 37.3 +0.9
ISCO pmax pmax
comp=Z,15nm,1.0s
ISCO **Idaho Springs** 47.90 282 P P 05 50 36.1 -0.3
baz=46,SNR=18
DLMT **Dillon** 47.93 292 *e*P P 05 50 37.6 +1.2
comp=Z,19nm,1.1s
MOOW **Moose Ponds** 48.02 289 *e*P P 05 50 37.8 +0.6
comp=Z,3.7nm,1.1s
IMW **Indian Meadow** 48.03 289 *e*P P 05 50 37.4 +0.1
comp=Z,8.3nm,1.1s
LOHW **Long Hollow** 48.04 289 *e*P P 05 50 36.0 -1.3
comp=Z,5.4nm,1.0s
BW06 **Boulder Array** 48.04 287 *e*P P 05 50 36.7 -0.6
comp=Z,15nm,1.1s
BW06 **Boulder Array** 48.04 287 P P 05 50 37.1 -0.3
baz=47,SNR=13
PD31 **Pinedale Array** 48.04 287 *e*P P 05 50 37.1 -0.3
comp=Z,6.2nm,1.0s
PDAR **Pinedale Array** 48.04 287 *e*P P 05 50 36.1 -1.3
PDAR **Pinedale Array** 48.04 287 P P 05 50 36.8 -0.5
comp=Z,4.7nm,0.9s,baz=64,slow=6.8,SNR=17
PDAR LR LR 06 09 51.7
comp=Z,995nm,19.0s,baz=40,slow=35
SNOW **Snow King Moun** 48.22 289 *e*P P 05 50 39.6 +0.8
comp=Z,10nm,1.1s
Q24A **Divide** 48.22 281 P P 05 50 39.4 +0.5
baz=46
FXWY **Fox Creek** 48.25 289 *e*P P 05 50 39.6 +0.7
comp=Z,14nm,1.0s
TPAW **Teton Pass** 48.31 289 *e*P P 05 50 38.7 -0.7
comp=Z,15nm,1.0s
PRP **Porcupine Dome** 48.31 328 *e*P P 05 50 40.1 +1.1
comp=Z,13nm,1.2s
REDW **Red Top Meadow** 48.34 289 *e*P P 05 50 37.9 -1.8
comp=Z,8.8nm,1.0s
NEW **Newport** 48.35 298 *e*P P 05 50 39.7 +0.3
comp=Z,9.4nm,1.0s
NEW **Newport** 48.35 298 *e*P P 05 50 39.7 +0.3
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW **Newport** 48.35 298 P P 05 50 39.7 +0.3
baz=49
ARU **Arti** 48.39 48 *e*P P 05 50 40.0 +0.5
comp=Z,18nm,0.9s
ARU **Arti** 48.39 48 *c i*P P 05 50 39.8 +0.3
ARU 05 52 30.6
ARU S S 05 57 40.6 +1.4
ARU SS SS 06 01 07.5 -0.6
ARU pmax pmax
comp=Z,21nm,0.9s
COLD **Coldfoot** 48.41 332 *e*P P 05 50 40.2 +0.7
comp=Z,4.9nm,1.0s
MCMT **McKenzie Canyo** 48.42 292 *e*P P 05 50 41.7 +1.4
GOF **Gofitskoye** 48.44 68 *e*P P 05 50 46.2 +6.1
NRIK **Noril'sk** 48.67 23 P P 05 50 39.9 -1.6
comp=Z,1.9nm,0.4s,baz=350,slow=10,SNR=2.6
NRIK LR LR 06 10 06.1
comp=Z,90nm,20.6s,baz=345,slow=35
WHTX **Lake Whitney,** 48.88 268 P P 05 50 44.9 +1.3
baz=42
HYT **Haines Junctio** 48.91 321 *e*P P 05 50 45.6 +1.9
comp=Z,19nm,1.0s
SCRK **Sand Creek** 48.93 326 *e*P P 05 50 44.5 +0.8
comp=Z,22nm,1.1s
SVE **Sverdlovsk** 48.99 46 *e*P P 05 50 44.9 +0.7
KIV **Kislovodsk** 49.00 69 *e*P P 05 50 43.2 -1.3
KIV pmax pmax
comp=Z,19nm,1.0s
KIV MLR MLR
comp=Z,619nm,16.0s
T25A **Trinidad** 49.09 278 *e*P P 05 50 46.5 +1.1
comp=Z,18nm,1.1s
T25A **Trinidad** 49.09 278 P P 05 50 45.9 +0.4
baz=45,SNR=11
O20A **White River Ci** 49.13 284 *e*P P 05 50 46.8 +1.1
comp=Z,13nm,1.1s
O20A **White River Ci** 49.13 284 P P 05 50 45.6 -0.1
baz=46
LLLB **Lillooet** 49.14 303 *e*P P 05 50 45.9 +0.5
comp=Z,17nm,0.9s
POKR **Poker Plat Res** 49.16 329 P P 05 50 45.6 +0.2
baz=44,SNR=10.0
AMTX **Amarillo** 49.16 274 *e*P P 05 50 46.9 +1.0
comp=Z,36nm,1.0s
AMTX **Amarillo** 49.16 274 P P 05 50 46.3 +0.5
baz=44
DOT **Dot Lake** 49.18 326 *e*P P 05 50 46.7 +1.1
comp=Z,9.8nm,1.1s
C09A **Chrisman Ranch** 49.23 298 *e*P P 05 50 46.4 +0.2
comp=Z,18nm,1.0s
IL1 **Eielson Array** 49.25 328 *e*P P 05 50 46.4 +0.4
ILAR **Eielson Array** 49.25 328 P P 05 50 45.2 -0.9
comp=Z,9.9nm,1.1s,baz=40,slow=6.2,SNR=50
ILAR PcP PcP 05 52 08.2 -0.6
comp=Z,2.1nm,0.9s,baz=3.2,slow=3.5,SNR=4.8
ILB **Eielson Array** 49.25 328 *e*P P 05 50 46.7 +0.6
comp=Z,24nm,1.1s
ILB *e*PcP PcP 05 52 08.2 -0.6
KBZ **Khabaz** 49.26 69 LR LR 06 10 05.1
comp=Z,320nm,21.2s,baz=323,slow=34
SDCO **Great Sand Dun** 49.27 280 *e*P P 05 50 47.7 +0.7
comp=Z,3.3nm,1.1s
SDCO **Great Sand Dun** 49.27 280 P P 05 50 47.3 +0.4
baz=45
RIDG **Independ'e Rid** 49.36 327 *e*P P 05 50 48.3 +1.3
comp=Z,17nm,1.2s
B08A **Colville Reser** 49.39 299 *e*P P 05 50 47.5 +0.1
COLA **College** 49.46 329 *e*P P 05 50 48.5 +0.9
comp=Z,12nm,1.1s
COLA **College** 49.46 329 *e*P P 05 50 48.5 +0.9
COLA pmax pmax
comp=Z,12nm,1.1s
TCOL **CIGO, UAF Yank** 49.47 329 P P 05 50 47.4 -0.3
baz=44
HKT **Hockley** 49.49 265 *e*P P 05 50 49.0 +0.8
comp=Z,5.5nm,1.1s
HKT **Hockley** 49.49 265 *e*P P 05 50 49.0 +0.8
HKT pmax pmax
comp=Z,6.0nm,1.1s
MDM **Murphy Dome** 49.51 329 *e*P P 05 50 48.4 +0.4
comp=Z,31nm,1.2s
HDA **Harding Lake** 49.53 328 *e*P P 05 50 48.8 +0.6
comp=Z,9.6nm,0.9s
HDA **Harding Lake** 49.53 328 P P 05 50 47.9 -0.3
baz=44,SNR=6.8
MENT **Mentasta** 49.58 325 *e*P P 05 50 49.7 +1.1
comp=Z,14nm,1.2s
CCB **Clear Creek Bu** 49.61 329 *e*P P 05 50 49.2 +0.4
comp=Z,6.6nm,1.0s
ABTX **Abilene, Hawle** 49.65 271 P P 05 50 49.6 +0.1
baz=42
WRH **Wood River Hil** 49.83 329 *e*P P 05 50 51.0 +0.5
comp=Z,19nm,1.2s
435B **Jarrell** 49.85 267 P P 05 50 51.4 +0.3
baz=41
F10A **Beach Ranch, E** 49.93 295 *e*P P 05 50 52.0 +0.3
comp=Z,7.8nm,1.0s
S22A **4UR Ranch, Cre** 50.02 281 *e*P P 05 50 53.0 +0.4
comp=Z,1.3nm,0.9s
S22A **4UR Ranch, Cre** 50.02 281 P P 05 50 52.8 +0.2
baz=45
HLID **Hailey** 50.11 291 *e*P P 05 50 54.0 +1.0
comp=Z,15nm,1.0s
HLID **Hailey** 50.11 291 P P 05 50 53.1 0.0
baz=47,SNR=23
PAX **Paxson** 50.11 326 *e*P P 05 50 54.2 +1.5
comp=Z,14nm,1.2s
PAX **Paxson** 50.11 326 *e*P P 05 50 54.2 +1.5
PAX pmax pmax
comp=Z,14nm,1.2s
TCUT **Toone Canyon** 50.18 287 *e*P P 05 50 54.2 +0.5
comp=Z,19nm,1.0s
IM3 **Indian Mountai** 50.28 332 *e*P P 05 50 54.0 +0.1
MSTX **Muleshoe** 50.45 274 *e*P P 05 50 56.0 +0.3
comp=Z,27nm,1.1s
MSTX **Muleshoe** 50.45 274 P P 05 50 55.6 -0.1
baz=43,SNR=9.0
BWN **Browne** 50.45 329 *e*P P 05 50 55.7 +0.5
comp=Z,75nm,1.2s
HVU **Hansel Valley** 50.46 289 *e*P P 05 50 56.4 +0.7
comp=Z,10nm,1.1s
HVU **Hansel Valley** 50.46 289 *e*P P 05 50 56.4 +0.7
HVU pmax pmax
comp=Z,10.0nm,1.1s

JLU **Jordanelle** 50.56 287 *e*P P 05 50 57.1 +0.4
comp=Z,5.5nm,0.9s
SPUT **South Promonto** 50.61 288 *e*P P 05 50 56.5 -0.4
comp=Z,8.1nm,1.1s
DHY **Denali Highway** 50.63 327 *e*P P 05 50 57.6 +0.8
comp=Z,20nm,1.1s
CTU **Camp Tracy** 50.66 287 *e*P P 05 50 56.9 -0.4
comp=Z,7.2nm,1.0s
BMO **Blue Mountains** 50.74 294 *e*P P 05 50 57.2 -0.5
comp=Z,12nm,1.1s
BMO **Blue Mountains** 50.74 294 *e*P P 05 50 57.3 -0.5
BMO pmax pmax
comp=Z,12nm,1.1s
LTY **Liberty** 50.80 299 *e*P P 05 50 57.4 -0.7
comp=Z,18nm,1.1s
A04D **Lummi Island** 50.80 301 P P 05 50 56.6 -1.4
baz=47
B05A **Bryant** 50.82 301 P P 05 50 57.5 -0.7
baz=47
TGL **Tana Glacier** 50.84 323 *e*P P 05 50 57.4 -0.8
comp=Z,35nm,1.1s
RND **Reindeer** 50.84 328 *e*P P 05 50 57.7 -0.5
comp=Z,19nm,1.1s
RND **Reindeer** 50.84 328 *e*P P 05 50 57.7 -0.5
RND pmax pmax
comp=Z,19nm,1.1s
RDOG **Red Dog Mine** 50.85 337 *e*P P 05 50 58.6 +0.4
comp=Z,12nm,1.1s
BPAW **Bear Paw Mtn.** 50.95 329 *e*P P 05 50 59.2 +0.2
comp=Z,23nm,1.2s
TOA1 **Torodi Ar. Sit** 50.98 131 *e*P P 05 50 57.8 -1.9
TOA0 **Torodi Ar. Sit** 50.98 131 *e*P P 05 50 57.6 -2.1
TOA0 *e*P P 05 50 59.1 -0.6
TORD **Torodi Ar. Bea** 50.98 131 P P 05 50 57.8 -1.9
comp=Z,3.9nm,1.0s,baz=329,slow=7.0,SNR=14
TORD LR LR 06 10 19.2
comp=Z,460nm,21.8s,baz=335,slow=33
MPU **Maple Canyon** 51.07 286 *e*P P 05 51 01.1 +0.6
comp=Z,22nm,1.1s
SRU **San Rafael Swe** 51.10 285 *e*P P 05 51 02.3 +1.6
comp=Z,5.5nm,1.0s
SRU **San Rafael Swe** 51.10 285 *e*P P 05 51 02.3 +1.6
SRU pmax pmax
comp=Z,6.0nm,1.0s
BGU **Big Grassy Mou** 51.19 288 *e*P P 05 51 01.8 +0.5
comp=Z,3.5nm,1.2s
TRF **Thorofare Moun** 51.24 329 *e*P P 05 51 00.5 -0.8
comp=Z,18nm,1.0s
G08A **Pilot Rock** 51.28 296 *e*P P 05 51 00.7 -1.2
comp=Z,2.9nm,1.0s
MVCO **Mesa Verde** 51.33 281 *e*P P 05 51 02.5 0.0
comp=Z,12nm,1.0s
MVCO **Mesa Verde** 51.33 281 P P 05 51 01.5 -0.9
baz=44
KLU **Klutina** 51.34 325 *e*P P 05 51 02.9 +1.0
comp=Z,25nm,1.2s
JCT **Junction City** 51.34 269 P P 05 51 01.6 -0.8
baz=41
TMUT **Trail Mountain** 51.34 285 *e*P P 05 51 01.5 -1.2
comp=Z,6.4nm,1.0s
NLU **North Lily Min** 51.35 286 *e*P P 05 51 03.1 +0.5
comp=Z,22nm,1.2s
DUG **Dugway, Tooele** 51.59 287 *e*P P 05 51 04.9 +0.7
comp=Z,6.4nm,1.1s
DUG **Dugway, Tooele** 51.59 287 *e*P P 05 51 04.9 +0.7
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG **Dugway, Tooele** 51.59 287 P P 05 51 02.9 -1.3
baz=45
Q16A **Castle Valley** 51.59 285 *e*P P 05 51 04.4 +0.1
comp=Z,5.9nm,1.0s
ANMO **Albuquerque** 51.82 278 *e*P P 05 51 07.5 +1.5
comp=Z,4.9nm,1.1s
ANMO **Albuquerque** 51.82 278 *ce*P P 05 51 07.6 +1.5
ANMO pmax pmax
comp=Z,11nm,1.3s
ANMO **Albuquerque** 51.82 278 P P 05 51 06.0 -0.1
baz=43
TASM **ASL Pad, Albuq** 51.82 278 P P 05 51 06.3 +0.2
baz=43
TASM **ASL Pad, Albuq** 51.82 278 P P 05 51 06.3 +0.2
baz=43
SML **Sawmill** 51.87 326 *e*P P 05 51 06.9 +0.9
comp=Z,30nm,1.1s
SML **Sawmill** 51.87 326 *e*P P 05 51 06.9 +0.9
SML pmax pmax
comp=Z,30nm,1.1s
D04E **Lakebay** 51.90 300 P P 05 51 05.7 -0.5
baz=46
F05D **White Salmon** 52.14 298 P P 05 51 07.2 -0.9
baz=46
AKTO **Aktyubinsk** 52.20 54 P P 05 51 07.9 -0.6
AKTO pmax pmax
comp=Z,16nm,0.9s
KNK **Knik Glacier** 52.21 326 *e*P P 05 51 08.2 -0.2
comp=Z,32nm,1.1s
PPLA **Purkeypile** 52.22 329 *e*P P 05 51 07.9 -0.8
comp=Z,14nm,1.2s
PMR **Palmer** 52.29 326 *e*P P 05 51 09.9 +1.0
comp=Z,16nm,1.1s
PMR **Palmer** 52.29 326 *e*P P 05 51 09.9 +1.0
PMR pmax pmax
comp=Z,16nm,1.1s
J08A **Circle Bar Ran** 52.38 294 *e*P P 05 51 10.3 +0.3
comp=Z,28nm,1.1s
I07A **Izee** 52.40 295 *e*P P 05 51 10.1 -0.1
comp=Z,2.9nm,1.0s
MSU **Marysvale** 52.43 285 *e*P P 05 51 11.7 +1.0
BNM **Barren Site** 52.49 277 *e*P P 05 51 12.0 +0.9
ELK **Elko** 52.51 289 *e*P P 05 51 12.2 +1.0
comp=Z,16nm,1.1s
TCRU **Three Creeks R** 52.51 286 *e*P P 05 51 12.9 +1.6
comp=Z,14nm,1.2s
G05D **Wamic, OR** 52.52 297 P P 05 51 10.3 -0.6
baz=46
LAZ **Ladron** 52.60 278 *e*P P 05 51 14.1 +2.2
TIXI **Tiksi** 52.60 6 *e*P P 05 51 10.8 -0.4
comp=Z,9.8nm,0.5s
TIXI **Tiksi** 52.60 6 *ce*P P 05 51 12.0 +0.8
TIXI pmax pmax
comp=Z,17nm,1.0s
LENM **Lemitar** 52.68 278 *e*P P 05 51 13.2 +0.8
833A **Chaparral WMA,** 52.74 267 *e*P P 05 51 13.0 +0.3
comp=Z,18nm,1.1s
833A **Chaparral WMA,** 52.74 267 P P 05 51 13.3 +0.6
baz=40
GNI **Garni** 52.74 71 *ce*P P 05 51 14.2 +1.4
GNI pmax pmax
comp=Z,194nm,1.7s
MTPU **Mount Pierson** 52.77 285 *e*P P 05 51 14.7 +1.4
comp=Z,8.3nm,1.1s
RC01 **Rabbit Creek A** 52.86 326 *e*P P 05 51 14.8 +1.6
comp=Z,26nm,1.2s
SUA **Susitna One** 52.89 327 *e*P P 05 51 14.7 +1.2
comp=Z,24nm,1.0s
WVOR **Wild Horse Val** 53.11 293 *e*P P 05 51 16.3 +0.8
comp=Z,11nm,1.1s
WVOR **Wild Horse Val** 53.11 293 *e*P P 05 51 16.3 +0.8
WVOR pmax pmax
comp=Z,11nm,1.1s
I05D **Terrebonne, OR** 53.16 297 P P 05 51 15.0 -0.7
baz=45
PKCU **Pink Cliffs** 53.27 284 *e*P P 05 51 18.0 +1.0
comp=Z,26nm,1.1s
PSUT **Pine Spring** 53.34 286 *e*P P 05 51 18.3 +1.0
comp=Z,9.5nm,1.0s
PINE **Pine Mountain** 53.34 296 *e*P P 05 51 18.3 +1.0
comp=Z,29nm,1.1s
H04A **Detroit Lake** 53.35 297 *e*P P 05 51 20.9 +3.8
comp=Z,5.4nm,1.1s
W18A **Petrified Fore** 53.53 281 *e*P P 05 51 21.2 +2.4
comp=Z,7.7nm,1.0s
SZCU **Shurtz Canyon** 53.59 285 *e*P P 05 51 20.2 +1.0
comp=Z,7.1nm,1.1s
MNTX **Cornudas Mount** 53.60 274 *e*P P 05 51 19.0 -0.1
comp=Z,10nm,1.0s
MNTX **Cornudas Mount** 53.60 274 P P 05 51 18.8 -0.3
baz=42,SNR=14
CCUT **Cedar City** 53.77 285 *e*P P 05 51 21.5 +1.0
comp=Z,9.2nm,1.1s
BMN **Battle Mountai** 53.79 290 *e*P P 05 51 21.1 +0.5
comp=Z,13nm,1.0s
BMN **Battle Mountai** 53.79 290 *e*P P 05 51 21.1 +0.5
BMN pmax pmax
comp=Z,13nm,1.0s
J05D **Fort Rock, OR** 53.86 296 P P 05 51 20.6 -0.3
baz=44,SNR=17

KNB **Kanab** 53.86 284 *e*P P 05 51 21.4 +0.3
comp=Z,18nm,1.1s
KNB **Kanab** 53.86 284 *e*P P 05 51 21.4 +0.3
KNB pmax pmax
comp=Z,18nm,1.1s
AB31 **Akbulak array** 53.92 54 *i*P P 05 51 21.6 +0.5
AB31 pmax pmax
comp=Z,6.0nm,0.9s
ABKAR **Akbulak array** 53.92 54 *e*P P 05 51 21.9 +0.8
comp=Z,6.9nm,0.9s
U15A **North Rim** 54.00 284 *e*P P 05 51 22.1 -0.2
comp=Z,7.1nm,1.0s
X18A **Snowflake** 54.08 280 *e*P P 05 51 23.1 +0.4
comp=Z,8.7nm,0.9s
LCMT **Little Creek M** 54.10 285 *e*P P 05 51 22.8 0.0
comp=Z,7.1nm,1.0s
WUAZ **Wupatki** 54.15 282 *e*P P 05 51 23.5 +0.2
WUAZ **Wupatki** 54.15 282 P P 05 51 22.6 -0.6
baz=43
J04D **Umpqua Nationa** 54.34 296 P P 05 51 23.9 -0.6
baz=44
121A **Cookes Peak, D** 54.34 277 P P 05 51 24.2 -0.5
baz=42
DBIC **Dimbokro** 54.34 142 P P 05 51 24.6 0.0
comp=Z,6.5nm,1.0s,baz=334,slow=6.0,SNR=4.8
DBIC LR LR 06 12 15.8
comp=Z,468nm,18.4s,baz=338,slow=34
MOD **Modoc Plateau** 54.36 294 *e*P P 05 51 25.2 +0.6
comp=Z,16nm,1.0s
TX31 **Lajitas Ar. Si** 54.40 271 *e*P P 05 51 24.6 -0.4
TX31 *e*P P 05 51 25.7 +0.7
TXAR **Lajitas Array** 54.40 271 P P 05 51 25.2 +0.1
comp=Z,4.9nm,1.2s,baz=60,slow=5.9,SNR=12
R11A **Troy Canyon, C** 54.41 288 *e*P P 05 51 25.2 +0.1
comp=Z,3.7nm,1.1s
R11A **Troy Canyon, C** 54.41 288 P P 05 51 25.1 0.0
baz=44,SNR=12
K04D **Chiloquin, OR** 54.59 295 P P 05 51 25.7 -0.6
baz=44
I02D **Swisshome** 54.60 298 P P 05 51 26.3 +0.2
baz=44
I03D **Drain, OR** 54.64 297 P P 05 51 26.0 -0.4
baz=44
X16A **Lo Mia Camp, P** 55.00 281 *e*P P 05 51 31.2 +1.8
comp=Z,8.5nm,1.0s
M04C **Macdoel** 55.24 295 P P 05 51 30.7 -0.4
baz=44,SNR=6.2
KVN **Kaiserville** 55.26 290 *e*P P 05 51 31.6 +0.4
comp=Z,28nm,1.2s
KVN **Kaiserville** 55.26 290 *e*P P 05 51 31.6 +0.4
KVN pmax pmax
comp=Z,28nm,1.2s
J01E **Myrtle Point** 55.32 297 P P 05 51 31.4 +0.1
baz=44
PAHR **Pah Rah Range** 55.46 291 *e*P P 05 51 34.0 +1.3
comp=Z,31nm,1.1s
SHPR **Sheep Range** 55.52 286 *e*P P 05 51 33.9 +0.7
comp=Z,9.5nm,1.2s
K02D **Willamette Mer** 55.52 297 P P 05 51 32.2 -0.7
baz=43
BRVK **Borovoye** 55.59 45 *e*P P 05 51 32.9 -0.3
comp=Z,9.1nm,1.1s
BRVK **Borovoye** 55.59 45 *e*P P 05 51 33.8 +0.6
BRVK pmax pmax
comp=Z,7.0nm,1.1s
BVA0 **Borovoye Array** 55.66 45 *i*P P 05 51 34.3 +0.6
BVA0 pmax pmax
comp=Z,11nm,1.1s
NV11 **Mina Array Sit** 55.73 289 *e*P P 05 51 35.1 +0.5
comp=Z,1.0nm,1.1s
RYN **Ryan** 55.79 290 *e*P P 05 51 35.4 +0.3
comp=Z,12nm,1.0s
TPNV **Topopah Spring** 55.79 287 *e*P P 05 51 35.4 +0.3
comp=Z,13nm,1.1s
TPNV **Topopah Spring** 55.79 287 *e*P P 05 51 35.4 +0.3
TPNV pmax pmax
comp=Z,13nm,1.1s
TPNV **Topopah Spring** 55.79 287 P P 05 51 34.2 -0.9
baz=43,SNR=12
NV01 **Mina Array Sit** 55.82 289 *e*P P 05 51 35.2 -0.1
NVAR **Mina Array Bea** 55.82 289 P P 05 51 35.2 -0.1
comp=Z,2.5nm,0.9s,baz=57,slow=7.0,SNR=10
NVAR LR LR 06 14 42.1
comp=Z,800nm,18.8s,baz=30,slow=35
BEKR **Beckworth** 55.86 292 *e*P P 05 51 36.1 +0.5
comp=Z,19nm,1.2s
L02E **Cave Junction** 55.88 296 P P 05 51 35.8 +0.3
baz=43
VCNR **Virginia City** 55.90 291 *e*P P 05 51 36.4 +0.5
comp=Z,16nm,1.1s
PNTR **Pine Nut** 56.03 291 *e*P P 05 51 37.5 +0.7
comp=Z,28nm,1.1s
319A **Douglas** 56.05 277 *e*P P 05 51 38.4 +1.5
comp=Z,10nm,1.0s
TUC **Tucson** 56.19 279 *e*P P 05 51 39.2 +1.3
comp=Z,4.6nm,1.1s
TUC **Tucson** 56.19 279 *e*P P 05 51 39.2 +1.3
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC **Tucson** 56.19 279 P P 05 51 37.8 -0.2
baz=41
Y14A **Wickenburg** 56.22 282 *e*P P 05 51 39.2 +1.1
comp=Z,4.4nm,1.1s
N02D **Trinity Center** 56.28 295 P P 05 51 37.9 -0.5
baz=43
O03E **Paynes Creek** 56.31 293 P P 05 51 38.0 -0.6
baz=43,SNR=5.4
GRAC **Grapevine Rang** 56.36 288 P P 05 51 39.0 0.0
baz=42,SNR=9.0
GAMB **Gambell** 56.40 339 *e*P P 05 51 39.4 +0.6
comp=Z,2.7nm,1.0s
FURC **Furnace Creek,** 56.48 287 P P 05 51 40.2 +0.4
baz=42
WDC **Whiskeytown Da** 56.48 294 *e*P P 05 51 41.2 +1.4
comp=Z,6.0nm,1.1s
WDC **Whiskeytown Da** 56.48 294 *e*P P 05 51 41.2 +1.4
WDC pmax pmax
comp=Z,6.0nm,1.1s
LDFC **Landfair** 56.54 284 *e*P P 05 51 40.6 +0.2
comp=Z,14nm,1.1s
SHOC **Shoshone, Teco** 56.58 286 P P 05 51 40.9 +0.4
baz=42
PDMCI **Parker Dam,Lak** 56.58 283 P P 05 51 41.4 +0.8
baz=42
MLAC **Mammoth, Mammo** 56.69 289 P P 05 51 41.9 +0.3
baz=42
ORV **Oroville** 56.69 293 *e*P P 05 51 42.7 +1.4
comp=Z,5.8nm,1.0s
ORV **Oroville** 56.69 293 *e*P P 05 51 42.7 +1.4
ORV pmax pmax
comp=Z,6.0nm,1.0s
TUQ **Turquoise Moun** 56.73 285 P P 05 51 42.8 +1.1
baz=42
OMMB **Old Mammoth Mi** 56.79 289 *e*P P 05 51 42.6 +0.2
comp=Z,6.0nm,1.0s
MDPB **Devils Postpil** 56.82 289 *e*P P 05 51 42.1 -0.4
comp=Z,7.1nm,1.1s
AFDM **Forest Hills D** 56.86 292 *e*P P 05 51 43.2 +0.7
comp=Z,12nm,1.2s
DAC **Darwin (Calif)** 57.01 287 *e*P P 05 51 44.9 +1.0
comp=Z,15nm,1.1s
GMRC **Granite Mounta** 57.06 285 P P 05 51 44.4 +0.2
baz=42
MPMC **Manual Prospec** 57.12 287 P P 05 51 45.0 +0.4
baz=42,SNR=13
CWC **Cottonwood Cre** 57.16 288 P P 05 51 45.0 +0.1
baz=42
Y12C **Blythe** 57.20 283 *e*P P 05 51 46.4 +1.4
comp=Z,19nm,1.0s
Y12C **Blythe** 57.20 283 P P 05 51 45.3 +0.3
baz=42
CMB **Columbia Colle** 57.22 291 *e*P P 05 51 47.4 +2.3
comp=Z,5.2nm,1.1s
IRM **Iron Mountain** 57.24 284 P P 05 51 45.6 +0.3
baz=42
GSC **Goldstone, Bar** 57.31 286 *e*P P 05 51 44.6 -1.2
comp=Z,10nm,1.1s
GSC **Goldstone, Bar** 57.31 286 *e*P P 05 51 44.6 -1.2
GSC pmax pmax
comp=Z,10.0nm,1.1s
GSC **Goldstone, Bar** 57.31 286 P P 05 51 46.0 +0.2
baz=42
HPIG 57.36 271 *e*P P 05 51 45.4 -1.1
comp=Z,3.4nm,0.9s
113A **Mohawk Valley,** 57.52 282 *e*P P 05 51 48.5 +1.3
comp=Z,15nm,1.0s
214A **Organ Pipe Nat** 57.59 280 P P 05 51 47.9 +0.1
baz=41,SNR=10

LRMC	**Laurel Mtn Rad**	**57.65**	**287**	P		**P**	**05 51 48.1**	**-0.2**
	baz=42								
RRX	**Edison Barstow**	**57.73**	**286**	P		**P**	**05 51 48.7**	**0.0**
	baz=42								
BC3	**Big Chuckawall**	**57.79**	**284**	P		**P**	**05 51 49.9**	**+0.6**
	baz=41,SNR=9.7								
BELC	**Belle Mtn. Jos**	**57.83**	**284**	P		**P**	**05 51 50.2**	**+0.6**
	baz=41								
GLA	**Glamis**	**57.90**	**283**	*e*P		**P**	**05 51 51.3**	**+1.4**
	comp=Z,24nm,0.9s								
GLA	**Glamis**	**57.90**	**283**	*e*P		**P**	**05 51 51.3**	**+1.4**
GLA				pmax	pmax				
	comp=Z,24nm,0.9s								
GLA	**Glamis**	**57.90**	**283**	P		**P**	**05 51 50.3**	**+0.4**
	baz=41								
ISA	**Isabella, Lake**	**57.95**	**287**	P		**P**	**05 51 50.6**	**+0.3**
	baz=42								
BBRC	**Big Bear Solar**	**58.14**	**285**	P		**P**	**05 51 52.7**	**+0.8**
	baz=41								
VES	**Vestal, Richgr**	**58.15**	**288**	P		**P**	**05 51 51.5**	**-0.1**
	baz=42,SNR=5.6								
EDW2	**Edwards Air Fo**	**58.27**	**286**	P		**P**	**05 51 52.8**	**+0.2**
	baz=41								
XPFO	**Pion Flat**	**58.38**	**284**	*e*P		**P**	**05 51 54.4**	**+1.1**
	comp=Z,19nm,1.0s								
PFO	**Pinyon Flats O**	**58.38**	**284**	*e*P		**P**	**05 51 54.4**	**+1.0**
	comp=Z,18nm,1.0s								
PFO	**Pinyon Flats O**	**58.38**	**284**	*e*P		**P**	**05 51 54.4**	**+1.0**
PFO				pmax	pmax				
	comp=Z,18nm,1.0s								
PFO	**Pinyon Flats O**	**58.38**	**284**	P		**P**	**05 51 54.2**	**+0.8**
	baz=41,SNR=11								
SWSC	**Sam W. Stewart**	**58.51**	**283**	P		**P**	**05 51 54.8**	**+0.7**
	baz=41								
BFSC	**Mount Baldy Ra**	**58.57**	**286**	P		**P**	**05 51 55.5**	**+0.8**
	baz=41								
MURC	**Murrieta**	**58.79**	**285**	P		**P**	**05 51 56.9**	**+0.7**
	baz=41								
ZAIG	**Zacatecas**	**58.84**	**265**	*e*P		**P**	**05 51 58.3**	**+1.3**
	comp=Z,9.8nm,1.1s								
MONP2	**Monument Peak**	**58.90**	**284**	P		**P**	**05 51 57.1**	**0.0**
	baz=41								
NVS	**Novosibirsk**	**58.99**	**36**	*e*P		**P**	**05 51 58.6**	**+1.4**
NVS				pmax	pmax				
	comp=N,15nm,2.0s								
NVS				pmax	pmax				
	comp=Z,58nm,2.0s								
SMMC	**Simmler**	**59.03**	**288**	P		**P**	**05 51 57.9**	**+0.1**
	baz=41								
BAR	**Barrett**	**59.20**	**284**	*e*P		**P**	**05 51 59.1**	**+0.1**
	comp=Z,18nm,1.1s								
PKM	**Mcpherson Peak**	**59.25**	**288**	P		**P**	**05 51 58.9**	**-0.6**
	baz=41								
ROSC	**El Rosal**	**59.49**	**227**	*e*P		**P**	**05 52 03.2**	**+1.6**
	comp=Z,26nm,1.1s								
ROSC	**El Rosal**	**59.49**	**227**	P		**P**	**05 52 02.4**	**+0.8**
	comp=Z,18nm,0.9s,baz=19,slow=5.5,SNR=12								
ZAA1	**Zalesovo Array**	**60.25**	**36**	*e*P		**P**	**05 52 02.7**	**-3.1**
ZALV	**Zalesovo Beam**	**60.26**	**36**	*e*P		**P**	**05 52 06.1**	**+0.2**
ZALV	**Zalesovo Beam**	**60.26**	**36**	*i* P		**P**	**05 52 08.3**	**+2.4**
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.7s								
ZALV	**Zalesovo Beam**	**60.26**	**36**	P		**P**	**05 52 02.7**	**-3.2**
	comp=Z,0.6nm,0.4s,baz=322,slow=6.3,SNR=3.5								
KURK	**Kurchatov**	**60.67**	**42**	*e*P		**P**	**05 52 08.9**	**+0.2**
	comp=Z,6.4nm,0.8s								
KURK	**Kurchatov**	**60.67**	**42**	*ce*P		**P**	**05 52 09.0**	**+0.2**
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GEYT	**Alibeck**	**61.41**	**64**	P		**P**	**05 52 13.4**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=293,slow=7.9,SNR=6.7								
GEYT				LR	LR		06 20 58.0		
	comp=Z,204nm,18.1s,baz=95,slow=38								
SEY	**Seymchan**	**61.73**	**356**	*ce*P		**P**	**05 52 14.6**	**-1.1**
MA2	**Magadan**	**65.14**	**357**	*i* P		**P**	**05 52 37.0**	**-1.4**
MA2				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MAKZ	**Makanchi**	**65.14**	**42**	*e*P		**P**	**05 52 38.9**	**+0.2**
	comp=Z,9.3nm,1.1s								
MAKZ	**Makanchi**	**65.14**	**42**	P		**P**	**05 52 38.1**	**-0.5**
MAKZ				pmax	pmax				
	comp=Z,11nm,1.3s								
MK31	**Makanchi Array**	**65.28**	**42**	*e*P		**P**	**05 52 39.9**	**+0.4**
	comp=Z,3.3nm,0.6s								
MK31	**Makanchi Array**	**65.28**	**42**	*i* P		**P**	**05 52 39.2**	**-0.3**
MK31				pmax	pmax				
	comp=Z,4.0nm,0.6s								
MK32	**Makanchi Array**	**65.28**	**42**	*e*P		**P**	**05 52 38.9**	**-0.6**
MKAR	**Makanchi Array**	**65.28**	**42**	*i* P		**P**	**05 52 40.2**	**+0.7**
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MKAR	**Makanchi Array**	**65.28**	**42**	P		**P**	**05 52 38.9**	**-0.6**
	comp=Z,5.9nm,0.9s,baz=334,slow=6.0,SNR=37								
MK01	**Makanchi Array**	**65.30**	**42**	*e*P		**P**	**05 52 39.2**	**-0.4**
OTAV	**Otavalo**	**65.38**	**229**	*e*P		**P**	**05 52 41.1**	**+0.1**
	comp=Z,8.0nm,1.1s								
OTAV	**Otavalo**	**65.38**	**229**	*e*P		**P**	**05 52 41.1**	**+0.1**
OTAV				pmax	pmax				
	comp=Z,8.0nm,1.1s								
FRU	**Bishkek**	**65.39**	**50**	*e*P		**P**	**05 52 40.0**	**-0.3**
AAK	**Ala-Archa**	**65.50**	**50**	*e*P		**P**	**05 52 43.4**	**+2.2**
	comp=Z,7.9nm,1.0s								
AAK	**Ala-Archa**	**65.50**	**50**	*ce*P		**P**	**05 52 43.3**	**+2.2**
AAK				pmax	pmax				
	comp=Z,10.0nm,1.3s								
ARSB	**Arslanbob**	**65.89**	**52**	*e*P		**P**	**05 52 45.0**	**+1.2**
	comp=Z,16nm,1.0s								
BTK	**Batken**	**65.92**	**54**	*e*P		**P**	**05 52 45.0**	**+1.2**
	comp=Z,18nm,0.9s								
BTK	**Batken**	**65.92**	**54**	*e*P		**P**	**05 52 45.1**	**+1.2**
BTK				pmax	pmax				
	comp=Z,18nm,0.9s								
NRN	**Naryn**	**67.13**	**50**	*e*P		**P**	**05 52 52.2**	**+0.4**
	comp=Z,6.8nm,1.1s								
NRN	**Naryn**	**67.13**	**50**	*e*P		**P**	**05 52 52.2**	**+0.4**
NRN				pmax	pmax				
	comp=Z,7.0nm,1.1s								
TARG	**Taragay, Kyrgy**	**67.66**	**48**	*e*P		**P**	**05 52 57.7**	**+2.4**
	comp=Z,11nm,1.1s								
KSH	**Kashi**	**68.69**	**51**	P		**P**	**05 53 03.9**	**+2.5**
KSH				PP		**PP**	**05 55 38.3**	**+5.8**
KSH				pmax	pmax				
	comp=Z,7.0nm,0.8s								
ZAK	**Zakamensk**	**68.90**	**27**	*e*P		**P**	**05 53 00.7**	**-1.8**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.7s								
WMQ	**Urumqi**	**69.82**	**40**	*e*P		**P**	**05 53 09.6**	**+1.3**
WMQ				pP		pwP	05 53 14.8	-0.4	
WMQ				pmax	pmax				
	comp=Z,25nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,360nm,3.7s								
WMQ				LR	LR				
	comp=Z,340nm,16.9s								
WMQ				LR	LR				
	comp=Z,360nm,18.3s								
WMQ				LR	LR				
	comp=Z,200nm,18.9s								
ZEA	**Zeya**	**70.12**	**11**	*e*P		**P**	**05 53 10.2**	**+0.3**
ZEA				pmax	pmax				
	comp=Z,12nm,1.0s								
BDFB	**Brasilia**	**71.74**	**193**	P		**P**	**05 53 19.3**	**-0.8**
	comp=Z,5.5nm,1.0s,baz=0.0,slow=3.0,SNR=3.7								
BDFB				LR	LR		06 21 36.2		
	comp=Z,186nm,19.3s,baz=227,slow=33								
SONA0	**Songino Array**	**72.04**	**26**	*e*P		**P**	**05 53 20.5**	**-1.3**
SONM	**Songino Array**	**72.04**	**26**	P		**P**	**05 53 20.5**	**-1.3**
	comp=Z,1.2nm,0.8s,baz=321,slow=6.3,SNR=7.8								
ULN	**Ulaanbaatar**	**72.18**	**26**	*e*P		**P**	**05 53 23.3**	**+0.6**
	comp=Z,3.9nm,1.1s								
ULN	**Ulaanbaatar**	**72.18**	**26**	*ce*P		**P**	**05 53 23.6**	**+0.9**
ULN				pmax	pmax				
	comp=Z,17nm,2.5s								
NIL	**Nilore**	**72.26**	**56**	*e*P		**P**	**05 53 24.1**	**+0.9**
	comp=Z,12nm,1.1s								
NIL				*e*S		**S**	**06 02 43.9**	**-1.7**
NIL	**Nilore**	**72.26**	**56**	*e*P		**P**	**05 53 24.1**	**+0.9**
NIL				*e*S		**S**	**06 02 43.9**	**-1.7**
NIL				pmax	pmax				
	comp=Z,12nm,1.1s								
SIV	**San Ignacio**	**74.56**	**206**	P		**P**	**05 53 36.3**	**-0.5**
	comp=Z,5.8nm,1.1s,baz=23,slow=7.1,SNR=6.8								
KLR	**Kul'dur**	**75.02**	**9**	*i* P		**P**	**05 53 37.8**	**-1.3**
LPAZ	**La Paz**	**76.81**	**213**	*e*P		**P**	**05 53 50.1**	**-0.2**
	comp=Z,5.8nm,1.1s								
LPAZ	**La Paz**	**76.81**	**213**	*e*P		**P**	**05 53 50.1**	**-0.2**
LPAZ				pmax	pmax				
	comp=Z,6.0nm,1.1s								
LPAZ	**La Paz**	**76.81**	**213**	P		**P**	**05 53 51.5**	**+1.2**
	comp=Z,7.6nm,1.2s,baz=17,slow=6.7,SNR=5.7								
TEY	**Ternei**	**79.55**	**6**	*e*P		P	05 53 52.8	-12	
HHC	**Hu-ho-hao-te**	**79.87**	**25**	*e*P		**P**	**05 54 05.8**	**-0.8**
HHC				sP		PcP	05 54 14.3	+0.2	
HHC				S		**S**	**06 04 06.3**	**-3.0**
HHC				sS		pS	06 04 14.3	0.0	
HHC				pmax	pmax				
	comp=Z,19nm,1.0s								
HHC				pmax	pmax				
	comp=Z,120nm,5.5s								
HHC				LR	LR				
	comp=Z,230nm,15.1s								
HHC				LR	LR				
	comp=Z,270nm,14.9s								
HHC				LR	LR				
	comp=Z,310nm,16.7s								
LZH	**Lanzhou**	**82.22**	**32**	*e*P		**P**	**05 54 19.5**	**+0.3**
LZH				pP		pP	05 54 22.8	-0.3	
LZH				sP		sP	05 54 24.3	-0.2	
LZH				*e*PP		**PP**	**05 57 28.6**	**+1.8**
LZH				pmax	pmax				
	comp=Z,18nm,1.4s								
LZH				pmax	pmax				
	comp=Z,87nm,9.2s								
LZH				LR	LR				
	comp=Z,180nm,17.0s								
LZH				LR	LR				
	comp=Z,200nm,16.8s								
LZH				LR	LR				
	comp=Z,290nm,19.1s								
LVC	**Limon Verde**	**83.00**	**211**	*e*P		**P**	**05 54 22.7**	**-0.7**
LVC				*e*P		**P**	**05 54 23.9**	**+0.4**
LVC	**Limon Verde**	**83.00**	**211**	*e*P		**P**	**05 54 22.7**	**-0.7**
LVC				*e*			05 54 23.9		
LVC	**Limon Verde**	**83.00**	**211**	P		**P**	**05 54 22.7**	**-0.7**
	comp=Z,4.7nm,1.0s,baz=289,slow=5.4,SNR=4.1								
CD2	**Chengdu**	**86.98**	**35**	*e*P		**P**	**05 54 43.8**	**+0.6**
NJ2	**Nanjing**	**89.95**	**22**	*e*P		**P**	**05 54 58.1**	**+0.9**
NJ2				pmax	pmax				
	comp=Z,9.0nm,0.5s								
KMI	**Kunming**	**91.97**	**38**	P		**P**	**05 55 07.5**	**+0.5**
KMI				pmax	pmax				
	comp=Z,18nm,0.5s								
KMI				pmax	pmax				
	comp=Z,61nm,3.9s								
CMAR	**Chiang Mai Arr**	**96.66**	**43**	*i* P		**P**	**05 55 30.2**	**+1.9**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**96.66**	**43**	P		**P**	**05 55 26.6**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=324,slow=5.6,SNR=4.1								
SNAA	**Sanae**	**128.92**	**167**	PKP		**PKPdf**	**06 01 01.5**	**-2.6**
	comp=Z,3.0nm,1.1s,baz=17,slow=4.2,SNR=2.9								
WR1	**Warramunga Arr**	**143.57**	**17**	*e*PKPpre		PKPbc	06 01 29.6	-0.5	
WRA	**Warramunga Arr**	**143.57**	**17**	PKP		PKPbc	06 01 29.6	-0.5	
	comp=Z,0.6nm,0.9s,baz=345,slow=3.0,SNR=6.9								
QSPA	**South Pole Qui**	**145.43**	**180**	*e*PKPbc		**PKPdf**	**06 01 33.1**	**-1.4**
QSPA				*e*PKPbc		**PKPbc**	**06 01 34.0**	**-0.6**
QSPA	**South Pole Qui**	**145.43**	**180**	PKPbc		**PKPdf**	**06 01 33.1**	**-1.4**
	comp=Z,12nm,1.1s,baz=208,slow=2.4,SNR=12								
AS31	**Alice Springs**	**147.14**	**19**	*e*PKPdf		**PKPbc**	**06 01 40.2**	**-0.7**
ASAR	**Alice Springs**	**147.14**	**19**	PKPbc		**PKPbc**	**06 01 40.1**	**-0.8**
	comp=Z,11nm,1.1s,baz=349,slow=2.9,SNR=33								
AS01	**Alice Springs**	**147.15**	**19**	*e*PKPdf		**PKPdf**	**06 01 39.7**	**+1.0**

KLM ***19*** *06:07:08.8, 7.°99N×93.°76E, h104km, mb4.8*
ISCJB ***19*** *06:07:12.6±0.2, 7.°63N±0.°03×94.°14E±0.°03, h20km, mb4.5/64, MS4.0/10, Error ellipse: s-maj=5.1km s-min=3.1km az=140.5*
MOS ***19*** *06:07:16.1±0.9, 7.°63N×94.°24E, h53km, mb4.9/22, Error ellipse: s-maj=11.3km s-min=6.1km az=107.4*
DJA ***19*** *06:07:16.5±0.8, 8.°N±3.°×9.°4E±1.°0, h10km, M4.4/10, mb4.7/10, mB4.9/7, MLv4.5/8, Mw(mB)4.2/7*
IDC ***19*** *06:07:17.6±2.3, 7.°63N×94.°23E, h50km±21km, mb4.0/30, mb1 4.1/34, mb1mx3.9/64, mbtmp4.2/34, ML4.2/4, MS3.8/9, Ms1 3.8/9, ms1mx3.5/34, Error ellipse: s-maj=18.5km s-min=11.1km az=55.0*
NEIC ***19*** *06:07:17.3±0.5, 7.°59N×94.°24E, h48km±5km, mb4.5/18, Error ellipse: s-maj=6.9km s-min=3.9km az=59.0*
BJI ***19*** *06:07:24.8, 8.°20N×94.°20E, h89km, mb4.6/34, mB4.8/22, Ms4.5/13, Ms7 4.2/6*

ISC 19 06:07:14.7±0.4, 7.°72N±0.°05×94.°18E±0.°05, h20km, n187, σ1§93/185, mb4.5/64, MS4.0/10, 8C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.47**	**153**	P		**Pn**	**06 07 54.0**	**+0.1**
LHMI	**Lhok Sumawe**	**3.70**	**132**	*e*Pn		**Pn**	**06 08 10.6**	**-0.1**
LHMI	**Lhok Sumawe**	**3.70**	**132**	P		**Pn**	**06 08 10.9**	**+0.1**
MLSI	**Meulaboh, Aceh**	**4.08**	**147**	P		**Pn**	**06 08 19.2**	**+3.2**
PKDT	**Phuket**	**4.12**	**87**	P		**Pn**	**06 08 16.7**	**+0.1**
PBA	**Port Blair**	**4.16**	**340**	*e*Pn		Pn	06 08 20.2	+3.2
TPTI		**5.34**	**146**	P		**Pn**	**06 08 35.1**	**+1.7**
TRTT	**Trang**	**5.47**	**88**	P		**Pn**	**06 08 35.0**	**-0.1**
	147nm,0.6s,1µm0.5nm							
KCSI	**Kotacane, Aceh**	**5.49**	**139**	P		**Pn**	**06 08 37.1**	**+1.7**
SNSI	**Sinabang, Aceh**	**5.69**	**158**	P		**Pn**	**06 08 37.6**	**-0.6**
SKLT	**Songkhla**	**6.41**	**94**	P		**Pn**	**06 08 48.9**	**+0.8**
	51nm,0.5s,828nm0.3nm							
PSI	**Prapat**	**6.80**	**136**	*e*Pn		**Pn**	**06 08 55.5**	**+2.0**
PSI				*e*Sn		**Sn**	**06 10 09.5**	**-0.9**
PSI	**Prapat**	**6.80**	**136**	*e*P		**Pn**	**06 08 55.5**	**+2.0**
PSI				*e*			06 10 09.5	
PSI	**Prapat**	**6.80**	**136**	P		**Pn**	**06 08 54.3**	**+0.8**
	1.3nm,0.3s,baz=359,slow=8.0,SNR=9.2							
PSI				S		**Sn**	**06 10 12.1**	**+1.6**
	1.2nm,0.3s,baz=180,slow=19,SNR=7.0							
PSI				LR		LR	06 12 14.2	
	comp=Z,772nm,20.3s,baz=268,slow=44							
KULM	**Kulim**	**6.87**	**110**	*e*Pn		**Pn**	**06 08 52.4**	**-2.0**
KULM	**Kulim**	**6.87**	**110**	P		**Pn**	**06 08 53.0**	**-1.3**
GSI	**Gunungsitoli**	**7.22**	**152**	*e*Pn		**Pn**	**06 08 58.8**	**-0.3**
GSI	**Gunungsitoli**	**7.22**	**152**	P		**Pn**	**06 09 00.0**	**+0.9**
PHET	**Kaeng Krachan**	**7.44**	**46**	P		**Pn**	**06 09 03.4**	**+1.2**
	22nm,0.6s,283nm0.1nm							
IPM	**Ipoh**	**7.53**	**115**	*e*Pn		**Pn**	**06 09 01.3**	**-2.2**
IPM				*e*Sn		**Sn**	**06 10 23.5**	**-4.9**
IPM	**Ipoh**	**7.53**	**115**	P		**Pn**	**06 09 01.6**	**-1.9**
FRIM	**Kepong**	**8.65**	**121**	P		**Pn**	**06 09 17.5**	**-1.3**
MNSI	**Mandailing Nat**	**8.73**	**142**	P		**Pn**	**06 09 21.2**	**+1.2**
KTGM	**Kuala Trenggan**	**9.21**	**104**	P		**Pn**	**06 09 27.4**	**+0.9**
UTHA	**Uthaitani**	**9.35**	**33**	P		**Pn**	**06 09 30.4**	**+2.1**
	7.0nm,0.7s							
UMPA	**Umpang Tak**	**9.60**	**28**	P		**Pn**	**06 09 32.0**	**+0.2**
	15nm,0.6s,1µm							
SRAK	**Srakaew**	**9.94**	**50**	P		Pn	06 09 45.5	+9.0
PPI	**Padang Panjang**	**10.22**	**142**	P		**Pn**	**06 09 41.4**	**+1.1**
PDSI	**Padang**	**10.62**	**144**	P		Pn	06 09 53.1	+7.2
KGM	**Kluang**	**10.73**	**121**	P		**Pn**	**06 09 47.3**	**0.0**
PBKT	**Sadao Pong**	**11.02**	**36**	*e*Pn		**Pn**	**06 09 53.6**	**+2.3**
PBKT	**Sadao Pong**	**11.02**	**36**	P		**Pn**	**06 09 53.3**	**+2.0**
	35nm,0.8s							
SUKH	**Sukhothai**	**11.07**	**28**	P		**Pn**	**06 09 56.6**	**+4.7**
	3.5nm,0.7s							
CHAI	**Chaiyaphum**	**11.16**	**43**	P		Pn	06 09 58.6	+5.4
	6.6nm,0.6s							
MYKOM	**Kota Tinggi**	**11.29**	**121**	*e*Pn		**Pn**	**06 09 53.1**	**-2.0**
MYKOM	**Kota Tinggi**	**11.29**	**121**	P		**Pn**	**06 09 56.0**	**+1.0**
CM01	**Chiang Mai Arr**	**11.61**	**23**	*e*Pn		**Pn**	**06 10 02.8**	**+3.5**
CM31	**Chiang Mai Arr**	**11.64**	**23**	*e*Pn		**Pn**	**06 10 03.1**	**+3.4**
CMAR	**Chiang Mai Arr**	**11.64**	**23**	*i* P		**Pn**	**06 10 03.4**	**+3.6**
CMAR				pmax	pmax			
	comp=Z,11nm,0.5s							
CMAR	**Chiang Mai Arr**	**11.64**	**23**	P		**Pn**	**06 10 02.3**	**+2.5**
	comp=Z,2.1nm,0.3s,baz=214,slow=14,SNR=37							
CMAR				LR		LR	06 14 42.9	
	comp=Z,396nm,18.2s,baz=205,slow=38							
UTTA	**Uttaradit**	**11.74**	**31**	P		**Pn**	**06 10 04.3**	**+3.1**
	comp=Z,4.9nm,1.0s							
CHTO	**Chiang Mai**	**11.96**	**22**	*e*Pn		**Pn**	**06 10 07.5**	**+3.3**
CHTO	**Chiang Mai**	**11.96**	**22**	*e*P		**Pn**	**06 10 07.5**	**+3.3**
CHTO	**Chiang Mai**	**11.96**	**22**	P		**Pn**	**06 10 08.0**	**+3.8**
	comp=Z,114nm,1.0s							
CMMT	**Chiang Mai**	**11.96**	**22**	P		**Pn**	**06 10 07.9**	**+3.7**
	comp=Z,26nm,1.0s							
PALK	**Pailekele**	**13.37**	**269**	P		**Pn**	**06 10 25.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=115,slow=15,SNR=1.7							
PALK				LR		LR	06 15 11.1	
	comp=Z,414nm,21.3s,baz=116,slow=35							

PANO	**Nakornpanom**	**13.84**	**46**	P		**P**	**06 10 41.2**	**+3.1**
VIS	**Vishakhapatnam**	**14.51**	**314**	*i* P		**P**	**06 10 44.9**	**-0.7**
VIS				*i* S		Sn	06 13 08.8	-11	
VIS				*i* S		Sn	06 13 08.9	-11	
VIS				*ex*		x	06 13 13.1		
	comp=E,40nm,0.7s								
VIS				*ex*		x	06 13 13.8		
	comp=N,41nm,0.7s								
BRDH	**Bariadhala**	**15.07**	**351**	P		**P**	**06 10 49.3**	**-2.4**
	comp=N,2.7nm,0.3s,baz=270,slow=20,SNR=2.9								
BRDH				LR		LR	06 17 59.6		
	comp=N,462nm,20.5s,baz=134,slow=42								
KSM	**Kuching**	**17.23**	**110**	*e*Pn		**Pn**	**06 11 12.4**	**-1.9**
	comp=N,22nm,1.1s								
KSM	**Kuching**	**17.23**	**110**	P		**Pn**	**06 11 08.1**	**-6.3**
SHL	**Shillong**	**17.88**	**353**	*e*Pn		**Pn**	**06 11 20.8**	**-1.7**
	comp=N,13nm,0.7s								
SHL	**Shillong**	**17.88**	**353**	*e*P		**Pn**	**06 11 20.8**	**-1.7**
SHL				pmax	pmax				
	comp=Z,13nm,0.7s								
HYB	**Hyderabad**	**18.02**	**304**	*i* P		**P**	**06 11 28.0**	**+3.4**
SBUM	**Sibu**	**18.71**	**105**	*e*P		**Pn**	**06 11 32.9**	**+0.3**
	comp=Z,9.4nm,0.9s								
QIZ	**Qiongzhong**	**18.92**	**52**	P		**Pn**	**06 11 36.6**	**+1.5**
QIZ				S		**Sn**	**06 15 04.3**	**-2.2**
QIZ				LR	LR				
	comp=Z,1µm,12.5s								
QIZ				LR	LR				
	comp=Z,480nm,12.9s								
KMI	**Kunming**	**19.14**	**24**	P		**Pn**	**06 11 41.5**	**+3.6**
KMI				pP		pwP	06 11 55.4	+11	
KMI				sP		sP	06 12 08.4	+24	
KMI				pmax	pmax				
	comp=Z,32nm,0.5s								
KMI				pmax	pmax				
	comp=Z,160nm,4.7s								
KMI				LR	LR				
	comp=Z,310nm,14.3s								
KMI				LR	LR				
	comp=Z,350nm,13.8s								
ODAN	**Odare**	**20.10**	**342**	*e*P		Pn	06 11 48.7	-0.6	
	comp=Z,105nm,1.2s								
RAMN	**Ramite**	**20.43**	**340**	*e*P		Pn	06 11 52.3	-1.0	
	comp=Z,98nm,0.7s								
TAPN	**Taplejung**	**20.46**	**343**	*e*P		**P**	**06 11 52.1**	**+0.6**
	comp=Z,72nm,0.7s								
JIRN	**Jiri**	**21.23**	**340**	*e*P		**P**	**06 12 00.2**	**+0.4**
	comp=Z,169nm,1.0s								
PKI	**Pulchoki**	**21.42**	**338**	*e*P		**P**	**06 12 02.2**	**+0.3**
PKIN	**Phulchoki**	**21.43**	**338**	*e*P		**P**	**06 12 02.0**	**+0.1**
	comp=Z,36nm,0.8s								
GUN	**Gumba**	**21.56**	**340**	*e*P		**P**	**06 12 03.4**	**0.0**
	comp=Z,113nm,1.1s								
DMN	**Daman**	**21.57**	**338**	*e*P		**P**	**06 12 03.8**	**+0.4**
	comp=Z,67nm,0.8s								
KKN	**Kakani**	**21.67**	**338**	*e*P		**P**	**06 12 04.4**	**0.0**
LSA	**Lhasa**	**22.05**	**353**	*e*P		**P**	**06 12 08.3**	**-0.4**
	comp=Z,29nm,0.6s								
LSA	**Lhasa**	**22.05**	**353**	*e*P		**P**	**06 12 08.4**	**-0.4**
LSA				pmax	pmax				
	comp=Z,29nm,0.6s								
GYA	**Guiyang**	**22.10**	**31**	*i*P		**P**	**06 12 11.5**	**+2.6**
GYA				PP		**PnPn**	**06 12 39.6**	**+8.3**
GYA				S		S	06 16 00.0	-12	
GYA				sS		Sn	06 16 31.8	+8.7	
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GYA				pmax	pmax				
	comp=Z,110nm,4.2s								
GYA				LR	LR				
	comp=Z,310nm,12.6s								
GYA				LR	LR				
	comp=Z,280nm,13.0s								
GKN	**Gorkha**	**22.10**	**337**	*e*P		**P**	**06 12 09.2**	**+0.2**
	comp=Z,83nm,0.8s								
KOLN	**Koldanda**	**22.32**	**335**	*e*P		**P**	**06 12 11.8**	**+0.5**
	comp=Z,51nm,0.9s								
DANN	**Dangsing**	**22.76**	**336**	*e*P		**P**	**06 12 16.0**	**-0.2**
	comp=Z,48nm,0.7s								
PYUN	**Piuthan**	**22.86**	**334**	*e*P		**P**	**06 12 17.5**	**+0.3**
	comp=Z,72nm,0.9s								
H08S3	**Diego Garcia H**	**26.46**	**235**	T		T	06 39 27.5		
	baz=55,slow=76								
H08S2	**Diego Garcia H**	**26.46**	**235**	T		T	06 39 30.3		
	baz=55,slow=76								
H08S1	**Diego Carcia H**	**26.48**	**235**	T		T	06 39 31.0		
	baz=55,slow=76								
LZH	**Lanzhou**	**29.59**	**16**	*e*P		**P**	**06 13 20.1**	**+1.5**
LZH				pP		pwP	06 13 40.5	+14	
LZH				sP		sP	06 13 51.3	+25	
LZH				*e*PP		**PnPn**	**06 14 17.5**	**+3.9**
LZH				pmax	pmax				
	comp=Z,20nm,1.2s								
LZH				pmax	pmax				
	comp=

MAKZ	**Makanchi**	**40.33**	**347**	*e*P		**P**	06 14 50.9	+0.1
MAKZ				pmax	pmax			
	comp=Z,7.0nm,0.7s							
KK31	**Karatay Array**	**40.92**	**333**	*e*P		**P**	06 14 55.5	-0.2
	comp=Z,4.7nm,1.1s							
KK31	**Karatay Array**	**40.92**	**333**	*e*P		**P**	06 14 55.5	-0.2
KK31				pmax	pmax			
	comp=Z,5.0nm,1.1s							
KKAR	**Karatay Array**	**40.92**	**333**	*e*P		**P**	06 14 55.5	-0.2
	comp=Z,4.7nm,1.1s							
KKAR	**Karatay Array**	**40.92**	**333**	*e*P		**P**	06 14 55.5	-0.2
KKAR				pmax	pmax			
	comp=Z,5.0nm,1.1s							
SONA0	**Songino Array**	**41.31**	**12**	*e*P		**P**	06 14 59.2	+0.2
SONM	**Songino Array**	**41.31**	**12**	P	P	**P**	06 14 59.2	+0.2
	comp=Z,4.1nm,0.8s,baz=194,slow=9.3,SNR=25							
ULN	**Ulaanbaatar**	**41.48**	**13**	*ce*P		**P**	06 15 00.6	+0.2
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
KSAR	**Wonju Array Be**	**42.53**	**41**	P	P	**P**	06 15 10.0	+1.0
KSAR	**Wonju Array Be**	**42.53**	**41**	P	P	**P**	06 15 10.0	+1.0
KSRS	**Korea Array**	**42.56**	**41**	P	P	**P**	06 15 10.0	+0.8
	comp=Z,0.7nm,0.4s,baz=238,slow=9.5,SNR=5.5							
ZAK	**Zakamensk**	**43.20**	**9**	*e*P	P		06 15 08.6	-5.7
GEYT	**Alibeck**	**44.34**	**318**	P	P	**P**	06 15 24.2	+0.6
	comp=Z,5.2nm,0.8s,baz=148,slow=8.7,SNR=7.7							
TLY	**Talaya**	**44.52**	**8**	*i* P		**P**	06 15 24.3	-0.5
KURBB	**Kurchatov Arra**	**44.70**	**346**	P	P	**P**	06 15 26.5	+0.2
	comp=Z,11nm,0.9s,baz=171,slow=7.1,SNR=9.4							
KURBB				PcP		**PcP**	06 17 08.2	-0.3
	comp=Z,1.0nm,0.7s,baz=146,slow=3.9,SNR=4.6							
KURK	**Kurchatov**	**44.77**	**346**	*e*P		**P**	06 15 27.1	+0.3
	comp=Z,18nm,1.1s							
KURK	**Kurchatov**	**44.77**	**346**	*ce*P		**P**	06 15 26.9	+0.1
KURK				pmax	pmax			
	comp=Z,18nm,1.0s							
NWAO	**Narrogin (SRO)**	**45.99**	**153**	*e*P		**P**	06 15 34.4	-2.4
NWAO				*ep*P		**pP**	06 15 43.0	+0.6
NWAO	**Narrogin (SRO)**	**45.99**	**153**	P		**P**	06 15 34.4	-2.4
	comp=Z,2.4nm,0.5s,baz=328,slow=7.9,SNR=2.0							
HIA	**Hailar**	**46.65**	**23**	*i* P		**P**	06 15 40.7	-1.1
HIA				pmax	pmax			
	comp=Z,5.0nm,1.3s							
ZAA0	**Zalesovo Array**	**46.71**	**352**	*e*P		**P**	06 15 42.7	+0.6
	comp=Z,12nm,0.8s							
ZALV	**Zalesovo Beam**	**46.71**	**352**	*e*P		**P**	06 15 42.3	+0.2
ZALV	**Zalesovo Beam**	**46.71**	**352**	*e*P		**P**	06 15 42.3	+0.2
ZALV	**Zalesovo Beam**	**46.71**	**352**	P		**P**	06 15 42.6	+0.5
	comp=Z,13nm,0.7s,baz=180,slow=8.0,SNR=53							
ZAA1	**Zalesovo Array**	**46.72**	**352**	*e*P		**P**	06 15 42.6	+0.4
NVS	**Novosibirsk**	**47.80**	**351**	*e*P		**P**	06 15 50.6	0.0
NVS				pmax	pmax			
	comp=Z,12nm,1.0s							
NVS				pmax	pmax			
	comp=N,5.0nm,0.8s							
WRA	**Warramunga Arr**	**48.14**	**125**	P		**P**	06 15 51.6	-2.2
	comp=N,0.5nm,0.8s,baz=305,slow=8.4,SNR=9.4							
WRA				LR		LR	06 39 26.9	
	comp=N,83nm,18.1s,baz=135,slow=40							
WR1	**Warramunga Arr**	**48.14**	**125**	*e*P		**P**	06 15 51.6	-2.2
	comp=N,3.6nm,0.8s							
WRAB	**Tennant Creek**	**48.15**	**125**	*i* P		**P**	06 15 57.7	+3.9
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.9s							
RAYN	**Ar Rayn**	**49.18**	**294**	*e*P		**P**	06 16 03.3	+1.5
	comp=Z,10.0nm,0.8s							
RAYN	**Ar Rayn**	**49.18**	**294**	*e*P		**P**	06 16 03.3	+1.5
RAYN				pmax	pmax			
	comp=Z,10.0nm,0.8s							
BRVK	**Borovoye**	**49.21**	**341**	*ce*P		**P**	06 16 02.1	+0.6
BRVK				pmax	pmax			
	comp=Z,7.0nm,1.7s							
MJAR	**Matsushiro Arr**	**49.24**	**48**	LR		LR	06 38 53.5	
	comp=Z,96nm,18.8s,baz=350,slow=38							
ASAR	**Alice Springs**	**49.79**	**130**	P		**P**	06 16 05.0	-1.3
	comp=Z,0.4nm,0.5s,baz=301,slow=7.3,SNR=5.4							
AS01	**Alice Springs**	**49.82**	**130**	*e*P		**P**	06 16 05.8	-0.9
ABKAR	**Akbulak array**	**50.38**	**331**	*e*P		**P**	06 16 10.5	0.0
	comp=Z,3.1nm,0.7s							
BOD	**Bodaibo**	**52.29**	**13**	*e*P		**P**	06 16 24.6	0.0
BOD				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SVE	**Sverdlovsk**	**55.56**	**338**	*e*P		**P**	06 16 49.3	+0.8
SVE				pmax	pmax			
	comp=Z,19nm,1.3s							
ARU	**Arti**	**56.05**	**337**	*c* iP		**P**	06 16 52.5	+0.5
ARU				*PP		pwP	06 17 14.0	+14
ARU							06 18 55.1	
ARU				S		**S**	06 24 31.9	-7.5
ARU				SS		**SS**	06 28 16.6	-9.1
ARU				pmax	pmax			
	comp=Z,17nm,1.6s							
KMBO	**Kilima Mbogo**	**57.44**	**264**	*i* P		**P**	06 17 04.6	+1.6
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.9s							
KMBO	**Kilima Mbogo**	**57.44**	**264**	P		**P**	06 17 03.5	+0.5
	comp=Z,1.8nm,0.8s,baz=64,slow=10.0,SNR=5.0							
KIV	**Kislovodsk**	**57.45**	**318**	*e*P		**P**	06 17 03.2	+0.8
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
STKA	**Stephens Creek**	**59.98**	**134**	LR		LR	06 45 34.6	
	comp=Z,70nm,18.4s,baz=0.7,slow=38							
VRH	**Novokhopyorsk**	**61.08**	**325**	*e*P		**P**	06 17 29.1	+1.9
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
NRIK	**Noril'sk**	**61.70**	**357**	LR		LR	06 44 55.2	
	comp=Z,86nm,18.9s,baz=256,slow=36							
VSR	**Storozhevoye**	**62.54**	**325**	*i* P		**P**	06 17 39.3	+2.3
VSR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
BR101	**Keskin Array S**	**62.56**	**311**	*e*P		**P**	06 17 36.5	-1.1
BRTR	**Keskin Array B**	**62.56**	**311**	P		**P**	06 17 36.5	-1.1
	comp=Z,0.8nm,0.5s,baz=124,slow=9.1,SNR=3.7							
LPSR	**Galich'ya Gora**	**63.24**	**326**	*e*P		**P**	06 17 40.0	-1.6
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PRGR	**Permogore**	**64.50**	**337**	*e*P		**P**	06 17 48.5	-1.3
PRGR				pmax	pmax			
	comp=Z,12nm,0.6s							
OBN	**Obninsk**	**65.53**	**328**	⇑*e*P		**P**	06 17 56.0	-0.6
OBN				*e*			06 18 31.3	
OBN				*e*			06 20 23.6	
OBN				*e*S		S	06 26 30.6	-10
OBN				pmax	pmax			
	comp=Z,13nm,1.2s							
OBN				MLR		MLR		
	comp=Z,54nm,17.0s							
KLMR	**Klimovskoe**	**66.61**	**334**	*e*P		**P**	06 18 00.0	-3.4
KLMR				pmax	pmax			
	comp=Z,15nm,1.4s							
KLMR	**Klimovskoe**	**66.61**	**334**	*e*P		**P**	06 18 00.1	-3.4
KLMR				AMP			06 18 10.2	
	comp=Z,15nm,1.4s							
TIXI	**Tiksi**	**67.38**	**11**	*e*P		**P**	06 18 06.7	-1.5
TIXI				*e*P		**P**	06 18 07.4	-0.7
TIXI	**Tiksi**	**67.38**	**11**	*ce*P		**P**	06 18 07.7	-0.4
TIXI				pmax	pmax			
	comp=Z,19nm,1.7s							
TIXI	**Tiksi**	**67.38**	**11**	P	P	**P**	06 18 06.6	-1.5
	comp=Z,6.0nm,0.6s,baz=207,slow=2.9,SNR=12							
AKASG	**Malin Array Be**	**68.30**	**322**	*i* P		**P**	06 18 13.6	-0.7
AKASG	**Malin Array Be**	**68.30**	**322**	P		**P**	06 18 12.7	-1.6
	comp=Z,0.1nm,0.2s,baz=89,slow=4.9,SNR=5.1							
IDI	**Anoyia**	**68.68**	**305**	P		**P**	06 18 15.7	-1.4
	comp=Z,2.4nm,0.6s,baz=83,slow=8.7,SNR=2.3							
SEY	**Seymchan**	**69.05**	**25**	P		**P**	06 18 17.4	-1.4
	comp=Z,0.8nm,0.3s,baz=349,slow=10,SNR=2.0							
MLR	**Muntele Rosu**	**69.31**	**316**	P		**P**	06 18 20.8	-0.1
	comp=Z,2.3nm,0.9s,baz=129,slow=6.5,SNR=2.7							
VSU	**Vasula**	**71.74**	**329**	*i* P		**P**	06 18 35.0	-0.3
VSU				pmax	pmax			
	comp=Z,32nm,1.0s							
FIA1	**FINESS Array S**	**72.86**	**332**	*e*P		**P**	06 18 41.9	0.0
FIA0	**FINESS Array S**	**72.86**	**332**	*e*P		**P**	06 18 41.9	-0.1
FIA0	**FINESS Array S**	**72.86**	**332**	*e*P		**P**	06 18 41.9	-0.1
FINES	**FINESS Array B**	**72.86**	**332**	P		**P**	06 18 41.9	-0.1
	comp=Z,5.4nm,0.8s,baz=106,slow=6.3,SNR=13							
ARA0	**ARCESS Array S**	**75.42**	**340**	*e*P		**P**	06 18 56.9	+0.1
ARCES	**ARCESS Array B**	**75.42**	**340**	P		**P**	06 18 56.9	+0.1
	comp=Z,2.5nm,0.8s,baz=87,slow=9.0,SNR=4.0							
GERES	**GERESS Array B**	**77.97**	**318**	P		**P**	06 19 11.0	-0.7
GERES	**GERESS Array B**	**77.97**	**318**	P		**P**	06 19 10.9	-0.7
	comp=Z,0.6nm,0.2s,baz=339,slow=10.0,SNR=4.6							
HFS	**Hagfors**	**78.61**	**330**	P		**P**	06 19 14.9	0.0
	comp=Z,2.4nm,0.5s,baz=113,slow=6.7,SNR=7.9							
NB2	**NORSAR Subarra**	**79.88**	**331**	P		**P**	06 19 21.5	-0.4
	comp=Z,4.7nm,0.7s,baz=91,slow=5.9							
NB200	**NORSAR Array S**	**79.88**	**331**	*e*P		**P**	06 19 21.2	-0.7
NOA	**NORSAR Array B**	**79.88**	**331**	P		**P**	06 19 21.2	-0.7
	comp=Z,2.2nm,0.8s,baz=93,slow=5.6,SNR=8.9							
SPA0	**Spitsbergen Ar**	**80.00**	**348**	*e*P		**P**	06 19 22.4	+0.2
	comp=Z,17nm,1.0s							
SPITS	**Spitsbergen Ar**	**80.00**	**348**	P		**P**	06 19 21.9	-0.3
	comp=Z,8.7nm,0.9s,baz=97,slow=10,SNR=9.9							
DAVOX	**Davos/Dischmat**	**80.53**	**316**	P		**P**	06 19 25.0	-0.8
	comp=Z,1.0nm,0.4s,baz=90,slow=3.0,SNR=2.2							
EKA	**Eskdalemuir Ar**	**87.87**	**325**	P		**P**	06 20 01.7	-1.0
	comp=Z,1.6nm,0.7s,baz=93,slow=5.2,SNR=2.6							
TORD	**Torodi Ar. Bea**	**90.67**	**283**	P		**P**	06 20 17.6	+0.9
	comp=Z,0.8nm,1.1s,baz=51,slow=5.3,SNR=3.3							
TOA1	**Torodi Ar. Sit**	**90.67**	**283**	*e*P		**P**	06 20 17.6	+0.9
ES06	**SONSECA Array**	**91.33**	**310**	*e*P		**P**	06 20 19.4	0.0
ESDC	**Sonseca Array**	**91.34**	**310**	P		**P**	06 20 19.8	+0.4
	comp=Z,0.3nm,0.5s,baz=54,slow=4.0,SNR=4.1							
IM3	**Indian Mountai**	**91.76**	**22**	*e*P		**P**	06 20 21.6	+0.8
ILAR	**Eielson Array**	**94.87**	**22**	P		**P**	06 20 33.3	-1.8
	comp=Z,0.2nm,0.7s,baz=301,slow=4.2,SNR=3.6							
RES	**Resolute Bay**	**97.55**	**2**	P		**P**	06 20 46.9	-0.1
	comp=Z,1.0nm,0.8s,baz=321,slow=8.7,SNR=4.3							
DBIC	**Dimbokro**	**98.00**	**278**	LR		LR	07 05 18.0	
	comp=Z,69nm,18.9s,baz=128,slow=36							
NVAR	**Mina Array Bea**	**125.03**	**31**	PKP		**PKPdf**	06 26 14.0	-0.4
	comp=Z,0.3nm,0.7s,baz=35,slow=2.2,SNR=2.6							
PDAR	**Pinedale Array**	**125.30**	**21**	PKP		**PKPdf**	06 26 14.1	-0.7
	comp=Z,0.2nm,0.6s,baz=56,slow=3.5,SNR=2.7							
TXAR	**Lajitas Array**	**139.35**	**24**	PKP		**PKPdf**	06 26 40.6	-0.7
	comp=Z,0.1nm,0.6s,baz=27,slow=0.2,SNR=2.3							
CPUP	**Villa Florida**	**147.19**	**232**	PKPbc		**PKPdf**	06 26 55.5	+0.5
	comp=Z,1.5nm,0.9s,baz=113,slow=4.9,SNR=2.2							

*ISCJB **19** 06:13:03.5±0.7,55.5N±0.1×35.1W±0.1, h14km, mb3.7/12, MS3.2/2, Error ellipse: s-maj=18.5km s-min=11.1km az=8.2*

*IDC **19** 06:13:03.1±0.9,55.44N×35.13W, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.7/53, mbtmp3.8/13, ML2.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/44, Error ellipse: s-maj=28.5km s-min=16.1km az=17.0*

ISC 19 06:13:05.3±0.8, 55.4N±0.1×35.15W±0.10, h14km, n17, σ0.82/15, mb3.8/12, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**11.59**	**31**	Pn		**Pn**	06 15 50.7	**+0.7**
	0.1nm,0.3s,baz=91,slow=18,SNR=1.9							
BORG				LR		LR	06 19 04.4	
	comp=Z,206nm,19.1s,baz=255,slow=31							
SCHQ	**Schefferville**	**18.05**	**281**	P		**P**	06 17 16.1	**+0.3**
	0.3nm,0.3s,baz=57,slow=7.4,SNR=6.0							
SCHQ				LR		LR	06 22 13.7	
	comp=Z,187nm,21.2s,baz=354,slow=30							
NOA	**NORSAR Array B**	**24.61**	**58**	LR		LR	06 26 32.3	
	comp=Z,36nm,20.0s,baz=65,slow=33							
ESDC	**Sonseca Array**	**25.99**	**114**	P		**P**	06 18 37.6	**+0.2**
	0.2nm,0.3s,baz=314,slow=8.9,SNR=5.7							
DAVOX	**Davos/Dischmat**	**29.11**	**88**	LR		LR	06 30 15.5	
	comp=Z,122nm,18.2s,baz=327,slow=36							
ULM	**Lac du Bonnet**	**36.02**	**288**	P		**P**	06 20 05.3	**-0.2**
	1.4nm,0.6s,baz=107,slow=4.4,SNR=3.0							
AKASG	**Malin Array Be**	**37.74**	**70**	P		**P**	06 20 19.3	**-0.8**
	0.6nm,0.4s,baz=306,slow=8.5,SNR=4.1							
YKA	**Yellowknife Ar**	**39.10**	**314**	P		**P**	06 20 31.4	**-0.1**
	0.3nm,0.7s,baz=60,slow=9.1,SNR=5.0							
BRTR	**Keskin Array B**	**47.00**	**79**	P		**P**	06 21 35.0	**-0.8**
	1.6nm,0.8s,baz=306,slow=5.3,SNR=6.4							
PDAR	**Pinedale Array**	**48.04**	**287**	P		**P**	06 21 43.7	**-0.3**
	0.2nm,0.7s,baz=62,slow=8.3,SNR=2.0							
ILAR	**Eielson Array**	**49.33**	**328**	P		**P**	06 21 53.8	**+0.4**
	0.4nm,0.9s,baz=42,slow=8.0,SNR=4.1							
TORD	**Torodi Ar. Bea**	**50.94**	**131**	P		**P**	06 22 06.6	**+0.5**
	1.4nm,1.0s,baz=338,slow=7.8,SNR=4.9							
TIXI	**Tiksi**	**52.73**	**6**	P		**P**	06 22 19.1	**+0.3**
	0.6nm,0.2s,baz=340,slow=5.4,SNR=3.8							
KURBB	**Kurchatov Arra**	**60.83**	**42**	P		**P**	06 23 16.7	**+0.2**
	1.1nm,0.7s,baz=327,slow=7.0,SNR=4.3							
MKAR	**Makanchi Array**	**65.39**	**42**	P		**P**	06 23 47.5	**+0.5**
	0.4nm,0.7s,baz=347,slow=6.1,SNR=4.3							
PETK	**Petropavlovsk-**	**71.32**	**352**	P		**P**	06 24 22.4	**-1.5**
	8.0nm,1.0s,baz=336,slow=3.2,SNR=4.3							
ASAR	**Alice Springs**	**147.27**	**19**	PKPbc		**PKPdf**	06 32 47.4	**+1.7**
	0.4nm,0.6s,baz=348,slow=2.4,SNR=4.5							

*SOME **19** 06:17:20.3,41.65N×77.75E, h5km*

*KRNET **19** 06:17:21.8±0.1,41.67N×77.73E, h18km, mb2.1*

*NNC **19** 06:17:21.8±1.9,41.71N×77.71E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=14.4km s-min=6.7km az=171.0*

*ISCJB **19** 06:17:22.1±1.2,41.68N±0.07×77.71E±0.05, h6km±5km, Error ellipse: s-maj=11.3km s-min=5.9km az=175.7*

ISC 19 06:17:22.8±1.2, 41.75N±0.09×77.71E±0.03, h5km±10km, n17, σ0.93/31, 13C-3D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.07**	**106**	⇑*i*P		**Pg**	06 17 24.6	**-0.1**
	baz=41							
TARG				⇑*i*S		**Sg**	06 17 26.4	**+0.3**
	baz=41							
KDJ	**Kajisay**	**0.55**	**314**	⇑*i*P		**Pg**	06 17 33.9	**+0.5**
	baz=20							
KDJ				⇑*i*S		**Sg**	06 17 42.1	**+1.5**
	baz=20							
ULHL	**Ulahol**	**1.20**	**295**	⇑*i*P		**Pg**	06 17 44.8	**-1.1**
	baz=98							
ULHL				⇑*i*S		**Sg**	06 18 01.6	**+0.1**
	baz=98							
SATY	**Saty**	**1.41**	**21**	P		**Pn**	06 17 47.7	**-1.6**
	4.0nm,0.5s							
SATY				S		**Sn**	06 18 07.8	**-0.4**
	16nm,0.1s							
SATY	**Saty**	**1.41**	**21**	*e*P		**Pn**	06 17 47.6	**-1.6**
	2.3nm,0.1s							
SATY				*e*S		**Sn**	06 18 07.3	**-0.9**
	17nm,0.1s							
TNSS	**Tian-Shan**	**1.41**	**336**	P		**Pn**	06 17 48.2	**-1.2**
	2.1nm,0.6s							
TNSS				S		**Sb**	06 18 08.9	**+0.7**
	4.5nm,0.3s							
TNSS	**Tian-Shan**	**1.41**	**336**	*e*P		**Pn**	06 17 48.5	**-0.9**
	1.9nm,0.5s							
TNSS				*e*S		**Sb**	06 18 08.8	**+0.6**
	4.5nm,0.3s							
MDOK	**Medeo**	**1.50**	**341**	Pg		**Pn**	06 17 49.8	**-0.7**
	1.7nm,0.2s							
MDOK				Lg		Lg	06 18 11.2	
	4.2nm,0.5s							
MDOK	**Medeo**	**1.50**	**341**	*e*P		**Pn**	06 17 49.8	**-0.7**
	2.2nm,0.4s							
MDOK				*e*S		**Sn**	06 18 11.2	**+0.7**
	4.3nm,0.5s							
BOOM	**Boomskoye usch**	**1.51**	**300**	⇑*i*P		**Pn**	06 17 50.5	**-0.2**
	baz=2.0							
BOOM				⇑*i*S		**Sb**	06 18 11.4	**+0.4**
	baz=2.0							
KOTS	**Kotyrbulak**	**1.55**	**343**	P		**Pn**	06 17 50.6	**-0.6**
	2.0nm,0.3s							
KOTS				S		**Sn**	06 18 12.5	**+0.7**
	5.2nm,0.2s							
KOTS	**Kotyrbulak**	**1.55**	**343**	*e*P		**Pn**	06 17 50.6	**-0.6**
	2.0nm,0.3s							
KOTS				*e*S		**Sn**	06 18 12.5	**+0.7**
	5.2nm,0.2s							
TKM2	**Tokmak 2**	**1.96**	**307**	⇓Pn		**Pn**	06 17 56.4	**-0.5**
	1.2nm,0.6s							
TKM2				⇑Sn		**Sb**	06 18 24.6	**+0.7**
	1.5nm,0.4s							
TKM2	**Tokmak 2**	**1.96**	**307**	⇑*i*P		**Pb**	06 17 58.0	**-1.1**
	baz=9.0							
TKM2				⇑*i*S		**Sb**	06 18 23.8	**-0.1**
	baz=9.0							
PDGK	**Podgornoye**	**2.05**	**39**	Pg		**Pn**	06 17 59.3	**+1.2**
	0.6nm,0.2s							
PDGK				Lg		Lg	06 18 27.1	
	1.2nm,0.4s							
PDGK	**Podgornoye**	**2.05**	**39**	⇓Pn		**Pb**	06 18 00.3	**-0.3**
	1.0nm,0.7s							
PDGK				⇑Sn		**Sn**	06 18 25.9	**+1.7**
	1.1nm,0.4s							
AAK	**Ala-Archa**	**2.55**	**291**	⇑Pg		**Pn**	06 18 06.0	**+1.0**
	0.7nm,0.5s							
AAK				⇓Lg		Lg	06 18 42.7	
	0.9nm,0.5s							

IDC 19 06:58:18.5±1.5, 55.12N×161.80E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/46, mbtmp3.2/4, ML2.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/24, Error ellipse: s-maj=68.8km s-min=22.7km az=151.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**3.14**	**232**	Pn		**Pn**	06 59 08.8	-0.4
	1.2nm,0.3s,baz=54,slow=15,SNR=6.0							
PETK				Sn		Sn	06 59 50.0	+2.7
	0.7nm,0.3s,baz=78,slow=22,SNR=3.6							
SONM	**Songino Array**	**34.45**	**281**	P		P	07 05 07.4	-0.3
	0.2nm,0.4s,baz=55,slow=7.6,SNR=2.3							
H11N2	**WAKE ISLAND Hy**	**35.54**	**172**	T		T	07 42 39.2	
	baz=354							
H11N3	**WAKE ISLAND Hy**	**35.55**	**172**	T		T	07 42 42.7	
	baz=354							
H11N1	**WAKE ISLAND Hy**	**35.56**	**172**	T		T	07 42 43.4	
	baz=354							
YKA	**Yellowknife Ar**	**41.00**	**45**	P		P	07 06 02.6	0.0
	0.1nm,0.5s,baz=296,slow=7.4,SNR=3.7							
MKAR	**Makanchi Array**	**48.19**	**295**	LR		LR	07 29 10.7	
	comp=Z,21nm,18.4s,baz=328,slow=38							
TXAR	**Lajitas Array**	**68.94**	**69**	P		P	07 09 25.4	0.0
	0.3nm,0.7s,baz=319,slow=6.1,SNR=4.2							

PGC 19 07:12:14.4±0.0, 61.62N×141.14W, h1km, ML2.3/11, 216km Wnw of Haines Jct., Yt Southern Alaska, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YUK2	**White River**	**0.22**	**39**	P		Pg	07 12 18.1	-0.5
YUK2				S		Sg	07 12 21.5	0.0
YUK3	**Moose Creek**	**0.36**	**63**	P		Pg	07 12 20.5	-0.7
YUK3				S		Sg	07 12 25.7	-0.2
CTGM	**Chitina Glacie**	**0.66**	**188**	P		Pg	07 12 25.6	-1.4
CTGM				S		Sg	07 12 35.9	+0.3
PTPK	**Patty Peak**	**0.77**	**237**	P		Pg	07 12 28.1	-1.1
PTPK				S		Sg	07 12 39.1	0.0
BVCY	**Beaver Creek**	**0.81**	**9**	P		Pg	07 12 28.9	-0.9
BVCY				S		Sg	07 12 39.7	-0.7
BALM	**Baldy**	**0.82**	**226**	P		Pg	07 12 28.6	-1.5
BALM				S		Sg	07 12 40.1	-0.7
KIAG	**Kiagna River**	**0.91**	**221**	P		Pg	07 12 30.1	-1.8
KIAG				S		Sg	07 12 42.7	-1.0
YUK4	**Talbot Arm**	**1.23**	**102**	P		Pg	07 12 36.4	-1.5
RKAV	**Rock Avalanche**	**1.33**	**185**	P		Pg	07 12 37.6	-2.1
PKAV				S		Sg	07 12 55.8	-1.1
MESA	**MESA**	**1.50**	**196**	Pn		Pn	07 12 41.7	-0.8
MESA				Sg		Sg	07 13 00.8	-1.7
YUK6	**Outpost Mounta**	**1.50**	**116**	Pn		Pn	07 12 40.8	-1.8
YUK6				Sg		Sg	07 13 01.5	-1.0
SAMH	**Samovar Hills**	**1.50**	**173**	Pn		Pn	07 12 41.6	-0.9
SAMH				Sg		Sg	07 13 01.9	-0.6
PCA	**Pinnacle**	**1.58**	**164**	Sg		Sn	07 13 04.4	-0.4
YUK5	**Granite Creek**	**1.65**	**106**	Pn		Pn	07 12 43.1	-1.5
YUK5				Sg		Sn	07 13 06.6	+0.1
YUK7	**Dusty Glacier**	**1.82**	**126**	Pn		Pn	07 12 46.9	-0.1
YUK7				Sg		Sb	07 13 11.7	-0.2
HYT	**Haines Junctio**	**1.93**	**113**	Pn		Pn	07 12 47.5	-1.0
HYT				Sg		Sb	07 13 14.2	-0.8
HARP	**HAARP**	**2.06**	**294**	Pg		Pn	07 12 51.0	+0.9
HARP				Sg		Sb	07 13 19.1	+0.6
PNL	**Peninsula**	**2.13**	**156**	Pn		Pn	07 12 51.6	+0.5
PNL				Sg		Sb	07 13 21.2	+0.4
DIV	**Divide**	**2.29**	**260**	Sg		Sb	07 13 25.1	0.0
PAX	**Paxson**	**2.44**	**306**	Pn		Pn	07 12 56.4	+1.1
PAX				Sg		Sb	07 13 28.8	-0.8
**DO

comp=E,19100μm,0.3s
MUCR AML AML
comp=N,43550μm,0.3s
MUCR AML AML
comp=E,19100μm,0.3s
MUCR AML AML
comp=N,43550μm,0.3s
MUCR AML AML
comp=E,19100μm,0.3s
MUCR AML AML
comp=N,43550μm,0.3s
MUCR AML AML
comp=N,43550μm,0.3s
MUCR AML AML
comp=E,19100μm,0.3s
GALF Gagliano Caste 0.27 177 P Pg 07 50 12.0 -0.1
GALF S Sb 07 50 16.7 -1.4
GALF AML AML
comp=E,29000μm,0.8s
GALF AML AML
comp=N,32950μm,0.7s
GALF AML AML
comp=E,29000μm,0.8s
GALF AML AML
comp=N,32950μm,0.7s
GALF AML AML
comp=E,29000μm,0.8s
GALF AML AML
comp=N,32950μm,0.7s
GALF AML AML
comp=E,29000μm,0.8s
GALF AML AML
comp=N,32950μm,0.7s
CAGR Agira 0.36 186 P Pb 07 50 14.1 -0.9
CAGR AML AML
comp=E,15250μm,0.7s
CAGR AML AML
comp=N,14350μm,1.0s
CAGR AML AML
comp=E,15250μm,0.7s
CAGR AML AML
comp=N,14350μm,1.0s
CAGR AML AML
comp=E,15250μm,0.7s
CAGR AML AML
comp=N,14350μm,1.0s
CAGR AML AML
comp=N,14350μm,1.0s
CAGR AML AML
comp=E,15250μm,0.7s
PETRA Petralia Sopra 0.37 247 P Pg 07 50 13.3 -0.8
PETRA S Sb 07 50 20.2 -1.0
PETRA AML AML
comp=E,10355μm,0.6s
PETRA AML AML
comp=N,15000μm,1.2s
PETRA AML AML
comp=E,10355μm,0.6s
PETRA AML AML
comp=N,15000μm,1.2s
PETRA AML AML
comp=E,10355μm,0.6s
PETRA AML AML
comp=N,15000μm,1.2s
PETRA AML AML
comp=E,10355μm,0.6s
PETRA AML AML
comp=N,15000μm,1.2s
ECNV Catenanuova 0.41 161 P Pb 07 50 15.5 -0.3
ECNV AML AML
comp=E,10750μm,1.2s
ECNV AML AML
comp=N,8720μm,0.6s
ECNV AML AML
comp=E,10750μm,1.2s
ECNV AML AML
comp=N,8720μm,0.6s
ECNV AML AML
comp=E,10750μm,1.2s
ECNV AML AML
comp=N,8720μm,0.6s
GIB Gibilmanna 0.41 272 P Pg 07 50 13.9 -0.8
GIB S Sb 07 50 20.7 -1.6
GIB AML AML
comp=E,7750μm,0.5s
GIB AML AML
comp=N,8940μm,0.5s
GIB AML AML
comp=E,7750μm,0.5s
GIB AML AML
comp=N,8940μm,0.5s
GIB AML AML
comp=E,7750μm,0.5s
GIB AML AML
comp=N,8940μm,0.5s
GIB AML AML
comp=E,7750μm,0.5s
GIB AML AML
comp=N,8940μm,0.5s
ESLN Serra La Nave 0.44 130 P Pb 07 50 16.6 +0.1
ESLN AML AML
comp=E,10655μm,0.7s
ESLN AML AML
comp=N,9375μm,1.3s
ESLN AML AML
comp=E,10655μm,0.7s
ESLN AML AML
comp=N,9375μm,1.3s
ESLN AML AML
comp=E,10655μm,0.7s
ESLN AML AML
comp=N,9375μm,1.3s
NOV Novara 0.47 84 AML AML
comp=N,4295μm,0.8s
NOV AML AML
comp=E,5290μm,1.0s
NOV AML AML
comp=E,5290μm,1.0s
NOV AML AML
comp=N,4295μm,0.8s
NOV AML AML
comp=E,5290μm,1.0s
NOV AML AML
comp=N,4295μm,0.8s
NOV AML AML
comp=N,4295μm,0.8s
NOV AML AML
comp=E,5290μm,1.0s
VAE Valguarnera 0.51 192 Pg Pn 07 50 19.4 -0.5
comp=E,56nm,0.3s,baz=56,slow=2.7,SNR=25
VPL Vulcano Piano 0.53 41 P Pb 07 50 17.4 -0.5
VPL AML AML
comp=E,31400μm,0.8s
VPL AML AML
comp=N,40100μm,0.4s
VPL AML AML
comp=E,31400μm,0.8s
VPL AML AML
comp=N,40100μm,0.4s
VPL AML AML
comp=N,40100μm,0.4s
VPL AML AML
comp=E,31400μm,0.8s
MCSR Castroreale 0.56 81 P Pg 07 50 17.2 -0.3
MCSR S Sb 07 50 27.1 +0.6
MCSR AML AML
comp=E,14200μm,0.3s
MCSR AML AML
comp=N,9200μm,0.3s
MCSR AML AML
comp=E,14200μm,0.3s
MCSR AML AML
comp=N,9200μm,0.3s
MCSR AML AML
comp=E,14200μm,0.3s
MCSR AML AML
comp=N,9200μm,0.3s
LLI Lipari 0.56 34 P Pb 07 50 18.3 -0.2
LLI AML AML
comp=E,28600μm,0.4s
LLI AML AML
comp=N,36700μm,0.6s
LLI AML AML
comp=E,28600μm,0.4s
LLI AML AML
comp=N,36700μm,0.6s
LLI AML AML
comp=N,36700μm,0.6s
LLI AML AML
comp=E,28600μm,0.4s
IACL Alicudi 0.57 345 P Pb 07 50 18.2 -0.5
IACL AML AML
comp=E,6575μm,1.5s
IACL AML AML
comp=N,8995μm,0.7s
IACL AML AML
comp=E,6575μm,1.5s
IACL AML AML
comp=N,8995μm,0.7s
IACL AML AML
comp=E,6575μm,1.5s
IACL AML AML
comp=N,8995μm,0.7s
IFIL Filicudi I Eol 0.58 1 P Pb 07 50 18.3 -0.5
IFIL AML AML
comp=E,41500μm,0.5s
IFIL AML AML
comp=N,11400μm,0.5s
IFIL AML AML
comp=E,41500μm,0.5s
IFIL AML AML
comp=N,11400μm,0.5s
IFIL AML AML
comp=N,11400μm,0.5s
IFIL AML AML
comp=E,41500μm,0.5s
MILZ Milazzo 0.61 61 P Pg 07 50 18.4 -0.1
MILZ AML AML
comp=E,5270μm,0.5s
MILZ AML AML
comp=N,6585μm,0.5s
MILZ AML AML
comp=E,5270μm,0.5s
MILZ AML AML
comp=N,6585μm,0.5s
MILZ AML AML
comp=N,6585μm,0.5s
MILZ AML AML
comp=E,5270μm,0.5s
MPNC Port Mandanici 0.66 75 P Pg 07 50 19.3 0.0
MPNC AML AML
comp=E,8345μm,0.5s
MPNC AML AML
comp=N,5955μm,1.4s
MPNC AML AML
comp=E,8345μm,0.5s
MPNC AML AML
comp=N,5955μm,1.4s
MPNC AML AML
comp=N,5955μm,1.4s
MPNC AML AML
comp=E,8345μm,0.5s
ALJA Alia 0.67 250 P Pb 07 50 19.2 -1.1
ALJA AML AML
comp=E,3610μm,1.4s
ALJA AML AML
comp=N,2780μm,1.5s
ALJA AML AML
comp=E,3610μm,1.4s
ALJA AML AML
comp=N,2780μm,1.5s
ALJA AML AML
comp=N,2780μm,1.5s
ALJA AML AML
comp=E,3610μm,1.4s
RAFF Raffo Rosso 0.77 191 P Pb 07 50 21.9 -0.1
RAFF AML AML
comp=E,4890μm,0.9s
RAFF AML AML
comp=N,5090μm,0.8s
RAFF AML AML
comp=E,4890μm,0.9s
RAFF AML AML
comp=N,5090μm,0.8s
HCRL Carlentini 0.79 151 P Pg 07 50 21.9 0.0
HCRL AML AML
comp=E,3310μm,1.5s
HCRL AML AML
comp=N,1980μm,1.1s
HCRL AML AML
comp=E,3310μm,1.5s
HCRL AML AML
comp=N,1980μm,1.1s
HCRL AML AML
comp=E,3310μm,1.5s
HCRL AML AML
comp=N,1980μm,1.1s
MSRU Castanea 0.81 69 P Pg 07 50 22.1 -0.1
MSRU AML AML
comp=E,3390μm,0.5s
MSRU AML AML
comp=N,2520μm,0.6s
MSRU AML AML
comp=E,3390μm,0.5s
MSRU AML AML
comp=N,2520μm,0.6s
SOLUN Solunto 0.81 278 P Pg 07 50 21.2 -1.0
SOLUN AML AML
comp=E,738μm,0.5s
SOLUN AML AML
comp=N,647μm,0.8s
SOLUN AML AML
comp=E,738μm,0.5s
SOLUN AML AML
comp=N,647μm,0.8s
HVZN Vizzini 0.81 171 P Pg 07 50 21.9 -0.4
HVZN AML AML
comp=E,9980μm,0.9s
HVZN AML AML
comp=N,13100μm,0.8s
HVZN AML AML
comp=E,9980μm,0.9s
HVZN AML AML
comp=N,13100μm,0.8s
HVZN AML AML
comp=E,9980μm,0.9s
HVZN AML AML
comp=N,13100μm,0.8s
HAGA Augusta 0.84 145 P Pg 07 50 22.8 -0.1
HAGA AML AML
comp=E,5210μm,0.4s
HAGA AML AML
comp=N,2350μm,0.3s
HAGA AML AML
comp=E,5210μm,0.4s
HAGA AML AML
comp=N,2350μm,0.3s
HAGA AML AML
comp=E,5210μm,0.4s
HAGA AML AML
comp=N,2350μm,0.3s
AGST Augusta-Monte 0.90 143 P Pg 07 50 23.5 -0.5
AGST AML AML
comp=E,3165μm,0.5s
AGST AML AML
comp=N,2065μm,1.1s
AGST AML AML
comp=E,3165μm,0.5s
AGST AML AML
comp=N,2065μm,1.1s
AGST AML AML
comp=E,3165μm,0.5s
AGST AML AML
comp=N,2065μm,1.1s
SSY Sortino 0.92 153 P Pg 07 50 24.0 -0.4
SSY AML AML
comp=E,4390μm,1.1s
SSY AML AML
comp=N,7780μm,1.5s
SSY AML AML
comp=E,4390μm,1.1s
SSY AML AML
comp=N,7780μm,1.5s
SSY AML AML
comp=N,7780μm,1.5s
SSY AML AML
comp=E,4390μm,1.1s
MEU Monte Lauro 0.93 161 P Pg 07 50 23.4 -1.1
MEU AML AML
comp=E,3950μm,0.4s
MEU AML AML
comp=N,4855μm,0.4s
MEU AML AML
comp=E,3950μm,0.4s
MEU AML AML
comp=N,4855μm,0.4s
MEU AML AML
comp=N,4855μm,0.4s
MEU AML AML
comp=E,3950μm,0.4s
ISTR Stromboli Gino 0.95 32 AML AML
comp=N,2200μm,0.7s
ISTR AML AML
comp=E,1655μm,0.4s
ISTR AML AML
comp=N,2200μm,0.7s
ISTR AML AML
comp=E,1655μm,0.4s
MPG Monte Pellegri 0.96 281 P Pg 07 50 24.4 -0.6
MPG AML AML
comp=E,578μm,1.4s
MPG AML AML
comp=N,514μm,1.0s
FAVR Favara 1.00 225 AML AML
comp=E,1670μm,1.0s
FAVR AML AML
comp=N,1715μm,1.3s
FAVR AML AML
comp=E,1670μm,1.0s
FAVR AML AML
comp=N,1715μm,1.3s
MSCL Scilla 1.01 75 P Pg 07 50 25.4 -0.7
MSCL AML AML
comp=E,2835μm,0.5s
MSCL AML AML
comp=N,1870μm,1.1s
MSCL AML AML
comp=E,2835μm,0.5s
MSCL AML AML
comp=N,1870μm,1.1s
MSCL AML AML
comp=N,1870μm,1.1s
MSCL AML AML
comp=E,2835μm,0.5s
HMDC Modica 1.04 170 P Pg 07 50 25.1 -1.5
HMDC AML AML
comp=E,2275μm,0.3s
HMDC AML AML
comp=N,3325μm,1.6s
HMDC AML AML
comp=N,3325μm,1.6s
HMDC AML AML
comp=E,2275μm,0.3s
HAVL Avola 1.12 156 P Pg 07 50 26.9 -1.1
HAVL AML AML
comp=E,3125μm,0.9s
HAVL AML AML
comp=N,3025μm,0.3s
HAVL AML AML
comp=N,3025μm,0.3s
HAVL AML AML
comp=E,3125μm,0.9s
MPAZ Palizzi 1.15 91 P Pg 07 50 28.6 -0.1
MPAZ AML AML
comp=E,2090μm,0.8s
MPAZ AML AML
comp=N,1900μm,0.6s
MPAZ AML AML
comp=E,2090μm,0.8s
MPAZ AML AML
comp=N,1900μm,0.6s
SOI Samo 1.19 85 P Pb 07 50 28.3 -0.9
SOI AML AML
comp=E,1945μm,0.5s
SOI AML AML
comp=N,2425μm,0.6s
SOI AML AML
comp=N,2425μm,0.6s
SOI AML AML
comp=E,1945μm,0.5s
JOPP Joppolo 1.22 59 P Pn 07 50 28.2 -1.5
JOPP AML AML
comp=E,593μm,0.5s
JOPP AML AML
comp=N,804μm,0.6s
JOPP AML AML
comp=E,593μm,0.5s
JOPP AML AML
comp=N,804μm,0.6s
JOPP AML AML
comp=E,593μm,0.5s
JOPP AML AML
comp=N,804μm,0.6s
USI Ustica 1.30 304 AML AML
comp=E,1600μm,0.6s
USI AML AML
comp=E,1600μm,0.6s
USI AML AML
comp=N,1890μm,1.6s
USI AML AML
comp=N,1890μm,1.6s
PLAC Placanica 1.56 72 P Pn 07 50 34.9 +0.6
PLAC AML AML
comp=E,842μm,0.6s
PLAC AML AML
comp=N,1160μm,1.0s
PLAC AML AML
comp=E,842μm,0.6s
PLAC AML AML
comp=N,1160μm,1.0s
CET2 Cetraro 1.90 35 P Pn 07 50 38.6 -0.4
CET2 AML AML
comp=E,842μm,0.7s
CET2 AML AML
comp=N,838μm,0.5s
CET2 AML AML
comp=E,842μm,0.7s
CET2 AML AML
comp=N,838μm,0.5s
CELI Celico 2.09 47 AML AML
comp=N,538μm,0.9s
CELI AML AML
comp=E,496μm,1.4s
CELI AML AML
comp=E,496μm,1.4s
CELI AML AML
comp=N,538μm,0.9s
MGR Morigerati 2.29 20 AML AML
comp=E,122μm,1.4s
MGR AML AML
comp=E,122μm,1.4s
MGR AML AML
comp=N,113μm,0.5s
MGR AML AML
comp=N,113μm,0.5s
KEST Kesra 4.74 243 Pn Pn 07 51 20.4 +2.4
comp=N,1.5nm,0.3s,baz=36,slow=5.5,SNR=17
KEST Sn Sn 07 52 17.7 +4.7
comp=N,1.0nm,0.3s,baz=0.0,slow=20,SNR=4.0
IDI Anoyia 8.74 105 Sn Sn 07 53 47.9 -3.5
comp=N,0.7nm,0.3s,baz=342,slow=19,SNR=2.6
FINES FINESS Array B 24.57 13 P P 07 55 26.0 -0.2
comp=N,1.3nm,0.5s,baz=185,slow=9.2,SNR=6.4
TORD Torodi Ar. Bea 27.25 208 P P 07 55 53.4 +2.6
comp=N,0.6nm,0.9s,baz=12,slow=7.4,SNR=2.7
MKAR Makanchi Array 49.39 57 P P 07 58 56.2 +0.1
comp=N,0.2nm,0.4s,baz=274,slow=5.2,SNR=4.9
YKA Yellowknife Ar 71.88 338 P P 08 01 28.7 -0.4
comp=N,0.1nm,0.7s,baz=48,slow=5.6,SNR=2.6

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*IDC **19** 07:54:51.6±2.7,8°.56S×112°.69E,h0km,mb3.1/3, mb1 3.3/3,mb1mx3.1/55,mbtmp3.1/3,Error ellipse: s-maj=157.4km s-min=25.6km az=48.0*
*DJA **19** 07:54:57.8±1.0,9°S×17°×11°2E±°,h85km±12km,M3.2/6, MLv3.2/6*
*ISCJB **19** 07:54:59.0±0.9,8°.9S±0°.1×112°.15E±0°.08,h100km, mb3.1/3,Error ellipse: s-maj=18.9km s-min=7.5km az=29.8*

ISC 19 07:54:58.5±1.4,**9°.0S**±0°.1×**112°.20E**±0°.07,**h100**km,**n13**, α**2s11**/13,**mb3.1**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.00**	**337**	P	**Pn**	**07 55 17.3**	**-1.7**
PWJI				S	**Sn**	**07 55 32.3**	**-2.0**
PCJI	**Pacitan**	**1.26**	**306**	P	**Pn**	**07 55 20.1**	**-1.8**
PCJI				S	**Sn**	**07 55 36.4**	**-3.1**
WOJI	**Wonogiri, Jawa**	**1.68**	**311**	P	**Pn**	**07 55 26.6**	**-0.4**
WOJI				S	**Sn**	**07 55 48.9**	**+0.3**
NGJI	**Ngawi**	**1.73**	**335**	P	**Pn**	**07 55 29.4**	**+1.7**
BLJI	**Banyuglugur**	**1.82**	**49**	P	**Pn**	**07 55 29.8**	**+0.9**

UGM	**Wanagama**	**1.95**	**302**	P		**Pn**	**07 55 30.2**	**-0.3**
UGM				S		**Sn**	**07 55 55.0**	**+0.1**
JAGI	**Jajag, Banyuwa**	**1.99**	**76**	P		**Pn**	**07 55 27.9**	**-3.1**
WRA	**Warramunga Arr**	**24.03**	**119**	P		**P**	**08 00 06.5**	**+2.0**
	0.4nm,0.6s,baz=296,slow=11,SNR=9.0							
ASAR	**Alice Springs**	**25.40**	**128**	P		**P**	**08 00 19.7**	**+2.8**
	0.3nm,0.4s,baz=303,slow=9.1,SNR=7.2							
H08S2	**Diego Garcia H**	**39.30**	**269**	T		T	08 44 23.1	
	baz=104							
H08S3	**Diego Garcia H**	**39.31**	**269**	T		T	08 44 25.7	
	baz=104							
H08S1	**Diego Garcia H**	**39.32**	**269**	T		T	08 44 15.4	
	baz=104							
MKAR	**Makanchi Array**	**61.56**	**337**	P		P	08 05 09.7	+4.5
	0.2nm,0.5s,baz=157,slow=7.8,SNR=2.6							

ISCJB ***19*** *07:58:24.0±0.2,0.06N±0.03×123.11E±0.03,h100km, mb4.4/62, Error ellipse: s-maj=4.7km s-min=3.5km az=165.0*

NEIC ***19*** *07:58:26.7±0.4,0.03S×123.04E,h117km±4km, mb4.4/34, Error ellipse: s-maj=5.1km s-min=3.2km az=65.0*

MOS ***19*** *07:58:27.3±0.9,0.01S×122.98E,h135km, mb4.3/15, Error ellipse: s-maj=22.6km s-min=8.9km az=110.5*

IDC ***19*** *07:58:27.7±0.6,0.02S×123.09E,h121km±5km, mb4.0/21, mb1 4.1/23,mb1mx3.9/56,mbtmp4.3/23, Error ellipse: s-maj=19.0km s-min=8.6km az=69.0*

DJA ***19*** *07:58:27.7±0.2,0°S±3°×12°3E±°,h109km±4km, M4.5/18, mb4.6/12, mB4.9/7, MLv4.7/18, Mw(mB)4.2/7*

ISC 19 07:58:25.6±0.3,0.01N±0.04×122.97E±0.04,h100km,n148, σ1ᵀ77/169,mb4.4/62,8C-3D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.06**	**191**	*e*Pn	**Pn**	**07 58 48.0**	**+1.3**
LUWI				*e*Sn	**Sn**	**07 59 03.3**	**+0.7**
LUWI	**Luwuk**	**1.06**	**191**	P	**Pn**	**07 58 48.2**	**+1.5**
MRSI	**Marisa**	**1.13**	**294**	P	**Pn**	**07 58 50.1**	**+2.7**
KMSI	**Cibinong**	**1.16**	**61**	P	**Pn**	**07 58 52.2**	**+4.4**
APSI	**Ampana**	**1.60**	**235**	P	**Pn**	**07 58 55.3**	**+2.2**
MPSI	**Mapaga**	**3.09**	**276**	P	**Pn**	**07 59 15.1**	**+2.6**
SANI	**Sanana**	**3.65**	**124**	P	**Pn**	**07 59 19.2**	**-0.8**
KDI	**Kendari**	**3.96**	**185**	P	**Pn**	**07 59 26.3**	**+2.1**
TTSI	**Tana Toraja**	**4.37**	**226**	P	**Pn**	**07 59 31.6**	**+1.8**
TNTI	**Ternate**	**4.46**	**80**	*e*Pn	**Pn**	**07 59 32.1**	**+1.0**
TNTI				*e*Sn	**Sn**	**08 00 22.5**	**+0.6**
TNTI	**Ternate**	**4.46**	**80**	P	**Pn**	**07 59 33.1**	**+2.0**
SPSI	**Sidrap Palu**	**5.08**	**219**	P	**Pn**	**07 59 40.7**	**+1.3**
BNSI	**Bone**	**5.23**	**213**	P	**Pn**	**07 59 42.7**	**+1.2**
NLAI	**Namlea**	**5.24**	**128**	P	**Pn**	**07 59 43.1**	**+1.5**
SMKI	**Samarinda**	**5.78**	**266**	P	**Pn**	**07 59 52.2**	**+3.3**
BKSI	**Bulukumba**	**6.01**	**208**	P	**Pn**	**07 59 53.5**	**+1.5**
BKB	**Balikpapan**	**6.20**	**258**	P	**Pn**	**07 59 57.4**	**+2.8**
BSSI	**Bau Bau, Buton**	**6.59**	**202**	P	**Pn**	**08 00 02.3**	**+2.3**
KCP	**Kidapawan**	**7.27**	**17**	*e*P	Pn	08 00 14.8	+5.6
SIJI	**Sorong**	**8.34**	**96**	P	**Pn**	**08 00 25.5**	**+1.7**
	2.5nm,0.3s,baz=292,slow=7.0,SNR=11						
SIJI				S	**Sn**	**08 02 04.5**	**+8.1**
	1.7nm,0.3s,baz=229,slow=19,SNR=3.0						
EDFI	**Ende, Flores**	**8.79**	**188**	P	**Pn**	**08 00 32.4**	**+2.4**
FAKI	**Fak Fak**	**9.72**	**107**	*e*Pn	**Pn**	**08 00 42.1**	**-0.5**
FAKI				*e*Sn	**Sn**	**08 02 26.8**	**-3.2**
FAKI	**Fak Fak**	**9.72**	**107**	P	**Pn**	**08 00 42.5**	**-0.1**
MTN	**Manton Dam**	**15.12**	**148**	P	**Pn**	**08 01 55.2**	**+1.3**
	baz=15,SNR=3.9						
MTN	**Manton Dam**	**15.12**	**148**	*e*Pn	**Pn**	**08 01 54.0**	**+0.1**
KDU	**Kakadu**	**15.75**	**144**	P	**P**	**08 02 03.1**	**-0.6**
	baz=16,SNR=4.9						
CISI	**Cisompet, Garu**	**16.87**	**243**	*e*Pn	**Pn**	**08 02 16.5**	**+0.7**
	44nm,1.0s						
FITZ	**Fitzroy Crossi**	**18.18**	**172**	P	**P**	**08 02 30.8**	**+0.2**
	baz=18,SNR=13						
FITZ	**Fitzroy Crossi**	**18.18**	**172**	*e*P	**P**	**08 02 30.6**	**0.0**
	5.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.18**	**172**	P	**P**	**08 02 31.0**	**+0.4**
	0.5nm,0.3s,baz=2.9,slow=7.4,SNR=24						
MDSI	**Maura Dua**	**19.29**	**256**	P	**Pn**	**08 02 46.0**	**+1.2**
WB0	**Warramunga Arr**	**22.62**	**151**	P	**P**	**08 03 16.5**	**-1.8**
	baz=23						
WRAB	**Tennant Creek**	**22.74**	**151**	*e*P	**P**	**08 03 18.9**	**-0.6**
	8.7nm,0.9s						
WRAB	**Tennant Creek**	**22.74**	**151**	*de*P	**P**	**08 03 18.3**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WR1	**Warramunga Arr**	**22.74**	**151**	*e*P	**P**	**08 03 18.3**	**-1.2**
	comp=Z,6.1nm,0.8s						
WR1				*e*PcP	**PcP**	**08 07 09.2**	**+1.0**
WRA	**Warramunga Arr**	**22.74**	**151**	*ce*P	**P**	**08 03 18.0**	**-1.5**
WRA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**22.74**	**151**	P	**P**	**08 03 18.3**	**-1.2**
	comp=Z,5.4nm,0.7s,baz=333,slow=10,SNR=72						
WRA				pP	**pP**	**08 03 42.2**	**+3.2**
	comp=Z,3.6nm,0.9s,baz=331,slow=11,SNR=4.7						
WRA				sP	**sP**	**08 03 56.1**	**+4.7**
	comp=Z,3.9nm,0.8s,baz=330,slow=10,SNR=4.3						
WRA				PcP	**PcP**	**08 07 09.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=333,slow=2.5,SNR=2.5						
WRA				ScP	**ScP**	**08 10 34.6**	**-2.4**
	comp=Z,2.2nm,0.7s,baz=339,slow=2.8,SNR=10						
WB2	**Warramunga Arr**	**22.75**	**151**	*e*P	**P**	**08 03 18.7**	**-0.9**
	comp=Z,32nm,1.6s						
WC3	**Warramunga Arr**	**22.77**	**151**	*e*P	**P**	**08 03 18.7**	**-1.1**
	comp=Z,11nm,0.9s						
YULB	**Yu-li**	**23.30**	**356**	*e*P	**P**	**08 03 23.6**	**-1.2**
	comp=Z,14nm,1.2s						
SSLB	**Suanglung**	**23.72**	**355**	*e*P	**P**	**08 03 28.3**	**-0.3**
	comp=Z,13nm,0.9s						
YOJ	**Yonaguni jima**	**24.31**	**0**	*e*P	**P**	**08 03 34.2**	**+0.3**
	comp=Z,93nm,1.2s						
YOJ	**Yonaguni jima**	**24.31**	**0**	*e*P	**P**	**08 03 34.2**	**+0.3**
YOJ				pmax	pmax		
	comp=Z,93nm,1.2s						
COEN	**Coen**	**24.35**	**126**	P	**P**	**08 03 34.5**	**+0.1**
	baz=24,SNR=5.0						
COEN	**Coen**	**24.35**	**126**	*e*P	**P**	**08 03 33.1**	**-1.2**
	comp=Z,4.4nm,1.1s						
SKNT	**Sakolnakorn**	**25.18**	**313**	P	**P**	**08 03 47.5**	**+5.6**
	comp=Z,1.8nm,0.6s,comp=Z,829nm						
WRKA	**Warakurna**	**25.43**	**169**	P	**P**	**08 03 43.5**	**-0.7**
	baz=26,SNR=4.3						
AS31	**Alice Springs**	**25.82**	**156**	*e*P	**P**	**08 03 46.6**	**-1.1**
	comp=Z,2.6nm,1.5s						
ASAR	**Alice Springs**	**25.82**	**156**	P	**P**	**08 03 47.4**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=347,slow=17,SNR=20						
ASAR				pP	**pP**	**08 04 12.5**	**+2.6**
	comp=Z,3.2nm,0.8s,baz=332,slow=7.4,SNR=10						
ASAR				sP	**sP**	**08 04 26.2**	**+4.6**
	comp=Z,2.8nm,0.7s,baz=309,slow=6.6,SNR=6.1						
ASAR				PcP	**PcP**	**08 07 14.1**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=346,slow=2.0,SNR=7.2						
ASAR				ScP	**ScP**	**08 10 44.0**	**-1.6**
	comp=Z,2.2nm,0.8s,baz=334,slow=2.3,SNR=9.0						
AS01	**Alice Springs**	**25.84**	**156**	*e*P	**P**	**08 03 46.6**	**-1.3**
AS01				*e*PcP	**PcP**	**08 07 14.1**	**-0.8**
QIS	**Mount Isa**	**26.13**	**142**	P	**P**	**08 03 50.0**	**-0.5**
	baz=26,SNR=9.5						
MEEK	**Meekatharra**	**26.82**	**189**	P	**P**	**08 03 55.5**	**-1.1**
	baz=27						
CM01	**Chiang Mai Arr**	**29.85**	**309**	*e*P	**P**	**08 04 23.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**29.89**	**309**	P	**P**	**08 04 26.6**	**+2.6**
	comp=Z,2.2nm,0.6s,baz=140,slow=7.7,SNR=15						
CMAR				ScP	**ScP**	**08 10 55.7**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=153,slow=2.9,SNR=5.2						
CMMT	**Chiang Mai**	**30.09**	**310**	P	**P**	**08 04 28.5**	**+2.7**
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**30.09**	**310**	*e*P	**P**	**08 04 26.5**	**+0.7**
	comp=Z,11nm,1.1s						
CHTO	**Chiang Mai**	**30.09**	**310**	*e*P	**P**	**08 04 26.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,11nm,1.1s						
BLDU	**Ballidu**	**31.03**	**191**	P	**P**	**08 04 32.4**	**-1.5**
	baz=31,SNR=6.3						
CBIJ	**Chichi jima**	**32.66**	**33**	*e*P	**P**	**08 04 48.0**	**-0.3**
JCJ	**Chichijima**	**32.66**	**33**	P	**P**	**08 04 48.0**	**-0.3**
	comp=Z,42nm,0.7s,baz=156,slow=20,SNR=2.8						
ENH	**Enshi**	**32.72**	**338**	*e*P	**P**	**08 04 50.1**	**+1.4**
	comp=Z,18nm,0.6s						
BBOO	**Buckleboo**	**34.90**	**161**	*e*P	**P**	**08 05 06.5**	**-1.1**
	comp=Z,4.7nm,0.9s						
CD2	**Chengdu**	**35.74**	**331**	*e*P	**P**	**08 05 17.9**	**+3.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,140nm,4.4s						
CD2				LR	LR		
	comp=N,550nm,12.9s						
CD2				LR	LR		
	comp=E,1μm,11.5s						
CD2				LR	LR		
	comp=Z,540nm,10.1s						
STKA	**Stephens Creek**	**36.28**	**153**	P	**P**	**08 05 19.0**	**-0.4**
	baz=36,SNR=6.5						
STKA	**Stephens Creek**	**36.28**	**153**	*e*P	**P**	**08 05 18.5**	**-1.0**
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	**36.28**	**153**	*e*P	**P**	**08 05 18.5**	**-1.0**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	**36.28**	**153**	P	**P**	**08 05 19.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=332,slow=9.5,SNR=13						
EIDS	**Eidsvold**	**37.07**	**135**	*e*P	**P**	**08 05 24.6**	**-1.7**
	comp=Z,76nm,1.4s						
CMSA	**Cobar Meteorol**	**38.05**	**148**	P	**P**	**08 05 34.7**	**+0.3**
	baz=38,SNR=8.1						
MAJO	**Matsushiro**	**39.00**	**20**	*e*P	**P**	**08 05 41.5**	**-0.9**
MAJO	**Matsushiro**	**39.00**	**20**	*e*P	**P**	**08 05 41.5**	**-0.9**
MJAR	**Matsushiro Arr**	**39.00**	**20**	P	**P**	**08 05 41.5**	**-0.9**
	comp=Z,4.0nm,0.8s,baz=201,slow=10,SNR=9.0						
LZH	**Lanzhou**	**40.06**	**336**	⇓P	**P**	**08 05 50.3**	**-1.0**
LZH				pP	pP	08 06 14.1	-0.4
LZH				sP	sP	08 06 26.0	+0.1
LZH				PP	**PP**	**08 07 28.5**	**+3.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				pmax	pmax		
	comp=Z,45nm,5.6s						
HHC	**Hu-ho-hao-te**	**41.95**	**347**	*e*P	**P**	**08 06 07.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,16nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,6.1s						
CAN	**Canberra**	**42.72**	**148**	*e*P	**P**	**08 06 12.8**	**-0.2**
	comp=Z,12nm,0.7s						
CAN	**Canberra**	**42.72**	**148**	*e*P	**P**	**08 06 12.8**	**-0.2**
CAN				pmax	pmax		
	comp=Z,12nm,0.7s						
TOO	**Toolangi**	**42.79**	**153**	*e*P	**P**	**08 06 13.0**	**-0.5**
	comp=Z,11nm,1.3s						
TOO	**Toolangi**	**42.79**	**153**	*e*P	**P**	**08 06 13.0**	**-0.5**
TOO				pmax	pmax		
	comp=Z,11nm,1.3s						
USRK	**Ussuriysk Ar.**	**44.73**	**9**	P	**P**	**08 06 29.0**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=198,slow=12,SNR=6.4						
KLR	**Kul'dur**	**49.61**	**8**	*i* P	**P**	**08 07 06.3**	**-0.4**
KLR	**Kul'dur**	**49.61**	**8**	P	**P**	**08 07 06.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=254,slow=3.3,SNR=4.7						
ULN	**Ulaanbaatar**	**49.63**	**346**	*e*P	**P**	**08 07 07.1**	**0.0**
	comp=Z,5.7nm,0.6s						
ULN	**Ulaanbaatar**	**49.63**	**346**	*ce*P	**P**	**08 07 08.5**	**+1.4**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SONA0	**Songino Array**	**49.77**	**345**	*e*P	**P**	**08 07 09.3**	**+1.2**
SONM	**Songino Array**	**49.77**	**345**	P	**P**	**08 07 09.3**	**+1.2**
	comp=Z,6.4nm,0.7s,baz=160,slow=8.5,SNR=42						
SONM				ScP	**ScP**	**08 12 10.5**	**-3.7**
	comp=Z,0.9nm,0.8s,baz=174,slow=3.4,SNR=5.4						
WMQ	**Urumqi**	**53.77**	**329**	*e*P	**P**	**08 07 39.8**	**+2.0**
MK01	**Makanchi Array**	**58.57**	**328**	*e*P	**P**	**08 08 11.5**	**-0.3**
MK31	**Makanchi Array**	**58.59**	**328**	*e*P	**P**	**08 08 11.7**	**-0.3**
	comp=Z,1.2nm,1.0s						
MK31	**Makanchi Array**	**58.59**	**328**	*e*P	**P**	**08 08 11.7**	**-0.3**
MK31				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MK32	**Makanchi Array**	**58.59**	**328**	*e*P	**P**	**08 08 12.2**	**+0.2**
MKAR	**Makanchi Array**	**58.59**	**328**	*i* P	**P**	**08 08 11.8**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**58.59**	**328**	P	**P**	**08 08 12.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=123,slow=8.5,SNR=20						
MKAR				pP	**sP**	**08 08 43.5**	**-4.2**
	comp=Z,0.9nm,0.6s,baz=126,slow=7.3,SNR=3.7						
MKAR				ScP	**ScP**	**08 12 48.5**	**-4.2**
	comp=Z,0.8nm,0.9s,baz=115,slow=4.9,SNR=5.8						
MAKZ	**Makanchi**	**58.76**	**328**	*e*P	**P**	**08 08 12.8**	**-0.4**
	comp=Z,1.8nm,0.9s						
MAKZ	**Makanchi**	**58.76**	**328**	*e*P	**P**	**08 08 12.8**	**-0.4**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PETK	**Petropavlovsk-**	**60.29**	**23**	P	**P**	**08 08 24.3**	**+0.8**
	comp=Z,5.9nm,0.9s,baz=201,slow=7.7,SNR=2.8						
PEA1	**Petropavlovsk-**	**60.29**	**23**	*e*P	**P**	**08 08 24.3**	**+0.7**
RPZ	**Rata Peaks**	**61.04**	**142**	*e*P	**P**	**08 08 28.0**	**-0.8**
RPZ	**Rata Peaks**	**61.04**	**142**	P	**P**	**08 08 28.0**	**-0.8**
	comp=Z,13nm,0.9s,baz=292,slow=5.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**62.29**	**336**	*i* P	**P**	**08 08 36.2**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**62.29**	**336**	P	**P**	**08 08 36.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=132,slow=6.2,SNR=4.3						
ZAA1	**Zalesovo Array**	**62.29**	**336**	*e*P	**P**	**08 08 36.6**	**-0.4**
BKZ	**Black Stump Fm**	**62.48**	**135**	*e*P	**P**	**08 08 36.9**	**-1.8**
	comp=Z,105nm,1.6s						
KURBB	**Kurchatov Arra**	**62.94**	**330**	P	**P**	**08 08 41.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=129,slow=6.5,SNR=9.3						
KURBB				pP	**pP**	**08 09 12.2**	**+6.4**
	comp=Z,0.7nm,0.8s,baz=131,slow=5.7,SNR=2.9						
KURK	**Kurchatov**	**62.95**	**330**	*e*P	**P**	**08 08 40.9**	**-0.6**
	comp=Z,16nm,1.6s						
KURK	**Kurchatov**	**62.95**	**330**	*de*P	**P**	**08 08 41.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MA2	**Magadan**	**63.23**	**15**	*ce*P	**P**	**08 08 43.6**	**+0.4**
MA2				pmax	pmax		
	comp=Z,16nm,0.9s						
MA2	**Magadan**	**63.23**	**15**	P	**P**	**08 08 43.3**	**+0.1**
	comp=Z,11nm,0.7s,baz=207,slow=7.2,SNR=8.8						
SEY	**Seymchan**	**66.51**	**14**	*ce*P	**P**	**08 09 05.1**	**+0.8**
SEY	**Seymchan**	**66.51**	**14**	P	**P**	**08 09 04.7**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=226,slow=6.0,SNR=13						
CASY	**Casey**	**66.74**	**185**	*e*P	**P**	**08 09 04.4**	**-1.3**
	comp=Z,7.4nm,1.3s						
BVAR	**Borovoye Array**	**68.46**	**329**	P	**P**	**08 09 16.9**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=28,slow=6.5,SNR=3.1						
BRVK	**Borovoye**	**68.53**	**329**	*ce*P	**P**	**08 09 17.7**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
TIXI	**Tiksi**	**71.63**	**2**	*e*P	**P**	**08 09 35.0**	**-0.8**
	comp=Z,8.2nm,1.1s						
TIXI	**Tiksi**	**71.63**	**2**	*i* P	**P**	**08 09 34.7**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
TIXI	**Tiksi**	**71.63**	**2**	P	**P**	**08 09 35.5**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=182,slow=5.6,SNR=10						
NRIK	**Noril'sk**	**73.18**	**348**	P	**P**	**08 09 44.8**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=125,slow=5.7,SNR=9.8						
BILL	**Bilibino**	**74.11**	**16**	⇑*e*P	**P**	**08 09 51.0**	**+0.5**
BILL				*e*		08 10 05.1	
BILL				*e*		08 12 34.0	
BILL				*e*S	**SKiKP**	**08 19 11.1**	**+2.4**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,39nm,19.0s						
ARU	**Arti**	**76.11**	**329**	*i* P	**P**	**08 10 03.0**	**+0.7**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**80.26**	**172**	*e*P	**P**	**08 10 24.1**	**-0.7**
	comp=Z,8.4nm,1.3s						
VNDA	**Vanda**	**80.26**	**172**	*e*P	**P**	**08 10 24.1**	**-0.7**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KIV	**Kislovodsk**	**82.99**	**314**	*e*P	**P**	**08 10 39.1**	**-0.9**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s						
RDOG	**Red Dog Mine**	**84.09**	**21**	*e*P	**P**	**08 10 45.1**	**+0.2**
	comp=Z,6.5nm,0.8s						
VSR	**Storozhevoye**	**86.10**	**321**	*i* P	**P**	**08 10 53.7**	**-1.6**
VSR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
IM3	**Indian Mountai**	**87.25**	**24**	*e*P	**P**	**08 10 59.5**	**-1.1**
MLY	**Manley**	**88.42**	**25**	*e*P	**P**	**08 11 05.4**	**-0.9**
	comp=Z,5.2nm,1.1s						
RC01	**Rabbit Creek A**	**88.68**	**29**	*e*P	**P**	**08 11 06.1**	**-1.4**
	comp=Z,17nm,1.6s						
SML	**Sawmill**	**89.37**	**28**	*e*P	**P**	**08 11 09.6**	**-1.2**
	comp=Z,7.1nm,0.8s						
SML	**Sawmill**	**89.37**	**28**	*e*P	**P**	**08 11 09.6**	**-1.2**
SML				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCB	**Clear Creek Bu**	**89.66**	**26**	*e*P	**P**	**08 11 10.4**	**-1.6**
	comp=Z,2.5nm,0.8s						
DHY	**Denali Highway**	**89.84**	**27**	*e*P	**P**	**08 11 12.0**	**-1.1**
	comp=Z,3.7nm,0.8s						
SCM	**Sheep Creek Mo**	**89.85**	**28**	*e*P	**P**	**08 11 12.3**	**-0.8**
	comp=Z,38nm,1.6s						
SCM	**Sheep Creek Mo**	**89.85**	**28**	*e*P	**P**	**08 11 12.3**	**-0.8**
SCM				pmax	pmax		
	comp=Z,38nm,1.6s						
QSPA	**South Pole Qui**	**89.94**	**180**	*e*P	**P**	**08 11 12.0**	**-1.5**
	comp=Z,3.8nm,1.4s						
ILAR	**Eielson Array**	**90.05**	**25**	P	**P**	**08 11 12.5**	**-1.4**
	comp=Z,0.6nm,0.6s,baz=241,slow=5.3,SNR=20						
ILB	**Eielson Array**	**90.05**	**25**	*e*P	**P**	**08 11 12.4**	**-1.4**
	comp=Z,9.9nm,1.6s						
ARA0	**ARCESS Array S**	**92.61**	**340**	*e*P	**P**	**08 11 24.8**	**-0.8**
ARCES	**ARCESS Array B**	**92.61**	**340**	P	**P**	**08 11 24.8**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=64,slow=8.4,SNR=2.6						
SPITS	**Spitsbergen Ar**	**93.37**	**349**	P	**P**	**08 11 26.9**	**-2.1**
	comp=Z,7.9nm,0.8s,baz=64,slow=3.4,SNR=4.2						
YKA	**Yellowknife Ar**	**104.41**	**24**	Pdiff	**Pdif**	**08 12 19.5**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=305,slow=4.9,SNR=6.0						
YKA				PKiKP	**PKiKP**	**08 16 33.7**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=322,slow=2.1,SNR=3.6						
NVAR	**Mina Array Bea**	**112.17**	**48**	PKiKP	**PKiKP**	**08 16 51.0**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=279,slow=1.7,SNR=4.0						
PDAR	**Pinedale Array**	**116.61**	**41**	PKP	**PKPdf**	**08 16 56.5**	**-2.1**
	comp=Z,1.9nm,0.6s,baz=202,slow=1.6,SNR=3.5						
ULM	**Lac du Bonnet**	**119.99**	**28**	PKP	**PKPdf**	**08 17 03.2**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=346,slow=2.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**120.37**	**285**	PKP	**PKPdf**	**08 17 04.9**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=68,slow=1.7,SNR=9.3						
TOA1	**Torodi Ar. Sit**	**120.38**	**285**	*e*PKPdf	**PKPdf**	**08 17 04.9**	**-1.4**
ANMO	**Albuquerque**	**122.29**	**48**	*c i*PKiKP	**PKPdf**	**08 17 08.6**	**-1.2**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SCHQ	**Schefferville**	**124.75**	**7**	*e*PKPdf	**PKPdf**	**08 17 12.1**	**-1.5**
SCHQ	**Schefferville**	**124.75**	**7**	PKP	**PKPdf**	**08 17 13.3**	**-0.4**
	comp=Z,1.0nm,1.3s,baz=254,slow=8.7,SNR=3.5						
TXAR	**Lajitas Array**	**126.83**	**52**	PKP	**PKPdf**	**08 17 19.1**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=253,slow=1.5,SNR=7.1						

IDC ***19*** *08:01:08.6±0.6,19.11S×168.21E,h0km,mb4.5/19, mb1 4.6/21,mb1mx4.5/40,mbtmp4.5/21,ML4.5/1,MS3.8/13, Ms1 3.8/13,ms1mx3.6/22, Error ellipse: s-maj=17.8km s-min=14.3km az=110.0*

ISCJB ***19*** *08:01:09.6±0.2,19.23S±0.03×168.19E±0.04,h20km, mb4.7/64,MS3.9/14, Error ellipse: s-maj=6.4km s-min=4.1km az=23.7*

BJI ***19*** *08:01:11.7,19.20S×168.20E,h31km,mb4.9/16,mB5.0/11, Ms5.0/5,Ms7 4.6/2*

NEIC ***19*** *08:01:12.2±1.5,19.21S×168.21E,h28km±10km,mb4.9/48, Error ellipse: s-maj=4.8km s-min=3.9km az=168.0*

ISC 19 08:01:11.5±0.4,19.24S±0.05×168.20E±0.07,h20km,n122, σ0ᵀ98/120,mb4.8/63,MS3.8/15,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.23**	**184**	*e*Pn	**Pn**	**08 01 47.1**	**-0.2**
MARNC				*e*Sn	**Sn**	**08 02 13.0**	**-1.4**
DZM	**Mont Dzumac**	**3.26**	**210**	*e*Pn	**Pn**	**08 02 01.6**	**0.0**
	437nm,0.5s						
DZM				*e*Sn	**Sn**	**08 02 38.4**	**-1.5**
	2μm,0.5s						
DZM				*e*LR	LR	08 02 51.2	
	comp=Z,2μm,24.8s						
DZM	**Mont Dzumac**	**3.26**	**210**	*e*Pn	**Pn**	**08 02 01.3**	**-0.3**
DZM				*e*Sn	**Sn**	**08 02 39.3**	**-0.6**
DZM	**Mont Dzumac**	**3.26**	**210**	Pn	**Pn**	**08 02 01.6**	**0.0**
	42nm,0.3s,baz=32,slow=14,SNR=522						
DZM				Sn	**Sn**	**08 02 38.7**	**-1.1**
	182nm,0.3s,baz=298

2.3nm,0.7s,baz=107,slow=7.7,SNR=4.7
PETK Petropavlovsk- 72.62 353 *e*P **P** **08 12 37.1 -0.2**
PETK Petropavlovsk- 72.62 353 P **P** **08 12 37.4 +0.1**
5.3nm,0.6s,baz=163,slow=11,SNR=5.4
PETK LR LR 08 40 15.3
comp=Z,66nm,19.9s,baz=276,slow=32
PEA1 Petropavlovsk- 72.63 353 *e*P **P** **08 12 37.4 +0.1**
GYA Guiyang 75.02 305 *e*P **P** **08 12 54.0 +1.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
KLR Kul'dur 75.48 336 P **P** **08 12 53.9 -0.1**
0.6nm,0.6s,baz=167,slow=5.0,SNR=5.6
KMI Kunming 77.45 302 P **P** **08 13 07.9 +1.9**
KMI pmax pmax
comp=Z,25nm,0.6s
KMI pmax pmax
comp=Z,95nm,4.0s
CM01 Chiang Mai Arr 77.59 295 *e*P **P** **08 13 06.4 -0.3**
CMAR Chiang Mai Arr 77.62 295 P **P** **08 13 07.7 +0.9**
0.9nm,0.3s,baz=134,slow=3.9,SNR=3.7
HHC Hu-ho-hao-te 79.59 320 *e*P **P** **08 13 18.6 +1.2**
HHC pP pwP 08 13 28.3 +1.3
HHC S **S** **08 23 15.6 -2.8**
HHC ScS **ScS** **08 23 39.0 -1.2**
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,92nm,4.9s
HHC LR LR
comp=N,220nm,17.1s
HHC LR LR
comp=E,250nm,17.3s
HHC LR LR
comp=Z,270nm,16.7s
LZH Lanzhou 82.01 312 *e*P **P** **08 13 31.5 +1.0**
LZH pP pwP 08 13 41.6 +0.6
LZH sP sP 08 13 44.3 +6.5
LZH *e*PP **PP** **08 16 42.1 +3.4**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,86nm,9.3s
LZH LR LR
comp=N,200nm,17.0s
LZH LR LR
comp=E,200nm,17.3s
SEY Seymchan 82.85 353 P **P** **08 13 33.5 -0.5**
baz=54,slow=19
GAMB Gambell 84.22 9 *e*P **P** **08 13 40.7 -0.3**
5.7nm,1.0s
ANM Nome 85.99 11 *e*P **P** **08 13 49.9 -0.1**
5.2nm,0.6s
ULN Ulaanbaatar 86.29 324 *e*P **P** **08 13 51.9 -0.1**
5.7nm,0.8s
SONA0 Songino Array 86.64 323 *e*P **P** **08 13 53.9 +0.2**
SONM Songino Array 86.64 323 P **P** **08 13 53.9 +0.2**
1.5nm,0.9s,baz=141,slow=4.7,SNR=8.1
SUA Susitna One 86.86 18 *e*P **P** **08 13 53.3 -1.1**
13nm,1.4s
KHMM Horse Mountain 86.90 45 *e*P **P** **08 13 54.7 -0.5**
22nm,1.5s
BILL Bilibino 87.04 359 *e*P **P** **08 13 54.3 -0.7**
9.4nm,1.0s
AFDM Forest Hills D 87.89 47 *e*P **P** **08 13 58.8 -1.0**
3.8nm,1.0s
CMB Columbia Colle 87.89 48 *e*P **P** **08 13 59.2 -0.7**
2.3nm,0.9s
MDPB Devils Postpil 88.64 49 *e*P **P** **08 14 02.6 -1.1**
10nm,1.3s
BEKR Beckworth 88.72 47 *e*P **P** **08 14 03.0 -1.0**
2.3nm,1.0s
WAKR Walker 88.77 48 *e*P **P** **08 14 03.9 -0.4**
14nm,1.6s
SNAA Sanae 89.11 183 P **P** **08 14 05.3 +0.2**
SNAA Sanae 89.11 183 *e*P **P** **08 14 04.9 -0.3**
8.0nm,1.0s
PAHR Pah Rah Range 89.33 47 *e*P **P** **08 14 05.5 -1.2**
6.9nm,1.1s
NV01 Mina Array Sit 89.54 49 *e*P **P** **08 14 07.3 -0.6**
NVAR Mina Array Bea 89.54 49 P **P** **08 14 07.7 -0.1**
2.2nm,0.9s,baz=232,slow=8.4,SNR=12
NVAR LR LR 08 48 12.4
comp=Z,81nm,19.0s,baz=238,slow=32
NV11 Mina Array Sit 89.64 49 *e*P **P** **08 14 07.3 -1.0**
0.4nm,1.1s
MOD Modoc Plateau 89.66 45 *e*P **P** **08 14 07.6 -0.7**
5.2nm,0.9s
IM3 Indian Mountai 89.68 15 *e*P **P** **08 14 06.6 -1.0**
VNA3 Neumayer Olymp 89.74 181 P **P** **08 14 07.8 -0.3**
KVN Kaiserville 89.94 48 *e*P **P** **08 14 08.6 -1.1**
5.9nm,1.1s
VNA2 Neumayer--Watz 90.02 181 P **P** **08 14 09.5 +0.1**
baz=179,slow=4.2
PINE Pine Mountain 90.09 43 *e*P **P** **08 14 09.4 -0.9**
13nm,1.0s
ILAR Eielson Array 90.53 18 P **P** **08 14 09.6 -2.0**
0.9nm,0.7s,baz=236,slow=5.1,SNR=8.2
PGC Sidney 90.80 38 *e*P **P** **08 14 13.2 +0.1**
WVOR Wild Horse Val 91.01 45 *e*P **P** **08 14 14.1 -0.4**
7.5nm,1.1s
SHPR Sheep Range 91.04 52 *e*P **P** **08 14 15.2 +0.3**
11nm,1.7s
BMN Battle Mountai 91.14 47 *e*P **P** **08 14 14.7 -0.5**
I07A Izee 91.15 43 *e*P **P** **08 14 14.3 -0.8**
6.5nm,0.9s
W13A Hualapai Mount 91.45 53 *e*P **P** **08 14 16.1 -0.7**
4.6nm,1.2s
J08A Circle Bar Ran 91.51 44 *e*P **P** **08 14 15.6 -1.2**
6.3nm,0.8s
LTY Liberty 91.81 40 *e*P **P** **08 14 17.1 -1.0**
6.8nm,1.1s
G08A Pilot Rock 92.02 42 *e*P **P** **08 14 18.2 -0.9**
4.6nm,0.8s
HAWA Hanford 92.14 41 *e*P **P** **08 14 18.9 -0.5**
5.5nm,0.9s
LLLB Lillooet 92.62 37 *e*P **P** **08 14 21.0 -0.6**
6.4nm,1.0s
LCMT Little Creek M 92.65 52 *e*P **P** **08 14 20.8 -1.5**
4.4nm,1.0s
TUC Tucson 92.82 57 *e*P **P** **08 14 22.8 -0.4**
4.9nm,1.1s
KNB Kanab 92.97 52 *e*P **P** **08 14 23.4 -0.4**
4.2nm,1.2s
X16A Lo Mia Camp, P 93.06 55 *e*P **P** **08 14 23.4 -0.9**
3.6nm,1.0s
U15A North Rim 93.15 53 *e*P **P** **08 14 23.8 -1.0**
3.7nm,0.8s
319A Douglas 93.70 58 *e*P **P** **08 14 26.2 -1.0**
6.7nm,0.9s
LENM Lemitar 96.46 56 *e*P **P** **08 14 38.4 -1.4**
WMQ Urumqi 96.50 314 *e*P **P** **08 14 40.6 +0.9**
WMQ LR LR
comp=N,60nm,22.9s
PDAR Pinedale Array 97.34 47 LR LR 08 52 03.7
comp=Z,28nm,18.8s,baz=258,slow=31
TXAR Lajitas Array 97.63 62 P Pdif 08 14 44.9 -0.3
0.4nm,0.7s,baz=213,slow=6.7,SNR=5.7
TXAR LR LR 08 51 54.7
comp=Z,83nm,18.9s,baz=0.0,slow=31
YKA Yellowknife Ar 101.12 27 P **Pdif** **08 14 59.4 -0.4**
0.6nm,0.7s,baz=254,slow=4.8,SNR=13
YKB5 Yellowknife Ar 101.12 27 *e*Pdif **Pdif** **08 14 59.1 -0.7**
ARA0 ARCESS Array S 124.82 345 *e*PKPdf **PKiKP** **08 20 11.1 +1.5**
ARCES ARCESS Array B 124.82 345 PKP **PKiKP** **08 20 11.1 +1.5**
1.7nm,0.8s,baz=342,slow=2.1,SNR=5.5
VYHS Vyhne 141.76 327 *e*PKP **PKiKP** **08 20 44.2 -0.3**
MODS Modra-Piesok 142.63 328 *e*PKP **PKiKP** **08 20 47.0 +0.7**
CONA Conrad Observa 143.64 328 *e*PKPdf PKPbc 08 20 42.4 0.0
7.9nm,1.2s
GERES GERESS Array B 144.03 331 PKP **PKPdf** **08 20 43.8 -1.9**
0.7nm,0.7s,baz=112,slow=7.5,SNR=2.8
ARSA Arzberg 144.26 328 *e*PKPdf **PKPdf** **08 20 45.2 -0.9**
4.7nm,0.8s
MOA Molln 144.47 329 *e*PKPdf **PKPdf** **08 20 45.9 -0.6**
9.6nm,1.1s
SOKA Soboth 144.90 327 *e*PKPdf PKPbc 08 20 45.4 -1.1
17nm,1.8s
MYKA Terra Mystica 145.63 328 *e*PKPab **PKPab** **08 20 48.8 -0.3**
8.8nm,0.9s
MEM Membach 145.66 340 ⇑PKP **PKPdf** **08 20 46.4 -1.9**
ABTA Abfaltersbach 146.09 330 *i* PKPab **PKPab** **08 20 50.7 -0.1**
11nm,1.1s
MOTA Moosalm 146.31 332 *i* PKPab **PKPab** **08 20 51.1 -0.7**
5.8nm,0.9s
SQTA Sankt Quirin 146.36 331 *i* PKPab **PKPab** **08 20 50.9 -1.0**
11nm,0.9s
FETA Feichten 146.72 331 *i* PKPab **PKPab** **08 20 52.8 -0.6**
8.6nm,0.9s
FUORN Ofenpass-Fuorn 147.24 331 *e*PKPdf **PKPdf** **08 20 51.2 -0.3**
TORD Torodi Ar. Bea 165.70 247 PKP **PKPdf** **08 21 18.1 +2.4**
0.8nm,0.9s,baz=2.4,slow=3.5,SNR=3.7
TORD PKPab **PKPab** **08 22 14.0 -0.8**
0.3nm,0.7s,baz=185,slow=31,SNR=3.8

JMA 19 08:28:30.9, 37.02N×140.59E, h7km±1km, M2.5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.07**	**342**	P	Pg	08 28 32.9	+0.1
JFFD				S	Sg	08 28 34.1	-0.1
ONAJ	**Iwakimizuishiy**	**0.19**	**64**	P	Pg	08 28 34.9	+0.2
ONAJ				S	Sg	08 28 37.7	+0.5
JHO	**Hitachi**	**0.41**	**182**	P	Pg	08 28 38.8	0.0
JHO				S	Sg	08 28 44.6	+0.4
JFK	**Kawauchi**	**0.41**	**33**	P	Pg	08 28 38.9	-0.1
JFT	**Otama**	**0.54**	**338**	P	Pg	08 28 41.5	+0.2
JFT				S	Sg	08 28 48.8	+0.5
JFY	**Yanaizu**	**0.81**	**299**	P	Pg	08 28 46.4	0.0
JFY				S	Sg	08 28 56.9	0.0
MAT	**Matsushiro**	**1.97**	**257**	P	Pb	08 29 06.7	-0.4
MAT				S	Sb	08 29 31.5	-0.4

*IDC **19** 08:34:19.3±1.1, 11.07S×164.08E, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.0/29, mbtmp4.0/11, ML4.3/3, MS3.4/9, Ms1 3.4/9, ms1mx3.2/29, Error ellipse: s-maj=28.8km s-min=21.7km az=125.0*
*ISCJB **19** 08:34:21.9±0.5, 11.16S±0.07×163.99E±0.07, h29km, mb4.0/15, MS3.4/8, Error ellipse: s-maj=10.8km s-min=8.4km az=41.0*
*NEIC **19** 08:34:21.0±0.5, 11.06S×164.00E, h10km, mb4.4/10, Error ellipse: s-maj=10.7km s-min=9.1km az=89.0*
ISC 19 08:34:23.6±0.7, 11.06S±0.10×164.06E±0.09, h29km, n37, σ1s00/33, mb4.2/15, MS3.4/8, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.36**	**291**	*e*P	**Pn**	**08 35 27.0**	**-0.9**
HNR				*e*S	**Sn**	**08 36 17.0**	**-0.8**
HNR	**Honiara**	**4.36**	**291**	*e*Pn	**Pn**	**08 35 27.6**	**-0.3**
HNR				*e*Sn	**Sn**	**08 36 18.4**	**+0.7**
HNR	**Honiara**	**4.36**	**291**	Pn	**Pn**	**08 35 28.4**	**+0.5**
	37nm,0.3s,baz=138,slow=4.2,SNR=11						
HNR				Sn	**Sn**	**08 36 19.1**	**+1.3**
	28nm,0.3s,baz=192,slow=18,SNR=4.7						
HNR				LR	LR	08 37 17.8	
	comp=Z,584nm,21.8s,baz=82,slow=41						
DZM	**Mont Dzumac**	**11.19**	**169**	*e*Pn	**Pn**	**08 37 01.3**	**-0.5**
DZM	**Mont Dzumac**	**11.19**	**169**	Pn	**Pn**	**08 37 02.6**	**+0.8**
	0.5nm,0.3s,baz=348,slow=12,SNR=17						
PINNC	**Pines Island,**	**11.94**	**165**	*e*Pn	**Pn**	**08 37 12.1**	**+0.1**
CTA	**Charters Tower**	**19.34**	**240**	P	**Pn**	**08 38 48.7**	**+0.5**
	0.8nm,0.3s,baz=72,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**19.34**	**240**	*e*P	**Pn**	**08 38 47.8**	**-0.4**
	18nm,1.3s						
COEN	**Coen**	**20.59**	**260**	*e*P	**P**	**08 39 00.6**	**0.0**
	6.3nm,0.8s						
STKA	**Stephens Creek**	**29.32**	**222**	P	**P**	**08 40 25.0**	**+1.2**
	1.6nm,0.8s,baz=30,slow=13,SNR=4.3						
STKA				LR	LR	08 51 21.6	
	comp=Z,119nm,18.3s,baz=28,slow=35						
WB2	**Warramunga Arr**	**29.92**	**249**	*e*P	**P**	**08 40 28.2**	**-1.1**
	10nm,1.3s						
WR1	**Warramunga Arr**	**29.93**	**249**	*e*P	**P**	**08 40 27.8**	**-1.6**
	6.0nm,1.0s						
WRA	**Warramunga Arr**	**29.93**	**249**	P	**P**	**08 40 27.8**	**-1.6**
	1.7nm,0.4s,baz=80,slow=9.3,SNR=27						
H11N1	**WAKE ISLAND Hy**	**30.70**	**5**	T	T	09 12 31.1	
	baz=184,slow=76,SNR=7.4						
H11N3	**WAKE ISLAND Hy**	**30.71**	**5**	T	T	09 12 40.2	
	baz=184,slow=76,SNR=3.5						
H11N2	**WAKE ISLAND Hy**	**30.72**	**5**	T	T	09 12 43.2	
	baz=184,slow=76,SNR=5.1						
AS01	**Alice Springs**	**31.27**	**242**	*e*P	**P**	**08 40 40.4**	**-0.9**
AS31	**Alice Springs**	**31.31**	**242**	*e*P	**P**	**08 40 40.6**	**-1.1**
	0.9nm,1.1s						
ASAR	**Alice Springs**	**31.31**	**242**	P	**P**	**08 40 40.2**	**-1.5**
	0.9nm,0.7s,baz=62,slow=10,SNR=15						
ASAR				PcP	**PcP**	**08 43 34.1**	**-1.4**
	0.4nm,0.6s,baz=87,slow=8.4,SNR=4.8						
ASAR				LR	LR	08 52 59.5	
	comp=Z,90nm,20.2s,baz=76,slow=36						
RPZ	**Rata Peaks**	**33.10**	**171**	LR	LR	08 52 47.4	
	comp=Z,120nm,19.5s,baz=302,slow=34						
SIJI	**Sorong**	**34.10**	**285**	LR	LR	08 55 17.5	
	comp=Z,46nm,20.3s,baz=91,slow=37						
FITZ	**Fitzroy Crossi**	**37.78**	**255**	*e*P	**P**	**08 41 35.7**	**-1.9**
	2.6nm,0.6s						
DAV	**Davao City (W)**	**42.32**	**293**	LR	LR	09 00 25.8	
	comp=Z,12nm,18.5s,baz=148,slow=37						
KSRS	**Korea Array**	**58.96**	**327**	LR	LR	09 08 21.1	
	comp=Z,20nm,18.7s,baz=102,slow=35						
CM31	**Chiang Mai Arr**	**70.60**	**294**	*e*P	**P**	**08 45 36.5**	**-0.3**
	4.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**70.60**	**294**	P	**P**	**08 45 38.6**	**+1.8**
	0.6nm,0.3s,baz=94,slow=4.7,SNR=3.3						
CMAR				LR	LR	09 14 19.3	
	comp=Z,10nm,22.0s,baz=255,slow=34						
SONA0	**Songino Array**	**77.70**	**324**	*e*P	**P**	**08 46 18.1**	**+0.3**
SONM	**Songino Array**	**77.70**	**324**	P	**P**	**08 46 18.1**	**+0.3**
	0.6nm,0.7s,baz=116,slow=3.4,SNR=4.0						
QSPA	**South Pole Qui**	**78.95**	**180**	*e*P	**P**	**08 46 25.1**	**+0.6**
	4.3nm,1.3s						
IM3	**Indian Mountai**	**82.89**	**16**	*e*P	**P**	**08 46 45.0**	**-0.1**
TGL	**Tana Glacier**	**82.91**	**23**	*e*P	**P**	**08 46 45.2**	**-0.4**
	8.1nm,0.8s						
ILAR	**Eielson Array**	**84.05**	**19**	P	**P**	**08 46 52.0**	**+0.8**
	0.6nm,0.9s,baz=226,slow=5.9,SNR=5.1						
ILB	**Eielson Array**	**84.05**	**19**	*e*P	**P**	**08 46 51.4**	**+0.2**
	6.8nm,1.6s						
NEW	**Newport**	**90.83**	**41**	LR	LR	09 22 19.7	
	comp=Z,49nm,18.8s,baz=350,slow=32						
MK32	**Makanchi Array**	**92.40**	**317**	*e*P	**P**	**08 47 32.5**	**+0.8**
MKAR	**Makanchi Array**	**92.40**	**317**	P	**P**	**08 47 32.5**	**+0.9**
	0.4nm,0.7s,baz=125,slow=5.5,SNR=6.5						
YKA	**Yellowknife Ar**	**95.74**	**27**	P	**P**	**08 47 45.6**	**-1.0**
	0.1nm,0.6s,baz=259,slow=4.9,SNR=4.1						

*ISCJB **19** 08:37:04.8±0.3, 37.99N±0.02×14.54E±0.03, h13km±2km, mb3.4/4, MS3.2/1, Error ellipse: s-maj=4.2km s-min=3.3km az=159.2*
*ROM **19** 08:37:04.6±0.1, 37.981N±0.006×14.522E±0.007, h10km, ML3.4/55*
*IDC **19** 08:37:04.8±1.2, 38.03N×14.82E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/44, mbtmp3.4/5, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/27, Error ellipse: s-maj=44.1km s-min=12.5km az=120.0*
ISC 19 08:37:05.3±0.8, 38.00N±0.02×14.56E±0.02, h10km±5km, n59, σ1s26/55, mb3.5/4, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSFR	**San Fratello**	**0.04**	**35**	P	**Pg**	**08 37 07.2**	**-0.2**
MSFR				S	**Sg**	**08 37 09.5**	**+0.7**
MSFR				AML	AML		
	comp=E,28200μm,0.4s						
MSFR				AML	AML		
	comp=N,32100μm,0.4s						
MSFR				AML	AML		
	comp=E,28200μm,0.4s						
MSFR				AML	AML		
	comp=N,32100μm,0.4s						
MSFR				AML	AML		
	comp=E,28200μm,0.4s						
MSFR				AML	AML		
	comp=N,32100μm,0.4s						
MSFR				AML	AML		
	comp=E,28200μm,0.4s						
MNO	**Monte Soro**	**0.12**	**122**	*i* P	**Pg**	**08 37 07.9**	**-0.5**
MNO				S	**Sg**	**08 37 10.7**	**+0.1**
MNO				AML	AML		
MNO				AML	AML		
	comp=N,63350μm,0.4s						
MNO				AML	AML		
MNO				AML	AML		
	comp=N,63400μm,0.4s						
MNO				AML	AML		
MNO				AML	AML		
	comp=N,63400μm,0.4s						
MNO				AML	AML		
MUCR	**Ucria**	**0.25**	**80**	P	**Pg**	**08 37 10.6**	**+0.1**
MUCR				S	**Sg**	**08 37 15.5**	**+1.5**
MUCR				AML	AML		
	comp=E,28350μm,0.3s						
MUCR				AML	AML		
	comp=N,50550μm,0.3s						
MUCR				AML	AML		
	comp=E,28350μm,0.3s						
MUCR				AML	AML		
	comp=N,50550μm,0.3s						
MUCR				AML	AML		
	comp=E,28350μm,0.3s						
MUCR				AML	AML		
	comp=N,50550μm,0.3s						
MUCR				AML	AML		
	comp=E,28350μm,0.3s						
GALF	**Gagliano Caste**	**0.29**	**179**	P	**Pg**	**08 37 10.4**	**-0.7**
GALF				AML	AML		
	comp=E,20550μm,0.8s						
GALF				AML	AML		
	comp=N,26850μm,0.7s						
GALF				AML	AML		
	comp=E,20550μm,0.8s						
GALF				AML	AML		
	comp=N,26850μm,0.7s						
GALF				AML	AML		
	comp=E,20550μm,0.8s						
GALF				AML	AML		
	comp=N,26850μm,0.7s						
GALF				AML	AML		
	comp=E,20550μm,0.8s						
GALF				AML	AML		
	comp=N,26850μm,0.7s						
CAGR	**Agira**	**0.38**	**187**	P	**Pg**	**08 37 12.5**	**-0.3**
CAGR				AML	AML		
	comp=E,14900μm,0.7s						
CAGR				AML	AML		
	comp=N,13700μm,0.5s						
CAGR				AML	AML		
	comp=E,14900μm,0.7s						
CAGR				AML	AML		
	comp=N,13700μm,0.5s						
CAGR				AML	AML		
	comp=E,14900μm,0.7s						
PETRA	**Petralia Sopra**	**0.39**	**245**	P	**Pg**	**08 37 11.6**	**-1.4**
PETRA				AML	AML		
	comp=E,10850μm,0.7s						
PETRA				AML	AML		
	comp=N,10610μm,1.0s						
PETRA				AML	AML		
	comp=E,10850μm,0.7s						
PETRA				AML	AML		
	comp=N,10610μm,1.0s						
PETRA				AML	AML		
	comp=E,10850μm,0.7s						
PETRA				AML	AML		
	comp=N,10610μm,1.0s						
ECNV	**Catenanuova**	**0.42**	**163**	P	**Pg**	**08 37 13.8**	**+0.3**
ECNV				AML	AML		
	comp=E,7970μm,0.5s						
ECNV				AML	AML		
	comp=N,10100μm,0.8s						
ECNV				AML	AML		
	comp=E,7970μm,0.5s						
ECNV				AML	AML		
	comp=N,10100μm,0.8s						
ECNV				AML	AML		
	comp=E,7970μm,0.5s						
ECNV				AML	AML		
	comp=N,10100μm,0.8s						
GIB	**Gibilmanna**	**0.42**	**269**	P	**Pg**	**08 37 12.2**	**-1.4**
GIB				S	**Sg**	**08 37 18.4**	**-0.8**
GIB				AML	AML		
	comp=E,5390μm,0.5s						
GIB				AML	AML		
	comp=N,6550μm,0.4s						
GIB				AML	AML		
	comp=E,5390μm,0.5s						
GIB				AML	AML		
	comp=N,6550μm,0.4s						
GIB				AML	AML		
	comp=E,5390μm,0.5s						
GIB				AML	AML		
	comp=N,6550μm,0.4s						
GIB				AML	AML		
	comp=E,5390μm,0.5s						
ESLN	**Serra La Nave**	**0.45**	**133**	P	**Pb**	**08 37 15.0**	**-0.4**
ESLN				AML	AML		
	comp=E,8695μm,0.6s						
ESLN				AML	AML		
	comp=N,8180μm,1.2s						
ESLN				AML	AML		
	comp=E,8695μm,0.6s						
ESLN				AML	AML		
	comp=N,8180μm,1.2s						
ESLN				AML	AML		
	comp=E,8695μm,0.6s						
ESLN				AML	AML		
	comp=N,8180μm,1.2s						
NOV	**Novara**	**0.46**	**86**	P	**Pg**	**08 37 14.1**	**-0.2**
NOV				AML	AML		
	comp=E,5680μm,0.9s						
NOV				AML	AML		
	comp=N,4025μm,0.6s						
NOV				AML	AML		
	comp=E,5680μm,0.9s						
NOV				AML	AML		
	comp=N,4025μm,0.6s						
NOV				AML	AML		
	comp=E,5680μm,0.9s						
NOV				AML	AML		
	comp=N,4025μm,0.6s						
VPL	**Vulcano Piano**	**0.51**	**41**	P	**Pb**	**08 37 15.7**	**-0.6**
VPL				S	**Sb**	**08 37 23.9**	**+0.1**
VPL				AML	AML		
	comp=E,30050μm,0.5s						
VPL				AML	AML		
	comp=N,46100μm,0.5s						
VPL				AML	AML		
	comp=E,30050μm,0.5s						
VPL				AML	AML		
	comp=N,46100μm,0.5s						
VPL				AML	AML		
	comp=E,30050μm,0.5s						
VPL				AML	AML		
	comp=N,46100μm,0.5s						
VAE	**Valguarnera**	**0.53**	**193**	Pg	**Pb**	**08 37 17.8**	**+1.0**
	comp=N,35nm,0.3s,baz=67,slow=15,SNR=42						
LLI	**Lipari**	**0.54**	**34**	P	**Pb**	**08 37 16.6**	**-0.4**
LLI				AML	AML		
	comp=E,29650μm,1.6s						
LLI				AML	AML		
	comp=N,57850μm,0.5s						
LLI				AML	AML		
	comp=E,29650μm,1.6s						
LLI				AML	AML		
	comp=N,57850μm,0.5s						
LLI				AML	AML		
	comp=E,29650μm,1.6s						
LLI				AML	AML		
	comp=N,57850μm,0.5s						
MCSR	**Castroreale**	**0.55**	**83**	P	**Pg**	**08 37 15.5**	**-0.5**
MCSR				AML	AML		
	comp=E,16850μm,0.3s						
MCSR				AML	AML		
	comp=N,12650μm,0.3s						
MCSR				AML	AML		
	comp=E,16850μm,0.3s						
MCSR				AML	AML		
	comp=N,12650μm,0.3s						
MCSR				AML	AML		
	comp=E,16850μm,0.3s						

MCSR AML AML
comp=N,12650μm,0.3s
MCSR AML AML
comp=N,12650μm,0.3s
MCSR AML AML
comp=E,16850μm,0.3s
IACL Alicudi 0.56 343 P Pg 08 37 16.5 +0.4
IACL AML AML
comp=E,14950μm,0.2s
IACL AML AML
comp=N,12050μm,0.5s
IACL AML AML
comp=E,14950μm,0.2s
IACL AML AML
comp=N,12050μm,0.5s
IACL AML AML
comp=N,12050μm,0.5s
IACL AML AML
comp=E,14950μm,0.2s
IFIL Filicudi I Eol 0.56 0 P Pg 08 37 16.7 +0.4
IFIL AML AML
comp=E,48350μm,0.6s
IFIL AML AML
comp=N,17750μm,0.7s
IFIL AML AML
comp=E,48350μm,0.6s
IFIL AML AML
comp=N,17750μm,0.7s
IFIL AML AML
comp=N,17750μm,0.7s
IFIL AML AML
comp=E,48350μm,0.6s
MILZ Milazzo 0.59 63 P Pg 08 37 17.0 +0.1
MILZ AML AML
comp=E,5950μm,0.9s
MILZ AML AML
comp=N,5410μm,0.4s
MILZ AML AML
comp=E,5950μm,0.9s
MILZ AML AML
comp=N,5410μm,0.4s
MILZ AML AML
comp=E,5950μm,0.9s
MILZ AML AML
comp=N,5410μm,0.4s
MPNC Port Mandanici 0.64 77 P Pg 08 37 17.6 -0.1
MPNC AML AML
comp=E,7790μm,0.5s
MPNC AML AML
comp=N,6065μm,0.3s
MPNC AML AML
comp=E,7790μm,0.5s
MPNC AML AML
comp=N,6065μm,0.3s
MPNC AML AML
comp=N,6065μm,0.3s
MPNC AML AML
comp=E,7790μm,0.5s
ALJA Alia 0.69 249 P Pg 08 37 17.5 -1.1
ALJA AML AML
comp=E,2540μm,0.7s
ALJA AML AML
comp=N,2095μm,1.5s
ALJA AML AML
comp=E,2540μm,0.7s
ALJA AML AML
comp=N,2095μm,1.5s
ALJA AML AML
comp=N,2095μm,1.5s
ALJA AML AML
comp=E,2540μm,0.7s
HLNI Lentini 0.69 159 P Pg 08 37 18.1 -0.6
HLNI AML AML
comp=E,1535μm,0.4s
HLNI AML AML
comp=N,1245μm,1.4s
HLNI AML AML
comp=N,1245μm,1.4s
HLNI AML AML
comp=E,1535μm,0.4s
RAFF Raffo Rosso 0.79 192 P Pg 08 37 20.9 +0.4
RAFF AML AML
comp=E,3445μm,1.0s
RAFF AML AML
comp=N,4635μm,0.8s
RAFF AML AML
comp=E,3445μm,1.0s
RAFF AML AML
comp=N,4635μm,0.8s
MSRU Castanea 0.79 70 P Pg 08 37 20.4 -0.2
MSRU AML AML
comp=E,4080μm,0.3s
MSRU AML AML
comp=N,3160μm,0.8s
MSRU AML AML
comp=E,4080μm,0.3s
MSRU AML AML
comp=N,3160μm,0.8s
HCRL Carlentini 0.81 152 P Pg 08 37 20.3 -0.5
HCRL AML AML
comp=E,2245μm,1.5s
HCRL AML AML
comp=N,1575μm,0.3s
HCRL AML AML
comp=N,1575μm,0.3s
HCRL AML AML
comp=E,2245μm,1.5s
SOLUN Solunto 0.82 277 P Pg 08 37 19.6 -1.5
SOLUN AML AML
comp=E,732μm,0.6s
SOLUN AML AML
comp=N,542μm,1.3s
SOLUN AML AML
comp=E,732μm,0.6s
SOLUN AML AML
comp=N,542μm,1.3s
SOLUN AML AML
comp=E,732μm,0.6s
SOLUN AML AML
comp=N,542μm,1.3s
HVZN Vizzini 0.83 171 P Pg 08 37 20.2 -1.1
HVZN AML AML
comp=E,7370μm,0.6s
HVZN AML AML
comp=N,9935μm,0.8s
HVZN AML AML
comp=N,9935μm,0.8s
HVZN AML AML
comp=E,7370μm,0.6s
HAGA Augusta 0.85 146 *i* P Pg 08 37 21.1 -0.6
HAGA AML AML
comp=E,3605μm,0.4s
HAGA AML AML
comp=N,2030μm,0.5s
HAGA AML AML
comp=E,3605μm,0.4s
HAGA AML AML
comp=N,2030μm,0.5s
HAGA AML AML
comp=N,2030μm,0.5s
HAGA AML AML
comp=E,3605μm,0.4s
MTTG Motta San Giov 0.90 89 P Pg 08 37 22.1 -0.5
MTTG AML AML
comp=E,2430μm,0.6s
MTTG AML AML
comp=N,4495μm,0.6s
MTTG AML AML
comp=E,2430μm,0.6s
MTTG AML AML
comp=N,4495μm,0.6s
MTTG AML AML
comp=N,4495μm,0.6s
MTTG AML AML
comp=E,2430μm,0.6s
AGST Augusta-Monte 0.91 144 P Pg 08 37 22.0 -0.8
AGST AML AML
comp=E,2260μm,0.5s
AGST AML AML
comp=N,1855μm,1.5s
AGST AML AML
comp=E,2260μm,0.5s
AGST AML AML
comp=N,1860μm,1.5s
AGST AML AML
comp=E,2260μm,0.5s
AGST AML AML
comp=N,1860μm,1.5s

ISTR Stromboli Gino 0.93 32 P Pb 08 37 23.2 -0.3
SSY Sortino 0.94 154 P Pg 08 37 22.5 -0.8
SSY AML AML
comp=E,3320μm,0.4s
SSY AML AML
comp=N,5410μm,0.3s
SSY AML AML
comp=N,5410μm,0.3s
SSY AML AML
comp=E,3320μm,0.4s
MEU Monte Lauro 0.94 162 P Pg 08 37 21.8 -1.7
MEU AML AML
comp=E,2750μm,0.6s
MEU AML AML
comp=N,3515μm,0.4s
MEU AML AML
comp=E,2750μm,0.6s
MEU AML AML
comp=N,3515μm,0.4s
MEU AML AML
comp=E,2750μm,0.6s
MEU AML AML
comp=N,3515μm,0.4s
MPG Monte Pellegri 0.96 280 P Pg 08 37 22.9 -0.9
MPG AML AML
comp=E,574μm,1.4s
MPG AML AML
comp=N,422μm,0.8s
MPG AML AML
comp=E,574μm,1.4s
MPG AML AML
comp=N,422μm,0.8s
MPG AML AML
comp=E,574μm,1.4s
MPG AML AML
comp=N,422μm,0.8s
MSCL Scilla 1.00 76 P Pg 08 37 23.7 -0.9
MSCL AML AML
comp=E,3180μm,0.6s
MSCL AML AML
comp=N,2475μm,0.5s
MSCL AML AML
comp=N,2475μm,0.5s
MSCL AML AML
comp=E,3180μm,0.6s
CORL Corleone 1.00 264 P Pg 08 37 23.3 -1.2
CORL AML AML
comp=E,2005μm,0.6s
CORL AML AML
comp=N,1665μm,0.6s
CORL AML AML
comp=E,2005μm,0.6s
CORL AML AML
comp=N,1665μm,0.6s
HMDC Modica 1.05 170 P Pb 08 37 24.3 -1.4
HMDC AML AML
comp=E,1480μm,0.6s
HMDC AML AML
comp=N,2310μm,0.5s
HMDC AML AML
comp=E,1480μm,0.6s
HMDC AML AML
comp=N,2310μm,0.5s
HMDC AML AML
comp=N,2310μm,0.5s
HMDC AML AML
comp=E,1480μm,0.6s
CEL Celeste 1.08 76 P Pb 08 37 25.2 -1.0
CEL AML AML
comp=E,1218μm,0.9s
CEL AML AML
comp=N,1020μm,0.5s
CEL AML AML
comp=E,1450μm,0.9s
CEL AML AML
comp=N,1240μm,0.5s
CEL AML AML
comp=N,1020μm,0.5s
CEL AML AML
comp=E,1450μm,0.9s
CEL AML AML
comp=E,1218μm,0.9s
CEL AML AML
comp=N,1240μm,0.5s
HAVL Avola 1.13 156 P Pb 08 37 25.4 -1.5
HAVL AML AML
comp=E,2640μm,0.7s
HAVL AML AML
comp=N,1810μm,0.3s
HAVL AML AML
comp=N,1810μm,0.3s
HAVL AML AML
comp=E,2640μm,0.7s
MPAZ Palizzi 1.14 92 P Pb 08 37 26.4 -0.9
MPAZ AML AML
comp=E,2030μm,0.8s
MPAZ AML AML
comp=N,1620μm,0.4s
MPAZ AML AML
comp=N,1620μm,0.4s
MPAZ AML AML
comp=E,2030μm,0.8s
SOI Samo 1.18 86 P Pb 08 37 26.7 -1.1
SOI AML AML
comp=E,2515μm,0.5s
SOI AML AML
comp=N,2840μm,0.6s
SOI AML AML
comp=N,2840μm,0.6s
SOI AML AML
comp=E,2515μm,0.5s
JOPP Joppolo 1.21 59 P Pb 08 37 26.5 -1.8
JOPP AML AML
comp=E,714μm,0.6s
JOPP AML AML
comp=N,725μm,0.4s
JOPP AML AML
comp=E,714μm,0.6s
JOPP AML AML
comp=N,725μm,0.4s
USI Ustica 1.30 304 P Pn 08 37 27.0 -2.6
USI AML AML
comp=E,2200μm,0.7s
USI AML AML
comp=N,1990μm,1.2s
USI AML AML
comp=N,1990μm,1.2s
USI AML AML
comp=E,2200μm,0.7s
PLAC Placanica 1.55 72 P Pn 08 37 32.3 -0.7
PLAC AML AML
comp=E,780μm,0.6s
PLAC AML AML
comp=N,1505μm,0.6s
PLAC AML AML
comp=N,1505μm,0.6s
PLAC AML AML
comp=E,780μm,0.6s
GRI Girifalco 1.68 60 AML AML
comp=N,654μm,1.2s
GRI AML AML
comp=E,558μm,0.4s
GRI AML AML
comp=N,654μm,1.2s
GRI AML AML
comp=E,558μm,0.4s
CET2 Cetraro 1.88 35 P Pn 08 37 36.2 -1.4
CET2 AML AML
comp=E,823μm,0.8s
CET2 AML AML
comp=N,925μm,0.6s
CET2 AML AML
comp=E,823μm,0.8s
CET2 AML AML
comp=N,925μm,0.6s
CELI Celico 2.07 47 AML AML
comp=E,555μm,0.5s
CELI AML AML
comp=N,602μm,1.6s
CELI AML AML
comp=E,555μm,0.5s
CELI AML AML
comp=N,602μm,1.6s
TIP Timpagrande 2.09 55 AML AML
comp=E,273μm,1.3s
TIP AML AML
comp=E,238μm,1.4s
TIP AML AML
comp=N,216μm,1.6s
TIP AML AML
comp=E,273μm,1.3s
TIP AML AML
comp=N,260μm,0.7s
TIP AML AML
comp=N,260μm,0.7s
TIP AML AML
comp=N,216μm,1.6s
TIP AML AML
comp=E,238μm,1.4s
MGR Morigerati 2.27 20 AML AML
comp=N,279μm,0.4s
MGR AML AML
comp=E,204μm,0.5s
MGR AML AML
comp=N,279μm,0.4s
MGR AML AML
comp=E,204μm,0.5s
SIRI Monte Sirino - 2.41 25 AML AML
comp=N,338μm,0.5s
SIRI AML AML
comp=E,394μm,0.4s
SIRI AML AML
comp=E,394μm,0.4s
SIRI AML AML
comp=N,338μm,0.5s
MCEL Monticello 2.52 22 AML AML
comp=E,131μm,1.5s
MCEL AML AML
comp=N,154μm,1.3s
MCEL AML AML
comp=E,131μm,1.5s
MCEL AML AML
comp=N,154μm,1.3s
SLCN Sala Consilina 2.53 19 AML AML
comp=N,266μm,0.4s
SLCN AML AML
comp=E,354μm,1.2s
SLCN AML AML
comp=E,354μm,1.2s
SLCN AML AML
comp=N,266μm,0.4s
MRLC Muro Lucano 2.85 14 AML AML
comp=E,128μm,1.6s
MRLC AML AML
comp=N,148μm,1.6s
MRLC AML AML
comp=N,148μm,1.6s
MRLC AML AML
comp=E,128μm,1.6s
VSL Villasalto 4.32 292 AML AML
comp=N,63μm,1.5s
VSL AML AML
comp=E,33μm,0.2s
VSL AML AML
comp=N,63μm,1.5s
VSL AML AML
comp=E,33μm,0.2s
KEST Kesra 4.75 243 Pn Pn 08 38 20.2 +3.1
comp=E,1.5nm,0.3s,baz=16,slow=8.0,SNR=14
KEST Sn **Sn 08 39 16.2 +3.8**
comp=E,1.0nm,0.3s,baz=23,slow=23,SNR=5.6
IDI Anoyia 8.73 105 Sn Sn 08 40 47.6 -2.7
comp=E,1.0nm,0.3s,baz=108,slow=20,SNR=4.2
HFS Hagfors 22.16 359 P P 08 42 02.8 +1.6
comp=E,1.8nm,0.8s,baz=170,slow=8.8,SNR=2.2
FINES FINESS Array B 24.55 13 P P 08 42 24.0 -0.9
comp=E,1.3nm,0.6s,baz=183,slow=9.7,SNR=5.8
KIRV Kirov 30.48 36 LR LR 08 57 52.3
comp=E,48nm,19.3s,baz=210,slow=41
MKAR Makanchi Array 49.37 57 P P 08 45 54.7 -0.2
comp=E,0.2nm,0.5s,baz=274,slow=6.6,SNR=3.6
YKA Yellowknife Ar 71.86 338 P P 08 48 29.5 +1.5
comp=E,0.1nm,0.5s,baz=45,slow=6.1,SNR=4.1

MEX 19 08:46:16.8±0.7, 15°.60N×98°.56W, h9^{km}±24^{km}, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.89**	**28**	*e*P		Pg	08 46 30.8	-3.1
PNIG				*i* S		Sg	08 46 43.5	-1.9
TLIG	**Tlapa**	**1.95**	**360**	*e*P		Pn	08 46 46.8	-3.4
TLIG				*i* S		Sn	08 47 10.1	-4.8
VHO	**Vista Hermosa**	**2.28**	**50**	*e*P		Pn	08 46 52.2	-2.6
VHO				*e*S		Sn	08 47 18.5	-4.7
HUIG	**Huatulco**	**2.36**	**86**	*e*P		Pn	08 46 52.6	-3.2
HUIG				*i* S		Sn	08 47 20.2	-4.8

*NEIC **19** 08:47:41.4±0.0, 52°.36N×169°.48W, h12^{km}, mb3.6/3, ML3.3(AEIC), After AEIC.*
*ISCJB **19** 08:47:42.5±0.9, 52°.4N±0°.1×169°.56W±0°.10, h50^{km}±7^{km}, mb3.0/4, Error ellipse: s-maj=19.3km s-min=6.7km az=156.4*
*IDC **19** 08:47:42.7±6.2, 52°.55N×168°.53W, h0^{km}, mb3.1/4, mb1 3.5/6, mb1mx3.3/59, mbtmp3.2/6, ML3.1/2, Error ellipse: s-maj=112.2km s-min=40.3km az=87.0*
ISC 19 08:47:44.3±1.8, 52°.5N±0°.2×169°.50W±0°.08, h46^{km}±17^{km}, n43, σ1°42/42, mb3.1/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.65**	**36**	*e*Pg		**Pn**	**08 47 55.0**	**-2.2**
NIKH				*e*Sg		**Sn**	**08 48 05.7**	**-0.8**
OKSP	**Okmok Steeple**	**1.09**	**42**	P		**Pn**	**08 48 01.7**	**-1.4**
OKWE	**Okmok W'ng Wal**	**1.27**	**36**	P		**Pn**	**08 48 05.2**	**-0.5**
OKTU	**Okmok Mt. Tuli**	**1.28**	**43**	*e*Pn		**Pn**	**08 48 05.0**	**-0.8**
OKTU				*e*Sn		**Sn**	**08 48 23.5**	**+1.6**
OKAK	**Okmok**	**1.32**	**31**	*e*Pn		**Pn**	**08 48 03.8**	**-2.5**
OKER	**Okmok East Rim**	**1.33**	**40**	*e*Pn		**Pn**	**08 48 05.9**	**-0.6**
MREP	**Makushin Rep't**	**2.15**	**49**	P		**Pn**	**08 48 18.1**	**+0.5**
MCIR	**Makushin Cirqu**	**2.17**	**45**	*e*Pn		**Pn**	**08 48 18.5**	**+0.6**
MSW	**Makushin Switc**	**2.19**	**47**	*e*Pn		**Pn**	**08 48 17.9**	**-0.4**
MSW				*e*Sn		**Sn**	**08 48 48.3**	**+4.1**
MNAT	**Makushin Natee**	**2.22**	**49**	P		**Pn**	**08 48 18.4**	**-0.2**
MTBL	**Makushin Table**	**2.28**	**47**	*e*Pn		**Pn**	**08 48 19.6**	**+0.2**
UNV	**Unalaska Valle**	**2.28**	**51**	*e*Pn		**Pn**	**08 48 18.6**	**-0.7**
UNV				*e*Sn		**Sn**	**08 48 45.6**	**-0.6**
AKRB	**Akutan Reef Bi**	**2.66**	**49**	*e*Pn		**Pn**	**08 48 25.4**	**+0.8**
ZRO	**Akutan Zero**	**2.68**	**51**	*e*Pn		**Pn**	**08 48 25.6**	**+0.7**
AKUT	**Akutan**	**2.80**	**51**	*e*Pn		**Pn**	**08 48 26.6**	**+0.1**
AKUT				*e*Sn		**Sn**	**08 49 02.3**	**+3.3**
KOFP	**Korovin Flat P**	**2.83**	**268**	*e*Pn		**Pn**	**08 48 26.5**	**-0.4**
AKSA	**Akutan Strait**	**2.84**	**52**	*e*Pn		**Pn**	**08 48 27.6**	**+0.6**
GSMY	**Great Sitkin M**	**4.05**	**267**	*e*Pn		**Pn**	**08 48 42.9**	**-0.8**
FALS	**False Pass**	**4.35**	**54**	*e*Pn		**Pn**	**08 48 47.6**	**-0.1**
ADK	**Adak**	**4.46**	**266**	*e*Pn		**Pn**	**08 48 48.8**	**-0.5**
SPIA	**Saint Paul Isl**	**4.76**	**355**	*e*Pn		**Pn**	**08 48 54.4**	**+1.0**
KDAK	**Kodiak Island**	**11.05**	**54**	*e*Pn		**Pn**	**08 50 20.3**	**+0.9**
KDAK	**Kodiak Island** 0.2nm,0.3s,baz=249,slow=14,SNR=5.2	**11.05**	**54**	Pn		**Pn**	**08 50 17.7**	**-1.7**
GAMB	**Gambell**	**11.42**	**355**	*e*Pn		**Pn**	**08 50 25.9**	**+1.4**
SVW2	**Sparrevohn**	**11.52**	**36**	*e*Pn		**Pn**	**08 50 28.6**	**+2.7**
GHO	**Glory Hole Cre**	**14.50**	**42**	*e*Pn		**Pn**	**08 51 06.1**	**-0.3**
SCM	**Sheep Creek Mo** 17nm,1.4s	**15.19**	**43**	*e*Pn		**Pn**	**08 51 14.8**	**-0.6**
WRH	**Wood River Hil** 6.5nm,1.5s	**16.33**	**34**	*e*Pn		**Pn**	**08 51 30.0**	**0.0**
CCB	**Clear Creek Bu** 0.3nm,0.9s	**16.54**	**34**	*e*Pn		**Pn**	**08 51 32.4**	**-0.2**
MDM	**Murphy Dome** 3.4nm,1.2s	**16.59**	**33**	*e*Pn		**P**	**08 51 33.5**	**-1.7**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=224,slow=11,SNR=6.9	**16.93**	**34**	Pn		**Pn**	**08 51 35.3**	**-2.2**
RIDG	**Independ'e Rid** 13nm,1.5s	**17.11**	**39**	*e*Pn		**P**	**08 51 40.5**	**-0.5**
EGAK	**Eagle**	**19.02**	**39**	*e*P		**Pn**	**08 52 02.6**	**-0.4**
INK	**Inuvik** 0.5nm,0.6s,baz=232,slow=6.7,SNR=4.4	**23.32**	**33**	P		**P**	**08 52 46.0**	**-1.8**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=269,slow=8.0,SNR=7.6	**30.25**	**49**	P		**P**	**08 53 50.3**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=22,slow=74	**37.47**	**218**	T		T	09 35 18.8	
H11N3	**WAKE ISLAND Hy** baz=22,slow=74	**37.48**	**218**	T		T	09 35 21.1	
H11N1	**WAKE ISLAND Hy** baz=22	**37.49**	**218**	T		T	09 35 02.9	
H11S1	**WAKE ISLAND Hy** baz=23,slow=76,SNR=36	**38.66**	**218**	T		T	09 36 03.8	
H11S2	**WAKE ISLAND Hy** baz=23,slow=76,SNR=30	**38.67**	**218**	T		T	09 36 09.4	
H11S3	**WAKE ISLAND Hy**	**38.67**	**218**	T		T	09 36 05.0	

baz=23,slow=76,SNR=22
PDAR Pinedale Array 40.46 79 P **P** 08 55 18.8 **+0.4**
0.2nm,0.5s,baz=295,slow=4.3,SNR=5.1
TXAR Lajitas Array 52.82 89 P **P** 08 56 55.0 **-0.1**
0.1nm,0.6s,baz=316,slow=5.0,SNR=2.6

IDC ***19*** *09:27:40.8±6.6, 6°.62N×72°.90W, h176km±50km, mb3.2/1, mb1 3.2/2, mb1mx2.8/39, mbtmp3.7/2, Error ellipse: s-maj=181.6km s-min=32.5km az=156.0*
ISCJB ***19*** *09:27:41.2±1.0, 6°.83N±0°.03×73°.14W±0°.05, h147km±8km, mb3.3/1, Error ellipse: s-maj=8.1km s-min=5.7km az=175.5*
RSNC ***19*** *09:27:41.9±0.9, 6°.80N×73°.14W, h146km±5km, ML3.2, Mw3.5*
ISC 19 09:27:41.5±1.2, 6°.82N±0°.04×73°.13W±0°.06, h146km±8km, n18, σ0°.76/30, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.23**	**193**	*i* P		**Pn**	**09 28 01.6**	**-0.2**
BARC				*e*S		**Sn**	**09 28 16.1**	**-1.1**
BARC				*i*			09 28 19.3	
	comp=Z,219nm,0.4s							
BRRC	**Barranca, Sant**	**0.64**	**296⇑**	*i* P		**Pn**	**09 28 03.5**	**+0.2**
BRRC				*e*S		**Sn**	**09 28 20.6**	**+0.8**
BRRC				*i*			09 28 25.0	
	comp=N,270nm,0.3s							
PAMC	**Pamplona, Colo**	**0.67**	**40⇑**	*e*P		**Pn**	**09 28 04.3**	**+0.3**
PAMC				*e*S		**Sn**	**09 28 21.4**	**+0.4**
PAMC				*i*			09 28 23.0	
	comp=N,169nm,0.4s							
RUSC	**La Rusia**	**0.93**	**177⇓**	*e*P		**Pn**	**09 28 05.5**	**-0.4**
RUSC				*e*S		**Sn**	**09 28 23.8**	**-0.6**
RUSC				*i*			09 28 25.7	
	comp=N,236nm,0.5s							
TAMC	**Tame, Arauca**	**1.39**	**106⇑**	*e*P		**Pn**	**09 28 09.7**	**+0.1**
TAMC				*e*S		**Sn**	**09 28 31.2**	**+0.1**
TAMC				*i*			09 28 32.1	
	comp=N,205nm,0.5s							
OCAC	**Ocana**	**1.42**	**352**	*e*P		**Pn**	**09 28 09.8**	**-0.3**
OCAC				*e*S		**Sn**	**09 28 31.7**	**-0.3**
OCAC				*i*			09 28 35.5	
	comp=N,677nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P		**Pn**	**09 28 14.1**	**-0.5**
ZARC				*e*S		**Sn**	**09 28 39.9**	**0.0**
ZARC				*i*			09 28 48.0	
	comp=N,138nm,0.1s							
CTAU	**Tausa, Cundina**	**1.85**	**209**	*e*P		**Pn**	**09 28 16.4**	**+1.1**
CTAB	**Cerro Tablazo,**	**2.09**	**211**	*e*P		**Pn**	**09 28 18.9**	**+0.9**
SMLC	**San Martn de**	**2.17**	**335**	*e*P		**Pn**	**09 28 18.3**	**-0.3**
SMLC				*e*S		**Sn**	**09 28 46.8**	**-0.2**
SMLC				*i*			09 28 51.0	
	comp=N,256nm,0.1s							
CHIC	**Chingaza**	**2.26**	**195**	*e*P		**Pn**	**09 28 19.6**	**-0.4**
CHIC				*e*S		**Sn**	**09 28 48.6**	**-0.9**
CHIC				*i*			09 28 54.4	
	comp=N,74nm,0.3s							
ROSC	**El Rosal**	**2.30**	**211**	P		**Pn**	**09 28 21.3**	**+0.9**
	comp=N,14nm,0.3s,baz=284,slow=4.7,SNR=34							
ROSC				S		**Sn**	**09 28 52.5**	**+2.2**
	comp=N,20nm,0.3s,baz=24,slow=23,SNR=15							
HELC	**Santa Helena**	**2.46**	**255**	*e*P		**Pn**	**09 28 22.1**	**-0.3**
HELC				*e*S		**Sn**	**09 28 53.2**	**-0.6**
HELC				*i*			09 29 01.1	
	comp=N,61nm,0.3s							
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		**Pn**	**09 28 25.0**	**-0.7**
VILC				*e*S		**Sn**	**09 28 59.3**	**-0.6**
VILC				*i*			09 29 06.3	
	comp=N,208nm,0.6s							
PRAC	**Prado**	**3.55**	**210**	*e*P		**Pn**	**09 28 35.0**	**-0.9**
PRAC				*e*S		**Sn**	**09 29 17.4**	**-0.7**
PRAC				*i*			09 29 22.1	
	comp=N,26nm,0.2s							
TORD	**Torodi Ar. Bea**	**73.75**	**78**	P		P	09 38 55.2	-5.1
	comp=N,0.5nm,0.9s,baz=266,slow=3.8,SNR=3.1							
ASAR	**Alice Springs**	**149.10**	**234**	PKPbc		**PKPdf**	**09 47 09.3**	**+0.1**
	comp=N,0.3nm,0.9s,baz=120,slow=3.7,SNR=4.3							
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc		**PKPdf**	**09 47 11.9**	**+0.8**
	comp=N,0.2nm,0.4s,baz=106,slow=2.6,SNR=7.8							

NIED ***19*** *09:37:00, 38°.40N×142°.20E, h17km, Mw3.6 Best double couple: M0 2.48000×10^14 NP1:φs308.00000°, δ43.00000°, λ-135.00000°. NP2:φs182.00000°, δ61.00000°, λ-57.00000°.*
IDC ***19*** *09:37:52.1±1.0, 38°.32N×142°.36E, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.5/44, mbtmp3.6/9, ML2.5/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/35, Error ellipse: s-maj=30.8km s-min=16.9km az=101.0*
ISCJB ***19*** *09:37:54.2±1.1, 38°.39N±0°.04×142°.20E±0°.07, h27km±6km, mb3.5/5, Error ellipse: s-maj=9.3km s-min=5.8km az=22.3*
JMA ***19*** *09:37:55.2±0.1, 38°.43N×142°.17E, h31km±1km, M3.9*
ISC 19 09:37:52.9±2.4, 38°.37N±0°.06×142°.23E±0°.08, h8km±14km, n29, σ1s42/33, mb3.5/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.60**	**265**	P		**Pb**	**09 38 06.3**	**+0.6**
JIKH				S		**Sb**	**09 38 13.7**	**-0.6**
JIO	**Ouri**	**0.69**	**278**	P		**Pb**	**09 38 07.8**	**+0.5**
JIO				S		**Sg**	**09 38 16.2**	**+0.8**
JKMT	**Kesennumamotoy**	**0.74**	**307**	P		**Pb**	**09 38 08.1**	**0.0**
JKMT				S		**Sg**	**09 38 17.1**	**+0.3**
OFUJ	**Ofunato**	**0.84**	**329**	P		**Pb**	**09 38 09.3**	**-0.4**
OFUJ				*e*S		**Sg**	**09 38 19.3**	**-0.6**
JMK	**Ichinoseki**	**0.98**	**307**	P		**Pg**	**09 38 11.8**	**0.0**
JMK				*e*S		**Sg**	**09 38 23.3**	**-1.3**
JOU	**Okura**	**1.23**	**270**	P		**Pn**	**09 38 16.2**	**-0.2**
JOU				*e*S		**Sb**	**09 38 30.8**	**-1.6**
JMM	**Marumori**	**1.24**	**247**	P		**Pn**	**09 38 15.8**	**-0.7**
JMM				*e*S		**Sb**	**09 38 30.8**	**-1.8**
JOM	**Ohasama**	**1.32**	**327**	P		**Pn**	**09 38 16.9**	**-0.8**
JOM				S		**Sb**	**09 38 32.9**	**-2.3**
JFK	**Kawauchi**	**1.46**	**227**	P		**Pn**	**09 38 19.0**	**-0.7**
JFK				S		**Sn**	**09 38 36.2**	**-2.8**
JYK	**Kaneyama**	**1.56**	**291**	P		**Pn**	**09 38 20.8**	**-0.2**
JRG	**Rokugo**	**1.61**	**310**	P		**Pn**	**09 38 22.0**	**+0.3**
MJAR	**Matsushiro Arr**	**3.68**	**242**	Pn		**Pn**	**09 38 52.2**	**+2.1**
	0.2nm,0.3s,baz=57,slow=10,SNR=7.1							
MJAR				Sn		**Sb**	**09 39 41.1**	**-1.8**
	0.3nm,0.3s,baz=81,slow=16,SNR=3.1							
MAT	**Matsushiro**	**3.68**	**242**	P		**Pn**	**09 38 52.1**	**+2.0**
MAT				*e*S		**Sn**	**09 39 36.6**	**+2.9**
JHJ	**Hachijo jima 2**	**5.60**	**202**	Pn		**Pn**	**09 39 17.4**	**+0.9**
	10nm,0.3s,baz=85,slow=22,SNR=5.5							
JHJ				Sn		**Sn**	**09 40 17.9**	**-3.1**
	8.1nm,0.3s,baz=149,slow=18,SNR=2.7							
ASAJ	**Asahikawa**	**5.75**	**3**	Pn		**Pn**	**09 39 18.9**	**+0.3**
	0.4nm,0.3s,baz=357,slow=19,SNR=2.1							
USRK	**Ussuriysk Ar.**	**9.66**	**310**	Pn		**Pn**	**09 40 13.4**	**+1.3**
	0.1nm,0.3s,baz=116,slow=14,SNR=2.3							
KSRS	**Korea Array**	**11.34**	**270**	LR		LR	09 44 36.8	
	comp=Z,37nm,18.2s,baz=113,slow=35							
KLR	**Kul'dur**	**13.22**	**329**	LR		LR	09 45 49.0	
	comp=Z,31nm,18.6s,baz=52,slow=36							
SEY	**Seymchan**	**25.36**	**11**	P		**P**	**09 43 21.2**	**+1.1**
	0.3nm,0.3s,baz=163,slow=19,SNR=2.7							
H11N2	**WAKE ISLAND Hy**	**28.32**	**124**	T		T	10 13 42.6	
	baz=316,slow=75,SNR=102							
H11N1	**WAKE ISLAND Hy**	**28.32**	**124**	T		T	10 14 06.7	
	baz=316,slow=75,SNR=68							
H11N3	**WAKE ISLAND Hy**	**28.33**	**124**	T		T	10 14 03.4	
	baz=316,slow=75,SNR=77							
H11S1	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	10 14 33.9	
	baz=318,slow=76,SNR=30							
H11S3	**WAKE ISLAND Hy**	**29.08**	**126**	T		T	10 14 38.0	
	baz=318,slow=76,SNR=40							
H11S2	**WAKE ISLAND Hy**	**29.10**	**126**	T		T	10 15 03.2	
	baz=318,slow=76,SNR=22							
MKAR	**Makanchi Array**	**43.97**	**301**	P		**P**	**09 46 01.5**	**+0.9**
	0.3nm,0.7s,baz=90,slow=7.2,SNR=3.4							
ILAR	**Eielson Array**	**48.03**	**33**	P		**P**	**09 46 32.7**	**+0.5**
	0.1nm,0.6s,baz=280,slow=8.1,SNR=2.6							
WRA	**Warramunga Arr**	**58.47**	**189**	P		**P**	**09 47 49.2**	**-0.2**
	1.0nm,0.5s,baz=6.7,slow=6.9,SNR=32							
ASAR	**Alice Springs**	**62.20**	**189**	P		**P**	**09 48 15.1**	**+0.2**
	0.6nm,0.6s,baz=2.6,slow=5.1,SNR=14							

ISK ***19*** *10:06:04.3, 38°.69N×43°.09E, h17km±5km, ML2.2/6*

DDA ***19*** *10:06:05.0, 38°.71N×43°.17E, h7km±3km, ML2.7*
ISC 19 10:06:05.1±1.1, 38°.72N±0°.03×43°.11E±0°.02, h6km±11km, n13, σ0s52/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**120**	P	PG	**Pb**	**10 06 11.1**	**-1.0**
VANB				S	SG	**Sb**	**10 06 16.5**	**-0.3**
TVAN	**Van**	**0.30**	**130**	*i* P		**Pg**	**10 06 11.6**	**+0.6**
TVAN				*i* S		**Sg**	**10 06 15.7**	**+0.6**
TVAN					IAML_P			
	comp=Z,9μm,0.1s							
ADCV	**BITLIS_Adilcev**	**0.31**	**286**	*i* P		**Pb**	**10 06 13.0**	**-0.2**
ADCV				*i* S		**Sb**	**10 06 18.7**	**+0.1**
AKDM	**Akdamar-Van**	**0.41**	**195**	P	PG	**Pg**	**10 06 12.6**	**-0.4**
AKDM				S	SG	**Sg**	**10 06 17.9**	**-0.4**
GEVA	**Gevas**	**0.41**	**186**	*i* P		**Pg**	**10 06 13.0**	**-0.1**
GEVA				*i* S		**Sg**	**10 06 19.0**	**+0.6**
GEVA					IAML_P			
	comp=Z,2μm,0.2s							
VMUR	**Van-Muradiye**	**0.45**	**53**	*i* P		**Pg**	**10 06 14.5**	**+0.7**
VMUR				*i* S		**Sb**	**10 06 22.4**	**-0.1**
VMUR					IAML_P			
	comp=Z,1μm,0.1s							
MLAZ	**Malazgirt-MUS**	**0.60**	**314**	PG		**Pg**	**10 06 16.9**	**+0.2**
MLAZ				SG		**Sb**	**10 06 26.9**	**-0.1**
TUTA	**Tutak**	**0.72**	**341**	*i* P		**Pb**	**10 06 19.9**	**-0.2**
TUTA				*i* S		**Sg**	**10 06 27.1**	**-1.2**
CLDR	**Caldiran**	**0.76**	**56**	PG		**Pg**	**10 06 20.1**	**+0.5**
CLDR				SG		**Sb**	**10 06 31.4**	**0.0**
CLDR	**Caldiran**	**0.76**	**56**	*i* P		**Pg**	**10 06 19.5**	**-0.2**
CLDR				*i* S		**Sg**	**10 06 29.3**	**-0.2**
CLDR					IAML_P			
	comp=Z,1μm,0.1s							
AGRB	**Hanur-Agry**	**0.86**	**354**	PG		**Pg**	**10 06 21.8**	**+0.2**
AGRB				SG		**Sb**	**10 06 34.7**	**+0.4**
GURO	**Guroymak-BITLI**	**0.86**	**259**	PG		**Pg**	**10 06 21.4**	**-0.2**
GURO				SG		**Sg**	**10 06 33.1**	**+0.3**
SRTM	**Siirt_Merkez**	**1.18**	**232**	*i* P		**Pg**	**10 06 28.2**	**+0.5**
SRTM				*i* S		**Sn**	**10 06 45.4**	**+0.7**

ISCJB ***19*** *10:12:53.5±0.2, 10°.99S±0°.03×165°.97E±0°.03, h10km, mb4.8/134, MS4.5/31, Error ellipse: s-maj=4.2km s-min=3.7km az=8.5*
IDC ***19*** *10:12:53.4±0.4, 10°.94S×166°.01E, h0km, mb4.6/28, mb1 4.8/30, mb1mx4.7/43, mbtmp4.7/30, ML5.6/2, MS4.5/24, Ms1 4.5/24, ms1mx4.4/36, Error ellipse: s-maj=13.6km s-min=12.0km az=119.0*
BJI ***19*** *10:12:55.1, 11°.04S×166°.60E, h38km, mb4.9/45, mB5.1/34, Ms5.0/22, Ms7 4.7/21*
NEIC ***19*** *10:12:55.1±0.1, 10°.95S×165°.97E, h10km, mb4.8/93, Error ellipse: s-maj=4.9km s-min=3.7km az=100.0*
MOS ***19*** *10:12:57.0±0.9, 10°.95S×165°.88E, h33km, mb4.9/16, Error ellipse: s-maj=9.0km s-min=8.5km az=11.4*
GCMT ***19*** *10:12:58.1±0.2, 10°.94S±0°.01×165°.85E±0°.01, h21km±1km, MW5.2/106, Moment Tensor Solution. s74,c106; s106,c181; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.16±.01; Mθθ=0.72±.01; Mφφ=0.55±.01; Mrθ=0.02±.02; Mθφ=-0.22±.01; Mφr=0.42±.03; Best double couple: M0=0.80400×10^17 NP1:φs321.00000°, δ73.00000°, λ-28.00000°. NP2:φs59.00000°, δ64.00000°, λ-161.00000°. Principal axes: T 0.7660, Plg6.0000°, Azm12.0000°; N 0.0770, Plg58.0000°, Azm112.0000°; P -0.8430, Plg31.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 10:12:55.0±0.3, 10°.96S±0°.05×166°.01E±0°.05, h10km, n229, σ1s35/276, mb4.8/134, MS4.6/32, 6C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.16**	**284**	*i* P		**Pn**	**10 14 26.5**	**+0.4**
HNR				*e*S		**Sn**	**10 15 40.0**	**+3.4**
HNR	**Honiara**	**6.16**	**284**	Pn		**Pn**	**10 14 27.7**	**+1.6**
	586nm,0.3s,baz=142,slow=5.7,SNR=91							
HNR				Sn		**Sn**	**10 15 37.3**	**+0.6**
	baz=202,slow=19,SNR=2.2							
HNR				LR		LR	10 16 56.1	
	comp=Z,8μm,19.9s,baz=146,slow=40							
MARNC	**Mare, Loyalty**	**10.64**	**170**	*e*Pn		**Pn**	**10 15 27.8**	**+0.3**
DZM	**Mont Dzumac**	**11.05**	**178**	*e*Pn		**Pn**	**10 15 35.0**	**+1.7**
	173nm,0.6s							
DZM				*e*LR		LR	10 18 12.9	
	comp=Z,4μm,23.9s							
DZM	**Mont Dzumac**	**11.05**	**178**	*e*Pn		**Pn**	**10 15 33.9**	**+0.6**
DZM	**Mont Dzumac**	**11.05**	**178**	Pn		**Pn**	**10 15 35.1**	**+1.7**
	12nm,0.3s,baz=15,slow=20,SNR=62							
DZM				Sn		**Sn**	**10 17 35.1**	**-2.1**
	1.6nm,0.3s,baz=163,slow=19,SNR=1.9							
DZM				LR		LR	10 19 21.4	
	comp=Z,3μm,20.9s,baz=28,slow=35							
ONTNC	**Ouen Toro**	**11.29**	**178**	*e*Pn		**Pn**	**10 15 38.5**	**+2.1**
PINNC	**Pines Island,**	**11.67**	**173**	*e*Pn		**Pn**	**10 15 44.1**	**+2.5**
MSVF	**Nonsavu**	**13.46**	**121**	*e*Pn		**Pn**	**10 16 07.4**	**+1.1**
MSVF	**Nonsavu**	**13.46**	**121**	*i* P		**Pn**	**10 16 09.5**	**+3.2**
MSVF					pmax	pmax		
	comp=Z,143nm,1.2s							
TARA	**Tarawa**	**14.04**	**30**	*e*Pn		**Pn**	**10 16 14.5**	**+0.4**
PATS	**Pohnpei**	**19.27**	**336**	P		**Pn**	**10 17 22.9**	**+1.9**
	baz=19							
PATS	**Pohnpei**	**19.27**	**336**	*e*P		**P**	**10 17 20.0**	**+0.1**
	comp=Z,58nm,0.9s							
EIDS	**Eidsvold**	**20.13**	**223**	P		Pn	10 17 31.7	+0.5
	baz=20,SNR=12							
EIDS	**Eidsvold**	**20.13**	**223**	*e*P		Pn	10 17 31.2	0.0
	comp=Z,30nm,0.8s							
CTA	**Charters Tower**	**21.07**	**242**	P		**P**	**10 17 40.7**	**+1.1**
	comp=Z,20nm,0.8s,baz=72,slow=11,SNR=18							
CTA				LR		LR	10 24 49.5	
	comp=Z,2μm,19.1s,baz=60,slow=34							
CTAO	**Charters Tower**	**21.07**	**242**	*e*P		**P**	**10 17 39.4**	**-0.1**
	comp=Z,45nm,0.9s							
CTAO	**Charters Tower**	**21.07**	**242**	*e*P		**P**	**10 17 39.4**	**-0.1**
CTAO					pmax	pmax		
	comp=Z,45nm,0.9s							
LHI	**Lord Howe Isla**	**21.45**	**196**	*e*P		**P**	**10 17 42.4**	**-1.0**
	comp=Z,39nm,1.0s							
MTSU	**Mount Surprise**	**22.16**	**249**	P		**P**	**10 17 51.8**	**+0.5**
	baz=22,SNR=36							
RMQ	**Roma**	**22.44**	**224**	P		**P**	**10 17 55.7**	**+1.5**
	baz=22,SNR=14							
COEN	**Coen**	**22.49**	**260**	P		**P**	**10 17 54.9**	**+0.1**
	baz=22,SNR=17							
COEN	**Coen**	**22.49**	**260**	*e*P		**P**	**10 17 54.4**	**-0.5**
	comp=Z,16nm,0.9s							
ARMA	**Armidale**	**23.53**	**213**	P		**P**	**10 18 06.9**	**+1.4**
	baz=24,SNR=9.3							
ARMA	**Armidale**	**23.53**	**213**	*e*P		**P**	**10 18 06.9**	**+1.4**
	comp=Z,32nm,0.9s							
OUZ	**Onahuta**	**25.11**	**165**	*e*P		**P**	**10 18 20.9**	**+0.9**
	comp=Z,13nm,0.8s							
JAY	**Jayapura**	**26.47**	**287**	P		**P**	**10 18 32.8**	**+0.1**
	comp=Z,28nm,0.8s,baz=40,slow=1.9,SNR=5.6							
QIS	**Mount Isa**	**27.11**	**246**	P		**P**	**10 18 38.5**	**+0.2**
	baz=27,SNR=9.2							
CMSA	**Cobar Meteorol**	**27.79**	**219**	P		**P**	**10 18 44.7**	**+0.4**
	baz=28,SNR=12							
YNG	**Young**	**28.26**	**212**	P		**P**	**10 18 49.7**	**+1.2**
	baz=28							
CNB	**Canberra Magne**	**28.58**	**209**	P		**P**	**10 18 52.8**	**+1.4**
	baz=29,SNR=5.6							
CAN	**Canberra**	**28.76**	**210**	*e*P		**P**	**10 18 52.1**	**-0.9**
CAN	**Canberra**	**28.76**	**210**	*e*P		**P**	**10 18 52.1**	**-0.9**
URZ	**Urewera**	**28.94**	**162**	P		**P**	**10 18 54.9**	**+0.5**
	comp=Z,12nm,1.0s,baz=211,slow=2.2,SNR=9.2							
URZ					LR	LR	10 29 46.5	
	comp=Z,893nm,18.4s,baz=344,slow=35							
H11S2	**WAKE ISLAND Hy**	**29.27**	**1**	T		T	10 49 17.7	
	baz=181,slow=76,SNR=225							
H11S3	**WAKE ISLAND Hy**	**29.28**	**1**	T		T	10 49 18.9	
	baz=181,slow=76,SNR=192							
H11S1	**WAKE ISLAND Hy**	**29.29**	**1**	T		T	10 49 18.9	
	baz=181,slow=76,SNR=249							
BKZ	**Black Stump Fm**	**29.60**	**163**	*e*P		**P**	**10 19 00.6**	**+0.2**
	comp=Z,33nm,0.6s							
MILA	**Mila**	**30.09**	**208**	P		**P**	**10 19 05.9**	**+1.2**
	baz=30,SNR=3.1							
H11N1	**WAKE ISLAND Hy**	**30.49**	**2**	T		T	10 50 49.9	
	baz=182,slow=76,SNR=306							
H11N3	**WAKE ISLAND Hy**	**30.50**	**2**	T		T	10 50 49.0	
	baz=182,slow=76,SNR=229							
H11N2	**WAKE ISLAND Hy**	**30.51**	**2**	T		T	10 50 50.8	
	baz=182,slow=76,SNR=230							
STKA	**Stephens Creek**	**30.68**	**224**	P		**P**	**10 19 10.6**	**+0.6**
	baz=31,SNR=12							
STKA	**Stephens Creek**	**30.68**	**224**	*e*P		**P**	**10 19 10.8**	**+0.8**
	comp=Z,3.7nm,1.1s							
STKA	**Stephens Creek**	**30.68**	**224**	*e*P		**P**	**10 19 10.8**	**+0.8**
STKA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
STKA	**Stephens Creek**	**30.68**	**224**	P		**P**	**10 19 10.4**	**+0.5**
	comp=Z,8.3nm,0.8s,baz=34,slow=8.3,SNR=18							
STKA					LR	LR	10 31 04.0	
	comp=Z,2μm,18.2s,baz=45,slow=36							
BFZ	**Birch Farm**	**30.95**	**165**	*e*P		**P**	**10 19 11.5**	**-0.7**
	comp=Z,35nm,1.0s							
SNZO	**South Karori**	**31.18**	**167**	*e*P		**P**	**10 19 12.9**	**-1.3**
	comp=Z,55nm,1.0s							
THZ	**Tophouse**	**31.27**	**170**	*e*P		**P**	**10 19 15.0**	**-0.1**
	comp=Z,11nm,0.7s							
WB2	**Warramunga Arr**	**31.75**	**250**	*e*P		**P**	**10 19 18.5**	**-1.0**
WRAB	**Tennant Creek**	**31.75**	**250**	*e*P		**P**	**10 19 19.2**	**-0.3**
	comp=Z,50nm,1.0s							
WRAB	**Tennant Creek**	**31.75**	**250**	*d* P		**P**	**10 19 18.7**	**-0.8**
WRAB					pmax	pmax		
	comp=Z,106nm,1.3s							
WR1	**Warramunga Arr**	**31.76**	**250**	*e*P		**P**	**10 19 19.1**	**-0.5**
	comp=Z,115nm,1.1s							
WRA	**Warramunga Arr**	**31.76**	**250**	P		**P**	**10 19 19.1**	**-0.5**
	comp=Z,44nm,1.0s,baz=80,slow=9.1,SNR=137							
WRA					LR	LR	10 32 34.0	
	comp=Z,1μm,18.3s,baz=55,slow=37							
KHZ	**Kahutara**	**32.02**	**169**	*e*P		**P**	**10 19 21.9**	**+0.4**
	comp=Z,8.4nm,0.6s							
LTZ	**Lake Taylor**	**32.17**	**171**	*e*P		**P**	**10 19 22.9**	**-0.1**
	comp=Z,29nm,0.8s							
TOO	**Toolangi**	**32.28**	**211**	P		**P**	**10 19 25.0**	**+1.1**
	baz=32,SNR=8.3							
TOO	**Toolangi**	**32.28**	**211**	*e*P		**P**	**10 19 25.1**	**+1.1**
	comp=Z,15nm,0.9s							
TOO	**Toolangi**	**32.28**	**211**	*e*P		**P**	**10 19 25.1**	**+1.1**
TOO					pmax	pmax		
	comp=Z,15nm,0.9s							
FOZ	**Fox Glacier**	**32.62**	**175**	*e*P		**P**	**10 19 27.8**	**+0.9**
	comp=Z,28nm,0.8s							
OXZ	**Oxford**	**32.67**	**172**	*e*P		**P**	**10 19 27.2**	**-0.1**
	comp=Z,22nm,0.6s							
RPZ	**Rata Peaks**	**32.92**	**173**	P		**P**	**10 19 29.7**	**+0.1**
	comp=Z,29nm,0.7s,baz=276,slow=3.1,SNR=18							
AS01	**Alice Springs**	**33.02**	**243**	*e*P		**P**	**10 19 30.0**	**-0.7**
ASAR	**Alice Springs**	**33.06**	**243**	P		**P**	**10 19 29.9**	**-1.2**
	comp=Z,5.4nm,0.6s,baz=63,slow=10,SNR=63							
ASAR					PcP	**PcP**	**10 22 15.1**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=61,slow=2.4,SNR=4.4							
ASAR					ScP	**ScP**	**10 26 01.9**	**+2.6**
	comp=Z,1.1nm,1.1s,baz=67,slow=2.4,SNR=3.9							
ASAR					LR	LR	10 31 57.3	
	comp=Z,1μm,20.2s,baz=76,slow=35							
MQZ	**McQueen's Vall**	**33.13**	**171**	*e*P		**P**	**10 19 31.0**	**-0.3**
	comp=Z,29nm,0.8s							
HTT	**Hallett**	**33.41**	**224**	P		**P**	**10 19 34.6**	**+0.6**
	baz=34,SNR=9.9							
LBZ	**Lake Benmore**	**33.50**	**175**	*e*P		**P**	**10 19 34.9**	**+0.4**
	comp=Z,1.9nm,0.2s							
ARPS	**Mount Arapiles**	**33.70**	**216**	P		**P**	**10 19 37.6**	**+1.2**
	baz=34							
WKZ	**Wanaka**	**33.84**	**176**	*e*P		**P**	**10 19 37.9**	**+0.3**
	comp=Z,20nm,1.1s							
MTN	**Manton Dam**	**34.16**	**263**	*e*P		**P**	**10 19 38.8**	**-1.9**
	comp=Z,18nm,1.1s							
ODZ	**Otahua Downs**	**34.19**	**174**	*e*P		**P**	**10 19 39.2**	**-1.4**
	comp=Z,14nm,1.0s							
MLZ	**Mavora Lakes**	**34.33**	**177**	*e*P		**P**	**10 19 43.5**	**+1.7**
	comp=Z,29nm,1.2s							
WHZ	**Wether Hill Ro**	**34.85**	**178**	*e*P		**P**	**10 19 46.2**	**-0.1**
	comp=Z,12nm,1.0s							
BBOO	**Buckleboo**	**35.08**	**227**	P		**P**	**10 19 48.6**	**+0.2**
	baz=35,SNR=20							
BBOO	**Buckleboo**	**35.08**	**227**	*e*P		**P**	**10 19 48.5**	**0.0**
	comp=Z,38nm,1.1s							
TAU	**Tasmania Unive**	**35.75**	**204**	*e*P		**P**	**10 19 54.6**	**+0.6**
	comp=Z,23nm,1.0s							
TAU	**Tasmania Unive**	**35.75**	**204**	*e*P		**P**	**10 19 54.6**	**+0.6**
TAU					pmax	pmax		
	comp=Z,23nm,1.0s							
SIJI	**Sorong**	**35.94**	**284**	P		**P**	**10 19 54.8**	**-1.2**
	comp=Z,11nm,0.7s,baz=99,slow=6.1,SNR=10							
BNDI	**Bandanaira**	**36.32**	**277**	P		**P**	**10 19 59.3**	**0.0**
KNRA	**Kununurra**	**36.52**	**258**	P		**P**	**10 20 00.0**	**-0.9**
	baz=37,SNR=19							
WRKA	**Warakurna**	**38.35

MAJO	**Matsushiro**	**54.02**	**332**	*e*P	**P**	**10 22 18.9**	**-0.7**
MAT	**Matsushiro**	**54.02**	**332**	P	**P**	**10 22 18.5**	**-1.0**
MAT				S	S	10 29 41.6	-14
PCJI	**Pacitan**	**54.08**	**268**	P	**P**	**10 22 20.4**	**0.0**
WOJI	**Wonogiri, Jawa**	**54.38**	**268**	P	**P**	**10 22 23.5**	**+0.9**
SBUM	**Sibu**	**55.14**	**281**	*e*P	**P**	**10 22 28.7**	**+0.6**
	comp=Z,4.7nm,1.0s						
SBUM	**Sibu**	**55.14**	**281**	P	**P**	**10 22 28.8**	**+0.6**
JNU	**Nakatsue**	**55.17**	**324**	*e*P	**P**	**10 22 28.4**	**+0.4**
	comp=Z,20nm,0.9s						
TPUB	**Ta-pu**	**55.96**	**308**	*e*P	**P**	**10 22 30.9**	**-3.0**
	comp=Z,10nm,0.9s						
KPJI	**Karang Pucung**	**56.41**	**268**	P	P	10 22 48.8	+12
KSM	**Kuching**	**56.75**	**279**	*e*P	**P**	**10 22 39.3**	**-0.4**
	comp=Z,16nm,1.0s						
KSM	**Kuching**	**56.75**	**279**	P	**P**	**10 22 39.8**	**+0.2**
CISI	**Cisompet, Garu**	**57.47**	**268**	*e*P	**P**	**10 22 44.1**	**-0.7**
	comp=Z,43nm,0.6s						
CISI	**Cisompet, Garu**	**57.47**	**268**	P	P	10 22 51.9	+7.1
QZH	**Quanzhou**	**58.40**	**308**	*e*P	**P**	**10 22 53.1**	**+2.1**
QZH				S	**S**	**10 30 54.0**	**-0.3**
QZH				LR	LR		
	comp=Z,280nm,20.4s						
QZH				LR	LR		
	comp=Z,300nm,16.6s						
QZH				LR	LR		
	comp=Z,430nm,19.7s						
TPI	**Tanjungpandan**	**58.43**	**274**	P	**P**	**10 22 52.8**	**+1.3**
ASAJ	**Asahikawa**	**58.80**	**340**	P	**P**	**10 22 54.0**	**+0.6**
	comp=Z,14nm,0.8s,baz=222,slow=17,SNR=4.6						
KSRS	**Korea Array**	**59.96**	**325**	P	**P**	**10 23 02.1**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=142,slow=6.3,SNR=9.6						
KS15	**Wonju Array Si**	**59.97**	**325**	*e*P	**P**	**10 23 02.1**	**+0.5**
	comp=Z,17nm,1.1s						
PPBI	**Pangkal Pinang**	**60.03**	**274**	P	**P**	**10 23 03.6**	**+1.0**
MDSI	**Maura Dua**	**61.52**	**271**	P	**P**	**10 23 11.8**	**-1.0**
NJ2	**Nanjing**	**62.14**	**315**	*e*P	**P**	**10 23 16.4**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
QIZ	**Qiongzhong**	**62.87**	**298**	P	**P**	**10 23 21.8**	**+0.1**
QIZ				S	**S**	**10 31 49.8**	**-1.9**
QIZ				LR	LR		
	comp=Z,160nm,26.7s						
QIZ				LR	LR		
	comp=Z,230nm,19.8s						
USRK	**Ussuriysk Ar.**	**62.99**	**333**	P	**P**	**10 23 23.1**	**+1.2**
	comp=Z,6.9nm,0.7s,baz=125,slow=6.3,SNR=14						
USRK				LR	LR	10 48 49.3	
	comp=Z,104nm,20.7s,baz=130,slow=34						
MYKOM	**Kota Tinggi**	**63.10**	**278**	P	**P**	**10 23 24.6**	**+1.3**
KGM	**Kluang**	**63.66**	**278**	P	**P**	**10 23 28.2**	**+1.1**
PETK	**Petropavlovsk-**	**64.21**	**354**	P	**P**	**10 23 32.2**	**+2.3**
	comp=Z,2.3nm,0.6s,baz=167,slow=8.9,SNR=2.3						
PETK				LR	LR	10 46 25.2	
	comp=Z,182nm,19.6s,baz=208,slow=31						
PEA1	**Petropavlovsk-**	**64.22**	**354**	*e*P	**P**	**10 23 32.2**	**+2.3**
KTGM	**Kuala Trenggan**	**64.64**	**281**	P	**P**	**10 23 35.3**	**+1.9**
BKNI	**Bangkinang**	**65.52**	**275**	*e*P	**P**	**10 23 39.3**	**0.0**
	comp=Z,110nm,1.1s						
CN2	**Changchun**	**65.81**	**329**	*e*P	**P**	**10 23 40.4**	**0.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
IPM	**Ipoh**	**66.46**	**280**	*e*P	**P**	**10 23 43.0**	**-2.3**
	comp=Z,32nm,1.1s						
IPM	**Ipoh**	**66.46**	**280**	P	**P**	**10 23 45.2**	**-0.2**
CASY	**Casey**	**66.55**	**201**	*e*P	**P**	**10 23 45.6**	**+0.7**
	comp=Z,12nm,0.8s						
VNDA	**Vanda**	**66.58**	**181**	*e*P	**P**	**10 23 42.8**	**-2.1**
VNDA	**Vanda**	**66.58**	**181**	*e*P	**P**	**10 23 42.8**	**-2.1**
VNDA	**Vanda**	**66.58**	**181**	P	**P**	**10 23 45.6**	**+0.7**
	comp=Z,5.8nm,1.1s,baz=34,slow=6.8,SNR=3.2						
VNDA				LR	LR	10 49 43.3	
	comp=Z,330nm,18.8s,baz=25,slow=33						
KLR	**Kul'dur**	**67.08**	**336**	*c*e*e*P	**P**	**10 23 47.5**	**-1.0**
PSI	**Prapat**	**68.12**	**278**	*e*P	**P**	**10 23 55.2**	**-0.7**
	comp=Z,14nm,1.1s						
PSI	**Prapat**	**68.12**	**278**	P	**P**	**10 23 55.2**	**-0.7**
	comp=Z,5.8nm,0.4s,baz=179,slow=5.8,SNR=6.3						
PSI				LR	LR	10 56 13.2	
	comp=Z,134nm,19.6s,baz=92,slow=38						
GYA	**Guiyang**	**68.59**	**304**	*e*P	**P**	**10 24 00.3**	**+1.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
XAN	**Xi'an**	**70.26**	**312**	*e*P	**P**	**10 24 08.8**	**+0.1**
	comp=Z,16nm,1.0s						
XAN	**Xi'an**	**70.26**	**312**	*e*P	**P**	**10 24 08.8**	**+0.1**
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI	**Kunming**	**71.30**	**301**	P	**P**	**10 24 16.5**	**+1.0**
KMI				pmax	pmax		
	comp=Z,21nm,0.8s						
KMI				pmax	pmax		
	comp=Z,79nm,4.2s						
KMI				LR	LR		
	comp=Z,230nm,16.8s						
KMI				LR	LR		
	comp=Z,250nm,16.2s						
KMI				LR	LR		
	comp=Z,380nm,19.8s						
HHC	**Hu-ho-hao-te**	**71.94**	**320**	*e*P	**P**	**10 24 19.8**	**+1.0**
HHC				pP	pwP	10 24 30.0	+6.1
HHC				S	**S**	**10 33 39.0**	**-1.3**
HHC				sS	SKiKP	10 33 55.1	-1.9
HHC				pmax	pmax		
	comp=Z,12nm,1.0s						
HHC				pmax	pmax		
	comp=Z,190nm,4.6s						
HHC				LR	LR		
	comp=Z,320nm,16.5s						
HHC				LR	LR		
	comp=Z,380nm,18.0s						
HHC				LR	LR		
	comp=Z,360nm,19.9s						
CM01	**Chiang Mai Arr**	**72.29**	**293**	*e*P	**P**	**10 24 20.6**	**-0.7**
CM31	**Chiang Mai Arr**	**72.32**	**293**	*e*P	**P**	**10 24 22.3**	**+0.9**
	comp=Z,6.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**72.32**	**293**	P	**P**	**10 24 22.3**	**+0.9**
	comp=Z,6.4nm,0.9s,baz=113,slow=4.4,SNR=25						
CMAR				LR	LR	10 53 27.2	
	comp=Z,117nm,21.7s,baz=122,slow=34						
ZEA	**Zeya**	**72.37**	**337**	*e*P	**P**	**10 24 22.8**	**+1.8**
ZEA				pmax	pmax		
	comp=N,16nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,29nm,1.0s						
CD2	**Chengdu**	**72.76**	**307**	⇑P	**P**	**10 24 23.8**	**-0.1**
CD2				pmax	pmax		
	comp=Z,40nm,0.9s						
CD2				pmax	pmax		
	comp=Z,120nm,4.0s						
CD2				LR	LR		
	comp=Z,900nm,16.7s						
CD2				LR	LR		
	comp=Z,710nm,20.0s						
CD2				LR	LR		
	comp=Z,850nm,17.6s						
LZH	**Lanzhou**	**74.89**	**312**	*e*P	**P**	**10 24 38.1**	**+1.6**
LZH				pP	PcP	10 24 49.3	-1.1
LZH				sP	pwP	10 24 53.9	+12
LZH				*e*PP	**PP**	**10 27 28.3**	**+4.1**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,8.2s						
LZH				LR	LR		
	comp=Z,340nm,16.7s						
LZH				LR	LR		
	comp=Z,340nm,16.5s						
LZH				LR	LR		
	comp=Z,430nm,18.6s						
GAMB	**Gambell**	**76.44**	**10**	*e*P	**P**	**10 24 45.6**	**+1.1**
	comp=Z,7.4nm,1.0s						
YAK	**Yakutsk**	**78.09**	**343**	*e*P	**P**	**10 24 50.3**	**-3.4**
YAK				pmax	pmax		
	comp=Z,48nm,0.8s						
YAK				pmax	pmax		
	comp=N,17nm,1.0s						
YAK				pmax	pmax		
	comp=E,12nm,0.9s						
ULN	**Ulaanbaatar**	**78.39**	**324**	*e*P	**P**	**10 24 57.2**	**+1.2**
	comp=E,8.9nm,0.9s						
ULN	**Ulaanbaatar**	**78.39**	**324**	*c* *i*P	**P**	**10 24 55.1**	**-0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULN				pmax	pmax		
	comp=Z,11nm,1.3s						
SONA0	**Songino Array**	**78.75**	**324**	*e*P	**P**	**10 24 58.2**	**+0.3**
SONM	**Songino Array**	**78.75**	**324**	P	**P**	**10 24 58.2**	**+0.3**
	comp=Z,3.4nm,1.0s,baz=139,slow=6.3,SNR=18						
BILL	**Bilibino**	**78.80**	**0**	*e*P	**P**	**10 24 57.6**	**0.0**
	comp=Z,10nm,1.0s						
BILL	**Bilibino**	**78.80**	**0**	⇓*i*P	**P**	**10 24 56.5**	**-1.0**
BILL				*e*		10 27 58.1	
BILL				*e*S	**S**	**10 34 58.5**	**+3.4**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
QSPA	**South Pole Qui**	**79.04**	**180**	*e*P	**P**	**10 24 58.5**	**-0.7**
	comp=Z,10nm,1.0s						
GTA	**Gaotai**	**79.19**	**314**	*e*P	**P**	**10 25 01.9**	**+1.4**
GTA				pP	PcP	10 25 12.3	+3.4
GTA				sP	pwP	10 25 16.5	+11
GTA				pmax	pmax		
	comp=Z,13nm,1.0s						
GTA				pmax	pmax		
	comp=Z,170nm,7.6s						
GTA				LR	LR		
	comp=Z,280nm,19.0s						
GTA				LR	LR		
	comp=Z,380nm,20.6s						
GTA				LR	LR		
	comp=Z,450nm,20.3s						
BOD	**Bodaibo**	**80.57**	**335**	*e*P	**P**	**10 25 06.7**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,2.0s						
SHL	**Shillong**	**80.71**	**298**	*e*P	**P**	**10 25 10.0**	**+0.9**
ZAK	**Zakamensk**	**81.78**	**325**	*e*P	**P**	**10 25 13.1**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
RDOG	**Red Dog Mine**	**81.89**	**11**	*e*P	**P**	**10 25 15.7**	**+1.4**
	comp=Z,5.1nm,0.6s						
TLY	**Talaya**	**82.20**	**326**	*c*e*e*P	**P**	**10 25 16.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.6s						
IM3	**Indian Mountai**	**82.28**	**15**	*e*P	**P**	**10 25 16.4**	**+0.1**
WRH	**Wood River Hil**	**82.77**	**18**	*e*P	**P**	**10 25 19.2**	**+0.3**
	comp=Z,4.8nm,0.9s						
CCB	**Clear Creek Bu**	**82.98**	**18**	*e*P	**P**	**10 25 19.9**	**0.0**
	comp=Z,2.5nm,0.7s						
MDM	**Murphy Dome**	**83.07**	**18**	*e*P	**P**	**10 25 20.6**	**+0.2**
	comp=Z,5.6nm,1.0s						
HDA	**Harding Lake**	**83.08**	**19**	*e*P	**P**	**10 25 20.4**	**-0.1**
	comp=Z,10nm,0.9s						
COLA	**College**	**83.13**	**18**	*e*P	**P**	**10 25 23.9**	**+3.3**
	comp=Z,9.0nm,1.0s						
COLA	**College**	**83.13**	**18**	*i*P	**P**	**10 25 21.8**	**+1.1**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MENT	**Mentasta**	**83.16**	**21**	*e*P	**P**	**10 25 20.7**	**-0.3**
	comp=Z,5.7nm,0.9s						
RIDG	**Independ'e Rid**	**83.31**	**20**	*e*P	**P**	**10 25 21.6**	**-0.2**
	comp=Z,5.8nm,1.1s						
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**10 25 21.4**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=231,slow=5.2,SNR=33						
ILAR				LR	LR	10 59 19.3	
	comp=Z,120nm,19.0s,baz=229,slow=33						
ILB	**Eielson Array**	**83.35**	**18**	*e*P	**P**	**10 25 22.1**	**+0.2**
	comp=Z,5.5nm,1.1s						
IL1	**Eielson Array**	**83.35**	**18**	*e*P	**P**	**10 25 21.2**	**-0.7**
DOT	**Dot Lake**	**83.51**	**20**	*e*P	**P**	**10 25 21.9**	**-0.9**
	comp=Z,6.1nm,1.1s						
YBH	**Yreka Blue Hor**	**83.65**	**46**	P	**P**	**10 25 24.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=230,slow=7.9,SNR=2.9						
SCRK	**Sand Creek**	**83.75**	**20**	*e*P	**P**	**10 25 23.5**	**-0.6**
	comp=Z,4.4nm,0.8s						
AFDM	**Forest Hills D**	**83.95**	**49**	*e*P	**P**	**10 25 26.8**	**+1.2**
	comp=Z,3.0nm,0.8s						
BEKR	**Beckworth**	**84.70**	**48**	*e*P	**P**	**10 25 27.3**	**-2.3**
	comp=Z,2.6nm,0.9s						
MAW	**Mawson**	**84.90**	**202**	*e*P	**P**	**10 25 28.7**	**-1.1**
	comp=Z,4.1nm,1.0s						
MAW	**Mawson**	**84.90**	**202**	P	**P**	**10 25 28.7**	**-1.1**
	comp=Z,24nm,1.1s,baz=337,slow=7.7,SNR=3.5						
MAW				LR	LR	10 58 42.8	
	comp=Z,266nm,18.0s,baz=88,slow=32						
MDPB	**Devils Postpil**	**84.95**	**50**	*e*P	**P**	**10 25 34.3**	**+3.4**
	comp=Z,3.4nm,0.9s						
WAKR	**Walker**	**84.95**	**49**	*e*P	**P**	**10 25 32.2**	**+1.3**
	comp=Z,4.0nm,1.0s						
PNTR	**Pine Nut**	**85.01**	**49**	*e*P	**P**	**10 25 34.3**	**+3.1**
	comp=Z,4.9nm,0.9s						
EGAK	**Eagle**	**85.21**	**20**	*e*P	**P**	**10 25 31.5**	**+0.2**
	comp=Z,9.1nm,0.8s						
DAWY	**Dawson**	**85.39**	**21**	*e*P	**P**	**10 25 31.9**	**-0.4**
	comp=Z,2.8nm,0.8s						
MOD	**Modoc Plateau**	**85.40**	**46**	*e*P	**P**	**10 25 37.4**	**+4.4**
	comp=Z,3.1nm,1.0s						
PINE	**Pine Mountain**	**85.58**	**44**	*e*P	P	10 25 39.3	+5.3
	comp=Z,7.7nm,1.1s						
NV01	**Mina Array Sit**	**85.77**	**50**	*e*P	**P**	**10 25 34.7**	**-0.3**
NVAR	**Mina Array Bea**	**85.77**	**50**	P	**P**	**10 25 34.5**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=238,slow=9.3,SNR=8.7						
NVAR				LR	LR	10 58 39.6	
	comp=Z,327nm,18.6s,baz=251,slow=32						
NV11	**Mina Array Sit**	**85.88**	**50**	*e*P	**P**	**10 25 36.6**	**+1.1**
	comp=Z,0.3nm,1.0s						
TIXI	**Tiksi**	**86.06**	**349**	*e*P	**P**	**10 25 35.2**	**-0.1**
	comp=Z,5.1nm,1.1s						
TIXI	**Tiksi**	**86.06**	**349**	*e*P	**P**	**10 25 33.3**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KVN	**Kaiserville**	**86.11**	**49**	*e*P	**P**	**10 25 37.1**	**+0.4**
	comp=Z,2.6nm,0.9s						
KVN	**Kaiserville**	**86.11**	**49**	*e*P	**P**	**10 25 37.1**	**+0.4**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
I07A	**Izee**	**86.66**	**44**	*e*P	**P**	**10 25 38.7**	**-0.4**
	comp=Z,2.7nm,0.9s						
J08A	**Circle Bar Ran**	**87.14**	**45**	*e*P	**P**	**10 25 43.5**	**+2.0**
G08A	**Pilot Rock**	**87.41**	**43**	*e*P	**P**	**10 25 46.9**	**+4.2**
	comp=Z,2.5nm,0.9s						
BMO	**Blue Mountains**	**88.39**	**44**	*e*P	P	10 25 52.8	+5.3
	comp=Z,2.7nm,1.1s						
ELK	**Elko**	**88.70**	**48**	P	**P**	**10 25 49.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=239,slow=12,SNR=2.3						
PSUT	**Pine Spring**	**89.16**	**51**	*e*P	P	10 25 56.6	+5.2
	comp=Z,3.5nm,1.1s						
WMQ	**Urumqi**	**89.22**	**315**	*e*P	**P**	**10 25 50.8**	**-0.5**
WMQ				pP	pwP	10 26 02.4	+6.0
WMQ				S	**S**	**10 36 35.6**	**-5.3**
WMQ				SS	**SS**	**10 42 32.8**	**-2.5**
WMQ				pmax	pmax		
	comp=Z,23nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,190nm,5.1s						
WMQ				LR	LR		
	comp=Z,540nm,16.3s						
WMQ				LR	LR		
	comp=Z,470nm,17.3s						
WMQ				LR	LR		
	comp=Z,410nm,19.7s						
LCMT	**Little Creek M**	**89.25**	**52**	*e*P	**P**	**10 25 51.7**	**0.0**
	comp=Z,3.0nm,1.2s						
CCUT	**Cedar City**	**89.29**	**52**	*e*P	**P**	**10 25 53.3**	**+1.3**
	comp=Z,3.1nm,1.1s						
SZCU	**Shurtz Canyon**	**89.51**	**52**	*e*P	**P**	**10 25 56.8**	**+3.8**
	comp=Z,3.9nm,1.2s						
NEW	**Newport**	**89.51**	**41**	P	P	10 25 57.7	+5.2
	comp=Z,0.7nm,0.6s,baz=252,slow=16,SNR=3.0						
KNB	**Kanab**	**89.57**	**52**	*e*P	**P**	**10 25 54.5**	**+1.2**
	comp=Z,3.8nm,1.1s						
INK	**Inuvik**	**89.74**	**19**	P	**P**	**10 25 53.5**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=239,slow=2.4,SNR=2.5						
U15A	**North Rim**	**89.85**	**53**	*e*P	**P**	**10 25 54.3**	**-0.4**
	comp=Z,3.7nm,1.0s						
X16A	**Lo Mia Camp, P**	**90.06**	**55**	*e*P	**P**	**10 25 56.5**	**+0.8**
	comp=Z,1.3nm,0.8s						
PKCU	**Pink Cliffs**	**90.07**	**52**	*e*P	**P**	**10 25 58.1**	**+2.3**
	comp=Z,2.4nm,1.0s						
MTPU	**Mount Pierson**	**90.31**	**51**	*e*P	**P**	**10 25 58.5**	**+1.5**
	comp=Z,2.2nm,0.8s						
MSU	**Marysvale**	**90.43**	**51**	*e*P	**P**	**10 25 58.3**	**+1.0**
MSU	**Marysvale**	**90.43**	**51**	*e*P	**P**	**10 25 58.3**	**+1.0**
HVU	**Hansel Valley**	**90.76**	**48**	*e*P	**P**	**10 25 59.2**	**+0.5**
	comp=Z,3.3nm,0.9s						
HVU	**Hansel Valley**	**90.76**	**48**	*e*P	**P**	**10 25 59.2**	**+0.5**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NLU	**North Lily Min**	**90.84**	**50**	*e*P	**P**	**10 26 03.6**	**+4.4**
	comp=Z,4.8nm,1.1s						
SYO	**Syowa Base**	**91.94**	**197**	⇑*e*X	P	10 26 11.2	+7.8
BOZ	**Bozeman (W)**	**92.46**	**44**	*e*P	P	10 26 11.3	+4.9
	comp=Z,4.1nm,1.1s						
PD31	**Pinedale Array**	**93.31**	**47**	*e*P	**P**	**10 26 11.2**	**+0.6**
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**93.31**	**47**	P	**P**	**10 26 11.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=268,slow=14,SNR=2.8						
PDAR				LR	LR	11 05 54.8	
	comp=Z,69nm,18.2s,baz=271,slow=34						
MK01	**Makanchi Array**	**93.63**	**317**	*e*P	**P**	**10 26 11.7**	**0.0**
MK31	**Makanchi Array**	**93.64**	**317**	*e*P	**P**	**10 26 12.0**	**+0.3**
	comp=Z,6.1nm,1.0s						
MK32	**Makanchi Array**	**93.64**	**317**	*e*P	**P**	**10 26 11.8**	**0.0**
MK32				*e*PP	**PP**	**10 29 57.5**	**+0.8**
MK32				*e*PKKPdf	**PKKPdf**	**10 43 16.4**	**-1.2**
MKAR	**Makanchi Array**	**93.64**	**317**	P	**P**	**10 26 11.8**	**0.0**
	comp=Z,5.1nm,0.8s,baz=100,slow=6.1,SNR=36						
MKAR				PP	**PP**	**10 29 57.5**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=134,slow=8.3,SNR=4.3						
MKAR				PKKPbc	**PKKPdf**	**10 43 16.4**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=286,slow=2.4,SNR=4.8						
ZAA0	**Zalesovo Array**	**93.64**	**324**	*e*P	**P**	**10 26 10.9**	**-0.6**
	comp=Z,4.1nm,0.9s						
ZALV	**Zalesovo Beam**	**93.64**	**324**	*e*P	**P**	**10 26 10.2**	**-1.3**
ZALV	**Zalesovo Beam**	**93.64**	**324**	*e*P	**P**	**10 26 10.2**	**-1.3**
ZALV	**Zalesovo Beam**	**93.64**	**324**	P	**P**	**10 26 10.8**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=110,slow=6.5,SNR=11						
ZALV				LR	LR	11 05 07.0	
	comp=Z,114nm,21.7s,baz=70,slow=34						
ZAA1	**Zalesovo Array**	**93.64**	**324**	*e*P	**P**	**10 26 10.8**	**-0.8**
MAKZ	**Makanchi**	**93.85**	**317**	*e*P	**P**	**10 26 12.9**	**+0.2**
	comp=Z,7.1nm,1.0s						
MAKZ	**Makanchi**	**93.85**	**317**	*e*P	**P**	**10 26 12.9**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
YKA	**Yellowknife Ar**	**94.78**	**27**	P	**P**	**10 26 14.5**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=258,slow=4.7,SNR=12						
YKA				PP	**PP**	**10 30 06.9**	**+1.8**
	comp=Z,0.1nm,0.7s,baz=241,slow=7.7,SNR=2.8						
YKA				LR	LR	11 05 13.7	
	comp=Z,15nm,18.2s,baz=260,slow=33						
YKB5	**Yellowknife Ar**	**94.78**	**27**	*e*P	**P**	**10 26 14.5**	**-2.0**
TXAR	**Lajitas Array**	**95.56**	**61**	P	**P**	**10 26 21.0**	**-0.1**
TXAR	**Lajitas Array**	**95.56**	**61**	P	**P**	**10 26 21.0**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=232,slow=4.4,SNR=2.9						
TXAR				LR	LR	11 04 35.4	
	comp=Z,216nm,18.2s,baz=0.0,slow=32						
NRIK	**Noril'sk**	**96.14**	**340**	LR	LR	11 11 03.9	
	comp=Z,87nm,18.6s,baz=94,slow=36						
KURK	**Kurchatov**	**96.74**	**320**	*i*P	**P**	**10 26 24.6**	**-1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
AAK	**Ala-Archa**	**98.44**	**312**	*i*P	**P**	**10 26 32.1**	**-1.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARA0	**ARCESS Array S**	**116.32**	**346**	*e*PKPdf	**PKiKP**	**10 31 36.6**	**-1.7**
ARCES	**ARCESS Array B**	**116.32**	**346**	PKP	**PKiKP**	**10 31 36.6**	**-1.7**
	comp=Z,3.0nm,0.8s,baz=86,slow=1.6,SNR=13						
OBN	**Obninsk**	**120.87**	**329**	⇓*e*PKIKP	**PKPdf**	**10 31 47.0**	**-0.4**
OBN				*e*		10 33 15.8	
OBN				*e*SS	SS	10 49 41.9	-5.0
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,120nm,18.0s						
FIA0	**FINESS Array S**	**121.79**	**339**	*e*PKPdf	**PKPdf**	**10 31 48.2**	**-0.8**
FIA0	**FINESS Array S**	**121.79**	**339**	*e*PKIKP	**PKPdf**	**10 31 48.2**	**-0.8**
FINES	**FINESS Array B**	**121.79**	**339**	PKP	**PKPdf**	**10 31 48.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=86,slow=2.5,SNR=4.2						
BOSA	**Boshof**	**125.36**	**223**	PKP	**PKiKP**	**10 31 58.5**	**+1.0**
	comp=Z,2.9nm,0.8s,baz=332,slow=4.5,SNR=4.2						
NB200	**NORSAR Array S**	**126.69**	**345**	*e*PKPdf	**PKiKP**	**10 31 59.2**	**+0.2**
NOA	**NORSAR Array B**	**126.69**	**345**	PKP	**PKiKP**	**10 31 59.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=36,slow=4.3,SNR=3.1						
VYHS	**Vyhne**	**133.63**	**330**	*e*PKIKP	**PKiKP**	**10 32 13.7**	**+0.4**
VYHS	**Vyhne**	**133.63**	**330**	*e*PKP	**PKiKP**	**10 32 13.7**	**+0.4**
KEST	**Kesra**	**147.51**	**323**	*e*PKPbc	**PKPbc**	**10 32 40.5**	**+0.6**
KEST	**Kesra**	**147.51**	**323**	PKPbc	**PKPbc**	**10 32 40.0**	**0.0**
	comp=Z,11nm,1.0s,baz=263,slow=1.1,SNR=9.0						
ESDC	**Sonseca Array**	**150.05**	**344**	PKPbc	**PKPbc**	**10 32 46.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=4.5,slow=2.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**164.51**	**280**	PKP	**PKPdf**	**10 32 57.9**	**-2.1**
	comp=Z,1.0nm,0.9s,baz=247,slow=1.0,SNR=5.0						
TORD				PKPab	**PKPab**	**10 33 53.8**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=97,slow=3.9,SNR=4.4						
TOA1	**Torodi Ar. Sit**	**164.51**	**280**	*e*PKPdf	**PKPdf**	**10 32 57.9**	**-2.1**
TOA1				*e*PKPab	**PKPab**	**10 33 53.8**	**-1.1**

*IDC **19** 10:31:28.3±1.5, 1°.91N×125°.26E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/43, mbtmp3.7/5, MS4.0/7, Ms1 4.0/7, ms1mx3.4/50, Error ellipse: s-maj=182.5km s-min=19.4km az=64.0*

*ISCJB **19** 10:31:32.0±1.1, 2°.6N±0°.2×126°.7E±0°.3, h53km, mb3.6/5, MS4.0/7, Error ellipse: s-maj=45.1km s-min=7.9km az=145.4*

*DJA **19** 10:31:33.0±1.8, 3°N±4°×12°7E±°, h26km±21km, M4.0/5, mb4.0/1, MLv4.0/5*

ISC 19 10:31:33.9±1.5, 2°.6N±0°.3×126°.6E±0°.4, h53km, n15, σ0s67/9, mb3.7/5, MS4.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.54**	**316**	P	**Pn**	**10 31 58.9**	**-0.1**
SGSI				S	**Sn**	**10 32 18.4**	**+0.5**
TNTI	**Ternate**	**1.95**	**157**	P	**Pn**	**10 32 05.3**	**+0.6**
FITZ	**Fitzroy Crossi**	**20.57**	**183**	P	**P**	**10 36 08.2**	**-0.2**

KURBB				Sn	**Sn**	**10 46 46.4**	**-1.6**
	0.1nm,0.3s,baz=39,slow=18,SNR=3.1							
KURBB				Lg	Lg	10 47 23.7		
	0.1nm,0.3s,baz=63,slow=32,SNR=12							
MK31	**Makanchi Array**	**7.56**	**209**	⇑Pn	**Pn**	**10 45 52.9**	**-0.2**
	0.2nm,0.3s,baz=29,slow=13,SNR=21							
MK31				⇓Sn	**Sn**	**10 47 18.4**	**-1.0**
	2.2nm,0.9s,baz=237,slow=9.0,SNR=3.0							
MK31				⇑Lg	Lg	10 47 59.4		
	8.2nm,0.9s,baz=33,slow=30,SNR=7.0							
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	**Pn**	**10 45 53.9**	**+0.8**
	0.5nm,0.3s,baz=30,slow=14,SNR=23							
MKAR				Sn	**Sn**	**10 47 20.8**	**+1.4**
	0.3nm,0.3s,baz=33,slow=25,SNR=5.3							
MKAR				Lg	Lg	10 47 58.8		
	0.2nm,0.3s,baz=34,slow=31,SNR=9.4							
MAKZ	**Makanchi**	**7.63**	**210**	⇑Pn	**Pn**	**10 45 54.3**	**+0.1**
	1.5nm,0.9s							
MAKZ				⇑Sn	**Sn**	**10 47 21.1**	**-0.2**
	1.7nm,0.8s							
MAKZ				⇑Lg	Lg	10 47 58.8		
	5.0nm,0.9s							
BVAR	**Borovoye Array**	**10.29**	**274**	Pn	**Pn**	**10 46 32.6**	**+2.1**
	0.3nm,0.3s,baz=71,slow=15,SNR=3.6							
BVAR				Sn	**Sn**	**10 48 23.5**	**-3.0**
	0.3nm,0.3s,baz=92,slow=22,SNR=6.0							

MEX 19 11:00:03.0±0.9, 19°.51N×104°.68W, h10km±8km, MD3.5, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**0.34**	**268**	*i* P	Pg	11 00 08.9	-1.0
CJM				*i* S	Sg	11 00 14.9	+0.5
ANIG	**Ahuacatlan**	**1.54**	**6**	*i* P	Pn	11 00 27.6	-3.1
ANIG				*i* S	Sn	11 00 46.1	-4.7

*ISCJB **19** 11:00:58.4±0.6, 31°.36N±0°.05×140°.5E±0°.2, h97km, mb3.5/3, Error ellipse: s-maj=24.9km s-min=4.6km az=167.6*
*JMA **19** 11:00:59.1±0.2, 31°.40N×140°.63E, h118km±3km, M3.4*
*IDC **19** 11:00:59.6±2.2, 31°.22N×140°.07E, h96km±23km, mb3.3/3, mb1 3.5/5, mb1mx3.1/56, mbtmp3.6/5, Error ellipse: s-maj=61.4km s-min=17.1km az=72.0*

ISC 19 11:00:59.6±0.9, 31°.39N±0°.06×140°.5E±0°.2, h97km, n15, σ1§37/19, mb3.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.82**	**341**	P	**Pn**	**11 01 31.0**	**+1.3**
BSO1	**Boso 1**	**3.28**	**7**	P	**Pn**	**11 01 49.7**	**+1.3**
BSO1				S	**Sn**	**11 02 27.3**	**+1.0**
BSO3	**Boso 3**	**3.40**	**360**	P	**Pn**	**11 01 51.0**	**+0.6**
JOD2	**Odawara 2**	**4.04**	**343**	P	**Pn**	**11 02 00.3**	**+1.0**
CBIJ	**Chichi jima**	**4.52**	**161**	P	**Pn**	**11 02 05.7**	**-0.1**
CBIJ				S	**Sn**	**11 02 57.7**	**+0.5**
JCJ	**Chichijima**	**4.52**	**161**	P	**Pn**	**11 02 06.1**	**+0.3**
	5.0nm,0.3s,baz=8.3,slow=20,SNR=15						
JCJ				S	**Sn**	**11 02 56.9**	**-0.3**
	3.7nm,0.3s,baz=276,slow=19,SNR=2.1						
JHU	**Hanno**	**4.57**	**347**	P	**Pn**	**11 02 07.2**	**+0.8**
JRY	**Ryogami san**	**4.81**	**344**	P	**Pn**	**11 02 10.7**	**+1.0**
JYT	**Yasato**	**4.83**	**357**	P	**Pn**	**11 02 10.2**	**+0.3**
JAG	**Ashikaga**	**5.10**	**350**	P	**Pn**	**11 02 12.9**	**-0.7**
JHO	**Hitachi**	**5.21**	**0**	P	**Pn**	**11 02 14.3**	**-0.8**
JHO				S	**Sn**	**11 03 09.9**	**-3.9**
MJAR	**Matsushiro Arr**	**5.48**	**340**	P	**Pn**	**11 02 19.2**	**+0.4**
	0.2nm,0.3s,baz=166,slow=12,SNR=8.0						
WRA	**Warramunga Arr**	**51.38**	**187**	P	**P**	**11 09 53.2**	**-1.3**
	0.3nm,1.0s,baz=4.3,slow=7.6,SNR=1.8						
FINES	**FINESS Array B**	**73.47**	**333**	P	**P**	**11 12 20.9**	**-0.2**
	0.5nm,0.4s,baz=46,slow=5.5,SNR=6.4						
TXAR	**Lajitas Array**	**94.16**	**52**	P	**P**	**11 14 09.9**	**+2.0**
	0.2nm,0.6s,baz=270,slow=1.8,SNR=4.9						

MEX 19 11:03:33.0±0.6, 20°.46N×103°.51W, h15km±999km, MD3.5, Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.98**	**185**	*e*P	Pb	11 03 48.9	-3.0
EZ5V				*e*S	Sb	11 04 01.0	-3.8

*SOME **19** 11:03:36.9, 40°.72N×72°.93E, h0km*
*KRNET **19** 11:03:37.3±0.1, 40°.65N×72°.95E, h17km, mb3.4*
*NNC **19** 11:03:41.2±1.6, 40°.84N×73°.02E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=15.1km s-min=7.2km az=173.0*

ISC 19 11:03:34.4±1.3, 40°.49N±0°.05×73°.13E±0°.03, h14km±11km, n54, σ0§92/81, 34C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.84**	**352**	⇓*i*P	**Pg**	**11 03 50.5**	**-0.2**
	baz=2.0						
ARSB				⇓*i*S	**Sg**	**11 03 59.9**	**-1.8**
	baz=2.0						
ARK	**Arkit**	**1.57**	**326**	⇑*i*P	**Pn**	**11 04 02.8**	**+0.8**
	baz=28						
ARK				⇑*i*S	**Sn**	**11 04 20.3**	**-1.9**
	baz=28						
ARLS	**Aral**	**1.63**	**33**	⇓*i*P	**Pg**	**11 04 07.1**	**+1.3**
	baz=40						
ARLS				⇓*i*S	**Sg**	**11 04 28.1**	**+1.0**
	baz=40						
AML	**Almayashu**	**1.69**	**14**	P	**Pg**	**11 04 07.2**	**+0.3**
	SNR=216						
AML	**Almayashu**	**1.69**	**14**	⇑*i*P	**Pg**	**11 04 07.0**	**+0.1**
	baz=21						
AML				⇑*i*S	**Sb**	**11 04 28.2**	**+1.5**
	baz=21						
BTK	**Batken**	**1.82**	**257**	⇑*i*P	**Pg**	**11 04 09.0**	**-0.4**
	baz=51						
BTK				⇑*i*S	**Sg**	**11 04 32.7**	**-0.4**
	baz=51						
UCH	**Uchtor**	**2.02**	**30**	P	**Pg**	**11 04 13.6**	**+0.3**
	SNR=172						
UCH	**Uchtor**	**2.02**	**30**	⇑*i*P	**Pg**	**11 04 13.3**	**+0.1**
	baz=36						
UCH				⇑*i*S	**Sg**	**11 04 39.8**	**+0.4**
	baz=36						
EKS2	**Erkin-Say**	**2.22**	**12**	P	**Pg**	**11 04 16.0**	**-0.9**
	SNR=71						
EKS2	**Erkin-Say**	**2.22**	**12**	⇑*i*P	**Pb**	**11 04 15.4**	**+1.0**
	baz=17						
EKS2				⇑*i*S	**Sb**	**11 04 42.9**	**+1.2**
	baz=17						
KZA	**Kyzart**	**2.25**	**45**	P	**Pg**	**11 04 17.9**	**+0.4**
	SNR=29						
KZA	**Kyzart**	**2.25**	**45**	⇑*i*P	**Pg**	**11 04 17.4**	**-0.1**
	baz=50						
KZA				⇑*i*S	**Sg**	**11 04 46.6**	**-0.1**
	baz=50						
MRKS	**Merke**	**2.25**	**2**	Pg	**Pb**	**11 04 14.9**	**0.0**
	44nm,0.3s						
MRKS				Lg	Lg	11 04 43.4	
	375nm,0.3s						
MRKS	**Merke**	**2.25**	**2**	*e*P	**Pb**	**11 04 14.9**	**0.0**
	44nm,0.3s						
MRKS				*e*S	**Sb**	**11 04 43.6**	**+1.0**
	375nm,0.3s						
NRN	**Naryn**	**2.36**	**66**	⇑*i*P	**Pg**	**11 04 19.2**	**-0.6**
	baz=70						
NRN				⇑*i*S	**Sg**	**11 04 50.4**	**-0.1**
	baz=70						
AAK	**Ala-Archa**	**2.37**	**25**	P	**Pg**	**11 04 18.3**	**-1.6**
	SNR=70						
AAK	**Ala-Archa**	**2.37**	**25**	Pn	**Pb**	**11 04 18.2**	**+1.1**
	40nm,0.5s						
AAK				Lg	Lg	11 04 49.9	
	45nm,0.4s						
AAK	**Ala-Archa**	**2.37**	**25**	⇑*i*P	**Pb**	**11 04 18.1**	**+1.1**
	baz=30						
AAK				⇑*i*S	**Sb**	**11 04 47.8**	**+1.6**
	baz=30						
KBK	**Karagaybulak**	**2.55**	**32**	P	**Pg**	**11 04 21.9**	**-1.5**
	SNR=24						
KBK	**Karagaybulak**	**2.55**	**32**	⇑*i*P	**Pb**	**11 04 20.7**	**+0.6**
	baz=36						
KBK				⇑*i*S	**Sb**	**11 04 52.2**	**+0.8**
	baz=36						
FRU1	**Bishkek**	**2.57**	**25**	⇑*i*P	**Pb**	**11 04 20.3**	**0.0**
	baz=30						
FRU1				⇑*i*S	**Sb**	**11 04 51.8**	**0.0**
	baz=30						
CHMS	**Chumysh**	**2.78**	**25**	P	**Pg**	**11 04 27.3**	**-0.4**
	SNR=5.8						
CHMS	**Chumysh**	**2.78**	**25**	⇑*i*P	**Pb**	**11 04 23.2**	**-0.7**
	baz=29						
CHMS				⇑*i*S	**Sb**	**11 04 57.2**	**-0.6**
	baz=29						
IUG	**luzhnay**	**2.86**	**306**	Pg	**Pb**	**11 04 26.4**	**+1.1**
	44nm,0.2s						
IUG				Lg	Lg	11 05 01.0	
	235nm,0.3s						
IUG	**luzhnay**	**2.86**	**306**	*e*P	**Pb**	**11 04 25.8**	**+0.5**
	44nm,0.2s						
IUG				*e*S	**Sb**	**11 05 01.0**	**+0.8**
	235nm,0.3s						
BOOM	**Boomskoye usch**	**2.90**	**46**	⇑*i*P	**Pb**	**11 04 26.3**	**+0.3**
	baz=50						
BOOM				⇑*i*S	**Sb**	**11 05 02.2**	**+0.8**
	baz=50						
ULHL	**Ulahol**	**2.92**	**52**	⇑*i*P	**Pb**	**11 04 26.8**	**+0.4**
	baz=56						
ULHL				⇑*i*S	**Sb**	**11 05 03.1**	**+1.1**
	baz=56						
USP	**Ospenovka**	**2.95**	**20**	P	**Pg**	**11 04 30.4**	**-0.6**
	SNR=8.1						
USP	**Ospenovka**	**2.95**	**20**	⇑*e*P	**Pb**	**11 04 25.3**	**-1.5**
	baz=23						
USP				⇑*i*S	**Sb**	**11 05 00.9**	**-1.8**
	baz=23						
TKM2	**Tokmak 2**	**3.05**	**36**	P	**Pb**	**11 04 29.8**	**+1.3**
	SNR=6.8						
TKM2	**Tokmak 2**	**3.05**	**36**	⇑Pn	**Pb**	**11 04 28.1**	**-0.5**
	3.1nm,0.3s						
TKM2				⇓Lg	Lg	11 05 10.4	
	18nm,0.5s						
TKM2	**Tokmak 2**	**3.05**	**36**	⇑*i*P	**Pb**	**11 04 27.5**	**-1.0**
	baz=40						
TKM2				⇑*i*S	**Sb**	**11 05 04.8**	**-0.8**
	baz=40						
KK31	**Karatay Array**	**3.26**	**324**	⇓Pn	**Pb**	**11 04 32.7**	**+0.7**
	1.9nm,0.3s,baz=130,slow=13,SNR=41						
KK31				⇓Lg	Lg	11 05 12.0	
	12nm,0.3s,baz=135,slow=29,SNR=9.2						
KST	**Kastek**	**3.31**	**39**	Pg	**Pg**	**11 04 36.9**	**-0.9**
	8.3nm,0.4s						
KST				Lg	Lg	11 05 20.6	
	24nm,0.4s						
KST	**Kastek**	**3.31**	**39**	*e*P	**Pg**	**11 04 37.2**	**-0.7**
	8.3nm,0.4s						
KST				*e*S	**Sg**	**11 05 20.6**	**-0.2**
	24nm,0.4s						
KDJ	**Kajisay**	**3.46**	**60**	⇑*i*P	**Pb**	**11 04 34.6**	**-0.9**
	baz=64						
KDJ				⇑*i*S	**Sb**	**11 05 16.3**	**-1.1**
	baz=64						
BRLS	**Borolday**	**3.54**	**317**	*e*P	**Pb**	**11 04 37.0**	**+0.2**
	4.5nm,0.3s						
BRLS				*e*S	**Sb**	**11 05 20.2**	**+0.7**
	32nm,0.2s						
MTBS	**Maitube**	**3.61**	**42**	Pg	**Pg**	**11 04 43.3**	**-0.2**
	7.4nm,0.3s						
MTBS				Lg	Lg	11 05 30.6	
	24nm,0.3s						
MTBS	**Maitube**	**3.61**	**42**	*e*P	**Pg**	**11 04 43.4**	**0.0**
	7.4nm,0.3s						
MTBS				*e*S	**Sg**	**11 05 31.3**	**+1.1**
	24nm,0.3s						
TNSS	**Tian-Shan**	**3.82**	**47**	Pg	**Pg**	**11 04 47.7**	**+0.1**
	7.3nm,0.4s						
TNSS				Lg	Lg	11 05 38.4	
	22nm,0.5s						
TNSS	**Tian-Shan**	**3.82**	**47**	*e*P	**Pg**	**11 04 47.7**	**+0.1**
	7.3nm,0.4s						
TNSS				*e*S	**Sg**	**11 05 38.4**	**+1.3**
	22nm,0.5s						
MDOK	**Medeo**	**3.96**	**46**	Pg	**Pg**	**11 04 50.4**	**+0.2**
	7.0nm,0.6s						
MDOK				Lg	Lg	11 05 41.5	
	12nm,0.6s						
MDOK	**Medeo**	**3.96**	**46**	Pg	**Pg**	**11 04 49.7**	**-0.5**
	7.0nm,0.3s						
MDOK				Lg	Lg	11 05 41.9	
	22nm,0.6s						
MDOK	**Medeo**	**3.96**	**46**	*e*P	**Pg**	**11 04 49.7**	**-0.5**
	7.0nm,0.3s						
MDOK				*e*S	**Sg**	**11 05 41.9**	**+0.4**
	22nm,0.6s						
KOTS	**Kotyrbulak**	**4.04**	**46**	Pg	**Pg**	**11 04 51.6**	**-0.2**
	7.8nm,0.4s						
KOTS				Lg	Lg	11 05 45.1	
	68nm,0.7s						
KOTS	**Kotyrbulak**	**4.04**	**46**	*e*P	**Pg**	**11 04 51.6**	**-0.2**
	7.8nm,0.4s						
KOTS				*e*S	**Sg**	**11 05 45.1**	**+1.0**
	68nm,0.7s						
KUU	**Kurty**	**4.15**	**34**	Pg	**Pg**	**11 04 52.0**	**-1.8**
	6.5nm,0.2s						
KUU				Lg	Lg	11 05 45.9	
	20nm,0.4s						
KUU	**Kurty**	**4.15**	**34**	*e*P	**Pg**	**11 04 52.0**	**-1.8**
	6.5nm,0.2s						
KUU				*e*S	**Sg**	**11 05 45.9**	**-1.6**
	20nm,0.4s						
KTBS	**Karatobe**	**4.16**	**38**	Pg	**Pg**	**11 04 53.5**	**-0.6**
	5.4nm,0.5s						
KTBS				Lg	Lg	11 05 48.4	
	28nm,0.5s						
KTBS	**Karatobe**	**4.16**	**38**	*e*P	**Pg**	**11 04 53.5**	**-0.6**
	5.4nm,0.5s						
KTBS				*e*S	**Sg**	**11 05 48.4**	**+0.4**
	28nm,0.5s						
SATY	**Saty**	**4.70**	**55**	Pg	**Pg**	**11 05 03.8**	**-0.6**
	4.0nm,0.3s						
SATY				Lg	Lg	11 06 06.1	
	18nm,0.4s						
SATY	**Saty**	**4.70**	**55**	*e*P	**Pg**	**11 05 03.6**	**-0.9**
	4.0nm,0.3s						
SATY				*e*S	**Sg**	**11 06 05.9**	**+0.6**
	18nm,0.4s						
MAKZ	**Makanchi**	**8.99**	**43**	⇓Pn	Pn	11 05 53.4	+10
	0.8nm,0.7s						
MAKZ				⇓Lg	Lg	11 06 25.9	
	0.9nm,0.6s						
MK31	**Makanchi Array**	**9.14**	**43**	⇑Pn	Pn	11 05 51.8	+6.0
	0.4nm,0.3s,baz=164,slow=14,SNR=19						
MK31				⇓Lg	Lg	11 06 25.6	
	2.0nm,0.5s,baz=168,slow=26,SNR=6.7						

*JMA **19** 11:06:34.7±0.1, 40°.29N×142°.29E, h38km±1km, M3.9*
JMA Felt I J1.
*IDC **19** 11:06:36.5±2.2, 40°.29N×142°.42E, h68km±19km, mb3.4/9, mb1 3.6/14, mb1mx3.3/62, mbtmp3.8/14, MS2.9/1, Ms1 2.9/1, ms1mx2.2/36, Error ellipse: s-maj=30.2km s-min=15.4km az=82.0*

ISC 19 11:06:31.5±1.7, 40°.29N±0°.04×142°.49E±0°.07, h25km±11km, n31, σ1§77/34, mb3.8/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.59**	**235**	P	**Pn**	**11 06 45.1**	**+0.8**
JTH				*e*S	**Sn**	**11 06 52.7**	**-0.4**
JKEN	**Kujiedanarisaw**	**0.60**	**263**	P	**Pn**	**11 06 44.5**	**+0.1**
JKEN				*e*S	**Sb**	**11 06 51.2**	**-0.4**
JANG	**Nango**	**0.75**	**277**	P	**Pn**	**11 06 46.7**	**+0.2**
JANG				S	**Sb**	**11 06 55.3**	**-0.5**
JKZ	**Kuzumaki**	**0.94**	**252**	P	**Pb**	**11 06 49.7**	**+0.5**
JKZ				*e*S	**Sb**	**11 07 00.2**	**-1.1**
JARK	**Aomorirokkasho**	**1.12**	**310**	P	**Pn**	**11 06 52.1**	**+0.6**
JARK				S	**Sn**	**11 07 04.9**	**-1.2**
JTM	**Tenmabayashi**	**1.20**	**295**	P	**Pn**	**11 06 53.0**	**+0.4**
JTM				*e*S	**Sn**	**11 07 06.2**	**-1.8**
JOM	**Ohasama**	**1.23**	**229**	P	**Pb**	**11 06 54.4**	**+0.4**
JOM				*e*S	**Sn**	**11 07 08.9**	**+0.1**
JAH	**Hinai**	**1.43**	**267**	P	**Pn**	**11 06 56.5**	**+0.8**
JAH				*e*S	**Sn**	**11 07 12.1**	**-1.5**
JOT	**Ohata**	**1.55**	**315**	P	**Pn**	**11 06 58.2**	**+0.8**
JMK	**Ichinoseki**	**1.66**	**217**	P	**Pb**	**11 07 00.9**	**-0.4**
ASAJ	**Asahikawa**	**3.83**	**1**	P	**Pn**	**11 07 32.3**	**+3.5**
	2.2nm,0.3s,baz=223,slow=14,SNR=8.8						
ASAJ				S	**Sb**	**11 08 21.4**	**-2.9**
	2.2nm,0.3s,baz=335,slow=31,SNR=3.9						
MJAR	**Matsushiro Arr**	**5.03**	**223**	P	**Pn**	**11 07 49.5**	**+4.2**
	0.1nm,0.3s,baz=30,slow=13,SNR=12						
JHJ	**Hachijo jima 2**	**7.48**	**198**	P	**Pn**	**11 08 22.2**	**+3.3**
	3.7nm,0.3s,baz=68,slow=19,SNR=3.1						
JHJ				S	**Sn**	**11 09 39.0**	**-3.8**
	2.9nm,0.3s,baz=66,slow=20,SNR=2.5						
USRK	**Ussuriysk Ar.**	**8.72**	**300**	P	**Pn**	**11 08 40.0**	**+4.2**
	0.2nm,0.3s,baz=98,slow=14,SNR=5.3						
JNU	**Nakatsue**	**11.74**	**236**	LR	LR	11 14 09.4	
	comp=Z,58nm,20.1s,baz=202,slow=39						
PETK	**Petropavlovsk-**	**16.48**	**34**	P	**P**	**11 10 24.1**	**+0.8**
	0.2nm,0.3s,baz=255,slow=8.8,SNR=2.3						
SONM	**Songino Array**	**26.82**	**298**	P	**P**	**11 12 09.8**	**0.0**
	0.2nm,0.4s,baz=80,slow=7.0,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**29.27**	**127**	T	T	11 43 22.9	
	baz=319,slow=75,SNR=72						
H11N1	**WAKE ISLAND Hy**	**29.27**	**127**	T	T	11 43 23.5	
	baz=319,slow=75,SNR=83						
H11N3	**WAKE ISLAND Hy**	**29.28**	**127**	T	T	11 43 36.1	
	baz=319,slow=75,SNR=58						
H11S1	**WAKE ISLAND Hy**	**30.09**	**129**	T	T	11 44 39.6	
	baz=321,slow=76,SNR=29						
H11S3	**WAKE ISLAND Hy**	**30.09**	**129**	T	T	11 44 39.5	
	baz=321,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy**	**30.10**	**129**	T	T	11 44 41.2	
	baz=321,slow=76,SNR=19						
ZALV	**Zalesovo Beam**	**40.42**	**310**	P	**P**	**11 14 07.4**	**+0.1**
	1.0nm,0.6s,baz=89,slow=7.6,SNR=5.0						
MKAR	**Makanchi Array**	**43.18**	**299**	P	**P**	**11 14 29.8**	**-0.3**
	0.4nm,0.4s,baz=88,slow=10,SNR=6.4						
KURBB	**Kurchatov Arra**	**44.73**	**306**	P	**P**	**11 14 41.9**	**-0.5**
	1.4nm,0.6s,baz=80,slow=8.6,SNR=7.5						
BVAR	**Borovoye Array**	**49.06**	**310**	P	**P**	**11 15 16.2**	**0.0**
	0.6nm,0.3s,baz=74,slow=8.8,SNR=4.5						
WRA	**Warramunga Arr**	**60.40**	**189**	P	**P**	**11 16 38.4**	**-0.2**
	0.9nm,1.2s,baz=6.4,slow=6.9,SNR=4.5						
ASAR	**Alice Springs**	**64.12**	**189**	P	**P**	**11 17 03.7**	**+0.2**
	0.2nm,0.8s,baz=0.5,slow=7.0,SNR=4.0						
FINES	**FINESS Array B**	**66.34**	**332**	P	**P**	**11 17 17.5**	**+0.1**
	1.0nm,0.8s,baz=74,slow=7.4,SNR=3.3						
AKASG	**Malin Array Be**	**72.25**	**322**	P	**P**	**11 17 54.3**	**+0.1**
	0.5nm,0.4s,baz=45,slow=6.6,SNR=2.9						

IDC 19 11:17:10.9±2.1, 54°.42N×83°.58E, h0km, mb1 2.4/2, mb1mx2.4/50, mbtmp2.4/2, ML2.0/2, Error ellipse: s-maj=17.7km s-min=9.6km az=165.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.87**	**123**	*i*		11 22 25.0	
	baz=303,slow=301,SNR=13						
ZALV	**Zalesovo Beam**	**0.87**	**123**	Pg	Pg	11 17 26.9	-0.6
	2.0nm,0.3s,baz=308,slow=14,SNR=16						
ZALV				Lg	Lg	11 17 40.5	
	4.7nm,0.3s,baz=304,slow=27,SNR=20						
ZALV				Rg	Rg	11 17 46.5	
	7.6nm,0.3s,baz=305,slow=26,SNR=7.5						
KURBB	**Kurchatov Arra**	**4.90**	**221**	Pn	Pn	11 18 26.7	+0.9
	0.0nm,0.3s,baz=47,slow=16,SNR=1.5						
KURBB				Sn	Sn	11 19 22.3	-0.8
	0.0nm,0.3s,baz=347,slow=35,SNR=2.8						
KURBB				Lg	Lg	11 19 45.2	
	0.0nm,0.3s,baz=41,slow=30,SNR=3.4						
MKAR	**Makanchi Array**	**7.68**	**187**	Pn	Pn	11 19 03.9	-0.1
	0.1nm,0.3s,baz=14,slow=14,SNR=3.5						
MKAR				Lg	Lg	11 21 14.4	
	0.0nm,0.3s,baz=354,slow=22,SNR=3.6						

IDC 19 11:20:40.4±9.2, 2°.86S×97°.91W, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.5/29, mbtmp3.3/4, Error ellipse: s-maj=445.3km s-min=146.9km az=95.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**32.48**	**351**	P	P	11 27 13.5	+0.6
	0.3nm,0.8s,baz=180,slow=14,SNR=2.3						
PDAR	**Pinedale Array**	**46.62**	**348**	P	P	11 29 09.8	-0.9
	0.3nm,0.6s,baz=152,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**66.40**	**352**	P	P	11 31 31.0	0.0
	0.2nm,0.7s,baz=150,slow=5.5,SNR=4.2						
ILAR	**Eielson Array**	**76.34**	**341**	P	P	11 32 31.3	+0.2
	0.5nm,0.9s,baz=162,slow=5.0,SNR=5.1						

*MEX **19** 11:31:21.8±0.4, 14°.51N×93°.91W, h84km±31km, MD4.1*
*NEIC **19** 11:31:22.4±0.0, 14°.40N×93°.94W, h16km, mb4.0/3, MD4.1(MEX), After MEX.*
*IDC **19** 11:31:23.1±3.4, 15°.03N×93°.52W, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/43, mbtmp3.6/7, ML3.5/2, Error ellipse: s-maj=76.7km s-min=17.0km az=19.0*
*ISCJB **19** 11:31:24.1±1.3, 14°.58N±0°.09×93°.77W±0°.05, h37km±11km, mb3.7/6, Error ellipse: s-maj=15.5km s-min=8.7km az=7.0*

ISC 19 11:31:26.4±1.4, 14°.7N±0°.1×93°.72W±0°.07, h36km±3km, n20, σ1§33/26, mb3.9/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.14**	**25**	*e*Pn	**Pn**	**11 31 44.4**	**-1.4**
PCIG				*e*Sn	**Sn**	**11 32 01.7**	**+1.5**
PCIG		**1.14**	**25**	*e*P	**Pn**	**11 31 44.4**	**-1.4**
PCIG				*i* S	**Sn**	**11 32 01.7**	**+1.5**
THIG		**1.43**	**80**	*e*Pn	**Pn**	**11 31 48.1**	**-1.7**
THIG				*e*Sn	**Sn**	**11 32 08.3**	**+1.0**
THIG		**1.43**	**80**	*i* P	**Pn**	**11 31 48.1**	**-1.7**
THIG				*i* S	**Sn**	**11 32 08.3**	**+1.0**
CCIG	**Comitan**	**2.21**	**43**	*e*Pn	**Pn**	**11 32 02.0**	**+1.2**
CCIG				*e*Sn	**Sn**	**11 32 28.3**	**+1.3**
CCIG	**Comitan**	**2.21**	**43**	*e*P	**Pn**	**11 31 59.5**	**-1.3**
CCIG				*e*S	**Sn**	**11 32 28.1**	**+1.0**
CMIG	**Matias Romero**	**2.65**	**335**	Pn	**Pn**	**11 32 04.9**	**-1.8**
	11nm,0.3s,baz=167,slow=14,SNR=81						
CMIG				Sn	**Sn**	**11 32 35.2**	**-2.4**
	9.7nm,0.3s,baz=124,slow=16,SNR=6.1						
APG	**El Apazote**	**3.17**	**84**	Pn	**Pn**	**11 32 13.3**	**-0.7**
	6.3nm,0.3s,baz=202,slow=14,SNR=45						
APG				Lg	Lg	11 32 56.6	
	6.1nm,0.3s,baz=242,slow=11,SNR=3.5						
TLIG	**Tlapa**	**5.47**	**302**	*e*Pn	**Pn**	**11 32 46.8**	**+1.2**
MOIG	**Morelia**	**8.70**	**306**	*e*Pn	**Pn**	**11 33

λ-16.00000°. Principal axes: T 1.1570, Plg4.0000°, Azm185.0000°; N -0.0340, Plg63.0000°, Azm86.0000°; P -1.1210, Plg26.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 19 11:32:47.2±0.3, **10.96S**±0.04×**165.96E**±0.05, **h10**km, **n373**, σ1§**27**/368, **mb5.0**/169, **MS4.6**/36, **5C-3D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.12**	**284**	*i* P	**Pn**	**11 34 18.5**	**+0.8**
HNR				*i* S	Pn	11 34 24.0	+6.3
HNR	**Honiara**	**6.12**	**284**	Pn	**Pn**	**11 34 19.3**	**+1.7**
	264nm,0.3s,baz=143,slow=4.8,SNR=50						
HNR				Sn	**Sn**	**11 35 28.2**	**+0.4**
	baz=357,slow=19,SNR=1.5						
HNR				LR	LR	11 36 46.7	
	comp=Z,7μm,21.8s,baz=158,slow=39						
MARNC	**Mare, Loyalty**	**10.64**	**170**	*e*Pn	**Pn**	**11 35 20.3**	**+0.6**
DZM	**Mont Dzumac**	**11.05**	**178**	*e*LR	LR	11 38 00.5	
	comp=Z,8μm,25.6s						
DZM	**Mont Dzumac**	**11.05**	**178**	*e*Pn	**Pn**	**11 35 26.8**	**+1.3**
DZM				*e*Sn	**Sn**	**11 37 28.8**	**-0.5**
DZM	**Mont Dzumac**	**11.05**	**178**	Pn	**Pn**	**11 35 26.8**	**+1.3**
	7.2nm,0.3s,baz=287,slow=23,SNR=39						
DZM				Sn	**Sn**	**11 37 28.4**	**-0.9**
	baz=127,slow=20,SNR=2.0						
DZM				LR	LR	11 38 03.4	
	comp=Z,921nm,21.8s,baz=24,slow=29						
PINNC	**Pines Island,**	**11.67**	**173**	*e*Pn	**Pn**	**11 35 35.6**	**+1.8**
PINNC				*e*Sn	**Sn**	**11 37 43.7**	**-0.6**
MSVF	**Nonsavu**	**13.50**	**121**	*e*Pn	**Pn**	**11 35 58.6**	**-0.4**
MSVF	**Nonsavu**	**13.50**	**121**	*e*P	**Pn**	**11 35 58.6**	**-0.4**
TARA	**Tarawa**	**14.06**	**30**	*e*Pn	**Pn**	**11 36 06.5**	**-0.1**
TARA				*e*Sn	**Sn**	**11 38 43.1**	**+0.3**
EIDS	**Eidsvold**	**20.10**	**223**	P	Pn	11 37 23.5	+0.6
	baz=20,SNR=14						
EIDS	**Eidsvold**	**20.10**	**223**	*e*P	Pn	11 37 23.6	+0.7
	41nm,1.0s						
MANU	**Manus Island**	**20.48**	**294**	*e*P	Pn	11 37 26.5	-1.0
	192nm,1.1s						
CTA	**Charters Tower**	**21.03**	**242**	P	**P**	**11 37 32.5**	**+1.1**
	29nm,0.6s,baz=70,slow=12,SNR=43						
CTA				LR	LR	11 45 52.2	
	comp=Z,2μm,18.2s,baz=61,slow=37						
CTAO	**Charters Tower**	**21.03**	**242**	*e*P	**P**	**11 37 32.4**	**+1.1**
	73nm,1.0s						
CTAO	**Charters Tower**	**21.03**	**242**	*e*P	**P**	**11 37 32.4**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,73nm,1.0s						
MTSU	**Mount Surprise**	**22.12**	**249**	P	**P**	**11 37 43.9**	**+0.8**
	baz=22,SNR=28						
RMQ	**Roma**	**22.40**	**224**	P	**P**	**11 37 47.7**	**+1.7**
	baz=23,SNR=27						
COEN	**Coen**	**22.45**	**260**	P	**P**	**11 37 46.5**	**-0.2**
	baz=23,SNR=26						
COEN	**Coen**	**22.45**	**260**	*e*P	**P**	**11 37 46.4**	**-0.2**
	comp=Z,61nm,1.1s						
ARMA	**Armidale**	**23.50**	**212**	P	**P**	**11 37 58.8**	**+1.4**
	baz=24,SNR=11						
ARMA	**Armidale**	**23.50**	**212**	*e*P	**P**	**11 37 57.8**	**+0.3**
	comp=Z,46nm,1.0s						
OUZ	**Omahuta**	**25.12**	**165**	*e*P	**P**	**11 38 12.4**	**+0.1**
	comp=Z,49nm,1.0s						
OUZ	**Omahuta**	**25.12**	**165**	P	**P**	**11 38 11.8**	**-0.5**
JAY	**Jayapura**	**26.43**	**287**	P	**P**	**11 38 24.1**	**-0.3**
	comp=Z,31nm,0.9s,baz=29,slow=3.0,SNR=6.0						
GENI	**Genyem**	**26.91**	**286**	P	**P**	**11 38 32.3**	**+3.5**
	comp=Z,43nm,1.0s						
QIS	**Mount Isa**	**27.06**	**246**	P	**P**	**11 38 30.3**	**+0.2**
	baz=27,SNR=17						
MKAZ	**Moumakai**	**27.32**	**164**	P	**P**	**11 38 32.8**	**+0.7**
CMSA	**Cobar Meteorol**	**27.76**	**219**	P	**P**	**11 38 36.7**	**+0.5**
	baz=28,SNR=20						
CNB	**Canberra Magne**	**28.56**	**209**	P	**P**	**11 38 45.3**	**+1.9**
	baz=29,SNR=7.3						
HIZ	**Hauiti**	**28.56**	**165**	*e*P	**P**	**11 38 43.8**	**+0.5**
	comp=Z,48nm,1.0s						
HAZ	**Te Kaha**	**28.71**	**160**	P	**P**	**11 38 45.0**	**+0.4**
CAN	**Canberra**	**28.74**	**210**	*e*P	**P**	**11 38 44.6**	**-0.3**
	comp=Z,10nm,1.0s						
CAN	**Canberra**	**28.74**	**210**	*e*P	**P**	**11 38 44.6**	**-0.3**
CAN				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RUGZ	**Raukumara Rang**	**28.87**	**161**	P	**P**	**11 38 48.1**	**+1.9**
PKGZ	**Pakihiroa**	**28.93**	**160**	P	**P**	**11 38 45.6**	**-1.0**
URZ	**Urewera**	**28.96**	**162**	*e*P	**P**	**11 38 47.0**	**+0.3**
	comp=Z,9.2nm,0.7s						
URZ	**Urewera**	**28.96**	**162**	P	**P**	**11 38 47.3**	**+0.6**
	comp=Z,14nm,1.0s,baz=98,slow=1.7,SNR=6.5						
URZ				LR	LR	11 48 26.5	
	comp=Z,2μm,21.4s,baz=342,slow=32						
WMGZ	**Waiomatatini S**	**28.98**	**159**	P	**P**	**11 38 48.7**	**+1.7**
TWGZ	**Tauwhareparae**	**29.16**	**160**	P	**P**	**11 38 48.9**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**29.28**	**1**	T	T	12 09 14.2	
	baz=181,slow=76,SNR=1243						
H11S3	**WAKE ISLAND Hy**	**29.28**	**1**	T	T	12 09 12.4	
	baz=181,slow=76,SNR=598						
H11S1	**WAKE ISLAND Hy**	**29.29**	**1**	T	T	12 09 15.6	
	baz=181,slow=76,SNR=1143						
WTVZ	**West Tongariro**	**29.32**	**165**	P	**P**	**11 38 52.1**	**+2.0**
SNGZ	**Shannon Statio**	**29.51**	**162**	P	**P**	**11 38 51.0**	**-0.7**
RAHZ	**Arahi**	**29.55**	**162**	P	**P**	**11 38 52.3**	**+0.2**
RIGZ	**Rimuhau**	**29.57**	**161**	P	**P**	**11 38 51.3**	**-1.0**
BKZ	**Black Stump Fm**	**29.61**	**163**	*e*P	**P**	**11 38 52.3**	**-0.3**
	comp=Z,26nm,0.4s						
BKZ	**Black Stump Fm**	**29.61**	**163**	P	**P**	**11 38 52.6**	**0.0**
NMHZ	**Naumai**	**29.64**	**163**	P	**P**	**11 38 54.1**	**+1.2**
WAZ	**Wanganui**	**29.77**	**166**	P	**P**	**11 38 56.4**	**+2.3**
BHHZ	**Black Hill Sta**	**29.80**	**164**	P	**P**	**11 38 53.9**	**-0.4**
KWHZ	**Kaweka Forest**	**29.83**	**164**	P	**P**	**11 38 54.8**	**+0.2**
KRHZ	**Kereru**	**30.02**	**164**	P	**P**	**11 38 55.9**	**-0.3**
MILA	**Mila**	**30.07**	**207**	P	**P**	**11 38 58.7**	**+1.9**
	baz=30,SNR=3.2						
QRZ	**Quartz Range**	**30.30**	**170**	P	**P**	**11 38 59.9**	**+1.2**
KAHZ	**Kahuranaki**	**30.30**	**163**	P	**P**	**11 38 59.0**	**+0.2**
H11N1	**WAKE ISLAND Hy**	**30.50**	**2**	T	T	12 10 45.5	
	baz=182,slow=76,SNR=768						
H11N3	**WAKE ISLAND Hy**	**30.50**	**2**	T	T	12 10 41.5	
	baz=182,slow=76,SNR=608						
H11N2	**WAKE ISLAND Hy**	**30.52**	**2**	T	T	12 10 47.1	
	baz=182,slow=76,SNR=617						
PXZ	**Pawanui**	**30.52**	**163**	P	**P**	**11 39 00.1**	**-0.5**
DVHZ	**Dannevirke**	**30.58**	**165**	P	**P**	**11 39 01.2**	**0.0**
STKA	**Stephens Creek**	**30.65**	**224**	P	**P**	**11 39 02.7**	**+0.8**
	baz=31,SNR=15						
STKA	**Stephens Creek**	**30.65**	**224**	*e*P	**P**	**11 39 02.5**	**+0.6**
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**30.65**	**224**	P	**P**	**11 39 02.7**	**+0.8**
	comp=Z,14nm,0.9s,baz=27,slow=7.4,SNR=24						
STKA				LR	LR	11 50 55.7	
	comp=Z,2μm,18.1s,baz=46,slow=36						
MRZ	**Mangatainoka R**	**30.77**	**166**	P	**P**	**11 39 02.2**	**-0.6**
ANWZ	**Angora Road**	**30.81**	**164**	P	**P**	**11 38 59.8**	**-3.4**
OGWZ	**Otaki Gorge**	**30.82**	**166**	P	**P**	**11 39 02.9**	**-0.4**
BFZ	**Birch Farm**	**30.96**	**165**	*e*P	**P**	**11 39 03.1**	**-1.5**
	comp=Z,46nm,1.0s						
BFZ	**Birch Farm**	**30.96**	**165**	P	**P**	**11 39 03.1**	**-1.5**
HOWZ	**Holdsworth Sta**	**30.98**	**166**	P	**P**	**11 39 03.4**	**-1.3**
CAW	**Cannon Point**	**31.08**	**167**	P	**P**	**11 39 04.6**	**-0.9**
TUWZ	**Tuamarina**	**31.15**	**168**	P	**P**	**11 39 06.5**	**+0.4**
SNZO	**South Karori**	**31.19**	**167**	*e*P	**P**	**11 39 06.3**	**-0.2**
	comp=Z,88nm,1.1s						
MTW	**Mount Morrison**	**31.23**	**166**	P	**P**	**11 39 06.3**	**-0.5**
TMWZ	**Te Maipa**	**31.27**	**165**	P	**P**	**11 39 06.2**	**-1.1**
THZ	**Tophouse**	**31.28**	**170**	*e*P	**P**	**11 39 07.6**	**+0.2**
	comp=Z,36nm,1.0s						
THZ	**Tophouse**	**31.28**	**170**	P	**P**	**11 39 06.6**	**-0.8**
MSWZ	**Moikau Station**	**31.41**	**167**	P	**P**	**11 39 07.6**	**-0.9**
PAWZ	**Paruwai Farm**	**31.42**	**166**	P	**P**	**11 39 07.5**	**-1.1**
TRWZ	**Traveller**	**31.50**	**166**	P	**P**	**11 39 08.6**	**-0.6**
PLWZ	**Palliser**	**31.56**	**167**	P	**P**	**11 39 09.4**	**-0.4**
WRAB	**Tennant Creek**	**31.70**	**250**	*e*P	**P**	**11 39 10.6**	**-0.8**
	comp=Z,75nm,1.0s						
WRAB	**Tennant Creek**	**31.70**	**250**	*d* iP	**P**	**11 39 10.5**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,82nm,1.0s						
WB2	**Warramunga Arr**	**31.70**	**250**	*e*P	**P**	**11 39 10.0**	**-1.3**
	comp=Z,92nm,1.0s						
WR1	**Warramunga Arr**	**31.71**	**250**	*e*P	**P**	**11 39 10.8**	**-0.6**
	comp=Z,108nm,1.0s						
WRA	**Warramunga Arr**	**31.71**	**250**	P	**P**	**11 39 10.8**	**-0.6**
	comp=Z,73nm,1.0s,baz=82,slow=9.1,SNR=150						
WRA				LR	LR	11 50 41.1	
	comp=Z,1μm,19.8s,baz=65,slow=34						
KHZ	**Kahutara**	**32.02**	**169**	*e*P	**P**	**11 39 12.2**	**-1.6**
	comp=Z,43nm,1.1s						
KHZ	**Kahutara**	**32.02**	**169**	P	**P**	**11 39 13.1**	**-0.8**
GUMO	**Guam**	**32.14**	**319**	LR	LR	11 51 23.7	
	comp=Z,1μm,19.2s,baz=139,slow=35						
LTZ	**Lake Taylor**	**32.17**	**171**	*e*P	**P**	**11 39 14.9**	**-0.3**
	comp=Z,68nm,1.0s						
TOO	**Toolangi**	**32.25**	**211**	P	**P**	**11 39 18.2**	**+2.2**
	baz=32,SNR=6.5						
TOO	**Toolangi**	**32.25**	**211**	*e*P	**P**	**11 39 15.2**	**-0.7**
	comp=Z,12nm,0.8s						
TOO	**Toolangi**	**32.25**	**211**	*e*P	**P**	**11 39 15.3**	**-0.7**
TOO				pmax	pmax		
	comp=Z,12nm,0.8s						
FOZ	**Fox Glacier**	**32.62**	**175**	*e*P	**P**	**11 39 17.8**	**-1.2**
	comp=Z,65nm,1.0s						
OXZ	**Oxford**	**32.67**	**172**	*e*P	**P**	**11 39 18.1**	**-1.4**
	comp=Z,36nm,0.7s						
KDU	**Kakadu**	**32.81**	**264**	P	**P**	**11 39 19.6**	**-1.5**
	baz=33,SNR=11						
RPZ	**Rata Peaks**	**32.93**	**173**	*e*P	**P**	**11 39 21.4**	**-0.4**
RPZ	**Rata Peaks**	**32.93**	**173**	P	**P**	**11 39 21.2**	**-0.5**
	comp=Z,35nm,0.7s,baz=300,slow=3.3,SNR=17						
RPZ				LR	LR	11 52 51.0	
	comp=Z,2μm,18.2s,baz=342,slow=37						
AS01	**Alice Springs**	**32.98**	**243**	*e*P	**P**	**11 39 21.7**	**-0.8**
CRLZ	**Canterbury Las**	**33.00**	**171**	*e*P	**P**	**11 39 21.9**	**-0.5**
	comp=Z,56nm,0.9s						
AS31	**Alice Springs**	**33.02**	**243**	*e*P	**P**	**11 39 22.0**	**-0.9**
	comp=Z,7.7nm,1.1s						
ASAR	**Alice Springs**	**33.02**	**243**	P	**P**	**11 39 21.7**	**-1.2**
	comp=Z,16nm,0.9s,baz=64,slow=10,SNR=102						
ASAR				ScP	**ScP**	**11 45 51.4**	**+0.1**
	comp=Z,1.0nm,1.1s,baz=86,slow=4.7,SNR=4.2						
ASAR				LR	LR	11 51 48.6	
	comp=Z,897nm,20.0s,baz=74,slow=35						
MQZ	**McQueen's Vall**	**33.13**	**171**	*e*P	**P**	**11 39 22.9**	**-0.6**
	comp=Z,62nm,0.9s						
HTT	**Hallett**	**33.38**	**224**	P	**P**	**11 39 26.2**	**+0.3**
	baz=34,SNR=19						
LBZ	**Lake Benmore**	**33.50**	**175**	*e*P	**P**	**11 39 26.4**	**-0.4**
	comp=Z,38nm,1.0s						
WKZ	**Wanaka**	**33.84**	**176**	*e*P	**P**	**11 39 29.9**	**+0.2**
	comp=Z,39nm,1.0s						
MTN	**Manton Dam**	**34.12**	**263**	P	**P**	**11 39 31.4**	**-1.1**
	baz=34,SNR=12						
MTN	**Manton Dam**	**34.12**	**263**	*e*P	**P**	**11 39 31.1**	**-1.4**
	comp=Z,26nm,1.1s						
ODZ	**Otahua Downs**	**34.20**	**174**	*e*P	**P**	**11 39 33.7**	**+0.9**
	comp=Z,20nm,1.1s						
RAR	**Rarotonga**	**34.39**	**112**	LR	LR	11 52 05.1	
	comp=Z,454nm,18.3s,baz=274,slow=34						
WHZ	**Wether Hill Ro**	**34.85**	**178**	*e*P	**P**	**11 39 37.8**	**-0.6**
	comp=Z,14nm,1.1s						
BBOO	**Buckleboo**	**35.04**	**227**	P	**P**	**11 39 40.3**	**0.0**
	baz=35,SNR=21						
BBOO	**Buckleboo**	**35.04**	**227**	*e*P	**P**	**11 39 40.4**	**+0.1**
	comp=Z,43nm,1.0s						
MOO	**Moorlands**	**35.39**	**204**	P	**P**	**11 39 45.0**	**+1.8**
	baz=36,SNR=3.4						
TAU	**Tasmania Unive**	**35.73**	**204**	*e*P	**P**	**11 39 46.5**	**+0.5**
	comp=Z,14nm,0.9s						
TAU	**Tasmania Unive**	**35.73**	**204**	*e*P	**P**	**11 39 46.5**	**+0.5**
TAU				pmax	pmax		
	comp=Z,14nm,0.9s						
BNDI	**Bandanaira**	**36.27**	**277**	P	**P**	**11 39 50.9**	**-0.2**
	comp=Z,166nm,1.2s,comp=Z,3μm						
KNRA	**Kununurra**	**36.47**	**258**	P	**P**	**11 39 52.1**	**-0.6**
	baz=37,SNR=11						
WRKA	**Warakurna**	**38.31**	**243**	P	**P**	**11 40 07.4**	**-0.9**
	baz=38,SNR=17						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	P	**P**	**11 40 18.3**	**-1.0**
	baz=40,SNR=92						
FITZ	**Fitzroy Crossi**	**39.61**	**255**	*e*P	**P**	**11 40 18.8**	**-0.4**
	comp=Z,54nm,0.8s						
FORT	**Forrest**	**40.27**	**235**	P	**P**	**11 40 24.8**	**+0.3**
	baz=40						
SANI	**Sanana**	**40.65**	**280**	P	**P**	**11 40 28.1**	**+0.2**
	comp=Z,40nm,1.1s,comp=Z,812nm						
SOEI	**Soe**	**41.01**	**268**	P	**P**	**11 40 32.9**	**+1.8**
	comp=Z,40nm,1.1s						
BATI	**Baumata**	**41.56**	**267**	P	**P**	**11 40 38.9**	**+3.4**
	comp=Z,30nm,0.8s,comp=Z,502nm						
MMRI	**Maumere**	**43.12**	**269**	P	**P**	**11 40 48.6**	**+0.4**
	comp=Z,122nm,1.1s,comp=Z,2μm						
KMSI	**Cibinong**	**43.28**	**283**	P	P	11 41 03.5	+14
PPT	**Papeete**	**43.51**	**104**	LR	LR	11 57 11.1	
	comp=Z,720nm,18.1s,baz=276,slow=34						
PPT2	**Papeete2**	**43.51**	**104**	*e*S	**S**	**11 47 25.0**	**+4.5**
	comp=Z,486nm,26.8s						
PPT2				*e*LQ	LQ	11 51 11.9	
	comp=Z,1μm,26.8s						
PPT2				*e*LR	LR	11 52 56.3	
	comp=Z,2μm,25.5s,baz=282						
EDFI	**Ende, Flores**	**43.65**	**269**	P	**P**	**11 40 52.7**	**+0.2**
	comp=Z,34nm,1.2s,comp=Z,883nm						
DAV	**Davao City (W)**	**44.01**	**292**	LR	LR	11 59 04.7	
	comp=Z,516nm,18.5s,baz=95,slow=36						
TBI	**Tubuai**	**44.16**	**112**	*e*S	**S**	**11 47 34.3**	**+4.5**
	comp=Z,303nm,26.0s						
TBI				*e*LQ	LQ	11 51 27.7	
	comp=Z,2μm,31.8s						
TBI				*e*LR	LR	11 53 14.3	
	comp=Z,2μm,29.2s,baz=284						
APSI	**Ampana**	**45.13**	**280**	P	**P**	**11 41 05.3**	**+1.0**
	comp=Z,39nm,1.2s,comp=Z,524nm						
BSSI	**Bau Bau, Buton**	**45.19**	**272**	P	**P**	**11 41 05.1**	**+0.3**
	comp=Z,45nm,1.1s,comp=Z,993nm						
MBWA	**Marble Bar**	**45.43**	**251**	*e*P	**P**	**11 41 06.7**	**+0.2**
	comp=Z,70nm,1.0s						
BKSI	**Bukuruba**	**45.69**	**273**	P	**P**	**11 41 10.1**	**+1.4**
	comp=Z,15nm,1.4s,comp=Z,305nm						
SPSI	**Sidrap Palu**	**46.28**	**275**	P	**P**	**11 41 13.2**	**-0.2**
	comp=Z,14nm,1.1s,comp=Z,627nm						
TTSI	**Tana Toraja**	**46.42**	**276**	P	**P**	**11 41 16.4**	**+1.9**
	comp=Z,31nm,1.0s,comp=Z,1μm						
MPSI	**Mapaga**	**47.14**	**281**	P	**P**	**11 41 19.9**	**-0.2**
	comp=Z,14nm,1.7s,comp=Z,290nm						
MEEK	**Meekatharra**	**47.17**	**244**	P	**P**	**11 41 20.7**	**+0.4**
	baz=47,SNR=50						
PLAI	**Plampang**	**47.48**	**268**	P	**P**	**11 41 22.6**	**-0.2**
	comp=Z,83nm,1.1s,comp=Z,1μm						
KLBR	**Kellerberrin**	**48.93**	**238**	P	**P**	**11 41 33.6**	**-0.2**
	baz=49,SNR=20						
BLDU	**Ballidu**	**49.59**	**239**	P	**P**	**11 41 38.9**	**+0.1**
	baz=50,SNR=7.5						
NWAO	**Narrogin (SRO)**	**49.69**	**236**	P	**P**	**11 41 40.1**	**+0.6**
	baz=50,SNR=7.5						
NWAO	**Narrogin (SRO)**	**49.69**	**236**	*e*P	**P**	**11 41 39.6**	**0.0**
	comp=Z,38nm,1.0s						
NWAO	**Narrogin (SRO)**	**49.69**	**236**	*e*P	**P**	**11 41 39.6**	**0.0**
NWAO				pmax	pmax		
	comp=Z,38nm,1.0s						
MORW	**Morawa**	**49.85**	**241**	P	**P**	**11 41 41.2**	**+0.4**
	baz=50,SNR=7.8						
MORW	**Morawa**	**49.85**	**241**	*e*P	**P**	**11 41 40.8**	**-0.1**
	comp=Z,45nm,0.9s						
SRBI	**Singaraja**	**50.09**	**269**	P	**P**	**11 41 42.7**	**-0.1**
	comp=Z,32nm,1.7s,comp=Z,633nm						
MUN	**Mundaring**	**50.30**	**237**	P	**P**	**11 41 44.6**	**+0.4**
	baz=50,SNR=11						
JAGI	**Jajag, Banyuwa**	**51.08**	**268**	P	**P**	**11 41 49.6**	**-0.8**
	comp=Z,112nm,1.2s						
TGY	**Tagaytay City**	**51.12**	**298**	LR	LR	12 00 14.9	
	comp=Z,829nm,21.4s,baz=93,slow=32						
PWJI	**Pagerwojo**	**53.44**	**268**	P	**P**	**11 42 07.9**	**0.0**
	comp=Z,64nm,1.1s						
MJAR	**Masujiro Arr**	**54.00**	**332**	P	**P**	**11 42 10.8**	**-0.8**
	comp=Z,21nm,1.2s,baz=167,slow=6.5,SNR=11						
MJAR				LR	LR	12 01 02.8	
	comp=Z,341nm,22.0s,baz=185,slow=32						
MAJO	**Matsushiro**	**54.00**	**332**	*ce*P	**P**	**11 42 12.4**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,20nm,1.3s						
MAT	**Matsushiro**	**54.00**	**332**	P	**P**	**11 42 11.2**	**-0.4**
MAT				*e*S	**S**	**11 49 54.8**	**+7.2**
PCJI	**Pacitan**	**54.04**	**268**	P	**P**	**11 42 12.4**	**+0.1**
	comp=Z,188nm,1.1s,comp=Z,1μm						
WOJI	**Wongiri, Jawa**	**54.33**	**268**	P	**P**	**11 42 15.2**	**+0.8**
	comp=Z,34nm,1.1s						
UGM	**Wanagama**	**54.72**	**268**	*e*P	**P**	**11 42 17.1**	**-0.2**
	comp=Z,47nm,0.8s						
SBUM	**Sibu**	**55.10**	**281**	*e*P	**P**	**11 42 20.2**	**+0.2**
	comp=Z,8.1nm,1.1s						
SBUM	**Sibu**	**55.10**	**281**	P	**P**	**11 42 19.7**	**-0.3**
JNU	**Nakatsue**	**55.14**	**324**	*e*P	**P**	**11 42 19.8**	**-0.2**
	comp=Z,15nm,0.8s						
YHNB	**Yeheng**	**56.09**	**310**	*e*P	**P**	**11 42 27.1**	**0.0**
	comp=Z,34nm,1.1s						
KPJI	**Karang Pucung**	**56.36**	**268**	P	P	11 42 39.9	+11
KSM	**Kuching**	**56.70**	**279**	*e*P	**P**	**11 42 30.7**	**-0.8**
	comp=Z,17nm,1.0s						
KSM	**Kuching**	**56.70**	**279**	P	**P**	**11 42 31.1**	**-0.4**
CISI	**Cisompet, Garu**	**57.42**	**268**	*e*P	**P**	**11 42 35.9**	**-0.8**
	comp=Z,72nm,0.8s						
CISI	**Cisompet, Garu**	**57.42**	**268**	P	**P**	**11 42 36.6**	**-0.1**
	comp=Z,112nm,0.9s,comp=Z,5μm						
QZH	**Quanzhou**	**58.37**	**308**	*e*P	**P**	**11 42 42.8**	**-0.2**
QZH				S	**S**	**11 50 49.3**	**+3.3**
QZH				LR	LR		
	comp=Z,430nm,21.8s						
QZH				LR	LR		
	comp=Z,360nm,19.0s						
QZH				LR	LR		
	comp=Z,530nm,18.9s						
TPI	**Tanjungpandan**	**58.38**	**274**	P	**P**	**11 42 44.9**	**+1.6**
	comp=Z,44nm,1.1s,comp=Z,508nm						
CBJI	**Citeko**	**58.54**	**269**	P	P	11 42 54.9	+10
KSRS	**Korea Array**	**59.93**	**325**	P	**P**	**11 42 53.7**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=133,slow=7.0,SNR=12						
KSRS				LR	LR	12 07 29.5	
	comp=Z,296nm,19.0s,baz=134,slow=35						
PPBI	**Pangkal Pinang**	**59.98**	**274**	P	**P**	**11 42 55.5**	**+1.0**
	comp=Z,26nm,1.1s						
KASI	**Kota Agung**	**60.99**	**270**	P	**P**	**11 43 03.0**	**+1.7**
	comp=Z,33nm,1.1s						
YSS	**Yuzh-Sakhalins**	**61.28**	**342**	*e*P	**P**	**11 43 03.7**	**+1.1**
YSS				pmax	pmax		
	comp=Z,20nm,1.3s						
YSS				MLR	MLR		
	comp=Z,300nm,17.0s						
MDSI	**Maura Dua**	**61.48**	**271**	P	**P**	**11 43 03.8**	**-0.8**
	comp=Z,25nm,1.2s,comp=Z,390nm						
NJ2	**Nanjing**	**62.11**	**315**	*e*P	**P**	**11 43 08.9**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,34nm,0.8s						
NJ2				LR	LR		
	comp=Z,850nm,19.5s						
NJ2				LR	LR		
	comp=Z,640nm,17.3s						
NJ2				LR	LR		
	comp=Z,710nm,17.3s						
LHSI	**Lahat**	**62.23**	**271**	P	**P**	**11 43 09.9**	**+0.1**
	comp=Z,34nm,1.0s,comp=Z,2μm						
QIZ	**Qiongzhong**	**62.83**	**298**	P	**P**	**11 43 14.3**	**+0.7**
QIZ				S	**S**	**11 51 42.3**	**-1.1**
QIZ				LR	LR		
	comp=Z,270nm,14.8s						
QIZ				LR	LR		
	comp=Z,280nm,17.0s						
QIZ				LR	LR		
	comp=Z,500nm,22.2s						
USRK	**Ussuriysk Ar.**	**62.97**	**333**	P	**P**	**11 43 14.8**	**+0.8**
	comp=Z,15nm,1.0s,baz=128,slow=6.4,SNR=14						
PETK	**Petropavlovsk-**	**64.21**	**354**	P	**P**	**11 43 21.9**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=189,slow=8.2,SNR=2.3						
PETK				LR	LR	12 07 12.9	
	comp=Z,143nm,19.7s,baz=188,slow=32						
PEA1	**Petropavlovsk-**	**64.21**	**354**	*e*P	**P**	**11 43 21.9**	**-0.2**
MDJ	**Mudanjiang**	**64.38**	**332**	P	**P**	**11 43 23.8**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,23nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.0s						
CN2	**Changchun**	**65.78**	**329**	*e*P	**P**	**11 43 32.8**	**+0.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
IPM	**Ipoh**	**66.42**	**280**	P	**P**	**11 43 37.1**	**-0.1**
CASY	**Casey**	**66.53**	**201**	*e*P	**P**	**11 43 35.7**	**-1.3**
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**66.58**	**181**	*e*P	**P**	**11 43 37.8**	**+0.7**
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**66.58**	**181**	*e*P	**P**	**11 43 37.8**	**+0.7**
VNDA				pmax	pmax		
	comp=Z,11nm,1.1s						
VNDA	**Vanda**	**66.58**	**181**	P	**P**	**11 43 37.3**	**+0.2**
	comp=Z,3.8nm,0.9s,baz=359,slow=9.4,SNR=3.7						
VNDA				LR	LR	12 09 25.9	
	comp=Z,617nm,18.9s,baz=12,slow=33						
**GRNR

	comp=Z,440nm,18.6s								
YAK	Yakutsk	78.08	343	*e*P		P		11 44 45.2	-0.7
YAK				pmax		pmax			
	comp=Z,65nm,0.8s								
YAK				pmax		pmax			
	comp=N,18nm,0.9s								
YAK				pmax		pmax			
	comp=E,15nm,0.8s								
ULN	Ulaanbaatar	78.36	324	*i* P		P		11 44 46.5	-1.5
ULN				pmax		pmax			
	comp=Z,14nm,1.0s								
SONA0	Songino Array	78.73	324	*e*P		P		11 44 50.1	+0.1
SONM	Songino Array	78.73	324	P		P		11 44 50.1	+0.1
	comp=Z,5.3nm,1.0s,baz=138,slow=5.8,SNR=27								
BILL	Bilibino	78.80	0	*e*P		P		11 44 49.8	0.0
	comp=Z,18nm,1.0s								
BILL	Bilibino	78.80	0	*e*P		P		11 44 49.4	-0.4
BILL				*e*				11 44 56.5	
BILL				*e*				11 47 46.8	
BILL				*i* S		SKSac		11 55 11.4	+6.6
BILL				pmax		pmax			
	comp=Z,21nm,1.1s								
BILL				MLR		MLR			
	comp=Z,187nm,18.0s								
QSPA	South Pole Qui	79.04	180	*e*P		P		11 44 50.6	-0.8
	comp=Z,19nm,1.1s								
GTA	Gaotai	79.16	314	*e*P		P		11 44 53.3	+0.8
GTA				pP		PcP		11 45 03.6	+2.7
GTA				sP		pwP		11 45 08.1	+11
GTA				pmax		pmax			
	comp=Z,17nm,1.1s								
GTA				pmax		pmax			
	comp=Z,120nm,8.9s								
GTA				LR		LR			
	comp=Z,320nm,18.1s								
GTA				LR		LR			
	comp=Z,390nm,18.7s								
GTA				LR		LR			
	comp=Z,620nm,20.9s								
BOD	Bodaibo	80.55	335	*e*P		P		11 44 59.0	-0.5
BOD				pmax		pmax			
	comp=Z,8.0nm,1.2s								
SHL	Shillong	80.67	298	*e*P		P		11 45 01.0	-0.1
TRF	Thorofare Moun	81.38	18	*e*P		P		11 45 02.7	-1.3
	comp=Z,1.4nm,1.0s								
ZAK	Zakamensk	81.76	325	*e*P		P		11 45 04.3	-1.9
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.1s								
TLY	Talaya	82.18	326	*ce*P		P		11 45 08.3	0.0
TLY				pmax		pmax			
	comp=Z,38nm,1.7s								
IM3	Indian Mountai	82.29	15	*e*P		P		11 45 08.7	+0.1
WRH	Wood River Hil	82.79	18	*e*P		P		11 45 11.1	-0.1
	comp=Z,9.3nm,0.8s								
CCB	Clear Creek Bu	83.00	18	*e*P		P		11 45 12.0	-0.3
	comp=Z,5.2nm,0.7s								
MDM	Murphy Dome	83.09	18	*e*P		P		11 45 12.6	-0.2
	comp=Z,7.1nm,0.9s								
HDA	Harding Lake	83.10	19	*e*P		P		11 45 12.7	-0.1
	comp=Z,16nm,0.8s								
COLA	College	83.14	18	*e*P		P		11 45 10.9	-2.1
COLA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
MENT	Mentasta	83.18	21	*e*P		P		11 45 13.8	+0.5
	comp=Z,6.0nm,0.6s								
RIDG	Independ'e Rid	83.33	20	*e*P		P		11 45 14.0	0.0
	comp=Z,16nm,1.2s								
ILAR	Eielson Array	83.37	18	P		P		11 45 14.0	-0.2
	comp=Z,2.4nm,0.6s,baz=234,slow=5.2,SNR=28								
ILAR				LR		LR		12 19 29.4	
	comp=Z,215nm,18.6s,baz=234,slow=34								
ILB	Eielson Array	83.37	18	*e*P		P		11 45 14.2	+0.1
	comp=Z,5.0nm,0.6s								
IL1	Eielson Array	83.37	18	*e*P		P		11 45 13.0	-1.2
WDC	Whiskeytown Da	83.40	47	*e*P		P		11 45 13.4	-1.5
	comp=Z,1.2nm,1.0s								
WDC	Whiskeytown Da	83.40	47	*e*P		P		11 45 13.4	-1.5
WDC				pmax		pmax			
	comp=Z,1.0nm,1.0s								
DOT	Dot Lake	83.53	20	*e*P		P		11 45 14.8	-0.3
	comp=Z,12nm,1.1s								
YBH	Yreka Blue Hor	83.68	46	*e*P		P		11 45 16.0	-0.5
	comp=Z,3.9nm,0.9s								
YBH	Yreka Blue Hor	83.68	46	*e*P		P		11 45 16.0	-0.5
YBH				pmax		pmax			
	comp=Z,4.0nm,0.9s								
YBH	Yreka Blue Hor	83.68	46	P		P		11 45 16.1	-0.4
	comp=Z,2.4nm,1.0s,baz=349,slow=5.2,SNR=4.9								
SCRK	Sand Creek	83.77	20	*e*P		P		11 45 16.0	-0.4
	comp=Z,16nm,1.2s								
AFDM	Forest Hills D	83.99	49	*e*P		P		11 45 18.0	0.0
	comp=Z,6.0nm,0.9s								
CMB	Columbia Colle	84.13	50	*e*P		P		11 45 17.9	-0.8
	comp=Z,3.1nm,0.9s								
CMB	Columbia Colle	84.13	50	*e*P		P		11 45 17.9	-0.8
CMB				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BEKR	Beckworth	84.73	48	*e*P		P		11 45 21.8	-0.1
	comp=Z,4.3nm,0.8s								
MAW	Mawson	84.88	202	LR		LR		12 18 46.4	
	comp=Z,307nm,20.2s,baz=114,slow=32								
WAKR	Walker	84.98	49	*e*P		P		11 45 24.2	+0.9
	comp=Z,4.9nm,1.1s								
EGAK	Eagle	85.23	20	*e*P		P		11 45 23.8	+0.1
	comp=Z,12nm,0.8s								
PAHR	Pah Rah Range	85.40	48	*e*P		P		11 45 24.5	-0.7
	comp=Z,4.5nm,0.8s								
DAWY	Dawson	85.40	21	*e*P		P		11 45 24.8	+0.2
	comp=Z,5.2nm,1.0s								
MOD	Modoc Plateau	85.43	46	*e*P		P		11 45 28.7	+3.3
	comp=Z,3.8nm,0.9s								
PINE	Pine Mountain	85.61	44	*e*P		P		11 45 30.5	+4.2
	comp=Z,11nm,1.0s								
RYN	Ryan	85.70	50	*e*P		P		11 45 26.2	-0.6
	comp=Z,2.3nm,0.8s								
NVAR	Mina Array Bea	85.81	50	P		P		11 45 27.9	+0.5
	comp=Z,1.7nm,0.8s,baz=235,slow=7.6,SNR=11								
TIXI	Tiksi	86.05	349	*e*P		P		11 45 24.1	-3.5
TIXI				pmax		pmax			
	comp=Z,9.0nm,1.1s								
KVN	Kaiserville	86.14	49	*e*P		P		11 45 27.6	-1.4
	comp=Z,2.6nm,0.8s								
KVN	Kaiserville	86.14	49	*e*P		P		11 45 27.6	-1.4
KVN				pmax		pmax			
	comp=Z,3.0nm,0.8s								
I07A	Izee	86.69	44	*e*P		P		11 45 31.8	+0.3
	comp=Z,4.1nm,0.8s								
WVOR	Wild Horse Val	86.78	46	*e*P		P		11 45 31.9	-0.1
	comp=Z,2.9nm,1.1s								
WVOR	Wild Horse Val	86.78	46	*e*P		P		11 45 31.9	-0.1
WVOR				pmax		pmax			
	comp=Z,3.0nm,1.1s								
J08A	Circle Bar Ran	87.17	45	*e*P		P		11 45 32.4	-1.4
	comp=Z,3.9nm,0.8s								
G08A	Pilot Rock	87.44	43	*e*P		P		11 45 35.8	+0.7
	comp=Z,4.1nm,0.9s								
EPYK	Eagle Plains	87.66	20	*e*P		P		11 45 36.7	+1.1
	comp=Z,8.2nm,1.0s								
R11A	Troy Canyon, C	87.83	50	*e*P		P		11 45 38.1	+0.9
	comp=Z,1.9nm,1.1s								
W13A	Hualapai Mount	88.31	54	*e*P		P		11 45 40.5	+0.9
	comp=Z,2.4nm,0.9s								
Y14A	Wickenburg	88.72	55	*e*P		P		11 45 42.5	+1.1
	comp=Z,2.6nm,0.9s								
ELK	Elko	88.73	48	*e*P		P		11 45 42.1	+0.5
	comp=Z,0.5nm,0.7s								
ELK	Elko	88.73	48	*e*P		P		11 45 42.1	+0.5
ELK				pmax		pmax			
	comp=Z,1.0nm,0.7s								
F10A	Beach Ranch, E	88.81	43	*e*P		P		11 45 41.4	-0.1
	comp=Z,2.6nm,0.8s								
WMQ	Urumqi	89.19	315	P		P		11 45 43.4	0.0
WMQ				pP		pwP		11 45 51.1	+2.8
WMQ				SKS		SKSac		11 56 10.6	-3.0
WMQ				S		S		11 56 30.1	-2.7
WMQ				pmax		pmax			
	comp=Z,29nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,270nm,3.6s								
WMQ				LR		LR			
	comp=Z,800nm,18.9s								
WMQ				LR		LR			
	comp=Z,560nm,18.1s								
WMQ				LR		LR			
	comp=Z,560nm,21.3s								
PSUT	Pine Spring	89.19	51	*e*P		P		11 45 44.7	+1.0
	comp=Z,3.9nm,0.9s								
LCMT	Little Creek M	89.28	52	*e*P		P		11 45 42.9	-1.2
	comp=Z,4.0nm,1.1s								
CCUT	Cedar City	89.32	52	*e*P		P		11 45 45.6	+1.2
	comp=Z,5.8nm,1.0s								
KNB	Kanab	89.61	52	*e*P		P		11 45 46.8	+1.1
	comp=Z,3.0nm,1.0s								
INK	Inuvik	89.76	19	*e*P		P		11 45 45.6	+0.2
	comp=Z,2.2nm,1.1s								
INK	Inuvik	89.76	19	*e*P		P		11 45 45.6	+0.2
INK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
INK	Inuvik	89.76	19	P		P		11 45 46.1	+0.8
	comp=Z,0.3nm,0.5s,baz=288,slow=3.2,SNR=2.1								
U15A	North Rim	89.89	53	*e*P		P		11 45 48.4	+1.2
	comp=Z,9.8nm,0.9s								
HLID	Hailey	90.07	46	*e*P		P		11 45 48.3	+0.7
	comp=Z,3.0nm,0.9s								
X16A	Lo Mia Camp, P	90.10	55	*e*P		P		11 45 48.8	+0.7
	comp=Z,4.2nm,0.8s								
PKCU	Pink Cliffs	90.11	52	*e*P		P		11 45 48.2	0.0
	comp=Z,4.8nm,1.0s								
MTPU	Mount Pierson	90.35	51	*e*P		P		11 45 51.0	+1.7
	comp=Z,5.2nm,0.8s								
WUAZ	Wupatki	90.40	54	*e*P		P		11 45 49.6	+0.2
	comp=Z,4.7nm,0.8s								
BGU	Big Grassy Mou	90.40	48	*e*P		P		11 45 49.5	+0.3
	comp=Z,2.6nm,0.8s								
MSU	Marysvale	90.46	51	*e*P		P		11 45 50.8	+1.1
MSU	Marysvale	90.46	51	*e*P		P		11 45 50.8	+1.1
HVU	Hansel Valley	90.79	48	*e*P		P		11 45 51.5	+0.4
	comp=Z,5.8nm,0.9s								
HVU	Hansel Valley	90.79	48	*e*P		P		11 45 51.5	+0.4
HVU				pmax		pmax			
	comp=Z,6.0nm,0.9s								
HYB	Hyderabad	90.80	287	*i* P		P		11 45 51.0	-0.4
WALA	Waterton Lakes	91.81	40	*e*P		P		11 45 59.9	+4.4
	comp=Z,7.4nm,1.1s								
FXWY	Fox Creek	92.47	46	*e*P		P		11 45 58.7	-0.2
	comp=Z,3.2nm,0.9s								
BOZ	Bozeman (W)	92.49	44	*e*P		P		11 45 59.0	+0.2
	comp=Z,1.7nm,0.9s								
BOZ	Bozeman (W)	92.49	44	*e*P		P		11 45 59.0	+0.2
BOZ				pmax		pmax			
	comp=Z,2.0nm,0.9s								
PD31	Pinedale Array	93.34	47	*e*P		P		11 46 02.8	-0.1
	comp=Z,1.5nm,1.0s								
PDAR	Pinedale Array	93.34	47	P		P		11 46 03.5	+0.6
	comp=Z,7.7nm,0.8s,baz=93,slow=3.0,SNR=4.0								
MK01	Makanchi Array	93.60	317	*e*P		P		11 46 02.7	-1.0
MK31	Makanchi Array	93.61	317	*e*P		P		11 46 01.9	-1.8
	comp=Z,11nm,1.0s								
MK31	Makanchi Array	93.61	317	*e*P		P		11 46 02.0	-1.8
MK31				pmax		pmax			
	comp=Z,11nm,1.0s								
MK32	Makanchi Array	93.61	317	*e*P		P		11 46 03.1	-0.7
MKAR	Makanchi Array	93.61	317	*i* P		P		11 46 03.0	-0.8
MKAR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
MKAR	Makanchi Array	93.61	317	P		P		11 46 03.1	-0.7
	comp=Z,9.7nm,0.9s,baz=100,slow=6.3,SNR=61								
MKAR				LR		LR		12 28 53.2	
	comp=Z,122nm,19.8s,baz=96,slow=36								
ZAA0	Zalesovo Array	93.62	324	*e*P		P		11 46 01.7	-1.9
	comp=Z,11nm,1.1s								
ZALV	Zalesovo Beam	93.62	324	*e*P		P		11 46 02.1	-1.4
ZALV	Zalesovo Beam	93.62	324	*i* P		P		11 46 02.4	-1.2
ZALV				pmax		pmax			
	comp=Z,9.0nm,1.1s								
ZALV	Zalesovo Beam	93.62	324	P		P		11 46 01.5	-2.1
	comp=Z,8.8nm,1.1s,baz=106,slow=4.8,SNR=22								
ZALV				LR		LR		12 24 49.3	
	comp=Z,180nm,21.8s,baz=71,slow=33								
ZAA1	Zalesovo Array	93.62	324	*e*P		P		11 46 01.5	-2.1
MAKZ	Makanchi	93.82	317	*e*P		P		11 46 03.1	-1.7
	comp=Z,14nm,1.0s								
MAKZ	Makanchi	93.82	317	*e*P		P		11 46 03.1	-1.7
MAKZ				pmax		pmax			
	comp=Z,14nm,1.0s								
RLMT	Red Lodge	94.02	45	*e*P		P		11 46 03.9	-2.0
	comp=Z,3.7nm,0.8s								
NVS	Novosibirsk	94.72	325	*e*P		P		11 46 07.9	-0.7
NVS				pmax		pmax			
	comp=Z,13nm,1.7s								
NVS				pmax		pmax			
	comp=N,10.0nm,2.2s								
NVS				pmax		pmax			
	comp=E,8.0nm,1.7s								
YKA	Yellowknife Ar	94.80	27	P		P		11 46 06.6	-2.2
	comp=E,0.6nm,0.6s,baz=256,slow=5.0,SNR=5.6								
YKB5	Yellowknife Ar	94.80	27	*e*P		P		11 46 07.5	-1.4
LTX	Lajitas	95.60	61	*e*P		P		11 46 12.3	-1.1
LTX	Lajitas	95.60	61	*e*P		P		11 46 12.3	-1.1
TXAR	Lajitas Array	95.60	61	P		P		11 46 12.3	-1.1
	comp=E,0.1nm,0.6s,baz=254,slow=3.4,SNR=3.0								
TXAR				LR		LR		12 20 59.9	
	comp=E,231nm,20.8s,baz=0.0,slow=30								
NRIK	Noril'sk	96.12	340	P		P		11 46 13.0	-1.7
NRIK	Noril'sk	96.12	340	P		P		11 46 12.9	-1.7
	comp=E,2.0nm,0.4s,baz=127,slow=3.9,SNR=4.4								
NRIK				LR		LR		12 26 25.5	
	comp=E,174nm,21.9s,baz=100,slow=34								
KURK	Kurchatov	96.72	320	*e*P		P		11 46 16.8	-1.0
	comp=E,3.2nm,1.1s								
KURK	Kurchatov	96.72	320	*i* P		P		11 46 14.5	-3.3
KURK				pmax		pmax			
	comp=Z,3.0nm,1.2s								
AAK	Ala-Archa	98.40	312	*ce*P		Pdif		11 46 26.4	+0.5
AAK				pmax		pmax			
	comp=Z,9.0nm,2.5s								
ARA0	ARCESS Array S	116.31	346	*e*PKPdf		PKiKP		11 51 29.1	-1.4
ARCES	ARCESS Array B	116.31	346	PKP		PKiKP		11 51 29.1	-1.4
	comp=Z,5.4nm,1.0s,baz=20,slow=3.1,SNR=9.7								
KIV	Kislovodsk	121.32	315	*i* PKIKP		PKPdf		11 51 40.6	-0.4
KIV				pmax		pmax			
	comp=Z,15nm,0.9s								
KIV				MLR		MLR			
	comp=Z,461nm,23.0s								
FIA0	FINESS Array S	121.78	339	*e*PKPdf		PKPdf		11 51 40.4	-0.8
FIA0	FINESS Array S	121.78	339	*e*PKIKP		PKPdf		11 51 40.4	-0.8
FINES	FINESS Array B	121.78	339	PKP		PKPdf		11 51 40.4	-0.8
	comp=Z,2.5nm,1.0s,baz=32,slow=8.2,SNR=3.8								
RAYN	Ar Mayn	122.14	291	*e*PKPdf		PKPdf		11 51 41.7	-1.4
RAYN	Ar Rayn	122.14	291	*e*PKIKP		PKPdf		11 51 41.7	-1.4
BOSA	Boshof	125.32	223	PKP		PKiKP		11 51 50.3	+0.7
	comp=Z,1.7nm,0.8s,baz=180,slow=4.0,SNR=2.6								
NB200	NORSAR Array S	126.68	345	*e*PKPdf		PKPdf		11 51 50.6	-0.1
NOA	NORSAR Array B	126.68	345	PKP		PKPdf		11 51 50.6	-0.1
	comp=Z,1.5nm,0.9s,baz=45,slow=2.4,SNR=2.0								
AKASG	Malin Array Be	126.91	327	PKP		PKPdf		11 51 50.7	-0.7
	comp=Z,0.3nm,0.4s,baz=61,slow=1.9,SNR=5.3								
AKBB	Malin Array Si	126.91	327	*e*PKPdf		PKPdf		11 51 51.0	-0.4
AKBB	Malin Array Si	126.91	327	*e*PKIKP		PKPdf		11 51 51.0	-0.4
KIEV	Kiev	126.92	327	*e*PKIKP		PKPdf		11 51 49.1	-2.3
AK11	Malin Array Si	126.95	327	*e*PKPdf		PKPdf		11 51 50.5	-0.9
KMBO	Kilima Mbogo	127.61	260	PKP		PKiKP		11 51 54.4	-0.2
	comp=Z,0.7nm,0.4s,baz=94,slow=6.9,SNR=3.7								
BR101	Keskin Array S	129.07	313	*e*PKPdf		PKPdf		11 51 56.1	+0.1
BRTR	Keskin Array B	129.07	313	PKP		PKPdf		11 51 56.1	+0.1
	comp=Z,1.1nm,0.9s,baz=134,slow=3.6,SNR=4.6								
CSS	Mathiatis	130.85	307	*e*Pdif		Pdif		11 48 50.5	+0.4
VYHS	Vyhne	133.61	330	*e*PKIKP		PKiKP		11 52 05.3	-0.1
VYHS	Vyhne	133.61	330	*e*PKP		PKiKP		11 52 05.3	-0.1
CLL	Collm	134.12	337	*e*PKPdf		PKPdf		11 52 05.0	0.0
CLL				L		L		12 55 00.0	
	comp=Z,400nm,18.9s								
MODS	Modra-Piesok	134.44	331	*e*PKIKP		PKiKP		11 52 08.3	+1.2
MODS	Modra-Piesok	134.44	331	*e*PKP		PKiKP		11 52 08.3	+1.2
GEC2	GERESS Array S	135.73	334	*e*PKPdf		PKPdf		11 52 08.1	-0.1
GEC2	GERESS Array S	135.73	334	*e*PKIKP		PKPdf		11 52 08.1	-0.1
GERES	GERESS Array B	135.73	334	PKP		PKPdf		11 52 06.9	-1.3
	comp=Z,1.0nm,0.7s,baz=15,slow=5.2,SNR=5.4								
KEST	Kesra	147.48	323	*e*PKPbc		PKPbc		11 52 31.7	-0.4
KEST	Kesra	147.48	323	PKPbc		PKPbc		11 52 32.5	+0.4
	comp=Z,17nm,0.9s,baz=294,slow=2.1,SNR=14								
POLO	Lamas de Olo	149.22	351	*e*PKPbc		PKPbc		11 52 36.6	+0.1
POLO	Lamas de Olo	149.22	351	*e*PKPab		PKPab		11 52 43.2	+2.4
MVO	Moncorvo	149.29	350	*e*PKPbc		PKPbc		11 52 36.8	+0.2
MVO	Moncorvo	149.29	350	*e*PKPab		PKPab		11 52 42.3	+1.2
PVRL	Vila Real	149.30	351	*e*PKPbc		PKPab		11 52 36.9	+0.3
PVRL	Vila Real	149.30	351	*e*PKPab		PKPab		11 52 43.4	+2.3
PVIS	Viseu	149.87	351	*e*PKPbc		PKiKP		11 52 38.6	-0.4
ES06	SONSECA Array	150.03	344	*e*PKPbc		PKPbc		11 52 37.7	-0.8
ESDC	Sonseca Array	150.04	344	PKPbc		PKPbc		11 52 38.6	+0.1
	comp=Z,0.8nm,0.5s,baz=3.2,slow=2.0,SNR=9.0								
MTE	Manteigas	150.12	350	*e*PKPbc		PKiKP		11 52 39.3	-0.3
MTE	Manteigas	150.12	350	*e*PKPab		PKPab		11 52 45.8	+1.3
MTE	Manteigas	150.12	350	*e*PKPbc		PKPbc		11 52 37.9	-0.8
PTOM	Tomar	151.03	351	*e*PKPbc		PKiKP		11 52 41.2	-0.2
PMRV	Marv??o	151.04	349	*e*PKPbc		PKPbc		11 52 41.0	+0.1
PMRV	Marv??o	151.04	349	*e*PKPab		PKPab		11 52 47.5	-0.8
PMTG	Montargil	151.54	350	*e*PKPbc		PKiKP		11 52 42.2	-0.2
RCBR	Riachuelo	152.58	126	PKPbc		PKiKP		11 52 45.5	+0.1
	comp=Z,35nm,0.8s,baz=238,slow=1.9,SNR=2.4								
TORD	Torodi Ar. Bea	164.46	280	PKP		PKPdf		11 52 51.5	-0.8
	comp=Z,1.6nm,0.9s,baz=193,slow=1.1,SNR=7.2								
TORD				PKPab		PKPab		11 53 45.8	-1.1
	comp=Z,3.6nm,1.1s,baz=48,slow=2.5,SNR=7.9								
TOA1	Torodi Ar. Sit	164.47	280	*e*PKPdf		PKPdf		11 52 51.5	-0.8
TOA1				*e*PKPab		PKPab		11 53 45.8	-1.1
DBIC	Dimbokro	169.98	246	PKP		PKPdf		11 52 56.3	0.0
	comp=Z,2.4nm,0.9s,baz=262,slow=4.1,SNR=3.2								
DBIC				PKPab		PKPab		11 54 11.2	0.0
	comp=Z,3.3nm,0.9s,baz=121,slow=8.0,SNR=2.1								

GUC ***19*** *11:41:54.9±0.8,27.87S×69.57W,h8km±5km,ML4.7*
IDC ***19*** *11:41:54.6±0.5,27.82S×69.27W,h0km,mb4.2/13,*
mb1 4.4/16,mb1mx4.3/34,mbtmp4.2/16,ML4.0/3,MS3.9/11,
Ms1 3.9/11,ms1mx3.8/24,Error ellipse: s-maj=18.0km
s-min=13.8km az=84.0
NEIC ***19*** *11:41:54.0±0.0,27.87S×69.57W,h8km,mb4.7/18,*
ML4.7(GUC),After GUC.
NEIC Felt [III] at Copiapo and Tierra Amarilla and [II] at
Coquimbo and La Serena.
ISCJB ***19*** *11:41:56.6±1.2,27.82S±0.03×69.40W±0.04,h25km±9km,*
mb4.4/29,MS4.0/9,Error ellipse: s-maj=6.5km
s-min=4.2km az=6.7
SJA ***19*** *11:41:56.5±0.7,27.77S×69.47W,h40km±29km,ML3.9,*
MW5.1
ISC 19 11:41:55.9±0.8,**27.85S**±0.03×**69.47W**±0.04,**h10**km±4km,
n116,σ1§**38**/132,**mb4.5**/29,**MS4.1**/9,**1C-1D,Northern**
Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.34	237	*e*P	Pn	Pn	11 42 19.9	-1.0
VACH				*e*S	Sn	Sn	11 42 38.9	+0.1
VCA	Vinchina	1.42	129	*i* P	Pn	Pn	11 42 21.8	-0.3
VCA				*i* S	Sn	Sn	11 42 40.9	+0.1
LCO	Las Campanas	1.58	223	*e*Pn	Pn	Pn	11 42 23.9	-0.4
LCO				*e*Sn	Sn	Sn	11 42 44.0	-1.0
LCO	Las Campanas	1.58	223	*i* P	Pn	Pn	11 42 24.4	0.0
LCO	Las Campanas	1.58	223	⇓*i*P	Pn	Pn	11 42 23.9	-0.4
LCO				*e*S	Sn	Sn	11 42 45.4	+0.4
LCO				IAML			11 42 56.7	
	comp=E,8μm,0.8s							
GO04	Tololo Observa	2.59	206	*e*Pn	Pn	Pn	11 42 40.6	+2.5
GO04				*e*Sn	Sn	Sn	11 43 12.1	+2.3
GO04	Tololo Observa	2.59	206	*i* P	Pn	Pn	11 42 39.5	+1.4
GO04				*i* S	Sn	Sn	11 43 10.8	+1.0
GO04	Tololo Observa	2.59	206	*e*P	Pn	Pn	11 42 39.8	+1.7
GO04				*e*S	Sn	Sn	11 43 13.3	+3.5
GO02	Mina Guanaco	2.68	358	*e*Pn	Pb	Pn	11 42 42.1	-2.1
GO02				*e*Sn	Sb	Sn	11 43 16.9	-0.5
GO02	Mina Guanaco	2.68	358	⇑*i*P	Pb	Pn	11 42 41.9	-2.4
GO02				*e*S	Sb	Sn	11 43 18.1	+0.7
GO02				IAML			11 43 25.2	
	comp=E,6μm,0.6s							
AMOG	MOGNA	3.19	165	*i* P	Pn	Pn	11 42 47.9	+1.6
CYA	Choya	3.29	101	*i* P	Pn	Pn	11 42 48.7	+1.0
CYA				IAML			11 43 36.4	
	comp=Z,577nm,0.4s							
CYA	Choya	3.29	101	*e*P	Pn	Pn	11 42 49.2	+1.5
CYA				*e*S	Sb	Sb	11 43 30.9	-3.8
PB14	IPOC Station P	3.32	345	*i* P	Pn	Pn	11 42 47.6	-0.7
PB14	IPOC Station P	3.32	345	*e*P	Pn	Pn	11 42 50.2	+1.9
PB14				*e*S	Sb	Sb	11 43 33.1	-2.7
RTLL	Cerro Villicun	3.57	166	*i* P	Pn	Pn	11 42 53.4	+1.9
RTLL				IAML			11 43 45.6	
	comp=Z,591nm,0.6s							
RTLL	Cerro Villicun	3.57	166	*e*P

comp=Z,0.8nm,0.9s,baz=152,slow=7.8,SNR=5.3
W41B Gary Mavity, V 66.28 340 *e*P **P 11 52 44.9 +0.6**
comp=Z,4.5nm,1.1s
T49A Edmonton 66.36 346 *e*P **P 11 52 44.9 +0.1**
comp=Z,11nm,1.4s
WHAR Wooly Hollow 66.40 340 *e*P **P 11 52 45.6 +0.5**
comp=Z,30nm,1.7s
DBIC Dimbokro 71.13 72 *e*P **P 11 53 15.4 +0.3**
comp=Z,18nm,1.0s
DBIC Dimbokro 71.13 72 P **P 11 53 15.2 +0.1**
comp=Z,11nm,0.8s,baz=218,slow=6.5,SNR=11
DBIC LR LR 12 21 44.2
comp=Z,128nm,20.9s,baz=202,slow=34
ANMO Albuquerque 71.58 329 P **P 11 53 19.7 +2.1**
comp=Z,0.3nm,0.3s,baz=135,slow=7.1,SNR=3.2
PPT Papeete 73.47 259 LR LR 12 16 18.6
comp=Z,100nm,18.2s,baz=98,slow=28
MTPU Mount Pierson 76.79 327 *e*P **P 11 53 48.6 +0.3**
comp=Z,2.7nm,1.0s
SRU San Rafael Swe 76.85 328 *e*P **P 11 53 48.0 -0.3**
comp=Z,3.9nm,1.0s
CCUT Cedar City 76.99 326 *e*P **P 11 53 48.9 -0.3**
comp=Z,3.2nm,0.9s
PSUT Pine Spring 78.00 326 *e*P **P 11 53 54.2 -0.6**
comp=Z,3.1nm,0.8s
R11A Troy Canyon, C 78.73 325 *e*P **P 11 53 58.9 +0.1**
comp=Z,8.5nm,1.6s
DUG Dugway, Tooele 78.79 328 *e*P **P 11 53 59.7 +0.7**
comp=Z,3.9nm,1.3s
PDAR Pinedale Array 79.37 331 P **P 11 54 02.3 0.0**
comp=Z,0.4nm,0.6s,baz=119,slow=7.3,SNR=5.3
TOA0 Torodi Ar. Sit 80.02 69 *e*P **P 11 54 04.3 -1.8**
TOA1 Torodi Ar. Sit 80.02 69 *e*P **P 11 54 04.3 -1.8**
TORD Torodi Ar. Bea 80.02 69 P **P 11 54 04.3 -1.8**
comp=Z,5.6nm,0.8s,baz=279,slow=6.3,SNR=26
NVAR Mina Array Bea 80.21 323 P **P 11 54 08.2 +1.3**
comp=Z,0.7nm,0.6s,baz=151,slow=4.1,SNR=4.2
BOSA Boshof 80.95 117 P **P 11 54 10.5 -0.7**
comp=Z,5.0nm,0.9s,baz=216,slow=6.0,SNR=4.8
ULM Lac du Bonnet 81.21 343 P **P 11 54 11.8 +0.1**
comp=Z,1.4nm,0.5s,baz=161,slow=2.9,SNR=4.8
PNTR Pine Nut 81.38 323 *e*P **P 11 54 13.7 +0.6**
comp=Z,3.4nm,0.7s
YHH Holmes Hill 81.56 332 *e*P **P 11 54 16.4 +2.3**
comp=Z,14nm,1.6s
HLID Hailey 82.16 329 *e*P **P 11 54 19.0 +1.9**
comp=Z,8.9nm,1.6s
YBH Yreka Blue Hor 84.93 323 P **P 11 54 30.7 -0.5**
comp=Z,1.1nm,0.9s,baz=139,slow=11,SNR=3.5
YKA Yellowknife Ar 96.99 341 P **P 11 55 27.3 +0.1**
comp=Z,0.4nm,0.8s,baz=140,slow=4.7,SNR=6.7
KEST Kesra 97.50 54 LR LR 12 40 34.4
comp=Z,169nm,20.4s,baz=342,slow=36
AS01 Alice Springs 124.02 206 *e*PKPdf **PKPdf 12 00 54.8 -0.5**
ASAR Alice Springs 124.03 206 PKP **PKPdf 12 00 54.8 -0.5**
comp=Z,1.3nm,0.7s,baz=142,slow=2.2,SNR=12
AS31 Alice Springs 124.03 206 *e*PKPdf **PKPdf 12 00 54.3 -1.0**
WB2 Warramunga Arr 127.19 208 *e*PKPdf **PKPdf 12 01 01.1 -0.2**
WR1 Warramunga Arr 127.19 208 *e*PKPdf **PKPdf 12 01 01.1 -0.3**
WRA Warramunga Arr 127.19 208 PKP **PKPdf 12 01 01.1 -0.3**
comp=Z,1.8nm,0.6s,baz=160,slow=1.7,SNR=22
TIXI Tiksi 135.00 352 PKP **PKPdf 12 01 12.6 -1.9**
comp=Z,0.8nm,0.2s,baz=351,slow=3.6,SNR=3.8
SEY Seymchan 135.64 334 PKP **PKiKP 12 01 17.1 -0.4**
comp=Z,1.8nm,0.6s,baz=90,slow=4.0,SNR=11
SIJI Sorong 145.18 218 PKPbc **PKPdf 12 01 34.9 +0.1**
comp=Z,13nm,1.1s,baz=20,slow=2.2,SNR=6.5
KURK Kurchatov 146.78 38 *e*PKPdf **PKPbc 12 01 37.0 -1.0**
KURK *e*PKPbc **PKPab 12 01 38.8 -0.5**
KURK *e*PKPab **pPKPdf 12 01 41.1 +0.2**
ZAA1 Zalesovo Array 147.82 29 *e*PKPdf **PKPdf 12 01 39.0 +1.1**
ZAA0 Zalesovo Array 147.83 29 *e*PKPdf **PKPdf 12 01 38.8 +0.9**
ZAA0 *e*PKPbc **PKPbc 12 01 41.0 +0.2**
ZAA0 *e*PKPab **sPKPdf 12 01 43.9 -0.2**
ZALV Zalesovo Beam 147.83 29 *e*PKPdf **PKPdf 12 01 38.0 +0.2**
ZALV *e*PKPbc **PKPbc 12 01 41.4 +0.7**
ZALV *e*PKPab **pPKPbc 12 01 46.4 +1.0**
ZALV Zalesovo Beam 147.83 29 PKPbc **PKPdf 12 01 39.0 +1.1**
comp=Z,7.3nm,0.5s,baz=300,slow=3.9,SNR=32
NRN Naryn 148.75 55 *e*PKPbc **PKPbc 12 01 44.5 +0.4**
NRN *e*PKPab **pPKPbc 12 01 48.8 +0.1**
HYB Hyderabad 148.80 103 *i* PKP **PKPbc 12 01 45.0 +0.5**
KSH Kashi 149.16 59 PKPbc **PKPbc 12 01 44.1 -0.8**
KSH PP **PP 12 05 20.6 +3.8**
KSH AMB AMB
comp=Z,70nm,4.7s
MAKZ Makanchi 150.69 42 *e*pPKPdf **PKPbc 12 01 48.0 -0.3**
MK31 Makanchi Array 150.89 42 *e*PKPbc **PKiKP 12 01 49.0 -0.3**
MK32 Makanchi Array 150.89 42 *e*PKPbc **PKiKP 12 01 48.9 -0.5**
MKAR Makanchi Array 150.89 42 PKPbc **PKiKP 12 01 48.9 -0.5**
comp=Z,9.9nm,0.8s,baz=293,slow=2.1,SNR=51
MK01 Makanchi Array 150.90 42 *e*PKPbc **PKiKP 12 01 49.0 -0.3**
KLR Kul'dur 153.13 328 PKPbc **PKiKP 12 01 53.8 0.0**
comp=Z,1.7nm,0.6s,baz=56,slow=1.3,SNR=9.0
WMQ Urumqi 155.69 43 *e*PKP **PKPdf 12 01 49.8 -0.4**
WMQ LR LR
comp=Z,170nm,22.7s
WMQ LR LR
comp=Z,91nm,23.9s
SONA0 Songino Array 159.79 8 *e*PKPdf **PKPdf 12 01 56.0 +0.8**
SONA0 *e*PKPab **PKPab 12 02 34.3 +0.3**
SONM Songino Array 159.79 8 PKP **PKPdf 12 01 55.9 +0.8**
comp=Z,0.3nm,0.7s,baz=106,slow=2.2,SNR=3.7
SONM PKPab **PKPab 12 02 34.3 +0.3**
comp=Z,0.8nm,0.8s,baz=335,slow=3.2,SNR=5.9
CMAR Chiang Mai Arr 165.83 129 PKP **PKPdf 12 02 02.5 +0.7**
comp=Z,0.6nm,0.4s,baz=249,slow=1.7,SNR=4.8
HHC Hu-ho-hao-te 167.01 357 *e*PKP **PKPdf 12 02 04.8 +2.6**
LZH Lanzhou 170.02 33 *e*PKP **PKPdf 12 02 04.0 -0.4**
LZH pPKP pPKPdf 12 02 07.3 -1.7
LZH sPKP 12 02 08.8
LZH LR LR
comp=Z,79nm,18.0s
LZH LR LR
comp=Z,82nm,18.1s
LZH LR LR
comp=Z,98nm,20.3s
NJ2 Nanjing 171.66 302 *e*PKP **PKPdf 12 02 04.1 -1.0**

*ISCJB **19** 11:43:30.0±0.2, 11˚.01S±0˚.03×165˚.91E±0˚.05, h10km, mb4.6/58, MS4.5/11, Error ellipse: s-maj=6.7km s-min=4.7km az=169.3*
*IDC **19** 11:43:30.0±0.6, 10˚.95S×165˚.94E, h0km, mb4.4/23, mb1 4.5/25, mb1mx4.3/52, mbtmp4.4/25, ML5.0/2, MS4.3/9, Ms1 4.3/9, ms1mx3.9/32, Error ellipse: s-maj=17.3km s-min=13.2km az=96.0*
*NEIC **19** 11:43:31.5±0.2, 10˚.92S×165˚.91E, h10km, mb4.8/28, Error ellipse: s-maj=6.3km s-min=4.6km az=87.0*
*MOS **19** 11:43:34.5±1.1, 10˚.87S×165˚.68E, h33km, mb4.8/12, Error ellipse: s-maj=10.4km s-min=9.8km az=33.7*
*GCMT **19** 11:43:36.5±0.2, 10˚.99S±0˚.01×165˚.74E±0˚.01, h27km±1km, MW5.1/80, Moment Tensor Solution. s29,c33; s80,c118; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 0.12±.20; Mθθ 0.80±.14; Mϕϕ -0.91±.15; Mrθ -2.90±.29; Mθϕ -4.96±.12; Mϕr -0.43±.25; Best double couple: Mo 5.82200×10^16 NP1: ϕs 355.00000°, δ 90.00000°, λ -150.00000°. NP2: ϕs 85.00000°, δ 60.00000°, λ 0.00000°. Principal axes: T 5.7090, Plg21.0000°, Azm216.0000°; N 0.2260, Plg60.0000°, Azm85.0000°; P -5.9350, Plg21.0000°, Azm314.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **19** 11:43:37.3, 10˚.61S×165˚.87E, h44km, mb4.7/32, mB5.1/27, Ms5.0/14, Ms7 4.7/14*
ISC 19 11:43:31.6±0.4, 10˚.96S±0˚.05×166˚.00E±0˚.06, h10km, n117, σ1s 50/115, mb4.7/59, MS4.4/11, 2C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.14**	**284**	*e*P	**Pn**	**11 45 03.0**	**+0.5**
HNR				*e*S	**Sn**	**11 46 14.0**	**+1.0**
HNR	**Honiara**	**6.14**	**284**	*e*Pn	**Pn**	**11 45 02.5**	**-0.1**
HNR				*e*Sn	**Sn**	**11 46 12.9**	**0.0**
HNR	**Honiara**	**6.14**	**284**	Pn	**Pn**	**11 45 03.3**	**+0.7**
	55nm,0.3s,baz=132,slow=2.6,SNR=12						
HNR				Sn	**Sn**	**11 46 12.9**	**0.0**
	24nm,0.3s,baz=180,slow=20,SNR=3.1						
HNR				LR	LR	11 47 33.9	
	comp=Z,5μm,19.3s,baz=134,slow=40						
MARNC	**Mare, Loyalty**	**10.64**	**170**	*e*Pn	**Pn**	**11 46 05.0**	**+0.8**
DZM	**Mont Dzumac**	**11.06**	**178**	*e*LR	LR	11 48 45.6	
	comp=Z,3μm,24.0s						
DZM	**Mont Dzumac**	**11.06**	**178**	*e*Pn	**Pn**	**11 46 11.5**	**+1.4**
DZM				*e*Sn	**Sn**	**11 48 14.4**	**+0.5**
DZM	**Mont Dzumac**	**11.06**	**178**	Pn	**Pn**	**11 46 11.6**	**+1.5**
	6.3nm,0.3s,baz=317,slow=15,SNR=12						
DZM				Sn	**Sn**	**11 48 13.5**	**-0.4**
	2.3nm,0.3s,baz=150,slow=20,SNR=6.6						
DZM				LR	LR	11 48 49.6	
	comp=Z,347nm,21.3s,baz=10,slow=29						
PINNC	**Pines Island,**	**11.67**	**173**	*e*Pn	**Pn**	**11 46 20.6**	**+2.3**
MSVF	**Nonsavu**	**13.48**	**121**	*i* P	**P**	**11 46 51.6**	**-0.9**
TARA	**Tarawa**	**14.04**	**30**	*e*Pn	**Pn**	**11 46 51.0**	**+0.2**
CTA	**Charters Tower**	**21.06**	**242**	P	**P**	**11 48 17.0**	**+0.9**
CTA	**Charters Tower**	**21.06**	**242**	P	**P**	**11 48 17.0**	**+0.9**
	18nm,0.8s,baz=69,slow=12,SNR=15						
CTAO	**Charters Tower**	**21.06**	**242**	*e*P	**P**		
	20nm,0.8s						
CTAO	**Charters Tower**	**21.06**	**242**	*e*P	**P**	**11 48 14.9**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,20nm,0.8s						
COEN	**Coen**	**22.48**	**260**	*e*P	**P**	**11 48 29.9**	**-1.6**
	comp=Z,8.6nm,0.9s						
ARMA	**Armidale**	**23.52**	**212**	*e*P	**P**	**11 48 42.4**	**+0.2**
	comp=Z,36nm,1.0s						
JAY	**Jayapura**	**26.46**	**287**	*e*P	**P**	**11 49 14.3**	**+5.1**
JAY	**Jayapura**	**26.46**	**287**	*e*P	**P**	**11 49 14.3**	**+5.1**
JAY	**Jayapura**	**26.46**	**287**	LR	LR	12 01 01.9	
	comp=Z,1μm,18.1s,baz=55,slow=40						
URZ	**Urewera**	**28.95**	**162**	P	**P**	**11 49 30.7**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=287,slow=4.1,SNR=2.8						
URZ				LR	LR	11 59 20.2	
	comp=Z,1μm,19.4s,baz=341,slow=33						
H11S2	**WAKE ISLAND Hy**	**29.27**	**1**	T	T	12 19 56.7	
	baz=181,slow=76,SNR=122						
H11S3	**WAKE ISLAND Hy**	**29.27**	**1**	T	T	12 19 58.0	
	baz=181,slow=76,SNR=82						
H11S1	**WAKE ISLAND Hy**	**29.29**	**1**	T	T	12 19 59.0	
	baz=181,slow=76,SNR=117						
BKZ	**Black Stump Fm**	**29.61**	**163**	*e*P	**P**	**11 49 36.7**	**-0.4**
	comp=Z,8.8nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**30.49**	**2**	T	T	12 21 29.5	
	baz=182,slow=76,SNR=92						
H11N3	**WAKE ISLAND Hy**	**30.50**	**2**	T	T	12 21 29.6	
	baz=182,slow=76,SNR=110						
H11N2	**WAKE ISLAND Hy**	**30.51**	**2**	T	T	12 21 31.6	
	baz=182,slow=76,SNR=35						
STKA	**Stephens Creek**	**30.67**	**224**	*e*P	**P**	**11 49 46.3**	**-0.3**
	comp=Z,1.2nm,0.8s						
STKA	**Stephens Creek**	**30.67**	**224**	*e*P	**P**	**11 49 46.3**	**-0.3**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	**Stephens Creek**	**30.67**	**224**	P	**P**	**11 49 46.2**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=31,slow=9.6,SNR=14						
STKA				LR	LR	12 01 47.2	
	comp=Z,823nm,18.2s,baz=44,slow=36						
BFZ	**Birch Farm**	**30.96**	**165**	*e*P	**P**	**11 49 48.9**	**-0.1**
	comp=Z,107nm,1.2s						
THZ	**Tophouse**	**31.28**	**170**	*e*P	**P**	**11 49 52.4**	**+0.5**
	comp=Z,12nm,1.0s						
WB2	**Warramunga Arr**	**31.73**	**250**	*e*P	**P**	**11 49 55.0**	**-1.1**
WRAB	**Tennant Creek**	**31.73**	**250**	*e*P	**P**	**11 49 55.0**	**-1.1**
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**31.73**	**250**	*i* P	**P**	**11 49 55.8**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,22nm,1.1s						
WR1	**Warramunga Arr**	**31.74**	**250**	*e*P	**P**	**11 49 55.4**	**-0.8**
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**31.74**	**250**	P	**P**	**11 49 55.4**	**-0.8**
	comp=Z,3.8nm,0.6s,baz=82,slow=9.0,SNR=30						
WRA				LR	LR	12 01 59.3	
	comp=Z,369nm,19.1s,baz=55,slow=35						
KHZ	**Kahutara**	**32.02**	**169**	*e*P	**P**	**11 49 58.4**	**+0.1**
	comp=Z,42nm,1.2s						
LTZ	**Lake Taylor**	**32.17**	**171**	*e*P	**P**	**11 50 00.2**	**+0.6**
	comp=Z,29nm,1.1s						
TOO	**Toolangi**	**32.27**	**211**	*e*P	**P**	**11 50 00.8**	**+0.2**
	comp=Z,16nm,1.0s						
TOO	**Toolangi**	**32.27**	**211**	*e*P	**P**	**11 50 00.9**	**+0.2**
TOO				pmax	pmax		
	comp=Z,16nm,1.0s						
OXZ	**Oxford**	**32.67**	**172**	*e*P	**P**	**11 50 03.5**	**-0.5**
	comp=Z,24nm,0.9s						
RPZ	**Rata Peaks**	**32.93**	**173**	*e*P	**P**	**11 50 06.0**	**-0.2**
RPZ	**Rata Peaks**	**32.93**	**173**	P	**P**	**11 50 05.8**	**-0.5**
	comp=Z,9.7nm,0.6s,baz=290,slow=5.5,SNR=8.3						
AS01	**Alice Springs**	**33.01**	**243**	*e*P	**P**	**11 50 05.6**	**-1.7**
AS31	**Alice Springs**	**33.05**	**243**	*e*P	**P**	**11 50 06.2**	**-1.4**
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**33.05**	**243**	P	**P**	**11 50 06.3**	**-1.4**
	comp=Z,4.4nm,0.9s,baz=75,slow=9.4,SNR=29						
ASAR				LR	LR	12 02 13.4	
	comp=Z,256nm,18.1s,baz=62,slow=34						
MQZ	**McQueen's Vall**	**33.13**	**171**	*e*P	**P**	**11 50 08.4**	**+0.4**
	comp=Z,23nm,0.9s						
WKZ	**Wanaka**	**33.85**	**176**	*e*P	**P**	**11 50 14.8**	**+0.5**
	comp=Z,2.6nm,0.5s						
BBOO	**Buckleboo**	**35.07**	**227**	*e*P	**P**	**11 50 24.7**	**-0.3**
	comp=Z,16nm,0.8s						
TAU	**Tasmania Unive**	**35.75**	**204**	*e*P	**P**	**11 50 31.4**	**+0.7**
	comp=Z,21nm,1.1s						
TAU	**Tasmania Unive**	**35.75**	**204**	*e*P	**P**	**11 50 31.4**	**+0.7**
TAU				pmax	pmax		
	comp=Z,21nm,1.1s						
SIJI	**Sorong**	**35.92**	**284**	P	**P**	**11 50 31.7**	**-0.9**
	comp=Z,8.7nm,0.8s,baz=86,slow=9.1,SNR=5.4						
FITZ	**Fitzroy Crossi**	**39.64**	**255**	*e*P	**P**	**11 51 03.2**	**-0.8**
	comp=Z,9.0nm,0.9s						
PPT	**Papeete**	**43.48**	**104**	LR	LR	12 05 31.7	
	comp=Z,350nm,20.3s,baz=279,slow=30						
PPT2	**Papeete2**	**43.48**	**104**	*e*LQ	LQ	12 01 54.6	
	comp=Z,2μm,28.5s						
PPT2				*e*LR	LR	12 03 44.1	
	comp=Z,576nm,22.8s						
TBI	**Tubuai**	**44.14**	**112**	*e*LQ	LQ	12 02 12.8	
	comp=Z,1μm,32.2s						
TBI				*e*LR	LR	12 04 04.0	
	comp=Z,1μm,27.0s,baz=285						
MBWA	**Marble Bar**	**45.46**	**251**	*e*P	**P**	**11 51 52.1**	**+0.8**
	comp=Z,8.3nm,0.8s						
MORW	**Morawa**	**49.88**	**241**	*e*P	**P**	**11 52 24.1**	**-1.5**
	comp=Z,9.3nm,0.9s						
MJAR	**Matsushiro Arr**	**54.01**	**332**	P	**P**	**11 52 54.1**	**-2.0**
	comp=Z,2.2nm,0.9s,baz=177,slow=9.3,SNR=4.6						
MAJO	**Matsushiro**	**54.01**	**332**	*e*P	**P**	**11 52 54.1**	**-2.0**
MAJO	**Matsushiro**	**54.01**	**332**	*e*P	**P**	**11 52 54.2**	**-2.0**
SMRI	**Semarang**	**54.95**	**269**	P	**P**	**11 52 59.3**	**-4.1**
JNU	**Nakatsue**	**55.16**	**324**	*e*P	**P**	**11 53 03.8**	**-0.7**
	comp=Z,8.5nm,0.8s						
JNU	**Nakatsue**	**55.16**	**324**	P	**P**	**11 53 03.5**	**-1.1**
	comp=Z,8.0nm,0.7s,baz=95,slow=5.7,SNR=15						
JNU				LR	LR	12 12 58.1	
	comp=Z,219nm,19.1s,baz=142,slow=32						
CISI	**Cisompet, Garu**	**57.45**	**268**	*e*P	**P**	**11 53 19.9**	**-1.5**
	comp=Z,22nm,0.7s						
KSRS	**Korea Array**	**59.95**	**325**	P	**P**	**11 53 37.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=135,slow=7.0,SNR=4.8						
NJ2	**Nanjing**	**62.13**	**315**	*e*P	**P**	**11 53 54.0**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**62.98**	**333**	P	**P**	**11 53 59.4**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=170,slow=12,SNR=6.4						
PETK	**Petropavlovsk-**	**64.20**	**354**	P	**P**	**11 54 07.1**	**+0.6**
	comp=Z,5.6nm,1.0s,baz=206,slow=6.3,SNR=3.8						
PEA1	**Petropavlovsk-**	**64.21**	**354**	*e*P	**P**	**11 54 07.1**	**+0.6**
VNDA	**Vanda**	**66.58**	**181**	P	**P**	**11 54 22.1**	**+0.4**
	comp=Z,4.3nm,1.1s,baz=10.0,slow=5.4,SNR=2.5						
KLR	**Kul'dur**	**67.08**	**336**	P	**P**	**11 54 25.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=107,slow=14,SNR=3.7						
KMI	**Kunming**	**71.29**	**301**	P	**P**	**11 54 53.0**	**+0.9**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
KMI				pmax	pmax		
	comp=Z,78nm,3.8s						
HHC	**Hu-ho-hao-te**	**71.93**	**320**	*e*P	**P**	**11 54 56.8**	**+1.3**
HHC				sP	PcP	11 55 13.0	-1.1
HHC				S	**S**	**12 04 14.0**	**-2.8**
HHC				ScS	**SKSac**	**12 04 54.4**	**-5.4**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,140nm,5.7s						
HHC				LR	LR		
	comp=Z,250nm,16.2s						
HHC				LR	LR		
	comp=Z,210nm,16.2s						
HHC				LR	LR		
	comp=Z,340nm,18.1s						
CMAR	**Chiang Mai Arr**	**72.30**	**293**	P	**P**	**11 54 58.2**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=117,slow=4.2,SNR=18						
ZEA	**Zeya**	**72.36**	**337**	*e*P	**P**	**11 54 58.1**	**+0.5**
CD2	**Chengdu**	**72.75**	**307**	*e*P	**P**	**11 55 04.6**	**+4.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,110nm,4.0s						
CD2				LR	LR		
	comp=Z,1μm,19.7s						
CD2				LR	LR		
	comp=Z,1μm,20.5s						
CD2				LR	LR		
	comp=Z,1μm,25.4s						
LZH	**Lanzhou**	**74.88**	**312**	*e*P	**P**	**11 55 14.5**	**+1.4**
LZH				pP	PcP	11 55 27.0	0.0
LZH				sP	sP	11 55 31.6	+15
LZH				*e*PP	**PP**	**11 58 04.8**	**+4.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,90nm,7.8s						
LZH				LR	LR		
	comp=Z,310nm,16.3s						
LZH				LR	LR		
	comp=Z,320nm,16.5s						
LZH				LR	LR		
	comp=Z,410nm,18.4s						
ULN	**Ulaanbaatar**	**78.38**	**324**	*i* P	**P**	**11 55 32.5**	**-0.1**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONA0	**Songino Array**	**78.74**	**324**	*e*P	**P**	**11 55 35.1**	**+0.6**
SONM	**Songino Array**	**78.74**	**324**	P	**P**	**11 55 35.1**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=138,slow=5.9,SNR=8.5						
BILL	**Bilibino**	**78.79**	**0**	*d*e*P*	**P**	**11 55 34.8**	**+0.6**
BILL				*e*		11 55 42.8	
BILL				*e*		11 58 33.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
QSPA	**South Pole Qui**	**79.05**	**180**	*e*P	**P**	**11 55 35.0**	**-1.0**
	comp=Z,10nm,1.0s						
ZAK	**Zakamensk**	**81.77**	**325**	*e*P	**P**	**11 55 47.3**	**-3.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TLY	**Talaya**	**82.19**	**326**	*c*e*P*	**P**	**11 55 53.5**	**+0.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.7s						
COLA	**College**	**83.13**	**18**	*i* P	**P**	**11 55 59.0**	**+1.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR	**Eielson Array**	**83.35**	**18**	P	**P**	**11 55 58.8**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=234,slow=5.1,SNR=11						
ILB	**Eielson Array**	**83.35**	**18**	*e*P	**P**	**11 55 59.0**	**+0.4**
	comp=Z,2.6nm,0.6s						
IL1	**Eielson Array**	**83.35**	**18**	*e*P	**P**	**11 55 58.5**	**-0.1**
YBH	**Yreka Blue Hor**	**83.66**	**46**	P	**P**	**11 56 02.6**	**+1.8**
	comp=Z,2.1nm,1.1s,baz=276,slow=5.5,SNR=3.0						
SCRK	**Sand Creek**	**83.75**	**20**	*e*P	**P**	**11 56 01.0**	**+0.2**
	comp=Z,6.8nm,1.1s						
EGAK	**Eagle**	**85.21**	**20**	*e*P	**P**	**11 56 08.6**	**+0.6**
	comp=Z,5.0nm,0.7s						
NV01	**Mina Array Sit**	**85.78**	**50**	*e*P	**P**	**11 56 12.3**	**+0.5**
NVAR	**Mina Array Bea**	**85.78**	**50**	P	**P**	**11 56 12.5**	**+0.7**
	comp=Z,1.9nm,1.1s,baz=243,slow=4.0,SNR=7.1						
TIXI	**Tiksi**	**86.05**	**349**	*c*e*P*	**P**	**11 56 13.0**	**+1.0**
TIXI	**Tiksi**	**86.05**	**349**	P	**P**	**11 56 12.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=150,slow=3.6,SNR=10						
WMQ	**Urumqi**	**89.21**	**315**	*e*P	**P**	**11 56 29.0**	**+1.0**
WMQ				LR	LR		
	comp=Z,480nm,21.1s						
WMQ				LR	LR		
	comp=Z,270nm,23.5s						
WMQ				LR	LR		
	comp=Z,290nm,23.9s						
MK01	**Makanchi Array**	**93.62**	**317**	*e*P	**P**	**11 56 47.2**	**-1.1**
MK31	**Makanchi Array**	**93.63**	**317**	*e*P	**P**	**11 56 46.2**	**-2.2**
	comp=Z,2.3nm,0.9s						
MK31	**Makanchi Array**	**93.63**	**317**	*e*P	**P**	**11 56 46.2**	**-2.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK32	**Makanchi Array**	**93.63**	**317**	*e*P	**P**	**11 56 47.4**	**-1.0**
MKAR	**Makanchi Array**	**93.63**	**317**	P	**P**	**11 56 47.4**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=93,slow=6.4,SNR=17						
ZALV	**Zalesovo Beam**	**93.63**	**324**	P	**P**	**11 56 47.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=119,slow=5.2,SNR=3.6						
ZAA1	**Zalesovo Array**	**93.63**	**324**	*e*P	**P**	**11 56 47.4**	**-0.7**
YKA	**Yellowknife Ar**	**94.78**	**27**	P	**P**	**11 56 52.4**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=256,slow=4.6,SNR=5.5						
KURK	**Kurchatov**	**96.73**	**320**	*i* P	**P**	**11 57 03.7**	**+1.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
AAK	**Ala-Archa**	**98.42**	**312**	*i* P	**P**	**11 57 09.4**	**-1.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRVK	**Borovoye**	**102.10**	**322**	*i* P	**Pdif**	**11 57 24.7**	**-1.7**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARA0	**ARCESS Array S**	**116.31**	**346**	*e*PKPdf	**PKiKP**	**12 02 13.2**	**-1.7**
ARCES	**ARCESS Array B**	**116.31**	**346**	PKP	**PKiKP**	**12 02 13.2**	**-1.7**
	comp=Z,4.7nm,1.0s,baz=77,slow=2.0,SNR=9.2						
KIV	**Kislovodsk**	**121.34**	**315**	*e*PKIKP	**PKPdf**	**12 02 24.7**	**-0.8**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.9s						
BOSA	**Boshof**	**125.35**	**223**	PKP	**PKiKP**	**12 02 33.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=172,slow=7.1,SNR=2.3						
ESDC	**Sonseca Array**	**150.04**	**344**	PKPbc	**PKiKP**	**12 03 23.2**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=12,slow=2.9,SNR=4.2						
ESDC				PKPab	**sPKPbc**	**12 03 27.1**	**+0.3**
	comp=Z,0.2nm,0

6.0nm,0.8s
WRAB Tennant Creek 19.75 213 *e*P **P 12 10 53.8 -0.7**
6.3nm,0.9s
WB2 Warramunga Arr 19.76 213 *e*P **P 12 10 54.2 -0.3**
WR1 Warramunga Arr 19.76 213 *e*P **P 12 10 54.5 -0.1**
6.6nm,0.9s
WRA Warramunga Arr 19.76 213 P **P 12 10 54.5 -0.1**
0.2nm,0.3s,baz=38,slow=11,SNR=19
ASAR Alice Springs 23.08 209 P **P 12 11 30.7 +0.5**
2.8nm,0.9s,baz=34,slow=10,SNR=14
ASAR PcP **PcP 12 15 19.9 +0.8**
0.4nm,0.8s,baz=54,slow=2.4,SNR=3.1
FITZ Fitzroy Crossi 24.43 232 *e*P **P 12 11 40.7 -2.4**
2.5nm,0.8s
FITZ Fitzroy Crossi 24.43 232 P **P 12 11 44.1 +1.0**
1.6nm,0.7s,baz=67,slow=14,SNR=4.4
KSRS Korea Array 43.95 340 P **P 12 14 30.8 -0.5**
1.2nm,0.8s,baz=160,slow=8.7,SNR=4.9
KSAR Wonju Array Be 43.95 339 P **P 12 14 30.8 -0.5**
CMAR Chiang Mai Arr 50.94 297 P **P 12 15 25.9 -0.1**
0.6nm,0.3s,baz=118,slow=6.1,SNR=12
SONA0 Songino Array 61.58 331 *e*P **P 12 16 42.2 +0.6**
SONM Songino Array 61.58 331 P **P 12 16 42.2 +0.6**
0.6nm,0.8s,baz=105,slow=5.1,SNR=4.0
MK01 Makanchi Array 74.72 320 *e*P **P 12 18 04.4 +0.3**
MK32 Makanchi Array 74.74 320 *e*P **P 12 18 04.7 +0.6**
MKAR Makanchi Array 74.74 320 P **P 12 18 04.7 +0.6**
1.1nm,1.0s,baz=110,slow=7.0,SNR=5.9
ZALV Zalesovo Beam 76.20 328 P **P 12 18 12.5 +0.2**
0.4nm,0.5s,baz=94,slow=9.0,SNR=4.0
ZAA1 Zalesovo Array 76.20 328 *e*P **P 12 18 12.5 +0.2**
KURK Kurchatov 78.42 323 *e*P **P 12 18 24.4 -0.4**
2.8nm,1.1s
NRIK Noril'sk 82.49 342 P **P 12 18 46.5 +0.2**
1.8nm,0.6s,baz=112,slow=4.5,SNR=4.1
IL1 Eielson Array 83.69 23 *e*P **P 12 18 52.2 -0.4**
ILAR Eielson Array 83.69 23 P **P 12 18 52.1 -0.6**
2.2nm,0.9s,baz=256,slow=4.8,SNR=14
ILB Eielson Array 83.69 23 *e*P **P 12 18 52.5 -0.1**
4.4nm,1.1s
YKA Yellowknife Ar 97.55 27 P **P 12 19 58.4 +0.3**
0.4nm,1.0s,baz=276,slow=4.6,SNR=3.6
YKB5 Yellowknife Ar 97.55 27 *e*P **P 12 19 58.1 +0.1**

NIC ***19*** *12:18:00.8±0.1,34.96N×33.21E,h46km,ML2.5*
ISCJB ***19*** *12:18:02.2±1.3,34.96N±0.07×33.16E±0.06,h40km±10km, Error ellipse: s-maj=13.2km s-min=7.3km az=154.5*
ISK ***19*** *12:18:04.9,35.28N×33.08E,h17km,ML2.0/7*
ISC 19 12:18:02.5±1.1,35.03N±0.06×33.15E±0.05,h31km±4km, n11,σ0≥85/17,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CSS	**Mathiatis**	**0.16**	**115**	**P**		**Pb**	**12 18 08.4**	**-0.2**
	baz=267							
CSS				S		**Sb**	**12 18 13.9**	**+1.2**
LEF	**Lefka**	**0.23**	**292**	PG		**Pn**	**12 18 10.9**	**+1.1**
LEF				SG		**Sn**	**12 18 15.3**	**+0.9**
SZAC	**Souni**	**0.35**	**219**	P		**Pb**	**12 18 10.0**	**-0.9**
	baz=52							
SZAC				S		**Sb**	**12 18 17.1**	**+0.6**
LFK	**Lefkose**	**0.40**	**52**	PG		**Pn**	**12 18 12.8**	**+0.6**
LFK				SG		**Sn**	**12 18 18.9**	**+0.2**
ALFC	**Alefka**	**0.47**	**286**	P		**Pb**	**12 18 12.5**	**-0.1**
	baz=111							
ALFC				S		**Sn**	**12 18 21.0**	**+0.6**
PPCY	**Paphos**	**0.68**	**258**	P		**Pn**	**12 18 14.9**	**-1.0**
	baz=83							
TEKE	**Tekeli-Mersin**	**1.11**	**358**	PG		**Pn**	**12 18 22.3**	**+0.4**
IKL	**Isikli**	**1.28**	**20**	PG		**Pb**	**12 18 25.8**	**-0.3**
IKL				SG		**Sb**	**12 18 41.4**	**-0.8**
BERE	**Bereket-Mersin**	**1.31**	**3**	PG		**Pn**	**12 18 25.4**	**+0.5**
TEVE	**Tevekalti-Mers**	**1.42**	**10**	PN		**Pb**	**12 18 27.2**	**-1.3**
KEBE	**Keben-Mersin**	**1.48**	**18**	PN		**Pn**	**12 18 27.6**	**+0.5**

IDC ***19*** *12:44:28.8±0.5,42.14N×29.56E,h0km,mb4.1/25, mb1 4.3/34,mb1mx4.1/63,mbtmp4.1/34,ML4.0/9,MS3.4/4, Ms1 3.5/4,ms1mx2.9/55,Error ellipse: s-maj=11.2km s-min=6.5km az=38.0*
MOS ***19*** *12:44:28.5±0.8,42.18N×29.59E,h9km,mb4.4/11,Error ellipse: s-maj=5.4km s-min=4.1km az=84.1*
ISCJB ***19*** *12:44:31.0±0.5,42.19N±0.01×29.56E±0.02,h27km±4km, mb4.2/45,MS3.6/4,Error ellipse: s-maj=2.1km s-min=1.5km az=145.7*
NEIC ***19*** *12:44:30.1±0.0,42.13N×29.58E,h11km,mb4.4/12, ML4.5(ISK),After ISK.*
NEIC Felt [It] at Istanbul, Turkey.
ISK ***19*** *12:44:30.2,42.13N×29.58E,h12km,ML4.5/68*
MED_RC ***19*** *12:44:30.0±0.8,42.16N×29.56E,h32km±1km,MW4.7/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration: 1≥0 Moment tensor: Scale 10^16^Nm; Mrr1.12±.40; Mθθ0.21±.39; Mφφ-1.33±.25; Mrθ-0.15±.14; Mrφ-0.54±.14; Mθφ-0.17±.10; Best double couple: Mo1.33000×10^16^ NP1:φs204.00000°,δ50.00000°,λ99.00000°. NP2: φs10.00000°,δ41.00000°,λ79.00000°. Principal axes: T 1.1500, Plg82.0000°, Azm165.0000°; N 0.3700, Plg7.0000°, Azm18.0000°; P -1.5200, Plg5.0000°, Azm288.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
DDA ***19*** *12:44:31.5,42.10N×29.59E,h46km±2km,ML4.5*
ISC 19 12:44:30.5±0.9,42.15N±0.03×29.58E±0.02,h12km±6km, n407,σ1≥55/461,mb4.3/45,MS3.6/4,46C-36D,Black Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KLYT	**Kilyos**	**0.99**	**204**	PG		**Pn**	**12 44 49.8**	**-0.3**
KLYT				SG		**Sb**	**12 45 02.3**	**-0.1**
KLYT	**Kilyos**	**0.99**	**204**	⇑*i*P		**Pn**	**12 44 49.7**	**-0.3**
KLYT	**Kilyos**	**0.99**	**204**	S		**Sg**	**12 45 00.9**	**-1.4**
SILT	**Sile**	**1.00**	**177**	PG		**Pn**	**12 44 50.2**	**-0.1**
SILT				SG		**Sg**	**12 45 02.6**	**-0.2**
SILT	**Sile**	**1.00**	**177**	*e*Pg		**Pb**	**12 44 49.9**	**+0.2**
SILT				*e*Sg		**Sg**	**12 45 02.3**	**-0.4**
SILT	**Sile**	**1.00**	**177**	⇑*i*P		**Pn**	**12 44 50.2**	**-0.1**
SILT	**Sile**	**1.00**	**177**	S		**Sg**	**12 45 02.4**	**-0.4**
BGKT	**Bogazkoy**	**1.15**	**212**	PN		**Pg**	**12 44 52.5**	**0.0**
BGKT	**Bogazkoy**	**1.15**	**212**	*e*Pn		**Pb**	**12 44 52.0**	**-0.1**
KAND	**Kocaeli-Kandir**	**1.16**	**156**	⇓*i*P		**Pg**	**12 44 52.7**	**+0.1**
KAND				*i* S		**Sg**	**12 45 07.4**	**-0.2**
ISK	**Istanbul-Kandi**	**1.16**	**200**	PN		**Pb**	**12 44 52.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.16**	**200**	*e*Pn		**Pb**	**12 44 52.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.16**	**200**	*e*P		**Pb**	**12 44 52.3**	**0.0**
KAVV	**Kandilli-Istan**	**1.16**	**200**	PN		**Pn**	**12 44 52.4**	**0.0**
KAVV				SN		**Sb**	**12 45 06.8**	**-0.5**
KIYI	**Yalıkoy-Catalc**	**1.17**	**235**	PN		**Pg**	**12 44 52.8**	**-0.1**
CTKS	**Kestanelik-??a**	**1.22**	**222**	PN		**Pn**	**12 44 53.1**	**-0.1**
CTKS	**Kestanelik-??a**	**1.22**	**222**	*e*Pn		**Pn**	**12 44 53.1**	**-0.1**
ELBA	**Catalca**	**1.32**	**221**	⇑*i*P		**Pb**	**12 44 55.5**	**+0.2**
ELBA				*i* S		**Sb**	**12 45 10.9**	**-1.2**
BUY	**Buyukada**	**1.35**	**195**	PN		**Pb**	**12 44 54.7**	**-0.3**
BUY	**Buyukada**	**1.35**	**195**	⇓*i*P		**Pb**	**12 44 55.6**	**0.0**
BUY				*i* S		**Sb**	**12 45 12.5**	**-0.3**
SLVT	**Silivri**	**1.38**	**228**	PN		**Pb**	**12 44 55.8**	**-0.4**
SLVT	**Silivri**	**1.38**	**228**	*e*Pn		**Pb**	**12 44 55.8**	**-0.4**
SAUV	**Serdivan-Sakar**	**1.52**	**158**	PN		**Pn**	**12 44 57.4**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.57**	**159**	PN		**Pn**	**12 44 58.6**	**+0.5**
YLV	**Yalova**	**1.59**	**186**	PN		**Pn**	**12 44 58.8**	**+0.3**
YLV	**Yalova**	**1.59**	**186**	⇓*i*P		**Pn**	**12 44 59.0**	**+0.5**
YLV	**Yalova**	**1.59**	**186**	S		**Sn**	**12 45 18.6**	**-0.4**
SAHE	**Sakarya_HENDEK**	**1.61**	**143**	⇓*i*P		**Pn**	**12 44 59.3**	**+0.5**
SAHE				*i* S		**Sn**	**12 45 19.4**	**-0.1**
PHSR	**Pinarhisar**	**1.62**	**252**	PN		**Pn**	**12 44 59.5**	**+0.6**
PHSR	**Pinarhisar**	**1.62**	**252**	⇑*i*P		**Pn**	**12 44 59.4**	**+0.6**
PHSR	**Pinarhisar**	**1.62**	**252**	S		**Sn**	**12 45 18.1**	**-1.5**
KDZE	**Karadeniz Ereo**	**1.63**	**120**	PN		**Pn**	**12 44 59.2**	**+0.3**
KDZE	**Karadeniz Ereo**	**1.63**	**120**	⇓*i*P		**Pn**	**12 44 59.3**	**+0.3**
KDZE	**Karadeniz Ereo**	**1.63**	**120**	S		**Sn**	**12 45 18.8**	**-1.0**
ARMT	**Armutlu**	**1.68**	**199**	PN		**Pn**	**12 44 59.8**	**+0.2**
CRLT	**Corlu**	**1.72**	**234**	PN		**Pn**	**12 45 00.3**	**+0.1**
GEMT	**Gemlik**	**1.74**	**190**	PN		**Pn**	**12 45 00.8**	**+0.3**
GEYV	**SAKARYA_Geyve**	**1.75**	**162**	⇓*i*P		**Pb**	**12 45 02.0**	**-0.5**
GEYV				*i* S		**Sn**	**12 45 22.9**	**0.0**
MANR	**Mangalia**	**1.81**	**337**	⇑*i*P		**Pn**	**12 45 02.2**	**+0.7**
MANR	**Mangalia**	**1.81**	**337**	S		**Sn**	**12 45 23.4**	**-1.0**
PSN	**Preselentsi**	**1.84**	**327**	PN		**Pn**	**12 45 01.4**	**-0.4**
YIGI	**Dzce**	**1.84**	**130**	⇓*i*P		**Pn**	**12 45 02.2**	**+0.4**
YIGI				*i* S		**Sn**	**12 45 23.7**	**-1.4**
GULT	**Gulveren**	**1.86**	**157**	PN		**Pn**	**12 45 02.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.86**	**197**	PN		**Pn**	**12 45 02.6**	**+0.5**
KIRK	**Kırklareli**	**1.89**	**259**	⇓*i*P		**Pn**	**12 45 03.3**	**+0.8**
KIRK				*i* S		**Sn**	**12 45 24.6**	**-1.6**
BTAS	**Taskesti**	**1.91**	**145**	⇓*i*P		**Pn**	**12 45 03.6**	**+0.7**
BTAS				*i* S		**Sn**	**12 45 27.3**	**+0.5**
IGD	**Bursa**	**1.91**	**189**	⇓*i*P		**Pn**	**12 45 03.9**	**+1.1**
IGD				*i* S		**Sn**	**12 45 25.9**	**-0.8**
IGD				IAML_P				
	comp=Z,9μm,0.2s							
TKR	**Tekirdag**	**1.92**	**233**	PN		**Pn**	**12 45 03.1**	**+0.1**
GPA	**Golpazari**	**1.94**	**163**	PN		**Pn**	**12 45 03.6**	**+0.3**
CAVI	**Cavuskoy**	**1.96**	**174**	PN		**Pn**	**12 45 03.1**	**+0.4**
EFOR	**EFORIE**	**2.04**	**341**	⇑*i*P		**Pn**	**12 45 05.2**	**+0.6**
EFOR	**EFORIE**	**2.04**	**341**	S		**Sn**	**12 45 28.6**	**-1.5**
BTIN	**Bartın**	**2.06**	**104**	⇓*i*P		**Pn**	**12 45 05.6**	**+0.8**
BTIN				*i* S		**Sn**	**12 45 29.5**	**-1.0**
MDUB	**Mudurnu**	**2.08**	**144**	PN		**Pn**	**12 45 05.4**	**+0.2**
MDUB	**Mudurnu**	**2.08**	**144**	Pn		**Pn**	**12 45 06.4**	**+1.2**
MDUB				Sn		**Sn**	**12 45 31.3**	**+0.3**
KCTX	**Karacabey (Bur**	**2.10**	**206**	PN		**Pn**	**12 45 05.9**	**+0.5**
EDRB	**Edirne**	**2.13**	**263**	PN		**Pn**	**12 45 06.1**	**+0.2**
MRMT	**Marmara Adasi**	**2.15**	**225**	PN		**Pn**	**12 45 06.6**	**+0.4**
ORLT	**Orhaneli**	**2.17**	**194**	PN		**Pn**	**12 45 06.9**	**+0.5**
MASR	**Amasra-Bartin**	**2.19**	**99**	PN		**Pn**	**12 45 07.0**	**+0.3**
MFTR	**Murfatlar**	**2.19**	**338**	⇑*i*P		**Pn**	**12 45 07.3**	**+0.6**
MFTR	**Murfatlar**	**2.19**	**338**	S		**Sn**	**12 45 35.2**	**+1.5**
EDC	**Edincik**	**2.22**	**216**	PN		**Pn**	**12 45 06.9**	**-0.2**
JMB	**Yambol**	**2.24**	**279**	PN		**Pn**	**12 45 08.3**	**+0.9**
SRCK	**Saricakaya, Es**	**2.25**	**159**	PN		**Pn**	**12 45 07.9**	**+0.4**
AUBOZ	**BOZOYUK**	**2.27**	**171**	PN		**Pn**	**12 45 07.6**	**+0.2**
AUBOZ	**BOZOYUK**	**2.27**	**171**	*i* P		**Pb**	**12 45 09.5**	**-1.8**
AUBOZ				*i* S		**Sn**	**12 45 37.0**	**+1.3**
BCAM	**Yenicaga**	**2.30**	**125**	⇓*i*P		**Pn**	**12 45 09.9**	**+1.7**
BCAM				*i* S		**Sn**	**12 45 36.6**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.33**	**232**	PN		**Pn**	**12 45 08.9**	**+0.3**
ICOR	**Ion Corvin**	**2.35**	**327**	⇑*i*P		**Pn**	**12 45 09.7**	**+0.8**
ICOR	**Ion Corvin**	**2.35**	**327**	S		**Sn**	**12 45 39.0**	**+1.3**
BORA	**Eskisehir**	**2.37**	**163**	PN		**Pn**	**12 45 09.6**	**+0.4**
BORA	**Eskisehir**	**2.37**	**163**	⇓*i*P		**Pn**	**12 45 10.4**	**+1.2**
BORA				*i* S		**Sn**	**12 45 37.5**	**-0.6**
KURC	**Kurucasile-Bar**	**2.38**	**96**	PN		**Pn**	**12 45 09.8**	**+0.6**
KIBS	**BOLU**	**2.44**	**135**	⇓*i*P		**Pn**	**12 45 11.5**	**+1.3**
KIBS				*i* S		**Sn**	**12 45 40.7**	**+0.8**
CVDA	**Cernavoda**	**2.45**	**333**	⇑*i*P		**Pn**	**12 45 10.6**	**+0.4**
CVDA	**Cernavoda**	**2.45**	**333**	S		**Sn**	**12 45 38.6**	**-1.5**
TIRR	**Tirgusor**	**2.46**	**340**	*e*Pn		**Pn**	**12 45 10.9**	**+0.6**
TIRR				*e*Sn		**Sn**	**12 45 38.5**	**-1.7**
TIRR	**Tirgusor**	**2.46**	**340**	⇓*i*P		**Pn**	**12 45 10.9**	**+0.6**
TIRR	**Tirgusor**	**2.46**	**340**	S		**Sn**	**12 45 38.2**	**-2.0**
TIRR	**Tirgusor**	**2.46**	**340**	*e*P		**Pn**	**12 45 10.9**	**+0.6**
TIRR				*e*			12 45 38.5	
KBUK	**KARABUK-Merkez**	**2.46**	**111**	⇓*i*P		**Pn**	**12 45 11.0**	**+0.6**
KBUK				*i* S		**Sn**	**12 45 38.3**	**-2.1**
KRBG	**Karabiga-Canak**	**2.46**	**225**	PN		**Pn**	**12 45 10.7**	**+0.4**
SAFT	**Safranbolu**	**2.50**	**110**	PN		**Pn**	**12 45 11.1**	**+0.2**
GONE	**Gonen-Balikesi**	**2.55**	**215**	PN		**Pn**	**12 45 11.8**	**+0.3**
DST	**Dursunbey**	**2.65**	**196**	PN		**Pn**	**12 45 12.7**	**-0.3**
TLB	**Topalu**	**2.68**	**336**	⇑*i*P		**Pn**	**12 45 13.8**	**+0.5**
AUMIH	**MIHALICIK**	**2.70**	**147**	PN		**Pn**	**12 45 13.9**	**+0.1**
TVSB	**Tavsanli**	**2.70**	**182**	PN		**Pn**	**12 45 14.0**	**+0.2**
RASA	**Rasa**	**2.72**	**320**	⇑*i*P		**Pn**	**12 45 15.0**	**+1.1**
CMDR	**Camlidere-ANKA**	**2.74**	**126**	⇓*i*P		**Pb**	**12 45 16.9**	**-2.5**
CMDR				*i* S		**Sn**	**12 45 48.8**	**+1.3**
ERIK	**Erikli-Kesan**	**2.74**	**238**	PN		**Pn**	**12 45 15.2**	**+1.0**
LPK	**Lapseki**	**2.77**	**231**	PN		**Pn**	**12 45 15.2**	**+0.6**
ESKT	**Eskisehir**	**2.80**	**159**	PN		**Pn**	**12 45 15.5**	**+0.3**
HARR	**Harsova**	**2.81**	**335**	⇑*i*P		**Pn**	**12 45 15.6**	**+0.5**
BALB	**Balikesir**	**2.82**	**208**	PN		**Pn**	**12 45 16.1**	**+0.7**
BALB	**Balikesir**	**2.82**	**208**	Pn		**Pn**	**12 45 16.0**	**+0.7**
PELI	**Kastamonı-Ara**	**2.92**	**106**	⇓*i*P		**Pn**	**12 45 18.7**	**+1.9**
PELI				*i* S		**Sn**	**12 45 52.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.92**	**234**	PN		**Pn**	**12 45 17.2**	**+0.5**
ALN	**Alexandroupoli**	**2.94**	**246**	PN		**Pn**	**12 45 17.7**	**+0.8**
ALN	**Alexandroupoli**	**2.94**	**246**	*e*Pn		**Pn**	**12 45 17.3**	**+0.4**
ALN				*e*Sn		**Sn**	**12 45 50.5**	**-1.5**
ALN	**Alexandroupoli**	**2.94**	**246**	P		**Pn**	**12 45 16.6**	**-0.3**
ALN	**Alexandroupoli**	**2.94**	**246**	*e*P		**Pn**	**12 45 17.3**	**+0.4**
ALN				*e*			12 45 50.5	
ENEZ	**Enez**	**2.94**	**242**	PN		**Pn**	**12 45 17.5**	**+0.6**
AMRR	**Amara**	**2.95**	**327**	⇑*i*P		**Pn**	**12 45 18.7**	**+1.6**
CIFT	**Cifteler, Eski**	**3.01**	**158**	PN		**Pn**	**12 45 18.8**	**+0.8**
LEHL	**Lehliu**	**3.07**	**320**	⇑*i*P		**Pn**	**12 45 19.1**	**+0.4**
SVRH	**Sivrihisar-ESK**	**3.08**	**151**	PN		**Pn**	**12 45 19.2**	**+0.5**
TLCR		**3.08**	**350**	⇑*i*P		**Pn**	**12 45 19.6**	**+0.7**
SMAA	**Simav-Kutahya**	**3.08**	**189**	PN		**Pn**	**12 45 19.2**	**+0.2**
AUSIV	**SIVRIHISAR**	**3.09**	**151**	PN		**Pn**	**12 45 19.6**	**+0.4**
GEDZ	**Gediz**	**3.11**	**182**	PN		**Pn**	**12 45 20.0**	**+0.6**
SHAP	**Saphane-Kutahy**	**3.14**	**185**	PN		**Pn**	**12 45 20.5**	**+0.7**
KDZ	**Kurdzhali**	**3.15**	**262**	PN		**Pn**	**12 45 21.8**	**+2.0**
RDO	**Rodhopi**	**3.19**	**253**	PN		**Pn**	**12 45 20.8**	**+0.4**
RDO	**Rodhopi**	**3.19**	**253**	P		**Pn**	**12 45 20.6**	**+0.2**
CFR	**Carcaliu**	**3.20**	**341**	⇑*i*P		**Pn**	**12 45 20.8**	**+0.3**
BZK	**Bozkurt**	**3.30**	**92**	PN		**Pn**	**12 45 22.5**	**+0.6**
LOD	**Lodumlu**	**3.31**	**132**	PN		**Pn**	**12 45 23.1**	**+1.0**
ANTO	**Ankara**	**3.34**	**132**	*e*Pn		**Pn**	**12 45 23.6**	**+1.2**
ANTO	**Ankara**	**3.34**	**132**	*e*P		**Pn**	**12 45 23.7**	**+1.2**
PGOR	**Pogoanele**	**3.34**	**326**	⇓*i*P		**Pn**	**12 45 24.3**	**+1.9**
BR231	**Keskin MP Arra**	**3.34**	**133**	*e*Pn		**Pn**	**12 45 23.7**	**+1.1**
BR231				*e*Sn		**Sn**	**12 46 09.9**	**-1.4**
SGRR	**Singureni**	**3.35**	**309**	⇑*i*P		**Pn**	**12 45 24.1**	**+0.5**
EZN	**Ezine**	**3.39**	**228**	PN		**Pn**	**12 45 23.9**	**+0.8**
EZN	**Ezine**	**3.39**	**228**	⇑*i*P		**Pn**	**12 45 23.5**	**+0.4**
BUC1	**Bucharest**	**3.40**	**311**	⇓*i*P		**Pn**	**12 45 24.6**	**+1.4**
ZIMR		**3.44**	**297**	⇓*i*P		**Pn**	**12 45 24.5**	**+0.7**
GIUM	**Giurgiulesti**	**3.47**	**344**	⇓*i*P		**Pn**	**12 45 23.6**	**-0.7**
SMTH	**Samothraki Isl**	**3.48**	**242**	P		**Pn**	**12 45 24.3**	**-0.1**
SULR		**3.50**	**317**	⇓*i*P		**Pn**	**12 45 26.3**	**+1.7**
TOS	**Tosya**	**3.52**	**107**	PN		**Pn**	**12 45 26.4**	**+1.4**
BOZC	**Bozcaada**	**3.53**	**230**	PN		**Pn**	**12 45 26.2**	**+1.1**
AKS	**Akhisar**	**3.54**	**203**	PN		**Pn**	**12 45 25.7**	**+0.5**
PLD	**Plovdiv**	**3.63**	**271**	PN		**Pn**	**12 45 26.3**	**-0.1**
SHUT	**Suhut-Afyon**	**3.67**	**168**	PN		**Pn**	**12 45 27.9**	**+0.7**
ISR	**Istrita**	**3.69**	**324**	⇓*i*P		**Pn**	**12 45 29.4**	**+2.0**
KULA	**Kula-Manisa**	**3.70**	**191**	PN		**Pn**	**12 45 29.4**	**+1.9**
KULA	**Kula-Manisa**	**3.70**	**191**	P		**Pn**	**12 45 28.1**	**+0.6**
GRER		**3.74**	**331**	⇑*i*P		**Pn**	**12 45 25.3**	**-2.6**
MANT	**Manisa**	**3.74**	**192**	*e*Pn		**Pn**	**12 45 29.0**	**+0.7**
PLAR	**PLOIESTI**	**3.78**	**318**	⇑*i*P		**Pn**	**12 45 30.1**	**+1.6**
AFSR	**Afar-Bala (An**	**3.79**	**134**	PN		**Pn**	**12 45 29.5**	**+0.8**
SEV	**Sevastopol'**	**3.82**	**50**	⇑*e*P		**Pn**	**12 45 28.6**	**-0.4**
SEV				*e*S		**Sn**	**12 46 09.5**	**-4.3**
SEV				*i* S		**Sn**	**12 46 09.7**	**-4.1**
PRK	**Paraskevi**	**3.84**	**222**	P		**Pn**	**12 45 30.9**	**+1.6**
SECR		**3.85**	**320**	⇓*i*P		**Pn**	**12 45 30.5**	**+1.1**
BR101	**Keskin Array S**	**3.92**	**127**	*e*Pn		**Pn**	**12 45 31.4**	**+0.8**
BR101				*e*Pb		**Pb**	**12 45 38.4**	**-1.1**
BR101				*e*Sn		**Sn**	**12 46 14.6**	**-1.9**
BR131	**Keskin Array S**	**3.92**	**127**	*e*Pn		**Pn**	**12 45 31.5**	**+0.9**
BR131				*e*Sn		**Sn**	**12 46 14.5**	**-2.0**
BRTR	**Keskin Array B**	**3.92**	**127**	Pn		**Pn**	**12 45 31.4**	**+0.8**
	comp=Z,5.1nm,0.3s,baz=300,slow=12,SNR=96							
BRTR				Pg		**Pb**	**12 45 38.4**	**-1.1**
	comp=Z,10nm,0.3s,baz=306,slow=13,SNR=32							
BRTR				Sn		**Sn**	**12 46 14.6**	**-1.9**
	comp=Z,16nm,0.3s,baz=83,slow=13,SNR=14							
BRTR				LR		LR	12 47 17.7	
	comp=Z,293nm,20.8s,baz=284,slow=43							
THAS	**Thassos island**	**3.97**	**249**	P		**Pn**	**12 45 30.9**	**-0.2**
KAVA	**Kavala**	**3.97**	**255**	P		**Pn**	**12 45 31.2**	**+0.1**
LIA	**Limnos Island**	**4.02**	**237**	P		**Pn**	**12 45 31.8**	**+0.1**
ODBI	**Odobesti**	**4.04**	**334**	⇑*i*P		**Pn**	**12 45 32.6**	**+0.5**
KULU	**Kulu**	**4.06**	**139**	PN		**Pn**	**12 45 32.8**	**+0.4**
YAL	**Yalta**	**4.07**	**54**	⇑*e*P		**Pn**	**12 45 32.9**	**+0.4**
YAL				*i* S		**Sn**	**12 46 16.6**	**-3.4**
SIGR	**SIGRI**	**4.08**	**225**	PN		**Pn**	**12 45 33.6**	**+1.0**
SIGR	**SIGRI**	**4.08**	**225**	P		**Pn**	**12 45 33.1**	**+0.5**
HUMR	**Humele**	**4.11**	**307**	⇓*i*P		**Pn**	**12 45 34.7**	**+1.7**
SNOP	**Sinop**	**4.19**	**90**	PN		**Pn**	**12 45 36.4**	**+2.3**
SNOP	**Sinop**	**4.19**	**90**	*e*Pn		**Pn**	**12 45 36.2**	**+2.1**
SNOP				*e*Sn		**Sn**	**12 46 23.5**	**+0.5**
VLAD	**Vladila**	**4.21**	**298**	⇓*i*P		**Pn**	**12 45 34.8**	**+0.3**
BLCB	**Balcova**	**4.24**	**208**	PN		**Pn**	**12 45 35.9**	**+1.1**
KRBN	**Karaburun**	**4.24**	**214**	PN		**Pn**	**12 45 36.4**	**+1.6**
VRI	**Vrincioaia**	**4.24**	**332**	⇑*i*P		**Pn**	**12 45 36.2**	**+1.3**
MLR	**Muntele Rosu**	**4.25**	**323**	⇑*i*P		**Pn**	**12 45 36.8**	**+1.8**
MLR	**Muntele Rosu**	**4.25**	**323**	Pn		**Pn**	**12 45 36.8**	**+1.8**
	comp=Z,21nm,0.3s,baz=61,slow=3.6,SNR=214							
MLR				Sn		**Sn**	**12 46 24.5**	**-0.1**
	comp=Z,18nm,0.3s,baz=74,slow=20,SNR=6.4							
PLOR	**Plostina**	**4.26**	**331**	⇓*i*P		**Pn**	**12 45 36.4**	**+1.3**
DIKM	**Dikmen**	**4.27**	**95**	PN		**Pn**	**12 45 36.6**	**+1.4**
DIKM	**Dikmen**	**4.27**	**95**	⇓*i*P		**Pn**	**12 45 34.6**	**-0.6**
GOLR		**4.30**	**310**	⇑*i*P		**Pn**	**12 45 36.8**	**+1.2**
SIM	**Simferopol'**	**4.32**	**48**	⇓*e*P		**Pn**	**12 45 37.0**	**+1.1**
SIM				*e*S		**Sn**	**12 46 22.3**	**-3.9**
ALU	**Alushta**	**4.33**	**53**	*e*P		**Pn**	**12 45 35.8**	**-0.2**
ALU				*e*S		**Sn**	**12 46 20.8**	**-5.5**
BIR	**Birlad**	**4.34**	**342**	⇑*i*P		**Pn**	**12 45 38.0**	**+1.8**
CHBY	**Cihanbeyli**	**4.37**	**144**	PN		**Pn**	**12 45 37.9**	**+1.1**
ISP	**Isparta**	**4.39**	**170**	PN		**Pn**	**12 45 38.2**	**+1.2**
ISP	**Isparta**	**4.39**	**170**	*e*Pn		**Pn**	**12 45 38.0**	**+1.1**
ISP	**Isparta**	**4.39**	**170**	P		**Pn**	**12 45 39.2**	**+2.2**
ISP	**Isparta**	**4.39**	**170**	*e*P		**Pn**	**12 45 38.1**	**+1.1**
AYDB	**Zeytinkoy-Aydi**	**4.40**	**198**	PN		**Pn**	**12 45 38.1**	**+1.0**
SERE	**Serefiikochisa**	**4.41**	**135**	PN		**Pn**	**12 45 38.5**	**+1.2**
LEOM	**Leova**	**4.42**	**348**	⇑*i*P		**Pn**	**12 45 38.5**	**+1.2**
URLA	**Izmir**	**4.42**	**212**	PN		**Pn**	**12 45 38.7**	**+1.3**
LADK	**Ladik-KONYA**	**4.49**	**151**	PN		**Pn**	**12 45 39.3**	**+0.9**
MTUR	**Matau**	**4.49**	**315**	⇑*i*P		**Pn**	**12 45 40.0**	**+1.7**
YAYX	**Yaylak**	**4.55**	**133**	PN		**Pn**	**12 45 40.8**	**+1.6**
OUR	**Ouranopolis**	**4.59**	**249**	PN		**Pn**	**12 45 41.5**	**+1.8**
OUR

CRES	**Cresnjev**	**10.82**	**295**	*e*Pn		**Pn**		**12 47 04.6**	**-0.4**
DOBS	**Dobrina**	**10.89**	**296**	*i* Pn		**Pn**		**12 47 05.7**	**-0.4**
GROS	**Grobnik**	**10.97**	**298**	*i* Pn		**Pn**		**12 47 06.6**	**-0.5**
NVLJ	**Novalja**	**10.98**	**288**	P		**Pn**		**12 47 09.1**	**+1.9**
VSR	**Storozhevoye**	**11.19**	**33**	*e*P		**Pn**		**12 47 09.0**	**-1.1**
VSR					pmax	pmax			
	comp=Z,20nm,1.3s								
ARSA	**Arzberg**	**11.22**	**302**	*i* Pn		**Pn**		**12 47 10.8**	**+0.3**
	comp=Z,13nm,0.7s								
CONA	**Conrad Observa**	**11.29**	**305**	*e*Pn		**Pn**		**12 47 11.8**	**+0.3**
	comp=Z,13nm,1.3s								
SOKA	**Soboth**	**11.34**	**298**	*e*Pn		**Pn**		**12 47 12.4**	**+0.1**
	comp=Z,8.9nm,0.9s								
CEY	**Cerknica**	**11.49**	**293**	*e*Pn		**Pn**		**12 47 11.0**	**-3.3**
VRAC	**Vranov**	**11.54**	**313**	Pn		**Pn**		**12 47 17.9**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=127,slow=13,SNR=3.7								
OBKA	**Obir**	**11.61**	**297**	*e*Pn		**Pn**		**12 47 16.3**	**+0.3**
	comp=Z,15nm,1.4s								
TREC	**Trest**	**12.15**	**311**	AMS		AMS		12 53 30.0	
	comp=Z,500nm,14.2s								
LPSR	**Galich'ya Gora**	**12.21**	**28**	*e*P		**Pn**		**12 47 22.1**	**-1.9**
LPSR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
MOA	**Molln**	**12.24**	**303**	*e*Pn		**Pn**		**12 47 25.3**	**+0.8**
	comp=Z,13nm,1.2s								
DPC	**Dobruska-Polom**	**12.29**	**316**	*e*P		**Pn**		**12 47 26.3**	**+1.1**
DPC	**Dobruska-Polom**	**12.29**	**316**	*e*P		**Pn**		**12 47 26.3**	**+1.1**
VRH	**Novokhopyorsk**	**12.29**	**38**	*e*P		**Pn**		**12 47 26.1**	**+1.0**
VRH					pmax	pmax			
	comp=Z,30nm,0.7s								
SUW	**Suwalki**	**12.61**	**342**	*e*P		**Pn**		**12 47 26.8**	**-2.5**
SUW	**Suwalki**	**12.61**	**342**	*e*Pn		**Pn**		**12 47 26.9**	**-2.5**
SUW	**Suwalki**	**12.61**	**342**	*e*P		**Pn**		**12 47 26.9**	**-2.5**
GOPC	**GO Pecny, Ondr**	**12.86**	**312**	AMS		AMS		12 54 20.0	
	comp=Z,500nm,14.7s								
NACGM	**Naroch**	**12.89**	**353**	*e*Pn		**Pn**		**12 47 30.0**	**-3.3**
NACGM				*e*Sn		Sn		12 49 47.0	-10
GEA0	**GERESS Array S**	**12.98**	**306**	*e*Pn		**Pn**		**12 47 34.3**	**-0.3**
GERES	**GERESS Array B**	**12.98**	**306**	Pn		**Pn**		**12 47 35.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=102,slow=12,SNR=16								
ABTA	**Abfaltersbach**	**13.03**	**296**	*e*Pn		**Pn**		**12 47 37.1**	**+1.8**
	comp=Z,14nm,1.2s								
PRU	**Pruhonice**	**13.04**	**312**	AMS		AMS		12 54 00.0	
	comp=Z,400nm,12.8s								
KHC	**Kasperske Hory**	**13.18**	**307**	*e*Pn		**Pn**		**12 47 38.7**	**+1.4**
KHC	**Kasperske Hory**	**13.18**	**307**	*e*P		**Pn**		**12 47 37.9**	**+0.6**
KHC	**Kasperske Hory**	**13.18**	**307**	*e*P		**Pn**		**12 47 38.7**	**+1.4**
IDID	**Didziasalis**	**13.30**	**353**	*e*P		**Pn**		**12 47 36.4**	**-2.5**
IDID					IAmb	IAmb		12 47 37.6	
	comp=Z,9.6nm,0.6s								
IIGN	**Ignalina**	**13.39**	**352**	*e*P		**Pn**		**12 47 37.4**	**-2.7**
IIGN					IAmb	IAmb		12 47 39.6	
	comp=Z,30nm,0.4s								
ISAL	**Salakas**	**13.62**	**352**	*e*P		**Pn**		**12 47 40.2**	**-3.0**
ISAL					IAmb	IAmb		12 47 42.4	
	comp=Z,17nm,0.6s								
OBN	**Obninsk**	**13.76**	**17⇑**	*e*P		**Pn**		**12 47 46.4**	**+1.3**
OBN				*e*S		**Sn**		**12 50 18.9**	**+1.2**
OBN					pmax	pmax			
	comp=Z,14nm,0.3s								
OBN					MLR	MLR			
	comp=Z,136nm,17.0s								
IZAR	**Zarasai**	**13.78**	**352**	*e*P		Pn		12 47 38.5	-6.9
IZAR					IAmb	IAmb		12 47 43.8	
	comp=Z,12nm,0.7s								
FETA	**Feichten**	**14.28**	**296**	*e*Pn		**Pn**		**12 47 54.9**	**+2.4**
	comp=Z,8.7nm,1.2s								
CLL	**Collm**	**14.57**	**315**	*e*P		**Pn**		**12 47 57.0**	**+0.8**
MOS	**Moscow**	**14.57**	**18**	*e*P		Pn		12 47 46.9	-9.3
MOS				*e*				12 50 46.2	
PBUR	**Paburg**	**14.74**	**343**	*e*P		Pn		12 47 44.3	-14
PBUR					IAmb	IAmb		12 47 48.9	
	comp=Z,76nm,1.0s								
DAVOX	**Davos/Dischmat**	**14.80**	**295**	Pn		**Pn**		**12 48 00.8**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=86,slow=11,SNR=5.7								
DAVA	**Damuels**	**14.90**	**297**	*e*P		**P**		**12 48 07.2**	**+0.5**
	comp=Z,9.9nm,0.5s								
VSU	**Vasula**	**16.43**	**355**	*i* P		**P**		**12 48 22.3**	**-1.0**
VSU					pmax	pmax			
	comp=Z,38nm,0.9s								
VSU	**Vasula**	**16.43**	**355**	*e*P		**Pn**		**12 48 17.4**	**-3.1**
VSU					IAmb	IAmb		12 48 28.5	
	comp=Z,72nm,0.9s								
SENIN	**Lac Senin/Sane**	**16.49**	**292**	*e*Pn		**Pn**		**12 48 22.3**	**+0.6**
	comp=Z,11nm,1.0s								
WLF	**Walferdange**	**17.90**	**303**	⇑P		**P**		**12 48 39.6**	**-0.1**
MEM	**Membach**	**18.27**	**306**	⇑P		**Pn**		**12 48 43.1**	**-0.5**
SNF	**Seneffe**	**19.29**	**304**	⇑P		**P**		**12 48 52.8**	**-2.1**
	comp=Z,11nm,0.6s								
SNF				⇑pP		**pwP**		**12 49 00.7**	**+0.2**
FIA0	**FINESS Array S**	**19.43**	**355**	*e*P		**P**		**12 48 53.3**	**-3.1**
FIA0	**FINESS Array S**	**19.43**	**355**	*e*P		**P**		**12 48 53.3**	**-3.1**
FINES	**FINESS Array B**	**19.43**	**355**	Pn		**P**		**12 48 53.3**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=161,slow=13,SNR=17								
FINES					Sn	Sn		12 52 09.2	-26
	comp=Z,0.2nm,0.3s,baz=173,slow=16,SNR=2.5								
FIA1	**FINESS Array S**	**19.43**	**355**	*e*P		**P**		**12 48 56.8**	**+0.4**
KLMR	**Klimovskoe**	**19.68**	**15**	*e*P		**P**		**12 48 59.4**	**+0.4**
KLMR				*e*				12 52 41.9	
KLMR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KLMR	**Klimovskoe**	**19.68**	**15**	*e*Pn		**P**		**12 48 59.5**	**+0.4**
KLMR					AMP			12 49 12.2	
	comp=Z,10.0nm,0.7s								
KLMR				*e*Sn		**Sn**		**12 52 42.0**	**+0.8**
KLMR				*e*Sn		**Sn**		**12 52 42.0**	**+0.8**
HFS	**Hagfors**	**20.48**	**337**	P		**P**		**12 49 07.6**	**-0.1**
	comp=Z,6.7nm,0.5s,baz=144,slow=13,SNR=17								
HFS				S		S		12 52 45.0	-11
	comp=Z,3.4nm,0.5s,baz=134,slow=26,SNR=5.9								
AKTO	**Aktyubinsk**	**21.22**	**57**	P		**P**		**12 49 16.3**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=257,slow=12,SNR=12								
AKTO				S		S		12 52 56.3	-15
	comp=Z,0.9nm,0.3s,baz=15,slow=19,SNR=3.0								
NC602	**NORSAR Array S**	**21.60**	**336**	*e*P		**P**		**12 49 19.0**	**-0.9**
	comp=Z,23nm,0.8s								
PRGR	**Permogore**	**21.76**	**21**	*e*P		**P**		**12 49 19.3**	**-2.3**
PRGR					pmax	pmax			
	comp=Z,24nm,0.9s								
NC405	**NORSAR Array S**	**21.85**	**336**	*e*P		**P**		**12 49 22.1**	**-0.4**
	comp=Z,5.7nm,0.6s								
NAO01	**NORSAR Array S**	**21.89**	**335**	*e*P		**P**		**12 49 22.6**	**-0.4**
	comp=Z,23nm,0.8s								
NB2	**NORSAR Subarra**	**21.94**	**336**	P		**P**		**12 49 22.6**	**-1.0**
	comp=Z,9.4nm,0.7s,baz=141,slow=10								
NB200	**NORSAR Array S**	**21.94**	**336**	*e*P		**P**		**12 49 22.8**	**-0.8**
NB200				*e*S		**S**		**12 53 23.1**	**-2.4**
NOA	**NORSAR Array B**	**21.94**	**336**	P		**P**		**12 49 22.8**	**-0.8**
	comp=Z,8.1nm,0.8s,baz=145,slow=9.8,SNR=26								
NOA				S		**S**		**12 53 23.1**	**-2.4**
	comp=Z,1.4nm,0.8s,baz=130,slow=22,SNR=3.8								
NOA				LR		LR		12 59 45.2	
	comp=Z,106nm,18.1s,baz=60,slow=42								
NC303	**NORSAR Array S**	**22.04**	**336**	*e*P		**P**		**12 49 24.0**	**-0.6**
	comp=Z,18nm,0.9s								
NBO00	**NORSAR Array S**	**22.07**	**335**	*e*P		**P**		**12 49 24.6**	**-0.3**
	comp=Z,12nm,0.9s								
GEYT	**Alibeck**	**22.20**	**91**	P		**P**		**12 49 27.9**	**+1.3**
	comp=Z,13nm,0.8s,baz=300,slow=12,SNR=18								
ABKAR	**Akbulak array**	**22.26**	**61**	*e*P		**P**		**12 49 27.2**	**+0.2**
	comp=Z,6.3nm,0.8s								
NC204	**NORSAR Array S**	**22.26**	**336**	*e*P		**P**		**12 49 26.2**	**-0.9**
ARU	**Arti**	**23.46**	**43**	*e*P		**P**		**12 49 37.8**	**-1.8**
	comp=Z,11nm,0.6s								
ARU	**Arti**	**23.46**	**43**	*d* iP		**P**		**12 49 39.8**	**+0.3**
ARU								12 50 04.9	
ARU				S		**S**		**12 53 54.8**	**+2.2**
ARU					pmax	pmax			
	comp=Z,10.0nm,0.9s								
EKA	**Eskdalemuir Ar**	**25.02**	**313**	P		**P**		**12 49 53.7**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=111,slow=10.0,SNR=6.1								
ESDC	**Sonseca Array**	**25.38**	**276**	P		**P**		**12 49 58.1**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=75,slow=9.7,SNR=10.0								
ARA0	**ARCESS Array S**	**27.53**	**357**	*e*P		**P**		**12 50 16.9**	**+0.4**
ARCES	**ARCESS Array B**	**27.53**	**357**	P		**P**		**12 50 16.9**	**+0.4**
	comp=Z,4.5nm,1.0s,baz=178,slow=9.5,SNR=6.4								
BRVK	**Borovoye**	**29.15**	**54**	*i* P		**P**		**12 50 32.6**	**+1.5**
BRVK					pmax	pmax			
	comp=Z,9.0nm,2.9s								
BVAR	**Borovoye Array**	**29.21**	**54**	P		**P**		**12 50 32.4**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=254,slow=6.2,SNR=4.5								
WSAR	**Wadi Sarin**	**30.66**	**119**	P		**P**		**12 50 45.3**	**+0.5**
	comp=Z,3.1nm,0.7s,baz=272,slow=9.6,SNR=3.0								
AAK	**Ala-Archa**	**32.88**	**74**	*i* P		**P**		**12 51 04.8**	**+0.5**
AAK					pmax	pmax			
	comp=Z,5.0nm,1.0s								
AAK	**Ala-Archa**	**32.88**	**74**	P		**P**		**12 51 05.1**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=217,slow=1.0,SNR=11								
NRN	**Naryn**	**34.29**	**75**	*e*P		**P**		**12 51 17.1**	**+0.4**
	comp=Z,2.5nm,0.8s								
NRN	**Naryn**	**34.29**	**75**	*e*P		**P**		**12 51 17.2**	**+0.4**
NRN					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KURK	**Kurchatov**	**34.31**	**58**	*i* P		**P**		**12 51 17.0**	**+0.5**
KURK					pmax	pmax			
	comp=Z,5.0nm,1.8s								
SPITS	**Spitsbergen Ar**	**36.53**	**355**	P		**P**		**12 51 36.1**	**+0.8**
	comp=Z,5.8nm,1.1s,baz=189,slow=8.2,SNR=4.2								
NVS	**Novosibirsk**	**36.84**	**51**	*e*P		**P**		**12 51 38.8**	**+0.7**
MK32	**Makanchi Array**	**37.31**	**64**	*e*P		**P**		**12 51 43.8**	**+1.4**
MK32				*e*PcP		**PcP**		**12 54 01.9**	**+0.5**
MKAR	**Makanchi Array**	**37.31**	**64**	P		**P**		**12 51 43.8**	**+1.4**
	comp=Z,2.7nm,0.6s,baz=283,slow=7.3,SNR=20								
MKAR				PcP		**PcP**		**12 54 01.9**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=274,slow=4.0,SNR=3.9								
MK01	**Makanchi Array**	**37.32**	**64**	*e*P		**P**		**12 51 43.8**	**+1.3**
TOA0	**Torodi Ar. Sit**	**37.68**	**228**	*e*P		**P**		**12 51 44.6**	**-1.1**
TOA0	**Torodi Ar. Sit**	**37.69**	**228**	*e*P		**P**		**12 51 45.7**	**0.0**
TORD	**Torodi Ar. Bea**	**37.69**	**228**	P		**P**		**12 51 44.6**	**-1.1**
	comp=Z,2.2nm,0.5s,baz=35,slow=8.3,SNR=19								
ZAA0	**Zalesovo Array**	**37.82**	**52**	*e*P		**P**		**12 51 47.3**	**+0.8**
	comp=Z,5.4nm,1.0s								
ZAA1	**Zalesovo Array**	**37.82**	**52**	*e*P		**P**		**12 51 47.2**	**+0.8**
ZALV	**Zalesovo Beam**	**37.82**	**52**	*e*P		**P**		**12 51 47.1**	**+0.6**
ZALV	**Zalesovo Beam**	**37.82**	**52**	P		**P**		**12 51 47.2**	**+0.8**
	comp=Z,4.1nm,0.4s,baz=273,slow=10,SNR=19								
WMQ	**Urumqi**	**41.78**	**67**	*e*P		**P**		**12 52 21.4**	**+1.7**
WMQ					sP	pwP		12 52 29.5	+3.9
WMQ					pmax	pmax			
	comp=Z,29nm,1.1s								
WMQ					pmax	pmax			
	comp=Z,410nm,4.5s								
WMQ					LR	LR			
	comp=N,95nm,19.9s								
WMQ					LR	LR			
	comp=E,170nm,21.3s								
WMQ					LR	LR			
	comp=Z,95nm,19.5s								
DBIC	**Dimbokro**	**46.66**	**231**	P		**P**		**12 52 59.0**	**+0.2**
	comp=Z,5.1nm,0.5s,baz=6.6,slow=8.9,SNR=12								
TIC	**Toumodi**	**46.77**	**231**	*e*P		**P**		**12 53 00.5**	**+0.7**
TIC	**Toumodi**	**46.77**	**231**	*e*P		**P**		**12 53 00.5**	**+0.7**
TIC	**Toumodi**	**46.77**	**231**	*e*P		**P**		**12 53 00.5**	**+0.7**
KIC	**Kosan Boka**	**46.84**	**230**	*e*P		**P**		**12 53 00.4**	**0.0**
	comp=Z,41nm,1.6s								
KIC	**Kosan Boka**	**46.84**	**230**	*e*P		**P**		**12 53 00.4**	**0.0**
LIC	**Lamto**	**47.12**	**230**	*e*P		**P**		**12 53 02.6**	**+0.1**
	comp=Z,20nm,0.5s								
LIC	**Lamto**	**47.12**	**230**	*e*P		**P**		**12 53 02.6**	**+0.1**
SONA0	**Songino Array**	**52.53**	**56**	*e*P		**P**		**12 53 44.5**	**+1.0**
SONM	**Songino Array**	**52.53**	**56**	P		**P**		**12 53 44.5**	**+1.0**
	comp=Z,2.1nm,0.4s,baz=291,slow=8.3,SNR=26								
SONM					LR	LR		13 21 22.3	
	comp=Z,67nm,18.6s,baz=298,slow=42								
ULN	**Ulaanbaatar**	**52.92**	**55**	*i* P		**P**		**12 53 48.0**	**+1.6**
ULN					pmax	pmax			
	comp=Z,4.0nm,1.0s								
TIXI	**Tiksi**	**53.40**	**23**	*i* P		**P**		**12 53 51.1**	**+1.7**
TIXI					pmax	pmax			
	comp=Z,1.0nm,1.2s								
LZH	**Lanzhou**	**56.26**	**70**	*e*P		**P**		**12 54 12.8**	**+2.0**
LZH					pP	pwP		12 54 18.3	+1.5
LZH					sP	sP		12 54 21.0	+5.7
LZH					PP	**PP**		**12 56 19.4**	**+3.5**
LZH					pmax	pmax			
	comp=Z,16nm,1.2s								
LZH					pmax	pmax			
	comp=Z,77nm,6.7s								
FRB	**Frobisher Bay**	**56.49**	**328**	P		**P**		**12 54 11.6**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=45,slow=4.3,SNR=3.2								
HHC	**Hu-ho-hao-te**	**59.05**	**61**	*e*P		**P**		**12 54 31.8**	**+1.5**
HHC					pmax	pmax			
	comp=Z,12nm,1.0s								
HHC					pmax	pmax			
	comp=Z,120nm,4.7s								
CMAR	**Chiang Mai Arr**	**62.67**	**89**	P		**P**		**12 54 55.5**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=302,slow=7.3,SNR=8.7								
BILL	**Bilibino**	**65.42**	**16**	*i* P		**P**		**12 55 14.7**	**+2.3**
BILL					pmax	pmax			
	comp=Z,2.0nm,1.0s								
KLR	**Kul'dur**	**66.29**	**44**	*i* P		**P**		**12 55 18.6**	**+0.3**
INK	**Inuvik**	**69.13**	**353**	P		**P**		**12 55 36.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=332,slow=4.0,SNR=4.0								
KS01	**Wonju Array Si**	**71.36**	**56**	*e*P		**P**		**12 55 51.4**	**+1.2**
KS15	**Wonju Array Si**	**71.38**	**56**	*e*P		**P**		**12 55 51.1**	**+0.9**
	comp=Z,13nm,0.9s								
KSRS	**Korea Array**	**71.40**	**56**	P		**P**		**12 55 51.1**	**+0.8**
	comp=Z,4.1nm,0.6s,baz=312,slow=5.0,SNR=19								
KSRS					LR	LR		13 32 30.7	
	comp=Z,22nm,18.3s,baz=0.0,slow=40								
YKA	**Yellowknife Ar**	**71.81**	**343**	P		**P**		**12 55 52.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=32,slow=5.9,SNR=7.8								
ILAR	**Eielson Array**	**73.38**	**358**	P		**P**		**12 56 02.5**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=334,slow=4.1,SNR=2.8								
ILB	**Eielson Array**	**73.38**	**358**	*e*P		**P**		**12 56 01.9**	**+0.1**
JNU	**Nakatsue**	**76.03**	**58**	P		**P**		**12 56 18.9**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=316,slow=6.5,SNR=4.2								
PDAR	**Pinedale Array**	**87.81**	**331**	P		**P**		**12 57 19.0**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=48,slow=7.4,SNR=2.9								
TXAR	**Lajitas Array**	**96.83**	**320**	P		**P**		**12 58 00.6**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=104,slow=3.8,SNR=2.5								
WR1	**Warramunga Arr**	**113.89**	**96**	*e*PKiKP		**PKiKP**		**13 03 08.2**	**-1.2**
WRA	**Warramunga Arr**	**113.89**	**96**	PKiKP		**PKiKP**		**13 03 08.2**	**-1.2**
	comp=Z,0.1nm,0.4s,baz=317,slow=1.7,SNR=6.6								
ASAR	**Alice Springs**	**115.82**	**99**	PKP		**PKPdf**		**13 03 11.6**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=324,slow=1.2,SNR=13								

IDC ***19*** *12:47:29.9±1.0, 8.75N×127.15E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/44, mbtmp3.8/9, ML4.3/1, MS2.7/1, Ms1 2.7/1, ms1mx2.3/38, Error ellipse: s-maj=41.3km s-min=16.8km az=74.0*

MAN ***19*** *12:47:37.8, 8.56N×126.52E, h1km, MS3.2*

ISC 19 12:47:36.0±1.6, 8.56N±0.04×126.70E±0.09, h32km±10km, n20, σ1s90/29, mb3.7/8, 6C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
BIPH	**Bislig**	**0.50**	**222**	*i* P		**Pb**	**12**	**47 45.8**	**-0.8**
BIPH				*e*S		**Sb**	**12**	**47 52.6**	**-1.2**
BUTP	**Butuan**	**1.14**	**291**	*e*P		**Pb**	**12**	**47 56.9**	**-0.3**
BUTP				*e*S		**Sn**	**12**	**48 14.4**	**+4.0**
SCPH	**Surigao**	**1.71**	**316**	*i* P		**Pb**	**12**	**48 06.3**	**-0.5**
BUKP	**Musuan**	**1.76**	**248**	*e*P		**Pb**	**12**	**48 06.3**	**-1.4**
BUKP				*e*S		**Sb**	**12**	**48 31.1**	**+1.6**
DAV	**Davao City (W)**	**1.85**	**217**	Pn		**Pb**	**12**	**48 10.0**	**+0.8**
	77nm,0.3s,baz=38,slow=4.2,SNR=3.3								
DAV				Sn		**Sb**	**12**	**48 35.9**	**+3.9**
	27nm,0.3s,baz=67,slow=23,SNR=6.9								
DAV				LR		LR	12	49 00.7	
	comp=Z,166nm,19.4s,baz=344,slow=40								
DMPH	**Davao City--Mi**	**1.88**	**219**	*i* P		**Pb**	**12**	**48 09.9**	**+0.1**
DMPH				*e*S		**Sb**	**12**	**48 35.3**	**+2.4**
CGP	**Cagayan de Oro**	**1.99**	**267**	*i* P		**Pb**	**12**	**48 10.2**	**-1.4**
CGP				*e*S		**Sb**	**12**	**48 34.5**	**-1.5**
KCP	**Kidapawan**	**2.22**	**226**	⇑*i* P		**Pb**	**12**	**48 15.1**	**-0.4**
MSLP	**Maasin**	**2.40**	**311**	*e*P		**Pb**	**12**	**48 16.4**	**-2.2**
MSLP				*e*S		**Sb**	**12**	**48 50.0**	**+2.2**
CTBH	**Cotabato--PC H**	**2.77**	**242**	⇑*i* P		**Pn**	**12**	**48 17.1**	**-1.1**
PLP	**Palo**	**3.10**	**327**	⇑*i* P		**Pn**	**12**	**48 26.2**	**+3.4**
PLP				*e*S		**Sb**	**12**	**49 08.2**	**+0.3**
DCPH	**Dipolog City**	**3.31**	**271**	⇑*e*P		**Pb**	**12**	**48 30.5**	**-3.6**
FITZ	**Fitzroy Crossi**	**26.51**	**182**	P		**P**	**12**	**53 10.2**	**-0.5**
	0.6nm,0.4s,baz=11,slow=16,SNR=4.3								
CMAR	**Chiang Mai Arr**	**28.69**	**293**	P		**P**	**12**	**53 31.1**	**+0.7**
	0.9nm,0.7s,baz=113,slow=6.7,SNR=7.2								
WRA	**Warramunga Arr**	**29.30**	**165**	P		**P**	**12**	**53 35.6**	**-0.2**
	0.1nm,0.5s,baz=350,slow=9.5,SNR=7.2								
ASAR	**Alice Springs**	**32.79**	**168**	P		**P**	**12**	**54 05.8**	**-0.8**
	0.1nm,0.3s,baz=345,slow=7.5,SNR=9.8								
MKAR	**Makanchi Array**	**53.64**	**323**	P		**P**	**12**	**56 54.0**	**-0.5**
	0.5nm,0.5s,baz=112,slow=8.3,SNR=10								
MKAR				PcP		**PcP**	**12**	**58 00.1**	**-0.6**
	0.3nm,0.6s,baz=124,slow=4.0,SNR=2.8								
BVAR	**Borovoye Array**	**63.31**	**326**	P		**P**	**12**	**58 01.6**	**-0.2**
	0.8nm,0.4s,baz=111,slow=8.1,SNR=6.6								
ARCES	**ARCESS Array B**	**85.94**	**340**	P		**P**	**13**	**00 11.7**	**-1.0**
	1.9nm,0.9s,baz=86,slow=5.5,SNR=6.1								
FINES	**FINESS Array B**	**87.59**	**332**	P		**P**	**13**	**00 19.4**	**-1.4**
	1.0nm,0.6s,baz=76,slow=5.3,SNR=8.0								

MEX 19 12:54:48.8±0.4, 16.23N×97.44W, h8km±3km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
PNIG	**Pinotepa**	**0.68**	**284**	*e*P		Pg	12	55 00.5	-1.4
PNIG				*e*S		Sg	12	55 10.0	-0.7
VHO	**Vista Hermosa**	**1.08**	**39**	*i* P		Pg	12	55 07.0	-2.5
VHO				*i* S		Sg	12	55 20.1	-3.5
HUIG	**Huatulco**	**1.36**	**110**	*i* P		Pn	12	55 10.3	-3.9
HUIG				*e*S		Sb	12	55 27.5	-4.8
TLIG	**Tlapa**	**1.71**	**321**	*i* P		Pn	12	55 16.3	-2.7
TLIG				*e*S		Sn	12	55 36.0	-5.2

ISCJB ***19*** *13:00:19.0±0.4, 37.13N±0.03×71.57E±0.05, h150km, mb3.1/1, Error ellipse: s-maj=6.5km s-min=4.1km az=153.2*

IDC ***19*** *13:00:21.1±5.3, 37.43N×71.34E, h99km±42km, mb2.8/1, mb1 3.2/8, mb1mx3.0/64, mbtmp3.6/8, Error ellipse: s-maj=63.9km s-min=18.4km az=150.0*

NNC ***19*** *13:00:24.8±2.0, 37.60N×71.35E, h154km±39km, mb3.2, mpv4.0, Error ellipse: s-maj=18.6km s-min=11.9km az=160.0*

ISC 19 13:00:18.8±0.7, 37.25N±0.06×71.50E±0.06, h150km, n39, σ2s44/46, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
AML	**Almayashu**	**5.16**	**18**	P		**Pn**	**13**	**01 36.9**	**+2.3**
	SNR=93								
UCH	**Uchtor**	**5.49**	**24**	P		**Pn**	**13**	**01 41.2**	**+2.1**
	SNR=26								
KZA	**Kyzart**	**5.62**	**30**	P		**Pn**	**13**	**01 42.6**	**+1.8**
	SNR=14								
EKS2	**Erkin-Say**	**5.68**	**17**	P		**Pn**	**13**	**01 44.1**	**+2.7**
	SNR=12								
AAK	**Ala-Archa**	**5.85**	**22**	P		**Pn**	**13**	**01 46.3**	**+2.7**
	SNR=21								
AAK	**Ala-Archa**	**5.85**	**22**	P		**Pn**	**13**	**01 46.1**	**+2.4**
	6.4nm,0.5s								
AAK				S		**Sn**	**13**	**02 49.9**	**-0.1**
	10nm,0.5s								
AAK	**Ala-Archa**	**5.85**	**22**	P		**Pn**	**13**	**01 45.8**	**+2.2**
	4.7nm,0.3s,baz=149,slow=5.0,SNR=58								
AAK				S		**Sn**	**13**	**02 48.8**	**-1.2**
	2.4nm,0.3s,baz=346,slow=22,SNR=15								
KK31	**Karatay

WVZ				S	Sg	13 37 50.1	+1.4		
INZ	**Inchbonnie**	**0.51**	**42**	P	Pg	13 37 52.2	-0.5		
RPZ	**Rata Peaks**	**0.61**	**175**	P	Pg	13 37 55.2	+0.6		
RPZ				S	Sg	13 38 03.0	+0.5		
OXZ	**Oxford**	**0.81**	**106**	P	Pg	13 37 58.6	+0.4		
FOZ	**Fox Glacier**	**0.95**	**243**	P	Pb	13 38 01.5	-0.3		
LTZ	**Lake Taylor**	**1.00**	**72**	P	Pg	13 38 02.1	0.0		
AMCZ	**Amberley**	**1.23**	**94**	P	Pg	13 38 06.3	0.0		
CRLZ	**Canterbury Las**	**1.29**	**112**	P	Pn	13 38 06.8	-0.7		
MQZ	**McQueen's Vall**	**1.36**	**117**	P	Pn	13 38 07.5	-0.9		
LBZ	**Lake Benmore**	**1.40**	**204**	P	Pn	13 38 08.9	-0.2		
DSZ	**Denniston Nort**	**1.49**	**24**	P	Pn	13 38 09.7	-0.6		
AKCZ	**Akaroa Harbour**	**1.60**	**119**	P	Pn	13 38 11.0	-0.7		
OKCZ	**Okains Bay**	**1.64**	**113**	P	Pn	13 38 11.8	-0.5		
JCZ	**Jackson Bay**	**1.86**	**238**	P	Pn	13 38 15.3	-0.2		
ODZ	**Otahua Downs**	**1.95**	**187**	P	Pn	13 38 16.5	-0.1		
THZ	**Tophouse**	**1.96**	**47**	P	Pn	13 38 16.7	0.0		
KHZ	**Kahutara**	**2.01**	**71**	P	Pn	13 38 17.1	-0.3		
WKZ	**Wanaka**	**2.23**	**219**	P	Pn	13 38 20.3	-0.1		
EAZ	**Earnscleugh**	**2.44**	**209**	P	Pn	13 38 22.3	-1.0		
QRZ	**Quartz Range**	**2.56**	**27**	P	Pn	13 38 24.7	-0.2		
BSWZ	**Blackbirch Sta**	**2.56**	**58**	P	Pn	13 38 25.3	+0.4		
NNZ	**Nelson**	**2.60**	**44**	P	Pn	13 38 26.1	+0.6		
MSZ	**Milford Sound**	**2.71**	**234**	P	Pn	13 38 27.3	+0.3		
TUWZ	**Tuamarina**	**2.77**	**54**	P	Pn	13 38 28.2	+0.5		
TUZ	**Tuapeka**	**3.01**	**198**	P	Pn	13 38 30.5	-0.6		
MLZ	**Mavora Lakes**	**3.06**	**221**	P	Pn	13 38 31.5	-0.3		
TCW	**Tory Channel**	**3.10**	**53**	P	Pn	13 38 32.7	+0.4		
DUWZ	**D'Urville Isla**	**3.18**	**45**	P	Pn	13 38 34.5	+1.0		
WHZ	**Wether Hill Ro**	**3.53**	**217**	P	Pn	13 38 37.2	-1.1		
MSWZ	**Moikau Station**	**3.59**	**63**	P	Pn	13 38 37.7	-1.5		
CAW	**Cannon Point**	**3.59**	**58**	P	Pn	13 38 38.6	-1.2		
SYZ	**Scrubby Hill**	**3.67**	**200**	P	Pn	13 38 38.8	-1.4		
KIW	**Kapiti Island**	**3.69**	**54**	P	Pn	13 38 39.9	-0.6		
PAWZ	**Paruwai Farm**	**3.73**	**64**	P	Pn	13 38 39.9	-1.1		
OGWZ	**Otaki Gorge**	**3.87**	**55**	P	Pn	13 38 42.0	-1.0		
MTW	**Mount Morrison**	**3.89**	**61**	P	Pn	13 38 41.0	-2.2		
HOWZ	**Holdsworth Sta**	**4.04**	**58**	P	Pn	13 38 44.2	-1.1		
MRZ	**Mangatainoka R**	**4.21**	**56**	P	Pn	13 38 45.9	-1.8		
NMEZ	**Namu Road**	**4.29**	**32**	P	Pn	13 38 50.3	+1.7		
NBEZ	**Newall Road No**	**4.41**	**31**	P	Pn	13 38 51.6	+1.2		
KHEZ	**Kahui Hut**	**4.44**	**32**	P	Pn	13 38 52.3	+1.4		
PREZ	**Palmer Road**	**4.46**	**34**	P	Pn	13 38 52.4	+1.3		
LREZ	**Lake Rotokare**	**4.46**	**36**	P	Pn	13 38 53.3	+2.2		
WAZ	**Wanganui**	**4.50**	**43**	P	Pn	13 38 53.7	+2.0		
PRWZ	**Pori Road**	**4.52**	**57**	P	Pn	13 38 50.0	-1.9		
PKE	**Pukeiti**	**4.52**	**31**	P	Pn	13 38 53.1	+1.1		
BFZ	**Birch Farm**	**4.62**	**60**	P	Pn	13 38 51.7	-1.5		
VRZ	**Vera Road**	**4.90**	**37**	P	Pn	13 38 58.1	+1.0		

IDC 19 14:27:30.8±8.7, **4°26′S**×**138°09′E**, **h0**km, **mb3.3**/1, **mb1 3.3**/3, **mb1mx3.1**/39, **mbtmp3.1**/3, **ML3.1**/2, **MS3.4**/1, **Ms1 3.4**/1, **ms1mx2.5**/13, **Error ellipse: s-maj=380.9km s-min=32.0km az=85.0, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.01**	**193**	Pn	Pn	14 31 17.0	-0.6
	0.1nm,0.3s,baz=12,slow=12,SNR=5.0						
ASAR	**Alice Springs**	**15.71**	**191**	P	P	14 32 02.3	+0.3
	0.1nm,0.3s,baz=20,slow=9.9,SNR=9.6						
PETK	**Petropavlovsk-**	**59.50**	**14**	LR	LR	15 01 35.4	
	comp=Z,30nm,20.7s,baz=289,slow=34						
MKAR	**Makanchi Array**	**70.64**	**323**	P	P	14 38 48.4	0.0
	0.2nm,0.7s,baz=100,slow=4.4,SNR=2.5						

*IDC **19** 14:27:53.1±1.1, 5°28′N×125°84′E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.2/59, mbtmp3.3/5, Error ellipse: s-maj=74.9km s-min=22.2km az=69.0*

ISC 19 14:28:05.0±1.0, **5°4′N**±0°1′×**125°8′E**±0°3, **h100**km, **n9**, σ**2**§**16**/9, **mb3.2**/6, **1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.11**	**308**	*e*P	**Pn**	**14 28 26.4**	**-0.5**
DAV	**Davao City (W)**	**1.67**	**351**	Sn	**Sn**	**14 28 51.8**	**-3.2**
	39nm,0.3s,baz=90,slow=23,SNR=6.0						
CTBH	**Cotabato--PC H**	**2.40**	**319**	↓*i*P	**Pn**	**14 28 43.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**23.36**	**180**	P	**P**	**14 33 05.6**	**+0.8**
	0.5nm,0.5s,baz=9.2,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**26.54**	**162**	P	**P**	**14 33 31.9**	**-1.7**
	0.3nm,0.4s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**29.95**	**165**	P	**P**	**14 34 01.7**	**-2.3**
	0.1nm,0.3s,baz=334,slow=6.8,SNR=4.8						
MKAR	**Makanchi Array**	**55.68**	**325**	P	**P**	**14 37 31.8**	**+0.8**
	0.2nm,0.3s,baz=117,slow=7.6,SNR=5.3						
KURBB	**Kurchatov Arra**	**59.85**	**327**	P	**P**	**14 38 00.6**	**+0.5**
	0.2nm,0.3s,baz=129,slow=7.3,SNR=3.3						
ILAR	**Eielson Array**	**83.98**	**25**	P	**P**	**14 40 26.6**	**+2.6**
	0.2nm,0.6s,baz=262,slow=6.2,SNR=3.2						

*IDC **19** 14:40:21.4±1.4, 3°46′S×145°61′E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.5/28, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=61.9km s-min=22.2km az=117.0*

*ISCJB **19** 14:40:23.6±1.2, 3°.5S±0°.2×145°.5E±0°.4, h23km, mb3.4/5, Error ellipse: s-maj=64.7km s-min=17.9km az=28.1*

ISC 19 14:40:25.1±1.4, **3°.5S**±0°.3×**145°.6E**±0°.4, **h23**km, **n6**, σ0§**62**/6, **mb3.5**/5, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.71**	**213**	P	**P**	**14 44 53.3**	**+0.2**
	0.1nm,0.3s,baz=35,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**23.03**	**208**	P	**P**	**14 45 29.2**	**+0.4**
	0.3nm,0.9s,baz=43,slow=7.8,SNR=6.2						
FITZ	**Fitzroy Crossi**	**24.35**	**232**	P	**P**	**14 45 40.8**	**-0.7**
	1.6nm,1.1s,baz=64,slow=7.8,SNR=2.4						
ZALV	**Zalesovo Beam**	**76.14**	**328**	P	**P**	**14 52 11.5**	**+0.4**
	0.4nm,0.5s,baz=106,slow=8.1,SNR=2.7						
ILAR	**Eielson Array**	**83.73**	**23**	P	**P**	**14 52 51.5**	**-0.5**
	0.2nm,0.7s,baz=248,slow=4.8,SNR=3.0						
YKA	**Yellowknife Ar**	**97.60**	**27**	P	**P**	**14 53 57.7**	**+0.2**
	0.1nm,0.4s,baz=277,slow=5.6,SNR=3.2						

IDC 19 14:50:40.1±12.0, **22°.98N**×**141°.81E**, **h0**km, **mb3.0**/3, **mb1 3.2**/3, **mb1mx3.1**/35, **mbtmp3.0**/3, **Error ellipse: s-maj=484.6km s-min=30.5km az=72.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.28**	**190**	P	P	14 58 42.7	-0.9
	0.3nm,1.0s,baz=7.0,slow=8.6,SNR=5.1						
ASAR	**Alice Springs**	**47.00**	**190**	P	P	14 59 13.7	+0.6
	0.1nm,0.7s,baz=24,slow=9.2,SNR=3.3						
MKAR	**Makanchi Array**	**52.90**	**312**	P	P	14 59 57.8	-0.1
	0.2nm,0.6s,baz=93,slow=5.8,SNR=2.6						

*ISCJB **19** 15:04:58.5±0.3, 60°.83N±0°.02×150°.19W±0°.04, h63km±4km, mb3.5/2, Error ellipse: s-maj=4.2km s-min=3.3km az=150.4*

*NEIC **19** 15:05:00.4±0.0, 60°.85N×150°.25W, h42km, ML3.5(AEIC), After AEIC.*

*IDC **19** 15:05:00.4±1.7, 60°.68N×150°.29W, h81km±31km, mb3.1/2, mb1 3.1/6, mb1mx2.9/62, mbtmp3.2/6, Error ellipse: s-maj=50.9km s-min=14.3km az=120.0*

ISC 19 15:04:59.2±1.0, **60°.83N**±0°.03×**150°.21W**±0°.03, **h50**km±7km, **n75**, σ0§**96**/86, **Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.32**	**181**	P	**Pn**	**15 05 08.7**	**0.0**
FIB	**Fire Island**	**0.34**	**2**	P	**Pn**	**15 05 08.6**	**-0.1**
FIB				S	**Sn**	**15 05 16.4**	**+0.9**
RC01	**Rabbit Creek A**	**0.35**	**41**	P	**Pn**	**15 05 08.5**	**-0.4**
RC01				S	**Sn**	**15 05 15.2**	**-0.5**
NKA	**Nikishka**	**0.51**	**261**	P	**Pn**	**15 05 11.7**	**+1.1**
PTE	**Portage**	**0.58**	**86**	P	**Pn**	**15 05 11.7**	**+0.3**
SUA	**Susitna One**	**0.69**	**338**	P	**Pn**	**15 05 11.9**	**-1.0**
SUA				S	**Sn**	**15 05 21.7**	**-1.2**
SEW	**Seward**	**0.82**	**152**	P	**Pn**	**15 05 14.7**	**+0.2**
SEW				S	**Sn**	**15 05 28.0**	**+2.4**
PWL	**Port Wells**	**0.92**	**87**	P	**Pn**	**15 05 16.2**	**+0.4**
PWL				S	**Sn**	**15 05 29.3**	**+1.2**
PMR	**Palmer**	**0.93**	**34**	P	**Pn**	**15 05 15.8**	**-0.1**
PMR				S	**Sn**	**15 05 28.1**	**-0.1**
KNK	**Knik Glacier**	**1.03**	**55**	P	**Pn**	**15 05 17.8**	**+0.4**
KNK				S	**Sn**	**15 05 32.2**	**+1.4**
BRLK	**Bradley Lake**	**1.12**	**198**	P	**Pn**	**15 05 19.7**	**+1.1**
BRLK				S	**Sn**	**15 05 35.4**	**+2.5**
GHO	**Glory Hole Cre**	**1.13**	**33**	P	**Pn**	**15 05 18.8**	**0.0**
GHO				S	**Sn**	**15 05 34.6**	**+1.3**
SPWE	**Spurr West**	**1.23**	**292**	P	**Pn**	**15 05 20.9**	**+0.7**
RDN	**Redoubt North**	**1.30**	**257**	P	**Pn**	**15 05 20.9**	**-0.2**
RDJH	**Redoubt Jeurge**	**1.30**	**261**	P	**Pn**	**15 05 20.9**	**-0.2**
RDJH				S	**Sn**	**15 05 38.0**	**+0.5**
RED	**Redoubt Volcan**	**1.33**	**253**	P	**Pn**	**15 05 21.5**	**0.0**
RED				S	**Sn**	**15 05 38.9**	**+0.8**
SML	**Sawmill**	**1.34**	**42**	P	**Pn**	**15 05 21.7**	**+0.2**
RDWB	**Redoubt West**	**1.34**	**256**	P	**Pn**	**15 05 21.6**	**-0.1**
IVE	**Iliamna Volcan**	**1.61**	**241**	P	**Pn**	**15 05 26.1**	**+0.8**
ILW	**Iliamna West**	**1.64**	**243**	P	**Pn**	**15 05 26.5**	**+0.7**
ILS	**Iliamna Low So**	**1.67**	**240**	P	**Pn**	**15 05 27.1**	**+1.0**
SCM	**Sheep Creek Mo**	**1.72**	**53**	P	**Pn**	**15 05 27.1**	**+0.4**
JPK	**Jack Peak**	**1.78**	**81**	P	**Pn**	**15 05 27.9**	**+0.4**
HUR	**Hurricane**	**2.17**	**7**	P	**Pn**	**15 05 34.6**	**+1.7**
KLU	**Klutina**	**2.18**	**70**	P	**Pn**	**15 05 33.5**	**+0.4**
DIV	**Divide**	**2.18**	**80**	P	**Pn**	**15 05 33.2**	**+0.2**
EYAK	**Cordova Ski Ar**	**2.21**	**95**	P	**Pn**	**15 05 33.0**	**-0.4**
PPLA	**Purkeypile**	**2.28**	**337**	P	**Pn**	**15 05 35.5**	**+1.0**
PS12	**TAPS Pump St12**	**2.54**	**73**	P	**Pn**	**15 05 38.6**	**+0.7**
PS11	**TAPS Pump St11**	**2.60**	**59**	P	**Pn**	**15 05 40.0**	**+1.4**
DHY	**Denali Highway**	**2.62**	**29**	P	**Pn**	**15 05 39.6**	**+0.4**
TRF	**Thorofare Moun**	**2.63**	**359**	P	**Pn**	**15 05 40.5**	**+1.2**
SVW2	**Sparrevohn**	**2.64**	**278**	P	**Pn**	**15 05 39.1**	**-0.1**
RND	**Reindeer**	**2.67**	**13**	P	**Pn**	**15 05 40.4**	**+0.7**
CAST	**Castle Rocks**	**2.75**	**342**	P	**Pn**	**15 05 41.7**	**+0.9**
HARP	**HAARP**	**2.89**	**54**	P	**Pn**	**15 05 44.0**	**+1.3**
HMT	**Hamilton**	**2.98**	**97**	P	**Pn**	**15 05 43.3**	**-0.6**
MCK	**McKinley**	**2.98**	**11**	P	**Pn**	**15 05 45.3**	**+1.4**
PAX	**Paxson**	**3.11**	**44**	P	**Pn**	**15 05 46.8**	**+1.1**
KDAK	**Kodiak Island**	**3.29**	**203**	P	**Pn**	**15 05 48.0**	**-0.1**
	0.8nm,0.3s,baz=20,slow=19,SNR=25						
KDAK				S	**Sn**	**15 06 24.3**	**-1.6**
	3.6nm,0.3s,baz=359,slow=17,SNR=5.3						
BPAW	**Bear Paw Mtn.**	**3.31**	**354**	P	**Pn**	**15 05 49.9**	**+1.4**
KHIT	**Khitrov Hills**	**3.45**	**93**	P	**Pn**	**15 05 49.4**	**-1.0**
TT01	**Tatalina**	**3.46**	**310**	P	**Pn**	**15 05 50.4**	**-0.1**
TGL	**Tana Glacier**	**3.62**	**88**	P	**Pn**	**15 05 52.3**	**-0.4**
KULT	**Kultieth River**	**3.74**	**96**	P	**Pn**	**15 05 53.3**	**-1.2**
PTPK	**Patty Peak**	**3.79**	**81**	P	**Pn**	**15 05 55.6**	**+0.4**
WRH	**Wood River Hil**	**3.79**	**14**	P	**Pn**	**15 05 54.9**	**-0.1**
NEA	**Nenana**	**3.80**	**7**	P	**Pn**	**15 05 55.8**	**+0.7**
KIAG	**Kiagna River**	**3.84**	**85**	P	**Pn**	**15 05 55.5**	**-0.4**
BALM	**Baldy**	**3.84**	**83**	P	**Pn**	**15 05 55.6**	**-0.2**
RIDG	**Independ'e Rid**	**3.85**	**38**	P	**Pn**	**15 05 57.0**	**+1.1**
HDA	**Harding Lake**	**3.90**	**21**	P	**Pn**	**15 05 57.8**	**+1.3**
CCB	**Clear Creek Bu**	**3.99**	**15**	P	**Pn**	**15 05 58.7**	**+1.0**
PS08	**TAPS Pump Stn8**	**4.04**	**21**	P	**Pn**	**15 05 59.9**	**+1.4**
MESA	**MESA**	**4.13**	**95**	P	**Pn**	**15 05 59.4**	**-0.6**
COLA	**College**	**4.20**	**14**	*e*Pn	**Pn**	**15 06 01.6**	**+0.9**
IL13	**Eielson Array**	**4.20**	**19**	P	**Pn**	**15 06 01.8**	**+1.2**
MLY	**Manley**	**4.23**	**357**	P	**Pn**	**15 06 02.5**	**+1.4**
ILAR	**Eielson Array**	**4.24**	**20**	P	**Pn**	**15 06 02.6**	**+1.4**
	0.7nm,0.3s,baz=199,slow=14,SNR=39						
MDM	**Murphy Dome**	**4.25**	**11**	P	**Pn**	**15 06 02.3**	**+1.1**
SCRK	**Sand Creek**	**4.28**	**40**	P	**Pn**	**15 06 02.0**	**+0.1**
CTGM	**Chitina Glacie**	**4.34**	**84**	P	**Pn**	**15 06 03.4**	**+0.7**
BCA3	**Beaver Creek A**	**4.57**	**57**	P	**Pn**	**15 06 06.0**	**+0.3**
YUK2	**White River**	**4.62**	**74**	P	**Pn**	**15 06 07.2**	**+0.7**
YUK3	**Moose Creek**	**4.79**	**74**	P	**Pn**	**15 06 09.6**	**+0.6**
GCSA	**Galena City Sc**	**4.98**	**325**	P	**Pn**	**15 06 13.0**	**+1.7**
PRP	**Porcupine Dome**	**5.16**	**22**	P	**Pn**	**15 06 14.8**	**+0.9**
IM3	**Indian Mountai**	**5.42**	**344**	P	**Pn**	**15 06 18.1**	**+0.9**
EGAK	**Eagle**	**5.74**	**42**	P	**Pn**	**15 06 21.9**	**+0.3**
HYT	**Haines Junctio**	**6.21**	**84**	P	**Pn**	**15 06 29.0**	**+0.6**
BM3	**Burnt Mountain**	**7.05**	**18**	P	**Pn**	**15 06 40.5**	**+0.7**
INK	**Inuvik**	**10.34**	**36**	P	Pn	15 07 28.4	+3.7
	0.0nm,0.3s,baz=234,slow=11,SNR=2.0						
YKA	**Yellowknife Ar**	**16.85**	**69**	P	**P**	**15 08 52.9**	**+0.3**
	0.1nm,0.3s,baz=276,slow=10.0,SNR=11						
ZALV	**Zalesovo Beam**	**57.51**	**325**	P	**P**	**15 14 41.6**	**-1.1**
	0.4nm,0.5s,baz=39,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**64.63**	**323**	P	**P**	**15 15 29.3**	**-1.8**
	0.1nm,0.3s,baz=35,slow=6.8,SNR=2.3						

*ISCJB **19** 15:05:49.6±0.5, 19°.04N±0°.08×69°.15W±0°.06, h129km, mb3.6/12, Error ellipse: s-maj=12.7km s-min=7.0km az=26.0*

*IDC **19** 15:05:50.0±1.5, 19°.03N×69°.18W, h112km±15km, mb3.5/14, mb1 3.7/16, mb1mx3.5/46, mbtmp3.9/16, MS3.0/2, Ms1 3.0/2, ms1mx2.5/29, Error ellipse: s-maj=16.2km s-min=11.1km az=27.0*

ISC 19 15:05:51.2±0.6, **19°.1N**±0°.1×**69°.16W**±0°.08, **h129**km, **n18**, σ1§**82**/20, **mb3.7**/12, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**3.01**	**108**	P	**Pn**	**15 06 36.8**	**-1.1**
	9.1nm,0.3s,baz=303,slow=13,SNR=5.5						
SJG				S	**Sn**	**15 07 12.9**	**-1.0**
	157nm,0.3s,baz=8.5,slow=24,SNR=66						
JTS	**JuntasAbangare**	**17.59**	**242**	P	**Pn**	**15 09 48.3**	**-0.2**
	0.4nm,0.3s,baz=83,slow=6.1,SNR=6.6						
APG	**El Apazote**	**20.77**	**262**	P	**P**	**15 10 22.6**	**+0.3**
	21nm,1.1s,baz=16,slow=5.1,SNR=7.8						
TKL	**Tuckaleechee C**	**20.96**	**325**	P	**P**	**15 10 25.2**	**+1.2**
	5.8nm,1.0s,baz=111,slow=7.5,SNR=2.8						
TKL				S	**S**	**15 14 04.7**	**-5.7**
	3.2nm,0.5s,baz=212,slow=21,SNR=3.6						
TKL				LR	LR	15 16 58.6	
	comp=Z,32nm,21.9s,baz=6.0,slow=32						
PTGA	**Pitinga**	**21.66**	**154**	P	**P**	**15 10 29.5**	**-2.1**
	0.9nm,0.4s,baz=319,slow=19,SNR=2.3						
CMIG	**Matias Romero**	**24.53**	**269**	P	**P**	**15 10 57.3**	**-1.7**
	1.6nm,0.6s,baz=90,slow=5.2,SNR=4.7						
SADO	**Sadowa**	**26.94**	**344**	P	**P**	**15 11 20.0**	**-0.4**
	14nm,1.0s,baz=283,slow=20,SNR=2.6						
TXAR	**Lajitas Array**	**32.98**	**295**	P	**P**	**15 12 13.7**	**-0.3**
	0.6nm,0.8s,baz=104,slow=9.5,SNR=5.5						
TXAR				LR	LR	15 29 12.1	
	comp=Z,28nm,18.4s,baz=0.0,slow=42						
LPAZ	**La Paz**	**35.16**	**178**	P	**P**	**15 12 34.4**	**+0.9**
	0.8nm,0.5s,baz=338,slow=8.9,SNR=4.8						
PDAR	**Pinedale Array**	**41.39**	**314**	P	**P**	**15 13 25.6**	**+0.6**
	0.2nm,0.4s,baz=110,slow=3.9,SNR=3.1						
CPUP	**Villa Florida**	**46.58**	**165**	P	**P**	**15 14 05.3**	**-0.9**
	1.6nm,0.5s,baz=358,slow=9.0,SNR=4.9						
NVAR	**Mina Array Bea**	**46.61**	**305**	P	**P**	**15 14 07.7**	**+1.0**
	1.3nm,1.0s,baz=93,slow=6.9,SNR=6.2						
YKA	**Yellowknife Ar**	**53.43**	**336**	P	**P**	**15 14 57.8**	**+0.3**
	0.1nm,0.3s,baz=129,slow=8.3,SNR=4.0						
ESDC	**Sonseca Array**	**59.15**	**55**	P	**P**	**15 15 40.0**	**+1.4**
	0.4nm,0.5s,baz=267,slow=6.9,SNR=4.3						
DBIC	**Dimbokro**	**63.59**	**92**	P	**P**	**15 16 09.1**	**+0.4**
	1.0nm,0.6s,baz=151,slow=5.5,SNR=2.1						
TORD	**Torodi Ar. Bea**	**67.94**	**83**	P	**P**	**15 16 37.7**	**+1.0**
	1.4nm,0.8s,baz=293,slow=6.0,SNR=7.0						
WRA	**Warramunga Arr**	**157.84**	**264**	PKPab	**PKPab**	**15 26 08.6**	**+1.8**
	0.2nm,0.8s,baz=90,slow=1.1,SNR=3.6						
ASAR	**Alice Springs**	**158.05**	**254**	PKPab	**PKPab**	**15 26 09.4**	**+1.8**
	0.3nm,0.7s,baz=100,slow=4.5,SNR=5.3						

*IDC **19** 15:06:26.4±1.3, 63°.09N×151°.29W, h103km±14km, mb3.5/12, mb1 3.6/17, mb1mx3.4/62, mbtmp3.8/17, Error ellipse: s-maj=16.6km s-min=10.1km az=113.0*

*ISCJB **19** 15:06:27.6±0.2, 63°.08N±0°.02×150°.96W±0°.06, h132km±2km, mb3.6/12, Error ellipse: s-maj=4.2km s-min=3.5km az=176.9*

*NEIC **19** 15:06:29.0±0.0, 63°.08N×150°.99W, h123km, ML3.6(AEIC), After AEIC.*

ISC 19 15:06:28.1±0.6, **63°.07N**±0°.03×**150°.98W**±0°.04, **h123**km±5km, **n90**, σ1§**08**/106, **mb3.6**/12, **Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.50**	**39**	P	**Pn**	**15 06 47.3**	**+0.7**
TRF				S	**Sn**	**15 07 01.6**	**+1.1**
PPLA	**Purkeypile**	**0.58**	**253**	P	**Pn**	**15 06 48.1**	**+1.1**
PPLA				S	**Sn**	**15 07 02.2**	**+0.9**
CAST	**Castle Rocks**	**0.61**	**306**	P	**Pn**	**15 06 47.7**	**+0.5**
CAST				S	**Sn**	**15 07 02.0**	**+0.5**
HUR	**Hurricane**	**0.62**	**98**	P	**Pn**	**15 06 47.8**	**+0.6**
HUR				S	**Sn**	**15 07 03.5**	**+1.9**
CHUM	**Lake Minchumin**	**1.01**	**324**	P	**Pn**	**15 06 51.4**	**+0.9**
CHUM				S	**Sn**	**15 07 07.7**	**+0.3**
RND	**Reindeer**	**1.02**	**70**	P	**Pn**	**15 06 51.3**	**+0.7**
RND				S	**Sn**	**15 07 07.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**1.04**	**360**	P	**Pn**	**15 06 51.4**	**+0.6**
BPAW				S	**Sn**	**15 07 07.9**	**0.0**
MCK	**McKinley**	**1.14**	**53**	P	**Pn**	**15 06 52.6**	**+0.9**
BWN	**Browne**	**1.30**	**31**	P	**Pn**	**15 06 55.0**	**+1.5**
BWN				S	**Sn**	**15 07 14.3**	**+1.6**
GHO	**Glory Hole Cre**	**1.61**	**143**	P	**Pn**	**15 06 58.1**	**+1.0**
GHO				S	**Sn**	**15 07 20.7**	**+1.6**
SUA	**Susitna One**	**1.61**	**176**	P	**Pn**	**15 06 58.6**	**+1.5**
SUA				S	**Sn**	**15 07 19.6**	**+0.4**
DHY	**Denali Highway**	**1.64**	**88**	P	**Pn**	**15 06 58.6**	**+1.1**
PMR	**Palmer**	**1.71**	**149**	P	**Pn**	**15 06 58.6**	**+0.4**
NEA	**Nenana**	**1.73**	**28**	P	**Pn**	**15 06 58.9**	**+0.5**
SML	**Sawmill**	**1.76**	**135**	P	**Pn**	**15 06 59.3**	**+0.4**
SML				S	**Sn**	**15 07 23.4**	**+1.1**
CGLM	**Capps Glacier**	**1.83**	**196**	P	**Pn**	**15 07 00.3**	**+0.6**
WRH	**Wood River Hil**	**1.91**	**41**	P	**Pn**	**15 07 01.1**	**+0.6**
BGL	**Barrier Glacie**	**1.93**	**201**	P	**Pn**	**15 07 02.5**	**+1.6**
FIB	**Fire Island**	**1.94**	**168**	P	**Pn**	**15 07 02.7**	**+1.7**
SPWE	**Spurr West**	**1.95**	**203**	P	**Pn**	**15 07 02.5**	**+1.3**
MLY	**Manley**	**1.98**	**3**	P	**Pn**	**15 07 02.0**	**+0.6**
KNK	**Knik Glacier**	**2.04**	**143**	P	**Pn**	**15 07 02.8**	**+0.6**
RC01	**Rabbit Creek A**	**2.07**	**163**	P	**Pn**	**15 07 03.3**	**+0.8**
SCM	**Sheep Creek Mo**	**2.10**	**124**	P	**Pn**	**15 07 03.3**	**+0.3**
CCB	**Clear Creek Bu**	**2.12**	**40**	P	**Pn**	**15 07 03.5**	**+0.4**
HDA	**Harding Lake**	**2.24**	**51**	P	**Pn**	**15 07 05.3**	**+0.6**
MDM	**Murphy Dome**	**2.25**	**31**	P	**Pn**	**15 07 05.2**	**+0.4**
TT01	**Tatalina**	**2.31**	**268**	P	**Pn**	**15 07 06.0**	**+0.5**
NKA	**Nikishka**	**2.34**	**183**	P	**Pn**	**15 07 08.9**	**+3.0**
PS08	**TAPS Pump Stn8**	**2.37**	**49**	P	**Pn**	**15 07 07.0**	**+0.8**
PS10	**TAPS Pump St10**	**2.38**	**79**	P	**Pn**	**15 07 08.3**	**+1.8**
PTE	**Portage**	**2.40**	**156**	P	**Pn**	**15 07 07.0**	**+0.4**
ILAR	**Eielson Array**	**2.49**	**45**	P	**Pn**	**15 07 08.0**	**+0.2**
	13nm,0.3s,baz=226,slow=13,SNR=32						
ILAR				S	**Sn**	**15 07 37.7**	**-0.6**
	8.3nm,0.3s,baz=218,slow=22,SNR=7.8						
IL1	**Eielson Array**	**2.49**	**45**	P	**Pn**	**15 07 08.6**	**+0.8**
PAX	**Paxson**	**2.51**	**90**	P	**Pn**	**15 07 09.3**	**+1.0**
PWL	**Port Wells**	**2.54**	**149**	P	**Pn**	**15 07 08.6**	**+0.1**
SLKM	**Skilak Lake**	**2.59**	**172**	P	**Pn**	**15 07 10.1**	**+0.8**
RDJH	**Redoubt Jeurge**	**2.63**	**200**	P	**Pn**	**15 07 11.1**	**+1.3**
PS11	**TAPS Pump St11**	**2.73**	**109**	P	**Pn**	**15 07 11.8**	**+0.8**
RDWB	**Redoubt West**	**2.73**	**200**	P	**Pn**

JFT	**Otama**	**1.71 311**	P	**Pn**	**15 30 46.2**	**-0.1**
JMM	**Marumori**	**1.73 328**	P	**Pn**	**15 30 45.5**	**-1.1**
BSO1	**Boso 1**	**1.92 205**	P	**Pn**	**15 30 50.3**	**+1.5**
JAG	**Ashikaga**	**2.02 271**	P	**Pn**	**15 30 49.7**	**-0.9**
JFY	**Yanaizu**	**2.06 300**	P	**Pn**	**15 30 51.7**	**+0.5**
MJAR	**Matsushiro Arr**	**3.03 274**	Pn	**Pn**	**15 31 04.5**	**+0.1**
	1.7nm,0.3s,baz=107,slow=7.5,SNR=60					
MJAR			Sn	**Sn**	**15 31 40.1**	**-0.1**
	1.0nm,0.3s,baz=82,slow=13,SNR=7.4					
MJAR			LR	LR	15 32 23.8	
	comp=Z,64nm,20.1s,baz=95,slow=42					
MAT	**Matsushiro**	**3.03 274**	P	**Pn**	**15 31 05.6**	**+1.1**
MAT			eS	**Sn**	**15 31 38.0**	**-2.2**
JHJ	**Hachijo jima 2**	**3.74 209**	Pn	**Pn**	**15 31 15.5**	**+1.3**
	10nm,0.3s,baz=301,slow=23,SNR=15					
JHJ			Sn	**Sn**	**15 31 56.2**	**-1.5**
	48nm,0.3s,baz=73,slow=22,SNR=11					
ASAJ	**Asahikawa**	**7.72 3**	Pn	**Pn**	**15 32 07.1**	**-1.7**
	1.3nm,0.3s,baz=202,slow=15,SNR=15					
ASAJ			Sn	**Sn**	**15 33 31.5**	**-4.1**
	0.5nm,0.3s,baz=273,slow=30,SNR=2.0					
JCJ	**Chichijima**	**9.29 179**	Pn	**Pn**	**15 32 31.1**	**+0.7**
	2.4nm,0.3s,baz=289,slow=22,SNR=3.4					
JCJ			Sn	**Sn**	**15 34 06.6**	**-7.8**
	6.5nm,0.3s,baz=294,slow=22,SNR=6.4					
JNU	**Nakatsue**	**9.69 253**	LR	LR	15 36 00.7	
	comp=Z,30nm,19.2s,baz=46,slow=35					
USRK	**Ussuriysk Ar.**	**10.88 319**	Pn	**Pn**	**15 32 53.8**	**+1.6**
	0.2nm,0.3s,baz=137,slow=15,SNR=2.0					
KSRS	**Korea Array**	**11.29 279**	Pn	**Pn**	**15 33 00.8**	**+3.0**
	0.1nm,0.3s,baz=92,slow=16,SNR=2.9					
KSRS			LR	LR	15 36 49.6	
	comp=Z,26nm,18.6s,baz=62,slow=34					
KLR	**Kul'dur**	**14.82 333**	LR	LR	15 39 12.8	
	comp=Z,49nm,18.2s,baz=50,slow=36					
H11N2	**WAKE ISLAND Hy 27.45 121**		T	T	16 05 35.1	
	baz=313,slow=75,SNR=16					
H11N1	**WAKE ISLAND Hy 27.46 121**		T	T	16 05 28.3	
	baz=313,slow=75,SNR=13					
H11N3	**WAKE ISLAND Hy 27.47 121**		T	T	16 05 35.4	
	baz=313,slow=75,SNR=12					
H11S1	**WAKE ISLAND Hy 28.15 123**		T	T	16 06 35.6	
	baz=314,slow=76,SNR=12					
H11S3	**WAKE ISLAND Hy 28.15 123**		T	T	16 06 41.7	
	baz=314,slow=76,SNR=9.9					
H11S2	**WAKE ISLAND Hy 28.17 123**		T	T	16 06 36.0	
	baz=314,slow=76,SNR=7.4					
SONM	**Songino Array**	**28.50 305**	P	**P**	**15 36 12.8**	**+1.0**
	0.6nm,0.7s,baz=108,slow=7.8,SNR=4.4					
CMAR	**Chiang Mai Arr**	**41.77 256**	P	**P**	**15 38 06.9**	**+1.0**
	0.3nm,0.8s,baz=45,slow=5.2,SNR=3.5					
ZALV	**Zalesovo Beam**	**42.66 313**	P	**P**	**15 38 14.3**	**+1.6**
	0.6nm,0.4s,baz=79,slow=7.6,SNR=5.1					
ZALV			PcP	**PcP**	**15 40 04.2**	**-0.1**
	0.4nm,0.3s,baz=108,slow=3.8,SNR=2.1					
MKAR	**Makanchi Array**	**44.83 303**	P	**P**	**15 38 32.3**	**+2.1**
	0.2nm,0.6s,baz=85,slow=8.9,SNR=3.4					
WRA	**Warramunga Arr**	**56.50 189**	P	**P**	**15 39 58.9**	**+0.4**
	0.6nm,0.4s,baz=7.2,slow=7.4,SNR=34					
ASAR	**Alice Springs**	**60.23 189**	P	**P**	**15 40 25.1**	**+0.7**
	0.9nm,0.7s,baz=13,slow=7.2,SNR=17					
NOA	**NORSAR Array B**	**74.93 338**	LR	LR	16 21 09.4	
	comp=Z,15nm,18.6s,baz=200,slow=41					
NVAR	**Mina Array Bea**	**75.01 53**	P	**P**	**15 41 59.3**	**+1.2**
	0.3nm,0.7s,baz=316,slow=5.0,SNR=2.8					
TXAR	**Lajitas Array**	**90.15 53**	P	**P**	**15 43 17.8**	**+0.9**
	0.1nm,0.3s,baz=291,slow=2.8,SNR=3.2					
LPAZ	**La Paz**	**146.62 61**	PKPbc	**PKPbc**	**15 49 58.1**	**-1.0**
	0.7nm,0.5s,baz=0.0,slow=2.0,SNR=3.0					

KRSC 19 15:35:47.1±10.0**, 59.54N**×**164.11E, h98**km±10km**, ML3.6, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.61**	**243**	eP	Pn	15 36 04.9	+1.4
OSSR				eS	Sn	15 36 17.1	+1.3
TILK	**Tilichiki**	**1.37**	**47**	eP	Pn	15 36 13.3	+1.7
TILK				eS	Sn	15 36 32.0	+1.8
PALN	**Palana**	**2.17**	**260**	eP	Pn	15 36 22.9	+1.1
PALN				eS	Sn	15 36 50.6	+2.3
KMSK	**Kamenskaya**	**3.11**	**18**	eS	Sn	15 37 12.6	+2.1

*IDC **19** 15:36:27.3±3.8, 25.46N×122.14E, h257km±42km, mb2.8/5, mb1 2.8/6, mb1mx2.6/40, mbtmp3.3/6, Error ellipse: s-maj=46.5km s-min=17.8km az=63.0*
*TAP **19** 15:36:28.8, 25.32N×122.28E, h277km, ML4.0, C*
*ISCJB **19** 15:36:29.5±0.4, 25.32N±0.03×122.20E±0.03, h259km±2km, mb3.0/5, Error ellipse: s-maj=5.4km s-min=3.3km az=156.4*
*JMA **19** 15:36:29.8±0.2, 25.40N×122.14E, h252km±2km, M4.2*

ISC 19 15:36:27.9±0.8**, 25.41N**±0.05×**122.19E**±0.03**, h270**km±5km**, n109**, σ1**8**37**/192**, mb3.0**/5**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.24**	**334**	eP	**Pn**	**15 37 03.9**	**+1.4**
	baz=316						
TWB1	**Santiao Chiao**	**0.44**	**204**	P	**Pn**	**15 37 03.5**	**+0.5**
	baz=234						
TWB1				S	**S**	**15 37 29.7**	**-1.0**
	baz=234						
NWF	**Wu-fen Shan**	**0.50**	**227**	P	**Pn**	**15 37 04.3**	**+1.1**
	baz=253						
NWF				eS	**S**	**15 37 30.7**	**-0.4**
	baz=253						
WFSB	**Wu-fen Shan**	**0.50**	**227**	P	**Pn**	**15 37 03.9**	**+0.7**
	baz=253						
WFSB				eS	**S**	**15 37 30.6**	**-0.3**
	baz=253						
TIPB	**Shuangxi**	**0.55**	**217**	eP	**Pn**	**15 37 03.6**	**+0.3**
	baz=233						
TIPB				eS	**S**	**15 37 29.9**	**-1.4**
	baz=233						
TWY	**Chenhua**	**0.55**	**256**	eP	**Pn**	**15 37 05.0**	**+1.8**
	baz=261						
TWY				eS	**S**	**15 37 30.2**	**-0.9**
	baz=261						
EGS		**0.61**	**202**	eP	**Pn**	**15 37 04.3**	**+0.8**
	baz=224						
YM04	**YM04**	**0.64**	**246**	eP	**Pn**	**15 37 04.8**	**+1.2**
	baz=254						
NTC	**Toucheng**	**0.64**	**210**	eP	**Pn**	**15 37 04.4**	**+0.8**
	baz=232						
NTC				eS	**S**	**15 37 30.8**	**-1.0**
	baz=232						
TWA	**Mucha**	**0.69**	**232**	eP	**Pn**	**15 37 04.6**	**+0.8**
	baz=248						
TWA				eS	**S**	**15 37 31.4**	**-0.7**
	baz=248						
NHDH	**Xindian Distri**	**0.75**	**233**	eP	**Pn**	**15 37 04.6**	**+0.7**
	baz=249						
NHDH				eS	**S**	**15 37 31.1**	**-1.3**
	baz=249						
ILA	**Ilan**	**0.76**	**212**	eS	**S**	**15 37 32.6**	**+0.1**
	baz=227						
TWS1	**Kuangyinshan**	**0.76**	**246**	eP	**Pn**	**15 37 04.5**	**+0.5**
	baz=259						
TWS1				eS	**S**	**15 37 32.2**	**-0.3**
	baz=259						
TATO	**Taipei**	**0.77**	**235**	eP	**Pn**	**15 37 05.4**	**+1.3**
	baz=248						
TATO				eS	**S**	**15 37 30.7**	**-1.8**
	baz=248						
SLBB	**Yuanshan**	**0.82**	**217**	eP	**Pn**	**15 37 05.0**	**+0.6**
	baz=230						
SLBB				eS	**S**	**15 37 31.7**	**-1.4**
	baz=230						
TWE	**Neicheng**	**0.83**	**214**	eP	**Pn**	**15 37 05.1**	**+0.7**
	baz=226						
TWE				eS	**S**	**15 37 32.1**	**-0.9**
	baz=226						
TWC	**Suao**	**0.86**	**201**	eP	**Pn**	**15 37 04.8**	**+0.4**
	baz=209						
TWC				eS	**S**	**15 37 30.9**	**-2.4**
	baz=209						
EOS1	**EOS1**	**0.86**	**183**	P	**Pn**	**15 37 05.1**	**+0.6**
	baz=196						
EOS1				S	**S**	**15 37 31.8**	**-1.5**
	baz=196						
NWLT	**Wulai**	**0.89**	**224**	eP	**Pn**	**15 37 04.9**	**+0.2**
	baz=235						
NWLT				eS	**S**	**15 37 31.3**	**-2.2**
	baz=235						
ENTT	**Nioudou**	**0.95**	**216**	P	**Pn**	**15 37 05.5**	**+0.6**
	baz=234						
ENTT				eS	**S**	**15 37 32.3**	**-1.9**
	baz=234						
NCUH	**Zhongli**	**1.01**	**244**	eP	**Pn**	**15 37 05.8**	**+0.7**
	baz=253						
NCUH				eS	**S**	**15 37 33.2**	**-1.3**
	baz=253						
NDT	**Datong Townshi**	**1.01**	**217**	eP	**Pn**	**15 37 05.7**	**+0.5**
	baz=233						
NDT				eS	**S**	**15 37 32.8**	**-1.9**
	baz=233						
WLTB	**Daxi**	**1.01**	**237**	eP	**Pn**	**15 37 05.9**	**+0.7**
	baz=253						
WLTB				eS	**S**	**15 37 33.8**	**-0.8**
	baz=253						
YHNB	**Yeheng**	**1.04**	**225**	eP	**Pn**	**15 37 05.5**	**0.0**
	baz=235						
YHNB				eS	**S**	**15 37 32.5**	**-2.6**
	baz=235						
NSK	**Sanguang**	**1.05**	**226**	eP	**Pn**	**15 37 05.7**	**+0.2**
	baz=235						
NSK				eS	**S**	**15 37 32.9**	**-2.2**
	baz=235						
NANB	**Nanao**	**1.06**	**202**	eP	**Pn**	**15 37 06.4**	**+0.9**
	baz=203						
NANB				eS	**S**	**15 37 33.8**	**-1.4**
	baz=203						
ENA	**Nanau**	**1.06**	**202**	eP	**Pn**	**15 37 06.4**	**+0.9**
	baz=203						
ENA				eS	**S**	**15 37 34.0**	**-1.1**
	baz=203						
JYNG	**Yonaguni jima**	**1.18**	**144**	P	**Pn**	**15 37 06.3**	**+0.2**
JYNG				eS	**S**	**15 37 34.5**	**-1.8**
YOJ	**Yonaguni jima**	**1.21**	**142**	eP	**Pn**	**15 37 06.3**	**+0.1**
	baz=147						
YOJ				eS	**S**	**15 37 34.8**	**-1.8**
	baz=147						
YOJ	**Yonaguni jima**	**1.21**	**142**	P	**Pn**	**15 37 06.5**	**+0.2**
YOJ				eS	**S**	**15 37 35.6**	**-1.0**
NNS	**Nan Shan**	**1.22**	**217**	eP	**Pn**	**15 37 07.1**	**+0.5**
	baz=225						
NNS				eS	**S**	**15 37 35.6**	**-1.4**
	baz=225						
NNSB	**Datong**	**1.22**	**217**	eP	**Pn**	**15 37 07.1**	**+0.5**
	baz=224						
NNSB				eS	**S**	**15 37 35.0**	**-2.0**
	baz=224						
NSTT	**Nanjuang**	**1.33**	**234**	P	**Pn**	**15 37 07.4**	**+0.3**
	baz=241						
NSTT				S	**S**	**15 37 36.4**	**-1.6**
	baz=241						
NACB	**Ninganchiao**	**1.35**	**204**	eP	**Pn**	**15 37 06.9**	**-0.3**
	baz=218						
NACB				eS	**S**	**15 37 35.7**	**-2.5**
	baz=218						
ETLH	**Xiulin Townshi**	**1.36**	**208**	eP	**Pn**	**15 37 07.7**	**+0.3**
	baz=222						
ETLH				eS	**S**	**15 37 36.4**	**-2.2**
	baz=222						
TWD	**Chiawan**	**1.43**	**202**	eP	**Pn**	**15 37 07.5**	**-0.2**
	baz=216						
TWD				eS	**S**	**15 37 36.9**	**-2.4**
	baz=216						
TWT	**Tachien**	**1.48**	**219**	eP	**Pn**	**15 37 09.3**	**+1.0**
	baz=227						
TWT				eS	**S**	**15 37 38.3**	**-1.8**
	baz=227						
TDCB	**Techi**	**1.48**	**219**	eP	**Pn**	**15 37 09.1**	**+0.8**
	baz=227						
TDCB				eS	**S**	**15 37 38.6**	**-1.5**
	baz=227						
WHF	**Hehuan Shan**	**1.52**	**214**	eP	**Pn**	**15 37 09.8**	**+1.0**
	baz=221						
WHF				eS	**S**	**15 37 40.2**	**-0.9**
	baz=221						
NMLH	**Miaoli**	**1.54**	**236**	eS	**S**	**15 37 39.8**	**-0.7**
	baz=239						
ENLB	**Shoufeng**	**1.59**	**200**	eS	**S**	**15 37 40.9**	**-0.5**
	baz=203						
WHP	**Taichung City**	**1.60**	**225**	eP	**Pn**	**15 37 09.7**	**+0.7**
	baz=232						
WHP				eS	**S**	**15 37 40.5**	**-1.0**
	baz=232						
NSY	**Sanyi**	**1.63**	**233**	eP	**Pn**	**15 37 10.0**	**+0.8**
	baz=231						
CHGB	**Renai**	**1.63**	**215**	eP	**Pn**	**15 37 10.3**	**+0.9**
	baz=220						
CHGB				eS	**S**	**15 37 40.9**	**-1.4**
	baz=220						
TWQ1	**Liyutan**	**1.67**	**231**	eP	**Pn**	**15 37 10.2**	**+0.7**
	baz=237						
TWQ1				eS	**S**	**15 37 41.2**	**-1.1**
	baz=237						
OWD	**Renai**	**1.72**	**212**	eP	**Pn**	**15 37 10.8**	**+0.7**
	baz=219						
OWD				eS	**S**	**15 37 42.4**	**-0.9**
	baz=219						
ESL	**Shilin**	**1.73**	**203**	eP	**Pn**	**15 37 09.8**	**-0.2**
	baz=205						
ESL				eS	**S**	**15 37 40.0**	**-3.2**
	baz=205						
IRIF	**Iriomote-Funau**	**1.77**	**127**	P	**Pn**	**15 37 10.6**	**+0.4**
IRIF				S	**S**	**15 37 42.0**	**-1.6**
EGFH	**Guangfu**	**1.87**	**202**	eP	**Pn**	**15 37 11.8**	**+0.7**
	baz=208						
EGFH				eS	**S**	**15 37 42.3**	**-2.9**
	baz=208						
VWDT	**VWDT**	**1.91**	**210**	eP	**Pn**	**15 37 12.7**	**+1.4**
	baz=218						
VWDT				eS	**S**	**15 37 44.4**	**-1.4**
	baz=218						
SMLT	**Sun Moon Lake**	**1.92**	**218**	eP	**Pn**	**15 37 12.1**	**+0.5**
	baz=228						
SMLT				eS	**S**	**15 37 45.0**	**-1.2**
	baz=228						
TYC	**Yuchr**	**1.93**	**219**	eP	**Pn**	**15 37 12.2**	**+0.7**
	baz=229						
TYC				eS	**S**	**15 37 44.5**	**-1.6**
	baz=229						
SSLB	**Suanglung**	**1.97**	**215**	eP	**Pn**	**15 37 12.4**	**+0.5**
	baz=226						
SSLB				eS	**S**	**15 37 44.8**	**-2.0**
	baz=226						
HATJ	**Hateruma jima**	**2.00**	**132**	P	**Pn**	**15 37 13.3**	**+1.2**
HATJ				eS	**S**	**15 37 46.3**	**-0.8**
JKRS	**Kuro-shima**	**2.03**	**125**	P	**Pn**	**15 37 13.5**	**+1.1**
JKRS				S	**S**	**15 37 46.7**	**-0.8**
HGSD	**Ruisui**	**2.04**	**200**	eP	**Pn**	**15 37 13.3**	**+0.8**
	baz=208						
HGSD				eS	**S**	**15 37 46.5**	**-1.2**
	baz=208						
WNT	**Mingjian**	**2.05**	**222**	eP	**Pn**	**15 37 13.4**	**+0.9**
	baz=227						
WNT				eS	**S**	**15 37 46.7**	**-1.2**
	baz=227						
EHY	**Hungye**	**2.06**	**203**	eP	**Pn**	**15 37 13.2**	**+0.5**
	baz=208						
EHY				eS	**S**	**15 37 45.5**	**-2.6**
	baz=208						
JIJ	**Ishigaki jima**	**2.06**	**120**	P	**Pn**	**15 37 13.4**	**+0.8**
JIJ				S	**S**	**15 37 46.0**	**-2.1**
WJS	**Zhushan**	**2.07**	**220**	eP	**Pn**	**15 37 13.6**	**+0.8**
	baz=230						
WJS				eS	**S**	**15 37 46.9**	**-1.3**
	baz=230						
JISG	**Ishigakijimahi**	**2.10**	**113**	P	**Pn**	**15 37 13.7**	**+0.8**
JISG				S	**S**	**15 37 47.5**	**-1.1**
WHYT	**Xinyi Township**	**2.10**	**216**	eP	**Pn**	**15 37 13.7**	**+0.7**
	baz=226						
WHYT				eS	**S**	**15 37 47.1**	**-1.7**
	baz=226						
MATB	**Ma-tsu**	**2.15**	**290**	eP	**Pn**	**15 37 13.7**	**+0.4**
	baz=291						
YULB	**Yu-li**	**2.17**	**202**	eP	**Pn**	**15 37 13.3**	**-0.3**
	baz=209						
YULB				eS	**S**	**15 37 46.5**	**-3.4**
	baz=209						
TWF1	**Yuli**	**2.21**	**202**	eP	**Pn**	**15 37 13.9**	**-0.1**
	baz=210						
TWF1				eS	**S**	**15 37 47.5**	**-3.0**
	baz=210						
CHN5	**Tsauling**	**2.27**	**218**	eP	**Pn**	**15 37 15.5**	**+0.9**
	baz=227						
CHN5				eS	**S**	**15 37 50.4**	**-1.2**
	baz=227						
ALS	**Alishan**	**2.27**	**214**	eP	**Pn**	**15 37 15.7**	**+0.8**
	baz=224						
ALS				eS	**S**	**15 37 50.9**	**-1.3**
	baz=224						
WDLH	**Douliu**	**2.28**	**221**	eP	**Pn**	**15 37 15.3**	**+0.7**
	baz=227						
WDLH				eS	**S**	**15 37 50.8**	**-0.9**
	baz=227						
XPSS	**Dashiqiu**	**2.34**	**311**	eP	**Pn**	**15 37 15.3**	**+0.2**
	baz=310						
FULB	**Fuli**	**2.35**	**200**	eP	**Pn**	**15 37 15.9**	**+0.5**
	baz=208						
FULB				eS	**S**	**15 37 51.8**	**-1.2**
	baz=208						
JTJ	**Tarama**	**2.41**	**108**	P	**Pn**	**15 37 17.1**	**+1.3**
JTJ				S	**S**	**15 37 52.8**	**-0.9**
CHKT	**Chengkung**	**2.42**	**198**	eP	**Pn**	**15 37 17.0**	**+1.0**
	baz=206						
ELDTW	**Lidau**	**2.46**	**206**	eP	**Pn**	**15 37 17.3**	**+0.8**
	baz=208						
LYJJ	**Jianjiangzhen**	**2.46**	**298**	eP	**Pn**	**15 37 16.6**	**+0.4**
	baz=298						
VWUC	**VWUC**	**2.51**	**261**	eP	**Pn**	**15 37 16.9**	**+0.1**
	baz=263						
CHN4	**Tsaushan**	**2.52**	**216**	eP	**Pn**	**15 37 17.5**	**+0.6**
	baz=225						
CHN4				eS	**S**	**15 37 54.1**	**-1.6**
	baz=225						
WSF	**Szhu**	**2.52**	**226**	eP	**Pn**	**15 37 17.4**	**+0.5**
	baz=225						
TPUB	**Ta-pu**	**2.54**	**214**	eP	**Pn**	**15 37 17.4**	**+0.3**
	baz=224						
TPUB				eS	**S**	**15 37 54.2**	**-1.9**
	baz=224						
WTP	**Ta-pu**	**2.59**	**214**	eP	**Pn**	**15 37 18.1**	**+0.4**
	baz=224						
WTP				eS	**S**	**15 37 55.4**	**-1.8**
	baz=224						
TWK	**Hsinying**	**2.64**	**216**	eP	**Pn**	**15 37 18.6**	**+0.4**
	baz=225						
TWK				eS	**S**	**15 37 56.6**	**-1.3**
	baz=225						
SNST	**Tainan City**	**2.67**	**216**	eP	**Pn**	**15 37 18.9**	**+0.5**
	baz=225						
SNST				eS	**S**	**15 37 56.4**	**-2.0**
	baz=225						
CHN1	**Nanshi**	**2.69**	**215**	eP	**Pn**	**15 37 19.1**	**+0.5**
	baz=225						
CHN1				eS	**S**	**15 37 57.4**	**-1.4**
	baz=225						
SGST	**Jiashian**	**2.74**	**213**	eP	**Pn**	**15 37 20.0**	**+0.9**
	baz=223						
SGST				eS	**S**	**15 37 59.0**	**-0.8**
	baz=223						
JIRB	**Irabujima**	**2.77**	**102**	P	**Pn**	**15 37 20.5**	**+1.2**
JIRB				S	**S**	**15 37 58.5**	**-1.6**
TWG	**Pinlang**	**2.77**	**202**	eP	**Pn**	**15 37 19.4**	**-0.1**
	baz=205						
TWG				eS	**S**	**15 37 59.1**	**-1.3**
	baz=205						
TWGBT	**Beinan**	**2.77**	**202**	eP	**Pn**	**15 37 19.6**	**+0.1**
	baz=205						
TWGBT				eS	**S**	**15 37 59.4**	**-1.0**
	baz=205						
SLGT	**Liugui**	**2.79**	**211**	eP	**Pn**	**15 37 20.5**	**+0.9**
	baz=221						
SLGT				eS	**S**	**15 37 60.0**	**-0.7**
	baz=221						
PTMZ	**Houxiangcun**	**2.80**	**263**	eP	**Pn**	**15 37 19.6**	**-0.1**
	baz=265						
JIKM	**Ikemajima**	**2.82**	**99**	P	**Pn**	**15 37 21.4**	**+1.6**
JIKM				S	**S**	**15 37 59.7**	**-1.3**
JMJ	**Miyako jima 2**	**2.88**	**101**	eP	**Pn**	**15 37 21.7**	**+1.3**
	baz=104						
JMJ				eS	**S**	**15 38 00.5**	**-1.6**
	baz=104						
JMJ	**Miyako jima 2**	**2.88**	**101**	P	**Pn**	**15 37 22.1**	**+1.7**
JMJ				S	**S**	**15 38 01.2**	**-0.9**
MHZQ	**Yeshan**	**2.93**	**284**	eP	**Pn**	**15 37 21.1**	**+0.2**
	baz=285						
JOGS	**Gusukube**	**2.99**	**102**	P	**Pn**	**15 37 23.4**	**+1.8**
JOGS				eS	**S**	**15 38 03.6**	**-0.6**
SSD	**Sandimen**	**3.01**	**208**	eP	**Pn**	**15 37 22.7**	**+0.8**
	baz=213						
SSD				eS	**S**	**15 38 02.8**	**-1.9**
	baz=213						
ECL	**Taimali**	**3.02**	**202**	eP	**Pn**	**15 37 23.6**	**+1.7**
	baz=200						
ECL				eS	**S**	**15 38 03.0**	**-1.9**
	baz=200						
PHUB	**P'eng-hu**	**3.04**	**232**	eP	**Pn**	**15 37 22.0**	**-0.1**
	baz=235						
MASBT	**Mashibuluo**	**3.13**	**207**	eP	**Pn**	**15 37 23.9**	**+0.8**
	baz=212						
MASBT				eS	**S**	**15 38 04.4**	**-2.6**
	baz=212						
WDGT	**Dungji**	**3.15**	**228**	eP	**Pn**	**15 37 23.6**	**+0.3**
	baz=226						
EAST	**Anshuo**	**3.26**	**202**	eP	**Pn**	**15 37 25.6**	**+1.0**
	baz=211						
EAST				eS	**S**	**15 38 07.7**	**-1.8**
	baz=211						
SCZT	**Fangliau**	**3.35**	**206**	eP	**Pn**	**15 37 25.8**	**+0.4**
	baz=207						
SCZT				eS	**S**	**15 38 08.7**	**-2.5**
	baz=207						
AXDP	**Jialang**	**3.85**	**263**	eP	**Pn**	**15 37 31.1**	**+0.1**
	baz=265						
JKE	**Kume jima 2**	**4.24**	**77**	P	**Pn**	**15 37 36.3**	**+0.9**
JOW	**Kunigami**	**5.65**	**74**	P	**Pn**	**15 37 51.6**	**-0.6**
	0.1nm,0.3s,baz=144,slow=14,SNR=2.2						
JOW				S	**S**	**15 38 52.0**	**-7.9**
	1.9nm,0.3s,baz=99,slow=17,SNR=18						
JNU	**Nakatsue**	**10.79**	**43**	P	**P**	**15 39 00.8**	**+0.8**
	0.3nm,0.3s,baz=219,slow=23,SNR=3.3						
SONM	**Songino Array**	**25.62**	**335**	P	**P**	**15 41 32.9**	**-0.2**
	1.4nm,0.6s,baz=152,slow=9.8,SNR=9.4						
MKAR	**Makanchi Array**	**38.11**	**314**	P	**P**	**15 43 21.0**	**-0.2**
	0.3nm,0.5s,baz=96,slow=6.6,SNR=5.7						
WRA	**Warramunga Arr**	**46.61**	**164**	P	**P**	**15 44 30.1**	**+0.5**
	0.2nm,0.5s,baz=347,slow=8.6,SNR=1.9						
ASAR	**Alice Springs**	**50.09**	**166**	P	**P**	**15 44 57.1**	**+1.0**
	0.1nm,0.6s,baz=349,slow=8.6,SNR=1.8						
YKA	**Yellowknife Ar**	**81.49**	**23**	P	**P**	**15 48 15.6**	**+0.6**
	0.2nm,0.4s,baz=310,slow=5.6,SNR=2.4						

DJA 19 16:01:20.8±0.3**, 8°S**±3°×**11°2E**±°**, h10**km**, M3.6**/7**, MLv3.6**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**0.26**	**63**	P	Pg	16 01 26.4	+0.3
PCJI	**Pacitan**	**0.39**	**262**	P	Pg	16 01 29.0	+0.4
PCJI				S	Sg	16 01 34.6	+0.8
WOJI	**Wonogiri, Jawa**	**0.71**	**295**	P	Pg	16 01 34.2	-0.3
WOJI				S	Sg	16 01 44.2	+0.4
NGJI	**Ngawi**	**0.78**	**352**	P	Pn	16 01 37.8	0.0
UGM	**Wanagama**	**1.06**	**282**	P	Pg	16 01 40.8	-0.4
UGM				S	Sb	16 01 55.5	+0.2
TBJI	**Tambak Boyo**	**1.34**	**12**	P	Pn	16 01 45.5	-0.1
GRJI	**Gresik**	**1.52**	**37**	P	Pn	16 01 48.2	+0.2
GRJI				S	Sn	16 02 07.1	-0.7
SMRI	**Semarang**	**1.56**	**314**	P	Pb	16 01 49.9	+0.1
BLJI	**Banyuglugur**	**2.04**	**79**	P	Pb	16 01 56.9	-1.1
JAGI	**Jajag, Banyuwa**	**2.58**	**98**	P	Pn	16 01 52.8	-10
CMJI	**Cimerak**	**3.11**	**276**	P	Pn	16 02 10.5	+0.5

*IDC **19** 16:02:08.0±1.2, 12.30N×144.49E, h0km, mb3.4/6, mb1 3.6/6, mb1mx3.4/38, mbtmp3.4/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/21, Error ellipse: s-maj=38.3km

H11S3	**WAKE ISLAND Hy**	**22.20**	**71**	T	T	16 30 33.7		
	baz=258,slow=75,SNR=11							
H11S1	**WAKE ISLAND Hy**	**22.22**	**71**	T	T	16 30 18.1		
	baz=258,slow=75,SNR=6.4							
H11S2	**WAKE ISLAND Hy**	**22.22**	**71**	T	T	16 30 36.7		
	baz=258,slow=75,SNR=9.1							
H11N1	**WAKE ISLAND Hy**	**22.68**	**68**	T	T	16 31 11.4		
	baz=255,slow=75,SNR=26							
H11N2	**WAKE ISLAND Hy**	**22.69**	**68**	T	T	16 31 08.9		
	baz=255,slow=75,SNR=20							
H11N3	**WAKE ISLAND Hy**	**22.70**	**68**	T	T	16 31 12.8		
	baz=255,slow=75,SNR=18							
MJAR	**Matsushiro Arr**	**24.76**	**348**	LR	LR	16 15 33.4		
	comp=Z,31nm,21.0s,baz=240,slow=32							
WRA	**Warramunga Arr**	**33.62**	**198**	P	**P**	**16 08 49.4**	**-0.9**	
	0.5nm,0.8s,baz=21,slow=9.7,SNR=5.5							
ASAR	**Alice Springs**	**37.27**	**196**	P	**P**	**16 09 21.3**	**-0.4**	
	0.4nm,0.9s,baz=22,slow=11,SNR=7.0							
CMAR	**Chiang Mai Arr**	**44.28**	**284**	P	**P**	**16 10 19.6**	**-0.1**	
	0.3nm,0.3s,baz=74,slow=6.7,SNR=3.3							
SONM	**Songino Array**	**47.56**	**326**	P	**P**	**16 10 46.1**	**+0.8**	
	0.2nm,0.5s,baz=139,slow=8.3,SNR=2.1							
MKAR	**Makanchi Array**	**62.16**	**317**	P	**P**	**16 12 30.6**	**-0.3**	
	0.1nm,0.5s,baz=105,slow=7.9,SNR=3.1							
YKA	**Yellowknife Ar**	**84.11**	**27**	P	**P**	**16 14 41.8**	**+1.7**	
	0.1nm,0.3s,baz=242,slow=8.7,SNR=4.5							

IDC 19 16:13:01.9±11.0, 7°.05S×128°.54E, h75$^{km}_{\pm}$143^{km}, mb2.9/1, mb1 3.2/4, mb1mx3.1/24, mbtmp3.3/4, ML3.5/3, Error ellipse: s-maj=224.4km s-min=26.7km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SIJI	**Sorong**	**6.71**	**24**	P		Pn	16 14 38.1	+0.2
	0.3nm,0.3s,baz=202,slow=23,SNR=8.1							
SIJI				S		Sn	16 15 44.9	-8.0
	0.8nm,0.3s,baz=240,slow=23,SNR=7.0							
WRA	**Warramunga Arr**	**14.00**	**157**	P		Pn	16 16 15.1	-1.8
	0.4nm,0.3s,baz=334,slow=13,SNR=22							
WRA				S		Sn	16 18 40.5	-10
	0.3nm,0.3s,baz=344,slow=21,SNR=6.6							
ASAR	**Alice Springs**	**17.31**	**163**	P		P	16 17 00.0	+0.9
	0.2nm,0.3s,baz=345,slow=10,SNR=19							
ASAR				S		Sn	16 20 02.2	-8.7
	0.1nm,0.3s,baz=340,slow=23,SNR=3.5							
MKAR	**Makanchi Array**	**67.48**	**327**	P		P	16 23 49.9	0.0
	0.1nm,0.3s,baz=112,slow=7.8,SNR=3.6							

*DDA **19** 16:15:18.8, 38°.75N×42°.48E, h7$^{km}_{\pm}$2^{km}, ML2.7*
*ISK **19** 16:15:18.1, 38°.71N×42°.50E, h12^{km}, ML2.5/8*
*ISCJB **19** 16:15:19.2±0.6, 38°.72N±0°.03×42°.53E±0°.05, h8$^{km}_{\pm}$6^{km}, Error ellipse: s-maj=6.6km s-min=4.6km az=5.7*
ISC 19 16:15:19.1±1.0, 38°.74N±0°.03×42°.52E±0°.04, h14$^{km}_{\pm}$8^{km}, n17, σ0^{s}.70/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.18**	**67**	*i* P		**Pg**	**16 15 23.4**	**-0.1**
ADCV				*i* S		**Sg**	**16 15 27.6**	**+1.1**
MLAZ	**Malazgirt-MUS**	**0.40**	**4**	PG		**Pg**	**16 15 27.1**	**-0.1**
MLAZ				SG		**Sb**	**16 15 33.8**	**-0.3**
GURO	**Guroymak-BITLI**	**0.42**	**244**	PG		**Pg**	**16 15 26.5**	**-1.1**
AKDM	**Akdamar-Van**	**0.55**	**138**	PG		**Pg**	**16 15 29.0**	**-0.9**
AKDM				SG		**Sg**	**16 15 36.7**	**-0.6**
GEVA	**Gevas**	**0.60**	**135**	*i* P		**Pg**	**16 15 30.5**	**-0.4**
VANB	**Van**	**0.70**	**102**	PG		**Pb**	**16 15 32.9**	**-0.2**
TUTA	**Tutak**	**0.70**	**19**	*i* P		**Pb**	**16 15 33.0**	**-0.2**
VMUR	**Van-Muradiye**	**0.86**	**73**	*i* P		**Pb**	**16 15 36.5**	**+0.6**
VMUR				IAML_P				
	comp=Z,369nm,0.2s							
SRTM	**Siirt_Merkez**	**0.88**	**212**	*i* P		**Pb**	**16 15 35.9**	**-0.3**
SRTM				IAML_P				
	comp=Z,1μm,0.2s							
AGRB	**Hanur-Agry**	**0.91**	**24**	PG		**Pg**	**16 15 36.4**	**-0.4**
AGRB				SG		**Sn**	**16 15 50.4**	**-0.2**
CLDR	**Caldiran**	**1.16**	**69**	PN		**Pb**	**16 15 40.9**	**-0.2**
CLDR	**Caldiran**	**1.16**	**69**	*i* P		**Pb**	**16 15 41.1**	**0.0**
CLDR				IAML_P				
	comp=Z,628nm,0.1s							
SIRN	**Sırnak**	**1.24**	**184**	*i* P		**Pg**	**16 15 44.0**	**+0.9**
BTMN	**Batman**	**1.30**	**230**	*i* P		**Pg**	**16 15 43.9**	**-0.1**
BTMN				*i* S		**Sn**	**16 16 01.6**	**+1.7**
BTMN				IAML_P				
	comp=Z,426nm,0.3s							
KOPR	**Koprukoy-ERZUR**	**1.35**	**338**	PN		**Pn**	**16 15 43.8**	**+0.2**
HOMI	**Horasan**	**1.39**	**340**	*i* P		**Pg**	**16 15 45.4**	**-0.4**
HOMI				IAML_P				
	comp=Z,419nm,0.2s							
CUKT	**Cukurca**	**1.72**	**150**	PN		**Pn**	**16 15 48.2**	**-0.5**

*ISK **19** 16:19:56.6, 38°.71N×43°.18E, h5^{km}, ML2.3/6*
*DDA **19** 16:19:57.1, 38°.76N×43°.27E, h7$^{km}_{\pm}$2^{km}, ML2.5*
ISC 19 16:19:57.6±1.2, 38°.74N±0°.03×43°.20E±0°.03, h7$^{km}_{\pm}$11^{km}, n13, σ1^{s}.32/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VANB	**Van**	**0.21**	**135**	PG		**Pg**	**16 20 02.4**	**+0.5**
VANB				SG		**Sg**	**16 20 06.8**	**+2.1**
TVAN	**Van**	**0.27**	**143**	*i* P		**Pg**	**16 20 02.6**	**-0.5**
TVAN				*i* S		**Sb**	**16 20 07.9**	**-1.9**
ADCV	**BITLIS_Adilcev**	**0.38**	**280**	*i* P		**Pb**	**16 20 05.9**	**-0.9**
ADCV				*i* S		**Sb**	**16 20 13.0**	**+0.1**
VMUR	**Van-Muradiye**	**0.38**	**50**	*i* P		**Pg**	**16 20 04.9**	**-0.2**
VMUR				IAML_P				
	comp=Z,1μm,0.1s							
GEVA	**Gevas**	**0.45**	**195**	*i* P		**Pb**	**16 20 06.5**	**-1.5**
GEVA				*i* S		**Sb**	**16 20 14.6**	**-0.3**
GEVA				IAML_P				
	comp=Z,3μm,0.3s							
AKDM	**Akdamar-Van**	**0.45**	**203**	PG		**Pg**	**16 20 04.9**	**-1.5**
MLAZ	**Malazgirt-MUS**	**0.64**	**308**	PG		**Pg**	**16 20 09.9**	**-0.2**
CLDR	**Caldiran**	**0.69**	**54**	PG		**Pb**	**16 20 11.1**	**-1.0**
CLDR				SG		**Sb**	**16 20 21.5**	**-0.4**
CLDR	**Caldiran**	**0.69**	**54**	*i* P		**Pg**	**16 20 09.8**	**-1.1**
TUTA	**Tutak**	**0.72**	**335**	*i* P		**Pb**	**16 20 11.9**	**-0.8**
AGRB	**Hanur-Agry**	**0.85**	**349**	PG		**Pb**	**16 20 14.3**	**-0.5**
AGRB				SG		**Sb**	**16 20 25.3**	**-1.1**
GURO	**Guroymak-BITLI**	**0.94**	**258**	PG		**Pg**	**16 20 14.7**	**-0.9**
SRTM	**Siirt_Merkez**	**1.25**	**234**	*i* P		**Pn**	**16 20 22.3**	**+0.6**
SRTM				*i* S		**Sn**	**16 20 41.8**	**+2.9**
SRTM				IAML_P				
	comp=Z,375nm,0.4s							

GUC 19 16:21:15.6±0.4, 22°.30S×66°.96W, h286$^{km}_{\pm}$12^{km}, ML3.6, 6C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**2.17**	**283**	*eP*		Pn	16 22 05.2	+2.4
PB06	**IPOC Station P**	**2.45**	**260**	⇑*iP*		Pn	16 22 07.5	+2.2
PB06				*i* S		S	16 22 47.6	+2.8
PB06				IAML			16 22 49.3	
	comp=N,69nm,0.1s							
PB15	**IPOC Station P**	**2.49**	**248**	⇑*iP*		Pn	16 22 08.2	+2.6
PB15				*i* S		S	16 22 47.8	+2.3
PB03	**IPOC Station P**	**2.60**	**275**	⇓*iP*		Pn	16 22 09.3	+2.7
PB03				*i* S		S	16 22 50.1	+2.8
PB03				IAML			16 22 51.2	
	comp=N,49nm,0.1s							
PB01	**IPOC Station P**	**2.66**	**298**	⇑*iP*		Pn	16 22 09.7	+2.4
PB01				*eS*		S	16 22 50.4	+2.1
PB01				IAML			16 22 52.3	
	comp=N,105nm,0.3s							
PB07	**IPOC Station P**	**2.77**	**281**	⇓*iP*		Pn	16 22 11.2	+2.8
PB07				*i* S		S	16 22 53.1	+2.7
PB07				IAML			16 22 53.9	
	comp=N,40nm,0.5s							
PB02	**IPOC Station P**	**2.89**	**289**	⇓*iP*		Pn	16 22 12.1	+2.6
PB02				*i* S		S	16 22 55.2	+2.8
PB02				IAML			16 22 56.6	
	comp=E,64nm,0.1s							
PB04	**IPOC Station P**	**2.95**	**269**	*i* P		Pn	16 22 12.9	+2.8
PB04				*i* S		S	16 22 56.1	+2.6
PB04				IAML			16 22 59.4	
	comp=N,47nm,0.2s							
PB08	**IPOC Station P**	**2.96**	**316**	⇑*iP*		Pn	16 22 13.0	+2.5
PB08				*i* S		S	16 22 57.4	+3.2
PB08				IAML			16 22 59.4	
	comp=E,19nm,0.3s							
PB05	**IPOC Station P**	**3.04**	**259**	⇑*iP*		Pn	16 22 13.6	+2.6
PB05				*i* S		S	16 22 57.8	+2.6
PB11	**IPOC Station P**	**3.56**	**315**	⇑*iP*		Pn	16 22 18.4	+1.8
PB11				*i* S		S	16 23 07.2	+1.9

*CNRM **19** 16:24:45.1, 36°.35N×5°.65W, h79^{km}, ml2.4*
*ISCJB **19** 16:24:45.8±0.2, 36°.57N±0°.02×5°.56W±0°.02, h35^{km}, Error ellipse: s-maj=2.8km s-min=1.9km az=37.8*
*SFS **19** 16:24:47.0, 36°.40N×5°.40W, h49^{km}, ML3.8, JIMENA DE LA FTRA. (CADIZ)*
*INMG **19** 16:24:47.6±1.6, 36°.53N×5°.56W, h32$^{km}_{\pm}$12^{km}, ML2.6, Error ellipse: s-maj=3.0km s-min=2.3km az=53.0*
*IGIL **19** 16:24:47.3, 36°.46N×5°.52W, h44^{km}, ML2.8*
*MDD **19** 16:24:47.5±0.3, 36°.49N×5°.51W, h41$^{km}_{\pm}$3^{km}, mb4.2/21, Error ellipse: s-maj=3.7km s-min=2.8km az=26.0, PRXIMO*
ISC 19 16:24:45.8±1.1, 36°.50N±0°.02×5°.52W±0°.02, h35^{km}, n103, σ1^{s}.69/184, 9C-7D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EJIF	**Jimena Fronter**	**0.07**	**138**	⇑P		**Pn**	**16 24 53.6**	**+1.9**
	119nm,0.2s,SNR=18							
EJIF				S		**Sn**	**16 24 59.1**	**+3.4**
	469nm,0.3s,SNR=7.9							
REAL	**Reales**	**0.26**	**93**	⇓P		**Pn**	**16 24 55.5**	**+2.2**
REAL	**Reales**	**0.26**	**93**	⇓*iP*		**Pn**	**16 24 55.5**	**+2.2**
LIJA	**Lijar**	**0.42**	**13**	⇑P		**Pn**	**16 24 58.0**	**+2.7**
LIJA	**Lijar**	**0.42**	**13**	⇑*iP*		**Pn**	**16 24 58.0**	**+2.7**
CNIL	**Conil**	**0.45**	**253**	⇑P		**Pn**	**16 24 58.3**	**+2.6**
CNIL	**Conil**	**0.45**	**253**	⇑*iP*		**Pn**	**16 24 58.3**	**+2.6**
ESPR	**Espera**	**0.46**	**324**	⇓P		**Pn**	**16 24 57.9**	**+2.1**
	14nm,0.1s,SNR=18							
ESPR				S		**Sn**	**16 25 04.1**	**+1.4**
	253nm,0.2s,SNR=7.9							
GIBL	**Gibalbin**	**0.49**	**313**	P		**Pn**	**16 24 58.9**	**+2.7**
GIBL	**Gibalbin**	**0.49**	**313**	*eP*		**Pn**	**16 24 58.9**	**+2.7**
EMIJ	**Mijas**	**0.61**	**84**	⇑P		**Pn**	**16 24 58.6**	**+0.6**
	48nm,0.2s,SNR=18							
EMIJ				S		**Sn**	**16 25 07.5**	**+0.9**
	39nm,0.2s,SNR=11							
CEU	**Ceuta**	**0.61**	**168**	P		**Pn**	**16 24 59.1**	**+1.1**
CEU				S		**Sn**	**16 25 07.6**	**+1.0**
CEU	**Ceuta**	**0.61**	**168**	*eP*		**Pn**	**16 24 59.1**	**+1.1**
CEU				*eS*		**Sn**	**16 25 07.6**	**+1.0**
ECEU	**Ceuta**	**0.61**	**169**	⇓P		**Pn**	**16 24 59.2**	**+1.2**
	60nm,0.1s,SNR=18							
ECEU				S		**Sn**	**16 25 08.2**	**+1.5**
	26nm,0.1s,SNR=7.9							
CEUT	**Ceuta**	**0.64**	**165**	P		**Pn**	**16 24 59.4**	**+1.1**
CEUT				S		**Sn**	**16 25 09.3**	**+2.1**
SMIR	**Smir Dam**	**0.82**	**172**	P		**Pn**	**16 25 02.1**	**+1.2**
SMIR				S		**Sn**	**16 25 13.7**	**+1.9**
EMAL	**Malaga-Limoner**	**0.92**	**73**	P		**Pn**	**16 25 03.2**	**+1.0**
EMAL				S		**Sn**	**16 25 15.2**	**+1.0**
EMAL	**Malaga-Limoner**	**0.92**	**73**	*eP*		**Pn**	**16 25 03.2**	**+1.0**
EMAL				*eS*		**Sn**	**16 25 15.2**	**+1.0**
HORN	**Hornachuelos**	**1.36**	**9**	P		**Pn**	**16 25 11.3**	**+3.1**
HORN				S		**Sn**	**16 25 29.3**	**+4.1**
EMIN	**Mina Concepcio**	**1.56**	**324**	P		**Pn**	**16 25 12.0**	**+0.9**
	1.1nm,0.0s,SNR=7.9							
EMIN				S		**Sn**	**16 25 29.8**	**-0.3**
	4.2nm,0.1s,SNR=9.9							
ELGU	**Los Guajares,**	**1.57**	**76**	P		**Pn**	**16 25 11.6**	**+0.4**
	4.3nm,0.1s,SNR=7.9							
ELGU				S		**Sn**	**16 25 31.2**	**+0.9**
	12nm,0.1s,SNR=7.9							
ECAB	**El Cabril**	**1.57**	**3**	⇓P		**Pn**	**16 25 12.3**	**+1.0**
	2.8nm,0.1s,SNR=18							
ECAB				S		**Sn**	**16 25 30.7**	**+0.3**
	3.6nm,0.1s,SNR=7.3							
EQUE	**Quentar**	**1.81**	**67**	S		**Sn**	**16 25 35.6**	**-0.9**
	12nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**1.83**	**24**	⇓P		**Pn**	**16 25 16.1**	**+1.4**
	2.6nm,0.1s,SNR=18							
EADA				S		**Sn**	**16 25 36.5**	**-0.2**
	18nm,0.1s,SNR=4.8							
EGRO	**El Granado**	**1.88**	**304**	⇑P		**Pn**	**16 25 16.4**	**+1.0**
	9.4nm,0.1s,SNR=18							
EGRO				S		**Sn**	**16 25 37.5**	**-0.3**
	51nm,0.2s,SNR=20							
PBAR	**Barrancos**	**2.06**	**325**	*eP*		**Pn**	**16 25 19.5**	**+1.6**
PBAR				*eS*		**Sn**	**16 25 41.8**	**-0.6**
PBAR				A		A	16 25 45.4	
	22nm,0.4s							
PBAR	**Barrancos**	**2.06**	**325**	P		**Pn**	**16 25 19.5**	**+1.6**
PBAR				S		**Sn**	**16 25 41.8**	**-0.6**
	22nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.07**	**292**	⇑*iP*		**Pn**	**16 25 19.0**	**+1.0**
PBDV				S		**Sn**	**16 25 42.2**	**-0.4**
PBDV				A		A	16 25 43.0	
	21nm,0.8s							
PBDV	**Barranco-do-Ve**	**2.07**	**292**	P		**Pn**	**16 25 19.0**	**+1.0**
PBDV				S		**Sn**	**16 25 42.2**	**-0.4**
	21nm,0.8s							
EBER	**Berja**	**2.15**	**79**	P		**Pn**	**16 25 20.9**	**+1.5**
	1.2nm,0.2s,SNR=7.9							
EBER				S		**Sn**	**16 25 45.2**	**+0.3**
	SNR=7.9							
GORA	**Gorafe**	**2.21**	**63**	S		**Sn**	**16 25 46.5**	**+0.2**
	SNR=7.9							
PCVE	**Castro Verde**	**2.31**	**300**	⇑*iP*		**Pn**	**16 25 21.7**	**+0.4**
PCVE				S		**Sn**	**16 25 47.2**	**-1.3**
PCVE				A		A	16 25 48.5	
	32nm,0.4s							
PCVE	**Castro Verde**	**2.31**	**300**	P		**Pn**	**16 25 21.7**	**+0.4**
PCVE				S		**Sn**	**16 25 47.2**	**-1.3**
	32nm,0.4s							
EQES	**Quesada**	**2.35**	**56**	P		**Pn**	**16 25 23.6**	**+1.6**
	1.1nm,0.1s,SNR=8.2							
EQES				S		**Sn**	**16 25 50.2**	**+0.5**
	5.2nm,0.2s,SNR=13							
AKLM	**AKL**	**2.40**	**145**	P		Pn	16 25 19.4	-3.3
AKLM				S		**Sn**	**16 25 46.0**	**-5.0**
PBEJ	**Beja**	**2.41**	**310**	S		**Sn**	**16 25 50.7**	**-0.3**
PBEJ				A		A	16 25 52.9	
	20nm,0.4s							
PBEJ	**Beja**	**2.41**	**310**	S		**Sn**	**16 25 50.7**	**-0.3**
	10nm,0.4s							
GOG	**Mont Gurugu**	**2.42**	**121**	P		**Pn**	**16 25 23.3**	**+0.4**
GOG				S		**Sn**	**16 25 51.0**	**-0.2**
MESJ	**Messejana**	**2.54**	**303**	*eP*		**Pn**	**16 25 25.3**	**+0.9**
MESJ				*eS*		**Sn**	**16 25 53.0**	**-1.0**
MESJ				AML		AML	16 25 54.6	
	comp=E,40nm,0.2s							
MESJ	**Messejana**	**2.54**	**303**	*eP*		**Pn**	**16 25 25.4**	**+0.9**
MESJ				S		**Sn**	**16 25 53.3**	**-0.8**
MESJ				A		A	16 25 54.5	
	comp=E,31nm,0.4s							
MESJ	**Messejana**	**2.54**	**303**	P		**Pn**	**16 25 25.3**	**+0.9**
MESJ				S		**Sn**	**16 25 53.0**	**-1.0**
	comp=E,40nm,0.2s							
EBAD	**Badajoz**	**2.54**	**333**	⇓P		**Pn**	**16 25 25.7**	**+1.1**
	comp=E,5.0nm,0.1s,SNR=18							
EBAD				S		**Sn**	**16 25 54.0**	**-0.3**
	comp=E,27nm,0.2s,SNR=7.9							
MORF	**Marmelete**	**2.63**	**289**	*eP*		**Pn**	**16 25 26.4**	**+0.6**
MORF				*eS*		**Sn**	**16 25 55.3**	**-1.3**
MORF				AML		AML	16 25 57.4	
	comp=E,30nm,0.1s							
MORF	**Marmelete**	**2.63**	**289**	*eP*		**Pn**	**16 25 26.4**	**+0.6**
MORF				S		**Sn**	**16 25 56.0**	**-0.6**
MORF				A		A	16 25 59.5	
	comp=E,18nm,0.1s							
MORF	**Marmelete**	**2.63**	**289**	P		**Pn**	**16 25 26.4**	**+0.6**
MORF				S		**Sn**	**16 25 56.0**	**-0.6**
	comp=E,18nm,0.1s							
PFVI	**Vila Bisbo**	**2.73**	**284**	*eP*		**Pn**	**16 25 27.7**	**+0.7**
PFVI				S		**Sn**	**16 25 57.3**	**-1.5**
PFVI				A		A	16 25 59.5	
	comp=E,21nm,0.8s							
PFVI	**Vila Bisbo**	**2.73**	**284**	P		**Pn**	**16 25 27.7**	**+0.7**
	comp=E,11nm,0.1s,SNR=16							
PFVI				S		**Sn**	**16 25 58.0**	**-0.7**
	comp=E,4.2nm,0.2s,SNR=7.9							
PTEO	**Sao Teotonio**	**2.77**	**293**	*eP*		**Pn**	**16 25 28.2**	**+0.6**
PTEO				S		**Sn**	**16 25 58.6**	**-1.1**
PTEO				A		A	16 26 00.7	
	comp=E,14nm,0.5s							
PTEO	**Sao Teotonio**	**2.77**	**293**	P		**Pn**	**16 25 28.2**	**+0.6**
PTEO				S		**Sn**	**16 25 58.6**	**-1.1**
	comp=E,6.8nm,0.5s							
EVO	**Evora**	**2.83**	**316**	*eP*		**Pn**	**16 25 32.1**	**+3.6**
EVO				*eS*		**Sn**	**16 26 02.4**	**+0.9**
EVO				A		A	16 26 04.5	
	comp=E,50nm,0.1s							
EVO	**Evora**	**2.83**	**316**	P		**Pn**	**16 25 32.1**	**+3.6**
EVO				S		**Sn**	**16 26 02.4**	**+0.9**
	comp=E,50nm,0.1s							
PESTR	**Estremoz**	**2.88**	**326**	*eP*		**Pn**	**16 25 30.4**	**+1.3**
PESTR				S		**Sn**	**16 26 01.6**	**-0.9**
PESTR				A		A	16 26 04.3	
	comp=E,7.5nm,0.4s							
PNCL	**Nicolau / Gran**	**2.89**	**305**	*eP*		**Pn**	**16 25 30.3**	**+1.1**
PNCL				S		**Sn**	**16 26 01.3**	**-1.4**
PNCL				A		A	16 26 03.6	
	comp=E,19nm,0.3s							
PNCL	**Nicolau / Gran**	**2.89**	**305**	P		**Pn**	**16 25 30.3**	**+1.1**
PNCL				S		**Sn**	**16 26 01.3**	**-1.4**
	comp=E,19nm,0.3s							
PAB	**San Pablo**	**3.18**	**17**	P		**Pn**	**16 25 34.4**	**+1.0**
	comp=E,0.7nm,0.1s,SNR=7.9							
PAB				S		**Sn**	**16 26 08.5**	**-1.6**
	comp=E,4.3nm,0.2s,SNR=7.9							
ZHG	**ZHG**	**3.18**	**197**	P		**Pn**	**16 25 32.5**	**-0.9**
ZHG				S		**Sn**	**16 26 07.2**	**-3.0**
JBK	**JBK**	**3.24**	**131**	P		**Pn**	**16 25 31.9**	**-2.4**
JBK				S		**Sn**	**16 26 11.3**	**-0.4**
PMRV	**Marv??o**	**3.27**	**334**	*eP*		**Pn**	**16 25 35.8**	**+1.2**
PMRV				S		**Sn**	**16 26 11.5**	**-0.9**
PMRV				A		A	16 26 14.4	
	comp=E,8.4nm,0.3s							
PMRV	**Marv??o**	**3.27**	**334**	P		**Pn**	**16 25 35.8**	**+1.2**
PMRV				S		**Sn**	**16 26 11.5**	**-0.9**
	comp=E,8.4nm,0.3s							
PMTG	**Montargil**	**3.34**	**321**	*eP*		**Pn**	**16 25 36.6**	**+1.1**
PMTG				S		**Sn**	**16 26 13.2**	**-0.7**
PMTG				A		A	16 26 14.5	
	comp=E,12nm,0.2s							
PMTG	**Montargil**	**3.34**	**321**	P		**Pn**	**16 25 36.6**	**+1.1**
PMTG				S		**Sn**	**16 26 13.2**	**-0.7**
	comp=E,12nm,0.2s							
ESDC	**Sonseca Array**	**3.40**	**21**	P		**Pn**	**16 25 37.7**	**+1.3**
	comp=E,0.6nm,0.2s,baz=202,slow=14,SNR=9.3							
ESDC				S		**Sn**	**16 26 13.0**	**-2.5**
	comp=E,3.4nm,0.2s,baz=201,slow=24,SNR=17							
ALMR	**Almeirim**	**3.59**	**319**	*eP*		**Pn**	**16 25 39.6**	**+0.7**
ALMR				*eS*		**Sn**	**16 26 18.1**	**-1.9**
ALMR				AML		AML	16 26 21.1	
	comp=N,48nm,0.4s							
ALMR	**Almeirim**	**3.59**	**319**	S		**Sn**	**16 26 18.8**	**-1.2**
ALMR				A		A	16 26 21.5	
	comp=N,22nm,0.2s							
ALMR	**Almeirim**	**3.59**	**319**	P		**Pn**	**16 25 39.6**	**+0.7**
ALMR				S		**Sn**	**16 26 18.8**	**-1.2**
	comp=N,11nm,0.2s							
PCBR	**Castelo Branco**	**3.67**	**336**	*eP*		**Pn**	**16 25 41.4**	**+1.3**
PCBR				S		**Sn**	**16 26 20.5**	**-1.6**
PCBR				A		A	16 26 22.7	
	comp=N,17nm,0.4s							
PCBR	**Castelo Branco**	**3.67**	**336**	P		**Pn**	**16 25 41.4**	**+1.3**
PCBR				S		**Sn**	**16 26 20.5**	**-1.6**
	comp=N,8.6nm,0.4s							
MD31	**MD31**	**3.68**	**170**	P		**Pn**	**16 25 40.3**	**+0.1**
MD31				S		**Sn**	**16 26 19.7**	**-2.7**
MDT	**Midelt**	**3.75**	**168**	P		**Pn**	**16 25 40.9**	**-0.4**
MDT				S		**Sn**	**16 26 21.5**	**-2.8**
ETOB	**Tobarra**	**3.82**	**55**	P		**Pn**	**16 25 42.9**	**+0.8**
	comp=N,1.1nm,0.1s,SNR=7.9							
ETOB				S		**Sn**	**16 26 24.1**	**-1.7**
	comp=N,8.6nm,0.1s,SNR=7.9							
PTOM	**Tomar**	**3.86**	**325**	*eP*		**Pn**	**16 25 43.6**	**+1.0**
PTOM				*eS*		**Sn**	**16 26 25.8**	**-0.9**
PTOM				A		A	16 26 27.5	
	comp=N,14nm,0.3s							
PTOM	**Tomar**	**3.86**	**325**	P		**Pn**	**16 25 43.6**	**+1.0**
PTOM				S		**Sn**	**16 26 25.8**	**-0.9**
	comp=N,7.2nm,0.3s							
PMAFR	**Mafra**	**3.86**	**311**	*eP*		**Pn**	**16 25 43.9**	**+1.3**
PMAFR				S		**Sn**	**16 26 25.4**	**-1.3**
PMAFR				A		A	16 26 27.5	
	comp=N,20nm,0.6s							
PMAFR	**Mafra**	**3.86**	**311**	P		**Pn**	**16 25 43.2**	**+0.6**
	comp=N,2.5nm,0.1s,SNR=4.0							
PMAFR				S		**Sn**	**16 26 25.0**	**-1.8**
	comp=N,24nm,0.2s,SNR=8.5							
MTE	**Manteigas**	**4.20**	**338**	*eP*		**Pn**	**16 25 49.4**	**+2.0**
MTE				S		**Sn**	**16 26

comp=N,3.6nm,0.3s,SNR=7.9
ATE Arette 7.55 28 P **Pn 16 26 35.3 +1.9**
comp=N,0.6nm,0.1s,SNR=7.9

*ISCJB **19** 16:36:39.0±0.9, 13°.8N±0°.2×145°.4E±0°.2, h125km, mb3.3/6, Error ellipse: s-maj=32.6km s-min=16.8km az=31.7*
*IDC **19** 16:36:41.0±0.7, 13°.85N×145°.07E, h127km±5km, mb3.1/6, mb1 3.4/6, mb1mx3.1/33, mbtmp3.5/6, Error ellipse: s-maj=42.7km s-min=17.7km az=107.0*
ISC 19 16:36:41.1±0.9, 13°.9N±0°.2×145°.2E±0°.3, h125km, n13, σ1§34/8, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.43**	**230**	P		**Pn**	**16 37 00.6**	**+1.4**
	258nm,0.3s,baz=152,slow=0.8,SNR=273							
GUMO				S		**Sn**	**16 37 13.4**	**+0.5**
	1μm,0.3s,baz=308,slow=19,SNR=204							
H11S3	**WAKE ISLAND Hy**	**21.13**	**75**	T		T	17 02 57.8	
	baz=263							
H11S1	**WAKE ISLAND Hy**	**21.14**	**75**	T		T	17 02 57.3	
	baz=263,slow=74							
H11S2	**WAKE ISLAND Hy**	**21.14**	**75**	T		T	17 03 17.6	
	baz=263,slow=74							
H11N1	**WAKE ISLAND Hy**	**21.54**	**71**	T		T	17 04 35.9	
	baz=257,slow=75,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**21.55**	**71**	T		T	17 04 35.5	
	baz=257,slow=75,SNR=3.1							
H11N3	**WAKE ISLAND Hy**	**21.56**	**71**	T		T	17 04 37.5	
	baz=257,slow=75,SNR=5.7							
WRA	**Warramunga Arr**	**35.26**	**198**	P		**P**	**16 43 22.9**	**-1.0**
	0.6nm,0.5s,baz=18,slow=9.2,SNR=16							
ASAR	**Alice Springs**	**38.91**	**197**	P		**P**	**16 43 53.6**	**-1.1**
	0.2nm,0.5s,baz=17,slow=7.7,SNR=14							
MKAR	**Makanchi Array**	**61.52**	**316**	P		**P**	**16 46 44.5**	**-0.3**
	0.1nm,0.3s,baz=88,slow=9.6,SNR=5.3							
ILAR	**Eielson Array**	**68.17**	**25**	P		**P**	**16 47 26.3**	**-1.3**
	0.2nm,0.5s,baz=247,slow=5.9,SNR=6.5							
YKA	**Yellowknife Ar**	**82.46**	**27**	P		**P**	**16 48 49.0**	**-0.3**
	0.2nm,0.4s,baz=188,slow=25,SNR=4.0							
NVAR	**Mina Array Bea**	**86.48**	**51**	P		**P**	**16 49 12.1**	**+1.7**
	0.2nm,0.5s,baz=249,slow=6.6,SNR=3.1							

*DDA **19** 16:57:54.4, 41°.80N×41°.68E, h6km±3km, ML3.0*
*TIF **19** 16:57:54.8, 41°.79N×41°.73E, h15km±1km*
*MOS **19** 16:57:55.5±2.6, 41°.93N×42°.00E, h2km, mb3.4/1, Error ellipse: s-maj=13.9km s-min=8.0km az=81.7*
*NORS **19** 16:57:55.0±0.7, 41°.93N×42°.00E, h2km, MPVA3.4*
*ISK **19** 16:57:55.0, 41°.81N×41°.64E, h13km, ML2.9/8*
ISC 19 16:57:55.4±0.9, 41°.81N±0°.02×41°.71E±0°.02, h12km±7km, n48, σ1§06/73, 1C, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATM	**Batumi**	**0.20**	**182**	PG		**Pg**	**16 58 00.1**	**+0.3**
BATM				S		**Sg**	**16 58 03.3**	**+0.4**
BATM	**Batumi**	**0.20**	**182**	P		**Pg**	**16 58 00.0**	**+0.3**
BATM				S		**Sg**	**16 58 03.8**	**+1.0**
BCA	**Borcka**	**0.37**	**190**	PG		**Pg**	**16 58 02.9**	**+0.1**
BCA				SG		**Sb**	**16 58 08.6**	**-0.9**
ARTV	**Artvin**	**0.65**	**165**	*i* P		**Pg**	**16 58 07.6**	**-0.3**
ARTV				*i* S		**Sb**	**16 58 17.5**	**-0.2**
ARTV				IAML_P				
	comp=Z,4μm,0.1s							
DAGI	**Agillar**	**0.75**	**168**	*i* P		**Pg**	**16 58 09.5**	**-0.4**
DAGI				*i* S		**Sb**	**16 58 19.8**	**-0.7**
DAGI				IAML_P				
	comp=Z,2μm,0.2s							
DBAD	**Bademkaya**	**0.79**	**181**	*i* P		**Pg**	**16 58 10.6**	**0.0**
DBAD				IAML_P				
	comp=Z,4μm,0.1s							
EPOS	**Posof**	**0.82**	**111**	*i* P		**Pg**	**16 58 10.4**	**-1.0**
DDEM	**Demirkent**	**0.92**	**178**	*i* P		**Pg**	**16 58 12.6**	**-0.4**
DDEM				*i* S		**Sg**	**16 58 24.9**	**-0.1**
CHOM	**Cayeli-Rize**	**1.00**	**225**	PG		**Pg**	**16 58 13.9**	**-0.8**
CHOM				SG		**Sg**	**16 58 27.9**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.34**	**158**	PN		**Pn**	**16 58 20.1**	**+0.1**
DOMR	**Dombai**	**1.48**	**358**	*i* PG		**Pn**	**16 58 19.4**	**-2.6**
BGD	**Bogdanovka**	**1.52**	**110**	P		**Pb**	**16 58 23.1**	**-0.5**
BGD				S		**Sg**	**16 58 43.1**	**-1.2**
KRIK	**Erzurum-spir**	**1.58**	**202**	*i* P		**Pb**	**16 58 24.4**	**-0.2**
KRIK				*i* S		**Sg**	**16 58 45.9**	**-0.4**
NEY	**Neytrino**	**1.62**	**27**	*e*PG		**Pb**	**16 58 24.9**	**-0.4**
NEY				pmax		pmax		
	comp=Z,30nm,0.7s							
NEY	**Neytrino**	**1.62**	**27**	*e*Pg		**Pb**	**16 58 25.0**	**-0.4**
NEY				*e*Sg		**Sg**	**16 58 47.2**	**-0.5**
KTUT	**Trabzon**	**1.67**	**241**	PN		**Pn**	**16 58 23.7**	**-0.7**
MACK	**Trabzon**	**1.69**	**240**	*i* P		**Pg**	**16 58 28.4**	**+0.5**
MACK				IAML_P				
	comp=Z,3μm,0.2s							
DIGR	**Digorskoe uzhe**	**1.77**	**51**	*e*PG		**Pn**	**16 58 26.0**	**+0.1**
DIGR				*e*S		**Sb**	**16 58 49.9**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.77**	**51**	*e*Pg		**Pn**	**16 58 26.0**	**+0.1**
DIGR				*e*Sg		**Sb**	**16 58 49.9**	**-0.1**
HOMI	**Horasan**	**1.77**	**175**	*i* P		**Pb**	**16 58 27.5**	**-0.3**
TRLG	**Trialeti**	**1.81**	**98**	P		**Pb**	**16 58 27.7**	**-0.9**
TRLG				S		**Sb**	**16 58 51.8**	**+0.5**
KOPR	**Koprukoy-ERZUR**	**1.82**	**176**	PN		**Pn**	**16 58 27.2**	**+0.6**
EAK	**Akyaka**	**1.82**	**127**	*i* P		**Pb**	**16 58 28.0**	**-0.7**
EAK				IAML_P				
	comp=Z,680nm,0.4s							
BAYT	**Aydıntepe-Bayb**	**1.84**	**220**	PN		**Pn**	**16 58 27.0**	**+0.1**
BAYB	**BAYBURT**	**1.90**	**216**	*i* P		**Pb**	**16 58 29.6**	**-0.4**
BAYB				*i* S		**Sb**	**16 58 53.7**	**0.0**
BAYB				IAML_P				
	comp=Z,810nm,0.3s							
KOPT	**Kop Dagi**	**2.01**	**207**	*i* P		**Pg**	**16 58 33.1**	**-0.8**
KOPT				IAML_P				
	comp=Z,865nm,0.4s							
SHA1	**Shidzhatmaz**	**2.05**	**20**	*e*PN		**Pb**	**16 58 32.8**	**+0.1**
SHA1				*e*S		**Sg**	**16 59 00.8**	**-0.6**
SHA1	**Shidzhatmaz**	**2.05**	**20**	*e*Pg		**Pb**	**16 58 32.9**	**+0.1**
SHA1				*e*Sg		**Sg**	**16 59 00.8**	**-0.6**
GUDG	**Gudauri**	**2.16**	**71**	P		**Pb**	**16 58 33.8**	**-0.8**
GUDG				S		**Sn**	**16 58 59.8**	**+1.6**
KORR	**Kora**	**2.17**	**53**	*e*PN		**Pg**	**16 58 36.7**	**-0.2**
KORR				*e*S		**Sg**	**16 59 04.4**	**-0.5**
KORR	**Kora**	**2.17**	**53**	*e*Pg		**Pg**	**16 58 36.7**	**-0.2**
KORR				*e*Sg		**Sg**	**16 59 04.4**	**-0.5**
LACR	**Lac**	**2.17**	**61**	*e*PN		**Pb**	**16 58 33.9**	**-0.8**
LACR				*e*S		**Sb**	**16 59 02.9**	**+1.3**
LACR	**Lac**	**2.17**	**61**	*e*Pg		**Pb**	**16 58 33.9**	**-0.8**
LACR				*e*Sg		**Sb**	**16 59 02.9**	**+1.3**
KIV	**Kislovodsk**	**2.26**	**18**	PN		**Pn**	**16 58 33.7**	**+1.0**
KIV	**Kislovodsk**	**2.26**	**18**	*e*PN		**Pb**	**16 58 36.3**	**+0.1**
KIV				pmax		pmax		
	comp=Z,33nm,0.9s							
TBLG	**Delisi**	**2.27**	**91**	PN		**Pn**	**16 58 33.3**	**+0.6**
TBLG	**Delisi**	**2.27**	**91**	P		**Pb**	**16 58 35.6**	**-0.7**
TBLG				S		**Sg**	**16 59 06.3**	**-2.0**
TBLG	**Delisi**	**2.27**	**91**	PN		**Pb**	**16 58 35.5**	**-0.7**
TBLG				S		**Sg**	**16 59 06.3**	**-2.0**
AGRB	**Hanur-Agry**	**2.44**	**156**	PN		**Pn**	**16 58 35.7**	**+0.6**
GNI	**Garni**	**2.83**	**125**	PN		**Pn**	**16 58 42.1**	**+1.5**
GNI	**Garni**	**2.83**	**125**	*i* PN		**Pn**	**16 58 42.1**	**+1.5**
GOF	**Gofitskoye**	**3.39**	**16**	*e*PN		**Pb**	**16 58 54.8**	**-0.6**
GOF				*e*S		**Sg**	**16 59 44.8**	**+0.6**
GOF				pmax		pmax		
	comp=Z,10.0nm,0.5s							
GOF				smax		smax		
	comp=E,50nm,1.2s							
KIEV	**Kiev**	**12.39**	**320**	*i* P		**Pn**	**17 00 53.4**	**+2.1**
OBN	**Obninsk**	**13.74**	**347**	*e*P		**Pn**	**17 01 10.1**	**+0.4**
OBN				*e*S		**Sn**	**17 03 45.0**	**+2.9**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,22nm,12.0s							
VYHS	**Vyhne**	**17.43**	**300**	*e*P		**Pn**	**17 01 55.2**	**-2.9**
VYHS	**Vyhne**	**17.43**	**300**	*e*PN		**Pn**	**17 01 55.2**	**-2.9**
VSU	**Vasula**	**19.16**	**336**	*i* P		**Pn**	**17 02 19.4**	**+0.2**
VSU				pmax		pmax		
	comp=Z,19nm,1.0s							
KURK	**Kurchatov**	**26.79**	**58**	*i* P		**P**	**17 03 37.2**	**+2.2**
KURK				pmax		pmax		
	comp=Z,1.0nm,1.1s							

*IDC **19** 17:01:51.7±0.8, 0°.68S×134°.10E, h0km, mb4.2/9, mb1 4.3/13, mb1mx4.1/33, mbtmp4.2/13, ML4.0/4, MS3.1/9, Ms1 3.1/9, ms1mx2.9/38, Error ellipse: s-maj=27.6km s-min=15.0km az=80.0*
*BJI **19** 17:01:53.0, 1°.23S×134°.37E, h44km, mb4.6/26, mB4.8/16, Ms4.4/2, Ms7 4.1/2*
*ISCJB **19** 17:01:54.2±0.3, 0°.74S±0°.03×134°.08E±0°.04, h27km, mb4.6/43, MS3.1/6, Error ellipse: s-maj=5.9km s-min=4.5km az=2.9*
*DJA **19** 17:01:56.1±0.7, 1°.5S±5°×13°.4E±°, h18km±4km, M4.8/6, mb5.3/1, mB5.2/1, MLv4.6/6, Mw(mB)4.6/1*
*NEIC **19** 17:01:56.8±0.2, 0°.78S×134°.06E, h35km, mb4.5/32, Error ellipse: s-maj=7.0km s-min=4.4km az=85.0*
NEIC Felt [III] at Manokwari.
ISC 19 17:01:55.8±0.4, 0°.79S±0°.04×134°.04E±0°.05, h27km, n88, σ1§84/84, mb4.6/43, MS3.0/6, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.73**	**169**	P		**Pb**	**17 02 10.0**	**0.0**
RKPI				S		**Sn**	**17 02 22.6**	**+1.9**
BAKI	**Biak**	**2.10**	**101**	P		**Pn**	**17 02 30.9**	**+1.6**
SRPI	**Serui, Papua**	**2.45**	**116**	P		**Pn**	**17 02 36.5**	**+2.5**
FAKI	**Fak Fak**	**2.77**	**220**	*e*Pn		**Pn**	**17 02 40.3**	**+1.7**
FAKI	**Fak Fak**	**2.77**	**220**	P		**Pn**	**17 02 40.4**	**+1.8**
FAKI				S		**Sn**	**17 03 14.2**	**+3.0**
SIJI	**Sorong**	**2.78**	**268**	Pn		**Pn**	**17 02 38.0**	**-0.6**
	6.6nm,0.3s,baz=237,slow=16,SNR=68							
SIJI				Sn		**Sn**	**17 03 11.6**	**+0.3**
	18nm,0.3s,baz=113,slow=18,SNR=3.6							
SWI	**Sorong**	**2.78**	**268**	P		**Pn**	**17 02 40.6**	**+1.9**
BNDI	**Bandanaira**	**5.55**	**228**	P		**Pn**	**17 03 18.7**	**+1.9**
NLAI	**Namlea**	**7.35**	**251**	P		Pn	17 03 52.9	+11
MTN	**Manton Dam**	**12.32**	**193**	*e*Pn		**Pn**	**17 04 49.2**	**-0.4**
SOEI	**Soe**	**13.19**	**227**	*e*Pn		**Pn**	**17 05 05.9**	**+4.2**
BATI	**Baumata**	**13.93**	**227**	Pn		**Pn**	**17 05 13.0**	**+1.4**
	1.1nm,0.3s,baz=161,slow=8.5,SNR=5.1							
BATI				LR		LR	17 11 44.5	
	comp=Z,99nm,18.1s,baz=50,slow=42							
MMRI	**Maumere**	**14.11**	**236**	*e*Pn		**Pn**	**17 05 13.7**	**-0.3**
COEN	**Coen**	**15.90**	**146**	*e*Pn		**Pn**	**17 05 37.6**	**-0.4**
	7.2nm,1.0s							
GUMO	**Guam**	**17.86**	**37**	LR		LR	17 11 11.3	
	comp=Z,60nm,21.5s,baz=218,slow=32							
WRAB	**Tennant Creek**	**19.03**	**179**	*e*P		**P**	**17 06 14.4**	**-1.5**
	9.7nm,0.8s							
WB2	**Warramunga Arr**	**19.04**	**179**	*e*P		**P**	**17 06 15.3**	**-0.7**
WR1	**Warramunga Arr**	**19.04**	**179**	*e*P		**P**	**17 06 16.0**	**-0.1**
	17nm,1.4s							
WR1				*e*Sn		**Sn**	**17 09 41.0**	**-8.6**
WRA	**Warramunga Arr**	**19.04**	**179**	P		**P**	**17 06 16.0**	**-0.1**
	0.6nm,0.3s,baz=359,slow=12,SNR=52							
WRA				S		**Sn**	**17 09 41.0**	**-8.6**
	0.1nm,0.3s,baz=358,slow=23,SNR=3.3							
FITZ	**Fitzroy Crossi**	**19.08**	**205**	*e*P		**P**	**17 06 17.1**	**+0.6**
	8.2nm,1.1s							
FITZ				*e*Sn		Sn	17 09 38.0	-13
FITZ	**Fitzroy Crossi**	**19.08**	**205**	P		**P**	**17 06 17.1**	**+0.6**
	0.5nm,0.3s,baz=37,slow=12,SNR=20							
FITZ				S		Sn	17 09 38.9	-12
	0.5nm,0.3s,baz=183,slow=16,SNR=8.1							
FITZ				LR		LR	17 15 08.9	
	comp=Z,39nm,19.7s,baz=49,slow=42							
SBUM	**Sibu**	**22.05**	**278**	*e*P		**P**	**17 06 49.7**	**+0.9**
	4.4nm,0.9s							
CTAO	**Charters Tower**	**22.60**	**149**	*e*P		**P**	**17 06 57.7**	**+3.1**
	28nm,1.4s							
AS01	**Alice Springs**	**22.74**	**180**	*e*P		**P**	**17 06 56.3**	**+0.2**
AS31	**Alice Springs**	**22.74**	**180**	*e*P		**P**	**17 06 56.3**	**+0.2**
	3.9nm,0.8s							
ASAR	**Alice Springs**	**22.74**	**180**	P		**P**	**17 06 56.2**	**+0.2**
	2.2nm,0.5s,baz=359,slow=9.8,SNR=59							
ASAR				S		**S**	**17 11 01.3**	**-2.0**
	0.8nm,0.8s,baz=3.1,slow=25,SNR=5.3							
ASAR				LR		LR	17 15 49.7	
	comp=Z,58nm,18.6s,baz=346,slow=37							
KSM	**Kuching**	**23.84**	**275**	*e*P		**P**	**17 07 07.8**	**+0.7**
	13nm,1.0s							
STKA	**Stephens Creek**	**31.74**	**168**	P		**P**	**17 08 19.2**	**+1.5**
	0.9nm,0.5s,baz=15,slow=12,SNR=2.8							
JNU	**Nakatsue**	**33.86**	**355**	*e*P		**P**	**17 08 33.5**	**-2.8**
	10nm,1.0s							
JNU	**Nakatsue**	**33.86**	**355**	P		**P**	**17 08 35.3**	**-1.0**
	7.2nm,0.9s,baz=194,slow=5.7,SNR=4.4							
JHJ	**Hachijo jima 2**	**34.16**	**9**	LR		LR	17 20 01.4	
	comp=Z,28nm,18.7s,baz=26,slow=32							
NJ2	**Nanjing**	**35.69**	**338**	*e*P		**P**	**17 08 52.3**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,14nm,0.5s							
WHN	**Wuhan**	**36.36**	**331**	P		**P**	**17 09 00.0**	**+2.2**
MJAR	**Matsushiro Arr**	**37.34**	**6**	LR		LR	17 23 15.3	
	comp=Z,21nm,18.6s,baz=125,slow=34							
H11S3	**WAKE ISLAND Hy**	**37.37**	**57**	T		T	17 49 06.8	
	baz=241							
H11S2	**WAKE ISLAND Hy**	**37.39**	**58**	T		T	17 49 16.9	
	baz=241							
H11S1	**WAKE ISLAND Hy**	**37.39**	**57**	T		T	17 49 05.4	
	baz=241							
H11N1	**WAKE ISLAND Hy**	**38.11**	**56**	T		T	17 49 57.2	
	baz=245,slow=75,SNR=5.9							
H11N2	**WAKE ISLAND Hy**	**38.12**	**56**	T		T	17 49 55.0	
	baz=245,slow=75,SNR=5.8							
H11N3	**WAKE ISLAND Hy**	**38.13**	**56**	T		T	17 50 12.7	
	baz=245,slow=75,SNR=6.0							
KSRS	**Korea Array**	**38.47**	**352**	LR		LR	17 26 49.0	
	comp=Z,7.1nm,18.5s,baz=160,slow=39							
CM01	**Chiang Mai Arr**	**39.42**	**301**	*e*P		**P**	**17 09 23.6**	**-0.2**
CM31	**Chiang Mai Arr**	**39.45**	**301**	*e*P		**P**	**17 09 24.3**	**+0.2**
	7.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**39.45**	**301**	P		**P**	**17 09 24.7**	**+0.6**
	5.1nm,0.8s,baz=122,slow=6.8,SNR=46							
CHTO	**Chiang Mai**	**39.60**	**301**	*e*P		**P**	**17 09 24.9**	**-0.5**
	7.6nm,0.8s							
BJT	**Baijiatuan**	**43.77**	**340**	*e*P		**P**	**17 09 57.2**	**-2.0**
	8.8nm,0.8s							
HHC	**Hu-ho-hao-te**	**46.21**	**336**	*e*P		**P**	**17 10 20.0**	**+1.3**
HHC				pmax		pmax		
	comp=Z,12nm,1.1s							
HHC				pmax		pmax		
	comp=Z,99nm,5.3s							
SHL	**Shillong**	**48.42**	**306**	*e*P		**P**	**17 10 35.2**	**-1.2**
GTA	**Gaotai**	**50.81**	**326**	*e*P		**P**	**17 10 55.1**	**+0.8**
GTA				pP		sP	17 11 07.9	+2.5
GTA				sP		pP	17 11 12.1	+10
GTA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
SONA0	**Songino Array**	**54.08**	**337**	*e*P		**P**	**17 11 18.1**	**-0.2**
SONA0				*e*PcP		**PcP**	**17 12 22.1**	**-0.8**
SONM	**Songino Array**	**54.08**	**337**	P		**P**	**17 11 18.1**	**-0.2**
	0.4nm,0.6s,baz=152,slow=6.5,SNR=3.5							
SONM				PcP		**PcP**	**17 12 22.1**	**-0.8**
	0.5nm,0.7s,baz=146,slow=2.5,SNR=3.5							
WMQ	**Urumqi**	**60.65**	**323**	P		**P**	**17 12 05.9**	**+1.2**
WMQ				sP		sP	17 12 22.6	+6.7
WMQ				pmax		pmax		
	comp=Z,21nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,190nm,4.7s							
MK01	**Makanchi Array**	**65.44**	**324**	*e*P		**P**	**17 12 36.9**	**+0.5**
MK31	**Makanchi Array**	**65.46**	**324**	*e*P		**P**	**17 12 37.2**	**+0.6**
	3.7nm,0.8s							
MK32	**Makanchi Array**	**65.46**	**324**	*e*P		**P**	**17 12 37.2**	**+0.7**
MKAR	**Makanchi Array**	**65.46**	**324**	P		**P**	**17 12 37.2**	**+0.7**
	5.0nm,0.7s,baz=117,slow=8.2,SNR=42							
MAKZ	**Makanchi**	**65.65**	**324**	*e*P		**P**	**17 12 38.1**	**+0.4**
	7.2nm,0.8s							
KSH	**Kashi**	**66.39**	**314**	P		**P**	**17 12 45.1**	**+2.2**
KSH				S		**S**	**17 21 32.5**	**+1.0**
KSH				pmax		pmax		
	comp=Z,4.0nm,0.5s							
KSH				pmax		pmax		
	comp=Z,39nm,4.8s							
NIL	**Nilore**	**66.45**	**307**	*e*P		**P**	**17 12 43.2**	**0.0**
	5.5nm,1.0s							
KDJ	**Kajisay**	**66.58**	**317**	*e*P		**P**	**17 12 45.3**	**+1.3**
	2.9nm,0.8s							
RAR	**Rarotonga**	**67.56**	**113**	*e*P		**P**	**17 12 49.5**	**-1.0**
	131nm,1.6s							
ZAA0	**Zalesovo Array**	**67.97**	**331**	*e*P		**P**	**17 12 51.7**	**-0.7**
	3.7nm,1.4s							
ZALV	**Zalesovo Beam**	**67.97**	**331**	*e*P		**P**	**17 12 51.6**	**-0.8**
ZALV	**Zalesovo Beam**	**67.97**	**331**	P		**P**	**17 12 51.2**	**-1.2**
	1.0nm,0.5s,baz=122,slow=7.2,SNR=6.1							
ZAA1	**Zalesovo Array**	**67.98**	**331**	*e*P		**P**	**17 12 51.2**	**-1.2**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**69.50**	**326**	*e*P		**P**	**17 13 02.5**	**+0.5**
	5.8nm,0.8s							
BTK	**Batken**	**70.31**	**313**	*e*P		**P**	**17 13 07.3**	**0.0**
	9.2nm,0.4s							
GAR	**Garm**	**70.35**	**312**	*e*P		**P**	**17 13 07.7**	**+0.1**
	6.8nm,1.1s							
CHGR	**Chuyangaron**	**71.11**	**311**	*e*P		**P**	**17 13 12.4**	**+0.2**
	5.0nm,0.9s							
KK31	**Karatay Array**	**71.51**	**316**	*e*P		**P**	**17 13 14.6**	**+0.1**
	3.0nm,0.9s							
KKAR	**Karatay Array**	**71.51**	**316**	*e*P		**P**	**17 13 14.6**	**+0.1**
	3.0nm,0.9s							
TIXI	**Tiksi**	**72.39**	**358**	LR		LR	17 47 03.5	
	comp=Z,21nm,18.5s,baz=186,slow=38							
BRVK	**Borovoye**	**75.17**	**326**	*e*P		**P**	**17 13 35.8**	**0.0**
	4.1nm,0.8s							
FALS	**False Pass**	**75.20**	**32**	*e*P		**P**	**17 13 35.5**	**-0.4**
	103nm,1.0s							
NRIK	**Noril'sk**	**76.61**	**345**	LR		LR	17 50 13.6	
	comp=Z,24nm,18.6s,baz=118,slow=38							
GEYT	**Alibeck**	**79.40**	**309**	P		**P**	**17 13 58.2**	**-1.7**
	3.0nm,0.7s,baz=157,slow=4.5,SNR=5.4							
ABKAR	**Akbulak array**	**80.26**	**320**	*e*P		**P**	**17 14 03.8**	**-0.4**
	3.0nm,0.9s							
ARU	**Arti**	**82.65**	**327**	*e*P		**P**	**17 14 15.7**	**-1.1**
	25nm,1.9s							
HOM	**Homer**	**82.79**	**30**	*e*P		**P**	**17 14 17.0**	**-0.4**
	1μm,1.9s							
IM3	**Indian Mountai**	**83.53**	**23**	*e*P		**P**	**17 14 21.8**	**+0.7**
MLY	**Manley**	**84.50**	**24**	*e*P		**P**	**17 14 26.9**	**+0.8**
	17nm,2.0s							
KNK	**Knik Glacier**	**84.72**	**28**	*e*P		**P**	**17 14 27.9**	**+0.7**
	52nm,1.8s							
RND	**Reindeer**	**84.94**	**26**	*e*P		**P**	**17 14 28.4**	**0.0**
	29nm,1.8s							
DHY	**Denali Highway**	**85.53**	**27**	*e*P		**P**	**17 14 32.2**	**+0.7**
	15nm,1.5s							
CCB	**Clear Creek Bu**	**85.64**	**25**	*e*P		**P**	**17 14 30.8**	**-1.0**
	9.1nm,1.4s							
ILAR	**Eielson Array**	**86.05**	**25**	P		**P**	**17 14 33.0**	**-0.8**
	2.0nm,1.1s,baz=261,slow=4.5,SNR=8.0							
IL1	**Eielson Array**	**86.05**	**25**	*e*P		**P**	**17 14 33.1**	**-0.7**
LPAZ	**La Paz**	**152.31**	**129**	PKPbc		**PKPbc**	**17 21 52.0**	**+0.9**
	2.1nm,0.9s,baz=242,slow=3.1,SNR=5.9							

RSNC 19 17:17:11.4±0.9, 6°.80N×73°.16W, h147km±4km, ML3.4, Mw3.7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**187**	*e*P		Pn	17 17 31.3	-0.4
BARC				*e*S		Sn	17 17 46.5	-0.7
BARC				*i*			17 17 47.6	
	comp=Z,745nm,0.2s							
BRRC	**Barranca, Sant**	**0.63**	**299**	*e*P		Pn	17 17 33.1	-0.1
BRRC				*e*S		Sn	17 17 49.8	+0.1
BRRC				*i*			17 17 50.6	
	comp=N,600nm,0.3s							
PAMC	**Pamplona, Colo**	**0.70**	**40**	*i*P		Pn	17 17 34.0	-0.2
PAMC				*e*S		Sn	17 17 51.3	-0.2
PAMC				*i*			17 17 53.3	
	comp=N,510nm,0.5s							
RUSC	**La Rusia**	**0.91**	**175**	*i*P		Pn	17 17 35.2	-0.6
RUSC				*e*S		Sn	17 17 53.4	-0.8
RUSC				*i*			17 17 55.6	
	comp=N,233nm,0.4s							
PTBC	**PUERTO BERRIO,**	**1.32**	**259**	*e*P		Pn	17 17 37.9	-1.0
PTBC				*e*S		Sn	17 17 59.0	-0.9
PTBC				*i*			17 18 04.5	
	comp=N,321nm,0.2s							
TAMC	**Tame, Arauca**	**1.40**	**105**	*e*P		Pn	17 17 39.6	-0.2
TAMC				*e*S		Sn	17 18 01.2	-0.3
TAMC				*i*			17 18 01.9	
	comp=N,394nm,0.4s							
OCAC	**Ocana**	**1.44**	**354**	*e*P		Pn	17 17 40.2	-0.1
OCAC				*e*S		Sn	17 18 01.9	-0.6
OCAC				*i*			17 18 08.1	
	comp=N,700nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	*e*P		Pn	17 17 44.1	-0.3
ZARC				*e*S		Sn	17 18 09.5	0.0
ZARC				*i*			17 18 15.0	
	comp=E,305nm,0.2s							
CHIC	**Chingaza**	**2.23**	**195**	*e*P		Pn	17 17 49.5	-0.1
CHIC				*

3.5nm,0.3s
KOLN Koldanda 48.13 282 *e*P **P 17 28 20.5 -0.1**
2.9nm,0.4s
PYUN Piuthan 48.55 282 *e*P **P 17 28 23.8 0.0**
12nm,0.4s
WRA Warramunga Arr 50.15 186 P **P 17 28 36.3 +0.9**
0.1nm,0.3s,baz=2.1,slow=8.2,SNR=5.5
ASAR Alice Springs 53.87 186 P **P 17 29 02.9 +0.5**
0.2nm,0.9s,baz=22,slow=11,SNR=3.3
YKA Yellowknife Ar 70.65 28 P **P 17 30 54.1 +2.9**
0.3nm,0.8s,baz=298,slow=5.5,SNR=5.2

MEX 19 17:24:14.3±0.5, 15.86N×96.18W, h27km±5km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.11**	**144**	*e*P	Pb	17 24 17.9	-1.4
HUIG				*i* S	Sb	17 24 21.1	-1.5
PANG	**Puerto Angel**	**0.34**	**236**	*e*P	Pb	17 24 20.6	-1.5
PANG				*e*S	Sb	17 24 26.2	-1.2
VHO	**Vista Hermosa**	**1.32**	**336**	*e*P	Pn	17 24 35.0	-2.2
VHO				*i* S	Sn	17 24 51.0	-3.0
CMIG	**Matias Romero**	**1.74**	**45**	*e*P	Pn	17 24 40.7	-2.1
CMIG				*i* S	Sn	17 25 01.2	-3.0
PCIG		**2.85**	**93**	*i* P	Pn	17 24 55.4	-2.7
PCIG				*i* S	Sn	17 25 28.9	-2.7

IDC 19 17:26:55.4±2.5, 4.86S×129.51E, h353km±41km, mb2.3/1, mb1 2.6/5, mb1mx2.5/33, mbtmp3.3/5, Error ellipse: s-maj=88.2km s-min=16.5km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.34**	**24**	P	Pn	17 28 08.2	+0.1
	2.3nm,0.3s,baz=48,slow=9.9,SNR=68						
SIJI				S	S	17 29 01.4	-5.4
	1.3nm,0.3s,baz=260,slow=23,SNR=11						
FITZ	**Fitzroy Crossi**	**13.69**	**196**	P	P	17 29 55.3	-0.3
	0.1nm,0.3s,baz=36,slow=11,SNR=7.0						
FITZ				S	S	17 32 12.0	-13
	0.1nm,0.3s,baz=210,slow=15,SNR=5.7						
WRA	**Warramunga Arr**	**15.71**	**163**	P	P	17 30 16.0	-1.8
	0.1nm,0.3s,baz=346,slow=13,SNR=6.0						
WRA				S	S	17 32 55.1	-10
	0.1nm,0.3s,baz=329,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**19.17**	**168**	P	P	17 30 55.1	+0.4
	0.1nm,0.3s,baz=345,slow=9.4,SNR=18						
ASAR				S	S	17 34 10.3	-2.4
	0.0nm,0.3s,baz=349,slow=19,SNR=3.7						
MKAR	**Makanchi Array**	**66.18**	**327**	P	P	17 37 06.2	0.0
	0.1nm,0.4s,baz=133,slow=7.7,SNR=2.4						

*IDC **19** 17:34:02.1±1.1, 78.06N×9.56E, h0km, mb3.4/4, mb1 3.8/8, mb1mx3.4/43, mbtmp3.6/8, ML3.3/4, Error ellipse: s-maj=17.2km s-min=14.5km az=178.0*
*NAO **19** 17:34:02.0±1.4, 78.13N×9.71E, ML3.8*
*BER **19** 17:34:04.3±3.4, 78.10N×9.87E, h8km±19km, ML3.0, ML3.8(NAO), Confirmed Earthquake*
*IEPN **19** 17:34:08.0, 78.16N×9.98E, h15km, station ZFI2 has station magnitude of 3.20*

ISC 19 17:34:03.8±1.5, 78.14N±0.04×10.02E±0.06, h16km±9km, n50, σ1ˢ73/64, mb3.4/4, 4C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**0.88**	**94**	Pg	**Pg**	**17 34 21.0**	**+0.3**
BRBA				Lg	Lg	17 34 32.2	
BRBA	**Barentsburg A**	**0.88**	**94**	*e*P	**Pg**	**17 34 21.0**	**+0.3**
BRBA				*e*S	**Sg**	**17 34 32.2**	**0.0**
KBS	**Kingsbay**	**0.88**	**25**	Pg	**Pg**	**17 34 20.3**	**-0.5**
KBS				Lg	Lg	17 34 30.9	
KBS	**Kingsbay**	**0.88**	**25**	*i* P	**Pg**	**17 34 20.2**	**-0.5**
KBS				*i* S	**Sg**	**17 34 30.7**	**-1.5**
KBS	**Kingsbay**	**0.88**	**25**	*i* P	**Pg**	**17 34 20.2**	**-0.6**
KBS				*e*S	**Sg**	**17 34 31.1**	**-1.1**
KBS				IAML		17 34 34.3	
	comp=Z,1μm,0.3s						
SPA0	**Spitsbergen Ar**	**1.31**	**85**	Pg	**Pn**	**17 34 28.4**	**+1.0**
	baz=264,slow=16						
SPA0				Lg	Lg	17 34 46.0	
	baz=252,slow=22						
SPA0	**Spitsbergen Ar**	**1.31**	**85**	*i* P	**Pn**	**17 34 28.6**	**+1.2**
SPA0				*i* S	**Sb**	**17 34 45.5**	**+0.9**
SPA0	**Spitsbergen Ar**	**1.31**	**85**	*e*P	**Pn**	**17 34 28.6**	**+1.2**
SPA0				Sg	**Sb**	**17 34 46.0**	**+1.4**
	baz=252,slow=22						
SPA0				*e*S	**Sn**	**17 34 46.1**	**+1.6**
SPITS	**Spitsbergen Ar**	**1.31**	**85**	Pn	**Pn**	**17 34 28.6**	**+1.2**
	baz=260,slow=13,SNR=512						
SPITS				Sn	**Sb**	**17 34 45.8**	**+1.2**
	baz=252,slow=27,SNR=9.5						
HSPB	**Hornsund (broa**	**1.66**	**131**	*i* P	**Pn**	**17 34 31.1**	**-1.0**
HSPB				*e*S	**Sn**	**17 34 50.6**	**-2.4**
HSPB				IAML		17 34 51.8	
	comp=Z,135nm,0.2s						
HOPEN	**Hopen**	**3.68**	**109**	Pn	**Pn**	**17 34 60.0**	**0.0**
HOPEN				Sn	**Sn**	**17 35 40.9**	**-2.0**
HOPEN	**Hopen**	**3.68**	**109**	*e*P	**Pn**	**17 34 59.9**	**0.0**
HOPEN				*e*S	**Sn**	**17 35 41.1**	**-1.8**
HOPEN				IAML		17 35 43.3	
	comp=Z,101nm,0.3s						
BJO1	**Bjornoya**	**4.23**	**145**	Pn	**Pn**	**17 35 08.4**	**+0.9**
BJO1				Sn	**Sn**	**17 35 53.9**	**-2.5**
BJO	**Bjornoya**	**4.25**	**145**	*e*P	**Pn**	**17 35 08.5**	**+0.7**
BJO				*e*S	**Sn**	**17 35 52.7**	**-4.2**
ZFI2	**Zemlya Franca-**	**7.26**	**51**	*i* P	**Pn**	**17 35 49.4**	**+0.5**
ZFI2				*e*S	**Sn**	**17 37 05.0**	**-5.9**
	comp=Z,6.7nm,0.6s						
KEV	**Kevo**	**9.59**	**142**	Pn	**Pn**	**17 36 20.4**	**-0.4**
KEV				Sn	**Sn**	**17 38 02.6**	**-5.5**
KEV	**Kevo**	**9.59**	**142**	*e*P	**Pn**	**17 36 20.6**	**-0.2**
ARA0	**ARCESS Array S**	**9.61**	**146**	Pn	**Pn**	**17 36 19.6**	**-1.6**
	baz=349,slow=12						
ARA0	**ARCESS Array S**	**9.61**	**146**	Pn	**Pn**	**17 36 19.6**	**-1.6**
	baz=349,slow=12						
ARCES	**ARCESS Array B**	**9.61**	**146**	Pn	**Pn**	**17 36 19.0**	**-2.2**
	comp=Z,1.0nm,0.3s,baz=338,slow=13,SNR=36						
ARCES				Sn	Sn	17 38 00.9	-7.8
	comp=Z,0.5nm,0.3s,baz=354,slow=17,SNR=4.1						
ARE0	**ARCESS Array S**	**9.61**	**146**	*e*P	**Pn**	**17 36 21.5**	**+0.2**
KIF	**Kilpisjarvi**	**9.65**	**156**	Pn	**Pn**	**17 36 20.8**	**-1.0**
KIF	**Kilpisjarvi**	**9.65**	**156**	*e*P	**Pn**	**17 36 21.5**	**-0.3**
KTK1	**Kautokeino**	**9.87**	**151**	*e*P	**Pn**	**17 36 26.1**	**+1.4**
LOF	**Lofoten**	**10.12**	**172**	*e*P	**Pn**	**17 36 26.5**	**-1.6**
STEI	**Steigen**	**10.38**	**169**	*e*P	**Pn**	**17 36 31.1**	**-0.5**
HEF	**Hetta**	**10.49**	**151**	*e*P	**Pn**	**17 36 33.3**	**0.0**
SALU	**Saltoluokta**	**11.09**	**163**	*e*P	**Pn**	**17 36 42.7**	**+1.2**
KONS	**Konsvik**	**11.74**	**174**	*e*P	**Pn**	**17 36 49.8**	**-0.6**
MOR8	**Moi Rana**	**12.11**	**171**	*e*P	**Pn**	**17 36 54.8**	**-0.6**
APA0	**Apatity Array**	**12.40**	**136**	Pn	**Pn**	**17 36 57.4**	**-2.0**
	baz=338,slow=12						
APA0	**Apatity Array**	**12.40**	**136**	Pn	**Pn**	**17 36 57.4**	**-2.0**
	baz=338,slow=12						
NSS	**Namsos**	**13.70**	**176**	*e*P	**Pn**	**17 37 17.9**	**+0.9**
AMDE	**Amderma**	**15.87**	**94**	*e*P	**Pn**	**17 37 46.1**	**0.0**
	comp=Z,0.8nm,0.8s						
AMDE				*e*S	Sn	17 40 30.9	-10
LSH	**Leshukonskoye**	**16.98**	**121**	*e*P	**Pn**	**17 37 57.0**	**-3.1**
	comp=Z,38nm,3.3s						
LSH				*e*S	Sn	17 40 51.8	-16
NB2	**NORSAR Subarra**	**17.20**	**178**	P	**P**	**17 38 05.1**	**+0.6**
	baz=356,slow=14						
NB2	**NORSAR Subarra**	**17.20**	**178**	P	**P**	**17 38 05.1**	**+0.6**
	baz=356,slow=14						
NOA	**NORSAR Array B**	**17.20**	**178**	P	**Pn**	**17 38 03.2**	**+0.2**
	comp=Z,0.0nm,0.3s,baz=352,slow=12,SNR=3.8						
NRA0	**NORESS Array S**	**17.50**	**178**	P	**P**	**17 38 08.9**	**+1.1**
	baz=352,slow=16						
NRA0	**NORESS Array S**	**17.50**	**178**	P	**P**	**17 38 08.9**	**+1.1**
	baz=352,slow=16						
FIA0	**FINESS Array S**	**17.54**	**154**	P	**Pn**	**17 38 07.7**	**+0.5**
	baz=355,slow=12						
FIA0	**FINESS Array S**	**17.54**	**154**	P	**Pn**	**17 38 07.7**	**+0.5**
	baz=355,slow=12						
FINES	**FINESS Array B**	**17.54**	**154**	P	**Pn**	**17 38 06.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=360,slow=12,SNR=7.6						
HFS	**Hagfors**	**18.14**	**174**	P	**P**	**17 38 16.9**	**+2.0**
	baz=0.6,slow=12						
HFS	**Hagfors**	**18.14**	**174**	P	**Pn**	**17 38 15.0**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=5.9,slow=12,SNR=10						
HFS	**Hagfors**	**18.14**	**174**	P	**P**	**17 38 16.9**	**+2.0**
	baz=0.6,slow=12						
ILAR	**Eielson Array**	**36.63**	**344**	P	**P**	**17 41 10.8**	**+2.1**
	comp=Z,0.4nm,0.8s,baz=4.5,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**41.05**	**95**	P	**P**	**17 41 48.1**	**+2.1**
	comp=Z,0.2nm,0.5s,baz=348,slow=6.1,SNR=3.4						
TXAR	**Lajitas Array**	**66.15**	**299**	P	**P**	**17 44 49.4**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=26,slow=5.0,SNR=2.8						
CMAR	**Chiang Mai Arr**	**71.84**	**87**	P	**P**	**17 45 26.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=349,slow=7.3,SNR=6.6						

*ISCJB **19** 17:39:06.6±1.8, 20.3S±0.3×66.2E±0.3, h10km, mb3.5/8, Error ellipse: s-maj=57.7km s-min=23.9km az=42.2*
*IDC **19** 17:39:06.8±2.1, 20.30S×66.13E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.5/36, mbtmp3.5/8, Error ellipse: s-maj=69.4km s-min=25.8km az=44.0*

ISC 19 17:39:08.5±2.2, 20.3S±0.4×66.2E±0.3, h10km, n14, σ0ˢ82/8, mb3.6/8, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**13.96**	**27**	T	T	17 56 27.3	
	baz=205,slow=76,SNR=32						
H08S2	**Diego Garcia H**	**13.96**	**27**	T	T	17 56 24.0	
	baz=205,slow=76,SNR=27						
H08S3	**Diego Garcia H**	**13.97**	**27**	T	T	17 56 27.6	
	baz=205,slow=76,SNR=33						
H08N3	**Diego Garcia H**	**14.61**	**19**	T	T	17 57 06.7	
	baz=198,slow=76,SNR=26						
H08N1	**Diego Garcia H**	**14.62**	**19**	T	T	17 57 10.7	
	baz=198,slow=76,SNR=18						
H08N2	**Diego Garcia H**	**14.63**	**19**	T	T	17 57 08.2	
	baz=198,slow=76,SNR=25						
CMAR	**Chiang Mai Arr**	**50.14**	**42**	P	**P**	**17 48 03.4**	**-1.0**
	0.2nm,0.3s,baz=232,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**62.39**	**107**	P	**P**	**17 49 31.9**	**-0.2**
	0.5nm,0.7s,baz=271,slow=6.2,SNR=13						
WRA	**Warramunga Arr**	**63.57**	**103**	P	**P**	**17 49 40.2**	**+0.2**
	0.5nm,0.8s,baz=259,slow=5.6,SNR=6.5						
BRTR	**Keskin Array B**	**66.96**	**333**	P	**P**	**17 50 00.9**	**-0.7**
	0.7nm,0.8s,baz=127,slow=3.3,SNR=3.8						
MKAR	**Makanchi Array**	**68.31**	**12**	P	**P**	**17 50 10.8**	**+1.0**
	0.2nm,0.7s,baz=216,slow=7.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**75.64**	**11**	P	**P**	**17 50 53.4**	**-0.1**
	0.4nm,0.5s,baz=187,slow=8.0,SNR=3.0						
SONM	**Songino Array**	**76.79**	**27**	P	**P**	**17 51 01.3**	**+0.9**
	0.2nm,0.6s,baz=217,slow=4.9,SNR=2.7						
AKASG	**Malin Array Be**	**77.79**	**337**	P	**P**	**17 51 05.9**	**+0.1**
	0.1nm,0.3s,baz=130,slow=4.8,SNR=4.3						

IDC 19 17:41:55.9±2.6, 20.39S×65.84E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/34, mbtmp3.6/7, MS3.7/1, Ms1 3.7/1, ms1mx2.9/37, Error ellipse: s-maj=81.2km s-min=28.6km az=50.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**14.20**	**28**	T	T	17 59 14.0	
	baz=205,slow=76,SNR=40						
H08S2	**Diego Garcia H**	**14.21**	**28**	T	T	17 59 23.5	
	baz=205,slow=76,SNR=33						
H08S3	**Diego Garcia H**	**14.22**	**28**	T	T	17 59 24.5	
	baz=205,slow=76,SNR=50						
H08N3	**Diego Garcia H**	**14.83**	**20**	T	T	18 00 09.6	
	baz=198,slow=76,SNR=38						
H08N1	**Diego Garcia H**	**14.84**	**20**	T	T	18 00 01.2	
	baz=198,slow=76,SNR=18						
H08N2	**Diego Garcia H**	**14.85**	**20**	T	T	18 00 00.5	
	baz=198,slow=76,SNR=32						
LBTB	**Lobatse**	**37.32**	**255**	LR	LR	18 02 09.0	
	comp=Z,100nm,18.9s,baz=139,slow=32						
CMAR	**Chiang Mai Arr**	**50.44**	**42**	P	P	17 50 55.5	0.0
	0.3nm,0.6s,baz=238,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**62.64**	**107**	P	P	17 52 22.6	-0.1
	0.6nm,0.7s,baz=268,slow=6.1,SNR=9.2						
WRA	**Warramunga Arr**	**63.84**	**103**	P	P	17 52 30.7	+0.1
	1.4nm,1.1s,baz=261,slow=5.7,SNR=7.8						
MKAR	**Makanchi Array**	**68.50**	**12**	P	P	17 53 00.9	+1.0
	0.3nm,0.7s,baz=179,slow=6.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**75.82**	**11**	P	P	17 53 42.3	-1.2
	0.6nm,0.6s,baz=213,slow=6.3,SNR=3.9						
SONM	**Songino Array**	**77.04**	**27**	P	P	17 53 50.7	-0.1
	0.3nm,0.7s,baz=226,slow=6.6,SNR=4.2						
AKASG	**Malin Array Be**	**77.79**	**337**	P	P	17 53 55.0	+0.2
	0.1nm,0.3s,baz=134,slow=4.7,SNR=4.1						

IDC 19 17:48:30.3±1.3, 20.17S×66.07E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/36, mbtmp3.6/9, Error ellipse: s-maj=42.3km s-min=22.8km az=29.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**13.91**	**27**	T	T	18 05 44.4	
	baz=205,slow=76,SNR=30						
H08S2	**Diego Garcia H**	**13.91**	**27**	T	T	18 05 48.0	
	baz=205,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**13.93**	**27**	T	T	18 05 46.2	
	baz=205,slow=76,SNR=30						
H08N3	**Diego Garcia H**	**14.54**	**20**	T	T	18 06 27.5	
	baz=198,slow=76,SNR=25						
H08N1	**Diego Garcia H**	**14.56**	**20**	T	T	18 06 39.0	
	baz=198,slow=76,SNR=30						
H08N2	**Diego Garcia H**	**14.57**	**20**	T	T	18 06 29.0	
	baz=198,slow=76,SNR=21						
CMAR	**Chiang Mai Arr**	**50.13**	**42**	P	P	17 57 28.4	+0.7
	0.6nm,0.9s,baz=233,slow=9.2,SNR=5.3						
ASAR	**Alice Springs**	**62.50**	**107**	P	P	17 58 56.0	-0.1
	0.5nm,0.7s,baz=272,slow=5.9,SNR=7.9						
WRA	**Warramunga Arr**	**63.68**	**103**	P	P	17 59 04.2	+0.2
	1.0nm,1.1s,baz=259,slow=5.8,SNR=4.5						
BRTR	**Keskin Array B**	**66.83**	**333**	P	P	17 59 24.9	+0.8
	0.6nm,0.8s,baz=126,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**68.24**	**12**	P	P	17 59 32.6	-0.1
	0.7nm,0.9s,baz=191,slow=5.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**71.44**	**292**	P	P	17 59 53.0	0.0
	0.7nm,1.1s,baz=116,slow=7.0,SNR=3.0						
ZALV	**Zalesovo Beam**	**75.56**	**11**	P	P	18 00 16.7	+0.2
	0.7nm,0.6s,baz=226,slow=3.9,SNR=4.9						
SONM	**Songino Array**	**76.74**	**27**	P	P	18 00 22.5	-1.1
	0.4nm,0.9s,baz=197,slow=4.5,SNR=3.2						
AKASG	**Malin Array Be**	**77.67**	**337**	P	P	18 00 28.0	-0.4
	0.4nm,0.5s,baz=146,slow=4.8,SNR=5.0						

*MOS **19** 17:50:57.8±1.1, 20.12S×66.37E, h10km, mb5.1/35, Error ellipse: s-maj=10.2km s-min=6.5km az=94.9*
*ISCJB **19** 17:50:58.0±0.3, 20.13S±0.05×66.36E±0.04, h10km, mb4.7/96, MS4.7/33, Error ellipse: s-maj=7.6km s-min=5.5km az=8.3*
*IDC **19** 17:50:58.3±0.5, 20.04S×66.38E, h0km, mb4.2/19, mb1 4.3/20, mb1mx4.1/37, mbtmp4.2/20, ML3.9/1, MS4.6/25, Ms1 4.6/25, ms1mx4.4/43, Error ellipse: s-maj=17.5km s-min=14.8km az=8.0*
*BJI **19** 17:50:59.3, 20.20S×66.30E, h7km, mb4.7/39, mB5.1/32, Ms5.0/36, Ms7 4.9/35*
*NEIC **19** 17:50:59.3±0.2, 20.13S×66.28E, h10km, mb5.0/60, Error ellipse: s-maj=6.9km s-min=4.9km az=185.0*

ISC 19 17:50:59.8±0.4, 20.12S±0.07×66.29E±0.06, h10km, n252, σ1ˢ48/247, mb4.9/99, MS4.7/34, 20C-14D, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.93**	**262**	*e*Pn	**Pn**	**17 53 22.0**	**-0.8**
H08S1	**Diego Garcia H**	**13.78**	**27**	T	T	18 08 11.4	
	baz=205,slow=76,SNR=103						
H08S2	**Diego Garcia H**	**13.78**	**27**	T	T	18 08 14.1	
	baz=205,slow=76,SNR=91						
H08S3	**Diego Garcia H**	**13.79**	**27**	T	T	18 08 15.3	
	baz=205,slow=76,SNR=101						
DGAR	**Diego Garcia**	**13.98**	**26**	*e*Pn	**Pn**	**17 54 17.5**	**-0.5**
DGAR	**Diego Garcia**	**13.98**	**26**	*e*P	**Pn**	**17 54 17.5**	**-0.5**
H08N3	**Diego Garcia H**	**14.44**	**19**	T	T	18 09 02.0	
	baz=198,slow=76,SNR=98						
H08N1	**Diego Garcia H**	**14.45**	**19**	T	T	18 09 01.9	
	baz=198,slow=76,SNR=92						
H08N2	**Diego Garcia H**	**14.46**	**19**	T	T	18 09 03.6	
	baz=198,slow=76,SNR=93						
ABPO	**Ambohimpanom**	**18.00**	**270**	*e*Pn	**Pn**	**17 55 08.4**	**-2.1**
	144nm,2.0s						
ABPO	**Ambohimpanom**	**18.00**	**270**	*e*P	**Pn**	**17 55 08.4**	**-2.1**
ABPO				pmax	pmax		
	comp=Z,144nm,2.0s						
OPO	**Ambohidratompo**	**18.10**	**272**	P	**P**	**17 55 13.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=90,slow=11,SNR=2.5						
OPO				LR	LR	18 00 20.5	
	comp=Z,6μm,22.0s,baz=108,slow=31						
PALK	**Pallekele**	**30.70**	**29**	LR	LR	18 06 58.5	
	comp=Z,2μm,19.2s,baz=295,slow=31						
KMBO	**Kilima Mbogo**	**34.10**	**300**	*e*P	**P**	**17 57 45.1**	**-0.1**
KMBO	**Kilima Mbogo**	**34.10**	**300**	*i* P	P	17 57 51.4	+6.2
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KMBO	**Kilima Mbogo**	**34.10**	**300**	P	**P**	**17 57 46.5**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=59,slow=19,SNR=3.9						
KMBO				LR	LR	18 09 18.0	
	comp=Z,1μm,19.6s,baz=114,slow=32						
LSZ	**Lusaka**	**36.57**	**271**	*e*P	**P**	**17 58 06.9**	**+0.6**
	comp=Z,13nm,1.1s						
LSZ	**Lusaka**	**36.57**	**271**	*e*P	**P**	**17 58 06.9**	**+0.6**
LSZ				pmax	pmax		
	comp=Z,13nm,1.1s						
LBTB	**Lobatse**	**37.80**	**255**	*e*P	**P**	**17 58 16.9**	**+0.2**
	comp=Z,17nm,1.2s						
LBTB	**Lobatse**	**37.80**	**255**	*e*P	**P**	**17 58 16.9**	**+0.2**
LBTB				pmax	pmax		
	comp=Z,17nm,1.2s						
LBTB	**Lobatse**	**37.80**	**255**	P	**P**	**17 58 18.6**	**+1.9**
	comp=Z,4.6nm,0.8s,baz=76,slow=6.2,SNR=4.6						
BOSA	**Boshof**	**38.18**	**249**	LR	LR	18 11 38.2	
	comp=Z,1μm,19.2s,baz=80,slow=32						
HYB	**Hyderabad**	**39.20**	**19**	*i* P	**P**	**17 58 30.0**	**+1.7**
HYB				*e*S	**S**	**18 04 28.0**	**-0.8**
PSI	**Prapat**	**39.30**	**58**	*e*P	**P**	**17 58 26.5**	**-2.9**
	comp=Z,13nm,1.3s						
PSI	**Prapat**	**39.30**	**58**	*e*P	**P**	**17 58 26.5**	**-2.9**
PSI				pmax	pmax		
	comp=Z,13nm,1.3s						
FURI	**Furi**	**39.63**	**314**	*e*P	**P**	**17 58 33.5**	**+1.1**
	comp=Z,14nm,0.5s						
MBAR	**Mbarara**	**39.83**	**295**	P	**P**	**17 58 34.4**	**+0.6**
	comp=Z,3.0nm,0.2s,baz=144,slow=7.2,SNR=2.7						
IPM	**Ipoh**	**41.98**	**58**	*e*P	**P**	**17 58 49.6**	**-1.9**
	comp=Z,35nm,1.7s						
NWAO	**Narrogin (SRO)**	**46.92**	**117**	LR	LR	18 14 50.0	
	comp=Z,1μm,22.0s,baz=280,slow=30						
MAW	**Mawson**	**47.52**	**182**	LR	LR	18 15 04.2	
	comp=Z,644nm,19.6s,baz=356,slow=30						
RAYN	**Ar Rayn**	**47.88**	**334**	*e*P	**P**	**17 59 38.7**	**+0.4**
	comp=Z,6.5nm,1.4s						
RAYN	**Ar Rayn**	**47.88**	**334**	*e*P	**P**	**17 59 38.7**	**+0.4**
RAYN				pmax	pmax		
	comp=Z,7.0nm,1.4s						
CM01	**Chiang Mai Arr**	**49.94**	**42**	*e*P	**P**	**17 59 55.0**	**+0.9**
CM31	**Chiang Mai Arr**	**49.95**	**42**	*e*P	**P**	**17 59 55.2**	**+0.9**
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**49.95**	**42**	P	**P**	**17 59 54.7**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=237,slow=8.0,SNR=10						
CMAR				LR	LR	18 18 56.2	
	comp=Z,1μm,19.2s,baz=234,slow=34						
CHTO	**Chiang Mai**	**50.22**	**42**	*e*P	**P**	**17 59 55.8**	**-0.5**
	comp=Z,6.9nm,1.3s						
CHTO	**Chiang Mai**	**50.22**	**42**	*e*P	**P**	**17 59 55.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SBUM	**Sibu**	**50.32**	**69**	*e*P	**P**	**17 59 57.8**	**+0.7**
	comp=Z,4.8nm,0.9s						
SYO	**Syowa Base**	**51.57**	**192**	*e*P	**P**	**18 00 05.2**	**-0.6**
SYO	**Syowa Base**	**51.57**	**192**	*e*sP	sP	18 00 10.0	+1.3
SHL	**Shillong**	**51.78**	**30**	*e*P	**P**	**18 00 08.8**	**+0.7**
	comp=Z,30nm,1.2s						
SHL	**Shillong**	**51.78**	**30**	*e*P	**P**	**18 00 08.8**	**+0.7**
SHL				pmax	pmax		
	comp=Z,30nm,1.2s						
SHL	**Shillong**	**51.78**	**30**	*e*P	**P**	**18 00 10.0**	**+1.9**
NIL	**Nilore**	**53.88**	**7**	*e*P	**P**	**18 00 22.9**	**-0.4**
	comp=Z,23nm,1.5s						
NIL	**Nilore**	**53.88**	**7**	*e*P	**P**	**18 00 22.9**	**-0.4**
NIL				pmax	pmax		
	comp=Z,23nm,1.5s						
KBL	**Kabul**	**54.42**	**3**	*e*P	**P**	**18 00 27.3**	**-0.2**
	comp=Z,14nm,1.5s						
KBL	**Kabul**	**54.42**	**3**	*e*P	**P**	**18 00 27.3**	**-0.2**
KBL				pmax	pmax		
	comp=Z,14nm,1.5s						
LSA	**Lhasa**	**55.02**	**27**	*e*P	**P**	**18 00 31.0**	**-1.2**
	comp=Z,22nm,1.6s						
LSA	**Lhasa**	**55.02**	**27**	*e*P	**P**	**18 00 31.0**	**-1.2**
LSA				pmax	pmax		
	comp=Z,22nm,1.6s						
MMRI	**Maumere**	**55.15**	**87**	*e*P	**P**	**18 00 31.0**	**-1.9**
	comp=Z,32nm,1.2s						
FITZ	**Fitzroy Crossi**	**55.85**	**99**	*e*P	**P**	**18 00 37.9**	**-0.1**
	comp=Z,4.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.85**	**99**	LR	LR	18 20 14.0	
	comp=Z,409nm,21.7s,baz=271,slow=32						
BATI	**Baumata**	**56.01**	**89**	LR

comp=Z,2.8nm,0.8s,baz=267,slow=5.5,SNR=15
ASAR LR LR 18 24 39.9
comp=Z,1μm,21.1s,baz=292,slow=32
AS31 Alice Springs 62.31 107 *eP* **P 18 01 23.3 +0.5**
comp=Z,1.3nm,0.8s
AS01 Alice Springs 62.35 107 *eP* **P 18 01 22.6 -0.4**
BBOO Buckleboo 62.73 117 *eP* **P 18 01 26.1 +0.7**
comp=Z,19nm,1.4s
KDJ Kajisay 62.75 9 *eP* **P 18 01 26.0 +0.6**
comp=Z,29nm,1.8s
KDJ Kajisay 62.75 9 *eP* **P 18 01 26.0 +0.6**
KDJ pmax pmax
comp=Z,29nm,1.8s
AAK Ala-Archa 62.90 7 *eP* **P 18 01 26.5 +0.2**
comp=Z,13nm,1.4s
AAK Ala-Archa 62.90 7 *i* P **P 18 01 25.6 -0.7**
AAK pmax pmax
comp=Z,3.0nm,1.1s
AAK Ala-Archa 62.90 7 LR LR 18 27 09.9
comp=Z,426nm,19.2s,baz=185,slow=35
KK31 Karatay Array 63.03 3 *eP* **P 18 01 26.1 -0.9**
comp=Z,15nm,1.8s
KK31 Karatay Array 63.03 3 *eP* **P 18 01 26.1 -0.9**
KK31 pmax pmax
comp=Z,15nm,1.8s
KKAR Karatay Array 63.03 3 *eP* **P 18 01 26.1 -0.9**
comp=Z,15nm,1.8s
KKAR Karatay Array 63.03 3 *eP* **P 18 01 26.1 -0.9**
KKAR pmax pmax
comp=Z,15nm,1.8s
FRU1 Bishkek 63.09 7 *eP* **P 18 01 28.2 +0.8**
comp=Z,15nm,0.5s
FRU1 Bishkek 63.09 7 *eP* **P 18 01 28.2 +0.8**
FRU1 pmax pmax
comp=Z,15nm,0.5s
CSS Mathiatis 63.10 330 *eP* **P 18 01 25.6 -2.0**
comp=Z,45nm,1.7s
GNI Garni 63.24 342 *eP* **P 18 01 28.9 +0.3**
comp=Z,76nm,1.7s
GNI Garni 63.24 342 *i* P **P 18 01 28.9 +0.3**
GNI pmax pmax
comp=Z,31nm,1.1s
GNI Garni 63.24 342 LR LR 18 27 00.7
comp=Z,203nm,19.2s,baz=154,slow=34
PRZ Przheval'sk 63.29 10 *eP* **P 18 01 28.7 -0.2**
comp=Z,54nm,1.9s
PRZ Przheval'sk 63.29 10 *eP* **P 18 01 28.7 -0.2**
PRZ pmax pmax
comp=Z,54nm,1.9s
WRA Warramunga Arr 63.48 103 P **P 18 01 30.1 -0.5**
comp=Z,2.5nm,0.8s,baz=260,slow=5.7,SNR=16
WR1 Warramunga Arr 63.48 103 *eP* **P 18 01 30.1 -0.5**
comp=Z,12nm,1.1s
WB2 Warramunga Arr 63.49 103 *eP* **P 18 01 29.7 -1.0**
comp=Z,11nm,0.9s
WRAB Tennant Creek 63.49 103 *eP* **P 18 01 30.8 +0.1**
comp=Z,11nm,1.0s
WRAB Tennant Creek 63.49 103 *i* P **P 18 01 30.7 +0.1**
WRAB pmax pmax
comp=Z,11nm,1.1s
DAV Davao City (W) 64.24 71 LR LR 18 26 53.8
comp=Z,403nm,21.0s,baz=250,slow=34
SNAA Sanae 64.51 199 P **P 18 01 37.0 +0.5**
comp=Z,1.8nm,0.8s,baz=182,slow=1.3,SNR=8.9
ZEI Tsey 65.92 342 *eP* **P 18 01 48.9 +2.8**
ZEI pmax pmax
comp=Z,12nm,1.4s
LZH Lanzhou 66.24 33 *eP* **P 18 01 48.3 0.0**
LZH SS SS 18 14 54.3 0.0
LZH pmax pmax
comp=Z,36nm,1.0s
LZH pmax pmax
comp=Z,260nm,4.9s
LZH LR LR
comp=Z,1μm,16.8s
LZH LR LR
comp=Z,640nm,17.9s
LZH LR LR
comp=Z,1μm,19.5s
WMQ Urumqi 66.59 17 P **P 18 01 53.8 +3.5**
WMQ sP pwP 18 01 58.8 +2.0
WMQ PcP **PcP 18 02 19.8 +0.3**
WMQ PP **PP 18 04 20.3 +3.1**
WMQ S **S 18 10 41.4 -0.1**
WMQ SS **SS 18 15 00.3 +1.0**
WMQ pmax pmax
comp=Z,33nm,1.3s
WMQ pmax pmax
comp=Z,650nm,4.9s
WMQ LR LR
comp=Z,1μm,17.1s
WMQ LR LR
comp=Z,840nm,18.9s
WMQ LR LR
comp=Z,660nm,20.7s
BR101 Keskin Array S 66.89 333 *eP* **P 18 01 51.6 -0.8**
BR131 Keskin Array S 66.89 333 *eP* **P 18 01 52.9 +0.5**
comp=Z,26nm,1.7s
BRTR Keskin Array B 66.89 333 *i* P **P 18 01 53.0 +0.6**
BRTR pmax pmax
comp=Z,3.0nm,1.1s
BRTR Keskin Array B 66.89 333 P **P 18 01 51.6 -0.8**
comp=Z,3.5nm,1.1s,baz=152,slow=6.7,SNR=10
KBZ Khabaz 67.07 342 P **P 18 01 52.5 -0.6**
comp=Z,1.9nm,1.0s,baz=320,slow=1.9,SNR=3.9
KBZ LR LR 18 31 34.2
comp=Z,206nm,18.1s,baz=149,slow=36
KVAR Kislovodsk Arr 67.34 342 LR LR 18 31 36.5
comp=Z,133nm,18.1s,baz=99,slow=36
KIV Kislovodsk 67.34 342 *eP* **P 18 01 55.6 +0.6**
comp=Z,34nm,1.1s
KIV Kislovodsk 67.34 342 *eP* **P 18 01 55.9 +0.9**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,448nm,17.0s
STKA Stephens Creek 67.50 117 LR LR 18 27 30.6
comp=Z,607nm,20.5s,baz=250,slow=32
QZH Quanzhou 67.77 51 *eP* **P 18 02 01.0 +2.9**
QZH S **S 18 11 00.5 +4.2**
QZH LR LR
comp=Z,980nm,17.4s
QZH LR LR
comp=Z,870nm,18.4s
QZH LR LR
comp=Z,1μm,18.5s
SOC Sochi 67.93 339 *eP* **P 18 02 00.1 +1.4**
SOC *e* 18 04 27.1
SOC *ePPP* PPP 18 06 02.0
SOC *eS* **S 18 10 56.8 -0.6**
MAKZ Makanchi 68.11 12 *eP* **P 18 01 60.0 +0.2**
comp=Z,14nm,1.4s
MK01 Makanchi Array 68.13 12 *eP* **P 18 01 60.0 +0.1**
MK31 Makanchi Array 68.15 12 *eP* **P 18 01 59.8 -0.2**
comp=Z,14nm,1.5s
MK31 Makanchi Array 68.15 12 *eP* **P 18 01 59.8 -0.2**
MK31 pmax pmax
comp=Z,14nm,1.5s
MK32 Makanchi Array 68.15 12 *eP* **P 18 01 59.9 -0.1**
MKAR Makanchi Array 68.15 12 *i* P **P 18 02 03.7 +3.7**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 68.15 12 P **P 18 01 59.9 -0.1**
comp=Z,1.8nm,1.0s,baz=190,slow=4.9,SNR=11
MKAR LR LR 18 30 48.3
comp=Z,380nm,20.2s,baz=194,slow=35
WHN Wuhan 68.35 44 ⇑P P 18 02 07.0 +5.4
ABKAR Akbulak array 69.30 356 *eP* **P 18 02 06.2 -0.9**
comp=Z,12nm,1.3s
QSPA South Pole Qui 69.99 180 *eP* **P 18 02 10.6 -0.8**
comp=Z,20nm,1.4s
QSPA South Pole Qui 69.99 180 P **P 18 02 12.6 +1.2**
comp=Z,2.0nm,1.0s,baz=142,slow=0.7,SNR=4.0
KURK Kurchatov 71.36 8 *eP* **P 18 02 19.3 -0.4**
comp=Z,9.7nm,1.3s
KURK Kurchatov 71.36 8 *i* P **P 18 02 18.4 -1.3**
KURK pmax pmax
comp=Z,4.0nm,1.0s
TOA0 Torodi Ar. Sit 71.62 292 *eP* **P 18 02 20.4 -1.6**
TORD Torodi Ar. Bea 71.62 292 P **P 18 02 21.7 -0.3**
comp=Z,2.0nm,1.1s,baz=132,slow=6.1,SNR=7.4
TORD LR LR 18 32 46.0
comp=Z,378nm,18.5s,baz=330,slow=35
TOA1 Torodi Ar. Sit 71.62 292 *eP* **P 18 02 21.7 -0.3**
AGG Agios Georgios 71.80 325 *eP* **P 18 02 22.6 -0.1**
comp=Z,15nm,0.9s
AGG pmax pmax
comp=Z,15nm,0.9s
NJ2 Nanjing 72.27 45 *eP* **P 18 02 25.1 -0.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
BTO Baotou 72.83 33 *eP* **P 18 02 32.6 +3.8**
BRVK Borovoye 72.96 3 *eP* **P 18 02 28.5 -0.6**
comp=Z,5.2nm,1.0s
BRVK Borovoye 72.96 3 *i* P **P 18 02 27.6 -1.6**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
TIRR Tirgusor 73.00 333 *eP* **P 18 02 30.1 +0.5**
comp=Z,30nm,1.3s
TAM Tamanrasset 73.04 303 *eP* **P 18 02 29.7 -0.8**
comp=Z,15nm,1.9s
TAM Tamanrasset 73.04 303 *eP* **P 18 02 29.7 -0.8**
TAM pmax pmax
comp=Z,15nm,1.9s
COEN Coen 73.20 99 *eP* **P 18 02 31.2 -0.3**
comp=Z,7.7nm,1.4s
TLB Topalu 73.26 332⇓ *i* P **P 18 02 31.9 +0.8**
TLB Topalu 73.26 332 ⇑P **P 18 02 31.9 +0.8**
FNA Florina 73.58 326 *eP* **P 18 02 31.7 -1.5**
comp=Z,53nm,2.0s
FNA Florina 73.58 326 *eP* **P 18 02 31.7 -1.5**
FNA pmax pmax
comp=Z,53nm,2.0s
CFR Carcaliu 73.69 333⇓ *i* P **P 18 02 34.1 +0.4**
CFR Carcaliu 73.69 333 ⇓P **P 18 02 34.1 +0.4**
HHC Hu-ho-hao-te 73.81 34 *eP* **P 18 02 36.0 +1.4**
HHC S **S 18 12 07.8 +1.6**
HHC ScS **SKSac 18 12 38.0 -3.8**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,200nm,5.1s
HHC LR LR
comp=Z,310nm,16.9s
HHC LR LR
comp=Z,450nm,14.1s
HHC LR LR
comp=Z,580nm,19.0s
VTS Vitosha 73.97 328 *eP* **P 18 02 34.5 -1.1**
comp=Z,19nm,1.4s
VTS Vitosha 73.97 328⇑ *i* P **P 18 02 36.8 +1.2**
VTS Vitosha 73.97 328 *eP* **P 18 02 34.5 -1.1**
VTS pmax pmax
comp=Z,19nm,1.4s
DBIC Dimbokro 74.81 283 *eP* **P 18 02 39.5 -1.4**
comp=Z,13nm,1.1s
DBIC Dimbokro 74.81 283 *eP* **P 18 02 39.5 -1.4**
DBIC pmax pmax
comp=Z,13nm,1.1s
DBIC Dimbokro 74.81 283 P **P 18 02 40.6 -0.3**
comp=Z,3.1nm,0.8s,baz=118,slow=9.3,SNR=4.1
DBIC LR LR 18 34 03.6
comp=Z,642nm,18.6s,baz=100,slow=34
VRI Vrincioaia 74.84 333⇑ *i* P **P 18 02 41.6 +1.2**
VRI Vrincioaia 74.84 333 ⇑P **P 18 02 41.6 +1.2**
PLOR Plostina 74.86 332⇑ *i* P **P 18 02 41.8 +1.2**
PLOR Plostina 74.86 332 ⇑P **P 18 02 41.8 +1.2**
MLR Muntele Rosu 74.89 332⇑ *i* P **P 18 02 42.2 +1.3**
MLR Muntele Rosu 74.89 332 ⇑P **P 18 02 42.2 +1.3**
VOIR 75.25 331⇓ *i* P **P 18 02 42.6 -0.3**
VOIR 75.25 331 ⇓P **P 18 02 42.6 -0.3**
PUNG Punghina 75.36 329⇑ *i* P **P 18 02 44.9 +1.5**
OZUR 75.43 332⇓ *i* P **P 18 02 45.1 +1.2**
ZAA0 Zalesovo Array 75.47 11 *eP* **P 18 02 42.9 -1.0**
comp=Z,37nm,1.6s
ZALV Zalesovo Beam 75.47 11 *eP* **P 18 02 42.9 -1.0**
ZALV Zalesovo Beam 75.47 11 *eP* **P 18 02 42.9 -1.0**
ZALV Zalesovo Beam 75.47 11 P **P 18 02 43.1 -0.8**
comp=Z,2.6nm,0.6s,baz=207,slow=5.6,SNR=10
ZALV LR LR 18 35 20.7
comp=Z,241nm,18.7s,baz=248,slow=35
ZAA1 Zalesovo Array 75.48 11 *eP* **P 18 02 43.1 -0.8**
NVS Novosibirsk 76.06 10 *eP* **P 18 02 47.6 +0.5**
NVS pmax pmax
comp=Z,42nm,2.5s
NVS pmax pmax
comp=N,28nm,2.3s
GZR Gura Zlata 76.26 330⇑ *i* P **P 18 02 50.5 +1.8**
GZR Gura Zlata 76.26 330 ⇑P **P 18 02 50.5 +1.8**
MDVR Moldovita 76.32 329⇓ *i* P **P 18 02 49.2 +0.2**
ARU Arti 76.53 356 *eP* **P 18 02 49.5 -0.3**
comp=N,27nm,1.5s
ARU Arti 76.53 356 *c i* P **P 18 02 49.7 -0.1**
ARU 18 05 36.6
ARU S **S 18 12 34.1 -1.4**
ARU pmax pmax
comp=Z,14nm,1.5s
ARU MLR MLR
comp=Z,409nm,18.0s
SONA0 Songino Array 76.61 26 *eP* **P 18 02 50.3 -0.4**
SONM Songino Array 76.61 26 P **P 18 02 50.3 -0.4**
comp=Z,1.1nm,0.8s,baz=223,slow=6.1,SNR=5.8
SONM LR LR 18 35 40.1
comp=Z,480nm,20.8s,baz=203,slow=35
BURAR Bucovina Array 76.86 333⇓ *i* P **P 18 02 53.1 +1.1**
BURAR Bucovina Array 76.86 333 ⇓P **P 18 02 53.1 +1.1**
BUR08 Bucovina Ar. S 76.89 333 *eP* **P 18 02 50.0 -2.2**
comp=Z,43nm,2.0s
ULN Ulaanbaatar 76.91 27 *eP* **P 18 02 52.1 -0.3**
comp=Z,7.3nm,1.4s
ULN Ulaanbaatar 76.91 27 *i* P **P 18 02 54.1 +1.7**
ULN pmax pmax
comp=Z,2.0nm,1.2s
BZS Buzias 76.98 330⇓ *i* P **P 18 02 53.9 +1.3**
BZS Buzias 76.98 330 ⇓P **P 18 02 53.9 +1.3**
DRGR 77.34 331⇑ *i* P **P 18 02 56.4 +1.7**
DRGR 77.34 331 ⇑P **P 18 02 56.4 +1.7**
SIRR Siria 77.44 330⇓ *i* P **P 18 02 56.8 +1.6**
AKASG Malin Array Be 77.71 337 P **P 18 02 56.5 0.0**
comp=Z,4.9nm,1.1s,baz=143,slow=4.6,SNR=9.8
AKASG LR LR 18 37 43.1
comp=Z,72nm,18.7s,baz=145,slow=36
AKBB Malin Array Si 77.71 337 *eP* **P 18 02 55.9 -0.7**
comp=Z,14nm,1.1s
AKBB Malin Array Si 77.71 337 *eP* **P 18 02 55.9 -0.7**
AKBB pmax pmax
comp=Z,14nm,1.1s
KIEV Kiev 77.71 337 *eP* **P 18 02 55.2 -1.3**
comp=Z,14nm,1.1s
KIEV Kiev 77.71 337⇓ *i* P **P 18 02 56.8 +0.2**
KIEV Kiev 77.71 337 *i* P **P 18 02 56.9 +0.3**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
AK11 Malin Array Si 77.71 337 *eP* **P 18 02 55.3 -1.3**
TRPA Tarpa 78.42 332⇓ *i* P **P 18 03 02.0 +1.5**
UZH Uzhgorod 78.90 332 *eP* **P 18 03 01.9 -1.3**
UZH *e* 18 03 06.9
LVV L'vov 79.05 334 *eP* **P 18 03 05.0 +1.0**
OBN Obninsk 79.11 343⇑ *eP* **P 18 03 07.7 +3.5**
OBN *e* 18 03 13.1
OBN *e* 18 06 06.2
OBN pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 79.47 330⇑ *i* P **P 18 03 08.7 +2.3**
PSZ Piszkesteto 79.47 330 ⇑P **P 18 03 08.7 +2.3**
KWP Kalwaria Pacla 79.47 333 *eP* **P 18 03 05.9 -0.5**
comp=Z,174nm,1.2s
KWP Kalwaria Pacla 79.47 333 *eP* **P 18 03 05.9 -0.5**
KWP pmax pmax
comp=Z,174nm,1.2s
VYHS Vyhne 80.37 330 *eP* P 18 03 17.4 +6.1
VYHS Vyhne 80.37 330 *e*PCP P 18 03 17.4 +6.1
SOKA Soboth 80.98 327 *eP* **P 18 03 16.2 +1.5**
comp=Z,5.0nm,1.0s
MODS Modra-Piesok 81.02 329 *eP* **P 18 03 17.0 +2.2**
MODS Modra-Piesok 81.02 329 *eP* **P 18 03 17.0 +2.2**
OBKA Obir 81.11 327 P **P 18 03 16.6 +1.2**
comp=Z,8.1nm,1.1s
ARSA Arzberg 81.11 328 P **P 18 03 17.0 +1.7**
comp=Z,5.4nm,1.1s
CONA Conrad Observa 81.41 328 *eP* **P 18 03 18.3 +1.4**
comp=Z,16nm,1.8s
KSAR Wonju Array Be 81.44 45 P **P 18 03 17.6 +0.5**
KSAR Wonju Array Be 81.44 45 P **P 18 03 17.7 +0.5**
KSRS Korea Array 81.47 45 P **P 18 03 17.6 +0.3**
comp=Z,1.3nm,0.8s,baz=246,slow=5.0,SNR=3.4
KSRS LR LR 18 38 59.0
comp=Z,590nm,19.5s,baz=226,slow=35
OKC Ostrava-Krasne 81.64 331 *eP* **P 18 03 18.4 +0.4**
OKC *ex* x 18 03 25.6
OKC Ostrava-Krasne 81.64 331 *eP* **P 18 03 18.4 +0.4**
OKC *e* 18 03 25.6
MYKA Terra Mystica 81.66 326 *ep*P **P 18 03 22.6 +4.4**
comp=Z,5.6nm,1.1s
KBA Koelnbreinsper 82.11 327 pP **P 18 03 24.4 +3.7**
comp=Z,15nm,2.1s
MOA Molln 82.15 328 *eP* **P 18 03 21.9 +1.2**
comp=Z,9.7nm,1.5s
DPC Dobruska-Polom 82.84 330 *eP* **P 18 03 25.6 +1.3**
DPC *ex* x 18 03 32.0
DPC Dobruska-Polom 82.84 330 *eP* **P 18 03 25.6 +1.3**
DPC *e* 18 03 32.0
GEA0 GERESS Array S 83.08 328 *eP* **P 18 03 23.7 -2.0**
PRGR Permogore 83.14 350 *eP* **P 18 03 22.6 -2.9**
PRGR pmax pmax
comp=Z,11nm,1.1s
GOPC GO Pecny, Ondr 83.27 329 *eP* **P 18 03 26.5 0.0**
GOPC *ex* x 18 03 34.1
GOPC GO Pecny, Ondr 83.27 329 *eP* **P 18 03 26.5 0.0**
GOPC *e* 18 03 34.1
KHC Kasperske Hory 83.34 328 *eP* **P 18 03 26.4 -0.5**
KHC *ep*P **pwP 18 03 33.5 -0.1**
KHC Kasperske Hory 83.34 328 *eP* **P 18 03 26.4 -0.5**
KHC *e* 18 03 33.5
FETA Feichten 83.45 325 *eP* **P 18 03 27.9 +0.2**
comp=Z,3.9nm,0.8s
MOTA Moosalm 83.45 326 *eP* **P 18 03 29.5 +1.8**
comp=Z,3.4nm,0.7s
KLMR Klimovskoe 83.54 347 *eP* **P 18 03 27.0 -0.6**
KLMR pmax pmax
comp=Z,29nm,1.2s
KLMR Klimovskoe 83.54 347 *eP* **P 18 03 27.0 -0.6**
KLMR AMP 18 03 38.0
comp=Z,29nm,1.2s
DAVA Damuels 84.07 325 pP **P 18 03 33.2 +2.4**
comp=Z,13nm,1.6s
VSU Vasula 84.85 340 *i* P **P 18 03 37.4 +3.1**
VSU pmax pmax
comp=Z,25nm,1.0s
CLL Collm 85.05 330 *eS* **S 18 14 09.0 +4.3**
CLL *ePS* 18 15 06.0
CLL *eSS* SS 18 20 00.0 +21
CLL L L 18 55 00.0
comp=Z,100nm,21.4s
BOD Bodaibo 87.17 23 *eP* **P 18 03 45.7 -0.1**
BOD pmax pmax
comp=Z,9.0nm,1.7s
MAJO Matsushiro 88.16 50 *eP* **P 18 03 50.6 -0.5**
MAJO Matsushiro 88.16 50 *eP* **P 18 03 50.6 -0.5**
MJAR Matsushiro Arr 88.16 50 P **P 18 03 50.6 -0.5**
comp=Z,0.6nm,0.5s,baz=229,slow=4.0,SNR=3.4
ES06 SONSECA Array 88.42 313 *eP* **P 18 03 52.1 -0.2**
ESDC Sonseca Array 88.42 313 P **P 18 03 52.3 -0.1**
comp=Z,0.7nm,0.7s,baz=100,slow=3.5,SNR=4.8
ESDC LR LR 18 45 29.7
comp=Z,231nm,18.2s,baz=145,slow=37
KLR Kul'dur 90.14 37 *i* P **P 18 03 58.5 -1.6**
TIXI Tiksi 100.80 17 *i* P **Pdif 18 04 51.3 +3.2**
TIXI pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 137.66 1 PKP **PKPdf 18 10 23.2 -0.5**
comp=Z,0.3nm,0.7s,baz=353,slow=2.1,SNR=5.9
YKB5 Yellowknife Ar 137.66 1 *e*PKPpre PKPpre 18 10 14.5
YKB5 *e*PKPdf **PKPdf 18 10 23.5 -0.2**
FFC Flin Flon 144.32 348 *e*PKPdf **PKPab 18 10 33.5 -0.4**
FFC Flin Flon 144.32 348 *e*PKIKP **PKPab 18 10 33.5 -0.4**
ULM Lac du Bonnet 146.78 339 PKPbc **PKPdf 18 10 40.3 0.0**
comp=Z,3.7nm,0.6s,baz=45,slow=2.1,SNR=6.1
P51A Williamsport 147.38 313 *e*PKPdf **PKPdf 18 10 39.7 -2.0**
G40A Rib Lake 148.29 328 *e*PKPbc **PKPdf 18 10 44.6 +1.6**
DGMT Dagmar 150.70 347 *e*PKPdf **PKPdf 18 10 46.1 -0.7**
DGMT *e*PKPbc **PKiKP 18 10 53.0 +0.1**
OLIL Olney 151.15 316 *e*PKPdf **PKPdf 18 10 46.3 -1.4**
OLIL *e*PKPbc **PKPbc 18 10 55.6 +2.1**
MSO Missoula 153.36 0 *e*PKPdf **PKPdf 18 10 48.9 -2.0**
MSO *e*PKPbc **pPKPbc 18 11 00.0 -0.7**
MWC Mount Wilson 165.43 14 *e*PKPdf **PKPdf 18 11 02.0 -3.3**
MWC Mount Wilson 165.43 14 *e*PKIKP **PKPdf 18 11 02.0 -3.3**
TX31 Lajitas Ar. Si 167.07 317 *e*PKPdf **PKPdf 18 11 05.9 -0.7**
TX31 *e*PKPab **PKPab 18 12 10.4 -0.1**
TXAR Lajitas Array 167.07 317 PKP **PKPdf 18 11 07.3 +0.7**
comp=Z,0.4nm,0.8s,baz=205,slow=2.6,SNR=3.7
TXAR PKPab **PKPab 18 12 10.8 +0.3**
comp=Z,1.9nm,1.1s,baz=63,slow=4.7,SNR=4.1

ISCJB ***19*** *17:54:59.4±0.4,20.°07S±0.°08×66.°22E±0.°08,h10km, mb4.6/44, Error ellipse: s-maj=13.4km s-min=8.6km az=41.2*
IDC ***19*** *17:54:60.0±0.6,20.°04S×66.°18E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/36, mbtmp3.9/12, Error ellipse: s-maj=22.7km s-min=19.0km az=74.0*
NEIC ***19*** *17:55:01.3±0.3,20.°09S×66.°18E, h10km, mb4.9/30, Error ellipse: s-maj=9.9km s-min=6.4km az=221.0*
ISC 19 17:55:01.4±0.6, 20.°0S±0.°1×66.°2E±0.°1, h10km, n64, σ0s85/58, mb4.8/44, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.72**	**27**	T T	18 12 12.6	
	baz=205,slow=76,SNR=26					
H08S2	**Diego Garcia H**	**13.73**	**27**	T T	18 12 15.4	
	baz=205,slow=76,SNR=22					
H08S3	**Diego Garcia H**	**13.74**	**27**	T T	18 12 17.6	
	baz=205,slow=76,SNR=26					
H08N3	**Diego Garcia H**	**14.37**	**20**	T T	18 12 56.5	
	baz=196					
H08N1	**Diego Carcia H**	**14.38**	**20**	T T	18 13 07.4	
	baz=196					
H08N2	**Diego Garcia H**	**14.39**	**20**	T T	18 13 06.8	
	baz=196					
CM01	**Chiang Mai Arr**	**49.92**	**42**	*eP* **P**	**18 03 56.0 +0.4**	
CM31	**Chiang Mai Arr**	**49.94**	**42**	*eP* **P**	**18 03 56.3 +0.6**	
	4.6nm,0.9s					
CMAR	**Chiang Mai Arr**	**49.94**	**42**	P **P**	**18 03 57.0 +1.3**	
	1.5nm,0.9s,baz=235,slow=7.4,SNR=9.4					
CHTO	**Chiang Mai**	**50.20**	**42**	*eP* **P**	**18 03 58.1 +0.3**	
	12nm,1.8s					
FITZ	**Fitzroy Crossi**	**55.95**	**99**	*eP* **P**	**18 04 39.4 -1.0**	
	18nm,2.0s					
SOEI	**Soe**	**56.80**	**89**	*eP* **P**	**18 04 45.8 -0.7**	
	28nm,1.5s					
ASAR	**Alice Springs**	**62.42**	**107**	P **P**	**18 05 24.8 -0.3**	
	1.2nm,0.7s,baz=270,slow=5.9,SNR=11					
AS31	**Alice Springs**	**62.42**	**107**	*eP* **P**	**18 05 24.5 -0.7**	
	0.7nm,0.8s					
AS01	**Alice Springs**	**62.46**	**107**	*eP* **P**	**18 05 25.0 -0.4**	
KDJ	**Kajisay**	**62.66**	**9**	*eP* **P**	**18 05 26.6 +0.2**	
	3.8nm,1.1s					
AAK	**Ala-Archa**	**62.81**	**7**	*eP* **P**	**18 05 29.7 +2.3**	
	7.8nm,1.4s					
BBOO	**Buckleboo**	**62.86**	**117**	*eP* **P**	**18 05 28.3 +0.5**	
	36nm,1.5s					
KK31	**Karatay Array**	**62.93**	**4**	*eP* **P**	**18 05 27.3 -0.7**	
	14nm,1.9s					
KKAR	**Karatay Array**	**62.93**	**4**	*eP* **P**	**18 05 27.6 -0.4**	
	14nm,1.9s					
CSS	**Mathiatis**	**62.97**	**330**	*eP* **P**	**18 05 28.8 +0.4**	
	12nm,1.3s					
PRZ	**Przheval'sk**	**63.20**	**10**	*eP* **P**	**18 05 30.9 +0.9**	
	20nm,1.5s					
WRA	**Warramunga Arr**	**63.59**	**103**	P **P**	**18 05 32.8 -0.2**	
	2.7nm,1.1s,baz=260,slow=5.5,SNR=7.7					
WR1	**Warramunga Arr**	**63.59**	**103**	*eP* **P**	**18 05 32.8 -0.2**	
	21nm,1.8s					
WB2	**Warramunga Arr**	**63.60**	**103**	*eP* **P**	**18 05 32.0 -1.0**	
WRAB	**Tennant Creek**	**63.60**	**103**	*eP* **P**	**18 05 33.2 +0.2**	
	31nm,2.0s					
SNAA	**Sanae**	**64.58**	**199**	*eP* **P**	**18 05 39.3 +0.7**	
	31nm,1.9s					
SNAA	**Sanae**	**64.58**	**199**	P **P**	**18 05 39.3 +0.7**	
	2.3nm,0.9s,baz=38,slow=12,SNR=4.2					
ENH	**Enshi**	**65.07**	**41**	*eP* **P**	**18 05 43.7 +1.3**	
	7.9nm,0.9s					
KARP	**Karpathos**	**66.51**	**326**	*eP* **P**	**18 05 52.7 +1.2**	
	218nm,1.8s					
FAKI	**Fak Fak**	**66.52**	**84**	*eP* **P**	**18 05 51.4 -0.6**	
	9.6nm,0.8s					
WMQ	**Urumqi**	**66.52**	**17**	*eP* **P**	**18 05 52.8 +1.4**	
	24nm,1.6s					
BRTR	**Keskin Array B**	**66.76**	**333**	P **P**	**18 05 54.4 +1.2**	
	1.9nm,0.8s,baz=149,slow=9.9,SNR=4.4					
BR101	**Keskin Array S**	**66.76**	**333**	*eP* **P**	**18 05 54.4 +1.2**	
KIV	**Kislovodsk**	**67.21**	**342**	*eP* **P**	**18 05 55.7 -0.2**	

21nm,1.0s
STKA **Stephens Creek** 67.63 117 *e*P P 18 05 58.8 0.0
2.9nm,1.6s
MAKZ **Makanchi** 68.02 12 *e*P P 18 06 01.5 +0.7
12nm,1.9s
MK01 **Makanchi Array** 68.05 12 *e*P P 18 06 00.8 -0.2
SNOP **Sinop** 68.06 336 *e*P P 18 05 59.9 -1.2
204nm,1.8s
MK31 **Makanchi Array** 68.07 12 *e*P P 18 06 01.4 +0.2
6.6nm,1.8s
MK32 **Makanchi Array** 68.07 12 *e*P P 18 06 01.6 +0.4
MKAR **Makanchi Array** 68.07 12 P P 18 06 01.6 +0.4
1.0nm,0.8s,baz=200,slow=6.4,SNR=7.2
TPUB **Ta-pu** 68.34 54 *e*P P 18 06 03.2 -0.1
23nm,1.3s
ABKAR **Akbulak array** 69.19 356 *e*P P 18 06 07.6 -0.4
12nm,1.7s
QSPA **South Pole Qui** 70.09 180 P P 18 06 14.2 +0.5
3.1nm,1.2s,baz=243,slow=4.5,SNR=2.6
KURK **Kurchatov** 71.27 8 *e*P P 18 06 21.8 +1.1
5.5nm,1.2s
TORD **Torodi Ar. Bea** 71.50 292 P P 18 06 22.7 -0.3
0.6nm,1.1s,baz=107,slow=8.5,SNR=2.6
TOA1 **Torodi Ar. Sit** 71.50 292 *e*P P 18 06 22.7 -0.3
TIP **Timpagrande** 74.87 322 *e*P P 18 06 41.5 -0.9
72nm,1.8s
ZAA0 **Zalesovo Array** 75.39 11 *e*P P 18 06 45.8 +0.8
11nm,1.4s
ZALV **Zalesovo Beam** 75.39 11 *e*P P 18 06 45.0 0.0
ZALV **Zalesovo Beam** 75.39 11 P P 18 06 45.3 +0.3
2.6nm,0.8s,baz=254,slow=4.7,SNR=7.5
ZAA1 **Zalesovo Array** 75.39 11 *e*P P 18 06 45.3 +0.3
SONA0 **Songino Array** 76.56 27 *e*P P 18 06 52.5 +0.5
SONM **Songino Array** 76.56 27 P P 18 06 52.5 +0.5
1.3nm,0.9s,baz=218,slow=4.5,SNR=8.9
KEST **Kesra** 77.27 316 *e*P P 18 06 57.8 +1.6
20nm,1.3s
AKASG **Malin Array Be** 77.58 337 P P 18 06 57.1 -0.4
1.7nm,0.7s,baz=137,slow=4.8,SNR=6.5
AKBB **Malin Array Si** 77.58 337 *e*P P 18 06 57.6 +0.1
31nm,1.8s
KIEV **Kiev** 77.58 337 *e*P P 18 06 57.5 0.0
28nm,1.7s
AK11 **Malin Array Si** 77.58 337 *e*P P 18 06 55.6 -1.9
BLY **Banja Luka** 78.43 327 *e*P P 18 07 00.8 -1.5
72nm,1.8s
ESDC **Sonseca Array** 88.29 313 P P 18 07 52.9 -0.4
0.1nm,0.4s,baz=116,slow=6.2,SNR=2.9
YKA **Yellowknife Ar** 137.56 1 PKP PKPdf 18 14 23.6 -1.5
0.2nm,0.7s,baz=8.1,slow=1.4,SNR=3.7
TXAR **Lajitas Array** 166.94 317 PKPab PKPab 18 16 11.1 -0.5
0.5nm,0.9s,baz=97,slow=4.3,SNR=3.7

IDC 19 17:59:51.8±3.4, 20°26'S×65°77'E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/30, mbtmp3.6/7, Error ellipse: s-maj=103.1km s-min=27.1km az=54.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**14.12**	**28**	T	T	18 17 07.1	
baz=205,slow=76,SNR=27							
H08S2	**Diego Garcia H**	**14.13**	**28**	T	T	18 17 13.9	
baz=205,slow=76,SNR=19							
H08S3	**Diego Garcia H**	**14.14**	**28**	T	T	18 17 07.8	
baz=205,slow=76,SNR=26							
H08N3	**Diego Garcia H**	**14.73**	**21**	T	T	18 17 50.5	
baz=194,slow=76,SNR=15							
H08N1	**Diego Garcia H**	**14.74**	**21**	T	T	18 17 52.8	
baz=194							
H08N2	**Diego Garcia H**	**14.75**	**21**	T	T	18 17 53.4	
baz=194,slow=76,SNR=16							
CMAR	**Chiang Mai Arr**	**50.38**	**42**	P	P	18 08 50.0	-1.1
0.2nm,0.8s,baz=234,slow=5.4,SNR=2.6							
GEYT	**Alibeck**	**58.32**	**353**	P	P	18 09 47.6	-1.0
1.0nm,0.7s,baz=183,slow=7.2,SNR=2.3							
ASAR	**Alice Springs**	**62.74**	**107**	P	P	18 10 18.2	-1.0
0.7nm,0.6s,baz=266,slow=5.7,SNR=9.0							
WRA	**Warramunga Arr**	**63.93**	**103**	P	P	18 10 28.1	+0.9
0.7nm,0.9s,baz=263,slow=5.5,SNR=7.7							
MKAR	**Makanchi Array**	**68.39**	**12**	P	P	18 10 56.5	+1.4
0.3nm,0.8s,baz=215,slow=6.8,SNR=3.1							
ZALV	**Zalesovo Beam**	**75.70**	**11**	P	P	18 11 37.7	-1.0
0.7nm,0.6s,baz=218,slow=6.6,SNR=3.7							
SONM	**Songino Array**	**76.95**	**27**	P	P	18 11 47.3	+1.1
0.2nm,0.5s,baz=205,slow=6.4,SNR=2.6							

PRU 19 18:01:40.1±0.0, 50°28'N×18°89'E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHZP	**Chorzow**	**0.07**	**80**	*e*Pg	Pg	18 01 42.2	+0.9
CHZP				*e*Sg	Sg	18 01 43.5	+1.3
OJC	**Ojcow**	**0.59**	**96**	*e*Pg	Pg	18 01 51.3	0.0
OJC				*e*Sg	Sg	18 01 59.3	+0.4
OKC	**Ostrava-Krasne**	**0.65**	**228**	*e*SG	Sg	18 02 01.6	+0.6
MORC	**Moravsky Berou**	**1.00**	**240**	*e*PG	Pg	18 01 59.4	+0.1
MORC				*e*SG	Sg	18 02 11.8	-0.5
LANS	**Liptovska Anna**	**1.19**	**161**	*e*PG	Pg	18 02 02.3	-0.6
LANS				*e*SG	Sg	18 02 18.1	-0.2
KRLC	**Kraliky**	**1.37**	**262**	*e*PG	Pg	18 02 04.8	-1.6
KRLC				*e*SG	Sg	18 02 23.8	-0.3
comp=Z,1.0nm,0.5s							
DPC	**Dobruska-Polom**	**1.65**	**273**	*e*PG	Pn	18 02 10.1	-0.2
DPC				*e*SG	Sb	18 02 32.8	+0.1
VYHS	**Vyhne**	**1.79**	**181**	*e*PN	Pn	18 02 11.1	-1.1
VYHS				*e*SN	Sn	18 02 34.0	-1.6
VYHS	**Vyhne**	**1.79**	**181**	*e*PN	Pn	18 02 11.1	-1.1
VYHS				*e*SN	Sn	18 02 34.0	-1.6

*ISCJB **19** 18:09:11.0±0.9, 19°.7S±0°.1×67°.3E±0°.2, h10km, mb4.1/19, MS3.9/4, Error ellipse: s-maj=24.9km s-min=13.4km az=140.9*
*IDC **19** 18:09:10.9±2.0, 19°.78S×67°.18E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.6/43, mbtmp3.7/9, MS4.0/5, Ms1 4.0/5, ms1mx3.5/48, Error ellipse: s-maj=63.6km s-min=24.9km az=43.0*
*NEIC **19** 18:09:13.0±0.8, 19°.70S×67°.26E, h10km, mb4.5/9, Error ellipse: s-maj=21.3km s-min=11.8km az=51.0*
ISC 19 18:09:13.2±1.2, 19°.7S±0°.2×67°.2E±0°.2, h10km, n39, σ1§03/29, mb4.2/19, MS3.9/4, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**13.02**	**24**	T	T	18 26 24.6	
baz=205,slow=76,SNR=30							
H08S2	**Diego Garcia H**	**13.03**	**24**	T	T	18 26 34.0	
baz=205,slow=76,SNR=30							
H08S3	**Diego Garcia H**	**13.04**	**24**	T	T	18 26 27.0	
baz=205,slow=76,SNR=37							
DGAR	**Diego Garcia**	**13.22**	**23**	*e*Pn	Pn	18 12 22.2	+1.0
H08N3	**Diego Garcia H**	**13.77**	**16**	T	T	18 27 12.2	
baz=197,slow=76,SNR=39							
H08N1	**Diego Garcia H**	**13.78**	**16**	T	T	18 27 12.0	
baz=197,slow=76,SNR=16							
H08N2	**Diego Garcia H**	**13.79**	**16**	T	T	18 27 14.1	
baz=197,slow=76,SNR=27							
OPO	**Ambohidratompo**	**18.98**	**270**	LR	LR	18 18 38.6	
comp=Z,416nm,19.2s,baz=62,slow=30							
PALK	**Pallekele**	**29.91**	**28**	LR	LR	18 24 46.2	
comp=Z,280nm,18.7s,baz=294,slow=31							
PSI	**Prapat**	**38.33**	**58**	LR	LR	18 29 08.0	
comp=Z,224nm,20.2s,baz=269,slow=31							
BOSA	**Boshof**	**39.15**	**249**	LR	LR	18 29 05.4	
comp=Z,131nm,18.5s,baz=107,slow=31							
CM01	**Chiang Mai Arr**	**49.03**	**41**	*e*P	P	18 18 00.9	+0.2
CMAR	**Chiang Mai Arr**	**49.05**	**41**	P	P	18 18 02.3	+1.5
0.3nm,0.4s,baz=236,slow=9.7,SNR=7.1							
CMAR				LR	LR	18 37 30.7	
comp=Z,128nm,18.7s,baz=220,slow=35							
ASAR	**Alice Springs**	**61.58**	**107**	P	P	18 19 30.6	-0.6
0.9nm,0.9s,baz=275,slow=5.7,SNR=7.7							
AS01	**Alice Springs**	**61.62**	**107**	*e*P	P	18 19 30.5	-1.1
KK31	**Karatay Array**	**62.57**	**3**	*e*P	P	18 19 37.2	-0.2
7.6nm,1.8s							
KKAR	**Karatay Array**	**62.57**	**3**	*e*P	P	18 19 37.0	-0.3
7.6nm,1.8s							
WR1	**Warramunga Arr**	**62.71**	**103**	*e*P	P	18 19 38.5	-0.4
21nm,1.9s							
WRA	**Warramunga Arr**	**62.71**	**103**	P	P	18 19 38.5	-0.4
1.3nm,1.0s,baz=266,slow=5.7,SNR=7.3							
KARP	**Karpathos**	**66.80**	**325**	*e*P	P	18 20 07.4	+2.2
64nm,1.1s							
STKA	**Stephens Creek**	**66.91**	**117**	*e*P	P	18 20 07.7	+1.6
2.6nm,1.5s							
BRTR	**Keskin Array B**	**66.93**	**332**	P	P	18 20 06.4	+0.3
0.7nm,0.7s,baz=165,slow=8.3,SNR=4.3							
BR101	**Keskin Array S**	**66.93**	**332**	*e*P	P	18 20 06.4	+0.3
MAKZ	**Makanchi**	**67.53**	**11**	*e*P	P	18 20 09.2	-0.3
6.2nm,1.8s							
MK01	**Makanchi Array**	**67.55**	**11**	*e*P	P	18 20 08.6	-1.1
MK31	**Makanchi Array**	**67.57**	**11**	*e*P	P	18 20 09.1	-0.7
3.3nm,1.5s							
MK32	**Makanchi Array**	**67.57**	**11**	*e*P	P	18 20 09.3	-0.5
MKAR	**Makanchi Array**	**67.57**	**11**	P	P	18 20 09.3	-0.5
0.8nm,1.0s,baz=191,slow=5.7,SNR=5.5							
SSLB	**Suanglung**	**67.89**	**53**	*e*P	P	18 20 11.3	-1.1
ABKAR	**Akbulak array**	**68.95**	**355**	*e*P	P	18 20 16.7	-1.6
8.1nm,1.6s							
KURBB	**Kurchatov Arra**	**70.72**	**8**	P	P	18 20 27.8	-1.4
0.3nm,0.5s,baz=206,slow=6.5,SNR=4.6							
KURK	**Kurchatov**	**70.83**	**8**	*e*P	P	18 20 29.2	-0.6
8.8nm,1.8s							
ZAA0	**Zalesovo Array**	**74.90**	**11**	*e*P	P	18 20 52.4	-1.6
5.5nm,1.4s							
ZALV	**Zalesovo Beam**	**74.90**	**11**	*e*P	P	18 20 52.5	-1.4
ZALV	**Zalesovo Beam**	**74.90**	**11**	P	P	18 20 53.0	-1.0
0.7nm,0.6s,baz=193,slow=5.9,SNR=5.1							
ZAA1	**Zalesovo Array**	**74.90**	**11**	*e*P	P	18 20 53.0	-1.0
SONA0	**Songino Array**	**75.84**	**26**	*e*P	P	18 20 59.6	-0.2
SONM	**Songino Array**	**75.84**	**26**	P	P	18 20 59.6	-0.1
0.6nm,0.9s,baz=114,slow=21,SNR=3.9							
AKASG	**Malin Array Be**	**77.68**	**336**	P	P	18 21 10.1	+0.3
0.5nm,0.6s,baz=148,slow=4.6,SNR=3.8							

IDC 19 18:16:34.3±4.0, 20°07'S×66°46'E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.5/50, mbtmp3.6/8, Error ellipse: s-maj=120.4km s-min=28.1km az=56.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**13.66**	**26**	T	T	18 33 52.9	
baz=205,slow=76,SNR=39							
H08S2	**Diego Garcia H**	**13.67**	**26**	T	T	18 33 56.6	
baz=205,slow=76,SNR=29							
H08S3	**Diego Garcia H**	**13.68**	**26**	T	T	18 33 54.4	
baz=205,slow=76,SNR=40							
H08N3	**Diego Garcia H**	**14.34**	**18**	T	T	18 34 35.9	
baz=197,slow=76,SNR=14							
H08N1	**Diego Garcia H**	**14.35**	**19**	T	T	18 34 48.1	
baz=197,slow=76,SNR=8.3							
H08N2	**Diego Garcia H**	**14.36**	**19**	T	T	18 34 41.8	
baz=197,slow=76,SNR=11							
CMAR	**Chiang Mai Arr**	**49.81**	**42**	P	P	18 25 29.1	-0.1
0.5nm,0.8s,baz=237,slow=8.4,SNR=5.3							
ASAR	**Alice Springs**	**62.17**	**107**	P	P	18 26 57.7	-0.3
0.7nm,0.9s,baz=270,slow=5.6,SNR=5.8							
AAK	**Ala-Archa**	**62.83**	**7**	P	P	18 27 02.4	+0.5
0.3nm,0.3s,baz=197,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**63.34**	**103**	P	P	18 27 06.1	+0.3
1.7nm,1.1s,baz=261,slow=5.9,SNR=7.2							
MKAR	**Makanchi Array**	**68.07**	**12**	P	P	18 27 35.8	+0.2
0.6nm,1.0s,baz=205,slow=5.9,SNR=4.4							
KURBB	**Kurchatov Arra**	**71.18**	**8**	P	P	18 27 54.9	+0.1
0.4nm,0.7s,baz=190,slow=4.5,SNR=4.2							
ZALV	**Zalesovo Beam**	**75.39**	**11**	P	P	18 28 19.1	-0.4
0.4nm,0.4s,baz=183,slow=5.8,SNR=2.8							
SONM	**Songino Array**	**76.50**	**26**	P	P	18 28 25.9	-0.2
0.4nm,0.8s,baz=236,slow=6.8,SNR=3.4							

IDC 19 18:19:51.9±18.0, 20°52S×176°80W, h350km±155km, mb3.5/7, mb1 3.6/7, mb1mx3.2/40, mbtmp4.2/7, Error ellipse: s-maj=97.2km s-min=42.4km az=104.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.61**	**264**	P	P	18 26 09.7	+0.4
2.6nm,0.4s,baz=91,slow=9.8,SNR=6.9							
STKA	**Stephens Creek**	**38.79**	**244**	P	P	18 26 43.2	-1.0
1.2nm,0.7s,baz=108,slow=20,SNR=3.2							
JAY	**Jayapura**	**45.12**	**288**	P	P	18 27 34.6	-0.4
8.6nm,0.8s,baz=149,slow=4.6,SNR=5.8							
ASAR	**Alice Springs**	**45.61**	**257**	P	P	18 27 39.1	+0.3
2.3nm,0.8s,baz=93,slow=8.2,SNR=29							
ASAR				PcP	PcP	18 29 10.7	+0.1
0.4nm,0.5s,baz=103,slow=3.9,SNR=8.7							
WRA	**Warramunga Arr**	**45.71**	**262**	P	P	18 27 39.1	-0.5
0.6nm,0.3s,baz=96,slow=7.7,SNR=67							
WRA				PcP	PcP	18 29 11.2	+0.2
0.3nm,0.7s,baz=95,slow=3.4,SNR=3.0							
SIJI	**Sorong**	**54.33**	**284**	P	P	18 28 43.4	-0.4
2.1nm,0.6s,baz=128,slow=17,SNR=3.9							
CMAR	**Chiang Mai Arr**	**91.18**	**289**	P	P	18 32 17.2	-1.1
0.6nm,0.9s,baz=105,slow=1.9,SNR=6.0							
AKASG	**Malin Array Be**	**143.57**	**332**	PKP	PKPab	18 38 42.6	-0.1
0.7nm,0.3s,baz=36,slow=3.4,SNR=8.1							
BRTR	**Keskin Array B**	**147.68**	**313**	PKPbc	PKPbc	18 38 56.0	+0.1
0.6nm,0.4s,baz=39,slow=2.9,SNR=4.9							
GERES	**GERESS Array B**	**150.51**	**346**	PKPbc	PKPbc	18 39 01.9	-0.6
0.3nm,0.5s,baz=46,slow=6.2,SNR=2.9							
GERES				PKPab	PKPab	18 39 10.9	+0.4
0.2nm,0.3s,baz=143,slow=36,SNR=2.7							

*BJI **19** 18:22:51.0, 20°.90S×176°.70E, h11km, mb4.8/33, mB5.4/25, Ms5.0/13, Ms7 4.8/9*
*ISCJB **19** 18:22:54.0±0.2, 20°.99S±0°.03×176°.57E±0°.03, h33km, mb5.0/110, MS4.7/16, Error ellipse: s-maj=4.6km s-min=3.9km az=43.9*
*GCMT **19** 18:22:55.0±0.2, 20°.98S±0°.01×176°.73E±0°.01, h18km±1km, MW5.2/100, Moment Tensor Solution. s54,c82; s100,c145; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr-0.03±.02; Mθθ-0.72±.02; Mφφ0.74±.02; Mrθ-0.08±.03; Mθφ0.09±.02; Mφr0.08±.04; Best double couple: M0.74800×10^17 NP1:φ139.00000°, δ89.00000°, λ-171.00000°. NP2:φ48.00000°, δ81.00000°, λ-1.00000°. Principal axes: T 0.7610, Plg5.0000°, Azm273.0000°; N -0.0250, Plg81.0000°, Azm144.0000°; P -0.7360, Plg7.0000°, Azm4.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **19** 18:22:55.0±0.7, 20°.96S×176°.63E, h31km±5km, mb5.1/87 Error ellipse: s-maj=4.7km s-min=3.9km az=115.0*
*MOS **19** 18:22:55.0±1.4, 20°.85S×176°.41E, h33km, mb5.1/17, Error ellipse: s-maj=10.8km s-min=9.6km az=172.7*
*IDC **19** 18:22:57.9±3.4, 21°.01S×176°.53E, h51km±30km, mb4.2/23, mb1 4.4/26, mb1mx4.4/39, mbtmp4.6/26, ML4.8/3, MS4.5/12, Ms1 4.5/12, ms1mx4.1/37, Error ellipse: s-maj=18.8km s-min=13.9km az=173.0*
*BGR **19** 18:23:02.5±0.0, 17°.45S×179°.44E, h10km*
ISC 19 18:22:55.7±0.3, 20°.95S±0°.05×176°.68E±0°.05, h35km, n326, σ1§53/323, mb5.0/109, MS4.7/16, 28C-12D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.45**	**22**	*e*Pn	Pn	18 23 42.6	-4.5
MSVF				*e*Sn	Sn	18 24 22.4	-4.5
MSVF	**Nonsavu**	**3.45**	**22**	*d*iP	Pn	18 23 44.1	-3.0
MARNC	**Mare, Loyalty**	**8.08**	**265**	*e*Pn	Pn	18 24 51.1	+0.4
PINNC	**Pines Island,**	**8.73**	**257**	*e*Pn	Pn	18 25 00.1	+0.5
DZM	**Mont Dzumac**	**9.59**	**261**	*e*Pn	Pn	18 25 12.2	+0.8
687nm,1.5s							
DZM				*e*LR	LR	18 27 22.3	
comp=Z,8μm,24.7s							
DZM	**Mont Dzumac**	**9.59**	**261**	P	Pn	18 25 12.2	+0.8
1.9nm,0.3s,baz=80,slow=13,SNR=20							
DZM				S	Sn	18 26 56.6	-1.5
baz=286,slow=23,SNR=1.4							
ONTNC	**Ouen Toro**	**9.60**	**260**	*e*Pn	Pn	18 25 12.5	+0.9
NFK	**Norfolk Island**	**11.30**	**223**	P	Pn	18 25 33.7	-1.0
baz=11,SNR=4.5							
OUZ	**Omahuta**	**14.47**	**190**	*e*Pn	Pn	18 26 19.2	+1.2
MXZ	**Matakaoa Point**	**16.61**	**175**	*e*Pn	Pn	18 26 46.4	+0.5
290nm,1.6s							
URZ	**Urewera**	**17.25**	**179**	*e*Pn	Pn	18 26 54.0	0.0
642nm,1.6s							
URZ	**Urewera**	**17.25**	**179**	P	P	18 26 55.0	-0.1
3.8nm,0.3s,baz=20,slow=6.1,SNR=16							
URZ				LR	LR	18 31 02.1	
comp=Z,761nm,21.6s,baz=35,slow=28							
HIZ	**Hauiti**	**17.57**	**185**	*e*Pn	Pn	18 26 56.8	-1.1
298nm,1.4s							
BKZ	**Black Stump Fm**	**18.16**	**180**	*e*Pn	Pn	18 27 04.7	-0.4
118nm,1.3s							
BFZ	**Birch Farm**	**19.67**	**181**	*e*P	P	18 27 20.5	-1.3
525nm,2.0s							
HNR	**Honiara**	**19.77**	**303**	*e*P	P	18 27 21.8	-1.1
454nm,1.6s							
HNR	**Honiara**	**19.77**	**303**	P	P	18 27 22.9	0.0
10nm,0.3s,baz=269,slow=12,SNR=5.9							
HNR				LR	LR	18 34 08.1	
comp=Z,656nm,18.6s,baz=153,slow=34							
SNZO	**South Karori**	**20.37**	**184**	*e*P	P	18 27 29.9	+0.7
185nm,1.1s							
THZ	**Tophouse**	**20.99**	**188**	*e*P	P	18 27 36.4	+0.3
256nm,1.6s							
KHZ	**Kahutara**	**21.57**	**186**	*e*P	P	18 27 42.5	+0.4
108nm,0.9s							
RAR	**Rarotonga**	**21.98**	**95**	*e*P	P	18 27 45.2	-1.6
539nm,2.0s							
RAR	**Rarotonga**	**21.98**	**95**	P	P	18 27 48.7	+2.0
22nm,1.0s,baz=239,slow=7.8,SNR=3.9							
LTZ	**Lake Taylor**	**22.08**	**189**	*e*P	P	18 27 47.4	-0.4
365nm,1.9s							
OXZ	**Oxford**	**22.65**	**189**	*e*P	P	18 27 52.8	-1.0
87nm,0.8s							
MQZ	**McQueen's Vall**	**22.94**	**187**	*e*P	P	18 27 55.5	-1.2
58nm,1.2s							
RPZ	**Rata Peaks**	**23.18**	**190**	P	P	18 27 59.3	+0.1
8.3nm,0.6s,baz=35,slow=12,SNR=3.9							
RPZ				LR	LR	18 35 57.5	
comp=Z,1μm,18.6s,baz=12,slow=34							
FOZ	**Fox Glacier**	**23.24**	**193**	*e*P	P	18 27 58.9	-0.8
204nm,1.6s							
EIDS	**Eidsvold**	**23.92**	**255**	P	P	18 28 06.4	-0.2
baz=24,SNR=5.2							
EIDS	**Eidsvold**	**23.92**	**255**	*e*P	P	18 28 05.9	-0.7
122nm,1.6s							
LBZ	**Lake Benmore**	**23.98**	**192**	*e*P	P	18 28 04.9	-2.1
41nm,1.1s							
ARMA	**Armidale**	**24.42**	**242**	P	P	18 28 11.7	+0.5
baz=24,SNR=25							
ARMA	**Armidale**	**24.42**	**242**	*e*P	P	18 28 11.5	+0.2
50nm,0.8s							
ODZ	**Otahua Downs**	**24.54**	**190**	*e*P	P	18 28 11.1	-1.0
106nm,1.5s							
WKZ	**Wanaka**	**24.64**	**193**	*e*P	P	18 28 12.7	-0.3
64nm,1.0s							
MLZ	**Mavora Lakes**	**25.35**	**194**	*e*P	P	18 28 18.6	-0.9
76nm,1.1s							
WHZ	**Wether Hill Ro**	**25.89**	**194**	*e*P	P	18 28 24.0	-0.3
49nm,0.9s							
RMQ	**Roma**	**26.12**	**252**	P	P	18 28 27.0	+0.4
baz=26,SNR=16							
CNB	**Canberra Magne**	**27.90**	**233**	P	P	18 28 42.6	0.0
baz=28,SNR=5.9							
CAN	**Canberra**	**28.18**	**234**	*e*P	P	18 28 44.5	-0.5
14nm,1.0s							
CAN	**Canberra**	**28.18**	**234**	*e*P	P	18 28 44.5	-0.5
CAN				pmax	pmax		
comp=Z,14nm,1.0s							
CTA	**Charters Tower**	**28.49**	**266**	P	P	18 28 48.0	+0.1
comp=Z,16nm,0.9s,baz=100,slow=13,SNR=8.6							
CTA				LR	LR	18 39 52.9	
comp=Z,2μm,18.9s,baz=89,slow=36							
CTAO	**Charters Tower**	**28.49**	**266**	*e*P	P	18 28 48.2	+0.4
comp=Z,22nm,1.0s							
CTAO	**Charters Tower**	**28.49**	**266**	*e*P	P	18 28 48.3	+0.4
CTAO				pmax	pmax		
comp=Z,22nm,1.0s							
CMSA	**Cobar Meteorol**	**29.63**	**243**	P	P	18 28 57.5	-0.5
baz=30,SNR=31							
MTSU	**Mount Surprise**	**30.60**	**270**	P	P	18 29 06.8	+0.2
baz=31,SNR=27							
TBI	**Tubuai**	**31.41**	**101**	*e*S	S	18 34 19.8	+0.5
comp=Z,404nm,24.7s							
TBI				*e*LQ	LQ	18 36 03.4	
comp=Z,1μm,23.0s							
TBI				*e*LR	LR	18 37 23.6	
comp=Z,2μm,30.0s							
TOO	**Toolangi**	**31.66**	**232**	P	P	18 29 16.1	+0.3
baz=32,SNR=5.2							
TOO	**Toolangi**	**31.66**	**232**	*e*P	P	18 29 15.9	+0.1
comp=Z,25nm,1.0s							
TOO	**Toolangi**	**31.66**	**232**	*e*P	P	18 29 15.9	+0.1
TOO				pmax	pmax		
comp=Z,25nm,1.0s							
PPT2	**Papeete2**	**32.00**	**90**	*e*S	S	18 34 29.1	+0.5
comp=Z,268nm,25.2s							
PPT2				*e*LR	LR	18 37 40.9	
comp=Z,3μm,28.2s							
COEN	**Coen**	**32.66**	**277**	P	P	18 29 25.1	+0.4
baz=33,SNR=27							
COEN	**Coen**	**32.66**	**277**	*e*P	P	18 29 24.3	-0.5
comp=Z,40nm,0.8s							
TAU	**Tasmania Unive**	**32.89**	**222**	*e*P	P	18 29 26.6	+0.1
comp=Z,35nm,1.1s							
TAU	**Tasmania Unive**	**32.89**	**222**	*e*P	P	18 29 26.6	+0.1
TAU				pmax	pmax		
comp=Z,35nm,1.1s							
STKA	**Stephens Creek**	**33.12**	**244**	P	P	18 29 28.4	-0.2
baz=33,SNR=46							
STKA	**Stephens Creek**	**33.12**	**244**	*e*P	P	18 29 27.9	-0.7
comp=Z,5.2nm,0.8s							
STKA	**Stephens Creek**	**33.12**	**244**	*e*P	P	18 29 27.9	-0.7
STKA	**Stephens Creek**	**33.12**	**244**	P	P	18 29 28.4	-0.2
comp=Z,23nm,0.7s,baz=91,slow=10,SNR=67							
STKA				LR	LR	18 40 45.8	
comp=Z,887nm,20.7s,baz=72,slow=32							
ARPS	**Mount Arapiles**	**34.12**	**235**	P	P	18 29 37.0	-0.3
baz=34,SNR=8.8							
HTT	**Hallett**	**35.62**	**242**	P	P	18 29 49.9	-0.5
baz=36,SNR=29							
MCQ	**Macquarie Isla**	**36.09**	**198**	*e*P	P	18 29 55.6	+1.6
comp=Z,396nm,1.7s							
MCQ	**Macquarie Isla**	**36.09**	**198**	*e*P	P	18 29 55.6	+1.6
MCQ				pmax	pmax		
comp=Z,396nm,1.7s							
BBOO	**Buckleboo**	**37.89**	**243**	P	P	18 30 08.9	-0.7
baz=38,SNR=23							
BBOO	**Buckleboo**	**37.89**	**243**	*e*P	P	18 30 08.6	-1.0
comp=Z

	comp=Z,1µm,30.0s										
SRPI	**Serui, Papua**	43.73	290	P		P		18 30 58.0	0.0		
MTN	**Manton Dam**	44.20	273	P		P		18 31 00.6	-1.1		
	baz=44,SNR=12										
MTN	**Manton Dam**	44.20	273	*e*P		P		18 31 00.2	-1.5		
	comp=Z,44nm,0.8s										
FORT	**Forrest**	44.54	247	P		P		18 31 03.5	-0.8		
	baz=45,SNR=14										
FORT	**Forrest**	44.54	247	*e*P		P		18 31 03.0	-1.2		
	comp=Z,54nm,0.8s										
WRKA	**Warakurna**	44.54	255	P		P		18 31 03.6	-0.9		
	baz=45,SNR=34										
KNRA	**Kununurra**	45.66	268	P		P		18 31 12.3	-1.0		
	baz=46,SNR=10										
RKPI	**Ransiki, Papua**	45.72	289	P		P		18 31 15.0	+1.2		
GUMO	**Guam**	46.42	315	*e*P		P		18 31 16.7	-2.5		
	comp=Z,391nm,1.4s										
GUMO	**Guam**	46.42	315	*e*P		P		18 31 16.7	-2.5		
GUMO					pmax	pmax					
	comp=Z,391nm,1.4s										
FAKI	**Fak Fak**	46.79	286	*e*P		P		18 31 20.6	-1.7		
	comp=Z,92nm,1.0s										
FAKI	**Fak Fak**	46.79	286	P		P		18 31 22.5	+0.2		
ANA2	**Anatahan**	47.92	318	*e*P		P		18 31 28.4	-2.6		
	comp=Z,189nm,1.0s										
FITZ	**Fitzroy Crossi**	48.02	264	P		P		18 31 31.6	-0.2		
	baz=48,SNR=21										
FITZ	**Fitzroy Crossi**	48.02	264	*e*P		P		18 31 31.7	-0.2		
	comp=Z,25nm,1.1s										
BNDI	**Bandanaira**	48.24	283	P		P		18 31 34.9	+1.4		
SIJI	**Sorong**	48.59	288	P		P		18 31 36.0	-0.3		
	comp=Z,106nm,0.8s,baz=90,slow=5.4,SNR=65										
PALU	**Palau**	50.08	300	P		P		18 31 48.1	+0.5		
	baz=50,SNR=8.4										
NLAI	**Namlea**	51.31	283	P		P		18 31 57.5	+0.6		
SOEI	**Soe**	51.55	274	*e*P		P		18 31 59.2	+0.4		
	comp=Z,58nm,0.9s										
BATI	**Baumata**	51.97	273	P		P		18 32 01.7	-0.1		
BATI	**Baumata**	51.97	273	LR		LR		18 53 28.8			
	comp=Z,1µm,19.8s,baz=139,slow=35										
TNTI	**Ternate**	52.80	288	*e*P		P		18 32 08.4	+0.4		
	comp=Z,58nm,1.2s										
SANI	**Sanana**	52.81	284	P		P		18 32 09.4	+1.3		
MEEK	**Meekatharra**	53.05	252	P		P		18 32 08.3	-1.5		
	baz=53,SNR=20										
KLBR	**Kellerberrin**	53.34	246	P		P		18 32 10.7	-1.1		
	baz=53,SNR=10.0										
NWAO	**Narrogin (SRO)**	53.70	244	P		P		18 32 13.6	-0.9		
	baz=54,SNR=4.1										
NWAO	**Narrogin (SRO)**	53.70	244	*e*P		P		18 32 13.4	-1.1		
	comp=Z,31nm,1.2s										
NWAO	**Narrogin (SRO)**	53.70	244	P		P		18 32 13.6	-0.9		
	baz=76,slow=5.0										
MMRI	**Maumere**	53.80	275	*e*P		P		18 32 14.7	-0.7		
	comp=Z,57nm,1.0s										
MMRI	**Maumere**	53.80	275	P		P		18 32 15.1	-0.3		
MORW	**Morawa**	55.04	249	P		P		18 32 23.0	-1.2		
	baz=55,SNR=4.1										
MORW	**Morawa**	55.04	249	*e*P		P		18 32 22.7	-1.5		
	comp=Z,29nm,1.1s										
LUWI	**Luwuk**	56.15	283	*e*P		P		18 32 32.1	-0.3		
	comp=Z,73nm,1.1s										
GIRL	**Giralia**	57.62	256	P		P		18 32 43.1	+0.3		
	baz=58,SNR=3.5										
GIRL	**Giralia**	57.62	256	*e*P		P		18 32 43.0	+0.3		
	comp=Z,284nm,1.5s										
JCJ	**Chichijima**	58.28	324	LR		LR		18 51 52.3			
	comp=Z,123nm,20.9s,baz=114,slow=30										
CASY	**Casey**	61.44	205	*e*P		P		18 33 06.7	-1.6		
	comp=Z,20nm,1.2s										
UGM	**Wanagama**	64.98	271	*e*P		P		18 33 32.1	-0.6		
	comp=Z,52nm,1.0s										
KKM	**Kota Kinabalu**	65.10	287	*e*P		P		18 33 32.8	-0.7		
	comp=Z,37nm,1.3s										
SBUM	**Sibu**	67.20	282	*e*P		P		18 33 46.8	-0.1		
	comp=Z,24nm,1.6s										
CISI	**Cisompet, Garu**	67.63	270	*e*P		P		18 33 48.4	-1.3		
	comp=Z,72nm,1.4s										
MJAR	**Matsushiro Arr**	67.75	327	P		P		18 33 50.2	+0.3		
	comp=Z,7.8nm,1.0s,baz=168,slow=6.0,SNR=12										
MAJO	**Matsushiro**	67.75	327	*e*P		P		18 33 50.1	+0.2		
	comp=Z,14nm,1.0s										
MAJO	**Matsushiro**	67.75	327	*e*P		P		18 33 50.1	+0.2		
MAJO					pmax	pmax					
	comp=Z,14nm,1.0s										
MAT	**Matsushiro**	67.75	327	P		P		18 33 50.4	+0.5		
MAT				*e*S		S		18 42 39.4	-5.9		
MJB9	**Matsu-Tunnel**	67.76	327	*e*P		P		18 33 50.2	+0.3		
	comp=Z,15nm,1.0s										
KSM	**Kuching**	68.56	280	*e*P		P		18 33 54.9	-0.5		
	comp=Z,20nm,0.8s										
QSPA	**South Pole Qui**	69.12	180	*e*P		P		18 33 56.5	-1.7		
	comp=Z,18nm,0.9s										
JNU	**Nakatsue**	69.30	320	*e*P		P		18 33 59.5	-0.2		
	comp=Z,20nm,0.9s										
KSRS	**Korea Array**	74.03	322	P		P		18 34 28.5	+0.6		
	comp=Z,3.1nm,0.9s,baz=136,slow=5.3,SNR=6.0										
KS15	**Wonju Array Si**	74.04	321	*e*P		P		18 34 28.8	+0.8		
	comp=Z,150nm,2.0s										
KSAR	**Wonju Array Be**	74.04	321	P		P		18 34 28.5	+0.5		
KSAR	**Wonju Array Be**	74.04	321	P		P		18 34 28.5	+0.5		
KS01	**Wonju Array Si**	74.06	322	*e*P		P		18 34 27.3	-0.8		
YSS	**Yuzh-Sakhalins**	74.19	337	*e*P		P		18 34 32.5	+3.8		
YSS				*e*				18 34 44.2			
YSS					MLR	MLR					
	comp=Z,300nm,15.0s										
PETK	**Petropavlovsk-**	75.56	348	P		P		18 34 37.3	+0.8		
	comp=Z,4.8nm,0.9s,baz=127,slow=9.4,SNR=2.6										
PEA1	**Petropavlovsk-**	75.57	348	*e*P		P		18 34 37.2	+0.7		
NJ2	**Nanjing**	76.41	312	*e*P		P		18 34 42.8	+1.0		
NJ2					pmax	pmax					
	comp=Z,17nm,0.5s										
USRK	**Ussuriysk Ar.**	76.64	329	P		P		18 34 43.8	+1.0		
	comp=Z,3.9nm,0.8s,baz=90,slow=7.6,SNR=5.4										
WHN	**Wuhan**	78.77	309	P		P		18 34 49.3	-5.7		
PSI	**Prapat**	79.58	277	*e*P		P		18 34 58.4	-1.6		
	comp=Z,26nm,1.3s										
PSI	**Prapat**	79.58	277	*e*P		P		18 34 58.4	-1.6		
PSI					pmax	pmax					
	comp=Z,26nm,1.3s										
PSI	**Prapat**	79.58	277	P		P		18 34 58.6	-1.5		
	comp=Z,2.8nm,0.3s,baz=179,slow=7.9,SNR=3.9										
PSI					LR	LR		19 11 41.8			
	comp=Z,200nm,20.1s,baz=95,slow=37										
CN2	**Changchun**	79.71	325	*e*P		P		18 35 00.8	+1.0		
CN2					pmax	pmax					
	comp=Z,10.0nm,1.0s										
KLR	**Kul'dur**	80.48	332	*i* P		P		18 35 04.1	+0.2		
KLR	**Kul'dur**	80.48	332	LR		LR		19 04 31.0			
	comp=Z,150nm,21.2s,baz=168,slow=31										
ENH	**Enshi**	82.23	306	*e*P		P		18 35 13.1	-0.6		
	comp=Z,30nm,1.3s										
CMB	**Columbia Colle**	83.24	45	*e*P		P		18 35 18.4	-0.3		
	comp=Z,6.5nm,1.0s										
CMB	**Columbia Colle**	83.24	45	*e*P		P		18 35 18.4	-0.3		
CMB					pmax	pmax					
	comp=Z,6.0nm,1.0s										
WDC	**Whiskeytown Da**	83.27	42	*e*P		P		18 35 19.4	+0.6		
	comp=Z,16nm,1.5s										
WDC	**Whiskeytown Da**	83.27	42	*e*P		P		18 35 19.4	+0.6		
WDC					pmax	pmax					
	comp=Z,16nm,1.5s										
AFDM	**Forest Hills D**	83.36	44	*e*P		P		18 35 19.7	+0.4		
	comp=Z,7.4nm,1.1s										
YBH	**Yreka Blue Hor**	83.83	41	P		P		18 35 21.4	-0.3		
	comp=Z,2.2nm,1.0s,baz=202,slow=11,SNR=3.1										
MDPB	**Devils Postpil**	83.90	46	*e*P		P		18 35 26.2	+3.7		
	comp=Z,16nm,1.5s										
OMMB	**Old Mammoth Mi**	83.94	46	*e*P		P		18 35 23.8	+1.1		
	comp=Z,7.2nm,1.1s										
WAKR	**Walker**	84.12	45	*e*P		P		18 35 23.6	+0.2		
	comp=Z,12nm,1.2s										
YERR	**Yerington**	84.51	45	*e*P		P		18 35 29.2	+3.8		
	comp=Z,14nm,1.4s										
PAHR	**Pah Rah Range**	84.80	44	*e*P		P		18 35 27.4	+0.5		
	comp=Z,11nm,1.3s										
NV01	**Mina Array Sit**	84.84	46	*e*P		P		18 35 26.7	-0.4		
NVAR	**Mina Array Bea**	84.84	46	P		P		18 35 27.6	+0.5		
	comp=Z,0.5nm,0.6s,baz=221,slow=5.9,SNR=6.6										
GAMB	**Gambell**	84.93	5	*e*P		P		18 35 27.6	+1.0		
	comp=Z,23nm,1.2s										
NV11	**Mina Array Sit**	84.94	46	*e*P		P		18 35 26.9	-0.6		
	comp=Z,0.5nm,1.1s										
SYO	**Syowa Base**	85.13	194⇑	*e*P		P		18 35 18.2	-10		
KMI	**Kunming**	85.16	299	P		P		18 35 29.8	+0.8		
KMI					pmax	pmax					
	comp=Z,22nm,0.5s										
KMI					pmax	pmax					
	comp=Z,130nm,4.9s										
KMI					LR	LR					
	comp=Z,200nm,14.9s										
KMI					LR	LR					
	comp=Z,210nm,17.8s										
KVN	**Kaiserville**	85.30	45	*e*P		P		18 35 30.4	+1.0		
	comp=Z,4.4nm,0.7s										
KVN	**Kaiserville**	85.30	45	*e*P		P		18 35 30.4	+1.0		
KVN					pmax	pmax					
	comp=Z,4.0nm,0.7s										
CM01	**Chiang Mai Arr**	85.58	291	*e*P		P		18 35 30.7	-0.3		
CM31	**Chiang Mai Arr**	85.60	292	*e*P		P		18 35 30.6	-0.5		
	comp=Z,9.2nm,1.0s										
CMAR	**Chiang Mai Arr**	85.60	292	P		P		18 35 31.5	+0.4		
	comp=Z,2.5nm,0.9s,baz=138,slow=3.7,SNR=19										
ZEA	**Zeya**	85.69	333	*e*P		P		18 35 33.3	+2.6		
ZEA					pmax	pmax					
	comp=Z,12nm,1.0s										
CHTO	**Chiang Mai**	85.75	292	*e*P		P		18 35 31.8	0.0		
	comp=Z,7.1nm,1.0s										
SEY	**Seymchan**	85.78	349	*i* P		P		18 35 30.4	-0.5		
SEY	**Seymchan**	85.78	349	P		P		18 35 31.3	+0.4		
	comp=Z,5.1nm,1.0s,baz=98,slow=4.0,SNR=10										
SHPR	**Sheep Range**	86.01	49	*e*P		P		18 35 37.8	+4.8		
	comp=Z,21nm,2.0s										
HHC	**Hu-ho-hao-te**	86.17	316	*e*P		P		18 35 33.9	+0.4		
HHC				S		S		18 46 07.8	+1.8		
HHC				sS		pS		18 46 18.5	-0.3		
HHC				SS		SS		18 51 49.6	+3.8		
HHC					pmax	pmax					
	comp=Z,13nm,1.0s										
HHC					pmax	pmax					
	comp=Z,160nm,5.2s										
HHC					LR	LR					
	comp=Z,190nm,18.8s										
HHC					LR	LR					
	comp=Z,250nm,18.4s										
HHC					LR	LR					
	comp=Z,390nm,18.1s										
I07A	**Izee**	87.09	40	*e*P		P		18 35 38.2	+0.3		
	comp=Z,6.1nm,1.1s										
SNAA	**Sanae**	87.62	180	P		P		18 35 38.1	-2.1		
SNAA	**Sanae**	87.62	180	*e*P		P		18 35 38.4	-1.7		
	comp=Z,13nm,1.2s										
SNAA	**Sanae**	87.62	180	*i* P		P		18 35 41.8	+1.7		
NVL	**N'lazarevskaya**	87.91	185	*e*P		P		18 35 45.0	+3.6		
NVL					pmax	pmax					
	comp=Z,12nm,0.9s										
VNA3	**Neumayer Olymp**	87.95	178	P		P		18 35 39.4	-2.2		
ELK	**Elko**	88.06	45	P		P		18 35 43.9	+1.0		
	comp=Z,0.3nm,0.3s,baz=220,slow=17,SNR=3.2										
G08A	**Pilot Rock**	88.07	40	*e*P		P		18 35 43.0	+0.3		
	comp=Z,12nm,1.4s										
VNA2	**Neumayer--Watz**	88.33	179	P		P		18 35 41.5	-1.9		
	baz=197,slow=4.4										
BILL	**Bilibino**	89.06	356⇑	*e*P		P		18 35 49.1	+2.5		
BILL				*e*				18 39 15.8			
BILL					pmax	pmax					
	comp=Z,7.0nm,1.3s										
BILL					MLR	MLR					
	comp=Z,1µm,25.0s										
LZH	**Lanzhou**	89.14	309	⇑P		P		18 35 50.1	+2.1		
LZH				pP		pP		18 35 56.3	-2.0		
LZH				sP		pwP		18 35 59.3	-2.4		
LZH				PP		PP		18 39 23.4	+4.6		
LZH				sS		sS		18 46 46.8	-4.8		
LZH				*e*SS		SS		18 52 34.6	+5.1		
LZH					pmax	pmax					
	comp=Z,47nm,1.1s										
LZH					pmax	pmax					
	comp=Z,410nm,9.2s										
LZH					LR	LR					
	comp=Z,340nm,17.2s										
LZH					LR	LR					
	comp=Z,440nm,17.0s										
LZH					LR	LR					
	comp=Z,500nm,19.0s										
WRH	**Wood River Hil**	89.40	14	*e*P		P		18 35 48.2	-0.1		
	comp=Z,11nm,1.2s										
F10A	**Beach Ranch, E**	89.46	40	*e*P		P		18 35 49.2	0.0		
	comp=Z,13nm,1.1s										
B08A	**Colville Reser**	89.51	37	*e*P		P		18 35 48.9	-0.4		
	comp=Z,13nm,1.4s										
RIDG	**Independ'e Rid**	89.59	16	*e*P		P		18 35 49.3	0.0		
	comp=Z,34nm,1.8s										
CCB	**Clear Creek Bu**	89.61	14	*e*P		P		18 35 50.3	+1.0		
	comp=Z,8.8nm,1.1s										
HDA	**Harding Lake**	89.62	15	*e*P		P		18 35 48.7	-0.6		
	comp=Z,52nm,2.0s										
DOT	**Dot Lake**	89.72	16	*e*P		P		18 35 48.9	-1.0		
	comp=Z,8.9nm,1.2s										
MDM	**Murphy Dome**	89.78	14	*e*P		P		18 35 48.4	-1.8		
	comp=Z,12nm,1.1s										
COLA	**College**	89.80	14	*i* P		P		18 35 48.3	-1.8		
COLA					pmax	pmax					
	comp=Z,14nm,1.0s										
IL1	**Eielson Array**	89.94	15	*e*P		P		18 35 50.0	-0.8		
ILAR	**Eielson Array**	89.94	15	P		P		18 35 49.7	-1.1		
	comp=Z,6.3nm,1.0s,baz=236,slow=5.1,SNR=19										
ILB	**Eielson Array**	89.94	15	*e*P		P		18 35 49.8	-1.1		
	comp=Z,17nm,1.3s										
HLID	**Hailey**	89.98	43	*e*P		P		18 35 50.8	-0.9		
	comp=Z,10nm,1.4s										
SPUT	**South Promonto**	90.17	45	*e*P		P		18 35 53.7	+1.0		
	comp=Z,10.0nm,1.4s										
YAK	**Yakutsk**	90.74	340	*e*P		P		18 35 58.5	+3.9		
YAK					pmax	pmax					
	comp=Z,40nm,1.0s										
YAK					pmax	pmax					
	comp=N,10.0nm,0.9s										
YAK					pmax	pmax					
	comp=E,16nm,0.9s										
EGAK	**Eagle**	91.39	17	*e*P		P		18 35 57.8	+0.2		
	comp=E,7.1nm,1.0s										
TX31	**Lajitas Ar. Si**	91.53	59	*e*P		P		18 36 03.3	+4.1		
TXAR	**Lajitas Array**	91.53	59	P		P		18 36 00.5	+1.3		
	comp=E,1.4nm,1.1s,baz=224,slow=3.5,SNR=6.5										
ULN	**Ulaanbaatar**	92.50	321	*i* P		P		18 36 01.2	-2.1		
ULN					pmax	pmax					
	comp=Z,3.0nm,1.1s										
PD31	**Pinedale Array**	92.75	45	*e*P		P		18 36 05.3	+0.6		
	comp=Z,14nm,1.8s										
PDAR	**Pinedale Array**	92.75	45	P		P		18 36 06.6	+1.8		
	comp=Z,0.1nm,0.5s,baz=238,slow=6.3,SNR=1.7										
SONA0	**Songino Array**	92.88	321	*e*P		P		18 36 04.7	-0.3		
SONM	**Songino Array**	92.88	321	P		P		18 36 04.7	-0.3		
	comp=Z,3.0nm,1.1s,baz=119,slow=2.9,SNR=6.7										
GTA	**Gaotai**	93.45	311	*e*P		P		18 36 09.6	+1.7		
GTA				pP		pP		18 36 16.3	-1.9		
GTA				sP		pwP		18 36 19.8	-1.8		
EGMT	**Eagleton**	94.93	40	*e*pP		pP		18 36 23.5	-1.2		
TIXI	**Tiksi**	97.95	346	*i* P		P		18 36 26.9	-0.5		
TIXI					pmax	pmax					
	comp=Z,1.0nm,1.1s										
TIXI	**Tiksi**	97.95	346	P		Pdif		18 36 27.6	+0.1		
	comp=Z,0.5nm,0.2s,baz=280,slow=22,SNR=7.3										
YKA	**Yellowknife Ar**	99.05	26	P		Pdif		18 36 33.3	+0.7		
	comp=Z,0.3nm,0.8s,baz=250,slow=4.2,SNR=3.8										
MK32	**Makanchi Array**	107.90	314	*e*Pdif		Pdif		18 37 11.8	-0.6		
MK32				*e*PP		PP		18 41 48.1	+6.2		
MKAR	**Makanchi Array**	107.90	314	Pdiff		Pdif		18 37 11.8	-0.6		
	comp=Z,0.1nm,0.7s,baz=98,slow=6.3,SNR=2.4										
MKAR					PP	PP		18 41 48.1	+6.2		
	comp=Z,1.1nm,1.2s,baz=99,slow=5.4,SNR=4.6										
ARU	**Arti**	122.70	324	*e*PKPdf		PKPdf		18 41 45.8	-1.7		
ARU	**Arti**	122.70	324	*i* PKIKP		PKPdf		18 41 46.3	-1.2		
ARU								18 48 55.3			
APA	**Apatity**	128.00	343	*i* PKIKP		PKiKP		18 41 59.7	+1.8		
APA					pmax	pmax					
	comp=Z,5.0nm,0.9s										
APA					MLR	MLR					
	comp=Z,800nm,25.0s										
ARA0	**ARCESS Array S**	128.37	348	*e*PKPdf		PKiKP		18 41 58.6	0.0		
ARCES	**ARCESS Array B**	128.37	348	PKP		PKiKP		18 41 58.6	0.0		
	comp=Z,2.0nm,0.6s,baz=12,slow=2.2,SNR=5.2										
OBN	**Obninsk**	134.66	329⇑	*e*PKIKP		PKPdf		18 42 10.5	+0.3		
OBN				*e*				18 49 18.4			
OBN					pmax	pmax					
	comp=Z,6.0nm,1.0s										
AKASG	**Malin Array Be**	140.84	327	PKP		PKPdf		18 42 22.0	+0.2		
	comp=Z,0.8nm,0.7s,baz=42,slow=1.5,SNR=3.2										
BR101	**Keskin Array S**	143.35	309	*e*PKPdf		PKPdf		18 42 25.8	-1.0		
BRTR	**Keskin Array B**	143.35	309	PKP		PKPdf		18 42 25.8	-1.0		
	comp=Z,1.8nm,1.0s,baz=7.8,slow=2.7,SNR=5.8										
GULN	**MERSIN_Gulnar**	144.48	303	*i* P		PKPab		18 42 26.2	-0.9		
KWP	**Kalwaria Pacla**	144.70	330	*e*PKP		PKiKP		18 42 45.7	+13		
TESR	**Tescani**	144.71	323⇑	*i*P		PKPbc		18 42 27.7	0.0		
BIZ	**Bicaz**	144.76	324⇑	*i*P		PKPdf		18 42 28.5	-0.4		
BURAR	**Bucovina Array**	144.81	326⇑	*i*P		PKPdf		18 42 30.0	+0.9		
BURAR	**Bucovina Array**	144.81	326	⇑PKIKP		PKPdf		18 42 30.1	+1.0		
ERMK	**Ermenek**	144.84	304	*i* P		PKPab		18 42 28.7	0.0		
KDHN	**Kadinhani**	144.87	308	*i* P		PKPab		18 42 27.9	-0.6		
CSS	**Mathiatis**	144.95	301	*e*PKPbc		PKPab		18 42 27.5	-1.4		
VRI	**Vrincioaia**	145.04	322⇑	*i*P		PKiKP		18 42 36.3	+3.0		
VRI	**Vrincioaia**	145.04	322	⇑PKIKP		PKiKP		18 42 36.3	+3.0		
OZUR		145.44	323⇑	*i*P		PKiKP		18 42 45.9	+12		
UZH	**Uzhgorod**	145.60	329	*e*PKIKP		PKPdf		18 42 29.8	-0.4		
UZH				*e*				18 42 39.3			
BMR	**Baia Mare**	145.66	327⇑	*i*P		PKiKP		18 42 47.2	+13		
BMR	**Baia Mare**	145.66	327	⇑PKIKP		PKiKP		18 42 47.2	+13		
MLR	**Muntele Rosu**	145.71	322⇑	*i*P		PKiKP		18 42 37.2	+2.4		
MLR	**Muntele Rosu**	145.71	322	⇑PKIKP		PKiKP		18 42 37.2	+2.4		
TRPA	**Tarpa**	145.83	329⇑	*i*P		PKPdf		18 42 30.1	-0.5		
CJR	**Cluj-Napoca**	146.24	326	⇓*i*P		PKiKP		18 42 36.0	+0.3		
CJR	**Cluj-Napoca**	146.24	326	⇓PKP2		PKiKP		18 42 36.0	+0.3		
VOIR		146.25	323⇑	*i*P		PKiKP		18 42 36.0	+0.2		
VOIR		146.25	323	⇑PKP2		PKiKP		18 42 36.1	+0.3		
KZIL	**AFYON_Kizioren**	146.41	308	*i* P		PKPdf		18 42 32.2	0.0		
LANS	**Liptovska Anna**	146.50	333	*e*PKP2		PKPab		18 42 33.8	-0.4		
LANS	**Liptovska Anna**	146.50	333	*e*PKP		PKPab		18 42 33.8	-0.4		
ARR	**Arges**	146.52	323⇑	*i*P		PKiKP		18 42 35.9	-0.5		
DRGR		146.65	327⇓	*i*P		PKPbc		18 42 33.3	-0.5		
DRGR		146.65	327	⇓PKP2		PKPbc		18 42 33.3	-0.5		
KORT	**Korkueli**	146.69	306	*i* P		PKPbc		18 42 33.7	-0.6		
UPC	**Upice**	146.79	337	*e*PKP		PKiKP		18 42 38.6	+1.9		
UPC	**Upice**	146.79	337	*e*PKP2		PKiKP		18 42 38.6	+1.9		
MORC	**Moravsky Berou**	146.81	335	*e*PKP		PKPab		18 42 36.0	+0.6		
DPC	**Dobruska-Polom**	146.81	337	*e*PKP		PKiKP		18 42 36.8	0.0		
DPC				*ep*PKP		pPKPdf		18 42 43.0	-0.1		
DPC	**Dobruska-Polom**	146.81	337	*e*PKP2		PKiKP		18 42 36.8	0.0		
KRLC	**Kraliky**	146.86	336	*e*PKP		PKiKP		18 42 42.8	+5.9		
KRLC				*ep*PKP		sPKPab		18 42 49.4	-0.3		
KRLC	**Kraliky**	146.86	336	*e*PKP2		PKiKP		18 42 42.8	+5.9		
LOT	**Lotru**	146.95	324⇑	*i*P		PKPab		18 42 35.9	-0.3		
CLL	**Collm**	147.11	341	*e*PKPdf		PKPdf		18 42 32.8	+0.1		
CLL	**Collm**	147.11	341	*i* PKPbc		PKPbc		18 42 34.9	0.0		
CLL				*i* PKiKP		PKiKP		18 42 38.3	+1.0		
	comp=Z,21nm,1.5s										
CLL				*i* pPKPbc		pPKPdf		18 42 43.0	-0.5		
	comp=Z,50nm,1.9s										
CLL	**Collm**	147.11	341	*i* PKP2		PKPbc		18 42 34.9	0.0		
BRG

cutoff=50s. Triangular moment-rate function

ISC 19 18:36:55.4±0.5, 16°87S±0'04×171°45W±0'04, h15km±2km, h15km:pP-P,n958,σ1s51/901,mb5.4/285,MS5.0/150, 76C-11D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.63**	**147**	P	**Pn**	**18 37 36.5**	**-0.9**
	baz=2.7,SNR=408						
NIUE	**Niue**	**2.63**	**147**	*e*Pn	**Pn**	**18 37 36.4**	**-0.9**
MSVF	**Nonsavu**	**10.06**	**264**	*e*Pn	**Pn**	**18 39 21.3**	**+1.7**
MSVF	**Nonsavu**	**10.06**	**264**	*c i*P	**Pn**	**18 39 22.8**	**+3.2**
RAR	**Rarotonga**	**11.86**	**113**	*e*Pn	**Pn**	**18 39 41.4**	**-2.7**
RAR				*e*Sn	Sn	18 41 43.8	-12
RAR	**Rarotonga**	**11.86**	**113**	*e*P	**Pn**	**18 39 41.4**	**-2.7**
RAR	**Rarotonga**	**11.86**	**113**	Pn	**Pn**	**18 39 41.0**	**-3.1**
	20nm,0.3s,baz=266,slow=8.0,SNR=29						
RAR				Sn	Sn	18 41 43.8	-12
	2.6nm,0.3s,baz=284,slow=18,SNR=1.9						
RAR				LR	LR	18 43 43.6	
	comp=Z,3μm,19.5s,baz=264,slow=34						
RIZ	**Raoul Island**	**13.67**	**205**	P	**Pn**	**18 40 09.1**	**+0.2**
RAO	**Raoul Island**	**13.68**	**205**	*e*Pn	**Pn**	**18 40 08.4**	**-0.5**
RAO	**Raoul Island**	**13.68**	**205**	*e*P	**Pn**	**18 40 08.4**	**-0.5**
RAO	**Raoul Island**	**13.68**	**205**	Pn	**Pn**	**18 40 09.3**	**+0.4**
	54nm,0.3s,baz=72,slow=22,SNR=6.1						
RAO				LR	LR	18 47 49.6	
	comp=Z,836nm,18.9s,baz=24,slow=47						
GLKZ	**Green Lake**	**13.69**	**205**	P	**Pn**	**18 40 08.7**	**-0.3**
GLKZ				S	**Sn**	**18 42 33.4**	**-7.4**
KNTN	**Kanton**	**14.01**	**359**	*e*Pn	Pn	18 40 05.4	-8.2
KNTN				*e*Sn	Sn	18 42 23.5	-25
MARNC	**Mare, Loyalty**	**19.91**	**253**	*e*P	**P**	**18 41 23.9**	**-2.7**
	792nm,0.9s						
PINNC	**Pines Island,**	**20.66**	**251**	*e*P	**P**	**18 41 32.6**	**-2.1**
	703nm,1.5s						
PAE	**Paea**	**20.90**	**95**	*e*P	Pn	18 41 39.3	-0.7
	54nm,1.5s						
PPT2	**Papeete2**	**20.91**	**95**	*e*P	Pn	18 41 39.8	-0.3
	376nm,1.7s						
PPT2				*e*LQ	LQ	18 45 44.4	
	5μm,26.8s						
PPT2				*e*LR	LR	18 46 37.7	
	comp=Z,1μm,22.5s						
PPT	**Papeete**	**20.91**	**95**	*e*P	**P**	**18 41 38.6**	**+1.1**
PPT	**Papeete**	**20.91**	**95**	*e*P	**P**	**18 41 38.6**	**+1.1**
PPT	**Papeete**	**20.91**	**95**	P	Pn	18 41 39.2	-0.9
	51nm,1.0s,baz=278,slow=9.6,SNR=6.9						
PPT				LR	LR	18 48 00.3	
	comp=Z,2μm,18.7s,baz=250,slow=32						
TIAR	**Tiarei**	**21.13**	**95**	*e*P	**P**	**18 41 42.2**	**+2.3**
	86nm,1.2s						
TVO	**Taravao**	**21.21**	**96**	*e*P	**P**	**18 41 43.0**	**+2.1**
	62nm,1.0s						
DZM	**Mont Dzumac**	**21.46**	**253**	*e*P	**P**	**18 41 44.7**	**+1.1**
	404nm,1.4s						
DZM				*e*LR	LR	18 46 53.5	
	comp=Z,3μm,26.6s						
DZM	**Mont Dzumac**	**21.46**	**253**	*e*P	**P**	**18 41 42.6**	**-1.0**
	260nm,1.4s						
DZM	**Mont Dzumac**	**21.46**	**253**	P	**P**	**18 41 43.3**	**-0.3**
	27nm,0.6s,baz=64,slow=16,SNR=10						
DZM				LR	LR	18 48 50.5	
	comp=Z,3μm,18.2s,baz=86,slow=33						
ONTNC	**Ouen Toro**	**21.49**	**252**	*e*P	**P**	**18 41 42.5**	**-1.3**
	172nm,1.1s						
TBI	**Tubuai**	**21.62**	**111**	*e*P	**P**	**18 41 47.6**	**+2.5**
	527nm,1.3s						
TBI				*e*LQ	LQ	18 46 04.0	
	4μm,25.3s						
TBI				*e*LR	LR	18 46 37.0	
	comp=Z,4μm,26.8s						
TBI	**Tubuai**	**21.62**	**111**	*e*T	T	19 04 00.0	
	7.8nm,0.3s						
MXZ	**Matakaoa Point**	**22.50**	**202**	*e*P	**P**	**18 41 55.0**	**+0.6**
	134nm,1.3s						
MXZ	**Matakaoa Point**	**22.50**	**202**	P	**P**	**18 42 00.3**	**+5.9**
OUZ	**Omahuta**	**22.62**	**213**	*e*P	**P**	**18 41 55.9**	**+0.1**
	201nm,1.1s						
OUZ	**Omahuta**	**22.62**	**213**	P	**P**	**18 41 59.1**	**+3.3**
WMGZ	**Waiomatatini S**	**22.69**	**201**	P	**P**	**18 42 01.5**	**+5.0**
PMOR	**Pomariorio Ree**	**22.73**	**89**	*e*P	**P**	**18 41 57.6**	**+0.5**
	342nm,1.2s						
WCZ	**Waipu Caves**	**22.80**	**211**	P	**P**	**18 42 01.2**	**+3.5**
KUZ	**Kuaotunu**	**22.82**	**207**	P	**P**	**18 42 00.7**	**+2.9**
HAZ	**Te Kaha**	**22.86**	**202**	P	**P**	**18 42 03.1**	**+4.9**
PKGZ	**Pakihiroa**	**22.87**	**202**	P	**P**	**18 42 02.2**	**+3.8**
VAH	**Vaihoa**	**22.95**	**89**	*e*P	**P**	**18 42 00.0**	**+0.6**
	509nm,1.7s						
PUZ	**Puketiti**	**22.97**	**201**	P	**P**	**18 42 04.2**	**+4.7**
RUGZ	**Raukumara Rang**	**23.08**	**202**	P	**P**	**18 42 06.3**	**+5.6**
WIAZ	**Waiheke Island**	**23.12**	**208**	P	**P**	**18 42 03.6**	**+2.7**
TWGZ	**Tauwhareparae**	**23.16**	**202**	P	**P**	**18 42 06.3**	**+4.9**
MBAZ	**Motutapu North**	**23.21**	**209**	P	**P**	**18 42 06.5**	**+4.7**
CNGZ	**Carnagh Statio**	**23.36**	**201**	P	**P**	**18 42 08.0**	**+4.6**
MWZ	**Matawai**	**23.46**	**202**	P	**P**	**18 42 08.2**	**+3.8**
URZ	**Urewera**	**23.55**	**203**	*e*P	**P**	**18 42 06.8**	**+1.6**
	133nm,0.9s						
URZ				*e*Sn	**S**	**18 46 25.0**	**+6.2**
URZ	**Urewera**	**23.55**	**203**	P	**P**	**18 42 07.2**	**+1.9**
	41nm,0.8s,baz=9.4,slow=5.5,SNR=14						
URZ	**Urewera**	**23.55**	**203**	P	**P**	**18 42 08.2**	**+3.0**
KMRZ	**Kaimai**	**23.65**	**206**	P	P	18 42 14.5	+8.2
RIGZ	**Rimuhau**	**23.71**	**201**	P	**P**	**18 42 11.4**	**+4.5**
TOZ	**Tahuroa Road**	**23.74**	**206**	P	**P**	**18 42 13.9**	**+6.8**
TARA	**Tarawa**	**23.78**	**318**	*e*P	**P**	**18 42 05.0**	**-2.7**
	236nm,1.1s						
TARA				LR	LR		
	comp=Z,250nm,20.0s						
RRRZ	**Republican Roa**	**23.85**	**204**	P	P	18 42 20.1	+12
RTZ	**Ruatahuna**	**23.91**	**203**	P	**P**	**18 42 13.5**	**+4.7**
SNGZ	**Shannon Statio**	**23.93**	**202**	P	**P**	**18 42 12.2**	**+3.3**
KNZ	**Kokohu**	**24.03**	**201**	P	**P**	**18 42 13.7**	**+3.9**
MHGZ	**Mahia Peninsul**	**24.06**	**201**	P	**P**	**18 42 15.1**	**+4.9**
RAHZ	**Arahi**	**24.14**	**202**	P	**P**	**18 42 15.2**	**+4.3**
NMHZ	**Naumai**	**24.40**	**203**	P	**P**	**18 42 17.6**	**+4.3**
BKZ	**Black Stump Fm**	**24.58**	**203**	*e*P	**P**	**18 42 15.4**	**+0.4**
	comp=Z,56nm,0.8s						
BKZ	**Black Stump Fm**	**24.58**	**203**	P	**P**	**18 42 16.9**	**+1.9**
HIZ	**Hauiti**	**24.67**	**206**	*e*P	**P**	**18 42 14.2**	**-1.6**
	comp=Z,264nm,1.1s						
HIZ	**Hauiti**	**24.67**	**206**	P	**P**	**18 42 17.8**	**+2.1**
MCHZ	**McNeill Hill**	**24.75**	**202**	P	**P**	**18 42 18.9**	**+2.5**
KWHZ	**Kaweka Forest**	**24.83**	**203**	P	**P**	**18 42 19.5**	**+2.2**
WTVZ	**West Tongariro**	**24.88**	**204**	P	**P**	**18 42 19.8**	**+2.0**
TWVZ	**Taurewa**	**24.91**	**205**	P	P	18 42 27.8	+10
TUVZ	**Tukino**	**24.99**	**204**	P	P	18 42 26.4	+7.6
KAHZ	**Kahuranaki**	**24.99**	**202**	P	**P**	**18 42 25.7**	**+7.0**
FWVZ	**Far West T-bar**	**25.02**	**204**	P	P	18 42 29.1	+10
BHHZ	**Black Hill Sta**	**25.02**	**203**	P	**P**	**18 42 20.4**	**+1.4**
KRHZ	**Kereru**	**25.04**	**203**	P	**P**	**18 42 21.9**	**+2.8**
PXZ	**Pawanui**	**25.21**	**201**	P	**P**	**18 42 25.2**	**+4.6**
VRZ	**Vera Road**	**25.23**	**206**	P	P	18 42 31.1	+10
PNHZ	**Pukenui**	**25.34**	**203**	P	**P**	**18 42 26.8**	**+5.0**
PKE	**Pukeiti**	**25.61**	**207**	P	P	18 42 34.9	+11
BFZ	**Birch Farm**	**26.00**	**202**	*e*P	**P**	**18 42 24.2**	**-3.6**
	comp=Z,105nm,0.8s						
SNZO	**South Karori**	**27.12**	**203**	*e*P	**P**	**18 42 37.5**	**-0.3**
	comp=Z,146nm,1.1s						
SNZO				LR	LR		
	comp=Z,2μm,20.0s						
THZ	**Tophouse**	**28.21**	**205**	*e*P	**P**	**18 42 45.5**	**-2.1**
	comp=Z,45nm,0.8s						
KHZ	**Kahutara**	**28.51**	**204**	*e*P	**P**	**18 42 49.4**	**-0.8**
	comp=Z,42nm,0.7s						
HNR	**Honiara**	**28.79**	**281**	*e*P	**P**	18 42 47.6	-5.4
	comp=Z,111nm,1.0s						
HNR	**Honiara**	**28.79**	**281**	P	**P**	**18 42 55.5**	**+2.5**
	comp=Z,47nm,0.7s,baz=212,slow=6.5,SNR=6.2						
HNR				LR	LR	18 53 03.4	
	comp=Z,4μm,18.9s,baz=146,slow=34						
LTZ	**Lake Taylor**	**29.32**	**205**	*e*P	**P**	**18 42 57.2**	**-0.3**
	comp=Z,119nm,0.7s						
CRLZ	**Canterbury Las**	**29.85**	**204**	*e*P	**P**	**18 43 03.0**	**+0.9**
	comp=Z,83nm,1.1s						
OXZ	**Oxford**	**29.87**	**205**	*e*P	**P**	**18 43 01.6**	**-0.7**
	comp=Z,163nm,0.9s						
MQZ	**McQueen's Vall**	**29.95**	**203**	*e*P	**P**	**18 43 01.7**	**-1.3**
	comp=Z,55nm,1.1s						
RPZ	**Rata Peaks**	**30.59**	**205**	*e*P	**P**	**18 43 07.6**	**-1.1**
	comp=Z,123nm,1.0s						
RPZ				*e*pwP	**pwP**	**18 43 18.6**	**-0.1**
RPZ	**Rata Peaks**	**30.59**	**205**	P	P	18 43 18.6	+10
	comp=Z,58nm,0.7s,baz=305,slow=1.2,SNR=5.8						
RPZ				LR	LR	18 55 15.9	
	comp=Z,1μm,21.8s,baz=42,slow=36						
FOZ	**Fox Glacier**	**30.96**	**207**	*e*P	**P**	**18 43 11.8**	**-0.1**
	comp=Z,101nm,1.0s						
LBZ	**Lake Benmore**	**31.50**	**206**	*e*P	**P**	**18 43 15.7**	**-1.0**
	comp=Z,85nm,1.4s						
TAOE	**Nuku Hiva Isla**	**31.51**	**79**	*e*T	T	19 15 50.0	
	comp=Z,29nm,0.2s						
ODZ	**Otahua Downs**	**31.85**	**204**	*e*P	**P**	**18 43 19.8**	**0.0**
	comp=Z,33nm,0.9s						
KWAJ	**Kwajalein Atol**	**32.85**	**319**	*e*P	**P**	**18 43 26.9**	**-2.0**
	comp=Z,150nm,0.8s						
KWAJ	**Kwajalein Atol**	**32.85**	**319**	*e*P	**P**	**18 43 26.9**	**-2.0**
KWAJ				pmax	pmax		
	comp=Z,151nm,0.8s						
MLZ	**Mavora Lakes**	**33.16**	**207**	*e*P	**P**	**18 43 29.9**	**-1.4**
	comp=Z,52nm,1.1s						
JOHN	**Johnston Islan**	**33.45**	**3**	PFAKE			
JOHN				LR	LR	18 43 50.0	+16
	comp=Z,212nm,20.0s						
WHZ	**Wether Hill Ro**	**33.65**	**206**	*e*P	**P**	**18 43 35.3**	**-0.3**
	comp=Z,48nm,0.8s						
RKT	**Rikitea**	**34.77**	**106**	*e*T	T	19 20 01.3	
	comp=Z,3.0nm,0.3s						
EIDS	**Eidsvold**	**35.86**	**250**	P	**P**	**18 43 54.8**	**0.0**
	baz=36,SNR=4.5						
EIDS	**Eidsvold**	**35.86**	**250**	*e*P	**P**	**18 43 53.0**	**-1.9**
	comp=Z,84nm,1.8s						
ARMA	**Armidale**	**36.23**	**241**	P	**P**	**18 43 59.3**	**+1.1**
	baz=36,SNR=43						
ARMA	**Armidale**	**36.23**	**241**	*e*P	**P**	**18 43 58.9**	**+0.7**
	comp=Z,33nm,0.7s						
RMQ	**Roma**	**38.06**	**248**	P	**P**	**18 44 15.3**	**+1.7**
	baz=38,SNR=8.2						
PATS	**Pohnpei**	**38.06**	**306**	*e*P	**P**	**18 44 12.7**	**-1.0**
	comp=Z,384nm,1.8s						
KHU	**Kahuku**	**39.13**	**24**	*e*P	**P**	**18 44 22.6**	**-0.2**
	comp=Z,204nm,1.5s						
KHU	**Kahuku**	**39.13**	**24**	*e*P	**P**	**18 44 22.6**	**-0.2**
KHU				pmax	pmax		
	comp=Z,204nm,1.5s						
MWH	**Moku'aweowe**	**39.35**	**24**	*e*P	**P**	**18 44 26.6**	**+1.6**
	comp=Z,78nm,1.2s						
CNB	**Canberra Magne**	**39.38**	**235**	P	**P**	**18 44 26.5**	**+1.8**
	baz=40,SNR=39						
HMH	**Humu'ula Sheep**	**39.50**	**24**	*e*P	**P**	**18 44 29.5**	**+3.5**
	comp=Z,262nm,1.5s						
POHA	**Pohakuloa**	**39.62**	**24**	*e*P	**P**	**18 44 26.4**	**-0.5**
	comp=Z,54nm,0.8s						
CAN	**Canberra**	**39.66**	**235**	*e*P	**P**	**18 44 28.2**	**+1.2**
	comp=Z,64nm,1.1s						
CAN	**Canberra**	**39.66**	**235**	*e*P	**P**	**18 44 28.2**	**+1.2**
CAN				pmax	pmax		
	comp=Z,65nm,1.1s						
LPH	**Laupahoehoe**	**39.89**	**24**	*e*P	**P**	**18 44 25.0**	**-3.8**
MILA	**Mila**	**40.09**	**232**	P	**P**	**18 44 32.0**	**+1.5**
	baz=40,SNR=6.3						
CTA	**Charters Tower**	**40.16**	**259**	P	**P**	**18 44 30.6**	**-0.8**
	comp=Z,13nm,0.7s,baz=96,slow=12,SNR=14						
CTAO	**Charters Tower**	**40.16**	**259**	*e*P	**P**	**18 44 30.1**	**-1.2**
	comp=Z,23nm,1.0s						
CTAO				LR	LR		
	comp=Z,1μm,19.0s						
CTAO	**Charters Tower**	**40.16**	**259**	*e*P	**P**	**18 44 30.1**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,23nm,1.0s						
CTAO				MLR	MLR		
	comp=Z,1μm,19.0s						
HON	**Honolulu**	**40.19**	**20**	*e*P	**P**	**18 44 34.2**	**+2.9**
	comp=Z,210nm,1.1s						
HON	**Honolulu**	**40.19**	**20**	*e*P	**P**	**18 44 34.2**	**+2.9**
HON				pmax	pmax		
	comp=Z,210nm,1.1s						
KIP	**Kipapa**	**40.28**	**20**	*e*P	**P**	**18 44 34.5**	**+2.5**
	comp=Z,284nm,1.0s						
KIP	**Kipapa**	**40.28**	**20**	*c e*P	**P**	**18 44 33.1**	**+1.0**
KIP				pmax	pmax		
	comp=Z,253nm,1.0s						
KEKH	**Kekaha**	**40.29**	**17**	*e*P	**P**	**18 44 34.8**	**+2.6**
	comp=Z,194nm,1.0s						
KHLH	**Kahului Airpor**	**40.33**	**22**	*e*P	**P**	**18 44 34.6**	**+2.1**
	comp=Z,164nm,1.4s						
OPA	**Opana**	**40.52**	**19**	*e*P	**P**	**18 44 35.9**	**+1.8**
	comp=Z,110nm,1.0s						
OPA	**Opana**	**40.52**	**19**	*e*P	**P**	**18 44 35.9**	**+1.8**
OPA				pmax	pmax		
	comp=Z,110nm,1.0s						
CMSA	**Cobar Meteorol**	**41.45**	**241**	P	**P**	**18 44 42.1**	**+0.3**
	baz=42,SNR=59						
MTSU	**Mount Surprise**	**42.12**	**261**	P	**P**	**18 44 46.7**	**-0.8**
	baz=42,SNR=14						
TOO	**Toolangi**	**43.02**	**233**	P	**P**	**18 44 56.0**	**+1.5**
	baz=43,SNR=21						
TOO	**Toolangi**	**43.02**	**233**	*e*P	**P**	**18 44 55.0**	**+0.4**
	comp=Z,81nm,1.1s						
TOO	**Toolangi**	**43.02**	**233**	*e*P	**P**	**18 44 55.0**	**+0.4**
TOO				pmax	pmax		
	comp=Z,81nm,1.1s						
MANU	**Manus Island**	**43.08**	**286**	*e*P	**P**	**18 44 55.0**	**-0.3**
	comp=Z,168nm,1.8s						
MOO	**Moorlands**	**43.45**	**225**	P	**P**	**18 44 59.7**	**+1.8**
	baz=44,SNR=3.1						
TAU	**Tasmania Unive**	**43.55**	**225**	*e*P	**P**	**18 44 58.2**	**-0.5**
	comp=Z,62nm,1.3s						
TAU				LR	LR		
	comp=Z,1μm,20.0s						
TAU	**Tasmania Unive**	**43.55**	**225**	*e*P	**P**	**18 44 58.2**	**-0.5**
TAU				pmax	pmax		
	comp=Z,62nm,1.3s						
TAU				MLR	MLR		
	comp=Z,1μm,20.0s						
COEN	**Coen**	**43.77**	**267**	P	**P**	**18 45 00.7**	**-0.1**
	baz=44,SNR=32						
COEN	**Coen**	**43.77**	**267**	*e*P	**P**	**18 44 59.6**	**-1.2**
	comp=Z,59nm,0.9s						
MCQ	**Macquarie Isla**	**43.95**	**205**	*e*P	**P**	**18 45 02.3**	**+0.7**
	comp=Z,277nm,1.5s						
MCQ	**Macquarie Isla**	**43.95**	**205**	*e*P	**P**	**18 45 02.3**	**+0.7**
MCQ				pmax	pmax		
	comp=Z,277nm,1.5s						
STKA	**Stephens Creek**	**44.95**	**242**	P	**P**	**18 45 11.1**	**+1.0**
	baz=45,SNR=20						
STKA	**Stephens Creek**	**44.95**	**242**	*e*P	**P**	**18 45 10.8**	**+0.7**
	comp=Z,27nm,1.2s						
STKA	**Stephens Creek**	**44.95**	**242**	*e*P	**P**	**18 45 10.8**	**+0.7**
STKA				pmax	pmax		
	comp=Z,27nm,1.2s						
STKA	**Stephens Creek**	**44.95**	**242**	P	**P**	**18 45 10.7**	**+0.6**
	comp=Z,46nm,0.9s,baz=80,slow=7.4,SNR=38						
STKA				LR	LR	19 01 54.0	
	comp=Z,736nm,18.9s,baz=76,slow=33						
ARPS	**Mount Arapiles**	**45.64**	**235**	P	**P**	**18 45 16.6**	**+1.1**
	baz=46,SNR=6.6						
QIS	**Mount Isa**	**46.37**	**257**	P	**P**	**18 45 22.7**	**+1.2**
	baz=47,SNR=4.8						
HTT	**Hallett**	**47.40**	**240**	P	**P**	**18 45 30.1**	**+0.7**
	baz=48,SNR=30						
JAY	**Jayapura**	**49.11**	**282**	P	**P**	**18 45 43.5**	**+0.6**
JAY	**Jayapura**	**49.11**	**282**	P	**P**	**18 45 42.7**	**-0.2**
	comp=Z,125nm,0.9s,baz=95,slow=2.5,SNR=33						
JAY				LR	LR	19 05 21.5	
	comp=Z,625nm,19.4s,baz=104,slow=35						
GENI	**Genyem**	**49.59**	**281**	P	**P**	**18 45 47.2**	**+0.7**
BBOO	**Buckleboo**	**49.72**	**241**	P	**P**	**18 45 47.6**	**+0.4**
	baz=50,SNR=30						
BBOO	**Buckleboo**	**49.72**	**241**	*e*P	**P**	**18 45 47.2**	**0.0**
	comp=Z,137nm,0.9s						
WB2	**Warramunga Arr**	**51.33**	**258**	*e*P	**P**	**18 45 57.9**	**-1.7**
WRAB	**Tennant Creek**	**51.34**	**258**	*e*P	**P**	**18 45 58.2**	**-1.4**
	comp=Z,224nm,1.8s						
WRAB				LR	LR		
	comp=Z,1μm,19.0s						
WRAB	**Tennant Creek**	**51.34**	**258**	*d i*P	**P**	**18 45 58.9**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,66nm,1.3s						
WR1	**Warramunga Arr**	**51.34**	**258**	*e*P	**P**	**18 45 58.7**	**-1.0**
	comp=Z,59nm,0.9s						
WR1				*e*PcP	**PcP**	**18 47 15.1**	**+0.5**
WRA	**Warramunga Arr**	**51.34**	**258**	P	**P**	**18 45 58.7**	**-1.0**
	comp=Z,27nm,1.0s,baz=96,slow=7.1,SNR=160						
WRA				PcP	**PcP**	**18 47 15.1**	**+0.5**
	comp=Z,5.4nm,0.8s,baz=95,slow=3.5,SNR=2.4						
WRA				LR	LR	19 06 54.8	
	comp=Z,1μm,18.2s,baz=65,slow=35						
AS01	**Alice Springs**	**51.41**	**253**	*e*P	**P**	**18 45 60.0**	**-0.2**
AS31	**Alice Springs**	**51.45**	**253**	*e*P	**P**	**18 46 00.0**	**-0.5**
	comp=Z,39nm,0.7s						
ASAR	**Alice Springs**	**51.45**	**253**	P	**P**	**18 46 00.7**	**+0.2**
	comp=Z,112nm,0.8s,baz=85,slow=8.5,SNR=465						
ASAR				LR	LR	19 07 19.8	
	comp=Z,864nm,18.9s,baz=90,slow=36						
GUMO	**Guam**	**52.70**	**302**	LR	LR	19 06 45.3	
	comp=Z,272nm,19.2s,baz=127,slow=34						
KDU	**Kakadu**	**54.23**	**266**	P	**P**	**18 46 21.6**	**+0.5**
	baz=54,SNR=11						
MTN	**Manton Dam**	**55.48**	**266**	P	**P**	**18 46 30.6**	**+0.4**
	baz=56,SNR=5.3						
MTN	**Manton Dam**	**55.48**	**266**	*e*P	**P**	**18 46 29.8**	**-0.3**
	comp=Z,24nm,0.8s						
FORT	**Forrest**	**56.44**	**244**	P	**P**	**18 46 37.8**	**+1.0**
	baz=57,SNR=8.2						
FORT	**Forrest**	**56.44**	**244**	*e*P	**P**	**18 46 36.5**	**-0.3**
	comp=Z,77nm,0.8s						
WRKA	**Warakurna**	**56.47**	**251**	P	**P**	**18 46 36.8**	**-0.4**
	baz=57,SNR=97						
FAKI	**Fak Fak**	**56.96**	**278**	*e*P	**P**	**18 46 41.0**	**+0.3**
	comp=Z,80nm,1.6s						
KNRA	**Kununurra**	**57.20**	**262**	P	**P**	**18 46 42.0**	**-0.5**
	baz=57,SNR=8.5						
SIJI	**Sorong**	**58.54**	**280**	P	**P**	**18 46 51.9**	**-0.1**
	comp=Z,67nm,0.7s,baz=101,slow=5.6,SNR=54						
PALU	**Palau**	**58.62**	**290**	P	**P**	**18 46 53.0**	**+0.6**
	baz=59,SNR=4.5						
FITZ	**Fitzroy Crossi**	**59.74**	**259**	P	**P**	**18 47 01.7**	**+1.5**
	baz=60,SNR=21						
FITZ	**Fitzroy Crossi**	**59.74**	**259**	*e*P	**P**	**18 47 00.3**	**+0.1**
	comp=Z,27nm,1.1s						
FITZ	**Fitzroy Crossi**	**59.74**	**259**	LR	LR	19 12 30.2	
	comp=Z,834nm,18.1s,baz=104,slow=36						
SBA	**Scott Base**	**61.95**	**185**	*e*P	**P**	**18 47 16.3**	**+2.1**
	comp=Z,59nm,1.0s						
SBA				LR	LR		
	comp=Z,1μm,19.0s						
SBA	**Scott Base**	**61.95**	**185**	*e*P	**P**	**18 47 16.3**	**+2.1**
SBA				pmax	pmax		
	comp=Z,59nm,1.0s						
SBA				MLR	MLR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**62.12**	**186**	*e*P	**P**	**18 47 16.3**	**+1.0**
	comp=Z,34nm,1.1s						
VNDA	**Vanda**	**62.12**	**186**	*e*P	**P**	**18 47 16.3**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,34nm,1.1s						
VNDA	**Vanda**	**62.12**	**186**	P	**P**	**18 47 18.2**	**+2.9**
	comp=Z,18nm,0.9s,baz=7.2,slow=6.3,SNR=34						
VNDA				LR	LR	19 10 43.9	
	comp=Z,526nm,18.6s,baz=17,slow=32						
SOEI	**Soe**	**62.73**	**268**	*e*P	**P**	**18 47 21.4**	**+0.8**
	comp=Z,167nm,0.9s						
SOEI	**Soe**	**62.73**	**268**	P	**P**	**18 47 21.6**	**+1.0**
TNTI	**Ternate**	**62.76**	**280**	*e*P	**P**	**18 47 19.3**	**-1.4**
	comp=Z,51nm,0.9s						
BATI	**Baumata**	**63.20**	**267**	P	**P**	**18 47 24.0**	**+0.4**
	comp=Z,26nm,0.9s,baz=191,slow=1.9,SNR=10						
MMRI	**Maumere**	**64.95**	**268**	*e*P	**P**	**18 47 34.9**	**-0.1**
	comp=Z,43nm,0.8s						
MEEK	**Meekatharra**	**64.99**	**248**	P	**P**	**18 47 34.8**	**-0.4**
	baz=65,SNR=7.6						
KLBR	**Kellerberrin**	**65.22**	**243**	P	**P**	**18 47 37.5**	**+0.9**
	baz=65,SNR=12						
NWAO	**Narrogin (SRO)**	**65.54**	**241**	*e*P	**P**	**18 47 38.6**	**-0.1**
	comp=Z,69nm,1.4s						
NWAO				LR	LR		
	comp=Z,606nm,19.0s						
NWAO	**Narrogin (SRO)**	**65.54**	**241**	*e*P	**P**	**18 47 38.6**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,69nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,606nm,19.0s						
BLDU	**Ballidu**	**66.20**	**244**	P	**P**	**18 47 43.1**	**+0.1**
	baz=66,SNR=7.0						
MUN	**Mundaring**	**66.49**	**242**	P	**P**	**18 47 45.9**	**+1.1**
	baz=67,SNR=6.5						
LUWI	**Luwuk**	**66.55**	**276**	*e*P	**P**	**18 47 45.6**	**+0.2**
	comp=Z,256nm,1.4s						
DAV	**Davao City (W)**	**66.63**	**286**	PFAKE		18 48 00.0	+14
DAV				LR	LR		
	comp=Z,270nm,20.0s						
GSPH	**General Santos**	**66.86**	**284**	*e*P	**P**	**18 47 44.6**	**-2.9**
MORW	**Morawa**	**66.96**	**245**	P	**P**	**18 47 48.8**	**+1.0**
	baz=67,SNR=4.9						
MORW	**Morawa**	**66.96**	**245**	*e*P	**P**	**18 47 48.1**	**+0.3**
	comp=Z,39nm,1.1s						
KCP	**Kidapawan**	**67.06**	**285**	*e*P	**P**	**18 47 50.6**	**+1.9**
CTBH	**Cotabato--PC H**	**67.92**	**285**	*i*P	**P**	**18 47 49.9**	**-4.2**
CASY	**Casey**	**69.86**	**205**	*e*P	**P**	**18 48 06.0**	**+0.8**
	comp=Z,55nm,0.9s						
CASY

PFO LR LR
comp=Z,941nm,19.0s
PFO Pinyon Flats O 72.58 46 *eP* **P 18 48 20.7 -1.7**
PFO pmax pmax
comp=Z,21nm,1.3s
PFO MLR MLR
comp=Z,941nm,19.0s
PFO Pinyon Flats O 72.58 46 P **P 18 48 22.9 +0.5**
baz=235
PFO Pinyon Flats O 72.58 46 P **P 18 48 21.4 -1.0**
comp=Z,2.2nm,0.7s,baz=242,slow=3.1,SNR=2.6
XPFO Pion Flat 72.58 46 *eP* **P 18 48 20.7 -1.8**
comp=Z,20nm,1.2s
O02D Mt. Diablo Mer 72.59 37 P **P 18 48 22.7 +0.4**
baz=229,SNR=8.0
CMB Columbia Colle 72.66 40 *eP* **P 18 48 21.6 -1.1**
comp=Z,17nm,1.0s
CMB Columbia Colle 72.66 40 *eP* **P 18 48 21.6 -1.1**
CMB pmax pmax
comp=Z,17nm,1.0s
SWSC Sam W. Stewart 72.66 47 P **P 18 48 22.7 0.0**
baz=236
JAGI Jajag, Banyuwa 72.72 266 *eP* **P 18 48 21.8 -1.7**
comp=Z,69nm,0.7s
LRMC Laurel Mtn Rad 72.83 44 P **P 18 48 23.6 -0.3**
baz=234
JOW Kunigami 72.86 306 *eP* **P 18 48 23.2 -0.9**
comp=Z,26nm,0.8s
AFDM Forest Hills D 72.87 39 *eP* **P 18 48 23.1 -0.9**
comp=Z,22nm,1.3s
ORV Oroville 72.94 38 *eP* **P 18 48 22.8 -1.5**
comp=Z,16nm,1.0s
ORV Oroville 72.94 38 *eP* **P 18 48 22.8 -1.5**
ORV pmax pmax
comp=Z,16nm,1.0s
WDC Whiskeytown Da 73.00 37 *eP* **P 18 48 23.7 -0.9**
comp=Z,43nm,1.4s
WDC Whiskeytown Da 73.00 37 *eP* **P 18 48 23.7 -0.9**
WDC pmax pmax
comp=Z,43nm,1.4s
BELC Belle Mtn. Jos 73.11 46 P **P 18 48 25.9 +0.3**
baz=235,SNR=5.2
CWC Cottonwood Cre 73.14 43 P **P 18 48 25.9 +0.2**
baz=233
N02D Trinity Center 73.17 36 P **P 18 48 26.4 +0.7**
baz=229,SNR=12
QSPA South Pole Qui 73.18 180 *eP* **P 18 48 26.8 +1.3**
comp=Z,151nm,1.1s
QSPA LR LR
comp=Z,876nm,20.0s
MDPB Devils Postpil 73.22 41 *eP* **P 18 48 25.3 -1.1**
comp=Z,16nm,1.0s
O03E Paynes Creek 73.24 38 P **P 18 48 26.5 +0.3**
baz=230
OMMB Old Mammoth Mi 73.26 41 *eP* **P 18 48 25.1 -1.5**
comp=Z,18nm,1.2s
BC3 Big Chuckawall 73.29 46 P **P 18 48 27.3 +0.7**
baz=236,SNR=6.0
MPMC Manual Prospec 73.30 43 P **P 18 48 26.8 +0.1**
baz=234
GSC Goldstone, Bar 73.31 44 *eP* **P 18 48 26.8 +0.1**
comp=Z,22nm,1.3s
GSC Goldstone, Bar 73.31 44 P **P 18 48 27.4 +0.7**
baz=234
HEC Hector,Ludlow 73.36 45 P **P 18 48 27.6 +0.7**
baz=235
M02C Callahan 73.36 36 P **P 18 48 27.4 +0.6**
baz=228
DAC Darwin (Calif) 73.36 43 *eP* **P 18 48 26.2 -0.9**
comp=Z,23nm,1.5s
DAC Darwin (Calif) 73.36 43 *eP* **P 18 48 26.2 -0.9**
DAC pmax pmax
comp=Z,23nm,1.5s
MLAC Mammoth, Mammo 73.37 41 P **P 18 48 27.2 0.0**
baz=232
GLA Glamis 73.40 47 *eP* **P 18 48 26.6 -0.6**
comp=Z,20nm,1.0s
GLA Glamis 73.40 47 *eP* **P 18 48 26.6 -0.6**
GLA pmax pmax
comp=Z,20nm,1.0s
GLA Glamis 73.40 47 P **P 18 48 27.0 -0.1**
baz=236,SNR=6.6
TIN Tinemaha, Big 73.41 42 P **P 18 48 27.6 +0.4**
baz=233
L02E Cave Junction 73.45 35 P **P 18 48 27.3 0.0**
baz=228
WAKR Walker 73.53 40 *eP* **P 18 48 28.3 +0.3**
comp=Z,38nm,1.3s
YBH Yreka Blue Hor 73.66 36 *eP* **P 18 48 28.9 +0.3**
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 73.66 36 *eP* **P 18 48 28.9 +0.3**
YBH pmax pmax
comp=Z,29nm,1.0s
CHGN Chignik 73.71 8 *eP* **P 18 48 28.9 +0.6**
comp=Z,86nm,1.0s
SPIA Saint Paul Isl 73.78 1 *eP* **P 18 48 27.8 -0.9**
comp=Z,114nm,1.0s
ASAJ Asahikawa 73.78 327 P **P 18 48 27.4 -1.6**
comp=Z,6.6nm,0.8s,baz=205,slow=17,SNR=2.1
K02D Willamette Mer 73.78 35 P **P 18 48 30.0 +0.7**
baz=228
GMRC Granite Mounta 73.79 45 P **P 18 48 29.7 +0.1**
baz=236
IRM Iron Mountain 73.79 46 P **P 18 48 29.4 0.0**
baz=236,SNR=5.8
PNTR Pine Nut 73.79 40 *eP* **P 18 48 29.2 -0.4**
comp=Z,34nm,1.1s
BEKR Beckworth 73.82 39 *eP* **P 18 48 29.3 -0.4**
comp=Z,20nm,1.0s
VCNR Virginia City 73.89 39 *eP* **P 18 48 29.8 -0.4**
comp=Z,46nm,1.6s
GRAC Grapevine Rang 73.93 42 P **P 18 48 30.6 +0.3**
baz=234
FURC Furnace Creek, 73.95 43 P **P 18 48 30.7 +0.4**
baz=234
YERR Yerington 73.95 40 *eP* **P 18 48 29.3 -1.2**
comp=Z,49nm,1.5s
TUQ Turquoise Moun 73.98 44 P **P 18 48 30.7 0.0**
baz=235
113A Mohawk Valley, 73.99 48 *eP* **P 18 48 29.4 -1.2**
comp=Z,18nm,0.9s
Y12C Blythe 73.99 47 *eP* **P 18 48 29.5 -1.0**
comp=Z,24nm,1.0s
Y12C Blythe 73.99 47 P **P 18 48 30.4 -0.2**
baz=236
SHOC Shoshone, Teco 74.01 44 P **P 18 48 30.9 +0.2**
baz=235
HUMO Hull Mountain 74.11 35 *eP* **P 18 48 31.4 +0.3**
comp=Z,43nm,1.1s
HSIG 74.12 52 *eP* **P 18 48 31.4 0.0**
comp=Z,9.4nm,0.9s
JNU Nakatsue 74.17 313 *eP* **P 18 48 31.3 -0.4**
comp=Z,92nm,2.0s
JNU Nakatsue 74.17 313 P **P 18 48 30.2 -1.5**
comp=Z,5.4nm,0.9s,baz=98,slow=2.6,SNR=2.8
RYN Ryan 74.17 41 *eP* **P 18 48 30.9 -0.9**
comp=Z,51nm,1.7s
M04C Macdoel 74.19 36 P **P 18 48 31.7 -0.1**
baz=229,SNR=6.5
NV01 Mina Array Sit 74.19 41 *eP* **P 18 48 31.2 -0.7**
NVAR Mina Array Bea 74.19 41 P **P 18 48 31.7 -0.3**
comp=Z,5.8nm,1.0s,baz=226,slow=9.0,SNR=23
NVAR LR LR 19 15 47.8
comp=Z,783nm,18.9s,baz=224,slow=32
L04D Klamath Falls 74.21 36 P **P 18 48 32.3 +0.4**
baz=229,SNR=7.2
214A Organ Pipe Nat 74.24 49 P **P 18 48 32.1 -0.1**
baz=238,SNR=7.3
NV11 Mina Array Sit 74.29 41 *eP* **P 18 48 30.8 -1.6**
comp=Z,3.7nm,1.3s
PAHR Pah Rah Range 74.31 39 *eP* **P 18 48 31.9 -0.6**
comp=Z,44nm,1.4s
LDFC Landfair 74.33 45 *eP* **P 18 48 32.5 -0.2**
comp=Z,55nm,1.1s
NEE2 Needles Airpor 74.49 46 P **P 18 48 33.4 0.0**
baz=236
PDMCI Parker Dam,Lak 74.56 46 P **P 18 48 33.7 -0.2**
baz=237
PETK Petropavlovsk- 74.61 341 *eP* **P 18 48 33.2 -0.5**
PETK Petropavlovsk- 74.61 341 P **P 18 48 32.0 -1.7**
comp=Z,5.3nm,0.8s,baz=150,slow=6.1,SNR=3.1
PETK LR LR 19 17 00.1
comp=Z,457nm,20.1s,baz=147,slow=32
PEA1 Petropavlovsk- 74.61 341 *eP* **P 18 48 32.0 -1.7**
TPNV Topopah Spring 74.63 43 *eP* **P 18 48 34.5 0.0**
comp=Z,18nm,0.9s
TPNV Topopah Spring 74.63 43 P **P 18 48 34.5 0.0**
baz=235,SNR=14
KVN Kaiserville 74.69 40 *eP* **P 18 48 34.3 -0.5**
comp=Z,25nm,1.1s
KVN Kaiserville 74.69 40 *eP* **P 18 48 34.3 -0.5**
KVN pmax pmax
comp=Z,25nm,1.1s
J04D Umpqua Nationa 74.99 35 P **P 18 48 36.9 +0.4**
baz=229,SNR=6.1
KKM Kota Kinabalu 75.00 281 *eP* **P 18 48 35.5 -1.5**
comp=Z,54nm,1.3s
SHPR Sheep Range 75.09 44 *eP* **P 18 48 35.7 -1.5**
comp=Z,24nm,1.2s
MOD Modoc Plateau 75.14 37 *eP* **P 18 48 36.7 -0.6**
comp=Z,41nm,0.9s
Y14A Wickenburg 75.16 47 *eP* **P 18 48 36.8 -0.6**
comp=Z,20nm,0.9s
W13A Hualapai Mount 75.17 46 *eP* **P 18 48 36.9 -0.8**
comp=Z,18nm,1.1s
I04A Tendick Farm, 75.19 34 P **P 18 48 37.5 +0.1**
baz=228,SNR=5.8
COR Corvallis 75.25 33 *eP* **P 18 48 36.6 -1.0**
comp=Z,217nm,1.9s
COR Corvallis 75.25 33 *eP* **P 18 48 36.6 -1.0**
COR pmax pmax
comp=Z,217nm,1.9s
J05D Fort Rock, OR 75.50 35 P **P 18 48 39.6 +0.3**
baz=229
YSS Yuzh-Sakhalins 75.69 330 *eP* **P 18 48 42.7 +2.6**
YSS *e* 18 48 56.3
YSS pmax pmax
comp=Z,40nm,1.0s
G03D McMinnville, O 75.69 33 P **P 18 48 40.6 +0.4**
baz=227
R11A Troy Canyon, C 75.87 42 *eP* **P 18 48 40.9 -0.7**
comp=Z,24nm,1.4s
R11A Troy Canyon, C 75.87 42 P **P 18 48 41.3 -0.3**
baz=235,SNR=18
TUC Tucson 75.89 50 *eP* **P 18 48 40.9 -0.8**
comp=Z,19nm,0.9s
TUC LR LR
comp=Z,1μm,19.0s
TUC Tucson 75.89 50 *eP* **P 18 48 40.9 -0.8**
TUC pmax pmax
comp=Z,19nm,0.9s
TUC MLR MLR
comp=Z,1μm,19.0s
TUC Tucson 75.89 50 P **P 18 48 41.2 -0.5**
baz=239
H04A Detroit Lake 75.91 34 *eP* **P 18 48 40.8 -0.7**
comp=Z,32nm,0.9s
PINE Pine Mountain 76.00 35 *eP* **P 18 48 41.3 -0.9**
comp=Z,98nm,0.9s
KDAK Kodiak Island 76.01 10 PFAKE 18 48 50.0 +8.3
KDAK LR LR
comp=Z,595nm,22.0s
BMN Battle Mountai 76.06 40 *eP* **P 18 48 41.7 -0.9**
comp=Z,41nm,1.1s
BMN Battle Mountai 76.06 40 *eP* **P 18 48 41.7 -0.9**
BMN pmax pmax
comp=Z,41nm,1.1s
I05D Terrebonne, OR 76.13 35 P **P 18 48 42.8 +0.1**
baz=229
WVOR Wild Horse Val 76.44 37 *eP* **P 18 48 43.8 -0.9**
comp=Z,34nm,1.0s
WVOR LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 76.44 37 *eP* **P 18 48 43.8 -0.9**
WVOR pmax pmax
comp=Z,34nm,1.0s
WVOR MLR MLR
comp=Z,1μm,20.0s
X16A Lo Mia Camp, P 76.51 47 *eP* **P 18 48 45.2 -0.1**
comp=Z,48nm,1.1s
319A Douglas 76.54 51 *eP* **P 18 48 45.1 -0.4**
comp=Z,31nm,1.0s
LCMT Little Creek M 76.65 44 *eP* **P 18 48 46.0 0.0**
comp=Z,21nm,1.1s
G05D Wamic, OR 76.74 34 P **P 18 48 46.8 +0.7**
baz=229
CCUT Cedar City 76.87 44 *eP* **P 18 48 47.4 0.0**
comp=Z,46nm,1.6s
NLWA Neilton Lookou 76.87 31 PFAKE 18 49 00.0 +13
NLWA LR LR
comp=Z,1μm,21.0s
KNB Kanab 76.94 45 *eP* **P 18 48 46.7 -1.0**
comp=Z,92nm,1.7s
KNB Kanab 76.94 45 *eP* **P 18 48 46.7 -1.0**
KNB pmax pmax
comp=Z,92nm,1.7s
E04D Cinebar 76.96 32 P **P 18 48 47.8 +0.5**
baz=228
I07A Izee 76.98 36 *eP* **P 18 48 46.9 -0.8**
comp=Z,40nm,1.0s
SZCU Shurtz Canyon 77.08 44 *eP* **P 18 48 48.0 -0.5**
comp=Z,34nm,1.3s
F05D White Salmon 77.08 33 P **P 18 48 48.6 +0.5**
baz=229
PSUT Pine Spring 77.09 43 *eP* **P 18 48 47.9 -0.6**
comp=Z,17nm,0.9s
G06A Carlson Farm, 77.10 34 *eP* **P 18 48 48.2 0.0**
comp=Z,24nm,1.0s
J08A Circle Bar Ran 77.11 37 *eP* **P 18 48 48.0 -0.4**
comp=Z,39nm,0.9s
WUAZ Wupatki 77.13 46 *eP* **P 18 48 48.7 -0.1**
comp=Z,44nm,1.3s
WUAZ LR LR
comp=Z,708nm,20.0s
WUAZ Wupatki 77.13 46 P **P 18 48 48.8 0.0**
baz=238
D04E Lakebay 77.27 32 P **P 18 48 49.3 +0.2**
baz=227
D03D Eldon 77.36 31 P **P 18 48 49.7 +0.2**
baz=227
TATO Taipei 77.43 301 PFAKE 18 49 00.0 +10
TATO LR LR
comp=Z,377nm,20.0s
TPUB Ta-pu 77.44 299 *eP* **P 18 48 49.3 -1.3**
comp=Z,30nm,1.0s
ELK Elko 77.47 40 *eP* **P 18 48 50.2 -0.5**
comp=Z,28nm,1.0s
ELK Elko 77.47 40 *eP* **P 18 48 50.2 -0.5**
ELK pmax pmax
comp=Z,28nm,1.0s
ELK Elko 77.47 40 P **P 18 48 50.3 -0.3**
comp=Z,6.0nm,1.0s,baz=243,slow=7.3,SNR=16
PKCU Pink Cliffs 77.51 44 *eP* **P 18 48 51.4 +0.3**
comp=Z,46nm,1.1s
D05A Enumclaw 77.67 32 *eP* **P 18 48 52.9 +1.6**
comp=Z,141nm,1.4s
MTPU Mount Pierson 77.92 44 *eP* **P 18 48 53.2 -0.2**
comp=Z,66nm,1.3s
PGC Sidney 77.94 30 *epP* pP 18 48 58.0 +1.9
G08A Pilot Rock 78.04 35 *eP* **P 18 48 53.1 -0.5**
comp=Z,43nm,1.0s
TCRU Three Creeks R 78.05 43 *eP* **P 18 48 52.1 -1.9**
comp=Z,36nm,1.0s
W18A Petrified Fore 78.07 48 P **P 18 48 54.3 +0.2**
baz=239
MSU Marysvale 78.18 44 *eP* **P 18 48 54.9 +0.3**
MSU Marysvale 78.18 44 *eP* **P 18 48 54.9 +0.3**
121A Cookes Peak, D 78.21 51 P **P 18 48 55.3 +0.4**
baz=241
B05A Bryant 78.34 31 P **P 18 48 55.3 +0.3**
baz=228
A04D Lummi Island 78.35 31 P **P 18 48 55.6 +0.6**
baz=227
E07A Sunnyside 78.37 34 *eP* **P 18 48 54.6 -0.6**
comp=Z,46nm,0.9s
LTY Liberty 78.40 33 *eP* **P 18 48 55.3 -0.1**
comp=Z,24nm,1.0s
HAWA Hanford 78.43 34 *eP* **P 18 48 55.1 -0.5**
comp=Z,58nm,1.2s
TYV Tymovskoe 78.51 332 *eP* **P 18 48 58.5 +2.7**
TYV pmax pmax
comp=Z,15nm,1.3s
KSRS Korea Array 78.52 315 P **P 18 48 55.3 -0.8**
comp=Z,3.2nm,0.9s,baz=129,slow=6.3,SNR=8.3
KSRS LR LR 19 17 41.0
comp=Z,296nm,21.7s,baz=107,slow=31
KSAR Wonju Array Be 78.54 315 P **P 18 48 55.3 -1.0**
KSAR Wonju Array Be 78.54 315 P **P 18 48 55.3 -1.0**
KS01 Wonju Array Si 78.55 315 *eP* **P 18 48 56.1 -0.3**
DUG Dugway, Tooele 78.68 42 *eP* **P 18 48 57.0 -0.3**
comp=Z,39nm,1.1s
DUG LR LR
comp=Z,712nm,22.0s
DUG Dugway, Tooele 78.68 42 P **P 18 48 57.0 -0.3**
baz=236,SNR=26
BMO Blue Mountains 78.69 36 *eP* **P 18 48 56.0 -1.2**
comp=Z,28nm,1.0s
BMO LR LR
comp=Z,1μm,19.0s
BMO Blue Mountains 78.69 36 *eP* **P 18 48 56.0 -1.2**
BMO pmax pmax
comp=Z,28nm,1.0s
BMO MLR MLR
comp=Z,1μm,19.0s
C06D Leavenworth 78.72 32 P **P 18 48 57.8 +0.7**
baz=229
BGU Big Grassy Mou 78.95 41 *eP* **P 18 48 58.4 -0.4**
comp=Z,19nm,1.1s
CISI Cisompet, Garu 79.01 265 *eP* **P 18 48 59.5 -0.1**
comp=Z,66nm,1.3s
NLU North Lily Min 79.03 42 *eP* **P 18 48 58.5 -0.8**
comp=Z,17nm,1.1s
Q16A Castle Valley 79.06 44 *eP* **P 18 48 59.4 -0.1**
comp=Z,32nm,1.1s
KSM Kuching 79.18 275 *eP* **P 18 49 00.7 +0.3**
comp=Z,50nm,1.1s
D08A Wollman Farm, 79.18 34 *eP* **P 18 48 59.1 -0.6**
comp=Z,51nm,1.0s
TMUT Trail Mountain 79.24 43 *eP* **P 18 48 60.0 -0.6**
comp=Z,75nm,1.0s
E09A Wood Farm, Sta 79.25 34 *eP* **P 18 48 58.9 -1.1**
comp=Z,38nm,1.0s
MPU Maple Canyon 79.34 42 *eP* **P 18 48 60.0 -1.0**
comp=Z,41nm,1.1s
F10A Beach Ranch, E 79.42 35 *eP* **P 18 48 59.7 -1.4**
comp=Z,44nm,0.9s
SPUT South Promonto 79.53 41 *eP* **P 18 49 01.3 -0.7**
comp=Z,46nm,1.2s
LAZ Ladron 79.58 49 *eP* **P 18 49 00.3 -2.1**
HVU Hansel Valley 79.58 41 *eP* **P 18 49 01.6 -0.6**
comp=Z,38nm,1.1s
HVU Hansel Valley 79.58 41 *eP* **P 18 49 01.6 -0.6**
HVU pmax pmax
comp=Z,38nm,1.1s
LENM Lemitar 79.58 50 *eP* **P 18 49 02.3 -0.1**
SRU San Rafael Swe 79.59 44 *eP* **P 18 49 01.7 -0.6**
comp=Z,48nm,1.2s
SRU San Rafael Swe 79.59 44 *eP* **P 18 49 01.7 -0.6**
SRU pmax pmax
comp=Z,48nm,1.2s
HLID Hailey 79.60 38 *eP* **P 18 49 01.8 -0.5**
comp=Z,56nm,1.0s
HLID LR LR
comp=Z,536nm,20.0s
HLID Hailey 79.60 38 P **P 18 49 02.1 -0.1**
baz=235
MNTX Cornudas Mount 79.62 52 *eP* **P 18 49 02.2 -0.2**
comp=Z,26nm,1.4s
MNTX LR LR
comp=Z,596nm,22.0s
MNTX Cornudas Mount 79.62 52 P **P 18 49 02.6 +0.1**
baz=243
RC01 Rabbit Creek A 79.62 11 *eP* **P 18 49 02.4 +0.6**
comp=Z,102nm,1.5s
CTU Camp Tracy 79.64 42 *eP* **P 18 49 01.4 -1.1**
comp=Z,39nm,1.1s
USRK Ussuriysk Ar. 79.68 322 P **P 18 49 02.6 +0.2**
comp=Z,12nm,1.2s,baz=120,slow=5.2,SNR=3.6
USRK LR LR 19 17 54.4
comp=Z,669nm,21.8s,baz=120,slow=31
JLU Jordanelle 79.78 42 *eP* **P 18 49 02.9 -0.5**
comp=Z,42nm,1.1s
B08A Colville Reser 79.80 32 *eP* **P 18 49 00.6 -2.4**
comp=Z,31nm,1.0s
BNM Barren Site 79.83 50 *eP* **P 18 49 03.1 -0.7**
TX31 Lajitas Ar. Si 79.89 55 *eP* **P 18 49 03.0 -1.1**
comp=Z,34nm,1.6s
TXAR Lajitas Array 79.89 55 P **P 18 49 04.4 +0.3**
comp=Z,2.4nm,1.0s,baz=215,slow=5.5,SNR=10
MVCO Mesa Verde 79.99 46 PFAKE 18 49 20.0 +15
MVCO LR LR
comp=Z,779nm,20.0s
C09A Chrisman Ranch 79.99 33 *eP* **P 18 49 03.5 -0.6**
comp=Z,32nm,0.9s
LLLB Lillooet 80.02 30 *eP* **P 18 49 03.4 -0.9**
comp=Z,42nm,1.0s
WRAK Wrangell Islan 80.04 21 PFAKE 18 49 20.0 +16
WRAK LR LR
comp=Z,683nm,20.0s
TCUT Toone Canyon 80.08 42 *eP* **P 18 49 04.0 -1.0**
comp=Z,220nm,1.1s
KNK Knik Glacier 80.15 11 *eP* **P 18 49 03.3 -1.3**
comp=Z,39nm,1.2s
PMR Palmer 80.20 11 *eP* **P 18 49 04.2 -0.5**
comp=Z,66nm,1.4s
PMR Palmer 80.20 11 *eP* **P 18 49 04.3 -0.5**
PMR pmax pmax
comp=Z,66nm,1.4s
HWUT Hardware Ranch 80.25 41 *eP* **P 18 49 04.3 -1.5**
comp=Z,20nm,1.2s
HWUT LR LR
comp=Z,718nm,22.0s
TASM ASL Pad, Albuq 80.33 49 P **P 18 49 06.9 +0.4**
baz=242,SNR=5.9
TASM ASL Pad, Albuq 80.33 49 P **P 18 49 06.8 +0.3**
baz=242,SNR=6.0
ANMO Albuquerque 80.33 49 *eP* **P 18 49 06.0 -0.4**
comp=Z,36nm,1.3s
ANMO LR LR
comp=Z,826nm,22.0s
ANMO Albuquerque 80.33 49 *ceP* **P 18 49 07.3 +0.8**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 80.33 49 P **P 18 49 06.4 0.0**
baz=242
ANMO Albuquerque 80.33 49 P **P 18 49 06.4 0.0**
comp=Z,12nm,1.1s,baz=217,slow=7.8,SNR=6.8
SSE Sheshan 80.33 307 PFAKE 18 49 20.0 +14
SSE LR LR
comp=Z,305nm,21.0s
GAMB Gambell 80.39 360 *eP* **P 18 49 05.1 -0.7**
comp=Z,29nm,1.0s
GHO Glory Hole Cre 80.40 11 *eP* **P 18 49 05.2 -0.8**
comp=Z,28nm,0.8s
DIV Divide 80.41 12 *eP* **P 18 49 04.7 -1.4**
comp=Z,54nm,1.1s
SML Sawmill 80.54 11 *eP* **P 18 49 06.4 -0.4**
comp=Z,42nm,1.2s
SML Sawmill 80.54 11 *eP* **P 18 49 06.4 -0.4**
SML pmax pmax
comp=Z,42nm,1.2s
KLU Klutina 80.71 12 *eP* **P 18 49 07.0 -0.7**
comp=Z,24nm,1.0s
SCM Sheep Creek Mo 80.75 11 *eP* **P 18 49 07.3 -0.5**
comp=Z,53nm,1.1s
SCM Sheep Creek Mo 80.75 11 *eP* **P 18 49 07.4 -0.5**
SCM pmax pmax
comp=Z,53nm,1.1s
NEW Newport 80.89 33 *eP* **P 18 49 07.6 -1.3**
comp=Z,12nm,0.9s
NEW LR LR
comp=Z,1μm,19.0s
NEW Newport 80.89 33 *eP* **P 18 49 07.6 -1.3**
NEW pmax pmax
comp=Z,12nm,0.9s
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 80.89 33 P **P 18 49 08.4 -0.6**
baz=232
NEW Newport 80.89 33 P **P 18 49 08.1 -0.8**
comp=Z,3.6nm,0.8s
AHID Auburn Hatcher 81.16 40 PFAKE 18 49 20.0 +9.3
AHID LR LR
comp=Z,876nm,19.0s
MCMT McKenzie Canyo 81.24 38 *eP* **P 18 49 10.6 -0.6**
MDJ Mudanjiang 81.33 322 PFAKE 18 49 20.0 +8.7
MDJ LR LR
comp=Z,869nm,21.0s
S22A 4UR Ranch, Cre 81.41 46 *eP* **P 18 49 11.6 -0.6**
comp=Z,42nm,1.1s
S22A 4UR Ranch, Cre 81.41 46 P **P 18 49 12.7 +0.5**
baz=241,SNR=27
LNIG Linares 81.48 61 *eP* **P 18 49 11.7 -0.9**
comp=Z,23nm,1.2s
O20A White River Ci 81.63 44 *eP* **P 18 49 12.5 -0.8**
comp=Z,43nm,1.4s
O20A White River Ci 81.63 44 P **P 18 49 12.4 -0.8**
baz=240,SNR=5.2
REDW Red Top Meadow 81.64 40 *eP* **P 18 49 13.0 -0.3**
comp=Z,43nm,1.3s
TPAW Teton Pass 81.65 40 *eP* **P 18 49 11.7 -1.7**
comp=Z,46nm,1.1s

FXWY	Fox Creek	81.68	40	eP	P	18 49 12.2	-1.3
	comp=Z,30nm,1.3s						
DLMT	Dillon	81.69	38	eP	P	18 49 12.7	-0.7
	comp=Z,35nm,1.0s						
TRF	Thorofare Moun	81.75	9	eP	P	18 49 11.8	-1.5
	comp=Z,29nm,0.9s						
SNOW	Snow King Moun	81.75	40	eP	P	18 49 13.8	-0.1
	comp=Z,48nm,1.0s						
MSO	Missoula	81.76	36	eP	P	18 49 13.5	-0.2
	comp=Z,37nm,1.1s						
MSO	Missoula	81.76	36	P	P	18 49 13.3	-0.4
	baz=235						
IMW	Indian Meadow	81.87	39	eP	P	18 49 14.2	-0.4
	comp=Z,36nm,1.0s						
DHY	Denali Highway	81.89	11	eP	P	18 49 12.3	-1.7
	comp=Z,22nm,1.1s						
MOOW	Moose Ponds	81.91	40	eP	P	18 49 13.7	-1.0
	comp=Z,28nm,1.3s						
RND	Reindeer	81.94	10	eP	P	18 49 13.8	-0.4
	comp=Z,66nm,1.3s						
RND	Reindeer	81.94	10	eP	P	18 49 13.8	-0.4
RND				pmax	pmax		
	comp=Z,66nm,1.3s						
SMCO	Snowmass	82.00	45	eP	P	18 49 14.2	-1.3
	comp=Z,43nm,1.0s						
LRM	Limekiln Ridge	82.03	37	eP	P	18 49 18.2	+2.9
PMSA	Palmer Station	82.07	156	PFAKE		18 49 30.0	+15
PMSA				LR	LR		
	comp=Z,1µm,20.0s						
QLMT	Earthquake Lak	82.08	38	eP	P	18 49 14.8	-0.8
HYT	Haines Junctio	82.09	16	eP	P	18 49 15.3	+0.2
	comp=Z,34nm,1.3s						
FLWY	Flagg Ranch	82.12	39	eP	P	18 49 15.8	0.0
	comp=Z,80nm,1.1s						
BW06	Boulder Array	82.13	41	eP	P	18 49 15.6	-0.3
	comp=Z,29nm,1.1s						
BW06				LR	LR		
	comp=Z,847nm,19.0s						
BW06	Boulder Array	82.13	41	P	P	18 49 15.4	-0.5
	baz=238						
PD31	Pinedale Array	82.13	41	eP	P	18 49 15.2	-0.7
	comp=Z,27nm,1.1s						
PDAR	Pinedale Array	82.13	41	eP	P	18 49 13.9	-2.0
PDAR	Pinedale Array	82.13	41	P	P	18 49 15.0	-0.9
	comp=Z,1.9nm,0.9s,baz=224,slow=4.1,SNR=16						
PDAR				LR	LR	19 21 36.9	
	comp=Z,487nm,18.3s,baz=248,slow=33						
MA2	Magadan	82.14	342	PFAKE		18 49 30.0	+15
MA2				LR	LR		
	comp=Z,586nm,22.0s						
PAX	Paxson	82.15	12	eP	P	18 49 14.6	-0.7
	comp=Z,27nm,1.3s						
PAX	Paxson	82.15	12	eP	P	18 49 14.6	-0.7
PAX				pmax	pmax		
	comp=Z,27nm,1.3s						
BPAW	Bear Paw Mtn.	82.25	9	eP	P	18 49 16.4	+0.6
	comp=Z,39nm,1.6s						
YMR	Madison River	82.28	39	eP	P	18 49 16.6	0.0
	comp=Z,72nm,1.3s						
SDCO	Great Sand Dun	82.33	47	eP	P	18 49 16.4	-0.8
	comp=Z,17nm,1.2s						
SDCO				LR	LR		
	comp=Z,625nm,21.0s						
SDCO	Great Sand Dun	82.33	47	P	P	18 49 17.0	-0.1
	baz=242,SNR=6.5						
H17A	Grant Village	82.36	39	eP	P	18 49 16.6	-0.4
	comp=Z,19nm,0.9s						
H17A	Grant Village	82.36	39	P	P	18 49 16.9	-0.2
	baz=238						
BOZ	Bozeman (W)	82.39	38	eP	P	18 49 16.4	-0.7
	comp=Z,35nm,1.0s						
BOZ				LR	LR		
	comp=Z,921nm,20.0s						
BOZ	Bozeman (W)	82.39	38	eP	P	18 49 16.4	-0.7
BOZ				pmax	pmax		
	comp=Z,35nm,1.0s						
BOZ				MLR	MLR		
	comp=Z,921nm,20.0s						
BOZ	Bozeman (W)	82.39	38	P	P	18 49 17.0	0.0
	baz=237						
DLBC	Dease Lake	82.40	21	eP	P	18 49 17.3	+0.6
	comp=Z,59nm,1.8s						
YHH	Holmes Hill	82.41	39	eP	P	18 49 17.8	+0.5
	comp=Z,89nm,1.7s						
MENT	Mentasta	82.47	12	eP	P	18 49 15.8	-1.2
	comp=Z,25nm,1.0s						
NJ2	Nanjing	82.54	307	eP	P	18 49 17.5	-0.4
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
BWN	Browne	82.56	10	eP	P	18 49 15.8	-1.5
	comp=Z,80nm,1.0s						
LKWY	Lake	82.56	39	PFAKE		18 49 30.0	+12
LKWY				LR	LR		
	comp=Z,1µm,19.0s						
MSTX	Muleshoe	82.60	51	eP	P	18 49 17.6	-0.7
	comp=Z,47nm,1.1s						
MSTX	Muleshoe	82.60	51	P	P	18 49 18.0	-0.4
	baz=244						
KLR	Kul'dur	82.77	326	iP	P	18 49 18.1	-0.6
KLR	Kul'dur	82.77	326	P	P	18 49 18.4	-0.3
	comp=Z,2.0nm,0.7s,baz=97,slow=10,SNR=4.0						
T25A	Trinidad	82.82	48	eP	P	18 49 18.8	-0.8
	comp=Z,27nm,1.2s						
T25A	Trinidad	82.82	48	P	P	18 49 19.3	-0.3
	baz=243						
HRY	Holter Researc	82.89	37	eP	P	18 49 18.8	-0.8
RIDG	Independ'e Rid	82.97	12	eP	P	18 49 18.8	-0.8
	comp=Z,49nm,1.3s						
DOT	Dot Lake	83.04	12	eP	P	18 49 18.7	-1.2
	comp=Z,40nm,1.1s						
WRH	Wood River Hil	83.06	10	eP	P	18 49 18.8	-1.1
	comp=Z,77nm,1.0s						
WALA	Waterton Lakes	83.07	34	eP	P	18 49 19.7	-0.7
	comp=Z,34nm,1.1s						
RWWY	Rawlins	83.08	43	eP	P	18 49 20.8	-0.1
	comp=Z,103nm,1.1s						
Q24A	Divide	83.15	46	eP	P	18 49 21.2	-0.2
	comp=Z,61nm,1.1s						
Q24A	Divide	83.15	46	P	P	18 49 20.2	-1.2
	baz=242						
HDA	Harding Lake	83.19	10	eP	P	18 49 19.2	-1.4
	comp=Z,22nm,0.9s						
HDA	Harding Lake	83.19	10	P	P	18 49 19.7	-0.9
	baz=204						
ISCO	Idaho Springs	83.22	45	eP	P	18 49 21.8	+0.1
	comp=Z,25nm,1.3s						
ISCO				LR	LR		
	comp=Z,936nm,20.0s						
ISCO	Idaho Springs	83.22	45	P	P	18 49 21.1	-0.7
	baz=242						
CCB	Clear Creek Bu	83.27	10	eP	P	18 49 19.6	-1.3
	comp=Z,35nm,0.9s						
SCRK	Sand Creek	83.35	12	eP	P	18 49 20.4	-1.1
	comp=Z,20nm,1.0s						
CN2	Changchun	83.41	319	eP	P	18 49 26.6	+4.4
JCT	Junction City	83.42	56	PFAKE		18 49 30.0	+7.4
JCT				LR	LR		
	comp=Z,468nm,22.0s						
TCOL	CIGO, UAF Yank	83.47	10	P	P	18 49 21.3	-0.6
	baz=203						
COLA	College	83.47	10	eP	P	18 49 20.4	-1.6
	comp=Z,64nm,0.9s						
COLA				LR	LR		
	comp=Z,798nm,21.0s						
COLA	College	83.47	10c	iP	P	18 49 21.5	-0.5
COLA				pmax	pmax		
	comp=Z,19nm,1.0s						
MDM	Murphy Dome	83.49	10	eP	P	18 49 20.7	-1.4
	comp=Z,71nm,1.3s						
N23A	Red Feather La	83.53	44	P	P	18 49 22.8	-0.4
	baz=241,SNR=6.5						
IL1	Eielson Array	83.54	10	eP	P	18 49 20.6	-1.8
ILAR	Eielson Array	83.54	10	P	P	18 49 21.2	-1.1
	comp=Z,7.4nm,0.8s,baz=221,slow=5.6,SNR=29						
ILAR				LR	LR	19 20 32.5	
	comp=Z,629nm,20.7s,baz=204,slow=32						
ILB	Eielson Array	83.54	10	eP	P	18 49 21.0	-1.4
	comp=Z,27nm,0.9s						
RLMT	Red Lodge	83.54	39	eP	P	18 49 22.6	-0.5
	comp=Z,46nm,1.1s						
RLMT				LR	LR		
	comp=Z,731nm,22.0s						
RLMT	Red Lodge	83.54	39	P	P	18 49 22.8	-0.3
	baz=238						
GCMT	Greycliff	83.65	38	eP	P	18 49 22.9	-0.7
IM3	Indian Mountai	83.68	7	eP	P	18 49 22.0	-1.1
POKR	Poker Plat Res	83.76	10	P	P	18 49 22.8	-0.7
	baz=203						
AMTX	Amarillo	83.81	51	eP	P	18 49 22.9	-1.6
	comp=Z,51nm,1.3s						
AMTX	Amarillo	83.81	51	P	P	18 49 24.1	-0.5
	baz=245						
KVTX	Kingsville	83.81	59	PFAKE		18 49 40.0	+15
KVTX				LR	LR		
	comp=Z,663nm,19.0s						
K22A	Casper	84.00	42	P	P	18 49 25.4	-0.1
	baz=241						
DAWY	Dawson	84.39	14	eP	P	18 49 25.6	-1.2
	comp=Z,50nm,1.0s						
ABTX	Abilene, Hawle	84.41	54	eP	P	18 49 26.8	-0.8
	comp=Z,56nm,1.0s						
ABTX	Abilene, Hawle	84.41	54	P	P	18 49 27.5	-0.1
	baz=246						
SEY	Seymchan	84.43	344	ceP	P	18 49 28.6	+1.7
SEY	Seymchan	84.43	344	P	P	18 49 25.4	-1.6
	comp=Z,2.7nm,0.9s,baz=126,slow=6.5,SNR=10						
PRP	Porcupine Dome	84.46	11	eP	P	18 49 26.2	-1.0
	comp=Z,77nm,1.2s						
EGAK	Eagle	84.63	13	eP	P	18 49 26.6	-1.3
	comp=Z,32nm,1.1s						
EGAK				LR	LR		
	comp=Z,1µm,20.0s						
EGMT	Eagleton	84.78	36	eP	P	18 49 29.5	+0.2
	comp=Z,54nm,1.3s						
EGMT				LR	LR		
	comp=Z,1µm,19.0s						
EGMT	Eagleton	84.78	36	P	P	18 49 28.9	-0.3
	baz=238						
RDOG	Red Dog Mine	84.92	3	eP	P	18 49 29.1	-0.2
	comp=Z,23nm,1.0s						
KSCO	Kaye Shedlock'	84.92	47	P	P	18 49 30.0	-0.2
	baz=244						
QIZ	Qiongzhong	85.19	291	P	P	18 49 30.8	-1.0
QIZ				S	S	18 59 59.8	-1.9
QIZ				SS	SS	19 05 34.9	-1.3
QIZ				LR	LR		
	comp=Z,240nm,15.5s						
QIZ				LR	LR		
	comp=Z,290nm,25.7s						
QIZ	Qiongzhong	85.19	291	PFAKE		18 49 40.0	+8.2
QIZ				LR	LR		
	comp=Z,43nm,22.0s						
COLD	Coldfoot	85.32	8	eP	P	18 49 31.6	+0.3
	comp=Z,22nm,1.2s						
WHTX	Lake Whitney,	85.86	55	P	P	18 49 35.3	+0.4
	baz=247						
WMOK	Wichita Mounta	85.92	52	eP	P	18 49 34.2	-0.9
	comp=Z,10nm,1.1s						
WMOK				LR	LR		
	comp=Z,649nm,19.0s						
WMOK	Wichita Mounta	85.92	52	P	P	18 49 35.1	0.0
	baz=246						
LAO	LASA Array	86.16	39	PFAKE		18 49 50.0	+14
LAO				LR	LR		
	comp=Z,809nm,21.0s						
LAO	LASA Array	86.16	39	P	P	18 49 36.2	+0.1
	baz=241						
OGNE	Ogallala	86.18	45	PFAKE		18 49 50.0	+14
OGNE				LR	LR		
	comp=Z,889nm,19.0s						
BILL	Bilibino	86.22	352	eP	P	18 49 34.2	-1.6
	comp=Z,36nm,1.0s						
BILL				LR	LR		
	comp=Z,1µm,22.0s						
BILL	Bilibino	86.22	352⇑	eP	P	18 49 33.8	-2.0
BILL				e		18 49 39.7	
BILL				eS	S	19 00 09.9	0.0
BILL				eSS	SS	19 05 50.7	+1.3
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,237nm,18.0s						
RSSD	Black Hills	86.29	42	eP	P	18 49 35.8	-1.2
	comp=Z,28nm,0.9s						
RSSD	Black Hills	86.29	42	eP	P	18 49 35.8	-1.2
RSSD				pmax	pmax		
	comp=Z,28nm,0.9s						
RSSD	Black Hills	86.29	42	P	P	18 49 36.6	-0.5
	baz=242						
TOLK	Toolik Lake Re	86.73	8	eP	P	18 49 37.4	-1.0
	comp=Z,32nm,1.3s						
TOLK	Toolik Lake Re	86.73	8	P	P	18 49 38.3	0.0
	baz=201						
GO06	Curarrehue	86.86	130	eP	P	18 49 37.4	-2.5
	comp=Z,28nm,1.2s						
EPYK	Eagle Plains	86.95	13	eP	P	18 49 38.7	-0.8
	comp=Z,44nm,1.2s						
EPYK	Eagle Plains	86.95	13	P	P	18 49 39.1	-0.4
	baz=213						
MAW	Mawson	86.99	198	eP	P	18 49 39.1	-0.7
	comp=Z,14nm,1.3s						
MAW	Mawson	86.99	198	eP	P	18 49 39.1	-0.7
MAW				pmax	pmax		
	comp=Z,14nm,1.3s						
MAW	Mawson	86.99	198	P	P	18 49 41.3	+1.5
	comp=Z,27nm,1.0s,baz=134,slow=7.2,SNR=5.9						
MAW				LR	LR	19 24 42.7	
	comp=Z,206nm,21.8s,baz=124,slow=33						
PLCA	Paso Flores	87.14	132	eP	P	18 49 41.1	-0.1
PLCA	Paso Flores	87.14	132	eP	P	18 49 41.1	-0.1
PLCA	Paso Flores	87.14	132	P	P	18 49 43.4	+2.1
	comp=Z,13nm,1.1s,baz=274,slow=4.3,SNR=16						
PLCA				LR	LR	19 20 33.0	
	comp=Z,695nm,19.1s,baz=280,slow=30						
ZEA	Zeya	87.64	329	eP	P	18 49 46.1	+3.1
ZEA				pmax	pmax		
	comp=Z,15nm,1.0s						
BJT	Baijiatuau	87.83	313	PFAKE		18 49 50.0	+5.7
BJT				LR	LR		
	comp=Z,453nm,19.0s						
NATX	Nacogdoches	87.98	56	PFAKE		18 50 00.0	+15
NATX				LR	LR		
	comp=Z,542nm,20.0s						
COCO	West Island	88.13	258	PFAKE		18 50 00.0	+14
COCO				LR	LR		
	comp=Z,468nm,19.0s						
DGMT	Dagmar	88.22	38	PFAKE		18 50 00.0	+14
DGMT				LR	LR		
	comp=Z,1µm,19.0s						
IPM	Ipoh	88.92	275	eP	P	18 49 47.5	-2.6
	comp=Z,18nm,0.8s						
KSU1	Kansas State U	89.22	49	PFAKE		18 50 00.0	+9.1
KSU1				LR	LR		
	comp=Z,828nm,20.0s						
INK	Inuvik	89.26	13	eP	P	18 49 48.5	-1.8
	comp=Z,20nm,1.0s						
INK	Inuvik	89.26	13	eP	P	18 49 48.5	-1.8
INK				pmax	pmax		
	comp=Z,20nm,1.0s						
INK	Inuvik	89.26	13	P	P	18 49 49.0	-1.3
	comp=Z,6.1nm,0.8s,baz=220,slow=6.1,SNR=12						
ENH	Enshi	89.28	302	PFAKE		18 50 00.0	+8.6
ENH				LR	LR		
	comp=Z,208nm,19.0s						
HIA	Hailar	89.50	322	PFAKE		18 50 00.0	+8.0
HIA				LR	LR		
	comp=Z,546nm,21.0s						
PEL	Peldehue	89.61	124	eP	P	18 49 52.5	-0.5
	comp=Z,52nm,1.5s						
JTS	JuntasAbangare	89.64	79	eP	P	18 49 52.2	-1.2
	comp=Z,29nm,1.0s						
JTS				LR	LR		
	comp=Z,406nm,22.0s						
JTS	JuntasAbangare	89.64	79	eP	P	18 49 52.2	-1.2
JTS				pmax	pmax		
	comp=Z,29nm,1.0s						
JTS				MLR	MLR		
	comp=Z,406nm,22.0s						
MIAR	Mount Ida	89.82	54	PFAKE		18 50 00.0	+6.2
MIAR				LR	LR		
	comp=Z,587nm,20.0s						
GYA	Guiyang	90.38	297	P	P	18 49 57.0	+0.2
GYA				pP	sP	18 50 03.3	+1.9
GYA				PP	PP	18 53 33.8	+2.5
GYA				SKS	SKSac	19 00 25.4	-2.7
GYA				S	S	19 00 48.0	-3.4
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,6.2s						
PSI	Prapat	90.44	273	eP	P	18 49 56.5	-0.8
	comp=Z,22nm,1.0s						
PSI	Prapat	90.44	273	P	P	18 49 56.8	-0.6
	comp=Z,5.8nm,0.7s,baz=181,slow=6.0,SNR=7.0						
EFI	East Falkland	90.63	145	PFAKE		18 50 10.0	+13
EFI				LR	LR		
	comp=Z,1µm,20.0s						
YKA	Yellowknife Ar	90.71	23	P	P	18 49 56.1	-1.1
	comp=Z,2.2nm,1.0s,baz=235,slow=4.3,SNR=24						
YKA				PP	PP	18 53 37.4	+4.5
	comp=Z,0.7nm,0.9s,baz=238,slow=7.7,SNR=3.8						
YKA				LR	LR	19 25 39.2	
	comp=Z,46nm,18.9s,baz=257,slow=32						
YKB5	Yellowknife Ar	90.71	23	eP	P	18 49 55.6	-1.6
YKW3	Yellowknife Ar	90.75	23	eP	P	18 49 56.6	-0.8
	comp=Z,13nm,1.1s						
NNA	Nana	90.91	103	PFAKE		18 50 10.0	+11
NNA				LR	LR		
	comp=Z,319nm,19.0s						
ECSD	EROS Data Cent	90.99	44	PFAKE		18 50 10.0	+11
ECSD				LR	LR		
	comp=Z,513nm,19.0s						
LCO	Las Campanas	90.99	121	PFAKE		18 50 10.0	+10
LCO				LR	LR		
	comp=Z,754nm,19.0s						
XAN	Xi'an	91.00	305	P	P	18 50 04.3	+4.9
XAN				pP	pwP	18 50 12.0	+2.6
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
VNA3	Neumayer Olymp	91.22	174	P	P	18 50 00.7	+1.0
SNAA	Sanae	91.34	176	P	P	18 50 01.6	+1.3
SNAA	Sanae	91.34	176	eP	P	18 50 00.3	-0.1
	comp=Z,34nm,1.2s						
SNAA	Sanae	91.34	176	iP	P	18 49 59.3	-1.0
HHC	Hu-ho-hao-te	91.39	312	eP	P	18 50 02.8	+1.7
HHC				sP	pwP	18 50 13.9	+2.7
HHC				SKS	SKSac	19 00 32.8	-0.5
HHC				S	S	19 01 01.4	+1.3
HHC				sS	sS	19 01 08.3	+2.8
HHC				SS	SS	19 07 08.3	+2.1
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.9s						
HHC				LR	LR		
	comp=Z,240nm,15.7s						
HHC				LR	LR		
	comp=Z,160nm,18.2s						
HHC				LR	LR		
	comp=Z,260nm,15.7s						
SYO	Syowa Base	91.52	191⇑	eP	P	18 50 00.6	-0.5
VNA2	Neumayer--Watz	91.73	175	P	P	18 50 03.4	+1.3
	baz=189,slow=2.5						
VNA1	Neumayer--Stat	91.92	174	P	P	18 50 04.3	+1.4
S41A	Jillco Farms,	92.25	51	P	P	18 50 04.2	-0.9
	baz=250						
FFC	Flin Flon	92.31	33	eP	P	18 50 07.5	+2.7
	comp=Z,17nm,1.4s						
FFC				LR	LR		
	comp=Z,1µm,21.0s						
FFC	Flin Flon	92.31	33	ceP	P	18 50 09.5	+4.6
NVL	N'lazarevskaya	92.56	181	eP	P	18 50 06.5	+0.6
NVL				pmax	pmax		
	comp=Z,17nm,1.0s						
SCIA	State Center	92.65	47	PFAKE		18 50 20.0	+13
SCIA				LR	LR		
	comp=Z,698nm,20.0s						
CCM	Cathedral Cave	92.78	51	P	P	18 50 06.8	-0.7
	baz=251						
OTAV	Otavalo	92.94	91	PFAKE		18 50 20.0	+11
OTAV				LR	LR		
	comp=Z,203nm,21.0s						
S42A	Caledonia	93.03	52	P	P	18 50 08.2	-0.5
	baz=251						
T43A	Greenville	93.19	52	P	P	18 50 08.3	-1.0
	baz=251						
AGMN	Agassiz Nation	93.19	40	PFAKE		18 50 20.0	+11
AGMN				LR	LR		
	comp=Z,739nm,20.0s						
KMI	Kunming	93.34	295	P	P	18 50 09.8	-0.8
KMI				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,110nm,5.2s						
KMI				LR	LR		
	comp=Z,170nm,16.6s						
KMI				LR	LR		
	comp=Z,240nm,18.2s						
KMI				LR	LR		
	comp=Z,260nm,18.6s						
ULM	Lac du Bonnet	93.91	39	LR	LR	19 29 28.4	
	comp=Z,1µm,18.0s,baz=266,slow=34						
BCIP	Isla Barro Col	94.15	82	PFAKE		18 50 20.0	+5.7
BCIP				LR	LR		
	comp=Z,299nm,20.0s						
CIT	Chita	94.22	323	eP	P	18 50 17.4	+3.6
CIT				e		18 50 24.8	
TRQA	Tornquist	94.30	132	PFAKE		18 50 30.0	+15
TRQA				LR	LR		
	comp=Z,3.0nm,21.0s						
CM01	Chiang Mai Arr	94.82	288	eP	P	18 50 17.9	+0.6
CM31	Chiang Mai Arr	94.85	288	eP	P	18 50 17.9	+0.5
	comp=Z,8.7nm,1.1s						
CMAR	Chiang Mai Arr	94.85	288	iP	P	18 50 22.7	+5.3
CMAR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
CMAR	Chiang Mai Arr	94.85	288	P	P	18 50 17.7	+0.3
	comp=Z,0.9nm,1.1s,baz=106,slow=2.9,SNR=4.5						
CMAR				PP	PP	18 54 13.8	+7.3
	comp=Z,0.5nm,0.9s,baz=113,slow=6.1,SNR=5.6						
CMAR				LR	LR	19 26 50.4	
	comp=Z,117nm,21.7s,baz=129,slow=32						
CMMT	Chiang Mai	94.94	288	P	P	18 50 25.3	+7.5
CHTO	Chiang Mai	94.94	288	PFAKE		18 50 30.0	+12
CHTO				LR	LR		
	comp=Z,208nm,21.0s						
HDIL	Hopedale	95.01	49	PFAKE		18 50 30.0	+12
HDIL				LR	LR		
	comp=Z,978nm,21.0s						
JFWS	Jewell Farm	95.06	47	PFAKE		18 50 30.0	+12
JFWS				LR	LR		
	comp=Z,946nm,20.0s						
LZH	Lanzhou	95.60	306	eP	P	18 50 21.4	+0.7
LZH				pP	sP	18 50 27.3	+2.0
LZH				sP	pwP	18 50 30.5	-0.2
LZH				PP	PP	18 54 13.9	+1.7
LZH				SKS	SKSac	19 00 54.3	-2.4
LZH				S	S	19 01 33.3	-4.2
LZH				SS	SS	19 08 07.4	+0.7
LZH				pmax	pmax		
	comp=Z,42nm,1.4s						
LZH				pmax	pmax		
	comp=Z,190nm,8.7s						
LZH				LR	LR		
	comp=Z,340nm,17.4s						
LZH				LR	LR		
	comp=Z,440nm,17.4s						
LZH				LR	LR		
	comp=Z,500nm,19.5s						
EYMN	Ely	95.81	42	PFAKE		18 50 30.0	+8.8
EYMN				LR	LR		
	comp=Z,774nm,20.0s						
ULN	Ulaanbaatar	96.77	318	PFAKE		18 50 40.0	+14
ULN				LR	LR		
	comp=Z,327nm,21.0s						
ULN	Ulaanbaatar	96.77	318	ceP	P	18 50 28.4	+2.7
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
COWI	Conover	96.78	44	PFAKE		18 50 40.0	+14
COWI				LR	LR		
	comp=Z,781nm,21.0s						
TIXI	Tiksi	96.92	344	eP	P	18 50 24.2	-1.4
	comp=Z,16nm,1.8s						
TIXI				LR	LR		
	comp=Z,487nm,22.0s						
TIXI	Tiksi	96.92	344	ceP	P	18 50 28.5	+2.9
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONA0	Songino Array	97.19	318	eP	Pdif	18 50 27.8	+0.1
SONA0				ePP	PP	18 54 32.3	+8.2
SONM	Songino Array	97.19	318	P	Pdif	18 50 27.8	+0.1
	comp=Z,0.8nm,1.0s,baz=92,slow=3.6,SNR=3.7						
SONM				PP	PP	18 54 32.3	+8.2
	comp=Z,2.0nm,1.3s,baz=116,slow=6.8,SNR=3.5						
SONM				LR	LR	19 29 11.2	
	comp=Z,306nm,21.8s,baz=104,slow=32						
GOGA	Godfrey	97.47	57	PFAKE		18 50 40.0	+11
GOGA				LR	LR		
	comp=Z,384nm,19.0s						
LPAZ	La Paz	97.56	109	eP	P	18 50 30.3	-0.3

LPAZ La Paz 97.56 109 LR LR 19 25 28.8
comp=Z,235nm,19.4s,baz=251,slow=30

TKL Tuckaleechee C 97.81 55 *e*P **P** **18 50 29.9 -0.6**
comp=Z,57nm,1.7s

TKL Tuckaleechee C 97.81 55 *e*P **P** **18 50 29.9 -0.6**
TKL pmax pmax
comp=Z,57nm,1.7s

TKL Tuckaleechee C 97.81 55 P Pdif 18 50 30.7 +0.1
comp=Z,1.8nm,0.4s,baz=270,slow=2.0,SNR=3.7

MTDJ Mount Denham 98.74 74 PFAKE 18 50 50.0 +15
MTDJ LR LR
comp=Z,332nm,19.0s

GLMI Grayling 99.50 46 PFAKE 18 50 50.0 +12
GLMI LR LR
comp=Z,997nm,20.0s

GTA Gaotai 99.56 308 *e*P **Pdif** **18 50 38.8 +0.4**
GTA pP sP 18 50 43.4 +0.4
GTA sP pwP 18 50 46.6 -1.9
GTA pmax pmax
comp=Z,1.0nm,0.8s
GTA pmax pmax
comp=Z,72nm,5.7s
GTA LR LR
comp=Z,120nm,18.7s
GTA LR LR
comp=Z,320nm,18.4s
GTA LR LR
comp=Z,410nm,20.3s

ACSO Alum Creek Sta 99.56 51 PFAKE 18 50 50.0 +12
ACSO LR LR
comp=Z,769nm,19.0s

AAM Ann Arbor 99.56 49 PFAKE 18 50 50.0 +12
AAM LR LR
comp=Z,687nm,19.0s

TLY Talaya 99.95 321 PFAKE 18 50 50.0 +10
TLY LR LR
comp=Z,211nm,20.0s

TLY Talaya 99.95 321 *i* P **Pdif** **18 50 41.9 +2.2**

NHSC New Hope 100.06 58 PFAKE 18 50 50.0 +9.4
NHSC LR LR
comp=Z,519nm,19.0s

BLA Blacksburg 100.81 54 PFAKE 18 50 50.0 +6.1
BLA LR LR
comp=Z,612nm,20.0s

CNNC Cliffs of the 102.38 57 PFAKE 18 51 00.0 +9.1
CNNC LR LR
comp=Z,596nm,19.0s

CBN Corbin Frederi 103.38 54 PFAKE 18 51 10.0 +15
CBN LR LR
comp=Z,557nm,21.0s

LSA Lhasa 104.44 297 PFAKE 18 51 10.0 +9.2
LSA LR LR
comp=Z,135nm,20.0s

SDDR Presa de Saban 104.67 74 PFAKE 18 51 10.0 +8.5
SDDR LR LR
comp=Z,434nm,20.0s

BINY Binghamton 105.12 50 PFAKE 18 55 30.0 +13
BINY LR LR
comp=Z,815nm,19.0s

GRTK Grand Turk 105.36 72 PFAKE 18 55 30.0 +12
GRTK LR LR
comp=Z,407nm,19.0s

LONY Lake Ozonia 106.48 48 PFAKE 18 55 30.0 +10
LONY LR LR
comp=Z,790nm,22.0s

SJG San Juan 109.24 76 PFAKE 18 55 40.0 +14
SJG LR LR
comp=Z,225nm,19.0s

PKME Peaks-Kenny Pk 110.29 47 PFAKE 18 55 40.0 +13
PKME LR LR
comp=Z,889nm,19.0s

PTGA Pitinga 110.31 97 PFAKE 18 55 40.0 +12
PTGA LR LR
comp=Z,12µm,19.0s

ZAA1 Zalesovo Array 111.53 322 *e*PKiKP **PKiKP** **18 55 27.6 -1.4**

ZALV Zalesovo Beam 111.53 322 PKiKP **PKiKP** **18 55 27.6 -1.4**
comp=Z,1.1nm,0.7s,baz=113,slow=3.3,SNR=5.3

DGAR Diego Garcia 112.38 254 PFAKE 18 55 40.0 +8.2
DGAR LR LR
comp=Z,287nm,22.0s

MK32 Makanchi Array 113.19 314 *e*PKiKP **PKiKP** **18 55 31.7 -0.8**
MK32 *e*PP **PP** **18 56 23.3 +0.7**
MK32 *e*PKKPbc **PKKPbc** **19 06 20.2 +0.8**

MKAR Makanchi Array 113.19 314 PKiKP **PKiKP** **18 55 31.7 -0.8**
comp=Z,0.9nm,0.7s,baz=69,slow=1.1,SNR=13
MKAR PP **PP** **18 56 23.3 +0.7**
comp=Z,1.6nm,1.1s,baz=100,slow=5.0,SNR=4.4
MKAR PKKPbc **PKKPbc** **19 06 20.2 +0.8**
comp=Z,0.8nm,0.9s,baz=289,slow=3.7,SNR=6.5

BBGH Gun Hill 114.39 83 PFAKE 18 55 50.0 +14
BBGH LR LR
comp=Z,44µm,21.0s

KURK Kurchatov 115.48 319 *e*PKPdf **PKiKP** **18 55 35.2 -1.4**
KURK LR LR
comp=Z,661nm,21.0s

KURK Kurchatov 115.48 319 *e*PKiKP **PKiKP** **18 55 35.2 -1.4**
KURK MLR MLR
comp=Z,661nm,21.0s

KSH Kashi 117.85 306 PKP **PKPdf** **18 55 40.3 -1.5**
KSH PP **PP** **18 57 00.0 +4.3**
KSH AMB AMB
comp=Z,83nm,5.7s

KBS Kingsbay 117.89 359 PFAKE 18 55 50.0 +9.4
KBS LR LR
comp=Z,526nm,22.0s

SPITS Spitsbergen Ar 118.55 358 PKP **PKPdf** **18 55 41.8 -0.1**
comp=Z,8.8nm,0.8s,baz=27,slow=6.8,SNR=3.9

AAK Ala-Archa 118.86 310 PFAKE 18 55 50.0 +6.3
AAK LR LR
comp=Z,258nm,20.0s

BVAR Borovoye Array 120.19 322 PKP **PKPdf** **18 55 45.0 -0.7**
comp=Z,1.7nm,0.7s,baz=96,slow=1.5,SNR=18

BRVK Borovoye 120.24 322 *e*PKPdf **PKPdf** **18 55 45.2 -0.5**
BRVK LR LR
comp=Z,182nm,20.0s

BRVK Borovoye 120.24 322 *i* PKIKP **PKPdf** **18 55 44.4 -1.4**

KBL Kabul 123.51 300 *e*PKPdf **PKPdf** **18 55 51.9 -1.0**

ARU Arti 125.57 328 *e*PKPpre PKPpre 18 55 46.3
ARU *e*PKPdf **PKPdf** **18 55 55.0 -0.9**
ARU LR LR
comp=Z,279nm,21.0s

ARU Arti 125.57 328 *i* PKIKP **PKPdf** **18 55 54.3 -1.6**
ARU 18 57 46.5
ARU 19 03 05.6

ARA0 ARCESS Array S 126.31 353 *e*PKPdf **PKPdf** **18 55 57.0 0.0**

ARCES ARCESS Array B 126.31 353 PKP **PKPdf** **18 55 57.0 0.0**
comp=Z,6.8nm,0.8s,baz=284,slow=0.5,SNR=9.4

ABKAR Akbulak array 127.54 320 *e*PKPdf **PKPdf** **18 55 59.2 -0.7**

ABPO Ambohimpanom 127.86 228 PFAKE 18 56 10.0 +7.8
ABPO LR LR
comp=Z,126nm,19.0s

PRGR Permogore 128.19 339 *e*PKIKP PKPpre 18 55 51.9
PRGR pmax pmax
comp=Z,13nm,1.0s

AKTO Aktyubinsk 128.29 322 PKP **PKPdf** **18 56 00.5 -0.8**
comp=Z,1.4nm,0.8s,baz=110,slow=5.1,SNR=3.2

KIRV Kirov 128.68 334 PKP **PKPdf** **18 56 00.9 -0.8**
comp=Z,4.3nm,0.6s,baz=165,slow=12,SNR=1.8

RCBR Riachuelo 130.61 113 PFAKE 18 56 20.0 +12
RCBR LR LR
comp=Z,31µm,21.0s

KLMR Klimovskoe 130.80 341 *e*PKiKP **PKPdf** **18 56 03.6 -2.1**
KLMR pmax pmax
comp=Z,18nm,1.4s

KLMR Klimovskoe 130.80 341 *e*PKPdf **PKPdf** **18 56 03.7 -2.0**
KLMR AMP 18 56 12.4
comp=Z,18nm,1.4s

GEYT Alibeck 131.88 306 PKP **PKPdf** **18 56 08.3 -0.2**
comp=Z,1.5nm,0.8s,baz=178,slow=5.6,SNR=4.0

FIA1 FINESS Array S 133.76 348 *e*PKPdf **PKPdf** **18 56 10.6 -0.7**

FIA0 FINESS Array S 133.76 348 *e*PKPdf **PKPdf** **18 56 10.2 -1.1**

FIA0 FINESS Array S 133.76 348 *e*PKIKP **PKPdf** **18 56 10.2 -1.1**

FINES FINESS Array B 133.76 348 PKP **PKPdf** **18 56 10.2 -1.1**
comp=Z,4.8nm,0.8s,baz=108,slow=4.2,SNR=9.6

NB200 NORSAR Array S 135.85 358 *e*PKPdf **PKPdf** **18 56 13.9 -1.4**

NOA NORSAR Array B 135.85 358 PKP **PKPdf** **18 56 13.9 -1.4**
comp=Z,1.6nm,0.8s,baz=13,slow=4.1,SNR=3.5

OBN Obninsk 136.20 337 PFAKE 18 56 30.0 +12
OBN LR LR
comp=Z,359nm,21.0s

OBN Obninsk 136.20 337 *c i* PKIKP **PKPdf** **18 56 15.7 -0.3**
OBN *e* 18 58 52.5
OBN *e* 19 03 26.5
OBN *e*SS SS 19 16 48.6 -6.6
OBN pmax pmax
comp=Z,9.0nm,1.1s

HFS Hagfors 136.64 356 PKP **PKPdf** **18 56 16.2 -0.5**
comp=Z,4.1nm,0.7s,baz=276,slow=4.2,SNR=4.2

MAK Makhachkala 137.94 316 *e*P **Pdif** **18 53 21.4 -7.4**
MAK *i* 18 56 17.4
MAK *e* 18 59 03.7
MAK *e* 19 03 27.3
MAK pmax pmax
comp=Z,228nm,1.7s

KIV Kislovodsk 140.52 320 PFAKE 18 56 40.0 +13
KIV LR LR
comp=Z,202nm,22.0s

KIV Kislovodsk 140.52 320 *i* PKIKP **PKPdf** **18 56 25.5 +1.0**
KIV pmax pmax
KIV MLR MLR
comp=Z,823nm,24.0s

GNI Garni 141.04 314 PFAKE 18 56 40.0 +12
GNI LR LR
comp=Z,383nm,20.0s

AKASG Malin Array Be 142.40 338 PKhKP PKPpre 18 56 23.0
comp=Z,1.3nm,0.7s,baz=36,slow=2.9,SNR=5.2

KIEV Kiev 142.41 338 PFAKE 18 56 40.0 +9.5
KIEV LR LR
comp=Z,457nm,21.0s

AK11 Malin Array Si 142.44 338 *e*PKPpre PKPpre 18 56 22.0
AK11 *e*PKPdf **PKPdf** **18 56 28.6 +1.0**

LSZ Lusaka 142.63 212 *e*PKPdf **PKPdf** **18 56 25.6 -3.5**
LSZ LR LR
comp=Z,519nm,20.0s

LSZ Lusaka 142.63 212 *e*PKIKP **PKPdf** **18 56 25.6 -3.5**
LSZ MLR MLR
comp=Z,519nm,20.0s

TSUM Tsumeb 143.06 194 *e*PKPdf PKPbc 18 56 27.7 +1.2
TSUM LR LR
comp=Z,677nm,20.0s

SHEL Horse Pasture 144.46 156 *e*PKPdf **PKPdf** **18 56 31.7 -0.5**

SHEL Horse Pasture 144.46 156 *i* PKIKP **PKPdf** **18 56 33.1 +0.9**

RAYN Ar Rayn 144.76 287 *e*PKPdf **PKPab** **18 56 31.0 -0.4**
RAYN LR LR
comp=Z,211nm,19.0s

RAYN Ar Rayn 144.76 287 *e*PKIKP **PKPab** **18 56 31.0 -0.4**
RAYN MLR MLR
comp=Z,211nm,19.0s

LVV L'vov 144.83 343 *e*PKIKP **PKiKP** **18 56 34.6 -1.0**

WTSB Winterswijk 144.96 2 *e*PKP **PKiKP** **18 56 34.6 -1.1**

CLZ Clausthal 145.08 358 *e*PKPbc **PKPbc** **18 56 31.6 -0.1**
baz=6.2,slow=3.0

KWP Kalwaria Pacla 145.37 344 *e*PKPab **PKPbc** **18 56 32.3 -0.3**
KWP *e*PKPdf **sPKPdf** **18 56 37.5 +0.1**

KWP Kalwaria Pacla 145.37 344 *e*PKPbc **PKPbc** **18 56 32.0 -0.6**

KWP Kalwaria Pacla 145.37 344 *e*PKIKP **PKPbc** **18 56 32.3 -0.3**

GTTG Gyttingen 145.39 358 *e*PKPbc **PKPbc** **18 56 32.3 -0.3**
baz=6.2,slow=3.0

CLL Collm 145.46 355 *e*PKPbc **PKPbc** **18 56 31.2 -1.5**

CLL Collm 145.46 355 *e*PKPbc **PKPbc** **18 56 32.2 -0.6**
baz=6.2,slow=3.0

CLL Collm 145.46 355 *i* PKPbc **PKPbc** **18 56 31.3 -1.5**
comp=Z,10.0nm,0.9s

CLL *e*PKiKP **PKiKP** **18 56 37.0 +0.2**
comp=Z,27nm,0.9s

CLL Collm 145.46 355 *e*PKP2 **PKPbc** **18 56 31.3 -1.5**

BUG Bochum--Univer 145.50 1 *e*PKPbc **PKPbc** **18 56 32.9 0.0**
baz=6.2,slow=3.0

OJC Ojcow 145.52 347 *e*PKPab **PKPdf** **18 56 32.7 -0.3**
OJC *e*PKPdf sPKPab 18 56 38.0 +0.2

OJC Ojcow 145.52 347 *e*PKPdf **PKPdf** **18 56 32.3 -0.7**

OJC Ojcow 145.52 347 *e*PKIKP **PKPdf** **18 56 32.7 -0.3**

KSP Ksiaz 145.55 351 *e*PKP **PKiKP** **18 56 38.1 +1.1**

KSP Ksiaz 145.55 351 *e*PKIKP **PKiKP** **18 56 38.1 +1.1**

NEUB Neuenburg 145.65 356 *e*PKPbc **PKPdf** **18 56 32.7 -0.4**
baz=6.2,slow=3.0

BRG Berggiesshubel 145.81 354 *e*PKP **PKPdf** **18 56 32.8 -0.6**
comp=Z,8.2nm,1.0s

BRG Berggiesshubel 145.81 354 *i* PKP **PKiKP** **18 56 38.6 +1.0**
comp=Z,26nm,1.0s

BRG *e*PKS PKSdf 19 00 19.0 +10
comp=Z,12nm,1.5s
comp=N,169nm,13.3s
comp=E,167nm,21.8s
comp=Z,426nm,18.2s

BRG Berggiesshubel 145.81 354 *e*PKPbc **PKPdf** **18 56 33.4 -0.1**
baz=6.2,slow=3.0

BRG Berggiesshubel 145.81 354 *e*PKP2 **PKPdf** **18 56 32.8 -0.6**
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG pmax pmax
comp=Z,26nm,1.0s
BRG pmax pmax
comp=Z,12nm,1.5s
BRG MLR MLR
comp=N,169nm,13.3s
BRG MLR MLR
comp=E,167nm,21.8s
BRG MLR MLR
comp=Z,426nm,18.2s

FBE Freiberg 145.82 355 *e*PKPbc **PKPbc** **18 56 33.7 -0.2**
baz=6.2,slow=3.0

UPC Upice 145.91 351 *e*PKP **PKPbc** **18 56 34.1 -0.2**
UPC *ep*PKP sPKPab 18 56 39.4 +0.1
UPC AMS AMS 20 06 30.0
comp=Z,500nm,22.4s

UPC Upice 145.91 351 *e*PKP2 **PKPbc** **18 56 34.1 -0.2**
UPC MLR MLR
comp=Z,500nm,22.4s

UCC Uccle 145.99 5 ⇑PKP **PKPdf** **18 56 32.6 -1.2**
UCC ⇓pPKP sPKPab 18 56 39.3 -0.3

ERBA Erbaa 146.00 320 *i* P **PKPab** **18 56 36.2 +0.8**
ERBA IAML_P
comp=Z,37nm,0.2s

DPC Dobruska-Polom 146.02 351 *e*PKP **PKPbc** **18 56 34.7 0.0**
DPC *ep*PKP sPKPab 18 56 39.9 +0.1
DPC AMS AMS 20 08 00.0
comp=Z,400nm,19.8s

DPC Dobruska-Polom 146.02 351 *e*PKP2 **PKPbc** **18 56 34.7 0.0**
DPC MLR MLR
comp=Z,400nm,19.8s

PVCC Panska Ves 146.08 353 *e*PKP **PKPbc** **18 56 34.9 +0.1**

PVCC Panska Ves 146.08 353 *e*PKP2 **PKPbc** **18 56 34.9 +0.1**

BEBN Eben Emael 146.08 3 ⇓pPKP **PKiKP** **18 56 39.8 +1.7**

UBBA Unterbreizbach 146.12 358 *e*PKPbc **PKPbc** **18 56 34.7 -0.1**
baz=6.2,slow=3.0

HGN Heimansgroeve 146.13 3 *e*PKP **PKPab** **18 56 35.2 -0.3**

NIE Niedzica 146.16 346 *e*PKPab **PKPab** **18 56 36.0 +0.2**
NIE *e*PKPdf sPKPab 18 56 40.7 +0.3

NIE Niedzica 146.16 346 *e*PKP2 **PKPab** **18 56 36.0 +0.2**

OKC Ostrava-Krasne 146.21 349 *e*PKP **PKPbc** **18 56 35.0 -0.2**
OKC *ep*PKP sPKPab 18 56 40.3 -0.2

OKC Ostrava-Krasne 146.21 349 *e*PKP2 **PKPbc** **18 56 35.0 -0.2**

KRLC Kraliky 146.22 350 *e*PKP **PKPbc** **18 56 35.2 -0.1**
KRLC *ep*PKP sPKPab 18 56 40.7 +0.1

KRLC Kraliky 146.22 350 *e*PKP2 **PKPbc** **18 56 35.2 -0.1**

MOX Moxa 146.22 356 *e*PKPbc **PKPbc** **18 56 34.9 -0.4**
baz=6.2,slow=3.0

SNF Seneffe 146.27 5 ⇓PKP **PKPbc** **18 56 35.4 +0.1**
SNF ⇓pPKP sPKPab 18 56 40.7 +0.1

MEM Membach 146.28 3 ⇑PKP **PKPdf** **18 56 33.9 -0.4**
MEM ⇑pPKP sPKPbc 18 56 40.1 +0.1

DIKM Dikmen 146.30 323 ⇑*i* P **PKiKP** **18 56 39.5 +0.6**

CUKAN kangal_SIVAS 146.32 317 *i* P **PKiKP** **18 56 41.9 +2.7**

MORC Moravsky Berou 146.38 349 *e*PKPdf **PKPdf** **18 56 35.0 +0.5**

MORC Moravsky Berou 146.38 349 ⇑*i* P **PKPab** **18 56 36.3 -0.3**

MORC Moravsky Berou 146.38 349 ⇑PKP2 **PKPab** **18 56 36.3 -0.3**

MORC Moravsky Berou 146.38 349 *e*PKP **PKPbc** **18 56 35.2 -0.6**

BUR08 Bucovina Ar. S 146.39 340 *e*PKPdf **PKPdf** **18 56 35.0 +0.3**

HAVZ Havza 146.39 321 *i* P **PKiKP** **18 56 41.2 +2.1**
HAVZ IAML_P
comp=Z,262nm,0.4s

TANN Tannenbergstha 146.39 355 *e*PKPbc **PKPbc** **18 56 35.5 -0.3**
baz=6.2,slow=3.0

UZH Uzhgorod 146.39 343 *e*PKP2 **PKPdf** **18 56 34.6 +0.1**

BURAR Bucovina Array 146.41 339 ⇑*i* P **PKPab** **18 56 36.5 -0.3**

BURAR Bucovina Array 146.41 339 ⇑PKP2 **PKPab** **18 56 36.5 -0.3**

BCLA Clavier 146.44 4 ⇑PKP **PKPdf** **18 56 34.0 -0.5**
BCLA ⇓pPKP sPKPbc 18 56 40.7 +0.3

GUNZ Gunzen 146.45 356 *e*PKPbc **PKPbc** **18 56 35.8 -0.2**
baz=6.2,slow=3.0

KMBO Kilima Mbogo 146.51 241 *e*PKPdf **PKPab** **18 56 38.7 +0.2**
KMBO LR LR
comp=Z,276nm,19.0s

KMBO Kilima Mbogo 146.51 241 PKPbc **PKPab** **18 56 38.1 -0.3**
comp=Z,18nm,1.0s,baz=64,slow=3.2,SNR=24

ASCN Ascension 146.52 136 PFAKE 18 56 50.0 +10
ASCN LR LR
comp=Z,24µm,22.0s

WERN Wernitzgruen 146.53 356 *e*PKPbc **PKPbc** **18 56 36.1 -0.1**
baz=6.2,slow=3.0

NKC Novy Kostel 146.57 355 *e*PKP **PKPbc** **18 56 36.4 +0.1**

NKC Novy Kostel 146.57 355 *e*PKP2 **PKPbc** **18 56 36.4 +0.1**

LANS Liptovska Anna 146.60 347 *e*PKP2 **PKPab** **18 56 37.4 -0.1**

LANS Liptovska Anna 146.60 347 *e*PKP **PKPab** **18 56 37.4 -0.1**

PRU Pruhonice 146.62 353 *e*PKP **PKPbc** **18 56 36.3 -0.1**
PRU *ep*PKP sPKPab 18 56 41.5 -0.5
PRU AMS AMS 20 04 50.0
comp=Z,400nm,16.9s

PRU Pruhonice 146.62 353 *e*PKP2 **PKPbc** **18 56 36.3 -0.1**
PRU MLR MLR
comp=Z,400nm,16.9s

GOPC GO Pecny, Ondr 146.66 353 *e*PKP **PKPbc** **18 56 36.9 +0.4**
GOPC *ep*PKP sPKPab 18 56 41.7 -0.5

GOPC GO Pecny, Ondr 146.66 353 *e*PKP2 **PKPbc** **18 56 36.9 +0.4**

BIZ Bicaz 146.68 338 ⇑*i* P **PKPab** **18 56 37.3 -0.5**

DOU Dourbes 146.71 5 ⇑PKP **PKPbc** **18 56 36.4 -0.3**
DOU ⇑pPKP sPKPbc 18 56 41.5 +0.3

TNS Taunus Mts 146.73 0 *e*PKPbc **PKPbc** **18 56 37.2 +0.4**
baz=6.2,slow=3.0

TRPA Tarpa 146.78 343 ⇑*i* P **PKPbc** **18 56 36.3 -0.6**

TESR Tescani 146.84 337 ⇑*i* P **PKPbc** **18 56 36.3 -0.9**

MANZ Manzenberg 146.84 356 *e*PKPbc **PKPbc** **18 56 37.1 +0.1**
baz=6.2,slow=3.0

BMR Baia Mare 146.91 341 ⇑*i* P **PKPbc** **18 56 37.8 +0.5**

BMR Baia Mare 146.91 341 ⇑PKP2 **PKPbc** **18 56 37.8 +0.5**

VRAC Vranov 146.99 350 ⇑*i* P **PKPbc** **18 56 37.2 -0.3**

VRAC Vranov 146.99 350 ⇑PKP2 **PKPbc** **18 56 37.2 -0.3**

VRAC Vranov 146.99 350 *e*PKP **PKPdf** **18 56 36.1 +0.6**

VRAC Vranov 146.99 350 PKPbc **PKPbc** **18 56 36.7 -0.8**
comp=Z,5.0nm,0.7s,baz=347,slow=2.2,SNR=6.4

CUSAR Sarkisla-SIVAS 147.05 319 *i* P **PKPab** **18 56 39.1 -0.5**

TLCR 147.05 333 ⇑*i* P **PKPab** **18 56 38.5 -0.7**

TLCR 147.05 333 ⇑PKP2 **PKPab** **18 56 38.5 -0.7**

ROTZ Rotzenmuhle 147.06 356 *e*PKPbc **PKPbc** **18 56 37.6 0.0**
baz=6.2,slow=3.0

ARCR ARCALIA 147.16 340 ⇑*i* P **PKPbc** **18 56 38.2 +0.2**

TREC Trest 147.17 352 *e*PKP **PKPdf** **18 56 36.4 +0.6**
TREC *ep*PKP **pPKPbc** **18 56 42.0 +0.5**
TREC AMS AMS 20 05 50.0
comp=Z,600nm,21.0s

TREC Trest 147.17 352 *e*PKP2 **PKPdf** **18 56 36.4 +0.6**
TREC MLR MLR
comp=Z,600nm,21.0s

GRF Grafenberg Arr 147.19 357 *e*PKPbc **PKPbc** **18 56 38.0 -0.1**
baz=6.2,slow=3.0

WLF Walferdange 147.24 3 *e*PKPdf **PKPdf** **18 56 32.8 -3.1**
WLF *e*PKPbc **PKPbc** **18 56 38.2 +0.1**

WLF Walferdange 147.24 3 ⇓PKP **PKPbc** **18 56 38.3 +0.1**
WLF ⇓pPKP **pPKPab** **18 56 43.8 +0.5**

JAVC Velka Javorina 147.24 349 *e*PKP **PKPbc** **18 56 37.9 -0.4**

KRUC Moravsky 147.26 350 *e*PKP **PKPdf** **18 56 36.4 +0.4**

ODBI Odobesti 147.31 336 ⇓*i* P **PKiKP** **18 56 44.6 +3.8**

COAL Corum-Alaca 147.33 321 *i* P **PKPbc** **18 56 39.1 +0.2**
COAL IAML_P
comp=Z,95nm,0.8s

CFR Carcaliu 147.35 334 ⇑*i* P **PKPbc** **18 56 38.9 +0.3**

CFR Carcaliu 147.35 334 ⇑PKP2 **PKPbc** **18 56 38.9 +0.3**

VRI Vrincioaia 147.35 336 ⇑*i* P **PKPbc** **18 56 38.7 +0.1**

VRI Vrincioaia 147.35 336 ⇑PKP2 **PKPbc** **18 56 38.7 +0.1**

VYHS Vyhne 147.36 347 *e*PKP2 **PKPbc** **18 56 38.7 +0.1**

VYHS Vyhne 147.36 347 *e*PKP **PKPbc** **18 56 38.7 +0.1**
VYHS *e* 18 56 44.4

PLOR Plostina 147.40 336 ⇑*i* P **PKiKP** **18 56 44.3 +3.3**

PLOR Plostina 147.40 336 ⇑PKP2 **PKiKP** **18 56 44.3 +3.3**

KHC Kasperske Hory 147.57 354 *e*PKPdf **PKPdf** **18 56 35.8 -0.7**
KHC *e*PKPbc **PKPbc** **18 56 39.3 +0.2**

KHC Kasperske Hory 147.57 354 *e*PKP **PKPbc** **18 56 39.1 -0.1**
KHC *ep*PKP **sPKPbc** **18 56 44.1 +0.3**
KHC AMS AMS 20 09 50.0
comp=Z,400nm,17.1s

KHC Kasperske Hory 147.57 354 *e*PKIKP **PKPdf** **18 56 35.8 -0.7**
KHC *e* 18 56 39.3

WET Wettzell 147.62 355 *e*PKPbc **PKPbc** **18 56 39.3 0.0**
baz=6.2,slow=3.0

LTVH Ltavrtes, Hu 147.64 343 ⇑*e*PKPdf **PKiKP** **18 56 41.0 -0.4**

PSZ Piszkesteto 147.66 346 *e*PKPbc **PKPbc** **18 56 39.2 -0.3**

PSZ Piszkesteto 147.66 346 ⇑*i* P **PKPab** **18 56 45.2 +3.5**

PSZ Piszkesteto 147.66 346 ⇑PKP2 **PKPab** **18 56 45.2 +3.5**

PSZ Piszkesteto 147.66 346 ⇑*e*PKPdf **PKPab** **18 56 42.1 +0.4**

CJR Cluj-Napoca 147.73 340 ⇑*i* P **PKPbc** **18 56 40.2 +0.5**

CJR Cluj-Napoca 147.73 340 ⇑PKP2 **PKPbc** **18 56 40.2 +0.5**

DOPR Dopca 147.77 338 ⇑*i* P **PKiKP** **18 56 40.9 -0.9**

MODS Modra-Piesok 147.78 349 *e*PKP2 **PKPbc** **18 56 40.6 +0.9**

MODS Modra-Piesok 147.78 349 *e*PKP **PKPbc** **18 56 40.6 +0.9**
MODS *e* 18 56 46.1

SIRC Yozgat 147.79 319 *i* P **PKPbc** **18 56 40.0 -0.1**
SIRC IAML_P
comp=Z,265nm,0.5s

HARR Harsova 147.82 334 ⇑*i* P **PKiKP** **18 56 41.2 -0.7**

HARR Harsova 147.82 334 ⇑PKP2 **PKiKP** **18 56 41.2 -0.7**

GEC2 GERESS Array S 147.84 354 *e*PKPdf **PKPdf** **18 56 36.0 -1.1**

GEC2 GERESS Array S 147.84 354 *e*PKPbc **PKPbc** **18 56 39.9 -0.1**
baz=6.2,slow=3.0

GEC2 GERESS Array S 147.84 354 *e*PKIKP **PKPdf** **18 56 36.0 -1.1**

GERES GERESS Array B 147.84 354 PKPbc **PKPbc** **18 56 39.2 -0.8**
comp=Z,5.5nm,0.9s,baz=29,slow=3.0,SNR=24

GEA0 GERESS Array S 147.84 354 *e*PKPdf **PKPdf** **18 56 37.1 +0.1**

TLB Topalu 147.86 333 ⇑*i* P **PKPbc** **18 56 40.5 +0.5**

TLB Topalu 147.86 333 ⇑PKP2 **PKPbc** **18 56 40.5 +0.5**

DRGR 147.94 342 ⇑*i* P **PKPbc** **18 56 40.5 +0.2**

DRGR 147.94 342 ⇑PKP2 **PKPbc** **18 56 40.5 +0.2**

MLR Muntele Rosu 147.97 337 *e*PKPdf **PKPdf** **18 56 37.2 -0.2**
MLR *e*PKPbc **PKPbc** **18 56 40.8 +0.3**

MLR Muntele Rosu 147.97 337 ⇑*i* P **PKPbc** **18 56 41.0 +0.5**

MLR Muntele Rosu 147.97 337 ⇑PKP2 **PKPbc** **18 56 41.0 +0.5**

MLR Muntele Rosu 147.97 337 PKPbc **PKPbc** **18 56 40.8 +0.3**
comp=Z,17nm,0.9s,baz=64,slow=13,SNR=7.4

ZST Bratislava 147.98 349 *e*PKP2 **PKPbc** **18 56 39.7 -0.5**

ZST Bratislava 147.98 349 *e*PKP **PKPbc** **18 56 39.7 -0.5**
ZST *e* 18 56 45.0

ANDN Andirin 148.00 316 *i* P **PKPbc** **18 56 41.3 +0.5**
ANDN IAML_P
comp=Z,109nm,0.1s

DELI KIRIKKALE 148.13 321 *i* P **PKPbc** **18 56 41.0 0.0**
DELI IAML_P
comp=Z,275nm,0.8s

AVNS Nevsehir-Avano 148.29 319 *i* P **PKPbc** **18 56 42.1 +0.6**
AVNS IAML_P
comp=Z,12nm,0.1s

SECR 148.30 336 ⇑*i* P **PKiKP** **18 56 42.3 -0.6**

VOIR 148.35 338 ⇑*i* P **PKPbc** **18 56 41.5 +0.1**

VOIR 148.35 338 ⇑PKP2 **PKPbc** **18 56 41.5 +0.1**

CONA Conrad Observa 148.45 351 *e*PKPbc **PKPdf** **18 56 38.6 +0.5**
comp=Z,9.0nm,0.9s,SNR=15

BR101 Keskin Array S 148.47 321 *e*PKPbc **PKPbc** **18 56 41.5 -0.5**

BR131 Keskin Array S 148.47 321 *e*PKPdf **PKPdf** **18 56 39.1 +0.6**

BRTR Keskin Array B 148.47 321 PKPbc **PKPbc** **18 56 41.5 -0.5**
comp=Z,10nm,0.8s,baz=134,slow=2.3,SNR=45

CLF Chambon-Foret 148.51 8 *e*PKPbc **PKPbc** **18 56 41.8 +0.2**

MTUR Matau 148.52 337 ⇑*i* P **PKPab** **18 56 46.1 +0.9**

MTUR Matau 148.52 337 ⇑PKP2 **PKPab** **18 56 46.1 +0.9**

ARR Arges 148.56 338 ⇑*i* P **PKiKP** **18 56 43.4 -0.1**

BFO Black Forest 148.63 0 *e*PKPbc **PKPbc** **18 56 41.4 -0.6**
BFO LR LR
comp=Z,13nm,19.0s

BFO Black Forest 148.63 0 *e*PKPbc **PKPbc** **18 56 42.3 +0.3**
baz=6.2,slow=3.0

BFO Black Forest 148.63 0 *i* PKP2 **PKPbc** **18 56 42.2 +0.2**

BCAM Yenicaga 148.67 324 *i* P **PKiKP** **18 56 43.2 -0.7**
BCAM IAML_P
comp=Z,198nm,0.7s

KIRS Kırehir-Merke 148.67 320 *i* P **PKPbc** **18 56 42.6 +0.1**
KIRS IAML_P
comp=Z,286nm,0.8s

DEV Deva 148.69 341 ⇑*i* P **PKPab** **18 56 47.3 +1.5**

DEV Deva 148.69 341 ⇑PKP2 **PKPab** **18 56 47.3 +1.5**

FUR Furstenfeldbru 148.71 356 *e*PKPbc **PKPbc** **18 56 42.4 +0.2**
baz=6.2,slow=3.0

ECH Echery 148.72 2 *e*PKPbc **PKPbc** **18 56 42.4 +0.2**

ECH Echery 148.72 2 *e*PKP2 **PKPbc** **18 56 42.4 +0.2**

MOA Molln 148.75 353 *ep*PKPdf **PKPbc** **18 56 41.9 -0.4**
comp=Z,6.9nm,0.9s

ANTO Ankara 148.88 322 *e*PKPbc **PKPbc** **18 56 42.5 -0.4**
ANTO LR LR
comp=Z,231nm,20.0s

ANTO Ankara 148.88 322 *e*PKP2 **PKPbc** **18 56 42.5 -0.4**
ANTO MLR MLR
comp=Z,231nm,20.0s

NGRH Nagyer 148.89 344 *e*PKPdf **PKPdf** **18 56 36.0 -2.7**

BBAL Bala 148.90 321 *i* P **PKiKP** **18 56 44.9 +0.5**

BBAL				IAML_P					
	comp=Z,9.3nm,0.2s								
YIGI	**Dzce**	**148.91**	**325**	*i* P	**PKPbc**	**18 56 42.4**	**-0.5**		
YIGI				IAML_P					
	comp=Z,13nm,0.3s								
AMBH	**Ambrzfalva**	**148.91**	**344**	*e*PKPdf	**PKPab**	**18 56 48.1**	**+1.5**		
RJOB	**Jochberg**	**149.02**	**354**	*e*PKPbc	**PKPbc**	**18 56 43.2**	**+0.2**		
	baz=6.2,slow=3.0								
SACV	**Santiago Islan**	**149.04**	**89**	PFAKE		18 56 50.0	+1.9		
SACV				LR	LR				
	comp=Z,254nm,22.0s								
KIBS	**BOLU**	**149.06**	**324**	*i* P	**PKPbc**	**18 56 43.8**	**+0.4**		
KIBS				IAML_P					
	comp=Z,436nm,0.8s								
AKSY	**AKSARAY - Alti**	**149.06**	**320**	*i* P	**PKPbc**	**18 56 43.7**	**+0.2**		
AKSY				IAML_P					
	comp=Z,46nm,0.1s								
ARSA	**Arzberg**	**149.16**	**351**	*e*PKPdf	**PKPdf**	**18 56 39.2**	**0.0**		
	comp=Z,3.4nm,0.9s								
GZR	**Gura Zlata**	**149.17**	**340**	⇑*i*P	**PKPbc**	**18 56 43.8**	**+0.3**		
GZR	**Gura Zlata**	**149.17**	**340**	⇑PKP2	**PKPbc**	**18 56 43.8**	**+0.3**		
GULE	**Gulek**	**149.21**	**316**	*i* P	**PKPbc**	**18 56 44.3**	**+0.2**		
GULE				IAML_P					
	comp=Z,769nm,0.8s								
UBR	**Ueberruh**	**149.25**	**358**	*e*PKPbc	**PKPbc**	**18 56 44.0**	**+0.4**		
	baz=6.2,slow=3.0								
KKUL	**Konya-Kulu**	**149.25**	**321**	*i* P	**PKPbc**	**18 56 44.3**	**+0.3**		
KKUL				IAML_P					
	comp=Z,68nm,0.3s								
BZS	**Buzias**	**149.33**	**342**	⇑*i*P	**PKPbc**	**18 56 44.1**	**+0.3**		
BZS	**Buzias**	**149.33**	**342**	⇑PKP2	**PKPbc**	**18 56 44.1**	**+0.3**		
RETA	**Reutte**	**149.42**	**357**	*e*PKiKP	**PKPbc**	**18 56 44.3**	**+0.2**		
	comp=Z,14nm,1.0s,SNR=15								
WATA	**Walderalm**	**149.52**	**356**	*e*PKiKP	**PKPbc**	**18 56 44.7**	**+0.3**		
	comp=Z,12nm,1.0s								
MOTA	**Moosalm**	**149.54**	**357**	*e*PKiKP	**PKPbc**	**18 56 44.9**	**+0.4**		
	comp=Z,17nm,1.0s,SNR=11								
WTTA	**Wattenberg**	**149.59**	**356**	*i* PKiKP	**PKPbc**	**18 56 44.6**	**0.0**		
	comp=Z,22nm,1.1s								
KBA	**Koelnbreinsper**	**149.62**	**354**	*e*pPKPdf	**PKPbc**	**18 56 44.1**	**-0.6**		
	comp=Z,19nm,1.2s								
DAVA	**Damuels**	**149.65**	**358**	*e*PKiKP	**PKPbc**	**18 56 45.1**	**+0.4**		
	comp=Z,22nm,1.0s,SNR=11								
SQTA	**Sankt Quirin**	**149.66**	**356**	*e*PKiKP	**PKPbc**	**18 56 44.6**	**-0.2**		
	comp=Z,11nm,0.9s								
BEHE	**Becsehely**	**149.71**	**349**	*e*PKPdf	**PKPbc**	**18 56 44.0**	**-0.7**		
ZIMR		**149.73**	**335**	⇑*i*P	**PKPbc**	**18 56 45.3**	**+0.5**		
ZIMR		**149.73**	**335**	⇑PKP2	**PKPbc**	**18 56 45.3**	**+0.5**		
SILT	**Sile**	**149.73**	**327**	⇑*i*P	**PKPdf**	**18 56 41.8**	**+1.6**		
HERR	**Herculane**	**149.74**	**340**	⇑*i*P	**PKPbc**	**18 56 43.7**	**-1.1**		
SOKA	**Soboth**	**149.80**	**351**	*e*PKiKP	**PKPbc**	**18 56 44.7**	**-0.3**		
	comp=Z,8.4nm,0.9s,SNR=7.2								
FETA	**Feichten**	**149.88**	**357**	*e*PKiKP	**PKPbc**	**18 56 45.3**	**0.0**		
	comp=Z,24nm,1.0s,SNR=15								
MYKA	**Terra Mystica**	**150.03**	**353**	*e*pPKPdf	**PKPbc**	**18 56 44.7**	**-0.9**		
	comp=Z,4.8nm,0.8s,SNR=5.4								
ABTA	**Abfaltersbach**	**150.03**	**355**	*e*PKiKP	**PKPbc**	**18 56 45.2**	**-0.4**		
	comp=Z,36nm,0.9s,SNR=17								
OBKA	**Obir**	**150.03**	**352**	*e*P	**PKiKP**	**18 56 46.1**	**-0.4**		
	comp=Z,5.6nm,0.8s								
MDVR	**Moldovita**	**150.05**	**341**	⇑*i*P	**PKPbc**	**18 56 46.1**	**+0.4**		
KDHN	**Kadinhani**	**150.15**	**321**	*i* P	**PKiKP**	**18 56 46.6**	**-0.4**		
KDHN				IAML_P					
	comp=Z,11nm,0.5s								
DAVOX	**Davos/Dischmat**	**150.16**	**358**	PKPbc	**PKPbc**	**18 56 45.9**	**-0.2**		
BORA	**Eskisehir**	**150.21**	**325**	*i* P	**PKPbc**	**18 56 46.0**	**-0.2**		
BORA				IAML_P					
	comp=Z,76nm,0.1s								
FUORN	**Ofenpass-Fuorn**	**150.31**	**358**	*e*PKPbc	**PKPbc**	**18 56 46.3**	**-0.2**		
TUE	**Stuetta**	**150.48**	**359**	*e*PKPbc	**PKPbc**	**18 56 47.1**	**+0.2**		
SENIN	**Lac Senin/Sane**	**150.58**	**2**	*e*PKPbc	**PKPbc**	**18 56 47.4**	**+0.3**		
ERMK	**Ermenek**	**150.80**	**317**	*i* P	**PKPbc**	**18 56 48.1**	**+0.2**		
ERMK				IAML_P					
	comp=Z,733nm,0.4s								
TRI	**Trieste**	**150.92**	**352**	*e*PKPbc	**PKPbc**	**18 56 47.2**	**-0.4**		
MMAI	**Mount Meron Ar**	**150.94**	**309**	PKPbc	**PKiKP**	**18 56 48.6**	**-0.2**		
	comp=Z,7.2nm,0.8s,baz=48,slow=2.1,SNR=2.7								
PGB	**Panagyurishte**	**151.14**	**336**	*e*P	**PKPab**	**18 56 52.9**	**-3.1**		
BLY	**Banja Luka**	**151.27**	**347**	*e*PKPbc	**PKPbc**	**18 56 47.6**	**-0.9**		
BLY	**Banja Luka**	**151.27**	**347**	⇑*i*P	**PKiKP**	**18 56 49.1**	**+0.1**		
VTS	**Vitosha**	**151.44**	**337**	*e*PKPbc	**PKPbc**	**18 56 47.9**	**-1.3**		
VTS	**Vitosha**	**151.44**	**337**	⇑*i*P	**PKiKP**	**18 56 49.6**	**0.0**		
VTS	**Vitosha**	**151.44**	**337**	⇑PKIKP	**PKiKP**	**18 56 49.6**	**0.0**		
VTS	**Vitosha**	**151.44**	**337**	*e*P	**PKPbc**	**18 56 46.9**	**-2.2**		
PCAB	**Cabril**	**151.44**	**27**	*e*PKPbc	**PKPbc**	**18 56 49.2**	**+0.2**		
CSS	**Mathiatis**	**151.47**	**314**	*e*PKPdf	**PKPdf**	**18 56 41.2**	**-1.9**		
CSS				*e*PKPbc	**sPKPdf**	**18 56 48.0**	**+0.2**		
SSB	**Saint Sauveur**	**151.48**	**6**	*e*PKPbc	**PKPbc**	**18 56 49.0**	**0.0**		
POLO	**Lamas de Olo**	**151.82**	**27**	*e*PKPbc	**PKiKP**	**18 56 50.5**	**+0.1**		
BNI	**Bardonecchia**	**151.86**	**3**	*e*PKPbc	**PKPdf**	**18 56 43.6**	**0.0**		
BNI				*e*PKPbc	**PKiKP**	**18 56 50.3**	**-0.1**		
BNI				*e*PKPab	**sPKPbc**	**18 56 56.0**	**+1.4**		
BNI	**Bardonecchia**	**151.86**	**3**	*e*PKIKP	**PKPdf**	**18 56 43.6**	**0.0**		
BNI				*e*		18 56 50.3			
BNI				*e*		18 56 56.0			
PBRG	**Braganca**	**151.90**	**25**	*e*PKPbc	**PKiKP**	**18 56 50.6**	**+0.1**		
PVRL	**Vila Real**	**151.93**	**27**	*e*PKPbc	**PKPbc**	**18 56 50.1**	**-0.1**		
MMB	**Musomiste**	**152.12**	**335**	*e*P	**PKPab**	**18 56 55.9**	**-4.2**		
KKB	**Krupnik**	**152.14**	**336**	*e*P	**PKPbc**	**18 56 48.2**	**-2.4**		
MANT	**Manisa**	**152.23**	**325**	*e*PKPbc	**PKPbc**	**18 56 49.6**	**-1.6**		
MANT				*e*PKPab	**sPKPbc**	**18 56 55.9**	**0.0**		
PVIS	**Viseu**	**152.31**	**28**	*e*PKPbc	**PKPbc**	**18 56 50.9**	**-0.2**		
MVO	**Moncorvo**	**152.32**	**26**	*e*PKPbc	**PKPbc**	**18 56 50.5**	**-0.6**		
EZN	**Ezine**	**152.40**	**330**	⇑*i*P	**PKPbc**	**18 56 50.7**	**-0.5**		
EZN	**Ezine**	**152.40**	**330**	⇑PKIKP	**PKPbc**	**18 56 50.7**	**-0.5**		
STIP	**Stip**	**152.62**	**337**	*i* P	**PKPbc**	**18 56 50.9**	**-0.8**		
MTE	**Manteigas**	**152.72**	**28**	*e*PKPbc	**PKPbc**	**18 56 51.0**	**-1.0**		
VAY	**Valandovo**	**152.81**	**336**	*i* P	**PKPbc**	**18 56 50.2**	**-1.9**		
KRUS	**Krusevo**	**153.25**	**338**	*i* P	**PKPbc**	**18 56 52.6**	**-0.5**		
FNA	**Florina**	**153.72**	**338**	*e*PKPbc	**PKPbc**	**18 56 53.3**	**-0.9**		
FNA	**Florina**	**153.72**	**338**	*e*PKIKP	**PKPbc**	**18 56 53.3**	**-0.9**		
PNCL	**Nicolau / Gran**	**154.07**	**32**	*e*PKPbc	**PKPbc**	**18 56 53.4**	**-1.5**		
PAB	**San Pablo**	**154.77**	**24**	PFAKE		18 57 00.0	+3.5		
PAB				LR	LR				
	comp=Z,512nm,19.0s								
ESDC	**Sonseca Array**	**154.81**	**23**	PKPbc	**PKPbc**	**18 56 56.2**	**-0.3**		
	comp=Z,2.5nm,1.0s,baz=327,slow=2.6,SNR=7.7								
ESDC				PP	PP	19 00 56.6	+10		
	comp=Z,0.2nm,0.4s,baz=315,slow=5.9,SNR=4.0								
ES06	**SONSECA Array**	**154.81**	**23**	*e*pPKPdf	pPKPdf	18 56 52.2	+0.8		
LIC	**Lamto**	**163.02**	**127**	*e*P	**PKPab**	**18 57 49.2**	**+1.4**		
	comp=Z,56nm,1.5s								
TIC	**Toumodi**	**163.29**	**126**	*e*P	**PKPab**	**18 57 50.5**	**+1.5**		
KIC	**Kosan Boka**	**163.32**	**127**	*e*P	**PKPab**	**18 57 50.6**	**+1.5**		
	comp=Z,54nm,1.5s								
DBIC	**Dimbokro**	**163.43**	**126**	PKP	**PKPdf**	**18 56 58.9**	**+0.3**		
	comp=Z,2.9nm,0.9s,baz=153,slow=2.3,SNR=3.3								
DBIC				PKPab	**PKPab**	**18 57 51.2**	**+1.7**		
	comp=Z,5.9nm,1.0s,baz=227,slow=8.1,SNR=5.0								
TOA0	**Torodi Ar. Sit**	**172.41**	**118**	*e*PKPdf	**PKPdf**	**18 57 01.9**	**-2.9**		
TOA0				*e*PKPdf	**pPKPdf**	**18 57 02.4**	**-5.9**		
TOA0				*e*PKPab	**PKPab**	**18 58 28.6**	**-0.7**		
TOA0				*e*PKPab	**pPKPab**	**18 58 30.7**	**-2.0**		
TOA1	**Torodi Ar. Sit**	**172.41**	**118**	*e*PKPdf	**PKPdf**	**18 57 03.3**	**-1.5**		
TOA1				*e*PKPab	**PKPab**	**18 58 30.6**	**+1.3**		
TOA1				*e*PP	**PP**	**19 02 26.3**	**+5.7**		
TORD	**Torodi Ar. Bea**	**172.41**	**118**	PKP	**PKPdf**	**18 57 03.3**	**-1.5**		
	comp=Z,3.7nm,1.0s,baz=303,slow=0.6,SNR=15								
TORD				PKPab	**PKPab**	**18 58 30.6**	**+1.3**		
	comp=Z,4.8nm,0.9s,baz=200,slow=4.4,SNR=7.9								
TORD				PP	**PP**	**19 02 26.3**	**+5.7**		
	comp=Z,0.2nm,0.4s,baz=251,slow=4.4,SNR=3.8								
TAM	**Tamanrasset**	**173.46**	**25**	*e*PKPdf	**PKPdf**	**18 57 05.2**	**-0.1**		
TAM	**Tamanrasset**	**173.46**	**25**	*e*PKIKP	**PKPdf**	**18 57 05.2**	**-0.1**		

*IDC **19** 18:47:45.7±2.5,37°.28N×141°.48E,h0km,mb3.3/2, mb1 3.5/4,mb1mx3.2/77,mbtmp3.5/4,ML2.9/2,Error ellipse: s-maj=41.2km s-min=27.7km az=69.0*
*ISCJP **19** 18:47:48.6±1.1,37°.26N±0°.03×141°.29E±0°.07,h19km±8km, mb3.2/2,Error ellipse: s-maj=9.8km s-min=5.3km az=16.2*
*JMA **19** 18:47:50.6±0.1,37°.30N×141°.13E,h27km±1km,M3.5*
JMA Felt II J1.

ISC 19 18:47:48.5±1.5,37°.29N±0°.03×141°.26E±0°.07,h13km±9km, n17,σ0°.83/25,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JFK	**Kawauchi**	**0.32**	**285**	P		**Pb**	**18 47 56.4**	**+0.4**
JFK				*e*S		**Sg**	**18 48 00.4**	**+1.1**
ONAJ	**Iwakimizuishiy**	**0.41**	**243**	P		**Pb**	**18 47 58.0**	**+0.4**
ONAJ				S		**Sg**	**18 48 03.2**	**+1.0**
JFFD	**Fukushimafurud**	**0.59**	**251**	P		**Pb**	**18 48 00.7**	**+0.1**
JFFD				S		**Sg**	**18 48 07.5**	**-0.3**
JMM	**Marumori**	**0.69**	**328**	P		**Pb**	**18 48 02.4**	**+0.1**
JMM				S		**Sg**	**18 48 11.0**	**+0.1**
JFT	**Otama**	**0.77**	**288**	P		**Pb**	**18 48 03.9**	**+0.2**
JFT				S		**Sg**	**18 48 13.1**	**-0.4**
JHO	**Hitachi**	**0.87**	**219**	P		**Pg**	**18 48 04.9**	**-0.4**
JHO				S		**Sg**	**18 48 15.4**	**-1.3**
JSB	**Shiboa**	**1.11**	**254**	P		**Pn**	**18 48 10.1**	**+0.3**
JSB				S		**Sb**	**18 48 23.9**	**-0.1**
JIO	**Ouri**	**1.17**	**4**	P		**Pg**	**18 48 10.5**	**-0.5**
JOU	**Okura**	**1.17**	**337**	P		**Pg**	**18 48 10.9**	**-0.2**
JOU				S		**Sn**	**18 48 26.5**	**0.0**
JFY	**Yanaizu**	**1.24**	**276**	P		**Pn**	**18 48 11.7**	**+0.2**
JFY				*i* S		**Sb**	**18 48 26.7**	**-1.0**
MJAR	**Matsushiro Arr**	**2.55**	**254**	Pn		**Pn**	**18 48 30.9**	**+1.3**
	0.6nm,0.3s,baz=77,slow=15,SNR=31							
MJAR				Sn		**Sb**	**18 49 03.7**	**-1.8**
	0.8nm,0.3s,baz=41,slow=20,SNR=4.3							
JHJ	**Hachijo jima 2**	**4.33**	**197**	Pn		**Pn**	**18 48 54.5**	**+0.5**
	5.8nm,0.3s,baz=22,slow=19,SNR=6.0							
JHJ				Sn		**Sn**	**18 49 45.9**	**+1.5**
	6.9nm,0.3s,baz=62,slow=18,SNR=1.8							
SONM	**Songino Array**	**27.54**	**304**	P		**P**	**18 53 35.5**	**+0.5**
	0.3nm,0.6s,baz=108,slow=9.0,SNR=3.1							
H11N2	**WAKE ISLAND Hy**	**28.39**	**121**	T		T	19 23 37.5	
	baz=314,slow=76,SNR=24							
H11N1	**WAKE ISLAND Hy**	**28.39**	**121**	T		T	19 23 38.1	
	baz=314,slow=76,SNR=35							
H11N3	**WAKE ISLAND Hy**	**28.40**	**121**	T		T	19 23 38.8	
	baz=314,slow=76,SNR=38							
WRA	**Warramunga Arr**	**57.30**	**188**	P		**P**	**18 57 35.2**	**-0.8**
	0.2nm,0.6s,baz=6.1,slow=7.6,SNR=5.2							

*ISCJP **19** 18:49:44.9±0.4,31°.27N±0°.05×138°.64E±0°.08,h394km, mb3.2/9,Error ellipse: s-maj=9.4km s-min=5.9km az=157.6*
*JMA **19** 18:49:44.7±0.3,31°.27N×138°.65E,h402km,M3.3*
*IDC **19** 18:49:45.6±0.7,31°.22N×138°.58E,h387km±11km,mb3.0/9, mb1 3.1/14,mb1mx2.9/77,mbtmp3.7/14,Error ellipse: s-maj=28.1km s-min=11.7km az=73.0*

ISC 19 18:49:45.5±0.7,31°.28N±0°.07×138°.73E±0°.10,h394km,n27, σ1°.32/31,mb3.2/9,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JHJ	**Hachijo jima 2**	**2.04**	**26**	P		**Pn**	**18 50 42.5**	**+1.5**
	13nm,0.3s,baz=328,slow=18,SNR=21							
JHJ				S		**S**	**18 51 26.6**	**+0.6**
	17nm,0.3s,baz=295,slow=23,SNR=5.8							
JHJ2	**Mitsune**	**2.04**	**26**	P		**Pn**	**18 50 42.4**	**+1.4**
TTO1	**TONANKAI O.B.S**	**2.85**	**325**	P		**Pn**	**18 50 47.4**	**+0.8**
JIE	**Ise**	**3.54**	**332**	P		**Pn**	**18 50 53.2**	**+0.4**
JKN2	**Miekihoku**	**3.60**	**326**	P		**Pn**	**18 50 53.3**	**0.0**
JTNC	**Tanabenakahech**	**3.65**	**315**	P		**Pn**	**18 50 53.4**	**-0.4**
BSO3	**Boso 3**	**3.81**	**23**	*e*S		**S**	**18 51 49.5**	**-2.0**
BSO1	**Boso 1**	**3.86**	**29**	P		**Pn**	**18 50 55.9**	**+0.8**
BSO1				*e*S		**S**	**18 51 50.7**	**-1.0**
JHU	**Hanno**	**4.58**	**6**	P		**Pn**	**18 51 03.8**	**+1.0**
JRY	**Ryogami san**	**4.72**	**2**	P		**Pn**	**18 51 05.9**	**+1.6**
JYT	**Yasato**	**5.08**	**13**	S		**S**	**18 52 10.0**	**-4.9**
CBIJ	**Chichi jima**	**5.15**	**143**	P		**Pn**	**18 51 08.7**	**-0.1**
CBIJ				*e*S		**S**	**18 52 14.8**	**-1.7**
JCJ	**Chichijima**	**5.15**	**143**	P		**Pn**	**18 51 09.2**	**+0.4**
	9.7nm,0.3s,baz=282,slow=24,SNR=16							
JCJ				S		**S**	**18 52 15.6**	**-1.0**
	5.8nm,0.3s,baz=290,slow=22,SNR=1.6							
JAG	**Ashikaga**	**5.17**	**6**	P		**Pn**	**18 51 08.4**	**-0.4**
MJAR	**Matsushiro Arr**	**5.26**	**355**	P		**Pn**	**18 51 10.0**	**+0.1**
	0.1nm,0.3s,baz=171,slow=11,SNR=3.0							
JHO	**Hitachi**	**5.53**	**16**	P		**Pn**	**18 51 13.1**	**+0.4**
KSRS	**Korea Array**	**10.84**	**308**	P		**Pn**	**18 52 11.9**	**-1.3**
	0.2nm,0.3s,baz=121,slow=11,SNR=6.0							
KLR	**Kul'dur**	**18.69**	**346**	P		**P**	**18 53 37.2**	**-0.1**
	0.2nm,0.3s,baz=164,slow=15,SNR=5.0							
SONM	**Songino Array**	**29.63**	**313**	P		**P**	**18 55 16.4**	**0.0**
	0.5nm,0.4s,baz=122,slow=8.2,SNR=7.6							
CMAR	**Chiang Mai Arr**	**38.09**	**260**	P		**P**	**18 56 28.0**	**-0.5**
	0.3nm,0.7s,baz=45,slow=6.5,SNR=4.0							
MKAR	**Makanchi Array**	**45.52**	**307**	P		**P**	**18 57 27.4**	**-0.2**
	1.0nm,0.8s,baz=64,slow=11,SNR=8.2							
WRA	**Warramunga Arr**	**51.10**	**185**	P		**P**	**18 58 10.1**	**+0.3**
	0.2nm,0.6s,baz=4.4,slow=8.4,SNR=3.4							
BVAR	**Borovoye Array**	**52.94**	**315**	P		**P**	**18 58 23.1**	**+0.3**
	0.6nm,0.5s,baz=103,slow=7.8,SNR=4.9							
ARCES	**ARCESS Array B**	**68.60**	**340**	P		**P**	**19 00 08.0**	**+1.3**
	2.8nm,0.9s,baz=67,slow=6.9,SNR=2.6							
FINES	**FINESS Array B**	**72.86**	**332**	P		**P**	**19 00 33.2**	**+1.0**
	2.8nm,1.1s,baz=84,slow=5.7,SNR=5.6							
KBZ	**Khabaz**	**72.97**	**311**	P		**P**	**19 00 33.7**	**+0.5**
	0.8nm,0.7s,baz=76,slow=8.3,SNR=2.4							
AKASG	**Malin Array Be**	**77.47**	**322**	P		**P**	**19 00 58.8**	**+0.4**
	0.3nm,0.3s,baz=52,slow=5.4,SNR=2.0							

*ISCJP **19** 18:51:15.9±0.3,67°.04N±0°.02×21°.00E±0°.05,h0km,Error ellipse: s-maj=2.6km s-min=2.4km az=169.0*
*UPP **19** 18:51:16.5±0.1,67°.05N×20°.97E,h0km,ML2.1,Explosion*
*HEL **19** 18:51:17.3±0.0,67°.06N×20°.97E,h0km,ML2.2, ML2.1(UPP),Explosion*
*IDC **19** 18:51:17.5±0.8,67°.03N×21°.13E,h0km,mb1 3.3/5, mb1mx3.1/68,mbtmp3.3/5,ML1.9/4,Error ellipse: s-maj=14.4km s-min=6.3km az=111.0*
*NAO **19** 18:51:17.3±1.0,67°.02N×21°.21E,ML2.4*
*BER **19** 18:51:18.9±3.7,66°.92N×21°.31E,h0km,ML1.6, ML2.4(NAO),Suspected explosion*

ISC 19 18:51:16.6±0.7,67°.05N±0°.02×20°.99E±0°.02,h0km,n68, σ1°.05/99,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DUNU	**Dundret**	**0.18**	**293**	P		**Pg**	**18 51 20.1**	**+0.2**
DUNU				S		**Sg**	**18 51 22.8**	**+0.6**
DUNU	**Dundret**	**0.18**	**293**	*i* P		**Pg**	**18 51 20.1**	**+0.2**
DUNU				*i* S		**Sg**	**18 51 22.8**	**+0.6**
MASU	**Masugnsbyn**	**0.56**	**44**	P		**Pg**	**18 51 27.5**	**+0.2**
MASU	**Masugnsbyn**	**0.56**	**44**	*i* P		**Pg**	**18 51 27.5**	**+0.2**
ERTU	**Ertsjaerv**	**0.69**	**136**	P		**Pg**	**18 51 29.5**	**-0.3**
ERTU	**Ertsjaerv**	**0.69**	**136**	*e*P		**Pg**	**18 51 29.4**	**-0.4**
ERTU				*e*S		**Sg**	**18 51 39.3**	**+0.5**
PAJU	**Pajala**	**0.83**	**91**	P		**Pg**	**18 51 32.2**	**-0.3**
PAJU				S		**Sg**	**18 51 44.1**	**+0.8**
PAJU	**Pajala**	**0.83**	**91**	*i* P		**Pg**	**18 51 32.2**	**-0.3**
PAJU				*i* S		**Sg**	**18 51 44.1**	**+0.8**
KUA	**Kurravaara**	**0.94**	**345**	P		**Pg**	**18 51 33.9**	**-0.7**
KUA	**Kurravaara**	**0.94**	**345**	*e*P		**Pg**	**18 51 33.9**	**-0.7**
RATU	**Laukkuluspa**	**0.94**	**326**	P		**Pg**	**18 51 34.0**	**-0.6**
RATU	**Laukkuluspa**	**0.94**	**326**	*e*P		**Pg**	**18 51 34.0**	**-0.6**
SALU	**Saltoluokta**	**1.02**	**290**	P		**Pg**	**18 51 35.5**	**-0.6**
SALU	**Saltoluokta**	**1.02**	**290**	*e*P		**Pg**	**18 51 35.6**	**-0.5**
SALU	**Saltoluokta**	**1.02**	**290**	*e*P		**Pg**	**18 51 35.5**	**-0.6**
LANU	**Lannavaara**	**1.07**	**21**	P		**Pg**	**18 51 36.4**	**-0.7**
LANU	**Lannavaara**	**1.07**	**21**	*e*P		**Pg**	**18 51 36.2**	**-0.9**
LANU				*e*S		**Sg**	**18 51 49.9**	**-1.0**
NIKU	**Nikkaluokta**	**1.11**	**318**	P		**Pg**	**18 51 37.0**	**-0.8**
NIKU	**Nikkaluokta**	**1.11**	**318**	*e*P		**Pg**	**18 51 37.0**	**-0.8**
KALU	**Kalix**	**1.53**	**140**	P		**Pn**	**18 51 44.6**	**-0.5**
KALU	**Kalix**	**1.53**	**140**	*e*P		**Pn**	**18 51 44.7**	**-0.5**
KALU				*e*SN		**Sg**	**18 52 06.4**	**+0.8**
SJUU	**Sjulsmark**	**1.57**	**171**	P		**Pn**	**18 51 45.4**	**-0.3**
SJUU	**Sjulsmark**	**1.57**	**171**	*e*P		**Pn**	**18 51 45.4**	**-0.3**
TOF	**Tornio**	**1.66**	**125**	*e*P		**Pn**	**18 51 46.8**	**0.0**
TOF				MSG			18 52 07.4	
	comp=Z,32nm,0.2s							
TOF				*e*SG		**Sn**	**18 52 08.8**	**+0.2**
HEF	**Hetta**	**1.70**	**36**	*e*P		**Pn**	**18 51 47.4**	**-0.1**
HEF				*e*S		**Sb**	**18 52 10.6**	**+0.1**
HEF	**Hetta**	**1.70**	**36**	*e*P		**Pn**	**18 51 47.1**	**-0.3**
	baz=216							
HEF				MSG			18 52 08.0	
	comp=Z,17nm,0.2s							
HEF				*e*SN		**Sg**	**18 52 12.0**	**+0.9**
KIF	**Kilpisjarvi**	**1.96**	**358**	Pn		**Pb**	**18 51 52.6**	**-0.5**
KIF				Sn		**Sg**	**18 52 19.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*P		**Pb**	**18 51 52.6**	**-0.5**
KIF				*e*S		**Sg**	**18 52 19.6**	**+0.1**
KIF	**Kilpisjarvi**	**1.96**	**358**	*e*PB		**Pb**	**18 51 52.5**	**-0.6**
KIF				MSG			18 52 16.0	
	comp=Z,29nm,0.2s							
KIF				*e*SG		**Sg**	**18 52 19.8**	**+0.3**
RNF	**Rovaniemi**	**2.04**	**100**	*e*PB		**Pn**	**18 51 53.3**	**+1.2**
RNF				*e*SG		**Sb**	**18 52 20.6**	**+0.4**
KTK1	**Kautokeino**	**2.14**	**22**	*e*P		**Pb**	**18 51 55.3**	**-0.9**
KTK1				*e*S		**Sb**	**18 52 23.0**	**-0.3**
KTK1				IAML			18 52 26.7	
	comp=Z,8.2nm,0.3s							
SGF	**Sodankyl**	**2.19**	**77**	*e*PB		**Pn**	**18 51 55.2**	**+1.0**
SGF				*e*SG		**Sg**	**18 52 26.6**	**-0.2**
STEI	**Steigen**	**2.38**	**294**	*e*P		**Pn**	**18 51 57.3**	**+0.6**
BURU	**Burvik**	**2.49**	**176**	P		**Pn**	**18 51 59.1**	**+0.9**
BURU	**Burvik**	**2.49**	**176**	*e*P		**Pn**	**18 51 59.2**	**+1.0**
BURU				*e*SB		**Sn**	**18 52 31.1**	**+1.9**
MOR8	**Moi Rana**	**2.76**	**254**	*e*P		**Pn**	**18 52 02.3**	**+0.3**
MOR8				*e*Sg		**Sn**	**18 52 38.0**	**+2.1**
OUL	**Oulu**	**2.81**	**132**	*e*P		**Pn**	**18 52 03.6**	**+0.9**
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**18 52 05.9**	**+0.5**
	baz=204,slow=16							
ARA0				Sn		**Sn**	**18 52 43.2**	**+1.1**
	baz=205,slow=18							
ARA0	**ARCESS Array S**	**3.01**	**32**	Pn		**Pn**	**18 52 05.9**	**+0.5**
	baz=204,slow=16							
ARA0				Sn		**Sn**	**18 52 43.2**	**+1.1**
	baz=205,slow=18							
ARCES	**ARCESS Array B**	**3.01**	**32**	Pn		**Pn**	**18 52 06.0**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=209,slow=14,SNR=48							
ARCES				Sn		**Sn**	**18 52 43.6**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=219,slow=21,SNR=7.1							
ARCES				Lg	Lg		18 52 51.7	
	comp=Z,1.3nm,0.3s,baz=212,slow=29,SNR=8.1							
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P		**Pn**	**18 52 06.1**	**+0.7**
ARE0	**ARCESS Array S**	**3.01**	**32**	*e*P		**Pn**	**18 52 05.9**	**+0.5**
ARE

CDF	**Champ du Feu**	**3.19**	**175**	*e*P	**Pn**	**18 58 26.8**	**+1.0**
CDF				*e*Sg	**Sg**	**18 59 15.7**	**-1.1**
	0.6nm,0.2s						
MEZF	**Maizieres J'vi**	**3.29**	**201**	*e*Sg	**Sg**	**18 59 19.6**	**-0.4**
	4.2nm,0.4s						
HINF	**Hinteralfeld**	**3.77**	**180**	*e*Sg	**Sg**	**18 59 34.7**	**-0.8**
	0.7nm,0.2s						

ISCJB ***19*** *19:05:03.7±0.3,0°.42S±0°.03×122°.98E±0°.04,h35km, mb4.2/19,MS4.3/1,Error ellipse: s-maj=5.5km s-min=4.3km az=151.8*

DJA ***19*** *19:05:03.1±0.2,0°.52S×122°.78E±°,h10km,M4.6/10,mb4.8/2, mB4.7/2,MLv4.5/10,Mw(mB)3.9/2*

IDC ***19*** *19:05:05.1±2.2,0°.52S×122°.78E,h45km±19km,mb3.6/7, mb1 3.8/9,mb1mx3.5/37,mbtmp3.9/9,ML3.7/2,Error ellipse: s-maj=27.1km s-min=14.5km az=63.0*

NEIC ***19*** *19:05:06.3±0.7,0°.52S×123°.01E,h49km±8km,mb4.5/11, Error ellipse: s-maj=10.4km s-min=6.7km az=50.0*

ISC 19 19:05:05.0±0.5,0°.49S±0°.04×122°.95E±0°.05,h35km,n54, σ2ş16/64,mb4.4/19,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.58**	**198**	*e*Pn	**Pn**	**19 05 17.0**	**+0.1**
LUWI				*e*Sn	**Sn**	**19 05 26.8**	**+1.7**
LUWI	**Luwuk**	**0.58**	**198**	P	**Pn**	**19 05 16.9**	**+0.1**
LUWI				S	**Sn**	**19 05 26.0**	**+0.9**
APSI	**Ampana**	**1.37**	**252**	P	**Pn**	**19 05 29.3**	**+1.6**
APSI				S	**Sn**	**19 05 48.8**	**+4.2**
MRSI	**Marisa**	**1.39**	**313**	P	**Pn**	**19 05 26.0**	**-2.0**
MRSI				S	**Sn**	**19 05 41.5**	**-3.7**
KMSI	**Cibinong**	**1.47**	**44**	P	**Pn**	**19 05 28.0**	**-1.1**
MPSI	**Mapaga**	**3.16**	**285**	P	**Pn**	**19 05 52.2**	**-0.2**
SANI	**Sanana**	**3.41**	**117**	P	**Pn**	**19 05 54.9**	**-0.8**
KDI	**Kendari**	**3.46**	**186**	P	**Pn**	**19 06 58.2**	**+1.7**
TTSI	**Tana Toraja**	**4.03**	**231**	P	**Pn**	**19 06 05.7**	**+1.4**
TNTI	**Ternate**	**4.59**	**74**	*e*Pn	**Pn**	**19 06 14.2**	**+2.3**
TNTI				*e*Sn	**Sn**	**19 07 08.8**	**+4.8**
SPSI	**Sidrap Palu**	**4.70**	**223**	P	**Pn**	**19 06 15.2**	**+1.7**
NLAI	**Namlea**	**4.96**	**123**	P	**Pn**	**19 06 18.7**	**+1.6**
BKSI	**Bulukumba**	**5.57**	**210**	P	**Pn**	**19 06 27.2**	**+1.7**
	28nm,0.6s,298nm						
BSSI	**Bau Bau, Buton**	**6.13**	**204**	P	**Pn**	**19 06 35.3**	**+2.1**
BNDI	**Bandanaira**	**8.02**	**120**	P	**Pn**	**19 07 01.7**	**+2.6**
MMRI	**Maumere**	**8.13**	**185**	*e*Pn	**Pn**	**19 07 02.8**	**+2.2**
SIJI	**Sorong**	**8.32**	**93**	P	**Pn**	**19 07 06.4**	**+3.1**
	2.4nm,0.3s,baz=247,slow=9.5,SNR=13						
SIJI				S	**Sn**	**19 08 43.3**	**+7.2**
	0.1nm,0.3s,baz=175,slow=22,SNR=1.2						
SOEI	**Soe**	**9.30**	**172**	*e*Pn	Pn	19 07 22.2	+5.4
KKM	**Kota Kinabalu**	**9.35**	**314**	*e*Pn	**Pn**	**19 07 19.0**	**+1.6**
FAKI	**Fak Fak**	**9.60**	**105**	*e*Pn	**Pn**	**19 07 19.5**	**-1.4**
FAKI				*e*Sn	**Sn**	**19 09 01.9**	**-5.7**
SBUM	**Sibu**	**11.12**	**285**	*e*Pn	**Pn**	**19 07 44.6**	**+2.9**
MTN	**Manton Dam**	**14.71**	**147**	*e*Pn	**P**	**19 08 35.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**17.70**	**172**	*e*Pn	**Pn**	**19 09 06.8**	**-2.0**
	5.5nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.70**	**172**	P	**Pn**	**19 09 08.2**	**-0.7**
	0.1nm,0.3s,baz=6.3,slow=18,SNR=4.9						
WRAB	**Tennant Creek**	**22.32**	**151**	*e*P	**P**	**19 09 59.6**	**-0.2**
WRA	**Warramunga Arr**	**22.32**	**151**	P	**P**	**19 09 58.6**	**-1.2**
	6.6nm,0.8s,baz=335,slow=9.4,SNR=52						
WRA				ScP	**ScP**	**19 17 27.6**	**-2.3**
	0.3nm,0.5s,baz=324,slow=2.7,SNR=13						
WB2	**Warramunga Arr**	**22.32**	**151**	*e*P	**P**	**19 09 58.5**	**-1.4**
TPUB	**Ta-pu**	**23.75**	**355**	*e*P	**P**	**19 10 14.2**	**-0.1**
	19nm,0.9s						
COEN	**Coen**	**24.08**	**125**	*e*P	**P**	**19 10 16.7**	**-0.8**
	4.5nm,0.8s						
SSLB	**Suanglung**	**24.21**	**356**	*e*P	**P**	**19 10 19.0**	**+0.5**
	38nm,1.6s						
AS31	**Alice Springs**	**25.37**	**156**	*e*P	**P**	**19 10 29.3**	**+0.1**
	1.0nm,0.7s						
ASAR	**Alice Springs**	**25.37**	**156**	P	**P**	**19 10 29.1**	**-0.1**
	1.3nm,0.5s,baz=336,slow=8.8,SNR=48						
ASAR				PcP	**PcP**	**19 13 59.5**	**-1.9**
	0.2nm,0.5s,baz=345,slow=2.1,SNR=2.8						
ASAR				ScP	**ScP**	**19 17 36.9**	**-1.2**
	0.4nm,0.7s,baz=340,slow=2.9,SNR=4.7						
AS01	**Alice Springs**	**25.39**	**156**	*e*P	**P**	**19 10 28.9**	**-0.4**
GSI	**Gunungsitoli**	**25.44**	**274**	*e*P	**P**	**19 10 30.8**	**+0.9**
	25nm,1.2s						
CMAR	**Chiang Mai Arr**	**30.19**	**310**	P	**P**	**19 11 12.0**	**-0.3**
	0.3nm,0.3s,baz=143,slow=6.8,SNR=4.3						
ENH	**Enshi**	**33.17**	**338**	*e*P	**P**	**19 11 39.5**	**+1.1**
	14nm,1.1s						
STKA	**Stephens Creek**	**35.85**	**152**	*e*P	**P**	**19 12 01.4**	**-0.2**
	3.0nm,1.8s						
STKA	**Stephens Creek**	**35.85**	**152**	P	**P**	**19 12 01.0**	**-0.6**
	0.7nm,0.7s,baz=334,slow=14,SNR=3.5						
MJAR	**Matsushiro Arr**	**39.47**	**19**	P	**P**	**19 12 30.1**	**-2.0**
	2.5nm,0.9s,baz=202,slow=9.6,SNR=9.6						
ARMA	**Armidale**	**40.35**	**140**	*e*P	**P**	**19 12 41.0**	**+1.4**
	25nm,1.4s						
LZH	**Lanzhou**	**40.50**	**336**	*e*P	**P**	**19 12 42.1**	**+1.2**
LZH				pP	sP	19 12 56.8	+1.5
LZH				sP	pP	19 13 03.5	+12
LZH				PP	**PnPn**	**19 14 20.3**	**+1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,48nm,5.6s						
CAN	**Canberra**	**42.31**	**148**	*e*P	**P**	**19 12 55.5**	**-0.1**
	comp=Z,57nm,1.9s						
HHC	**Hu-ho-hao-te**	**42.43**	**347**	*e*P	**P**	**19 12 58.0**	**+1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.6s						
SONM	**Songino Array**	**50.24**	**346**	P	**P**	**19 13 57.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=162,slow=8.2,SNR=10						
WMQ	**Urumqi**	**54.18**	**329**	*e*P	**P**	**19 14 29.3**	**+2.1**
WMQ				LR	LR		
	comp=N,180nm,20.7s						
WMQ				LR	LR		
	comp=E,290nm,20.9s						
WMQ				LR	LR		
	comp=Z,210nm,22.1s						
MK01	**Makanchi Array**	**58.98**	**328**	*e*P	**P**	**19 14 59.5**	**-1.7**
MK31	**Makanchi Array**	**59.00**	**329**	*e*P	**P**	**19 15 01.0**	**-0.3**
	comp=Z,5.6nm,1.9s						
MKAR	**Makanchi Array**	**59.00**	**329**	P	**P**	**19 14 59.7**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=125,slow=8.6,SNR=7.8						
MAKZ	**Makanchi**	**59.17**	**328**	*e*P	**P**	**19 15 01.9**	**-0.6**
	comp=Z,7.4nm,1.9s						
SYO	**Syowa Base**	**87.16**	**201⇑**	*e*P	**P**	**19 17 47.5**	**+0.3**
LANS	**Liptovska Anna**	**99.18**	**320**	*e*PDIF	**Pdif**	**19 18 45.7**	**+2.6**
VYHS	**Vyhne**	**99.70**	**319**	*e*PDIF	**Pdif**	**19 18 49.1**	**+3.7**
TORD	**Torodi Ar. Bea**	**120.49**	**285**	PKP	**PKPdf**	**19 23 51.3**	**-2.7**
	comp=Z,0.8nm,1.0s,baz=100,slow=4.8,SNR=3.6						
Q24A	**Divide**	**121.73**	**43**	*e*PKPdf	**PKPdf**	**19 23 54.6**	**-1.5**

KRSC 19 19:11:53.5±10.0,59°.40N×164°.35E,h76km±10km,ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.68**	**258**	P	Pn	19 12 09.3	+0.7
OSSR				S	Sn	19 12 21.2	+1.4
TILK	**Tilichiki**	**1.38**	**40**	P	Pn	19 12 18.2	+1.1
TILK				S	Sn	19 12 37.3	+2.5
PALN	**Palana**	**2.28**	**264**	P	Pn	19 12 31.6	+2.7
PALN				S	Sn	19 12 57.9	+1.9
KMSK	**Kamenskaya**	**3.21**	**16**	P	Pn	19 12 44.2	+2.7

IDC 19 19:23:13.7±9.8,5°.78S×147°.01E,h156km±63km,mb3.2/3, mb1 3.4/5,mb1mx3.1/29,mbtmp3.6/5,Error ellipse: s-maj=110.5km s-min=23.7km az=94.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**7.07**	**297**	P	Pn	19 24 54.7	-0.1
	0.5nm,0.3s,baz=135,slow=14,SNR=6.0						
WRA	**Warramunga Arr**	**18.71**	**220**	P	P	19 27 21.1	+0.7
	0.6nm,0.3s,baz=50,slow=12,SNR=45						
ASAR	**Alice Springs**	**21.81**	**214**	P	P	19 27 53.8	+0.1
	1.0nm,0.5s,baz=49,slow=8.3,SNR=30						
FITZ	**Fitzroy Crossi**	**24.19**	**238**	P	P	19 28 15.2	-0.7
	2.0nm,0.5s,baz=54,slow=9.9,SNR=23						
MKAR	**Makanchi Array**	**77.33**	**320**	P	P	19 34 51.5	+0.3
	0.1nm,0.4s,baz=123,slow=5.3,SNR=4.7						

IDC 19 19:32:16.4±2.5,30°.23N×138°.52E,h427km±73km,mb3.0/4, mb1 3.1/5,mb1mx2.7/38,mbtmp3.7/5,Error ellipse: s-maj=472.6km s-min=16.7km az=84.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.30**	**358**	P	P	19 33 52.7	-0.1
	0.1nm,0.3s,baz=174,slow=12,SNR=8.8						
WRA	**Warramunga Arr**	**50.04**	**185**	P	P	19 40 30.6	+0.3
	0.3nm,0.3s,baz=359,slow=8.2,SNR=2.2						
ASAR	**Alice Springs**	**53.77**	**185**	P	P	19 40 56.8	-0.5
	0.4nm,0.6s,baz=6.9,slow=8.5,SNR=1.9						
ARCES	**ARCESS Array B**	**69.52**	**340**	P	P	19 42 40.7	+0.4
	3.7nm,1.0s,baz=82,slow=8.3,SNR=2.8						
FINES	**FINESS Array B**	**73.71**	**332**	P	P	19 43 04.7	-0.3
	0.7nm,0.7s,baz=74,slow=5.9,SNR=3.6						
DBIC	**Dimbokro**	**129.21**	**310**	PKP	PKPdf	19 50 34.5	-1.3
	2.4nm,0.9s,baz=14,slow=1.4,SNR=2.2						

IDC ***19*** *19:34:07.6±0.7,1°.31N×126°.31E,h0km,mb4.1/8, mb1 4.1/11,mb1mx3.9/37,mbtmp4.0/11,ML3.4/3,Error ellipse: s-maj=38.1km s-min=13.9km az=79.0*

ISCJB ***19*** *19:34:11.6±0.3,1°.40N±0°.04×126°.61E±0°.04,h47km, mb4.3/23,Error ellipse: s-maj=6.2km s-min=4.7km az=143.1*

DJA ***19*** *19:34:11.6±1.3,2°.N±12°×12°.7E±°,h31km±27km,M4.2/5, mb4.8/1,mB4.7/1,MLv4.0/5,Mw(mB)3.9/1*

NEIC ***19*** *19:34:12.9±1.0,1°.35N×126°.62E,h43km±10km,mb4.5/17, Error ellipse: s-maj=11.4km s-min=6.4km az=59.0*

ISC 19 19:34:13.5±0.5,1°.42N±0°.06×126°.68E±0°.04,h47km,n53, σ1ş82/62,mb4.3/23,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.94**	**133**	*e*Pn	**Pn**	**19 34 30.4**	**+0.1**
TNTI	**Ternate**	**0.94**	**133**	P	**Pn**	**19 34 30.4**	**+0.1**
TNTI				S	**Sn**	**19 34 44.7**	**+2.0**
KMSI	**Cibinong**	**2.82**	**253**	P	**Pn**	**19 34 54.8**	**-1.3**
KMSI				S	**Sn**	**19 35 28.4**	**-0.6**
SANI	**Sanana**	**3.51**	**191**	P	**Pn**	**19 35 04.5**	**-1.1**
LUWI	**Luwuk**	**4.61**	**238**	*e*Pn	**Pn**	**19 35 20.4**	**-0.2**
LUWI				*e*Sn	**Sn**	**19 36 18.0**	**+5.1**
LUWI	**Luwuk**	**4.61**	**238**	P	**Pn**	**19 35 20.4**	**-0.2**
NLAI	**Namlea**	**4.64**	**175**	P	**Pn**	**19 35 21.4**	**+0.3**
MRSI	**Marisa**	**4.83**	**259**	P	**Pn**	**19 35 22.3**	**-1.4**
SIJI	**Sorong**	**5.12**	**116**	Pn	**Pn**	**19 35 30.0**	**+2.3**
	0.7nm,0.3s,baz=251,slow=20,SNR=4.4						
SIJI				Sn	**Sn**	**19 36 20.5**	**-5.0**
	0.5nm,0.3s,baz=331,slow=23,SNR=1.9						
APSI	**Ampana**	**5.54**	**245**	P	**Pn**	**19 35 33.6**	**+0.2**
FAKI	**Fak Fak**	**7.04**	**128**	*e*Pn	**Pn**	**19 35 53.8**	**-0.2**
SOEI	**Soe**	**11.35**	**192**	*e*Pn	**Pn**	**19 36 50.3**	**-3.0**
KKM	**Kota Kinabalu**	**11.41**	**294**	*e*Pn	**Pn**	**19 36 54.1**	**+0.1**
BATI	**Baumata**	**11.93**	**195**	Pn	**Pn**	**19 36 57.9**	**-3.1**
	0.2nm,0.3s,baz=359,slow=16,SNR=1.9						
SBUM	**Sibu**	**14.49**	**274**	*e*Pn	**Pn**	**19 37 36.9**	**+1.1**
MTN	**Manton Dam**	**14.84**	**163**	*e*Pn	Pn	19 37 36.6	-3.9
SMRI	**Semarang**	**18.25**	**242**	*e*P	**P**	**19 38 22.6**	**-0.7**
	54nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.42**	**183**	*e*P	**P**	**19 38 35.2**	**-0.8**
	12nm,1.9s						
FITZ	**Fitzroy Crossi**	**19.42**	**183**	P	**P**	**19 38 35.1**	**-0.8**
	0.2nm,0.3s,baz=15,slow=7.9,SNR=11						
CISI	**Cisompet, Garu**	**20.82**	**244**	*e*P	**P**	**19 38 48.8**	**-2.5**
	44nm,1.5s						
COEN	**Coen**	**22.37**	**134**	*e*P	**P**	**19 39 08.8**	**+0.9**
	5.5nm,1.1s						
YULB	**Yu-li**	**22.46**	**347**	*e*P	**P**	**19 39 08.6**	**-0.2**
	84nm,2.0s						
WRAB	**Tennant Creek**	**22.51**	**161**	*e*P	**P**	**19 39 09.3**	**-0.1**
	17nm,1.3s						
WRA	**Warramunga Arr**	**22.52**	**161**	P	**P**	**19 39 09.1**	**-0.4**
	7.9nm,0.6s,baz=339,slow=11,SNR=109						
WRA				PcP	**PcP**	**19 43 03.2**	**+1.0**
	0.2nm,0.6s,baz=338,slow=2.0,SNR=3.6						
WR1	**Warramunga Arr**	**22.52**	**161**	*e*P	**P**	**19 39 09.1**	**-0.4**
	10nm,0.8s						
WR1				*e*PcP	**PcP**	**19 43 03.2**	**+1.0**
WB2	**Warramunga Arr**	**22.52**	**161**	*e*P	**P**	**19 39 07.7**	**-1.7**
TPUB	**Ta-pu**	**22.53**	**345**	*e*P	**P**	**19 39 06.3**	**-3.3**
	41nm,1.5s						
SSLB	**Suanglung**	**22.92**	**346**	*e*P	**P**	**19 39 12.9**	**-0.8**
	55nm,1.9s						
NACB	**Ninganchiao**	**23.15**	**348**	*e*P	**P**	**19 39 14.6**	**-1.4**
	16nm,0.7s						
AS31	**Alice Springs**	**25.90**	**165**	*e*P	**P**	**19 39 40.0**	**-1.3**
ASAR	**Alice Springs**	**25.90**	**165**	P	**P**	**19 39 41.6**	**+0.3**
	2.7nm,0.5s,baz=347,slow=12,SNR=33						
ASAR				PcP	**PcP**	**19 43 10.7**	**+1.2**
	0.4nm,0.7s,baz=342,slow=1.8,SNR=4.3						
ASAR				ScP	**ScP**	**19 46 50.0**	**+4.5**
	0.1nm,0.7s,baz=342,slow=2.1,SNR=3.4						
AS01	**Alice Springs**	**25.91**	**165**	*e*P	**P**	**19 39 40.6**	**-0.8**
FORT	**Forrest**	**32.04**	**178**	*e*P	**P**	**19 40 34.5**	**-1.3**
	31nm,1.0s						
BBOO	**Buckleboo**	**35.18**	**166**	*e*P	**P**	**19 41 03.0**	**-0.1**
	45nm,1.8s						
STKA	**Stephens Creek**	**36.01**	**158**	*e*P	**P**	**19 41 10.9**	**+0.7**
	1.0nm,1.0s						
STKA	**Stephens Creek**	**36.01**	**158**	P	**P**	**19 41 10.4**	**+0.2**
	3.1nm,0.9s,baz=337,slow=5.1,SNR=4.9						
LZH	**Lanzhou**	**40.48**	**331**	*e*P	**P**	**19 41 48.5**	**+0.6**
LZH				pP	pwP	19 42 02.6	+0.3
LZH				sP	sP	19 42 09.3	+3.9
LZH				PP	**PnPn**	**19 43 26.0**	**0.0**
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
LZH				pmax	pmax		
	comp=Z,47nm,5.4s						
HHC	**Hu-ho-hao-te**	**41.57**	**343**	*e*P	**P**	**19 41 57.5**	**+0.7**
HHC				pP	pP	19 42 08.5	-0.3
HHC				S	**S**	**19 48 06.3**	**-3.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.4s						
ASAJ	**Asahikawa**	**44.81**	**16**	P	**P**	**19 42 24.8**	**+2.0**
	comp=Z,7.4nm,0.3s,baz=205,slow=16,SNR=40						
KLR	**Kul'dur**	**47.83**	**4**	P	**P**	**19 42 48.6**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=198,slow=20,SNR=2.7						
SONA0	**Songino Array**	**49.47**	**342**	*e*P	**P**	**19 43 00.5**	**+1.3**
SONM	**Songino Array**	**49.47**	**342**	P	**P**	**19 43 00.5**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=164,slow=9.3,SNR=3.3						
WMQ	**Urumqi**	**54.59**	**326**	*e*P	**P**	**19 43 38.3**	**+1.0**
MK01	**Makanchi Array**	**59.41**	**326**	*e*P	**P**	**19 44 09.5**	**-1.8**
MK31	**Makanchi Array**	**59.42**	**326**	*e*P	**P**	**19 44 10.1**	**-1.4**
	comp=Z,3.8nm,1.6s						
MK32	**Makanchi Array**	**59.42**	**326**	*e*P	**P**	**19 44 10.6**	**-0.9**
MKAR	**Makanchi Array**	**59.42**	**326**	P	**P**	**19 44 10.6**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=121,slow=7.5,SNR=26						
MAKZ	**Makanchi**	**59.61**	**326**	*e*P	**P**	**19 44 10.8**	**-1.9**
	comp=Z,3.5nm,1.3s						
KURK	**Kurchatov**	**63.66**	**328**	*e*P	**P**	**19 44 39.0**	**-0.8**
	comp=Z,2.6nm,0.8s						
BRVK	**Borovoye**	**69.30**	**327**	*e*P	**P**	**19 45 12.4**	**-3.4**
	comp=Z,9.7nm,1.9s						
VNDA	**Vanda**	**81.15**	**173**	P	**P**	**19 46 24.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=337,slow=7.0,SNR=3.1						
LANS	**Liptovska Anna**	**100.12**	**320**	*e*PDIF	**Pdif**	**19 47 52.3**	**-2.0**
TXAR	**Lajitas Array**	**123.03**	**53**	PKP	**PKiKP**	**19 53 07.4**	**+1.6**
	comp=Z,0.2nm,0.8s,baz=291,slow=2.5,SNR=2.4						

IDC ***19*** *19:50:07.5±0.5,3°.66N×126°.68E,h0km,mb4.1/20, mb1 4.1/22,mb1mx4.0/48,mbtmp4.1/22,ML3.9/2,MS3.3/4, Ms1 3.3/4,ms1mx2.9/45,Error ellipse: s-maj=28.6km s-min=11.7km az=75.0*

BJI ***19*** *19:50:11.1,3°.68N×126°.99E,h35km,mb4.3/21,mB4.7/11, Ms4.4/5,Ms7 4.2/2*

DJA ***19*** *19:50:11.6±0.7,4°.N±5°×12°.7E±°,h10km,M4.2/8,mB5.2/3, mb4.3/7,MLv4.1/8,Mw(mB)4.5/3*

NEIC ***19*** *19:50:12.5±0.7,3°.71N×126°.85E,h38km±7km,mb4.4/40, Error ellipse: s-maj=7.8km s-min=4.0km az=69.0*

ISC 19 19:50:09.5±1.4,3°.78N±0°.03×127°.00E±0°.06,h15km±8km, n111,σ1ş95/129,mb4.4/58,MS3.6/5,2C-2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.47**	**267**	P	**Pb**	**19 50 36.9**	**+0.4**
SGSI				S	**Sg**	**19 50 57.6**	**+0.7**
TNTI	**Ternate**	**3.01**	**173**	*e*Pn	**Pn**	**19 50 59.6**	**+2.9**
TNTI				*e*Sn	**Sn**	**19 51 30.1**	**-2.4**
TNTI	**Ternate**	**3.01**	**173**	P	**Pn**	**19 50 59.5**	**+2.8**
TNTI				S	**Sb**	**19 51 37.0**	**-2.4**
DAV	**Davao City (W)**	**3.56**	**337**	*e*Pn	**Pn**	**19 51 05.5**	**+1.1**
DAV				*e*Pg	**Pn**	**19 51 06.2**	**+1.8**
DAV				*e*Sn	**Sn**	**19 51 39.3**	**-7.0**
DAV				*e*Sg	**Sn**	**19 51 39.4**	**-6.8**
DAV				Lg	Lg	19 52 02.4	
DAV	**Davao City (W)**	**3.56**	**337**	Pn	**Pb**	**19 51 12.2**	**-0.2**
	19nm,0.3s,baz=251,slow=18,SNR=1.5						
DAV				Sn	**Sn**	**19 51 44.3**	**-1.9**
	115nm,0.3s,baz=338,slow=18,SNR=3.9						
DAV				Lg	Lg	19 52 02.4	
	baz=233,slow=21,SNR=1.1						
KCP	**Kidapawan**	**3.73**	**330⇑**	*i*P	**Pb**	**19 51 12.1**	**-3.1**
KCP				*i* S	**Sb**	**19 52 05.0**	**+4.7**
KMSI	**Cibinong**	**4.38**	**224**	P	**Pg**	**19 51 33.3**	**-0.2**
CTBH	**Cotabato--PC H**	**4.38**	**321⇑**	*i*P	**Pn**	**19 51 18.4**	**+2.8**
CGP	**Cagayan de Oro**	**5.18**	**334⇓**	*e*P	**Pb**	**19 51 36.4**	**-3.5**
SANI	**Sanana**	**5.87**	**190**	P	**Pn**	**19 51 37.0**	**+0.9**
MRSI	**Marisa**	**6.02**	**237**	P	**Pn**	**19 51 41.0**	**+2.9**
	28nm,0.6s,294nm0.1nm						
SIJI	**Sorong**	**6.29**	**137**	Pn	**Pn**	**19 51 44.7**	**+2.9**
	3.1nm,0.3s,baz=328,slow=19,SNR=15						
SIJI				Sn	**Sn**	**19 52 55.0**	**+1.5**
	1.3nm,0.3s,baz=40,slow=23,SNR=8.7						
LUWI	**Luwuk**	**6.38**	**221**	*e*Pn	**Pn**	**19 51 44.2**	**+1.1**
APSI	**Ampana**	**7.09**	**229**	P	Pn	19 51 58.2	+5.4
	33nm,1.1s,390nm0.1nm						
MPSI	**Mapaga**	**7.87**	**244**	P	Pn	19 52 14.3	+11
FAKI	**Fak Fak**	**8.47**	**142**	*e*Pn	**Pn**	**19 52 13.2**	**+1.4**
FAKI				*e*Sn	**Sn**	**19 53 48.9**	**+1.5**
SOEI	**Soe**	**13.71**	**191**	*e*Pn	**Pn**	**19 53 22.4**	**-1.3**
BATI	**Baumata**	**14.28**	**193**	Pn	**Pn**	**19 53 29.4**	**-2.1**
	0.5nm,0.3s,baz=348,slow=19,SNR=2.0						
SBUM	**Sibu**	**14.81**	**265**	*e*Pn	**Pn**	**19 53 38.1**	**-0.5**
JAY	**Jayapura**	**15.06**	**114**	LR	LR	19 59 28.9	
	comp=Z,108nm,18.6s,baz=242,slow=37						
KSM	**Kuching**	**16.82**	**263**	*e*Pn	**Pn**	**19 54 04.8**	**0.0**
	9.0nm,0.9s						
MTN	**Manton Dam**	**17.02**	**166**	*e*Pn	**Pn**	**19 54 06.7**	**-0.4**
	10nm,1.2s						
TWG	**Pinlang**	**19.78**	**344**	*e*P	**P**	**19 54 38.1**	**-1.2**
	239nm,1.9s						
YULB	**Yu-li**	**20.27**	**345**	*e*P	**P**	**19 54 43.2**	**-1.4**
	23nm,1.3s						
TPUB	**Ta-pu**	**20.36**	**343**	*e*P	**P**	**19 54 45.3**	**-0.4**
	67nm,1.8s						
SSLB	**Suanglung**	**20.73**	**344**	*e*P	**P**	**19 54 48.9**	**-0.8**
	13nm,1.1s						
YHNB	**Yeheng**	**21.47**	**346**	*e*P	**P**	**19 54 58.3**	**+0.6**
	133nm,1.9s						
FITZ	**Fitzroy Crossi**	**21.78**	**183**	*e*P	**P**	**19 54 59.6**	**-1.3**
	6.1nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	**P**	**19 54 59.1**	**-1.9**
	1.0nm,0.4s,baz=9.3,slow=9.0,SNR=13						
CISI	**Cisompet, Garu**	**22.20**	**240**	*e*P	**P**	**19 55 04.4**	**-1.4**
	13nm,0.9s						
TNG	**Tangerang**	**22.59**	**244**	P	**P**	**19 55 16.7**	**+6.9**
TNG				P	**P**	**19 55 16.7**	**+6.9**
MDSI	**Maura Dua**	**24.23**	**250**	P	**P**	**19 55 29.1**	**+3.0**
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**19 55 29.9**	**+0.1**
	11nm,0.6s						
WR1	**Warramunga Arr**	**24.65**	**163**	*e*P	**P**	**19 55 29.3**	**-0.6**
	11nm,0.9s						
WR1				*e*PcP	**PcP**	**19 59 08.2**	**+0.8**
WR1				*e*ScP	**ScP**	**20 02 47.2**	**+1.3**
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**19 55 29.3**	**-0.6**
	4.2nm,0.7s,baz=343,slow=10,SNR=29						
WRA				PcP	**PcP**	**19 59 08.2**	**+0.8**
	0.2nm,0.5s,baz=328,slow=2.3,SNR=3.6						
WRA				ScP	**ScP**	**20 02 47.3**	**+1.3**
	0.3nm,0.9s,ba

WMQ					LR	LR			
	comp=N,140nm,20.5s								
WMQ					LR	LR			
	comp=E,140nm,18.3s								
PEA0B	**Petropavlovsk-**	**55.29**	**22**	*e*P		**P**	**19 59 42.0**	**-0.3**	
	239nm,1.8s								
PET	**Petropavlovsk**	**55.58**	**23**	*e*P		**P**	**19 59 46.7**	**+2.3**	
	204nm,1.5s								
MK01	**Makanchi Array**	**57.67**	**325**	*e*P		**P**	**19 59 59.1**	**-0.2**	
MK31	**Makanchi Array**	**57.67**	**325**	*e*P		**P**	**19 59 59.4**	**-0.1**	
	1.2nm,0.8s								
MK32	**Makanchi Array**	**57.67**	**325**	*e*P		**P**	**19 59 59.7**	**+0.3**	
MK32				*e*PcP		**PcP**	**20 00 52.7**	**+0.2**	
MKAR	**Makanchi Array**	**57.67**	**325**	P		**P**	**19 59 59.7**	**+0.3**	
	1.8nm,0.6s,baz=117,slow=7.8,SNR=38								
MKAR				PcP		**PcP**	**20 00 52.7**	**+0.2**	
	1.0nm,0.8s,baz=121,slow=5.5,SNR=2.1								
PRZ	**Przheval'sk**	**57.84**	**319**	*e*P		**P**	**20 00 01.7**	**+0.7**	
	2.9nm,0.8s								
MAKZ	**Makanchi**	**57.86**	**325**	*e*P		**P**	**19 59 59.8**	**-1.0**	
	2.2nm,0.9s								
NIL	**Nilore**	**58.11**	**308**	*e*P		**P**	**20 00 01.5**	**-1.3**	
	8.9nm,1.1s								
KSH	**Kashi**	**58.20**	**315**	*e*P		P	20 00 09.1	+5.7	
KSH				pP		pwP	20 00 22.4	+15	
KSH				PcP		**PcP**	**20 00 59.3**	**+4.5**	
KSH				S		**S**	**20 08 07.8**	**+2.9**	
KSH				pmax		pmax			
	comp=Z,74nm,4.9s								
KDJ	**Kajisay**	**58.49**	**318**	*e*P		**P**	**20 00 06.2**	**+0.7**	
	4.0nm,0.9s								
NRN	**Naryn**	**58.98**	**317**	*e*P		**P**	**20 00 08.2**	**-0.9**	
	16nm,2.0s								
ZAA0	**Zalesovo Array**	**60.67**	**333**	*e*P		**P**	**20 00 18.6**	**-1.4**	
	1.8nm,0.9s								
ZALV	**Zalesovo Beam**	**60.67**	**333**	*e*P		**P**	**20 00 19.0**	**-1.0**	
ZALV	**Zalesovo Beam**	**60.67**	**333**	P		**P**	**20 00 20.6**	**+0.5**	
	0.7nm,0.5s,baz=138,slow=9.7,SNR=5.0								
ZAA1	**Zalesovo Array**	**60.67**	**333**	*e*P		**P**	**20 00 20.6**	**+0.5**	
PYZ	**Puysegur Point**	**60.88**	**149**	*e*P		**P**	**20 00 19.8**	**-1.8**	
	111nm,1.3s								
KBL	**Kabul**	**61.70**	**307**	*e*P		**P**	**20 00 25.8**	**-2.0**	
	2.8nm,0.9s								
KURK	**Kurchatov**	**61.84**	**327**	*e*P		**P**	**20 00 26.8**	**-1.3**	
	3.5nm,0.5s								
SEY	**Seymchan**	**61.93**	**13**	P		**P**	**20 00 30.6**	**+2.1**	
	0.3nm,0.3s,baz=242,slow=16,SNR=4.6								
BTK	**Batken**	**62.08**	**314**	*e*P		**P**	**20 00 29.7**	**-0.3**	
	5.5nm,1.3s								
GAR	**Garm**	**62.09**	**313**	*e*P		**P**	**20 00 29.9**	**-0.2**	
	11nm,1.0s								
KK31	**Karatay Array**	**63.38**	**317**	*e*P		**P**	**20 00 38.6**	**0.0**	
	2.3nm,0.8s								
KKAR	**Karatay Array**	**63.38**	**317**	*e*P		**P**	**20 00 37.9**	**-0.6**	
	2.3nm,0.8s								
BRVK	**Borovoye**	**67.50**	**327**	*e*P		**P**	**20 01 04.7**	**-0.3**	
	2.9nm,1.0s								
TIXI	**Tiksi**	**67.79**	**1**	P		**P**	**20 01 07.0**	**+0.6**	
	0.8nm,0.4s,baz=182,slow=23,SNR=11								
TIXI				LR		LR	20 30 32.9		
	comp=Z,37nm,21.8s,baz=250,slow=36								
GEYT	**Alibeck**	**71.07**	**309**	P		**P**	**20 01 25.6**	**-1.9**	
	1.3nm,0.5s,baz=93,slow=8.7,SNR=2.5								
ABKAR	**Akbulak array**	**72.28**	**321**	*e*P		**P**	**20 01 34.0**	**-0.4**	
	3.4nm,1.1s								
GAMB	**Gambell**	**74.25**	**24**	*e*P		**P**	**20 01 47.1**	**+1.3**	
	5.3nm,1.2s								
ARU	**Arti**	**75.04**	**328**	*e*P		**P**	**20 01 50.0**	**-0.6**	
	31nm,1.9s								
IM3	**Indian Mountai**	**82.19**	**24**	*e*P		**P**	**20 02 30.6**	**+0.8**	
KMBO	**Kilima Mbogo**	**89.82**	**269**	P		**P**	**20 03 08.1**	**-0.7**	
	0.5nm,0.5s,baz=108,slow=3.2,SNR=2.3								
BR101	**Keskin Array S**	**90.19**	**310**	*e*P		**P**	**20 03 09.2**	**-0.7**	
BRTR	**Keskin Array B**	**90.19**	**310**	P		**P**	**20 03 09.2**	**-0.7**	
	1.3nm,0.9s,baz=101,slow=5.2,SNR=6.0								
ARA0	**ARCESS Array S**	**90.50**	**340**	*e*P		**P**	**20 03 10.1**	**-0.4**	
ARCES	**ARCESS Array B**	**90.50**	**340**	P		**P**	**20 03 10.1**	**-0.4**	
	5.6nm,1.1s,baz=90,slow=5.4,SNR=5.3								
AKASG	**Malin Array Be**	**92.02**	**321**	P		**P**	**20 03 17.4**	**-0.6**	
	0.2nm,0.3s,baz=62,slow=2.6,SNR=3.1								
SYO	**Syowa Base**	**92.56**	**201**	*i*eX		**P**	**20 03 17.3**	**-2.7**	
NB200	**NORSAR Array S**	**98.86**	**334**	*e*P		**P**	**20 03 48.3**	**-0.8**	
NOA	**NORSAR Array B**	**98.86**	**334**	P		**P**	**20 03 48.3**	**-0.8**	
	1.2nm,0.9s,baz=65,slow=4.5,SNR=2.3								
YKA	**Yellowknife Ar**	**99.35**	**24**	P		**Pdif**	**20 03 51.8**	**+0.7**	
	0.1nm,0.4s,baz=290,slow=5.7,SNR=3.0								
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP		**PKPdf**	**20 09 06.9**	**+0.1**	
	0.3nm,0.5s,baz=54,slow=1.9,SNR=4.4								
TOA1	**Torodi Ar. Sit**	**123.16**	**288**	*e*PKPdf		**PKPdf**	**20 09 06.9**	**+0.1**	

MEX 19 19:51:33.5±0.4, 17.33N×101.74W, h4km±6km, MD3.7,
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.38**	**43**	*e*P	Pg	19 51 40.4	-0.5
ZIIG				*e*S	Sg	19 51 46.2	+0.3
CAIG	**El Cayaco**	**1.43**	**101**	*e*P	Pn	19 51 55.9	-4.4
CAIG				*i* S	Sb	19 52 14.2	-5.2
ARIG	**Puente Sto Nin**	**1.63**	**54**	*e*P	Pn	19 51 59.4	-3.6
ARIG				*i* S	Sn	19 52 18.9	-5.6
MEIG	**Mezcala**	**2.11**	**73**	*i* P	Pn	19 52 06.0	-3.7
MEIG				*i* S	Sn	19 52 31.7	-4.6
PLIG	**Platanillo**	**2.38**	**63**	*e*P	Pn	19 52 10.5	-2.9
PLIG				*i* S	Sn	19 52 38.0	-5.1
TLIG	**Tlapa**	**3.04**	**85**	*i* P	Pn	19 52 19.9	-2.6
TLIG				*i* S	Sn	19 52 56.3	-3.1

MEX 19 20:05:41.4±0.4, 15.45N×95.15W, h16km±15km, MD3.7,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.98**	**289**	*e*P	Pb	20 05 56.9	-3.2
HUIG				*i* S	Sb	20 06 08.4	-4.3
CMIG	**Matias Romero**	**1.65**	**9**	*e*P	Pn	20 06 06.6	-3.2
CMIG				*i* S	Sn	20 06 25.7	-5.1
PCIG		**1.88**	**82**	*e*P	Pn	20 06 09.3	-3.5
PCIG				*i* S	Sn	20 06 30.9	-5.2
VHO	**Vista Hermosa**	**2.22**	**317**	*i* P	Pn	20 06 14.5	-3.3
VHO				*i* S	Sn	20 06 40.3	-4.7

ISCJB ***19*** *20:06:53.4±0.9, 28.51S±0.08×179.39W±0.07, h210km, mb2.9/2, Error ellipse: s-maj=12.0km s-min=7.1km az=148.5*
IDC ***19*** *20:06:54.0±1.1, 28.75S×178.47W, h250km±13km, mb2.8/2, mb1 3.2/3, mb1mx3.0/19, mbtmp3.7/3, Error ellipse: s-maj=49.0km s-min=27.2km az=115.0*
ISC 19 20:06:55.4±1.2, 28.6S±0.1×179.3W±0.1, h210km, n40, σ1§62/47, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**1.37**	**118**	P	**Pn**	**20 07 28.9**	**-0.1**
RIZ				S	**S**	**20 07 55.2**	**+0.4**
RAO	**Raoul Island**	**1.39**	**118**	P	**Pn**	**20 07 29.0**	**0.0**
	244nm,0.3s,baz=68,slow=12,SNR=17						
RAO				S	**S**	**20 07 54.3**	**-0.7**
	311nm,0.3s,baz=100,slow=23,SNR=8.9						
GLKZ	**Green Lake**	**1.39**	**118**	P	**Pn**	**20 07 28.9**	**-0.2**
GLKZ				S	**S**	**20 07 56.3**	**+1.2**
MXZ	**Matakaoa Point**	**9.14**	**192**	P	**Pn**	**20 09 06.5**	**+3.1**
HAZ	**Te Kaha**	**9.44**	**194**	P	**Pn**	**20 09 06.5**	**-0.6**
PKGZ	**Pakihiroa**	**9.50**	**193**	P	**Pn**	**20 09 05.2**	**-2.9**
MKAZ	**Moumakai**	**9.65**	**207**	P	**P**	**20 09 19.3**	**+1.4**
RUGZ	**Raukumara Rang**	**9.66**	**194**	P	**Pn**	**20 09 09.7**	**-0.5**
MWZ	**Matawai**	**10.05**	**194**	P	**Pn**	**20 09 17.0**	**+1.9**
URZ	**Urewera**	**10.07**	**196**	P	**Pn**	**20 09 15.0**	**-0.3**
	2.6nm,0.3s,baz=276,slow=4.2,SNR=15						
URZ				S	**S**	**20 11 08.4**	**+0.1**
	1.1nm,0.3s,baz=52,slow=12,SNR=4.2						
URZ	**Urewera**	**10.07**	**196**	P	**Pn**	**20 09 16.4**	**+1.0**
MUGZ	**Murupara**	**10.36**	**197**	P	**Pn**	**20 09 21.5**	**+2.4**
MUGZ				S	**S**	**20 11 15.0**	**-0.3**
MTHZ	**Maungataniwha**	**10.70**	**196**	P	**Pn**	**20 09 24.0**	**+0.6**
MTHZ				S	**S**	**20 11 24.6**	**+1.4**
HIZ	**Hauiti**	**11.00**	**205**	P	**P**	**20 09 32.0**	**-1.2**
BKZ	**Black Stump Fm**	**11.08**	**197**	P	**Pn**	**20 09 28.6**	**+0.2**
OTVZ	**Oturere**	**11.32**	**200**	P	**Pn**	**20 09 30.9**	**-0.5**
KWHZ	**Kaweka Forest**	**11.35**	**197**	P	**Pn**	**20 09 31.5**	**-0.2**
KWHZ				S	**S**	**20 11 38.2**	**+0.9**
TUVZ	**Tukino**	**11.41**	**200**	P	**Pn**	**20 09 33.2**	**+0.5**
FWVZ	**Far West T-bar**	**11.43**	**200**	P	**Pn**	**20 09 33.5**	**+0.5**
TRVZ	**Turoa**	**11.48**	**200**	P	**Pn**	**20 09 34.5**	**+1.0**
BHHZ	**Black Hill Sta**	**11.50**	**198**	P	**Pn**	**20 09 32.8**	**-0.9**
KRHZ	**Kereru**	**11.57**	**197**	P	**Pn**	**20 09 33.0**	**-1.5**
VRZ	**Vera Road**	**11.58**	**204**	P	**P**	**20 09 38.5**	**-1.1**
KAHZ	**Kahuranaki**	**11.59**	**195**	P	**Pn**	**20 09 34.0**	**-0.8**
PNHZ	**Pukenui**	**11.86**	**197**	P	**Pn**	**20 09 36.6**	**-1.6**
PRHZ	**Porangahau**	**12.09**	**195**	P	**Pn**	**20 09 41.0**	**-0.1**
DVHZ	**Dannevirke**	**12.24**	**196**	P	**Pn**	**20 09 41.5**	**-1.4**
BFZ	**Birch Farm**	**12.58**	**196**	P	**Pn**	**20 09 44.6**	**-2.6**
MRZ	**Mangatainoka R**	**12.73**	**198**	P	**Pn**	**20 09 45.2**	**-3.9**
HOWZ	**Holdsworth Sta**	**12.97**	**198**	P	**Pn**	**20 09 49.0**	**-3.1**
OGWZ	**Otaki Gorge**	**12.99**	**199**	P	**Pn**	**20 09 49.7**	**-2.6**
TMWZ	**Te Maipa**	**13.07**	**196**	P	**Pn**	**20 09 51.5**	**-1.9**
KIW	**Kapiti Island**	**13.10**	**200**	P	**Pn**	**20 09 50.9**	**-2.9**
DUWZ	**D'Urville Isla**	**13.36**	**203**	P	**Pn**	**20 09 56.1**	**-0.9**
TCW	**Tory Channel**	**13.62**	**201**	P	**Pn**	**20 09 57.3**	**-2.8**
QRZ	**Quartz Range**	**13.90**	**207**	P	**Pn**	**20 10 02.6**	**-1.0**
TUWZ	**Tuamarina**	**13.92**	**202**	P	**Pn**	**20 10 01.9**	**-2.0**
ASAR	**Alice Springs**	**42.08**	**266**	P	**P**	**20 14 28.3**	**+1.3**
	0.3nm,0.7s,baz=97,slow=7.6,SNR=4.5						
WRA	**Warramunga Arr**	**42.90**	**271**	P	**P**	**20 14 34.0**	**+0.4**
	0.2nm,0.3s,baz=107,slow=8.1,SNR=16						
AKASG	**Malin Array Be**	**149.18**	**324**	PKPbc	**PKPdf**	**20 26 12.9**	**-1.2**
	0.4nm,0.4s,baz=47,slow=3.5,SNR=4.9						

NIED ***19*** *20:23:00, 45.20N×150.70E, h125km, Mw4.5 Best double couple: M0 6.72000×10^15 NP1:ϕs120.00000°, δ26.00000°, λ-23.00000°. NP2:ϕs231.00000°, δ80.00000°, λ-114.00000°.*
BJI ***19*** *20:23:39.2, 46.21N×150.85E, h101km, mb4.7/45, mB4.8/31*
ISCJB ***19*** *20:23:41.5±0.4, 45.90N±0.03×150.64E±0.04, h114km±3km, mb4.6/145, Error ellipse: s-maj=5.9km s-min=3.2km az=141.1*
MOS ***19*** *20:23:42.6±1.2, 45.99N×150.62E, h125km, mb4.5/41, Error ellipse: s-maj=6.5km s-min=5.1km az=95.7*
NEIC ***19*** *20:23:43.7±0.6, 46.06N×150.56E, h116km±5km, mb4.7/79, Error ellipse: s-maj=8.0km s-min=4.0km az=154.0*
SKHL ***19*** *20:23:43.0±0.8, 45.76N×150.76E, h128km±1km, mb5.3/9, msh6.0/7*
IDC ***19*** *20:23:45.7±2.2, 46.21N×150.49E, h127km±18km, mb4.0/26, mb1 4.1/32, mb1mx4.0/50, mbtmp4.4/32, Error ellipse: s-maj=17.8km s-min=10.6km az=155.0*
JMA ***19*** *20:23:46.0±0.5, 45.18N×150.67E, h123km, M4.3*
BGR ***19*** *20:23:50.1±0.0, 49.18N×150.16E, h33km, mb4.6*
ISC 19 20:23:42.5±0.6, 45.81N±0.05×150.67E±0.05, h115km±5km, n443, σ1§68/487, mb4.6/145, 36C-10D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.06**	**255**	*i* P	**Pn**	**20 24 18.0**	**+1.7**
KUR				AMB	AMB	20 24 20.0	
	777nm,0.6s						
KUR				AMB	AMB	20 24 20.0	
	549nm,0.6s						
KUR				AMB	AMB	20 24 20.0	
	2μm,0.6s						
KUR				*i* S	**Sn**	**20 24 45.0**	**+2.8**
KUR				A	A	20 24 46.0	
	5μm,0.4s						
KUR				A	A	20 24 46.0	
	4μm,0.4s						
KUR	**Kuril'sk**	**2.06**	**255**	*d i* PN	**Pn**	**20 24 18.7**	**+2.4**
KUR				*i* S	**Sn**	**20 24 45.8**	**+3.6**
KUR				pmax	pmax		
	comp=Z,2μm,0.3s						
KUR				pmax	pmax		
	comp=E,549nm,0.2s						
KUR				pmax	pmax		
	comp=N,777nm,0.4s						
KUR				smax	smax		
	comp=N,5μm,0.4s						
KUR				smax	smax		
	comp=E,4μm,0.4s						
SHO	**Shikotan**	**3.35**	**236**	*i* P	**Pn**	**20 24 33.0**	**-0.2**
SHO				AMB	AMB	20 24 36.0	
	comp=E,185nm,0.3s						
SHO				AMB	AMB	20 24 36.0	
	comp=E,257nm,0.3s						
SHO				*e*S	**Sn**	**20 25 10.0**	**-2.4**
SHO				A	A	20 25 16.0	
	comp=E,330nm,0.4s						
SHO				A	A	20 25 16.0	
	comp=E,1μm,0.4s						
SHO	**Shikotan**	**3.35**	**236**	*d i* PN	**Pn**	**20 24 33.5**	**+0.3**
SHO				*e*S	**Sn**	**20 25 10.4**	**-2.0**
SHO				pmax	pmax		
	comp=E,185nm,0.3s						
SHO				pmax	pmax		
	comp=Z,257nm,0.3s						
SHO				smax	smax		
	comp=N,330nm,0.4s						
SHO				smax	smax		
	comp=E,1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**3.85**	**244**	*i* P	**Pn**	**20 24 41.0**	**+1.2**
YUK				AMB	AMB	20 24 42.0	
	comp=E,152nm,0.3s						
YUK				AMB	AMB	20 24 42.0	
	comp=E,185nm,0.3s						
YUK				AMB	AMB	20 24 42.0	
	comp=E,2μm,0.3s						
YUK				*e*S	**Sn**	**20 25 25.0**	**+0.7**
YUK				A	A	20 25 29.0	
	comp=E,392nm,0.4s						
YUK				A	A	20 25 29.0	
	comp=E,1μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.85**	**244**	*d i* PN	**Pn**	**20 24 41.6**	**+1.8**
YUK				*e*S	**Sn**	**20 25 25.9**	**+1.6**
YUK				pmax	pmax		
	comp=N,152nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,185nm,0.2s						
YUK				smax	smax		
	comp=N,392nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.4s						
GRPR	**Tuman**	**3.93**	**244**	*i* P	**Pn**	**20 24 42.0**	**+1.1**
GRPR				AMB	AMB	20 24 43.0	
	comp=E,189nm,0.3s						
GRPR				AMB	AMB	20 24 43.0	
	comp=E,156nm,0.3s						
GRPR				AMB	AMB	20 24 43.0	
	comp=E,1μm,0.3s						
GRPR				*i* S	**Sn**	**20 25 27.0**	**+0.9**
GRPR				A	A	20 25 33.0	
	comp=E,1μm,0.3s						
GRPR				A	A	20 25 33.0	
	comp=E,794nm,0.3s						
GRPR	**Tuman**	**3.93**	**244**	*d i* PN	**Pn**	**20 24 42.7**	**+1.8**
GRPR				*i* S	**Sn**	**20 25 27.0**	**+0.9**
GRPR				pmax	pmax		
	comp=Z,1μm,0.4s						
GRPR				pmax	pmax		
	comp=N,189nm,0.2s						
GRPR				pmax	pmax		
	comp=E,156nm,0.2s						
GRPR				smax	smax		
	comp=N,1μm,0.3s						
GRPR				smax	smax		
	comp=E,794nm,0.3s						
NEM2	**Nemuro 2**	**4.29**	**237**	P	**Pn**	**20 24 45.9**	**+0.2**
NEM2				*e*S	**Sn**	**20 25 32.4**	**-2.3**
JRA	**Rausu**	**4.37**	**247**	P	**Pn**	**20 24 48.9**	**+2.2**
JNK	**Nakash**	**4.79**	**244**	P	**Pn**	**20 24 54.1**	**+1.6**
JAK	**Akkeshi**	**5.12**	**239**	P	**Pn**	**20 24 57.2**	**+0.3**
JAK				*e*S	**Sn**	**20 25 52.7**	**-2.2**
JTKR	**Abashiri--Toko**	**5.15**	**251**	P	**Pn**	**20 24 59.4**	**+2.2**
JMP	**Maruseppu**	**5.50**	**253**	P	**Pn**	**20 25 04.3**	**+2.3**
JAR	**Ashorobuto**	**5.54**	**245**	P	**Pn**	**20 25 04.3**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.59**	**285**	*e*Pn	**Pn**	**20 25 05.8**	**+2.6**
YSS				*e*Sn	**Sn**	**20 26 07.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**5.59**	**285**	*e*P	**Pn**	**20 25 06.3**	**+3.0**
YSS				AMB	AMB	20 25 08.7	
	comp=E,80nm,0.8s						
YSS				*e*S	**Sn**	**20 26 09.5**	**+3.2**
YSS				A	A	20 26 11.0	
	comp=E,90nm,0.8s						
YSS				A	A	20 26 11.0	
	comp=E,150nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.59**	**285**	*e*PN	**Pn**	**20 25 06.6**	**+3.3**
YSS				*e*S	**Sn**	**20 26 10.0**	**+3.7**
YSS				pmax	pmax		
	comp=Z,80nm,0.8s						
YSS				smax	smax		
	comp=N,90nm,1.0s						
YSS				smax	smax		
	comp=E,150nm,0.9s						
JOB	**Onbets**	**5.70**	**242**	P	**Pn**	**20 25 06.0**	**+1.3**
JOB				*e*S	**Sn**	**20 26 07.2**	**-1.6**
HRK	**Horoka**	**5.87**	**249**	*e*P	**Pn**	**20 25 09.5**	**+2.4**
JKK2	**Kamakawa 2**	**5.96**	**254**	P	**Pn**	**20 25 10.8**	**+2.6**
JKA	**Kamikawa-asahi**	**5.97**	**256**	*e*P	**Pn**	**20 25 11.8**	**+3.4**
ASAJ	**Asahikawa**	**5.97**	**256**	P	**Pn**	**20 25 11.4**	**+3.0**
ASAJ	**Asahikawa**	**5.97**	**256**	P	**Pn**	**20 25 11.8**	**+3.3**
	comp=E,5.1nm,0.3s,baz=60,slow=8.2,SNR=47						
SKR	**Severo-Kuril's**	**6.08**	**35**	*e*P	**Pn**	**20 25 09.4**	**-0.4**
SKR				AMB	AMB	20 25 10.2	
	comp=E,217nm,0.7s						
SKR				*e*S	**Sn**	**20 26 18.4**	**+0.5**
SKR				A	A	20 26 23.0	
	comp=E,189nm,0.5s						
SKR				A	A	20 26 23.0	
	comp=E,129nm,0.5s						
SKR	**Severo-Kuril's**	**6.08**	**35**	*e*PN	**Pn**	**20 25 09.4**	**-0.4**
SKR				pmax	pmax		
	comp=Z,217nm,0.7s						
JCH	**Churui**	**6.15**	**241**	P	**Pn**	**20 25 11.3**	**+0.5**
JCH				*e*S	**Sn**	**20 26 17.5**	**-2.2**
JFR	**Furan**	**6.36**	**248**	P	**Pn**	**20 25 15.7**	**+2.1**
MYR	**Moyori**	**6.38**	**239**	*e*P	**Pn**	**20 25 14.2**	**+0.3**
MYR				*e*S	**Sn**	**20 26 22.6**	**-2.7**
JAB	**Ashibetsu**	**6.45**	**252**	P	**Pn**	**20 25 18.1**	**+3.2**
JEM	**Erimo**	**6.62**	**238**	P	**Pn**	**20 25 18.5**	**+1.3**
JEM				*e*S	**Sn**	**20 26 29.6**	**-1.5**
ERM	**Erimo**	**6.62**	**238**	*e*Pn	**Pn**	**20 25 18.6**	**+1.4**
ERM				*e*Sn	**Sn**	**20 26 23.8**	**-7.3**
ERM	**Erimo**	**6.62**	**238**	*e*P	**Pn**	**20 25 18.7**	**+1.5**
ERM	**Erimo**	**6.62**	**238**	*i* PN	**Pn**	**20 25 18.7**	**+1.5**
UGL	**Uglegorsk**	**6.69**	**302**	*i* P	**Pn**	**20 25 21.7**	**+3.7**
UGL				AMB	AMB	20 25 25.9	
	comp=Z,70nm,1.0s						
UGL				*e*S	**Sn**	**20 26 34.0**	**+1.3**
UGL				A	A	20 26 40.5	
	comp=Z,75nm,0.5s						
UGL				A	A	20 26 40.5	
	comp=Z,55nm,0.5s						
UGL	**Uglegorsk**	**6.69**	**302**	*i* PN	**Pn**	**20 25 25.4**	**+7.4**
UGL				*e*S	**Sn**	**20 26 36.3**	**+3.6**
UGL				pmax	pmax		
	comp=Z,65nm,1.0s						
UGL				smax	smax		
	comp=E,93nm,1.0s						
JBT2	**Biratori 2**	**6.69**	**246**	P	**Pn**	**20 25 19.1**	**+1.0**
JNBK	**Urakawa-nobuka**	**6.71**	**241**	P	**Pn**	**20 25 18.3**	**-0.1**
JNBK				*e*S	**Sn**	**20 26 30.5**	**-2.8**
PAU	**Pauzhetka**	**6.97**	**33**	*e*P	**Pn**	**20 25 21.6**	**-0.2**
JEW	**Eniwo**	**7.25**	**249**	P	**Pn**	**20 25 28.4**	**+2.7**
JEW				*e*S	**Sn**	**20 26 47.5**	**+1.1**
TYV	**Tymovskoe**	**7.35**	**316**	*i* P	**Pn**	**20 25 28.7**	**+1.7**
TYV				AMB	AMB	20 25 29.9	
	comp=E,34nm,1.0s						
TYV				*e*S	**Sn**	**20 26 47.9**	**-0.9**
TYV	**Tymovskoe**	**7.35**	**316**	*e*PN	**Pn**	**20 25 28.7**	**+1.7**
TYV				*e*S	**Sn**	**20 26 47.9**	**-0.9**
TYV				pmax	pmax		
	comp=Z,34nm,1.3s						
TYV				smax	smax		
	comp=N,4.0nm,0.9s						
JNB	**Noboribetsu**	**7.69**	**248**	P	**Pn**	**20 25 31.6**	**-0.1**
JNB				*e*S	**Sn**	**20 26 54.6**	**-2.5**
JKB	**Kayabe**	**7.99**	**244**	P	**Pn**	**20 25 35.0**	**-0.7**
JKB				*e*S	**Sn**	**20 26 59.4**	**-5.0**
JSH	**Shimam**	**8.26**	**251**	P	**Pn**	**20 25 40.8**	**+1.4**
JYM2	**Yakumo 2**	**8.30**	**247**	P	**Pn**	**20 25 39.9**	**+0.1**
JYM2				*e*S	**Sn**	**20 27 09.6**	**-2.2**
JSR	**Shiriuchi**	**8.57**	**244**	P	**Pn**	**20 25 43.3**	**-0.3**
JTM	**Tenmabayashi**	**8.62**	**238**	P	**Pn**	**20 25 42.6**	**-1.6**
JTM				*e*S	**Sn**	**20 27 11.9**	**-7.6**
PEA0B	**Petropavlovsk-**	**8.62**	**30**	*e*Pn	**Pn**	**20 25 42.4**	**-1.7**
PETK	**Petropavlovsk-**	**8.62**	**30**	*e*Pn	**Pn**	**20 25 42.9**	**-1.2**
PETK	**Petropavlovsk-**	**8.62**	**30**	*e*PN	**Pn**	**20 25 42.9**	**-1.2**
PETK	**Petropavlovsk-**	**8.62**	**30**	P	**Pn**	**20 25 43.3**	**-0.8**
	comp=N,1.2nm,0.3s,baz=205,slow=16,SNR=6.0						
PEA1	**Petropavlovsk-**	**8.62**	**29**	*e*Pn	**Pn**	**20 25 43.3**	**-0.8**
JANG	**Nango**	**8.62**	**234**	P	**Pn**	**20 25 42.1**	**-2.2**
JANG				*e*S	Sn	20 27 11.6	-8.2
JTH	**Tanohata**	**8.73**	**231**	P	**Pn**	**20 25 42.9**	**-2.8**
JTH				*e*S	Sn	20 27 13.5	-8.9
PET	**Petropavlovsk**	**8.89**	**33**	*e*Pn	**Pn**	**20 25 45.7**	**-2.1**
PET	**Petropavlovsk**	**8.89**	**33**	*e*PN	**Pn**	**20 25 45.7**	**-2.1**
JOSM	**Okushiri--Mats**	**8.89**	**249**	P	**Pn**	**20 25 48.3**	**+0.4**
OKH	**Okha**	**9.22**	**330**	*e*P	**Pn**	**20 25 53.8**	**+1.5**
OFUJ	**Ofunato**	**9.46**	**228**	P	**Pn**	**20 25 53.3**	**-2.3**
OFUJ				*e*S	**Sn**	**20 27 33.2**	**-6.8**
JRG	**Rokugo**	**9.79**	**233**	P	**Pn**	**20 25 58.6**	**-1.4**
JRG				*e*S	**Sn**	**20 27 41.9**	**-6.1**
NKL	**

YAK Yakutsk 20.26 331 *e*P **P** 20 28 07.0 -1.3
YAK *e*S **S** 20 31 41.8 -7.2
YAK *e* 20 32 21.0
YAK pmax pmax
comp=Z,110nm,0.7s
YAK pmax pmax
comp=N,25nm,0.9s
YAK pmax pmax
comp=E,22nm,0.6s
YAK smax smax
comp=N,398nm,3.8s
YAK smax smax
comp=E,336nm,3.3s
BILL Bilibino 23.71 15 *e*P **P** 20 28 44.0 +0.6
BILL Bilibino 23.71 15‖ *e*P **P** 20 28 44.0 +0.6
BILL *e**PP **pwP** 20 29 10.6 +0.5
BILL *e*S S 20 32 22.7 -27
BILL pmax pmax
comp=Z,2.0nm,0.6s
BOD Bodaibo 25.31 312 *e*P **P** 20 28 55.7 -2.3
BOD pmax pmax
comp=Z,6.0nm,1.4s
BJT Baijiatuau 25.79 269 *e*P **P** 20 29 05.2 +2.7
comp=Z,17nm,0.8s
BJT Baijiatuau 25.79 269 *e*P **P** 20 29 05.3 +2.7
BJT pmax pmax
comp=Z,17nm,0.8s
TIXI Tiksi 27.92 345 *e*P **P** 20 29 18.4 -2.8
comp=Z,8.4nm,0.5s
TIXI Tiksi 27.92 345 *ce*P **P** 20 29 18.4 -2.8
TIXI pmax pmax
comp=Z,5.0nm,0.5s
TIXI Tiksi 27.92 345 P **P** 20 29 18.5 -2.8
comp=Z,8.5nm,0.5s,baz=142,slow=8.1,SNR=45
NJ2 Nanjing 28.10 252 *e*P **P** 20 29 25.8 +2.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
HHC Hu-ho-hao-te 28.67 274 *e*P **P** 20 29 29.0 +0.6
HHC PP **PnPn** 20 30 26.0 +1.2
HHC S **S** 20 34 06.0 -2.9
HHC sS sS 20 34 49.5 -2.6
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.4s
H11N2 WAKE ISLAND Hy 29.25 147 T T 21 00 30.8
baz=337,slow=76,SNR=356
H11N1 WAKE ISLAND Hy 29.27 147 T T 21 00 36.7
baz=337,slow=76,SNR=378
H11N3 WAKE ISLAND Hy 29.27 147 T T 21 00 37.3
baz=337,slow=76,SNR=350
ULN Ulaanbaatar 29.62 290 *e*P **P** 20 29 36.0 -0.8
comp=Z,6.9nm,1.5s
ULN Ulaanbaatar 29.62 290 *e*P **P** 20 29 36.0 -0.8
ULN Ulaanbaatar 29.62 290 *e*P **P** 20 29 36.0 -0.8
ULN pmax pmax
comp=Z,7.0nm,1.5s
SONA0 Songino Array 30.06 290 *e*P **P** 20 29 39.8 -0.8
SONA0 *e*PcP **PcP** 20 32 40.3 +0.7
SONM Songino Array 30.06 290 P **P** 20 29 39.8 -0.8
comp=Z,1.0nm,0.5s,baz=94,slow=7.6,SNR=11
SONM PcP **PcP** 20 32 40.3 +0.7
comp=Z,0.4nm,0.5s,baz=127,slow=2.4,SNR=3.3
H11S1 WAKE ISLAND Hy 30.30 149 T T 21 01 58.8
baz=339
H11S3 WAKE ISLAND Hy 30.31 149 T T 21 01 60.0
baz=339
H11S2 WAKE ISLAND Hy 30.32 149 T T 21 01 57.5
baz=339
TLY Talaya 31.12 298 *i* P **P** 20 29 48.5 -1.3
IM3 Indian Mountai 35.52 36 *e*P **P** 20 30 28.2 +0.5
LZH Lanzhou 36.22 271 ⇑P **P** 20 30 36.3 +2.0
LZH pP pP 20 30 59.8 -0.4
LZH sP sP 20 31 12.0 -1.4
LZH PP **PnPn** 20 32 01.5 +1.9
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,95nm,5.2s
TOLK Toolik Lake Re 37.43 31 *e*P **P** 20 30 44.9 +0.8
comp=Z,5.3nm,0.8s
GTA Gaotai 37.44 279 *e*P **P** 20 30 46.0 +1.4
GTA pmax pmax
comp=Z,22nm,1.0s
ILAR Eielson Array 38.33 38 P **P** 20 30 52.1 +0.5
comp=Z,0.7nm,0.7s,baz=272,slow=7.0,SNR=4.1
NRIK Noril'sk 38.70 330 P **P** 20 30 52.5 -2.1
comp=Z,3.4nm,0.5s,baz=84,slow=6.6,SNR=5.7
CD2 Chengdu 39.11 264 ⇑P **P** 20 31 00.5 +2.0
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,140nm,6.3s
ZAA1 Zalesovo Array 41.79 306 *e*PcP **PcP** 20 33 15.2 +1.1
ZALV Zalesovo Beam 41.79 306 PcP **PcP** 20 33 15.2 +1.1
comp=Z,3.0nm,0.6s,baz=104,slow=1.8,SNR=4.6
BCPM Bancas Point 42.29 45 *e*P **P** 20 31 26.1 +1.8
comp=Z,199nm,1.5s
BCPM *e*S **S** 20 37 35.0 -1.1
EPYK Eagle Plains 42.41 35 *e*P **P** 20 31 26.5 +1.3
comp=Z,24nm,1.6s
INK Inuvik 43.35 32 *e*P **P** 20 31 33.0 +0.4
comp=Z,2.9nm,0.7s
INK Inuvik 43.35 32 *e*P **P** 20 31 33.0 +0.4
INK Inuvik 43.35 32 *e*P **P** 20 31 33.0 +0.4
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 43.35 32 P **P** 20 31 32.5 -0.1
comp=Z,2.0nm,0.3s,baz=296,slow=6.8,SNR=30
KMI Kunming 43.40 258 P **P** 20 31 36.3 +2.4
KMI pmax pmax
comp=Z,17nm,0.6s
KMI pmax pmax
comp=Z,85nm,4.7s
WMQ Urumqi 43.68 291 *e*P **P** 20 31 36.3 +0.5
WMQ pP pP 20 31 59.3 -2.4
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,230nm,4.1s
MK32 Makanchi Array 45.87 297 *e*P **P** 20 31 52.2 -0.8
MK32 *e*PcP **PcP** 20 33 28.6 +0.4
MKAR Makanchi Array 45.87 297 P **P** 20 31 52.2 -0.8
comp=Z,3.1nm,0.7s,baz=70,slow=9.5,SNR=8.8
MKAR PcP **PcP** 20 33 28.6 +0.4
comp=Z,1.5nm,0.6s,baz=67,slow=4.8,SNR=2.5
KURK Kurchatov 46.47 303 *e*P **P** 20 31 56.6 -1.0
KURK Kurchatov 46.47 303 *ce*P **P** 20 31 56.6 -1.0
KURK pmax pmax
comp=Z,8.0nm,0.6s
KURBB Kurchatov Arra 46.56 303 P **P** 20 31 56.9 -1.4
comp=Z,8.2nm,0.7s,baz=70,slow=8.7,SNR=26
LSA Lhasa 48.63 272 *e*P **P** 20 32 16.8 +1.7
comp=Z,9.7nm,0.6s
LSA Lhasa 48.63 272 *i* P **P** 20 32 17.3 +2.2
SNR=12
LSA Lhasa 48.63 272 *e*P **P** 20 32 16.8 +1.7
LSA pmax pmax
comp=Z,10.0nm,0.6s
BVAR Borovoye Array 50.14 309 P **P** 20 32 24.8 -0.9
comp=Z,2.0nm,0.7s,baz=57,slow=8.3,SNR=14
BVAR PcP **PcP** 20 33 44.0 +0.6
comp=Z,1.6nm,0.4s,baz=86,slow=3.8,SNR=7.7
BRVK Borovoye 50.18 309 *e*P **P** 20 32 24.2 -1.8
comp=Z,4.2nm,0.8s
BRVK Borovoye 50.18 309 *e*P **P** 20 32 25.1 -0.9
BRVK Borovoye 50.18 309 *ce*P **P** 20 32 25.1 -0.9
BRVK pmax pmax
comp=Z,12nm,2.5s
CMMT Chiang Mai 50.25 255 P **P** 20 32 29.1 +2.1
comp=Z,11nm,0.8s
CHTO Chiang Mai 50.25 255 *e*P **P** 20 32 28.6 +1.6
comp=Z,7.8nm,0.8s
CHTO Chiang Mai 50.25 255 *e*P **P** 20 32 28.6 +1.6
CHTO Chiang Mai 50.25 255 *e*P **P** 20 32 28.6 +1.6
CHTO pmax pmax
comp=Z,8.0nm,0.8s
PRZ Przheval'sk 50.32 294 *e*P **P** 20 32 28.0 +0.5
comp=Z,5.5nm,0.7s
PRZ Przheval'sk 50.32 294 *e*P **P** 20 32 28.0 +0.5
PRZ pmax pmax
comp=Z,6.0nm,0.7s
CM31 Chiang Mai Arr 50.50 255 *e*P **P** 20 32 30.9 +2.1
comp=Z,4.7nm,0.8s
CMAR Chiang Mai Arr 50.50 255 P **P** 20 32 31.3 +2.5
comp=Z,3.9nm,0.8s,baz=37,slow=7.4,SNR=38

CM01 Chiang Mai Arr 50.51 255 *e*P **P** 20 32 30.8 +1.8
CM01 *e*PcP **PcP** 20 33 46.6 +1.3
TARG Taragay, Kyrgy 51.09 293 *e*P **P** 20 32 35.1 +1.6
comp=Z,4.7nm,0.9s
TARG *e*PcP **PcP** 20 33 48.8 +1.2
KDJ Kajisay 51.28 294 *e*P **P** 20 32 36.0 +1.3
comp=Z,4.9nm,0.6s
KDJ Kajisay 51.28 294 *e*P **P** 20 32 36.0 +1.3
KDJ pmax pmax
comp=Z,5.0nm,0.6s
ULHL Ulahol 51.82 295 P **P** 20 32 39.5 +0.8
SNR=6.8
RES Resolute Bay 52.26 18 *e*P **P** 20 32 40.4 -0.8
comp=Z,14nm,0.8s
RES PcP **PcP** 20 33 51.4 +0.4
RES Resolute Bay 52.26 18 P **P** 20 32 41.5 +0.3
comp=Z,12nm,0.8s,baz=329,slow=8.4,SNR=57
RES PcP **PcP** 20 33 51.4 +0.4
comp=Z,1.0nm,0.7s,baz=344,slow=7.4,SNR=2.4
USP Ospenovka 52.39 296 P **P** 20 32 43.0 +0.3
SNR=14
KBK Karagaybulak 52.43 296 P **P** 20 32 43.8 +0.6
SNR=6.7
KZA Kyzart 52.54 295 P **P** 20 32 45.7 +1.4
SNR=7.9
YKA Yellowknife Ar 52.68 36 *e*P **P** 20 32 45.0 +0.5
YKA Yellowknife Ar 52.68 36 P **P** 20 32 45.1 +0.7
comp=Z,0.7nm,0.6s,baz=298,slow=7.0,SNR=8.6
YKB5 Yellowknife Ar 52.68 36 *e*P **P** 20 32 44.4 -0.1
AAK Ala-Archa 52.72 296 P **P** 20 32 45.4 0.0
SNR=5.6
AAK Ala-Archa 52.72 296 *e*P **P** 20 32 44.7 -0.6
comp=Z,2.7nm,0.6s
AAK Ala-Archa 52.72 296 *e*P **P** 20 32 46.0 +0.7
AAK Ala-Archa 52.72 296 *i* P **P** 20 32 45.3 0.0
SNR=7.9
AAK Ala-Archa 52.72 296 *ce*P **P** 20 32 46.0 +0.7
AAK pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 52.72 296 P **P** 20 32 45.4 0.0
comp=Z,2.2nm,0.4s,baz=127,slow=5.9,SNR=15
EKS2 Erkin-Say 53.16 296 P **P** 20 32 49.1 +0.6
SNR=8.4
JIRN Jiri 53.32 274 *e*P **P** 20 32 51.7 +1.5
comp=Z,44nm,0.5s
SVE Sverdlovsk 53.36 317 *e*P **P** 20 32 48.6 -1.0
SVE Sverdlovsk 53.36 317 *ce*P **P** 20 32 48.6 -1.0
SVE pmax pmax
comp=Z,23nm,0.8s
GUN Gumba 53.39 274 *e*P **P** 20 32 51.8 +1.2
comp=Z,27nm,0.4s
KSH Kashi 53.44 292 P P 20 32 55.1 +4.6
KSH pP pP 20 33 19.0 +1.3
KSH PP **PP** 20 34 59.1 +7.3
KSH S **S** 20 40 16.8 +2.7
KSH pmax pmax
comp=Z,65nm,4.2s
RAMN Ramite 53.48 273 *e*P **P** 20 32 52.4 +1.3
comp=Z,41nm,0.5s
AML Almayashu 53.49 296 P P 20 32 41.0 -10
SNR=26
KKN Kakani 53.88 274 *e*P **P** 20 32 55.8 +1.8
comp=Z,22nm,0.6s
PKI Pulchoki 53.92 274 *e*P **P** 20 32 55.6 +1.1
comp=Z,16nm,0.5s
PKIN Phulchoki 53.93 274 *e*P **P** 20 32 55.5 +1.0
comp=Z,9.8nm,0.5s
DMN Daman 54.11 274 *e*P **P** 20 32 57.3 +1.5
comp=Z,14nm,0.5s
GKN Gorkha 54.20 275 *e*P **P** 20 32 57.6 +1.3
comp=Z,39nm,0.5s
ARSB Arslanbob 54.38 295 *e*P **P** 20 32 57.7 +0.3
comp=Z,24nm,1.5s
ARU Arti 54.55 317 *e*P **P** 20 32 56.0 -2.2
comp=Z,21nm,0.8s
ARU Arti 54.55 317 *e*P **P** 20 32 56.4 -1.8
ARU Arti 54.55 317 *c i*P **P** 20 32 56.4 -1.8
ARU *e**PP **pP** 20 33 23.5 -1.7
ARU 20 33 59.0
ARU 20 34 58.6
ARU S **S** 20 40 26.0 -2.3
ARU SS **SS** 20 44 02.9 -8.9
ARU pmax pmax
comp=Z,24nm,0.8s
DANN Dangsing 54.59 276 *e*P **P** 20 33 01.0 +1.7
comp=Z,42nm,0.5s
KK31 Karatay Array 54.96 298 *e*P **P** 20 33 00.8 -0.5
comp=Z,5.8nm,0.6s
KK31 Karatay Array 54.96 298 *e*P **P** 20 33 00.9 -0.5
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 54.96 298 *e*P **P** 20 33 00.4 -1.0
comp=Z,5.8nm,0.6s
KKAR Karatay Array 54.96 298 *e*P **P** 20 33 00.4 -1.0
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KOLN Koldanda 55.06 275 *e*P **P** 20 33 04.1 +1.5
comp=Z,19nm,0.7s
PYUN Piuthan 55.28 276 *e*P **P** 20 33 05.5 +1.3
comp=Z,15nm,0.5s
TULEG Thule 55.36 10 *e*P **P** 20 33 02.6 -1.2
comp=Z,8.9nm,0.8s
BTK Batken 56.45 295 *e*P **P** 20 33 11.1 -1.1
comp=Z,12nm,0.8s
BTK Batken 56.45 295 *e*P **P** 20 33 11.1 -1.1
BTK pmax pmax
comp=Z,12nm,0.8s
PRGR Permogore 57.23 327 *e*P **P** 20 33 14.7 -2.5
PRGR pmax pmax
comp=Z,11nm,0.6s
GAR Garm 57.37 294 *e*P **P** 20 33 18.8 +0.1
GAR Garm 57.37 294 *e*P **P** 20 33 18.8 +0.1
ABKAR Akbulak array 57.72 309 *e*P **P** 20 33 19.6 -1.3
comp=Z,5.5nm,0.6s
AKTO Aktyubinsk 58.08 311 P **P** 20 33 21.9 -1.5
comp=Z,3.2nm,0.6s,baz=63,slow=7.2,SNR=12
ARA0 ARCESS Array S 58.17 340 *e*P **P** 20 33 21.1 -2.6
ARCES ARCESS Array B 58.17 340 *e*P **P** 20 33 26.0 +2.3
ARCES ARCESS Array B 58.17 340 *e*P **P** 20 33 25.5 +1.8
ARCES ARCESS Array B 58.17 340 *e*P **P** 20 33 25.5 +1.8
ARCES ARCESS Array B 58.17 340 P **P** 20 33 21.1 -2.6
comp=Z,3.5nm,0.8s,baz=27,slow=8.3,SNR=6.1
ARE0 ARCESS Array S 58.17 340 *e*P **P** 20 33 25.4 +1.7
comp=Z,8.5nm,1.9s
H04A Detroit Lake 58.28 57 *e*P **P** 20 33 26.2 +1.3
comp=Z,64nm,2.0s
CHGR Chuyangaron 58.30 294 *e*P **P** 20 33 25.3 +0.1
comp=Z,65nm,0.8s
NIL Nilore 58.58 287 *e*P **P** 20 33 28.2 +1.1
comp=Z,39nm,0.8s
NIL Nilore 58.58 287 *e*P **P** 20 33 28.2 +1.1
NIL pmax pmax
comp=Z,39nm,0.8s
PINE Pine Mountain 59.53 57 *e*P **P** 20 33 35.2 +1.5
comp=Z,4.8nm,0.8s
E09A Wood Farm, Sta 59.54 53 *e*P **P** 20 33 35.0 +1.5
comp=Z,2.7nm,0.6s
KLMR Klimovskoe 60.02 328 *e*P **P** 20 33 33.7 -2.8
KLMR pmax pmax
comp=Z,8.0nm,0.9s
KLMR Klimovskoe 60.02 328 *e*P **P** 20 33 33.8 -2.8
KLMR AMP 20 33 36.2
comp=Z,8.0nm,0.8s
KBL Kabul 60.83 291 *e*P **P** 20 33 42.1 -0.6
comp=Z,22nm,0.7s
KBL Kabul 60.83 291 *e*P **P** 20 33 42.1 -0.6
KBL pmax pmax
comp=Z,22nm,0.7s
MOD Modoc Plateau 61.02 59 *e*P **P** 20 33 45.5 +1.6
comp=Z,3.9nm,0.7s
WVOR Wild Horse Val 61.69 57 *e*P **P** 20 33 49.6 +1.3
comp=Z,3.7nm,1.0s
WVOR Wild Horse Val 61.69 57 *e*P **P** 20 33 49.6 +1.3
WVOR pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 61.74 3 *e*P **P** 20 33 48.4 -0.1
comp=Z,41nm,0.9s
SUMG Summit 61.74 3 *e*P **P** 20 33 48.4 -0.1
SUMG pmax pmax
comp=Z,41nm,0.9s
BEKR Beckworth 62.23 60 *e*P **P** 20 33 52.9 +0.9
comp=Z,14nm,1.3s
FCC Fort Churchill 62.97 32 *e*P **P** 20 33 56.6 +0.3
comp=Z,23nm,1.9s
FCC Fort Churchill 62.97 32 *e*P **P** 20 33 56.6 +0.3
FCC Fort Churchill 62.97 32 *e*P **P** 20 33 56.6 +0.3

FCC pmax pmax
comp=Z,23nm,1.9s
WAKR Walker 63.63 61 *e*P **P** 20 34 02.9 +1.6
comp=Z,16nm,1.9s
SCO Scoresbysund 63.90 357 *e*P **P** 20 34 02.8 +0.5
comp=Z,62nm,1.8s
KVN Kaiserville 64.10 60 *e*P **P** 20 34 05.5 +1.0
comp=Z,4.3nm,0.8s
KVN Kaiserville 64.10 60 *e*P **P** 20 34 05.5 +1.0
KVN pmax pmax
comp=Z,4.0nm,0.8s
FIA1 FINESS Array S 64.15 334 *e*P **P** 20 34 01.9 -2.2
comp=Z,96nm,1.9s
FIA0 FINESS Array S 64.15 334 *e*P **P** 20 34 02.3 -1.8
FIA0 FINESS Array S 64.15 334 *e*P **P** 20 34 02.3 -1.8
FINES FINESS Array B 64.15 334 P **P** 20 34 02.3 -1.8
comp=Z,3.7nm,0.5s,baz=32,slow=7.9,SNR=27
ILULI Ilulissat 64.17 8 *e*P **P** 20 34 02.9 -1.2
comp=Z,67nm,1.7s
ILULI Ilulissat 64.17 8 *e*P **P** 20 34 02.9 -1.2
ILULI pmax pmax
comp=Z,67nm,1.7s
OBN Obninsk 65.11 325 *de*P **P** 20 34 08.8 -1.6
OBN *e**PP **pP** 20 34 38.1 -0.4
OBN *e* 20 36 35.0
OBN *e*S **S** 20 42 38.7 -4.9
OBN pmax pmax
comp=Z,6.0nm,1.0s
FXWY Fox Creek 65.28 52 *e*P **P** 20 34 14.2 +2.1
comp=Z,10nm,1.9s
GEYT Alibeck 65.62 300 P **P** 20 34 15.1 +1.1
comp=Z,17nm,0.7s,baz=5.7,slow=4.5,SNR=31
SPUT South Promonto 65.99 55 *e*P **P** 20 34 15.8 -0.8
comp=Z,11nm,1.6s
R11A Troy Canyon, C 66.06 59 *e*P **P** 20 34 18.2 +1.1
comp=Z,1.4nm,0.6s
SFJD Kangerlussuaq 66.36 9 *e*P **P** 20 34 18.4 +0.2
comp=Z,10nm,0.9s
SFJD Kangerlussuaq 66.36 9 *e*P **P** 20 34 18.4 +0.2
SFJD pmax pmax
comp=Z,11nm,0.9s
DUG Dugway, Tooele 66.50 56 *e*P **P** 20 34 20.0 +0.2
comp=Z,2.5nm,0.9s
DUG Dugway, Tooele 66.50 56 *e*P **P** 20 34 20.0 +0.2
DUG Dugway, Tooele 66.50 56 *e*P **P** 20 34 20.0 +0.2
DUG pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 66.57 61 *e*P **P** 20 34 21.7 +1.4
comp=Z,3.3nm,0.9s
TPNV Topopah Spring 66.57 61 *e*P **P** 20 34 21.7 +1.4
TPNV pmax pmax
comp=Z,3.0nm,0.9s
PDAR Pinedale Array 66.66 52 *e*P **P** 20 34 22.1 +1.2
PDAR Pinedale Array 66.66 52 P **P** 20 34 21.8 +0.9
comp=Z,1.3nm,0.7s,baz=270,slow=3.0,SNR=6.8
GSC Goldstone, Bar 67.30 62 *e*P **P** 20 34 25.4 +0.6
comp=Z,3.7nm,1.0s
GSC Goldstone, Bar 67.30 62 *e*P **P** 20 34 25.4 +0.6
GSC pmax pmax
comp=Z,4.0nm,1.0s
NC303 NORSAR Array S 68.35 340 *e*P **P** 20 34 29.5 -1.4
comp=Z,74nm,1.8s
NC405 NORSAR Array S 68.37 340 *e*P **P** 20 34 29.6 -1.4
comp=Z,39nm,1.4s
NC204 NORSAR Array S 68.45 340 *e*P **P** 20 34 30.2 -1.4
comp=Z,51nm,1.6s
LDFC Landfair 68.49 62 *e*P **P** 20 34 33.2 +0.8
comp=Z,8.6nm,0.9s
NB201 NORSAR Array S 68.52 340 *e*P **P** 20 34 30.4 -1.6
comp=Z,69nm,1.8s
NB2 NORSAR Subarra 68.55 340 P **P** 20 34 30.8 -1.4
comp=Z,2.8nm,0.5s,baz=28,slow=6.2
NB200 NORSAR Array S 68.55 340 *e*P **P** 20 34 31.3 -0.9
NOA NORSAR Array B 68.55 340 P **P** 20 34 31.3 -0.9
comp=Z,8.0nm,0.7s,baz=30,slow=6.7,SNR=27
NBO00 NORSAR Array S 68.66 340 *e*P **P** 20 34 32.0 -0.9
comp=Z,57nm,1.6s
NC602 NORSAR Array S 68.74 340 *e*P **P** 20 34 31.8 -1.5
comp=Z,73nm,1.8s
NAO01 NORSAR Array S 68.80 340 *e*P **P** 20 34 32.4 -1.3
comp=Z,95nm,1.9s
GOF Gofitskoye 69.26 314 *e*P **P** 20 34 39.2 +2.4
GLA Glamis 70.01 63 *e*P **P** 20 34 42.3 +0.6
comp=Z,7.4nm,0.6s
GLA Glamis 70.01 63 *e*P **P** 20 34 42.3 +0.6
GLA pmax pmax
comp=Z,7.0nm,0.6s
KIV Kislovodsk 70.22 313 *e*P **P** 20 34 43.0 +0.1
comp=Z,30nm,0.7s
KIV Kislovodsk 70.22 313 ⇑*i*P **P** 20 34 43.8 +0.9
KIV Kislovodsk 70.22 313 *e*P **P** 20 34 42.7 -0.2
KIV Kislovodsk 70.22 313 *i* P **P** 20 34 43.6 +0.8
SNR=8.6
KIV Kislovodsk 70.22 313 *e*P **P** 20 34 42.7 -0.2
KIV pmax pmax
comp=Z,44nm,1.1s
KBZ Khabaz 70.27 313 P **P** 20 34 44.0 +1.0
comp=Z,16nm,0.9s,baz=102,slow=1.0,SNR=29
ZEI Tsey 70.42 312 *e*P **P** 20 34 43.5 -0.7
ZEI pmax pmax
comp=Z,8.0nm,0.8s
Y14A Wickenburg 70.54 61 *e*P **P** 20 34 45.8 +0.9
comp=Z,3.7nm,0.9s
TBLG Delisi 70.72 310 *e*P **P** 20 34 46.5 +0.7
comp=Z,39nm,0.7s
TBLG Delisi 70.72 310 *e*P **P** 20 34 46.5 +0.7
TBLG pmax pmax
comp=Z,39nm,0.7s
TBLG Delisi 70.72 310 *i* P **P** 20 34 47.7 +1.9
TBLG IAML_P
comp=Z,2μm,0.5s
BTNK Botanikuri 70.72 310 *i* P **P** 20 34 47.5 +1.7
BTNK IAML_P
comp=Z,587nm,0.4s
ASAR Alice Springs 70.81 196 P **P** 20 34 49.0 +2.6
comp=Z,0.4nm,0.8s,baz=21,slow=8.0,SNR=3.8
AKASG Malin Array Be 71.36 325 P **P** 20 34 48.1 -1.4
comp=Z,6.3nm,0.5s,baz=36,slow=6.3,SNR=36
AKBB Malin Array Si 71.36 325 *e*P **P** 20 34 48.2 -1.3
comp=Z,8.4nm,0.6s
KIEV Kiev 71.38 325 *e*P **P** 20 34 47.9 -1.7
comp=Z,8.3nm,0.6s
KIEV Kiev 71.38 325 ⇑*i*P **P** 20 34 48.3 -1.3
KIEV Kiev 71.38 325 P **P** 20 34 48.2 -1.4
KIEV Kiev 71.38 325 *i* P **P** 20 34 46.9 -2.7
KIEV pmax pmax
comp=Z,4.0nm,0.8s
AK11 Malin Array Si 71.41 325 *e*P **P** 20 34 48.0 -1.7
GNI Garni 71.83 309 *e*P **P** 20 34 54.3 +1.5
comp=Z,14nm,0.8s
GNI Garni 71.83 309 *i* P **P** 20 34 54.5 +1.8
SNR=5.6
GNI Garni 71.83 309 *i* P **P** 20 34 52.9 +0.2
GNI pmax pmax
comp=Z,31nm,0.9s
EPOS Posof 71.94 311 *i* P **P** 20 34 54.1 +0.7
DIGO Kars 72.38 310 *i* P **P** 20 34 57.8 +1.7
DIGO IAML_P
comp=Z,7.2nm,0.3s
IGDI IGDIR 72.39 309 *i* P **P** 20 34 57.7 +1.8
IGDI IAML_P
comp=Z,140nm,0.8s
BCA Borcka 72.56 312 ⇑*i*P **P** 20 34 57.5 +0.6
DBOC Borcka 72.61 312 *i* P **P** 20 34 58.2 +1.1
DBOC IAML_P
comp=Z,1μm,0.6s
DAGI Agillar 72.67 311 *i* P **P** 20 34 58.9 +1.2
DAGI IAML_P
comp=Z,215nm,0.5s
DBAD Bademkaya 72.83 312 *i* P **P** 20 34 59.6 +1.0
DBAD IAML_P
comp=Z,590nm,0.6s
TUTA Tutak 73.40 310 *i* P **P** 20 35 04.0 +1.9
TUTA IAML_P
comp=Z,590nm,0.6s
HOMI Horasan 73.42 311 *i* P **P** 20 35 04.8 +2.5
HOMI IAML_P
comp=Z,96nm,0.2s
ANMO Albuquerque 73.77 57 *ce*P **P** 20 35 04.5 +0.2
ANMO pmax pmax
comp=Z,1.0nm,0.7s
BAYB BAYBURT 74.14 312 *i* P **P** 20 35 08.2 +1.9
BAYB IAML_P
comp=Z,2.2nm,0.4s
319A Douglas 74.58 61 *e*P **P** 20 35 10.8 +1.8
comp=Z,6.7nm,0.7s

KWP	**Kalwaria Pacla**	**74.74**	**328**	*e*P	**P**	**20 35 09.3**	**-0.1**
	comp=Z,259nm,1.1s						
KWP	**Kalwaria Pacla**	**74.74**	**328**	*e*P	**P**	**20 35 09.4**	**-0.1**
KWP				pmax	pmax		
	comp=Z,259nm,1.1s						
LEOM	**Leova**	**75.09**	**323**	⇑*i*P	**P**	**20 35 11.7**	**+0.3**
OJC	**Ojcow**	**75.30**	**330**	*e*P	**P**	**20 35 12.6**	**-0.1**
	comp=Z,12nm,1.0s						
OJC	**Ojcow**	**75.30**	**330**	*e*P	**P**	**20 35 12.6**	**-0.1**
OJC	**Ojcow**	**75.30**	**330**	*e*P	**P**	**20 35 12.6**	**-0.1**
OJC				pmax	pmax		
	comp=Z,13nm,1.0s						
RUE	**Ruedersdorf**	**75.34**	**334**	*e*P	**P**	**20 35 12.4**	**-0.3**
	comp=Z,9.3nm,0.8s,baz=26,slow=5.8						
BUR08	**Bucovina Ar. S**	**75.40**	**325**	*e*P	**P**	**20 35 12.9**	**-0.5**
	comp=Z,10nm,0.6s						
BURAR	**Bucovina Array**	**75.42**	**325**	⇑*i*P	**P**	**20 35 13.7**	**+0.2**
BIZ	**Bicaz**	**75.60**	**324**	⇑*i*P	**P**	**20 35 14.3**	**-0.1**
HATD	**Hatta, Dubai**	**75.63**	**291**	P	**P**	**20 35 15.9**	**+0.9**
TESR	**Tescani**	**75.72**	**324**	⇓*i*P	**P**	**20 35 14.7**	**-0.4**
ASHO	**Ashiyiah**	**75.78**	**291**	P	**P**	**20 35 16.8**	**+0.9**
TLCR		**75.86**	**322**	⇑*i*P	**P**	**20 35 15.9**	**0.0**
TRPA	**Tarpa**	**76.04**	**327**	⇑*i*P	**P**	**20 35 17.1**	**+0.3**
FAQ	**Al Faqa, Dubai**	**76.04**	**291**	P	**P**	**20 35 17.5**	**+0.2**
CFR	**Carcaliu**	**76.16**	**322**	⇑*i*P	**P**	**20 35 17.7**	**+0.1**
OKC	**Ostrava-Krasne**	**76.20**	**331**	*e*P	**P**	**20 35 17.7**	**0.0**
OKC	**Ostrava-Krasne**	**76.20**	**331**	*e*P	**P**	**20 35 17.7**	**0.0**
LANS	**Liptovska Anna**	**76.32**	**329**	*e*P	**P**	**20 35 19.4**	**+0.9**
LANS	**Liptovska Anna**	**76.32**	**329**	*e*P	**P**	**20 35 19.4**	**+0.9**
UPC	**Upice**	**76.34**	**332**	*e*P	**P**	**20 35 18.9**	**+0.3**
UPC	**Upice**	**76.34**	**332**	*e*P	**P**	**20 35 18.9**	**+0.3**
DPC	**Dobruska-Polom**	**76.38**	**332**	*e*P	**P**	**20 35 19.0**	**+0.2**
DPC	**Dobruska-Polom**	**76.38**	**332**	*e*P	**P**	**20 35 19.0**	**+0.2**
NRDL	**Niedersach Rie**	**76.39**	**336**	*e*P	**P**	**20 35 17.9**	**-0.8**
	baz=26,slow=5.8						
MORC	**Moravsky Berou**	**76.46**	**331**	*e*P	**P**	**20 35 18.8**	**-0.5**
	comp=Z,8.2nm,0.8s						
MORC	**Moravsky Berou**	**76.46**	**331**	⇑*i*P	**P**	**20 35 19.0**	**-0.2**
MORC	**Moravsky Berou**	**76.46**	**331**	*e*P	**P**	**20 35 19.1**	**-0.2**
KRLC	**Kraliky**	**76.46**	**331**	*e*P	**P**	**20 35 19.4**	**+0.1**
KRLC	**Kraliky**	**76.46**	**331**	*e*P	**P**	**20 35 19.4**	**+0.1**
CLL	**Collm**	**76.60**	**334**	*e*P	**P**	**20 35 18.6**	**-1.3**
	comp=Z,13nm,1.0s						
CLL	**Collm**	**76.60**	**334**	*e*P	**P**	**20 35 18.9**	**-1.0**
	baz=26,slow=5.8						
CLL	**Collm**	**76.60**	**334**	*i*P	**P**	**20 35 18.4**	**-1.5**
	comp=Z,12nm,1.0s						
CLL	**Collm**	**76.60**	**334**	*e*P	**P**	**20 35 18.4**	**-1.5**
CLL	**Collm**	**76.60**	**334**	*i*P	**P**	**20 35 18.4**	**-1.5**
CLL				pmax	pmax		
	comp=Z,12nm,1.0s						
HARR	**Harsova**	**76.64**	**322**	⇑*i*P	**P**	**20 35 20.5**	**+0.2**
TLB	**Topalu**	**76.67**	**322**	⇑*i*P	**P**	**20 35 20.4**	**-0.1**
BRG	**Berggiesshubel**	**76.69**	**333**	*e*P	**P**	**20 35 19.9**	**-0.6**
	comp=Z,13nm,1.5s						
BRG	**Berggiesshubel**	**76.69**	**333**	*e*P	**P**	**20 35 19.8**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=26,slow=5.8						
BRG	**Berggiesshubel**	**76.69**	**333**	*e*P	**P**	**20 35 19.9**	**-0.6**
BRG	**Berggiesshubel**	**76.69**	**333**	*e*P	**P**	**20 35 19.9**	**-0.6**
BRG				pmax	pmax		
	comp=Z,13nm,1.5s						
FBE	**Freiberg**	**76.83**	**334**	*e*P	**P**	**20 35 21.4**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=26,slow=5.8						
MLR	**Muntele Rosu**	**76.84**	**324**	*e*P	**P**	**20 35 22.0**	**+0.4**
	comp=Z,9.5nm,0.9s						
MLR	**Muntele Rosu**	**76.84**	**324**	*e*P	**P**	**20 35 22.0**	**+0.4**
MLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLZ	**Clausthal**	**76.90**	**336**	*e*P	**P**	**20 35 21.2**	**-0.5**
	baz=26,slow=5.8						
NEUB	**Neuenburg**	**77.05**	**335**	*e*P	**P**	**20 35 22.7**	**+0.2**
	baz=26,slow=5.8						
DRGR		**77.08**	**326**	⇑*i*P	**P**	**20 35 22.8**	**0.0**
VYHS	**Vyhne**	**77.09**	**329**	*e*P	**P**	**20 35 23.0**	**+0.2**
VYHS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
VYHS	**Vyhne**	**77.09**	**329**	*e*P	**P**	**20 35 23.0**	**+0.2**
ICOR	**Ion Corvin**	**77.15**	**322**	⇑*i*P	**P**	**20 35 23.8**	**+0.6**
VRAC	**Vranov**	**77.18**	**331**	⇑*i*P	**P**	**20 35 23.4**	**+0.2**
VRAC	**Vranov**	**77.18**	**331**	*e*P	**P**	**20 35 23.5**	**+0.2**
JAVC	**Velka Javorina**	**77.19**	**330**	*e*P	**P**	**20 35 24.5**	**+1.1**
IBBN	**Ibbenburen**	**77.20**	**338**	*e*P	**P**	**20 35 23.4**	**+0.1**
	baz=26,slow=5.8						
VOIR		**77.25**	**324**	⇓*i*P	**P**	**20 35 24.5**	**+0.7**
GOPC	**GO Pecny, Ondr**	**77.25**	**333**	*e*P	**P**	**20 35 23.6**	**-0.1**
GOPC	**GO Pecny, Ondr**	**77.25**	**333**	*e*P	**P**	**20 35 23.6**	**-0.1**
PRU	**Pruhonice**	**77.27**	**333**	*e*P	**P**	**20 35 23.4**	**-0.3**
PRU	**Pruhonice**	**77.27**	**333**	*e*P	**P**	**20 35 23.4**	**-0.3**
PRU	**Pruhonice**	**77.27**	**333**	*e*P	**P**	**20 35 23.4**	**-0.3**
KRUC	**Moravsky**	**77.46**	**331**	*e*P	**P**	**20 35 24.8**	**0.0**
ARR	**Arges**	**77.48**	**324**	⇑*i*P	**P**	**20 35 26.9**	**+1.8**
TREC	**Trest**	**77.56**	**332**	*e*P	**P**	**20 35 23.3**	**-2.1**
TREC				*e*P	**P**	**20 35 25.4**	**0.0**
TREC	**Trest**	**77.56**	**332**	*e*P	**P**	**20 35 23.3**	**-2.1**
MOX	**Moxa**	**77.60**	**335**	*e*P	**P**	**20 35 25.5**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=26,slow=5.8						
GUNZ	**Gunzen**	**77.63**	**334**	*e*P	**P**	**20 35 25.9**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=26,slow=5.8						
WERN	**Wernitzgruen**	**77.68**	**334**	*e*P	**P**	**20 35 26.3**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=26,slow=5.8						
NKC	**Novy Kostel**	**77.71**	**334**	*e*P	P	20 35 30.9	+4.7
NKC	**Novy Kostel**	**77.71**	**334**	*e*P	P	20 35 30.9	+4.7
MODS	**Modra-Piesok**	**77.75**	**330**	*e*P	**P**	**20 35 27.7**	**+1.2**
MODS				pmax	pmax		
	comp=Z,12nm,1.2s						
MODS	**Modra-Piesok**	**77.75**	**330**	*e*P	**P**	**20 35 27.7**	**+1.2**
BR101	**Keskin Array S**	**77.89**	**315**	*e*P	**P**	**20 35 28.0**	**+0.4**
BR131	**Keskin Array S**	**77.89**	**315**	*e*P	**P**	**20 35 27.7**	**+0.1**
	comp=Z,5.2nm,0.8s						
BRTR	**Keskin Array B**	**77.89**	**315**	*i*P	**P**	**20 35 28.2**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**77.89**	**315**	P	**P**	**20 35 28.0**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=87,slow=4.8,SNR=20						
MANZ	**Manzenberg**	**78.03**	**334**	*e*P	**P**	**20 35 28.4**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=26,slow=5.8						
ANTO	**Ankara**	**78.19**	**316**	*e*P	**P**	**20 35 29.1**	**0.0**
	comp=Z,18nm,0.8s						
ANTO	**Ankara**	**78.19**	**316**	*e*P	**P**	**20 35 29.2**	**0.0**
ANTO				pmax	pmax		
	comp=Z,18nm,0.8s						
ROTZ	**Rotzenmuhle**	**78.19**	**334**	*e*P	**P**	**20 35 29.4**	**+0.5**
	baz=26,slow=5.8						
GZR	**Gura Zlata**	**78.20**	**325**	⇑*i*P	**P**	**20 35 29.0**	**-0.1**
KHC	**Kasperske Hory**	**78.32**	**333**	*e*P	**P**	**20 35 29.6**	**0.0**
	comp=Z,4.1nm,0.8s						
KHC	**Kasperske Hory**	**78.32**	**333**	*e*P	**P**	**20 35 29.7**	**0.0**
KHC	**Kasperske Hory**	**78.32**	**333**	*e*P	**P**	**20 35 29.6**	**0.0**
KHC	**Kasperske Hory**	**78.32**	**333**	*e*P	**P**	**20 35 29.6**	**0.0**
KHC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BZS	**Buzias**	**78.47**	**326**	⇑*i*P	**P**	**20 35 30.6**	**+0.1**
GEC2	**GERESS Array S**	**78.53**	**333**	*e*P	**P**	**20 35 30.5**	**-0.4**
	comp=Z,16nm,1.9s						
GEC2	**GERESS Array S**	**78.53**	**333**	*e*P	**P**	**20 35 31.1**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=26,slow=5.8						
GEC2	**GERESS Array S**	**78.53**	**333**	*e*P	**P**	**20 35 30.5**	**-0.4**
GEC2				pmax	pmax		
	comp=Z,16nm,1.9s						
GERES	**GERESS Array B**	**78.53**	**333**	P	**P**	**20 35 30.8**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=34,slow=6.1,SNR=26						
WET	**Wettzell**	**78.53**	**333**	*e*P	**P**	**20 35 31.3**	**+0.5**
	comp=Z,5.3nm,0.9s,baz=26,slow=5.8						
GEA0	**GERESS Array S**	**78.54**	**333**	*e*P	**P**	**20 35 30.3**	**-0.7**
GRF	**Grafenberg Arr**	**78.56**	**334**	*e*P	**P**	**20 35 31.2**	**+0.3**
	comp=Z,8.2nm,0.7s,baz=26,slow=5.8						
CONA	**Conrad Observa**	**78.61**	**331**	*e*P	**P**	**20 35 32.3**	**+1.0**
	comp=Z,6.7nm,0.6s						
TNS	**Taunus Mts**	**78.89**	**336**	*e*P	**P**	**20 35 32.8**	**0.0**
	comp=Z,5.7nm,0.7s,baz=26,slow=5.8						
BEBN	**Eben Emael**	**79.12**	**338**	⇑P	**P**	**20 35 34.2**	**+0.3**
	comp=Z,2.8nm,0.7s						
MDVR	**Moldovita**	**79.13**	**326**	⇑*i*P	**P**	**20 35 33.7**	**-0.5**
MEM	**Membach**	**79.20**	**338**	⇓P	**P**	**20 35 34.5**	**+0.1**
	comp=Z,17nm,1.2s						
MOA	**Molln**	**79.22**	**332**	*e*P	**P**	**20 35 35.0**	**+0.4**
	comp=Z,3.6nm,1.0s						
PHSR	**Pinarhisar**	**79.26**	**320**	⇑*i*P	**P**	**20 35 35.3**	**+0.4**
ARSA	**Arzberg**	**79.31**	**331**	*e*P	**P**	**20 35 35.4**	**+0.3**
	comp=Z,2.2nm,0.6s						
TXAR	**Lajitas Array**	**79.43**	**59**	P	**P**	**20 35 37.0**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=312,slow=4.7,SNR=6.5						
BCLA	**Clavier**	**79.56**	**338**	⇑P	**P**	**20 35 36.4**	**+0.1**
	comp=Z,7.1nm,0.7s						
SNF	**Seneffe**	**79.74**	**339**	⇑P	**P**	**20 35 35.5**	**-1.8**
RJOB	**Jochberg**	**79.80**	**333**	*e*P	**P**	**20 35 38.2**	**+0.4**
	comp=Z,4.9nm,0.9s,baz=26,slow=5.8						
SOKA	**Soboth**	**79.98**	**331**	*i*P	**P**	**20 35 39.0**	**+0.2**
	comp=Z,6.1nm,0.7s						
GROS	**Grobnik**	**80.01**	**330**	*i*P	**P**	**20 35 38.7**	**-0.3**
WLF	**Walferdange**	**80.03**	**337**	*e*P	**P**	**20 35 39.1**	**+0.2**
	baz=26,slow=5.8						
DOU	**Dourbes**	**80.04**	**339**	⇑P	**P**	**20 35 38.0**	**-0.9**
KBA	**Koelnbreinsper**	**80.20**	**332**	*e*P	**P**	**20 35 40.8**	**+0.7**
	comp=Z,12nm,0.7s,SNR=6.6						
OBKA	**Obir**	**80.29**	**331**	*e*P	**P**	**20 35 41.0**	**+0.6**
	comp=Z,3.3nm,0.7s						
VTS	**Vitosha**	**80.31**	**324**	*e*P	**P**	**20 35 40.8**	**+0.1**
	comp=Z,19nm,0.8s						
VTS	**Vitosha**	**80.31**	**324**	⇑*i*P	**P**	**20 35 41.3**	**+0.6**
VTS	**Vitosha**	**80.31**	**324**	*e*P	**P**	**20 35 40.8**	**+0.1**
VTS				pmax	pmax		
	comp=Z,19nm,0.8s						
GOLS	**Golise**	**80.35**	**330**	*i*P	**P**	**20 35 40.5**	**-0.3**
MYKA	**Terra Mystica**	**80.49**	**332**	*e*P	**P**	**20 35 41.9**	**+0.4**
	comp=Z,5.5nm,0.9s						
LEGS	**Legarje**	**80.51**	**330**	*i*P	**P**	**20 35 41.2**	**-0.4**
WATA	**Walderalm**	**80.54**	**333**	*e*P	**P**	**20 35 42.5**	**+0.6**
	comp=Z,8.5nm,0.5s						
WTTA	**Wattenberg**	**80.58**	**333**	*e*P	**P**	**20 35 42.7**	**+0.6**
	comp=Z,5.7nm,0.5s						
BFO	**Black Forest**	**80.63**	**336**	*e*P	**P**	**20 35 41.8**	**-0.4**
	comp=Z,8.0nm,1.0s						
BFO	**Black Forest**	**80.63**	**336**	*e*P	**P**	**20 35 41.9**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=26,slow=5.8						
BFO	**Black Forest**	**80.63**	**336**	*ce*P	**P**	**20 35 42.7**	**+0.5**
RETA	**Reutte**	**80.66**	**334**	*e*P	**P**	**20 35 42.8**	**+0.4**
	comp=Z,7.3nm,1.0s,SNR=4.7						
MOTA	**Moosalm**	**80.68**	**333**	*e*P	**P**	**20 35 42.6**	**0.0**
	comp=Z,5.6nm,0.7s,SNR=7.0						
SQTA	**Sankt Quirin**	**80.76**	**333**	*e*P	**P**	**20 35 43.2**	**+0.2**
	comp=Z,6.3nm,0.8s,SNR=5.0						
ECH	**Echery**	**81.07**	**336**	*e*P	**P**	**20 35 44.2**	**-0.2**
	comp=Z,5.8nm,0.8s						
ECH	**Echery**	**81.07**	**336**	*e*P	**P**	**20 35 44.3**	**-0.2**
ECH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
FETA	**Feichten**	**81.08**	**334**	*e*P	**P**	**20 35 45.0**	**+0.2**
	comp=Z,4.9nm,0.9s						
DAVA	**Damuels**	**81.11**	**334**	*e*P	**P**	**20 35 45.0**	**+0.1**
	comp=Z,6.1nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**81.59**	**334**	*e*P	**P**	**20 35 48.1**	**+0.5**
	comp=Z,9.2nm,1.0s						
RAYN	**Ar Rayn**	**83.36**	**297**	*e*P	**P**	**20 35 57.5**	**+0.6**
	comp=Z,3.3nm,0.6s						
RAYN	**Ar Rayn**	**83.36**	**297**	*e*P	**P**	**20 35 57.5**	**+0.6**
RAYN				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SSB	**Saint Sauveur**	**84.48**	**337**	*e*P	**P**	**20 36 02.4**	**+0.2**
	comp=Z,7.1nm,0.8s						
SSB	**Saint Sauveur**	**84.48**	**337**	*e*P	**P**	**20 36 02.4**	**+0.2**
SSB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KEST	**Kesra**	**91.65**	**329**	*e*P	**P**	**20 36 37.5**	**+0.8**
	comp=Z,37nm,1.9s						
KEST	**Kesra**	**91.65**	**329**	P	**P**	**20 36 37.0**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=296,slow=3.6,SNR=6.1						
ESDC	**Sonseca Array**	**91.91**	**341**	P	**P**	**20 36 37.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=355,slow=5.9,SNR=3.3						
PLCA	**Paso Flores**	**149.81**	**95**	PKPbc	**PKiKP**	**20 43 19.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=289,slow=3.5,SNR=6.0						

NNC 19 20:29:44.4±1.5, 51°.25N×86°.96E, h0km, mb3.7, mpv3.2, 8C-6D, Error ellipse: s-maj=16.2km s-min=8.8km az=95.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.00**	**335**	⇑Pn	Pn	20 30 33.4	+0.2
	0.6nm,0.4s						
ZAA0				⇑Lg	Lg	20 31 17.0	
	8.8nm,0.7s						
KURK	**Kurchatov**	**5.29**	**267**	⇓Pn	Pn	20 31 03.9	-0.8
	3.6nm,0.8s						
KURK				⇑Lg	Lg	20 32 32.4	
	15nm,1.0s						
KURBB	**Kurchatov Arra**	**5.37**	**267**	⇓Pn	Pn	20 31 05.2	-0.5
	5.6nm,0.6s						
KURBB				⇑Lg	Lg	20 32 33.8	
	48nm,1.1s						
MK31	**Makanchi Array**	**5.41**	**216**	⇓Pn	Pn	20 31 06.4	+0.1
	2.3nm,0.6s,baz=36,slow=12,SNR=61						
MK31				⇑Lg	Lg	20 32 33.3	
	14nm,0.9s,baz=35,slow=28,SNR=8.3						
MAKZ	**Makanchi**	**5.52**	**218**	⇓Pn	Pn	20 31 07.8	0.0
	1.6nm,0.4s						
MAKZ				⇑Lg	Lg	20 32 38.4	
	10nm,1.1s						
BVA0	**Borovoye Array**	**10.34**	**286**	⇓Pn	Pn	20 32 15.6	+1.7
	2.1nm,0.7s,baz=51,slow=8.4,SNR=9.8						
BVA0				⇓Sn	Sn	20 34 15.1	+4.6
	2.9nm,1.1s						
BRVK	**Borovoye**	**10.41**	**287**	⇑Pn	Pn	20 32 15.6	+0.8
	4.0nm,0.8s						
BRVK				⇑Sn	Sn	20 34 13.2	+1.2
	1.7nm,0.7s						

*IDC **19** 20:34:47.3±1.7, 21°.00S×176°.19E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/31, mbtmp4.0/9, ML3.4/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/42, Error ellipse: s-maj=45.4km s-min=25.2km az=127.0*

*ISCJB **19** 20:34:49.7±0.5, 20°.99S±0°.06×176°.36E±0°.08, h33km, mb4.4/20, MS3.8/9, Error ellipse: s-maj=10.7km s-min=7.5km az=158.9*

*NEIC **19** 20:34:51.4±0.5, 20°.96S×176°.41E, h35km, mb5.0/18, Error ellipse: s-maj=10.4km s-min=7.6km az=67.0*

ISC 19 20:34:51.6±0.8, 21°.01S±0°.09×176°.4E±0°.1, h35km, n53, σ1$47/39, mb4.3/20, MS3.9/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.61**	**26**	*e*Pn	Pn	20 35 37.3	-7.9
MARNC	**Mare, Loyalty**	**7.83**	**265**	*e*Pn	**Pn**	**20 36 44.6**	**+1.5**
PINNC	**Pines Island,**	**8.48**	**258**	*e*Pn	**Pn**	**20 36 53.5**	**+1.4**
DZM	**Mont Dzumac**	**9.34**	**262**	*e*Pn	**Pn**	**20 37 06.2**	**+2.3**
DZM	**Mont Dzumac**	**9.34**	**262**	Pn	**Pn**	**20 37 02.2**	**-1.7**
	0.1nm,0.3s,baz=163,slow=17,SNR=1.9						
ONTNC	**Ouen Toro**	**9.35**	**260**	*e*Pn	**Pn**	**20 37 01.6**	**-2.3**
MXZ	**Matakaoa Point**	**16.58**	**175**	*e*Pn	**P**	**20 38 42.4**	**-1.1**
	240nm,1.7s						
URZ	**Urewera**	**17.20**	**178**	*e*Pn	**Pn**	**20 38 49.0**	**-0.2**
	87nm,1.4s						
URZ	**Urewera**	**17.20**	**178**	P	**Pn**	**20 38 49.3**	**+0.2**
	0.4nm,0.3s,baz=339,slow=7.5,SNR=3.0						
URZ				LR	LR	20 43 46.2	
	comp=Z,286nm,20.8s,baz=0.0,slow=31						
HIZ	**Hauiti**	**17.50**	**184**	*e*Pn	**Pn**	**20 38 52.6**	**-0.2**
	406nm,1.9s						
BKZ	**Black Stump Fm**	**18.10**	**180**	*e*Pn	**Pn**	**20 38 59.4**	**-0.9**
	216nm,2.0s						
HNR	**Honiara**	**19.60**	**304**	LR	LR	20 45 43.9	
	comp=Z,151nm,18.6s,baz=152,slow=34						
BFZ	**Birch Farm**	**19.61**	**180**	*e*P	**Pn**	**20 39 18.1**	**-0.3**
	72nm,1.2s						
SNZO	**South Karori**	**20.29**	**184**	*e*P	**P**	**20 39 24.6**	**+0.4**
	143nm,1.3s						
THZ	**Tophouse**	**20.90**	**187**	*e*P	**P**	**20 39 31.3**	**+0.3**
	162nm,1.9s						
KHZ	**Kahutara**	**21.48**	**186**	*e*P	**P**	**20 39 39.1**	**+2.0**
	224nm,2.0s						
KNTN	**Kanton**	**21.50**	**34**	*e*P	**P**	**20 39 36.1**	**-1.4**
	252nm,1.6s						
LTZ	**Lake Taylor**	**21.98**	**188**	*e*P	**P**	**20 39 42.9**	**+0.3**
	159nm,1.7s						
RPZ	**Rata Peaks**	**23.08**	**190**	P	**P**	**20 39 59.7**	**+5.6**
	9.3nm,0.9s,baz=76,slow=14,SNR=3.3						
ARMA	**Armidale**	**24.17**	**242**	*e*P	**P**	**20 40 05.1**	**+0.3**
	36nm,1.5s						
WKZ	**Wanaka**	**24.53**	**193**	*e*P	**P**	**20 40 08.1**	**+0.3**
	106nm,1.5s						
PPT	**Papeete**	**32.25**	**90**	LR	LR	20 53 01.0	
	comp=Z,70nm,18.2s,baz=258,slow=34						
COEN	**Coen**	**32.42**	**277**	*e*P	**P**	**20 41 19.3**	**+0.7**
	6.1nm,0.9s						
STKA	**Stephens Creek**	**32.87**	**244**	*e*P	**P**	**20 41 22.3**	**-0.1**
	5.4nm,1.9s						
STKA	**Stephens Creek**	**32.87**	**244**	P	**P**	**20 41 21.7**	**-0.6**
	3.0nm,0.6s,baz=93,slow=9.2,SNR=9.2						
STKA				LR	LR	20 52 50.5	
BBOO	**Buckleboo**	**37.65**	**243**	*e*P	**P**	**20 42 02.4**	**-1.0**
	47nm,1.9s						
AS01	**Alice Springs**	**39.26**	**258**	*e*P	**P**	**20 42 16.3**	**-0.9**
AS31	**Alice Springs**	**39.31**	**258**	*e*P	**P**	**20 42 16.9**	**-0.6**
	1.4nm,1.0s						
ASAR	**Alice Springs**	**39.31**	**258**	P	**P**	**20 42 16.4**	**-1.2**
	2.1nm,0.7s,baz=87,slow=8.6,SNR=21						
WB2	**Warramunga Arr**	**39.34**	**264**	*e*P	**P**	**20 42 16.6**	**-1.3**
WR1	**Warramunga Arr**	**39.35**	**264**	*e*P	**P**	**20 42 16.1**	**-1.8**
	6.9nm,1.3s						
WRA	**Warramunga Arr**	**39.35**	**264**	P	**P**	**20 42 16.1**	**-1.8**
	0.8nm,0.9s,baz=90,slow=7.5,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**40.39**	**346**	T	T	21 25 26.5	
	baz=166,slow=76,SNR=53						
H11S3	**WAKE ISLAND Hy**	**40.40**	**346**	T	T	21 25 28.7	
	baz=166,slow=76,SNR=24						
H11S1	**WAKE ISLAND Hy**	**40.41**	**346**	T	T	21 25 26.9	
	baz=166,slow=76,SNR=35						
H11N1	**WAKE ISLAND Hy**	**41.53**	**346**	T	T	21 26 49.9	
	baz=157,SNR=4.3						
H11N3	**WAKE ISLAND Hy**	**41.53**	**346**	T	T	21 26 50.3	
	baz=157						
H11N2	**WAKE ISLAND Hy**	**41.55**	**346**	T	T	21 26 50.0	
	baz=157						
FAKI	**Fak Fak**	**46.58**	**287**	*e*P	**P**	**20 43 15.6**	**-0.9**
	9.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**47.78**	**264**	*e*P	**P**	**20 43 25.6**	**-0.2**
	7.4nm,1.1s						
FITZ	**Fitzroy Crossi**	**47.78**	**264**	LR	LR	21 03 44.6	
	comp=Z,177nm,18.2s,baz=82,slow=36						
BATI	**Baumata**	**51.73**	**273**	LR	LR	21 05 22.5	
	comp=Z,131nm,18.7s,baz=106,slow=36						
VNDA	**Vanda**	**57.00**	**184**	LR	LR	21 04 53.2	
	comp=Z,150nm,19.3s,baz=215,slow=32						
MJAR	**Matsushiro Arr**	**67.67**	**327**	P	**P**	**20 45 44.4**	**-0.8**
	6.5nm,0.9s,baz=165,slow=5.3,SNR=4.7						
MAJO	**Matsushiro**	**67.67**	**327**	*e*P	**P**	**20 45 44.4**	**-0.8**
KLR	**Kul'dur**	**80.42**	**332**	P	**P**	**20 47 01.2**	**+1.8**
	1.1nm,0.9s,baz=124,slow=4.6,SNR=2.5						
NVAR	**Mina Array Bea**	**85.05**	**46**	LR	LR	21 16 20.7	
	comp=Z,52nm,21.7s,baz=286,slow=29						
CMAR	**Chiang Mai Arr**	**85.40**	**292**	P	**P**	**20 47 26.1**	**+0.1**
	0.2nm,0.3s,baz=107,slow=3.0,SNR=3.3						
CMAR				LR	LR	21 25 47.0	
	comp=Z,21nm,19.1s,baz=230,slow=36						
ILAR	**Eielson Array**	**90.06**	**15**	P	**P**	**20 47 48.4**	**+1.2**
	0.7nm,0.7s,baz=231,slow=5.7,SNR=4.3						
ILAR				LR	LR	21 26 07.7	
	comp=Z,44nm,18.4s,baz=246,slow=34						
TXAR	**Lajitas Array**	**91.77**	**59**	LR	LR	21 23 09.1	
	comp=Z,39nm,18.1s,baz=0.0,slow=32						
SONA0	**Songino Array**	**92.77**	**321**	*e*P	**P**	**20 48 01.0**	**+0.6**
SONM	**Songino Array**	**92.77**	**321**	P	**P**	**20 48 01.0**	**+0.6**
SONM	**Songino Array**	**92.77**	**321**	P	**P**	**20 48 01.0**	**+0.6**
	0.6nm,1.0s,baz=123,slow=5.3,SNR=3.0						

TAP 19 20:45:41.2, 24°.84N×121°.84E, h15km±1km, ML1.6, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NTC	**Toucheng**	**0.02**	**344**	*e*P	Pg	20 45 43.6	-0.3
	baz=343						
NTC				*e*S	Sg	20 45 47.4	+1.7
	baz=343						
TIPB	**Shuangxi**	**0.14**	**356**	P	Pg	20 45 44.6	-0.4
	baz=356						
TIPB				S	Sb	20 45 48.2	-0.2
	baz=356						
TWE	**Neicheng**	**0.19**	**233**	*e*P	Pb	20 45 47.0	+0.6
	baz=229						
TWC	**Suao**	**0.23**	**177**	*e*P	Pb	20 45 47.3	+0.3
	baz=174						
TWC				*e*S	Sb	20 45 51

BJI ***19*** *20:52:03.6,6.70S×148.40E,h30km,mb4.6/3,mB5.0/4*
ISCJB ***19*** *20:52:05.6±0.4,6.54S±0.05×148.39E±0.06,h46km, mb4.6/24,MS3.5/8,Error ellipse: s-maj=8.7km s-min=6.5km az=15.6*
IDC ***19*** *20:52:06.2±6.8,6.48S×148.39E,h33km±51km,mb3.8/8, mb1 4.1/11,mb1mx3.8/37,mbtmp4.0/11,ML4.1/3,MS3.6/8, Ms1 3.6/8,ms1mx3.3/27,Error ellipse: s-maj=26.3km s-min=13.0km az=115.0*
NEIC ***19*** *20:52:07.7±0.9,6.54S×148.40E,h48km±8km,mb4.8/20, Error ellipse: s-maj=7.9km s-min=5.7km az=113.0*

ISC 19 20:52:07.6±0.5,6.53S±0.07×148.41E±0.07,h46km,n55, σ1s05/53,mb4.8/24,MS3.6/8,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**4.41**	**58**	*e*Pn	**Pn**	**20 53 12.5**	**+0.5**
MANU	**Manus Island**	**4.58**	**347**	*e*Pn	**Pn**	**20 53 15.6**	**+1.3**
JAY	**Jayapura**	**8.65**	**297**	Pn	Pn	20 54 15.3	+5.0
	0.4nm,0.3s,baz=76,slow=4.2,SNR=1.8						
COEN	**Coen**	**9.00**	**214**	*e*Pn	**Pn**	**20 54 13.9**	**-1.1**
CTA	**Charters Tower**	**13.64**	**189**	Pn	**Pn**	**20 55 19.8**	**+1.3**
	0.2nm,0.3s,baz=342,slow=10,SNR=3.1						
SIJI	**Sorong**	**18.00**	**288**	P	**P**	**20 56 15.6**	**+0.9**
	0.4nm,0.3s,baz=151,slow=19,SNR=2.0						
MTN	**Manton Dam**	**18.14**	**248**	*e*P	**Pn**	**20 56 16.1**	**-0.2**
	8.5nm,0.8s						
EIDS	**Eidsvold**	**18.91**	**173**	*e*P	**P**	**20 56 23.8**	**-0.7**
	39nm,1.4s						
WRAB	**Tennant Creek**	**19.07**	**224**	*e*P	**P**	**20 56 25.7**	**-0.7**
	9.8nm,0.7s						
WB2	**Warramunga Arr**	**19.08**	**224**	*e*P	**P**	**20 56 25.5**	**-1.0**
	9.3nm,0.6s						
WR1	**Warramunga Arr**	**19.09**	**224**	*e*P	**P**	**20 56 26.1**	**-0.4**
	47nm,1.8s						
WR1				*e*S	**S**	**21 00 00.8**	**0.0**
WRA	**Warramunga Arr**	**19.09**	**224**	P	**P**	**20 56 26.1**	**-0.4**
	1.4nm,0.3s,baz=51,slow=11,SNR=71						
WRA				S	**S**	**21 00 00.8**	**0.0**
	baz=47,slow=22,SNR=18						
GUMO	**Guam**	**20.30**	**350**	LR	LR	21 04 46.6	
	comp=Z,105nm,18.2s,baz=152,slow=38						
AS01	**Alice Springs**	**21.98**	**218**	*e*P	**P**	**20 56 57.4**	**-0.5**
AS31	**Alice Springs**	**22.01**	**218**	*e*P	**P**	**20 56 57.6**	**-0.6**
	16nm,0.5s						
ASAR	**Alice Springs**	**22.01**	**218**	P	**P**	**20 56 58.2**	**0.0**
	29nm,0.5s,baz=53,slow=9.8,SNR=166						
DZM	**Mont Dzumac**	**23.28**	**133**	*e*P	**P**	**20 57 11.2**	**-0.3**
	25nm,1.1s						
DZM	**Mont Dzumac**	**23.28**	**133**	LR	LR	21 04 44.9	
	comp=Z,277nm,19.2s,baz=314,slow=32						
ARMA	**Armidale**	**23.95**	**173**	*e*P	**P**	**20 57 18.5**	**+0.7**
	56nm,1.9s						
SOEI	**Soe**	**24.11**	**261**	*e*P	**P**	**20 57 19.7**	**+0.4**
	22nm,0.9s						
BATI	**Baumata**	**24.75**	**260**	P	**P**	**20 57 27.9**	**+2.8**
	23nm,0.6s,baz=90,slow=2.7,SNR=9.7						
FITZ	**Fitzroy Crossi**	**25.00**	**241**	*e*P	**P**	**20 57 27.8**	**+0.5**
	37nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.00**	**241**	P	**P**	**20 57 27.9**	**+0.5**
	23nm,0.4s,baz=49,slow=9.9,SNR=141						
STKA	**Stephens Creek**	**26.01**	**193**	*e*P	**P**	**20 57 36.4**	**+0.1**
	2.0nm,0.9s						
STKA	**Stephens Creek**	**26.01**	**193**	P	**P**	**20 57 35.5**	**-0.8**
	5.5nm,0.8s,baz=1.2,slow=11,SNR=12						
STKA				LR	LR	21 09 03.7	
	comp=Z,175nm,19.0s,baz=21,slow=39						
MMRI	**Maumere**	**26.02**	**264**	*e*P	**P**	**20 57 37.5**	**+0.9**
	28nm,0.4s						
DAV	**Davao City (W)**	**26.48**	**300**	LR	LR	21 07 07.4	
	comp=Z,84nm,20.2s,baz=126,slow=34						
BBOO	**Buckleboo**	**28.56**	**202**	*e*P	**P**	**20 57 58.8**	**-0.5**
	48nm,1.7s						
FORT	**Forrest**	**30.76**	**216**	*e*P	**P**	**20 58 19.2**	**+0.5**
	24nm,0.8s						
UGM	**Wanagama**	**37.60**	**266**	*e*P	**P**	**20 59 20.1**	**+1.9**
	148nm,1.8s						
MORW	**Morawa**	**37.88**	**230**	*e*P	**P**	**20 59 20.7**	**+0.3**
	17nm,1.3s						
KNTN	**Kanton**	**39.91**	**87**	*e*P	**P**	**20 59 39.1**	**+1.5**
	206nm,1.5s						
CISI	**Cisompet, Garu**	**40.29**	**266**	*e*P	**P**	**20 59 40.3**	**-0.4**
	26nm,0.8s						
RPZ	**Rata Peaks**	**42.04**	**155**	*e*P	**P**	**20 59 52.9**	**-1.8**
	58nm,1.4s						
MJAR	**Matsushiro Arr**	**43.90**	**348**	P	**P**	**21 00 08.6**	**-1.2**
	3.1nm,1.0s,baz=182,slow=8.6,SNR=4.3						
MJAR				LR	LR	21 18 08.9	
	comp=Z,57nm,18.4s,baz=320,slow=36						
MAJO	**Matsushiro**	**43.90**	**348**	*e*P	**P**	**21 00 08.6**	**-1.2**
KULM	**Kulim**	**49.09**	**283**	*e*P	**P**	**21 00 51.0**	**+0.1**
	16nm,1.3s						
GSI	**Gunungsitoli**	**51.33**	**277**	*e*P	**P**	**21 01 07.5**	**-0.3**
	19nm,1.0s						
USRK	**Ussuriysk Ar.**	**52.63**	**345**	P	**P**	**21 01 16.1**	**-0.8**
	1.8nm,0.6s,baz=110,slow=7.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**54.73**	**298**	P	**P**	**21 01 33.1**	**+0.3**
	0.2nm,0.5s,baz=131,slow=6.5,SNR=3.5						
PETK	**Petropavlovsk-**	**59.93**	**6**	LR	LR	21 23 15.2	
	comp=Z,44nm,21.7s,baz=177,slow=31						
SONA0	**Songino Array**	**65.55**	**330**	*e*P	**P**	**21 02 45.9**	**-0.7**
SONM	**Songino Array**	**65.55**	**330**	P	**P**	**21 02 45.9**	**-0.7**
	0.2nm,0.6s,baz=147,slow=5.0,SNR=3.5						
SONM				LR	LR	21 31 32.6	
	comp=Z,70nm,20.2s,baz=128,slow=36						
MK32	**Makanchi Array**	**78.80**	**320**	*e*P	**P**	**21 04 03.7**	**-1.9**
MKAR	**Makanchi Array**	**78.80**	**320**	P	**P**	**21 04 03.7**	**-1.9**
	0.2nm,0.4s,baz=95,slow=8.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**80.20**	**328**	LR	LR	21 38 06.4	
	comp=Z,29nm,21.7s,baz=266,slow=34						
ILAR	**Eielson Array**	**85.42**	**23**	P	**P**	**21 04 40.1**	**+0.2**
	1.3nm,0.8s,baz=252,slow=4.8,SNR=7.8						
SYO	**Syowa Base**	**90.58**	**200**	↓*e*PcP	**PcP**	**21 05 07.2**	**+1.6**
TOA0	**Torodi Ar. Sit**	**146.57**	**284**	*e*PKPdf	**PKPbc**	**21 11 44.4**	**-0.7**
TOA0				*e*PKPdf	**PKPab**	**21 11 44.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**146.57**	**284**	PKPbc	**PKPbc**	**21 11 44.9**	**-0.2**
	4.3nm,0.6s,baz=47,slow=3.6,SNR=38						
TOA1	**Torodi Ar. Sit**	**146.58**	**284**	*e*PKPdf	**PKPbc**	**21 11 44.9**	**-0.2**
PTGA	**Pitinga**	**150.78**	**103**	*e*PKPbc	**PKiKP**	**21 11 56.5**	**-0.2**
PTGA	**Pitinga**	**150.78**	**103**	PKPbc	**PKiKP**	**21 11 56.8**	**+0.1**
	5.2nm,0.6s,baz=257,slow=3.2,SNR=9.7						
DBIC	**Dimbokro**	**153.44**	**272**	*e*PKPdf	**PKPdf**	**21 11 57.3**	**+2.9**
DBIC				*e*PKPab	**pPKPbc**	**21 12 14.6**	**0.0**
DBIC	**Dimbokro**	**153.44**	**272**	PKPab	**PKPab**	**21 12 15.1**	**+0.7**
	2.8nm,0.6s,baz=113,slow=3.1,SNR=5.3						

IDC ***19*** *20:56:22.1±2.5,10.94N×84.45W,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.6/38,mbtmp3.6/3,MS3.3/2,Ms1 3.3/2, ms1mx2.7/40,Error ellipse: s-maj=70.0km s-min=10.3km az=117.0*
UCR ***19*** *20:56:23.2±1.4,9.83N×85.60W,h16km±6km,MD3.9*

ISC 19 20:56:19.1±2.8,9.74N±0.09×85.73W±0.09,h8km±14km, n32,σ0s65/44,mb3.8/3,2C,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLVR	**Palo Verde**	**0.71**	**32**	*e*P	**Pb**	**20 56 34.0**	**+0.1**
PLVR				*e*S	**Sg**	**20 56 42.8**	**+0.5**
NY14	**Universidad de**	**0.93**	**12**	*i* P	**Pn**	**20 56 38.6**	**+0.2**
NY14				*i* S	**Sb**	**20 56 51.0**	**+1.1**
JTS	**JuntasAbangare**	**0.95**	**54**	Pg	**Pg**	**20 56 37.7**	**+0.4**
	126nm,0.3s,baz=309,slow=12,SNR=618						
JTS				Lg	Lg	20 56 49.2	
	355nm,0.3s,baz=317,slow=19,SNR=20						
JTS	**JuntasAbangare**	**0.95**	**54**	*e*P	**Pg**	**20 56 37.7**	**+0.4**
COLC	**Colonia**	**1.06**	**29**	*i* P	**Pn**	**20 56 40.2**	**-0.1**
COLC				*i* S	**Sg**	**20 56 53.4**	**+0.1**
LIM1	**Limonal**	**1.07**	**26**	*i* P	**Pb**	**20 56 40.0**	**+0.1**
LIM1				*i* S	**Sg**	**20 56 53.3**	**-0.2**
CUI	**Cuipilapa**	**1.07**	**31**	*e*P	**Pb**	**20 56 40.0**	**+0.1**
CUI				*e*S	**Sg**	**20 56 53.8**	**+0.1**
GPS3	**Bodega del ICE**	**1.07**	**20**	*i* P	**Pn**	**20 56 40.2**	**-0.3**
GPS3				*i* S	**Sg**	**20 56 53.4**	**-0.4**
GPS2	**Hotel Rincn d**	**1.08**	**20**	↑*i* P	**Pn**	**20 56 40.3**	**-0.2**
GPS2				*i* S	**Sg**	**20 56 53.4**	**-0.4**
GUAB	**Guayabo de Bag**	**1.08**	**27**	*i* P	**Pn**	**20 56 40.4**	**-0.2**
GUAB				*i* S	**Sg**	**20 56 53.5**	**-0.6**
GPS1	**Guardaparques**	**1.10**	**20**	*i* P	**Pn**	**20 56 40.6**	**-0.2**
GPS1				↑*i* P	**Pn**	**20 56 40.6**	**-0.2**
BUEV	**Buena Vista**	**1.10**	**17**	*e*P	**Pn**	**20 56 40.8**	**-0.1**
BUEV				*i* P	**Pb**	**20 56 41.1**	**+0.6**
HORNC	**Hornillas**	**1.11**	**29**	*i* P	**Pb**	**20 56 40.7**	**+0.1**
HORNC				*i* S	**Sg**	**20 56 54.4**	**-0.6**
GB1A	**Borinquen Arri**	**1.12**	**17**	*i* P	**Pn**	**20 56 41.2**	**0.0**
ACAL	**Aguas Claras**	**1.13**	**38**	*i* P	**Pg**	**20 56 40.9**	**+0.1**
ACAL				*i* S	**Sg**	**20 56 54.4**	**-1.0**
MESS	**Mesas**	**1.13**	**28**	*e*P	**Pg**	**20 56 40.5**	**-0.3**
MESS				*i* P	**Pn**	**20 56 41.1**	**-0.1**
AMAS	**Alto Masis**	**1.14**	**40**	*i* P	**Pb**	**20 56 41.1**	**+0.1**
AMAS				*i* S	**Sg**	**20 56 54.5**	**-1.1**
BUAI	**Buenos Aires**	**1.20**	**19**	*i* P	**Pb**	**20 56 42.1**	**0.0**
CASO	**Castillo**	**1.20**	**55**	*i* P	**Pn**	**20 56 42.1**	**-0.1**
PTEN	**Parque Tenorio**	**1.22**	**37**	*i* P	**Pn**	**20 56 42.4**	**-0.1**
ARE1	**Arenal 1**	**1.23**	**54**	*e*P	**Pg**	**20 56 43.0**	**+0.2**
SRA1	**San Ramn**	**1.28**	**74**	*e*P	**Pn**	**20 56 42.8**	**-0.5**
HDC	**Heredia**	**1.62**	**80**	*e*P	**Pn**	**20 56 48.5**	**+0.5**
HDC				*e*S	**Sn**	**20 57 08.7**	**-0.4**
CVTR	**Volcan Turrial**	**1.96**	**82**	*e*P	**Pb**	**20 56 54.9**	**-0.4**
TRT1	**Tortuguero**	**2.18**	**67**	*e*P	**Pn**	**20 56 56.9**	**+1.3**
ACON	**Acoyapa**	**2.29**	**14**	*e*P	**Pn**	**20 56 57.6**	**+0.6**
SADO	**Sadowa**	**35.37**	**8**	LR	LR	21 16 18.0	
	comp=Z,42nm,18.2s,baz=99,slow=35						
NVAR	**Mina Array Bea**	**40.85**	**320**	P	P	21 04 06.1	+4.4
	1.3nm,0.7s,baz=128,slow=7.6,SNR=11						
YKA	**Yellowknife Ar**	**56.66**	**344**	P	**P**	**21 06 00.7**	**-1.8**
	0.2nm,0.5s,baz=142,slow=6.7,SNR=5.3						
ILAR	**Eielson Array**	**69.17**	**336**	P	**P**	**21 07 25.7**	**-0.1**
	0.6nm,0.7s,baz=116,slow=4.1,SNR=3.6						
ESDC	**Sonseca Array**	**77.54**	**51**	LR	LR	21 39 15.1	
	comp=Z,18nm,19.0s,baz=160,slow=34						
CMAR	**Chiang Mai Arr**	**151.61**	**351**	PKPbc	**PKiKP**	**21 16 17.5**	**+2.1**
	0.3nm,0.4s,baz=346,slow=3.5,SNR=5.4						

IDC ***19*** *20:57:09.5±1.6,37.79N×140.96E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.2/47,mbtmp3.2/3,ML2.4/1,Error ellipse: s-maj=66.9km s-min=28.4km az=129.0*
ISCJB ***19*** *20:57:17.1±0.8,36.90N±0.04×140.67E±0.07,h11km±6km, mb3.4/2,Error ellipse: s-maj=10.1km s-min=6.9km az=17.4*
JMA ***19*** *20:57:17.4,36.91N×140.59E,h3km±1km,M2.5*

ISC 19 20:57:17.5±1.0,36.94N±0.05×140.61E±0.06,h14km±7km, n16,σ1s04/16,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFFD	**Fukushimafurud**	**0.16**	**346**	P	**Pg**	**20 57 21.4**	**-0.2**
JFFD				S	**Sg**	**20 57 24.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.23**	**42**	P	**Pg**	**20 57 22.5**	**-0.1**
ONAJ				S	**Sg**	**20 57 26.3**	**+0.3**
JHO	**Hitachi**	**0.33**	**186**	P	**Pg**	**20 57 23.3**	**-0.9**
JFK	**Kawauchi**	**0.48**	**26**	P	**Pg**	**20 57 27.2**	**+0.1**
JFK				S	**Sb**	**20 57 34.2**	**-0.5**
JSB	**Shiboa**	**0.55**	**274**	P	**Pb**	**20 57 28.9**	**-0.1**
JSB				S	**Sb**	**20 57 36.9**	**+0.1**
JFT	**Otama**	**0.62**	**340**	P	**Pb**	**20 57 30.1**	**-0.1**
JFT				S	**Sn**	**20 57 39.1**	**-2.6**
MJAR	**Matsushiro Arr**	**1.97**	**259**	Pn	**Pn**	**20 57 51.9**	**+1.4**
	0.9nm,0.3s,baz=80,slow=15,SNR=50						
MJAR				Sn	**Sb**	**20 58 16.8**	**-0.7**
	1.1nm,0.3s,baz=78,slow=29,SNR=17						
MAT	**Matsushiro**	**1.97**	**259**	P	**Pn**	**20 57 51.9**	**+1.5**
MAT				S	**Sb**	**20 58 17.8**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	21 33 01.0	
	baz=312,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	21 33 01.6	
	baz=312,slow=75,SNR=11						
H11N3	**WAKE ISLAND Hy**	**28.67**	**120**	T	T	21 33 02.4	
	baz=312,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	21 33 53.2	
	baz=314,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	21 33 53.1	
	baz=314,slow=76,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**29.37**	**122**	T	T	21 33 54.2	
	baz=314,slow=76,SNR=8.5						
ILAR	**Eielson Array**	**49.92**	**32**	P	P	21 05 57.8	-13
	0.3nm,0.5s,baz=282,slow=5.3,SNR=4.7						
WRA	**Warramunga Arr**	**56.88**	**187**	P	**P**	**21 07 02.2**	**+0.3**
	0.2nm,0.8s,baz=3.7,slow=7.3,SNR=6.7						

VIE 19 21:09:09.7±0.4,47.29N×11.48E,h6km±3km,mb0.8/1, ml0.9/7,Error ellipse: s-maj=3.0km s-min=1.3km az=7.0, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WATA	**Walderalm**	**0.08**	**55**	*i* Pg	Pg	21 09 12.0	+0.2
	5.5nm,0.2s						
WATA				*e*Sg	Sg	21 09 13.6	+0.3
	13nm,0.1s						
WTTA	**Wattenberg**	**0.11**	**103**	*i* Pg	Pg	21 09 12.6	+0.3
	7.1nm,0.1s						
WTTA				*e*Sg	Sg	21 09 14.4	+0.4
	12nm,0.1s						
SQTA	**Sankt Quirin**	**0.20**	**250**	*i* Pg	Pg	21 09 14.0	+0.3
	21nm,0.1s						
SQTA				*e*Sg	Sg	21 09 16.9	+0.6
	4.5nm,0.1s						
MOTA	**Moosalm**	**0.26**	**282**	*e*Pg	Pg	21 09 14.6	-0.3
	0.4nm,0.1s						
MOTA				*e*Sg	Sg	21 09 18.7	+0.3
	1.5nm,0.1s						
RETA	**Reutte**	**0.53**	**292**	Pg	Pb	21 09 20.8	-0.6
	0.2nm,0.2s						
RETA				Sg	Sb	21 09 28.3	-0.9
	0.5nm,0.3s						
FETA	**Feichten**	**0.58**	**243**	*e*Pg	Pg	21 09 20.9	0.0
	0.1nm,0.1s						
FETA				*e*Sg	Sg	21 09 29.0	+0.6
	0.4nm,0.2s						

BGS ***19*** *21:09:48.7±2.1,51.51N×16.07E,h10km,ML4.7,ML4.7*
ISCJB ***19*** *21:09:49.7±0.1,51.497N±0.008×16.07E±0.01,h0km, mb4.7/182,Error ellipse: s-maj=1.3km s-min=1.1km az=173.2*
MOS ***19*** *21:09:50.7±1.4,51.50N×15.89E,h10km,mb4.8/50,Error ellipse: s-maj=4.6km s-min=3.0km az=78.2*
BJI ***19*** *21:09:50.6,51.80N×16.02E,h5km,mb4.8/45,mB5.0/33, Ms4.8/8,Ms7 4.7/3*
IPEC ***19*** *21:09:50.0±0.2,51.61N×16.18E,h0km,ML4.4/3,Error ellipse: s-maj=2.7km s-min=1.4km az=55.0*
NEIC ***19*** *21:09:51.2±0.1,51.52N×16.02E,h1km,mb4.7/148,Error ellipse: s-maj=3.0km s-min=2.6km az=147.0*
NEIC One miner injured slightly and 19 were trapped for several hours in a mine near Polkowice. Felt [VI] at Polkowice. Also felt at Lubin and Wroclaw. Felt at Cottbus, Germany.
LDG ***19*** *21:09:51.0±0.1,51.51N×16.12E,h1km,Ml5.0/44,Error ellipse: s-maj=2.1km s-min=1.7km az=150.0,Suspected Mining induced.*
BGR ***19*** *21:09:51.9±0.3,51.49N×16.08E,h1km,ML4.5,Error ellipse: s-maj=4.4km s-min=2.2km az=42.0*
BNS ***19*** *21:09:52.9±0.6,51.50N×16.11E,h1km,ML4.2*
IDC ***19*** *21:09:52.2±0.3,51.47N×16.04E,h0km,mb4.5/32, mb1 4.5/42,mb1mx4.5/58,mbtmp4.4/42,ML3.9/9,MS3.1/4, Ms1 3.1/4,ms1mx2.6/53,Error ellipse: s-maj=7.0km s-min=5.5km az=100.0*
PRU ***19*** *21:09:52.5±0.0,51.51N×16.11E,h0km,M4.6,Felt In Harrachov, Pardubice, Semily, Trutnov, Upice*
UPP ***19*** *21:09:55.6±3.0,51.75N×15.48E,h0km,ML3.5,Suspected explosion*

ISC 19 21:09:50.7±0.2,51.51N±0.02×16.08E±0.02,h0km,n755, σ2s17/940,mb4.7/182,36C-33D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pb**	**21 10 05.3**	**-0.3**
KSP				*e*Sn	**Sg**	**21 10 07.2**	**-5.5**
KSP				*e*Sg	**Sb**	**21 10 13.3**	**-2.3**
KSP	**Ksiaz**	**0.69**	**168**	*i* Pg	**Pb**	**21 10 05.1**	**-0.4**
KSP				*e*Sg	**Sg**	**21 10 14.0**	**+1.3**
KSP	**Ksiaz**	**0.69**	**168**	P	**Pb**	**21 10 05.3**	**-0.3**
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pb**	**21 10 05.1**	**-0.4**
KSP				*e*Sg	**Sg**	**21 10 11.7**	**-1.0**
KSP	**Ksiaz**	**0.69**	**168**	↓*i*P	**Pb**	**21 10 05.1**	**-0.4**
KSP				*e*		21 10 14.0	
KSP	**Ksiaz**	**0.69**	**168**	*e*Pg	**Pb**	**21 10 05.1**	**-0.4**
KSP				*e*Sg	**Sg**	**21 10 11.7**	**-1.0**
UPC	**Upice**	**1.01**	**182**	↓*i*PG	**Pb**	**21 10 11.1**	**0.0**
UPC				*e*SG	**Sg**	**21 10 23.5**	**+0.4**
	comp=Z,3μm,0.6s						
UPC				AMS	AMS	21 10 30.0	
	comp=Z,12μm,5.5s						
UPC	**Upice**	**1.01**	**182**	↓*i*P	**Pb**	**21 10 11.1**	**0.0**
UPC				*e*		21 10 23.5	
UPC				smax	smax		
	comp=N,3μm,0.6s						
UPC				MLR	MLR		
	comp=Z,12μm,5.5s						
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*Pg	**Pb**	**21 10 13.9**	**0.0**
DPC				*e*Sg	**Sb**	**21 10 29.2**	**-0.5**
DPC	**Dobruska-Polom**	**1.18**	**172**	↓*i*PG	**Pb**	**21 10 13.9**	**0.0**
DPC				*e*SG	**Sb**	**21 10 29.2**	**-0.5**
	comp=Z,2μm,0.5s						
DPC				AMS	AMS	21 10 40.0	
	comp=Z,17μm,4.6s						
DPC	**Dobruska-Polom**	**1.18**	**172**	↓*i*P	**Pb**	**21 10 13.9**	**0.0**
DPC				*e*		21 10 29.2	
DPC				smax	smax		
	comp=N,2μm,0.5s						
DPC				MLR	MLR		
	comp=Z,17μm,4.6s						
DPC	**Dobruska-Polom**	**1.18**	**172**	*e*Pg	**Pb**	**21 10 13.9**	**0.0**
DPC				*e*Sg	**Sb**	**21 10 29.2**	**-0.5**
PVCC	**Panska Ves**	**1.37**	**225**	↓*i*PG	**Pb**	**21 10 17.9**	**+0.7**
PVCC				*e*SG	**Sn**	**21 10 37.4**	**+1.4**
	comp=Z,7μm,0.9s						
PVCC				AMS	AMS	21 10 50.0	
	comp=Z,15μm,3.8s						
PVCC	**Panska Ves**	**1.37**	**225**	↓*i*P	**Pb**	**21 10 17.9**	**+0.7**
PVCC				*e*		21 10 37.4	
PVCC				smax	smax		
	comp=N,7μm,0.9s						
PVCC				MLR	MLR		
	comp=Z,15μm,3.8s						
BRG	**Berggiesshubel**	**1.49**	**245**	PN	**Pg**	**21 10 19.0**	**-0.2**
BRG				PG	**Pb**	**21 10 21.4**	**+2.2**
BRG				SG	**Sn**	**21 10 41.0**	**+2.2**
	comp=Z,3μm,0.8s						
BRG	**Berggiesshubel**	**1.49**	**245**	P	**Pb**	**21 10 19.4**	**+0.2**
BRG	**Berggiesshubel**	**1.49**	**245**	*e*Pn	**Pg**	**21 10 19.0**	**-0.2**
BRG				*e*Sg	**Sg**	**21 10 36.4**	**-2.1**
BRG	**Berggiesshubel**	**1.49**	**245**	P	**Pg**	**21 10 19.0**	**-0.2**
BRG						21 10 41.0	
BRG				smax	smax		
	comp=N,3μm,0.8s						
BRG	**Berggiesshubel**	**1.49**	**245**	*e*Pn	**Pg**	**21 10 19.0**	**-0.2**
BRG				↓*e*Pg	**Pb**	**21 10 19.1**	**-0.1**
BRG				*e*Sg	**Sg**	**21 10 36.4**	**-2.1**
KRLC	**Kraliky**	**1.51**	**162**	↓*i*PG	**Pb**	**21 10 19.4**	**-0.2**
KRLC				*e*SG	**Sn**	**21 10 40.3**	**+0.9**
KRLC	**Kraliky**	**1.51**	**162**	↓*i*P	**Pb**	**21 10 19.4**	**-0.2**
KRLC				*e*		21 10 40.3	
RUE	**Ruedersdorf**	**1.72**	**305**	*e*Pn	**Pn**	**21 10 22.4**	**+0.5**
RUE				*e*Sg	**Sg**	**21 10 47.7**	**+1.9**
RUE	**Ruedersdorf**	**1.72**	**305**	*e*Pg	**Pn**	**21 10 22.3**	**+0.5**
RUE				*e*Pn	**Pn**	**21 10 22.4**	**+0.5**
RUE				*e*Sg	**Sg**	**21 10 47.7**	**+1.9**
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	↓*e*PN	**Pn**	**21 10 23.7**	**+0.7**
GOPC				*e*PG	**Pg**	**21 10 25.1**	**-0.1**
GOPC				*e*SG	**Sg**	**21 10 49.0**	**+0.5**
	comp=N,1μm,0.4s						
GOPC				AMS	AMS	21 11 00.0	
	comp=N,13μm,4.1s						
GOPC	**GO Pecny, Ondr**	**1.80**	**208**	*e*P	**Pn**	**21 10 23.7**	**+0.7**
GOPC				*e*		21 10 49.0	
GOPC				smax	smax		
	comp=N,1μm,0.4s						
GOPC				MLR	MLR		
	comp=Z,13μm,4.1s						
FBE	**Freiberg**	**1.81**	**252**	*e*Pn	**Pn**	**21 10 23.9**	**+0.7**
FBE				*e*Sg	**Sg**	**21 10 50.5**	**+1.6**
FBE	**Freiberg**	**1.81**	**252**	*e*Pn	**Pn**	**21 10 23.9**	**+0.7**
FBE				*e*Sg	**Sg**	**21 10 50.5**	**+1.6**
PRU	**Pruhonice**	**1.81**	**213**	↓*e*PN	**Pn**	**21 10 23.7**	**+0.5**
PRU				*e*PG	**Pg**	**21 10 25.5**	**+0.1**
PRU				*e*SG	**Sg**	**21 10 49.5**	**+0.6**
	comp=Z,1μm,0.6s						
PRU				AMS	AMS	21 11 00.0	
	comp=Z,13μm,4.8s						
PRU	**Pruhonice**	**1.81**	**213**	*e*P	**Pn**	**21 10 23.7**	**+0.5**
PRU				*e*		21 10 49.5	
PRU				smax	smax		
	comp=N,1μm,0.6s						
PRU				MLR	MLR		
	comp=Z,13μm,4.8s						
GKP	**Gorka Klasztor**	**1.90**	**22**	*e*Pg	**Pb**	**21 10 26.1**	**-0.1**
GKP				*e*PPP	PPP	21 10 34.1	
GKP				*e*Sg	**Sg**	**21 10 56.5**	**+4.9**
GKP				LMZ	LR	21 11 20.1	
	comp=Z,3μm,10.9s						
GKP	**Gorka Klasztor**	**1.90**	**22**	*e*P	**Pb**	**21 10 26.1**	**-0.1**
GKP				*e*		21 10 56.5	
GKP				M

TREC	**Trest**	**2.25**	**190**	⇓	*e*PN	**Pn**	**21 10 30.4 +1.1**
TREC					*e*PG	**Pg**	**21 10 34.2 +0.3**
TREC					*e*SG	**Sg**	**21 11 03.9 +0.8**
TREC	**Trest**	**2.25**	**190**		*e*P	**Pn**	**21 10 30.4 +1.1**
TREC					*e*		21 11 03.9
KRUC	**Moravsky**	**2.46**	**175**		*e*PN	**Pn**	**21 10 32.8 +0.6**
KRUC					*e*SG	**Sg**	**21 11 10.0 +0.1**
KRUC	**Moravsky**	**2.46**	**175**		*e*Pn	**Pn**	**21 10 32.7 +0.6**
	baz=357						
KRUC					*e*Sg	**Sg**	**21 11 09.9 +0.1**
	comp=Z,2µm,1.0s,baz=357						
TANN	**Tannenbergstha**	**2.54**	**246**		*e*PN	**Pn**	**21 10 34.3 +1.1**
TANN	**Tannenbergstha**	**2.54**	**246**		*e*PN	**Pn**	**21 10 34.3 +1.1**
NKC	**Novy Kostel**	**2.63**	**242**	⇓	*e*PN	**Pn**	**21 10 35.8 +1.3**
NKC					*e*PG	**Pg**	**21 10 41.9 +0.8**
NKC					*e*SG	**Sg**	**21 11 18.0 +2.8**
	comp=Z,1µm,0.6s						
NKC					AMS	AMS	21 11 30.0
	comp=Z,9µm,4.7s						
NKC	**Novy Kostel**	**2.63**	**242**		*e*P	**Pn**	**21 10 35.8 +1.3**
NKC					MLR	MLR	
	comp=Z,9µm,4.7s						
GUNZ	**Gunzen**	**2.63**	**246**		*e*PN	**Pn**	**21 10 35.7 +1.2**
GUNZ					*e*Sg	**Sg**	**21 11 15.7 +0.4**
GUNZ	**Gunzen**	**2.63**	**246**		*e*Pn	**Pn**	**21 10 35.7 +1.2**
GUNZ					*e*Sg	**Sg**	**21 11 15.7 +0.4**
WERN	**Wernitzgruen**	**2.65**	**244**		*e*Pn	**Pn**	**21 10 35.8 +1.1**
WERN	**Wernitzgruen**	**2.65**	**244**		*e*Pn	**Pn**	**21 10 35.8 +1.1**
PLN	**Plauen**	**2.68**	**249**		*e*Pn	**Pn**	**21 10 36.2 +1.1**
PLN	**Plauen**	**2.68**	**249**		*e*Pn	**Pn**	**21 10 36.2 +1.1**
OJC	**Ojcow**	**2.69**	**117**		*e*Pn	**Pn**	**21 10 34.1 -1.1**
OJC					*e*Pg	**Pg**	**21 10 42.7 +0.4**
OJC					*e*Sn	**Sn**	**21 11 06.7 -1.8**
OJC					*e*Sg	**Sg**	**21 11 19.2 +2.1**
OJC					LMZ	LR	21 11 35.3
	comp=Z,2µm,11.4s						
OJC	**Ojcow**	**2.69**	**117**		*e*Pn	**Pn**	**21 10 34.2 -1.1**
OJC					*e*Pg	**Pg**	**21 10 42.7 +0.4**
OJC					*e*Sn	**Sn**	**21 11 05.0 -3.6**
OJC					*e*Sg	**Sg**	**21 11 18.4 +1.3**
OJC	**Ojcow**	**2.69**	**117**		*e*Pn	**Pn**	**21 10 34.1 -1.1**
OJC					*e*Pg	**Pg**	**21 10 42.5 +0.3**
OJC					*e*Sn	Sn	21 10 58.4 -10
OJC	**Ojcow**	**2.69**	**117**		*e*Pn	**Pn**	**21 10 34.3 -0.9**
OJC	**Ojcow**	**2.69**	**117**		*e*P	**Pn**	**21 10 34.2 -1.1**
OJC					*e*		21 11 05.0
OJC	**Ojcow**	**2.69**	**117**		*e*Pn	**Pn**	**21 10 34.3 -0.9**
NEUB	**Neuenburg**	**2.71**	**265**		*e*PN	**Pn**	**21 10 36.5 +1.0**
NEUB	**Neuenburg**	**2.71**	**265**		*e*Pn	**Pn**	**21 10 36.5 +1.0**
JAVC	**Velka Javorina**	**2.85**	**158**		*e*PN	**Pn**	**21 10 39.2 +1.7**
JAVC					*e*SG	**Sg**	**21 11 20.4 -1.8**
KHC	**Kasperske Hory**	**2.87**	**215**		*e*Pn	**Pn**	**21 10 38.5 +0.7**
KHC	**Kasperske Hory**	**2.87**	**215**	⇓	*e*PN	**Pn**	**21 10 38.4 +0.6**
KHC					*e*PG	**Pg**	**21 10 44.9 -0.9**
KHC					*e*SN	**Sn**	**21 11 13.8 +0.7**
KHC					*e*SG	**Sg**	**21 11 24.5 +1.5**
	comp=Z,585nm,0.6s						
KHC					AMS	AMS	21 11 30.0
	comp=Z,6µm,5.2s						
KHC	**Kasperske Hory**	**2.87**	**215**		*e*P	**Pn**	**21 10 38.4 +0.6**
KHC					*e*		21 11 13.8
KHC					smax	smax	
	comp=N,585nm,0.6s						
KHC					MLR	MLR	
	comp=Z,6µm,5.2s						
MOX	**Moxa**	**2.94**	**255**		*e*Pn	**Pn**	**21 10 39.7 +0.9**
MOX	**Moxa**	**2.94**	**255**		*e*Pn	**Pn**	**21 10 39.7 +0.9**
MANZ	**Manzenberg**	**2.95**	**240**		*e*Pn	**Pn**	**21 10 39.8 +1.0**
MANZ	**Manzenberg**	**2.95**	**240**		*e*Pn	**Pn**	**21 10 39.8 +1.0**
BEL	**Belsk**	**2.95**	**82**		*e*Pn	**Pn**	**21 10 40.6 +1.8**
BEL					*e*Pg	Pg	21 10 56.7 +9.4
BEL					LMZ	LR	21 12 02.3
	comp=Z,11µm,7.5s						
BEL	**Belsk**	**2.95**	**82**		*e*P	**Pn**	**21 10 40.6 +1.8**
BEL					MLR	MLR	
	comp=Z,11µm,7.5s						
ROTZ	**Rotzenmuhle**	**3.02**	**236**		*e*Pn	**Pn**	**21 10 40.7 +0.9**
ROTZ	**Rotzenmuhle**	**3.02**	**236**		*e*Pn	**Pn**	**21 10 40.7 +0.9**
GEC2	**GERESS Array S**	**3.08**	**211**		*e*Pn	**Pn**	**21 10 41.4 +0.7**
GEC2					*e*Pg	**Pg**	**21 10 48.6 -1.1**
GEC2					*e*Sn	**Sn**	**21 11 11.0 -7.2**
GEC2	**GERESS Array S**	**3.08**	**211**		*e*Pn	**Pn**	**21 10 41.6 +0.9**
GEC2	**GERESS Array S**	**3.08**	**211**		*e*P	**Pn**	**21 10 41.4 +0.7**
GEC2					*e*		21 11 11.0
GEC2	**GERESS Array S**	**3.08**	**211**		*e*Pn	**Pn**	**21 10 41.6 +0.9**
GERES	**GERESS Array B**	**3.08**	**211**		Pn	**Pn**	**21 10 41.3 +0.7**
	comp=Z,38nm,0.3s,baz=33,slow=12,SNR=433						
GERES					Pg	**Pg**	**21 10 48.0 -1.6**
	comp=Z,77nm,0.3s,baz=30,slow=16,SNR=68						
GERES					Lg	Lg	21 11 28.1
	comp=Z,45nm,0.3s,baz=29,slow=25,SNR=5.4						
GEA0	**GERESS Array S**	**3.08**	**211**		*e*Pn	**Pn**	**21 10 40.9 +0.1**
SMOL	**Smolenice**	**3.13**	**163**		*e*P	**Pn**	**21 10 43.5 +2.2**
SMOL	**Smolenice**	**3.13**	**163**		*e*PN	**Pn**	**21 10 43.5 +2.2**
SMOL					*e*PG	**Pg**	**21 10 52.5 +1.9**
SMOL					*e*SG	**Sg**	**21 11 34.0 +2.9**
WET	**Wettzell**	**3.13**	**222**		*e*Pn	**Pn**	**21 10 42.3 +0.9**
WET	**Wettzell**	**3.13**	**222**		*e*Pn	**Pn**	**21 10 42.3 +0.9**
LANS	**Liptovska Anna**	**3.21**	**136**		*e*P	**Pn**	**21 10 43.4 +0.9**
LANS	**Liptovska Anna**	**3.21**	**136**		*e*PN	**Pn**	**21 10 43.4 +0.9**
LANS					*e*PG	**Pg**	**21 10 53.3 +1.0**
LANS					*e*SG	**Sg**	**21 11 33.2 -0.7**
MODS	**Modra-Piesok**	**3.24**	**166**		*e*P	**Pn**	**21 10 43.9 +1.1**
MODS					pmax	pmax	
	comp=N,2µm,1.1s						
MODS	**Modra-Piesok**	**3.24**	**166**		*e*PN	**Pn**	**21 10 43.9 +1.1**
MODS					*e*PG	**Pg**	**21 10 53.7 +0.9**
MODS					*e*SG	**Sg**	**21 11 35.1 +0.4**
MODS					eLG	Lg	21 11 41.6
ZST	**Bratislava**	**3.39**	**168**		*e*P	**Pn**	**21 10 45.1 +0.3**
ZST	**Bratislava**	**3.39**	**168**		*e*PN	**Pn**	**21 10 45.1 +0.3**
ZST					*e*PG	**Pg**	**21 10 53.9 -1.7**
ZST					*e*SG	**Sg**	**21 11 37.9 -1.6**
ASSE	**Asse, Remlinge**	**3.41**	**283**		*e*Pn	**Pn**	**21 10 46.7 +1.6**
ASSE	**Asse, Remlinge**	**3.41**	**283**		*e*Pn	**Pn**	**21 10 46.7 +1.6**
NIE	**Niedzica**	**3.42**	**126**		*e*Pn	**Pn**	**21 10 45.8 +0.5**
NIE					*e*Pg	**Pg**	**21 10 56.4 +0.2**
NIE					*e*Sn	Sn	21 11 11.7 -15
NIE					*e*Sg	**Sg**	**21 11 43.8 +3.3**
NIE					LMZ	LR	21 12 06.1
	comp=N,700nm,12.4s						
NIE	**Niedzica**	**3.42**	**126**		*e*Pn	**Pn**	**21 10 46.8 +1.5**
NIE					*e*Pg	**Pg**	**21 10 56.5 +0.2**
NIE					*e*Sg	**Sg**	**21 11 41.7 +1.3**
NIE	**Niedzica**	**3.42**	**126**		*e*P	**Pn**	**21 10 45.8 +0.5**
NIE					MLR	MLR	
	comp=Z,700nm,12.4s						
RGN	**Rugen**	**3.46**	**332**		*e*Pn	**Pn**	**21 10 45.0 -0.8**
VYHS	**Vyhne**	**3.51**	**148**		*e*P	**Pn**	**21 10 46.8 +0.3**
VYHS					pmax	pmax	
	comp=N,331nm,1.2s						
VYHS	**Vyhne**	**3.51**	**148**		*e*PN	**Pn**	**21 10 46.8 +0.3**
VYHS					*e*PG	**Pg**	**21 10 58.7 +0.8**
VYHS					*e*SG	**Sg**	**21 11 43.2 -0.2**
VYHS					eLG	Lg	21 12 09.2
CLZ	**Clausthal**	**3.57**	**278**		*e*Pn	**Pn**	**21 10 48.8 +1.5**
CLZ	**Clausthal**	**3.57**	**278**		*e*Pn	**Pn**	**21 10 48.8 +1.5**
GRA1	**Grafenberg Arr**	**3.59**	**241**		*e*Pn	**Pn**	**21 10 48.4 +0.8**
GRF	**Grafenberg Arr**	**3.59**	**241**		*e*Pn	**Pn**	**21 10 48.5 +0.8**
GRF	**Grafenberg Arr**	**3.59**	**241**		*e*P	**Pn**	**21 10 48.4 +0.8**
GRF	**Grafenberg Arr**	**3.59**	**241**		*e*Pn	**Pn**	**21 10 48.5 +0.8**
GRFO	**Grafenberg**	**3.59**	**241**		*e*Pn	**Pn**	**21 10 49.1 +1.4**
GRFO					*e*Pb	**Pg**	**21 11 01.1 +1.6**
GRFO	**Grafenberg**	**3.59**	**241**		*e*P	**Pn**	**21 10 49.1 +1.4**
CONA	**Conrad Observa**	**3.59**	**182**		*i* Pn	**Pn**	**21 10 48.8 +1.0**
	comp=N,57nm,0.5s,SNR=76						
CONA					Pg	**Pg**	**21 11 00.6 +1.0**
	comp=N,114nm,0.4s						
CONA					*e*Sn	**Sn**	**21 11 29.5 -1.3**
	comp=N,112nm,0.5s						
CONA					Sg	**Sg**	**21 11 47.2 +1.2**
	comp=N,624nm,0.5s						
BSD	**Bornholm Skovb**	**3.67**	**350**		*i* P	**Pn**	**21 10 48.0 -0.7**
BSD					*i* S	**Sn**	**21 11 29.9 -2.8**
BSD	**Bornholm Skovb**	**3.67**	**350**		*i* P	**Pn**	**21 10 48.0 -0.7**
BSD					*i* S	**Sn**	**21 11 29.9 -2.8**
GTTG	**Gvttingen**	**3.82**	**273**		*e*Pn	**Pn**	**21 10 52.6 +1.8**
GTTG	**Gvttingen**	**3.82**	**273**		*e*Pn	**Pn**	**21 10 52.6 +1.8**
NRDL	**Niedersach Rie**	**3.82**	**287**		*e*Pn	**Pn**	**21 10 52.4 +1.7**
NRDL	**Niedersach Rie**	**3.82**	**287**		*e*Pn	**Pn**	**21 10 52.4 +1.7**
SOP	**Sopron**	**3.85**	**175**		*e*Pn	**Pn**	**21 10 52.0 +0.9**
SOP					*e*Sg	**Sg**	**21 11 57.1 +2.8**

MOA	**Molln**	**3.85**	**198**		*i* Pn	**Pn**	**21 10 52.3 +1.0**
	comp=N,40nm,0.4s,SNR=80						
MOA					Pg	**Pg**	**21 11 07.8 +3.3**
	comp=N,179nm,0.6s						
MOA					Sg	**Sg**	**21 11 56.1 +1.7**
	comp=N,552nm,0.5s						
UBBA	**Unterbreizbach**	**3.89**	**262**		*e*Pn	**Pn**	**21 10 52.8 +1.2**
UBBA	**Unterbreizbach**	**3.89**	**262**		*e*Pn	**Pn**	**21 10 52.8 +1.2**
KLNR	**Kaliningrad**	**3.98**	**37**		*i* P	**Pn**	**21 10 54.9 +2.0**
SRO	**Srobarova**	**3.98**	**158**		*e*P	**Pn**	**21 10 55.7 +2.8**
SRO	**Srobarova**	**3.98**	**158**		*e*PN	**Pn**	**21 10 55.7 +2.8**
SRO					*e*PG	Pg	**21 11 08.2 +1.3**
BSEG	**Bad Segeberg**	**4.26**	**307**		*e*Pn	**Pn**	**21 10 56.3 -0.4**
BSEG	**Bad Segeberg**	**4.26**	**307**		*e*Pn	**Pn**	**21 10 56.3 -0.4**
ARSA	**Arzberg**	**4.28**	**185**		*e*Pn	**Pn**	**21 10 59.0 +1.9**
	comp=N,22nm,0.4s,SNR=24						
ARSA					Pg	**Pg**	**21 11 14.2 +1.4**
	comp=N,26nm,0.4s						
ARSA					Sg	**Sg**	**21 12 08.9 +0.6**
	comp=N,362nm,0.6s						
RJOB	**Jochberg**	**4.34**	**211**		*e*Pn	**Pn**	**21 10 59.7 +1.7**
RJOB	**Jochberg**	**4.34**	**211**		*e*Pn	**Pn**	**21 10 59.7 +1.7**
PSZ	**Piszkesteto**	**4.37**	**144**		*e*Pn	**Pn**	**21 10 59.6 +1.2**
PSZ	**Piszkesteto**	**4.37**	**144**	⇓	*i* P	**Pn**	**21 10 59.6 +1.2**
PSZ	**Piszkesteto**	**4.37**	**144**		*e*P	**Pn**	**21 10 59.6 +1.2**
PSZ	**Piszkesteto**	**4.37**	**144**		*e*P	**Pn**	**21 10 59.3 +0.9**
PSZ					IAmb	IAmb	21 11 27.8
	comp=Z,364nm,1.4s						
PSZ	**Piszkesteto**	**4.37**	**144**		*e*Pn	**Pn**	**21 10 59.0 +0.7**
PSZ					*e*Sg	**Sg**	**21 12 13.1 +2.0**
PSZ	**Piszkesteto**	**4.37**	**144**		*e*Pn	**Pn**	**21 11 02.0 +3.6**
PSZ					Sn	**Sn**	**21 11 46.1 -3.9**
CSKK	**Cskako**	**4.39**	**160**		*e*Pn	**Pn**	**21 10 58.1 -0.5**
LUNU	**Lund**	**4.41**	**340**		P	**Pn**	**21 10 58.5 -0.4**
LUNU					S	**Sn**	**21 11 47.7 -3.2**
FUR	**Furstenfeldbru**	**4.57**	**225**		*e*Pn	**Pn**	**21 11 02.5 +1.4**
FUR	**Furstenfeldbru**	**4.57**	**225**		*e*Pn	**Pn**	**21 11 02.5 +1.4**
KWP	**Kalwaria Pacla**	**4.63**	**111**		*e*Pn	**Pn**	**21 11 02.4 +0.6**
KWP					*e*Sn	Sn	21 11 42.8 -13
KWP					LMZ	LR	21 12 54.9
	comp=Z,600nm,13.3s						
KWP	**Kalwaria Pacla**	**4.63**	**111**		*e*Pn	**Pn**	**21 11 02.5 +0.6**
KWP					*e*Pb	**Pg**	**21 11 16.6 -2.8**
KWP	**Kalwaria Pacla**	**4.63**	**111**		*e*P	**Pn**	**21 11 02.5 +0.6**
COP	**Copenhagen**	**4.71**	**334**		*i* P	**Pn**	**21 11 02.4 -0.5**
COP					*e*S	**Sn**	**21 11 55.8 -2.4**
COP	**Copenhagen**	**4.71**	**334**		*i* P	**Pn**	**21 11 02.4 -0.5**
COP					*e*S	**Sn**	**21 11 55.8 -2.4**
TIH	**Tihany**	**4.77**	**165**		*e*Pn	**Pn**	**21 11 04.1 +0.3**
TIH					Sn	**Sn**	**21 12 03.1 +3.3**
KBA	**Koelnbreinsper**	**4.79**	**203**		*i* Pn	**Pn**	**21 11 05.6 +1.4**
	comp=Z,87nm,0.5s,SNR=68						
KBA					Sg	**Sg**	**21 12 27.0 +2.6**
	comp=Z,132nm,0.6s						
BLEU	**Blekinge**	**4.80**	**358**		P	**Pn**	**21 11 04.6 +0.4**
BLEU					S	**Sn**	**21 11 56.7 -3.8**
SOKA	**Soboth**	**4.89**	**188**		*e*Pn	**Pn**	**21 11 06.8 +1.2**
	comp=Z,14nm,0.4s,SNR=13						
SOKA					Sg	**Sg**	**21 12 30.9 +3.2**
	comp=Z,171nm,0.9s						
BJUU	**Bjuv**	**4.91**	**340**		P	**Pn**	**21 11 04.8 -0.9**
UZH	**Uzhgorod**	**4.94**	**123**		*e*P	**Pn**	**21 11 08.9 +2.8**
UZH					*e*S	**Sn**	**21 12 06.7 +3.1**
SUW	**Suwalki**	**4.99**	**57**		*e*Pn	**Pn**	**21 11 07.7 +0.9**
SUW					*e*Sn	**Sn**	**21 12 06.1 +1.0**
SUW					LMZ	LR	21 13 18.8
	comp=Z,700nm,12.5s						
SUW	**Suwalki**	**4.99**	**57**		*e*Pn	**Pn**	**21 11 07.2 +0.4**
SUW	**Suwalki**	**4.99**	**57**		*e*P	**Pn**	**21 11 07.7 +0.9**
SUW					*e*		21 12 06.1
SUW					MLR	MLR	
	comp=Z,700nm,12.5s						
TNS	**Taunus Mts**	**5.00**	**258**		*e*Pn	**Pn**	**21 11 07.3 +0.3**
TNS	**Taunus Mts**	**5.00**	**258**		*e*Pn	**Pn**	**21 11 07.3 +0.3**
BEHE	**Becsehely**	**5.07**	**175**		*e*Pn	**Pn**	**21 11 10.1 +2.2**
BEHE	**Becsehely**	**5.07**	**175**	⇓	*e*Pn	**Pn**	**21 11 09.1 +1.1**
BEHE					Sn	**Sn**	**21 12 13.0 +5.9**
BEHE					*e*Sg	Sg	21 12 43.1 +10
GROS	**Grobnik**	**5.07**	**184**		*i* Pn	**Pn**	**21 11 09.4 +1.3**
GROS					*e*Pg	**Pg**	**21 11 28.3 +0.4**
GROS					*e*Sn	**Sb**	**21 12 16.4 -5.4**
	comp=Z,2µm,3.2s						
OBKA	**Obir**	**5.11**	**192**		*e*Pn	**Pn**	**21 11 10.2 +1.7**
	comp=Z,9.5nm,0.5s,SNR=9.6						
OBKA					Pg	**Pg**	**21 11 29.8 +1.2**
	comp=Z,58nm,0.6s						
OBKA					Sg	**Sg**	**21 12 37.1 +2.3**
	comp=Z,452nm,0.8s						
WATA	**Walderalm**	**5.11**	**217**		*e*Pn	**Pn**	**21 11 10.0 +1.4**
	comp=Z,0.5nm,0.1s,SNR=81						
DEL	**Delary**	**5.13**	**346**		P	**Pn**	**21 11 08.5 -0.3**
MYKA	**Terra Mystica**	**5.14**	**199**		*e*Pn	**Pn**	**21 11 10.3 +1.3**
	comp=Z,3.1nm,0.3s						
MYKA					*e*P	**Pb**	**21 11 22.5 +0.9**
	comp=Z,26nm,0.5s						
MYKA					Sg	**Sg**	**21 12 36.7 +0.8**
	comp=Z,508nm,1.2s						
WTTA	**Wattenberg**	**5.15**	**216**		*e*Pn	**Pn**	**21 11 11.4 +2.2**
	comp=Z,49nm,0.6s						
WTTA					Sg	**Sg**	**21 12 37.6 +1.6**
	comp=Z,774nm,1.4s						
STU	**Stuttgart**	**5.21**	**241**		*e*Pn	**Pn**	**21 11 09.5 -0.3**
STU					*e*Pg	**Pg**	**21 11 31.8 +1.4**
STU	**Stuttgart**	**5.21**	**241**		*e*Pn	**Pn**	**21 11 10.3 +0.5**
STU	**Stuttgart**	**5.21**	**241**		*e*P	**Pn**	**21 11 09.5 -0.3**
STU	**Stuttgart**	**5.21**	**241**		*e*Pn	**Pn**	**21 11 10.3 +0.5**
IBBN	**Ibbenburen**	**5.21**	**282**		*e*Pn	**Pn**	**21 11 11.6 +1.7**
IBBN	**Ibbenburen**	**5.21**	**282**		*e*Pn	**Pn**	**21 11 11.6 +1.7**
MOTA	**Moosalm**	**5.29**	**220**		*i* Pn	**Pn**	**21 11 12.0 +1.0**
	comp=Z,20nm,0.5s,SNR=58						
RETA	**Reutte**	**5.31**	**223**		*i* Pn	**Pn**	**21 11 12.0 +0.6**
	comp=Z,14nm,0.3s,SNR=21						
RETA					Sg	**Sg**	**21 12 45.7 +4.4**
	comp=Z,124nm,0.6s						
ABTA	**Abfaltersbach**	**5.31**	**207**		*e*Pn	**Pn**	**21 11 13.1 +1.8**
	comp=Z,48nm,0.5s,SNR=54						
ABTA					Pg	**Pb**	**21 11 24.6 +0.2**
	comp=Z,110nm,0.7s						
ABTA					Sg	**Sg**	**21 12 47.7 +6.4**
	comp=Z,612nm,1.4s						
LVV	**L'vov**	**5.34**	**105**		*e*P	**Pn**	**21 11 11.5 -0.1**
LVV					*e*S	**Sn**	**21 12 13.0 -0.7**
LVV					*e*S	**Sb**	**21 12 21.7 -7.6**
LVV					pmax	pmax	
	comp=Z,230nm,1.4s						
LVV					smax	smax	
	comp=N,280nm,1.2s						
LVV					smax	smax	
	comp=E,280nm,1.2s						
SQTA	**Sankt Quirin**	**5.34**	**218**		*e*Pn	**Pn**	**21 11 13.6 +1.8**
	comp=E,60nm,0.4s,SNR=35						
SQTA					Sg	**Sg**	**21 12 43.7 +1.4**
	comp=E,237nm,0.7s						
TRPA	**Tarpa**	**5.38**	**126**	⇑	*i* P	**Pn**	**21 11 12.3 +0.1**
KOE	**Koeppel**	**5.38**	**262**		*e*Pn	**Pn**	**21 11 13.5 +1.2**
UBR	**Ueberruh**	**5.46**	**228**		*e*Pn	**Pn**	**21 11 13.7 +0.4**
UBR	**Ueberruh**	**5.46**	**228**		*e*Pn	**Pn**	**21 11 13.7 +0.4**
VXJU	**Vaexsjoe**	**5.46**	**353**		P	**Pn**	**21 11 13.5 +0.3**
BUG	**Bochum--Univer**	**5.50**	**273**		*e*Pn	**Pn**	**21 11 15.1 +1.2**
BUG	**Bochum--Univer**	**5.50**	**273**		*e*Pn	**Pn**	**21 11 15.1 +1.2**
HOBG	**Hohbusch**	**5.52**	**268**		*e*Pn	**Pn**	**21 11 15.2 +1.1**
LJU	**Ljubljana**	**5.57**	**191**		*e*Pn	**Pn**	**21 11 15.9 +1.1**
LTVH	**Ltavrtes, Hu**	**5.61**	**135**		*e*Pn	**Pn**	**21 11 16.1 +0.7**
LTVH					*e*Sg	**Sg**	**21 12 57.1 +6.2**
HLG	**Helgoland**	**5.64**	**302**		*e*Pn	**Pn**	**21 11 16.4 +0.7**
HLG	**Helgoland**	**5.64**	**302**		*e*Pn	**Pn**	**21 11 16.4 +0.7**
CEI	**Carei**	**5.65**	**130**	⇑	*i* P	**Pn**	**21 11 16.7 +0.9**
BGG	**Burgeitz**	**5.69**	**260**		*e*Pn	**Pn**	**21 11 17.6 +1.2**
BGG					*e*Sn	**Sn**	**21 12 21.4 -0.9**
	comp=E,85nm,0.9s						
OSKU	**Oskarshamn**	**5.69**	**0**		P	**Pn**	**21 11 17.0 +0.5**
PBUR	**Paburg**	**5.70**	**35**		*e*P	Pn	21 11 22.6 +6.1
PBUR					IAmb	IAmb	21 11 48.1
	comp=Z,886nm,1.1s						
FETA	**Feichten**	**5.70**	**220**		*e*Pn	**Pn**	**21 11 18.1 +1.4**
	comp=Z,14nm,0.5s,SNR=8.6						
FETA					Sg	**Sg**	**21 12 51.9 -1.7**
	comp=Z,444nm,1.2s						
CRES	**Cresnjev**	**5.71**	**184**		*e*Pn	**Pn**	**21 11 18.2 +1.5**
LAUG	**Laupendahl**	**5.71**	**272**		*e*Pn	**Pn**	**21 11 18.2 +1.4**
WTSB	**Winterswijk**	**5.78**	**278**		*e*Pn	**Pn**	**21 11 19.4 +1.7**
BYXU	**Byxelkrok**	**5.81**	**5**		P	**Pn**	**21 11 19.1 +1.0**
FABU	**Falkenberg**	**5.84**	**342**		P	**Pn**	**21 11 18.0 -0.5**

DAVA	**Damuels**	**5.85**	**226**		*i* Pn	**Pn**	**21 11 19.5 +0.6**
	comp=Z,19nm,0.3s,SNR=15						
CEY	**Cerknica**	**5.88**	**191**		*e*Pn	**Pn**	**21 11 18.5 -0.6**
STB	**Steinbach**	**5.90**	**265**		*e*Pn	**Pn**	**21 11 20.2 +0.9**
ASPU	**Aespoe**	**5.92**	**3**		P	**Pn**	**21 11 20.4 +0.8**
BFO	**Black Forest**	**5.93**	**241**		*e*Pn	**Pn**	**21 11 19.4 -0.4**
BFO	**Black Forest**	**5.93**	**241**		*i* P	**Pn**	**21 11 19.8 0.0**
GNOU	**Gnosjoe**	**5.94**	**348**		P	**Pn**	**21 11 19.9 0.0**
AMBH	**Ambrzfalva**	**6.01**	**148**	⇓	*e*Pn	**Pn**	**21 11 22.1 +1.3**
TRI	**Trieste**	**6.01**	**196**		*e*Pn	**Pn**	**21 11 22.7 +1.9**
TRI	**Trieste**	**6.01**	**196**		*e*P	**Pn**	**21 11 22.7 +1.9**
HILG	**Hillesheim**	**6.07**	**262**		*e*Pn	**Pn**	**21 11 22.1 +1.4**
EKSU	**Eksjoe**	**6.09**	**356**		P	**Pn**	**21 11 22.3 +0.4**
VSTU	**Vaestervik**	**6.17**	**2**		P	**Pn**	**21 11 23.6 +0.7**
BMR	**Baia Mare**	**6.17**	**126**	⇑	*i* P	**Pn**	**21 11 23.7 +0.7**
FUORN	**Ofenpass-Fuorn**	**6.21**	**220**		*e*Pn	**Pn**	**21 11 25.6 +1.7**
KLL	**Kalltalsperre**	**6.22**	**266**		*e*Pn	**Pn**	**21 11 24.6 +0.9**
DREG	**Dreilaegerbach**	**6.26**	**266**		*e*Pn	**Pn**	**21 11 25.5 +1.2**
DREG					*e*Sn	**Sn**	**21 12 35.5 -1.0**
	comp=Z,56nm,0.7s						
RIY	**Rijeka**	**6.28**	**190**		*e*Pn	**Pn**	**21 11 24.7 +0.1**
MUD	**Monsted U'grnd**	**6.41**	**323**		*i* P	**Pn**	**21 11 25.9 -0.3**
MUD	**Monsted U'grnd**	**6.41**	**323**		*i* P	**Pn**	**21 11 25.9 -0.3**
SIRR	**Siria**	**6.41**	**143**	⇑	*i* P	**Pn**	**21 11 27.5 +1.1**
MEM	**Membach**	**6.41**	**266**	⇓	Pn	**Pn**	**21 11 27.0 +0.6**
MEM				⇓	Pg	**Pg**	**21 11 55.1 +1.6**
DRGR		**6.42**	**135**	⇓	*i* P	**Pn**	**21 11 27.3 +0.7**
HGN	**Heimansgroeve**	**6.43**	**267**		*e*Pn	**Pn**	**21 11 29.1 +2.5**
CDF	**Champ du Feu**	**6.47**	**245**		*e*Pn	**Pn**	**21 11 26.8 -0.4**
	SNR=20						
CDF					*e*Sg	**Sg**	**21 13 15.0 -3.4**
	comp=Z,1µm,1.1s						
CDF	**Champ du Feu**	**6.47**	**245**		*e*Pn	**Pn**	**21 11 26.8 -0.4**
CDF					*e*Sg	**Sg**	**21 13 15.0 -3.4**
CDF	**Champ du Feu**	**6.47**	**245**		*e*P	**Pn**	**21 11 26.8 -0.4**
MRAK	**Mrakovica**	**6.53**	**175**		*e*Pn	**Pn**	**21 11 24.6 -3.4**
BEBN	**Eben Emael**	**6.58**	**268**	⇑	Pn	**Pn**	**21 11 30.1 +1.4**
BEBN				⇓	Sg	**Sb**	**21 13 12.3 +7.2**
	comp=N,15nm,0.0s						
WLF	**Walferdange**	**6.58**	**258**		*e*Pn	**Pn**	**21 11 29.0 +0.3**
**WLF

LPL	**La Plagne**	**8.63**	**230**	*e*Pn		**Pn**	**21 11 55.7**	**-1.2**
	SNR=10								
LPL				*e*Sg		**Sg**	**21 14 21.2**	**-6.4**
	comp=Z,288nm,1.1s								
LPL	**La Plagne**	**8.63**	**230**	*e*Pn		**Pn**	**21 11 55.7**	**-1.2**
LPL				*e*Sg		**Sg**	**21 14 21.2**	**-6.4**
LPL	**La Plagne**	**8.63**	**230**	*e*P		**Pn**	**21 11 55.7**	**-1.2**
LPG	**La Plagne**	**8.63**	**229**	*e*Pn		**Pn**	**21 11 57.8**	**+0.7**
	SNR=8.0								
LPG				*e*Sg		Sg	21 14 18.7	-9.0
	comp=Z,654nm,1.4s								
LPG	**La Plagne**	**8.63**	**229**	*e*Pn		**Pn**	**21 11 57.8**	**+0.7**
LPG				*e*Sg		Sg	21 14 18.7	-9.0
LPG	**La Plagne**	**8.63**	**229**	*e*P		**Pn**	**21 11 57.8**	**+0.7**
HFS	**Hagfors**	**8.74**	**352**	Pn		**Pn**	**21 11 58.0**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=167,slow=14,SNR=36								
HFS				Sn		**Sn**	**21 13 32.4**	**-5.1**
	comp=Z,1.5nm,0.3s,baz=174,slow=17,SNR=2.7								
HFS				LR		LR	21 14 54.9		
	comp=Z,32nm,19.7s,baz=117,slow=34								
KONO	**Kongsberg**	**8.94**	**338**	*e*Pn		**Pn**	**21 11 59.5**	**-1.4**
KONO	**Kongsberg**	**8.94**	**338**	*i* P		**Pn**	**21 12 00.0**	**-0.9**
BNI	**Bardonecchia**	**9.00**	**228**	*e*Pn		**Pn**	**21 12 04.2**	**+2.2**
LOR	**Lormes**	**9.03**	**247**	*e*Pn		**Pn**	**21 12 01.1**	**-1.2**
	baz=64,SNR=15								
LOR				*e*Sn		**Sn**	**21 13 35.6**	**-9.0**
	comp=Z,8.3nm,0.6s								
LOR				*e*Sg			21 14 33.8		
	comp=Z,615nm,1.5s								
LOR	**Lormes**	**9.03**	**247**	*e*Pn		**Pn**	**21 12 01.1**	**-1.2**
LOR				*e*Sn		**Sn**	**21 13 35.6**	**-9.0**
LOR				*e*Sg			21 14 33.8		
LOR	**Lormes**	**9.03**	**247**	*e*P		**Pn**	**21 12 01.1**	**-1.2**
LOR				*e*			21 13 35.6		
MBDF	**Montbardon**	**9.21**	**226**	*e*Pn		**Pn**	**21 12 03.6**	**-1.2**
	SNR=4.4								
MBDF				*e*Sg		Sn	21 14 40.1	+51	
	comp=Z,221nm,1.3s								
MBDF	**Montbardon**	**9.21**	**226**	*e*Pn		**Pn**	**21 12 03.6**	**-1.2**
MBDF				*e*Sg		Sn	21 14 40.1	+51	
MBDF	**Montbardon**	**9.21**	**226**	*e*P		**Pn**	**21 12 03.6**	**-1.2**
VSU	**Vasula**	**9.26**	**37**	*ce*P		**Pn**	**21 12 06.5**	**+1.1**
VSU				pmax		pmax			
	comp=Z,324nm,1.3s								
VSU	**Vasula**	**9.26**	**37**	*e*P		**Pn**	**21 12 06.5**	**+1.1**
VSU				IAmb		IAmb	21 12 53.3		
	comp=Z,295nm,1.1s								
SSF	**Saint Saulge**	**9.34**	**246**	*e*Pn		**Pn**	**21 12 05.9**	**-0.6**
	SNR=9.9								
SSF				*e*Sn		**Sn**	**21 13 44.8**	**-7.5**
	comp=Z,7.8nm,0.5s								
SSF				*e*Sg			21 14 42.9		
	comp=Z,61nm,0.9s								
SSF	**Saint Saulge**	**9.34**	**246**	*e*Pn		**Pn**	**21 12 05.9**	**-0.6**
SSF				*e*Sn		**Sn**	**21 13 44.8**	**-7.5**
SSF				*e*Sg			21 14 42.9		
SMF	**Signal de Mont**	**9.39**	**244**	*e*Pn		**Pn**	**21 12 04.8**	**-2.4**
	SNR=4.2								
SMF				*e*Sg		Sn	21 14 45.8	+52	
	comp=Z,368nm,1.1s								
SMF	**Signal de Mont**	**9.39**	**244**	*e*Pn		**Pn**	**21 12 04.8**	**-2.4**
SMF				*e*Sg		Sn	21 14 45.8	+52	
SMF	**Signal de Mont**	**9.39**	**244**	*e*P		**Pn**	**21 12 04.8**	**-2.4**
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn		**Pn**	**21 12 06.5**	**-1.9**
	SNR=4.2								
ORIF				*e*Sg		Sn	21 14 48.7	+53	
	comp=Z,420nm,1.3s								
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*Pn		**Pn**	**21 12 06.5**	**-1.9**
ORIF				*e*Sg		Sn	21 14 48.7	+53	
ORIF	**Oris-en-Rattie**	**9.47**	**230**	*e*P		**Pn**	**21 12 06.5**	**-1.9**
KIS	**Kishinev**	**9.47**	**114**	*e*P		**Pn**	**21 12 06.0**	**-2.4**
KIS				*i* LQ		LQ	21 15 04.0		
KIS				LRM		MLR	21 16 32.0		
	comp=Z,400nm,10.0s								
KIS	**Kishinev**	**9.47**	**114**	*e*P		**Pn**	**21 12 06.0**	**-2.4**
KIS				MLR		MLR			
	comp=Z,400nm,10.0s								
MILM	**Milestii Mici**	**9.52**	**114**⇑	*i*P		**Pn**	**21 12 08.3**	**-0.6**
AVF	**Avril sur Loir**	**9.58**	**245**	*e*Pn		**Pn**	**21 12 07.3**	**-2.5**
	SNR=7.0								
AVF				*e*Sg		Sn	21 14 52.1	+54	
	comp=Z,430nm,1.3s								
AVF	**Avril sur Loir**	**9.58**	**245**	*e*Pn		**Pn**	**21 12 07.3**	**-2.5**
AVF				*e*Sg		Sn	21 14 52.1	+54	
AVF	**Avril sur Loir**	**9.58**	**245**	*e*P		**Pn**	**21 12 07.3**	**-2.5**
NC602	**NORSAR Array S**	**9.58**	**347**	*e*Pn		**Pn**	**21 12 08.7**	**-1.0**
CLF	**Chambon-Foret**	**9.60**	**254**	*e*Pn		**Pn**	**21 12 11.0**	**+1.0**
SBF	**Sospel**	**9.61**	**221**	*e*Pn		**Pn**	**21 12 08.5**	**-1.8**
	SNR=14								
SBF				*e*Sn		**Sn**	**21 13 50.9**	**-8.1**
	comp=Z,26nm,0.7s								
SBF				*e*Sg			21 14 48.4		
	comp=Z,194nm,1.1s								
SBF	**Sospel**	**9.61**	**221**	*e*Pn		**Pn**	**21 12 08.5**	**-1.8**
SBF				*e*Sn		**Sn**	**21 13 50.9**	**-8.1**
SBF				*e*Sg			21 14 48.4		
SBF	**Sospel**	**9.61**	**221**	*e*P		**Pn**	**21 12 08.5**	**-1.8**
SBF				*e*			21 13 50.9		
NAO01	**NORSAR Array S**	**9.79**	**345**	*e*Pn		**Pn**	**21 12 11.0**	**-1.6**
NB201	**NORSAR Array S**	**9.92**	**346**	*e*Pn		**Pn**	**21 12 13.1**	**-1.3**
NC405	**NORSAR Array S**	**9.92**	**348**	*e*Pn		**Pn**	**21 12 13.9**	**-0.5**
NB200	**NORSAR Array S**	**9.92**	**346**	*e*Pn		**Pn**	**21 12 12.8**	**-1.7**
NB200				*e*Sn		**Sn**	**21 13 58.1**	**-8.3**
NOA	**NORSAR Array B**	**9.92**	**346**	Pn		**Pn**	**21 12 12.8**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=243,slow=21,SNR=22								
NOA				Sn		**Sn**	**21 13 58.1**	**-8.3**
	comp=Z,0.1nm,0.3s,baz=325,slow=14,SNR=3.2								
NOA				LR		LR	21 16 48.3		
	comp=Z,102nm,21.5s,baz=165,slow=42								
NBO00	**NORSAR Array S**	**9.98**	**345**	*e*Pn		**Pn**	**21 12 12.5**	**-2.7**
BGF	**Bois d'Agland**	**10.00**	**245**	*e*Pn		**Pn**	**21 12 12.5**	**-3.0**
	SNR=4.8								
BGF				*e*Sg		Sn	21 15 04.8	+56	
	comp=Z,496nm,1.2s								
BGF	**Bois d'Agland**	**10.00**	**245**	*e*Pn		**Pn**	**21 12 12.5**	**-3.0**
BGF				*e*Sg		Sn	21 15 04.8	+56	
BGF	**Bois d'Agland**	**10.00**	**245**	*e*P		**Pn**	**21 12 12.5**	**-3.0**
NC303	**NORSAR Array S**	**10.08**	**347**	*e*Pn		**Pn**	**21 12 15.7**	**-0.8**
NC303				*e*Sn		**Sn**	**21 14 02.5**	**-7.7**
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*Pn		**Pn**	**21 12 14.9**	**-2.2**
	SNR=2.0								
VIVF				*e*Sg		Sn	21 15 08.4	+57	
	comp=Z,199nm,1.4s								
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*Pn		**Pn**	**21 12 14.9**	**-2.2**
VIVF				*e*Sg		Sn	21 15 08.4	+57	
VIVF	**Saint-Julien-l**	**10.11**	**233**	*e*P		**Pn**	**21 12 14.9**	**-2.2**
PGF	**Pioggiola**	**10.18**	**211**	*e*Pn		**Pn**	**21 12 16.6**	**-1.5**
PGF	**Pioggiola**	**10.18**	**211**	*e*Pn		**Pn**	**21 12 16.6**	**-1.5**
PGF	**Pioggiola**	**10.18**	**211**	*e*P		**Pn**	**21 12 16.6**	**-1.5**
FRF	**La Foret Royal**	**10.19**	**222**	*e*Pn		**Pn**	**21 12 19.2**	**+1.1**
	SNR=3.7								
FRF				*e*Sg		Sn	21 15 08.6	+56	
	comp=Z,84nm,1.1s								
FRF	**La Foret Royal**	**10.19**	**222**	*e*Pn		**Pn**	**21 12 19.2**	**+1.1**
FRF				*e*Sg		Sn	21 15 08.6	+56	
FRF	**La Foret Royal**	**10.19**	**222**	*e*P		**Pn**	**21 12 19.2**	**+1.1**
NC204	**NORSAR Array S**	**10.21**	**345**	*e*Pn		**Pn**	**21 12 16.5**	**-2.0**
NC204				*e*Sn		**Sn**	**21 14 06.3**	**-7.3**
CFR	**Carcaliu**	**10.22**	**124**⇑	*i*P		**Pn**	**21 12 19.3**	**+0.7**
SMRF	**Simiane la Rot**	**10.33**	**227**	*e*Pn		**Pn**	**21 12 17.9**	**-2.2**
	SNR=1.9								
SMRF				*e*Sg		Sn	21 15 15.4	+59	
	comp=Z,404nm,1.8s								
SMRF	**Simiane la Rot**	**10.33**	**227**	*e*Pn		**Pn**	**21 12 17.9**	**-2.2**
SMRF				*e*Sg		Sn	21 15 15.4	+59	
LMR	**La Mourre**	**10.43**	**222**	*e*Pn		**Pn**	**21 12 19.7**	**-1.8**
	SNR=6.7								
LMR				*e*Sg		Sn	21 15 12.4	+53	
	comp=Z,172nm,1.6s								
LMR	**La Mourre**	**10.43**	**222**	*e*Pn		**Pn**	**21 12 19.7**	**-1.8**
LMR				*e*Sg		Sn	21 15 12.4	+53	
LMR	**La Mourre**	**10.43**	**222**	*e*P		**Pn**	**21 12 19.7**	**-1.8**
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*Pn		**Pn**	**21 12 20.2**	**-2.4**
	SNR=4.0								
TCF				*e*Sg		Sn	21 15 20.9	+60	
	comp=Z,276nm,1.3s								
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*Pn		**Pn**	**21 12 20.2**	**-2.4**
TCF				*e*Sg		Sn	21 15 20.9	+60	
TCF	**Toulx Ste Croi**	**10.52**	**246**	*e*P		**Pn**	**21 12 20.2**	**-2.4**
LDF	**La Druitiere**	**10.82**	**261**	*e*Pn		**Pn**	**21 12 25.1**	**-1.6**
	SNR=2.2								
LDF				*e*Sg			21 15 30.0		
	comp=Z,199nm,1.3s								
LDF	**La Druitiere**	**10.82**	**261**	*e*Pn		**Pn**	**21 12 25.1**	**-1.6**
LDF				*e*Sg			21 15 30.0		
LDF	**La Druitiere**	**10.82**	**261**	*e*P		**Pn**	**21 12 25.1**	**-1.6**
FLN	**La Foliniere**	**10.98**	**262**	*e*Pn		**Pn**	**21 12 27.0**	**-1.9**
	baz=81,SNR=3.5								
FLN				*e*Sg			21 15 35.1		
	comp=Z,213nm,1.2s								
FLN	**La Foliniere**	**10.98**	**262**	*e*Pn		**Pn**	**21 12 27.0**	**-1.9**
FLN				*e*Sg			21 15 35.1		
FLN	**La Foliniere**	**10.98**	**262**	*e*P		**Pn**	**21 12 27.0**	**-1.9**
LASF	**Ste Croix**	**11.08**	**233**	*e*Pn		**Pn**	**21 12 28.0**	**-2.3**
LASF				*e*Sg			21 15 38.5		
	comp=Z,96nm,1.1s								
LASF	**Ste Croix**	**11.08**	**233**	*e*Pn		**Pn**	**21 12 28.0**	**-2.3**
LASF				*e*Sg			21 15 38.5		
EDMD	**Edmundbyers**	**11.32**	**294**	*e*P		**Pn**	**21 12 31.5**	**-2.1**
EDMD				IAML			21 12 33.3		
	comp=Z,8.0nm,0.5s								
GRR	**Gorron**	**11.35**	**261**	*e*Pn		**Pn**	**21 12 31.9**	**-2.1**
	SNR=2.9								
GRR				*e*Sg			21 15 50.0		
	comp=Z,150nm,1.4s								
GRR	**Gorron**	**11.35**	**261**	*e*Pn		**Pn**	**21 12 31.9**	**-2.1**
GRR				*e*Sg			21 15 50.0		
GRR	**Gorron**	**11.35**	**261**	*e*P		**Pn**	**21 12 31.9**	**-2.1**
FIA0	**FINESS Array S**	**11.37**	**25**	*e*Pn		**Pn**	**21 12 32.5**	**-1.7**
FIA0				*e*Sn		**Sn**	**21 14 34.8**	**-7.0**
FIA0	**FINESS Array S**	**11.37**	**25**	*e*P		**Pn**	**21 12 32.5**	**-1.7**
FINES	**FINESS Array B**	**11.37**	**25**	Pn		**Pn**	**21 12 32.5**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=212,slow=11,SNR=52								
FINES				Sn		**Sn**	**21 14 34.8**	**-7.0**
	comp=Z,2.7nm,0.3s,baz=208,slow=22,SNR=6.1								
FIA1	**FINESS Array S**	**11.37**	**25**	*e*Pn		**Pn**	**21 12 31.7**	**-2.5**
FIA1				*e*Sn		Sn	21 14 30.2	-12	
CAF	**Calviac**	**11.43**	**240**	*e*Pn		**Pn**	**21 12 33.6**	**-1.5**
CAF				*e*Sg			21 15 49.3		
	comp=Z,178nm,1.2s								
CAF	**Calviac**	**11.43**	**240**	*e*Pn		**Pn**	**21 12 33.6**	**-1.5**
CAF				*e*Sg			21 15 49.3		
CAF	**Calviac**	**11.43**	**240**	*e*P		**Pn**	**21 12 33.6**	**-1.5**
RJF	**Les Rejaudoux**	**11.49**	**243**	*e*Sg			21 15 51.4		
	comp=Z,408nm,1.3s								
PUL	**Pulkovo**	**11.51**	**39**	*i* P		**Pn**	**21 12 34.8**	**-1.4**
MFF	**Saint Martin d**	**11.72**	**252**	*e*Pn		**Pn**	**21 12 36.2**	**-2.8**
	SNR=3.2								
MFF				*e*Sg			21 15 58.3		
	comp=Z,91nm,1.1s								
MFF	**Saint Martin d**	**11.72**	**252**	*e*Pn		**Pn**	**21 12 36.2**	**-2.8**
MFF				*e*Sg			21 15 58.3		
MFF	**Saint Martin d**	**11.72**	**252**	*e*P		**Pn**	**21 12 36.2**	**-2.8**
MONM	**Monmouth**	**11.73**	**279**	IAML			21 12 46.0		
	comp=Z,4.4nm,0.5s								
MCH1	**Michaelchurch**	**11.83**	**280**	IAML			21 12 44.8		
	comp=Z,7.8nm,0.4s								
EKA	**Eskdalemuir Ar**	**12.09**	**296**	Pn		**Pn**	**21 12 41.2**	**-2.8**
	baz=102,slow=14,SNR=18								
ESK	**Eskdalemuir**	**12.11**	**296**	*e*P		**Pn**	**21 12 42.0**	**-2.4**
EBL	**Broad Law**	**12.11**	**298**	*e*P		**Pn**	**21 12 42.3**	**-2.0**
DRUM	**Mains of Drumt**	**12.12**	**304**	*e*P		**Pn**	**21 12 41.5**	**-3.0**
LFF	**La Frestale**	**12.15**	**243**	*e*Sg			21 16 11.7		
	comp=Z,283nm,1.1s								
EDI	**Edinburgh**	**12.22**	**299**	*e*P		**Pn**	**21 12 43.8**	**-2.0**
EDI				IAML			21 12 46.5		
	comp=Z,5.3nm,0.5s								
EAU	**Auchinoon**	**12.35**	**298**	*e*P		**Pn**	**21 12 45.6**	**-2.0**
MTLF	**Montolieu**	**12.43**	**234**	*e*Sg			21 16 20.4		
	comp=Z,115nm,1.2s								
SGMF	**Saint Gilles**	**12.45**	**262**	*e*Pn		**Pn**	**21 12 46.9**	**-2.1**
	SNR=3.3								
SGMF				*e*Sg			21 16 21.5		
	comp=Z,269nm,1.4s								
SGMF	**Saint Gilles**	**12.45**	**262**	*e*Pn		**Pn**	**21 12 46.9**	**-2.1**
SGMF				*e*Sg			21 16 21.5		
SGMF	**Saint Gilles**	**12.45**	**262**	*e*P		**Pn**	**21 12 46.9**	**-2.1**
IOMK	**Kirk Michael**	**12.76**	**291**	*e*P		**Pn**	**21 12 50.7**	**-2.5**
IOMK				IAML			21 12 53.0		
	comp=Z,4.5nm,0.5s								
OBN	**Obninsk**	**12.76**	**66**	*e*Pn		**Pn**	**21 12 49.8**	**-3.4**
OBN				*e*Sn		Sn	21 15 06.5	-9.3	
OBN	**Obninsk**	**12.76**	**66**⇑	*e*P		**Pn**	**21 12 50.4**	**-2.8**
OBN				pmax		pmax			
	comp=Z,55nm,1.2s								
OBN				MLR		MLR			
	comp=Z,98nm,12.0s								
OBN	**Obninsk**	**12.76**	**66**	Pn		**Pn**	**21 12 49.4**	**-3.8**
	comp=Z,1.7nm,0.3s,baz=246,slow=2.9,SNR=9.2								
OBN				Sn		Sn	21 15 06.5	-9.3	
	comp=Z,1.1nm,0.3s,baz=168,slow=20,SNR=3.3								
INVG	**Invergeldie, C**	**12.81**	**300**	*e*P		**Pn**	**21 12 51.3**	**-2.6**
INVG				IAML			21 12 56.5		
	comp=Z,4.5nm,0.5s								
ROSF	**Rostrenen**	**12.86**	**263**	*e*Sg			21 16 31.6		
	comp=Z,252nm,1.6s								
GAL1	**Galloway**	**12.90**	**293**	*e*P		**Pn**	**21 12 52.8**	**-2.3**
GAL1				IAML			21 12 54.7		
	comp=Z,3.6nm,0.7s								
EAB	**Aberfoyle**	**12.91**	**299**	*e*P		**Pn**	**21 12 52.8**	**-2.5**
CLTB	**Caltabellotta**	**14.08**	**189**	*e*Pn		**Pn**	**21 13 09.1**	**-2.3**
LPSR	**Galich'ya Gora**	**14.09**	**77**	*e*P		**Pn**	**21 13 06.8**	**-4.6**
LPSR				pmax		pmax			
	comp=Z,50nm,0.7s								
ETSF	**Etsaut**	**14.19**	**239**	*e*Sg			21 17 15.5		
	comp=Z,157nm,1.4s								
VORR	**Voronezh**	**14.37**	**80**	*e*P		Pn	21 13 10.0	-5.2	
VORR				pmax		pmax			
	comp=Z,250nm,1.2s								
SJPF	**Ste Jean**	**14.41**	**241**	*e*Sg			21 17 22.6		
	comp=Z,188nm,1.4s								
VSR	**Storozhevoye**	**14.42**	**82**	*e*P		Pn	21 13 10.0	-5.9	
VSR				pmax		pmax			
	comp=Z,40nm,1.3s								
MANT	**Manisa**	**15.70**	**141**	*e*Pn		**Pn**	**21 13 29.7**	**-3.7**
	comp=Z,20nm,1.1s								
KLMR	**Klimovskoe**	**15.97**	**45**	*e*P		**Pn**	**21 13 29.5**	**-6.9**
KLMR				pmax		pmax			
	comp=Z,32nm,1.3s								
KLMR	**Klimovskoe**	**15.97**	**45**	*e*Pn		**Pn**	**21 13 29.5**	**-6.9**
KLMR				AMP			21 13 38.3		
	comp=Z,32nm,1.2s								
KLMR				*e*Sn		Sn	21 16 18.9	-15	
KLMR				*e*Sn		Sn	21 16 18.9	-15	
KLMR				*e*Lg		Lg	21 17 57.5		
KLMR				*e*Lg		Lg	21 17 57.5		
VRH	**Novokhopyorsk**	**16.00**	**81**	*e*P		**Pn**	**21 13 30.9**	**-6.0**
VRH				pmax		pmax			
	comp=Z,130nm,1.5s								
KEST	**Kesra**	**16.50**	**200**	*e*Pn		**Pn**	**21 13 41.4**	**-2.1**
	comp=Z,1.9nm,1.0s								
KEST	**Kesra**	**16.50**	**200**	Pn		**Pn**	**21 13 44.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=37,slow=15,SNR=2.5								
BR101	**Keskin Array S**	**16.97**	**127**	*e*Pn		**Pn**	**21 13 48.6**	**-1.0**
BR101				*e*PcP		**PcP**	**21 18 36.9**	**+1.0**
BR131	**Keskin Array S**	**16.97**	**127**	*e*Pn		**Pn**	**21 13 45.2**	**-4.3**
	comp=Z,1.0nm,1.0s								
BRTR	**Keskin Array B**	**16.97**	**127**	*i* P		**P**	**21 13 54.0**	**+2.4**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**16.97**	**127**	Pn		**Pn**	**21 13 48.6**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=318,slow=11,SNR=2.7								
BRTR				PcP		**PcP**	**21 18 36.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=262,slow=0.8,SNR=5.3								
TMCR	**Tamitsa**	**17.11**	**34**	*e*P		**Pn**	**21 13 46.5**	**-4.5**
TMCR				pmax		pmax			
	comp=Z,45nm,0.8s								
APA	**Apatity**	**18.22**	**21**⇑	*i*P		**Pn**	**21 13 59.4**	**-5.3**
APA				pmax		pmax			
	comp=Z,12nm,0.7s								
APA				MLR		MLR			
	comp=Z,1μm,13.0s								
ES06	**SONSECA Array**	**18.27**	**237**	*e*Pn		**Pn**	**21 14 01.2**	**-4.5**
ESDC	**Sonseca Array**	**18.28**	**237**	Pn		**P**	**21 14 09.3**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=304,slow=10,SNR=20								
ESLA	**Sonseca Array**	**18.28**	**237**	*e*Pn		**Pn**	**21 14 05.3**	**-0.4**
	comp=Z,4.1nm,1.0s								
ARA0	**ARCESS Array S**	**18.62**	**10**	*e*P		**P**	**21 14 06.1**	**-3.3**
ARCES	**ARCESS Array B**	**18.62**	**10**	Pn		**P**	**21 14 06.1**	**-3.3**
	comp=Z,2.2nm,0.3s,baz=191,slow=13,SNR=35								
PRGR	**Permogore**	**19.00**	**46**	*e*P		**P**	**21 14 06.9**	**-6.7**
PRGR				pmax		pmax			
	comp=Z,12nm,0.6s								
GOF	**Gofitskoye**	**19.00**	**99**⇓	*i*P		**Pn**	**21 14 14.9**	**+0.5**
GOF				pmax		pmax			
	comp=Z,90nm,1.1s								
KEV	**Kevo**	**19.01**	**12**	*e*P		**P**	**21 14 13.0**	**-0.7**
	comp=Z,25nm,0.7s								
KEV	**Kevo**	**19.01**	**12**	*e*P		**P**	**21 14 13.0**	**-0.7**
KEV				pmax		pmax			
	comp=Z,25nm,0.7s								
KIV	**Kislovodsk**	**19.35**	**103**	*e*P		**P**	**21 14 16.2**	**-1.5**
	comp=Z,32nm,1.1s								
KIV	**Kislovodsk**	**19.35**	**103**	*e*P		**Pn**	**21 14 19.1**	**+0.4**
KIV				pmax		pmax			
	comp=Z,42nm,1.1s								
KIV				MLR		MLR			
	comp=Z,84nm,14.0s								
KBZ	**Khabaz**	**19.60**	**103**	Pn		**P**	**21 14 19.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=293,slow=7.1,SNR=5.3								
NEY	**Neytrino**	**19.76**	**104**	*i* P		**Pn**	**21 14 25.2**	**+1.5**
NEY				pmax		pmax			
	comp=Z,2.0nm,1.1s								
NCK	**Nalchik**	**20.16**	**103**	*i* P		Pn	21 14 28.9	+0.7	
NCK				pmax		pmax			
	comp=Z,19nm,1.1s								
KIRV	**Kirov**	**20.20**	**56**	P		**P**	**21 14 27.5**	**+0.8**
	comp=Z,18nm,0.5s,baz=299,slow=2.8,SNR=8.8								
CSS	**Mathiatis**	**20.69**	**136**	*e*P		**P**	**21 14 30.6**	**-1.7**
	comp=Z,7.8nm,0.8s								
ZEI	**Tsey**	**20.73**	**104**	*e*P		**P**	**21 14 33.5**	**+0.6**
ZEI				pmax		pmax			
	comp=Z,29nm,1.3s								
GROC	**Groznyy**	**21.66**	**101**	*e*P		**P**	**21 14 41.8**	**-0.8**
GROC				*e*			21 15 04.2		
GROC				*e*S		**S**	**21 18 44.8**	**+1.7**
GROC				pmax		pmax			
	comp=Z,36nm,1.3s								
GROC				smax		smax			
	comp=E,68nm,0.5s								
TBLG	**Delisi**	**21.85**	**105**	*e*P		**P**	**21 14 46.2**	**+1.5**
	comp=E,39nm,1.2s								
TBLG	**Delisi**	**21.85**	**105**	*e*P		**P**	**21 14 46.3**	**+1.5**
TBLG				pmax		pmax			
	comp=Z,39nm,1.2s								
GNI	**Garni**	**22.83**	**109**	*e*P		**P**	**21 14 56.3**	**+1.0**
	comp=Z,4.1nm,1.0s								
GNI	**Garni**	**22.83**	**109**	*ce*P		**P**	**21 14 56.2**	**+0.9**
GNI				pmax		pmax			
	comp=Z,321nm,1.7s								
GNI	**Garni**	**22.83**	**109**	P		**P**	**21 14 58.7**	**+3.3**
	SNR=7.8								
GNI	**Garni**	**22.83**	**109**	P		**P**	**21 14 58.9**	**+3.6**
	comp=Z,28nm,1.2s,baz=180,slow=2.1,SNR=11								
MMAI	**Mount Meron Ar**	**23.25**	**135**	P		**P**	**21 15 00.3**	**+0.7**
	comp=Z,8.5nm,1.0s,baz=280,slow=10,SNR=6.9								
ASF	**Jabal al Asfar**	**24.63**	**134**	P		**P**	**21 15 14.4**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=88,slow=0.8,SNR=5.9								
ARU	**Arti**	**25.16**	**62**	*e*P		**P**	**21 15 17.6**	**+0.4**
	comp=Z,37nm,1.1s								
ARU	**Arti**	**25.16**	**62**	*d i*P		**P**	**21 15 17.1**	**-0.2**
ARU				S		**S**	**21 19 46.4**	**+3.5**
ARU				SS		**SnSn**	**21 20 41.8**	**+10**
ARU				pmax		pmax			
	comp=Z,36nm,1.1s								
SCO	**Scoresbysund**	**25.75**	**332**	*e*P		**P**	**21 15 23.3**	**+0.8**
	comp=Z,21nm,1.1s								
SCO	**Scoresbysund**	**25.75**	**332**	*e*P		**P**	**21 15 23.3**	**+0.8**
SCO				pmax		pmax			
	comp=Z,21nm,1.1s								
EIL	**Elat**	**25.96**	**140**	P		**P**	**21 15 26.7**	**+1.9**
	comp=Z,13nm,1

AAK Ala-Archa 39.79 79 *e*P P 21 17 27.8 +2.4
comp=Z,6.6nm,0.9s
AAK Ala-Archa 39.79 79 *ce*P P 21 17 26.0 +0.6
AAK pmax pmax
comp=Z,29nm,1.3s
AAK Ala-Archa 39.79 79 P P 21 17 28.2 +2.7
SNR=17
TOA1 Torodi Ar. Sit 39.99 202 *e*P P 21 17 26.9 -0.1
TOA1 *e*PcP PcP 21 19 33.0 +0.7
TOA0 Torodi Ar. Sit 39.99 202 *e*P P 21 17 28.3 +1.1
TOA0 *e*PcP PcP 21 19 33.6 +1.3
TOA0 Torodi Ar. Sit 39.99 202 P P 21 17 28.2 +1.1
TORD Torodi Ar. Bea 39.99 202 P P 21 17 26.9 -0.2
comp=Z,16nm,1.1s,baz=41,slow=5.5,SNR=38
TORD PcP PcP 21 19 33.0 +0.7
comp=Z,2.4nm,1.1s,baz=332,slow=2.4,SNR=4.4
TORD LR LR 21 34 53.3
comp=Z,62nm,19.0s,baz=310,slow=38
UCH Uchtor 40.03 80 P P 21 17 30.8 +3.1
SNR=9.3
KBK Karagaybulak 40.06 79 P P 21 17 30.4 +2.8
SNR=8.3
ZAA1 Zalesovo Array 40.21 59 *e*P P 21 17 30.3 +1.8
ZAA1 *e*PP PnPn 21 19 03.9 -0.3
ZAA0 Zalesovo Array 40.21 59 *e*P P 21 17 30.3 +1.8
comp=Z,9.3nm,1.0s
ZAA0 *e*PP PP 21 19 00.2 -0.5
ZALV Zalesovo Beam 40.21 59 *e*P P 21 17 29.7 +1.1
ZALV Zalesovo Beam 40.21 59 P P 21 17 30.3 +1.8
comp=Z,11nm,1.1s,baz=294,slow=8.0,SNR=25
ZALV PP PnPn 21 19 03.9 -0.4
comp=Z,3.1nm,1.0s,baz=284,slow=12,SNR=4.3
KZA Kyzart 40.57 79 P P 21 17 35.1 +2.9
SNR=14
NRN Naryn 41.40 80 *e*P P 21 17 38.8 -0.1
comp=Z,6.5nm,1.1s
NRN *e*PcP PcP 21 19 35.9 -1.1
NRN Naryn 41.40 80 *e*P P 21 17 38.8 -0.1
NRN *e* 21 19 35.9
NRN pmax pmax
comp=Z,7.0nm,1.1s
KDJ Kajisay 41.72 78 *e*P P 21 17 41.0 -0.4
comp=Z,6.0nm,1.0s
KDJ Kajisay 41.72 78 *e*P P 21 17 41.0 -0.4
KDJ pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 42.04 69 *e*P P 21 17 44.5 +0.7
comp=Z,7.8nm,1.1s
MAKZ Makanchi 42.04 69 *e*P P 21 17 44.5 +0.7
MAKZ pmax pmax
comp=Z,8.0nm,1.1s
MK31 Makanchi Array 42.23 69 *e*P P 21 17 45.3 0.0
comp=Z,5.5nm,1.1s
MK31 *e*PP PP 21 19 18.2 -4.5
MK31 Makanchi Array 42.23 69 *e*P P 21 17 45.3 0.0
MK31 pmax pmax
comp=Z,6.0nm,1.1s
MK32 Makanchi Array 42.23 69 *e*P P 21 17 47.0 +1.6
MK32 *e*PP PP 21 19 24.9 +2.2
MKAR Makanchi Array 42.23 69 P P 21 17 47.0 +1.6
comp=Z,2.8nm,0.8s,baz=302,slow=5.6,SNR=26
MKAR PP PP 21 19 24.9 +2.2
comp=Z,1.8nm,0.9s,baz=312,slow=8.0,SNR=5.5
MK01 Makanchi Array 42.25 69 *e*P P 21 17 46.6 +1.2
PRZ Przheval'sk 42.26 77 *e*P P 21 17 49.2 +3.4
comp=Z,42nm,1.1s
PRZ *e*PP PP 21 19 22.9 -0.5
PRZ Przheval'sk 42.26 77 *e*P P 21 17 49.2 +3.4
PRZ *e* 21 19 22.9
PRZ pmax pmax
comp=Z,42nm,1.1s
TARG Taragay, Kyrgy 42.33 78 *e*P P 21 17 47.1 +0.5
comp=Z,5.8nm,1.0s
KSH Kashi 42.51 82 P P 21 17 50.3 +2.6
KSH pP 21 17 54.4
KSH PP PP 21 19 30.8 +4.9
KSH S S 21 24 11.4 +0.6
KSH SS SS 21 27 14.1 -5.5
KSH pmax pmax
comp=Z,23nm,1.1s
WSAR Wadi Sarin 43.14 115 P P 21 17 53.7 +0.8
FRB Frobisher Bay 43.51 320 P P 21 17 57.1 +1.8
comp=Z,2.2nm,0.8s,baz=83,slow=8.1,SNR=3.2
NIL Nilore 44.51 91 *e*P P 21 18 05.0 +1.2
comp=Z,3.7nm,0.8s
NIL Nilore 44.51 91 *e*P P 21 18 05.0 +1.2
NIL pmax pmax
comp=Z,4.0nm,0.8s
RES Resolute Bay 46.12 340 *e*P P 21 18 17.8 +1.8
comp=Z,1.6nm,1.1s
RES Resolute Bay 46.12 340 *e*P P 21 18 17.8 +1.8
RES pmax pmax
comp=Z,2.0nm,1.1s
SCHQ Schefferville 47.05 308 *e*P P 21 18 24.4 +0.8
comp=Z,8.0nm,0.8s
SCHQ Schefferville 47.05 308 P P 21 18 24.4 +0.8
comp=Z,6.8nm,0.7s,baz=125,slow=2.4,SNR=4.9
WMQ Urumqi 47.05 70 P P 21 18 26.3 +2.4
WMQ sP 21 18 33.8
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,280nm,4.7s
TIXI Tiksi 48.41 23 *e*P P 21 18 35.0 +1.1
comp=Z,5.5nm,1.1s
TIXI Tiksi 48.41 23 *ce*P P 21 18 34.7 +0.8
TIXI pmax pmax
comp=Z,6.0nm,1.3s
MOY Mondy 49.81 54 *e*P P 21 18 47.8 +2.7
MOY pmax pmax
comp=Z,15nm,1.9s
TLY Talaya 51.14 53 *e*P P 21 18 55.8 +0.8
comp=Z,6.0nm,1.1s
TLY Talaya 51.14 53 *i* P P 21 18 56.2 +1.2
TLY Talaya 51.14 53 P P 21 18 58.2 +3.1
SNR=7.6
ZAK Zakamensk 51.74 55 *e*P P 21 19 02.0 +2.4
ZAK pmax pmax
comp=Z,8.0nm,1.3s
BOD Bodaibo 52.16 42 *e*P P 21 19 02.9 +0.4
BOD pmax pmax
comp=Z,14nm,1.3s
PYUN Piuthan 54.39 88 *e*P P 21 19 20.7 +1.1
comp=Z,77nm,1.2s
DANN Dangsing 54.69 88 *e*P P 21 19 23.0 +1.1
comp=Z,61nm,1.4s
SONA0 Songino Array 54.93 55 *e*P P 21 19 25.4 +2.2
SONM Songino Array 54.93 55 P P 21 19 25.4 +2.2
comp=Z,11nm,1.2s,baz=287,slow=8.0,SNR=47
KOLN Koldanda 55.00 88 *e*P P 21 19 24.8 +0.8
comp=Z,32nm,1.3s
YAK Yakutsk 55.21 32 *e*P P 21 19 25.0 +0.2
YAK *e* 21 20 21.6
YAK *e* 21 21 28.5
YAK *e*S S 21 27 06.4 -2.3
YAK *e**SS 21 27 26.6
YAK *e* 21 29 11.2
YAK *e*SS SS 21 30 48.7 -3.1
YAK pmax pmax
comp=Z,37nm,0.6s
YAK pmax pmax
comp=N,13nm,0.8s
YAK pmax pmax
comp=E,17nm,0.8s
YAK pmax pmax
comp=Z,297nm,3.3s
YAK pmax pmax
comp=N,556nm,3.5s
YAK pmax pmax
comp=E,192nm,3.0s
YAK smax smax
comp=N,173nm,2.6s
YAK smax smax
comp=E,345nm,2.8s
ULN Ulaanbaatar 55.25 55 *e*P P 21 19 25.4 -0.1
comp=E,3.0nm,1.0s
ULN *e*PP PP 21 21 24.8 -3.8
ULN Ulaanbaatar 55.25 55 *ce*P P 21 19 24.9 -0.6
ULN pmax pmax
comp=Z,9.0nm,1.7s
GKN Gorkha 55.49 87 *e*P P 21 19 28.4 +0.9
comp=Z,83nm,1.3s
KKN Kakani 56.04 87 *e*P P 21 19 32.1 +0.6
comp=Z,11nm,0.7s
DMN Daman 56.06 87 *e*P P 21 19 32.7 +1.0
comp=Z,53nm,1.3s

PKIN Phulchoki 56.26 87 *e*P P 21 19 33.6 +0.4
comp=Z,29nm,1.3s
PKI Pulchoki 56.27 87 *e*P P 21 19 33.8 +0.5
comp=Z,39nm,1.3s
GUN Gumba 56.33 86 *e*P P 21 19 34.6 +0.9
comp=Z,65nm,1.2s
JIRN Jiri 56.70 86 *e*P P 21 19 37.6 +1.2
comp=Z,81nm,1.1s
GTA Gaotai 56.88 67 *e*P P 21 19 39.4 +2.2
GTA pP P 21 19 43.6 +6.4
GTA sP PcP 21 19 46.9 -46
GTA pmax pmax
comp=Z,4.0nm,1.4s
RAMN Ramite 57.46 87 *e*P P 21 19 42.4 +0.8
comp=Z,35nm,1.0s
LSA Lhasa 58.34 81 *e*P P 21 19 50.6 +2.6
comp=Z,12nm,1.0s
INK Inuvik 58.37 347 *e*P P 21 19 48.8 +1.7
comp=Z,4.9nm,1.1s
INK *e*PcP PcP 21 20 38.4 +0.4
INK Inuvik 58.37 347 P P 21 19 48.2 +1.1
comp=Z,4.4nm,1.2s,baz=356,slow=8.9,SNR=5.7
INK PcP PcP 21 20 38.4 +0.4
comp=Z,1.0nm,0.8s,baz=57,slow=5.5,SNR=3.4
BILL Bilibino 58.71 13 *e*P P 21 19 50.2 +0.7
comp=Z,6.0nm,1.0s
BILL Bilibino 58.71 13⇓ *e*P P 21 19 49.4 -0.1
BILL *e* 21 20 37.7
BILL *e* 21 21 59.8
BILL *e*S S 21 28 17.8 +23
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,35nm,17.0s
YKW3 Yellowknife Ar 59.79 336 *e*P P 21 19 58.2 +1.1
comp=Z,18nm,1.0s
YKA Yellowknife Ar 59.84 336 P P 21 19 59.0 +1.6
YKA Yellowknife Ar 59.84 336 P P 21 19 59.0 +1.6
comp=Z,7.1nm,0.8s,baz=30,slow=6.7,SNR=64
YKB5 Yellowknife Ar 59.84 336 *e*P P 21 19 59.1 +1.7
SEY Seymchan 60.82 21 *ce*P P 21 20 06.0 +1.9
FYU Fort Yukon 61.39 352 *e*P P 21 20 10.4 +2.5
comp=Z,6.6nm,1.1s
LZH Lanzhou 61.48 67 *e*P P 21 20 09.5 +0.3
LZH pP PcP 21 20 10.8 -40
LZH *e*PP PP 21 22 26.8 +2.8
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,76nm,7.2s
LZH LR LR
comp=Z,330nm,15.2s
LZH LR LR
comp=Z,350nm,15.5s
LZH LR LR
comp=Z,500nm,18.7s
SHL Shillong 61.74 84 *e*P P 21 20 11.2 +0.1
comp=Z,16nm,1.1s
SHL Shillong 61.74 84 *e*P P 21 20 11.2 +0.1
SHL pmax pmax
comp=Z,17nm,1.1s
FFC Flin Flon 62.26 325 *e*P P 21 20 14.6 +0.6
comp=Z,1.7nm,0.7s
FFC Flin Flon 62.26 325 *i* P P 21 20 16.9 +2.9
HHC Hu-ho-hao-te 62.40 58 *e*P P 21 20 14.9 -0.3
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.3s
IM3 Indian Mountai 62.57 355 *e*P P 21 20 16.0 +0.1
DAWY Dawson 63.18 348 *e*P P 21 20 20.8 +0.8
comp=Z,38nm,0.9s
MDM Murphy Dome 63.23 353 *e*P P 21 20 21.1 +0.8
comp=Z,5.7nm,1.2s
IL1 Eielson Array 63.30 352 *e*P P 21 20 22.2 +1.5
ILAR Eielson Array 63.30 352 P P 21 20 22.6 +1.9
comp=Z,1.6nm,1.0s,baz=7.5,slow=7.6,SNR=12
ILB Eielson Array 63.30 352 *e*P P 21 20 22.6 +1.9
comp=Z,4.4nm,1.1s
ULM Lac du Bonnet 63.34 318 P P 21 20 22.0 +0.7
ULM Lac du Bonnet 63.34 318 P P 21 20 21.9 +0.7
comp=Z,1.7nm,0.5s,baz=41,slow=9.3,SNR=3.2
RIDG Inipend'e Rid 64.12 351 *e*P P 21 20 27.4 +1.2
comp=Z,16nm,1.0s
DOT Dot Lake 64.13 350 *e*P P 21 20 27.4 +1.1
comp=Z,6.1nm,1.0s
CD2 Chengdu 65.12 71 ⇓P P 21 20 35.8 +2.6
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,90nm,4.4s
XAN Xi'an 65.84 65 P P 21 20 39.4 +1.5
XAN pP PcP 21 20 45.4 -24
XAN pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 65.84 65 *e*P P 21 20 39.4 +1.5
comp=Z,16nm,1.1s
XAN Xi'an 65.84 65 *e*P P 21 20 39.4 +1.5
XAN pmax pmax
comp=Z,16nm,1.1s
SCM Sheep Creek Mo 66.23 351 *e*P P 21 20 42.0 +2.1
comp=Z,9.6nm,0.9s
SCM Sheep Creek Mo 66.23 351 *e*P P 21 20 42.1 +2.1
SCM pmax pmax
comp=Z,10.0nm,0.9s
KNK Knik Glacier 66.75 352 *e*P P 21 20 44.9 +1.6
comp=Z,12nm,1.2s
LSZ Lusaka 67.34 167 *e*P P 21 20 47.7 +0.2
comp=Z,8.6nm,1.1s
LSZ Lusaka 67.34 167 *e*P P 21 20 47.7 +0.2
LSZ pmax pmax
comp=Z,9.0nm,1.1s
ECSD EROS Data Cent 68.71 314 *e*P P 21 20 57.1 +1.2
comp=Z,2.8nm,1.0s
KMI Kunming 68.74 76 P P 21 20 58.5 +1.9
KMI pmax pmax
comp=Z,10.0nm,0.5s
KMI pmax pmax
comp=Z,90nm,4.8s
ENH Enshi 68.94 68 *e*P P 21 20 57.0 -0.5
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 69.76 44 P P 21 21 02.6 +0.2
comp=Z,4.8nm,1.0s,baz=330,slow=7.3,SNR=6.7
LAO LASA Array 70.34 322 *e*P P 21 21 08.4 +2.4
comp=Z,18nm,1.1s
EGMT Eagleton 70.54 325 *e*P P 21 21 09.7 +2.4
comp=Z,20nm,0.9s
WALA Waterton Lakes 71.10 328 *e*P P 21 21 11.4 +0.7
comp=Z,6.9nm,1.1s
CHTO Chiang Mai 71.11 83 *e*P P 21 21 12.1 +1.1
comp=Z,3.4nm,0.8s
CHTO Chiang Mai 71.11 83 *e*P P 21 21 12.1 +1.1
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 71.11 83 P P 21 21 12.5 +1.5
SNR=7.6
CM31 Chiang Mai Arr 71.38 84 *e*P P 21 21 12.8 +0.2
comp=Z,12nm,1.1s
CM31 Chiang Mai Arr 71.38 84 P P 21 21 12.8 +0.2
SNR=7.5
CMAR Chiang Mai Arr 71.38 84 P P 21 21 12.8 +0.2
comp=Z,3.8nm,0.9s,baz=310,slow=6.9,SNR=36
CM01 Chiang Mai Arr 71.42 84 *e*P P 21 21 13.9 +1.1
253A Americus 71.43 298 *e*P P 21 21 13.8 +1.0
comp=Z,32nm,0.6s
GCMT Greycliff 72.40 323 *e*P P 21 21 19.3 +0.8
HRY Holter Researc 72.40 325 *e*P P 21 21 19.4 +0.8
RLMT Red Lodge 72.81 323 *e*P P 21 21 21.9 +0.8
comp=Z,5.5nm,1.1s
NEW Newport 72.84 329 *e*P P 21 21 23.1 +2.1
comp=Z,7.5nm,1.1s
NEW Newport 72.84 329 *e*P P 21 21 23.1 +2.1
NEW pmax pmax
comp=Z,8.0nm,1.1s
NEW Newport 72.84 329 P P 21 21 22.6 +1.6
comp=Z,5.9nm,1.0s,baz=14,slow=4.1,SNR=7.9
NJ2 Nanjing 72.84 60 *e*P P 21 21 23.1 +1.9
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
MSO Missoula 73.04 327 *e*P P 21 21 24.1 +1.8
comp=Z,3.4nm,1.0s
KS01 Wonju Array Si 73.25 50 *e*P P 21 21 23.9 +0.3
KSRS Korea Array 73.28 50 P P 21 21 25.1 +1.4
comp=Z,1.9nm,0.8s,baz=320,slow=5.1,SNR=6.1
BOZ Bozeman (W) 73.28 325 *e*P P 21 21 24.9 +1.1
comp=Z,12nm,1.1s

BOZ Bozeman (W) 73.28 325 *e*P P 21 21 24.9 +1.1
BOZ pmax pmax
comp=Z,12nm,1.1s
B08A Colville Reser 73.45 331 *e*P P 21 21 24.1 -0.5
comp=Z,4.1nm,1.1s
C09A Chrisman Ranch 73.61 330 *e*P P 21 21 27.1 +1.5
comp=Z,6.1nm,0.8s
YHH Holmes Hill 73.69 324 *e*P P 21 21 25.8 -0.6
comp=Z,4.2nm,1.2s
DLMT Dillon 73.83 325 *e*P P 21 21 29.7 +2.6
comp=Z,18nm,1.0s
QLMT Earthquake Lak 73.87 324 *e*P P 21 21 29.7 +2.3
CBKS Cedar Bluff 74.05 313 *e*P P 21 21 28.7 +0.4
comp=Z,7.8nm,0.6s
CBKS Cedar Bluff 74.05 313 *e*P P 21 21 28.7 +0.4
CBKS pmax pmax
comp=Z,8.0nm,0.6s
FLWY Flagg Ranch 74.24 323 *e*P P 21 21 29.0 -0.5
comp=Z,5.4nm,0.8s
MCMT McKenzie Canyo 74.39 325 *e*P P 21 21 30.5 0.0
D08A Wollman Farm, 74.48 330 *e*P P 21 21 31.3 +0.7
comp=Z,22nm,1.0s
IMW Indian Meadow 74.49 323 *e*P P 21 21 31.6 +0.6
comp=Z,13nm,0.9s
MOOW Moose Ponds 74.54 323 *e*P P 21 21 34.4 +3.1
comp=Z,16nm,1.1s
LOHW Long Hollow 74.60 323 *e*P P 21 21 33.6 +1.9
comp=Z,2.3nm,0.8s
E09A Wood Farm, Sta 74.71 329 *e*P P 21 21 33.2 +1.3
comp=Z,31nm,1.1s
FXWY Fox Creek 74.74 323 *e*P P 21 21 35.4 +2.9
comp=Z,19nm,1.1s
LTY Liberty 74.84 331 *e*P P 21 21 33.8 +1.0
comp=Z,5.7nm,0.9s
TPAW Teton Pass 74.84 323 *e*P P 21 21 33.8 +0.7
F10A Beach Ranch, E 74.89 328 *e*P P 21 21 35.0 +1.8
comp=Z,9.2nm,1.0s
REDW Red Top Meadow 74.91 323 *e*P P 21 21 32.6 -0.8
comp=Z,1.0nm,0.6s
REDW *e*PP PP 21 24 12.0 -8.2
BW06 Boulder Array 74.92 322 *e*P P 21 21 34.5 +0.9
comp=Z,2.0nm,0.7s
PD31 Pinedale Array 74.92 322 *e*P P 21 21 33.7 +0.2
comp=Z,5.8nm,1.1s
PDAR Pinedale Array 74.92 322 *e*P P 21 21 34.6 +1.0
PDAR Pinedale Array 74.92 322 P P 21 21 35.0 +1.5
comp=Z,2.2nm,0.6s,baz=38,slow=5.6,SNR=15
E08A Dider Farm, El 75.02 330 *e*P P 21 21 34.3 +0.6
comp=Z,28nm,1.1s
N23A Red Feather La 75.05 318 *e*P P 21 21 34.8 +0.4
comp=Z,11nm,1.1s
E07A Sunnyside 75.21 330 *e*P P 21 21 34.8 -0.1
comp=Z,13nm,1.0s
HAWA Hanford 75.26 330 *e*P P 21 21 34.9 -0.2
comp=Z,3.6nm,1.0s
D05A Enumclaw 75.29 332 *e*P P 21 21 35.2 0.0
comp=Z,21nm,1.1s
LON Longmire 75.63 332 *e*P P 21 21 37.5 +0.2
comp=Z,8.6nm,1.1s
LON Longmire 75.63 332 *e*P P 21 21 37.5 +0.2
LON pmax pmax
comp=Z,9.0nm,1.1s
ISCO Idaho Springs 75.83 317 *e*P P 21 21 38.8 -0.1
comp=Z,2.6nm,1.1s
ISCO Idaho Springs 75.83 317 *e*P P 21 21 38.8 -0.1
ISCO pmax pmax
comp=Z,3.0nm,1.1s
F07A Phinny Hill Vi 75.83 330 *e*P P 21 21 39.0 +0.7
comp=Z,23nm,1.1s
BMO Blue Mountains 75.91 328 *e*P P 21 21 39.8 +0.8
comp=Z,29nm,1.0s
BMO Blue Mountains 75.91 328 *e*P P 21 21 39.8 +0.8
BMO pmax pmax
comp=Z,29nm,1.0s
HLID Hailey 76.04 325 *e*P P 21 21 40.4 +0.5
comp=Z,11nm,1.0s
O20A White River Ci 76.63 319 *e*P P 21 21 41.9 -1.4
comp=Z,16nm,1.0s
G06A Carlson Farm, 76.64 330 *e*P P 21 21 44.5 +1.4
LBTB Lobatse 76.65 171 *e*P P 21 21 43.6 +0.5
comp=Z,7.6nm,1.0s
LBTB Lobatse 76.65 171 *e*P P 21 21 43.7 +0.5
LBTB pmax pmax
comp=Z,8.0nm,1.0s
HWUT Hardware Ranch 76.69 322 *e*P P 21 21 43.1 -0.5
WMOK Wichita Mounta 76.91 310 *e*P P 21 21 45.7 +1.0
comp=Z,4.9nm,1.0s
WMOK Wichita Mounta 76.91 310 *e*P P 21 21 45.7 +1.0
WMOK pmax pmax
comp=Z,5.0nm,1.0s
SMCO Snowmass 76.92 318 *e*P P 21 21 45.3 +0.1
comp=Z,2.3nm,0.8s
HVU Hansel Valley 77.00 323 *e*P P 21 21 46.7 +1.4
comp=Z,6.7nm,1.1s
HVU Hansel Valley 77.00 323 *e*P P 21 21 46.7 +1.4
HVU pmax pmax
comp=Z,7.0nm,1.1s
TCUT Toone Canyon 77.05 322 *e*P P 21 21 45.6 -0.1
comp=Z,39nm,1.2s
SPUT South Promonto 77.28 323 *e*P P 21 21 45.2 -1.7
comp=Z,5.5nm,1.0s
I07A Izee 77.31 329 *e*P P 21 21 46.6 -0.4
comp=Z,4.7nm,1.0s
SDCO Great Sand Dun 77.50 316 *e*P P 21 21 48.9 +0.6
comp=Z,4.4nm,1.1s
JLU Jordanelle 77.51 322 *e*P P 21 21 47.5 -0.8
comp=Z,6.9nm,1.0s
T25A Trinidad 77.53 315 *e*P P 21 21 47.9 -0.5
comp=Z,2.2nm,0.9s
CTU Camp Tracy 77.55 322 *e*P P 21 21 47.9 -0.5
comp=Z,10nm,1.0s
J08A Circle Bar Ran 77.62 328 *e*P P 21 21 48.3 -0.4
comp=Z,4.4nm,0.9s
BGU Big Grassy Mou 77.83 323 *e*P P 21 21 53.0 +3.0
comp=Z,26nm,1.1s
PINE Pine Mountain 78.03 330 *e*P P 21 21 49.9 -1.2
comp=Z,20nm,1.0s
S22A 4UR Ranch, Cre 78.06 317 *e*P P 21 21 51.2 -0.3
comp=Z,9.1nm,1.1s
MPU Maple Canyon 78.08 322 *e*P P 21 21 51.3 -0.2
comp=Z,14nm,1.0s
NLU North Lily Min 78.31 322 *e*P P 21 21 53.2 +0.5
comp=Z,18nm,1.2s
DUG Dugway, Tooele 78.38 323 *e*P P 21 21 53.2 +0.2
comp=Z,14nm,0.9s
SRU San Rafael Swe 78.42 320 *e*P P 21 21 53.8 +0.4
comp=Z,15nm,1.0s
WVOR Wild Horse Val 78.50 328 *e*P P 21 21 52.0 -1.6
comp=Z,9.9nm,1.1s
WVOR Wild Horse Val 78.50 328 *e*P P 21 21 52.0 -1.6
WVOR pmax pmax
comp=Z,10.0nm,1.1s
TMUT Trail Mountain 78.54 321 *e*P P 21 21 52.8 -1.3
comp=Z,7.9nm,1.0s
MAJO Matsushiro 78.74 44 *e*P P 21 21 56.9 +2.0
MJAR Matsushiro Arr 78.75 44 P P 21 21 56.9 +2.0
comp=Z,5.7nm,1.1s,baz=317,slow=6.0,SNR=8.9
ELK Elko 78.81 324 *e*P P 21 21 55.4 -0.1
comp=Z,11nm,1.0s
ELK Elko 78.81 324 *e*P P 21 21 55.4 -0.1
ELK pmax pmax
comp=Z,11nm,1.0s
ELK Elko 78.81 324 P P 21 21 58.8 +3.3
comp=Z,13nm,1.2s,baz=40,slow=4.7,SNR=17
Q16A Castle Valley 78.85 321 *e*P P 21 21 55.4 -0.3
comp=Z,9.3nm,1.1s
MOD Modoc Plateau 79.53 328 *e*P P 21 21 59.0 -0.2
comp=Z,19nm,1.1s
MSU Marysvale 79.59 321 *e*P P 21 22 00.7 +0.9
TCRU Three Creeks R 79.61 321 *e*P P 21 22 01.8 +1.9
comp=Z,31nm,0.3s
BMN Battle Mountai 79.79 326 *e*P P 21 22 00.2 -0.6
comp=Z,6.3nm,1.0s
BMN Battle Mountai 79.79 326 *e*P P 21 22 00.2 -0.6
BMN pmax pmax
comp=Z,6.0nm,1.0s
MTPU Mount Pierson 80.00 321 *e*P P 21 22 01.5 -0.7
comp=Z,9.8nm,1.1s
BOSA Boshof 80.19 172 P P 21 22 04.9 +2.2
comp=Z,5.2nm,0.9s,baz=89,slow=4.4,SNR=4.2
PSUT Pine Spring 80.22 322 *e*P P 21 22 03.0 -0.2
comp=Z,15nm,1.1s
ANMO Albuquerque 80.26 315 *e*P P 21 22 04.1 +0.6
comp=Z,8.4nm,1.1s
ANMO Albuquerque 80.26 315 *e*P P 21 22 04.1 +0.6
ANMO pmax pmax
comp=Z,8.0nm,1.1s

ANMO	**Albuquerque**	**80.26**	**315**	P		**P**		**21 22 06.3**	**+2.9**
	comp=Z,5.2nm,1.0s,baz=80,slow=5.1,SNR=8.8								
YBH	**Yreka Blue Hor**	**80.45**	**330**	*e*P		**P**		**21 22 05.6**	**+1.4**
	comp=Z,1.6nm,0.9s								
YBH	**Yreka Blue Hor**	**80.45**	**330**	*e*P		**P**		**21 22 05.6**	**+1.4**
YBH					pmax	pmax			
	comp=Z,2.0nm,0.9s								
YBH	**Yreka Blue Hor**	**80.45**	**330**	P		**P**		**21 22 07.0**	**+2.8**
	comp=Z,1.5nm,0.8s,baz=70,slow=5.9,SNR=4.5								
PKCU	**Pink Cliffs**	**80.57**	**321**	*e*P		**P**		**21 22 05.7**	**+0.5**
	comp=Z,25nm,1.2s								
SZCU	**Shurtz Canyon**	**80.75**	**321**	*e*P		**P**		**21 22 06.5**	**+0.5**
	comp=Z,9.2nm,1.0s								
CCUT	**Cedar City**	**80.89**	**322**	*e*P		**P**		**21 22 07.7**	**+0.9**
	comp=Z,7.7nm,0.9s								
BNM	**Barren Site**	**81.01**	**315**	*e*P		**P**		**21 22 06.9**	**-0.6**
R11A	**Troy Canyon, C**	**81.04**	**324**	*e*P		**P**		**21 22 08.7**	**+1.1**
	comp=Z,2.5nm,1.0s								
KNB	**Kanab**	**81.14**	**321**	*e*P		**P**		**21 22 07.8**	**-0.3**
	comp=Z,4.4nm,1.1s								
KNB	**Kanab**	**81.14**	**321**	*e*P		**P**		**21 22 07.8**	**-0.3**
KNB					pmax	pmax			
	comp=Z,4.0nm,1.1s								
PAHR	**Pah Rah Range**	**81.19**	**327**	*e*P		**P**		**21 22 08.0**	**-0.3**
	comp=Z,9.2nm,1.1s								
LCMT	**Little Creek M**	**81.31**	**321**	*e*P		**P**		**21 22 09.3**	**+0.3**
	comp=Z,5.7nm,1.1s								
KVN	**Kaiserville**	**81.33**	**326**	*e*P		**P**		**21 22 08.0**	**-1.1**
	comp=Z,3.2nm,1.0s								
KVN	**Kaiserville**	**81.33**	**326**	*e*P		**P**		**21 22 08.0**	**-1.1**
KVN					pmax	pmax			
	comp=Z,3.0nm,1.0s								
U15A	**North Rim**	**81.44**	**320**	*e*P		**P**		**21 22 09.5**	**-0.3**
	comp=Z,12nm,1.1s								
YERR	**Yerington**	**81.78**	**326**	*e*P		**P**		**21 22 12.6**	**+1.1**
	comp=Z,16nm,1.2s								
NV11	**Mina Array Sit**	**81.90**	**325**	*e*P		**P**		**21 22 13.3**	**+1.3**
	comp=Z,0.5nm,1.1s								
NV01	**Mina Array Sit**	**81.95**	**325**	*e*P		**P**		**21 22 14.1**	**+1.7**
NVAR	**Mina Array Bea**	**81.95**	**325**	P		**P**		**21 22 15.3**	**+2.9**
	comp=Z,3.6nm,1.0s,baz=42,slow=4.2,SNR=15								
WAKR	**Walker**	**82.28**	**326**	*e*P		**P**		**21 22 14.3**	**+0.2**
	comp=Z,7.0nm,1.1s								
AFDM	**Forest Hills D**	**82.41**	**328**	*e*P		**P**		**21 22 12.6**	**-2.0**
	comp=Z,5.1nm,1.0s								
SHPR	**Sheep Range**	**82.50**	**322**	*e*P		**P**		**21 22 13.8**	**-1.5**
	comp=Z,4.6nm,0.9s								
MNTX	**Cornudas Mount**	**82.52**	**313**	*e*P		**P**		**21 22 14.6**	**-0.6**
	comp=Z,2.9nm,1.0s								
TPNV	**Topopah Spring**	**82.52**	**323**	*e*P		**P**		**21 22 14.9**	**-0.5**
	comp=Z,7.4nm,1.1s								
TPNV	**Topopah Spring**	**82.52**	**323**	*e*P		**P**		**21 22 14.9**	**-0.5**
TPNV					pmax	pmax			
	comp=Z,7.0nm,1.1s								
X16A	**Lo Mia Camp, P**	**82.84**	**319**	*e*P		**P**		**21 22 16.4**	**-0.7**
	comp=Z,9.7nm,1.1s								
W13A	**Hualapai Mount**	**83.23**	**321**	*e*P		**P**		**21 22 18.7**	**-0.4**
	comp=Z,1.8nm,1.0s								
PSI	**Prapat**	**83.36**	**94**	*e*P		**P**		**21 22 18.8**	**-1.1**
	comp=Z,17nm,1.1s								
PSI	**Prapat**	**83.36**	**94**	*e*P		**P**		**21 22 18.8**	**-1.1**
PSI					pmax	pmax			
	comp=Z,17nm,1.1s								
DAC	**Darwin (Calif)**	**83.61**	**324**	*e*P		**P**		**21 22 20.8**	**-0.2**
	comp=Z,5.0nm,1.0s								
DAC	**Darwin (Calif)**	**83.61**	**324**	*e*P		**P**		**21 22 20.8**	**-0.2**
DAC					pmax	pmax			
	comp=Z,5.0nm,1.0s								
TXAR	**Lajitas Array**	**83.69**	**310**	P		**P**		**21 22 23.7**	**+2.2**
	comp=Z,3.0nm,1.1s,baz=51,slow=4.0,SNR=19								
Y14A	**Wickenburg**	**83.89**	**320**	*e*P		**P**		**21 22 22.3**	**-0.1**
	comp=Z,4.6nm,1.0s								
TUC	**Tucson**	**84.38**	**317**	*e*P		**P**		**21 22 26.0**	**+1.1**
	comp=Z,10nm,1.1s								
ISA	**Isabella, Lake**	**84.48**	**324**	*e*P		**P**		**21 22 28.5**	**+3.1**
	comp=Z,22nm,1.1s								
319A	**Douglas**	**84.54**	**316**	*e*P		**P**		**21 22 25.0**	**-0.8**
	comp=Z,5.3nm,1.0s								
SAO	**San Andreas Ge**	**84.54**	**327**	*e*P		**P**		**21 22 24.2**	**-1.3**
	comp=Z,16nm,1.1s								
SAO	**San Andreas Ge**	**84.54**	**327**	*e*P		**P**		**21 22 24.2**	**-1.3**
SAO					pmax	pmax			
	comp=Z,16nm,1.1s								
LNIG	**Linares**	**85.28**	**305**	*e*P		**P**		**21 22 30.0**	**+0.6**
	comp=Z,2.2nm,0.9s								
GLA	**Glamis**	**85.40**	**320**	*e*P		**P**		**21 22 30.4**	**+0.5**
	comp=Z,3.0nm,1.1s								
GLA	**Glamis**	**85.40**	**320**	*e*P		**P**		**21 22 30.5**	**+0.5**
GLA					pmax	pmax			
	comp=Z,3.0nm,1.1s								
PFO	**Pinyon Flats O**	**85.55**	**322**	*e*P		**P**		**21 22 31.6**	**+0.8**
	comp=Z,6.9nm,1.0s								
PFO	**Pinyon Flats O**	**85.55**	**322**	*e*P		**P**		**21 22 31.6**	**+0.8**
PFO					pmax	pmax			
	comp=Z,7.0nm,1.0s								
PFO	**Pinyon Flats O**	**85.55**	**322**	P		**P**		**21 22 33.5**	**+2.7**
	comp=Z,5.1nm,0.9s,baz=39,slow=5.5,SNR=7.3								
XPFO	**Pion Flat**	**85.55**	**322**	*e*P		**P**		**21 22 31.5**	**+0.7**
	comp=Z,7.4nm,1.0s								
WRA	**Warramunga Arr**	**122.89**	**81**	PKP		**PKiKP**		**21 28 48.9**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=317,slow=2.4,SNR=5.9								
WR1	**Warramunga Arr**	**122.89**	**81**	*e*PKPdf		**PKiKP**		**21 28 48.9**	**-0.1**
ASAR	**Alice Springs**	**125.39**	**84**	PKP		**PKiKP**		**21 28 53.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=340,slow=1.5,SNR=9.8								
VNDA	**Vanda**	**150.98**	**165**	*e*PKPbc		**PKiKP**		**21 29 45.5**	**+1.3**
VNDA				*e*PKPab		**PKPab**		**21 29 53.0**	**+1.7**
VNDA	**Vanda**	**150.98**	**165**	PKPbc		**PKiKP**		**21 29 45.5**	**+1.3**
	comp=Z,3.1nm,1.1s,baz=304,slow=3.2,SNR=3.9								

GUC ***19*** *21:16:30.7±0.6,31.62S×70.44W,h125km±7km,ML2.7*
ISCJB ***19*** *21:16:31.6±0.8,31.61S±0.03×70.09W±0.04,h111km±9km, Error ellipse: s-maj=5.7km s-min=5.0km az=14.8*
SJA ***19*** *21:16:31.6±0.9,31.62S×70.11W,h99km±7km, ML2.6, MW3.0*

ISC 19 21:16:32.1±1.8,31.61S±0.03×70.10W±0.04, h110km±16km,n21,σ0.59/35,1C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AUSP	**Uspallata**	**0.86**	**135**	*e*P		**Pn**	**21 16 52.3**	**+0.1**
AUSP				*e*S		**Sn**	**21 17 07.1**	**-0.2**
CMCH	**Combarbala**	**0.89**	**299**	*i*P		**Pn**	**21 16 52.4**	**+0.2**
CMCH				*i*S		**Sn**	**21 17 07.9**	**+0.5**
ZON	**Zonda**	**1.22**	**87**	*e*P		**Pn**	**21 16 55.5**	**-0.1**
ZON				*e*S		**Sn**	**21 17 13.2**	**-0.2**
ZON				IAML			21 17 16.1	
	comp=Z,46nm,0.3s							
RTCV	**Cerro Valdivia**	**1.35**	**101**	*e*P		**Pn**	**21 16 57.1**	**-0.1**
RTCV				*e*S		**Sn**	**21 17 16.3**	**+0.1**
RTLL	**Cerro Villicun**	**1.42**	**79**	*e*P		**Pn**	**21 16 57.5**	**-0.5**
RTLL				*e*S		**Sn**	**21 17 17.3**	**-0.3**
RTLL				IAML			21 17 18.7	
	comp=Z,85nm,0.2s							
ASAL	**Salagasta**	**1.45**	**133**	*e*P		**Pn**	**21 16 58.8**	**+0.5**
ASAL				*e*S		**Sn**	**21 17 17.8**	**-0.5**
AMOG	**MOGNA**	**1.53**	**64**	*e*P		**Pn**	**21 16 59.4**	**+0.1**
AMOG				*e*S		**Sn**	**21 17 19.7**	**-0.4**
GO04	**Tololo Observa**	**1.56**	**337**	*e*P		**Pn**	**21 17 00.0**	**+0.2**
GO04				*e*S		**Sn**	**21 17 21.1**	**+0.2**
GO04	**Tololo Observa**	**1.56**	**337**	⇓*i*P		**Pn**	**21 16 59.9**	**+0.1**
GO04				*i*S		**Sn**	**21 17 21.2**	**+0.4**
ROCH	**El Roble**	**1.56**	**209**	⇓*i*P		**Pn**	**21 16 59.0**	**-0.8**
ROCH				*i*S		**Sn**	**21 17 20.0**	**-0.9**
ROCH				IAML			21 17 21.8	
	comp=N,150nm,0.3s							
ROC1	**El Roble**	**1.56**	**209**	*e*P		**Pn**	**21 16 59.4**	**-0.5**
ROC1				*e*S		**Sn**	**21 17 20.6**	**-0.4**
ARCO	**CERRO ARCO**	**1.57**	**141**	*e*P		**Pn**	**21 17 00.5**	**+0.6**
ARCO				IAML			21 17 23.6	
	comp=Z,75nm,0.2s							
CFA	**Coronel Fontan**	**1.59**	**90**	*e*P		**Pn**	**21 16 59.7**	**-0.3**
PEL	**Peldehue**	**1.60**	**198**	⇓*i*P		**Pn**	**21 16 59.5**	**-0.7**
PEL				*i*S		**Sn**	**21 17 21.6**	**+0.1**
PEL				IAML			21 17 23.6	
	comp=E,46nm,0.2s							
FCH	**Farellones**	**1.72**	**185**	⇑*i*P		**Pn**	**21 17 02.2**	**+0.4**
FCH				*i*S		**Sn**	**21 17 26.3**	**+1.9**
FCH				IAML			21 17 28.7	
	comp=E,60nm,0.2s							
AAGR	**Agrelo**	**1.82**	**144**	*e*P		**Pn**	**21 17 03.6**	**+0.7**
LMEL	**Las Melosas**	**2.23**	**182**	*e*P		**Pn**	**21 17 08.3**	**+0.2**
LMEL				IAML			21 17 44.2	
	comp=N,58nm,0.1s							
AGUA	**GUANDACOL**	**2.53**	**34**	*e*P		**Pn**	**21 17 12.9**	**+0.9**
ACAN	**Cantantal**	**2.56**	**106**	*e*P		**Pn**	**21 17 11.9**	**-0.5**
LCO	**Las Campanas**	**2.65**	**349**	⇓*i*P		**Pn**	**21 17 13.4**	**-0.3**
LCO				*i*S		**Sn**	**21 17 44.7**	**-0.9**
LCO				IAML			21 17 46.4	
	comp=E,72nm,0.3s							
VCA	**Vinchina**	**3.30**	**30**	*e*P		**Pn**	**21 17 22.7**	**+0.4**

MOS ***19*** *21:24:50.8±0.8, 17.10N×145.53E,h232km,mb4.3/24, Error ellipse: s-maj=14.5km s-min=7.3km az=96.7*
ISCJB ***19*** *21:24:51.6±0.4, 17.02N±0.02×145.70E±0.03, h240km±3km,mb4.5/130,Error ellipse: s-maj=5.1km s-min=3.5km az=5.3*
IDC ***19*** *21:24:51.7±0.5, 17.03N×145.71E,h228km±4km,mb4.0/30, mb1 4.1/32,mb1mx4.0/55,mbtmp4.6/32,Error ellipse: s-maj=10.4km s-min=5.5km az=93.0*
BJI ***19*** *21:24:52.0, 17.00N×145.60E,h235km,mb4.3/28, mB4.6/23*
NEIC ***19*** *21:24:53.5±2.1, 17.04N×145.59E,h246km±5km,mb4.6/94, Error ellipse: s-maj=15.3km s-min=10.9km az=88.0*

ISC 19 21:24:52.3±0.4,17.04N±0.04×145.69E±0.06,h235km±3km, h236km:pP-P,n275,σ1.29/298,mb4.6/140,9C-2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SARN	**Sarigan**	**0.35**	**166**	*e*Pn		**Pn**	**21 25 24.8**	**+1.6**
SARN				*e*S		**S**	**21 25 43.0**	**-4.4**
ANA2	**Anatahan**	**0.69**	**178**	*e*Pn		**Pn**	**21 25 25.6**	**+1.3**
ANA2				*e*S		**S**	**21 25 48.8**	**-0.5**
GUMO	**Guam**	**3.52**	**193**	*e*Pn		**Pn**	**21 25 49.5**	**-0.4**
GUMO				*e*S		**S**	**21 26 33.8**	**-1.5**
GUMO	**Guam**	**3.52**	**193**	*e*P		**Pn**	**21 25 49.5**	**-0.4**
GUMO				*e*S		**S**	**21 26 33.8**	**-1.5**
GUMO	**Guam**	**3.52**	**193**	P		**Pn**	**21 25 49.5**	**-0.4**
	200nm,0.3s,baz=108,slow=4.1,SNR=82							
GUMO				S			**21 26 33.0**	**-2.3**
	443nm,0.3s,baz=357,slow=23,SNR=17							
CBIJ	**Chichi jima**	**10.52**	**343**	*e*S		**S**	**21 29 13.2**	**-2.5**
JCJ	**Chichijima**	**10.52**	**343**	S		**S**	**21 29 13.2**	**-2.5**
	8.2nm,0.3s,baz=294,slow=20,SNR=4.3							
PATS	**Pohnpei**	**15.97**	**128**	*e*P		**P**	**21 28 23.7**	**-0.1**
	42nm,0.7s							
JHJ	**Hachijo jima 2**	**16.88**	**343**	P		**P**	**21 28 32.4**	**-1.2**
	5.3nm,0.3s,baz=72,slow=20,SNR=2.4							
JOW	**Kunigami**	**18.85**	**304**	*e*P		**P**	**21 28 52.1**	**-3.0**
	33nm,1.0s							
MANU	**Manus Island**	**19.03**	**175**	*e*P		**P**	**21 28 58.4**	**+1.2**
	95nm,0.6s							
JAY	**Jayapura**	**20.04**	**195**	P		**P**	**21 29 08.4**	**+0.4**
	38nm,0.7s,baz=352,slow=4.9,SNR=15							
H11S3	**WAKE ISLAND Hy**	**20.05**	**83**	T		T	21 50 53.2	
	baz=269,slow=73,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**20.06**	**83**	T		T	21 50 43.2	
	baz=269,slow=73,SNR=5.3							
H11S2	**WAKE ISLAND Hy**	**20.07**	**83**	T		T	21 50 53.7	
	baz=269,slow=73,SNR=9.4							
H11N1	**WAKE ISLAND Hy**	**20.29**	**79**	T		T	21 50 54.2	
	baz=264,slow=74,SNR=10							
H11N2	**WAKE ISLAND Hy**	**20.30**	**79**	T		T	21 50 56.9	
	baz=264,slow=74,SNR=17							
H11N3	**WAKE ISLAND Hy**	**20.31**	**79**	T		T	21 50 55.6	
	baz=264,slow=74,SNR=14							
MJAR	**Matsushiro Arr**	**20.53**	**343**	P		**P**	**21 29 10.2**	**-2.8**
	1.5nm,0.4s,baz=170,slow=9.9,SNR=7.6							
MJAR				S		**S**	**21 32 46.7**	**-2.0**
	3.0nm,0.9s,baz=179,slow=16,SNR=4.0							
MAJO	**Matsushiro**	**20.53**	**343**	*e*P		**P**	**21 29 09.2**	**-3.8**
MAJO				*e*S		**S**	**21 32 46.7**	**-2.0**
MAJO	**Matsushiro**	**20.53**	**343**	*e*P		**P**	**21 29 09.2**	**-3.8**
MAJO				*e*S		**S**	**21 32 46.7**	**-2.0**
MAT	**Matsushiro**	**20.53**	**343**	P		**P**	**21 29 10.4**	**-2.6**
MAT				*e*S		**S**	**21 32 52.2**	**+3.5**
MJB9	**Matsu-Tunnel**	**20.53**	**343**	*e*P		**P**	**21 29 09.2**	**-3.8**
	11nm,1.1s							
JNU	**Nakatsue**	**20.85**	**323**	*e*P		**P**	**21 29 15.9**	**-0.5**
	5.8nm,0.7s							
JNU	**Nakatsue**	**20.85**	**323**	P		**P**	**21 29 16.8**	**+0.3**
	6.0nm,0.7s,baz=218,slow=12,SNR=5.0							
RABL	**Rabaul**	**22.04**	**163**	*e*P		**P**	**21 29 28.7**	**+0.5**
	146nm,0.5s							
SWI	**Sorong**	**22.78**	**220**	P		**P**	**21 29 36.0**	**+1.1**
	85nm,0.5s,2μm							
SIJI	**Sorong**	**22.78**	**220**	P		**P**	**21 29 35.7**	**+0.8**
	159nm,0.7s,baz=27,slow=10,SNR=94							
FAKI	**Fak Fak**	**23.86**	**215**	*e*P		**P**	**21 29 45.0**	**+0.2**
	64nm,0.5s							
FAKI	**Fak Fak**	**23.86**	**215**	P		**P**	**21 29 44.8**	**+0.1**
	97nm,0.9s,957nm							
KSRS	**Korea Array**	**25.66**	**326**	P		**P**	**21 30 01.4**	**+0.6**
	2.9nm,0.5s,baz=145,slow=8.9,SNR=10							
KSRS				pP		**pP**	**21 30 45.6**	**+0.1**
	3.0nm,0.8s,baz=154,slow=9.4,SNR=2.5							
KS15	**Wonju Array Si**	**25.68**	**326**	*e*P		**P**	**21 30 00.4**	**-0.4**
KS01	**Wonju Array Si**	**25.70**	**326**	*e*P		**P**	**21 30 01.6**	**+0.5**
ASAJ	**Asahikawa**	**27.12**	**355**	P		**P**	**21 30 14.5**	**+0.8**
	8.6nm,0.8s,baz=77,slow=12,SNR=5.1							
SANI	**Sanana**	**27.16**	**228**	P		**P**	**21 30 12.5**	**-1.8**
	16nm,5s							
NLAI	**Namlea**	**27.26**	**224**	P		**P**	**21 30 15.7**	**+0.5**
	35nm,0.7s,530nm							
NJ2	**Nanjing**	**28.52**	**307**	*e*P		**P**	**21 30 27.3**	**+1.1**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
MRSI	**Marisa**	**28.60**	**237**	P		**P**	**21 30 27.8**	**+0.7**
LUWI	**Luwuk**	**28.87**	**234**	*e*P		**P**	**21 30 27.5**	**-2.0**
	74nm,0.5s							
LUWI	**Luwuk**	**28.87**	**234**	P		**P**	**21 30 28.9**	**-0.6**
	93nm,0.4s,2μm							
APSI	**Ampana**	**29.66**	**235**	P		**P**	**21 30 36.3**	**-0.2**
TSM	**Tawau**	**30.07**	**248**	P		**P**	**21 30 40.5**	**+0.4**
MPSI	**Mapaga**	**30.34**	**239**	P		**P**	**21 30 43.0**	**+0.5**
KKM	**Kota Kinabalu**	**30.83**	**253**	P		**P**	**21 30 47.5**	**+0.6**
TTSI	**Tana Toraja**	**32.41**	**234**	P		**P**	**21 31 02.4**	**+1.8**
	49nm,0.7s,588nm							
MTN	**Manton Dam**	**32.99**	**207**	*e*P		**P**	**21 31 05.1**	**-0.4**
	24nm,1.0s							
SPSI	**Sidrap Palu**	**33.03**	**233**	P		**P**	**21 31 06.3**	**+0.4**
	21nm,0.5s							
BKSI	**Bukukumba**	**33.65**	**231**	P		**P**	**21 31 11.4**	**+0.2**
	14nm,0.6s							
SOEI	**Soe**	**34.02**	**220**	*e*P		**P**	**21 31 13.2**	**-1.4**
	47nm,0.7s							
SOEI	**Soe**	**34.02**	**220**	P		**P**	**21 31 15.2**	**+0.6**
KLR	**Kul'dur**	**34.05**	**344**	*i*P		**P**	**21 31 13.9**	**-0.4**
MMRI	**Maumere**	**34.48**	**224**	*e*P		**P**	**21 31 18.2**	**-0.2**
	71nm,0.6s							
MMRI	**Maumere**	**34.48**	**224**	P		**P**	**21 31 18.0**	**-0.4**
BATI	**Baumata**	**34.74**	**220**	P		**P**	**21 31 19.4**	**-1.3**
	48nm,0.9s							
BATI	**Baumata**	**34.74**	**220**	P		**P**	**21 31 19.5**	**-1.2**
	37nm,0.7s,baz=110,slow=0.4,SNR=35							
EDFI	**Ende, Flores**	**34.93**	**225**	P		**P**	**21 31 22.6**	**+0.3**
MTKI	**Muara Teweh, K**	**35.22**	**243**	P		**P**	**21 31 26.6**	**+1.8**
SBUM	**Sibu**	**35.94**	**250**	*e*P		**P**	**21 31 31.1**	**+0.2**
	11nm,0.5s							
SBUM	**Sibu**	**35.94**	**250**	P		**P**	**21 31 32.2**	**+1.3**
CTA	**Charters Tower**	**36.90**	**179**	P		**P**	**21 31 39.6**	**+0.7**
	3.6nm,0.5s,baz=354,slow=8.7,SNR=7.9							
XAN	**Xi'an**	**37.00**	**304**	P		**P**	**21 31 40.9**	**+1.2**
XAN					pmax	pmax		
	comp=Z,6.0nm,0.7s							
PETK	**Petropavlovsk-**	**37.20**	**12**	P		**P**	**21 31 41.2**	**+0.1**
	3.5nm,0.8s,baz=158,slow=7.0,SNR=3.1							
PEA1	**Petropavlovsk-**	**37.21**	**12**	*e*P		**P**	**21 31 41.1**	**+0.1**
PLAI	**Plampang**	**37.72**	**229**	P		**P**	**21 31 45.8**	**0.0**
	85nm,0.7s,1μm							
HHC	**Hu-ho-hao-te**	**37.77**	**316**	*e*P		**P**	**21 31 48.4**	**+2.3**
HHC				pP		pP	21 32 32.0	-1.3
HHC				S		**S**	**21 37 18.5**	**-0.5**
HHC					pmax	pmax		
	comp=Z,6.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,170nm,5.9s							
KSM	**Kuching**	**38.08**	**250**	*e*P		**P**	**21 31 48.6**	**-0.3**
	17nm,0.6s							
KSM	**Kuching**	**38.08**	**250**	P		**P**	**21 31 49.5**	**+0.6**
WRAB	**Tennant Creek**	**38.39**	**197**	*e*P		**P**	**21 31 51.1**	**-0.2**
	70nm,1.1s							
WRAB	**Tennant Creek**	**38.39**	**197**	*ce*P		**P**	**21 31 50.7**	**-0.6**
WRAB					pmax	pmax		
	comp=Z,40nm,0.7s							
WB2	**Warramunga Arr**	**38.40**	**197**	*e*P		**P**	**21 31 51.2**	**-0.2**
WR1	**Warramunga Arr**	**38.41**	**197**	*e*P		**P**	**21 31 50.8**	**-0.7**
	comp=Z,81nm,1.1s							
WR1				*e*ScP		**ScP**	**21 37 23.3**	**-1.9**
WRA	**Warramunga Arr**	**38.41**	**197**	P		**P**	**21 31 50.8**	**-0.7**
	comp=Z,45nm,0.8s,baz=18,slow=9.4,SNR=140							
WRA				ScP		**ScP**	**21 37 23.3**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=16,slow=4.1,SNR=5.6							
SRBI	**Singaraja**	**39.13**	**233**	P		**P**	**21 31 59.1**	**+1.6**
	comp=Z,24nm,0.9s							
FITZ	**Fitzroy Crossi**	**40.11**	**210**	*e*P		**P**	**21 32 05.8**	**+0.2**
	comp=Z,26nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.11**	**210**	P		**P**	**21 32 05.7**	**+0.2**
	comp=Z,27nm,0.6s,baz=20,slow=8.2,SNR=151							
BLJI	**Banyuglugur**	**40.17**	**235**	P		**P**	**21 32 07.4**	**+1.3**
	comp=Z,55nm,0.4s,comp=Z,1μm							
JAGI	**Jajag, Banyuwa**	**40.19**	**233**	*e*P		**P**	**21 32 04.7**	**-1.5**
	comp=Z,68nm,0.2s							
JAGI	**Jajag, Banyuwa**	**40.19**	**233**	P		**P**	**21 32 06.3**	**+0.1**
KMI	**Kunming**	**40.74**	**289**	P		**P**	**21 32 11.4**	**+0.4**
KMI				pmax		pmax		
	comp=Z,17nm,0.5s							
KMI				pmax		pmax		
	comp=Z,58nm,4.0s							
LZH	**Lanzhou**	**41.58**	**305**	⇑P		**P**	**21 32 19.8**	**+2.2**
LZH				pP		pwP	**21 33 09.8**	**-1.1**
LZH				sP		sP	**21 33 36.3**	**+4.7**
LZH				pmax		pmax		
	comp=Z,29nm,1.3s							
LZH				pmax		pmax		
	comp=Z,97nm,5.4s							
PWJI	**Pagerwojo**	**41.75**	**236**	P		**P**	**21 32 19.0**	**+0.1**
	comp=Z,80nm,0.7s							
AS01	**Alice Springs**	**42.05**	**196**	*e*P		**P**	**21 32 20.7**	**-0.5**
AS31	**Alice Springs**	**42.06**	**196**	*e*P		**P**	**21 32 21.1**	**-0.2**
	comp=Z,4.7nm,0.4s							
ASAR	**Alice Springs**	**42.06**	**196**	P		**P**	**21 32 20.8**	**-0.6**
	comp=Z,3.7nm,0.4s,baz=15,slow=8.2,SNR=54							
ASAR				PcP		**PcP**	**21 34 11.7**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=34,slow=4.1,SNR=7.7							
ASAR				ScP		**ScP**	**21 37 37.2**	**-2.4**
	comp=Z,0.7nm,0.8s,baz=24,slow=3.3,SNR=4.7							
ASAR				S		**S**	**21 38 19.6**	**-3.2**
	comp=Z,1.1nm,0.9s,baz=20,slow=16,SNR=5.3							
PCJI	**Pacitan**	**42.35**	**236**	P		**P**	**21 32 24.1**	**+0.3**
	comp=Z,69nm,0.6s							
TPI	**Tanjungpandan**	**42.38**	**246**	P		**P**	**21 32 24.7**	**+0.6**
	comp=Z,37nm,0.8s,comp=Z,262nm							
MA2	**Magadan**	**42.64**	**4**	*ce*P		**P**	**21 32 25.3**	**-0.2**
MA2				pmax		pmax		
	comp=Z,11nm,0.9s							
MA2	**Magadan**	**42.64**	**4**	P		**P**	**21 32 25.5**	**+0.1**
	comp=Z,8.5nm,0.6s,baz=188,slow=14,SNR=3.4							
UGM	**Wanagama**	**42.70**	**237**	P		**P**	**21 32 27.0**	**+0.3**
KPJI	**Karang Pucung**	**43.67**	**239**	P		**P**	**21 32 35.3**	**+0.9**
MYKOM	**Kota Tinggi**	**43.83**	**254**	P		**P**	**21 32 37.3**	**+1.6**
DZM	**Mont Dzumac**	**43.86**	**152**	*e*P		**P**	**21 32 36.7**	**+0.8**
	comp=Z,56nm,0.6s							
DZM	**Mont Dzumac**	**43.86**	**152**	P		**P**	**21 32 37.2**	**+1.4**
	comp=Z,52nm,0.5s,baz=278,slow=3.7,SNR=65							
ULN	**Ulaanbaatar**	**44.07**	**323**	*e*P		**P**	**21 32 36.8**	**-0.6**
	comp=Z,2.7nm,0.8s							
ULN	**Ulaanbaatar**	**44.07**	**323**	*ce*P		**P**	**21 32 37.0**	**-0.3**
ULN				pmax		pmax		
	comp=Z,2.0nm,1.1s							
SONA0	**Songino Array**	**44.44**	**322**	*e*P		**P**	**21 32 40.5**	**+0.3**
SONA0				*e*ScP		**ScP

comp=Z,5.7nm,0.3s
DANN Dangsing 57.70 293 *e*P **P 21 34 20.4 +1.2**
comp=Z,23nm,0.5s
KOLN Koldanda 57.88 292 *e*P **P 21 34 21.2 +0.9**
comp=Z,7.9nm,0.6s
PYUN Piuthan 58.40 293 *e*P **P 21 34 24.7 +0.8**
comp=Z,11nm,0.8s
WCZ Waipu Caves 59.26 153 P **P 21 34 31.4 +2.1**
ZAA0 Zalesovo Array 59.33 323 *e*P **P 21 34 29.8 +0.3**
comp=Z,3.7nm,0.8s
ZALV Zalesovo Beam 59.33 323 P **P 21 34 29.1 -0.5**
comp=Z,2.8nm,0.6s,baz=103,slow=6.0,SNR=16
ZAA1 Zalesovo Array 59.33 323 *e*P **P 21 34 29.1 -0.5**
MK01 Makanchi Array 59.60 315 *e*P **P 21 34 32.1 +0.4**
MK31 Makanchi Array 59.61 315 *e*P **P 21 34 32.4 +0.7**
comp=Z,1.9nm,0.6s
MK31 Makanchi Array 59.61 315 *e*P **P 21 34 32.4 +0.7**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK32 Makanchi Array 59.61 315 *e*P **P 21 34 32.3 +0.6**
MKAR Makanchi Array 59.61 315 *ce*P **P 21 34 32.2 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 59.61 315 P **P 21 34 32.3 +0.6**
comp=Z,2.3nm,0.5s,baz=92,slow=7.8,SNR=42
MKAR ScP **ScP 21 38 52.1 -2.4**
comp=Z,1.3nm,0.7s,baz=90,slow=6.2,SNR=5.8
MAKZ Makanchi 59.82 315 *e*P **P 21 34 33.9 +0.8**
comp=Z,4.7nm,0.6s
MAKZ Makanchi 59.82 315 *e*P **P 21 34 33.9 +0.8**
MAKZ pmax pmax
comp=Z,5.0nm,0.6s
WIAZ Waiheke Island 60.33 153 P **P 21 34 38.1 +1.6**
MKAZ Moumakai 60.60 153 P **P 21 34 38.7 +0.4**
KDAK Kodiak Island 60.75 33 *ce*P **P 21 34 40.2 +1.1**
TOZ Tahuroa Road 61.27 153 P P 21 34 49.5 +6.7
PRZ Przheval'sk 62.02 309 *e*P **P 21 34 49.4 +1.2**
comp=Z,4.7nm,0.8s
PRZ Przheval'sk 62.02 309 *e*P **P 21 34 49.4 +1.2**
PRZ pmax pmax
comp=Z,5.0nm,0.8s
NMEZ Namu Road 62.03 156 P **P 21 34 47.8 -0.1**
BRLK Bradley Lake 62.11 31 *e*P **P 21 34 48.6 +0.3**
comp=Z,27nm,0.7s
PPLA Purkeypile 62.37 27 *e*P **P 21 34 51.3 +1.3**
comp=Z,9.5nm,0.8s
MXZ Matakaoa Point 62.38 151 P **P 21 34 49.1 -1.2**
URZ Urewera 62.41 152 *e*P **P 21 34 50.5 +0.1**
URZ Urewera 62.41 152 P **P 21 34 50.3 -0.1**
comp=Z,9.8nm,0.4s,baz=152,slow=0.8,SNR=13
KURK Kurchatov 62.50 319 *e*P **P 21 34 51.3 +0.4**
comp=Z,11nm,0.8s
KURK Kurchatov 62.50 319 *ce*P **P 21 34 50.9 0.0**
KURK pmax pmax
comp=Z,12nm,1.0s
FWVZ Far West T-bar 62.57 154 P **P 21 34 52.9 +1.2**
TRVZ Turoa 62.61 154 P **P 21 34 53.2 +1.1**
IM3 Indian Mountai 62.73 24 *e*P **P 21 34 52.1 -0.1**
QRZ Quartz Range 62.73 157 P **P 21 34 53.4 +0.9**
BKZ Black Stump Fm 62.90 153 P **P 21 34 53.5 -0.2**
RAHZ Arahi 62.95 153 P **P 21 34 54.7 +0.7**
BHHZ Black Hill Sta 62.98 154 P **P 21 34 54.5 +0.2**
RC01 Rabbit Creek A 62.99 30 *e*P **P 21 34 54.1 +0.1**
comp=Z,25nm,0.6s
NRIK Noril'sk 63.16 340 P **P 21 34 54.5 -0.4**
comp=Z,2.9nm,0.4s,baz=102,slow=9.5,SNR=4.9
DUWZ D'Urville Isla 63.24 156 P **P 21 34 56.2 +0.4**
BPAW Bear Paw Mtn. 63.24 26 *e*P **P 21 34 56.2 +0.5**
comp=Z,15nm,1.0s
KRHZ Kereru 63.24 154 P **P 21 34 55.9 -0.1**
TRF Thorofare Moun 63.35 27 *e*P **P 21 34 56.8 +0.2**
comp=Z,10nm,1.0s
NNZ Nelson 63.39 157 P **P 21 34 57.2 +0.4**
PMR Palmer 63.40 29 *e*P **P 21 34 56.1 -0.5**
comp=Z,16nm,0.6s
PMR Palmer 63.40 29 *e*P **P 21 34 56.1 -0.5**
PMR pmax pmax
comp=Z,16nm,0.6s
GHO Glory Hole Cre 63.53 29 *e*P **P 21 34 58.0 +0.3**
comp=Z,17nm,0.7s
KNK Knik Glacier 63.67 29 *e*P **P 21 34 59.7 +1.2**
comp=Z,22nm,0.8s
DVHZ Dannevirke 63.71 154 P **P 21 34 59.0 +0.1**
TCW Tory Channel 63.73 156 P **P 21 34 59.0 0.0**
TUWZ Tuamarina 63.79 157 P **P 21 34 59.0 -0.3**
SML Sawmill 63.82 29 *e*P **P 21 34 59.5 +0.1**
comp=Z,32nm,0.8s
SML Sawmill 63.82 29 *e*P **P 21 34 59.5 +0.1**
SML pmax pmax
comp=Z,33nm,0.8s
BWN Browne 63.90 26 *e*P **P 21 35 00.8 +0.9**
comp=Z,26nm,1.0s
CAW Cannon Point 63.95 156 P **P 21 35 00.1 -0.3**
RND Reindeer 63.97 27 *e*P **P 21 35 00.6 +0.2**
comp=Z,10nm,1.0s
RND Reindeer 63.97 27 *e*P **P 21 35 00.6 +0.2**
RND pmax pmax
comp=Z,10.0nm,1.0s
SCM Sheep Creek Mo 64.29 29 *e*P **P 21 35 04.0 +1.5**
comp=Z,37nm,0.9s
SCM Sheep Creek Mo 64.29 29 *e*P **P 21 35 04.0 +1.5**
SCM pmax pmax
comp=Z,37nm,0.9s
DHY Denali Highway 64.54 28 *e*P **P 21 35 05.3 +1.1**
comp=Z,4.2nm,0.7s
WRH Wood River Hil 64.56 26 *e*P **P 21 35 04.6 +0.4**
comp=Z,13nm,1.1s
MDM Murphy Dome 64.62 26 *e*P **P 21 35 05.0 +0.4**
comp=Z,8.0nm,0.7s
CCB Clear Creek Bu 64.72 26 *e*P **P 21 35 05.3 +0.1**
comp=Z,3.7nm,0.4s
RPZ Rata Peaks 64.77 160 P **P 21 35 04.2 -1.5**
comp=Z,13nm,0.7s,baz=8.3,slow=0.9,SNR=7.0
KLU Klutina 64.88 30 *e*P **P 21 35 06.8 +0.5**
comp=Z,15nm,0.8s
DIV Divide 64.88 30 *e*P **P 21 35 07.8 +1.4**
comp=Z,25nm,1.1s
HDA Harding Lake 65.02 26 *e*P **P 21 35 07.0 -0.1**
comp=Z,4.9nm,0.8s
TOLK Toolik Lake Re 65.13 21 *e*P **P 21 35 08.4 +0.5**
comp=Z,5.9nm,0.6s
IL1 Eielson Array 65.13 26 *e*P **P 21 35 07.0 -0.8**
ILAR Eielson Array 65.13 26 P **P 21 35 07.2 -0.6**
comp=Z,4.3nm,0.4s,baz=252,slow=5.8,SNR=105
ILAR pP **pP 21 36 00.3 -0.3**
comp=Z,1.8nm,0.7s,baz=247,slow=6.0,SNR=3.7
ILB Eielson Array 65.13 26 *e*P **P 21 35 07.2 -0.6**
comp=Z,6.3nm,0.6s
PAX Paxson 65.36 28 *e*P **P 21 35 10.0 +0.5**
comp=Z,9.3nm,0.6s
PAX Paxson 65.36 28 *e*P **P 21 35 10.0 +0.5**
PAX pmax pmax
comp=Z,9.0nm,0.6s
HARP HAARP 65.40 29 *e*P **P 21 35 11.3 +1.6**
comp=Z,40nm,1.0s
RIDG Independ'e Rid 65.79 27 *e*P **P 21 35 12.6 +0.5**
comp=Z,11nm,0.7s
DOT Dot Lake 66.11 27 *e*P **P 21 35 15.1 +0.9**
comp=Z,12nm,0.8s
SCRK Sand Creek 66.20 27 *e*P **P 21 35 15.7 +0.8**
comp=Z,13nm,1.1s
NIL Nilore 66.33 300 *e*P **P 21 35 16.0 -0.2**
comp=Z,5.0nm,0.8s
NIL Nilore 66.33 300 *e*P **P 21 35 16.0 -0.2**
NIL pmax pmax
comp=Z,5.0nm,0.8s
EGAK Eagle 67.55 26 *e*P **P 21 35 24.3 +1.2**
comp=Z,2.6nm,0.6s
BRVK Borovoye 67.81 321 *e*P **P 21 35 23.8 -1.2**
comp=Z,10nm,0.9s
BRVK Borovoye 67.81 321 *i* P **P 21 35 25.1 +0.1**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
KK31 Karatay Array 67.82 310 *e*P **P 21 35 25.3 0.0**
comp=Z,3.7nm,0.8s
KK31 Karatay Array 67.82 310 *e*P **P 21 35 25.3 0.0**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 67.82 310 *e*P **P 21 35 25.2 -0.1**
comp=Z,3.7nm,0.8s
KKAR Karatay Array 67.82 310 *e*P **P 21 35 25.2 -0.1**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
DAWY Dawson 68.22 27 *e*P **P 21 35 27.8 +0.4**
comp=Z,8.1nm,1.1s
GAR Garm 68.24 306 *e*P **P 21 35 26.2 -1.9**
GAR Garm 68.24 306 *e*P **P 21 35 26.2 -1.9**
HYT Haines Junctio 68.85 31 *e*P **P 21 35 33.7 +2.3**
comp=Z,14nm,0.7s
CHGR Chuyangaron 69.17 305 *e*P **P 21 35 34.1 +0.3**
comp=Z,9.4nm,0.6s
KBL Kabul 69.71 301 *e*P **P 21 35 37.1 -0.3**
comp=Z,2.6nm,0.7s
KBL Kabul 69.71 301 *e*P **P 21 35 37.1 -0.3**
KBL pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 70.90 23 *e*P **P 21 35 44.5 +1.0**
comp=Z,3.7nm,0.9s
INK Inuvik 70.90 23 *e*P **P 21 35 44.5 +1.0**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 70.90 23 P **P 21 35 43.9 +0.3**
comp=Z,1.9nm,0.5s,baz=293,slow=7.3,SNR=18
INK pP **pP 21 36 36.2 -1.1**
comp=Z,3.1nm,0.9s,baz=239,slow=4.5,SNR=1.8
DLBC Dease Lake 72.67 33 *e*P **P 21 35 53.6 -0.8**
comp=Z,1.9nm,0.8s
ARU Arti 74.41 325 *e*P **P 21 36 04.3 -0.1**
comp=Z,9.3nm,0.5s
ARU Arti 74.41 325 *d i*P **P 21 36 03.9 -0.5**
ARU 21 36 16.2
ARU *PP **pP 21 36 59.6 +1.1**
ARU 21 38 53.0
ARU S **S 21 45 21.5 +2.3**
ARU SS **SS 21 50 13.4 +3.1**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ABKAR Akbulak array 74.55 317 *e*P **P 21 36 04.4 -1.0**
comp=Z,5.5nm,0.4s
AKTO Aktyubinsk 75.60 319 P **P 21 36 10.6 -0.8**
comp=Z,1.5nm,0.6s,baz=94,slow=9.8,SNR=5.7
YKA Yellowknife Ar 79.45 28 P **P 21 36 32.3 0.0**
comp=Z,1.6nm,0.5s,baz=288,slow=5.2,SNR=24
YKA pP **pP 21 37 26.4 -1.0**
comp=Z,0.5nm,0.5s,baz=285,slow=5.4,SNR=2.0
YKB5 Yellowknife Ar 79.45 28 *e*P **P 21 36 32.4 0.0**
YKB5 gpP **pwP 21 37 31.7 +0.7**
H04A Detroit Lake 79.70 46 *e*P **P 21 36 35.3 +1.2**
comp=Z,12nm,1.0s
B08A Colville Reser 80.70 42 *e*P **P 21 36 40.8 +1.4**
comp=Z,5.0nm,1.0s
PINE Pine Mountain 80.78 47 *e*P **P 21 36 41.5 +1.4**
comp=Z,14nm,0.8s
RES Resolute Bay 81.03 14 *e*P **P 21 36 40.7 +0.1**
comp=Z,2.0nm,0.6s
RES Resolute Bay 81.03 14 *e*P **P 21 36 40.7 +0.1**
RES pmax pmax
comp=Z,2.0nm,0.6s
J08A Circle Bar Ran 82.63 47 *e*P **P 21 36 51.1 +1.5**
comp=Z,3.3nm,0.8s
KLMR Klimovskoe 82.91 332 *e*P **P 21 36 48.6 -2.0**
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR Klimovskoe 82.91 332 *e*P **P 21 36 48.6 -2.0**
KLMR AMP 21 37 02.7
comp=Z,12nm,1.4s
BMO Blue Mountains 83.01 45 *e*P **P 21 36 53.0 +1.5**
comp=Z,3.0nm,1.0s
BMO Blue Mountains 83.01 45 *e*P **P 21 36 53.1 +1.5**
BMO pmax pmax
comp=Z,3.0nm,1.0s
ARA0 ARCESS Array S 84.06 342 *e*P **P 21 36 55.7 -0.6**
ARCES ARCESS Array B 84.06 342 P **P 21 36 55.7 -0.6**
comp=Z,3.8nm,0.8s,baz=89,slow=7.8,SNR=10
NV01 Mina Array Sit 84.17 52 *e*P **P 21 36 58.3 +0.5**
NVAR Mina Array Bea 84.17 52 P **P 21 36 59.2 +1.4**
comp=Z,1.4nm,0.7s,baz=272,slow=5.5,SNR=10
NVAR pP **pP 21 37 51.4 -1.9**
comp=Z,1.3nm,0.7s,baz=265,slow=5.9,SNR=3.5
HLID Hailey 85.38 46 *e*P **P 21 37 05.3 +1.6**
comp=Z,2.3nm,1.0s
ELK Elko 85.71 49 *e*P **P 21 37 06.9 +1.5**
comp=Z,1.6nm,0.6s
ELK Elko 85.71 49 *e*P **P 21 37 06.9 +1.5**
ELK pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 86.66 327 *i*eP P 21 37 15.7 +6.4
OBN *e*PP pwP 21 38 12.1 +2.1
OBN *e* 21 40 38.2
OBN *e*SS SS 21 53 10.1 -2.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
KBZ Khabaz 87.31 315 P **P 21 37 12.1 -0.6**
comp=Z,0.9nm,0.5s,baz=172,slow=2.2,SNR=3.7
DUG Dugway, Tooele 87.64 49 *e*P **P 21 37 16.2 +1.6**
comp=Z,2.8nm,0.8s
FIA0 FINESS Array S 88.38 335 *e*P **P 21 37 15.6 -1.8**
FIA0 FINESS Array S 88.38 335 *e*P **P 21 37 15.6 -1.8**
FINES FINESS Array B 88.38 335 P **P 21 37 15.6 -1.8**
comp=Z,0.6nm,0.4s,baz=69,slow=5.4,SNR=10
PD31 Pinedale Array 88.99 45 *e*P **P 21 37 19.3 -1.7**
comp=Z,0.8nm,1.0s
PDAR Pinedale Array 88.99 45 P **P 21 37 19.3 -1.7**
comp=Z,0.2nm,0.4s,baz=104,slow=2.2,SNR=3.9
TOA1 Torodi Ar. Sit 133.48 308 *e*PKPdf **PKPdf 21 43 40.8 -0.8**
TOA1 *e*SKPbc **SKPbc 21 46 43.5 -4.3**
TORD Torodi Ar. Bea 133.48 308 PKP **PKPdf 21 43 40.8 -0.8**
TORD SKPbc **SKPbc 21 46 43.5 -4.3**
comp=Z,2.0nm,0.8s,baz=33,slow=2.7,SNR=10
LPAZ La Paz 147.61 94 *e*PKPdf **PKPdf 21 44 06.5 -1.1**
LPAZ La Paz 147.61 94 *e*PKIKP **PKPdf 21 44 06.5 -1.1**
LPAZ La Paz 147.61 94 PKPbc **PKPbc 21 44 11.7 +1.0**
comp=Z,2.3nm,0.5s,baz=271,slow=2.3,SNR=13
CPUP Villa Florida 156.73 117 *e*PKPab **PKPab 21 44 48.4 -2.3**
CPUP Villa Florida 156.73 117 *e*PKP2 **PKPab 21 44 48.4 -2.3**
CPUP Villa Florida 156.73 117 PKPab **PKPab 21 44 51.8 +1.1**
comp=Z,2.7nm,0.7s,baz=180,slow=2.0,SNR=4.7

*GUC **19** 21:26:16.4±0.6, 32.°59S×71.°50W, h38km±3km, ML2.9*
*SJA **19** 21:26:19.4±0.9, 32.°10S×71.°44W, h40km±999km, ML2.6, MW3.2*
ISC 19 21:26:16.6±1.7, **32.°52S**±0.°04×**71.°37W**±0.°09, **h16**km±12km, **n12**, σ0°**79**/21, **4D**, **Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.54**	**147**	*i*P	**Pg**	**21 26 27.8**	**+0.3**
ROCH				*i* S	**Sb**	**21 26 36.1**	**+0.6**
ROCH				IAML		21 26 36.9	
	comp=N,862nm,0.1s						
PEL	**Peldehue**	**0.85**	**138**	*i*P	**Pg**	**21 26 32.9**	**-0.2**
PEL				*i* S	**Sb**	**21 26 45.1**	**+1.0**
PEL				IAML		21 26 46.1	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.12**	**142**	*e*P	**Pb**	**21 26 36.7**	**-0.9**
CLCH				*i* S	**Sb**	**21 26 52.4**	**+0.4**
CLCH				IAML		21 26 58.3	
	comp=N,350nm,0.4s						
FCH	**Farellones**	**1.21**	**132**	*i*P	**Pn**	**21 26 38.6**	**-0.6**
FCH				*i* S	**Sb**	**21 26 55.6**	**+0.7**
FCH				IAML		21 26 56.5	
	comp=E,442nm,0.3s						
ANTU	**Antumapu**	**1.22**	**150**	*e*P	**Pn**	**21 26 37.8**	**-1.2**
ANTU				*i* S	**Sb**	**21 26 54.0**	**-0.7**
ANTU				IAML		21 26 54.9	
	comp=N,388nm,0.4s						
CMCH	**Combarbala**	**1.38**	**13**	*e*P	**Pb**	**21 26 42.2**	**+0.3**
CMCH				*i* S	**Sg**	**21 27 01.3**	**+0.3**
LMEL	**Las Melosas**	**1.65**	**144**	*i*P	**Pn**	**21 26 44.8**	**-0.2**
LMEL				*i* S	**Sn**	**21 27 06.4**	**+0.5**
LMEL				IAML		21 27 10.2	
	comp=N,464nm,0.1s						
AUSP	**Uspallata**	**1.70**	**81**	*e*P	**Pg**	**21 26 49.5**	**+0.2**
AUSP				*e*S	**Sg**	**21 27 11.4**	**0.0**
ARCO	**CERRO ARCO**	**2.08**	**100**	*e*P	**Pg**	**21 26 55.9**	**-0.6**
ARCO				IAML		21 27 05.9	
	comp=Z,40nm,0.3s						
ARCO				*e*S	**Sg**	**21 27 23.5**	**0.0**
ASAL	**Salagasta**	**2.14**	**93**	*e*P	**Pg**	**21 26 56.9**	**-0.8**
AAGR	**Agrelo**	**2.21**	**106**	*e*P	**Pg**	**21 26 58.0**	**-1.0**
AAGR				*e*S	Sn	21 27 07.2	-13
RFA	**San Rafael**	**3.30**	**134**	*e*P	**Pb**	**21 27 16.6**	**+1.8**
RFA				IAML		21 27 24.1	
	comp=Z,7.5nm,0.6s						

*THR **19** 21:29:30.0, 26.°81N×56.°61E, h6km, ML3.6*
*OMAN **19** 21:29:45.9±2.0, 27.°18N×58.°19E, h20km, ml2.8/6, Error ellipse: s-maj=41.3km s-min=12.8km az=153.0*
*TEH **19** 21:29:45.1, 27.°91N×56.°78E, h22km, ML3.4*
*ISCJB **19** 21:29:46.3±0.5, 27.°90N±0.°03×56.°7E±0.°1, h10km, Error ellipse: s-maj=14.2km s-min=4.1km az=8.2*
ISC 19 21:29:45.3±1.0, **27.°89N**±0.°03×**56.°73E**±0.°09, **h10**km, **n27**, σ1°**59**/28, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIAN	**Nian**	**0.34**	**164**	*e*Pg	**Pb**	**21 29 53.3**	**-0.2**
NIAN				IAMB	IAmb	21 30 04.8	
	comp=Z,0.0nm,0.2s						
GENO	**Geno**	**0.69**	**225**	IAMB	IAmb	21 30 02.9	
	comp=Z,0.0nm,0.1s						
GENO				*e*Pg	**Pn**	**21 30 01.3**	**0.0**
BNDS	**Bandar-Abbas**	**0.70**	**225**	*e*Pg	Pg	21 29 43.8	-15
BNDS	**Bandar-Abbas**	**0.70**	**225**	*e*Pg	Pg	21 29 43.8	-15
BNDS				*e*Sg	Sg	21 29 53.9	-14
NGRK	**Negar Kerman**	**1.75**	**0**	*e*Pn	**Pb**	**21 30 16.9**	**-0.8**
NGRK				IAMB	IAmb	21 30 18.2	
	comp=Z,0.0nm,0.2s						
SHME	**Shamm**	**1.91**	**196**	*e*Pn	**Pb**	**21 30 19.8**	**-0.4**
BANOM	**Banah**	**2.00**	**191**	P	**Pn**	**21 30 19.9**	**+0.8**
	SNR=12						
BANOM				S	**Sb**	**21 30 46.0**	**-0.7**
KRBR	**Kerman**	**2.08**	**1**	*e*Pn	**Pb**	**21 30 22.7**	**-0.7**
KRBR	**Kerman**	**2.08**	**1**	*e*AML	AML	21 30 52.8	
	comp=E,152nm,0.4s						
KRBR				*e*AML	AML	21 30 53.5	
	comp=N,144nm,0.3s						
KRBR	**Kerman**	**2.08**	**1**	*e*Pn	**Pb**	**21 30 22.7**	**-0.7**
CHMN	**Cheshme madani**	**2.09**	**20**	*e*Pn	**Pb**	**21 30 22.4**	**-1.1**
CHMN				IAMB	IAmb	21 30 25.4	
	comp=Z,0.0nm,0.2s						
CHMN				IAMB	IAmb	21 30 51.0	
	comp=N,0.0nm,0.2s						
TVBK	**TV Kerman**	**2.09**	**1**	*e*Pn	**Pb**	**21 30 22.6**	**-0.9**
TVBK				IAMB	IAmb	21 30 24.3	
	comp=Z,0.0nm,0.2s						
KHGB	**Koh Gabri**	**2.48**	**355**	*e*Pn	**Pb**	**21 30 28.1**	**-2.1**
MSFE	**Esma-Masafi**	**2.57**	**192**	*e*Pn	**Pn**	**21 30 28.9**	**+1.9**
MDH	**Madha**	**2.61**	**189**	P	**Pn**	**21 30 25.0**	**-2.6**
MDH				S	**Sn**	**21 30 56.5**	**-2.8**
MDH	**Madha**	**2.61**	**189**	*e*Pn	**Pn**	**21 30 28.5**	**+1.0**
HATD	**Hatta, Dubai**	**3.10**	**190**	*e*Pn	**Pb**	**21 30 38.6**	**-1.9**
ASHO	**Ashiyiah**	**3.25**	**191**	*e*Pn	**Pn**	**21 30 38.4**	**+2.0**
FAQ	**Al Faqa, Dubai**	**3.29**	**198**	P	**Pn**	**21 30 38.3**	**+1.3**
	SNR=15						
FAQ				S	**Sn**	**21 31 16.3**	**+0.1**
FAQ	**Al Faqa, Dubai**	**3.29**	**198**	*e*Pn	**Pn**	**21 30 38.1**	**+1.1**
ASUD	**Al Ashush, Dub**	**3.49**	**201**	P	**Pn**	**21 30 41.6**	**+2.0**
	SNR=12						
ASUD				S	**Sn**	**21 31 24.3**	**+3.3**
ASUD	**Al Ashush, Dub**	**3.49**	**201**	*e*Pn	**Pn**	**21 30 41.3**	**+1.7**
BSRN	**Basiran**	**4.56**	**27**	*e*Pn	**Pn**	**21 30 55.8**	**+1.3**
BSRN	**Basiran**	**4.56**	**27**	*e*Pn	**Pn**	**21 30 55.8**	**+1.3**
YZKH	**Yazd**	**4.85**	**338**	*e*Pn	**Pn**	**21 30 59.4**	**+1.0**
YZKH	**Yazd**	**4.85**	**338**	*e*Pn	**Pn**	**21 30 59.4**	**+1.0**
IRAM	**Ramesheh**	**5.43**	**317**	IAMB	IAmb	21 31 09.1	
	comp=Z,35nm,0.2s						
IRAM				*e*Pn	**Pn**	**21 31 07.8**	**+1.3**

*IDC **19** 21:44:59.8±2.1, 0.°19N×98.°41E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.5/43, mbtmp3.7/7, ML3.8/2, Error ellipse: s-maj=61.8km s-min=25.0km az=63.0*
*ISCJB **19** 21:45:06.8±0.9, 0.°52N±0.°05×98.°51E±0.°06, h43km, mb3.7/5, Error ellipse: s-maj=8.7km s-min=6.7km az=12.7*
*DJA **19** 21:45:06.8±0.9, 0.°N±4.°×9.°9E±.°, h21km±11km, M3.5/6, MLv3.5/6*
ISC 19 21:45:07.4±0.8, **0.°46N**±0.°05×**98.°54E**±0.°06, **h43**km, **n16**, σ0°**94**/16, **mb3.9/5, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.57**	**207**	P	**Pn**	**21 45 19.0**	**-0.2**
PBSI				S	**Sn**	**21 45 28.6**	**+1.0**
MNSI	**Mandailing Nat**	**1.09**	**72**	P	**Pn**	**21 45 27.0**	**+0.8**
MNSI				S	**Sn**	**21 45 41.4**	**+1.2**
GSI	**Gunungsitoli**	**1.28**	**311**	P	**Pn**	**21 45 30.0**	**+1.2**
SISI	**Saibi**	**1.85**	**163**	P	**Pn**	**21 45 37.6**	**+0.9**
PDSI	**Padang**	**2.35**	**125**	P	**Pn**	**21 45 44.2**	**+0.6**
PSI	**Prapat**	**2.36**	**9**	Pn	**Pn**	**21 45 43.2**	**-0.5**
	12nm,0.3s,baz=180,slow=8.5,SNR=40						
KCSI	**Kotacane, Aceh**	**3.14**	**346**	P	**Pn**	**21 45 54.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.89**	**1**	P	**Pn**	**21 49 12.5**	**-0.7**
	0.2nm,0.3s,baz=192,slow=12,SNR=6.1						
H08S2	**Diego Garcia H**	**27.19**	**252**	T	T	22 18 11.1	
	baz=73,slow=75,SNR=43						
H08S3	**Diego Garcia H**	**27.20**	**252**	T	T	22 18 20.6	
	baz=73,slow=75,SNR=38						
H08S1	**Diego Carcia H**	**27.21**	**252**	T	T	22 18 15.5	
	baz=73,slow=75,SNR=33						
WRA	**Warramunga Arr**	**40.51**	**122**	P	**P**	**21 52 40.5**	**-2.0**
	0.3nm,0.8s,baz=301,slow=9.0,SNR=4.0						
KSRS	**Korea Array**	**45.72**	**33**	P	**P**	**21 53 24.6**	**+0.2**
	0.9nm,0.6s,baz=215,slow=8.8,SNR=3.2						
SONM	**Songino Array**	**47.68**	**7**	P	**P**	**21 53 40.3**	**+0.6**
	0.3nm,0.4s,baz=196,slow=9.6,SNR=6.8						
SONM				PcP	**PcP**	**21 55 08.6**	**0.0**
	0.2nm,0.4s,baz=186,slow=5.8,SNR=3.6						
MKAR	**Makanchi Array**	**48.29**	**345**	P	**P**	**21 53 44.8**	**+0.4**
	1.4nm,0.5s,baz=152,slow=8.0,SNR=24						
ZALV	**Zalesovo Beam**	**54.51**	**350**	P	**P**	**21 54 30.4**	**-0.3**
	0.7nm,0.3s,baz=168,slow=7.2,SNR=5.0						

NEIC 19 21:46:14.1±0.6, **19.°42N×69.°38W**, **h35**km, **ML4.1, Error ellipse: s-maj=10.3km s-min=5.6km az=4.0, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDD	**Santo Domingo**	**1.08**	**208**	*e*Pn	Pn	21 46 32.5	-0.1
SDD				*e*Sn	Sn	21 46 45.7	-0.7
PCDR	**Punta Cana, DR**	**1.30**	**133**	*e*Pn	Pn	21 46 36.9	+1.1
PCDR				*e*Sn	Sn	21 46 52.4	+0.4
BANI	**BANI**	**1.37**	**222**	*e*Pn	Pn	21 46 36.7	-0.1
BANI				*e*Sn	Sn	21 46 50.9	-3.0
SDDR	**Presa de Saban**	**1.85**	**257**	*e*Pn	Pn	21 46 44.1	+0.7
SDDR				*e*Sn	Sn	21 47 06.6	+1.0
AGP	**Aguadilla**	**2.35**	**115**	*e*Pn	Pn	21 46 50.1	-0.1
AGP				*e*Sn	Sn	21 47 18.2	+0.4
MPR	**Mayaguez**	**2.44**	**119**	*e*Pn	Pn	21 46 52.4	+0.9
CRPR	**Cabo Rojo, PR**	**2.57**	**123**	*e*Pn	Pn	21 46 53.6	+0.4
GRTK	**Grand Turk**	**2.65**	**322**	*e*Pn	Pn	21 46 54.2	-0.2
GRTK				*e*Sn	Sn	21 47 25.2	-0.1
OBIP	**Obispado Ponce**	**2.96**	**117**	*e*Pn	Pn	21 46 58.3	-0.4
OBIP				*e*Sn	Sn	21 47 31.2	-1.8
SJG	**San Juan**	**3.33**	**112**	*e*Pn	Pn	21 47 04.3	+0.7
SJG				*e*Sn	Sn	21 47 39.1	-2.8
CBYP	**Canovanas**	**3.53**	**108**	*e*Pn	Pn	21 47 05.7	-0.8
CBYP				*e*Sn	Sn	21 47 42.0	-5.0
HUMP	**Col San Antoni**	**3.58**	**110**	*e*Pn	Pn	21 47 07.4	+0.3
HUMP				*e*Sn	Sn	21 47 45.3	-2.9
MTP	**Monte Pirata**	**3.86**	**109**	*e*Pn	Pn	21 47 10.6	-0.4
CUPR	**Culebra, Puert**	**4.04**	**105**	*e*Pn	Pn	21 47 12.4	-0.9
CUPR				*e*Sn	Sn	21 47 53.9	-5.6
STVI	**Saint Thomas**	**4.33**	**103**	*e*Pn	Pn	21 47 15.0	-2.3
STVI				*e*Sn	Sn	21 48 02.1	-4.5
SDV	**Santo Domingo**	**10.54**	**187**	*e*Pn	Pn	21 48 41.9	-1.0

IDC 19 21:49:50.0±3.3, **6.°70S×148.°60E**, **h0**km, **mb3.5**/2, **mb1 3.6**/3, **mb1mx3.3**/32, **mbtmp3.4**/3, **ML3.1**/1, **Error ellipse: s-maj=100.1km s-min=44.2km az=119.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.10**	**225**	P	Pn	21 54 15.2	-0.1
	0.1nm,0.3s,baz=53,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**22.00**	**218**	P	P	21 54 47.1	+1.1
	0.9nm,0.5s,baz=52,slow=9.9,SNR=17						
FITZ	**Fitzroy Crossi**	**25.08**	**241**	P	P	21 55 15.2	-1.3
	0.6nm,0.4s,baz=63,slow=9.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**146.80**	**284**	PKPbc	PKPb

Ms1 2.6/4,ms1mx2.5/29,Error ellipse: s-maj=68.7km s-min=25.1km az=38.0
*UCR **19** 21:50:12.5±2.1, 12°.63N×88°.64W,h32km±6km,ML3.8*

ISC 19 21:50:10.7±1.0,**12°.52N**±0°.06×**88°.63W**±0°.05,**h20**km±7km, **n34**,σ1§**25**/41,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.95**	**20**	*eP*	**Pb**	**21 50 28.8**	**+0.2**
VSM	**San Miguel**	**0.96**	**21**	*eP*	**Pb**	**21 50 29.1**	**+0.2**
TECA	**Tecapa**	**0.97**	**7**	*eP*	**Pb**	**21 50 28.8**	**-0.2**
BLLM	**Bellamira**	**0.99**	**23**	*eP*	**Pb**	**21 50 29.4**	**+0.2**
LCND	**La Caada**	**1.06**	**43**	*eP*	**Pn**	**21 50 30.3**	**-0.2**
LCND				IAML		21 50 46.0	
	comp=Z,3μm,0.4s						
CNCH	**Conchagua**	**1.08**	**46**	*eP*	**Pn**	**21 50 30.8**	**0.0**
CNCH				*eS*	**Sn**	**21 50 46.7**	**+1.5**
CNCH				IAML		21 50 48.6	
	comp=Z,5μm,0.3s						
LFRS	**El Faro**	**1.17**	**339**	*eP*	**Pn**	**21 50 31.1**	**-1.0**
PAVA	**Las Pavas**	**1.22**	**346**	*eP*	**Pn**	**21 50 32.3**	**-0.5**
PAVA				*eS*	**Sn**	**21 50 46.3**	**-2.4**
PAVA				IAML		21 50 48.0	
	comp=Z,1μm,0.2s						
LBRS	**Las Brisas**	**1.27**	**342**	*eP*	**Pn**	**21 50 33.2**	**-0.3**
SNET	**Serv Nac Est T**	**1.30**	**333**	IAML		21 50 51.3	
	comp=Z,1μm,0.2s						
CAHU	**Cacacuatique**	**1.30**	**18**	*eP*	**Pn**	**21 50 34.2**	**+0.2**
CAHU				*eS*	**Sn**	**21 50 50.8**	**-0.2**
BOQS	**Boqueron**	**1.36**	**332**	*eP*	**Pn**	**21 50 34.9**	**+0.2**
VICT	**Victoria**	**1.43**	**360**	*eP*	**Pn**	**21 50 35.6**	**+0.1**
VICT				*eS*	**Sn**	**21 50 53.0**	**-0.9**
CRIN	**San Cristobal**	**1.55**	**83**	*eP*	**Pb**	**21 50 38.8**	**0.0**
CRIN				*eS*	**Sb**	**21 50 58.1**	**+0.1**
CEVE	**Cerro Verde**	**1.62**	**323**	*eP*	**Pn**	**21 50 38.4**	**0.0**
CEVE				*eS*	**Sn**	**21 50 59.4**	**+0.7**
CEVE				IAML		21 51 08.8	
	comp=Z,3μm,0.5s						
SNJE	**San Jose**	**1.64**	**325**	*eP*	**Pn**	**21 50 38.6**	**0.0**
RTR	**El Retiro**	**1.69**	**324**	*eP*	**Pn**	**21 50 39.5**	**+0.3**
TEL3	**Telica 3**	**1.74**	**88**	*eP*	**Pn**	**21 50 40.3**	**+0.5**
TELN	**Telica**	**1.76**	**87**	*eS*	**Sn**	**21 51 02.5**	**+0.6**
CNGN	**Cerro Negro**	**1.88**	**91**	*eP*	**Pn**	**21 50 42.8**	**+1.0**
CNGN				*eS*	**Sn**	**21 51 05.6**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.02**	**41**	*eP*	**Pn**	**21 50 44.3**	**+0.7**
COPN	**Copaltepe**	**2.02**	**100**	*eP*	**Pn**	**21 50 44.5**	**+0.9**
COPN				*eS*	**Sn**	**21 51 07.1**	**-1.2**
MOMN	**Momotombo**	**2.04**	**93**	*eP*	**Pn**	**21 50 44.8**	**+0.8**
MGAN	**Managua**	**2.36**	**99**	*eS*	**Sn**	**21 51 17.1**	**+0.4**
MATN	**Matagalpa**	**2.67**	**81**	*eP*	**Pn**	**21 50 53.3**	**+0.6**
APG	**El Apazote**	**3.04**	**324**	Pn	**Pn**	**21 51 00.1**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=112,slow=8.2,SNR=4.5						
APG				LR	LR	21 52 35.0	
	comp=Z,128nm,20.5s,baz=258,slow=43						
JTS	**JuntasAbangare**	**4.23**	**121**	Pg	**Pb**	**21 51 22.9**	**-1.6**
	comp=Z,9.5nm,0.3s,baz=12,slow=20,SNR=19						
JTS				Lg	Lg	21 52 23.8	
	comp=Z,4.2nm,0.3s,baz=222,slow=18,SNR=6.1						
JTS				LR	LR	21 53 03.5	
	comp=Z,85nm,22.0s,baz=60,slow=45						
CMIG	**Matias Romero**	**7.56**	**308**	Pn	Pn	21 52 06.0	+6.2
	comp=Z,0.2nm,0.3s,baz=180,slow=9.1,SNR=2.6						
CMIG				Sn	**Sn**	**21 53 27.4**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=102,slow=20,SNR=3.2						
CMIG				LR	LR	21 55 27.8	
	comp=Z,99nm,18.4s,baz=134,slow=39						
TXAR	**Lajitas Array**	**21.80**	**322**	P	**P**	**21 55 02.8**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=138,slow=10.0,SNR=5.3						
TXAR				LR	LR	22 05 38.8	
	comp=Z,8.9nm,21.9s,baz=0.0,slow=42						
NVAR	**Mina Array Bea**	**36.90**	**320**	P	**P**	**21 57 21.8**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=135,slow=9.0,SNR=2.7						
ULM	**Lac du Bonnet**	**38.09**	**352**	P	**P**	**21 57 24.7**	**-3.3**
	comp=Z,0.7nm,0.3s,baz=156,slow=12,SNR=2.4						
YKA	**Yellowknife Ar**	**53.24**	**345**	P	**P**	**21 59 25.4**	**-2.2**
	comp=Z,1.3nm,0.6s,baz=138,slow=7.9,SNR=28						
WRA	**Warramunga Arr**	**138.18**	**254**	PKP	**PKPdf**	**22 09 35.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=108,slow=1.8,SNR=3.7						
CMAR	**Chiang Mai Arr**	**148.32**	**346**	PKPbc	**PKPdf**	**22 09 53.8**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=344,slow=2.9,SNR=4.8						

*ISCJB **19** 22:17:07.3±1.0, 14°.45N±0°.09×91°.79W±0°.06,h106km±9km, Error ellipse: s-maj=16.3km s-min=5.7km az=27.1*
*UCR **19** 22:17:07.4±0.9, 14°.48N×91°.74W,h108km±10km,MD3.7, ML3.4*
*MEX **19** 22:17:09.5±0.4, 14°.36N×91°.82W,h91km±5km,MD4.0*
*NEIC **19** 22:17:09.6±0.0, 14°.37N×91°.82W,h91km,MD4.2(MEX), After MEX.*

ISC 19 22:17:08.7±2.0,**14°.45N**±0°.10×**91°.78W**±0°.06,**h91**km±18km, **n17**,σ0§**89**/**24**,**2D,Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.66**	**314**	*eP*	**Pn**	**22 17 24.8**	**-0.1**
THIG		**0.66**	**314**	*eP*	**Pn**	**22 17 24.8**	**-0.1**
THIG				*eS*	**Sn**	**22 17 37.2**	**+0.2**
FUG	**Fuego 3**	**0.91**	**90**	*eP*	**Pn**	**22 17 27.7**	**0.0**
PCG	**Pacaya**	**1.14**	**93**‖	*eP*	**Pn**	**22 17 30.4**	**+0.1**
IXG	**Ixpaco**	**1.31**	**102**	*eP*	**Pn**	**22 17 31.7**	**-0.7**
IXG				*eS*	**Sn**	**22 17 51.4**	**+1.1**
NBG	**Las Nubes**	**1.39**	**84**‖	*eP*	**Pn**	**22 17 33.8**	**+0.3**
CCIG	**Comitan**	**1.85**	**349**	*eP*	**Pn**	**22 17 40.1**	**+0.8**
CCIG				*eS*	**Sn**	**22 18 00.0**	**-2.5**
CCIG	**Comitan**	**1.85**	**349**	*eP*	**Pn**	**22 17 40.1**	**+0.8**
CCIG				*i* S	**Sn**	**22 18 03.9**	**+1.4**
PCIG		**1.87**	**312**	*eP*	**Pn**	**22 17 39.6**	**+0.3**
PCIG				*eS*	**Sn**	**22 18 02.2**	**-0.4**
PCIG		**1.87**	**312**	*eP*	**Pn**	**22 17 39.6**	**+0.3**
PCIG				*eS*	**Sn**	**22 18 02.2**	**-0.4**
MRL	**Marmol**	**2.11**	**73**	*eP*	**Pn**	**22 17 41.8**	**-0.8**
MRL				*eS*	**Sn**	**22 18 08.3**	**-0.2**
RTR	**El Retiro**	**2.14**	**105**	*eP*	**Pn**	**22 17 42.3**	**-0.7**
CEVE	**Cerro Verde**	**2.18**	**106**	*eP*	**Pn**	**22 17 42.9**	**-0.7**
CEVE				*eS*	**Sn**	**22 18 11.6**	**+1.4**
CEVE				IAML		22 18 15.2	
	comp=Z,2μm,0.3s						
MTO3	**Montecristo**	**2.34**	**91**	IAML		22 18 14.1	
	comp=Z,36nm,0.7s						
TGUH	**Tegucigalpa,Un**	**4.38**	**95**	*ePn*	**Pn**	**22 18 12.3**	**-0.7**
MYIG	**Mrida**	**6.76**	**16**	*ePn*	**Pn**	**22 18 45.2**	**-0.1**
TLIG	**Tlapa**	**7.22**	**296**	*ePn*	**Pn**	**22 18 51.5**	**-0.3**

*CNRM **19** 22:19:60.0, 36°.37N×7°.85W, h81km*
*INMG **19** 22:20:00.5±2.1, 36°.67N×8°.03W, h16km±9km, ML2.2, Error ellipse: s-maj=11.6km s-min=5.9km az=48.0*
*MDD **19** 22:20:00.1±0.9, 36°.62N×8°.01W, h27km±7km, mbLg2.4/33, Error ellipse: s-maj=7.7km s-min=4.3km az=24.0, PRXIMO*
*SFS **19** 22:20:00.0, 36°.69N×7°.99W, h35km, ML3.3, GOLFO DE CADIZ*
*IGIL **19** 22:20:00.7, 36°.68N×8°.05W, h16km, ML2.2*

ISC 19 22:19:58.0±1.2,**36°.56N**±0°.04×**8°.00W**±0°.03,**h45**km±21km, **n75**,σ1§**74**/136,**3C-1D,Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**0.68**	**4**	*eP*	**Pn**	**22 20 12.0**	**+0.6**
PBDV				*eS*	**Sn**	**22 20 20.9**	**-0.1**
PBDV				A	A	22 20 25.0	
	49nm,0.4s						
PBDV	**Barranco-do-Ve**	**0.68**	**4**	P	**Pn**	**22 20 12.0**	**+0.6**
PBDV				S	**Sn**	**22 20 20.9**	**-0.1**
	49nm,0.4s						
PFVI	**Vila Bisbo**	**0.88**	**311**	*eP*	**Pn**	**22 20 15.1**	**+1.2**
PFVI				*eS*	**Sn**	**22 20 25.3**	**-0.3**
PFVI				A	A	22 20 29.0	
	21nm,0.2s						
PFVI	**Vila Bisbo**	**0.88**	**311**	P	**Pn**	**22 20 15.2**	**+1.2**
	0.1nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**22 20 25.2**	**-0.3**
	47nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.88**	**311**	P	Pn	22 20 21.1	+7.2
PFVI				S	Sn	22 20 35.8	+10
MORF	**Marmelete**	**0.91**	**325**	*eP*	**Pn**	**22 20 14.8**	**+0.4**
MORF				*eS*	**Sn**	**22 20 25.0**	**-1.4**
MORF				AML	AML	22 20 28.5	
	comp=N,67nm,0.3s						
MORF	**Marmelete**	**0.91**	**325**	*eP*	**Pn**	**22 20 14.9**	**+0.5**
MORF				*eS*	**Sn**	**22 20 25.8**	**-0.6**
MORF				A	A	22 20 26.6	
	comp=N,50nm,0.2s						
MORF	**Marmelete**	**0.91**	**325**	P	**Pn**	**22 20 14.9**	**+0.5**
MORF				S	**Sn**	**22 20 25.8**	**-0.6**
	comp=N,50nm,0.2s						
EGRO	**El Granado**	**1.05**	**23**	⇑P	**Pn**	**22 20 17.3**	**+1.0**
	comp=N,2.3nm,0.2s,SNR=18						
EGRO				S	**Sn**	**22 20 29.6**	**-0.2**
	comp=N,24nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**1.07**	**358**	*eP*	**Pn**	**22 20 17.2**	**+0.7**
PCVE				*eS*	**Sn**	**22 20 29.3**	**-0.9**
PCVE				A	A	22 20 31.4	
	comp=N,44nm,0.2s						
PCVE	**Castro Verde**	**1.07**	**358**	P	**Pn**	**22 20 17.2**	**+0.7**
PCVE				S	**Sn**	**22 20 29.3**	**-0.9**
	comp=N,44nm,0.2s						
PTEO	**Sao Teotonio**	**1.14**	**330**	*eP*	**Pn**	**22 20 17.4**	**-0.1**
PTEO				*eS*	**Sn**	**22 20 31.1**	**-0.9**
PTEO				A	A	22 20 32.4	
	comp=N,17nm,0.2s						
PTEO	**Sao Teotonio**	**1.14**	**330**	P	**Pn**	**22 20 17.4**	**-0.1**
PTEO				S	**Sn**	**22 20 31.1**	**-0.9**
	comp=N,8.6nm,0.2s						
MESJ	**Messejana**	**1.29**	**352**	*eP*	**Pn**	**22 20 20.5**	**+1.0**
MESJ				*eS*	**Sn**	**22 20 35.5**	**-0.1**
MESJ				AML	AML	22 20 36.5	
	comp=N,40nm,0.2s						
MESJ	**Messejana**	**1.29**	**352**	*eP*	**Pn**	**22 20 20.5**	**+1.0**
MESJ				*eS*	**Sn**	**22 20 35.9**	**+0.3**
MESJ				A	A	22 20 37.4	
	comp=N,27nm,0.3s						
MESJ	**Messejana**	**1.29**	**352**	P	**Pn**	**22 20 20.5**	**+1.0**
MESJ				S	**Sn**	**22 20 35.5**	**-0.1**
	comp=N,40nm,0.2s						
PBEJ	**Beja**	**1.46**	**4**	*eP*	**Pn**	**22 20 24.9**	**+2.9**
PBEJ				*eS*	**Sn**	**22 20 40.7**	**+0.8**
PBEJ				A	A	22 20 44.1	
	comp=N,15nm,0.2s						
PBEJ	**Beja**	**1.46**	**4**	P	**Pn**	**22 20 24.9**	**+2.9**
PBEJ				S	**Sn**	**22 20 40.7**	**+0.8**
	comp=N,7.7nm,0.2s						
EMIN	**Mina Concepcio**	**1.60**	**41**	P	**Pn**	**22 20 24.5**	**+0.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 20 42.7**	**-0.6**
	comp=N,6.7nm,0.1s,SNR=7.9						
PNCL	**Nicolau / Gran**	**1.60**	**345**⇑	*eP*	**Pn**	**22 20 24.6**	**+0.8**
PNCL				S	**Sn**	**22 20 42.5**	**-0.8**
PNCL				A	A	22 20 54.3	
	comp=N,8.4nm,0.3s						
PNCL	**Nicolau / Gran**	**1.60**	**345**	P	**Pn**	**22 20 24.6**	**+0.8**
PNCL				S	**Sn**	**22 20 42.5**	**-0.8**
	comp=N,8.4nm,0.3s						
ESPR	**Espera**	**1.75**	**79**	P	**Pn**	**22 20 27.1**	**+1.3**
	comp=N,5.3nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**22 20 47.1**	**+0.3**
	comp=N,48nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**1.78**	**25**	*eSn*	**Sn**	**22 20 47.8**	**+0.1**
PBAR	**Barrancos**	**1.78**	**25**	Sn	**Sn**	**22 20 47.8**	**+0.1**
EVO	**Evora**	**1.96**	**360**	*ePn*	**Pn**	**22 20 32.0**	**+3.2**
EVO				*eSn*	**Sn**	**22 20 53.6**	**+1.3**
EVO				A	A	22 20 56.7	
	comp=N,18nm,0.1s						
EVO	**Evora**	**1.96**	**360**	P	**Pn**	**22 20 31.7**	**+2.9**
EVO				S	**Sn**	**22 20 53.7**	**+1.5**
EVO	**Evora**	**1.96**	**360**	*eP*	**Pn**	**22 20 31.7**	**+2.9**
EVO				*eS*	**Sn**	**22 20 53.7**	**+1.5**
PESTR	**Estremoz**	**2.32**	**8**	*ePn*	**Pn**	**22 20 35.3**	**+1.6**
PESTR				*eSn*	**Sn**	**22 21 01.1**	**0.0**
PESTR				A	A	22 21 04.0	
	comp=N,5.1nm,0.6s						
PESTR	**Estremoz**	**2.32**	**8**	P	**Pn**	**22 20 38.4**	**+4.7**
PESTR				S	**Sn**	**22 21 07.1**	**+6.0**
EBAD	**Badajoz**	**2.32**	**19**	P	**Pn**	**22 20 34.3**	**+0.6**
	comp=N,0.5nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**22 21 00.8**	**-0.2**
	comp=N,3.7nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.51**	**356**‖	*ePn*	**Pn**	**22 20 37.1**	**+0.8**
PMTG				*eSn*	**Sn**	**22 21 05.5**	**-0.1**
PMTG				A	A	22 21 06.5	
	comp=N,10nm,0.2s						
PMTG	**Montargil**	**2.51**	**356**	P	**Pn**	**22 20 37.1**	**+0.8**
PMTG				S	**Sn**	**22 21 05.5**	**-0.1**
	comp=N,10nm,0.2s						
HORN	**Hornachuelos**	**2.53**	**59**	P	**Pn**	**22 20 38.1**	**+1.5**
HORN				S	**Sn**	**22 21 11.1**	**+4.8**
ECAB	**El Cabril**	**2.55**	**53**	P	**Pn**	**22 20 37.7**	**+0.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**22 21 04.8**	**-1.9**
	comp=N,3.0nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**2.60**	**337**	*ePn*	**Pn**	**22 20 39.1**	**+1.6**
PMAFR				*eSn*	**Sn**	**22 21 07.2**	**-0.6**
PMAFR				A	A	22 21 09.0	
	comp=N,18nm,0.2s						
PMAFR	**Mafra**	**2.60**	**337**	P	**Pn**	**22 20 38.9**	**+1.4**
	comp=N,0.7nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**22 21 07.2**	**-0.6**
	comp=N,15nm,0.1s,SNR=7.9						
ALMR	**Almeirim**	**2.63**	**350**	*eP*	**Pn**	**22 20 39.0**	**+1.1**
ALMR				*eS*	**Sn**	**22 21 07.3**	**-1.2**
ALMR				AML	AML	22 21 10.4	
	comp=N,14nm,0.5s						
ALMR	**Almeirim**	**2.63**	**350**‖	*ePn*	**Pn**	**22 20 39.6**	**+1.7**
ALMR				*eSn*	**Sn**	**22 21 07.6**	**-1.0**
ALMR				A	A	22 21 10.2	
	comp=N,10nm,0.4s						
ALMR	**Almeirim**	**2.63**	**350**	P	**Pn**	**22 20 39.0**	**+1.1**
ALMR				S	**Sn**	**22 21 07.3**	**-1.2**
	comp=N,7.1nm,0.5s						
PMRV	**Marv??o**	**2.90**	**9**	*ePn*	**Pn**	**22 20 42.5**	**+0.8**
PMRV				*eSn*	**Sn**	**22 21 14.4**	**-0.9**
PMRV				A	A	22 21 16.9	
	comp=N,5.4nm,0.7s						
PMRV	**Marv??o**	**2.90**	**9**	P	**Pn**	**22 20 42.5**	**+0.8**
PMRV				S	**Sn**	**22 21 14.4**	**-0.9**
	comp=N,5.4nm,0.7s						
PTOM	**Tomar**	**3.07**	**354**	*ePn*	**Pn**	**22 20 45.1**	**+1.2**
PTOM				*eSn*	**Sn**	**22 21 18.9**	**-0.5**
PTOM				A	A	22 21 20.1	
	comp=N,9.2nm,0.3s						
PTOM	**Tomar**	**3.07**	**354**	P	**Pn**	**22 20 45.1**	**+1.2**
PTOM				S	**Sn**	**22 21 18.9**	**-0.5**
	comp=N,4.6nm,0.3s						
EADA	**Adamuz**	**3.16**	**59**	P	**Pn**	**22 20 46.3**	**+1.0**
	comp=N,1.0nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**22 21 20.0**	**-1.7**
	comp=N,3.5nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**3.30**	**7**	*ePn*	**Pn**	**22 20 48.1**	**+1.0**
PCBR				*eSn*	**Sn**	**22 21 24.4**	**-0.6**
PCBR				A	A	22 21 25.8	
	comp=N,7.5nm,0.3s						
PCBR	**Castelo Branco**	**3.30**	**7**	P	**Pn**	**22 20 48.1**	**+1.0**
PCBR				S	**Sn**	**22 21 24.4**	**-0.6**
	comp=N,3.8nm,0.3s						
ZHG	**ZHG**	**3.30**	**160**	P	**Pn**	**22 20 48.4**	**+1.2**
ZHG				S	**Sn**	**22 21 24.7**	**-0.6**
ELGU	**Los Guajares,**	**3.52**	**84**	S	**Sn**	**22 21 31.3**	**+0.5**
	comp=N,6.1nm,0.3s,SNR=7.9						
MTE	**Manteigas**	**3.85**	**5**	*ePn*	**Pn**	**22 20 56.1**	**+1.4**
MTE				*eSn*	**Sn**	**22 21 37.6**	**-1.1**
MTE				A	A	22 21 39.2	
	comp=N,4.8nm,0.3s						
MTE	**Manteigas**	**3.85**	**5**	P	**Pn**	**22 20 56.1**	**+1.4**
MTE				S	**Sn**	**22 21 37.6**	**-1.1**
	comp=N,2.4nm,0.3s						
EQES	**Quesada**	**4.12**	**71**	P	**Pn**	**22 21 00.3**	**+1.7**
	comp=N,0.2nm,0.4s,SNR=7.9						
EQES				S	**Sn**	**22 21 45.2**	**-0.4**
	comp=N,0.6nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**4.14**	**43**	P	**Pn**	**22 20 60.0**	**+1.2**
	comp=N,0.1nm,0.3s,SNR=7.9						
PAB				S	**Sn**	**22 21 43.1**	**-2.9**
	comp=N,2.6nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.15**	**1**	*ePn*	**Pn**	**22 21 00.7**	**+1.9**
PVIS				*eSn*	**Sn**	**22 21 45.4**	**-0.6**
PVIS				A	A	22 21 47.0	
	comp=N,2.7nm,0.3s						
PVIS	**Viseu**	**4.15**	**1**	P	**Pn**	**22 21 00.7**	**+1.9**
PVIS				S	**Sn**	**22 21 45.4**	**-0.6**
	comp=N,1.4nm,0.3s						
ESDC	**Sonseca Array**	**4.45**	**44**	P	**Pn**	**22 21 04.0**	**+1.1**
	comp=N,4.5nm,0.3s,baz=229,slow=13,SNR=9.6						
ESDC				S	**Sn**	**22 21 48.3**	**-5.1**
	comp=N,0.8nm,0.3s,baz=228,slow=24,SNR=6.9						
MD31	**MD31**	**4.55**	**143**	P	**Pn**	**22 21 04.8**	**+0.3**
MD31				S	**Sn**	**22 21 52.4**	**-3.7**
MVO	**Moncorvo**	**4.66**	**9**	*ePn*	**Pn**	**22 21 06.6**	**+0.8**
MVO				*eSn*	**Sn**	**22 21 56.3**	**-2.3**
MVO				A	A	22 21 58.3	
	comp=N,3.9nm,0.2s						
MVO	**Moncorvo**	**4.66**	**9**	P	**Pn**	**22 21 06.4**	**+0.6**
	comp=N,0.4nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**22 21 56.8**	**-1.8**
	comp=N,6.4nm,0.2s,SNR=7.9						
MDT	**Midelt**	**4.67**	**142**	P	**Pn**	**22 21 06.1**	**0.0**
MDT				S	**Sn**	**22 21 55.4**	**-3.6**
PVRL	**Vila Real**	**4.71**	**3**	*ePn*	**Pn**	**22 21 07.4**	**+0.9**
PVRL				*eSn*	**Sn**	**22 21 58.2**	**-1.7**
PVRL				A	A	22 22 00.1	
	comp=N,4.4nm,0.1s						
PVRL	**Vila Real**	**4.71**	**3**	P	**Pn**	**22 21 07.4**	**+0.9**
PVRL				S	**Sn**	**22 21 58.2**	**-1.7**
	comp=N,2.2nm,0.1s						
POLO	**Lamas de Olo**	**4.81**	**2**	*eSn*	**Sn**	**22 22 01.8**	**-0.5**
GUD	**Guadarrama**	**5.06**	**35**	S	**Sn**	**22 22 07.5**	**-1.3**
	comp=N,2.8nm,0.3s,SNR=7.9						
PCAB	**Cabril**	**5.14**	**360**	*eSn*	**Sn**	**22 22 07.4**	**-3.0**
PCAB				A	A	22 22 10.4	
	comp=N,2.2nm,0.2s						
ELOB	**Lobios**	**5.30**	**359**	P	**Pn**	**22 21 15.4**	**+0.7**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**22 22 11.7**	**-2.7**
	comp=N,2.5nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.32**	**10**	*eSn*	**Sn**	**22 22 12.5**	**-2.5**
PBRG				A	A	22 22 15.5	
	comp=N,2.5nm,0.2s						
PBRG	**Braganca**	**5.32**	**10**	S	**Sn**	**22 22 12.5**	**-2.5**
	comp=N,1.2nm,0.2s						
OUK	**Oukaimeden**	**5.34**	**179**	P	**Pn**	**22 21 16.1**	**+0.5**
OUK				S	**Sn**	**22 22 12.4**	**-3.6**
PGAV	**Gavieira, Arco**	**5.40**	**358**	*eSn*	**Sn**	**22 22 14.2**	**-2.7**
PGAV				A	A	22 22 29.1	
	comp=N,3.3nm,0.9s						
PGAV	**Gavieira, Arco**	**5.40**	**358**	S	**Sn**	**22 22 14.2**	**-2.7**
	comp=N,3.3nm,0.9s						
ECAL	**Calabor**	**5.46**	**10**	P	**Pn**	**22 21 17.9**	**+1.1**
	comp=N,0.4nm,0.3s,SNR=7.9						
ECAL				S	**Sn**	**22 22 16.2**	**-2.2**
	comp=N,1.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**5.53**	**66**	P	**Pn**	**22 21 17.6**	**-0.2**
	SNR=7.9						
ETOB				S	**Sn**	**22 22 17.9**	**-2.1**
	comp=N,1.0nm,0.2s,SNR=7.9						
OUZM	**OUZ**	**5.73**	**169**	P	**Pn**	**22 21 21.7**	**+1.1**
EAGO	**Agolada(Pontev**	**6.23**	**359**	S	**Sn**	**22 22 32.3**	**-5.0**
	comp=N,0.8nm,0.1s,SNR=7.9						
ETOR	**Torete**	**6.30**	**46**	P	**Pn**	**22 21 28.5**	**+0.2**
	comp=N,0.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**22 22 35.5**	**-3.5**
	comp=N,1.1nm,0.2s,SNR=7.9						

*OTT **19** 22:37:03.8±1.8, 82°.31N×74°.48W, h18km, ML3.7/2, 75km northwest from Hazen Camp, Nu*

ISC 19 22:37:10.3±2.0,**81°.2N**±0°.1×**73°.49W**±0°.07,**h10**km,**n4**, σ2§**12**/**8**,**Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**2.40**	**248**	PN	**Pn**	**22 37 49.3**	**-0.3**
EUNU				SN	**Sb**	**22 38 23.0**	**-0.2**
EUNU				Trac		22 38 44.4	
	comp=Z,218nm,1.1s						
TULEG	**Thule**	**4.77**	**167**	PN	**Pb**	**22 38 30.3**	**-3.5**
TULEG				SN	**Sb**	**22 39 32.7**	**+1.6**
TULEG				Trac		22 39 39.9	
	comp=Z,7.2nm,0.3s						
RES	**Resolute Bay**	**7.84**	**225**	PN	**Pn**	**22 39 04.6**	**+0.5**
RES				SN	**Sn**	**22 40 35.0**	**+2.2**
RES				Trac		22 40 43.5	
	comp=Z,6.5nm,0.2s						
SUMG	**Summit**	**11.43**	**119**	*i* P	**Pn**	**22 39 55.2**	**+1.6**
SUMG				*i*		22 39 56.1	
SUMG				*eS*	**Sn**	**22 42 01.3**	**0.0**

*ISCJB **19** 22:42:48.1±0.8, 11°.6N±0°.1×139°.1E±0°.2, h33km, mb3.8/9, MS3.1/7, Error ellipse: s-maj=29.5km s-min=14.3km az=172.7*
*IDC **19** 22:42:55.2±6.9, 11°.56N×139°.14E, h84km±66km, mb3.6/9, mb1 3.8/10, mb1mx3.5/39, mbtmp3.9/10, ML4.5/1, MS3.2/8, Ms1 3.3/8, ms1mx3.0/30, Error ellipse: s-maj=31.2km s-min=17.5km az=74.0*

ISC 19 22:42:49.5±0.8,**11°.5N**±0°.1×**139°.2E**±0°.2,**h35**km,**n18**, σ1§**00**/**12**,**mb3.9**/**9**,**MS3.1**/**7**,**Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**14.00**	**174**	P	**P**	**22 46 11.7**	**-1.3**
	2.4nm,0.3s,baz=275,slow=6.4,SNR=9.3						
JAY	

comp=Z,4µm,0.1s
SEAG Tbilisi Sea 0.80 56 P **Pg** **22 48 07.7 -1.1**
SEAG S **Sg** **22 48 18.6 -0.6**
EPOS Posof 0.92 282 *i* P **Pb** **22 48 12.1 +0.1**
DIGO Kars 1.00 205 *i* P **Pb** **22 48 13.4 0.0**
DIGO IAML_P
comp=Z,4µm,0.2s
GUDG Gudauri 1.22 20 P **Pn** **22 48 16.9 -0.4**
GUDG S **Sn** **22 48 33.6 -0.7**
GNI Garni 1.32 152 PN **Pn** **22 48 18.7 -0.1**
GNI SN **Sb** **22 48 37.2 +1.0**
TASB TASBURUN-IGDIR 1.36 170 PN **Pn** **22 48 19.1 0.0**
TASB SN **Sn** **22 48 38.6 +1.1**
SENK Senkaya-Erzuru 1.41 238 PN **Pg** **22 48 21.2 +0.5**
IGDI IGDIR 1.46 175 *i* P **Pn** **22 48 21.0 +0.5**
IGDI IAML_P
comp=Z,275nm,0.2s
ARTV Artvin 1.51 266 *i* P **Pg** **22 48 22.5 0.0**
ARTV IAML_P
comp=Z,2µm,0.2s
LACR Lac 1.53 10 *e*Pg **Pb** **22 48 22.0 -0.4**
LACR *e*Sg **Sg** **22 48 43.3 +0.5**
DAGI Agillar 1.54 262 *i* P **Pg** **22 48 22.8 -0.2**
DAGI IAML_P
comp=Z,521nm,0.2s
DIGR Digorskoe uzhe 1.60 351 *e*Pg **Pb** **22 48 23.2 -0.4**
DIGR *e*Sg **Sg** **22 48 45.2 +0.2**
DDFL Dedoflistskaro 1.66 85 P **Pn** **22 48 21.3 -1.9**
DDFL S **Sg** **22 48 47.0 +0.3**
DDEM Demirkent 1.70 256 *i* P **Pg** **22 48 25.7 -0.4**
DDEM *i* S **Sg** **22 48 47.5 -0.6**
DBOC Borcka 1.70 272 *i* P **Pb** **22 48 25.0 -0.3**
DBOC IAML_P
comp=Z,1µm,0.3s
DBAD Bademkaya 1.71 261 *i* P **Pb** **22 48 25.4 -0.1**
BCA Borcka 1.74 275 PN **Pb** **22 48 25.2 -0.7**
KORR Kora 1.77 3 *e*Pg **Pg** **22 48 27.4 0.0**
KORR *e*Sg **Sg** **22 48 52.0 +1.7**
LGD Lagodekhi 1.81 73 P **Pb** **22 48 26.2 -0.9**
LGD S **Sg** **22 48 51.0 -0.8**
VLKR Vladikavkaz 1.81 18 *e*Pg **Pg** **22 48 28.6 +0.3**
VLKR *e*Pg **Pg** **22 48 28.6 +0.3**
VLKR *e*Sg **Sg** **22 48 53.5 +1.6**
VLKR *e*Sg **Sb** **22 48 53.6 +3.4**
KMGR Komgaron 1.87 22 *e*Pg **Pg** **22 48 28.9 -0.5**
KMGR *e*Sg **Sg** **22 48 55.5 +1.8**
ARNR Ardon 1.88 8 *e*Pg **Pg** **22 48 29.1 -0.4**
ARNR *e*Sg **Sg** **22 48 55.2 +1.3**
AGRB Hanur-Agry 1.88 203 PN **Pn** **22 48 27.7 +1.2**
LSNR Lesken 1.96 358 *e*Pg **Pg** **22 48 30.6 -0.5**
LSNR *e*Sg **Sg** **22 48 56.6 +0.1**
STDR Stavd-Durt 2.05 3 *e*Pg **Pg** **22 48 33.0 +0.2**
STDR *e*Sg **Sg** **22 49 00.7 +1.3**
KOPR Koprukoy-ERZUR 2.06 231 PN **Pb** **22 48 30.7 -0.8**
BTKR Batakoyurt 2.10 12 *e*Pg **Pg** **22 48 33.5 -0.3**
BTKR *e*Sg **Sg** **22 49 02.5 +1.4**
NEY Neytrino 2.12 336 *e*Pg **Pb** **22 48 32.7 +0.1**
NEY *e*Sg **Sg** **22 49 00.2 -1.6**
BTLR Botlikh 2.18 51 *e*Pg **Pb** **22 48 33.1 -0.3**
BTLR *e*Sg **Sb** **22 49 01.3 +0.7**
NCK Nalchik 2.19 354 *e*Pg **Pg** **22 48 34.8 -0.7**
NCK *e*Sg **Sg** **22 49 04.0 +0.2**
CHOM Cayeli-Rize 2.40 266 PN **Pb** **22 48 35.9 -1.3**
GNBR Gunib 2.51 64 *e*Pn **Pb** **22 48 39.4 +0.3**
GNBR *e*Sn **Sb** **22 49 11.6 +1.4**
SHA1 Shidzhatmaz 2.59 339 *e*Pn **Pb** **22 48 41.2 +0.6**
SHA1 *e*Sn **Sg** **22 49 15.4 -1.5**
AKT Akhty 2.87 86 *e*Pn **Pb** **22 48 43.8 -1.4**
AKT *e*Sn **Sb** **22 49 21.0 +0.4**

*IDC **19** 22:55:52.8±3.9, 36°.26N×70°.86E, h186km±33km, mb3.2/8, mb1 3.4/12, mb1mx3.1/55, mbtmp3.8/12, MS2.9/2, Ms1 2.9/2, ms1mx2.4/28, Error ellipse: s-maj=26.8km s-min=21.2km az=13.0*
*ISCJB **19** 22:55:54.4±0.6, 36°.54N±0°.04×70°.72E±0°.08, h200km, mb3.4/7, Error ellipse: s-maj=9.9km s-min=5.1km az=157.3*
*NNC **19** 22:56:01.8±4.3, 37°.02N×70°.94E, h232km±65km, mb2.9, mpv4.1, Error ellipse: s-maj=42.9km s-min=28.2km az=27.0*

ISC 19 22:55:55.4±0.8, **36°.57N**±0°.07×**70°.86E**±0°.09, **h200**km, **n37, σ1§38/41, mb3.5/7, 5C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.97**	**21**	P	**Pn**	**22 57 24.1**	**+1.5**
	SNR=125						
UCH	**Uchtor**	**6.32**	**25**	P	**Pn**	**22 57 28.6**	**+1.5**
	SNR=55						
KZA	**Kyzart**	**6.47**	**30**	P	**Pn**	**22 57 30.2**	**+1.3**
	SNR=15						
KK31	**Karatay Array**	**6.54**	**358**	⇑P	**Pn**	**22 57 30.8**	**+1.3**
	3.8nm,0.6s,baz=188,slow=13,SNR=33						
KK31				⇑S	**Sn**	**22 58 41.4**	**-2.7**
	4.9nm,0.5s,baz=178,slow=21,SNR=5.9						
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**22 57 33.3**	**+1.8**
	SNR=40						
AAK	**Ala-Archa**	**6.68**	**24**	⇓P	**Pn**	**22 57 33.2**	**+1.8**
	15nm,0.4s						
AAK				⇓S	**Sn**	**22 58 46.9**	**-0.9**
	5.6nm,0.7s						
AAK	**Ala-Archa**	**6.68**	**24**	P	**Pn**	**22 57 33.2**	**+1.8**
	9.9nm,0.3s,baz=160,slow=5.7,SNR=175						
AAK				S	**Sn**	**22 58 46.6**	**-1.1**
	0.9nm,0.3s,baz=150,slow=23,SNR=6.3						
KBK	**Karagaybulak**	**6.85**	**26**	P	**Pn**	**22 57 35.7**	**+2.0**
	SNR=24						
ULHL	**Ulahol**	**7.04**	**35**	P	**Pn**	**22 57 37.4**	**+1.2**
	SNR=8.3						
CHMS	**Chumysh**	**7.09**	**24**	P	**Pn**	**22 57 38.5**	**+1.9**
	SNR=5.7						
USP	**Ospenovka**	**7.25**	**22**	P	**Pn**	**22 57 40.4**	**+1.6**
	SNR=15						
TKM2	**Tokmak 2**	**7.32**	**28**	P	**Pn**	**22 57 41.4**	**+1.6**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.32**	**28**	⇓P	**Pn**	**22 57 40.9**	**+1.1**
	12nm,0.7s						
TKM2				⇑S	**Sn**	**22 58 59.3**	**-3.5**
	1.3nm,0.6s						
GEYT	**Alibeck**	**10.25**	**281**	LR	LR	23 02 15.7	
	comp=Z,23nm,20.6s,baz=320,slow=37						
PYUN	**Piuthan**	**13.27**	**126**	*e*P	**Pn**	**22 58 56.9**	**+0.4**
	6.0nm,0.3s						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**22 58 56.6**	**+0.1**
	0.2nm,0.3s,baz=226,slow=19,SNR=15						
DANN	**Dangsing**	**13.62**	**123**	*e*P	**P**	**22 59 01.7**	**-1.5**
	4.4nm,0.3s						
KOLN	**Koldanda**	**13.89**	**126**	*e*P	**P**	**22 59 05.8**	**-0.4**
	3.9nm,0.6s						
GKN	**Gorkha**	**14.43**	**122**	*e*P	**P**	**22 59 11.6**	**-0.5**
	9.5nm,0.4s						
AB31	**Akbulak array**	**14.97**	**331**	⇑P	**Pn**	**22 59 16.0**	**-1.1**
	0.6nm,0.5s,baz=144,slow=12,SNR=17						
AB31				⇑S	**S**	**23 02 02.3**	**-0.9**
	0.6nm,0.8s						
KKN	**Kakani**	**15.01**	**122**	*e*P	**P**	**22 59 19.2**	**+0.7**
	6.5nm,0.5s						
KURBB	**Kurchatov Arra**	**15.10**	**19**	P	**Pn**	**22 59 17.5**	**-1.0**
	0.1nm,0.3s,baz=213,slow=9.8,SNR=3.7						
PKIN	**Phulchoki**	**15.22**	**122**	*e*P	**P**	**22 59 21.1**	**+0.1**
	3.8nm,0.4s						
PKI	**Pulchoki**	**15.23**	**122**	*e*P	**P**	**22 59 21.0**	**-0.2**
	3.2nm,0.3s						
GUN	**Gumba**	**15.35**	**120**	*e*P	**P**	**22 59 22.8**	**+0.4**
	5.0nm,0.4s						
JIRN	**Jiri**	**15.71**	**120**	*e*P	**Pn**	**22 59 27.3**	**+0.6**
	16nm,0.5s						
BVAR	**Borovoye Array**	**16.46**	**359**	P	**Pn**	**22 59 35.2**	**+0.2**
	0.2nm,0.3s,baz=163,slow=10,SNR=4.6						
BVAR				S	**S**	**23 02 37.2**	**+1.2**
	0.0nm,0.3s,baz=161,slow=18,SNR=3.7						
AKTO	**Aktyubinsk**	**16.67**	**330**	P	**Pn**	**22 59 38.6**	**+1.1**
	0.8nm,0.3s,baz=137,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**19.90**	**25**	P	**P**	**23 00 11.5**	**+0.1**
	0.7nm,0.4s,baz=216,slow=12,SNR=4.5						
FINES	**FINESS Array B**	**37.37**	**326**	P	**P**	**23 02 49.4**	**+1.0**
	0.8nm,0.4s,baz=122,slow=11,SNR=12						
ARCES	**ARCESS Array B**	**41.04**	**338**	P	**P**	**23 03 20.1**	**+1.4**
	1.1nm,0.4s,baz=116,slow=7.8,SNR=20						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**23 03 45.5**	**+0.8**
	0.6nm,0.6s,baz=96,slow=7.6,SNR=3.0						
ASAJ	**Asahikawa**	**53.61**	**58**	LR	LR	23 31 34.6	
	comp=Z,39nm,19.5s,baz=71,slow=40						
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P	**P**	**23 06 16.6**	**-1.6**
	0.4nm,0.4s,baz=54,slow=6.1,SNR=18						
INK	**Inuvik**	**73.86**	**9**	P	**P**	**23 07 08.3**	**+0.8**
	0.6nm,0.5s,baz=27,slow=5.3,SNR=5.8						
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**23 07 48.7**	**+0.5**
	0.3nm,0.4s,baz=357,slow=6.4,SNR=4.6						
WRA	**Warramunga Arr**	**82.12**	**122**	P	**P**	**23 07 52.6**	**-1.2**
	0.2nm,0.4s,baz=325,slow=5.1,SNR=5.5						

*ISCJB **19** 23:06:29.7±0.5, 13°.22S±0°.06×76°.43W±0°.09, h59km, mb4.1/14, MS3.4/4, Error ellipse: s-maj=14.2km s-min=4.9km az=152.0*
*IDC **19** 23:06:31.1±1.6, 13°.05S×76°.25W, h51km±13km, mb3.7/11, mb1 3.9/13, mb1mx3.7/32, mbtmp4.0/13, ML4.3/2, MS3.2/9, Ms1 3.2/9, ms1mx3.1/28, Error ellipse: s-maj=28.6km s-min=12.0km az=59.0*
*NEIC **19** 23:06:31.7±0.7, 13°.14S×76°.37W, h58km±6km, mb4.5/4, ML4.6(ARE), Error ellipse: s-maj=13.9km s-min=5.5km az=58.0*
NEIC Felt [IV] at Lunahuana and [III] at San Vicente de Canete and Lima.

ISC 19 23:06:31.1±0.6, **13°.25S**±0°.07×**76°.4W**±0°.1, **h59**km, **n70, σ1§80/61, mb3.9/14, MS3.3/4, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.32**	**342**	*e*Pn	**Pn**	**23 06 51.3**	**-2.2**
NNA				*e*Sn	**Sn**	**23 07 07.9**	**-2.2**
NNA	**Nana**	**1.32**	**342**	P	**Pn**	**23 06 51.6**	**-1.9**
	205nm,0.3s,baz=165,slow=11,SNR=131						
NNA				S	**Sn**	**23 07 07.1**	**-3.1**
	530nm,0.3s,baz=259,slow=18,SNR=20						
NNA				LR	LR	23 07 34.8	
	comp=Z,267nm,18.8s,baz=128,slow=53						
ATAH	**Atahualpa**	**6.38**	**342**	P	**Pn**	**23 08 04.0**	**+1.1**
	8.9nm,0.3s,baz=123,slow=1.5,SNR=32						
ATAH				S	**Sn**	**23 09 15.8**	**+1.1**
	baz=90,slow=20,SNR=2.2						
ATAH				LR	LR	23 10 51.3	
	comp=Z,30nm,18.9s,baz=108,slow=42						
LPAZ	**La Paz**	**8.56**	**112**	*e*Pn	**Pn**	**23 08 35.4**	**+2.4**
LPAZ	**La Paz**	**8.56**	**112**	P	**Pn**	**23 08 36.4**	**+3.3**
	4.2nm,0.3s,baz=294,slow=9.7,SNR=50						
LPAZ				LR	LR	23 12 20.3	
	comp=Z,170nm,20.5s,baz=272,slow=41						
PB11	**IPOC Station P**	**9.16**	**136**	*e*Pn	**Pn**	**23 08 40.7**	**-0.1**
PB01	**IPOC Station P**	**10.19**	**140**	*e*Pn	**Pn**	**23 08 55.3**	**+0.4**
LVC	**Limon Verde**	**11.73**	**144**	*e*Pn	**Pn**	**23 09 17.3**	**+1.2**
LVC				*e*Sn	**Sn**	**23 11 23.8**	**-1.9**
LVC	**Limon Verde**	**11.73**	**144**	P	**Pn**	**23 09 18.2**	**+2.1**
	2.1nm,0.3s,baz=3.4,slow=17,SNR=2.6						
LVC				S	**Sn**	**23 11 23.8**	**-1.9**
	0.7nm,0.3s,baz=102,slow=19,SNR=2.7						
LVC				LR	LR	23 13 30.0	
	comp=Z,82nm,19.5s,baz=282,slow=36						
OTAV	**Otavalo**	**13.55**	**351**	*e*Pn	**Pn**	**23 09 39.3**	**-1.7**
SIV	**San Ignacio**	**15.10**	**102**	P	**P**	**23 10 03.3**	**-1.8**
	0.5nm,0.3s,baz=306,slow=10.0,SNR=8.4						
SIV				LR	LR	23 16 48.7	
	comp=Z,126nm,19.3s,baz=301,slow=41						
CHIC	**Chingaza**	**17.96**	**9**	*e*P	**P**	**23 10 40.5**	**+3.4**
CHIC	**Chingaza**	**17.96**	**9**	*e*P	**P**	**23 10 40.5**	**+3.4**
RREF	**El Recreo**	**18.06**	**3**	*e*P	**Pn**	**23 10 44.5**	**+5.8**
RREF	**El Recreo**	**18.06**	**3**	*e*P	**Pn**	**23 10 44.5**	**+5.8**
ROSC	**El Rosal**	**18.09**	**7**	LR	LR	23 18 50.4	
	comp=Z,76nm,20.9s,baz=230,slow=41						
NORC	**Norcasia**	**18.75**	**5**	*e*P	**Pn**	**23 10 46.5**	**0.0**
NORC	**Norcasia**	**18.75**	**5**	*e*P	**Pn**	**23 10 46.5**	**0.0**
RUSC	**La Rusia**	**19.30**	**10**	*e*P	**Pn**	**23 10 54.5**	**+1.0**
RUSC	**La Rusia**	**19.30**	**10**	*e*P	**Pn**	**23 10 54.5**	**+1.0**
PTBC	**PUERTO BERRIO,**	**19.75**	**6**	*e*P	**Pn**	**23 10 56.5**	**-1.9**
PTBC	**PUERTO BERRIO,**	**19.75**	**6**	*e*P	**Pn**	**23 10 56.5**	**-1.9**
CFA	**Coronel Fontan**	**19.76**	**159**	P	**Pn**	**23 10 59.4**	**+1.1**
	1.0nm,0.3s,baz=310,slow=12,SNR=3.0						
PTGA	**Pitinga**	**20.50**	**54**	P	**P**	**23 11 03.4**	**-1.1**
	7.5nm,0.6s,baz=233,slow=14,SNR=10						
PTGA				LR	LR	23 19 22.4	
	comp=Z,102nm,20.3s,baz=180,slow=38						
ZARC	**Zaragoza, Cauc**	**20.66**	**4**	*e*P	**P**	**23 11 06.5**	**+0.2**
ZARC	**Zaragoza, Cauc**	**20.66**	**4**	*e*P	**P**	**23 11 06.5**	**+0.2**
PAMC	**Pamplona, Colo**	**20.78**	**10**	*e*P	Pn	23 11 09.8	-1.2
PAMC	**Pamplona, Colo**	**20.78**	**10**	*e*P	Pn	23 11 09.8	-1.2
SMLC	**San Martn de**	**22.03**	**6**	*e*P	**P**	**23 11 20.4**	**-0.4**
SMLC	**San Martn de**	**22.03**	**6**	*e*P	**P**	**23 11 20.4**	**-0.4**
BCIP	**Isla Barro Col**	**22.53**	**351**	*e*P	**P**	**23 11 26.5**	**+0.3**
CODC	**Agustn Codazz**	**23.22**	**7**	*e*P	**P**	**23 11 31.7**	**-1.6**
CODC	**Agustn Codazz**	**23.22**	**7**	*e*P	**P**	**23 11 31.7**	**-1.6**
JTS	**JuntasAbangare**	**24.87**	**340**	LR	LR	23 20 12.0	
	comp=Z,66nm,18.4s,baz=220,slow=33						
PLCA	**Paso Flores**	**27.86**	**170**	P	**P**	**23 12 16.1**	**+0.9**
	1.9nm,0.6s,baz=11,slow=10,SNR=6.8						
MDP	**Montagnes des**	**29.83**	**54**	LR	LR	23 25 05.5	
	comp=Z,111nm,21.2s,baz=219,slow=38						
TX31	**Lajitas Ar. Si**	**49.84**	**328**	*e*P	**P**	**23 15 18.4**	**-0.2**
TXAR	**Lajitas Array**	**49.84**	**328**	P	**P**	**23 15 19.3**	**+0.7**
	0.4nm,0.6s,baz=147,slow=7.3,SNR=3.4						
CBKS	**Cedar Bluff**	**56.19**	**338**	*e*P	**P**	**23 16 05.0**	**-0.1**
SDCO	**Great Sand Dun**	**57.60**	**333**	*e*P	**P**	**23 16 16.1**	**+0.6**
	0.4nm,0.6s						
DUG	**Dugway, Tooele**	**63.00**	**329**	*e*P	**P**	**23 16 53.2**	**+1.2**
	5.8nm,1.3s						
PDAR	**Pinedale Array**	**63.49**	**333**	P	**P**	**23 16 54.4**	**-1.0**
	0.2nm,0.5s,baz=121,slow=8.7,SNR=2.9						
NV01	**Mina Array Sit**	**64.64**	**325**	*e*P	**P**	**23 17 03.5**	**+0.5**
NVAR	**Mina Array Bea**	**64.64**	**325**	P	**P**	**23 17 04.2**	**+1.3**
	0.6nm,0.7s,baz=135,slow=9.0,SNR=4.5						
ULM	**Lac du Bonnet**	**65.49**	**346**	P	**P**	**23 17 07.8**	**-0.2**
	2.0nm,0.6s,baz=107,slow=4.8,SNR=4.3						
SCHQ	**Schefferville**	**68.30**	**6**	LR	LR	23 48 19.3	
	comp=Z,40nm,19.6s,baz=329,slow=37						
DBIC	**Dimbokro**	**73.76**	**79**	*e*P	**P**	**23 17 58.0**	**-1.7**
	36nm,1.8s						
DBIC	**Dimbokro**	**73.76**	**79**	P	**P**	**23 17 58.0**	**-1.7**
	2.4nm,0.6s,baz=237,slow=6.3,SNR=5.6						
YKA	**Yellowknife Ar**	**81.16**	**343**	P	**P**	**23 18 39.7**	**-0.2**
	0.3nm,0.5s,baz=142,slow=5.6,SNR=6.9						
YKB5	**Yellowknife Ar**	**81.16**	**343**	*e*P	**P**	**23 18 39.7**	**-0.2**
TOA1	**Torodi Ar. Sit**	**81.72**	**74**	*e*P	**P**	**23 18 43.6**	**-0.3**
TOA0	**Torodi Ar. Sit**	**81.72**	**74**	*e*P	**P**	**23 18 44.2**	**+0.3**
	4.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**81.72**	**74**	P	**P**	**23 18 43.6**	**-0.3**
	2.6nm,0.7s,baz=281,slow=5.6,SNR=18						
RES	**Resolute Bay**	**88.52**	**355**	P	**P**	**23 19 17.1**	**+0.4**
	0.7nm,0.8s,baz=199,slow=9.6,SNR=5.0						
ILAR	**Eielson Array**	**93.80**	**336**	P	**P**	**23 19 41.9**	**+0.5**
	0.3nm,0.6s,baz=155,slow=3.0,SNR=3.7						
COLD	**Coldfoot**	**95.96**	**338**	*e*P	**P**	**23 19 51.2**	**-0.1**
	3.6nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**119.22**	**285**	T	T	01 35 34.1	
	baz=96,slow=74,SNR=30						
H11N2	**WAKE ISLAND Hy**	**119.23**	**285**	T	T	01 35 35.3	
	baz=96,slow=74,SNR=57						
H11N1	**WAKE ISLAND Hy**	**119.24**	**285**	T	T	01 35 29.0	
	baz=96,slow=74,SNR=24						
H11S2	**WAKE ISLAND Hy**	**119.31**	**284**	T	T	01 35 45.8	
	baz=94,slow=74,SNR=62						
H11S1	**WAKE ISLAND Hy**	**119.32**	**284**	T	T	01 35 43.1	
	baz=94,slow=74,SNR=40						
H11S3	**WAKE ISLAND Hy**	**119.33**	**284**	T	T	01 35 44.0	
	baz=94,slow=74,SNR=41						
WRAB	**Tennant Creek**	**135.23**	**223**	*e*PKPdf	**PKPdf**	**23 25 46.0**	**+1.0**
WR1	**Warramunga Arr**	**135.24**	**223**	*e*PKPdf	**PKPdf**	**23 25 45.8**	**+0.8**
WRA	**Warramunga Arr**	**135.24**	**223**	PKP	**PKPdf**	**23 25 45.8**	**+0.8**
	0.2nm,0.4s,baz=132,slow=1.7,SNR=4.8						
MK32	**Makanchi Array**	**142.07**	**24**	*e*PKPpre	PKPpre	23 25 51.9	
MKAR	**Makanchi Array**	**142.07**	**24**	PKhKP	PKPpre	23 25 51.9	
	0.2nm,0.7s,baz=343,slow=4.5,SNR=2.4						
ULN	**Ulaanbaatar**	**145.37**	**356**	*e*PKPbc	**PKPdf**	**23 26 03.6**	**+1.0**
SONA0	**Songino Array**	**145.44**	**357**	*e*PKPbc	**PKPdf**	**23 26 03.7**	**+1.0**
SONM	**Songino Array**	**145.44**	**357**	PKPbc	**PKPdf**	**23 26 03.7**	**+1.0**
	2.4nm,0.6s,baz=325,slow=2.8,SNR=25						

*BJI **19** 23:28:25.9, 1°.41N×124°.28E, h221km, mb4.5/44, mB4.7/30*
*MOS **19** 23:28:27.8±1.1, 1°.61N×124°.33E, h247km, mb4.7/38, Error ellipse: s-maj=11.0km s-min=6.0km az=118.7*
*ISCJB **19** 23:28:27.7±0.2, 1°.51N±0°.02×124°.40E±0°.03, h248km±2km, mb4.5/90, Error ellipse: s-maj=4.4km s-min=3.3km az=177.4*
*NEIC **19** 23:28:28.5±0.4, 1°.54N×124°.34E, h240km±4km, mb4.7/46, Error ellipse: s-maj=5.1km s-min=3.5km az=63.0*

*KLM **19** 23:28:29.2, 1°.40N×124°.47E, h236km, mb4.9*
*IDC **19** 23:28:29.2±1.0, 1°.54N×124°.32E, h245km±9km, mb4.1/25, mb1 4.2/29, mb1mx4.1/39, mbtmp4.7/29, Error ellipse: s-maj=12.4km s-min=6.4km az=76.0*
*DJA **19** 23:28:29.2±0.4, 1°N±4°×124°4E±°, h219km±5km, M4.5/15, mB5.0/12, mb4.9/13, MLv4.7/15, Mw(mB)4.3/12*

ISC 19 23:28:28.6±0.5, **1°.53N**±0°.03×**124°.37E**±0°.04, **h244**km±4km, **n258, σ1§53/305, mb4.6/89, 14C-1D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.02**	**202**	P	**Pn**	**23 29 01.7**	**-1.4**
KMSI				S	**S**	**23 29 28.7**	**-1.6**
SGSI	**Sangihe**	**2.44**	**28**	P	**Pn**	**23 29 14.6**	**-0.2**
SGSI				S	**S**	**23 29 49.1**	**-2.2**
MRSI	**Marisa**	**2.64**	**247**	P	**Pn**	**23 29 17.0**	**+0.1**
MRSI				S	**S**	**23 29 54.0**	**-1.0**
LUWI	**Luwuk**	**3.01**	**212**	*e*Pn	**Pn**	**23 29 18.9**	**-2.0**
LUWI	**Luwuk**	**3.01**	**212**	P	**Pn**	**23 29 19.0**	**-1.9**
TNTI	**Ternate**	**3.09**	**104**	*e*Pn	**Pn**	**23 29 20.6**	**-1.2**
TNTI	**Ternate**	**3.09**	**104**	P	**Pn**	**23 29 20.5**	**-1.2**
APSI	**Ampana**	**3.64**	**228**	P	**Pn**	**23 29 27.3**	**-0.7**
APSI				S	**S**	**23 30 13.3**	**-1.7**
SANI	**Sanana**	**3.90**	**156**	P	**Pn**	**23 29 28.2**	**-2.8**
SANI				S	**S**	**23 30 13.8**	**-6.8**
MPSI	**Mapaga**	**4.62**	**255**	P	**Pn**	**23 29 39.8**	**+0.1**
DDMP	**Don Marcelino,**	**4.74**	**16**	*e*P	**Pn**	**23 29 41.4**	**+0.3**
DDMP				*e*S	**S**	**23 30 35.2**	**-3.5**
SKMP	**Bagumbayan, Su**	**4.96**	**2**	*e*P	**Pn**	**23 29 44.1**	**+0.3**
NLAI	**Namlea**	**5.46**	**150**	P	**Pn**	**23 29 49.2**	**-0.8**
	132nm,0.6s,7µm8.5nm						
DAV	**Davao City (W)**	**5.64**	**12**	P	**Pn**	**23 29 51.9**	**-0.2**
	60nm,0.3s,baz=122,slow=5.5,SNR=3.8						
DAV				S	**S**	**23 31 00.7**	**+1.9**
	28nm,0.3s,baz=285,slow=20,SNR=2.1						
CTBH	**Cotabato--PC H**	**5.66**	**359**	⇑*i*P	**Pn**	**23 29 53.1**	**+0.7**
BUKP	**Musuan**	**6.35**	**6**	*e*P	**Pn**	**23 30 02.0**	**+0.9**
PAGZ	**Pagadian**	**6.36**	**351**	*e*P	**Pn**	**23 30 02.1**	**+1.0**
TTSI	**Tana Toraja**	**6.43**	**225**	P	**Pn**	**23 30 02.6**	**+0.5**
	526nm,0.9s,4µm1.3nm						
CGP	**Cagayan de Oro**	**6.89**	**3**	*e*P	**Pn**	**23 30 10.0**	**+2.2**
TSM	**Tawau**	**7.05**	**293**	P	**Pn**	**23 30 10.8**	**+0.9**
SPSI	**Sidrap Palu**	**7.13**	**220**	P	**Pn**	**23 30 11.0**	**0.0**
	183nm,0.8s,2µm0.7nm						
BBSI	**Bau Bau**	**7.20**	**194**	P	**Pn**	**23 30 10.6**	**-1.2**
	22nm,0.7s,660nm0.1nm						
SIJI	**Sorong**	**7.29**	**109**	P	**Pn**	**23 30 13.2**	**+0.2**
	5.0nm,0.3s,baz=311,slow=10,SNR=13						
SIJI				S	**S**	**23 31 34.3**	**-2.5**
	4.3nm,0.3s,baz=267,slow=15,SNR=4.1						
BUTP	**Butuan**	**7.50**	**10**	*e*P	**Pn**	**23 30 16.0**	**+0.4**
BKSI	**Bulukumba**	**8.02**	**212**	P	**Pn**	**23 30 21.7**	**-0.5**
	72nm,1.4s,651nm						
BSSI	**Bau Bau, Buton**	**8.55**	**207**	P	**Pn**	**23 30 29.0**	**+0.1**
	108nm,1.2s,1µm						
MSLP	**Maasin**	**8.56**	**3**	*e*P	**Pn**	**23 30 30.5**	**+1.3**
FAKI	**Fak Fak**	**9.03**	**119**	*e*Pn	**Pn**	**23 30 33.9**	**-1.2**
GUIM	**Jordan**	**9.21**	**349**	*e*P	**Pn**	**23 30 38.1**	**+0.8**
KKM	**Kota Kinabalu**	**9.29**	**299**	P	**Pn**	**23 30 41.8**	**+3.3**
MMRI	**Maumere**	**10.32**	**192**	*e*Pn	**Pn**	**23 30 50.5**	**-0.8**
EDFI	**Ende, Flores**	**10.55**	**195**	P	**Pn**	**23 30 55.2**	**+0.8**
	68nm,0.7s,787nm						
SOEI	**Soe**	**11.21**	**181**	*e*Pn	**Pn**	**23 31 04.3**	**+1.6**
SOEI	**Soe**	**11.21**	**181**	P	**P**	**23 31 05.1**	**-1.9**
	287nm,0.7s,3µm						
BATI	**Baumata**	**11.68**	**183**	P	**Pn**	**23 31 10.2**	**+1.7**
	303nm,0.7s,4µm						
BATI	**Baumata**	**11.68**	**183**	P	**Pn**	**23 31 10.2**	**+1.7**
	48nm,0.3s,baz=13,slow=1.5,SNR=34						
BATI				S	**S**	**23 33 27.0**	**+8.3**
	3.8nm,0.3s,baz=72,slow=19,SNR=4.4						
PVCP	**Virac**	**11.99**	**359**	*e*P	**Pn**	**23 31 13.6**	**+1.3**
SBUM	**Sibu**	**12.18**	**275**	*e*Pn	**Pn**	**23 31 14.7**	**0.0**
PLAI	**Plampang**	**12.21**	**212**	P	**Pn**	**23 31 16.1**	**+1.1**
	156nm,0.8s,1µm						
TGY	**Tagaytay City**	**12.95**	**345**	P	**P**	**23 31 26.3**	**+0.1**
	49nm,0.3s,baz=180,slow=1.7,SNR=9.3				

KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,97nm,4.6s
ENH Enshi 31.89 335 *e*P **P 23 34 32.0 +0.6**
comp=Z,14nm,0.8s
FORT Forrest 32.32 174 *e*P **P 23 34 36.0 +0.9**
comp=Z,47nm,0.6s
NWAO Narrogin (SRO) 34.92 191 *e*P **P 23 34 58.1 +0.6**
NWAO Narrogin (SRO) 34.92 191 *e*P **P 23 34 58.1 +0.6**
CD2 Chengdu 35.14 328 *e*P **P 23 35 02.4 +2.9**
XAN Xi'an 35.43 338 P **P 23 35 02.1 +0.3**
XAN pmax pmax
comp=Z,15nm,1.0s
XAN Xi'an 35.43 338 *e*P **P 23 35 02.2 +0.3**
comp=Z,11nm,0.8s
XAN Xi'an 35.43 338 *e*P **P 23 35 02.2 +0.4**
XAN pmax pmax
comp=Z,11nm,0.8s
KSAR Wonju Array Be 35.89 5 P **P 23 35 06.6 +1.0**
KSAR PcP **PcP 23 37 28.4 +1.4**
KSAR Wonju Array Be 35.89 5 P **P 23 35 06.6 +1.0**
KSAR 23 37 28.5
BBOO Buckleboo 35.90 163 *e*P **P 23 35 06.7 +1.0**
comp=Z,27nm,0.8s
KSRS Korea Array 35.90 5 P **P 23 35 06.6 +0.9**
comp=Z,0.8nm,0.5s,baz=175,slow=14,SNR=4.1
KSRS PcP **PcP 23 37 28.4 +1.3**
comp=Z,0.4nm,0.3s,baz=184,slow=4.6,SNR=4.4
STKA Stephens Creek 37.02 155 *e*P **P 23 35 16.2 +1.0**
comp=Z,4.9nm,0.9s
STKA Stephens Creek 37.02 155 P **P 23 35 16.7 +1.5**
comp=Z,22nm,0.7s,baz=330,slow=8.6,SNR=45
MAJO Matsushiro 37.12 19 *e*P **P 23 35 16.3 +0.3**
comp=Z,4.8nm,0.6s
MAJO Matsushiro 37.12 19 *e*P **P 23 35 16.3 +0.3**
MAJO pmax pmax
comp=Z,5.0nm,0.6s
MAT Matsushiro 37.12 19 P **P 23 35 15.5 -0.5**
MJAR Matsushiro Arr 37.12 19 P **P 23 35 15.8 -0.3**
comp=Z,3.0nm,0.6s,baz=198,slow=9.9,SNR=10
LZH Lanzhou 39.30 333 ↑P **P 23 35 35.8 +1.4**
LZH pP pP 23 36 24.3 +1.1
LZH sP sP 23 36 48.1 -2.3
LZH PP **PnPn 23 37 15.0 -0.7**
LZH pmax pmax
comp=Z,32nm,1.3s
LZH pmax pmax
comp=Z,93nm,5.5s
SHL Shillong 39.38 310 *e*P **P 23 35 35.6 +0.5**
comp=Z,34nm,0.7s
SHL Shillong 39.38 310 *e*P **P 23 35 35.7 +0.5**
SHL pmax pmax
comp=Z,34nm,0.7s
SHL Shillong 39.38 310 *e*P **P 23 35 37.0 +1.8**
HHC Hu-ho-hao-te 40.83 345 *e*P **P 23 35 48.3 +1.6**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,140nm,5.3s
LSA Lhasa 42.21 315 *e*P **P 23 36 00.2 +1.6**
comp=Z,11nm,0.7s
LSA Lhasa 42.21 315 *i* P **P 23 36 00.2 +1.6**
SNR=11
LSA Lhasa 42.21 315 *e*P **P 23 36 00.2 +1.6**
LSA pmax pmax
comp=Z,11nm,0.7s
USRK Ussuriysk Ar. 43.03 8 P **P 23 36 05.1 +0.8**
comp=Z,2.4nm,0.4s,baz=198,slow=7.5,SNR=9.2
CAN Canberra 43.29 150 *e*P **P 23 36 08.5 +1.9**
comp=Z,33nm,0.7s
CAN Canberra 43.29 150 *e*P **P 23 36 08.5 +1.9**
CAN pmax pmax
comp=Z,33nm,0.7s
TOO Toolangi 43.54 155 *e*P **P 23 36 10.3 +1.7**
comp=Z,23nm,1.0s
KWAJ Kwajalein Atol 43.63 79 *e*P **P 23 36 09.7 +0.1**
KWAJ Kwajalein Atol 43.63 79 *e*P **P 23 36 09.7 +0.1**
GTA Gaotai 43.85 332 *e*P **P 23 36 11.4 +0.3**
GTA pP pP 23 36 58.9 -2.0
GTA sP sP 23 37 23.4 -4.5
GTA PcP **PcP 23 37 54.4 +1.5**
GTA pmax pmax
comp=Z,5.0nm,1.0s
PALK Pallekele 43.89 279 *e*P **P 23 36 11.5 -0.2**
comp=Z,9.8nm,0.8s
PALK Pallekele 43.89 279 P **P 23 36 11.1 -0.6**
PALK Pallekele 43.89 279 *e*P **P 23 36 11.5 -0.2**
PALK pmax pmax
comp=Z,10.0nm,0.8s
RAMN Ramite 44.17 308 *e*P **P 23 36 15.0 +1.0**
comp=Z,83nm,0.7s
JIRN Jiri 44.83 309 *e*P **P 23 36 19.9 +0.6**
comp=Z,86nm,0.7s
GUN Gumba 45.19 309 *e*P **P 23 36 22.6 +0.5**
comp=Z,87nm,0.7s
PKI Pulchoki 45.40 308 *e*P **P 23 36 23.9 +0.2**
comp=Z,39nm,0.9s
PKIN Phulchoki 45.41 308 *e*P **P 23 36 23.8 0.0**
comp=Z,23nm,0.8s
KKN Kakani 45.60 309 *e*P **P 23 36 25.5 +0.3**
comp=Z,43nm,0.8s
DMN Daman 45.65 308 *e*P **P 23 36 26.3 +0.7**
comp=Z,65nm,1.0s
GKN Gorkha 46.20 308 *e*P **P 23 36 30.0 +0.2**
comp=Z,69nm,1.0s
LHI Lord Howe Isla 46.51 138 *e*P **P 23 36 31.8 -0.2**
comp=Z,88nm,1.1s
KOLN Koldanda 46.91 308 *e*P **P 23 36 36.0 +0.6**
comp=Z,103nm,0.8s
DANN Dangsing 47.05 308 *e*P **P 23 36 36.8 +0.3**
comp=Z,94nm,0.7s
PYUN Piuthan 47.54 308 *e*P **P 23 36 40.8 +0.6**
comp=Z,114nm,0.7s
HYB Hyderabad 47.70 292 *i* P **P 23 36 41.0 -0.4**
KLR Kul'dur 47.94 7 *i* P **P 23 36 42.4 -0.2**
ULN Ulaanbaatar 48.53 344 *e*P **P 23 36 47.6 +0.3**
comp=Z,4.7nm,0.9s
ULN *e*PcP **PcP 23 38 10.1 +0.8**
ULN Ulaanbaatar 48.53 344 *ce*P **P 23 36 47.7 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 48.69 344 P **P 23 36 48.4 -0.1**
comp=Z,3.5nm,0.6s,baz=159,slow=8.5,SNR=28
SONM PcP **PcP 23 38 10.0 +0.3**
comp=Z,2.5nm,0.8s,baz=163,slow=4.1,SNR=5.5
SONM ScP **ScP 23 41 42.2 +1.0**
comp=Z,0.7nm,1.0s,baz=172,slow=4.4,SNR=3.4
TLY Talaya 52.93 344 *e*P **P 23 37 19.8 -0.1**
comp=Z,4.7nm,0.7s
TLY Talaya 52.93 344 *ce*P **P 23 37 20.4 +0.5**
TLY pmax pmax
comp=Z,11nm,0.6s
WMQ Urumqi 53.23 327 P **P 23 37 24.3 +2.0**
WMQ pmax pmax
comp=Z,43nm,0.7s
WMQ pmax pmax
comp=Z,300nm,4.7s
WMQ Urumqi 53.23 327 *e*P **P 23 37 23.6 +1.3**
comp=Z,14nm,0.5s
WMQ Urumqi 53.23 327 *e*P **P 23 37 23.6 +1.3**
WMQ pmax pmax
comp=Z,14nm,0.5s
BOD Bodaibo 56.73 353 *e*P **P 23 37 47.0 +0.1**
BOD pmax pmax
comp=Z,6.0nm,1.2s
NIL Nilore 57.45 310 *e*P **P 23 37 52.3 -0.1**
comp=Z,19nm,0.6s
NIL Nilore 57.45 310 *e*P **P 23 37 52.3 -0.1**
NIL pmax pmax
comp=Z,19nm,0.6s
KSH Kashi 57.98 317 P **P 23 37 58.5 +2.3**
KSH S **S 23 45 35.1 -2.1**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH pmax pmax
comp=Z,60nm,7.5s
MK01 Makanchi Array 58.04 327 *e*P **P 23 37 56.0 -0.3**
MK31 Makanchi Array 58.06 327 *e*P **P 23 37 56.2 -0.2**
comp=Z,18nm,0.4s
MK31 Makanchi Array 58.06 327 *e*P **P 23 37 56.3 -0.2**
MK31 pmax pmax
comp=Z,18nm,0.4s
MKAR Makanchi Array 58.06 327 P **P 23 37 56.2 -0.2**
comp=Z,19nm,0.4s,baz=123,slow=7.6,SNR=328
MKAR PcP **PcP 23 38 45.3 -0.1**
comp=Z,6.7nm,0.7s,baz=120,slow=5.1,SNR=10
MKAR ScP **ScP 23 42 21.9 -0.2**
comp=Z,0.3nm,0.6s,baz=115,slow=5.1,SNR=3.3
MKAR S **S 23 45 39.1 +1.3**
comp=Z,0.6nm,0.9s,baz=121,slow=14,SNR=4.2
MAKZ Makanchi 58.24 327 *e*P **P 23 37 57.4 -0.3**
comp=Z,21nm,0.5s
MAKZ Makanchi 58.24 327 *e*P **P 23 37 57.4 -0.3**
MAKZ pmax pmax
comp=Z,21nm,0.5s
PETK Petropavlovsk- 58.35 23 P **P 23 37 59.5 +1.3**
comp=Z,3.3nm,0.6s,baz=186,slow=3.0,SNR=6.0
PETK PcP **PcP 23 38 47.0 +0.7**
comp=Z,3.9nm,0.7s,baz=238,slow=4.1,SNR=5.5
PETK S **S 23 45 39.4 -1.9**
comp=Z,28nm,1.2s,baz=208,slow=15,SNR=3.7
KDJ Kajisay 58.47 320 *e*P **P 23 38 01.3 +1.8**
comp=Z,12nm,0.6s
KDJ Kajisay 58.47 320 *e*P **P 23 38 01.3 +1.8**
KDJ pmax pmax
comp=Z,12nm,0.6s
NRN Naryn 58.88 319 *e*P **P 23 38 02.5 -0.1**
NRN Naryn 58.88 319 *e*P **P 23 38 02.5 -0.1**
KZA Kyzart 59.69 319 P **P 23 38 08.7 +0.5**
SNR=14
TKM2 Tokmak 2 59.88 320 P **P 23 38 09.6 +0.4**
SNR=15
UCH Uchtor 60.24 319 P **P 23 38 12.9 +1.0**
SNR=15
AAK Ala-Archa 60.45 320 P **P 23 38 14.3 +1.3**
SNR=7.7
AAK Ala-Archa 60.45 320 *e*P **P 23 38 13.2 +0.2**
comp=Z,6.9nm,1.0s
AAK *e*PcP **PcP 23 38 55.4 +0.2**
AAK Ala-Archa 60.45 320 *i* P **P 23 38 13.3 +0.3**
SNR=14
AAK Ala-Archa 60.45 320 *ce*P **P 23 38 13.5 +0.5**
AAK pmax pmax
comp=Z,5.0nm,0.9s
YAK Yakutsk 60.49 3 *e*P **P 23 38 12.8 +0.2**
YAK *e* 23 38 56.8
YAK *e*S **S 23 46 07.3 -0.8**
YAK *e**SS SKKSac 23 47 29.4 -8.9
YAK *e*SS **SS 23 50 09.9 -0.9**
YAK pmax pmax
comp=Z,304nm,0.8s
YAK pmax pmax
comp=N,51nm,1.1s
YAK pmax pmax
comp=E,14nm,0.7s
YAK smax smax
comp=E,959nm,5.4s
YAK smax smax
comp=N,686nm,3.9s
AML Almayashu 60.73 319 P **P 23 38 15.7 +0.5**
SNR=16
USP Ospenovka 60.74 320 P **P 23 38 14.9 0.0**
SNR=15
KBL Kabul 61.03 309 *e*P **P 23 38 16.4 -0.7**
comp=N,19nm,0.6s
KBL Kabul 61.03 309 *e*P **P 23 38 16.4 -0.7**
KBL pmax pmax
comp=Z,19nm,0.6s
MA2 Magadan 61.41 15 P **P 23 38 18.6 -0.3**
comp=Z,2.9nm,0.3s,baz=201,slow=2.3,SNR=5.3
ZAA0 Zalesovo Array 61.51 335 *e*P **P 23 38 18.7 -1.0**
comp=Z,5.2nm,0.6s
ZALV Zalesovo Beam 61.51 335 *e*P **P 23 38 18.2 -1.5**
ZALV S **S 23 46 14.4 -7.0**
ZALV Zalesovo Beam 61.51 335 *e*P **P 23 38 18.2 -1.5**
ZALV S **S 23 46 14.4 -7.0**
ZALV Zalesovo Beam 61.51 335 P **P 23 38 18.6 -1.0**
comp=Z,5.9nm,0.6s,baz=113,slow=4.2,SNR=22
ZALV S **S 23 46 14.4 -7.0**
comp=Z,0.4nm,0.3s,baz=155,slow=32,SNR=2.9
KURK Kurchatov 62.36 329 *e*P **P 23 38 24.9 -0.5**
KURK Kurchatov 62.36 329 *ce*P **P 23 38 24.8 -0.6**
KURK pmax pmax
comp=Z,28nm,0.6s
NVS Novosibirsk 62.80 335 *e*P **P 23 38 26.5 -1.7**
NVS *e*S **S 23 46 38.1 +0.7**
NVS pmax pmax
comp=Z,13nm,0.9s
NVS pmax pmax
comp=N,8.0nm,0.9s
NVS pmax pmax
comp=E,11nm,0.9s
NVS smax smax
comp=N,8.0nm,1.7s
NVS smax smax
comp=E,11nm,1.3s
KK31 Karatay Array 63.27 319 *e*P **P 23 38 31.8 +0.2**
comp=E,4.8nm,0.6s
KK31 Karatay Array 63.27 319 *e*P **P 23 38 31.8 +0.2**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 63.27 319 *e*P **P 23 38 31.4 -0.2**
comp=Z,4.8nm,0.6s
KKAR Karatay Array 63.27 319 *e*P **P 23 38 31.4 -0.2**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
SEY Seymchan 64.71 14 *ce*P **P 23 38 41.4 +1.0**
SEY Seymchan 64.71 14 P **P 23 38 42.0 +1.6**
comp=Z,2.0nm,0.4s,baz=220,slow=7.5,SNR=6.8
BRVK Borovoye 67.97 328 *e*P **P 23 39 00.6 -0.8**
comp=Z,9.0nm,0.8s
BRVK Borovoye 67.97 328 *ce*P **P 23 39 01.2 -0.1**
BRVK pmax pmax
comp=Z,15nm,1.3s
MDH Madha 69.56 296 P **P 23 39 10.5 -1.2**
HATD Hatta, Dubai 69.65 296 P **P 23 39 11.4 -0.8**
ASHO Ashiyiah 69.69 296 *i* P **P 23 39 12.8 +0.2**
SNR=8.6
MSFE Esma-Masafi 69.70 296 P **P 23 39 12.8 +0.2**
SHME Shamm 69.81 297 P **P 23 39 13.3 0.0**
ALNE Al Ain 69.89 295 *i* P **P 23 39 13.7 0.0**
SNR=11
TIXI Tiksi 70.08 2 *ce*P **P 23 39 14.0 +0.1**
TIXI pmax pmax
comp=Z,19nm,1.1s
NAZ Nazwa, Dubai 70.09 296 P **P 23 39 15.1 +0.1**
ASUD Al Ashush, Dub 70.34 296 *i* P **P 23 39 17.3 +0.9**
SNR=8.1
GEYT Alibeck 70.46 310 P **P 23 39 16.4 -0.6**
comp=Z,6.7nm,0.7s,baz=137,slow=5.0,SNR=15
NRIK Noril'sk 72.02 347 P **P 23 39 25.8 +0.2**
comp=Z,1.1nm,0.6s,baz=127,slow=5.8,SNR=32
BILL Bilibino 72.28 15 ‖ *e*P **P 23 39 25.7 -1.4**
BILL *e**PP **pP 23 40 21.1 -1.6**
BILL *e* 23 42 11.4
BILL pmax pmax
comp=Z,10.0nm,4.1s
ABKAR Akbulak array 72.38 322 *e*P **P 23 39 27.4 -0.7**
comp=Z,4.6nm,0.8s
ARU Arti 75.55 328 *e*P **P 23 39 44.9 -1.3**
comp=Z,11nm,1.0s
ARU Arti 75.55 328 *c* *i*P **P 23 39 45.3 -0.9**
ARU *PP **pP 23 40 40.6 -1.4**
ARU S **S 23 49 07.0 +0.7**
ARU SS **SS 23 54 02.5 -0.4**
ARU pmax pmax
comp=Z,10.0nm,0.9s
ABPO Ambohimpanom 78.35 250 *e*P **P 23 40 02.5 -0.3**
comp=Z,12nm,0.6s
ABPO Ambohimpanom 78.35 250 *e*P **P 23 40 02.5 -0.3**
ABPO pmax pmax
comp=Z,12nm,0.6s
RAYN Ar Rayn 79.18 294 *e*P **P 23 40 06.3 -0.8**
comp=Z,12nm,0.9s
RAYN Ar Rayn 79.18 294 *i* P **P 23 40 06.3 -0.8**
SNR=20
RAYN Ar Rayn 79.18 294 *e*P **P 23 40 06.3 -0.8**
RAYN pmax pmax
comp=Z,12nm,0.9s
MAW Mawson 80.89 200 P **P 23 40 16.8 +1.6**
comp=Z,9.6nm,1.1s,baz=59,slow=5.9,SNR=3.3
GNI Garni 81.09 310 *e*P **P 23 40 17.4 +0.3**
GNI Garni 81.09 310 *e*P **P 23 40 17.4 +0.3**
TBLG Delisi 81.25 312 *e*P **P 23 40 18.1 +0.4**
comp=Z,14nm,1.2s
TBLG Delisi 81.25 312 *e*P **P 23 40 18.2 +0.4**
TBLG pmax pmax
comp=Z,14nm,1.2s
VNDA Vanda 81.56 172 P **P 23 40 18.6 0.0**
comp=Z,0.5nm,0.5s,baz=320,slow=10.0,SNR=7.0
ZEI Tsey 81.97 313 *e*P **P 23 40 20.5 -1.2**
ZEI pmax pmax
comp=Z,16nm,1.5s
KBZ Khabaz 82.78 314 P **P 23 40 25.5 -0.1**
comp=Z,3.7nm,0.8s,baz=151,slow=5.3,SNR=7.9
KIV Kislovodsk 82.95 314 *e*P **P 23 40 26.6 0.0**
comp=Z,6.6nm,0.5s
KIV Kislovodsk 82.95 314 *e*P **P 23 40 26.6 0.0**
KIV pmax pmax
comp=Z,7.0nm,0.5s
PRGR Permogore 83.31 332 *e*P P 23 40 22.8 -5.1
PRGR pmax pmax
comp=Z,7.0nm,0.6s
VRH Novokhopyorsk 84.20 321 *e*P **P 23 40 31.9 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.6s
IM3 Indian Mountai 85.30 24 *e*P **P 23 40 38.5 +0.6**
VSR Storozhevoye 85.81 321 *i* P **P 23 40 39.6 -1.0**
VSR pmax pmax
comp=Z,14nm,0.6s
LPSR Galich'ya Gora 86.02 322 *e*P **P 23 40 40.4 -1.2**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 86.16 331 *e*P **P 23 40 39.5 -2.6**
KLMR pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 86.16 331 *e*P **P 23 40 39.6 -2.6**
KLMR AMP 23 40 45.0
comp=Z,5.0nm,0.7s
TMCR Tamitsa 87.03 334 *e*P **P 23 40 45.2 -1.0**
TMCR pmax pmax
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 87.14 21 *e*P **P 23 40 48.0 +1.1**
comp=Z,5.2nm,0.9s
KMBO Kilima Mbogo 87.15 269 *e*P **P 23 40 48.3 +0.1**
comp=Z,12nm,1.0s
KMBO Kilima Mbogo 87.15 269 *i* P **P 23 40 49.0 +0.8**
SNR=9.2
KMBO Kilima Mbogo 87.15 269 *i* P **P 23 40 49.0 +0.8**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 87.15 269 P **P 23 40 47.9 -0.4**
comp=Z,6.0nm,0.8s,baz=62,slow=7.7,SNR=19
OBN Obninsk 87.50 325 ↑ *e*P **P 23 40 46.5 -2.1**
OBN *e**PP **pP 23 41 44.4 -1.6**
OBN *e* 23 44 13.3
OBN *e*S **S 23 51 01.5 -7.1**
OBN pmax pmax
comp=Z,5.0nm,0.9s
ILAR Eielson Array 88.09 25 P **P 23 40 50.5 -0.8**
comp=Z,0.8nm,0.5s,baz=256,slow=4.6,SNR=18
BRTR Keskin Array B 89.60 310 *ce*P **P 23 40 58.0 -1.1**
BRTR pmax pmax
comp=Z,2.0nm,1.0s
BRTR Keskin Array B 89.60 310 P **P 23 40 59.5 +0.4**
comp=Z,0.7nm,0.5s,baz=98,slow=8.0,SNR=5.6
ARCES ARCESS Array B 91.69 340 P **P 23 41 07.0 -1.0**
ARCES ARCESS Array B 91.69 340 P **P 23 41 07.0 -1.0**
comp=Z,3.2nm,0.5s,baz=86,slow=6.5,SNR=27
AKASG Malin Array Be 92.10 321 P **P 23 41 08.9 -1.3**
comp=Z,0.5nm,0.4s,baz=71,slow=4.9,SNR=4.1
FINES FINESS Array B 92.64 332 *i* P **P 23 41 11.8 -0.7**
FINES pmax pmax
comp=Z,3.0nm,0.7s
FINES FINESS Array B 92.64 332 P **P 23 41 11.2 -1.3**
comp=Z,2.8nm,0.7s,baz=60,slow=5.6,SNR=9.7
INK Inuvik 93.06 21 *e*P **P 23 41 14.7 +0.5**
comp=Z,1.3nm,0.6s
INK Inuvik 93.06 21 *e*P **P 23 41 14.7 +0.5**
INK pmax pmax
comp=Z,1.0nm,0.6s
BUR08 Bucovina Ar. S 95.06 318 *e*P **P 23 41 23.9 -0.2**
comp=Z,26nm,1.9s
LSZ Lusaka 96.36 255 *e*P **P 23 41 30.4 -0.2**
comp=Z,3.9nm,0.6s
LSZ Lusaka 96.36 255 *e*P **P 23 41 30.4 -0.2**
LSZ pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 99.68 333 P **Pdif 23 41 42.9 -1.6**
comp=Z,0.7nm,0.7s,baz=70,slow=4.4,SNR=3.2
YKA Yellowknife Ar 102.46 24 P **Pdif 23 41 57.4 +0.7**
comp=Z,0.2nm,0.7s,baz=300,slow=4.3,SNR=3.5
YKA PKiKP **PKiKP 23 46 17.2 +0.5**
comp=Z,0.2nm,0.5s,baz=320,slow=2.1,SNR=5.9
YKA PKKPbc **PKKPbc 23 57 54.9 -4.6**
comp=Z,0.1nm,0.5s,baz=119,slow=2.6,SNR=4.6
NVAR Mina Array Bea 110.12 48 PKiKP **PKiKP 23 46 33.9 +1.9**
comp=Z,0.5nm,0.6s,baz=251,slow=3.7,SNR=5.4
NVAR PKKPab **PKKPab 23 57 45.6 -1.1**
comp=Z,0.4nm,0.6s,baz=142,slow=5.2,SNR=3.7
PDAR Pinedale Array 114.55 41 PKP **PKiKP 23 46 41.6 +1.2**
comp=Z,0.2nm,0.5s,baz=108,slow=2.0,SNR=5.9
PDAR PKKPab **PKKPab 23 57 25.3 -1.8**
comp=Z,0.8nm,0.7s,baz=108,slow=4.8,SNR=6.2
RSSD Black Hills 117.36 37 *e*PKPdf **PKiKP 23 46 45.8 +0.1**
RSSD Black Hills 117.36 37 *e*PKiKP **PKiKP 23 46 45.8 +0.1**
ESDC Sonseca Array 117.50 317 PKP **PKiKP 23 46 46.1 +0.3**
comp=Z,0.1nm,0.4s,baz=64,slow=3.3,SNR=3.1
ANMO Albuquerque 120.24 47 *c* *i*PKiKP **PKiKP 23 46 52.5 +0.9**
ANMO pmax pmax
comp=Z,6.0nm,2.5s
TOA0 Torodi Ar. Sit 121.31 286 *e*PKPdf **PKPdf 23 46 53.6 -0.2**
TORD Torodi Ar. Bea 121.31 286 PKP **PKPdf 23 46 51.9 -1.8**
comp=Z,2.8nm,0.8s,baz=44,slow=2.9,SNR=17
SCHQ Schefferville 123.08 8 PKP **PKiKP 23 46 57.0 +0.8**
comp=Z,4.0nm,0.5s,baz=307,slow=2.1,SNR=13
TXAR Lajitas Array 124.80 52 PKP **PKiKP 23 47 01.7 +1.1**
comp=Z,1.0nm,0.8s,baz=349,slow=5.1,SNR=6.9
DBIC Dimbokro 128.67 280 PKP **PKiKP 23 47 08.8 +0.2**
comp=Z,3.5nm,0.7s,baz=24,slow=0.9,SNR=5.1
PLCA Paso Flores 138.70 163 PKP **PKiKP 23 47 27.4 -0.9**
comp=Z,1.7nm,0.7s,baz=178,slow=4.9,SNR=4.6
JTS JuntasAbangare 148.54 67 *e*PKPbc **PKPbc 23 47 47.9 +0.1**
JTS JuntasAbangare 148.54 67 *e*PKP2 **PKPbc 23 47 47.9 +0.1**
LCO Las Campanas 149.12 154 *e*PKPbc **PKiKP 23 47 50.1 -0.1**
LCO Las Campanas 149.12 154 *e*PKP2 **PKiKP 23 47 50.2 -0.1**
LPAZ La Paz 160.85 141 PKP **PKPdf 23 48 01.6 +0.3**
comp=Z,0.8nm,0.6s,baz=221,slow=3.4,SNR=5.3

IDC ***19*** *23:46:18.1±1.6,32.81N×71.46E,h0km,mb3.7/7, mb1 3.8/10,mb1mx3.5/47,mbtmp3.7/10,ML3.1/3,MS2.5/2, Ms1 2.5/2,ms1mx2.3/37, Error ellipse: s-maj=57.1km s-min=21.8km az=75.0*

ISC 19 23:46:20.5±1.2,32.7N±0.1×71.1E±0.1,h24km,n21, σ2s00/21,mb3.8/6,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BHK	**Bhakra**	**4.67**	**104**	*e*S		**Sb**		**23 48 40.9**	**+3.5**
AAK	**Ala-Archa**	**10.31**	**14**	Pn		**Pn**		**23 48 48.0**	**+1.0**
	0.6nm,0.3s,baz=154,slow=5.9,SNR=9.1								
AAK				Sn		**Sn**		**23 50 42.5**	**+0.6**
	0.2nm,0.3s,baz=309,slow=18,SNR=3.8								
AAK				LR		LR		23 52 49.3	
	comp=Z,12nm,21.2s,baz=275,slow=39								
PYUN	**Piuthan**	**11.21**	**111**	*e*P		**Pn**		**23 48 57.6**	**-1.9**
	11nm,0.4s								
DANN	**Dangsing**	**11.72**	**108**	*e*P		**Pn**		**23 49 05.3**	**-1.1**
	6.4nm,0.3s								
KOLN	**Koldanda**	**11.84**	**111**	*e*P		**Pn**		**23 49 07.1**	**-1.0**
	4.3nm,0.3s								
GEYT	**Alibeck**	**11.85**	**300**	LR		LR		23 54 32.9	
	comp=Z,44nm,18.9s,baz=185,slow=41								
GKN	**Gorkha**	**12.56**	**108**	*e*P		**Pn**		**23 49 16.4**	**-1.5**
	6.9nm,0.3s								
PKIN	**Phulchoki**	**13.35**	**109**	*e*P		**Pn**		**23 49 26.2**	**-2.6**
	7.4nm,0.4s								
PKI	**Pulchoki**	**13.37**	**109**	*e*P		**Pn**		**23 49 26.9**	**-2.1**
	6.2nm,0.3s								
GUN	**Gumba**	**13.60**	**107**	*e*P		**Pn**		**23 49 31.0**	**-1.3**
	19nm,0.7s								
JIRN	**Jiri**	**13.96**	**107**	*e*P		**Pn**		**23 49 34.6**	**-2.5**
	10nm,0.4s								
RAMN	**Ramite**	**14.59**	**109**	*e*P		**Pn**		**23 49 42.8**	**-2.9**
	5.8nm,0.3s								
MKAR	**Makanchi Array**	**16.50**	**28**	Pn		**Pn**		**23 50 07.8**	**-2.5**
	0.0nm,0.3s,baz=203,slow=14,SNR=2.6								
KURBB	**Kurchatov Arra**	**18.77**	**15**	P		**P**		**23 50 36.2**	**-1.5**
	0.1nm,0.3s,baz=208,slow=10,SNR=4.0								
BVAR	**Borovoye Array**	**20.36**	**359**	P		**P**		**23 50 55.6**	**+0.5**
	0.4nm,0.3s,baz=151,slow=8.2,SNR=4.3								
ZALV	**Zalesovo Beam**	**23.42**	**21**	P		**P**		**23 51 25.0**	**-2.5**
	0.9nm,0.5s,baz=224,slow=10,SNR=3.9								
ARCES	**ARCESS Array B**	**44.74**	**339**	P		**P**		**23 54 32.6**	**+1.1**
	3.0nm,0.9s,baz=110,slow=8.0,SNR=4.9								
INK	**Inuvik**	**77.67**	**9**	P		**P**		**23 58 14.2**	**-0.4**

0.4nm,0.6s,baz=320,slow=6.7,SNR=3.6
WRA Warramunga Arr 79.90 121 P **P 23 58 27.3 -0.2**
0.6nm,0.5s,baz=323,slow=5.1,SNR=12
ASAR Alice Springs 81.99 125 P **P 23 58 41.2 +2.6**
0.6nm,0.6s,baz=308,slow=5.5,SNR=4.1
YKA Yellowknife Ar 85.07 3 P **P 23 58 54.3 +0.4**
0.5nm,0.7s,baz=352,slow=5.9,SNR=8.2

*HEL **20** 00:20:34.9, 67°.81N×20°.66E, h0km, ML1.8, Explosion*
UPP 20 00:20:33.6±0.4, 67°.84N×20°.20E, h1km±3km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**24**	P	Pg	00 20 36.2	+0.1
KUA				S	Sg	00 20 38.0	+0.2
KUA	**Kurravaara**	**0.13**	**24**	*i* P	Pg	00 20 36.2	+0.1
KUA				*i* S	Sg	00 20 38.0	+0.2
RATU	**Laukkuluspa**	**0.23**	**267**	P	Pg	00 20 38.0	0.0
RATU	**Laukkuluspa**	**0.23**	**267**	*i* P	Pg	00 20 38.0	0.0
NIKU	**Nikkaluokta**	**0.44**	**275**	P	Pg	00 20 42.0	-0.1
NIKU	**Nikkaluokta**	**0.44**	**275**	*i* P	Pg	00 20 42.0	-0.1
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	00 20 46.8	-0.3
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	00 20 44.8	-2.3
DUNU	**Dundret**	**0.73**	**169**	P	Pg	00 20 47.0	-0.6
DUNU				S	Sg	00 20 57.3	+0.3
DUNU	**Dundret**	**0.73**	**169**	*i* P	Pg	00 20 47.0	-0.6
DUNU				*i* S	Sg	00 20 57.3	+0.3
MASU	**Masugnsbyn**	**0.79**	**118**	P	Pg	00 20 48.4	-0.2
MASU	**Masugnsbyn**	**0.79**	**118**	*i* P	Pg	00 20 48.4	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 20 48.5	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 20 48.5	-0.2
KIF	**Kilpisjarvi**	**1.20**	**10**	*e*P	Pg	00 20 56.7	+0.2
KIF	**Kilpisjarvi** baz=187	**1.20**	**10**	*e*PN	Pn	00 20 59.4	+2.0
KIF				*e*SB	Sg	00 21 12.4	+0.4
KIF	comp=Z,15nm,0.2s			MSG		00 21 12.5	
PAJU	**Pajala**	**1.39**	**125**	P	Pn	00 20 58.8	-1.3
PAJU				S	Sg	00 21 17.5	-0.7
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pn	00 20 58.8	-1.3
PAJU				*e*S	Sg	00 21 17.5	-0.7
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 20 59.6	-0.9
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	00 20 59.6	-1.0
HEF				MSG		00 21 13.5	
	comp=Z,5.3nm,0.2s						
ERTU	**Ertsjaerv**	**1.50**	**148**	P	Pn	00 21 01.6	0.0
ERTU	**Ertsjaerv**	**1.50**	**148**	*e*PN	Pn	00 21 01.5	-0.2
ERTU				*e*SB	Sg	00 21 21.2	-0.5
HARU	**Harads**	**1.71**	**169**	P	Pn	00 21 04.5	0.0
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	00 21 04.5	0.0
KALU	**Kalix**	**2.34**	**146**	P	Pn	00 21 14.2	+1.1
KALU	**Kalix**	**2.34**	**146**	*e*PB	Pn	00 21 14.1	+1.0
KALU				*e*SB	Sb	00 21 45.2	-0.7
TOF	**Tornio**	**2.40**	**135**	*e*PB	Pn	00 21 15.3	+1.4
TOF				MSG		00 21 41.8	
	comp=Z,4.5nm,0.2s						
TOF				*e*SG	Sb	00 21 47.7	+0.2
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	00 21 17.6	-0.8
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pn	00 21 18.4	+2.0
RNF				*e*SB	Sb	00 21 51.8	-0.8
ARE0	**ARCESS Array S** baz=225	**2.58**	**46**	*e*P	Pn	00 21 17.7	+1.2
ARE0				*e*SB	Sb	00 21 51.6	-1.3
UMAU	**Umeaa**	**3.98**	**177**	*e*SG	Sg	00 22 39.1	-2.0

UPP 20 00:20:40.5±0.1, 67°.85N×20°.15E, h0km, ML2.2, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**35**	P	Pg	00 20 43.1	+0.2
KUA				S	Sg	00 20 44.9	+0.5
RATU	**Laukkuluspa**	**0.21**	**262**	P	Pg	00 20 45.0	+0.4
NIKU	**Nikkaluokta**	**0.42**	**272**	P	Pg	00 20 48.3	-0.3
PAJU	**Pajala**	**1.41**	**125**	P	Pn	00 21 05.9	-1.6

*BGR **20** 00:24:54.4±0.0, 51°.23N×162°.03W, h33km, mb4.5*
*IDC **20** 00:24:55.5±0.6, 52°.88N×167°.80W, h0km, mb4.2/33, mb1 4.4/34, mb1mx4.3/45, mbtmp4.2/34, ML3.6/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/44, Error ellipse: s-maj=18.0km s-min=10.3km az=177.0*
*MOS **20** 00:24:58.8±1.0, 52°.87N×167°.76W, h32km, mb4.8/33, Error ellipse: s-maj=11.0km s-min=5.8km az=89.6*
*ISCJB **20** 00:24:59.9±0.2, 52°.78N±0°.03×167°.70W±0°.03, h42km, mb4.4/100, MS3.3/10, Error ellipse: s-maj=4.9km s-min=2.4km az=156.0*
*NEIC **20** 00:24:59.7±0.0, 52°.68N×167°.54W, h34km, mb4.4/68, ML4.2(AEIC), After AEIC.*
ISC 20 00:25:01.3±0.4, 52.79N±0°.06×167°.63W±0°.04, h42km, n314, σ1°.94/322, mb4.4/100, MS3.3/11, 28C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**0.65**	**338**	P	**Pn**	**00 25 14.3**	**+0.2**
OKER	**Okmok East Rim**	**0.71**	**339**	P	**Pn**	**00 25 15.4**	**+0.3**
NIKH	**Nikolski High**	**0.76**	**284**	*e*Pn	**Pn**	**00 25 14.6**	**-1.1**
OKWE	**Okmok W'ng Wal**	**0.78**	**332**	P	**Pn**	**00 25 16.2**	**+0.3**
OKAK	**Okmok**	**0.90**	**331**	P	**Pn**	**00 25 15.7**	**-1.9**
MREP	**Makushin Rep't**	**1.15**	**27**	P	**Pn**	**00 25 20.7**	**-0.3**
MSW	**Makushin Switc**	**1.24**	**24**	P	**Pn**	**00 25 22.0**	**-0.2**
MSW				S	**Sn**	**00 25 39.2**	**+1.5**
MCIR	**Makushin Cirqu**	**1.25**	**21**	P	**Pn**	**00 25 22.7**	**+0.4**
UNV	**Unalaska Valle**	**1.26**	**32**	*e*Pn	**Pn**	**00 25 21.9**	**-0.5**
MTBL	**Makushin Table**	**1.31**	**25**	P	**Pn**	**00 25 23.4**	**+0.1**
AKMO	**Akutan Morgan**	**1.62**	**36**	P	**Pn**	**00 25 27.6**	**+0.2**
AKMO				S	**Sn**	**00 25 49.0**	**+1.9**
AKRB	**Akutan Reef Bi**	**1.64**	**34**	P	**Pn**	**00 25 28.1**	**+0.5**
AKRB				S	**Sn**	**00 25 50.0**	**+2.6**
ZRO	**Akutan Zero**	**1.64**	**37**	P	**Pn**	**00 25 27.9**	**+0.3**
AHB	**Akutan Harbor**	**1.71**	**39**	P	**Pn**	**00 25 28.6**	**-0.1**
AKGG	**Akutan Green G**	**1.72**	**34**	P	**Pn**	**00 25 29.4**	**+0.6**
HSB	**Akutan Spr's B**	**1.74**	**36**	P	**Pn**	**00 25 29.4**	**+0.4**
AKUT	**Akutan**	**1.75**	**39**	*e*Pn	**Pn**	**00 25 28.5**	**-0.6**
WESP	**Westdahl Peak**	**2.43**	**44**	P	**Pn**	**00 25 39.0**	**+0.4**
WESP				S	**Sn**	**00 26 08.5**	**+1.4**
SSBA	**Shishaldin**	**2.88**	**45**	P	**Pn**	**00 25 45.3**	**+0.6**
FALS	**False Pass**	**3.24**	**49**	*e*Pn	**Pn**	**00 25 50.2**	**+0.6**
DRIA	**Deer Island**	**3.85**	**53**	P	**Pn**	**00 25 58.0**	**0.0**
DT1	**Dutton Round H**	**3.92**	**52**	P	**Pn**	**00 25 59.6**	**+0.6**
KOFP	**Korovin Flat P**	**3.98**	**265**	P	**Pn**	**00 26 01.3**	**+1.4**
KOKL	**Mount Kliuchef**	**4.04**	**266**	P	**Pn**	**00 26 02.0**	**+1.3**
DOL	**Dolgoi Island**	**4.14**	**53**	P	**Pn**	**00 26 02.2**	**+0.2**
SPIA	**Saint Paul Isl**	**4.65**	**342**	P	**Pn**	**00 26 11.2**	**+2.4**
SDPT	**Sand Point**	**4.93**	**56**	*e*Pn	**Pn**	**00 26 13.2**	**+0.4**
GSMY	**Great Sitkin M**	**5.21**	**265**	P	**Pn**	**00 26 17.7**	**+1.0**
GSTD	**Great Sitkin T**	**5.26**	**265**	P	**Pn**	**00 26 18.4**	**+0.9**
ETKA	**Kagalaska Isla**	**5.46**	**264**	P	**Pn**	**00 26 21.1**	**+1.0**
KIRH	**Kanaga Island**	**5.87**	**265**	P	**Pn**	**00 26 27.4**	**+1.7**
KIWB	**Kanaga Island**	**5.91**	**265**	*e*Pn	**Pn**	**00 26 25.7**	**-0.6**
KICM	**Kanaga Island**	**5.93**	**265**	P	**Pn**	**00 26 28.1**	**+1.6**
KIMD	**Kanaga Island**	**5.99**	**264**	P	**Pn**	**00 26 28.6**	**+1.4**
TAFP	**Tanaga Falls P**	**6.41**	**266**	P	**Pn**	**00 26 34.3**	**+1.2**
CHGN	**Chignik**	**6.41**	**53**	*e*Pn	**Pn**	**00 26 34.5**	**+1.5**
TASE	**Tanaga Southea**	**6.45**	**266**	P	**Pn**	**00 26 34.9**	**+1.1**
KDAK	**Kodiak Island**	**9.93**	**54**	*ce*P	**Pn**	**00 27 20.8**	**-0.4**
KDAK	**Kodiak Island** 1.1nm,0.3s,baz=222,slow=5.1,SNR=24	**9.93**	**54**	Pn	**Pn**	**00 27 19.0**	**-2.2**
KDAK				Sn	**Sn**	**00 29 05.6**	**-5.5**
	baz=253,slow=19,SNR=2.9						
TT01	**Tatalina**	**11.85**	**27**	P	**Pn**	**00 27 50.3**	**+2.7**
ANM	**Nome**	**11.87**	**5**	*e*Pn	**Pn**	**00 27 49.4**	**+1.7**
ANM	**Nome**	**11.87**	**5**	*e*P	**Pn**	**00 27 49.4**	**+1.7**
SUA	**Susitna One**	**12.60**	**40**	*e*Pn	**Pn**	**00 27 58.8**	**+1.0**
RC01	**Rabbit Creek A**	**12.79**	**42**	*e*Pn	**Pn**	**00 28 00.1**	**-0.2**
KNK	**Knik Glacier**	**13.48**	**43**	*e*Pn	**Pn**	**00 28 08.9**	**-0.9**
GHO	**Glory Hole Cre**	**13.49**	**41**	*e*Pn	**Pn**	**00 28 09.5**	**-0.5**
SML	**Sawmill**	**13.74**	**41**	*e*Pn	**Pn**	**00 28 12.6**	**-0.8**
SML	**Sawmill**	**13.74**	**41**	*e*P	**Pn**	**00 28 12.6**	**-0.8**
SCM	**Sheep Creek Mo**	**14.16**	**42**	*e*Pn	**Pn**	**00 28 18.3**	**-0.8**
SCM	**Sheep Creek Mo**	**14.16**	**42**	*e*P	**Pn**	**00 28 18.3**	**-0.8**
BPAW	**Bear Paw Mtn.**	**14.24**	**31**	*e*Pn	**Pn**	**00 28 21.8**	**+1.8**
RND	**Reindeer**	**14.48**	**35**	*e*Pn	**Pn**	**00 28 23.9**	**+0.5**
RND	**Reindeer**	**14.48**	**35**	*e*P	**Pn**	**00 28 23.9**	**+0.5**
DIV	**Divide**	**14.49**	**46**	*e*Pn	**Pn**	**00 28 24.6**	**+1.1**
KLU	**Klutina**	**14.59**	**45**	*e*Pn	**Pn**	**00 28 23.5**	**-1.4**
DHY	**Denali Highway**	**14.82**	**38**	*e*Pn	**Pn**	**00 28 28.1**	**+0.2**
HMT	**Hamilton**	**14.87**	**50**	*e*Pn	**Pn**	**00 28 28.9**	**+0.3**
IM3	**Indian Mountai**	**14.94**	**22**	*e*Pn	**Pn**	**00 28 29.5**	**+0.1**
MLY	**Manley**	**14.98**	**28**	*e*Pn	**Pn**	**00 28 29.7**	**-0.3**
WRH	**Wood River Hil** 7.7nm,1.1s	**15.42**	**33**	*e*Pn	**Pn**	**00 28 36.6**	**+1.0**
PAX	**Paxson** 21nm,1.5s	**15.49**	**40**	*e*Pn	**Pn**	**00 28 36.2**	**-0.5**
PAX	**Paxson**	**15.49**	**40**	*e*P	**Pn**	**00 28 36.2**	**-0.5**
PAX	comp=Z,21nm,1.5s			pmax	pmax		
CCB	**Clear Creek Bu** comp=Z,15nm,1.5s	**15.63**	**33**	*e*Pn	**Pn**	**00 28 38.8**	**+0.5**
MDM	**Murphy Dome** comp=Z,11nm,1.1s	**15.70**	**32**	*e*Pn	**Pn**	**00 28 40.5**	**+1.3**
COLA	**College**	**15.76**	**32**	*i* P	**P**	**00 28 44.2**	**+0.9**
HDA	**Harding Lake** comp=Z,5.5nm,0.9s	**15.77**	**34**	*e*Pn	**Pn**	**00 28 40.6**	**+0.5**
BALM	**Baldy** comp=Z,17nm,1.1s	**16.00**	**49**	*e*Pn	**Pn**	**00 28 44.3**	**+1.1**
ILAR	**Eielson Array** comp=Z,0.2nm,0.3s,baz=224,slow=7.6,SNR=8.9	**16.01**	**33**	Pn	**Pn**	**00 28 42.1**	**-1.1**
ILB	**Eielson Array** comp=Z,24nm,1.8s	**16.01**	**33**	*e*Pn	**Pn**	**00 28 43.1**	**-0.1**
IL1	**Eielson Array**	**16.01**	**33**	*e*Pn	**Pn**	**00 28 44.6**	**+1.4**
RIDG	**Independ'e Rid** comp=Z,22nm,1.3s	**16.14**	**38**	*e*Pn	**Pn**	**00 28 45.6**	**+0.7**
DOT	**Dot Lake** comp=Z,25nm,1.6s	**16.39**	**39**	*e*Pn	**Pn**	**00 28 49.1**	**+1.1**
SCRK	**Sand Creek** comp=Z,5.0nm,0.7s	**16.59**	**38**	*e*Pn	**Pn**	**00 28 50.6**	**-0.1**
COLD	**Coldfoot** comp=Z,14nm,1.4s	**16.79**	**24**	*e*Pn	**P**	**00 28 54.5**	**-0.3**
PRP	**Porcupine Dome** comp=Z,4.9nm,0.8s	**16.93**	**33**	*e*Pn	**Pn**	**00 28 55.7**	**+0.8**
FYU	**Fort Yukon** comp=Z,7.7nm,0.7s	**17.69**	**30**	*e*Pn	**P**	**00 29 05.6**	**+0.9**
EGAK	**Eagle** comp=Z,7.5nm,0.8s	**18.05**	**38**	*e*Pn	**Pn**	**00 29 07.6**	**-1.0**
TOLK	**Toolik Lake Re** comp=Z,52nm,1.9s	**18.06**	**21**	*e*Pn	**P**	**00 29 09.0**	**+0.3**
HYT	**Haines Junctio** comp=Z,24nm,0.8s	**18.21**	**52**	*e*P	**Pn**	**00 29 12.3**	**+1.6**
DAWY	**Dawson** comp=Z,5.8nm,0.8s	**18.41**	**41**	*e*P	**Pn**	**00 29 13.3**	**+0.2**
SKAG	**Skagway** comp=Z,62nm,1.4s	**19.06**	**57**	*e*P	**Pn**	**00 29 20.8**	**0.0**
WHY	**Whitehorse** comp=Z,12nm,0.9s	**19.44**	**53**	*e*P	**Pn**	**00 29 25.1**	**-0.5**
BILL	**Bilibino** comp=Z,8.3nm,0.9s	**19.73**	**331**	*e*P	**P**	**00 29 26.0**	**-1.1**
BILL	**Bilibino**	**19.73**	**331**	*ce*P	**Pn**	**00 29 29.4**	**+0.6**
BILL	comp=Z,18nm,1.7s			pmax	pmax		
BILL	comp=Z,121nm,15.0s			MLR	MLR		
EPYK	**Eagle Plains** comp=Z,19nm,0.8s	**20.43**	**36**	*e*P	**P**	**00 29 33.5**	**-1.2**
PETK	**Petropavlovsk-** comp=Z,3.2nm,0.4s,baz=90,slow=15,SNR=7.4	**20.78**	**285**	P	**P**	**00 29 38.1**	**-0.4**
PETK	comp=Z,82nm,20.3s,baz=94,slow=38			LR	LR	00 38 03.8	
DLBC	**Dease Lake** comp=Z,1.3nm,0.7s,baz=276,slow=12,SNR=2.9	**21.76**	**60**	P	**P**	**00 29 50.0**	**+1.0**
DLBC	comp=Z,95nm,19.4s,baz=125,slow=33			LR	LR	00 36 50.8	
INK	**Inuvik** comp=Z,14nm,0.8s	**22.41**	**33**	*e*P	**P**	**00 29 53.8**	**-2.1**
INK	**Inuvik**	**22.41**	**33**	*e*P	**P**	**00 29 53.8**	**-2.1**
INK	comp=Z,14nm,0.8s			pmax	pmax		
INK	**Inuvik** comp=Z,5.1nm,0.5s,baz=240,slow=9.4,SNR=34	**22.41**	**33**	P	**P**	**00 29 53.5**	**-2.4**
SEY	**Seymchan**	**23.17**	**312**	*ce*P	**P**	**00 30 02.5**	**-1.3**
MA2	**Magadan** comp=Z,18nm,0.7s	**23.79**	**303**	*e*P	**P**	**00 30 09.1**	**-0.7**
MA2	**Magadan**	**23.79**	**303**	*e*P	**P**	**00 30 09.1**	**-0.7**
MA2	comp=Z,18nm,0.7s			pmax	pmax		
MA2	**Magadan** comp=Z,15nm,0.6s,baz=76,slow=14,SNR=6.4	**23.79**	**303**	P	**P**	**00 30 10.0**	**+0.2**
MA2	comp=Z,58nm,20.2s,baz=122,slow=37			LR	LR	00 39 21.5	
BBB	**Bella Bella** comp=Z,72nm,18.4s,baz=240,slow=33	**23.87**	**76**	LR	LR	00 38 14.4	
YKW3	**Yellowknife Ar** comp=Z,12nm,1.5s	**29.15**	**49**	*e*P	**P**	**00 30 58.8**	**+0.8**
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.5s,baz=277,slow=8.5,SNR=17	**29.16**	**50**	P	**P**	**00 30 58.8**	**+0.7**
YKA	comp=Z,0.8nm,0.6s,baz=282,slow=2.7,SNR=7.9			PcP	**PcP**	**00 34 05.0**	**+0.6**
YKA	comp=Z,8.0nm,21.2s,baz=274,slow=40			LR	LR	00 44 09.8	
YKB5	**Yellowknife Ar**	**29.16**	**50**	*e*P	**P**	**00 30 58.1**	**0.0**
NEW	**Newport** comp=Z,1.2nm,0.4s,baz=302,slow=13,SNR=4.4	**31.88**	**78**	P	**P**	**00 31 22.7**	**+0.3**
YBH	**Yreka Blue Hor** comp=Z,3.1nm,0.7s,baz=333,slow=7.7,SNR=7.6	**31.93**	**92**	P	**P**	**00 31 25.3**	**+2.4**
TIXI	**Tiksi**	**32.92**	**329**	*ce*P	**P**	**00 31 29.6**	**-1.5**
TIXI	comp=Z,8.0nm,2.5s			pmax	pmax		
TIXI	**Tiksi** comp=Z,0.8nm,0.3s,baz=112,slow=7.6,SNR=4.8	**32.92**	**329**	P	**P**	**00 31 31.1**	**0.0**
PNTR	**Pine Nut** comp=Z,10nm,0.7s	**35.42**	**93**	*e*P	**P**	**00 31 54.8**	**+1.4**
RES	**Resolute Bay** comp=Z,0.5nm,0.3s,baz=175,slow=21,SNR=8.2	**35.53**	**26**	P	**P**	**00 31 52.6**	**-1.0**
WAKR	**Walker** comp=Z,3.9nm,0.7s	**35.88**	**94**	*e*P	**P**	**00 31 58.8**	**+1.5**
MCMT	**McKenzie Canyo**	**36.16**	**80**	*e*P	**P**	**00 31 59.9**	**+0.2**
EGMT	**Eagleton** comp=Z,6.1nm,0.8s	**36.33**	**74**	*e*P	**P**	**00 32 01.9**	**+1.1**
RYN	**Ryan** comp=Z,3.3nm,0.8s	**36.36**	**93**	*e*P	**P**	**00 32 02.6**	**+1.2**
NV01	**Mina Array Sit**	**36.62**	**93**	*e*P	**P**	**00 32 04.8**	**+1.2**
NVAR	**Mina Array Bea** comp=Z,2.5nm,0.7s,baz=303,slow=8.7,SNR=19	**36.62**	**93**	P	**P**	**00 32 04.8**	**+1.1**
MDPB	**Devils Postpil** comp=Z,4.4nm,0.7s	**36.66**	**95**	*e*P	**P**	**00 32 05.4**	**+1.4**
NV11	**Mina Array Sit** comp=Z,0.8nm,1.5s	**36.71**	**93**	*e*P	**P**	**00 32 05.5**	**+1.3**
OMMB	**Old Mammoth Mi** comp=Z,8.3nm,1.4s	**36.72**	**95**	*e*P	**P**	**00 32 06.2**	**+1.6**
KLR	**Kul'dur** comp=Z,1.2nm,0.5s,baz=72,slow=5.9,SNR=7.2	**37.32**	**290**	P	**P**	**00 32 07.7**	**-1.5**
YHH	**Holmes Hill** comp=Z,5.2nm,1.0s	**37.37**	**79**	*e*P	**P**	**00 32 10.8**	**+0.8**
H11N2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=885	**38.45**	**221**	T	T	01 13 47.1	
H11N3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=828	**38.46**	**221**	T	T	01 13 33.8	
H11N1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=915	**38.47**	**221**	T	T	01 13 37.4	
TPNV	**Topopah Spring** comp=Z,3.7nm,0.8s	**38.82**	**93**	*e*P	**P**	**00 32 23.6**	**+1.5**
TPNV	**Topopah Spring**	**38.82**	**93**	*e*P	**P**	**00 32 23.6**	**+1.5**
TPNV	comp=Z,4.0nm,0.8s			pmax	pmax		
PD31	**Pinedale Array** comp=Z,3.5nm,1.1s	**39.28**	**81**	*e*P	**P**	**00 32 26.4**	**+0.3**
PDAR	**Pinedale Array** comp=Z,2.1nm,1.0s,baz=300,slow=4.5,SNR=10.0	**39.28**	**81**	P	**P**	**00 32 26.2**	**+0.2**
PDAR	comp=Z,43nm,18.1s,baz=332,slow=34			LR	LR	00 46 55.3	
GSC	**Goldstone, Bar** comp=Z,5.8nm,1.0s	**39.57**	**96**	*e*P	**P**	**00 32 29.7**	**+1.4**
GSC	**Goldstone, Bar**	**39.57**	**96**	*e*P	**P**	**00 32 29.7**	**+1.4**
GSC	comp=Z,6.0nm,1.0s			pmax	pmax		
H11S1	**WAKE ISLAND Hy** baz=24,slow=76,SNR=2210	**39.64**	**220**	T	T	01 14 52.2	
H11S2	**WAKE ISLAND Hy** baz=24,slow=76,SNR=1632	**39.65**	**220**	T	T	01 15 01.7	
H11S3	**WAKE ISLAND Hy** baz=24,slow=76,SNR=1350	**39.66**	**220**	T	T	01 14 59.9	
FCC	**Fort Churchill** comp=Z,7.9nm,1.2s	**39.85**	**51**	*e*P	**P**	**00 32 31.3**	**+1.0**
FCC	**Fort Churchill**	**39.85**	**51**	*e*P	**P**	**00 32 31.3**	**+1.0**
FCC	comp=Z,8.0nm,1.2s			pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,3.6nm,0.7s,baz=33,slow=6.4,SNR=11	**40.77**	**269**	P	**P**	**00 32 38.2**	**0.0**
MJAR	comp=Z,54nm,21.8s,baz=65,slow=34			LR	LR	00 47 39.2	
MJB9	**Matsu-Tunnel** comp=Z,24nm,1.3s	**40.77**	**269**	*e*P	**P**	**00 32 38.3**	**+0.1**
MAJO	**Matsushiro** comp=Z,24nm,1.3s	**40.77**	**269**	*e*P	**P**	**00 32 38.3**	**+0.1**
MAJO				pmax	pmax		
MAT	**Matsushiro** comp=Z,24nm,1.3s	**40.77**	**269**	P	**P**	**00 32 38.2**	**0.0**
U15A	**North Rim** comp=Z,3.8nm,1.0s	**41.56**	**90**	*e*P	**P**	**00 32 46.4**	**+1.4**
O20A	**White River Ci** comp=Z,10nm,0.9s	**41.65**	**83**	*e*P	**P**	**00 32 46.2**	**+0.6**
Y12C	**Blythe** comp=Z,3.8nm,0.8s	**42.00**	**95**	*e*P	**P**	**00 32 49.6**	**+1.3**
BOD	**Bodaibo**	**42.55**	**309**	*e*P	**P**	**00 32 50.8**	**-1.7**
BOD	comp=Z,6.0nm,1.2s			pmax	pmax		
X16A	**Lo Mia Camp, P** comp=Z,1.7nm,0.8s	**43.42**	**92**	*e*P	**P**	**00 33 01.1**	**+1.1**
KSRS	**Korea Array** comp=Z,1.9nm,0.6s,baz=58,slow=7.5,SNR=5.3	**46.41**	**278**	P	**P**	**00 33 23.6**	**+0.1**
KSAR	**Wonju Array Be**	**46.44**	**278**	P	**P**	**00 33 23.6**	**-0.1**
KSAR	**Wonju Array Be**	**46.44**	**278**	P	**P**	**00 33 23.6**	**-0.1**
NRIK	**Noril'sk** comp=Z,0.6nm,0.3s,baz=55,slow=7.9,SNR=3.1	**46.56**	**332**	P	**P**	**00 33 23.5**	**-0.7**
NRIK	comp=Z,50nm,19.5s,baz=46,slow=39			LR	LR	00 55 21.5	
KWAJ	**Kwajalein Atol**	**48.25**	**214**	*e*P	**P**	**00 33 38.0**	**0.0**
KWAJ	**Kwajalein Atol**	**48.25**	**214**	*e*P	**P**	**00 33 38.0**	**0.0**
MNTX	**Cornudas Mount** comp=Z,3.4nm,0.8s	**48.97**	**90**	*e*P	**P**	**00 33 43.9**	**+0.4**
DAG	**Danmarks Havn** comp=Z,3.3nm,0.5s	**49.21**	**9**	*i* P	**P**	**00 33 43.5**	**-1.2**
DAG	**Danmarks Havn**	**49.21**	**9**	*i* P	**P**	**00 33 43.5**	**-1.2**
DAG	comp=Z,2.0nm,0.5s			pmax	pmax		
SPITS	**Spitsbergen Ar** comp=Z,2.2nm,0.7s,baz=38,slow=9.7,SNR=4.1	**49.27**	**359**	P	**P**	**00 33 44.3**	**-0.8**
SUMG	**Summit** comp=Z,11nm,0.5s	**50.06**	**18**	*i* P	**P**	**00 33 51.3**	**-0.4**
SUMG	**Summit**	**50.06**	**18**	*i* P	**P**	**00 33 51.3**	**-0.4**
SUMG	comp=Z,11nm,0.5s			pmax	pmax		
TLY	**Talaya** comp=Z,4.6nm,0.6s	**50.94**	**307**	*e*P	**P**	**00 33 58.0**	**-0.1**
TLY	**Talaya**	**50.94**	**307**	*ce*P	**P**	**00 33 58.2**	**0.0**
TLY	comp=Z,5.0nm,0.5s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,2.2nm,0.5s	**51.63**	**301**	*e*P	**P**	**00 34 02.7**	**-0.8**
ULN	**Ulaanbaatar**	**51.63**	**301**	*ce*P	**P**	**00 34 03.2**	**-0.3**
ULN	comp=Z,3.0nm,1.0s			pmax	pmax		
TX31	**Lajitas Ar. Si**	**51.68**	**91**	*e*P	**P**	**00 34 04.3**	**+0.2**
TXAR	**Lajitas Array** comp=Z,3.5nm,0.8s,baz=298,slow=5.6,SNR=33	**51.69**	**91**	P	**P**	**00 34 04.3**	**+0.2**
SONM	**Songino Array** comp=Z,0.8nm,0.6s,baz=56,slow=5.5,SNR=7.8	**51.99**	**301**	P	**P**	**00 34 05.2**	**-1.0**
SONM	comp=Z,2.0nm,0.8s,baz=63,slow=2.4,SNR=6.0			PcP	**PcP**	**00 35 19.1**	**+1.0**
SONM	comp=Z,0.2nm,0.7s,baz=32,slow=5.8,SNR=2.3			ScP	**ScP**	**00 39 14.3**	**+3.0**
HHC	**Hu-ho-hao-te**	**53.75**	**292**	*e*P	**P**	**00 34 19.9**	**+0.6**
HHC	comp=Z,8.0nm,1.0s			pmax	pmax		
HHC	comp=Z,160nm,5.1s			pmax	pmax		
SCHQ	**Schefferville** comp=Z,2.3nm,0.8s,baz=293,slow=7.7,SNR=3.0	**54.40**	**44**	P	**P**	**00 34 24.2**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,4.7nm,1.0s,baz=15,slow=6.1,SNR=18	**57.61**	**355**	P	**P**	**00 34 44.8**	**-1.5**
ARCES	comp=Z,3.7nm,0.8s,baz=357,slow=4.6,SNR=8.0			PcP	**PcP**	**00 35 38.9**	**-0.2**
NVS	**Novosibirsk**	**57.80**	**320**	*e*P	**P**	**00 34 46.9**	**-0.9**
ZAA0	**Zalesovo Array** comp=Z,1.9nm,0.6s	**57.82**	**318**	*e*P	**P**	**00 34 47.4**	**-0.6**
ZALV	**Zalesovo Beam**	**57.82**	**318**	*e*P	**P**	**00 34 47.2**	**-0.8**
ZALV				PcP	**PcP**	**00 35 40.3**	**+0.2**
ZALV	**Zalesovo Beam**	**57.82**	**318**	*e*P	**P**	**00 34 47.3**	**-0.8**
ZALV						00 35 40.3	
ZALV	**Zalesovo Beam** comp=Z,2.2nm,0.6s,baz=40,slow=6.2,SNR=11	**57.82**	**318**	P	**P**	**00 34 46.7**	**-1.4**
ZALV	comp=Z,1.5nm,0.4s,baz=35,slow=3.9,SNR=5.8			PcP	**PcP**	**00 35 40.3**	**+0.2**
LZH	**Lanzhou**	**61.41**	**293**	*e*P	**P**	**00 35 13.3**	**+0.1**
LZH				pP	pP	00 35 24.8	-0.2
LZH				sP	sP	00 35 27.4	-2.3
LZH				PP	PP	00 37 48.3	+20
LZH	comp=Z,12nm,1.3s			pmax	pmax		
LZH	comp=Z,130nm,4.3s			pmax	pmax		
ENH	**Enshi**	**62.38**	**284**	*e*P	**P**	**00 35 19.4**	**-0.2**
KURK	**K

LSA					pmax	pmax			
	comp=Z,5.0nm,0.6s								
BTK	**Batken**	**74.61**	**317**	*e*P	**P**	**00 36 35.6**	**-0.3**		
	comp=Z,7.7nm,0.9s								
BTK	**Batken**	**74.61**	**317**	*e*P	**P**	**00 36 35.6**	**-0.3**		
BTK					pmax	pmax			
	comp=Z,8.0nm,0.9s								
AKASG	**Malin Array Be**	**75.91**	**349**	P	**P**	**00 36 41.8**	**-1.2**		
	comp=Z,7.9nm,0.5s,baz=15,slow=5.9,SNR=29								
AKBB	**Malin Array Si**	**75.91**	**349**	*e*P	**P**	**00 36 42.1**	**-0.9**		
	comp=Z,12nm,0.6s								
KIEV	**Kiev**	**75.91**	**349**	*e*P	**P**	**00 36 41.2**	**-1.9**		
KIEV	**Kiev**	**75.91**	**349**	*e*P	**P**	**00 36 41.2**	**-1.9**		
AK11	**Malin Array Si**	**75.93**	**349**	*e*P	**P**	**00 36 41.9**	**-1.3**		
CLL	**Collm**	**76.28**	**360**	*e*P	**P**	**00 36 44.6**	**-0.5**		
	comp=Z,3.7nm,0.7s								
CLL	**Collm**	**76.28**	**360**	*i* P	**P**	**00 36 44.8**	**-0.3**		
	comp=Z,5.0nm,0.6s								
CLL	**Collm**	**76.28**	**360**	*i* P	**P**	**00 36 44.8**	**-0.3**		
CLL					pmax	pmax			
	comp=Z,5.0nm,0.6s								
MEM	**Membach**	**76.83**	**4**	⇑P	**P**	**00 36 47.8**	**-0.5**		
BCLA	**Clavier**	**76.99**	**5**	⇑P	**P**	**00 36 48.5**	**-0.7**		
DPC	**Dobruska-Polom**	**77.18**	**357**	*e*P	**P**	**00 36 50.8**	**+0.5**		
DPC	**Dobruska-Polom**	**77.18**	**357**	*e*P	**P**	**00 36 50.8**	**+0.5**		
CHTO	**Chiang Mai**	**77.27**	**284**	*e*P	**P**	**00 36 51.2**	**-0.1**		
	comp=Z,2.0nm,0.6s								
CHTO	**Chiang Mai**	**77.27**	**284**	*e*P	**P**	**00 36 51.2**	**-0.1**		
CHTO					pmax	pmax			
	comp=Z,2.0nm,0.6s								
DOU	**Dourbes**	**77.28**	**5**	⇑P	**P**	**00 36 50.4**	**-0.4**		
	comp=Z,8.1nm,2.0s								
NKC	**Novy Kostel**	**77.35**	**360**	*e*P	**P**	**00 36 51.4**	**+0.1**		
NKC	**Novy Kostel**	**77.35**	**360**	*e*P	**P**	**00 36 51.4**	**+0.1**		
GUN	**Gumba**	**77.44**	**300**	*e*P	**P**	**00 36 52.4**	**-0.2**		
	comp=Z,14nm,0.5s								
JIRN	**Jiri**	**77.48**	**299**	*e*P	**P**	**00 36 52.7**	**-0.1**		
	comp=Z,17nm,0.6s								
CMAR	**Chiang Mai Arr**	**77.55**	**284**	P	**P**	**00 36 53.0**	**+0.2**		
	comp=Z,2.0nm,0.5s,baz=22,slow=6.4,SNR=10								
KWP	**Kalwaria Pacla**	**77.58**	**353**	*e*P	**P**	**00 36 52.7**	**+0.2**		
KWP	**Kalwaria Pacla**	**77.58**	**353**	*e*P	**P**	**00 36 52.7**	**+0.2**		
PRU	**Pruhonice**	**77.58**	**359**	*e*P	**P**	**00 36 52.9**	**+0.4**		
PRU	**Pruhonice**	**77.58**	**359**	*e*P	**P**	**00 36 52.9**	**+0.4**		
OKC	**Ostrava-Krasne**	**77.63**	**356**	*e*P	**P**	**00 36 53.0**	**+0.2**		
OKC	**Ostrava-Krasne**	**77.63**	**356**	*e*P	**P**	**00 36 53.0**	**+0.2**		
MORC	**Moravsky Berou**	**77.72**	**357**	*e*P	**P**	**00 36 53.5**	**+0.2**		
RAMN	**Ramite**	**77.83**	**299**	*e*P	**P**	**00 36 54.3**	**-0.3**		
	comp=Z,16nm,0.7s								
KKN	**Kakani**	**77.86**	**300**	*e*P	**P**	**00 36 54.6**	**-0.1**		
	comp=Z,6.1nm,0.4s								
GRF	**Grafenberg Arr**	**77.89**	**1**	*e*P	**P**	**00 36 55.0**	**+0.7**		
	comp=Z,2.9nm,0.7s,baz=351,slow=4.9								
PKI	**Pulchoki**	**77.97**	**300**	*e*P	**P**	**00 36 55.3**	**-0.2**		
	comp=Z,7.9nm,0.7s								
PKIN	**Phulchoki**	**77.97**	**300**	*e*P	**P**	**00 36 55.0**	**-0.4**		
	comp=Z,5.8nm,0.5s								
GKN	**Gorkha**	**78.02**	**301**	*e*P	**P**	**00 36 55.2**	**-0.4**		
	comp=Z,12nm,0.7s								
DMN	**Daman**	**78.09**	**300**	*e*P	**P**	**00 36 55.7**	**-0.4**		
	comp=Z,5.3nm,0.4s								
DANN	**Dangsing**	**78.20**	**301**	*e*P	**P**	**00 36 56.6**	**-0.1**		
	comp=Z,26nm,0.6s								
VRAC	**Vranov**	**78.22**	**357**	⇑*i*P	**P**	**00 36 56.2**	**+0.1**		
VRAC	**Vranov**	**78.22**	**357**	*e*P	**P**	**00 36 56.4**	**+0.3**		
LANS	**Liptovska Anna**	**78.26**	**355**	*e*P	**P**	**00 36 57.4**	**+1.0**		
LANS	**Liptovska Anna**	**78.26**	**355**	*e*P	**P**	**00 36 57.4**	**+1.0**		
TREC	**Trest**	**78.26**	**358**	*e*P	**P**	**00 36 56.5**	**+0.2**		
TREC	**Trest**	**78.26**	**358**	*e*P	**P**	**00 36 56.5**	**+0.2**		
KHC	**Kasperske Hory**	**78.45**	**359**	*e*P	**P**	**00 36 57.4**	**-0.1**		
	comp=Z,1.4nm,0.7s								
KHC	**Kasperske Hory**	**78.45**	**359**	*e*P	**P**	**00 36 57.9**	**+0.5**		
KHC	**Kasperske Hory**	**78.45**	**359**	*e*P	**P**	**00 36 57.9**	**+0.5**		
KRUC	**Moravsky**	**78.47**	**357**	*e*P	**P**	**00 36 57.5**	**0.0**		
JAVC	**Velka Javorina**	**78.63**	**356**	*e*P	**P**	**00 36 59.8**	**+1.4**		
GEC2	**GERESS Array S**	**78.73**	**359**	*e*P	**P**	**00 36 59.4**	**+0.3**		
	comp=Z,4.4nm,0.8s								
GEC2	**GERESS Array S**	**78.73**	**359**	*e*P	**P**	**00 36 59.4**	**+0.3**		
GEC2					pmax	pmax			
	comp=Z,4.0nm,0.8s								
GERES	**GERESS Array B**	**78.73**	**359**	P	**P**	**00 36 58.9**	**-0.2**		
	comp=Z,1.7nm,0.6s,baz=15,slow=5.5,SNR=17								
GEA0	**GERESS Array S**	**78.74**	**359**	*e*P	**P**	**00 36 59.0**	**-0.1**		
PYUN	**Piuthan**	**78.80**	**302**	*e*P	**P**	**00 36 59.5**	**-0.4**		
	comp=Z,14nm,0.7s								
VYHS	**Vyhne**	**78.94**	**356**	*e*P	**P**	**00 37 00.5**	**+0.4**		
VYHS					pmax	pmax			
	comp=Z,4.0nm,0.8s								
VYHS	**Vyhne**	**78.94**	**356**	*e*P	**P**	**00 37 00.5**	**+0.4**		
NIL	**Nilore**	**78.95**	**312**	*e*P	**P**	**00 37 00.8**	**+0.4**		
	comp=Z,9.9nm,0.6s								
NIL	**Nilore**	**78.95**	**312**	*e*P	**P**	**00 37 00.8**	**+0.4**		
NIL					pmax	pmax			
	comp=Z,10.0nm,0.6s								
SMOL	**Smolenice**	**78.98**	**357**	*e*P	**P**	**00 37 01.5**	**+1.2**		
SMOL	**Smolenice**	**78.98**	**357**	*e*P	**P**	**00 37 01.5**	**+1.2**		
TRPA	**Tarpa**	**79.08**	**353**	⇑*i*P	**P**	**00 37 01.0**	**+0.2**		
MODS	**Modra-Piesok**	**79.13**	**357**	*e*P	**P**	**00 37 02.1**	**+1.0**		
MODS					pmax	pmax			
	comp=Z,11nm,1.2s								
MODS	**Modra-Piesok**	**79.13**	**357**	*e*P	**P**	**00 37 02.1**	**+1.0**		
CLF	**Chambon-Foret**	**79.19**	**7**	*e*P	**P**	**00 37 01.4**	**-0.1**		
	comp=Z,14nm,0.6s								
ZST	**Bratislava**	**79.31**	**357**	*e*P	**P**	**00 37 02.1**	**0.0**		
ZST	**Bratislava**	**79.31**	**357**	*e*P	**P**	**00 37 02.1**	**0.0**		
BUR08	**Bucovina Ar. S**	**79.35**	**351**	*e*P	**P**	**00 37 02.5**	**0.0**		
	comp=Z,34nm,1.9s								
BURAR	**Bucovina Array**	**79.37**	**351**	⇓*i*P	**P**	**00 37 02.4**	**-0.2**		
PSZ	**Piszkesteto**	**79.46**	**355**	*e*P	**P**	**00 37 03.0**	**0.0**		
	comp=Z,8.4nm,1.2s								
PSZ	**Piszkesteto**	**79.46**	**355**	⇑*i*P	**P**	**00 37 03.8**	**+0.8**		
PSZ	**Piszkesteto**	**79.46**	**355**	*e*P	**P**	**00 37 03.1**	**0.0**		
PSZ					pmax	pmax			
	comp=Z,8.0nm,1.2s								
CONA	**Conrad Observa**	**79.61**	**358**	*e*P	**P**	**00 37 04.6**	**+0.7**		
	comp=Z,4.1nm,0.7s,SNR=7.7								
BIZ	**Bicaz**	**79.96**	**350**	⇑*i*P	**P**	**00 37 05.6**	**0.0**		
ARCR	**ARCALIA**	**79.98**	**352**	⇓*i*P	**P**	**00 37 06.4**	**+0.7**		
KBL	**Kabul**	**80.04**	**316**	*e*P	**P**	**00 37 05.7**	**-0.9**		
	comp=Z,5.8nm,0.7s								
KBL	**Kabul**	**80.04**	**316**	*e*P	**P**	**00 37 05.7**	**-0.9**		
KBL					pmax	pmax			
	comp=Z,6.0nm,0.7s								
RETA	**Reutte**	**80.09**	**1**	*e*P	**P**	**00 37 06.9**	**+0.5**		
	comp=Z,3.1nm,0.8s,SNR=4.9								
MOTA	**Moosalm**	**80.24**	**1**	*i* P	**P**	**00 37 07.6**	**+0.2**		
	comp=Z,2.9nm,0.6s,SNR=5.9								
WATA	**Walderalm**	**80.25**	**1**	*i* P	**P**	**00 37 08.0**	**+0.6**		
	comp=Z,2.9nm,0.4s								
ARSA	**Arzberg**	**80.30**	**358**	*e*P	**P**	**00 37 08.4**	**+0.9**		
	comp=Z,2.5nm,0.5s								
KBZ	**Khabaz**	**80.33**	**338**	P	**P**	**00 37 08.2**	**+0.6**		
	comp=Z,2.8nm,0.9s,baz=0.0,slow=6.1,SNR=6.0								
SQTA	**Sankt Quirin**	**80.36**	**1**	*i* P	**P**	**00 37 08.5**	**+0.6**		
	comp=Z,2.9nm,0.5s,SNR=7.0								
DRGR		**80.40**	**353**	⇑*i*P	**P**	**00 37 07.4**	**-0.7**		
KBA	**Koelnbreinsper**	**80.51**	**359**	*e*P	**P**	**00 37 09.7**	**+0.9**		
	comp=Z,8.8nm,0.6s,SNR=13								
FETA	**Feichten**	**80.56**	**1**	*i* P	**P**	**00 37 09.7**	**+0.6**		
	comp=Z,4.8nm,0.7s								
OZUR		**80.82**	**351**	⇑*i*P	**P**	**00 37 09.2**	**-1.2**		
ABTA	**Abfaltersbach**	**80.84**	**360**	*i* P	**P**	**00 37 11.7**	**+1.2**		
	comp=Z,5.9nm,0.8s								
SOKA	**Soboth**	**80.88**	**358**	*e*P	**P**	**00 37 11.9**	**+1.2**		
	comp=Z,11nm,1.2s,SNR=6.0								
MYKA	**Terra Mystica**	**80.95**	**359**	*i* P	**P**	**00 37 12.1**	**+1.1**		
	comp=Z,2.1nm,0.6s								
DOPR	**Dopca**	**80.99**	**351**	⇑*i*P	**P**	**00 37 11.5**	**+0.3**		
OBKA	**Obir**	**81.06**	**358**	*e*P	**P**	**00 37 12.3**	**+0.6**		
	comp=Z,5.9nm,0.6s,SNR=8.2								
SOC	**Sochi**	**81.15**	**340**	*e*P	**P**	**00 37 10.8**	**-1.3**		
SOC				*e*PPP	PPP	00 42 09.4			
SOC				*e*S	**S**	**00 47 20.2**	**+1.6**		
SOC				*e*SS	**SS**	**00 52 32.5**	**-0.1**		
SOC				*e*SSS	SSS	00 56 03.8			
SOC				MLR	MLR				
	comp=Z,65nm,10.0s								
GEYT	**Alibeck**	**81.30**	**325**	P	**P**	**00 37 13.0**	**-0.1**		
	comp=Z,4.2nm,0.7s,baz=350,slow=6.3,SNR=8.9								
GYA0B	**ALIBECK ARRAY**	**81.30**	**325**	*e*P	**P**	**00 37 13.5**	**+0.5**		
	comp=Z,5.0nm,0.7s								
BCIP	**Isla Barro Col**	**81.44**	**86**	*e*P	**P**	**00 37 14.3**	**+0.3**		
BCIP	**Isla Barro Col**	**81.44**	**86**	*e*P	**P**	**00 37 14.3**	**+0.3**		
VOIR		**81.55**	**351**	⇑*i*P	**P**	**00 37 14.7**	**+0.4**		
BZS	**Buzias**	**81.65**	**353**	⇑*i*P	**P**	**00 37 14.4**	**-0.3**		
ARR	**Arges**	**81.66**	**351**	⇑*i*P	**P**	**00 37 14.7**	**-0.1**		
GZR	**Gura Zlata**	**81.79**	**353**	⇑*i*P	**P**	**00 37 15.3**	**-0.2**		
TLB	**Topalu**	**82.07**	**349**	⇑*i*P	**P**	**00 37 16.6**	**-0.3**		
BNI	**Bardonecchia**	**82.41**	**4**	*e*P	**P**	**00 37 19.5**	**+0.6**		
	comp=Z,12nm,1.1s								
BNI	**Bardonecchia**	**82.41**	**4**	*e*P	**P**	**00 37 19.5**	**+0.6**		
BNI					pmax	pmax			
	comp=Z,12nm,1.1s								
MFTR	**Murfatlar**	**82.43**	**348**	⇑*i*P	**P**	**00 37 18.2**	**-0.6**		
MDVR	**Moldovita**	**82.47**	**353**	⇑*i*P	**P**	**00 37 18.9**	**-0.2**		
BR131	**Keskin Array S**	**86.03**	**344**	*e*P	**P**	**00 37 38.2**	**+0.8**		
	comp=Z,6.1nm,0.8s								
BRTR	**Keskin Array B**	**86.03**	**344**	P	**P**	**00 37 38.1**	**+0.8**		
	comp=Z,4.9nm,0.7s,baz=28,slow=2.6,SNR=28								
ES06	**SONSECA Array**	**86.83**	**13**	*e*P	**P**	**00 37 41.1**	**-0.1**		
ESDC	**Sonseca Array**	**86.83**	**13**	P	**P**	**00 37 41.2**	**0.0**		
	comp=Z,0.8nm,0.5s,baz=348,slow=5.1,SNR=10								
WRA	**Warramunga Arr**	**88.10**	**233**	*i* P	**P**	**00 37 46.5**	**-0.8**		
WRA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
WRA	**Warramunga Arr**	**88.10**	**233**	P	**P**	**00 37 45.9**	**-1.3**		
	comp=Z,0.7nm,0.8s,baz=36,slow=5.6,SNR=6.1								
HYB	**Hyderabad**	**89.87**	**299**	*i* P	**P**	**00 37 55.0**	**-0.9**		
ASAR	**Alice Springs**	**91.48**	**231**	P	**P**	**00 38 02.2**	**-0.9**		
	comp=Z,0.6nm,0.6s,baz=33,slow=5.9,SNR=7.0								
RAYN	**Ar Rayn**	**98.72**	**329**	*e*P	**P**	**00 38 35.2**	**-1.1**		
	comp=Z,1.7nm,0.6s								
RAYN	**Ar Rayn**	**98.72**	**329**	*e*P	**P**	**00 38 35.2**	**-1.1**		
RAYN					pmax	pmax			
	comp=Z,2.0nm,0.6s								
TSUM	**Tsumeb**	**146.23**	**351**	*e*PKPbc	**PKPbc**	**00 44 37.3**	**+0.1**		
BOSA	**Boshof**	**154.03**	**333**	PKPbc	**PKiKP**	**00 44 57.4**	**+1.1**		
	comp=Z,1.4nm,0.4s,baz=360,slow=4.5,SNR=8.3								

ISCJB ***20*** *00:53:54.2±0.2,35.78N±0.02×95.79E±0.02,h10km, mb4.4/65,MS4.1/33,Error ellipse: s-maj=3.2km s-min=2.6km az=15.6*

IDC ***20*** *00:53:54.8±0.5,35.80N×95.96E,h0km,mb4.3/26, mb1 4.4/33,mb1mx4.3/60,mbtmp4.4/33,ML4.4/6,MS3.9/26, Ms1 3.9/26,ms1mx3.8/39,Error ellipse: s-maj=15.0km s-min=11.4km az=39.0*

NEIC ***20*** *00:53:56.0±0.2,35.78N×95.86E,h10km,mb4.4/34,Error ellipse: s-maj=4.6km s-min=3.9km az=219.0*

BJI ***20*** *00:53:55.9,35.80N×95.79E,h14km,mb4.7/35,mB4.9/26, ML4.8/13,Ms4.6/52,Ms7 4.4/41*

MOS ***20*** *00:53:57.6±1.5,35.80N×95.65E,h33km,mb4.7/27,Error ellipse: s-maj=6.9km s-min=4.1km az=120.0*

ISC 20 00:53:56.7±0.3,35.74N±0.04×95.73E±0.03,h10km,n259, σ2s35/266,mb4.5/67,MS4.1/33,17C-10D,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**4.89**	**40**	Pn	**Pn**	**00 55 11.3**	**+0.9**
GTA				Sn	**Sn**	**00 56 10.9**	**+3.8**
GTA				LR	LR		
	comp=N,2μm,7.0s						
GTA				LR	LR		
	comp=E,4μm,8.9s						
GTA				LR	LR		
	comp=Z,3μm,10.2s						
LZH	**Lanzhou**	**6.59**	**85**	*e*Pn	**Pn**	**00 55 33.8**	**0.0**
LZH				Pg	**Pb**	**00 55 53.3**	**+1.8**
LZH				Sn	**Sn**	**00 56 47.8**	**-1.3**
LZH				Sg	**Sb**	**00 57 18.1**	**+7.7**
LZH				smax	smax		
	comp=N,2μm,0.8s						
LZH				smax	smax		
	comp=E,2μm,0.8s						
LZH				LR	LR		
	comp=N,7μm,6.0s						
LZH				LR	LR		
	comp=E,7μm,7.1s						
LZH				LR	LR		
	comp=Z,4μm,7.6s						
LSA	**Lhasa**	**7.16**	**214**	Pn	**Pn**	**00 55 43.6**	**+1.8**
LSA	**Lhasa**	**7.16**	**214**	*e*Pn	**Pn**	**00 55 43.6**	**+1.8**
LSA	**Lhasa**	**7.16**	**214**	*e*P	**Pn**	**00 55 43.6**	**+1.8**
CD2	**Chengdu**	**8.26**	**123**	⇑P	Pg	00 56 28.3	-6.6
CD2				PP	**PbPb**	**00 56 36.1**	**+13**
CD2				S	Sb	00 57 50.6	-7.8
CD2				pmax	pmax		
	comp=Z,120nm,1.1s						
CD2				pmax	pmax		
	comp=Z,190nm,3.9s						
CD2				LR	LR		
	comp=N,9μm,12.2s						
CD2				LR	LR		
	comp=E,7μm,8.6s						
CD2				LR	LR		
	comp=Z,5μm,7.3s						
WMQ	**Urumqi**	**10.16**	**325**	P	**Pn**	**00 56 22.8**	**+0.2**
WMQ				pP		00 56 28.5	
WMQ				sP		00 56 31.5	
WMQ				S	**Sn**	**00 58 15.8**	**-0.9**
WMQ				SS	**SnSn**	**00 58 33.1**	**+4.6**
WMQ				LR	LR		
	comp=Z,4μm,13.3s						
WMQ				LR	LR		
	comp=Z,5μm,9.1s						
WMQ	**Urumqi**	**10.16**	**325**	*e*Pn	**Pn**	**00 56 22.8**	**+0.2**
WMQ	**Urumqi**	**10.16**	**325**	*e*P	**Pn**	**00 56 22.8**	**+0.2**
SHL	**Shillong**	**10.67**	**199**	*e*Pn	**Pn**	**00 56 29.8**	**0.0**
SHL	**Shillong**	**10.67**	**199**	*e*P	**Pn**	**00 56 29.8**	**0.0**
SHL	**Shillong**	**10.67**	**199**	*e*P	**Pn**	**00 56 27.5**	**-2.2**
SHL				*e*S	Sn	00 58 19.7	-10
SHL				IAML		01 00 46.1	
	comp=N,81nm,0.1s						
SHL				IAML		01 00 48.0	
	comp=E,89nm,0.0s						
XAN	**Xi'an**	**10.97**	**95**	P	**Pn**	**00 56 31.0**	**-2.7**
XAN				pP		00 56 35.8	
XAN				S	**Sn**	**00 58 35.1**	**-1.3**
XAN				pmax	pmax		
	comp=E,7.0nm,0.7s						
XAN				LR	LR		
	comp=E,7μm,11.1s						
XAN				LR	LR		
	comp=E,3μm,11.1s						
XAN				LR	LR		
	comp=E,2μm,12.5s						
XAN	**Xi'an**	**10.97**	**95**	*e*Pn	**Pn**	**00 56 31.4**	**-2.3**
XAN	**Xi'an**	**10.97**	**95**	*e*P	**Pn**	**00 56 31.4**	**-2.3**
JIRN	**Jiri**	**11.44**	**228**	*e*P	**Pn**	**00 56 41.2**	**+0.8**
	comp=E,100nm,1.1s						
GUN	**Gumba**	**11.45**	**230**	*e*P	**Pn**	**00 56 41.5**	**+0.9**
	comp=E,44nm,0.8s						
RAMN	**Ramite**	**11.73**	**224**	*e*P	**Pn**	**00 56 42.9**	**-1.4**
	comp=E,39nm,0.9s						
PKI	**Pulchoki**	**11.98**	**230**	*e*P	**Pn**	**00 56 48.4**	**+0.6**
	comp=E,116nm,1.1s						
PKIN	**Phulchoki**	**11.98**	**230**	*e*P	**Pn**	**00 56 48.3**	**+0.5**
	comp=E,106nm,1.3s						
DMN	**Daman**	**12.14**	**231**	*e*P	**Pn**	**00 56 50.9**	**+0.9**
	comp=E,40nm,0.9s						
GKN	**Gorkha**	**12.18**	**234**	*e*P	**Pn**	**00 56 51.8**	**+1.4**
	comp=E,28nm,0.8s						
KMI	**Kunming**	**12.18**	**148**	P	**Pn**	**00 56 50.9**	**+0.4**
KMI				pP		00 56 55.0	
KMI				sP		00 56 56.8	
KMI				PP	**PnPn**	**00 57 01.9**	**+3.5**
KMI				pmax	pmax		
	comp=E,28nm,0.8s						
KMI				pmax	pmax		
	comp=E,77nm,3.7s						
KMI				LR	LR		
	comp=E,2μm,12.1s						
KMI				LR	LR		
	comp=E,2μm,9.6s						
BTO	**Baotou**	**12.24**	**62**	*e*P	Pn	00 56 45.8	-5.4
BTO				S	Sn	00 59 40.3	+33
BTO				LR	LR		
	comp=N,2281μm,9.9s						
BTO				LR	LR		
	comp=E,1059μm,9.3s						
DANN	**Dangsing**	**12.54**	**237**	*e*P	**Pn**	**00 56 57.0**	**+1.5**
	comp=E,23nm,0.9s						
ENH	**Enshi**	**12.76**	**111**	*e*Pn	**Pn**	**00 56 55.8**	**-2.5**
KOLN	**Koldanda**	**13.02**	**236**	*e*P	**Pn**	**00 57 01.9**	**0.0**
	comp=E,21nm,0.9s						
GYA	**Guiyang**	**13.16**	**132**	P	**Pn**	**00 57 02.4**	**-1.3**
GYA				PP	**P**	**00 57 14.3**	**+0.4**
GYA				S	**Sn**	**00 59 31.0**	**+0.8**
GYA				SS	S	00 59 46.4	-8.9
GYA				pmax	pmax		
	comp=E,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=E,90nm,4.0s						
PYUN	**Piuthan**	**13.23**	**238**	*e*P	**Pn**	**00 57 05.1**	**+0.3**
	comp=E,29nm,1.0s						
HHC	**Hu-ho-hao-te**	**13.44**	**63**	*e*P	**Pn**	**00 57 05.8**	**-1.6**
HHC				pP	P	00 57 09.9	-7.0
HHC				S	**Sn**	**00 59 36.4**	**-0.5**
HHC				sS	S	00 59 40.8	-20
HHC				SS	**SnSn**	**00 59 50.8**	**+1.8**
HHC				pmax	pmax		
	comp=E,260nm,4.6s						
HHC				LR	LR		
	comp=E,1μm,11.2s						
HHC				LR	LR		
	comp=E,920nm,7.2s						
HHC				LR	LR		
	comp=E,940nm,13.3s						
BRDH	**Bariadhala**	**13.50**	**196**	Pn	**Pn**	**00 57 07.5**	**-0.8**
	comp=E,7.4nm,0.3s,baz=64,slow=9.2,SNR=8.9						
BRDH				Sn	**Sn**	**00 59 31.7**	**-6.6**
	comp=E,22nm,0.3s,baz=83,slow=19,SNR=3.6						
BRDH				LR	LR	01 03 12.0	
	comp=E,471nm,20.9s,baz=24,slow=41						
TIY	**Taiyuan**	**13.54**	**77**	*e*P	**P**	**00 57 13.8**	**-4.3**
TIY				S	**Sn**	**00 59 45.9**	**+6.4**
TIY				pmax	pmax		
	comp=E,25nm,0.6s						
TIY				pmax	pmax		
	comp=E,120nm,4.2s						
TIY				LR	LR		
	comp=E,4μm,14.3s						
TIY				LR	LR		
	comp=E,680nm,9.6s						
TIY				LR	LR		
	comp=E,770nm,11.8s						
SONM	**Songino Array**	**14.45**	**30**	Pn	**Pn**	**00 57 20.3**	**-1.0**
	comp=E,1.8nm,0.3s,baz=214,slow=12,SNR=163						
SONM				Lg	Lg	01 01 30.5	
	comp=E,0.1nm,0.3s,baz=223,slow=31,SNR=3.0						
SONM				LR	LR	01 03 25.9	
	comp=E,710nm,20.4s,baz=213,slow=40						
SHLS	**Shalkode**	**14.57**	**305**	*c* *i*P	Pn	00 57 15.6	-7.5
SHLS				pmax	pmax		
	comp=Z,581nm,1.1s						
SHLS				MLR	MLR		
	comp=Z,225nm,13.0s						
SHLS	**Shalkode**	**14.57**	**305**	⇑*i*P	Pn	00 57 15.7	-7.4
	comp=Z,581nm,1.1s						
SHLS				*e*LR	LR	01 02 39.8	
	comp=Z,225nm,13.2s						
BOK	**Bokaro**	**14.65**	**218**	*e*P	**Pn**	**00 57 21.3**	**-2.7**
ULN	**Ulaanbaatar**	**14.74**	**31**	*e*Pn	**Pn**	**00 57 23.8**	**-1.5**
ULN	**Ulaanbaatar**	**14.74**	**31**	*c*e*P	**Pn**	**00 57 24.8**	**-0.5**
ULN				pmax	pmax		
	comp=E,38nm,1.0s						
ULN	**Ulaanbaatar**	**14.74**	**31**	P	**Pn**	**00 57 24.6**	**-0.7**
	SNR=16						
UZB	**Uzynbulak**	**14.86**	**305**	*d* *i*P	**Pn**	**00 57 23.6**	**-3.4**
UZB				pmax	pmax		
	comp=Z,166nm,0.9s						
UZB				MLR	MLR		
	comp=Z,169nm,17.0s						
UZB	**Uzynbulak**	**14.86**	**305**	⇓*i*P	**Pn**	**00 57 23.6**	**-3.4**
	comp=Z,166nm,0.9s						
UZB				*e*LR	LR	01 03 16.3	
	comp=Z,169nm,17.1s						
MK01	**Makanchi Array**	**14.92**	**322**	*e*Pn	**Pn**	**00 57 24.1**	**-3.6**
MK31	**Makanchi Array**	**14.94**	**322**	*e*Pn	**Pn**	**00 57 24.9**	**-3.1**
	comp=Z,18nm,0.8s						
MK31	**Makanchi Array**	**14.94**	**322**	*e*P	**Pn**	**00 57 24.7**	**-3.2**
MK31				pmax	pmax		
	comp=Z,19nm,0.7s						
MKAR	**Makanchi Array**	**14.94**	**322**	*i* P	**Pn**	**00 57 24.8**	**-3.1**
MKAR				pmax	pmax		
	comp=Z,20nm,0.6s						
MKAR	**Makanchi Array**	**14.94**	**322**	Pn	**Pn**	**00 57 24.1**	**-3.8**
	comp=Z,3.1nm,0.3s,baz=130,slow=14,SNR=155						
MKAR				Sn	**Sn**	**01 00 07.4**	**-6.1**
	comp=Z,0.7nm,0.3s,baz=123,slow=26,SNR=3.2						
MKAR				Lg	Lg	01 01 55.3	
	comp=Z,0.4nm,0.3s,baz=126,slow=27,SNR=2.4						
MKAR				LR	LR	01 04 05.6	
	comp=Z,585nm,20.3s,baz=129,slow=41						
PRZ	**Przheval'sk**	**15.03**	**302**	*e*Pn	**Pn**	**00 57 28.4**	**-0.9**
	comp=Z,36nm,0.8s						
MAKZ	**Makanchi**	**15.11**	**

AAA MLR MLR
comp=Z,161nm,16.0s
AAA Alma-Ata 16.31 303 *e*P **Pn 00 57 43.5 -2.4**
AAA comp=Z,480nm,1.3s *e*LR LR 01 03 53.7
comp=Z,161nm,16.4s
MOY Mondy 16.36 12 *e*P **Pn 00 57 45.9 -0.5**
MOY pmax pmax
comp=Z,47nm,1.9s
WHN Wuhan 16.43 103 P **Pn 00 57 47.3 0.0**
NRN Naryn 16.43 296 *e*Pn **Pn 00 57 45.9 -1.7**
comp=Z,11nm,0.8s
NRN Naryn 16.43 296 *e*P **Pn 00 57 45.9 -1.7**
NRN pmax pmax
comp=Z,11nm,0.8s
DHRM DHARAMSHALA 16.49 263 *e*P **Pn 00 57 48.3 0.0**
MTBS Maitube 16.62 302 *e*P **Pn 00 57 48.1 -1.6**
MTBS pmax pmax
comp=Z,223nm,1.0s
MTBS Maitube 16.62 302 *e*P **Pn 00 57 48.2 -1.6**
comp=Z,223nm,1.0s
BJT Baijiatuau 16.68 69 *e*Pn **Pn 00 57 46.5 -3.9**
comp=Z,15nm,1.1s
BJT Baijiatuau 16.68 69 *e*P **Pn 00 57 46.6 -3.9**
BJT pmax pmax
comp=Z,15nm,1.1s
BJI Beijing 16.69 69 *e*P **Pn 00 57 48.3 -2.3**
BJI LR LR
comp=Z,2μm,15.2s
BJI LR LR
comp=Z,540nm,11.8s
TLY Talaya 16.91 17 *e*Pn **Pn 00 57 52.0 -1.4**
comp=Z,5.2nm,1.0s
TLY Talaya 16.91 17 *ce*P **Pn 00 57 53.6 +0.3**
TLY pmax pmax
comp=Z,54nm,2.5s
TLY Talaya 16.91 17 P **Pn 00 57 53.3 0.0**
SNR=7.9
KUU Kurty 16.95 305 *d i*P **Pn 00 57 50.2 -3.7**
KUU pmax pmax
comp=Z,59nm,1.1s
KUU MLR MLR
comp=Z,94nm,12.0s
KUU Kurty 16.95 305 ⇓ *i*P **Pn 00 57 50.2 -3.7**
comp=Z,59nm,1.1s
KUU *e*LR LR 01 04 17.8
comp=Z,94nm,11.7s
CHTO Chiang Mai 17.10 170 *e*Pn **Pn 00 57 54.7 -1.2**
comp=Z,14nm,1.1s
CHTO Chiang Mai 17.10 170 *e*P **Pn 00 57 54.7 -1.2**
CHTO pmax pmax
comp=Z,14nm,1.1s
CHTO Chiang Mai 17.10 170 P **Pn 00 57 55.4 -0.5**
SNR=5.8
CMMT Chiang Mai 17.10 170 P **Pn 00 57 55.5 -0.4**
comp=Z,14nm,1.1s,comp=Z,455nm
TKM2 Tokmak 2 17.13 301 P **Pn 00 57 54.6 -1.7**
SNR=24
KZA Kyzart 17.13 298 P **Pn 00 57 55.5 -1.1**
SNR=18
CM31 Chiang Mai Arr 17.45 170 P **Pn 00 58 01.2 +0.9**
SNR=8.0
CMAR Chiang Mai Arr 17.45 170 *ce*P **Pn 00 58 00.2 -0.1**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CMAR Chiang Mai Arr 17.45 170 P **Pn 00 58 00.1 -0.2**
comp=Z,0.7nm,0.3s,baz=350,slow=10,SNR=41
CMAR LR LR 01 04 53.2
comp=Z,645nm,18.5s,baz=348,slow=38
CM01 Chiang Mai Arr 17.49 170 *e*Pn **Pn 00 57 59.3 -1.5**
KBK Karagaybulak 17.50 300 P **Pn 00 58 00.9 -0.1**
SNR=16
IRK Irkutsk 17.58 18 *e*P **Pn 00 58 01.9 +0.2**
IRK pmax pmax
comp=Z,55nm,2.1s
BWNR Bhubaneshwar 17.69 212 *ex* Pn 00 57 53.2 -10
UCH Uchtor 17.70 298 P **Pn 00 58 03.1 -0.6**
SNR=14
FRU Bishkek 17.79 300 *e*P **Pn 00 58 05.0 +0.6**
FRU pmax pmax
comp=Z,85nm,2.2s
AAK Ala-Archa 17.82 299 P **P 00 58 06.8 +1.1**
SNR=8.7
AAK Ala-Archa 17.82 299 *e*Pn **Pn 00 58 05.3 +0.4**
comp=Z,11nm,1.0s
AAK Lg Lg 01 03 40.6
AAK Ala-Archa 17.82 299 *ce*P **Pn 00 58 05.5 +0.6**
AAK pmax pmax
comp=Z,31nm,2.5s
AAK Ala-Archa 17.82 299 P **P 00 58 06.1 +0.5**
SNR=9.6
AAK Ala-Archa 17.82 299 P **P 00 58 05.9 +0.3**
comp=Z,0.2nm,0.3s,baz=106,slow=5.6,SNR=22
AAK Lg Lg 01 03 40.6
comp=Z,0.1nm,0.3s,baz=18,slow=20,SNR=2.1
USP Ospenovka 18.00 301 P **Pn 00 58 05.5 -1.4**
SNR=7.3
AML Almayashu 18.27 297 P **P 00 58 12.4 +1.6**
SNR=13
SEM Semipalatinsk 18.46 327 *c i*P **P 00 58 09.0 -3.6**
SEM pmax pmax
comp=Z,92nm,0.8s
SEM MLR MLR
comp=Z,314nm,14.0s
SEM Semipalatinsk 18.46 327 ⇑ *i*P **P 00 58 09.1 -3.6**
comp=Z,92nm,0.8s
SEM *e*LR LR 01 05 13.1
comp=Z,314nm,14.0s
JBP Jabalpur 18.55 232 *e*P **P 00 58 14.0 +0.5**
JBP ⇓ *ex* x 01 01 56.4
NIL Nilore 18.60 270 *e*P **P 00 58 12.1 -2.0**
comp=Z,29nm,0.9s
NIL Nilore 18.60 270 *e*P **P 00 58 12.1 -2.0**
NIL pmax pmax
comp=Z,29nm,0.9s
ARSB Arslanbob 18.63 294 *e*P **P 00 58 14.7 +0.2**
comp=Z,30nm,1.0s
BTLS Baital 18.90 306 *e*P **P 00 58 15.2 -2.1**
BTLS pmax pmax
comp=Z,85nm,1.2s
BTLS MLR MLR
comp=Z,151nm,12.0s
BTLS Baital 18.90 306 *e*P **P 00 58 15.3 -2.1**
comp=Z,85nm,1.2s
BTLS *e*LR LR 01 05 35.9
comp=Z,150nm,12.0s
KURBB Kurchatov Arra 19.38 325 P **P 00 58 21.1 -1.5**
comp=Z,0.3nm,0.3s,baz=130,slow=12,SNR=37
KURBB S **S 01 02 03.4 +1.8**
comp=Z,0.0nm,0.3s,baz=118,slow=25,SNR=3.3
KURBB Lg Lg 01 04 02.5
comp=Z,0.0nm,0.3s,baz=118,slow=33,SNR=2.7
KURK Kurchatov 19.41 326 *e*P **P 00 58 21.5 -1.3**
KURK Kurchatov 19.41 326 *i*P **P 00 58 21.3 -1.5**
KURK pmax pmax
comp=Z,28nm,1.3s
KURK Kurchatov 19.41 326 P **P 00 58 21.7 -1.1**
SNR=8.9
ZAA0 Zalesovo Array 19.74 341 *e*P **P 00 58 26.5 +0.2**
comp=Z,9.5nm,0.8s
ZALV Zalesovo Beam 19.74 341 *e*P **P 00 58 26.0 -0.4**
ZALV Lg Lg 01 04 21.1
ZALV Zalesovo Beam 19.74 341 *i*P **P 00 58 27.2 +0.8**
ZALV pmax pmax
comp=Z,8.0nm,0.8s
ZALV Zalesovo Beam 19.74 341 P **P 00 58 26.9 +0.6**
comp=Z,0.3nm,0.3s,baz=157,slow=12,SNR=22
ZALV Lg Lg 01 04 21.1
comp=Z,0.1nm,0.3s,baz=37,slow=29,SNR=5.9
ZALV LR LR 01 05 53.2
comp=Z,150nm,20.6s,baz=246,slow=36
SKNT Sakolnakorn 20.08 156 P **P 00 58 30.9 +0.5**
comp=Z,10nm,1.0s,comp=Z,1μm
BTK Batken 20.10 290 *e*P **P 00 58 31.2 +0.6**
comp=Z,7.4nm,0.9s
BTK Batken 20.10 290 *e*P **P 00 58 31.2 +0.6**
BTK pmax pmax
comp=Z,7.0nm,0.9s
BHPL Bhopal 20.19 237 *e*P Pn 00 58 33.2 -0.3
BHPL IAmb IAmb 00 58 34.9
comp=Z,10nm,0.4s
KK31 Karatay Array 20.77 298 *e*P **P 00 58 37.8 0.0**
comp=Z,22nm,1.0s
KK31 Karatay Array 20.77 298 *i*P **P 00 58 38.3 +0.5**
KK31 pmax pmax
comp=Z,21nm,1.1s
KKAR Karatay Array 20.77 298 *e*P **P 00 58 38.1 +0.3**
comp=Z,22nm,1.0s
KKAR Karatay Array 20.77 298 *e*P **P 00 58 38.1 +0.3**
KKAR pmax pmax
comp=Z,22nm,1.0s
QIZ Qiongzhong 20.80 139 P **P 00 58 38.6 +0.5**
QIZ S **S 01 02 31.8 +1.6**
QIZ LR LR
comp=Z,590nm,7.4s
QIZ LR LR
comp=Z,760nm,8.8s
NVS Novosibirsk 20.96 340 *e*P **P 00 58 39.3 -0.4**
NVS *e* 01 02 51.6
NVS pmax pmax
comp=Z,46nm,1.8s
NVS pmax pmax
comp=N,44nm,1.9s
NVS pmax pmax
comp=E,17nm,1.2s
SSE Sheshan 21.72 95 P **P 00 58 45.6 -2.4**
SSE S **S 01 02 44.9 -3.5**
SSE pmax pmax
comp=E,15nm,0.6s
SSE LR LR
comp=E,680nm,15.4s
SSE LR LR
comp=E,400nm,13.6s
KBL Kabul 21.84 275 *e*P **P 00 58 50.4 +0.8**
comp=E,35nm,1.1s
HIA Hailar 22.15 45 *e*P **P 00 58 49.7 -2.8**
comp=E,18nm,0.9s
HIA Hailar 22.15 45 *e*P **P 00 58 49.7 -2.8**
HIA pmax pmax
comp=Z,19nm,0.9s
QZH Quanzhou 22.42 112 *e*P **P 00 58 55.5 -0.1**
QZH S **S 01 03 03.6 +1.7**
QZH LR LR
comp=Z,2μm,15.2s
QZH LR LR
comp=Z,2μm,15.2s
QZH LR LR
comp=Z,900nm,11.4s
SNY Shenyang 22.48 66 ⇑ P **P 00 58 54.9 -1.2**
SNY pmax pmax
comp=Z,20nm,0.9s
SNY pmax pmax
comp=Z,250nm,4.7s
SNY LR LR
comp=Z,1μm,15.7s
SNY LR LR
comp=Z,360nm,11.4s
SNY LR LR
comp=Z,750nm,11.2s
DGPR DIGLIPUR 22.61 187 *e*P **P 00 58 56.8 -0.8**
CHBT CHBT 23.65 164 P P 00 59 16.3 +8.0
HYB Hyderabad 23.79 224 *i*P **P 00 59 10.0 +0.3**
HYB Hyderabad 23.79 224 *e*P **P 00 59 09.5 -0.2**
HYB IAmb IAmb 00 59 12.1
comp=Z,25nm,1.5s
CN2 Changchun 24.12 61 *e*P **P 00 59 07.9 -4.7**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=Z,760nm,12.0s
CN2 LR LR
comp=Z,1μm,14.0s
BVAR Borovoye Array 24.83 322 P **P 00 59 19.0 +0.1**
comp=Z,9.4nm,0.9s,baz=120,slow=8.7,SNR=17
BVAR LR LR 01 09 45.8
comp=Z,624nm,19.8s,baz=120,slow=38
BRVK Borovoye 24.90 322 *e*P **P 00 59 19.4 -0.2**
BRVK Borovoye 24.90 322 *ce*P **P 00 59 20.9 +1.4**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 24.90 322 P **P 00 59 21.0 +1.4**
SNR=6.9
BRVK P **P 00 59 21.0 +1.4**
SNR=6.9
BOD Bodaibo 25.22 23 *e*P **P 00 59 22.1 -0.3**
BOD pmax pmax
comp=Z,10.0nm,1.6s
BHJ Bhuj 25.80 248 *e*P **P 00 59 31.6 +3.6**
KSAR Wonju Array Be 25.81 77 P **P 00 59 27.0 -0.9**
KSAR Wonju Array Be 25.81 77 P **P 00 59 27.0 -0.9**
KS01 Wonju Array Si 25.81 77 *e*P **P 00 59 26.1 -1.9**
KSRS Korea Array 25.84 77 P **P 00 59 27.0 -1.2**
comp=Z,7.0nm,0.7s,baz=272,slow=9.1,SNR=17
KSRS LR LR 01 10 37.2
comp=Z,168nm,18.5s,baz=274,slow=39
POO Poona 25.85 234 *e*P **P 00 59 30.6 +2.1**
TRTT Trang 28.01 172 P P 00 59 54.5 +6.6
ZEA Zeya 28.38 41 *e*P **P 00 59 50.4 -0.5**
ZEA pmax pmax
comp=Z,14nm,1.2s
ZEA MLR MLR
comp=N,400nm,10.0s
ZEA MLR MLR
comp=E,700nm,10.0s
ZEA MLR MLR
comp=Z,900nm,10.0s
USRK Ussuriysk Ar. 28.85 62 LR LR 01 11 53.5
comp=Z,437nm,18.9s,baz=259,slow=38
AB31 Akbulak array 29.34 309 *i*P **P 00 59 59.7 +0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.6s
ABKAR Akbulak array 29.34 309 *e*P **P 01 00 00.7 +1.2**
comp=Z,1.6nm,0.8s
KLR Kul'dur 29.48 52 P **P 00 59 58.7 -2.1**
comp=Z,1.6nm,0.7s,baz=285,slow=11,SNR=6.4
KLR LR LR 01 12 12.2
comp=Z,184nm,18.0s,baz=186,slow=38
GEYT Alibeck 30.05 285 P **P 01 00 07.7 +1.7**
comp=Z,5.5nm,1.0s,baz=108,slow=4.7,SNR=6.4
GYA0B ALIBECK ARRAY 30.05 285 *e*P **P 01 00 06.8 +0.8**
comp=Z,6.5nm,1.0s
AKTO Aktyubinsk 30.84 310 P **P 01 00 12.4 -0.3**
comp=Z,3.7nm,0.9s,baz=93,slow=9.7,SNR=9.9
AKTO LR LR 01 13 37.4
comp=Z,344nm,19.0s,baz=109,slow=38
SVE Sverdlovsk 31.60 323 *e*P **P 01 00 22.6 +3.2**
SVE pmax pmax
comp=Z,13nm,0.9s
ARU Arti 32.47 321 *e*P **P 01 00 27.3 +0.3**
ARU Arti 32.47 321 *d i*P **P 01 00 29.6 +2.6**
ARU 01 01 37.2
ARU SS SS 01 07 37.5 -23
ARU pmax pmax
comp=Z,25nm,1.2s
ARU MLR MLR
comp=Z,321nm,18.0s
NRIK Noril'sk 33.95 355 P **P 01 00 39.5 -0.3**
comp=Z,2.2nm,0.3s,baz=144,slow=7.2,SNR=6.8
NRIK LR LR 01 14 11.8
comp=Z,269nm,18.6s,baz=179,slow=36
YSS Yuzh-Sakhalins 36.53 57 *e*P P 01 00 54.2 -8.0
YSS MLR MLR
comp=Z,500nm,17.0s
MAK Makhachkala 37.56 296 *e*P P 01 01 06.6 -4.4
MAK *e* 01 02 33.7
MAK *eS* **S 01 06 53.9 -6.2**
MAK *eSS* **SnSn 01 09 36.0 -2.0**
MAK pmax pmax
comp=Z,147nm,1.6s
MAK MLR MLR
comp=Z,381nm,18.0s
KIRV Kirov 37.84 322 LR LR 01 17 45.1
comp=Z,217nm,19.8s,baz=107,slow=38
GROC Groznyy 38.78 297 *e*P **P 01 01 19.5 -1.8**
GROC *e* 01 02 49.0
GROC pmax pmax
comp=Z,7.0nm,0.6s
TIXI Tiksi 39.88 16 *e*P **P 01 01 27.9 -2.3**
comp=Z,3.8nm,0.8s
TIXI Tiksi 39.88 16 *e*P **P 01 01 28.8 -1.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 39.88 16 P **P 01 01 27.5 -2.6**
comp=Z,1.8nm,0.3s,baz=192,slow=3.9,SNR=9.2
GNI Garni 40.00 292 *e*P **P 01 01 32.0 +0.2**
comp=Z,7.6nm,0.8s
GNI Garni 40.00 292 *e*P **P 01 01 32.0 +0.2**
GNI pmax pmax
comp=Z,8.0nm,0.8s
GNI Garni 40.00 292 P **P 01 01 34.5 +2.7**
comp=Z,7.5nm,0.8s,baz=11,slow=1.6,SNR=7.7
PRGR Permogore 40.52 326 *e*P P 01 01 28.5 -7.1
PRGR pmax pmax
comp=Z,11nm,1.1s
KBZ Khabaz 40.81 298 P **P 01 01 38.7 +0.5**
comp=Z,4.2nm,0.9s,baz=86,slow=4.9,SNR=7.4
KBZ LR LR 01 21 42.2
comp=Z,261nm,18.7s,baz=77,slow=41
VRH Novokhopyorsk 41.17 309 *e*P **P 01 01 40.3 -0.7**
VRH pmax pmax
comp=Z,9.0nm,0.8s
VSR Storozhevoye 42.77 309 *e*P **P 01 01 54.6 +0.4**
VSR pmax pmax
comp=Z,10.0nm,1.1s
LPSR Galich'ya Gora 42.90 311 *e*P **P 01 01 55.9 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.6s
KLMR Klimovskoe 43.23 324 *e*P **P 01 01 59.5 +1.8**
KLMR pmax pmax
comp=Z,15nm,1.3s
KLMR Klimovskoe 43.23 324 *e*P **P 01 01 59.6 +1.8**
KLMR AMP 01 02 01.8
comp=Z,15nm,1.2s
SEY Seymchan 43.80 34 P **P 01 02 01.1 -1.2**
comp=Z,2.9nm,0.7s,baz=219,slow=7.0,SNR=7.1
OBN Obninsk 44.31 315 *e*P **P 01 02 08.5 +2.0**
OBN *e* 01 03 49.8
OBN *eS* **S 01 08 42.3 +2.0**
OBN pmax pmax
comp=Z,9.0nm,1.0s
OBN MLR MLR
comp=Z,323nm,18.0s
TMCR Tamitsa 44.50 328 *e*P **P 01 02 10.4 +2.5**
TMCR pmax pmax
comp=Z,18nm,1.0s
RAYN Ar Rayn 44.89 268 *e*P **P 01 02 11.7 +0.1**
comp=Z,1.1nm,0.8s
RAYN Ar Rayn 44.89 268 *e*P **P 01 02 11.7 +0.1**
RAYN pmax pmax
comp=Z,1.0nm,0.8s
PETK Petropavlovsk- 46.01 48 LR LR 01 23 09.4
comp=Z,104nm,18.1s,baz=262,slow=38
BR131 Keskin Array S 48.41 294 *e*P **P 01 02 39.4 +0.3**
comp=Z,3.0nm,0.7s
BRTR Keskin Array B 48.41 294 *ce*P **P 01 02 40.0 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 48.41 294 P **P 01 02 38.9 -0.2**
comp=Z,2.6nm,0.8s,baz=102,slow=6.4,SNR=10
AKASG Malin Array Be 49.08 309 P **P 01 02 44.1 +0.2**
comp=Z,3.9nm,0.9s,baz=70,slow=7.2,SNR=9.4
AKASG LR LR 01 24 13.5
comp=Z,109nm,20.3s,baz=70,slow=37
AKBB Malin Array Si 49.08 309 *e*P **P 01 02 45.0 +1.1**
comp=Z,6.0nm,1.1s
KIEV Kiev 49.09 309 *e*P **P 01 02 43.3 -0.7**
comp=Z,2.1nm,0.6s
KIEV Kiev 49.09 309 *e*P **P 01 02 43.3 -0.7**
KIEV pmax pmax
comp=Z,2.0nm,0.6s
FIA1 FINESS Array S 49.76 324 *e*P **P 01 02 48.6 -0.4**
FINES FINESS Array B 49.77 324 P **P 01 02 48.4 -0.6**
comp=Z,5.3nm,0.9s,baz=81,slow=12,SNR=7.3
FINES LR LR 01 25 02.9
comp=Z,122nm,18.6s,baz=65,slow=38
ARCES ARCESS Array B 50.12 334 *e*P **P 01 02 52.8 +1.2**
ARCES ARCESS Array B 50.12 334 P **P 01 02 51.6 -0.1**
comp=Z,5.5nm,1.0s,baz=94,slow=7.9,SNR=7.9
BILL Bilibino 50.15 28 *e*P **P 01 02 51.3 -0.5**
comp=Z,6.0nm,1.0s
BILL Bilibino 50.15 28 *e*P **P 01 02 51.8 0.0**
BILL pmax pmax
comp=Z,5.0nm,1.3s
MLR Muntele Rosu 52.33 303 P **P 01 03 13.0 +4.3**
MLR Muntele Rosu 52.33 303 P **P 01 03 13.0 +4.3**
comp=Z,6.9nm,0.8s,baz=142,slow=11,SNR=5.9
SPITS Spitsbergen Ar 53.13 345 P **P 01 03 14.6 +0.6**
comp=Z,14nm,1.1s,baz=97,slow=6.8,SNR=7.6
HFS Hagfors 55.95 323 P **P 01 03 35.1 +0.4**
comp=Z,2.9nm,0.8s,baz=0.0,slow=6.5,SNR=2.6
VYHS Vyhne 56.16 309 *e*P **P 01 03 39.8 +3.4**
VYHS Vyhne 56.16 309 *e*P **P 01 03 39.8 +3.4**
NB2 NORSAR Subarra 56.92 325 P **P 01 03 40.7 -1.0**
comp=Z,1.2nm,0.7s,baz=76,slow=7.4
NOA NORSAR Array B 56.92 325 P **P 01 03 40.9 -0.7**
comp=Z,3.1nm,0.9s,baz=76,slow=7.2,SNR=7.1
NOA LR LR 01 29 17.2
comp=Z,95nm,19.8s,baz=80,slow=37
DPC Dobruska-Polom 57.16 311 *e*P **P 01 03 47.1 +3.6**
DPC Dobruska-Polom 57.16 311 *e*P **P 01 03 47.1 +3.6**
UPC Upice 57.30 312 AMS AMS 01 29 10.0
comp=Z,200nm,15.8s
GOPC GO Pecny, Ondr 58.23 311 AMS AMS 01 29 40.0
comp=Z,300nm,19.0s
PRU Pruhonice 58.36 311 *e*P **P 01 03 54.9 +3.0**
PRU Pruhonice 58.36 311 *e*P **P 01 03 54.9 +3.0**
CLL Collm 58.85 313 *i*P **P 01 03 54.6 -0.7**
comp=Z,4.0nm,0.9s
CLL *i* sP **pP 01 03 59.2 -0.7**
CLL *e*PP **PP 01 06 03.0 -2.0**
CLL LmV 01 30 00.0
comp=Z,200nm,21.3s
CLL Collm 58.85 313 *i*P **P 01 03 54.6 -0.7**
CLL pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 59.26 310 LR LR 01 30 35.7
comp=Z,178nm,18.8s,baz=90,slow=37
NKC Novy Kostel 59.54 312 AMS AMS 01 30 30.0
comp=Z,300nm,16.7s
GRFO Grafenberg 60.48 312 *e*P **P 01 04 05.2 -1.3**
comp=Z,5.7nm,0.8s
GRFO Grafenberg 60.48 312 *e*P **P 01 04 05.3 -1.3**
GRFO pmax pmax
comp=Z,6.0nm,0.8s
WATA Walderalm 61.14 309 *e*P **P 01 04 13.7 +2.4**
comp=Z,2.7nm,0.7s
MOTA Moosalm 61.43 310 *e*pP **P 01 04 14.4 +1.1**
comp=Z,4.5nm,0.8s
FETA Feichten 61.80 309 *i*pP **P 01 04 16.5 +0.7**
DAVA Damuels 62.22 310 P **P 01 04 17.5 -1.1**
comp=Z,4.1nm,0.8s
TOLK Toolik Lake Re 65.38 21 *e*P **P 01 04 38.1 -0.8**
comp=Z,6.9nm,0.9s
IM3 Indian Mountai 65.55 25 *e*P **P 01 04 38.9 -1.1**
KMBO Kilima Mbogo 65.55 249 P **P 01 04 42.2 +1.1**
comp=Z,1.2nm,0.8s,baz=37,slow=11,SNR=3.9
KMBO LR LR 01 32 20.7
comp=Z,62nm,21.9s,baz=101,slow=35
EKA Eskdalemuir Ar 66.08 322 P **P 01 04 43.8 +0.2**
comp=Z,3.7nm,0.9s,baz=53,slow=6.5,SNR=3.5
WRAB Tennant Creek 66.36 140 *e*P **P 01 04 44.5 -1.3**
comp=Z,1.9nm,0.6s
WRAB Tennant Creek 66.36 140 *ce*P **P 01 04 45.4 -0.4**
WRAB pmax pmax
comp=Z,17nm,2.5s
WRA Warramunga Arr 66.37 140 *ce*P **P 01 04 47.2 +1.4**
WRA pmax pmax
comp=Z,4.0nm,0.9s
WRA Warramunga Arr 66.37 140 P **P 01 04 44.6 -1.2**
comp=Z,3.0nm,0.9s,baz=339,slow=6.7,SNR=21
WB2 Warramunga Arr 66.37 140 *e*P **P 01 04 44.5 -1.3**
comp=Z,5.6nm,0.9s
TULEG Thule 67.56 356 *e*P **P 01 04 52.5 -0.2**
comp=Z,5.5nm,1.0s
KEST Kesra 67.68 299 LR LR 01 39 37.4
comp=Z,58nm,20.5s,baz=298,slow=40
ILAR Eielson Array 68.59 24 P **P 01 04 57.8 -1.6**
comp=Z,1.6nm,0.8s,baz=291,slow=6.0,SNR=17
ILAR LR LR 01 38 48.0
comp=Z,78nm,19.9s,baz=310,slow=39
AS31 Alice Springs 69.25 143 *e*P **P 01 05 03.4 -0.5**
comp=Z,1.1nm,0.8s
ASAR Alice Springs 69.25 143 P **P 01 05 03.0 -1.0**
comp=Z,2.9nm,0.8s,baz=330,slow=5.9,SNR=17
AS01 Alice Springs 69.27 143 *e*P **P 01 05 02.9 -1.2**
RIDG Independ'e Rid 69.94 24 *e*P **P 01 05 06.2 -1.6**
comp=Z,6.0nm,1.0s
SML Sawmill 69.95 27 *e*P **P 01 05 07.3 -0.6**
comp=Z,16nm,1.0s
INK Inuvik 69.97 17 *e*P **P 01 05 07.3 -0.5**
comp=Z,5.2nm,0.9s
INK Inuvik 69.97 17 *e*P **P 01 05 07.3 -0.5**
INK pmax pmax
comp=Z,5.0nm,0.9s
ES06 SONSECA Array 74.68 308 *e*P **P 01 05 36.5 0.0**
ESDC Sonseca Array 74.69 308 P **P 01 05 37.1 +0.5**
comp=Z,1.2nm,0.8s,baz=55,slow=5.5,SNR=7.1

YKA	**Yellowknife Ar**	**79.10**	**14**	P		**P**	**01 05 59.3**	**-1.7**
	comp=Z,1.3nm,0.9s,baz=336,slow=5.1,SNR=15							
YKA				PP		**PP**	**01 08 58.9**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=317,slow=8.7,SNR=3.8							
YKB5	**Yellowknife Ar**	**79.10**	**14**	*eP*		**P**	**01 05 59.2**	**-1.7**
STKA	**Stephens Creek**	**79.84**	**142**	P		**P**	**01 06 05.0**	**-0.3**
STKA	**Stephens Creek**	**79.84**	**142**	P		**P**	**01 06 05.0**	**-0.3**
STKA	**Stephens Creek**	**79.84**	**142**	P		**P**	**01 06 05.0**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=11,slow=4.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**85.66**	**283**	P		**P**	**01 06 37.3**	**+1.2**
	comp=Z,0.8nm,0.9s,baz=36,slow=6.0,SNR=4.1							
TORD				LR		LR	01 49 07.8	
	comp=Z,59nm,19.8s,baz=330,slow=39							
SCHQ	**Schefferville**	**88.55**	**350**	LR		LR	01 48 54.3	
	comp=Z,124nm,18.8s,baz=343,slow=37							
FFC	**Flin Flon**	**88.61**	**10**	*ceP*		**P**	**01 06 49.7**	**0.0**
BOSA	**Boshof**	**92.18**	**236**	LR		LR	01 44 39.5	
	comp=Z,43nm,21.9s,baz=84,slow=33							
DBIC	**Dimbokro**	**94.67**	**282**	LR		LR	01 56 51.0	
	comp=Z,31nm,21.1s,baz=46,slow=40							
NVAR	**Mina Array Bea**	**99.76**	**26**	LR		LR	01 55 23.0	
	comp=Z,57nm,20.9s,baz=238,slow=37							
SIV	**San Ignacio**	**151.45**	**308**	PKPbc		**PKiKP**	**01 13 52.5**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=97,slow=4.6,SNR=5.2							

*ISCJB **20** 01:08:46.8±0.3, 6°.86N±0°.03×73°.12W±0°.04, h158km±2km, mb3.6/14, Error ellipse: s-maj=5.9km s-min=4.4km az=171.7*

*IDC **20** 01:08:47.3±0.7, 6°.83N×72°.92W, h154km±6km, mb3.5/14, mb1 3.7/19, mb1mx3.6/36, mbtmp4.0/19, Error ellipse: s-maj=13.3km s-min=9.3km az=92.0*

*RSNC **20** 01:08:48.5±1.4, 6°.84N×73°.16W, h149km±6km, ML4.5, Mw4.4*

ISC 20 01:08:47.6±0.5, 6°.86N±0°.03×73°.11W±0°.04, h157km±4km, n48, σ1§37/76, mb3.8/14, 12C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**195**	*eP*		**Pn**	**01 09 08.8**	**-0.4**
BARC				*eS*		**Sn**	**01 09 23.6**	**-2.1**
BARC				*i*			01 09 25.1	
	comp=Z,10μm,0.3s							
PAMC	**Pamplona, Colo**	**0.63**	**41⇑**	*eP*		**Pn**	**01 09 11.5**	**+0.5**
PAMC				*eS*		**Sn**	**01 09 28.3**	**-0.5**
PAMC				*i*			01 09 33.9	
	comp=Z,2μm,0.3s							
BRRC	**Barranca, Sant**	**0.65**	**292⇑**	*iP*		**Pn**	**01 09 10.6**	**+0.1**
BRRC				*eS*		**Sn**	**01 09 27.5**	**-0.5**
BRRC				*i*			01 09 31.4	
	comp=Z,4μm,0.2s							
RUSC	**La Rusia**	**0.96**	**178⇑**	*iP*		**Pn**	**01 09 12.7**	**-0.6**
RUSC				*eS*		**Sn**	**01 09 31.5**	**-1.5**
RUSC				*i*			01 09 32.7	
	comp=E,9μm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.38**	**257⇑**	*iP*		**Pn**	**01 09 15.3**	**-1.1**
PTBC				*eS*		**Sn**	**01 09 36.4**	**-2.1**
TAMC	**Tame, Arauca**	**1.38**	**108⇑**	*iP*		**Pn**	**01 09 17.2**	**+0.8**
TAMC				*eS*		**Sn**	**01 09 38.9**	**+0.3**
OCAC	**Ocana**	**1.39**	**351⇑**	*iP*		**Pn**	**01 09 16.7**	**0.0**
OCAC				*eS*		**Sn**	**01 09 38.0**	**-1.2**
OCAC				*i*			01 09 43.1	
	comp=Z,4μm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.84**	**290⇓**	*eP*		**Pn**	**01 09 21.0**	**-0.4**
ZARC				*eS*		**Sn**	**01 09 47.3**	**-0.1**
	comp=N,8μm,0.3s							
ZARC				*i*			01 09 52.9	
	comp=Z,4μm,0.2s							
SMLC	**San Martn de**	**2.15**	**334⇑**	*eP*		**Pn**	**01 09 24.6**	**-0.3**
SMLC				*eS*		**Sn**	**01 09 54.4**	**+0.7**
SMLC				*i*			01 09 55.6	
	comp=Z,3μm,0.3s							
NORC	**Norcasia**	**2.17**	**234**	*eP*		**Pn**	**01 09 24.6**	**-0.6**
NORC				*eS*		**Sn**	**01 09 52.4**	**-1.8**
NORC				*i*			01 10 00.8	
	comp=Z,1μm,0.2s							
NORC				*i*			01 10 01.1	
	comp=N,3μm,0.2s							
CHIC	**Chingaza**	**2.30**	**196⇓**	*eP*		**Pn**	**01 09 26.9**	**-0.2**
CHIC				*eS*		**Sn**	**01 09 56.4**	**-1.1**
CHIC				*i*			01 10 01.5	
	comp=N,2μm,0.6s							
CHIC				*i*			01 10 04.1	
	comp=Z,844nm,0.4s							
ROSC	**El Rosal**	**2.34**	**211**	P		**Pn**	**01 09 28.9**	**+1.4**
	comp=Z,111nm,0.3s,baz=306,slow=14,SNR=443							
ROSC				S		**Sn**	**01 09 59.7**	**+1.4**
	comp=Z,144nm,0.3s,baz=184,slow=21,SNR=10							
HELC	**Santa Helena**	**2.49**	**255⇑**	*eP*		**Pn**	**01 09 29.0**	**-0.4**
HELC				*i*			01 10 07.2	
	comp=Z,977nm,0.3s							
UREC	**San Jos de Ur**	**2.56**	**290⇓**	*eP*		**Pn**	**01 09 28.6**	**-1.3**
UREC				*eS*		**Sn**	**01 10 00.6**	**-1.8**
UREC				*i*			01 10 11.2	
	comp=Z,2μm,0.4s							
VILC	**Villavicencio,**	**2.79**	**192⇑**	*iP*		**Pn**	**01 09 32.3**	**-0.5**
VILC				*eS*		**Sn**	**01 10 07.5**	**-0.3**
VILC				*i*			01 10 14.4	
	comp=N,5μm,0.5s							
CODC	**Agustn Codazz**	**3.07**	**354⇑**	*eP*		**Pn**	**01 09 36.0**	**-0.2**
CODC				*eS*		**Sn**	**01 10 12.8**	**-1.1**
CODC				*i*			01 10 18.3	
	comp=Z,375nm,0.4s							
CODC				*i*			01 10 19.5	
	comp=E,764nm,0.4s							
DBBC	**Dabeiba**	**3.08**	**273⇓**	*iP*		**Pn**	**01 09 36.5**	**+0.1**
DBBC				*eS*		**Sn**	**01 10 12.9**	**-1.2**
DBBC				*i*			01 10 16.8	
	comp=Z,1μm,0.4s							
SMRC	**Santa Marta, M**	**4.42**	**346**	*eP*		**Pn**	**01 09 54.1**	**+0.6**
SMRC				*eS*		**Sn**	**01 10 42.0**	**-2.9**
SMRC				*i*			01 10 42.6	
	comp=E,573nm,0.2s							
CMJ	**Castle Mountai**	**11.65**	**344**	*i*	P	**Pn**	**01 11 32.1**	**+2.9**
GWJ	**Greenwich**	**11.69**	**343**	*i*	P	**Pn**	**01 11 32.5**	**+2.7**
STH	**Stony Hill**	**11.72**	**342**	*i*	P	**Pn**	**01 11 32.8**	**+2.7**
MCJ	**Malvern**	**11.87**	**338**	*i*	P	**Pn**	**01 11 34.9**	**+2.8**
MCJ				*i*	P	**P**	**01 11 35.9**	**-2.8**
CVJ	**Coleyville**	**12.09**	**340⇑**	*iP*		**P**	**01 11 38.7**	**-2.5**
BBJ	**Bamboo Saint A**	**12.15**	**341⇑**			**Pn**	**01 11 39.0**	**+3.4**
JTS	**JuntasAbangare**	**12.20**	**287**	P		**Pn**	**01 11 39.1**	**+2.8**
	comp=E,1.0nm,0.3s,baz=309,slow=8.0,SNR=5.0							
ATAH	**Atahualpa**	**14.87**	**201**	P		**P**	**01 12 12.9**	**+0.5**
	comp=E,0.5nm,0.3s,baz=7.5,slow=11,SNR=4.5							
PTGA	**Pitinga**	**15.13**	**119**	P		**Pn**	**01 12 12.4**	**-1.0**
	comp=E,0.8nm,0.3s,baz=312,slow=22,SNR=6.1							
APG	**El Apazote**	**18.85**	**297**	P		**Pn**	**01 12 58.4**	**0.0**
	comp=E,0.3nm,0.3s,baz=339,slow=0.8,SNR=5.9							
LPAZ	**La Paz**	**23.52**	**168**	P		**P**	**01 13 44.1**	**-0.1**
	comp=E,2.1nm,0.6s,baz=334,slow=10,SNR=9.7							
LPAZ				pP		**pP**	**01 14 16.7**	**+1.8**
	comp=E,6.7nm,0.7s,baz=355,slow=11,SNR=9.0							
BDFB	**Brasilia**	**33.43**	**132**	P		**P**	**01 15 11.4**	**-0.4**
	comp=E,3.2nm,0.7s,baz=276,slow=9.5,SNR=4.8							
TXAR	**Lajitas Array**	**36.44**	**312**	P		**P**	**01 15 38.5**	**+0.9**
	comp=E,0.3nm,0.4s,baz=119,slow=8.8,SNR=9.3							
TXAR				pP		**pP**	**01 16 11.4**	**+0.1**
	comp=E,0.6nm,0.6s,baz=121,slow=8.8,SNR=4.3							
TXAR				PcP		**PcP**	**01 18 00.1**	**+1.8**
	comp=E,1.2nm,0.7s,baz=139,slow=5.0,SNR=10							
ULM	**Lac du Bonnet**	**47.25**	**340**	P		**P**	**01 17 05.3**	**+0.5**
	comp=E,0.9nm,0.3s,baz=158,slow=9.2,SNR=4.2							
PLCA	**Paso Flores**	**47.42**	**177**	P		**P**	**01 17 04.1**	**-2.2**
	comp=E,1.7nm,0.9s,baz=356,slow=8.6,SNR=2.9							
PDAR	**Pinedale Array**	**48.05**	**324**	P		**P**	**01 17 11.3**	**-0.1**
	comp=E,0.3nm,0.6s,baz=120,slow=8.8,SNR=3.7							
PDAR				PcP		**PcP**	**01 18 37.4**	**+0.6**
	comp=E,0.3nm,0.5s,baz=120,slow=5.5,SNR=2.9							
SCHQ	**Schefferville**	**48.10**	**5**	P		**P**	**01 17 12.6**	**+1.3**
	comp=E,3.2nm,0.6s,baz=212,slow=7.4,SNR=9.9							
SCHQ				pP		**pP**	**01 17 47.0**	**-0.4**
	comp=E,3.6nm,0.9s,baz=181,slow=10,SNR=2.7							
NVAR	**Mina Array Bea**	**51.46**	**315**	P		**P**	**01 17 37.5**	**+0.2**
	comp=E,0.5nm,0.6s,baz=114,slow=8.0,SNR=5.1							
NVAR				PcP		**PcP**	**01 18 50.5**	**+1.1**
	comp=E,0.5nm,0.5s,baz=126,slow=4.6,SNR=5.4							
YKA	**Yellowknife Ar**	**63.23**	**340**	P		**P**	**01 18 59.5**	**+0.6**
	comp=E,1.9nm,0.6s,baz=132,slow=6.6,SNR=42							
YKA				PcP		**pP**	**01 19 35.8**	**-0.4**
	comp=E,1.7nm,0.7s,baz=132,slow=6.8,SNR=7.0							
DBIC	**Dimbokro**	**67.72**	**86**	P		**P**	**01 19 27.9**	**-0.8**
	comp=E,4.6nm,0.9s,baz=220,slow=5.2,SNR=3.9							
TORD	**Torodi Ar. Bea**	**73.72**	**78**	P		**P**	**01 20 02.4**	**-2.6**
	comp=E,0.1nm,0.3s,baz=295,slow=6.5,SNR=4.1							
ILAR	**Eielson Array**	**76.93**	**335**	P		**P**	**01 20 23.1**	**+0.7**
	comp=E,0.2nm,0.4s,baz=120,slow=4.5,SNR=4.5							
ILAR				pP		**pP**	**01 21 00.6**	**-0.4**
	comp=E,0.5nm,0.7s,baz=93,slow=4.4,SNR=3.5							
GERES	**GERESS Array B**	**82.79**	**42**	P		**P**	**01 20 53.1**	**-1.2**
	comp=E,0.3nm,0.7s,baz=304,slow=5.3,SNR=3.0							
ARCES	**ARCESS Array B**	**86.63**	**20**	P		**P**	**01 21 13.0**	**-0.1**
	comp=E,3.4nm,0.9s,baz=297,slow=4.0,SNR=3.6							
MKAR	**Makanchi Array**	**122.28**	**20**	PKP		**PKPdf**	**01 27 23.9**	**-0.3**
	comp=E,0.4nm,0.4s,baz=296,slow=3.0,SNR=10							
SONM	**Songino Array**	**125.54**	**0**	PKP		**PKPdf**	**01 27 30.1**	**-0.4**
	comp=E,0.3nm,0.5s,baz=301,slow=1.3,SNR=4.2							
STKA	**Stephens Creek**	**139.19**	**228**	PKP		**PKPdf**	**01 27 57.7**	**+1.3**
	comp=E,1.7nm,0.7s,baz=18,slow=3.7,SNR=3.1							
ASAR	**Alice Springs**	**149.14**	**234**	PKP		**PKPdf**	**01 28 14.1**	**+0.1**
	comp=E,5.8nm,0.7s,baz=111,slow=1.6,SNR=12							
ASAR				PKPbc		**PKPbc**	**01 28 17.8**	**-0.5**
	comp=E,6.8nm,0.7s,baz=118,slow=3.5,SNR=57							
WRA	**Warramunga Arr**	**150.37**	**241**	PKP		**PKPdf**	**01 28 16.0**	**+0.1**
	comp=E,5.4nm,0.5s,baz=107,slow=2.6,SNR=16							
WRA				PKPbc		**PKPbc**	**01 28 21.0**	**-0.3**
	comp=E,5.1nm,0.4s,baz=106,slow=2.7,SNR=155							
CMAR	**Chiang Mai Arr**	**153.65**	**17**	PKPbc		**PKiKP**	**01 28 29.5**	**+0.6**
	comp=E,1.2nm,0.5s,baz=328,slow=3.2,SNR=4.8							

*IDC **20** 01:48:39.5±0.8, 19°.26N×121°.95E, h0km, mb3.7/10, mb1 4.0/11, mb1mx3.7/42, mbtmp3.7/11, ML3.6/1, MS2.8/4, Ms1 2.9/4, ms1mx2.5/55, Error ellipse: s-maj=32.1km s-min=15.9km az=73.0*

*ISCJB **20** 01:48:46.4±0.6, 19°.49N±0°.04×121°.55E±0°.09, h44km, mb3.7/10, MS3.0/2, Error ellipse: s-maj=11.5km s-min=5.1km az=175.6*

*MAN **20** 01:48:50.0, 19°.24N×121°.60E, h63km, MS4.0*

ISC 20 01:48:46.7±0.7, 19°.46N±0°.06×121°.66E±0°.09, h44km, n25, σ2§05/22, mb3.7/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGCP	**Mt. Cagua**	**1.27**	**163**	*eP*		**Pn**	**01 49 10.0**	**+2.0**
SGCP				*eS*		**Sn**	**01 49 25.2**	**+1.4**
APYP	**Conner**	**1.64**	**194**	*eP*		**Pn**	**01 49 14.2**	**+1.1**
APYP				*eS*		**Sn**	**01 49 33.2**	**+0.3**
PALP	**Palanan**	**2.49**	**163**	*eP*		**Pn**	**01 49 26.5**	**+1.7**
PALP				*eS*		**Sn**	**01 49 56.7**	**+2.7**
CAUP	**Cauayan**	**2.51**	**176**	*eP*		**Pn**	**01 49 28.0**	**+3.0**
SMPP	**San Manuel, Pa**	**3.42**	**196**	*eP*		**Pn**	**01 49 39.0**	**+1.4**
SMPP				*eS*		**Sn**	**01 50 16.1**	**-0.8**
BOLP	**Bolinao**	**3.48**	**209**	*eP*		**Pn**	**01 49 40.5**	**+2.1**
BOLP				*eS*		**Sn**	**01 50 18.5**	**+0.1**
JNU	**Nakatsue**	**15.91**	**29**	LR		LR	01 58 52.5	
	comp=Z,23nm,20.3s,baz=192,slow=38							
KSRS	**Korea Array**	**18.75**	**16**	P		**Pn**	**01 53 02.8**	**+0.1**
	0.2nm,0.3s,baz=197,slow=11,SNR=4.0							
KSRS				LR		LR	01 59 46.3	
	comp=Z,12nm,20.0s,baz=220,slow=35							
CMAR	**Chiang Mai Arr**	**21.50**	**271**	P		**P**	**01 53 31.8**	**-0.3**
	1.4nm,0.4s,baz=86,slow=12,SNR=3.0							
CMAR				LR		LR	02 01 12.5	
	comp=Z,12nm,22.0s,baz=35,slow=35							
SONM	**Songino Array**	**30.91**	**340**	P		**P**	**01 55 00.2**	**+0.9**
	0.2nm,0.4s,baz=151,slow=9.1,SNR=1.9							
FITZ	**Fitzroy Crossi**	**37.53**	**174**	P		**P**	**01 55 54.0**	**-2.7**
	0.8nm,0.7s,baz=348,slow=9.3,SNR=3.4							
WRA	**Warramunga Arr**	**41.08**	**162**	P		**P**	**01 56 22.4**	**-4.0**
	1.6nm,0.4s,baz=343,slow=9.1,SNR=29							
MKAR	**Makanchi Array**	**42.11**	**319**	P		**P**	**01 56 36.9**	**+2.3**
	0.3nm,0.5s,baz=110,slow=8.7,SNR=6.1							
H11S3	**WAKE ISLAND Hy**	**42.50**	**84**	T		T	02 41 51.5	
	baz=284,slow=74							
H11S1	**WAKE ISLAND Hy**	**42.51**	**84**	T		T	02 41 52.1	
	baz=284							
H11N1	**WAKE ISLAND Hy**	**42.52**	**82**	T		T	02 42 02.8	
	baz=277,slow=75							
H11S2	**WAKE ISLAND Hy**	**42.52**	**84**	T		T	02 41 52.8	
	baz=284,slow=74							
H11N2	**WAKE ISLAND Hy**	**42.52**	**82**	T		T	02 42 04.1	
	baz=277,slow=75							
H11N3	**WAKE ISLAND Hy**	**42.54**	**82**	T		T	02 42 08.4	
	baz=277,slow=75							
ZALV	**Zalesovo Beam**	**44.48**	**330**	P		**P**	**01 56 55.2**	**+1.6**
	0.9nm,0.6s,baz=119,slow=6.4,SNR=3.4							
ASAR	**Alice Springs**	**44.50**	**164**	P		**P**	**01 56 51.2**	**-2.8**
	2.0nm,0.4s,baz=347,slow=6.9,SNR=30							
KURBB	**Kurchatov Arra**	**46.06**	**323**	P		**P**	**01 57 08.0**	**+1.9**
	0.4nm,0.5s,baz=116,slow=8.4,SNR=3.6							
ILAR	**Eielson Array**	**73.21**	**27**	P		**P**	**02 00 11.3**	**-1.6**
	0.2nm,0.6s,baz=274,slow=4.8,SNR=5.1							
HFS	**Hagfors**	**81.89**	**331**	LR		LR	02 38 44.6	
	comp=Z,45nm,18.1s,baz=246,slow=37							
YKA	**Yellowknife Ar**	**87.14**	**23**	P		**P**	**02 01 27.3**	**-0.5**
	0.6nm,0.7s,baz=309,slow=4.5,SNR=14							

*JMA **20** 02:03:50.8±0.5, 32°.66N×138°.22E, h359km±4km, M3.1*

*ISCJB **20** 02:03:53.3±1.2, 32°.8N±0°.1×138°.1E±0°.2, h350km, mb2.8/4, Error ellipse: s-maj=22.8km s-min=14.3km az=32.2*

*IDC **20** 02:04:03.8±20.0, 32°.15N×136°.27E, h380km±245km, mb2.7/4, mb1 2.8/4, mb1mx2.5/41, mbtmp3.5/4, Error ellipse: s-maj=275.3km s-min=28.5km az=64.0*

ISC 20 02:03:54.7±1.4, 32°.9N±0°.1×138°.1E±0°.2, h350km, n12, σ1§16/12, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIE	**Ise**	**1.89**	**322**	P		**Pn**	**02 04 44.4**	**-0.8**
JKN2	**Miekihoku**	**2.03**	**311**	P		**Pn**	**02 04 44.9**	**-1.2**
JTNC	**Tanabenakahech**	**2.29**	**294**	P		**Pn**	**02 04 46.5**	**-1.5**
JWY	**Kouya**	**2.48**	**303**	P		**Pn**	**02 04 48.7**	**-0.9**
JHU	**Hanno**	**3.10**	**18**	*eS*		**S**	**02 05 43.0**	**-0.2**
JAI	**Aioi**	**3.19**	**287**	P		**Pn**	**02 04 54.1**	**-1.6**
JWT	**Wachi**	**3.27**	**317**	P		**Pn**	**02 04 55.6**	**-0.8**
JAG	**Ashikaga**	**3.68**	**17**	P		**Pn**	**02 04 59.2**	**-1.2**
SONM	**Songino Array**	**28.16**	**311**	P		**P**	**02 09 17.3**	**+1.4**
	0.4nm,0.5s,baz=104,slow=9.4,SNR=3.0							
MKAR	**Makanchi Array**	**44.15**	**305**	P		**P**	**02 11 30.1**	**+0.3**
	0.4nm,0.4s,baz=85,slow=9.7,SNR=9.0							
KURBB	**Kurchatov Arra**	**45.52**	**311**	P		**P**	**02 11 48.4**	**+0.3**
	0.4nm,0.4s,baz=87,slow=6.9,SNR=5.7							
WRA	**Warramunga Arr**	**52.67**	**184**	P		**P**	**02 12 34.6**	**+0.3**
	0.2nm,0.8s,baz=0.4,slow=7.7,SNR=4.8							

*MOS **20** 02:10:20.9±1.1, 12°.49N×93°.81E, h72km, mb4.9/26, Error ellipse: s-maj=12.6km s-min=6.2km az=105.9*

*BJI **20** 02:10:22.5, 12°.35N×93°.67E, h98km, mb4.8/48, mB4.7/29*

*NDI **20** 02:10:25.3±2.7, 12°.70N×93°.84E, h92km±11km, mb4.6, ML4.7, mb4.7(NEIC)*

*NEIC **20** 02:10:26.6±2.0, 12°.60N×93°.70E, h104km±5km, mb4.7/47, Error ellipse: s-maj=13.0km s-min=11.7km az=94.0*

*ISCJB **20** 02:10:26.1±0.3, 12°.62N±0°.02×93°.70E±0°.02, h112km±3km, mb4.6/83, Error ellipse: s-maj=4.3km s-min=3.2km az=149.5*

*IDC **20** 02:10:26.1±0.6, 12°.55N×93°.81E, h103km±3km, mb4.2/30, mb1 4.2/31, mb1mx4.1/55, mbtmp4.5/31, MS3.2/10, Ms1 3.2/10, ms1mx3.0/37, Error ellipse: s-maj=12.5km s-min=8.6km az=55.0*

*DJA **20** 02:10:29.8±0.7, 13°.N±5°.×9°.4E±°, h120km±7km, M4.9/21, mb4.9/21, mB5.3/14, MLv5.4/2, Mw(mB)4.8/14*

*KLM **20** 02:10:30.3, 12°.72N×94°.07E, h68km, mb4.9*

ISC 20 02:10:26.3±0.3, 12°.69N±0°.04×93°.70E±0°.04, h101km±2km, h101km:pP-P, n276, σ1§69/328, mb4.6/87, 31C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGPR	**DIGLIPUR**	**0.89**	**303**	*eP*		**Pn**	**02 10 44.9**	**-0.7**
DGPR				*eS*		**Sn**	**02 10 59.6**	**-0.6**
DGPR				*i*	AML		02 11 02.0	
	comp=E,16μm,0.3s							
DGPR				*i*	AML		02 11 02.0	
	comp=N,17μm,0.6s							
PBA	**Port Blair**	**1.39**	**222**	*eP*	n	Pn	02 10 49.5	-1.8
PBA				*eS*	n	Sn	02 11 08.7	-1.4
PBA	**Port Blair**	**1.39**	**222**	*eP*		Pn	02 10 50.2	-1.0
PBA				*eS*		Sn	02 11 10.3	+0.2
PBA				*i*	AML		02 11 11.0	
	comp=E,12μm,0.3s							
PBA				*i*	AML		02 11 11.6	
	comp=N,11μm,0.4s							
CMBY	**CAMPBELL BAY**	**5.65**	**178**	*eS*		**Sn**	**02 12 46.4**	**-4.9**
CMBY				*i*	AML		02 12 50.0	
	comp=E,412nm,0.2s							
CMBY				*i*	AML		02 12 50.6	
	comp=N,462nm,0.2s							
PKDT	**Phuket**	**6.60**	**136**	P		**Pn**	**02 12 01.8**	**+1.1**
	comp=N,20nm,0.8s,comp=N,3μmcomp=N,0.2nm							
TRTT	**Trang**	**7.62**	**129**	P		**Pn**	**02 12 17.6**	**+3.0**
	comp=N,6.1nm,0.9s,comp=N,0.0nm							
CM01	**Chiang Mai Arr**	**7.63**	**41**	*ePn*		**Pn**	**02 12 16.6**	**+1.8**
CM01				*eSn*		**Sn**	**02 13 40.8**	**+1.2**
CM31	**Chiang Mai Arr**	**7.64**	**41**	*ePn*		**Pn**	**02 12 17.3**	**+2.4**
CM31				*eSn*		**Sn**	**02 13 41.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**7.64**	**41**	P		**Pn**	**02 12 17.8**	**+2.8**
	comp=N,9.9nm,0.3s,baz=232,slow=15,SNR=160							
CMAR				S		**Sn**	**02 13 41.2**	**+1.2**
	comp=N,1.8nm,0.3s,baz=233,slow=27,SNR=6.8							
CMAR				LR		LR	02 16 01.3	
	comp=N,115nm,18.1s,baz=234,slow=44							
CMAR				ScP		**ScP**	**02 22 11.5**	**+1.3**
	comp=N,1.3nm,0.3s,baz=251,slow=2.8,SNR=5.8							
CHTO	**Chiang Mai**	**7.91**	**39**	*ePn*		**Pn**	**02 12 20.8**	**+2.2**
CHTO				*eSn*		**Sn**	**02 13 46.0**	**-0.6**
CHTO	**Chiang Mai**	**7.91**	**39**	*eP*		**Pn**	**02 12 20.8**	**+2.2**
CHTO				*e*			02 13 46.0	
CMMT	**Chiang Mai**	**7.91**	**39**	P		**Pn**	**02 12 20.9**	**+2.3**
	comp=N,58nm,1.0s,comp=N,777nmcomp=N,0.5nm							
PBKT	**Sadao Pong**	**8.03**	**60**	P		**Pn**	**02 12 21.9**	**+1.8**
	comp=N,75nm,1.1s							
SKLT	**Songkhla**	**8.75**	**128**	P		**Pn**	**02 12 31.8**	**+1.8**
	comp=N,39nm,1.1s,comp=N,856nm							
MLSI	**Meulaboh, Aceh**	**8.78**	**162**	P		**Pn**	**02 12 33.6**	**+3.1**
	comp=N,297nm,1.1s,comp=N,4μmcomp=N,1.1nm							
KCSI	**Kotacane, Aceh**	**9.96**	**156**	P		**Pn**	**02 12 48.4**	**+1.9**
	comp=N,50nm,1.0s,comp=N,879nm							
KULM	**Kulim**	**10.06**	**136**	*ePn*		**Pn**	**02 12 48.9**	**+1.0**
KULM	**Kulim**	**10.06**	**136**	P		**Pn**	**02 12 48.8**	**+1.0**
BRDH	**Bariadhala**	**10.13**	**349**	P		**Pn**	**02 12 49.7**	**+1.0**
	comp=N,67nm,0.3s,baz=112,slow=4.9,SNR=7.4							
BRDH				S		**Sn**	**02 14 34.9**	**-5.5**
	comp=N,125nm,0.3s,baz=27,slow=24,SNR=9.9							
BRDH				LR		LR	02 18 31.2	
	comp=N,219nm,18.3s,baz=156,slow=47							
SKNT	**Sakolnakorn**	**10.81**	**66**	P		**Pn**	**02 13 01.0**	**+2.9**
	comp=N,23nm,1.1s,comp=N,1μm							
IPM	**Ipoh**	**10.90**	**138**	P		**Pn**	**02 12 59.1**	**-0.3**
PSI	**Prapat**	**11.10**	**152**	P		**Pn**	**02 13 03.8**	**+1.7**
	comp=N,0.9nm,0.3s,baz=360,slow=9.8,SNR=21							
VIS	**Vishakhapatnam**	**11.19**	**298**	*i*	P	**Pn**	**02 13 02.4**	**-0.7**
VIS				*ex*		x	02 14 58.2	
	comp=N,3μm,0.7s							
SHL	**Shillong**	**12.93**	**353**	*ePn*		**Pn**	**02 13 25.8**	**-0.6**
SHL				*eSn*		**Sn**	**02 15 40.8**	**-7.8**
SHL	**Shillong**	**12.93**	**353**	*eP*		**Pn**	**02 13 25.8**	**-0.6**
SHL	**Shillong**	**12.93**	**353**	*eP*		**Pn**	**02 13 26.1**	**-0.3**
SHL				IAmb		IAmb	02 13 26.4	
	comp=Z,30nm,0.8s							
MNSI	**Mandailing Nat**	**13.18**	**153**	P		**P**	**02 13 34.9**	**-0.9**
	comp=Z,35nm,0.6s,comp=Z,7μm							
BOK	**Bokaro**	**13.30**	**327**	*eP*		**Pn**	**02 13 30.6**	**-0.5**
BOK				IAmb		IAmb	02 13 34.9	
	comp=Z,489nm,0.1s							
PALK	**Pallekele**	**13.88**	**248**	P		**Pn**	**02 13 40.3**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=116,slow=8.1,SNR=5.0							
KGM	**Kluang**	**

KASI Kota Agung 21.04 149 P **P** **02 14 58.8 -3.4**
NDI New Delhi 22.11 319 *eP* **P** **02 15 15.0 +1.4**
NDI *eS* **S** **02 19 13.0 +1.9**
DDI Dehra Dun 22.75 323 *eP* **P** **02 15 20.5 +0.3**
ENH Enshi 22.80 37 *eP* **P** **02 15 20.3 -0.3**
comp=Z,37nm,0.8s
SMLA Simla 23.86 323 *eP* **P** **02 15 31.5 +1.1**
KPJI Karang Pucung 25.00 142 P **P** **02 15 43.1 +2.2**
comp=Z,17nm,1.0s,comp=Z,670nm
LZH Lanzhou 25.03 20 ⇑P **P** **02 15 41.8 +0.6**
LZH pP pP 02 16 04.0 +0.9
LZH sP sP 02 16 16.4 +1.6
LZH PP PP 02 16 29.0 -11
LZH pmax pmax
comp=Z,130nm,1.0s
LZH pmax pmax
comp=Z,190nm,4.3s
LZH LR LR
comp=Z,220nm,13.2s
LZH LR LR
comp=Z,230nm,13.5s
LZH LR LR
comp=Z,380nm,16.7s
DHRM DHARAMSHALA 25.18 323 *eP* **P** **02 15 41.6 -1.1**
XAN Xi'an 25.37 31 P **P** **02 15 44.1 -0.1**
XAN pP pP 02 16 04.4 -1.7
XAN sP sP 02 16 16.8 -0.8
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN pmax pmax
comp=Z,89nm,3.8s
XAN Xi'an 25.37 31 *eP* **P** **02 15 44.4 +0.2**
comp=Z,12nm,0.7s
XAN Xi'an 25.37 31 *eP* **P** **02 15 44.4 +0.2**
XAN pmax pmax
comp=Z,12nm,0.7s
WHN Wuhan 26.08 44 ⇑P **P** **02 15 53.3 +2.8**
WHN pP **pwP** **02 16 15.1 +0.4**
UGM Wanagama 26.43 140 *eP* **P** **02 15 57.7 +3.8**
comp=Z,64nm,1.0s
UGM Wanagama 26.43 140 P **P** **02 15 58.2 +4.3**
comp=Z,69nm,1.0s
NGJI Ngawi 26.62 138 P P 02 16 08.6 +13
WOJI Wonogiri, Jawa 26.62 139 P P 02 16 02.8 +7.2
GTA Gaotai 27.16 10 *eP* **P** **02 16 02.3 +2.0**
GTA pP pwP 02 16 23.9 -0.5
GTA sP sP 02 16 36.0 +2.2
GTA pmax pmax
comp=Z,22nm,1.0s
NIL Nilore 27.98 322 *eP* **P** **02 16 08.9 +1.3**
comp=Z,15nm,0.6s
NIL Nilore 27.98 322 *eP* **P** **02 16 08.9 +1.3**
NIL pmax pmax
comp=Z,15nm,0.6s
H08S3 Diego Garcia H 29.19 227 T T 02 44 20.5
baz=48,slow=76,SNR=20
H08S2 Diego Garcia H 29.19 227 T T 02 44 24.1
baz=48,slow=76,SNR=15
H08S1 Diego Carcia H 29.21 227 T T 02 44 16.7
baz=48,slow=76,SNR=7.4
SRBI Singaraja 29.71 133 P **P** **02 16 25.0 +1.9**
comp=Z,19nm,1.3s
NJ2 Nanjing 30.08 46 *eP* **P** **02 16 27.6 +1.5**
NJ2 pmax pmax
comp=Z,14nm,0.5s
KSH Kashi 30.98 333 P **P** **02 16 33.9 -0.3**
KSH sP sP 02 17 08.1 0.0
KSH PP **PnPn** **02 17 39.3 -0.1**
KSH S **S** **02 21 26.5 -5.1**
KSH pmax pmax
comp=Z,16nm,0.5s
KSH pmax pmax
comp=Z,150nm,5.5s
BTO Baotou 31.29 24 *eP* **P** **02 16 37.3 +0.4**
WMQ Urumqi 31.45 352 P **P** **02 16 40.5 +2.3**
WMQ pP pwP 02 17 03.1 +0.6
WMQ PP **PP** **02 17 50.0 -1.1**
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,47nm,3.6s
WMQ LR LR
comp=Z,53nm,22.3s
WMQ LR LR
comp=Z,200nm,30.3s
WMQ LR LR
comp=Z,78nm,28.1s
TARG Taragay, Kyrgy 32.09 337 *eP* **P** **02 16 45.6 +1.4**
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 32.13 26 *eP* **P** **02 16 48.3 +4.0**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,190nm,7.0s
KDJ Kajisay 32.67 337 *eP* **P** **02 16 52.1 +3.1**
comp=Z,8.9nm,1.1s
KDJ Kajisay 32.67 337 *eP* **P** **02 16 52.1 +3.1**
KDJ pmax pmax
comp=Z,9.0nm,1.1s
ARSB Arslanbob 33.79 331 *eP* **P** **02 17 00.6 +1.8**
comp=Z,16nm,0.5s
BTK Batken 33.90 328 *eP* **P** **02 17 02.2 +2.5**
BTK *ep*P **pP** **02 17 20.6 -1.7**
BTK Batken 33.90 328 *eP* **P** **02 17 02.2 +2.5**
BTK *e**PP **pP** **02 17 20.6 -1.7**
AAK Ala-Archa 34.17 334 *eP* **P** **02 17 04.2 +2.1**
AAK *ep*P **pP** **02 17 22.5 -2.1**
AAK *ep*P sP 02 17 28.1 -8.1
AAK *eS*cP **ScP** **02 23 13.6 +0.6**
AAK Ala-Archa 34.17 334 *eP* **P** **02 17 04.2 +2.1**
AAK *e**PP **pP** **02 17 22.5 -2.1**
AAK *e**PP sP 02 17 28.1 -8.0
AAK Ala-Archa 34.17 334 P **P** **02 17 03.6 +1.6**
comp=Z,2.2nm,0.7s,baz=148,slow=7.4,SNR=6.1
AAK pP **pP** **02 17 28.1 +3.5**
comp=Z,3.6nm,0.8s,baz=155,slow=7.2,SNR=3.6
AAK ScP **ScP** **02 23 13.6 +0.6**
comp=Z,2.9nm,0.7s,baz=152,slow=4.5,SNR=9.6
MK01 Makanchi Array 35.31 346 *eP* **P** **02 17 12.6 +1.0**
MK31 Makanchi Array 35.33 346 *eP* **P** **02 17 12.9 +1.1**
comp=Z,5.2nm,1.0s
MK32 Makanchi Array 35.33 346 *eP* **P** **02 17 12.8 +1.0**
MK32 *ep*P **pwP** **02 17 36.7 +0.2**
MK32 *eS*cP **ScP** **02 23 16.6 -0.3**
MKAR Makanchi Array 35.33 346 P **P** **02 17 12.8 +1.0**
comp=Z,2.4nm,0.5s,baz=165,slow=8.3,SNR=52
MKAR pP **pwP** **02 17 36.7 +0.2**
comp=Z,3.7nm,0.7s,baz=170,slow=8.7,SNR=3.8
MKAR ScP **ScP** **02 23 16.6 -0.3**
comp=Z,0.9nm,0.8s,baz=179,slow=5.5,SNR=4.8
MKAR LR LR 02 36 46.5
comp=Z,24nm,18.2s,baz=160,slow=44
MAKZ Makanchi 35.42 346 *eP* **P** **02 17 12.9 +0.4**
MAKZ *ep*P **pwP** **02 17 37.2 -0.1**
MAKZ Makanchi 35.42 346 *eP* **P** **02 17 12.9 +0.4**
MAKZ *e**PP **pwP** **02 17 37.2 -0.1**
SONA0 Songino Array 36.61 14 *eP* **P** **02 17 23.9 +1.1**
SONA0 *eS*cP **ScP** **02 23 21.5 -0.1**
SONM Songino Array 36.61 14 P **P** **02 17 23.9 +1.1**
comp=Z,6.7nm,0.5s,baz=199,slow=8.9,SNR=53
SONM ScP **ScP** **02 23 21.5 -0.1**
comp=Z,2.4nm,0.7s,baz=195,slow=3.8,SNR=14
SONM LR LR 02 33 50.8
comp=Z,41nm,19.6s,baz=161,slow=38
ULN Ulaanbaatar 36.80 15 *eP* **P** **02 17 25.3 +0.8**
comp=Z,9.1nm,0.8s
ULN Ulaanbaatar 36.80 15 *ce*P **P** **02 17 25.2 +0.7**
ULN pmax pmax
comp=Z,11nm,0.8s
BATI Baumata 37.45 126 ScP **ScP** **02 23 24.2 -1.0**
comp=Z,13nm,0.4s,baz=355,slow=1.9,SNR=4.3
ZAK Zakamensk 38.40 10 *eP* **P** **02 17 39.0 +1.1**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
KS15 Wonju Array Si 39.23 45 *eP* **P** **02 17 44.8 -0.1**
comp=Z,74nm,1.5s
KSRS Korea Array 39.26 45 P **P** **02 17 44.8 -0.3**
comp=Z,3.4nm,0.5s,baz=240,slow=8.3,SNR=10.0
KSRS LR LR 02 34 39.5
comp=Z,37nm,19.5s,baz=225,slow=37
MOY Mondy 39.32 7 *eP* **P** **02 17 47.4 +1.8**
TLY Talaya 39.71 10 *eP* **P** **02 17 51.2 +2.5**
comp=Z,9.7nm,1.0s
TLY Talaya 39.71 10 *ce*P **P** **02 17 51.1 +2.4**
TLY pmax pmax
comp=Z,29nm,1.3s
KURBB Kurchatov Arra 39.81 345 P **P** **02 17 50.3 +0.9**
comp=Z,5.1nm,0.6s,baz=159,slow=7.9,SNR=39
KURBB pP **pwP** **02 18 13.8 -0.7**
comp=Z,4.6nm,0.8s,baz=161,slow=7.9,SNR=7.1
KURBB ScP **ScP** **02 23 33.6 +0.1**
comp=Z,1.0nm,0.6s,baz=166,slow=3.7,SNR=7.7
KURK Kurchatov 39.87 345 *eP* **P** **02 17 51.2 +1.2**
comp=Z,5.2nm,0.6s
KURK *ep*P **pwP** **02 18 14.8 -0.3**
KURK Kurchatov 39.87 345 *ce*P **P** **02 17 50.8 +0.8**
KURK pmax pmax
comp=Z,4.0nm,0.6s
GEYT Alibeck 40.43 315 P **P** **02 17 57.1 +2.3**
comp=Z,12nm,0.5s,baz=136,slow=7.5,SNR=36
GEYT ScP **ScP** **02 23 36.4 +0.1**
comp=Z,3.0nm,0.9s,baz=174,slow=3.0,SNR=4.0
GEYT LR LR 02 37 07.2
comp=Z,13nm,20.5s,baz=305,slow=39
ZAA0 Zalesovo Array 41.76 352 *eP* **P** **02 18 06.6 +1.2**
comp=Z,23nm,0.9s
ZALV Zalesovo Beam 41.76 352 P **P** **02 18 06.5 +1.1**
comp=Z,17nm,0.7s,baz=176,slow=9.0,SNR=75
ZALV LR LR 02 37 24.8
comp=Z,32nm,18.7s,baz=321,slow=39
ZAA1 Zalesovo Array 41.76 352 *eP* **P** **02 18 06.5 +1.0**
NVS Novosibirsk 42.85 351 *eP* **P** **02 18 14.1 -0.2**
NVS *e* 02 18 32.8
NVS *eS* **S** **02 24 29.5 -1.6**
NVS pmax pmax
comp=Z,9.0nm,1.0s
NVS smax smax
comp=E,10.0nm,1.2s
FITZ Fitzroy Crossi 43.92 133 P **P** **02 18 22.1 -1.3**
baz=44,SNR=16
FITZ Fitzroy Crossi 43.92 133 *eP* **P** **02 18 22.0 -1.4**
comp=E,18nm,1.3s
BVAR Borovoye Array 44.33 340 P **P** **02 18 26.6 +0.4**
comp=E,1.7nm,0.7s,baz=148,slow=8.7,SNR=7.1
BRVK Borovoye 44.40 340 *ce*P **P** **02 18 27.4 +0.7**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
ABKAR Akbulak array 45.85 330 *eP* **P** **02 18 39.4 +1.0**
comp=Z,13nm,0.8s
MEEK Meekatharra 45.98 148 P **P** **02 18 38.0 -1.6**
baz=46,SNR=4.2
MJAR Matsushiro Arr 46.38 51 LR LR 02 37 59.9
comp=Z,1.7nm,21.4s,baz=100,slow=36
AKTO Aktyubinsk 47.57 330 P **P** **02 18 52.1 +0.5**
comp=Z,2.8nm,0.5s,baz=120,slow=7.2,SNR=13
AKTO pP **pP** **02 19 17.1 +1.8**
comp=Z,7.9nm,0.9s,baz=117,slow=10,SNR=7.6
AKTO ScP **ScP** **02 24 04.9 -0.3**
comp=Z,2.4nm,0.6s,baz=124,slow=5.3,SNR=9.1
BOD Bodaibo 47.61 15 *eP* **P** **02 18 52.6 +0.8**
BOD pmax pmax
comp=Z,11nm,1.3s
KLR Kul'dur 48.04 33 *i* P **P** **02 18 55.0 -0.3**
KLR Kul'dur 48.04 33 P **P** **02 18 55.8 +0.4**
comp=Z,0.7nm,0.4s,baz=263,slow=13,SNR=4.5
MUN Mundaring 49.37 155 P **P** **02 19 04.6 -1.1**
baz=49,SNR=3.7
KLBR Kellerberrin 49.71 153 P **P** **02 19 06.7 -1.6**
baz=50,SNR=5.0
WRKA Warakurna 50.44 138 P **P** **02 19 12.5 -1.5**
baz=50,SNR=14
NWAO Narrogin (SRO) 50.62 154 P **P** **02 19 13.7 -1.5**
baz=51,SNR=5.5
SVE Sverdlovsk 50.81 337 *eP* **P** **02 19 17.4 +1.2**
SVE pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 51.33 336 *eP* **P** **02 19 20.7 +0.5**
comp=Z,5.5nm,0.9s
ARU Arti 51.33 336 *c i*P **P** **02 19 19.3 -0.8**
ARU *c* *PP **pP** **02 19 42.8 -1.1**
ARU 02 21 14.9
ARU S **S** **02 26 32.3 +0.7**
ARU pmax pmax
comp=Z,5.0nm,0.9s
TBLG Delisi 51.37 314 *eP* **P** **02 19 22.0 +1.3**
comp=Z,32nm,1.7s
TBLG Delisi 51.37 314 *eP* **P** **02 19 22.0 +1.3**
TBLG pmax pmax
comp=Z,32nm,1.7s
WR1 Warramunga Arr 51.49 128 *eP* **P** **02 19 20.6 -1.2**
comp=Z,8.8nm,1.2s
WR1 *e*PcP **PcP** **02 20 33.4 -1.5**
WR1 *e*ScP **ScP** **02 24 21.4 -1.1**
WRA Warramunga Arr 51.49 128 P **P** **02 19 20.6 -1.2**
comp=Z,2.2nm,0.5s,baz=312,slow=8.2,SNR=56
WRA PcP **PcP** **02 20 33.4 -1.5**
comp=Z,0.7nm,0.5s,baz=316,slow=3.3,SNR=9.2
WRA ScP **ScP** **02 24 21.4 -1.1**
comp=Z,1.0nm,1.0s,baz=321,slow=3.7,SNR=5.3
WRA S **S** **02 26 31.5 -3.3**
comp=Z,0.4nm,0.6s,baz=312,slow=15,SNR=5.8
WRAB Tennant Creek 51.49 128 *i* P **P** **02 19 20.7 -1.2**
WRAB pmax pmax
comp=Z,4.0nm,1.0s
WB2 Warramunga Arr 51.50 128 P **P** **02 19 20.7 -1.3**
baz=51
WB2 Warramunga Arr 51.50 128 *eP* **P** **02 19 20.7 -1.3**
AS31 Alice Springs 53.40 132 *eP* **P** **02 19 34.9 -1.0**
comp=Z,1.5nm,0.9s
ASAR Alice Springs 53.40 132 P **P** **02 19 34.5 -1.4**
comp=Z,3.1nm,0.5s,baz=311,slow=6.8,SNR=34
ASAR ScP **ScP** **02 24 28.5 -2.2**
comp=Z,1.1nm,0.7s,baz=312,slow=4.8,SNR=7.9
ASAR S **S** **02 26 56.9 -3.8**
comp=Z,0.4nm,0.5s,baz=298,slow=12,SNR=5.4
AS01 Alice Springs 53.43 132 *eP* **P** **02 19 34.5 -1.7**
ABPO Ambohimpanom 55.58 236 *eP* **P** **02 19 52.7 +0.7**
comp=Z,15nm,1.0s
ABPO Ambohimpanom 55.58 236 *eP* **P** **02 19 52.7 +0.7**
ABPO pmax pmax
comp=Z,15nm,1.0s
YAK Yakutsk 55.61 20 *eP* **P** **02 19 49.3 -2.0**
YAK *e**PP **pP** **02 20 11.7 -3.7**
YAK *e* 02 20 47.6
YAK *eS* **S** **02 27 23.4 -5.9**
YAK *e* 02 29 28.2
YAK *eSS* **SS** **02 31 11.4 -4.3**
YAK *eSSS* SSS 02 33 20.7
YAK pmax pmax
comp=Z,129nm,0.8s
YAK pmax pmax
comp=E,25nm,1.1s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=Z,917nm,4.0s
YAK pmax pmax
comp=E,790nm,4.1s
YAK pmax pmax
comp=N,744nm,4.2s
YAK smax smax
comp=N,637nm,4.2s
YAK smax smax
comp=E,519nm,3.9s
NRIK Noril'sk 56.74 357 P **P** **02 20 00.3 +1.0**
comp=E,9.9nm,0.5s,baz=161,slow=4.1,SNR=7.7
NRIK LR LR 02 49 11.1
comp=E,26nm,20.5s,baz=32,slow=41
VRH Novokhopyorsk 56.78 324 *eP* **P** **02 20 03.2 +3.4**
VRH pmax pmax
comp=Z,8.0nm,0.5s
KMBO Kilima Mbogo 57.66 260 *eP* **P** **02 20 08.1 +1.2**
comp=Z,4.4nm,0.8s
KMBO Kilima Mbogo 57.66 260 *eP* **P** **02 20 08.1 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 57.66 260 P **P** **02 20 08.1 +1.2**
comp=Z,3.0nm,0.6s,baz=55,slow=8.4,SNR=13
VSR Storozhevoye 58.28 323 *eP* **P** **02 20 09.6 -0.7**
VSR pmax pmax
comp=Z,5.0nm,1.0s
LPSR Galich'ya Gora 58.91 324 *eP* **P** **02 20 14.2 -0.5**
LPSR pmax pmax
comp=Z,7.0nm,0.9s
BR101 Keskin Array S 59.03 309 *eP* **P** **02 20 15.9 -0.1**
BR101 *eS*cP **ScP** **02 24 54.8 -0.7**
BR131 Keskin Array S 59.03 309 *eP* **P** **02 20 16.2 +0.2**
comp=Z,5.4nm,0.7s
BRTR Keskin Array B 59.03 309 *ce*P **P** **02 20 15.8 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 59.03 309 P **P** **02 20 15.9 -0.1**
comp=Z,1.6nm,0.7s,baz=126,slow=7.7,SNR=13
BRTR ScP **ScP** **02 24 54.8 -0.7**
comp=Z,0.5nm,0.9s,baz=73,slow=5.6,SNR=4.3
PRGR Permogore 59.79 336 *eP* **P** **02 20 18.0 -2.6**
PRGR *e**PP **pP** **02 20 39.5 -5.5**
PRGR pmax pmax
comp=Z,7.0nm,0.5s
BBOO Buckleboo 60.69 139 P **P** **02 20 25.8 -1.4**
baz=61,SNR=5.6
OBN Obninsk 61.12 327 ⇑*eP* **P** **02 20 29.0 -0.8**
OBN *i* 02 20 54.5
OBN *e* 02 22 47.3
OBN pmax pmax
comp=Z,2.0nm,0.9s
TIXI Tiksi 62.63 12 *eP* **P** **02 20 39.0 -0.6**
comp=Z,32nm,0.4s
TIXI Tiksi 62.63 12 *ce*P **P** **02 20 39.2 -0.4**
TIXI pmax pmax
comp=Z,41nm,1.3s
TIXI Tiksi 62.63 12 P **P** **02 20 39.5 -0.1**
comp=Z,25nm,0.5s,baz=190,slow=4.9,SNR=80
MA2 Magadan 62.75 29 *ce*P **P** **02 20 42.2 +1.6**
MA2 pmax pmax
comp=Z,51nm,2.5s
MA2 Magadan 62.75 29 P **P** **02 20 40.6 0.0**
comp=Z,14nm,0.8s,baz=273,slow=6.1,SNR=6.6
STKA Stephens Creek 63.77 135 P **P** **02 20 46.9 -0.9**
baz=64,SNR=5.4
STKA Stephens Creek 63.77 135 *eP* **P** **02 20 46.0 -1.8**
comp=Z,1.2nm,1.0s
STKA Stephens Creek 63.77 135 *eP* **P** **02 20 46.0 -1.8**
STKA pmax pmax
comp=Z,1.0nm,1.0s
STKA Stephens Creek 63.77 135 P **P** **02 20 46.0 -1.8**
comp=Z,2.6nm,0.7s,baz=304,slow=7.8,SNR=6.7
CFR Carcaliu 63.91 314 ⇑*iP* P 02 20 54.5 +6.0
CFR Carcaliu 63.91 314 ⇑P P 02 20 54.5 +6.0
AKASG Malin Array Be 64.16 320 *ce*P **P** **02 20 51.0 +0.9**
AKASG Malin Array Be 64.16 320 P **P** **02 20 49.4 -0.7**
comp=Z,0.2nm,0.3s,baz=88,slow=5.7,SNR=4.1
AKASG pP **pP** **02 21 15.1 +0.3**
comp=Z,3.5nm,0.8s,baz=84,slow=5.1,SNR=4.0
AKBB Malin Array Si 64.16 320 *eP* **P** **02 20 49.4 -0.7**
AKBB *ep*P **pP** **02 21 15.1 +0.3**
AKBB Malin Array Si 64.16 320 *eP* **P** **02 20 49.4 -0.7**
AKBB *e**PP **pP** **02 21 15.1 +0.3**
SEY Seymchan 64.78 26 *ce*P **P** **02 20 54.9 +1.0**
SEY Seymchan 64.78 26 P **P** **02 20 53.9 0.0**
comp=Z,2.0nm,0.4s,baz=242,slow=6.4,SNR=6.5
VRI Vrincioaia 64.98 315 ⇑*iP* P 02 21 04.9 +9.3
PLOR Plostina 65.04 315 ⇑*iP* P 02 21 07.2 +11
MLR Muntele Rosu 65.48 314 *eP* **P** **02 20 59.5 +0.6**
comp=Z,12nm,0.9s
MLR Muntele Rosu 65.48 314 ⇑*iP* P 02 21 07.5 +8.6
MLR Muntele Rosu 65.48 314 ⇑P P 02 21 07.5 +8.6
OZUR 65.66 315 ⇑*iP* P 02 21 13.2 +13
BURAR Bucovina Array 66.24 317 ⇑*iP* **P** **02 21 04.8 +1.1**
BURAR Bucovina Array 66.24 317 ⇑P **P** **02 21 04.8 +1.1**
BUR08 Bucovina Ar. S 66.26 317 *eP* **P** **02 21 04.9 +1.1**
comp=Z,24nm,1.8s
ARR Arges 66.39 314 ⇑*iP* **P** **02 21 07.1 +2.4**
CMSA Cobar Meteorol 66.45 133 P **P** **02 21 04.6 -0.6**
baz=66,SNR=18
VTS Vitosha 67.16 311 ⇑*iP* **P** **02 21 11.5 +1.7**
VTS Vitosha 67.16 311 ⇑P **P** **02 21 11.5 +1.7**
DRGR 67.85 315 ⇑*iP* **P** **02 21 17.5 +3.6**
DRGR 67.85 315 ⇑P **P** **02 21 17.5 +3.6**
TRPA Tarpa 68.09 317 ⇓*iP* **P** **02 21 17.0 +1.8**
FIA1 FINESS Array S 68.29 331 *eP* **P** **02 21 15.7 -0.5**
FIA1 *e*PcP **PcP** **02 21 41.3 +0.1**
FIA0 FINESS Array S 68.29 331 *eP* **P** **02 21 16.3 +0.1**
FIA0 *ep*P **pwP** **02 21 43.0 -0.3**
FIA0 FINESS Array S 68.29 331 *eP* **P** **02 21 16.3 +0.1**
FIA0 *e**PP **pwP** **02 21 43.0 -0.3**
FINES FINESS Array B 68.29 331 *ce*P **P** **02 21 16.2 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES FINESS Array B 68.29 331 P **P** **02 21 16.3 +0.1**
comp=Z,2.8nm,0.3s,baz=104,slow=6.5,SNR=44
FINES pP **pwP** **02 21 43.0 -0.3**
comp=Z,5.0nm,0.6s,baz=115,slow=6.7,SNR=5.8
SUW Suwalki 68.39 323 *eP* pP 02 21 42.6 +0.8
SUW Suwalki 68.39 323 *eP* **P** **02 21 17.4 +0.4**
comp=Z,32nm,0.9s
SUW Suwalki 68.39 323 *eP* **P** **02 21 17.4 +0.4**
SUW pmax pmax
comp=Z,32nm,0.9s
TOO Toolangi 69.69 138 P **P** **02 21 25.6 +0.3**
baz=70,SNR=4.1
OJC Ojcow 70.06 319 *eP* pP 02 21 53.8 +1.5
LSZ Lusaka 70.53 249 *eP* **P** **02 21 31.7 +0.7**
comp=Z,15nm,1.3s
LSZ Lusaka 70.53 249 *eP* **P** **02 21 31.7 +0.7**
LSZ pmax pmax
comp=Z,15nm,1.3s
VYHS Vyhne 70.58 317 *eP* **P** **02 21 31.7 +1.0**
VYHS Vyhne 70.58 317 *eP* **P** **02 21 31.7 +1.0**
ARA0 ARCESS Array S 70.62 340 *eP* **P** **02 21 31.2 +0.8**
ARCES ARCESS Array B 70.62 340 P **P** **02 21 31.2 +0.8**
comp=Z,1.9nm,0.4s,baz=99,slow=7.0,SNR=38
MORC Moravsky Berou 71.48 318 *eP* **P** **02 21 36.7 +0.6**
comp=Z,9.3nm,1.2s
MORC Moravsky Berou 71.48 318 ⇑*iP* **P** **02 21 37.0 +0.9**
MORC Moravsky Berou 71.48 318 ⇑P **P** **02 21 37.0 +0.9**
BILL Bilibino 71.81 22 *eP* **P** **02 21 37.9 +0.2**
BILL pmax pmax
comp=Z,12nm,2.5s
DPC Dobruska-Polom 72.29 319 *ep*P **pP** **02 22 04.3 -1.6**
DPC *ex* x 02 22 07.6
PRU Pruhonice 73.43 319 *ep*P **pP** **02 22 08.7 -3.9**
PRU *ex* x 02 22 14.7
OBKA Obir 73.46 315 *ePcP* **PcP** **02 22 04.6 +0.9**
comp=Z,3.2nm,0.8s
MOA Molln 73.63 316 *ep*P pP 02 22 13.2 -0.7
comp=Z,6.6nm,1.2s
BRG Berggiesshubel 73.81 320 *eP* **P** **02 21 50.4 +0.6**
comp=Z,9.9nm,1.7s
BRG *ep*P **pP** **02 22 16.2 +1.3**
comp=Z,8.7nm,1.0s
BRG Berggiesshubel 73.81 320 *eP* **P** **02 21 50.4 +0.6**
BRG *e**PP **pP** **02 22 16.2 +1.3**
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG pmax pmax
comp=Z,9.0nm,1.0s
GEA0 GERESS Array S 73.99 317 *eP* **P** **02 21 51.2 +0.2**
GEC2 GERESS Array S 73.99 317 *eP* **P** **02 21 51.4 +0.4**
comp=Z,7.4nm,0.7s
GEC2 GERESS Array S 73.99 317 *eP* **P** **02 21 51.4 +0.4**
GEC2 pmax pmax
comp=Z,7.0nm,0.7s
GERES GERESS Array B 73.99 317 P **P** **02 21 51.3 +0.2**
comp=Z,1.0nm,0.5s,baz=83,slow=5.7,SNR=14
KHC Kasperske Hory 74.07 318 *ep*P **pP** **02 22 17.5 +1.0**
KHC *ex* x 02 22 20.4
HFS Hagfors 74.11 329 P **P** **02 21 51.4 0.0**
comp=Z,2.8nm,0.5s,baz=106,slow=5.3,SNR=15
CLL Collm 74.40 320 *i* pP pP 02 22 19.3 +1.0
comp=Z,4.0nm,0.9s
SPA0 Spitsbergen Ar 75.07 348 *eP* **P** **02 21 57.3 +0.7**
comp=Z,50nm,1.3s
SPITS Spitsbergen Ar 75.07 348 P **P** **02 21 57.3 +0.7**
comp=Z,7.8nm,0.5s,baz=104,slow=9.5,SNR=66
NB2 NORSAR Stacks 75.36 330 P **P** **02 21 58.1 -0.5**
comp=Z,0.6nm,0.6s,baz=91,slow=5.6
NB200 NORSAR Array S 75.36 330 *eP* **P** **02 21 58.4 -0.2**
NB200 *ep*P **pP** **02 22 24.8 +1.0**
NOA NORSAR Array B 75.36 330 P **P** **02 21 58.4 -0.2**
comp=Z,0.6nm,0.5s,baz=90,slow=5.7,SNR=4.7
NOA pP **pP** **02 22 24.8 +1.0**
comp=Z,1.2nm,0.6s,baz=90,slow=5.7,SNR=4.1
RETA Reutte 76.01 316 *ep*P pP 02 22 23.8 -4.1
comp=Z,8.8nm,1.8s
FETA Feichten 76.06 316 *ep*P pP 02 22 25.9 -2.3
comp=Z,5.8nm,1.4s
LBTB Lobatse 76.20 240 *eP* **P** **02 22 04.0 -0.2**
comp=Z,20nm,1.1s
LBTB Lobatse 76.20 240 *eP* **P** **02 22 04.0 -0.2**
LBTB pmax pmax
comp=Z,20nm,1.1s
DAVA Damuels 76.62 316 *ePcP* **PcP** **02 22 19.7 +2.4**
comp=Z,2.8nm,0.6s
BOSA Boshof 77.80 237 P **P** **02 22 12.9 -0.1**
comp=Z,12nm,0.7s,baz=84,slow=4.3,SNR=27

KEST	**Kesra**	**78.17**	**304**	*e*P		**P**		**02 22 15.2**	**+0.2**
	comp=Z,7.4nm,0.7s								
EKA	**Eskdalemuir Ar**	**83.54**	**325**	P		**P**		**02 22 43.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=78,slow=5.2,SNR=4.7								
IM3	**Indian Mountai**	**87.37**	**22**	*e*P		**P**		**02 23 02.2**	**+0.3**
TOLK	**Toolik Lake Re**	**87.58**	**19**	*e*P		**P**		**02 23 03.9**	**+1.0**
	comp=Z,3.9nm,0.6s								
TORD	**Torodi Ar. Bea**	**89.08**	**283**	P		**P**		**02 23 09.7**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=74,slow=4.2,SNR=11								
TORD				pP		**pP**		**02 23 37.5**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=87,slow=4.3,SNR=3.9								
TORD				LR		LR		03 04 49.0	
	comp=Z,29nm,18.3s,baz=315,slow=37								
TOA1	**Torodi Ar. Sit**	**89.08**	**283**	*e*P		**P**		**02 23 09.7**	**-1.2**
TOA1				*e*pP		**pP**		**02 23 37.5**	**+0.4**
CHGN	**Chignik**	**89.19**	**32**	*e*P		**P**		**02 23 11.5**	**+0.9**
CHGN				*e*pP		**pP**		**02 23 36.7**	**+0.2**
ILAR	**Eielson Array**	**90.47**	**22**	P		**P**		**02 23 15.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=289,slow=5.1,SNR=11								
ILAR				pP		**pwP**		**02 23 44.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=302,slow=4.3,SNR=3.8								
ILAR				PP		**PP**		**02 26 50.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=305,slow=6.8,SNR=4.9								
ILB	**Eielson Array**	**90.47**	**22**	*e*P		**P**		**02 23 15.6**	**-0.8**
ILB				*e*pP		**pwP**		**02 23 44.0**	**-1.1**
ILB				*e*PP		**PP**		**02 26 50.8**	**-1.0**
PRP	**Porcupine Dome**	**90.56**	**21**	*e*P		**P**		**02 23 17.9**	**+0.8**
	comp=Z,4.1nm,1.1s								
SCRK	**Sand Creek**	**91.96**	**22**	*e*P		**P**		**02 23 24.1**	**+0.5**
	comp=Z,3.3nm,1.0s								
INK	**Inuvik**	**92.51**	**16**	*e*P		**P**		**02 23 25.9**	**+0.1**
	comp=Z,3.8nm,1.1s								
INK	**Inuvik**	**92.51**	**16**	*e*P		**P**		**02 23 25.9**	**+0.1**
INK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
INK	**Inuvik**	**92.51**	**16**	P		**P**		**02 23 26.0**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=320,slow=4.3,SNR=27								
YKA	**Yellowknife Ar**	**101.87**	**13**	P		**Pdif**		**02 24 08.0**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=331,slow=4.3,SNR=5.6								
YKA				pP		pwP		02 24 36.0	-1.1
	comp=Z,0.3nm,0.7s,baz=323,slow=4.2,SNR=3.1								
YKA				PP		**PP**		**02 28 17.1**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=333,slow=7.7,SNR=8.5								
YKA				PKKPbc		**PKKPbc**		**02 40 11.3**	**-4.1**
	comp=Z,0.6nm,1.1s,baz=147,slow=3.3,SNR=4.8								
YKB5	**Yellowknife Ar**	**101.87**	**13**	*e*Pdif		**Pdif**		**02 24 08.0**	**-0.2**
YKB5				*e*PP		**PP**		**02 28 17.1**	**-2.4**
PDAR	**Pinedale Array**	**120.84**	**20**	SKP		**SKiKP**		**02 32 33.4**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=12,slow=3.5,SNR=4.3								
NVAR	**Mina Array Bea**	**120.99**	**29**	SKP		**SKiKP**		**02 32 34.9**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=324,slow=2.0,SNR=5.7								
TXAR	**Lajitas Array**	**134.99**	**22**	SKPbc		**SKPbc**		**02 32 55.6**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=317,slow=1.3,SNR=22								
BDFB	**Brasilia**	**142.79**	**261**	SKPbc		**SKPbc**		**02 33 17.5**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=76,slow=5.2,SNR=3.6								
PLCA	**Paso Flores**	**148.83**	**203**	PKPbc		**PKPbc**		**02 30 02.4**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=200,slow=2.0,SNR=15								
CPUP	**Villa Florida**	**149.60**	**239**	PKPbc		**PKPbc**		**02 30 04.0**	**-0.7**
	comp=Z,6.0nm,0.9s,baz=72,slow=3.0,SNR=8.0								

*SKO **20** 02:20:12.0,41°.44N×20°.69E,h15km, M1.5,ML1.9*
*TIR **20** 02:20:12.3,41°.25N×20°.59E,h7km, Md2.7/4*
ISC 20 02:20:13.6±1.1,41°.32N±0°.05×20°.68E±0°.04,h12km±8km, n10,σ2ˢ43/19,1C,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHR	**Ohrid**	**0.23**	**158**	*i* Pg		**Pb**	**02 20 19.2**	**-0.5**
OHR				*i* Sg		**Sb**	**02 20 24.1**	**+2.3**
OHR				*e*Lg		Lg	02 20 24.2	
	comp=E,123nm,0.4s							
OHR				*e*Lg		Lg	02 20 24.3	
	comp=N,173nm,0.3s							
PHP	**Peshkopia**	**0.41**	**333**	*i* PG		**Pb**	**02 20 20.8**	**-1.9**
PHP				*i* SG		**Sb**	**02 20 27.3**	**-1.5**
KRUS	**Krusevo**	**0.43**	**84**	*i* Pg		**Pg**	**02 20 20.6**	**-1.5**
KRUS				*i* Sg		**Sg**	**02 20 26.0**	**-1.9**
KRUS				*e*Lg		Lg	02 20 26.1	
	comp=N,29nm,0.4s							
KRUS				*e*Lg		Lg	02 20 26.4	
	comp=E,22nm,0.4s							
BIA	**Bitola**	**0.57**	**122**	*i* Pg		**Pb**	**02 20 24.8**	**-0.8**
BIA				*i* Sg		**Sb**	**02 20 33.5**	**-0.1**
BIA				*e*Lg		Lg	02 20 34.0	
	comp=E,34nm,0.3s							
BIA				*e*Lg		Lg	02 20 34.4	
	comp=N,31nm,0.3s							
FNA	**Florina**	**0.75**	**136**	*i* PG		**Pg**	**02 20 27.1**	**-1.0**
FNA				*i* SG		**Sb**	**02 20 39.1**	**+0.3**
PUK	**Puka**	**0.93**	**321**	*i* PG		**Pn**	**02 20 30.5**	**-2.0**
PUK				*i* SG		**Sn**	**02 20 43.2**	**-2.7**
BCI	**Bajram Curri**	**1.14**	**336**	*i* PN		**Pn**	**02 20 36.6**	**+1.3**
BCI				*i* SN		**Sn**	**02 20 56.7**	**+5.8**
STIP	**Stip**	**1.19**	**71**	*i* Pg		**Pg**	**02 20 38.0**	**+1.6**
STIP				*i* Sg		**Sn**	**02 20 56.0**	**+4.0**
STIP				*e*Lg		Lg	02 20 56.6	
	comp=E,3.4nm,0.3s							
STIP				*e*Lg		Lg	02 20 57.1	
	comp=N,3.7nm,0.3s							
VAY	**Valandovo**	**1.42**	**89**	*i* Pg		**Pb**	**02 20 39.0**	**-1.0**
VAY				*i* Sg		**Sb**	**02 20 57.7**	**-0.4**
VAY				*e*Lg		Lg	02 20 58.4	
	comp=E,5.0nm,0.5s							
VAY				*e*Lg		Lg	02 20 58.5	
	comp=N,12nm,0.8s							
PDG	**Podgorica**	**1.54**	**317**	⇑*i* P		**Pg**	**02 20 45.0**	**+1.9**

*ISK **20** 02:50:07.5,41°.82N×41°.68E,h8km,ML2.7/8*
*DDA **20** 02:50:07.3,41°.78N×41°.68E,h6km±3km,ML2.8*
*TIF **20** 02:50:07.5,41°.79N×41°.73E,h18km*
ISC 20 02:50:07.7±1.8,41°.82N±0°.08×41°.65E±0°.04,h16km±8km, n22,σ0ˢ70/32,Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATM	**Batumi**	**0.22**	**171**	PG		**Pg**	**02 50 12.6**	**-0.1**
BATM				SG		**Sg**	**02 50 16.2**	**+0.1**
BATM	**Batumi**	**0.22**	**171**	P		**Pg**	**02 50 12.6**	**-0.1**
BATM				S		**Sg**	**02 50 16.4**	**+0.3**
BCA	**Borcka**	**0.37**	**183**	PG		**Pb**	**02 50 15.2**	**-0.7**
BCA				SG		**Sb**	**02 50 20.8**	**-0.7**
DBOC	**Borcka**	**0.47**	**178**	*i* P		**Pb**	**02 50 17.5**	**-0.2**
DBOC				IAML_P				
	comp=Z,3μm,0.1s							
ARTV	**Artvin**	**0.67**	**161**	*i* P		**Pb**	**02 50 20.9**	**-0.2**
ARTV				*i* S		**Sb**	**02 50 29.3**	**-0.8**
ARTV				IAML_P				
	comp=Z,6μm,0.1s							
DAGI	**Agillar**	**0.77**	**165**	*i* P		**Pb**	**02 50 22.7**	**0.0**
DAGI				*i* S		**Sb**	**02 50 32.6**	**-0.3**
DAGI				IAML_P				
	comp=Z,2μm,0.1s							
DBAD	**Bademkaya**	**0.80**	**177**	*i* P		**Pb**	**02 50 22.7**	**-0.6**
DBAD				*i* S		**Sb**	**02 50 33.9**	**0.0**
EPOS	**Posof**	**0.87**	**111**	*i* P		**Pg**	**02 50 23.6**	**-1.0**
DDEM	**Demirkent**	**0.93**	**175**	*i* P		**Pg**	**02 50 24.8**	**-0.9**
DDEM				*i* S		**Sb**	**02 50 37.4**	**-0.2**
CHOM	**Cayeli-Rize**	**0.98**	**223**	PG		**Pn**	**02 50 27.0**	**+0.2**
CHAY	**Cayeli-Rize**	**1.01**	**224**	PG		**Pn**	**02 50 27.5**	**+0.4**
SENK	**Senkaya-Erzuru**	**1.36**	**157**	PN		**Pb**	**02 50 32.6**	**-0.3**
BGD	**Bogdanovka**	**1.57**	**110**	P		**Pn**	**02 50 35.4**	**+0.3**
BGD				S		**Sb**	**02 50 55.7**	**-0.4**
KRIK	**Erzurum-spir**	**1.58**	**200**	*i* P		**Pg**	**02 50 37.3**	**-0.8**
KRIK				*i* S		**Sg**	**02 50 58.9**	**+0.4**
HOMI	**Horasan**	**1.78**	**174**	*i* P		**Pb**	**02 50 40.1**	**0.0**
HOMI				IAML_P				
	comp=Z,330nm,0.3s							
BAYT	**Aydıntepe-Bayb**	**1.82**	**219**	PN		**Pb**	**02 50 40.3**	**-0.4**
KOPR	**Koprukoy-ERZUR**	**1.83**	**175**	PN		**Pb**	**02 50 40.2**	**-0.7**
BAYB	**BAYBURT**	**1.88**	**214**	*i* P		**Pb**	**02 50 41.0**	**-0.7**
BAYB				*i* S		**Sb**	**02 51 05.8**	**+0.7**
BAYB				IAML_P				
	comp=Z,822nm,0.2s							
KOPT	**Kop Dagi**	**2.00**	**206**	*i* P		**Pb**	**02 50 43.8**	**0.0**
KOPT				IAML_P				
	comp=Z,358nm,0.3s							
KELT	**Kelkit**	**2.46**	**228**	*i* P		**Pb**	**02 50 51.8**	**+0.1**
KELT				IAML_P				
	comp=Z,117nm,0.2s							
AGRB	**Hanur-Agry**	**2.46**	**155**	PN		**Pn**	**02 50 49.1**	**+1.8**
GNI	**Garni**	**2.88**	**124**	PN		**Pn**	**02 50 54.8**	**+1.8**

*ISK **20** 02:52:18.8,37°.55N×35°.68E,h1km,ML2.1/15*
*DDA **20** 02:52:19.7,37°.54N×35°.70E,h7km±1km,ML2.5*
*ISCJB **20** 02:52:20.2±0.5,37°.53N±0°.03×35°.69E±0°.04,h5km±5km, Error ellipse: s-maj=5.3km s-min=5.0km az=175.0*
ISC 20 02:52:19.9±1.0,37°.54N±0°.03×35°.69E±0°.03,h8km±9km, n27,σ0ˢ73/30,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KOZT	**Kozan**	**0.12**	**118**	PG		**Pg**	**02 52 22.5**	**-0.2**
KOZT				SG		**Sg**	**02 52 24.5**	**-0.2**
AKO	**Adana**	**0.21**	**248**	*i* P		**Pg**	**02 52 25.0**	**+0.9**
ANDN	**Andirin**	**0.52**	**85**	*i* P		**Pb**	**02 52 30.7**	**-0.7**
ANDN				IAML_P				
	comp=Z,5μm,0.2s							
CEYT	**Ceyhan**	**0.53**	**175**	PG		**Pg**	**02 52 30.3**	**+0.1**
CEYT				SG		**Sb**	**02 52 39.0**	**-0.2**
SAIM	**ADANA**	**0.54**	**36**	*i* P		**Pb**	**02 52 31.0**	**-0.6**
KARA	**Karaisali**	**0.58**	**241**	PG		**Pg**	**02 52 30.7**	**-0.3**
YAHY	**KAYSERI_Yahyal**	**0.61**	**335**	*i* P		**Pb**	**02 52 32.7**	**-0.2**
YAHY				*i* S		**Sb**	**02 52 41.5**	**-0.2**
YAHY				IAML_P				
	comp=Z,1μm,0.1s							
YURE	**YUREGIR**	**0.71**	**184**	PG		**Pg**	**02 52 33.6**	**-0.1**
YURE	**YUREGIR**	**0.71**	**184**	*i* P		**Pb**	**02 52 34.5**	**-0.1**
GULE	**Gulek**	**0.77**	**251**	*i* P		**Pb**	**02 52 35.1**	**-0.5**
GULE				IAML_P				
	comp=Z,960nm,0.2s							
KMRS	**Kahramanmaras**	**0.96**	**92**	PG		**Pb**	**02 52 38.4**	**-0.5**
MERS	**Mersin**	**1.15**	**235**	PN		**Pn**	**02 52 42.1**	**-0.2**
KERG	**Konya-Eregli**	**1.25**	**265**	*i* P		**Pg**	**02 52 42.4**	**-1.5**
KERG				IAML_P				
	comp=Z,68nm,0.2s							
BNN	**Bunyan**	**1.32**	**5**	PN		**Pb**	**02 52 44.8**	**-0.1**
AVNS	**Nevsehir-Avano**	**1.43**	**333**	*i* P		**Pg**	**02 52 47.1**	**-0.2**
AVNS				IAML_P				
	comp=Z,150nm,0.1s							
GZT	**Gaziantep**	**1.50**	**96**	*i* P		**Pg**	**02 52 48.4**	**-0.3**
GZT				IAML_P				
	comp=Z,218nm,0.1s							
KIZK	**Mersin**	**1.63**	**230**	PN		**Pb**	**02 52 49.5**	**-0.6**
SULT	**Sultanhani-AKS**	**1.84**	**292**	PN		**Pn**	**02 52 52.4**	**+0.6**
SIRC	**Yozgat**	**1.84**	**347**	*i* P		**Pg**	**02 52 55.1**	**-0.1**
SIRC				IAML_P				
	comp=Z,62nm,0.2s							
KEBE	**Keben-Mersin**	**1.92**	**236**	PN		**Pn**	**02 52 53.8**	**+0.9**
YAYX	**Yaylak**	**2.03**	**314**	PN		**Pn**	**02 52 55.4**	**+0.9**
IKL	**Isikli**	**2.06**	**232**	PN		**Pn**	**02 52 55.8**	**+1.0**
AKKU	**Akkuyu-Mersin**	**2.20**	**232**	PN		**Pn**	**02 52 58.4**	**-1.5**
BERE	**Bereket-Mersin**	**2.31**	**240**	PN		**Pn**	**02 52 59.2**	**+0.9**
ERMK	**Ermenek**	**2.39**	**249**	*i* P		**Pb**	**02 53 04.1**	**+0.8**
TEKE	**Tekeli-Mersin**	**2.49**	**237**	PN		**Pn**	**02 53 01.6**	**+0.9**
URFA	**Urfa**	**2.49**	**91**	PN		**Pn**	**02 53 01.9**	**+1.1**

IDC 20 03:26:10.8±8.0,53°.61S×130°.97W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.7/25,mbtmp3.6/2,MS3.5/2,Ms1 3.5/2, ms1mx3.0/23,Error ellipse: s-maj=654.2km s-min=65.5km az=146.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
USHA	**Ushuaia**	**35.51**	**118**	LR		LR	03 43 40.5	
	comp=Z,96nm,20.8s,baz=79,slow=30							
ASAR	**Alice Springs**	**74.23**	**252**	P		P	03 37 49.5	-0.1
	0.2nm,0.3s,baz=136,slow=7.4,SNR=3.3							
WRA	**Warramunga Arr**	**76.91**	**254**	P		P	03 38 04.5	-0.4
	0.5nm,0.9s,baz=138,slow=5.2,SNR=3.9							
PTGA	**Pitinga**	**78.23**	**75**	LR		LR	04 06 17.0	
	comp=Z,24nm,18.6s,baz=142,slow=31							
H11S2	**WAKE ISLAND Hy**	**89.46**	**303**	T		T	05 20 17.6	
	baz=145							
H11S3	**WAKE ISLAND Hy**	**89.47**	**303**	T		T	05 20 09.1	
	baz=145							
H11S1	**WAKE ISLAND Hy**	**89.47**	**303**	T		T	05 20 07.2	
	baz=145							
H11N3	**WAKE ISLAND Hy**	**90.39**	**304**	T		T	05 21 19.0	
	baz=142							
H11N1	**WAKE ISLAND Hy**	**90.40**	**304**	T		T	05 21 19.6	
	baz=142							
H11N2	**WAKE ISLAND Hy**	**90.41**	**304**	T		T	05 21 20.3	
	baz=142							
ILAR	**Eielson Array**	**118.69**	**352**	PKP		PKPdf	03 44 58.4	-0.8
	0.3nm,0.8s,baz=195,slow=2.7,SNR=4.9							
SONM	**Songino Array**	**144.09**	**285**	PKP		PKPdf	03 45 47.8	+0.3
	0.3nm,0.3s,baz=116,slow=3.4,SNR=2.6							
MKAR	**Makanchi Array**	**157.79**	**266**	PKPab		PKPab	03 46 42.0	+0.9
	0.3nm,0.6s,baz=103,slow=2.6,SNR=4.2							

*SOME **20** 03:59:04.1,43°.85N×78°.82E,h5km*
*NNC **20** 03:59:06.6±4.4,43°.87N×79°.08E,h0km,mb2.6,mpv2.2, Error ellipse: s-maj=33.0km s-min=11.1km az=24.0*
ISC 20 03:59:02.9±1.5,43°.85N±0°.04×79°.12E±0°.04,h5km±12km, n10,σ2ˢ80/19,2C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PDGK	**Podgornoye**	**0.58**	**152**	P		**Pb**	**03 59 15.2**	**-0.4**
	0.1nm,0.0s							
PDGK				S		**Sg**	**03 59 17.6**	**-4.1**
	1.2nm,0.1s							
PDGK	**Podgornoye**	**0.58**	**152**	⇑P		**Pn**	**03 59 17.4**	**-0.5**
	0.4nm,0.2s							
PDGK				⇓S		**Sn**	**03 59 28.2**	**+0.3**
	0.8nm,0.3s							
DJR	**Jarkent**	**0.69**	**45**	*e*P		**Pn**	**03 59 21.1**	**+1.8**
	0.4nm,0.1s							
DJR				*e*S		**Sn**	**03 59 33.5**	**+3.2**
	0.7nm,0.2s							
UZB	**Uzynbulak**	**0.70**	**186**	P		**Pn**	**03 59 20.1**	**+0.5**
	0.3nm,0.1s							
UZB				S		**Sg**	**03 59 26.5**	**+1.0**
	6.9nm,0.1s							
UZB	**Uzynbulak**	**0.70**	**186**	*e*P		**Pb**	**03 59 17.4**	**-0.2**
	0.3nm,0.1s							
UZB				*e*S		**Sb**	**03 59 27.2**	**-0.5**
	7.1nm,0.2s							
SATY	**Saty**	**0.94**	**214**	P		**Pn**	**03 59 26.1**	**+3.2**
	1.3nm,0.1s							
SATY				S		**Sn**	**03 59 36.3**	**-0.5**
	7.7nm,0.2s							
SATY	**Saty**	**0.94**	**214**	*e*P		**Pg**	**03 59 20.2**	**-0.7**
	1.2nm,0.1s							
SATY				*e*S		**Sg**	**03 59 32.2**	**-1.0**
	5.3nm,0.1s							
ARXS	**Arharly**	**1.00**	**292**	*e*P		**Pb**	**03 59 19.5**	**-3.2**
ARXS				*e*S		**Sb**	**03 59 30.1**	**-6.1**
MDOK	**Medeo**	**1.66**	**246**	⇓P		**Pg**	**03 59 37.7**	**+3.1**
	1.7nm,0.6s							
MDOK				S		**Sg**	**03 59 59.8**	**+3.7**
	1.0nm,0.3s							
TKM2	**Tokmak 2**	**2.73**	**251**	⇑Pg		**Pg**	**03 59 56.6**	**+1.4**
	1.6nm,0.8s							
TKM2				⇓Lg		Lg	04 00 33.6	
	1.6nm,0.9s							

MEX 20 03:59:59.7±0.4,15°.92N×95°.67W,h64km±7km,MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HUIG	**Huatulco**	**0.45**	**250**	*e*P		Pn	04 00 10.0	-1.5
HUIG				*e*S		Sn	04 00 18.5	-1.6
CMIG	**Matias Romero**	**1.39**	**33**	*e*P		Pn	04 00 21.8	-1.2
CMIG				*e*S		Sn	04 00 38.4	-2.1
VHO	**Vista Hermosa**	**1.53**	**319**	*i* P		Pn	04 00 24.2	-1.0
VHO				*i* S		Sn	04 00 42.3	-2.0
PCIG		**2.37**	**95**	*i* P		Pn	04 00 35.5	-0.8
PCIG				*i* S		Sn	04 01 02.3	-2.0

*ISCJB **20** 04:18:48.7±0.7,41°.37N±0°.04×20°.71E±0°.06,h13km±7km, Error ellipse: s-maj=9.4km s-min=5.2km az=139.3*
*SKO **20** 04:18:48.0,41°.40N×20°.76E,h15km, M1.2,ML1.6*
*TIR **20** 04:18:48.3,41°.34N×20°.70E,h6km,Md2.6/3*
ISC 20 04:18:48.6±1.1,41°.34N±0°.04×20°.67E±0°.05,h10km±10km, n8,σ1ˢ72/16,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OHR	**Ohrid**	**0.25**	**157**	*i* Pg		**Pg**	**04 18 54.6**	**+0.8**
OHR				*i* Sg		**Sg**	**04 18 59.6**	**+2.4**
OHR				*e*Lg		Lg	04 18 59.7	
	comp=N,85nm,0.3s							
OHR				*e*Lg		Lg	04 18 60.0	
	comp=E,64nm,0.4s							
PHP	**Peshkopia**	**0.38**	**333**	*i* PG		**Pg**	**04 18 56.1**	**-0.1**
PHP				*i* SG		**Sb**	**04 19 02.3**	**-1.2**
KRUS	**Krusevo**	**0.44**	**87**	*i* Pg		**Pg**	**04 18 56.4**	**-0.8**
KRUS				*i* Sg		**Sg**	**04 19 01.3**	**-1.7**
KRUS				*e*Lg		Lg	04 19 01.5	
	comp=E,8.7nm,0.4s							
KRUS				*e*Lg		Lg	04 19 02.0	
	comp=N,11nm,0.3s							
BIA	**Bitola**	**0.59**	**123**	*e*Pg		**Pg**	**04 18 57.4**	**-2.7**
BIA				*i* Sg		**Sb**	**04 19 08.9**	**-0.7**
BIA				*e*Lg		Lg	04 19 10.1	
	comp=N,11nm,0.2s							
BIA				*e*Lg		Lg	04 19 10.3	
	comp=E,12nm,0.3s							
FNA	**Florina**	**0.78**	**136**	*i* Pg		**Pb**	**04 19 03.2**	**-1.0**
FNA				*i* Sg		**Sb**	**04 19 14.5**	**-0.4**
FNA	**Florina**	**0.78**	**136**	*i* PG		**Pb**	**04 19 03.3**	**-0.9**
FNA				*i* SG		**Sb**	**04 19 15.1**	**+0.3**
PUK	**Puka**	**0.91**	**321**	*i* PN		**Pb**	**04 19 06.2**	**-0.3**
PUK				*i* SN		**Sn**	**04 19 20.7**	**0.0**
STIP	**Stip**	**1.19**	**72**	*i* Pg		**Pg**	**04 19 13.5**	**+2.0**
STIP				*i* Sg		**Sn**	**04 19 30.9**	**+3.3**
STIP				*e*Lg		Lg	04 19 32.3	
	comp=E,1.2nm,0.3s							
STIP				*e*Lg		Lg	04 19 32.4	
	comp=N,1.1nm,0.3s							

*ISCJB **20** 04:19:57.7±0.8,21°.02S±0°.03×68°.92W±0°.10,h120km±9km, Error ellipse: s-maj=14.8km s-min=5.0km az=177.8*
*GUC **20** 04:19:57.1±0.5,21°.02S×68°.84W,h112km±2km,ML3.3*
*SJA **20** 04:19:57.0±0.7,21°.00S×68°.99W,h123km±5km,ML2.6, MW3.6*
ISC 20 04:19:59.0±1.6,21°.02S±0°.03×68°.92W±0°.08, h109km±12km,n24,σ0ˢ63/37,3C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB01	**IPOC Station P**	**0.53**	**267**	⇑*i* P		**Pn**	**04 20 15.1**	**-0.9**
PB01				*e*S		**Sn**	**04 20 29.0**	**+0.1**
PB01				IAML			04 20 32.0	
	comp=E,1μm,0.4s							
PB09	**IPOC Station P**	**0.83**	**201**	*i* P		**Pn**	**04 20 18.6**	**-0.1**
PB09				*i* S		**Sn**	**04 20 34.6**	**+1.2**
PB09	**IPOC Station P**	**0.83**	**201**	*e*P		**Pn**	**04 20 17.9**	**-0.8**
PB09				*e*S		**Sn**	**04 20 33.6**	**+0.2**
PB08	**IPOC Station P**	**0.90**	**346**	*i* P		**Pn**	**04 20 19.1**	**-0.4**
PB08				*i* S		**Sn**	**04 20 35.7**	**+0.7**
PB08	**IPOC Station P**	**0.90**	**346**	⇓*i* P		**Pn**	**04 20 19.1**	**-0.4**
PB08				*e*S		**Sn**	**04 20 35.1**	**+0.2**
PB08				IAML			04 20 36.0	
	comp=E,730nm,0.3s							
PB02	**IPOC Station P**	**0.96**	**252**	*i* P		**Pn**	**04 20 19.1**	**-0.7**
PB02	**IPOC Station P**	**0.96**	**252**	⇑*i* P		**Pn**	**04 20 19.6**	**-0.2**
PB02				*e*S		**Sn**	**04 20 36.4**	**+0.9**
PB02				IAML			04 20 39.3	
	comp=E,1μm,0.4s							
PB07	**IPOC Station P**	**1.14**	**232**	*i* P		**Pn**	**04 20 21.4**	**-0.5**
PB07	**IPOC Station P**	**1.14**	**232**	⇑*e*P		**Pn**	**04 20 21.3**	**-0.5**
PB07				*e*S		**Sn**	**04 20 39.8**	**+0.7**
PB07				IAML			04 20 42.7	
	comp=E,401nm,0.2s							
PB03	**IPOC Station P**	**1.28**	**217**	*i* P		**Pn**	**04 20 22.8**	**-0.6**
PB03	**IPOC Station P**	**1.28**	**217**	*e*P		**Pn**	**04 20 22.8**	**-0.6**
PB03				*e*S		**Sn**	**04 20 42.2**	**+0.3**
PB03				IAML			04 20 46.9	
	comp=E,341nm,0.2s							
PB11	**IPOC Station P**	**1.43**	**331**	⇓*e*P		**Pn**	**04 20 24.7**	**-0.4**
PB11				*e*S		**Sn**	**04 20 45.3**	**+0.5**
PB11				IAML			04 20 46.2	
	comp=E,580nm,0.2s							
LVC	**Limon Verde**	**1.58**	**180**	*i* P		**Pn**	**04 20 26.8**	**-0.4**
LVC				*i* S		**Sn**	**04 20 50.0**	**+1.5**
LVC	**Limon Verde**	**1.58**	**180**	*e*S		**Sn**	**04 20 48.2**	**-0.3**
PB04	**IPOC Station P**	**1.74**	**221**	*e*P		**Pn**	**04 20 28.8**	**-0.1**
PB04				*e*S		**Sn**	**04 20 52.4**	**+0.9**
PB04				IAML			04 20 57.5	
	comp=N,357nm,0.2s							
PB06	**IPOC Station P**	**1.79**	**200**	*e*P		**Pn**	**04 20 28.7**	**-0.7**
PB06				*e*S		**Sn**	**04 20 52.3**	**-0.3**
PB06				IAML			04 20 56.9	
	comp=N,405nm,0.2s							

TASR				*e*			04 46 41.0	
IRK	**Irkutsk**	**5.15**	**81**	*e*PN	**Pb**	**04 45 31.2**	**+0.3**	
IRK				*e*		04 46 34.3		
IRK				pmax	pmax			
	comp=Z,13nm,1.1s							
IRK				smax	smax			
	comp=E,219nm,0.5s							
ELT	**Eltsovka**	**6.16**	**289**	*e*Sg	**Sg**	**04 47 11.4**	**-7.1**	
UKR	**Ust'-Kan**	**7.08**	**268**	*e*Pg	**Pb**	**04 46 07.3**	**+3.5**	
UKR				*e*Sg	**Sg**	**04 47 42.9**	**-4.9**	
UKR	**Ust'-Kan**	**7.08**	**268**	*e*P	**Pb**	**04 46 07.3**	**+3.5**	
OGRR	**Ongureny**	**7.32**	**70**	*e*PN	**Pn**	**04 45 51.8**	**+4.0**	
OGRR				*e*		04 46 14.2		
OGRR				*e*		04 47 44.1		
OGRR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
OGRR				smax	smax			
	comp=N,61nm,1.5s							
ULN	**Ulaanbaatar**	**8.12**	**114**	*i* P	**Pn**	**04 45 55.9**	**-3.0**	
NVS	**Novosibirsk**	**8.27**	**297**	*e*Sg	Sg	04 48 15.7	-10	
MK31	**Makanchi Array**	**10.21**	**247**	⇓P	Pn	04 46 36.1	+8.7	
	comp=N,0.4nm,0.6s,baz=46,slow=16,SNR=4.8							
MK31				⇓Lg	Lg	04 49 20.1		
	comp=N,4.1nm,0.7s,baz=43,slow=30							
HIA	**Hailar**	**15.30**	**90**	*e*P	**Pn**	**04 47 34.7**	**-2.0**	
HIA				pmax	pmax			
	comp=Z,4.0nm,0.4s							
BRVK	**Borovoye**	**15.73**	**285**	*e*P	**P**	**04 47 47.4**	**+1.0**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**17.15**	**247**	*e*P	**P**	**04 48 05.1**	**+2.9**	
AAK				pmax	pmax			
	comp=Z,9.0nm,3.4s							
KLR	**Kul'dur**	**22.75**	**82**	*e*P	**P**	**04 49 01.0**	**-2.0**	
TIXI	**Tiksi**	**24.77**	**24**	*e*P	**P**	**04 49 24.5**	**+2.2**	
TIXI				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MA2	**Magadan**	**31.08**	**54**	*e*P	**P**	**04 50 17.0**	**-1.8**	
MA2				pmax	pmax			
	comp=Z,11nm,1.0s							

MEX 20 05:01:35.4±0.4, 19°30N×104°78W, h44km±3km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.32**	**309**	*e*P	Pn	05 01 42.8	-1.4
CJM				*i* S	Sn	05 01 48.8	-1.6
R15V		**0.76**	**99**	*e*P	Pn	05 01 48.2	-1.7
R15V				*e*S	Sn	05 01 58.1	-2.2
EZ5V		**1.12**	**81**	*e*P	Pn	05 01 53.5	-1.4
EZ5V				*i* S	Sn	05 02 06.8	-2.6
MMIG	**Aquila**	**1.69**	**126**	*e*P	Pn	05 02 00.9	-1.5
MMIG				*e*S	Sn	05 02 21.4	-1.4
ANIG	**Ahuacatlan**	**1.76**	**8**	*i* P	Pn	05 02 18.1	-1.5
ANIG				*e*S	Sn	05 02 22.9	-1.9

*IDC **20** 05:07:55.3±1.7, 22°.76N×95°.83E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/53, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=40.3km s-min=19.6km az=60.0*

ISC 20 05:07:56.1±1.1, 22°.6N±0.4×95°.8E±0.5, h10km, n4, σ2.243/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.65**	**311**	*e*P	**Pn**	**05 09 06.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**5.04**	**143**	Pn	**Pn**	**05 09 12.6**	**+0.7**
	1.3nm,0.3s,baz=322,slow=13,SNR=20						
CMAR				Pg	**Pg**	**05 09 30.9**	**-1.9**
	3.3nm,0.3s,baz=322,slow=18,SNR=36						
CMAR				Lg	Lg	05 10 37.3	
	3.9nm,0.3s,baz=320,slow=29,SNR=7.8						
MKAR	**Makanchi Array**	**26.53**	**339**	P	**P**	**05 13 32.5**	**-1.5**
	0.5nm,0.7s,baz=143,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**56.59**	**135**	P	**P**	**05 17 41.7**	**+2.4**
	0.6nm,0.9s,baz=322,slow=7.4,SNR=7.5						

*NEIC **20** 05:10:52.1±0.0, 15°.57N×96°.49W, h2km, MD4.1(MEX), After MEX.*

MEX 20 05:10:51.0±0.4, 15°.54N×96°.53W, h5km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PANG	**Puerto Angel**	**0.13**	**22**	*e*P	Pg	05 10 53.1	-0.6
PANG				*e*S	Sg	05 10 55.4	-0.2
HUIG	**Huatulco**	**0.46**	**61**	*e*P	Pg	05 10 59.6	-0.3
HUIG				*e*S	Sg	05 11 06.3	+0.4
HUIG	**Huatulco**	**0.46**	**61**	*e*P	Pg	05 10 59.6	-0.3
HUIG				*e*S	Sg	05 11 06.3	+0.4
VHO	**Vista Hermosa**	**1.54**	**353**	*e*P	Pn	05 11 16.7	-2.6
VHO				*e*S	Sn	05 11 36.4	-3.3
VHO	**Vista Hermosa**	**1.54**	**353**	*e*P	Pn	05 11 16.2	-3.1
VHO				*i* S	Sn	05 11 34.4	-5.3
PNIG	**Pinotepa**	**1.76**	**299**	*e*P	Pn	05 11 20.9	-1.3
PNIG				*e*S	Sn	05 11 44.0	-0.9
PNIG	**Pinotepa**	**1.76**	**299**	*e*P	Pn	05 11 18.9	-3.2
PNIG				*i* S	Sn	05 11 40.1	-4.9
CMIG	**Matias Romero**	**2.20**	**45**	*e*P	Pn	05 11 25.7	-2.6
CMIG				*e*S	Sn	05 11 54.4	-1.5
CMIG	**Matias Romero**	**2.20**	**45**	*e*P	Pn	05 11 25.7	-2.6
CMIG				*i* S	Sn	05 11 51.4	-4.5
TLIG	**Tlapa**	**2.81**	**316**	*e*P	Pn	05 11 34.4	-2.2
TLIG				*e*S	Sn	05 12 16.2	-0.2
TLIG	**Tlapa**	**2.81**	**316**	*e*P	Pn	05 11 34.4	-2.2
TLIG				*i* S	Sn	05 12 07.2	-3.8
MEIG	**Mezcala**	**3.80**	**309**	*i* P	Pn	05 11 46.9	-3.4
MEIG				*i* S	Sn	05 12 31.4	-4.0

*ISCJB **20** 05:16:56.6±0.2, 3°.67S±0°.03×127°.47E±0°.03, h42km, mb4.7/49, MS3.5/11, Error ellipse: s-maj=4.3km s-min=3.6km az=31.3*
*DJA **20** 05:16:57.5±0.7, 4°.S±2°.×12°.7E±°, h15km±5km, M4.4/20, mb4.7/20, mB5.5/4, MLv4.1/1, Mw(mB)5.0/4*
*IDC **20** 05:16:57.7±4.5, 3°.67S×127°.33E, h33km±34km, mb4.4/17, mb1 4.5/20, mb1mx4.4/38, mbtmp4.5/20, ML4.1/3, MS3.5/14, Ms1 3.5/14, ms1mx3.3/34, Error ellipse: s-maj=20.8km s-min=11.4km az=73.0*
*MOS **20** 05:16:57.3±1.0, 3°.62S×127°.28E, h48km, mb4.9/20, Error ellipse: s-maj=15.6km s-min=7.3km az=114.0*
*NEIC **20** 05:16:59.2±0.7, 3°.68S×127°.39E, h52km±7km, mb4.7/31, Error ellipse: s-maj=7.3km s-min=4.6km az=51.0*
*BJI **20** 05:17:00.3, 3°.60S×127°.40E, h73km, mb4.8/40, mB5.0/28, Ms4.5/10, Ms7 4.3/7*

ISC 20 05:16:58.3±0.3, 3°.66S±0°.05×127°.47E±0°.05, h42km, n160, σ1.966/164, mb4.7/49, MS3.5/12, 9C-1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.56**	**319**	P	**Pn**	**05 17 06.3**	**-3.6**
SANI	**Sanana**	**2.18**	**317**	P	**Pn**	**05 17 30.8**	**-1.3**
BNDI	**Bandanaira**	**2.57**	**109**	P	**Pn**	**05 17 39.2**	**+1.7**
TNTI	**Ternate**	**4.41**	**359**	P	**Pn**	**05 18 04.6**	**+1.9**
SWI	**Sorong**	**4.70**	**54**	P	**Pn**	**05 18 07.9**	**+1.2**
SIJI	**Sorong**	**4.70**	**54**	Pn	**Pn**	**05 18 08.0**	**+1.3**
	62nm,0.3s,baz=222,slow=14,SNR=48						
SIJI				Sn	**Sn**	**05 19 01.6**	**+1.5**
	81nm,0.3s,baz=157,slow=17,SNR=17						
SIJI				LR	LR	05 20 14.7	
	comp=Z,920nm,19.7s,baz=166,slow=41						
FAKI	**Fak Fak**	**4.83**	**81**	*e*Pn	**Pn**	**05 18 10.4**	**+1.8**
FAKI				*e*Sn	**Sn**	**05 18 59.7**	**-3.5**
FAKI	**Fak Fak**	**4.83**	**81**	P	**Pn**	**05 18 10.5**	**+2.0**
KDI	**Kendari**	**4.85**	**266**	P	**Pn**	**05 18 11.1**	**+2.3**
LUWI	**Luwuk**	**5.37**	**299**	*e*Pn	**Pn**	**05 18 15.7**	**-0.2**
LUWI	**Luwuk**	**5.37**	**299**	P	**Pn**	**05 18 17.8**	**+1.9**
KMSI	**Cibinong**	**5.47**	**320**	P	**Pn**	**05 18 18.9**	**+1.6**
SAUI	**Saumlaki**	**5.74**	**139**	*e*Pn	**Pn**	**05 18 23.5**	**+2.5**
SAUI	**Saumlaki**	**5.74**	**139**	P	**Pn**	**05 18 23.3**	**+2.3**
APSI	**Ampana**	**6.43**	**295**	P	**Pn**	**05 18 31.8**	**+1.3**
SOEI	**Soe**	**6.84**	**208**	*e*Pn	**Pn**	**05 18 37.2**	**+1.0**
SOEI	**Soe**	**6.84**	**208**	P	**Pn**	**05 18 39.2**	**+3.0**
MRSI	**Marisa**	**6.89**	**307**	P	**Pn**	**05 18 37.5**	**+0.7**
RKPI	**Ransiki, Papua**	**7.03**	**72**	P	**Pn**	**05 18 40.4**	**+1.6**
BSSI	**Bau Bau, Buton**	**7.38**	**250**	P	**Pn**	**05 18 44.2**	**+0.6**
BKSI	**Bulukumba**	**7.51**	**257**	P	**Pn**	**05 18 46.1**	**+0.8**
BATI	**Baumata**	**7.52**	**210**	LR	LR	05 21 58.2	
	comp=Z,596nm,18.2s,baz=64,slow=40						
EDFI	**Ende, Flores**	**7.65**	**228**	P	**Pn**	**05 18 47.4**	**0.0**
TTSI	**Tana Toraja**	**7.66**	**274**	P	**Pn**	**05 18 50.3**	**+2.8**
SPSI	**Sidrap Palu**	**7.69**	**268**	P	**Pn**	**05 18 50.3**	**+2.5**
MPSI	**Mapaga**	**8.55**	**298**	P	**Pn**	**05 19 02.2**	**+2.6**
MTN	**Manton Dam**	**9.81**	**159**	*e*Pn	**Pn**	**05 19 18.5**	**+1.6**
JAY	**Jayapura**	**13.26**	**85**	LR	LR	05 26 11.7	
	comp=Z,200nm,18.5s,baz=254,slow=41						
BLJI	**Banyuglugur**	**14.39**	**253**	P	P	05 20 33.2	+7.6
FITZ	**Fitzroy Crossi**	**14.46**	**187**	*e*Pn	**Pn**	**05 20 19.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**14.46**	**187**	Pn	**Pn**	**05 20 18.8**	**-1.6**
	0.2nm,0.3s,baz=36,slow=9.2,SNR=9.5						
FITZ				LR	LR	05 25 46.8	
	comp=Z,196nm,20.6s,baz=7.5,slow=37						
TBJI	**Tambak Boyo**	**15.87**	**258**	P	**P**	**05 20 42.4**	**+0.4**
PWJI	**Pagerwojo**	**16.17**	**254**	P	**P**	**05 20 47.6**	**+2.2**
	26nm,0.8s						
NGJI	**Ngawi**	**16.35**	**256**	P	P	05 20 57.4	+10
SBUM	**Sibu**	**16.41**	**292**	*e*Pn	**Pn**	**05 20 45.5**	**-0.3**
	5.9nm,0.9s						
SBUM				*e*Sn	**Sn**	**05 23 45.9**	**-1.1**
PCJI	**Pacitan**	**16.82**	**254**	P	**P**	**05 20 56.6**	**+4.0**
WOJI	**Wonogiri, Jawa**	**16.98**	**255**	P	**P**	**05 20 57.1**	**+2.8**
	30nm,1.3s						
WRAB	**Tennant Creek**	**17.51**	**158**	*e*Pn	**Pn**	**05 20 57.4**	**-2.1**
	23nm,0.7s						
WRAB	**Tennant Creek**	**17.51**	**158**	*ce*P	**Pn**	**05 20 58.0**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,42nm,1.7s						
WR1	**Warramunga Arr**	**17.51**	**158**	*e*Pn	**Pn**	**05 20 57.9**	**-1.6**
	comp=Z,29nm,0.6s						
WRA	**Warramunga Arr**	**17.51**	**158**	*e*P	**Pn**	**05 20 57.4**	**-2.1**
WRA				pmax	pmax		
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**17.51**	**158**	Pn	**Pn**	**05 20 57.9**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=344,slow=13,SNR=61						
WB2	**Warramunga Arr**	**17.52**	**158**	*e*Pn	**Pn**	**05 20 56.1**	**-3.5**
WB2				*e*Pn	**P**	**05 20 56.9**	**-3.4**
KSM	**Kuching**	**17.90**	**286**	*e*Pn	**P**	**05 21 04.8**	**+0.3**
	comp=Z,32nm,1.1s						
COEN	**Coen**	**18.57**	**124**	*e*P	**P**	**05 21 12.3**	**+0.4**
	comp=Z,62nm,0.9s						
KPJI	**Kang Pucung**	**18.81**	**258**	P	**Pn**	**05 21 15.9**	**+0.5**
	comp=Z,83nm,0.7s						
MANU	**Manus Island**	**19.93**	**86**	*e*P	**P**	**05 21 26.2**	**-0.7**
	comp=Z,29nm,1.0s						
CISI	**Cisompet, Garu**	**19.94**	**258**	*e*P	**P**	**05 21 26.0**	**-1.0**
	comp=Z,61nm,0.7s						
CISI	**Cisompet, Garu**	**19.94**	**258**	P	**Pn**	**05 21 28.8**	**-0.1**
	comp=Z,85nm,0.7s,comp=Z,3μm						
PMG	**Port Moresby**	**20.37**	**107**	*e*P	Pn	05 21 33.0	-0.9
	comp=Z,44nm,0.9s						
PMG	**Port Moresby**	**20.37**	**107**	*ce*P	Pn	05 21 34.8	+0.9
PMG				pmax	pmax		
	comp=Z,297nm,1.3s						
AS31	**Alice Springs**	**20.83**	**163**	*e*P	Pn	05 21 38.4	-0.9
	comp=Z,32nm,0.8s						
AS31				*e*PcP	**PcP**	**05 25 43.5**	**-0.8**
ASAR	**Alice Springs**	**20.84**	**163**	P	Pn	05 21 38.4	-1.0
	comp=Z,103nm,0.7s,baz=342,slow=10,SNR=688						
ASAR				PcP	**PcP**	**05 25 43.5**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=339,slow=1.7,SNR=5.4						
AS01	**Alice Springs**	**20.85**	**163**	*e*P	**P**	**05 21 37.8**	**+1.1**
MDSI	**Maura Dua**	**23.25**	**267**	P	**P**	**05 22 03.8**	**+1.6**
	comp=Z,7.7nm,1.1s,comp=Z,1μm						
LHSI	**Lahat**	**23.90**	**269**	P	**P**	**05 22 15.3**	**+6.9**
MYKOM	**Kota Tinggi**	**24.22**	**283**	*e*P	**P**	**05 22 11.6**	**+0.2**
	comp=Z,14nm,0.9s						
GUMO	**Guam**	**24.33**	**45**	LR	LR	05 30 53.0	
	comp=Z,83nm,18.9s,baz=245,slow=34						
CTA	**Charters Tower**	**24.53**	**133**	P	**P**	**05 22 16.1**	**+1.9**
	comp=Z,144nm,1.0s,baz=313,slow=14,SNR=5.7						
CTAO	**Charters Tower**	**24.53**	**133**	*e*P	**P**	**05 22 15.1**	**+0.9**
	comp=Z,24nm,1.0s						
CTAO	**Charters Tower**	**24.53**	**133**	*e*P	**P**	**05 22 15.1**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,24nm,1.0s						
FORT	**Forrest**	**26.98**	**179**	*e*P	**P**	**05 22 36.8**	**+0.6**
	comp=Z,50nm,0.8s						
MNSI	**Mandailing Nat**	**28.23**	**278**	P	P	05 22 56.8	+9.2
KULM	**Kulim**	**28.23**	**288**	*e*P	**P**	**05 22 47.6**	**0.0**
	comp=Z,21nm,1.1s						
PSI	**Prapat**	**29.25**	**282**	*e*P	**P**	**05 22 54.9**	**-1.9**
	comp=Z,7.4nm,0.7s						
PSI	**Prapat**	**29.25**	**282**	*e*P	**P**	**05 22 54.9**	**-1.9**
PSI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PSI	**Prapat**	**29.25**	**282**	P	**P**	**05 22 56.0**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=176,slow=0.7,SNR=5.2						
STKA	**Stephens Creek**	**31.05**	**156**	*e*P	**P**	**05 23 12.6**	**+0.2**
	comp=Z,1.1nm,0.9s						
STKA	**Stephens Creek**	**31.05**	**156**	*e*P	**P**	**05 23 12.6**	**+0.2**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
STKA	**Stephens Creek**	**31.05**	**156**	P	**P**	**05 23 12.6**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=330,slow=12,SNR=6.2						
CMAR	**Chiang Mai Arr**	**35.68**	**309**	P	**P**	**05 23 53.8**	**+0.9**
	comp=Z,1.4nm,0.3s,baz=146,slow=7.7,SNR=9.9						
CMAR				PcP	**PcP**	**05 26 22.1**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=175,slow=2.9,SNR=5.3						
CMAR				LR	LR	05 38 50.6	
	comp=Z,111nm,22.0s,baz=166,slow=37						
CMMT	**Chiang Mai**	**35.88**	**309**	P	**P**	**05 23 56.1**	**+1.5**
	comp=Z,8.8nm,1.1s						
CHTO	**Chiang Mai**	**35.88**	**309**	*e*P	**P**	**05 23 52.2**	**-2.5**
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**35.88**	**309**	*e*P	**P**	**05 23 52.2**	**-2.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**35.88**	**309**	P	**P**	**05 23 56.2**	**+1.6**
	comp=Z,37nm,1.2s						
WHN	**Wuhan**	**36.25**	**341**	⇓P	**P**	**05 23 59.4**	**+1.8**
WHN				pP	**pwP**	**05 24 17.4**	**+4.9**
NJ2	**Nanjing**	**36.45**	**348**	*e*P	**P**	**05 23 58.3**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
KSAR	**Wonju Array Be**	**40.90**	**1**	P	**P**	**05 24 37.5**	**+1.1**
KSAR	**Wonju Array Be**	**40.90**	**1**	P	**P**	**05 24 37.6**	**+1.1**
KSRS	**Korea Array**	**40.91**	**1**	P	**P**	**05 24 37.5**	**+1.0**
	comp=Z,4.6nm,0.8s,baz=183,slow=9.9,SNR=9.5						
KSRS				LR	LR	05 39 57.2	
	comp=Z,43nm,21.7s,baz=184,slow=34						
CD2	**Chengdu**	**41.16**	**328**	*e*P	**P**	**05 24 40.6**	**+1.8**
MJAR	**Matsushiro Arr**	**41.23**	**13**	P	**P**	**05 24 38.9**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=185,slow=11,SNR=7.6						
MJAR				LR	LR	05 41 13.6	
	comp=Z,50nm,19.6s,baz=185,slow=35						
MAJO	**Matsushiro**	**41.24**	**13**	*e*P	**P**	**05 24 38.9**	**-0.4**
MAJO	**Matsushiro**	**41.24**	**13**	*e*P	**P**	**05 24 38.9**	**-0.4**
MAT	**Matsushiro**	**41.24**	**13**	P	**P**	**05 24 37.9**	**-1.4**
XAN	**Xi'an**	**41.38**	**336**	P	**P**	**05 24 40.1**	**-0.6**
XAN				pP	sP	05 24 55.4	-0.4
XAN				pmax	pmax		
	comp=Z,15nm,0.7s						
XAN				pmax	pmax		
	comp=Z,99nm,3.9s						
XAN	**Xi'an**	**41.38**	**336**	*e*P	**P**	**05 24 40.0**	**-0.6**
	comp=Z,11nm,0.7s						
XAN	**Xi'an**	**41.38**	**336**	*e*P	**P**	**05 24 40.0**	**-0.6**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
SHL	**Shillong**	**45.11**	**312**	*e*P	**P**	**05 25 10.1**	**-0.9**
	comp=Z,13nm,0.9s						
SHL	**Shillong**	**45.11**	**312**	*e*P	**P**	**05 25 10.1**	**-0.9**
SHL				pmax	pmax		
	comp=Z,13nm,0.9s						
LZH	**Lanzhou**	**45.30**	**333**	*e*P	**P**	**05 25 13.6**	**+1.3**
LZH				PP	**PcP**	**05 26 55.1**	**+3.5**
LZH				pmax	pmax		
	comp=Z,36nm,1.2s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH				LR	LR		
	comp=Z,220nm,13.2s						
LZH				LR	LR		
	comp=Z,230nm,14.5s						
LZH				LR	LR		
	comp=Z,380nm,16.7s						
HHC	**Hu-ho-hao-te**	**46.63**	**343**	*e*P	**P**	**05 25 25.0**	**+2.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.9s						
HHC				pmax	pmax		
	comp=Z,110nm,5.4s						
USA0B	**Ussuriysk Arra**	**47.82**	**4**	*e*P	**P**	**05 25 31.4**	**-0.3**
	comp=Z,13nm,0.8s						
USA0B	**Ussuriysk Arra**	**47.82**	**4**	*e*P	**P**	**05 25 31.4**	**-0.3**
USA0B				pmax	pmax		
	comp=Z,13nm,0.8s						
USRK	**Ussuriysk Ar.**	**47.82**	**4**	P	**P**	**05 25 32.5**	**+0.8**
	comp=Z,9.0nm,0.6s,baz=196,slow=7.6,SNR=19						
USRK				LR	LR	05 44 30.4	
	comp=Z,40nm,21.1s,baz=187,slow=35						
LSA	**Lhasa**	**48.06**	**316**	*e*P	**P**	**05 25 35.1**	**+0.7**
	comp=Z,7.9nm,0.8s						
LSA	**Lhasa**	**48.06**	**316**	*e*P	**P**	**05 25 35.1**	**+0.7**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ASAJ	**Asahikawa**	**49.47**	**14**	LR	LR	05 46 34.6	
	comp=Z,42nm,20.5s,baz=316,slow=36						
GTA	**Gaotai**	**49.86**	**332**	*e*P	**P**	**05 25 47.8**	**+0.2**
GTA				pP	pwP	05 26 05.8	+2.9
GTA				sP	sP	05 26 14.8	+12
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KLR	**Kul'dur**	**52.81**	**4**	*i* P	**P**	**05 26 10.1**	**+0.7**
ULN	**Ulaanbaatar**	**54.35**	**343**	*e*P	**P**	**05 26 20.0**	**-0.9**
	comp=Z,14nm,1.1s						
ULN	**Ulaanbaatar**	**54.35**	**343**	*ce*P	**P**	**05 26 21.1**	**+0.2**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s						
SONA0	**Songino Array**	**54.51**	**343**	*e*P	**P**	**05 26 22.2**	**+0.1**
SONM	**Songino Array**	**54.51**	**343**	P	**P**	**05 26 22.2**	**+0.1**
	comp=Z,5.4nm,1.0s,baz=167,slow=8.1,SNR=27						
SONM				LR	LR	05 54 46.5	
	comp=Z,37nm,18.0s,baz=18,slow=42						
BKZ	**Black Stump Fm**	**56.72**	**135**	*e*P	**P**	**05 26 37.6**	**-0.4**
	comp=Z,15nm,0.8s						
TLY	**Talaya**	**58.75**	**343**	*ce*P	**P**	**05 26 53.2**	**+1.2**
TLY				pmax	pmax		
	comp=Z,18nm,2.5s						
WMQ	**Urumqi**	**59.24**	**327**	*e*P	**P**	**05 26 55.9**	**+0.3**
WMQ				sP	pwP	05 27 24.6	+13
WMQ				pmax	pmax		
	comp=Z,36nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.3s						
WMQ				LR	LR		
	comp=Z,160nm,26.5s						
WMQ				LR	LR		
	comp=Z,180nm,34.5s						
WMQ	**Urumqi**	**59.24**	**327**	*e*P	**P**	**05 26 55.5**	**-0.1**
	comp=Z,14nm,0.6s						
WMQ	**Urumqi**	**59.24**	**327**	*e*P	**P**	**05 26 55.5**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,14nm,0.6s						
PETK	**Petropavlovsk-**	**62.02**	**20**	P	**P**	**05 27 15.7**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=191,slow=7.1,SNR=6.4						
PETK				LR	LR	05 52 03.2	
	comp=Z,22nm,21.5s,baz=211,slow=34						
PEA1	**Petropavlovsk-**	**62.02**	**20**	*e*P	**P**	**05 27 15.7**	**+1.4**
BOD	**Bodaibo**	**62.24**	**352**	*e*P	**P**	**05 27 15.6**	**0.0**
BOD				pmax	pmax		
	comp=Z,14nm,1.3s						
KSH	**Kashi**	**63.87**	**318**	P	**P**	**05 27 27.6**	**+0.6**
KSH				S	**S**	**05 35 53.1**	**-6.6**
KSH				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,100nm,5.0s						
MK01	**Makanchi Array**	**64.05**	**327**	*e*P	**P**	**05 27 27.3**	**-0.7**
MK31	**Makanchi Array**	**64.07**	**327**	*e*P	**P**	**05 27 27.8**	**-0.3**
	comp=Z,6.2nm,0.8s						
MK31	**Makanchi Array**	**64.07**	**327**	*e*P	**P**	**05 27 27.8**	**-0.3**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MK32	**Makanchi Array**	**64.07**	**327**	*e*P	**P**	**05 27 27.6**	**-0.4**
MKAR	**Makanchi Array**	**64.07**	**327**	P	**P**	**05 27 27.6**	**-0.4**
	comp=Z,7.1nm,0.7s,baz=129,slow=7.8,SNR=76						
MAKZ	**Makanchi**	**64.25**	**327**	*e*P	**P**	**05 27 28.7**	**-0.5**
	comp=Z,5.0nm,0.8s						
MAKZ	**Makanchi**	**64.25**	**327**	*e*P	**P**	**05 27 28.7**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
YAK	**Yakutsk**	**65.53**	**1**	*e*P	**P**	**05 27 35.9**	**-1.2**
YAK				pmax	pmax		
	comp=Z,133nm,1.0s						
YAK				pmax	pmax		
	comp=N,38nm,0.8s						
YAK				pmax	pmax		
	comp=E,10.0nm,0.9s						
AAK	**Ala-Archa**	**66.38**	**320**	*ce*P	**P**	**05 27 43.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZAA0	**Zalesovo Array**	**67.50**	**334**	*e*P	**P**	**05 27 49.0**	**-0.9**
	comp=Z,8.3nm,0.9s						
ZALV	**Zalesovo Beam**	**67.50**	**334**	P	**P**	**05 27 48.6**	**-1.3**
	comp=Z,5.7nm,0.7s,baz=116,slow=5.1,SNR=18						
ZAA1	**Zalesovo Array**	**67.50**	**334**	*e*P	**P**	**05 27 48.6**	**-1.3**
KURK	**Kurchatov**	**68.38**	**329**	*e*P	**P**	**05 27 54.8**	**-0.7**
	comp=Z,15nm,0.9s						
KURK	**Kurchatov**	**68.38**	**329**	*e*P	**P**	**05 27 54.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,15nm,0.9s						
NVS	**Novosibirsk**	**68.79**	**334**	*e*P	**P**	**05 27 55.8**	**-2.2**
SEY	**Seymchan**	**69.05**	**12**	*ce*P

LPAZ La Paz 154.88 143 PKPbc **PKiKP** **05 36 57.3 +0.2**
comp=Z,1.1nm,0.5s,baz=206,slow=2.6,SNR=5.2
LPAZ PKPab **sPKPbc** **05 37 13.6 +0.2**
comp=Z,2.2nm,0.8s,baz=113,slow=4.0,SNR=5.2
SIV San Ignacio 158.72 157 PKPab **PKPab** **05 37 29.6 +1.7**
comp=Z,3.1nm,0.9s,baz=162,slow=1.8,SNR=9.1

*ISCJB **20** 05:21:55.4±0.3, 11°.85S±0°.05×42°.22E±0°.04, h10km, mb4.5/36, MS3.8/19, Error ellipse: s-maj=7.0km s-min=6.1km az=154.1*
*IDC **20** 05:21:56.0±0.6, 11°.83S×42°.30E, h0km, mb4.2/16, mb1 4.4/19, mb1mx4.2/39, mbtmp4.3/19, ML4.4/3, MS3.7/21, Ms1 3.7/21, ms1mx3.5/47, Error ellipse: s-maj=17.5km s-min=16.6km az=6.0*
*BJI **20** 05:21:55.1, 11°.80S×42°.20E, h5km, mb4.7/20, mB5.0/14, Ms4.7/3, Ms7 4.3/4*
*NEIC **20** 05:21:57.2±0.2, 11°.86S×42°.23E, h10km, mb4.7/17, Error ellipse: s-maj=6.3km s-min=5.9km az=62.0*
ISC 20 05:21:57.1±0.4, 11°.78S±0°.06×42°.24E±0°.06, h10km, n106, σ1s82/99, mb4.6/36, MS3.7/20, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**8.27**	**145**	Pn	**Pn**	**05 23 56.6**	**-0.8**
	136nm,0.3s,baz=309,slow=14,SNR=429						
OPO				Sn	**Sn**	**05 25 24.7**	**-6.3**
	65nm,0.3s,baz=200,slow=16,SNR=3.9						
OPO				LR	LR	05 27 01.1	
	comp=Z,466nm,20.0s,baz=358,slow=37						
VWZMW	**Thunduwike**	**8.52**	**273**	*i* P	**Pn**	**05 24 00.2**	**-0.5**
VWZMW				S	Sn	05 25 26.0	-11
VWZMW	**Thunduwike**	**8.52**	**273**	*i* P	**Pn**	**05 24 00.2**	**-0.5**
VWZMW				S	Sn	05 25 26.0	-11
ABPO	**Ambohimpanom**	**8.66**	**147**	*e*Pn	**Pn**	**05 24 01.8**	**-0.9**
KMBO	**Kilima Mbogo**	**11.68**	**335**	Pn	**Pn**	**05 24 44.2**	**-0.1**
	3.2nm,0.3s,baz=152,slow=14,SNR=38						
KMBO				Sn	**Sn**	**05 26 49.1**	**-5.8**
	1.6nm,0.3s,baz=93,slow=19,SNR=4.5						
KRI	**Karoi**	**13.23**	**246**	*i* P	**Pn**	**05 25 05.3**	**0.0**
KRI	**Karoi**	**13.23**	**246**	*i* P	**Pn**	**05 25 05.3**	**0.0**
LSZ	**Lusaka**	**14.10**	**254**	*i* P	**Pn**	**05 25 15.2**	**-2.0**
LSZ	**Lusaka**	**14.10**	**254**	*e*Pn	**Pn**	**05 25 14.9**	**-2.3**
LSZ				*e*		05 25 15.3	
LSZ				*e*Sn	Sn	05 27 41.6	-12
LSZ	**Lusaka**	**14.10**	**254**	*i* P	**Pn**	**05 25 15.2**	**-2.0**
LSZ	**Lusaka**	**14.10**	**254**	Pn	**Pn**	**05 25 15.3**	**-1.9**
	1.6nm,0.3s,baz=76,slow=12,SNR=26						
LSZ				Sn	Sn	05 27 41.6	-12
	1.8nm,0.3s,baz=150,slow=9.8,SNR=10						
LSZ				LR	LR	05 30 34.3	
	comp=Z,568nm,20.7s,baz=86,slow=37						
BLWY	**Bulawayo**	**15.51**	**236**	*i* P	**Pn**	**05 25 36.2**	**-0.1**
BLWY	**Bulawayo**	**15.51**	**236**	*i* P	**Pn**	**05 25 36.2**	**-0.1**
MATP	**Matopo**	**15.75**	**235**	*i* P	**Pn**	**05 25 38.9**	**-0.4**
MATP	**Matopo**	**15.75**	**235**	*i* P	**Pn**	**05 25 38.9**	**-0.4**
MATP	**Matopo**	**15.75**	**235**	Pn	**Pn**	**05 25 38.0**	**-1.3**
	0.5nm,0.3s,baz=56,slow=14,SNR=20						
MATP				LR	LR	05 31 34.0	
	comp=Z,420nm,18.5s,baz=64,slow=37						
MBAR	**Mbarara**	**15.93**	**313**	Pn	**Pn**	**05 25 41.1**	**-0.5**
	2.7nm,0.3s,baz=142,slow=14,SNR=20						
MBAR				Sn	**Sn**	**05 28 30.5**	**-8.0**
	1.1nm,0.3s,baz=203,slow=22,SNR=3.6						
RER	**Riviere de l'E**	**15.95**	**128**	*e*Pn	**Pn**	**05 25 40.3**	**-1.6**
	172nm,0.9s						
LBTB	**Lobatse**	**20.53**	**228**	*e*P	**P**	**05 26 35.4**	**-0.5**
	13nm,0.8s						
LBTB	**Lobatse**	**20.53**	**228**	LR	LR	05 34 10.5	
	comp=Z,140nm,20.2s,baz=59,slow=36						
BOSA	**Boshof**	**23.07**	**221**	*i* P	**P**	**05 27 05.5**	**+2.4**
BOSA	**Boshof**	**23.07**	**221**	*e*P	**P**	**05 27 02.3**	**-0.9**
BOSA				*e*pP	**P**	**05 27 03.4**	**+0.2**
BOSA				*e*P	**P**	**05 27 03.8**	**+0.7**
BOSA	**Boshof**	**23.07**	**221**	*i* P	**P**	**05 27 05.5**	**+2.4**
BOSA	**Boshof**	**23.07**	**221**	P	**P**	**05 27 03.8**	**+0.7**
	7.6nm,0.8s,baz=59,slow=12,SNR=7.8						
BOSA				LR	LR	05 36 03.9	
	comp=Z,262nm,19.2s,baz=54,slow=37						
TSUM	**Tsumeb**	**24.86**	**250**	*i* P	**P**	**05 27 19.8**	**-0.5**
TSUM	**Tsumeb**	**24.86**	**250**	*e*P	**P**	**05 27 20.1**	**-0.1**
	25nm,1.0s						
TSUM				*e*P	**P**	**05 27 21.4**	**+1.2**
TSUM	**Tsumeb**	**24.86**	**250**	*i* P	**P**	**05 27 19.8**	**-0.5**
TSUM	**Tsumeb**	**24.86**	**250**	P	**P**	**05 27 21.4**	**+1.2**
	4.2nm,0.7s,baz=58,slow=9.4,SNR=6.2						
TSUM				LR	LR	05 37 17.6	
	comp=Z,338nm,18.4s,baz=147,slow=37						
SUR	**Sutherland**	**28.44**	**220**	LR	LR	05 39 14.2	
	comp=Z,197nm,20.0s,baz=52,slow=36						
TORD	**Torodi Ar. Bea**	**47.23**	**300**	P	**P**	**05 30 31.9**	**+1.1**
	0.6nm,0.6s,baz=138,slow=11,SNR=6.6						
TORD				LR	LR	05 51 09.6	
	comp=Z,148nm,19.4s,baz=350,slow=37						
TOA1	**Torodi Ar. Sit**	**47.24**	**300**	*e*P	**P**	**05 30 31.9**	**+1.1**
KIC	**Kosan Boka**	**50.08**	**289**	*e*P	P	05 31 06.3	+14
	18nm,0.9s						
DBIC	**Dimbokro**	**50.30**	**289**	*e*P	**P**	**05 30 55.2**	**+0.8**
	7.1nm,0.8s						
DBIC	**Dimbokro**	**50.30**	**289**	P	**P**	**05 30 55.2**	**+0.8**
	1.3nm,0.7s,baz=97,slow=7.8,SNR=4.1						
DBIC				LR	LR	05 51 32.1	
	comp=Z,74nm,21.9s,baz=99,slow=35						
LIC	**Lamto**	**50.30**	**288**	*e*P	P	05 31 07.0	+13
	21nm,0.8s						
TIC	**Toumodi**	**50.44**	**289**	*e*P	P	05 31 09.3	+14
GEYT	**Alibeck**	**51.63**	**16**	P	**P**	**05 31 05.1**	**+1.0**
	4.3nm,0.7s,baz=199,slow=3.1,SNR=6.7						
GNI	**Garni**	**51.71**	**2**	LR	LR	05 53 57.7	
	comp=Z,48nm,18.4s,baz=202,slow=37						
BR101	**Keskin Array S**	**51.86**	**352**	*e*P	**P**	**05 31 07.8**	**+2.0**
BRTR	**Keskin Array B**	**51.86**	**352**	P	**P**	**05 31 07.8**	**+2.0**
	1.5nm,0.8s,baz=167,slow=9.6,SNR=8.4						
BRTR				LR	LR	05 52 47.8	
	comp=Z,15nm,20.8s,baz=198,slow=36						
KEST	**Kesra**	**56.56**	**328**	LR	LR	05 57 52.2	
	comp=Z,85nm,19.0s,baz=290,slow=38						
BRDH	**Bariadhala**	**59.28**	**55**	LR	LR	05 55 37.2	
	comp=Z,110nm,19.9s,baz=252,slow=34						
KSH	**Kashi**	**59.90**	**30**	P	**P**	**05 32 00.6**	**-2.9**
KSH				pP	pP	05 32 04.9	-0.9
KSH				S	**S**	**05 40 07.5**	**-8.2**
KSH				pmax	pmax		
	comp=Z,120nm,5.5s						
ARSB	**Arslanbob**	**59.97**	**26**	*e*P	**P**	**05 32 03.3**	**-0.6**
	5.8nm,1.0s						
KK31	**Karatay Array**	**60.42**	**24**	*e*P	**P**	**05 32 06.5**	**-0.4**
	5.8nm,0.8s						
KKAR	**Karatay Array**	**60.42**	**24**	*e*P	**P**	**05 32 06.8**	**-0.1**
	5.8nm,0.8s						
UCH	**Uchtor**	**61.37**	**27**	P	**P**	**05 32 15.5**	**+1.7**
	SNR=6.4						
NRN	**Naryn**	**61.41**	**28**	*e*P	**P**	**05 32 13.9**	**-0.1**
	7.8nm,0.9s						
KZA	**Kyzart**	**61.58**	**27**	P	**P**	**05 32 16.6**	**+1.4**
	SNR=5.9						
AAK	**Ala-Archa**	**61.69**	**27**	*e*P	**P**	**05 32 16.7**	**+1.0**
	8.4nm,1.1s						
KBK	**Karagaybulak**	**61.90**	**27**	P	**P**	**05 32 18.8**	**+1.7**
	SNR=9.9						
ULHL	**Ulahol**	**62.16**	**28**	P	**P**	**05 32 20.6**	**+1.7**
	SNR=5.4						
TKM2	**Tokmak 2**	**62.40**	**27**	P	**P**	**05 32 21.6**	**+1.1**
	SNR=20						
KDJ	**Kajisay**	**62.51**	**29**	*e*P	**P**	**05 32 23.0**	**+1.8**
	2.7nm,0.9s						
ABKAR	**Akbulak array**	**62.74**	**13**	*e*P	**P**	**05 32 22.9**	**+0.6**
	3.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**63.48**	**62**	P	**P**	**05 32 28.9**	**+1.0**
	1.7nm,0.4s,baz=253,slow=7.7,SNR=9.2						
CMAR				LR	LR	05 56 50.4	
	comp=Z,50nm,19.2s,baz=212,slow=33						
GERES	**GERESS Array B**	**65.41**	**340**	P	**P**	**05 32 41.2**	**+1.2**
	0.5nm,0.7s,baz=134,slow=3.9,SNR=4.6						
ESDC	**Sonseca Array**	**66.79**	**323**	P	**P**	**05 32 50.8**	**+1.7**
	1.1nm,0.8s,baz=130,slow=5.4,SNR=7.1						
MAKZ	**Makanchi**	**68.29**	**28**	*e*P	**P**	**05 32 58.3**	**-0.1**
	2.7nm,0.7s						
MK01	**Makanchi Array**	**68.41**	**28**	*e*P	**P**	**05 32 58.3**	**-0.8**
MK31	**Makanchi Array**	**68.43**	**28**	*e*P	**P**	**05 32 59.4**	**+0.2**
	1.6nm,0.8s						
MK32	**Makanchi Array**	**68.43**	**28**	*e*P	**P**	**05 32 59.4**	**+0.2**
MKAR	**Makanchi Array**	**68.43**	**28**	P	**P**	**05 32 59.4**	**+0.2**
	1.6nm,0.7s,baz=215,slow=6.6,SNR=18						
WMQ	**Urumqi**	**69.06**	**34**	*e*P	**P**	**05 33 04.6**	**+1.3**
WMQ				pP	pwP	05 33 10.0	+0.4
WMQ				LR	LR		
	comp=N,83nm,23.1s						
WMQ				LR	LR		
	comp=E,130nm,33.3s						
KMI	**Kunming**	**69.42**	**57**	P	**P**	**05 33 08.3**	**+2.2**
KMI				pmax	pmax		
	comp=Z,22nm,0.6s						
KURK	**Kurchatov**	**69.84**	**24**	*e*P	**P**	**05 33 07.3**	**-0.5**
	4.8nm,0.8s						
CD2	**Chengdu**	**72.68**	**52**	*e*P	**P**	**05 33 27.6**	**+2.0**
ZAA0	**Zalesovo Array**	**74.77**	**24**	*e*P	**P**	**05 33 37.2**	**0.0**
	5.4nm,0.9s						
ZALV	**Zalesovo Beam**	**74.77**	**24**	*e*P	**P**	**05 33 36.8**	**-0.4**
ZALV	**Zalesovo Beam**	**74.77**	**24**	P	**P**	**05 33 36.9**	**-0.3**
	3.8nm,0.8s,baz=227,slow=6.1,SNR=12						
ZALV				LR	LR	06 07 23.8	
	comp=Z,22nm,18.5s,baz=68,slow=36						
ZAA1	**Zalesovo Array**	**74.77**	**24**	*e*P	**P**	**05 33 36.9**	**-0.4**
LZH	**Lanzhou**	**75.03**	**48**	*e*P	**P**	**05 33 38.4**	**-1.0**
LZH				pP	pwP	05 33 44.3	-1.3
LZH				sP	sP	05 33 47.3	+4.7
LZH				PP	**PP**	**05 36 29.6**	**+2.1**
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
LZH				pmax	pmax		
	comp=Z,180nm,4.8s						
LZH				LR	LR		
	comp=Z,500nm,18.7s						
NOA	**NORSAR Array B**	**76.63**	**345**	LR	LR	06 12 11.5	
	comp=Z,8.0nm,18.0s,baz=270,slow=39						
XAN	**Xi'an**	**77.94**	**51**	P	**P**	**05 33 56.4**	**+0.6**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,52nm,4.1s						
FITZ	**Fitzroy Crossi**	**80.23**	**107**	*e*P	**P**	**05 34 09.6**	**+0.9**
	10nm,0.8s						
ARA0	**ARCESS Array S**	**81.95**	**354**	*e*P	**P**	**05 34 17.4**	**+0.7**
ARCES	**ARCESS Array B**	**81.95**	**354**	P	**P**	**05 34 17.4**	**+0.7**
	1.9nm,0.6s,baz=45,slow=1.9,SNR=13						
SONA0	**Songino Array**	**82.08**	**38**	*e*P	**P**	**05 34 19.4**	**+1.4**
SONM	**Songino Array**	**82.08**	**38**	P	**P**	**05 34 19.4**	**+1.4**
	1.1nm,0.7s,baz=237,slow=4.9,SNR=8.6						
HHC	**Hu-ho-hao-te**	**82.52**	**46**	*e*P	**P**	**05 34 21.0**	**+0.6**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,64nm,4.8s						
NJ2	**Nanjing**	**85.10**	**56**	*e*P	**P**	**05 34 32.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
ASAR	**Alice Springs**	**86.85**	**113**	P	**P**	**05 34 42.7**	**0.0**
	2.8nm,0.9s,baz=260,slow=4.7,SNR=13						
ASAR				LR	LR	06 08 15.7	
	comp=Z,105nm,19.6s,baz=274,slow=32						
AS01	**Alice Springs**	**86.90**	**113**	*e*P	**P**	**05 34 42.8**	**-0.1**
BDFB	**Brasilia**	**87.13**	**255**	LR	LR	06 09 43.8	
	comp=Z,97nm,19.5s,baz=137,slow=33						
WRA	**Warramunga Arr**	**87.99**	**110**	P	**P**	**05 34 48.2**	**0.0**
	4.5nm,0.7s,baz=262,slow=2.9,SNR=46						
WR1	**Warramunga Arr**	**87.99**	**110**	*e*P	**P**	**05 34 48.2**	**0.0**
	6.7nm,0.8s						
WB2	**Warramunga Arr**	**88.00**	**110**	*e*P	**P**	**05 34 47.6**	**-0.7**
STKA	**Stephens Creek**	**91.65**	**123**	P	**P**	**05 35 05.1**	**0.0**
	1.1nm,0.4s,baz=155,slow=18,SNR=4.0						
CPUP	**Villa Florida**	**93.25**	**242**	LR	LR	06 13 03.8	
	comp=Z,79nm,21.9s,baz=167,slow=33						
KSRS	**Korea Array**	**93.67**	**53**	LR	LR	06 16 56.4	
	comp=Z,29nm,19.1s,baz=198,slow=35						
JNU	**Nakatsue**	**95.20**	**57**	LR	LR	06 17 40.5	
	comp=Z,25nm,20.2s,baz=228,slow=35						
RND	**Reindeer**	**127.85**	**6**	*e*PKPdf	**PKPdf**	**05 41 02.2**	**-0.6**
MSU	**Marysvale**	**144.95**	**324**	*e*PKPbc	**PKPdf**	**05 41 36.1**	**+0.8**
ELK	**Elko**	**145.00**	**330**	*e*PKPbc	**PKPdf**	**05 41 35.9**	**+0.5**
WVOR	**Wild Horse Val**	**145.21**	**335**	*e*PKPbc	**PKPdf**	**05 41 35.7**	**+0.2**
MTPU	**Mount Pierson**	**145.27**	**323**	*e*PKPbc	**PKPdf**	**05 41 36.8**	**+0.7**
BMN	**Battle Mountai**	**146.20**	**331**	*e*PKPdf	**PKPab**	**05 41 39.7**	**+0.7**
U15A	**North Rim**	**146.40**	**321**	*e*PKPdf	**PKPab**	**05 41 40.5**	**+0.4**
X16A	**Lo Mia Camp, P**	**147.11**	**318**	*e*PKPdf	**PKPdf**	**05 41 39.5**	**+0.4**
KVN	**Kaiserville**	**147.70**	**331**	*e*PKPbc	**PKPbc**	**05 41 43.3**	**+0.6**
TUC	**Tucson**	**147.87**	**314**	*e*PKPbc	**PKPbc**	**05 41 42.8**	**-0.4**
RYN	**Ryan**	**148.24**	**331**	*e*PKPbc	**PKPbc**	**05 41 43.8**	**-0.3**
NV01	**Mina Array Sit**	**148.29**	**330**	*e*PKPdf	**PKPdf**	**05 41 42.0**	**+1.0**
NVAR	**Mina Array Bea**	**148.29**	**330**	PKPbc	**PKPbc**	**05 41 43.2**	**-1.1**
	1.8nm,0.8s,baz=98,slow=1.0,SNR=12						
Y14A	**Wickenburg**	**148.43**	**318**	*ep*PKPdf	pPKPdf	05 41 44.0	+0.4
WAKR	**Walker**	**148.77**	**332**	*ep*PKPdf	pPKPdf	05 41 44.5	+0.3

*IDC **20** 05:28:53.6±1.6, 51°.58N×179°.84E, h0km, mb3.2/4, mb1 3.7/4, mb1mx3.3/41, mbtmp3.3/4, Error ellipse: s-maj=103.8km s-min=27.7km az=138.0*
*ISCJB **20** 05:29:10.7±1.1, 52°.4N±0°.1×179°.4E±0°.1, h150km, mb2.9/4, Error ellipse: s-maj=17.4km s-min=11.1km az=23.3*
*NEIC **20** 05:29:13.2±0.0, 52°.12N×179°.91W, h184km, ML2.6(AEIC), After AEIC.*
ISC 20 05:29:11.6±1.4, 52°.3N±0°.1×179°.4E±0°.1, h150km, n23, σ1s24/21, mb3.0/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.27**	**116**	P	**Pn**	**05 29 41.0**	**+2.2**
GALAA				S	**Sn**	**05 30 02.1**	**+2.7**
TASE	**Tanaga Southea**	**1.66**	**107**	P	**Pn**	**05 29 43.8**	**+1.0**
TAFP	**Tanaga Falls P**	**1.67**	**104**	P	**Pn**	**05 29 43.4**	**+0.5**
TAFP				S	**Sn**	**05 30 07.5**	**+0.5**
KICM	**Kanaga Island**	**2.14**	**100**	P	**Pn**	**05 29 48.8**	**+0.5**
KIMD	**Kanaga Island**	**2.15**	**104**	P	**Pn**	**05 29 48.2**	**-0.2**
KIMD				S	**Sn**	**05 30 16.1**	**-0.7**
ETKA	**Kagalaska Isla**	**2.63**	**99**	P	**Pn**	**05 29 53.9**	**-0.3**
GSTD	**Great Sitkin T**	**2.75**	**94**	P	**Pn**	**05 29 55.9**	**0.0**
GSTD				S	**Sn**	**05 30 28.6**	**-1.4**
GSMY	**Great Sitkin M**	**2.81**	**94**	P	**Pn**	**05 29 56.3**	**-0.2**
KOWE	**Korovin West**	**3.89**	**87**	P	**Pn**	**05 30 10.6**	**+0.3**
KOFP	**Korovin Flat P**	**3.99**	**88**	P	**Pn**	**05 30 11.6**	**0.0**
MSW	**Makushin Switc**	**8.46**	**74**	P	**Pn**	**05 31 12.7**	**+1.8**
MREP	**Makushin Rep't**	**8.47**	**74**	P	**Pn**	**05 31 12.6**	**+1.4**
UNV	**Unalaska Valle**	**8.62**	**74**	P	**Pn**	**05 31 14.5**	**+1.5**
ILAR	**Eielson Array**	**21.22**	**41**	P	**P**	**05 33 45.7**	**+0.5**
	0.1nm,0.4s,baz=233,slow=9.3,SNR=4.6						
H11N2	**WAKE ISLAND Hy**	**33.97**	**201**	T	T	06 09 57.4	
	baz=33,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**33.98**	**201**	T	T	06 09 59.3	
	baz=33,slow=76,SNR=29						
H11N1	**WAKE ISLAND Hy**	**33.99**	**201**	T	T	06 09 59.9	
	baz=33,slow=76,SNR=36						
H11S1	**WAKE ISLAND Hy**	**35.20**	**201**	T	T	06 11 23.0	
	baz=32,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy**	**35.22**	**201**	T	T	06 11 23.9	
	baz=32,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**35.22**	**201**	T	T	06 11 24.3	
	baz=32,slow=76,SNR=15						
YKA	**Yellowknife Ar**	**35.39**	**47**	P	**P**	**05 35 52.8**	**+0.4**
	0.1nm,0.3s,baz=285,slow=7.7,SNR=4.7						
PDAR	**Pinedale Array**	**47.07**	**72**	P	**P**	**05 37 26.9**	**-1.4**
	0.2nm,0.4s,baz=274,slow=2.5,SNR=3.9						
WRA	**Warramunga Arr**	**81.95**	**222**	P	**P**	**05 41 13.2**	**-1.2**
	0.5nm,0.6s,baz=32,slow=6.2,SNR=7.1						

TAP 20 06:05:52.9, 22°.65N×120°.85E, h9km, ML3.5, 11C-9D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECL	**Taimali**	**0.12**	**119**	⇑*i*	P	06 05 56.2	+0.6
	baz=118						
ECL				*i*	S	06 05 58.0	+0.6
	baz=118						
MASBT	**Mashibuluo**	**0.20**	**258**	⇑	P	06 05 57.4	+0.4
	baz=252						
MASBT					S	06 05 59.9	+0.1
	baz=252						
SSD	**Sandimen**	**0.22**	**295**	⇓*i*	P	06 05 57.7	+0.3
	baz=295						
SSD				*i*	S	06 06 00.5	+0.1
	baz=295						
TWG	**Pinlang**	**0.27**	**51**	⇑*i*	P	06 05 59.1	+0.8
	baz=53						
TWG					S	06 06 02.1	+0.2
	baz=53						
EAST	**Anshuo**	**0.27**	**179**	⇓*i*	P	06 05 58.9	+0.5
	baz=169						
EAST					S	06 06 02.4	+0.4
	baz=169						
TWGBT	**Beinan**	**0.27**	**53**	⇑	P	06 05 59.1	+0.7
	baz=53						
TWGBT					S	06 06 02.5	+0.4
	baz=53						
TTN	**Taitung**	**0.30**	**70**	P	**P**	06 06 00.4	0.0
	baz=70						
TAW	**Tawu**	**0.30**	**171**	⇓*i*	P	06 05 59.4	+0.6
	baz=161						
TAW				*i*	S	06 06 03.1	+0.3
	baz=161						
SSPT	**Xinbi**	**0.31**	**237**	⇑*i*	P	06 05 59.8	-0.8
	baz=232						
SSPT					S	06 06 04.6	-1.2
	baz=232						
SGLT	**Jiouru**	**0.34**	**282**	P	Pb	06 06 01.0	-0.1
	baz=282						
SGLT					S	06 06 06.4	-0.2
	baz=282						
SCZT	**Fangliau**	**0.35**	**217**	⇑*i*	P	06 06 00.1	+0.3
	baz=220						
SCZT				*i*	S	06 06 04.6	+0.2
	baz=220						
SLGT	**Liugui**	**0.39**	**332**	*e*	S	06 06 05.5	-0.2
	baz=335						
TWM1	**Shoushan**	**0.42**	**294**	*e*P	Pb	06 06 03.4	+0.7
	baz=293						
TWM1				*e*	S	06 06 10.7	+1.5
	baz=293						
SNJT	**Kaohsiung City**	**0.48**	**282**	*e*P	Pb	06 06 04.8	+1.1
	baz=282						
SGST	**Jiashian**	**0.49**	**331**	P	Pb	06 06 03.6	-0.2
	baz=334						
SGST					S	06 06 10.3	-0.8
	baz=334						
KAU	**Kaohsiung**	**0.50**	**260**	*e*P	Pn	06 06 06.0	-0.4
	baz=260						
STYT	**Tauyuan**	**0.51**	**351**	⇓P	Pg	06 06 03.4	+0.5
	baz=357						
STYT					S	06 06 10.2	+0.5
	baz=357						
WLCH	**Liuqiu**	**0.53**	**235**	*e*P	Pn	06 06 06.8	+0.2
	baz=229						
TWP	**Hsiaoliuchiu**	**0.54**	**236**	⇑*e*P	Pn	06 06 07.0	+0.1
	baz=229						
ELDTW	**Lidau**	**0.56**	**17**	⇑*i*P	Pg	06 06 04.2	+0.4
	baz=25						
ELDTW					S	06 06 11.5	+0.4
	baz=25						
CHN1	**Nanshi**	**0.60**	**331**	⇓*i*P	Pb	06 06 06.2	+0.5
	baz=334						
CHN1					S	06 06 16.3	-1.4
	baz=334						
WTP	**Ta-pu**	**0.63**	**340**	⇓*i*P	Pb	06 06 06.3	+0.2
	baz=346						
WTP					S	06 06 16.7	+1.6
	baz=346						
SNST	**Tainan City**	**0.65**	**330**	*e*P	Pb	06 06 07.2	+0.7
	baz=333						
SNST					S	06 06 18.6	-0.2
	baz=333						
HEN	**Hengchun**	**0.65**	**189**	*e*P	Pg	06 06 05.9	+0.4
	baz=189						
CHKT	**Chengkung**	**0.65**	**47**	*e*P	Pg	06 06 06.0	+0.4
	baz=62						
TPUB	**Ta-pu**	**0.67**	**343**	⇓P	Pb	06 06 07.2	+0.3
	baz=343						
TPUB					S	06 06 17.5	+1.1
	baz=343						
FULB	**Fuli**	**0.68**	**37**	⇑P	Pb	06 06 07.0	-0.1
	baz=28						
FULB					S	06 06 16.8	+0.1
	baz=28						
TWK	**Hsinying**	**0.69**	**332**	⇓*i*P	Pb	06 06 08.2	+0.8
	baz=332						
TWK					S	06 06 19.3	-0.7
	baz=332						
TWK1	**Hengchun**	**0.71**	**183**	*e*P	Pg	06 06 06.9	+0.3
	baz=184						
TWKBT	**Hengchun**	**0.71**	**182**	*e*P	Pb	06 06 07.1	-0.4
	baz=184						
CHN4	**Tsaushan**	**0.73**	**342**	⇓P	Pb	06 06 08.7	+0.8
	baz=341						
CHN4					S	06 06 20.5	-0.4
	baz=341						
TSEB	**Hengchuen, Pin**	**0.75**	**176**	*e*P	Pb	06 06 08.2	0.0
	baz=181						
TWF1	**Yuli**	**0.81**	**31**	⇑*i*P	Pg	06 06 08.6	0.0
	baz=26						
TWF1					S	06 06 18.3	-0.9
	baz=26						
YULB	**Yu-li**	**0.85**	**29**	⇑P	Pg	06 06 08.6	-0.7
	baz=30						
YULB					S	06 06 19.3	-1.0
	baz=30						
CHN8	**Yiju**	**0.90**	**320**	*e*P	Pb	06 06 11.4	+0.5
	baz=319						
CHN8					*e*S	Sn	06 06 27.2	+2.1
	baz=319						
CHY	**Chiayi**	**0.93**	**335**	*e*P	Pn	06 06 12.5	+0.3
	baz=335						
CHY					*e*S	Sn	06 06 27.7	+2.0
	baz=335						
CHN2	**Minshiung**	**0.94**	**339**	*e*P	Pn	06 06 13.2	+0.8
	baz=338						
CHN5	**Tsauling**	**0.95**	**351**	*e*P	Pn	06 06 12.6	-0.1
	baz=350						
CHN

LIOB	**Emei** baz=345	**1.99**	**4**	*e*P	Pb	06 06 28.2	-1.2
NDT	**Datong Townshi** baz=30	**2.04**	**17**	*e*P	Pg	06 06 31.8	-0.2
YHNB	**Yeheng** baz=14	**2.07**	**14**	*e*P	Pb	06 06 31.6	+0.9
NSK	**Sanguang** baz=14	**2.07**	**13**	*e*P	Pg	06 06 32.2	-0.4
TWC	**Suao** baz=27	**2.15**	**25**	*e*P	Pb	06 06 32.5	+0.3
NWLT	**Wulai** baz=359	**2.20**	**16**	*e*P	Pb	06 06 33.9	+1.0
TIPB	**Shuangxi** baz=34	**2.48**	**21**	*e*P	Pb	06 06 35.9	-1.8
VWUC	**VWUC** baz=331	**2.66**	**332**	*e*P	Pn	06 06 36.6	+0.6
YOJ	**Yonaguni jima** baz=59	**2.68**	**47**	*e*P	Pn	06 06 37.9	+1.5
KNMB	**Chin-men Tao** baz=308	**2.89**	**309**	*e*P	Pn	06 06 39.9	+0.7
AXDP	**Jialang** baz=309	**3.46**	**311**	*e*P	Pn	06 06 47.5	+0.6
MHZQ	**Yeshan** baz=335	**3.81**	**335**	*e*P	Pn	06 06 52.8	+1.0

*KRNET **20** 06:06:08.9±0.1, 39.°14N×72.°22E, mb3.5*
*NNC **20** 06:06:08.8±3.9, 39.°10N×71.°75E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=29.3km s-min=17.9km az=5.0*
ISC 20 06:06:07.5±2.4, 39.0N±0.1×72.15E±0.05, h10km, n29, σ2°22/50, 26C-15D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken** baz=11	**1.46**	**316**	⇑*i*P	**Pg**	**06 06 35.0**	**-0.6**
BTK				⇑*i*S	**Sn**	**06 06 54.0**	**+0.6**
ARSB	**Arslanbob** baz=15	**2.39**	**15**	⇓*i*P	**Pn**	**06 06 47.7**	**+0.9**
ARSB				⇓*i*S	**Sn**	**06 07 16.2**	**-0.1**
ARK	**Arkit** baz=56	**2.78**	**357**	⇓*i*P	**Pn**	**06 06 53.1**	**+0.9**
ARK				⇓*i*S	**Sn**	**06 07 25.4**	**-0.5**
ARLS	**Aral** baz=30	**3.29**	**30**	⇓*i*P	**Pn**	**06 07 00.4**	**+1.2**
ARLS				⇓*i*S	**Sn**	**06 07 37.8**	**-0.6**
AML	**Almayashu** SNR=55	**3.32**	**20**	P	**Pn**	**06 07 02.0**	**+2.1**
AML	**Almayashu** baz=20	**3.32**	**20**	⇑*e*P	**Pn**	**06 07 01.1**	**+1.2**
AML				⇑*i*S	**Sn**	**06 07 39.3**	**-0.3**
UCH	**Uchtor** SNR=13	**3.67**	**29**	P	**Pn**	**06 07 06.5**	**+1.7**
UCH	**Uchtor** baz=29	**3.67**	**29**	⇑*i*P	**Pn**	**06 07 05.8**	**+1.0**
UCH				⇑*i*S	**Sn**	**06 07 47.6**	**-0.8**
NRN	**Naryn** baz=50	**3.81**	**49**	⇑*i*P	**Pn**	**06 07 07.6**	**+1.1**
NRN				⇑*i*S	**Sn**	**06 07 50.4**	**-1.1**
EKS2	**Erkin-Say** SNR=11	**3.84**	**18**	P	**Pn**	**06 07 10.4**	**+3.6**
EKS2	**Erkin-Say** baz=18	**3.84**	**18**	⇓*i*P	**Pn**	**06 07 08.3**	**+1.5**
EKS2				⇓*i*S	**Sn**	**06 07 51.3**	**-0.8**
KZA	**Kyzart** SNR=8.5	**3.86**	**37**	P	**Pb**	**06 07 14.9**	**-1.0**
KZA	**Kyzart** baz=37	**3.86**	**37**	⇑*i*P	**Pn**	**06 07 08.6**	**+1.3**
KZA				⇑*i*S	**Sn**	**06 07 52.1**	**-0.8**
AAK	**Ala-Archa** SNR=10	**4.03**	**25**	P	**Pn**	**06 07 12.2**	**+2.8**
AAK	**Ala-Archa** 14nm,0.5s	**4.03**	**25**	⇓Pn	**Pn**	**06 07 11.8**	**+2.4**
AAK				⇓Sn	**Sn**	**06 08 02.2**	**+5.5**
AAK	**Ala-Archa** 27nm,0.7s baz=26	**4.03**	**25**	⇓*i*P	**Pn**	**06 07 11.0**	**+1.6**
AAK				⇓*i*S	**Sn**	**06 07 56.0**	**-0.7**
KBK	**Karagaybulak** baz=30	**4.21**	**29**	⇑*i*P	**Pn**	**06 07 13.4**	**+1.5**
KBK				⇑*i*S	**Sn**	**06 08 00.4**	**-0.7**
KK31	**Karatay Array** 2.0nm,0.3s,baz=148,slow=12,SNR=60	**4.26**	**344**	⇓Pn	**Pn**	**06 07 15.2**	**+2.6**
KK31				⇑Pg	**Pb**	**06 07 23.9**	**+1.3**
KK31	4.3nm,0.4s,baz=166,slow=15,SNR=6.5			⇓Sn	**Sn**	**06 08 02.0**	**-0.3**
KK31	4.6nm,0.3s,baz=153,slow=24,SNR=4.1			⇑Lg	Lg	06 08 17.7	
CHMS	**Chumysh** SNR=6.2	**4.43**	**25**	P	**Pn**	**06 07 17.7**	**+2.8**
CHMS	**Chumysh** baz=26	**4.43**	**25**	⇑*e*P	**Pn**	**06 07 16.6**	**+1.7**
CHMS				⇑*i*S	**Sn**	**06 08 05.2**	**-1.4**
ULHL	**Ulahol** SNR=7.6	**4.48**	**43**	P	**Pn**	**06 07 17.7**	**+2.1**
ULHL	**Ulahol** baz=43	**4.48**	**43**	⇑*i*P	**Pn**	**06 07 17.2**	**+1.6**
ULHL				⇑*i*S	**Sn**	**06 08 06.7**	**-1.2**
BOOM	**Boomskoye usch** baz=39	**4.50**	**38**	⇑*i*P	**Pn**	**06 07 18.1**	**+2.1**
BOOM				⇑*i*S	**Sn**	**06 08 07.1**	**-1.4**
USP	**Ospenovka** SNR=12	**4.60**	**22**	P	**Pn**	**06 07 19.6**	**+2.5**
USP	**Ospenovka** baz=22	**4.60**	**22**	⇑*i*P	**Pn**	**06 07 18.2**	**+1.1**
USP				⇑*i*S	**Sn**	**06 08 09.1**	**-1.5**
TKM2	**Tokmak 2** SNR=5.6	**4.69**	**33**	P	**Pn**	**06 07 20.1**	**+1.6**
TKM2	**Tokmak 2** 5.6nm,0.7s	**4.69**	**33**	⇓Pn	**Pn**	**06 07 20.4**	**+1.9**
TKM2	11nm,0.6s			⇑Sn	**Sn**	**06 08 21.8**	**+8.7**
TKM2	**Tokmak 2** baz=33	**4.69**	**33**	⇑*i*P	**Pn**	**06 07 19.8**	**+1.3**
TKM2				⇑*i*S	**Sn**	**06 08 11.4**	**-1.7**
AB31	**Akbulak array** 0.8nm,0.5s,baz=120,slow=11,SNR=25	**13.46**	**323**	Pn	**Pn**	**06 09 17.4**	**-1.0**
AB31	0.6nm,0.6s,baz=136,slow=24,SNR=5.2			⇑Sn	**Sn**	**06 11 44.7**	**-3.2**

IDC 20 06:27:09.8±8.0, 18.°12S×168.°32E, h69km±77km, mb3.4/3, mb1 3.6/4, mb1mx3.4/22, mbtmp3.7/4, ML4.0/1, Error ellipse: s-maj=68.7km s-min=48.2km az=147.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 8.5nm,0.3s,baz=66,slow=7.4,SNR=124	**4.31**	**204**	P	Pn	06 28 13.2	+0.2
DZM	12nm,0.3s,baz=171,slow=23,SNR=13			S	Sn	06 29 02.5	+0.4
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=82,slow=5.9,SNR=7.0	**32.15**	**261**	P	P	06 33 30.9	-0.2
ASAR	**Alice Springs** 0.6nm,0.6s,baz=81,slow=8.8,SNR=6.7	**32.57**	**254**	P	P	06 33 35.0	+0.2
SONM	**Songino Array** 0.9nm,0.9s,baz=132,slow=4.2,SNR=5.6	**85.81**	**323**	P	P	06 39 41.9	+0.1
ARCES	**ARCESS Array B** 3.8nm,1.0s,baz=64,slow=2.8,SNR=4.0	**123.77**	**345**	PKP	PKPdf	06 45 58.7	-0.4

*NEIC **20** 06:53:08.3±0.7, 6.°24S×130.°86E, h10km, mb4.1/2, Error ellipse: s-maj=16.2km s-min=8.8km az=84.0*
*ISCJB **20** 06:53:15.6±0.5, 6.°67S±0.°04×130.°84E±0.°07, h100km, mb4.1/2, Error ellipse: s-maj=9.4km s-min=5.3km az=168.5*
*IDC **20** 06:53:15.9±2.7, 6.°60S×130.°73E, h72km±36km, mb4.2/1, mb1 4.5/5, mb1mx3.6/35, mbtmp4.6/5, ML4.3/4, Error ellipse: s-maj=81.8km s-min=22.8km az=89.0*
ISC 20 06:53:15.3±0.8, 6.°60S±0.°05×130.°84E±0.°07, h100km, n19, σ3°55/30, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.45**	**162**	*e*Pn	**Pn**	**06 53 39.6**	**-1.4**
SAUI				*e*Sn	**Sn**	**06 53 59.2**	**-1.2**
FAKI	**Fak Fak**	**3.92**	**21**	*e*Pg	**Pn**	**06 54 15.3**	**+1.9**
FAKI				*e*Sn	**Sn**	**06 54 53.6**	**-4.8**
SIJI	**Sorong** 40nm,0.3s,baz=43,slow=12,SNR=71	**5.71**	**4**	P	**Pn**	**06 54 38.6**	**+0.9**
SIJI	8.7nm,0.3s,baz=273,slow=23,SNR=3.3			S	**Sn**	**06 55 36.5**	**-5.4**
MTN	**Manton Dam**	**6.21**	**177**	*e*Pn	**Pn**	**06 54 49.3**	**+4.7**
MTN				*e*Sn	**Sn**	**06 55 57.1**	**+2.9**
SOEI	**Soe**	**7.22**	**244**	*e*Pn	**Pn**	**06 56 56.0**	**-2.3**
SOEI				*e*Sn	**Sn**	**06 56 20.0**	**+1.1**
FITZ	**Fitzroy Crossi**	**12.51**	**203**	*e*Pn	**Pn**	**06 56 09.8**	**+0.1**
FITZ				*e*Sn	**Sn**	**06 58 20.0**	**-7.3**
FITZ	**Fitzroy Crossi** 3.6nm,0.3s,baz=26,slow=9.5,SNR=79	**12.51**	**203**	P	**Pn**	**06 56 10.1**	**+0.4**
FITZ	1.3nm,0.3s,baz=75,slow=17,SNR=6.4			S	**Sn**	**06 58 20.0**	**-7.3**
WRAB	**Tennant Creek**	**13.69**	**166**	*e*Pn	**Pn**	**06 56 27.4**	**+2.1**
WRAB				*e*Sn	**Sn**	**06 58 53.5**	**-2.5**
WR1	**Warramunga Arr**	**13.70**	**166**	*e*Pn	**Pn**	**06 56 26.0**	**+0.6**
WR1				*e*Sn	**Sn**	**06 58 52.6**	**-3.6**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=351,slow=13,SNR=75	**13.70**	**166**	P	**Pn**	**06 56 26.0**	**+0.6**
WRA	1.4nm,0.3s,baz=342,slow=22,SNR=7.5			S	**Sn**	**06 58 52.6**	**-3.6**
WC3	**Warramunga Arr**	**13.72**	**166**	*e*Pn	**Pn**	**06 56 26.6**	**+1.0**
COEN	**Coen**	**14.17**	**122**	*e*Pn	**Pn**	**06 56 33.3**	**+1.9**
COEN				*e*Sn	**Sn**	**06 59 02.6**	**-5.0**
AS31	**Alice Springs** 3.3nm,0.4s	**17.23**	**170**	*e*Pn	**P**	**06 57 12.7**	**+2.9**
ASAR	**Alice Springs** 1.6nm,0.3s,baz=341,slow=8.5,SNR=63	**17.23**	**170**	P	**Pn**	**06 57 13.7**	**+3.9**
AS01	**Alice Springs**	**17.23**	**170**	*e*Pn	**Pn**	**06 57 13.5**	**+3.7**
MK01	**Makanchi Array**	**68.39**	**326**	*e*P	**P**	**07 04 08.3**	**+2.5**
MK31	**Makanchi Array** 1.4nm,0.6s	**68.35**	**326**	*e*P	**P**	**07 04 08.4**	**+2.5**
MK32	**Makanchi Array**	**68.35**	**326**	*e*P	**P**	**07 04 09.2**	**+3.3**
MKAR	**Makanchi Array** 1.8nm,0.4s,baz=121,slow=8.1,SNR=27	**68.35**	**326**	P	**P**	**07 04 09.2**	**+3.3**

*MAN **20** 07:00:06.5, 5.°69N×126.°14E, h105km, MS3.1*
*ISCJB **20** 07:00:07.3±0.9, 5.°84N±0.°08×126.°1E±0.°1, h126km±8km, mb3.8/8, Error ellipse: s-maj=22.3km s-min=12.1km az=166.8*
*IDC **20** 07:00:08.6±1.4, 5.°89N×126.°22E, h121km±10km, mb3.5/8, mb1 3.6/8, mb1mx3.3/49, mbtmp3.9/8, Error ellipse: s-maj=80.8km s-min=12.5km az=69.0*
ISC 20 07:00:07.1±1.1, 5.°77N±0.°08×126.°2E±0.°1, h103km±9km, n16, σ1°43/22, mb3.9/8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.60**	**304**	*e*P	**Pn**	**07 00 22.7**	**-1.3**
DDMP				*e*S	**Sn**	**07 00 34.8**	**-1.9**
GSPH	**General Santos**	**1.30**	**284**	*e*P	**Pn**	**07 00 33.6**	**+2.3**
DAV	**Davao City (W)** 73nm,0.3s,baz=228,slow=14,SNR=4.5	**1.44**	**334**	P	**Pn**	**07 00 32.4**	**-0.4**
DAV	137nm,0.3s,baz=277,slow=22,SNR=4.2			S	**Sn**	**07 00 54.3**	**+2.0**
DMPH	**Davao City--Mi**	**1.48**	**332**	⇑*i*P	**Pn**	**07 00 34.3**	**+0.9**
DMPH				*i* S	**Sn**	**07 00 54.3**	**+1.1**
KCP	**Kidapawan**	**1.66**	**318**	⇓*i*P	**Pn**	**07 00 35.7**	**0.0**
KCP				*i* S	**Sn**	**07 01 00.2**	**+2.9**
SKMP	**Bagumbayan, Su**	**1.82**	**294**	*e*P	**Pn**	**07 00 36.6**	**-1.0**
SKMP				*e*S	**Sn**	**07 01 00.5**	**-0.3**
BUKP	**Musuan**	**2.39**	**331**	*e*P	**Pn**	**07 00 45.9**	**+0.9**
BUKP				*e*S	**Sn**	**07 01 14.4**	**+0.5**
PAGZ	**Pagadian**	**3.49**	**306**	*e*P	**Pn**	**07 00 59.8**	**+0.2**
FITZ	**Fitzroy Crossi** 1.0nm,0.5s,baz=11,slow=10,SNR=7.0	**23.72**	**181**	P	**P**	**07 05 10.8**	**+0.9**
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=344,slow=10,SNR=12	**26.77**	**163**	P	**P**	**07 05 38.1**	**+0.5**
ASAR	**Alice Springs** 1.1nm,0.6s,baz=344,slow=7.1,SNR=16	**30.20**	**166**	P	**P**	**07 06 08.6**	**+0.5**
STKA	**Stephens Creek** 1.3nm,0.4s,baz=350,slow=11,SNR=3.8	**40.21**	**160**	P	**P**	**07 07 35.0**	**+1.3**
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=114,slow=8.3,SNR=8.9	**55.60**	**325**	P	**P**	**07 09 30.7**	**-1.6**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=125,slow=6.2,SNR=8.9	**59.76**	**327**	P	**P**	**07 09 59.8**	**-1.4**
NRIK	**Noril'sk** 1.0nm,0.4s,baz=133,slow=8.6,SNR=3.6	**68.34**	**346**	P	**P**	**07 10 56.6**	**-0.4**
AKTO	**Aktyubinsk** 0.6nm,0.3s,baz=86,slow=10,SNR=4.9	**71.75**	**321**	P	**P**	**07 11 17.0**	**-1.3**

IDC 20 07:01:29.4±7.9, 5.°02S×110.°41W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/19, Error ellipse: s-maj=291.8km s-min=172.2km az=91.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz** comp=Z,51nm,21.0s,baz=178,slow=28	**28.95**	**0**	LR	LR	07 15 09.9	
NVAR	**Mina Array Bea** 0.8nm,0.8s,baz=184,slow=8.0,SNR=4.4	**43.85**	**351**	P	P	07 09 37.6	-0.1
YKA	**Yellowknife Ar** 0.7nm,0.9s,baz=171,slow=5.8,SNR=6.0	**67.40**	**358**	P	P	07 12 25.8	-0.6
ILAR	**Eielson Array** 0.3nm,0.8s,baz=158,slow=5.2,SNR=3.7	**74.65**	**345**	P	P	07 13 09.7	-0.7
INK	**Inuvik** 2.6nm,1.0s,baz=154,slow=6.1,SNR=6.0	**74.94**	**351**	P	P	07 13 13.3	+1.4

*IDC **20** 07:07:17.3±1.3, 1.°07N×96.°58E, h0km, mb4.3/13, mb1 4.3/15, mb1mx4.0/55, mbtmp4.3/15, ML3.9/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/40, Error ellipse: s-maj=37.2km s-min=16.2km az=58.0*
*ISCJB **20** 07:07:19.8±1.8, 1.°14N±0.°05×96.°69E±0.°07, h27km±12km, mb4.3/19, MS3.5/2, Error ellipse: s-maj=12.6km s-min=4.6km az=148.5*
*NEIC **20** 07:07:19.3±0.4, 1.°14N×96.°67E, h10km, mb4.4/6, Error ellipse: s-maj=8.7km s-min=5.2km az=221.0*
*DJA **20** 07:07:21.0±0.6, 1.°1N±4.°×9.°7E±.°, h40km±39km, M4.4/10, mb5.1/2, mB4.6/1, MLv4.1/10, Mw(mB)3.8/1*
*KLM **20** 07:07:21.0, 1.°13N×96.°69E, h13km, mb4.4*
ISC 20 07:07:20.4±2.2, 1.°16N±0.°05×96.°69E±0.°06, h17km±13km, n64, σ0°96/62, mb4.3/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.90**	**81**	*e*Pn	**Pn**	**07 07 38.1**	**-0.1**
GSI				*e*Sn	**Sb**	**07 07 44.8**	**-4.3**
GSI	**Gunungsitoli**	**0.90**	**81**	P	**Pg**	**07 07 37.8**	**-0.1**
GSI				S	**Sb**	**07 07 49.1**	**-0.1**
SNSI	**Sinabang, Aceh**	**1.30**	**344**	P	**Pn**	**07 07 42.3**	**-1.5**
SNSI				S	**Sn**	**07 07 59.7**	**-1.0**
PBSI	**Pulau Batu**	**1.99**	**127**	P	**Pn**	**07 07 52.9**	**-0.4**
PBSI				S	**Sn**	**07 08 16.6**	**-1.3**
TPTI		**2.15**	**13**	P	**Pn**	**07 07 53.7**	**-1.7**
TPTI				S	**Sn**	**07 08 20.7**	**-1.0**
KCSI	**Kotacane, Aceh**	**2.58**	**25**	P	**Pn**	**07 08 01.2**	**-0.3**
PSI	**Prapat**	**2.76**	**54**	*e*Pn	**Pn**	**07 08 03.4**	**-0.7**
PSI	**Prapat** 4.1nm,0.3s,baz=182,slow=2.1,SNR=23	**2.76**	**54**	Pn	**Pn**	**07 08 03.7**	**-0.4**
PSI	comp=Z,301nm,20.0s,baz=268,slow=41			LR	LR	07 09 13.5	
MNSI	**Mandailing Nat**	**2.91**	**97**	P	**Pn**	**07 08 06.3**	**+0.4**
MLSI	**Meulaboh, Aceh**	**3.10**	**355**	P	**Pn**	**07 08 07.7**	**-0.9**
MLSI				S	**Sn**	**07 08 45.5**	**+0.2**
SISI	**Saibi**	**3.44**	**136**	P	**Pn**	**07 08 12.5**	**-0.7**
PPI	**Padang Panjang**	**4.04**	**113**	P	**Pn**	**07 08 21.1**	**-0.4**
PPI				S	**Sn**	**07 09 06.7**	**-1.7**
LHMI	**Lhok Sumawe**	**4.05**	**4**	P	**Pn**	**07 08 21.3**	**-0.4**
BKNI	**Bangkinang**	**4.42**	**101**	*e*Pn	**Pn**	**07 08 27.9**	**+1.1**
FRIM	**Kepong**	**5.34**	**67**	P	**Pn**	**07 08 40.3**	**+0.8**
IPM	**Ipoh**	**5.44**	**53**	*e*Pn	**Pn**	**07 08 40.4**	**-0.4**
IPM	**Ipoh**	**5.44**	**53**	P	**Pn**	**07 08 42.0**	**+1.1**
KULM	**Kulim**	**5.70**	**44**	*e*Pn	**Pn**	**07 08 42.8**	**-1.6**
KULM	**Kulim**	**5.70**	**44**	P	**Pn**	**07 08 44.8**	**+0.4**
KGM	**Kluang**	**6.68**	**83**	P	**Pn**	**07 08 59.0**	**+1.1**
MYKOM	**Kota Tinggi**	**7.18**	**85**	*e*Pn	**Pn**	**07 09 05.2**	**+0.4**
MYKOM	**Kota Tinggi**	**7.18**	**85**	P	**Pn**	**07 09 06.4**	**+1.7**
TRTT	**Trang**	**7.28**	**24**	P	Pn	07 09 14.8	+8.8
KTGM	**Kuala Trenggan**	**7.65**	**57**	P	**Pn**	**07 09 12.6**	**+1.5**
MDSI	**Maura Dua** 18nm,0.7s,309nm	**9.35**	**127**	P	**Pn**	**07 09 34.2**	**-0.2**
KSM	**Kuching**	**13.62**	**89**	P	**Pn**	**07 10 33.8**	**+0.9**
SBUM	**Sibu**	**15.57**	**85**	P	**Pn**	**07 10 60.0**	**+0.6**
PBKT	**Sadao Pong** 4.6nm,0.4s,1µm	**15.88**	**15**	P	**P**	**07 11 07.5**	**+0.6**
CM31	**Chiang Mai Arr** 6.7nm,0.6s	**17.34**	**7**	*e*Pn	**Pn**	**07 11 21.2**	**-0.5**
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=197,slow=12,SNR=10	**17.34**	**7**	P	**P**	**07 11 23.7**	**+0.6**
CMAR	comp=Z,28nm,18.4s,baz=185,slow=39			LR	LR	07 18 37.6	
SDKM	**Sandakan**	**20.94**	**77**	P	**P**	**07 12 03.8**	**+1.1**
SHL	**Shillong** 17nm,0.5s	**24.71**	**350**	*e*P	**P**	**07 12 40.5**	**-0.5**
H08S2	**Diego Garcia H** baz=70,slow=75,SNR=624	**25.67**	**250**	T	T	07 39 25.9	
H08S3	**Diego Garcia H** baz=70,slow=75,SNR=284	**25.68**	**250**	T	T	07 39 39.1	
H08S1	**Diego Garcia H** baz=70,slow=75,SNR=307	**25.69**	**250**	T	T	07 39 35.4	
TGY	**Tagaytay City** comp=Z,153nm,18.9s,baz=350,slow=40	**27.21**	**61**	LR	LR	07 25 25.3	
FITZ	**Fitzroy Crossi** 2.2nm,0.7s,baz=333,slow=5.2,SNR=8.1	**34.31**	**125**	P	**P**	**07 14 06.2**	**-0.2**
GTA	**Gaotai**	**38.18**	**4**	*e*P	**P**	**07 14 40.3**	**+1.0**
GTA				pP	pP	07 14 44.3	+0.7
GTA				sP	pwP	07 14 47.6	-0.2
GTA	comp=Z,6.0nm,0.9s			pmax	pmax		
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=73	**39.40**	**157**	T	T	07 56 46.0	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=89	**39.41**	**157**	T	T	07 56 36.1	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=68	**39.41**	**157**	T	T	07 56 44.4	
WRA	**Warramunga Arr** comp=Z,2.7nm,0.7s,baz=301,slow=9.1,SNR=59	**42.44**	**122**	P	**P**	**07 15 14.6**	**-0.2**
WR1	**Warramunga Arr** comp=Z,5.0nm,0.6s	**42.44**	**122**	*e*P	**P**	**07 15 14.6**	**-0.2**
WB2	**Warramunga Arr**	**42.45**	**122**	*e*P	**P**	**07 15 14.8**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.6nm,0.6s,baz=303,slow=8.4,SNR=12	**43.77**	**127**	P	**P**	**07 15 25.6**	**+0.1**
AAK	**Ala-Archa** comp=Z,2.6nm,0.8s	**45.84**	**337**	*e*P	P	07 15 47.2	+5.3
KSAR	**Wonju Array Be**	**46.14**	**35**	P	**P**	**07 15 44.6**	**+0.5**
KSRS	**Korea Array** comp=Z,2.2nm,0.8s,baz=216,slow=8.3,SNR=5.5	**46.17**	**35**	P	**P**	**07 15 44.6**	**+0.3**
MK01	**Makanchi Array**	**47.14**	**347**	*e*P	**P**	**07 15 52.3**	**+0.5**
MK31	**Makanchi Array** comp=Z,2.7nm,0.7s	**47.16**	**347**	*e*P	**P**	**07 15 52.7**	**+0.7**
MK32	**Makanchi Array**	**47.16**	**347**	*e*P	**P**	**07 15 52.2**	**+0.3**
MKAR	**Makanchi Array** comp=Z,3.1nm,0.6s,baz=156,slow=7.4,SNR=10	**47.16**	**347**	P	**P**	**07 15 52.3**	**+0.3**
SONA0	**Songino Array**	**47.25**	**9**	*e*P	**P**	**07 15 52.9**	**+0.2**
SONM	**Songino Array** comp=Z,1.0nm,0.4s,baz=191,slow=8.7,SNR=8.5	**47.25**	**9**	P	**P**	**07 15 52.9**	**+0.2**
USRK	**Usuriysk Ar.** comp=Z,4.2nm,0.7s,baz=226,slow=7.3,SNR=10	**53.07**	**31**	P	**P**	**07 16 37.5**	**+0.7**
USRK	comp=Z,47nm,21.1s,baz=199,slow=37			LR	LR	07 39 57.0	
ZALV	**Zalesovo Beam** comp=Z,10nm,0.4s,baz=181,slow=7.0,SNR=31	**53.52**	**351**	P	**P**	**07 16 40.3**	**+0.4**
ZAA1	**Zalesovo Array**	**53.53**	**351**	*e*P	**P**	**07 16 40.3**	**+0.3**
BVAR	**Borovoye Array** comp=Z,1.9nm,0.7s,baz=142,slow=7.5,SNR=8.7	**56.13**	**341**	P	**P**	**07 16 58.5**	**-0.3**
KLR	**Kul'dur** comp=Z,2.1nm,0.6s,baz=239,slow=6.1,SNR=8.9	**56.52**	**27**	P	**P**	**07 17 02.4**	**+0.6**
ABKAR	**Akbulak array** comp=Z,2.4nm,0.8s	**57.31**	**332**	*e*P	**P**	**07 17 07.0**	**-0.4**
TIXI	**Tiksi** comp=Z,2.2nm,0.3s,baz=284,slow=2.5,SNR=3.4	**73.32**	**10**	P	**P**	**07 18 50.3**	**-0.3**
SEY	**Seymchan** comp=Z,1.4nm,0.5s,baz=232,slow=7.0,SNR=5.8	**74.00**	**23**	P	**P**	**07 18 54.8**	**-0.1**
ARA0	**ARCESS Array S**	**82.41**	**340**	*e*P	**P**	**07 19 41.2**	**-0.1**
ARCES	**ARCESS Array B** comp=Z,4.4nm,1.0s,baz=72,slow=4.0,SNR=6.0	**82.41**	**340**	P	**P**	**07 19 41.3**	**-0.1**

MAN 20 07:08:11.3, 7.°92N×126.°73E, h39km, MS3.6, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.46**	**306**	⇑*i*P	Pn	07 08 24.4	+3.0
BIPH				*i* S	Sn	07 08 33.1	+4.6
DMPH	**Davao City--Mi**	**1.47**	**236**	⇑*i*P	Pn	07 08 36.7	+1.4
DMPH				*i* S	Sn	07 08 55.9	+2.6
BUTP	**Butuan**	**1.52**	**314**	*e*P	Pn	07 08 37.5	+1.5
BUTP				*e*S	Sn	07 08 58.0	+3.5
BUKP	**Musuan**	**1.66**	**269**	*e*P	Pn	07 08 38.7	+0.8
BUKP				*e*S	Sn	07 08 59.5	+1.5
KCP	**Kidapawan**	**1.86**	**241**	⇓*i*P	Pn	07 08 40.7	-0.1
KCP				*i* S	Sn	07 09 04.6	+1.5
DDMP	**Don Marcelino,**	**2.07**	**209**	*e*P	Pn	07 08 43.8	+0.3
CGP	**Cagayan de Oro**	**2.09**	**285**	⇓*e*P	Pn	07 08 45.2	+1.4
CGP				*e*S	Sn	07 09 09.1	+0.5
CTBH	**Cotabato--PC H**	**2.56**	**255**	⇓*i*P	Pn	07 08 50.1	-0.2
CTBH				*i* S	Sn	07 09 18.4	-1.8
PAGZ	**Pagadian**	**3.32**	**269**	*e*P	Pn	07 09 01.1	+0.3

*NNC **20** 07:14:43.3±10.0, 51.°21N×82.°64E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=111.9km s-min=44.9km az=23.0, Suspected Mining explosion.*
IDC 20 07:14:50.0±1.5, 51.°34N×81.°85E, h0km, mb1 2.5/1, mb1mx2.4/53, mbtmp2.5/1, ML2.4/1, 6C-2D, Error ellipse: s-maj=15.2km s-min=12.5km az=139.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov** 0.9nm,0.3s	**2.13**	**254**	⇑Pn	Pn	07 15 27.8	+1.0
KURK	3.3nm,0.4s			⇑Sn	Sg	07 15 58.3	-0.1
KURBB	**Kurchatov Arra** 1.7nm,0.4s	**2.21**	**252**	⇓Pn	Pb	07 15 29.9	-1.0
KURBB	19nm,0.8s			⇑Sn	Sg	07 16 00.1	-1.1
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=71,slow=18,SNR=5.8	**2.21**	**252**	Pg	Pb	07 15 29.6	-1.4
KURBB	0.2nm,0.3s,baz=72,slow=33,SNR=5.4			Lg	Lg	07 16 00.7	
I46RU	**ZALESOVO INFRA** baz=213,slow=343,SNR=8.7	**3.18**	**34**	*i*		07 32 30.0	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=215,slow=16,SNR=4.1	**3.18**

PET	**Petropavlovsk**	**2.31**	**16**	*e*P	Pn	07 21 19.4	+2.2
PET				*e*S	Sn	07 21 47.2	+1.3
DALK	**Dalny**	**2.33**	**17**	*e*P	Pn	07 21 19.5	+2.0
DALK				*e*S	Sn	07 21 47.2	+0.7
UGLR	**Uglovaya**	**2.52**	**17**	*e*P	Pn	07 21 22.8	+2.9
AVH	**Avacha**	**2.55**	**15**	*e*P	Pn	07 21 23.3	+2.9
AVH				*e*S	Sn	07 21 54.0	+2.3
SMAR	**Somma**	**2.56**	**16**	*e*P	Pn	07 21 23.2	+2.5
KOK	**Koryaka**	**2.56**	**14**	*e*P	Pn	07 21 23.5	+2.9
KOK				*e*S	Sn	07 21 53.6	+1.7
SDLR	**Sedlovina**	**2.59**	**17**	*e*P	Pn	07 21 23.2	+2.3
SDLR				*e*S	Sn	07 21 53.0	+0.4
KRER	**Koryakskii**	**2.59**	**15**	*e*P	Pn	07 21 23.5	+2.5
KRER				*e*S	Sn	07 21 54.1	+1.3
KRX	**Arik**	**2.63**	**13**	*e*P	Pn	07 21 24.1	+2.6
SPN	**Mys Shipunski**	**2.73**	**32**	S	Sn	07 21 57.0	+1.4
GNL	**Ganaly**	**2.90**	**4**	*e*P	Pn	07 21 26.1	+1.2
MKZ	**Mys Kozlova**	**4.51**	**32**	S	Sn	07 22 36.6	-0.9
KBTR	**Krutoberegovo**	**6.23**	**28**	P	Pn	07 22 10.7	+1.5
BKI	**Bering**	**6.69**	**46**	S	Sn	07 23 27.3	-2.7

IDC ***20*** *07:21:59.8±1.0,24.˚59N×122.˚52E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/39,mbtmp3.8/7,MS3.3/11, Ms1 3.3/11,ms1mx3.1/46,Error ellipse: s-maj=55.4km s-min=18.9km az=65.0*

JMA ***20*** *07:22:00.6±0.1,24.˚41N×121.˚96E,h11km,M4.3*

ISCJB ***20*** *07:22:00.0±0.3,24.˚44N±0.˚01×122.˚02E±0.˚01,h4km±2km, mb3.8/9,MS3.3/9,Error ellipse: s-maj=1.9km s-min=1.6km az=140.9*

NIED ***20*** *07:22:00,24.˚40N×122.˚00E,h5km,Mw4.2 Best double couple: M₀2.16000×10¹⁵ NP1:φs13.00000°,δ70.00000°, λ-164.00000°. NP2:φs278.00000°,δ75.00000°, λ-20.00000°.*

TAP ***20*** *07:22:00.8,24.˚45N×121.˚95E,h12km,ML4.6,B*

ASIES ***20*** *07:22:01.6,24.˚45N×121.˚88E,h24km,MW3.8*

NEIC ***20*** *07:22:01.4±0.5,24.˚38N×121.˚99E,h10km,mb4.2/2, Error ellipse: s-maj=7.4km s-min=6.7km az=100.0*

BJI ***20*** *07:22:02.3,24.˚57N×121.˚94E,h14km,mb4.3/6,mB4.3/5, ML4.2/8,Ms3.9/11,Ms7 3.9/6*

ISC 20 07:22:01.2±0.8,24.˚45N±0.˚01×121.˚98E±0.˚02,h11km±5km, n163,σ1$00/234,mb3.9/9,MS3.5/9,33C-31D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
EOS1	**EOS1**	**0.17**	**53**	⇓P		**Pg**		**07 22 05.3**	**+0.4**
	baz=53								
EOS1				S		**Sg**		**07 22 09.1**	**+1.5**
	baz=53								
TWC	**Suao**	**0.20**	**325**	⇑*i*P		**Pg**		**07 22 05.0**	**-0.4**
	baz=339								
TWC				*i* S		**Sg**		**07 22 07.5**	**-0.9**
	baz=339								
ENA	**Nanau**	**0.21**	**266**	⇓*i*P		**Pg**		**07 22 05.2**	**-0.5**
	baz=268								
ENA				*i* S		**Sg**		**07 22 08.0**	**-0.8**
	baz=268								
ILA	**Ilan**	**0.38**	**327**	⇑*i*P		**Pg**		**07 22 08.8**	**+0.1**
	baz=330								
ILA				*e*S		**Sg**		**07 22 14.4**	**+0.5**
	baz=330								
TWE	**Neicheng**	**0.39**	**314**	⇑*i*P		**Pg**		**07 22 08.7**	**-0.3**
	baz=321								
TWE				S		**Sg**		**07 22 13.5**	**-0.7**
	baz=321								
EGS		**0.40**	**354**	⇑*i*P		**Pg**		**07 22 09.0**	**-0.1**
	baz=351								
EGS				*e*S		**Sg**		**07 22 14.1**	**-0.4**
	baz=351								
ENTT	**Nioudou**	**0.42**	**298**	⇑*i*P		**Pg**		**07 22 09.2**	**-0.3**
	baz=298								
ENTT				S		**Sg**		**07 22 14.4**	**-0.7**
	baz=298								
NTC	**Toucheng**	**0.43**	**342**	⇑P		**Pg**		**07 22 09.4**	**-0.2**
	baz=344								
NTC				*e*S		**Sg**		**07 22 15.2**	**-0.2**
	baz=344								
NACB	**Ninganchiao**	**0.44**	**232**	*e*Pg		**Pg**		**07 22 09.2**	**-0.6**
NACB				*e*Sg		**Sg**		**07 22 14.5**	**-1.1**
NACB	**Ninganchiao**	**0.44**	**232**	⇓P		**Pg**		**07 22 09.2**	**-0.6**
	baz=230								
NACB				S		**Sg**		**07 22 15.3**	**-0.3**
	baz=230								
NDT	**Datong Townshi**	**0.45**	**291**	⇑P		**Pg**		**07 22 09.8**	**-0.2**
	baz=291								
NDT				S		**Sg**		**07 22 15.3**	**-0.7**
	baz=291								
TWD	**Chiawan**	**0.50**	**224**	⇓*i*P		**Pg**		**07 22 10.5**	**-0.5**
	baz=221								
TWD				S		**Sg**		**07 22 17.4**	**-0.3**
	baz=221								
ETLH	**Xiulin Townshi**	**0.51**	**242**	⇓P		**Pg**		**07 22 10.6**	**-0.5**
	baz=241								
ETLH				S		**Sg**		**07 22 17.6**	**-0.3**
	baz=241								
NNSB	**Datong**	**0.54**	**268**	⇓P		**Pg**		**07 22 11.3**	**-0.4**
	baz=268								
NNSB				S		**Sg**		**07 22 17.8**	**-1.1**
	baz=268								
TIPB	**Shuangxi**	**0.54**	**345**	⇑*i*P		**Pg**		**07 22 11.5**	**-0.3**
	baz=354								
TIPB				S		**Sg**		**07 22 18.4**	**-0.6**
	baz=354								
NWLT	**Wulai**	**0.54**	**308**	⇑P		**Pg**		**07 22 11.6**	**-0.2**
	baz=300								
NWLT				S		**Sg**		**07 22 18.6**	**-0.4**
	baz=300								
NNS	**Nan Shan**	**0.55**	**270**	⇓*i*P		**Pg**		**07 22 11.4**	**-0.5**
	baz=269								
NNS				S		**Sg**		**07 22 18.3**	**-0.9**
	baz=269								
TWB1	**Santiao Chiao**	**0.56**	**1**	⇑*i*P		**Pg**		**07 22 11.8**	**-0.4**
	baz=355								
TWB1				*e*S		**Sg**		**07 22 19.0**	**-0.6**
	baz=355								
HWA	**Hwalien**	**0.57**	**216**	*e*P		**Pg**		**07 22 12.8**	**+0.4**
	baz=221								
YHNB	**Yeheng**	**0.59**	**292**	*e*Pg		**Pg**		**07 22 12.4**	**-0.3**
YHNB				*e*Sg		**Sg**		**07 22 18.8**	**-1.7**
YHNB	**Yeheng**	**0.59**	**292**	⇑P		**Pg**		**07 22 12.6**	**-0.1**
	baz=292								
YHNB				S		**Sg**		**07 22 19.1**	**-1.4**
	baz=292								
NSK	**Sanguang**	**0.61**	**292**	⇑*i*P		**Pg**		**07 22 12.8**	**-0.2**
	baz=298								
NSK				S		**Sg**		**07 22 19.9**	**-1.2**
	baz=298								
ENLB	**Shoufeng**	**0.64**	**212**	*e*P		**Pb**		**07 22 14.3**	**0.0**
	baz=218								
ENLB				*e*S		**Sb**		**07 22 24.2**	**+0.9**
	baz=218								
TWA	**Mucha**	**0.64**	**326**	⇑*i*P		**Pg**		**07 22 13.7**	**0.0**
	baz=327								
TWA				*e*S		**Sg**		**07 22 21.6**	**-0.5**
	baz=327								
NWF	**Wu-fen Shan**	**0.65**	**344**	⇑P		**Pg**		**07 22 13.9**	**+0.1**
	baz=334								
NWF				*e*S		**Sg**		**07 22 22.5**	**+0.1**
	baz=334								
WFSB	**Wu-fen Shan**	**0.65**	**344**	⇑P		**Pg**		**07 22 13.8**	**+0.1**
	baz=334								
WFSB				S		**Sg**		**07 22 22.5**	**+0.2**
	baz=334								
NHDH	**Xindian Distri**	**0.66**	**322**	⇑P		**Pg**		**07 22 14.1**	**+0.1**
	baz=311								
NHDH				*e*S		**Sg**		**07 22 22.5**	**-0.1**
	baz=311								
TATO	**Taipei**	**0.69**	**320**	*e*Pg		**Pg**		**07 22 14.7**	**+0.2**
TATO				*e*Sg		**Sg**		**07 22 23.9**	**+0.3**
TATO	**Taipei**	**0.69**	**320**	⇑P		**Pg**		**07 22 14.7**	**+0.2**
	baz=310								
TATO				S		**Sg**		**07 22 23.0**	**-0.6**
	baz=310								
TAP	**Taipei**	**0.73**	**324**	*e*P		**Pb**		**07 22 15.7**	**-0.2**
	baz=315								
TAP				*e*S		**Sg**		**07 22 25.0**	**+0.1**
	baz=315								
TWT	**Tachien**	**0.75**	**256**	P		**Pg**		**07 22 15.6**	**-0.2**
	baz=255								
TWT				S		**Sg**		**07 22 25.5**	**-0.1**
	baz=255								
TDCB	**Techi**	**0.77**	**256**	⇓P		**Pg**		**07 22 15.7**	**-0.4**
	baz=255								
TDCB				S		**Sg**		**07 22 25.1**	**-1.1**
	baz=255								
WLTB	**Daxi**	**0.77**	**302**	⇑P		**Pb**		**07 22 16.9**	**+0.2**
	baz=302								
WLTB				S		**Sg**		**07 22 26.2**	**0.0**
	baz=302								
YM01	**YM01**	**0.79**	**332**	⇑P		**Pb**		**07 22 16.8**	**-0.1**
	baz=332								
YM01				*e*S		**Sb**		**07 22 27.9**	**+0.1**
	baz=332								
ESL	**Shilin**	**0.80**	**218**	⇓*i*P		**Pg**		**07 22 15.8**	**-0.8**
	baz=222								
ESL				*e*S		**Sg**		**07 22 26.8**	**-0.3**
	baz=222								
YM11	**YM11**	**0.81**	**333**	⇑P		**Pb**		**07 22 17.1**	**-0.1**
	baz=333								
YM11				*e*S		**Sb**		**07 22 27.8**	**-0.4**
	baz=333								
YM05	**YM05**	**0.81**	**333**	⇑P		**Pb**		**07 22 17.1**	**-0.2**
	baz=333								
YM05				*e*S		**Sb**		**07 22 27.8**	**-0.4**
	baz=333								
YM04	**YM04**	**0.81**	**331**	⇑*e*P		**Pb**		**07 22 17.2**	**-0.1**
	baz=331								
YM04				S		**Sb**		**07 22 28.4**	**+0.1**
	baz=331								
YM08	**YM08**	**0.82**	**335**	⇑P		**Pg**		**07 22 17.1**	**0.0**
	baz=335								
YM08				*e*S		**Sb**		**07 22 28.1**	**-0.4**
	baz=335								
CHGB	**Renai**	**0.83**	**243**	⇓P		**Pg**		**07 22 16.8**	**-0.4**
	baz=252								
CHGB				S		**Sg**		**07 22 27.6**	**-0.4**
	baz=252								
TWS1	**Kuangyinshan**	**0.83**	**322**	⇑*i*P		**Pb**		**07 22 18.0**	**+0.4**
	baz=315								
TWS1				*e*S		**Sb**		**07 22 29.2**	**+0.5**
	baz=315								
ANP	**Anpu**	**0.85**	**331**	⇑*i*P		**Pg**		**07 22 17.7**	**+0.1**
	baz=332								
NTST	**Danshui**	**0.86**	**326**	⇑*e*P		**Pb**		**07 22 18.5**	**+0.3**
	baz=326								
NTST				*e*S		**Sn**		**07 22 31.0**	**-0.8**
	baz=326								
OWD	**Renai**	**0.88**	**236**	⇓P		**Pg**		**07 22 17.5**	**-0.7**
	baz=235								
OWD				*e*S		**Sg**		**07 22 28.9**	**-0.7**
	baz=235								
JYNG	**Yonaguni jima**	**0.88**	**89**	P		**Pg**		**07 22 17.7**	**-0.5**
JYNG				S		**Sg**		**07 22 29.3**	**-0.5**
NCU	**National Centr**	**0.89**	**306**	⇑P		**Pn**		**07 22 19.2**	**-0.4**
	baz=306								
NCU				*e*S		**Sb**		**07 22 31.3**	**+0.8**
	baz=306								
NCUH	**Zhongli**	**0.89**	**306**	⇑P		**Pn**		**07 22 19.3**	**-0.3**
	baz=306								
NCUH				*e*S		**Sb**		**07 22 31.0**	**+0.5**
	baz=306								
TWY	**Chenhua**	**0.90**	**338**	⇑P		**Pb**		**07 22 18.7**	**0.0**
	baz=338								
TWY				S		**Sb**		**07 22 30.8**	**+0.1**
	baz=338								
LIOB	**Emei**	**0.90**	**283**	⇑*e*P		**Pg**		**07 22 16.3**	**-2.2**
	baz=283								
LIOB				*e*S		**Sg**		**07 22 27.2**	**-3.0**
	baz=283								
NSTT	**Nanjuang**	**0.91**	**282**	⇑*i*P		**Pb**		**07 22 18.9**	**-0.1**
	baz=282								
NSTT				S		**Sg**		**07 22 29.7**	**-0.8**
	baz=282								
EGFH	**Guangfu**	**0.92**	**213**	⇓*e*P		**Pg**		**07 22 18.5**	**-0.4**
	baz=228								
EGFH				*e*S		**Sn**		**07 22 32.4**	**-0.9**
	baz=228								
YOJ	**Yonaguni jima**	**0.94**	**89**	*e*Pg		**Pg**		**07 22 18.7**	**-0.7**
YOJ	**Yonaguni jima**	**0.94**	**89**	⇓P		**Pg**		**07 22 18.6**	**-0.7**
	baz=89								
YOJ				*e*S		**Sg**		**07 22 30.7**	**-0.9**
	baz=89								
YOJ	**Yonaguni jima**	**0.94**	**89**	P		**Pg**		**07 22 18.6**	**-0.7**
YOJ				S		**Sg**		**07 22 31.1**	**-0.6**
WHP	**Taichung City**	**0.95**	**260**	⇓*i*P		**Pg**		**07 22 19.6**	**+0.1**
	baz=260								
WHP				S		**Sg**		**07 22 31.4**	**-0.7**
	baz=260								
SBCB	**Hsinchu**	**0.96**	**291**	⇑P		**Pn**		**07 22 20.8**	**+0.1**
	baz=285								
SBCB				S		**Sb**		**07 22 33.4**	**+0.7**
	baz=285								
VWDT	**VWDT**	**1.03**	**228**	⇓P		**Pg**		**07 22 20.2**	**-0.8**
	baz=233								
VWDT				S		**Sg**		**07 22 33.7**	**-0.6**
	baz=233								
HGSD	**Ruisui**	**1.07**	**208**	⇓P		**Pb**		**07 22 21.6**	**-0.2**
	baz=208								
HGSD				*e*S		**Sn**		**07 22 38.6**	**+1.5**
	baz=208								
NMLH	**Miaoli**	**1.08**	**275**	*e*P		**Pn**		**07 22 22.6**	**+0.3**
	baz=275								
NMLH				*e*S		**Sg**		**07 22 36.4**	**+0.2**
	baz=275								
TWQ1	**Liyutan**	**1.10**	**265**	⇓P		**Pn**		**07 22 22.6**	**+0.1**
	baz=265								
TWQ1				*e*S		**Sb**		**07 22 36.5**	**-0.1**
	baz=265								
NSY	**Sanyi**	**1.11**	**269**	*e*P		**Pn**		**07 22 23.0**	**+0.4**
	baz=268								
NSY				*e*S		**Sg**		**07 22 37.1**	**+0.2**
	baz=268								
EHY	**Hungye**	**1.11**	**213**	*e*P		**Pb**		**07 22 21.4**	**-0.9**
	baz=224								
SMLT	**Sun Moon Lake**	**1.13**	**241**	⇓*i*P		**Pb**		**07 22 22.4**	**-0.4**
	baz=248								
SMLT				*e*S		**Sb**		**07 22 37.3**	**-0.3**
	baz=248								
SSLB	**Suanglung**	**1.14**	**235**	*e*Pg		**Pb**		**07 22 22.2**	**-0.7**
SSLB				*e*Sg		**Sb**		**07 22 36.5**	**-1.3**
SSLB	**Suanglung**	**1.14**	**235**	⇓P		**Pb**		**07 22 22.2**	**-0.7**
	baz=243								
SSLB				S		**Sb**		**07 22 35.9**	**-1.9**
	baz=243								
TYC	**Yuchr**	**1.16**	**242**	⇓*i*P		**Pb**		**07 22 22.8**	**-0.4**
	baz=242								
TYC				S		**Sb**		**07 22 37.0**	**-1.1**
	baz=242								
PCYT	**Pengchaiyu**	**1.18**	**4**	⇓P		**Pb**		**07 22 22.9**	**-0.8**
	baz=3.0								
PCYT				*e*S		**Sb**		**07 22 38.9**	**-0.1**
	baz=3.0								
YULB	**Yu-li**	**1.22**	**211**	*e*Pg		**Pn**		**07 22 23.5**	**-0.7**
YULB	**Yu-li**	**1.22**	**211**	*e*P		**Pn**		**07 22 23.0**	**-1.2**
	baz=212								
YULB				S		**Sb**		**07 22 40.0**	**+0.1**
	baz=212								
WDJ	**Dajia District**	**1.22**	**266**	*e*P		**Pg**		**07 22 25.3**	**+0.6**
	baz=266								
WDJ				*e*S		**Sg**		**07 22 40.4**	**-0.1**
	baz=266								
TCU	**Taichung**	**1.22**	**256**	⇓*e*P		**Pg**		**07 22 25.4**	**+0.7**
	baz=256								
TWF1	**Yuli**	**1.25**	**210**	*e*P		**Pn**		**07 22 24.0**	**-0.6**
	baz=225								
WHYT	**Xinyi Township**	**1.27**	**234**	⇓*e*P		**Pn**		**07 22 24.7**	**-0.2**
	baz=234								
WJS	**Zhushan**	**1.30**	**242**	⇓*e*P		**Pg**		**07 22 26.1**	**0.0**
	baz=242								
WNT	**Mingjian**	**1.31**	**245**	⇓P		**Pg**		**07 22 26.6**	**+0.3**
	baz=241								
WNT				S		**Sg**		**07 22 45.0**	**+1.7**
	baz=241								
WCHH	**Zhanghua**	**1.34**	**255**	*e*P		**Pg**		**07 22 27.7**	**+0.7**
	baz=254								
WCHH				*e*S		**Sg**		**07 22 46.0**	**+1.5**
	baz=254								
FULB	**Fuli**	**1.39**	**207**	*e*P		**Pn**		**07 22 26.4**	**-0.1**
	baz=225								
CHKT	**Chengkung**	**1.45**	**203**	*e*P		**Pn**		**07 22 26.9**	**-0.5**
	baz=186								
CHN5	**Tsauling**	**1.46**	**235**	⇓P		**Pb**		**07 22 28.4**	**+0.1**
	baz=237								
CHN5				*e*S		**Sg**		**07 22 49.3**	**+1.2**
	baz=237								
WGK	**Gukeng**	**1.50**	**240**	*e*P		**Pb**		**07 22 29.2**	**+0.2**
	baz=240								
WDLH	**Douliu**	**1.51**	**240**	⇓*e*P		**Pg**		**07 22 29.9**	**-0.3**
	baz=241								
ELDTW	**Lidau**	**1.53**	**215**	*e*P		**Pn**		**07 22 28.3**	**-0.2**
	baz=203								
RLNB	**Erlin**	**1.58**	**250**	*e*P		**Pb**		**07 22 29.8**	**-0.5**
	baz=263								
RLNB				*e*S		**Sg**		**07 22 52.3**	**+0.4**
	baz=263								
IRIF	**Iriomote-Funau**	**1.60**	**94**	P		**Pn**		**07 22 28.1**	**-1.3**
IRIF				*e*S		**Sn**		**07 22 48.5**	**-1.6**
WTCT	**Ta-ch'eng**	**1.65**	**250**	*e*P		**Pb**		**07 22 31.3**	**-0.3**
	baz=266								
WTCT				*e*S		**Sg**		**07 22 53.9**	**-0.5**
	baz=266								
CHN4	**Tsaushan**	**1.67**	**230**	⇓*e*P		**Pb**		**07 22 32.2**	**+0.3**
	baz=232								
CHN4				*e*S		**Sg**		**07 22 56.1**	**+1.2**
	baz=232								
TPUB	**Ta-pu**	**1.68**	**228**	*e*Pn		**Pb**		**07 22 31.7**	**-0.4**
TPUB	**Ta-pu**	**1.68**	**228**	*e*P		**Pb**		**07 22 31.5**	**-0.6**
	baz=229								
TPUB				*e*S		**Sg**		**07 22 56.1**	**+0.9**
	baz=229								
STYT	**Tauyuan**	**1.69**	**221**	P		**Pn**		**07 22 31.6**	**+0.8**
	baz=222								
CHY	**Chiayi**	**1.70**	**237**	⇓*e*P		**Pb**		**07 22 32.7**	**+0.2**
	baz=224								
HATJ	**Hateruma jima**	**1.71**	**103**	P		**Pn**		**07 22 30.2**	**-0.8**
HATJ				*e*S		**Sn**		**07 22 52.0**	**-0.9**
WMLT	**Mailiao**	**1.72**	**249**	*e*P		**Pb**		**07 22 32.8**	**-0.1**
	baz=249								
WSF	**Szhu**	**1.79**	**244**	*e*P		**Pb**		**07 22 33.4**	**-0.7**
	baz=245								
TWK	**Hsinying**	**1.80**	**230**	⇓P		**Pb**		**07 22 33.7**	**-0.5**
	baz=232								
TWK				*e*S		**Sg**		**07 22 59.0**	**0.0**
	baz=232								
TWGBT	**Beinan**	**1.82**	**207**	*e*P		**Pn**		**07 22 31.7**	**-0.7**
	baz=209								
TWG	**Pinlang**	**1.82**	**207**	*e*Pn		**Pn**		**07 22 31.1**	**-1.4**
TWG	**Pinlang**	**1.82**	**207**	*e*P		**Pn**		**07 22 31.0**	**-1.4**
	baz=209								
SNST	**Tainan City**	**1.82**	**228**	*e*P		**Pg**		**07 22 35.9**	**-0.2**
	baz=230								
CHN1	**Nanshi**	**1.82**	**227**	*e*P		**Pb**		**07 22 34.5**	**-0.1**
	baz=229								
TTN	**Taitung**	**1.85**	**204**	*e*P		**Pn**		**07 22 31.6**	**-1.2**
	baz=206								
SGST	**Jiashian**	**1.86**	**224**	*e*P		**Pb**		**07 22 34.6**	**-0.7**
	baz=225								
JKRS	**Kuro-shima**	**1.87**	**96**	P		**Pn**		**07 22 32.3**	**-0.8**
JKRS				S		**Sn**		**07 22 55.0**	**-1.6**
SLGT	**Liugui**	**1.89**	**220**	*e*P		**Pb**		**07 22 34.9**	**-0.8**
	baz=223								
SLGT				*e*S		**Sb**		**07 22 59.7**	**+0.3**
	baz=223								
CHN8	**Yiju**	**1.95**	**236**	*e*P		**Pn**		**07 22 35.4**	**+1.2**
	baz=238								
JIJ	**Ishigaki jima**	**1.98**	**92**	P		**Pn**		**07 22 33.1**	**-1.5**
JIJ				S		**Sn**		**07 22 56.8**	**-2.6**
ECL	**Taimali**	**2.06**	**207**	*e*P		**Pn**		**07 22 35.7**	**-0.1**
	baz=197								
JISG	**Ishigakijimahi**	**2.13**	**86**	P		**Pn**		**07 22 35.3**	**-1.4**
JISG				S		**Sn**		**07 23 01.3**	**-1.9**
TWM1	**Shoushan**	**2.15**	**222**	*e*P		**Pb**		**07 22 39.4**	**-0.8**
	baz=224								
MASBT	**Mashibuluo**	**2.20**	**214**	*e*P		**Pn**		**07 22 39.4**	**+1.7**
	baz=219								
MASBT				*e*S		**Sb**		**07 23 07.5**	**-0.8**
	baz=219								
PTTC	**Pingtan**	**2.26**	**298**	*e*P		**Pn**		**07 22 38.2**	**-0.3**
	baz=297								
EAST	**Anshuo**	**2.30**	**207**	*e*P		**Pn**		**07 22 40.3**	**+1.2**
	baz=198								
TAW	**Tawu**	**2.30**	**206**	*e*P		**Pn**		**07 22 39.4**	**+0.4**
	baz=208								
SSPT	**Xinbi**	**2.34**	**214**	*e*P		**Pb**		**07 22 42.4**	**-1.0**
	baz=201								
VWUC	**VWUC**	**2.36**	**284**	⇑*e*P		**Pn**		**07 22 39.6**	**-0.3**
	baz=282								
PNG	**Penghu**	**2.38**	**249**	*e*P		**Pn**		**07 22 40.3**	**+0.2**
	baz=250								
SCZT	**Fangliau**	**2.41**	**211**	*e*P		**Pn**		**07 22 42.5**	**+1.9**
	baz=214								
WDGT	**Dungji**	**2.43**	**241**	*e*P		**Pn**		**07 22 41.6**	**+0.9**
	baz=251								
JTJ	**Tarama**	**2.49**	**85**	P		**Pn**		**07 22 41.1**	**-0.6**
JTJ				*e*S		**Sn**		**07 23 10.7**	**-1.3**
MATB	**Ma-tsu**	**2.50**	**313**	*e*P		**Pn**		**07 22 40.9**	**-0.9**
	baz=311								
WLCH	**Liuqiu**	**2.55**	**215**	*e*P		**Pb**		**07 22 46.3**	**-0.6**
	baz=219								
VCHM	**Qimei**	**2.64**	**243**	*e*P		**Pn**		**07 22 44.5**	**+0.8**
	baz=245								
TWKBT	**Hengchun**	**2.71**	**203**	*e*P		**Pn**		**07 22 46.1**	**+1.3**
	baz=194								
TWK1	**Hengchun**	**2.71**	**204**	*e*P		**Pn**		**07 22 44.8**	**+0.1**
	baz=194								
TSEB	**Hengchuen, Pin**	**2.72**	**202**	*e*P		**Pn**		**07 22 47.0**	**+2.2**
	baz=194								
JIRB	**Irabujima**	**2.94**	**82**	P		**Pn**		**07 22 47.3**	**-0.5**
JIRB				*e*S		**Sn**		**07 23 22.0**	**-1.0**
JIKM	**Ikemajima**	**3.02**	**80**	P		**Pn**		**07 22 47.1**	**-1.8**
JIKM				*e*S		**Sn**		**07 23 24.6**	**-0.4**
QZH	**Quanzhou**	**3.12**	**280**	⇓*i*Pn		**Pn**		**07 22 50.8**	**+0.5**
QZH				Sn		**Sn**		**07 23 23.4**	**-4.1**
QZH				smax	smax				
	comp=N,670nm,0.9s								
QZH				smax	smax				
	comp=E,330nm,0.8s								
QZH				LR	LR				
	comp=N,2μm,12.2s								
QZH				LR	LR				
	comp=E,1μm,12.8s								
MHZQ	**Yeshan**	**3.13**	**302**	*e*P		**Pn**		**07 22 50.5**	**0.0**
	baz=300								
JOGS	**Gusukube**	**3.14**	**84**	P		**Pn**		**07 22 50.7**	**+0.1**
KNM	**Kinmen**	**3.23**	**270**	*e*P		**Pn**		**07 22 53.4**	**+1.6**
	baz=268								
KNMB	**Chin-men Tao**	**3.27**	**271**	*e*P		**Pn**		**07 22 52.6**	**+0.3**
	baz=269								
ZZJH	**Jiuhuzhen**	**3.96**	**271**	*e*P		**Pn**		**07 23 02.0**	**+0.1**
	baz=269								
GZH	**Guangzhou**	**8.02**	**262**	P	

WMQ					LR		LR				
	comp=Z,65nm,14.5s										
MK32	**Makanchi Array**	**38.66**	**315**	*eP*		**P**		**07**	**29**	**26.3**	**+1.5**
MKAR	**Makanchi Array**	**38.66**	**315**	P		**P**		**07**	**29**	**26.3**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=99,slow=10,SNR=7.9										
MKAR					LR		LR	07	46	36.7	
	comp=Z,61nm,19.1s,baz=84,slow=38										
PETK	**Petropavlovsk-**	**39.25**	**34**	LR		LR		07	45	20.8	
	comp=Z,30nm,21.9s,baz=208,slow=36										
ZALV	**Zalesovo Beam**	**40.42**	**327**	P		**P**		**07**	**29**	**40.7**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=132,slow=8.5,SNR=3.3										
ZALV					LR		LR	07	47	34.6	
	comp=Z,76nm,18.9s,baz=64,slow=38										
ZAA1	**Zalesovo Array**	**40.42**	**327**	*eP*		**P**		**07**	**29**	**40.7**	**+1.3**
H11S3	**WAKE ISLAND Hy**	**41.89**	**89**	T		T		08	15	21.2	
	baz=284,SNR=2.9										
H11S1	**WAKE ISLAND Hy**	**41.90**	**89**	T		T		08	15	17.3	
	baz=284										
H11S2	**WAKE ISLAND Hy**	**41.91**	**89**	T		T		08	15	21.9	
	baz=284										
WR1	**Warramunga Arr**	**45.73**	**164**	*eP*		**P**		**07**	**30**	**22.3**	**-0.4**
	comp=Z,3.8nm,1.1s										
WRA	**Warramunga Arr**	**45.73**	**164**	P		**P**		**07**	**30**	**22.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=346,slow=8.6,SNR=16										
WB2	**Warramunga Arr**	**45.74**	**164**	*eP*		**P**		**07**	**30**	**22.6**	**-0.1**
ASAR	**Alice Springs**	**49.20**	**166**	P		**P**		**07**	**30**	**50.6**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=343,slow=6.3,SNR=5.5										
ABKAR	**Akbulak array**	**53.78**	**314**	*eP*		**P**		**07**	**31**	**23.5**	**-0.1**
	comp=Z,2.6nm,0.9s										
KBZ	**Khabaz**	**65.88**	**309**	LR		LR		08	07	59.5	
	comp=Z,27nm,18.0s,baz=14,slow=42										
FINES	**FINESS Array B**	**71.58**	**330**	LR		LR		08	08	08.2	
	comp=Z,63nm,19.0s,baz=239,slow=39										
BR101	**Keskin Array S**	**73.60**	**307**	*eP*		**P**		**07**	**33**	**37.7**	**+2.8**
BRTR	**Keskin Array B**	**73.60**	**307**	P		**P**		**07**	**33**	**37.7**	**+2.8**
	comp=Z,1.0nm,0.8s,baz=58,slow=5.6,SNR=4.2										
NOA	**NORSAR Array B**	**78.33**	**332**	LR		LR		08	12	01.4	
	comp=Z,38nm,19.9s,baz=304,slow=38										
YKA	**Yellowknife Ar**	**82.45**	**23**	P		**P**		**07**	**34**	**22.0**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=308,slow=5.0,SNR=5.2										

*ISCJB **20** 07:27:46.3±1.0,8°.25N±0°.05×82°.97W±0°.03,h14^{km}±6^{km}, Error ellipse: s-maj=7.9km s-min=4.4km az=15.6*

*IDC **20** 07:27:46.6±3.3,8°.82N×82°.55W,h0^{km},mb3.7/4,mb1 4.0/7, mb1mx3.8/29,mbtmp3.8/7,ML3.6/3,MS2.8/2,Ms1 2.8/2, ms1mx2.6/35,Error ellipse: s-maj=88.4km s-min=33.4km az=20.0*

*UCR **20** 07:27:47.1±2.1,8°.33N×82°.93W,h9^{km}±6^{km},MD4.5*

ISC 20 07:27:46.8±1.6,8°.33N±0°.06×82°.96W±0°.03,h10^{km}±10^{km}, n39,σ1°24/48,4C-7D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTJ1	**Puerto Jimnez**	**0.39**	**301**	*eP*		**Pg**		**07 27 55.3**	**+0.9**
PTJ1				*eS*		**Sb**		**07 28 02.7**	**+0.8**
EDSV	**San Vito**	**0.48**	**359**	⇓*iP*		**Pg**		**07 27 56.5**	**+0.3**
EDSV				*eS*		**Sb**		**07 28 04.4**	**-0.3**
DVD	**David**	**0.52**	**79**	⇑*iP*		**Pg**		**07 27 56.6**	**-0.3**
DVD				*eS*		**Sb**		**07 28 04.5**	**-1.0**
BRU2	**Volcan**	**0.53**	**31**	⇓*iP*		**Pg**		**07 27 57.4**	**+0.2**
BRU2				*eS*		**Sb**		**07 28 06.5**	**+0.4**
TBS2		**0.55**	**34**	⇑*eP*		**Pb**		**07 27 58.7**	**+0.1**
TBS2				*eS*		**Sb**		**07 28 07.6**	**+1.0**
EDPN	**Palmar Norte**	**0.79**	**322**	⇓*eP*		**Pg**		**07 28 00.6**	**-1.4**
EDPN				*eS*		**Sb**		**07 28 14.1**	**+0.7**
EDBA	**Buenos Aires**	**0.88**	**340**	⇓*eP*		**Pb**		**07 28 02.8**	**-1.4**
EDBA				*eS*		**Sn**		**07 28 17.0**	**-1.1**
EDLM	**Las Mercedes**	**1.12**	**327**	⇓*eP*		**Pb**		**07 28 06.3**	**-2.0**
EDDO	**Dominical**	**1.27**	**316**	*eP*		**Pn**		**07 28 09.2**	**-1.5**
SJS	**Escuela Geolog**	**1.93**	**326**	*eP*		**Pn**		**07 28 21.0**	**+1.3**
HDC	**Heredia**	**2.01**	**326**	*eP*		**Pn**		**07 28 21.6**	**+0.7**
HDC				*eS*		**Sn**		**07 28 35.6**	**-0.1**
SRA1	**San Ramn**	**2.29**	**319**	*eP*		**Pn**		**07 28 25.0**	**-0.2**
TRT1	**Tortuguero**	**2.36**	**342**	⇑*eP*		**Pn**		**07 28 25.8**	**+0.2**
AZU	**Azuero**	**2.72**	**101**	⇓*eP*		**Pn**		**07 28 30.9**	**+0.4**
AZU				*eS*		**Sn**		**07 29 03.3**	**-0.1**
CASO	**Castillo**	**2.72**	**320**	*i P*		**Pn**		**07 28 31.2**	**+0.5**
ARE1	**Arenal 1**	**2.73**	**321**	*eP*		**Pn**		**07 28 32.0**	**+1.3**
JTS	**JuntasAbangare**	**2.76**	**315**	Pn		**Pn**		**07 28 30.7**	**-0.4**
	18nm,0.3s,baz=166,slow=23,SNR=101								
JTS					Sn		**Sn**	**07 29 06.0**	**+1.4**
	13nm,0.3s,baz=85,slow=21,SNR=6.2								
JTS	**JuntasAbangare**	**2.76**	**315**	*eP*		**Pn**		**07 28 30.8**	**-0.4**
ACAL	**Aguas Claras**	**3.07**	**318**	*i P*		**Pn**		**07 28 37.3**	**+1.9**
PLVR	**Palo Verde**	**3.09**	**311**	⇑*eP*		**Pn**		**07 28 36.1**	**+0.2**
PTEN	**Parque Tenorio**	**3.10**	**320**	*i P*		**Pn**		**07 28 36.8**	**+1.0**
CUI	**Cuipilapa**	**3.17**	**317**	*eP*		**Pn**		**07 28 38.1**	**+1.4**
BCIP	**Isla Barro Col**	**3.20**	**75**	*eP*		**Pn**		**07 28 36.7**	**-0.4**
BCIP				*eS*		**Sn**		**07 29 17.8**	**+2.4**
HORNC	**Hornillas**	**3.22**	**317**	*i P*		**Pn**		**07 28 38.9**	**+1.4**
MESS	**Mesas**	**3.25**	**318**	*i P*		**Pn**		**07 28 39.4**	**+1.5**
MESS				*eP*		Pb		07 28 39.8	-4.9
BUEV	**Buena Vista**	**3.44**	**316**	⇓*eP*		**Pn**		**07 28 42.0**	**+1.5**
GB1A	**Borinquen Arri**	**3.44**	**316**	*eP*		**Pn**		**07 28 42.6**	**+2.0**
ESPN	**Las Esperanzas**	**4.06**	**341**	*eP*		**Pn**		**07 28 49.8**	**+0.9**
ACON	**Acoyapa**	**4.22**	**329**	*eP*		**Pn**		**07 28 52.3**	**+1.1**
MATN	**Matagalpa**	**5.42**	**328**	*eP*		**Pn**		**07 29 08.6**	**+0.9**
APG	**El Apazote**	**9.89**	**313**	Pn		**Pn**		**07 30 11.8**	**+2.5**
	0.3nm,0.3s,baz=131,slow=13,SNR=5.1								
APG					LR		LR	07 34 31.3	
	comp=Z,62nm,21.0s,baz=140,slow=41								
CMIG	**Matias Romero**	**14.52**	**308**	Pn		**Pn**		**07 31 14.5**	**+2.1**
	0.3nm,0.3s,baz=142,slow=11,SNR=4.3								
SJG	**San Juan**	**19.02**	**58**	LR		LR		07 39 20.6	
	comp=Z,31nm,20.1s,baz=274,slow=38								
PDAR	**Pinedale Array**	**41.49**	**330**	P		**P**		**07**	**35**	**34.3**	**0.0**
	0.2nm,0.4s,baz=123,slow=10.0,SNR=2.6								
ULM	**Lac du Bonnet**	**43.15**	**348**	P		**P**		**07**	**35**	**45.6**	**-1.9**
	4.0nm,0.7s,baz=157,slow=8.2,SNR=7.1								
NVAR	**Mina Array Bea**	**43.69**	**319**	P		**P**		**07**	**35**	**54.0**	**+1.7**
	0.7nm,0.3s,baz=128,slow=7.4,SNR=4.1								
YKA	**Yellowknife Ar**	**58.76**	**343**	P		**P**		**07**	**37**	**43.1**	**-1.6**
	0.9nm,0.7s,baz=136,slow=7.1,SNR=16								
WRA	**Warramunga Arr**	**142.12**	**248**	PKhKP		PKPpre		07 47 18.7	
	0.4nm,0.9s,baz=94,slow=2.9,SNR=4.6								
CMAR	**Chiang Mai Arr**	**153.31**	**356**	PKPbc		**PKiKP**		**07**	**47**	**46.4**	**0.0**
	0.8nm,0.3s,baz=330,slow=2.3,SNR=5.4								

MEX 20 07:31:56.1±0.5,19°.61N×104°.41W,h2^{km}±2^{km},MD3.7, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
R15V		**0.60**	**137**	*eP*		Pg		07 32 06.9	-0.7
R15V				*eS*		Sg		07 32 15.9	+0.5
CJM	**Chamela**	**0.60**	**259**	*i P*		Pg		07 32 07.1	-0.6
CJM				*i S*		Sg		07 32 16.3	+0.7
EZ5V		**0.78**	**100**	*eP*		Pg		07 32 09.9	-1.1
EZ5V				*eS*		Sg		07 32 21.4	+0.3
MMIG	**Aquila**	**1.66**	**142**	*eP*		Pn		07 32 23.5	-2.7
MMIG				*eS*		Sn		07 32 43.3	-4.7

IDC 20 07:39:20.7±4.8,29°.74N×141°.78E,h0^{km},mb3.5/2, mb1 3.6/3,mb1mx3.3/36,mbtmp3.4/3,ML2.5/1,Error ellipse: s-maj=180.6km s-min=29.9km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**7.42**	**337**	Pn		Pn		07 41 09.2	-1.0
	0.1nm,0.3s,baz=160,slow=11,SNR=4.8								
MKAR	**Makanchi Array**	**48.55**	**308**	P		P		07 48 05.8	+0.2
	0.4nm,0.5s,baz=84,slow=9.5,SNR=7.5								
WRA	**Warramunga Arr**	**49.91**	**189**	P		P		07 48 15.9	-0.2
	0.2nm,0.4s,baz=7.0,slow=7.7,SNR=6.7								

JMA 20 07:39:31.4±0.1,35°.84N×140°.86E,h15^{km}±1^{km},M1.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**180**	P		Pg		07 39 35.1	0.0
CHOJ				S		Sg		07 39 37.5	-0.1
JIHU	**Itakohorinouch**	**0.30**	**295**	P		Pb		07 39 38.3	-0.2
JIHU				S		Sb		07 39 43.7	+0.5
JHYU	**Hitachinakayam**	**0.55**	**336**	P		Pg		07 39 41.9	-0.3
JHYU				S		Sg		07 39 49.5	0.0
JYT	**Yasato**	**0.66**	**306**	P		Pg		07 39 44.0	-0.4
JYT				S		Sg		07 39 53.2	0.0
JHO	**Hitachi**	**0.80**	**343**	P		Pg		07 39 46.7	-0.4
JHO				S		Sg		07 39 56.8	-0.9

*IDC **20** 07:39:26.4±3.4,0°.74S×135°.07E,h0^{km},mb3.3/2, mb1 3.5/3,mb1mx3.3/32,mbtmp3.3/3,ML3.3/1,MS2.7/3, Ms1 2.7/3,ms1mx2.4/21,Error ellipse: s-maj=155.1km s-min=28.6km az=78.0*

*ISCJB **20** 07:39:29.4±0.9,0°.83S±0°.08×134°.44E±0°.07,h27^{km}, mb3.3/2,Error ellipse: s-maj=12.1km s-min=9.6km az=144.3*

*DJA **20** 07:39:30.4±0.6,1°.S±5°×13°.4E±°,h28^{km}±5^{km},M3.7/7, MLv3.7/7*

ISC 20 07:39:31.4±1.2,0°.94S±0°.10×134°.44E±0°.06,h27^{km},n14, σ1°11/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.63**	**205**	P		P	**Pn**	**07 39 43.7**	**-0.9**
RKPI				S		S	**Sn**	**07 39 54.0**	**+0.3**
BAKI	**Biak**	**1.69**	**99**	P		P	**Pn**	**07 39 58.1**	**-1.0**
SRPI	**Serui, Papua**	**2.02**	**117**	P		P	**Pn**	**07 40 02.9**	**-0.9**
FAKI	**Fak Fak**	**2.95**	**228**	P		P	**Pn**	**07 40 15.5**	**-1.0**
SWI	**Sorong**	**3.18**	**271**	P		P	**Pn**	**07 40 18.6**	**-1.1**
DAV	**Davao City (W)**	**11.89**	**312**	LR		LR		07 46 21.7	
	comp=Z,31nm,20.3s,baz=328,slow=34								
GUMO	**Guam**	**17.75**	**35**	LR		LR		07 49 24.5	
	comp=Z,19nm,21.1s,baz=90,slow=35								
WRA	**Warramunga Arr**	**18.89**	**180**	P		**P**	**Pn**	**07**	**43**	**50.3**	**-0.4**
	0.1nm,0.3s,baz=0.9,slow=11,SNR=14								
FITZ	**Fitzroy Crossi**	**19.12**	**206**	LR		LR		07 52 60.0	
	comp=Z,41nm,19.2s,baz=204,slow=42								
ASAR	**Alice Springs**	**22.60**	**181**	P		**P**	**P**	**07**	**44**	**31.5**	**+1.4**
	0.5nm,0.5s,baz=10,slow=10,SNR=9.0								
H11N1	**WAKE ISLAND Hy**	**37.87**	**55**	T		T		08	26	02.3	
	baz=244,slow=75,SNR=2.9										
H11N2	**WAKE ISLAND Hy**	**37.88**	**55**	T		T		08	26	10.1	
	baz=244,slow=75,SNR=3.7										
H11N3	**WAKE ISLAND Hy**	**37.88**	**55**	T		T		08	26	10.7	
	baz=244,slow=75,SNR=2.9										
MKAR	**Makanchi Array**	**65.81**	**324**	P		**P**	**P**	**07**	**50**	**15.2**	**+0.8**
	0.3nm,0.6s,baz=110,slow=7.8,SNR=3.8										

IDC 20 07:41:45.5±2.1,6°.48S×149°.49E,h0^{km},mb3.5/2, mb1 3.7/3,mb1mx3.3/36,mbtmp3.3/3,ML3.1/1,Error ellipse: s-maj=132.4km s-min=30.5km az=126.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.89**	**226**	P		P		07 46 18.6	-0.1
	0.1nm,0.3s,baz=52,slow=12,SNR=4.9								
ASAR	**Alice Springs**	**22.72**	**220**	P		P		07 46 49.1	-0.2
	0.4nm,0.5s,baz=55,slow=9.3,SNR=8.6								
ILAR	**Eielson Array**	**84.96**	**23**	P		P		07 54 22.6	+0.2
	1.3nm,1.1s,baz=240,slow=6.6,SNR=5.0								

*ISCJB **20** 07:53:12.9±0.6,3°.02S±0°.07×128°.10E±0°.05,h38^{km}, mb3.7/2,Error ellipse: s-maj=10.3km s-min=6.3km az=164.4*

*DJA **20** 07:53:12.2±0.3,3°.S±2°×12°.8E±°,h10^{km},M3.5/2,MLv3.5/2*

*IDC **20** 07:53:17.0±7.2,3°.01S×128°.22E,h75^{km}±81^{km},mb3.4/2, mb1 3.8/4,mb1mx3.4/34,mbtmp3.9/4,ML4.1/2,Error ellipse: s-maj=63.3km s-min=21.2km az=89.0*

ISC 20 07:53:14.1±1.0,3°.01S±0°.07×128°.05E±0°.05,h38^{km},n10, σ0°.98/12,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.98**	**256**	P		P	**Pn**	**07 53 32.0**	**+0.7**
NLAI				S		S	**Sn**	**07 53 45.6**	**+1.6**
SANI	**Sanana**	**2.27**	**295**	P		P	**Pn**	**07 53 48.5**	**-0.6**
BNDI	**Bandanaira**	**2.38**	**129**	P		P	**Pn**	**07 53 51.3**	**+0.6**
TNTI	**Ternate**	**3.82**	**350**	P		P	**Pn**	**07 54 10.5**	**+0.1**
SWI	**Sorong**	**3.85**	**56**	P		P	**Pn**	**07 54 11.0**	**+0.2**
SIJI	**Sorong**	**3.85**	**57**	P		P	**Pn**	**07 54 11.6**	**+0.8**
	15nm,0.3s,baz=262,slow=23,SNR=20								
SIJI						S	**Sn**	**07 54 55.2**	**+0.3**
	12nm,0.3s,baz=86,slow=23,SNR=13								
FAKI	**Fak Fak**	**4.19**	**89**	P		P	**Pn**	**07 54 16.1**	**+0.6**
WRA	**Warramunga Arr**	**17.92**	**160**	P		P	**Pn**	**07 57 19.0**	**-1.5**
	0.7nm,0.3s,baz=340,slow=11,SNR=75								
ASAR	**Alice Springs**	**21.30**	**165**	P		P	**P**	**07 57 56.6**	**-1.1**
	2.4nm,0.5s,baz=346,slow=12,SNR=35								
MKAR	**Makanchi Array**	**63.84**	**327**	P		P	**P**	**08 03 43.3**	**+0.5**
	0.4nm,0.5s,baz=117,slow=8.0,SNR=4.3								

NNC 20 07:58:43.8±1.3,54°.33N×85°.97E,h0^{km},mb3.5,mpv2.8, 6C-3D,Error ellipse: s-maj=16.9km s-min=6.2km az=159.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**0.78**	**241**	⇓P		Pg		07 58 58.7	0.0
	0.2nm,0.3s								
ZAA0				⇓S		Sg		07 59 09.8	+1.1
	2.0nm,0.5s								
KURK	**Kurchatov**	**5.76**	**234**	⇓Pn		Pn		08 00 12.4	+1.9
	1.6nm,1.0s								
KURK				Lg		Lg		08 01 46.1	
	1.9nm,0.8s								
KURBB	**Kurchatov Arra**	**5.87**	**234**	Pn		Pn		08 00 13.2	+1.3
	1.3nm,0.4s								
KURBB				⇑Lg		Lg		08 01 51.3	
	3.9nm,0.7s								
MK31	**Makanchi Array**	**7.90**	**199**	⇑Pn		Pn		08 00 40.6	+0.7
	0.5nm,0.5s,baz=26,slow=13,SNR=18								
MK31						Sn		08 02 11.6	+1.6
	0.2nm,0.5s								
MK31				⇑Lg		Lg		08 02 55.2	
	1.7nm,0.9s,baz=18,slow=27								
MAKZ	**Makanchi**	**7.95**	**200**	⇑Pn		Pn		08 00 41.4	+0.8
	1.5nm,1.0s								
MAKZ				⇑Sn		Sn		08 02 11.8	+0.7
	1.5nm,1.2s								
MAKZ				⇑Lg		Lg		08 02 55.0	
	1.6nm,1.2s								

*MOS **20** 08:04:41.4±1.0,20°.04S×176°.40W,h224^{km},mb4.3/14, Error ellipse: s-maj=14.6km s-min=10.3km az=158.1*

*BJI **20** 08:04:41.2,19°.93S×175°.83W,h225^{km},mb4.7/10, mB5.1/8*

*NEIC **20** 08:04:44.7±0.9,20°.19S×176°.26W,h249^{km}±8^{km},mb4.5/68, Error ellipse: s-maj=7.4km s-min=4.9km az=137.0*

*ISCJB **20** 08:04:45.5±0.8,20°.22S±0°.03×176°.35W±0°.05, h268^{km}±8^{km},mb4.5/77,Error ellipse: s-maj=7.1km s-min=4.4km az=17.2*

*IDC **20** 08:04:46.7±0.7,20°.05S×176°.44W,h261^{km}±5^{km},mb4.1/17, mb1 4.3/18,mb1mx4.1/28,mbtmp4.7/18,Error ellipse: s-maj=13.3km s-min=9.8km az=151.0*

ISC 20 08:04:44.7±0.4,20°.28S±0°.05×176°.26W±0°.05, h249^{km}±4^{km},h249^{km}:pP-P,n262,σ1°67/299,mb4.5/77, 9C-3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.95**	**294**	*ePn*		**Pn**		**08 06 13.7**	**+1.3**
MSVF	**Nonsavu**	**5.95**	**294**	*eP*		**Pn**		**08 06 13.7**	**+1.3**
NIUE	**Niue**	**6.09**	**80**	*ePn*		**Pn**		**08 06 11.6**	**-2.4**
NIUE				*eS*		**S**		**08 07 18.6**	**-6.7**
GLKZ	**Green Lake**	**9.07**	**189**	P		**Pn**		**08 06 49.7**	**-1.9**
GLKZ				S		**S**		**08 08 32.2**	**-1.9**
MARNC	**Mare, Loyalty**	**14.73**	**263**	*eP*		**Pn**		**08 08 02.9**	**+1.1**
PINNC	**Pines Island,**	**15.35**	**258**	*eP*		**Pn**		**08 08 10.5**	**+1.3**
	144nm,0.5s								
RAR	**Rarotonga**	**15.45**	**96**	*eP*		**Pn**		**08 08 11.2**	**+0.7**
	44nm,1.1s								
RAR				*eS*		**S**		**08 11 03.2**	**+3.1**
RAR	**Rarotonga**	**15.45**	**96**	*eP*		**Pn**		**08 08 11.2**	**+0.7**
RAR				*eS*		**S**		**08 11 03.2**	**+3.1**
RAR				pmax	pmax				
	comp=Z,44nm,1.1s								
RAR	**Rarotonga**	**15.45**	**96**	P		**Pn**		**08 08 11.9**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=216,slow=14,SNR=3.2								
RAR				S		**S**		**08 11 03.2**	**+3.1**
	comp=Z,0.9nm,0.3s,baz=349,slow=19,SNR=2.4								
DZM	**Mont Dzumac**	**16.23**	**261**	*eP*		**Pn**		**08 08 21.0**	**+1.2**
	comp=Z,202nm,0.7s								
DZM	**Mont Dzumac**	**16.23**	**261**	P		**Pn**		**08 08 21.0**	**+1.2**
	comp=Z,17nm,0.3s,baz=79,slow=19,SNR=120								
OUZ	**Omahuta**	**17.36**	**209**	*eP*		**Pn**		**08 08 33.4**	**+0.6**
	comp=Z,48nm,1.2s								
OUZ	**Omahuta**	**17.36**	**209**	P		**Pn**		**08 08 33.1**	**+0.3**
WCZ	**Waipu Caves**	**17.65**	**206**	P		**Pn**		**08 08 36.2**	**+0.1**
KUZ	**Kuaotunu**	**17.84**	**201**	P		**Pn**		**08 08 37.9**	**-0.5**
MXZ	**Matakaoa Point**	**17.86**	**194**	*eP*		**Pn**		**08 08 38.3**	**-0.3**
	comp=Z,64nm,1.0s								
MXZ	**Matakaoa Point**	**17.86**	**194**	P		**Pn**		**08 08 39.3**	**+0.7**
MXZ				S		**S**		**08 11 42.9**	**-4.9**
KNTN	**Kanton**	**17.95**	**15**	*eP*		**P**		**08 08 34.4**	**-2.7**
	comp=Z,68nm,1.1s								
WMGZ	**Waiomatatini S**	**18.08**	**194**	P		**Pn**		**08 08 42.2**	**+1.0**
WIAZ	**Waiheke Island**	**18.09**	**203**	P		**Pn**		**08 08 41.0**	**-0.3**
MBAZ	**Motutapu North**	**18.16**	**203**	P		**P**		**08 08 40.5**	**+1.5**
HAZ	**Te Kaha**	**18.17**	**195**	P		**P**		**08 08 40.7**	**+1.6**
HAZ				S		**S**		**08 11 51.2**	**-2.7**
PKGZ	**Pakihiroa**	**18.23**	**194**	P		**Pn**		**08 08 41.8**	**-1.1**
PKGZ				S		**S**		**08 11 51.7**	**-3.4**
ETAZ	**East Tamaki Re**	**18.31**	**203**	P		**Pn**		**08 08 44.0**	**+0.1**
PUZ	**Puketiti**	**18.36**	**194**	P		**P**		**08 08 42.3**	**+1.1**
PUZ				S		**S**		**08 11 51.9**	**-5.7**
MKAZ	**Moumakai**	**18.36**	**202**	P		**Pn**		**08 08 43.6**	**-0.9**
RUGZ	**Raukumara Rang**	**18.39**	**195**	P		**P**		**08 08 43.2**	**+1.4**
KBAZ	**Karaka Road Bo**	**18.45**	**203**	P		**Pn**		**08 08 45.1**	**-0.4**
OPRZ	**Ohinepanea**	**18.59**	**198**	P		**Pn**		**08 08 46.4**	**-0.7**
CNGZ	**Carnagh Statio**	**18.77**	**194**	P		**Pn**		**08 08 48.0**	**-1.2**
KMRZ	**Kaimai**	**18.77**	**199**	P		**Pn**		**08 08 48.7**	**-0.6**
MWZ	**Matawai**	**18.78**	**195**	P		**P**		**08 08 46.2**	**+0.4**
TKGZ	**Te Karaka**	**18.80**	**194**	P		**P**		**08 08 47.7**	**+1.8**
TOZ	**Tahuroa Road**	**18.81**	**201**	P		**Pn**		**08 08 48.7**	**-1.1**
URZ	**Urewera**	**18.82**	**196**	*eP*		**P**		**08 08 45.0**	**-1.1**
URZ				*eP*		**Pn**		**08 08 45.3**	**-4.6**
URZ				*eS*		**S**		**08 12 02.4**	**-4.2**
URZ				*eS*		S		08 12 07.0	+0.4
URZ	**Urewera**	**18.82**	**196**	P		**P**		**08 08 45.0**	**-1.1**
	comp=Z,8.4nm,0.3s,baz=13,slow=1.6,SNR=58								
URZ						S		**S**	**08 12 02.4**	**-4.2**
	comp=Z,1.1nm,0.3s,baz=70,slow=23,SNR=9.6								
URZ	**Urewera**	**18.82**	**196**	P		**P**		**08 08 46.1**	**0.0**
KARZ	**Kaharoa**	**18.84**	**199**	P		**Pn**		**08 08 49.9**	**-0.3**
KARZ	**Kaharoa**	**18.84**	**199**	P		**Pn**		**08 08 49.9**	**-0.3**
RAGZ	**Rawiri**	**18.96**	**195**	P		**P**		**08 08 48.8**	**+1.0**
RIGZ	**Rimuhau**	**19.08**	**194**	P		**P**		**08 08 50.1**	**+1.2**
RTZ	**Ruatahuna**	**19.19**	**196**	P		**P**		**08 08 51.2**	**+1.1**
PRRZ	**Plateau Road**	**19.24**	**198**	P		**Pn**		**08 08 52.9**	**-1.9**
SNGZ	**Shannon Statio**	**19.25**	**195**	P		**P**		**08 08 52.3**	**+1.5**
PRGZ	**Paritu Road**	**19.26**	**194**	P		**Pn**		**08 08 53.7**	**-1.4**
TLZ	**Tolley Road**	**19.34**	**200**	P		**Pn**		**08 08 54.0**	**-2.0**
KNZ	**Kokohu**	**19.40**	**194**	P		**P**		**08 08 53.5**	**+1.2**
RAHZ	**Arahi**	**19.44**	**196**	P		**P**		**08 08 53.5**	**+0.7**
MTHZ	**Maungataniwha**	**19.45**	**196**	P		**P**		**08 08 52.6**	**-0.3**
MHGZ	**Mahia Peninsul**	**19.47**	**194**	P		**Pn**		**08 08 56.4**	**-1.2**
NMHZ	**Naumai**	**19.69**	**196**	P		**P**		**08 08 56.3**	**+0.8**
HIZ	**Hauiti**	**19.73**	**201**	*eP*		**Pn**		**08 08 58.4**	**-2.2**
	comp=Z,32nm,0.5s								
HIZ	**Hauiti**	**19.73**	**201**	P

WB2					*e*P		P	08 12 45.0	-0.6
WRAB	**Tennant Creek**	**46.24**	**261**		*e*P		P	08 12 44.9	-0.7
	comp=Z,15nm,0.8s								
WRAB	**Tennant Creek**	**46.24**	**261**	*c*	*i*P		P	08 12 44.5	-1.1
WRAB					pmax	pmax			
	comp=Z,12nm,0.8s								
WR1	**Warramunga Arr**	**46.25**	**261**		*e*P		P	08 12 44.8	-1.0
	comp=Z,26nm,0.6s								
WR1					*e*S		S	08 19 06.7	-6.6
WRA	**Warramunga Arr**	**46.25**	**261**		P		P	08 12 44.8	-1.0
	comp=Z,14nm,0.6s,baz=96,slow=5.4,SNR=282								
WRA					ScP		ScP	08 17 43.7	-2.5
	comp=Z,1.0nm,1.0s,baz=81,slow=4.6,SNR=2.3								
WRA					S		S	08 19 06.7	-6.6
	comp=Z,1.4nm,0.7s,baz=97,slow=13,SNR=7.8								
MTN	**Manton Dam**	**50.79**	**270**		*e*P		P	08 13 19.4	-0.9
	comp=Z,24nm,0.8s								
FAKI	**Fak Fak**	**53.04**	**282**		*e*P		P	08 13 36.1	-0.8
	comp=Z,21nm,0.9s								
FITZ	**Fitzroy Crossi**	**54.67**	**262**		*e*P		P	08 13 49.0	+0.4
	comp=Z,3.4nm,0.6s								
SOEI	**Soe**	**58.13**	**271**		*e*P		P	08 14 12.4	-0.7
	comp=Z,40nm,0.8s								
VNDA	**Vanda**	**58.28**	**185**		*e*P		P	08 14 16.4	+3.4
	comp=Z,12nm,0.8s								
VNDA	**Vanda**	**58.28**	**185**		*e*P		P	08 14 16.4	+3.4
VNDA					pmax	pmax			
	comp=Z,12nm,0.8s								
VNDA	**Vanda**	**58.28**	**185**		P		P	08 14 16.4	+3.4
	comp=Z,10nm,0.8s,baz=3.2,slow=7.4,SNR=38								
CASY	**Casey**	**64.86**	**205**		*e*P		P	08 14 58.6	+1.6
	comp=Z,28nm,1.0s								
QSPA	**South Pole Qui**	**69.79**	**180**		*e*P		P	08 15 30.5	+2.5
	comp=Z,36nm,0.8s								
MJAR	**Matsushiro Arr**	**71.01**	**323**		P		P	08 15 33.8	-1.9
	comp=Z,3.3nm,0.7s,baz=167,slow=6.2,SNR=9.3								
MJAR					pP		**pwP**	08 16 35.9	+0.1
	comp=Z,3.7nm,1.0s,baz=156,slow=7.2,SNR=3.2								
MAJO	**Matsushiro**	**71.01**	**323**		*e*P		P	08 15 33.8	-1.9
MAJO					*e*pP		**pwP**	08 16 35.9	+0.1
MAJO	**Matsushiro**	**71.01**	**323**		*e*P		P	08 15 33.8	-1.9
MAT	**Matsushiro**	**71.01**	**323**		P		P	08 15 33.4	-2.2
PETK	**Petropavlovsk-**	**76.49**	**344**		P		P	08 16 06.4	-0.6
	comp=Z,8.2nm,0.8s,baz=134,slow=8.5,SNR=6.7								
PEA1	**Petropavlovsk-**	**76.49**	**344**		*e*P		P	08 16 06.4	-0.6
ISA	**Isabella, Lake**	**78.02**	**45**		*e*P		P	08 16 17.3	+1.3
	comp=Z,6.8nm,0.8s								
CMB	**Columbia Colle**	**78.20**	**42**		*e*P		P	08 16 17.2	+0.3
	comp=Z,3.8nm,0.8s								
CMB	**Columbia Colle**	**78.20**	**42**		*e*P		P	08 16 17.2	+0.3
CMB					pmax	pmax			
	comp=Z,4.0nm,0.8s								
GSC	**Goldstone, Bar**	**78.93**	**46**		*e*P		P	08 16 19.9	-1.1
	comp=Z,3.9nm,0.9s								
GSC	**Goldstone, Bar**	**78.93**	**46**		*e*P		P	08 16 19.9	-1.1
GSC					pmax	pmax			
	comp=Z,4.0nm,0.9s								
WAKR	**Walker**	**79.08**	**42**		*e*P		P	08 16 21.5	-0.3
	comp=Z,7.2nm,0.8s								
113A	**Mohawk Valley,**	**79.65**	**49**		*e*P		P	08 16 24.6	-0.2
	comp=Z,3.9nm,1.0s								
NV01	**Mina Array Sit**	**79.75**	**43**		*e*P		P	08 16 26.5	+1.0
NVAR	**Mina Array Bea**	**79.75**	**43**		P		P	08 16 26.6	+1.1
	comp=Z,4.4nm,0.7s,baz=223,slow=8.8,SNR=42								
NVAR					pP		**pwP**	08 17 28.4	+1.6
	comp=Z,1.0nm,0.8s,baz=230,slow=6.9,SNR=2.2								
PAHR	**Pah Rah Range**	**79.83**	**41**		*e*P		P	08 16 25.2	-0.6
	comp=Z,4.2nm,0.8s								
TPNV	**Topopah Spring**	**80.23**	**45**		*e*P		P	08 16 27.4	-0.6
	comp=Z,4.4nm,0.8s								
KVN	**Kaiserville**	**80.24**	**42**		*e*P		P	08 16 26.8	-1.3
	comp=Z,3.7nm,0.7s								
KVN	**Kaiserville**	**80.24**	**42**		*e*P		P	08 16 26.8	-1.3
KVN					pmax	pmax			
	comp=Z,4.0nm,0.7s								
Y14A	**Wickenburg**	**80.81**	**49**		*e*P		P	08 16 31.0	0.0
	comp=Z,4.9nm,0.9s								
NJ2	**Nanjing**	**81.00**	**309**		*e*P		P	08 16 33.0	+1.0
TUC	**Tucson**	**81.56**	**51**		*e*P		P	08 16 31.1	-3.9
	comp=Z,5.0nm,0.8s								
TUC	**Tucson**	**81.56**	**51**		*e*P		P	08 16 31.1	-3.9
TUC					pmax	pmax			
	comp=Z,5.0nm,0.8s								
X16A	**Lo Mia Camp, P**	**82.16**	**49**		*e*P		P	08 16 36.0	-2.2
	comp=Z,9.9nm,0.9s								
319A	**Douglas**	**82.21**	**53**		*e*P		P	08 16 38.4	-0.1
	comp=Z,11nm,1.1s								
MAW	**Mawson**	**82.32**	**199**		*e*P		P	08 16 39.5	+1.3
	comp=Z,1.4nm,0.8s								
MAW	**Mawson**	**82.32**	**199**		*e*P		P	08 16 39.5	+1.3
MAW					pmax	pmax			
	comp=Z,1.0nm,0.8s								
MAW	**Mawson**	**82.32**	**199**		P		P	08 16 39.5	+1.3
	comp=Z,4.9nm,0.7s,baz=146,slow=7.3,SNR=3.4								
KNB	**Kanab**	**82.56**	**46**		*e*P		P	08 16 39.9	-0.3
	comp=Z,6.3nm,1.1s								
KNB	**Kanab**	**82.56**	**46**		*e*P		P	08 16 39.9	-0.3
KNB					pmax	pmax			
	comp=Z,6.0nm,1.1s								
U15A	**North Rim**	**82.61**	**47**		*e*P		P	08 16 40.6	-0.1
	comp=Z,11nm,0.9s								
WUAZ	**Wupatki**	**82.77**	**48**		*e*P		P	08 16 40.5	-0.9
	comp=Z,8.1nm,1.1s								
ELK	**Elko**	**83.02**	**42**		*e*P		P	08 16 40.2	-2.3
	comp=Z,3.0nm,0.8s								
ELK	**Elko**	**83.02**	**42**		*e*P		P	08 16 40.3	-2.3
ELK					pmax	pmax			
	comp=Z,3.0nm,0.8s								
PKCU	**Pink Cliffs**	**83.13**	**46**		*e*P		P	08 16 43.8	+0.4
	comp=Z,17nm,1.2s								
X18A	**Snowflake**	**83.28**	**50**		*e*P		P	08 16 44.5	+0.5
	comp=Z,6.6nm,0.8s								
G08A	**Pilot Rock**	**83.46**	**37**		*e*P		P	08 16 44.1	-0.4
	comp=Z,10nm,0.9s								
MTPU	**Mount Pierson**	**83.53**	**46**		*e*P		P	08 16 46.9	+1.5
	comp=Z,7.4nm,0.9s								
E07A	**Sunnyside**	**83.74**	**35**		*e*P		P	08 16 45.2	-0.6
	comp=Z,16nm,1.0s								
MSU	**Marysvale**	**83.79**	**45**		*e*P		P	08 16 47.6	+1.1
MSU	**Marysvale**	**83.79**	**45**		*e*P		P	08 16 47.6	+1.1
D08A	**Wollman Farm,**	**84.55**	**35**		*e*P		P	08 16 49.0	-0.8
	comp=Z,7.5nm,0.9s								
F10A	**Beach Ranch, E**	**84.84**	**37**		*e*P		P	08 16 51.3	-0.2
	comp=Z,12nm,0.9s								
TMUT	**Trail Mountain**	**84.84**	**45**		*e*P		P	08 16 51.9	+0.1
	comp=Z,10nm,1.1s								
MNTX	**Cornudas Mount**	**85.30**	**54**		*e*P		P	08 16 53.0	-0.9
	comp=Z,9.8nm,1.0s								
TX31	**Lajitas Ar. Si**	**85.57**	**57**		*e*P		P	08 16 56.3	+0.9
	comp=Z,7.7nm,0.9s								
TX31					*e*P		P	08 16 56.6	+1.1
TXAR	**Lajitas Array**	**85.57**	**57**		P		P	08 16 56.9	+1.5
	comp=Z,5.2nm,0.8s,baz=216,slow=6.2,SNR=18								
TRF	**Thorofare Moun**	**85.90**	**11**		*e*P		P	08 16 56.7	+0.3
	comp=Z,7.7nm,0.8s								
ANMO	**Albuquerque**	**86.00**	**51**⇓		*e*P		P	08 16 58.6	+1.1
ANMO					*i* *PP		**pP**	08 17 51.3	-5.4
ANMO					pmax	pmax			
	comp=Z,4.0nm,1.1s								
RND	**Reindeer**	**86.13**	**12**		*e*P		P	08 16 57.3	0.0
	comp=Z,8.9nm,1.0s								
RND	**Reindeer**	**86.13**	**12**		*e*P		P	08 16 57.3	0.0
RND					pmax	pmax			
	comp=Z,9.0nm,1.0s								
SEY	**Seymchan**	**86.54**	**346**⇓		*e*P		P	08 16 58.7	-0.5
S22A	**4UR Ranch, Cre**	**87.05**	**48**		*e*P		P	08 17 00.7	-2.0
	comp=Z,6.1nm,1.1s								
LNIG	**Linares**	**87.11**	**62**		*e*P		P	08 17 01.8	-1.1
	comp=Z,11nm,0.9s								
WRH	**Wood River Hil**	**87.24**	**12**		*e*P		P	08 17 02.7	+0.1
	comp=Z,3.9nm,1.0s								
SMCO	**Snowmass**	**87.63**	**47**		*e*P		P	08 17 04.0	-1.5
	comp=Z,2.7nm,0.7s								
COLA	**College**	**87.65**	**12**⇓		*e*P		P	08 17 06.1	+1.7
COLA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
PD31	**Pinedale Array**	**87.69**	**43**		*e*P		P	08 17 04.7	-0.8
	comp=Z,1.2nm,1.0s								
PDAR	**Pinedale Array**	**87.69**	**43**		P		P	08 17 05.9	+0.4
	comp=Z,0.6nm,0.7s,baz=194,slow=3.3,SNR=7.0								
PDAR					PKKPbc		**PKKPbc**	08 34 52.2	-1.6
	comp=Z,0.4nm,0.8s,baz=67,slow=5.3,SNR=3.9								
ILAR	**Eielson Array**	**87.75**	**12**		P		P	08 17 04.3	-0.7
	comp=Z,0.4nm,0.6s,baz=218,slow=5.4,SNR=7.7								
ILAR					pP		**pP**	08 18 05.7	+1.5
	comp=Z,1.6nm,1.1s,baz=234,slow=5.4,SNR=3.9								
ILB	**Eielson Array**	**87.75**	**12**		*e*P		P	08 17 04.3	-0.7
	comp=Z,2.6nm,1.0s								
IL1	**Eielson Array**	**87.75**	**12**		*e*P		P	08 17 04.0	-1.0
SNAA	**Sanae**	**88.18**	**178**		P		P	08 17 07.7	+0.5
SNAA	**Sanae**	**88.18**	**178**		*e*P		P	08 17 07.9	+0.7
	comp=Z,5.7nm,0.9s								
SNAA	**Sanae**	**88.18**	**178**⇓		*e*P		P	08 17 08.2	+1.0
VNA3	**Neumayer Olymp**	**88.25**	**176**		P		P	08 17 08.8	+1.3
VNA2	**Neumayer--Watz**	**88.71**	**176**		P		P	08 17 11.0	+1.4
	baz=192,slow=3.5								
VNA1	**Neumayer--Stat**	**88.93**	**176**		P		P	08 17 11.7	+1.1
HHC	**Hu-ho-hao-te**	**90.37**	**314**		*e*P		P	08 17 22.0	+4.1
HHC					pmax	pmax			
	comp=Z,13nm,0.9s								
HHC					pmax	pmax			
	comp=Z,230nm,5.2s								
CM01	**Chiang Mai Arr**	**91.55**	**289**		*e*P		P	08 17 22.9	-0.9
CMAR	**Chiang Mai Arr**	**91.58**	**289**		P		P	08 17 22.9	-1.0
	comp=Z,1.6nm,0.6s,baz=112,slow=2.6,SNR=9.1								
RSSD	**Black Hills**	**91.87**	**43**		*e*P		P	08 17 23.1	-1.8
	comp=Z,8.4nm,0.9s								
RSSD	**Black Hills**	**91.87**	**43**		*e*P		P	08 17 23.2	-1.8
RSSD					pmax	pmax			
	comp=Z,8.0nm,0.9s								
LZH	**Lanzhou**	**93.94**	**307**		*e*P		P	08 17 34.6	0.0
LZH					pP		pP	08 18 35.3	+1.1
LZH					sP		sP	08 18 53.3	-6.6
LZH					*e*PP		**PP**	08 21 30.3	+5.9
LZH					pmax	pmax			
	comp=Z,25nm,1.3s								
YKA	**Yellowknife Ar**	**95.64**	**24**		P		P	08 17 41.6	+0.1
	comp=Z,0.6nm,0.8s,baz=238,slow=4.6,SNR=11								
TIXI	**Tiksi**	**98.96**	**345**⇓		*e*P		P	08 17 57.4	+1.2
TIXI					pmax	pmax			
	comp=Z,1.0nm,1.2s								
MK32	**Makanchi Array**	**112.23**	**313**		*e*PKiKP		**PKiKP**	08 22 51.0	+0.3
MKAR	**Makanchi Array**	**112.23**	**313**		PKiKP		**PKiKP**	08 22 51.0	+0.3
MKAR	**Makanchi Array**	**112.23**	**313**		PKiKP		**PKiKP**	08 22 51.0	+0.3
	comp=Z,0.2nm,0.6s,baz=99,slow=1.3,SNR=6.6								
MKAR					PKKPbc		**PKKPbc**	08 33 43.5	0.0
	comp=Z,0.5nm,0.7s,baz=291,slow=2.8,SNR=5.3								
KURBB	**Kurchatov Arra**	**114.99**	**317**		PKP		**PKiKP**	08 22 54.9	-1.0
	comp=Z,1.0nm,0.8s,baz=112,slow=2.2,SNR=9.4								
FRB	**Frobisher Bay**	**115.82**	**28**		PKP		**PKPdf**	08 22 56.2	-0.7
	comp=Z,0.6nm,0.5s,baz=209,slow=3.7,SNR=4.3								
BVAR	**Borovoye Array**	**119.95**	**320**		PKP		**PKPdf**	08 23 04.2	-1.1
	comp=Z,0.7nm,0.3s,baz=108,slow=1.9,SNR=7.0								
BRVK	**Borovoye**	**120.02**	**320**	*c*	*i*PKiKP		**PKiKP**	08 23 05.6	+0.1
BRVK					pmax	pmax			
	comp=Z,14nm,2.5s								
ARU	**Arti**	**125.94**	**326**		*i* PKiKP		**PKPdf**	08 23 16.2	-0.5
ARU								08 25 08.1	
ARU								08 30 06.1	
ARA0	**ARCESS Array S**	**128.99**	**350**		*e*PKPdf		**PKPdf**	08 23 22.4	+0.2
ARCES	**ARCESS Array B**	**128.99**	**350**		PKP		**PKPdf**	08 23 22.4	+0.3
	comp=Z,2.6nm,0.9s,baz=343,slow=3.8,SNR=4.8								
FIA0	**FINESS Array S**	**136.00**	**345**		*e*PKPdf		**PKPdf**	08 23 35.7	+0.1
FIA0	**FINESS Array S**	**136.00**	**345**		*e*PKiKP		**PKPdf**	08 23 35.7	+0.1
FINES	**FINESS Array B**	**136.00**	**345**		PKP		**PKPdf**	08 23 35.7	+0.1
	comp=Z,1.1nm,0.5s,baz=90,slow=1.9,SNR=5.4								
OBN	**Obninsk**	**137.32**	**333**		*e*PKiKP		**PKPdf**	08 23 33.3	-4.9
OBN					pmax	pmax			
	comp=Z,11nm,0.4s								
GOF	**Gofitskoye**	**139.28**	**317**		*e*PKiKP		**PKPdf**	08 23 41.7	-0.4
GOF					pmax	pmax			
	comp=Z,50nm,0.9s								
AKASG	**Malin Array Be**	**143.59**	**333**		PKhKP	PKPpre		08 23 46.1	
	comp=Z,0.7nm,0.4s,baz=41,slow=4.0,SNR=6.2								
AKASG					PKP		**PKPdf**	08 23 50.9	+1.3
	comp=Z,0.4nm,0.3s,baz=44,slow=4.0,SNR=8.4								
AKASG					SKPbc		**SKiKP**	08 27 05.1	-0.2
	comp=Z,0.2nm,0.3s,baz=42,slow=2.9,SNR=9.5								
KIEV	**Kiev**	**143.60**	**333**⇑		*i*PKiKP		**PKiKP**	08 23 52.2	-0.9
EKA	**Eskdalemuir Ar**	**144.61**	**7**		PKP	PKPbc		08 23 50.6	0.0
	comp=Z,2.4nm,0.6s,baz=1.3,slow=3.8,SNR=3.7								
BR101	**Keskin Array S**	**147.88**	**314**		*e*PKPbc		**PKPbc**	08 24 01.1	+0.3
BRTR	**Keskin Array B**	**147.88**	**314**	*c*	*i*PKP2		**PKPbc**	08 24 00.5	-0.3
BRTR	**Keskin Array B**	**147.88**	**314**		PKPbc		**PKPbc**	08 24 01.1	+0.3
	comp=Z,1.1nm,0.7s,baz=154,slow=7.1,SNR=6.5								
BRTR					pPKPbc		**pPKPab**	08 25 05.4	+0.8
	comp=Z,0.2nm,0.4s,baz=58,slow=5.4,SNR=1.1								
UZH	**Uzhgorod**	**148.02**	**337**⇑		*i*PKP2		**PKiKP**	08 24 01.6	-0.7
CLL	**Collm**	**148.19**	**349**		*i* PKPbc		**PKPbc**	08 24 01.0	0.0
	comp=Z,12nm,1.0s								
CLL					*e*PKPab		**PKPab**	08 24 07.0	+2.3
	comp=Z,5.0nm,0.8s								
CLL	**Collm**	**148.19**	**349**		*i* PKP2		**PKPbc**	08 24 01.0	0.0
CLL					pmax	pmax			
	comp=Z,12nm,1.0s								
DPC	**Dobruska-Polom**	**148.38**	**345**		*e*PKP		**PKiKP**	08 24 02.4	-0.7
DPC	**Dobruska-Polom**	**148.38**	**345**		*e*PKP2		**PKiKP**	08 24 02.4	-0.7
BRG	**Berggiesshubel**	**148.42**	**348**		*e*PKP		**PKPdf**	08 23 59.1	+1.3
	comp=Z,5.1nm,1.1s								
BRG	**Berggiesshubel**	**148.42**	**348**		*e*PKiKP		**PKPdf**	08 23 59.1	+1.3
BRG					pmax	pmax			
	comp=Z,5.0nm,1.1s								
KRLC	**Kraliky**	**148.51**	**344**		*e*PKP		**PKiKP**	08 24 02.9	-0.5
KRLC	**Kraliky**	**148.51**	**344**		*e*PKP2		**PKiKP**	08 24 02.9	-0.5
LANS	**Liptovska Anna**	**148.56**	**340**		*e*PKP2		**PKiKP**	08 24 03.5	0.0
LANS	**Liptovska Anna**	**148.56**	**340**		*e*PKP		**PKiKP**	08 24 03.5	0.0
PRU	**Pruhonice**	**149.13**	**346**		*e*PKP		**PKPbc**	08 24 03.9	+0.4
PRU	**Pruhonice**	**149.13**	**346**		*e*PKP2		**PKPbc**	08 24 03.9	+0.4
GOPC	**GO Pecny, Ondr**	**149.15**	**346**		*e*PKP		**PKiKP**	08 24 04.1	-0.5
GOPC	**GO Pecny, Ondr**	**149.15**	**346**		*e*PKP2		**PKiKP**	08 24 04.1	-0.5
VYHS	**Vyhne**	**149.33**	**340**		*e*PKP2		**PKiKP**	08 24 04.9	-0.2
VYHS	**Vyhne**	**149.33**	**340**		*e*PKP		**PKiKP**	08 24 04.9	-0.2
MODS	**Modra-Piesok**	**149.92**	**342**		*e*PKP2		**PKiKP**	08 24 06.8	+0.5
MODS	**Modra-Piesok**	**149.92**	**342**		*e*PKP		**PKiKP**	08 24 06.8	+0.5
MODS					*e*			08 24 12.6	
	comp=Z,4.9nm,0.8s,baz=29,slow=3.0,SNR=29								
CONA	**Conrad Observa**	**150.72**	**343**		*e*PKiKP		**PKiKP**	08 24 07.9	-0.1
	comp=Z,11nm,1.2s								
MOA	**Molln**	**151.20**	**345**		*i* PKiKP		**PKPbc**	08 24 08.5	0.0
	comp=Z,2.8nm,0.6s								
BFO	**Black Forest**	**151.77**	**354**	*c*	*i*PKiKP		**PKiKP**	08 24 11.0	+0.9
BFO					pmax	pmax			
	comp=Z,1.0nm,1.3s								
SOKA	**Soboth**	**152.09**	**343**		*e*PKiKP		**PKPbc**	08 24 10.8	+0.1
	comp=Z,3.6nm,0.8s								
KBA	**Koenlbreinsper**	**152.14**	**346**		*e*PKPbc		**PKPbc**	08 24 10.2	-0.6
	comp=Z,5.0nm,1.0s								
MOTA	**Moosalm**	**152.34**	**349**		*e*PKiKP		**PKiKP**	08 24 12.0	+0.5
	comp=Z,2.7nm,0.6s								
SQTA	**Sankt Quirin**	**152.44**	**349**		*e*PKiKP		**PKiKP**	08 24 12.0	+0.3
	comp=Z,4.4nm,0.6s								
DAVA	**Damuels**	**152.60**	**351**		*e*PKiKP		**PKiKP**	08 24 12.8	+0.8
	comp=Z,5.6nm,0.8s								
ABTA	**Abfaltersbach**	**152.64**	**347**		*e*PKPbc		**PKPbc**	08 24 10.8	-1.0
	comp=Z,3.9nm,0.7s								
TORD	**Torodi Ar. Bea**	**172.65**	**164**		PKP		**PKPdf**	08 24 24.0	-0.7
	comp=Z,0.9nm,0.9s,baz=174,slow=3.7,SNR=5.2								
TORD					PKPab		**sPKPdf**	08 25 53.2	+0.4
	comp=Z,3.9nm,0.8s,baz=180,slow=2.8,SNR=21								
TORD					PP		**PP**	08 29 45.3	+3.5
	comp=Z,1.1nm,0.9s,baz=194,slow=2.5,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**172.65**	**164**		*e*PKPdf		**PKPdf**	08 24 24.0	-0.7
TOA1					*e*PKPab		**sPKPdf**	08 25 53.2	+0.4
TOA1					*e*PP		**PP**	08 29 45.3	+3.5

IDC 20 08:04:50.1±1.8, 14°.69S×175°.53W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.1/29, mbtmp4.2/6, MS3.4/3, Ms1 3.4/3, ms1mx2.9/32, Error ellipse: s-maj=72.8km s-min=31.0km az=154.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**31.12**	**199**	LR	LR		08 22 18.6	
	comp=Z,118nm,18.3s,baz=207,slow=34							
WRA	**Warramunga Arr**	**48.01**	**256**	P	P		08 13 31.3	-0.1
	5.4nm,0.6s,baz=96,slow=6.5,SNR=8.4							
PETK	**Petropavlovsk-**	**71.34**	**343**	P	P		08 16 11.6	0.0
	9.3nm,1.0s,baz=115,slow=8.6,SNR=6.0							
ELK	**Elko**	**78.43**	**42**	LR	LR		08 45 03.3	
	comp=Z,33nm,20.1s,baz=180,slow=31							
KLR	**Kul'dur**	**78.81**	**328**	LR	LR		08 45 54.9	
	comp=Z,10nm,20.7s,baz=332,slow=31							
TXAR	**Lajitas Array**	**81.94**	**57**	P	P		08 17 12.2	-0.1
	1.6nm,0.6s,baz=223,slow=7.2,SNR=6.7							
ILAR	**Eielson Array**	**82.16**	**12**	P	P		08 17 12.9	+0.4
	1.0nm,0.4s,baz=214,slow=4.9,SNR=19							
PDAR	**Pinedale Array**	**83.12**	**43**	P	P		08 17 19.0	+0.7
	0.3nm,0.6s,baz=186,slow=3.6,SNR=5.2							
YKA	**Yellowknife Ar**	**90.28**	**24**	P	P		08 17 51.3	-1.1
	0.2nm,0.6s,baz=235,slow=4.8,SNR=3.9							

*IDC **20** 08:11:06.0±0.9, 38°.76N×21°.05E, h0km, mb3.7/12, mb1 3.8/19, mb1mx3.6/52, mbtmp3.6/19, ML3.8/7, MS2.6/2, Ms1 2.7/2, ms1mx2.1/53, Error ellipse: s-maj=17.3km s-min=13.3km az=48.0*

*ISCJB **20** 08:11:08.6±0.2, 38°.68N±0°.02×21°.04E±0°.02, h23km±2km, mb3.6/12, MS2.6/1, Error ellipse: s-maj=3.3km s-min=2.1km az=40.9*

*ATH **20** 08:11:08.2, 38°.66N×21°.11E, h18km±2km, ML3.4/14, Error ellipse: s-maj=2.2km s-min=0.5km az=228.0*

*THE **20** 08:11:08.6, 38°.66N×21°.11E, h0km±1km, ML3.4/8, Error ellipse: s-maj=1.9km s-min=0.5km az=15.0*

*PDG **20** 08:11:09.2±0.3, 38°.72N×20°.97E, h20km±1km, ML3.9/10, Error ellipse: s-maj=1.8km s-min=0.8km az=90.0*

ISC 20 08:11:08.5±0.9, 38°.68N±0°.02×21°.09E±0°.02, h18km±5km, n153, σ1°34/198, mb3.6/12, 11C-15D, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.34**	**100**	P	**Pg**		**08 11 15.3**	**-0.5**
PVO				S	**Sg**		**08 11 20.5**	**-0.2**
PVO	**Paravola**	**0.34**	**100**	P	**Pg**		**08 11 15.3**	**-0.5**
PVO				S	**Sg**		**08 11 20.6**	**-0.1**
PVO				AML	AML		08 11 23.2	
	comp=N,20963μm,0.4s							
PVO				AML	AML		08 11 23.2	
	comp=E,17654μm,0.4s							
EVGI	**Lefkada island**	**0.35**	**261**	P	**Pg**		**08 11 15.5**	**-0.3**
EVGI				S	**Sb**		**08 11 21.9**	**+0.6**
EVGI	**Lefkada island**	**0.35**	**261**	P	**Pg**		**08 11 15.7**	**-0.1**
EVGI				S	**Sg**		**08 11 21.1**	**+0.3**
LKD2	**Lefkada island**	**0.36**	**288**	P	**Pg**		**08 11 16.0**	**0.0**
LKD2				S	**Sg**		**08 11 21.2**	**+0.1**
LKD2	**Lefkada island**	**0.36**	**288**	P	**Pg**		**08 11 16.1**	**0.0**
LKD2				S	**Sg**		**08 11 21.3**	**+0.1**
LKD2				AML	AML		08 11 26.2	
	comp=E,36420μm,0.4s							
LKD2				AML	AML		08 11 26.5	
	comp=N,25293μm,0.4s							
TSLK	**Tsoukalades, L**	**0.37**	**294**	P	**Pb**		**08 11 16.4**	**-0.2**
TSLK				S	**Sb**		**08 11 22.0**	**-0.1**
TSLK				AML	AML		08 11 26.8	
	comp=E,18056μm,0.6s							
TSLK				AML	AML		08 11 27.8	
	comp=N,25949μm,0.6s							
AXS	**Araxos**	**0.53**	**155**	P	**Pg**		**08 11 18.7**	**-0.4**
AXS				S	**Sg**		**08 11 25.7**	**-0.5**
AXS	**Araxos**	**0.53**	**155**	P	**Pg**		**08 11 18.8**	**-0.3**
AXS				S	**Sg**		**08 11 25.9**	**-0.3**
EVR	**Evryt

VLX	Vlachokerasia	1.65	142	P		Pb	08 11 38.6	+0.1
SMIA	Simia	1.67	82	P		Pb	08 11 38.0	-0.7
KZN	Kozani	1.71	18	P		Pb	08 11 39.2	-0.3
NEST	Nestorio	1.74	359	P		Pb	08 11 40.0	+0.1
VIL2	Platees	1.77	105	P		Pg	08 11 41.7	-0.8
XOR	Xorichti	1.77	67	P		Pb	08 11 40.0	-0.5
XOR	Xorichti	1.77	67	P		Pb	08 11 40.7	+0.2
NEO	Neokhori	1.78	69	P		Pb	08 11 40.0	-0.5
LIT	Litokhoron	1.79	37	P		Pb	08 11 40.7	-0.1
VILL	Villia	1.82	106	P		Pb	08 11 40.6	-0.7
PYL	PYLOS	1.85	164	P		Pb	08 11 41.3	-0.5
KTI	Kastanea	1.89	24	P		Pb	08 11 42.2	-0.3
SKIA	Skiathos	1.92	74	P		Pb	08 11 41.8	-1.1
DID	Didima	2.06	124	P		Pb	08 11 44.0	-1.3
FNA	Florina	2.12	6	P		Pb	08 11 45.7	-0.7
AOS	Alonnisos	2.23	76	P		Pn	08 11 45.8	+1.2
EREA	Eretria	2.24	96	P		Pn	08 11 46.5	+1.8
BIA	Bitola	2.35	4	*i*	Pn	Pb	08 11 50.0	-0.3
PAIG	Paliouri	2.36	57	P		Pn	08 11 47.5	+1.1
VLI	Veliai	2.44	143	P		Pn	08 11 49.6	+2.1
OHR	Ohrid	2.44	355	*i*	Pn	Pb	08 11 53.4	+1.5
PLG	Polygyros	2.49	46	P		Pn	08 11 49.4	+1.3
OUR	Ouranopolis	2.78	53	P		Pn	08 11 53.4	+1.3
TIR	Tirane	2.83	341	⇑	*i*P	Pn	08 11 53.9	+1.1
KNT	Kendrikon	2.84	29	P		Pn	08 11 55.3	+2.3
VAY	Valandovo	2.88	23	*i*	Pn	Pb	08 11 56.5	-2.8
SRS	Serrai	3.10	37	P		Pn	08 11 58.0	+1.4
STIP	Stip	3.13	15	*i*	Pn	Pb	08 12 01.7	-1.9
SKO	Skopje	3.30	4	*i*	Pn	Pb	08 12 05.2	-1.3
TIP	Timpagrande	3.42	280	⇑	*i*P	Pn	08 12 02.2	+1.2
CGL1	Ceglie Messapi	3.42	306	*e*	Pn	Pn	08 12 02.3	+1.4
ULC	Ulcinj	3.57	337	⇑	*i*Pn	Pn	08 12 03.9	+0.8
ULC					*e*Sn	Sn	08 12 04.8	-0.1
FASA	Fasano	3.59	308	*e*	Pn	Pn	08 12 05.3	+2.1
MASS	Massafra	3.62	304	*e*	Pn	Pn	08 12 05.1	+1.4
DRME	Dracevica, Mon	3.80	338	⇓	*i*Pn	Pn	08 12 07.1	+1.0
DRME					*e*Sn	Sn	08 12 50.6	+0.3
DRME	Dracevica, Mon	3.80	338	*e*	Pn	Pn	08 12 06.9	+0.8
BUM	Brajici-Budva	3.99	336	⇑	*i*Pn	Pn	08 12 09.9	+1.1
BUM					*e*Sn	Sn	08 12 55.9	+0.7
PDG	Podgorica	4.00	340	⇓	*i*P	Pn	08 12 10.2	+1.3
PDG	Podgorica	4.00	340	*e*	Pn	Pn	08 12 10.3	+1.3
TTG	Podgorica	4.00	340	⇓	*i*Pn	Pn	08 12 09.8	+0.9
TTG					*e*Sn	Sn	08 12 56.6	+1.3
PVY	Plav	4.01	348	⇓	*i*Pn	Pn	08 12 10.5	+1.4
PVY					*e*Sn	Sn	08 12 56.6	+0.9
SG1	Sgolgore (BA)	4.03	304	*e*	Pn	Pn	08 12 10.5	+1.2
SG1					Sn	Sn	08 12 57.1	+1.0
BAI	Bari	4.05	308	*e*	Pn	Pn	08 12 11.1	+1.6
BAI					Sn	Sn	08 13 01.2	+4.7
CEME	Cevo	4.21	338	⇑	*i*Pn	Pn	08 12 12.2	+0.4
CEME					*e*Sn	Sn	08 13 01.3	+0.8
HCY	Herceg Novi	4.25	333	⇓	*i*Pn	Pn	08 12 12.8	+0.4
HCY					*e*Sn	Sn	08 13 01.5	-0.1
HCY	Herceg Novi	4.25	333	*e*	Pn	Pn	08 12 12.3	-0.1
VTS	Vitosha	4.26	22	⇓	*i*Pn	Pn	08 12 15.1	+2.5
IVA	Berane	4.29	348	⇓	*i*Pn	Pn	08 12 14.3	+1.3
IVA					*e*Sn	Sn	08 13 03.0	+0.4
KOME	Kolasin	4.34	344	⇓	*i*Pn	Pn	08 12 14.8	+1.2
KOME					*e*Sn	Sn	08 13 04.7	+0.9
NKME	Niksic	4.40	339	⇑	*i*Pn	Pn	08 12 15.4	+1.0
NKME					*e*Sn	Sn	08 13 05.1	-0.1
NKY	Niksic	4.43	340	⇓	*i*Pn	Pn	08 12 15.6	+0.7
NKY					*e*Sn	Sn	08 13 06.6	+0.5
TREB	Trebinje	4.54	334	*e*	Pn	Pn	08 12 15.8	-0.6
IDI	Anoyia	4.55	137	Pn		Pn	08 12 18.8	+2.3
	comp=E,0.7nm,0.3s,baz=281,slow=5.2,SNR=4.2							
IDI					Sn	Sn	08 13 05.6	-3.3
	comp=E,1.2nm,0.3s,baz=275,slow=18,SNR=1.9							
STON	Ston	4.92	330	*i*	Pn	Pn	08 12 21.8	+0.3
STON					Sn	Sn	08 13 15.2	-2.7
HAPS	Han Pijesak,BI	5.64	344	*e*	Pn	Pn	08 12 32.2	+0.7
MDVR	Moldovita	6.12	4	⇓	*i*P	Pn	08 12 40.8	+2.8
CTYL	Yalikoy Yolu	6.19	61	⇑	*i*P	Pn	08 12 42.2	+3.3
HERR	Herculane	6.28	9	⇓	*i*P	Pn	08 12 42.8	+2.6
BLY	Banja Luka	6.73	336	*e*	Pn	Pn	08 12 46.4	0.0
GZR	Gura Zlata	6.83	10	⇑	*i*P	Pn	08 12 50.6	+2.8
BZS	Buzias	6.95	3	⇓	*i*P	Pn	08 12 50.8	+1.5
ARR	Arges	7.19	20	⇑	*i*P	Pn	08 12 54.8	+2.1
VOIR		7.37	22	⇓	*i*P	Pn	08 12 58.7	+3.5
NVLJ	Novalja	7.50	324	*e*	Pn	Pn	08 12 57.3	+0.4
NVLJ					Sn	Sn	08 14 18.6	-2.9
MLR	Muntele Rosu	7.71	26	⇑	*i*P	Pn	08 13 02.7	+2.8
MLR	Muntele Rosu	7.71	26	Pn		Pn	08 13 01.7	+1.8
	comp=E,0.5nm,0.3s,baz=236,slow=13,SNR=6.0							
MORH	Mrgy, Hungar	7.75	347	*e*	Pn	Pn	08 13 00.3	0.0
BOJS	Bojanci	8.09	329	*i*	Pn	Pn	08 13 05.6	+0.6
PLOR	Plostina	8.27	28	⇑	*i*P	Pn	08 13 10.6	+3.1
CRES	Cresnjev	8.28	332	*e*	Pn	Pn	08 13 07.0	-0.6
GBRS	Gornja Briga	8.29	328	*i*	Pn	Pn	08 13 08.3	+0.6
VRI	Vrincioaia	8.31	28	⇓	*i*P	Pn	08 13 11.3	+3.2
CEY	Cerknica	8.62	327	*e*	Pn	Pn	08 13 12.9	+0.6
OBKA	Obir	9.19	330	*e*	Pn	Pn	08 13 21.4	+1.2
	comp=E,1.8nm,0.2s							
OBKA					Sn	Sn	08 15 01.2	-2.0
	comp=E,12nm,0.7s							
PSZ	Piszkesteto	9.28	355	⇓	*i*P	Pn	08 13 22.6	+1.2
MYKA	Terra Mystica	9.65	328	*e*	Pn	Pn	08 13 29.3	+2.8
	comp=E,1.0nm,0.3s							
BRTR	Keskin Array B	9.80	80	Pn		Pn	08 13 32.6	+4.0
	comp=E,0.1nm,0.3s,baz=265,slow=13,SNR=2.5							
MOA	Molln	10.43	334	*e*	Pn	Pn	08 13 38.7	+1.6
	comp=E,1.4nm,0.2s							
MOA					*e*Sn	Sn	08 15 32.4	-1.0
	comp=E,1.2nm,0.3s							
VRAC	Vranov	11.11	345	Pn		Pn	08 13 47.5	+1.1
	comp=E,0.6nm,0.3s,baz=61,slow=10,SNR=2.3							
MOTA	Moosalm	11.33	323	*e*	Pn	Pn	08 13 51.0	+1.4
	comp=E,2.2nm,0.4s							
GERES	GERESS Array B	11.48	335	Pn		Pn	08 13 50.6	-0.9
	comp=E,0.3nm,0.3s,baz=156,slow=13,SNR=4.7							
GERES					Sn	Sn	08 15 54.9	-4.4
	comp=E,0.0nm,0.3s,baz=150,slow=24,SNR=2.8							
DAVOX	Davos/Dischmat	11.55	318	Pn		Pn	08 13 52.0	-0.6
	comp=E,0.2nm,0.3s,baz=342,slow=19,SNR=1.9							
DAVOX					Sn	Sn	08 15 54.9	-6.2
	comp=E,0.1nm,0.3s,baz=311,slow=20,SNR=2.1							
EIL	Elat	14.56	124	LR		LR	08 22 03.5	
	comp=E,21nm,20.0s,baz=283,slow=45							
ESDC	Sonseca Array	19.44	281	P		Pn	08 15 35.3	+0.1
	comp=E,0.3nm,0.3s,baz=67,slow=10,SNR=2.7							
HFS	Hagfors	21.98	350	P		P	08 16 00.2	-1.0
	comp=E,0.7nm,0.3s,baz=174,slow=14,SNR=5.0							
FINES	FINESS Array B	23.00	6	P		P	08 16 10.6	-1.5
	comp=E,1.3nm,0.6s,baz=186,slow=13,SNR=5.7							
NB2	NORSAR Subarra	23.22	348	P		P	08 16 14.7	+0.3
	comp=Z,0.5nm,0.5s,baz=159,slow=11							
NOA	NORSAR Array B	23.22	348	P		P	08 16 13.1	-1.3
	comp=Z,0.3nm,0.5s,baz=164,slow=12,SNR=3.7							
NOA				LR		LR	08 25 33.9	
	comp=Z,20nm,19.7s,baz=275,slow=38							
EKA	Eskdalemuir Ar	25.29	324	P		P	08 16 14.3	-0.8
	comp=Z,1.8nm,0.8s,baz=124,slow=10,SNR=2.8							
TORD	Torodi Ar. Bea	30.70	219	P		P	08 17 23.1	+0.8
	comp=Z,0.4nm,0.8s,baz=29,slow=10,SNR=3.1							
ARCES	ARCESS Array B	31.01	3	P		P	08 17 24.0	-0.6
	comp=Z,2.4nm,0.8s,baz=195,slow=10,SNR=7.5							
MKAR	Makanchi Array	44.66	59	P		P	08 19 19.9	-0.1
	comp=Z,0.4nm,0.4s,baz=279,slow=7.8,SNR=10							
ZALV	Zalesovo Beam	45.02	49	P		P	08 19 22.7	-0.1
	comp=Z,2.7nm,0.4s,baz=273,slow=8.7,SNR=10							
SCHQ	Scheffervill	58.40	317	P		P	08 21 01.5	-1.1
	comp=Z,2.1nm,0.8s,baz=40,slow=7.9,SNR=2.7							
CMAR	Chiang Mai Arr	69.38	83	P		P	08 22 14.5	-1.0
	comp=Z,0.7nm,0.3s,baz=306,slow=7.6,SNR=2.2							
YKA	Yellowknife Ar	73.08	340	P		P	08 22 36.5	-0.6
	comp=Z,0.1nm,0.5s,baz=45,slow=5.5,SNR=4.1							
ILAR	Eielson Array	76.45	355	P		P	08 22 57.7	+1.1
	comp=Z,0.3nm,1.0s,baz=0.0,slow=4.1,SNR=2.9							

*ISCJB **20** 08:13:18.5±0.6,50.27N±0.04×18.80E±0.03,h0km, Error ellipse: s-maj=5.5km s-min=2.9km az=3.5*
*PRU **20** 08:13:20.0±0.0,50.25N×18.80E,h0km*
ISC 20 08:13:19.4±1.0,50.26N±0.04×18.83E±0.03,h0km,n13, σ0s69/22,1C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHZP	Chorzow	0.11	74	*e*Pg		Pg	08 13 21.6	+0.1
CHZP				*e*Sg		Sg	08 13 23.3	+0.3
OKC	Ostrava-Krasne	0.61	226	*e*PG		Pg	08 13 31.2	+0.2
OKC				*e*SG		Sg	08 13 38.8	-0.1
	comp=Z,5.1nm,0.3s							
OJC	Ojcow	0.63	93	*e*Pg		Pg	08 13 31.0	-0.4
OJC				*e*Sg		Sg	08 13 39.4	-0.1
MORC	Moravsky Berou	0.96	240	⇑	*i*P	Sg	08 13 51.0	+0.9
MORC	Moravsky Berou	0.96	240	*e*P		Pb	08 13 39.3	+0.4
MORC				*e*SG		Sg	08 13 51.0	+0.9
LANS	Liptovska Anna	1.19	159	*e*PG		Pg	08 13 41.8	-0.3
LANS				*e*SG		Sg	08 13 57.7	+0.2
NIE	Niedzica	1.27	131	*e*Pg		Pg	08 13 43.9	+0.1
NIE				*e*Sg		Sg	08 14 01.2	+0.9
KRLC	Kraliky	1.33	263	*e*SG		Sg	08 14 01.2	-0.8
	comp=Z,1.1nm,0.3s							
DPC	Dobruska-Polom	1.61	274	*e*SG		Sn	08 14 10.3	-0.2
	comp=Z,3.3nm,0.3s							
KSP	Ksiaz	1.72	291	*e*Pg		Pg	08 13 52.5	+0.3
KSP				*e*Sg		Sg	08 14 14.9	+0.4
VRAC	Vranov	1.73	237	*e*PG		Pb	08 13 52.4	+0.3
VRAC				*e*SG		Sn	08 14 11.4	-2.2
VYHS	Vyhne	1.77	180	*e*PN		Pn	08 13 51.0	-0.2
VYHS				*e*SN		Sn	08 14 14.7	+0.3
VYHS				*e*LG		Lg	08 14 17.4	
KRUC	Moravsky	1.98	234	*e*SG		Sn	08 14 19.3	-0.4

*ISCJB **20** 08:17:17.9±0.7,21.66N±0.08×143.2E±0.1,h300km, mb3.5/17, Error ellipse: s-maj=18.8km s-min=11.1km az=176.9*
*IDC **20** 08:17:18.9±2.0,21.70N×143.16E,h294km±17km, mb3.3/18,mb1 3.5/21,mb1mx3.2/80,mbtmp4.0/21, Error ellipse: s-maj=17.0km s-min=15.2km az=130.0*
ISC 20 08:17:19.4±0.8,21.7N±0.1×143.1E±0.2,h300km,n22, σ0s91/25,mb3.4/17,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	Chichijima	5.43	351	P		Pn	08 18 42.4	+0.4
	19nm,0.3s,baz=268,slow=22,SNR=11							
JCJ				S		S	08 19 46.8	-1.6
	21nm,0.3s,baz=307,slow=23,SNR=11							
JHJ	Hachijo jima 2	11.75	346	P		Pn	08 19 59.2	+0.3
	5.8nm,0.3s,baz=72,slow=20,SNR=3.0							
MJAR	Matsushiro Arr	15.39	345	P		P	08 20 41.5	+0.8
	0.1nm,0.3s,baz=171,slow=10,SNR=8.8							
KSRS	Korea Array	20.47	323	P		P	08 21 36.1	+1.1
	0.7nm,0.4s,baz=140,slow=9.6,SNR=4.1							
KLR	Kul'dur	28.92	345	P		P	08 22 51.8	+0.7
	0.7nm,0.5s,baz=170,slow=8.8,SNR=4.2							
SONM	Songino Array	39.29	320	P		P	08 24 19.2	-0.8
	0.4nm,0.7s,baz=117,slow=8.8,SNR=2.5							
CMAR	Chiang Mai Arr	41.51	274	P		P	08 24 38.0	-0.3
	0.7nm,0.3s,baz=94,slow=8.2,SNR=3.1							
WRA	Warramunga Arr	42.27	192	P		P	08 24 43.7	-0.6
	0.4nm,0.8s,baz=15,slow=9.3,SNR=2.7							
ZALV	Zalesovo Beam	54.17	322	P		P	08 26 14.6	+0.4
	0.8nm,0.6s,baz=116,slow=6.6,SNR=1.4							
ZALV				PcP		PcP	08 27 13.7	-0.8
	0.7nm,0.5s,baz=108,slow=5.3,SNR=3.2							
MKAR	Makanchi Array	54.65	313	P		P	08 26 18.4	+0.6
	0.5nm,0.6s,baz=80,slow=7.6,SNR=4.9							
MKAR				PcP		PcP	08 27 16.4	-0.2
	0.1nm,0.3s,baz=103,slow=2.9,SNR=4.0							
KURBB	Kurchatov Arra	57.48	317	P		P	08 26 37.9	+0.3
	1.3nm,0.6s,baz=94,slow=7.5,SNR=13							
ILAR	Eielson Array	62.06	27	P		P	08 27 07.2	-1.2
	0.5nm,0.6s,baz=256,slow=5.6,SNR=6.8							
BVAR	Borovoye Array	62.62	319	P		P	08 27 13.0	+0.7
	2.1nm,0.4s,baz=101,slow=7.3,SNR=13							
INK	Inuvik	67.59	24	P		P	08 27 44.3	+0.6
	0.4nm,0.5s,baz=301,slow=4.4,SNR=4.9							
YKA	Yellowknife Ar	76.48	28	P		P	08 28 36.8	+0.6
	0.8nm,0.6s,baz=292,slow=5.9,SNR=19							
RES	Resolute Bay	77.08	13	P		P	08 28 37.9	-1.5
	0.4nm,0.5s,baz=337,slow=7.7,SNR=10							
ARCES	ARCESS Array B	78.89	341	P		P	08 28 50.4	+0.9
	5.5nm,0.9s,baz=64,slow=8.2,SNR=9.9							
KBZ	Khabaz	82.32	314	P		P	08 29 08.8	+0.8
	2.4nm,1.0s,baz=67,slow=7.7,SNR=3.2							
FINES	FINESS Array B	83.15	334	P		P	08 29 11.0	-0.8
	1.3nm,0.4s,baz=81,slow=3.9,SNR=12							
NVAR	Mina Array Bea	83.19	51	P		P	08 29 13.5	+0.7
	0.4nm,0.6s,baz=262,slow=5.8,SNR=4.4							
HFS	Hagfors	88.70	337	P		P	08 29 37.4	-1.5
	1.2nm,0.5s,baz=294,slow=1.5,SNR=6.2							
LPAZ	La Paz	150.00	85	PKPbc		PKPbc	08 36 37.1	+0.9
	1.1nm,0.5s,baz=224,slow=1.4,SNR=6.8							

UCR 20 08:19:36.1±1.5,12.32N×86.75W,h152km±7km,MD4.1, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNGN	Cerro Negro	0.19	14	*e*P		Pn	08 19 56.6	0.0
MOMN	Momotombo	0.22	65	*e*P		Pn	08 19 56.8	+0.1
TEL3	Telica 3	0.27	339	*e*P		Pn	08 19 56.6	-0.2
MGAN	Managua	0.52	109	*e*P		Pn	08 19 58.2	+0.5
MGAN				*e*S		Sn	08 20 15.5	+1.3
MATN	Matagalpa	1.01	53	*e*P		Pn	08 20 01.4	+0.2
MATN				*e*S		Sn	08 20 21.2	+0.8
ACON	Acoyapa	1.57	103	*e*P		Pn	08 20 07.1	+0.5
TGUH	Tegucigalpa,Un	1.81	344	*e*P		Pn	08 20 09.3	+0.2
BUEV	Buena Vista	2.00	139	*i*S		Sn	08 20 38.6	+0.1
NY14	Universidad de	2.04	144	*i*P		Pn	08 20 14.4	+2.6
NY14				*i*S		Sn	08 20 40.3	+1.0
GPS1	Guardaparques	2.05	138	*i*S		Sn	08 20 40.5	+0.8
LIM1	Limonal	2.17	138	*i*P		Pn	08 20 13.6	+0.1
LIM1				*i*S		Sn	08 20 43.2	+1.0
MESS	Mesas	2.18	136	*e*S		Sn	08 20 43.9	+1.5
ESPN	Las Esperanzas	2.39	93	*e*P		Pn	08 20 16.1	+0.1
AMAS	Alto Masis	2.41	134	*i*S		Sn	08 20 49.5	+2.1
JTS	JuntasAbangare	2.67	139	*e*P		Pn	08 20 20.6	+1.1
JTS				*e*S		Sn	08 20 53.3	+0.3
ARE1	Arenal 1	2.71	133	*e*P		Pn	08 20 21.3	+1.3
ARE1				*e*S		Sn	08 20 54.8	+1.0
SRA1	San Ramn	3.14	135	*e*P		Pn	08 20 25.8	+0.3
SRA1				*e*S		Sn	08 21 06.9	+3.3

IDC 20 08:24:09.0±1.4,57.86N×32.19W,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.3/67,mbtmp3.5/4,MS3.2/4,Ms1 3.2/4, ms1mx2.7/47,Error ellipse: s-maj=93.0km s-min=25.3km az=44.0,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAVOX	Davos/Dischmat	27.55	95	LR		LR	08 40 20.0	
	comp=Z,77nm,18.2s,baz=264,slow=35							
VRAC	Vranov	29.60	85	LR		LR	08 40 24.4	
	comp=Z,24nm,20.2s,baz=305,slow=33							
YKA	Yellowknife Ar	38.62	312	P		P	08 31 33.0	-0.4
	0.6nm,0.8s,baz=57,slow=9.1,SNR=10							
BRTR	Keskin Array B	45.03	84	LR		LR	08 51 49.6	
	comp=Z,23nm,19.4s,baz=292,slow=37							
ILAR	Eielson Array	48.09	328	P		P	08 32 49.8	0.0
	0.8nm,0.9s,baz=36,slow=8.3,SNR=8.9							
PDAR	Pinedale Array	48.86	287	P		P	08 32 56.4	+0.1
	0.5nm,0.9s,baz=60,slow=7.5,SNR=4.0							
PDAR				LR		LR	08 51 21.2	
	comp=Z,38nm,18.4s,baz=59,slow=33							
TORD	Torodi Ar. Bea	51.45	136	P		P	08 33 15.7	-0.1
	0.3nm,0.5s,baz=339,slow=7.7,SNR=3.1							

*IDC **20** 08:29:50.9±2.6,52.37N×35.69E,h0km,mb3.2/1, mb1 3.5/4,mb1mx3.1/52,mbtmp3.3/4,ML3.1/3,Error ellipse: s-maj=32.0km s-min=13.4km az=121.0*
*IDG **20** 08:29:54.0,52.32N×35.41E,M2.6,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
ISC 20 08:29:54.1±1.7,52.65N±0.09×35.1E±0.1,h10km,n7, σ0s82/8,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OBN	Obninsk	2.61	19	Lg		Lg	08 31 20.8	
	1.6nm,0.3s,baz=0.5,slow=22,SNR=7.2							
AKASG	Malin Array Be	4.16	244	Pn		Pn	08 30 56.9	-0.6
	1.1nm,0.3s,baz=60,slow=15,SNR=3.5							
AKASG				Pg		Pb	08 31 07.5	+0.2
	2.1nm,0.3s,baz=58,slow=15,SNR=7.9							
AKASG				Sn		Sn	08 31 46.5	+0.4
	1.5nm,0.3s,baz=59,slow=20,SNR=3.3							
AKASG				Lg		Lg	08 32 01.6	
	2.4nm,0.3s,baz=67,slow=30,SNR=6.5							

I43RU	DUBNA INFRASON	4.26	16	*i*			08 55 29.9	
	baz=193,slow=321,SNR=0.6							
MICGM	Minsk	4.69	296	*e*		Sg	08 32 25.0	+0.3
FINES	FINESS Array B	10.09	334	Pn		Pn	08 32 17.8	-1.0
	0.2nm,0.3s,baz=147,slow=13,SNR=5.1							
FINES				Sn		Sn	08 34 11.7	-0.1
	0.3nm,0.3s,baz=151,slow=23,SNR=3.3							
ARCES	ARCESS Array B	17.52	349	P		P	08 34 00.6	+1.3
	0.2nm,0.3s,baz=164,slow=10,SNR=7.8							
YKA	Yellowknife Ar	62.74	345	P		P	08 40 19.1	+0.3
	0.1nm,0.5s,baz=14,slow=6.7,SNR=4.1							

*IDC **20** 08:55:56.6±1.1,6.77S×148.24E,h0km,mb4.1/5, mb1 4.2/7,mb1mx3.7/44,mbtmp4.0/7,ML3.9/1,MS3.5/9, Ms1 3.4/9,ms1mx3.1/33,Error ellipse: s-maj=55.2km s-min=20.6km az=123.0*
*ISCJB **20** 08:56:02.8±1.0,7.0S±0.2×148.2E±0.2,h54km,mb3.9/5, MS3.4/6,Error ellipse: s-maj=41.5km s-min=15.1km az=34.2*
ISC 20 08:56:03.8±1.1,6.8S±0.2×148.2E±0.3,h54km,n14, σ1s88/9,mb4.0/5,MS3.4/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	2.81	201	Pn		Pn	08 56 44.3	-2.0
	5.6nm,0.3s,baz=14,slow=10,SNR=20							
PMG				Sn		Sn	08 57 22.4	+3.4
	6.6nm,0.3s,baz=20,slow=10,SNR=4.0							
HNR	Honiara	11.93	104	LR		LR	09 02 14.8	
	comp=Z,117nm,20.1s,baz=270,slow=32							
SIJI	Sorong	17.88	288	LR		LR	09 09 02.8	
	comp=Z,232nm,18.5s,baz=114,slow=44							
WRA	Warramunga Arr	18.77	224	P		P	09 00 17.4	-1.3
	0.4nm,0.3s,baz=52,slow=11,SNR=26							
WRA				LR		LR	09 08 14.6	
	comp=Z,73nm,18.2s,baz=45,slow=39							
ASAR	Alice Springs	21.70	218	P		P	09 00 50.0	-0.4
	6.0nm,0.6s,baz=52,slow=9.6,SNR=130							
DZM	Mont Dzumac	23.27	133	LR		LR	09 08 35.0	
	comp=Z,230nm,18.4s,baz=351,slow=33							
FITZ	Fitzroy Crossi	24.70	241	P		P	09 01 20.3	+0.2
	8.5nm,0.5s,baz=64,slow=7.1,SNR=30							
FITZ				LR		LR	09 11 56.4	
	comp=Z,110nm,19.0s,baz=68,slow=39							
STKA	Stephens Creek	25.72	193	P		P	09 01 28.5	-0.8
	2.9nm,0.6s,baz=2.5,slow=10,SNR=7.1							
STKA				LR		LR	09 12 21.9	
	comp=Z,119nm,19.5s,baz=21,slow=38							
MJAR	Matsushiro Arr	44.10	348	LR		LR	09 22 46.3	
	comp=Z,20nm,18.3s,baz=215,slow=36							
KSRS	Korea Array	47.91	338	LR		LR	09 24 34.9	
	comp=Z,41nm,18.3s,baz=190,slow=36							
ZALV	Zalesovo Beam	80.30	328	LR		LR	09 43 32.9	
	comp=Z,29nm,20.7s,baz=311,slow=36							
ILAR	Eielson Array	85.73	23	P		P	09 08 38.5	+1.7
	0.1nm,0.6s,baz=260,slow=5.3,SNR=3.0							
NVAR	Mina Array Bea	96.90	52	P		P	09 09 29.4	-0.5
	0.1nm,0.3s,baz=280,slow=5.4,SNR=2.7							
TORD	Torodi Ar. Bea	146.43	284	PKPbc		PKPdf	09 15 38.7	+0.1
	1.0nm,0.7s,baz=65,slow=3.3,SNR=6.5							

**DJA 20 09:06:55.5±1.8,11°S±14'×11°4E±', h35km±61km,

	baz=296								
NACB	**Ninganchiao**	**0.44**	**235**	P		**Pg**	09 25 28.2	**0.0**
	baz=232								
NACB				S		**Sg**	09 25 34.1	**0.0**
	baz=232								
NTC	**Toucheng**	**0.45**	**341**	*e*P		**Pg**	09 25 28.6	**+0.2**
	baz=353								
NDT	**Datong Townshi**	**0.47**	**292**	*e*P		**Pg**	09 25 28.7	**0.0**
	baz=291								
NDT				*e*S		**Sg**	09 25 34.4	**-0.6**
	baz=291								
TWD	**Chiawan**	**0.50**	**226**	*e*P		**Pg**	09 25 29.5	**+0.2**
	baz=231								
TWD				*e*S		**Sg**	09 25 36.1	**+0.1**
	baz=231								
ETLH	**Xiulin Townshi**	**0.51**	**244**	*e*P		**Pg**	09 25 29.4	**-0.2**
	baz=242								
ETLH				*e*S		**Sg**	09 25 36.9	**+0.5**
	baz=242								
NNSB	**Datong**	**0.55**	**270**	P		**Pg**	09 25 30.3	**0.0**
	baz=269								
NNSB				*e*S		**Sg**	09 25 37.1	**-0.6**
	baz=269								
TIPB	**Shuangxi**	**0.56**	**345**	*e*P		**Pg**	09 25 30.4	**-0.1**
	baz=346								
TIPB				*e*S		**Sg**	09 25 37.7	**-0.2**
	baz=346								
NNS	**Nan Shan**	**0.56**	**271**	*e*P		**Pg**	09 25 30.4	**-0.1**
	baz=270								
NNS				S		**Sg**	09 25 37.4	**-0.7**
	baz=270								
NWLT	**Wulai**	**0.56**	**308**	*e*P		**Pg**	09 25 30.8	**+0.3**
	baz=309								
NWLT				*e*S		**Sg**	09 25 37.4	**-0.5**
	baz=309								
TWB1	**Santiao Chiao**	**0.57**	**360**	P		**Pb**	09 25 31.3	**-0.1**
	baz=352								
YHNB	**Yeheng**	**0.61**	**293**	*e*P		**Pg**	09 25 31.5	**+0.1**
	baz=301								
YHNB				S		**Sg**	09 25 38.5	**-1.0**
	baz=301								
NSK	**Sanguang**	**0.62**	**293**	*e*P		**Pg**	09 25 31.7	**0.0**
	baz=301								
NSK				S		**Sg**	09 25 39.3	**-0.7**
	baz=301								
ENLB	**Shoufeng**	**0.63**	**214**	*e*P		**Pn**	09 25 33.2	**-0.9**
	baz=222								
TWA	**Mucha**	**0.66**	**326**	*e*P		**Pb**	09 25 32.7	**-0.2**
	baz=327								
TWA				*e*S		**Sg**	09 25 41.2	**+0.1**
	baz=327								
NWF	**Wu-fen Shan**	**0.67**	**343**	*e*P		**Pb**	09 25 33.0	**+0.1**
	baz=333								
NWF				*e*S		**Sb**	09 25 42.1	**-0.1**
	baz=333								
WFSB	**Wu-fen Shan**	**0.67**	**343**	*e*P		**Pb**	09 25 33.1	**+0.1**
	baz=333								
NHDH	**Xindian Distri**	**0.68**	**322**	*e*P		**Pb**	09 25 33.3	**+0.2**
	baz=313								
TATO	**Taipei**	**0.71**	**320**	*e*P		**Pb**	09 25 33.5	**-0.2**
	baz=314								
WHF	**Hehuan Shan**	**0.72**	**247**	*e*P		**Pg**	09 25 33.5	**-0.1**
	baz=245								
WHF				*e*S		**Sg**	09 25 43.4	**+0.3**
	baz=245								
TWT	**Tachien**	**0.76**	**257**	*e*P		**Pb**	09 25 34.6	**-0.1**
	baz=256								
TWT				*e*S		**Sg**	09 25 44.4	**0.0**
	baz=256								
TDCB	**Techi**	**0.78**	**257**	*e*P		**Pg**	09 25 34.8	**+0.2**
	baz=256								
TDCB				*e*S		**Sg**	09 25 44.5	**-0.4**
	baz=256								
WLTB	**Daxi**	**0.79**	**302**	*e*P		**Pb**	09 25 35.5	**+0.4**
	baz=292								
ESL	**Shilin**	**0.80**	**220**	*e*P		**Pg**	09 25 35.0	**+0.1**
	baz=226								
YM01	**YM01**	**0.81**	**332**	*e*P		**Pb**	09 25 35.8	**+0.4**
	baz=332								
YM07	**YM07**	**0.81**	**336**	*e*P		**Pb**	09 25 35.5	**0.0**
	baz=342								
YM11	**YM11**	**0.82**	**333**	*e*P		**Pb**	09 25 36.0	**+0.3**
	baz=333								
YM05	**YM05**	**0.83**	**332**	*e*P		**Pb**	09 25 36.1	**+0.3**
	baz=333								
YM04	**YM04**	**0.83**	**330**	*e*P		**Pb**	09 25 36.1	**+0.3**
	baz=330								
CHGB	**Renai**	**0.83**	**244**	*e*P		**Pg**	09 25 35.6	**0.0**
	baz=243								
CHGB				*e*S		**Sg**	09 25 46.7	**+0.2**
	baz=243								
YM08	**YM08**	**0.84**	**334**	*e*P		**Pb**	09 25 36.0	**+0.1**
	baz=335								
TWS1	**Kuangyinshan**	**0.85**	**322**	*e*P		**Pn**	09 25 36.8	**-0.3**
	baz=322								
YM03	**YM03**	**0.85**	**331**	*e*P		**Pb**	09 25 36.5	**+0.3**
	baz=332								
ANP	**Anpu**	**0.86**	**331**	*e*P		**Pg**	09 25 36.7	**+0.5**
	baz=331								
JYNG	**Yonagunijimaku**	**0.87**	**88**	P		**Pb**	09 25 36.5	**+0.1**
JYNG				S		**Sb**	09 25 48.0	**0.0**
NTST	**Danshui**	**0.88**	**326**	*e*P		**Pn**	09 25 37.5	**0.0**
	baz=326								
OWD	**Renai**	**0.88**	**238**	*e*P		**Pb**	09 25 36.2	**-0.5**
	baz=232								
NCU	**National Centr**	**0.91**	**306**	*e*P		**Pn**	09 25 38.5	**+0.6**
	baz=312								
NCUH	**Zhongli**	**0.91**	**306**	*e*P		**Pn**	09 25 38.9	**+1.0**
	baz=297								
LIOB	**Emei**	**0.91**	**284**	*e*P		**Pb**	09 25 35.4	**-1.8**
	baz=283								
TWY	**Chenhua**	**0.91**	**337**	*e*P		**Pn**	09 25 37.7	**-0.3**
	baz=338								
NSTT	**Nanjuang**	**0.92**	**283**	*e*P		**Pg**	09 25 37.5	**+0.2**
	baz=283								
NSTT				*e*S		**Sb**	09 25 48.8	**-0.7**
	baz=283								
YOJ	**Yonaguni jima**	**0.93**	**88**	*e*P		**Pb**	09 25 37.4	**-0.1**
	baz=88								
YOJ	**Yonaguni jima**	**0.93**	**88**	P		**Pb**	09 25 37.4	**-0.1**
YOJ				*e*S		**Sb**	09 25 49.9	**+0.2**
WHP	**Taichung City**	**0.96**	**261**	*e*P		**Pn**	09 25 38.5	**-0.3**
	baz=261								
WHP				*e*S		**Sb**	09 25 50.6	**-0.2**
	baz=261								
SBCB	**Hsinchu**	**0.98**	**292**	*e*P		**Pn**	09 25 40.3	**+1.4**
	baz=285								
VWDT	**VWDT**	**1.03**	**229**	*e*P		**Pb**	09 25 39.3	**+0.2**
	baz=237								
HGSD	**Ruisui**	**1.07**	**209**	*e*P		**Pg**	09 25 41.5	**+1.5**
	baz=209								
NMLH	**Miaoli**	**1.10**	**276**	*e*P		**Pg**	09 25 42.0	**+1.4**
	baz=275								
TWQ1	**Liyutan**	**1.11**	**266**	*e*P		**Pg**	09 25 42.6	**+1.7**
	baz=265								
SMLT	**Sun Moon Lake**	**1.14**	**242**	*e*P		**Pn**	09 25 41.2	**+0.1**
	baz=241								
SSLB	**Suanglung**	**1.14**	**236**	⇓P		**Pn**	09 25 41.2	**0.0**
	baz=244								
SSLB				*e*S		**Sb**	09 25 55.6	**-0.3**
	baz=244								
TYC	**Yuchr**	**1.16**	**243**	*e*P		**Pn**	09 25 41.3	**-0.1**
	baz=243								
PCYT	**Pengchaiyu**	**1.20**	**4**	*e*P		**Pn**	09 25 41.5	**-0.4**
	baz=4.0								
YULB	**Yu-li**	**1.21**	**212**	*e*P		**Pn**	09 25 41.8	**-0.4**
	baz=212								
WDJ	**Dajia District**	**1.23**	**266**	*e*P		**Pg**	09 25 44.5	**+1.3**
	baz=275								
TWF1	**Yuli**	**1.25**	**211**	*e*P		**Pg**	09 25 44.2	**+0.8**
	baz=227								
WJS	**Zhushan**	**1.30**	**243**	*e*P		**Pg**	09 25 44.7	**+0.2**
	baz=236								
FULB	**Fuli**	**1.38**	**208**	*e*P		**Pb**	09 25 45.2	**+0.1**
	baz=226								
CHN5	**Tsauling**	**1.46**	**236**	*e*P		**Pg**	09 25 47.9	**+0.4**
	baz=237								
ELDTW	**Lidau**	**1.52**	**216**	*e*P		**Pb**	09 25 48.2	**+0.5**
	baz=203								
CHN4	**Tsaushan**	**1.67**	**230**	*e*P		**Pg**	09 25 52.0	**+0.5**
	baz=232								
TPUB	**Ta-pu**	**1.68**	**228**	*e*P		**Pg**	09 25 52.1	**+0.5**
	baz=230								
STYT	**Tauyuan**	**1.69**	**222**	*e*P		**Pg**	09 25 51.4	**-0.6**
	baz=223								
WTP	**Ta-pu**	**1.73**	**227**	*e*P		**Pg**	09 25 52.5	**-0.1**
	baz=229								
TWK	**Hsinying**	**1.80**	**230**	*e*P		**Pg**	09 25 53.3	**-0.7**
	baz=232								
CHN1	**Nanshi**	**1.82**	**227**	*e*P		**Pg**	09 25 53.7	**-0.8**
	baz=230								
JKRS	**Kuro-shima**	**1.85**	**96**	P		**Pn**	09 25 51.1	**+0.2**
JKRS				*e*S		**Sn**	09 26 13.3	**-0.9**
SLGT	**Liugui**	**1.89**	**221**	*e*P		**Pg**	09 25 55.9	**+0.2**
	baz=223								
JIJ	**Ishigaki jima**	**1.96**	**92**	P		**Pn**	09 25 52.8	**+0.3**
JIJ				*e*S		**Sn**	09 26 15.5	**-1.5**
JISG	**Ishigakijimahi**	**2.12**	**85**	P		**Pn**	09 25 53.7	**-0.9**
JISG				S		**Sn**	09 26 20.3	**-0.5**
MASBT	**Mashibuluo**	**2.20**	**215**	*e*P		**Pb**	09 25 58.6	**-0.4**
	baz=218								
VWUC	**VWUC**	**2.38**	**284**	*e*P		**Pn**	09 25 58.4	**+0.3**
	baz=283								
WDGT	**Dungji**	**2.43**	**242**	*e*P		**Pn**	09 26 00.3	**+1.4**
	baz=253								
JTJ	**Tarama**	**2.48**	**85**	P		**Pn**	09 26 00.1	**+0.6**
JTJ				S		**Sn**	09 26 30.1	**+0.4**
VCHM	**Qimei**	**2.64**	**243**	*e*P		**Pn**	09 26 02.9	**+1.2**
	baz=245								
PTMZ	**Houxiangcun**	**2.68**	**284**	*e*P		**Pn**	09 26 02.8	**+0.5**
	baz=282								
XPSS	**Dashiqiu**	**2.97**	**327**	*e*P		**Pn**	09 26 06.6	**+0.3**
	baz=326								
MHZQ	**Yeshan**	**3.15**	**302**	*e*P		**Pn**	09 26 11.1	**+2.3**
	baz=300								
AXDP	**Jialang**	**3.69**	**278**	*e*P		**Pn**	09 26 18.0	**+1.8**
	baz=275								

IDC 20 09:47:36.2±3.4, 16°14S×173°55W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/22, mbtmp3.5/4, Error ellipse: s-maj=180.4km s-min=27.7km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	09 56 29.7	**+0.4**
	0.2nm,0.8s,baz=96,slow=6.6,SNR=6.1						
ASAR	**Alice Springs**	**49.75**	**252**	P	P	09 56 30.4	**-0.5**
	0.8nm,0.6s,baz=87,slow=8.4,SNR=17						
NVAR	**Mina Array Bea**	**74.97**	**42**	P	P	09 59 20.4	**+0.6**
	0.5nm,0.7s,baz=222,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**83.20**	**11**	P	P	10 00 03.5	**-0.5**
	0.4nm,0.9s,baz=218,slow=5.7,SNR=7.3						

SJA 20 09:58:26.7±0.4, 32°03S×68°50W, h119km±2km, ML2.8, MW3.6, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.17**	**348**	*i* P	Pn	09 58 43.8	**+0.6**
RTCV				*i* S	Sn	09 58 56.1	**+0.5**
ASAL	**Salagasta**	**0.63**	**207**	*i* P	Pn	09 58 46.4	**+0.9**
ASAL				*i* S	Sn	09 59 00.5	**+0.8**
RTLL	**Cerro Villicun**	**0.70**	**2**	IAML		09 58 46.5	
	comp=Z,109nm,0.1s						
RTLL				*i* P	Pn	09 58 46.5	**+0.5**
RTLS	**Leoncito**	**0.72**	**288**	*i* P	Pn	09 58 47.5	**+1.1**
RTLS				IAML		09 58 47.7	
	comp=Z,329nm,0.2s						
RTLS				*i* S	Sn	09 59 02.9	**+1.6**
AUSP	**Uspallata**	**0.78**	**255**	*i* P	Pn	09 58 47.8	**+0.9**
AUSP				*i* S	Sn	09 59 03.7	**+1.5**
AMOG	**MOGNA**	**1.09**	**0**	*i* P	Pn	09 58 50.4	**+0.8**
AMOG				*i* S	Sn	09 59 07.9	**+1.0**
AAGR	**Agrelo**	**1.09**	**195**	*i* P	Pn	09 58 50.3	**+0.7**
AAGR				*i* S	Sn	09 59 08.4	**+1.3**
ACAN	**Cantantal**	**1.14**	**103**	*i* P	Pn	09 58 50.7	**+0.7**
ACAN				*i* S	Sn	09 59 08.7	**+0.9**
AVIZ	**Vizcacheras**	**1.44**	**181**	*i* P	Pn	09 58 54.3	**+0.8**
MRA	**San Martin**	**2.39**	**100**	IAML		09 59 36.1	
	comp=Z,38nm,0.4s						

MEX 20 10:06:43.3±0.4, 17°84N×99°28W, h56km±6km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.33**	**286**	*e*P	Pn	10 06 51.8	**-1.6**
MEIG				*e*S	Sn	10 06 59.2	**-1.6**
PLIG	**Platanillo**	**0.59**	**339**	*i* P	Pn	10 06 54.7	**-1.5**
PLIG				*i* S	Sn	10 07 03.9	**-1.6**
TLIG	**Tlapa**	**0.73**	**112**	*e*P	Pn	10 06 56.4	**-1.5**
TLIG				*e*S	Sn	10 07 06.3	**-2.3**
YAIG	**Yautepec**	**1.04**	**11**	*e*P	Pn	10 07 00.1	**-1.9**
YAIG				*i* S	Sn	10 07 13.8	**-1.9**
ARIG	**Puente Sto Nin**	**1.10**	**294**	*e*P	Pn	10 07 01.7	**-1.0**
ARIG				*e*S	Sn	10 07 15.1	**-1.9**
PPM	**Popocatepetl**	**1.37**	**27**	*i* P	Pn	10 07 04.7	**-2.0**
PPM				*i* S	Sn	10 07 22.1	**-2.1**

IDC 20 10:07:13.9±1.9, 17°42S×167°22E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/32, mbtmp3.9/5, ML3.9/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/40, Error ellipse: s-maj=51.9km s-min=30.4km az=128.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.69**	**189**	Pn	Pn	10 08 25.3	**-0.7**
	6.0nm,0.3s,baz=11,slow=16,SNR=53						
DZM				Sn	Sn	10 09 14.8	**-6.4**
	4.3nm,0.3s,baz=127,slow=20,SNR=3.9						
HNR	**Honiara**	**10.63**	**317**	LR	LR	10 13 58.2	
	comp=Z,39nm,18.3s,baz=46,slow=38						
STKA	**Stephens Creek**	**27.29**	**233**	P	P	10 13 01.2	**+0.9**
	2.6nm,0.8s,baz=74,slow=7.4,SNR=5.3						
STKA				LR	LR	10 22 25.6	
	comp=Z,25nm,18.6s,baz=25,slow=33						
WRA	**Warramunga Arr**	**31.23**	**260**	P	P	10 13 35.0	**-0.4**
	0.3nm,0.5s,baz=84,slow=6.2,SNR=9.4						
ASAR	**Alice Springs**	**31.76**	**253**	P	P	10 13 39.9	**-0.3**
	0.8nm,0.5s,baz=82,slow=8.4,SNR=27						
ASAR				LR	LR	10 25 34.6	
	comp=Z,52nm,19.5s,baz=83,slow=35						
FITZ	**Fitzroy Crossi**	**39.55**	**263**	LR	LR	10 30 06.2	
	comp=Z,48nm,19.4s,baz=116,slow=35						
PPT	**Papeete**	**41.13**	**97**	LR	LR	10 30 29.9	
	comp=Z,84nm,19.1s,baz=161,slow=34						
ILAR	**Eielson Array**	**89.09**	**18**	P	P	10 20 10.6	**0.0**
	0.3nm,0.7s,baz=242,slow=5.0,SNR=3.5						

IDC 20 10:07:22.7±3.0, 19°60N×70°69W, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.5/29, mbtmp3.7/5, ML3.1/1, Error ellipse: s-maj=76.1km s-min=40.9km az=108.0, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**15.10**	**194**	Pn	Pn	10 10 58.5	**+0.8**
	1.6nm,0.3s,baz=37,slow=20,SNR=3.2						
SCHQ	**Schefferville**	**35.29**	**4**	P	P	10 14 20.6	**+1.5**
	1.5nm,0.4s,baz=178,slow=8.9,SNR=6.7						
NVAR	**Mina Array Bea**	**45.12**	**305**	P	P	10 15 42.1	**+0.8**
	0.3nm,0.5s,baz=104,slow=6.1,SNR=3.3						
YKA	**Yellowknife Ar**	**52.36**	**336**	P	P	10 16 35.7	**-0.5**
	0.4nm,0.7s,baz=114,slow=7.1,SNR=4.2						
ILAR	**Eielson Array**	**66.56**	**333**	P	P	10 18 12.7	**-1.7**
	0.5nm,1.1s,baz=75,slow=4.8,SNR=3.4						

ANF 20 10:26:14.8±2.2, 43°19N×126°93W, ML3.8/2, Error ellipse: s-maj=24.6km s-min=8.4km az=52.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K02D	**Willamette Mer**	**2.45**	**101**	P	Pn	10 26 56.0	**-0.1**
	baz=283						
K02D				S	Sn	10 27 27.6	**+0.9**
	baz=283						
I03D	**Drain, OR**	**2.66**	**78**	P	Pn	10 26 58.5	**-0.4**
	baz=260,SNR=26						
I03D				S	Sn	10 27 31.7	**-0.1**
	baz=260						
H04D	**Lebanon**	**3.31**	**65**	P	Pn	10 27 07.8	**-0.1**
	baz=248,SNR=11						
I04A	**Tendick Farm,**	**3.34**	**78**	P	Pn	10 27 08.7	**+0.3**
	baz=261,SNR=10						
G05D	**Wamic, OR**	**4.53**	**61**	P	Pn	10 27 25.0	**+0.4**
	baz=245,SNR=7.4						
E04D	**Cinebar**	**4.58**	**41**	P	Pn	10 27 24.8	**-0.4**
	baz=224,SNR=9.5						
F05D	**White Salmon**	**4.75**	**54**	P	Pn	10 27 27.8	**+0.1**
	baz=237						

*SOME **20** 10:32:30.3, 50°.32N×82°.43E, h20km*
*ISCJB **20** 10:32:31.3±1.8, 50°.4N±0°.1×82°.4E±0°.2, h0km, Error ellipse: s-maj=23.5km s-min=7.2km az=44.0*
*NNC **20** 10:32:36.0±1.5, 50°.19N×81°.88E, h0km, mb3.4, mpv2.8, Error ellipse: s-maj=16.5km s-min=4.9km az=47.0, Suspected Mining explosion.*

ISC 20 10:32:26.8±2.0, 50°.31N±0°.08×82°.51E±0°.08, h0km, n11, σ0°90/17, 6C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.45**	**275**	P	Pg	**10 32 55.2**	**+0.7**
	0.1nm,0.1s						
SEM				S	Sg	**10 33 12.1**	**-1.2**
	0.2nm,0.2s						
SEM	**Semipalatinsk**	**1.45**	**275**	*e*P	Pb	**10 32 55.5**	**+0.7**
	0.1nm,0.1s						
SEM				*e*S	Sg	**10 33 12.1**	**-1.2**
	0.2nm,0.2s						
KURK	**Kurchatov**	**2.51**	**281**	⇓Pn	Pb	**10 33 13.0**	**+0.2**
	5.0nm,0.6s						
KURK				⇑Lg	Lg	10 33 44.1	
	38nm,0.6s						
KURBB	**Kurchatov Arra**	**2.56**	**279**	⇓Pn	Pb	**10 33 14.0**	**+0.5**
	6.7nm,0.4s						
KURBB				⇑Lg	Lg	10 33 45.9	
	29nm,0.4s						
ZSN	**Zaisan**	**3.26**	**151**	*e*P	Pb	**10 33 26.1**	**+0.6**
	3.2nm,0.2s						
ZSN				*e*S	Sb	**10 34 04.9**	**-0.8**
	4.6nm,0.3s						
MAKZ	**Makanchi**	**3.52**	**186**	⇑Pn	Pb	**10 33 31.4**	**+1.4**
	0.7nm,0.3s						
MAKZ				⇑Lg	Lg	10 34 22.3	
	4.9nm,0.6s						
MK31	**Makanchi Array**	**3.52**	**182**	⇓Pn	Pb	**10 33 29.6**	**-0.4**
	0.6nm,0.3s,baz=349,slow=14,SNR=39						
MK31				⇑Sn	Sb	**10 34 12.8**	**-0.5**
	0.4nm,0.2s						
MK31				⇑Lg	Lg	10 34 23.7	
	2.1nm,0.3s,baz=353,slow=30,SNR=5.7						
KAPS	**Kapalarasan**	**5.46**	**204**	Pg	Pg	**10 34 09.7**	**-1.6**
	0.5nm,0.2s						
KAPS				Lg	Lg	10 35 19.7	
	2.7nm,0.4s						
KAPS	**Kapalarasan**	**5.46**	**204**	*e*P	Pg	**10 34 11.3**	**0.0**
	0.5nm,0.2s						
KAPS				*e*S	Sg	**10 35 22.0**	**0.0**
	2.7nm,0.4s						
ARXS	**Arharly**	**6.88**	**209**	Pg	Pg	**10 34 38.7**	**+0.1**
	0.9nm,0.2s						
ARXS				Lg	Lg	10 36 08.9	
	3.9nm,0.6s						
ARXS	**Arharly**	**6.88**	**209**	*e*P	Pg	**10 34 38.6**	**+0.1**
	0.9nm,0.2s						
ARXS				*e*S	Sg	**10 36 08.9**	**+1.3**
	3.9nm,0.6s						

IDC 20 10:34:15.1±2.0, 16°70S×168°44E, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.7/35, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=62.1km s-min=31.3km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.67**	**199**	Pn	Pn	10 35 40.1	**-0.6**
	2.4nm,0.3s,baz=180,slow=19,SNR=18						
DZM				Sn	Sn	10 36 39.4	**-7.2**
	baz=164,slow=20,SNR=1.5						
WRA	**Warramunga Arr**	**32.50**	**259**	P	P	10 40 48.5	**+0.8**
	0.2nm,0.3s,baz=88,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**33.09**	**252**	P	P	10 40 52.1	**-0.8**
	1.7nm,0.4s,baz=82,slow=8.8,SNR=34						
ILAR	**Eielson Array**	**88.05**	**18**	P	P	10 47 07.0	**+0.1**
	0.3nm,0.9s,baz=238,slow=5.2,SNR=3.2						

IDC 20 10:44:24.2±19.0, 58°.73N×33°.87W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/43, mbtmp3.4/3, Error ellipse: s-maj=377.8km s-min=86.6km az=123.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**37.38**	**311**	P	P	10 51 37.9	**-0.2**
	0.3nm,0.8s,baz=62,slow=8.6,SNR=4.7						
ILAR	**Eielson Array**	**46.88**	**327**	P	P	10 52 55.2	**-0.4**
	0.8nm,0.7s,baz=30,slow=7.2,SNR=4.5						
PDAR	**Pinedale Array**	**47.76**	**285**	P	P	10 53 03.2	**+0.1**
	1.5nm,1.2s,baz=59,slow=11,SNR=3.3						

*MOS **20** 10:44:30.6±0.9, 7°.62N×125°.80E, h27km, mb4.5/14, Error ellipse: s-maj=12.4km s-min=6.8km az=102.0*
*MAN **20** 10:44:32.4, 7°.67N×126°.00E, h15km, MS4.6*
*ISCJB **20** 10:44:33.2±0.3, 7°.66N±0°.02×126°.08E±0°.03, h41km±3km, mb4.5/87, MS3.8/15, Error ellipse: s-maj=4.2km s-min=2.8km az=167.5*
*IDC **20** 10:44:33.8±1.6, 7°.65N×125°.89E, h35km±13km, mb4.2/26, mb1 4.3/29, mb1mx4.2/56, mbtmp4.4/29, ML4.7/3, MS3.5/12, Ms1 3.5/12, ms1mx3.3/47, Error ellipse: s-maj=16.9km s-min=10.3km az=79.0*
*DJA **20** 10:44:34.5±1.0, 8°N±5°×12°6E±°, h13km±6km, M4.9/21, mb4.8/21, mB5.1/7, MLv5.3/3, Mw(mB)4.5/7*
*NEIC **20** 10:44:34.3±0.2, 7°.72N×125°.98E, h35km, mb4.6/23, Error ellipse: s-maj=8.4km s-min=4.8km az=81.0*
*BJI **20** 10:44:34.3, 7°.64N×125°.96E, h35km, mb4.6/38, mB5.0/28, Ms4.3/16, Ms7 4.1/15*
*KLM **20** 10:44:35.8, 7°.79N×126°.52E, h79km, mb4.8*

ISC 20 10:44:33.8±0.9, 7°.68N±0°.03×126°.02E±0°.04, h30km±6km, n202, σ1°62/216, mb4.6/88, MS3.7/15, 17C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.60**	**34**	⇓*e*P	Pb	**10 44 44.1**	**-1.8**
BIPH				*e*S	Sb	**10 44 53.6**	**-0.5**
DAV	**Davao City (W)**	**0.75**	**216**	Pg	Pb	**10 44 47.1**	**-1.3**
	921nm,0.3s,baz=40,slow=3.3,SNR=162						
DAV				Lg	Lg	10 45 01.1	
	2um,0.3s,baz=221,slow=20,SNR=12						
MATI	**Mati**	**0.77**	**162**	*e*P	Pb	**10 44 47.4**	**-1.4**
MATI				*e*S	Sn	**10 45 00.0**	**+0.8**
DMPH	**Davao City--Mi**	**0.79**	**221**	⇑*e*P	Pb	**10 44 47.6**	**-1.4**
DMPH				*e*S	Sn	**10 45 02.5**	**+2.8**
BUKP	**Musuan**	**0.97**	**282**	*e*P	Pn	**10 44 48.9**	**-2.6**
BUKP				*e*S	Sn	**10 45 04.9**	**+0.6**
KCP	**Kidapawan**	**1.14**	**234**	⇓*i*P	Pn	**10 44 51.3**	**-2.6**
KCP				*i* S	Sb	**10 45 10.4**	**+0.

JAP	San Jose, Anti	5.04	307	‖	eP		Pn	10 45 50.9	+3.4
TNTI	Ternate	7.00	169		eP	n	Pn	10 46 16.9	+2.6
TNTI	Ternate	7.00	169		P		Pn	10 46 15.6	+1.3
KMSI	Cibinong	7.35	196		P		Pn	10 46 19.8	+0.6
MRSI	Marisa	8.23	210		P		Pn	10 46 32.1	+0.8
	100nm,0.7s,1μm								
I39PW	PALAU INFRASON	8.45	90		i			11 33 40.0	
	baz=272,slow=310,SNR=1.0								
TSM	Tawau	8.78	248		P		Pn	10 46 50.1	+11
LUWI	Luwuk	9.25	201		eP	n	Pn	10 46 48.9	+3.6
LUWI	Luwuk	9.25	201		P		Pn	10 46 46.2	+0.9
MPSI	Mapaga	9.52	220		P		Pn	10 46 49.6	+0.7
	8.8nm,0.9s,347nm								
APSI	Ampana	9.59	207		P		Pn	10 46 50.4	+0.5
	100nm,0.7s,936nm								
SANI	Sanana	9.67	180		P		Pn	10 46 51.1	+0.1
SIJI	Sorong	9.98	148		P	n	Pn	10 46 57.1	+1.9
	9.0nm,0.3s,baz=36,slow=5.2,SNR=18								
SIJI						Sn	Sn	10 48 46.2	-0.1
	0.6nm,0.3s,baz=208,slow=18,SNR=2.0								
SIJI						LR	LR	10 51 10.6	
	comp=Z,182nm,18.7s,baz=278,slow=40								
NLAI	Namlea	10.90	174		P		Pn	10 47 07.0	-0.9
	130nm,0.7s,1μm								
FAKI	Fak Fak	12.23	149		eP	n	Pn	10 47 27.8	+1.6
FAKI	Fak Fak	12.23	149		P		Pn	10 47 28.2	+2.1
TTSI	Tana Toraja	12.32	210		P		Pn	10 47 28.4	+1.0
	51nm,0.8s								
BNDI	Bandanaira	12.73	162		P		Pn	10 47 34.2	+1.3
SPSI	Sidrap Palu	13.15	209		P		Pn	10 47 39.4	+0.8
	19nm,0.9s								
BKSI	Bulukumba	14.20	205		P		Pn	10 47 53.9	+0.9
	20nm,1.0s								
MMRI	Maumere	16.64	193		eP	n	P	10 48 27.9	+0.7
	44nm,0.8s								
KSM	Kuching	16.83	249		P		P	10 48 30.9	+1.6
EDFI	Ende, Flores	16.89	195		P		P	10 48 32.8	+2.7
SOEI	Soe	17.41	186		eP		P	10 48 35.8	-0.1
	52nm,0.7s								
SOEI	Soe	17.41	186		P		P	10 48 36.3	+0.4
GENI	Genyem	17.42	125		P		P	10 48 38.2	+2.4
JAY	Jayapura	17.81	124		P		P	10 48 41.2	+1.0
	1.0nm,0.3s,baz=294,slow=20,SNR=3.2								
JAY						LR	LR	10 56 53.3	
	comp=Z,150nm,18.2s,baz=352,slow=41								
BATI	Baumata	17.93	188		P		P	10 48 42.4	+0.9
	47nm,0.9s								
BATI	Baumata	17.93	188		P		Pn	10 48 40.9	-0.2
	5.9nm,0.3s,baz=305,slow=1.1,SNR=12								
BATI						LR	LR	10 56 18.4	
	comp=Z,240nm,21.4s,baz=8.0,slow=39								
PLAI	Plampang	18.34	207		P		Pn	10 48 46.9	+0.7
QIZ	Qiongzhong	19.34	307		P		Pn	10 48 57.9	-0.3
QIZ					S		S	10 52 34.3	-0.1
QIZ						LR	LR		
	comp=Z,190nm,12.8s								
GUMO	Guam	19.42	71		LR		LR	10 57 09.6	
	comp=Z,68nm,19.1s,baz=227,slow=39								
GZH	Guangzhou	19.57	323		P		Pn	10 49 03.3	+2.4
JAGI	Jajag, Banyuwa	19.94	217		eP		Pn	10 49 07.1	+1.8
	33nm,1.1s								
NGJI	Ngawi	20.84	224		P		Pn	10 49 14.9	-1.0
	49nm,1.3s								
MTN	Manton Dam	21.02	166		eP		P	10 49 15.3	+0.1
	29nm,0.7s								
TPI	Tanjungpandan	21.06	241		P		P	10 49 17.3	+1.6
	20nm,1.1s								
MYKOM	Kota Tinggi	22.85	256		P		P	10 49 37.0	+2.1
PANO	Nakornpanom	22.90	296		P		P	10 49 37.4	+2.0
	0.3nm,1.0s								
KGM	Kluang	23.30	257		P		P	10 49 42.8	+3.3
SKNT	Sakolnakorn	23.41	295		P		P	10 49 40.7	+0.2
	10.0nm,1.3s,668nm								
CISI	Cisompet, Garu	23.64	231		eP		P	10 49 41.8	-1.0
	45nm,0.7s								
CBJI	Citeko	23.71	234		P		P	10 49 46.2	+2.8
	78nm,0.6s								
KHON	Khomkaen	24.24	293		P		P	10 49 49.1	+0.7
	11nm,0.7s								
SRAK	Srakaew	24.36	287		P		P	10 49 54.6	+5.1
	30nm,0.8s								
CBIJ	Chichi jima	24.66	37		P		P	10 49 52.7	+0.7
JCJ	Chichijima	24.66	37		P		P	10 49 52.7	+0.7
	132nm,0.7s,baz=171,slow=6.4,SNR=7.4								
CHAI	Chaiyaphum	24.88	291		P		P	10 49 54.6	+0.3
	4.7nm,0.8s,86nm								
MDSI	Maura Dua	24.92	242		P		P	10 49 55.2	+0.6
	21nm,1.0s								
IPM	Ipoh	25.05	264		P		P	10 49 55.7	-0.1
NJ2	Nanjing	25.15	346		eP		P	10 49 58.3	+1.9
NJ2						pmax	pmax		
	comp=Z,8.0nm,0.5s								
SKLT	Songkhla	25.19	271		P		P	10 49 57.8	+0.7
	29nm,0.8s,757nm								
LWLI	Liwa	25.29	241		P		P	10 50 00.2	+2.2
KULM	Kulim	25.32	266		P		P	10 49 58.3	+0.1
FITZ	Fitzroy Crossi	25.62	181		eP		P	10 49 59.8	-1.0
	15nm,0.8s								
FITZ	Fitzroy Crossi	25.62	181		P		P	10 49 59.9	-1.0
	11nm,0.7s,baz=7.0,slow=8.0,SNR=39								
FITZ						LR	LR	11 01 02.3	
	comp=Z,77nm,19.0s,baz=291,slow=39								
JNU	Nakatsue	25.71	9		eP		P	10 50 06.7	+5.1
	17nm,1.0s								
JNU	Nakatsue	25.71	9		LR		LR	10 59 49.9	
	comp=Z,70nm,21.1s,baz=178,slow=36								
MNAI	Manna	25.94	243		eP		P	10 50 04.2	+0.4
	118nm,1.0s								
PBKT	Sadao Pong	26.01	292		P		P	10 50 04.6	+0.2
TRTT	Trang	26.09	272		P		P	10 50 07.0	+1.8
	5.1nm,0.9s								
GYA	Guiyang	26.22	318		eP		P	10 50 08.6	+2.2
GYA						pmax	pmax		
	comp=Z,10.0nm,0.8s								
PHET	Kaeng Krachan	26.47	283		P		P	10 50 19.9	+11
UTTA	Uttaradit	26.75	294		P		P	10 50 13.0	+1.9
	2.6nm,0.7s								
NANT	Nan	26.97	297		P		P	10 50 22.3	+9.2
PMG	Port Moresby	27.05	129		i P		P	10 50 14.4	+0.6
PMG	Port Moresby	27.05	129		P		P	10 50 14.1	+0.3
	4.2nm,0.4s,baz=333,slow=6.8,SNR=2.9								
UTHA	Uthaitani	27.16	289		P		P	10 50 17.4	+2.6
	3.5nm,1.2s								
PSI	Prapat	27.41	261		P		P	10 50 15.8	-1.4
	4.6nm,0.8s,baz=179,slow=6.5,SNR=3.5								
COEN	Coen	27.43	142		eP		P	10 50 18.4	+1.2
	12nm,1.0s								
LAMP	Lampang	27.83	295		P		P	10 50 32.4	+12
UMPA	Umpang Tak	27.86	290		P		P	10 50 34.2	+13
KMI	Kunming	28.19	311		P		P	10 50 25.6	+1.3
KMI						pP	sP	10 50 36.8	+0.1
KMI						sP	pP	10 50 41.3	+8.3
KMI						S	S	10 55 08.5	+0.2
KMI						pmax	pmax		
	comp=Z,22nm,0.8s								
KMI						pmax	pmax		
	comp=Z,52nm,3.8s								
KMI						LR	LR		
	comp=N,97nm,19.1s								
KMI						LR	LR		
	comp=E,180nm,16.5s								
KMI						LR	LR		
	comp=Z,230nm,18.5s								
CM01	Chiang Mai Arr	28.40	295		eP		P	10 50 25.5	-0.4
KCSI	Kotacane, Aceh	28.41	263		P		P	10 50 27.2	+1.1
	17nm,1.1s								
CM31	Chiang Mai Arr	28.42	295		eP		P	10 50 23.2	-2.9
	14nm,0.4s								
CMAR	Chiang Mai Arr	28.42	295		i P		P	10 50 25.7	-0.5
CMAR						pmax	pmax		
	comp=Z,1.0nm,0.4s								
CMAR	Chiang Mai Arr	28.42	295		P		P	10 50 25.4	-0.8
	comp=Z,1.4nm,0.4s,baz=132,slow=7.4,SNR=7.7								
CMAR						PcP	PcP	10 53 38.3	+0.1
	comp=Z,0.7nm,0.4s,baz=145,slow=1.6,SNR=3.8								
CMAR						LR	LR	11 01 55.3	
	comp=Z,91nm,20.2s,baz=115,slow=37								
CMMT	Chiang Mai	28.53	296		P		P	10 50 34.2	+7.1
CHTO	Chiang Mai	28.54	296		eP		P	10 50 26.6	-0.6
	comp=Z,4.7nm,0.9s								
CHTO	Chiang Mai	28.54	296		P		P	10 50 34.3	+7.1
WRAB	Tennant Creek	28.64	163		eP		P	10 50 26.7	-1.3
	comp=Z,6.6nm,0.7s								
WRAB	Tennant Creek	28.64	163	⇑	i P		P	10 50 25.7	-2.3
WRAB						pmax	pmax		
	comp=Z,2.0nm,0.7s								
WRA	Warramunga Arr	28.65	164		i P		P	10 50 26.3	-1.8
WRA						pmax	pmax		
	comp=Z,2.0nm,0.7s								
WRA	Warramunga Arr	28.65	164		P		P	10 50 26.4	-1.6
	comp=Z,1.8nm,0.7s,baz=345,slow=9.4,SNR=21								
WRA						PcP	PcP	10 53 38.3	-0.4
	comp=Z,1.8nm,0.8s,baz=342,slow=2.9,SNR=4.5								
WB2	Warramunga Arr	28.65	163		eP		P	10 50 28.2	+0.1
GSI	Gununguitoli	29.04	259		eP		P	10 50 32.3	+0.5
	comp=Z,36nm,1.0s								
INU	Inuyama	29.32	19		eP		P	10 50 37.5	+3.5
	comp=Z,16nm,1.1s								
XAN	Xi'an	30.61	331		P		P	10 50 46.4	+1.0
XAN						pmax	pmax		
	comp=Z,8.0nm,0.5s								
XAN						pmax	pmax		
	comp=Z,120nm,3.8s								
MAJO	Matsushiro	30.80	19		eP		P	10 50 47.6	+0.6
MAJO						pmax	pmax		
	comp=Z,3.0nm,0.7s								
MAT	Matsushiro	30.80	19		P		P	10 50 49.6	+2.6
MJAR	Matsushiro Arr	30.80	19		P		P	10 50 45.2	-1.8
	comp=Z,2.1nm,0.7s,baz=196,slow=10,SNR=3.1								
MJAR						LR	LR	11 04 11.9	
	comp=Z,133nm,18.0s,baz=205,slow=38								
CD2	Chengdu	31.10	321		eP		P	10 50 52.9	+3.1
CD2						pmax	pmax		
	comp=Z,20nm,0.5s								
CD2						pmax	pmax		
	comp=Z,310nm,12.6s								
CD2						LR	LR		
	comp=Z,710nm,18.2s								
CD2						LR	LR		
	comp=Z,530nm,12.9s								
CD2						LR	LR		
	comp=Z,590nm,16.5s								
AS31	Alice Springs	32.09	166		eP		P	10 50 57.8	-0.8
	comp=Z,2.6nm,0.5s								
ASAR	Alice Springs	32.10	166		P		P	10 50 57.5	-1.1
	comp=Z,5.1nm,0.6s,baz=341,slow=6.7,SNR=67								
ASAR						PcP	PcP	10 53 47.1	-0.5
	comp=Z,1.4nm,0.7s,baz=350,slow=2.8,SNR=4.2								
AS01	Alice Springs	32.11	166		eP		P	10 50 56.6	-2.0
LZH	Lanzhou	34.78	328	⇑	P		P	10 51 24.8	+2.8
LZH						pP	sP	10 51 36.1	+1.6
LZH						sP	pP	10 51 39.9	+9.0
LZH						PP	PnPn	10 52 39.9	+1.2
LZH						pmax	pmax		
	comp=Z,28nm,1.3s								
LZH						pmax	pmax		
	comp=Z,120nm,4.8s								
LZH						LR	LR		
	comp=Z,300nm,13.0s								
LZH						LR	LR		
	comp=Z,290nm,13.6s								
LZH						LR	LR		
	comp=Z,370nm,16.8s								
MSHR	Mys Shultsa	35.05	7	⇑	i P		P	10 51 24.1	+0.1
COCO	West Island	35.10	236		i P		P	10 51 20.7	-4.0
HHC	Hu-ho-hao-te	35.45	341		eP		P	10 51 30.4	+2.7
HHC						sP	sP	10 51 47.4	+7.3
HHC						S	S	10 57 02.1	+1.1
HHC						sS	sS	10 57 23.6	+8.1
HHC						pmax	pmax		
	comp=Z,19nm,1.0s								
HHC						pmax	pmax		
	comp=Z,120nm,5.3s								
HHC						LR	LR		
	comp=Z,180nm,16.7s								
HHC						LR	LR		
	comp=Z,120nm,18.6s								
HHC						LR	LR		
	comp=Z,190nm,16.7s								
USRK	Ussuriysk Ar.	36.75	7		P		P	10 51 37.8	-0.7
	comp=Z,8.6nm,0.8s,baz=210,slow=6.2,SNR=4.8								
SHL	Shillong	37.06	303		eP		P	10 51 42.0	+0.2
ERM	Erimo	37.40	21		i P		P	10 51 44.8	+0.7
ERM						pmax	pmax		
	comp=Z,68nm,2.3s								
FORT	Forrest	38.29	177		eP		P	10 51 51.3	-0.4
	comp=Z,42nm,0.6s								
ASAJ	Asahikawa	39.07	19		P		P	10 51 59.3	+1.1
	comp=Z,6.6nm,0.7s,baz=258,slow=7.1,SNR=8.3								
GTA	Gaotai	39.39	327		eP		P	10 52 01.8	+0.7
GTA						pP	sP	10 52 10.9	-2.7
GTA						sP	pP	10 52 15.5	+5.5
GTA						pmax	pmax		
	comp=Z,4.0nm,0.7s								
GTA						pmax	pmax		
	comp=Z,42nm,7.3s								
GTA						LR	LR		
	comp=Z,140nm,16.2s								
GTA						LR	LR		
	comp=Z,110nm,17.5s								
GTA						LR	LR		
	comp=Z,200nm,15.2s								
YUK	Yuzh-Kuril'sk	40.14	22		i P		P	10 52 07.8	+0.7
BBOO	Buckleboo	41.39	167		eP		P	10 52 17.5	+0.1
	comp=Z,22nm,0.6s								
KLR	Kul'dur	41.69	6		i P		P	10 52 20.1	+0.4
KLR	Kul'dur	41.69	6		P		P	10 52 18.4	-1.3
	comp=Z,1.6nm,0.7s,baz=155,slow=8.3								
KLR						LR	LR	11 11 35.3	
	comp=Z,60nm,19.0s,baz=220,slow=39								
HIA	Hailar	41.78	354	⇑	i P		P	10 52 20.5	0.0
HIA						pmax	pmax		
	comp=Z,4.0nm,0.6s								
RAMN	Ramite	41.99	302		eP		P	10 52 23.1	+0.2
STKA	Stephens Creek	42.06	160		eP		P	10 52 22.9	0.0
	comp=Z,1.7nm,0.8s								
STKA	Stephens Creek	42.06	160		P		P	10 52 22.5	-0.5
	comp=Z,5.5nm,0.8s,baz=341,slow=8.2,SNR=13								
STKA						LR	LR	11 11 25.4	
	comp=Z,44nm,18.1s,baz=21,slow=38								
JIRN	Jiri	42.57	303		eP		P	10 52 27.9	+0.1
	comp=Z,91nm,1.1s								
GUN	Gumba	42.91	303		eP		P	10 52 30.3	-0.2
	comp=Z,99nm,1.1s								
ULN	Ulaanbaatar	43.17	341		i P		P	10 52 30.8	-1.2
ULN						pmax	pmax		
	comp=Z,5.0nm,1.5s								
PKI	Pulchoki	43.19	302		eP		P	10 52 32.5	-0.3
	comp=Z,9.7nm,0.6s								
PKIN	Phulchoki	43.20	302		eP		P	10 52 32.5	-0.3
	comp=Z,10nm,0.6s								
SONM	Songino Array	43.35	341		P		P	10 52 32.4	-1.1
	comp=Z,0.6nm,0.5s,baz=152,slow=6.5,SNR=5.6								
SONM						PcP	PcP	10 54 21.8	-0.1
	comp=Z,1.1nm,0.8s,baz=180,slow=2.2,SNR=2.8								
SONM						LR	LR	11 13 39.8	
	comp=Z,96nm,18.4s,baz=136,slow=40								
DMN	Daman	43.46	302		eP		P	10 52 34.8	0.0
KOLN	Koldanda	44.77	302		eP		P	10 52 45.1	-0.2
	comp=Z,50nm,1.1s								
DANN	Dangsing	44.83	303		eP		P	10 52 45.3	-0.5
	comp=Z,31nm,0.6s								
PYUN	Piuthan	45.39	302		eP		P	10 52 49.8	-0.4
	comp=Z,55nm,1.0s								
TLY	Talaya	47.58	341		i P		P	10 53 05.8	-1.0
WMQ	Urumqi	49.12	324		P		P	10 53 20.3	+1.4
WMQ						sP	sP	10 53 35.8	+4.2
WMQ						pmax	pmax		
	comp=Z,25nm,1.5s								
WMQ						pmax	pmax		
	comp=Z,240nm,4.3s								
WMQ						LR	LR		
	comp=Z,140nm,18.1s								
WMQ						LR	LR		
	comp=Z,150nm,18.1s								
WMQ						LR	LR		
	comp=Z,180nm,16.7s								
BOD	Bodaibo	50.88	352		eP		P	10 53 30.6	-1.2
BOD						pmax	pmax		
	comp=Z,7.0nm,1.6s								
PETK	Petropavlovsk-	52.09	24		P		P	10 53 42.0	+1.0
	comp=Z,6.4nm,0.8s,baz=197,slow=5.4,SNR=14								
MK01	Makanchi Array	53.93	324		eP		P	10 53 55.0	+0.3
MK31	Makanchi Array	53.94	324		eP		P	10 53 55.1	+0.3
	comp=Z,9.9nm,0.8s								
MKAR	Makanchi Array	53.94	324		P		P	10 53 55.1	+0.2
	comp=Z,4.2nm,0.5s,baz=122,slow=8.1,SNR=46								
MKAR						PcP	PcP	10 54 57.9	-2.1
	comp=Z,1.4nm,0.6s,baz=116,slow=5.1,SNR=2.9								
MAKZ	Makanchi	54.13	324		eP		P	10 53 56.2	0.0
	comp=Z,14nm,0.8s								
KSH	Kashi	54.80	313		eP		P	10 54 05.5	+4.2
KSH						pP	sP	10 54 16.4	+2.3
KSH						sP	pP	10 54 19.8	+9.3
KSH						pmax	pmax		
	comp=Z,69nm,4.8s								
ZAA0	Zalesovo Array	56.77	332		eP		P	10 54 14.2	-0.8
	comp=Z,6.6nm,0.8s								
ZALV	Zalesovo Beam	56.77	332		eP		P	10 54 13.6	-1.4
ZALV	Zalesovo Beam	56.77	332		P		P	10 54 14.1	-0.9
	comp=Z,5.2nm,0.7s,baz=132,slow=6.2,SNR=18								
AAK	Ala-Archa	57.00	316	⇑	iP		P	10 54 14.8	-2.3
AAK						pmax	pmax		
	comp=Z,1.0nm,0.8s								
AAK	Ala-Archa	57.00	316		LR		LR	11 20 35.3	
	comp=Z,52nm,21.4s,baz=86,slow=38								
NVS	Novosibirsk	58.06	332	⇑	iP		P	10 54 23.0	-1.0
NVS						pmax	pmax		
	comp=Z,17nm,1.0s								
NVS						pmax	pmax		
	comp=N,6.0nm,0.9s								
KURK	Kurchatov	58.06	327		eP		P	10 54 24.2	+0.1
	comp=N,37nm,1.1s								
KURK	Kurchatov	58.06	327	α	iP		P	10 54 23.9	-0.3
KURK						pmax	pmax		
	comp=Z,13nm,1.3s								
SEY	Seymchan	58.37	14	⇑	iP		P	10 54 26.6	+0.5
SEY	Seymchan	58.37	14		P		P	10 54 26.9	+0.8
	comp=Z,1.6nm,0.6s,baz=17,slow=19,SNR=2.2								
KK31	Karatay Array	59.90	316		eP		P	10 54 36.6	-0.5
	comp=Z,6.1nm,1.1s								
KKAR	Karatay Array	59.90	316		eP		P	10 54 37.3	+0.2
	comp=Z,6.1nm,1.1s								
BRVK	Borovoye	63.73	326	α	iP		P	10 55 01.7	-0.9
BRVK						pmax	pmax		
	comp=Z,2.0nm,0.6s								
TIXI	Tiksi	63.92	1		eP		P	10 55 02.5	-1.1
	comp=Z,3.2nm,0.7s								
TIXI	Tiksi	63.92	1		i P		P	10 55 02.6	-1.1
TIXI						pmax	pmax		
	comp=Z,3.0nm,0.9s								
BILL	Bilibino	65.94	15		eP		P	10 55 16.2	-0.6
BILL						pmax	pmax		
	comp=Z,1.0nm,0.6s								
BILL						MLR	MLR		
	comp=Z,114nm,17.0s								
ABKAR	Akbulak array	68.67	320		eP		P	10 55 34.7	+0.2
	comp=Z,4.5nm,0.9s								
ARU	Arti	71.25	327	d	iP		P	10 55 48.4	-1.7
ARU								10 58 25.8	
ARU						S	S	11 05 04.7	-0.8
ARU						SS	SS	11 09 40.8	+1.2
ARU						pmax	pmax		
	comp=Z,5.0nm,0.7s								
RAYN	Ar Rayn	78.31	292		eP		P	10 56 31.5	-0.3
	comp=Z,5.0nm,0.8s								
KIV	Kislovodsk	79.92	313		eP		P	10 56 38.9	-1.4
KIV						pmax	pmax		
	comp=Z,14nm,1.1s								
BPAW	Bear Paw Mtn.	80.07	26		eP		P	10 56 40.9	+0.4
	comp=Z,5.2nm,1.0s								
TOLK	Toolik Lake Re	80.85	22		eP		P	10 56 45.3	+0.6
	comp=Z,3.9nm,0.8s								
COLA	College	81.45	26		eP		P	10 56 47.0	-0.8
COLA						pmax	pmax		
	comp=Z,1.0nm,0.4s								
KLMR	Klimovskoe	81.64	330		eP		P	10 56 46.3	-2.6
KLMR						pmax	pmax		
	comp=Z,17nm,1.1s								
KLMR	Klimovskoe	81.64	330		eP		P	10 56 46.3	-2.6
KLMR						AMP		10 56 54.6	
	comp=Z,17nm,1.1s								
IL1	Eielson Array	81.86	26		eP		P	10 56 49.1	-1.0
ILAR	Eielson Array	81.86	26		P		P	10 56 49.8	-0.2
	comp=Z,1.0nm,0.7s,baz=247,slow=4.7,SNR=5.7								
VSR	Storozhevoye	82.10	321		i P		P	10 56 48.7	-2.9
VSR						pmax	pmax		
	comp=Z,3.0nm,0.8s								
RIDG	Independ'e Rid	82.78	27		eP		P	10 56 56.3	+1.3
	comp=Z,5.2nm,0.9s								
SPITS	Spitsbergen Ar	86.49	349		P		P	10 57 12.5	-0.9
	comp=Z,9.4nm,1.1s,baz=104,slow=4.6,SNR=3.4								
ARCES	ARCESS Array B	86.52	340		P		P	10 57 11.9	-1.8
	comp=Z,4.3nm,0.9s,baz=72,slow=4.1,SNR=3.7								
INK	Inuvik	86.77	21		P		P	10 57 13.6	-1.2
	comp=Z,0.2nm,0.5s,baz=294,slow=6.9,SNR=2.0								
VNDA	Vanda	87.41	173		eP		P	10 57 17.4	-0.4
	comp=Z,2.1nm,0.8s								
VNDA	Vanda	87.41	173		P		P	10 57 17.1	-0.6
	comp=Z,1.2nm,0.7s,baz=326,slow=5.1,SNR=7.3								
FINES	FINESS Array B	88.04	332		i P		P	10 57 19.7	-1.4
FINES						pmax	pmax		
	comp=Z,3.0nm,0.5s								
FINES	FINESS Array B	88.04	332		P		P	10 57 19.4	-1.6
	comp=Z,3.4nm,0.5s,baz=76,slow=4.5,SNR=31								
AKASG	Malin Array Be	88.40	321		i P		P	10 57 22.2	-0.9
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.4s								
AKASG	Malin Array Be	88.40	321		P		P	10 57 20.9	-2.1
	comp=Z,0.5nm,0.4s,baz=68,slow=4.8,SNR=4.2								
KIEV	Kiev	88.41	321		i P		P	10 57 21.8	-1.3
KIEV						pmax	pmax		
	comp=Z,3.0nm,1.3s								
HFS	Hagfors	94.21	332		P		P	10 57 47.7	-2.1
	comp=Z,3.6nm,0.9s,baz=64,slow=3.4,SNR=3.9								
NB2	NORSAR Subarra	94.95	334		P		P	10 57 51.2	-2.1
	comp=Z,0.7nm,0.7s,baz=63,slow=4.4								
NOA	NORSAR Array B	94.95	334		P		P	10 57 51.3	-2.0
	comp=Z,0.6nm,0.6s,baz=63,slow=4.7,SNR=3.6								
YKA	Yellowknife Ar	96.20	24		P		P	10 57 58.3	-0.5
	comp=Z,0.5nm,0.8s,baz=296,slow=4.5,SNR=5.3								
TORD	Torodi Ar. Bea	120.96	290		PKP		PKPdf	11 03 21.4	-3.1
	comp=Z,1.3nm,0.8s,baz=15,slow=2.9

BORG Borgarnes 8.35 34 Pn **Pn 10 53 25.8 +0.2**
0.4nm,0.3s,baz=243,slow=4.8,SNR=2.4
EKA Eskdalemuir Ar 16.08 88 Pn **Pn 10 55 10.3 -0.3**
baz=302,slow=8.3,SNR=2.9
EKA LR LR 11 00 26.9
comp=Z,799nm,19.5s,baz=285,slow=34
FRB Frobisher Bay 18.32 303 P **P 10 55 39.4 +0.8**
0.0nm,0.3s,baz=92,slow=13,SNR=5.2
NB2 NORSAR Subarra 21.80 64 P **P 10 56 18.5 +2.0**
comp=Z,43nm,1.2s,baz=280,slow=9.3
NB2 NORSAR Subarra 21.80 64 P **P 10 56 18.5 +2.0**
baz=280,slow=9.3
NOA NORSAR Array B 21.80 64 P **P 10 56 16.9 +0.4**
comp=Z,0.5nm,0.6s,baz=293,slow=9.4,SNR=3.1
HFS Hagfors 23.21 66 P **P 10 56 32.5 +1.1**
comp=Z,3.5nm,0.9s,baz=248,slow=7.6,SNR=2.5
ESDC Sonseca Array 25.89 123 P **P 10 56 56.8 +0.4**
comp=Z,0.7nm,0.6s,baz=332,slow=8.2,SNR=4.5
RES Resolute Bay 28.09 330 P **P 10 57 15.6 -0.2**
comp=Z,1.7nm,0.9s,baz=120,slow=6.6,SNR=4.2
AKASG Malin Array Be 35.30 75 P **P 10 58 18.8 -0.5**
comp=Z,0.7nm,0.5s,baz=308,slow=8.4,SNR=4.5
YKA Yellowknife Ar 38.41 312 P **P 10 58 45.6 -0.1**
comp=Z,3.1nm,1.1s,baz=58,slow=9.3,SNR=18
INK Inuvik 41.53 327 P **P 10 59 10.8 -0.7**
comp=Z,3.8nm,1.1s,baz=9.1,slow=8.2,SNR=4.9
BRTR Keskin Array B 44.96 84 P **P 10 59 37.8 -2.0**
comp=Z,0.4nm,0.7s,baz=318,slow=8.4,SNR=2.7
ILAR Eielson Array 47.82 328 P **P 11 00 02.3 +0.6**
comp=Z,2.9nm,1.0s,baz=32,slow=6.1,SNR=19
PDAR Pinedale Array 48.79 287 P **P 11 00 09.4 -0.3**
comp=Z,1.3nm,0.7s,baz=62,slow=7.3,SNR=14
AKTO Aktyubinsk 49.36 57 P **P 11 00 13.9 +0.2**
comp=Z,2.7nm,0.9s,baz=285,slow=8.9,SNR=3.5
TORD Torodi Ar. Bea 51.67 136 P **P 11 00 31.2 -0.3**
comp=Z,1.6nm,0.9s,baz=340,slow=8.7,SNR=5.3
DBIC Dimbokro 55.58 146 P **P 11 01 01.6 +1.5**
comp=Z,2.2nm,0.8s,baz=329,slow=5.9,SNR=2.5
TXAR Lajitas Array 55.95 272 P **P 11 01 02.9 +0.1**
comp=Z,0.7nm,0.7s,baz=23,slow=4.9,SNR=3.4
NVAR Mina Array Bea 56.43 290 P **P 11 01 06.7 +0.3**
comp=Z,0.5nm,0.7s,baz=66,slow=3.2,SNR=4.1
KURBB Kurchatov Arra 57.66 45 P **P 11 01 14.7 +0.2**
comp=Z,0.9nm,0.6s,baz=328,slow=7.2,SNR=5.4
MKAR Makanchi Array 62.23 45 P **P 11 01 46.1 +0.1**
comp=Z,1.5nm,1.0s,baz=339,slow=6.5,SNR=8.4
H10S1 ASCENSION HYDR 68.41 161 T T 12 16 38.9
baz=351,slow=75,SNR=7.6
H10S3 ASCENSION HYDR 68.42 161 T T 12 16 41.5
baz=351,slow=75,SNR=8.2
H10S2 ASCENSION HYDR 68.43 161 T T 12 16 40.3
baz=351,slow=75,SNR=6.6
SONM Songino Array 68.93 29 P **P 11 02 29.8 +0.4**
comp=Z,1.5nm,1.0s,baz=324,slow=4.6,SNR=5.0
WRA Warramunga Ar 140.53 20 PKP **PKPdf 11 10 51.2 -2.7**
comp=Z,0.7nm,1.0s,baz=356,slow=1.9,SNR=4.6
ASAR Alice Springs 144.07 22 PKP PKPbc 11 10 57.9 -0.2
comp=Z,0.7nm,0.8s,baz=352,slow=2.8,SNR=8.1

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*IDC **20** 10:51:37.0±0.6,58.˚14N×32.˚12W,h0km,mb4.2/26, mb1 4.4/29,mb1mx4.2/71,mbtmp4.3/29,ML3.8/3, Error ellipse: s-maj=20.5km s-min=10.4km az=6.0*
*MOS **20** 10:51:37.2±1.0,58.˚21N×32.˚05W,h10km,mb4.7/34, MS4.4/6, Error ellipse: s-maj=10.1km s-min=8.1km az=83.5*
*ISCJB **20** 10:51:38.4±0.2,58.˚33N±0.˚05×32.˚00W±0.˚04,h13km, mb4.6/146,MS4.5/17, Error ellipse: s-maj=7.0km s-min=3.1km az=178.5*
*BJI **20** 10:51:38.3,58.˚64N×31.˚61W,h7km,mb4.9/20,mB5.1/13, Ms4.7/5,Ms7 4.5/4*
*NEIC **20** 10:51:39.6±0.2,58.˚27N×32.˚02W,h10km,mb4.6/104, Error ellipse: s-maj=6.6km s-min=3.0km az=179.0*
ISC 20 10:51:39.8±0.4,58.˚27N±0.˚07×31.˚92W±0.˚05,h13km,n222, σ1§44/219,mb4.6/146,MS4.5/17,13C-6D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.85**	**342**	*e*Pn		**Pn**	**Pn**	**10 53 32.2**	**-1.3**
BORG	**Borgarnes**	**8.23**	**33**	*e*Pn		**Pn**	**Pn**	**10 53 37.4**	**-1.3**
BORG					Sn		**Sn**	**10 55 10.2**	**-1.2**
BORG	**Borgarnes**	**8.23**	**33**	*e*P		**Pn**	**Pn**	**10 53 37.4**	**-1.3**
BORG								10 55 10.2	
BORG	**Borgarnes**	**8.23**	**33**	Pn		**Pn**	**Pn**	**10 53 41.5**	**+2.8**
	1.6nm,0.3s,baz=208,slow=9.0,SNR=6.4								
BORG					Sn		**Sn**	**10 55 10.2**	**-1.2**
	0.7nm,0.3s,baz=90,slow=20,SNR=4.1								
IVI	**Ivigtut**	**8.72**	**297**	*e*Pn		Pn	10 53 40.4	-5.0	
SUMG	**Summit**	**14.61**	**352**	*e*Pn		**Pn**	**10 55 06.5**	**+0.3**	
SUMG	**Summit**	**14.61**	**352**	*e*P		**Pn**	**10 55 06.5**	**+0.3**	
EKA	**Eskdalemuir Ar**	**15.96**	**88**	Pn		**P**	**10 55 26.1**	**-1.3**	
	baz=298,slow=10,SNR=6.1								
FRB	**Frobisher Bay**	**18.38**	**303**	P		**P**	**10 55 52.8**	**-1.2**	
	0.1nm,0.3s,baz=91,slow=12,SNR=10								
NC204	**NORSAR Array S**	**21.41**	**64**	*e*P		**P**	**10 56 27.0**	**-0.1**	
	23nm,1.1s								
NBO00	**NORSAR Array S**	**21.47**	**64**	*e*P		**P**	**10 56 31.1**	**+3.4**	
	43nm,1.1s								
NAO01	**NORSAR Array S**	**21.56**	**65**	*e*P		**P**	**10 56 29.8**	**+1.2**	
	5.5nm,1.0s								
NOA	**NORSAR Array B**	**21.67**	**64**	P		**P**	**10 56 30.9**	**+1.0**	
	4.3nm,0.9s,baz=282,slow=9.1,SNR=8.0								
NB201	**NORSAR Array S**	**21.71**	**64**	*e*P		**P**	**10 56 33.2**	**+3.0**	
	28nm,1.0s								
NC303	**NORSAR Array S**	**21.71**	**64**	*e*P		**P**	**10 56 31.4**	**+1.2**	
	25nm,1.0s								
NC602	**NORSAR Array S**	**21.89**	**65**	*e*P		**P**	**10 56 35.4**	**+3.2**	
	13nm,1.1s								
NC405	**NORSAR Array S**	**21.90**	**64**	*e*P		**P**	**10 56 33.1**	**+0.9**	
	21nm,1.0s								
UCC	**Uccle**	**22.11**	**94**	*e*P		**P**	**10 56 35.1**	**+0.6**	
	27nm,0.5s								
UCC	**Uccle**	**22.11**	**94**	*e*P		**P**	**10 56 35.1**	**+0.6**	
UCC					pmax	pmax			
	comp=Z,27nm,0.5s								
SNF	**Seneffe**	**22.23**	**95**	⇑P		**P**	**10 56 38.0**	**+2.2**	
	comp=Z,17nm,0.8s								
TULEG	**Thule**	**22.44**	**338**	*e*P		**P**	**10 56 37.6**	**-0.3**	
	comp=Z,16nm,1.1s								
DOU	**Dourbes**	**22.63**	**95**	⇑P		**P**	**10 56 43.8**	**+3.6**	
	comp=Z,8.6nm,1.4s								
CLF	**Chambon-Fore**	**22.67**	**102**	*e*P		**P**	**10 56 42.5**	**+2.0**	
	comp=Z,22nm,1.0s								
HFS	**Hagfors**	**23.08**	**66**	P		**P**	**10 56 46.7**	**+2.0**	
	comp=Z,13nm,0.9s,baz=248,slow=7.8,SNR=8.3								
MTE	**Manteigas**	**23.69**	**128**	*e*P		**P**	**10 56 52.2**	**+1.1**	
	comp=Z,6.3nm,0.9s								
ECH	**Echery**	**25.11**	**96**	*e*P		**P**	**10 57 03.8**	**-0.2**	
	comp=Z,6.9nm,1.1s								
ECH	**Echery**	**25.11**	**96**	*e*P		**P**	**10 57 03.8**	**-0.2**	
ECH					pmax	pmax			
	comp=Z,7.0nm,1.1s								
BFO	**Black Forest**	**25.65**	**95**	*i* P		**P**	**10 57 10.2**	**+1.2**	
CLL	**Collm**	**26.39**	**86**	*i* P		**P**	**10 57 15.5**	**-0.1**	
	comp=Z,14nm,1.4s								
CLL	**Collm**	**26.39**	**86**	*i* P		**P**	**10 57 15.5**	**-0.1**	
CLL					pmax	pmax			
	comp=Z,14nm,1.4s								
CLL					MLR	MLR			
	comp=Z,1μm,17.4s								
NKC	**Novy Kostel**	**26.70**	**88**		AMS	AMS	11 08 30.0		
	comp=Z,1μm,14.6s								
BRG	**Berggiesshubel**	**27.13**	**86**	*e*(P)		**P**	**10 57 22.3**	**0.0**	
	comp=Z,7.3nm,1.1s								
BRG	**Berggiesshubel**	**27.13**	**86**	*e*P		**P**	**10 57 22.3**	**0.0**	
BRG					pmax	pmax			
	comp=Z,7.0nm,1.1s								
PVCC	**Panska Ves**	**27.65**	**86**		AMS	AMS	11 09 10.0		
	comp=Z,1μm,15.3s								
KHC	**Kasperske Hory**	**27.94**	**89**	*e*P		**P**	**10 57 30.1**	**+0.5**	
	comp=Z,1.7nm,1.0s								
KHC	**Kasperske Hory**	**27.94**	**89**		AMS	AMS	11 08 10.0		
	comp=Z,900nm,18.1s								
KHC	**Kasperske Hory**	**27.94**	**89**	*e*P		**P**	**10 57 30.1**	**+0.5**	
KHC					pmax	pmax			
	comp=Z,2.0nm,1.0s								
PRU	**Pruhonice**	**27.95**	**87**		AMS	AMS	11 08 50.0		
	comp=Z,1μm,15.6s								
RES	**Resolute Bay**	**28.09**	**330**	*e*P		**P**	**10 57 30.7**	**+0.1**	
	comp=Z,6.0nm,1.0s								
RES	**Resolute Bay**	**28.09**	**330**	*e*P		**P**	**10 57 30.7**	**+0.1**	
RES					pmax	pmax			
	comp=Z,6.0nm,1.0s								
RES	**Resolute Bay**	**28.09**	**330**	P		**P**	**10 57 30.8**	**+0.1**	
	comp=Z,4.9nm,1.0s,baz=86,slow=8.1,SNR=6.1								
GOPC	**GO Pecny, Ondr**	**28.12**	**87**		AMS	AMS	11 09 00.0		
	comp=Z,1μm,15.1s								
GERES	**GERESS Array B**	**28.18**	**89**	P		**P**	**10 57 33.3**	**+1.6**	
	comp=Z,0.3nm,0.2s,baz=306,slow=4.8,SNR=3.6								
UPC	**Upice**	**28.42**	**85**		AMS	AMS	11 09 50.0		
	comp=Z,1μm,15.3s								
FINES	**FINESS Array B**	**28.47**	**59**	P		**P**	**10 57 36.2**	**+2.2**	
	comp=Z,6.1nm,0.8s,baz=343,slow=4.0,SNR=6.6								
DPC	**Dobruska-Polom**	**28.68**	**85**	*e*P		**P**	**10 57 36.5**	**+0.4**	
DPC					AMS	AMS	11 10 00.0		
	comp=Z,1μm,16.8s								
DPC	**Dobruska-Polom**	**28.68**	**85**	*e*P		**P**	**10 57 36.5**	**+0.4**	
DPC					MLR	MLR			
	comp=Z,1μm,16.8s								
TREC	**Trest**	**28.85**	**87**		AMS	AMS	11 09 10.0		
	comp=Z,1μm,18.8s								
VSU	**Vasula**	**29.92**	**64**	⇓*e*P		**P**	**10 57 47.0**	**0.0**	
VSU					pmax	pmax			
	comp=Z,41nm,1.0s								
OKC	**Ostrava-Krasne**	**29.93**	**84**		AMS	AMS	11 10 50.0		
	comp=Z,1μm,15.6s								
VYHS	**Vyhne**	**31.10**	**86**	*e*P		**P**	**10 57 58.9**	**+1.4**	
VYHS	**Vyhne**	**31.10**	**86**	*e*P		**P**	**10 57 58.9**	**+1.4**	
FCC	**Fort Churchill**	**31.45**	**298**	*e*P		**P**	**10 57 59.0**	**-1.4**	
	comp=Z,11nm,1.0s								
FCC	**Fort Churchill**	**31.45**	**298**	*e*P		**P**	**10 57 59.0**	**-1.4**	
FCC					pmax	pmax			
	comp=Z,11nm,1.0s								
LUPA	**Lehigh Univers**	**32.60**	**256**	*e*P		**P**	**10 58 11.7**	**+0.9**	
	comp=Z,2.2nm,1.2s								
KLMR	**Klimovskoe**	**34.65**	**55**	*e*P		**P**	**10 58 25.3**	**-3.1**	
KLMR				*e*			11 01 02.4		
KLMR					pmax	pmax			
	comp=Z,41nm,1.1s								
KLMR	**Klimovskoe**	**34.65**	**55**	*e*P		**P**	**10 58 25.4**	**-3.0**	
KLMR					AMP		10 58 29.8		
	comp=Z,41nm,1.1s								
KLMR				*e*PcP		**PcP**	**11 01 02.4**	**+0.3**	
KIEV	**Kiev**	**35.17**	**75**	*e*P		**P**	**10 58 31.7**	**-1.3**	
	comp=Z,5.5nm,1.0s								
KIEV	**Kiev**	**35.17**	**75**	⇑*e*P		**P**	**10 58 32.2**	**-0.8**	
KIEV					pmax	pmax			
	comp=Z,13nm,1.2s								
AKASG	**Malin Array Be**	**35.18**	**75**	P		**P**	**10 58 32.7**	**-0.3**	
	comp=Z,5.3nm,0.9s,baz=307,slow=8.4,SNR=13								
AKBB	**Malin Array Si**	**35.18**	**75**	*e*P		**P**	**10 58 32.3**	**-0.7**	
	comp=Z,5.2nm,0.9s								
EYMN	**Ely**	**36.06**	**280**	*e*P		**P**	**10 58 40.3**	**-0.4**	
	comp=Z,23nm,1.1s								
OBN	**Obninsk**	**36.28**	**65**	⇑*e*P		**P**	**10 58 41.3**	**-1.1**	
OBN					pmax	pmax			
	comp=Z,9.0nm,1.1s								
OBN					MLR	MLR			
	comp=Z,338nm,21.0s								
ULM	**Lac du Bonnet**	**36.88**	**286**	*e*P		**P**	**10 58 45.9**	**-1.7**	
	comp=Z,8.1nm,1.1s								
ULM	**Lac du Bonnet**	**36.88**	**286**	*e*P		**P**	**10 58 45.9**	**-1.7**	
ULM					pmax	pmax			
	comp=Z,8.0nm,1.1s								
ULM	**Lac du Bonnet**	**36.88**	**286**	P		**P**	**10 58 46.0**	**-1.7**	
	comp=Z,5.1nm,1.0s,baz=35,slow=10,SNR=4.6								
N49A	**Columbus Grove**	**36.96**	**265**	*e*P		**P**	**10 58 48.4**	**0.0**	
	comp=Z,27nm,1.0s								
FFC	**Flin Flon**	**37.24**	**296**	*e*P		**P**	**10 58 49.9**	**-0.7**	
	comp=Z,4.9nm,0.8s								
FFC	**Flin Flon**	**37.24**	**296**	*i* P		**P**	**10 58 50.5**	**-0.2**	
YKA	**Yellowknife Ar**	**38.45**	**312**	P		**P**	**10 59 00.4**	**-0.4**	
	comp=Z,3.3nm,0.8s,baz=59,slow=9.1,SNR=6.9								
YKA					PcP	**PcP**	**11 01 12.2**	**-1.3**	
	comp=Z,0.5nm,0.7s,baz=51,slow=3.0,SNR=4.4								
YKB5	**Yellowknife Ar**	**38.45**	**312**	*e*P		**P**	**10 59 00.2**	**-0.5**	
LIT	**Litokhoron**	**38.68**	**94**	*e*P		**P**	**10 59 03.8**	**+0.8**	
	comp=Z,6.3nm,0.9s								
LIT	**Litokhoron**	**38.68**	**94**	*e*P		**P**	**10 59 03.8**	**+0.8**	
LIT					pmax	pmax			
	comp=Z,6.0nm,0.9s								
S51A	**Beattyville**	**39.07**	**261**	*e*P		**P**	**10 59 06.1**	**-0.1**	
	comp=Z,18nm,1.0s								
VSR	**Storozhevoye**	**39.85**	**68**	⇑*e*P		**P**	**10 59 11.8**	**-0.7**	
VSR					pmax	pmax			
	comp=Z,5.0nm,1.1s								
TZTN	**Tazewell**	**39.87**	**260**	*e*P		**P**	**10 59 13.7**	**+0.7**	
	comp=Z,37nm,1.1s								
V53A	**Saluda**	**40.16**	**258**	*e*P		**P**	**10 59 17.5**	**+2.1**	
	comp=Z,7.6nm,1.0s								
BG3	**Lake Jocassee**	**40.74**	**258**	*e*P		**P**	**10 59 21.0**	**+0.8**	
	comp=Z,11nm,1.0s								
V51A	**Loudon**	**40.85**	**260**	*e*P		P	10 59 26.5	+5.4	
	comp=Z,18nm,1.1s								
INK	**Inuvik**	**41.53**	**327**	*e*P		**P**	**10 59 24.8**	**-1.4**	
	comp=Z,9.3nm,1.1s								
INK	**Inuvik**	**41.53**	**327**	*e*P		**P**	**10 59 24.8**	**-1.4**	
INK					pmax	pmax			
	comp=Z,9.0nm,1.1s								
SIUC	**Southern Illin**	**41.96**	**266**	*e*P		**P**	**10 59 30.3**	**+0.2**	
	comp=Z,19nm,1.1s								
V48A	**Smith Brothers**	**42.19**	**262**	*e*P		**P**	**10 59 32.5**	**+0.5**	
	comp=Z,11nm,1.0s								
DGMT	**Dagmar**	**42.21**	**289**	*e*P		**P**	**10 59 32.3**	**+0.2**	
	comp=Z,33nm,1.1s								
CCM	**Cathedral Cave**	**42.78**	**269**	*e*P		**P**	**10 59 36.6**	**-0.2**	
	comp=Z,9.9nm,1.0s								
CCM	**Cathedral Cave**	**42.78**	**269**	*e*P		**P**	**10 59 36.6**	**-0.2**	
CCM					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ANN	**Anapa**	**43.21**	**77**	*e*P		**P**	**10 59 43.1**	**+2.9**	
ANN					MLR	MLR			
	comp=Z,679nm,15.0s								
PBMO	**Poplar Bluff**	**43.30**	**267**	*e*P		**P**	**10 59 40.9**	**-0.1**	
	comp=Z,14nm,1.0s								
EPYK	**Eagle Plains**	**43.74**	**326**	*e*P		**P**	**10 59 43.8**	**-0.5**	
	comp=Z,12nm,1.0s								
LAO	**LASA Array**	**44.42**	**289**	*e*P		**P**	**10 59 50.5**	**+0.4**	
	comp=Z,15nm,1.0s								
250A	**Grady**	**44.83**	**258**	*e*P		P	10 59 58.6	+5.3	
	comp=Z,29nm,1.1s								
BR131	**Keskin Array S**	**44.84**	**85**	*e*P		**P**	**10 59 55.0**	**+1.4**	
	comp=Z,5.1nm,1.0s								
BRTR	**Keskin Array B**	**44.84**	**85**	P		**P**	**10 59 54.0**	**+0.4**	
BRTR	**Keskin Array B**	**44.84**	**85**	P		**P**	**10 59 54.0**	**+0.4**	
	comp=Z,3.4nm,0.9s,baz=308,slow=6.2,SNR=13								
ARU	**Arti**	**45.30**	**51**	*d i* P		**P**	**10 59 56.7**	**-0.1**	
ARU							11 01 41.8		
ARU					S	**S**	**11 06 38.9**	**+2.4**	
ARU					pmax	pmax			
	comp=Z,11nm,1.2s								
TOLK	**Toolik Lake Re**	**45.57**	**333**	*e*P		**P**	**10 59 58.4**	**-0.5**	
	comp=Z,32nm,1.1s								
FYU	**Fort Yukon**	**46.02**	**329**	*e*P		**P**	**11 00 03.4**	**+1.1**	
	comp=Z,23nm,1.2s								
W39A	**Magazine**	**46.27**	**268**	*e*P		**P**	**11 00 04.5**	**-0.2**	
	comp=Z,13nm,1.1s								
X40A	**Basin Creek Fa**	**46.31**	**267**	*e*P		**P**	**11 00 04.8**	**-0.3**	
	comp=Z,15nm,1.1s								
KIV	**Kislovodsk**	**46.49**	**74**	*e*P		**P**	**11 00 06.1**	**-0.3**	
KIV					pmax	pmax			
	comp=Z,16nm,1.1s								
KIV					MLR	MLR			
	comp=Z,482nm,16.0s								
MIAR	**Mount Ida**	**46.66**	**267**	*e*P		**P**	**11 00 12.4**	**+4.6**	
	comp=Z,6.3nm,1.0s								
KBZ	**Khabaz**	**46.76**	**74**	P		**P**	**11 00 09.1**	**+0.7**	
	comp=Z,3.6nm,0.9s,baz=310,slow=5.0,SNR=5.9								
PRP	**Porcupine Dome**	**46.88**	**328**	*e*P		**P**	**11 00 09.8**	**+0.5**	
	comp=Z,5.2nm,0.9s								
RLMT	**Red Lodge**	**47.04**	**289**	*e*P		**P**	**11 00 11.2**	**+0.4**	
	comp=Z,9.0nm,1.1s								
K22A	**Casper**	**47.42**	**285**	*e*P		**P**	**11 00 13.1**	**-0.8**	
	comp=Z,13nm,1.1s								
SCRK	**Sand Creek**	**47.60**	**326**	*e*P		**P**	**11 00 15.7**	**+0.8**	
	comp=Z,19nm,1.2s								
ILAR	**Eielson Array**	**47.83**	**328**	P		**P**	**11 00 16.2**	**-0.2**	
	comp=Z,6.1nm,0.9s,baz=35,slow=6.2,SNR=18								
ILAR					PcP	**PcP**	**11 01 43.8**	**-1.2**	
	comp=Z,1.4nm,0.8s,baz=4.8,slow=3.5,SNR=6.2								
ILB	**Eielson Array**	**47.83**	**328**	*e*P		**P**	**11 00 16.6**	**+0.2**	
	comp=Z,12nm,1.1s								
DOT	**Dot Lake**	**47.87**	**326**	*e*P		**P**	**11 00 17.7**	**+0.8**	
	comp=Z,17nm,1.2s								
BOZ	**Bozeman (W)**	**47.87**	**291**	*e*P		**P**	**11 00 16.9**	**-0.4**	
	comp=Z,8.8nm,1.1s								
HYT	**Haines Junctio**	**47.90**	**320**	*e*P		**P**	**11 00 18.6**	**+1.4**	
	comp=Z,12nm,1.2s								
COLA	**College**	**48.01**	**329**	*de*P		**P**	**11 00 18.4**	**+0.5**	
COLA					pmax	pmax			
	comp=Z,9.0nm,1.0s								
MDM	**Murphy Dome**	**48.05**	**329**	*e*P		**P**	**11 00 18.3**	**+0.1**	
	comp=Z,16nm,1.1s								
YHH	**Holmes Hill**	**48.07**	**290**	*e*P		**P**	**11 00 19.0**	**0.0**	
	comp=Z,2.4nm,1.0s								
HDA	**Harding Lake**	**48.12**	**328**	*e*P		**P**	**11 00 18.9**	**+0.1**	
	comp=Z,6.9nm,0.9s								
H17A	**Grant Village**	**48.21**	**289**	*e*P		**P**	**11 00 21.7**	**+1.6**	
	comp=Z,7.8nm,1.1s								
YFT	**Old Faithful**	**48.30**	**290**	*e*P		**P**	**11 00 22.4**	**+1.6**	
	comp=Z,13nm,1.1s								
N23A	**Red Feather La**	**48.40**	**283**	*e*P		**P**	**11 00 21.9**	**+0.3**	
	comp=Z,15nm,1.1s								
NEW	**Newport**	**48.62**	**297**	P		**P**	**11 00 22.0**	**-0.9**	
NEW	**Newport**	**48.62**	**297**	P		**P**	**11 00 21.9**	**-0.9**	
	comp=Z,2.9nm,0.9s,baz=65,slow=5.2,SNR=5.4								
IM3	**Indian Mountai**	**48.66**	**332**	*e*P		**P**	**11 00 21.9**	**-1.0**	
LOHW	**Long Hollow**	**48.79**	**289**	*e*P		**P**	**11 00 24.4**	**-0.1**	
	comp=Z,3.9nm,1.1s								
PAX	**Paxson**	**48.80**	**326**	*e*P		**P**	**11 00 25.8**	**+1.6**	
	comp=Z,17nm,1.2s								
PAX	**Paxson**	**48.80**	**326**	*e*P		**P**	**11 00 25.8**	**+1.6**	
PAX					pmax	pmax			
	comp=Z,17nm,1.2s								
BW06	**Boulder Array**	**48.88**	**287**	*e*P		**P**	**11 00 23.5**	**-1.7**	
	comp=Z,7.0nm,1.1s								
PD31	**Pinedale Array**	**48.88**	**287**	*e*P		**P**	**11 00 23.5**	**-1.7**	
	comp=Z,5.8nm,1.1s								
PDAR	**Pinedale Array**	**48.88**	**287**	P		**P**	**11 00 23.5**	**-1.7**	
	comp=Z,2.4nm,0.8s,baz=57,slow=6.7,SNR=14								
SNOW	**Snow King Moun**	**48.98**	**289**	*e*P		**P**	**11 00 30.6**	**+4.7**	
	comp=Z,6.7nm,1.0s								
FXWY	**Fox Creek**	**48.98**	**289**	*e*P		**P**	**11 00 25.9**	**-0.1**	
	comp=Z,6.1nm,1.1s								
BWN	**Browne**	**49.00**	**329**	*e*P		**P**	**11 00 26.0**	**+0.4**	
	comp=Z,44nm,1.2s								
MCMT	**McKenzie Canyo**	**49.02**	**291**	*e*P		**P**	**11 00 26.7**	**+0.4**	
ISCO	**Idaho Springs**	**49.04**	**282**	*e*P		**P**	**11 00 26.9**	**+0.4**	
	comp=Z,5.5nm,1.0s								
ISCO	**Idaho Springs**	**49.04**	**282**	*e*P		**P**	**11 00 27.0**	**+0.4**	
ISCO					pmax	pmax			
	comp=Z,6.0nm,1.0s								
TPAW	**Teton Pass**	**49.05**	**289**	*e*P		**P**	**11 00 25.4**	**-1.1**	
	comp=Z,4.8nm,1.0s								
REDW	**Red Top Meadow**	**49.10**	**289**	*e*P		**P**	**11 00 26.6**	**-0.3**	
	comp=Z,6.9nm,1.1s								
AKTO	**Aktyubinsk**	**49.23**	**58**	P		**P**	**11 00 27.0**	**-0.5**	
AKTO	**Aktyubinsk**	**49.23**	**58**	P		**P**	**11 00 27.0**	**-0.5**	
	comp=Z,5.8nm,0.8s,baz=321,slow=7.3,SNR=9.3								
WMOK	**Wichita Mounta**	**49.26**	**272**	*e*P		**P**	**11 00 27.0**	**-1.0**	
	comp=Z,7.6nm,1.1s								
C09A	**Chrisman Ranch**	**49.49**	**298**	*e*P		**P**	**11 00 29.1**	**-0.4**	
	comp=Z,14nm,1.1s								
B08A	**Colville Reser**	**49.58**	**299**	*e*P		**P**	**11 00 29.8**	**-0.5**	
	comp=Z,9.5nm,1.0s								
MAK	**Makhachkala**	**49.63**	**71**	*e*P		**P**	**11 00 26.3**	**-4.3**	
MAK				*e*S		**S**	**11 07 32.1**	**-6.3**	
MAK					pmax	pmax			
	comp=Z,301nm,1.6s								
MAK					MLR	MLR			
	comp=Z,291nm,16.0s								
TIXI	**Tiksi**	**49.67**	**8**	*e*P		**P**	**11 00 30.9**	**+0.4**	
	comp=Z,5.8nm,1.1s								
TIXI	**Tiksi**	**49.67**	**8**	⇓*e*P		**P**	**11 00 31.1**	**+0.6**	
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.9s								
O20A	**White River Ci**	**50.14**	**284**	*e*P		**P**	**11 00 38.4**	**+3.5**	
	comp=Z,10nm,1.0s								
SMCO	**Smowss**	**50.20**	**282**	*e*P		**P**	**11 00 33.5**	**-2.1**	
	comp=Z,5.8nm,1.0s								
GNI	**Garni**	**50.31**	**76**	⇑*e*P		**P**	**11 00 36.1**	**+0.1**	
GNI					pmax	pmax			
	comp=Z,34nm,1.1s								
T25A	**Trinidad**	**50.40**	**278**	*e*P		**P**	**11 00 36.7**	**-0.1**	
	comp=Z,8.5nm,1.0s								
SDCO	**Great Sand Dun**	**50.51**	**280**	*e*P		**P**	**11 00 37.4**	**-0.4**	
	comp=Z,3.3nm,1.0s								
SML	**Sawmill**	**50.55**	**327**	*e*P		**P**	**11 00 38.3**	**+0.9**	
	comp=Z,28nm,1.1

XPFO	**Pion Flat**	**59.35**	**285**	*e*P		**P**		**11 01 41.9**	**+0.4**
	comp=Z,7.7nm,0.9s								
PFO	**Pinyon Flats O**	**59.36**	**285**	*e*P		**P**		**11 01 41.9**	**+0.3**
	comp=Z,6.6nm,0.9s								
PFO	**Pinyon Flats O**	**59.36**	**285**	*e*P		**P**		**11 01 41.9**	**+0.3**
PFO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
MAKZ	**Makanchi**	**61.97**	**45**	*e*P		**P**		**11 01 58.6**	**-0.5**
	comp=Z,6.0nm,1.1s								
MAKZ	**Makanchi**	**61.97**	**45**	*e*P		**P**		**11 01 58.6**	**-0.5**
MAKZ				pmax	pmax				
	comp=Z,6.0nm,1.1s								
MK31	**Makanchi Array**	**62.10**	**45**	*e*P		**P**		**11 01 59.6**	**-0.3**
	comp=Z,2.2nm,0.8s								
MK31	**Makanchi Array**	**62.10**	**45**	*e*P		**P**		**11 01 59.7**	**-0.3**
MK31				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**62.10**	**45**	P		**P**		**11 01 59.5**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=340,slow=6.7,SNR=14								
MK01	**Makanchi Array**	**62.12**	**45**	*e*P		**P**		**11 01 59.4**	**-0.7**
AAK	**Ala-Archa**	**62.44**	**53**	P		**P**		**11 02 03.1**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=248,slow=2.3,SNR=6.1								
MA2	**Magadan**	**62.48**	**358**‖	*e*P		**P**		**11 02 03.8**	**+1.6**
MA2				pmax	pmax				
	comp=Z,7.0nm,1.0s								
RAYN	**Ar Rayn**	**63.73**	**87**	*e*P		**P**		**11 02 11.1**	**0.0**
	comp=Z,3.2nm,0.9s								
RAYN	**Ar Rayn**	**63.73**	**87**	*e*P		**P**		**11 02 11.1**	**0.0**
RAYN				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TARG	**Taragay, Kyrgy**	**64.57**	**51**	*e*P		**P**		**11 02 17.9**	**+1.1**
	comp=Z,5.4nm,0.9s								
KSH	**Kashi**	**65.64**	**54**	P		**P**		**11 02 25.8**	**+2.3**
KSH				pP	pwP			11 02 31.0	+1.5
KSH				S	**S**			**11 11 08.1**	**-0.6**
KSH				SS	**SS**			**11 15 22.8**	**+0.9**
KSH				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KSH				pmax	pmax				
	comp=Z,120nm,5.2s								
WMQ	**Urumqi**	**66.63**	**43**	*e*P		**P**		**11 02 32.8**	**+3.1**
WMQ				pP	pwP			11 02 37.4	+1.8
WMQ				LR	LR				
	comp=Z,170nm,22.9s								
WMQ				LR	LR				
	comp=Z,190nm,23.9s								
SONM	**Songino Array**	**68.81**	**29**	P		**P**		**11 02 43.0**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=332,slow=7.2,SNR=7.5								
ULN	**Ulaanbaatar**	**68.95**	**28**	*e*P		**P**		**11 02 44.9**	**+0.5**
	comp=Z,3.8nm,0.8s								
ULN	**Ulaanbaatar**	**68.95**	**28***c*	*i*P		**P**		**11 02 44.6**	**+0.2**
ULN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
HIA	**Hailar**	**70.32**	**19**⇑	*e*P		**P**		**11 02 52.7**	**+0.1**
HIA				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KLR	**Kul'dur**	**72.03**	**11**⇑	*e*P		**P**		**11 03 02.6**	**-0.3**
GTA	**Gaotai**	**74.68**	**37**	*e*P		**P**		**11 03 18.5**	**-0.4**
GTA				pP	pP			11 03 22.1	-0.5
GTA				sP	pwP			11 03 24.8	-0.1
GTA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**76.65**	**28**	*e*P		**P**		**11 03 29.5**	**-0.6**
HHC				sP	pwP			11 03 36.4	+0.3
HHC				S	**S**			**11 13 15.4**	**-0.7**
HHC				pmax	pmax				
	comp=Z,13nm,1.0s								
HHC				pmax	pmax				
	comp=Z,140nm,6.2s								
HHC				LR	LR				
	comp=Z,130nm,16.5s								
HHC				LR	LR				
	comp=Z,130nm,15.3s								
HHC				LR	LR				
	comp=Z,150nm,16.0s								
LZH	**Lanzhou**	**78.98**	**35**	*e*P		**P**		**11 03 45.8**	**+2.6**
LZH				pP	pwP			11 03 49.9	+0.7
LZH				sP	PcP			11 03 52.0	+0.2
LZH				PP	**PP**			**11 06 44.8**	**+3.4**
LZH				pmax	pmax				
	comp=Z,26nm,1.0s								
LZH				pmax	pmax				
	comp=Z,95nm,4.3s								
LZH				LR	LR				
	comp=Z,330nm,15.2s								
LZH				LR	LR				
	comp=Z,500nm,18.7s								
NJ2	**Nanjing**	**86.75**	**25**	*e*P		**P**		**11 04 24.3**	**+0.9**
NJ2				pmax	pmax				
	comp=Z,15nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.50**	**46**	*i* P		**P**		**11 04 57.0**	**+1.8**
CMAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**93.50**	**46**	P		**P**		**11 04 54.6**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=317,slow=4.1,SNR=4.5								
PPT2	**Papeete2**	**119.27**	**284**	*e*LR		LR		11 46 59.0	
	comp=Z,105nm,22.8s								
WRA	**Warramunga Arr**	**140.43**	**21**	PKP		**PKPdf**		**11 11 07.3**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=337,slow=2.3,SNR=6.8								
DZM	**Mont Dzumac**	**141.49**	**332**	*e*LR		LR		11 57 04.7	
	comp=Z,92nm,24.2s								
ASAR	**Alice Springs**	**143.97**	**22**	PKP		PKPab		11 11 12.1	+0.1
	comp=Z,1.7nm,0.9s,baz=352,slow=2.8,SNR=10								

IDC ***20*** *10:54:06.7±1.4,57.97N×32.03W,h0km,mb3.9/8, mb1 4.1/9,mb1mx3.7/69,mbtmp4.0/9,ML3.5/1,Error ellipse: s-maj=33.5km s-min=22.3km az=21.0*

ISCJB ***20*** *10:54:07.1±1.1,58.0N±0.2×32.0W±0.3,h14km,mb3.9/8, Error ellipse: s-maj=22.1km s-min=18.9km az=21.4*

ISC 20 10:54:09.0±1.2,58.0N±0.2×32.0W±0.1,h14km,n9,σ0s74/9, mb4.0/8,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BORG	**Borgarnes**	**8.49**	**33**	P		**Pn**	**10 56 10.8**	**-0.5**
	0.6nm,0.3s,baz=196,slow=7.4,SNR=2.5							
ARCES	**ARCESS Array B**	**26.75**	**41**	P		**P**	**10 59 47.1**	**-0.7**
	3.8nm,0.9s,baz=272,slow=9.5,SNR=6.0							
FINES	**FINESS Array B**	**28.65**	**58**	P		**P**	**11 00 04.5**	**-0.2**
	1.5nm,0.6s,baz=274,slow=5.4,SNR=3.6							
AKASG	**Malin Array Be**	**35.30**	**75**	P		**P**	**11 01 03.3**	**+0.2**
	0.3nm,0.4s,baz=305,slow=8.8,SNR=3.0							
YKA	**Yellowknife Ar**	**38.60**	**312**	P		**P**	**11 01 30.2**	**-0.8**
	0.7nm,0.8s,baz=60,slow=9.1,SNR=3.8							
BRTR	**Keskin Array B**	**44.92**	**84**	P		**P**	**11 02 23.2**	**+0.1**
	0.4nm,0.6s,baz=324,slow=7.1,SNR=3.1							
ILAR	**Eielson Array**	**48.04**	**328**	P		**P**	**11 02 48.1**	**+1.0**
	1.8nm,0.9s,baz=34,slow=6.4,SNR=4.9							
AKTO	**Aktyubinsk**	**49.42**	**57**	P		**P**	**11 02 58.7**	**+0.8**
	2.1nm,0.6s,baz=319,slow=7.4,SNR=5.4							
DBIC	**Dimbokro**	**55.36**	**147**	P		**P**	**11 03 41.9**	**-0.4**
	3.6nm,1.0s,baz=253,slow=7.4,SNR=3.1							

NIED ***20*** *10:54:00,40.70N×145.00E,h11km,Mw3.9 Best double couple: M08.52000×1014 NP1:φs170.00000°,δ37.00000°, λ-114.00000°. NP2:φs20.00000°,δ57.00000°, λ-73.00000°.*

ISCJB ***20*** *10:54:44.7±0.4,40.72N±0.02×144.87E±0.05,h10km, mb4.0/19,MS3.7/2,Error ellipse: s-maj=5.0km s-min=3.6km az=1.8*

IDC ***20*** *10:54:44.8±0.8,40.64N×144.90E,h0km,mb3.9/14, mb1 4.0/17,mb1mx3.9/66,mbtmp3.9/17,ML3.1/3,MS3.4/4, Ms1 3.5/4,ms1mx2.9/54,Error ellipse: s-maj=20.2km s-min=16.3km az=104.0*

JMA ***20*** *10:54:46.9±0.2,40.70N×144.97E,h70km,3km,M4.1*

NEIC ***20*** *10:54:46.1±0.3,40.63N×144.98E,h10km,mb4.3/7,Error ellipse: s-maj=7.1km s-min=5.4km az=114.0*

ISC 20 10:54:46.2±0.7,40.70N±0.05×144.91E±0.06,h10km,n61, σ1s44/72,mb4.1/19,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.86**	**315**	*e*Pn		**Pn**	**10 55 18.1**	**0.0**
ERM				*e*Sn		**Sn**	**10 55 39.2**	**-2.5**
JEM	**Erimo**	**1.86**	**315**	P		**Pn**	**10 55 17.9**	**-0.2**
JEM				*e*S		**Sn**	**10 55 39.9**	**-1.8**
JTHR	**Tokachihiroo**	**2.00**	**323**	P		**Pn**	**10 55 19.8**	**-0.2**
JTHR				*e*S		**Sn**	**10 55 42.8**	**-2.2**
JCH	**Churui**	**2.24**	**329**	P		**Pn**	**10 55 22.9**	**-0.4**
JCH				*e*S		**Sn**	**10 55 48.2**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.26**	**315**	P		**Pn**	**10 55 24.1**	**+0.5**
JNBK				*e*S		**Sn**	**10 55 51.0**	**-0.6**
JAK	**Akkeshi**	**2.30**	**356**	P		**Pn**	**10 55 23.5**	**-0.6**
JAK				*e*S		**Sn**	**10 55 50.1**	**-2.4**
JOB	**Onbets**	**2.34**	**340**	*e*S		**Sn**	**10 55 51.9**	**-1.7**
JKHN	**Kushirohamanak**	**2.39**	**4**	P		**Pn**	**10 55 24.7**	**-0.7**
JANG	**Nango**	**2.61**	**264**	P		**Pn**	**10 55 27.6**	**-0.8**
JAR	**Ashorobuto**	**2.73**	**342**	P		**Pn**	**10 55 29.4**	**-0.7**
JAR				*e*S		**Sn**	**10 56 00.7**	**-2.4**
NEM2	**Nemuro 2**	**2.73**	**13**	P		**Pn**	**10 55 28.9**	**-1.2**
NEM2				*e*S		**Sn**	**10 55 59.7**	**-3.5**
JOT	**Ohata**	**3.00**	**284**	P		**Pn**	**10 55 33.7**	**-0.1**
JOT				*e*S		**Sn**	**10 56 07.2**	**-2.6**
JFR	**Furan**	**3.01**	**326**	P		**Pn**	**10 55 33.7**	**-0.2**
JFR				*e*S		**Sn**	**10 56 07.0**	**-3.0**
JOM	**Ohasama**	**3.03**	**247**	P		**Pn**	**10 55 34.1**	**-0.2**
JOM				*e*S		**Sn**	**10 56 08.2**	**-2.4**
JKB	**Kayabe**	**3.15**	**293**	P		**Pn**	**10 55 35.8**	**-0.1**
JRA	**Rausu**	**3.24**	**3**	*e*S		**Sn**	**10 56 12.1**	**-3.5**
JMK	**Ichinoseki**	**3.34**	**240**	P		**Pn**	**10 55 38.0**	**-0.4**
JMK				*e*S		**Sn**	**10 56 14.3**	**-3.7**
JTKR	**Abashiri--Toko**	**3.35**	**348**	P		**Pn**	**10 55 38.7**	**+0.1**
JTKR				*e*S		**Sn**	**10 56 15.8**	**-2.6**
JEW	**Eniwo**	**3.36**	**311**	P		**Pn**	**10 55 39.7**	**+1.0**
JEW				*e*S		**Sn**	**10 56 17.4**	**-1.2**
JKK2	**Kamakawa 2**	**3.55**	**334**	P		**Pn**	**10 55 41.9**	**+0.5**
ASAJ	**Asahikawa**	**3.82**	**334**	Pn		**Pn**	**10 55 45.7**	**+0.7**
	2.5nm,0.3s,baz=193,slow=9.8,SNR=18							
ASAJ				Sn		**Sn**	**10 56 28.6**	**-1.4**
	2.9nm,0.3s,baz=221,slow=19,SNR=4.9							
ASAJ				LR		LR	10 57 48.8	
	comp=Z,191nm,18.2s,baz=154,slow=48							
JYK	**Kaneyama**	**3.93**	**245**	P		**Pn**	**10 55 46.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**6.44**	**347**	*e*Pn		**Pn**	**10 56 22.9**	**+1.8**
MAJO	**Matsushiro**	**6.69**	**234**	*e*Pn		**Pn**	**10 56 24.2**	**-0.3**
MJAR	**Matsushiro Arr**	**6.69**	**234**	Pn		**Pn**	**10 56 24.2**	**-0.3**
	0.1nm,0.3s,baz=355,slow=5.6,SNR=5.3							
MJB9	**Matsu-Tunnel**	**6.69**	**234**	*e*Pn		**Pn**	**10 56 25.5**	**+1.0**
USA0B	**Ussuriysk Arra**	**10.17**	**294**	*e*Pn		**Pn**	**10 57 14.6**	**+2.5**
USRK	**Ussuriysk Ar.**	**10.17**	**294**	Pn		**Pn**	**10 57 13.8**	**+1.6**
	0.6nm,0.3s,baz=104,slow=13,SNR=14							
KSRS	**Korea Array**	**13.59**	**262**	LR		LR	11 02 46.2	
	comp=Z,133nm,21.4s,baz=190,slow=35							
SEY	**Seymchan**	**22.71**	**9**	P		**P**	**10 59 47.9**	**+0.1**
	2.2nm,0.7s,baz=177,slow=5.6,SNR=7.8							
SONA0	**Songino Array**	**28.26**	**298**	*e*P		**P**	**11 00 40.7**	**+1.2**
SONM	**Songino Array**	**28.26**	**298**	P		**P**	**11 00 40.7**	**+1.2**
	0.9nm,0.7s,baz=81,slow=10,SNR=5.5							
BILL	**Bilibino**	**29.75**	**16**	*e*P		**P**	**11 00 53.2**	**+0.8**
	4.6nm,1.3s							
ZAA1	**Zalesovo Array**	**41.58**	**309**	*e*P		**P**	**11 02 34.7**	**+0.8**
ZALV	**Zalesovo Beam**	**41.58**	**309**	P		**P**	**11 02 34.7**	**+0.8**
	0.7nm,0.4s,baz=82,slow=10,SNR=3.0							
KNK	**Knik Glacier**	**44.39**	**39**	*e*P		**P**	**11 02 55.4**	**-1.2**
	41nm,1.6s							
MK32	**Makanchi Array**	**44.58**	**300**	*e*P		**P**	**11 02 58.3**	**0.0**
MKAR	**Makanchi Array**	**44.58**	**300**	P		**P**	**11 02 58.3**	**0.0**
	0.6nm,0.7s,baz=84,slow=11,SNR=2.7							
ILAR	**Eielson Array**	**44.94**	**34**	P		**P**	**11 03 01.8**	**+0.9**
	0.7nm,0.7s,baz=258,slow=6.4,SNR=9.3							
ILB	**Eielson Array**	**44.94**	**34**	*e*P		**P**	**11 03 01.3**	**+0.4**
	8.0nm,1.6s							
CMAR	**Chiang Mai Arr**	**45.09**	**254**	LR		LR	11 24 16.2	
	comp=Z,47nm,18.4s,baz=158,slow=39							
KURBB	**Kurchatov Arra**	**45.99**	**306**	P		**P**	**11 03 09.7**	**+0.3**
	1.4nm,0.2s,baz=79,slow=8.8,SNR=4.7							
INK	**Inuvik**	**49.87**	**29**	*e*P		**P**	**11 03 40.6**	**+1.4**
	4.4nm,1.3s							
INK	**Inuvik**	**49.87**	**29**	P		**P**	**11 03 40.6**	**+1.4**
	1.6nm,0.6s,baz=280,slow=6.2,SNR=1.9							
RES	**Resolute Bay**	**58.36**	**16**	*e*P		**P**	**11 04 42.2**	**+1.3**
	3.4nm,0.7s							
RES	**Resolute Bay**	**58.36**	**16**	P		**P**	**11 04 41.3**	**+0.3**
	2.2nm,0.8s,baz=326,slow=5.8,SNR=7.0							
YKB5	**Yellowknife Ar**	**59.26**	**32**	*e*P		P	11 04 43.4	-4.0
WB2	**Warramunga Arr**	**61.13**	**191**	*e*P		**P**	**11 05 00.2**	**-0.5**
WR1	**Warramunga Arr**	**61.13**	**191**	*e*P		**P**	**11 05 00.1**	**-0.5**
	10nm,1.3s							
WRA	**Warramunga Arr**	**61.13**	**191**	P		**P**	**11 05 00.1**	**-0.6**
	2.7nm,0.8s,baz=10,slow=7.1,SNR=15							
AS31	**Alice Springs**	**64.85**	**191**	*e*P		**P**	**11 05 24.4**	**-1.0**
	1.4nm,1.0s							
ASAR	**Alice Springs**	**64.85**	**191**	P		**P**	**11 05 25.2**	**-0.1**
	0.3nm,0.6s,baz=4.3,slow=4.9,SNR=2.9							
FIA0	**FINESS Array S**	**66.83**	**333**	*e*P		**P**	**11 05 37.6**	**-0.1**
FINES	**FINESS Array B**	**66.83**	**333**	P		**P**	**11 05 37.6**	**-0.1**
	1.5nm,0.8s,baz=64,slow=8.7,SNR=4.3							
NB2	**NORSAR Subarra**	**71.83**	**338**	P		**P**	**11 06 08.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=38,slow=6.2							
NB200	**NORSAR Array S**	**71.83**	**338**	*e*P		**P**	**11 06 08.7**	**-0.1**
NOA	**NORSAR Array B**	**71.83**	**338**	P		**P**	**11 06 08.7**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=37,slow=6.0,SNR=4.4							
AKASG	**Malin Array Be**	**73.04**	**323**	P		**P**	**11 06 15.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=44,slow=6.1,SNR=6.0							
AKBB	**Malin Array Si**	**73.04**	**323**	*e*P		**P**	**11 06 15.3**	**-0.8**
	comp=Z,2.3nm,0.8s							
TXAR	**Lajitas Array**	**85.75**	**55**	P		**P**	**11 07 26.6**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=318,slow=6.6,SNR=3.1							
RPZ	**Rata Peaks**	**87.27**	**161**	LR		LR	11 44 48.3	
	comp=Z,61nm,20.0s,baz=5.5,slow=34							

BJI ***20*** *10:55:02.4,58.50N×32.54W,h6km,mb4.7/25,mB5.0/14, Ms4.7/7,Ms7 4.4/7*

MOS ***20*** *10:55:03.7±0.8,58.27N×32.07W,h10km,mb4.7/35,Error ellipse: s-maj=11.2km s-min=7.8km az=83.2*

IDC ***20*** *10:55:03.5±0.6,58.25N×32.16W,h0km,mb4.2/31, mb1 4.3/34,mb1mx4.2/70,mbtmp4.2/34,ML3.4/2,Error ellipse: s-maj=16.6km s-min=10.0km az=4.0*

ISCJB ***20*** *10:55:04.6±0.2,58.30N±0.03×32.09W±0.04,h13km, mb4.5/143,Error ellipse: s-maj=5.0km s-min=2.6km az=159.7*

NEIC ***20*** *10:55:05.8±0.2,58.29N×32.01W,h10km,mb4.6/103, Error ellipse: s-maj=4.8km s-min=2.8km az=175.0*

ISC 20 10:55:06.5±0.4,58.35N±0.07×32.08W±0.04,h13km,n448, σ0s96/458,mb4.5/143,12C-3D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ANGG	**Ammassalik, Gr**	**7.75**	**343**	*e*Pn		**Pn**	**10 56 58.7**	**-0.1**
BORG	**Borgarnes**	**8.21**	**34**	*e*Pn		**Pn**	**10 57 02.3**	**-2.9**
BORG				Sn		**Sn**	**10 58 37.8**	**+0.1**
BORG	**Borgarnes**	**8.21**	**34**	*e*P		**Pn**	**10 57 02.3**	**-2.9**
BORG							10 58 37.8	
BORG	**Borgarnes**	**8.21**	**34**	Pn		**Pn**	**10 57 06.4**	**+1.2**
	0.9nm,0.3s,baz=234,slow=7.0,SNR=3.5							
BORG				Sn		**Sn**	**10 58 37.8**	**+0.1**
	1.0nm,0.3s,baz=88,slow=18,SNR=3.1							
IVI	**Ivigtut**	**8.61**	**296**	*e*Pn		**Pn**	**10 57 14.6**	**+4.0**
SUMG	**Summit**	**14.52**	**352**	*e*Pn		**Pn**	**10 58 31.4**	**-0.4**
SUMG	**Summit**	**14.52**	**352**	*i* P		**Pn**	**10 58 30.7**	**-1.0**
	46nm,1.1s							
SUMG	**Summit**	**14.52**	**352**	*i* P		**Pn**	**10 58 30.7**	**-1.0**
SUMG				pmax	pmax			
	comp=Z,46nm,1.1s							
DSB	**Dublin**	**15.28**	**98**	*e*Pn		**P**	**10 58 46.1**	**-0.4**
	comp=Z,23nm,1.0s							
EKA	**Eskdalemuir Ar**	**16.05**	**88**	Pn		**Pn**	**10 58 51.3**	**-0.3**
	baz=304,slow=13,SNR=3.9							
FRB	**Frobisher Bay**	**18.27**	**303**	P		**Pn**	**10 59 19.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=4.8							
DAG	**Danmarks Havn**	**19.10**	**9**	*i* P		**Pn**	**10 59 30.5**	**+1.1**
	comp=Z,28nm,1.5s							
DAG				*i*			10 59 46.2	
DAG	**Danmarks Havn**	**19.10**	**9**	*i* P		**Pn**	**10 59 30.5**	**+1.1**
DAG				pmax	pmax			
	comp=Z,78nm,1.5s							
SCHQ	**Schefferville**	**19.32**	**275**	*e*P		**Pn**	**10 59 34.5**	**+2.2**
	comp=Z,6.0nm,0.9s							
NB2	**NORSAR Subarra**	**21.71**	**64**	P		**P**	**10 59 58.9**	**+1.9**
	comp=Z,8.8nm,1.1s,baz=282,slow=10							
NOA	**NORSAR Array B**	**21.71**	**64**	P		**P**	**10 59 56.3**	**-0.7**
	comp=Z,1.9nm,0.8s,baz=280,slow=11,SNR=4.6							
NB201	**NORSAR Array S**	**21.75**	**64**	*e*P		**P**	**11 00 00.2**	**+2.8**
	comp=Z,9.7nm,0.9s							
SNF	**Seneffe**	**22.32**	**95**	⇑P		**P**	**11 00 03.5**	**-0.1**
TULEG	**Thule**	**22.33**	**338**	*e*P		**P**	**11 00 04.0**	**+0.5**
	comp=Z,25nm,1.1s							
DOU	**Dourbes**	**22.72**	**95**	⇑P		**P**	**11 00 10.1**	**+2.2**
BCLA	**Clavier**	**22.91**	**94**	P		**P**	**11 00 13.7**	**+4.0**
HFS	**Hagfors**	**23.12**	**66**	P		**P**	**11 00 11.0**	**-0.9**
	comp=Z,4.2nm,0.9s,baz=308,slow=4.7,SNR=3.5							
MEM	**Membach**	**23.17**	**93**	⇑P		**P**	**11 00 17.4**	**+4.9**
CHGQ	**Chibougamau**	**25.79**	**269**	P		**P**	**11 00 35.7**	**-1.3**
	baz=55							
PAB	**San Pablo**	**25.88**	**124**	*e*P		**P**	**11 00 39.9**	**+2.0**
	comp=Z,6.1nm,0.9s							
PAB	**San Pablo**	**25.88**	**124**	*e*P		**P**	**11 00 39.9**	**+2.0**
PAB				pmax	pmax			
	comp=Z,6.0nm,0.9s							
ESDC	**Sonseca Array**	**25.94**	**124**	P		**P**	**11 00 37.5**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=320,slow=9.3,SNR=7.8							
ES06	**SONSECA Array**	**25.94**	**124**	*e*P		**P**	**11 00 37.8**	**-0.6**
PKME	**Peaks-Kenny Pk**	**26.09**	**256**	*e*P		**P**	**11 00 40.2**	**+0.6**
	comp=Z,20nm,0.9s							
ARCES	**ARCESS Array B**	**26.52**	**42**	*e*P		**P**	**11 00 43.0**	**-0.3**
ARCES	**ARCESS Array B**	**26.52**	**42**	*e*P		**P**	**11 00 43.0**	**-0.3**
ARCES	**ARCESS Array B**	**26.52**	**42**	P		**P**	**11 00 42.5**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=268,slow=8.7,SNR=13							
ARE0	**ARCESS Array S**	**26.52**	**42**	*e*P		**P**	**11 00 43.2**	**-0.1**
	comp=Z,1.0nm,1.0s							
BRG	**Berggiesshubel**	**27.21**	**86**	*e*(P)		**P**	**11 00 47.4**	**-2.3**
	comp=Z,5.5nm,1.2s							
BRG	**Berggiesshubel**	**27.21**	**86**	*e*P		**P**	**11 00 47.4**	**-2.3**
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
LSQQ	**Lebel-sur-Quev**	**27.67**	**270**	P		**P**	**11 00 52.2**	**-1.6**
	baz=53							
RES	**Resolute Bay**	**27.98**	**330**	*e*P		**P**	**11 00 55.7**	**-0.6**
	comp=Z,5.2nm,1.0s							
RES	**Resolute Bay**	**27.98**	**330**	*e*P		**P**	**11 00 55.7**	**-0.6**
RES				pmax	pmax			
	comp=Z,5.0nm,1.0s							
RES	**Resolute Bay**	**27.98**	**330**	P		**P**	**11 00 54.7**	**-1.6**
	comp=Z,4.2nm,1.1s,baz=103,slow=7.7,SNR=6.2							
FINES	**FINESS Array B**	**28.50**	**59**	P		**P**	**11 01 00.6**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=292,slow=8.4,SNR=3.8							
FIA1	**FINESS Array S**	**28.50**	**59**	*e*P		**P**	**11 01 01.2**	**+0.1**
D54A	**Lac Fusel, La**	**28.68**	**267**	P		**P**	**11 01 02.5**	**-0.3**
	baz=50							
DPC	**Dobruska-Polom**	**28.75**	**85**	*e*P		**P**	**11 01 03.6**	**+0.1**
DPC	**Dobruska-Polom**	**28.75**	**85**	*e*P		**P**	**11 01 03.6**	**+0.1**
D53A	**Lac Vacive, Po**	**29.27**	**268**	P		**P**	**11 01 07.2**	**-0.9**
	baz=50							
PEMO	**Pembroke**	**29.94**	**265**	P		**P**	**11 01 13.7**	**-0.3**
	baz=49							
G55A	**Calabogie**	**29.95**	**264**	P		**P**	**11 01 13.4**	**-0.7**
	baz=48							
VSU	**Vasula**	**29.96**	**64**⇑	*e*P		**P**	**11 01 14.7**	**+0.6**
VSU				pmax	pmax			
	comp=Z,19nm,0.9s							
D51A	**Lot 18 Range I**	**30.15**	**269**	P		**P**	**11 01 15.2**	**-0.6**
	baz=50							
PLVO	**Plevna**	**30.28**	**264**	P		**P**	**11 01 16.2**	**-0.8**
	baz=48							
F52A	**Sundridge**	**30.96**	**267**	P		**P**	**11 01 22.5**	**-0.5**
	baz=49							
VYHS	**Vyhne**	**31.18**	**86**	*e*P		**P**	**11 01 28.2**	**+3.3**
VYHS	**Vyhne**	**31.18**	**86**	*e*P		**P**	**11 01 28.2**	**+3.3**
E50A	**Wahnapitae**	**31.29**	**269**	P		**P**	**11 01 25.3**	**-0.7**
	baz=50							
FCC	**Fort Churchill**	**31.34**	**298**	*e*P		**P**	**11 01 26.2**	**0.0**
	comp=Z,9.6nm,1.1s							
FCC	**Fort Churchill**	**31.34**	**298**	*e*P		**P**	**11 01 26.2**	**0.0**
FCC				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KLBO	**Killbear Provi**	**31.72**	**267**	P		**P**	**11 01 28.8**	**-0.9**
	baz=48							
K52A	**Tillsonburg**	**33.74**	**264**	P		**P**	**11 01 46.2**	**-1.2**
	baz=46							
L53A	**Girard**	**34.09**	**263**	P		**P**	**11 01 51.0**	**+0.5**
	baz=44							
N54A	**Moraine State**	**34.66**	**261**	P		**P**	**11 01 55.4**	**-0.1**

J41A **Loganville** 38.23 273 P P 11 02 24.5 -1.4
baz=46
YKW3 **Yellowknife Ar** 38.31 312 eP P 11 02 26.0 -0.2
comp=Z,3.0nm,1.1s
YKA **Yellowknife Ar** 38.34 312 P P 11 02 25.9 -0.6
comp=Z,3.5nm,0.8s,baz=58,slow=9.3,SNR=17
YKA PcP PcP 11 04 38.4 -1.4
comp=Z,0.6nm,0.7s,baz=52,slow=3.1,SNR=8.5
YKB5 **Yellowknife Ar** 38.34 312 eP P 11 02 27.0 +0.5
T54A **Tazewell** 38.39 258 P P 11 02 26.6 -0.7
baz=40
L43A **Garden Prairie** 38.39 271 P P 11 02 26.8 -0.4
baz=45
H38A **Maiden Rock** 38.53 276 P P 11 02 27.3 -1.1
baz=47
U55A **TA2, Sparta** 38.54 257 P P 11 02 28.2 -0.4
baz=40
P48A **Milroy** 38.60 265 P P 11 02 28.9 -0.1
baz=43
Q49A **Aurora** 38.66 264 P P 11 02 29.7 +0.2
baz=42
SFIN **Lafayette** 38.81 267 P P 11 02 30.8 +0.1
baz=44
R50A **Paris** 38.90 262 P P 11 02 31.3 -0.2
baz=42
U54A **Nelsons Funny** 38.93 258 P P 11 02 31.7 -0.1
baz=40
T53A **Wise** 38.94 259 P P 11 02 32.1 +0.1
baz=40
L42A **Oliver, Polo** 39.00 271 P P 11 02 32.0 -0.3
baz=45
P47A **Martinsville** 39.02 265 P P 11 02 31.3 -1.3
baz=43
Y60A **Bolivia** 39.05 252 P P 11 02 32.9 +0.1
baz=37
T52A **Hallie** 39.08 260 P P 11 02 32.4 -0.7
baz=40
V55A **Taylorsville** 39.13 257 P P 11 02 33.1 -0.3
baz=39
Q48A **North Vernon** 39.15 264 P P 11 02 33.0 -0.6
baz=42
K40A **Colesburg** 39.29 273 P P 11 02 33.6 -1.1
baz=46
S50A **Richmond** 39.39 262 P P 11 02 35.4 -0.2
baz=41
P46A **Rosedale** 39.42 266 P P 11 02 35.3 -0.6
baz=43
U53A **Fall Branch** 39.44 259 P P 11 02 35.6 -0.5
baz=40
Q47A **Bedord North L** 39.51 265 P P 11 02 36.5 -0.1
baz=42
V54A **Nebo** 39.56 257 P P 11 02 37.1 -0.1
baz=39
T51A **Gray** 39.69 261 P P 11 02 37.9 -0.2
baz=40
KMSC **Kings Mountain** 39.74 256 P P 11 02 38.3 -0.2
baz=39
P45A **Graceland, Par** 39.77 267 P P 11 02 38.1 -0.6
baz=43
S49A **Springfield** 39.77 263 P P 11 02 38.6 -0.2
baz=41
L40A **Anamosa** 39.78 272 P P 11 02 38.4 -0.5
baz=45
TZTN **Tazewell** 39.80 260 P P 11 02 39.3 +0.3
baz=40
U52A **Thorn Hill** 39.82 259 P P 11 02 39.8 +0.5
baz=40
HDIL **Hopedale** 39.84 269 P P 11 02 39.0 -0.3
baz=44
WCI **Wyandotte Cave** 39.97 264 P P 11 02 40.0 -0.3
baz=42
N42A **Yates City** 40.03 270 P P 11 02 40.7 -0.2
baz=44
R47A **Wooly Knot Far** 40.04 264 P P 11 02 40.5 -0.5
baz=42
V53A **Saluda** 40.09 258 P P 11 02 41.2 -0.3
baz=39
T50A **Nancy** 40.11 261 P P 11 02 41.7 0.0
baz=41
L39A **Vinton** 40.15 273 P P 11 02 41.7 -0.1
baz=45
U51A **La Follette** 40.17 260 P P 11 02 42.1 -0.1
baz=40
Z59A **Georgetown, SC** 40.20 252 P P 11 02 42.7 +0.3
baz=37
MDND **Maddock** 40.20 285 P P 11 02 41.7 -0.6
baz=49
W54A **Cherokee Point** 40.22 257 P P 11 02 42.5 0.0
baz=39
S48A **Wiedeman Farm,** 40.27 263 P P 11 02 42.6 -0.3
baz=41
P44A **Sand Creek, Wi** 40.27 267 P P 11 02 42.7 -0.3
baz=43
V52A **Sevierville** 40.37 259 P P 11 02 44.1 +0.4
baz=40
T49A **Edmonton** 40.41 262 P P 11 02 43.8 -0.3
baz=41
X55A **Gracelyn & Ava** 40.42 256 P P 11 02 43.9 -0.3
baz=38
O42A **Bath** 40.51 269 P P 11 02 45.0 0.0
baz=44
U50A **Jamestown** 40.57 261 P P 11 02 45.7 +0.2
baz=40
TKL **Tuckaleechee C** 40.60 259 P P 11 02 44.3 -1.4
comp=Z,3.7nm,0.9s,baz=124,slow=11,SNR=2.7
P43A **Skaggs, Pawnee** 40.62 268 P P 11 02 45.5 -0.3
baz=43
W53A **Cullowhee** 40.66 258 P P 11 02 46.3 -0.1
baz=39
BG3 **Lake Jocassee** 40.68 258 eP P 11 02 47.2 +0.8
comp=Z,8.7nm,1.0s
X54A **Belton** 40.74 257 P P 11 02 46.3 -0.5
baz=38
S47A **Hartford** 40.75 264 P P 11 02 46.7 -0.1
baz=41
NHSC **New Hope** 40.76 253 P P 11 02 47.2 +0.2
baz=37
V51A **Loudon** 40.79 260 P P 11 02 46.4 -0.8
baz=40
T48A **Bowling Green** 40.86 263 P P 11 02 47.4 -0.4
baz=41
Z57A **Bowman** 40.87 254 P P 11 02 47.9 -0.1
baz=37
Y55A **Saluda** 40.95 256 P P 11 02 48.2 -0.4
baz=38
R45A **Skylar, Fairfi** 40.96 266 P P 11 02 48.1 -0.6
baz=42
U49A **Red Boiling Sp** 40.99 262 P P 11 02 48.9 0.0
baz=40
P42A **Winchester** 41.10 269 P P 11 02 49.3 -0.4
baz=43
S46A **Don Dixon Farm** 41.12 265 P P 11 02 49.8 -0.1
baz=41
X53A **Estanollee** 41.25 258 P P 11 02 50.6 -0.4
baz=38
V50A **Pikevile** 41.28 260 P P 11 02 51.3 0.0
baz=40
U48A **Cassie Pea, Po** 41.39 263 P P 11 02 51.4 -0.8
baz=40
P41A **Barry, Barry** 41.41 270 P P 11 02 52.0 -0.3
baz=43
R44A **Waltonville** 41.42 267 P P 11 02 52.0 -0.4
baz=42
INK **Inuvik** 41.42 327 eP P 11 02 51.8 -0.2
comp=Z,9.3nm,0.9s
INK **Inuvik** 41.42 327 eP P 11 02 51.8 -0.2
INK pmax pmax
comp=Z,9.0nm,0.9s
INK **Inuvik** 41.42 327 P P 11 02 51.4 -0.6
comp=Z,6.6nm,1.0s,baz=36,slow=8.0,SNR=11
Y54A **Tignall** 41.44 256 P P 11 02 52.4 -0.2
baz=38
ECSD **EROS Data Cent** 41.44 279 P P 11 02 52.5 0.0
baz=46
X52A **Dahlonega** 41.48 258 P P 11 02 52.9 -0.1
baz=39
W51A **Cleveland** 41.49 260 P P 11 02 52.8 -0.2
baz=39
V49A **McMinnville** 41.62 261 P P 11 02 53.5 -0.6
baz=40
T46A **Princeton** 41.69 264 P P 11 02 54.4 -0.2
baz=41
W50A **Signal Mountai** 41.75 260 eP P 11 02 55.8 +0.6
comp=Z,14nm,1.0s
W50A **Signal Mountai** 41.75 260 P P 11 02 54.9 -0.3
baz=39
U47A **Clarksville** 41.83 263 P P 11 02 55.9 +0.1
baz=40

R43A **Red Bud** 41.84 267 P P 11 02 55.8 -0.1
baz=42
Y53A **Monroe** 41.90 257 P P 11 02 56.5 +0.1
baz=38
S44A **Carbondale** 41.92 266 P P 11 02 55.9 -0.6
baz=42
X51A **Calhoun** 42.00 259 P P 11 02 57.0 -0.2
baz=39
Z54A **Sparta** 42.01 256 P P 11 02 57.0 -0.3
baz=38
Q41A **Truxton** 42.03 269 P P 11 02 56.9 -0.4
baz=42
DGMT **Dagmar** 42.10 289 P P 11 02 57.2 -0.8
baz=48
V48A **Smith Brothers** 42.12 262 eP P 11 02 58.4 +0.2
comp=Z,7.0nm,1.1s
V48A **Smith Brothers** 42.12 262 P P 11 02 58.2 0.0
baz=40
GOGA **Godfrey** 42.19 257 eP P 11 02 59.3 +0.5
comp=Z,15nm,1.0s
GOGA **Godfrey** 42.19 257 eP P 11 02 59.3 +0.5
GOGA pmax pmax
comp=Z,15nm,1.0s
GOGA **Godfrey** 42.19 257 P P 11 02 58.6 -0.1
baz=38
155A **Kite** 42.30 255 P P 11 02 59.6 -0.1
baz=37
W49A **Belvidere** 42.31 261 P P 11 02 59.6 -0.1
baz=39
Z53A **Monticello** 42.35 257 P P 11 02 59.8 -0.2
baz=38
WVT **Waverly** 42.35 263 P P 11 02 59.7 -0.3
baz=40
V47A **Nunnelly** 42.42 263 P P 11 03 00.0 -0.6
baz=40
S43A **Fulton Ridge,** 42.44 267 P P 11 03 00.3 -0.5
baz=42
X50B **Fort Payne** 42.50 260 P P 11 03 01.1 -0.2
baz=39
256A **Glennville** 42.52 254 P P 11 03 01.2 -0.3
baz=37
R41A **Rosebud** 42.59 269 P P 11 03 01.3 -0.7
baz=42
Y51A **Rockmart** 42.63 259 P P 11 03 02.2 -0.1
baz=38
W48A **Pulaski** 42.64 262 P P 11 03 02.3 -0.1
baz=40
S42A **Caledonia** 42.67 268 P P 11 03 02.2 -0.5
baz=42
CCM **Cathedral Cave** 42.70 268 P P 11 03 02.1 -0.7
baz=42
V46A **Holladay** 42.75 263 P P 11 03 02.8 -0.5
baz=40
X49A **Woodville** 42.81 260 P P 11 03 02.9 -0.8
baz=39
Z52A **Williamson** 42.85 257 P P 11 03 03.7 -0.5
baz=38
255A **Hazlehurst** 42.86 254 P P 11 03 04.6 +0.4
baz=37
W47A **Westpoint** 42.90 262 P P 11 03 02.9 -1.7
baz=40
T43A **Greenville** 42.92 267 P P 11 03 03.9 -0.8
baz=41
Y50A **Piedmont** 42.98 259 P P 11 03 04.9 -0.3
baz=38
Z51A **Franklin** 43.14 258 P P 11 03 05.9 -0.6
baz=38
PBMO **Poplar Bluff** 43.23 266 eP P 11 03 07.0 -0.1
comp=Z,14nm,0.9s
X48A **Hartselle** 43.23 261 P P 11 03 06.5 -0.7
baz=39
254A **Abbeville** 43.26 255 P P 11 03 07.4 -0.1
baz=37
S41A **Jillco Farms,** 43.31 268 P P 11 03 07.1 -0.8
baz=42
Y49A **Blount Mountai** 43.36 260 eP P 11 03 08.8 +0.5
comp=Z,10nm,1.1s
Y49A **Blount Mountai** 43.36 260 P P 11 03 07.3 -0.9
baz=39
X47A **Russelville** 43.60 262 P P 11 03 09.8 -0.4
baz=39
EPYK **Eagle Plains** 43.63 326 eP P 11 03 10.4 +0.3
comp=Z,14nm,1.1s
EPYK **Eagle Plains** 43.63 326 P P 11 03 09.9 -0.2
baz=48,SNR=5.4
Y48A **Jasper** 43.71 261 P P 11 03 10.7 -0.4
baz=39
151A **Opelika** 43.84 258 P P 11 03 12.4 +0.2
baz=38
Z49A **Columbiana** 43.94 259 P P 11 03 12.9 0.0
baz=38
X46A **Booneville** 43.95 263 P P 11 03 12.4 -0.6
baz=39
252A **Lumpkin** 43.96 257 P P 11 03 12.6 -0.5
baz=37
150A **Eclectic** 44.14 258 P P 11 03 14.2 -0.3
baz=38
251A **Midway** 44.23 257 P P 11 03 15.0 -0.3
baz=37
LRAL **Lakeview Retre** 44.31 260 P P 11 03 15.9 +0.1
baz=38
LAO **LASA Array** 44.32 289 eP P 11 03 16.6 +0.7
comp=Z,15nm,0.9s
LAO **LASA Array** 44.32 289 P P 11 03 16.0 +0.1
baz=46,SNR=6.5
454A **Quitman** 44.42 255 P P 11 03 16.7 0.0
baz=36
352A **Blakely** 44.47 256 P P 11 03 16.9 -0.3
baz=37
149A **Jones** 44.55 259 P P 11 03 18.0 +0.2
baz=38
KSU1 **Kansas State U** 44.75 274 P P 11 03 18.9 -0.5
baz=42
250A **Grady** 44.76 258 P P 11 03 19.4 -0.1
baz=37
U40A **Yellville** 44.82 268 P P 11 03 19.5 -0.4
baz=41
BRTR **Keskin Array B** 44.92 85 P P 11 03 20.6 -0.2
comp=Z,1.2nm,0.8s,baz=310,slow=6.0,SNR=5.0
EGMT **Eagleton** 45.15 292 eP P 11 03 22.9 +0.4
comp=Z,5.9nm,0.9s
EGMT **Eagleton** 45.15 292 P P 11 03 22.1 -0.4
baz=47
249A **Camden** 45.21 259 P P 11 03 22.6 -0.5
baz=38,SNR=5.9
859A **Kempfer Cattle** 45.22 250 P P 11 03 23.8 +0.7
baz=34
ARU **Arti** 45.32 51 c iP P 11 03 23.7 +0.1
ARU 11 05 08.1
ARU S S 11 10 04.3 +0.9
ARU SS SS 11 13 25.2 -0.6
ARU pmax pmax
comp=Z,7.0nm,1.0s
W41B **Gary Mavity, V** 45.40 266 P P 11 03 24.2 -0.4
baz=40
NRIK **Noril'sk** 45.43 26 P P 11 03 24.5 +0.2
comp=Z,1.1nm,0.3s,baz=335,slow=3.9,SNR=5.1
TOLK **Toolik Lake Re** 45.46 333 eP P 11 03 25.6 +0.9
comp=Z,28nm,1.1s
TOLK **Toolik Lake Re** 45.46 333 P P 11 03 25.0 +0.3
baz=41,SNR=15
349A **Repton** 45.74 259 P P 11 03 27.6 +0.4
baz=37
FYU **Fort Yukon** 45.91 329 eP P 11 03 29.5 +1.3
comp=Z,23nm,1.1s
DAWY **Dawson** 46.05 324 eP P 11 03 30.5 +1.1
comp=Z,17nm,1.1s
EGAK **Eagle** 46.07 326 eP P 11 03 29.9 +0.4
comp=Z,8.4nm,0.9s
W39A **Magazine** 46.19 268 eP P 11 03 30.5 -0.3
comp=Z,13nm,1.1s
W39A **Magazine** 46.19 268 P P 11 03 30.5 -0.3
baz=40
X40A **Basin Creek Fa** 46.24 266 eP P 11 03 31.1 0.0
comp=Z,11nm,1.1s
X40A **Basin Creek Fa** 46.24 266 P P 11 03 30.9 -0.2
baz=40
WALA **Waterton Lakes** 46.43 296 eP P 11 03 32.6 0.0
comp=Z,12nm,1.1s
MIAR **Mount Ida** 46.58 267 eP P 11 03 34.1 +0.2
comp=Z,6.3nm,1.1s
MIAR **Mount Ida** 46.58 267 eP P 11 03 34.1 +0.2
MIAR pmax pmax
comp=Z,6.0nm,1.1s
MIAR **Mount Ida** 46.58 267 P P 11 03 33.5 -0.4
baz=40
CBKS **Cedar Bluff** 46.61 276 P P 11 03 32.9 -1.2
baz=42

COLD **Coldfoot** 46.70 332 eP P 11 03 35.1 +0.7
comp=Z,8.1nm,1.1s
TUL1 **Leonard** 46.71 270 P P 11 03 33.8 -1.0
baz=40
PRP **Porcupine Dome** 46.77 328 eP P 11 03 36.2 +1.1
comp=Z,12nm,1.2s
RLMT **Red Lodge** 46.94 289 eP P 11 03 37.6 +0.9
comp=Z,4.9nm,1.1s
RLMT **Red Lodge** 46.94 289 P P 11 03 36.4 -0.4
baz=45
K22A **Casper** 47.32 285 eP P 11 03 39.1 -0.7
comp=Z,6.0nm,0.9s
K22A **Casper** 47.32 285 P P 11 03 39.0 -0.7
baz=44
SCRK **Sand Creek** 47.49 326 eP P 11 03 41.7 +1.0
comp=Z,19nm,1.2s
POKR **Poker Plat Res** 47.60 329 P P 11 03 41.1 -0.3
baz=40
IL1 **Eielson Array** 47.72 328 eP P 11 03 42.2 -0.1
ILAR **Eielson Array** 47.72 328 P P 11 03 42.5 +0.2
comp=Z,6.7nm,0.9s,baz=34,slow=6.3,SNR=19
ILAR PcP PcP 11 05 10.4 -0.9
comp=Z,2.0nm,0.9s,baz=8.5,slow=2.5,SNR=9.2
ILB **Eielson Array** 47.72 328 eP P 11 03 42.9 +0.5
comp=Z,12nm,1.1s
DOT **Dot Lake** 47.76 326 eP P 11 03 44.1 +1.3
comp=Z,18nm,1.2s
BOZ **Bozeman (W)** 47.77 291 P P 11 03 42.6 -0.6
baz=44
COLA **College** 47.90 329 eP P 11 03 44.8 +1.1
comp=Z,18nm,1.1s
COLA **College** 47.90 329 deP P 11 03 43.8 +0.1
COLA pmax pmax
comp=Z,12nm,1.1s
TCOL **CIGO, UAF Yank** 47.91 329 P P 11 03 44.1 +0.3
baz=40
RIDG **Independ'e Rid** 47.92 326 eP P 11 03 45.5 +1.5
comp=Z,16nm,1.0s
MDM **Murphy Dome** 47.94 329 eP P 11 03 45.1 +1.0
comp=Z,20nm,1.1s
YHH **Holmes Hill** 47.96 290 eP P 11 03 46.2 +1.3
comp=Z,2.6nm,1.1s
KSCO **Kaye Shedlock'** 47.97 279 eP P 11 03 44.6 -0.2
comp=Z,15nm,0.9s
KSCO **Kaye Shedlock'** 47.97 279 P P 11 03 43.5 -1.4
baz=42
HDA **Harding Lake** 48.01 328 eP P 11 03 45.4 +0.8
comp=Z,7.7nm,0.8s
HDA **Harding Lake** 48.01 328 P P 11 03 44.7 +0.1
baz=40,SNR=6.4
MSO **Missoula** 48.01 294 P P 11 03 43.7 -1.3
baz=45
CCB **Clear Creek Bu** 48.06 329 eP P 11 03 45.5 +0.5
comp=Z,4.7nm,1.0s
H17A **Grant Village** 48.11 289 eP P 11 03 48.2 +2.2
comp=Z,4.1nm,0.8s
H17A **Grant Village** 48.11 289 P P 11 03 47.4 +1.5
baz=44
YFT **Old Faithful** 48.20 290 eP P 11 03 48.5 +1.8
comp=Z,5.8nm,0.9s
WRH **Wood River Hil** 48.28 329 eP P 11 03 47.3 +0.6
comp=Z,7.7nm,1.1s
N23A **Red Feather La** 48.30 283 eP P 11 03 47.9 +0.3
comp=Z,10nm,1.0s
N23A **Red Feather La** 48.30 283 P P 11 03 47.3 -0.3
baz=43,SNR=5.7
YPP **Pitchstone Pla** 48.31 289 eP P 11 03 49.5 +1.9
comp=Z,5.3nm,1.1s
NEW **Newport** 48.50 297 P P 11 03 47.9 -0.8
baz=44
NEW **Newport** 48.50 297 P P 11 03 47.1 -1.6
comp=Z,2.4nm,0.9s,baz=55,slow=7.1,SNR=4.3
IM3 **Indian Mountai** 48.56 332 eP P 11 03 49.1 +0.3
LOHW **Long Hollow** 48.69 289 eP P 11 03 51.0 +0.6
comp=Z,2.5nm,0.9s
PAX **Paxson** 48.69 326 eP P 11 03 51.2 +1.2
comp=Z,11nm,1.2s
PAX **Paxson** 48.69 326 eP P 11 03 51.2 +1.2
PAX pmax pmax
comp=Z,11nm,1.2s
BW06 **Boulder Array** 48.78 287 eP P 11 03 49.5 -1.6
comp=Z,5.0nm,0.9s
BW06 **Boulder Array** 48.78 287 P P 11 03 49.6 -1.5
baz=43,SNR=5.7
PD31 **Pinedale Array** 48.78 287 eP P 11 03 50.0 -1.1
comp=Z,4.7nm,0.9s
PDAR **Pinedale Array** 48.78 287 eP P 11 03 49.6 -1.5
PDAR **Pinedale Array** 48.78 287 P P 11 03 49.7 -1.4
comp=Z,2.9nm,0.7s,baz=58,slow=7.2,SNR=18
FXWY **Fox Creek** 48.88 289 eP P 11 03 51.9 0.0
comp=Z,3.6nm,1.0s
MCMT **McKenzie Canyo** 48.92 291 eP P 11 03 53.2 +1.0
ISCO **Idaho Springs** 48.94 282 eP P 11 03 53.0 +0.5
comp=Z,3.4nm,0.9s
ISCO **Idaho Springs** 48.94 282 eP P 11 03 53.0 +0.5
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO **Idaho Springs** 48.94 282 P P 11 03 52.6 +0.1
baz=42,SNR=5.3
TPAW **Teton Pass** 48.95 289 eP P 11 03 51.5 -1.0
comp=Z,6.8nm,1.0s
REDW **Red Top Meadow** 48.99 289 eP P 11 03 52.7 -0.1
comp=Z,4.2nm,0.9s
DHY **Denali Highway** 49.16 327 eP P 11 03 54.7 +1.0
comp=Z,8.9nm,1.1s
WMOK **Wichita Mounta** 49.18 272 eP P 11 03 53.6 -0.4
comp=Z,5.4nm,1.0s
WMOK **Wichita Mounta** 49.18 272 eP P 11 03 53.6 -0.4
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK **Wichita Mounta** 49.18 272 P P 11 03 53.7 -0.4
baz=40
AKTO **Aktubinsk** 49.26 58 P P 11 03 54.6 +0.2
comp=Z,4.3nm,0.8s,baz=318,slow=8.2,SNR=9.6
Q24A **Divide** 49.32 280 P P 11 03 54.3 -1.1
baz=42
RND **Reindeer** 49.32 328 eP P 11 03 55.1 +0.3
comp=Z,15nm,1.1s
BPAW **Bear Paw Mtn.** 49.36 330 eP P 11 03 55.9 +0.9
comp=Z,11nm,1.2s
C09A **Chrisman Ranch** 49.38 298 eP P 11 03 55.1 -0.3
comp=Z,6.2nm,0.8s
B08A **Colville Reser** 49.47 299 eP P 11 03 55.9 -0.2
comp=Z,8.7nm,1.0s
TIXI **Tiksi** 49.61 8 eP P 11 03 57.4 +0.6
comp=Z,4.0nm,0.8s
TIXI **Tiksi** 49.61 8 eP P 11 03 57.7 +0.9
TIXI pmax pmax
comp=Z,12nm,2.5s
TRF **Thorofare Moun** 49.69 329 eP P 11 03 58.9 +1.2
comp=Z,11nm,1.2s
KLU **Kluting** 49.97 325 eP P 11 04 00.3 +0.5
comp=Z,15nm,1.2s
O20A **White River Ci** 50.04 284 P P 11 03 59.9 -0.9
baz=42
F10A **Beach Ranch, E** 50.21 295 eP P 11 04 01.2 -0.6
comp=Z,6.9nm,1.1s
T25A **Trinidad** 50.31 278 eP P 11 04 03.3 +0.4
comp=Z,7.2nm,0.9s
T25A **Trinidad** 50.31 278 P P 11 04 02.6 -0.2
baz=41
SDCO **Great Sand Dun** 50.42 280 eP P 11 04 03.7 0.0
comp=Z,2.3nm,1.0s
SDCO **Great Sand Dun** 50.42 280 P P 11 04 03.4 -0.3
baz=41
SML **Sawmill** 50.44 326 eP P 11 04 04.2 +0.9
comp=Z,16nm,1.1s
AMTX **Amarillo** 50.59 274 eP P 11 04 05.1 +0.2
comp=Z,10nm,0.8s
AMTX **Amarillo** 50.59 274 P P 11 04 04.8 0.0
baz=40
HLID **Hailey** 50.61 291 P P 11 04 04.1 -0.9
baz=42
PPLA **Purkeypile** 50.65 329 eP P 11 04 05.1 +0.1
comp=Z,13nm,1.1s
ABKAR **Akbulak array** 50.97 57 eP P 11 04 07.8 +0.4
comp=Z,5.4nm,1.1s
BMO **Blue Mountains** 51.07 294 eP P 11 04 07.2 -1.1
comp=Z,4.6nm,0.9s
BMO **Blue Mountains** 51.07 294 eP P 11 04 07.2 -1.1
BMO pmax pmax
comp=Z,5.0nm,0.9s
S22A **4UR Ranch, Cre** 51.11 281 eP P 11 04 08.9 -0.1
comp=Z,8.2nm,1.1s
S22A **4UR Ranch, Cre** 51.11 281 P P 11 04 08.6 -0.4
baz=41,SNR=6.4
ABTX **Abilene, Hawle** 51.27 271 P P 11 04 09.2 -0.7
baz=39

SUA	**Susitna One**	**51.41**	**327**	*e*P		**P**	**11 04 12.0**	**+1.3**
	comp=Z,28nm,1.0s								
RC01	**Rabbit Creek A**	**51.42**	**327**	*e*P		**P**	**11 04 11.9**	**+1.3**
	comp=Z,26nm,1.2s								
TOA0	**Torodi Ar. Sit**	**51.75**	**136**	*e*P		**P**	**11 04 13.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**51.75**	**136**	P		**P**	**11 04 12.0**	**-1.6**
	comp=Z,3.6nm,0.9s,baz=344,slow=9.8,SNR=6.1								
MPU	**Maple Canyon**	**51.86**	**286**	*e*P		**P**	**11 04 14.8**	**+0.3**
	comp=Z,6.9nm,1.0s								
MPU				*e*S		**S**	**11 11 35.4**	**-1.1**
NLU	**North Lily Min**	**52.13**	**286**	*e*P		**P**	**11 04 16.5**	**0.0**
	comp=Z,9.9nm,1.2s								
TMUT	**Trail Mountain**	**52.19**	**285**	*e*P		**P**	**11 04 17.2**	**+0.2**
	comp=Z,5.3nm,1.0s								
ASF	**Jabal al Asfar**	**52.36**	**88**	P		**P**	**11 04 17.3**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=176,slow=2.7,SNR=3.7								
MVCO	**Mesa Verde**	**52.38**	**282**	*e*P		**P**	**11 04 19.0**	**+0.7**
	comp=Z,11nm,1.0s								
MVCO	**Mesa Verde**	**52.38**	**282**	P		**P**	**11 04 18.5**	**+0.2**
	baz=40,SNR=6.0								
BRVK	**Borovoye**	**52.46**	**48**⇑	*e*P		**P**	**11 04 18.1**	**-0.4**
BRVK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
BVAR	**Borovoye Array**	**52.53**	**48**	P		**P**	**11 04 19.2**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=321,slow=5.9,SNR=7.0								
J08A	**Circle Bar Ran**	**52.74**	**294**	*e*P		**P**	**11 04 20.7**	**-0.1**
	comp=Z,12nm,1.1s								
JCT	**Junction City**	**53.03**	**269**	P		**P**	**11 04 22.5**	**-0.6**
	baz=38								
ANMO	**Albuquerque**	**53.05**	**278**	*e*P		**P**	**11 04 23.9**	**+0.7**
	comp=Z,0.4nm,0.8s								
ANMO	**Albuquerque**	**53.05**	**278**⇑	*e*P		**P**	**11 04 24.0**	**+0.7**
ANMO				pmax	pmax				
	comp=Z,13nm,2.5s								
ANMO	**Albuquerque**	**53.05**	**278**	P		**P**	**11 04 23.1**	**-0.2**
	baz=39								
TASM	**ASL Pad, Albuq**	**53.05**	**278**	P		**P**	**11 04 22.3**	**-1.0**
	baz=39								
TASM	**ASL Pad, Albuq**	**53.05**	**278**	P		**P**	**11 04 22.4**	**-0.9**
	baz=39								
ELK	**Elko**	**53.12**	**289**	*e*P		**P**	**11 04 24.6**	**+0.9**
	comp=Z,3.0nm,0.9s								
ELK	**Elko**	**53.12**	**289**	*e*P		**P**	**11 04 24.7**	**+0.9**
ELK				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BILL	**Bilibino**	**53.20**	**351**⇑	*e*P		**P**	**11 04 24.1**	**+0.4**
BILL				pmax	pmax				
	comp=Z,3.0nm,1.0s								
I05D	**Terrebonne, OR**	**53.37**	**297**	P		**P**	**11 04 24.2**	**-1.1**
	baz=41								
PSUT	**Pine Spring**	**54.11**	**287**	*e*P		**P**	**11 04 31.4**	**+0.3**
	comp=Z,4.3nm,0.9s								
PKCU	**Pink Cliffs**	**54.16**	**285**	*e*P		**P**	**11 04 31.6**	**0.0**
	comp=Z,13nm,1.2s								
I04A	**Tendick Farm,**	**54.29**	**297**	P		**P**	**11 04 31.5**	**-0.6**
	baz=40								
I02D	**Swisshome**	**54.72**	**298**	P		**P**	**11 04 34.8**	**-0.3**
	baz=40								
MOD	**Modoc Plateau**	**54.72**	**294**	*e*P		**P**	**11 04 35.3**	**-0.1**
	comp=Z,8.7nm,1.0s								
KNB	**Kanab**	**54.74**	**285**	*e*P		**P**	**11 04 35.5**	**-0.2**
	comp=Z,7.8nm,1.1s								
KNB	**Kanab**	**54.74**	**285**	*e*P		**P**	**11 04 35.5**	**-0.2**
KNB				pmax	pmax				
	comp=Z,8.0nm,1.1s								
MNTX	**Cornudas Mount**	**55.01**	**275**	*e*P		**P**	**11 04 37.1**	**-0.3**
	comp=Z,1.9nm,1.1s								
MNTX	**Cornudas Mount**	**55.01**	**275**	P		**P**	**11 04 36.7**	**-0.7**
	baz=38								
R11A	**Troy Canyon, C**	**55.12**	**288**	*e*P		**P**	**11 04 38.1**	**-0.2**
	comp=Z,2.5nm,1.1s								
R11A	**Troy Canyon, C**	**55.12**	**288**	P		**P**	**11 04 38.2**	**-0.2**
	baz=40								
WUAZ	**Wupatki**	**55.16**	**282**	*e*P		**P**	**11 04 38.8**	**+0.1**
	comp=Z,9.2nm,1.1s								
WUAZ	**Wupatki**	**55.16**	**282**	P		**P**	**11 04 38.1**	**-0.6**
	baz=39								
DBIC	**Dimbokro**	**55.68**	**147**	P		**P**	**11 04 41.1**	**-1.2**
	comp=Z,3.7nm,0.9s,baz=2.4,slow=8.8,SNR=2.4								
NVS	**Novosibirsk**	**55.76**	**39**	*e*P		**P**	**11 04 42.8**	**+0.3**
KVN	**Kaiserville**	**55.83**	**290**	*e*P		**P**	**11 04 43.6**	**+0.1**
	comp=Z,11nm,1.1s								
PAHR	**Pah Rah Range**	**55.96**	**292**	*e*P		**P**	**11 04 45.0**	**+0.7**
	comp=Z,15nm,1.1s								
TX31	**Lajitas Ar. Si**	**55.98**	**272**	*e*P		**P**	**11 04 44.4**	**-0.1**
	comp=Z,2.1nm,1.0s								
TXAR	**Lajitas Array**	**55.98**	**272**	P		**P**	**11 04 43.2**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=72,slow=6.9,SNR=3.4								
X16A	**Lo Mia Camp, P**	**56.05**	**282**	*e*P		**P**	**11 04 45.8**	**+0.7**
	comp=Z,3.1nm,0.9s								
NV01	**Mina Array Sit**	**56.41**	**290**	*e*P		**P**	**11 04 46.7**	**-1.0**
NVAR	**Mina Array Bea**	**56.41**	**290**	P		**P**	**11 04 46.7**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=49,slow=6.0,SNR=7.5								
TPNV	**Topopah Spring**	**56.53**	**287**	P		**P**	**11 04 47.7**	**-0.8**
	baz=39								
ZALV	**Zalesovo Beam**	**57.02**	**39**	P		**P**	**11 04 50.3**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=335,slow=8.4,SNR=2.6								
GRAC	**Grapevine Rang**	**57.06**	**288**	P		**P**	**11 04 51.9**	**-0.2**
	baz=39								
TUC	**Tucson**	**57.36**	**280**	P		**P**	**11 04 53.9**	**-0.3**
	baz=38								
KURK	**Kurchatov**	**57.49**	**45**	*e*P		**P**	**11 04 54.5**	**-0.4**
	comp=Z,12nm,1.1s								
KURK	**Kurchatov**	**57.49**	**45**⇑	*e*P		**P**	**11 04 54.8**	**-0.1**
KURK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KURBB	**Kurchatov Arra**	**57.54**	**45**	P		**P**	**11 04 54.9**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=320,slow=8.1,SNR=8.3								
MPMC	**Manual Prospec**	**57.85**	**287**	P		**P**	**11 04 57.3**	**-0.6**
	baz=38								
GMRC	**Granite Mounta**	**57.92**	**285**	P		**P**	**11 04 57.6**	**-0.7**
	baz=38								
GSC	**Goldstone, Bar**	**58.10**	**286**	*e*P		**P**	**11 04 59.8**	**+0.3**
	comp=Z,4.7nm,1.1s								
GSC	**Goldstone, Bar**	**58.10**	**286**	*e*P		**P**	**11 04 59.8**	**+0.3**
GSC				pmax	pmax				
	comp=Z,5.0nm,1.1s								
GSC	**Goldstone, Bar**	**58.10**	**286**	P		**P**	**11 04 59.0**	**-0.5**
	baz=38								
ISA	**Isabella, Lake**	**58.66**	**288**	P		**P**	**11 05 02.8**	**-0.5**
	baz=38								
214A	**Organ Pipe Nat**	**58.69**	**281**	P		**P**	**11 05 02.6**	**-0.9**
	baz=38								
BC3	**Big Chuckawall**	**58.71**	**284**	P		**P**	**11 05 03.4**	**-0.3**
	baz=38								
BELC	**Belle Mtn. Jos**	**58.71**	**285**	P		**P**	**11 05 03.9**	**+0.1**
	baz=38								
GLA	**Glamis**	**58.86**	**283**	P		**P**	**11 05 04.3**	**-0.5**
	baz=38								
BBRC	**Big Bear Solar**	**58.98**	**286**	P		**P**	**11 05 04.9**	**-0.9**
	baz=38								
EDW2	**Edwards Air Fo**	**59.03**	**287**	P		**P**	**11 05 05.2**	**-0.7**
	baz=38								
XPFO	**Pion Flat**	**59.25**	**285**	*e*P		**P**	**11 05 07.5**	**0.0**
	comp=Z,5.7nm,0.9s								
PFO	**Pinyon Flats O**	**59.26**	**285**	*e*P		**P**	**11 05 07.5**	**-0.1**
	comp=Z,5.4nm,0.9s								
PFO	**Pinyon Flats O**	**59.26**	**285**	*e*P		**P**	**11 05 07.5**	**-0.1**
PFO				pmax	pmax				
	comp=Z,5.0nm,0.9s								
PFO	**Pinyon Flats O**	**59.26**	**285**	P		**P**	**11 05 06.9**	**-0.6**
	baz=38,SNR=6.0								
SWSC	**Sam W. Stewart**	**59.45**	**284**	P		**P**	**11 05 08.7**	**0.0**
	baz=37								
MONP2	**Monument Peak**	**59.80**	**284**	P		**P**	**11 05 10.7**	**-0.8**
	baz=37								
MAKZ	**Makanchi**	**61.98**	**45**	*e*P		**P**	**11 05 25.9**	**+0.1**
	comp=Z,2.4nm,0.9s								
MAKZ	**Makanchi**	**61.98**	**45**	*e*P		**P**	**11 05 25.9**	**+0.1**
MAKZ				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MK31	**Makanchi Array**	**62.10**	**45**	*e*P		**P**	**11 05 26.7**	**0.0**
	comp=Z,1.9nm,0.8s								
MK31	**Makanchi Array**	**62.10**	**45**	*e*P		**P**	**11 05 26.7**	**0.0**
MK31				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**62.10**	**45**	*ce*P		**P**	**11 05 26.6**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**62.10**	**45**	P		**P**	**11 05 26.3**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=333,slow=5.8,SNR=11								
MK01	**Makanchi Array**	**62.13**	**45**	*e*P		**P**	**11 05 26.4**	**-0.5**
AAK	**Ala-Archa**	**62.46**	**53**	P		**P**	**11 05 30.5**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=336,slow=20,SNR=3.2								
TARG	**Taragay, Kyrgy**	**64.58**	**51**	*e*P		**P**	**11 05 45.6**	**+1.9**
	comp=Z,6.1nm,1.0s								
KSH	**Kashi**	**65.67**	**54**	P		**P**	**11 05 52.5**	**+2.1**
KSH				pP	pwP		11 05 58.8	+2.6
KSH				PP	**PP**		**11 08 21.4**	**+7.1**
KSH				S	**S**		**11 14 35.1**	**-0.6**
KSH				pmax	pmax				
	comp=Z,11nm,1.1s								
KSH				pmax	pmax				
	comp=Z,56nm,4.1s								
KSH				LR	LR				
	comp=Z,110nm,9.1s								
KSH				LR	LR				
	comp=Z,90nm,10.3s								
KSH				LR	LR				
	comp=Z,160nm,11.4s								
WMQ	**Urumqi**	**66.63**	**43**	*e*P		**P**	**11 05 58.8**	**+2.4**
WMQ				pP	pwP		11 06 03.4	+1.1
WMQ				LR	LR				
	comp=Z,200nm,18.3s								
WMQ				LR	LR				
	comp=Z,190nm,22.9s								
WMQ				LR	LR				
	comp=Z,120nm,19.5s								
SONM	**Songino Array**	**68.79**	**29**	P		**P**	**11 06 10.3**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=330,slow=6.6,SNR=11								
ULN	**Ulaanbaatar**	**68.92**	**28**	*e*P		**P**	**11 06 11.3**	**+0.4**
	comp=Z,5.8nm,1.1s								
ULN	**Ulaanbaatar**	**68.92**	**28**	*de*P		**P**	**11 06 11.1**	**+0.2**
ULN				pmax	pmax				
	comp=Z,15nm,1.7s								
HIA	**Hailar**	**70.28**	**19**⇓	*e*P		**P**	**11 06 20.1**	**+1.0**
HIA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
GTA	**Gaotai**	**74.67**	**37**	*e*P		**P**	**11 06 45.6**	**+0.1**
GTA				pP	pP		11 06 49.9	+0.7
GTA				sP	pwP		11 06 52.8	+1.4
GTA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
HHC	**Hu-ho-hao-te**	**76.62**	**28**	*e*P		**P**	**11 06 56.4**	**-0.2**
HHC				S	**S**		**11 16 40.5**	**-2.0**
HHC				pmax	pmax				
	comp=Z,9.0nm,1.0s								
HHC				pmax	pmax				
	comp=Z,120nm,4.8s								
HHC				LR	LR				
	comp=Z,130nm,16.7s								
HHC				LR	LR				
	comp=Z,120nm,15.1s								
HHC				LR	LR				
	comp=Z,140nm,15.1s								
USRK	**Ussuriysk Ar.**	**76.96**	**12**	P		**P**	**11 06 58.5**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=349,slow=8.7,SNR=4.0								
LZH	**Lanzhou**	**78.97**	**35**	*e*P		**P**	**11 07 09.9**	**0.0**
LZH				pP	pP		11 07 13.3	-0.3
LZH				sP	pwP		11 07 16.3	+0.5
LZH				PP	**PP**		**11 10 04.1**	**-3.9**
LZH				pmax	pmax				
	comp=Z,17nm,1.1s								
LZH				pmax	pmax				
	comp=Z,82nm,4.9s								
LZH				LR	LR				
	comp=Z,310nm,16.3s								
LZH				LR	LR				
	comp=Z,320nm,16.5s								
LZH				LR	LR				
	comp=Z,410nm,18.4s								
KSRS	**Korea Array**	**83.10**	**16**	P		**P**	**11 07 31.0**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=342,slow=6.8,SNR=3.4								
KSAR	**Wonju Array Be**	**83.11**	**16**	P		**P**	**11 07 31.0**	**-0.7**
KSAR	**Wonju Array Be**	**83.11**	**16**	P		**P**	**11 07 31.0**	**-0.7**
CD2	**Chengdu**	**83.73**	**37**	*e*P		**P**	**11 07 33.8**	**-1.3**
NJ2	**Nanjing**	**86.72**	**24**	*e*P		**P**	**11 07 50.5**	**+0.6**
NJ2				pmax	pmax				
	comp=Z,12nm,0.5s								
CMAR	**Chiang Mai Arr**	**93.51**	**46**	P		**P**	**11 08 21.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=327,slow=6.1,SNR=5.3								
WRA	**Warramunga Arr**	**140.38**	**20**	PKP		**PKPdf**	**11 14 33.6**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=334,slow=1.9,SNR=7.1								
ASAR	**Alice Springs**	**143.93**	**22**	PKP		PKPab	11 14 38.0	-0.5
	comp=Z,1.2nm,0.7s,baz=352,slow=2.5,SNR=13								

ISCJB ***20*** *10:56:07.9±0.6, 14°.04N±0°.03×119°.87E±0°.05, h55km±7km, mb4.4/15, MS4.1/1, Error ellipse: s-maj=8.8km s-min=4.5km az=7.6*

MAN ***20*** *10:56:07.3, 14°.06N×119°.83E, h33km, MS4.1*

NEIC ***20*** *10:56:10.4±0.8, 13°.97N×120°.05E, h70km±8km, mb4.2/5, Error ellipse: s-maj=8.2km s-min=5.9km az=84.0*

IDC ***20*** *10:56:10.9±1.5, 14°.01N×120°.05E, h72km±15km, mb3.7/10, mb1 3.8/10, mb1mx3.5/66, mbtmp4.0/10, MS4.2/1, Ms1 4.2/1, ms1mx2.7/46, Error ellipse: s-maj=27.2km s-min=13.3km az=70.0*

ISC 20 10:56:08.6±1.2, 14°.04N±0°.03×119°.81E±0°.05, h45km±13km, n39, σ1s55/48, mb4.3/15, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.09**	**87**	P		**Pn**		**10 56 27.6**	**0.0**
	676nm,0.3s,baz=265,slow=2.4,SNR=37								
TGY				S		**Sn**		**10 56 41.6**	**0.0**
	888nm,0.3s,baz=18,slow=20,SNR=27								
TGY	**Tagaytay City**	**1.09**	**87**	*i*P		**Pn**		**10 56 27.4**	**-0.1**
TGY				*i* S		**Sn**		**10 56 43.2**	**+1.7**
SCZP	**Santa Cruz**	**1.73**	**3**	*e*P		**Pn**		**10 56 34.8**	**-1.3**
SJMP	**San Jose**	**2.02**	**141**	*e*P		**Pn**		**10 56 40.2**	**0.0**
BOAC	**Boac**	**2.06**	**106**	*e*P		**Pn**		**10 56 40.3**	**-0.4**
BOAC				*e*S		**Sn**		**10 57 07.7**	**+2.5**
BUSP	**Coron**	**2.06**	**169**	*e*P		**Pn**		**10 56 40.9**	**+0.1**
BUSP				*e*S		**Sn**		**10 57 04.7**	**-0.6**
POLP	**Polilio Island**	**2.17**	**71**	*e*P		**Pn**		**10 56 41.9**	**-0.4**
POLP				*e*S		**Sn**		**10 57 07.2**	**-0.8**
SMPP	**San Manuel, Pa**	**2.26**	**22**	*e*P		**Pn**		**10 56 42.4**	**-1.1**
SMPP				*e*S		**Sn**		**10 57 08.9**	**-1.2**
BOLP	**Bolinao**	**2.33**	**2**	*e*P		**Pn**		**10 56 43.5**	**-0.9**
BOLP				*e*S		**Sn**		**10 57 07.8**	**-4.0**
BALP	**Baler**	**2.40**	**45**	*e*P		**Pn**		**10 56 45.1**	**-0.3**
OTRP	**Odiongan**	**2.73**	**128**	*e*P		**Pn**		**10 56 49.0**	**-0.9**
ENPP	**El Nido**	**2.85**	**188**	*e*P		**Pn**		**10 56 52.4**	**+0.8**
ENPP				*e*S		**Sn**		**10 57 23.6**	**-1.0**
CUYO	**Cuyo Island**	**3.39**	**159**	*e*P		**Pn**		**10 56 58.5**	**-0.5**
CUYO				*e*S		**Sn**		**10 57 35.0**	**-2.9**
CAUP	**Cauayan**	**3.48**	**34**	*e*P		**Pn**		**10 57 00.8**	**+0.7**
PALP	**Palanan**	**3.92**	**40**	*e*P		**Pn**		**10 57 08.1**	**+1.8**
APYP	**Conner**	**4.04**	**20**	*e*P		**Pn**		**10 57 11.2**	**+3.3**
APYP				*e*S		**Sn**		**10 57 53.1**	**-0.8**
KSM	**Kuching**	**15.63**	**218**	*e*Pn		**Pn**		**10 59 48.0**	**+2.0**
	4.4nm,0.7s								
CMAR	**Chiang Mai Arr**	**20.50**	**285**	P		**P**		**11 00 45.8**	**+2.7**
	0.9nm,0.3s,baz=93,slow=9.2,SNR=3.0								
FAKI	**Fak Fak**	**20.89**	**143**	*e*P		**P**		**11 00 44.4**	**-2.7**
	16nm,1.2s								
JAGI	**Jajag, Banyuwa**	**23.06**	**194**	*e*P		**P**		**11 01 09.1**	**-1.3**
	42nm,0.8s								
PSI	**Prapat**	**23.46**	**243**	*e*P		**P**		**11 01 15.9**	**+1.5**
	7.7nm,1.1s								
LHMI	**Lhok Sumawe**	**24.16**	**251**	*e*P		**P**		**11 01 22.3**	**+1.5**
	80nm,0.9s								
BATI	**Baumata**	**24.39**	**171**	P		**P**		**11 01 23.2**	**+0.3**
	30nm,0.5s,baz=34,slow=2.1,SNR=7.2								
JHJ	**Hachijo jima 2**	**26.29**	**40**	LR		LR		11 11 12.8	
	comp=Z,518nm,18.4s,baz=45,slow=34								
SONA0	**Songino Array**	**35.49**	**344**	*e*P		**P**		**11 03 01.4**	**+0.3**
SONM	**Songino Array**	**35.49**	**344**	P		**P**		**11 03 01.4**	**+0.3**
	0.7nm,0.6s,baz=157,slow=11,SNR=3.2								
KLR	**Kul'dur**	**36.44**	**13**	P		**P**		**11 03 08.2**	**-0.8**
	2.2nm,0.6s,baz=207,slow=6.7,SNR=10								
WR1	**Warramunga Arr**	**36.67**	**157**	*e*P		**P**		**11 03 09.2**	**-2.1**
	3.4nm,0.6s								
WRA	**Warramunga Ar**	**36.67**	**157**	P		**P**		**11 03 09.2**	**-2.1**
	1.5nm,0.5s,baz=336,slow=9.5,SNR=31								
ASAR	**Alice Springs**	**39.93**	**160**	P		**P**		**11 03 37.1**	**-1.6**
	0.6nm,0.5s,baz=338,slow=6.8,SNR=16								
MK32	**Makanchi Array**	**45.24**	**324**	*e*P		**P**		**11 04 22.8**	**+1.2**
MKAR	**Makanchi Array**	**45.24**	**324**	P		**P**		**11 04 22.8**	**+1.2**
	0.5nm,0.6s,baz=120,slow=8.5,SNR=2.9								
BVAR	**Borovoye Array**	**55.01**	**326**	P		**P**		**11 05 35.9**	**+0.5**
	0.5nm,0.4s,baz=98,slow=8.9,SNR=4.0								
DZM	**Mont Dzumac**	**58.13**	**127**	*e*P		**P**		**11 05 59.9**	**+1.8**
	64nm,0.8s								
AKTO	**Aktyubinsk**	**61.40**	**320**	P		**P**		**11 06 20.5**	**+0.4**
	0.8nm,0.3s,baz=63,slow=4.5,SNR=3.4								
SPA0	**Spitsbergen Ar**	**79.08**	**348**	*e*P		**P**		**11 08 06.5**	**-1.3**
	33nm,1.3s								
SPITS	**Spitsbergen Ar**	**79.08**	**348**	P		**P**		**11 08 07.7**	**-0.1**
	17nm,1.2s,baz=79,slow=7.6,SNR=5.8								
YKA	**Yellowknife Ar**	**92.79**	**22**	P		**P**		**11 09 15.0**	**-1.0**
	0.2nm,0.5s,baz=308,slow=4.4,SNR=7.1								
YKB5	**Yellowknife Ar**	**92.79**	**22**	*e*P		**P**		**11 09 15.1**	**-1.0**

IDC 20 11:00:07.0±2.8, 57°.93N×32°.05W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.5/62, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=76.0km s-min=24.0km az=176.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.55**	**32**	Pn		Pn		11 02 11.8	-0.1
	0.7nm,0.3s,baz=212,slow=11,SNR=3.1								
YKA	**Yellowknife Ar**	**38.63**	**312**	P		P		11 07 31.5	+0.1
	0.4nm,0.6s,baz=56,slow=9.4,SNR=6.0								
ILAR	**Eielson Array**	**48.08**	**328**	P		P		11 08 47.6	0.0
	0.8nm,0.9s,baz=32,slow=7.6,SNR=6.1								
PDAR	**Pinedale Array**	**48.91**	**287**	P		P		11 08 54.2	-0.4
	0.8nm,0.9s,baz=64,slow=6.1,SNR=3.7								
AKTO	**Aktyubinsk**	**49.47**	**57**	P		P		11 08 58.9	+0.4
	1.6nm,0.6s,baz=322,slow=12,SNR=5.7								
KURBB	**Kurchatov Arra**	**57.83**	**45**	P		P		11 09 59.4	-0.3
	0.9nm,0.7s,baz=327,slow=6.6,SNR=2.8								
MKAR	**Makanchi Array**	**62.39**	**45**	P		P		11 10 30.9	-0.2
	0.6nm,0.6s,baz=343,slow=9.3,SNR=3.0								

BJI ***20*** *11:02:13.5, 58°.40N×32°.00W, h5km, mb4.7/29, mB5.0/16, Ms4.9/7, Ms7 4.6/6*

IDC ***20*** *11:02:14.6±0.6, 58°.25N×32°.14W, h0km, mb4.2/24, mb1 4.4/28, mb1mx4.2/63, mbtmp4.2/28, ML3.5/4, MS4.1/35, Ms1 4.1/35, ms1mx4.0/56, Error ellipse: s-maj=17.7km s-min=10.3km az=6.0*

MOS ***20*** *11:02:15.0±0.7, 58°.35N×32°.10W, h10km, mb4.8/47, MS4.3/8, Error ellipse: s-maj=9.6km s-min=7.4km az=90.8*

ISCJB ***20*** *11:02:15.5±0.1, 58°.33N±0°.03×32°.10W±0°.03, h13km, mb4.7/179, MS4.2/46, Error ellipse: s-maj=4.6km s-min=2.3km az=162.6*

GCMT ***20*** *11:02:15.7±0.2, 58°.06N±0°.03×32°.11W±0°.02, h14km±1km, MW5.0/86, Moment Tensor Solution. s17,c18; s86,c123; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.56±.22; Mθθ-0.66±.13; Mφφ3.22±.15; Mrθ-2.77±.42; Mrφ0.50±.08; Mθφ0.61±.24; Best double couple: Mo3.95800×10^16 NP1:φs155.00000°, δ58.00000°, λ-133.00000°. NP2: φs36.00000°, δ52.00000°, λ-42.00000°. Principal axes: T 3.3000, Plg4.0000°, Azm275.0000°; N 1.3160, Plg36.0000°, Azm182.0000°; P -4.6170, Plg54.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *11:02:16.7±0.1, 58°.31N×32°.04W, h10km, mb4.8/144 Error ellipse: s-maj=4.1km s-min=2.3km az=178.0*

ISC 20 11:02:17.3±0.4, 58°.35N±0°.06×32°.17W±0°.04, h13km, n624, σ0s86/600, mb4.8/179, MS4.3/46, 12C-9D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.73**	**343**	*e*Pn		**Pn**		**11 04 07.6**	**-1.8**
BORG	**Borgarnes**	**8.23**	**34**	*e*Pn		**Pn**		**11 04 16.1**	**-0.1**
BORG				Sn		**Sn**		**11 05 50.0**	**+1.0**
BORG	**Borgarnes**	**8.23**	**34**	*e*P		**Pn**		**11 04 16.1**	**-0.1**
BORG								11 05 50.0	
BORG	**Borgarnes**	**8.23**	**34**	Pn		**Pn**		**11 04 17.3**	**+1.1**
	1.2nm,0.3s,baz=202,slow=7.7,SNR=5.5								
BORG				Sn		**Sn**		**11 05 50.0**	**+1.0**
	0.7nm,0.3s,baz=97,slow=21,SNR=3.9								
BORG				LR		LR		11 06 44.4	
	comp=Z,3μm,18.1s,baz=241,slow=32								
SFJD	**Kangerlussuaq**	**12.07**	**323**	LR		LR		11 09 08.0	
	comp=Z,2μm,18.8s,baz=128,slow=34								
SUMG	**Summit**	**14.51**	**352**	*e*Pn		**Pn**		**11 05 41.0**	**-1.4**
SUMG	**Summit**	**14.51**	**352**	*i* P		**Pn**		**11 05 42.6**	**+0.2**
	32nm,1.1s								
SUMG	**Summit**	**14.51**	**352**	*i* P		**Pn**		**11 05 42.6**	**+0.2**
SUMG				pmax	pmax				
	comp=Z,32nm,1.1s								
JMIC	**Jan Mayen**	**16.05**	**28**	LR		LR		11 10 38.0	
	comp=Z,276nm,21.5s,baz=229,slow=31								
EKA	**Eskdalemuir Ar**	**16.09**	**

BRG pmax pmax
comp=Z,4.0nm,1.0s
DAVOX **Davos/Dischmat** 27.58 96 LR LR 11 18 15.6
comp=Z,671nm,19.8s,baz=261,slow=35
LSQQ **Lebel-sur-Quev** 27.62 270 P P **11 08 02.2 -2.0**
baz=53
PVCC **Panska Ves** 27.78 86 AMS AMS 11 19 50.0
comp=Z,900nm,16.4s
RES **Resolute Bay** 27.95 330 *e*P P **11 08 07.4 +0.5**
comp=Z,9.9nm,1.1s
RES **Resolute Bay** 27.95 330 *e*P P **11 08 07.4 +0.5**
RES pmax pmax
comp=Z,10.0nm,1.1s
RES **Resolute Bay** 27.95 330 P P **11 08 07.3 +0.5**
comp=Z,3.7nm,0.9s,baz=85,slow=8.7,SNR=10
RES LR LR 11 17 41.1
comp=Z,259nm,19.9s,baz=156,slow=33
KHC **Kasperske Hory** 28.07 89 *e*P P 11 08 17.5 +9.3
KHC AMS AMS 11 18 50.0
comp=Z,800nm,15.2s
KHC **Kasperske Hory** 28.07 89 *e*P P 11 08 17.5 +9.3
KHC MLR MLR
comp=Z,800nm,15.2s
PRU **Pruhonice** 28.07 87 AMS AMS 11 19 40.0
comp=Z,1μm,15.6s
TRQ **Mont Tremblant** 28.13 263 *e*P P **11 08 08.7 -0.1**
GOPC **GO Pecny, Ondr** 28.24 87 AMS AMS 11 19 50.0
comp=Z,1μm,15.5s
GERES **GERESS Array B** 28.30 89 P P **11 08 10.2 -0.2**
comp=Z,0.4nm,0.6s,baz=302,slow=9.2,SNR=3.4
GERES LR LR 11 19 04.2
comp=Z,767nm,18.5s,baz=295,slow=36
FINES **FINESS Array B** 28.54 59 P P **11 08 11.9 -0.3**
comp=Z,2.4nm,0.7s,baz=283,slow=9.6,SNR=5.2
FINES LR LR 11 18 54.1
comp=Z,262nm,20.1s,baz=244,slow=35
FIA1 **FINESS Array S** 28.54 59 *e*P P **11 08 11.7 -0.4**
UPC **Upice** 28.55 85 AMS AMS 11 20 30.0
comp=Z,800nm,12.8s
D54A **Lac Fusel, La** 28.63 267 P P **11 08 12.6 -0.6**
baz=50
ALFO **Alfred** 28.69 263 P P **11 08 13.0 -0.7**
baz=48
DPC **Dobruska-Polom** 28.80 85 *e*P P **11 08 14.2 -0.5**
DPC AMS AMS 11 20 40.0
comp=Z,900nm,14.8s
DPC **Dobruska-Polom** 28.80 85 *e*P P **11 08 14.2 -0.5**
DPC MLR MLR
comp=Z,900nm,14.8s
TREC **Trest** 28.98 87 AMS AMS 11 19 50.0
comp=Z,1μm,15.8s
HRV **Adam Dziewonsk** 29.15 254 P P **11 08 16.7 -1.1**
baz=43
VRAC **Vranov** 29.55 86 LR LR 11 20 25.9
comp=Z,756nm,18.0s,baz=300,slow=37
E53A **Dumoine, Ponti** 29.66 266 P P **11 08 21.2 -1.0**
baz=50
D52A **ZEK Kipawa Sen** 29.67 268 P P **11 08 21.9 -0.4**
baz=50
APA **Apatity** 29.74 45⇑ *i*P P 11 08 11.7 -11
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,400nm,11.0s
PEMO **Pembroke** 29.90 265 P P **11 08 24.0 -0.4**
baz=48
G55A **Calabogie** 29.90 264 P P **11 08 24.4 0.0**
baz=48
OKC **Ostrava-Krasne** 30.05 84 AMS AMS 11 21 30.0
comp=Z,1μm,13.3s
H56A **Elgin** 30.11 262 P P **11 08 26.4 +0.1**
baz=47
ALGO **Algonquin Park** 30.14 266 P P **11 08 26.7 +0.2**
baz=49
PLVO **Plevna** 30.23 264 P P **11 08 27.3 0.0**
baz=48
E52A **Mattawa** 30.24 267 P P **11 08 27.2 -0.2**
baz=49
MODS **Modra-Piesok** 30.48 87 *e*P P 11 08 24.6 -4.9
MODS **Modra-Piesok** 30.48 87 *e*P P 11 08 24.6 -4.9
H55A **Tweed** 30.62 263 P P **11 08 31.3 +0.5**
baz=47
DELO **Deloro Mine** 30.87 264 P P **11 08 33.5 +0.5**
baz=47
F52A **Sundridge** 30.91 267 P P **11 08 33.5 +0.1**
baz=49
PECO **Prince Edward** 30.95 262 P P **11 08 33.9 +0.2**
baz=46
G53A **Haliburton** 30.99 265 P P **11 08 34.2 +0.1**
baz=48
F51A **Arnstein** 31.14 268 P P **11 08 35.7 +0.4**
baz=49
FCC **Fort Churchill** 31.29 298 *e*P P **11 08 36.7 +0.1**
comp=Z,15nm,1.1s
FCC **Fort Churchill** 31.29 298 *e*P P **11 08 36.7 +0.1**
FCC pmax pmax
comp=Z,15nm,1.1s
D48A **Paudash Townsh** 31.33 271 P P **11 08 37.1 0.0**
baz=51
SADO **Sadowa** 31.50 265 LR LR 11 20 06.0
comp=Z,933nm,18.3s,baz=54,slow=34
KLBO **Killbear Provi** 31.67 267 P P **11 08 40.5 +0.5**
baz=48
NACGM **Naroch** 31.71 70 *e*LR LR 11 09 44.0
E48A **Lockeyer** 31.96 270 P P **11 08 42.5 -0.1**
baz=50
J54A **Appleton** 32.27 263 P P **11 08 45.5 +0.3**
baz=46
K55A **Perry** 32.35 261 P P **11 08 45.5 -0.6**
baz=45
E47A **Iron Bridge** 32.57 271 P P **11 08 47.2 -0.7**
baz=50
BWLO **Walkerton** 32.99 266 P P **11 08 50.0 -1.6**
baz=47
I51A **Listowel** 33.15 266 P P **11 08 52.3 -0.7**
baz=46
E46A **Sault Ste Mari** 33.17 272 P P **11 08 52.9 -0.3**
baz=50
J52A **Paris** 33.25 264 P P **11 08 53.7 -0.2**
baz=46
M55A **Ridgway** 33.61 261 P P **11 08 56.9 -0.2**
baz=44
M54A **Oil Creek Stat** 34.05 261 P P **11 09 01.3 +0.4**
baz=44
N55A **Marion Center** 34.23 260 P P **11 09 03.2 +0.8**
baz=43
O56A **Blue Knob Stat** 34.38 259 P P **11 09 04.3 +0.4**
baz=42
BZS **Buzias** 34.52 88⇑ *i*P P **11 09 03.5 -1.4**
N54A **Moraine State** 34.62 261 P P **11 09 06.4 +0.7**
baz=44
M53A **WI Miller and** 34.63 262 P P **11 09 06.5 +0.6**
baz=44
KLMR **Klimovskoe** 34.71 55 *e*P P **11 09 05.2 -1.1**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR **Klimovskoe** 34.71 55 *e*P P **11 09 05.3 -1.1**
KLMR AMP 11 09 07.4
comp=Z,30nm,1.2s
O55A **Ligonier** 34.81 260 P P **11 09 08.0 +0.6**
baz=43
E42A **Champion** 35.02 275 P P **11 09 09.4 +0.1**
baz=49
F43A **Flat Rock, Esc** 35.02 274 P P **11 09 09.5 +0.3**
baz=49
BURAR **Bucovina Array** 35.12 82⇑ *i*P P **11 09 09.8 -0.4**
N53A **Lisbon** 35.17 262 P P **11 09 11.1 +0.5**
baz=43
AK11 **Malin Array Si** 35.27 75 *e*P P **11 09 11.2 0.0**
KIEV **Kiev** 35.28 75 *e*P P **11 09 11.0 -0.4**
comp=Z,8.6nm,1.1s
KIEV **Kiev** 35.28 75⇑ *e*P P **11 09 10.8 -0.6**
KIEV pmax pmax
comp=Z,6.0nm,1.1s
GZR **Gura Zlata** 35.28 87⇑ *i*P P **11 09 11.0 -0.6**
AKASG **Malin Array Be** 35.28 75 P P **11 09 10.5 -0.9**
comp=Z,2.7nm,0.7s,baz=306,slow=8.6,SNR=11
AKASG LR LR 11 23 13.2
comp=Z,280nm,18.5s,baz=325,slow=36
AKBB **Malin Array Si** 35.28 75 *e*P P **11 09 11.0 -0.4**
comp=Z,8.9nm,1.1s
AKBB **Malin Array Si** 35.28 75 *e*P P **11 09 11.0 -0.4**
AKBB pmax pmax
comp=Z,9.0nm,1.1s
KEST **Kesra** 35.39 111 LR LR 11 22 48.1
comp=Z,449nm,18.5s,baz=301,slow=35
J47A **Sunmer** 35.54 268 P P **11 09 14.6 +0.9**
baz=46
E41A **Kenton** 35.55 276 P P **11 09 14.1 +0.3**
baz=49
N52A **McGinn's Farm,** 35.61 263 P P **11 09 15.1 +0.7**
baz=44
G43A **Wallace** 35.68 273 P P **11 09 15.4 +0.6**
baz=48
R58B **Mineral** 35.76 256 P P **11 09 16.4 +0.8**
baz=40
P54A **Burton** 35.87 260 P P **11 09 17.5 +0.9**
baz=42
N51A **Ashland** 35.89 263 P P **11 09 17.6 +0.8**
baz=44
M50A **Fremont** 35.89 265 *e*P P **11 09 17.8 +1.1**
comp=Z,26nm,0.9s
M50A **Fremont** 35.89 265 P P **11 09 17.9 +1.2**
baz=44
EYMN **Ely** 35.92 280 *e*P P **11 09 17.1 +0.1**
comp=Z,31nm,1.0s
EYMN **Ely** 35.92 280 P P **11 09 17.5 +0.6**
baz=51
O52A **Adamsville** 36.19 262 *e*P P **11 09 20.4 +1.0**
comp=Z,28nm,1.0s
O52A **Adamsville** 36.19 262 P P **11 09 20.2 +0.9**
baz=43
L48A **N Adams** 36.24 266 P P **11 09 20.1 +0.3**
baz=45
OBN **Obninsk** 36.36 65⇓ *e*P P **11 09 21.6 +1.1**
OBN pmax pmax
comp=Z,7.0nm,1.2s
OBN MLR MLR
comp=Z,386nm,20.0s
OBN **Obninsk** 36.36 65 LR LR 11 23 01.3
comp=Z,98nm,20.6s,baz=340,slow=34
N50A **Nevada** 36.40 264 P P **11 09 21.7 +0.6**
baz=44
P53A **Whipple** 36.42 261 *e*P P **11 09 23.5 +2.2**
comp=Z,35nm,1.4s
P53A **Whipple** 36.42 261 P P **11 09 22.7 +1.3**
baz=42
E39A **Mellen** 36.44 277 P P **11 09 21.2 -0.2**
baz=49
VOIR 36.45 85⇓ *i*P P **11 09 21.4 -0.2**
O51A **Pataskala** 36.57 263 P P **11 09 23.3 +0.7**
baz=43
P52A **Corning** 36.70 262 P P **11 09 24.3 +0.6**
baz=42
ACSO **Alum Creek Sta** 36.71 263 P P **11 09 24.4 +0.6**
baz=43
ULM **Lac du Bonnet** 36.74 286 P P **11 09 23.1 -0.8**
comp=Z,6.0nm,0.9s,baz=58,slow=8.5,SNR=7.2
ULM LR LR 11 23 07.7
comp=Z,519nm,18.8s,baz=74,slow=34
N49A **Columbus Grove** 36.84 265 *e*P P **11 09 25.6 +0.8**
comp=Z,28nm,0.9s
N49A **Columbus Grove** 36.84 265 P P **11 09 25.4 +0.6**
baz=44
F39A **Loretta** 36.94 277 P P **11 09 26.3 +0.7**
baz=49
Q53A **Leroy** 36.96 260 P P **11 09 26.9 +1.0**
baz=42
G40A **Rib Lake** 36.99 275 P P **11 09 26.3 +0.1**
baz=48
FFC **Flin Flon** 37.09 295 *e*P P **11 09 27.4 +0.5**
comp=Z,14nm,1.1s
FFC **Flin Flon** 37.09 295 *i* P P **11 09 27.3 +0.5**
O50A **Cable** 37.10 264 P P **11 09 28.0 +0.9**
baz=43
H41A **Junction City** 37.14 274 P P **11 09 28.1 +0.7**
baz=47
R54A **Victor** 37.19 259 P P **11 09 27.9 0.0**
baz=41
T57A **Hurt** 37.20 256 P P **11 09 27.4 -0.6**
baz=40
Q52A **Bidwell** 37.27 261 P P **11 09 28.1 -0.4**
baz=42
P51A **Williamsport** 37.30 262 *e*P P **11 09 29.6 +0.8**
comp=Z,45nm,1.4s
P51A **Williamsport** 37.30 262 P P **11 09 29.2 +0.4**
baz=42
N48A **Decatur** 37.33 266 P P **11 09 29.0 0.0**
baz=44
F38A **Pierce - Schro** 37.41 277 P P **11 09 30.1 +0.4**
baz=48,SNR=8.6
O49A **Covington** 37.45 264 P P **11 09 30.6 +0.6**
baz=43
H40A **Chili** 37.52 275 P P **11 09 30.6 -0.1**
baz=47
T56A **Rocky Mt** 37.57 257 P P **11 09 32.0 +0.9**
baz=40
R53A **Hurricane** 37.58 260 P P **11 09 31.2 +0.1**
baz=41
P50A **Jamestown** 37.59 263 P P **11 09 31.7 +0.5**
baz=43
I41A **Arkdale** 37.63 274 P P **11 09 32.2 +0.6**
baz=47
V59A **Middlesex** 37.64 254 P P **11 09 31.4 -0.3**
baz=38
N47A **Urbana** 37.66 266 P P **11 09 31.5 -0.3**
baz=44
FNA **Florina** 37.74 94 *e*P P **11 09 32.2 -0.4**
comp=Z,18nm,0.9s
FNA **Florina** 37.74 94 *e*P P **11 09 32.2 -0.4**
FNA pmax pmax
comp=Z,18nm,0.9s
Q51A **Peebles** 37.78 262 *e*P P **11 09 33.8 +0.9**
comp=Z,21nm,1.2s
Q51A **Peebles** 37.78 262 P P **11 09 33.7 +0.9**
baz=42
O48A **Farmland** 37.83 265 P P **11 09 33.6 +0.3**
baz=43
G38A **Ridgeland** 37.92 276 P P **11 09 34.2 +0.2**
baz=48
R52A **Catlettsburg** 37.93 261 P P **11 09 34.2 0.0**
baz=41
AGMN **Agassiz Nation** 37.95 283 *e*P P **11 09 34.0 -0.2**
comp=Z,12nn,1.2s
AGMN **Agassiz Nation** 37.95 283 P P **11 09 34.3 +0.1**
baz=50
H39A **Augusta** 37.95 275 P P **11 09 34.9 +0.6**
baz=47
F37A **Hinrichs Farm,** 37.96 278 P P **11 09 34.3 0.0**
baz=48
J41A **Loganville** 38.19 273 P P **11 09 36.5 +0.3**
baz=46
YKW3 **Yellowknife Ar** 38.27 312 *e*P P **11 09 36.4 -0.3**
comp=Z,22nn,1.4s
YKA **Yellowknife Ar** 38.30 312 P P **11 09 36.6 -0.4**
comp=Z,5.2nm,0.9s,baz=58,slow=8.9,SNR=43
YKA PcP **PcP** **11 11 48.7 -1.8**
comp=Z,0.7nm,0.9s,baz=48,slow=3.2,SNR=5.5
YKA LR LR 11 24 40.9
comp=Z,79nm,19.1s,baz=61,slow=35
YKB5 **Yellowknife Ar** 38.30 312 *e*P P **11 09 36.7 -0.2**
V57A **Coltrane Farms** 38.32 255 P P **11 09 38.2 +0.7**
baz=39
T54A **Tazewell** 38.34 258 P P **11 09 37.5 -0.2**
baz=40
O47A **Sheridan** 38.38 266 P P **11 09 37.1 -0.8**
baz=43
X60A **Albert Glenn T** 38.44 252 P P **11 09 38.2 -0.2**
baz=37
R51A **Hillsboro** 38.45 262 P P **11 09 38.5 0.0**
baz=42
H38A **Maiden Rock** 38.48 276 P P **11 09 38.7 0.0**
baz=47
U55A **TA2, Sparta** 38.50 257 P P **11 09 39.4 +0.4**
baz=40
M44A **Midewin, Midew** 38.54 269 *e*P P **11 09 39.2 +0.1**
comp=Z,50nm,1.3s
M44A **Midewin, Midew** 38.54 269 P P **11 09 39.4 +0.3**
baz=44
P48A **Milroy** 38.55 265 P P **11 09 38.6 -0.8**
baz=43
Q49A **Aurora** 38.61 264 P P **11 09 39.6 -0.3**
baz=42
N45A **Kentland** 38.64 268 P P **11 09 39.3 -0.8**
baz=44
I39A **Houston** 38.64 275 P P **11 09 39.6 -0.5**
baz=46
X59A **McDuffie Farm,** 38.76 253 P P **11 09 41.4 +0.4**
baz=38
SFIN **Lafayette** 38.76 267 P P **11 09 41.2 +0.1**
baz=44
LIT **Litokhoron** 38.82 94 *e*P P **11 09 40.4 -1.2**
comp=Z,4.9nm,0.9s
LIT **Litokhoron** 38.82 94 *e*P P **11 09 40.4 -1.2**
LIT pmax pmax
comp=Z,5.0nm,0.9s
R50A **Paris** 38.85 262 P P **11 09 42.4 +0.5**
baz=42
U54A **Nelsons Funny** 38.88 258 P P **11 09 41.5 -0.7**
baz=40
T53A **Wise** 38.90 259 P P **11 09 42.7 +0.3**
baz=40
S51A **Beattyville** 38.95 261 *e*P P **11 09 43.5 +0.7**
comp=Z,19nm,0.9s
S51A **Beattyville** 38.95 261 P P **11 09 41.2 -1.5**
baz=41
L42A **Oliver, Polo** 38.96 271 P P **11 09 42.1 -0.6**
baz=45
P47A **Martinsville** 38.98 265 P P **11 09 43.0 +0.1**
baz=43
M43A **Waltham Townsh** 38.98 270 P P **11 09 41.1 -1.8**
baz=44
V55A **Taylorsville** 39.09 257 P P **11 09 44.6 +0.7**
baz=39
J39A **Decorah** 39.10 274 P P **11 09 43.1 -0.8**
baz=46
Q48A **North Vernon** 39.10 264 P P **11 09 44.3 +0.3**
baz=42
K40A **Colesburg** 39.24 273 P P **11 09 45.1 +0.1**
baz=46
W56A **Indian Trail** 39.32 255 P P **11 09 45.0 -0.8**
baz=38
S50A **Richmond** 39.34 262 P P **11 09 46.0 0.0**
baz=41
L41A **Preston** 39.34 272 P P **11 09 46.6 +0.7**
baz=45
P46A **Rosedale** 39.37 266 P P **11 09 46.2 0.0**
baz=43
U53A **Fall Branch** 39.39 259 P P **11 09 47.0 +0.5**
baz=40
N43A **Stutzman Famil** 39.45 269 P P **11 09 47.2 +0.4**
baz=44
Q47A **Bedord North L** 39.47 265 P P **11 09 46.7 -0.3**
baz=42
V54A **Nebo** 39.52 257 P P **11 09 48.1 +0.5**
baz=39
R48A **Northridge Ran** 39.57 264 P P **11 09 48.2 +0.3**
baz=42
K39A **Oelwein** 39.63 274 P P **11 09 48.3 -0.1**
baz=46
T51A **Gray** 39.64 260 P P **11 09 49.0 +0.5**
baz=40
KMSC **Kings Mountain** 39.70 256 P P **11 09 49.8 +0.8**
baz=39
P45A **Graceland, Par** 39.72 267 *e*P P **11 09 49.5 +0.4**
comp=Z,28nm,1.1s
P45A **Graceland, Par** 39.72 267 P P **11 09 48.3 -0.8**
baz=43
S49A **Springfield** 39.73 263 P P **11 09 49.9 +0.7**
baz=41
L40A **Anamosa** 39.73 272 P P **11 09 49.0 -0.2**
baz=45
TZTN **Tazewell** 39.76 260 *e*P P **11 09 50.5 +1.0**
comp=Z,24nm,1.1s
TZTN **Tazewell** 39.76 260 P P **11 09 50.3 +0.8**
baz=40
U52A **Thorn Hill** 39.78 259 P P **11 09 50.6 +0.9**
baz=40
M41A **Milan** 39.86 271 P P **11 09 50.6 +0.3**
baz=44
WCI **Wyandotte Cave** 39.92 264 P P **11 09 51.7 +0.9**
baz=42
N42A **Yates City** 39.99 270 P P **11 09 51.4 +0.1**
baz=44
R47A **Wooly Knot Far** 39.99 264 P P **11 09 51.5 +0.1**
baz=42
V53A **Saluda** 40.05 258 P P **11 09 52.1 +0.1**
baz=39
X56A **White Oak** 40.05 255 P P **11 09 51.6 -0.3**
baz=38
T50A **Nancy** 40.07 261 P P **11 09 52.2 +0.1**
baz=41
L39A **Vinton** 40.10 273 P P **11 09 52.2 -0.1**
baz=45
U51A **La Follette** 40.13 260 P P **11 09 52.6 0.0**
baz=40
MDND **Maddock** 40.16 285 *e*P P **11 09 52.8 +0.2**
comp=Z,23nm,1.0s
MDND **Maddock** 40.16 285 P P **11 09 52.6 -0.1**
baz=49
KIRV **Kirov** 40.16 53 LR LR 11 26 20.3
comp=Z,156nm,19.1s,baz=192,slow=36
W54A **Cherokee Point** 40.18 257 P P **11 09 52.8 -0.1**
baz=39
S48A **Wiedeman Farm,** 40.22 263 P P **11 09 53.1 -0.2**
baz=41
P44A **Sand Creek, Wi** 40.23 267 P P **11 09 53.5 +0.2**
baz=43
V52A **Sevierville** 40.32 259 P P **11 09 54.3 +0.2**
baz=40
M40A **Post Highland** 40.35 272 P P **11 09 54.6 +0.3**
baz=44
T49A **Edmonton** 40.37 262 P P **11 09 54.7 +0.2**
baz=41
X55A **Gracelyn & Ava** 40.38 256 P P **11 09 54.9 +0.3**
baz=38
Q45A **Warren Harvey,** 40.41 266 P P **11 09 54.9 +0.1**
baz=42
O42A **Bath** 40.47 269 P P **11 09 55.5 +0.2**
baz=44
N41A **Harden Midland** 40.51 271 P P **11 09 55.8 +0.2**
baz=44
U50A **Jamestown** 40.53 261 P P **11 09 56.2 +0.4**
baz=40
TKL **Tuckaleechee C** 40.55 259 LR LR 11 25 37.7
comp=Z,1μm,19.2s,baz=55,slow=35
P43A **Skaggs, Pawnee** 40.58 268 P P **11 09 56.1 -0.1**
baz=43
W53A **Cullowhee** 40.62 258 P P **11 09 56.8 +0.1**
baz=39
M39A **Webster** 40.65 273 P P **11 09 56.6 -0.2**
baz=44
X54A **Belton** 40.69 257 P P **11 09 57.6 +0.4**
baz=38
S47A **Hartford** 40.70 264 P P **11 09 57.5 +0.2**
baz=41
V51A **Loudon** 40.74 260 P P **11 09 57.8 +0.2**
baz=40
N40A **Mertquake, Sal** 40.76 271 P P **11 09 57.7 0.0**
baz=44
T48A **Bowling Green** 40.81 263 P P **11 09 57.7 -0.4**
baz=41
Z57A **Bowman** 40.83 254 P P **11 09 58.3 0.0**
baz=37
Q44A **Meyer Farm, Va** 40.85 267 P P **11 09 58.1 -0.4**
baz=42
Y55A **Saluda** 40.91 256 P P **11 09 59.2 +0.2**
baz=38
R45A **Skylar, Fairfi** 40.92 266 P P **11 09 59.2 +0.2**
baz=42
U49A **Red Boiling Sp** 40.94 262 P P **11 09 59.6 +0.4**
baz=40
O41A **Passleys Farm,** 40.95 270 P P **11 09 58.9 -0.4**
baz=43
158A **Hollywood** 41.02 253 P P **11 10 00.2 +0.4**
baz=37
P42A **Winchester** 41.05 269 P P **11 10 00.1 0.0**
baz=43
W52A **Murphy** 41.07 259 P P **11 10 00.8 +0.4**
baz=39
S46A **Don Dixon Farm** 41.07 265 P P **11 10 00.5 +0.2**
baz=41
Q43A **New Douglas** 41.18 268 P P **11 10 01.7 +0.5**
baz=42
X53A **Estanollee** 41.20 257 P P **11 10 02.1 +0.7**
baz=38
V50A **Pikevile** 41.23 260 P P **11 10 02.3 +0.6**
baz=40
U48A **Cassie Pea, Po** 41.34 262 P P **11 10 03.3 +0.8**
baz=40
P41A **Barry, Barry** 41.36 270 P P **11 10 03.0 +0.3**
baz=43
R44A **Waltonville** 41.37 267 P P **11 10 02.9 +0.2**
baz=42
Y54A **Tignall** 41.39 256 P P **11 10 03.6 +0.6**
baz=38
ECSD **EROS Data Cent** 41.39 278 *e*P P **11 10 03.5 +0.6**
ECSD **EROS Data Cent** 41.39 278 P P **11 10 03.1 +0.1**
baz=46,SNR=7.0
INK **Inuvik** 41.39 327 *e*P P **11 10 02.2 -0.4**
comp=Z,14nm,1.2s
INK **Inuvik** 41.39 327 *e*P P **11 10 02.2 -0.4**
INK pmax pmax

comp=Z,14nm,1.2s
INK **Inuvik** 41.39 327 P P 11 10 02.1 -0.4
comp=Z,7.2nm,1.1s,baz=36,slow=10,SNR=14
INK LR LR 11 25 53.7
comp=Z,311nm,21.4s,baz=49,slow=34
X52A **Dahlonega** 41.43 258 P P 11 10 03.4 +0.1
baz=39
W51A **Cleveland** 41.45 260 P P 11 10 03.8 +0.4
baz=39
157A **Early Branch** 41.47 253 P P 11 10 03.9 +0.3
baz=37
S45A **Carrier Mills** 41.53 266 P P 11 10 03.1 -1.0
baz=41
V49A **McMinnville** 41.58 261 P P 11 10 04.7 +0.3
baz=40
Q42A **Golden Eagle** 41.64 268 P P 11 10 05.3 +0.4
baz=42
T46A **Princeton** 41.65 264 P P 11 10 05.3 +0.2
baz=41
W50A **Signal Mountai** 41.70 260 eP P 11 10 06.4 +0.8
comp=Z,16nm,1.0s
W50A **Signal Mountai** 41.70 260 P P 11 10 06.0 +0.5
baz=39
156A **Sylvania** 41.74 254 P P 11 10 06.3 +0.4
baz=37
U47A **Clarksville** 41.79 263 P P 11 10 06.6 +0.5
baz=40
R43A **Red Bud** 41.80 267 P P 11 10 06.6 +0.4
baz=42
SIUC **Southern Illin** 41.84 266 eP P 11 10 07.7 +1.1
comp=Z,38nm,1.2s
Y53A **Monroe** 41.86 257 P P 11 10 07.5 +0.7
baz=38
S44A **Carbondale** 41.88 266 P P 11 10 07.4 +0.5
baz=42
X51A **Calhoun** 41.96 259 P P 11 10 08.0 +0.4
baz=39
Z54A **Sparta** 41.96 256 P P 11 10 07.3 -0.3
baz=38
Q41A **Truxton** 41.98 269 P P 11 10 08.1 +0.3
baz=42
DGMT **Dagmar** 42.06 289 eP P 11 10 09.5 +1.1
comp=Z,49nm,1.4s
DGMT **Dagmar** 42.06 289 P P 11 10 08.9 +0.6
baz=48
V48A **Smith Brothers** 42.08 262 eP P 11 10 09.8 +1.2
comp=Z,22nm,1.3s
V48A **Smith Brothers** 42.08 262 P P 11 10 08.1 -0.5
baz=40
Y52A **Lilburn** 42.10 258 P P 11 10 09.2 +0.4
baz=38
GOGA **Godfrey** 42.15 257 eP P 11 10 09.9 +0.8
comp=Z,16nm,1.0s
GOGA **Godfrey** 42.15 257 eP P 11 10 09.9 +0.8
GOGA pmax pmax
comp=Z,16nm,1.0s
GOGA **Godfrey** 42.15 257 P P 11 10 09.4 +0.3
baz=38,SNR=5.5
155A **Kite** 42.26 255 P P 11 10 10.3 +0.2
baz=37
W49A **Belvidere** 42.26 261 P P 11 10 10.0 -0.1
baz=39
Z53A **Monticello** 42.30 257 P P 11 10 10.7 +0.3
baz=38,SNR=5.7
WVT **Waverly** 42.31 263 eP P 11 10 10.4 0.0
comp=Z,16nm,1.2s
WVT **Waverly** 42.31 263 eP P 11 10 10.4 0.0
WVT pmax pmax
comp=Z,16nm,1.2s
WVT **Waverly** 42.31 263 P P 11 10 10.4 0.0
baz=40
V47A **Nunnelly** 42.37 263 P P 11 10 10.9 -0.1
baz=40
S43A **Fulton Ridge,** 42.40 267 P P 11 10 11.1 -0.1
baz=41
X50B **Fort Payne** 42.45 260 P P 11 10 11.8 +0.1
baz=39
R41A **Rosebud** 42.54 269 P P 11 10 12.6 +0.2
baz=42
Y51A **Rockmart** 42.59 259 P P 11 10 13.2 +0.4
baz=38
154A **Montrose** 42.59 256 P P 11 10 13.2 +0.4
baz=37
W48A **Pulaski** 42.60 262 P P 11 10 12.6 -0.2
baz=40,SNR=5.5
S42A **Caledonia** 42.63 268 P P 11 10 12.7 -0.3
baz=42
CCM **Cathedral Cave** 42.65 268 eP P 11 10 18.0 +4.8
comp=Z,7.3nm,1.0s
CCM **Cathedral Cave** 42.65 268 eP P 11 10 18.0 +4.8
CCM pmax pmax
comp=Z,7.0nm,1.0s
CCM **Cathedral Cave** 42.65 268 P P 11 10 13.1 -0.1
baz=42
V46A **Holladay** 42.71 263 P P 11 10 13.5 -0.2
baz=40
X49A **Woodville** 42.76 260 P P 11 10 14.0 -0.2
baz=39
Z52A **Williamson** 42.81 257 P P 11 10 14.8 +0.2
baz=38
255A **Hazlehurst** 42.82 254 P P 11 10 14.9 +0.3
baz=37
W47A **Westpoint** 42.85 262 P P 11 10 15.0 +0.1
baz=40
T43A **Greenville** 42.88 266 P P 11 10 15.2 +0.2
baz=41
Y50A **Piedmont** 42.94 259 P P 11 10 16.0 +0.4
baz=38
Z51A **Franklin** 43.10 258 P P 11 10 17.3 +0.4
baz=38
PBMO **Poplar Bluff** 43.18 266 eP P 11 10 17.7 +0.2
comp=Z,30nm,1.2s
X48A **Hartselle** 43.18 261 P P 11 10 17.4 -0.2
baz=39
254A **Abbeville** 43.22 255 P P 11 10 17.8 0.0
baz=37
S41A **Jillco Farms,** 43.27 268 P P 11 10 18.0 -0.2
baz=42,SNR=5.3
Y49A **Blount Mountai** 43.32 260 P P 11 10 18.9 +0.3
baz=38
ANN **Anapa** 43.32 77 eP P 11 10 19.5 +1.0
ANN MLR MLR
comp=Z,616nm,15.0s
152A **Waverly Hall** 43.38 257 P P 11 10 19.4 +0.2
baz=38
X47A **Russellville** 43.56 262 P P 11 10 20.3 -0.2
baz=39,SNR=6.3
EPYK **Eagle Plains** 43.60 326 eP P 11 10 20.8 +0.1
comp=Z,33nm,1.3s
EPYK **Eagle Plains** 43.60 326 P P 11 10 20.4 -0.2
baz=48,SNR=9.0
Y48A **Jasper** 43.67 261 P P 11 10 21.0 -0.4
baz=39
151A **Opelika** 43.80 258 P P 11 10 23.0 +0.5
baz=38
BGNE **Belgrade** 43.84 277 eP P 11 10 23.4 +0.5
comp=Z,34nm,1.0s
BGNE **Belgrade** 43.84 277 P P 11 10 22.8 0.0
baz=44
Z49A **Columbiana** 43.90 259 P P 11 10 23.4 +0.1
baz=38,SNR=5.3
X46A **Booneville** 43.91 263 P P 11 10 22.7 -0.7
baz=39
252A **Lumpkin** 43.92 257 P P 11 10 23.9 +0.4
baz=37
150A **Eclectic** 44.10 258 P P 11 10 25.4 +0.4
baz=38,SNR=7.4
353A **Camilla** 44.17 256 P P 11 10 25.8 +0.3
baz=37
251A **Midway** 44.19 257 P P 11 10 25.8 +0.1
baz=37,SNR=5.6
LRAL **Lakeview Retre** 44.26 260 eP P 11 10 26.7 +0.4
comp=Z,18nm,1.1s
LRAL **Lakeview Retre** 44.26 260 P P 11 10 26.1 -0.2
baz=38,SNR=5.4
LAO **LASA Array** 44.27 289 eP P 11 10 27.3 +1.0
comp=Z,35nm,1.1s
LAO **LASA Array** 44.27 289 P P 11 10 26.9 +0.6
baz=46,SNR=9.4
U41A **Viola** 44.29 267 P P 11 10 26.4 -0.1
baz=41
556A **Lake Butler** 44.34 253 P P 11 10 26.7 -0.2
baz=35
OXF **Oxford** 44.37 263 eP P 11 10 26.7 -0.4
comp=Z,32nm,1.3s
OXF **Oxford** 44.37 263 eP P 11 10 26.7 -0.4
OXF pmax pmax
comp=Z,31nm,1.3s
OXF **Oxford** 44.37 263 P P 11 10 26.6 -0.6
baz=39
TAM **Tamanrasset** 44.57 126 eP P 11 10 29.1 +0.1
comp=Z,6.3nm,1.0s
TAM **Tamanrasset** 44.57 126 eP P 11 10 29.1 +0.1
TAM pmax pmax
comp=Z,6.0nm,1.0s
758A **Lake Helen** 44.58 251 P P 11 10 29.1 +0.3
baz=34
KSU1 **Kansas State U** 44.71 274 P P 11 10 29.8 0.0
baz=42
250A **Grady** 44.72 258 eP P 11 10 30.6 +0.7
comp=Z,63nm,1.4s
250A **Grady** 44.72 258 P P 11 10 30.6 +0.7
baz=37
U40A **Yellville** 44.77 268 P P 11 10 30.8 +0.4
baz=41
BRTR **Keskin Array B** 44.96 85 P P 11 10 31.3 -0.7
comp=Z,2.6nm,1.1s,baz=300,slow=6.1,SNR=4.8
BRTR LR LR 11 30 27.4
comp=Z,215nm,18.8s,baz=291,slow=38
452A **Marianna** 45.06 256 P P 11 10 32.1 -0.5
baz=36
EGMT **Eagleton** 45.10 292 eP P 11 10 33.6 +0.7
comp=Z,26nm,1.4s
EGMT **Eagleton** 45.10 292 P P 11 10 33.1 +0.2
baz=47,SNR=5.8
249A **Camden** 45.16 259 P P 11 10 34.0 +0.6
baz=37
350A **Dozier** 45.20 258 P P 11 10 33.6 -0.1
baz=37
WHAR **Wooly Hollow** 45.29 267 eP P 11 10 34.5 +0.1
comp=Z,17nm,1.2s
ARU **Arti** 45.35 51 eP P 11 10 34.7 +0.1
comp=Z,11nm,1.2s
ARU **Arti** 45.35 51 *d* P 11 10 34.1 -0.5
ARU 11 12 17.9
ARU S S 11 17 16.3 +1.6
ARU SS SS 11 20 36.3 -0.8
ARU pmax pmax
comp=Z,11nm,1.3s
W41B **Gary Mavity, V** 45.35 266 eP P 11 10 35.1 +0.1
comp=Z,21nm,1.3s
W41B **Gary Mavity, V** 45.35 266 P P 11 10 35.3 +0.4
baz=40
TOLK **Toolik Lake Re** 45.44 333 eP P 11 10 35.9 +0.6
comp=Z,41nm,1.2s
TOLK **Toolik Lake Re** 45.44 333 P P 11 10 35.7 +0.5
baz=41,SNR=23
NRIK **Noril'sk** 45.45 26 P P 11 10 36.0 +0.7
comp=Z,1.4nm,0.4s,baz=314,slow=8.6,SNR=5.7
349A **Repton** 45.70 258 P P 11 10 38.1 +0.5
baz=37
FYU **Fort Yukon** 45.88 329 eP P 11 10 40.2 +1.5
comp=Z,44nm,1.2s
DAWY **Dawson** 46.02 324 eP P 11 10 40.7 +0.8
comp=Z,26nm,1.1s
EGAK **Eagle** 46.04 326 eP P 11 10 40.2 +0.2
comp=Z,15nm,1.1s
W39A **Magazine** 46.15 268 eP P 11 10 41.2 +0.1
comp=Z,26nm,1.3s
W39A **Magazine** 46.15 268 P P 11 10 40.8 -0.3
baz=40
X40A **Basin Creek Fa** 46.19 266 eP P 11 10 41.5 -0.1
comp=Z,23nm,1.2s
X40A **Basin Creek Fa** 46.19 266 P P 11 10 41.2 -0.3
baz=40,SNR=6.5
MIAR **Mount Ida** 46.54 267 eP P 11 10 44.5 +0.2
comp=Z,16nm,1.3s
MIAR **Mount Ida** 46.54 267 eP P 11 10 44.5 +0.2
MIAR pmax pmax
comp=Z,17nm,1.3s
MIAR **Mount Ida** 46.54 267 P P 11 10 44.4 +0.2
baz=40
CBKS **Cedar Bluff** 46.56 276 P P 11 10 44.3 -0.2
baz=42
KIV **Kislovodsk** 46.59 74 eP P 11 10 44.8 +0.1
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,340nm,16.0s
TUL1 **Leonard** 46.66 270 P P 11 10 45.0 -0.3
baz=40
COLD **Coldfoot** 46.67 332 eP P 11 10 45.4 +0.5
comp=Z,8.1nm,1.0s
PRP **Porcupine Dome** 46.74 328 eP P 11 10 47.0 +1.3
comp=Z,10nm,1.2s
DLBC **Dease Lake** 46.79 314 LR LR 11 29 25.3
comp=Z,485nm,21.6s,baz=70,slow=35
KBZ **Khabaz** 46.86 74 LR LR 11 30 14.2
comp=Z,168nm,19.9s,baz=324,slow=36
RLMT **Red Lodge** 46.89 289 eP P 11 10 47.6 +0.4
comp=Z,25nm,1.4s
RLMT **Red Lodge** 46.89 289 P P 11 10 47.5 +0.3
baz=45,SNR=6.2
Z41A **Richland Creek** 47.12 265 P P 11 10 48.8 0.0
baz=39
K22A **Casper** 47.28 285 eP P 11 10 49.9 -0.3
comp=Z,8.9nm,1.0s
K22A **Casper** 47.28 285 P P 11 10 50.3 +0.1
baz=44
SCRK **Sand Creek** 47.46 326 eP P 11 10 52.8 +1.5
comp=Z,30nm,1.2s
POKR **Poker Plat Res** 47.57 329 P P 11 10 52.5 +0.5
baz=40,SNR=5.9
IL1 **Eielson Array** 47.69 328 eP P 11 10 53.3 +0.4
ILAR **Eielson Array** 47.69 328 P P 11 10 53.5 +0.6
comp=Z,11nm,1.1s,baz=34,slow=6.5,SNR=50
ILAR PcP PcP 11 12 21.1 -0.9
comp=Z,1.3nm,0.9s,baz=7.6,slow=2.6,SNR=5.7
ILB **Eielson Array** 47.69 328 eP P 11 10 53.4 +0.6
comp=Z,18nm,1.1s
PHWY **Pilot Hill** 47.71 283 eP P 11 10 53.6 -0.1
comp=Z,8.3nm,1.2s
DOT **Dot Lake** 47.73 326 eP P 11 10 54.8 +1.5
comp=Z,20nm,1.2s
HYT **Haines Junctio** 47.75 320 eP P 11 10 55.5 +1.9
comp=Z,18nm,1.2s
COLA **College** 47.87 329 eP P 11 10 55.6 +1.3
comp=Z,20nm,1.1s
COLA **College** 47.87 329 *de* P P 11 10 54.9 +0.6
COLA pmax pmax
comp=Z,15nm,1.1s
TCOL **CIGO, UAF Yank** 47.88 329 P P 11 10 54.7 +0.4
baz=40
RIDG **Independ'e Rid** 47.89 326 eP P 11 10 55.7 +1.2
comp=Z,19nm,1.1s
MDM **Murphy Dome** 47.91 329 eP P 11 10 55.4 +0.8
comp=Z,25nm,1.1s
KSCO **Kaye Shedlock'** 47.93 278 eP P 11 10 55.1 -0.1
comp=Z,23nm,1.0s
KSCO **Kaye Shedlock'** 47.93 278 P P 11 10 55.4 +0.2
baz=42
MSO **Missoula** 47.97 294 eP P 11 10 55.0 -0.4
comp=Z,6.7nm,1.2s
MSO **Missoula** 47.97 294 P P 11 10 55.3 -0.1
baz=45
HDA **Harding Lake** 47.98 328 eP P 11 10 56.1 +1.0
comp=Z,7.6nm,1.0s
HDA **Harding Lake** 47.98 328 P P 11 10 55.4 +0.3
baz=40,SNR=5.3
CCB **Clear Creek Bu** 48.04 329 eP P 11 10 56.3 +0.7
comp=Z,11nm,1.2s
H17A **Grant Village** 48.06 289 eP P 11 10 58.0 +1.7
comp=Z,9.9nm,1.1s
H17A **Grant Village** 48.06 289 P P 11 10 57.5 +1.2
baz=44,SNR=5.4
YFT **Old Faithful** 48.15 289 eP P 11 10 59.1 +2.1
comp=Z,15nm,1.2s
WRH **Wood River Hil** 48.25 329 eP P 11 10 58.0 +0.8
comp=Z,14nm,1.2s
N23A **Red Feather La** 48.26 283 eP P 11 10 58.6 +0.7
comp=Z,32nm,1.4s
N23A **Red Feather La** 48.26 283 P P 11 10 58.3 +0.3
baz=43,SNR=9.0
YPP **Pitchstone Pla** 48.26 289 eP P 11 10 00.2 +2.2
comp=Z,14nm,1.4s
DLMT **Dillon** 48.36 292 eP P 11 10 54.6 -4.0
comp=Z,6.5nm,1.2s
NEW **Newport** 48.46 297 eP P 11 10 59.0 -0.1
comp=Z,9.6nm,1.3s
NEW **Newport** 48.46 297 eP P 11 10 59.1 -0.1
NEW pmax pmax
comp=Z,10.0nm,1.3s
IM3 **Indian Mountai** 48.53 332 eP P 11 10 59.5 +0.2
MOOW **Moose Ponds** 48.61 289 eP P 11 11 00.7 +0.1
comp=Z,1.4nm,0.9s
LOHW **Long Hollow** 48.64 289 eP P 11 11 01.0 +0.2
comp=Z,8.8nm,1.3s
PAX **Paxson** 48.66 326 eP P 11 11 01.9 +1.4
comp=Z,17nm,1.2s
PAX **Paxson** 48.66 326 eP P 11 11 01.9 +1.4
PAX pmax pmax
comp=Z,17nm,1.2s
BW06 **Boulder Array** 48.73 287 eP P 11 11 00.5 -1.0
comp=Z,8.8nm,1.0s
BW06 **Boulder Array** 48.73 287 P P 11 11 00.4 -1.1
baz=43,SNR=9.3
PD31 **Pinedale Array** 48.73 287 eP P 11 11 00.7 -0.8
comp=Z,8.2nm,1.0s
PDAR **Pinedale Array** 48.73 287 eP P 11 11 00.2 -1.3
PDAR **Pinedale Array** 48.73 287 P P 11 11 00.4 -1.1
comp=Z,4.2nm,0.9s,baz=55,slow=6.6,SNR=24
PDAR LR LR 11 30 24.5
comp=Z,449nm,19.0s,baz=50,slow=35
FXWY **Fox Creek** 48.83 289 eP P 11 11 02.6 +0.3
comp=Z,5.4nm,1.0s
RDOG **Red Dog Mine** 48.85 338 eP P 11 11 02.6 +0.8
comp=Z,28nm,1.4s
BWN **Browne** 48.86 329 eP P 11 11 02.6 +0.7
comp=Z,42nm,1.0s
MCMT **McKenzie Canyo** 48.87 291 eP P 11 11 03.4 +0.8
ISCO **Idaho Springs** 48.89 281 eP P 11 11 03.7 +0.8
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 48.89 281 eP P 11 11 03.7 +0.8
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 48.89 281 P P 11 11 03.3 +0.5
baz=42,SNR=8.7
TPAW **Teton Pass** 48.90 289 eP P 11 11 02.1 -0.8
comp=Z,11nm,1.3s
REDW **Red Top Meadow** 48.95 288 eP P 11 11 03.3 +0.1
comp=Z,6.0nm,1.0s
WMOK **Wichita Mounta** 49.13 272 eP P 11 11 04.3 0.0
comp=Z,18nm,1.2s
WMOK **Wichita Mounta** 49.13 272 eP P 11 11 04.4 0.0
WMOK pmax pmax
comp=Z,18nm,1.2s
WMOK **Wichita Mounta** 49.13 272 P P 11 11 04.0 -0.4
baz=40,SNR=9.7
DHY **Denali Highway** 49.13 327 eP P 11 11 05.8 +1.6
comp=Z,16nm,1.2s
RND **Reindeer** 49.29 328 eP P 11 11 06.0 +0.6
comp=Z,32nm,1.4s
RND **Reindeer** 49.29 328 eS P 11 11 06.0 +0.6
AKTO **Aktyubinsk** 49.30 58 P P 11 11 05.4 0.0
comp=Z,4.6nm,0.9s,baz=331,slow=6.7,SNR=9.5
BPAW **Bear Paw Mtn.** 49.33 330 eP P 11 11 06.8 +1.2
comp=Z,20nm,1.4s
BPAW **Bear Paw Mtn.** 49.33 330 eS P 11 11 06.8 +1.2
C09A **Chrisman Ranch** 49.33 298 eP P 11 11 05.8 0.0
comp=Z,12nm,0.9s
C09A **Chrisman Ranch** 49.33 298 eS P 11 11 05.8 0.0
B08A **Colville Reser** 49.42 299 eP P 11 11 06.6 +0.1
comp=Z,15nm,1.1s
B08A **Colville Reser** 49.42 299 eS P 11 11 06.6 +0.1
TIXI **Tiksi** 49.61 8⇓ eP P 11 11 07.5 0.0
TIXI pmax pmax
comp=Z,5.0nm,1.1s
O20A **White River Ci** 50.00 284 P P 11 11 11.5 +0.3
baz=42
F10A **Beach Ranch, E** 50.16 295 eP P 11 11 10.9 -1.3
comp=Z,12nm,1.2s
T25A **Trinidad** 50.26 278 eP P 11 11 13.9 +0.7
comp=Z,14nm,1.1s
T25A **Trinidad** 50.26 278 P P 11 11 13.6 +0.4
baz=41,SNR=5.6
T25A **Trinidad** 50.26 278 eS P 11 11 13.9 +0.7
SDCO **Great Sand Dun** 50.37 280 eP P 11 11 14.4 +0.3
comp=Z,7.7nm,1.3s
SDCO **Great Sand Dun** 50.37 280 P P 11 11 14.2 0.0
baz=41,SNR=6.0
SDCO **Great Sand Dun** 50.37 280 eS P 11 11 14.4 +0.3
SML **Sawmill** 50.41 326 eP P 11 11 15.5 +1.7
comp=Z,43nm,1.3s
SML **Sawmill** 50.41 326 eS P 11 11 15.5 +1.7
GNI **Garni** 50.41 76 LR LR 11 33 00.4
comp=Z,165nm,20.4s,baz=326,slow=37
BBB **Bella Bella** 50.51 307 LR LR 11 32 18.4
comp=Z,327nm,18.4s,baz=24,slow=36
AMTX **Amarillo** 50.55 274 eP P 11 11 15.8 +0.5
comp=Z,21nm,1.1s
AMTX **Amarillo** 50.55 274 P P 11 11 15.7 +0.5
baz=40
WHTX **Lake Whitney,** 50.56 268 P P 11 11 15.1 -0.2
baz=38
HLID **Hailey** 50.57 291 eP P 11 11 16.1 +0.7
comp=Z,9.4nm,1.4s
HLID **Hailey** 50.57 291 P P 11 11 15.7 +0.3
baz=42,SNR=5.5
PPLA **Purkeypile** 50.62 329 eP P 11 11 15.6 +0.1
comp=Z,24nm,1.3s
KNK **Knik Glacier** 50.76 326 eP P 11 11 17.9 +1.5
comp=Z,30nm,1.2s
B05A **Bryant** 50.76 300 P P 11 11 17.1 +0.5
baz=43
TCUT **Toone Canyon** 50.88 287 eP P 11 11 18.2 +0.3
comp=Z,29nm,1.5s
ABKAR **Akbulak array** 51.01 57 eP P 11 11 18.5 +0.1
comp=Z,9.1nm,1.2s
BMO **Blue Mountains** 51.02 294 eP P 11 11 17.9 -0.8
comp=Z,7.5nm,1.0s
BMO **Blue Mountains** 51.02 294 eP P 11 11 17.9 -0.8
BMO pmax pmax
comp=Z,7.0nm,1.0s
S22A **4UR Ranch, Cre** 51.06 281 eP P 11 11 19.9 +0.6
comp=Z,8.3nm,1.1s
S22A **4UR Ranch, Cre** 51.06 281 P P 11 11 19.9 +0.6
baz=41,SNR=7.2
HVU **Hansel Valley** 51.07 288 eP P 11 11 19.2 0.0
comp=Z,4.3nm,1.2s
HVU **Hansel Valley** 51.07 288 eP P 11 11 19.2 0.0
HVU pmax pmax
comp=Z,4.0nm,1.2s
ABTX **Abilene, Hawle** 51.22 271 eP P 11 11 19.9 -0.4
comp=Z,14nm,1.1s
ABTX **Abilene, Hawle** 51.22 271 P P 11 11 20.3 +0.1
baz=39
JLU **Jordanelle** 51.28 286 eP P 11 11 20.9 0.0
comp=Z,11nm,1.2s
SUA **Susitna One** 51.38 327 eP P 11 11 22.7 +1.5
comp=Z,40nm,1.1s
RC01 **Rabbit Creek A** 51.39 327 eP P 11 11 22.6 +1.5
comp=Z,26nm,1.1s
TOA0 **Torodi Ar. Sit** 51.79 136 eP P 11 11 23.1 -1.5
TORD **Torodi Ar. Bea** 51.79 136 P P 11 11 22.2 -2.4
comp=Z,5.0nm,0.9s,baz=358,slow=4.7,SNR=12
TORD LR LR 11 30 49.0
comp=Z,92nm,20.4s,baz=330,slow=33
MPU **Maple Canyon** 51.81 286 eP P 11 11 25.1 +0.2
comp=Z,15nm,1.1s
MSTX **Muleshoe** 51.82 274 P P 11 11 24.4 -0.5
baz=39
SRU **San Rafael Swe** 51.93 285 eP P 11 11 27.0 +1.3
comp=Z,8.8nm,1.1s
SRU **San Rafael Swe** 51.93 285 eP P 11 11 27.0 +1.3
SRU pmax pmax
comp=Z,9.0nm,1.1s
NLU **North Lily Min** 52.08 286 eP P 11 11 27.2 +0.3
comp=Z,16nm,1.2s
F05D **White Salmon** 52.22 298 P P 11 11 27.4 -0.2
baz=42
MVCO **Mesa Verde** 52.33 281 eP P 11 11 29.7 +0.9
comp=Z,14nm,1.1s
MVCO **Mesa Verde** 52.33 281 P P 11 11 29.4 +0.6
baz=40,SNR=7.7
Q16A **Castle Valley** 52.41 285 eP P 11 11 29.4 +0.1
comp=Z,16nm,1.4s
BRVK **Borovoye** 52.49 48⇑ eP P 11 11 29.7 +0.2
BRVK pmax pmax
comp=Z,4.0nm,1.1s
BVAR **Borovoye Array** 52.56 48 P P 11 11 30.0 0.0
BVAR **Borovoye Array** 52.56 48 P P 11 11 30.0 0.0
comp=Z,3.1nm,0.9s,baz=302,slow=6.5,SNR=12
J08A **Circle Bar Ran** 52.70 294 eP P 11 11 31.0 -0.2
comp=Z,17nm,1.1s
JCT **Junction City** 52.98 269 eP P 11 11 33.1 -0.4
comp=Z,9.3nm,0.9s
JCT **Junction City** 52.98 269 eP P 11 11 33.1 -0.4
JCT pmax pmax
comp=Z,9.0nm,0.9s
JCT **Junction City** 52.98 269 P P 11 11 33.2 -0.2
baz=38
ANMO **Albuquerque** 53.00 278 eP P 11 11 34.7 +1.0
comp=Z,1.9nm,1.0s

ANMO	**Albuquerque**	**53.00**	**278**	⇑*i*P		**P**	**11 11 34.4**	**+0.7**
ANMO	comp=Z,2.0nm,1.0s			pmax		pmax		
ANMO	**Albuquerque**	**53.00**	**278**	P		**P**	**11 11 33.6**	**-0.1**
	baz=39							
TASM	**ASL Pad, Albuq**	**53.00**	**278**	P		**P**	**11 11 33.6**	**-0.1**
	baz=39							
TASM	**ASL Pad, Albuq**	**53.00**	**278**	P		**P**	**11 11 33.9**	**+0.1**
	baz=39							
ELK	**Elko**	**53.08**	**289**	*e*P		**P**	**11 11 35.3**	**+1.1**
	comp=Z,9.9nm,1.3s							
ELK	**Elko**	**53.08**	**289**	*e*P		**P**	**11 11 35.3**	**+1.1**
ELK				pmax		pmax		
	comp=Z,10.0nm,1.3s							
BILL	**Bilibino**	**53.19**	**351**	⇑*e*P		**P**	**11 11 34.4**	**0.0**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.2s							
PSUT	**Pine Spring**	**54.06**	**287**	*e*P		**P**	**11 11 42.1**	**+0.6**
	comp=Z,4.4nm,0.9s							
PKCU	**Pink Cliffs**	**54.11**	**285**	*e*P		**P**	**11 11 42.5**	**+0.6**
	comp=Z,19nm,1.3s							
CCUT	**Cedar City**	**54.56**	**285**	*e*P		**P**	**11 11 45.5**	**+0.3**
	comp=Z,2.9nm,1.0s							
MOD	**Modoc Plateau**	**54.68**	**294**	*e*P		**P**	**11 11 46.1**	**+0.2**
	comp=Z,12nm,1.0s							
KNB	**Kanab**	**54.70**	**285**	*e*P		**P**	**11 11 45.8**	**-0.3**
	comp=Z,16nm,1.3s							
KNB	**Kanab**	**54.70**	**285**	*e*P		**P**	**11 11 45.8**	**-0.3**
KNB				pmax		pmax		
	comp=Z,16nm,1.3s							
U15A	**North Rim**	**54.88**	**284**	*e*P		**P**	**11 11 47.0**	**-0.5**
	comp=Z,2.1nm,0.9s							
LCMT	**Little Creek M**	**54.92**	**285**	*e*P		**P**	**11 11 48.0**	**+0.4**
	comp=Z,6.6nm,1.2s							
MNTX	**Cornudas Mount**	**54.97**	**275**	*e*P		**P**	**11 11 45.9**	**-2.0**
	comp=Z,7.4nm,1.4s							
MNTX	**Cornudas Mount**	**54.97**	**275**	P		**P**	**11 11 47.7**	**-0.2**
	baz=38							
R11A	**Troy Canyon, C**	**55.07**	**288**	*e*P		**P**	**11 11 48.9**	**+0.1**
	comp=Z,6.6nm,1.3s							
R11A	**Troy Canyon, C**	**55.07**	**288**	P		**P**	**11 11 47.1**	**-1.7**
	baz=40,SNR=6.3							
WUAZ	**Wupatki**	**55.11**	**282**	*e*P		**P**	**11 11 49.5**	**+0.4**
WUAZ	**Wupatki**	**55.11**	**282**	P		**P**	**11 11 49.0**	**0.0**
	baz=39,SNR=6.1							
M04C	**Macdoel**	**55.51**	**295**	P		**P**	**11 11 51.8**	**0.0**
	baz=40							
121A	**Cookes Peak, D**	**55.57**	**277**	P		**P**	**11 11 52.5**	**+0.1**
	baz=38							
DBIC	**Dimbokro**	**55.71**	**147**	*e*P		**P**	**11 11 48.9**	**+0.1**
	comp=Z,11nm,1.1s							
NVS	**Novosibirsk**	**55.79**	**39**	*e*P		**P**	**11 11 51.3**	**-2.1**
KVN	**Kaiserville**	**55.79**	**290**	*e*P		**P**	**11 11 54.4**	**+0.4**
	comp=Z,19nm,1.1s							
KVN	**Kaiserville**	**55.79**	**290**	*e*P		**P**	**11 11 54.4**	**+0.4**
KVN				pmax		pmax		
	comp=Z,19nm,1.1s							
PAHR	**Pah Rah Range**	**55.92**	**292**	*e*P		**P**	**11 11 55.6**	**+0.8**
	comp=Z,18nm,1.1s							
TX31	**Lajitas Ar. Si**	**55.93**	**271**	*e*P		**P**	**11 11 55.3**	**+0.3**
TXAR	**Lajitas Array**	**55.93**	**271**	P		**P**	**11 11 55.1**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=53,slow=9.2,SNR=5.0							
SHPR	**Sheep Range**	**56.28**	**286**	*e*P		**P**	**11 11 57.8**	**+0.3**
	comp=Z,4.4nm,1.4s							
RYN	**Ryan**	**56.33**	**290**	*e*P		**P**	**11 11 57.7**	**0.0**
	comp=Z,6.9nm,1.1s							
NV01	**Mina Array Sit**	**56.37**	**290**	*e*P		**P**	**11 11 57.9**	**-0.2**
NVAR	**Mina Array Bea**	**56.37**	**290**	P		**P**	**11 11 57.7**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=56,slow=4.3,SNR=8.1							
TPNV	**Topopah Spring**	**56.49**	**287**	P		**P**	**11 11 59.3**	**+0.3**
	baz=39							
O03E	**Paynes Creek**	**56.64**	**294**	P		**P**	**11 11 58.9**	**-1.0**
	baz=39							
GRAC	**Grapevine Rang**	**57.01**	**288**	P		**P**	**11 12 01.9**	**-0.6**
	baz=39							
ZALV	**Zalesovo Beam**	**57.05**	**39**	LR		LR	11 36 49.2	
	comp=Z,84nm,18.6s,baz=252,slow=36							
TUC	**Tucson**	**57.31**	**279**	P		**P**	**11 12 04.3**	**-0.4**
	baz=38							
PDMCI	**Parker Dam,Lak**	**57.48**	**284**	P		**P**	**11 12 05.8**	**+0.1**
	baz=38							
KURK	**Kurchatov**	**57.52**	**45**	⇑*e*P		**P**	**11 12 05.3**	**-0.5**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
KURBB	**Kurchatov Arra**	**57.57**	**45**	P		**P**	**11 12 05.6**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=322,slow=7.6,SNR=7.4							
DAC	**Darwin (Calif)**	**57.69**	**288**	*e*P		**P**	**11 12 07.9**	**+0.5**
	comp=Z,8.0nm,1.1s							
DAC	**Darwin (Calif)**	**57.69**	**288**	*e*P		**P**	**11 12 07.9**	**+0.5**
DAC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
MPMC	**Manual Prospec**	**57.81**	**287**	P		**P**	**11 12 07.6**	**-0.7**
	baz=38							
GMRC	**Granite Mounta**	**57.88**	**285**	P		**P**	**11 12 09.0**	**+0.2**
	baz=38							
GSC	**Goldstone, Bar**	**58.05**	**286**	*e*P		**P**	**11 12 10.2**	**+0.3**
	comp=Z,6.3nm,1.1s							
GSC	**Goldstone, Bar**	**58.05**	**286**	*e*P		**P**	**11 12 10.2**	**+0.3**
GSC				pmax		pmax		
	comp=Z,6.0nm,1.1s							
GSC	**Goldstone, Bar**	**58.05**	**286**	P		**P**	**11 12 10.2**	**+0.3**
	baz=38							
IRM	**Iron Mountain**	**58.11**	**284**	P		**P**	**11 12 10.6**	**+0.4**
	baz=38							
ISA	**Isabella, Lake**	**58.61**	**288**	*e*P		**P**	**11 12 14.9**	**+1.1**
	comp=Z,3.7nm,1.1s							
ISA	**Isabella, Lake**	**58.61**	**288**	*e*P		**P**	**11 12 14.9**	**+1.1**
ISA				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ISA	**Isabella, Lake**	**58.61**	**288**	P		**P**	**11 12 14.1**	**+0.3**
	baz=38							
214A	**Organ Pipe Nat**	**58.64**	**281**	P		**P**	**11 12 13.6**	**-0.4**
	baz=37							
BC3	**Big Chuckawall**	**58.66**	**284**	P		**P**	**11 12 13.9**	**-0.3**
	baz=38							
BELC	**Belle Mtn. Jos**	**58.67**	**285**	P		**P**	**11 12 14.6**	**+0.4**
	baz=38,SNR=5.3							
VES	**Vestal, Richgr**	**58.78**	**288**	P		**P**	**11 12 15.0**	**+0.2**
	baz=38							
GLA	**Glamis**	**58.82**	**283**	*e*P		**P**	**11 12 15.6**	**+0.4**
	comp=Z,14nm,1.0s							
GLA	**Glamis**	**58.82**	**283**	*e*P		**P**	**11 12 15.6**	**+0.4**
GLA				pmax		pmax		
	comp=Z,15nm,1.0s							
GLA	**Glamis**	**58.82**	**283**	P		**P**	**11 12 15.1**	**-0.1**
	baz=38							
BBRC	**Big Bear Solar**	**58.93**	**286**	P		**P**	**11 12 16.7**	**+0.5**
	baz=38,SNR=5.6							
EDW2	**Edwards Air Fo**	**58.99**	**287**	P		**P**	**11 12 16.8**	**+0.4**
	baz=38,SNR=5.2							
SEY	**Seymchan**	**58.99**	**358**	⇓*e*P		**P**	**11 12 16.9**	**+1.0**
XPFO	**Pion Flat**	**59.21**	**285**	*e*P		**P**	**11 12 18.6**	**+0.6**
	comp=Z,9.2nm,1.0s							
PFO	**Pinyon Flats O**	**59.21**	**285**	*e*P		**P**	**11 12 18.6**	**+0.6**
	comp=Z,8.4nm,1.0s							
PFO	**Pinyon Flats O**	**59.21**	**285**	*e*P		**P**	**11 12 18.6**	**+0.6**
PFO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
PFO	**Pinyon Flats O**	**59.21**	**285**	P		**P**	**11 12 18.6**	**+0.6**
	baz=38							
SWSC	**Sam W. Stewart**	**59.40**	**284**	P		**P**	**11 12 19.8**	**+0.7**
	baz=37							
MONP2	**Monument Peak**	**59.76**	**284**	P		**P**	**11 12 22.7**	**+0.7**
	baz=37							
IKP	**In-Ko-Pah, Jac**	**59.79**	**284**	P		**P**	**11 12 22.7**	**+0.7**
	baz=37							
PKM	**Mcpherson Peak**	**59.90**	**288**	P		**P**	**11 12 22.8**	**0.0**
	baz=37							
CIS	**Catalina Islan**	**60.37**	**286**	P		**P**	**11 12 26.3**	**+0.5**
	baz=37							
ZAIG	**Zacatecas**	**60.65**	**266**	*e*P		**P**	**11 12 29.0**	**+0.9**
	comp=Z,10.0nm,1.1s							
MKAR	**Makanchi Array**	**62.13**	**45**	P		**P**	**11 12 37.0**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=336,slow=5.7,SNR=5.6							
MK01	**Makanchi Array**	**62.16**	**45**	*e*P		**P**	**11 12 37.1**	**-0.7**
AAK	**Ala-Archa**	**62.49**	**53**	*e*P		**P**	**11 12 41.1**	**+0.8**
	comp=Z,6.0nm,1.2s							
AAK	**Ala-Archa**	**62.49**	**53**	⇑*e*P		**P**	**11 12 41.2**	**+0.9**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.5s							
AAK	**Ala-Archa**	**62.49**	**53**	P		**P**	**11 12 41.0**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=279,slow=8.0,SNR=5.8							
TLY	**Talaya**	**64.56**	**29**	*e*P		**P**	**11 12 51.0**	**-2.6**
TLY				pmax		pmax		
	comp=Z,11nm,1.3s							
TLY				MLR		MLR		
	comp=Z,152nm,16.0s							
TARG	**Taragay, Kyrgy**	**64.62**	**51**	*e*P		**P**	**11 12 56.1**	**+1.5**
	comp=Z,4.9nm,0.8s							
KSH	**Kashi**	**65.70**	**54**	P		**P**	**11 13 03.5**	**+2.2**
KSH				pP		pwP	11 13 07.8	+0.6
KSH				PP		**PP**	**11 15 29.6**	**+4.2**
KSH				S		**S**	**11 21 47.3**	**+0.4**
KSH				pmax		pmax		
	comp=Z,7.0nm,0.7s							
KSH				pmax		pmax		
	comp=Z,52nm,4.2s							
WMQ	**Urumqi**	**66.66**	**43**	*e*P		**P**	**11 13 08.8**	**+1.5**
WMQ				pP		pwP	11 13 14.4	+1.2
WMQ				LR		LR		
	comp=Z,220nm,17.7s							
WMQ				LR		LR		
	comp=Z,160nm,21.1s							
WMQ				LR		LR		
	comp=Z,160nm,19.3s							
H10S1	**ASCENSION HYDR**	**68.56**	**161**	T		T	12 27 28.4	
	baz=351,slow=75,SNR=5.1							
H10S3	**ASCENSION HYDR**	**68.56**	**161**	T		T	12 27 28.4	
	baz=351,slow=75,SNR=6.0							
H10S2	**ASCENSION HYDR**	**68.57**	**161**	T		T	12 27 30.1	
	baz=351,slow=75,SNR=4.8							
SONM	**Songino Array**	**68.80**	**29**	P		**P**	**11 13 20.7**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=335,slow=6.6,SNR=14							
SONM				LR		LR	11 44 17.3	
	comp=Z,72nm,19.7s,baz=318,slow=37							
ULN	**Ulaanbaatar**	**68.94**	**28**	*e*P		**P**	**11 13 22.3**	**+0.6**
	comp=Z,20nm,1.4s							
ULN	**Ulaanbaatar**	**68.94**	**28**	*de*P		**P**	**11 13 22.0**	**+0.2**
ULN				pmax		pmax		
	comp=Z,8.0nm,1.2s							
HIA	**Hailar**	**70.29**	**19**	⇑*e*P		**P**	**11 13 30.2**	**+0.3**
HIA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GTA	**Gaotai**	**74.69**	**37**	*e*P		**P**	**11 13 55.8**	**-0.6**
GTA				pP		pP	11 13 59.9	-0.2
GTA				sP		pwP	11 14 02.9	+0.6
GTA				pmax		pmax		
	comp=Z,5.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**76.64**	**27**	*e*P		**P**	**11 14 07.3**	**-0.2**
HHC				S		**S**	**11 23 47.3**	**-6.1**
HHC				pmax		pmax		
	comp=Z,13nm,1.0s							
HHC				pmax		pmax		
	comp=Z,83nm,4.5s							
HHC				LR		LR		
	comp=Z,130nm,15.3s							
HHC				LR		LR		
	comp=Z,190nm,16.4s							
LZH	**Lanzhou**	**78.99**	**35**	*e*P		**P**	**11 14 20.9**	**+0.2**
LZH				pP		sP	11 14 25.4	-0.4
LZH				sP		PcP	11 14 28.6	-0.7
LZH				PP		**PP**	**11 17 20.3**	**+1.4**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,52nm,4.3s							
LZH				LR		LR		
	comp=Z,330nm,15.2s							
LZH				LR		LR		
	comp=Z,500nm,18.7s							
KSRS	**Korea Array**	**83.11**	**16**	LR		LR	11 52 48.2	
	comp=Z,40nm,18.3s,baz=349,slow=36							
NJ2	**Nanjing**	**86.73**	**24**	*e*P		**P**	**11 15 00.8**	**+0.1**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
CMAR	**Chiang Mai Arr**	**93.54**	**46**	P		**P**	**11 15 32.4**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=329,slow=5.0,SNR=4.8							
WRA	**Warramunga Arr**	**140.39**	**20**	PKP		**PKPdf**	**11 21 44.7**	**-1.2**
	comp=Z,0.9nm,1.0s,baz=341,slow=2.4,SNR=4.6							
ASAR	**Alice Springs**	**143.94**	**22**	PKP		PKPbc	11 21 50.2	+0.3
	comp=Z,1.4nm,0.9s,baz=345,slow=2.1,SNR=10							
VNDA	**Vanda**	**160.16**	**189**	PKPab		**PKPab**	**11 22 54.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=135,slow=2.6,SNR=4.2							

MEX 20 11:06:08.8±0.4, 16°02N×98°79W, h16km±608km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.74**	**60**	*e*P	Pg	11 06 20.5	-2.8
PNIG				*i* S	Sg	11 06 29.8	-3.3
TLIG	**Tlapa**	**1.55**	**8**	*e*P	Pn	11 06 32.1	-3.7
TLIG				*e*S	Sn	11 06 50.6	-5.2
CAIG	**El Cayaco**	**1.75**	**306**	*i* P	Pn	11 06 35.4	-3.0
CAIG				*i* S	Sn	11 06 55.1	-5.3
VHO	**Vista Hermosa**	**2.23**	**62**	*e*P	Pn	11 06 41.7	-3.7
VHO				*i* S	Sn	11 07 08.0	-4.7

*NNC **20** 11:07:17.4±2.0, 53°45N×87°53E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=16.0km s-min=7.2km az=60.0, Suspected Mining explosion.*

KRAR 20 11:07:12.8±0.2, 53°54N×87°60E, M2.8, 9C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**1.70**	**285**	⇑P	Pg	11 07 46.9	+1.5
	2.0nm,0.5s						
ZAA0				⇓S	Sg	11 08 11.1	+3.7
	4.8nm,0.8s						
KURK	**Kurchatov**	**6.21**	**247**	⇓Pn	Pn	11 08 50.0	+4.4
	3.7nm,0.7s						
KURK				⇑Sn	Sn	11 09 59.7	+2.4
	2.6nm,0.6s						
KURK				⇓Lg	Lg	11 10 32.2	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇑Pn	Pn	11 08 51.6	+4.7
	5.1nm,0.4s						
KURBB				⇑Sn	Sn	11 10 01.8	+2.1
	9.9nm,0.6s						
KURBB				⇑Lg	Lg	11 10 36.9	
	23nm,0.7s						
MK31	**Makanchi Array**	**7.56**	**209**	⇑Pn	Pn	11 09 09.0	+4.7
	0.4nm,0.3s,baz=29,slow=13,SNR=36						
MK31				⇑Sn	Sn	11 10 34.3	+3.7
	1.3nm,0.6s,baz=31,slow=26,SNR=4.3						
MK31				⇓Lg	Lg	11 11 14.5	
	1.7nm,0.5s,baz=36,slow=28,SNR=5.3						
MAKZ	**Makanchi**	**7.64**	**210**	⇑Pn	Pn	11 09 09.7	+4.4
	1.0nm,0.5s						
MAKZ				⇓Sn	Sn	11 10 35.9	+3.3
	2.3nm,0.8s						
MAKZ				⇑Lg	Lg	11 11 16.7	
	8.3nm,1.0s						

*IDC **20** 11:10:53.7±1.4, 38°99N×143°11E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.3/62, mbtmpg 3.4/4, ML2.9/2, Error ellipse: s-maj=56.8km s-min=24.1km az=113.0*

*ISCJB **20** 11:10:58.6±1.4, 39°23N±0°05×142°5E±0°2, h53km±17km, mb3.5/2, Error ellipse: s-maj=22.7km s-min=6.9km az=16.1*

*JMA **20** 11:10:59.1±0.1, 39°22N×142°52E, h44km±1km, M3.3*

ISC 20 11:10:59.2±2.2, 39°23N±0°06×142°5E±0°1, h41km±26km, n20, σ0°873/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.66**	**302**	P	**Pn**	**11 11 12.0**	**-0.1**
MIYJ				S	**Sn**	**11 11 21.2**	**-0.1**
OFUJ	**Ofunato**	**0.69**	**258**	P	**Pn**	**11 11 12.4**	**-0.2**
OFUJ				S	**Sn**	**11 11 21.8**	**-0.4**
JTH	**Tanohata**	**0.88**	**324**	P	**Pn**	**11 11 15.1**	**0.0**
JTH				*e*S	**Sn**	**11 11 26.5**	**-0.3**
JKMT	**Kesennumamotoy**	**0.93**	**244**	P	**Pn**	**11 11 15.7**	**-0.1**
JKMT				*e*S	**Sn**	**11 11 27.7**	**-0.3**
JOM	**Ohasama**	**1.00**	**284**	P	**Pn**	**11 11 16.9**	**+0.1**
JOM				S	**Sn**	**11 11 30.1**	**+0.5**
JMK	**Ichinoseki**	**1.06**	**255**	P	**Pn**	**11 11 17.7**	**0.0**
JMK				S	**Sn**	**11 11 31.3**	**0.0**
JIO	**Ouri**	**1.21**	**231**	P	**Pn**	**11 11 19.5**	**-0.2**
JIO				*e*S	**Sn**	**11 11 34.1**	**-0.8**
JANG	**Nango**	**1.39**	**326**	P	**Pn**	**11 11 22.0**	**-0.1**
JANG				*e*S	**Sn**	**11 11 39.2**	**-0.1**
JRG	**Rokugo**	**1.49**	**277**	P	**Pn**	**11 11 24.3**	**+0.8**
JYK	**Kaneyama**	**1.73**	**260**	P	**Pn**	**11 11 27.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.35**	**233**	Pn	**Pn**	**11 12 05.1**	**+2.3**
	0.1nm,0.3s,baz=42,slow=10,SNR=6.1						
ASAJ	**Asahikawa**	**4.88**	**0**	Pn	**Pn**	**11 12 10.9**	**+0.8**
	0.9nm,0.3s,baz=211,slow=12,SNR=16						
H11N2	**WAKE ISLAND Hy**	**28.61**	**126**	T	T	11 47 23.8	
	baz=318,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hy**	**28.62**	**126**	T	T	11 47 38.8	
	baz=318,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	11 47 25.9	
	baz=318,slow=75,SNR=45						
H11S1	**WAKE ISLAND Hy**	**29.40**	**128**	T	T	11 48 28.1	
	baz=319,slow=76,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**29.40**	**128**	T	T	11 48 19.9	
	baz=319,slow=76,SNR=6.8						
H11S2	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	11 48 24.7	
	baz=319,slow=76,SNR=5.6						
ILAR	**Eielson Array**	**47.17**	**33**	P	**P**	**11 19 27.7**	**+0.4**
	0.5nm,1.0s,baz=283,slow=8.1,SNR=2.9						
WRA	**Warramunga Arr**	**59.36**	**189**	P	**P**	**11 20 56.1**	**-1.1**
	0.3nm,0.5s,baz=7.0,slow=7.0,SNR=10						

IDC 20 11:12:57.2±3.9, 58°36N×32°86W, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.3/64, mbtmp3.3/4, Error ellipse: s-maj=111.2km s-min=33.2km az=175.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**38.02**	**312**	P	P	11 20 16.5	-0.1
	0.4nm,1.0s,baz=60,slow=8.7,SNR=3.8						
ILAR	**Eielson Array**	**47.49**	**328**	P	P	11 21 33.1	-0.2
	1.1nm,1.2s,baz=30,slow=4.8,SNR=4.2						
PDAR	**Pinedale Array**	**48.38**	**287**	P	P	11 21 40.7	-0.1
	0.2nm,0.6s,baz=87,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**62.38**	**45**	P	P	11 23 21.3	0.0
	0.3nm,0.8s,baz=324,slow=4.4,SNR=3.3						

*IDC **20** 11:13:37.8±1.0, 58°00N×32°54W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.6/64, mbtmp3.8/9, ML3.5/1, Error ellipse: s-maj=35.4km s-min=17.1km az=30.0*

*ISCJB **20** 11:13:39.0±0.9, 58°1N±0°1×32°4W±0°2, h18km, mb3.7/9, Error ellipse: s-maj=21.5km s-min=14.3km az=27.4*

ISC 20 11:13:40.8±0.9, 58°0N±0°2×32°6W±0°1, h18km, n10, σ1°71/10, mb3.8/9, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.63**	**34**	Pn	**Pn**	**11 15 43.1**	**-1.5**
	0.6nm,0.3s,baz=252,slow=9.6,SNR=3.5						
ESDC	**Sonseca Array**	**25.97**	**122**	P	**P**	**11 19 12.4**	**+0.2**
	0.4nm,0.5s,baz=317,slow=7.4,SNR=4.1						
AKASG	**Malin Array Be**	**35.57**	**74**	P	**P**	**11 20 35.5**	**-1.1**
	0.6nm,0.3s,baz=301,slow=8.2,SNR=4.7						
YKA	**Yellowknife Ar**	**38.38**	**312**	P	**P**	**11 21 00.1**	**-0.2**
	1.5nm,0.9s,baz=58,slow=9.1,SNR=16						
INK	**Inuvik**	**41.56**	**327**	P	**P**	**11 21 25.8**	**-0.9**
	2.2nm,1.1s,baz=28,slow=8.9,SNR=4.6						
BRTR	**Keskin Array B**	**45.20**	**84**	P	**P**	**11 21 58.0**	**+1.4**
	0.8nm,0.9s,baz=270,slow=3.7,SNR=4.0						
ILAR	**Eielson Array**	**47.87**	**328**	P	**P**	**11 22 16.9**	**-0.1**
	2.1nm,0.9s,baz=31,slow=6.8,SNR=15						
PDAR	**Pinedale Array**	**48.63**	**287**	P	**P**	**11 22 23.9**	**+0.4**
	0.8nm,0.8s,baz=54,slow=7.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**51.69**	**136**	P	**P**	**11 22 45.0**	**-1.6**
	0.7nm,0.7s,baz=341,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**62.52**	**45**	P	**P**	**11 24 06.3**	**+3.4**
	0.6nm,0.8s,baz=353,slow=7.3,SNR=5.0						

*ISCJB **20** 11:17:45.8±1.1, 58°1N±0°2×32°1W±0°3, h14km, mb3.6/5, Error ellipse: s-maj=33.2km s-min=19.8km az=21.2*

*IDC **20** 11:17:45.7±1.2, 58°07N×32°27W, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/62, mbtmp3.6/5, Error ellipse: s-maj=48.5km s-min=24.3km az=36.0*

ISC 20 11:17:47.7±1.1, 58°1N±0°2×32°2W±0°2, h14km, n7, σ0°59/7, mb3.5/5, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLMR	**Klimovskoe**	**34.85**	**54**	*e*	**P**	**11 24 37.2**	**-0.6**
KLMR				AMP		11 24 56.2	
	comp=Z,12nm,1.1s						
YKA	**Yellowknife Ar**	**38.45**	**312**	P	**P**	**11 25 08.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=61,slow=9.0,SNR=9.1						
ILAR	**Eielson Array**	**47.88**	**328**	P	**P**	**11 26 25.0**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=42,slow=6.6,SNR=11						
PDAR	**Pinedale Array**	**48.79**	**287**	P	**P**	**11 26 31.7**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=63,slow=10,SNR=3.7						
TORD	**Torodi Ar. Bea**	**51.62**	**136**	P	**P**	**11 26 53.9**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=322,slow=5.9,SNR=3.3						
MKAR	**Makanchi Array**	**62.31**	**45**	P	**P**	**11 28 09.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=337,slow=5.3,SNR=4.2						
ASAR	**Alice Springs**	**144.16**	**22**	PKP	**PKPdf**	**11 37 22.2**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=350,slow=2.8,SNR=4.1						

*IDC **20** 11:18:03.8±0.9, 58°11N×32°06W, h0km, mb4.0/16, mb1 4.2/18, mb1mx3.9/64, mbtmp4.1/18, ML3.9/2, MS4.6/1, Ms1 4.6/1, ms1mx3.2/25, Error ellipse: s-maj=26.8km s-min=13.5km az=8.0*

*MOS **20** 11:18:04.5±1.0, 58°21N×31°97W, h10km, mb4.6/8, Error ellipse: s-maj=18.1km s-min=9.8km az=88.1*

*ISCJB **20** 11:18:05.3±0.5, 58°25N±0°08×31°88W±0°09, h14km, mb4.4/36, MS4.5/11, Error ellipse: s-maj=11.6km s-min=6.7km az=172.0*

*NEIC **20** 11:18:06.2±0.5, 58°21N×31°94W, h10km, mb4.6/16, Error ellipse: s-maj=11.8km s-min=6.4km az=180.0*

YKA					PcP	**PcP**	11 27 39.6	-1.2	
	comp=Z,0.2nm,0.7s,baz=51,slow=3.0,SNR=5.3								
INK	**Inuvik**	**41.56**	**327**	P		**P**	11 25 52.4	-1.3	
	comp=Z,10nm,1.2s,baz=40,slow=6.4,SNR=7.4								
BRTR	**Keskin Array B**	**44.87**	**85**	P		**P**	11 26 21.5	+0.6	
	comp=Z,1.3nm,0.8s,baz=309,slow=7.8,SNR=5.3								
COLD	**Coldfoot**	**46.84**	**332**	*eP*		**P**	11 26 36.0	+0.1	
	comp=Z,5.7nm,1.1s								
PRP	**Porcupine Dome**	**46.91**	**328**	*eP*		**P**	11 26 36.7	-0.1	
	comp=Z,4.7nm,1.0s								
RLMT	**Red Lodge**	**47.04**	**289**	*eP*		**P**	11 26 38.1	0.0	
	comp=Z,17nm,1.6s								
SCRK	**Sand Creek**	**47.63**	**326**	*eP*		**P**	11 26 42.9	+0.6	
	comp=Z,9.6nm,1.0s								
IL1	**Eielson Array**	**47.85**	**328**	*eP*		**P**	11 26 43.2	-0.7	
ILAR	**Eielson Array**	**47.85**	**328**	P		**P**	11 26 43.9	0.0	
	comp=Z,4.7nm,1.0s,baz=34,slow=6.6,SNR=20								
ILB	**Eielson Array**	**47.85**	**328**	*eP*		**P**	11 26 43.9	0.0	
	comp=Z,14nm,1.3s								
DOT	**Dot Lake**	**47.90**	**326**	*eP*		**P**	11 26 44.4	+0.1	
	comp=Z,13nm,1.3s								
COLA	**College**	**48.04**	**329**	*eP*		**P**	11 26 46.1	+0.8	
	comp=Z,15nm,1.3s								
COLA	**College**	**48.04**	**329**	⇑*eP*		**P**	11 26 45.9	+0.6	
COLA				pmax	pmax				
	comp=Z,8.0nm,1.2s								
RIDG	**Independ'e Rid**	**48.06**	**327**	*eP*		**P**	11 26 48.0	+2.4	
	comp=Z,18nm,1.2s								
MDM	**Murphy Dome**	**48.08**	**329**	*eP*		**P**	11 26 46.4	+0.7	
	comp=Z,13nm,1.2s								
H17A	**Grant Village**	**48.21**	**290**	*eP*		**P**	11 26 48.7	+1.4	
	comp=Z,4.3nm,1.0s								
IM3	**Indian Mountai**	**48.69**	**332**	*eP*		**P**	11 26 49.4	-1.0	
BW06	**Boulder Array**	**48.87**	**287**	*eP*		**P**	11 26 50.9	-1.4	
PD31	**Pinedale Array**	**48.87**	**287**	*eP*		**P**	11 26 50.7	-1.7	
	comp=Z,2.0nm,0.9s								
PDAR	**Pinedale Array**	**48.87**	**287**	*eP*		**P**	11 26 50.8	-1.5	
PDAR	**Pinedale Array**	**48.87**	**287**	P		**P**	11 26 50.6	-1.7	
	comp=Z,1.7nm,0.9s,baz=52,slow=9.6,SNR=9.8								
MCMT	**McKenzie Canyo**	**49.02**	**291**	*eP*		**P**	11 26 53.6	+0.1	
ISCO	**Idaho Springs**	**49.03**	**282**	*eP*		**P**	11 26 54.1	+0.4	
	comp=Z,5.8nm,1.2s								
ISCO	**Idaho Springs**	**49.03**	**282**	*eP*		**P**	11 26 54.1	+0.4	
ISCO				pmax	pmax				
	comp=Z,6.0nm,1.2s								
AKTO	**Aktyubinsk**	**49.27**	**58**	P		**P**	11 26 54.6	-0.3	
	comp=Z,2.3nm,0.5s,baz=337,slow=6.3,SNR=9.0								
TIXI	**Tiksi**	**49.72**	**8**	⇑*eP*		**P**	11 27 01.5	+3.4	
TIXI				pmax	pmax				
	comp=Z,2.0nm,1.0s								
SUA	**Susitna One**	**51.54**	**327**	*eP*		**P**	11 27 13.1	+0.9	
	comp=Z,19nm,1.0s								
TORD	**Torodi Ar. Bea**	**51.62**	**136**	P		**P**	11 27 11.2	-1.9	
	comp=Z,1.0nm,0.7s,baz=340,slow=8.4,SNR=6.0								
MPU	**Maple Canyon**	**51.96**	**286**	*eP*		**P**	11 27 16.3	+0.6	
	comp=Z,6.1nm,1.1s								
TMUT	**Trail Mountain**	**52.28**	**285**	*eP*		**P**	11 27 18.6	+0.4	
	comp=Z,10nm,1.6s								
BVAR	**Borovoye Array**	**52.56**	**48**	P		**P**	11 27 19.5	-0.2	
	comp=Z,2.3nm,0.8s,baz=312,slow=9.0,SNR=8.1								
ANMO	**Albuquerque**	**53.13**	**278**	⇓*iP*		**P**	11 27 24.2	-0.2	
ANMO				pmax	pmax				
	comp=Z,1.0nm,1.4s								
BILL	**Bilibino**	**53.33**	**352**	⇑*eP*		**P**	11 27 27.6	+2.4	
BILL				pmax	pmax				
	comp=Z,7.0nm,1.9s								
KNB	**Kanab**	**54.84**	**285**	*eP*		**P**	11 27 36.9	+0.1	
	comp=Z,9.0nm,1.4s								
KNB	**Kanab**	**54.84**	**285**	*eP*		**P**	11 27 36.9	+0.1	
KNB				pmax	pmax				
	comp=Z,9.0nm,1.4s								
NVS	**Novosibirsk**	**55.81**	**39**	*eP*		**P**	11 27 42.5	-0.8	
KVN	**Kaiserville**	**55.94**	**290**	*eP*		**P**	11 27 44.9	+0.2	
	comp=Z,6.2nm,1.1s								
KVN	**Kaiserville**	**55.94**	**290**	*eP*		**P**	11 27 44.9	+0.2	
KVN				pmax	pmax				
	comp=Z,6.0nm,1.1s								
NVAR	**Mina Array Bea**	**56.52**	**290**	P		**P**	11 27 48.2	-0.7	
	comp=Z,0.5nm,0.6s,baz=57,slow=9.8,SNR=3.2								
SEY	**Seymchan**	**59.13**	**358**	⇑*eP*		P	11 28 11.8	+5.2	
MWC	**Mount Wilson**	**59.68**	**287**	*ePcP*		**PcP**	11 29 01.8	+3.8	
MKAR	**Makanchi Array**	**62.15**	**45**	P		**P**	11 28 26.9	-0.5	
	comp=Z,1.5nm,0.8s,baz=325,slow=3.6,SNR=9.6								
WMQ	**Urumqi**	**66.67**	**43**	*eP*		P	11 29 12.3	+15	
WMQ				pP	PcP		11 29 17.0	-9.2	
WMQ				LR	LR				
	comp=Z,160nm,18.5s								
WMQ				LR	LR				
	comp=Z,200nm,22.7s								
H10S1	**ASCENSION HYDR**	**68.40**	**162**	T		T	12 43 25.1		
	baz=351,slow=75,SNR=4.8								
H10S3	**ASCENSION HYDR**	**68.41**	**162**	T		T	12 43 24.3		
	baz=351,slow=75,SNR=4.7								
H10S2	**ASCENSION HYDR**	**68.42**	**162**	T		T	12 43 20.8		
	baz=351,slow=75,SNR=4.8								
SONM	**Songino Array**	**68.86**	**29**	P		**P**	11 29 11.0	0.0	
SONM	**Songino Array**	**68.86**	**29**	P		**P**	11 29 11.0	0.0	
	comp=Z,0.5nm,0.6s,baz=343,slow=4.6,SNR=3.8								
HIA	**Hailar**	**70.37**	**19**	⇑*eP*		P	11 29 28.8	+8.7	
HIA				pmax	pmax				
	comp=Z,3.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**76.70**	**28**	*eP*		P	11 30 06.3	+8.7	
HHC				pmax	pmax				
	comp=Z,6.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,62nm,4.6s								
LZH	**Lanzhou**	**79.03**	**35**	*eP*		P	11 30 20.8	+10	
LZH				pP	PcP		11 30 24.9	+5.7	
LZH				sP	pwP		11 30 28.5	+11	
LZH				pmax	pmax				
	comp=Z,23nm,1.3s								
LZH				pmax	pmax				
	comp=Z,240nm,4.3s								
LZH				LR	LR				
	comp=Z,310nm,16.3s								
LZH				LR	LR				
	comp=Z,320nm,17.5s								
LZH				LR	LR				
	comp=Z,410nm,19.4s								
NJ2	**Nanjing**	**86.80**	**25**	*eP*		P	11 30 59.5	+8.7	
NJ2				pmax	pmax				
	comp=Z,13nm,0.5s								
WRA	**Warramunga Arr**	**140.47**	**21**	PKP		**PKPdf**	11 37 34.4	-1.3	
	comp=Z,0.3nm,0.7s,baz=343,slow=2.8,SNR=4.7								
ASAR	**Alice Springs**	**144.01**	**22**	PKP		PKPbc	11 37 39.3	-0.6	
	comp=Z,0.7nm,0.8s,baz=353,slow=2.7,SNR=9.1								

*ISCJB **20** 11:23:14.6±0.5,58°.28N±0°.07×32°.2W±0°.1,h14km, mb4.0/20, Error ellipse: s-maj=11.2km s-min=6.7km az=25.2*
*IDC **20** 11:23:14.7±1.0,58°.26N×32°.14W,h0km,mb3.8/13, mb1 4.0/13,mb1mx3.7/56,mbtmp3.8/13, Error ellipse: s-maj=29.3km s-min=15.4km az=26.0*
*NEIC **20** 11:23:15.7±0.3,58°.23N×32°.20W,h10km, mb4.5/13, Error ellipse: s-maj=6.7km s-min=3.9km az=204.0*

ISC 20 11:23:16.3±0.7, 58°.2N±0°.1×32°.21W±0°.07, h14km, n39, σ0°.57/39, mb4.1/20, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANGG	**Ammassalik, Gr**	**7.84**	**343**		*ePn*		**Pn**	**11 25 09.2**	**-0.5**
BORG	**Borgarnes**	**8.35**	**34**		*ePn*		**Pn**	**11 25 17.6**	**+1.0**
IVI	**Ivigtut**	**8.59**	**297**		*ePn*		**Pn**	**11 25 20.0**	**-0.1**
SUMG	**Summit**	**14.62**	**353**		*ePn*		**Pn**	**11 26 42.7**	**0.0**
DSB	**Dublin**	**15.33**	**98**		*ePn*		**Pn**	**11 26 51.5**	**-0.5**
	39nm,1.3s								
ESK	**Eskdalemuir**	**16.10**	**88**		*ePn*		**Pn**	**11 27 01.7**	**-0.2**
	75nm,1.6s								
PQI	**Presque Isle**	**24.39**	**257**		*eP*		**P**	**11 28 33.5**	**-0.3**
	31nm,1.4s								
ECH	**Echery**	**25.26**	**96**		*eP*		**P**	**11 28 41.5**	**-0.1**
	9.9nm,1.6s								
SPA0	**Spitsbergen Ar**	**25.51**	**21**		*eP*		**P**	**11 28 43.3**	**-0.3**
	28nm,1.3s								
ESDC	**Sonseca Array**	**25.94**	**123**	P			**P**	**11 28 49.3**	**+1.4**
	0.1nm,0.3s,baz=312,slow=9.6,SNR=3.3								
ES06	**SONSECA Array**	**25.94**	**123**		*eP*		**P**	**11 28 47.9**	**-0.1**
ARA0	**ARCESS Array S**	**26.65**	**42**		*eP*		**P**	**11 28 53.5**	**-0.6**
ARCES	**ARCESS Array B**	**26.65**	**42**	P			**P**	**11 28 53.5**	**-0.6**
	5.5nm,1.1s,baz=273,slow=8.9,SNR=5.0								
RES	**Resolute Bay**	**28.04**	**330**		*eP*		**P**	**11 29 05.9**	**-0.6**
	3.0nm,1.2s								
RES	**Resolute Bay**	**28.04**	**330**	P			**P**	**11 29 07.1**	**+0.7**
	1.4nm,1.0s,baz=82,slow=12,SNR=4.0								
FIA1	**FINESS Array S**	**28.62**	**59**		*eP*		**P**	**11 29 11.1**	**-0.6**
	34nm,1.6s								
KLMR	**Klimovskoe**	**34.80**	**55**	*e*			**P**	**11 30 05.1**	**-0.8**
KLMR					AMP			11 30 07.4	
	comp=Z,15nm,1.1s								
AKASG	**Malin Array Be**	**35.34**	**75**	P			**P**	**11 30 10.3**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=301,slow=8.7,SNR=5.6								
AKBB	**Malin Array Si**	**35.34**	**75**	*eP*			**P**	**11 30 10.2**	**-0.5**
	comp=Z,18nm,1.6s								
YKA	**Yellowknife Ar**	**38.36**	**312**	P			**P**	**11 30 36.7**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=58,slow=9.2,SNR=12								
YKB5	**Yellowknife Ar**	**38.36**	**312**	*eP*			**P**	**11 30 36.0**	**-0.2**
INK	**Inuvik**	**41.48**	**327**	*eP*			**P**	**11 31 02.1**	**0.0**
	comp=Z,1.6nm,1.1s								
INK	**Inuvik**	**41.48**	**327**	P			**P**	**11 31 02.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=35,slow=6.6,SNR=5.6								
BR101	**Keskin Array S**	**45.00**	**84**	*eP*			**P**	**11 31 31.5**	**+0.4**
BRTR	**Keskin Array B**	**45.00**	**84**	P			**P**	**11 31 31.5**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=321,slow=5.3,SNR=3.6								
TOLK	**Toolik Lake Re**	**45.53**	**333**	*eP*			**P**	**11 31 35.0**	**+0.2**
	comp=Z,6.8nm,1.0s								
IL1	**Eielson Array**	**47.77**	**328**	*eP*			**P**	**11 31 52.9**	**+0.5**
ILAR	**Eielson Array**	**47.77**	**328**	P			**P**	**11 31 53.6**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=37,slow=6.5,SNR=14								
ILB	**Eielson Array**	**47.77**	**328**	*eP*			**P**	**11 31 53.4**	**+1.0**
	comp=Z,7.5nm,1.4s								
PD31	**Pinedale Array**	**48.74**	**287**	*eP*			**P**	**11 32 00.3**	**-0.1**
	comp=Z,2.9nm,1.2s								
PDAR	**Pinedale Array**	**48.74**	**287**	*eP*			**P**	**11 32 00.6**	**+0.2**
PDAR	**Pinedale Array**	**48.74**	**287**	P			**P**	**11 32 00.6**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=60,slow=8.8,SNR=6.4								
AKTO	**Aktyubinsk**	**49.38**	**57**	P			**P**	**11 32 05.4**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=294,slow=16,SNR=4.2								
ABKAR	**Akbulak array**	**51.09**	**57**	*eP*			**P**	**11 32 18.6**	**+0.7**
	comp=Z,2.5nm,1.0s								
TOA1	**Torodi Ar. Sit**	**51.71**	**136**	*eP*			**P**	**11 32 22.7**	**-0.2**
TORD	**Torodi Ar. Bea**	**51.72**	**136**	P			**P**	**11 32 22.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=337,slow=5.8,SNR=6.3								
BVAR	**Borovoye Array**	**52.66**	**48**	P			**P**	**11 32 30.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=318,slow=10.0,SNR=4.5								
MK32	**Makanchi Array**	**62.23**	**45**	*eP*			**P**	**11 33 37.0**	**-0.1**
MKAR	**Makanchi Array**	**62.23**	**45**	P			**P**	**11 33 37.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=346,slow=4.8,SNR=3.1								

*IDC **20** 11:30:25.9±0.8,58°.12N×32°.23W,h0km,mb3.7/12, mb1 4.0/13,mb1mx3.8/42,mbtmp3.8/13,ML3.9/1,MS3.8/18, Ms1 3.8/18,ms1mx3.6/45, Error ellipse: s-maj=27.2km s-min=14.4km az=23.0*
*ISCJB **20** 11:30:26.8±0.4,58°.17N±0°.06×32°.2W±0°.1,h18km, mb3.9/18,MS3.7/14, Error ellipse: s-maj=10.4km s-min=6.7km az=36.9*
*NEIC **20** 11:30:27.0±0.4,58°.12N×32°.36W,h10km,mb4.4/10, Error ellipse: s-maj=9.3km s-min=5.8km az=207.0*

ISC 20 11:30:27.9±0.6, 58°.09N±0°.09×32°.42W±0°.07, h18km, n59, σ1°.28/48, mb3.9/18, MS3.7/14, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.27**	**301**		*ePn*		**Pn**	**11 32 10.4**	**-2.7**
ANGG	**Ammassalik, Gr**	**7.94**	**344**		*ePn*		**Pn**	**11 32 21.8**	**-0.4**
BORG	**Borgarnes**	**8.53**	**34**		*ePn*		**Pn**	**11 32 29.2**	**-1.0**
BORG	**Borgarnes**	**8.53**	**34**		Pn		**Pn**	**11 32 30.1**	**-0.1**
	1.4nm,0.3s,baz=217,slow=10,SNR=5.7								
BORG					LR		LR	11 34 57.5	
	comp=Z,908nm,18.9s,baz=224,slow=32								
SFJD	**Kangerlussuaq**	**12.20**	**324**		LR		LR	11 37 21.1	
	comp=Z,779nm,18.9s,baz=136,slow=34								
SUMG	**Summit**	**14.75**	**353**		*ePn*		**Pn**	**11 33 55.4**	**-0.2**
ESK	**Eskdalemuir**	**16.22**	**87**		*ePn*		**Pn**	**11 34 12.2**	**-2.4**
	36nm,1.3s								
JMIC	**Jan Mayen**	**16.34**	**28**		LR		LR	11 39 00.3	
	comp=Z,173nm,18.5s,baz=78,slow=32								
SCHQ	**Schefferville**	**19.16**	**275**		*eP*		**P**	**11 34 47.8**	**-2.2**
SCHQ	**Schefferville**	**19.16**	**275**		LR		LR	11 41 00.6	
	comp=Z,552nm,19.2s,baz=102,slow=33								
ROSA	**Rosais**	**19.58**	**170**		*eP*		**Pn**	**11 34 55.8**	**-0.2**
	367nm,1.5s								
NC204	**NORSAR Array S**	**21.73**	**63**		*eP*		**P**	**11 35 17.7**	**-0.1**
	2.2nm,0.9s								
NB200	**NORSAR Array S**	**21.99**	**64**		*eP*		**P**	**11 35 20.4**	**-0.2**
NOA	**NORSAR Array B**	**21.99**	**64**	P			**P**	**11 35 20.4**	**-0.2**
	4.2nm,1.0s,baz=283,slow=9.4,SNR=2.6								
NOA					LR		LR	11 42 29.7	
	comp=Z,178nm,19.9s,baz=280,slow=33								
NC405	**NORSAR Array S**	**22.21**	**63**		*eP*		**P**	**11 35 23.2**	**+0.2**
	43nm,1.5s								
ECH	**Echery**	**25.35**	**96**		*eP*		**P**	**11 35 54.2**	**+0.7**
	9.9nm,1.3s								
ESDC	**Sonseca Array**	**25.95**	**123**	P			**P**	**11 36 00.4**	**+1.4**
	0.9nm,0.7s,baz=318,slow=7.8,SNR=4.1								
ESDC					LR		LR	11 44 19.8	
	comp=Z,163nm,20.0s,baz=10.0,slow=32								
ESLA	**Sonseca Array**	**25.95**	**123**		*eP*		**P**	**11 35 59.4**	**+0.3**
	15nm,1.5s								
ES06	**SONSECA Array**	**25.95**	**123**		*eP*		**P**	**11 35 59.8**	**+0.7**
CLL	**Collm**	**26.68**	**85**		*eP*		**P**	**11 36 05.0**	**-0.4**
RES	**Resolute Bay**	**28.11**	**330**		*eP*		**P**	**11 36 19.2**	**+1.1**
	3.1nm,1.3s								
RES	**Resolute Bay**	**28.11**	**330**	P			**P**	**11 36 19.2**	**+1.1**
	0.7nm,0.8s,baz=126,slow=8.7,SNR=3.3								
GERES	**GERESS Array B**	**28.44**	**89**		LR		LR	11 47 06.5	
	comp=Z,274nm,19.9s,baz=292,slow=35								
FINES	**FINESS Array B**	**28.79**	**58**		LR		LR	11 47 17.1	
	comp=Z,135nm,18.2s,baz=28,slow=35								
FIA1	**FINESS Array S**	**28.79**	**58**		*eP*		**P**	**11 36 24.6**	**+0.5**
KLMR	**Klimovskoe**	**34.97**	**54**	*e*			**P**	**11 37 16.9**	**-1.5**
KLMR					AMP			11 37 19.5	
	comp=Z,16nm,1.0s								
KEST	**Kesra**	**35.42**	**111**		LR		LR	11 50 31.0	
	comp=Z,175nm,18.7s,baz=228,slow=34								
AKASG	**Malin Array Be**	**35.48**	**75**	P			**P**	**11 37 21.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=303,slow=8.5,SNR=5.7								
AKASG					LR		LR	11 51 26.5	
	comp=Z,132nm,20.2s,baz=280,slow=36								
AKBB	**Malin Array Si**	**35.48**	**75**	*eP*			**P**	**11 37 22.1**	**-0.8**
	comp=Z,5.9nm,1.2s								
ULM	**Lac du Bonnet**	**36.68**	**286**		LR		LR	11 51 19.2	
	comp=Z,241nm,18.4s,baz=74,slow=34								
FNA	**Flina**	**37.86**	**93**	*eP*			**P**	**11 37 44.3**	**+1.0**
	comp=Z,9.5nm,1.0s								
YKA	**Yellowknife Ar**	**38.38**	**312**	P			**P**	**11 37 48.4**	**+1.0**
	comp=Z,1.1nm,0.9s,baz=57,slow=9.3,SNR=14								
YKA					PcP		**PcP**	**11 40 00.5**	**0.0**
	comp=Z,0.1nm,0.5s,baz=51,slow=2.8,SNR=4.2								
YKA					LR		LR	11 52 53.7	
	comp=Z,41nm,19.1s,baz=59,slow=35								
YKB5	**Yellowknife Ar**	**38.38**	**312**	*eP*			**P**	**11 37 47.9**	**+0.5**
YKB5					*ePcP*		**PcP**	**11 40 00.5**	**0.0**
INK	**Inuvik**	**41.54**	**327**	*eP*			**P**	**11 38 13.8**	**+0.2**
	comp=Z,7.7nm,1.6s								
INK	**Inuvik**	**41.54**	**327**	P			**P**	**11 38 14.0**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=20,slow=9.8,SNR=7.6								
INK					LR		LR	11 54 17.0	
	comp=Z,183nm,20.2s,baz=66,slow=34								
BR101	**Keskin Array S**	**45.12**	**84**	*eP*			**P**	**11 38 43.9**	**+0.9**
BRTR	**Keskin Array B**	**45.12**	**84**	P			**P**	**11 38 43.9**	**+0.9**
	comp=Z,1.2nm,0.9s,baz=324,slow=6.1,SNR=5.6								
BRTR					LR		LR	11 57 57.5	
	comp=Z,91nm,21.1s,baz=285,slow=37								
IL1	**Eielson Array**	**47.84**	**328**	*eP*			**P**	**11 39 05.0**	**+1.1**
ILAR	**Eielson Array**	**47.84**	**328**	P			**P**	**11 39 05.3**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=36,slow=6.7,SNR=12								
ILB	**Eielson Array**	**47.84**	**328**	*eP*			**P**	**11 39 05.4**	**+1.5**
	comp=Z,6.3nm,1.6s								
PD31	**Pinedale Array**	**48.68**	**287**	*eP*			**P**	**11 39 12.4**	**+1.5**
	comp=Z,1.2nm,0.8s								
PDAR	**Pinedale Array**	**48.68**	**287**	*eP*			**P**	**11 39 07.8**	**-3.1**
PDAR	**Pinedale Array**	**48.68**	**287**	P			**P**	**11 39 12.6**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=54,slow=7.5,SNR=7.3								
PDAR					LR		LR	11 58 26.3	
	comp=Z,198nm,19.4s,baz=55,slow=34								
PDAR	**Pinedale Array**	**48.68**	**287**		*eS*		**P**	**11 39 07.8**	**-3.1**
IM3	**Indian Mountai**	**48.70**	**332**	*eP*			**P**	**11 39 11.7**	**+1.2**
TOA1	**Torodi Ar. Sit**	**51.69**	**136**	*eP*			**P**	**11 39 33.3**	**-0.3**
TOA0	**Torodi Ar. Sit**	**51.70**	**136**	*eP*			**P**	**11 39 34.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**51.70**	**136**	P			**P**	**11 39 33.3**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=338,slow=8.3,SNR=7.1								
TORD					LR		LR	12 00 47.5	
	comp=Z,48nm,19.9s,baz=335,slow=35								
DBIC	**Dimbokro**	**55.56**	**146**		LR		LR	12 01 05.5	
	comp=Z,132nm,19.8s,baz=334,slow=33								
NV01	**Mina Array Sit**	**56.33**	**290**	*eP*			**P**	**11 40 09.1**	**+1.5**
NVAR	**Mina Array Bea**	**56.33**	**290**	P			**P**	**11 40 09.9**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=60,slow=4.1,SNR=4.0								
ZALV	**Zalesovo Beam**	**57.34**	**39**		LR		LR	12 05 25.1	
	comp=Z,61nm,19.4s,baz=256,slow=37								
MK32	**Makanchi Array**	**62.41**	**45**	*eP*			**P**	**11 40 49.7**	**+0.4**
MKAR	**Makanchi Array**	**62.41**	**45**	P			**P**	**11 40 49.7**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=322,slow=6.6,SNR=8.8								
H10S1	**ASCENSION HYDR**	**68.35**	**161**	T		T	12 55 39.1		
	baz=351,slow=75,SNR=6.3								
H10S3	**ASCENSION HYDR**	**68.36**	**161**	T		T	12 55 41.5		
	baz=351,slow=75,SNR=6.0								
H10S2	**ASCENSION HYDR**	**68.37**	**161**	T		T	12 55 42.3		
	baz=351,slow=75,SNR=6.1								
AS31	**Alice Springs**	**144.23**	**22**	*ePKPdf*			**PKPdf**	**11 50 02.7**	**+0.4**
ASAR	**Alice Springs**	**144.23**	**22**	PKP		PKPbc	11 50 00.9	+0.4	
	comp=Z,0.5nm,0.6s,baz=352,slow=2.7,SNR=6.8								

*ISCJB **20** 11:35:10.2±1.9,33°.80N±0°.05×35°.7E±0°.1,h23km±16km, Error ellipse: s-maj=17.4km s-min=7.8km az=169.1*
*GRAL **20** 11:35:10.8±0.3,33°.80N×35°.76E,h19km±3km, MD2.7*
*NSSC **20** 11:35:10.4±0.6,33°.81N×35°.75E,h5km±144km,ML1.2*

ISC 20 11:35:10.6±1.1, 33°.82N±0°.04×35°.76E±0°.06, h16km±10km, n7, σ0°.39/12, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.13**	**315**		*eP*		**Pb**	**11 35 14.7**	**0.0**
BHL					*eS*		**Sg**	**11 35 17.6**	**+0.5**
DQRL	**Deir Qamar**	**0.19**	**236**		*eP*		**Pg**	**11 35 15.3**	**-0.1**
DQRL					*eS*		**Sg**	**11 35 18.7**	**+0.1**
RCY	**Rachaya**	**0.32**	**169**		*eP*		**Pg**	**11 35 17.2**	**-0.4**
RCY					*eS*		**Sg**	**11 35 21.8**	**-0.4**
BRBR	**Barbar**	**0.43**	**159**		*eP*		**Pg**	**11 35 19.2**	**-0.3**
BRBR					*eS*		**Sg**	**11 35 25.1**	**-0.3**
BRBR					AML	AML		11 35 28.8	
	comp=E,36nm,0.4s								
BRBR					AML	AML		11 35 29.1	
	comp=N,32nm,0.3s								
HWQ	**Hawqa**	**0.49**	**18**		*eP*		**Pg**	**11 35 20.0**	**-0.4**
QASN	**Qassioun**	**0.51**	**123**		*eP*		**Pg**	**11 35 20.8**	**-0.1**
TOTH	**TOTAH**	**0.72**	**129**		*eP*		**Pb**	**11 35 25.2**	**+0.5**
TOTH					*eS*		**Sb**	**11 35 34.6**	**+0.3**
TOTH					AML	AML		11 35 43.9	
	comp=E,9.0nm,0.3s								
TOTH					AML	AML		11 35 46.7	
	comp=N,6.3nm,0.4s								

*ISK **20** 11:37:12.4,37°.19N×35°.65E,h5km,ML1.8/6*
*ISCJB **20** 11:37:13.9±0.5,37°.61N±0°.03×35°.44E±0°.03,h10km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=149.9*
*DDA **20** 11:37:13.1,37°.61N×35°.41E,h7km±2km,ML2.5*

ISC 20 11:37:12.7±1.2, 37°.64N±0°.05×35°.52E±0°.04, h10km±10km, n12, σ0°.53/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKO	**Adana**	**0.19**	**198**		*iP*		**Pg**

TNSS					Lg	Lg	11 43 57.0		
	9.3nm,0.6s								
MTBS	**Maitube**	**3.44**	**9**	Pg	**Pb**	**11 43 09.4**	**-0.5**		
	5.2nm,0.3s								
MTBS					Lg	Lg	11 43 58.7		
	8.3nm,0.5s								
DGS	**Degeres**	**3.50**	**1**	Pg	**Pb**	**11 43 10.4**	**-0.7**		
	4.9nm,0.5s								
DGS					Lg	Lg	11 44 00.9		
	11nm,0.7s								
ARK	**Arkit**	**3.51**	**307**	⇑*i*	*i*P	**Pb**	**11 43 11.2**	**+0.1**	
	baz=4.0								
ARK				⇑*i*	*i*S	**Sb**	**11 43 52.1**	**-1.7**	
	baz=4.0								
MDOK	**Medeo**	**3.57**	**16**	Pn	**Pn**	**11 43 05.4**	**+0.9**		
	2.4nm,0.5s								
MDOK					Lg	Lg	11 44 01.2		
	6.4nm,0.6s								
MDOK	**Medeo**	**3.57**	**16**	Pg	**Pb**	**11 43 10.6**	**-1.7**		
	2.6nm,0.3s								
MDOK					Lg	Lg	11 44 00.9		
	6.0nm,0.7s								
USP	**Ospenovka**	**3.64**	**346**	P		**Sg**	**11 44 07.3**	**+1.4**	
	SNR=7.1								
KTBS	**Karatobe**	**4.04**	**10**	Pg	**Pb**	**11 43 20.5**	**+0.2**		
	2.1nm,0.5s								
KTBS					Lg	Lg	11 44 17.4		
	9.7nm,0.4s								
KUU	**Kurty**	**4.18**	**6**	Pg	**Pb**	**11 43 22.2**	**-0.4**		
	0.8nm,0.2s								
KUU					Lg	Lg	11 44 20.4		
	20nm,0.6s								
PDGK	**Podgornoye**	**4.58**	**37**	⇑Pg		**Pb**	**11 43 28.2**	**-1.3**	
	1.8nm,0.6s								
PDGK				⇑Lg		Lg	11 44 25.5		
	4.2nm,0.7s								
MK31	**Makanchi Array**	**8.54**	**32**	⇓Pn		**Pg**	**11 44 51.6**	**-0.7**	
	0.6nm,0.7s,baz=130,slow=14,SNR=5.8								
MK31				⇓Sn		**Sn**	**11 45 51.8**	**+2.9**	
	0.3nm,0.6s								
MK31				⇑Lg		Lg	11 46 14.1		
	0.3nm,0.5s,baz=133,slow=27								

*ISCJB **20** 11:50:13.6±1.8,47.0°N±0.1°×145.5°E±0.5,h377km,mb3.0/5, Error ellipse: s-maj=43.4km s-min=18.8km az=170.0*
*IDC **20** 11:50:14.5±3.7,47.08°N×145.52°E,h372km±26km,mb2.8/5, mb1 2.9/7,mb1mx2.7/41,mbtmp3.6/7,Error ellipse: s-maj=59.9km s-min=19.2km az=65.0*
ISC 20 11:50:15.5±2.1,47.0°N±0.2°×145.3°E±0.4,h377km,n7, σ1§56/7,mb3.0/5,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**3.41**	**214**	P	**Pn**	**11 51 21.3**	**+0.8**
	0.5nm,0.3s,baz=323,slow=8.2,SNR=5.4						
MJAR	**Matsushiro Arr**	**11.66**	**209**	P	**Pn**	**11 52 51.9**	**-1.1**
	0.1nm,0.3s,baz=8.2,slow=12,SNR=9.4						
SONM	**Songino Array**	**26.13**	**286**	P	**P**	**11 55 19.0**	**+2.2**
	0.6nm,0.8s,baz=81,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**41.98**	**294**	P	**P**	**11 57 29.7**	**-1.3**
	0.3nm,0.5s,baz=75,slow=7.3,SNR=6.0						
FINES	**FINESS Array B**	**61.40**	**331**	P	**P**	**11 59 52.0**	**-0.6**
	2.0nm,1.0s,baz=66,slow=9.4,SNR=3.4						
WRA	**Warramunga Arr**	**67.32**	**191**	P	**P**	**12 00 30.9**	**-0.1**
	0.1nm,0.5s,baz=8.0,slow=6.6,SNR=5.2						
ASAR	**Alice Springs**	**71.05**	**191**	P	**P**	**12 00 54.6**	**+1.0**
	0.2nm,0.6s,baz=4.7,slow=6.3,SNR=4.5						

KRSC 20 12:06:46.5±10.0,52°27N×159°24E,h92km±10km,ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.48**	**291**	*e*P	Pn	12 07 02.8	+1.6
RUS				*e*S	Sn	12 07 13.1	+0.9
MTVR	**Mutnovka**	**0.69**	**289**	*e*P	Pn	12 07 04.8	+1.6
MTVR				*e*S	Sn	12 07 16.7	+1.1
DALK	**Dalny**	**0.82**	**339**	*e*P	Pn	12 07 06.2	+1.9
DALK				*e*S	Sn	12 07 18.5	+0.8
ASAK	**Asacha**	**0.83**	**279**	*e*P	Pn	12 07 06.3	+1.7
ASAK				*e*S	Sn	12 07 19.6	+1.5
PET	**Petropavlovsk**	**0.84**	**335**	*e*P	Pn	12 07 06.5	+2.0
PET				*e*S	Sn	12 07 18.5	+0.5
KDTR	**Khodutka, Kamc**	**0.85**	**238**	*e*P	Pn	12 07 06.7	+2.0
KDTR				*e*S	Sn	12 07 19.1	+0.8
KRMR	**Karymshinskiy**	**0.88**	**310**	*e*P	Pn	12 07 06.4	+1.4
KRMR				*e*S	Sn	12 07 19.3	+0.4
NLC	**Nalytchevo**	**0.91**	**4**	*e*P	Pn	12 07 07.2	+1.9
NLC				*e*S	Sn	12 07 20.2	+0.9
SPN	**Mys Shipunski**	**0.96**	**29**	*e*P	Pn	12 07 08.3	+2.5
SPN				*e*S	Sn	12 07 22.2	+1.9
UGLR	**Uglovaya**	**0.98**	**345**	*e*P	Pn	12 07 08.6	+2.4
UGLR				*e*S	Sn	12 07 22.4	+1.5
SMAR	**Somma**	**1.03**	**345**	*e*P	Pn	12 07 08.5	+1.6
SDLR	**Sedlovina**	**1.04**	**348**	*e*P	Pn	12 07 08.9	+2.1
SDLR				*e*S	Sn	12 07 23.1	+1.0
AVH	**Avacha**	**1.05**	**343**	*e*P	Pn	12 07 09.4	+2.5
AVH				*e*S	Sn	12 07 24.2	+2.0
KRER	**Koryakskii**	**1.08**	**344**	*e*P	Pn	12 07 09.5	+2.1
KRER				*e*S	Sn	12 07 24.3	+1.1
KOK	**Koryaka**	**1.09**	**341**	*e*P	Pn	12 07 09.8	+2.4
KOK				*e*S	Sn	12 07 25.3	+2.1
KRX	**Arik**	**1.15**	**342**	*e*P	Pn	12 07 09.5	+1.3
KRX				*e*S	Sn	12 07 25.4	+0.9
APC	**Apacha**	**1.43**	**298**	*e*P	Pn	12 07 13.3	+1.9
APC				*e*S	Sn	12 07 31.3	+1.0
GNL	**Ganaly**	**1.63**	**332**	*e*P	Pn	12 07 15.4	+1.3
GNL				*e*S	Sn	12 07 35.7	+0.7
PAU	**Pauzhetka**	**1.71**	**243**	S	Sn	12 07 38.4	+1.9
KII	**Karymskiy**	**1.78**	**4**	*e*P	Pn	12 07 18.2	+2.3
KII				*e*S	Sn	12 07 41.1	+2.8
SKR	**Severo-Kuril's**	**2.52**	**232**	P	Pn	12 07 27.1	+1.6
SKR				*e*S	Sn	12 07 56.1	+0.7
MKZ	**Mys Kozlova**	**2.73**	**32**	*e*P	Pn	12 07 30.8	+2.4
MKZ				*e*S	Sn	12 08 00.7	+0.1
KZV	**Kizimen**	**2.92**	**12**	*e*P	Pn	12 07 33.4	+2.3
KZV				*e*S	Sn	12 08 06.1	+0.7
TUMD	**Tumrok D**	**3.02**	**13**	*e*P	Pn	12 07 35.3	+3.0
TUMD				*e*S	Sn	12 08 09.3	+1.7
TUMR	**Tumrok**	**3.07**	**10**	P	Pn	12 07 36.9	+3.9
ESO	**Esso**	**3.68**	**355**	P	Pn	12 07 44.0	+2.8
KBTR	**Krutoberegovo**	**4.47**	**27**	P	Pn	12 07 53.6	+1.8
BKI	**Bering**	**4.96**	**51**	*e*S	Sn	12 08 52.2	-2.3

IDC 20 12:19:37.3±2.7,14°22S×178°39W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/36,mbtmp3.8/4,Error ellipse: s-maj=163.2km s-min=25.3km az=148.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.43**	**256**	P	P	12 27 58.4	0.0
	0.2nm,0.6s,baz=93,slow=8.6,SNR=12						
ASAR	**Alice Springs**	**45.91**	**251**	P	P	12 28 02.0	-0.1
	2.4nm,0.5s,baz=84,slow=8.5,SNR=45						
NVAR	**Mina Array Bea**	**76.77**	**44**	P	P	12 31 31.6	+0.4
	0.5nm,0.7s,baz=232,slow=8.9,SNR=3.5						
ILAR	**Eielson Array**	**82.31**	**13**	P	P	12 31 59.8	-0.6
	0.7nm,0.9s,baz=230,slow=6.7,SNR=5.0						

MEX 20 12:26:31.4±0.4,16.05N×98.70W,h16km±999km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.65**	**58**	*e*P	Pg	12 26 41.8	-2.4
PNIG				*e*S	Sg	12 26 50.3	-2.5
TLIG	**Tlapa**	**1.51**	**5**	*e*P	Pn	12 26 54.0	-4.0
TLIG				*e*S	Sn	12 27 12.6	-4.9
CAIG	**El Cayaco**	**1.81**	**304**	*i* P	Pn	12 26 59.0	-2.9
CAIG				*e*S	Sn	12 27 19.7	-4.8
VHO	**Vista Hermosa**	**2.14**	**61**	*e*P	Pn	12 27 03.0	-3.7
VHO				*i* S	Sn	12 27 29.5	-3.6

*NEIC **20** 12:58:45.9±0.0,18°23N×68°48W,h157km,MD3.0(RSPR), After RSPR.*
RSPR 20 12:58:45.9,18°23N×68°48W,h157km±1km,MD3.0/6, 8C-3D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.29**	**18**	*e*S	Sn	12 59 23.9	+0.2
PCDR	**Punta Cana, DR**	**0.29**	**18⇓**	*e*P	Pn	12 59 07.0	-0.2
PCDR	**Punta Cana, DR**	**0.29**	**18⇓**	*e*P	Pn	12 59 07.1	-0.2
PCDR	**Punta Cana, DR**	**0.29**	**18⇓**	*e*P	Pn	12 59 07.0	-0.2
PCDR				*e*S	Sn	12 59 23.9	+0.2
IDE	**Isla Desecheo**	**0.97**	**81⇑**	*e*P	Pn	12 59 11.1	0.0
IDE	**Isla Desecheo**	**0.97**	**81**	*e*S	Sn	12 59 30.2	-0.1
IDE	**Isla Desecheo**	**0.97**	**81⇑**	*e*P	Pn	12 59 11.1	0.0
IDE				*e*S	Sn	12 59 30.2	-0.1
DR12	**Loma Pena Alta**	**1.02**	**303⇑**	*e*P	Pn	12 59 11.4	-0.1
DR12				*e*S	Sn	12 59 30.8	-0.5
DR12	**Loma Pena Alta**	**1.02**	**303⇑**	*e*P	Pn	12 59 11.4	-0.1
DR12				*e*S	Sn	12 59 30.8	-0.5
CRPR	**Cabo Rojo, PR**	**1.32**	**100⇑**	*e*P	Pn	12 59 14.4	+0.2
CRPR	**Cabo Rojo, PR**	**1.32**	**100**	*e*S	Sn	12 59 36.1	+0.3
CRPR	**Cabo Rojo, PR**	**1.32**	**100⇑**	*e*P	Pn	12 59 14.4	+0.2
CRPR				*e*S	Sn	12 59 36.1	+0.3
LSP	**Las Mesas**	**1.32**	**92⇑**	*e*P	Pn	12 59 13.9	-0.4
LSP	**Las Mesas**	**1.32**	**92⇑**	*e*P	Pn	12 59 13.9	-0.4
SDDR	**Presa de Saban**	**2.77**	**286**	*e*Pn	Pn	12 59 33.1	+2.5
SDDR				*e*Sn	Sn	13 00 10.9	+5.6

*PGC **20** 13:17:55.2±0.8,52.24N×132.14W,h30km,ML3.6/16, 114km Ssw of Sandspit, Bc Haida Gwaii Region*
*IDC **20** 13:17:55.2±1.8,52.31N×132.09W,h0km,mb3.5/1, mb1 3.7/7,mb1mx3.5/51,mbtmp3.5/7,ML3.3/6,MS2.6/2, Ms1 2.5/2,ms1mx2.3/40,Error ellipse: s-maj=30.7km s-min=9.3km az=59.0*
ISC 20 13:17:54.5±1.6,52°22N±0.0°×132°16W±0.0°,h15km±9km, n31,σ2§09/44,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.44**	**35**	P	**Pb**	**13 18 04.8**	**+0.8**
BNB				S	**Sb**	**13 18 11.1**	**+0.7**
HG3B	**Hotspring**	**0.57**	**50**	P	**Pb**	**13 18 06.7**	**+0.5**
HG3B				S	**Sg**	**13 18 13.7**	**+0.4**
HG4B	**Hotspring**	**0.60**	**82**	P	**Pg**	**13 18 06.7**	**+0.4**
HG4B				S	**Sg**	**13 18 14.6**	**+0.4**
HG1B	**Mitchell Dam**	**0.72**	**1**	P	**Pg**	**13 18 08.4**	**-0.1**
HG1B				S	**Sg**	**13 18 18.3**	**+0.2**
MOBC	**Moresby Island**	**0.94**	**7**	P	**Pg**	**13 18 12.2**	**-0.5**
MOBC				S	**Sg**	**13 18 24.5**	**-0.5**
DIB	**Dawson Inlet,**	**1.01**	**349**	P	**Pb**	**13 18 12.5**	**-1.1**
H02S1	**DAWSON INLET T**	**1.01**	**349**	Pg	**Pb**	**13 18 12.5**	**-1.1**
H02S1				Lg	Lg	13 18 25.0	
NDB	**Naden**	**1.81**	**345**	Pn	**Pn**	**13 18 24.1**	**-1.0**
RUBB	**Prince Rupert**	**2.41**	**28**	Pn	**Pn**	**13 18 33.7**	**+0.4**
RUBB				Sn	**Sn**	**13 19 00.2**	**-2.1**
BBB	**Bella Bella**	**2.49**	**89**	Pn	**Pn**	**13 18 34.0**	**-0.3**
BBB				Sn	**Sn**	**13 19 02.0**	**-2.5**
BBB	**Bella Bella**	**2.49**	**89**	Pn	**Pn**	**13 18 34.1**	**-0.3**
	3.9nm,0.3s,baz=270,slow=8.6,SNR=187						
BBB				Sn	**Sn**	**13 19 02.3**	**-2.2**
	22nm,0.3s,baz=337,slow=23,SNR=20						
BBB				LR	LR	13 19 46.1	
	comp=Z,275nm,18.7s,baz=14,slow=45						
HOLB	**Holberg**	**2.97**	**120**	Pn	**Pn**	**13 18 40.0**	**-1.1**
HOLB				Sn	**Sn**	**13 19 13.7**	**-2.8**
PHC	**Port Hardy**	**3.32**	**115**	Pn	**Pn**	**13 18 44.4**	**-1.4**
PHC				Sn	**Sn**	**13 19 21.1**	**-3.8**
BCBC	**Bella Coola**	**3.32**	**85**	Pn	**Pn**	**13 18 47.6**	**+1.7**
BCBC				Sn	**Sn**	**13 19 24.8**	**-0.2**
PACB	**Port Alice, BC**	**3.43**	**119**	Pn	**Pn**	**13 18 47.4**	**+0.1**
PACB				Sn	**Sn**	**13 19 24.5**	**-3.1**
MAYB	**Maynard**	**3.62**	**118**	Pn	**Pn**	**13 18 48.5**	**-1.6**
MAYB				Sn	**Sn**	**13 19 29.8**	**-2.8**
TLCB	**Telegraph Cove**	**3.73**	**114**	Pn	**Pn**	**13 18 50.9**	**-0.5**
TLCB				Sn	**Sn**	**13 19 31.6**	**-3.5**
WOSB	**Woss**	**4.07**	**118**	Pn	**Pn**	**13 18 55.7**	**-0.5**
WOSB				Sn	**Sn**	**13 19 42.1**	**-1.6**
CBB	**Campbell River**	**4.80**	**114**	Pn	**Pn**	**13 19 05.5**	**-0.7**
CBB				Sn	**Sn**	**13 19 57.9**	**-3.7**
FSB	**Fort Saint Jam**	**5.21**	**61**	Pn	**Pn**	**13 19 13.4**	**+1.6**
FSB				Sg	**Sg**	**13 20 37.7**	**-3.9**
DLBC	**Dease Lake**	**6.36**	**10**	Sg	**Sg**	**13 21 15.4**	**-2.8**
DLBC	**Dease Lake**	**6.36**	**10**	Pn	Pn	13 19 31.1	+3.5
	0.6nm,0.3s,baz=203,slow=18,SNR=4.4						
DLBC				Lg	Lg	13 21 17.3	
	0.5nm,0.3s,baz=307,slow=20,SNR=2.9						
BMBC	**Bull Mountain**	**7.03**	**53**	Sg	**Sg**	**13 21 37.6**	**-2.3**
YKA	**Yellowknife Ar**	**13.94**	**36**	Pn	**Pn**	**13 21 10.8**	**-0.3**
	0.0nm,0.3s,baz=226,slow=12,SNR=6.7						
YKA				Lg	Lg	13 25 17.7	
	0.0nm,0.3s,baz=216,slow=29,SNR=3.7						
YKA				LR	LR	13 26 25.6	
	comp=Z,9.2nm,18.1s,baz=132,slow=37						
ELK	**Elko**	**16.31**	**128**	Pn	**P**	**13 21 49.1**	**+3.1**
	0.1nm,0.3s,baz=306,slow=11,SNR=7.5						
NVAR	**Mina Array Bea**	**16.84**	**140**	Pn	**P**	**13 21 55.4**	**+3.6**
	0.1nm,0.3s,baz=315,slow=10.0,SNR=5.6						
PDAR	**Pinedale Array**	**17.90**	**113**	Pn	**P**	**13 22 07.8**	**+4.3**
	0.1nm,0.3s,baz=316,slow=8.3,SNR=14						
H11N2	**WAKE ISLAND Hy**	**56.90**	**259**	T	T	14 29 51.5	
	baz=41						
H11N3	**WAKE ISLAND Hy**	**56.91**	**259**	T	T	14 29 50.2	
	baz=41						
H11N1	**WAKE ISLAND Hy**	**56.92**	**259**	T	T	14 29 53.0	
	baz=41						
MKAR	**Makanchi Array**	**77.05**	**336**	P	**P**	**13 29 48.3**	**+1.7**
	0.4nm,0.8s,baz=33,slow=4.6,SNR=5.0						

*ISCJB **20** 13:18:13.0±2.2,18°.8S±0.4°×177.3W±0.4°,h570km,mb4.0/7, Error ellipse: s-maj=61.2km s-min=27.2km az=141.0*
*IDC **20** 13:18:17.1±8.6,18.83S×177.48W,h600km±84km,mb3.4/7, mb1 3.6/7,mb1mx3.1/32,mbtmp4.4/7,Error ellipse: s-maj=69.5km s-min=34.0km az=116.0*
ISC 20 13:18:14.2±1.6,18°.8S±0.4°×177.3W±0.3,h570km,n10, σ0§73/12,mb4.2/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**35.62**	**280**	P	**P**	**13 24 25.8**	**+0.6**
	4.6nm,0.7s,baz=90,slow=6.1,SNR=3.9						
STKA	**Stephens Creek**	**39.11**	**242**	P	**P**	**13 24 54.2**	**+0.7**
	1.3nm,0.5s,baz=50,slow=7.8,SNR=4.4						
JAY	**Jayapura**	**44.14**	**286**	P	**P**	**13 25 33.4**	**0.0**
	10nm,0.5s,baz=127,slow=3.7,SNR=9.5						
WRA	**Warramunga Arr**	**45.49**	**260**	P	**P**	**13 25 42.5**	**-1.0**
	4.0nm,0.3s,baz=97,slow=7.3,SNR=214						
WRA				PcP	**PcP**	**13 27 09.7**	**-0.7**
	0.4nm,0.3s,baz=88,slow=4.1,SNR=4.7						
ASAR	**Alice Springs**	**45.55**	**255**	P	**P**	**13 25 43.5**	**-0.5**
	5.8nm,0.7s,baz=87,slow=8.2,SNR=125						
ASAR				PcP	**PcP**	**13 27 09.8**	**-0.8**
	1.2nm,0.6s,baz=104,slow=3.8,SNR=9.3						
ILAR	**Eielson Array**	**86.53**	**13**	P	**P**	**13 29 56.6**	**-0.1**
	0.3nm,0.6s,baz=226,slow=5.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**90.15**	**289**	P	**P**	**13 30 14.5**	**-0.2**
	0.9nm,0.7s,baz=107,slow=2.3,SNR=6.0						
ARCES	**ARCESS Array B**	**127.37**	**350**	PKP	**PKPdf**	**13 36 13.9**	**0.0**
	1.1nm,0.5s,baz=39,slow=1.6,SNR=8.9						
BRTR	**Keskin Array B**	**146.14**	**315**	PKPbc	**PKPdf**	**13 36 50.6**	**+1.2**
	1.3nm,0.9s,baz=137,slow=4.0,SNR=5.7						
GERES	**GERESS Array B**	**148.73**	**346**	PKPbc	**PKPbc**	**13 36 58.0**	**+0.1**
	0.3nm,0.2s,baz=72,slow=4.3,SNR=4.7						

IDC 20 13:18:56.9±6.8,15°.39S×173°.40W,h0km,mb3.8/3, mb1 4.1/3,mb1mx3.7/32,mbtmp3.8/3,MS3.6/13, Ms1 3.6/13,ms1mx3.5/29,Error ellipse: s-maj=381.9km s-min=40.2km az=145.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.20**	**248**	LR	LR	13 30 11.0	
	comp=Z,143nm,18.4s,baz=43,slow=33						
PAE	**Paea**	**22.94**	**99**	*e*T	T	13 47 41.8	
	1.6nm,0.4s						
PPT	**Papeete**	**22.94**	**99**	LR	LR	13 30 38.2	
	comp=Z,36nm,18.7s,baz=298,slow=31						
PPT2	**Papeete2**	**22.94**	**99**	*e*LQ	LQ	13 28 35.4	
	605nm,29.8s						
PPT2				*e*LR	LR	13 29 34.0	
	comp=Z,194nm,27.0s						
PPT2	**Papeete2**	**22.94**	**99**	*e*T	T	13 47 42.8	
	2.0nm,0.4s						
TBI	**Tubuai**	**23.90**	**113**	*e*LR	LR	13 29 59.2	
	comp=Z,319nm,27.8s						
TBI	**Tubuai**	**23.90**	**113**	*e*T	T	13 48 54.7	
	4.6nm,0.3s						
HNR	**Honiara**	**26.68**	**280**	LR	LR	13 33 08.5	
	comp=Z,106nm,20.8s,baz=122,slow=32						
RKT	**Rikitea**	**36.99**	**108**	*e*T	T	14 05 25.3	
	2.1nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**38.96**	**329**	T	T	14 07 19.4	
	baz=149,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**38.97**	**329**	T	T	14 07 17.1	
	baz=149,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**38.98**	**329**	T	T	14 07 25.5	
	baz=149,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	14 08 37.8	
	baz=150,slow=76,SNR=6.7						
H11N1	**WAKE ISLAND Hy**	**39.91**	**330**	T	T	14 08 32.3	
	baz=150,slow=76,SNR=7.6						
H11N2	**WAKE ISLAND Hy**	**39.92**	**330**	T	T	14 08 44.9	
	baz=150,slow=76,SNR=8.2						
STKA	**Stephens Creek**	**44.04**	**240**	LR	LR	13 43 37.4	
	comp=Z,51nm,20.5s,baz=23,slow=34						
JAY	**Jayapura**	**46.99**	**281**	LR	LR	13 45 06.5	
	comp=Z,82nm,18.6s,baz=73,slow=33						
WRA	**Warramunga Arr**	**49.85**	**257**	P	P	13 27 52.4	+0.1
	0.4nm,0.7s,baz=92,slow=7.8,SNR=5.4						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	13 27 54.0	-0.3
	2.9nm,0.6s,baz=86,slow=8.0,SNR=21						
GUMO	**Guam**	**50.33**	**303**	LR	LR	13 43 29.6	
	comp=Z,49nm,22.0s,baz=88,slow=29						
MJAR	**Matsushiro Arr**	**68.94**	**320**	LR	LR	13 53 51.0	
	comp=Z,58nm,22.0s,baz=120,slow=30						
PETK	**Petropavlovsk-**	**72.62**	**342**	LR	LR	13 54 57.1	
	comp=Z,28nm,20.9s,baz=132,slow=30						
KSRS	**Korea Array**	**76.16**	**316**	LR	LR	13 56 48.7	
	comp=Z,39nm,20.7s,baz=90,slow=30						
USRK	**Ussuriysk Ar.**	**77.38**	**323**	LR	LR	13 57 41.3	
	comp=Z,39nm,21.9s,baz=126,slow=30						
TXAR	**Lajitas Array**	**80.61**	**56**	LR	LR	13 58 06.8	
	comp=Z,48nm,21.7s,baz=0.0,slow=29						
YKA	**Yellowknife Ar**	**90.09**	**23**	P	P	13 31 58.3	-0.1
	0.2nm,0.6s,baz=230,slow=5.3,SNR=3.5						
ULM	**Lac du Bonnet**	**93.93**	**39**	LR	LR	14 12 53.9	
	comp=Z,61nm,18.4s,baz=8.0,slow=34						
TIXI	**Tiksi**	**95.00**	**344**	LR	LR	14 09 56.7	
	comp=Z,28nm,20.7s,baz=94,slow=32						
BRTR	**Nokin Array B**	**146.15**	**321**	PKPbc	PKiKP	13 38 41.9	-1.0
	0.5nm,0.3s,baz=84,slow=1.2,SNR=2.8						

*ISCJB **20** 13:20:44.4±0.8,58°.1N±0.1°×32°.1W±0°.2,h14km,mb3.8/10, MS3.5/2,Error ellipse: s-maj=18.8km s-min=13.7km az=16.2*
*IDC **20** 13:20:44.0±1.0,58°.09N×32°.16W,h0km,mb3.7/10, mb1 3.9/11,mb1mx3.7/44,mbtmp3.8/11,ML3.3/1,MS3.6/2, Ms1 3.6/2,ms1mx2.8/45,Error ellipse: s-maj=28.2km s-min=17.1km az=20.0*
ISC 20 13:20:46.0±1.0,58°.1N±0.2°×32°.1W±0°.1,h14km,n14, σ1§27/13,mb3.9/10,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.45**	**33**	Pn	**Pn**	**13 22 49.0**	**+1.3**
	0.3nm,0.3s,baz=241,slow=10,SNR=2.2						
NB2	**NORSAR Subarra**	**21.86**	**64**	P	**P**	**13 25 38.8**	**+0.9**
	comp=Z,10nm,1.1s,baz=282,slow=9.3						
NOA	**NORSAR Array B**	**21.86**	**64**	P	**P**	**13 25 39.1**	**+1.2**
	comp=Z,0.9nm,0.9s,baz=282,slow=9.3,SNR=5.2						
HFS	**Hagfors**	**23.26**	**65**	P	**P**	**13 25 52.6**	**0.0**
	comp=Z,4.0nm,0.8s,baz=27,slow=3.6,SNR=3.9						
ESDC	**Sonseca Array**	**25.82**	**123**	P	**P**	**13 26 17.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=326,slow=11,SNR=4.1						
RES	**Resolute Bay**	**28.19**	**330**	LR	LR	13 38 53.2	
	comp=Z,78nm,18.2s,baz=360,slow=39						
KLMR	**Klimovskoe**	**34.85**	**54**	*e*	**P**	**13 27 33.6**	**-2.5**
KLMR				AMP		13 27 36.1	
	comp=Z,14nm,1.1s						
AKASG	**Malin Array Be**	**35.34**	**75**	P	**P**	**13 27 39.3**	**-1.1**
	comp=Z,1.7nm,0.7s,baz=307,slow=8.7,SNR=6.0						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	**P**	**13 28 07.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=58,slow=9.2,SNR=9.4						
BRTR	**Keskin Array B**	**44.97**	**84**	P	**P**	**13 29 02.1**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=306,slow=8.4,SNR=5.8						
ILAR	**Eielson Array**	**47.92**	**328**	P	**P**	**13 29 23.6**	**+0.3**
	comp=Z,1.3nm,1.0s,baz=35,slow=6.2,SNR=6.5						
PDAR	**Pinedale Array**	**48.83**	**287**	P	**P**	**13 29 30.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=64,slow=8.6,SNR=6.1						
PDAR				LR	LR	13 49 15.1	
	comp=Z,80nm,18.8s,baz=50,slow=35						
TORD	**Torodi Ar. Bea**	**51.58**	**136**	P	**P**	**13 29 51.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=338,slow=8.4,

PDAR	**Pinedale Array**	**48.77**	**287**	P	**P**	**13 31 34.2**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=54,slow=7.5,SNR=6.1						
ABKAR	**Akbulak array**	**51.14**	**57**	*eP*	**P**	**13 31 50.5**	**-0.6**
	comp=Z,3.6nm,0.9s						
TOA1	**Torodi Ar. Sit**	**51.65**	**136**	*eP*	**P**	**13 31 54.1**	**-1.2**
TOA0	**Torodi Ar. Sit**	**51.66**	**136**	*eP*	**P**	**13 31 55.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**51.66**	**136**	P	**P**	**13 31 54.1**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=344,slow=9.4,SNR=8.9						
TORD				LR	LR	13 54 00.5	
	comp=Z,28nm,18.0s,baz=320,slow=36						
NV01	**Mina Array Sit**	**56.42**	**290**	*eP*	**P**	**13 32 29.8**	**-0.3**
NVAR	**Mina Array Bea**	**56.42**	**290**	P	**P**	**13 32 31.4**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=59,slow=5.7,SNR=3.9						
MK31	**Makanchi Array**	**62.29**	**45**	*eP*	**P**	**13 33 10.1**	**-0.4**
	comp=Z,2.2nm,1.0s						
MK32	**Makanchi Array**	**62.29**	**45**	*eP*	**P**	**13 33 10.2**	**-0.2**
MKAR	**Makanchi Array**	**62.29**	**45**	P	**P**	**13 33 10.2**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=331,slow=6.5,SNR=11						
MK01	**Makanchi Array**	**62.32**	**45**	*eP*	**P**	**13 33 10.0**	**-0.5**
SONA0	**Songino Array**	**68.99**	**29**	*eP*	**P**	**13 33 53.7**	**-0.1**
SONM	**Songino Array**	**68.99**	**29**	P	**P**	**13 33 53.7**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=332,slow=8.4,SNR=4.4						
ASAR	**Alice Springs**	**144.13**	**22**	PKP	PKPbc	13 42 21.7	-0.5
	comp=Z,0.6nm,0.9s,baz=18,slow=2.0,SNR=4.1						

*ISCJB **20** 13:25:00.6±0.9, 58.3°N±0.1°×32.0°W±0.2, h14km, mb3.7/8, MS3.5/1, Error ellipse: s-maj=20.7km s-min=14.6km az=30.3*

*IDC **20** 13:25:00.1±1.0, 58.1°N×32.2°W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/42, mbtmp3.8/9, ML3.3/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/42, Error ellipse: s-maj=31.9km s-min=17.5km az=32.0*

ISC 20 13:25:02.2±1.0, 58.2N±0.2°×32.1W±0.1, h14km, n10, σ0.6s74/9, mb3.8/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.37**	**33**	Pn	**Pn**	**13 27 02.8**	**-0.1**
	0.4nm,0.3s,baz=252,slow=3.2,SNR=3.5						
ESDC	**Sonseca Array**	**25.86**	**123**	P	**P**	**13 30 34.6**	**+1.4**
	0.4nm,0.5s,baz=322,slow=11,SNR=4.7						
RES	**Resolute Bay**	**28.12**	**330**	P	**P**	**13 30 53.1**	**0.0**
	1.4nm,0.9s,baz=103,slow=8.2,SNR=4.9						
AKASG	**Malin Array Be**	**35.30**	**75**	P	**P**	**13 31 56.2**	**-0.1**
	0.4nm,0.4s,baz=309,slow=8.8,SNR=3.2						
YKA	**Yellowknife Ar**	**38.44**	**312**	P	**P**	**13 32 22.7**	**-0.2**
	1.5nm,0.8s,baz=59,slow=9.1,SNR=12						
BRTR	**Keskin Array B**	**44.95**	**84**	LR	LR	13 53 01.1	
	comp=Z,53nm,18.4s,baz=278,slow=37						
ILAR	**Eielson Array**	**47.85**	**328**	P	**P**	**13 33 39.6**	**+0.7**
	2.3nm,0.9s,baz=36,slow=6.8,SNR=12						
PDAR	**Pinedale Array**	**48.81**	**287**	P	**P**	**13 33 46.7**	**-0.2**
	0.8nm,0.8s,baz=67,slow=9.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**51.64**	**136**	P	**P**	**13 34 07.5**	**-0.8**
	0.4nm,0.6s,baz=336,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**62.24**	**45**	P	**P**	**13 35 22.8**	**-0.3**
	0.5nm,0.6s,baz=334,slow=6.3,SNR=6.1						

IDC 20 13:32:13.1±20.0, 58.95N×35.20W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.3/42, mbtmp3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/35, Error ellipse: s-maj=382.6km s-min=85.0km az=123.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**16.56**	**301**	LR	LR	13 40 37.4	
	comp=Z,33nm,19.5s,baz=59,slow=30						
YKA	**Yellowknife Ar**	**36.71**	**310**	P	P	13 39 21.1	-0.2
	0.6nm,1.1s,baz=61,slow=8.5,SNR=4.2						
ILAR	**Eielson Array**	**46.33**	**327**	P	P	13 40 40.0	-0.2
	0.7nm,1.0s,baz=36,slow=7.8,SNR=5.2						
PDAR	**Pinedale Array**	**47.04**	**284**	P	P	13 40 46.3	0.0
	0.6nm,1.0s,baz=67,slow=6.9,SNR=3.4						

*INMG **20** 13:35:19.2±1.4, 36.65N×9.63W, h20km±5km, ML1.5, Error ellipse: s-maj=9.3km s-min=8.7km az=23.0*

*MDD **20** 13:35:19.4±1.9, 36.64N×9.65W, h30km, mb4.5/1, Error ellipse: s-maj=16.6km s-min=14.0km az=172.0, PRXIMO*

ISC 20 13:35:19.3±3.4, 36.7N±0.1°×9.6W±0.1, h31km±12km, n26, σ0.61/39, 3C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**0.75**	**55**	⇑*iP*	**Pb**	**13 35 33.9**	**0.0**
PFVI				*eS*	**Sb**	**13 35 44.8**	**+1.0**
PFVI				A	A	13 35 45.5	
	9.8nm,0.1s						
PFVI	**Vila Bisbo**	**0.75**	**55**	⇑Pn	**Pb**	**13 35 33.9**	**0.0**
	4.3nm,0.1s,SNR=18						
PFVI				Sn	**Sb**	**13 35 44.6**	**+0.8**
	6.6nm,0.1s,SNR=12						
MORF	**Marmelete**	**0.96**	**51**	⇑*eP*	**Pb**	**13 35 37.0**	**-0.5**
MORF				*eS*	**Sb**	**13 35 50.2**	**+0.2**
MORF				A	A	13 35 51.0	
	8.7nm,0.1s						
MORF	**Marmelete**	**0.96**	**51**	Pn	**Pb**	**13 35 37.0**	**-0.5**
MORF				Sn	**Sb**	**13 35 50.2**	**+0.2**
	8.7nm,0.1s						
PTEO	**Sao Teotonio**	**1.09**	**39**	*eS*	**Sb**	**13 35 52.7**	**-0.8**
PTEO				A	A	13 35 56.1	
	2.5nm,0.1s						
PTEO	**Sao Teotonio**	**1.09**	**39**	Sn	**Sb**	**13 35 52.7**	**-0.8**
	1.2nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.44**	**68**	*eS*	**Sn**	**13 36 01.5**	**+0.5**
PBDV				A	A	13 36 07.5	
	5.1nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.44**	**68**	Sn	**Sn**	**13 36 01.5**	**+0.5**
	5.1nm,0.7s						
PCVE	**Castro Verde**	**1.55**	**53**	*eP*	**Pn**	**13 35 44.9**	**+0.1**
PCVE				*eS*	**Sn**	**13 36 04.3**	**+0.5**
PCVE				A	A	13 36 05.8	
	2.0nm,0.6s						
PCVE	**Castro Verde**	**1.55**	**53**	Pn	**Pn**	**13 35 44.9**	**+0.1**
PCVE				Sn	**Sn**	**13 36 04.3**	**+0.5**
	2.0nm,0.6s						
MESJ	**Messejana**	**1.57**	**44**	*ePn*	**Pn**	**13 35 45.4**	**+0.3**
MESJ				*eSn*	**Sn**	**13 36 05.2**	**+0.7**
MESJ				A	A	13 36 06.5	
	4.7nm,0.8s						
MESJ	**Messejana**	**1.57**	**44**	Pn	**Pn**	**13 35 45.4**	**+0.3**
MESJ				Sn	**Sn**	**13 36 05.2**	**+0.7**
	4.7nm,0.8s						
PNCL	**Nicolau / Gran**	**1.64**	**31**	*ePn*	**Pn**	**13 35 46.0**	**0.0**
PNCL				*eSn*	**Sn**	**13 36 06.1**	**+0.1**
PNCL				A	A	13 36 06.5	
	1.7nm,0.4s						
PNCL	**Nicolau / Gran**	**1.64**	**31**	Pn	**Pn**	**13 35 46.0**	**0.0**
PNCL				Sn	**Sn**	**13 36 06.1**	**+0.1**
	1.7nm,0.4s						
PVAQ	**Vaqueiros**	**1.66**	**65**	*eSn*	**Sn**	**13 36 06.7**	**+0.3**
PVAQ	**Vaqueiros**	**1.66**	**65**	Sn	**Sn**	**13 36 06.7**	**+0.3**
EGRO	**El Granado**	**1.88**	**63**	Pn	**Pn**	**13 35 50.0**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**13 36 12.1**	**+0.2**
	0.9nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.26**	**6**	*eSn*	**Sn**	**13 36 20.9**	**-0.5**
PMAFR	**Mafra**	**2.26**	**6**	Sn	**Sn**	**13 36 22.0**	**+0.6**
	12nm,0.2s,SNR=7.5						
EMIN	**Mina Concepcio**	**2.56**	**65**	Sn	**Sn**	**13 36 27.5**	**-1.2**
	0.3nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**2.59**	**24**	*ePn*	**Pn**	**13 35 59.3**	**+0.1**
PMTG				*eSn*	**Sn**	**13 36 29.9**	**+0.3**
PMTG				A	A	13 36 31.7	
	2.1nm,0.7s						
PMTG	**Montargil**	**2.59**	**24**	Pn	**Pn**	**13 35 59.3**	**+0.1**
PMTG				Sn	**Sn**	**13 36 29.9**	**+0.3**
	2.1nm,0.7s						
PESTR	**Estremoz**	**2.68**	**36**	*eSn*	**Sn**	**13 36 31.8**	**+0.1**
EBAD	**Badajoz**	**2.89**	**44**	Sn	**Sn**	**13 36 35.9**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**3.59**	**66**	Sn	**Sn**	**13 36 52.9**	**-1.5**
	0.1nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.25**	**68**	Sn	**Sn**	**13 37 09.5**	**-1.0**
	0.5nm,0.1s,SNR=7.9						

IDC 20 13:36:04.8±12.0, 17.27S×178.66W, h507km±120km, mb3.2/4, mb1 3.4/4, mb1mx3.0/31, mbtmp4.1/4, Error ellipse: s-maj=135.2km s-min=42.6km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.73**	**240**	P	P	13 42 45.0	0.0
	2.1nm,0.7s,baz=93,slow=7.6,SNR=5.0						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	13 43 30.7	-0.3
	0.6nm,0.5s,baz=93,slow=7.0,SNR=43						
ASAR	**Alice Springs**	**44.73**	**254**	P	P	13 43 32.7	0.0
	9.4nm,0.6s,baz=90,slow=7.8,SNR=305						
ASAR				PcP	PcP	13 45 03.1	-1.2
	0.4nm,0.6s,baz=103,slow=3.9,SNR=4.2						
ILAR	**Eielson Array**	**85.32**	**13**	P	P	13 47 47.0	-0.4
	0.3nm,0.4s,baz=223,slow=5.3,SNR=12						
BRTR	**Keskin Array B**	**144.16**	**315**	PKP	PKPab	13 54 42.8	+0.1
	1.3nm,0.6s,baz=116,slow=2.9,SNR=7.3						
GERES	**GERESS Array B**	**146.94**	**345**	PKPbc	PKPbc	13 54 50.1	-0.1
	0.6nm,0.5s,baz=48,slow=4.0,SNR=4.9						

IDC 20 13:45:27.6±1.4, 58.18N×31.96W, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/38, mbtmp3.4/5, MS3.1/2, Ms1 3.1/2, ms1mx2.6/39, Error ellipse: s-maj=51.1km s-min=27.2km az=33.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**18.41**	**303**	LR	LR	13 55 16.7	
	comp=Z,65nm,19.0s,baz=351,slow=32						
GERES	**GERESS Array B**	**28.20**	**89**	LR	LR	14 03 08.9	
	comp=Z,27nm,18.3s,baz=288,slow=38						
YKA	**Yellowknife Ar**	**38.49**	**312**	P	P	13 52 50.1	-0.8
	0.6nm,1.0s,baz=58,slow=9.0,SNR=5.0						
ILAR	**Eielson Array**	**47.88**	**328**	P	P	13 54 07.3	+0.5
	0.7nm,1.0s,baz=31,slow=4.5,SNR=5.0						
PDAR	**Pinedale Array**	**48.88**	**287**	P	P	13 54 15.0	0.0
	0.3nm,0.6s,baz=69,slow=6.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**51.59**	**136**	P	P	13 54 35.5	0.0
	0.5nm,0.7s,baz=339,slow=8.5,SNR=3.7						
MKAR	**Makanchi Array**	**62.18**	**45**	P	P	13 55 50.1	-0.2
	0.2nm,0.6s,baz=317,slow=5.1,SNR=3.6						

*IDC **20** 13:59:36.9±1.4, 58.01N×32.20W, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/46, mbtmp3.5/6, MS3.3/3, Ms1 3.3/3, ms1mx2.7/44, Error ellipse: s-maj=48.6km s-min=25.8km az=34.0*

*ISCJB **20** 13:59:37.1±1.1, 58.1°N±0.2°×32.1W±0.3, h14km, mb3.5/6, MS3.2/3, Error ellipse: s-maj=31.8km s-min=18.3km az=24.2*

ISC 20 13:59:39.0±1.2, 58.1N±0.2°×32.1W±0.2, h14km, n10, σ0.50/7, mb3.6/6, MS3.3/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HFS	**Hagfors**	**23.27**	**65**	LR	LR	14 12 59.3	
	comp=Z,29nm,18.3s,baz=303,slow=34						
DAVOX	**Davos/Dischmat**	**27.54**	**96**	LR	LR	14 14 54.9	
	comp=Z,71nm,18.4s,baz=260,slow=33						
SADO	**Sadowa**	**31.49**	**266**	LR	LR	14 16 53.4	
	comp=Z,145nm,21.4s,baz=32,slow=33						
KLMR	**Klimovskoe**	**34.87**	**54**	*e*	**P**	**14 06 28.8**	**-0.5**
KLMR				AMP		14 06 31.1	
	comp=Z,15nm,1.2s						
YKA	**Yellowknife Ar**	**38.51**	**312**	P	**P**	**14 07 00.4**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=60,slow=8.9,SNR=4.6						
INK	**Inuvik**	**41.65**	**327**	P	**P**	**14 07 25.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=23,slow=6.3,SNR=3.6						
ILAR	**Eielson Array**	**47.95**	**328**	P	**P**	**14 08 17.1**	**+0.6**
	comp=Z,1.1nm,1.1s,baz=32,slow=6.0,SNR=8.2						
PDAR	**Pinedale Array**	**48.83**	**287**	P	**P**	**14 08 23.5**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=64,slow=8.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**51.56**	**136**	P	**P**	**14 08 44.5**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=328,slow=5.7,SNR=3.7						
MKAR	**Makanchi Array**	**62.34**	**45**	P	**P**	**14 10 00.9**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=339,slow=6.5,SNR=4.1						

*MOS **20** 14:02:27.3±0.8, 21.95S×179.52W, h574km, mb5.0/40, Error ellipse: s-maj=9.8km s-min=7.5km az=56.3*

*NEIC **20** 14:02:28.4±0.1, 22.07S×179.49W, mb5.1/245, Error ellipse: s-maj=3.8km s-min=2.3km az=142.0*

*IDC **20** 14:02:28.9±0.7, 22.01S×179.52W, h583km±7km, mb4.4/39, mb1 4.5/40, mb1mx4.5/43, mbtmp5.3/40, Error ellipse: s-maj=9.2km s-min=7.0km az=156.0*

*ISCJB **20** 14:02:28.3±0.4, 22.00S±0.03°×179.54W±0.02, h585km±5km, mb5.0/288, Error ellipse: s-maj=4.8km s-min=3.1km az=160.7*

*BJI **20** 14:02:28.7, 21.72S×179.08W, h598km, mb4.7/39, mB5.0/24*

*GCMT **20** 14:02:33.4±0.3, 22.19S±0.03°×179.41W±0.03, h608km±2km, MW5.3/71, Moment Tensor Solution. s71,c99; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.64±.03; Mθθ -0.16±.05; Mφφ -0.48±.05; Mrθ -0.46±.05; Mθφ -0.35±.04; Mrφ -0.89±.05; Best double couple: M0 1.20200×10^17 NP1: φ208.00000°, δ73.00000°, λ87.00000°. NP2: φ38.00000°, δ17.00000°, λ99.00000°. Principal axes: T 1.1720, Pl62.0000°, Azm114.0000°; N 0.0580, Plg3.0000°, Azm209.0000°; P -1.2310, Plg28.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 20 14:02:29.1±0.3, 22.09S±0.04°×179.48W±0.04, h590km±3km, h592km: pP-P, n947, σ1s30/1023, mb5.1/287, 61C-18D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.92**	**331**	*eP*	**P**	**14 04 01.9**	**+0.9**
MSVF	**Nonsavu**	**4.92**	**331**	*c iP*	**P**	**14 04 03.3**	**+2.4**
RIZ	**Raoul Island**	**7.26**	**169**	P	**P**	**14 04 20.6**	**-0.4**
RAO	**Raoul Island**	**7.27**	**169**	*eP*	**P**	**14 04 21.0**	**-0.1**
RAO				S	**S**	**14 05 53.0**	**+0.1**
RAO	**Raoul Island**	**7.27**	**169**	*eP*	**P**	**14 04 21.0**	**-0.1**
RAO				S	**S**	**14 05 53.0**	**+0.1**
RAO	**Raoul Island**	**7.27**	**169**	P	**P**	**14 04 20.4**	**-0.7**
	437nm,0.3s,baz=73,slow=9.5,SNR=16						
RAO				S	**S**	**14 05 52.9**	**+0.1**
	101nm,0.3s,baz=107,slow=20,SNR=4.3						
GLKZ	**Green Lake**	**7.28**	**169**	P	**P**	**14 04 20.9**	**-0.2**
GLKZ				S	**S**	**14 05 53.7**	**+0.7**
NIUE	**Niue**	**9.44**	**73**	P	**P**	**14 04 41.7**	**-0.5**
	baz=9.2						
NIUE	**Niue**	**9.44**	**73**	*eP*	**P**	**14 04 41.4**	**-0.7**
MARNC	**Mare, Loyalty**	**11.62**	**271**	*eP*	**P**	**14 05 04.7**	**+0.7**
PINNC	**Pines Island,**	**12.11**	**265**	*eP*	**P**	**14 05 10.0**	**+1.0**
ONTNC	**Ouen Toro**	**13.03**	**266**	*eP*	**P**	**14 05 18.6**	**+0.2**
DZM	**Mont Dzumac**	**13.05**	**267**	*eP*	**P**	**14 05 18.8**	**+0.1**
	363nm,0.9s						
DZM	**Mont Dzumac**	**13.05**	**267**	P	**P**	**14 05 19.2**	**+0.5**
	16nm,0.3s,baz=82,slow=19,SNR=47						
DZM				S	**S**	**14 07 37.4**	**-0.7**
	baz=180,slow=20,SNR=1.3						
NFK	**Norfolk Island**	**13.30**	**236**	P	**P**	**14 05 23.6**	**+2.6**
	baz=14,SNR=3.1						
OUZ	**Omahuta**	**14.42**	**203**	*eP*	**P**	**14 05 33.9**	**+1.9**
OUZ	**Omahuta**	**14.42**	**203**	P	**P**	**14 05 34.4**	**+2.4**
GRZ	**Great Barrier**	**14.79**	**196**	P	**P**	**14 05 36.7**	**+1.3**
WCZ	**Waipu Caves**	**14.82**	**200**	P	**P**	**14 05 37.7**	**+2.0**
KUZ	**Kuaotunu**	**15.19**	**195**	P	**P**	**14 05 40.4**	**+1.3**
WIAZ	**Waiheke Island**	**15.38**	**197**	P	**P**	**14 05 42.7**	**+1.7**
MXZ	**Matakaoa Point**	**15.54**	**187**	*eP*	**P**	**14 05 41.8**	**-0.7**
	70nm,1.1s						
MXZ	**Matakaoa Point**	**15.54**	**187**	P	**P**	**14 05 41.5**	**-0.9**
ETAZ	**East Tamaki Re**	**15.59**	**197**	P	**P**	**14 05 45.1**	**+2.2**
WTAZ	**Waiatarua**	**15.67**	**198**	P	**P**	**14 05 45.9**	**+2.2**
MKAZ	**Moumakai**	**15.67**	**196**	P	**P**	**14 05 45.7**	**+2.0**
HAZ	**Te Kaha**	**15.79**	**188**	P	**P**	**14 05 43.2**	**-1.6**
HAZ	**Te Kaha**	**15.79**	**188**	P	**S**	**14 08 20.1**	**-4.3**
PKGZ	**Pakihiroa**	**15.89**	**187**	P	**P**	**14 05 45.9**	**+0.2**
WHRZ	**Whale Island**	**16.01**	**190**	P	**P**	**14 05 49.4**	**+2.6**
RUGZ	**Raukumara Rang**	**16.02**	**188**	P	**P**	**14 05 45.9**	**-1.1**
PUZ	**Puketiti**	**16.05**	**186**	P	**P**	**14 05 46.4**	**-0.9**
PUZ	**Puketiti**	**16.05**	**186**	P	**S**	**14 08 28.1**	**-0.6**
OPRZ	**Ohinepanea**	**16.07**	**191**	P	**P**	**14 05 48.6**	**+1.2**
TOZ	**Tahuroa Road**	**16.18**	**194**	P	**P**	**14 05 50.3**	**+1.9**
KMRZ	**Kaimai**	**16.20**	**193**	P	**P**	**14 05 50.0**	**+1.5**
LIRZ	**Lichensteins R**	**16.26**	**192**	P	**P**	**14 05 52.1**	**+3.0**
EDRZ	**Edgecumbe**	**16.30**	**191**	P	**P**	**14 05 50.2**	**+0.7**
KARZ	**Kaharoa**	**16.30**	**192**	P	**P**	**14 05 50.8**	**+1.3**
OMRZ	**Omania**	**16.36**	**192**	P	**P**	**14 05 51.8**	**+1.7**
URZ	**Urewera**	**16.38**	**190**	*eP*	**P**	**14 05 47.4**	**-2.8**
	92nm,0.9s						
URZ				S	**S**	**14 08 27.7**	**-6.3**
URZ	**Urewera**	**16.38**	**190**	P	**P**	**14 05 47.5**	**-2.7**
	9.8nm,0.3s,baz=279,slow=3.2,SNR=59						
URZ				S	**S**	**14 08 27.7**	**-6.3**
	5.3nm,0.3s,baz=84,slow=21,SNR=17						
URZ	**Urewera**	**16.38**	**190**	P	**P**	**14 05 47.7**	**-2.5**
URZ	**Urewera**	**16.38**	**190**	P	**S**	**14 08 27.3**	**-6.7**
NGRZ	**Ngongotaha**	**16.39**	**192**	P	**P**	**14 05 53.2**	**+2.9**
MWZ	**Matawai**	**16.40**	**188**	P	**P**	**14 05 49.1**	**-1.3**
MWZ	**Matawai**	**16.40**	**188**	P	**S**	**14 08 30.4**	**-4.0**
TKGZ	**Te Karaka**	**16.46**	**187**	P	**P**	**14 05 51.0**	**+0.1**
TKGZ	**Te Karaka**	**16.46**	**187**	P	**S**	**14 08 31.0**	**-4.3**
TARZ	**Mount Tarawera**	**16.46**	**191**	P	**P**	**14 05 51.8**	**+0.8**
TARZ	**Mount Tarawera**	**16.46**	**191**	P	**S**	**14 08 35.4**	**-0.2**
CNGZ	**Carnagh Statio**	**16.46**	**186**	P	**P**	**14 05 51.2**	**+0.3**
CNGZ	**Carnagh Statio**	**16.46**	**186**	P	**S**	**14 08 32.9**	**-2.4**
UTU	**Utuhina**	**16.46**	**192**	P	**P**	**14 05 53.5**	**+2.5**
HLRZ	**Highlands Stat**	**16.51**	**192**	P	**P**	**14 05 53.3**	**+1.9**
RRRZ	**Republican Roa**	**16.56**	**191**	P	**P**	**14 05 52.6**	**+0.7**
RAGZ	**Rawiri**	**16.57**	**189**	P	**P**	**14 05 51.7**	**-0.3**
RAGZ	**Rawiri**	**16.57**	**189**	P	**S**	**14 08 29.2**	**-8.1**
HSRZ	**Hossack Road**	**16.58**	**192**	P	**P**	**14 05 53.8**	**+1.8**
GRRZ	**Galatos Road**	**16.65**	**192**	P	**P**	**14 05 54.6**	**+1.9**
MUGZ	**Murupara**	**16.65**	**190**	P	**P**	**14 05 51.9**	**-0.8**
HRRZ	**Handcock Road**	**16.65**	**192**	P	**P**	**14 05 53.5**	**+0.8**
RIGZ	**Rimuhau**	**16.73**	**188**	P	**P**	**14 05 53.2**	**-0.2**
RIGZ	**Rimuhau**	**16.73**	**188**	P	**S**	**14 08 32.9**	**-6.9**
PRRZ	**Plateau Road**	**16.74**	**191**	P	**P**	**14 05 53.8**	**+0.4**
TLZ	**Tolley Road**	**16.75**	**194**	P	**P**	**14 05 56.3**	**+2.7**
RTZ	**Ruatahuna**	**16.75**	**190**	P	**P**	**14 05 52.6**	**-1.1**
RTZ	**Ruatahuna**	**16.75**	**190**	P	**S**	**14 08 33.4**	**-6.8**
WPRZ	**Whakapapatarin**	**16.80**	**192**	P	**P**	**14 05 55.6**	**+1.5**
ALRZ	**Allen Road**	**16.81**	**191**	P	**P**	**14 05 54.0**	**-0.1**
KUTZ	**Kaahu Road**	**16.84**	**193**	P	**P**	**14 05 55.9**	**+1.5**
SNGZ	**Shannon Statio**	**16.86**	**189**	P	**P**	**14 05 53.7**	**-1.0**
SNGZ	**Shannon Statio**	**16.86**	**189**	P	**S**	**14 08 37.1**	**-4.8**
PRGZ	**Paritu Road**	**16.93**	**187**	P	**P**	**14 05 56.4**	**+1.1**
PRGZ	**Paritu Road**	**16.93**	**187**	P	**S**	**14 08 43.4**	**+0.3**
MTHZ	**Maungataniwha**	**17.01**	**190**	P	**P**	**14 05 54.6**	**-1.3**
MTHZ	**Maungataniwha**	**17.01**	**190**	P	**S**	**14 08 39.2**	**-5.0**
RAHZ	**Arahi**	**17.03**	**189**	P	**P**	**14 05 54.9**	**-1.3**
RAHZ	**Arahi**	**17.03**	**189**	P	**S**	**14 08 39.8**	**-4.9**
KNZ	**Kokohu**	**17.06**	**188**	P	**P**	**14 05 55.7**	**-0.6**
MRHZ	**Matea Rd**	**17.06**	**191**	P	**P**	**14 05 56.2**	**-0.3**
WATZ	**Wairara**	**17.07**	**193**	P	**P**	**14 05 57.3**	**+0.8**
HIZ	**Hauiti**	**17.08**	**195**	*eP*	**P**	**14 05 56.3**	**-0.3**
	522nm,2.0s						
HIZ	**Hauiti**	**17.08**	**195**	P	**P**	**14 05 59.6**	**+3.0**
MHGZ	**Mahia Peninsul**	**17.16**	**187**	P	**P**	**14 05 57.3**	**0.0**
WHHZ	**Waihua**	**17.17**	**189**	P	**S**	**14 08 41.5**	**-5.3**
WHHZ				P	**S**	**14 08 41.9**	**-4.9**
HATZ	**Hinemaiaia**	**17.18**	**192**	P	**P**	**14 05 56.9**	**-0.6**
RATZ	**Rangitukua**	**17.21**	**193**	P	**P**	**14 05 58.4**	**+0.5**
NMHZ	**Naumai**	**17.25**	**190**	P	**P**	**14 05 58.1**	**-0.1**
NMHZ	**Naumai**	**17.25**	**190**	P	**S**	**14 08 47.3**	**-1.0**
NMHZ				P	**S**	**14 08 47.3**	**-1.0**
RITZ	**Rihia Road**	**17.30**	**192**	P	**P**	**14 05 59.5**	**+0.9**
KATZ	**Kakaramea**	**17.33**	**193**	P	**P**	**14 06 01.3**	**+2.3**
BKZ	**Black Stump Fm**	**17.37**	**191**	*eP*	**P**	**14 05 57.5**	**-1.7**
	38nm,0.5s						
BKZ	**Black Stump Fm**	**17.37**	**191**	P	**P**	**14 05 57.8**	**-1.5**
BKZ	**Black Stump Fm**	**17.37**	**191**	P	**S**	**14 08 47.3**	**-2.9**
TWVZ	**Taurewa**	**17.48**	**193**	P	**P**	**14 06 00.5**	**+0.2**
WTVZ	**West Tongariro**	**17.49**	**193**	P	**P**	**14 06 00.8**	**+0.3**
MCHZ	**McNeill Hill**	**17.61**	**190**	P	**S**	**14 08 49.7**	**-4.2**
FWVZ	**Far West T-bar**	**17.63**	**193**	P	**P**	**14 06 01.7**	**-0.1**
KWHZ	**Kaweka Forest**	**17.63**	**191**	P	**S**	**14 08 50.3**	**-4.2**
KWHZ				P	**S**	**14 08 55.5**	**+1.0**
WHVZ	**Whangaehu Hut**	**17.65**	**193**	P	**P**	**14 06 02.1**	**+0.1**
PKVZ	**Pokaka**	**17.71**	**193**	P	**S**	**14 08

baz=31,SNR=7.1
CTA **Charters Tower** 32.00 267 P **P** 14 08 09.4 +0.8
comp=Z,145nm,0.5s,baz=92,slow=10,SNR=333
CTA ScP **ScP** 14 13 30.1 +1.7
comp=Z,22nm,1.0s,baz=125,slow=3.4,SNR=7.7
CTAO Charters Tower 32.00 267 *eP* **P** 14 08 09.0 +0.4
comp=Z,147nm,0.6s
CTAO Charters Tower 32.00 267 *eP* **P** 14 08 09.0 +0.4
CTAO pmax pmax
comp=Z,147nm,0.6s
XMAS Kiritimati 32.23 45 *eP* **P** 14 08 09.9 -0.6
comp=Z,240nm,0.8s
CMSA Cobar Meteorol 32.37 246 P **P** 14 08 12.5 +1.0
baz=32,SNR=318
RABL Rabaul 32.73 299 *eP* **P** 14 08 13.2 -1.7
comp=Z,56nm,0.5s
TOO Toolangi 33.86 235 P **P** 14 08 25.3 +1.3
baz=34,SNR=48
TOO Toolangi 33.86 235 *eP* **P** 14 08 24.5 +0.5
comp=Z,100nm,0.7s
TOO Toolangi 33.86 235 *eP* **P** 14 08 24.5 +0.5
TOO pmax pmax
comp=Z,100nm,0.7s
MTSU Mount Surprise 34.17 270 P **P** 14 08 27.6 +0.7
baz=34,SNR=122
PMG Port Moresby 34.40 286 *eP* **P** 14 08 28.6 -0.1
comp=Z,254nm,0.8s
PMG ScP **ScP** 14 13 38.1 +1.2
PMG Port Moresby 34.40 286*d i*P **P** 14 08 28.7 -0.1
PMG pmax pmax
comp=Z,972nm,0.9s
PMG Port Moresby 34.40 286 P **P** 14 08 28.9 +0.1
comp=Z,251nm,0.8s,baz=92,slow=5.5,SNR=108
PMG ScP **ScP** 14 13 38.1 +1.2
comp=Z,29nm,1.0s,baz=84,slow=3.3,SNR=9.3
TAU Tasmania Unive 34.53 225 *eP* **P** 14 08 30.1 +0.7
comp=Z,30nm,0.8s
TAU Tasmania Unive 34.53 225 *eP* **P** 14 08 30.2 +0.7
TAU pmax pmax
comp=Z,30nm,0.8s
STKA Stephens Creek 35.87 246 P **P** 14 08 41.9 +1.1
baz=36,SNR=113
STKA Stephens Creek 35.87 246 *eP* **P** 14 08 41.3 +0.5
comp=Z,26nm,0.9s
STKA S **S** 14 13 36.4 -1.5
STKA ScP **ScP** 14 13 44.9 +2.8
STKA Stephens Creek 35.87 246 *eP* **P** 14 08 41.3 +0.5
STKA S **S** 14 13 36.4 -1.5
STKA pmax pmax
comp=Z,26nm,0.9s
STKA Stephens Creek 35.87 246 P **P** 14 08 41.9 +1.1
comp=Z,110nm,0.7s,baz=97,slow=9.9,SNR=142
STKA S **S** 14 13 36.4 -1.5
comp=Z,1.5nm,0.4s,baz=307,slow=20,SNR=2.6
STKA ScP **ScP** 14 13 44.9 +2.8
comp=Z,12nm,0.8s,baz=48,slow=12,SNR=7.0
COEN Coen 36.35 276 *eP* **P** 14 08 45.3 +0.4
comp=Z,124nm,0.9s
ARPS Mount Arapiles 36.47 238 P **P** 14 08 46.5 +0.9
baz=37,SNR=15
MANU Manus Island 37.88 297 *eP* **P** 14 08 57.2 -0.2
comp=Z,270nm,1.5s
QIS Mount Isa 38.07 265 P **P** 14 08 59.1 +0.2
baz=38,SNR=18
HTT Hallett 38.28 244 P **P** 14 09 01.1 +0.6
baz=38,SNR=40
JOHN Johnston Islan 39.79 15 *eP* **P** 14 09 12.4 -0.2
comp=Z,136nm,0.8s
TAOE Nuku Hiva Isla 39.99 77 *eP* **P** 14 09 14.4 -0.1
comp=Z,249nm,0.9s
TAOE Nuku Hiva Isla 39.99 77 *eP* **P** 14 09 14.2 -0.2
comp=Z,100nm,0.8s
BBOO Buckleboo 40.62 245 P **P** 14 09 19.3 +0.2
baz=41,SNR=116
BBOO Buckleboo 40.62 245 *eP* **P** 14 09 19.0 -0.1
comp=Z,151nm,0.9s
AS01 Alice Springs 42.79 259 *eP* **P** 14 09 36.2 -0.1
AS01 *e*PcP **PcP** 14 11 14.5 +0.6
AS31 Alice Springs 42.83 259 *eP* **P** 14 09 36.9 +0.2
comp=Z,86nm,1.1s
ASAR Alice Springs 42.83 259 P **P** 14 09 36.9 +0.2
comp=Z,190nm,0.8s,baz=100,slow=8.0,SNR=1579
ASAR PcP **PcP** 14 11 13.4 -0.7
comp=Z,5.5nm,0.6s,baz=95,slow=5.2,SNR=4.4
ASAR ScP **ScP** 14 14 11.8 +2.3
comp=Z,9.1nm,0.9s,baz=107,slow=4.4,SNR=11
ASAR S **S** 14 15 18.0 -1.5
comp=Z,2.3nm,0.9s,baz=48,slow=24,SNR=5.4
ASAR ScS **ScS** 14 18 28.2 -3.6
comp=Z,1.4nm,0.9s,baz=56,slow=7.7,SNR=5.7
ASAR P3KPbc 14 38 38.0
comp=Z,0.2nm,0.4s,baz=288,slow=4.1,SNR=4.5
WB2 Warramunga Arr 43.03 264 *eP* **P** 14 09 37.5 -0.7
WRAB Tennant Creek 43.03 264 *eP* **P** 14 09 37.5 -0.7
comp=Z,207nm,0.9s
WRAB Tennant Creek 43.03 264*d i*P **P** 14 09 37.8 -0.4
WRAB *i* *PP **pwP** 14 11 23.7 -2.1
WRAB pmax pmax
comp=Z,176nm,0.9s
WRA Warramunga Arr 43.04 264 P **P** 14 09 38.3 0.0
comp=Z,163nm,0.9s,baz=94,slow=8.0,SNR=758
WRA ScP **ScP** 14 14 12.3 +1.9
comp=Z,25nm,1.0s,baz=94,slow=4.3,SNR=22
WRA S **S** 14 15 20.7 -1.8
comp=Z,3.0nm,0.9s,baz=97,slow=13,SNR=7.4
WRA ScS **ScS** 14 18 32.9 -0.3
comp=Z,0.8nm,0.8s,baz=97,slow=8.6,SNR=5.8
WRA P3KPbc 14 38 37.6
comp=Z,0.4nm,0.6s,baz=298,slow=3.1,SNR=5.1
JAY Jayapura 43.28 291 P **P** 14 09 40.2 -0.1
comp=Z,204nm,0.8s,baz=135,slow=3.4,SNR=54
GENI Genyem 43.71 291 P **P** 14 09 42.9 -0.6
KDU Kakadu 46.63 273 P **P** 14 10 05.4 -0.4
baz=47,SNR=167
KHLU Kahalu`u 47.41 31 *eP* **P** 14 10 11.0 -0.6
comp=Z,151nm,0.8s
FORT Forrest 47.41 248 P **P** 14 10 11.3 -0.1
baz=48,SNR=47
FORT Forrest 47.41 248 *eP* **P** 14 10 11.1 -0.4
comp=Z,291nm,0.8s
HUH Hualalai 47.51 31 *eP* **P** 14 10 12.2 -0.4
comp=Z,69nm,0.7s
MLH Mauna Loa 47.57 31 *eP* **P** 14 10 12.5 -0.4
comp=Z,102nm,0.7s
MLH Mauna Loa 47.57 31 *eP* **P** 14 10 12.5 -0.4
MLH pmax pmax
comp=Z,102nm,0.7s
HMH Humu'ula Sheep 47.61 31 *eP* **P** 14 10 13.3 -0.1
comp=Z,236nm,1.0s
POHA Pohakuloa 47.72 31 *eP* **P** 14 10 13.7 -0.4
comp=Z,87nm,0.8s
WRKA Warakurna 47.72 256 P **P** 14 10 14.0 +0.1
baz=48,SNR=724
MTN Manton Dam 47.83 273 P **P** 14 10 14.5 -0.2
baz=48,SNR=112
MTN Manton Dam 47.83 273 *eP* **P** 14 10 14.4 -0.4
comp=Z,137nm,0.6s
KEKH Kekaha 47.85 25 *eP* **P** 14 10 14.5 -0.2
comp=Z,130nm,0.9s
HPAH Hawaii Prepara 47.88 31 *eP* **P** 14 10 14.9 -0.1
comp=Z,316nm,0.7s
BAKI Biak 47.93 290 P **P** 14 10 15.9 +0.4
HON Honolulu 47.97 27 *eP* **P** 14 10 15.4 -0.2
HON Honolulu 47.97 27 *eP* **P** 14 10 15.4 -0.2
KIP Kipapa 48.05 27 *eP* **P** 14 10 15.9 -0.3
comp=Z,45nm,0.6s
KIP Kipapa 48.05 27 *eP* **P** 14 10 15.9 -0.3
KIP *i* *PP **pP** 14 12 01.4 -1.0
KIP pmax pmax
comp=Z,328nm,2.8s
OPA Opana 48.28 27 *eP* **P** 14 10 17.4 -0.5
comp=Z,119nm,0.9s
OPA Opana 48.28 27 *eP* **P** 14 10 17.5 -0.5
OPA pmax pmax
comp=Z,119nm,0.9s
KHLH Kahului Airpor 48.29 29 *eP* **P** 14 10 17.8 -0.1
comp=Z,149nm,0.9s
KNRA Kununurra 49.20 268 P **P** 14 10 25.1 +0.2
baz=49,SNR=100
SAUI Saumlaki 49.34 279 *eP* **P** 14 10 26.5 +0.5
comp=Z,306nm,0.8s
SAUI Saumlaki 49.34 279 P **P** 14 10 26.7 +0.8
RKPI Ransiki, Papua 49.47 288 P **P** 14 10 26.5 -0.4
GUMO Guam 49.79 312 P **P** 14 10 28.7 -0.4
comp=Z,94nm,0.7s,baz=165,slow=15,SNR=4.1
FAKI Fak Fak 50.55 285 *eP* **P** 14 10 34.6 -0.1
comp=Z,127nm,1.0s
FITZ Fitzroy Crossi 51.47 264 P **P** 14 10 41.8 +0.4
baz=52,SNR=143
FITZ Fitzroy Crossi 51.47 264 *eP* **P** 14 10 41.7 +0.3
comp=Z,201nm,1.4s
FITZ Fitzroy Crossi 51.47 264 P **P** 14 10 41.8 +0.4
comp=Z,31nm,0.4s,baz=84,slow=4.5,SNR=226
SIJI Sorong 52.34 287 P **P** 14 10 47.6 -0.1
comp=Z,329nm,0.7s,baz=88,slow=6.3,SNR=192
PALU Palau 53.77 298 P **P** 14 10 58.4 +0.7
baz=54,SNR=7.2
SOEI Soe 55.19 273 *eP* **P** 14 11 08.8 +0.9
comp=Z,377nm,0.8s
BATI Baumata 55.60 273 P **P** 14 11 12.3 +1.7
comp=Z,217nm,0.6s,baz=162,slow=1.3,SNR=43
MEEK Meekatharra 56.11 252 P **P** 14 11 13.5 -0.5
baz=56,SNR=40
KLBR Kellerberrin 56.15 246 P **P** 14 11 14.7 +0.6
baz=56,SNR=24
SBA Scott Base 56.21 183 *eP* **P** 14 11 16.2 +2.5
comp=Z,57nm,1.1s
VNDA Vanda 56.22 185 *eP* **P** 14 11 15.6 +1.9
comp=Z,82nm,1.8s
VNDA Vanda 56.22 185 *eP* **P** 14 11 15.6 +1.9
VNDA pmax pmax
comp=Z,82nm,1.8s
VNDA Vanda 56.22 185 P **P** 14 11 15.8 +2.0
comp=Z,11nm,1.0s,baz=8.4,slow=7.3,SNR=40
NWAO Narrogin (SRO) 56.44 244 P **P** 14 11 16.3 +0.3
baz=57,SNR=18
NWAO Narrogin (SRO) 56.44 244 *eP* **P** 14 11 16.3 +0.3
NWAO Narrogin (SRO) 56.44 244 *eP* **P** 14 11 16.3 +0.3
NWAO Narrogin (SRO) 56.44 244 P **P** 14 11 16.2 +0.1
comp=Z,42nm,0.7s,baz=120,slow=7.9,SNR=25
RKGY Rocky Gully 56.48 242 P **P** 14 11 17.6 +1.3
baz=57,SNR=4.6
TNTI Ternate 56.56 286 *eP* **P** 14 11 17.1 0.0
comp=Z,142nm,1.0s
BLDU Balildu 57.16 247 P **P** 14 11 20.9 -0.1
baz=57,SNR=74
MUN Mundaring 57.41 245 P **P** 14 11 23.1 +0.4
baz=58,SNR=16
MMRI Maumere 57.46 274 *eP* **P** 14 11 22.9 -0.4
comp=Z,235nm,1.1s
MORW Morawa 57.96 249 P **P** 14 11 26.6 +0.1
baz=58,SNR=16
MORW Morawa 57.96 249 *eP* **P** 14 11 26.4 -0.1
comp=Z,106nm,1.1s
LUWI Luwuk 59.89 282 *eP* **P** 14 11 39.4 -0.2
comp=Z,199nm,1.1s
GIRL Giralia 60.81 256 P **P** 14 11 46.8 +1.3
baz=61,SNR=11
JCJ Chichijima 61.37 321 P **P** 14 11 48.8 -0.1
comp=Z,33nm,0.5s,baz=274,slow=19,SNR=3.8
CBIJ Chichi jima 61.37 321 P **P** 14 11 48.8 -0.1
CASY Casey 61.95 206 *eP* **P** 14 11 52.6 +0.5
comp=Z,36nm,0.8s
JAGI Jaga, Banyuwa 65.01 271 *eP* **P** 14 12 11.4 -1.1
comp=Z,128nm,0.9s
TSM Tawau 66.60 285 P **P** 14 12 23.7 +1.3
SDKM Sandakan 67.80 286 P **P** 14 12 31.1 +1.3
QSPA South Pole Qui 67.99 180 *eP* **P** 14 12 30.6 +0.4
comp=Z,91nm,1.1s
WOJI Wonogiri, Jawa 68.22 270 P **P** 14 12 32.3 0.0
comp=Z,136nm,1.2s
UGM Wanagama 68.57 270 *eP* **P** 14 12 34.4 -0.1
comp=Z,127nm,0.7s
KDM Kudat 68.69 287 P **P** 14 12 37.3 +2.2
KKM Kota Kinabalu 68.85 286 *eP* **P** 14 12 36.3 +0.1
comp=Z,46nm,0.6s
KKM Kota Kinabalu 68.85 286 P **P** 14 12 37.8 +1.5
BTM Bintulu 70.45 282 P **P** 14 12 47.2 +1.5
CMJI Cimerak 70.54 269 P **P** 14 12 45.0 -1.1
MJAR Matsushiro Arr 70.69 325 P **P** 14 12 45.8 -0.8
comp=Z,10nm,0.9s,baz=167,slow=6.2,SNR=14
MAJO Matsushiro 70.69 325*i i*P **P** 14 12 46.4 -0.1
MAJO pmax pmax
comp=Z,17nm,1.0s
MAT Matsushiro 70.69 325 P **P** 14 12 45.8 -0.7
SBUM Sibu 70.93 281 *eP* **P** 14 12 48.9 +0.5
comp=Z,35nm,1.2s
SBUM Sibu 70.93 281 P **P** 14 12 49.8 +1.3
CISI Cisompet, Garu 71.20 269 *eP* **P** 14 12 49.2 -0.9
comp=Z,87nm,0.9s
CISI Cisompet, Garu 71.20 269 P **P** 14 12 49.1 -1.0
KSM Kuching 72.28 279 *eP* **P** 14 12 56.2 -0.1
comp=Z,73nm,0.7s
KSM *e*pP **pP** 14 14 56.5 +0.7
KSM Kuching 72.28 279 P **P** 14 12 57.3 +1.0
SKJI Sukabumi 72.57 269 P **P** 14 12 57.6 -0.3
TWG Pinang 73.09 304 *eP* **P** 14 12 58.9 -1.8
comp=Z,105nm,0.6s
TPI Tanjungpandan 73.10 274 P **P** 14 13 00.9 -0.1
YULB Yu-li 73.23 304 *eP* **P** 14 13 00.4 -1.1
comp=Z,159nm,2.0s
NACB Ninganchiao 73.44 305 *eP* **P** 14 13 02.3 -0.3
comp=Z,137nm,1.3s
KIWB Kanaga Island 73.65 2 *eP* **P** 14 13 02.6 -0.6
TPUB Ta-pu 73.70 304 *eP* **P** 14 13 02.8 -1.4
comp=Z,66nm,0.8s
SSLB Suanglung 73.72 305 *eP* **P** 14 13 03.0 -1.3
comp=Z,33nm,0.7s
ASAJ Asahikawa 74.48 333 P **P** 14 13 09.1 +1.0
comp=Z,14nm,0.8s,baz=73,slow=2.9,SNR=6.9
PPBI Pangkal Pinang 74.72 274 P **P** 14 13 09.9 -0.3
NIKH Nikolski High 75.31 7 *eP* **P** 14 13 11.7 -0.8
comp=Z,172nm,0.8s
PMBI Palembang 75.70 273 P **P** 14 13 26.3 +11
UNV Unalaska Valle 76.44 8 *eP* **P** 14 13 17.4 -1.3
comp=Z,26nm,0.6s
YSS Yuzh-Sakhalins 76.71 334*i i*P **P** 14 13 20.2 -0.1
YSS *e* 14 13 25.7
YSS *e* 14 15 22.4
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=N,10.0nm,1.2s
YSS pmax pmax
comp=E,20nm,1.3s
YSS pmax pmax
comp=Z,500nm,4.0s
KSRS Kosrae Array 77.18 320 P **P** 14 13 24.0 +0.9
comp=Z,5.8nm,1.1s,baz=134,slow=7.3,SNR=7.2
KSAR Wonju Array Be 77.19 320 P **P** 14 13 24.0 +0.8
KS01 Wonju Array Si 77.21 320 *eP* **P** 14 13 23.3 0.0
KS01 *e*pP **pP** 14 15 25.3 -0.1
PEA0B Petropavlovsk- 77.46 346 *eP* **P** 14 13 24.0 -0.2
comp=Z,43nm,0.8s
PETK Petropavlovsk- 77.46 346 P **P** 14 13 23.9 -0.4
comp=Z,33nm,0.7s,baz=126,slow=6.6,SNR=45
MYKOM Kota Tinggi 78.34 277 *eP* **P** 14 13 30.3 +0.4
comp=Z,36nm,1.2s
MYKOM Kota Tinggi 78.34 277 P **P** 14 13 31.1 +1.2
KGM Kluang 78.92 277 P **P** 14 13 34.5 +1.5
SNCC San Nicolas Is 79.33 48 P **P** 14 13 35.8 +1.1
baz=235
SPIA Saint Paul Isl 79.33 5 *eP* **P** 14 13 33.8 -0.3
comp=Z,82nm,1.0s
USA0B Ussuriysk Arra 79.51 327 *eP* **P** 14 13 35.9 +0.5
comp=Z,38nm,1.3s
USRK Ussuriysk Ar. 79.51 327 P **P** 14 13 35.7 +0.3
comp=Z,17nm,1.1s,baz=130,slow=3.0,SNR=14
MAW Mawson 79.61 200 P **P** 14 13 36.5 +1.0
comp=Z,15nm,0.8s,baz=153,slow=3.8,SNR=3.8
SCZ2 Santa Cruz Isl 79.69 47 P **P** 14 13 37.6 +1.0
baz=234
NJ2 Nanjing 79.84 311 *eP* **P** 14 13 38.5 +1.1
NJ2 pmax pmax
comp=Z,18nm,0.5s
SCI2 San Clemente I 79.85 48 P **P** 14 13 38.4 +0.9
baz=235
TYV Tymovskoe 79.93 337 *eP* **P** 14 13 37.9 +0.5
TYV pmax pmax
comp=Z,100nm,4.1s
TYV pmax pmax
comp=Z,21nm,0.9s
PKM Mcpherson Peak 80.08 46 P **P** 14 13 40.1 +1.3
baz=234
SAO San Andreas Ge 80.12 44 *eP* **P** 14 13 39.4 +0.6
comp=Z,29nm,0.9s
SAO San Andreas Ge 80.12 44 *eP* **P** 14 13 39.4 +0.6
SAO pmax pmax
comp=Z,29nm,0.9s
BLG Laguna Peak, P 80.14 47 P **P** 14 13 39.6 +0.6
baz=235
CIS Catalina Islan 80.18 48 P **P** 14 13 39.9 +0.7
baz=235,SNR=6.3
SMMC Simmler 80.21 46 P **P** 14 13 40.5 +1.2
baz=234
PAGB Antelope Grade 80.29 45 *eP* **P** 14 13 40.6 +1.0
comp=Z,13nm,0.9s
KTGM Kuala Trenggan 80.38 280 P **P** 14 13 42.8 +2.2
FMP Fort Macarthur 80.44 48 P **P** 14 13 41.3 +0.8
baz=235
HOPS Hopland Field 80.47 41 *eP* **P** 14 13 41.4 +0.9
comp=Z,62nm,1.1s
OSI Osito Audit: C 80.66 47 P **P** 14 13 42.8 +1.2
baz=235
DECC Green Verdugo 80.72 47 P **P** 14 13 42.5 +0.5
baz=235
PASC Pasadena Art C 80.77 47 *eP* **P** 14 13 42.7 +0.5
comp=Z,24nm,0.8s
109C Camp Elliot, M 80.80 49 P **P** 14 13 43.1 +0.7
baz=236
CPE Camp Elliot 80.80 49 *eP* **P** 14 13 42.5 +0.1
comp=Z,52nm,1.4s
KMRM Mail Ridge 80.85 40 *eP* **P** 14 13 43.7 +1.1
comp=Z,160nm,0.9s
ARVC Arvin 80.88 46 P **P** 14 13 43.6 +0.9
baz=235
MWC Mount Wilson 80.89 47 *eP* **P** 14 13 43.0 0.0
comp=Z,26nm,1.0s
MWC Mount Wilson 80.89 47 *eP* **P** 14 13 43.0 0.0
MWC pmax pmax
comp=Z,26nm,1.0s
BAR Barrett 80.99 49 *eP* **P** 14 13 42.5 -0.9
comp=Z,63nm,1.9s
VES Vestal, Richgr 81.12 46 P **P** 14 13 44.4 +0.4
baz=235,SNR=9.0
MURC Murrieta 81.13 48 P **P** 14 13 44.9 +0.8
baz=236,SNR=6.5
BFSC Mount Baldy Ra 81.17 48 P **P** 14 13 44.9 +0.5
baz=236,SNR=7.7
VOG Valley Oaks Go 81.20 45 P **P** 14 13 45.0 +0.7
baz=234
MONP2 Monument Peak 81.28 49 P **P** 14 13 46.3 +1.2
baz=237,SNR=34
EDW2 Edwards Air Fo 81.30 47 P **P** 14 13 46.0 +1.0
baz=235,SNR=25
O02D Mt. Diablo Mer 81.37 40 P **P** 14 13 47.1 +1.9
baz=232,SNR=24
IKP In-Ko-Pah, Jac 81.37 50 P **P** 14 13 46.7 +1.3
baz=237,SNR=11
ISA Isabella, Lake 81.42 46 *eP* **P** 14 13 46.3 +0.7
comp=Z,42nm,0.9s
ISA Isabella, Lake 81.42 46 *eP* **P** 14 13 46.3 +0.7
ISA pmax pmax
comp=Z,42nm,0.9s
ISA Isabella, Lake 81.42 46 P **P** 14 13 46.7 +1.1
baz=235,SNR=24
SRIG Santa Rosalia 81.45 56 *eP* **P** 14 13 45.8 -0.1
comp=Z,61nm,1.0s
KRMB Red Mountain 81.55 39 *eP* **P** 14 13 47.8 +1.7
CMB Columbia Colle 81.56 43 *eP* **P** 14 13 46.8 +0.6
comp=Z,43nm,0.9s
CMB Columbia Colle 81.56 43 *eP* **P** 14 13 46.8 +0.6
CMB pmax pmax
comp=Z,43nm,0.9s
PFO Pinyon Flats O 81.65 49 *eP* **P** 14 13 47.1 +0.2
comp=Z,40nm,1.5s
PFO Pinyon Flats O 81.65 49 P **P** 14 13 47.8 +1.0
baz=237,SNR=9.4
PFO Pinyon Flats O 81.65 49 P **P** 14 13 47.2 +0.3
comp=Z,7.6nm,0.7s,baz=253,slow=2.7,SNR=12
XPFO Pion Flat 81.65 49 *eP* **P** 14 13 47.2 +0.3
comp=Z,43nm,1.5s
BBRC Big Bear Solar 81.69 48 P **P** 14 13 47.9 +0.7
baz=236
AFDM Forest Hills D 81.73 42 *eP* **P** 14 13 47.5 +0.4
comp=Z,39nm,1.0s
SWSC Sam W. Stewart 81.75 50 P **P** 14 13 48.2 +1.0
baz=237,SNR=9
WDC Whiskeytown Da 81.77 40 *eP* **P** 14 13 47.5 +0.4
comp=Z,62nm,1.1s
WDC Whiskeytown Da 81.77 40 *eP* **P** 14 13 47.5 +0.4
WDC pmax pmax
comp=Z,62nm,1.1s
ORV Oroville 81.77 41 *eP* **P** 14 13 46.9 -0.3
comp=Z,34nm,0.9s
ORV Oroville 81.77 41 *eP* **P** 14 13 46.9 -0.3
ORV pmax pmax
comp=Z,34nm,0.9s
LRMC Laurel Mtn Rad 81.85 47 P **P** 14 13 48.6 +0.8
baz=236
N02D Trinity Center 81.92 40 P **P** 14 13 49.6 +1.7
baz=232,SNR=15
IPM Ipoh 81.98 278 *eP* **P** 14 13 49.2 +0.4
comp=Z,50nm,0.8s
IPM *e*pP **pP** 14 15 53.6 +1.2
IPM Ipoh 81.98 278 P **P** 14 13 50.0 +1.1
RRX Edison Barstow 81.98 47 P **P** 14 13 49.2 +0.8
baz=236
O03E Paynes Creek 82.04 41 P **P** 14 13 49.6 +0.9
baz=232,SNR=21
M02C Callahan 82.09 39 P **P** 14 13 50.7 +1.8
baz=231,SNR=18
CWC Cottonwood Cre 82.13 46 P **P** 14 13 50.2 +0.9
baz=235
L02E Cave Junction 82.13 38 P **P** 14 13 50.4 +1.4
baz=231
MDPB Devils Postpil 82.16 44 *eP* **P** 14 13 49.3 -0.2
comp=Z,40nm,0.9s
BELC Belle Mtn. Jos 82.19 49 P **P** 14 13 50.7 +1.1
baz=237,SNR=16
GRNR Gornyy 82.29 334 *eP* **P** 14 13 49.4 -0.1
GRNR pmax pmax
comp=Z,21nm,1.0s
MPMC Manual Prospec 82.31 46 P **P** 14 13 51.1 +0.9
baz=236,SNR=31
MLAC Mammoth, Mammo 82.31 44 P **P** 14 13 51.4 +1.1
baz=235
GSC Goldstone, Bar 82.35 47 *eP* **P** 14 13 50.5 +0.2
comp=Z,36nm,1.0s
GSC Goldstone, Bar 82.35 47 *eP* **P** 14 13 50.5 +0.2
GSC pmax pmax
comp=Z,36nm,1.0s
GSC Goldstone, Bar 82.35 47 P **P** 14 13 51.2 +0.9
baz=236,SNR=20
DAC Darwin (Calif) 82.36 46 *eP* **P** 14 13 50.8 +0.3
DAC Darwin (Calif) 82.36 46 *eP* **P** 14 13 50.8 +0.3
BC3 Big Chuckawall 82.38 49 P **P** 14 13 51.9 +1.4
baz=237,SNR=18
TIN Tinemaha, Big 82.38 45 P **P** 14 13 51.7 +1.2
baz=235,SNR=6.3
YBH Yreka Blue Hor 82.38 39 *eP* **P** 14 13 51.5 +1.2
comp=Z,39nm,0.9s
YBH Yreka Blue Hor 82.38 39 P **P** 14 13 51.4 +1.0
comp=Z,28nm,0.8s,baz=198,slow=1.8,SNR=41
HEC Hector,Ludlow 82.41 48 P **P** 14 13 51.5 +0.9
baz=236,SNR=14
K02D Willamette Mer 82.44 38 P **P** 14 13 52.1 +1.5
baz=231
GLA Glamis 82.50 50 *eP* **P** 14 13 52.1 +1.1
comp=Z,69nm,0.9s
GLA Glamis 82.50 50 P **P** 14 13 52.7 +1.6
baz=238,SNR=18
NKL Nikolayevsk 82.50 337 *eP* **P** 14 13 49.0 -1.5
NKL pmax pmax
comp=Z,39nm,1.0s
J01E Myrtle Point 82.58 37 P **P** 14 13 52.7 +1.5
baz=230
KULM Kulim 82.64 279 *eP* **P** 14 13 52.2 +0.1
comp=Z,25nm,0.9s
KULM *e*pP **pP** 14 15 57.1 +1.1
KULM Kulim 82.64 279 P **P** 14 13 54.3 +2.2
BEKR Beckworth 82.66 42 *eP* **P** 14 13 52.5 +0.5
comp=Z,30nm,0.9s
PNTR Pine Nut 82.68 43 *eP* **P** 14 13 52.8 +0.7
comp=Z,98nm,0.8s
KDAK Kodiak Island 82.68 14 *i*P **P** 14 13 51.6 +0.3
KDAK Kodiak Island 82.68 14 P **P** 14 13 51.2 0.0
comp=Z,12nm,0.6s,baz=239,slow=2.4,SNR=5.7
CN2 Changchun 82.72 323 *eP* **P** 14 13 54.5 +2.6
CN2 pmax pmax
comp=Z,10.0nm,1.0s
VCNR Virginia City 82.77 43 *eP* **P** 14 13 53.0 +0.5
comp=Z,28nm,0.9s
HUMO Hull Mountain 82.79 38 *eP* **P** 14 13 53.6 +1.3
comp=Z,79nm,1.3s
YERR Yerington 82.84 43 *eP* **P** 14 13 53.4 +0.5
comp=Z,45nm,0.7s
GMRC Granite Mounta 82.85 48 P **P** 14 13 53.8 +1.0
baz=237,SNR=17
IRM Iron Mountain 82.87 49 P **P** 14 13 54.1 +1.3
baz=237,SNR=32

GRAC Grapevine Rang 82.92 45 P P 14 13 54.3 +1.2
baz=236,SNR=6.3
L04D Klamath Falls 82.92 39 P P 14 13 54.5 +1.4
baz=232,SNR=8.8
M04C Macdoel 82.93 40 P P 14 13 54.5 +1.4
baz=232,SNR=7.5
FURC Furnace Creek, 82.95 46 P P 14 13 54.1 +0.9
baz=236,SNR=11
TUQ Turquoise Moun 83.02 47 P P 14 13 54.7 +0.9
baz=237,SNR=5.4
SHOC Shoshone, Teco 83.04 47 P P 14 13 54.5 +0.8
baz=236
Y12C Blythe 83.08 49 eP P 14 13 54.0 +0.1
comp=Z,38nm,1.0s
Y12C Blythe 83.08 49 P P 14 13 55.2 +1.3
baz=238,SNR=11
RYN Ryan 83.09 44 eP P 14 13 54.1 0.0
comp=Z,24nm,1.1s
113A Mohawk Valley, 83.11 51 eP P 14 13 54.9 +0.8
comp=Z,37nm,1.0s
NV01 Mina Array Sit 83.12 44 eP P 14 13 54.5 +0.2
NVAR Mina Array Bea 83.12 44 P P 14 13 55.1 +0.8
comp=Z,30nm,0.9s,baz=224,slow=8.6,SNR=128
PAHR Pah Rah Range 83.17 42 eP P 14 13 55.0 +0.6
comp=Z,40nm,1.0s
KLR Kul'dur 83.20 330 c iP P 14 13 55.2 +1.1
KLR Kul'dur 83.20 330 P P 14 13 54.6 +0.5
comp=Z,5.4nm,0.9s,baz=83,slow=3.2,SNR=14
NV11 Mina Array Sit 83.22 44 eP P 14 13 55.2 +0.5
comp=Z,2.9nm,1.0s
I03D Drain, OR 83.25 37 P P 14 13 56.0 +1.5
baz=231
PSI Prapat 83.27 276 eP P 14 13 54.8 -0.6
comp=Z,27nm,0.8s
PSI Prapat 83.27 276 eP P 14 13 54.8 -0.6
PSI pmax pmax
comp=Z,27nm,0.8s
PSI Prapat 83.27 276 P P 14 13 54.9 -0.6
comp=Z,24nm,0.9s,baz=179,slow=4.1,SNR=19
HSIG 83.29 55 eP P 14 13 55.6 +0.6
comp=Z,36nm,0.8s
214A Organ Pipe Nat 83.38 52 P P 14 13 56.9 +1.5
baz=239
LDFC Landfair 83.39 48 eP P 14 13 56.8 +1.2
comp=Z,106nm,1.0s
SKLT Songkhla 83.39 280 P P 14 13 58.4 +2.5
K04D Chiloquin, OR 83.50 39 P P 14 13 57.1 +1.2
baz=232
NEE2 Needles Airpor 83.56 49 P P 14 13 57.4 +1.2
baz=238
KVN Kaiserville 83.61 43 eP P 14 13 56.9 +0.3
comp=Z,26nm,0.9s
KVN Kaiserville 83.61 43 eP P 14 13 56.9 +0.3
KVN pmax pmax
comp=Z,26nm,0.9s
TPNV Topopah Spring 83.63 46 eP P 14 13 57.0 +0.2
comp=Z,40nm,1.1s
TPNV Topopah Spring 83.63 46 eP P 14 13 57.0 +0.2
TPNV pmax pmax
comp=Z,40nm,1.1s
TPNV Topopah Spring 83.63 46 P P 14 13 57.7 +0.9
baz=236,SNR=19
PDMCI Parker Dam,Lak 83.65 49 P P 14 13 57.8 +1.2
baz=238,SNR=15
J04D Umpqua Nationa 83.67 38 P P 14 13 58.2 +1.4
baz=232,SNR=7.9
I04A Tendick Farm, 83.84 38 P P 14 13 58.3 +0.8
baz=232,SNR=6.2
PANO Nakornpanom 83.89 291 P P 14 13 59.9 +1.6
MOD Modoc Plateau 83.91 40 eP P 14 13 58.2 +0.2
comp=Z,72nm,1.4s
GSI Gunungsitoli 83.95 274 eP P 14 13 59.0 +0.3
comp=Z,95nm,1.1s
H04D Lebanon 84.11 37 P P 14 14 00.1 +1.4
baz=231
SHPR Sheep Range 84.12 47 eP P 14 13 59.6 +0.4
comp=Z,44nm,1.5s
J05D Fort Rock, OR 84.20 39 P P 14 14 00.7 +1.3
baz=232,SNR=15
W13A Hualapai Mount 84.25 49 eP P 14 14 00.5 +0.6
comp=Z,20nm,0.8s
G03D McMinnville, O 84.25 36 P P 14 14 00.7 +1.3
baz=231
SKNT Sakolnakorn 84.37 291 P P 14 14 01.8 +1.2
TRTT Trang 84.50 281 P P 14 14 03.2 +1.9
H04A Detroit Lake 84.52 37 eP P 14 14 01.3 +0.6
comp=Z,194nm,1.7s
PINE Pine Mountain 84.68 38 eP P 14 14 02.8 +1.0
comp=Z,115nm,1.4s
I05D Terrebonne, OR 84.78 38 P P 14 14 03.4 +1.3
baz=232,SNR=5.7
R11A Troy Canyon, C 84.84 45 eP P 14 14 02.6 -0.1
comp=Z,3.3nm,0.8s
R11A Troy Canyon, C 84.84 45 P P 14 14 03.1 +0.4
baz=237,SNR=8.1
SRAK Srakaew 84.84 287 P P 14 14 02.7 -0.2
BRLK Bradley Lake 84.85 14 eP P 14 14 01.7 -0.4
comp=Z,79nm,1.0s
SYO Syowa Base 84.88 193 ⇑ eP P 14 14 00.0 -2.1
SYO Syowa Base 84.88 193 ⇑ ePcP PcP 14 14 03.3 -0.9
F04D Rainier, OR 84.94 36 P P 14 14 04.5 +1.7
baz=231
MA2 Magadan 84.95 345 eP P 14 14 01.2 -1.3
comp=Z,24nm,0.9s
MA2 Magadan 84.95 345 ⇑ iP P 14 14 02.0 -0.4
MA2 pmax pmax
comp=Z,31nm,1.0s
MA2 Magadan 84.95 345 P P 14 14 00.8 -1.6
comp=Z,20nm,0.9s,baz=158,slow=5.8,SNR=6.5
TUC Tucson 85.04 52 eP P 14 14 04.3 +0.7
comp=Z,37nm,0.9s
TUC Tucson 85.04 52 eP P 14 14 04.3 +0.7
TUC pmax pmax
comp=Z,37nm,0.9s
TUC Tucson 85.04 52 P P 14 14 05.2 +1.5
baz=240
KHON Khomkaen 85.11 290 P P 14 14 06.4 +2.2
SVW2 Sparrevohn 85.11 11 eP P 14 14 02.4 -0.8
comp=Z,9.9nm,0.7s
SVW2 epP pwP 14 16 10.4 -1.1
WVOR Wild Horse Val 85.23 40 eP P 14 14 05.0 +0.6
comp=Z,25nm,0.9s
WVOR Wild Horse Val 85.23 40 eP P 14 14 05.0 +0.6
WVOR pmax pmax
comp=Z,25nm,0.9s
G05D Wamic, OR 85.35 37 P P 14 14 06.0 +1.3
baz=232
PATY Pattaya 85.45 286 P P 14 14 09.2 +3.3
E04D Cinebar 85.48 35 P P 14 14 06.6 +1.3
baz=231
X16A Lo Mia Camp, P 85.62 50 eP P 14 14 07.2 +0.7
comp=Z,26nm,1.1s
CHAI Chaiyaphum 85.66 289 P P 14 14 08.5 +1.6
F05D White Salmon 85.66 36 P P 14 14 07.4 +1.1
baz=232
I07A Izee 85.68 39 eP P 14 14 07.3 +0.8
comp=Z,42nm,1.0s
LCMT Little Creek M 85.69 47 eP P 14 14 07.2 +0.5
comp=Z,20nm,0.9s
319A Douglas 85.69 54 eP P 14 14 08.0 +1.1
comp=Z,73nm,0.9s
D04E Lakebay 85.76 35 P P 14 14 08.0 +1.4
baz=231
GAMB Gambell 85.79 3 eP P 14 14 06.4 +0.1
comp=Z,14nm,0.8s
ENH Enshi 85.80 305 eP P 14 14 07.8 +0.5
comp=Z,51nm,1.1s
D03D Eldon 85.82 34 P P 14 14 08.2 +1.3
baz=231
J08A Circle Bar Ran 85.86 40 eP P 14 14 07.8 +0.4
comp=Z,69nm,1.3s
CCUT Cedar City 85.89 47 eP P 14 14 08.8 +1.0
comp=Z,19nm,1.0s
KNB Kanab 85.98 47 eP P 14 14 08.6 +0.4
comp=Z,26nm,1.0s
LON Longmire 86.01 36 eP P 14 14 08.0 +0.1
comp=Z,13nm,0.8s
LON Longmire 86.01 36 eP P 14 14 08.0 +0.1
LON pmax pmax
comp=Z,13nm,0.8s
U15A North Rim 86.04 48 eP P 14 14 09.4 +0.8
comp=Z,42nm,0.8s
BJI Beijing 86.06 316 P P 14 14 09.3 +1.1
BJI pmax pmax
comp=Z,9.0nm,2.0s
PSUT Pine Spring 86.08 46 eP P 14 14 09.0 +0.4
comp=Z,15nm,0.9s

SZCU Shurtz Canyon 86.10 47 eP P 14 14 09.2 +0.4
comp=Z,17nm,0.8s
D05A Enumclaw 86.18 35 eP P 14 14 09.7 +1.1
comp=Z,96nm,1.1s
WUAZ Wupatki 86.22 49 eP P 14 14 10.0 +0.7
comp=Z,23nm,1.0s
WUAZ Wupatki 86.22 49 P P 14 14 10.4 +1.1
baz=240
GYA Guiyang 86.25 300 ⇑ iP P 14 14 10.6 +1.0
GYA pP pwP 14 16 19.3 -0.1
GYA sP sP 14 17 18.0 +4.1
GYA PP PP 14 17 45.4 +3.4
GYA SKS SKSac 14 23 39.8 -0.6
GYA S S 14 23 55.6 -0.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.8s
RC01 Rabbit Creek A 86.30 14 eP P 14 14 08.3 -0.5
comp=Z,46nm,1.1s
ELK Elko 86.38 43 eP P 14 14 10.3 +0.3
comp=Z,18nm,1.0s
SUA Susitna One 86.41 13 eP P 14 14 08.8 -0.8
comp=Z,56nm,0.6s
HPIG 86.42 59 eP P 14 14 10.6 0.0
comp=Z,22nm,0.8s
SNAA Sanae 86.46 179 P P 14 14 09.3 -0.4
SNAA Sanae 86.46 179 eP P 14 14 09.0 -0.8
comp=Z,12nm,1.0s
SNAA Sanae 86.46 179 ⇓ iP P 14 14 09.4 -0.4
F07A Phinny Hill Vi 86.52 37 eP P 14 14 10.8 +0.5
comp=Z,35nm,0.9s
PHET Kaeng Krachan 86.55 285 P P 14 14 13.8 +2.7
PKCU Pink Cliffs 86.55 47 eP P 14 14 11.6 +0.5
comp=Z,54nm,1.0s
VNA3 Neumayer Olymp 86.65 177 P P 14 14 10.1 -0.5
G08A Pilot Rock 86.71 38 eP P 14 14 11.8 +0.5
comp=Z,55nm,1.0s
X18A Snowflake 86.74 51 eP P 14 14 12.3 +0.5
comp=Z,13nm,0.8s
A04D Lumni Island 86.76 34 P P 14 14 12.7 +1.4
baz=231
B05A Bryant 86.79 34 P P 14 14 12.6 +1.2
baz=231
PBKT Sadao Pong 86.83 289 P P 14 14 14.3 +2.0
KNK Knik Glacier 86.87 14 eP P 14 14 11.3 -0.2
comp=Z,47nm,0.7s
PMR Palmer 86.88 14 eP P 14 14 11.0 -0.5
comp=Z,48nm,1.1s
PMR Palmer 86.88 14 eP P 14 14 11.0 -0.5
PMR pmax pmax
comp=Z,48nm,1.1s
LTY Liberty 86.93 36 eP P 14 14 12.3 0.0
comp=Z,37nm,1.0s
MTPU Mount Pierson 86.95 47 eP P 14 14 13.8 +0.9
comp=Z,30nm,1.1s
HAWA Hanford 87.04 37 eP P 14 14 13.6 +0.9
comp=Z,68nm,0.9s
NVL N'lazarevskaya 87.06 184 ⇓ iP P 14 14 11.4 -1.0
NVL pmax pmax
comp=Z,13nm,0.6s
TCRU Three Creeks R 87.06 46 eP P 14 14 14.3 +1.0
comp=Z,15nm,1.1s
VNA2 Neumayer--Watz 87.08 177 P P 14 14 12.5 -0.1
baz=201,slow=3.6
GHO Glory Hole Cre 87.08 14 eP P 14 14 12.3 -0.3
comp=Z,116nm,0.7s
ZAIG Zacatecas 87.13 64 eP P 14 14 14.6 +0.6
comp=Z,21nm,0.9s
W18A Penfield Fore 87.18 50 P P 14 14 14.8 +0.9
baz=240
MSU Marysvale 87.19 46 eP P 14 14 14.2 +0.3
C06D Leavenworth 87.22 35 P P 14 14 14.1 +0.6
baz=232
SML Sawmill 87.25 14 eP P 14 14 13.1 -0.3
comp=Z,20nm,0.9s
SML Sawmill 87.25 14 eP P 14 14 13.1 -0.3
SML pmax pmax
comp=Z,20nm,0.9s
DIV Divide 87.27 16 eP P 14 14 13.2 -0.3
comp=Z,40nm,0.8s
VNA1 Neumayer--Stat 87.31 177 P P 14 14 13.6 0.0
E08A Dider Farm, El 87.36 37 eP P 14 14 14.7 +0.5
comp=Z,47nm,0.9s
121A Cookes Peak, D 87.36 53 P P 14 14 16.2 +1.4
baz=242,SNR=9.2
PPLA Purkeypile 87.41 12 eP P 14 14 12.1 -2.1
comp=Z,20nm,1.2s
BMO Blue Mountains 87.41 39 eP P 14 14 14.4 -0.2
comp=Z,22nm,0.8s
BMO Blue Mountains 87.41 39 eP P 14 14 14.4 -0.2
BMO pmax pmax
comp=Z,22nm,0.9s
SCM Sheep Creek Mo 87.50 15 eP P 14 14 14.5 -0.1
comp=Z,107nm,0.7s
SCM Sheep Creek Mo 87.50 15 eP P 14 14 14.5 -0.1
SCM pmax pmax
comp=Z,107nm,0.7s
KLU Klutina 87.55 15 eP P 14 14 14.6 -0.2
comp=Z,19nm,0.8s
SEY Seymchan 87.61 348 ⇑ iP P 14 14 15.0 +0.1
SEY Seymchan 87.61 348 P P 14 14 14.8 -0.2
comp=Z,17nm,0.9s,baz=159,slow=5.0,SNR=47
DUG Dugway, Tooele 87.65 45 eP P 14 14 15.8 -0.1
comp=Z,24nm,1.7s
DUG Dugway, Tooele 87.65 45 eP P 14 14 15.8 -0.1
DUG pmax pmax
comp=Z,25nm,1.7s
DUG Dugway, Tooele 87.65 45 P P 14 14 16.5 +0.6
baz=238
UTTA Uttaradit 87.67 290 P P 14 14 18.6 +2.4
WRAK Wrangell Islan 87.72 24 eP P 14 14 15.3 -0.2
comp=Z,47nm,0.9s
UTHA Uthaitani 87.76 288 P P 14 14 19.1 +2.4
D08A Wollman Farm, 87.77 37 eP P 14 14 16.5 +0.4
comp=Z,54nm,0.8s
E09A Wood Farm, Sta 87.89 37 eP P 14 14 16.8 +0.1
comp=Z,42nm,1.0s
BGU Big Grassy Mou 87.89 44 eP P 14 14 16.9 -0.1
comp=Z,7.8nm,1.1s
NANT Nan 87.97 291 P P 14 14 19.8 +2.1
NLU North Lily Min 88.00 45 eP P 14 14 17.3 -0.4
comp=Z,37nm,1.7s
XAN Xi'an 88.00 308 P P 14 14 17.8 +0.2
XAN pmax pmax
comp=Z,15nm,1.1s
XAN pmax pmax
comp=Z,81nm,4.3s
Q16A Castle Valley 88.08 46 eP P 14 14 19.1 +1.1
comp=Z,97nm,1.6s
F10A Beach Ranch, E 88.09 38 eP P 14 14 17.7 -0.1
comp=Z,56nm,0.9s
TMUT Trail Mountain 88.24 46 eP P 14 14 19.1 +0.2
comp=Z,42nm,0.9s
TRF Thorofare Moun 88.29 13 eP P 14 14 17.2 -1.1
comp=Z,75nm,0.7s
B08A Colville Reser 88.32 35 eP P 14 14 18.5 -0.1
comp=Z,41nm,0.8s
MPU Maple Canyon 88.33 45 eP P 14 14 19.8 +0.6
comp=Z,26nm,1.2s
ZEA Zeya 88.35 332 eP P 14 14 19.0 +0.4
ZEA pmax pmax
comp=Z,12nm,1.0s
LLLB Lillooet 88.36 33 eP P 14 14 19.5 +0.6
comp=Z,32nm,1.0s
SUKH Sukhothai 88.36 289 P P 14 14 22.1 +2.6
HLID Hailey 88.42 41 eP P 14 14 19.9 +0.4
comp=Z,27nm,0.8s
HLID Hailey 88.42 41 P P 14 14 20.6 +1.2
baz=237
SPUT South Promonto 88.46 44 eP P 14 14 20.0 +0.3
comp=Z,39nm,1.0s
HVU Hansel Valley 88.50 43 eP P 14 14 20.4 +0.6
comp=Z,36nm,0.9s
HARP HAARP 88.52 15 eP P 14 14 19.1 -0.1
comp=Z,30nm,0.8s
UMPA Umpang Tak 88.54 288 P P 14 14 23.3 +2.9
RND Reindeer 88.55 13 eP P 14 14 18.9 -0.5
comp=Z,76nm,0.8s
RND Reindeer 88.55 13 eP P 14 14 18.9 -0.5
RND pmax pmax
comp=Z,76nm,0.8s
C09A Chrisman Ranch 88.56 36 eP P 14 14 19.6 -0.2
comp=Z,31nm,0.8s
DHY Denali Highway 88.58 14 eP P 14 14 18.8 -0.9
comp=Z,10nm,0.8s
CTU Camp Tracy 88.60 45 eP P 14 14 20.5 +0.2
comp=Z,27nm,0.9s
SRU San Rafael Swe 88.61 47 eP P 14 14 20.7 +0.2
comp=Z,43nm,0.9s
LAZ Ladron 88.72 52 eP P 14 14 22.0 +1.0
Y22D IRIS PASSCAL I 88.72 52 P P 14 14 22.3 +1.2
baz=242
LENM Lemitar 88.73 52 eP P 14 14 21.6 +0.5
BPAW Bear Paw Mtn. 88.73 12 eP P 14 14 18.5 -1.7
comp=Z,5.7nm,0.8s
JLU Jordanelle 88.75 45 eP P 14 14 21.7 +0.5
comp=Z,28nm,1.3s
LAMP Lampang 88.78 290 P P 14 14 24.0 +2.6
MNTX Cornudas Mount 88.79 55 eP P 14 14 22.0 +0.8
comp=Z,32nm,0.8s
MNTX Cornudas Mount 88.79 55 P P 14 14 22.5 +1.3
baz=243
KMI Kunming 88.85 298 P P 14 14 23.6 +1.7
KMI pmax pmax
comp=Z,18nm,1.4s
PAX Paxson 88.93 15 eP P 14 14 20.1 -1.1
comp=Z,19nm,1.2s
PAX Paxson 88.93 15 eP P 14 14 20.1 -1.1
PAX pmax pmax
comp=Z,19nm,1.2s
BNM Barren Site 88.97 52 eP P 14 14 22.0 -0.3
TCUT Toone Canyon 89.04 45 eP P 14 14 22.8 +0.3
comp=Z,89nm,0.9s
TX31 Lajitas Ar. Si 89.07 58 eP P 14 14 23.5 +0.8
TXAR Lajitas Array 89.07 58 P P 14 14 24.2 +1.5
comp=Z,21nm,0.9s,baz=216,slow=5.8,SNR=94
MVCO Mesa Verde 89.07 49 P P 14 14 23.3 +0.6
baz=241
BWN Browne 89.10 13 eP P 14 14 20.9 -0.9
comp=Z,42nm,1.0s
HWUT Hardware Ranch 89.19 44 eP P 14 14 22.3 -0.7
comp=Z,14nm,0.8s
HIA Hailar 89.19 325 ceP P 14 14 24.6 +1.9
MENT Mentasta 89.32 16 eP P 14 14 22.7 -0.2
comp=Z,15nm,0.7s
CM01 Chiang Mai Arr 89.33 290 eP P 14 14 25.1 +1.1
CM31 Chiang Mai Arr 89.35 290 eP P 14 14 25.1 +1.0
comp=Z,40nm,1.0s
CMAR Chiang Mai Arr 89.35 290 ceP P 14 14 26.3 +2.2
CMAR Chiang Mai Arr 89.35 290 P P 14 14 26.1 +2.0
comp=Z,19nm,0.9s,baz=130,slow=3.2,SNR=113
CMAR PP PP 14 18 07.0 +0.5
comp=Z,2.4nm,0.8s,baz=122,slow=6.2,SNR=7.9
CMAR PKKP PKKPdf 14 31 52.6 +1.3
comp=Z,1.4nm,0.4s,baz=243,slow=15,SNR=5.1
NEW Newport 89.46 36 P P 14 14 24.2 +0.2
comp=Z,3.5nm,0.8s,baz=230,slow=6.5,SNR=6.6
TASM ASL Pad, Albuq 89.46 52 P P 14 14 25.5 +0.9
baz=242,SNR=31
TASM ASL Pad, Albuq 89.46 52 P P 14 14 25.5 +0.9
baz=242,SNR=31
ANMO Albuquerque 89.47 52 eP P 14 14 24.8 +0.2
comp=Z,23nm,0.9s
ANMO Albuquerque 89.47 52 ⇑ eP P 14 14 24.9 +0.4
ANMO pmax pmax
comp=Z,28nm,1.0s
ANMO Albuquerque 89.47 52 P P 14 14 25.3 +0.8
baz=242
HHC Hu-ho-hao-te 89.48 315 eP P 14 14 24.5 +0.2
HHC pP pP 14 16 32.8 +1.9
HHC SKS SKSac 14 23 58.5 -0.3
HHC S SKKSac 14 24 19.6 +5.5
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,73nm,5.0s
CMMT Chiang Mai 89.49 290 P P 14 14 26.4 +1.6
CHTO Chiang Mai 89.49 290 eP P 14 14 25.5 +0.7
comp=Z,30nm,0.9s
CHTO Chiang Mai 89.49 290 P P 14 14 26.5 +1.7
comp=Z,157nm,1.2s,comp=Z,1μm
WRH Wood River Hil 89.65 13 eP P 14 14 23.5 -0.9
comp=Z,34nm,0.9s
RIDG Independ'e Rid 89.73 15 eP P 14 14 24.7 -0.2
comp=Z,25nm,1.0s
GDL2 Guadalupe Moun 89.79 55 eP P 14 14 26.5 +0.5
HDA Harding Lake 89.83 14 eP P 14 14 24.5 -0.8
comp=Z,17nm,0.6s
HDA Harding Lake 89.83 14 P P 14 14 24.7 -0.6
baz=210
DOT Dot Lake 89.84 15 eP P 14 14 24.8 -0.5
comp=Z,20nm,0.9s
CCB Clear Creek Bu 89.86 13 eP P 14 14 24.1 -1.3
comp=Z,20nm,0.6s
IM3 Indian Mountai 89.95 10 eP P 14 14 25.1 -0.7
WHY Whitehorse 90.01 20 eP P 14 14 26.2 -0.1
comp=Z,10nm,0.9s
DLBC Dease Lake 90.05 24 eP P 14 14 26.8 +0.3
comp=Z,14nm,1.0s
DLBC Dease Lake 90.05 24 P P 14 14 27.1 +0.7
comp=Z,7.8nm,0.7s,baz=240,slow=4.3,SNR=13
TCOL CIGO, UAF Yank 90.05 13 P P 14 14 25.4 -0.8
baz=209
MCMT McKenzie Canyo 90.05 41 eP P 14 14 27.8 +0.7
COLA College 90.05 13 eP P 14 14 25.1 -1.1
comp=Z,27nm,0.8s
COLA College 90.05 13 ceP P 14 14 25.6 -0.6
COLA pmax pmax
comp=Z,28nm,1.1s
AHID Auburn Hatcher 90.07 43 eP P 14 14 27.5 +0.3
comp=Z,31nm,0.8s
SCRK Sand Creek 90.14 15 eP P 14 14 26.4 -0.4
comp=Z,11nm,0.8s
ILAR Eielson Array 90.16 13 P P 14 14 25.8 -1.0
comp=Z,6.4nm,0.7s,baz=216,slow=5.0,SNR=76
ILAR PKKP PKKPdf 14 31 52.5 +0.7
comp=Z,0.1nm,0.4s,baz=326,slow=3.5,SNR=5.1
ILB Eielson Array 90.16 13 eP P 14 14 25.4 -1.3
comp=Z,56nm,1.8s
POKR Poker Flat Res 90.35 13 P P 14 14 26.6 -1.0
baz=210
MSO Missoula 90.46 39 P P 14 14 28.5 -0.3
baz=238
BILL Bilibino 90.47 355 eP P 14 14 27.3 -0.8
comp=Z,14nm,0.7s
BILL Bilibino 90.47 355 c iP P 14 14 28.3 +0.2
BILL pmax pmax
comp=Z,15nm,0.9s
DLMT Dillon 90.48 40 eP P 14 14 29.6 +0.6
comp=Z,10nm,0.9s
S22A 4UR Ranch, Cre 90.49 49 eP P 14 14 28.8 -0.6
comp=Z,21nm,1.1s
S22A 4UR Ranch, Cre 90.49 49 P P 14 14 30.2 +0.9
baz=242
REDW Red Top Meadow 90.53 43 eP P 14 14 28.9 -0.4
comp=Z,34nm,0.9s
TPAW Teton Pass 90.53 43 eP P 14 14 28.8 -0.6
comp=Z,21nm,1.0s
FXWY Fox Creek 90.56 42 eP P 14 14 29.8 +0.4
comp=Z,11nm,0.9s
LNIG Linares 90.60 63 eP P 14 14 29.5 -0.3
comp=Z,32nm,0.9s
O20A White River Ci 90.65 47 eP P 14 14 29.6 -0.2
comp=Z,23nm,0.9s
O20A White River Ci 90.65 47 P P 14 14 30.3 +0.4
baz=241
RDOG Red Dog Mine 90.70 6 eP P 14 14 29.1 -0.2
comp=Z,14nm,0.9s
IMW Indian Meadow 90.75 42 eP P 14 14 30.5 +0.1
comp=Z,28nm,1.1s
MOOW Moose Ponds 90.79 42 eP P 14 14 30.7 +0.2
comp=Z,24nm,1.7s
LOHW Long Hollow 90.81 43 eP P 14 14 30.7 +0.2
comp=Z,8.6nm,0.8s
QLMT Earthquake Lak 90.92 41 eP P 14 14 31.5 +0.5
GO05 Huala 90.92 128 eP P 14 14 31.2 0.0
comp=Z,25nm,1.3s
FLWY Flagg Ranch 90.99 42 eP P 14 14 31.9 +0.6
comp=Z,32nm,1.4s
BW06 Boulder Array 91.06 44 eP P 14 14 31.8 +0.1
comp=Z,20nm,1.1s
BW06 Boulder Array 91.06 44 P P 14 14 31.8 +0.1
baz=240
PD31 Pinedale Array 91.06 44 eP P 14 14 31.6 -0.1
comp=Z,21nm,1.1s
PDAR Pinedale Array 91.06 44 P P 14 14 31.7 -0.1
comp=Z,12nm,0.9s,baz=217,slow=3.7,SNR=50
SMCO Snowmass 91.06 48 eP P 14 14 32.2 +0.1
comp=Z,12nm,0.8s
PRP Porcupine Dome 91.10 13 eP P 14 14 30.6 -0.7
comp=Z,18nm,1.3s
YMR Madison River 91.12 42 eP P 14 14 31.8 -0.2
comp=Z,9.8nm,0.7s

BOZ	Bozeman (W)	91.19	41	*e*P		P		14 14 32.2	0.0
	comp=Z,9.7nm,0.7s									
BOZ	Bozeman (W)	91.19	41	*e*P		P		14 14 32.2	0.0
BOZ				pmax		pmax				
	comp=Z,10.0nm,0.7s									
BOZ	Bozeman (W)	91.19	41	P		P		14 14 32.9	+0.8
	baz=239,SNR=7.9									
H17A	Grant Village	91.22	42	P		P		14 14 34.4	+1.9
	baz=240,SNR=6.9									
YHH	Holmes Hill	91.25	42	*e*P		P		14 14 33.5	+0.8
	comp=Z,6.7nm,0.8s									
DAWY	Dawson	91.36	16	*e*P		P		14 14 32.2	-0.2
	comp=Z,12nm,0.8s									
LKWY	Lake	91.42	42	*e*P		P		14 14 34.9	+1.5
	comp=Z,9.1nm,0.8s									
LKWY	Lake	91.42	42	*e*P		P		14 14 34.9	+1.5
LKWY				pmax		pmax				
	comp=Z,9.0nm,0.8s									
SDCO	Great Sand Dun	91.43	50	*e*P		P		14 14 33.5	-0.2
	comp=Z,13nm,0.9s									
SDCO	Great Sand Dun	91.43	50	P		P		14 14 34.2	+0.5
	baz=243,SNR=24									
EGAK	Eagle	91.49	15	*e*P		P		14 14 32.5	-0.4
	comp=Z,14nm,0.7s									
WALA	Waterton Lakes	91.67	37	*e*P		P		14 14 33.9	-0.4
	comp=Z,8.0nm,0.8s									
COLD	Coldfoot	91.69	11	*e*P		P		14 14 34.2	+0.4
	comp=Z,4.1nm,1.0s									
MSTX	Muleshoe	91.76	54	*e*P		P		14 14 34.5	-0.5
	comp=Z,19nm,0.8s									
MSTX	Muleshoe	91.76	54	P		P		14 14 35.3	+0.3
	baz=244									
T25A	Trinidad	91.94	51	*e*P		P		14 14 35.6	-0.3
	comp=Z,16nm,0.9s									
T25A	Trinidad	91.94	51	P		P		14 14 36.1	+0.2
	baz=244,SNR=7.2									
833A	Chaparral WMA,	92.04	60	P		P		14 14 36.6	+0.3
	baz=246									
Q24A	Divide	92.22	49	*e*P		P		14 14 37.0	-0.3
	comp=Z,12nm,0.9s									
Q24A	Divide	92.22	49	P		P		14 14 38.1	+0.7
	baz=243,SNR=5.0									
ISCO	Idaho Springs	92.28	48	*e*P		P		14 14 37.8	+0.3
	comp=Z,17nm,1.7s									
ISCO	Idaho Springs	92.28	48	*e*P		P		14 14 37.8	+0.3
ISCO				pmax		pmax				
	comp=Z,17nm,1.7s									
ISCO	Idaho Springs	92.28	48	P		P		14 14 37.9	+0.3
	baz=243									
RLMT	Red Lodge	92.39	42	*e*P		P		14 14 38.1	+0.3
	comp=Z,7.4nm,0.9s									
RLMT	Red Lodge	92.39	42	P		P		14 14 38.6	+0.8
	baz=241,SNR=5.8									
N23A	Red Feather La	92.55	47	*e*P		P		14 14 39.4	+0.7
	comp=Z,11nm,1.0s									
N23A	Red Feather La	92.55	47	P		P		14 14 39.4	+0.7
	baz=243									
JCT	Junction City	92.59	58	P		P		14 14 39.1	+0.3
	baz=246									
LZH	Lanzhou	92.64	308	*e*P		P		14 14 40.8	+1.7
LZH				PP		PP		14 18 30.8	-1.1
LZH				pmax		pmax				
	comp=Z,32nm,1.2s									
LZH				pmax		pmax				
	comp=Z,150nm,5.4s									
AMTX	Amarillo	92.96	54	P		P		14 14 40.8	+0.3
	baz=245									
K22A	Casper	92.97	45	*e*P		P		14 14 40.6	+0.2
	comp=Z,18nm,0.4s									
K22A	Casper	92.97	45	P		P		14 14 40.8	+0.4
	baz=243									
TOLK	Toolik Lake Re	93.06	11	P		P		14 14 40.2	+0.1
	baz=208									
EGMT	Eagleton	93.52	39	P		P		14 14 42.4	-0.3
	baz=241									
ABTX	Abilene, Hawle	93.58	56	P		P		14 14 43.4	+0.1
	baz=246									
EPYK	Eagle Plains	93.88	16	*e*P		P		14 14 43.4	-0.4
	comp=Z,44nm,2.0s									
EPYK	Eagle Plains	93.88	16	P		P		14 14 43.7	-0.1
	baz=219									
KSCO	Kaye Shedlock'	94.01	50	P		P		14 14 45.5	+0.2
	baz=245									
LAO	LASA Array	95.00	41	P		P		14 14 50.5	+1.0
	baz=243									
OGNE	Ogallala	95.24	48	P		P		14 14 50.8	+0.1
	baz=245									
RSSD	Black Hills	95.25	44	*e*P		P		14 14 50.5	-0.3
	comp=Z,11nm,0.5s									
RSSD	Black Hills	95.25	44	*e*P		P		14 14 50.5	-0.3
RSSD				pmax		pmax				
	comp=Z,11nm,0.5s									
RSSD	Black Hills	95.25	44	P		P		14 14 50.4	-0.5
	baz=244									
ULN	Ulaanbaatar	95.66	320⇑	*e*P		P		14 14 52.5	0.0
ULN				pmax		pmax				
	comp=Z,1.0nm,0.9s									
CBKS	Cedar Bluff	95.99	51	P		P		14 14 54.3	+0.2
	baz=246									
SONM	Songino Array	96.05	319	P		P		14 14 55.3	+1.1
SONM				PP		PP		14 18 51.0	-6.5
	comp=Z,0.7nm,0.7s,baz=83,slow=4.8,SNR=3.3									
	comp=Z,1.5nm,0.9s,baz=123,slow=5.5,SNR=5.1									
INK	Inuvik	96.16	16	P		P		14 14 53.1	-0.9
	comp=Z,3.8nm,0.7s,baz=218,slow=4.5,SNR=15									
GTA	Gaotai	96.91	310	*e*P		P		14 14 56.3	-2.0
GTA				pmax		pmax				
	comp=Z,2.0nm,0.6s									
DGMT	Dagmar	97.02	40	P		P		14 14 58.7	+0.2
	baz=245									
BGNE	Belgrade	98.11	49	P		P		14 15 04.6	+1.1
	baz=248									
YKA	Yellowknife Ar	98.53	25	P		Pdif		14 15 04.2	-0.5
	comp=Z,1.5nm,0.7s,baz=242,slow=4.5,SNR=23									
YKA				PP		PP		14 19 06.5	-9.1
	comp=Z,1.2nm,1.0s,baz=240,slow=7.1,SNR=5.9									
YKB5	Yellowknife Ar	98.53	25	*e*Pdif		Pdif		14 15 04.3	-0.4
TLY	Talaya	99.29	322⇑	*i*P		Pdif		14 15 07.4	-1.0
TLY				pmax		pmax				
	comp=Z,6.0nm,0.9s									
ECSD	EROS Data Cent	100.02	47	P		Pdif		14 15 11.8	-0.1
	baz=249									
RES	Resolute Bay	109.70	16	PKiKP		PKiKP		14 19 51.7	-1.1
	comp=Z,1.0nm,0.6s,baz=257,slow=4.6,SNR=5.4									
P54A	Burton	110.45	55	P		PKiKP		14 19 55.1	-0.2
	baz=258									
Q55A	Buckhannon	110.63	55	P		PKiKP		14 19 55.1	-0.6
	baz=258									
ZALV	Zalesovo Beam	110.86	321	PKiKP		PKiKP		14 19 54.1	-1.4
	comp=Z,1.3nm,0.5s,baz=298,slow=0.5,SNR=7.4									
ZALV				PP		PP		14 20 39.0	-6.5
	comp=Z,0.4nm,0.4s,baz=106,slow=21,SNR=1.5									
MKAR	Makanchi Array	111.28	313	PKiKP		PKiKP		14 19 55.8	-0.8
	comp=Z,0.8nm,0.4s,baz=164,slow=1.0,SNR=20									
MKAR				PP		PP		14 20 43.6	-5.2
	comp=Z,1.7nm,1.1s,baz=116,slow=6.9,SNR=5.8									
MKAR				SKP				14 22 36.3		
	comp=Z,1.2nm,0.8s,baz=169,slow=1.6,SNR=4.7									
MKAR				PKKPbc		PKKPbc		14 30 54.0	-0.9
	comp=Z,0.8nm,0.7s,baz=301,slow=1.6,SNR=8.8									
MKAR				PKKPab		PKKPab		14 31 05.5	+0.5
	comp=Z,0.6nm,0.7s,baz=284,slow=4.9,SNR=4.9									
MKAR				SKKPbc		SKKPbc		14 33 40.6	-3.9
	comp=Z,0.4nm,0.8s,baz=289,slow=3.7,SNR=4.0									
D52A	ZEK Kipawa Sen	113.23	47	P		PKiKP		14 19 59.6	-0.7
	baz=262									
KURK	Kurchatov	114.22	317⇑	*i*PKIKP		PKPdf		14 20 01.9	-0.2
KURBB	Kurchatov Arra	114.26	317	SKKPbc		SKKPbc		14 33 31.4	-4.5
	comp=Z,0.8nm,0.9s,baz=277,slow=3.5,SNR=4.6									
AAK	Ala-Archa	116.18	308	PKKPbc		PKKPbc		14 30 38.7	+0.1
	comp=Z,1.8nm,0.6s,baz=230,slow=4.5,SNR=5.8									
FRB	Frobisher Bay	118.83	28	PKP		PKPdf		14 20 10.0	-0.5
	comp=Z,3.7nm,0.5s,baz=331,slow=1.1,SNR=11									
BVAR	Borovoye Array	119.39	319	PKP		PKPdf		14 20 11.3	-0.7
	comp=Z,5.4nm,0.3s,baz=116,slow=2.2,SNR=48									
BRVK	Borovoye	119.45	319⇑	*i*PKIKP		PKiKP		14 20 12.4	+0.2
SPITS	Spitsbergen Ar	123.35	356	PKP		PKPdf		14 20 18.5	-0.5
	comp=Z,6.8nm,0.5s,baz=74,slow=6.2,SNR=25									
BOSA	Boshof	124.23	206	PKP		PKPdf		14 20 22.2	-0.1
	comp=Z,2.6nm,0.8s,baz=247,slow=3.3,SNR=3.3									
SFJD	Kangerlussuaq	124.92	22	PKP		PKPdf		14 20 21.9	-0.2
	comp=Z,4.3nm,0.5s,baz=247,slow=3.7,SNR=5.6									
SUMG	Summit	125.01	13	*i*P		PKPdf		14 20 22.7	-0.1
	comp=Z,49nm,1.3s									
SUMG	Summit	125.01	13	*i*PKIKP		PKPdf		14 20 22.7	-0.1
SUMG				pmax		pmax				
	comp=Z,49nm,1.3s									
ARU	Arti	125.70	325	*e*PKPdf		PKPdf		14 20 23.7	-0.3
ARU	Arti	125.70	325	*i* PKIKP		PKPdf		14 20 23.7	-0.3
ARU								14 22 25.1		
ARU								14 26 38.3		
ARU				SP		SP		14 31 26.8	-2.9
GEYT	Alibeck	128.45	302	PKP		PKPdf		14 20 30.2	+0.3
	comp=Z,1.5nm,0.6s,baz=63,slow=2.3,SNR=4.2									
GEYT				SKPbc		SKPbc		14 22 54.6		
	comp=Z,5.9nm,0.8s,baz=39,slow=2.8,SNR=12									
ARCES	ARCESS Array B	130.21	349	PKP		PKPdf		14 20 31.7	-0.6
	comp=Z,4.9nm,0.4s,baz=41,slow=1.1,SNR=37									
ARCES				SKPbc		SKPab		14 23 01.4	0.0
	comp=Z,14nm,0.9s,baz=26,slow=3.1,SNR=15									
KLMR	Klimovskoe	132.75	335	*e*PP		PP		14 23 04.3	-6.7
KLMR				AMP				14 23 13.1		
	comp=Z,29nm,1.4s									
MOS	Moscow	136.61	330	*i* PKIKP		PKiKP		14 20 52.5	+6.0
MOS				*e*				14 22 58.9		
FINES	FINESS Array B	136.88	342	PKP		PKiKP		14 20 45.9	-1.0
	comp=Z,2.8nm,0.3s,baz=83,slow=0.8,SNR=15									
FINES				SKPbc		SKPbc		14 23 23.2	+0.2
	comp=Z,3.5nm,0.5s,baz=54,slow=3.5,SNR=9.2									
KMBO	Kilima Mbogo	137.38	242	SKP		SKPdf		14 23 28.6	+1.3
	comp=Z,6.7nm,1.1s,baz=107,slow=2.5,SNR=7.6									
OBN	Obninsk	137.46	330⇑	*i*PKIKP		PKPdf		14 20 46.4	+0.3
OBN				pmax		pmax				
	comp=Z,3.0nm,0.7s									
VSR	Storozhevoye	138.27	324⇓	*i*PKIKP		PKPdf		14 20 48.5	+0.7
KBZ	Khabaz	138.96	312	SKPbc		SKPbc		14 23 30.1	+0.7
	comp=Z,1.9nm,0.6s,baz=165,slow=4.9,SNR=5.3									
NB2	NORSAR Subarra	140.37	352	PKP		PKPpre		14 20 44.9		
	comp=Z,0.4nm,0.3s,baz=16,slow=3.2									
NOA	NORSAR Array B	140.37	352	PKhKP		PKPpre		14 20 44.7		
	comp=Z,3.1nm,0.7s,baz=16,slow=4.6,SNR=11									
NOA				PKP		PKiKP		14 20 52.8	-1.3
	comp=Z,1.2nm,0.4s,baz=14,slow=3.9,SNR=4.8									
NOA				SKP				14 23 31.6		
	comp=Z,2.5nm,0.9s,baz=15,slow=4.3,SNR=4.8									
NOA				SKPab		SKPab		14 23 46.3	+0.1
	comp=Z,2.2nm,0.8s,baz=16,slow=3.2,SNR=4.0									
BIGH	Upper Bighouse	143.49	4	*e*P		PKPab		14 20 54.3	-1.3
AKASG	Malin Array Be	143.69	329	PKP		PKPbc		14 20 55.6	-1.0
	comp=Z,8.0nm,0.3s,baz=43,slow=4.3,SNR=77									
AKASG				SKPbc		SKPbc		14 23 41.0	-0.2
	comp=Z,1.3nm,0.5s,baz=42,slow=2.6,SNR=15									
AKBB	Malin Array Si	143.69	329	*e*PKPbc		PKPbc		14 20 55.4	-1.2
AKBB	Malin Array Si	143.69	329	*e*PKiKP		PKPbc		14 20 55.4	-1.2
KIEV	Kiev	143.70	329	*e*PKPbc		PKPbc		14 20 55.4	-1.2
KIEV	Kiev	143.70	329⇓	*i*P		PKPbc		14 20 55.9	-0.7
KIEV	Kiev	143.70	329	*ce*PKiKP		PKPbc		14 20 55.7	-0.9
AK11	Malin Array Si	143.73	329	*e*PKPbc		PKPbc		14 20 55.2	-1.6
SUW	Suwalki	143.80	337	*e*PKP		PKPbc		14 20 56.7	-0.1
SUW	Suwalki	143.80	337	*e*PKPbc		PKPbc		14 20 56.5	-0.3
SUW	Suwalki	143.80	337	*e*PKiKP		PKPbc		14 20 56.7	-0.1
KLNR	Kaliningrad	144.39	340⇓	*e*PKiKP		PKPbc		14 20 58.3	0.0
KAC	Achnashellach	144.37	5	*e*P		PKPdf		14 20 58.3	0.2
MCD	Coleburn Disti	144.44	3	*e*P		PKPdf		14 20 58.3	-0.3
KPL	Plockton	144.50	6	*e*P		PKPbc		14 20 58.8	0.0
MUD	Monsted U'grnd	145.08	352	*i* P		PKPbc		14 21 00.6	0.0
MUD	Monsted U'grnd	145.08	352	*e*PKiKP		PKPbc		14 21 00.6	0.0
DRUM	Mains of Drumt	145.15	3	*e*P		PKPdf		14 21 00.3	+0.5
EDU	Dundee	145.48	3	*e*P		PKPbc		14 21 01.9	+0.1
INVG	Invergeldie, C	145.54	4	*e*P		PKPbc		14 21 01.5	-0.5
LAWE	Loch Awe, Argy	145.59	6	*e*P		PKPbc		14 21 02.2	+0.1
EAB	Aberfoyle	145.75	5	*e*P		PKPbc		14 21 02.6	0.0
PGBU	Glenifferbraes	146.12	5	*e*P		PKPbc		14 21 03.3	-0.4
ESY	Stoneypath	146.13	3	*e*P		PKPbc		14 21 03.4	-0.3
EAU	Auchinoon	146.16	4	*e*P		PKPbc		14 21 04.1	+0.4
EBL	Broad Law	146.25	4	*e*P		PKPbc		14 21 04.2	+0.2
KIS	Kishinev	146.26	324	*e*PKP		PKPdf		14 21 03.0	+1.0
KIS	Kishinev	146.26	324	*e*PKiKP		PKPdf		14 21 03.0	+1.0
ILGA	Ilgaz	146.26	312	*e*PKPbc		PKPbc		14 21 05.6	+0.8
GKP	Gorka Klasztor	146.35	342	*e*PKP		PKPbc		14 21 04.7	+0.4
GKP	Gorka Klasztor	146.35	342	*e*PKP2		PKPbc		14 21 04.7	+0.4
BEL	Belsk	146.41	337	*e*PKP		PKPbc		14 21 05.3	+0.8
CLGH	Cloghs, Cushen	146.68	7	*e*P		PKPdf		14 21 03.5	+1.1
LVV	L'vov	146.69	332	*e*PKP2		PKPbc		14 21 05.5	+0.1
ESK	Eskdalemuir	146.70	4	*e*P		PKPbc		14 21 05.0	-0.2
ESK	Eskdalemuir	146.70	4	*i* PKP2		PKPbc		14 21 06.0	+0.8
BR131	Keskin Array S	146.83	310	*e*PKPbc		PKPbc		14 21 05.6	-0.7
BRTR	Keskin Array B	146.83	310	PKPbc		PKPbc		14 21 05.1	-1.2
	comp=Z,3.7nm,0.7s,baz=137,slow=4.0,SNR=13									
BHH	Howats Hill	146.92	4	*e*P		PKPbc		14 21 05.5	-0.3
GAL1	Galloway	147.03	6	*e*P		PKPbc		14 21 06.0	-0.1
EDMD	Edmundbyers	147.25	3	*e*P		PKPbc		14 21 06.5	-0.2
TLCR		147.34	322⇑	*i*P		PKPbc		14 21 07.0	-0.2
TLCR		147.34	322	⇑PKP2		PKPbc		14 21 07.0	-0.2
BSEG	Bad Segeberg	147.34	349	*e*PKPbc		PKPbc		14 21 07.7	+0.8
	baz=16,slow=2.2									
KWP	Kalwaria Pacla	147.40	333	*e*PKP		PKPbc		14 21 07.5	+0.2
KWP	Kalwaria Pacla	147.40	333	*e*PKPbc		PKPbc		14 21 07.5	+0.2
KWP	Kalwaria Pacla	147.40	333	*e*PKP2		PKPbc		14 21 07.5	+0.2
KESW	Keswick, Cumbr	147.43	4	*e*P		PKPbc		14 21 07.1	-0.1
BUR08	Bucovina Ar. S	147.70	328	*e*PKPbc		PKPbc		14 21 08.8	+0.5
BURAR	Bucovina Array	147.72	328	*i*P		PKiKP		14 21 09.2	-0.5
BURAR	Bucovina Array	147.72	328	⇓PKP2		PKiKP		14 21 09.2	-0.5
BIZ	Bicaz	147.73	326	⇑*i*P		PKiKP		14 21 09.1	-0.5
CFR	Carcaliu	147.73	322	⇑*i*P		PKPbc		14 21 08.3	+0.1
CFR	Carcaliu	147.73	322	⇑PKP2		PKPbc		14 21 08.3	+0.1
WIM	Isle of Man	147.75	6	*e*P		PKPbc		14 21 08.2	+0.1
RUE	Ruedersdorf	147.99	345	*e*PKPbc		PKiKP		14 21 09.3	-0.6
	baz=16,slow=2.2									
TIRR	Tirgusor	147.99	321	⇓*i*P		PKPbc		14 21 09.2	+0.3
TIRR	Tirgusor	147.99	321	⇓PKP2		PKPbc		14 21 09.2	+0.3
VRI	Vrincioaia	148.09	324	⇑*i*P		PKPbc		14 21 09.2	0.0
VRI	Vrincioaia	148.09	324	⇑PKP2		PKPbc		14 21 09.2	0.0
OJC	Ojcow	148.09	336	*e*PKP		PKPbc		14 21 09.2	+0.2
OJC	Ojcow	148.09	336	*e*PKPbc		PKPbc		14 21 08.7	-0.4
OJC	Ojcow	148.09	336	*e*PKP2		PKPbc		14 21 09.2	+0.2
TLB	Topalu	148.13	321	⇑*i*P		PKPbc		14 21 09.5	+0.2
TLB	Topalu	148.13	321	⇑PKP2		PKPbc		14 21 09.5	+0.2
HPK	Haverah Park	148.14	2	*e*P		PKPbc		14 21 08.7	-0.2
UZH	Uzhgorod	148.34	332⇑	*i*PKHKP		PKPbc		14 21 09.5	-0.1
UZH				*i*				14 21 12.9		
WME	Myndd Eilian	148.52	6	*e*P		PKPbc		14 21 09.9	0.0
NIE	Niedzica	148.55	335	*e*PKP		PKiKP		14 21 11.3	0.0
NIE	Niedzica	148.55	335	*e*PKP2		PKiKP		14 21 11.3	0.0
TRPA	Tarpa	148.60	331⇑	*i*P		PKiKP		14 21 11.2	-0.1
WLF1	Llynfaes	148.62	6	*e*P		PKPbc		14 21 09.7	-0.5
YRC	Rhosolyn	148.64	6	*e*P		PKPbc		14 21 09.9	-0.3
DOPC	Dopca	148.74	326⇑	*i*P		PKiKP		14 21 11.6	-0.2
MLR	Muntele Rosu	148.75	324	*e*PKPbc		PKPbc		14 21 10.5	-0.5
MLR	Muntele Rosu	148.75	324	⇑*i*P		PKPbc		14 21 10.3	-0.7
MLR	Muntele Rosu	148.75	324	⇑PKHKP		PKPbc		14 21 10.3	-0.7
NRDL	Niedersach Rie	148.76	349	*e*PKPbc		PKiKP		14 21 11.3	-0.2
	baz=16,slow=2.2									
KSP	Ksiaz	148.76	341	*e*PKP		PKiKP		14 21 11.3	-0.3
KSP	Ksiaz	148.76	341	*e*PKP2		PKiKP		14 21 11.3	-0.3
YLL	Llanberis	148.79	5	*e*P		PKPbc		14 21 11.0	+0.4
ASSE	Asse, Remlinge	149.00	348	*e*PKPbc		PKiKP		14 21 12.0	0.0
	baz=16,slow=2.2									
OKC	Ostrava-Krasne	149.01	338⇑	*e*PKP		PKiKP		14 21 12.1	-0.1
OKC	Ostrava-Krasne	149.01	338	*e*PKP2		PKiKP		14 21 12.1	-0.1
LANS	Liptovska Anna	149.09	335	*e*PKP2		PKiKP		14 21 12.9	+0.5
LANS	Liptovska Anna	149.09	335	*e*PKP		PKiKP		14 21 12.9	+0.5
FOEL	Foel Wylfa	149.12	4	*e*P		PKPbc		14 21 11.5	+0.1
UPC	Upice	149.14	341⇑	*e*PKP		PKiKP		14 21 12.3	-0.1
UPC				*e*PKPAB		PKPab		14 21 18.3	-0.1
UPC				*ex*		x		14 23 35.4		
UPC	Upice	149.14	341	*e*PKP2		PKiKP		14 21 12.3	-0.1
DPC	Dobruska-Polom	149.18	340⇑	*e*PKP		PKiKP		14 21 12.5	-0.1
DPC				*e*PKPAB		PKPab		14 21 19.1	+0.4
DPC				*ex*		x		14 23 35.7		
DPC	Dobruska-Polom	149.18	340	*e*PKP2		PKiKP		14 21 12.5	-0.1
CLL	Collm	149.25	345	*e*PKPbc		PKPbc		14 21 11.7	-0.1
CLL	Collm	149.25	345	*e*PKPbc		PKiKP		14 21 12.4	-0.2
	baz=16,slow=2.2									
CLL	Collm	149.25	345	*i* PKPbc		PKPbc		14 21 11.9	+0.1
	comp=Z,44nm,0.8s									
CLL				*i* PKPab		PKPab		14 21 18.5	-0.4
	comp=Z,20nm,0.9s									
CLL				*i* pPKPab		pPKPab		14 23 29.0	+0.6
	comp=Z,30nm,1.9s									
CLL	Collm	149.25	345	*i* PKHKP		PKPbc		14 21 11.9	+0.1
CLL				*i*				14 21 18.5		
CLL				pmax		pmax				
	comp=Z,44nm,0.8s									
CLL				pmax		pmax				
	comp=Z,20nm,0.9s									
VOIR		149.27	325⇑	*i*P		PKPbc		14 21 12.1	-0.1
VOIR		149.27	325	⇑PKHKP		PKPbc		14 21 12.1	-0.1
MORC	Moravsky Berou	149.27	338	*e*PKPbc		PKPbc		14 21 12.2	+0.2
MORC	Moravsky Berou	149.27	338	⇓*i*P		PKiKP		14 21 12.8	0.0
MORC	Moravsky Berou	149.27	338	⇓PKP2		PKiKP		14 21 12.8	0.0
MORC	Moravsky Berou	149.27	338	*e*PKP		PKPbc		14 21 12.2	+0.2
MORC				*e*				14 21 19.1		
KRLC	Kraliky	149.27	339⇑	*e*PKP		PKiKP		14 21 12.8	0.0
KRLC				*e*PKPAB		PKPab		14 21 18.4	-0.7
KRLC				*ex*		x		14 23 35.8		
KRLC	Kraliky	149.27	339	*e*PKP2		PKiKP		14 21 12.8	0.0
IBBN	Ibbenburen	149.32	351	*e*PKPbc		PKiKP		14 21 12.4	-0.3
	baz=16,slow=2.2									
CLZ	Clausthal	149.33	348	*e*PKPbc		PKiKP		14 21 12.6	-0.2
	baz=16,slow=2.2									
CWF	Charnwood Fore	149.37	2	*e*P		PKPbc		14 21 11.8	-0.2
BRG	Berggiesshubel	149.41	343	*i* PKP		PKiKP		14 21 12.6	-0.3
	comp=Z,36nm,0.8s									
BRG	Berggiesshubel	149.41	343	*i* PKP		PKPab		14 21 19.7	+0.2
	comp=Z,12nm,0.7s									
BRG				*ep*PKP		pPKPab		14 23 30.6	+1.6
	comp=Z,19nm,1.6s									
BRG	Berggiesshubel	149.41	343	*e*PKPbc		PKiKP		14 21 13.0	0.0
	baz=16,slow=2.2									
BRG	Berggiesshubel	149.41	343	*i* PKHKP		PKPbc		14 21 12.6	+0.4
BRG				*i*				14 21 19.7		
BRG				pmax		pmax				
	comp=Z,36nm,0.8s									
BRG				pmax		pmax				
	comp=Z,12nm,0.7s									
HLM1	Long Mynd	149.51	4	*e*P		PKPbc		14 21 12.2	-0.2
DRGR		149.51	329⇑	*i*P		PKPbc		14 21 13.0	+0.3
DRGR		149.51	329	⇑PKHKP		PKPbc		14 21 13.0	+0.3
FBE	Freiberg	149.52	344	*e*PKPbc		PKiKP		14 21 13.4	+0.2
	baz=16,slow=2.2									
PVCC	Panska Ves	149.55	342⇑	*e*PKP		PKiKP		14 21 13.2	0.0
PVCC	Panska Ves	149.55	342	*e*PKHKP		PKiKP		14 21 13.2	0.0
NEUB	Neuenburg	149.64	346	*e*PKPbc		PKiKP		14 21 13.2	-0.2
	baz=16,slow=2.2									
GTTG	Gyttingen	149.69	348

	comp=Z,1.6nm,0.5s								
OBKA				*e*PKPab	**PKPab**	**14 21 35.4**	**0.0**
	comp=Z,4.8nm,0.8s								
WATA	**Walderalm**	**153.28**	**343**	*e*PKiKP	**PKiKP**	**14 21 21.9**	**+0.6**
	comp=Z,3.7nm,0.4s								
WATA				*e*PKPab	**PKPab**	**14 21 37.5**	**+1.4**
	comp=Z,4.6nm,0.5s								
MYKA	**Terra Mystica**	**153.30**	**340**	*e*PKPbc	**PKPbc**	**14 21 20.6**	**-0.6**
	comp=Z,2.4nm,0.4s								
MYKA				*e*PKPab	**PKPab**	**14 21 35.7**	**-0.5**
	comp=Z,6.2nm,0.6s								
UBR	**Ueberruh**	**153.32**	**345**	*e*PKPbc	**PKPbc**	**14 21 21.2**	**0.0**
	baz=16,slow=2.2								
WTTA	**Wattenberg**	**153.33**	**343**	*e*PKPbc	**PKPbc**	**14 21 21.2**	**-0.2**
	comp=Z,7.2nm,0.4s								
WTTA				*e*PKPab	**PKPab**	**14 21 37.0**	**+0.6**
	comp=Z,13nm,0.6s								
RETA	**Reutte**	**153.35**	**344**	*e*PKiKP	**PKiKP**	**14 21 21.6**	**+0.3**
	comp=Z,4.5nm,0.7s								
RETA				*e*PKPab	**PKPab**	**14 21 36.5**	**+0.1**
	comp=Z,6.9nm,0.6s								
MOTA	**Moosalm**	**153.39**	**344**	*e*PKPab	**PKPab**	**14 21 36.9**	**+0.2**
	comp=Z,9.9nm,0.9s								
SQTA	**Sankt Quirin**	**153.48**	**344**	*e*PKPab	**PKPab**	**14 21 37.5**	**+0.5**
	comp=Z,8.9nm,0.9s								
ABTA	**Abfaltersbach**	**153.55**	**341**	*e*PKPbc	**PKPbc**	**14 21 21.3**	**-0.4**
	comp=Z,4.9nm,0.5s								
ABTA				*e*PKPab	**PKPab**	**14 21 36.7**	**-0.6**
	comp=Z,12nm,0.9s								
VISS	**Visnje**	**153.61**	**337**	*i* PKPbc	**PKiKP**	**14 21 22.1**	**+0.3**
VISS				*i* PKPab	**PKPab**	**14 21 37.5**	**0.0**
BOJS	**Bojanci**	**153.72**	**336**	*i* PKPdf	**PKPdf**	**14 21 14.3**	**+0.7**
BOJS				*i* PKPbc	**PKiKP**	**14 21 22.4**	**+0.4**
BOJS				*i* PKPab	**PKPab**	**14 21 38.0**	**+0.1**
BOJS				*i* pPKPbc	**pPKPbc**	**14 23 39.2**	**+2.2**
BOJS				*e*		14 23 44.5	
BOJS				*i*		14 23 54.2	
DAVA	**Damuels**	**153.75**	**346**	*e*PKiKP	**PKiKP**	**14 21 23.2**	**+1.0**
	comp=Z,0.9nm,0.5s								
DAVA				*e*PKPab	**PKPab**	**14 21 38.0**	**-0.2**
	comp=Z,7.6nm,0.6s								
JAVS	**Javornik**	**153.81**	**338**	*i* PKPbc	**PKPbc**	**14 21 22.1**	**-0.2**
JAVS				*i* PKPab	**PKPab**	**14 21 37.4**	**-1.0**
JAVS				*i* pPKPbc	**pPKPbc**	**14 23 38.3**	**+0.9**
JAVS				*i*		14 23 44.7	
JAVS				*i*		14 23 53.2	
LIT	**Litokhoron**	**154.11**	**319**	*e*PKPab	**PKPab**	**14 21 39.1**	**-0.7**
FUORN	**Ofenpass-Fuorn**	**154.28**	**344**	*e*PKPab	**PKPab**	**14 21 40.5**	**-0.1**
SENIN	**Lac Senin/Sane**	**155.16**	**349**	*e*PKPab	**PKPab**	**14 21 44.2**	**-0.1**
PBRG	**Braganca**	**159.41**	**16**	*e*PKPab	**PKPab**	**14 22 03.5**	**+0.8**
POLO	**Lamas de Olo**	**159.53**	**18**	*e*PKPab	**PKPab**	**14 22 03.5**	**+0.2**
PVRL	**Vila Real**	**159.64**	**18**	*e*PKPab	**PKPab**	**14 22 04.9**	**+1.1**
MVO	**Moncorvo**	**159.94**	**17**	*e*PKPab	**PKPab**	**14 22 04.0**	**-1.1**
PTOM	**Tomar**	**160.94**	**22**	*e*PKPab	**PKPab**	**14 22 09.1**	**-0.3**
PCBR	**Castelo Branco**	**161.04**	**19**	*e*PKPdf	**PKPdf**	**14 21 23.8**	**+1.1**
PCBR	**Castelo Branco**	**161.04**	**19**	*e*PKPab	**PKPab**	**14 22 09.4**	**-0.4**
PMAFR	**Mafra**	**161.21**	**24**	*e*PKPab	**PKPab**	**14 22 10.6**	**0.0**
PMRV	**Marv??o**	**161.44**	**20**	*e*PKPab	**PKPab**	**14 22 11.2**	**-0.4**
PMTG	**Montargil**	**161.49**	**22**	*e*PKPab	**PKPab**	**14 22 11.4**	**-0.4**
PESTR	**Estremoz**	**161.89**	**21**	*e*PKPab	**PKPab**	**14 22 13.3**	**-0.3**
ESDC	**Sonseca Array**	**162.06**	**11**	PKPab	**PKPab**	**14 22 13.8**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=344,slow=4.3,SNR=15								
ES06	**SONSECA Array**	**162.06**	**11**	*e*PKPab	**PKPab**	**14 22 12.3**	**-2.1**
PNCL	**Nicolau / Gran**	**162.23**	**24**	*e*PKPab	**PKPab**	**14 22 14.8**	**-0.3**
PBEJ	**Beja**	**162.55**	**23**	*e*PKPdf	**PKPdf**	**14 21 27.4**	**+3.1**
PBEJ	**Beja**	**162.55**	**23**	*e*PKPab	**PKPab**	**14 22 17.5**	**+1.0**
MESJ	**Messejana**	**162.58**	**24**	*e*PKPdf	**PKPdf**	**14 21 24.0**	**-0.4**
MESJ	**Messejana**	**162.58**	**24**	*e*PKPab	**PKPab**	**14 22 16.8**	**+0.1**
PCVE	**Castro Verde**	**162.84**	**24**	*e*PKPab	**PKPab**	**14 22 17.3**	**-0.5**
MORF	**Marmelete**	**162.88**	**26**	*e*PKPdf	**PKPdf**	**14 21 26.4**	**+1.6**
PFVI	**Vila Bisbo**	**162.96**	**26**	*e*PKPab	**PKPab**	**14 22 18.4**	**0.0**
LIC	**Lamto**	**163.34**	**160**	*e*PKIKP	**PKPdf**	**14 21 24.9**	**-0.9**
	comp=Z,41nm,1.4s								
LIC	**Lamto**	**163.34**	**160**	*e*PKP2	**PKPab**	**14 22 21.0**	**+0.5**
	comp=Z,24nm,0.7s								
KIC	**Kosan Boka**	**163.56**	**161**	*e*PKIKP	**PKPdf**	**14 21 25.0**	**-1.0**
	comp=Z,25nm,1.3s								
KIC	**Kosan Boka**	**163.56**	**161**	*e*PKP2	**PKPab**	**14 22 21.8**	**+0.3**
	comp=Z,69nm,1.2s								
TIC	**Toumodi**	**163.74**	**160**	*e*PKIKP	**PKPdf**	**14 21 25.3**	**-0.9**
TIC	**Toumodi**	**163.74**	**160**	*e*PKP2	**PKPab**	**14 22 22.5**	**+0.2**
DBIC	**Dimbokro**	**163.82**	**160**	PKP	**PKPdf**	**14 21 25.4**	**-0.8**
	comp=Z,3.3nm,0.5s,baz=207,slow=1.9,SNR=5.5								
DBIC				PKPab	**PKPab**	**14 22 23.4**	**+0.9**
	comp=Z,5.0nm,0.7s,baz=161,slow=4.5,SNR=7.3								
TOA0	**Torodi Ar. Sit**	**171.04**	**187**	*e*PKPdf	**PKPdf**	**14 21 29.7**	**-1.6**
TOA0				*e*PKPdf	**PKPdf**	**14 21 29.8**	**-1.4**
TOA0				*e*PKPab	**PKPab**	**14 22 53.6**	**-0.9**
TOA0				*e*PKPab	**PKPab**	**14 22 54.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**171.04**	**187**	PKP	**PKPdf**	**14 21 30.0**	**-1.2**
	comp=Z,3.9nm,1.1s,baz=324,slow=1.3,SNR=12								
TORD				PKPab	**PKPab**	**14 22 54.3**	**-0.2**
	comp=Z,2.8nm,0.8s,baz=172,slow=3.6,SNR=15								

*ISCJB **20** 14:05:33.9±0.6,58°.12N±0°.09×32°.2W±0°.1,h14km, mb4.1/19,MS3.4/7,Error ellipse: s-maj=13.5km s-min=9.2km az=20.8*
*IDC **20** 14:05:33.7±0.9,58°.10N×32°.22W,h0km,mb3.8/15, mb1 4.0/16,mb1mx3.8/58,mbtmp3.9/16,ML3.4/1,MS3.5/10, Ms1 3.5/10,ms1mx3.0/49,Error ellipse: s-maj=26.3km s-min=14.7km az=5.0*
*NEIC **20** 14:05:35.1±0.4,58°.11N×32°.26W,h10km,mb4.4/4,Error ellipse: s-maj=9.4km s-min=6.0km az=196.0*

ISC 20 14:05:35.8±0.8,58°.1N±0°.1×32°.28W±0°.09,h14km,n46, σ0s83/34,mb4.1/19,MS3.3/7,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
ANGG	**Ammassalik, Gr**	**7.91**	**344**	*e*Pn		**Pn**	**14 07 28.9**	**-1.2**
BORG	**Borgarnes**	**8.44**	**34**	*e*Pn		**Pn**	**14 07 37.5**	**+0.1**
BORG	**Borgarnes**	**8.44**	**34**	Pn		**Pn**	**14 07 38.5**	**+1.1**
	0.5nm,0.3s,baz=193,slow=13,SNR=2.8							
SFJD	**Kangerlussuaq**	**12.20**	**324**	LR		LR	14 12 27.0	
	comp=Z,184nm,19.1s,baz=158,slow=34							
FRB	**Frobisher Bay**	**18.29**	**303**	LR		LR	14 15 57.7	
	comp=Z,163nm,18.5s,baz=65,slow=34							
SCHQ	**Schefferville**	**19.23**	**275**	LR		LR	14 15 18.8	
	comp=Z,137nm,18.2s,baz=334,slow=30							
NB200	**NORSAR Array S**	**21.90**	**64**	*e*P		**P**	**14 10 28.2**	**+0.1**
NOA	**NORSAR Array B**	**21.90**	**64**	P		**P**	**14 10 28.2**	**+0.1**
	3.5nm,0.9s,baz=282,slow=9.3,SNR=3.7							
NOA				LR		LR	14 17 25.7	
	comp=Z,40nm,19.4s,baz=285,slow=32							
HFS	**Hagfors**	**23.30**	**65**	P		**P**	**14 10 43.4**	**+0.6**
	6.7nm,1.0s,baz=202,slow=11,SNR=3.8							
RES	**Resolute Bay**	**28.10**	**330**	LR		LR	14 22 29.3	
	comp=Z,59nm,18.2s,baz=44,slow=36							
GERES	**GERESS Array B**	**28.37**	**89**	LR		LR	14 22 04.6	
	comp=Z,68nm,18.2s,baz=306,slow=35							
FIA0	**FINESS Array S**	**28.69**	**58**	*e*P		**P**	**14 11 31.9**	**0.0**
FINES	**FINESS Array B**	**28.69**	**58**	P		**P**	**14 11 31.9**	**0.0**
	1.7nm,0.8s,baz=270,slow=11,SNR=2.9							
KLMR	**Klimovskoe**	**34.88**	**54**	*e*		**P**	**14 12 24.1**	**-2.0**
KLMR				AMP			14 12 28.3	
	comp=Z,18nm,1.3s							
AKASG	**Malin Array Be**	**35.39**	**75**	P		**P**	**14 12 29.2**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=304,slow=8.6,SNR=6.4							
AKBB	**Malin Array Si**	**35.39**	**75**	*e*P		**P**	**14 12 30.4**	**-0.3**
	comp=Z,11nm,1.5s							
ULM	**Lac du Bonnet**	**36.73**	**286**	LR		LR	14 26 26.1	
	comp=Z,92nm,18.2s,baz=360,slow=34							
YKA	**Yellowknife Ar**	**38.40**	**312**	P		**P**	**14 12 56.5**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=57,slow=9.2,SNR=5.5							
INK	**Inuvik**	**41.53**	**327**	*e*P		**P**	**14 13 22.1**	**+0.1**
	comp=Z,4.4nm,0.8s							
INK	**Inuvik**	**41.53**	**327**	P		**P**	**14 13 21.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=7.8,slow=6.5,SNR=5.1							
BR101	**Keskin Array S**	**45.04**	**84**	*e*P		**P**	**14 13 52.2**	**+1.3**
BRTR	**Keskin Array B**	**45.04**	**84**	P		**P**	**14 13 52.2**	**+1.2**
	comp=Z,1.4nm,0.8s,baz=329,slow=5.7,SNR=7.0							
TOLK	**Toolik Lake Re**	**45.59**	**333**	*e*P		**P**	**14 13 55.0**	**+0.1**
	comp=Z,32nm,2.0s							
IL1	**Eielson Array**	**47.83**	**328**	*e*P		**P**	**14 14 12.0**	**-0.3**
ILAR	**Eielson Array**	**47.83**	**328**	P		**P**	**14 14 13.2**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=35,slow=6.7,SNR=11							
ILB	**Eielson Array**	**47.83**	**328**	*e*P		**P**	**14 14 12.8**	**+0.5**
	comp=Z,56nm,1.8s							
MDM	**Murphy Dome**	**48.06**	**329**	*e*P		**P**	**14 14 15.3**	**+1.2**
	comp=Z,26nm,1.0s							
PD31	**Pinedale Array**	**48.73**	**287**	*e*P		**P**	**14 14 19.3**	**-0.5**
	comp=Z,21nm,1.1s							
PDAR	**Pinedale Array**	**48.73**	**287**	P		**P**	**14 14 19.8**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=10,SNR=7.0							

AKTO	**Aktyubinsk**	**49.46**	**57**	P		**P**	**14 14 25.4**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=326,slow=8.5,SNR=8.7								
TIXI	**Tiksi**	**49.82**	**8**	P		**P**	**14 14 28.0**	**+0.6**
	comp=Z,1.9nm,0.3s,baz=2.0,slow=3.8,SNR=13								
ABKAR	**Akbulak array**	**51.17**	**57**	*e*P		**P**	**14 14 38.5**	**+0.6**
	comp=Z,3.3nm,1.0s								
TOA1	**Torodi Ar. Sit**	**51.67**	**136**	*e*P		**P**	**14 14 41.4**	**-0.7**
TOA0	**Torodi Ar. Sit**	**51.68**	**136**	*e*P		**P**	**14 14 40.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**51.68**	**136**	P		**P**	**14 14 41.4**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=347,slow=5.9,SNR=6.4								
DBIC	**Dimbokro**	**55.57**	**146**	LR		LR	14 35 29.5		
	comp=Z,45nm,19.7s,baz=264,slow=32								
TXAR	**Lajitas Array**	**55.88**	**272**	P		**P**	**14 15 14.1**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=76,slow=5.7,SNR=3.6								
MK32	**Makanchi Array**	**62.32**	**45**	*e*P		**P**	**14 15 57.0**	**-0.3**
MKAR	**Makanchi Array**	**62.32**	**45**	P		**P**	**14 15 57.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=338,slow=5.9,SNR=8.0								
ROSC	**El Rosal**	**62.38**	**229**	LR		LR	14 42 27.9		
	comp=Z,21nm,18.1s,baz=38,slow=36								
AAK	**Ala-Archa**	**62.66**	**53**	LR		LR	14 45 23.6		
	comp=Z,149nm,18.6s,baz=12,slow=38								
H10S1	**ASCENSION HYDR**	**68.38**	**161**	T		T	15 30 45.9		
	baz=350								
H10S3	**ASCENSION HYDR**	**68.39**	**161**	T		T	15 30 47.1		
	baz=350								
H10S2	**ASCENSION HYDR**	**68.40**	**161**	T		T	15 30 48.3		
	baz=350								
SONA0	**Songino Array**	**69.01**	**28**	*e*P		**P**	**14 16 40.4**	**-0.1**
SONM	**Songino Array**	**69.01**	**28**	P		**P**	**14 16 40.4**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=345,slow=1.6,SNR=5.1								

MEX 20 14:13:35.8±0.5,16°.98N×98°.82W,h16km±5km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TLIG	**Tlapa**	**0.63**	**23**	*e*P		Pg	14 13 46.2	-2.1
TLIG				*i* S		Sg	14 13 53.6	-3.2
HMTT	**Tlapaneco**	**0.85**	**17**	*i* P		Pb	14 13 49.8	-2.5
HMTT				*e*S		Sb	14 13 59.9	-3.7
PNIG	**Pinotepa**	**0.89**	**131**	*e*P		Pb	14 13 49.5	-3.3
PNIG				*e*S		Sb	14 14 00.4	-4.0
CAIG	**El Cayaco**	**1.38**	**273**	*e*P		Pn	14 13 56.8	-3.6
CAIG				*i* S		Sn	14 14 12.7	-5.8
VHO	**Vista Hermosa**	**2.00**	**87**	*i* P		Pn	14 14 06.6	-2.5
VHO				*i* S		Sn	14 14 28.8	-5.2
HUIG	**Huatulco**	**2.87**	**114**	*e*P		Pn	14 14 17.7	-3.2
HUIG				*i* S		Sn	14 14 51.5	-3.7

*ISCJB **20** 14:17:21.7±0.8,39°.67N±0°.03×142°.20E±0°.09,h49km±6km, mb3.3/2,Error ellipse: s-maj=11.4km s-min=5.4km az=8.5*
*JMA **20** 14:17:22.7,39°.66N×142°.13E,h48km±1km,M3.1*
*IDC **20** 14:17:25.2±2.8,39°.80N×142°.00E,h64km±29km,mb3.2/2, mb1 3.3/4,mb1mx3.0/47,mbtmp3.3/4,ML2.6/2,Error ellipse: s-maj=47.7km s-min=18.1km az=101.0*

ISC 20 14:17:22.8±1.2,39°.66N±0°.04×142°.16E±0°.08,h43km±9km, n16,σ0s78/27,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MIYJ	**Miyakonagasawa**	**0.27**	**253**	P		**Pn**	**14 17 31.2**	**+0.2**
MIYJ				S		**Sn**	**14 17 37.0**	**+0.2**
JTH	**Tanohata**	**0.36**	**321**	P		**Pn**	**14 17 32.0**	**0.0**
JTH				S		**Sn**	**14 17 38.5**	**+0.1**
OFUJ	**Ofunato**	**0.69**	**213**	P		**Pn**	**14 17 35.8**	**-0.4**
OFUJ				*e*S		**Sn**	**14 17 45.2**	**-0.6**
JOM	**Ohasama**	**0.69**	**255**	P		**Pn**	**14 17 36.2**	**-0.1**
JOM				S		**Sn**	**14 17 45.8**	**-0.1**
JKZ	**Kuzumaki**	**0.71**	**297**	P		**Pn**	**14 17 36.5**	**-0.1**
JKZ				S		**Sn**	**14 17 46.0**	**-0.5**
JANG	**Nango**	**0.87**	**326**	P		**Pn**	**14 17 38.2**	**-0.4**
JANG				*e*S		**Sn**	**14 17 49.3**	**-0.8**
JKMT	**Kesennumamotoy**	**1.00**	**212**	P		**Pn**	**14 17 40.1**	**-0.3**
JKMT				S		**Sn**	**14 17 52.4**	**-0.9**
JMK	**Ichinoseki**	**1.01**	**226**	P		**Pn**	**14 17 40.4**	**-0.2**
JMK				S		**Sn**	**14 17 53.1**	**-0.5**
JRG	**Rokugo**	**1.21**	**258**	P		**Pn**	**14 17 43.2**	**0.0**
JRG				*e*S		**Sn**	**14 17 59.4**	**+1.0**
JAH	**Hinai**	**1.28**	**295**	P		**Pn**	**14 17 44.4**	**+0.1**
JAH				S		**Sn**	**14 18 00.9**	**+0.6**
JIO	**Ouri**	**1.36**	**208**	P		**Pn**	**14 17 45.0**	**-0.3**
JTM	**Tenmabayashi**	**1.40**	**324**	P		**Pn**	**14 17 45.9**	**0.0**
MJAR	**Matsushiro Arr**	**4.40**	**226**	P		**Pn**	**14 18 29.6**	**+2.4**
	0.1nm,0.3s,baz=33,slow=12,SNR=6.2								
ASAJ	**Asahikawa**	**4.47**		P		**Pn**	**14 18 29.1**	**+1.2**
	0.5nm,0.3s,baz=198,slow=5.2,SNR=7.2								
ASAJ				S		**Sn**	**14 19 18.3**	**-0.3**
	0.2nm,0.3s,baz=133,slow=16,SNR=1.9								
MKAR	**Makanchi Array**	**43.27**	**300**	P		**P**	**14 25 18.9**	**-1.2**
	0.4nm,0.8s,baz=87,slow=9.3,SNR=3.6								
WRA	**Warramunga Arr**	**59.74**	**189**	P		**P**	**14 27 24.0**	**+0.7**
	0.1nm,0.3s,baz=7.4,slow=8.4,SNR=6.5								

*DDA **20** 14:26:20.7,40°.81N×39°.31E,h7km±1km,ML2.8*
*ISCJB **20** 14:26:21.1±0.9,40°.80N±0°.04×39°.36E±0°.05,h1km±9km, Error ellipse: s-maj=7.8km s-min=5.0km az=141.6*
*ISK **20** 14:26:22.3,40°.76N×39°.53E,h16km,ML2.1/6*

IDC 20 14:17:52.5±7.3,14°.75S×166°.92E,h77km±64km,mb3.6/4, mb1 3.7/5,mb1mx3.4/42,mbtmp3.9/5,ML3.7/1,Error ellipse: s-maj=50.8km s-min=30.3km az=34.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DZM	**Mont Dzumac**	**7.30**	**184**	P		Pn	14 19 36.6	0.0
	1.3nm,0.3s,baz=11,slow=5.2,SNR=10							
DZM				S		Sn	14 20 58.5	+0.5
	baz=342,slow=20,SNR=2.1							
URZ	**Urewera**	**25.10**	**161**	P		P	14 23 10.1	0.0
	5.8nm,0.9s,baz=333,slow=23,SNR=7.8							
WRA	**Warramunga Arr**	**31.50**	**256**	P		P	14 24 07.5	+0.1
	0.4nm,0.8s,baz=86,slow=9.4,SNR=11							
ASAR	**Alice Springs**	**32.35**	**249**	P		P	14 24 14.8	-0.1
	0.9nm,0.7s,baz=78,slow=9.1,SNR=9.3							
SONM	**Songino Array**	**82.31**	**324**	P		P	14 30 05.8	-0.1
	1.2nm,0.8s,baz=134,slow=8.3,SNR=3.9							

*ISCJB **20** 14:37:11.8±0.9,6°.26S±0°.06×130°.0E±0°.2,h100km, mb3.3/1,Error ellipse: s-maj=27.9km s-min=8.9km az=4.4*
*IDC **20** 14:37:15.6±2.8,6°.39S×129°.94E,h116km±32km,mb3.3/2, mb1 3.2/6,mb1mx3.0/45,mbtmp3.6/6,Error ellipse: s-maj=41.4km s-min=19.4km az=77.0*

ISC 20 14:37:14.3±1.0,6°.35S±0°.08×130°.1E±0°.2,h100km,n6, σ2s16/7,Banda Sea

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

SIJI	**Sorong**	**5.57**	**12**	P		**Pn**	**14 38 37.4**	**+2.5**
	1.2nm,0.3s,baz=48,slow=22,SNR=14								
SIJI				S		**Sn**	**14 39 34.9**	**-2.8**
	3.5nm,0.3s,baz=207,slow=23,SNR=18								
FITZ	**Fitzroy Crossi**	**12.45**	**200**	P		**Pn**	**14 40 08.0**	**-0.1**
	0.2nm,0.3s,baz=38,slow=9.7,SNR=15								
FITZ				S		Sn	14 42 15.0	-10
	0.3nm,0.3s,baz=72,slow=18,SNR=6.9								
WRA	**Warramunga Arr**	**14.14**	**163**	P		**Pn**	**14 40 28.7**	**-1.4**
	0.3nm,0.3s,baz=348,slow=13,SNR=19								
WRA				S		Sn	14 42 54.6	-11
	0.3nm,0.3s,baz=340,slow=20,SNR=8.0								
ASAR	**Alice Springs**	**17.61**	**168**	P		**P**	**14 41 13.1**	**0.0**
	0.1nm,0.3s,baz=339,slow=9.2,SNR=6.8								
CTA	**Charters Tower**	**20.83**	**133**	P		**P**	**14 41 49.4**	**+1.3**
	4.7nm,0.9s,baz=294,slow=14,SNR=2.8								
MKAR	**Makanchi Array**	**67.72**	**327**	P		**P**	**14 48 00.2**	**-0.8**
	0.2nm,0.4s,baz=118,slow=8.1,SNR=6.4								

*IDC **20** 14:38:56.6±0.8,3°.57S×127°.11E,h0km,mb4.1/9, mb1 4.1/11,mb1mx3.9/47,mbtmp4.1/11,ML4.1/2,Error ellipse: s-maj=35.6km s-min=16.9km az=69.0*
*ISCJB **20** 14:39:00.6±0.3,3°.59S±0°.04×127°.44E±0°.03,h42km, mb4.1/10,Error ellipse: s-maj=5.5km s-min=3.7km az=16.3*
*NEIC **20** 14:39:00.3±3.6,3°.55S×127°.29E,h25km±26km,mb4.0/8, Error ellipse: s-maj=17.7km s-min=6.2km az=77.0*
*DJA **20** 14:39:02.0±0.3,3°S±2°×12°?E±°,h10km,M4.2/14,mb4.5/9, mB4.7/5,MLv4.2/14,Mw(mB)4.0/5*

ISC 20 14:39:01.9±0.6,3°.66S±0°.07×127°.40E±0°.05,h42km,n47, σ2s90/50,mb4.1/10,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
NLAI	**Namlea**	**0.51**	**324**	P		**Pn**	**14 39 09.2**	**-3.7**
NLAI				S		**Sn**	**14 39 15.2**	**-5.4**
SANI	**Sanana**	**2.13**	**319**	P		**Pn**	**14 39 34.2**	**-0.8**
SANI				S		**Sn**	**14 40 01.5**	**+1.3**
BNDI	**Bandanaira**	**2.64**	**109**	P		Pn	14 39 47.7	+5.6
TNTI	**Ternate**	**4.40**	**360**	*e*Pn		**Pn**	**14 40 03.7**	**-2.5**
TNTI	**Ternate**	**4.40**	**360**	P		**Pn**	**14 40 07.2**	**+1.0**
SWI	**Sorong**	**4.75**	**54**	P		**Pn**	**14 40 13.3**	**+2.2**
SWI				S		**Sn**	**14 41 05.0**	**+0.1**
SIJI	**Sorong**	**4.75**	**54**	Pn		**Pn**	**14 40 11.9**	**+0.8**
	18nm,0.3s,baz=190,slow=16,SNR=18								
SIJI				Sn		**Sn**	**14 41 05.8**	**+0.7**
	18nm,0.3s,baz=119,slow=23,SNR=23								
FAKI	**Fak Fak**	**4.90**	**82**	*e*Pn		**Pn**	**14 40 14.4**	**+1.4**
FAKI	**Fak Fak**	**4.90**	**82**	P		**Pn**	**14 40 14.8**	**+1.7**
FAKI				S		**Sn**	**14 41 07.6**	**-1.0**
LUWI	**Luwuk**	**5.30**	**299**	*e*Pn		Pn	14 40 13.2	-5.4
LUWI	**Luwuk**	**5.30**	**299**	P		**Pn**	**14 40 19.3**	**+0.7**
KMSI	**Cibinong**	**5.42**	**321**	P		**Pn**	**14 40 21.5**	**+1.3**
KMSI				S		**Sn**	**14 41 22.4**	**+1.1**
APSI	**Ampana**	**6.36**	**295**	P		**Pn**	**14 40 35.3**	**+2.2**
APSI				S		**Sn**	**14 41 47.8**	**+2.3**
SOEI	**Soe**	**6.81**	**207**	P		Pn	14 40 47.1	+7.6
	25nm,0.9s								
MRSI	**Marisa**	**6.83**	**307**	P		**Pn**	**14 40 41.0**	**+1.4**
MRSI				S		**Sn**	**14 41 57.2**	**+1.2**
RKPI	**Ransiki, Papua**	**7.10**	**73**	P		**Pn**	**14 40 46.0**	**+2.7**
RKPI				S		**Sn**	**14 42 01.0**	**-1.8**
BSSI	**Bau Bau, Buton**	**7.31**	**250**	P		Pn	14 40 52.2	+6.0
BKSI	**Bulukumba**	**7.44**	**257**	P		**Pn**	**14 40 51.4**	**+3.4**
EDFI	**Ende, Flores**	**7.60**	**228**	P		**Pn**	**14 40 51.5**	**+1.2**
SPSI	**Sidrap Palu**	**7.62**	**267**	P		Pn	14 41 04.3	+14
MPSI	**Mapaga**	**8.48**	**298**	P		**Pn**	**14 41 05.5**	**+3.2**
FITZ	**Fitzroy Crossi**	**14.46**	**187**	*e*Pn		Pn	14 42 16.7	-7.2
WRAB	**Tennant Creek**	**17.54**	**158**	*e*Pn		Pn	14 42 57.4	-6.0
	14nm,1.5s								
WR1	**Warramunga Arr**	**17.55**	**158**	*e*Pn		**P**	**14 43 05.6**	**+1.4**
	22nm,1.6s								
WRA	**Warramunga Arr**	**17.55**	**158**	P		**P**	**14 43 05.6**	**+1.4**
	0.4nm,0.3s,baz=341,slow=12,SNR=7.3								
WB2	**Warramunga Arr**	**17.55**	**158**	*e*Pn		**Pn**	**14 42 58.3**	**-5.3**
COEN	**Coen**	**18.63**	**124**	*e*P		**P**	**14 43 15.6**	**-0.6**
	9.7nm,1.0s								
CISI	**Cisompet, Garu**	**19.87**	**258**	*e*P		**P**	**14 43 26.1**	**-3.7**
	14nm,0.7s								
AS31	**Alice Springs**	**20.86**	**163**	*e*P	

	comp=E,14nm,0.5s									
AAK					⇑S		Sn	14 52 00.9	-0.6	
	comp=E,31nm,0.7s									
AAK	**Ala-Archa**	**5.82**	**22**	P			**Pn**	**14 50 57.8**	**+1.8**	
	comp=E,5.4nm,0.3s,baz=176,slow=5.6,SNR=68									
AAK					S		**Sn**	**14 52 01.3**	**-0.2**	
	comp=E,3.3nm,0.3s,baz=332,slow=22,SNR=12									
KK31	**Karatay Array**	**5.89**	**352**	P			**Pn**	**14 50 58.5**	**+1.6**	
	comp=E,18nm,0.5s,baz=179,slow=15,SNR=222									
KK31					S		**Sn**	**14 52 01.1**	**-2.0**	
	comp=E,16nm,0.4s,baz=185,slow=23,SNR=6.8									
KBK	**Karagaybulak**	**5.98**	**25**	P			**Pn**	**14 51 01.0**	**+2.8**	
	SNR=9.5									
CHMS	**Chumysh**	**6.22**	**22**	P			**Pn**	**14 51 03.8**	**+2.4**	
	SNR=22									
DHRM	**DHARAMSHALA**	**6.33**	**141**	*e*P			**Pn**	**14 51 03.5**	**+0.4**	
DHRM				*e*S			**Sn**	**14 52 10.3**	**-3.8**	
DHRM					IAML			14 52 17.0		
	comp=N,629nm,0.7s									
DHRM					IAML			14 52 17.3		
	comp=E,559nm,0.7s									
USP	**Ospenovka**	**6.40**	**19**	P			**Pn**	**14 51 05.7**	**+1.9**	
	SNR=11									
TKM2	**Tokmak 2**	**6.44**	**27**	P			**Pn**	**14 51 06.8**	**+2.3**	
	SNR=22									
TKM2	**Tokmak 2**	**6.44**	**27**	⇑P			**Pn**	**14 51 06.6**	**+2.1**	
	comp=E,9.3nm,0.6s									
TKM2					⇑S		**Sn**	**14 52 16.1**	**-0.5**	
	comp=E,9.2nm,0.6s									
BHK	**Bhakra**	**7.07**	**144**	*e*S			**Sn**	**14 52 27.0**	**-4.8**	
MDOK	**Medeo**	**7.23**	**34**	⇑P			**Pn**	**14 51 17.8**	**+2.7**	
	comp=E,6.2nm,0.7s									
MDOK					⇓S		**Sn**	**14 52 37.2**	**+1.6**	
	comp=E,12nm,1.3s									
SMLA	**Simla**	**7.67**	**141**	*e*P			**Pn**	**14 51 22.1**	**+1.0**	
SMLA				*e*S			**Sn**	**14 52 41.0**	**-5.3**	
SMLA					IAML			14 52 45.7		
	comp=E,190nm,0.3s									
SMLA					IAML			14 52 46.4		
	comp=N,190nm,0.3s									
PDGK	**Podgornoye**	**8.55**	**42**	⇓P			**Pn**	**14 51 33.4**	**+0.3**	
	comp=N,2.9nm,0.6s									
PDGK					⇓S		**Sn**	**14 53 13.3**	**+5.3**	
	comp=N,4.7nm,0.8s									
DDI	**Dehra Dun**	**8.77**	**140**	*e*P			**Pn**	**14 51 37.5**	**+1.5**	
DDI				*e*S			**Sn**	**14 53 07.3**	**-5.8**	
DDI					IAML			14 53 13.0		
	comp=N,227nm,0.1s									
DDI					IAML			14 53 16.4		
	comp=E,231nm,0.1s									
NDI	**New Delhi**	**9.77**	**149**	*e*P			**Pn**	**14 51 49.5**	**-0.1**	
NDI				*e*S			**Sn**	**14 53 30.0**	**-7.5**	
GEYT	**Alibeck**	**10.71**	**278**	P			**Pn**	**14 52 00.9**	**-1.3**	
	comp=E,2.6nm,0.3s,baz=101,slow=8.2,SNR=25									
GEYT					S		**Sn**	**14 53 53.0**	**-7.1**	
	comp=E,10nm,0.3s,baz=101,slow=15,SNR=15									
OTUK	**Ortayu**	**10.99**	**3**	⇓P			**Pn**	**14 52 05.4**	**-0.6**	
	comp=E,1.7nm,0.7s									
OTUK					⇓S		**Sn**	**14 54 03.9**	**-2.9**	
	comp=E,8.4nm,0.8s									
MKAR	**Makanchi Array**	**12.40**	**36**	P			**Pn**	**14 52 24.3**	**-0.5**	
	comp=E,0.2nm,0.3s,baz=224,slow=16,SNR=18									
PYUN	**Piuthan**	**13.25**	**130**	*e*P			**Pn**	**14 52 33.1**	**-3.0**	
	comp=E,24nm,0.3s									
DANN	**Dangsing**	**13.55**	**127**	*e*P			**Pn**	**14 52 37.7**	**-2.4**	
	comp=E,16nm,0.3s									
KOLN	**Koldanda**	**13.86**	**130**	*e*P			**Pn**	**14 52 41.3**	**-2.7**	
	comp=E,25nm,0.5s									
KURBB	**Kurchatov Arra**	**14.25**	**18**	P			**Pn**	**14 52 47.5**	**-1.2**	
	comp=E,0.0nm,0.3s,baz=212,slow=8.7,SNR=3.2									
GKN	**Gorkha**	**14.35**	**126**	*e*P			**Pn**	**14 52 47.9**	**-2.4**	
	comp=E,28nm,0.4s									
AB31	**Akbulak array**	**14.66**	**329**	⇑P			**Pn**	**14 52 53.4**	**-0.5**	
	comp=E,2.0nm,0.3s,baz=136,slow=13,SNR=137									
AB31					⇓S		Sn	14 55 25.6	-10	
	comp=E,9.0nm,0.6s,baz=148,slow=23,SNR=15									
BHPL	**Bhopal**	**14.85**	**159**	*e*P			**P**	**14 52 60.0**	**+0.4**	
BHPL					IAmb		IAmb	14 53 02.2		
	comp=Z,35nm,0.5s									
BHPL				*ex*			Sn	14 55 30.6	-10	
KKN	**Kakani**	**14.91**	**125**	*e*P			**Pn**	**14 52 54.8**	**-2.6**	
	comp=Z,16nm,0.5s									
DMN	**Daman**	**14.92**	**126**	*e*P			**Pn**	**14 52 54.7**	**-2.9**	
	comp=Z,15nm,0.4s									
PKIN	**Phulchoki**	**15.13**	**126**	*e*P			**Pn**	**14 52 57.7**	**-2.6**	
	comp=Z,13nm,0.4s									
PKI	**Pulchoki**	**15.14**	**126**	*e*P			**Pn**	**14 52 57.8**	**-2.7**	
	comp=Z,22nm,0.5s									
GUN	**Gumba**	**15.22**	**124**	*e*P			**Pn**	**14 52 58.2**	**-3.3**	
	comp=Z,15nm,0.4s									
JIRN	**Jiri**	**15.59**	**124**	*e*P			**Pn**	**14 53 03.1**	**-3.1**	
	comp=Z,50nm,0.4s									
BVAR	**Borovoye Array**	**15.79**	**357**	P			**Pn**	**14 53 07.7**	**-0.3**	
	comp=Z,0.2nm,0.3s,baz=169,slow=14,SNR=7.3									
BVAR					S		**Sn**	**14 55 54.4**	**-8.2**	
	baz=169,slow=24,SNR=4.5									
RAMN	**Ramite**	**16.34**	**125**	*e*P			**Pn**	**14 53 13.4**	**-1.9**	
	comp=Z,55nm,0.7s									
AKTO	**Aktyubinsk**	**16.37**	**328**	⇑P			**P**	**14 53 16.7**	**+0.6**	
	comp=Z,3.8nm,0.5s									
AKTO					⇑S		**Sn**	**14 56 09.5**	**-7.2**	
	comp=Z,6.9nm,0.7s									
AKTO	**Aktyubinsk**	**16.37**	**328**	P			**Pn**	**14 53 15.7**	**+0.4**	
	comp=Z,1.9nm,0.3s,baz=133,slow=13,SNR=22									
AKTO					S		Sn	14 56 06.8	-10	
	comp=Z,0.4nm,0.3s,baz=329,slow=22,SNR=4.4									
WSAR	**Wadi Sarin**	**17.88**	**222**	P			**Pn**	**14 53 35.5**	**+1.8**	
	comp=Z,0.5nm,0.3s,baz=46,slow=5.1,SNR=6.9									
BOK	**Bokaro**	**18.19**	**134**	*e*P			**Pn**	**14 53 38.1**	**+0.5**	
BOK					IAmb		IAmb	14 53 39.0		
	comp=Z,19nm,0.9s									
POO	**Poona**	**18.77**	**173**	*e*P			**Pn**	**14 53 43.8**	**-0.6**	
POO					IAmb		IAmb	14 53 44.1		
	comp=Z,8.5nm,0.2s									
ZALV	**Zalesovo Beam**	**19.03**	**25**	P			**P**	**14 53 45.5**	**+0.2**	
	comp=Z,0.6nm,0.3s,baz=230,slow=10,SNR=5.2									
SHL	**Shillong**	**20.84**	**118**	*e*P			**P**	**14 54 06.4**	**+1.2**	
SHL					IAmb		IAmb	14 54 08.1		
	comp=Z,10nm,0.9s									
KBZ	**Khabaz**	**22.68**	**296**	P			**P**	**14 54 25.1**	**+0.9**	
	comp=Z,1.0nm,0.7s,baz=108,slow=6.4,SNR=3.5									
SONM	**Songino Array**	**27.52**	**56**	P			**P**	**14 55 10.5**	**+2.1**	
	comp=Z,0.3nm,0.5s,baz=238,slow=8.3,SNR=2.5									
BRTR	**Keskin Array B**	**29.66**	**287**	P			**P**	**14 55 29.4**	**+2.0**	
	comp=Z,0.6nm,0.6s,baz=89,slow=7.6,SNR=4.3									
CMAR	**Chiang Mai Arr**	**30.43**	**121**	P			**P**	**14 55 35.5**	**+1.3**	
	comp=Z,0.2nm,0.4s,baz=310,slow=9.6,SNR=4.4									
AKASG	**Malin Array Be**	**32.84**	**308**	P			**P**	**14 55 56.6**	**+1.5**	
	comp=Z,0.2nm,0.3s,baz=80,slow=7.4,SNR=1.4									
FINES	**FINESS Array B**	**37.12**	**325**	P			**P**	**14 56 33.6**	**+2.0**	
	comp=Z,0.4nm,0.4s,baz=114,slow=9.3,SNR=3.0									
ARCES	**ARCESS Array B**	**40.62**	**337**	P			**P**	**14 57 02.8**	**+2.0**	
	comp=Z,5.0nm,0.9s,baz=120,slow=8.6,SNR=11									
NB2	**NORSAR Subarra**	**44.06**	**323**	P			**P**	**14 57 30.5**	**+1.7**	
	comp=Z,0.5nm,0.5s,baz=93,slow=7.9									
NOA	**NORSAR Array B**	**44.06**	**323**	P			**P**	**14 57 30.4**	**+1.7**	
	comp=Z,0.5nm,0.4s,baz=94,slow=7.6,SNR=5.1									
TORD	**Torodi Ar. Bea**	**66.20**	**269**	P			**P**	**15 00 08.5**	**0.0**	
	comp=Z,0.5nm,0.5s,baz=43,slow=7.1,SNR=5.9									
YKA	**Yellowknife Ar**	**80.46**	**3**	P			**P**	**15 01 32.4**	**+1.0**	
	comp=Z,0.1nm,0.4s,baz=351,slow=5.6,SNR=2.7									
WRA	**Warramunga Arr**	**82.00**	**122**	P			**P**	**15 01 42.8**	**+2.7**	
	comp=Z,0.3nm,0.9s,baz=325,slow=4.8,SNR=2.9									
ASAR	**Alice Springs**	**84.31**	**125**	P			**P**	**15 01 53.0**	**+1.1**	
	comp=Z,0.4nm,1.1s,baz=304,slow=5.5,SNR=2.7									

IDC 20 14:55:02.5±1.5, 13°.18N×119°.87E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/56, mbtmp3.1/3, Error ellipse: s-maj=31.0km s-min=15.2km az=129.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.39**	**48**	Pg	Pg	14 55 27.3	-1.9
	62nm,0.3s,baz=270,slow=20,SNR=3.4						
TGY				Lg	Lg	14 55 47.8	
	79nm,0.3s,baz=296,slow=23,SNR=9.5						
CMAR	**Chiang Mai Arr**	**20.80**	**287**	P	P	14 59 46.0	+0.3
	0.3nm,0.3s,baz=88,slow=7.3,SNR=4.8						
WRA	**Warramunga Arr**	**35.86**	**156**	P	P	15 02 04.3	-0.1
	0.2nm,0.5s,baz=335,slow=9.9,SNR=4.2						
ASAR	**Alice Springs**	**39.11**	**159**	P	P	15 02 31.9	+0.1
	0.3nm,0.8s,baz=335,slow=6.7,SNR=6.7						

*IDC **20** 14:56:14.4±0.7, 14°.00N×56°.58E, h0km, mb4.0/16, mb1 4.2/17, mb1mx3.9/58, mbtmp4.0/17, ML3.6/1, MS3.3/17, Ms1 3.3/17, ms1mx3.2/36, Error ellipse: s-maj=19.8km s-min=15.9km az=45.0*

*ISCJB **20** 14:56:15.7±0.5, 14°.07N±0°.08×56°.58E±0°.07, h20km, mb4.0/21, MS3.2/15, Error ellipse: s-maj=11.4km s-min=9.8km az=32.2*

*NEIC **20** 14:56:15.7±0.3, 14°.01N×56°.60E, h10km, mb4.6/4, Error ellipse: s-maj=8.9km s-min=7.3km az=212.0*

ISC 20 14:56:17.9±0.7, 14°.12N±0°.09×56°.52E±0°.10, h20km, n52, σ1§48/37, mb4.1/21, MS3.2/15, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.29**	**12**	Pn	**Pn**	**14 58 31.0**	**+0.2**
	0.6nm,0.3s,baz=248,slow=12,SNR=6.4						
WSAR				Sn	**Sn**	**15 00 12.1**	**-2.7**
	0.2nm,0.3s,baz=52,slow=17,SNR=2.1						
WSAR				LR	LR	15 01 48.7	
	comp=Z,440nm,20.2s,baz=224,slow=36						
ATD	**Arta Tunnel**	**13.58**	**261**	LR	LR	15 03 32.5	
	comp=Z,97nm,19.9s,baz=82,slow=32						
RAYN	**Ar Rayn**	**14.01**	**314**	*e*Pn	**Pn**	**14 59 36.0**	**+0.6**
HYB	**Hyderabad**	**21.45**	**78**	*i* P	**P**	**15 01 11.0**	**+5.8**
GEYT	**Alibeck**	**23.76**	**3**	P	**P**	**15 01 28.7**	**-0.4**
	1.6nm,0.7s,baz=200,slow=11,SNR=2.3						
GEYT				LR	LR	15 11 51.2	
	comp=Z,50nm,18.4s,baz=200,slow=39						
KMBO	**Kilima Mbogo**	**24.37**	**233**	P	**P**	**15 01 35.1**	**-0.1**
	1.1nm,0.7s,baz=69,slow=8.6,SNR=1.3						
PALK	**Pallekele**	**24.70**	**103**	LR	LR	15 08 54.3	
	comp=Z,62nm,21.3s,baz=296,slow=31						
H08N2	**Diego Garcia H**	**24.88**	**144**	T	T	15 27 11.7	
	baz=325,slow=76,SNR=144						
H08N3	**Diego Garcia H**	**24.89**	**144**	T	T	15 27 10.9	
	baz=325,slow=76,SNR=123						
H08N1	**Diego Garcia H**	**24.90**	**144**	T	T	15 27 15.8	
	baz=325,slow=76,SNR=155						
EIL	**Elat**	**25.23**	**311**	LR	LR	15 11 46.3	
	comp=Z,81nm,19.2s,baz=70,slow=37						
MMAI	**Mount Meron Ar**	**26.90**	**318**	LR	LR	15 13 13.0	
	comp=Z,22nm,18.4s,baz=175,slow=38						
GNI	**Garni**	**27.92**	**340**	LR	LR	15 14 41.9	
	comp=Z,38nm,19.6s,baz=165,slow=40						
KBZ	**Khabaz**	**31.74**	**341**	LR	LR	15 19 07.3	
	comp=Z,46nm,18.5s,baz=157,slow=43						
BRTR	**Keskin Array B**	**32.48**	**326**	LR	LR	15 17 49.0	
	comp=Z,52nm,18.0s,baz=100,slow=40						
AKTO	**Aktyubinsk**	**36.24**	**2**	P	**P**	**15 03 20.9**	**+1.4**
	0.9nm,0.7s,baz=188,slow=16,SNR=3.9						
MK01	**Makanchi Array**	**39.05**	**28**	*e*P	**P**	**15 03 43.2**	**-0.3**
MK31	**Makanchi Array**	**39.07**	**28**	*e*P	**P**	**15 03 42.9**	**-0.7**
	0.8nm,0.8s						
MK32	**Makanchi Array**	**39.07**	**28**	*e*P	**P**	**15 03 44.8**	**+1.3**
MKAR	**Makanchi Array**	**39.07**	**28**	P	**P**	**15 03 44.8**	**+1.3**
	0.4nm,0.6s,baz=218,slow=8.3,SNR=5.9						
MKAR				LR	LR	15 21 46.9	
	comp=Z,55nm,18.1s,baz=186,slow=39						
CM31	**Chiang Mai Arr**	**40.88**	**78**	*e*P	**P**	**15 03 57.1**	**-1.9**
	5.8nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.88**	**78**	P	**P**	**15 03 59.2**	**+0.3**
	0.5nm,0.3s,baz=268,slow=7.9,SNR=7.1						
CMAR				LR	LR	15 21 50.4	
	comp=Z,16nm,18.4s,baz=191,slow=38						
AKASG	**Malin Array Be**	**42.67**	**335**	P	**P**	**15 04 14.3**	**+1.2**
	0.4nm,0.4s,baz=137,slow=7.5,SNR=4.6						
AKBB	**Malin Array Si**	**42.67**	**335**	*e*P	**P**	**15 04 13.3**	**+0.1**
	25nm,1.9s						
ZALV	**Zalesovo Beam**	**45.54**	**23**	P	**P**	**15 04 36.1**	**0.0**
	1.0nm,0.6s,baz=219,slow=6.7,SNR=4.4						
ZALV				LR	LR	15 24 43.1	
	comp=Z,49nm,20.7s,baz=246,slow=38						
ZAA1	**Zalesovo Array**	**45.54**	**23**	*e*P	**P**	**15 04 36.1**	**0.0**
FIA0	**FINESS Array S**	**52.09**	**342**	*e*P	**P**	**15 05 27.0**	**+0.7**
FINES	**FINESS Array B**	**52.09**	**342**	P	**P**	**15 05 27.0**	**+0.7**
	5.7nm,0.8s,baz=133,slow=10,SNR=22						
FINES				LR	LR	15 32 11.8	
	comp=Z,41nm,18.9s,baz=54,slow=41						
TORD	**Torodi Ar. Bea**	**53.19**	**276**	P	**P**	**15 05 36.0**	**+0.8**
	0.8nm,0.6s,baz=92,slow=6.0,SNR=6.1						
TOA1	**Torodi Ar. Sit**	**53.19**	**276**	*e*P	**P**	**15 05 36.0**	**+0.8**
NB200	**NORSAR Array S**	**57.06**	**336**	*e*P	**P**	**15 06 02.1**	**-0.4**
NOA	**NORSAR Array B**	**57.06**	**336**	P	**P**	**15 06 02.1**	**-0.4**
	1.4nm,0.9s,baz=117,slow=7.5,SNR=3.1						
NOA				LR	LR	15 35 29.5	
	comp=Z,14nm,18.6s,baz=50,slow=41						
ES06	**SONSECA Array**	**58.46**	**308**	*e*P	**P**	**15 06 12.3**	**-0.4**
ESDC	**Sonseca Array**	**58.47**	**308**	P	**P**	**15 06 12.3**	**-0.5**
	1.0nm,0.5s,baz=87,slow=6.7,SNR=9.5						
NRIK	**Noril'sk**	**58.56**	**12**	LR	LR	15 34 11.5	
	comp=Z,28nm,18.5s,baz=352,slow=39						
ARA0	**ARCESS Array S**	**58.72**	**348**	*e*P	**P**	**15 06 14.1**	**+0.2**
ARCES	**ARCESS Array B**	**58.72**	**348**	P	**P**	**15 06 14.1**	**+0.2**
	3.6nm,0.9s,baz=145,slow=6.6,SNR=7.5						
KSRS	**Korea Array**	**66.86**	**55**	LR	LR	15 37 04.6	
	comp=Z,17nm,18.2s,baz=228,slow=37						
BATI	**Baumata**	**70.83**	**106**	P	**P**	**15 07 32.6**	**-1.3**
	4.4nm,0.4s,baz=346,slow=4.2,SNR=3.4						
H01W3	**Cape Leeuwin H**	**73.19**	**134**	T	T	16 27 27.4	
	baz=302,slow=75,SNR=8.0						
H01W2	**Cape Leeuwin H**	**73.19**	**134**	T	T	16 27 25.3	
	baz=302,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**73.20**	**134**	T	T	16 27 27.6	
	baz=302,slow=75,SNR=8.0						
FITZ	**Fitzroy Crossi**	**75.28**	**113**	*e*P	**P**	**15 07 58.2**	**-1.9**
FITZ	**Fitzroy Crossi**	**75.28**	**113**	P	**P**	**15 07 59.0**	**-1.0**
	2.6nm,0.9s,baz=255,slow=5.2,SNR=4.7						
WRA	**Warramunga Arr**	**83.66**	**112**	P	**P**	**15 08 44.5**	**-1.2**
	1.2nm,0.9s,baz=299,slow=4.2,SNR=7.3						
WR1	**Warramunga Arr**	**83.66**	**112**	*e*P	**P**	**15 08 44.5**	**-1.2**
	23nm,1.8s						
ASAR	**Alice Springs**	**84.40**	**116**	P	**P**	**15 08 48.5**	**-1.0**
	1.2nm,0.8s,baz=291,slow=5.2,SNR=11						
AS31	**Alice Springs**	**84.40**	**116**	*e*P	**P**	**15 08 47.8**	**-1.7**
	2.2nm,1.3s						
PETK	**Petropavlovsk-**	**85.41**	**36**	LR	LR	15 50 13.8	
	comp=Z,32nm,18.2s,baz=123,slow=38						
PDAR	**Pinedale Array**	**121.97**	**348**	PKP	**PKPdf**	**15 15 11.2**	**-0.4**
	0.3nm,0.5s,baz=56,slow=2.3,SNR=3.9						
PINE	**Pine Mountain**	**122.33**	**358**	*e*PKPdf	**PKPdf**	**15 15 09.9**	**-2.3**
NVAR	**Mina Array Bea**	**127.51**	**355**	PKP	**PKiKP**	**15 15 23.4**	**+0.5**
	0.9nm,0.8s,baz=357,slow=1.2,SNR=6.1						

*CNRM **20** 15:12:46.0, 35°.98N×8°.16W, h30km*

*INMG **20** 15:12:50.7±1.7, 36°.40N×7°.82W, h20km±5km, ML2.2, Error ellipse: s-maj=5.1km s-min=3.5km az=69.0*

*IGIL **20** 15:12:50.8, 36°.33N×7°.82W, h30km, ML2.3*

*MDD **20** 15:12:50.5±1.1, 36°.35N×7°.78W, h38km±17km, mbLg2.5/27, Error ellipse: s-maj=11.5km s-min=5.2km az=23.0, PRXIMO*

ISC 20 15:12:46.6±1.3, 36°.25N±0°.03×7°.78W±0°.03, h32km±12km, n65, σ1§79/119, 5D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**1.00**	**353**	*i* P	**Pb**	**15 13 06.1**	**+0.7**
PBDV				*e*S	**Sb**	**15 13 17.3**	**-0.9**
PBDV				A	A	15 13 21.4	
	27nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.00**	**353**	P	**Pb**	**15 13 06.1**	**+0.7**
PBDV				S	**Sb**	**15 13 17.3**	**-0.9**
	27nm,0.2s						
PVAQ	**Vaqueiros**	**1.15**	**2**	*e*P	**Pn**	**15 13 08.2**	**+1.7**
PVAQ				*e*S	**Sb**	**15 13 20.7**	**-1.9**
PVAQ	**Vaqueiros**	**1.15**	**2**	P	**Pn**	**15 13 08.2**	**+1.7**
PVAQ				S	**Sb**	**15 13 20.7**	**-1.9**
PFVI	**Vila Bisbo**	**1.22**	**316**	*e*P	**Pn**	**15 13 09.5**	**+2.1**
PFVI				*e*S	**Sn**	**15 13 23.4**	**+0.6**
PFVI				A	A	15 13 25.0	
	18nm,0.1s						
PFVI	**Vila Bisbo**	**1.22**	**316**	P	**Pn**	**15 13 09.5**	**+2.1**
	3.1nm,0.1s,SNR=18						
PFVI				S	**Sn**	**15 13 23.4**	**+0.6**
	24nm,0.1s,SNR=11						
PFVI	**Vila Bisbo**	**1.22**	**316**	P	**Pn**	**15 13 07.2**	**-0.2**
PFVI				S	**Sn**	**15 13 23.1**	**+0.2**
MORF	**Marmelete**	**1.26**	**327**	*e*P	**Pn**	**15 13 09.9**	**+1.8**
MORF				*e*S	**Sn**	**15 13 23.8**	**-0.3**
MORF				AML	AML	15 13 24.9	
	comp=N,53nm,0.4s						
MORF	**Marmelete**	**1.26**	**327**	*e*P	**Pn**	**15 13 09.9**	**+1.8**
MORF				*e*S	**Sn**	**15 13 24.0**	**-0.1**
MORF				A	A	15 13 27.7	
	comp=N,25nm,0.1s						
MORF	**Marmelete**	**1.26**	**327**	P	**Pn**	**15 13 09.9**	**+1.8**
MORF				S	**Sn**	**15 13 24.0**	**-0.1**
	comp=N,25nm,0.1s						
EGRO	**El Granado**	**1.30**	**10**	⇓P	**Pn**	**15 13 10.4**	**+1.9**
	comp=N,5.3nm,0.1s,SNR=18						
EGRO				S	**Sn**	**15 13 25.1**	**+0.2**
	comp=N,17nm,0.1s,SNR=12						
PCVE	**Castro Verde**	**1.39**	**351**	*e*P	**Pn**	**15 13 11.5**	**+1.6**
PCVE				*e*S	**Sn**	**15 13 26.8**	**-0.4**
PCVE				A	A	15 13 27.5	
	comp=N,31nm,0.2s						
PCVE	**Castro Verde**	**1.39**	**351**	P	**Pn**	**15 13 11.5**	**+1.6**
PCVE				S	**Sn**	**15 13 26.8**	**-0.4**
	comp=N,31nm,0.2s						
PTEO	**Sao Teotonio**	**1.50**	**330**	*e*P	**Pn**	**15 13 12.5**	**+1.2**
PTEO				*e*S	**Sn**	**15 13 29.2**	**-0.5**
PTEO				A	A	15 13 31.0	
	comp=N,12nm,0.1s						
PTEO	**Sao Teotonio**	**1.50**	**330**	P	**Pn**	**15 13 12.5**	**+1.2**
PTEO				S	**Sn**	**15 13 29.2**	**-0.5**
	comp=N,6.1nm,0.1s						
MESJ	**Messejana**	**1.62**	**348**	*e*P	**Pn**	**15 13 14.9**	**+1.9**
MESJ				*e*S	**Sn**	**15 13 32.6**	**-0.2**
MESJ				AML	AML	15 13 34.3	
	comp=E,30nm,0.2s						
MESJ	**Messejana**	**1.62**	**348**	*e*P	**Pn**	**15 13 14.9**	**+1.9**
MESJ				*e*S	**Sn**	**15 13 32.4**	**-0.4**
MESJ				A	A	15 13 34.2	
	comp=E,22nm,0.1s						
MESJ	**Messejana**	**1.62**	**348**	P	**Pn**	**15 13 14.9**	**+1.9**
MESJ				S	**Sn**	**15 13 32.6**	**-0.2**
	comp=E,30nm,0.2s						
ESPR	**Espera**	**1.66**	**68**	P	**Pn**	**15 13 16.3**	**+2.8**
	comp=E,2.6nm,0.1s,SNR=32						
ESPR				S	**Sn**	**15 13 35.0**	**+1.1**
	comp=E,27nm,0.2s,SNR=4.8						
EMIN	**Mina Concepcio**	**1.75**	**30**	P	**Pn**	**15 13 16.5**	**+1.7**
	comp=E,0.8nm,0.1s,SNR=17						
EMIN				S	**Sn**	**15 13 35.7**	**-0.4**
	comp=E,6.1nm,0.2s,SNR=7.2						
PBEJ	**Beja**	**1.77**	**358**	*e*P	**Pn**	**15 13 17.5**	**+2.4**
PBEJ				*e*S	**Sn**	**15 13 36.6**	**+0.1**
PBEJ				A	A	15 13 47.6	
	comp=E,10nm,0.4s						
PBEJ	**Beja**	**1.77**	**358**	P	**Pn**	**15 13 17.5**	**+2.4**
PBEJ				S	**Sn**	**15 13 36.6**	**+0.1**
	comp=E,5.2nm,0.4s						
PNCL	**Nicolau / Gran**	**1.95**	**342**	⇓*e*Pn	**Pn**	**15 13 19.3**	**+1.8**
PNCL				*e*Sn	**Sn**	**15 13 40.0**	**-0.9**
PNCL				A	A	15 13 42.6	
	comp=E,8.5nm,0.1s						
PNCL	**Nicolau / Gran**	**1.95**	**342**	S	**Sn**	**15 13 40.0**	**-0.9**
	comp=E,8.5nm,0.1s						
PBAR	**Barrancos**	**2.01**	**17**	*e*Pn	**Pn**	**15 13 20.2**	**+1.9**
PBAR				*e*Sn	**Sn**	**15 13 45.1**	**+2.8**
PBAR	**Barrancos**	**2.01**	**17**	Pn	**Pn**	**15 13 20.2**	**+1.9**
EMIJ	**Mijas**	**2.44**	**82**	S	**Sn**	**15 13 54.4**	**+1.3**
	comp=E,2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.57**	**13**	P	**Pn**	**15 13 27.6**	**+1.5**
	comp=E,1.3nm,0.1s,SNR=17						
EBAD				S	**Sn**	**15 13 55.2**	**-1.0**
	comp=E,2.9nm,0.1s,SNR=5.7						
PESTR	**Estremoz**	**2.61**	**3**	*e*Pn	**Pn**	**15 13 28.4**	**+1.7**
PESTR				*e*Sn	**Sn**	**15 13 56.5**	**-0.8**
PESTR				A	A	15 13 58.0	
	comp=E,3.9nm,0.2s						

PGAV					A	A	15 15 13.2	
	comp=E,1.9nm,0.1s							
PGAV	**Gavieira, Arco**	**5.72**	**356**		P	**Pn**	**15 14 11.3**	**+1.9**
PGAV					S	**Sn**	**15 15 10.6**	**-3.3**
	comp=E,1.9nm,0.1s							
ECAL	**Calabor**	**5.74**	**8**		P	**Pn**	**15 14 11.3**	**+1.7**
	comp=E,0.1nm,0.1s,SNR=7.9							
ECAL					S	**Sn**	**15 15 11.3**	**-3.1**
	comp=E,3.3nm,0.3s,SNR=7.9							
ETOR	**Torete**	**6.39**	**43**		P	**Pn**	**15 14 21.3**	**+2.6**
	comp=E,0.3nm,0.1s,SNR=8.1							
ETOR					S	**Sn**	**15 15 28.0**	**-2.6**
	comp=E,0.5nm,0.2s,SNR=7.9							
EMOS	**Mosqueruela**	**7.06**	**52**		S	**Sn**	**15 15 42.0**	**-5.0**
	comp=E,0.6nm,0.1s,SNR=7.9							

IDC 20 15:13:42.2±8.7, 10°63'S×164°37'E, h98km±69km, mb3.0/4, mb1 3.3/5, mb1mx3.1/38, mbtmp3.5/5, ML4.0/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/8, Error ellipse: s-maj=73.9km s-min=31.1km az=133.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.51**	**285**	P	Pn	15 14 48.4	0.0
	7.2nm,0.3s,baz=74,slow=20,SNR=4.2						
HNR				S	Sn	15 15 40.3	+0.6
	19nm,0.3s,baz=146,slow=4.5,SNR=4.3						
HNR				LR	LR	15 16 53.9	
	comp=Z,182nm,20.0s,baz=200,slow=42						
DZM	**Mont Dzumac**	**11.55**	**170**	LR	LR	15 20 07.4	
	comp=Z,120nm,18.7s,baz=53,slow=33						
WRA	**Warramunga Arr**	**30.36**	**249**	P	P	15 19 45.0	-0.1
	0.2nm,0.5s,baz=79,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**31.78**	**242**	P	P	15 19 57.2	-0.4
	0.2nm,0.8s,baz=62,slow=9.7,SNR=3.7						
FITZ	**Fitzroy Crossi**	**38.18**	**254**	P	P	15 20 52.9	+0.3
	0.7nm,0.7s,baz=72,slow=6.4,SNR=3.4						
ILAR	**Eielson Array**	**83.56**	**19**	P	P	15 25 59.1	0.0
	0.1nm,0.5s,baz=231,slow=5.7,SNR=4.4						

*ISCJB **20** 15:31:31.9±0.8, 33°.78N±0°.04×35°.72E±0°.08, h12km±7km, Error ellipse: s-maj=11.8km s-min=5.3km az=159.2*
*NSSC **20** 15:31:31.3±0.3, 33°.81N×35°.71E, h9km, 22km, ML1.6*
*GRAL **20** 15:31:32.6±0.3, 33°.78N×35°.79E, h4km, 8km, MD2.7*
ISC 20 15:31:31.8±2.1, 33°.79N±0°.04×35°.72E±0°.08, h15km±17km, n8, σ0°.49/14, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.13**	**334**	*eP*	**Pg**	**15 31 35.6**	**+0.1**
BHL				*eS*	**Sg**	**15 31 37.9**	**-0.1**
DQRL	**Deir Qamar**	**0.15**	**236**	*eP*	**Pg**	**15 31 36.2**	**+0.5**
QRWL	**Qaraoun**	**0.24**	**188**	*eP*	**Pg**	**15 31 37.1**	**-0.1**
QRWL				*eS*	**Sg**	**15 31 40.5**	**-0.3**
RCY	**Rachaya**	**0.31**	**162**	*eP*	**Pg**	**15 31 37.9**	**-0.4**
RCY				*eS*	**Sg**	**15 31 41.7**	**-1.0**
BRBR	**Barbar**	**0.42**	**153**	*eP*	**Pg**	**15 31 40.2**	**-0.2**
BRBR				*eS*	**Sg**	**15 31 46.8**	**+0.6**
BRBR				AML	AML	15 31 51.6	
	comp=N,37nm,0.3s						
BRBR				AML	AML	15 31 54.7	
	comp=E,52nm,0.5s						
HWQ	**Hawqa**	**0.52**	**21**	*eP*	**Pg**	**15 31 41.8**	**-0.4**
QASN	**Qassioun**	**0.53**	**119**	*eP*	**Pg**	**15 31 42.5**	**+0.2**
QASN				*eS*	**Sg**	**15 31 49.9**	**+0.5**
QASN				AML	AML	15 31 54.1	
	comp=N,44nm,0.5s						
QASN				AML	AML	15 31 56.1	
	comp=E,92nm,0.3s						
TOTH	**TOTAH**	**0.73**	**126**	*eP*	**Pg**	**15 31 46.2**	**+0.2**
TOTH				AML	AML	15 31 46.6	
	comp=E,16nm,0.3s						
TOTH				*eS*	**Sb**	**15 31 56.2**	**+0.1**
TOTH				AML	AML	15 32 05.8	
	comp=N,12nm,0.7s						

*ISCJB **20** 15:35:40.2±1.0, 25°.55S±0°.06×70°.53W±0°.09, h83km±8km, mb3.6/5, Error ellipse: s-maj=14.7km s-min=8.4km az=160.5*
*GUC **20** 15:35:41.9±0.5, 25°.39S×70°.42W, h88km±4km, ML3.9*
*IDC **20** 15:35:41.5±0.6, 25°.69S×70°.24W, h72km±4km, mb3.5/5, mb1 3.8/9, mb1mx3.6/37, mbtmp3.8/9, MS2.9/3, Ms1 2.9/3, ms1mx2.7/19, Error ellipse: s-maj=19.4km s-min=10.8km az=96.0*
*SJA **20** 15:35:43.2±1.0, 25°.21S×70°.62W, h92km±6km, ML3.4, MW3.8*
ISC 20 15:35:40.6±0.8, 25°.60S±0°.05×70°.56W±0°.08, h76km±6km, n41, σ1°.82/53, mb3.6/5, 2C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.98**	**64**	*i*P	**Pn**	**15 36 00.1**	**+0.6**
GO02				*i* S	**Sn**	**15 36 13.6**	**0.0**
PB14	**IPOC Station P**	**0.98**	**8**	*e*P	**Pn**	**15 35 59.8**	**+0.2**
PB14				*e*S	**Sn**	**15 36 13.2**	**-0.3**
PB14	**IPOC Station P**	**0.98**	**8**	*i*P	**Pn**	**15 35 59.8**	**+0.2**
PB14				*i* S	**Sn**	**15 36 13.3**	**-0.3**
PB14				IAML		15 36 14.5	
	comp=E,7µm,0.6s						
PB10	**IPOC Station P**	**2.08**	**0**	*e*P	**Pn**	**15 36 13.2**	**-0.3**
PB10				*e*S	**Sn**	**15 36 33.9**	**-4.7**
PB10	**IPOC Station P**	**2.08**	**0**	*i*P	**Pn**	**15 36 13.2**	**-0.3**
PB10				*i* S	**Sn**	**15 36 36.8**	**-1.8**
PB15	**IPOC Station P**	**2.58**	**23**	*e*P	**Pn**	**15 36 21.5**	**+1.1**
PB05	**IPOC Station P**	**2.76**	**7**	*e*P	**Pn**	**15 36 22.3**	**-0.5**
PB05	**IPOC Station P**	**2.76**	**7**	*i*P	**Pn**	**15 36 22.2**	**-0.5**
PB06	**IPOC Station P**	**3.02**	**18**	*e*P	**Pn**	**15 36 26.3**	**-0.1**
PB06	**IPOC Station P**	**3.02**	**18**	*i*P	**Pn**	**15 36 26.3**	**-0.1**
PB06				*i* S	**Sn**	**15 36 59.6**	**-2.0**
PB06				IAML		15 37 07.9	
	comp=E,326nm,0.5s						
PB04	**IPOC Station P**	**3.28**	**7**	*e*P	**Pn**	**15 36 29.0**	**-0.9**
PB04	**IPOC Station P**	**3.28**	**7**	*i*P	**Pn**	**15 36 29.0**	**-0.9**
PB04				*i* S	**Sn**	**15 37 05.7**	**-2.1**
PB04				IAML		15 37 09.0	
	comp=N,347nm,0.2s						
LVC	**Limon Verde**	**3.34**	**27**	*e*P	**Pn**	**15 36 31.7**	**+0.8**
LVC				IAML		15 37 11.2	
	comp=Z,154nm,0.6s						
LVC	**Limon Verde**	**3.34**	**27**	P	**Pn**	**15 36 31.7**	**+0.8**
	comp=Z,3.8nm,0.3s,baz=173,slow=8.8,SNR=40						
LVC				S	**Sn**	**15 37 09.2**	**-0.4**
	comp=Z,45nm,0.3s,baz=150,slow=18,SNR=5.9						
PB03	**IPOC Station P**	**3.62**	**12**	*e*P	**Pn**	**15 36 33.5**	**-0.9**
PB03	**IPOC Station P**	**3.62**	**12**	*i*P	**Pn**	**15 36 33.5**	**-0.9**
PB03				*i* S	**Sn**	**15 37 13.6**	**-2.4**
PB03				IAML		15 37 17.6	
	comp=N,174nm,0.3s						
PB07	**IPOC Station P**	**3.91**	**9**	*e*P	**Pn**	**15 36 37.5**	**-1.0**
PB09	**IPOC Station P**	**3.98**	**18**	*e*P	**Pn**	**15 36 39.9**	**+0.5**
PB02	**IPOC Station P**	**4.31**	**8**	*e*P	**Pn**	**15 36 42.6**	**-1.2**
SLA	**San Lorenzo**	**4.67**	**80**	*e*P	Pn	15 36 52.8	+4.0
HJA	**Humahuaca**	**5.27**	**64**	*e*P	**Pn**	**15 37 00.1**	**+2.9**
HJA				IAML		15 37 23.9	
	comp=Z,50nm,0.6s						
YJA	**Yavi**	**5.74**	**55**	*e*P	**Pn**	**15 37 06.1**	**+2.4**
YJA				IAML		15 37 41.3	
	comp=Z,4.9nm,0.5s						
CFA	**Coronel Fontan**	**6.32**	**162**	P	**Pn**	**15 37 10.2**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=338,slow=12,SNR=26						
CFA				S	**Sn**	**15 38 18.3**	**-3.7**
	comp=Z,7.2nm,0.3s,baz=192,slow=15,SNR=6.4						
CFA				LR	LR	15 39 55.2	
	comp=Z,63nm,18.9s,baz=244,slow=41						
PB12	**IPOC Station P**	**6.96**	**2**	*e*P	**Pn**	**15 37 18.3**	**-1.7**
LPAZ	**La Paz**	**9.54**	**14**	P	**Pn**	**15 37 56.0**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=214,slow=6.2,SNR=13						
CPUP	**Villa Florida**	**11.93**	**96**	P	**Pn**	**15 38 25.7**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=297,slow=9.0,SNR=2.2						
CPUP				LR	LR	15 44 03.4	
	comp=Z,44nm,19.0s,baz=239,slow=43						
SIV	**San Ignacio**	**13.04**	**45**	P	**Pn**	**15 38 38.2**	**-4.7**
	comp=Z,0.9nm,0.3s,baz=281,slow=12,SNR=11						
SIV				S	Sn	15 40 53.2	-13
	comp=Z,0.1nm,0.3s,baz=165,slow=20,SNR=1.9						
BDFB	**Brasilia**	**23.28**	**69**	P	**P**	**15 40 40.7**	**-1.4**
	comp=Z,4.9nm,0.6s,baz=228,slow=14,SNR=7.0						
BDFB				LR	LR	15 51 45.5	
	comp=Z,75nm,19.4s,baz=234,slow=42						

TXAR	**Lajitas Array**	**63.19**	**328**		P	**P**	**15 46 03.7**	**+2.7**
	comp=Z,0.5nm,0.9s,baz=116,slow=6.1,SNR=2.4							
PDAR	**Pinedale Array**	**76.94**	**332**		P	**P**	**15 47 27.2**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=134,slow=10,SNR=1.9							
NVAR	**Mina Array Bea**	**77.83**	**324**		P	**P**	**15 47 33.0**	**+3.0**
	comp=Z,0.5nm,0.6s,baz=134,slow=3.9,SNR=3.6							
TORD	**Torodi Ar. Bea**	**80.16**	**70**		P	**P**	**15 47 42.2**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=260,slow=4.3,SNR=12							
TORD					pP	**pP**	**15 48 02.6**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=264,slow=5.0,SNR=9.8							
ASAR	**Alice Springs**	**125.59**	**208**	PKP		**PKiKP**	**15 54 34.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=132,slow=1.8,SNR=11							
ASAR					pPKP	**pPKPdf**	**15 54 54.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=138,slow=1.6,SNR=2.4							
H11S2	**WAKE ISLAND Hyl**	**26.78**	**275**	T		T	18 14 23.5	
	baz=108,slow=75,SNR=38							
H11S1	**WAKE ISLAND Hyl**	**26.80**	**275**	T		T	18 14 24.3	
	baz=108,slow=75,SNR=51							
H11S3	**WAKE ISLAND Hyl**	**26.80**	**275**	T		T	18 14 24.9	
	baz=108,slow=75,SNR=54							
WRA	**Warramunga Arr**	**128.66**	**210**	PKP		**PKiKP**	**15 54 41.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=160,slow=1.6,SNR=14							
WRA					pPKP	**pPKPdf**	**15 55 00.8**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=149,slow=1.5,SNR=2.5							
KURBB	**Kurchatov Arra**	**145.57**	**35**	PKPbc		**PKiKP**	**15 55 11.4**	**-2.4**
	comp=Z,1.0nm,0.2s,baz=315,slow=3.6,SNR=8.3							
KURBB					pPKPbc	pPKPab	15 55 30.8	-0.8
	comp=Z,0.6nm,0.3s,baz=297,slow=3.4,SNR=1.6							
ZALV	**Zalesovo Beam**	**146.29**	**26**	PKPbc		**PKPab**	**15 55 12.9**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=304,slow=4.5,SNR=18							
ZALV					pPKPbc	**pPKPdf**	**15 55 33.1**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=314,slow=4.3,SNR=6.6							
AAK	**Ala-Archa**	**146.74**	**50**	PKPbc		**PKiKP**	**15 55 15.3**	**-1.5**
	comp=Z,3.5nm,0.8s,baz=220,slow=5.0,SNR=14							
AAK					pPKPbc	**pPKPdf**	**15 55 35.2**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=277,slow=1.4,SNR=3.4							
MKAR	**Makanchi Array**	**149.80**	**39**	PKPbc		**PKiKP**	**15 55 22.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=315,slow=2.5,SNR=30							
MKAR					pPKPbc	**pPKPdf**	**15 55 42.8**	**+4.2**
	comp=Z,1.1nm,0.7s,baz=302,slow=2.6,SNR=4.7							

*ISCJB **20** 15:35:53.1±1.1, 15°.01N±0°.09×94°.55W±0°.04, h10km, mb3.2/2, Error ellipse: s-maj=13.2km s-min=5.5km az=8.6*
*NEIC **20** 15:35:55.5±0.0, 14°.82N×94°.55W, h16km, MD4.1(MEX), After MEX.*
*IDC **20** 15:35:55.1±3.2, 15°.17N×94°.38W, h0km, mb3.2/2, mb1 3.7/4, mb1mx3.5/36, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=60.9km s-min=25.1km az=31.0*
*MEX **20** 15:35:55.5±0.5, 14°.81N×94°.55W, h19km±21km, MD4.1*
ISC 20 15:35:54.2±1.3, 15°.20N±0°.09×94°.57W±0°.05, h10km, n13, σ1°.30/20, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.40**	**69**	*e*P	**Pb**	**15 36 19.4**	**-1.0**
PCIG				*e*S	**Sn**	**15 36 37.2**	**-1.1**
PCIG		**1.40**	**69**	*e*P	**Pb**	**15 36 19.4**	**-1.0**
PCIG				*e*S	**Sn**	**15 36 37.2**	**-1.1**
HUIG	**Huatulco**	**1.59**	**291**	*e*P	**Pn**	**15 36 21.9**	**-0.6**
HUIG	**Huatulco**	**1.59**	**291**	*e*P	**Pn**	**15 36 21.9**	**-0.6**
HUIG				*i* S	**Sb**	**15 36 42.6**	**-1.2**
CMIG	**Matias Romero**	**1.91**	**351**	*e*P	**Pg**	**15 36 30.0**	**-0.8**
CMIG				*e*S	**Sg**	**15 36 55.9**	**+0.3**
CMIG	**Matias Romero**	**1.91**	**351**	*e*P	**Pg**	**15 36 30.0**	**-0.8**
CMIG				*e*S	**Sg**	**15 36 55.9**	**+0.3**
CMIG	**Matias Romero**	**1.91**	**351**	Pn	**Pg**	**15 36 30.1**	**-0.8**
	9.9nm,0.3s,baz=167,slow=13,SNR=65						
CMIG				Sn	**Sg**	**15 36 56.2**	**+0.6**
	5.5nm,0.3s,baz=142,slow=16,SNR=6.2						
CCIG	**Comitan**	**2.58**	**65**	*e*P	**Pb**	**15 36 38.4**	**-2.3**
CCIG	**Comitan**	**2.58**	**65**	*i* P	**Pn**	**15 36 37.2**	**+1.0**
CCIG				*i* S	**Sn**	**15 37 07.7**	**0.0**
APG	**El Apazote**	**3.97**	**92**	Pn	**Pn**	**15 36 54.9**	**-0.4**
	1.5nm,0.3s,baz=173,slow=23,SNR=8.7						
APG				Sn	**Sn**	**15 37 43.0**	**+0.8**
	0.9nm,0.3s,baz=324,slow=17,SNR=2.4						
TXAR	**Lajitas Array**	**16.39**	**331**	Pn	**P**	**15 39 50.5**	**+3.2**
	0.1nm,0.3s,baz=151,slow=11,SNR=3.9						
NVAR	**Mina Array Bea**	**31.20**	**322**	P	P	15 42 18.5	+4.6
	0.1nm,0.4s,baz=146,slow=8.9,SNR=1.7						
YKA	**Yellowknife Ar**	**49.32**	**348**	P	**P**	**15 44 44.9**	**+1.6**
	0.3nm,0.6s,baz=154,slow=7.1,SNR=4.2						

*ISCJB **20** 15:36:35.9±0.6, 40°.96N±0°.03×41°.73E±0°.05, h7km±6km, Error ellipse: s-maj=7.0km s-min=4.4km az=168.1*
*DDA **20** 15:36:35.7, 40°.98N×41°.74E, h7km, ML2.6*
*ISK **20** 15:36:35.6, 40°.99N×41°.76E, h8km, ML2.1/5*
ISC 20 15:36:35.7±1.0, 40°.97N±0°.03×41°.74E±0°.04, h9km±7km, n11, σ0°.56/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBAD	**Bademkaya**	**0.06**	**324**	*i* P	**Pg**	**15 36 38.2**	**+0.5**
DBAD				*i* S	**Sg**	**15 36 39.0**	**-0.1**
DBAD				IAML_P			
	comp=Z,25µm,0.1s						
DDEM	**Demirkent**	**0.08**	**175**	*i* P	**Pg**	**15 36 37.6**	**-0.3**
DDEM				*i* S	**Sg**	**15 36 39.1**	**-0.3**
DDEM				IAML_P			
	comp=Z,20µm,0.1s						
DAGI	**Agillar**	**0.17**	**50**	*i* P	**Pg**	**15 36 39.6**	**+0.3**
DAGI				*i* S	**Sg**	**15 36 42.3**	**+0.5**
DAGI				IAML_P			
	comp=Z,3µm,0.1s						
ARTV	**Artvin**	**0.26**	**33**	*i* P	**Pg**	**15 36 41.3**	**+0.4**
ARTV				*i* S	**Sg**	**15 36 45.4**	**+0.9**
ARTV				IAML_P			
	comp=Z,10µm,0.1s						
DBOC	**Borcka**	**0.38**	**351**	*i* P	**Pb**	**15 36 43.9**	**-0.8**
DBOC				*i* S	**Sb**	**15 36 49.7**	**-1.0**
DBOC				IAML_P			
	comp=Z,2µm,0.2s						
BCA	**Borcka**	**0.48**	**349**	PG	**Pg**	**15 36 45.3**	**+0.2**
BCA				SG	**Sg**	**15 36 52.0**	**+0.6**
SENK	**Senkaya-Erzuru**	**0.62**	**131**	PG	**Pg**	**15 36 47.9**	**+0.3**
SENK				SG	**Sb**	**15 36 57.3**	**-0.4**
BATM	**Batumi**	**0.64**	**357**	PG	**Pg**	**15 36 47.9**	**0.0**
CHOM	**Cayeli-Rize**	**0.75**	**280**	PG	**Pg**	**15 36 50.6**	**+0.4**
KOPR	**Koprukoy-ERZUR**	**0.98**	**175**	PG	**Pb**	**15 36 55.1**	**+0.1**
BAYT	**Aydıntepe-Bayb**	**1.35**	**245**	PN	**Pb**	**15 37 01.5**	**+0.3**

*IDC **20** 15:40:43.3±1.7, 10°.99S×165°.66E, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/33, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=36.4km s-min=32.0km az=143.0*
*ISCJB **20** 15:40:45.9±1.2, 11°.15S×165°.7E±0°.1, h30km, mb3.5/4, Error ellipse: s-maj=22.3km s-min=12.4km az=32.5*
ISC 20 15:40:47.7±1.3, 11°.0S±0°.1×165°.7E±0°.1, h30km, n6, σ1°.33/7, mb3.6/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.91**	**285**	Pn	**Pn**	**15 42 12.7**	**-0.5**
	baz=84,slow=9.2						
HNR				Sn	**Sn**	**15 43 21.6**	**+1.7**
	1.6nm,0.3s,baz=291,slow=17,SNR=2.0						
DZM	**Mont Dzumac**	**11.03**	**177**	Pn	**Pn**	**15 43 24.3**	**+0.8**
	0.1nm,0.3s,baz=330,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**31.48**	**250**	P	**P**	**15 47 06.0**	**-1.1**
	0.4nm,0.8s,baz=81,slow=9.6,SNR=4.4						
ASAR	**Alice Springs**	**32.80**	**243**	P	**P**	**15 47 17.7**	**-0.9**
	0.6nm,0.8s,baz=64,slow=10,SNR=12						
ILAR	**Eielson Array**	**83.48**	**19**	P	**P**	**15 53 13.0**	**+0.9**
	0.4nm,0.9s,baz=232,slow=5.6,SNR=3.0						
MKAR	**Makanchi Array**	**93.48**	**317**	P	**P**	**15 53 59.9**	**-0.7**
	0.1nm,0.4s,baz=106,slow=5.2,SNR=3.0						

IDC 20 15:42:51.3±14.0, 18°.59S×179°.42W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, Error ellipse: s-maj=362.8km s-min=52.7km az=120.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.56**	**260**	P	P	15 50 57.5	+0.1
	0.2nm,0.3s,baz=96,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**43.68**	**255**	P	P	15 50 57.9	-0.4
	0.5nm,0.4s,baz=88,slow=8.4,SNR=26						
MJAR	**Matsushiro Arr**	**67.88**	**324**	P	P	15 53 51.5	-0.1
	0.5nm,0.3s,baz=127,slow=8.7,SNR=1.7						

IDC 20 15:43:51.1±3.2, 26°.19S×177°.69W, h0km, mb3.9/2, mb1 4.3/3, mb1mx3.8/20, mbtmp4.1/3, ML4.9/1, Error ellipse: s-maj=70.6km s-min=43.4km az=66.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.06**	**184**	Pn	Pn	15 44 39.5	-1.2
	135nm,0.3s,baz=18,slow=20,SNR=4.0						
ASAR	**Alice Springs**	**43.77**	**262**	P	P	15 51 60.0	+1.2
	0.7nm,0.5s,baz=97,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**44.38**	**268**	P	P	15 52 02.2	-1.5
	0.9nm,0.4s,baz=102,slow=8.3,SNR=61						
BRTR	**Keskin Array B**	**150.62**	**305**	PKPbc	PKPbc	16 03 45.6	+0.2
	0.3nm,0.6s,baz=62,slow=1.2,SNR=2.4						

*SJA **20** 16:02:56.0±1.0, 34°.01S×71°.00W, h73km±8km, ML2.8, MW3.2*
*ISCJB **20** 16:02:57.4±0.7, 33°.92S±0°.04×70°.96W±0°.07, h84km±6km, Error ellipse: s-maj=9.5km s-min=6.9km az=16.3*
*GUC **20** 16:02:57.3±0.6, 33°.92S×70°.91W, h89km±4km, ML3.4*
ISC 20 16:02:58.1±1.5, 33°.93S±0°.05×70°.98W±0°.06, h75km±11km, n23, σ0°.83/33, 1C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANTU	**Antumapu**	**0.46**	**39**	*i*P	**Pn**	**16 03 10.8**	**-0.3**
ANTU				*i* S	**Sn**	**16 03 20.8**	**+0.1**
ANTU				IAML		16 03 21.1	
	comp=E,4µm,0.4s						
CLCH	**Cerro Calan**	**0.65**	**35**	*i*P	**Pn**	**16 03 12.6**	**-0.3**
CLCH				*i* S	**Sn**	**16 03 23.9**	**0.0**
CLCH				IAML		16 03 25.6	
	comp=N,2µm,0.3s						
LMEL	**Las Melosas**	**0.65**	**83**	*i*P	**Pn**	**16 03 12.6**	**-0.5**
LMEL				*i* S	**Sn**	**16 03 23.9**	**-0.2**
LMEL				IAML		16 03 25.3	
	comp=N,3µm,0.1s						
PEL	**Peldehue**	**0.82**	**17**	*e*P	**Pn**	**16 03 14.8**	**-0.1**
PEL				*e*S	**Sn**	**16 03 28.1**	**+0.9**
PEL	**Peldehue**	**0.82**	**17**	*i*P	**Pn**	**16 03 14.8**	**-0.1**
PEL				*i* S	**Sn**	**16 03 27.6**	**+0.4**
PEL				IAML		16 03 29.4	
	comp=E,2µm,0.3s						
FCH	**Farellones**	**0.83**	**44**	*i*P	**Pn**	**16 03 14.6**	**-0.6**
FCH				*i* S	**Sn**	**16 03 27.7**	**-0.2**
FCH				IAML		16 03 28.1	
	comp=N,3µm,0.1s						
ROC1	**El Roble**	**0.95**	**358**	*e*P	**Pn**	**16 03 16.8**	**+0.2**
ROC1				*e*S	**Sn**	**16 03 31.2**	**+0.9**
ROCH	**El Roble**	**0.95**	**358**	*e*P	**Pn**	**16 03 16.7**	**+0.1**
ROCH				*i* S	**Sn**	**16 03 30.9**	**+0.6**
ROCH				IAML		16 03 35.0	
	comp=N,914nm,0.6s						
GO05	**Huala**	**1.33**	**216**	*i*P	**Pn**	**16 03 21.0**	**-0.2**
GO05				*i* S	**Sn**	**16 03 39.7**	**+1.3**
AAGR	**Agrelo**	**1.98**	**66**	*e*P	**Pn**	**16 03 30.3**	**+0.5**
ARCO	**CERRO ARCO**	**2.03**	**58**	*e*P	**Pn**	**16 03 31.5**	**+1.1**
AUSP	**Uspallata**	**2.16**	**39**	*e*P	**Pn**	**16 03 33.6**	**+1.3**
ASAL	**Salagasta**	**2.24**	**54**	*e*P	**Pn**	**16 03 34.3**	**+1.1**
RFA	**San Rafael**	**2.24**	**113**	*e*P	**Pn**	**16 03 32.2**	**-1.0**
RTLS	**Leoncito**	**2.55**	**34**	*e*P	**Pn**	**16 03 39.2**	**+1.5**
RTLS				IAML		16 03 41.5	
	comp=Z,35nm,0.5s						
RTCV	**Cerro Valdivia**	**2.91**	**46**	*e*P	**Pn**	**16 03 41.5**	**-0.7**
CFA	**Coronel Fontan**	**3.27**	**46**	*e*P	**Pn**	**16 03 47.8**	**+0.6**
ACAN	**Cantantal**	**3.58**	**64**	*e*P	**Pn**	**16 03 52.6**	**+1.2**
AMOG	**MOGNA**	**3.65**	**36**	*e*P	**Pn**	**16 03 52.3**	**0.0**
GO04	**Tololo Observa**	**3.75**	**2**	*e*P	**Pn**	**16 03 53.2**	**-0.7**
GO04	**Tololo Observa**	**3.75**	**2**	*e*P	**Pn**	**16 03 52.9**	**-0.9**
GO04				*i* S	**Sn**	**16 04 35.4**	**-1.5**
AGUA	**GUANDACOL**	**4.91**	**26**	*e*P	**Pn**	**16 04 08.9**	**-0.6**
APLL	**PUNTA DE LOS L**	**5.16**	**48**	*e*P	**Pn**	**16 04 11.8**	**-1.1**
APLL				IAML		16 05 14.6	
	comp=Z,5.1nm,0.4s						

IDC 20 16:19:39.6±5.4, 8°.31S×126°.16E, h103km±59km, mb3.2/1, mb1 3.2/5, mb1mx3.1/44, mbtmp3.5/5, MS3.0/3, Ms1 3.0/3, ms1mx2.6/19, Error ellipse: s-maj=51.1km s-min=17.8km az=35.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.10**	**232**	P	Pn	16 20 24.9	-2.0
	9.6nm,0.3s,baz=119,slow=2.0,SNR=19						
BATI				S	Sn	16 21 04.5	+1.1
	6.7nm,0.3s,baz=110,slow=23,SNR=12						
BATI				LR	LR	16

NORC eS Sn 16 25 42.8 -0.8
NORC i 16 25 48.1
comp=N,3µm,0.5s
CHIC Chingaza 2.29 196 eP Pn **16 25 16.1 -0.4**
CHIC eS Sn **16 25 45.6 -1.2**
CHIC i 16 25 50.0
comp=Z,817nm,0.4s
ROSC El Rosal 2.33 211 ePn Pn **16 25 18.1 +1.2**
ROSC eSn Sn **16 25 43.9 -3.8**
ROSC El Rosal 2.33 211 eP Pn **16 25 18.1 +1.2**
ROSC eS Sn **16 25 49.0 +1.4**
ROSC i 16 25 56.4
comp=Z,2µm,0.4s
ROSC El Rosal 2.33 211 P Pn **16 25 18.2 +1.2**
comp=Z,164nm,0.3s,baz=81,slow=9.5,SNR=188
ROSC S Sn **16 25 47.0 -0.7**
comp=Z,191nm,0.3s,baz=122,slow=14,SNR=11
HELC Santa Helena 2.48 255 eP Pn **16 25 18.3 -0.5**
HELC eS Sn **16 25 50.8 -0.1**
UREC San Jos de Ur 2.56 291 eP Pn **16 25 18.3 -1.1**
UREC eS Sn **16 25 49.6 -2.3**
UREC i 16 26 00.8
comp=N,2µm,0.3s
VILC Villavicencio, 2.78 192 eP Pn **16 25 21.7 -0.5**
VILC eS Sn **16 25 55.5 -1.6**
VILC i 16 26 09.3
comp=N,3µm,0.5s
RREF El Recreo 2.94 229 eP Pn **16 25 24.5 -0.2**
RREF eS Sn **16 26 02.6 +1.2**
DBBC Dabeiba 3.08 273 eP Pn **16 25 26.1 +0.3**
CODC Agustn Codazz 3.08 354 eP Pn **16 25 25.6 -0.2**
CODC eS Sn **16 26 04.1 +0.4**
CODC i 16 26 09.6
comp=N,932nm,0.5s
PRAC Prado 3.58 210 eP Pn **16 25 31.4 -0.8**
PRAC eS Sn **16 26 14.7 -0.3**
PRAC i 16 26 19.3
comp=N,1µm,0.7s
SJCC San Jacinto, C 3.65 326 eS Sn **16 26 12.9 -3.8**
SJCC i 16 26 20.2
comp=N,615nm,0.4s
SJCC San Jacinto, C 3.65 326 eP Pn **16 25 32.7 -0.4**
SJCC eS Sn **16 26 14.2 -2.5**
YOTC Yotoco, Valle 4.29 229 eP Pn **16 25 40.6 -0.9**
GUVC San Jose del G 4.30 173 eP Pn **16 25 40.0 -1.6**
GUVC eS Sn **16 26 29.1 -2.7**
SMRC Santa Marta, M 4.42 346 eP Pn **16 25 43.3 +0.1**
SMRC eS Sn **16 26 31.8 -2.8**
SMRC i 16 26 37.1
comp=N,361nm,0.2s
BETC Betania 4.75 209 eP Pn **16 25 46.0 -1.4**
MALC Bahia Malaga 5.06 236 eP Pn **16 25 52.5 +1.0**
UPD2 Meteti 5.14 289 eP Pn **16 25 51.1 -1.4**
UPD2 eS Sn **16 26 48.7 -2.8**
POPC Popayan, Colom 5.56 220 eP Pn **16 25 57.9 -0.4**
POPC eS Sn **16 27 02.3 +0.5**
UPA Univ. de Panam 6.70 289 eP Pn **16 26 13.3 +0.1**
UPA eS Sn **16 27 26.7 -1.9**
BCIP Isla Barro Col 7.04 290 ePn Pn **16 26 16.6 -1.2**
BCIP Isla Barro Col 7.04 290 eS Sn **16 27 36.5 -0.4**
AZU Azuero 7.16 278 eP Pn **16 26 18.7 -0.7**
AZU eS Sn **16 27 37.3 -2.4**
OTAV Otavalo 8.45 219 ePn Pn **16 26 35.1 -1.9**
MTDJ Mount Denham 12.10 340 ePn Pn **16 27 27.9 +3.2**
SDDR Presa de Saban 12.19 8 ePn Pn **16 27 25.0 -0.7**
JTS JuntasAbangare 12.19 287 P Pn **16 27 26.9 +1.1**
comp=N,0.5nm,0.3s,baz=288,slow=15,SNR=3.6
APG El Apazote 18.85 297 P P **16 28 46.1 +0.6**
comp=N,0.2nm,0.3s,baz=82,slow=4.1,SNR=6.8
MDP Montagnes des 20.44 94 P P **16 29 03.1 +0.7**
comp=N,23nm,1.1s,baz=227,slow=12,SNR=2.7
657A Interlachen 24.07 341 P P **16 29 39.1 +1.1**
baz=158
455A Stateville 25.52 340 P P **16 29 53.2 +2.1**
baz=157
454A Quitman 25.71 339 P P **16 29 54.7 +1.8**
baz=155
451A Vernon 26.45 335 P P **16 30 00.4 +1.0**
baz=151
353A Camilla 26.49 338 P P **16 30 02.3 +2.4**
baz=155
252A Lumpkin 27.27 338 P P **16 30 08.7 +1.9**
baz=154
251A Midway 27.61 337 P P **16 30 11.9 +2.1**
baz=153
152A Waverly Hall 27.87 339 eP P **16 30 13.4 +1.3**
comp=N,12nm,0.8s
152A Waverly Hall 27.87 339 P P **16 30 14.3 +2.1**
baz=155
Z53A Monticello 28.03 341 P P **16 30 15.2 +1.7**
baz=158
GOGA Godfrey 28.12 341 P P **16 30 16.3 +2.0**
baz=158
249A Camden 28.21 334 P P **16 30 16.9 +1.8**
baz=150
Z52A Williamson 28.23 340 P P **16 30 17.4 +2.0**
baz=156
Y53A Monroe 28.57 342 P P **16 30 20.0 +1.6**
baz=158
149A Jones 28.61 335 P P **16 30 20.9 +2.2**
baz=151
Z51A Franklin 28.61 339 P P **16 30 20.9 +2.1**
baz=154
Y52A Lilburn 28.73 341 P P **16 30 21.8 +2.0**
baz=157
Z50A Ashland 28.84 337 eP P **16 30 22.7 +1.9**
comp=N,13nm,0.8s
Z50A Ashland 28.84 337 P P **16 30 22.7 +1.9**
baz=153,SNR=5.3
Z49A Columbiana 29.02 336 P P **16 30 24.6 +2.3**
baz=152,SNR=5.2
LRAL Lakeview Retre 29.07 335 P P **16 30 24.7 +1.9**
baz=151
Y50A Piedmont 29.34 338 P P **16 30 26.8 +1.7**
baz=154
X52A Dahlonega 29.36 342 P P **16 30 27.0 +1.7**
baz=158
Y49A Blount Mountai 29.56 337 P P **16 30 29.2 +2.0**
baz=152
X50B Fort Payne 29.82 339 P P **16 30 31.4 +2.0**
baz=154
W52A Murphy 29.82 342 eP P **16 30 31.8 +2.3**
comp=N,14nm,0.8s
W52A Murphy 29.82 342 P P **16 30 31.0 +1.6**
baz=158
Y48A Jasper 29.91 336 P P **16 30 32.0 +1.8**
baz=151
V54A Nebo 29.91 346 P P **16 30 31.7 +1.5**
baz=162
VBMS Vicksburg 30.00 330 P P **16 30 33.0 +2.0**
baz=144
V53A Saluda 30.03 344 P P **16 30 33.1 +1.7**
baz=160
X49A Woodville 30.11 338 P P **16 30 33.9 +1.9**
baz=153
W51A Cleveland 30.14 341 P P **16 30 34.1 +1.9**
baz=157
X48A Hartselle 30.33 337 eP P **16 30 35.8 +1.9**
comp=N,11nm,0.8s
X48A Hartselle 30.33 337 P P **16 30 35.8 +1.9**
baz=152
W50A Signal Mountai 30.36 340 P P **16 30 36.2 +1.9**
baz=156
T57A Hurt 30.53 350 P P **16 30 37.0 +1.4**
baz=168
V51A Loudon 30.61 342 P P **16 30 38.3 +1.9**
baz=158
W49A Belvidere 30.63 339 P P **16 30 38.0 +1.4**
baz=154
X47A Russelville 30.71 336 P P **16 30 38.7 +1.5**
baz=150
V50A Pikevile 30.72 341 P P **16 30 39.0 +1.6**
baz=156
U52A Thorn Hill 30.86 344 P P **16 30 40.3 +1.6**
baz=160
W48A Pulaski 30.89 338 P P **16 30 40.7 +1.9**
baz=153
V49A McMinnville 31.08 340 P P **16 30 42.2 +1.7**
baz=155
W47A Westpoint 31.25 337 P P **16 30 43.6 +1.7**
baz=152
U50A Jamestown 31.32 342 P P **16 30 44.4 +1.7**
baz=157
V48A Smith Brothers 31.38 338 eP P **16 30 45.0 +1.8**
comp=N,19nm,0.8s
V48A Smith Brothers 31.38 338 P P **16 30 45.1 +1.9**
baz=153,SNR=6.9
W46A Michie 31.46 336 P P **16 30 45.2 +1.4**
baz=150
T51A Gray 31.56 343 P P **16 30 46.5 +1.8**
baz=159
U49A Red Boiling Sp 31.71 340 P P **16 30 47.9 +1.8**
baz=156
V47A Nunnelly 31.72 337 P P **16 30 47.7 +1.5**
baz=152,SNR=5.6
T50A Nancy 31.88 342 P P **16 30 49.5 +2.0**
baz=158
NATX Nacogdoches 31.92 324 P P **16 30 49.7 +1.8**
baz=137
V46A Holladay 31.93 337 P P **16 30 49.5 +1.6**
baz=151
U48A Cassie Pea, Po 31.97 339 P P **16 30 50.0 +1.7**
baz=154
WVT Waverly 32.11 337 eP P **16 30 50.5 +1.0**
comp=N,15nm,1.0s
WVT Waverly 32.11 337 P P **16 30 51.1 +1.7**
baz=152
T49A Edmonton 32.17 341 P P **16 30 51.4 +1.3**
baz=156
U47A Clarksville 32.18 338 P P **16 30 51.5 +1.4**
baz=153
S50A Richmond 32.36 343 P P **16 30 53.5 +1.9**
baz=159
T48A Bowling Green 32.46 340 P P **16 30 54.5 +1.9**
baz=155
S49A Springfield 32.72 342 P P **16 30 56.6 +1.8**
baz=157
S48A Wiedeman Farm, 32.85 341 P P **16 30 57.2 +1.3**
baz=156
R50A Paris 32.90 344 P P **16 30 58.0 +1.6**
baz=159
T46A Princeton 32.94 338 P P **16 30 58.4 +1.7**
baz=152
X40A Basin Creek Fa 32.98 329 eP P **16 30 57.8 +0.8**
comp=N,8.1nm,0.9s
X40A Basin Creek Fa 32.98 329 P P **16 30 58.4 +1.4**
baz=142
Q52A Bidwell 33.02 347 P P **16 30 58.8 +1.4**
baz=163
435B Jarrell 33.06 319 P P **16 30 59.0 +1.2**
baz=131
S47A Hartford 33.06 340 P P **16 30 59.2 +1.4**
baz=154
R49A Shelbyville 33.15 343 P P **16 31 00.3 +1.7**
baz=158
W41B Gary Mavity, V 33.23 331 P P **16 31 00.7 +1.4**
baz=144
Q50A Georgetown 33.33 344 P P **16 31 01.9 +1.8**
baz=160
Q51A Peebles 33.34 345 eP P **16 31 01.0 +0.8**
comp=N,23nm,0.9s
Q51A Peebles 33.34 345 P P **16 31 01.0 +0.8**
baz=161
WHAR Wooly Hollow 33.34 331 eP P **16 31 01.0 +0.8**
comp=N,57nm,1.9s
MIAR Mount Ida 33.41 328 P P **16 31 01.7 +0.9**
baz=141
S46A Don Dixon Farm 33.44 339 P P **16 31 02.3 +1.3**
baz=153
WCI Wyandotte Cave 33.44 341 P P **16 31 02.3 +1.2**
baz=156
R48A Northridge Ran 33.47 342 P P **16 31 02.6 +1.3**
baz=157
R47A Wooly Knot Far 33.58 341 P P **16 31 03.3 +1.1**
baz=156
O56A Blue Knob Stat 33.63 352 eP P **16 31 02.7 0.0**
comp=N,10nm,0.9s
P51A Williamsport 33.70 346 eP P **16 31 02.9 -0.4**
comp=N,25nm,0.6s
PBMO Poplar Bluff 33.72 335 eP P **16 31 04.8 +1.2**
comp=N,19nm,0.8s
S45A Carrier Mills 33.75 338 P P **16 31 05.0 +1.3**
baz=152
Q48A North Vernon 33.91 342 P P **16 31 06.3 +1.2**
baz=157
T43A Greenville 33.92 335 P P **16 31 06.2 +1.0**
baz=148,SNR=5.8
N59A State Game Lan 34.01 356 P P **16 31 07.1 +1.1**
baz=175
W39A Magazine 34.02 329 eP P **16 31 06.7 +0.6**
comp=N,8.7nm,0.6s
W39A Magazine 34.02 329 P P **16 31 06.9 +0.8**
baz=141,SNR=5.2
U41A Viola 34.02 332 P P **16 31 06.7 +0.6**
baz=145,SNR=8.8
S44A Carbondale 34.03 337 P P **16 31 07.6 +1.5**
baz=151
SIUC Southern Illin 34.03 337 eP P **16 31 07.1 +0.9**
comp=N,21nm,0.6s
Q47A Bedord North L 34.13 341 P P **16 31 08.5 +1.5**
baz=156
R45A Skylar, Fairfi 34.18 339 P P **16 31 08.4 +1.0**
baz=153,SNR=5.3
O51A Pataskala 34.23 347 P P **16 31 09.8 +1.9**
baz=163
S43A Fun Ridge, 34.25 336 P P **16 31 09.3 +1.2**
baz=149
R44A Waltonville 34.44 337 P P **16 31 10.6 +0.9**
baz=151
O50A Cable 34.47 346 P P **16 31 11.6 +1.7**
baz=161
U40A Yellville 34.47 331 P P **16 31 11.0 +1.0**
baz=144,SNR=13
P47A Martinsville 34.59 342 P P **16 31 12.4 +1.5**
baz=157
Q45A Warren Harvey, 34.67 339 P P **16 31 12.4 +0.7**
baz=153
N52A McGinn's Farm, 34.67 349 P P **16 31 13.0 +1.3**
baz=165
S42A Caledonia 34.72 335 P P **16 31 12.6 +0.5**
baz=148,SNR=6.1
FVM French Village 34.75 336 eP P **16 31 13.0 +0.7**
comp=N,14nm,0.6s
R43A Red Bud 34.80 336 P P **16 31 13.4 +0.7**
baz=150
N50A Nevada 34.95 347 P P **16 31 15.4 +1.4**
baz=162
S41A Jillco Farms, 34.97 334 P P **16 31 15.5 +1.2**
baz=146
Q44A Meyer Farm, Va 34.99 338 P P **16 31 15.1 +0.7**
baz=152
P46A Rosedale 35.00 341 P P **16 31 16.1 +1.6**
baz=155
M54A Oil Creek Stat 35.00 351 P P **16 31 15.9 +1.4**
baz=169
P45A Graceland, Par 35.10 340 P P **16 31 16.5 +1.2**
baz=154
CCM Cathedral Cave 35.15 335 eP P **16 31 16.4 +0.6**
comp=N,26nm,0.6s
CCM Cathedral Cave 35.15 335 P P **16 31 17.0 +1.2**
baz=148
R42A Luebering 35.15 335 P P **16 31 16.7 +0.9**
baz=148,SNR=5.3
O47A Sheridan 35.24 343 P P **16 31 17.8 +1.2**
baz=157
Q43A New Douglas 35.28 337 P P **16 31 18.2 +1.3**
baz=151
BINY Binghamton 35.30 356 P P **16 31 18.1 +1.1**
baz=175
P44A Sand Creek, Wi 35.35 339 P P **16 31 18.3 +0.8**
baz=153
R41A Rosebud 35.41 335 P P **16 31 18.6 +0.6**
baz=148,SNR=7.8
N48A Decatur 35.50 344 P P **16 31 19.8 +1.1**
baz=159
L55A Hinsdale 35.50 353 P P **16 31 19.6 +0.9**
baz=171
ABTX Abilene, Hawle 35.58 320 eP P **16 31 19.7 +0.1**
comp=N,9.2nm,0.9s
ABTX Abilene, Hawle 35.58 320 P P **16 31 20.5 +0.9**
baz=130
Q42A Golden Eagle 35.58 336 P P **16 31 20.2 +0.7**
baz=149
TUL1 Leonard 35.61 327 P P **16 31 20.2 +0.4**
baz=139
SFIN Lafayette 35.66 342 eP P **16 31 21.1 +1.1**
comp=N,26nm,0.5s
SFIN Lafayette 35.66 342 P P **16 31 21.3 +1.2**
baz=156
N47A Urbana 35.70 344 P P **16 31 21.1 +0.6**
baz=158
P43A Skaggs, Pawnee 35.83 338 P P **16 31 22.3 +0.8**
baz=152
Q41A Truxton 35.90 336 P P **16 31 23.1 +1.0**
baz=148
N46A Monticello 36.02 342 P P **16 31 24.1 +1.0**
baz=157
P42A Winchester 36.09 337 P P **16 31 24.1 +0.3**
baz=150
CPUP Villa Florida 36.37 156 P P **16 31 26.8 +0.5**
comp=N,1.2nm,0.6s,baz=180,slow=3.0,SNR=2.5
M46A Old House Fiel 36.38 343 P P **16 31 27.5 +1.3**
baz=158
TX31 Lajitas Ar. Si 36.45 312 eP P **16 31 27.8 +0.7**
TXAR Lajitas Array 36.45 312 P P **16 31 28.1 +1.0**
comp=N,2.8nm,0.7s,baz=126,slow=8.7,SNR=26
TXAR PcP PcP **16 33 49.1 +1.3**
comp=N,0.7nm,0.7s,baz=128,slow=5.8,SNR=4.1
P41A Barry, Barry 36.45 336 P P **16 31 27.1 +0.3**
baz=149
WMOK Wichita Mounta 36.46 323 eP P **16 31 26.8 -0.2**
comp=N,4.7nm,0.6s
WMOK Wichita Mounta 36.46 323 P P **16 31 26.8 -0.2**
baz=134,SNR=5.2
L47A Sherwood 36.59 345 P P **16 31 28.9 +0.9**
baz=160
N43A Stutzman Famil 36.85 340 P P **16 31 30.4 +0.2**
baz=153
N42A Yates City 37.06 339 P P **16 31 32.1 +0.2**
baz=151
K47A Vermontville 37.19 345 P P **16 31 33.9 +0.9**
baz=160
DRCO St. Marys Ceme 37.20 353 P P **16 31 33.7 +0.6**
baz=171
WLVO Wesleyville 37.22 354 P P **16 31 34.2 +1.0**
baz=171
LBNH Lisbon 37.26 1 P P **16 31 33.8 +0.2**
baz=182
J49A Marlette 37.42 348 P P **16 31 35.7 +0.8**
baz=164
H55A Tweed 37.72 355 P P **16 31 38.4 +0.9**
baz=173
BWLO Walkerton 37.78 351 P P **16 31 38.5 +0.5**
baz=167
L41A Preston 38.32 339 P P **16 31 42.8 +0.3**
baz=152
AMTX Amarillo 38.33 321 eP P **16 31 43.5 +0.6**
comp=N,16nm,1.0s
AMTX Amarillo 38.33 321 P P **16 31 44.0 +1.1**
baz=130
G55A Calabogie 38.38 356 P P **16 31 44.0 +1.0**
baz=174
G53A Haliburton 38.43 354 P P **16 31 44.6 +1.3**
baz=171
L40A Anamosa 38.57 338 P P **16 31 44.9 +0.3**
baz=150
ALFO Alfred 38.66 358 P P **16 31 45.9 +0.6**
baz=177
MNTX Cornudas Mount 38.95 314 eP P **16 31 48.9 +0.9**
comp=N,24nm,1.4s
MNTX Cornudas Mount 38.95 314 P P **16 31 48.8 +0.8**
baz=123,SNR=12
JFWS Jewell Farm 38.97 340 P P **16 31 48.3 +0.3**
baz=152
F52A Sundridge 39.17 353 P P **16 31 50.6 +1.0**
baz=170
ALGO Algonquin Park 39.19 355 P P **16 31 50.5 +0.8**
baz=172
K39A Oelwein 39.37 338 P P **16 31 51.5 +0.2**
baz=150
I42A Draeger Farm, 39.41 342 P P **16 31 52.5 +0.9**
baz=155
J40A Soldiers Grove 39.56 340 P P **16 31 52.9 0.0**
baz=152
J39A Decorah 39.85 339 P P **16 31 55.2 0.0**
baz=150
E51A G1948 Merrick 39.92 353 P P **16 31 57.0 +1.2**
baz=170
E50A Wahnapitae 39.97 352 P P **16 31 57.8 +1.6**
baz=168
I39A Houston 40.24 339 P P **16 31 58.7 +0.3**
baz=151
D52A ZEK Kipawa Sen 40.24 354 P P **16 31 59.8 +1.4**
baz=172
E48A Lockeyer 40.25 350 P P **16 32 00.0 +1.6**
baz=166
D54A Lac Fusel, La 40.27 356 P P **16 31 59.6 +1.0**
baz=174
D53A Lac Vacive, Po 40.28 355 P P **16 32 00.1 +1.4**
baz=173
H41A Junction City 40.29 342 P P **16 31 59.5 +0.6**
baz=154
D51A Lot 18 Range I 40.45 353 P P **16 31 59.9 -0.3**
baz=170
G42A Mountain 40.49 343 P P **16 32 01.0 +0.5**
baz=156
H40A Chili 40.53 341 P P **16 32 01.3 +0.5**
baz=153
E46A Sault Ste Mari 40.54 348 P P **16 32 02.0 +1.2**
baz=163
D48A Paudash Townsh 40.86 351 P P **16 32 04.9 +1.4**
baz=167
D49A Beulah Townshi 40.89 351 P P **16 32 04.3 +0.5**
baz=167
G40A Ibb Lake 41.05 342 P P **16 32 05.8 +0.7**
baz=154
121A Cookes Peak, D 41.13 313 P P **16 32 07.1 +1.0**
baz=121
F41A Three Lakes 41.14 343 P P **16 32 06.8 +1.0**
baz=156
G39A Holcombe 41.38 341 P P **16 32 08.6 +0.8**
baz=152
T25A Trinidad 41.47 321 P P **16 32 10.2 +1.3**
baz=129
ANMO Albuquerque 41.49 317 eP P **16 32 09.8 +0.7**
comp=N,5.0nm,1.4s
ANMO Albuquerque 41.49 317 P P **16 32 09.1 0.0**
baz=125
TASM ASL Pad, Albuq 41.50 317 P P **16 32 09.4 +0.2**
baz=125
TASM ASL Pad, Albuq 41.50 317 P P **16 32 09.6 +0.5**
baz=125
G38A Ridgeland 41.50 340 P P **16 32 08.9 +0.1**
baz=151
E40A Wakefield 42.02 343 P P **16 32 13.2 +0.3**
baz=155
ECSD EROS Data Cent 42.12 334 eP P **16 32 13.5 -0.4**
comp=N,21nm,1.5s
ECSD EROS Data Cent 42.12 334 P P **16 32 14.2 +0.3**
baz=144
E39A Mellen 42.15 342 P P **16 32 14.6 +0.5**
baz=154
LSQQ Lebel-sur-Quev 42.19 356 P P **16 32 14.3 0.0**
baz=174
F38A Pierce - Schro 42.20 340 P P **16 32 14.9 +0.5**
baz=152
SDCO Great Sand Dun 42.53 321 eP P **16 32 18.5 +0.9**
comp=N,5.7nm,0.8s
SDCO Great Sand Dun 42.53 321 P P **16 32 18.9 +1.3**
baz=128,SNR=8.8
OGNE Ogallala 42.63 327 P P **16 32 18.9 +0.8**
baz=135
TUC Tucson 43.23 311 P P **16 32 23.9 +0.9**
baz=118
S22A 4UR Ranch, Cre 43.37 320 P P **16 32 25.8 +1.5**
baz=127,SNR=5.6
EYMN Ely 43.84 342 P P **16 32 27.8 +0.2**
baz=153
ISCO Idaho Springs 43.89 323 eP P **16 32 29.3 +0.9**
comp=N,6.9nm,1.0s
ISCO Idaho Springs 43.89 323 P P **16 32 29.8 +1.3**
baz=130,SNR=5.1
MVCO Mesa Verde 44.14 318 P P **16 32 31.5 +1.1**
baz=124
214A Organ Pipe Nat 44.61 309 P P **16 32 35.4 +1.4**
baz=116
X16A Lo Mia Camp, P 44.71 313 eP P **16 32 36.2 +1.3**
comp=N,2.5nm,0.9s
N23A Red Feather La 44.78 324 P P **16 32 36.5 +1.0**
baz=130
WUAZ Wupatki 45.20 315 eP P **16 32 40.3 +1.5**
comp=N,14nm,0.9s
WUAZ Wupatki 45.20 315 P P **16 32 40.1 +1.3**
baz=120,SNR=6.9
AGMN Agassiz Nation 45.60 339 P P **16 32 41.9 +0.5**
baz=148
O20A White River Ci 45.68 322 eP P **16 32 43.7 +1.2**
comp=N,20nm,1.8s
O20A White River Ci 45.68 322 P P **16 32 43.8 +1.2**
baz=127
RSSD Black Hills 45.92 329 P P **16 32 45.4 +1.1**
baz=135
K22A Casper 46.25 326 P P **16 32 48.1 +1.2**

baz=131
U15A North Rim 46.30 315 eP P 16 32 48.9 +1.4
comp=N,9.6nm,1.1s
SRU San Rafael Swe 46.52 319 eP P 16 32 50.0 +0.9
comp=N,4.8nm,0.8s
GLA Glamis 46.62 310 P P 16 32 51.0 +1.2
baz=115
MDND Maddock 46.67 336 P P 16 32 50.1 +0.2
baz=143
KNB Kanab 46.96 316 eP P 16 32 54.0 +1.5
comp=N,9.4nm,0.9s
LCMT Little Creek M 47.26 315 eP P 16 32 56.2 +1.5
comp=N,7.4nm,0.9s
ULM Lac du Bonnet 47.26 340 eP P 16 32 53.9 -0.4
comp=N,11nm,0.8s
ULM Lac du Bonnet 47.26 340 P P 16 32 54.1 -0.3
comp=N,7.2nm,0.4s,baz=145,slow=7.0,SNR=22
MSU Marysvale 47.29 318 eP P 16 32 56.3 +1.2
IRM Iron Mountain 47.33 311 P P 16 32 55.8 +0.6
baz=116
BC3 Big Chuckawall 47.35 310 P P 16 32 55.9 +0.4
baz=115
TCRU Three Creeks R 47.52 318 eP P 16 32 58.0 +1.1
comp=N,11nm,0.8s
MPU Maple Canyon 47.74 320 eP P 16 32 59.5 +1.0
comp=N,6.0nm,0.8s
MONP2 Monument Peak 47.78 309 P P 16 32 59.0 0.0
baz=113
GMRC Granite Mounta 47.98 311 P P 16 33 01.0 +0.6
baz=116
NLU North Lily Min 47.99 319 eP P 16 33 01.0 +0.6
comp=N,3.3nm,0.7s
BW06 Boulder Array 48.06 324 eP P 16 33 01.2 +0.2
comp=N,11nm,1.3s
BW06 Boulder Array 48.06 324 P P 16 33 01.3 +0.4
baz=128,SNR=5.9
PD31 Pinedale Array 48.06 324 eP P 16 33 01.2 +0.2
comp=N,9.9nm,1.3s
PDAR Pinedale Array 48.06 324 eP P 16 33 01.0 +0.1
PDAR Pinedale Array 48.06 324 P P 16 33 01.1 +0.2
comp=N,2.2nm,0.6s,baz=118,slow=8.5,SNR=20
SCHQ Schefferville 48.11 5 P P 16 33 01.1 +0.2
comp=N,2.8nm,0.4s,baz=223,slow=3.6,SNR=4.4
TCUT Toone Canyon 48.21 321 eP P 16 33 01.9 -0.3
comp=N,22nm,0.7s
PSUT Pine Spring 48.43 317 eP P 16 33 03.2 -0.6
comp=N,4.6nm,1.1s
DUG Dugway, Tooele 48.59 319 eP P 16 33 05.3 +0.3
comp=N,3.4nm,0.8s
DUG Dugway, Tooele 48.59 319 P P 16 33 05.9 +0.8
baz=122
GSC Goldstone, Bar 49.05 312 eP P 16 33 08.5 0.0
comp=N,3.6nm,0.8s
GSC Goldstone, Bar 49.05 312 P P 16 33 09.5 +1.1
baz=115
BGU Big Grassy Mou 49.12 320 eP P 16 33 09.7 +0.6
comp=N,7.8nm,0.7s
DGMT Dagmar 49.13 333 P P 16 33 09.6 +0.9
baz=137
TPAW Teton Pass 49.31 324 eP P 16 33 10.3 -0.2
comp=N,3.8nm,0.6s
MOOW Moose Ponds 49.34 324 eP P 16 33 11.0 +0.3
comp=N,3.2nm,0.8s
TPNV Topopah Spring 49.35 314 eP P 16 33 12.2 +1.4
comp=N,6.5nm,1.0s
TPNV Topopah Spring 49.35 314 P P 16 33 11.2 +0.3
baz=117
RLMT Red Lodge 49.36 327 P P 16 33 11.3 +0.5
baz=130
HVU Hansel Valley 49.43 321 eP P 16 33 11.6 +0.2
comp=N,2.7nm,0.7s
FXWY Fox Creek 49.44 324 eP P 16 33 11.8 +0.3
comp=N,2.2nm,0.8s
R11A Troy Canyon, C 49.53 316 eP P 16 33 13.1 +0.9
comp=N,2.9nm,0.9s
R11A Troy Canyon, C 49.53 316 P P 16 33 13.2 +1.0
baz=118,SNR=6.3
IMW Indian Meadow 49.54 324 eP P 16 33 12.7 +0.4
comp=N,4.4nm,0.7s
EDW2 Edwards Air Fo 49.77 311 P P 16 33 14.7 +0.8
baz=114
YHH Holmes Hill 50.03 325 eP P 16 33 16.9 +0.8
comp=N,2.4nm,0.8s
CWC Cottonwood Cre 50.46 312 P P 16 33 20.6 +1.4
baz=115
ELK Elko 50.46 319 eP P 16 33 19.9 +0.6
comp=N,2.2nm,0.9s
MCMT McKenzie Canyo 51.20 324 eP P 16 33 25.8 +1.1
VOG Valley Oaks Go 51.37 312 P P 16 33 27.3 +1.5
baz=114
HLID Hailey 51.42 322 eP P 16 33 27.1 +0.8
comp=N,3.0nm,0.8s
HLID Hailey 51.42 322 P P 16 33 27.1 +0.8
baz=123,SNR=5.3
NV01 Mina Array Sit 51.47 315 eP P 16 33 27.1 +0.3
NVAR Mina Array Bea 51.47 315 P P 16 33 27.2 +0.4
comp=N,2.0nm,0.7s,baz=120,slow=7.3,SNR=15
NVAR PcP PcP 16 34 39.5 +0.5
comp=N,0.5nm,0.6s,baz=167,slow=7.3,SNR=3.8
EGMT Eagleton 51.49 329 P P 16 33 27.3 +0.7
baz=131
KVN Kaiserville 51.60 315 eP P 16 33 28.3 +0.6
comp=N,2.5nm,0.8s
MSO Missoula 52.98 326 P P 16 33 38.6 +0.9
baz=126
WVOR Wild Horse Val 53.51 319 eP P 16 33 42.4 +0.7
comp=N,9.1nm,1.1s
FCC Fort Churchill 54.25 347 eP P 16 33 45.9 -0.6
comp=N,9.7nm,1.3s
F10A Beach Ranch, E 54.40 323 eP P 16 33 48.2 +0.2
comp=N,21nm,1.6s
NEW Newport 55.57 326 P P 16 33 56.5 +0.2
baz=123
J05D Fort Rock, OR 55.60 319 P P 16 33 57.7 +1.0
baz=116
YKA Yellowknife Ar 63.24 340 P P 16 34 48.5 0.0
comp=N,6.0nm,0.6s,baz=132,slow=6.7,SNR=98
YKB5 Yellowknife Ar 63.24 340 eP P 16 34 48.0 -0.5
YKW3 Yellowknife Ar 63.29 340 eP P 16 34 48.5 -0.3
comp=N,6.8nm,0.7s
INK Inuvik 73.00 340 eP P 16 35 49.2 0.0
comp=N,2.6nm,0.7s
TORD Torodi Ar. Bea 73.73 78 P P 16 35 53.0 -1.6
comp=N,0.2nm,0.4s,baz=308,slow=4.7,SNR=2.4
DOT Dot Lake 75.48 334 eP P 16 36 04.3 +0.6
comp=N,4.9nm,0.7s
ILAR Eielson Array 76.94 335 P P 16 36 11.5 -0.4
comp=N,0.9nm,0.7s,baz=102,slow=4.4,SNR=4.8
NOA NORSAR Array B 81.30 29 P P 16 36 35.2 -0.5
comp=N,0.3nm,0.4s,baz=270,slow=5.1,SNR=2.6
ARCES ARCESS Array B 86.64 20 P P 16 37 02.5 -0.2
comp=N,2.8nm,0.9s,baz=318,slow=3.4,SNR=5.2
MKAR Makanchi Array 122.29 20 PKP PKPdf 16 43 12.5 -1.2
comp=N,0.2nm,0.4s,baz=317,slow=2.0,SNR=3.7
LZH Lanzhou 137.20 4 ePKP PKPdf 16 43 39.0 -3.4
LZH pPKP pPKPdf 16 44 22.3 -2.0
LZH sPKP 16 44 38.8
ASAR Alice Springs 149.13 234 PKPbc PKPbc 16 44 06.8 -1.1
comp=N,1.3nm,0.5s,baz=117,slow=3.6,SNR=17
WRA Warramunga Arr 150.35 241 PKP PKPdf 16 44 04.2 -1.2
comp=N,0.2nm,0.7s,baz=107,slow=2.7,SNR=4.8
WRA PKPbc PKPbc 16 44 09.6 -1.2
comp=N,1.5nm,0.4s,baz=106,slow=2.7,SNR=77

*IDC **20** 16:28:47.4±1.6, 10.06N×127.24E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/49, mbtmp3.9/5, Error ellipse: s-maj=160.0km s-min=20.7km az=68.0*
*ISCJB **20** 16:28:59.9±0.6, 9.48N±0.03×126.02E±0.06, h105km±5km, mb3.8/5, Error ellipse: s-maj=10.0km s-min=5.3km az=163.5*
*MAN **20** 16:29:01.3, 9.48N×125.97E, h82km, MS3.8*
ISC 20 16:29:00.9±0.9, 9.48N±0.04×125.99E±0.06, h98km±7km, n20, σ1s17/31, mb3.8/5, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.58	301	⇓eP	Pn	16 29 17.1	-0.1
SCPH				eS	Sn	16 29 29.3	+0.1
BUTP	Butuan	0.63	216	eP	Pn	16 29 17.5	-0.1
BUTP				eS	Sn	16 29 31.0	+1.0
MSLP	Maasin	1.29	300	eP	Pn	16 29 25.0	+0.4
MSLP				eS	Sn	16 29 43.2	+0.8
BIPH	Bislig	1.34	164	eP	Pn	16 29 24.6	-0.6
BIPH				eS	Sn	16 29 42.8	-0.7
CGP	Cagayan de Oro	1.64	232	⇓iP	Pn	16 29 28.7	-0.1
CGP				eS	Sn	16 29 48.8	-1.3
BUKP	Musuan	1.84	210	eP	Pn	16 29 31.8	+0.3
BUKP				eS	Sn	16 29 55.2	+0.5
TBP	Tagbilaran	2.11	276	⇓eP	Pn	16 29 35.1	+0.2
LLP	Lapu-Lapu	2.16	293	⇑eP	Pn	16 29 36.4	+0.8
LLP				eS	Sn	16 30 02.4	+0.4
BESP	Borongan	2.17	346	eP	Pn	16 29 37.3	+1.6
BESP				eS	Sn	16 30 02.3	0.0
MATI	Mati	2.54	174	eP	Pn	16 29 40.9	+0.4
MATI				eS	Sn	16 30 15.6	+4.8
SNPH	Sibulan	2.72	267	⇑iP	Pn	16 29 43.9	+0.9
SNPH				iS	Sn	16 30 15.2	-0.2
CTBH	Cotabato--PC H	2.84	218	⇓iP	Pn	16 29 44.7	+0.3
PAGZ	Pagadian	3.05	238	eP	Pn	16 29 48.1	+0.7
CNP	Catarman	3.28	337	eP	Pn	16 29 51.1	+0.7
CNP				eS	Sn	16 30 27.7	-0.8
GUIM	Jordan	3.54	289	eP	Pn	16 29 55.2	+1.3
WRA	Warramunga Arr	30.37	164	P	P	16 35 02.7	-1.1
	0.3nm,0.4s,baz=352,slow=8.4,SNR=17						
ASAR	Alice Springs	33.84	167	P	P	16 35 33.7	-0.5
	0.4nm,0.5s,baz=353,slow=7.1,SNR=21						
STKA	Stephens Creek	43.75	161	P	P	16 36 56.9	+0.2
	1.5nm,0.3s,baz=337,slow=7.6,SNR=8.7						
MKAR	Makanchi Array	52.49	323	P	P	16 38 03.8	-0.1
	0.6nm,0.6s,baz=125,slow=7.7,SNR=8.9						
ARCES	ARCESS Array B	84.83	340	P	P	16 41 23.6	-0.7
	3.0nm,0.8s,baz=82,slow=6.3,SNR=5.0						

*JMA **20** 16:38:01.7±0.1, 24.42N×122.00E, h9km, M2.5*
*TAP **20** 16:38:02.2, 24.45N×121.95E, h13km, ML2.9, B*
ISC 20 16:38:02.0±0.9, 24.44N±0.02×121.99E±0.02, h14km±6km, n90, σ0s65/121, 8C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS1	EOS1	0.17	49	⇓P	Pb	16 38 06.9	-0.1
	baz=51						
EOS1				eS	Sg	16 38 10.5	+1.6
	baz=51						
TWC	Suao	0.21	324	⇑iP	Pg	16 38 06.5	-0.2
	baz=338						
TWC				iS	Sg	16 38 09.2	-0.8
	baz=338						
ENA	Nanau	0.22	268	P	Pg	16 38 06.8	-0.2
	baz=270						
ENA				S	Sg	16 38 09.5	-0.7
	baz=270						
ILA	Ilan	0.39	327	eP	Pb	16 38 10.3	-0.4
	baz=329						
ILA				eS	Sg	16 38 15.8	+0.4
	baz=329						
TWE	Neicheng	0.41	314	⇑iP	Pg	16 38 10.1	0.0
	baz=321						
TWE				eS	Sg	16 38 15.1	-0.6
	baz=321						
EGS		0.41	353	eP	Pg	16 38 10.6	+0.3
	baz=358						
ENTT	Nioudou	0.43	298	⇑iP	Pg	16 38 10.7	0.0
	baz=298						
ENTT				S	Sg	16 38 16.1	-0.5
	baz=298						
NTC	Toucheng	0.44	341	eP	Pg	16 38 11.1	+0.3
	baz=353						
NACB	Ninganchiao	0.44	234	⇓P	Pg	16 38 10.8	0.0
	baz=230						
NACB				S	Sg	16 38 16.7	-0.1
	baz=230						
NDT	Datong Townshi	0.46	291	⇑P	Pg	16 38 11.3	+0.1
	baz=291						
NDT				S	Sg	16 38 16.9	-0.5
	baz=291						
TWD	Chiawan	0.50	225	⇓iP	Pg	16 38 12.0	+0.1
	baz=221						
TWD				S	Sg	16 38 18.8	+0.1
	baz=221						
ETLH	Xiulin Townshi	0.51	244	⇓P	Pg	16 38 12.1	-0.1
	baz=241						
ETLH				eS	Sb	16 38 19.5	-0.7
	baz=241						
NNSB	Datong	0.55	269	⇓P	Pg	16 38 12.8	-0.1
	baz=268						
NNSB				S	Sg	16 38 19.4	-0.8
	baz=268						
TIPB	Shuangxi	0.55	345	eP	Pg	16 38 13.1	+0.1
	baz=353						
TIPB				eS	Sg	16 38 20.1	-0.3
	baz=353						
NWLT	Wulai	0.56	308	eP	Pb	16 38 13.2	-0.4
	baz=300						
NWLT				eS	Sg	16 38 20.0	-0.4
	baz=300						
NNS	Nan Shan	0.56	271	⇓iP	Pg	16 38 12.9	-0.1
	baz=269						
NNS				S	Sg	16 38 19.8	-0.7
	baz=269						
TWB1	Santiao Chiao	0.57	0	eP	Pb	16 38 13.6	-0.2
	baz=353						
HWA	Hwalien	0.57	217	eP	Pb	16 38 14.2	+0.4
	baz=222						
YHNB	Yeheng	0.60	293	⇑P	Pb	16 38 14.1	-0.3
	baz=298						
YHNB				S	Sg	16 38 20.9	-1.0
	baz=298						
NSK	Sanguang	0.62	293	⇑iP	Pg	16 38 14.2	0.0
	baz=298						
NSK				eS	Sg	16 38 21.4	-1.0
	baz=298						
TWA	Mucha	0.65	326	⇑P	Pb	16 38 15.2	-0.1
	baz=327						
TWA				eS	Sg	16 38 23.6	+0.1
	baz=327						
NWF	Wu-fen Shan	0.66	344	eP	Pb	16 38 15.6	+0.2
	baz=333						
NWF				eS	Sb	16 38 24.1	-0.3
	baz=333						
WFSB	Wu-fen Shan	0.66	344	eP	Pb	16 38 15.4	+0.1
	baz=333						
WFSB				eS	Sb	16 38 24.1	-0.3
	baz=333						
NHDH	Xindian Distri	0.67	321	eP	Pb	16 38 15.7	+0.2
	baz=315						
TATO	Taipei	0.70	320	P	Pb	16 38 16.1	+0.1
	baz=314						
WHF	Hehuan Shan	0.72	246	⇓iP	Pg	16 38 16.0	-0.1
	baz=244						
WHF				eS	Sb	16 38 26.0	-0.5
	baz=244						
TAP	Taipei	0.74	324	eP	Pb	16 38 17.0	+0.3
	baz=325						
TWT	Tachien	0.76	256	eP	Pb	16 38 17.3	+0.2
	baz=249						
TDCB	Techi	0.78	257	P	Pb	16 38 17.4	0.0
	baz=255						
TDCB				S	Sg	16 38 26.6	-0.7
	baz=255						
YM01	YM01	0.80	332	eP	Pb	16 38 18.4	+0.6
	baz=332						
YM01				eS	Sn	16 38 30.1	-0.6
	baz=332						
YM11	YM11	0.82	333	P	Pb	16 38 18.7	+0.6
	baz=333						
YM05	YM05	0.82	332	eP	Pb	16 38 18.6	+0.5
	baz=342						
YM04	YM04	0.82	330	eP	Pb	16 38 18.7	+0.5
	baz=331						
CHGB	Renai	0.83	243	⇓P	Pg	16 38 18.0	-0.2
	baz=253						
CHGB				S	Sb	16 38 30.0	+0.5
	baz=253						
YM08	YM08	0.83	334	eP	Pb	16 38 18.7	+0.4
	baz=335						
TWS1	Kuangyinshan	0.84	322	eP	Pn	16 38 19.4	0.0
	baz=323						
ANP	Anpu	0.86	331	eP	Pb	16 38 19.3	+0.6
	baz=331						
JYNG	Yonagunijimaku	0.87	89	P	Pg	16 38 17.8	-1.2
JYNG				eS	Sg	16 38 29.3	-1.1
NTST	Danshui	0.87	326	eP	Pn	16 38 19.9	0.0
	baz=326						
OWD	Renai	0.88	237	eP	Pg	16 38 18.8	-0.4
	baz=231						
NCU	National Centr	0.90	306	eP	Pn	16 38 20.8	+0.6
	baz=310						
NCUH	Zhongli	0.90	306	eP	Pn	16 38 21.2	+0.9
	baz=296						
TWY	Chenhua	0.91	337	eP	Pn	16 38 20.4	0.0
	baz=338						
LIOB	Emei	0.91	283	eP	Pg	16 38 17.8	-1.8
	baz=283						
NSTT	Nanjuang	0.92	282	eP	Pn	16 38 20.3	-0.2
	baz=282						
NSTT				eS	Sg	16 38 31.4	-0.4
	baz=282						
EGFH	Guangfu	0.92	214	eP	Pb	16 38 20.1	+0.4
	baz=226						
YOJ	Yonaguni jima	0.93	88	eP	Pg	16 38 19.7	-0.4
	baz=89						
YOJ	Yonaguni jima	0.93	88	P	Pg	16 38 19.7	-0.4
YOJ				eS	Sg	16 38 32.4	+0.1
WHP	Taichung City	0.96	261	eP	Pb	16 38 20.8	+0.3
	baz=260						
WHP				eS	Sg	16 38 32.8	-0.4
	baz=260						
SBCB	Hsinchu	0.98	291	eP	Pn	16 38 22.2	+0.8
	baz=284						
VWDT	VWDT	1.03	229	eP	Pn	16 38 22.1	+0.1
	baz=234						
HGSD	Ruisui	1.07	209	eP	Pn	16 38 23.6	+1.0
	baz=208						
NMLH	Miaoli	1.09	276	eP	Pn	16 38 24.5	+1.6
	baz=275						
EHY	Hungye	1.11	213	eP	Pg	16 38 23.2	-0.2
	baz=225						
TWQ1	Liyutan	1.11	266	eP	Pn	16 38 24.3	+1.1
	baz=265						
NSY	Sanyi	1.12	269	eP	Pn	16 38 24.5	+1.2
	baz=268						
SMLT	Sun Moon Lake	1.14	241	eP	Pn	16 38 24.0	+0.4
	baz=240						
SSLB	Suanglung	1.14	236	⇓P	Pn	16 38 23.8	+0.2
	baz=235						
TYC	Yuchr	1.16	243	eP	Pg	16 38 24.2	-0.2
	baz=242						
PTSB	Yuanli	1.17	271	eP	Pg	16 38 25.0	+0.4
	baz=270						
YULB	Yu-li	1.22	211	eP	Pg	16 38 25.5	+0.1
	baz=212						
TCU	Taichung	1.23	257	eP	Pg	16 38 27.3	+1.6
	baz=256						
WDJ	Dajia District	1.23	266	eP	Pg	16 38 27.6	+1.9
	baz=265						
TWF1	Yuli	1.25	210	eP	Pg	16 38 25.7	-0.4
	baz=226						
WHYT	Xinyi Township	1.27	235	eP	Pg	16 38 26.1	-0.3
	baz=234						
WJS	Zhushan	1.30	242	eP	Pg	16 38 27.5	+0.4
	baz=235						
WNT	Mingjian	1.31	245	eP	Pg	16 38 28.4	+1.1
	baz=238						
FULB	Fuli	1.39	207	eP	Pb	16 38 28.1	+0.4
	baz=224						
CHN5	Tsauling	1.46	235	⇑P	Pg	16 38 30.8	+0.8
	baz=235						
ELDTW	Lidau	1.53	216	eP	Pg	16 38 30.8	-0.6
	baz=203						
RLNB	Erlin	1.58	250	eP	Pg	16 38 32.9	+0.5
	baz=263						
IRIF	Iriomote-Funau	1.59	93	P	Pn	16 38 29.5	-0.3
IRIF				eS	Sn	16 38 50.1	-0.1
CHN4	Tsaushan	1.67	230	eP	Pg	16 38 34.8	+0.7
	baz=231						
TPUB	Ta-pu	1.68	228	eP	Pg	16 38 34.4	+0.1
	baz=229						
STYT	Tauyuan	1.69	222	eP	Pg	16 38 34.5	-0.1
	baz=223						
HATJ	Hateruma jima	1.70	102	P	Pn	16 38 31.6	+0.3
HATJ				eS	Sn	16 38 53.6	+0.7
WTP	Ta-pu	1.73	227	eP	Pg	16 38 34.9	-0.3
	baz=228						
TWK	Hsinying	1.80	230	eP	Pg	16 38 36.0	-0.6
	baz=231						
CHN1	Nanshi	1.83	227	eP	Pg	16 38 36.5	-0.5
	baz=229						
JKRS	Kuro-shima	1.86	96	P	Pn	16 38 33.9	+0.5
JKRS				eS	Sn	16 38 56.8	+0.1
SGST	Jiashian	1.86	224	eP	Pg	16 38 36.8	-1.0
	baz=224						
SLGT	Liugui	1.89	221	eP	Pb	16 38 37.0	+0.7
	baz=223						
JIJ	Ishigaki jima	1.97	92	eS	Sn	16 38 58.7	-0.7
ECL	Taimali	2.06	208	eP	Pn	16 38 36.5	+0.2
	baz=197						
SSD	Sandimen	2.09	217	eP	Pb	16 38 40.1	+0.4
	baz=229						
JISG	Ishigakijimahi	2.12	85	P	Pn	16 38 38.2	+1.1
JISG				eS	Sn	16 39 04.4	+1.1
MASBT	Mashibuluo	2.20	215	eP	Pb	16 38 41.4	-0.2
	baz=217						
EAST	Anshuo	2.29	207	eP	Pn	16 38 40.6	+1.1
	baz=197						
PHUB	P'eng-hu	2.39	248	eP	Pb	16 38 43.9	-0.9
	baz=249						
VCHM	Qimei	2.64	243	eP	Pb	16 38 47.6	-1.5
	baz=246						

KRSC 20 16:41:00.3±10.0, 51.09N×157.28E, h111km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	Pauzhetka	0.48	323	eP	Pn	16 41 18.9	+1.8
SKR	Severo-Kuril's	0.84	242	eP	Pn	16 41 20.8	+0.9
SKR				eS	Sn	16 41 35.9	+1.2
KDTR	Khodutka, Kamc	0.88	34	eP	Pn	16 41 21.7	+1.4
KDTR				eS	Sn	16 41 36.8	+1.4
ALID	Alaid	1.11	259	eP	Pn	16 41 23.6	+0.7
ASAK	Asacha	1.36	16	eP	Pn	16 41 27.0	+1.5
MTVR	Mutnovka	1.51	22	eP	Pn	16 41 29.2	+1.8
MTVR				eS	Sn	16 41 50.2	+2.3
RUS	Russkaya	1.55	29	eP	Pn	16 41 28.7	+1.0
RUS				eS	Sn	16 41 49.6	+1.0
KRMR	Karymshinskiy	1.83	16	eP	Pn	16 41 32.8	+1.7
KRMR				eS	Sn	16 41 56.7	+2.1
APC	Apacha	1.84	358	eP	Pn	16 41 32.6	+1.3
APC				eS	Sn	16 41 56.2	+1.2
DALK	Dalny	2.15	24	eP	Pn	16 41 36.5	+1.3
DALK				eS	Sn	16 42 03.5	+1.6
UGLR	Uglovaya	2.33	24	eP	Pn	16 41 39.9	+2.3
AVH	Avacha	2.36	22	P	Pn	16 41 39.2	+1.2
KOK	Koryaka	2.36	20	eP	Pn	16 41 40.6	+2.6
SMAR	Somma	2.38	23	eP	Pn	16 41 40.2	+1.9
KRER	Koryakskii	2.40	22	P	Pn	16 41 40.3	+1.7
KRER				eS	Sn	16 42 09.2	+1.2
SDLR	Sedlovina	2.41	24	eP	Pn	16 41 40.5	+1.9
SDLR				eS	Sn	16 42 08.9	+0.9
KRX	Arik	2.43	20	eP	Pn	16 41 41.2	+2.3
SPN	Mys Shipunski	2.63	39	eS	Sn	16 42 13.6	+0.6
GNL	Ganaly	2.65	9	eP	Pn	16 41 43.4	+1.7

*NAO **20** 16:41:37.9±1.9, 78.30N×8.70E, ML3.2*
*BER **20** 16:41:40.2±1.8, 78.32N×8.76E, h10km, ML2.8, ML3.2(NAO), Confirmed Earthquake*
*IEPN **20** 16:41:43.3, 78.53N×8.89E, h15km*
ISC 20 16:41:37.3±2.0, 78.30N±0.06×8.6E±0.1, h10km, n21, σ1s79/33, 2C-1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	Kingsbay	0.92	45	Pg	Pg	16 41 55.3	+0.3
KBS				Lg	Lg	16 42 06.6	
KBS	Kingsbay	0.92	45	⇑iP	Pg	16 41 55.2	+0.3
KBS				iS	Sg	16 42 05.5	-1.4
KBS	Kingsbay	0.92	45	eP	Pg	16 41 55.3	+0.3
KBS				eS	Sg	16 42 06.7	-0.1
KBS				IAML		16 42 11.4	
	comp=Z,766nm,0.3s						
BRBA	Barentsburg A	1.19	99	Pg	Pb	16 42 00.4	+0.5
BRBA				Lg	Lg	16 42 15.3	
BRBA	Barentsburg A	1.19	99	Pg	Pb	16 42 00.4	+0.5
BRBA				Sg	Sb	16 42 15.3	+0.1
SPA0	Spitsbergen Ar	1.60	91	Pg	Pn	16 42 07.2	+1.6
	baz=285,slow=8.6						
SPA0				Lg	Lg	16 42 29.1	
	baz=275,slow=22						
SPA0	Spitsbergen Ar	1.60	91	⇓iP	Pn	16 42 07.1	+1.5
SPA0				iS	Sn	16 42 27.5	+1.1
SPA0	Spitsbergen Ar	1.60	91	eP	Pn	16 42 07.1	+1.5
SPA0				eSg	Sb	16 42 29.1	+1.9
SPA0				IAML		16 42 29.7	

	comp=Z,87nm,0.2s							
HSP	**Hornsund**	**1.99**	**127**	Pn	**Pn**	**16 42 11.1**	**+0.3**
HSP				Lg	Lg	16 42 36.2	
HSPB	**Hornsund (broa**	**1.99**	**128**	*e*P	**Pn**	**16 42 11.7**	**+0.8**
HSPB				*e*S	**Sn**	**16 42 34.9**	**-0.8**
HSPB				IAML		16 42 36.5	
	comp=Z,137nm,0.4s						
HOPEN	**Hopen**	**4.01**	**108**	Pn	**Pn**	**16 42 39.3**	**+0.6**
HOPEN				Sn	**Sn**	**16 43 24.9**	**-0.8**
HOPEN	**Hopen**	**4.01**	**108**	*e*P	**Pn**	**16 42 39.2**	**+0.5**
HOPEN				*e*S	**Sn**	**16 43 24.9**	**-0.8**
HOPEN				IAML		16 43 26.8	
	comp=Z,52nm,0.3s						
BJO1	**Bjornoya**	**4.54**	**142**	Pn	**Pn**	**16 42 47.9**	**+2.1**
BJO1				Sn	**Sn**	**16 43 39.5**	**+1.0**
BJO	**Bjornoya**	**4.56**	**141**	*e*P	**Pn**	**16 42 48.1**	**+2.0**
BJO				*e*S	**Sn**	**16 43 39.2**	**+0.2**
ZFI2	**Zemlya Franca-**	**7.39**	**52⇑**	*i*P	**Pn**	**16 43 24.7**	**-0.3**
ZFI2				*i* S	Sn	16 44 41.1	-7.6
	comp=Z,6.0nm,0.3s						
ARA0	**ARCESS Array S**	**9.91**	**143**	Pn	**Pn**	**16 44 00.6**	**+1.1**
	baz=344,slow=12						
ARA0				Sn	**Sn**	**16 45 45.0**	**-5.6**
	baz=337,slow=22						
ARA0	**ARCESS Array S**	**9.91**	**143**	Pn	**Pn**	**16 44 00.6**	**+1.1**
	baz=344,slow=12						
ARA0				Sn	**Sn**	**16 45 45.0**	**-5.6**
	baz=337,slow=22						
KIF	**Kilpisjarvi**	**9.92**	**154**	Pn	**Pn**	**16 44 00.3**	**+0.7**
KIF	**Kilpisjarvi**	**9.92**	**154**	Pn	**Pn**	**16 44 00.3**	**+0.7**
AMDE	**Amderma**	**16.18**	**93**	*i* P	**Pn**	**16 45 22.8**	**-1.4**
	comp=Z,0.9nm,0.8s						
LSH	**Leshukonskoye**	**17.31**	**120**	*e*P	**Pn**	**16 45 39.3**	**+0.7**
	comp=Z,34nm,2.9s						

*ISCJB **20** 16:53:33.4±0.2,6°.86S×0°.03×127°.22E±0°.03,h407km, mb4.0/21,Error ellipse: s-maj=4.2km s-min=3.7km az=174.9*
*NEIC **20** 16:53:34.5±0.3,6°.88S×127°.20E,h415km±6km,mb4.3/13, Error ellipse: s-maj=7.5km s-min=5.2km az=47.0*
*DJA **20** 16:53:34.7±0.2,7°.5S×12°.7E±*,h409km±3km,M4.0/24, mb4.2/24,mB4.5/12,MLv4.5/19,Mw(mB)3.7/12*
*IDC **20** 16:53:35.2± 1.1,6°.90S×127°.06E,h412km±14km,mb3.6/12, mb1 3.6/15,mb1mx3.4/39,mbtmp4.4/15,Error ellipse: s-maj=17.1km s-min=10.0km az=73.0*

ISC 20 16:53:34.0±0.4,6°.91S±0°.05×127°.22E±0°.05,h407km,n80, σ1§67/95,mb4.1/21,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNDI	**Bandanaira**	**3.57**	**49**	P		**P**	**16 54 44.5**	**+2.0**
NLAI	**Namlea**	**3.65**	**358**	P		**P**	**16 54 45.7**	**+2.5**
NLAI				S		**S**	**16 55 42.4**	**+3.0**
SOEI	**Soe**	**4.07**	**226**	*e*P		**P**	**16 54 48.5**	**+1.4**
SOEI	**Soe**	**4.07**	**226**	P		**P**	**16 54 48.6**	**+1.5**
SOEI				S		**S**	**16 55 46.6**	**-0.1**
SAUI	**Saumlaki**	**4.18**	**105**	*e*P		**P**	**16 54 49.2**	**+1.1**
SAUI				*e*S		**S**	**16 55 42.9**	**-5.6**
SAUI	**Saumlaki**	**4.18**	**105**	P		**P**	**16 54 49.8**	**+1.7**
SAUI				S		**S**	**16 55 49.6**	**+1.1**
BATI	**Baumata**	**4.81**	**227**	P		**P**	**16 54 56.1**	**+1.9**
BATI				S		**S**	**16 55 59.8**	**0.0**
BATI	**Baumata**	**4.81**	**227**	P		**P**	**16 54 56.4**	**+2.1**
	126nm,0.3s,baz=68,slow=1.6,SNR=346							
BATI				S		**S**	**16 55 59.4**	**-0.4**
	107nm,0.3s,baz=236,slow=3.7,SNR=10							
BBSI	**Bau Bau**	**4.83**	**287**	P		**P**	**16 54 57.1**	**+2.6**
SANI	**Sanana**	**4.98**	**346**	P		**P**	**16 54 56.7**	**+0.7**
SANI				S		**S**	**16 55 59.7**	**-3.2**
MMRI	**Maumere**	**5.23**	**250**	*e*P		**P**	**16 54 58.8**	**+0.4**
MMRI	**Maumere**	**5.23**	**250**	P		**P**	**16 54 59.2**	**+1.0**
MMRI				S		**S**	**16 56 05.7**	**-1.9**
EDFI	**Ende, Flores**	**5.78**	**251**	P		**P**	**16 55 04.2**	**-0.1**
EDFI				S		**S**	**16 56 15.6**	**-2.8**
FAKI	**Fak Fak**	**6.39**	**52**	*e*P		**P**	**16 55 11.3**	**+0.5**
FAKI	**Fak Fak**	**6.39**	**52**	P		**P**	**16 55 11.4**	**+0.5**
FAKI				S		**S**	**16 56 25.1**	**-5.2**
BSSI	**Bau Bau, Buton**	**6.73**	**276**	P		**P**	**16 55 15.2**	**-0.1**
MTN	**Manton Dam**	**7.05**	**147**	*e*P		**P**	**16 55 20.1**	**+1.3**
SIJI	**Sorong**	**7.23**	**34**	P		**P**	**16 55 22.0**	**+1.1**
	2.0nm,0.3s,baz=286,slow=24,SNR=15							
SIJI				S		**S**	**16 56 44.1**	**-3.4**
	3.3nm,0.3s,baz=109,slow=24,SNR=6.2							
BKSI	**Bulukumba**	**7.23**	**282**	P		**P**	**16 55 21.5**	**+0.6**
LUWI	**Luwuk**	**7.32**	**323**	*e*P		**P**	**16 55 23.0**	**+1.1**
LUWI	**Luwuk**	**7.32**	**323**	P		**P**	**16 55 22.0**	**+0.1**
BNSI	**Bone**	**7.50**	**289**	P		**P**	**16 55 24.9**	**+1.0**
TNTI	**Ternate**	**7.63**	**1**	*e*P		**P**	**16 55 25.0**	**-0.3**
SPSI	**Sidrap Palu**	**7.97**	**291**	P		**P**	**16 55 29.8**	**+0.7**
APSI	**Ampana**	**8.14**	**317**	P		**P**	**16 55 32.0**	**+1.1**
TTSI	**Tana Toraja**	**8.31**	**297**	P		**P**	**16 55 35.2**	**+2.4**
	37nm,0.6s,1μm							
RKPI	**Ransiki, Papua**	**8.77**	**53**	P		**P**	**16 55 40.0**	**+2.2**
MRSI	**Marisa**	**9.03**	**324**	P		**P**	**16 55 41.3**	**+0.5**
PLAI	**Plampang**	**9.55**	**258**	P		**P**	**16 55 44.6**	**-1.9**
MPSI	**Mapaga**	**10.25**	**314**	P		**P**	**16 55 55.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.23**	**188**	P		**P**	**16 56 06.3**	**+1.3**
	0.6nm,0.3s,baz=25,slow=10,SNR=30							
FITZ				S		**S**	**16 58 09.1**	**-0.7**
	0.4nm,0.3s,baz=141,slow=14,SNR=4.1							
JAGI	**Jajag, Banyuwa**	**13.04**	**262**	*e*P		**P**	**16 56 23.2**	**-1.9**
JAGI	**Jajag, Banyuwa**	**13.04**	**262**	P		**P**	**16 56 22.5**	**-2.6**
WRAB	**Tennant Creek**	**14.68**	**153**	*e*P		**P**	**16 56 43.8**	**+0.9**
WRA	**Warramunga Arr**	**14.69**	**153**	P		**P**	**16 56 41.6**	**-1.3**
	3.8nm,0.3s,baz=226,slow=8.0,SNR=269							
WRA				S		**S**	**16 59 17.1**	**-2.1**
	0.7nm,0.3s,baz=322,slow=20,SNR=11							
WB2	**Warramunga Arr**	**14.69**	**153**	*e*P		**P**	**16 56 43.3**	**+0.3**
KKM	**Kota Kinabalu**	**16.91**	**319**	*e*P		**P**	**16 57 07.7**	**+0.7**
	21nm,1.2s							
COEN	**Coen**	**17.18**	**115**	*e*P		**P**	**16 57 10.7**	**+1.1**
	15nm,0.8s							
SBUM	**Sibu**	**17.62**	**301**	*e*P		**P**	**16 57 14.6**	**+0.2**
	7.1nm,0.9s							
AS31	**Alice Springs**	**17.86**	**160**	*e*P		**P**	**16 57 17.6**	**+0.8**
	6.3nm,0.6s							
ASAR	**Alice Springs**	**17.86**	**160**	P		**P**	**16 57 18.0**	**+1.2**
	3.5nm,0.3s,baz=346,slow=12,SNR=352							
ASAR				S		**S**	**17 00 20.6**	**-0.5**
	0.3nm,0.3s,baz=345,slow=19,SNR=8.9							
AS01	**Alice Springs**	**17.87**	**160**	*e*P		**P**	**16 57 17.8**	**+0.8**
KSM	**Kuching**	**18.82**	**296**	*e*P		**P**	**16 57 27.7**	**+0.8**
	11nm,1.0s							
CISI	**Cisompet, Garu**	**19.26**	**267**	*e*P		**P**	**16 57 30.4**	**-0.9**
	24nm,0.9s							
PMG	**Port Moresby**	**19.89**	**99**	*e*P		**P**	**16 57 36.7**	**-0.5**
	46nm,2.0s							
CTA	**Charters Tower**	**22.64**	**127**	P		**P**	**16 58 04.8**	**+2.7**
	3.3nm,0.7s,baz=321,slow=15,SNR=3.7							
STKA	**Stephens Creek**	**28.24**	**153**	P		**P**	**16 58 53.3**	**+1.5**
	4.6nm,0.4s,baz=333,slow=8.8,SNR=24							
CMAR	**Chiang Mai Arr**	**37.59**	**313**	P		**P**	**17 00 12.2**	**+0.2**
	0.5nm,0.4s,baz=138,slow=6.9,SNR=5.9							
KSRS	**Korea Array**	**44.13**	**1**	P		**P**	**17 01 05.4**	**+1.1**
	1.2nm,0.4s,baz=179,slow=9.1,SNR=9.5							
MAT	**Matsushiro**	**44.43**	**13**	P		**P**	**17 01 06.2**	**-0.5**
MJAR	**Matsushiro Arr**	**44.43**	**13**	P		**P**	**17 01 06.4**	**-0.3**
	9.0nm,0.7s,baz=198,slow=9.9,SNR=17							
LZH	**Lanzhou**	**48.08**	**334**	*e*P		**P**	**17 01 36.6**	**+1.8**
LZH				pP		pwP	17 02 59.5	-0.7
LZH				PP		**PP**	**17 03 26.0**	**-5.9**
LZH				sP		sP	17 03 40.6	+1.0
LZH				pmax		pmax		
	comp=Z,41nm,1.0s							
LZH				pmax		pmax		
	comp=Z,210nm,4.3s							
HHC	**Hu-ho-hao-te**	**49.65**	**344**	*e*P		**P**	**17 01 48.8**	**+2.3**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,48nm,5.8s							
USRK	**Ussuriysk Ar.**	**51.05**	**4**	P		**P**	**17 01 57.4**	**+0.8**
	comp=Z,4.0nm,0.5s,baz=197,slow=6.6,SNR=11							
RAMN	**Ramite**	**51.77**	**312**	*e*P		**P**	**17 02 02.4**	**-0.1**
	comp=Z,15nm,0.6s							
JIRN	**Jiri**	**52.47**	**313**	*e*P		**P**	**17 02 06.5**	**-1.3**
GTA	**Gaotai**	**52.60**	**333**	*e*P		**P**	**17 02 08.6**	**+0.4**
GTA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
GUN	**Gumba**	**52.84**	**313**	*e*P		**P**	**17 02 10.0**	**-0.4**
	comp=Z,7.6nm,0.5s							
PKI	**Pulchoki**	**52.99**	**312**	*e*P		**P**	**17 02 10.8**	**-0.7**
	comp=Z,7.2nm,0.6s							
PKIN	**Phulchoki**	**53.01**	**312**	*e*P		**P**	**17 02 10.7**	**-0.8**
	comp=Z,3.6nm,0.4s							
GKN	**Gorkha**	**53.80**	**312**	*e*P		**P**	**17 02 16.5**	**-0.6**
	comp=Z,7.3nm,0.4s							
KOLN	**Koldanda**	**54.44**	**311**	*e*P		**P**	**17 02 21.3**	**-0.4**
	comp=Z,6.5nm,0.6s							
PYUN	**Piuthan**	**55.07**	**311**	*e*P		**P**	**17 02 25.8**	**-0.4**
	comp=Z,12nm,0.7s							
ULN	**Ulaanbaatar**	**57.37**	**344**	*e*P		**P**	**17 02 41.1**	**-0.6**
	comp=Z,2.9nm,0.7s							
SONM	**Songino Array**	**57.52**	**344**	P		**P**	**17 02 43.7**	**+1.0**
	comp=Z,1.2nm,0.4s,baz=181,slow=6.5,SNR=11							
WMQ	**Urumqi**	**61.84**	**329**	*e*P		**P**	**17 03 12.8**	**+1.0**
WMQ				pP		pwP	17 04 41.9	+0.3
WMQ				LR		LR		
	comp=N,56nm,19.5s							
WMQ				LR		LR		
	comp=E,33nm,22.3s							
WMQ				LR		LR		
	comp=Z,33nm,18.1s							
PETK	**Petropavlovsk-**	**65.13**	**20**	P		**P**	**17 03 34.5**	**+1.7**
	comp=Z,5.2nm,0.6s,baz=196,slow=5.3,SNR=18							
KSH	**Kashi**	**66.11**	**319**	*e*P		**P**	**17 03 40.8**	**+1.4**
MK01	**Makanchi Array**	**66.64**	**328**	*e*P		**P**	**17 03 42.4**	**-0.1**
MK31	**Makanchi Array**	**66.66**	**328**	*e*P		**P**	**17 03 42.7**	**+0.1**
	comp=Z,4.7nm,1.4s							
MKAR	**Makanchi Array**	**66.66**	**328**	P		**P**	**17 03 42.9**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=123,slow=7.7,SNR=52							
MAKZ	**Makanchi**	**66.84**	**328**	*e*P		**P**	**17 03 43.2**	**-0.5**
	comp=Z,11nm,2.0s							
ZAA0	**Zalesovo Array**	**70.31**	**335**	*e*P		**P**	**17 04 04.0**	**-0.6**
	comp=Z,5.4nm,0.8s							
ZALV	**Zalesovo Beam**	**70.31**	**335**	*e*P		**P**	**17 04 03.8**	**-0.8**
ZALV	**Zalesovo Beam**	**70.31**	**335**	P		**P**	**17 04 04.2**	**-0.4**
	comp=Z,6.0nm,0.6s,baz=130,slow=5.6,SNR=25							
KURK	**Kurchatov**	**71.02**	**330**	*e*P		**P**	**17 04 08.9**	**0.0**
	comp=Z,7.8nm,0.9s							
SEY	**Seymchan**	**72.25**	**12**	P		**P**	**17 04 17.2**	**+1.3**
	comp=Z,4.9nm,0.5s,baz=189,slow=5.1,SNR=36							
VNDA	**Vanda**	**72.88**	**173**	P		**P**	**17 04 20.3**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=347,slow=9.0,SNR=3.4							
TIXI	**Tiksi**	**78.40**	**1**	*e*P		**P**	**17 04 49.9**	**-0.4**
	comp=Z,3.4nm,0.7s							
SYO	**Syowa Base**	**82.75**	**201⇑**	*e*P		**P**	**17 05 13.0**	**-0.3**

IDC 20 17:04:38.0±2.9,28°.88N×140°.96E,h0km,mb3.2/3, mb1 3.3/4,mb1mx3.2/56,mbtmp3.2/4,ML2.8/1,Error ellipse: s-maj=102.4km s-min=22.8km az=56.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JCJ	**Chichijima**	**2.08**	**148**	Pn		Pn	17 05 14.0	-0.2
	3.5nm,0.3s,baz=360,slow=21,SNR=6.5							
JCJ				Sn		Sb	17 05 43.0	-0.1
	7.0nm,0.3s,baz=298,slow=23,SNR=7.3							
MKAR	**Makanchi Array**	**48.51**	**308**	P		P	17 13 22.7	-0.1
	0.2nm,0.6s,baz=87,slow=9.4,SNR=3.4							
WRA	**Warramunga Arr**	**48.95**	**188**	P		P	17 13 26.4	+0.1
	0.2nm,0.5s,baz=10,slow=8.4,SNR=4.7							
ASAR	**Alice Springs**	**52.68**	**188**	P		P	17 13 54.0	-0.4
	0.2nm,0.7s,baz=1.9,slow=6.9,SNR=3.9							

*IGIL **20** 17:10:40.7,6°.79N×12°.35W,h0km,ML2.3*
*MDD **20** 17:10:40.7±2.0,3 6°.77N×12°.28W,h0km,mb3.6/7,Error ellipse: s-maj=18.3km s-min=14.7km az=114.0,PRXIMO*
*INMG **20** 17:10:42.8± 1.4,3 6°.55N×12°.60W,h10km,ML2.4,Error ellipse: s-maj=11.1km s-min=6.7km az=111.0*

ISC 20 17:10:38.9±3.8,36°.8N±0°.1×12°.4W±0°.2,h10km,n49, σ1§60/71,1C,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**2.84**	**82**	*e*Pn		**Pn**	**17 11 25.1**	**+0.8**
PFVI				*e*Sn		**Sn**	**17 11 57.6**	**-1.0**
PFVI				A		A	17 12 00.2	
	6.2nm,0.2s							
PFVI	**Vila Bisbo**	**2.84**	**82**	⇑P		**Pn**	**17 11 25.1**	**+0.8**
	2.8nm,0.1s,SNR=18							
PFVI				S		**Sn**	**17 11 58.1**	**-0.4**
	7.0nm,0.1s,SNR=7.9							
PTEO	**Sao Teotonio**	**2.99**	**75**	*e*Sn		**Sn**	**17 12 01.1**	**-1.1**
PTEO				A		A	17 12 04.0	
	5.5nm,0.2s							
PTEO	**Sao Teotonio**	**2.99**	**75**	S		**Sn**	**17 12 01.1**	**-1.1**
	2.8nm,0.2s							
MORF	**Marmelete**	**3.00**	**79**	*e*P		**Pn**	**17 11 27.4**	**+0.9**
MORF				*e*S		**Sn**	**17 12 02.0**	**-0.6**
MORF				AML		AML	17 12 04.0	
	comp=N,13nm,0.3s							
MORF	**Marmelete**	**3.00**	**79**	*e*Pn		**Pn**	**17 11 27.4**	**+0.9**
MORF				*e*Sn		**Sn**	**17 12 03.0**	**+0.4**
MORF				A		A	17 12 08.7	
	comp=N,8.3nm,0.1s							
MORF	**Marmelete**	**3.00**	**79**	P		**Pn**	**17 11 27.4**	**+0.9**
MORF				S		**Sn**	**17 12 02.0**	**-0.6**
	comp=N,13nm,0.3s							
PMAFR	**Mafra**	**3.24**	**48**	*e*Sn		**Sn**	**17 12 09.6**	**+1.3**
PMAFR				A		A	17 12 10.3	
	comp=N,27nm,0.3s							
PMAFR	**Mafra**	**3.24**	**48**	S		**Sn**	**17 12 09.7**	**+1.3**
	comp=N,16nm,0.2s,SNR=20							
PNCL	**Nicolau / Gran**	**3.31**	**66**	*e*Pn		**Pn**	**17 11 33.2**	**+2.5**
PNCL				*e*Sn		**Sn**	**17 12 10.1**	**+0.1**
PNCL				A		A	17 12 11.5	
	comp=N,5.9nm,0.5s							
PNCL	**Nicolau / Gran**	**3.31**	**66**	P		**Pn**	**17 11 33.2**	**+2.5**
PNCL				S		**Sn**	**17 12 10.1**	**+0.1**
	comp=N,5.9nm,0.5s							
MESJ	**Messejana**	**3.45**	**71**	*e*S		**Sn**	**17 12 12.9**	**-0.7**
MESJ				AML		AML	17 12 16.2	
	comp=N,6.0nm,0.2s							
MESJ	**Messejana**	**3.45**	**71**	*e*Pn		**Pn**	**17 11 34.6**	**+1.9**
MESJ				*e*Sn		**Sn**	**17 12 13.2**	**-0.4**
MESJ				A		A	17 12 16.6	
	comp=N,3.6nm,0.2s							
MESJ	**Messejana**	**3.45**	**71**	P		**Pn**	**17 11 34.6**	**+1.9**
MESJ				S		**Sn**	**17 12 13.2**	**-0.4**
	comp=N,3.6nm,0.2s							
PCVE	**Castro Verde**	**3.54**	**75**	*e*Pn		**Pn**	**17 11 35.2**	**+1.3**
PCVE				*e*Sn		**Sn**	**17 12 14.6**	**-1.2**
PCVE				A		A	17 12 16.5	
	comp=N,2.7nm,0.7s							
PCVE	**Castro Verde**	**3.54**	**75**	P		**Pn**	**17 11 35.2**	**+1.3**
PCVE				S		**Sn**	**17 12 14.6**	**-1.2**
	comp=N,2.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.56**	**82**	*e*Pn		**Pn**	**17 11 35.5**	**+1.2**
PBDV				*e*Sn		**Sn**	**17 12 16.4**	**-0.1**
PBDV				A		A	17 12 19.6	
	comp=N,3.7nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.56**	**82**	P		**Pn**	**17 11 35.5**	**+1.2**
PBDV				S		**Sn**	**17 12 16.4**	**-0.1**
	comp=N,3.7nm,0.7s							
PVAQ	**Vaqueiros**	**3.75**	**80**	*e*Pn		**Pn**	**17 11 38.7**	**+1.9**
PVAQ				*e*Sn		**Sn**	**17 12 21.2**	**+0.2**
PVAQ	**Vaqueiros**	**3.75**	**80**	P		**Pn**	**17 11 38.7**	**+1.9**
PBEJ	**Beja**	**3.77**	**70**	*e*Sn		**Sn**	**17 12 21.4**	**-0.1**
PBEJ				A		A	17 12 23.8	
	comp=N,5.1nm,0.4s							
PBEJ	**Beja**	**3.77**	**70**	S		**Sn**	**17 12 21.4**	**-0.1**
	comp=N,2.6nm,0.4s							
ALMR	**Almeirim**	**3.79**	**51**	*e*Sn		**Sn**	**17 12 22.6**	**+0.6**
ALMR	**Almeirim**	**3.79**	**51**	S		**Sn**	**17 12 22.6**	**+0.6**
EVO	**Evora**	**3.85**	**62**	*e*Sn		**Sn**	**17 12 24.9**	**+1.5**
EVO				A		A	17 12 27.3	
	comp=N,7.9nm,0.3s							
EVO	**Evora**	**3.85**	**62**	S		**Sn**	**17 12 24.9**	**+1.5**
	comp=N,7.9nm,0.3s							
EGRO	**El Granado**	**3.96**	**78**	P		**Pn**	**17 11 40.6**	**+1.0**
	comp=N,0.4nm,0.1s,SNR=4.1							
EGRO				S		**Sn**	**17 12 24.6**	**-1.4**
	comp=N,1.6nm,0.1s							
PMTG	**Montargil**	**3.96**	**54**	*e*Sn		**Sn**	**17 12 26.1**	**-0.2**
PMTG				A		A	17 12 30.9	
	comp=N,4.6nm,0.5s							
PMTG	**Montargil**	**3.96**	**54**	S		**Sn**	**17 12 26.1**	**-0.2**
	comp=N,4.6nm,0.5s							
PTOM	**Tomar**	**4.18**	**47**	*e*Sn		**Sn**	**17 12 31.1**	**-0.5**
PTOM				A		A	17 12 34.0	
	comp=N,5.4nm,0.2s							
PTOM	**Tomar**	**4.18**	**47**	S		**Sn**	**17 12 31.1**	**-0.5**
	comp=N,2.7nm,0.2s							
PESTR	**Estremoz**	**4.29**	**60**	*e*Sn		**Sn**	**17 12 33.2**	**-1.2**
PCAS	**Casmilo, Conde**	**4.43**	**42**	*e*Sn		**Sn**	**17 12 37.5**	**-0.3**
PCAS				A		A	17 12 40.8	
	comp=N,3.3nm,1.0s							
PCAS	**Casmilo, Conde**	**4.43**	**42**	S		**Sn**	**17 12 37.5**	**-0.3**
	comp=N,3.3nm,1.0s							
PBAR	**Barrancos**	**4.44**	**71**	*e*Sn		**Sn**	**17 12 36.9**	**-1.1**
PBAR	**Barrancos**	**4.44**	**71**	S		**Sn**	**17 12 36.9**	**-1.1**
EMIN	**Mina Concepcio**	**4.63**	**76**	P		**Pn**	**17 11 49.5**	**+0.7**
	comp=N,0.2nm,0.1s,SNR=7.9							
EMIN				S		**Sn**	**17 12 40.9**	**-1.8**
	comp=N,0.6nm,0.1s,SNR=6.1							
EBAD	**Badajoz**	**4.65**	**64**	P		**Pn**	**17 11 49.8**	**+0.6**
	comp=N,0.3nm,0.2s,SNR=7.9							
EBAD				S		**Sn**	**17 12 42.3**	**-1.0**
	comp=N,1.6nm,0.1s,SNR=7.3							
PMRV	**Marv??o**	**4.70**	**55**	*e*Pn		**Pn**	**17 11 52.7**	**+2.8**
PMRV				*e*Sn		**Sn**	**17 12 43.5**	**-1.0**
PMRV				A		A	17 12 44.8	
	comp=N,2.6nm,0.3s							
PMRV	**Marv??o**	**4.70**	**55**	P		**Pn**	**17 11 52.7**	**+2.8**
PMRV				S		**Sn**	**17 12 43.5**	**-1.0**
	comp=N,2.6nm,0.3s							
ESPR	**Espera**	**5.21**	**87**	P		**Pn**	**17 11 57.5**	**+0.7**
	comp=N,2.4nm,0.2s,SNR=7.9							
ESPR				S		**Sn**	**17 12 55.2**	**-1.8**
	comp=N,0.4nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**5.66**	**75**	P		**Pn**	**17 12 03.7**	**+0.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**17 13 05.1**	**-3.0**
	comp=N,0.2nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**6.00**	**42**	S		**Sn**	**17 13 14.4**	**-2.3**
	comp=N,1.0nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.04**	**30**	*e*Sn		**Sn**	**17 13 15.2**	**-2.4**
PGAV				A		A	17 13 22.2	
	comp=N,4.8nm,0.7s							
PGAV	**Gavieira, Arco**	**6.04**	**30**	Sn		**Sn**	**17 13 15.2**	**-2.4**
	comp=N,4.8nm,0.7s							
ELOB	**Lobios**	**6.04**	**32**	S		**Sn**	**17 13 14.6**	**-3.1**
	comp=N,1.5nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**6.33**	**75**	P		**Pn**	**17 12 12.0**	**-0.3**
	comp=N,0.6nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**17 13 21.8**	**-2.8**
	comp=N,0.1nm,0.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.82**	**27**	S		**Sn**	**17 13 31.5**	**-5.2**
	comp=N,0.5nm,0.1s,SNR=7.9							
PAB	**San Pablo**	**6.87**	**64**	S		**Sn**	**17 13 34.1**	**-4.0**
	comp=N,0.0nm,0.0s,SNR=7.9							

*DDA **20** 17:14:47.8,35°.45N×28°.86E,h28km±2km,ML4.0*
*IDC **20** 17:14:48.0±0.9,35°.56N×28°.96E,h0km,mb3.8/10, mb1 3.9/17,mb1mx3.7/49,mbtmp3.8/17,ML3.7/7,MS2.6/3, Ms1 2.6/3,ms1mx2.3/40,Error ellipse: s-maj=17.8km s-min=13.9km az=5.0*
*ISK **20** 17:14:49.2,35°.57N×28°.97E,h16km,ML4.0/40*
*ATH **20** 17:14:52.2,35°.70N×28°.87E,h42km±3km,ML3.7/2,Error ellipse: s-maj=4.3km s-min=0.8km az=11.0*
*THE **20** 17:14:52.8,35°.57N×28°.89E,h42km±15km,ML3.7/2,Error ellipse: s-maj=15.4km s-min=1.0km az=37.0*
*HLW **20** 17:14:53.0,35°.32N×28°.95E,h27km±5km,Md4.2,Ml4.1*
*NIC **20** 17:14:54.0±0.2,35°.15N×29°.13E,h17km,mb4.2,ML3.8*

ISC 20 17:14:48.6±1.3,35°.53N±0°.03×28°.97E±0°.02,h6km±9km, n213,σ1§55/233,mb3.6/10,11C-3D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSL	**Kastellorizon**	**0.80**	**39**	P		**Pn**	**17 15 06.9**	**+0.7**
KSL				S		**Sn**	**17 15 18.7**	**+0.3**
KSL	**Kastellorizon**	**0.80**	**39**	P		**Pn**	**17 15 07.0**	**+0.7**
KSL				S		**Sn**	**17 15 18.1**	**-0.4**
KSL				AML		AML	17 15 26.5	
	comp=N,8323μm,0.7s							
KSL				AML		AML	17 15 27.1	
	comp=E,14448μm,0.5s							
AKAS	**Kas**	**0.87**	**36**	PG		**Pn**	**17 15 07.7**

THR2	Thira Island,	3.01	289	P		Pn	17 15 37.2	+0.4			
THR6	Thira Island,	3.02	287	P		Pn	17 15 37.1	+0.3			
THR3	Thira Island,	3.03	288	P		Pn	17 15 37.3	+0.4			
CMBO	Columbo, Santo	3.04	289	P		Pn	17 15 37.5	+0.3			
THR5	Thira Island,	3.07	288	P		Pn	17 15 38.5	+0.9			
APE	Apeiranthos	3.18	300	PN		Pn	17 15 39.1	0.0			
APE	Apeiranthos	3.18	300	⇓*i*P		Pn	17 15 39.3	+0.2			
APE	Apeiranthos	3.18	300	P		Pn	17 15 39.0	0.0			
APE	Apeiranthos	3.18	300	P		Pn	17 15 39.2	0.0			
USAK	Uak-Merkez	3.18	1	*i* P		Pn	17 15 39.8	+0.7			
USAK				IAML_P							
	comp=Z,640nm,0.2s										
LEF	Lefka	3.23	96	PN		Pn	17 15 39.8	0.0			
LEF	Lefka	3.23	96	⇑*i*P		Pn	17 15 40.3	+0.6			
LEF	Lefka	3.23	96	S		Sn	17 16 17.6	-0.9			
LEF	Lefka	3.23	96	*i* P		Pn	17 15 40.3	+0.6			
LEF				*i* S		Sn	17 16 15.4	-3.1			
BLCB	Balcova	3.24	332	PN		Pn	17 15 40.0	+0.1			
AKDN	Akdeniz- Kıbrı	3.27	93	PN		Pn	17 15 41.5	+1.2			
SHUT	Suhut-Afyon	3.27	22	PN		Pn	17 15 40.7	+0.2			
SZAC	Souni	3.30	102	P		Pn	17 15 41.9	+1.2			
	baz=278										
SZAC				S		Sn	17 16 18.8	-1.4			
IDI	Anoyia	3.34	267	Pn		Pn	17 15 42.5	+1.1			
	comp=Z,8.3nm,0.3s,baz=61,slow=11,SNR=35										
IDI				Sn		Sn	17 16 19.3	-2.1			
	comp=Z,10nm,0.3s,baz=36,slow=21,SNR=6.0										
IDI	Anoyia	3.34	267	P		Pn	17 15 41.7	+0.3			
DOGA	KONYA_Doganhis	3.36	39	*i* P		Pb	17 15 44.6	-4.0			
ERMK	Ermenek	3.38	70	*i* P		Pb	17 15 45.4	-3.6			
ERMK				IAML_P							
	comp=Z,1μm,0.2s										
URLA	Izmir	3.41	327	PN		Pn	17 15 42.7	+0.5			
URLA	Izmir	3.41	327	*i* P		Pb	17 15 49.9	+0.6			
AFYO	Afyonkarahisar	3.42	18	*i* P		Pb	17 15 45.2	-4.4			
AFYO				IAML_P							
	comp=Z,1μm,0.2s										
TEKE	Tekeli-Mersin	3.42	78	PN		Pn	17 15 43.4	+1.0			
SIVA	Sivas	3.44	263	P		Pn	17 15 44.9	+2.3			
AKHS	Akhisar	3.47	345	*i* P		Pn	17 15 44.8	+1.7			
AKHS				IAML_P							
	comp=Z,932nm,0.1s										
MAMC	Mammari	3.49	95	P		Pn	17 15 45.3	+2.0			
	baz=270										
KMER	Konya-Meram	3.53	50	*i* P		Pn	17 15 46.7	+2.7			
KMER				IAML_P							
	comp=Z,365nm,0.1s										
BERE	Bereket-Mersin	3.54	75	PN		Pn	17 15 45.5	+1.3			
BOLV	Bolvadin	3.56	26	*i* P		Pn	17 15 46.2	+1.9			
BOLV				IAML_P							
	comp=Z,2μm,0.3s										
GDZ	Gediz	3.58	6	*i* P		Pn	17 15 45.1	+0.4			
GDZ				IAML_P							
	comp=Z,2μm,0.1s										
CSS	Mathiatis	3.61	98	PN		Pn	17 15 46.3	+1.3			
CSS	Mathiatis	3.61	98	P		Pn	17 15 46.4	+1.4			
	baz=274										
CSS				S		Sn	17 16 27.7	-0.3			
CSS	Mathiatis	3.61	98	P		Pn	17 15 46.3	+1.3			
KONT	Konya--Tatoy	3.64	47	PN		Pn	17 15 46.9	+1.5			
KONT	Konya--Tatoy	3.64	47	*i* P		Pn	17 15 48.2	+2.9			
KONT				IAML_P							
	comp=Z,597nm,0.1s										
CHOS	Chios island	3.69	322	PN		Pn	17 15 47.0	+0.9			
LFK	Lefkose	3.73	92	PN		Pn	17 15 48.0	+1.2			
TEVE	Tevekalti-Mers	3.74	75	PN		Pn	17 15 48.0	+1.2			
ZEDA	zmir-Bergama	3.75	337	*i* P		Pn	17 15 48.1	+1.2			
GULN	MERSIN_Gulnar	3.77	79	*i* P		Pn	17 15 48.1	+0.9			
GULN				*i* S		Sn	17 16 29.9	-1.9			
GULN				IAML_P							
	comp=Z,840nm,0.2s										
AKKU	Akkuyu-Mersin	3.77	79	PN		Pn	17 15 48.8	+1.6			
LADK	Ladik-KONYA	3.81	45	PN		Pn	17 15 48.7	+0.9			
IKL	Isikli	3.89	78	PN		Pn	17 15 50.2	+1.3			
VAM	Vamos	3.90	270	P		Pn	17 15 50.7	+1.7			
KDHN	Kadinhani	3.91	39	*i* P		Pn	17 15 51.6	+2.4			
KDHN				*i* S		Sn	17 16 34.5	-0.9			
KDHN				IAML_P							
	comp=Z,1μm,0.2s										
TVSB	Tavsanli	3.93	6	PN		Pn	17 15 49.4	-0.1			
KEBE	Keben-Mersin	3.95	75	PN		Pn	17 15 50.9	+1.1			
STEP	BALIKESIR_Sava	3.97	346	*i* P		Pn	17 15 51.0	+1.1			
GVD	Gavdhos	4.06	262	P		Pn	17 15 52.9	+1.8			
IMMV	Iera Moni Meta	4.07	270	P		Pn	17 15 53.1	+1.7			
DURS	Dursunbey	4.08	355	*i* P		Pn	17 15 52.6	+1.0			
DURS				IAML_P							
	comp=Z,591nm,0.1s										
CIFT	Cifteler, Eski	4.17	23	PN		Pn	17 15 53.0	+0.2			
PHNC	Paralimni	4.17	96	P		Pn	17 15 54.4	+1.7			
	baz=273										
EREN	Erenkoy	4.24	88	PN		Pn	17 15 54.8	+1.2			
EREN	Erenkoy	4.24	88	*i* P		Pn	17 15 55.0	+1.4			
EREN				*i* S		Sn	17 16 39.5	-3.9			
KIZK	Mersin	4.30	76	PN		Pn	17 15 55.9	+1.4			
KIZK	Mersin	4.30	76	*i* P		Pn	17 15 57.3	+2.8			
KIZK				*i* S		Sn	17 16 44.0	-0.9			
CHBY	Cihanbeyli	4.37	45	PN		Pn	17 15 55.8	+0.2			
AUSIV	SIVRIHISAR	4.41	27	PN		Pn	17 15 56.3	+0.3			
SVRH	Sivrihisar-ESK	4.41	27	PN		Pn	17 15 56.4	+0.4			
BORA	Eskisehir	4.50	15	PN		Pn	17 15 57.6	+0.3			
BORA	Eskisehir	4.50	15	*i* P		Pn	17 15 58.2	+0.9			
SULT	Sultanhani-AKS	4.51	52	PN		Pn	17 15 59.2	+1.7			
KERG	Konya-Eregli	4.56	64	*i* P		Pn	17 16 00.7	+2.5			
KERG				*i* S		Sn	17 16 49.3	-2.3			
BAYC	CANAKKALE_Bayr	4.62	336	*i* P		Pn	17 16 00.4	+1.5			
VLY	Voula,Athens	4.76	301	P		Pn	17 16 02.1	+1.3			
AUMIH	MIHALICIK	4.77	24	*i* P		Pn	17 16 02.8	+1.7			
EZN	Ezine	4.78	335	⇑*i*P		Pn	17 16 01.9	+0.9			
KKUL	Konya-Kulu	4.81	40	*i* P		Pn	17 16 03.9	+2.3			
KYTH	Kithira	4.87	280	P		Pn	17 16 03.1	+0.8			
AKSY	AKSARAY - Alti	4.94	49	*i* P		Pn	17 16 03.1	-0.2			
GULE	Gulek	5.00	68	*i* P		Pn	17 16 08.4	+4.1			
GULE				*i* S		Sn	17 17 02.8	+0.4			
VLI	Veliai	5.03	285	P		Pn	17 16 05.5	+1.0			
SLUM	Salum	5.11	219	P		Pn	17 16 06.2	+0.7			
	baz=221										
SLUM				S		Sn	17 16 59.1	-5.7			
	baz=221										
KIRS	Kirehir-Merke	5.33	46	*i* P		Pn	17 16 11.2	+2.4			
KIBS	BOLU	5.39	24	*i* P		Pn	17 16 11.6	+2.1			
YURE	YUREGIR	5.54	75	*i* P		Pn	17 16 14.0	+2.4			
AKO	Adana	5.56	68	*i* P		Pn	17 16 15.2	+3.4			
AKO				*i* S		Sn	17 17 14.1	-2.0			
BRTR	Keskin Array B	5.59	40	Pn		Pn	17 16 14.1	+1.7			
	comp=Z,1.0nm,0.3s,baz=216,slow=14,SNR=53										
BRTR				Sn		Sn	17 17 16.1	-0.9			
	comp=Z,3.3nm,0.3s,baz=214,slow=26,SNR=20										
KAND	Kocaeli-Kandir	5.64	9	*i* P		Pn	17 16 13.6	+0.8			
SILT	Sile	5.64	5	⇑*i*P		Pn	17 16 12.4	-0.5			
DQRL	Deir Qamar	5.74	107	*e*P		Pn	17 16 14.6	+0.3			
BHL	Bhannes	5.74	104	*e*P		Pn	17 16 14.3	0.0			
BCAM	Yenicaga	5.81	24	*i* P		Pn	17 16 16.4	+1.1			
HWQ	Hawqa	5.87	100	*e*P		Pn	17 16 16.5	+0.4			
MMAI	Mount Meron Ar	5.88	113	Pn		Pn	17 16 16.7	+0.4			
	comp=Z,17nm,0.3s,baz=300,slow=13,SNR=45										
MMAI				Sn		Sn	17 17 24.1	-0.1			
	comp=Z,12nm,0.3s,baz=299,slow=24,SNR=8.1										
MMAI				LR		LR	17 18 55.7				
	comp=Z,38nm,21.3s,baz=265,slow=42										
ITM	Ithomi	5.92	288	P		Pn	17 16 18.6	+1.8			
CDAG	Cicekdag	5.92	45	*i* P		Pn	17 16 18.2	+1.3			
CDAG				*i* S		Sn	17 17 24.0	-1.2			
DELI	KIRIKKALE	5.94	40	*i* P		Pn	17 16 19.2	+2.1			
DELI				*i* S		Sn	17 17 22.9	-2.6			
SHBL	Chebaa	6.00	109	*e*P		Pn	17 16 18.8	+0.8			
RCV	Rachaya	6.02	108	*e*P		Pn	17 16 18.9	+0.6			
KLV	Kalavryta, Ach	6.02	297	P		Pn	17 16 19.7	+1.5			
HNAT	Natroun	6.04	166	P		Pn	17 16 19.9	+1.5			
	baz=165										
RSH		6.05	138	P		Pn	17 16 19.9	+1.3			
	baz=136										
KOT	Kottamia	6.08	156	P		Pn	17 16 20.7	+1.7			
	baz=154										
KOT				AMP			17 17 00.0				
	baz=154										
KOT				S		Sn	17 17 23.5	-5.4			
	baz=154										
HHAG	Hagoal	6.15	154	P		Pn	17 16 21.9	+1.9			
	baz=152										
HHAG				AMP			17 17 00.0				
	baz=152										
PHSR	Pinarhisar	6.20	350	⇑*i*P		Pn	17 16 21.6	+1.1			
ANDN	Andirin	6.28	69	*i* P		Pn	17 16 24.6	+2.8			
HSAF	As Saff	6.28	159	P		Pn	17 16 21.6	-0.2			
	baz=158										
GLL	Jalalah	6.37	158	P		Pn	17 16 23.9	+1.0			
	baz=157										
KIRK	Kırklareli	6.41	347	*i* P		Pn	17 16 24.5	+1.0			
SUZ	Suez	6.54	149	P		Pn	17 16 26.8	+1.5			
	baz=148										
HCB	Kahramanmara	6.65	72	*i* P		Pn	17 16 28.4	+1.6			
LISJ	El Lisan	6.92	126	P		Pn	17 16 32.1	+1.6			
	comp=Z,28nm,0.6s,comp=Z,0.2nm										
ZAF	Zafarana	6.92	153	P		Pn	17 16 32.3	+1.7			
	baz=152										
SWA2		6.94	206	P		Pn	17 16 31.3	+0.6			
	baz=207										
GHAJ	Ghor Haditha	6.94	126	P		Pn	17 16 33.4	+2.7			
	comp=Z,37nm,0.4s,comp=Z,0.3nm										
WALJ	Wala	6.95	123	P		Pn	17 16 32.1	+1.3			
	comp=Z,44nm,0.4s,comp=Z,0.2nm										
JDRJ	Daraweish	7.38	129	P		Pn	17 16 39.1	+2.2			
	comp=Z,43nm,0.7s,comp=Z,0.3nm										
ASF	Jabal al Asfar	7.39	115	P		Pn	17 16 38.8	+1.7			
	comp=Z,5.8nm,0.6s,comp=Z,0.1nm										
ASF	Jabal al Asfar	7.39	115	Pn		Pn	17 16 38.7	+1.7			
	comp=Z,1.2nm,0.3s,baz=251,slow=7.1,SNR=9.2										
ASF				Sn		Sn	17 18 03.3	+2.0			
	comp=Z,0.4nm,0.3s,baz=210,slow=20,SNR=3.4										
EIL	Elat	7.72	138	P		Pn	17 16 30.6	-11			
EIL	Elat	7.72	138	Pn		Pn	17 16 42.2	+0.8			
	comp=Z,2.1nm,0.3s,baz=300,slow=2.5,SNR=32										
EIL				Sn		Sn	17 18 04.0	-5.2			
	comp=Z,3.5nm,0.3s,baz=86,slow=23,SNR=6.0										
AQBJ	Aqaba	7.73	137	P		Pn	17 16 45.2	+3.6			
GRB	Gharib	7.93	155	P		Pn	17 16 45.4	+1.0			
	baz=154										
HBST	Basata	7.96	141	P		Pn	17 16 46.2	+1.5			
	baz=139										
TAMRE	El Minia	8.00	167	P		Pn	17 16 46.0	+0.7			
	baz=167										
STIP	Stip	8.13	321	*i* P		Pb	17 17 00.8	-8.9			
HKAT	Jabal Katrina	8.18	147	P		Pn	17 16 48.7	+0.7			
	baz=146										
VTS	Vitosha	8.37	330	⇓*i*P		Pn	17 16 43.3	-7.1			
HFRF	Wahat Farafira	8.37	184	P		Pn	17 16 51.2	+0.8			
	baz=185										
KRUS	Krusevo	8.41	316	*i* P		Pn	17 16 58.3	+7.4			
OHR	Ohrid	8.50	313	*i* P		Pn	17 16 57.1	+4.9			
TLB	Topalu	9.07	356	⇑*i*P		Pn	17 17 01.1	+1.1			
MLR	Muntele Rosu	10.21	348	⇑*i*P		Pn	17 17 17.1	+1.4			
PDG	Podgorica	10.23	315	⇑*i*P		Pn	17 17 18.2	+2.4			
VOIR		10.34	344	⇑*i*P		Pn	17 17 19.3	+1.9			
TIP	Timpagrande	10.38	294	⇑*i*P		Pn	17 17 16.5	-1.5			
PLOR	Plostina	10.46	351	⇑*i*P		Pn	17 17 19.2	+0.2			
VRI	Vrincioaia	10.47	351	⇑*i*P		Pn	17 17 20.3	+1.2			
STON	Ston	11.40	313	P		Pn	17 17 31.6	-0.3			
UDBI	Udbina	13.52	316	P		Pn	17 18 00.2	-0.7			
VYHS	Vyhne	14.97	333	*e*PN		Pn	17 18 16.3	-4.3			
AKASG	Malin Array Be	15.17	1	Pn		Pn	17 18 23.9	+0.8			
	comp=Z,0.2nm,0.3s,baz=196,slow=11,SNR=3.6										
KEST	Kesra	15.96	276	Pn		P	17 18 37.2	-0.2			
	comp=Z,1.0nm,0.3s,baz=47,slow=2.7,SNR=21										
GERES	GERESS Array B	17.42	324	P		P	17 18 52.4	-1.1			
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=10										
SQTA	Sankt Quirin	17.68	317	*i* Pn		P	17 18 57.9	+1.5			
	comp=Z,2.6nm,0.6s										
KHC	Kasperske Hory	17.68	325	*e*P		P	17 18 55.6	-0.7			
MOTA	Moosalm	17.81	317	*i* P		P	17 18 57.4	-0.5			
	comp=Z,4.7nm,1.0s										
FETA	Feichten	17.84	316	*i* Pn		P	17 18 58.7	+0.5			
	comp=Z,8.8nm,1.1s										
GEYT	Alibeck	23.44	75	P		P	17 19 59.2	+0.6			
	comp=Z,0.6nm,0.4s,baz=258,slow=11,SNR=2.4										
AKTO	Aktyubinsk	25.71	46	P		P	17 20 19.1	-0.6			
	comp=Z,2nm,0.6s,baz=255,slow=8.1,SNR=7.8										
FINES	FINESS Array B	26.00	357	P		P	17 20 22.4	+0.5			
	comp=Z,2.9nm,0.7s,baz=169,slow=13,SNR=6.2										
ESDC	Sonseca Array	26.33	289	P		P	17 20 23.6	-1.7			
	comp=Z,0.7nm,0.5s,baz=83,slow=10.0,SNR=7.7										
HFS	Hagfors	26.54	343	LR		LR	17 31 48.9				
	comp=Z,16nm,19.8s,baz=42,slow=38										
NOA	NORSAR Array B	27.94	342	LR		LR	17 33 06.5				
	comp=Z,13nm,19.9s,baz=275,slow=39										
TORD	Tordi Ar. Bea	33.18	235	P		P	17 21 26.7	+0.7			
	comp=Z,0.6nm,0.8s,baz=15,slow=12,SNR=3.7										
ARCES	ARCESS Array B	34.12	358	P		P	17 21 34.9	+1.2			
	comp=Z,2.1nm,0.9s,baz=162,slow=8.4,SNR=6.5										
MKAR	Makanchi Array	40.96	57	P		P	17 22 32.0	0.0			
	comp=Z,0.3nm,0.5s,baz=278,slow=6.9,SNR=3.9										
ZALV	Zalesovo Beam	42.50	46	P		P	17 22 43.5	-0.8			
	comp=Z,0.6nm,0.4s,baz=276,slow=7.7,SNR=3.3										
SONM	Songino Array	56.83	52	P		P	17 24 35.2	+1.4			
	comp=Z,0.2nm,0.3s,baz=294,slow=7.9,SNR=3.6										
CMAR	Chiang Mai Arr	63.43	86	P		P	17 25 20.0	+0.6			
	comp=Z,0.4nm,0.8s,baz=305,slow=8.3,SNR=3.5										

*ISCJB **20** 17:18:09.1±0.6,31°.83S±0°.04×177°.8W±0°.1, h26km, mb4.9/26, MS3.2/1, Error ellipse: s-maj=13.7km s-min=5.2km az=11.3*
*BJI **20** 17:18:10.5, 31°.90S×177°.50W, h38km, mb5.0/10, mB5.2/1, Ms4.9/3, Ms7 4.6/1*
*NEIC **20** 17:18:11.7±0.3, 31°.72S×177°.76W, h35km, mb5.0/15, Error ellipse: s-maj=10.6km s-min=7.1km az=127.0*
*MOS **20** 17:18:12.0±0.8, 31°.19S×177°.96W, h33km, mb5.0/11, Error ellipse: s-maj=17.7km s-min=14.2km az=123.2*
*IDC **20** 17:18:14.3±2.2, 31°.25S×177°.87W, h47km±19km, mb4.4/9, mb1 4.5/9, mb1mx4. 1/28, mbtmp4.6/9, MS3.7/8, Ms1 3.7/8, ms1mx3.4/21, Error ellipse: s-maj=24.7km s-min=15.3km az=105.0*

ISC 20 17:18:10.1±0.5,**31°.48S**±0°.05×**177°.47W**±0°.1**0**,**h26**km, **n188**,σ1^{s}**77**/153,**mb5.0**/27,**9C-7D**,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	Green Lake	2.24	350	P		Pn	17 18 41.3	-4.3
GLKZ				S		Sn	17 19 06.9	-5.5
RAO	Raoul Island	2.25	350	*e*Pn		Pn	17 18 42.7	-3.0
RAO	Raoul Island	2.25	350	*e*P		Pn	17 18 42.7	-3.0
RAO	Raoul Island	2.25	350	P		Pn	17 18 44.0	-1.7
	400nm,0.3s,baz=81,slow=11,SNR=14							
RAO				LR		LR	17 19 07.6	
	comp=Z,150nm,21.4s,baz=209,slow=27							
RAO				S		Sn	17 19 10.0	-2.6
	581nm,0.3s,baz=106,slow=23,SNR=7.3							
RIZ	Raoul Island	2.26	350	P		Pn	17 18 43.8	-2.0
MXZ	Matakaoa Point	7.00	209	P		Pn	17 19 47.2	-3.7
WMGZ	Waiomatatini S	7.18	207	P		Pn	17 19 50.4	-2.9
PKGZ	Pakihiroa	7.37	209	P		Pn	17 19 52.3	-3.8
HAZ	Te Kaha	7.38	211	P		Pn	17 19 53.5	-2.7
PUZ	Puketiti	7.46	207	P		Pn	17 19 53.5	-3.7
RUGZ	Raukumara Rang	7.60	210	P		Pn	17 19 56.2	-3.1
TKGZ	Te Karaka	7.94	208	P		Pn	17 19 58.6	-5.1
MWZ	Matawai	7.98	210	P		Pn	17 19 59.6	-4.8
OPRZ	Ohinepanea	8.03	216	P		Pn	17 20 02.1	-3.1
URZ	Urewera	8.10	212	P		Pn	17 20 01.5	-4.5
	1.1nm,0.3s,baz=278,slow=4.6,SNR=21							
URZ				S		Sn	17 21 34.6	-2.1
	11nm,0.3s,baz=90,slow=21,SNR=14							
URZ	Urewera	8.10	212	P		Pn	17 20 01.3	-4.7
URZ				S		Sn	17 21 33.8	-2.9
WCZ	Waipu Caves	8.14	235	P		Pn	17 20 09.8	+3.2
RAGZ	Rawiri	8.16	210	P		Pn	17 20 01.7	-5.2
RIGZ	Rimuhau	8.20	207	P		Pn	17 20 02.5	-5.0
MKAZ	Moumakai	8.29	225	P		Pn	17 20 10.7	+2.2
PRGZ	Paritu Road	8.34	206	P		Pn	17 20 02.8	-6.6
OUZ	Omahuta	8.35	241	*e*Pn		Pn	17 20 12.0	+2.5
OUZ	Omahuta	8.35	241	P		Pn	17 20 11.9	+2.5
KNZ	Kokopu	8.51	206	P		Pn	17 20 06.8	-4.8
TOZ	Tahuroa Road	8.51	221	P		Pn	17 20 11.3	-0.4
MHGZ	Mahia Peninsul	8.54	205	P		Pn	17 20 06.3	-5.7
MTHZ	Maungataniwha	8.71	211	P		Pn	17 20 10.3	-4.1
BKZ	Black Stump Fm	9.12	211	P		Pn	17 20 14.2	-5.8
HIZ	Hauiti	9.43	220	P		Pn	17 20 25.6	+1.4
OTVZ	Oturere	9.50	214	P		Pn	17 20 22.5	-2.8
FWVZ	Far West T-bar	9.62	214	P		Pn	17 20 36.0	+8.9
HOWZ	Holdsworth Sta	10.97	209	P		Pn	17 20 36.8	-8.6
OGWZ	Otaki Gorge	11.05	210	P		Pn	17 20 37.8	-8.7
DUWZ	D'Urville Isla	11.61	214	P		Pn	17 20 49.1	-5.0
THZ	Tophouse	12.84	214	*e*Pn		Pn	17 21 05.9	-5.0
THZ	Tophouse	12.84	214	P		Pn	17 21 07.3	-3.7
THZ				S		Sn	17 23 22.9	-10
KHZ	Kahutara	13.06	211	*e*Pn		Pn	17 21 08.2	-5.7
KHZ	Kahutara	13.06	211	P		Pn	17 21 07.4	-6.5
KHZ				S		Sn	17 23 25.3	-13
INZ	Inchbonnie	14.28	215	P		Pn	17 21 25.3	-5.2
OXZ	Oxford	14.46	212	*e*Pn		Pn	17 21 26.6	-6.3
OXZ	Oxford	14.46	212	P		Pn	17 21 26.6	-6.3
MQZ	McQueen's Vall	14.49	210	*e*Pn		Pn	17 21 28.5	-4.8
MQZ	McQueen's Vall	14.49	210	P		Pn	17 21 26.2	-7.2
RPZ	Rata Peaks	15.21	213	P		Pn	17 21 35.9	-7.2
	0.9nm,0.3s,baz=58,slow=4.2,SNR=8.9							
RPZ				S		Sn	17 24 14.2	-17
	1.6nm,0.3s,baz=119,slow=19,SNR=8.2							
RPZ	Rata Peaks	15.21	213	P		Pn	17 21 37.3	-5.8
ODZ	Otahua Downs	16.42	211	*e*Pn		Pn	17 21 54.3	-4.4
	16nm,0.9s							
DZM	Mont Dzumac	17.13	299	*e*P		P	17 22 12.0	+2.6
	92nm,1.4s							
DZM				*e*LR		LR	17 25 54.9	
	comp=Z,412nm,23.4s							
DZM	Mont Dzumac	17.13	299	LR		LR	17 27 31.8	
	comp=Z,379nm,18.7s,baz=174,slow=33							
RAR	Rarotonga	18.84	61	LR		LR	17 27 43.0	
	comp=Z,198nm,20.5s,baz=228,slow=30							
TBI	Tubuai	26.09	79	*e*LR		LR	17 30 25.7	
	comp=Z,169nm,25.5s							
TBI	Tubuai	26.09	79	*e*T		T	17 50 48.7	
	10nm,0.3s							
EIDS	Eidsvold	28.26	274	*e*P		P	17 24 01.4	+0.1
	24nm,0.9s							
PAE	Paea	28.75	68	*e*T		T	17 53 45.5	
	5.6nm,0.3s							
PPT2	Papeete2	28.80	68	*e*LR		LR	17 31 26.5	
	comp=Z,168nm,28.2s							
PPT	Papeete	28.81	68	LR		LR	17 35 26.3	
	comp=Z,52nm,18.4s,baz=198,slow=36							
TVO	Taravao	28.95	69	*e*T		T	17 54 01.2	
	1.0nm,0.3s							
HNR	Honiara	30.35	311	LR		LR	17 34 33.8	
	comp=Z,110nm,18.9s,baz=178,slow=33							
VAH	Vaihoa	31.67	66	*e*T		T	17 57 19.6	
	25nm,0.2s							
CTAO	Charters Tower	34.43	280	*e*P		P	17 24 55.5	-0.2
	39nm,0.8s							
CTAO	Charters Tower	34.43	280	*e*P		P	17 24 55.5	-0.2
CTAO				pmax		pmax		
	comp=Z,39nm,0.8s							
STKA	Stephens Creek	34.69	258	*e*P		P	17 24 57.6	-0.2
	comp=Z,3.2nm,0.9s							
STKA	Stephens Creek	34.69	258	*e*P		P	17 24 57.6	-0.2
STKA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
STKA	Stephens Creek	34.69	258	P		P	17 24 57

KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**123.09 303**	||/PKIKP	**PKiKP**	**17 37 04.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
KBL	**Kabul**	**125.06 292**	*e*PKPdf		**PKiKP**	**17 37 09.3**	**+0.5**
KBL	**Kabul**	**125.06 292**	*e*PKIKP		**PKiKP**	**17 37 09.3**	**+0.5**
KK31	**Karatay Array**	**126.04 303**	*e*PKPdf		**PKPdf**	**17 37 09.8**	**0.0**
KK31	**Karatay Array**	**126.04 303**	*e*PKIKP		**PKPdf**	**17 37 09.8**	**0.0**
KKAR	**Karatay Array**	**126.04 303**	*e*PKPdf		**PKPdf**	**17 37 09.7**	**-0.1**
KKAR	**Karatay Array**	**126.04 303**	*e*PKIKP		**PKPdf**	**17 37 09.7**	**-0.1**
BRVK	**Borovoye**	**127.56 315**	||/PKIKP	**PKPdf**	**17 37 12.5**	**+0.2**
ABKAR	**Abkulak array**	**133.95 310**	*e*PKPdf		**PKPdf**	**17 37 25.2**	**+0.7**
ARU	**Arti**	**134.21 320**	*i* PKIKP		**PKiKP**	**17 37 25.8**	**-0.4**
ARU						17 39 56.5	
GEYT	**Alibeck**	**134.42 294**	PKP		**PKiKP**	**17 37 27.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=27,slow=5.0,SNR=5.3						
ARA0	**ARCESS Array S**	**139.74 348**	*e*PKPpre		PKPpre	17 37 29.3	
ARA0			*e*PKPdf		**PKPdf**	**17 37 34.5**	**-0.2**
ARCES	**ARCESS Array B**	**139.74 348**	PKhKP		PKPpre	17 37 29.3	
	comp=Z,5.3nm,0.8s,baz=48,slow=1.8,SNR=8.4						
ARCES			PKP		**PKPdf**	**17 37 34.5**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=96,slow=1.2,SNR=7.7						
KLMR	**Klimovskoe**	**141.92 331**	*e*PKHKP		PKPpre	17 37 32.7	
KLMR			pmax		pmax		
	comp=Z,5.0nm,0.6s						
KLMR	**Klimovskoe**	**141.92 331**	*e*PKPdf		PKPpre	17 37 32.8	
KLMR			AMP			17 37 41.6	
	comp=Z,5.0nm,0.6s						
GNI	**Garni**	**144.97 296**	*e*PKPdf		**PKPab**	**17 37 44.0**	**-0.4**
GNI	**Garni**	**144.97 296**	*d* PKIKP		PKPbc	17 37 44.6	+0.2
VRH	**Novokhopyorsk**	**145.14 316**	*e*PKIKP		**PKPbc**	**17 37 42.8**	**-1.6**
VRH			pmax		pmax		
	comp=Z,8.0nm,0.6s						
ZEI	**Tsey**	**145.46 301**	*i* PKIKP		**PKPdf**	**17 37 45.3**	**-0.6**
ZEI			pmax		pmax		
	comp=Z,10.0nm,0.6s						
MOS	**Moscow**	**145.48 325**	*e*PKP2		**PKPdf**	**17 37 44.2**	**-1.0**
MOS			pmax		pmax		
	comp=Z,40nm,1.0s						
NCK	**Nalchik**	**145.61 302**	*i* PKIKP		**PKPab**	**17 37 46.4**	**-0.1**
GOF	**Gofitskoye**	**145.79 305**	*e*PKIKP		**PKPbc**	**17 37 46.8**	**+0.1**
GOF			pmax		pmax		
	comp=Z,30nm,0.6s						
KBZ	**Khabaz**	**146.08 303**	PKPbc		**PKPbc**	**17 37 47.4**	**-0.1**
	comp=Z,7.1nm,0.8s,baz=96,slow=5.4,SNR=9.8						
PUL	**Pulkovo**	**146.17 335**	||/PKP2	**PKPbc**	**17 37 47.4**	**+0.1**
PUL			pmax		pmax		
	comp=Z,109nm,0.4s						
KIV	**Kislovodsk**	**146.20 303**	*e*PKP2		**PKPbc**	**17 37 48.5**	**+0.4**
KIV			pmax		pmax		
	comp=Z,31nm,1.0s						
LPSR	**Galich'ya Gora**	**146.23 319**	*e*PKP2		**PKPdf**	**17 37 46.9**	**+0.3**
LPSR			pmax		pmax		
	comp=Z,40nm,0.7s						
FIA1	**FINESS Array S**	**146.31 340**	*e*PKPdf		**PKPdf**	**17 37 47.1**	**+0.6**
FIA0	**FINESS Array S**	**146.31 340**	*e*PKPdf		**PKPbc**	**17 37 47.6**	**-0.1**
FIA0	**FINESS Array S**	**146.31 340**	*e*PKP2		**PKPbc**	**17 37 47.6**	**-0.1**
FINES	**FINESS Array B**	**146.31 340**	PKPbc		**PKPbc**	**17 37 47.6**	**-0.1**
	comp=Z,30nm,0.6s,baz=46,slow=4.0,SNR=166						
OBN	**Obninsk**	**146.31 325**	*c i*PKP2		**PKPbc**	**17 37 47.4**	**-0.5**
OBN			pmax		pmax		
	comp=Z,45nm,0.8s						
VSR	**Storozhevoye**	**146.64 317**	*d i*PKP2		**PKPbc**	**17 37 48.6**	**-0.4**
VSU	**Vasula**	**148.39 336**	*c i*PKP2		**PKPbc**	**17 37 53.4**	**-0.1**
VSU			pmax		pmax		
	comp=Z,78nm,0.8s						
NC303	**NORSAR Array S**	**149.68 352**	*e*PKPbc		**PKPbc**	**17 37 57.1**	**+0.4**
ANN	**Anapa**	**149.74 306**	*i* PKP2		**PKPbc**	**17 37 57.7**	**+0.3**
ANN			pmax		pmax		
	comp=Z,78nm,0.9s						
NB2	**NORSAR Subarra**	**149.88 352**	PKP		**PKPbc**	**17 37 57.4**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=14,slow=2.5						
NB200	**NORSAR Array S**	**149.88 352**	*e*PKPbc		**PKPbc**	**17 37 57.6**	**+0.4**
NOA	**NORSAR Array B**	**149.88 352**	PKPbc		**PKPbc**	**17 37 57.6**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=14,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**152.43 322**	PKPbc		**PKPbc**	**17 38 03.0**	**-0.4**
	comp=Z,15nm,0.8s,baz=51,slow=2.9,SNR=50						
AKBB	**Malin Array Si**	**152.43 322**	*e*PKPbc		**PKPbc**	**17 38 03.5**	**0.0**
KIEV	**Kiev**	**152.44 322**	*e*PKPbc		**PKPbc**	**17 38 03.4**	**-0.1**
KIEV	**Kiev**	**152.44 322**	*e*PKIKP		**PKPbc**	**17 38 03.4**	**-0.1**
AK11	**Malin Array Si**	**152.47 322**	*e*PKPbc		**PKPbc**	**17 38 03.4**	**-0.2**
ILGA	**Ilgaz**	**153.22 300**	*e*PKPbc		**PKiKP**	**17 38 06.6**	**+0.6**
BR101	**Keskin Array S**	**153.50 297**	*e*PKPbc		**PKPbc**	**17 38 06.2**	**-0.2**
BR131	**Keskin Array S**	**153.50 297**	*e*PKPbc		**PKPbc**	**17 38 06.1**	**-0.3**
BRTR	**Keskin Array B**	**153.50 297**	PKPbc		**PKPbc**	**17 38 06.2**	**-0.2**
	comp=Z,6.4nm,1.0s,baz=140,slow=4.3,SNR=24						
TLB	**Topalu**	**156.14 310**	⇑PKIKP		PKPdf	17 38 10.1	+8.1
LANS	**Liptovska Anna**	**158.22 329**	*e*PKP2		**PKPab**	**17 38 38.7**	**+0.1**
LANS	**Liptovska Anna**	**158.22 329**	*e*PKP		**PKPab**	**17 38 38.7**	**+0.1**
DPC	**Dobruska-Polom**	**158.52 335**	*e*PKPAB		**PKPab**	**17 38 38.9**	**-0.9**
DPC	**Dobruska-Polom**	**158.52 335**	*e*PKP2		**PKPab**	**17 38 38.9**	**-0.9**
CLL	**Collm**	**158.73 342**	*i* PKP2		**PKPab**	**17 38 40.0**	**-0.6**
CLL			pmax		pmax		
	comp=Z,8.0nm,1.0s						
BRG	**Berggiesshubel**	**158.85 340**	*e*PKP		**PKPab**	**17 38 40.5**	**-0.7**
	comp=Z,8.3nm,1.2s						
BRG	**Berggiesshubel**	**158.85 340**	*e*PKP2		**PKPab**	**17 38 40.5**	**-0.7**
BRG			pmax		pmax		
	comp=Z,8.0nm,1.3s						
VYHS	**Vyhne**	**158.98 329**	*e*PKP2		**PKPab**	**17 38 41.7**	**-0.2**
VYHS	**Vyhne**	**158.98 329**	*e*PKP		**PKPab**	**17 38 41.7**	**-0.2**
GOPC	**GO Pecny, Ondr**	**159.42 337**	*e*PKPAB		**PKPab**	**17 38 44.1**	**+0.4**
GOPC	**GO Pecny, Ondr**	**159.42 337**	*e*PKP2		**PKPab**	**17 38 44.1**	**+0.4**
MODS	**Modra-Piesok**	**159.75 331**	*e*PKP2		**PKPab**	**17 38 45.2**	**0.0**
MODS	**Modra-Piesok**	**159.75 331**	*e*PKP		**PKPab**	**17 38 45.2**	**0.0**
NKC	**Novy Kostel**	**159.85 341**	*e*PKPAB		**PKPab**	**17 38 45.6**	**0.0**
NKC	**Novy Kostel**	**159.85 341**	*e*PKP2		**PKPab**	**17 38 45.6**	**0.0**
KHC	**Kasperske Hory**	**160.50 338**	*e*PKPAB		**PKPab**	**17 38 48.3**	**-0.1**
KHC	**Kasperske Hory**	**160.50 338**	*e*PKP2		**PKPab**	**17 38 48.3**	**-0.1**
CONA	**Conrad Observa**	**160.68 332**	*i* PKPab		**PKPab**	**17 38 49.4**	**0.0**
	comp=Z,1.5nm,0.6s						
TOA0	**Torodi Ar. Sit**	**161.74 177**	*e*PKPab		**PKPab**	**17 38 55.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**161.74 177**	PKPab		**PKPab**	**17 38 56.0**	**+1.5**
	comp=Z,4.5nm,1.1s,baz=186,slow=2.7,SNR=9.0						
TOA1	**Torodi Ar. Sit**	**161.75 177**	*e*PKPab		**PKPab**	**17 38 56.0**	**+1.4**
MOTA	**Moosalm**	**162.84 340**	*i* PKPab		**PKPab**	**17 38 59.4**	**+0.5**
	comp=Z,1.8nm,0.5s						
DAVA	**Damuels**	**163.24 342**	*e*PKPab		**PKPab**	**17 39 00.3**	**-0.3**
	comp=Z,3.1nm,0.6s						
FETA	**Feichten**	**163.25 340**	*i* PKPab		**PKPab**	**17 39 01.6**	**+0.9**
	comp=Z,2.5nm,0.8s						

*PGC **20** 17:21:52.2₂₂1.8,51.°04N×130.°93W,h10km,MLSn3.7/26, Mw4.3/26,230km Wsw of Bella Bella, Bc Haida Gwaii Region*
*IDC **20** 17:21:53.7₂1.0,51.°11N×130.°55W,h0km,mb3.6/5, mb1 3.9/12,mb1mx3.7/42,mbtmp3.7/12,ML3.7/7,MS3.4/16, Ms1 3.4/16,ms1mx3.2/40,Error ellipse: s-maj=14.5km s-min=12.1km az=53.0*
*NEIC **20** 17:21:55.7₂0.4,51.°42N×130.°44W,h10km,mb4.1/45, MW4.3(OTT),Error ellipse: s-maj=9.8km s-min=3.5km az=55.0*

ISC 20 17:21:52.6±1.9,51.°25N±0.°06×130.°59W±0.°05,h3km±12km, n188,σ1=89/176,mb4.1/15,MS3.5/9,Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HG4B	**Hotspring**	**1.11**	**341**	P	**Pg**	**17 22 13.5**	**-0.5**
HG4B				S	**Sb**	**17 22 28.7**	**-0.8**
HG3B	**Hotspring**	**1.43**	**339**	Pn	**Pn**	**17 22 18.1**	**-1.4**
HG3B				Sn	**Sn**	**17 22 36.6**	**-2.2**
BNB	**Barry Inlet**	**1.51**	**332**	Pn	**Pn**	**17 22 18.7**	**-2.0**
BNB				Sn	**Sn**	**17 22 37.5**	**-3.4**
HOLB	**Holberg**	**1.67**	**110**	Pn	**Pn**	**17 22 21.6**	**-1.2**
HOLB				Sn	**Sn**	**17 22 42.1**	**-2.7**
BBB	**Bella Bella**	**1.81**	**58**	*e*Pn	**Pb**	**17 22 25.4**	**-1.0**
BBB	**Bella Bella**	**1.81**	**58**	Pn	**Pb**	**17 22 25.7**	**-0.6**
BBB				Sn	**Sg**	**17 22 49.3**	**-1.4**
BBB	**Bella Bella**	**1.81**	**58**	Pn	**Pb**	**17 22 25.8**	**-0.5**
	27nm,0.3s,baz=246,slow=6.8,SNR=276						
BBB				Sn	**Sg**	**17 22 50.1**	**-0.6**
	218nm,0.3s,baz=60,slow=18,SNR=24						
BBB				LR	LR	17 23 19.8	
	comp=Z,257nm,19.2s,baz=213,slow=46						
PHC	**Port Hardy**	**2.07**	**104**	Pn	**Pn**	**17 22 27.4**	**-0.9**
PHC				Sn	**Sn**	**17 22 52.8**	**-1.7**
MOBC	**Moresby Island**	**2.08**	**337**	Pn	**Pn**	**17 22 27.6**	**-1.0**
MOBC				Sn	**Sn**	**17 22 53.0**	**-2.0**
BPBC	**Brooks Peninsu**	**2.10**	**120**	Pn	**Pn**	**17 22 26.5**	**-2.2**
BPBC				Sn	**Sn**	**17 22 51.5**	**-3.9**
PACB	**Port Alice, BC**	**2.13**	**111**	Pn	**Pn**	**17 22 27.7**	**-1.4**
PACB				Sn	**Sn**	**17 22 53.4**	**-2.5**
DIB	**Dawson Inlet,**	**2.28**	**330**	*e*Pn	**Pn**	**17 22 30.5**	**-0.6**
DIB	**Dawson Inlet,**	**2.28**	**330**	Pn	**Pn**	**17 22 29.2**	**-1.9**
MAYB	**Maynard**	**2.33**	**110**	Pn	**Pn**	**17 22 31.0**	**-1.0**
TLCB	**Telegraph Cove**	**2.48**	**105**	Pn	**Pn**	**17 22 33.8**	**0.0**
TLCB					Sn	**17 23 04.0**	**-0.7**
EDB	**Eliza Dome**	**2.61**	**120**	Pn	**Pn**	**17 22 33.6**	**-2.0**
WOSB	**Woss**	**2.78**	**111**	Pn	**Pn**	**17 22 37.4**	**-0.7**
NCRB	**Newcastle Ridg**	**3.00**	**105**	Pn	**Pn**	**17 22 40.5**	**-0.6**
RUBB	**Prince Rupert**	**3.09**	**4**	Pn	**Pn**	**17 22 43.2**	**+0.9**
ETB	**Estevan Point**	**3.20**	**124**	Pn	**Pn**	**17 22 42.1**	**-1.7**
GDR	**Gold River**	**3.26**	**115**	Pn	**Pn**	**17 22 43.5**	**-1.1**
CBB	**Campbell River**	**3.54**	**108**	Pn	**Pn**	**17 22 48.3**	**-0.2**
CBB				Sn	**Sn**	**17 23 28.2**	**-2.6**
TOFB	**Tofino**	**3.67**	**123**	Pn	**Pn**	**17 22 48.4**	**-1.7**
BTB	**Buttle Lake**	**3.70**	**117**	Pn	**Pn**	**17 22 49.9**	**-1.0**
TXB	**Texada**	**4.23**	**109**	Pn	**Pn**	**17 22 57.8**	**-0.1**
B928	**Bamfield**	**4.27**	**122**	Pn	**Pn**	**17 22 58.3**	**-0.1**
MGB	**Mount Grey**	**4.41**	**118**	Pn	**Pn**	**17 22 59.5**	**-1.1**
CRAG	**Craig**	**4.50**	**341**	*e*Pn	**Pn**	**17 23 01.7**	**+0.1**
GHNB	**Nanoose**	**4.51**	**113**	Pn	**Pn**	**17 23 01.6**	**-0.3**
SHB	**Sechelt**	**4.60**	**108**	Pn	**Pn**	**17 23 03.2**	**+0.1**
NLLB	**Nanaimo Lost L**	**4.70**	**113**	Pn	**Pn**	**17 23 04.5**	**+0.1**
PFB	**Port Renfrew**	**4.79**	**122**	Pn	**Pn**	**17 23 04.5**	**-1.2**
B926	**Mesachie Lake**	**4.82**	**118**	Pn	**Pn**	**17 23 06.4**	**+0.3**
WPB	**Watts Point**	**4.98**	**106**	Pn	**Pn**	**17 23 08.5**	**+0.2**
FSB	**Fort Saint Jam**	**4.99**	**47**	Pn	**Pn**	**17 23 10.8**	**+2.4**
WSLR	**Whistler**	**5.00**	**100**	Pn	**Pn**	**17 23 09.9**	**+1.3**
BIB	**Bowen Island**	**5.02**	**109**	Pn	**Pn**	**17 23 09.1**	**+0.4**
LZB	**Mount Lazard**	**5.11**	**118**	Pn	**Pn**	**17 23 10.0**	**0.0**
WRAK	**Wrangell Islan**	**5.29**	**349**	*e*Pn	**Pn**	**17 23 10.5**	**-1.9**
SNB	**Saturna Island**	**5.39**	**114**	Pn	**Pn**	**17 23 15.4**	**+1.6**
LLLB	**Lillooet**	**5.55**	**93**	*e*Pn	**Pn**	**17 23 14.7**	**-1.4**
LLLB	**Lillooet**	**5.55**	**93**	Pn	**Pn**	**17 23 18.2**	**+2.2**
MCW	**Mount Constitu**	**5.63**	**114**	Pn	**Pn**	**17 23 18.7**	**+1.5**
NLWA	**Neilton Lookou**	**5.85**	**129**	*e*Pn	**Pn**	**17 23 20.6**	**+0.4**
VDB	**Vedder Mountai**	**5.89**	**109**	Pn	**Pn**	**17 23 22.5**	**+1.7**
HDW	**Hoodsport**	**6.09**	**123**	Pn	**Pn**	**17 23 24.2**	**+0.6**
MBW	**Mount Baker**	**6.12**	**110**	Pn	**Pn**	**17 23 25.8**	**+1.8**
B05A	**Bryant**	**6.26**	**115**	P	**Pn**	**17 23 27.2**	**+1.3**
	baz=304,SNR=6.1						
JCW	**Jim Creek**	**6.39**	**115**	Pn	**Pn**	**17 23 29.5**	**+1.8**
B06A	**Marblemount**	**6.49**	**111**	*e*Pn	**Pn**	**17 23 28.7**	**-0.3**
GPW	**Glacier Peak**	**6.89**	**113**	Pn	**Pn**	**17 23 36.3**	**+1.6**
BMBC	**Bull Mountain**	**6.96**	**43**	Pn	**Pn**	**17 23 39.0**	**+3.5**
E04D	**Cinebar**	**7.07**	**128**	P	**Pn**	**17 23 39.6**	**+2.7**
	baz=316						
DLBC	**Dease Lake**	**7.22**	**2**	Pn	**Pn**	**17 23 42.4**	**+3.4**
DLBC	**Dease Lake**	**7.22**	**2**	Pn	**Pn**	**17 23 42.1**	**+3.1**
	1.6nm,0.3s,baz=191,slow=14,SNR=5.7						
DLBC				Lg	Lg	17 25 45.6	
	baz=284,slow=19,SNR=3.4						
DLBC				LR	LR	17 26 36.5	
	comp=Z,334nm,20.1s,baz=248,slow=38						
LON	**Longmire**	**7.32**	**125**	*e*Pn	**Pn**	**17 23 41.8**	**+1.3**
LON	**Longmire**	**7.32**	**125**	Pn	**Pn**	**17 23 41.7**	**+1.3**
LTY	**Liberty**	**7.62**	**118**	*e*Pn	**Pn**	**17 23 46.4**	**+1.9**
LTY	**Liberty**	**7.62**	**118**	Pn	**Pn**	**17 23 46.6**	**+2.0**
B08A	**Colville Reser**	**7.84**	**107**	*e*Pn	**Pn**	**17 23 48.4**	**+0.8**
F05D	**White Salmon**	**8.09**	**128**	P	**Pn**	**17 23 53.9**	**+3.0**
	baz=316						
E07A	**Sunnyside**	**8.48**	**119**	*e*Pn	**Pn**	**17 23 58.1**	**+1.7**
G05D	**Wamic, OR**	**8.62**	**131**	P	**Pn**	**17 24 00.3**	**+2.1**
	baz=319						
H04A	**Detroit Lake**	**8.65**	**136**	*e*Pn	**Pn**	**17 24 01.9**	**+3.2**
NEW	**Newport**	**9.22**	**104**	LR	LR	17 27 35.9	
	comp=Z,256nm,20.8s,baz=297,slow=37						
I04A	**Tendick Farm,**	**9.28**	**140**	P	**Pn**	**17 24 10.5**	**+3.2**
	baz=328						
WHY	**Whitehorse**	**9.74**	**347**	*e*Pn	**Pn**	**17 24 14.8**	**+1.2**
WHY	**Whitehorse**	**9.74**	**347**	Pn	**Pn**	**17 24 15.8**	**+2.2**
I07A	**Izee**	**10.35**	**130**	*e*Pn	**Pn**	**17 24 24.4**	**+2.3**
BMO	**Blue Mountains**	**10.95**	**121**	*e*Pn	**Pn**	**17 24 32.4**	**+2.2**
YBH	**Yreka Blue Hor**	**10.95**	**147**	LR	LR	17 28 11.0	
	comp=Z,115nm,20.3s,baz=328,slow=35						
N02D	**Trinity Center**	**11.63**	**149**	P	**Pn**	**17 24 43.7**	**+4.2**
	baz=336						
HLID	**Hailey**	**13.37**	**119**	*e*Pn	**Pn**	**17 25 05.4**	**+2.1**
HLID	**Hailey**	**13.37**	**119**	P	**Pn**	**17 25 04.4**	**+1.1**
	baz=312,SNR=17						
PAHR	**Pah Rah Range**	**13.94**	**142**	*e*Pn	**P**	**17 25 16.4**	**-3.1**
AFDM	**Forest Hills D**	**14.03**	**147**	*e*Pn	**P**	**17 25 17.8**	**-2.6**
YKA	**Yellowknife Ar**	**14.21**	**31**	Pn	**Pn**	**17 25 14.9**	**+0.4**
	0.3nm,0.3s,baz=219,slow=12,SNR=18						
YKA				Lg	Lg	17 29 21.7	
	0.0nm,0.3s,baz=219,slow=29,SNR=4.0						
YKA				LR	LR	17 31 22.9	
	comp=Z,11nm,19.4s,baz=222,slow=40						
BMN	**Battle Mountai**	**14.25**	**134**	*e*P	**Pn**	**17 25 18.8**	**+3.4**
	12nm,1.0s						
PNTR	**Pine Nut**	**14.40**	**143**	*e*Pn	**P**	**17 25 21.4**	**-3.2**
EGAK	**Eagle**	**14.64**	**342**	*e*P	**P**	**17 25 23.6**	**-3.4**
	12nm,1.1s						
YHH	**Holmes Hill**	**14.68**	**108**	*e*Pn	**P**	**17 25 24.2**	**-3.7**
ELK	**Elko**	**14.94**	**129**	*e*Pn	**P**	**17 25 29.5**	**-1.2**
ELK	**Elko**	**14.94**	**129**	Pn	**Pn**	**17 25 27.0**	**+2.2**
	0.1nm,0.3s,baz=325,slow=7.8,SNR=3.0						
ELK				LR	LR	17 32 05.8	
	comp=Z,86nm,19.6s,baz=328,slow=41						
KVN	**Kaiserville**	**15.02**	**139**	*e*Pn	**P**	**17 25 29.4**	**-2.0**
	18nm,1.0s						
CMB	**Columbia Colle**	**15.05**	**147**	*e*Pn	**P**	**17 25 31.1**	**-0.6**
	16nm,1.7s						
H17A	**Grant Village**	**15.06**	**109**	P	**Pn**	**17 25 26.7**	**+0.2**
	baz=305						
LKWY	**Lake**	**15.07**	**108**	*e*Pn	**P**	**17 25 29.1**	**-3.0**
IMW	**Indian Meadow**	**15.14**	**111**	*e*Pn	**Pn**	**17 25 29.0**	**+1.5**
	12nm,0.9s						
RYN	**Ryan**	**15.21**	**141**	*e*Pn	**P**	**17 25 33.7**	**+0.1**
	12nm,1.0s						
FXWY	**Fox Creek**	**15.24**	**112**	*e*Pn	**P**	**17 25 31.1**	**-2.8**
	8.5nm,0.8s						
MOOW	**Moose Ponds**	**15.34**	**112**	*e*Pn	**P**	**17 25 32.5**	**-2.5**
	8.8nm,0.8s						
TPAW	**Teton Pass**	**15.37**	**113**	*e*Pn	**Pn**	**17 25 31.6**	**+1.0**
	14nm,0.8s						
HVU	**Hansel Valley**	**15.46**	**121**	*e*Pn	**P**	**17 25 34.9**	**-1.4**
	12nm,1.2s						
RLMT	**Red Lodge**	**15.46**	**105**	*e*Pn	**P**	**17 25 34.3**	**-2.1**
	7.8nm,1.1s						
RLMT	**Red Lodge**	**15.46**	**105**	P	**Pn**	**17 25 32.2**	**+0.5**
	baz=302						
NV01	**Mina Array Sit**	**15.47**	**141**	*e*Pn	**P**	**17 25 34.8**	**-1.8**
NVAR	**Mina Array Bea**	**15.47**	**141**	Pn	**P**	**17 25 34.9**	**-1.6**
	0.4nm,0.3s,baz=326,slow=11,SNR=2.8						
NVAR				LR	LR	17 31 31.2	
	comp=Z,121nm,18.4s,baz=348,slow=38						
REDW	**Red Top Meadow**	**15.51**	**113**	*e*Pn	**P**	**17 25 34.6**	**-2.4**
	14nm,1.0s						
NV11	**Mina Array Sit**	**15.52**	**141**	*e*Pn	**P**	**17 25 35.6**	**-1.5**
	1.0nm,1.2s						
AHID	**Auburn Hatcher**	**15.73**	**115**	*e*Pn	**Pn**	**17 25 34.7**	**-0.6**
	24nm,1.5s						
MDPB	**Devils Postpil**	**15.87**	**145**	*e*Pn	**P**	**17 25 39.8**	**-1.2**
	9.1nm,1.0s						
OMMB	**Old Mammoth Mi**	**15.92**	**144**	*e*Pn	**P**	**17 25 39.7**	**-1.9**
	9.2nm,1.0s						
ILAR	**Eielson Array**	**16.00**	**334**	Pn	**P**	**17 25 43.5**	**+1.5**
	0.1nm,0.3s,baz=145,slow=13,SNR=4.1						
TRF	**Thorofare Moun**	**16.11**	**327**	*e*Pn	**Pn**	**17 25 39.9**	**0.0**
	16nm,1.3s						
WRH	**Wood River Hil**	**16.11**	**332**	*e*Pn	**P**	**17 25 41.5**	**-1.8**
	17nm,1.1s						
CCB	**Clear Creek Bu**	**16.16**	**333**	*e*Pn	**P**	**17 25 41.5**	**-2.3**
	16nm,1.3s						
PRP	**Porcupine Dome**	**16.24**	**337**	*e*Pn	**Pn**	**17 25 40.1**	**-1.5**
	6.3nm,0.9s						
POKR	**Poker Flat Res**	**16.41**	**334**	P	**Pn**	**17 25 43.9**	**+0.2**
	baz=139						
DUG	**Dugway, Tooele**	**16.57**	**125**	P	**P**	**17 25 47.1**	**-1.6**
	baz=318						
BW06	**Boulder Array**	**16.62**	**112**	*e*Pn	**P**	**17 25 49.6**	**+0.3**
	28nm,1.7s						
BW06	**Boulder Array**	**16.62**	**112**	P	**Pn**	**17 25 46.9**	**+0.2**
	baz=309,SNR=9.8						
PD31	**Pinedale Array**	**16.62**	**112**	*e*Pn	**P**	**17 25 48.6**	**-0.7**
	26nm,1.7s						
PDAR	**Pinedale Array**	**16.62**	**112**	Pn	**P**	**17 25 49.2**	**-0.1**
	0.1nm,0.3s,baz=306,slow=11,SNR=19						
PDAR				LR	LR	17 31 35.5	
	comp=Z,58nm,19.5s,baz=328,slow=35						
R11A	**Troy Canyon, C**	**16.68**	**135**	*e*Pn	**P**	**17 25 49.7**	**-0.2**
	11nm,1.3s						
R11A	**Troy Canyon, C**	**16.68**	**135**	P	**P**	**17 25 49.6**	**-0.3**
	baz=326,SNR=5.4						
NLU	**North Lily Min**	**17.13**	**124**	*e*Pn	**P**	**17 25 55.3**	**+0.3**
	35nm,2.0s						
INK	**Inuvik**	**17.18**	**356**	P	**P**	**17 25 56.5**	**+1.6**
	0.0nm,0.3s,baz=165,slow=12,SNR=5.8						
INK				LR	LR	17 32 38.7	
	comp=Z,138nm,18.7s,baz=174,slow=37						
CWC	**Cottonwood Cre**	**17.30**	**144**	P	**P**	**17 25 58.2**	**+1.5**
	baz=333						
FFC	**Flin Flon**	**17.52**	**67**	*e*P	**P**	**17 25 59.4**	**+0.5**
	4.7nm,1.0s						
TPNV	**Topopah Spring**	**17.57**	**139**	*e*Pn	**P**	**17 26 03.0**	**+3.3**
	17nm,1.4s						
TPNV	**Topopah Spring**	**17.57**	**139**	P	**P**	**17 26 01.3**	**+1.6**
	baz=330						
DAC	**Darwin (Calif)**	**17.62**	**143**	*e*Pn	**P**	**17 26 03.4**	**+3.1**
	8.8nm,1.4s						
FURC	**Furnace Creek,**	**17.74**	**141**	P	**P**	**17 26 03.7**	**+2.3**
	baz=331						
MPMC	**Manual Prospec**	**17.86**	**143**	P	**P**	**17 26 05.3**	**+2.4**
	baz=333,SNR=7.3						
SRU	**San Rafael Swe**	**18.57**	**123**	*e*P	**Pn**	**17 26 13.3**	**+2.4**
	7.7nm,1.0s						
GSC	**Goldstone, Bar**	**18.78**	**143**	P	**Pn**	**17 26 15.4**	**+2.0**
	baz=333						
IM3	**Indian Mountai**	**18.88**	**330**	*e*P	**Pn**	**17 26 16.1**	**+1.8**
O20A	**White River Ci**	**19.08**	**117**	*e*P	**Pn**	**17 26 18.6**	**+1.5**
	7.4nm,0.9s						
O20A	**White River Ci**	**19.08**	**117**	P	**Pn**	**17 26 16.9**	**-0.2**
	baz=314						
RSSD	**Black Hills**	**19.18**	**101**	*e*P	**Pn**	**17 26 17.7**	**-0.5**
	5.5nm,0.9s						
RSSD	**Black Hills**	**19.18**	**101**	P	**Pn**	**17 26 17.4**	**-0.9**
	baz=302						
HEC	**Hector Ludlow**	**19.38**	**142**	P	**Pn**	**17 26 22.7**	**+2.1**
	baz=333						
BFSC	**Mount Baldy Ra**	**19.42**	**146**	P	**Pn**	**17 26 23.6**	**+2.4**
	baz=336						
GMRC	**Granite Mounta**	**19.68**	**141**	P	**Pn**	**17 26 25.8**	**+1.5**
	baz=332						
TOLK	**Toolik Lake Re**	**19.70**	**339**	*e*P	**Pn**	**17 26 23.8**	**-0.

ISHM				*e*Pg		**Pb**	**18 10 02.3**	**-1.0**	
IANJ	**Anjilo**	**0.75**	**165**	IAMB		IAmb	18 10 19.5		
	comp=Z,9μm,0.2s								
IANJ				*e*Pg		**Pg**	**18 10 06.4**	**-0.5**	
IFIR	**Firoozkooh**	**0.93**	**234**	*e*Pg		**Pb**	**18 10 10.1**	**-0.6**	
IFIR				IAMB		IAmb	18 10 25.2		
	comp=Z,5μm,0.2s								
ILAS	**Lasjerd**	**0.99**	**216**	*e*Pg		**Pb**	**18 10 11.6**	**-0.2**	
ILAS				IAMB		IAmb	18 10 30.2		
	comp=Z,2μm,0.2s								
IPRN	**Peran**	**1.08**	**273**	*e*Pg		**Pg**	**18 10 12.6**	**-0.5**	
IPRN				IAMB		IAmb	18 10 34.4		
	comp=E,28μm,0.3s								
IDMV	**Damavand**	**1.47**	**246**	*e*Pn		**Pg**	**18 10 20.1**	**-0.4**	
IDMV				IAMB		IAmb	18 10 51.4		
	comp=Z,2μm,0.3s								
DAMV	**Damavand**	**1.49**	**248**	*e*Pn		**Pg**	**18 10 20.8**	**-0.1**	
DAMV	**Damavand**	**1.49**	**248**	*e*Pg		**Pg**	**18 10 20.8**	**-0.1**	
IMND	**Minoodasht**	**1.75**	**52**	*e*Pn		**Pb**	**18 10 24.6**	**0.0**	
IMND				IAMB		IAmb	18 10 25.9		
	comp=Z,0.0nm,0.3s								
SHRO	**Shahrood**	**1.91**	**95**	*e*Pn		**Pb**	**18 10 27.4**	**+0.1**	
SHRO	**Shahrood**	**1.91**	**95**	*e*Pn		**Pb**	**18 10 27.4**	**+0.1**	
SHRO				*e*Sg		**Sg**	**18 10 53.6**	**+0.1**	
IVRN	**Varamin**	**1.98**	**234**	*e*Pn		**Pg**	**18 10 29.1**	**-1.3**	
IHSB	**Hasanabad**	**2.09**	**250**	*e*Pn		**Pg**	**18 10 31.2**	**-1.2**	
IHSB				IAMB		IAmb	18 10 36.5		
	comp=Z,0.0nm,0.2s								
ISFB	**Sefidab**	**2.18**	**213**	*e*Pn		**Pb**	**18 10 30.9**	**-1.0**	
ISFB				IAMB		IAmb	18 11 06.3		
	comp=Z,1μm,0.4s								
MRVT	**Maraveh tapeh**	**2.43**	**52**	*e*Pn		**Pb**	**18 10 34.5**	**-1.7**	
MRVT	**Maraveh tapeh**	**2.43**	**52**	*e*Pn		**Pb**	**18 10 34.5**	**-1.7**	
MRVT				*e*Sg		**Sg**	**18 11 09.3**	**-1.1**	
QALM	**Alamut, Qazvin**	**2.46**	**276**	*e*Pn		**Pb**	**18 10 36.6**	**-0.1**	
QALM				IAMB		IAmb	18 11 14.7		
	comp=Z,0.0nm,0.4s								
IMHD	**Mahdasht**	**2.49**	**259**	*e*Pn		**Pb**	**18 10 37.7**	**+0.5**	
IMHD				IAMB		IAmb	18 10 42.5		
	comp=Z,471nm,0.2s								
KRSH	**Karshahi**	**2.55**	**210**	*e*Pn		**Pb**	**18 10 36.4**	**-1.9**	
KRSH				IAMB		IAmb	18 11 17.3		
	comp=N,0.0nm,0.5s								
GHVR	**GHOM**	**2.59**	**229**	*e*Pn		**Pb**	**18 10 37.5**	**-1.4**	
GHVR	**GHOM**	**2.59**	**229**	*e*AML		AML	18 11 22.5		
	comp=N,56nm,0.6s								
GHVR				*e*AML		AML	18 11 22.7		
	comp=E,73nm,0.5s								
GHVR	**GHOM**	**2.59**	**229**	*e*Pn		**Pb**	**18 10 37.5**	**-1.4**	
GHVR				*e*Sg		**Sg**	**18 11 15.8**	**+0.4**	
ANAR	**Anarak**	**3.00**	**179**	*e*Pn		**Pn**	**18 10 42.2**	**+2.2**	
ANAR				IAMB		IAmb	18 11 38.2		
	comp=N,0.0nm,0.9s								
IRAZ	**Razeghan**	**3.14**	**257**	*e*Pn		**Pb**	**18 10 45.6**	**-2.8**	
IRAZ				IAMB		IAmb	18 11 50.2		
	comp=Z,370nm,0.4s								
SBZV	**Sabzevar**	**3.19**	**85**	*e*Pn		**Pb**	**18 10 46.1**	**-3.1**	
TNSJ	**Nastanj**	**3.28**	**132**	*e*Pn		**Pn**	**18 10 46.1**	**+2.2**	
TNSJ				IAMB		IAmb	18 11 43.3		
	comp=Z,0.0nm,0.5s								
IKLH	**Kolahrood**	**3.34**	**212**	*e*Pn		**Pb**	**18 10 48.6**	**-3.3**	
IKLH				IAMB		IAmb	18 11 50.5		
	comp=Z,462nm,0.6s								
QABG	**Abgarm-Qazvin**	**3.35**	**263**	*e*Pn		**Pb**	**18 10 48.5**	**-3.5**	
IZEF	**Zefreh**	**3.47**	**199**	*e*Pn		**Pn**	**18 10 49.1**	**+2.4**	
IZEF				IAMB		IAmb	18 11 53.8		
	comp=Z,240nm,0.4s								
ISFR	**Sfrayin**	**3.59**	**75**	*e*Pn		**Pb**	**18 10 52.3**	**-3.7**	
ISFR				IAMB		IAmb	18 11 09.2		
	comp=Z,204nm,0.5s								
TKDS	**Koohdasht(Taba**	**3.83**	**131**	*e*Pn		**Pn**	**18 10 54.1**	**+2.6**	
TPRV	**Parvadeh(Tabas**	**4.02**	**141**	*e*Pn		**Pn**	**18 10 56.8**	**+2.8**	
IRAM	**Ramesheh**	**4.50**	**194**	*e*Pn		**Pn**	**18 11 04.6**	**+3.8**	
IRAM				IAMB		IAmb	18 12 25.1		
	comp=Z,83nm,0.4s								
ASTR	**Astara**	**4.55**	**303**	⇑P		**Pn**	**18 11 03.2**	**+1.9**	
ASTR				⇑S		**Sn**	**18 11 54.1**	**0.0**	
LKRN	**Lenkeran, Azer**	**4.63**	**304**	⇑P		**Pn**	**18 11 04.2**	**+1.9**	
LKRN				⇓S		**Sn**	**18 11 56.0**	**-0.2**	
LRK	**Lerik**	**4.90**	**302**	⇓P		**Pn**	**18 11 08.0**	**+1.8**	
LRK				⇑S		**Sn**	**18 12 01.9**	**-1.1**	
GLBA	**Clilabad**	**5.17**	**308**	⇑S		**Sn**	**18 12 07.0**	**-2.5**	
GBS	**Qobustan**	**5.71**	**321**	⇑S		**Sn**	**18 12 22.1**	**-0.8**	
ATGJ	**Altiaghaj**	**5.96**	**323**	⇑S		**Sn**	**18 12 28.6**	**-0.4**	
PQL	**Pirkuli**	**6.08**	**321**	⇑S		**Sn**	**18 12 33.5**	**+1.5**	
SIZA	**Siyzn**	**6.14**	**324**	⇓P		**Pn**	**18 11 26.6**	**+3.5**	
SIZA				⇓S		**Sn**	**18 12 35.6**	**+2.1**	
IML	**Ismayilli**	**6.29**	**319**	⇓S		**Sn**	**18 12 35.5**	**-1.8**	
QUBA	**Quba, Azerbaij**	**6.55**	**323**	⇓P		**Pn**	**18 11 32.2**	**+3.4**	
QUBA				⇑S		**Sn**	**18 12 42.3**	**-1.2**	
QBL	**Gabala**	**6.59**	**318**	⇓P		**Pn**	**18 11 31.1**	**+1.8**	
QBL				⇑S		**Sn**	**18 12 43.7**	**-0.8**	
XNQ	**Khinaliq**	**6.59**	**321**	⇑P		**Pn**	**18 11 32.2**	**+2.8**	
XNQ				⇓S		**Sn**	**18 12 44.3**	**-0.5**	
ORD	**Ordubad**	**6.68**	**296**	⇓P		**Pn**	**18 11 32.5**	**+1.9**	
ORD				⇑S		**Sn**	**18 12 43.7**	**-3.2**	
QSAR	**Qusar**	**6.79**	**323**	⇑P		**Pn**	**18 11 34.5**	**+2.5**	
QSAR				⇓S		**Sn**	**18 12 49.7**	**+0.4**	
SEKA	**Sheki**	**7.12**	**317**	⇓P		**Pn**	**18 11 38.6**	**+2.0**	
SEKA				⇓S		**Sn**	**18 12 55.2**	**-2.4**	
GANJ	**Ganja**	**7.28**	**310**	⇓P		**Pn**	**18 11 40.5**	**+1.7**	
GANJ				⇓S		**Sn**	**18 12 59.3**	**-2.3**	
GDB	**GEDABAY**	**7.68**	**308**	⇑P		**Pn**	**18 11 45.8**	**+1.4**	
GDB				⇓S		**Sn**	**18 13 10.8**	**-0.7**	

*ATH **20** 18:12:22.9,38°.64N×26°.63E,h29km±3km,ML2.1/2,Error ellipse: s-maj=3.9km s-min=1.0km az=252.0*
*DDA **20** 18:12:22.6,38°.68N×26°.65E,h7km±3km,ML2.6*
*ISK **20** 18:12:22.5,38°.68N×26°.66E,h9km,ML2.1/8*
*ISCJB **20** 18:12:23.2±0.3,38°.67N±0°.02×26°.64E±0°.03,h8km±3km, Error ellipse: s-maj=3.9km s-min=3.3km az=17.7*

ISC 20 18:12:22.8±0.8,38°.67N±0°.02×26°.65E±0°.02,h10km±5km, n27,σ0ş55/41,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOCM	**Foa**	**0.07**	**53**	PG	**Pg**	**18 12 24.9**	**-0.1**
FOCM				SG	**Sg**	**18 12 26.5**	**-0.1**
KRBN	**Karaburun**	**0.11**	**227**	PG	**Pg**	**18 12 25.3**	**-0.1**
KRBN				SG	**Sg**	**18 12 27.8**	**+0.5**
URLA	**Izmir**	**0.31**	**189**	PG	**Pg**	**18 12 29.1**	**+0.1**
URLA				SG	**Sb**	**18 12 34.5**	**-1.1**
URLA	**Izmir**	**0.31**	**189**	*i* P	**Pg**	**18 12 29.1**	**+0.1**
URLA				*i* S	**Sb**	**18 12 35.1**	**-0.5**
URLA				IAML_P			
	comp=Z,3μm,0.1s						
BLCB	**Balcova**	**0.41**	**133**	PG	**Pg**	**18 12 31.2**	**+0.3**
ZEDA	**zmir-Bergama**	**0.45**	**48**	*i* S	**Sb**	**18 12 39.3**	**-0.2**
ZEY	**zmir**	**0.45**	**195**	*i* P	**Pg**	**18 12 31.8**	**+0.3**
ZEY				*i* S	**Sb**	**18 12 39.5**	**+0.1**
ZEY				IAML_P			
	comp=Z,2μm,0.2s						
CHOS	**Chios island**	**0.55**	**239**	PG	**Pg**	**18 12 33.8**	**+0.4**
CHOS	**Chios island**	**0.55**	**239**	P	**Pg**	**18 12 33.8**	**+0.4**
CHOS				S	**Sg**	**18 12 41.4**	**+0.7**
AYVA	**Ayvalik**	**0.64**	**3**	*i* P	**Pb**	**18 12 35.9**	**-0.1**
AYVA				IAML_P			
	comp=Z,285nm,0.1s						
DGB	**zmir**	**0.64**	**164**	*i* P	**Pg**	**18 12 35.5**	**+0.4**
DGB				IAML_P			
	comp=Z,1μm,0.1s						
PRK	**Paraskevi**	**0.65**	**333**	P	**Pb**	**18 12 36.4**	**+0.2**
PRK				S	**Sb**	**18 12 45.9**	**+0.6**
PRK				AML	AML	18 12 49.0	
	comp=N,256μm,0.3s						
PRK				AML	AML	18 12 49.5	
	comp=E,244μm,0.3s						
SIGR	**SIGRI**	**0.83**	**311**	PG	**Pb**	**18 12 39.1**	**-0.1**
SIGR	**SIGRI**	**0.83**	**311**	P	**Pb**	**18 12 39.5**	**+0.2**
SIGR				S	**Sn**	**18 12 51.5**	**-1.3**
PSRA	**Psara**	**0.86**	**262**	P	**Pg**	**18 12 39.4**	**0.0**
AKHS	**Akhisar**	**0.93**	**77**	*i* P	**Pb**	**18 12 41.2**	**+0.2**
AKHS				*i* S	**Sn**	**18 12 54.6**	**-0.8**
AKHS				IAML_P			
	comp=Z,592nm,0.1s						
SMG	**Samos**	**0.97**	**171**	P	**Pg**	**18 12 41.1**	**-0.3**
SMG				S	**Sb**	**18 12 54.9**	**+0.4**
SMG				AML	AML	18 12 56.8	
	comp=N,260μm,0.3s						
SMG				AML	AML	18 12 58.9	
	comp=E,225μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**1.07**	**356**	*i* P	**Pg**	**18 12 43.1**	**-0.3**
BAYC				*i* S	**Sb**	**18 12 58.0**	**+0.4**
BAYC				IAML_P			
	comp=Z,1μm,0.2s						
STEP	**BALIKESIR_Sava**	**1.09**	**49**	*i* P	**Pg**	**18 12 43.3**	**-0.4**
STEP				*i* S	**Sn**	**18 12 59.3**	**0.0**
STEP				IAML_P			
	comp=Z,1μm,0.2s						
EZN	**Ezine**	**1.18**	**348**	PN	**Pn**	**18 12 45.3**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**1.21**	**126**	PN	**Pb**	**18 12 45.4**	**-0.5**
BOZC	**Bozcaada**	**1.26**	**338**	PN	**Pg**	**18 12 46.6**	**-0.4**
BOZC	**Bozcaada**	**1.26**	**338**	*i* P	**Pg**	**18 12 47.8**	**+0.8**
BOZC				IAML_P			
	comp=Z,828nm,0.2s						
BALB	**Balikesir**	**1.36**	**44**	PN	**Pb**	**18 12 48.3**	**0.0**
MANT	**Manisa**	**1.50**	**96**	*i* P	**Pg**	**18 12 53.4**	**+1.8**
MANT				*i* S	**Sg**	**18 13 11.0**	**-0.1**
MANT				IAML_P			
	comp=Z,123nm,0.2s						
DURS	**Dursunbey**	**1.69**	**56**	*i* P	**Pb**	**18 12 53.5**	**-0.6**
DURS				*i* S	**Sn**	**18 13 14.6**	**+0.3**
DURS				IAML_P			
	comp=Z,90nm,0.1s						
SMTH	**Samothraki Isl**	**2.00**	**335**	P	**Pn**	**18 12 56.9**	**+0.3**

*ISCJB **20** 18:16:06.3±0.3,7°.49N±0°.04×94°.07E±0°.04,h20km, mb4.3/28,MS3.5/7,Error ellipse: s-maj=7.3km s-min=3.6km az=140.0*
*NEIC **20** 18:16:10.5±1.0,7°.48N×94°.15E,h41km±9km,mb4.5/13, Error ellipse: s-maj=14.1km s-min=4.6km az=65.0*
*IDC **20** 18:16:11.9±3.6,7°.55N×94°.15E,h49km±35km,mb3.7/11, mb1 3.9/13,mb1mx3.6/37,mbtmp4.0/13,ML4.2/2,MS3.3/8, Ms1 3.3/8,ms1mx3.0/38,Error ellipse: s-maj=42.0km s-min=17.2km az=58.0*
*NDI **20** 18:16:11.8±3.0,7°.55N×93°.82E,h44km±22km,mb4.5, ML4.4,mb4.5(NEIC)*
*KLM **20** 18:16:13.7,7°.54N×94°.44E,h30km,mb4.3*
*DJA **20** 18:16:14.4±0.6,8°.N±2°×9°.4E±°,h69km±9km,M4.1/11, mb4.1/11,mB4.9/4,MLv4.2/8,Mw(mB)4.2/4*

ISC 20 18:16:08.3±0.5,7°.53N±0°.04×94°.07E±0°.06,h20km,n112, σ1ş58/103,mb4.3/39,MS3.5/7,1D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMBY	**CAMPBELL BAY**	**0.54**	**196**	*e*P	**Pn**	**18 16 23.4**	**+2.5**
CMBY				*e*S	**Sn**	**18 16 32.0**	**+2.7**
CMBY				IAML		18 16 37.6	
	comp=E,20μm,0.7s						
CMBY				IAML		18 16 39.0	
	comp=N,14μm,0.5s						
LHMI	**Lhok Sumawe**	**3.66**	**129**	*e*Pn	**Pn**	**18 17 04.3**	**+0.4**
LHMI	**Lhok Sumawe**	**3.66**	**129**	P	**Pn**	**18 17 05.0**	**+1.1**
LHMI				S	**Sn**	**18 17 46.2**	**-0.3**
MLSI	**Meulaboh, Aceh**	**3.99**	**144**	P	**Pb**	**18 17 13.3**	**-4.7**
PKDT	**Phuket**	**4.24**	**85**	P	**Pn**	**18 17 11.3**	**-0.5**
PBA	**Port Blair**	**4.30**	**342**	*e*P	Pn	18 17 14.0	+1.3
PBA				*e*S	Sn	18 17 57.8	-4.5
KRAB	**Krabi**	**5.12**	**82**	P	**Pn**	**18 17 27.5**	**+3.5**
	comp=N,489nm,0.5s,comp=N,20μmcomp=N,3.1nm						
TPTI		**5.25**	**144**	P	**Pn**	**18 17 29.5**	**+3.7**
	comp=N,19nm,1.4s,comp=N,382nmcomp=N,0.1nm						
KCSI	**Kotacane, Aceh**	**5.42**	**137**	P	**Pn**	**18 17 31.2**	**+3.0**
	comp=N,31nm,0.7s,comp=N,379nmcomp=N,0.1nm						
SNSI	**Sinabang, Aceh**	**5.56**	**156**	P	**Pn**	**18 17 27.9**	**-2.2**
TRTT	**Trang**	**5.58**	**87**	P	**Pn**	**18 17 29.8**	**-0.4**
	comp=N,57nm,0.7s,comp=N,1μmcomp=N,0.3nm						
DGPR	**DIGLIPUR**	**5.72**	**349**	*e*P	**Pn**	**18 17 35.4**	**+3.2**
DGPR				*e*S	**Sn**	**18 18 32.7**	**-4.6**
SKLT	**Songkhla**	**6.50**	**93**	P	**Pn**	**18 17 47.0**	**+4.0**
	comp=N,23nm,0.5s,comp=N,578nmcomp=N,0.1nm						
PSI	**Prapat**	**6.74**	**134**	*e*Pn	**Pn**	**18 17 46.0**	**-0.4**
PSI	**Prapat**	**6.74**	**134**	P	**Pn**	**18 17 49.0**	**+2.7**
	comp=N,1.5nm,0.3s,baz=359,slow=7.3,SNR=6.7						
PSI				LR	LR	18 20 58.0	
	comp=N,208nm,20.8s,baz=268,slow=42						
KULM	**Kulim**	**6.91**	**108**	*e*Pn	**Pn**	**18 17 47.2**	**-1.3**
KULM	**Kulim**	**6.91**	**108**	P	**Pn**	**18 17 48.5**	**0.0**
GSI	**Gunungsitoli**	**7.11**	**150**	P	**Pn**	**18 17 53.5**	**+2.2**
IPM	**Ipoh**	**7.55**	**113**	*e*Pn	**Pn**	**18 17 55.5**	**-1.9**
IPM	**Ipoh**	**7.55**	**113**	P	**Pn**	**18 17 56.5**	**-0.9**
PHET	**Kaeng Krachan**	**7.65**	**45**	P	Pn	18 18 05.3	+6.6
	comp=N,6.2nm,0.8s,comp=N,0.0nm						
FRIM	**Kepong**	**8.64**	**119**	P	**Pn**	**18 18 12.6**	**+0.2**
KTGM	**Kuala Trenggan**	**9.27**	**103**	P	**Pn**	**18 18 22.1**	**+1.2**
UTHA	**Uthaitani**	**9.55**	**33**	P	**Pn**	**18 18 25.6**	**+0.7**
	comp=N,2.6nm,0.8s						
UMPA	**Umpang Tak**	**9.81**	**28**	P	**Pn**	**18 18 27.0**	**-1.4**
	comp=N,5.3nm,0.7s						
SRAK	**Srakaew**	**10.13**	**50**	P	Pn	18 18 42.9	+10
KGM	**Kluang**	**10.72**	**120**	P	**Pn**	**18 18 41.2**	**+0.3**
PBKT	**Sadao Pong**	**11.23**	**36**	P	**Pn**	**18 18 48.4**	**+0.6**
	comp=N,11nm,1.1s						
MYKOM	**Kota Tinggi**	**11.29**	**120**	*e*Pn	**Pn**	**18 18 48.3**	**-0.4**
MYKOM	**Kota Tinggi**	**11.29**	**120**	P	**Pn**	**18 18 48.9**	**+0.2**
CHAI	**Chaiyaphum**	**11.36**	**42**	P	Pn	18 18 59.4	+10
CM01	**Chiang Mai Arr**	**11.82**	**23**	*e*Pn	**Pn**	**18 18 57.6**	**+1.7**
CM31	**Chiang Mai Arr**	**11.85**	**23**	*e*Pn	**Pn**	**18 18 57.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.85**	**23**	P	**Pn**	**18 18 57.2**	**+0.9**
	comp=N,0.9nm,0.3s,baz=213,slow=14,SNR=28						
CMAR				LR	LR	18 23 37.6	
	comp=N,109nm,18.4s,baz=214,slow=38						
CHTO	**Chiang Mai**	**12.17**	**22**	*e*Pn	**Pn**	**18 19 02.3**	**+1.6**
CHTO	**Chiang Mai**	**12.17**	**22**	P	**Pn**	**18 19 02.8**	**+2.1**
	comp=N,41nm,1.0s						
CMMT	**Chiang Mai**	**12.17**	**22**	P	**Pn**	**18 19 02.7**	**+1.9**
	comp=N,9.4nm,1.0s						
PALK	**Pallekele**	**13.26**	**270**	LR	LR	18 23 54.4	
	comp=N,136nm,21.8s,baz=116,slow=35						
MDRS	**Chennai**	**14.67**	**293**	*e*P	**Pn**	**18 19 33.6**	**-1.3**
MDRS				IAmb	IAmb	18 19 40.6	
	comp=Z,6.4nm,0.7s						
MDSI	**Maura Dua**	**15.63**	**140**	P	**Pn**	**18 19 45.7**	**-1.9**
BOK	**Bokaro**	**17.98**	**335**	*e*P	**Pn**	**18 20 15.6**	**-1.6**
BOK				IAmb	IAmb	18 20 17.6	
SHL	**Shillong**	**18.05**	**354**	*e*P	**P**	**18 20 19.2**	**+0.5**
SHL				IAmb	IAmb	18 20 20.3	
	comp=Z,19nm,1.3s						
TNG	**Tangerang**	**18.51**	**137**	P	P	18 20 13.1	-10
TNG				P	P	18 20 13.1	-10
QIZ	**Qiongzhong**	**19.11**	**52**	P	**P**	**18 20 31.0**	**+0.8**
QIZ				S	**Sn**	**18 24 05.0**	**+0.1**
QIZ				LR	LR		
	comp=N,370nm,12.0s						
QIZ				LR	LR		
	comp=E,130nm,3.0s						
QIZ				LR	LR		
	comp=Z,82nm,14.9s						
KMI	**Kunming**	**19.35**	**24**	P	**Pn**	**18 20 36.5**	**+2.4**
KMI				pP	sP	18 20 44.3	+3.6
KMI				sP	pwP	18 20 48.3	+8.1
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,4.4s						
KMI				LR	LR		
	comp=N,150nm,14.2s						
KMI				LR	LR		
	comp=E,150nm,14.2s						
KMI				LR	LR		
	comp=Z,150nm,14.8s						
RAMN	**Ramite**	**20.57**	**341**	*e*P	**P**	**18 20 47.1**	**+0.8**
	comp=Z,46nm,0.7s						
JIRN	**Jiri**	**21.37**	**340**	*e*P	**P**	**18 20 55.0**	**0.0**
	comp=Z,38nm,0.9s						
PKI	**Pulchoki**	**21.55**	**339**	*e*P	**P**	**18 20 56.9**	**-0.1**
	comp=Z,14nm,0.8s						
PKIN	**Phulchoki**	**21.57**	**339**	*e*P	**P**	**18 20 56.9**	**-0.1**
	comp=Z,9.5nm,0.6s						
DMN	**Daman**	**21.70**	**338**	*e*P	**P**	**18 20 59.1**	**+0.6**
	comp=Z,12nm,0.8s						
GUN	**Gumba**	**21.70**	**340**	*e*P	**P**	**18 20 58.0**	**-0.6**
	comp=Z,23nm,0.7s						
LSA	**Lhasa**	**22.22**	**353**	*e*P	**P**	**18 21 03.5**	**-0.8**
	comp=Z,14nm,0.8s						
GKN	**Gorkha**	**22.23**	**337**	*e*P	**P**	**18 21 03.7**	**-0.4**
	comp=Z,28nm,0.9s						
KOLN	**Koldanda**	**22.44**	**335**	*e*P	**P**	**18 21 06.5**	**+0.2**
	comp=Z,11nm,0.7s						
DANN	**Dangsing**	**22.89**	**336**	*e*P	**P**	**18 21 10.7**	**-0.4**
	comp=Z,18nm,0.7s						
PYUN	**Piuthan**	**22.99**	**334**	*e*P	**P**	**18 21 12.0**	**-0.1**
	comp=Z,21nm,0.8s						
H08S3	**Diego Garcia H**	**26.27**	**235**	T	T	18 48 28.4	
	baz=54,slow=76,SNR=64						
H08S2	**Diego Garcia H**	**26.27**	**235**	T	T	18 48 41.6	
	baz=54,slow=76,SNR=58						
H08S1	**Diego Carcia H**	**26.29**	**235**	T	T	18 48 42.7	
	baz=54,slow=76,SNR=70						
MPSI	**Mapaga**	**26.72**	**104**	P	P	18 21 56.2	+9.5
DDI	**Dehra Dun**	**27.20**	**329**	*e*P	**P**	**18 21 49.8**	**-1.1**
DDI				IAmb	IAmb	18 21 50.3	
	comp=Z,45nm,0.2s						
DHRM	**DHARAMSHALA**	**29.64**	**328**	*e*P	**P**	**18 22 13.3**	**+0.5**
DHRM				IAmb	IAmb	18 22 16.7	
	comp=Z,2.8nm,0.9s						
XAN	**Xi'an**	**29.73**	**25**	P	**P**	**18 22 14.9**	**+1.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,130nm,3.8s						
LZH	**Lanzhou**	**29.79**	**16**	*e*P	**P**	**18 22 16.8**	**+2.7**
LZH				pP	sP	18 22 30.8	+8.9
LZH				sP	pP	18 22 34.0	+14
LZH				PP	**PnPn**	**18 23 14.8**	**+4.8**
LZH				pmax	pmax		
	comp=Z,38nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
GTA	**Gaotai**	**32.16**	**8**	*e*P	**P**	**18 22 35.3**	**+0.4**
GTA				pP	pP	18 22 39.8	-0.5
GTA				sP	sP	18 22 42.4	-0.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NIL	**Nilore**	**32.34**	**326**	*e*P	**P**	**18 22 36.7**	**+0.2**
	comp=Z,6.5nm,0.6s						
KSH	**Kashi**	**35.75**	**336**	P	**P**	**18 23 04.3**	**-1.8**
KSH				sP	sP	18 23 18.8	+4.6
KSH				S	S	18 28 20.9	-21
KSH				pmax	pmax		
	comp=Z,96nm,4.2s						
WMQ	**Urumqi**	**36.58**	**352**	*e*P	**P**	**18 23 13.9**	**+0.9**
WMQ				pP	sP	18 23 26.3	+5.3
WMQ				sP	pwP	18 23 32.0	+11
WMQ				pmax	pmax		
	comp=Z,19nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,5.5s						
WMQ				LR	LR		
	comp=N,62nm,19.3s						
WMQ				LR	LR		
	comp=E,100nm,22.7s						
WMQ				LR	LR		
	comp=Z,56nm,25.1s						
HHC	**Hu-ho-hao-te**	**36.66**	**22**	*e*P	**P**	**18 23 14.6**	**+0.8**
HHC				sP	sP	18 23 29.8	+8.1
HHC				S	**S**	**18 28 58.4**	**+2.3**
HHC				SS	**SnSn**	**18 31 28.8**	**+1.9**
HHC	**Hu-ho-hao-te**	**36.66**	**22**	ScS	ScS	18 33 16.6	-12
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,73nm,6.0s						
HHC				LR	LR		
	comp=N,140nm,12.7s						
HHC				LR	LR		
	comp=E,150nm,11.2s						
HHC				LR	LR		
	comp=Z,150nm,14.7s						
ARSB	**Arslanbob**	**38.52**	**334**	*e*P	**P**	**18 23 30.0**	**+0.4**
	comp=Z,8.7nm,1.1s						
AAK	**Ala-Archa**	**38.99**	**337**	*e*P	**P**	**18 23 34.6**	**+1.0**
	comp=Z,4.4nm,1.3s						
MK01	**Makanchi Array**	**40.38**	**347**	*e*P	**P**	**18 23 44.3**	**-0.6**
MK31	**Makanchi Array**	**40.40**	**348**	*e*P	**P**	**18 23 44.7**	**-0.4**
	comp=Z,3.1nm,0.8s						
MK32	**Makanchi Array**	**40.40**	**348**	*e*P	**P**	**18 23 44.9**	**-0.3**
MKAR	**Makanchi Array**	**40.40**	**348**	P	**P**	**18 23 44.9**	**-0.3**
	comp=Z,3.7nm,0.7s,baz=169,slow=7.9,SNR=47						
MAKZ	**Makanchi**	**40.49**	**347**	*e*P	**P**	**18 23 45.4**	**-0.4**
	comp=Z,3.4nm,0.6s						
SONA0	**Songino Array**	**41.51**	**13**	*e*P	**P**	**18 23 54.3**	**-0.1**
SONM	**Songino Array**	**41.51**	**13**	P	**P**	**18 23 54.3**	**-0.1**
	comp=Z,1.5nm,0.7s,baz=205,slow=9.8,SNR=6.7						
GEYT	**Alibeck**	**44.41**	**318**	P	**P**	**18 24 19.5**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=139,slow=9.2,SNR=5.9						
GEYT				LR	LR	18 46 10.4	
	comp=Z,33nm,18.3s,baz=25,slow=40						
KURK	**Kurchatov**	**44.92**	**346**	*e*P	**P**	**18 24 21.9**	**+0.2**
	comp=Z,7.3nm,1

s-min=17.4km az=147.0
*ATH **20** 18:47:18.8,34.°69N×23.°98E,h27km,ML3.5/6,Error ellipse: s-maj=2.2km s-min=0.8km az=26.0*
*THE **20** 18:47:22.7,34.°92N×24.°12E,h4km±1km,ML3.4/3,Error ellipse: s-maj=1.0km s-min=0.4km az=177.0*
ISC 20 18:47:19.1±1.0,34.73N±0.05×24.04E±0.04,h27km±5km, n104,σ1§84/123,mb3.9/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.12**	**19**	PG	**Pb**	**18 47 23.8**	**-0.4**
GVD	**Gavdhos**	**0.12**	**19**	P	**Pb**	**18 47 24.4**	**+0.2**
GVD				S	**Sb**	**18 47 26.4**	**-1.3**
GVD	**Gavdhos**	**0.12**	**19**	P	**Pb**	**18 47 24.4**	**+0.2**
GVD				S	**Sb**	**18 47 28.3**	**+0.6**
GVD				AML	AML	18 47 28.4	
GVD				AML	AML	18 47 28.4	
TMBK	**Timbaki Herakl**	**0.69**	**60**	P	**Pn**	**18 47 33.6**	**+0.5**
TMBK				S	**Sb**	**18 47 41.4**	**-0.3**
VAM	**Vamos**	**0.69**	**11**	P	**Pb**	**18 47 32.3**	**-0.3**
VAM				S	**Sb**	**18 47 39.5**	**-2.3**
VAM	**Vamos**	**0.69**	**11**	P	**Pb**	**18 47 33.1**	**+0.4**
VAM				S	**Sn**	**18 47 44.3**	**+1.4**
VAM				AML	AML	18 47 50.7	
	comp=N,6331μm,0.3s						
VAM				AML	AML	18 47 51.7	
	comp=E,5399μm,0.4s						
SIVA	**Sivas**	**0.70**	**65**	P	**Pn**	**18 47 33.6**	**+0.4**
SIVA				S	**Sb**	**18 47 42.5**	**+0.6**
SIVA	**Sivas**	**0.70**	**65**	P	**Pn**	**18 47 33.7**	**+0.5**
SIVA				S	**Sn**	**18 47 45.0**	**+2.0**
SIVA				AML	AML	18 47 53.9	
	comp=N,10465μm,0.5s						
SIVA				AML	AML	18 47 55.0	
	comp=E,14476μm,0.5s						
IMMV	**Iera Moni Meta**	**0.73**	**356**	PG	**Pb**	**18 47 33.7**	**+0.4**
IMMV				SG	**Sn**	**18 47 46.6**	**+2.6**
IMMV	**Iera Moni Meta**	**0.73**	**356**	P	**Pb**	**18 47 33.1**	**-0.2**
IMMV	**Iera Moni Meta**	**0.73**	**356**	P	**Pb**	**18 47 33.9**	**+0.2**
IMMV				S	**Sn**	**18 47 45.1**	**+1.1**
IMMV				AML	AML	18 47 48.1	
	comp=N,8332μm,0.5s						
IMMV				AML	AML	18 47 49.2	
	comp=E,13882μm,0.7s						
PRNS	**Prines Rethymn**	**0.74**	**31**	P	**Pb**	**18 47 32.5**	**-0.9**
PRNS				S	**Sb**	**18 47 39.8**	**-3.4**
CHAN	**Chania**	**0.79**	**0**	P	**Pb**	**18 47 34.4**	**+0.1**
IDI	**Anoyia**	**0.89**	**51**	Pn	**Pb**	**18 47 36.3**	**+0.3**
	comp=E,42nm,0.3s,baz=226,slow=16,SNR=118						
IDI				Sn	**Sn**	**18 47 50.1**	**+2.0**
	comp=E,123nm,0.3s,baz=342,slow=19,SNR=18						
IDI				LR	LR	18 47 57.1	
	comp=E,28nm,19.2s,baz=266,slow=44						
IACM	**Heraklion**	**1.02**	**55**	P	**Pb**	**18 47 39.3**	**+1.1**
LAST	**Lasithi**	**1.26**	**70**	P	**Pb**	**18 47 43.5**	**+1.2**
LAST	**Lasithi**	**1.26**	**70**	P	**Pb**	**18 47 43.3**	**+1.0**
LAST				AML	AML	18 48 11.3	
	comp=N,757μm,0.5s						
LAST				AML	AML	18 48 13.7	
	comp=E,591μm,0.5s						
ANKY	**Antikythira Is**	**1.29**	**332**	P	**Pb**	**18 47 44.0**	**+1.3**
ANKY	**Antikythira Is**	**1.29**	**332**	P	**Pb**	**18 47 43.5**	**+0.8**
ANKY				AML	AML	18 48 10.7	
	comp=E,1160μm,0.8s						
ANKY				AML	AML	18 48 12.7	
	comp=N,920μm,0.5s						
NPS	**Neapolis**	**1.40**	**67**	P	**Pb**	**18 47 46.1**	**+1.5**
NPS	**Neapolis**	**1.40**	**67**	P	**Pb**	**18 47 46.0**	**+1.4**
KYTH	**Kithira**	**1.73**	**332**	P	**Pb**	**18 47 50.5**	**+0.2**
KYTH	**Kithira**	**1.73**	**332**	P	**Pb**	**18 47 49.9**	**-0.5**
KTHR	**Kythira**	**1.75**	**331**	P	**Pb**	**18 47 50.8**	**+0.3**
ZKR	**Zakros**	**1.83**	**77**	PN	**Pn**	**18 47 48.9**	**+0.1**
ZKR	**Zakros**	**1.83**	**77**	P	**Pb**	**18 47 51.7**	**-0.2**
THR6	**Thira Island,**	**1.97**	**34**	P	**Pb**	**18 47 53.7**	**-0.6**
THR5	**Thira Island,**	**1.99**	**32**	P	**Pb**	**18 47 53.3**	**+2.2**
THR5	**Thira Island,**	**1.99**	**32**	P	**Pb**	**18 47 53.5**	**-1.2**
THT1	**Athinios (Pele**	**2.00**	**34**	P	**Pb**	**18 47 53.6**	**-1.2**
SANT	**Santorini**	**2.01**	**35**	PN	**Pn**	**18 47 52.4**	**+1.1**
SANT	**Santorini**	**2.01**	**35**	P	**Pn**	**18 47 53.3**	**+2.0**
SANT	**Santorini**	**2.01**	**35**	P	**Pb**	**18 47 53.8**	**-1.2**
SAP3	**Santorini-Thir**	**2.01**	**32**	P	**Pb**	**18 47 54.1**	**-0.8**
THR3	**Thira Island,**	**2.01**	**33**	P	**Pn**	**18 47 53.5**	**+2.2**
THR3	**Thira Island,**	**2.01**	**33**	P	**Pb**	**18 47 53.9**	**-1.1**
THR7	**Fira-Santorini**	**2.04**	**33**	P	**Pb**	**18 47 54.8**	**-0.7**
MHLA	**Plaka, Milos I**	**2.04**	**9**	P	**Pb**	**18 47 54.7**	**-0.7**
THR8	**Santorini-Mono**	**2.04**	**35**	P	**Pb**	**18 47 54.1**	**-1.5**
THR2	**Thira island,**	**2.06**	**33**	P	**Pb**	**18 47 54.6**	**-1.2**
CMBO	**Columbo, Santo**	**2.06**	**32**	P	**Pb**	**18 47 55.1**	**-0.8**
ANAF	**Anafi Island**	**2.15**	**41**	P	**Pn**	**18 47 55.5**	**+2.2**
VLI	**Veliai**	**2.18**	**336**	P	**Pb**	**18 47 56.3**	**-1.6**
VLI	**Veliai**	**2.18**	**336**	P	**Pb**	**18 47 56.3**	**-1.6**
AMGA	**Amorgos Island**	**2.58**	**35**	P	**Pb**	**18 48 01.5**	**+2.3**
APE	**Apeiranthos**	**2.63**	**27**	PN	**Pn**	**18 48 01.4**	**+1.5**
APE	**Apeiranthos**	**2.63**	**27**	P	**Pn**	**18 48 01.4**	**+1.5**
KARP	**Karpathos**	**2.69**	**71**	PN	**Pn**	**18 48 01.3**	**+0.7**
KARP				SN	**Sn**	**18 48 35.9**	**+3.7**
KARP	**Karpathos**	**2.69**	**71**	P	**Pn**	**18 48 03.7**	**+3.1**
KARP	**Karpathos**	**2.69**	**71**	P	**Pn**	**18 48 03.7**	**+3.1**
DID	**Didima**	**2.85**	**347**	P	**Pn**	**18 48 04.9**	**+2.1**
PYL	**PYLOS**	**2.86**	**320**	P	**Pn**	**18 48 05.4**	**+2.5**
ITM	**Ithomi**	**2.99**	**326**	PN	**Pn**	**18 48 04.3**	**-0.4**
ITM	**Ithomi**	**2.99**	**326**	P	**Pn**	**18 48 07.2**	**+2.5**
VLY	**Voula,Athens**	**3.12**	**356**	P	**Pn**	**18 48 08.5**	**+1.9**
LTK	**Loutraki**	**3.40**	**346**	P	**Pn**	**18 48 12.9**	**+2.5**
GUR	**Goura**	**3.48**	**337**	P	**Pn**	**18 48 14.2**	**+2.6**
DAT	**Datca**	**3.50**	**54**	PN	**Pn**	**18 48 13.7**	**+1.8**
DAT	**Datca**	**3.50**	**54**	*i* P	**Pn**	**18 48 15.0**	**+3.1**
DAT				*i* S	**Sn**	**18 48 51.2**	**-1.3**
DAT				IAML_P			
	comp=Z,343nm,0.1s						
BODT	**Bodrum**	**3.53**	**48**	PN	**Pn**	**18 48 14.0**	**+1.8**
BDRM	**Kayabasi**	**3.62**	**49**	*i* P	**Pn**	**18 48 15.4**	**+2.0**
BDRM				IAML_P			
	comp=Z,368nm,0.3s						
KLV	**Kalavryta, Ach**	**3.64**	**336**	P	**Pn**	**18 48 16.8**	**+3.0**
ARG	**Arkhangelos**	**3.65**	**65**	PN	**Pn**	**18 48 15.4**	**+1.6**
ARG	**Arkhangelos**	**3.65**	**65**	P	**Pn**	**18 48 16.6**	**+2.8**
DRO	**Drossia**	**3.73**	**330**	P	**Pn**	**18 48 17.8**	**+2.9**
SMG	**Samos**	**3.74**	**36**	P	**Pn**	**18 48 17.8**	**+2.7**
DSF	**Desfina**	**3.87**	**342**	P	**Pn**	**18 48 19.2**	**+2.2**
SERG	**Sergoula**	**4.01**	**337**	P	**Pn**	**18 48 21.5**	**+2.8**
EFP	**Efpalio**	**4.07**	**336**	P	**Pn**	**18 48 22.8**	**+3.2**
YER	**Yerkesik**	**4.20**	**54**	PN	**Pn**	**18 48 24.5**	**+3.1**
AYDN	**Tasoluk**	**4.27**	**46**	*i* P	**Pn**	**18 48 25.0**	**+2.7**
AYDN				IAML_P			
	comp=Z,690nm,0.3s						
TURN	**Turunc**	**4.28**	**59**	PN	**Pn**	**18 48 20.8**	**-1.7**
TURN	**Turunc**	**4.28**	**59**	*i* P	**Pn**	**18 48 20.6**	**-1.9**
TURN				*i* S	Sn	18 49 04.5	-7.0
TURN				IAML_P			
	comp=Z,2μm,0.2s						
DALY	**Dalyan (Mula)**	**4.29**	**60**	PN	**Pn**	**18 48 25.1**	**+2.5**
DALY	**Dalyan (Mula)**	**4.29**	**60**	*i* P	**Pn**	**18 48 26.4**	**+3.8**
DALY				*i* S	**Sn**	**18 49 13.6**	**+1.9**
DALY				IAML_P			
	comp=Z,4μm,0.2s						
AYDB	**Zeytinkoy-Aydi**	**4.47**	**43**	PN	**Pn**	**18 48 27.4**	**+2.2**
AGG	**Agios Georgios**	**4.50**	**343**	PN	**Pn**	**18 48 27.1**	**+1.6**
FETY	**Fethiye**	**4.53**	**64**	PN	**Pn**	**18 48 27.7**	**+1.8**
FETY	**Fethiye**	**4.53**	**64**	*i* P	**Pn**	**18 48 28.3**	**+2.5**
FETY				*i* S	**Sn**	**18 49 16.9**	**-0.7**
FETY				IAML_P			
	comp=Z,3μm,0.2s						
AKAS	**Kas**	**4.78**	**70**	PN	**Pn**	**18 48 30.9**	**+1.4**
AKAS	**Kas**	**4.78**	**70**	*i* P	**Pn**	**18 48 31.1**	**+1.6**
AKAS				*i* S	**Sn**	**18 49 24.3**	**+0.1**
AKAS				IAML_P			
	comp=Z,1μm,0.1s						
TAVA	**DENIZLI_Tavas**	**4.80**	**54**	*i* P	**Pn**	**18 48 33.5**	**+3.9**
TAVA				*i* S	**Sn**	**18 49 26.9**	**+2.5**
TAVA				IAML_P			
	comp=Z,424nm,0.2s						
ELL	**Elmali**	**5.18**	**65**	PN	**Pn**	**18 48 37.3**	**+2.3**
AKUM	**Antalya-Kumluc**	**5.38**	**71**	*i* P	**Pn**	**18 48 38.1**	**+0.5**
AKUM				*i* S	**Sn**	**18 49 37.4**	**-1.3**
AKUM				IAML_P			
	comp=Z,2μm,0.2s						
KORT	**Korkueli**	**5.60**	**64**	PN	**Pn**	**18 48 42.8**	**+2.0**
KHAL	**Karahalli**	**5.70**	**49**	*i* P	**Pn**	**18 48 45.5**	**+3.5**
KHAL				*i* S	**Sn**	**18 49 47.3**	**+0.7**
KHAL				IAML_P			
	comp=Z,231nm,0.2s						

TEKE	**Tekeli-Mersin**	**7.54**	**77**	PN	**Pn**	**18 49 07.5**	**+0.2**
BERE	**Bereket-Mersin**	**7.66**	**75**	PN	**Pn**	**18 49 09.5**	**+0.5**
LFK	**Lefkose**	**7.81**	**83**	PN	**Pn**	**18 49 11.9**	**+0.9**
TEVE	**Tevekalti-Mers**	**7.85**	**75**	PN	**Pn**	**18 49 12.2**	**+0.6**
AKKU	**Akkuyu-Mersin**	**7.89**	**77**	PN	**Pn**	**18 49 12.1**	**0.0**
IKL	**Isikli**	**8.01**	**76**	PN	**Pn**	**18 49 13.9**	**+0.2**
KEBE	**Keben-Mersin**	**8.06**	**75**	PN	**Pn**	**18 49 16.3**	**+1.8**
BRTR	**Keskin Array B**	**9.13**	**54**	Pn	**Pn**	**18 49 32.2**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=238,slow=16,SNR=4.1						
MMAI	**Mount Meron Ar**	**9.60**	**97**	Pn	**Pn**	**18 49 36.0**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=310,slow=12,SNR=10.0						
MMAI				Sn	**Sn**	**18 51 17.6**	**-5.0**
	comp=Z,1.0nm,0.3s,baz=277,slow=23,SNR=4.4						
EIL	**Elat**	**10.53**	**116**	Pn	**Pn**	**18 49 46.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=4.3,slow=3.0,SNR=9.6						
EIL				Sn	Sn	18 51 38.8	-6.4
	comp=Z,0.4nm,0.3s,baz=15,slow=17,SNR=4.5						
KBZ	**Khabaz**	**17.12**	**53**	P	**Pn**	**18 51 16.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=224,slow=8.5,SNR=3.6						
FINES	**FINESS Array B**	**26.77**	**2**	P	**P**	**18 52 56.7**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=190,slow=9.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**29.51**	**229**	P	**P**	**18 53 20.4**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=40,slow=8.7,SNR=10						
ARCES	**ARCESS Array B**	**34.87**	**1**	P	**P**	**18 54 06.2**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=183,slow=9.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**42.11**	**51**	P	**P**	**18 55 08.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=278,slow=8.4,SNR=7.1						
MKAR	**Makanchi Array**	**44.78**	**56**	P	**P**	**18 55 30.7**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=270,slow=8.3,SNR=35						
ZALV	**Zalesovo Beam**	**45.97**	**46**	P	**P**	**18 55 38.8**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=256,slow=10,SNR=3.6						
ELK	**Elko**	**96.06**	**330**	LR	LR	19 49 31.9	
	comp=Z,24nm,20.2s,baz=124,slow=39						

*IDC **20** 19:10:13.4±3.1,9.°93N×127.°45E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.3/35,mbtmp3.2/3,Error ellipse: s-maj=222.9km s-min=26.1km az=66.0*
*ISCJB **20** 19:10:18.9±1.3,9.°49N±0.°04×126.°06E±0.°07,h21km±8km, mb3.2/3,Error ellipse: s-maj=11.8km s-min=6.5km az=168.3*
*MAN **20** 19:10:20.6,9.°43N×125.°87E,h7km,MS3.2*
ISC 20 19:10:20.0±1.7,9.44N±0.04×125.92E±0.08,h15km±11km, n15,σ1§45/20,mb3.2/3,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.54**	**309**	*e*P	**Pg**	**19 10 30.8**	**+0.1**
SCPH				*e*S	**Sb**	**19 10 39.6**	**+0.7**
BUTP	**Butuan**	**0.55**	**212**	*e*P	**Pg**	**19 10 31.1**	**+0.2**
BUTP				*e*S	**Sb**	**19 10 40.9**	**+1.8**
MSLP	**Maasin**	**1.25**	**304**	*e*P	**Pb**	**19 10 42.4**	**-1.0**
MSLP				*e*S	**Sn**	**19 11 01.1**	**+1.4**
CGP	**Cagayan de Oro**	**1.55**	**231**	*e*P	**Pn**	**19 10 46.8**	**-0.4**
CGP				*e*S	**Sb**	**19 11 08.2**	**+0.1**
BUKP	**Musuan**	**1.76**	**209**	*e*P	**Pn**	**19 10 51.9**	**+1.8**
BUKP				*e*S	**Sb**	**19 11 14.6**	**+0.5**
PLP	**Palo**	**1.95**	**332**	*e*P	**Pn**	**19 10 51.1**	**-1.6**
TBP	**Tagbilaran**	**2.04**	**277**	*e*P	**Pn**	**19 10 53.7**	**-0.2**
LLP	**Lapu-Lapu**	**2.11**	**295**	*e*P	**Pn**	**19 10 56.0**	**+1.1**
LLP				*e*S	**Sn**	**19 11 22.3**	**+1.4**
BESP	**Borongan**	**2.20**	**348**	*e*P	**Pn**	**19 10 57.8**	**+1.7**
MATI	**Mati**	**2.50**	**172**	*e*P	**Pn**	**19 11 01.4**	**+1.2**
CNP	**Catarman**	**3.29**	**336**	*e*P	**Pn**	**19 11 14.0**	**+2.8**
GUIM	**Jordan**	**3.48**	**290**	*e*P	**Pn**	**19 11 14.3**	**+0.6**
WRA	**Warramunga Arr**	**30.35**	**164**	P	P	19 16 27.0	-4.5
	0.4nm,1.1s,baz=347,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**33.81**	**167**	P	**P**	**19 16 59.8**	**-2.2**
	0.2nm,0.4s,baz=349,slow=7.2,SNR=9.6						
MKAR	**Makanchi Array**	**52.48**	**323**	P	**P**	**19 19 31.9**	**-0.6**
	0.2nm,0.8s,baz=115,slow=6.8,SNR=2.3						

*TIR **20** 19:10:41.1,41.°29N×20.°65E,h7km,Md2.6/3*
*SKO **20** 19:10:44.4,41.°34N×20.°77E,h22km,M1.4,ML1.9*
*ATH **20** 19:10:45.0,41.°39N×20.°83E,h15km±7km,ML1.9/4,Error ellipse: s-maj=8.2km s-min=1.2km az=213.0*
*ISCJB **20** 19:10:45.8±0.5,41.°36N±0.°02×20.°81E±0.°03,h4km±4km, Error ellipse: s-maj=4.5km s-min=3.4km az=147.8*
*BEO **20** 19:10:46.3±0.7,41.°36N×20.°92E,h0km,ML1.9/4*
ISC 20 19:10:45.6±1.0,41.35N±0.°02×20.78E±0.°02,h8km±9km, n23,σ0§96/40,1C-1D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.23**	**177**	*i* Pg	**Pg**	**19 10 50.4**	**0.0**
OHR				*i* Sg	**Sg**	**19 10 55.4**	**+1.8**
OHR				*e*Lg	Lg	19 10 55.5	
	comp=E,259nm,0.4s						
OHR				*e*Lg	Lg	19 10 55.7	
	comp=N,179nm,0.3s						
KRUS	**Krusevo**	**0.35**	**86**	*i* Pg	**Pg**	**19 10 52.1**	**-0.5**
KRUS				*i* Sg	**Sg**	**19 10 57.1**	**-0.2**
KRUS				*e*Lg	Lg	19 10 57.4	
	comp=E,40nm,0.4s						
KRUS				*e*Lg	Lg	19 10 58.0	
	comp=N,40nm,0.3s						
PHP	**Peshkopia**	**0.42**	**323**	*i* PG	**Pg**	**19 10 52.7**	**-1.2**
PHP				*i* SG	**Sg**	**19 10 59.8**	**+0.3**
BIA	**Bitola**	**0.53**	**128**	*e*Pg	**Pg**	**19 10 55.9**	**+0.1**
BIA				*i* Sg	**Sb**	**19 11 04.7**	**-0.1**
BIA				*e*Lg	Lg	19 11 06.1	
	comp=E,41nm,0.3s						
BIA				*e*Lg	Lg	19 11 07.1	
	comp=N,50nm,0.3s						
TIR	**Tirane**	**0.69**	**270**	*e*Pg	**Pn**	**19 11 01.8**	**+0.1**
TIR				*e*Sg	**Sb**	**19 11 10.4**	**+0.9**
TIR	**Tirane**	**0.69**	**270**	*e*Pg	**Pg**	**19 10 58.2**	**-0.7**
TIR	**Tirane**	**0.69**	**270**	P	**Pg**	**19 10 59.0**	**+0.1**
TIR				S	**Sb**	**19 11 09.2**	**-0.4**
TIR				AML	AML	19 11 10.7	
	comp=N,266μm,0.2s						
TIR				AML	AML	19 11 10.8	
	comp=E,221μm,0.2s						
FNA	**Florina**	**0.72**	**141**	*i* Pg	**Pg**	**19 10 58.8**	**-0.7**
FNA				*i* Sg	**Sb**	**19 11 10.2**	**-0.2**
FNA	**Florina**	**0.72**	**141**	*i* PG	**Pg**	**19 10 59.6**	**+0.1**
FNA				*i* SG	**Sn**	**19 11 11.7**	**-1.7**
FNA	**Florina**	**0.72**	**141**	P	**Pg**	**19 10 59.0**	**-0.5**
FNA				S	**Sg**	**19 11 09.4**	**+0.4**
FNA				AML	AML	19 11 11.3	
	comp=E,620μm,0.3s						
FNA				AML	AML	19 11 12.3	
	comp=N,461μm,0.3s						
SKO	**Skopje**	**0.80**	**38**	*i* Pg	**Pg**	**19 11 00.6**	**-0.4**
SKO				*i* Sg	**Sg**	**19 11 11.4**	**+0.1**
SKO				*e*Lg	Lg	19 11 12.0	
	comp=N,16nm,0.3s						
SKO				*e*Lg	Lg	19 11 12.2	
	comp=E,7.2nm,0.3s						
NEST	**Nestorio**	**0.95**	**168**	P	**Pg**	**19 11 03.7**	**-0.3**
NEST				S	**Sb**	**19 11 17.4**	**+0.1**
NEST				AML	AML	19 11 22.8	
	comp=N,68μm,0.3s						
NEST				AML	AML	19 11 23.5	
	comp=E,88μm,0.6s						
STIP	**Stip**	**1.11**	**71**	*e*Pg	**Pn**	**19 11 09.3**	**+1.8**
STIP				*i* Sg	**Sn**	**19 11 26.3**	**+3.4**
STIP				*e*Lg	Lg	19 11 27.9	
	comp=E,5.8nm,0.3s						
STIP				*e*Lg	Lg	19 11 28.1	
	comp=N,6.2nm,0.3s						
BCI	**Bajram Curri**	**1.15**	**333**	*i* PN	**Pg**	**19 11 07.8**	**+0.1**
BCI				*i* SN	**Sn**	**19 11 24.0**	**0.0**
PENT	**Pentalofos**	**1.18**	**167**	P	**Pn**	**19 11 08.1**	**-0.4**
KZN	**Kozani**	**1.28**	**144**	P	**Pn**	**19 11 09.6**	**-0.3**
KPRO	**Kipourio**	**1.46**	**162**	P	**Pn**	**19 11 12.3**	**0.0**
PDG	**Podgorica**	**1.57**	**314**	*e*Pn	**Pg**	**19 11 16.0**	**+0.2**
PDG				*e*Sn	**Sg**	**19 11 38.0**	**+1.8**
KNT	**Kendrikon**	**1.61**	**96**	P	**Pn**	**19 11 14.6**	**+0.3**
KNT				AML	AML	19 11 41.1	
	comp=E,18μm,0.4s						
KNT				AML	AML	19 11 41.7	
	comp=N,31μm,0.5s						
BOSS	**Bosilegrad**	**1.71**	**47**	*e*Pn	**Pn**	**19 11 15.5**	**-0.2**
BOSS				*e*Sn	**Sn**	**19 11 37.6**	**-0.2**
SELS	**Selova**	**1.89**	**8**	*e*Pn	**Pn**	**19 11 18.9**	**+0.7**
SJES	**Sjenica**	**2.00**	**343**	*e*Pn	**Pb**	**19 11 21.4**	**-1.0**
SJES				*e*Sn	**Sb**	**19 11 47.7**	**+0.2**
IVAS	**Ivanjica**	**2.28**	**348**	*e*Pn	**Pb**	**19 11 26.2**	**-0.8**
IVAS				*e*Sn	**Sb**	**19 11 54.0**	**-1.3**

SKO 20 19:11:31.3,41.28N×20.78E,h12km,M0.9,ML1.2, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.17**	**175**	*i* Pg	Pg	19 11 35.2	+0.1
OHR				*i* Sg	Sg	19 11 41.3	+3.5
OHR				*e*Lg	Lg	19 11 41.6	
	comp=E,35nm,0.3s						
OHR				*e*Lg	Lg	19 11 41.8	
	comp=N,30nm,0.3s						
KRUS	**Krusevo**	**0.36**	**76**	*i* Pg	Pg	19 11 38.5	-0.1
KRUS				*i* Sg	Sg	19 11 43.4	-0.1
KRUS				*e*Lg	Lg	19 11 43.5	
	comp=N,10nm,0.3s						
KRUS				*e*Lg	Lg	19 11 43.6	
	comp=E,3.5nm,0.2s						
BIA	**Bitola**	**0.49**	**122**	*i* Pg	Pg	19 11 40.8	0.0
BIA				*i* Sg	Sb	19 11 49.8	+0.8
BIA				*e*Lg	Lg	19 11 50.9	
	comp=E,6.5nm,0.3s						
BIA				*e*Lg	Lg	19 11 51.7	
	comp=N,9.0nm,0.3s						
FNA	**Florina**	**0.67**	**138**	*e*Pg	Pb	19 11 44.7	-0.2
FNA				*i* Sg	Sn	19 11 56.3	-0.9

*NEIC **20** 19:14:25.6±0.0, 18.°00N×101.°66W,h40km,MD4.0(MEX), After MEX.*
MEX 20 19:14:25.5±0.8,17.99N×101.67W,h41km±5km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.43**	**153**	*e*P	Pn	19 14 33.3	-2.1
ZIIG				*i* S	Sn	19 14 40.5	-1.7
ZIIG	**Zihuatanejo**	**0.43**	**153**	*e*P	Pn	19 14 33.3	-2.1
ZIIG				*i* S	Sn	19 14 40.5	-1.7
ARIG	**Puente Sto Nin**	**1.29**	**77**	*e*P	Pn	19 14 44.9	-2.2
ARIG				*e*S	Sn	19 15 00.9	-2.3
ARIG	**Puente Sto Nin**	**1.29**	**77**	*e*P	Pn	19 14 44.9	-2.2
ARIG				*e*S	Sn	19 15 00.8	-2.4
MMIG	**Aquila**	**1.62**	**281**	*e*P	Pn	19 14 50.3	-1.3
MMIG				*i* S	Sn	19 15 09.3	-2.0
MMIG	**Aquila**	**1.62**	**281**	*e*P	Pn	19 14 50.3	-1.3
MMIG				*i* S	Sn	19 15 09.1	-2.1
CAIG	**El Cayaco**	**1.63**	**125**	*e*P	Pn	19 14 50.9	-0.8
CAIG				*e*S	Sn	19 15 10.0	-1.6
CAIG	**El Cayaco**	**1.63**	**125**	*e*P	Pn	19 14 50.9	-0.8
CAIG				*e*S	Sn	19 15 10.0	-1.6
MEIG	**Mezcala**	**1.95**	**92**	*e*P	Pn	19 14 55.5	-0.8
MEIG	**Mezcala**	**1.95**	**92**	*e*P	Pn	19 14 55.5	-0.8
MEIG				*i* S	Sn	19 15 17.6	-1.9
PLIG	**Platanillo**	**2.10**	**79**	*e*P	Pn	19 14 56.5	-1.8
PLIG				*e*S	Sn	19 15 20.8	-2.4
PLIG	**Platanillo**	**2.10**	**79**	*e*P	Pn	19 14 56.5	-1.8
PLIG				*e*S	Sn	19 15 20.8	-2.4
YAIG	**Yautepec**	**2.62**	**70**	*e*P	Pn	19 15 03.9	-1.6
YAIG	**Yautepec**	**2.62**	**70**	*e*P	Pn	19 15 03.9	-1.6
YAIG				*i* S	Sn	19 15 34.7	-1.4
TLIG	**Tlapa**	**2.99**	**98**	*e*P	Pn	19 15 09.8	-0.7
TLIG	**Tlapa**	**2.99**	**98**	*e*P	Pn	19 15 09.8	-0.7
TLIG				*i* S	Sn	19 15 43.5	-1.7
PPM	**Popocatepetl**	**3.08**	**69**	*e*P	Pn	19 15 10.1	-2.1
PPM	**Popocatepetl**	**3.08**	**69**	*e*P	Pn	19 15 10.1	-2.1
PPM				*i* S	Sn	19 15 46.5	-1.5

*ISCJB **20** 19:25:03.4±0.2,27.°92S±0.°02×66.°90W±0.°03,h169km±3km, mb4.4/16,Error ellipse: s-maj=4.9km s-min=3.5km az=21.7*
*NEIC **20** 19:25:03.5±0.4,27.°95S×66.°75W,h149km±4km,mb4.7/7, Error ellipse: s-maj=7.3km s-min=4.3km az=95.0*
*SJA **20** 19:25:04.0±0.9,28.°02S×66.°87W,h172km±5km,ML4.6, MW4.4*
*VAO **20** 19:25:04.7±0.2,27.°96S×66.°95W,h177km,mb4.6*
*IDC **20** 19:25:04.7±0.5,27.°88S×66.°71W,h157km±4km,mb4.3/10, mb1 4.2/16,mb1mx3.9/37,mbtmp4.7/16,MS3.2/2, Ms1 3.1/2,ms1mx2.7/27,Error ellipse: s-maj=15.4km s-min=9.5km az=91.0*
**ISC 20

CPUP	**Villa Florida**	**8.66**	**82**	*e*Pn		**Pn**	**19 27 04.2**	**-1.7**
CPUP	**Villa Florida**	**8.66**	**82**	P		**Pn**	**19 27 05.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=262,slow=9.8,SNR=9.5							
CPUP				LR		LR	19 30 56.9	
	comp=Z,50nm,21.1s,baz=276,slow=42							
MNMC	**Minye Minye**	**9.10**	**344**	*e*Pn		**Pn**	**19 27 10.4**	**-1.6**
TRQA	**Tornquist**	**10.91**	**159**	*e*Pn		**Pn**	**19 27 35.2**	**-0.3**
LPAZ	**La Paz**	**11.64**	**354**	*e*Pn		**Pn**	**19 27 45.4**	**-0.3**
LPAZ				S		**Sn**	**19 29 50.0**	**-4.9**
LPAZ	**La Paz**	**11.64**	**354**	P		**Pn**	**19 27 46.3**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=136,slow=8.9,SNR=29							
LPAZ				S		**Sn**	**19 29 50.0**	**-4.9**
	comp=Z,0.3nm,0.3s,baz=143,slow=5.2,SNR=2.4							
LPAZ	**La Paz**	**11.64**	**354**	*e*P		**Pn**	**19 27 46.1**	**+0.4**
GO06	**Curarrehue**	**12.24**	**197**	*e*Pn		**Pn**	**19 27 51.5**	**-1.4**
AQDB	**Aquidauana**	**12.61**	**56**	*e*P		**Pn**	**19 27 58.1**	**+0.4**
SIV	**San Ignacio**	**13.04**	**26**	P		**Pn**	**19 28 02.7**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=223,slow=14,SNR=51							
ITAB	**Concordia**	**13.11**	**90**	*e*P		**P**	**19 28 06.5**	**-1.9**
PLCA	**Paso Flores**	**13.13**	**192**	P		**Pn**	**19 28 05.9**	**+1.7**
	comp=Z,1.0nm,0.3s,baz=33,slow=10,SNR=30							
PLCA				S		**Sn**	**19 30 28.5**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=300,slow=17,SNR=9.2							
PLCA	**Paso Flores**	**13.13**	**192**	*e*P		**Pn**	**19 28 04.0**	**-0.2**
PTGB	**Pitanga**	**13.67**	**80**	*e*P		**P**	**19 28 13.3**	**-1.5**
TRCB	**Terra Rica**	**13.86**	**72**	*e*P		**Pn**	**19 28 14.1**	**+0.5**
GO07	**Milladeo Hill,**	**16.12**	**198**	*e*Pn		**Pn**	**19 28 41.2**	**-0.2**
	comp=Z,200nm,0.4s							
FRTB	**Fartura**	**16.27**	**78**	*e*P		**P**	**19 28 44.4**	**+0.9**
ITRB	**Iturama**	**17.18**	**65**	*e*P		**Pn**	**19 28 54.5**	**0.0**
BB19B	**Bebedouro**	**18.04**	**72**	*e*P		**P**	**19 29 03.3**	**+0.4**
SPB	**Sao Paulo**	**18.05**	**81**	*e*P		**Pn**	**19 29 03.9**	**-0.7**
ESAR	**Angra dos Reis**	**20.84**	**81**	*e*P		**P**	**19 29 33.2**	**+0.2**
PMNB	**Patos De Minas**	**20.96**	**68**	*e*P		**P**	**19 29 34.1**	**-0.4**
BSCB	**Bom Sucesso**	**21.26**	**76**	*e*P		**P**	**19 29 37.5**	**-0.2**
BDFB	**Brasilia**	**21.33**	**59**	*e*P		**P**	**19 29 37.0**	**-1.6**
	comp=Z,17nm,1.0s							
BDFB	**Brasilia**	**21.33**	**59**	P		**P**	**19 29 37.3**	**-1.3**
	comp=Z,15nm,0.7s,baz=226,slow=12,SNR=15							
PEXB	**Peixe**	**23.45**	**52**	*e*P		**P**	**19 29 58.0**	**-1.1**
MCI6	**Montes Claros**	**23.93**	**67**	*e*P		**P**	**19 30 02.4**	**-1.0**
MCI8	**Montes Claros**	**23.98**	**67**	*e*P		**P**	**19 30 02.9**	**-1.0**
MCI9	**Montes Claros**	**23.98**	**67**	*e*P		**P**	**19 30 03.4**	**-0.5**
SJMB	**Sao Joao De Ma**	**25.28**	**74**	*e*P		**P**	**19 30 14.9**	**-0.7**
PTGA	**Pitinga**	**27.84**	**15**	P		**P**	**19 30 38.8**	**+0.3**
	comp=Z,18nm,0.3s,baz=201,slow=18,SNR=34							
PTGA	**Pitinga**	**27.84**	**15**	*e*P		**P**	**19 30 39.1**	**+0.6**
MDP	**Montagnes des**	**35.59**	**25**	P		**P**	**19 31 46.0**	**-0.2**
	comp=Z,29nm,1.1s,baz=200,slow=9.9,SNR=6.9							
BANI	**BANI**	**46.17**	**355**	*e*P		**P**	**19 33 13.9**	**+1.2**
BANI				*e*PcP		**PcP**	**19 34 46.5**	**+0.4**
VNA3	**Neumayer Olymp**	**53.43**	**160**	P		**P**	**19 34 08.0**	**+1.1**
VNA1	**Neumayer--Stat**	**53.65**	**159**	P		**P**	**19 34 09.5**	**+1.1**
VNA2	**Neumayer--Watz**	**54.01**	**160**	P		**P**	**19 34 12.1**	**+1.0**
	baz=288,slow=8.0							
SNAA	**Sanae**	**55.64**	**160**	P		**P**	**19 34 23.6**	**+0.8**
SNAA	**Sanae**	**55.64**	**160**	P		**P**	**19 34 23.6**	**+0.8**
	comp=Z,9.5nm,0.6s,baz=284,slow=7.2,SNR=66							
QSPA	**South Pole Qui**	**62.30**	**180**	*e*P		**P**	**19 35 10.1**	**+1.2**
	comp=Z,14nm,0.7s							
JSC	**Jenkinsville**	**63.35**	**347**	*e*P		**P**	**19 35 14.7**	**-1.2**
	comp=Z,31nm,1.3s							
TXAR	**Lajitas Array**	**66.93**	**325**	P		**P**	**19 35 40.9**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=97,slow=3.1,SNR=3.5							
DBIC	**Dimbokro**	**68.99**	**70**	P		**P**	**19 35 52.0**	**-0.3**
	comp=Z,3.0nm,0.5s,baz=211,slow=5.5,SNR=10							
DBIC	**Dimbokro**	**68.99**	**70**	*e*P		**P**	**19 35 51.2**	**-1.2**
VNDA	**Vanda**	**70.87**	**190**	*e*P		**P**	**19 36 05.1**	**+2.3**
	comp=Z,4.8nm,1.0s							
VNDA	**Vanda**	**70.87**	**190**	P		**P**	**19 36 05.1**	**+2.3**
	comp=Z,2.5nm,0.8s,baz=128,slow=4.8,SNR=13							
MAW	**Mawson**	**77.68**	**162**	P		**P**	**19 36 42.9**	**+0.6**
	comp=Z,12nm,0.8s,baz=259,slow=12,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**77.91**	**68**	*e*P		**P**	**19 36 44.9**	**+0.4**
	comp=Z,12nm,0.6s							
TORD	**Torodi Ar. Bea**	**77.91**	**68**	P		**P**	**19 36 43.0**	**-1.5**
	comp=Z,7.4nm,0.6s,baz=249,slow=3.9,SNR=57							
BOSA	**Boshof**	**78.88**	**116**	P		**P**	**19 36 50.8**	**+0.9**
	comp=Z,3.4nm,0.4s,baz=246,slow=3.4,SNR=13							
BOSA	**Boshof**	**78.88**	**116**	*e*P		**P**	**19 36 48.8**	**-1.1**
PDAR	**Pinedale Array**	**80.56**	**330**	P		**P**	**19 37 00.1**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=115,slow=7.8,SNR=4.8							
PDAR				pP		**pP**	**19 37 37.6**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=141,slow=5.8,SNR=1.8							
ULM	**Lac du Bonnet**	**81.97**	**342**	LR		LR	20 16 21.5	
	comp=Z,36nm,18.4s,baz=338,slow=38							
TAM	**Tamanrasset**	**86.14**	**62**	*e*P		**P**	**19 37 27.7**	**+0.3**
	comp=Z,4.9nm,0.7s							
ESDC	**Sonseca Array**	**89.16**	**43**	P		**P**	**19 37 42.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=236,slow=4.5,SNR=3.3							
AS01	**Alice Springs**	**124.91**	**203**	*e*PKPdf		**PKiKP**	**19 43 45.6**	**-0.3**
ASAR	**Alice Springs**	**124.93**	**203**	PKP		**PKPdf**	**19 43 45.6**	**0.0**
	comp=Z,1.6nm,0.5s,baz=136,slow=1.8,SNR=28							
ASAR				pPKP		**pPKPdf**	**19 44 28.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=111,slow=1.6,SNR=1.6							
WB2	**Warramunga Arr**	**128.17**	**206**	*e*PKPdf		**PKiKP**	**19 43 52.3**	**-0.2**
WRA	**Warramunga Arr**	**128.17**	**206**	PKP		**PKiKP**	**19 43 52.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=153,slow=2.0,SNR=49							
WRA				pPKP		**pPKPdf**	**19 44 35.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=164,slow=1.7,SNR=1.6							
FITZ	**Fitzroy Crossi**	**132.67**	**196**	PKP		**PKiKP**	**19 44 00.8**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=205,slow=3.9,SNR=7.4							
CISI	**Cisompet, Garu**	**144.36**	**171**	*e*PKPdf		**PKPdf**	**19 44 21.5**	**-0.4**
ARSB	**Arslanbob**	**144.69**	**57**	*e*PKPdf		**PKPdf**	**19 44 22.5**	**+0.7**
AML	**Almayashu**	**145.07**	**56**	P		**PKPdf**	**19 44 24.3**	**+1.6**
	SNR=5.7							
KURBB	**Kurchatov Arra**	**145.40**	**40**	SKPbc		**SKiKP**	**19 47 48.9**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=300,slow=3.4,SNR=4.3							
USP	**Ospenovka**	**145.41**	**53**	P		**PKPab**	**19 44 24.9**	**+1.4**
	SNR=5.3							
KURK	**Kurchatov**	**145.41**	**39**	*e*PKPdf		**PKPab**	**19 44 22.9**	**-0.3**
NIL	**Nilore**	**145.44**	**70**	*e*PKPdf		**PKPab**	**19 44 24.5**	**+0.6**
AAK	**Ala-Archa**	**145.54**	**54**	P		**PKiKP**	**19 44 25.7**	**-1.6**
	SNR=18							
AAK	**Ala-Archa**	**145.54**	**54**	*e*PKPdf		**PKPab**	**19 44 23.9**	**-0.2**
FRU1	**Bishkek**	**145.60**	**54**	*e*PKPdf		**PKPab**	**19 44 24.3**	**+0.1**
UCH	**Uchtor**	**145.65**	**55**	P		**PKiKP**	**19 44 26.7**	**-1.2**
	SNR=19							
CHMS	**Chumysh**	**145.65**	**54**	P		**PKiKP**	**19 44 25.9**	**-1.5**
	SNR=7.6							
KBK	**Karagaybulak**	**145.87**	**54**	P		**PKiKP**	**19 44 26.9**	**-1.0**
	SNR=12							
KZA	**Kyzart**	**146.21**	**55**	P		**PKiKP**	**19 44 28.6**	**-0.4**
	SNR=8.7							
TKM2	**Tokmak 2**	**146.27**	**54**	P		**PKiKP**	**19 44 30.7**	**+1.9**
	SNR=10							
SIJI	**Sorong**	**146.48**	**214**	PKPbc		**PKPab**	**19 44 27.9**	**-0.3**
	comp=Z,12nm,0.8s,baz=355,slow=3.6,SNR=13							
ZAA0	**Zalesovo Array**	**146.75**	**31**	*e*PKPdf		**PKPab**	**19 44 27.7**	**-0.5**
ZALV	**Zalesovo Beam**	**146.75**	**31**	*e*PKPdf		**PKPbc**	**19 44 26.5**	**-0.2**
ZALV				pPKPbc	pPKPbc		19 45 08.2	-0.2
ZALV				SKPbc		**SKiKP**	**19 47 51.2**	**+0.7**
ZALV	**Zalesovo Beam**	**146.75**	**31**	PKPbc		**PKPab**	**19 44 28.3**	**+0.1**
	comp=Z,4.8nm,0.4s,baz=309,slow=3.6,SNR=24							
ZALV				pPKPbc	pPKPbc		19 45 08.2	-0.2
	comp=Z,6.5nm,0.8s,baz=292,slow=4.2,SNR=4.2							
ZALV				SKPbc		**SKiKP**	**19 47 51.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=294,slow=4.1,SNR=3.6							
ULHL	**Ulahol**	**146.89**	**55**	P		**PKiKP**	**19 44 30.0**	**-0.2**
	SNR=8.3							
MAKZ	**Makanchi**	**149.18**	**44**	*e*PKPbc		**PKiKP**	**19 44 34.1**	**-0.4**
MK31	**Makanchi Array**	**149.38**	**44**	*e*PKPbc		**PKiKP**	**19 44 35.1**	**+0.2**
MKAR	**Makanchi Array**	**149.38**	**44**	PKPbc		**PKiKP**	**19 44 35.2**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=298,slow=3.0,SNR=36							
MKAR				PKPab		**PKPab**	**19 44 40.2**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=303,slow=3.0,SNR=27							
MKAR				pPKPbc		**pPKPbc**	**19 45 15.7**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=302,slow=2.7,SNR=5.1							
MK01	**Makanchi Array**	**149.40**	**44**	*e*PKPbc		**PKiKP**	**19 44 34.8**	**-0.1**
PSI	**Prapat**	**151.58**	**149**	PKPbc		**PKPbc**	**19 44 40.0**	**-0.1**
	comp=Z,2.5nm,0.3s,baz=360,slow=16,SNR=6.2							
PSI				PKPab		**PKPab**	**19 44 49.2**	**+0.1**
	comp=Z,2.2nm,0.4s,baz=3.0,slow=1.3,SNR=4.3							
IPM	**Ipoh**	**154.00**	**152**	*e*PKPbc		**PKiKP**	**19 44 45.4**	**0.0**
MAJO	**Matsushiro**	**157.15**	**298**	*e*P		**PKPdf**	**19 44 40.7**	**0.0**
SONM	**Songino Array**	**159.44**	**13**	PKPab		**PKPab**	**19 45 23.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=357,slow=5.9,SNR=4.0							

ISCJB ***20*** *19:26:23.2±0.5, 34˚.27N±0˚.03×140˚.33E±0˚.06, h84km±4km, mb3.7/8, Error ellipse: s-maj=7.7km s-min=4.9km az=177.5*
JMA ***20*** *19:26:24.5±0.2, 34˚.30N×140˚.32E, h66km±3km, M3.3*
IDC ***20*** *19:26:25.0±1.7, 34˚.24N×140˚.31E, h85km±12km, mb3.5/8,*

mb1 3.6/9, mb1mx3.4/46, mbtmp3.8/9, Error ellipse: s-maj=33.4km s-min=7.7km az=76.0

ISC 20 19:26:24.1±0.8, 34˚.28N±0˚.04×140˚.33E±0˚.05, h75km±7km, n33, σ0s81/41, mb3.7/8, 4C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO3	**Boso 3**	**0.55**	**16**	⇓P		**Pn**	**19 26 37.6**	**+0.2**
BSO3				X			19 26 48.9	
BSO1	**Boso 1**	**0.66**	**55**	⇓P		**Pn**	**19 26 38.4**	**+0.1**
BSO1				X			19 26 49.6	
BSO4	**Boso 4**	**0.71**	**1**	⇓P		**Pn**	**19 26 39.7**	**+0.4**
BSO4				X			19 26 52.6	
JMKN	**Mikurajimanish**	**0.72**	**238**	⇑P		**Pn**	**19 26 39.7**	**+0.2**
JMKN				S		**Sn**	**19 26 51.4**	**+0.4**
TATJ	**Tateyama 2**	**0.83**	**335**	P		**Pn**	**19 26 41.3**	**+0.5**
TATJ				S		**Sn**	**19 26 53.9**	**+0.6**
JIM2	**Oshima 3**	**0.86**	**301**	⇑P		**Pn**	**19 26 40.9**	**-0.2**
JIM2				*e*S		**Sn**	**19 26 53.6**	**-0.2**
KTR	**Katsuura**	**0.87**	**359**	P		**Pn**	**19 26 41.2**	**0.0**
KTR				S		**Sn**	**19 26 54.2**	**+0.2**
JTHY	**Toshimahigashi**	**0.89**	**286**	P		**Pn**	**19 26 41.9**	**+0.4**
JTHY				S		**Sn**	**19 26 55.6**	**+1.1**
JKO	**Kozu shima**	**0.99**	**265**	P		**Pn**	**19 26 43.0**	**+0.4**
KTJ3	**Kamata3**	**1.23**	**303**	⇑P		**Pn**	**19 26 45.2**	**-0.4**
KTJ3				S		**Sn**	**19 27 00.8**	**-1.0**
JHJ2	**Mitsune**	**1.24**	**200**	P		**Pn**	**19 26 46.3**	**+0.6**
JHJ2				S		**Sn**	**19 27 02.8**	**+0.8**
JHJ	**Hachijo jima 2**	**1.24**	**202**	P		**Pn**	**19 26 46.4**	**+0.6**
	240nm,0.3s,baz=336,slow=22,SNR=97							
JHJ				S		**Sn**	**19 27 03.0**	**+0.9**
	358nm,0.3s,baz=156,slow=23,SNR=36							
JIZS	**Izushimoda**	**1.27**	**291**	⇑P		**Pn**	**19 26 46.6**	**+0.4**
JIZS				S		**Sn**	**19 27 03.1**	**+0.2**
JSMT	**Sammumatsuo**	**1.37**	**4**	P		**Pn**	**19 26 48.2**	**+0.8**
JSMT				*e*S		**Sn**	**19 27 06.2**	**+1.2**
JOD2	**Odawara 2**	**1.42**	**314**	P		**Pn**	**19 26 48.1**	**0.0**
JOD2				S		**Sn**	**19 27 05.6**	**-0.8**
JFNN	**Fujinakano**	**1.63**	**305**	P		**Pn**	**19 26 51.6**	**+0.7**
JFNN				S		**Sn**	**19 27 12.2**	**+1.0**
MJAR	**Matsushiro Arr**	**2.85**	**323**	P		**Pn**	**19 27 08.3**	**+1.0**
	2.1nm,0.3s,baz=156,slow=12,SNR=13							
MJAR				S		**Sn**	**19 27 42.1**	**+1.7**
	1.2nm,0.3s,baz=143,slow=26,SNR=7.0							
MAT	**Matsushiro**	**2.85**	**323**	P		**Pn**	**19 27 08.6**	**+1.3**
MAT				S		**Sn**	**19 27 42.1**	**+1.6**
KLR	**Kul'dur**	**16.24**	**340**	P		**Pn**	**19 30 05.3**	**-2.1**
	0.4nm,0.3s,baz=175,slow=16,SNR=8.2							
H11N2	**WAKE ISLAND Hy**	**27.65**	**115**	T		T	20 01 15.0	
	baz=306,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**27.66**	**115**	T		T	20 01 17.6	
	baz=306,slow=75,SNR=16							
H11N3	**WAKE ISLAND Hy**	**27.67**	**115**	T		T	20 01 18.8	
	baz=306,slow=75,SNR=18							
H11S3	**WAKE ISLAND Hy**	**28.25**	**117**	T		T	20 02 00.8	
	baz=308,slow=75,SNR=4.9							
H11S1	**WAKE ISLAND Hy**	**28.25**	**117**	T		T	20 02 00.9	
	baz=308,slow=75,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**28.27**	**117**	T		T	20 02 00.4	
	baz=308,slow=75,SNR=4.5							
SONM	**Songino Array**	**28.70**	**308**	P		**P**	**19 32 14.8**	**+0.7**
	0.6nm,0.5s,baz=99,slow=8.1,SNR=3.5							
ZALV	**Zalesovo Beam**	**43.17**	**315**	P		**P**	**19 34 17.0**	**-0.1**
	0.7nm,0.3s,baz=100,slow=7.7,SNR=3.3							
MKAR	**Makanchi Array**	**44.88**	**304**	P		**P**	**19 34 31.1**	**+0.1**
	1.3nm,0.7s,baz=91,slow=9.6,SNR=16							
ILAR	**Eielson Array**	**52.30**	**31**	P		**P**	**19 35 28.0**	**+0.4**
	0.4nm,0.7s,baz=254,slow=5.8,SNR=4.9							
WRA	**Warramunga Arr**	**54.22**	**187**	P		**P**	**19 35 41.4**	**-0.7**
	1.2nm,0.6s,baz=2.9,slow=7.9,SNR=45							
ASAR	**Alice Springs**	**57.95**	**187**	P		**P**	**19 36 08.5**	**-0.2**
	0.4nm,0.8s,baz=14,slow=11,SNR=6.6							
FINES	**FINESS Array B**	**70.84**	**332**	P		**P**	**19 37 32.1**	**-0.3**
	1.7nm,0.9s,baz=38,slow=7.0,SNR=2.7							
AKASG	**Malin Array Be**	**75.93**	**322**	P		**P**	**19 38 02.0**	**-0.5**
	0.2nm,0.3s,baz=50,slow=6.4,SNR=4.9							

TAP 20 19:39:35.4, 22˚.22N×120˚.34E, h42km, ML3.7, 2C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**0.13**	**8**	*e*P		Pn	19 39 42.2	-0.2
	baz=10.0							
TWP				*e*S		Sn	19 39 48.2	+0.9
	baz=10.0							
WLCH	**Liuqiu**	**0.14**	**14**	*e*P		Pn	19 39 42.5	+0.1
	baz=13							
WLCH				*e*S		Sn	19 39 48.5	+1.1
	baz=13							
SCZT	**Fangliau**	**0.30**	**59**	⇓*i*P		Pn	19 39 43.9	+0.1
	baz=59							
SCZT				*e*S		Sn	19 39 50.5	+0.8
	baz=59							
SSPT	**Xinbi**	**0.34**	**38**	P		Pn	19 39 44.5	+0.3
	baz=37							
SSPT				*e*S		Sn	19 39 51.3	+0.9
	baz=37							
KAU	**Kaohsiung**	**0.35**	**355**	*e*P		Pn	19 39 45.1	+0.7
	baz=355							
KAU				*e*S		Sn	19 39 52.0	+1.3
	baz=355							
HEN	**Hengchun**	**0.42**	**120**	*e*P		Pn	19 39 45.8	+0.6
	baz=119							
HEN				*e*S		Sn	19 39 53.0	+0.9
	baz=119							
MASBT	**Mashibuluo**	**0.48**	**34**	⇓*i*P		Pn	19 39 46.3	+0.4
	baz=34							
MASBT				*e*S		Sn	19 39 53.9	+0.6
	baz=34							
EAST	**Anshuo**	**0.49**	**70**	P		Pn	19 39 47.0	+0.8
	baz=70							
EAST				*e*S		Sn	19 39 54.8	+1.0
	baz=70							
TWK1	**Hengchun**	**0.51**	**122**	⇑*i*P		Pn	19 39 46.9	+0.6
	baz=122							
TWK1				S		Sn	19 39 55.6	+1.6
	baz=122							
TWKBT	**Hengchun**	**0.51**	**122**	⇑*i*P		Pn	19 39 46.8	+0.4
	baz=122							
TWKBT				S		Sn	19 39 55.1	+1.0
	baz=122							
SGLT	**Jiouru**	**0.53**	**15**	*e*P		Pn	19 39 47.3	+0.7
	baz=15							
SGLT				*e*S		Sn	19 39 55.8	+1.4
	baz=15							
TAW	**Tawu**	**0.53**	**74**	*e*P		Pn	19 39 47.3	+0.7
	baz=74							
TAW				*e*S		Sn	19 39 55.8	+1.2
	baz=74							
SNJT	**Kaohsiung City**	**0.54**	**359**	*e*P		Pn	19 39 47.5	+0.9
	baz=359							
SNJT				*e*S		Sn	19 39 55.9	+1.3
	baz=359							
SSD	**Sandimen**	**0.59**	**27**	⇓*i*P		Pn	19 39 48.0	+0.5
	baz=27							
SSD				*e*S		Sn	19 39 57.0	+1.0
	baz=27							
TSEB	**Hengchuen, Pin**	**0.60**	**121**	*e*P		Pn	19 39 47.6	+0.1
	baz=123							
TSEB				*e*S		Sn	19 39 57.3	+1.0
	baz=123							
TWM1	**Shoushan**	**0.61**	**7**	*e*P		Pn	19 39 48.7	+1.0
	baz=7.0							
TWM1				*e*S		Sn	19 39 57.4	+1.0
	baz=7.0							
ECL	**Taimali**	**0.68**	**56**	⇓*i*P		Pn	19 39 49.4	+0.8
	baz=56							
ECL				*e*S		Sn	19 39 58.6	+0.5
	baz=56							
SLGT	**Liugui**	**0.82**	**20**	*e*P		Pn	19 39 51.1	+0.6
	baz=19							
SLGT				*e*S		Sn	19 40 02.7	+1.2
	baz=19							
TAI1	**Yung-k'ang**	**0.83**	**353**	*e*S		Sn	19 40 03.8	+2.2
	baz=353							
CHN3	**Shinhua**	**0.86**	**1**	*e*P		Pn	19 39 52.1	+1.1
	baz=1.0							
SGST	**Jiashian**	**0.89**	**14**	*i* P		Pn	19 39 52.5	+1.0
	baz=14							
TWG	**Pinlang**	**0.90**	**48**	P		Pn	19 39 53.1	+1.4
	baz=48							
TWG				*e*S		Sn	19 40 04.8	+1.3
	baz=48							
TWGBT	**Beinan**	**0.91**	**49**	P		Pn	19 39 53.0	+1.4
	baz=48							
TWGBT				*e*S		Sn	19 40 04.9	+1.3
	baz=48							
TTN	**Taitung**	**0.92**	**54**	*e*P		Pn	19 39 53.0	+1.2
	baz=54							
SCLT	**Jiali**	**0.96**	**352**	*e*P		Pn	19 39 53.7	+1.2
	baz=352							
SCLT				*e*S		Sn	19 40 06.7	+1.7
	baz=352							
CHN1	**Nanshi**	**0.98**	**10**	⇓*i*P		Pn	19 39 53.3	+0.6
	baz=10.0							
SNST	**Tainan City**	**1.01**	**8**	*e*P		Pn	19 39 54.0	+0.9
	baz=8.0							
SNST				*e*S		Sn	19 40 07.7	+1.6
	baz=8.0							
STYT	**Tauyuan**	**1.02**	**22**	P		Pn	19 39 54.0	+0.8
	baz=22							
STYT				*e*S		Sn	19 40 07.9	+1.5
	baz=22							
TWK	**Hsinying**	**1.05**	**7**	P		Pn	19 39 54.5	+0.7
	baz=7.0							
TWK				*e*S		Sn	19 40 08.3	+1.1
	baz=7.0							
WTP	**Ta-pu**	**1.05**	**14**	*e*P		Pn	19 39 54.2	+0.5
	baz=14							
TPUB	**Ta-pu**	**1.11**	**14**	P		Pn	19 39 55.0	+0.5
	baz=13							
TPUB				*e*S		Sn	19 40 09.5	+0.8
	baz=13							
CHN8	**Yiju**	**1.13**	**354**	*e*S		Sn	19 40 10.5	+1.4
	baz=354							
LAY	**Lan-yu**	**1.13**	**99**	*e*P		Pn	19 39 55.1	+0.3
	baz=98							
ELDTW	**Lidau**	**1.15**	**33**	*i* P		Pn	19 39 56.2	+1.1
	baz=33							
WLGB	**Puzi**	**1.26**	**358**	*e*P		Pn	19 39 57.0	+0.5
	baz=358							
WLGB				*e*S		Sn	19 40 13.2	+1.1
	baz=358							
CHY	**Chiayi**	**1.28**	**3**	*e*P		Pn	19 39 57.2	+0.5
	baz=3.0							
VCHM	**Qimei**	**1.30**	**320**	*e*P		Pn	19 39 56.4	-0.7
	baz=319							
FULB	**Fuli**	**1.31**	**42**	*e*P		Pn	19 39 58.9	+1.6
	baz=41							
FULB				*e*S		Sn	19 40 14.8	+1.2
	baz=41							
CHN2	**Minshiung**	**1.31**	**5**	*e*S		Sn	19 40 15.2	+1.6
	baz=5.0							
ALS	**Alishan**	**1.36**	**18**	P		Pn	19 39 58.8	+0.6
	baz=18							
ALS				*e*S		Sn	19 40 15.9	+0.9
	baz=18							
CHN5	**Tsauling**	**1.41**	**13**	P		Pn	19 39 59.1	+0.5
	baz=12							
CHN5				*e*S		Sn	19 40 17.0	+1.0
	baz=12							
WSF	**Szhu**	**1.42**	**355**	P		Pn	19 39 58.9	+0.2
	baz=355							
WSF				*e*S		Sn	19 40 17.0	+0.8
	baz=355							
TWF1	**Yuli**	**1.43**	**38**	*e*P		Pn	19 40 00.6	+1.7
	baz=38							
TWF1				*e*S		Sn	19 40 18.2	+1.7
	baz=38							
YULB	**Yu-li**	**1.46**	**37**	P		Pn	19 40 01.0	+1.6
	baz=36							
YUL

mb3.4/2, Error ellipse: s-maj=6.0km s-min=3.4km az=35.6
RSNC ***20*** *19:43:04.8±1.0, 4°.19N×76°.16W, h109km±6km, ML3.6, Mw3.8*
IDC ***20*** *19:43:06.7±2.5, 4°.32N×75°.88W, h161km±20km, mb3.2/2, mb1 3.4/2, mb1mx2.9/39, mbtmp3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/18, Error ellipse: s-maj=42.6km s-min=37.1km az=11.0*
ISC 20 19:43:03.2±1.0, **4°.21N**±0°.03×**76°.15W**±0°.04, **h122**km±7km, **n32**, σ1§**19**/50, **1C**, **Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
YOTC	**Yotoco, Valle**	**0.30**	**221**	*eP*		**Pn**		**19 43 20.4**	**-0.2**
YOTC				*eS*		**Sn**		**19 43 32.8**	**-0.9**
YOTC				*i*				19 43 37.3	
	comp=Z,1μm,0.1s								
RREF	**El Recreo**	**1.05**	**49**	*eP*		**Pn**		**19 43 27.2**	**+0.5**
RREF				*eS*		**Sn**		**19 43 43.9**	**-0.5**
MALC	**Bahia Malaga**	**1.20**	**261**	*eP*		**Pn**		**19 43 29.0**	**+1.5**
MALC				*i*				19 43 54.1	
	comp=Z,877nm,0.3s								
PRAC	**Prado**	**1.35**	**111**	*eP*		**Pn**		**19 43 29.4**	**+0.2**
PRAC				*eS*		**Sn**		**19 43 48.1**	**-0.7**
PRAC				*i*				19 43 49.0	
	comp=N,787nm,0.3s								
BETC	**Betania**	**1.67**	**155**	*eP*		**Pn**		**19 43 33.3**	**+0.4**
BETC				*eS*		**Sn**		**19 43 54.8**	**-0.7**
POPC	**Popayan, Colom**	**1.74**	**198**	*eP*		**Pn**		**19 43 34.0**	**+0.2**
POPC				*eS*		**Sn**		**19 43 55.8**	**-1.4**
POPC				*i*				19 43 59.5	
	comp=N,605nm,0.7s								
NORC	**Norcasia**	**1.85**	**43**	*eP*		**Pn**		**19 43 35.3**	**+0.2**
NORC				*eS*		**Sn**		**19 43 58.6**	**-0.8**
NORC				*i*				19 43 59.7	
	comp=N,319nm,0.2s								
ROSC	**El Rosal**	**1.93**	**71**	*eP*		**Pn**		**19 43 37.9**	**+1.6**
ROSC	**El Rosal**	**1.93**	**71**	P		**Pn**		**19 43 37.9**	**+1.6**
	comp=N,71nm,0.3s,baz=342,slow=4.0,SNR=59								
ROSC				S		**Sn**		**19 44 04.0**	**+2.6**
	comp=N,18nm,0.3s,baz=78,slow=24,SNR=15								
HELC	**Santa Helena**	**2.06**	**17**	*eP*		**Pn**		**19 43 39.2**	**+1.2**
HELC				*eS*		**Sn**		**19 44 04.6**	**0.0**
CTAB	**Cerro Tablazo,**	**2.10**	**68**	*eP*		**Pn**		**19 43 40.3**	**+1.9**
GRGC	**Isla de Gorgon**	**2.34**	**239**	*eP*		**Pn**		**19 43 41.2**	**+0.1**
GRGC				*eS*		**Sn**		**19 44 09.7**	**-0.5**
GRGC				*i*				19 44 13.7	
	comp=N,236nm,0.2s								
SOLC	**Bahia Solano**	**2.37**	**328**	*eP*		**Pn**		**19 43 42.9**	**+1.5**
SOLC				*eS*		**Sn**		**19 44 10.8**	**0.0**
SOLC				*i*				19 44 17.9	
	comp=E,102nm,0.6s								
VILC	**Villavicencio,**	**2.45**	**92**	*eP*		**Pn**		**19 43 43.7**	**+1.1**
VILC				*eS*		**Sn**		**19 44 13.1**	**+0.3**
VILC				*i*				19 44 16.3	
	comp=N,792nm,0.5s								
FLOC	**Florencia**	**2.65**	**169**	*eP*		**Pn**		**19 43 45.6**	**+0.5**
FLOC				*i*				19 44 40.6	
	comp=N,115nm,0.5s								
CRUC	**La Cruz**	**2.74**	**197**	*eP*		**Pn**		**19 43 47.6**	**+1.0**
CRUC				*eS*		**Sn**		**19 44 19.9**	**0.0**
CRUC				*i*				19 44 27.4	
	comp=Z,172nm,0.5s								
DBBC	**Dabeiba**	**2.79**	**359**	*eP*		**Pn**		**19 43 48.6**	**+1.6**
PTBC	**PUERTO BERRIO,**	**2.87**	**36**	*eP*		**Pn**		**19 43 48.2**	**+0.4**
PTBC				*eS*		**Sn**		**19 44 20.7**	**-1.5**
PTBC				*i*				19 44 22.4	
	comp=N,360nm,0.4s								
GCUF	**Volcan Galeras**	**3.19**	**202**	*eP*		**Pn**		**19 43 53.2**	**+0.6**
GCUF				*eS*		**Sn**		**19 44 29.8**	**-0.9**
GCUF				*i*				19 44 35.8	
	comp=N,208nm,0.3s								
RUSC	**La Rusia**	**3.48**	**61**	*eP*		**Pn**		**19 43 57.4**	**+1.0**
RUSC				*eS*		**Sn**		**19 44 36.6**	**-0.8**
RUSC				*i*				19 44 41.7	
	comp=E,22nm,0.4s								
TUMC	**Tumaco**	**3.50**	**227**	*eP*		**Pn**		**19 43 56.5**	**+0.4**
TUMC				*eS*		**Sn**		**19 44 37.9**	**+0.8**
TUMC				*i*				19 44 47.3	
	comp=N,127nm,0.3s								
ZARC	**Zaragoza, Cauc**	**3.51**	**21**	*eP*		**Pn**		**19 43 56.8**	**+0.5**
ZARC				*eS*		**Sn**		**19 44 37.2**	**-0.2**
ZARC				*i*				19 44 38.6	
	comp=N,125nm,0.5s								
BRRC	**Barranca, Sant**	**3.77**	**40**	*eP*		**Pn**		**19 43 59.8**	**+0.1**
BRRC				*eS*		**Sn**		**19 44 41.0**	**-2.5**
BRRC				*i*				19 44 44.1	
	comp=N,111nm,0.4s								
BARC	**Barichara**	**3.79**	**51**	*eP*		**Pn**		**19 44 01.6**	**+1.4**
BARC				*eS*		**Sn**		**19 44 43.6**	**-0.6**
BARC				*i*				19 44 46.7	
	comp=Z,84nm,0.4s								
PAMC	**Pamplona, Colo**	**4.63**	**48**	*eP*		**Pn**		**19 44 12.9**	**+1.2**
OCAC	**Ocana**	**4.89**	**35**	*eP*		**Pn**		**19 44 15.4**	**+0.5**
OCAC				*eS*		**Sn**		**19 45 08.3**	**-2.4**
OCAC				*i*				19 45 12.7	
	comp=N,106nm,0.3s								
SMLC	**San Martn de**	**5.01**	**24**	*eP*		**Pn**		**19 44 17.0**	**+0.7**
SMLC				*eS*		**Sn**		**19 45 10.0**	**-3.2**
SMLC				*i*				19 45 12.8	
	comp=N,49nm,0.1s								
APG	**El Apazote**	**17.71**	**308**	LR		LR		19 53 38.7	
	comp=N,69nm,20.4s,baz=264,slow=35								
YKA	**Yellowknife Ar**	**64.71**	**341**	P		P		19 53 27.2	-0.8
	comp=N,0.3nm,0.4s,baz=135,slow=5.9,SNR=6.8								
TORD	**Torodi Ar. Bea**	**77.23**	**78**	P		P		19 54 41.9	-2.6
	comp=N,0.3nm,0.5s,baz=287,slow=6.8,SNR=6.0								
ASAR	**Alice Springs**	**145.15**	**233**	PKPbc		**PKPbc**		**20 02 26.9**	**-0.1**
	comp=N,0.2nm,0.4s,baz=120,slow=4.0,SNR=8.0								
WRA	**Warramunga Arr**	**146.43**	**240**	PKPbc		**PKPdf**		**20 02 29.1**	**-0.3**
	comp=N,0.4nm,1.1s,baz=108,slow=2.8,SNR=5.1								

SOF ***20*** *19:43:15.7, 46°.08N×27°.06E, h2km*
MOS ***20*** *19:43:15.7±1.0, 46°.18N×27°.14E, h16km, mb3.9/2, Error ellipse: s-maj=7.0km s-min=6.5km az=133.9*
IDC ***20*** *19:43:15.2±0.5, 46°.13N×27°.14E, h0km, mb3.6/9, mb1 3.7/18, mb1mx3.5/64, mbtmp3.6/18, ML3.2/9, MS3.0/7, Ms1 3.0/7, ms1mx2.6/50, Error ellipse: s-maj=8.9km s-min=6.3km az=137.0*
BUC ***20*** *19:43:16.6±0.4, 46°.18N×27°.08E, h13km±3km, MD4.3/7, Error ellipse: s-maj=4.7km s-min=3.7km az=7.0*
SIGU ***20*** *19:43:16.4±0.1, 46°.2N±0°.5×27°.1E±0°.6, h11km±1km, mb3.7/7*
ISCJB ***20*** *19:43:17.1±0.3, 46°.14N±0°.01×27°.14E±0°.02, h25km±2km, mb3.7/11, MS3.0/2, Error ellipse: s-maj=2.2km s-min=1.9km az=145.6*
PRU ***20*** *19:43:18.4±0.0, 45°.98N×27°.22E, h6km*
ISC 20 19:43:16.2±0.9, **46°.20N**±0°.01×**27°.12E**±0°.02, **h17**km±6km, **n255**, σ1§**93**/317, **mb3.6**/11, **74C-39D**, **Romania**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BIR	**Birlad**	**0.36**	**79**	⇑*iP*		**Pb**		**19 43 25.3**	**+1.1**
BIR				*i* S		**Sb**		**19 43 31.7**	**+2.2**
BIR	**Birlad**	**0.36**	**79**	⇑*iP*		**Pb**		**19 43 25.3**	**+1.1**
VRI	**Vrincioaia**	**0.43**	**220**	P		**Pg**		**19 43 24.6**	**-0.4**
VRI				S		**Sg**		**19 43 30.4**	**-0.4**
VRI	**Vrincioaia**	**0.43**	**220**	⇓*iP*		**Pg**		**19 43 24.5**	**-0.4**
VRI				*i* S		**Sg**		**19 43 30.5**	**-0.4**
VRI	**Vrincioaia**	**0.43**	**220**	⇓*iP*		**Pg**		**19 43 24.5**	**-0.4**
VRI	**Vrincioaia**	**0.43**	**220**	P		**Pg**		**19 43 24.4**	**-0.5**
ODBI	**Odobesti**	**0.44**	**186**	⇑*iP*		**Pb**		**19 43 26.0**	**+0.5**
ODBI				*i* S		**Sb**		**19 43 32.0**	**+0.2**
ODBI	**Odobesti**	**0.44**	**186**	⇑*iP*		**Pb**		**19 43 26.0**	**+0.5**
TESR	**Tescani**	**0.45**	**314**	⇑*iP*		**Pg**		**19 43 25.5**	**+0.1**
TESR				*i* S		**Sb**		**19 43 32.8**	**+0.5**
TESR	**Tescani**	**0.45**	**314**	⇑*iP*		**Pg**		**19 43 25.5**	**+0.1**
PLOR	**Plostina**	**0.48**	**223**	⇓*iP*		**Pg**		**19 43 25.3**	**-0.5**
PLOR				*i* S		**Sg**		**19 43 32.2**	**-0.1**
PLOR	**Plostina**	**0.48**	**223**	⇓*iP*		**Pg**		**19 43 25.3**	**-0.5**
PETR	**Petresti**	**0.48**	**171**	⇑*iP*		**Pb**		**19 43 26.5**	**+0.2**
PETR				*i* S		**Sb**		**19 43 32.8**	**-0.3**
PETR	**Petresti**	**0.48**	**171**	⇑*iP*		**Pb**		**19 43 26.5**	**+0.2**
GRER		**0.82**	**187**	⇑*iP*		**Pn**		**19 43 33.5**	**+0.4**
GRER				*i* S		**Sn**		**19 43 46.0**	**+1.1**
GRER		**0.82**	**187**	⇑*iP*		**Pn**		**19 43 33.5**	**+0.4**
LEOM	**Leova**	**0.83**	**70**	⇓*iP*		**Pn**		**19 43 33.1**	**0.0**
LEOM				*i* S		**Sn**		**19 43 45.8**	**+0.8**
LEOM	**Leova**	**0.83**	**70**	⇓*iP*		**Pn**		**19 43 33.1**	**0.0**
GIRR	**Girov**	**0.87**	**331**	⇑*iP*		**Pb**		**19 43 33.4**	**+0.5**
GIRR	**Girov**	**0.87**	**331**	⇑*iP*		**Pb**		**19 43 33.4**	**+0.5**
OZUR		**0.93**	**264**	⇓*iP*		**Pn**		**19 43 34.8**	**+0.2**
OZUR		**0.93**	**264**	⇓*iP*		**Pn**		**19 43 34.8**	**+0.2**
BIZ	**Bicaz**	**1.02**	**317**	⇑*iP*		**Pn**		**19 43 36.2**	**+0.4**
BIZ				*i* S		**Sn**		**19 43 51.4**	**+1.6**
BIZ	**Bicaz**	**1.02**	**317**	⇑*iP*		**Pn**		**19 43 36.2**	**+0.4**
IAS	**Iasi**	**1.04**	**17**	⇓*iP*		**Pn**		**19 43 36.7**	**+0.6**
IAS				*i* S		**Sn**		**19 43 51.4**	**+1.1**
IAS	**Iasi**	**1.04**	**17**	⇓*iP*		**Pn**		**19 43 36.7**	**+0.6**
GIUM	**Giurgiulesti**	**1.04**	**133**	⇑*iP*		**Pn**		**19 43 36.2**	**+0.1**
GIUM				*i* S		**Sn**		**19 43 51.8**	**+1.5**
GIUM	**Giurgiulesti**	**1.04**	**133**	⇑*iP*		**Pn**		**19 43 36.2**	**+0.1**
GIUM	**Giurgiulesti**	**1.04**	**133**	P		**Pn**		**19 43 36.2**	**+0.1**
GIUM				S		**Sn**		**19 43 51.7**	**+1.5**
MLR	**Muntele Rosu**	**1.08**	**230**	⇑*iP*		**Pb**		**19 43 36.7**	**+0.1**
MLR				*i* S		**Sn**		**19 43 51.8**	**+0.3**
MLR	**Muntele Rosu**	**1.08**	**230**	⇑*iP*		**Pb**		**19 43 36.7**	**+0.1**
MLR	**Muntele Rosu**	**1.08**	**230**	Pg		**Pb**		**19 43 36.6**	**-0.1**
	42nm,0.3s,baz=54,slow=6.1,SNR=474								
MLR				Lg		Lg		19 43 51.0	
	96nm,0.3s,baz=160,slow=18,SNR=20								
ISR	**Istrita**	**1.15**	**201**	⇑*iP*		**Pg**		**19 43 39.6**	**+1.1**
ISR	**Istrita**	**1.15**	**201**	⇑*iP*		**Pg**		**19 43 39.6**	**+1.1**
DOPR	**Dopca**	**1.23**	**260**	⇓*iP*		**Pb**		**19 43 39.0**	**0.0**
DOPR	**Dopca**	**1.23**	**260**	⇓*iP*		**Pb**		**19 43 39.0**	**0.0**
CFR	**Carcaliu**	**1.25**	**145**	⇑*iP*		**Pn**		**19 43 38.4**	**-0.5**
CFR				*i* S		**Sg**		**19 43 56.5**	**0.0**
CFR	**Carcaliu**	**1.25**	**145**	⇑*iP*		**Pn**		**19 43 38.4**	**-0.5**
PGOR	**Pogoanele**	**1.29**	**184**	⇑*iP*		**Pb**		**19 43 40.2**	**+0.1**
PGOR	**Pogoanele**	**1.29**	**184**	⇑*iP*		**Pb**		**19 43 40.2**	**+0.1**
PRAR	**RASCA**	**1.31**	**333**	⇑*iP*		**Pb**		**19 43 41.4**	**+0.9**
PRAR	**RASCA**	**1.31**	**333**	⇑*iP*		**Pb**		**19 43 41.4**	**+0.9**
MILM	**Milestii Mici**	**1.37**	**58**	⇓*iP*		**Pg**		**19 43 42.5**	**-0.2**
MILM				*i* S		**Sg**		**19 44 01.5**	**+1.0**
MILM	**Milestii Mici**	**1.37**	**58**	⇓*iP*		**Pg**		**19 43 42.5**	**-0.2**
MILM	**Milestii Mici**	**1.37**	**58**	P		**Pg**		**19 43 42.5**	**-0.2**
MILM				S		**Sg**		**19 44 01.5**	**+1.0**
KIS	**Kishinev**	**1.42**	**55**	⇓*iP*		**Pn**		**19 43 42.0**	**+0.7**
	800nm,0.7s								
KIS				*i* S		**Sg**		**19 44 02.0**	**0.0**
	9μm,1.0s								
KIS	**Kishinev**	**1.42**	**55**	⇓*iP*		**Pn**		**19 43 42.0**	**+0.7**
KIS				*i* S		**Sg**		**19 44 02.0**	**0.0**
KIS				pmax	pmax				
	comp=Z,800nm,0.7s								
KIS				pmax	pmax				
	comp=N,700nm,0.8s								
KIS				smax	smax				
	comp=N,9μm,1.0s								
KIS	**Kishinev**	**1.42**	**55**	P		**Pb**		**19 43 42.5**	**+0.3**
KIS				S		**Sg**		**19 44 02.0**	**0.0**
PLAR	**PLOIESTI**	**1.50**	**211**	⇑*iP*		**Pg**		**19 43 45.3**	**+0.3**
PLAR	**PLOIESTI**	**1.50**	**211**	⇑*iP*		**Pg**		**19 43 45.3**	**+0.3**
TLCR		**1.56**	**130**	⇑*iP*		**Pb**		**19 43 45.3**	**+0.6**
TLCR				*i* S		**Sg**		**19 44 07.1**	**+0.6**
TLCR		**1.56**	**130**	⇑*iP*		**Pb**		**19 43 45.3**	**+0.6**
AMRR	**Amara**	**1.60**	**174**	⇓*iP*		**Pn**		**19 43 44.3**	**+0.6**
AMRR				*i* S		**Sg**		**19 44 06.0**	**-1.6**
AMRR	**Amara**	**1.60**	**174**	⇓*iP*		**Pn**		**19 43 44.3**	**+0.6**
HARR	**Harsova**	**1.61**	**159**	⇑*iP*		**Pn**		**19 43 44.0**	**+0.1**
HARR	**Harsova**	**1.61**	**159**	⇑*iP*		**Pn**		**19 43 44.0**	**+0.1**
VOIR		**1.64**	**243**	⇑*iP*		**Pn**		**19 43 44.6**	**+0.2**
VOIR				*i* S		**Sn**		**19 44 05.0**	**-0.1**
VOIR		**1.64**	**243**	⇑*iP*		**Pn**		**19 43 44.6**	**+0.2**
SULR		**1.64**	**202**	⇑*iP*		**Pb**		**19 43 46.0**	**0.0**
SULR				*i* S		**Sb**		**19 44 06.4**	**+0.1**
SULR		**1.64**	**202**	⇑*iP*		**Pb**		**19 43 46.0**	**0.0**
LEHL	**Lehliu**	**1.74**	**187**	⇓*iP*		**Pn**		**19 43 46.5**	**+0.8**
LEHL				*i* S		**Sb**		**19 44 10.0**	**+0.8**
LEHL	**Lehliu**	**1.74**	**187**	⇓*iP*		**Pn**		**19 43 46.5**	**+0.8**
MTUR	**Matau**	**1.74**	**237**	⇓*iP*		**Pb**		**19 43 47.5**	**-0.3**
MTUR	**Matau**	**1.74**	**237**	⇓*iP*		**Pb**		**19 43 47.5**	**-0.3**
TLB	**Topalu**	**1.74**	**158**	⇑*iP*		**Pn**		**19 43 46.2**	**+0.5**
TLB				*i* S		**Sb**		**19 44 08.3**	**-0.9**
TLB	**Topalu**	**1.74**	**158**	⇑*iP*		**Pn**		**19 43 46.2**	**+0.5**
BURAR	**Bucovina Array**	**1.93**	**318**	⇓*iP*		**Pb**		**19 43 51.1**	**+0.1**
BURAR	**Bucovina Array**	**1.93**	**318**	⇓*iP*		**Pb**		**19 43 51.1**	**+0.1**
ARR	**Arges**	**1.93**	**245**	⇑*iP*		**Pn**		**19 43 48.9**	**+0.5**
ARR				*i* S		**Sb**		**19 44 14.4**	**-0.4**
ARR	**Arges**	**1.93**	**245**	⇑*iP*		**Pn**		**19 43 48.9**	**+0.5**
TIRR	**Tirgusor**	**1.96**	**152**	⇓*iP*		**Pn**		**19 43 49.6**	**+0.8**
TIRR				*i* S		**Sb**		**19 44 15.9**	**+0.1**
TIRR	**Tirgusor**	**1.96**	**152**	⇓*iP*		**Pn**		**19 43 49.6**	**+0.8**
CVDA	**Cernavoda**	**1.98**	**161**	⇑*iP*		**Pb**		**19 43 50.5**	**-1.2**
CVDA				*i* S		**Sb**		**19 44 16.4**	**+0.4**
CVDA	**Cernavoda**	**1.98**	**161**	⇑*iP*		**Pb**		**19 43 50.5**	**-1.2**
RASA	**Rasa**	**1.98**	**179**	⇑*iP*		**Pn**		**19 43 49.5**	**+0.5**
RASA				*i* S		**Sb**		**19 44 16.9**	**+0.6**
RASA	**Rasa**	**1.98**	**179**	⇑*iP*		**Pn**		**19 43 49.5**	**+0.5**
BUC1	**Bucharest**	**2.00**	**203**	⇑*iP*		**Pn**		**19 43 51.1**	**-1.1**
BUC1				*i* S		**Sb**		**19 44 17.5**	**+0.6**
BUC1	**Bucharest**	**2.00**	**203**	⇑*iP*		**Pb**		**19 43 51.1**	**-1.1**
GOLR		**2.04**	**229**	⇑*iP*		**Pb**		**19 43 52.6**	**-0.2**
GOLR				*i* S		**Sb**		**19 44 17.9**	**+0.1**
GOLR		**2.04**	**229**	⇑*iP*		**Pb**		**19 43 52.6**	**-0.2**
ARCR	**ARCALIA**	**2.10**	**296**	⇑*iP*		**Pb**		**19 43 53.5**	**-0.4**
ARCR				*i* S		**Sn**		**19 44 17.7**	**+1.2**
ARCR	**ARCALIA**	**2.10**	**296**	⇑*iP*		**Pb**		**19 43 53.5**	**-0.4**
ICOR	**Ion Corvin**	**2.14**	**167**	⇑*iP*		**Pn**		**19 43 52.2**	**+1.1**
ICOR				*i* S		**Sn**		**19 44 17.6**	**+0.3**
ICOR	**Ion Corvin**	**2.14**	**167**	⇑*iP*		**Pn**		**19 43 52.2**	**+1.1**
MFTR	**Murfatlar**	**2.22**	**155**	⇑*iP*		**Pb**		**19 43 54.1**	**-1.8**
MFTR				*i* S		**Sb**		**19 44 22.4**	**-0.7**
MFTR	**Murfatlar**	**2.22**	**155**	⇑*iP*		**Pb**		**19 43 54.1**	**-1.8**
HUMR	**Humele**	**2.25**	**223**	⇑*iP*		**Pn**		**19 43 54.1**	**+1.4**
HUMR				*i* S		**Sb**		**19 44 23.1**	**-0.9**
HUMR	**Humele**	**2.25**	**223**	⇑*iP*		**Pn**		**19 43 54.1**	**+1.4**
CHRU	**Chernivtsi**	**2.25**	**339**	*ePn*		**Pb**		**19 43 55.3**	**-1.2**
CHRU					Pm			19 44 00.7	
CHRU				*eSn*		**Sb**		**19 44 23.2**	**-0.9**
CHRU					Sm			19 44 27.9	
EFOR	**EFORIE**	**2.37**	**153**	⇑*iP*		**Pn**		**19 43 56.4**	**+2.0**
EFOR	**EFORIE**	**2.37**	**153**	⇑*iP*		**Pn**		**19 43 56.4**	**+2.0**
NDNU	**Novodnistrovsk**	**2.40**	**4**	*ePn*		**Pn**		**19 43 57.0**	**+2.2**
NDNU					Pm			19 44 01.0	
NDNU				*eSn*		**Sb**		**19 44 28.6**	**+0.2**
NDNU					Sm			19 44 32.7	
KMPD	**K-Podol'skiy**	**2.41**	**350**	*ePn*		**Pb**		**19 43 58.4**	**-0.7**
KMPD				*eSn*		**Sb**		**19 44 28.3**	**-0.2**
LOT	**Lotru**	**2.46**	**253**	*eP*		**Pn**		**19 43 56.9**	**+1.2**
LOT	**Lotru**	**2.46**	**253**	⇑*iP*		**Pn**		**19 43 56.9**	**+1.2**
LOT	**Lotru**	**2.46**	**253**	⇑*iP*		**Pn**		**19 43 56.9**	**+1.2**
CJR	**Cluj-Napoca**	**2.49**	**283**	⇑*iP*		**Pn**		**19 43 57.3**	**+1.3**
CJR				*i* S		**Sn**		**19 44 28.4**	**+2.3**
CJR	**Cluj-Napoca**	**2.49**	**283**	⇑*iP*		**Pn**		**19 43 57.3**	**+1.3**
KSV	**Kosov**	**2.54**	**327**	*ePn*		**Pn**		**19 43 59.1**	**+2.4**
KSV					Pm			19 44 08.5	
KSV				*eSn*		**Sb**		**19 44 31.3**	**-1.0**
KSV					Sm			19 44 38.2	
MANR	**Mangalia**	**2.60**	**156**	⇑*iP*		**Pn**		**19 43 59.0**	**+1.5**
MANR	**Mangalia**	**2.60**	**156**	⇑*iP*		**Pn**		**19 43 59.0**	**+1.5**
PSN	**Preselentsi**	**2.63**	**163**	*eP*		**Pn**		**19 43 56.9**	**-1.0**
PSN	**Preselentsi**	**2.63**	**163**	P		**Pn**		**19 43 58.7**	**+0.8**
NSLU	**Nyzhne Selyshc**	**2.70**	**319**	*ePn*		**Pg**		**19 44 08.0**	**0.0**
RAKU	**Rahkiv**	**2.72**	**313**	*ePn*		**Pn**		**19 43 58.7**	**-0.5**
BMR	**Baia Mare**	**2.89**	**302**	⇓*iP*		**Pn**		**19 44 04.0**	**+2.5**
BMR	**Baia Mare**	**2.89**	**302**	⇓*iP*		**Pn**		**19 44 04.0**	**+2.5**
PRD	**Provadia**	**3.00**	**176**	P		**Pn**		**19 44 04.1**	**+1.0**
SZH	**Strazhica**	**3.05**	**197**	P		**Pn**		**19 44 03.9**	**+0.2**
HORU	**Horodok**	**3.05**	**351**	*ePn*		**Pn**		**19 44 05.3**	**+1.5**
HORU				*eSn*		**Sb**		**19 44 45.2**	**-1.9**
STNU	**Starunia**	**3.08**	**326**	*ePn*		**Pn**		**19 44 06.6**	**+2.5**
DRGR		**3.10**	**283**	⇑*iP*		**Pn**		**19 44 05.8**	**+1.3**
DRGR				*i* S		**Sn**		**19 44 40.5**	**-0.7**
DRGR		**3.10**	**283**	⇑*iP*		**Pn**		**19 44 05.8**	**+1.3**
DRGR				S		**Sn**		**19 44 40.5**	**-0.7**
GZR	**Gura Zlata**	**3.14**	**257**	⇑*iP*		**Pn**		**19 44 06.2**	**+1.1**
GZR	**Gura Zlata**	**3.14**	**257**	⇑*iP*		**Pn**		**19 44 06.2**	**+1.1**
KORU	**Korolevo**	**3.35**	**307**	*ePn*		**Pn**		**19 44 10.9**	**+3.1**
MEZ	**Mezhgor'ye**	**3.37**	**315**	*ePn*		**Pn**		**19 44 11.6**	**+3.5**
TRSU	**Trosnyk**	**3.42**	**305**	*ePn*		**Pn**		**19 44 11.3**	**+2.6**
BRIU	**Brid**	**3.52**	**309**	*ePn*		**Pn**		**19 44 12.6**	**+2.5**
MORS	**Morshin**	**3.66**	**325**	*ePn*		**Pn**		**19 44 14.7**	**+2.7**
BERU	**Beregovo**	**3.67**	**305**	*ePn*		**Pn**		**19 44 14.0**	**+1.9**
TRPA	**Tarpa**	**3.67**	**303**	*ePn*		**Pn**		**19 44 16.1**	**+3.8**
TRPA				*ePg*		**Pg**		**19 44 30.0**	**+3.5**
TRPA					Sn	**Sn**		**19 44 56.0**	**+0.9**
TRPA				*eSg*		**Sg**		**19 45 19.0**	**+4.9**
MUKU	**Mukachevo**	**3.77**	**308**	*ePn*		**Pn**		**19 44 13.3**	**-0.2**
LTVH	**Ltavrtes, Hu**	**3.78**	**290**	*ePn*		**Pn**		**19 44 17.1**	**+3.4**
LTVH				*ePg*		**Pg**		**19 44 29.0**	**+0.5**
LTVH				*eSg*		**Sg**		**19 45 17.1**	**-0.4**
SIRR	**Siria**	**3.79**	**273**	⇓*iP*		**Pn**		**19 44 14.6**	**+0.7**
SIRR	**Siria**	**3.79**	**273**	⇓*iP*		**Pn**		**19 44 14.6**	**+0.7**
BZS	**Buzias**	**3.88**	**263**	⇓*iP*		**Pn**		**19 44 16.2**	**+1.0**
BZS	**Buzias**	**3.88**	**263**	⇓*iP*		**Pn**		**19 44 16.2**	**+1.0**
SHIU	**Shidnytsya**	**3.95**	**321**	*ePn*		**Pn**		**19 44 20.2**	**+4.1**
MDVR	**Moldovita**	**4.06**	**251**	⇑*iP*		**Pn**		**19 44 18.8**	**+1.2**
MDVR	**Moldovita**	**4.06**	**251**	⇑*iP*		**Pn**		**19 44 18.8**	**+1.2**
UZH	**Uzhgorod**	**4.08**	**308**	*eP*		**Pn**		**19 44 21.0**	**+3.1**
UZH				*eS*		**Sn**		**19 45 09.0**	**+3.8**
UZH				MLR	MLR				
	comp=Z,12nm,1.0s								
UZH	**Uzhgorod**	**4.08**	**308**	*ePn*		**Pn**		**19 44 21.5**	**+3.6**
LVV	**L'vov**	**4.17**	**331**	*eP*		**Pn**		**19 44 21.3**	**+2.2**
LVV				*eS*		**Sn**		**19 45 09.7**	**+2.2**
LVV				pmax	pmax				
	comp=Z,440nm,1.2s								
LVV	**L'vov**	**4.17**	**331**	*ePn*		**Pn**		**19 44 22.5**	**+3.4**
EDRB	**Edirne**	**4.36**	**184**	*eP*		**Pn**		**19 44 21.6**	**-0.1**
KIRK	**Kırklareli**	**4.42**	**180**	*iP*		**Pn**		**19 44 22.6**	**+0.1**
PLD	**Plovdiv**	**4.45**	**204**	*eP*		**Pn**		**19 44 22.9**	**0.0**
VTS	**Vitosha**	**4.53**	**219**	⇓*iP*		**Pn**		**19 44 25.6**	**+1.3**
VTS	**Vitosha**	**4.53**	**219**	⇓*iP*		**Pn**		**19 44 25.6**	**+1.3**
VTS	**Vitosha**	**4.53**	**219**	P		**Pn**		**19 44 25.4**	**+1.1**

GERES	**GERESS Array B**	**9.46**	**291**	Pn		**Pn**	**19 45 35.4**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=108,slow=16,SNR=2.8							
KLNR	**Kaliningrad**	**9.50**	**335**	*eP*		**Pn**	**19 45 34.0**	**+1.9**
IZAR	**Zarasai**	**9.58**	**357**	*eP*		Sn	19 47 09.9	-10
KHC	**Kasperske Hory**	**9.60**	**293**	*e*PN		**Pn**	**19 45 36.9**	**+3.3**
KHC	**Kasperske Hory**	**9.60**	**293**	*eP*		**Pn**	**19 45 36.9**	**+3.3**
LPSR	**Galich'ya Gora**	**10.01**	**46**	*eP*		**Pn**	**19 45 38.9**	**-0.2**
LPSR				*eS*		**Sn**	**19 47 27.6**	**-3.3**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.8s							
LPSR				smax	smax			
	comp=N,80nm,1.6s							
OBN	**Obninsk**	**10.74**	**30**	*eP*		**Pn**	**19 45 50.4**	**+1.2**
OBN				*eS*		**Sn**	**19 47 49.8**	**+0.9**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,40nm,12.0s							
OBN	**Obninsk**	**10.74**	**30**	Pn		**Pn**	**19 45 46.0**	**-3.2**
	comp=Z,0.4nm,0.3s,baz=294,slow=20,SNR=2.6							
OBN				Sn		**Sn**	**19 47 43.0**	**-5.9**
	comp=Z,0.9nm,0.3s,baz=51,slow=23,SNR=7.1							
OBN				Lg	Lg		19 48 44.7	
	comp=Z,0.5nm,0.3s,baz=28,slow=23,SNR=5.9							
VRH	**Novokhopyorsk**	**10.87**	**57**	*eP*		**Pn**	**19 45 51.8**	**+0.9**
VRH				*eS*		**Sn**	**19 47 46.4**	**-5.6**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
VRH				smax	smax			
	comp=E,250nm,3.8s							
KIV	**Kislovodsk**	**11.24**	**96**	*eP*		**Pn**	**19 45 58.9**	**+2.8**
KIV				pmax	pmax			
	comp=Z,15nm,1.0s							
KIV				MLR	MLR			
	comp=Z,45nm,10.0s							
KVAR	**Kislovodsk Arr**	**11.24**	**96**	Pn		**Pn**	**19 45 57.8**	**+1.6**
	baz=270,slow=20,SNR=6.2							
KBZ	**Khabaz**	**11.45**	**97**	Pn		**Pn**	**19 46 01.0**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=82,slow=6.9,SNR=7.8							
MOS	**Moscow**	**11.61**	**31**	*eP*		Pn	19 46 16.3	+15
MOS				*e*			19 48 13.8	
DAVOX	**Davos/Dischmat**	**11.90**	**279**	LR		LR	19 51 27.7	
	comp=Z,98nm,19.2s,baz=81,slow=41							
MMAI	**Mount Meron Ar**	**14.62**	**151**	LR		LR	19 52 47.6	
	comp=Z,31nm,18.7s,baz=170,slow=39							
FINES	**FINESS Array B**	**15.29**	**358**	Pn		**Pn**	**19 46 45.4**	**-5.6**
	comp=Z,0.3nm,0.3s,baz=172,slow=11,SNR=9.3							
HFS	**Hagfors**	**16.06**	**335**	Pn		**Pn**	**19 46 57.6**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=10.0							
HFS				LR		LR	19 53 11.8	
	comp=Z,44nm,18.5s,baz=104,slow=37							
KLMR	**Klimovskoe**	**16.38**	**22**	*eP*		**Pn**	**19 47 00.0**	**-5.1**
KLMR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KLMR	**Klimovskoe**	**16.38**	**22**	*e*Pn		**Pn**	**19 47 00.1**	**-5.1**
KLMR				AMP			19 47 06.2	
	comp=Z,9.0nm,0.9s							
KLMR				*e*Sn		**Sn**	**19 49 56.6**	**-10**
KLMR				*e*Sn		**Sn**	**19 49 56.6**	**-10**
KLMR				*e*Lg	Lg		19 51 39.1	
KLMR				*e*Lg	Lg		19 51 39.1	
KLMR				*e*Lg	Lg		19 51 39.1	
NB2	**NORSAR Subarra**	**17.53**	**334**	P		**Pn**	**19 47 16.3**	**-3.3**
	comp=Z,1.4nm,0.7s,baz=141,slow=12							
NOA	**NORSAR Array B**	**17.53**	**334**	Pn		**Pn**	**19 47 16.1**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=145,slow=11,SNR=3.3							
NOA				LR		LR	19 54 29.2	
	comp=Z,36nm,18.5s,baz=140,slow=38							
AKTO	**Aktyubinsk**	**20.89**	**67**	LR		LR	19 56 38.7	
	comp=Z,36nm,19.8s,baz=252,slow=38							
ARU	**Arti**	**21.97**	**51**	*d*	*i* P	**P**	**19 48 11.7**	**+2.7**
ARU							19 48 34.4	
ARU				SS		Sn	19 52 44.8	+24
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ARCES	**ARCESS Array B**	**23.42**	**359**	P		**P**	**19 48 24.6**	**+0.5**
	comp=Z,7.1nm,0.9s,baz=184,slow=11,SNR=3.7							
BVAR	**Borovoye Array**	**28.50**	**60**	P		**P**	**19 49 12.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=281,slow=8.7,SNR=3.3							
AAK	**Ala-Archa**	**33.63**	**79**	P		**P**	**19 49 58.1**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=356,slow=10,SNR=3.5							
KURBB	**Kurchatov Arra**	**33.84**	**63**	P		**P**	**19 49 58.9**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=284,slow=9.4,SNR=2.4							
KURK	**Kurchatov**	**33.88**	**63**	P		**P**	**19 49 58.9**	**+1.1**
ZALV	**Zalesovo Beam**	**36.90**	**56**	P		**P**	**19 50 25.8**	**+2.0**
	comp=Z,1.4nm,0.6s,baz=267,slow=8.9,SNR=5.3							
MKAR	**Makanchi Array**	**37.32**	**68**	P		**P**	**19 50 29.5**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=273,slow=7.7,SNR=7.2							
MKAR				LR		LR	20 06 40.8	
	comp=Z,34nm,18.3s,baz=229,slow=38							
TORD	**Torodi Ar. Bea**	**39.31**	**221**	P		**P**	**19 50 43.7**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=20,slow=10,SNR=5.6							
DGZ	**Jazzator, Alta**	**39.60**	**62**	*eP*		**P**	**19 50 49.2**	**+2.5**
DGZ				pmax	pmax			
	comp=Z,1.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**64.40**	**90**	P		**P**	**19 53 52.6**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=305,slow=7.9,SNR=4.8							
YKA	**Yellowknife Ar**	**67.42**	**342**	P		**P**	**19 54 11.5**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=29,slow=5.7,SNR=4.3							

*ISK **20** 20:00:12.6, 42°.32N×40°.90E, h9km, ML2.3/4*
*DDA **20** 20:00:13.5, 42°.24N×41°.03E, h7km±3km, ML2.6*
*TIF **20** 20:00:13.2, 42°.34N×40°.97E, h26km±2km*
*NORS **20** 20:00:14.9±0.0, 42°.52N×41°.29E, h11km, MPVA3.0*
*MOS **20** 20:00:15.1±0.0, 42°.57N×41°.11E, h5km, MPVA3.1*

ISC 20 20:00:11.4±1.3, **42°.40N**±0°.03×**41°.04E**±0°.04, **h3**km±12km, **n27**,σ0°**72**/51, **Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATM	**Batumi**	**0.93**	**148**	PG		**Pn**	**20 00 31.2**	**-0.2**
BATM				SG		**Sn**	**20 00 44.7**	**-0.5**
BATM	**Batumi**	**0.93**	**148**	P		**Pn**	**20 00 31.2**	**-0.2**
BATM				S		**Sn**	**20 00 44.7**	**-0.5**
DOMR	**Dombai**	**0.99**	**25**	*e*Pg		**Pg**	**20 00 28.9**	**-1.5**
DOMR				*e*Sg		**Sg**	**20 00 41.4**	**-1.8**
BCA	**Borcka**	**1.05**	**155**	PG		**Pb**	**20 00 32.5**	**+0.3**
BCA				SG		**Sn**	**20 00 47.1**	**-1.0**
DBOC	**Borcka**	**1.15**	**156**	*i* P		**Pn**	**20 00 34.4**	**-0.1**
DBOC				*i* S		**Sn**	**20 00 50.3**	**-0.5**
CHM	**Cayeli-Rize**	**1.32**	**189**	PN		**Pb**	**20 00 36.5**	**-0.3**
RPOR	**Krasnaya Polya**	**1.42**	**337**	*e*Pg		**Pg**	**20 00 39.1**	**+0.5**
RPOR				*e*Sg		**Sg**	**20 00 58.1**	**+1.1**
DBAD	**Bademkaya**	**1.46**	**160**	*i* P		**Pb**	**20 00 39.4**	**+0.1**
DBAD				*i* S		**Sn**	**20 00 58.0**	**-0.6**
DBAD				IAML_P				
	comp=Z,400nm,0.2s							
DAGI	**Agillar**	**1.47**	**153**	*i* P		**Pb**	**20 00 39.6**	**+0.1**
DAGI				*i* S		**Sb**	**20 00 58.6**	**0.0**
DAGI				IAML_P				
	comp=Z,161nm,0.1s							
NEY	**Neytrino**	**1.50**	**55**	*e*Pg		**Pg**	**20 00 40.7**	**+0.6**
NEY				*e*Sg		**Sg**	**20 00 59.5**	**0.0**
EPOS	**Posof**	**1.54**	**125**	*i* P		**Pg**	**20 00 41.7**	**+0.7**
EPOS				*i* S		**Sb**	**20 01 01.1**	**+0.4**
DDEM	**Demirkent**	**1.60**	**160**	*i* P		**Pb**	**20 00 41.7**	**+0.1**
DDEM				*i* S		**Sn**	**20 01 01.6**	**-0.2**
DDEM				IAML_P				
	comp=Z,328nm,0.1s							
GUZR	**Guzeripl'**	**1.73**	**337**	*i* Pg		**Pg**	**20 00 44.8**	**+0.1**
GUZR				*i* Sg		**Sg**	**20 01 07.1**	**0.0**
SHA1	**Shidzhatmaz**	**1.79**	**41**	*e*Pg		**Pb**	**20 00 45.7**	**+0.8**
SHA1				*i* Pg		**Pb**	**20 00 45.8**	**+0.8**
SHA1				*i* Sg		**Sb**	**20 01 08.4**	**+0.6**
SHA1				*e*Sg		**Sg**	**20 01 08.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.94**	**74**	*e*Pg		**Pb**	**20 00 48.1**	**+0.6**
DIGR				*e*Sg		**Sb**	**20 01 12.6**	**+0.4**
LZRR	**Lazarevskoye**	**1.96**	**322**	*e*Pg		**Pg**	**20 00 49.1**	**+0.2**
LZRR				*e*Sg		**Sg**	**20 01 13.1**	**-1.2**
KIV	**Kislovodsk**	**1.97**	**37**	PN		**Pb**	**20 00 48.5**	**+0.6**
KIV	**Kislovodsk**	**1.97**	**37**	*e*Pg		**Pb**	**20 00 48.3**	**+0.4**
KIV				*e*Sg		**Sb**	**20 01 12.2**	**-0.6**
KIV0	**Kislovodsk Arr**	**1.97**	**37**	*e*Pg		**Pb**	**20 00 48.8**	**+0.8**
KIV0				*e*Sg		**Sb**	**20 01 12.5**	**-0.5**
KRIK	**Erzurum-spir**	**2.06**	**182**	*i* P		**Pb**	**20 00 49.5**	**-0.1**
SENK	**Senkaya-Erzuru**	**2.08**	**151**	PN		**Pn**	**20 00 48.6**	**+1.2**
BAYT	**Aydıntepe-Bayb**	**2.12**	**199**	PN		**Pn**	**20 00 47.9**	**+0.1**
ZEI	**Tsey**	**2.15**	**79**	*e*Pg		**Pb**	**20 00 51.5**	**+0.5**
ZEI				*e*Sg		**Sb**	**20 01 18.8**	**+0.6**
BGD	**Bogdanovka**	**2.22**	**120**	P		**Pn**	**20 00 50.9**	**+1.5**
BGD				S		**Sb**	**20 01 20.5**	**+0.2**
LSNR	**Lesken**	**2.23**	**66**	*e*Pg		**Pb**	**20 00 51.9**	**-0.4**
LSNR				*e*Sg		**Sb**	**20 01 19.2**	**-1.1**
TRLG	**Trialeti**	**2.44**	**110**	P		**Pb**	**20 00 55.0**	**-1.0**
TRLG				S		**Sb**	**20 01 27.2**	**+0.8**
LACR	**Lac**	**2.44**	**79**	*e*Pn		**Pb**	**20 00 55.6**	**-0.4**
LACR				*e*Sn		**Sb**	**20 01 25.7**	**-0.8**

*ISCJB **20** 20:40:13.5±0.7, 45°.23N±0°.05×106°.73W±0°.07, h0km, Error ellipse: s-maj=7.8km s-min=7.0km az=20.6*
*IDC **20** 20:40:13.0±1.2, 44°.82N×106°.69W, h0km, mb1 3.7/2, mb1mx3.3/36, mbtmp3.5/2, ML3.1/2, Error ellipse: s-maj=59.5km s-min=8.8km az=138.0*
*NEIC **20** 20:40:15.2±0.7, 45°.21N×106°.74W, h0km, ML2.8, Error ellipse: s-maj=8.9km s-min=8.6km az=177.0, Suspected Mining explosion.*
NEIC 49 km [30 miles] NNE of Sheridan.

ISC 20 20:40:14.1±1.0, **45°.21N**±0°.05×**106°.74W**±0°.06, **h0**km, **n35**, σ1°**20**/33, **Montana**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAO	**LASA Array**	**1.52**	**13**	*e*Pn		**Pg**	**20 40 44.1**	**+0.7**
RLMT	**Red Lodge**	**1.79**	**268**	*e*Pn		**Pn**	**20 40 43.8**	**-2.8**
GCMT	**Greycliff**	**2.14**	**287**	*e*Pn		**Pn**	**20 40 49.5**	**-1.8**
RSSD	**Black Hills**	**2.21**	**118**	*e*Pn		**Pn**	**20 40 52.6**	**+0.3**
K22A	**Casper**	**2.56**	**176**	*e*Pn		**Pn**	**20 40 56.9**	**-0.2**
LKWY	**Lake**	**2.68**	**257**	*e*Pn		**Pn**	**20 40 58.2**	**-0.6**
YNR	**Norris Junctio**	**2.84**	**261**	*e*Pn		**Pn**	**20 41 01.5**	**+0.5**
H17A	**Grant Village**	**2.85**	**255**	*e*Pn		**Pn**	**20 41 02.3**	**+1.1**
YHH	**Holmes Hill**	**2.95**	**263**	*e*Pn		**Pn**	**20 41 02.8**	**+0.3**
YFT	**Old Faithful**	**3.01**	**257**	*e*Pn		**Pn**	**20 41 04.8**	**+1.4**
FLWY	**Flagg Ranch**	**3.04**	**250**	*e*Pn		**Pn**	**20 41 03.8**	**0.0**
YPP	**Pitchstone Pla**	**3.05**	**254**	*e*Pn		**Pn**	**20 41 05.1**	**+1.2**
YMR	**Madison River**	**3.05**	**261**	*e*Pn		**Pn**	**20 41 04.2**	**+0.3**
BW06	**Boulder Array**	**3.18**	**221**	*e*Pn		**Pn**	**20 41 05.3**	**-0.3**
PD31	**Pinedale Array**	**3.18**	**221**	*e*Pn		**Pn**	**20 41 05.1**	**-0.5**
PDAR	**Pinedale Array**	**3.18**	**221**	*e*Pn		**Pn**	**20 41 05.6**	**0.0**
PDAR					Lg	Lg	20 41 44.2	
PDAR	**Pinedale Array**	**3.18**	**221**	Pn		**Pn**	**20 41 03.9**	**-1.7**
	2.3nm,0.3s,baz=51,slow=19,SNR=33							
PDAR					Lg	Lg	20 41 44.2	
	2.8nm,0.3s,baz=50,slow=28,SNR=12							
YHB	**Horse Butte**	**3.20**	**263**	*e*Pn		**Pn**	**20 41 06.2**	**+0.3**
LOHW	**Long Hollow**	**3.20**	**241**	*e*Pn		**Pn**	**20 41 06.5**	**+0.6**
MOOW	**Moose Ponds**	**3.22**	**244**	*e*Pn		**Pn**	**20 41 05.3**	**-0.9**
IMW	**Indian Meadow**	**3.28**	**248**	*e*Pn		**Pn**	**20 41 06.9**	**-0.1**
QLMT	**Earthquake Lak**	**3.35**	**265**	*e*Pn		**Pn**	**20 41 07.4**	**-0.5**
FXWY	**Fox Creek**	**3.45**	**244**	*e*Pn		**Pn**	**20 41 09.3**	**0.0**
BOZ	**Bozeman (W)**	**3.47**	**278**	*e*Pn		**Pn**	**20 41 10.3**	**+0.8**
TPAW	**Teton Pass**	**3.48**	**242**	*e*Pn		**Pn**	**20 41 11.1**	**+1.3**
REDW	**Red Top Meadow**	**3.48**	**239**	*e*Pn		**Pn**	**20 41 13.4**	**+3.6**
EGMT	**Eagleton**	**3.50**	**325**	*e*Pn		**Pn**	**20 41 10.2**	**+0.3**
HRY	**Holter Researc**	**3.86**	**295**	*e*Pb		**Pb**	**20 41 21.9**	**-1.2**
AHID	**Auburn Hatcher**	**3.98**	**234**	*e*Pb		**Pb**	**20 41 25.8**	**+0.5**
N23A	**Red Feather La**	**4.35**	**172**	*e*Pb		**Pb**	**20 41 31.3**	**-0.3**
MCMT	**McKenzie Canyo**	**4.35**	**267**	*e*Pn		**Pn**	**20 41 22.1**	**+0.3**
SRU	**San Rafael Swe**	**6.71**	**206**	*e*Pn		**Pn**	**20 41 52.1**	**-2.0**
NEW	**Newport**	**7.76**	**297**	Lg		Lg	20 44 16.3	
	0.1nm,0.3s,baz=254,slow=9.2,SNR=3.3							
I10CA	**LAC DU BONNET**	**8.78**	**51**	*i*			21 37 07.3	
	baz=234,slow=324,SNR=0.9							
ULM	**Lac du Bonnet**	**8.89**	**52**	Pn		**Pn**	**20 42 23.4**	**-0.3**
	0.6nm,0.3s,baz=236,slow=14,SNR=6.3							
ULM					Lg	Lg	20 44 55.2	
	0.2nm,0.3s,baz=78,slow=20,SNR=2.9							

*IDC **20** 20:54:19.9±0.8, 55°.50N×34°.87W, h0km, mb3.9/16, mb1 4.0/19, mb1mx3.9/50, mbtmp3.9/19, ML3.2/3, MS3.5/17, Ms1 3.5/17, ms1mx3.2/42, Error ellipse: s-maj=27.0km s-min=12.2km az=15.0*
*ISCJB **20** 20:54:21.0±0.5, 55°.6N±0°.1×34°.80W±0°.08, h14km, mb4.3/36, MS3.4/14, Error ellipse: s-maj=14.6km s-min=6.3km az=3.4*
*NEIC **20** 20:54:21.8±0.4, 55°.53N×34°.84W, h10km, mb4.6/24, Error ellipse: s-maj=12.4km s-min=5.5km az=184.0*

ISC 20 20:54:22.3±0.6, **55°.5N**±0°.1×**34°.87W**±0°.06, **h14**km, **n61**, σ1°**18**/54, **mb4.5**/36, **MS3.5**/14, **Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BORG	**Borgarnes**	**11.46**	**30**	LR		LR	21 00 21.0	
	comp=Z,218nm,21.4s,baz=303,slow=32							
EKA	**Eskdalemuir Ar**	**17.93**	**77**	P		**P**	**20 58 31.8**	**+0.4**
	baz=269,slow=8.3,SNR=4.4							
SCHQ	**Schefferville**	**18.20**	**281**	*e*Pn		**P**	**20 58 34.5**	**0.0**
	38nm,1.8s							
SCHQ	**Schefferville**	**18.20**	**281**	P		**Pn**	**20 58 33.9**	**-0.3**
	0.3nm,0.3s,baz=77,slow=14,SNR=3.4							
SCHQ				LR		LR	21 03 44.4	
	comp=Z,148nm,21.7s,baz=349,slow=31							
FRB	**Frobisher Bay**	**18.74**	**310**	P		**Pn**	**20 58 41.2**	**+0.6**
	0.1nm,0.3s,baz=84,slow=14,SNR=3.3							
FRB				LR		LR	21 04 28.5	
	comp=Z,116nm,18.0s,baz=116,slow=32							
NB200	**NORSAR Array S**	**24.45**	**58**	*e*P		**P**	**20 59 39.5**	**-0.8**
NOA	**NORSAR Array B**	**24.45**	**58**	P		**P**	**20 59 39.5**	**-0.8**
	1.6nm,0.9s,baz=280,slow=9.6,SNR=2.6							
NOA				LR		LR	21 07 25.8	
	comp=Z,40nm,20.4s,baz=275,slow=32							
HFS	**Hagfors**	**25.80**	**60**	LR		LR	21 08 09.0	
	comp=Z,63nm,18.7s,baz=292,slow=32							
ESDC	**Sonseca Array**	**25.87**	**115**	P		**P**	**20 59 54.8**	**+1.5**
	0.2nm,0.5s,baz=322,slow=8.1,SNR=3.5							
ESDC				LR		LR	21 08 22.4	
	comp=Z,92nm,19.6s,baz=325,slow=33							
DAVOX	**Davos/Dischmat**	**28.94**	**89**	LR		LR	21 11 31.2	
	comp=Z,152nm,18.7s,baz=258,slow=36							
RES	**Resolute Bay**	**29.77**	**332**	P		**P**	**21 00 28.2**	**+0.4**
	0.9nm,0.7s,baz=91,slow=10,SNR=4.7							
SADO	**Sadowa**	**29.84**	**268**	LR		LR	21 10 23.6	
	comp=Z,57nm,18.4s,baz=53,slow=32							
GERES	**GERESS Array B**	**30.00**	**82**	P		**P**	**21 00 30.9**	**+0.7**
	0.7nm,0.9s,baz=132,slow=2.0,SNR=3.8							
GERES				LR		LR	21 11 46.7	
	comp=Z,67nm,19.3s,baz=296,slow=35							
FIA0	**FINESS Array S**	**31.37**	**54**	*e*P		**P**	**21 00 41.9**	**-0.2**
FINES	**FINESS Array B**	**31.37**	**54**	P		**P**	**21 00 41.9**	**-0.2**
	1.7nm,0.8s,baz=304,slow=11,SNR=3.2							
FINES				LR		LR	21 12 19.2	
	comp=Z,34nm,18.0s,baz=266,slow=34							
FCC	**Fort Churchill**	**31.41**	**301**	*e*P		**P**	**21 00 42.3**	**-0.1**
	22nm,1.9s							
BLA	**Blacksburg**	**35.58**	**258**	*e*P		P	21 01 11.2	-7.8
	38nm,1.0s							
ULM	**Lac du Bonnet**	**36.15**	**288**	P		**P**	**21 01 23.6**	**-0.1**
	3.8nm,0.8s,baz=58,slow=7.2,SNR=5.9							
ULM				LR		LR	21 14 37.9	
	comp=Z,118nm,19.8s,baz=354,slow=34							
FFC	**Flin Flon**	**37.05**	**298**	*e*P		**P**	**21 01 31.7**	**+0.3**
	7.3nm,1.2s							
AKASG	**Malin Array Be**	**37.57**	**70**	P		**P**	**21 01 35.4**	**-0.3**
	2.7nm,0.8s,baz=305,slow=8.3,SNR=10							
AKBB	**Malin Array Si**	**37.57**	**70**	*e*P		**P**	**21 01 35.7**	**0.0**
	6.8nm,1.0s							
TZTN	**Tazewell**	**37.80**	**261**	*e*P		**P**	**21 01 40.9**	**+3.0**
	24nm,1.0s							
V53A	**Saluda**	**38.02**	**259**	*e*P		**P**	**21 01 41.9**	**+2.1**
	13nm,0.8s							
HODGE	**Hodges**	**38.77**	**257**	*e*P		**P**	**21 01 41.9**	**-4.1**
	53nm,1.5s							
YKA	**Yellowknife Ar**	**39.18**	**314**	P		**P**	**21 01 47.6**	**-1.6**
	1.5nm,0.8s,baz=61,slow=8.7,SNR=9.7							
YKA					PcP	**PcP**	**21 03 58.4**	**+0.3**
	0.3nm,0.7s,baz=70,slow=4.0,SNR=3.4							
INK	**Inuvik**	**43.01**	**327**	P		**P**	**21 02 20.7**	**+0.2**
	1.1nm,1.0s,baz=356,slow=9.2,SNR=2.6							
EGMT	**Eagleton**	**44.85**	**293**	*e*P		**P**	**21 02 37.2**	**+1.5**
	13nm,1.1s							
BR101	**Keskin Array S**	**46.83**	**80**	*e*P		**P**	**21 02 52.5**	**+1.0**
BR131	**Keskin Array S**	**46.83**	**80**	*e*P		**P**	**21 02 52.1**	**+0.6**
	4.8nm,0.8s							
BRTR	**Keskin Array B**	**46.83**	**80**	P		**P**	**21 02 52.5**	**+1.0**
	3.7nm,0.8s,baz=306,slow=5.1,SNR=22							
BRTR				LR		LR	21 23 42.9	
	comp=Z,17nm,19.7s,baz=288,slow=38							
BOZ	**Bozeman (W)**	**47.40**	**292**	*e*P		**P**	**21 02 56.0**	**0.0**
	6.5nm,0.8s							
PD31	**Pinedale Array**	**48.17**	**288**	*e*P		**P**	**21 03 01.1**	**-1.0**
	4.1nm,1.4s							
PDAR	**Pinedale Array**	**48.17**	**288**	P		**P**	**21 03 00.7**	**-1.4**
	0.9nm,0.8s,baz=56,slow=9.2,SNR=5.0							
PDAR				LR		LR	21 21 55.5	
	comp=Z,80nm,19.8s,baz=70,slow=34							
ARU	**Arti**	**48.35**	**48**	*e*P		**P**	**21 03 02.6**	**-0.3**
	5.4nm,0.8s							
IL1	**Eielson Array**	**49.37**	**328**	*e*P		**P**	**21 03 10.3**	**-0.4**
ILAR	**Eielson Array**	**49.37**	**328**	P		**P**	**21 03 11.3**	**+0.7**
	1.4nm,0.9s,baz=32,slow=6.5,SNR=9.3							
ILAR				LR		LR	21 23 36.9	
	comp=Z,81nm,19.7s,baz=85,slow=36							
ILB	**Eielson Array**	**49.37**	**328**	*e*P		**P**	**21 03 10.6**	**0.0**
	26nm,2.0s							
TOA1	**Torodi Ar. Sit**	**50.84**	**132**	*e*P		**P**	**21 03 20.8**	**-1.6**
TORD	**Torodi Ar. Bea**	**50.85**	**132**	P		**P**	**21 03 20.8**	**-1.6**
	1.6nm,0.9s,baz=342,slow=11,SNR=9.1							
GNI	**Garni**	**52.65**	**72**	*e*P		**P**	**21 03 36.3**	**+0.5**
	9.0nm,1.0s							
TIXI	**Tiksi**	**52.66**	**6**	*e*P		**P**	**21 03 35.3**	**0.0**
	10nm,1.4s							
ABKAR	**Akbulak array**	**53.86**	**54**	*e*P		**P**	**21 03 45.0**	**+0.6**
	12nm,1.8s							
DBIC	**Dimbokro**	**54.22**	**142**	LR		LR	21 24 39.4	
	comp=Z,66nm,18.2s,baz=38,slow=34							
TXAR	**Lajitas Array**	**54.52**	**271**	LR		LR	21 26 37.1	
	comp=Z,68nm,19.5s,baz=0.0,slow=36							
BRVK	**Borovoye**	**55.56**	**45**	*e*P		**P**	**21 03 56.7**	**+0.1**
	5.1nm,1.1s							
NVAR	**Mina Array Bea**	**55.95**	**290**	LR		LR	21 26 55.3	
	comp=Z,84nm,18.2s,baz=277,slow=35							
ZAIG	**Zacatecas**	**58.95**	**265**	*e*P		**P**	**21 04 23.4**	**+2.0**
	41nm,1.4s							
ZAA1	**Zalesovo Array**	**60.24**	**36**	*e*P		**P**	**21 04 27.4**	**-2.0**
ZALV	**Zalesovo Beam**	**60.24**	**36**	P		**P**	**21 04 27.4**	**-2.1**
	0.5nm,0.6s,baz=330,slow=13,SNR=2.7							
KURK	**Kurchatov**	**60.64**	**42**	*e*P		**P**	**21 04 31.8**	**-0.5**
	3.0nm,0.8s							
GEYT	**Alibeck**	**61.33**	**64**	P		**P**	**21 04 36.9**	**-0.3**
	2.0nm,0.9s,baz=294,slow=11,SNR=4.3							
MAKZ	**Makanchi**	**65.11**	**43**	*e*P		**P**	**21 05 02.2**	**0.0**
	3.8nm,1.1s							
MK31	**Makanchi Array**	**65.25**	**42**	*e*P		**P**	**21 05 02.9**	**-0.1**
	2.0nm,0.9s							
MK32	**Makanchi Array**	**65.25**	**42**	*e*P		**P**	**21 05 01.7**	**-1.3**
MKAR	**Makanchi Array**	**65.25**	**42**	P		**P**	**21 05 01.7**	**-1.3**
	2.3nm,0.8s,baz=330,slow=6.4,SNR=27							
MK01	**Makanchi Array**	**65.27**	**42**	*e*P		**P**	**21 05 03.1**	**-0.1**
AAK	**Ala-Archa**	**65.45**	**50**	*e*P		**P**	**21 05 05.5**	**+1.0**
	3.7nm,1.1s							
BTK	**Batken**	**65.87**	**54**	*e*P		**P**	**21 05 08.3**	**+1.1**
	16nm,1.5s							
WR1	**Warramunga Arr**	**143.60**	**17**	*e*PKPdf		**PKPdf**	**21 13 55.8**	**-0.6**
WRA	**Warramunga Arr**	**143.60**	**17**	PKP		**PKPdf**	**21 13 55.8**	**-0.6**
	0.6nm,0.9s,baz=342,slow=3.0,SNR=4.8							
ASAR	**Alice Springs**	**147.16**	**19**	PKPbc		**PKPbc**	**21 14 03.9**	**-0.8**
	1.2nm,0.8s,baz=337,slow=2.5,SNR=11							

IDC 20 20:57:33.2±2.0, **2°.10N×125°.67E, h0**km, **mb3.3**/3, **mb1 3.5**/3, **mb1mx

RPZ	**Rata Peaks**	**2.77**	**71**	P	**Pn**	**21 31 11.7**	**+0.7**
WVZ	**Waitaha Valley**	**2.86**	**58**	P	**Pn**	**21 31 11.1**	**-1.1**
INZ	**Inchbonnie**	**3.49**	**58**	P	**Pn**	**21 31 19.8**	**-1.0**
OXZ	**Oxford**	**3.58**	**70**	P	**Pn**	**21 31 21.8**	**-0.3**
MQZ	**McQueen's Vall**	**3.87**	**78**	P	**Pn**	**21 31 26.0**	**0.0**
LTZ	**Lake Taylor**	**3.98**	**64**	P	**Pn**	**21 31 26.8**	**-0.8**
AKCZ	**Akaroa Harbour**	**4.01**	**81**	P	**Pn**	**21 31 28.1**	**+0.1**
AMCZ	**Amberley**	**4.05**	**70**	P	**Pn**	**21 31 28.3**	**-0.2**
OKCZ	**Okains Bay**	**4.15**	**79**	P	**Pn**	**21 31 30.4**	**+0.5**
OKCZ				P	**Pn**	**21 31 30.4**	**+0.5**
DSZ	**Denniston Nort**	**4.32**	**49**	P	**Pn**	**21 31 31.6**	**-0.7**
THZ	**Tophouse**	**4.94**	**56**	P	**Pn**	**21 31 41.1**	**+0.3**
KHZ	**Kahutara**	**4.97**	**65**	P	**Pn**	**21 31 41.0**	**-0.1**
QRZ	**Quartz Range**	**5.34**	**46**	P	**Pn**	**21 31 45.8**	**-0.7**
BSWZ	**Blackbirch Sta**	**5.55**	**60**	P	**Pn**	**21 31 51.5**	**+2.3**
NNZ	**Nelson**	**5.55**	**54**	P	**Pn**	**21 31 49.4**	**+0.2**
CMWZ	**Cape Campbell**	**5.74**	**62**	P	**Pn**	**21 31 53.9**	**+2.1**
TUWZ	**Tuamarina**	**5.76**	**58**	P	**Pn**	**21 31 53.3**	**+1.3**
TCW	**Tory Channel**	**6.09**	**58**	P	**Pn**	**21 31 57.6**	**+1.0**
DUWZ	**D'Urville Isla**	**6.14**	**53**	P	**Pn**	**21 31 57.3**	**+0.1**
BHW	**Baring Head**	**6.34**	**62**	P	**Pn**	**21 32 00.1**	**+0.1**
PLWZ	**Palliser**	**6.50**	**64**	P	**Pn**	**21 32 02.3**	**0.0**
MSWZ	**Moikau Station**	**6.58**	**63**	P	**Pn**	**21 32 03.0**	**-0.3**
CAW	**Cannon Point**	**6.63**	**60**	P	**Pn**	**21 32 02.3**	**-1.8**
KIW	**Kapiti Island**	**6.68**	**58**	P	**Pn**	**21 32 03.6**	**-1.1**
OGWZ	**Otaki Gorge**	**6.87**	**59**	P	**Pn**	**21 32 07.9**	**+0.7**
MTW	**Mount Morrison**	**6.88**	**62**	P	**Pn**	**21 32 06.4**	**-1.0**
HOWZ	**Holdsworth Sta**	**7.03**	**60**	P	**Pn**	**21 32 09.4**	**-0.1**
NMEZ	**Namu Road**	**7.10**	**45**	P	**Pn**	**21 32 10.6**	**+0.2**
MRZ	**Mangatainoka R**	**7.21**	**59**	P	**Pn**	**21 32 11.4**	**-0.5**
NBEZ	**Newall Road No**	**7.21**	**44**	P	**Pn**	**21 32 11.5**	**-0.5**
KHEZ	**Kahui Hut**	**7.26**	**45**	P	**Pn**	**21 32 12.6**	**-0.2**
PREZ	**Palmer Road**	**7.30**	**46**	P	**Pn**	**21 32 13.5**	**+0.3**
PKE	**Pukeiti**	**7.32**	**44**	P	**Pn**	**21 32 13.2**	**-0.3**
WAZ	**Wanganui**	**7.44**	**51**	P	**Pn**	**21 32 16.6**	**+1.5**
BFZ	**Birch Farm**	**7.61**	**62**	P	**Pn**	**21 32 16.2**	**-1.2**
BFZ				P	**Pn**	**21 32 16.7**	**-0.7**
VRZ	**Vera Road**	**7.77**	**47**	P	**Pn**	**21 32 19.9**	**+0.3**
DVHZ	**Dannevirke**	**7.78**	**59**	P	Pn	21 32 26.5	+6.7
PKVZ	**Pokaka**	**7.97**	**50**	P	**Pn**	**21 32 23.4**	**+1.0**
PNHZ	**Pukenui**	**8.04**	**57**	P	**Pn**	**21 32 24.4**	**+1.0**
TRVZ	**Turoa**	**8.07**	**51**	P	**Pn**	**21 32 24.7**	**+0.7**
DRZ	**Dome Shelter**	**8.10**	**51**	P	**Pn**	**21 32 26.8**	**+2.4**
FWVZ	**Far West T-bar**	**8.11**	**51**	P	**Pn**	**21 32 24.8**	**+0.4**
WHVZ	**Whangaehu Hut**	**8.11**	**51**	P	**Pn**	**21 32 26.7**	**+2.3**
MOVZ	**Moawhango**	**8.11**	**53**	P	**Pn**	**21 32 25.9**	**+1.5**
TUVZ	**Tukino**	**8.15**	**51**	P	**Pn**	**21 32 27.4**	**+2.4**
TWVZ	**Taurewa**	**8.17**	**50**	P	**Pn**	**21 32 25.7**	**+0.5**
NGZ	**Ngauruhoe**	**8.18**	**51**	P	**Pn**	**21 32 26.2**	**+0.7**
WTVZ	**West Tongariro**	**8.22**	**50**	P	**Pn**	**21 32 27.7**	**+1.8**
BHHZ	**Black Hill Sta**	**8.23**	**54**	P	**Pn**	**21 32 27.5**	**+1.5**
KRVZ	**Karewarewa**	**8.27**	**51**	P	**Pn**	**21 32 28.2**	**+1.7**
HIZ	**Hauiti**	**8.28**	**45**	P	**Pn**	**21 32 26.5**	**-0.1**
KRHZ	**Kereru**	**8.31**	**56**	P	**Pn**	**21 32 31.7**	**+4.6**
KATZ	**Kakaramea**	**8.38**	**50**	P	**Pn**	**21 32 30.3**	**+2.2**
TLZ	**Tolley Road**	**8.77**	**47**	P	**Pn**	**21 32 33.5**	**+0.2**
TOZ	**Tahuroa Road**	**9.21**	**44**	P	**Pn**	**21 32 39.4**	**+0.1**
KMRZ	**Kaimai**	**9.34**	**46**	P	**Pn**	**21 32 43.6**	**+2.4**
URZ	**Urewera**	**9.67**	**52**	Pn	**Pn**	**21 32 47.2**	**+1.5**
	1.4nm,0.3s,baz=220,slow=7.3,SNR=5.7						
URZ				Sn	Sn	21 34 23.9	-10
	0.4nm,0.3s,baz=83,slow=12,SNR=3.1						
ASAR	**Alice Springs**	**34.41 296**		P	**P**	**21 37 16.3**	**+2.2**
	0.4nm,0.8s,baz=138,slow=7.1,SNR=4.0						
ASAR				PcP	**PcP**	**21 39 49.3**	**-0.3**
	0.3nm,0.5s,baz=137,slow=4.1,SNR=4.3						
WRA	**Warramunga Arr**	**36.87 301**		P	**P**	**21 37 35.3**	**+0.1**
	0.3nm,0.7s,baz=137,slow=7.7,SNR=11						
H01W1	**Cape Leeuwin H**	**41.44 265**		T	T	22 22 19.3	
	baz=120,slow=75,SNR=11						
H01W2	**Cape Leeuwin H**	**41.45 265**		T	T	22 22 22.3	
	baz=120,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**41.46 265**		T	T	22 22 20.5	
	baz=120,slow=75,SNR=12						
H08S2	**Diego Garcia H**	**88.19 261**		T	T	23 20 37.3	
	baz=134,slow=76,SNR=100						
H08S1	**Diego Carcia H**	**88.20 261**		T	T	23 20 38.6	
	baz=134,slow=76,SNR=118						
H08S3	**Diego Garcia H**	**88.21 261**		T	T	23 20 38.3	
	baz=134,slow=76,SNR=111						
H08N1	**Diego Carcia H**	**90.14 261**		T	T	23 23 04.3	
	baz=136,slow=75,SNR=36						
H08N3	**Diego Garcia H**	**90.16 261**		T	T	23 23 03.9	
	baz=136,slow=75,SNR=48						
H08N2	**Diego Garcia H**	**90.16 261**		T	T	23 23 01.7	
	baz=136,slow=75,SNR=35						
BRTR	**Keskin Array B**	**145.78 278**		PKPbc	**PKPab**	**21 50 05.8**	**-0.2**
	1.0nm,0.7s,baz=127,slow=4.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**146.31 206**		PKPbc	**PKPdf**	**21 50 06.1**	**-0.5**
	0.6nm,0.5s,baz=141,slow=1.7,SNR=10						
ARCES	**ARCESS Array B**	**148.58 335**		PKPbc	**PKPbc**	**21 50 12.3**	**-0.1**
	1.9nm,0.7s,baz=81,slow=2.4,SNR=7.0						
AKASG	**Malin Array Be**	**151.52 297**		PKPbc	**PKPbc**	**21 50 18.6**	**-1.4**
	0.5nm,0.4s,baz=82,slow=1.9,SNR=5.3						
FINES	**FINESS Array B**	**151.91 320**		PKPbc	**PKiKP**	**21 50 20.8**	**-0.1**
	1.6nm,0.8s,baz=52,slow=3.1,SNR=5.1						

IDC 20 21:30:33.3±11.0, 37.08S×78.82E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/27, mbtmp3.5/3, MS3.8/9, Ms1 3.8/9, ms1mx3.6/13, Error ellipse: s-maj=387.4km s-min=44.8km az=34.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.56**	**96**	T	T	22 06 04.3	
	baz=257,slow=74,SNR=158						
H01W3	**Cape Leeuwin H**	**28.57**	**96**	T	T	22 06 04.7	
	baz=257,slow=74,SNR=119						
H01W1	**Cape Leeuwin H**	**28.58**	**96**	T	T	22 06 05.6	
	baz=257,slow=74,SNR=133						
H08S2	**Diego Garcia H**	**29.86 347**		T	T	22 07 17.4	
	baz=169,slow=76,SNR=284						
H08S1	**Diego Carcia H**	**29.86 347**		T	T	22 07 17.7	
	baz=169,slow=76,SNR=354						
H08S3	**Diego Garcia H**	**29.88 347**		T	T	22 07 18.9	
	baz=169,slow=76,SNR=314						
MAW	**Mawson**	**31.88 192**		LR	LR	21 47 35.4	
	comp=Z,328nm,18.5s,baz=20,slow=32						
BOSA	**Boshof**	**45.28 265**		LR	LR	21 54 02.8	
	comp=Z,34nm,20.6s,baz=116,slow=31						
ASAR	**Alice Springs**	**48.75**	**90**	P	P	21 39 19.2	-0.8
	0.7nm,0.9s,baz=230,slow=7.2,SNR=2.9						
ASAR				LR	LR	21 57 49.9	
	comp=Z,105nm,19.3s,baz=250,slow=34						
WRA	**Warramunga Arr**	**50.99**	**86**	P	P	21 39 37.8	+0.7
	0.9nm,0.9s,baz=238,slow=7.4,SNR=5.2						
WRA				LR	LR	21 59 58.5	
	comp=Z,80nm,18.5s,baz=5.0,slow=35						
STKA	**Stephens Creek**	**51.19 104**		LR	LR	21 57 41.7	
	comp=Z,114nm,19.9s,baz=206,slow=32						
VNDA	**Vanda**	**52.62 164**		LR	LR	21 59 44.6	
	comp=Z,174nm,19.0s,baz=250,slow=33						
SNAA	**Sanae**	**52.68 203**		LR	LR	21 59 27.6	
	comp=Z,130nm,20.1s,baz=46,slow=33						
CMAR	**Chiang Mai Arr**	**58.41**	**23**	LR	LR	22 01 11.2	
	comp=Z,23nm,20.9s,baz=198,slow=32						
AAK	**Ala-Archa**	**79.44 357**		LR	LR	22 13 55.4	
	comp=Z,65nm,21.0s,baz=163,slow=33						
MKAR	**Makanchi Array**	**83.56**	**2**	P	P	21 43 02.8	0.0
	0.2nm,0.7s,baz=193,slow=5.9,SNR=2.6						

*IDC **20** 21:45:03.8±1.3, 28.64S×177.65W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/25, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/17, Error ellipse: s-maj=35.0km s-min=16.9km az=99.0*

*ISCJB **20** 21:45:07.5±2.8, 29.66S±0.08×177.3W±0.2, h54km, mb4.0/4, Error ellipse: s-maj=37.1km s-min=10.5km az=172.1*

ISC 20 21:45:08.8±1.4, 29.5S±0.1×177.3W±0.2, h54km, n11, σ0.69/10, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.61 298**		Pn	**Pn**	**21 45 20.5**	**-1.1**
	1μm,0.3s,baz=104,slow=5.5,SNR=49						
RAO				Sn	**Sn**	**21 45 31.4**	**+0.5**
	2μm,0.3s,baz=270,slow=20,SNR=17						
URZ	**Urewera**	**9.85 207**		Sn	**Sn**	**21 49 16.4**	**-0.4**
	1.8nm,0.3s,baz=297,slow=12,SNR=5.2						
DZM	**Mont Dzumac**	**16.41 293**		LR	LR	21 54 08.6	
	comp=Z,86nm,18.4s,baz=204,slow=34						
STKA	**Stephens Creek**	**35.27 256**		P	**P**	**21 51 59.2**	**+0.7**
	3.6nm,0.9s,baz=86,slow=9.6,SNR=3.0						
ASAR	**Alice Springs**	**43.77 266**		P	**P**	**21 53 09.6**	**+0.2**
	0.6nm,0.5s,baz=105,slow=7.4,SNR=7.0						
WRA	**Warramunga Arr**	**44.68 271**		P	**P**	**21 53 17.1**	**+0.5**
	0.6nm,0.4s,baz=109,slow=7.7,SNR=20						
QSPA	**South Pole Qui**	**60.57 180**		P	P	21 55 22.8	+9.2
	1.3nm,0.5s,baz=254,slow=0.1,SNR=8.3						
FINES	**FINESS Array B**	**144.54 341**		PKP	**PKPab**	**22 04 37.3**	**+0.2**
	1.4nm,0.5s,baz=61,slow=3.8,SNR=8.5						
HFS	**Hagfors**	**148.52 349**		PKPbc	**PKiKP**	**22 04 50.2**	**-0.2**
	1.8nm,0.8s,baz=46,slow=6.4,SNR=4.2						
AKASG	**Malin Array Be**	**150.97 324**		PKPbc	**PKPbc**	**22 04 55.8**	**+0.5**
	0.3nm,0.3s,baz=52,slow=2.4,SNR=4.3						
BRTR	**Keskin Array B**	**152.71 300**		PKPbc	**PKPbc**	**22 04 59.0**	**-0.7**
	0.3nm,0.5s,baz=50,slow=4.5,SNR=2.6						

BEO 20 21:53:17.3±0.3, 43.37N×20.93E, h0km, ML1.8/4, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.20**	**136**	*e*Pg	Pg	21 53 20.5	-0.7
IVAS	**Ivanjica**	**0.60**	**291**	*e*Pg	Pg	21 53 29.6	+0.8
IVAS				*e*Sg	Sg	21 53 36.4	-0.2
SJES	**Sjenica**	**0.70**	**262**	*e*Pg	Pg	21 53 30.5	-0.3
SJES				*e*Sg	Sg	21 53 39.0	-0.9
BARS	**Barje**	**0.85**	**130**	*e*Pg	Pg	21 53 33.0	-0.6
TRUS	**Trudelj**	**0.94**	**336**	*e*Pg	Pg	21 53 34.4	-0.8
TRUS				*e*Sg	Sg	21 53 46.6	-0.8
DIVS	**Divibare**	**1.00**	**318**	*e*Sg	Sg	21 53 48.1	-1.2
BOSS	**Bosilegrad**	**1.44**	**127**	*e*Pg	Pn	21 53 42.3	-2.3
PDG	**Podgorica**	**1.54**	**233**	↑*i*P	Pg	21 53 47.1	+0.2
PDG	**Podgorica**	**1.54**	**233**	S	Sg	21 54 08.0	+1.1
VTS	**Vitosha**	**1.85**	**113**	*e*Pg	Pb	21 53 51.5	-0.6
VTS	**Vitosha**	**1.85**	**113**	↑*i*P	Pb	21 53 51.5	-0.6
VTS	**Vitosha**	**1.85**	**113**	S	Sn	21 54 14.5	-0.1
HERR	**Herculane**	**1.86**	**35**	↑*i*P	Pg	21 53 53.9	+1.0
KRUS	**Krusevo**	**2.01**	**173**	*i* Pn	Pn	21 53 52.7	+0.1
BZS	**Buzias**	**2.30**	**12**	↓*i*P	Pg	21 54 00.8	-0.7
GZR	**Gura Zlata**	**2.42**	**33**	↑*i*P	Pg	21 54 03.5	-0.2
VLAD	**Vladila**	**2.60**	**75**	↑*i*P	Pb	21 54 02.9	-1.9
DRGR		**3.65**	**20**	S	Sn	21 55 02.2	+3.3

*BGR **20** 22:28:41.2±0.0, 56.2N×38.85W, h10km, mb4.8*

*IDC **20** 22:28:58.1±0.3, 55.52N×35.08W, h0km, mb4.7/38, mb1 4.8/42, mb1mx4.8/48, mbtmp4.7/42, ML3.9/4, MS4.8/50, Ms1 4.8/50, ms1mx4.7/58, Error ellipse: s-maj=11.4km s-min=8.4km az=1.0*

*MOS **20** 22:28:58.6±1.0, 55.62N×35.01W, h10km, mb5.5/124, MS5.0/94, Error ellipse: s-maj=6.0km s-min=4.5km az=54.3*

*ISCJB **20** 22:28:58.5±0.1, 55.56N±0.02×35.07W±0.01, h10km, mb5.2/494, MS5.2/610, Error ellipse: s-maj=2.8km s-min=1.1km az=173.4*

*BJI **20** 22:28:58.4, 55.97N×35.24W, h5km, mb5.2/45, mB5.6/42, Ms5.2/43, Ms7 4.9/35*

*NEIC **20** 22:28:59.0±0.0, 55.45N×35.06W, h11km, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.21; $M_{\theta\theta}$0.19; $M_{\phi\phi}$1.02; $M_{r\theta}$0.31; $M_{\theta\phi}$0.45; $M_{r\phi}$0.41; Best double couple: M_o1.30000×10^{17} NP1:ϕ_s209.00000°, δ56.00000°, λ-84.00000°. NP2:ϕ_s18.00000°, δ34.00000°, λ-98.00000°. Principal axes: T 1.3100, Plg11.0000°, Azm294.0000°; N 0.0000, Plg4.0000°, Azm25.0000°; P -1.3200, Plg77.0000°, Azm138.0000°;*

*NEIC **20** 22:29:00.1±0.1, 55.50N×34.95W, h10km, mb5.3/298, MS5.3/298, MW5.5, MW5.3 Error ellipse: s-maj=3.9km s-min=1.9km az=174.0, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}0.34; $M_{\theta\theta}$-2.10; $M_{\phi\phi}$1.76; $M_{r\theta}$0.18; $M_{\theta\phi}$0.70; $M_{r\phi}$0.13; Best double couple: M_o2.10000×10^{17} NP1:ϕ_s325.00000°, δ84.00000°, λ178.00000°. NP2:ϕ_s55.00000°, δ88.00000°, λ6.00000°. Principal axes: T 1.8900, Plg6.0000°, Azm280.0000°; N 0.3400, Plg83.0000°, Azm69.0000°; P -2.2300, Plg3.0000°, Azm190.0000°;*

*GCMT **20** 22:29:01.2±0.1, 55.71N±0.01×35.02W±0.01, h12km, MW5.4/117, Moment Tensor Solution. s79,c119; s117,c229; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.41±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$1.38±.02; $M_{r\theta}$0.35±.05; $M_{\theta\phi}$0.44±.01; $M_{r\phi}$0.08±.04; Best double couple: M_o1.50600×10^{17} NP1:ϕ_s209.00000°, δ50.00000°, λ-73.00000°. NP2:ϕ_s4.00000°, δ43.00000°, λ-109.00000°. Principal axes: T 1.5210, Plg3.0000°, Azm287.0000°; N -0.0270, Plg13.0000°, Azm18.0000°; P -1.4910, Plg77.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 22:28:58.9±0.7, 55.59N±0.04×35.08W±0.03, h3km±4km, n1716, σ1.42/1598, mb5.3/510, MS5.2/614, 58C-64D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**7.78**	**320**	*e*Pn	**Pn**	**22 30 52.0**	**-0.9**
NRS				*e*Sn	Sn	22 32 10.8	-11
NRS	**Narsarsuaq**	**7.78**	**320**	*i* P	**Pn**	**22 30 54.7**	**+1.8**
NRS	**Narsarsuaq**	**7.78**	**320**	*e*P	**Pn**	**22 30 52.0**	**-0.9**
IVI	**Ivigtut**	**8.87**	**315**	*e*Pn	**Pn**	**22 31 05.2**	**-2.6**
IVI				*e*Sn	**Sn**	**22 32 39.5**	**-8.7**
ANGG	**Ammassalik, Gr**	**10.13**	**354**	*e*Pn	**Pn**	**22 31 23.6**	**-1.5**
ANGG				*e*Sn	Sn	22 33 09.6	-10
BORG	**Borgarnes**	**11.42**	**31**	*e*Pn	Pn	22 31 48.7	+6.0
BORG	**Borgarnes**	**11.42**	**31**	*e*P	Pn	22 31 48.7	+6.0
BORG	**Borgarnes**	**11.42**	**31**	Pn	**Pn**	**22 31 47.1**	**+4.4**
	2.1nm,0.3s,baz=238,slow=5.0,SNR=10						
BORG				LR	LR	22 35 00.0	
	comp=Z,11μm,19.2s,baz=240,slow=32						
SFJD	**Kangerlussuaq**	**13.60**	**333**	*e*Pn	**Pn**	**22 32 11.6**	**-0.8**
SFJD				*e*Sn	Sn	22 34 32.7	-11
SFJD	**Kangerlussuaq**	**13.60**	**333**	*i* P	**Pn**	**22 32 12.8**	**+0.4**
SFJD	**Kangerlussuaq**	**13.60**	**333**	Pn	**Pn**	**22 32 11.5**	**-0.8**
	0.6nm,0.3s,baz=154,slow=9.6,SNR=4.9						
SFJD				LR	LR	22 36 35.2	
	comp=Z,8μm,19.9s,baz=141,slow=33						
DRLN	**Deer Lake**	**15.04**	**254**	*e*Pn	**Pn**	**22 32 32.5**	**+0.4**
	276nm,1.6s						
IGLA	**Glengowla, Co**	**15.06**	**88**	*e*P	**P**	**22 32 35.1**	**-2.8**
VAL	**Valentia**	**15.10**	**94**	*e*P	**P**	**22 32 36.4**	**-1.9**
ILULI	**Ilulissat**	**15.46**	**338**	*e*Pn	**Pn**	**22 32 37.1**	**-0.4**
	80nm,1.3s						
ILULI	**Ilulissat**	**15.46**	**338**	*e*P	**Pn**	**22 32 37.2**	**-0.4**
ILULI				pmax	pmax		
	comp=Z,80nm,1.3s						
IDGL	**Inch Island, C**	**15.66**	**80**	*e*P	**P**	**22 32 43.0**	**-1.5**
SCO	**Scoresbysund**	**16.02**	**16**	*e*Pn	**Pn**	**22 32 45.0**	**+0.2**
	comp=Z,155nm,1.5s						
SCO	**Scoresbysund**	**16.02**	**16**	*i* P	**P**	**22 32 49.8**	**+1.4**
	comp=Z,194nm,1.6s						
SCO	**Scoresbysund**	**16.02**	**16**	*i* P	**P**	**22 32 49.8**	**+1.4**
SCO				pmax	pmax		
	comp=Z,190nm,1.6s						
DSB	**Dublin**	**16.82**	**86**	*e*Pn	**Pn**	**22 32 54.5**	**-0.7**
	comp=Z,198nm,1.9s						
IWEX	**Carrickbyrne,**	**16.90**	**89**	*e*P	**P**	**22 32 57.5**	**-0.8**
SUMG	**Summit**	**17.11**	**357**	*e*Pn	**Pn**	**22 32 57.3**	**-1.8**
	comp=Z,614nm,2.0s						
SUMG	**Summit**	**17.11**	**357**	*i* P	**Pn**	**22 32 58.0**	**-1.1**
	comp=Z,82nm,0.9s						
SUMG	**Summit**	**17.11**	**357**	*i* P	**Pn**	**22 32 58.0**	**-1.1**
SUMG				pmax	pmax		
	comp=Z,82nm,0.9s						
WLF1	**Llynfaes**	**17.92**	**85**	*e*P	**P**	**22 33 09.9**	**+0.3**
WLF1				IAMs_20	IAMs_20	22 37 49.7	
	comp=Z,12μm,23.5s						
ESK	**Eskdalemuir**	**18.00**	**78**	*e*Pn	**Pn**	**22 33 09.7**	**-0.2**
	comp=Z,123nm,1.4s						
ESK	**Eskdalemuir**	**18.00**	**78**	*e*P	**P**	**22 33 10.6**	**+0.2**
ESK				IAmb	IAmb	22 33 12.0	
	comp=Z,128nm,1.3s						
ESK				IAMs_20	IAMs_20	22 39 18.3	
	comp=Z,28μm,15.4s						
ESK	**Eskdalemuir**	**18.00**	**78**	*e*P	**Pn**	**22 33 09.7**	**-0.2**
ESK				pmax	pmax		
	comp=Z,123nm,1.4s						
EKA	**Eskdalemuir Ar**	**18.02**	**78**	P	**Pn**	**22 33 09.8**	**-0.4**
	baz=273,slow=8.8,SNR=23						
EKA				LR	LR	22 39 02.9	
	comp=Z,5μm,18.4s,baz=285,slow=34						

BHH	**Howats Hill**	**18.05**	**78**	*e*P	**P**	**22 33 11.6**	**+0.6**
SCHQ	**Schefferville**	**18.05**	**281**	*e*Pn	**Pn**	**22 33 10.1**	**-0.5**
	comp=Z,232nm,1.4s						
SCHQ	**Schefferville**	**18.05**	**281**	P	**Pn**	**22 33 10.8**	**+0.2**
	comp=Z,1.6nm,0.3s,baz=81,slow=10,SNR=17						
SCHQ				LR	LR	22 38 47.2	
	comp=Z,5μm,21.2s,baz=86,slow=33						
YLL	**Llanberis**	**18.10**	**85**	*e*P	**P**	**22 33 12.2**	**+0.6**
RSBS	**Rosebush, Pemb**	**18.22**	**89**	*e*P	**P**	**22 33 14.3**	**+1.4**
RSBS				IAmb	IAmb	22 33 14.9	
	comp=Z,88nm,1.3s						
RSBS				IAMs_20	IAMs_20	22 39 09.3	
	comp=Z,3μm,15.6s						
LLW	**Llanuwchllyn**	**18.49**	**85**	*e*P	**Pn**	**22 33 17.2**	**+1.3**
LPW	**Lampeter**	**18.54**	**88**	*e*P	**Pn**	**22 33 18.0**	**+1.6**
LPW				IAmb	IAmb	22 33 18.8	
	comp=Z,146nm,1.2s						
LPW				IAMs_20	IAMs_20	22 39 20.2	
	comp=Z,7μm,15.4s						
FRB	**Frobisher Bay**	**18.56**	**310**	P	**P**	**22 33 15.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=106,slow=12,SNR=11						
FRB				LR	LR	22 38 59.9	
	comp=Z,7μm,19.5s,baz=99,slow=32						
CCA1	**Carnmenellis**	**18.72**	**94**	*e*P	**Pn**	**22 33 18.8**	**+0.1**
CCA1				IAMs_20	IAMs_20	22 39 17.0	
	comp=Z,8μm,17.1s						
FOEL	**Foel Wylfa**	**18.74**	**85**	*e*P	**Pn**	**22 33 19.3**	**+0.4**
FOEL				IAmb	IAmb	22 33 21.9	
	comp=Z,124nm,1.2s						
FOEL				IAMs_20	IAMs_20	22 39 08.1	
	comp=Z,5μm,17.9s						
HTL	**Hartland**	**18.77**	**91**	*e*P	**Pn**	**22 33 20.9**	**+1.6**
HTL				IAMs_20	IAMs_20	22 38 50.7	
	comp=Z,7μm,21.3s						
EDMD	**Edmundbyers**	**18.82**	**79**	*e*P	**Pn**	**22 33 20.3**	**+0.5**
EDMD				IAmb	IAmb	22 33 21.7	
	comp=Z,316nm,1.8s						
EDMD				IAMs_20	IAMs_20	22 39 19.4	
	comp=Z,6μm,15.8s						
HLM1	**Long Mynd**	**19.06**	**86**	*e*P	**Pn**	**22 33 23.3**	**+0.5**
HLM1				IAmb	IAmb	22 33 26.5	
	comp=Z,357nm,1.5s						
HLM1				IAMs_20	IAMs_20	22 38 57.3	
	comp=Z,6μm,20.1s						
MCH1	**Michaelchurch**	**19.19**	**87**	*e*P	**Pn**	**22 33 26.2**	**+1.8**
MCH1				IAMs_20	IAMs_20	22 39 40.7	
	comp=Z,8μm,17.2s						
STNC	**Stoke**	**19.23**	**84**	*e*P	**Pn**	**22 33 26.5**	**+1.7**
STNC				IAMs_20	IAMs_20	22 39 13.6	
	comp=Z,5μm,20.8s						
JMIC	**Jan Mayen**	**19.23**	**26**	LR	LR	22 39 14.2	
	comp=Z,1μm,20.2s,baz=244,slow=32						
HPK	**Haverah Park**	**19.27**	**81**	*e*P	**Pn**	**22 33 25.7**	**+0.4**
HPK				IAmb	IAmb	22 33 28.5	
	comp=Z,247nm,1.4s						
HPK				IAMs_20	IAMs_20	22 39 40.4	
	comp=Z,6μm,17.7s						
DYA	**Yadsworthy**	**19.34**	**92**	*e*P	**P**	**22 33 25.4**	**+0.3**
DYA				IAmb	IAmb	22 33 29.1	
	comp=Z,220nm,1.3s						
DYA				IAMs_20	IAMs_20	22 39 50.7	
	comp=Z,8μm,16.4s						
MONM	**Monmouth**	**19.36**	**88**	*e*P	**Pn**	**22 33 26.9**	**+0.5**
MONM				IAMs_20	IAMs_20	22 39 54.6	
	comp=Z,8μm,16.1s						
LBWR	**Ladybower, Pea**	**19.39**	**83**	*e*P	**Pn**	**22 33 26.6**	**-0.2**
LBWR				IAMs_20	IAMs_20	22 38 31.5	
	comp=Z,5μm,24.3s						
GBN	**Guysborough**	**19.54**	**250**	*e*P	**Pn**	**22 33 30.0**	**+1.4**
	comp=Z,

comp=Z,2µm,20.0s
KONO Kongsberg 23.91 62⇓ *e*P P **22 34 14.3 +0.7**
KONO pmax pmax
comp=Z,12nm,1.1s
PMAFR Mafra 23.94 123 *e*P P **22 34 14.1 +0.1**
comp=Z,141nm,1.4s
SNF Seneffe 23.96 86 ⇑P P **22 34 14.2 +0.1**
CLF Chambon-Foret 24.05 93 *e*P P **22 34 14.5 -0.5**
comp=Z,354nm,2.0s
CLF LR LR
comp=Z,8µm,18.0s
ALMR Almeirim 24.12 122 *e*P P **22 34 15.5 -0.2**
ALMR AMS AMS 22 41 45.6
comp=Z,6µm,20.4s
ALMR Almeirim 24.12 122 *e*P P **22 34 15.7 0.0**
comp=Z,180nm,1.4s
ALMR Almeirim 24.12 122 *e*P P **22 34 15.5 -0.2**
PCBR Castelo Branco 24.13 119 *e*P P **22 34 15.7 -0.1**
comp=Z,166nm,1.6s
PMST Lisbon--Monsan 24.16 123 *e*P P **22 34 15.9 -0.2**
LIS Lisbon 24.19 123 *e*P P **22 34 16.3 -0.1**
LIS AMS AMS 22 41 46.7
comp=Z,5µm,19.3s
LIS Lisbon 24.19 123 *e*P P **22 34 16.3 -0.1**
CHGQ Chibougamau 24.20 273 P P **22 34 14.7 -1.8**
baz=61
NC204 NORSAR Array S 24.24 58 *e*P P **22 34 16.8 0.0**
comp=Z,33nm,1.1s
NBO00 NORSAR Array S 24.28 58 *e*P P **22 34 16.1 -0.9**
comp=Z,116nm,1.6s
DOU Dourbes 24.33 86 ⇑P P **22 34 17.4 -0.2**
NAO01 NORSAR Array S 24.36 59 *e*P P **22 34 17.2 -0.5**
comp=Z,179nm,2.0s
PMTG Montargil 24.36 121 *e*P P **22 34 17.5 -0.4**
comp=Z,123nm,1.7s
TULEG Thule 24.36 342 *e*P P **22 34 17.7 0.0**
comp=Z,97nm,1.3s
TULEG LR LR
comp=Z,4µm,20.0s
MUD Monsted U'grnd 24.43 70 *i*P P **22 34 17.8 -0.6**
comp=Z,99nm,1.3s
comp=Z,3µm,21.0s
MUD Monsted U'grnd 24.43 70 *i*P P **22 34 17.8 -0.6**
MUD pmax pmax
comp=Z,99nm,1.3s
MUD MLR MLR
comp=Z,3µm,21.0s
PMRV Marv??o 24.48 120 *e*P P **22 34 18.5 -0.6**
comp=Z,129nm,1.7s
PMRV *e*LR LR 22 40 06.7
comp=Z,5µm,20.0s
NB2 NORSAR Subarra 24.49 58 P P **22 34 18.6 -0.4**
comp=Z,3.6nm,0.8s,baz=282,slow=11
NB200 NORSAR Array S 24.49 58 *e*P P **22 34 19.0 +0.1**
NOA NORSAR Array B 24.49 58 P P **22 34 19.0 +0.1**
comp=Z,8.9nm,0.9s,baz=279,slow=9.6,SNR=11
NOA LR LR 22 42 17.5
comp=Z,2µm,21.3s,baz=275,slow=33
WVL Waterville 24.52 258 *e*P P **22 34 17.9 -1.4**
comp=Z,76nm,1.2s
WVL LR LR
comp=Z,5µm,19.0s
NB201 NORSAR Array S 24.52 58 *e*P P **22 34 18.7 -0.6**
comp=Z,58nm,1.4s
NC303 NORSAR Array S 24.53 58 *e*P P **22 34 18.8 -0.5**
comp=Z,81nm,1.4s
BCLA Clavier 24.58 85 ⇑P P **22 34 19.9 +0.1**
comp=Z,43nm,3.5s
LATQ La Tuque 24.61 266 P P **22 34 19.1 -1.0**
baz=57
BEBN Eben Emael 24.62 84 ⇑P P **22 34 20.5 +0.3**
NC602 NORSAR Array S 24.69 59 *e*P P **22 34 20.6 -0.2**
comp=Z,41nm,1.2s
NC602 *e*PcP **PcP** **22 37 52.2 -5.3**
NC602 *e*S **S** **22 38 35.1 -7.7**
NC405 NORSAR Array S 24.72 58 *e*P P **22 34 20.2 -0.8**
comp=Z,33nm,1.0s
PESTR Estremoz 24.82 121 *e*P P **22 34 22.1 -0.1**
comp=Z,118nm,1.9s
PESTR Estremoz 24.82 121 *e*P P **22 34 21.1 -1.1**
comp=Z,58nm,1.5s
PESTR LR LR
comp=Z,4µm,19.0s
PESTR Estremoz 24.82 121 P P **22 34 22.4 +0.2**
EVO Evora 24.88 122 *e*P P **22 34 24.2 +1.5**
comp=Z,87nm,1.8s
EVO Evora 24.88 122 *i*P P **22 34 23.1 +0.5**
EVO *e*S S **22 38 34.2 -12**
MEM Membach 24.89 84 ⇑P P **22 34 22.8 +0.2**
PNCL Nicolau / Gran 24.97 123 *e*P P **22 34 23.4 0.0**
comp=Z,98nm,1.7s
IBBN Ibbenburen 25.12 79 *e*P P **22 34 25.7 +1.0**
baz=301,slow=8.9
PTEO Sao Teotonio 25.33 124 *e*P P **22 34 29.4 +2.7**
comp=Z,169nm,1.6s
MESJ Messejana 25.33 123 *e*P P **22 34 26.6 -0.1**
MESJ AMS AMS 22 42 21.1
comp=Z,5µm,22.1s
MESJ Messejana 25.33 123 *e*P P **22 34 26.4 -0.3**
comp=Z,76nm,1.6s
MESJ Messejana 25.33 123 *e*P P **22 34 26.6 -0.1**
PBEJ Beja 25.35 122 *e*P P **22 34 27.7 +0.8**
comp=Z,46nm,1.4s
WLF Walferdange 25.42 86 *e*P P **22 34 24.7 -2.7**
comp=Z,219nm,1.5s
WLF LR LR
comp=Z,16µm,18.0s
WLF Walferdange 25.42 86 *e*P P **22 34 28.8 +1.4**
comp=Z,12nm,1.1s,baz=301,slow=8.9
WLF Walferdange 25.42 86 *e*P P **22 34 24.7 -2.7**
WLF pmax pmax
comp=Z,219nm,1.5s
WLF MLR MLR
comp=Z,16µm,18.0s
WLF Walferdange 25.42 86 ⇓P P **22 34 28.5 +1.0**
comp=Z,21nm,1.7s
MOQ Mont Orford 25.51 262 *e*P P **22 34 30.2 +1.8**
MORF Marmelete 25.56 125 *e*P P **22 34 28.6 -0.3**
MORF AMS AMS 22 42 35.0
comp=Z,4µm,17.7s
MORF Marmelete 25.56 125 *e*P P **22 34 28.9 +0.1**
comp=Z,86nm,1.4s
MORF Marmelete 25.56 125 *e*P P **22 34 28.6 -0.3**
PCVE Castro Verde 25.58 123 *e*P P **22 34 28.4 -0.6**
comp=Z,125nm,1.6s
PFVI Vila Bisbo 25.62 125 *e*P P **22 34 30.5 +1.2**
comp=Z,137nm,1.4s
PFVI Vila Bisbo 25.62 125 *e*P P **22 34 25.9 -3.4**
comp=Z,160nm,1.4s
PFVI LR LR
comp=Z,4µm,20.0s
HFS Hagfors 25.85 60 P P **22 34 31.2 -0.1**
comp=Z,13nm,0.9s,baz=282,slow=7.1,SNR=9.4
HFS LR LR 22 43 37.8
comp=Z,2µm,18.6s,baz=285,slow=34
BSEG Bad Segeberg 25.89 75 *e*P P **22 34 30.4 -1.2**
baz=301,slow=8.9
PAB San Pablo 25.93 115 *e*P P **22 34 30.9 -1.4**
comp=Z,46nm,1.4s
PAB LR LR
comp=Z,6µm,20.0s
UCM Universidad Co 25.94 113 *i*P P **22 34 33.6 +1.4**
UCM *e*S S **22 39 24.8 +22**
PBDV Barranco-do-Ve 25.95 124 *e*P P **22 34 32.2 -0.2**
comp=Z,89nm,1.9s
PMOZ Porto Moniz, M 25.97 144 *e*LR LR 22 41 01.2
comp=Z,3µm,20.0s
LBNH Lisbon 25.99 260 *e*P P **22 34 30.7 -1.9**
comp=Z,181nm,1.7s
LBNH LR LR
comp=Z,6µm,18.0s
LBNH Lisbon 25.99 260 *e*P P **22 34 30.7 -1.9**
LBNH pmax pmax
comp=Z,181nm,1.7s
LBNH MLR MLR
comp=Z,6µm,18.0s
ESDC Sonseca Array 26.03 115 P P **22 34 32.5 -0.6**
comp=Z,9.8nm,0.8s,baz=316,slow=8.3,SNR=32
ESDC LR LR 22 42 52.4
comp=Z,4µm,18.6s,baz=315,slow=32
ESLA Sonseca Array 26.03 115 *e*P P **22 34 31.6 -1.6**
comp=Z,28nm,1.1s
ESLA LR LR
comp=Z,5µm,20.0s
ES06 SONSECA Array 26.04 115 *e*P P **22 34 33.7 +0.5**
LSQQ Lebel-sur-Quev 26.10 273 P P **22 34 32.4 -1.3**
baz=60
TRQ Mont Tremblant 26.27 266 *e*P P **22 34 35.8 +0.6**
FFD Franklin Falls 26.32 258 *e*P P **22 34 32.3 -3.4**
comp=Z,55nm,1.0s
FFD LR LR
comp=Z,6µm,18.0s
NRDL Niedersach Rie 26.36 78 *e*P P **22 34 35.9 +0.1**
baz=301,slow=8.9
VT1 Waterbury 26.39 261 *e*P P **22 34 35.1 -1.2**
comp=Z,250nm,2.0s
VT1 LR LR
comp=Z,5µm,19.0s
COP Copenhagen 26.41 70 *i*P P **22 34 38.0 +1.7**
comp=Z,2µm,17.0s
COP Copenhagen 26.41 70 *e*P P **22 34 38.0 +1.7**
COP MLR MLR
comp=Z,2µm,17.0s
TNS Taunus Mts 26.45 83 *e*P P **22 34 37.4 +0.6**
baz=301,slow=8.9
HNH Hanover 26.53 259 *e*P P **22 34 37.7 +0.2**
comp=Z,51nm,1.1s
HNH LR LR
comp=Z,7µm,18.0s
FRNY Flat Rock 26.55 262 *e*P P **22 34 38.8 +1.1**
comp=Z,235nm,1.4s
FRNY LR LR
comp=Z,7µm,20.0s
GTTG Gottingen 26.69 80 *e*P P **22 34 40.0 +1.1**
comp=Z,16nm,0.8s,baz=301,slow=8.9
ECH Echery 26.73 88 *e*P P **22 34 38.6 -0.8**
comp=Z,30nm,1.4s
ECH LR LR
comp=Z,7µm,18.0s
ECH Echery 26.73 88 *e*P P **22 34 38.6 -0.8**
ECH pmax pmax
comp=Z,30nm,1.4s
ECH MLR MLR
comp=Z,7µm,18.0s
HORN Hornachuelos 26.77 119 P P **22 34 40.4 +0.7**
CLZ Clausthal 26.78 79 *e*P P **22 34 40.6 +0.8**
baz=301,slow=8.9
ALFO Alfred 26.80 265 P P **22 34 41.0 +1.0**
baz=54,SNR=22
BCX Boston College 26.81 256 *e*P P **22 34 37.9 -2.2**
comp=Z,51nm,1.2s
BCX LR LR
comp=Z,6µm,19.0s
WES Weston 26.86 256 PFAKE 22 34 50.0 +10
WES LR LR
comp=Z,6µm,19.0s
VLDQ Val d'Or 26.86 272 *e*P P **22 34 41.0 +0.5**
comp=Z,59nm,1.4s
VLDQ LR LR
comp=Z,12µm,20.0s
HRV Adam Dziewonsk 26.91 256 *e*P P **22 34 41.4 +0.5**
comp=Z,164nm,1.7s
HRV LR LR
comp=Z,4µm,19.0s
HRV Adam Dziewonsk 26.91 256 *e*P P **22 34 41.4 +0.5**
HRV pmax pmax
comp=Z,164nm,1.7s
HRV MLR MLR
comp=Z,4µm,19.0s
HRV Adam Dziewonsk 26.91 256 P P **22 34 40.5 -0.5**
baz=48
SSB Saint Sauveur 26.91 96 PFAKE 22 34 50.0 +9.0
SSB LR LR
comp=Z,6µm,20.0s
D54A Lac Fusel, La 26.93 269 P P **22 34 40.9 -0.3**
baz=56
UBBA Unterbreizbach 27.04 81 *e*P P **22 34 42.7 +0.8**
baz=301,slow=8.9
LONY Lake Ozonia 27.24 263 *e*P P **22 34 41.3 -2.7**
comp=Z,67nm,1.4s
LONY LR LR
comp=Z,7µm,18.0s
LONY Lake Ozonia 27.24 263 P P **22 34 41.7 -2.3**
baz=52
ORIO Orleans, Innes 27.26 265 P P **22 34 43.1 -1.0**
baz=54
BRYW Bryant College 27.29 255 PFAKE 22 35 00.0 +16
BRYW LR LR
comp=Z,5µm,19.0s
RGN Rugen 27.29 72 *e*P P **22 34 41.1 -3.2**
comp=Z,131nm,1.0s
RGN LR LR
comp=Z,2µm,22.0s
BFO Black Forest 27.34 87 *e*P P **22 34 45.0 +0.2**
comp=Z,38nm,1.3s
BFO LR LR
comp=Z,3µm,20.0s
BFO Black Forest 27.34 87 *e*P P **22 34 45.4 +0.6**
comp=Z,13nm,1.0s,baz=301,slow=8.9
BFO Black Forest 27.34 87 *i*P P **22 34 45.6 +0.8**
SFS San Fernando 27.39 122 PFAKE 22 35 00.0 +15
SFS LR LR
comp=Z,3µm,19.0s
LIJA Lijar 27.43 121 *e*P P **22 34 47.0 +1.2**
NCB Newcomb 27.44 261 *e*P P **22 34 45.5 -0.2**
comp=Z,53nm,1.4s
NCB LR LR
comp=Z,4µm,20.0s
QUA2 Belchertown 27.50 257 PFAKE 22 35 00.0 +14
QUA2 LR LR
comp=Z,4µm,20.0s
F55A Otter Lake 27.51 267 P P **22 34 44.8 -1.5**
baz=54
D53A Lac Vacive, Po 27.57 270 P P **22 34 44.3 -2.5**
baz=56
STU Stuttgart 27.60 86 *e*P P **22 34 44.5 -2.6**
comp=Z,19nm,0.9s
STU LR LR
comp=Z,3µm,18.0s
STU Stuttgart 27.60 86 *e*P P **22 34 44.5 -2.6**
STU pmax pmax
comp=Z,19nm,0.9s
STU MLR MLR
comp=Z,3µm,18.0s
E54A Lac Daplat, Po 27.64 268 P P **22 34 46.2 -1.3**
baz=55
SENIN Lac Senin/Sane 27.84 91 *e*P P **22 34 46.3 -3.2**
comp=Z,79nm,1.9s
SENIN LR LR
comp=Z,6µm,19.0s
NEUB Neuenburg 27.85 79 *e*P P **22 34 49.7 +0.3**
baz=301,slow=8.9
TRY Troy 27.93 259 PFAKE 22 35 00.0 +10
TRY LR LR
comp=Z,6µm,18.0s
BSD Bornholm Skovb 27.93 70 *i*P P **22 34 52.3 +2.3**
comp=Z,3µm,17.0s
BSD Bornholm Skovb 27.93 70 *e*P P **22 34 52.3 +2.3**
BSD MLR MLR
comp=Z,3µm,17.0s
E53A Dumoine, Ponti 27.94 269 P P **22 34 50.6 +0.4**
baz=55,SNR=9.6
D52A ZEK Kipawa Sen 28.03 270 P P **22 34 49.4 -1.6**
baz=56
MOX Moxa 28.03 80 *e*P P **22 34 51.3 +0.4**
comp=Z,21nm,1.2s,baz=301,slow=8.9
KBS Kingsbay 28.05 18 PFAKE 22 35 00.0 +9.1
KBS LR LR
comp=Z,400nm,20.0s
KBS Kingsbay 28.05 18⇑ *e*P P **22 34 52.5 +1.6**
KBS pmax pmax
comp=Z,190nm,1.7s
G55A Calabogie 28.06 266 P P **22 34 50.8 -0.5**
baz=53
PEMO Pembroke 28.11 267 P P **22 34 50.7 -1.0**
baz=54
H56A Elgin 28.20 264 P P **22 34 52.5 0.0**
baz=52
BNI Bardonecchia 28.25 94 PFAKE 22 35 00.0 +6.8
BNI LR LR
comp=Z,6µm,19.0s
GRA1 Grafenberg Arr 28.27 82 *e*P P **22 34 52.4 -0.8**
comp=Z,113nm,1.5s
GRA1 LR LR
comp=Z,3µm,20.0s
GRF Grafenberg Arr 28.27 82 *e*P P **22 34 53.7 +0.5**
baz=301,slow=8.9
GRF Grafenberg Arr 28.27 82 *e*P P **22 34 52.4 -0.8**
GRF pmax pmax
comp=Z,113nm,1.5s
GRF MLR MLR
comp=Z,3µm,20.0s
GRFO Grafenberg 28.27 82 *e*P P **22 34 52.4 -0.7**
comp=Z,102nm,1.5s
GRFO LR LR
comp=Z,2µm,20.0s
GRFO Grafenberg 28.27 82 *e*P P **22 34 52.4 -0.7**
GRFO pmax pmax
comp=Z,102nm,1.5s
GRFO MLR MLR
comp=Z,2µm,20.0s
PLVO Plevna 28.39 266 PFAKE 22 35 10.0 +16
PLVO LR LR
comp=Z,6µm,21.0s
PLVO Plevna 28.39 266 P P **22 34 53.4 -0.8**
baz=53
ALGO Algonquin Park 28.41 268 P P **22 34 54.0 -0.3**
baz=54
YLE Yale 28.47 256 PFAKE 22 35 10.0 +15
YLE LR LR
comp=Z,5µm,20.0s
CLL Collm 28.49 78 *e*P P **22 34 53.9 -1.2**
comp=Z,70nm,2.0s
CLL LR LR
comp=Z,3µm,21.0s
CLL Collm 28.49 78 *e*P P **22 34 54.8 -0.3**
comp=Z,5.3nm,0.9s,baz=301,slow=8.9
CLL Collm 28.49 78 *e*P P **22 34 55.0 0.0**
comp=Z,57nm,1.9s
CLL *e*PP **PnPn** **22 35 42.0 -1.9**
CLL *e*S **S** **22 39 42.0 -1.0**
CLL L L 22 45 00.0
comp=Z,3µm,21.2s
CLL Collm 28.49 78 *e*P P **22 34 55.0 0.0**
CLL *e*S **S** **22 39 47.0 +4.0**
CLL pmax pmax
comp=Z,57nm,1.9s
CLL MLR MLR
comp=Z,3µm,21.2s
D51A Lot 18 Range I 28.51 271 P P **22 34 55.4 +0.2**
baz=56
E52A Mattawa 28.56 269 P P **22 34 56.6 +0.9**
baz=55
GUNZ Gunzen 28.56 80 *e*P P **22 34 56.0 +0.3**
comp=Z,20nm,1.1s,baz=301,slow=8.9
TANN Tannenbergstha 28.61 80 *e*P P **22 34 56.6 +0.3**
comp=Z,30nm,1.1s,baz=301,slow=8.9
MANZ Manzenberg 28.62 81 *e*P P **22 34 57.1 +0.8**
comp=Z,11nm,1.1s,baz=301,slow=8.9
WERN Wernitzgruen 28.63 81 *e*P P **22 34 56.5 +0.2**
comp=Z,22nm,1.1s,baz=301,slow=8.9
NKC Novy Kostel 28.69 81 *e*P P **22 34 56.6 -0.3**
NKC AMS AMS 22 47 20.0
comp=Z,3µm,14.9s
NKC Novy Kostel 28.69 81 *e*P P **22 34 56.6 -0.3**
NKC MLR MLR
comp=Z,3µm,14.9s
UBR Ueberruh 28.69 87 *e*P P **22 34 57.9 +0.9**
baz=301,slow=8.9
H55A Tweed 28.75 265 P P **22 34 58.1 +0.7**
baz=52
ROTZ Rotzenmuhle 28.79 82 *e*P P **22 34 58.6 +0.9**
baz=301,slow=8.9
FBE Freiberg 28.87 79 *e*P P **22 34 58.5 +0.1**
comp=Z,5.0nm,0.9s,baz=301,slow=8.9
BANO Bancroft 28.89 267 P P **22 34 57.8 -0.8**
baz=53
E51A G1948 Merrick 28.89 271 P P **22 34 58.6 -0.1**
baz=55
TUE Stuetta 28.94 90 *e*P P **22 34 59.2 -0.1**
comp=Z,75nm,1.7s
TUE LR LR
comp=Z,9µm,18.0s
DELO Deloro Mine 29.02 266 P P **22 34 57.3 -2.5**
baz=52
PECO Prince Edward 29.02 264 P P **22 34 58.6 -1.3**
baz=52
DAVOX Davos/Dischmat 29.06 89 P P **22 35 00.1 -0.3**
comp=Z,7.7nm,1.1s,baz=309,slow=7.0,SNR=7.8
DAVOX LR LR 22 46 19.7
comp=Z,8µm,18.1s,baz=292,slow=36
RTC Rabat Centre 29.11 126 PFAKE 22 35 10.0 +9.3
RTC LR LR
comp=Z,6µm,19.0s
CART Cartagena 29.13 114 PFAKE 22 35 10.0 +9.2
CART LR LR
comp=Z,4µm,22.0s
CART Cartagena 29.13 114 *i*P P **22 35 04.0 +3.2**
CART *e*S S **22 40 00.0 +6.8**
RETA Reutte 29.17 87 *i*pP P **22 35 01.9 +0.6**
comp=Z,20nm,1.5s,SNR=6.2
PAL Palisades 29.21 256 PFAKE 22 35 10.0 +8.5
PAL LR LR
comp=Z,3µm,22.0s
PAL Palisades 29.21 256 P P **22 35 00.6 -1.0**
baz=47
BRG Berggiesshubel 29.22 79 *e*P P **22 35 01.9 +0.4**
comp=Z,11nm,1.3s
BRG PP PP 22 35 50.0 -17
BRG S S **22 39 52.0 -2.5**
BRG SS **SnSn** **22 41 20.0 +1.4**
comp=N,488nm,12.6s
comp=E,3µm,14.0s
comp=Z,4µm,13.9s
BRG Berggiesshubel 29.22 79 *e*P P **22 35 01.6 +0.1**
baz=301,slow=8.9
BRG Berggiesshubel 29.22 79 *e*P P **22 35 01.9 +0.4**
BRG 22 35 50.0
BRG S S **22 39 52.0 -2.5**
BRG SS **SnSn** **22 41 20.0 +1.4**
BRG pmax pmax
comp=Z,11nm,1.3s
BRG MLR MLR
comp=N,488nm,12.6s
BRG MLR MLR
comp=E,3µm,14.0s
BRG MLR MLR
comp=Z,4µm,13.9s
F52A Sundridge 29.22 269 P P **22 34 59.0 -2.6**
baz=54
G53A Haliburton 29.22 267 P P **22 34 59.3 -2.3**
baz=53
FUORN Ofenpass-Fuorn 29.37 89 *e*P P **22 35 03.1 -0.1**
comp=Z,48nm,1.5s
FUORN LR LR
comp=Z,7µm,20.0s
FETA Feichten 29.41 88 *i*pP P **22 35 05.1 +1.6**
comp=Z,12nm,1.2s,SNR=5.8
MOTA Moosalm 29.44 87 *i*pP P **22 35 04.6 +0.9**
comp=Z,2.0nm,0.7s
BUKO Buck Lake 29.47 269 P P **22 35 02.5 -1.3**
baz=54
F51A Arnstein 29.48 270 P P **22 35 03.0 -0.8**
baz=54
WET Wettzell 29.48 82 *e*P P **22 35 04.8 +0.9**
comp=Z,15nm,1.1s,baz=301,slow=8.9
D49A Beulah Townshi 29.53 273 P P **22 35 03.7 -0.6**
baz=56
ODNJ Ogdensburg 29.55 257 PFAKE 22 35 20.0 +15
ODNJ LR LR
comp=Z,6µm,18.0s
BINY Binghamton 29.57 260 PFAKE 22 35 20.0 +15
BINY LR LR
comp=Z,4µm,18.0s
BINY Binghamton 29.57 260 P P **22 35 03.9 -0.8**
baz=49
SQTA Sankt Quirin 29.57 87 *i*pP P **22 35 05.8 +1.0**
comp=Z,30nm,1.5s,SNR=7.9
RES Resolute Bay 29.60 332 *e*P P **22 35 04.9 +0.3**
comp=Z,28nm,1.2s
RES Resolute Bay 29.60 332 *e*P P **22 35 04.9 +0.3**
RES pmax pmax
comp=Z,28nm,1.2s
RES Resolute Bay 29.60 332 P P **22 35 04.1 -0.5**
comp=Z,7.6nm,0.9s,baz=91,slow=9.0,SNR=23
RES LR LR 22 46 13.8
comp=Z,1µm,18.1s,baz=116,slow=35
E50A Wahnapitae 29.66 271 P P **22 35 04.6 -0.8**
baz=55
ARA0 ARCESS Array S 29.69 38 *e*P P **22 35 05.1 -0.4**
ARCES ARCESS Array B 29.69 38 P P **22 35 05.1 -0.4**
comp=Z,7.9nm,0.8s,baz=256,slow=2.0,SNR=13
ARCES LR LR 22 44 35.6
comp=Z,2µm,20.1s,baz=306,slow=32
ARE0 ARCESS Array S 29.69 38 *e*P P **22 35 05.5 0.0**
comp=Z,3.9nm,1.3s
ARE0 LR LR
comp=Z,100nm,19.0s
WATA Walderalm 29.71 86 *i*pP P **22 35 07.1 +1.0**
comp=Z,9.0nm,1.0s
SADO Sadowa 29.73 267 *e*P P **22 35 07.0 +0.9**

comp=Z,78nm,1.4s
SADO Sadowa 29.73 267 P **P** **22 35 05.5 -0.6**
comp=Z,25nm,1.1s,baz=72,slow=7.1,SNR=4.8
SADO LR LR 22 45 49.8
comp=Z,2µm,18.7s,baz=46,slow=34
PVCC Panska Ves 29.73 79 AMS AMS 22 47 50.0
comp=Z,2µm,14.1s
BRNJ Basking Ridge 29.80 257 PFAKE
BRNJ LR LR 22 35 20.0 +13
comp=Z,4µm,20.0s
WLVO Wesleyville 29.82 265 P **P** **22 35 06.4 -0.5**
baz=52
D48A Paudash Townsh 29.84 273 P **P** **22 35 05.5 -1.6**
baz=56
KSPA Keystone Colle 29.87 259 PFAKE
KSPA LR LR 22 35 20.0 +13
comp=Z,5µm,19.0s
KHC Kasperske Hory 29.88 82 *e*P **P** **22 35 08.2 +0.7**
comp=Z,20nm,1.7s
KHC LR LR
comp=Z,1µm,21.0s
KHC Kasperske Hory 29.88 82 *e*P **P** **22 35 08.4 +0.9**
KHC *e*PP **PnPn** **22 35 53.7 -9.3**
KHC *e*S **S** **22 40 08.1 +3.0**
KHC AMS AMS 22 48 00.0
comp=Z,2µm,12.5s
KHC Kasperske Hory 29.88 82 *e*P **P** **22 35 08.4 +0.9**
KHC *e*S **S** **22 40 08.1 +3.0**
KHC MLR MLR
comp=Z,2µm,12.5s
J55A Hilton 29.91 264 P **P** **22 35 07.2 -0.5**
baz=51
GKP Gorka Klasztor 29.93 72 *e*P **P** **22 35 08.8 +1.0**
GKP *e*S S 22 39 27.0 -39
GKP LMZ LR 22 47 15.3
comp=Z,5µm,17.7s
GKP Gorka Klasztor 29.93 72 *e*P **P** **22 35 08.8 +1.0**
GKP MLR MLR
comp=Z,5µm,17.7s
KLBO Kilbear Provi 29.98 269 P **P** **22 35 08.3 -0.1**
baz=54
PRU Pruhonice 29.98 80 *e*P **P** **22 35 08.7 +0.4**
PRU *e*pP **pwP** **22 35 13.2 +2.0**
PRU *ex* x 22 35 50.3
PRU *e*S **S** **22 40 07.0 +0.4**
PRU AMS AMS 22 47 00.0
comp=Z,3µm,16.8s
PRU Pruhonice 29.98 80 *e*P **P** **22 35 08.7 +0.4**
PRU *e* 22 35 13.2
PRU *e*S **S** **22 40 07.0 +0.4**
PRU MLR MLR
comp=Z,3µm,16.8s
DRCO St. Marys Ceme 30.03 266 P **P** **22 35 08.2 -0.5**
baz=52
DRWO Darlington Wes 30.05 266 P **P** **22 35 08.6 -0.3**
baz=52
GEC2 GERESS Array S 30.10 82 *e*P **P** **22 35 10.3 +0.8**
comp=Z,53nm,1.6s
GEC2 *e*PcP **PcP** **22 38 11.0 +0.1**
GEC2 GERESS Array S 30.10 82 *e*P **P** **22 35 09.8 +0.4**
comp=Z,9.2nm,1.0s,baz=301,slow=8.9
GEC2 GERESS Array S 30.10 82 *e*P **P** **22 35 10.3 +0.8**
GEC2 *e* 22 38 11.0
GEC2 pmax pmax
comp=Z,53nm,1.6s
GERES GERESS Array B 30.10 82 P **P** **22 35 09.0 -0.5**
comp=Z,4.7nm,0.9s,baz=302,slow=7.7,SNR=28
GERES PcP **PcP** **22 38 11.0 +0.1**
comp=Z,1.5nm,1.0s,baz=339,slow=3.3,SNR=4.3
GERES LR LR 22 46 26.9
comp=Z,3µm,19.5s,baz=300,slow=35
GEA0 GERESS Array S 30.11 82 *e*P **P** **22 35 10.0 +0.5**
GEA0 *e*PcP **PcP** **22 38 11.6 +0.7**
GOPC GO Pecny, Ondr 30.16 80 *e*P **P** **22 35 10.1 +0.2**
GOPC *ex* x 22 35 56.5
GOPC *e*S **S** **22 40 07.9 -1.5**
GOPC AMS AMS 22 47 10.0
comp=Z,3µm,16.9s
GOPC GO Pecny, Ondr 30.16 80 *e*P **P** **22 35 10.1 +0.2**
GOPC *e*S **S** **22 40 07.9 -1.5**
GOPC MLR MLR
comp=Z,3µm,16.9s
PKRO Pickering 30.18 266 P **P** **22 35 09.5 -0.6**
baz=52
KEV Kevo 30.20 38 PFAKE
KEV LR LR 22 35 20.0 +10
comp=Z,2µm,20.0s
MAHO Mahon 30.27 105 *i* P **P** **22 35 13.2 +2.3**
MAHO *i* S S 22 40 20.3 +9.2
LUPA Lehigh Univers 30.30 257 *e*P **P** **22 35 10.5 -0.7**
comp=Z,4.6nm,1.3s
LUPA LR LR
comp=Z,500nm,19.0s
MMNY Mt. Morris Dam 30.30 263 *e*P **P** **22 35 12.5 +1.3**
comp=Z,177nm,1.5s
MMNY LR LR
comp=Z,7µm,18.0s
N59A State Game Lan 30.31 258 PFAKE 22 35 20.0 +8.7
N59A LR LR
comp=Z,5µm,19.0s
N59A State Game Lan 30.31 258 P **P** **22 35 11.4 +0.2**
baz=47
MEDO Medina 30.33 264 P **P** **22 35 10.6 -0.8**
baz=51
J54A Appleton 30.37 265 P **P** **22 35 11.5 -0.3**
baz=51
K55A Perry 30.40 263 P **P** **22 35 11.9 -0.1**
baz=50
E48A Lockeyer 30.44 273 P **P** **22 35 12.2 -0.1**
baz=55
KSP Ksiaz 30.54 77 *e*P **P** **22 35 14.1 +0.9**
KSP *e*S **S** **22 40 18.7 +3.5**
KSP LMZ LR 22 45 23.5
comp=Z,3µm,23.8s
KSP Ksiaz 30.54 77 *e*P **P** **22 35 14.1 +0.9**
KSP *e*S **S** **22 40 18.7 +3.5**
KSP MLR MLR
comp=Z,3µm,23.8s
UPC Upice 30.55 78 *e*P **P** **22 35 13.5 +0.2**
UPC *e*PP **PnPn** **22 36 01.2 -11**
UPC *e*S **S** **22 40 18.2 +2.8**
UPC AMS AMS 22 48 20.0
comp=Z,4µm,14.2s
UPC Upice 30.55 78 *e*P **P** **22 35 13.5 +0.2**
UPC *e*S **S** **22 40 18.2 +2.8**
UPC MLR MLR
comp=Z,4µm,14.2s
I53A Kortright Cn E 30.56 266 P **P** **22 35 12.2 -1.3**
baz=52
ABTA Abfaltersbach 30.57 87 *i* pP **P** **22 35 15.1 +1.4**
comp=Z,11nm,1.1s
D47A Chapleau 30.64 274 P **P** **22 35 13.8 -0.4**
baz=56
STCO Saint Catharin 30.71 265 P **P** **22 35 14.0 -0.8**
baz=51
F49A Sandfield 30.78 271 P **P** **22 35 14.8 -0.6**
baz=54
DPC Dobruska-Polom 30.80 78 *e*P **P** **22 35 19.7 +4.2**
DPC *e*S **S** **22 40 20.5 +1.1**
DPC AMS AMS 22 48 20.0
comp=Z,4µm,14.3s
TOBO Tobermory, Bru 30.80 270 P **P** **22 35 15.0 -0.6**
baz=54
PSUB Penn St. - Bra 30.81 257 PFAKE 22 35 30.0 +14
PSUB LR LR
comp=Z,4µm,18.0s
KBA Koelnbreinsper 30.86 85 *i* pP **P** **22 35 17.0 +0.7**
comp=Z,19nm,1.3s,SNR=8.1
TREC Trest 30.87 80 *e*P **P** **22 35 16.8 +0.6**
TREC AMS AMS 22 49 10.0
comp=Z,4µm,14.6s
TREC Trest 30.87 80 *e*P **P** **22 35 16.8 +0.6**
TREC MLR MLR
comp=Z,4µm,14.6s
VLC Villacollemand 30.90 92 PFAKE 22 35 30.0 +14
VLC LR LR
comp=Z,3µm,18.0s
KLNR Kaliningrad 30.95 68⇑ *e*P **P** **22 35 15.4 -1.3**
KLNR pmax pmax
comp=Z,235nm,1.8s
MOA Molln 30.95 83 *i* pP **P** **22 35 18.2 +1.3**
comp=Z,22nm,1.3s,SNR=10
L55A Hinsdale 30.96 263 P **P** **22 35 16.1 -0.9**
baz=49
ACTO Acton 30.96 266 P **P** **22 35 16.7 -0.4**
baz=51

BMRO Meriville Lake 31.01 269 P **P** **22 35 17.3 -0.1**
baz=53
OUK Oukaimeden 31.02 130 P **P** **22 35 19.0 +1.0**
F48A Evansville 31.07 272 P **P** **22 35 18.1 +0.1**
baz=54
E47A Iron Bridge 31.08 273 P **P** **22 35 17.7 -0.4**
baz=55
MDT Midelt 31.13 124 P **P** **22 35 17.7 -1.0**
comp=Z,18nm,1.1s,baz=335,slow=12
MDT LR LR 22 46 54.0
comp=Z,2µm,18.1s,baz=345,slow=35
TYNO Tyneside 31.18 265 P **P** **22 35 20.1 +1.1**
baz=51
KRLC Kraliky 31.19 78 *e*P **P** **22 35 20.2 +1.2**
KRLC Kraliky 31.19 78 *e*P **P** **22 35 20.2 +1.2**
FCC Fort Churchill 31.24 301 *e*P **P** **22 35 19.6 +0.3**
comp=Z,37nm,0.9s
FCC LR LR
comp=Z,8µm,19.0s
FCC Fort Churchill 31.24 301 *e*P **P** **22 35 19.6 +0.3**
FCC pmax pmax
comp=Z,37nm,0.9s
FCC MLR MLR
comp=Z,8µm,19.0s
MVL Millersville 31.26 258 *e*P **P** **22 35 17.6 -2.0**
comp=Z,28nm,1.3s
D46A Sault St. Mari 31.26 275 P **P** **22 35 19.7 +0.1**
baz=56
MYKA Terra Mystica 31.28 86 *i* pP **P** **22 35 21.2 +1.3**
comp=Z,30nm,1.2s,SNR=7.9
PAGS Pennsylvania G 31.31 258 *e*P **P** **22 35 19.2 -0.8**
comp=Z,63nm,1.5s
PAGS LR LR
comp=Z,6µm,19.0s
BRCO Bruce Peninsul 31.35 268 P **P** **22 35 19.3 -1.1**
baz=52
I51A Listowel 31.39 267 P **P** **22 35 21.1 +0.4**
baz=52
FIA0 FINESS Array S 31.40 54 *e*P **P** **22 35 20.7 0.0**
FIA0 FINESS Array S 31.40 54 *e*P **P** **22 35 20.7 0.0**
FINES FINESS Array B 31.40 54 P **P** **22 35 20.7 0.0**
comp=Z,20nm,1.1s,baz=318,slow=5.4,SNR=12
FINES LR LR 22 47 50.2
comp=Z,248nm,21.0s,baz=282,slow=36
FIA1 FINESS Array S 31.40 54 *e*P **P** **22 35 20.9 +0.3**
comp=Z,135nm,1.9s
J52A Paris 31.43 266 P **P** **22 35 20.8 -0.4**
baz=51
VRAC Vranov 31.48 80⇓ *i* P **P** **22 35 22.5 +1.0**
VRAC Vranov 31.48 80⇓ P **P** **22 35 22.5 +1.0**
VRAC Vranov 31.48 80 *e*P **P** **22 35 22.3 +0.8**
VRAC Vranov 31.48 80 P **P** **22 35 21.2 -0.4**
comp=Z,4.6nm,1.0s,baz=298,slow=12
VRAC LR LR 22 47 14.9
comp=Z,2µm,21.1s,baz=296,slow=35
KRUC Moravsky 31.50 80 *e*P **P** **22 35 22.2 +0.5**
M55A Ridgway 31.61 262 P **P** **22 35 22.9 +0.1**
baz=48
BASO Ashfield 31.62 268 P **P** **22 35 22.2 -0.6**
baz=52
SSPA Standing Stone 31.68 260 *e*P **P** **22 35 23.2 -0.1**
comp=Z,50nm,1.5s
SSPA LR LR
comp=Z,5µm,19.0s
SSPA Standing Stone 31.68 260 P **P** **22 35 23.3 -0.1**
baz=47
E46A Sault Ste Mari 31.71 274 P **P** **22 35 23.7 +0.1**
baz=55
OUZM OUZ 31.76 129 P **P** **22 35 25.0 +0.7**
MORC Moravsky Berou 31.77 78 *e*P **P** **22 35 23.5 -0.6**
comp=Z,34nm,1.5s
MORC LR LR
comp=Z,3µm,20.0s
MORC Moravsky Berou 31.77 78⇑ *i*P **P** **22 35 24.9 +0.9**
MORC Moravsky Berou 31.77 78⇑ P **P** **22 35 24.9 +0.9**
MORC Moravsky Berou 31.77 78 *e*P **P** **22 35 25.0 +0.9**
CONA Conrad Observa 31.81 82 *i* pP **P** **22 35 25.6 +1.1**
comp=Z,14nm,1.3s,SNR=8.1
K52A Tillsonburg 31.86 266 P **P** **22 35 24.7 -0.2**
baz=50
OBKA Obir 31.86 85 *i* P **P** **22 35 24.6 -0.5**
comp=Z,13nm,0.8s
ERPA Erie 31.87 264 PFAKE 22 35 40.0 +15
ERPA LR LR
comp=Z,5µm,20.0s
ERPA Erie 31.87 264 P **P** **22 35 24.9 -0.2**
baz=50
TRI Trieste 31.88 87 *e*P **P** **22 35 24.1 -1.0**
comp=Z,136nm,1.7s
TRI LR LR
comp=Z,3µm,19.0s
TRI Trieste 31.88 87 *e*P **P** **22 35 24.1 -1.0**
TRI pmax pmax
comp=Z,136nm,1.7s
TRI MLR MLR
comp=Z,3µm,19.0s
ELFO Elginfield 31.94 267 P **P** **22 35 25.6 0.0**
baz=51
SDMD Soldier's Deli 31.94 257 PFAKE
SDMD LR LR 22 35 40.0 +14
comp=Z,3µm,18.0s
JAVS Javornik 31.95 87 *i* P **P** **22 35 26.2 +0.4**
JAVS *e*S **S** **22 40 39.9 +2.4**
ARSA Arzberg 31.99 84 *i* pP **P** **22 35 27.3 +1.2**
comp=Z,13nm,0.9s,SNR=5.3
SOKA Soboth 32.04 85 *i* pP **P** **22 35 27.1 +0.5**
comp=Z,20nm,1.5s,SNR=6.9
OKC Ostrava-Krasne 32.07 78 *e*P **P** **22 35 27.3 +0.6**
OKC *ex* x 22 35 35.0
OKC *ex* x 22 36 22.8
OKC *e*S **S** **22 40 42.8 +3.6**
OKC AMS AMS 22 49 30.0
comp=Z,3µm,14.6s
OKC Ostrava-Krasne 32.07 78 *e*P **P** **22 35 27.3 +0.6**
OKC *e* 22 35 35.0
OKC *e*S **S** **22 40 42.8 +3.6**
OKC MLR MLR
comp=Z,3µm,14.6s
M54A Oil Creek Stat 32.09 263 *e*P **P** **22 35 27.1 +0.1**
comp=Z,89nm,1.4s
M54A LR LR
comp=Z,5µm,18.0s
M54A Oil Creek Stat 32.09 263 P **P** **22 35 27.3 +0.3**
baz=49
PERS Pernice 32.11 85 *i* P **P** **22 35 27.1 -0.1**
L53A Girard 32.13 264 P **P** **22 35 26.8 -0.5**
baz=49
H48A Harrisville 32.14 271 P **P** **22 35 27.9 +0.5**
baz=53
G47A Hillman 32.16 272 P **P** **22 35 27.7 +0.1**
baz=53
N55A Marion Center 32.20 261 P **P** **22 35 27.9 0.0**
baz=48
ALLY Alegheny Colle 32.27 264 PFAKE 22 35 40.0 +11
ALLY LR LR
comp=Z,6µm,20.0s
O56A Blue Knob Stat 32.31 260 *e*P **P** **22 35 29.5 +0.5**
comp=Z,62nm,1.4s
O56A LR LR
comp=Z,5µm,19.0s
O56A Blue Knob Stat 32.31 260 P **P** **22 35 29.1 +0.1**
baz=47
JAVC Velka Javorina 32.32 80 *e*P **P** **22 35 30.3 +1.3**
SOP Sopron 32.34 82 *e*P **P** **22 35 28.1 -1.0**
SOP *e*S **S** **22 40 45.1 +1.7**
ZST Bratislava 32.36 81 *e*P **P** **22 35 29.4 +0.2**
ZST Bratislava 32.36 81 *e*P **P** **22 35 29.4 +0.2**
MODS Modra-Piesok 32.36 81 *e*P **P** **22 35 30.0 +0.7**
MODS pmax pmax
comp=Z,44nm,1.7s
MODS Modra-Piesok 32.36 81 *e*P **P** **22 35 30.0 +0.7**
VISS Visnje 32.44 86 *i* P **P** **22 35 30.2 +0.2**
E44A Grand Marais A 32.48 276 PFAKE 22 35 40.0 +10
E44A LR LR
comp=Z,4µm,18.0s
BEL Belsk 32.52 73 *e*P **P** **22 35 31.9 +1.3**
BEL LMZ LR 22 46 05.6
comp=Z,3µm,24.5s
N54A Moraine State 32.64 262 *e*P **P** **22 35 32.2 +0.5**
comp=Z,131nm,1.4s
N54A LR LR
comp=Z,6µm,18.0s
N54A Moraine State 32.64 262 P **P** **22 35 32.7 +0.9**
baz=48,SNR=8.4
H47A Mio 32.70 271 P **P** **22 35 33.2 +0.9**
baz=53

M53A WI Miller and 32.71 264 P **P** **22 35 32.8 +0.5**
baz=49
VSU Vasula 32.72 59*d* *i*P **P** **22 35 31.8 -0.5**
VSU pmax pmax
comp=Z,74nm,1.0s
VSU Vasula 32.72 59 *e*P **P** **22 35 31.9 -0.5**
VSU IAmb IAmb 22 35 33.3
comp=Z,140nm,1.3s
O55A Ligonier 32.76 261 P **P** **22 35 33.8 +0.9**
baz=47
SUW Suwalki 32.77 68 *e*P **P** **22 35 32.8 0.0**
SUW LMZ LR 22 45 56.3
comp=Z,2µm,26.4s
SUW Suwalki 32.77 68 *e*P **P** **22 35 30.9 -1.9**
comp=Z,57nm,1.0s
SUW LR LR
comp=Z,2µm,20.0s
SUW Suwalki 32.77 68 *e*P **P** **22 35 32.8 0.0**
SUW MLR MLR
comp=Z,2µm,26.4s
OJC Ojcow 32.78 76 *e*P **P** **22 35 33.1 +0.1**
OJC LMZ LR 22 47 13.6
comp=Z,2µm,21.6s
OJC Ojcow 32.78 76 *e*P **P** **22 35 32.5 -0.5**
comp=Z,74nm,1.7s
OJC *e*PcP **PcP** **22 38 20.5 +2.6**
OJC Ojcow 32.78 76 *e*P **P** **22 35 33.1 +0.1**
OJC MLR MLR
comp=Z,2µm,21.6s
F45A CMU Biological 32.80 274 P **P** **22 35 32.8 -0.3**
baz=54
GLMI Grayling 32.80 272 *e*P **P** **22 35 33.8 +0.6**
comp=Z,58nm,1.0s
GLMI LR LR
comp=Z,9µm,18.0s
APA Apatity 32.85 41⇓ *i*P **P** **22 35 33.2 -0.1**
APA *i* 22 36 46.0
APA *i* 22 38 15.0
APA *i* S **S** **22 40 51.0 +0.1**
APA pmax pmax
comp=Z,26nm,1.1s
BOJS Bojanci 32.85 86 *i* P **P** **22 35 33.8 +0.3**
BOJS *e*S S 22 41 05.0 +14
J49A Marlette 32.86 269 P **P** **22 35 35.2 +1.5**
baz=51
M52A Chesterland 33.02 265 P **P** **22 35 35.6 +0.5**
baz=49
CBN Corbin Frederi 33.08 256 PFAKE 22 35 50.0 +14
CBN LR LR
comp=Z,4µm,18.0s
F44A Big Bay de Noc 33.14 275 P **P** **22 35 36.0 -0.1**
baz=54
BEHE Becsehely 33.15 84 *e*P P 22 35 30.1 -6.1
LANS Liptovska Anna 33.16 78 *e*P **P** **22 35 37.3 +1.0**
LANS Liptovska Anna 33.16 78 *e*P **P** **22 35 37.3 +1.0**
VYHS Vyhne 33.17 79 *e*P **P** **22 35 36.2 -0.1**
VYHS pmax pmax
comp=Z,19nm,1.6s
VYHS Vyhne 33.17 79 *e*P **P** **22 35 36.2 -0.1**
N53A Lisbon 33.22 263 P **P** **22 35 37.8 +0.9**
baz=48,SNR=12
E43A Lone Tree Farm 33.23 276 PFAKE 22 35 50.0 +13
E43A LR LR
comp=Z,3µm,19.0s
I47A Gladwin 33.23 271 P **P** **22 35 37.1 +0.2**
baz=52
LVZ Lovozero 33.23 40⇑ *e*P **P** **22 35 37.8 +1.1**
LVZ pmax pmax
comp=Z,91nm,1.7s
SRO Srobarova 33.25 81 *e*P **P** **22 35 38.3 +1.3**
SRO Srobarova 33.25 81 *e*P **P** **22 35 38.3 +1.3**
J48A Bridge Port 33.27 269 P P 22 35 32.3 -4.9
baz=51
H46A Fife Lake 33.31 272 P **P** **22 35 38.3 +0.8**
baz=53
O54A Avella 33.38 262 P **P** **22 35 38.9 +0.6**
baz=47
K49A Clarkson 33.41 268 P **P** **22 35 39.7 +1.2**
baz=50
MCWV Mont Chateau 33.44 261 *e*P **P** **22 35 38.4 -0.4**
comp=Z,65nm,1.6s
MCWV LR LR
comp=Z,3µm,19.0s
MCWV Mont Chateau 33.44 261 P **P** **22 35 40.2 +1.4**
baz=47
CSKK Cskako 33.47 81⇑ *e*P **P** **22 35 39.0 0.0**
NIE Niedzica 33.48 77 *e*P **P** **22 35 39.9 +0.8**
NIE *e*S S 22 40 15.5 -46
NIE LMZ LR 22 49 10.9
comp=Z,2µm,18.7s
NIE Niedzica 33.48 77 *e*P **P** **22 35 39.9 +0.8**
NIE MLR MLR
comp=Z,2µm,18.7s
L50A Kingsville 33.52 266 P **P** **22 35 40.3 +0.9**
baz=50
TIH Tihany 33.53 82⇓ *e*P **P** **22 35 40.0 +0.6**
TIH *e*S **S** **22 41 02.0 +0.1**
P55A Reedsville 33.53 260 P **P** **22 35 40.4 +0.8**
baz=46
R58B Mineral 33.53 256 PFAKE 22 35 50.0 +10
R58B LR LR
comp=Z,4µm,18.0s
R58B Mineral 33.53 256 P **P** **22 35 40.0 +0.4**
baz=44
C40A Isle Royale Na 33.57 280 *e*P **P** **22 35 39.8 0.0**
comp=Z,90nm,1.3s
C40A LR LR
comp=Z,3µm,18.0s
C40A Isle Royale Na 33.57 280 P **P** **22 35 40.4 +0.6**
baz=56
IZAR Zarasai 33.59 64 *e*P **P** **22 35 40.0 +0.1**
IZAR IAmb IAmb 22 35 41.5
comp=Z,12nm,1.1s
ISAL Salakas 33.60 64 *e*P **P** **22 35 40.2 +0.1**
ISAL IAmb IAmb 22 35 41.4
comp=Z,14nm,1.1s
PLIO Pelee Island, 33.61 266 P **P** **22 35 40.0 -0.2**
baz=49
M51A Elyria 33.63 265 P **P** **22 35 40.1 -0.3**
baz=49
F43A Flat Rock, Esc 33.65 275 P **P** **22 35 39.4 -1.1**
baz=54
N52A McGinn's Farm, 33.69 264 P **P** **22 35 40.0 -1.0**
baz=48
E42A Champion 33.72 277 P **P** **22 35 40.7 -0.4**
baz=55
D41A Chassel 33.72 278 PFAKE 22 35 50.0 +8.8
D41A LR LR
comp=Z,1µm,19.0s
D41A Chassel 33.72 278 P **P** **22 35 40.5 -0.6**
baz=55
H45A Beulah 33.73 273 P **P** **22 35 40.6 -0.7**
baz=53
AQU L'Aquila 33.75 92 PFAKE 22 35 50.0 +8.5
AQU LR LR
comp=Z,5µm,20.0s
IIGN Ignalina 33.75 64 *e*P **P** **22 35 41.2 -0.2**
IIGN IAmb IAmb 22 35 42.7
comp=Z,16nm,1.1s
K48A Perry 33.77 269 P **P** **22 35 40.7 -0.9**
baz=50
O53A New Philadelph 33.80 263 P **P** **22 35 41.9 -0.1**
baz=47
I46A Reed City 33.81 271 P **P** **22 35 41.5 -0.5**
baz=52
AAM Ann Arbor 33.83 268 *e*P **P** **22 35 42.6 +0.4**
comp=Z,121nm,1.6s
AAM LR LR
comp=Z,7µm,20.0s
AAM Ann Arbor 33.83 268 *e*P **P** **22 35 42.6 +0.4**
AAM pmax pmax
comp=Z,121nm,1.6s
AAM MLR MLR
comp=Z,7µm,20.0s
AAM Ann Arbor 33.83 268 P **P** **22 35 41.5 -0.7**
baz=50
P54A Burton 33.83 261 P **P** **22 35 41.5 -0.7**
baz=47
J47A Sunmer 33.90 270 P **P** **22 35 42.5 -0.3**
baz=51
N51A Ashland 34.01 265 *e*P **P** **22 35 43.2 -0.6**
comp=Z,94nm,1.4s
N51A LR LR
comp=Z,6µm,20.0s
N51A Ashland 34.01 265 P **P** **22 35 42.9 -0.8**
baz=48

L49A	**Milan**	**34.02**	**267**	P	**P**	**22 35 43.5**	**-0.2**
	baz=50						
Q55A	**Buckhannon**	**34.03**	**260**	P	**P**	**22 35 44.4**	**+0.4**
	baz=46						
IDID	**Didziasalis**	**34.03**	**64**	*e*P	**P**	**22 35 43.8**	**0.0**
IDID				IAmb	IAmb	22 35 45.0	
	comp=Z,8.6nm,1.2s						
M50A	**Fremont**	**34.07**	**266**	*e*P	**P**	**22 35 44.1**	**-0.1**
	comp=Z,106nm,1.3s						
M50A				LR	LR		
	comp=Z,3µm,19.0s						
M50A	**Fremont**	**34.07**	**266**	P	**P**	**22 35 43.9**	**-0.3**
	baz=49						
PSZ	**Piszkesteto**	**34.07**	**79**	*e*P	**P**	**22 35 44.8**	**+0.5**
	comp=Z,34nm,1.3s						
PSZ				LR	LR		
	comp=Z,3µm,18.0s						
PSZ	**Piszkesteto**	**34.07**	**79**	*e*P	**P**	**22 35 44.8**	**+0.5**
PSZ				pmax	pmax		
	comp=Z,35nm,1.3s						
PSZ				MLR	MLR		
	comp=Z,3µm,18.0s						
PSZ	**Piszkesteto**	**34.07**	**79**⇓	*e*P	**P**	**22 35 45.0**	**+0.7**
PSZ				*e*S	**S**	**22 41 13.0**	**+2.5**
NACGM	**Naroch**	**34.24**	**65**	*e*	**P**	**22 35 44.0**	**-1.6**
NACGM				*e*LQ	LQ	22 41 22.0	
NACGM				*e*LR	LR	22 46 00.0	
NACGM				LRM	MLR	22 48 04.0	
	comp=Z,2.9nm,20.0s						
O52A	**Adamsville**	**34.25**	**263**	*e*P	**P**	**22 35 47.6**	**+1.8**
	comp=Z,89nm,1.2s						
O52A				LR	LR		
	comp=Z,4µm,19.0s						
O52A	**Adamsville**	**34.25**	**263**	P	**P**	**22 35 47.0**	**+1.2**
	baz=47,SNR=9.1						
G43A	**Wallace**	**34.28**	**275**	PFAKE		22 36 00.0	+14
G43A				LR	LR		
	comp=Z,6µm,18.0s						
E41A	**Kenton**	**34.29**	**278**	P	**P**	**22 35 45.9**	**-0.2**
	baz=54						
J46A	**Howard City**	**34.30**	**271**	P	**P**	**22 35 45.6**	**-0.6**
	baz=51						
MORH	**Mrgy, Hungar**	**34.35**	**83**	*e*P	**P**	**22 35 47.0**	**+0.5**
MORH				*e*S	**S**	**22 41 11.1**	**-3.5**
K47A	**Vermontville**	**34.36**	**269**	P	**P**	**22 35 46.9**	**+0.2**
	baz=50						
BLY	**Banja Luka**	**34.40**	**86**	*e*P	**P**	**22 35 47.7**	**+0.6**
	comp=Z,32nm,1.4s						
BLY				LR	LR		
	comp=Z,3µm,18.0s						
BLY	**Banja Luka**	**34.40**	**86**⇑	*i*P	**P**	**22 35 47.8**	**+0.8**
P53A	**Whipple**	**34.42**	**262**	*e*P	**P**	**22 35 47.2**	**-0.1**
	comp=Z,116nm,1.5s						
P53A				LR	LR		
	comp=Z,6µm,18.0s						
P53A	**Whipple**	**34.42**	**262**	P	**P**	**22 35 47.7**	**+0.3**
	baz=47,SNR=8.4						
Q54A	**Coxs Mills**	**34.46**	**261**	P	**P**	**22 35 47.9**	**+0.2**
	baz=46						
L48A	**N Adams**	**34.50**	**268**	P	**P**	**22 35 49.1**	**+1.1**
	baz=50						
N50A	**Nevada**	**34.55**	**265**	P	**P**	**22 35 48.2**	**-0.1**
	baz=48						
M49A	**Liberty Center**	**34.55**	**267**	P	**P**	**22 35 48.4**	**0.0**
	baz=49						
R55A	**Marlinton**	**34.55**	**259**	P	**P**	**22 35 47.8**	**-0.7**
	baz=45						
COWI	**Conover**	**34.60**	**277**	*e*P	**P**	**22 35 47.8**	**-1.0**
	comp=Z,58nm,1.3s						
COWI				LR	LR		
	comp=Z,2µm,20.0s						
O51A	**Pataskala**	**34.66**	**264**	P	**P**	**22 35 49.3**	**0.0**
	baz=48,SNR=11						
KWP	**Kalwaria Pacla**	**34.69**	**75**	*e*P	**P**	**22 35 51.0**	**+1.4**
KWP				LMZ	LR	22 48 28.9	
	comp=Z,2µm,20.5s						
KWP	**Kalwaria Pacla**	**34.69**	**75**	*e*P	**P**	**22 35 47.7**	**-1.9**
	comp=Z,457nm,1.4s						
KWP				LR	LR		
	comp=Z,15µm,19.0s						
KWP	**Kalwaria Pacla**	**34.69**	**75**	*e*P	**P**	**22 35 51.0**	**+1.4**
KWP				MLR	MLR		
	comp=Z,2µm,20.5s						
G42A	**Mountain**	**34.71**	**275**	*e*P	**P**	**22 35 49.2**	**-0.5**
	comp=Z,180nm,1.9s						
G42A				LR	LR		
	comp=Z,5µm,18.0s						
G42A	**Mountain**	**34.71**	**275**	P	**P**	**22 35 49.4**	**-0.3**
	baz=53						
P52A	**Corning**	**34.74**	**263**	P	**P**	**22 35 49.4**	**-0.7**
	baz=47						
K46A	**Dorr**	**34.79**	**270**	P	**P**	**22 35 49.7**	**-0.7**
	baz=50						
F41A	**Three Lakes**	**34.79**	**277**	*e*P	**P**	**22 35 49.7**	**-0.7**
	comp=Z,43nm,1.4s						
F41A				LR	LR		
	comp=Z,2µm,19.0s						
F41A	**Three Lakes**	**34.79**	**277**	P	**P**	**22 35 49.8**	**-0.7**
	baz=54						
H43A	**Windswept, Lux**	**34.80**	**274**	PFAKE		22 36 00.0	+9.4
H43A				LR	LR		
	comp=Z,7µm,18.0s						
H43A	**Windswept, Lux**	**34.80**	**274**	P	**P**	**22 35 48.9**	**-1.7**
	baz=52						
ACSO	**Alum Creek Sta**	**34.81**	**264**	*e*P	**P**	**22 35 51.5**	**+0.8**
	comp=Z,121nm,1.4s						
ACSO				LR	LR		
	comp=Z,6µm,19.0s						
ACSO	**Alum Creek Sta**	**34.81**	**264**	P	**P**	**22 35 51.1**	**+0.4**
	baz=48,SNR=8.4						
E40A	**Wakefield**	**34.83**	**278**	P	**P**	**22 35 49.0**	**-1.7**
	baz=54						
EYMN	**Ely**	**34.86**	**282**	*e*P	**P**	**22 35 51.8**	**+0.7**
	comp=Z,122nm,1.4s						
EYMN				LR	LR		
	comp=Z,5µm,18.0s						
EYMN	**Ely**	**34.86**	**282**	P	**P**	**22 35 51.7**	**+0.7**
	baz=56,SNR=14						
L47A	**Sherwood**	**34.92**	**268**	P	**P**	**22 35 52.3**	**+0.7**
	baz=50						
Q53A	**Leroy**	**34.93**	**261**	P	**P**	**22 35 52.2**	**+0.4**
	baz=46						
M48A	**Edgerton**	**34.96**	**267**	*e*P	**P**	**22 35 51.8**	**-0.2**
	comp=Z,125nm,1.5s						
M48A				LR	LR		
	comp=Z,6µm,20.0s						
M48A	**Edgerton**	**34.96**	**267**	P	**P**	**22 35 51.8**	**-0.2**
	baz=49						
T57A	**Hurt**	**34.99**	**257**	P	**P**	**22 35 52.6**	**+0.4**
	baz=44						
MICGM	**Minsk**	**34.99**	**65**	*e*P	**P**	**22 35 51.0**	**-1.1**
MICGM				*e*P	**P**	**22 35 52.0**	**-0.1**
MICGM				*e*LR	LR	22 46 00.0	
MNK	**Minsk**	**34.99**	**65**	*e*P	**P**	**22 35 51.0**	**-1.1**
MNK				*e*		22 35 52.0	
UZH	**Uzhgorod**	**35.01**	**77**	*e*P	**P**	**22 35 49.8**	**-2.5**
UZH				*i*		22 35 52.9	
UZH				*i*		22 37 12.0	
UZH				*e*S	**S**	**22 41 17.8**	**-6.9**
UZH				MLR	MLR		
	comp=Z,200nm,17.0s						
N49A	**Columbus Grove**	**35.03**	**266**	*e*P	**P**	**22 35 51.8**	**-0.8**
	comp=Z,96nm,1.4s						
N49A				LR	LR		
	comp=Z,1µm,21.0s						
N49A	**Columbus Grove**	**35.03**	**266**	P	**P**	**22 35 51.7**	**-0.8**
	baz=48,SNR=8.2						
R54A	**Victor**	**35.11**	**260**	P	**P**	**22 35 53.6**	**+0.3**
	baz=45						
S55A	**Lewisburg**	**35.12**	**259**	P	**P**	**22 35 53.4**	**0.0**
	baz=45						
G41A	**Antigo**	**35.15**	**276**	P	**P**	**22 35 53.8**	**+0.2**
	baz=53						
H42A	**Shiocton**	**35.21**	**275**	PFAKE		22 36 10.0	+16
H42A				LR	LR		
	comp=Z,7µm,18.0s						
H42A	**Shiocton**	**35.21**	**275**	P	**P**	**22 35 54.1**	**0.0**
	baz=52						
O50A	**Cable**	**35.23**	**265**	P	**P**	**22 35 54.5**	**+0.2**
	baz=48,SNR=12						
E39A	**Mellen**	**35.23**	**279**	P	**P**	**22 35 54.4**	**+0.1**
	baz=54						
F40A	**Park Falls**	**35.26**	**278**	P	**P**	**22 35 55.2**	**+0.6**
	baz=54						
Q52A	**Bidwell**	**35.28**	**262**	P	**P**	**22 35 54.8**	**+0.1**
	baz=46,SNR=7.6						
LVV	**L'vov**	**35.32**	**74**	*e*P	**P**	**22 35 55.9**	**+1.0**
LVV				*e*		22 37 14.6	
LVV				*e*PPP	PPP	22 37 26.2	
LVV				*e*S	**S**	**22 41 30.0**	**+0.5**
LVV				*e*SS	**SnSn**	**22 43 49.4**	**+2.7**
LVV				*e*SSS	SSS	22 44 14.3	
LVV				MLR	MLR		
	comp=N,2µm,17.0s						
LVV				MLR	MLR		
	comp=E,2µm,17.0s						
LVV				MLR	MLR		
	comp=Z,2µm,17.0s						
V59A	**Middlesex**	**35.33**	**254**	P	**P**	**22 35 55.0**	**-0.1**
	baz=42,SNR=12						
P51A	**Williamsport**	**35.37**	**263**	*e*P	**P**	**22 35 55.9**	**+0.4**
	comp=Z,184nm,1.8s						
P51A				LR	LR		
	comp=Z,5µm,21.0s						
P51A	**Williamsport**	**35.37**	**263**	P	**P**	**22 35 55.5**	**0.0**
	baz=47						
I43A	**Langenfeld Bro**	**35.38**	**273**	P	**P**	**22 35 54.5**	**-1.0**
	baz=52						
T56A	**Rocky Mt**	**35.40**	**257**	P	**P**	**22 35 56.8**	**+1.0**
	baz=44						
TRPA	**Tarpa**	**35.43**	**77**⇓	*i*P	**P**	**22 35 56.4**	**+0.5**
TRPA	**Tarpa**	**35.43**	**77**	*e*P	**P**	**22 35 57.0**	**+1.2**
TRPA				*e*S	S	22 41 22.1	-9.1
AMBH	**Ambrzfalva**	**35.44**	**81**	*e*P	**P**	**22 35 57.1**	**+1.1**
BLA	**Blacksburg**	**35.48**	**258**	*e*P	**P**	**22 35 55.8**	**-0.7**
	comp=Z,32nm,1.1s						
BLA				LR	LR		
	comp=Z,4µm,19.0s						
BLA	**Blacksburg**	**35.48**	**258**	*e*P	**P**	**22 35 55.8**	**-0.7**
BLA				pmax	pmax		
	comp=Z,32nm,1.1s						
BLA				MLR	MLR		
	comp=Z,4µm,19.0s						
BLA	**Blacksburg**	**35.48**	**258**	P	**P**	**22 35 57.2**	**+0.6**
	baz=44						
LTVH	**Ltavrtes, Hu**	**35.49**	**79**	*e*P	**P**	**22 35 57.0**	**+0.6**
LTVH				*e*S	**S**	**22 41 24.0**	**-8.2**
L46A	**Eue Claire**	**35.52**	**269**	P	**P**	**22 35 56.8**	**0.0**
	baz=50						
CNNC	**Cliffs of the**	**35.53**	**253**	*e*P	**P**	**22 35 58.1**	**+1.2**
	comp=Z,53nm,1.0s						
CNNC				LR	LR		
	comp=Z,4µm,20.0s						
CNNC	**Cliffs of the**	**35.53**	**253**	P	**P**	**22 35 56.9**	**0.0**
	baz=42						
R53A	**Hurricane**	**35.54**	**261**	P	**P**	**22 35 57.8**	**+0.8**
	baz=46						
N48A	**Decatur**	**35.55**	**267**	P	**P**	**22 35 57.7**	**+0.6**
	baz=48						
W60A	**Pink Hill**	**35.58**	**253**	P	**P**	**22 35 57.2**	**-0.1**
	baz=41						
O49A	**Covington**	**35.61**	**265**	*e*P	**P**	**22 35 57.2**	**-0.3**
	comp=Z,126nm,1.4s						
O49A				LR	LR		
	comp=Z,4µm,18.0s						
O49A	**Covington**	**35.61**	**265**	P	**P**	**22 35 57.8**	**+0.3**
	baz=48,SNR=10						
E38A	**The Farm, Brul**	**35.66**	**280**	*e*P	**P**	**22 35 57.1**	**-0.8**
	comp=Z,36nm,1.1s						
E38A				LR	LR		
	comp=Z,2µm,19.0s						
E38A	**The Farm, Brul**	**35.66**	**280**	P	**P**	**22 35 58.3**	**+0.4**
	baz=54						
TMCR	**Tamitsa**	**35.68**	**46**	*e*P	**P**	**22 35 56.6**	**-1.3**
TMCR				pmax	pmax		
	comp=Z,131nm,1.5s						
G40A	**Rib Lake**	**35.69**	**277**	PFAKE		22 36 10.0	+12
G40A				LR	LR		
	comp=Z,2µm,19.0s						
G40A	**Rib Lake**	**35.69**	**277**	P	**P**	**22 35 58.7**	**+0.4**
	baz=53						
P50A	**Jamestown**	**35.70**	**264**	P	**P**	**22 35 58.0**	**-0.3**
	baz=47,SNR=8.6						
F39A	**Loretta**	**35.71**	**278**	P	**P**	**22 35 58.8**	**+0.4**
	baz=54						
T55A	**Pulaski**	**35.75**	**258**	P	**P**	**22 35 58.8**	**0.0**
	baz=44						
H41A	**Junction City**	**35.78**	**276**	*e*P	**P**	**22 35 59.3**	**+0.3**
	comp=Z,82nm,1.4s						
H41A				LR	LR		
	comp=Z,5µm,19.0s						
H41A	**Junction City**	**35.78**	**276**	P	**P**	**22 35 58.6**	**-0.4**
	baz=52						
I42A	**Draeger Farm,**	**35.81**	**274**	PFAKE		22 36 10.0	+11
I42A				LR	LR		
	comp=Z,6µm,18.0s						
Q51A	**Peebles**	**35.84**	**263**	P	**P**	**22 36 00.5**	**+1.0**
	baz=46						
N47A	**Urbana**	**35.92**	**267**	P	**P**	**22 36 00.6**	**+0.4**
	baz=48						
R52A	**Catlettsburg**	**35.93**	**262**	P	**P**	**22 36 00.7**	**+0.4**
	baz=46						
M46A	**Old House Fiel**	**35.94**	**269**	PFAKE		22 36 10.0	+10
M46A				LR	LR		
	comp=Z,9µm,19.0s						
M46A	**Old House Fiel**	**35.94**	**269**	P	**P**	**22 35 59.1**	**-1.3**
	baz=49						
ULM	**Lac du Bonnet**	**36.00**	**288**	*e*P	**P**	**22 36 00.3**	**-0.5**
	comp=Z,127nm,1.4s						
ULM				LR	LR		
	comp=Z,6µm,20.0s						
ULM	**Lac du Bonnet**	**36.00**	**288**	*e*P	**P**	**22 36 00.3**	**-0.5**
ULM				pmax	pmax		
	comp=Z,127nm,1.4s						
ULM				MLR	MLR		
	comp=Z,6µm,20.0s						
ULM	**Lac du Bonnet**	**36.00**	**288**	P	**P**	**22 36 00.2**	**-0.6**
	comp=Z,47nm,1.1s,baz=58,slow=8.6,SNR=19						
ULM				LR	LR	22 49 27.6	
	comp=Z,6µm,19.1s,baz=64,slow=34						
SIRR	**Siria**	**36.01**	**81**⇑	*i*P	**P**	**22 36 01.4**	**+0.4**
O48A	**Farmland**	**36.03**	**266**	P	**P**	**22 35 59.7**	**-1.4**
	baz=48						
KEST	**Kesra**	**36.05**	**105**	*e*P	**P**	**22 35 58.8**	**-2.7**
	comp=Z,105nm,1.5s						
KEST	**Kesra**	**36.05**	**105**	P	**P**	**22 36 00.3**	**-1.2**
	comp=Z,20nm,1.1s,baz=259,slow=0.6,SNR=8.8						
KEST				LR	LR	22 49 05.3	
	comp=Z,2µm,19.5s,baz=277,slow=34						
X60A	**Albert Glenn T**	**36.08**	**253**	P	**P**	**22 36 00.5**	**-1.0**
	baz=41						
V57A	**Coltrane Farms**	**36.08**	**256**	P	**P**	**22 36 01.0**	**-0.6**
	baz=43						
S53A	**Williamson**	**36.10**	**260**	P	**P**	**22 36 02.3**	**+0.5**
	baz=45						
H40A	**Chili**	**36.19**	**276**	P	**P**	**22 36 02.5**	**0.0**
	baz=52						
F38A	**Pierce - Schro**	**36.22**	**279**	P	**P**	**22 36 02.8**	**+0.1**
	baz=54,SNR=16						
K43A	**Burlington**	**36.23**	**272**	PFAKE		22 36 20.0	+17
K43A				LR	LR		
	comp=Z,8µm,18.0s						
K43A	**Burlington**	**36.23**	**272**	P	**P**	**22 36 02.7**	**-0.1**
	baz=50						
G39A	**Holcombe**	**36.23**	**278**	P	**P**	**22 36 03.0**	**+0.2**
	baz=53						
T54A	**Tazewell**	**36.23**	**259**	P	**P**	**22 36 02.6**	**-0.4**
	baz=44						
I41A	**Arkdale**	**36.24**	**275**	*e*P	**P**	**22 36 02.4**	**-0.6**
	comp=Z,66nm,1.4s						
I41A				LR	LR		
	comp=Z,7µm,18.0s						
I41A	**Arkdale**	**36.24**	**275**	P	**P**	**22 36 03.9**	**+0.9**
	baz=52						
P49A	**Miami Univ. Ec**	**36.27**	**265**	P	**P**	**22 36 02.9**	**-0.3**
	baz=47						
J42A	**Columbus**	**36.29**	**273**	P	**P**	**22 36 03.3**	**0.0**
	baz=51						
DRGR		**36.29**	**79**⇑	*i*P	**P**	**22 36 03.3**	**-0.1**
DRGR		**36.29**	**79**	⇑P	**P**	**22 36 03.4**	**0.0**
Q50A	**Georgetown**	**36.33**	**263**	P	**P**	**22 36 02.5**	**-1.2**
	baz=46						
L44A	**Lake County Fo**	**36.33**	**271**	P	**P**	**22 36 02.9**	**-0.8**
	baz=50						
U55A	**TA2, Sparta**	**36.34**	**258**	P	**P**	**22 36 02.9**	**-1.0**
	baz=44,SNR=7.5						
BZS	**Buzias**	**36.37**	**82**⇓	*i*P	**P**	**22 36 04.1**	**+0.1**
BZS	**Buzias**	**36.37**	**82**	⇓P	**P**	**22 36 04.1**	**+0.1**
R51A	**Hillsboro**	**36.48**	**262**	P	**P**	**22 36 04.8**	**-0.3**
	baz=46						
N46A	**Monticello**	**36.50**	**268**	P	**P**	**22 36 04.8**	**-0.3**
	baz=48						
O47A	**Sheridan**	**36.62**	**267**	P	**P**	**22 36 05.6**	**-0.5**
	baz=48						
Y60A	**Bolivia**	**36.64**	**252**	P	**P**	**22 36 06.5**	**+0.1**
	baz=41						
H39A	**Augusta**	**36.66**	**277**	P	**P**	**22 36 06.8**	**+0.3**
	baz=52						
G38A	**Ridgeland**	**36.68**	**278**	P	**P**	**22 36 06.7**	**-0.1**
	baz=53						
P48A	**Milroy**	**36.72**	**265**	P	**P**	**22 36 06.5**	**-0.5**
	baz=47,SNR=9.9						
Q49A	**Aurora**	**36.73**	**264**	P	**P**	**22 36 07.3**	**+0.2**
	baz=46						
W57A	**Gilead**	**36.74**	**255**	P	**P**	**22 36 07.6**	**+0.3**
	baz=42						
K42A	**Prairie Point,**	**36.75**	**273**	P	**P**	**22 36 07.2**	**-0.1**
	baz=50						
U54A	**Nelsons Funny**	**36.76**	**259**	P	**P**	**22 36 07.7**	**+0.3**
	baz=44						
J41A	**Loganville**	**36.76**	**274**	P	**P**	**22 36 07.8**	**+0.4**
	baz=51						
I40A	**Norwalk**	**36.77**	**275**	P	**P**	**22 36 08.0**	**+0.5**
	baz=52						
F37A	**Hinrichs Farm,**	**36.78**	**279**	P	**P**	**22 36 07.8**	**+0.3**
	baz=53						
L43A	**Garden Prairie**	**36.79**	**272**	P	**P**	**22 36 07.9**	**+0.2**
	baz=50,SNR=7.6						
T53A	**Wise**	**36.82**	**260**	P	**P**	**22 36 07.8**	**-0.2**
	baz=44						
CLTB	**Caltabellotta**	**36.87**	**99**	*e*P	**P**	**22 36 05.5**	**-3.0**
	comp=Z,134nm,1.9s						
CLTB				LR	LR		
	comp=Z,3µm,19.0s						
FFC	**Flin Flon**	**36.89**	**297**	*e*P	**P**	**22 36 08.7**	**+0.4**
	comp=Z,28nm,1.1s						
FFC				LR	LR		
	comp=Z,4µm,18.0s						
FFC	**Flin Flon**	**36.89**	**297**	*i* P	**P**	**22 36 09.3**	**+1.0**
V55A	**Taylorsville**	**36.91**	**257**	P	**P**	**22 36 08.5**	**-0.2**
	baz=43						
R50A	**Paris**	**36.91**	**263**	P	**P**	**22 36 08.0**	**-0.7**
	baz=46,SNR=12						
M44A	**Midewin, Midew**	**36.91**	**270**	PFAKE		22 36 20.0	+11
M44A				LR	LR		
	comp=Z,8µm,19.0s						
M44A	**Midewin, Midew**	**36.91**	**270**	P	**P**	**22 36 08.8**	**+0.1**
	baz=49						
DEV	**Deva**	**36.93**	**80**⇑	*i*P	**P**	**22 36 09.6**	**+0.8**
DEV	**Deva**	**36.93**	**80**	⇑P	**P**	**22 36 09.6**	**+0.8**
S51A	**Beattyville**	**36.95**	**262**	*e*P	**P**	**22 36 09.1**	**0.0**
	comp=Z,94nm,1.5s						
S51A				LR	LR		
	comp=Z,5µm,18.0s						
S51A	**Beattyville**	**36.95**	**262**	P	**P**	**22 36 10.4**	**+1.3**
	baz=45						
N45A	**Kentland**	**36.97**	**269**	P	**P**	**22 36 10.3**	**+1.2**
	baz=48						
T52A	**Hallie**	**36.98**	**260**	P	**P**	**22 36 10.3**	**+1.0**
	baz=44						
TTG	**Podgorica**	**37.02**	**88**	PFAKE		22 36 20.0	+10
TTG				LR	LR		
	comp=Z,4µm,21.0s						
ARCR	**ARCALIA**	**37.03**	**78**⇑	*i*P	**P**	**22 36 09.3**	**-0.3**
SFIN	**Lafayette**	**37.05**	**268**	*e*P	**P**	**22 36 10.6**	**+0.8**
	comp=Z,65nm,1.3s						
SFIN				LR	LR		
	comp=Z,9µm,20.0s						
SFIN	**Lafayette**	**37.05**	**268**	P	**P**	**22 36 10.7**	**+0.9**
	baz=48						
AGMN	**Agassiz Nation**	**37.07**	**285**	*e*P	**P**	**22 36 11.7**	**+1.7**
	comp=Z,90nm,1.5s						
AGMN				*e*PcP	**PcP**	**22 38 31.1**	**+0.7**
AGMN				LR	LR		
	comp=Z,7µm,18.0s						
AGMN	**Agassiz Nation**	**37.07**	**285**	P	**P**	**22 36 11.0**	**+1.1**
	baz=55,SNR=10						
W56A	**Indian Trail**	**37.08**	**256**	P	**P**	**22 36 10.0**	**-0.2**
	baz=42						
J40A	**Soldiers Grove**	**37.15**	**275**	P	**P**	**22 36 11.2**	**+0.5**
	baz=51						
GZR	**Gura Zlata**	**37.16**	**81**⇑	*i*P	**P**	**22 36 10.8**	**0.0**
GZR	**Gura Zlata**	**37.16**	**81**	⇑P	**P**	**22 36 10.8**	**0.0**
BUR08	**Bucovina Ar. S**	**37.17**	**76**	*e*P	**P**	**22 36 11.7**	**+0.7**
	comp=Z,79nm,1.7s						
BUR08				*e*PP	**PP**	**22 37 32.4**	**-2.9**
BUR08				*e*PcP	**PcP**	**22 38 32.3**	**+1.4**
P47A	**Martinsville**	**37.18**	**266**	P	**P**	**22 36 11.8**	**+0.8**
	baz=47						
JFWS	**Jewell Farm**	**37.18**	**274**	*e*P	**P**	**22 36 10.5**	**-0.4**
	comp=Z,55nm,1.4s						
JFWS				LR	LR		
	comp=Z,6µm,18.0s						
JFWS	**Jewell Farm**	**37.18**	**274**	*e*P	**P**	**22 36 10.5**	**-0.4**
JFWS				pmax	pmax		
	comp=Z,55nm,1.4s						
JFWS				MLR	MLR		
	comp=Z,6µm,18.0s						
JFWS	**Jewell Farm**	**37.18**	**274**	P	**P**	**22 36 11.2**	**+0.3**
	baz=50						
SPMN	**Marine on St.**	**37.18**	**279**	*e*P	**P**	**22 36 11.6**	**+0.7**
	comp=Z,49nm,1.1s						
SPMN				LR	LR		
	comp=Z,3µm,18.0s						
SPMN	**Marine on St.**	**37.18**	**279**	P	**P**	**22 36 11.2**	**+0.3**
	baz=53						
BURAR	**Bucovina Array**	**37.20**	**76**⇑	*i*P	**P**	**22 36 11.3**	**+0.1**
BURAR	**Bucovina Array**	**37.20**	**76**	⇑P	**P**	**22 36 11.3**	**+0.1**
H38A	**Maiden Rock**	**37.23**	**278**	P	**P**	**22 36 12.1**	**+0.7**
	baz=52						
Q48A	**North Vernon**	**37.26**	**265**	P	**P**	**22 36 12.9**	**+1.3**
	baz=46,SNR=12						
U53A	**Fall Branch**	**37.29**	**259**	P	**P**	**22 36 12.6**	**+0.6**
	baz=44						
I39A	**Houston**	**37.31**	**276**	*e*P	**P**	**22 36 12.3**	**+0.3**
	comp=Z,158nm,1.8s						
I39A				LR	LR		
	comp=Z,5µm,18.0s						
I39A	**Houston**	**37.31**	**276**	P	**P**	**22 36 12.3**	**+0.3**
	baz=51						
X57A	**Johnson Farm,**	**37.31**	**255**	P	**P**	**22 36 12.5**	**+0.4**
	baz=42						
N44A	**Piper City**	**37.36**	**269**	P	**P**	**22 36 12.3**	**-0.1**
	baz=48						
V54A	**Nebo**	**37.37**	**258**	P	**P**	**22 36 12.7**	**+0.1**
	baz=43						
S50A	**Richmond**	**37.37**	**262**	P	**P**	**22 36 13.0**	**+0.4**
	baz=45						
R49A	**Shelbyville**	**37.38**	**264**	P	**P**	**22 36 12.6**	**-0.1**
	baz=46						
M43A	**Waltham Townsh**	**37.40**	**271**	P	**P**	**22 36 13.3**	**+0.5**
	baz=49						
L42A	**Oliver, Polo**	**37.43**	**272**	*e*P	**P**	**22 36 13.3**	**+0.2**
	comp=Z,94nm,1.5s						
L42A				LR	LR		
	comp=Z,7µm,19.0s						
L42A	**Oliver, Polo**	**37.43**	**272**	P	**P**	**22 36 13.5**	**+0.4**
	baz=50						
KMSC	**Kings Mountain**	**37.49**	**257**	PFAKE		22 36 30.0	+16
KMSC				LR	LR		
	comp=Z,1µm,20.0s						
KMSC	**Kings Mountain**	**37.49**	**257**	P	**P**	**22 36 13.8**	**+0.1**
	baz=42						
Y58A	**Scranton**	**37.50**	**254**	P	**P**	**22 36 13.9**	**+0.2**
	baz=41						
BLO	**Bloomington**	**37.54**	**266**	*e*P	**P**	**22 36 14.2**	**+0.2**
	comp=Z,78nm,1.4s						
BLO				LR	LR		
	comp=Z,3µm,21.0s						
BLO	**Bloomington**	**37.54**	**266**	*e*P	**P**	**22 36 14.2**	**+0.2**
BLO				pmax	pmax		
	comp=Z,78nm,1.4s						
BLO				MLR	MLR		
	comp=Z,3µm,21.0s						
VAE	**Valguarnera**	**37.62**	**98**	LR	LR	22 49 52.2	
	comp=Z,2µm,19.4s,baz=334,slow=33						
P46A	**Rosedale**	**37.62**	**267**	P	**P**	**22

comp=Z,27nm,1.0s
AKASG **Malin Array Be** 37.64 70 P P 22 36 14.3 -0.4
comp=Z,15nm,0.9s,baz=306,slow=8.3,SNR=18
AKASG LR LR 22 53 08.4
comp=Z,2μm,18.1s,baz=295,slow=38
AKBB Malin Array Si 37.64 70 eP P 22 36 14.0 -0.7
comp=Z,30nm,0.9s
AKBB Malin Array Si 37.64 70 eP P 22 36 14.0 -0.7
AKBB pmax pmax
comp=Z,30nm,0.9s
Q47A Bedord North L 37.64 266 P P 22 36 15.3 +0.4
baz=47
KLMR Klimovskoe 37.66 51 eP P 22 36 13.7 -1.1
KLMR pmax pmax
comp=Z,104nm,1.6s
KLMR Klimovskoe 37.66 51 eP P 22 36 13.7 -1.1
KLMR AMP 22 36 18.1
comp=Z,104nm,1.6s
LOT Lotru 37.68 80⇓iP P 22 36 14.9 -0.4
TZTN Tazewell 37.70 260 eP P 22 36 13.9 -1.6
comp=Z,144nm,1.4s
TZTN LR LR
comp=Z,8μm,18.0s
TZTN Tazewell 37.70 260 P P 22 36 17.0 +1.5
baz=44,SNR=11
U52A Thorn Hill 37.71 260 P P 22 36 15.5 -0.1
baz=44
J39A Decorah 37.74 275 P P 22 36 15.9 +0.3
baz=51
TIP Timpagrande 37.76 94 eP P 22 36 14.6 -1.3
comp=Z,28nm,1.5s
TIP LR LR
comp=Z,4μm,19.0s
S49A Springfield 37.80 263 P P 22 36 17.3 +1.1
baz=45,SNR=13
X56A White Oak 37.81 256 P P 22 36 16.8 +0.5
baz=42
K40A Colesburg 37.82 274 P P 22 36 16.5 +0.2
baz=50
N43A Stutzman Famil 37.85 270 P P 22 36 17.0 +0.3
baz=49
CEL Celeste 37.90 95 PFAKE 22 36 30.0 +13
CEL LR LR
comp=Z,2μm,19.0s
V53A Saluda 37.92 259 eP P 22 36 18.0 +0.7
comp=Z,82nm,1.5s
V53A LR LR
comp=Z,5μm,18.0s
V53A Saluda 37.92 259 P P 22 36 18.3 +0.9
baz=43,SNR=9.6
PUNG Punghina 37.93 82⇓iP P 22 36 17.9 +0.6
O44A Mansfield 37.98 269 P P 22 36 18.5 +0.8
baz=48
P45A Graceland, Par 37.99 268 eP P 22 36 18.4 +0.6
comp=Z,96nm,1.4s
P45A LR LR
comp=Z,8μm,19.0s
P45A Graceland, Par 37.99 268 P P 22 36 18.4 +0.6
baz=47
PAULI Pauline 37.99 257 eP P 22 36 18.3 +0.4
comp=Z,49nm,1.3s
PAULI ePP PP 22 37 45.1 +0.7
PAULI LR LR
comp=Z,1μm,21.0s
W54A Cherokee Point 38.00 257 P P 22 36 18.8 +0.8
baz=42,SNR=9.9
Z58A St. Stephen 38.01 253 P P 22 36 18.0 0.0
baz=40
WCI Wyandotte Cave 38.06 265 eP P 22 36 18.9 +0.5
comp=Z,87nm,1.5s
WCI LR LR
comp=Z,4μm,19.0s
WCI Wyandotte Cave 38.06 265 P P 22 36 19.1 +0.7
baz=46
TIR Tirane 38.07 88 PFAKE 22 36 30.0 +12
TIR LR LR
comp=Z,5μm,21.0s
U51A La Follette 38.08 261 P P 22 36 19.5 +0.8
baz=44
BIZ Bicaz 38.09 77⇑iP P 22 36 19.3 +0.7
T50A Nancy 38.09 262 P P 22 36 19.4 +0.7
baz=45
JSC Jenkinsville 38.09 256 eP P 22 36 18.4 -0.3
comp=Z,119nm,1.8s
JSC LR LR
comp=Z,2μm,19.0s
JSC Jenkinsville 38.09 256 eP P 22 36 18.4 -0.3
JSC pmax pmax
comp=Z,119nm,1.8s
JSC MLR MLR
comp=Z,2μm,19.0s
Q46A CEJHS Indians, 38.11 267 P P 22 36 19.6 +0.7
baz=47
R47A Wooly Knot Far 38.14 265 P P 22 36 19.5 +0.4
baz=46
HDIL Hopedale 38.17 270 PFAKE 22 36 30.0 +11
HDIL LR LR
comp=Z,7μm,19.0s
ARR Arges 38.21 80⇑iP P 22 36 20.2 +0.5
V52A Sevierville 38.24 260 eP P 22 36 21.0 +1.0
comp=Z,40nm,1.4s
V52A LR LR
comp=Z,5μm,19.0s
V52A Sevierville 38.24 260 P P 22 36 20.8 +0.9
baz=43
DOPR Dopca 38.27 78⇑iP P 22 36 20.1 -0.1
L40A Anamosa 38.28 273 eP P 22 36 21.9 +1.7
comp=Z,146nm,2.0s
L40A LR LR
comp=Z,5μm,20.0s
L40A Anamosa 38.28 273 P P 22 36 20.9 +0.6
baz=50
S48A Wiedeman Farm, 38.32 264 P P 22 36 21.3 +0.6
baz=45
M41A Milan 38.34 272 P P 22 36 21.3 +0.5
baz=49
O43A Sugar Creek Fa 38.37 270 P P 22 36 21.5 +0.6
baz=48
NHSC New Hope 38.38 253 eP P 22 36 23.1 +1.9
comp=Z,309nm,1.4s
NHSC LR LR
comp=Z,5μm,18.0s
NHSC New Hope 38.38 253 P P 22 36 22.6 +1.5
baz=40,SNR=6.1
VOIR 38.40 79⇓iP P 22 36 21.4 0.0
VOIR 38.40 79⇓P P 22 36 21.4 0.0
N42A Yates City 38.41 271 P P 22 36 22.1 +0.8
baz=48
OZUR 38.41 78⇑iP P 22 36 21.0 -0.4
T49A Edmonton 38.42 263 eP P 22 36 22.6 +1.2
comp=Z,120nm,2.0s
T49A LR LR
comp=Z,7μm,21.0s
T49A Edmonton 38.42 263 P P 22 36 22.1 +0.6
baz=45
TKL Tuckaleechee C 38.47 260 PFAKE 22 36 30.0 +8.1
TKL LR LR
comp=Z,5μm,20.0s
Y56A Pelion 38.48 255 P P 22 36 23.1 +1.1
baz=41
W53A Cullowhee 38.48 258 P P 22 36 24.0 +1.8
baz=43,SNR=11
BG3 Lake Jocassee 38.49 258 eP P 22 36 23.4 +1.3
comp=Z,107nm,1.5s
BG3 LR LR
comp=Z,2μm,20.0s
X54A Belton 38.51 257 P P 22 36 22.9 +0.7
baz=42
U50A Jamestown 38.52 261 P P 22 36 22.7 +0.4
baz=44
Z57A Bowman 38.52 254 P P 22 36 22.8 +0.4
baz=41
P44A Sand Creek, Wi 38.52 268 P P 22 36 23.1 +0.8
baz=47
SKO Skopje 38.55 86 iP P 22 36 23.3 +0.8
TESR Tescani 38.64 77⇓iP P 22 36 23.3 0.0
Q45A Warren Harvey, 38.65 267 P P 22 36 24.4 +1.0
baz=47
158A Hollywood 38.67 253 P P 22 36 24.5 +0.9
baz=40
Y55A Saluda 38.67 256 P P 22 36 24.4 +0.7
baz=42
HODGE Hodges 38.68 257 eP P 22 36 24.0 +0.4
comp=Z,47nm,1.5s
HODGE LR LR
comp=Z,2μm,21.0s
L39A Vinton 38.68 274 P P 22 36 24.6 +1.0
baz=50
V51A Loudon 38.69 260 eP P 22 36 24.5 +0.7
comp=Z,48nm,1.4s
V51A LR LR
comp=Z,9μm,19.0s
V51A Loudon 38.69 260 P P 22 36 24.8 +1.1
baz=44
OLIL Olney 38.73 267 PFAKE 22 36 40.0 +16
OLIL LR LR
comp=Z,6μm,19.0s
OHR Ohrid 38.75 88 iP P 22 36 25.4 +1.1
R46A Gibon Southern 38.76 266 P P 22 36 24.4 +0.1
baz=46
S47A Hartford 38.83 265 P P 22 36 25.6 +0.7
baz=45
KRUS Krusevo 38.84 87 iP P 22 36 25.7 +0.6
WDD Wied Dalam 38.85 99 PFAKE 22 36 40.0 +15
WDD LR LR
comp=Z,1μm,18.0s
O42A Bath 38.86 270 P P 22 36 26.1 +1.0
baz=48
Z56A Williston 38.87 255 P P 22 36 26.1 +0.9
baz=41
MLR Muntele Rosu 38.87 79 eP P 22 36 25.7 +0.4
comp=Z,16nm,1.2s
MLR LR LR
comp=Z,3μm,20.0s
MLR Muntele Rosu 38.87 79⇑iP P 22 36 26.0 +0.7
MLR Muntele Rosu 38.87 79⇑P P 22 36 26.0 +0.7
M40A Post Highland 38.87 273 P P 22 36 25.7 +0.5
baz=49
T48A Bowling Green 38.90 264 P P 22 36 26.7 +1.2
baz=45
P43A Skaggs, Pawnee 38.92 269 P P 22 36 26.9 +1.2
baz=47
HUMR Humele 38.92 81⇑iP P 22 36 25.5 -0.1
VLAD Vladila 38.93 82⇓iP P 22 36 25.8 +0.1
N41A Harden Midland 38.96 272 eP P 22 36 26.3 +0.3
comp=Z,46nm,1.0s
N41A LR LR
comp=Z,8μm,19.0s
N41A Harden Midland 38.96 272 P P 22 36 27.5 +1.6
baz=48
W52A Murphy 38.97 259 eP P 22 36 26.5 +0.3
comp=Z,72nm,1.6s
W52A LR LR
comp=Z,4μm,20.0s
W52A Murphy 38.97 259 P P 22 36 27.0 +0.8
baz=43
U49A Red Boiling Sp 38.98 262 P P 22 36 26.7 +0.5
baz=44,SNR=12
YKW3 Yellowknife Ar 38.98 314 eP P 22 36 26.0 +0.2
comp=Z,86nm,1.8s
YKW3 LR LR
comp=Z,3μm,19.0s
YKA Yellowknife Ar 39.01 314 P P 22 36 26.2 +0.1
comp=Z,9.7nm,0.9s,baz=62,slow=8.9,SNR=61
YKA PcP PcP 22 38 36.1 0.0
comp=Z,4.4nm,1.1s,baz=65,slow=3.3,SNR=6.5
YKA LR LR 22 51 19.1
comp=Z,336nm,18.7s,baz=68,slow=34
YKB5 Yellowknife Ar 39.01 314 eP P 22 36 24.8 -1.2
YKB5 ePcP PcP 22 38 35.5 -0.6
USIN University of 39.02 266 eP P 22 36 28.7 +2.2
comp=Z,134nm,1.4s
USIN LR LR
comp=Z,2μm,19.0s
PLOR Plostina 39.04 78⇑iP P 22 36 26.1 -0.6
PLOR Plostina 39.04 78⇑P P 22 36 26.1 -0.6
X53A Estanollee 39.05 258 P P 22 36 27.7 +0.9
baz=42
OBN Obninsk 39.06 60 eP P 22 36 26.4 -0.1
comp=Z,91nm,1.4s
OBN Obninsk 39.06 60d iP P 22 36 26.7 +0.1
OBN e 22 36 31.2
OBN eS S 22 42 26.9 +0.7
OBN eSS SnSn 22 45 06.3 -11
OBN pmax pmax
comp=Z,54nm,1.0s
OBN Obninsk 39.06 60 LR LR 22 51 10.5
comp=Z,444nm,20.9s,baz=310,slow=34
VRI Vrincioaia 39.08 78⇑iP P 22 36 27.2 +0.3
VRI Vrincioaia 39.08 78⇑P P 22 36 27.2 +0.3
Q44A Meyer Farm, Va 39.13 268 eP P 22 36 28.9 +1.5
comp=Z,42nm,1.1s
Q44A LR LR
comp=Z,8μm,19.0s
Q44A Meyer Farm, Va 39.13 268 P P 22 36 27.9 +0.5
baz=47
R45A Skylar, Fairfi 39.14 267 P P 22 36 28.6 +1.2
baz=46,SNR=7.4
VTS Vitosha 39.15 84 eP P 22 36 26.6 -1.2
comp=Z,28nm,1.3s
VTS LR LR
comp=Z,2μm,18.0s
VTS Vitosha 39.15 84⇓iP P 22 36 27.5 -0.2
VTS Vitosha 39.15 84⇓P P 22 36 27.5 -0.2
VTS Vitosha 39.15 84 P P 22 36 26.0 -1.7
157A Early Branch 39.15 254 P P 22 36 28.2 +0.5
baz=40
STIP Stip 39.16 86 iP P 22 36 29.4 +1.7
Y54A Tignall 39.19 257 P P 22 36 28.6 +0.7
baz=42
M39A Webster 39.20 273 P P 22 36 28.8 +0.8
baz=49
V50A Pikevile 39.20 261 P P 22 36 28.9 +0.9
baz=44
S46A Don Dixon Farm 39.24 265 P P 22 36 28.6 +0.3
baz=46
MOS Moscow 39.25 59 eP P 22 36 26.5 -1.7
MOS e 22 37 58.2
MOS e 22 38 34.4
MOS eS S 22 42 27.4 -1.7
MOS pmax pmax
comp=Z,69nm,1.6s
MOS MLR MLR
comp=Z,800nm,13.0s
N40A Mertquake, Sal 39.26 272 P P 22 36 28.7 +0.3
baz=48
FNA Florina 39.30 88 eP P 22 36 29.3 +0.4
comp=Z,54nm,1.4s
FNA LR LR
comp=Z,4μm,21.0s
FNA Florina 39.30 88 eP P 22 36 29.3 +0.4
FNA pmax pmax
comp=Z,54nm,1.4s
FNA MLR MLR
comp=Z,4μm,21.0s
X52A Dahlonega 39.31 258 P P 22 36 30.2 +1.2
baz=42,SNR=14
O41A Passleys Farm, 39.37 271 P P 22 36 30.2 +0.8
baz=48,SNR=6.6
MDND Maddock 39.38 287 eP P 22 36 30.6 +1.2
comp=Z,180nm,1.4s
MDND ePP PP 22 38 00.5 +1.0
MDND LR LR
comp=Z,5μm,20.0s
MDND Maddock 39.38 287 P P 22 36 29.5 +0.1
baz=54
W51A Cleveland 39.38 260 P P 22 36 30.3 +0.8
baz=43
U48A Cassie Pea, Po 39.41 263 P P 22 36 29.7 -0.1
baz=44
P42A Winchester 39.42 270 eP P 22 36 31.1 +1.3
comp=Z,74nm,1.2s
P42A LR LR
comp=Z,8μm,18.0s
P42A Winchester 39.42 270 P P 22 36 30.2 +0.3
baz=47,SNR=12
156A Sylvania 39.44 254 P P 22 36 29.7 -0.4
baz=40
Q43A New Douglas 39.50 269 P P 22 36 31.1 +0.7
baz=47
SCIA State Center 39.51 275 eP P 22 36 31.2 +0.7
comp=Z,79nm,1.5s
SCIA LR LR
comp=Z,4μm,18.0s
SCIA State Center 39.51 275 P P 22 36 30.1 -0.4
baz=49
KIS Kishinev 39.55 75 PM 22 36 30.0
comp=Z,200nm,1.5s
KIS Kishinev 39.55 75⇑iP P 22 36 39.0 +8.2
KIS Kishinev 39.55 75 iPcP PP 22 38 06.0 +4.8
KIS iS S 22 42 34.0 +0.3
KIS eSS SS 22 45 28.0 +0.2
KIS eSSS SSS 22 46 34.0
KIS eLR LR 22 47 55.0
comp=Z,2μm,16.0s
KIS Kishinev 39.55 75⇑iP P 22 36 29.0 -1.8
KIS i 22 38 06.0
KIS iS S 22 42 34.0 +0.3
KIS eSSS SSS 22 46 34.0
KIS pmax pmax
comp=Z,200nm,1.5s
KIS smax smax
comp=N,600nm,15.0s
KIS MLR MLR
comp=Z,2μm,16.0s
KIS MLR MLR
comp=N,2μm,17.0s
KKB Krupnik 39.55 85 P P 22 36 31.0 +0.1
V49A McMinnville 39.58 262 P P 22 36 31.8 +0.6
baz=44,SNR=7.7
VAY Valandovo 39.62 86 iP P 22 36 32.2 +0.8
R44A Waltonville 39.62 267 P P 22 36 31.8 +0.2
baz=46
W50A Signal Mountai 39.66 260 eP P 22 36 31.6 -0.3
comp=N,59nm,1.6s
W50A LR LR
comp=Z,10μm,18.0s
W50A Signal Mountai 39.66 260 P P 22 36 33.3 +1.4
baz=43
Y53A Monroe 39.69 257 P P 22 36 33.6 +1.5
baz=42,SNR=9.0
257A Skidaway Islan 39.71 253 PFAKE 22 36 40.0 +7.7
257A LR LR
comp=Z,4μm,19.0s
257A Skidaway Islan 39.71 253 P P 22 36 32.8 +0.6
baz=40
S45A Carrier Mills 39.74 266 P P 22 36 33.1 +0.6
baz=46
Z54A Sparta 39.74 256 P P 22 36 33.7 +1.2
baz=41,SNR=9.5
P41A Barry, Barry 39.77 270 P P 22 36 33.6 +0.9
baz=47
T46A Princeton 39.79 265 P P 22 36 34.4 +1.4
baz=45,SNR=7.8
X51A Calhoun 39.87 259 eP P 22 36 33.7 0.0
comp=Z,45nm,1.4s
X51A LR LR
comp=Z,4μm,19.0s
X51A Calhoun 39.87 259 P P 22 36 35.0 +1.3
baz=43
U47A Clarksville 39.88 264 P P 22 36 34.7 +1.1
baz=44,SNR=18
PRGR Permogore 39.91 47 eP P 22 36 32.1 -1.5
PRGR pmax pmax
comp=Z,57nm,1.5s
Y52A Lilburn 39.95 258 eP P 22 36 34.9 +0.7
comp=Z,68nm,1.4s
Y52A LR LR
comp=Z,3μm,20.0s
Y52A Lilburn 39.95 258 P P 22 36 35.5 +1.2
baz=42
GOGA Godfrey 39.96 257 eP P 22 36 35.0 +0.7
comp=Z,58nm,1.4s
GOGA LR LR
comp=Z,2μm,18.0s
GOGA Godfrey 39.96 257 eP P 22 36 35.0 +0.7
GOGA pmax pmax
comp=Z,57nm,1.4s
GOGA MLR MLR
comp=Z,2μm,18.0s
GOGA Godfrey 39.96 257 P P 22 36 35.3 +0.9
baz=41
Q42A Golden Eagle 39.99 269 P P 22 36 34.9 +0.3
baz=47
SWET Sewanee 40.00 261 eP P 22 36 36.6 +1.9
comp=Z,64nm,1.7s
SWET LR LR
comp=Z,5μm,19.0s
155A Kite 40.00 255 P P 22 36 35.1 +0.4
baz=41
SLM Saint Louis 40.01 269 PFAKE 22 36 50.0 +15
SLM LR LR
comp=Z,9μm,19.0s
SIUC Southern Illin 40.07 267 eP P 22 36 36.3 +1.0
comp=Z,107nm,1.4s
SIUC LR LR
comp=Z,6μm,20.0s
R43A Red Bud 40.09 268 P P 22 36 35.8 +0.4
baz=46,SNR=9.1
S44A Carbondale 40.11 267 P P 22 36 36.4 +0.8
baz=46,SNR=10
Z53A Monticello 40.11 257 P P 22 36 36.6 +0.9
baz=41,SNR=9.0
V48A Smith Brothers 40.12 262 eP P 22 36 36.6 +0.9
comp=Z,61nm,1.4s
V48A LR LR
comp=Z,7μm,21.0s
V48A Smith Brothers 40.12 262 P P 22 36 36.9 +1.2
baz=44,SNR=13
256A Glennville 40.17 254 P P 22 36 36.5 +0.4
baz=40
T45A Paducah 40.23 265 PFAKE 22 36 50.0 +13
T45A LR LR
comp=Z,2μm,19.0s
T45A Paducah 40.23 265 P P 22 36 37.0 +0.4
baz=45
ECSD EROS Data Cent 40.25 279 eP P 22 36 37.6 +0.9
comp=Z,76nm,1.4s
ECSD LR LR
comp=Z,3μm,18.0s
ECSD EROS Data Cent 40.25 279 P P 22 36 37.4 +0.8
baz=51,SNR=27
W49A Belvidere 40.25 261 P P 22 36 37.4 +0.6
baz=43
SZH Strazhica 40.26 81 P P 22 36 36.0 -0.7
CFR Carcaliu 40.28 78⇑iP P 22 36 35.9 -1.0
CFR Carcaliu 40.28 78⇑P P 22 36 35.9 -1.0
Q41A Truxton 40.36 270 P P 22 36 38.5 +0.9
baz=47
154A Montrose 40.36 256 PFAKE 22 36 50.0 +12
154A LR LR
comp=Z,2μm,18.0s
154A Montrose 40.36 256 P P 22 36 38.5 +0.8
baz=41
LIT Litokhoron 40.39 88 eP P 22 36 38.4 +0.5
comp=Z,42nm,1.4s
LIT LR LR
comp=Z,3μm,19.0s
LIT Litokhoron 40.39 88 eP P 22 36 38.4 +0.5
LIT pmax pmax
comp=Z,42nm,1.4s
LIT MLR MLR
comp=Z,3μm,19.0s
X50B Fort Payne 40.39 260 P P 22 36 38.7 +0.7
baz=43
WVT Waverly 40.41 264 eP P 22 36 38.5 +0.5
comp=Z,54nm,1.4s
WVT LR LR
comp=Z,4μm,18.0s
WVT Waverly 40.41 264 eP P 22 36 38.5 +0.5
WVT pmax pmax
comp=Z,54nm,1.4s
WVT MLR MLR
comp=Z,4μm,18.0s
WVT Waverly 40.41 264 P P 22 36 38.3 +0.3
baz=44
U46A Springville 40.44 264 P P 22 36 37.5 -0.8
baz=44
V47A Nunnelly 40.45 263 P P 22 36 39.2 +0.8
baz=44
Y51A Rockmart 40.48 259 P P 22 36 38.9 +0.2
baz=42
255A Hazlehurst 40.53 254 eP P 22 36 41.7 +2.5
comp=Z,191nm,1.4s
255A LR LR
comp=Z,4μm,20.0s
255A Hazlehurst 40.53 254 P P 22 36 38.7 -0.4
baz=40
FVM French Village 40.57 268 eP P 22 36 40.6 +1.2
comp=Z,50nm,1.2s
FVM LR LR
comp=Z,8μm,19.0s
FVM French Village 40.57 268 eP P 22 36 40.6 +1.2
FVM pmax pmax
comp=Z,50nm,1.2s
FVM MLR MLR
comp=Z,8μm,19.0s
TLB Topalu 40.60 78⇓iP P 22 36 39.2 -0.3
TLB Topalu 40.60 78⇓P P 22 36 39.2 -0.3
W48A Pulaski 40.62 262 P P 22 36 41.1 +1.3
baz=43,SNR=8.4

Z52A **Williamson** **40.65 258** P **P** **22 36 41.1 +1.0**
baz=41,SNR=15
S43A **Fulton Ridge,** **40.66 267** P **P** **22 36 41.0 +0.9**
baz=46
153A **Fort Valley** **40.73 256** P **P** **22 36 41.3 +0.6**
baz=41
X49A **Woodville** **40.73 261** P **P** **22 36 41.9 +1.1**
baz=43
ICOR **Ion Corvin** **40.76 79**⇑*i*P **P** **22 36 40.5 -0.4**
356A **Blackshear** **40.80 253** P **P** **22 36 42.5 +1.1**
baz=40
V46A **Holladay** **40.80 264** P **P** **22 36 42.3 +0.9**
baz=44,SNR=11
Y50A **Piedmont** **40.86 260** P **P** **22 36 42.5 +0.6**
baz=42
R41A **Rosebud** **40.89 269** P **P** **22 36 42.6 +0.5**
baz=46,SNR=13
W47A **Westpoint** **40.91 263** P **P** **22 36 42.8 +0.6**
baz=44
S42A **Caledonia** **40.93 268** P **P** **22 36 43.0 +0.6**
baz=46,SNR=12
254A **Abbeville** **40.97 255** P **P** **22 36 42.9 +0.2**
baz=40
Z51A **Franklin** **40.97 258** P **P** **22 36 43.3 +0.6**
baz=42
CCM **Cathedral Cave** **40.98 269** *e*P **P** **22 36 44.2 +1.4**
comp=Z,73nm,1.5s
CCM LR LR
comp=Z,8μm,19.0s
CCM **Cathedral Cave** **40.98 269** *e*P **P** **22 36 44.2 +1.4**
CCM pmax pmax
comp=Z,73nm,1.5s
CCM MLR MLR
comp=Z,8μm,19.0s
CCM **Cathedral Cave** **40.98 269** P **P** **22 36 43.3 +0.5**
baz=46
AGG **Agios Georgios** **41.03 89** *e*P **P** **22 36 41.4 -1.8**
comp=Z,71nm,1.3s
AGG LR LR
comp=Z,2μm,20.0s
AGG **Agios Georgios** **41.03 89** *e*P **P** **22 36 41.4 -1.8**
AGG pmax pmax
comp=Z,71nm,1.3s
AGG MLR MLR
comp=Z,2μm,20.0s
PARMO **Parma** **41.11 266** PFAKE 22 37 00.0 +16
PARMO LR LR
comp=Z,4μm,20.0s
PRD **Provadia** **41.12 80** P **P** **22 36 42.0 -1.8**
T43A **Greenville** **41.12 267** P **P** **22 36 44.7 +0.8**
baz=45,SNR=8.6
GLAT **Glass** **41.13 265** PFAKE 22 37 00.0 +16
GLAT LR LR
comp=Z,2μm,21.0s
X48A **Hartselle** **41.18 261** *e*P **P** **22 36 44.5 +0.1**
comp=Z,23nm,1.2s
X48A LR LR
comp=Z,7μm,20.0s
X48A **Hartselle** **41.18 261** P **P** **22 36 45.2 +0.7**
baz=43
355A **Pearson** **41.19 254** P **P** **22 36 44.8 +0.3**
baz=40
U44A **Portageville** **41.19 266** P **P** **22 36 44.7 +0.3**
baz=45
152A **Waverly Hall** **41.21 257** *e*P **P** **22 36 44.7 0.0**
comp=Z,55nm,1.4s
152A LR LR
comp=Z,1μm,19.0s
456A **Hilliard** **41.21 253** PFAKE 22 37 00.0 +15
456A LR LR
comp=Z,3μm,18.0s
456A **Hilliard** **41.21 253** P **P** **22 36 43.6 -1.1**
baz=39
PVMO **Portageville** **41.26 266** PFAKE 22 37 00.0 +15
PVMO LR LR
comp=Z,3μm,20.0s
Y49A **Blount Mountai** **41.26 260** *e*P **P** **22 36 44.9 -0.3**
comp=Z,23nm,1.1s
Y49A LR LR
comp=Z,9μm,18.0s
Y49A **Blount Mountai** **41.26 260** P **P** **22 36 45.7 +0.5**
baz=42
253A **Americus** **41.34 256** PFAKE 22 37 00.0 +14
253A LR LR
comp=Z,3μm,18.0s
253A **Americus** **41.34 256** P **P** **22 36 46.4 +0.6**
baz=40
PLAL **Pickwick Lake** **41.37 263** *e*P **P** **22 36 45.8 -0.2**
comp=Z,91nm,1.9s
PLAL LR LR
comp=Z,5μm,19.0s
HALT **Halls** **41.42 265** PFAKE 22 37 00.0 +14
HALT LR LR
comp=Z,2μm,18.0s
PBMO **Poplar Bluff** **41.42 267** *e*P **P** **22 36 47.6 +1.3**
comp=Z,89nm,1.4s
PBMO LR LR
comp=Z,6μm,19.0s
W46A **Michie** **41.43 263** P **P** **22 36 47.0 +0.5**
baz=44
Z50A **Ashland** **41.44 259** *e*P **P** **22 36 47.2 +0.7**
comp=Z,60nm,1.6s
Z50A LR LR
comp=Z,4μm,19.0s
Z50A **Ashland** **41.44 259** P **P** **22 36 47.1 +0.5**
baz=42
DGMT **Dagmar** **41.48 290** *e*P **P** **22 36 50.2 +3.4**
comp=Z,68nm,1.1s
DGMT LR LR
comp=Z,4μm,20.0s
DGMT **Dagmar** **41.48 290** P **P** **22 36 48.2 +1.3**
baz=53
TIGA **Tifton** **41.52 255** PFAKE 22 37 00.0 +13
TIGA LR LR
comp=Z,3μm,18.0s
TIGA **Tifton** **41.52 255** P **P** **22 36 47.6 +0.4**
baz=40
X47A **Russelville** **41.59 262** P **P** **22 36 48.4 +0.6**
baz=43
S41A **Jillco Farms,** **41.59 269** P **P** **22 36 48.6 +0.7**
baz=46,SNR=12
LPSR **Galich'ya Gora** **41.60 62** *e*P **P** **22 36 47.8 +0.1**
LPSR pmax pmax
comp=Z,30nm,1.2s
LPSR MLR MLR
comp=Z,910nm,15.0s
Y48A **Jasper** **41.65 261** P **P** **22 36 49.1 +0.9**
baz=42
151A **Opelika** **41.65 258** P **P** **22 36 49.3 +1.0**
baz=41
252A **Lumpkin** **41.72 257** P **P** **22 36 50.0 +1.1**
baz=41
455A **Stateville** **41.74 254** P **P** **22 36 50.7 +1.6**
baz=39
GNAR **Gosnell** **41.76 266** PFAKE 22 37 00.0 +11
GNAR LR LR
comp=Z,2μm,22.0s
658A **Bunnell** **41.82 251** PFAKE 22 37 00.0 +10
658A LR LR
comp=Z,2μm,20.0s
658A **Bunnell** **41.82 251** P **P** **22 36 50.7 +1.1**
baz=38
Z49A **Columbiana** **41.82 260** P **P** **22 36 50.5 +0.8**
baz=42,SNR=14
ALN **Alexandroupoli** **41.87 84** *e*P **P** **22 36 49.7 -0.3**
comp=Z,14nm,1.2s
ALN LR LR
comp=Z,1μm,18.0s
ALN **Alexandroupoli** **41.87 84** *e*P **P** **22 36 49.7 -0.3**
ALN pmax pmax
comp=Z,14nm,1.2s
ALN MLR MLR
comp=Z,1μm,18.0s
X46A **Booneville** **41.97 263** P **P** **22 36 51.4 +0.5**
baz=43,SNR=10
150A **Eclectic** **41.98 258** P **P** **22 36 51.2 +0.2**
baz=41,SNR=11
556A **Lake Butler** **41.98 252** P **P** **22 36 51.9 +0.9**
baz=39
657A **Interlachen** **42.02 252** P **P** **22 36 52.4 +1.0**
baz=38
251A **Midway** **42.02 257** P **P** **22 36 52.5 +1.2**
baz=41
ITM **Ithomi** **42.08 91** PFAKE 22 37 00.0 +8.2
ITM LR LR
comp=Z,3μm,19.0s
454A **Quitman** **42.09 254** P **P** **22 36 52.8 +0.9**
baz=39
555A **McAlpin** **42.19 253** PFAKE 22 37 00.0 +7.2
555A LR LR
comp=Z,3μm,18.0s
555A **McAlpin** **42.19 253** P **P** **22 36 53.8 +1.0**
baz=39
LRAL **Lakeview Retre** **42.20 260** *e*P **P** **22 36 52.5 -0.3**
comp=Z,21nm,1.1s
LRAL LR LR
comp=Z,8μm,18.0s
LRAL **Lakeview Retre** **42.20 260** P **P** **22 36 53.7 +0.9**
baz=42
352A **Blakely** **42.22 256** PFAKE 22 37 10.0 +17
352A LR LR
comp=Z,2μm,18.0s
352A **Blakely** **42.22 256** P **P** **22 36 53.4 +0.4**
baz=40
MET **Memphis--Engin** **42.32 265** PFAKE 22 37 10.0 +16
MET LR LR
comp=Z,2μm,19.0s
453A **Whigham** **42.37 255** PFAKE 22 37 10.0 +16
453A LR LR
comp=Z,3μm,18.0s
453A **Whigham** **42.37 255** P **P** **22 36 54.2 +0.1**
baz=40
HBAR **Harrisburg** **42.42 266** PFAKE 22 37 10.0 +15
HBAR LR LR
comp=Z,3μm,20.0s
OXF **Oxford** **42.47 264** *e*P **P** **22 36 54.8 -0.2**
comp=Z,173nm,1.4s
OXF LR LR
comp=Z,2μm,19.0s
OXF **Oxford** **42.47 264** *e*P **P** **22 36 54.8 -0.2**
OXF pmax pmax
comp=Z,173nm,1.4s
OXF MLR MLR
comp=Z,2μm,19.0s
OXF **Oxford** **42.47 264** P **P** **22 36 54.7 -0.2**
baz=43,SNR=5.7
VSR **Storozhevoye** **42.53 64***d i*P **P** **22 36 54.8 -0.5**
VSR pmax pmax
comp=Z,28nm,1.4s
656A **Willston** **42.54 252** PFAKE 22 37 10.0 +14
656A LR LR
comp=Z,4μm,18.0s
656A **Willston** **42.54 252** P **P** **22 36 56.8 +1.1**
baz=38
U41A **Viola** **42.57 268** P **P** **22 36 56.7 +0.9**
baz=45
250A **Grady** **42.59 258** *e*P **P** **22 36 56.6 +0.6**
comp=Z,275nm,1.5s
250A LR LR
comp=Z,2μm,20.0s
250A **Grady** **42.59 258** P **P** **22 36 57.0 +1.0**
baz=41
554A **Perry** **42.61 254** P **P** **22 36 57.2 +1.0**
baz=39
BGNE **Belgrade** **42.62 278** *e*P **P** **22 36 57.2 +1.0**
comp=Z,169nm,1.5s
BGNE LR LR
comp=Z,3μm,18.0s
BGNE **Belgrade** **42.62 278** P **P** **22 36 56.1 -0.1**
baz=48
757A **Oxford** **42.63 251** P **P** **22 36 57.4 +1.1**
baz=38
859A **Kempfer Cattle** **42.70 249** P **P** **22 36 57.9 +1.0**
baz=37
655A **Horseshoe Beac** **42.82 253** P **P** **22 36 59.0 +1.1**
baz=38
INK **Inuvik** **42.84 327** *e*P **P** **22 36 58.0 +0.4**
comp=Z,42nm,1.4s
INK *e*PcP **PcP** **22 38 48.9 +0.4**
INK LR LR
comp=Z,4μm,20.0s
INK **Inuvik** **42.84 327** *e*P **P** **22 36 58.0 +0.4**
INK *e* 22 38 48.9
INK pmax pmax
comp=Z,42nm,1.4s
INK MLR MLR
comp=Z,4μm,20.0s
INK **Inuvik** **42.84 327** P **P** **22 36 56.9 -0.6**
comp=Z,18nm,1.2s,baz=42,slow=9.7,SNR=21
INK PcP **PcP** **22 38 48.9 +0.4**
comp=Z,12nm,1.0s,baz=71,slow=4.3,SNR=3.5
452A **Marianna** **42.84 256** P **P** **22 36 59.2 +1.2**
baz=40
DWPF **Disney Wildern** **42.95 250** PFAKE 22 37 10.0 +11
DWPF LR LR
comp=Z,2μm,22.0s
249A **Camden** **43.06 259** P **P** **22 36 59.0 -0.8**
baz=41,SNR=7.3
U40A **Yellville** **43.09 268** P **P** **22 37 00.8 +0.7**
baz=45,SNR=15
959A **Okeechobee** **43.12 249** P **P** **22 36 59.3 -1.1**
baz=37
KIRV **Kirov** **43.13 50** LR LR 22 53 31.3
comp=Z,1μm,19.4s,baz=225,slow=34
147A **Livingston** **43.18 261** *e*P **P** **22 37 01.9 +1.1**
comp=Z,148nm,1.5s
147A LR LR
comp=Z,7μm,20.0s
147A **Livingston** **43.18 261** P **P** **22 37 00.5 -0.2**
baz=42
060A **Indiantown** **43.24 248** PFAKE 22 37 10.0 +8.7
060A LR LR
comp=Z,2μm,21.0s
X43A **Marvell** **43.29 265** PFAKE 22 37 10.0 +8.3
X43A LR LR
comp=Z,2μm,21.0s
KSU1 **Kansas State U** **43.31 274** PFAKE 22 37 10.0 +8.2
KSU1 LR LR
comp=Z,4μm,20.0s
KSU1 **Kansas State U** **43.31 274** P **P** **22 37 02.4 +0.7**
baz=47
KLYT **Kilyos** **43.32 81**⇑*i*P **P** **22 37 01.0 -0.8**
GRTK **Grand Turk** **43.32 233** PFAKE 22 37 10.0 +8.0
GRTK LR LR
comp=Z,1μm,20.0s
451A **Vernon** **43.33 256** PFAKE 22 37 10.0 +8.0
451A LR LR
comp=Z,2μm,18.0s
451A **Vernon** **43.33 256** P **P** **22 37 03.1 +1.1**
baz=40
WHAR **Wooly Hollow** **43.53 267** *e*P **P** **22 37 04.7 +1.1**
comp=Z,148nm,1.9s
WHAR LR LR
comp=Z,7μm,19.0s
958A **Wauchula** **43.53 250** P **P** **22 37 04.1 +0.4**
baz=37
W41B **Gary Mavity, V** **43.59 267** *e*P **P** **22 37 03.9 -0.2**
comp=Z,29nm,1.1s
W41B LR LR
comp=Z,7μm,20.0s
W41B **Gary Mavity, V** **43.59 267** P **P** **22 37 04.5 +0.5**
baz=44,SNR=14
BRAL **Brewton** **43.63 258** PFAKE 22 37 20.0 +16
BRAL LR LR
comp=Z,4μm,18.0s
BRAL **Brewton** **43.63 258** P **P** **22 37 05.3 +0.8**
baz=40
LAO **LASA Array** **43.66 289** *e*P **P** **22 37 07.0 +2.4**
comp=Z,386nm,1.9s
LAO LR LR
comp=Z,5μm,20.0s
LAO **LASA Array** **43.66 289** P **P** **22 37 05.3 +0.7**
baz=51
059A **Moore Haven** **43.71 248** PFAKE 22 37 20.0 +15
059A LR LR
comp=Z,2μm,21.0s
059A **Moore Haven** **43.71 248** P **P** **22 37 05.0 0.0**
baz=36
SIM **Simferopol'** **43.71 74** *e*P **P** **22 37 04.0 -1.0**
SIM pmax pmax
comp=Z,70nm,7.4s
SIM MLR MLR
comp=Z,3μm,14.8s
957A **Wimauma** **43.73 250** PFAKE 22 37 20.0 +15
957A LR LR
comp=Z,2μm,21.0s
957A **Wimauma** **43.73 250** P **P** **22 37 05.7 +0.5**
baz=37
HHAR **Hobbs** **43.76 269** *e*P **P** **22 37 06.4 +0.9**
comp=Z,40nm,1.2s
HHAR LR LR
comp=Z,7μm,18.0s
VRH **Novokhopyorsk** **43.83 62** *e*P **P** **22 37 05.9 +0.2**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,1μm,13.0s
060Z **West Palm Beac** **43.85 247** P **P** **22 37 06.8 +0.6**
baz=36
UALR **University of** **43.93 266** *e*P **P** **22 37 07.6 +0.8**
comp=Z,97nm,1.6s
CBYP **Canovanas** **43.95 224** *e*P **P** **22 37 07.0 -0.1**
comp=Z,91nm,1.3s
CBYP LR LR
comp=Z,400nm,21.0s
449A **Pace** **44.03 258** P **P** **22 37 07.6 -0.1**
baz=40
HUMP **Col San Antoni** **44.06 224** *e*P **P** **22 37 08.9 +1.0**
comp=Z,110nm,1.5s
RSSD **Black Hills** **44.11 285** PFAKE 22 37 20.0 +12
RSSD LR LR
comp=Z,5μm,19.0s
SJG **San Juan** **44.21 225** *e*P **P** **22 37 08.4 -0.7**
SJG LR LR
comp=Z,400nm,22.0s
SJG **San Juan** **44.21 225** *e*P **P** **22 37 08.4 -0.7**
SJG MLR MLR
comp=Z,400nm,22.0s
SJG **San Juan** **44.21 225** P **P** **22 37 08.4 -0.7**
comp=Z,3.8nm,0.4s,baz=18,slow=9.6,SNR=2.9
448A **Bay Minette** **44.26 259** P **P** **22 37 09.1 -0.4**
baz=40
059Z **Ave Maria** **44.37 248** P **P** **22 37 10.0 -0.4**
baz=36
TAM **Tamanrasset** **44.37 121** *e*P **P** **22 37 11.0 +0.4**
comp=Z,102nm,1.5s
TAM LR LR
comp=Z,2μm,22.0s
TAM **Tamanrasset** **44.37 121** *e*P **P** **22 37 11.0 +0.4**
TAM pmax pmax
comp=Z,102nm,1.5s
TAM MLR MLR
comp=Z,2μm,22.0s
X40A **Basin Creek Fa** **44.42 266** *e*P **P** **22 37 09.9 -0.8**
comp=Z,123nm,1.9s
X40A LR LR
comp=Z,7μm,20.0s
X40A **Basin Creek Fa** **44.42 266** P **P** **22 37 10.8 +0.1**
baz=43,SNR=10
W39A **Magazine** **44.45 268** *e*P **P** **22 37 10.8 -0.2**
comp=Z,113nm,1.5s
W39A LR LR
comp=Z,8μm,20.0s
W39A **Magazine** **44.45 268** P **P** **22 37 11.3 +0.3**
baz=44,SNR=16
061Z **Ochoppi** **44.47 247** PFAKE 22 37 20.0 +8.8
061Z LR LR
comp=Z,2μm,19.0s
061Z **Ochoppi** **44.47 247** P **P** **22 37 12.2 +1.0**
baz=36
MPR **Mayaguez** **44.52 226** PFAKE 22 37 20.0 +8.4
MPR LR LR
comp=Z,500nm,19.0s
SANT **Santorini** **44.65 89** PFAKE 22 37 20.0 +7.4
SANT LR LR
comp=Z,2μm,20.0s
CRPR **Cabo Rojo, PR** **44.69 226** PFAKE 22 37 20.0 +7.0
CRPR LR LR
comp=Z,600nm,19.0s
EGMT **Eagleton** **44.69 293** *e*P **P** **22 37 14.0 +1.1**
comp=Z,99nm,1.3s
EGMT LR LR
comp=Z,4μm,19.0s
EGMT **Eagleton** **44.69 293** P **P** **22 37 14.0 +1.1**
baz=51,SNR=16
VBMS **Vicksburg** **44.78 262** PFAKE 22 37 30.0 +16
VBMS LR LR
comp=Z,5μm,20.0s
MIAR **Mount Ida** **44.80 267** *e*P **P** **22 37 14.8 +1.1**
comp=Z,72nm,1.3s
MIAR LR LR
comp=Z,8μm,20.0s
MIAR **Mount Ida** **44.80 267** *e*P **P** **22 37 14.8 +1.1**
MIAR pmax pmax
comp=Z,72nm,1.3s
MIAR MLR MLR
comp=Z,8μm,20.0s
MIAR **Mount Ida** **44.80 267** P **P** **22 37 14.4 +0.7**
baz=43,SNR=19
MANT **Manisa** **44.92 85** PFAKE 22 37 30.0 +15
MANT LR LR
comp=Z,7μm,20.0s
EPYK **Eagle Plains** **44.99 326** *e*P **P** **22 37 16.1 +1.2**
comp=Z,78nm,1.1s
EPYK LR LR
comp=Z,5μm,20.0s
EPYK **Eagle Plains** **44.99 326** P **P** **22 37 15.6 +0.7**
baz=52,SNR=7.9
TUL1 **Leonard** **45.08 270** *e*P **P** **22 37 15.8 -0.1**
comp=Z,110nm,1.4s
TUL1 LR LR
comp=Z,5μm,19.0s
TUL1 **Leonard** **45.08 270** P **P** **22 37 16.0 0.0**
baz=44,SNR=10
OGNE **Ogallala** **45.10 280** PFAKE 22 37 30.0 +14
OGNE LR LR
comp=Z,4μm,19.0s
OGNE **Ogallala** **45.10 280** P **P** **22 37 16.6 +0.4**
baz=48
WLAR **White Oak Lake** **45.16 266** *e*P **P** **22 37 18.4 +1.7**
comp=Z,206nm,1.8s
WLAR LR LR
comp=Z,4μm,20.0s
CBKS **Cedar Bluff** **45.27 276** PFAKE 22 37 30.0 +12
CBKS LR LR
comp=Z,4μm,18.0s
CBKS **Cedar Bluff** **45.27 276** P **P** **22 37 17.5 -0.1**
baz=46
Z41A **Richland Creek** **45.30 265** *e*P **P** **22 37 18.5 +0.7**
comp=Z,103nm,1.3s
Z41A LR LR
comp=Z,3μm,21.0s
Z41A **Richland Creek** **45.30 265** P **P** **22 37 17.3 -0.4**
baz=42
SDD **Santo Domingo** **45.46 230** PFAKE 22 37 30.0 +11
SDD LR LR
comp=Z,400nm,20.0s
SDDR **Presa de Saban** **45.60 231** *e*P **P** **22 37 20.7 +0.4**
comp=Z,79nm,1.3s
SDDR LR LR
comp=Z,1μm,21.0s
ANN **Anapa** **45.61 72** *e*P **P** **22 37 18.8 -1.2**
ANN *e* 22 39 11.2
ANN *e*S **S** **22 44 05.3 +2.3**
ANN pmax pmax
comp=Z,125nm,2.0s
ANN MLR MLR
comp=N,934nm,18.0s
ANN MLR MLR
comp=Z,4μm,18.0s
BANI **BANI** **45.71 230** *e*P **P** **22 37 21.5 +0.2**
X37A **Clayton** **45.78 269** *e*P **P** **22 37 21.4 -0.2**
comp=Z,56nm,1.5s
X37A LR LR
comp=Z,9μm,18.0s
ILGA **Ilgaz** **46.06 78** *e*P **P** **22 37 23.8 -0.2**
comp=Z,46nm,1.1s
ILGA LR LR
comp=Z,1μm,22.0s
GCMT **Greycliff** **46.07 291** *e*P **P** **22 37 25.9 +2.0**
KARP **Karpathos** **46.20 89** PFAKE 22 37 40.0 +15
KARP LR LR
comp=Z,2μm,21.0s
SNOP **Sinop** **46.23 76** PFAKE 22 37 40.0 +15
SNOP LR LR
comp=Z,1μm,20.0s
RLMT **Red Lodge** **46.30 290** *e*P **P** **22 37 28.1 +2.3**
comp=Z,101nm,1.4s
RLMT LR LR
comp=Z,4μm,20.0s
RLMT **Red Lodge** **46.30 290** P **P** **22 37 27.6 +1.8**
baz=49,SNR=28
ANTO **Ankara** **46.35 80** *e*P **P** **22 37 27.8 +1.7**
comp=Z,130nm,1.9s
ANTO LR LR
comp=Z,2μm,20.0s
ANTO **Ankara** **46.35 80** *e*P **P** **22 37 27.8 +1.7**
ANTO pmax pmax
comp=Z,130nm,1.9s
ANTO MLR MLR
comp=Z,2μm,20.0s
K22A **Casper** **46.45 285** *e*P **P** **22 37 27.6 +0.7**

comp=Z,40nm,1.1s
K22A LR LR
comp=Z,5µm,20.0s
K22A Casper 46.45 285 P P 22 37 27.6 +0.7
baz=48
GTBY Guantanamo Bay 46.54 236 *e*P **P 22 37 30.3 +2.7**
comp=Z,193nm,1.5s
GTBY LR LR
comp=Z,1µm,20.0s
U32A Winter Ranch, 46.56 273 PFAKE 22 37 40.0 +12
U32A LR LR
comp=Z,4µm,18.0s
HRY Holter Researc 46.62 293 *e*P **P 22 37 30.3 +2.1**
KSCO Kaye Shedlock' 46.76 279 PFAKE 22 37 40.0 +11
KSCO LR LR
comp=Z,3µm,18.0s
KSCO Kaye Shedlock' 46.76 279 P **P 22 37 29.6 +0.2**
baz=46
PHWY Pilot Hill 46.77 283 PFAKE 22 37 40.0 +10
PHWY LR LR
comp=Z,5µm,18.0s
BR101 Keskin Array S 46.93 80 *e*P **P 22 37 31.6 +0.9**
BR131 Keskin Array S 46.93 80 *e*P **P 22 37 31.7 +0.9**
comp=Z,27nm,0.9s
BR131 Keskin Array S 46.93 80 pP **P 22 37 32.0 +1.4**
SNR=25
BRTR Keskin Array B 46.93 80 P **P 22 37 31.6 +0.9**
comp=Z,19nm,0.9s,baz=310,slow=5.0,SNR=113
BRTR LR LR 22 58 11.3
comp=Z,918nm,20.8s,baz=294,slow=37
BOZ Bozeman (W) 47.24 292 *e*P **P 22 37 34.6 +1.5**
comp=Z,128nm,1.7s
BOZ LR LR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 47.24 292 *e*P **P 22 37 34.6 +1.5**
BOZ pmax pmax
comp=Z,129nm,1.7s
BOZ MLR MLR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 47.24 292 P **P 22 37 34.1 +1.1**
baz=49,SNR=21
LKWY Lake 47.27 290 *e*P **P 22 37 36.6 +3.2**
comp=Z,49nm,1.4s
LKWY LR LR
comp=Z,6µm,19.0s
N23A Red Feather La 47.31 283 *e*P **P 22 37 34.3 +0.4**
comp=Z,56nm,1.3s
N23A LR LR
comp=Z,5µm,18.0s
N23A Red Feather La 47.31 283 P **P 22 37 35.4 +1.5**
baz=47,SNR=9.2
YNR Norris Junctio 47.32 290 PFAKE 22 37 50.0 +16
YNR LR LR
comp=Z,4µm,20.0s
DAWY Dawson 47.34 325 *e*P **P 22 37 34.7 +1.3**
comp=Z,71nm,1.4s
DAWY LR LR
comp=Z,6µm,18.0s
YHH Holmes Hill 47.36 290 *e*P **P 22 37 35.7 +1.5**
comp=Z,27nm,1.6s
EGAK Eagle 47.43 326 *e*P **P 22 37 34.8 +0.7**
comp=Z,39nm,1.2s
EGAK LR LR
comp=Z,4µm,19.0s
FYU Fort Yukon 47.44 329 *e*P **P 22 37 36.3 +2.1**
comp=Z,148nm,1.3s
FYU LR LR
comp=Z,2µm,20.0s
NATX Nacogdoches 47.46 266 *e*P **P 22 37 34.8 +0.1**
comp=Z,51nm,1.1s
NATX LR LR
comp=Z,3µm,20.0s
NATX Nacogdoches 47.46 266 P **P 22 37 35.1 +0.4**
baz=42
RWWY Rawlins 47.47 285 PFAKE 22 37 50.0 +15
RWWY LR LR
comp=Z,6µm,19.0s
H17A Grant Village 47.48 290 *e*P **P 22 37 37.6 +2.5**
comp=Z,40nm,1.5s
H17A LR LR
comp=Z,6µm,18.0s
H17A Grant Village 47.48 290 P **P 22 37 37.9 +2.8**
baz=48,SNR=12
KOWA Kowa 47.49 137 PFAKE 22 37 50.0 +15
KOWA LR LR
comp=Z,1µm,22.0s
YMR Madison River 47.50 290 *e*P **P 22 37 37.4 +2.2**
comp=Z,55nm,1.5s
YMR *e*PcP **PcP 22 39 07.9 +2.6**
YMR LR LR
comp=Z,4µm,20.0s
YHB Horse Butte 47.57 290 *e*P **P 22 37 37.3 +1.6**
comp=Z,28nm,1.2s
YHB LR LR
comp=Z,4µm,20.0s
YFT Old Faithful 47.58 290 *e*P **P 22 37 39.5 +3.7**
comp=Z,149nm,1.8s
YFT LR LR
comp=Z,6µm,19.0s
DLBC Dease Lake 47.59 315 *e*P **P 22 37 36.6 +1.1**
comp=Z,49nm,1.3s
DLBC LR LR
comp=Z,4µm,18.0s
WMOK Wichita Mounta 47.61 272 *e*P **P 22 37 36.3 +0.3**
comp=Z,66nm,1.5s
WMOK *e*PcP **PcP 22 39 06.6 +1.0**
WMOK LR LR
comp=Z,5µm,18.0s
WMOK Wichita Mounta 47.61 272 *e*P **P 22 37 36.3 +0.3**
WMOK *e* 22 39 06.6
WMOK pmax pmax
comp=Z,65nm,1.5s
WMOK MLR MLR
comp=Z,5µm,18.0s
WMOK Wichita Mounta 47.61 272 P **P 22 37 36.4 +0.5**
baz=44,SNR=17
MSO Missoula 47.63 294 *e*P **P 22 37 36.6 +0.5**
comp=Z,31nm,1.5s
MSO LR LR
comp=Z,4µm,19.0s
QLMT Earthquake Lak 47.64 291 *e*P **P 22 37 38.5 +2.2**
SOC Sochi 47.65 72 *e*P **P 22 37 35.0 -1.0**
SOC *e**PP **pwP 22 37 38.9 0.0**
SOC *e* 22 39 20.9
SOC *e*S **S 22 44 31.8 -0.4**
SOC *e*SS **SS 22 48 00.5 +0.8**
SOC *e*SSS SSS 22 49 02.9
SOC pmax pmax
comp=Z,16nm,0.8s
SOC MLR MLR
comp=Z,1µm,22.0s
YPP Pitchstone Pla 47.68 290 *e*P **P 22 37 40.2 +3.5**
comp=Z,98nm,1.6s
YPP LR LR
comp=Z,7µm,20.0s
FLWY Flagg Ranch 47.75 289 *e*P **P 22 37 38.7 +1.5**
comp=Z,52nm,1.4s
FLWY LR LR
comp=Z,3µm,21.0s
ISCO Idaho Springs 47.88 282 *e*P **P 22 37 40.2 +1.9**
comp=Z,22nm,1.1s
ISCO LR LR
comp=Z,3µm,18.0s
ISCO Idaho Springs 47.88 282 *e*P **P 22 37 40.3 +1.9**
ISCO pmax pmax
comp=Z,22nm,1.1s
ISCO MLR MLR
comp=Z,3µm,18.0s
ISCO Idaho Springs 47.88 282 P **P 22 37 39.3 +1.0**
baz=46,SNR=9.5
DLMT Dillon 47.90 292 *e*P **P 22 37 39.6 +1.3**
comp=Z,87nm,1.6s
DLMT LR LR
comp=Z,3µm,21.0s
MOOW Moose Ponds 48.00 289 *e*P **P 22 37 40.7 +1.6**
comp=Z,39nm,1.5s
MOOW LR LR
comp=Z,4µm,21.0s
IMW Indian Meadow 48.00 289 *e*P **P 22 37 40.0 +0.8**
comp=Z,24nm,1.4s
IMW LR LR
comp=Z,3µm,21.0s
LOHW Long Hollow 48.01 289 *e*P **P 22 37 41.6 +2.4**
comp=Z,16nm,1.1s
LOHW LR LR
comp=Z,5µm,20.0s
WHY Whitehorse 48.02 319 *e*P **P 22 37 39.0 +0.1**
comp=Z,52nm,1.5s
WHY LR LR
comp=Z,2µm,19.0s
PD31 Pinedale Array 48.02 287 *e*P **P 22 37 38.8 -0.5**
comp=Z,43nm,1.5s
PD31 *e*PP **PP 22 39 35.5 +4.5**
PDAR Pinedale Array 48.02 287 *e*P **P 22 37 37.8 -1.5**
PDAR Pinedale Array 48.02 287 P **P 22 37 38.8 -0.5**
comp=Z,79nm,0.9s,baz=54,slow=7.5,SNR=23
PDAR PP **PP 22 39 35.5 +4.5**
comp=Z,2.7nm,1.0s,baz=52,slow=7.9,SNR=3.8
PDAR LR LR 22 56 54.6
comp=Z,5µm,18.7s,baz=40,slow=35
BW06 Boulder Array 48.02 287 *e*P **P 22 37 39.0 -0.3**
comp=Z,47nm,1.5s
BW06 LR LR
comp=Z,6µm,20.0s
BW06 Boulder Array 48.02 287 P **P 22 37 39.8 +0.5**
baz=47,SNR=20
SNOW Snow King Moun 48.20 289 *e*P **P 22 37 43.3 +2.6**
comp=Z,58nm,1.5s
SNOW LR LR
comp=Z,5µm,21.0s
Q24A Divide 48.20 281 *e*P **P 22 37 40.5 -0.4**
comp=Z,14nm,1.1s
Q24A *e*S **S 22 44 40.4 -0.5**
Q24A LR LR
comp=Z,4µm,20.0s
Q24A Divide 48.20 281 P **P 22 37 40.7 -0.1**
baz=46
FXWY Fox Creek 48.22 289 *e*P **P 22 37 42.2 +1.4**
comp=Z,43nm,1.5s
PRP Porcupine Dome 48.26 328 *e*P **P 22 37 42.2 +1.5**
comp=Z,47nm,1.4s
PRP LR LR
comp=Z,2µm,20.0s
TPAW Teton Pass 48.28 289 *e*P **P 22 37 41.8 +0.4**
comp=Z,39nm,1.4s
TPAW LR LR
comp=Z,4µm,21.0s
NEW Newport 48.31 298 *e*P **P 22 37 41.2 -0.1**
comp=Z,50nm,1.5s
NEW LR LR
comp=Z,5µm,18.0s
NEW Newport 48.31 298 *e*P **P 22 37 41.2 -0.1**
NEW pmax pmax
comp=Z,50nm,1.5s
NEW MLR MLR
comp=Z,5µm,18.0s
NEW Newport 48.31 298 P **P 22 37 40.1 -1.2**
baz=49
REDW Red Top Meadow 48.32 289 *e*P **P 22 37 42.1 +0.6**
comp=Z,53nm,1.4s
REDW LR LR
comp=Z,5µm,20.0s
COLD Coldfoot 48.35 332 *e*P **P 22 37 41.3 +0.1**
comp=Z,20nm,1.4s
ARU Arti 48.36 48 *e*P **P 22 37 41.6 +0.2**
comp=Z,229nm,1.8s
ARU LR LR
comp=Z,1µm,20.0s
ARU Arti 48.36 48 *d i*P **P 22 37 42.0 +0.6**
ARU 22 39 06.6
ARU 22 39 33.1
ARU PPP PPP 22 40 20.3
ARU S **S 22 44 45.6 +3.6**
ARU 22 47 29.4
ARU pmax pmax
comp=Z,112nm,1.6s
MCMT McKenzie Canyo 48.39 292 *e*P **P 22 37 44.6 +2.4**
GOF Gofitskoye 48.43 68 *e*P **P 22 37 42.5 +0.4**
GOF pmax pmax
comp=Z,60nm,0.8s
NRIK Noril'sk 48.62 23 P **P 22 37 44.0 +0.8**
comp=Z,1.7nm,0.4s,baz=324,slow=8.0,SNR=13
NRIK LR LR 22 58 27.0
comp=Z,265nm,18.9s,baz=338,slow=36
AHID Auburn Hatcher 48.85 288 PFAKE 22 38 00.0 +14
AHID LR LR
comp=Z,6µm,19.0s
HYT Haines Junctio 48.87 321 *e*P **P 22 37 47.2 +1.8**
comp=Z,58nm,1.2s
DOMR Dombai 48.87 71‖ *e*P **P 22 37 45.3 -0.4**
DOMR pmax pmax
comp=Z,12nm,1.1s
SCRK Sand Creek 48.87 326 *e*P **P 22 37 47.0 +1.5**
comp=Z,52nm,1.1s
SCRK LR LR
comp=Z,4µm,19.0s
WHTX Lake Whitney, 48.87 268 *e*P **P 22 37 46.6 +0.9**
comp=Z,49nm,1.4s
WHTX LR LR
comp=Z,8µm,20.0s
WHTX Lake Whitney, 48.87 268 P **P 22 37 45.9 +0.2**
baz=42
SVE Sverdlovsk 48.96 46 *c e*P **P 22 37 46.6 +0.6**
SVE *e*S **S 22 44 57.0 +6.6**
SVE pmax pmax
comp=Z,51nm,1.8s
KIV Kislovodsk 48.98 69 *e*P **P 22 37 47.1 +0.6**
comp=Z,134nm,1.5s
KIV *e*PcP **PcP 22 39 10.0 -0.4**
KIV LR LR
comp=Z,3µm,21.0s
KIV Kislovodsk 48.98 69 *i*P **P 22 37 47.1 +0.6**
SNR=8.9
KIV Kislovodsk 48.98 69 *e*P **P 22 37 47.5 +1.0**
KIV *e* 22 44 48.4
KIV pmax pmax
comp=Z,56nm,1.0s
KIV MLR MLR
comp=Z,1µm,11.0s
KIV Kislovodsk 48.98 69 pP **P 22 37 47.8 +1.3**
SNR=11
SKAG Skagway 48.98 318 PFAKE 22 38 00.0 +14
SKAG LR LR
comp=Z,2µm,22.0s
SMCO Snowmass 49.07 282 *e*P **P 22 37 48.1 +0.5**
comp=Z,40nm,1.5s
SMCO LR LR
comp=Z,5µm,18.0s
T25A Trinidad 49.08 278 *e*P **P 22 37 49.5 +2.0**
comp=Z,122nm,2.0s
T25A LR LR
comp=Z,1µm,21.0s
T25A Trinidad 49.08 278 P **P 22 37 49.1 +1.6**
baz=45,SNR=10
LLLB Lilloet 49.10 303 *e*P **P 22 37 48.2 +1.0**
comp=Z,68nm,1.6s
LLLB LR LR
comp=Z,5µm,18.0s
O20A White River Ci 49.11 284 *e*P **P 22 37 48.4 +0.8**
comp=Z,72nm,1.6s
O20A LR LR
comp=Z,4µm,20.0s
O20A White River Ci 49.11 284 P **P 22 37 49.1 +1.4**
baz=46,SNR=8.3
POKR Poker Plat Res 49.11 329 P **P 22 37 48.6 +1.5**
baz=44,SNR=25
DOT Dot Lake 49.13 326 *e*P **P 22 37 47.9 +0.6**
comp=Z,27nm,1.2s
DOT LR LR
comp=Z,3µm,20.0s
AMTX Amarillo 49.15 274 *e*P **P 22 37 50.0 +2.0**
comp=Z,120nm,1.4s
AMTX LR LR
comp=Z,4µm,18.0s
AMTX Amarillo 49.15 274 P **P 22 37 49.0 +1.1**
baz=44
MTDJ Mount Denham 49.16 238 *e*P **P 22 37 49.1 +1.0**
comp=Z,93nm,1.3s
MTDJ LR LR
comp=Z,700nm,20.0s
IL1 Eielson Array 49.20 328 *e*P **P 22 37 47.6 -0.1**
ILAR Eielson Array 49.20 328 P **P 22 37 47.8 0.0**
comp=Z,18nm,1.1s,baz=39,slow=5.5,SNR=72
ILAR PcP **PcP 22 39 10.8 +0.1**
comp=Z,4.6nm,1.0s,baz=9.2,slow=3.4,SNR=2.4
ILAR LR LR 22 58 16.8
comp=Z,3µm,20.1s,baz=59,slow=36
ILB Eielson Array 49.20 328 *e*P **P 22 37 48.9 +1.1**
comp=Z,61nm,1.2s
ILB *e*PcP **PcP 22 39 10.8 +0.1**
C09A Chrisman Ranch 49.20 298 *e*P **P 22 37 48.3 +0.3**
comp=Z,114nm,1.8s
C09A LR LR
comp=Z,6µm,18.0s
KBZ Khabaz 49.25 69 P **P 22 37 48.5 +0.1**
comp=Z,8.3nm,1.0s,baz=302,slow=8.2,SNR=18
KBZ LR LR 22 58 05.6
comp=Z,1µm,21.3s,baz=306,slow=36
SDCO Great Sand Dun 49.26 280 *e*P **P 22 37 49.5 +0.6**
comp=Z,28nm,1.6s
SDCO LR LR
comp=Z,4µm,19.0s
SDCO Great Sand Dun 49.26 280 P **P 22 37 49.9 +0.9**
baz=45
RIDG Independ'e Rid 49.31 326 *e*P **P 22 37 51.2 +2.5**
comp=Z,65nm,1.3s
RIDG LR LR
comp=Z,4µm,19.0s
B08A Colville Reser 49.36 299 *e*P **P 22 37 48.9 -0.4**
comp=Z,59nm,1.4s
B08A LR LR
comp=Z,7µm,19.0s
BESE Bessie Mountai 49.40 317 PFAKE 22 38 00.0 +11
BESE LR LR
comp=Z,2µm,22.0s
COLA College 49.41 329 *e*P **P 22 37 50.7 +1.4**
comp=Z,82nm,1.4s
COLA LR LR
comp=Z,3µm,20.0s
COLA College 49.41 329 *d i*P **P 22 37 50.2 +0.9**
COLA pmax pmax
comp=Z,55nm,1.5s
TCOL CIGO, UAF Yank 49.41 329 P **P 22 37 50.4 +1.0**
baz=44
JIS Juneau Island 49.42 317 PFAKE 22 38 00.0 +11
JIS LR LR
comp=Z,2µm,22.0s
MDM Murphy Dome 49.46 329 *e*P **P 22 37 50.9 +1.1**
comp=Z,72nm,1.2s
MDM LR LR
comp=Z,2µm,20.0s
HDA Harding Lake 49.48 328 *e*P **P 22 37 50.9 +1.0**
comp=Z,145nm,1.9s
HDA LR LR
comp=Z,3µm,20.0s
HDA Harding Lake 49.48 328 P **P 22 37 51.2 +1.3**
baz=44,SNR=12
NEY Neytrino 49.48 70 *c i*P **P 22 37 52.6 +2.2**
NEY pmax pmax
comp=Z,16nm,2.5s
HKT Hockley 49.48 265 *e*P **P 22 37 50.4 +0.1**
comp=Z,88nm,1.8s
HKT LR LR
comp=Z,2µm,20.0s
HKT Hockley 49.48 265 *e*P **P 22 37 50.4 +0.1**
HKT pmax pmax
comp=Z,88nm,1.8s
HKT MLR MLR
comp=Z,2µm,20.0s
MENT Mentasta 49.52 325 *e*P **P 22 37 52.7 +2.4**
comp=Z,25nm,1.1s
MENT LR LR
comp=Z,3µm,19.0s
CCB Clear Creek Bu 49.56 329 *e*P **P 22 37 51.2 +0.7**
comp=Z,62nm,1.7s
CCB LR LR
comp=Z,3µm,20.0s
ABTX Abilene, Hawle 49.65 270 *e*P **P 22 37 51.8 +0.2**
comp=Z,42nm,1.4s
ABTX LR LR
comp=Z,6µm,19.0s
ABTX Abilene, Hawle 49.65 270 P **P 22 37 51.7 0.0**
baz=42
WRH Wood River Hil 49.77 329 *e*P **P 22 37 53.0 +0.9**
comp=Z,48nm,1.3s
WRH LR LR
comp=Z,3µm,20.0s
NCK Nalchik 49.78 69‖ *e*P **P 22 37 53.7 +1.2**
NCK pmax pmax
comp=Z,9.0nm,1.1s
435B Jarrell 49.85 267 PFAKE 22 38 10.0 +17
435B LR LR
comp=Z,8µm,19.0s
435B Jarrell 49.85 267 P **P 22 37 53.1 -0.1**
baz=41
WRAK Wrangell Islan 49.87 314 PFAKE 22 38 10.0 +17
WRAK LR LR
comp=Z,3µm,18.0s
F10A Beach Ranch, E 49.90 295 *e*P **P 22 37 54.8 +1.3**
comp=Z,35nm,1.4s
F10A LR LR
comp=Z,2µm,20.0s
HWUT Hardware Ranch 49.90 288 *e*P **P 22 37 54.9 +1.3**
comp=Z,36nm,1.2s
HWUT *e*PcP **PcP 22 39 15.3 +1.3**
HWUT LR LR
comp=Z,3µm,20.0s
S22A 4UR Ranch, Cre 50.00 281 *e*P **P 22 37 56.2 +1.6**
comp=Z,31nm,1.6s
S22A LR LR
comp=Z,3µm,19.0s
S22A 4UR Ranch, Cre 50.00 281 P **P 22 37 56.5 +1.9**
baz=45,SNR=6.4
E09A Wood Farm, Sta 50.00 297 PFAKE 22 38 10.0 +16
E09A LR LR
comp=Z,4µm,18.0s
D08A Wollman Farm, 50.03 297 PFAKE 22 38 10.0 +16
D08A LR LR
comp=Z,5µm,18.0s
PAX Paxson 50.06 326 *e*P **P 22 37 56.6 +2.1**
comp=Z,32nm,1.2s
PAX LR LR
comp=Z,2µm,18.0s
PAX Paxson 50.06 326 *e*P **P 22 37 56.6 +2.1**
PAX pmax pmax
comp=Z,32nm,1.2s
PAX MLR MLR
comp=Z,2µm,18.0s
HLID Hailey 50.08 291 *e*P **P 22 37 56.3 +1.3**
comp=Z,91nm,1.8s
HLID LR LR
comp=Z,3µm,20.0s
HLID Hailey 50.08 291 P **P 22 37 56.7 +1.7**
baz=47,SNR=24
CSS Mathiatis 50.12 84 *e*P **P 22 37 54.2 -1.0**
comp=Z,23nm,1.2s
CSS *e*PcP **PcP 22 39 16.6 +1.9**
CSS LR LR
comp=Z,2µm,20.0s
MLY Manley 50.13 330 PFAKE 22 38 10.0 +15
MLY LR LR
comp=Z,2µm,20.0s
TCUT Toone Canyon 50.16 287 *e*P **P 22 37 56.8 +1.1**
comp=Z,146nm,1.4s
TCUT LR LR
comp=Z,4µm,19.0s
IM3 Indian Mountai 50.23 332 *e*P **P 22 37 54.3 -1.3**
BCPM Bancas Point 50.23 321 PFAKE 22 38 10.0 +14
BCPM LR LR
comp=Z,6µm,19.0s
B06A Marblemount 50.31 300 PFAKE 22 38 10.0 +14
B06A LR LR
comp=Z,4µm,19.0s
HARP HAARP 50.37 325 *e*P **P 22 37 57.0 +0.3**
comp=Z,83nm,1.3s
HARP LR LR
comp=Z,2µm,18.0s
BWN Browne 50.40 329 *e*P **P 22 37 57.8 +0.9**
comp=Z,109nm,1.1s
BWN LR LR
comp=Z,2µm,20.0s
BALM Baldy 50.42 323 PFAKE 22 38 10.0 +13
BALM LR LR
comp=Z,4µm,20.0s
ZEI Tsey 50.43 70 *e*P **P 22 37 57.3 -0.4**
ZEI pmax pmax
comp=Z,16nm,1.1s
HVU Hansel Valley 50.43 289 *e*P **P 22 37 57.6 -0.1**
comp=Z,37nm,1.5s
HVU LR LR
comp=Z,4µm,19.0s
HVU Hansel Valley 50.43 289 *e*P **P 22 37 57.6 -0.1**
HVU pmax pmax
comp=Z,37nm,1.5s
HVU MLR MLR
comp=Z,4µm,19.0s
MSTX Muleshoe 50.43 274 *e*P **P 22 37 59.1 +1.4**
comp=Z,87nm,1.4s
MSTX LR LR
comp=Z,5µm,19.0s
MSTX Muleshoe 50.43 274 P **P 22 37 58.3 +0.6**

baz=43,SNR=15
E08A **Dider Farm, El** **50.48 297** PFAKE 22 38 10.0 +12
E08A LR LR
comp=Z,5µm,18.0s
JLU **Jordanelle** **50.54 287** *e*P **P** **22 37 58.7 +0.1**
comp=Z,29nm,1.4s
JLU LR LR
comp=Z,4µm,19.0s
MCK **McKinley** **50.57 328** PFAKE 22 38 10.0 +12
MCK LR LR
comp=Z,3µm,20.0s
DHY **Denali Highway** **50.58 327** *e*P **P** **22 38 00.0 +1.6**
comp=Z,46nm,1.2s
DHY LR LR
comp=Z,3µm,19.0s
SPUT **South Promonto** **50.59 288** *e*P **P** **22 38 00.9 +2.0**
comp=Z,117nm,1.6s
SIT **Sitka** **50.63 316** PFAKE 22 38 10.0 +11
SIT LR LR
comp=Z,2µm,20.0s
CTU **Camp Tracy** **50.64 287** *e*P **P** **22 38 01.1 +1.8**
comp=Z,33nm,1.4s
CTU LR LR
comp=Z,3µm,19.0s
BMO **Blue Mountains** **50.71 294** *e*P **P** **22 38 00.8 +1.2**
comp=Z,27nm,1.3s
BMO LR LR
comp=Z,2µm,20.0s
BMO **Blue Mountains** **50.71 294** *e*P **P** **22 38 00.8 +1.2**
BMO pmax pmax
comp=Z,27nm,1.3s
BMO MLR MLR
comp=Z,2µm,20.0s
LTY **Liberty** **50.77 299** *e*P **P** **22 38 00.6 +0.6**
comp=Z,82nm,1.8s
A04D **Lummi Island** **50.77 301** P **P** **22 37 59.6 -0.2**
baz=47
HAWA **Hanford** **50.79 297** PFAKE 22 38 10.0 +10
HAWA LR LR
comp=Z,5µm,19.0s
RND **Reindeer** **50.79 328** *e*P **P** **22 38 01.0 +1.0**
comp=Z,55nm,1.3s
RND LR LR
comp=Z,4µm,19.0s
RND **Reindeer** **50.79 328** *e*P **P** **22 38 01.0 +1.0**
RND pmax pmax
comp=Z,55nm,1.3s
RND MLR MLR
comp=Z,4µm,19.0s
RDOG **Red Dog Mine** **50.80 337** *e*P **P** **22 38 00.2 +0.4**
comp=Z,81nm,1.6s
RDOG *e*PcP **PcP** **22 39 17.7 +1.1**
RDOG LR LR
comp=Z,1µm,19.0s
CRAG **Craig** **50.84 313** PFAKE 22 38 10.0 +10
CRAG LR LR
comp=Z,4µm,19.0s
E07A **Sunnyside** **50.84 298** PFAKE 22 38 10.0 +10
E07A LR LR
comp=Z,5µm,18.0s
BPAW **Bear Paw Mtn.** **50.90 329** *e*P **P** **22 38 00.7 0.0**
comp=Z,70nm,1.3s
BPAW LR LR
comp=Z,2µm,20.0s
TOC7 **Torodi Ar. Sit** **51.00 131** PFAKE 22 38 10.0 +8.0
TOC7 LR LR
comp=Z,1µm,21.0s
TOC1 **Torodi Ar. Sit** **51.01 131** PFAKE 22 38 10.0 +8.0
TOC1 LR LR
comp=Z,2µm,21.0s
TOB5 **Torodi Ar. Sit** **51.01 131** PFAKE 22 38 10.0 +7.9
TOB5 LR LR
comp=Z,1µm,20.0s
TOA1 **Torodi Ar. Sit** **51.02 131** *e*P **P** **22 37 59.9 -2.2**
TOA0 **Torodi Ar. Sit** **51.02 131** *e*P **P** **22 38 01.4 -0.7**
TOA0 LR LR
comp=Z,1µm,21.0s
TOA0 **Torodi Ar. Sit** **51.02 131** P **P** **22 38 02.5 +0.3**
SNR=15
TOB2 **Torodi Ar. Sit** **51.02 131** PFAKE 22 38 10.0 +7.8
TOB2 LR LR
comp=Z,1µm,21.0s
TORD **Torodi Ar. Bea** **51.02 131** P **P** **22 37 59.9 -2.3**
comp=Z,18nm,1.1s,baz=337,slow=2.2,SNR=48
TORD LR LR 22 57 20.6
comp=Z,1µm,21.4s,baz=330,slow=33
TOB4 **Torodi Ar. Sit** **51.03 131** PFAKE 22 38 10.0 +7.8
TOB4 LR LR
comp=Z,1µm,21.0s
TOC2 **Torodi Ar. Sit** **51.03 131** PFAKE 22 38 10.0 +7.8
TOC2 LR LR
comp=Z,1µm,21.0s
TOA3 **Torodi Ar. Sit** **51.03 131** PFAKE 22 38 10.0 +7.8
TOA3 LR LR
comp=Z,1µm,21.0s
TOC5 **Torodi Ar. Sit** **51.03 131** PFAKE 22 38 10.0 +7.8
TOC5 LR LR
comp=Z,2µm,21.0s
TOB3 **Torodi Ar. Sit** **51.04 131** PFAKE 22 38 10.0 +7.7
TOB3 LR LR
comp=Z,1µm,20.0s
TOC3 **Torodi Ar. Sit** **51.05 131** PFAKE 22 38 10.0 +7.7
TOC3 LR LR
comp=Z,1µm,21.0s
MPU **Maple Canyon** **51.05 286** *e*P **P** **22 38 04.2 +1.9**
comp=Z,120nm,2.0s
MPU LR LR
comp=Z,5µm,18.0s
TOC4 **Torodi Ar. Sit** **51.05 131** PFAKE 22 38 10.0 +7.7
TOC4 LR LR
comp=Z,1µm,20.0s
SRU **San Rafael Swe** **51.08 285** *e*P **P** **22 38 04.0 +1.4**
comp=Z,21nm,1.2s
SRU LR LR
comp=Z,3µm,20.0s
GROC **Groznyy** **51.14 68** *e*P **P** **22 38 02.4 -0.4**
GROC *e* 22 39 18.0
GROC *e* 22 40 00.6
GROC pmax pmax
comp=Z,5.0nm,0.4s
BGU **Big Grassy Mou** **51.17 288** *e*P **P** **22 38 04.5 +1.2**
comp=Z,33nm,1.6s
BGU LR LR
comp=Z,4µm,20.0s
TRF **Thorofare Moun** **51.18 329** *e*P **P** **22 38 04.2 +1.2**
comp=Z,162nm,1.7s
TRF LR LR
comp=Z,3µm,20.0s
G08A **Pilot Rock** **51.25 296** *e*P **P** **22 38 05.1 +1.4**
comp=Z,55nm,1.8s
G08A LR LR
comp=Z,3µm,20.0s
KLU **Klutina** **51.28 325** *e*P **P** **22 38 04.2 +0.5**
comp=Z,33nm,1.1s
KLU LR LR
comp=Z,3µm,20.0s
MVCO **Mesa Verde** **51.31 281** *e*P **P** **22 38 05.8 +1.3**
comp=Z,87nm,1.8s
MVCO LR LR
comp=Z,5µm,18.0s
MVCO **Mesa Verde** **51.31 281** P **P** **22 38 06.2 +1.8**
baz=44,SNR=8.6
TMUT **Trail Mountain** **51.32 285** *e*P **P** **22 38 05.2 +0.7**
comp=Z,18nm,1.2s
TMUT LR LR
comp=Z,4µm,19.0s
F07A **Phinny Hill Vi** **51.33 297** PFAKE 22 38 20.0 +16
F07A LR LR
comp=Z,4µm,18.0s
NLU **North Lily Min** **51.33 286** *e*P **P** **22 38 05.9 +1.4**
comp=Z,56nm,1.3s
JCT **Junction City** **51.33 269** *e*P **P** **22 38 03.5 -0.9**
comp=Z,52nm,1.3s
JCT LR LR
comp=Z,6µm,19.0s
JCT **Junction City** **51.33 269** *e*P **P** **22 38 03.5 -0.9**
JCT pmax pmax
comp=Z,52nm,1.3s
JCT MLR MLR
comp=Z,6µm,19.0s
JCT **Junction City** **51.33 269** P **P** **22 38 04.4 -0.1**
baz=41,SNR=10
D05A **Enumclaw** **51.47 299** PFAKE 22 38 20.0 +15
D05A LR LR
comp=Z,6µm,20.0s
SCM **Sheep Creek Mo** **51.49 326** PFAKE 22 38 20.0 +15
SCM LR LR
comp=Z,2µm,19.0s
DUG **Dugway, Tooele** **51.56 287** *e*P **P** **22 38 07.5 +1.3**
comp=Z,49nm,1.5s
DUG LR LR
comp=Z,3µm,20.0s
DUG **Dugway, Tooele** **51.56 287** *e*P **P** **22 38 07.5 +1.3**
DUG pmax pmax
comp=Z,49nm,1.5s
DUG MLR MLR
comp=Z,3µm,20.0s
DUG **Dugway, Tooele** **51.56 287** P **P** **22 38 07.3 +1.1**
baz=45,SNR=11
Q16A **Castle Valley** **51.57 285** *e*P **P** **22 38 08.7 +2.4**
comp=Z,19nm,1.2s
Q16A LR LR
comp=Z,3µm,20.0s
HMT **Hamilton** **51.58 323** PFAKE 22 38 20.0 +14
HMT LR LR
comp=Z,5µm,18.0s
TBLG **Delisi** **51.61 70** *e*P **P** **22 38 07.0 +0.7**
comp=Z,27nm,1.1s
TBLG **Delisi** **51.61 70** *e*P **P** **22 38 07.0 +0.7**
TBLG pmax pmax
comp=Z,27nm,1.1s
LON **Longmire** **51.68 299** PFAKE 22 38 20.0 +13
LON LR LR
comp=Z,6µm,21.0s
CAST **Castle Rocks** **51.73 329** PFAKE 22 38 20.0 +13
CAST LR LR
comp=Z,2µm,21.0s
ANMO **Albuquerque** **51.80 278** *e*P **P** **22 38 10.5 +2.4**
comp=Z,32nm,1.5s
ANMO LR LR
comp=Z,1µm,21.0s
ANMO **Albuquerque** **51.80 278** *ce*P **P** **22 38 10.5 +2.4**
ANMO pmax pmax
comp=Z,9.0nm,1.2s
ANMO **Albuquerque** **51.80 278** P **P** **22 38 10.0 +1.9**
baz=43
TASM **ASL Pad, Albuq** **51.80 278** P **P** **22 38 10.0 +1.9**
baz=43,SNR=12
TASM **ASL Pad, Albuq** **51.80 278** P **P** **22 38 09.9 +1.8**
baz=43,SNR=11
SML **Sawmill** **51.82 326** *e*P **P** **22 38 08.7 +1.0**
comp=Z,84nm,1.1s
SML LR LR
comp=Z,2µm,18.0s
SML **Sawmill** **51.82 326** *e*P **P** **22 38 08.7 +1.0**
SML pmax pmax
comp=Z,85nm,1.1s
SML MLR MLR
comp=Z,2µm,18.0s
EYAK **Cordova Ski Ar** **51.92 324** PFAKE 22 38 20.0 +12
EYAK LR LR
comp=Z,12µm,19.0s
GHO **Glory Hole Cre** **52.04 327** *e*P **P** **22 38 10.6 +1.3**
comp=Z,59nm,1.3s
GHO LR LR
comp=Z,2µm,20.0s
DIB **Dawson Inlet,** **52.14 311** PFAKE 22 38 20.0 +10
DIB LR LR
comp=Z,3µm,18.0s
G06A **Carlson Farm,** **52.14 297** PFAKE 22 38 20.0 +10
G06A LR LR
comp=Z,2µm,20.0s
KNK **Knik Glacier** **52.16 326** *e*P **P** **22 38 09.2 -1.0**
comp=Z,58nm,1.0s
KNK LR LR
comp=Z,2µm,20.0s
PPLA **Purkeypile** **52.17 329** *e*P **P** **22 38 11.6 +1.2**
comp=Z,147nm,1.6s
PPLA LR LR
comp=Z,2µm,20.0s
AKTO **Aktyubinsk** **52.17 54** LR LR 22 58 29.7
comp=Z,512nm,21.9s,baz=308,slow=34
BHL **Bhannes** **52.20 84** *e*P **P** **22 38 10.7 -0.3**
MAK **Makhachkala** **52.21 67** *c i*P **P** **22 38 06.7 -4.0**
MAK *e* 22 40 06.2
MAK *e*S **S** **22 45 29.8 -6.0**
MAK *e*SS **SS** **22 49 09.0 -3.6**
MAK pmax pmax
comp=Z,210nm,1.2s
MAK MLR MLR
comp=Z,2µm,15.0s
PMR **Palmer** **52.24 326** *e*P **P** **22 38 12.8 +2.2**
comp=Z,78nm,1.4s
PMR *e*PcP **PcP** **22 39 15.5 -6.5**
PMR LR LR
comp=Z,2µm,20.0s
PMR **Palmer** **52.24 326** *e*P **P** **22 38 12.8 +2.2**
PMR pmax pmax
comp=Z,79nm,1.4s
PMR MLR MLR
comp=Z,2µm,20.0s
NLWA **Neilton Lookou** **52.25 301** PFAKE 22 38 20.0 +9.0
NLWA LR LR
comp=Z,8µm,18.0s
J08A **Circle Bar Ran** **52.35 294** PFAKE 22 38 30.0 +18
J08A LR LR
comp=Z,2µm,19.0s
I07A **Izee** **52.37 295** *e*P **P** **22 38 13.6 +1.4**
comp=Z,42nm,1.6s
I07A LR LR
comp=Z,2µm,19.0s
URIC **Uribia, Colomb** **52.38 228** *e*P **P** **22 38 12.9 +0.7**
URIC **Uribia, Colomb** **52.38 228** *e*P **P** **22 38 12.9 +0.7**
MSU **Marysvale** **52.41 285** *e*P **P** **22 38 14.7 +2.1**
BNM **Barren Site** **52.48 277** *e*P **P** **22 38 14.8 +1.6**
KVTX **Kingsville** **52.48 265** PFAKE 22 38 30.0 +17
KVTX LR LR
comp=Z,3µm,19.0s
ELK **Elko** **52.48 289** *e*P **P** **22 38 15.7 +2.5**
comp=Z,57nm,1.5s
ELK LR LR
comp=Z,4µm,19.0s
TCRU **Three Creeks R** **52.49 285** PFAKE 22 38 30.0 +17
TCRU LR LR
comp=Z,6µm,20.0s
TIXI **Tiksi** **52.55 6** *e*P **P** **22 38 14.2 +1.4**
comp=Z,29nm,0.9s
TIXI **Tiksi** **52.55 6** *e*P **P** **22 38 14.2 +1.4**
TIXI pmax pmax
comp=Z,29nm,0.9s
TIXI **Tiksi** **52.55 6** LR LR 22 57 45.2
comp=Z,214nm,21.8s,baz=356,slow=33
LAZ **Ladron** **52.58 278** *e*P **P** **22 38 16.0 +2.1**
GDL2 **Guadalupe Moun** **52.64 274** *e*P **P** **22 38 16.0 +1.7**
SHBL **Chebaa** **52.66 84** *e*P **P** **22 38 13.8 -0.6**
Y22D **IRIS PASSCAL I** **52.70 277** PFAKE 22 38 30.0 +15
Y22D LR LR
comp=Z,900nm,19.0s
GNI **Garni** **52.73 71** *e*P **P** **22 38 16.3 +1.4**
comp=Z,88nm,1.1s
GNI LR LR
comp=Z,700nm,20.0s
GNI **Garni** **52.73 71** *i* P **P** **22 38 16.2 +1.4**
SNR=36
GNI **Garni** **52.73 71** *e*P **P** **22 38 16.3 +1.4**
GNI pmax pmax
comp=Z,88nm,1.1s
GNI MLR MLR
comp=Z,700nm,20.0s
GNI **Garni** **52.73 71** pP **P** **22 38 16.9 +2.0**
SNR=20
833A **Chaparral WMA,** **52.73 267** *e*P **P** **22 38 15.2 +0.4**
comp=Z,95nm,1.6s
833A LR LR
comp=Z,7µm,19.0s
833A **Chaparral WMA,** **52.73 267** P **P** **22 38 15.1 +0.3**
baz=40
MTPU **Mount Pierson** **52.75 285** PFAKE 22 38 30.0 +15
MTPU LR LR
comp=Z,4µm,20.0s
RC01 **Rabbit Creek A** **52.81 326** *e*P **P** **22 38 15.7 +0.7**
comp=Z,134nm,1.4s
RC01 LR LR
comp=Z,2µm,20.0s
SUA **Susitna One** **52.84 327** *e*P **P** **22 38 15.5 +0.2**
comp=Z,52nm,1.0s
SUA LR LR
comp=Z,2µm,18.0s
TEIG **Tepich** **52.96 250** PFAKE 22 38 30.0 +13
TEIG LR LR
comp=Z,1µm,22.0s
WVOR **Wild Horse Val** **53.09 293** *e*P **P** **22 38 18.8 +1.4**
comp=Z,65nm,0.4s
WVOR LR LR
comp=Z,2µm,18.0s
WVOR **Wild Horse Val** **53.09 293** *e*P **P** **22 38 18.8 +1.4**
WVOR pmax pmax
comp=Z,65nm,0.4s
WVOR MLR MLR
comp=Z,2µm,18.0s
F03A **Seaside** **53.12 299** PFAKE 22 38 30.0 +13
F03A LR LR
comp=Z,6µm,19.0s
MYIG **Mrida** **53.16 252** PFAKE 22 38 30.0 +12
MYIG LR LR
comp=Z,2µm,21.0s
PKCU **Pink Cliffs** **53.25 284** *e*P **P** **22 38 20.7 +1.8**
comp=Z,96nm,1.4s
PKCU LR LR
comp=Z,2µm,20.0s
PSUT **Pine Spring** **53.31 286** *e*P **P** **22 38 20.4 +1.2**
comp=Z,67nm,1.7s
PSUT LR LR
comp=Z,4µm,19.0s
PINE **Pine Mountain** **53.31 296** *e*P **P** **22 38 21.5 +2.3**
comp=Z,142nm,1.8s
PINE LR LR
comp=Z,2µm,19.0s
H04A **Detroit Lake** **53.32 297** PFAKE 22 38 30.0 +11
H04A LR LR
comp=Z,3µm,19.0s
G03D **McMinnville, O** **53.48 298** P **P** **22 38 19.4 -0.7**
baz=45
W18A **Petrified Fore** **53.51 280** P **P** **22 38 21.7 +1.0**
baz=43
SZCU **Shurtz Canyon** **53.57 285** *e*P **P** **22 38 23.1 +2.0**
comp=Z,43nm,1.5s
MNTX **Cornudas Mount** **53.59 274** *e*P **P** **22 38 21.3 +0.2**
comp=Z,32nm,1.4s
MNTX LR LR
comp=Z,4µm,18.0s
MNTX **Cornudas Mount** **53.59 274** P **P** **22 38 21.4 +0.2**
baz=42,SNR=22
H04D **Lebanon** **53.71 298** P **P** **22 38 22.1 +0.3**
baz=45
CCUT **Cedar City** **53.75 285** *e*P **P** **22 38 23.3 +0.8**
comp=Z,39nm,1.6s
CCUT *e*PcP **PcP** **22 39 25.1 -3.4**
CCUT LR LR
comp=Z,6µm,19.0s
BMN **Battle Mountai** **53.77 290** *e*P **P** **22 38 24.7 +2.2**
comp=Z,44nm,1.5s
BMN LR LR
comp=Z,4µm,19.0s
J05D **Fort Rock, OR** **53.83 295** P **P** **22 38 22.7 -0.2**
baz=44
KNB **Kanab** **53.84 284** *e*P **P** **22 38 24.4 +1.3**
comp=Z,88nm,1.6s
KNB LR LR
comp=Z,2µm,20.0s
KNB **Kanab** **53.84 284** *e*P **P** **22 38 24.4 +1.3**
KNB pmax pmax
comp=Z,88nm,1.6s
KNB MLR MLR
comp=Z,2µm,20.0s
ABKAR **Akbulak array** **53.89 54** *e*P **P** **22 38 23.3 +0.3**
comp=Z,106nm,1.6s
COR **Corvallis** **53.95 298** PFAKE 22 38 40.0 +16
COR LR LR
comp=Z,4µm,20.0s
U15A **North Rim** **53.98 283** *e*P **P** **22 38 25.4 +1.2**
comp=Z,18nm,1.4s
U15A LR LR
comp=Z,3µm,19.0s
I04A **Tendick Farm,** **54.06 297** P **P** **22 38 23.7 -0.8**
baz=44
LCMT **Little Creek M** **54.08 285** *e*P **P** **22 38 25.0 +0.2**
comp=Z,22nm,1.2s
LCMT LR LR
comp=Z,3µm,20.0s
GHAJ **Ghor Haditha** **54.08 86** P **P** **22 38 25.6 +1.0**
comp=Z,25nm,1.2s
WUAZ **Wupatki** **54.13 282** *e*P **P** **22 38 26.4 +1.1**
comp=Z,50nm,1.4s
WUAZ *e*PcP **PcP** **22 39 29.8 -0.1**
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ **Wupatki** **54.13 282** P **P** **22 38 26.8 +1.5**
baz=43,SNR=7.3
BRLK **Bradley Lake** **54.20 326** *e*P **P** **22 38 26.0 +0.8**
comp=Z,61nm,1.2s
BRLK LR LR
comp=Z,2µm,22.0s
ANM **Nome** **54.27 336** PFAKE 22 38 40.0 +14
ANM LR LR
comp=Z,2µm,20.0s
121A **Cookes Peak, D** **54.33 277** P **P** **22 38 28.2 +1.5**
baz=42,SNR=8.2
MOD **Modoc Plateau** **54.33 294** PFAKE 22 38 40.0 +13
MOD LR LR
comp=Z,4µm,18.0s
TIC **Toumodi** **54.36 142** *e*P **P** **22 38 25.5 -1.4**
R11A **Troy Canyon, C** **54.39 287** *e*P **P** **22 38 27.3 +0.2**
comp=Z,29nm,1.4s
R11A **Troy Canyon, C** **54.39 287** P **P** **22 38 28.5 +1.4**
baz=44,SNR=18
TX31 **Lajitas Ar. Si** **54.39 271** *e*P **P** **22 38 27.6 +0.4**
TX31 *e*PcP **PcP** **22 39 30.2 -0.6**
TXAR **Lajitas Array** **54.39 271** P **P** **22 38 27.1 0.0**
comp=Z,9.2nm,1.1s,baz=58,slow=5.2,SNR=23
TXAR PcP **PcP** **22 39 30.4 -0.5**
comp=Z,6.1nm,1.2s,baz=42,slow=4.1,SNR=3.5
TXAR LR LR 23 01 16.7
comp=Z,4µm,18.4s,baz=0.0,slow=36
DBIC **Dimbokro** **54.40 142** *e*P **P** **22 38 26.4 -0.6**
comp=Z,52nm,1.2s
DBIC **Dimbokro** **54.40 142** *e*P **P** **22 38 26.4 -0.6**
DBIC pmax pmax
comp=Z,52nm,1.2s
DBIC **Dimbokro** **54.40 142** P **P** **22 38 26.5 -0.6**
comp=Z,32nm,1.1s,baz=344,slow=9.3,SNR=9.1
DBIC LR LR 22 59 08.0
comp=Z,2µm,19.5s,baz=337,slow=33
HOM **Homer** **54.52 326** PFAKE 22 38 40.0 +13
HOM LR LR
comp=Z,2µm,21.0s
I02D **Swisshome** **54.56 298** P **P** **22 38 27.8 -0.2**
baz=44
K04D **Chiloquin, OR** **54.56 295** P **P** **22 38 28.9 +0.6**
baz=44
CODC **Agustn Codazz** **54.58 229** *e*P **P** **22 38 28.5 +0.1**
CODC **Agustn Codazz** **54.58 229** *e*P **P** **22 38 28.5 +0.1**
SVW2 **Sparrevohn** **54.58 329** *e*P **P** **22 38 28.8 +0.9**
comp=Z,26nm,1.2s
SVW2 LR LR
comp=Z,3µm,19.0s
I03D **Drain, OR** **54.60 297** P **P** **22 38 29.6 +1.3**
baz=44
KIC **Kosan Boka** **54.72 142** *e*P **P** **22 38 27.8 -1.7**
comp=Z,0.1nm,0.1s
LIC **Lamto** **54.75 142** *e*P **P** **22 38 28.3 -1.4**
comp=Z,128nm,1.6s
EIL **Elat** **54.96 88** P **P** **22 38 32.6 +1.5**
comp=Z,31nm,1.5s
X16A **Lo Mia Camp, P** **54.98 281** *e*P **P** **22 38 32.5 +1.1**
comp=Z,19nm,1.2s
X16A LR LR
comp=Z,4µm,18.0s
L04D **Klamath Falls** **55.14 295** P **P** **22 38 32.9 +0.5**
baz=44
HUMO **Hull Mountain** **55.19 296** PFAKE 22 38 50.0 +17
HUMO LR LR
comp=Z,2µm,18.0s
KVN **Kaiserville** **55.23 290** *e*P **P** **22 38 35.0 +1.9**
comp=Z,85nm,1.4s
KVN LR LR
comp=Z,5µm,19.0s
KVN **Kaiserville** **55.23 290** *e*P **P** **22 38 35.1 +1.9**
KVN pmax pmax
comp=Z,85nm,1.4s
KVN MLR MLR
comp=Z,5µm,19.0s
J01E **Myrtle Point** **55.28 297** P **P** **22 38 32.1 -1.1**
baz=44
LNIG **Linares** **55.42 264** PFAKE 22 38 50.0 +16
LNIG LR LR
comp=Z,2µm,18.0s
PAHR **Pah Rah Range** **55.44 291** *e*P **P** **22 38 36.5 +1.9**
comp=Z,130nm,1.6s
PAHR LR LR
comp=Z,3µm,19.0s

K02D	**Willamette Mer**		**55.49**	**297**	P		**P**	**22 38 34.3**	**-0.6**
	baz=44								
SHPR	**Sheep Range**		**55.50**	**286**	*e*P		**P**	**22 38 36.5**	**+1.4**
	comp=Z,24nm,1.3s								
SHPR					LR		LR		
	comp=Z,6µm,20.0s								
BRVK	**Borovoye**		**55.56**	**45**	*e*P		**P**	**22 38 35.5**	**+0.4**
	comp=Z,91nm,1.8s								
BRVK					LR		LR		
	comp=Z,900nm,21.0s								
BRVK	**Borovoye**		**55.56**	**45**	⇑*i*P		**P**	**22 38 35.6**	**+0.5**
BRVK					pmax		pmax		
	comp=Z,20nm,1.4s								
BRVK	**Borovoye**		**55.56**	**45**	pP		**P**	**22 38 35.9**	**+0.8**
	SNR=21								
BVAR	**Borovoye Array**		**55.62**	**45**	LR		LR	23 00 57.8	
	comp=Z,572nm,21.2s,baz=305,slow=34								
BILL	**Bilibino**		**55.67**	**350**	*e*P		**P**	**22 38 36.1**	**+0.4**
	comp=Z,45nm,1.6s								
BILL					LR		LR		
	comp=Z,2µm,20.0s								
BILL	**Bilibino**		**55.67**	**350**	⇑*e*P		**P**	**22 38 36.6**	**+0.9**
BILL					pmax		pmax		
	comp=Z,48nm,2.5s								
BILL					MLR		MLR		
	comp=Z,1µm,18.0s								
YBH	**Yreka Blue Hor**		**55.70**	**295**	PFAKE			22 38 50.0	+14
YBH					LR		LR		
	comp=Z,2µm,19.0s								
NV11	**Mina Array Sit**		**55.71**	**289**	*e*P		**P**	**22 38 37.8**	**+1.2**
	comp=Z,1.6nm,1.1s								
NV11					LR		LR		
	comp=Z,300nm,19.0s								
RYN	**Ryan**		**55.76**	**290**	*e*P		**P**	**22 38 37.8**	**+0.9**
	comp=Z,29nm,1.3s								
RYN					LR		LR		
	comp=Z,4µm,19.0s								
TPNV	**Topopah Spring**		**55.77**	**287**	*e*P		**P**	**22 38 38.4**	**+1.3**
	comp=Z,39nm,1.4s								
TPNV					LR		LR		
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**		**55.77**	**287**	*e*P		**P**	**22 38 38.4**	**+1.3**
TPNV					pmax		pmax		
	comp=Z,39nm,1.4s								
TPNV					MLR		MLR		
	comp=Z,2µm,19.0s								
TPNV	**Topopah Spring**		**55.77**	**287**	P		**P**	**22 38 38.2**	**+1.1**
	baz=43,SNR=15								
NV01	**Mina Array Sit**		**55.79**	**289**	*e*P		**P**	**22 38 37.0**	**-0.3**
NV01					*e*PP		**PP**	**22 40 36.5**	**-4.8**
NVAR	**Mina Array Bea**		**55.79**	**289**	P		**P**	**22 38 37.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=52,slow=5.8,SNR=5.6								
NVAR					LR		LR	23 01 45.3	
	comp=Z,4µm,18.9s,baz=39,slow=35								
W13A	**Hualapai Mount**		**55.83**	**284**	PFAKE			22 38 50.0	+12
W13A					LR		LR		
	comp=Z,3µm,19.0s								
BEKR	**Beckworth**		**55.83**	**292**	*e*P		**P**	**22 38 39.1**	**+1.6**
	comp=Z,81nm,1.6s								
BEKR					LR		LR		
	comp=Z,2µm,19.0s								
SMLC	**San Martn de**		**55.86**	**229**	*e*P		**P**	**22 38 37.2**	**-0.4**
SMLC	**San Martn de**		**55.86**	**229**	*e*P		**P**	**22 38 37.2**	**-0.4**
VCNR	**Virginia City**		**55.88**	**291**	PFAKE			22 38 50.0	+12
VCNR					LR		LR		
	comp=Z,3µm,20.0s								
YERR	**Yerington**		**55.88**	**291**	PFAKE			22 38 50.0	+12
YERR					LR		LR		
	comp=Z,4µm,20.0s								
PNTR	**Pine Nut**		**56.00**	**291**	*e*P		**P**	**22 38 40.7**	**+1.9**
	comp=Z,60nm,1.2s								
PNTR					LR		LR		
	comp=Z,3µm,19.0s								
M02C	**Callahan**		**56.02**	**295**	P		**P**	**22 38 39.6**	**+0.9**
	baz=43								
319A	**Douglas**		**56.03**	**277**	*e*P		**P**	**22 38 40.3**	**+1.4**
	comp=Z,65nm,1.5s								
319A					LR		LR		
	comp=Z,2µm,20.0s								
TUC	**Tucson**		**56.18**	**279**	*e*P		**P**	**22 38 41.1**	**+1.2**
	comp=Z,33nm,1.5s								
TUC					LR		LR		
	comp=Z,2µm,19.0s								
TUC	**Tucson**		**56.18**	**279**	*e*P		**P**	**22 38 41.1**	**+1.2**
TUC					pmax		pmax		
	comp=Z,33nm,1.5s								
TUC					MLR		MLR		
	comp=Z,2µm,19.0s								
TUC	**Tucson**		**56.18**	**279**	P		**P**	**22 38 41.4**	**+1.5**
	baz=41								
Y14A	**Wickenburg**		**56.20**	**282**	*e*P		**P**	**22 38 42.2**	**+2.2**
	comp=Z,21nm,1.5s								
Y14A					LR		LR		
	comp=Z,2µm,20.0s								
N02D	**Trinity Center**		**56.25**	**295**	P		**P**	**22 38 40.6**	**+0.3**
	baz=43								
O03E	**Paynes Creek**		**56.28**	**293**	P		**P**	**22 38 40.6**	**0.0**
	baz=43								
KDAK	**Kodiak Island**		**56.31**	**325**	PFAKE			22 38 50.0	+10
KDAK					LR		LR		
	comp=Z,2µm,20.0s								
KDAK	**Kodiak Island**		**56.31**	**325**	LR		LR	23 02 32.9	
	comp=Z,2µm,20.8s,baz=68,slow=36								
RUBR	**Rubicon Trail**		**56.32**	**291**	PFAKE			22 38 50.0	+9.0
RUBR					LR		LR		
	comp=Z,3µm,19.0s								
GAMB	**Gambell**		**56.34**	**338**	*e*P		**P**	**22 38 41.6**	**+1.1**
	comp=Z,53nm,1.7s								
WAKR	**Walker**		**56.34**	**290**	PFAKE			22 38 50.0	+8.8
WAKR					LR		LR		
	comp=Z,4µm,19.0s								
WDC	**Whiskeytown Da**		**56.45**	**294**	PFAKE			22 38 50.0	+8.3
WDC					LR		LR		
	comp=Z,1µm,19.0s								
FURC	**Furnace Creek,**		**56.45**	**287**	P		**P**	**22 38 43.0**	**+1.3**
	baz=42								
LDFC	**Landfair**		**56.52**	**284**	PFAKE			22 39 00.0	+18
LDFC					LR		LR		
	comp=Z,2µm,20.0s								
SHOC	**Shoshone, Teco**		**56.55**	**286**	P		**P**	**22 38 43.5**	**+1.0**
	baz=42								
PDMCI	**Parker Dam,Lak**		**56.56**	**283**	P		**P**	**22 38 43.6**	**+1.1**
	baz=42								
PAMC	**Pamplona, Colo**		**56.60**	**226**	*e*P		**P**	**22 38 43.4**	**-0.1**
PAMC	**Pamplona, Colo**		**56.60**	**226**	*e*P		**P**	**22 38 43.4**	**-0.1**
ORV	**Oroville**		**56.66**	**293**	*e*P		**P**	**22 38 43.4**	**+0.2**
	comp=Z,22nm,1.3s								
ORV					*e*PP		PP	22 40 39.5	-9.3
ORV					LR		LR		
	comp=Z,2µm,18.0s								
ORV	**Oroville**		**56.66**	**293**	*e*P		**P**	**22 38 43.4**	**+0.2**
ORV					pmax		pmax		
	comp=Z,22nm,1.3s								
ORV					MLR		MLR		
	comp=Z,2µm,18.0s								
TIN	**Tinemaha, Big**		**56.76**	**288**	P		**P**	**22 38 45.3**	**+1.2**
	baz=42								
OMMB	**Old Mammoth Mi**		**56.76**	**289**	PFAKE			22 39 00.0	+16
OMMB					LR		LR		
	comp=Z,5µm,20.0s								
MDPB	**Devils Postpil**		**56.79**	**289**	*e*P		P	22 38 49.4	+5.0
	comp=Z,12nm,1.1s								
MDPB					LR		LR		
	comp=Z,4µm,20.0s								
AFDM	**Forest Hills D**		**56.83**	**292**	*e*P		**P**	**22 38 46.0**	**+1.5**
	comp=Z,60nm,1.8s								
AFDM					LR		LR		
	comp=Z,1µm,20.0s								
KHMM	**Horse Mountain**		**56.85**	**295**	PFAKE			22 39 00.0	+15
KHMM					LR		LR		
	comp=Z,3µm,20.0s								
O02D	**Mt. Diablo Mer**		**56.88**	**294**	P		**P**	**22 38 46.3**	**+1.5**
	baz=43								
DAC	**Darwin (Calif)**		**56.99**	**287**	*e*P		**P**	**22 38 47.8**	**+2.0**
	comp=Z,54nm,1.5s								
DAC	**Darwin (Calif)**		**56.99**	**287**	*e*P		**P**	**22 38 47.8**	**+2.0**
DAC					pmax		pmax		
	comp=Z,54nm,1.5s								
GMRC	**Granite Mounta**		**57.04**	**285**	P		**P**	**22 38 47.2**	**+1.1**
	baz=42,SNR=10								
TAMC	**Tame, Arauca**		**57.05**	**225**	*e*P		**P**	**22 38 47.6**	**+1.4**
TAMC	**Tame, Arauca**		**57.05**	**225**	*e*P		**P**	**22 38 47.6**	**+1.4**
MPMC	**Manual Prospec**		**57.10**	**287**	P		**P**	**22 38 48.2**	**+1.7**
	baz=42,SNR=20								
CWC	**Cottonwood Cre**		**57.13**	**288**	P		**P**	**22 38 47.9**	**+1.1**
	baz=42								
Y12C	**Blythe**		**57.19**	**283**	*e*P		**P**	**22 38 49.4**	**+2.4**
	comp=Z,40nm,1.1s								
Y12C					LR		LR		
	comp=Z,4µm,18.0s								
Y12C	**Blythe**		**57.19**	**283**	P		**P**	**22 38 48.4**	**+1.4**
	baz=42,SNR=6.3								
CMB	**Columbia Colle**		**57.19**	**291**	*e*P		**P**	**22 38 48.6**	**+1.6**
	comp=Z,30nm,1.5s								
CMB					LR		LR		
	comp=Z,3µm,19.0s								
CMB	**Columbia Colle**		**57.19**	**291**	*e*P		**P**	**22 38 48.6**	**+1.6**
CMB					pmax		pmax		
	comp=Z,30nm,1.5s								
CMB					MLR		MLR		
	comp=Z,3µm,19.0s								
IRM	**Iron Mountain**		**57.23**	**284**	P		**P**	**22 38 48.8**	**+1.5**
	baz=42								
BRRC	**Barranca, Sant**		**57.23**	**227**	*e*P		**P**	**22 38 46.2**	**-1.3**
BRRC	**Barranca, Sant**		**57.23**	**227**	*e*P		**P**	**22 38 46.2**	**-1.3**
GSC	**Goldstone, Bar**		**57.28**	**286**	*e*P		**P**	**22 38 49.9**	**+2.1**
	comp=Z,45nm,1.4s								
GSC					LR		LR		
	comp=Z,5µm,19.0s								
GSC	**Goldstone, Bar**		**57.28**	**286**	*e*P		**P**	**22 38 49.9**	**+2.1**
GSC					pmax		pmax		
	comp=Z,45nm,1.4s								
GSC					MLR		MLR		
	comp=Z,5µm,19.0s								
GSC	**Goldstone, Bar**		**57.28**	**286**	P		**P**	**22 38 49.0**	**+1.3**
	baz=42								
KMRM	**Mail Ridge**		**57.32**	**295**	PFAKE			22 39 00.0	+12
KMRM					LR		LR		
	comp=Z,3µm,19.0s								
HPIG			**57.36**	**271**	*e*P		**P**	**22 38 49.4**	**+0.8**
	comp=Z,30nm,1.5s								
HPIG					LR		LR		
	comp=Z,4µm,18.0s								
ZARC	**Zaragoza, Cauc**		**57.37**	**229**	⇓*e*P		**P**	**22 38 48.7**	**+0.3**
ZARC	**Zaragoza, Cauc**		**57.37**	**229**	⇓*e*P		**P**	**22 38 48.7**	**+0.3**
HEC	**Hector,Ludlow**		**57.38**	**285**	P		**P**	**22 38 49.2**	**+0.7**
	baz=42								
UREC	**San Jos de Ur**		**57.43**	**230**	*e*P		**P**	**22 38 49.4**	**+0.6**
UREC	**San Jos de Ur**		**57.43**	**230**	*e*P		**P**	**22 38 49.4**	**+0.6**
113A	**Mohawk Valley,**		**57.50**	**282**	*e*P		**P**	**22 38 50.8**	**+1.6**
	comp=Z,103nm,1.8s								
113A					*e*S		**S**	**22 46 46.6**	**-0.6**
113A					LR		LR		
	comp=Z,3µm,19.0s								
TGUH	**Tegucigalpa,Un**		**57.56**	**245**	PFAKE			22 39 00.0	+10
TGUH					LR		LR		
	comp=Z,600nm,18.0s								
214A	**Organ Pipe Nat**		**57.58**	**280**	P		**P**	**22 38 51.6**	**+1.8**
	baz=41,SNR=13								
ESPN	**Las Esperanzas**		**57.63**	**241**	*e*P		**P**	**22 38 51.5**	**+1.3**
	comp=Z,141nm,1.5s								
ESPN					LR		LR		
	comp=Z,600nm,18.0s								
RRX	**Edison Barstow**		**57.71**	**286**	P		**P**	**22 38 51.9**	**+1.2**
	baz=42								
BC3	**Big Chuckawall**		**57.77**	**284**	P		**P**	**22 38 52.9**	**+1.6**
	baz=41,SNR=10								
SII	**Sitkinak Islan**		**57.81**	**325**	PFAKE			22 39 00.0	+8.9
SII					LR		LR		
	comp=Z,2µm,21.0s								
BELC	**Belle Mtn. Jos**		**57.81**	**284**	P		**P**	**22 38 53.3**	**+1.7**
	baz=41,SNR=12								
LVIG	**Laguna Verde**		**57.81**	**258**	PFAKE			22 39 00.0	+8.5
LVIG					LR		LR		
	comp=Z,1µm,22.0s								
GLA	**Glamis**		**57.88**	**283**	*e*P		**P**	**22 38 54.2**	**+2.3**
	comp=Z,95nm,1.4s								
GLA					LR		LR		
	comp=Z,3µm,19.0s								
GLA	**Glamis**		**57.88**	**283**	P		**P**	**22 38 53.4**	**+1.5**
	baz=41,SNR=7.5								
GDXM	**Geysers**		**57.89**	**293**	*e*P		**P**	**22 38 55.9**	**+3.9**
	comp=Z,62nm,1.5s								
GDXM					LR		LR		
	comp=Z,3µm,18.0s								
HOPS	**Hopland Field**		**57.90**	**293**	*e*P		**P**	**22 38 52.4**	**+0.5**
	comp=Z,111nm,1.4s								
HOPS					LR		LR		
	comp=Z,4µm,18.0s								
ISA	**Isabella, Lake**		**57.92**	**287**	*e*P		**P**	**22 38 53.2**	**+1.0**
	comp=Z,82nm,1.9s								
ISA					LR		LR		
	comp=Z,1µm,22.0s								
ISA	**Isabella, Lake**		**57.92**	**287**	*e*P		**P**	**22 38 53.2**	**+1.0**
ISA					pmax		pmax		
	comp=Z,82nm,1.9s								
ISA					MLR		MLR		
	comp=Z,1µm,22.0s								
ISA	**Isabella, Lake**		**57.92**	**287**	P		**P**	**22 38 53.6**	**+1.4**
	baz=42								
PTBC	**PUERTO BERRIO,**		**58.05**	**228**	⇓*e*P		**P**	**22 38 53.4**	**+0.1**
PTBC	**PUERTO BERRIO,**		**58.05**	**228**	⇓*e*P		**P**	**22 38 53.4**	**+0.1**
BCIP	**Isla Barro Col**		**58.11**	**235**	PFAKE			22 39 10.0	+16
BCIP					LR		LR		
	comp=Z,600nm,19.0s								
VES	**Vestal, Richgr**		**58.12**	**288**	P		**P**	**22 38 54.3**	**+0.8**
	baz=42								
EDW2	**Edwards Air Fo**		**58.25**	**286**	P		**P**	**22 38 55.8**	**+1.3**
	baz=41,SNR=15								
CCIG	**Comitan**		**58.27**	**251**	*e*P		**P**	**22 38 55.8**	**+0.8**
	comp=Z,106nm,1.6s								
CCIG					LR		LR		
	comp=Z,2µm,22.0s								
XPFO	**Pion Flat**		**58.35**	**284**	*e*P		**P**	**22 38 57.3**	**+2.0**
	comp=Z,50nm,1.4s								
XPFO					LR		LR		
	comp=Z,1µm,22.0s								
PFO	**Pinyon Flats O**		**58.36**	**284**	*e*P		**P**	**22 38 56.5**	**+1.1**
	comp=Z,47nm,1.4s								
PFO					LR		LR		
	comp=Z,1µm,22.0s								
PFO	**Pinyon Flats O**		**58.36**	**284**	*e*P		**P**	**22 38 56.5**	**+1.1**
PFO					pmax		pmax		
	comp=Z,47nm,1.4s								
PFO					MLR		MLR		
	comp=Z,1µm,22.0s								
PFO	**Pinyon Flats O**		**58.36**	**284**	P		**P**	**22 38 57.1**	**+1.7**
	baz=41,SNR=11								
DBBC	**Dabeiba**		**58.38**	**230**	*e*P		**P**	**22 38 56.5**	**+0.9**
DBBC	**Dabeiba**		**58.38**	**230**	*e*P		**P**	**22 38 56.5**	**+0.9**
MCCM	**Marconi Confer**		**58.43**	**292**	PFAKE			22 39 10.0	+14
MCCM					LR		LR		
	comp=Z,2µm,19.0s								
SWSC	**Sam W. Stewart**		**58.49**	**283**	P		**P**	**22 38 58.0**	**+1.8**
	baz=41								
BFSC	**Mount Baldy Ra**		**58.54**	**286**	P		**P**	**22 38 58.1**	**+1.5**
	baz=41,SNR=8.6								
SAO	**San Andreas Ge**		**58.70**	**290**	*e*P		**P**	**22 38 59.9**	**+2.3**
	comp=Z,16nm,1.1s								
SAO					LR		LR		
	comp=Z,3µm,18.0s								
SAO	**San Andreas Ge**		**58.70**	**290**	*e*P		**P**	**22 38 59.9**	**+2.3**
SAO					pmax		pmax		
	comp=Z,16nm,1.1s								
SAO					MLR		MLR		
	comp=Z,3µm,18.0s								
HSIG			**58.75**	**277**	PFAKE			22 39 10.0	+12
HSIG					LR		LR		
	comp=Z,3µm,18.0s								
MURC	**Murrieta**		**58.77**	**285**	P		**P**	**22 38 59.6**	**+1.5**
	baz=41								
MWC	**Mount Wilson**		**58.77**	**286**	*e*P		**P**	**22 39 00.9**	**+2.5**
	comp=Z,80nm,1.6s								
MWC					LR		LR		
	comp=Z,5µm,20.0s								
MWC	**Mount Wilson**		**58.77**	**286**	*e*P		**P**	**22 39 00.9**	**+2.5**
MWC					pmax		pmax		
	comp=Z,80nm,1.6s								
MWC					MLR		MLR		
	comp=Z,5µm,20.0s								
HELC	**Santa Helena**		**58.82**	**229**	⇓*e*P		**P**	**22 38 59.4**	**+0.4**
HELC	**Santa Helena**		**58.82**	**229**	⇓*e*P		**P**	**22 38 59.4**	**+0.4**
PAGB	**Antelope Grade**		**58.83**	**289**	*e*P		**P**	**22 38 57.9**	**-0.6**
	comp=Z,83nm,1.9s								
PAGB					*e*PcP		**PcP**	**22 39 54.2**	**+6.2**
PAGB					LR		LR		
	comp=Z,2µm,19.0s								
ZAIG	**Zacatecas**		**58.84**	**265**	*e*P		**P**	**22 39 00.3**	**+1.3**
	comp=Z,58nm,1.5s								
ZAIG					LR		LR		
	comp=Z,4µm,18.0s								
OSI	**Osito Audit: C**		**58.84**	**287**	PFAKE			22 39 10.0	+11
OSI					LR		LR		
	comp=Z,3µm,19.0s								
MONP2	**Monument Peak**		**58.88**	**284**	P		**P**	**22 39 01.4**	**+2.3**
	baz=41,SNR=10								
PASC	**Pasadena Art C**		**58.88**	**286**	PFAKE			22 39 10.0	+11
PASC					LR		LR		
	comp=Z,5µm,18.0s								
IKP	**In-Ko-Pah, Jac**		**58.89**	**283**	P		**P**	**22 39 00.8**	**+1.8**
	baz=41								
NVS	**Novosibirsk**		**58.95**	**36**	⇑*i*P		**P**	**22 39 00.2**	**+1.2**
NVS					pmax		pmax		
	comp=Z,93nm,1.6s								
NVS					pmax		pmax		
	comp=N,24nm,1.8s								
NORC	**Norcasia**		**59.10**	**228**	*e*P		**P**	**22 39 00.7**	**0.0**
NORC	**Norcasia**		**59.10**	**228**	*e*P		**P**	**22 39 00.7**	**0.0**
BAR	**Barrett**		**59.17**	**284**	*e*P		**P**	**22 39 03.4**	**+2.5**
	comp=N,43nm,1.4s								
BAR					LR		LR		
	comp=Z,2µm,18.0s								
PKM	**Mcpherson Peak**		**59.23**	**288**	P		**P**	**22 39 02.9**	**+1.4**
	baz=41								
CPE	**Camp Elliot**		**59.26**	**284**	PFAKE			22 39 10.0	+8.5
CPE					LR		LR		
	comp=Z,1µm,18.0s								
CHGN	**Chignik**		**59.36**	**327**	PFAKE			22 39 20.0	+18
CHGN					LR		LR		
	comp=Z,2µm,18.0s								
HDC	**Heredia**		**59.43**	**240**	PFAKE			22 39 20.0	+17
HDC					LR		LR		
	comp=Z,600nm,20.0s								
CHIC	**Chingaza**		**59.48**	**226**	*e*P		**P**	**22 38 59.9**	**-3.7**
CHIC	**Chingaza**		**59.48**	**226**	*e*P		**P**	**22 38 59.9**	**-3.7**
ROSC	**El Rosal**		**59.53**	**227**	*e*P		**P**	**22 39 06.0**	**+2.1**
	comp=Z,83nm,1.1s								
ROSC					LR		LR		
	comp=Z,200nm,19.0s								
ROSC	**El Rosal**		**59.53**	**227**	⇓*e*P		**P**	**22 39 05.3**	**+1.4**
ROSC	**El Rosal**		**59.53**	**227**	⇓*e*P		**P**	**22 39 05.3**	**+1.4**
ROSC	**El Rosal**		**59.53**	**227**	P		**P**	**22 39 03.4**	**-0.5**
	comp=Z,29nm,0.9s,baz=36,slow=5.3,SNR=31								
CIS	**Catalina Islan**		**59.59**	**286**	P		**P**	**22 39 04.1**	**+0.4**
	baz=41								
JTS	**JuntasAbangare**		**59.59**	**241**	*e*P		**P**	**22 39 02.9**	**-1.1**
	comp=Z,39nm,1.4s								
JTS					LR		LR		
	comp=Z,500nm,21.0s								
JTS	**JuntasAbangare**		**59.59**	**241**	⇓*e*P		**P**	**22 39 01.9**	**-2.1**
JTS					pmax		pmax		
	comp=Z,23nm,1.3s								
UNM	**Universidad Na**		**59.66**	**260**	PFAKE			22 39 20.0	+15
UNM					LR		LR		
	comp=Z,1µm,19.0s								
PTGA	**Pitinga**		**59.70**	**209**	*e*P		**P**	**22 39 04.8**	**+0.1**
	comp=Z,98nm,1.8s								
ZAA1	**Zalesovo Array**		**60.21**	**36**	*e*P		**P**	**22 39 07.8**	**+0.1**
ZAA0	**Zalesovo Array**		**60.21**	**36**	*e*P		**P**	**22 39 07.2**	**-0.5**
	comp=Z,21nm,1.4s								
ZAA0					LR		LR		
	comp=Z,300nm,18.0s								
ZALV	**Zalesovo Beam**		**60.21**	**36**	*e*P		**P**	**22 39 07.4**	**-0.3**
ZALV	**Zalesovo Beam**		**60.21**	**36**	*e*P		**P**	**22 39 07.4**	**-0.3**
ZALV	**Zalesovo Beam**		**60.21**	**36**	P		**P**	**22 39 07.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=303,slow=8.3,SNR=12								
ZALV					LR		LR	23 05 12.0	
	comp=Z,260nm,18.2s,baz=250,slow=36								
SNCC	**San Nicolas Is**		**60.31**	**286**	PFAKE			22 39 20.0	+11
SNCC					LR		LR		
	comp=Z,3µm,20.0s								
MOIG	**Morelia**		**60.51**	**262**	PFAKE			22 39 20.0	+9.5
MOIG					LR		LR		
	comp=Z,1µm,18.0s								
KURK	**Kurchatov**		**60.63**	**42**	*e*P		**P**	**22 39 10.3**	**-0.3**
	comp=Z,101nm,1.8s								
KURK					LR		LR		
	comp=Z,600nm,20.0s								
KURK	**Kurchatov**		**60.63**	**42**	*e*P		**P**	**22 39 10.3**	**-0.3**
KURK					pmax		pmax		
	comp=Z,101nm,1.8s								
KURK					MLR		MLR		
	comp=Z,600nm,20.0s								
KURK	**Kurchatov**		**60.63**	**42**	pP		**P**	**22 39 10.8**	**+0.2**
	SNR=16								
TLIG	**Tlapa**		**60.75**	**258**	*e*P		**P**	**22 39 12.0**	**0.0**
	comp=Z,54nm,1.4s								
TLIG					LR		LR		
	comp=Z,1µm,20.0s								
PRAC	**Prado**		**60.78**	**227**	*e*P		**P**	**22 39 12.2**	**+0.1**
PRAC	**Prado**		**60.78**	**227**	*e*P		**P**	**22 39 12.2**	**+0.1**
RCBR	**Riachuelo**		**61.21**	**181**	PFAKE			22 39 30.0	+15
RCBR					LR		LR		
	comp=Z,700nm,20.0s								
GEYT	**Alibeck**		**61.39**	**64**	P		**P**	**22 39 15.4**	**-0.6**
	comp=Z,11nm,1.0s,baz=311,slow=9.0,SNR=24								
GEYT					LR		LR	23 06 48.8	
	comp=Z,803nm,20.3s,baz=335,slow=37								
GYA0B	**ALIBECK ARRAY**		**61.39**	**64**	*e*P		**P**	**22 39 17.2**	**+1.2**
	comp=Z,66nm,1.6s								
SEM	**Semipalatinsk**		**61.49**	**41**	*d i*P		**P**	**22 39 14.5**	**-2.3**
SEM					pmax		pmax		
	comp=Z,244nm,1.6s								
SEM	**Semipalatinsk**		**61.49**	**41**	⇓*i*P		**P**	**22 39 14.5**	**-2.3**
	comp=Z,244nm,1.6s								
SEY	**Seynchan**		**61.67**	**356**	⇑*i*P		**P**	**22 39 19.0**	**+1.5**
MARP	**Paez Belalcaza**		**62.01**	**228**	*e*P		**P**	**22 39 21.8**	**+1.0**
MARP	**Paez Belalcaza**		**62.01**	**228**	*e*P		**P**	**22 39 21.8**	**+1.0**
FALS	**False Pass**		**62.09**	**329**	PFAKE			22 39 30.0	+10
FALS					LR		LR		
	comp=Z,2µm,21.0s								
YAK	**Yakutsk**		**62.11**	**8**	*e*P		**P**	**22 39 19.5**	**-0.9**
YAK					pmax		pmax		
	comp=Z,163nm,1.3s								
YAK					pmax		pmax		
	comp=N,184nm,1.4s								
YAK					pmax		pmax		
	comp=E,62nm,1.1s								
POPC	**Popayan, Colom**		**62.59**	**228**	⇓*e*P		**P**	**22 39 24.3**	**-0.3**
POPC	**Popayan, Colom**		**62.59**	**228**	⇓*e*P		**P**	**22 39 24.3**	**-0.3**
PCON	**Cinco Dias**		**62.66**	**228**	⇓*e*P		**P**	**22 39 26.1**	**+0.7

comp=Z,32nm,1.0s
MA2 Magadan 65.08 357 LR LR 23 09 30.5
comp=Z,456nm,18.0s,baz=13,slow=37
MAKZ Makanchi 65.11 42 *e*P **P 22 39 40.1 -0.5**
comp=Z,103nm,1.8s
MAKZ *e*PcP **PcP 22 40 07.4 -5.9**
MAKZ LR LR
comp=Z,500nm,19.0s
MAKZ Makanchi 65.11 42 *e*P **P 22 39 40.1 -0.5**
MAKZ *e* 22 40 07.4
MAKZ pmax pmax
comp=Z,103nm,1.8s
MAKZ MLR MLR
comp=Z,500nm,19.0s
EKS2 Erkin-Say 65.13 50 P **P 22 39 42.0 +1.1**
SNR=42
TDK Taldyqorghan 65.19 46*d i*P **P 22 39 40.2 -0.9**
TDK pmax pmax
comp=Z,565nm,1.3s
TDK MLR MLR
comp=Z,679nm,14.0s
TDK Taldyqorghan 65.19 46⇓*i*P **P 22 39 40.2 -0.9**
comp=Z,565nm,1.3s
TDK *e*LR LR 23 08 25.6
comp=Z,679nm,13.9s
KUU Kurty 65.23 48*d i*P **P 22 39 39.5 -1.9**
KUU pmax pmax
comp=Z,217nm,1.3s
KUU Kurty 65.23 48⇓*i*P **P 22 39 39.5 -1.9**
comp=Z,218nm,1.2s
KUU *e*LR LR 23 06 31.9
comp=Z,250nm,15.5s
MK31 Makanchi Array 65.24 42 *e*P **P 22 39 41.1 -0.3**
comp=Z,80nm,2.0s
MK31 Makanchi Array 65.24 42 *e*P **P 22 39 41.1 -0.3**
MK31 pmax pmax
comp=Z,80nm,2.0s
MK32 Makanchi Array 65.24 42 *e*P **P 22 39 41.1 -0.3**
MKAR Makanchi Array 65.24 42 P **P 22 39 41.1 -0.3**
comp=Z,13nm,1.0s,baz=331,slow=6.5,SNR=46
MKAR LR LR 23 08 52.8
comp=Z,286nm,18.7s,baz=300,slow=37
MK01 Makanchi Array 65.26 42 *e*P **P 22 39 40.9 -0.6**
CHMS Chumysh 65.28 49 P **P 22 39 42.2 +0.4**
SNR=6.3
NIKH Nikolski High 65.28 331 PFAKE 22 39 50.0 +8.5
NIKH LR LR
comp=Z,3μm,20.0s
FRU1 Bishkek 65.38 50 *e*P **P 22 39 44.1 +1.6**
comp=Z,124nm,1.8s
FRU1 LR LR
comp=Z,700nm,20.0s
FRU1 Bishkek 65.38 50 *e*P **P 22 39 44.1 +1.6**
FRU1 pmax pmax
comp=Z,124nm,1.8s
FRU1 MLR MLR
comp=Z,700nm,20.0s
OTAV Otavalo 65.42 229 *e*P **P 22 39 44.6 +1.2**
comp=Z,81nm,1.5s
OTAV LR LR
comp=Z,600nm,22.0s
OTAV Otavalo 65.42 229⇓*e*P **P 22 39 44.0 +0.6**
OTAV Otavalo 65.42 229⇓*e*P **P 22 39 44.0 +0.6**
AAK Ala-Archa 65.46 50 P **P 22 39 44.3 +1.2**
SNR=20
AAK Ala-Archa 65.46 50 *e*P **P 22 39 44.2 +1.2**
comp=Z,68nm,1.5s
AAK LR LR
comp=Z,800nm,22.0s
AAK Ala-Archa 65.46 50 *i* P **P 22 39 44.3 +1.2**
SNR=33
AAK Ala-Archa 65.46 50*de*P **P 22 39 44.3 +1.2**
AAK pmax pmax
comp=Z,48nm,1.5s
AAK Ala-Archa 65.46 50 pP **P 22 39 44.8 +1.7**
SNR=26
AML Almayashu 65.52 51 P **P 22 39 44.9 +1.1**
SNR=22
KBK Karagaybulak 65.64 50 P **P 22 39 45.6 +1.3**
SNR=12
ZSN Zaisan 65.65 40 *e*P **P 22 39 42.8 -1.2**
ZSN pmax pmax
comp=Z,55nm,1.6s
ZSN MLR MLR
comp=Z,133nm,17.0s
ZSN Zaisan 65.65 40 *e*P **P 22 39 42.9 -1.2**
comp=Z,55nm,1.6s
ZSN *e*LR LR 23 07 15.1
comp=Z,133nm,16.9s
TKM2 Tokmak 2 65.71 49 P **P 22 39 46.0 +1.3**
SNR=38
TKM2 Tokmak 2 65.71 49 *i* P **P 22 39 45.6 +0.8**
TKM2 pmax pmax
comp=Z,38nm,1.4s
UCH Uchtor 65.80 50 P **P 22 39 47.5 +1.8**
SNR=33
ARSB Arslanbob 65.86 52 *e*P **P 22 39 46.5 +0.9**
comp=Z,130nm,1.8s
BTK Batken 65.90 54 *e*P **P 22 39 46.5 +0.6**
comp=Z,114nm,1.5s
BTK Batken 65.90 54 *e*P **P 22 39 46.5 +0.6**
BTK pmax pmax
comp=Z,114nm,1.5s
AAA Alma-Ata 66.03 48 *e*P **P 22 39 46.1 -0.6**
AAA pmax pmax
comp=Z,265nm,1.5s
AAA Alma-Ata 66.03 48 *e*P **P 22 39 46.1 -0.6**
comp=Z,265nm,1.6s
AAA *e*LR LR 23 07 01.1
comp=Z,209nm,19.1s
MDOK Medeo 66.13 48*c i*P **P 22 39 46.1 -1.3**
MDOK pmax pmax
comp=Z,454nm,1.2s
MDOK Medeo 66.13 48⇑*i*P **P 22 39 46.1 -1.3**
comp=Z,454nm,1.2s
MDOK *e*LR LR 23 06 52.8
comp=Z,381nm,19.7s
KZA Kyzart 66.25 50 P **P 22 39 50.0 +1.5**
SNR=19
ULHL Ulahol 66.54 49 P **P 22 39 51.5 +1.4**
SNR=17
KPKS Kokpek 66.56 47*c i*P **P 22 39 49.0 -1.0**
KPKS pmax pmax
comp=Z,652nm,1.5s
KPKS MLR MLR
comp=Z,431nm,14.0s
KPKS Kokpek 66.56 47⇑*i*P **P 22 39 49.1 -1.0**
comp=Z,652nm,1.5s
KPKS *e*LR LR 23 09 09.4
comp=Z,431nm,13.9s
ZHN Zhinishke 66.70 47*d i*P **P 22 39 50.4 -0.6**
ZHN pmax pmax
comp=Z,219nm,1.5s
ZHN MLR MLR
comp=Z,274nm,14.0s
ZHN Zhinishke 66.70 47⇓*i*P **P 22 39 50.4 -0.6**
comp=Z,219nm,1.5s
ZHN *e*LR LR 23 09 11.0
comp=Z,274nm,13.5s
SATY Saty 66.78 47*d i*P **P 22 39 49.6 -1.9**
SATY pmax pmax
comp=Z,593nm,1.4s
SATY MLR MLR
comp=Z,377nm,15.0s
SATY Saty 66.78 47⇓*i*P **P 22 39 49.7 -1.9**
comp=Z,592nm,1.4s
SATY *e*LR LR 23 09 20.1
comp=Z,377nm,14.8s
UZB Uzynbulak 66.96 47*d i*P **P 22 39 52.3 -0.4**
UZB pmax pmax
comp=Z,307nm,1.6s
UZB MLR MLR
comp=Z,254nm,14.0s
UZB Uzynbulak 66.96 47⇓*i*P **P 22 39 52.4 -0.4**
comp=Z,307nm,1.6s
UZB *e*LR LR 23 09 16.2
comp=Z,254nm,14.1s
KDJ Kajisay 67.03 48 *e*P **P 22 39 55.3 +2.1**
comp=Z,98nm,1.8s
KDJ LR LR
comp=Z,700nm,19.0s
KDJ Kajisay 67.03 48 *e*P **P 22 39 55.3 +2.1**
KDJ pmax pmax
comp=Z,98nm,1.8s
KDJ MLR MLR
comp=Z,700nm,19.0s
MOY Mondy 67.08 28 *e*P **P 22 39 53.9 +0.6**
MOY pmax pmax
comp=Z,66nm,2.7s
NRN Naryn 67.09 50 *e*P **P 22 39 55.7 +1.9**
comp=Z,59nm,1.5s
NRN LR LR
comp=Z,1μm,22.0s
NRN Naryn 67.09 50 *e*P **P 22 39 55.7 +1.9**
NRN pmax pmax
comp=Z,59nm,1.5s
NRN MLR MLR
comp=Z,1μm,22.0s
PRZ Przheval'sk 67.25 47 *e*P **P 22 39 56.0 +1.4**
comp=Z,115nm,2.0s
PRZ LR LR
comp=Z,1μm,19.0s
PRZ Przheval'sk 67.25 47 *e*P **P 22 39 56.0 +1.4**
PRZ pmax pmax
comp=Z,115nm,2.0s
PRZ MLR MLR
comp=Z,1μm,19.0s
IRK Irkutsk 67.39 26 *e*P **P 22 39 53.3 -1.8**
IRK pmax pmax
comp=Z,75nm,2.5s
TARG Taragay, Kyrgy 67.62 48 *e*P **P 22 39 59.2 +1.9**
comp=Z,95nm,1.8s
TLY Talaya 67.75 26 *e*P **P 22 39 58.4 +0.9**
comp=Z,29nm,1.9s
TLY LR LR
comp=Z,400nm,20.0s
TLY Talaya 67.75 26 *e*P **P 22 39 57.9 +0.5**
TLY *e* 22 40 25.4
TLY *e*S **S 22 48 54.6 -0.9**
TLY pmax pmax
comp=Z,32nm,1.8s
TLY MLR MLR
comp=Z,605nm,17.0s
KSH Kashi 68.65 51 P **P 22 40 05.5 +2.1**
KSH pP pwP 22 40 09.3 +3.0
KSH sP pP 22 40 12.5 +8.9
KSH PcP **PcP 22 40 29.3 +1.0**
KSH S **S 22 49 06.4 -0.5**
KSH sS pS 22 49 14.3 +7.2
KSH pmax pmax
comp=Z,100nm,1.5s
KSH pmax pmax
comp=Z,470nm,3.4s
KSH LR LR
comp=Z,340nm,14.0s
KSH LR LR
comp=Z,400nm,15.0s
KSH LR LR
comp=Z,780nm,19.6s
ZAK Zakamensk 68.85 27 *e*P **P 22 40 03.5 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.7s
KBL Kabul 69.49 59 *e*P **P 22 40 09.3 +0.5**
comp=Z,57nm,1.6s
KBL LR LR
comp=Z,800nm,18.0s
KBL Kabul 69.49 59 *e*P **P 22 40 09.3 +0.5**
KBL pmax pmax
comp=Z,57nm,1.6s
KBL MLR MLR
comp=Z,800nm,18.0s
SHME Shamm 69.59 74 *i* P **P 22 40 08.5 -0.8**
SNR=6.0
WMQ Urumqi 69.78 40 P **P 22 40 12.0 +1.8**
WMQ sP pwP 22 40 20.5 +7.4
WMQ PP **PP 22 42 45.1 +1.3**
WMQ SKS **SKiKP 22 50 04.8 +6.7**
WMQ pmax pmax
comp=Z,75nm,1.9s
WMQ LR LR
comp=Z,2μm,16.9s
WMQ LR LR
comp=Z,2μm,15.5s
WMQ LR LR
comp=Z,920nm,21.1s
WMQ Urumqi 69.78 40 *e*P **P 22 40 12.5 +2.2**
comp=Z,121nm,1.8s
WMQ LR LR
comp=Z,599nm,19.0s
WMQ Urumqi 69.78 40 *e*P **P 22 40 12.5 +2.2**
WMQ pmax pmax
comp=Z,121nm,1.8s
WMQ MLR MLR
comp=Z,599nm,19.0s
ZEA Zeya 70.07 11 *e*P **P 22 40 12.8 +1.1**
ZEA pmax pmax
comp=Z,61nm,1.6s
ZEA MLR MLR
comp=Z,400nm,16.0s
ZEA MLR MLR
comp=N,300nm,18.0s
MSFE Esma-Masafi 70.15 74 *i* P **P 22 40 12.2 -0.5**
SNR=7.7
NAZ Nazwa, Dubai 70.17 75 pP **P 22 40 13.3 +0.5**
MDH Madha 70.28 74 *i* P **P 22 40 13.3 -0.1**
SNR=6.0
MDH Madha 70.28 74 P **P 22 40 12.9 -0.5**
ASUD Al Ashush, Dub 70.28 75 P **P 22 40 12.5 -1.0**
FAQ Al Faqa, Dubai 70.33 75 P **P 22 40 12.6 -1.1**
HATD Hatta, Dubai 70.56 74 *i* P **P 22 40 14.6 -0.7**
SNR=17
HATD Hatta, Dubai 70.56 74 P **P 22 40 15.1 -0.1**
ASHO Ashiyiah 70.63 75 *i* P **P 22 40 15.0 -0.7**
SNR=8.0
ASHO Ashiyiah 70.63 75 P **P 22 40 15.0 -0.7**
SNR=6.5
ALNE Al Ain 70.96 75 *i* P **P 22 40 17.3 -0.3**
SNR=6.5
PEA1 Petropavlovsk- 71.15 352 *e*P **P 22 40 18.6 +0.3**
PETK Petropavlovsk- 71.15 352 P **P 22 40 18.6 +0.2**
comp=N,15nm,1.2s,baz=18,slow=7.0,SNR=4.5
PETK LR LR 23 14 02.9
comp=N,639nm,18.0s,baz=13,slow=38
PET Petropavlovsk 71.16 351 *e*P **P 22 40 19.8 +1.5**
PET *e*S **S 22 49 33.9 -1.6**
PET *e*SS **SS 22 54 08.2 +0.6**
PET pmax pmax
comp=Z,13nm,0.7s
PET MLR MLR
comp=Z,600nm,21.0s
SOHO SOHO 71.33 75 P **P 22 40 19.8 -0.1**
SNR=7.9
NKL Nikolayevsk 71.56 3 *e*P **P 22 40 20.0 -0.8**
NKL pmax pmax
comp=Z,43nm,1.0s
BDFB Brasilia 71.79 193 P **P 22 40 21.7 -1.0**
comp=Z,7.4nm,1.0s,baz=4.2,slow=11,SNR=7.9
BDFB LR LR 23 06 43.8
comp=Z,580nm,18.9s,baz=4.8,slow=32
SONA0 Songino Array 71.99 26 *e*P **P 22 40 24.1 +0.4**
SONM Songino Array 71.99 26 P **P 22 40 24.1 +0.4**
comp=Z,5.2nm,1.0s,baz=324,slow=7.3,SNR=7.7
SONM LR LR 23 12 47.0
comp=Z,278nm,21.1s,baz=325,slow=36
ULN Ulaanbaatar 72.13 26 *e*P **P 22 40 26.0 +1.4**
comp=Z,79nm,1.7s
ULN LR LR
comp=Z,300nm,18.0s
ULN Ulaanbaatar 72.13 26*de*P **P 22 40 25.1 +0.6**
ULN pmax pmax
comp=Z,74nm,2.5s
ULN Ulaanbaatar 72.13 26 pP **P 22 40 26.4 +1.9**
SNR=20
DAMY Dhamar 72.17 90 PFAKE 22 40 40.0 +15
DAMY LR LR
comp=Z,400nm,22.0s
NIL Nilore 72.23 56 *e*P **P 22 40 25.7 +0.5**
comp=Z,84nm,1.5s
NIL LR LR
comp=Z,1μm,20.0s
NIL Nilore 72.23 56 *e*P **P 22 40 25.7 +0.5**
NIL pmax pmax
comp=Z,84nm,1.5s
NIL MLR MLR
comp=Z,1μm,20.0s
BIDO Bidbid 72.69 74 P **P 22 40 27.5 -0.6**
SNR=5.6
HIA Hailar 73.41 17 PFAKE 22 40 40.0 +8.0
HIA LR LR
comp=Z,400nm,19.0s
FURI Furi 73.54 98 PFAKE 22 40 40.0 +6.5
FURI LR LR
comp=Z,500nm,22.0s
ATD Arta Tunnel 73.75 93 PFAKE 22 40 50.0 +16
ATD LR LR
comp=Z,300nm,18.0s
GRNR Gornyy 73.77 6 *e*P **P 22 40 33.0 -1.0**
MHTO MHTO 74.64 75 P **P 22 40 38.9 -0.6**
SNR=7.9
KLR Kul'dur 74.97 9*d i*P **P 22 40 41.2 +0.2**
KLR Kul'dur 74.97 9 LR LR 23 14 10.0
comp=Z,362nm,19.3s,baz=8.0,slow=36
LPAZ La Paz 76.85 213 *e*P **P 22 40 52.9 +0.2**
comp=Z,28nm,1.3s
LPAZ La Paz 76.85 213 *e*P **P 22 40 52.9 +0.2**
LPAZ pmax pmax
comp=Z,28nm,1.3s
LPAZ La Paz 76.85 213 P **P 22 40 52.3 -0.4**
comp=Z,8.8nm,1.1s,baz=13,slow=6.8,SNR=13
YSS Yuzh-Sakhalins 77.81 2⇓*e*P **P 22 40 55.5 -1.6**
YSS *e* 22 41 02.8
YSS *e* 22 41 06.8
YSS pmax pmax
comp=Z,30nm,1.0s
YSS pmax pmax
comp=Z,300nm,2.6s
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=Z,400nm,18.0s
YSS MLR MLR
comp=E,400nm,17.0s
GTA Gaotai 77.87 34 *e*P **P 22 40 58.0 +0.2**
GTA pP pwP 22 41 02.6 +1.9
GTA sP PcP 22 41 05.6 -2.1
GTA pmax pmax
comp=E,210nm,5.7s
GTA LR LR
comp=E,220nm,18.4s
GTA LR LR
comp=E,340nm,16.5s
GTA LR LR
comp=E,430nm,17.1s
MDJ Mudanjiang 79.32 11 *e*P **P 22 41 06.8 +1.2**
comp=E,46nm,1.4s
BTO Baotou 79.67 26 *e*P **P 22 41 04.3 -3.4**
HHC Hu-ho-hao-te 79.82 25 *e*P **P 22 41 09.5 +1.0**
HHC sP PcP 22 41 15.5 -0.7
HHC sS S 22 51 15.3 +3.1
HHC S **S 22 51 15.4 +3.2**
HHC ScS **SKSac 22 51 25.8 -0.5**
HHC pmax pmax
comp=E,23nm,0.9s
HHC pmax pmax
comp=E,460nm,5.5s
HHC LR LR
comp=E,310nm,15.4s
HHC LR LR
comp=E,320nm,13.8s
HHC LR LR
comp=E,540nm,15.2s
MNMC Minye Minye 79.98 213 *e*P **P 22 41 09.3 -0.2**
comp=E,82nm,1.8s
USA0B Ussuriysk Arra 79.98 9 PFAKE 22 41 20.0 +11
USA0B LR LR
comp=Z,500nm,21.0s
USRK Ussuriysk Ar. 79.98 9 P **P 22 41 09.2 +0.1**
comp=Z,7.8nm,1.0s,baz=349,slow=5.8,SNR=8.8
USRK LR LR 23 15 06.5
comp=Z,192nm,21.4s,baz=354,slow=35
PB11 IPOC Station P 80.59 213 *e*P **P 22 41 12.1 -0.6**
comp=Z,49nm,1.2s
KMBO Kilima Mbogo 81.02 105 *e*P **P 22 41 18.4 +3.1**
comp=Z,36nm,2.0s
KMBO Kilima Mbogo 81.02 105 P **P 22 41 16.1 +0.7**
KMBO Kilima Mbogo 81.02 105*ce*P **P 22 41 17.8 +2.4**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 81.02 105 pP **P 22 41 18.2 +2.8**
SNR=6.8
KMBO Kilima Mbogo 81.02 105 P **P 22 41 15.2 -0.1**
comp=Z,0.4nm,0.2s,baz=328,slow=5.9,SNR=8.6
KMBO LR LR 23 18 45.2
comp=Z,667nm,18.6s,baz=298,slow=37
PYUN Piuthan 81.39 52 *e*P **P 22 41 18.1 +0.9**
comp=Z,163nm,1.7s
DANN Dangsing 81.52 51 *e*P **P 22 41 18.8 +0.8**
comp=Z,205nm,1.7s
BJI Beijing 81.64 22⇑*i*P **P 22 41 19.0 +1.0**
BJI LR LR
comp=Z,400nm,19.0s
BJI LR LR
comp=Z,340nm,13.6s
BJT Baijiatuau 81.66 22 PFAKE 22 41 30.0 +12
BJT LR LR
comp=Z,500nm,18.0s
KOLN Koldanda 81.94 52 *e*P **P 22 41 20.7 +0.6**
comp=Z,94nm,1.4s
LZH Lanzhou 82.17 32 ⇑P **P 22 41 22.6 +1.4**
LZH pP PcP 22 41 26.5 -0.1
LZH sP pwP 22 41 28.0 +3.9
LZH PP **PP 22 44 32.3 +3.8**
LZH SS SS 22 56 49.8 -5.2
LZH pmax pmax
comp=Z,29nm,1.4s
LZH pmax pmax
comp=Z,600nm,4.9s
LZH LR LR
comp=Z,750nm,16.8s
LZH LR LR
comp=Z,610nm,15.7s
LZH LR LR
comp=Z,650nm,16.8s
GKN Gorkha 82.20 51 *e*P **P 22 41 22.0 +0.6**
comp=Z,166nm,1.7s
KKN Kakani 82.67 50 *e*P **P 22 41 24.6 +0.7**
GUN Gumba 82.83 50 *e*P **P 22 41 25.9 +1.0**
comp=Z,80nm,1.3s
PKIN Phulchoki 82.90 50 *e*P **P 22 41 25.8 +0.6**
comp=Z,142nm,1.9s
PKI Pulchoki 82.92 50 *e*P **P 22 41 25.8 +0.4**
comp=Z,127nm,1.8s
LVC Limon Verde 83.05 211 *e*P **P 22 41 26.9 +1.1**
comp=Z,46nm,1.4s
LVC Limon Verde 83.05 211 *e*P **P 22 41 26.9 +1.1**
LVC pmax pmax
comp=Z,46nm,1.4s
JIRN Jiri 83.18 50 *e*P **P 22 41 27.7 +0.9**
comp=Z,284nm,1.9s
LSA Lhasa 83.46 45 *e*P **P 22 41 28.8 +0.5**
comp=Z,44nm,1.8s
LSA LR LR
comp=Z,602nm,22.0s
CPUP Villa Florida 83.78 200 *e*P **P 22 41 27.4 -1.7**
comp=Z,43nm,1.9s
CPUP Villa Florida 83.78 200 *e*P **P 22 41 27.4 -1.7**
CPUP pmax pmax
comp=Z,43nm,1.9s
CPUP Villa Florida 83.78 200 P **P 22 41 27.4 -1.7**
comp=Z,3.8nm,1.0s,baz=41,slow=8.0,SNR=3.6
CPUP LR LR 23 14 23.1
comp=Z,246nm,21.5s,baz=18,slow=33
DL2 Dalian 83.79 18 P P 22 41 37.5 +8.2
DL2 Dalian 83.79 18 *e*S S 22 52 08.8 +16
DL2 pmax pmax
comp=Z,61nm,1.5s
DL2 pmax pmax
comp=Z,600nm,4.0s
DL2 LR LR
comp=N,410nm,15.0s
DL2 LR LR
comp=E,320nm,12.3s
DL2 LR LR
comp=Z,430nm,21.0s
RAMN Ramite 83.97 50 *e*P **P 22 41 31.0 +0.3**
TIA Tai'an 85.52 22 P **P 22 41 36.1 -2.0**
XAN Xi'an 85.56 29 P **P 22 41 38.8 +0.4**
XAN pP PcP 22 41 45.3 +4.0
XAN S **SKSac 22 52 06.0 +1.5**
XAN sS SKKSac 22 52 13.9 +2.6
XAN SS **SS 22 57 41.5 -3.4**
XAN pmax pmax
comp=Z,240nm,4.2s
XAN LR LR
comp=Z,360nm,20.6s
XAN LR LR
comp=Z,270nm,21.4s
XAN LR LR
comp=Z,420nm,23.3s

XAN	**Xi'an**	**85.56**	**29**	PFAKE			22 41 50.0	+12
XAN				LR	LR			
	comp=Z,399nm,22.0s							
KSRS	**Korea Array**	**86.19**	**13**	LR	LR		23 22 35.1	
	comp=Z,202nm,18.9s,baz=357,slow=37							
TSUM	**Tsumeb**	**86.78**	**131**	PFAKE			22 42 00.0	+16
TSUM				LR	LR			
	comp=Z,900nm,19.0s							
CD2	**Chengdu**	**86.93**	**35**	P	**P**		**22 41 43.8**	**-1.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,220nm,4.1s							
SHL	**Shillong**	**87.42**	**46**	*e*P	**P**		**22 41 50.0**	**+2.2**
LSZ	**Lusaka**	**88.23**	**120**	*e*P	**P**		**22 41 51.2**	**-0.3**
	comp=Z,37nm,1.9s							
LSZ				LR	LR			
	comp=Z,900nm,20.0s							
LSZ	**Lusaka**	**88.23**	**120**	*e*P	**P**		**22 41 51.2**	**-0.3**
LSZ				pmax	pmax			
	comp=Z,37nm,1.9s							
LSZ				MLR	MLR			
	comp=Z,900nm,20.0s							
ENH	**Enshi**	**89.27**	**30**	*e*P	**P**		**22 41 57.0**	**+0.8**
	comp=Z,90nm,1.9s							
ENH				LR	LR			
	comp=Z,500nm,22.0s							
HMH	**Humu'ula Sheep**	**89.78**	**306**	PFAKE			22 42 10.0	+11
HMH				LR	LR			
	comp=Z,3μm,19.0s							
UWB	**Uwekahuna B**	**89.84**	**305**	PFAKE			22 42 10.0	+11
UWB				LR	LR			
	comp=Z,5μm,22.0s							
WRMHI	**West Rim**	**89.87**	**305**	PFAKE			22 42 10.0	+11
WRMHI				LR	LR			
	comp=Z,1μm,18.0s							
NJ2	**Nanjing**	**89.90**	**22**	*e*P	**P**		**22 41 58.8**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,23nm,0.6s							
KMI	**Kunming**	**91.93**	**38**	P	**P**		**22 42 08.9**	**-0.1**
KMI				sP	pwP		22 42 17.3	+5.4
KMI				S	**S**		**22 53 10.3**	**-1.3**
KMI				SS	**SS**		**22 59 19.9**	**+1.7**
KMI				pmax	pmax			
	comp=Z,12nm,1.0s							
KMI				pmax	pmax			
	comp=Z,75nm,3.1s							
KMI				LR	LR			
	comp=Z,320nm,21.1s							
KMI				LR	LR			
	comp=Z,170nm,20.1s							
GYA	**Guiyang**	**91.99**	**34**	*e*P	**P**		**22 42 09.0**	**-0.1**
GYA				PP	**PP**		**22 45 50.4**	**+2.7**
GYA				SKS	**SKSac**		**22 52 40.6**	**-2.6**
GYA				S	**S**		**22 53 07.8**	**-4.0**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,130nm,5.8s							
MSEY	**Mahe Island**	**94.14**	**92**	PFAKE			22 42 30.0	+11
MSEY				LR	LR			
	comp=Z,500nm,20.0s							
CHTO	**Chiang Mai**	**96.30**	**43**	PFAKE			22 42 40.0	+11
CHTO				LR	LR			
	comp=Z,300nm,19.0s							
CM31	**Chiang Mai Arr**	**96.63**	**43**	*e*P	**P**		**22 42 30.1**	**-0.2**
	comp=Z,6.7nm,0.5s							
CM31				*e*PP	**PP**		**22 46 25.9**	**+2.0**
CMAR	**Chiang Mai Arr**	**96.63**	**43**	P	**P**		**22 42 30.1**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=330,slow=2.3,SNR=7.4							
CMAR				PP	**PP**		**22 46 25.9**	**+2.0**
	comp=Z,2.6nm,1.0s,baz=329,slow=8.6,SNR=8.6							
PALK	**Pallekele**	**98.13**	**64**	PFAKE			22 42 50.0	+13
PALK				LR	LR			
	comp=Z,500nm,22.0s							
BOSA	**Boshof**	**98.35**	**129**	LR	LR		23 26 21.9	
	comp=Z,784nm,18.6s,baz=338,slow=35							
TAOE	**Nuku Hiva Isla**	**105.77**	**277**	*e*LR	LR		23 18 05.6	
	comp=Z,848nm,26.1s							
SARN	**Sarigan**	**107.99**	**359**	PFAKE			22 47 40.0	+12
SARN				LR	LR			
	comp=Z,1μm,21.0s							
KULM	**Kulim**	**109.23**	**47**	PFAKE			22 47 40.0	+10
KULM				LR	LR			
	comp=Z,200nm,21.0s							
PSI	**Prapat**	**110.73**	**50**	PFAKE			22 47 50.0	+17
PSI				LR	LR			
	comp=Z,400nm,22.0s							
KKM	**Kota Kinabalu**	**114.15**	**32**	PFAKE			22 47 50.0	+10
KKM				LR	LR			
	comp=Z,300nm,22.0s							
KSM	**Kuching**	**116.49**	**39**	PFAKE			22 48 00.0	+16
KSM				LR	LR			
	comp=Z,200nm,20.0s							
PPT2	**Papeete2**	**118.15**	**280**	*e*SP	SP		22 58 45.7	-2.4
	comp=Z,165nm,27.8s							
PPT2				*e*SS	**SS**		**23 05 21.7**	**+3.4**
	comp=Z,829nm,27.8s							
PPT2	**Papeete2**	**118.15**	**280**	*e*LR	LR		23 23 52.1	
	comp=Z,839nm,22.5s							
TBI	**Tubuai**	**122.67**	**276**	*e*LR	LR		23 25 53.5	
	comp=Z,663nm,37.2s							
SNAA	**Sanae**	**128.98**	**167**	*e*PKPdf	**PKPdf**		**22 48 06.7**	**+0.3**
SNAA	**Sanae**	**128.98**	**167**	*e*PKIKP	**PKPdf**		**22 48 06.7**	**+0.3**
SYO	**Syowa Base**	**135.55**	**150**	*e*X	**Pdif**		**22 45 16.4**	**-5.7**
WB8	**Warramunga Arr**	**143.40**	**17**	PFAKE			22 48 50.0	+12
WB8				LR	LR			
	comp=Z,500nm,22.0s							
WRA	**Warramunga Arr**	**143.52**	**17**	PKP	**PKPdf**		**22 48 33.5**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=341,slow=2.6,SNR=6.2							
WR1	**Warramunga Arr**	**143.52**	**17**	*e*PKPdf	**PKPdf**		**22 48 33.5**	**-1.3**
QSPA	**South Pole Qui**	**145.49**	**180**	*e*PKPbc	**PKPdf**		**22 48 36.4**	**-0.4**
QSPA	**South Pole Qui**	**145.49**	**180**	PKPbc	**PKPdf**		**22 48 35.6**	**-1.2**
	comp=Z,25nm,1.1s,baz=187,slow=2.2,SNR=20							
MORW	**Morawa**	**146.42**	**50**	*e*PKPdf	**PKPab**		**22 48 42.1**	**+0.4**
AS31	**Alice Springs**	**147.09**	**19**	*e*PKPdf	**PKPbc**		**22 48 42.7**	**-0.3**
ASAR	**Alice Springs**	**147.09**	**19**	PKPbc	**PKPbc**		**22 48 42.1**	**-0.9**
	comp=Z,14nm,1.1s,baz=348,slow=2.5,SNR=35							
AS01	**Alice Springs**	**147.09**	**19**	*e*PKPdf	**PKPdf**		**22 48 39.8**	**-1.1**
MXZ	**Matakaoa Point**	**151.21**	**295**	PFAKE			22 49 00.0	-0.9
MXZ				LR	LR			
	comp=Z,700nm,20.0s							
BKZ	**Black Stump Fm**	**153.36**	**295**	PFAKE			22 49 00.0	+2.0
BKZ				LR	LR			
	comp=Z,500nm,20.0s							
VNDA	**Vanda**	**157.17**	**189**	*e*PKPdf	**PKPdf**		**22 48 54.5**	**+0.3**
VNDA	**Vanda**	**157.17**	**189**	*e*PKIKP	**PKPdf**		**22 48 54.5**	**+0.3**
VNDA	**Vanda**	**157.17**	**189**	PKP	**PKPdf**		**22 48 53.8**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=268,slow=3.8,SNR=4.0							
MQZ	**McQueen's Vall**	**158.62**	**292**	PFAKE			22 49 10.0	+13
MQZ				LR	LR			
	comp=Z,1μm,21.0s							
OXZ	**Oxford**	**158.68**	**294**	PFAKE			22 49 10.0	+13
OXZ				LR	LR			
	comp=Z,800nm,19.0s							

*ISCJB **20** 22:32:23.4±0.3,55°.46N±0°.06×35°.11W±0°.06,h14km, mb4.3/48, Error ellipse: s-maj=8.3km s-min=4.7km az=178.1*

*IDC **20** 22:32:23.7±0.5,55°.52N×35°.04W,h0km,mb4.2/24, mb1 4.3/27,mb1mx4.2/54,mbtmp4.2/27,ML3.6/3, Error ellipse: s-maj=17.2km s-min=10.3km az=8.0*

*NEIC **20** 22:32:24.4±2.5,55°.45N×35°.15W,h10km,mb4.4/39, Error ellipse: s-maj=17.7km s-min=14.2km az=182.0*

ISC 20 22:32:25.2±0.5,55°.47N±0°.08×35°.13W±0°.06,h14km,n89, σ1§11/87,mb4.4/48,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRS	**Narsarsuaq**	**7.86**	**321**	*e*Pn	Pn	22 34 11.7	-7.2
NRS				*e*Sn	Sn	22 35 31.6	-16
ANGG	**Ammassalik, Gr**	**10.25**	**354**	*e*Pn	**Pn**	**22 34 49.1**	**-2.6**
ANGG				*e*Sn	Sn	22 36 36.6	-10
BORG	**Borgarnes**	**11.54**	**31**	Pn	**Pn**	**22 35 13.3**	**+4.0**
	0.8nm,0.3s,baz=239,slow=9.1,SNR=4.4						
SUMG	**Summit**	**17.23**	**357**	*e*Pn	**Pn**	**22 36 23.8**	**-1.7**
	12nm,1.0s						
SCHQ	**Schefferville**	**18.05**	**281**	*e*Pn	**Pn**	**22 36 34.6**	**-0.8**
	19nm,0.9s						
SCHQ	**Schefferville**	**18.05**	**281**	P	**P**	**22 36 36.5**	**+0.8**
	1.1nm,0.3s,baz=48,slow=5.1,SNR=9.8						
ESK	**Eskdalemuir**	**18.05**	**77**	*e*Pn	**Pn**	**22 36 30.8**	**-4.6**
	8.8nm,1.0s						
EKA	**Eskdalemuir Ar**	**18.08**	**77**	P	**P**	**22 36 36.2**	**+0.2**
	baz=276,slow=8.3,SNR=4.0						
FRB	**Frobisher Bay**	**18.62**	**310**	P	**Pn**	**22 36 43.0**	**+0.9**
	0.1nm,0.3s,baz=97,slow=16,SNR=3.0						
BATG	**Bathurst New B**	**20.83**	**260**	*e*P	Pn	22 37 08.0	-0.6
	12nm,0.8s						
LMN	**Caledonia Moun**	**20.98**	**255**	*e*P	**P**	**22 37 07.2**	**-0.6**
	12nm,1.1s						
PQI	**Presque Isle**	**22.28**	**261**	*e*P	**P**	**22 37 23.0**	**+1.4**
	21nm,1.0s						
GGN	**Saint George**	**22.56**	**256**	*e*P	**P**	**22 37 25.4**	**+0.7**
	9.1nm,0.9s						
NBO00	**NORSAR Array S**	**24.36**	**58**	*e*P	**P**	**22 37 42.0**	**-0.4**
	7.4nm,1.0s						
NAO01	**NORSAR Array S**	**24.44**	**58**	*e*P	**P**	**22 37 43.2**	**0.0**
	6.9nm,1.0s						
TULEG	**Thule**	**24.47**	**342**	*e*P	**P**	**22 37 41.3**	**-1.9**
	10nm,1.1s						
NB2	**NORSAR Subarra**	**24.57**	**58**	P	**P**	**22 37 44.0**	**-0.4**
	comp=Z,14nm,1.2s,baz=280,slow=10						
NB200	**NORSAR Array S**	**24.57**	**58**	*e*P	**P**	**22 37 45.5**	**+1.1**
NOA	**NORSAR Array B**	**24.57**	**58**	P	**P**	**22 37 45.4**	**+1.1**
	comp=Z,2.7nm,0.9s,baz=278,slow=8.7,SNR=4.2						
NC303	**NORSAR Array S**	**24.62**	**57**	*e*P	**P**	**22 37 43.4**	**-1.4**
	comp=Z,9.0nm,1.0s						
HFS	**Hagfors**	**25.93**	**59**	P	**P**	**22 37 56.8**	**+0.1**
	comp=Z,5.2nm,0.9s,baz=255,slow=10,SNR=3.6						
ESDC	**Sonseca Array**	**26.01**	**114**	P	**P**	**22 37 58.1**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=317,slow=8.4,SNR=7.7						
ES06	**SONSECA Array**	**26.01**	**114**	*e*P	**P**	**22 37 56.4**	**-1.2**
TRQ	**Mont Tremblant**	**26.23**	**266**	*e*P	**P**	**22 37 57.9**	**-1.6**
VT1	**Waterbury**	**26.34**	**261**	*e*P	**P**	**22 37 59.5**	**-1.0**
	comp=Z,13nm,1.2s						
CPNY	**Central Park**	**29.33**	**256**	*e*P	**P**	**22 38 25.9**	**-1.3**
	comp=Z,11nm,0.9s						
RES	**Resolute Bay**	**29.69**	**332**	*e*P	**P**	**22 38 30.9**	**+0.8**
	comp=Z,3.0nm,1.1s						
RES	**Resolute Bay**	**29.69**	**332**	P	**P**	**22 38 30.9**	**+0.8**
	comp=Z,2.0nm,0.9s,baz=140,slow=7.9,SNR=3.6						
ARA0	**ARCESS Array S**	**29.80**	**38**	*e*P	**P**	**22 38 31.3**	**+0.2**
ARCES	**ARCESS Array B**	**29.80**	**38**	*e*P	**P**	**22 38 30.3**	**-0.9**
ARCES	**ARCESS Array B**	**29.80**	**38**	P	**P**	**22 38 31.3**	**+0.2**
	comp=Z,14nm,1.2s,baz=248,slow=8.5,SNR=4.2						
GEC2	**GERESS Array S**	**30.15**	**82**	*e*P	**P**	**22 38 34.8**	**+0.3**
	comp=Z,2.6nm,1.0s						
GERES	**GERESS Array B**	**30.15**	**82**	P	**P**	**22 38 34.8**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=270,slow=5.9,SNR=3.9						
MDT	**Midelt**	**31.09**	**124**	P	**P**	**22 38 43.6**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=343,slow=5.7,SNR=4.1						
FIA0	**FINESS Array S**	**31.49**	**54**	*e*P	**P**	**22 38 45.6**	**-0.4**
FINES	**FINESS Array B**	**31.49**	**54**	P	**P**	**22 38 45.6**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=291,slow=7.4,SNR=5.7						
ULM	**Lac du Bonnet**	**36.01**	**288**	P	**P**	**22 39 25.8**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=67,slow=9.1,SNR=8.1						
AGMN	**Agassiz Nation**	**37.08**	**285**	*e*P	**P**	**22 39 33.8**	**-0.8**
	comp=Z,5.0nm,1.1s						
AK11	**Malin Array Si**	**37.69**	**70**	*e*P	**P**	**22 39 39.2**	**-0.5**
KIEV	**Kiev**	**37.70**	**70**	*e*P	**P**	**22 39 39.5**	**-0.4**
	comp=Z,9.1nm,1.0s						
AKASG	**Malin Array Be**	**37.71**	**70**	P	**P**	**22 39 39.2**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=306,slow=8.3,SNR=10						
AKBB	**Malin Array Si**	**37.71**	**70**	*e*P	**P**	**22 39 39.8**	**-0.1**
	comp=Z,10nm,1.0s						
YKA	**Yellowknife Ar**	**39.07**	**314**	P	**P**	**22 39 51.3**	**+0.1**
	comp=Z,3.8nm,1.1s,baz=62,slow=9.2,SNR=5.9						
YKB5	**Yellowknife Ar**	**39.07**	**314**	*e*P	**P**	**22 39 51.3**	**+0.1**
INK	**Inuvik**	**42.92**	**327**	*e*P	**P**	**22 40 22.8**	**0.0**
	comp=Z,4.1nm,1.1s						
INK	**Inuvik**	**42.92**	**327**	P	**P**	**22 40 22.8**	**0.0**
	comp=Z,2.3nm,1.0s,baz=34,slow=7.0,SNR=3.4						
RLMT	**Red Lodge**	**46.31**	**290**	*e*P	**P**	**22 40 50.9**	**+0.4**
	comp=Z,9.2nm,1.1s						
BR101	**Keskin Array S**	**46.98**	**80**	*e*P	**P**	**22 40 56.8**	**+1.1**
BR131	**Keskin Array S**	**46.98**	**80**	*e*P	**P**	**22 40 57.1**	**+1.5**
	comp=Z,6.6nm,0.8s						
BRTR	**Keskin Array B**	**46.98**	**80**	P	**P**	**22 40 56.8**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=314,slow=5.9,SNR=15						
BOZ	**Boeman (W)**	**47.26**	**292**	*e*P	**P**	**22 40 59.5**	**+1.7**
	comp=Z,12nm,1.1s						
PD31	**Pinedale Array**	**48.03**	**287**	*e*P	**P**	**22 41 04.7**	**+0.8**
	comp=Z,2.4nm,1.0s						
PDAR	**Pinedale Array**	**48.03**	**287**	P	**P**	**22 41 04.7**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=53,slow=7.8,SNR=7.1						
SCRK	**Sand Creek**	**48.96**	**326**	*e*P	**P**	**22 41 11.3**	**+0.7**
	comp=Z,3.4nm,0.9s						
IL1	**Eielson Array**	**49.28**	**328**	*e*P	**P**	**22 41 14.0**	**+1.0**
ILAR	**Eielson Array**	**49.28**	**328**	P	**P**	**22 41 14.1**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=26,slow=6.1,SNR=5.7						
ILB	**Eielson Array**	**49.28**	**328**	*e*P	**P**	**22 41 14.1**	**+1.1**
	comp=Z,1.7nm,0.8s						
IM3	**Indian Mountai**	**50.32**	**332**	*e*P	**P**	**22 41 21.9**	**+1.1**
BMO	**Blue Mountains**	**50.73**	**294**	*e*P	**P**	**22 41 24.2**	**-0.1**
	comp=Z,9.0nm,0.6s						
TOA1	**Torodi Ar. Sit**	**50.96**	**131**	*e*P	**P**	**22 41 25.8**	**-0.4**
TOA0	**Torodi Ar. Sit**	**50.97**	**131**	*e*P	**P**	**22 41 25.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**50.97**	**131**	P	**P**	**22 41 25.8**	**-0.5**
	comp=Z,4.0nm,0.9s,baz=338,slow=8.8,SNR=9.7						
AKTO	**Akbinsk**	**52.27**	**54**	P	**P**	**22 41 35.8**	**+0.1**
	baz=330,slow=8.8						
ELK	**Elko**	**52.50**	**289**	*e*P	**P**	**22 41 37.6**	**-0.1**
	comp=Z,2.2nm,0.9s						
TIXI	**Tiksi**	**52.67**	**6**	*e*P	**P**	**22 41 38.5**	**+0.2**
	comp=Z,6.7nm,0.9s						
GNI	**Garni**	**52.79**	**71**	*e*P	**P**	**22 41 39.1**	**-0.7**
	comp=Z,15nm,1.0s						
GNI	**Garni**	**52.79**	**71**	P	**P**	**22 41 40.6**	**+0.7**
	comp=Z,8.2nm,0.8s,baz=2.8,slow=6.0,SNR=7.4						
ABKAR	**Akbulak array**	**53.98**	**54**	*e*P	**P**	**22 41 47.3**	**-0.9**
	comp=Z,4.9nm,0.9s						
DBIC	**Dimbokro**	**54.32**	**142**	*e*P	**P**	**22 41 50.2**	**-0.8**
	comp=Z,4.4nm,0.8s						
DBIC	**Dimbokro**	**54.32**	**142**	P	**P**	**22 41 52.6**	**+1.6**
	comp=Z,5.8nm,1.0s,baz=360,slow=4.6,SNR=3.6						
TXAR	**Lajitas Array**	**54.37**	**271**	P	**P**	**22 41 52.7**	**+1.3**
	comp=Z,1.2nm,1.0s,baz=37,slow=6.1,SNR=3.3						
KVN	**Kaiserville**	**55.24**	**290**	*e*P	**P**	**22 41 57.3**	**-0.5**
	comp=Z,4.9nm,1.0s						
NV01	**Mina Array Sit**	**55.80**	**289**	*e*P	**P**	**22 42 00.8**	**-1.0**
NVAR	**Mina Array Bea**	**55.80**	**289**	P	**P**	**22 42 03.1**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=34,slow=5.7,SNR=2.4						
PFO	**Pinyon Flats O**	**58.36**	**284**	*e*P	**P**	**22 42 18.9**	**-1.0**
	comp=Z,3.3nm,0.8s						
ROSC	**El Rosal**	**59.42**	**227**	P	**P**	**22 42 28.9**	**+1.1**
	comp=Z,8.2nm,0.5s,baz=190,slow=23,SNR=4.0						
ZAA1	**Zalesovo Array**	**60.32**	**36**	*e*P	**P**	**22 42 32.2**	**-0.8**
ZALV	**Zalesovo Beam**	**60.33**	**36**	P	**P**	**22 42 32.2**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=318,slow=8.7,SNR=3.8						
GEYT	**Alibeck**	**61.47**	**64**	P	**P**	**22 42 40.1**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=287,slow=12,SNR=5.1						
MK31	**Makanchi Array**	**65.34**	**42**	*e*P	**P**	**22 43 06.1**	**-0.5**
	comp=Z,2.7nm,0.9s						
MK32	**Makanchi Array**	**65.34**	**42**	*e*P	**P**	**22 43 06.7**	**+0.1**
MKAR	**Makanchi Array**	**65.34**	**42**	P	**P**	**22 43 06.7**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=329,slow=5.5,SNR=13						
AAK	**Ala-Archa**	**65.56**	**50**	*e*P	**P**	**22 43 08.5**	**+0.2**
	comp=Z,4.1nm,0.9s						
ARSB	**Arslanbob**	**65.96**	**52**	*e*P	**P**	**22 43 10.2**	**-0.6**
	comp=Z,7.2nm,0.9s						
BTK	**Batken**	**65.99**	**54**	*e*P	**P**	**22 43 12.1**	**+1.1**
	comp=Z,7.4nm,0.8s						
WR1	**Warramunga Arr**	**143.65**	**17**	*e*PKPdf	**PKPdf**	**22 51 59.0**	**-0.4**
WRA	**Warramunga Arr**	**143.65**	**17**	PKP	**PKPdf**	**22 51 59.0**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=336,slow=2.6,SNR=6.3						
QSPA	**South Pole Qui**	**145.37**	**180**	PKPbc	**PKPbc**	**22 52 00.6**	**-0.4**
	comp=Z,8.8nm,1.1s,baz=176,slow=1.5,SNR=6.3						
ASAR	**Alice Springs**	**147.21**	**19**	PKPbc	**PKPbc**	**22 52 07.5**	**-0.3**
	comp=Z,4.2nm,0.9s,baz=347,slow=2.6,SNR=15						

*IDC **20** 22:34:40.9±1.0,58°.20N×31°.99W,h0km,mb3.9/12, mb1 4.1/13,mb1mx3.8/55,mbtmp3.9/13,ML3.1/1, Error ellipse: s-maj=26.9km s-min=17.1km az=18.0*

*ISCJB **20** 22:34:41.3±0.8,58°.2N±0°.1×32°.0W±0°.2,h14km,mb3.9/12, Error ellipse: s-maj=18.3km s-min=13.5km az=13.3*

ISC 20 22:34:42.8±0.9,58°.2N±0°.2×32°.0W±0°.1,h14km,n15, σ1§08/15,mb4.0/12,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**8.36**	**33**	Pn	**Pn**	**22 36 44.1**	**+0.7**
	0.2nm,0.3s,baz=330,slow=20,SNR=2.9						
NB2	**NORSAR Subarra**	**21.77**	**64**	P	**P**	**22 39 36.4**	**+2.6**
	comp=Z,2.2nm,0.8s,baz=282,slow=9.3						
NOA	**NORSAR Array B**	**21.77**	**64**	P	**P**	**22 39 34.7**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=282,slow=9.2,SNR=6.2						
HFS	**Hagfors**	**23.18**	**66**	P	**P**	**22 39 48.7**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=243,slow=6.5,SNR=4.4						
ESDC	**Sonseca Array**	**25.82**	**123**	P	**P**	**22 40 14.4**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=328,slow=8.9,SNR=4.6						
FINES	**FINESS Array B**	**28.58**	**59**	P	**P**	**22 40 37.2**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=291,slow=5.5,SNR=3.8						
KLMR	**Klimovskoe**	**34.77**	**55**	*e*	**P**	**22 41 32.1**	**-0.1**
KLMR				AMP		22 41 34.1	
	comp=Z,26nm,1.2s						
AKASG	**Malin Array Be**	**35.27**	**75**	P	**P**	**22 41 35.1**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=305,slow=8.8,SNR=6.9						
YKA	**Yellowknife Ar**	**38.48**	**312**	P	**P**	**22 42 03.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=63,slow=9.0,SNR=4.9						
BRTR	**Keskin Array B**	**44.91**	**84**	P	**P**	**22 42 57.2**	**+0.2**
	comp=Z,2.5nm,1.1s,baz=316,slow=6.8,SNR=4.7						
ILAR	**Eielson Array**	**47.89**	**328**	P	**P**	**22 43 20.7**	**+0.9**
	comp=Z,0.9nm,0.9s,baz=38,slow=5.5,SNR=4.9						
PDAR	**Pinedale Array**	**48.85**	**287**	P	**P**	**22 43 27.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=57,slow=11,SNR=4.1						
AKTO	**Aktyubinsk**	**49.34**	**57**	P	**P**	**22 43 30.4**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=323,slow=9.2,SNR=5.4						
TORD	**Torodi Ar. Bea**	**51.60**	**136**	P	**P**	**22 43 49.0**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=343,slow=9.5,SNR=10						
MKAR	**Makanchi Array**	**62.22**	**45**	P	**P**	**22 45 03.0**	**-0.6**
	comp=Z,1.0nm,0.9s,baz=317,slow=6.6,SNR=3.6						

*IDC **20** 22:41:30.6±1.1,38°.19N×22°.06E,h0km,mb3.7/7, mb1 3.8/11,mb1mx3.6/51,mbtmp3.7/11,ML3.4/4,MS3.6/2, Ms1 3.6/2,ms1mx2.9/51, Error ellipse: s-maj=19.0km s-min=17.3km az=64.0*

*ISCJB **20** 22:41:31.6±0.2,38°.33N±0°.01×22°.04E±0°.02,h9km±1km, mb3.7/6,MS4.1/1,Error ellipse: s-maj=2.1km s-min=2.0km az=144.5*

*THE **20** 22:41:31.7,38°.33N×22°.04E,h8km,ML3.3/13,Error ellipse: s-maj=0.3km s-min=0.2km az=246.0*

*ATH **20** 22:41:31.5,38°.33N×22°.05E,h12km±1km,ML3.4/23,Error ellipse: s-maj=1.0km s-min=0.5km az=300.0*

ISC 20 22:41:31.9±0.7,38°.32N±0°.01×22°.05E±0°.01,h8km±4km, n160,σ1§25/207,mb3.9/6,8C-5D,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**25**	P	**Pg**	**22 41 33.2**	**-0.4**
TRIZ	**Trizonia**	**0.05**	**25**	P	**Pg**	**22 41 33.3**	**-0.2**
TRIZ				S	**Sg**	**22 41 34.7**	**-0.1**
ALIK	**Aliki, Aigiali**	**0.08**	**141**	P	**Pg**	**22 41 33.9**	**-0.1**
ALIK				S	**Sg**	**22 41 35.6**	**+0.2**
SERG	**Sergoula**	**0.09**	**4**	P	**Pg**	**22 41 33.9**	**-0.3**
SERG				S	**Sg**	**22 41 35.3**	**-0.5**
SERG	**Sergoula**	**0.09**	**4**	P	**Pg**	**22 41 33.9**	**-0.3**
SERG				S	**Sg**	**22 41 35.5**	**-0.2**
SERG				AML	AML	22 41 36.4	
	comp=N,74782μm,0.3s						
SERG				AML	AML	22 41 38.2	
	comp=E,90916μm,0.3s						
KALE	**Kalithea**	**0.10**	**47**	P	**Pg**	**22 41 34.2**	**-0.1**
KALE				S	**Sg**	**22 41 36.0**	**0.0**
KALE	**Kalithea**	**0.10**	**47**	P	**Pg**	**22 41 34.3**	**0.0**
KALE				S	**Sg**	**22 41 36.7**	**+0.6**
KALE				AML	AML	22 41 36.8	
	comp=N,89455μm,0.3s						
KALE				AML	AML	22 41 37.0	
LAKA	**Lakka**	**0.10**	**213**	P	**Pg**	**22 41 34.0**	**-0.2**
LAKA				S	**Sg**	**22 41 35.7**	**-0.2**
LAKA	**Lakka**	**0.10**	**213**	P	**Pg**	**22 41 34.1**	**-0.2**
LAKA				S	**Sg**	**22 41 35.9**	**0.0**
LAKA				AML	AML	22 41 36.4	
	comp=E,54329μm,0.5s						
LAKA				AML	AML	22 41 37.0	
	comp=N,34661μm,0.4s						
EFP	**Efpalio**	**0.15**	**313**	P	**Pg**	**22 41 34.8**	**-0.3**
EFP				S	**Sg**	**22 41 37.1**	**-0.2**

TRIP					AML	AML	22 42 03.9	
	comp=E,4935µm,0.6s							
TRIP					AML	AML	22 42 04.5	
	comp=N,6571µm,0.6s							
LKR	**Lokris**	**0.81**	**66**	P	**Pg**		**22 41 46.8**	**-0.8**
LKR				S	**Sb**		**22 41 58.9**	**-0.6**
LKR	**Lokris**	**0.81**	**66**	P	**Pg**		**22 41 46.9**	**-0.8**
LKR				S	**Sg**		**22 41 58.2**	**0.0**
LKR				AML	AML		22 42 03.8	
	comp=N,4698µm,0.3s							
LKR				AML	AML		22 42 04.9	
	comp=E,4320µm,0.5s							
AMT	**Artemida-Makis**	**0.83**	**199**	P	**Pg**		**22 41 47.4**	**-0.5**
AMT	**Artemida-Makis**	**0.83**	**199**	P	**Pg**		**22 41 47.3**	**-0.7**
AMT				S	**Sb**		**22 41 59.1**	**-0.9**
AMT				AML	AML		22 42 05.9	
	comp=N,10030µm,0.6s							
AMT				AML	AML		22 42 13.1	
	comp=E,7218µm,0.6s							
ATAL	**Atalanti**	**0.85**	**64**	P	**Pg**		**22 41 47.5**	**-0.7**
ATAL				S	**Sb**		**22 42 00.1**	**-0.4**
ATAL	**Atalanti**	**0.85**	**64**	P	**Pg**		**22 41 47.7**	**-0.6**
ATAL				S	**Sb**		**22 42 00.5**	**+0.1**
ATAL				AML	AML		22 42 04.3	
	comp=E,2933µm,0.5s							
ATAL				AML	AML		22 42 05.2	
	comp=N,3758µm,0.4s							
VIL2	**Platees**	**0.97**	**96**	P	**Pn**		**22 41 51.1**	**-0.7**
VIL2				S	**Sn**		**22 42 04.4**	**-1.3**
VIL2				AML	AML		22 42 13.8	
	comp=N,3123µm,0.7s							
VIL2				AML	AML		22 42 14.7	
	comp=E,8166µm,0.8s							
VLX	**Vlachokerasia**	**0.99**	**164**	P	**Pg**		**22 41 49.8**	**-1.1**
VLX				S	**Sb**		**22 42 04.6**	**+0.1**
VLX				AML	AML		22 42 09.4	
	comp=N,9470µm,1.0s							
VLX				AML	AML		22 42 09.4	
	comp=E,8900µm,0.7s							
VILL	**Villia**	**1.01**	**99**	P	**Pg**		**22 41 50.9**	**-0.4**
MGNA	**Meganis**	**1.04**	**289**	P	**Pb**		**22 41 51.9**	**-0.3**
SMIA	**Simia**	**1.07**	**58**	P	**Pg**		**22 41 51.5**	**-0.9**
SMIA	**Simia**	**1.07**	**58**	P	**Pg**		**22 41 51.7**	**-0.7**
SMIA				S	**Sg**		**22 42 06.0**	**-0.3**
SMIA				AML	AML		22 42 10.7	
	comp=E,5143µm,0.6s							
SMIA				AML	AML		22 42 11.2	
	comp=N,4283µm,0.4s							
EPID	**Epidavros**	**1.10**	**130**	P	**Pg**		**22 41 52.2**	**-0.9**
MES3	**Kyparissia**	**1.11**	**196**	P	**Pg**		**22 41 52.7**	**-0.5**
EVGI	**Lefkada island**	**1.13**	**286**	P	**Pg**		**22 41 52.5**	**-1.1**
EVGI	**Lefkada island**	**1.13**	**286**	P	**Pg**		**22 41 52.6**	**-1.1**
ITM	**Ithomi**	**1.15**	**185**	P	**Pg**		**22 41 52.6**	**-1.3**
ITM				S	**Sb**		**22 42 09.1**	**0.0**
ITM				AML	AML		22 42 15.7	
	comp=N,2694µm,0.6s							
ITM				AML	AML		22 42 20.8	
	comp=E,2804µm,0.8s							
VLS	**Valsamata**	**1.16**	**263**	P	**Pg**		**22 41 52.6**	**-1.5**
VLS				S	**Sn**		**22 42 09.6**	**-0.9**
VLS				AML	AML		22 42 14.9	
	comp=N,2534µm,0.3s							
VLS				AML	AML		22 42 19.8	
	comp=E,1386µm,0.3s							
LKD2	**Lefkada island**	**1.19**	**294**	P	**Pg**		**22 41 53.6**	**-1.1**
LKD2	**Lefkada island**	**1.19**	**294**	P	**Pg**		**22 41 53.7**	**-0.9**
TSLK	**Tsoukalades, L**	**1.20**	**295**	P	**Pb**		**22 41 54.2**	**-0.7**
THL	**Klokotos Trika**	**1.24**	**359**	P	**Pn**		**22 41 54.3**	**-1.3**
THL				S	**Sn**		**22 42 11.9**	**-0.6**
THL	**Klokotos Trika**	**1.24**	**359**	P	**Pn**		**22 41 55.0**	**-0.6**
DID	**Didima**	**1.25**	**131**	P	**Pn**		**22 41 54.6**	**-1.1**
DID	**Didima**	**1.25**	**131**	P	**Pn**		**22 41 55.0**	**-0.7**
MRKA	**Markates**	**1.27**	**72**	P	**Pn**		**22 41 54.9**	**-1.1**
MRKA	**Markates**	**1.27**	**72**	P	**Pn**		**22 41 55.3**	**-0.6**
KRND	**KRANIDI**	**1.28**	**137**	P	**Pn**		**22 41 55.5**	**-0.6**
KRND	**KRANIDI**	**1.28**	**137**	P	**Pg**		**22 41 56.5**	**0.0**
FYTO	**Fytoko, Volos**	**1.29**	**32**	P	**Pn**		**22 41 55.2**	**-1.0**
FYTO	**Fytoko, Volos**	**1.29**	**32**	P	**Pb**		**22 41 56.0**	**-0.4**
NEO	**Neokhori**	**1.34**	**43**	P	**Pn**		**22 41 56.0**	**-1.0**
NEO	**Neokhori**	**1.34**	**43**	P	**Pn**		**22 41 56.5**	**-0.5**
ATH	**Athens Observa**	**1.36**	**104**	P	**Pn**		**22 41 56.5**	**-0.7**
ATH	**Athens Observa**	**1.36**	**104**	P	**Pb**		**22 41 57.2**	**-0.4**
XOR	**Xorichti**	**1.37**	**40**	P	**Pn**		**22 41 56.2**	**-1.2**
XOR	**Xorichti**	**1.37**	**40**	P	**Pn**		**22 41 57.2**	**-0.3**
LRSO	**Larissa Observ**	**1.37**	**11**	P	**Pn**		**22 41 57.0**	**-0.4**
SKIA	**Skiathos**	**1.39**	**52**	P	**Pn**		**22 41 57.4**	**-0.3**
ATHU	**Athens Univers**	**1.42**	**104**	P	**Pb**		**22 41 57.9**	**-0.7**
ATHU				S	**Sg**		**22 42 16.9**	**-0.5**
PYL	**PYLOS**	**1.45**	**190**	P	**Pn**		**22 41 57.6**	**-0.8**
PYL	**PYLOS**	**1.45**	**190**	P	**Pn**		**22 41 58.2**	**-0.2**
VLY	**Voula,Athens**	**1.46**	**108**	P	**Pn**		**22 41 57.7**	**-0.8**
VLY	**Voula,Athens**	**1.46**	**108**	P	**Pb**		**22 41 58.5**	**-0.7**
PTL	**Penteli**	**1.46**	**100**	P	**Pn**		**22 41 57.9**	**-0.7**
PTL	**Penteli**	**1.46**	**100**	P	**Pb**		**22 41 58.5**	**-0.8**
EREA	**Eretria**	**1.48**	**86**	P	**Pb**		**22 41 59.0**	**-0.8**
YDRA	**Hydra**	**1.48**	**130**	P	**Pn**		**22 41 58.7**	**-0.2**
MES2	**Methoni**	**1.52**	**190**	P	**Pn**		**22 41 59.3**	**-0.1**
JAN	**Janina**	**1.63**	**325**	P	**Pg**		**22 42 02.5**	**-0.6**
AOS	**Alonnisos**	**1.66**	**59**	P	**Pn**		**22 42 00.9**	**-0.5**
KPRO	**Kipourio**	**1.71**	**342**	P	**Pb**		**22 42 02.8**	**-1.0**
VLI	**Veliai**	**1.75**	**156**	P	**Pn**		**22 42 01.6**	**-1.0**
VLI	**Veliai**	**1.75**	**156**	P	**Pn**		**22 42 03.0**	**+0.4**
LIT	**Litokhoron**	**1.81**	**11**	P	**Pn**		**22 42 03.4**	**0.0**
KZN	**Kozani**	**1.99**	**354**	P	**Pb**		**22 42 07.0**	**-1.5**
PENT	**Pentalofos**	**2.00**	**340**	P	**Pb**		**22 42 08.0**	**-0.7**
PAIG	**Paliouri**	**2.04**	**38**	P	**Pn**		**22 42 05.9**	**-0.7**
KYTH	**Kithira**	**2.20**	**159**	P	**Pb**		**22 42 10.2**	**-1.9**
NEST	**Nestorio**	**2.23**	**340**	P	**Pb**		**22 42 11.5**	**-1.0**
KEK	**Kerkira**	**2.23**	**309**	P	**Pb**		**22 42 11.2**	**-1.4**
PLG	**Polygyros**	**2.32**	**27**	P	**Pn**		**22 42 09.8**	**-0.7**
THE	**Thessaloniki**	**2.41**	**17**	P	**Pn**		**22 42 11.3**	**-0.4**
OUR	**Ouranopolis**	**2.51**	**36**	P	**Pn**		**22 42 12.5**	**-0.5**
FNA	**Florina**	**2.51**	**348**	P	**Pn**		**22 42 14.1**	**+1.0**
SOH	**Sokhos**	**2.69**	**22**	P	**Pn**		**22 42 16.3**	**+0.7**
BIA	**Bitola**	**2.75**	**349**	*i* Pn	**Pg**		**22 42 23.9**	**-0.8**
KNT	**Kendrikon**	**2.91**	**13**	P	**Pn**		**22 42 19.1**	**+0.5**
OHR	**Ohrid**	**2.95**	**341**	*i* Pn	**Pg**		**22 42 26.2**	**-2.2**
OHR				*i* Sn	**Sb**		**22 43 01.4**	**+0.4**
VAY	**Valandovo**	**3.02**	**7**	*i* Pn	**Pn**		**22 42 20.7**	**+0.6**
VAY				*i* Sn	**Sn**		**22 42 57.3**	**+0.9**
APE	**Apeiranthos**	**3.03**	**113**	⇓*i* P	**Pn**		**22 42 20.8**	**+0.5**
APE	**Apeiranthos**	**3.03**	**113**	S	**Sb**		**22 42 35.7**	**+2.3**
SRS	**Serrai**	**3.03**	**23**	P	**Pn**		**22 42 20.3**	**+0.1**
KRUS	**Krusevo**	**3.10**	**349**	*i* Pn	**Pn**		**22 42 23.2**	**+1.9**
STIP	**Stip**	**3.37**	**2**	*i* Pn	**Pn**		**22 42 27.0**	**+2.1**
TIR	**Tirane**	**3.46**	**332**	S	**Sg**		**22 43 27.6**	**+4.7**
MMB	**Musomiste**	**3.51**	**21**	P	**Pn**		**22 42 26.5**	**-0.3**
KKB	**Krupnik**	**3.63**	**12**	P	**Pn**		**22 42 29.5**	**+1.1**
EZN	**Ezine**	**3.65**	**64**	⇑*i* P	**Pb**		**22 42 33.5**	**-3.2**
IDI	**Anoyia**	**3.79**	**142**	Pn	**Pn**		**22 42 30.9**	**+0.2**
	comp=E,1.3nm,0.3s,baz=287,slow=5.9,SNR=9.4							
IDI				Sn	**Sn**		**22 43 12.2**	**-3.4**
	comp=E,1.4nm,0.3s,baz=105,slow=19,SNR=3.1							
IDI				LR	LR		22 44 13.2	
	comp=E,238nm,20.0s,baz=246,slow=44							
RZN	**Rozhen**	**3.94**	**31**	P	**Pn**		**22 42 34.2**	**+1.4**
TIP	**Timpagrande**	**4.22**	**283**	⇑*i* P	**Pn**		**22 42 38.2**	**+1.6**
TIP	**Timpagrande**	**4.22**	**283**	S	**Sn**		**22 43 28.9**	**+2.7**
VTS	**Vitosha**	**4.36**	**11**	⇑*i* P	**Pn**		**22 42 40.8**	**+2.3**
VTS	**Vitosha**	**4.36**	**11**	S	**Sn**		**22 43 32.1**	**+2.6**
VTS	**Vitosha**	**4.36**	**11**	P	**Pn**		**22 42 39.2**	**+0.7**
FASA	**Fasano**	**4.40**	**306**	*e*Pn	**Pn**		**22 42 40.4**	**+1.4**
PDG	**Podgorica**	**4.62**	**333**	⇓*i* P	**Pn**		**22 42 43.0**	**+0.9**
PDG	**Podgorica**	**4.62**	**333**	S	**Sn**		**22 43 37.0**	**+1.1**
MATE	**Matera**	**4.74**	**301**	⇓*i* P	**Pn**		**22 42 46.2**	**+2.5**
SG1	**Sgolgore (BA)**	**4.85**	**303**	*e*Pn	**Pn**		**22 42 46.2**	**+1.0**
SG1				Sn	**Sn**		**22 43 38.6**	**-3.0**
BAI	**Bari**	**4.86**	**307**	*e*Pn	**Pn**		**22 42 46.5**	**+1.2**
STON	**Ston**	**5.62**	**325**	*e*Pn	**Pn**		**22 42 55.6**	**-0.1**
STON				Sn	**Sn**		**22 43 58.3**	**-2.1**
MDVR	**Moldovita**	**6.46**	**358**	⇑*i* P	**Pn**		**22 43 10.2**	**+2.9**
GZR	**Gura Zlata**	**7.09**	**4**	⇓*i* P	**Pn**		**22 43 17.2**	**+1.2**
ARR	**Arges**	**7.30**	**14**	⇑*i* P	**Pn**		**22 43 20.3**	**+1.4**
VOIR		**7.45**	**17**	⇑*i* P	**Pn**		**22 43 22.7**	**+1.7**
MLR	**Muntele Rosu**	**7.73**	**21**	⇑*i* P	**Pn**		**22 43 27.8**	**+3.0**
MLR	**Muntele Rosu**	**7.73**	**21**	Pn	**Pn**		**22 43 27.7**	**+2.8**
	comp=E,0.3nm,0.3s,baz=166,slow=4.8,SNR=6.2							
UDBI	**Udbina**	**7.79**	**325**	*e*Pn	**Pn**		**22 43 27.0**	**+1.4**
NVLJ	**Novalja**	**8.24**	**321**	*i* Pn	**Pn**		**22 43 31.8**	**+0.1**
NVLJ				Sn	**Sn**		**22 45 02.5**	**-2.4**
PLOR	**Plostina**	**8.26**	**23**	⇑*i* P	**Pn**		**22 43 35.3**	**+3.2**
VRI	**Vrincioaia**	**8.30**	**23**	⇓*i* P	**Pn**		**22 43 35.0**	**+2.4**
BRTR	**Keskin Array B**	**9.13**	**78**	Pn	**Pn**		**22 43 45.8**	**+1.7**
	comp=E,0.2nm,0.3s,baz=256,slow=13,SNR=9.0							
SOKA	**Soboth**	**9.82**	**330**	Pn	**Pn**		**22 43 56.6**	**+3.1**
	comp=E,0.9nm,0.5s							
SOKA				*e*Sn	**Sn**		**22 45 40.2**	**-3.7**
	comp=E,0.1nm,0.2s							
OBKA	**Obir**	**9.88**	**328**	*e*Sn	**Sn**		**22 45 45.1**	**-0.3**
	comp=E,4.9nm,0.6s							
VYHS	**Vyhne**	**10.43**	**348**	*e*PN	Pn		22 43 55.6	-6.1
ABTA	**Abfaltersbach**	**10.96**	**323**	Pn	**Pn**		**22 44 12.0**	**+2.9**
	comp=E,2.4nm,0.6s							
ABTA				*i* Sn	**Sn**		**22 46 09.2**	**-2.8**
	comp=E,3.1nm,0.8s							
SQTA	**Sankt Quirin**	**11.93**	**322**	*e*Pn	**Pn**		**22 44 25.6**	**+3.3**
	comp=E,1.7nm,0.5s							
MOTA	**Moosalm**	**12.06**	**322**	Pn	**Pn**		**22 44 26.5**	**+2.3**
	comp=E,1.4nm,0.6s							
MOTA				Sn	**Sn**		**22 46 40.2**	**+1.2**
	comp=E,0.1nm,0.3s							
GERES	**GERESS Array B**	**12.12**	**333**	Pn	**Pn**		**22 44 28.7**	**+3.8**
	comp=E,0.1nm,0.3s,baz=155,slow=12,SNR=2.6							
ESDC	**Sonseca Array**	**20.24**	**282**	P	**P**		**22 46 07.9**	**+0.3**
	comp=E,0.8nm,0.7s,baz=72,slow=11,SNR=6.3							
HFS	**Hagfors**	**22.47**	**349**	P	**P**		**22 46 31.4**	**+0.1**
	comp=E,2.0nm,0.7s,baz=134,slow=11,SNR=4.4							
FINES	**FINESS Array B**	**23.28**	**5**	P	**P**		**22 46 42.2**	**+2.4**
	comp=E,3.5nm,1.0s,baz=207,slow=12,SNR=3.0							
EKA	**Eskdalemuir Ar**	**24.02**	**323**	P	**P**		**22 46 47.0**	**-0.1**
	comp=E,2.7nm,0.7s,baz=121,slow=11,SNR=7.0							
TORD	**Torodi Ar. Bea**	**30.91**	**221**	P	**P**		**22 47 48.3**	**-1.0**
	comp=E,0.6nm,0.6s,baz=28,slow=9.6,SNR=8.5							
SPITS	**Spitsbergen Ar**	**40.03**	**358**	LR	LR		23 08 26.3	
	comp=E,295nm,22.0s,baz=20,slow=40							
MKAR	**Makanchi Array**	**44.20**	**59**	P	**P**		**22 49 40.8**	**-0.6**
	comp=E,1.0nm,0.5s,baz=274,slow=7.2,SNR=14							
ZALV	**Zalesovo Beam**	**44.70**	**48**	P	**P**		**22 49 46.4**	**+1.2**
	comp=E,1.0nm,0.6s,baz=266,slow=7.0,SNR=3.8							

IDC ***20*** *22:44:41.6±4.4, 31.36S×179.65W, h390km±40km, mb2.7/2, mb1 3.2/4, mb1mx2.9/36, mbtmp3.9/4, Error ellipse: s-maj=49.8km s-min=31.5km az=70.0*

ISC 20 22:44:40.4±1.6, 31.3S±0.1×179.2W±0.2, h400km, n59, σ1§20/64, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.36**	**29**	S	S	22 46 06.1	-20
MXZ	**Matakaoa Point**	**6.53**	**197**	P	**Pn**	**22 46 17.4**	**-1.2**
WMGZ	**Waiomatatini S**	**6.75**	**196**	P	**Pn**	**22 46 20.8**	**-0.3**
HAZ	**Te Kaha**	**6.86**	**200**	P	**Pn**	**22 46 22.3**	**0.0**
PKGZ	**Pakihiroa**	**6.90**	**198**	P	**Pn**	**22 46 22.7**	**-0.1**
PUZ	**Puketiti**	**7.03**	**196**	P	**Pn**	**22 46 22.7**	**-1.5**
WCZ	**Waipu Caves**	**7.05**	**228**	P	**P**	**22 46 25.3**	**+0.2**
RUGZ	**Raukumara Rang**	**7.08**	**200**	P	**Pn**	**22 46 23.9**	**-1.1**
WIAZ	**Waiheke Island**	**7.17**	**219**	P	**P**	**22 46 27.1**	**+0.7**
TWGZ	**Tauwhareparae**	**7.20**	**198**	P	**P**	**22 46 29.3**	**+2.6**
TWGZ				S	**S**	**22 47 54.0**	**+1.4**
OPRZ	**Ohinepanea**	**7.36**	**207**	P	**P**	**22 46 29.0**	**+0.5**
MKAZ	**Moumakai**	**7.39**	**217**	P	**P**	**22 46 30.0**	**+1.2**
TKGZ	**Te Karaka**	**7.48**	**198**	P	**P**	**22 46 30.1**	**+0.4**
TKGZ				S	**S**	**22 47 58.3**	**-0.1**
URZ	**Urewera**	**7.53**	**203**	P	**Pn**	**22 46 29.4**	**-0.4**
	9.7nm,0.3s,baz=275,slow=4.3,SNR=105						
URZ				S	**S**	**22 47 57.1**	**-2.4**
	2.8nm,0.3s,baz=268,slow=23,SNR=8.4						
URZ	**Urewera**	**7.53**	**203**	P	**Pn**	**22 46 28.5**	**-1.3**
URZ				S	**S**	**22 47 57.9**	**-1.5**
RAGZ	**Rawiri**	**7.65**	**200**	P	**P**	**22 46 32.1**	**+0.3**
TARZ	**Mount Tarawera**	**7.72**	**206**	P	**P**	**22 46 36.0**	**+3.4**
RIGZ	**Rimuhau**	**7.75**	**198**	P	**P**	**22 46 33.8**	**+1.0**
MUGZ	**Murupara**	**7.84**	**204**	P	**Pn**	**22 46 32.6**	**-0.8**
RTZ	**Ruatahuna**	**7.90**	**202**	P	**Pn**	**22 46 31.9**	**-2.2**
SNGZ	**Shannon Statio**	**7.94**	**200**	P	**Pn**	**22 46 33.9**	**-0.6**
KNZ	**Kokohu**	**8.07**	**197**	P	**P**	**22 46 36.6**	**+0.2**
MHGZ	**Mahia Peninsul**	**8.14**	**196**	P	**P**	**22 46 36.9**	**-0.2**
RAHZ	**Arahi**	**8.14**	**201**	P	**Pn**	**22 46 36.7**	**-0.1**
MTHZ	**Maungataniwha**	**8.16**	**202**	P	**P**	**22 46 38.3**	**+0.9**
TLZ	**Tolley Road**	**8.19**	**210**	P	**P**	**22 46 38.8**	**+1.0**
WHWZ	**Waihua**	**8.24**	**200**	P	**P**	**22 46 38.6**	**+0.3**
MRHZ	**Matea Rd**	**8.28**	**204**	P	**P**	**22 46 38.5**	**-0.3**
NMHZ	**Naumai**	**8.39**	**202**	P	**P**	**22 46 40.7**	**+0.7**
ARHZ	**Aropaoanui**	**8.48**	**200**	P	**P**	**22 46 41.2**	**+0.2**
BKZ	**Black Stump Fm**	**8.55**	**203**	P	**Pn**	**22 46 41.2**	**-0.4**
HIZ	**Hauiti**	**8.65**	**213**	P	**P**	**22 46 46.7**	**+3.9**
MCHZ	**McNeill Hill**	**8.74**	**201**	P	**P**	**22 46 44.5**	**+0.6**
CKHZ	**Cape Kidnapper**	**8.83**	**199**	P	**P**	**22 46 45.3**	**+0.5**
TUVZ	**Tukino**	**8.95**	**206**	P	**P**	**22 46 46.2**	**0.0**
FWVZ	**Far West T-bar**	**8.97**	**207**	P	**Pn**	**22 46 45.7**	**-0.9**
WHVZ	**Whangaehu Hut**	**8.98**	**207**	P	**Pn**	**22 46 46.3**	**-0.4**
BHHZ	**Black Hill Sta**	**8.99**	**204**	P	**Pn**	**22 46 45.6**	**-1.0**
KAHZ	**Kahuranaki**	**9.01**	**200**	P	**Pn**	**22 46 45.6**	**-1.3**
TRVZ	**Turoa**	**9.01**	**207**	P	**Pn**	**22 46 46.1**	**-0.9**
KRHZ	**Kereru**	**9.03**	**202**	P	**Pn**	**22 46 45.0**	**-2.0**
MOVZ	**Moawhango**	**9.03**	**206**	P	**Pn**	**22 46 46.6**	**-0.5**
MTVZ	**Mangateitei**	**9.12**	**207**	P	**Pn**	**22 46 49.1**	**+1.0**
PNHZ	**Pukenui**	**9.33**	**202**	P	**P**	**22 46 49.3**	**-1.1**
WPHZ	**Waipukurau**	**9.39**	**201**	P	**Pn**	**22 46 51.6**	**+0.5**
PRHZ	**Porangahau**	**9.52**	**200**	P	**P**	**22 46 51.2**	**-1.3**
DVHZ	**Dannevirke**	**9.69**	**201**	P	**P**	**22 46 53.5**	**-0.8**
ANWZ	**Angora Road**	**9.74**	**200**	P	**Pn**	**22 46 55.2**	**-0.1**
PRWZ	**Pori Road**	**9.98**	**202**	P	**Pn**	**22 46 58.9**	**+0.8**
PRWZ				P	**P**	**22 46 59.2**	**+1.6**
BFZ	**Birch Farm**	**10.01**	**200**	P	**P**	**22 46 57.0**	**-1.0**
TIWZ	**Tintock**	**10.21**	**201**	P	**P**	**22 46 60.0**	**-0.2**
CPWZ	**Castlepoint**	**10.24**	**200**	P	**Pn**	**22 47 02.1**	**+1.2**
MTW	**Mount Morrison**	**10.68**	**202**	P	**Pn**	**22 47 05.9**	**-0.2**
TRWZ	**Traveller**	**10.84**	**201**	P	**Pn**	**22 47 08.9**	**+1.0**
MSWZ	**Moikau Station**	**10.99**	**202**	P	**Pn**	**22 47 09.2**	**-0.5**
RPZ	**Rata Peaks**	**14.55**	**209**	P	**P**	**22 47 47.9**	**+0.2**
	0.2nm,0.3s,baz=9.5,slow=6.1,SNR=2.3						
RPZ				S	**S**	**22 50 23.6**	**+0.7**
	0.4nm,0.3s,baz=96,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**43.09**	**274**	P	**P**	**22 52 02.1**	**-1.2**
	0.6nm,1.0s,baz=109,slow=7.8,SNR=4.8						
VNDA	**Vanda**	**47.06**	**186**	P	**P**	**22 52 34.3**	**+1.1**
	0.5nm,0.5s,baz=5.0,slow=6.6,SNR=5.4						
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc	**PKPab**	**23 03 33.7**	**+0.3**
	2.7nm,0.9s,baz=40,slow=3.5,SNR=9.9						

IDC 20 23:00:11.6±3.4, 6.67S×148.52E, h0km, mb3.4/2, mb1 3.4/4, mb1mx3.3/50, mbtmp3.3/4, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.6/15, Error ellipse: s-maj=89.3km s-min=35.1km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**206**	Pn	Pn	23 01 02.5	+1.6
	1.9nm,0.3s,baz=328,slow=9.5,SNR=2.7						
PMG				Sn	Sn	23 01 40.0	+2.0
	3.8nm,0.3s,baz=19,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**19.07**	**225**	P	P	23 04 36.1	+0.3
	0.1nm,0.3s,baz=52,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**21.98**	**218**	P	P	23 05 06.8	-0.5
	0.4nm,0.6s,baz=54,slow=9.8,SNR=4.9						
DZM	**Mont Dzumac**	**23.11**	**133**	LR	LR	23 11 47.5	
	comp=Z,137nm,18.4s,baz=182,slow=30						
FITZ	**Fitzroy Crossi**	**25.03**	**241**	P	P	23 05 37.2	-0.4
	0.9nm,0.4s,baz=65,slow=7.6,SNR=7.0						
TORD	**Torodi Ar. Bea**	**146.71**	**284**	PKPbc	PKPdf	23 19 55.7	+0.8
	0.2nm,0.4s,baz=95,slow=1.9,SNR=4.2						

IDC ***20*** *23:02:01.6±0.6, 14.28N×93.21E, h0km, mb3.9/17, mb1 4.1/20, mb1mx3.9/62, mbtmp4.0/20, ML4.4/3, MS3.4/4, Ms1 3.5/4, ms1mx3.1/39, Error ellipse: s-maj=22.4km s-min=12.1km az=54.0*

BJI ***20*** *23:02:03.0, 14.37N×93.16E, h11km, mb4.3/14, mB4.5/11, Ms4.4/6, Ms7 4.2/4*

DJA ***20*** *23:02:03.1±2.2, 15.1N±7.9×93.2E±2.2, h72km±14km, M4.3/7, mb4.5/7, mB4.8/7, MLv4.5/3, Mw(mB)4.0/7*

ISCJB ***20*** *23:02:04.1±0.2, 14.43N±0.03×93.02E±0.03, h33km, mb4.0/29, MS4.3/1, Error ellipse: s-maj=4.4km s-min=3.5km az=151.9*

NEIC ***20*** *23:02:06.0±2.8, 14.37N×93.12E, h32km±6km, mb4.3/15, Error ellipse: s-maj=19.5km s-min=12.8km az=59.0*

NDI ***20*** *23:02:06.5±3.2, 14.42N×93.02E, h28km±27km, mb4.4, ML4.4, mb4.3(NEIC)*

ISC 20 23:02:06.2±0.4, 14.38N±0.04×93.09E±0.05, h35km, n99, σ2§30/99, mb4.1/30, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGPR	**DIGLIPUR**	**1.20**	**188**	*e*P	**Pn**	**23 02 28.2**	**+1.7**
DGPR				*e*S	**Sn**	**23 02 43.7**	**+2.1**
DGPR				IAML		23 02 44.4	
	comp=N,6µm,0.7s						
DGPR				IAML		23 02 45.5	
	comp=E,10µm,0.1s						
PBA	**Port Blair**	**2.72**	**187**	*e*P	Pn	23 02 48.2	+0.7
PBA				*e*S	Sn	23 03 20.3	+1.0
PBA				IAML		23 03 23.2	
	comp=E,2µm,0.6s						
UMPA	**Umpang Tak**	**5.86**	**71**	P	**Pn**	**23 03 32.2**	**+1.6**
	comp=E,51nm,0.5s,comp=E,0.2nm						
UTHA	**Uthaitani**	**6.25**	**78**	P	**Pn**	**23 03 38.7**	**+2.7**
	comp=E,12nm,0.6s,comp=E,212nmcomp=E,0.1nm						
PHET	**Kaeng Krachan**	**6.52**	**102**	P	**Pn**	**23 03 44.1**	**+4.4**
CM01	**Chiang Mai Arr**	**6.92**	**54**	*e*Pn	**Pn**	**23 03 45.9**	**+0.7**
CM01				*e*Sn	**Sn**	**23 04 59.4**	**-3.3**
CM31	**Chiang Mai Arr**	**6.93**	**53**	*e*Pn	**Pn**	**23 03 46.0**	**+0.6**
CM31				*e*Sn	**Sn**	**23 04 59.0**	**-3.9**
CMAR	**Chiang Mai Arr**	**6.93**	**53**	Pn	**Pn**	**23 03 45.9**	**+0.6**
	comp=E,2.9nm,0.3s,baz=242,slow=16,SNR=55						
CMAR				Sn	**Sn**	**23 05 03.0**	**0.0**
	comp=E,2.9nm,0.3s,baz=185,slow=33,SNR=4.9						
CMAR				LR	LR	23 06 56.4	
	comp=E,121nm,21.0s,baz=219,slow=43						
SUKH	**Sukhothai**	**7.01**	**63**	P	**Pn**	**23 03 48.5**	**+2.1**
	comp=E,12nm,0.7s,comp=E,0.1nm						
CHTO	**Chiang Mai**	**7.14**	**51**	*e*Pn	**Pn**	**23 03 48.7**	**+0.5**
CHTO				*e*Sn	**Sn**	**23 05 05.6**	**-2.6**
CHTO	**Chiang Mai**	**7.14**	**51**	P	**Pn**	**23 03 49.6**	**+1.4**
	comp=E,104nm,0.5s,comp=E,2µmcomp=E,0.6nm						
CMMT	**Chiang Mai**	**7.14**	**51**	P	**Pn**	**23 03 49.5**	**+1.2**
	comp=E,26nm,0.5s,comp=E,676nmcomp=E,0.1nm						
CMBY	**CAMPBELL BAY**	**7.36**	**174**	*e*P	**Pn**	**23 03 52.2**	**+0.9**
CMBY				*e*S	**Sn**	**23 05 09.3**	**-4.4**
CMBY				IAML		23 05 16.0	
	comp=E,449nm,0.6s						
CMBY				IAML		23 05 17.3	
	comp=N,608n

SONA0	**Songino Array**	**35.14**	**16**	*e*P		**P**	**23 08 57.5**	**+0.8**
SONM	**Songino Array**	**35.14**	**16**	P		**P**	**23 08 57.5**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=195,slow=11,SNR=4.3							
KURBB	**Kurchatov Arra**	**38.03**	**345**	P		**P**	**23 09 22.7**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=164,slow=8.0,SNR=6.3							
KSRS	**Korea Array**	**38.52**	**47**	P		**P**	**23 09 24.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=241,slow=8.9,SNR=7.2							
GEYT	**Allbeck**	**38.84**	**314**	P		**P**	**23 09 29.1**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=140,slow=9.2,SNR=2.2							
ZALV	**Zalesovo Beam**	**40.02**	**352**	P		**P**	**23 09 38.5**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=187,slow=8.6,SNR=6.4							
ZAA1	**Zalesovo Array**	**40.02**	**352**	*e*P		**P**	**23 09 38.5**	**+0.8**
BVAR	**Borovoye Array**	**42.55**	**340**	P		**P**	**23 10 00.8**	**+2.3**
	comp=Z,0.1nm,0.4s,baz=151,slow=9.1,SNR=2.1							
ABKAR	**Akbulak array**	**44.11**	**329**	*e*P		**P**	**23 10 11.3**	**+0.2**
	comp=Z,2.1nm,0.9s							
FITZ	**Fitzroy Crossi**	**45.51**	**134**	*e*P		**P**	**23 10 22.0**	**-0.6**
	comp=Z,5.0nm,0.8s							
FITZ	**Fitzroy Crossi**	**45.51**	**134**	P		**P**	**23 10 21.7**	**-0.9**
	comp=Z,4.3nm,0.7s,baz=322,slow=6.2,SNR=11							
AKTO	**Aktyubinsk**	**45.83**	**329**	P		**P**	**23 10 26.7**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=122,slow=9.0,SNR=3.9							
WRA	**Warramunga Arr**	**53.00**	**129**	P		**P**	**23 11 19.4**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=314,slow=8.2,SNR=64							
WRA				PcP		**PcP**	**23 12 27.8**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=319,slow=3.1,SNR=4.8							
WR1	**Warramunga Arr**	**53.00**	**129**	*e*P		**P**	**23 11 19.4**	**-0.5**
	comp=Z,3.0nm,0.6s							
WR1				*e*PcP		**PcP**	**23 12 27.8**	**-0.6**
AS31	**Alice Springs**	**54.97**	**133**	*e*P		**P**	**23 11 32.4**	**-1.8**
	comp=Z,1.0nm,0.9s							
ASAR	**Alice Springs**	**54.97**	**133**	P		**P**	**23 11 33.9**	**-0.4**
	comp=Z,2.3nm,0.6s,baz=309,slow=6.8,SNR=26							
BR101	**Keskin Array S**	**57.53**	**308**	*e*P		**P**	**23 11 52.2**	**-0.3**
BRTR	**Keskin Array B**	**57.53**	**308**	P		**P**	**23 11 52.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=111,slow=9.4,SNR=3.5							
SEY	**Seymchan**	**63.53**	**26**	LR		LR	23 41 52.1	
	comp=Z,196nm,18.1s,baz=43,slow=38							
STKA	**Stephens Creek**	**65.38**	**135**	*e*P		**P**	**23 12 45.3**	**-0.1**
	comp=Z,1.4nm,1.1s							
STKA	**Stephens Creek**	**65.38**	**135**	P		**P**	**23 12 45.3**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=311,slow=6.0,SNR=7.6							
FIA0	**FINESS Array S**	**66.53**	**331**	*e*P		**P**	**23 12 54.5**	**+2.2**
FINES	**FINESS Array B**	**66.53**	**331**	P		**P**	**23 12 54.5**	**+2.2**
	comp=Z,0.7nm,0.6s,baz=99,slow=8.6,SNR=2.8							
GERES	**GERESS Array B**	**72.36**	**317**	P		**P**	**23 13 31.5**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=145,slow=3.6,SNR=2.8							
HFS	**Hagfors**	**72.37**	**329**	P		**P**	**23 13 31.2**	**+2.8**
	comp=Z,2.6nm,0.9s,baz=58,slow=11,SNR=2.0							
ILAR	**Eielson Array**	**89.14**	**22**	P		**P**	**23 14 57.5**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=310,slow=5.8,SNR=4.2							

*ISCJB **20** 23:04:15.2±1.1,55.4N±0.2×35.2W±0.2,h10km,mb3.6/9, MS4.1/1,Error ellipse: s-maj=32.4km s-min=16.3km az=15.2*

*IDC **20** 23:04:15.5±1.3,55.34N×35.25W,h0km,mb3.6/9, mb1 3.7/9,mb1mx3.5/47,mbtmp3.6/9,MS3.5/2,Ms1 3.5/2, ms1mx2.9/40,Error ellipse: s-maj=41.2km s-min=19.5km az=13.0*

ISC 20 23:04:16.9±1.1,55.3N±0.2×35.3W±0.1,h10km,n12, σ0.879/10,mb3.5/9,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.69**	**31**	LR	LR	23 09 47.2	
	comp=Z,79nm,21.2s,baz=172,slow=28						
AKASG	**Malin Array Be**	**37.82**	**69**	P	**P**	**23 11 31.8**	**-1.3**
	0.3nm,0.4s,baz=300,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	**39.11**	**314**	P	**P**	**23 11 43.9**	**+0.1**
	0.5nm,0.7s,baz=62,slow=9.0,SNR=5.3						
BRTR	**Keskin Array B**	**47.07**	**79**	P	**P**	**23 12 49.4**	**+0.7**
	1.0nm,0.7s,baz=316,slow=4.4,SNR=8.3						
PDAR	**Pinedale Array**	**48.00**	**287**	P	**P**	**23 12 55.3**	**-0.7**
	0.2nm,0.8s,baz=76,slow=7.7,SNR=2.5						
ILAR	**Eielson Array**	**49.36**	**328**	P	**P**	**23 13 06.7**	**+0.8**
	0.4nm,0.7s,baz=37,slow=5.7,SNR=6.8						
TORD	**Torodi Ar. Bea**	**50.93**	**131**	P	**P**	**23 13 18.8**	**+0.4**
	0.5nm,0.7s,baz=330,slow=7.8,SNR=3.5						
AKTO	**Aktyubinsk**	**52.40**	**54**	P	**P**	**23 13 28.7**	**-0.3**
	0.6nm,0.7s,baz=300,slow=5.8,SNR=3.8						
BVAR	**Borovoye Array**	**55.87**	**45**	P	**P**	**23 13 54.2**	**0.0**
	0.7nm,0.7s,baz=316,slow=8.3,SNR=4.7						
MA2	**Magadan**	**65.33**	**357**	LR	LR	23 42 44.1	
	comp=Z,108nm,19.2s,baz=296,slow=35						
MKAR	**Makanchi Array**	**65.49**	**42**	P	**P**	**23 15 00.6**	**+0.7**
	0.4nm,0.8s,baz=326,slow=5.0,SNR=3.8						
ASAR	**Alice Springs**	**147.36**	**19**	PKPbc	**PKPbc**	**23 24 00.1**	**-0.5**
	0.4nm,0.5s,baz=352,slow=1.6,SNR=4.1						

*ISCJB **20** 23:08:25.9±0.9,55.3N±0.2×35.1W±0.2,h14km,mb3.7/8, Error ellipse: s-maj=33.4km s-min=13.2km az=10.1*

*IDC **20** 23:08:25.6±1.1,55.34N×35.11W,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.6/41,mbtmp3.7/9,ML2.7/1,Error ellipse: s-maj=42.2km s-min=17.8km az=13.0*

ISC 20 23:08:27.6±1.0,55.3N±0.3×35.1W±0.1,h14km,n10, σ0.848/10,mb3.7/8,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.08**	**282**	P	**P**	**23 12 38.9**	**+0.4**
	0.3nm,0.3s,baz=38,slow=9.2,SNR=4.0						
ULM	**Lac du Bonnet**	**36.06**	**288**	P	**P**	**23 15 28.2**	**-0.1**
	1.2nm,0.6s,baz=63,slow=4.5,SNR=3.0						
AKASG	**Malin Array Be**	**37.75**	**69**	P	**P**	**23 15 41.9**	**-0.7**
	0.2nm,0.2s,baz=308,slow=8.5,SNR=3.3						
YKA	**Yellowknife Ar**	**39.17**	**314**	P	**P**	**23 15 54.4**	**0.0**
	0.8nm,0.7s,baz=62,slow=9.0,SNR=7.4						
BRTR	**Keskin Array B**	**46.99**	**79**	P	**P**	**23 16 59.0**	**+0.8**
	0.6nm,0.7s,baz=286,slow=7.3,SNR=3.9						
PDAR	**Pinedale Array**	**48.08**	**288**	P	**P**	**23 17 06.3**	**-0.4**
	0.2nm,0.3s,baz=68,slow=9.8,SNR=3.4						
ILAR	**Eielson Array**	**49.41**	**328**	P	**P**	**23 17 16.4**	**+0.1**
	0.9nm,1.0s,baz=47,slow=5.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**50.87**	**131**	P	**P**	**23 17 27.8**	**-0.1**
	0.7nm,0.8s,baz=338,slow=8.8,SNR=4.3						
MKAR	**Makanchi Array**	**65.44**	**42**	P	**P**	**23 19 09.8**	**+0.2**
	0.7nm,0.9s,baz=326,slow=5.2,SNR=4.4						
ASAR	**Alice Springs**	**147.34**	**19**	PKPbc	**PKPbc**	**23 28 10.2**	**-0.3**
	0.6nm,0.6s,baz=359,slow=2.5,SNR=5.8						

*ISCJB **20** 23:12:30.9±0.9,55.4N±0.2×35.0W±0.2,h14km,mb3.6/8, MS3.8/1,Error ellipse: s-maj=33.0km s-min=13.1km az=10.1*

*IDC **20** 23:12:30.6±1.1,55.39N×35.02W,h0km,mb3.6/8, mb1 3.8/9,mb1mx3.6/40,mbtmp3.7/9,ML2.8/1,MS3.5/2, Ms1 3.6/2,ms1mx2.9/48,Error ellipse: s-maj=40.6km s-min=17.3km az=12.0*

ISC 20 23:12:32.6±1.0,55.4N±0.3×35.0W±0.1,h14km,n12, σ0.856/10,mb3.6/8,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.60**	**30**	LR	LR	23 18 31.8	
	comp=Z,137nm,21.1s,baz=287,slow=31						
SCHQ	**Schefferville**	**18.13**	**281**	P	**P**	**23 16 44.4**	**+0.3**
	0.3nm,0.3s,baz=54,slow=7.5,SNR=4.0						
ULM	**Lac du Bonnet**	**36.09**	**288**	P	**P**	**23 19 33.6**	**0.0**
	1.7nm,0.8s,baz=94,slow=10,SNR=3.7						
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**23 19 46.9**	**-0.2**
	0.2nm,0.3s,baz=311,slow=8.4,SNR=3.4						
YKA	**Yellowknife Ar**	**39.18**	**314**	P	**P**	**23 19 59.4**	**-0.2**
	0.8nm,0.8s,baz=60,slow=9.0,SNR=6.9						
BRTR	**Keskin Array B**	**46.94**	**80**	P	**P**	**23 21 04.0**	**+1.2**
	1.0nm,0.8s,baz=322,slow=5.7,SNR=7.0						
PDAR	**Pinedale Array**	**48.12**	**288**	P	**P**	**23 21 12.1**	**+0.1**
	0.4nm,0.7s,baz=86,slow=3.0,SNR=3.0						
ILAR	**Eielson Array**	**49.40**	**328**	P	**P**	**23 21 21.4**	**0.0**
	0.5nm,0.8s,baz=46,slow=5.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**50.85**	**131**	P	**P**	**23 21 32.4**	**-0.4**
	0.7nm,0.8s,baz=341,slow=10.0,SNR=4.9						
NVAR	**Mina Array Bea**	**55.89**	**290**	LR	LR	23 44 54.9	
	comp=Z,83nm,18.8s,baz=306,slow=35						
MKAR	**Makanchi Array**	**65.39**	**42**	P	**P**	**23 23 13.7**	**-0.6**
	0.8nm,0.9s,baz=352,slow=7.4,SNR=7.2						
ASAR	**Alice Springs**	**147.29**	**19**	PKPbc	**PKPbc**	**23 32 15.2**	**-0.2**
	0.5nm,0.5s,baz=342,slow=1.6,SNR=4.9						

IDC 20 23:47:10.9±1.9,0.13N×125.57E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/38,mbtmp3.3/3,Error ellipse: s-maj=182.7km s-min=25.1km az=64.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**157**	P	P	23 52 03.0	-1.0
	0.3nm,0.3s,baz=335,slow=11,SNR=20						
ASAR	**Alice Springs**	**25.00**	**162**	P	P	23 52 37.6	+0.9
	0.3nm,0.4s,baz=343,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**59.88**	**327**	P	P	23 57 18.5	-0.1
	0.1nm,0.4s,baz=122,slow=7.0,SNR=3.1						

ISC 20 23:48:46.0±1.6,48.09N±0.07×20.86E±0.05,h11km±11km, n5,σ1.556/10,1C,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.67**	**256**	*e*Pg	**Pg**	**23 48 59.0**	**+0.1**
PSZ				*e*Sg	**Sg**	**23 49 08.1**	**+0.3**
LTVH	**Ltavrtes, Hu**	**1.00**	**135**	*e*Pg	**Pg**	**23 49 04.1**	**-1.1**
LTVH				Sb	**Sn**	**23 49 21.1**	**+1.1**
LANS	**Liptovska Anna**	**1.41**	**320**	*e*PG	**Pb**	**23 49 11.9**	**-0.4**
LANS				*e*SG	**Sn**	**23 49 29.5**	**-0.7**
VYHS	**Vyhne**	**1.41**	**287**	*e*PG	**Pg**	**23 49 12.9**	**-0.1**
VYHS				*e*SG	**Sn**	**23 49 29.3**	**-0.9**
VYHS				*e*LG	Lg	23 49 32.2	
MORH	**Mrgy, Hungar**	**2.41**	**220**	*e*Pn	**Pn**	**23 49 27.0**	**+1.7**
MORH				Sn	**Sn**	**23 49 52.0**	**-2.7**

*IDC **20** 23:49:38.9±2.1,7.66S×119.09E,h0km,mb3.7/2, mb1 3.9/4,mb1mx3.6/38,mbtmp3.7/4,ML3.4/2,Error ellipse: s-maj=183.4km s-min=24.6km az=54.0*

*DJA **20** 23:49:41.4±0.3,8°S±2"×11°9E±°,h10km,M3.8/10, MLv3.8/10*

*ISCJB **20** 23:49:42.5±0.6,7.84S±0.04×119.01E±0.05,h33km, mb3.8/2,Error ellipse: s-maj=6.7km s-min=5.5km az=28.7*

ISC 20 23:49:43.7±0.9,7.84S±0.05×119.00E±0.05,h35km,n12, σ1.912/18,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.56**	**231**	P	**Pn**	**23 50 09.3**	**+0.3**
PLAI				S	**Sn**	**23 50 28.5**	**+0.5**
BSSI	**Bau Bau, Buton**	**2.24**	**41**	P	**Pn**	**23 50 18.1**	**-0.3**
BSSI				S	**Sn**	**23 50 44.9**	**+0.1**
BKSI	**Bulukumba**	**2.74**	**24**	P	**Pn**	**23 50 24.8**	**-0.4**
BKSI				S	**Sn**	**23 50 57.9**	**+0.8**
EDFI	**Ende, Flores**	**2.81**	**109**	P	**Pn**	**23 50 27.2**	**+0.9**
EDFI				S	**Sn**	**23 51 00.1**	**+1.1**
MMRI	**Maumere**	**3.30**	**104**	P	**Pn**	**23 50 33.8**	**+0.9**
MMRI				S	**Sn**	**23 51 11.0**	**0.0**
BNSI	**Bone**	**3.59**	**18**	P	**Pn**	**23 50 37.1**	**+0.2**
SPSI	**Sidrap Palu**	**3.92**	**11**	P	**Pn**	**23 50 41.3**	**-0.2**
TTSI	**Tana Toraja**	**4.83**	**10**	P	**Pn**	**23 50 54.9**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.07**	**148**	Pn	**Pn**	**23 52 33.8**	**+0.5**
	0.1nm,0.3s,baz=348,slow=15,SNR=3.9						
FITZ				Sn	**Sn**	**23 54 43.3**	**-3.5**
	0.2nm,0.3s,baz=135,slow=10,SNR=5.5						
WRA	**Warramunga Arr**	**19.12**	**131**	P	**P**	**23 54 03.7**	**-0.2**
	0.3nm,0.3s,baz=305,slow=13,SNR=18						
ASAR	**Alice Springs**	**21.26**	**139**	P	**P**	**23 54 28.2**	**+1.1**
	5.3nm,0.7s,baz=316,slow=9.3,SNR=26						
MKAR	**Makanchi Array**	**63.43**	**333**	P	**P**	**00 00 09.7**	**-0.3**
	0.4nm,0.7s,baz=140,slow=7.9,SNR=5.3						

IDC 21 00:21:21.3±1.2,36.29S×79.77E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/32,mbtmp3.7/4,MS3.6/6,Ms1 3.6/6, ms1mx3.2/29,Error ellipse: s-maj=54.3km s-min=32.4km az=68.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**27.89**	**97**	T	T	00 56 48.8	
	baz=257,slow=74,SNR=86						
H01W3	**Cape Leeuwin H**	**27.90**	**97**	T	T	00 56 53.7	
	baz=257,slow=74,SNR=83						
H01W1	**Cape Leeuwin H**	**27.91**	**97**	T	T	00 56 54.6	
	baz=257,slow=74,SNR=83						
H08S2	**Diego Garcia H**	**29.28**	**345**	T	T	00 58 04.8	
	baz=169,slow=76,SNR=170						
H08S1	**Diego Garcia H**	**29.28**	**345**	T	T	00 58 05.1	
	baz=169,slow=76,SNR=175						
H08S3	**Diego Garcia H**	**29.30**	**345**	T	T	00 58 06.3	
	baz=169,slow=76,SNR=266						
MAW	**Mawson**	**32.80**	**192**	LR	LR	00 38 25.6	
	comp=Z,179nm,18.3s,baz=29,slow=31						
ASAR	**Alice Springs**	**47.99**	**90**	LR	LR	00 47 51.9	
	comp=Z,41nm,20.6s,baz=237,slow=33						
WRA	**Warramunga Arr**	**50.17**	**86**	P	P	00 30 19.0	0.0
	0.5nm,0.7s,baz=237,slow=7.9,SNR=4.5						
WRA				LR	LR	00 49 33.9	
	comp=Z,62nm,19.8s,baz=230,slow=34						
STKA	**Stephens Creek**	**50.63**	**104**	LR	LR	00 49 54.3	
	comp=Z,33nm,18.3s,baz=204,slow=34						
VNDA	**Vanda**	**53.17**	**164**	P	P	00 30 40.4	-0.2
	0.7nm,0.9s,baz=276,slow=4.6,SNR=2.8						
CMAR	**Chiang Mai Arr**	**57.39**	**22**	LR	LR	00 51 41.4	
	comp=Z,39nm,21.5s,baz=200,slow=32						
BRDH	**Bariadhala**	**59.71**	**13**	LR	LR	00 56 13.6	
	comp=Z,48nm,18.3s,baz=154,slow=35						
MKAR	**Makanchi Array**	**82.74**	**2**	P	P	00 33 46.0	-0.7
	0.8nm,0.9s,baz=183,slow=5.3,SNR=5.8						
BRTR	**Keskin Array B**	**86.75**	**326**	P	P	00 34 07.2	0.0
	0.6nm,1.0s,baz=113,slow=3.1,SNR=3.6						
YKA	**Yellowknife Ar**	**152.29**	**14**	PKPbc	PKiKP	00 41 18.9	+0.5
	0.4nm,0.9s,baz=316,slow=3.5,SNR=4.3						

*ISCJB **21** 00:40:51.2±0.9,59.6N±0.2×31.3W±0.2,h10km,mb3.5/7, MS3.2/5,Error ellipse: s-maj=22.5km s-min=15.6km az=9.5*

*IDC **21** 00:40:51.4±1.3,59.50N×31.43W,h0km,mb3.5/7, mb1 3.8/8,mb1mx3.5/44,mbtmp3.6/8,ML3.1/1,MS3.3/6, Ms1 3.3/6,ms1mx3.0/32,Error ellipse: s-maj=37.9km s-min=20.9km az=18.0*

ISC 21 00:40:53.0±1.0,59.6N±0.2×31.4W±0.1,h10km,n14, σ0.879/8,mb3.5/7,MS3.0/5,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**7.00**	**38**	Pn	**Pn**	**00 42 34.5**	**-0.9**
	0.3nm,0.3s,baz=11,slow=7.8,SNR=3.5						
SFJD	**Kangerlussuaq**	**11.38**	**319**	LR	LR	00 47 39.4	
	comp=Z,233nm,18.1s,baz=140,slow=36						
NOA	**NORSAR Array B**	**20.88**	**68**	LR	LR	00 53 52.9	
	comp=Z,40nm,18.4s,baz=280,slow=37						
HFS	**Hagfors**	**22.31**	**69**	LR	LR	00 54 02.4	
	comp=Z,40nm,19.1s,baz=277,slow=35						
RES	**Resolute Bay**	**27.12**	**329**	LR	LR	00 57 04.4	
	comp=Z,41nm,18.2s,baz=192,slow=36						
GERES	**GERESS Array B**	**27.91**	**92**	LR	LR	00 57 15.9	
	comp=Z,66nm,19.1s,baz=298,slow=35						
AKASG	**Malin Array Be**	**34.59**	**77**	P	**P**	**00 47 41.6**	**0.0**
	0.2nm,0.3s,baz=303,slow=8.4,SNR=3.1						
YKA	**Yellowknife Ar**	**37.80**	**311**	P	**P**	**00 48 08.9**	**+0.1**
	0.5nm,0.8s,baz=61,slow=8.3,SNR=6.3						
BRTR	**Keskin Array B**	**44.46**	**86**	P	**P**	**00 49 04.0**	**0.0**
	0.5nm,0.7s,baz=302,slow=9.9,SNR=3.9						
ILAR	**Eielson Array**	**46.87**	**328**	P	**P**	**00 49 23.1**	**+0.4**
	1.5nm,1.1s,baz=25,slow=5.1,SNR=7.4						
PDAR	**Pinedale Array**	**48.77**	**287**	P	**P**	**00 49 37.3**	**-0.7**
	0.5nm,0.9s,baz=78,slow=8.8,SNR=2.7						
TORD	**Torodi Ar. Bea**	**52.40**	**138**	P	**P**	**00 50 05.0**	**-0.3**
	0.6nm,1.0s,baz=316,slow=6.0,SNR=2.7						
DBIC	**Dimbokro**	**56.51**	**148**	LR	LR	01 11 23.2	
	comp=Z,90nm,19.9s,baz=144,slow=32						
MKAR	**Makanchi Array**	**60.98**	**46**	P	**P**	**00 51 07.3**	**+1.3**
	0.8nm,0.8s,baz=332,slow=5.1,SNR=6.1						

*ISCJB **21** 00:41:09.6±0.7,55.6N±0.1×35.2W±0.1,h14km,mb3.7/11, Error ellipse: s-maj=18.8km s-min=10.7km az=8.2*

*IDC **21** 00:41:09.1±0.9,55.56N×35.17W,h0km,mb3.7/11, mb1 4.0/13,mb1mx3.8/45,mbtmp3.8/13,ML3.3/2,Error ellipse: s-maj=29.1km s-min=14.7km az=17.0*

ISC 21 00:41:11.1±0.8,55.5N±0.2×35.19W±0.09,h14km,n15, σ0.947/15,mb3.8/11,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.50**	**31**	Pn	**Pn**	**00 43 54.8**	**+0.2**
	0.3nm,0.3s,baz=254,slow=7.4,SNR=3.1						
SCHQ	**Schefferville**	**18.01**	**281**	P	**P**	**00 45 21.3**	**+0.1**
	0.8nm,0.3s,baz=68,slow=5.3,SNR=13						
NOA	**NORSAR Array B**	**24.57**	**58**	P	**P**	**00 46 29.6**	**-0.6**
	0.7nm,0.8s,baz=294,slow=8.4,SNR=2.6						
ESDC	**Sonseca Array**	**26.06**	**114**	P	**P**	**00 46 44.3**	**+0.4**
	0.2nm,0.4s,baz=317,slow=9.0,SNR=3.8						
RES	**Resolute Bay**	**29.62**	**332**	P	**P**	**00 47 15.3**	**0.0**
	0.9nm,0.8s,baz=104,slow=8.3,SNR=3.7						
ULM	**Lac du Bonnet**	**35.96**	**288**	P	**P**	**00 48 10.8**	**-0.1**
	2.1nm,0.7s,baz=59,slow=11,SNR=4.9						
AKASG	**Malin Array Be**	**37.71**	**70**	P	**P**	**00 48 25.0**	**-0.8**
	1.8nm,0.8s,baz=305,slow=8.5,SNR=6.6						
YKA	**Yellowknife Ar**	**39.00**	**314**	P	**P**	**00 48 36.4**	**-0.1**
	1.0nm,0.8s,baz=60,slow=9.3,SNR=8.6						
BRTR	**Keskin Array B**	**46.99**	**80**	P	**P**	**00 49 42.5**	**+0.8**
	1.4nm,0.6s,baz=320,slow=6.3,SNR=11						
PDAR	**Pinedale Array**	**47.98**	**287**	P	**P**	**00 49 49.4**	**0.0**
	0.4nm,0.6s,baz=56,slow=7.9,SNR=4.4						
ILAR	**Eielson Array**	**49.21**	**328**	P	**P**	**00 49 58.6**	**+0.3**
	1.3nm,1.0s,baz=43,slow=6.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**51.03**	**131**	P	**P**	**00 50 12.7**	**+0.1**
	1.0nm,0.8s,baz=326,slow=8.8,SNR=5.2						
MKAR	**Makanchi Array**	**65.32**	**42**	P	**P**	**00 51 52.6**	**+0.3**
	0.5nm,0.7s,baz=324,slow=5.2,SNR=6.1						
WRA	**Warramunga Arr**	**143.59**	**17**	PKP	**PKPdf**	**01 00 44.6**	**-0.6**
	0.2nm,0.7s,baz=344,slow=2.5,SNR=4.0						
ASAR	**Alice Springs**	**147.16**	**19**	PKPbc	**PKPbc**	**01 00 53.0**	**-0.5**
	1.1nm,0.8s,baz=349,slow=3.4,SNR=6.7						

*PRE **21** 00:46:08.0±1.0,21.41S×33.45E,h5km,ML3.0*

*EAF **21** 00:46:14.3±1.6,21.45S×33.31E,h10km,MD3.7*

ISC 21 00:46:13.5±2.8,21.61S±0.07×33.2E±0.2,h13km,n20, σ1.904/23,Mozambique

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBTN	**Chibotane**	**2.41**	**203**	*i* P	**Pb**	**00 48 56.0**	**-0.8**
CBTN	**Chibotane**	**2.41**	**203**	*e*P	Pg	00 47 11.3	+12
CBTN				*e*		00 47 11.8	
	baz=322,slow=14						
CBTN				*e*S	**Sg**	**00 47 31.4**	**+0.3**
CBTN				IAML		00 47 36.4	
	comp=Z,395nm,0.3s						
BLWY	**Bulawayo**	**4.54**	**288**	*i* P	**Pn**	**00 47 22.8**	**+0.6**
BLWY	**Bulawayo**	**4.54**	**288**	*i* P	**Pn**	**00 47 21.6**	**-0.5**
BLWY	**Bulawayo**	**4.54**	**288**	*i* P	**Pn**	**00 47 22.8**	**+0.6**
MATP	**Matopo**	**4.56**	**284**	*i* P	**Pn**	**00 47 22.9**	**+0.7**
MATP	**Matopo**	**4.56**	**284**	*i* P	**Pn**	**00 47 22.6**	**+0.4**
MATP	**Matopo**	**4.56**	**284**	*i* P	**Pn**	**00 47 22.9**	**+0.7**
PRYS	**Parys**	**7.52**	**224**	*e*P	**Pn**	**00 48 04.0**	**+1.0**
PRYS				*e*S	**Sn**	**00 49 28.3**	**+0.2**
PRYS				AML	AML	00 50 19.7	
	comp=Z,10.0nm,0.6s						
LBTB	**Lobatse**	**7.78**	**243**	*e*P	**Pn**	**00 48 06.9**	**+0.5**
LBTB				*e*S	**Sn**	**00 49 33.7**	**-0.7**
LBTB				AML	AML	00 50 36.1	
	comp=Z,18nm,0.6s						
LSZ	**Lusaka**	**7.90**	**322**	*i* P	**Pn**	**00 48 07.1**	**-1.1**
LSZ	**Lusaka**	**7.90**	**322**	*i* P	**Pn**	**00 48 07.0**	**-1.1**
LSZ	**Lusaka**	**7.90**	**322**	*i* P	**Pn**	**00 48 07.1**	**-1.1**
BOSA	**Boshof**	**10.03**	**224**	*i* P	**Pn**	**00 48 38.5**	**+1.1**
BOSA	**Boshof**	**10.03**	**224**	*i* P	**Pn**	**00 48 38.4**	**+1.1**
BOSA	**Boshof**	**10.03**	**224**	*e*P	**Pn**	**00 48 37.6**	**+0.2**
BOSA				*e*S	**Sn**	**00 50 27.3**	**-2.6**
BOSA				AML	AML	00 51 45.2	
	comp=Z,6.5nm,0.6s						
BOSA	**Boshof**	**10.03**	**224**	*i* P	**Pn**	**00 48 38.5**	**+1.1**
TSUM	**Tsumeb**	**14.85**	**276**	*i* P	**Pn**	**00 49 44.3**	**+1.0**
TSUM	**Tsumeb**	**14.85**	**276**	*i* P	**Pn**	**00 49 44.4**	**+1.0**
TSUM	**Tsumeb**	**14.85**	**276**	*i* P	**Pn**	**00 49 44.3**	**+1.0**

SJA 21 01:00:36.6±0.5,31.26S×68.96W,h113km±3km,ML2.3, MW3.7,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.42**	**99**	*i* P	Pn	01 00 53.6	+0.3
RTLL				IAML		01 01 05.9	
	comp=Z,105nm,0.3s						
AMOG	**MOGNA**	**0.51**	**51**	*i* P	Pn	01 00 54.5	+0.5
AMOG				*i*

GNI	Garni	3.65	17	PN	Pn	01 14 43.2	+0.6	EDBA	Buenos Aires	2.04	97	*e*P	Pn	01 59 23.6	-0.3
URFA	Urfa	3.71	283	PN	Pb	01 14 47.9	-3.2	CONN	Concepcion	2.16	352	*e*P	Pn	01 59 24.6	-0.9
IBDR	Badra	4.13	148	*e*Pn	Pn	01 14 50.0	+1.0	PTJ1	Puerto Jimnez	2.18	113	*e*P	Pn	01 59 25.3	-0.5
IBDR				*e*Sn	Sn	01 15 37.0	-0.9	ACON	Acoyapa	2.55	3	*e*P	Pn	01 59 30.4	-0.5
RTB	Rutbah	4.40	216	*e*Pn	Pn	01 14 54.0	+1.2	ACON				*e*S	Sn	02 00 02.3	+1.2
RTB				*e*Sn	Sn	01 15 43.0	-1.7	BRU2	Volcan	2.67	103	ǁ *i*P	Pn	01 59 33.1	+0.4
NSR	Nassriya	6.09	157	*e*Pn	Pn	01 15 18.0	+2.0		baz=293,slow=3.6						
NSR				*e*Sn	Sn	01 16 24.5	-1.9	TBS2		2.71	103	*e*P	Pn	01 59 34.0	+0.8
VRI	Vrincioaia	15.49	312	⇑ *i*P	P	01 17 33.0	+4.0	MGAN	Managua	2.87	342	*e*P	Pn	01 59 34.8	-0.5
PLOR	Plostina	15.53	311	⇑ *i*P	P	01 17 29.3	-0.2	MGAN				*e*S	Sn	02 00 08.6	-0.4
								ESPN	Las Esperanzas	2.94	20	*e*Pn	Pn	01 59 36.6	+0.3
								ESPN	Las Esperanzas	2.94	20	*e*P	Pn	01 59 36.7	+0.3
								DVD	David	3.00	109	*i* P	Pn	01 59 38.5	+1.4
								MOMN	Momotombo	3.21	338	*e*P	Pn	01 59 39.1	-0.9
								MOMN				*e*S	Sn	02 00 15.7	-1.9
								CNGN	Cerro Negro	3.35	336	*e*P	Pn	01 59 41.1	-0.9
								CNGN				*e*S	Sn	02 00 21.3	+0.1
								MATN	Matagalpa	3.55	350	*e*P	Pn	01 59 44.2	-0.5
								MATN				*e*S	Sn	02 00 26.5	+0.5
								CRIN	San Cristobal	3.68	333	*e*P	Pn	01 59 45.8	-0.8
								CRIN				*e*S	Sn	02 00 28.7	-0.6
								TGUH	Tegucigalpa,Un	5.00	338	*e*Pn	Pn	02 00 05.2	+0.7
								TGUH				*e*Sn	Sn	02 01 04.5	+2.9
								AZU	Azuero	5.25	107	*e*P	Pn	02 00 10.3	+2.3
									baz=291,slow=9.3						
								BCIP	Isla Barro Col	5.42	92	ǁ *i*P	Pn	02 00 11.0	+0.6
									baz=319,slow=10						
								FRIJ	El Hiral	5.53	91	*e*P	Pn	02 00 12.6	+0.7
								UPD2	Meteti	7.27	96	*e*P	Pn	02 00 37.0	+1.2
								APG	El Apazote	7.49	318	Pn	Pn	02 00 40.2	+1.1
									0.9nm,0.3s,baz=139,slow=7.5,SNR=7.7						
								APG				LR	LR	02 03 32.9	
									comp=Z,55nm,21.3s,baz=136,slow=37						
								CMIG	Matias Romero	12.03	310	Pn	Pn	02 01 42.5	+1.4
									0.3nm,0.3s,baz=135,slow=12,SNR=4.5						
								154A	Montrose	23.18	5	*e*P	P	02 03 56.1	+0.1
									30nm,0.9s						
								LRAL	Lakeview Retre	23.56	356	*e*P	P	02 03 59.1	-0.7
									12nm,1.1s						
								Z50A	Ashland	23.73	359	*e*P	P	02 04 01.8	+0.3
									6.0nm,0.8s						
								GOGA	Godfrey	23.95	4	*e*P	P	02 04 03.8	+0.3
									17nm,1.4s						
								Y49A	Blount Mountai	24.35	358	*e*P	P	02 04 07.0	-0.2
									6.9nm,1.1s						
								Y52A	Lilburn	24.36	3	*e*P	P	02 04 08.6	+1.3
									10nm,0.9s						
								HODGE	Hodges	24.86	6	*e*P	P	02 04 12.1	+0.3
									6.7nm,0.9s						
								JSC	Jenkinsville	25.03	8	*e*P	P	02 04 13.2	-0.2
									14nm,1.1s						
								MIAR	Mount Ida	26.14	344	*e*P	P	02 04 23.2	-0.2
									6.4nm,1.1s						
								TKL	Tuckaleechee C	26.16	3	*e*P	P	02 04 25.4	+1.8
									12nm,1.1s						
								TKL	Tuckaleechee C	26.16	3	P	P	02 04 25.4	+1.8
									5.8nm,0.8s,baz=171,slow=12,SNR=5.9						
								TKL				LR	LR	02 15 15.6	
									comp=Z,70nm,18.0s,baz=204,slow=38						
								TXAR	Lajitas Array	26.24	322	P	P	02 04 27.8	+3.3
									1.3nm,0.7s,baz=140,slow=8.9,SNR=12						
								TX31	Lajitas Ar. Si	26.24	322	*e*P	P	02 04 28.1	+3.6
								V53A	Saluda	26.24	5	*e*P	P	02 04 22.9	-1.5
									23nm,1.5s						
								V51A	Loudn	26.29	2	*e*P	P	02 04 28.7	+4.0
									11nm,0.9s						
								V52A	Sevierville	26.36	3	*e*P	P	02 04 27.2	+1.8
									11nm,1.2s						
								WHAR	Wooly Hollow	26.53	347	*e*P	P	02 04 25.8	-1.1
									16nm,1.4s						
								TZTN	Tazewell	27.06	3	*e*P	P	02 04 30.8	-0.9
									9.5nm,1.2s						
								TCRU	Three Creeks R	37.91	324	*e*P	P	02 06 09.7	+2.9
									9.9nm,0.4s						
								PD31	Pinedale Array	39.42	332	*e*P	P	02 06 20.4	+0.9
									2.9nm,1.4s						
								PDAR	Pinedale Array	39.42	332	P	P	02 06 20.4	+0.9
									0.3nm,0.8s,baz=146,slow=8.3,SNR=2.8						
								NV11	Mina Array Sit	41.26	320	*e*P	P	02 06 38.3	+3.6
									0.3nm,1.2s						
								NV01	Mina Array Sit	41.35	320	*e*P	P	02 06 36.9	+1.4
								NVAR	Mina Array Bea	41.35	320	P	P	02 06 36.8	+1.3
									1.9nm,0.8s,baz=140,slow=7.4,SNR=7.0						
								SCHQ	Schefferville	47.63	14	*e*P	P	02 07 22.6	-2.5
									8.3nm,1.1s						
								SCHQ	Schefferville	47.63	14	P	P	02 07 22.6	-2.5
									2.8nm,0.8s,baz=246,slow=14,SNR=3.6						
								SCHQ				LR	LR	02 27 41.1	
									comp=Z,58nm,18.6s,baz=358,slow=36						
								PLCA	Paso Flores	51.72	166	*e*P	P	02 07 54.9	-1.6
									9.6nm,1.3s						
								PLCA	Paso Flores	51.72	166	P	P	02 07 54.9	-1.6
									2.9nm,1.0s,baz=14,slow=11,SNR=5.4						
								YKA	Yellowknife Ar	57.08	344	P	P	02 08 34.2	-0.9
									0.3nm,0.7s,baz=144,slow=6.8,SNR=7.2						
								YKB5	Yellowknife Ar	57.08	344	*e*P	P	02 08 34.2	-0.9
								ILAR	Eielson Array	69.63	336	P	P	02 09 58.4	+0.3
									0.4nm,0.8s,baz=112,slow=3.8,SNR=4.8						
								ILB	Eielson Array	69.63	336	*e*P	P	02 09 58.4	+0.3
								VAE	Valguarnera	91.97	52	LR	LR	02 50 06.2	
									comp=Z,42nm,20.8s,baz=359,slow=34						
								AS31	Alice Springs	139.97	244	*e*PKPdf	PKPdf	02 18 17.1	-1.2
								ASAR	Alice Springs	139.97	244	PKP	PKPdf	02 18 17.1	-1.2
									0.5nm,0.6s,baz=110,slow=1.4,SNR=4.5						
								WR1	Warramunga Arr	140.32	250	*e*PKPdf	PKPdf	02 18 17.7	-1.3
								WRA	Warramunga Arr	140.32	250	PKhKP	PKPpre	02 18 11.2	
									0.1nm,0.7s,baz=320,slow=1.0,SNR=4.8						
								WRA				PKP	PKPdf	02 18 17.7	-1.3
									0.7nm,0.6s,baz=94,slow=2.4,SNR=12						
								JMM	Marumori	1.02	329	P	Pg	02 14 06.4	-0.1
								JMM				*e*S	Sg	02 14 19.5	-0.2
								JFT	Otama	1.03	301	P	Pb	02 14 07.1	-0.3
								JFT				S	Sg	02 14 20.2	0.0
								JFY	Yanaizu	1.46	287	P	Pn	02 14 13.6	-0.5
								JFY				S	Sb	02 14 31.8	-1.7
								JIO	Ouri	1.46	357	P	Pn	02 14 13.6	-0.5
								JIO				S	Sn	02 14 31.9	-1.8
								JOU	Okura	1.51	336	P	Pn	02 14 14.8	0.0
								JOU				*e*S	Sn	02 14 34.0	-0.9
								MJAR	Matsushiro Arr	2.64	261	Pn	Pn	02 14 30.1	-0.3
									0.8nm,0.3s,baz=89,slow=14,SNR=22						
								MJAR				Sn	Sn	02 15 02.8	-0.1
									1.5nm,0.3s,baz=34,slow=16,SNR=5.5						
								MAT	Matsushiro	2.65	261	P	Pn	02 14 30.9	+0.5
								MAT				S	Sn	02 15 03.8	+0.8
								JHJ	Hachijo jima 2	4.10	200	Sn	Sn	02 15 37.8	-1.0
									18nm,0.3s,baz=90,slow=20,SNR=2.7						
								USRK	Ussuriysk Ar.	10.17	318	Pn	Pn	02 16 17.4	+3.7
									0.2nm,0.3s,baz=126,slow=12,SNR=4.4						
								H11N2	WAKE ISLAND Hy	28.10	121	T	T	02 49 10.1	
									baz=313,slow=75,SNR=42						
								H11N1	WAKE ISLAND Hy	28.11	121	T	T	02 49 12.9	
									baz=313,slow=75,SNR=50						
								H11N3	WAKE ISLAND Hy	28.12	121	T	T	02 49 15.1	
									baz=313,slow=75,SNR=31						
								H11S1	WAKE ISLAND Hy	28.81	123	T	T	02 50 37.0	
									baz=314,slow=76,SNR=36						
								H11S3	WAKE ISLAND Hy	28.81	123	T	T	02 50 37.0	
									baz=314,slow=76,SNR=21						
								H11S2	WAKE ISLAND Hy	28.83	123	T	T	02 50 38.3	
									baz=314,slow=76,SNR=24						
								ZALV	Zalesovo Beam	41.97	312	P	P	02 21 38.8	0.0
									1.2nm,0.6s,baz=98,slow=6.7,SNR=5.8						
								MKAR	Makanchi Array	44.17	302	P	P	02 21 56.6	-0.2
									1.0nm,0.7s,baz=89,slow=9.7,SNR=13						
								ILAR	Eielson Array	49.51	32	P	P	02 22 39.2	+0.9
									0.5nm,0.9s,baz=261,slow=5.9,SNR=7.6						
								WRA	Warramunga Arr	57.02	188	P	P	02 23 33.9	-0.1
									0.6nm,0.8s,baz=4.6,slow=7.5,SNR=13						
								ASAR	Alice Springs	60.75	188	P	P	02 24 00.4	+0.5
									0.2nm,0.3s,baz=16,slow=11,SNR=3.3						

IDC 21 01:25:51.7±3.4, 5°30S×152°92E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/41, mbtmp3.7/4, Error ellipse: s-maj=112.7km s-min=31.8km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.21	230	P	P	01 31 00.6	0.0
	2.2nm,0.9s,baz=53,slow=9.9,SNR=13						
ASAR	Alice Springs	25.87	223	P	P	01 31 25.5	+0.1
	0.7nm,0.6s,baz=53,slow=9.4,SNR=6.8						
FITZ	Fitzroy Crossi	29.53	242	P	P	01 31 58.0	-0.2
	1.6nm,0.7s,baz=70,slow=7.9,SNR=9.1						
MKAR	Makanchi Array	80.77	319	P	P	01 38 07.7	+0.5
	0.2nm,0.5s,baz=122,slow=5.4,SNR=3.6						
TORD	Torodi Ar. Bea	150.57	287	PKPbc	PKPbc	01 45 46.0	-0.8
	0.4nm,0.7s,baz=59,slow=3.0,SNR=3.9						

IDC 21 01:29:14.8±2.1, 2°38N×127°90E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/39, mbtmp3.4/3, Error ellipse: s-maj=154.9km s-min=24.8km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.07	164	P	P	01 34 22.2	0.0
	0.5nm,0.4s,baz=344,slow=11,SNR=16						
ASAR	Alice Springs	26.54	168	P	P	01 34 54.2	-0.3
	0.4nm,0.5s,baz=358,slow=8.0,SNR=6.1						
MKAR	Makanchi Array	59.33	325	P	P	01 39 18.8	+0.2
	0.1nm,0.3s,baz=118,slow=8.5,SNR=3.4						

IDC 21 01:44:33.7±2.1, 29°16N×68°12E, h0km, mb3.5/12, mb1 3.7/15, mb1mx3.6/51, mbtmp3.6/15, ML3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.4/38, Error ellipse: s-maj=42.4km s-min=19.6km az=143.0

ISC 21 01:44:33.6±0.8, 29°0N±0°1×68°31E±0°07, h10km, n22, σ1°24/20, mb3.7/11, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	New Delhi	7.82	90	*e*P	Pb	01 46 48.0	-1.3
WSAR	Wadi Sarin	10.43	239	Pn	Pn	01 47 03.1	-0.2
	0.9nm,0.3s,baz=109,slow=6.9,SNR=20						
WSAR				Sn	Sn	01 48 47.4	-13
	0.5nm,0.3s,baz=220,slow=23,SNR=5.7						
GEYT	Alibeck	12.29	319	Pn	Pn	01 47 26.9	-1.7
	0.1nm,0.3s,baz=150,slow=15,SNR=3.4						
PYUN	Piuthan	12.94	91	*e*P	Pn	01 47 46.3	+8.5
	26nm,0.5s						
KOLN	Koldanda	13.52	92	*e*P	P	01 47 55.1	+0.1
	8.7nm,0.5s						
DANN	Dangsing	13.58	89	*e*P	P	01 47 54.2	-1.6
	27nm,0.7s						
GKN	Gorkha	14.39	90	*e*P	P	01 48 04.3	-0.4
	16nm,0.6s						
AAK	Ala-Archa	14.47	19	Pn	Pn	01 47 59.0	+0.4
	0.4nm,0.3s,baz=180,slow=7.1,SNR=6.3						
AAK				Sn	Sn	01 50 24.7	-14
	0.1nm,0.3s,baz=295,slow=17,SNR=2.5						
GUN	Gumba	15.50	90	*e*P	P	01 48 19.0	+1.9
	21nm,0.4s						
JIRN	Jiri	15.81	91	*e*P	P	01 48 23.3	+2.7
	12nm,0.4s						
MKAR	Makanchi Array	20.83	28	P	Pn	01 49 17.1	-0.7
	1.0nm,0.8s,baz=214,slow=9.7,SNR=9.2						
MKAR				LR	LR	01 59 27.2	
	comp=Z,32nm,18.7s,baz=211,slow=43						
GNI	Garni	22.28	306	P	P	01 49 31.9	+0.8
	1.7nm,0.6s,baz=61,slow=13,SNR=3.1						
AKTO	Aktyubinsk	22.75	343	P	P	01 49 36.0	+0.1
	2.6nm,0.9s,baz=164,slow=11,SNR=10						
AKTO				LR	LR	01 59 40.3	
	comp=Z,28nm,19.3s,baz=357,slow=40						
KURBB	Kurchatov Arra	22.91	17	P	P	01 49 38.2	+0.8
	0.9nm,0.7s,baz=210,slow=9.3,SNR=6.7						
BVAR	Borovoye Array	24.02	3	P	P	01 49 48.9	+0.4
	0.3nm,0.4s,baz=181,slow=11,SNR=4.2						
KBZ	Khabaz	25.04	313	P	P	01 49 57.8	-0.1
	0.4nm,0.7s,baz=112,slow=14,SNR=2.3						
ZALV	Zalesovo Beam	27.66	21	P	P	01 50 22.6	+1.2
	0.4nm,0.3s,baz=226,slow=7.7,SNR=2.9						
FINES	FINESS Array B	42.70	332	P	P	01 52 30.1	-0.3
	2.1nm,0.9s,baz=148,slow=8.1,SNR=3.1						
GERES	GERESS Array B	45.77	311	P	P	01 52 54.1	-1.3
	0.2nm,0.5s,baz=108,slow=8.6,SNR=4.1						
ESDC	Sonseca Array	59.15	301	P	P	01 54 35.0	+0.3
	0.4nm,0.6s,baz=56,slow=7.4,SNR=3.5						
TORD	Torodi Ar. Bea	63.40	271	P	P	01 55 04.7	+0.9
	0.7nm,0.9s,baz=42,slow=6.7,SNR=5.1						
YKA	Yellowknife Ar	88.77	1	P	P	01 57 28.7	+1.4
	0.2nm,0.5s,baz=353,slow=4.8,SNR=6.1						

IDC 21 01:58:46.8±1.3, 9°23N×85°19W, h0km, mb3.8/7, mb1 4.1/9, mb1mx3.9/33, mbtmp3.8/9, ML3.6/2, MS3.3/4, Ms1 3.3/4, ms1mx2.8/37, Error ellipse: s-maj=30.7km s-min=12.9km az=104.0

ISCJB 21 01:58:49.3±1.1, 9°35N±0°03×85°42W±0°04, h26km±7km, mb4.1/24, MS3.6/3, Error ellipse: s-maj=8.5km s-min=3.9km az=146.3

UCR 21 01:58:50.3±2.9, 9°40N×85°41W, h27km±8km, MD4.1, mb4.3(NEIC)

NEIC 21 01:58:51.7±2.6, 9°36N×85°19W, h32km±5km, mb4.3/22, Error ellipse: s-maj=17.2km s-min=5.9km az=76.0

ISC 21 01:58:50.9±2.0, 9°41N±0°07×85°32W±0°07, h23km±13km, n85, σ1°38/97, mb4.3/24, MS3.6/3, 10C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLVR	Palo Verde	0.93	358	⇑ *i*P	Pn	01 59 06.5	-2.3
PLVR				*e*S	Sb	01 59 21.3	+0.7
JTS	JuntasAbangare	0.95	23	Pg	Pn	01 59 08.0	-0.9
	506nm,0.3s,baz=143,slow=12,SNR=3024						
JTS				Lg	Lg	01 59 22.5	
	170nm,0.3s,baz=229,slow=21,SNR=16						
JTS				LR	LR	01 59 25.6	
	comp=Z,336nm,21.9s,baz=182,slow=36						
JTS	JuntasAbangare	0.95	23	⇑ *i*P	Pn	01 59 08.2	-0.7
JTS				*e*S	Sb	01 59 22.8	+1.9
SRA1	San Ramn	1.07	51	⇑ *e*P	Pb	01 59 10.3	-0.6
ARE1	Arenal 1	1.20	30	⇑ *i*P	Pb	01 59 12.8	-0.3
CEDE	Laguna Cedeo	1.23	30	*i* P	Pb	01 59 13.2	-0.4
AMAS	Alto Masis	1.24	15	*i* P	Pn	01 59 12.4	-0.5
NY14	Universidad de	1.25	350	*i* P	Pn	01 59 11.7	-1.2
NY14				*i* S	Sb	01 59 28.7	-0.8
ACAL	Aguas Claras	1.25	13	*i* P	Pn	01 59 12.5	-0.6
CUI	Cuipilapa	1.25	7	⇑ *i*P	Pn	01 59 12.5	-0.5
COLC	Colonia	1.25	5	*i* S	Sb	01 59 30.3	+0.6
LIM1	Limonal	1.28	3	*i* P	Pn	01 59 12.6	-0.9
GUAB	Guayabo de Bag	1.29	4	*i* P	Pn	01 59 12.7	-1.0
HORNC	Hornillas	1.30	6	*i* P	Pn	01 59 13.1	-0.7
HORNC				*i* S	Sb	01 59 30.5	-0.6
MESS	Mesas	1.33	6	*i* P	Pn	01 59 13.4	-0.7
MESS				⇑ *i*P	Pn	01 59 13.5	-0.7
HDC	Heredia	1.33	64	*e*Pn	Pn	01 59 12.9	-1.3
HDC	Heredia	1.33	64	⇑ *i*P	Pb	01 59 14.5	-0.8
GPS2	Hotel Rincn d	1.33	359	*i* P	Pn	01 59 13.2	-1.1
GPS3	Bodega del ICE	1.34	358	*i* P	Pn	01 59 13.2	-1.0
PTEN	Parque Tenorio	1.34	14	*i* P	Pn	01 59 14.1	-0.2
LCR2	La Lucha 2	1.34	76	⇑ *i*P	Pn	01 59 13.9	-0.6
GPS1	Guardaparques	1.36	359	*i* P	Pn	01 59 13.5	-1.1
GBS3	Finca Las Img	1.37	355	*i* P	Pn	01 59 13.3	-1.4
BUEV	Buena Vista	1.38	357	⇑ *i*P	Pn	01 59 13.9	-1.1
BUEV				*i* S	Sn	01 59 32.0	-0.5
GB1A	Boringuen Arri	1.40	357	⇑ *e*P	Pn	01 59 14.2	-1.0
EDPN	Palmar Norte	1.90	103	*e*P	Pn	01 59 21.3	-0.6
TRT1	Tortuguero	1.99	53	*e*P	Pb	01 59 23.9	-2.6

NEIC 21 02:10:03.0±0.0, 16°89N×95°06W, h119km, MD4.0(MEX), After MEX.

MEX 21 02:10:03.0±1.0, 16°89N×95°07W, h119km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.27	41	*i* P	Pn	02 10 18.7	-1.1
CMIG				*i* S	Sn	02 10 29.5	-2.8
CMIG	Matias Romero	0.27	41	*i* P	Pn	02 10 18.7	-1.1
CMIG				*i* S	Sn	02 10 29.5	-2.8
HUIG	Huatulco	1.49	222	*i* P	Pn	02 10 29.1	-1.2
HUIG				*i* S	Sn	02 10 50.1	-0.9
HUIG	Huatulco	1.49	222	*i* P	Pn	02 10 29.1	-1.2
HUIG				*i* S	Sn	02 10 50.1	-0.9
VHO	Vista Hermosa	1.60	277	*e*P	Pn	02 10 31.3	-0.4
VHO				*i* S	Sn	02 10 52.1	-1.5
VHO	Vista Hermosa	1.60	277	*e*P	Pn	02 10 31.3	-0.4
VHO				*i* S	Sn	02 10 52.1	-1.5
PCIG		2.13	123	*i* P	Pn	02 10 37.2	-0.8
PCIG				*i* S	Sn	02 11 02.4	-2.5
PNIG	Pinotepa	2.97	261	*e*P	Pn	02 10 46.7	-2.2
PNIG	Pinotepa	2.97	261	*e*P	Pn	02 10 46.8	-2.1
PNIG				*i* S	Sn	02 11 22.4	-1.9
TLIG	Tlapa	3.41	282	*e*P	Pn	02 10 53.6	-1.2
TLIG	Tlapa	3.41	282	*e*P	Pn	02 10 53.6	-1.2
TLIG				*i* S	Sn	02 11 33.0	-1.7

NIED 21 02:13:00, 37°00N×141°40E, h5km, Mw3.6 Best double couple: M0 2.54000×10^14 NP1:φs 188.00000°, δ 37.00000°, λ -144.00000°. NP2:φs 69.00000°, δ 69.00000°, λ -58.00000°.

IDC 21 02:13:46.8±1.1, 36°97N×141°39E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/59, mbtmp3.6/6, ML2.4/1, Error ellipse: s-maj=25.8km s-min=23.1km az=81.0

JMA 21 02:13:48.8±0.1, 36°99N×141°36E, h27km±1km, M3.8

JMA Felt I J1

ISC 21 02:13:46.9±2.0, 36°99N±0°04×141°45E±0°07, h4km±12km, n24, σ1°07/29, mb3.8/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.54	282	P	Pb	02 13 58.2	-0.7
ONAJ				S	Sg	02 14 04.9	+0.7
JFK	Kawauchi	0.59	309	P	Pb	02 13 59.4	-0.5
JFK				S	Sg	02 14 07.0	+0.9
JFFD	Fukushimafurud	0.72	278	P	Pb	02 14 01.1	-1.0
JFFD				S	Sg	02 14 09.8	-0.3
JHO	Hitachi	0.81	242	P	Pb	02 14 02.6	-0.9
JHO				S	Sg	02 14 12.7	-0.1

ISCJB 21 02:20:17.5±0.3, 51°46N±0°02×16°22E±0°02, h0km, mb3.2/1, Error ellipse: s-maj=2.3km s-min=2.1km az=15.8

IPEC 21 02:20:18.8±0.3, 51°52N×16°31E, h0km, ML2.8/3, Error ellipse: s-maj=3.1km s-min=1.7km az=66.0

PRU 21 02:20:19.9±0.0, 51°49N×16°21E, h0km

BGR 21 02:20:20.8±0.6, 51°43N×16°19E, h1km, ML3.1/8, Error ellipse: s-maj=7.8km s-min=3.3km az=24.0

IDC 21 02:20:20.8±0.6, 51°45N×15°92E, h0km, mb3.1/1, mb1 3.4/10, mb1mx3.2/48, mbtmp3.2/10, ML2.9/8, Error ellipse: s-maj=10.5km s-min=5.9km az=102.0

UPP 21 02:20:24.0±3.1, 51°77N×15°88E, h0km, ML2.5, Suspected explosion

ISC 21 02:20:18.3±0.6, 51°49N±0°02×16°22E±0°02, h0km, n75, σ1°65/136, 5C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.65	176	*i* Pg	Pb	02 20 32.0	-0.4
KSP				*e*Sg	Sg	02 20 39.8	+0.8
KSP	Ksiaz	0.65	176	*e*Pg	Pb	02 20 32.0	-0.4
KSP				*e*Sg	Sg	02 20 39.7	+0.8
UPC	Upice	0.99	188	*e*PG	Pb	02 20 38.3	0.0
UPC				*e*SG	Sg	02 20 51.1	+1.1
	comp=Z,221nm,0.4s						
DPC	Dobruska-Polom	1.14	177	*e*PG	Pb	02 20 41.0	+0.1
DPC				*e*SG	Sb	02 20 56.0	-0.2
	comp=Z,116nm,0.6s						
DPC	Dobruska-Polom	1.14	177	*e*Pg	Pb	02 20 40.9	+0.1
DPC				*e*Sg	Sb	02 20 56.6	+0.4
PVCC	Panska Ves	1.41	228	*e*PG	Pb

GERES			Lg		Lg	02 21 55.1	
	comp=Z,9.0nm,0.3s,baz=27,slow=27,SNR=11						
LANS	**Liptovska Anna**	**3.13 137**	*e*PN		**Pn**	**02 21 10.0**	**+1.1**
LANS			*e*PG		**Pg**	**02 21 19.6**	**+1.3**
LANS			*e*SG		**Sg**	**02 21 58.5**	**-0.4**
WET	**Wettzell**	**3.17 224**	*e*Pn		**Pn**	**02 21 10.3**	**+0.8**
MODS	**Modra-Piesok**	**3.19 167**	*e*PN		**Pn**	**02 21 09.5**	**-0.2**
MODS			*e*PG		**Pg**	**02 21 20.0**	**+0.6**
MODS			*e*SG		**Sg**	**02 22 03.1**	**+2.4**
MODS			*e*LG		Lg	02 22 12.4	
NIE	**Niedzica**	**3.33 127**	*e*P		**Pg**	**02 21 23.1**	**+1.0**
NIE			*e*S		**Sg**	**02 22 06.9**	**+1.7**
ZST	**Bratislava**	**3.34 170**	*e*PG		**Pg**	**02 21 19.9**	**+1.5**
ZST			*e*SG		**Sg**	**02 22 07.0**	**+1.4**
VYHS	**Vyhne**	**3.44 150**	*e*PN		**Pn**	**02 21 14.0**	**+0.9**
VYHS			*e*PG		**Pg**	**02 21 23.4**	**-0.8**
VYHS			*e*SG		**Sg**	**02 22 12.0**	**+3.3**
VYHS			*e*LG		Lg	02 22 17.3	
CONA	**Conrad Observa**	**3.57 184**	*e*Pn		**Pn**	**02 21 16.7**	**+1.7**
	comp=Z,1.3nm,0.3s						
CONA			Sg		**Sg**	**02 22 12.9**	**0.0**
	comp=Z,0.5nm,0.1s						
BSD	**Bornholm Skovb**	**3.72 348**	*i* P		**Pn**	**02 21 17.4**	**+0.5**
BSD			*i* S		**Sn**	**02 21 58.5**	**-2.9**
MOA	**Molln**	**3.85 200**	*e*Pn		**Pn**	**02 21 20.1**	**+1.3**
	comp=Z,2.8nm,0.3s,SNR=6.4						
MOA			Sg		**Sg**	**02 22 23.1**	**+1.1**
	comp=Z,17nm,0.5s						
ARSA	**Arzberg**	**4.26 186**	Pn		**Pn**	**02 21 29.0**	**+4.5**
	comp=Z,1.9nm,0.4s						
ARSA			*i* Sg		**Sg**	**02 22 32.7**	**-2.5**
	comp=Z,16nm,0.6s						
LUNU	**Lund**	**4.47 339**	P		**Pn**	**02 21 27.1**	**-0.1**
LUNU			S		**Sn**	**02 22 17.1**	**-2.8**
KWP	**Kalwaria Pacla**	**4.54 112**	*e*Pn		**Pn**	**02 21 30.8**	**+2.6**
KWP			*e*Sg		**Sg**	**02 22 46.8**	**+2.9**
KBA	**Koelnbreinsper**	**4.79 204**	*e*Pn		**Pn**	**02 21 33.6**	**+1.7**
	comp=Z,2.4nm,0.4s,SNR=5.4						
KBA			Sg		**Sg**	**02 22 54.1**	**+1.9**
	comp=Z,25nm,0.9s						
BLEU	**Blekinge**	**4.83 357**	P		**Pn**	**02 21 33.1**	**+0.8**
BLEU			S		**Sn**	**02 22 24.9**	**-3.9**
SOKA	**Soboth**	**4.87 190**	Pg		**Pn**	**02 21 35.4**	**+2.4**
	comp=Z,1.0nm,0.4s						
SOKA			Sg		**Sg**	**02 22 57.2**	**+2.4**
	comp=Z,3.9nm,0.5s						
WATA	**Walderalm**	**5.14 218**	*i* Pn		**Pn**	**02 21 38.6**	**+2.0**
	comp=Z,3.4nm,0.5s,SNR=4.2						
TRPA	**Tarpa**	**5.29 127**	‖ *i*P		**Pn**	**02 21 39.7**	**+1.1**
MOTA	**Moosalm**	**5.32 221**	*i* Pn		**Pn**	**02 21 41.0**	**+1.9**
	comp=Z,0.7nm,0.2s						
ABTA	**Abfaltersbach**	**5.33 209**	*i* Pn		**Pn**	**02 21 41.3**	**+2.1**
ABTA			*i* Sg		**Sg**	**02 23 13.7**	**+4.3**
	comp=Z,9.4nm,0.6s						
RETA	**Reutte**	**5.35 224**	*i* Pn		**Pn**	**02 21 40.1**	**+0.7**
	comp=Z,1.0nm,0.3s						
RETA			*i* Sn		**Sn**	**02 22 42.0**	**+0.2**
	comp=Z,1.6nm,0.3s						
SQTA	**Sankt Quirin**	**5.38 219**	*e*Pn		**Pn**	**02 21 42.0**	**+2.2**
	comp=Z,1.2nm,0.1s,SNR=6.6						
SQTA			*i* Sg		**Sg**	**02 23 12.7**	**+1.7**
	comp=Z,5.7nm,0.4s						
FETA	**Feichten**	**5.73 221**	Pn		**Pn**	**02 21 46.4**	**+1.6**
	comp=Z,1.0nm,0.5s						
FABU	**Falkenberg**	**5.89 341**	P		**Pn**	**02 21 47.2**	**+0.4**
GNOU	**Gnosjoe**	**5.99 347**	P		**Pn**	**02 21 49.0**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.28 224**	Pn		**Pn**	**02 21 52.8**	**+0.5**
	baz=34,slow=7.3						
DAVOX			Lg		Lg	02 23 35.9	
	comp=Z,0.4nm,0.3s,baz=204,slow=20,SNR=5.0						
DRGR		**6.34 135**	‖ *i*P		**Pn**	**02 21 53.0**	**0.0**
BZS	**Buzias**	**6.88 147**	‖ *i*P		**Pn**	**02 21 56.7**	**-3.6**
BURAR	**Bucovina Array**	**7.02 120**	‖ *i*P		**Pn**	**02 22 03.7**	**+1.3**
MDVR	**Moldovita**	**7.65 149**	‖ *i*P		**Pn**	**02 22 09.3**	**-1.6**
AKASG	**Malin Array Be**	**8.23 90**	Pn		**Pn**	**02 22 20.2**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=280,slow=12,SNR=5.0						
AKASG			Sn		**Sn**	**02 23 49.0**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=256,slow=30,SNR=3.9						
AKASG			Lg		Lg	02 24 49.3	
	comp=Z,0.1nm,0.3s,baz=281,slow=29,SNR=3.1						
HFS	**Hagfors**	**8.78 352**	Pn		**Pn**	**02 22 26.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=166,slow=15,SNR=8.6						
HFS			Sn		**Sn**	**02 24 02.9**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=176,slow=23,SNR=2.9						
MLR	**Muntele Rosu**	**8.81 129**	‖ *i*P		**Pn**	**02 22 28.4**	**+1.4**
MLR	**Muntele Rosu**	**8.81 129**	Pn		Pn	02 22 32.5	+5.5
	comp=Z,0.0nm,0.3s,baz=345,slow=20,SNR=1.9						
VRI	**Vrincioaia**	**8.94 125**	‖ *i*P		**Pn**	**02 22 29.9**	**+1.3**
NOA	**NORSAR Array B**	**9.97 346**	Pn		**Pn**	**02 22 42.8**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=155,slow=12,SNR=8.4						
FINES	**FINESS Array B**	**11.36 25**	Pn		**Pn**	**02 23 01.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=9.7						
FINES			Sn		**Sn**	**02 25 02.5**	**-6.5**
	comp=Z,0.4nm,0.3s,baz=210,slow=19,SNR=5.9						
EKA	**Eskdalemuir Ar**	**12.18 296**	Pn		**Pn**	**02 23 11.8**	**-1.0**
	baz=102,slow=13,SNR=3.5						
YKA	**Yellowknife Ar**	**59.91 336**	P		**P**	**02 30 27.6**	**+2.1**
	comp=Z,0.2nm,0.8s,baz=26,slow=7.0,SNR=3.2						

*ISCJB **21** 02:35:58.0± 1.3, 58.1°N ± 0.2 × 31.8°W ± 0.2, h14km, n6, σ 0s 65/6, **mb3.6**/5, **Reykjanes Ridge***

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.34**	**33**	Pn		**Pn**	**Pn**	**02 38 00.5**	**+0.4**
	0.3nm,0.3s,baz=214,slow=3.6,SNR=2.3								
YKA	**Yellowknife Ar**	**38.61**	**312**	P		**P**		**02 43 22.5**	**+0.6**
	0.4nm,0.9s,baz=58,slow=9.0,SNR=4.7								
ILAR	**Eielson Array**	**48.00**	**329**	P		**P**		**02 44 36.9**	**-0.7**
	0.7nm,1.0s,baz=40,slow=7.1,SNR=2.9								
AKTO	**Aktyubinsk**	**49.27**	**58**	P		**P**		**02 44 47.4**	**-0.2**
	0.9nm,0.6s,baz=297,slow=4.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**51.47**	**137**	P		**P**		**02 45 04.8**	**+0.2**
	0.3nm,0.7s,baz=332,slow=6.9,SNR=2.7								
MKAR	**Makanchi Array**	**62.18**	**45**	P		**P**		**02 46 19.9**	**-0.4**
	0.3nm,0.6s,baz=337,slow=4.8,SNR=3.7								

*ISCJB **21** 02:36:45.4± 0.9, 58.1°N ± 0.2 × 32.1°W ± 0.2, h14km, mb3.6/8, Error ellipse: s-maj=22.7km s-min=16.1km az=9.6*
*IDC **21** 02:36:45.1± 1.1, 58.02°N × 32.14°W, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.5/58, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=33.2km s-min=19.2km az=17.0*
ISC 21 02:36:47.1± 1.0, 58.0°N ± 0.2 × 32.2°W ± 0.1, h14km, n9, σ 0s 58/9, mb3.6/8, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.54**	**33**	Pn		**Pn**	**Pn**	**02 38 50.8**	**+0.7**
	0.7nm,0.3s,baz=252,slow=4.6,SNR=3.0								
AKASG	**Malin Array Be**	**35.38**	**75**	P		**P**		**02 43 41.0**	**-0.9**
	0.2nm,0.3s,baz=308,slow=8.4,SNR=4.4								
YKA	**Yellowknife Ar**	**38.55**	**312**	P		**P**		**02 44 08.8**	**+0.1**
	0.5nm,0.8s,baz=57,slow=9.2,SNR=3.6								
BRTR	**Keskin Array B**	**45.00**	**84**	P		**P**		**02 45 02.4**	**+0.4**
	0.6nm,0.8s,baz=340,slow=7.8,SNR=4.1								
ILAR	**Eielson Array**	**48.00**	**328**	P		**P**		**02 45 24.7**	**-0.3**
	0.9nm,0.9s,baz=38,slow=4.4,SNR=4.1								
PDAR	**Pinedale Array**	**48.84**	**287**	P		**P**		**02 45 32.2**	**+0.1**
	0.5nm,0.7s,baz=59,slow=7.7,SNR=2.6								
AKTO	**Aktyubinsk**	**49.49**	**57**	P		**P**		**02 45 36.5**	**-0.1**
	1.0nm,0.6s,baz=351,slow=6.3,SNR=4.5								
TORD	**Torodi Ar. Bea**	**51.52**	**136**	P		**P**		**02 45 52.7**	**+0.4**
	0.5nm,0.9s,baz=332,slow=7.4,SNR=4.0								
MKAR	**Makanchi Array**	**62.39**	**45**	P		**P**		**02 47 08.6**	**-0.5**
	0.3nm,0.7s,baz=339,slow=6.5,SNR=4.6								

*IDC **21** 02:38:38.0± 0.7, 58.10°N × 32.10°W, h0km, mb3.9/17, mb1 4.1/21, mb1mx3.9/60, mbtmp3.9/21, ML2.3/2, MS3.6/17, Ms1 3.6/17, ms1mx3.4/38, Error ellipse: s-maj=20.3km s-min=12.5km az=6.0*
*ISCJB **21** 02:38:39.8± 0.3, 58.30°N ± 0.06 × 31.98°W ± 0.07, h14km, mb4.3/48, MS3.7/24, Error ellipse: s-maj=8.2km s-min=4.9km az=1.7*
*NEIC **21** 02:38:40.8± 0.4, 58.26°N × 32.03°W, h10km, mb4.5/33, Error ellipse: s-maj=12.0km s-min=5.6km az=6.0*

ISC 21 02:38:41.3± 0.5, 58.20°N ± 0.08 × 32.06°W ± 0.06, h14km, n99, σ 1s 51/78, mb4.4/48, MS3.8/24, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.33**	**33**	Pn		**Pn**	**Pn**	**02 40 41.7**	**+0.3**
	1.7nm,0.3s,baz=259,slow=4.4,SNR=7.6								
BORG				Sn		**Sn**	**Sn**	**02 42 14.1**	**-1.1**
	baz=99,slow=17,SNR=2.1								
SFJD	**Kangerlussuaq**	**12.23**	**324**	LR		LR	LR	02 45 22.5	
	comp=Z,630nm,21.2s,baz=128,slow=33								
EKA	**Eskdalemuir Ar**	**16.04**	**88**	Pn		**Pn**	**Pn**	**02 42 25.7**	**-0.5**
	baz=290,slow=11,SNR=3.4								
JMIC	**Jan Mayen**	**16.16**	**28**	LR		LR	LR	02 46 38.4	
	comp=Z,18nm,18.5s,baz=246,slow=30								
FRB	**Frobisher Bay**	**18.36**	**303**	P		**P**	**P**	**02 42 54.6**	**-0.4**
	0.1nm,0.3s,baz=91,slow=6.2,SNR=6.2								
SCHQ	**Schefferville**	**19.34**	**275**	*e*P		**P**	**P**	**02 43 05.2**	**-0.7**
	68nm,2.0s								
SCHQ	**Schefferville**	**19.34**	**275**	P		**P**	**P**	**02 43 05.2**	**-0.7**
	0.0nm,0.3s,baz=54,slow=14,SNR=2.0								
SCHQ				LR		LR	LR	02 49 19.5	
	comp=Z,354nm,18.4s,baz=116,slow=33								
NB2	**NORSAR Subarra**	**21.77**	**64**	P		**P**	**P**	**02 43 31.9**	**-0.3**
	comp=Z,25nm,1.7s,baz=282,slow=11								
NB200	**NORSAR Array S**	**21.77**	**64**	*e*P		**P**	**P**	**02 43 32.0**	**-0.3**
NOA	**NORSAR Array B**	**21.77**	**64**	P		**P**	**P**	**02 43 32.0**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=281,slow=9.1,SNR=4.5								
NOA				LR		LR	LR	02 50 40.3	
	comp=Z,100nm,19.6s,baz=275,slow=33								
NC602	**NORSAR Array S**	**21.99**	**65**	*e*P		**P**	**P**	**02 43 34.0**	**-0.5**
	comp=Z,187nm,1.9s								
UCC	**Ucc le**	**22.18**	**94**	*e*P		**P**	**P**	**02 43 38.9**	**+2.3**
	comp=Z,14nm,1.1s								
TULEG	**Thule**	**22.47**	**338**	*e*P		**P**	**P**	**02 43 41.4**	**+1.9**
	comp=Z,22nm,1.2s								
HFS	**Hagfors**	**23.18**	**66**	LR		LR	LR	02 51 42.9	
	comp=Z,89nm,18.9s,baz=274,slow=34								
PAB	**San Pablo**	**25.79**	**124**	*e*P		**P**	**P**	**02 44 12.2**	**+0.6**
	comp=Z,14nm,1.4s								
ESDC	**Sonseca Array**	**25.85**	**124**	P		**P**	**P**	**02 44 11.7**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=322,slow=9.7,SNR=5.3								
ESDC				LR		LR	LR	02 52 40.1	
	comp=Z,82nm,18.4s,baz=305,slow=33								
ES06	**SONSECA Array**	**25.85**	**123**	*e*P		**P**	**P**	**02 44 14.0**	**+1.8**
CLL	**Collm**	**26.48**	**85**	*i* P		**P**	**P**	**02 44 18.5**	**+0.9**
	comp=Z,6.0nm,1.2s								
ARA0	**ARCESS Array S**	**26.63**	**41**	*e*P		**P**	**P**	**02 44 18.1**	**-0.7**
ARCES	**ARCESS Array B**	**26.63**	**41**	P		**P**	**P**	**02 44 18.2**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=292,slow=4.6,SNR=4.3								
NKC	**Novy Kostel**	**26.78**	**88**	AMS		AMS	AMS	02 55 20.0	
	comp=Z,400nm,16.2s								
BRG	**Berggiesshubel**	**27.21**	**85**	*e*P		**P**	**P**	**02 44 18.7**	**-5.6**
	comp=Z,20nm,1.9s								
	comp=N,221nm,12.5s								
	comp=E,239nm,15.3s								
	comp=Z,453nm,13.1s								
PVCC	**Panska Ves**	**27.73**	**86**	AMS		AMS	AMS	02 56 20.0	
	comp=Z,400nm,16.9s								
KHC	**Kesperske Hory**	**28.02**	**89**	AMS		AMS	AMS	02 57 00.0	
	comp=Z,400nm,12.0s								
PRU	**Pruhonice**	**28.03**	**87**	AMS		AMS	AMS	02 56 00.0	
	comp=Z,400nm,14.5s								
GOPC	**GO Pecny, Ondr**	**28.20**	**86**	AMS		AMS	AMS	02 56 20.0	
	comp=Z,500nm,12.7s								
GERES	**GERESS Array B**	**28.25**	**89**	LR		LR	LR	02 55 26.9	
	comp=Z,191nm,18.4s,baz=289,slow=36								
UPC	**Upice**	**28.51**	**85**	AMS		AMS	AMS	02 56 50.0	
	comp=Z,400nm,20.3s								
FIA0	**FINESS Array S**	**28.57**	**59**	*e*P		**P**	**P**	**02 44 34.7**	**-1.6**
FIA1	**FINESS Array S**	**28.57**	**59**	*e*P		**P**	**P**	**02 44 35.5**	**-0.7**
FINES	**FINESS Array B**	**28.57**	**59**	P		**P**	**P**	**02 44 34.7**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=258,slow=7.0,SNR=3.0								
FINES				LR		LR	LR	02 55 06.5	
	comp=Z,87nm,18.4s,baz=284,slow=34								
DPC	**Dobruska-Polom**	**28.76**	**85**	*e*P		**P**	**P**	**02 44 38.8**	**+0.7**
DPC				AMS		AMS	AMS	02 56 50.0	
	comp=Z,500nm,13.9s								
TREC	**Trest**	**28.93**	**87**	AMS		AMS	AMS	02 56 40.0	
	comp=Z,400nm,16.4s								
VRAC	**Vranov**	**29.51**	**86**	LR		LR	LR	02 56 57.6	
	comp=Z,209nm,18.0s,baz=340,slow=37								
OKC	**Ostrava-Krasne**	**30.02**	**84**	AMS		AMS	AMS	02 58 00.0	
	comp=Z,400nm,13.9s								
FCC	**Fort Churchill**	**31.41**	**298**	*e*P		**P**	**P**	**02 45 01.4**	**0.0**
	comp=Z,5.8nm,1.1s								
MDT	**Midelt**	**31.43**	**132**	LR		LR	LR	02 54 55.0	
	comp=Z,54nm,19.5s,baz=348,slow=31								
AKASG	**Malin Array Be**	**35.27**	**75**	P		**P**	**P**	**02 45 34.0**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=309,slow=8.6,SNR=6.9								
AKASG				LR		LR	LR	02 59 28.0	
	comp=Z,52nm,19.6s,baz=290,slow=35								
AKBB	**Malin Array Si**	**35.27**	**75**	*e*P		**P**	**P**	**02 45 34.0**	**-1.1**
	comp=Z,6.2nm,1.2s								
KEST	**Kesra**	**35.28**	**111**	LR		LR	LR	02 59 19.0	
	comp=Z,151nm,18.2s,baz=200,slow=35								
EYMN	**Ely**	**36.00**	**280**	*e*P		**P**	**P**	**02 45 42.5**	**+1.0**
	comp=Z,15nm,1.1s								
ULM	**Lac du Bonnet**	**36.83**	**286**	LR		LR	LR	02 59 29.6	
	comp=Z,161nm,19.4s,baz=21,slow=34								
FFC	**Flin Flon**	**37.21**	**296**	*e*P		**P**	**P**	**02 45 52.4**	**+0.7**
	comp=Z,4.9nm,0.9s								
FNA	**Florina**	**37.67**	**94**	*e*P		**P**	**P**	**02 45 58.5**	**+2.7**
	comp=Z,11nm,1.1s								
YKA	**Yellowknife Ar**	**38.45**	**312**	P		**P**	**P**	**02 46 01.2**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=57,slow=8.9,SNR=11								
YKA				PcP		**PcP**	**PcP**	**02 48 14.1**	**-0.7**
	comp=Z,0.2nm,0.7s,baz=47,slow=3.2,SNR=3.6								
YKA				LR		LR	LR	03 01 03.7	
	comp=Z,29nm,18.9s,baz=3.0,slow=35								
YKB5	**Yellowknife Ar**	**38.45**	**312**	*e*P		**P**	**P**	**02 46 01.2**	**-0.8**
YKB5				*e*PcP		**PcP**	**PcP**	**02 48 14.1**	**-0.7**
ECSD	**EROS Data Cent**	**41.47**	**279**	*e*P		**P**	**P**	**02 46 28.5**	**+1.1**
	comp=Z,20nm,1.6s								
INK	**Inuvik**	**41.55**	**327**	*e*P		**P**	**P**	**02 46 25.4**	**-2.2**
	comp=Z,5.4nm,1.1s								
INK	**Inuvik**	**41.55**	**327**	P		**P**	**P**	**02 46 26.9**	**-0.8**
	comp=Z,3.8nm,1.1s,baz=39,slow=7.9,SNR=4.9								
V48A	**Smith Brothers**	**42.11**	**262**	*e*P		**P**	**P**	**02 46 35.0**	**+2.3**
	comp=Z,16nm,1.4s								
PBMO	**Poplar Bluff**	**43.22**	**267**	*e*P		**P**	**P**	**02 46 42.8**	**+1.2**
	comp=Z,12nm,1.3s								
TAM	**Tamanrasset**	**44.44**	**126**	*e*P		**P**	**P**	**02 46 54.5**	**+2.8**
	comp=Z,4.2nm,1.2s								
BR101	**Keskin Array S**	**44.92**	**84**	*e*P		**P**	**P**	**02 46 55.5**	**0.0**
BRTR	**Keskin Array B**	**44.92**	**84**	P		**P**	**P**	**02 46 55.5**	**0.0**
	comp=Z,2.3nm,1.1s,baz=324,slow=6.1,SNR=7.1								
BRTR				LR		LR	LR	03 06 59.9	
	comp=Z,46nm,18.1s,baz=278,slow=38								
TOLK	**Toolik Lake Re**	**45.60**	**333**	*e*P		**P**	**P**	**02 47 01.8**	**+1.5**
	comp=Z,19nm,1.5s								
DAWY	**Dawson**	**46.17**	**324**	*e*P		**P**	**P**	**02 47 04.5**	**-0.4**
	comp=Z,9.1nm,1.1s								
MIAR	**Mount Ida**	**46.58**	**267**	*e*P		**P**	P	02 47 12.3	+3.8
	comp=Z,9.7nm,1.2s								
COLD	**Coldfoot**	**46.83**	**332**	*e*P		**P**	**P**	**02 47 10.8**	**+0.8**
	comp=Z,2.7nm,0.8s								
KBZ	**Khabaz**	**46.85**	**74**	LR		LR	LR	03 07 35.4	
	comp=Z,49nm,18.1s,baz=338,slow=37								
SCRK	**Sand Creek**	**47.62**	**326**	*e*P		**P**	**P**	**02 47 16.8**	**+0.5**
	comp=Z,9.3nm,1.2s								
IL1	**Eielson Array**	**47.85**	**328**	*e*P		**P**	**P**	**02 47 17.4**	**-0.5**
ILAR	**Eielson Array**	**47.85**	**328**	P		**P**	**P**	**02 47 17.2**	**-0.7**
	comp=Z,7.7nm,1.1s,baz=33,slow=5.3,SNR=14								
ILB	**Eielson Array**	**47.85**	**328**	*e*P		**P**	**P**	**02 47 16.4**	**-1.6**
	comp=Z,8.1nm,1.3s								
MDM	**Murphy Dome**	**48.07**	**329**	*e*P		**P**	**P**	**02 47 21.2**	**+1.5**
	comp=Z,7.6nm,1.2s								
IM3	**Indian Mountai**	**48.69**	**332**	*e*P		**P**	**P**	**02 47 25.5**	**+1.1**
PAX	**Paxson**	**48.82**	**326**	*e*P		**P**	**P**	**02 47 28.4**	**+2.8**
	comp=Z,8.8nm,1.3s								
PD31	**Pinedale Array**	**48.83**	**287**	*e*P		**P**	**P**	**02 47 24.8**	**-1.3**
	comp=Z,2.9nm,1.1s								
PDAR	**Pinedale Array**	**48.83**	**287**	*e*P		**P**	**P**	**02 47 24.2**	**-1.9**
PDAR	**Pinedale Array**	**48.83**	**287**	P		**P**	**P**	**02 47 24.8**	**-1.3**
	comp=Z,1.3nm,0.9s,baz=66,slow=8.4,SNR=7.3								
FXWY	**Fox Creek**	**48.94**	**289**	*e*P		**P**	**P**	**02 47 25.8**	**-1.1**
	comp=Z,3.9nm,1.2s								
AKTO	**Aktyubinsk**	**49.33**	**57**	P		**P**	**P**	**02 47 29.1**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=338,slow=6.1,SNR=8.2								
ABKAR	**Akbulak array**	**51.05**	**57**	*e*P		**P**	**P**	**02 47 42.6**	**0.0**
	comp=Z,4.1nm,0.9s								
SUA	**Susitna One**	**51.54**	**327**	*e*P		**P**	**P**	**02 47 47.9**	**+1.8**
	comp=Z,51nm,1.8s								
TOA1	**Torodi Ar. Sit**	**51.63**	**136**	*e*P		**P**	**P**	**02 47 45.5**	**-1.8**
TOA0	**Torodi Ar. Sit**	**51.64**	**136**	*e*P		**P**	**P**	**02 47 44.1**	**-3.2**
TORD	**Torodi Ar. Bea**	**51.64**	**136**	P		**P**	**P**	**02 47 45.5**	**-1.8**
	comp=Z,1.3nm,0.9s,baz=333,slow=7.5,SNR=7.6								
TORD				LR		LR	LR	03 06 50.5	
	comp=Z,36nm,21.9s,baz=300,slow=33								
NLU	**North Lily Min**	**52.18**	**287**	*e*P		**P**	**P**	**02 47 52.8**	**+1.4**
	comp=Z,4.9nm,1.1s								
BRVK	**Borovoye**	**52.56**	**48**	*e*P		**P**	**P**	**02 47 57.2**	**+3.5**
	comp=Z,6.3nm,1.2s								
MNTX	**Cornudas Mount**	**55.03**	**275**	*e*P		**P**	**P**	**02 48 13.4**	**+1.2**
	comp=Z,9.9nm,1.7s								
TXAR	**Lajitas Array**	**55.99**	**272**	P		**P**	**P**	**02 48 18.6**	**-0.6**
	comp=Z,0.8nm,1.0s,baz=60,slow=7.4,SNR=4.4								
NV01	**Mina Array Sit**	**56.47**	**290**	*e*P		**P**	**P**	**02 48 22.2**	**-0.4**
NVAR	**Mina Array Bea**	**56.47**	**290**	P		**P**	**P**	**02 48 22.2**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=60,slow=4.7,SNR=4.4								
KURK	**Kurchatov**	**57.60**	**45**	*e*P		**P**	**P**	**02 48 29.5**	**-0.7**
	comp=Z,6.7nm,1.2s								
MK31	**Makanchi Array**	**62.21**	**45**	*e*P		**P**	**P**	**02 49 01.1**	**-0.8**
	comp=Z,1.9nm,1.1s								
MK32	**Makanchi Array**	**62.21**	**45**	*e*P		**P**	**P**	**02 49 01.3**	**-0.6**
MKAR	**Makanchi Array**	**62.21**	**45**	P		**P**	**P**	**02 49 01.3**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=339,slow=4.9,SNR=6.8								
MK01	**Makanchi Array**	**62.23**	**45**	*e*P		**P**	**P**	**02 49 00.9**	**-1.2**
GAR	**Garm**	**63.69**	**58**	*e*P		**P**	**P**	**02 49 12.8**	**+0.7**
	comp=Z,12nm,0.8s								
H10S1	**ASCENSION HYDR**	**68.39**	**161**	T		T		04 03 50.1	
	baz=350,slow=75,SNR=11								
H10S3	**ASCENSION HYDR**	**68.40**	**161**	T		T		04 03 50.3	
	baz=350,slow=75,SNR=13								
H10S2	**ASCENSION HYDR**	**68.41**	**161**	T		T		04 03 54.4	
	baz=350,slow=75,SNR=14								
SONA0	**Songino Array**	**68.91**	**29**	*e*P		**P**	**P**	**02 49 44.8**	**-0.6**
SONM	**Songino Array**	**68.91**	**29**	P		**P**	**P**	**02 49 44.8**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=350,slow=7.5,SNR=4.4								
SIV	**San Ignacio**	**77.69**	**209**	P		**P**		**02 50 34.6**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=0.0,slow=4.0,SNR=3.9								
BOSA	**Boshof**	**98.78**	**132**	LR		LR	LR	03 35 03.0	
	comp=Z,46nm,18.8s,baz=242,slow=34								
WR1	**Warramunga Arr**	**140.52**	**20**	*e*PKPdf		**PKPdf**		**02 58 08.1**	**-1.8**
WRA	**Warramunga Arr**	**140.52**	**20**	PKP		**PKPdf**		**02 58 08.1**	**-1.8**
	comp=Z,1.0nm,0.8s,baz=9.9,slow=2.6,SNR=3.2								
AS31	**Alice Springs**	**144.06**	**22**	*e*PKPdf		PKPbc		02 58 13.2	-0.8
ASAR	**Alice Springs**	**144.06**	**22**	PKP		PKPbc		02 58 13.2	-0.9
	comp=Z,0.3nm,0.4s,baz=27,slow=2.3,SNR=2.9					

comp=Z,64nm,20.1s,baz=58,slow=36
DBIC Dimbokro 55.44 146 LR LR 03 28 55.5
comp=Z,45nm,19.0s,baz=332,slow=32
NVAR Mina Array Bea 56.47 290 LR LR 03 31 20.1
comp=Z,42nm,19.2s,baz=340,slow=34
MKAR Makanchi Array 62.38 45 P **P 03 09 27.2 -0.1**
0.2nm,0.6s,baz=339,slow=7.7,SNR=2.9
SONM Songino Array 69.10 28 P **P 03 10 10.6 -0.2**
0.2nm,0.3s,baz=328,slow=5.1,SNR=3.2
KSRS Korea Array 83.43 16 LR LR 03 48 49.8
comp=Z,10.0nm,18.2s,baz=75,slow=36

SJA 21 03:11:04.2±0.8, 31°90S×70°06W, h115km±7km, ML2.4, MW3.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.66**	**82**	*i* P	Pn	03 11 23.7	+0.6
RTLS				*i* S	Sn	03 11 38.9	+1.6
RTLS				IAML		03 11 41.0	
	comp=Z,32nm,0.1s						
AUSP	**Uspallata**	**0.66**	**120**	*i* P	Pn	03 11 23.6	+0.5
ASAL	**Salagasta**	**1.25**	**124**	*i* P	Pn	03 11 29.5	+1.0
ASAL				*i* S	Sn	03 11 48.5	+1.5
RTCV	**Cerro Valdivia**	**1.29**	**89**	*i* P	Pn	03 11 29.7	+0.7
RTCV				*i* S	Sn	03 11 48.9	+1.1
ROC1	**El Roble**	**1.35**	**217**	*i* P	Pn	03 11 30.6	+0.8
ROC1				*i* S	Sn	03 11 50.7	+1.5
RTLL	**Cerro Villicun**	**1.47**	**68**	*i* P	Pn	03 11 31.9	+0.9
RTLL				IAML		03 11 51.9	
	comp=Z,72nm,0.3s						
RTLL				*i* S	Sn	03 11 52.0	+0.7
ACCO	**Cerro Coronel**	**1.56**	**33**	*i* P	Pn	03 11 33.8	+1.4
ACCO				*i* S	Sn	03 11 55.9	+2.2
AMOG	**MOGNA**	**1.64**	**55**	*i* P	Pn	03 11 34.1	+1.0
AMOG				*i* S	Sn	03 11 56.6	+1.5

*IDC **21** 03:22:09.5±2.8, 51°15N×179°07W, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.5/44, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=69.0km s-min=25.5km az=177.0*
*ISCJB **21** 03:22:13.7±1.0, 51°2N±0°1×179°32W±0°08, h45km, mb3.6/5, Error ellipse: s-maj=18.9km s-min=6.9km az=169.1*
*NEIC **21** 03:22:14.2±0.0, 51°17N×179°22W, h22km, ML3.8(AEIC), After AEIC.*

ISC 21 03:22:15.7±1.4, 51°3N±0°2×179°30W±0°08, h45km, n30, σ1s22/28, mb3.5/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**0.58**	**34**	P	**Pn**	**03 22 27.3**	**-0.5**
GAEA	**Gareloi East**	**0.61**	**34**	P	**Pn**	**03 22 27.6**	**-0.5**
TASE	**Tanaga Southea**	**0.96**	**54**	P	**Pn**	**03 22 32.3**	**-0.5**
TAFP	**Tanaga Falls P**	**1.03**	**52**	P	**Pn**	**03 22 32.9**	**-0.8**
TAFP				S	**Sn**	**03 22 47.3**	**+0.3**
KIMD	**Kanaga Island**	**1.38**	**69**	P	**Pn**	**03 22 37.4**	**-1.0**
KIKV	**Kanaga Island**	**1.46**	**65**	P	**Pn**	**03 22 38.8**	**-0.7**
KIKV				S	**Sn**	**03 22 57.7**	**+0.3**
KICM	**Kanaga Island**	**1.46**	**63**	P	**Pn**	**03 22 39.3**	**-0.2**
KINC	**Kanaga Island**	**1.50**	**63**	P	**Pn**	**03 22 39.8**	**-0.3**
KIRH	**Kanaga Island**	**1.51**	**65**	P	**Pn**	**03 22 39.7**	**-0.5**
ADAG	**Mount Adagdak**	**1.82**	**66**	P	**Pn**	**03 22 44.2**	**-0.3**
ADAG				S	**Sn**	**03 23 08.0**	**+1.7**
ETKA	**Kagalaska Isla**	**1.90**	**71**	P	**Pn**	**03 22 44.6**	**-0.9**
GSTD	**Great Sitkin T**	**2.11**	**67**	P	**Pn**	**03 22 48.5**	**0.0**
GSTD				S	**Sn**	**03 23 15.9**	**+2.3**
GSMY	**Great Sitkin M**	**2.16**	**68**	P	**Pn**	**03 22 48.8**	**-0.3**
KOWE	**Korovin West**	**3.31**	**69**	P	**Pn**	**03 23 05.4**	**+0.4**
KOKL	**Mount Kliuchef**	**3.33**	**70**	P	**Pn**	**03 23 05.8**	**+0.5**
KOFP	**Korovin Flat P**	**3.38**	**71**	P	**Pn**	**03 23 07.1**	**+1.2**
SMY	**Shemya**	**4.33**	**292**	P	**Pn**	**03 23 20.0**	**+1.1**
SPIA	**Saint Paul Isl**	**7.94**	**38**	P	**Pn**	**03 24 10.7**	**+2.4**
KDAK	**Kodiak Island**	**16.74**	**57**	Pn	**Pn**	**03 26 04.1**	**-2.5**
	0.3nm,0.3s,baz=234,slow=3.0,SNR=10						
ILAR	**Eielson Array**	**21.52**	**39**	P	**P**	**03 26 59.1**	**-1.4**
	0.3nm,0.6s,baz=231,slow=8.4,SNR=6.4						
H11N2	**WAKE ISLAND Hy 33.31**	**204**		T	T	04 04 12.2	
	baz=17,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy 33.32**	**204**		T	T	04 04 06.6	
	baz=17,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy 33.33**	**204**		T	T	04 04 13.7	
	baz=17,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy 34.53**	**204**		T	T	04 05 42.6	
	baz=16,slow=76,SNR=12						
H11S2	**WAKE ISLAND Hy 34.55**	**204**		T	T	04 05 43.8	
	baz=16,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 34.55**	**204**		T	T	04 05 43.3	
	baz=16,slow=76,SNR=6.3						
YKA	**Yellowknife Ar**	**35.53**	**46**	P	**P**	**03 29 06.1**	**-1.7**
	0.2nm,0.5s,baz=279,slow=8.2,SNR=3.8						
SONM	**Songino Array**	**46.41**	**296**	P	**P**	**03 30 38.6**	**+0.9**
	0.5nm,0.8s,baz=58,slow=8.7,SNR=3.5						
PDAR	**Pinedale Array**	**46.64**	**72**	P	**P**	**03 30 39.5**	**-0.1**
	0.7nm,0.5s,baz=307,slow=3.2,SNR=11						
SPITS	**Spitsbergen Ar**	**50.45**	**356**	P	**P**	**03 31 10.2**	**+2.1**
	3.1nm,0.8s,baz=12,slow=7.5,SNR=8.1						

*IDC **21** 03:39:43.7±1.3, 36°25N×141°82E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.5/48, mbtmp3.6/6, ML3.1/2, Error ellipse: s-maj=30.3km s-min=21.4km az=61.0*
*JMA **21** 03:39:47.9±0.2, 36°50N×141°71E, h55km±5km, M3.3*

ISC 21 03:39:45.0±3.7, 36°47N±0°05×141°88E±0°08, h13km±23km, n19, σ1s18/26, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**1.05**	**264**	P	**Pb**	**03 40 04.9**	**-0.1**
JHYU				S	**Sb**	**03 40 17.8**	**-0.8**
JHO	**Hitachi**	**1.06**	**278**	P	**Pb**	**03 40 04.6**	**-0.6**
JHO				S	**Sb**	**03 40 17.0**	**-2.1**
ONAJ	**Iwakimizuishiy**	**1.07**	**307**	P	**Pb**	**03 40 05.1**	**-0.3**
ONAJ				S	**Sb**	**03 40 18.6**	**-0.8**
CHOJ	**Chosi**	**1.12**	**228**	P	**Pn**	**03 40 06.6**	**+0.2**
CHOJ				S	**Sb**	**03 40 21.8**	**+1.0**
JFK	**Kawauchi**	**1.21**	**318**	P	**Pn**	**03 40 07.2**	**-0.4**
JFK				eS	**Sb**	**03 40 21.9**	**-1.3**
JFT	**Otama**	**1.62**	**311**	P	**Pn**	**03 40 14.0**	**+0.7**
JMM	**Marumori**	**1.64**	**329**	P	**Pn**	**03 40 13.4**	**-0.2**
JAG	**Ashikaga**	**1.96**	**270**	P	**Pn**	**03 40 18.1**	**+0.2**
JFY	**Yanaizu**	**1.98**	**299**	P	**Pn**	**03 40 19.6**	**+1.4**
BSO3	**Boso 3**	**2.00**	**214**	P	**Pn**	**03 40 19.2**	**+1.0**
JRY	**Ryogami san**	**2.45**	**260**	P	**Pn**	**03 40 24.9**	**+0.2**
MJAR	**Matsushiro Arr**	**2.96**	**273**	Pn	**Pn**	**03 40 32.7**	**+1.1**
	0.9nm,0.3s,baz=96,slow=8.3,SNR=27						
MJAR				Sn	**Sn**	**03 41 07.5**	**+0.5**
	0.9nm,0.3s,baz=216,slow=34,SNR=6.9						
MAT	**Matsushiro**	**2.96**	**273**	P	**Pn**	**03 40 32.8**	**+1.1**
MAT				S	**Sn**	**03 41 07.6**	**+0.6**
JHJ	**Hachijo jima 2**	**3.76**	**208**	Pn	Pn	03 40 37.7	-4.9
	16nm,0.3s,baz=73,slow=20,SNR=3.1						
JHJ				Sn	**Sn**	**03 41 23.2**	**-3.5**
	54nm,0.3s,baz=68,slow=22,SNR=6.7						
SONM	**Songino Array**	**28.41**	**305**	P	**P**	**03 45 39.9**	**+0.6**
	0.5nm,0.6s,baz=108,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**44.74**	**303**	P	**P**	**03 47 59.2**	**+1.2**
	0.5nm,0.9s,baz=102,slow=6.1,SNR=3.4						
WRA	**Warramunga Arr**	**56.55**	**189**	P	**P**	**03 49 26.7**	**-0.5**
	0.5nm,0.4s,baz=7.3,slow=7.4,SNR=16						
ASAR	**Alice Springs**	**60.28**	**188**	P	**P**	**03 49 52.6**	**-0.6**
	0.6nm,0.8s,baz=18,slow=8.2,SNR=4.7						
LPAZ	**La Paz**	**146.65**	**61**	PKPbc	**PKPbc**	**03 59 28.1**	**+0.5**
	0.5nm,0.3s,baz=309,slow=2.7,SNR=6.6						

IDC 21 03:46:14.6±61.0, 18°44S×172°91W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/39, mbtmp3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=1173.0km s-min=200.3km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.00**	**243**	P	P	03 54 15.4	-0.5
	3.7nm,0.9s,baz=300,slow=9.4,SNR=2.8						
JAY	**Jayapura**	**48.09**	**284**	LR	LR	04 13 47.9	
	comp=Z,20nm,18.6s,baz=158,slow=34						
WRA	**Warramunga Arr**	**49.67**	**259**	P	P	03 55 08.1	-0.5
	0.2nm,0.5s,baz=97,slow=7.0,SNR=7.5						
ASAR	**Alice Springs**	**49.68**	**254**	P	P	03 55 09.3	+0.6
	0.7nm,0.8s,baz=92,slow=8.5,SNR=4.8						

*IDC **21** 03:46:16.6±1.0, 57°94N×32°37W, h0km, mb3.6/13, mb1 3.7/13, mb1mx3.6/54, mbtmp3.6/13, MS3.1/3, Ms1 3.1/3, ms1mx2.7/33, Error ellipse: s-maj=31.4km s-min=16.1km az=9.0*
*ISCJB **21** 03:46:17.3±0.8, 57°9N±0°2×32°4W±0°2, h18km, mb3.6/13, MS3.0/3, Error ellipse: s-maj=25.1km s-min=12.3km az=6.6*

ISC 21 03:46:19.2±0.9, 57°9N±0°2×32°4W±0°1, h18km, n15, σ0s87/14, mb3.7/13, MS3.1/3, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NB2	**NORSAR Subarra**	**22.04**	**63**	P	**P**	**03 51 13.1**	**+0.6**
	comp=Z,8.9nm,1.1s,baz=281,slow=9.3						
NOA	**NORSAR Array B**	**22.04**	**63**	P	**P**	**03 51 12.6**	**0.0**
	comp=Z,1.2nm,0.9s,baz=283,slow=9.3,SNR=4.0						
NOA				LR	LR	03 58 29.4	
	comp=Z,26nm,19.6s,baz=270,slow=33						
HFS	**Hagfors**	**23.44**	**65**	P	**P**	**03 51 27.3**	**+0.2**
	comp=Z,5.8nm,0.9s,baz=288,slow=6.1,SNR=3.7						
GERES	**GERESS Array B**	**28.43**	**88**	LR	LR	04 03 17.8	
	comp=Z,60nm,19.0s,baz=305,slow=36						
FINES	**FINESS Array B**	**28.85**	**58**	P	**P**	**03 52 15.4**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=304,slow=9.9,SNR=2.1						
AKASG	**Malin Array Be**	**35.50**	**74**	P	**P**	**03 53 13.4**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=307,slow=8.5,SNR=5.7						
YKA	**Yellowknife Ar**	**38.50**	**312**	P	**P**	**03 53 39.5**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=59,slow=8.7,SNR=3.4						
INK	**Inuvik**	**41.68**	**327**	P	**P**	**03 54 07.1**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=27,slow=4.5,SNR=2.4						
BRTR	**Keskin Array B**	**45.12**	**84**	P	**P**	**03 54 36.0**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=309,slow=5.1,SNR=9.3						
BRTR				LR	LR	04 13 17.4	
	comp=Z,21nm,19.8s,baz=298,slow=36						
ILAR	**Eielson Array**	**47.98**	**328**	P	**P**	**03 54 56.1**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=31,slow=6.2,SNR=4.6						
PDAR	**Pinedale Array**	**48.74**	**287**	P	**P**	**03 55 03.5**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=64,slow=6.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**51.57**	**136**	P	**P**	**03 55 24.1**	**0.0**
	comp=Z,1.0nm,0.9s,baz=344,slow=7.5,SNR=6.4						
TXAR	**Lajitas Array**	**55.83**	**272**	P	**P**	**03 55 54.4**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=40,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**62.51**	**45**	P	**P**	**03 56 40.2**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=338,slow=4.4,SNR=5.0						
SONM	**Songino Array**	**69.23**	**28**	P	**P**	**03 57 25.1**	**+0.5**
	comp=Z,0.9nm,1.1s,baz=316,slow=6.0,SNR=3.2						

*ISCJB **21** 03:53:58.9±0.2, 12°57N±0°02×87°69W±0°02, h95km±1km, mb4.8/217, Error ellipse: s-maj=4.0km s-min=2.2km az=31.8*
*IDC **21** 03:53:59.8±0.6, 12°94N×87°24W, h84km±4km, mb4.0/19, mb1 4.2/22, mb1mx4.1/40, mbtmp4.3/22, MS3.5/18, Ms1 3.5/18, ms1mx3.3/29, Error ellipse: s-maj=21.3km s-min=9.1km az=53.0*
*UCR **21** 03:53:59.5±1.5, 12°56N×87°76W, h66km±12km, MD4.4, ML4.5, mb4.8(NEIC)*
*MOS **21** 03:54:00.8±1.2, 12°60N×87°57W, h112km, mb4.9/36, Error ellipse: s-maj=13.6km s-min=5.3km az=110.6*
*BJI **21** 03:54:00.1, 12°60N×87°70W, h86km, Ms4.6/1, Ms7 4.3/1*
*NEIC **21** 03:54:02.6±2.2, 12°62N×87°61W, h107km±4km, mb4.8/262, MD4.6(SNET), Error ellipse: s-maj=13.1km s-min=8.6km az=49.0*
NEIC Felt [II] at San Miguel, El Salvador.

ISC 21 03:54:00.0±0.4, 12°62N±0°04×87°69W±0°04, h90km±3km, h91km:pP-P, n878, σ1s29/917, mb4.8/217, 3C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.63**	**83**	*e*P	**Pn**	**03 54 15.2**	**-0.7**
CNCH	**Conchagua**	**0.67**	**348**	*e*P	**Pn**	**03 54 14.8**	**-1.6**
CNCH				*e*S	**Sn**	**03 54 26.9**	**-1.7**
LCND	**La Caada**	**0.71**	**344**	*e*P	**Pn**	**03 54 15.2**	**-1.5**
LCND				*e*S	**Sn**	**03 54 27.7**	**-1.4**
LCND				IAML		03 54 30.2	
	comp=Z,48µm,0.2s						
CNGN	**Cerro Negro**	**0.97**	**97**	*e*P	**Pn**	**03 54 18.3**	**-1.2**
CNGN				*e*S	**Sn**	**03 54 32.7**	**-1.4**
BLLM	**Bellamira**	**0.98**	**327**	*e*P	**Pn**	**03 54 18.4**	**-1.1**
VSM	**San Miguel**	**0.98**	**325**	*e*P	**Pn**	**03 54 18.8**	**-1.1**
MOMN	**Momotombo**	**1.14**	**101**	*e*P	**Pn**	**03 54 20.4**	**-1.1**
MOMN				*e*S	**Sn**	**03 54 36.2**	**-1.4**
TECA	**Tecapa**	**1.18**	**318**	*e*P	**Pn**	**03 54 20.9**	**-1.1**
CAHU	**Cacacuatique**	**1.25**	**336**	*i* P	**Pn**	**03 54 22.3**	**-0.6**
BRAN	**Las Pilas**	**1.31**	**86**	*e*P	**Pn**	**03 54 23.9**	**+0.5**
BRAN				*e*S	**Sn**	**03 54 43.0**	**+1.9**
UESV	**Ojushtada**	**1.31**	**305**	*e*P	**Pn**	**03 54 24.6**	**+1.1**
UESV				*e*S	**Sn**	**03 54 43.5**	**+2.2**
UESV				IAML		03 54 46.5	
	comp=Z,9µm,0.5s						
MGAN	**Managua**	**1.48**	**108**	*e*P	**Pn**	**03 54 24.7**	**-0.8**
MGAN				*e*S	**Sn**	**03 54 44.1**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.48**	**16**	*e*Pn	**Pn**	**03 54 26.1**	**+0.5**
TGUH				*e*Sn	**Sn**	**03 54 46.7**	**+1.8**
SNVI	**San Vicente**	**1.49**	**311**	*e*P	**Pn**	**03 54 25.1**	**-0.8**
CRUN	**El Crucero**	**1.50**	**115**	*e*P	**Pn**	**03 54 25.2**	**-0.6**
VICT	**Victoria**	**1.62**	**325**	*e*P	**Pn**	**03 54 26.7**	**-0.7**
VICT				*e*S	**Sn**	**03 54 47.1**	**-1.1**
MASN	**Masaya**	**1.63**	**113**	*e*P	**Pn**	**03 54 27.0**	**-0.5**
MASN				*e*S	**Sn**	**03 54 46.9**	**-1.4**
PAVA	**Las Pavas**	**1.63**	**312**	*e*P	**Pn**	**03 54 26.7**	**-0.9**
PAVA				IAML		03 54 54.0	
	comp=Z,5µm,0.4s						
LFRS	**El Faro**	**1.67**	**307**	*e*P	**Pn**	**03 54 27.0**	**-1.1**
LBRS	**Las Brisas**	**1.73**	**310**	*e*P	**Pn**	**03 54 28.1**	**-0.6**
MATN	**Matagalpa**	**1.75**	**80**	*e*P	**Pn**	**03 54 28.6**	**-0.4**
MATN				*e*S	**Sn**	**03 54 51.7**	**+0.6**
LOMA	**San Marcos**	**1.77**	**305**	*e*P	**Pn**	**03 54 28.8**	**-0.6**
LOMA				*e*S	**Sn**	**03 54 50.0**	**-1.6**
LOMA				IAML		03 54 54.6	
	comp=Z,11µm,0.3s						
LFU	**La Fuente**	**1.79**	**309**	*e*P	**Pn**	**03 54 28.9**	**-0.6**
OPAM	**San Salvador**	**1.83**	**307**	*e*S	**Sn**	**03 54 51.7**	**-1.4**
OPAM				IAML		03 54 57.2	
	comp=Z,7µm,0.3s						
SNET	**Serv Nac Est T**	**1.84**	**305**	*e*S	**Sn**	**03 54 51.2**	**-2.0**
SNET				IAML		03 54 54.4	
	comp=Z,4µm,0.2s						
UEES	**San Salvador**	**1.87**	**306**	*e*S	**Sn**	**03 54 51.9**	**-2.1**
UEES				IAML		03 55 01.4	
	comp=Z,5µm,0.4s						
BOQS	**Boqueron**	**1.91**	**306**	*e*P	**Pn**	**03 54 30.6**	**-0.6**
LLGN	**La Laguna**	**1.97**	**322**	*e*P	**Pn**	**03 54 31.2**	**-0.8**
CEVE	**Cerro Verde**	**2.23**	**303**	*e*P	**Pn**	**03 54 35.0**	**-0.5**
CEVE				IAML		03 55 06.7	
	comp=Z,9µm,0.3s						
SBLS	**San Blas**	**2.24**	**303**	*e*P	**Pn**	**03 54 35.2**	**-0.4**
CONN	**Concepcion**	**2.27**	**117**	*e*P	**Pn**	**03 54 34.8**	**-1.0**
RTR	**El Retiro**	**2.29**	**304**	*e*P	**Pn**	**03 54 35.5**	**-0.8**
MTO3	**Montecristo**	**2.40**	**318**	*e*P	**Pn**	**03 54 37.2**	**-0.6**
ACON	**Acoyapa**	**2.54**	**105**	*i* P	**Pn**	**03 54 38.7**	**-0.7**
GB1A	**Boringuen Arri**	**2.87**	**128**	*e*P	**Pn**	**03 54 44.2**	**+0.3**
BUEV	**Buena Vista**	**2.88**	**129**	*e*P	**Pn**	**03 54 43.7**	**-0.3**
GPS2	**Hotel Rincn d**	**2.95**	**129**	*i* P	**Pn**	**03 54 44.7**	**-0.2**
GPS2				*i* S	**Sn**	**03 55 16.5**	**-3.0**
LIM1	**Limonal**	**3.06**	**128**	*i* P	**Pn**	**03 54 45.9**	**-0.5**
MESS	**Mesas**	**3.08**	**127**	*i* P	**Pn**	**03 54 45.8**	**-0.8**
MESS				*e*P	**Pn**	**03 54 45.9**	**-0.8**
HORNC	**Hornillas**	**3.10**	**127**	*i* P	**Pn**	**03 54 45.8**	**-1.3**
COLC	**Colonia**	**3.11**	**128**	*i* P	**Pn**	**03 54 47.2**	**0.0**
CUI	**Cuipilapa**	**3.15**	**128**	*e*P	**Pn**	**03 54 47.3**	**-0.3**
PLVR	**Palo Verde**	**3.22**	**134**	*e*P	**Pn**	**03 54 48.3**	**-0.4**
ESPN	**Las Esperanzas**	**3.34**	**97**	*e*Pn	**Pn**	**03 54 50.2**	**+0.1**
ESPN				*e*Sn	**Sn**	**03 55 29.8**	**+1.0**
ESPN	**Las Esperanzas**	**3.34**	**97**	*e*P	**Pn**	**03 54 50.2**	**+0.1**
JTS	**JuntasAbangare**	**3.54**	**131**	*e*Pn	**Pn**	**03 54 52.4**	**-0.5**
JTS				*e*Sn	**Sn**	**03 55 32.1**	**-1.8**
JTS	**JuntasAbangare**	**3.54**	**131**	*e*P	**Pn**	**03 54 52.0**	**-0.9**
JTS	**JuntasAbangare**	**3.54**	**131**	P	**Pn**	**03 54 53.1**	**+0.2**
	comp=Z,6.2nm,0.3s,baz=7.5,slow=22,SNR=49						
JTS				S	**Sn**	**03 55 36.0**	**+2.2**
	comp=Z,32nm,0.3s,baz=18,slow=20,SNR=7.1						
JTS				LR	LR	03 56 37.7	
	comp=Z,325nm,20.6s,baz=68,slow=46						
JTS	**JuntasAbangare**	**3.54**	**131**	*e*P	**Pn**	**03 54 52.2**	**-0.7**
APG	**El Apazote**	**3.59**	**312**	P	**Pn**	**03 54 54.3**	**+0.6**
	comp=Z,3.4nm,0.3s,baz=136,slow=8.8,SNR=30						
APG				S	**Sn**	**03 55 40.9**	**+5.6**
	comp=Z,16nm,0.3s,baz=5.5,slow=16,SNR=6.4						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEDE	**Laguna Cedeo**	**3.61**	**126**	*e*P	**Pn**	**03 54 54.8**	**+0.8**
ARE1	**Arenal 1**	**3.62**	**126**	*e*P	**Pn**	**03 54 54.1**	**+0.2**
HDC	**Heredia**	**4.37**	**126**	*e*Pn	**Pn**	**03 55 08.6**	**+4.5**
HDC				*e*Sn	**Sn**	**03 55 54.9**	**+0.9**
HDC	**Heredia**	**4.37**	**126**	*e*P	**Pn**	**03 55 04.0**	**-0.2**
TRT1	**Tortuguero**	**4.39**	**117**	*e*P	**Pn**	**03 55 03.6**	**-0.9**
LCR2	**La Lucha 2**	**4.61**	**128**	*e*P	**Pn**	**03 55 08.2**	**+0.7**
EDPN	**Palmar Norte**	**5.52**	**131**	*e*P	**Pn**	**03 55 21.4**	**+1.7**
CCIG	**Comitan**	**5.64**	**311**	*e*Pn	**Pn**	**03 55 23.6**	**+2.1**
CCIG				*e*Sn	**Sn**	**03 56 25.4**	**+0.3**
BRU2	**Volcan**	**6.21**	**127**	*e*P	**Pn**	**03 55 29.4**	**+0.1**
ICCO	**Coco Island**	**7.06**	**175**	*e*P	**Pn**	**03 55 41.0**	**+0.2**
CMIG	**Matias Romero**	**8.26**	**303**	P	**Pn**	**03 55 58.0**	**+0.9**
	comp=Z,2.9nm,0.3s,baz=160,slow=13,SNR=27						
CMIG				S	**Sn**	**03 57 25.7**	**-3.0**
	comp=Z,2.4nm,0.3s,baz=348,slow=19,SNR=4.2						
FSCY	**Frank Sound, G**	**9.13**	**42**	*e*Pn	**Pn**	**03 56 13.1**	**+4.1**
TLIG	**Tlapa**	**11.60**	**296**	*e*Pn	**Pn**	**03 56 43.1**	**+0.5**
PAYG	**Puerto Ayora**	**13.46**	**191**	*e*P	**P**	**03 57 14.9**	**+1.5**
SMLC	**San Martn de**	**13.91**	**104**	*e*P	**P**	**03 57 17.9**	**-0.5**
SMLC	**San Martn de**	**13.91**	**104**	*e*P	**P**	**03 57 17.9**	**-0.5**
GTBY	**Guantanamo Bay**	**14.09**	**57**	*e*P	**P**	**03 57 20.8**	**+0.5**
YOTC	**Yotoco, Valle**	**14.12**	**126**	*e*P	**Pn**	**03 57 16.1**	**0.0**
YOTC	**Yotoco, Valle**	**14.12**	**126**	*e*Pn	**Pn**	**03 57 16.1**	**0.0**
PTBC	**PUERTO BERRIO,**	**14.37**	**114**	*e*P	**P**	**03 57 24.6**	**+1.0**
PTBC	**PUERTO BERRIO,**	**14.37**	**114**	*e*P	**P**	**03 57 24.6**	**+1.0**
OCAC	**Ocana**	**14.79**	**106**	*e*P	**P**	**03 57 29.2**	**+0.9**
OCAC	**Ocana**	**14.79**	**106**	*e*P	**P**	**03 57 29.2**	**+0.9**
POPC	**Popayan, Colom**	**14.80**	**132**	*e*P	**P**	**03 57 29.2**	**+0.6**
POPC	**Popayan, Colom**	**14.80**	**132**	*e*P	**P**	**03 57 29.2**	**+0.6**
059Z	**Ave Maria**	**14.86**	**22**	P	**P**	**03 57 27.8**	**-1.1**
	baz=204						
SOTA	**Rioblanco**	**15.13**	**133**	*e*P	**P**	**03 57 36.5**	**+4.0**
SOTA	**Rioblanco**	**15.13**	**133**	*e*P	**P**	**03 57 36.5**	**+4.0**
PCON	**Cinco Dias**	**15.15**	**132**	*e*P	**P**	**03 57 34.5**	**+1.7**
PCON	**Cinco Dias**	**15.15**	**132**	*e*P	**P**	**03 57 34.5**	**+1.7**
ROSC	**El Rosal**	**15.30**	**119**	*e*Pn	**P**	**03 57 36.5**	**+2.1**
	comp=Z,19nm,1.5s						
ROSC	**El Rosal**	**15.30**	**119**	P	**P**	**03 57 36.5**	**+2.1**
	comp=Z,0.7nm,0.3s,baz=360,slow=9.9,SNR=5.2						
ROSC				LR	LR	04 03 28.2	
	comp=Z,102nm,19.8s,baz=42,slow=38						
OTAV	**Otavalo**	**15.34**	**143**	*e*Pn	**Pn**	**03 57 31.6**	**-0.4**
	comp=Z,3.9nm,1.0s						
OTAV	**Otavalo**	**15.34**	**143**	*e*P	**P**	**03 57 39.2**	**+4.4**
OTAV	**Otavalo**	**15.34**	**143**	*e*P	**Pn**	**03 57 31.6**	**-0.4**
OTAV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
OTAV	**Otavalo**	**15.34**	**143**	*e*P	**P**	**03 57 39.2**	**+4.4**
059A	**Moore Haven**	**15.54**	**22**	P	**P**	**03 57 36.2**	**-0.3**
	baz=204						
RUSC	**La Rusia**	**15.88**	**114**	*e*P	**P**	**03 57 42.5**	**+1.7**
RUSC	**La Rusia**	**15.88**	**114**	*e*P	**P**	**03 57 42.5**	**+1.7**
857A	**Zephyrhills**	**16.38**	**17**	P	**P**	**03 57 46.9**	**+1.1**
	baz=199						
DWPF	**Disney Wildern**	**16.48**	**20**	P	**P**	**03 57 48.6**	**+1.7**
	baz=202						
LNIG	**Linares**	**16.52**	**319**	*e*Pn	**P**	**03 57 48.5**	**+1.1**
	comp=Z,22nm,0.8s						
858A	**St. Cloud**	**16.60**	**20**	P	**P**	**03 57 49.9**	**+1.7**
	baz=202						
SDDR	**Presa de Saban**	**

NATX **Nacogdoches** 20.10 342 *e*P Pn 03 58 28.8 -0.3
comp=Z,41nm,0.8s
NATX **Nacogdoches** 20.10 342 P Pn 03 58 28.4 -0.7
baz=160
152A **Waverly Hall** 20.14 7 *e*P Pn 03 58 29.8 +0.2
comp=Z,64nm,0.7s
152A **Waverly Hall** 20.14 7 P Pn 03 58 29.6 +0.1
baz=188,SNR=29
153A **Fort Valley** 20.25 9 P Pn 03 58 30.2 -0.6
baz=191
435B **Jarrell** 20.26 335 *e*P Pn 03 58 32.4 +1.4
comp=Z,36nm,0.7s
435B **Jarrell** 20.26 335 P Pn 03 58 31.9 +0.9
baz=151,SNR=6.7
LRAL **Lakeview Retre** 20.33 2 *e*P Pn 03 58 31.3 -0.4
comp=Z,34nm,0.7s
LRAL **Lakeview Retre** 20.33 2 P Pn 03 58 31.3 -0.5
baz=182,SNR=11
154A **Montrose** 20.34 11 *e*P Pn 03 58 31.9 0.0
comp=Z,216nm,0.7s
154A **Montrose** 20.34 11 P Pn 03 58 31.4 -0.5
baz=193,SNR=20
155A **Kite** 20.48 13 P Pn 03 58 33.0 -0.4
baz=194,SNR=11
Z49A **Columbiana** 20.51 3 P Pn 03 58 33.2 -0.7
baz=183,SNR=16
Z50A **Ashland** 20.60 4 *e*P Pn 03 58 34.2 -0.8
comp=Z,50nm,0.8s
Z50A **Ashland** 20.60 4 P Pn 03 58 34.0 -1.0
baz=185,SNR=23
Z52A **Williamson** 20.69 8 P Pn 03 58 35.4 -0.7
baz=189,SNR=11
Z51A **Franklin** 20.73 6 P Pn 03 58 35.7 -0.7
baz=187,SNR=12
156A **Sylvania** 20.73 15 P Pn 03 58 35.1 -1.4
baz=197
157A **Early Branch** 20.89 16 P Pn 03 58 37.3 -1.0
baz=198
Z53A **Monticello** 20.91 10 P Pn 03 58 37.3 -1.2
baz=191
Z54A **Sparta** 20.99 11 P **P** 03 58 37.8 +1.7
baz=193,SNR=8.4
JCT **Junction City** 21.01 330 *e*P **P** 03 58 37.3 +0.9
comp=Z,30nm,0.6s
JCT **Junction City** 21.01 330 *e*P **P** 03 58 37.3 +0.9
JCT pmax pmax
comp=Z,30nm,0.6s
JCT **Junction City** 21.01 330 P **P** 03 58 37.1 +0.7
baz=145,SNR=9.7
OBIP **Obispado Ponce** 21.03 73 *e*P **P** 03 58 36.8 +0.1
comp=Z,39nm,1.4s
GOGA **Godfrey** 21.05 10 *e*P **P** 03 58 39.0 +2.3
comp=Z,82nm,0.6s
GOGA **Godfrey** 21.05 10 *e*P **P** 03 58 39.0 +2.3
GOGA **Godfrey** 21.05 10 P **P** 03 58 38.8 +2.0
baz=191,SNR=50
Z41A **Richland Creek** 21.07 348 *e*P **P** 03 58 38.7 +1.8
comp=Z,70nm,0.6s
Z41A **Richland Creek** 21.07 348 P **P** 03 58 38.7 +1.8
baz=166,SNR=13
Z55A **Blythe** 21.13 13 P **P** 03 58 39.4 +1.9
baz=195,SNR=6.5
158A **Hollywood** 21.17 18 P **P** 03 58 39.4 +1.4
baz=200
Y49A **Blount Mountai** 21.17 3 *e*P **P** 03 58 40.0 +2.0
comp=Z,59nm,0.6s
Y49A **Blount Mountai** 21.17 3 P **P** 03 58 40.1 +2.0
baz=183,SNR=25
Y48A **Jasper** 21.20 1 P **P** 03 58 40.0 +1.6
baz=181,SNR=8.9
Y50A **Piedmont** 21.25 4 P **P** 03 58 40.6 +1.8
baz=185,SNR=13
WHTX **Lake Whitney,** 21.27 337 *e*P **P** 03 58 39.9 +0.8
comp=Z,43nm,1.3s
WHTX **Lake Whitney,** 21.27 337 P **P** 03 58 39.9 +0.8
baz=153,SNR=10
Y51A **Rockmart** 21.32 6 P **P** 03 58 41.6 +2.0
baz=187,SNR=22
Y52A **Lilburn** 21.40 8 *e*P **P** 03 58 42.8 +2.3
comp=Z,80nm,0.7s
Y52A **Lilburn** 21.40 8 P **P** 03 58 42.7 +2.1
baz=190,SNR=28
Z56A **Williston** 21.40 15 P **P** 03 58 42.1 +1.6
baz=197
SJG **San Juan** 21.47 73 P **P** 03 58 42.2 +0.9
comp=Z,22nm,0.8s,baz=248,slow=7.2,SNR=8.2
Y53A **Monroe** 21.47 9 P **P** 03 58 43.3 +2.1
baz=191,SNR=38
NHSC **New Hope** 21.52 17 *e*P **P** 03 58 45.0 +3.3
comp=Z,90nm,1.2s
NHSC **New Hope** 21.52 17 P **P** 03 58 43.6 +1.9
baz=200
CCAR **Cane Creek** 21.52 351 *e*P **P** 03 58 44.4 +2.7
comp=Z,26nm,0.8s
WLAR **White Oak Lake** 21.55 348 *e*P **P** 03 58 44.3 +2.3
comp=Z,44nm,0.7s
Z57A **Bowman** 21.55 16 P **P** 03 58 43.7 +1.6
baz=199
Y54A **Tignall** 21.63 11 P **P** 03 58 44.8 +1.9
baz=193,SNR=42
ATAH **Atahuapa** 21.69 154 LR LR 04 06 02.7
comp=Z,164nm,21.1s,baz=339,slow=33
X48A **Hartselle** 21.74 1 *e*P **P** 03 58 45.1 +1.0
comp=Z,13nm,0.8s
X48A **Hartselle** 21.74 1 P **P** 03 58 45.2 +1.0
baz=182,SNR=6.5
HUMP **Col San Antoni** 21.75 73 *e*P **P** 03 58 46.5 +2.1
comp=Z,17nm,0.9s
X47A **Russelville** 21.80 360 P **P** 03 58 45.8 +1.1
baz=179,SNR=14
X50B **Fort Payne** 21.82 5 P **P** 03 58 46.5 +1.5
baz=185,SNR=17
X49A **Woodville** 21.83 3 P **P** 03 58 46.4 +1.4
baz=183,SNR=15
Z58A **St. Stephen** 21.84 18 P **P** 03 58 46.1 +1.0
baz=201
OXF **Oxford** 21.85 356 *e*P **P** 03 58 46.1 +0.9
comp=Z,111nm,1.4s
OXF **Oxford** 21.85 356 *e*P **P** 03 58 46.1 +0.9
OXF pmax pmax
comp=Z,111nm,1.4s
OXF **Oxford** 21.85 356 P **P** 03 58 46.0 +0.8
baz=175,SNR=10
X46A **Booneville** 21.85 358 P **P** 03 58 46.7 +1.4
baz=178,SNR=14
Y56A **Pelion** 21.86 14 P **P** 03 58 45.9 +0.5
baz=197
Y55A **Saluda** 21.88 13 P **P** 03 58 47.2 +1.7
baz=195,SNR=15
Z59A **Georgetown, SC** 21.92 19 P **P** 03 58 46.5 +0.5
baz=202
X43A **Marvell** 21.99 353 P **P** 03 58 47.6 +0.8
baz=172
X51A **Calhoun** 22.00 6 *e*P **P** 03 58 48.6 +1.8
comp=Z,28nm,0.6s
X51A **Calhoun** 22.00 6 P **P** 03 58 48.7 +1.8
baz=187,SNR=7.4
MTP **Monte Pirata** 22.02 73 *e*P **P** 03 58 46.9 -0.4
comp=Z,39nm,0.9s
HPIG **22.07 313** *e*P **P** 03 58 48.6 +0.7
comp=Z,15nm,0.9s
HODGE **Hodges** 22.07 12 *e*P **P** 03 58 49.3 +1.7
comp=Z,56nm,0.8s
X53A **Estanollee** 22.15 10 P **P** 03 58 50.0 +1.6
baz=191,SNR=25
X52A **Dahlonega** 22.16 8 P **P** 03 58 50.0 +1.5
baz=190,SNR=17
X40A **Basin Creek Fa** 22.27 349 *e*P **P** 03 58 51.8 +2.1
comp=Z,13nm,1.0s
X40A **Basin Creek Fa** 22.27 349 P **P** 03 58 51.0 +1.3
baz=166,SNR=5.4
TXAR **Lajitas Array** 22.30 321 P **P** 03 58 50.8 +0.6
comp=Z,16nm,0.7s,baz=140,slow=9.5,SNR=117
TXAR pP **pP** 03 59 06.4 -1.8
comp=Z,4.0nm,0.7s,baz=138,slow=12,SNR=3.3
TXAR PcP **PcP** 04 02 43.5 +0.7
comp=Z,1.2nm,0.7s,baz=148,slow=5.2,SNR=4.5
TXAR pScP 04 03 08.0
comp=Z,1.3nm,0.7s,baz=151,slow=5.4,SNR=5.3
TXAR ScP **ScP** 04 06 14.2 +1.8
comp=Z,0.8nm,0.7s,baz=148,slow=5.8,SNR=6.9
TX31 **Lajitas Ar. Si** 22.30 321 *e*P **P** 03 58 50.5 +0.3
Y57A **Sumter** 22.31 16 P **P** 03 58 51.7 +1.5
baz=199,SNR=5.7
JSC **Jenkinsville** 22.34 14 *e*P **P** 03 58 52.4 +1.9
comp=Z,55nm,0.8s
JSC **Jenkinsville** 22.34 14 *e*P **P** 03 58 52.4 +1.9
JSC pmax pmax
comp=Z,55nm,0.8s
X54A **Belton** 22.36 12 P **P** 03 58 52.2 +1.6
baz=194,SNR=16
Y58A **Scranton** 22.41 18 P **P** 03 58 52.3 +1.1
baz=201
W46A **Michie** 22.42 359 P **P** 03 58 51.5 +0.2
baz=178
W48A **Pulaski** 22.43 2 P **P** 03 58 52.4 +1.0
baz=182,SNR=13
W49A **Belvidere** 22.44 3 P **P** 03 58 52.3 +0.8
baz=183,SNR=16
X55A **Gracelyn & Ava** 22.44 13 P **P** 03 58 53.2 +1.7
baz=195,SNR=12
UALR **University of** 22.46 350 *e*P **P** 03 58 52.8 +1.1
comp=Z,36nm,0.7s
UALR *e*pP **pP** 03 59 14.7 +5.0
MIAR **Mount Ida** 22.47 347 *e*P **P** 03 58 52.6 +0.7
comp=Z,43nm,0.6s
MIAR **Mount Ida** 22.47 347 *e*P **P** 03 58 52.6 +0.7
MIAR pmax pmax
comp=Z,43nm,0.6s
MIAR **Mount Ida** 22.47 347 P **P** 03 58 52.5 +0.7
baz=165,SNR=39
W47A **Westpoint** 22.53 0 P **P** 03 58 52.8 +0.4
baz=180,SNR=14
SWET **Sewanee** 22.55 4 *e*P **P** 03 58 53.5 +0.8
comp=Z,19nm,0.6s
W50A **Signal Mountai** 22.58 5 *e*P **P** 03 58 53.9 +0.8
comp=Z,36nm,0.5s
W50A **Signal Mountai** 22.58 5 P **P** 03 58 53.7 +0.6
baz=186,SNR=11
W51A **Cleveland** 22.60 6 P **P** 03 58 54.4 +1.3
baz=187,SNR=16
X56A **White Oak** 22.60 14 P **P** 03 58 54.6 +1.4
baz=197,SNR=12
STVI **Saint Thomas** 22.63 73 *e*P **P** 03 58 54.1 +0.4
comp=Z,30nm,0.8s
W52A **Murphy** 22.63 8 *e*P **P** 03 58 55.4 +1.8
comp=Z,52nm,1.4s
W52A **Murphy** 22.63 8 P **P** 03 58 54.9 +1.4
baz=189,SNR=10
BG3 **Lake Jocassee** 22.69 10 *e*P **P** 03 58 56.4 +2.3
comp=Z,88nm,0.6s
ABTX **Abilene, Hawle** 22.73 333 *e*P **P** 03 58 54.0 -0.5
comp=Z,28nm,0.8s
ABTX *e*pP **pP** 03 59 17.6 +4.9
ABTX **Abilene, Hawle** 22.73 333 P **P** 03 58 55.2 +0.7
baz=148,SNR=12
PAULI **Pauline** 22.74 13 *e*P **P** 03 58 56.9 +2.3
comp=Z,42nm,0.6s
X57A **Johnson Farm,** 22.82 16 P **P** 03 58 56.0 +0.6
baz=199
W53A **Cullowhee** 22.82 10 P **P** 03 58 56.9 +1.3
baz=191,SNR=11
W41B **Gary Mavity, V** 22.83 350 P **P** 03 58 56.1 +0.6
baz=168
W54A **Cherokee Point** 22.91 12 P **P** 03 58 58.3 +1.9
baz=194,SNR=42
X37A **Clayton** 22.96 344 *e*P **P** 03 58 58.4 +1.6
comp=Z,48nm,0.8s
Y60A **Bolivia** 22.97 21 P **P** 03 58 58.5 +1.6
baz=204,SNR=12
HBAR **Harrisburg** 22.99 354 *e*P **P** 03 58 57.7 +0.6
comp=Z,135nm,1.3s
HBAR *e*pP **pP** 03 59 14.5 -0.9
V48A **Smith Brothers** 23.03 2 *e*P **P** 03 58 58.1 +0.5
comp=Z,13nm,0.9s
V48A **Smith Brothers** 23.03 2 P **P** 03 58 57.5 0.0
baz=182,SNR=6.8
V50A **Pikevile** 23.07 5 P **P** 03 58 58.4 +0.6
baz=186,SNR=10
V46A **Holladay** 23.08 359 P **P** 03 58 57.3 -0.7
baz=179,SNR=5.6
V49A **McMinville** 23.10 4 P **P** 03 58 58.5 +0.3
baz=184,SNR=13
V47A **Nunnelly** 23.11 0 P **P** 03 58 57.9 -0.3
baz=180,SNR=11
X58A **Rowland** 23.12 18 P **P** 03 58 59.3 +1.0
baz=201,SNR=8.8
W39A **Magazine** 23.14 347 *e*P **P** 03 58 59.5 +0.9
comp=Z,21nm,0.7s
W39A **Magazine** 23.14 347 P **P** 03 58 59.4 +0.9
baz=165,SNR=10
KMSC **Kings Mountain** 23.15 13 *e*P **P** 03 59 00.2 +1.6
comp=Z,55nm,0.6s
KMSC **Kings Mountain** 23.15 13 P **P** 03 58 59.7 +1.0
baz=196,SNR=26
TKL **Tuckaleechee C** 23.21 8 *e*P **P** 03 59 00.5 +1.3
comp=Z,69nm,0.9s
TKL **Tuckaleechee C** 23.21 8 *e*P **P** 03 59 00.5 +1.3
TKL pmax pmax
comp=Z,69nm,0.9s
TKL **Tuckaleechee C** 23.21 8 P **P** 03 59 00.6 +1.3
comp=Z,45nm,0.8s,baz=180,slow=11,SNR=51
V51A **Loudon** 23.28 7 *e*P **P** 03 59 01.2 +1.3
comp=Z,18nm,0.6s
V51A **Loudon** 23.28 7 P **P** 03 59 00.8 +1.0
baz=188,SNR=8.1
W56A **Indian Trail** 23.32 15 P **P** 03 59 01.3 +1.1
baz=198,SNR=8.5
X59A **McDuffie Farm,** 23.36 19 P **P** 03 59 01.0 +0.5
baz=203
V53A **Saluda** 23.37 10 *e*P **P** 03 59 02.3 +1.6
comp=Z,30nm,0.8s
V53A **Saluda** 23.37 10 P **P** 03 59 02.1 +1.4
baz=192,SNR=16
WVT **Waverly** 23.41 360 *e*P **P** 03 59 00.7 -0.3
comp=Z,9.7nm,0.5s
WVT **Waverly** 23.41 360 *e*P **P** 03 59 00.7 -0.3
WVT pmax pmax
comp=Z,10.0nm,0.5s
WVT **Waverly** 23.41 360 P **P** 03 59 01.6 +0.6
baz=180
V52A **Sevierville** 23.41 8 *e*P **P** 03 59 02.3 +1.2
comp=Z,32nm,0.9s
V52A **Sevierville** 23.41 8 P **P** 03 59 02.3 +1.2
baz=190,SNR=13
W57A **Gilead** 23.49 16 P **P** 03 59 02.9 +1.1
baz=199,SNR=12
X60A **Albert Glenn T** 23.57 20 P **P** 03 59 03.1 +0.6
baz=204
V54A **Nebo** 23.63 12 P **P** 03 59 04.4 +1.3
baz=194,SNR=21
U46A **Springville** 23.64 359 P **P** 03 59 02.9 -0.2
baz=179,SNR=33
U47A **Clarksville** 23.72 1 P **P** 03 59 03.4 -0.4
baz=181,SNR=20
U48A **Cassie Pea, Po** 23.81 2 P **P** 03 59 04.4 -0.2
baz=183,SNR=11
U50A **Jamestown** 23.83 6 P **P** 03 59 05.5 +0.6
baz=187,SNR=14
U49A **Red Boiling Sp** 23.85 4 P **P** 03 59 05.5 +0.5
baz=184,SNR=11
V55A **Taylorsville** 23.86 13 P **P** 03 59 05.5 +0.4
baz=196,SNR=9.6
U51A **La Follette** 23.89 7 P **P** 03 59 06.4 +1.0
baz=189,SNR=17
U41A **Viola** 23.93 352 P **P** 03 59 06.1 +0.4
baz=170
W59A **Clinton** 23.96 19 P **P** 03 59 06.9 +1.0
baz=202
U52A **Thorn Hill** 23.99 9 P **P** 03 59 07.4 +1.1
baz=190
PARMO **Parma** 24.01 356 *e*P **P** 03 59 07.5 +1.1
comp=Z,57nm,0.7s
U53A **Fall Branch** 24.09 10 P **P** 03 59 08.4 +1.3
baz=192,SNR=23
U40A **Yellville** 24.09 350 P **P** 03 59 07.6 +0.5
baz=67
W60A **Pink Hill** 24.09 20 P **P** 03 59 08.2 +1.0
baz=204,SNR=8.5
TZTN **Tazewell** 24.11 8 *e*P **P** 03 59 08.4 +1.1
comp=Z,28nm,0.8s
TZTN **Tazewell** 24.11 8 P **P** 03 59 08.5 +1.1
baz=190,SNR=10.0
PBMO **Poplar Bluff** 24.18 355 *e*P **P** 03 59 08.2 +0.3
comp=Z,30nm,0.6s
WMOK **Wichita Mounta** 24.21 337 *e*P **P** 03 59 08.5 +0.2
comp=Z,26nm,0.8s
WMOK **Wichita Mounta** 24.21 337 *e*P **P** 03 59 08.5 +0.2
WMOK pmax pmax
comp=Z,26nm,0.8s
WMOK **Wichita Mounta** 24.21 337 P **P** 03 59 08.4 +0.2
baz=153,SNR=27
V57A **Coltrane Farms** 24.24 16 P **P** 03 59 09.6 +1.1
baz=199,SNR=21
T47A **Sharon Grove** 24.27 1 *e*P **P** 03 59 08.9 +0.2
comp=Z,66nm,0.6s
T47A **Sharon Grove** 24.27 1 P **P** 03 59 08.9 +0.2
baz=181
LPIG **La Paz** 24.27 301 LR LR 04 08 56.3
comp=Z,52nm,21.8s,baz=112,slow=37
T45A **Paducah** 24.31 358 P **P** 03 59 09.1 0.0
baz=178
TUL1 **Leonard** 24.32 344 *e*P **P** 03 59 09.5 +0.3
comp=Z,51nm,0.7s
TUL1 **Leonard** 24.32 344 P **P** 03 59 09.1 -0.1
baz=160,SNR=12
T46A **Princeton** 24.32 360 P **P** 03 59 09.1 0.0
baz=179,SNR=15
U54A **Nelsons Funny** 24.38 12 P **P** 03 59 11.1 +1.3
baz=194,SNR=24
T48A **Bowling Green** 24.41 3 P **P** 03 59 10.4 +0.3
baz=183
T50A **Nancy** 24.43 6 P **P** 03 59 11.4 +1.2
baz=186,SNR=7.7
T49A **Edmonton** 24.46 4 *e*P **P** 03 59 11.0 +0.5
comp=Z,17nm,0.6s
T49A **Edmonton** 24.46 4 P **P** 03 59 10.8 +0.4
baz=185,SNR=13
T43A **Greenville** 24.47 355 P **P** 03 59 10.6 +0.1
baz=174
T51A **Gray** 24.47 7 P **P** 03 59 11.7 +1.0
baz=189,SNR=8.0
U55A **TA2, Sparta** 24.52 13 P **P** 03 59 12.5 +1.3
baz=196,SNR=14
V59A **Middlesex** 24.57 19 P **P** 03 59 12.5 +1.0
baz=202,SNR=7.7
T53A **Wise** 24.70 10 P **P** 03 59 13.6 +0.9
baz=192,SNR=7.4
T52A **Hallie** 24.75 9 P **P** 03 59 14.0 +0.9
baz=191
GDL2 **Guadalupe Moun** 24.78 325 *e*P **P** 03 59 15.1 +1.4
S47A **Hartford** 24.88 2 P **P** 03 59 14.2 -0.1
baz=182
S43A **Fulton Ridge,** 24.94 355 P **P** 03 59 14.3 -0.6
baz=174
T54A **Tazewell** 24.95 12 P **P** 03 59 15.5 +0.5
baz=194,SNR=8.9
S46A **Don Dixon Farm** 24.96 360 P **P** 03 59 14.6 -0.4
baz=180,SNR=7.1
S48A **Wiedeman Farm,** 24.98 3 P **P** 03 59 15.3 +0.2
baz=184
S44A **Carbondale** 25.01 357 P **P** 03 59 15.5 +0.1
baz=176,SNR=6.9
MNTX **Cornudas Mount** 25.01 322 *e*P **P** 03 59 15.8 +0.2
comp=Z,9.3nm,0.8s
MNTX **Cornudas Mount** 25.01 322 P **P** 03 59 16.0 +0.4
baz=135,SNR=20
SIUC **Southern Illin** 25.03 357 *e*P **P** 03 59 15.9 +0.2
comp=Z,38nm,0.9s
S41A **Jillco Farms,** 25.13 352 P **P** 03 59 16.3 -0.3
baz=170,SNR=6.2
S50A **Richmond** 25.13 6 P **P** 03 59 17.1 +0.5
baz=187
CPRX **Cap Rock** 25.14 327 *e*P **P** 03 59 18.5 +1.6
S49A **Springfield** 25.15 4 P **P** 03 59 17.5 +0.7
baz=185,SNR=6.9
T55A **Pulaski** 25.17 13 P **P** 03 59 18.4 +1.4
baz=196,SNR=7.1
S51A **Beattyville** 25.18 8 *e*P **P** 03 59 17.9 +0.8
comp=Z,9nm,0.6s
S51A **Beattyville** 25.18 8 P **P** 03 59 17.9 +0.8
baz=189,SNR=8.3
T56A **Rocky Mt** 25.26 14 P **P** 03 59 19.0 +1.2
baz=198,SNR=5.0
MSTX **Muleshoe** 25.31 330 *e*P **P** 03 59 18.6 +0.2
comp=Z,58nm,0.8s
MSTX **Muleshoe** 25.31 330 P **P** 03 59 18.5 +0.2
baz=144,SNR=42
BLA **Blacksburg** 25.34 14 *e*P **P** 03 59 20.3 +1.7
comp=Z,22nm,0.6s
BLA **Blacksburg** 25.34 14 *e*P **P** 03 59 20.3 +1.7
BLA pmax pmax
comp=Z,22nm,0.6s
BLA **Blacksburg** 25.34 14 P **P** 03 59 19.5 +1.0
baz=196,SNR=6.8
T57A **Hurt** 25.43 16 P **P** 03 59 20.4 +1.2
baz=199,SNR=9.4
S53A **Williamson** 25.45 10 P **P** 03 59 20.1 +0.6
baz=189
R46A **Gibon Southern** 25.49 0 P **P** 03 59 19.8 0.0
baz=180
CCM **Cathedral Cave** 25.53 353 P **P** 03 59 20.0 -0.2
baz=172
WCI **Wyandotte Cave** 25.53 3 *e*P **P** 03 59 20.5 +0.3
comp=Z,42nm,0.6s
WCI **Wyandotte Cave** 25.53 3 *e*P **P** 03 59 20.5 +0.3
WCI pmax pmax
comp=Z,42nm,0.6s
WCI **Wyandotte Cave** 25.53 3 P **P** 03 59 20.3 +0.1
baz=183
AMTX **Amarillo** 25.54 333 *e*P **P** 03 59 21.3 +0.9
comp=Z,40nm,1.4s
AMTX *e*pP **pP** 03 59 44.6 +3.8
AMTX **Amarillo** 25.54 333 P **P** 03 59 20.6 +0.1
baz=147
R44A **Waltonville** 25.55 357 P **P** 03 59 20.1 -0.3
baz=177,SNR=7.3
R45A **Skylar, Fairfi** 25.57 359 P **P** 03 59 20.0 -0.6
baz=178,SNR=5.8
R47A **Wooly Knot Far** 25.59 2 P **P** 03 59 20.5 -0.2
baz=182,SNR=5.5
R43A **Red Bud** 25.63 356 P **P** 03 59 20.9 -0.2
baz=175,SNR=9.6
R49A **Shelbyville** 25.66 5 P **P** 03 59 21.3 -0.1
baz=186,SNR=7.6
R48A **Northridge Ran** 25.73 3 P **P** 03 59 22.0 0.0
baz=184
R50A **Paris** 25.73 6 P **P** 03 59 21.9 -0.1
baz=187
R41A **Rosebud** 25.78 353 P **P** 03 59 22.2 -0.2
baz=172
R51A **Hillsboro** 25.84 7 P **P** 03 59 23.6 +0.6
baz=189,SNR=5.9
S55A **Lewisburg** 25.86 13 P **P** 03 59 24.4 +1.2
baz=196,SNR=7.5
R52A **Catlettsburg** 26.00 9 P **P** 03 59 24.8 +0.3
baz=191
OLIL **Olney** 26.01 359 *e*P **P** 03 59 24.7 +0.1
comp=Z,27nm,0.8s
R53A **Hurricane** 26.11 10 P **P** 03 59 26.3 +0.8
baz=193,SNR=7.8
R54A **Victor** 26.15 12 P **P** 03 59 26.8 +1.0
baz=195,SNR=5.3
Q45A **Warren Harvey,** 26.17 359 P **P** 03 59 25.9 0.0
baz=179,SNR=8.6
Q44A **Meyer Farm, Va** 26.20 358 *e*P **P** 03 59 26.4 +0.2
comp=Z,38nm,0.8s
Q44A **Meyer Farm, Va** 26.20 358 P **P** 03 59 26.1 -0.2
baz=177,SNR=10
Q47A **Bedord North L** 26.23 2 P **P** 03 59 26.5 -0.1
baz=183,SNR=14
Q48A **North Vernon** 26.26 3 P **P** 03 59 26.6 -0.2
baz=184,SNR=7.4
Q43A **New Douglas** 26.27 356 P **P** 03 59 26.2 -0.7
baz=175
Q46A **CEJHS Indians,** 26.30 1 P **P** 03 59 27.1 0.0
baz=181
Q42A **Golden Eagle** 26.31 355 P **P** 03 59 26.8 -0.4
baz=174
Q50A **Georgetown** 26.32 7 P **P** 03 59 26.9 -0.4
baz=188
Q49A **Aurora** 26.39 5 P **P** 03 59 28.1 +0.1
baz=186,SNR=6.3
Q41A **Truxton** 26.42 354 P **P** 03 59 28.0 -0.2
baz=172,SNR=6.6
R55A **Marlinton** 26.43 13 P **P** 03 59 29.8 +1.4
baz=197,SNR=9.5
BLO **Bloomington** 26.46 2 *e*P **P** 03 59 28.7 +0.1
comp=Z,14nm,0.8s
BLO **Bloomington** 26.46 2 *e*P **P** 03 59 28.7 +0.1
BLO pmax pmax
comp=Z,15nm,0.8s
Q51A **Peebles** 26.58 8 *e*P **P** 03 59 30.7 +1.0
comp=Z,41nm,0.7s
Q51A **Peebles** 26.58 8 P **P** 03 59 30.4 +0.7
baz=189,SNR=16
Q52A **Bidwell** 26.67 9 P **P** 03 59 31.4 +0.9
baz=192,SNR=11
Q53A **Leroy** 26.70 11 P **P** 03 59 31.7 +1.0
baz=193,SNR=5.7
R58B **Mineral** 26.71 17 *e*P **P** 03 59 32.3 +1.4
comp=Z,11nm,0.8s
R58B **Mineral** 26.71 17 P **P** 03 59 31.8 +0.9
baz=202,SNR=5.9

P44A	Sand Creek, Wi	26.75	358	P		P		03 59 31.0	-0.2
	baz=178								
P47A	Martinsville	26.79	2	P		P		03 59 31.1	-0.5
	baz=183,SNR=7.6								
P45A	Graceland, Par	26.80	360	P		P		03 59 31.3	-0.4
	baz=180								
P48A	Milroy	26.81	4	P		P		03 59 31.2	-0.5
	baz=185,SNR=7.4								
P46A	Rosedale	26.89	1	P		P		03 59 31.9	-0.5
	baz=181								
P49A	Miami Univ. Ec	26.94	5	P		P		03 59 32.4	-0.5
	baz=186								
Q54A	Coxs Mills	26.95	12	P		P		03 59 34.0	+1.0
	baz=195,SNR=16								
P42A	Winchester	26.96	355	eP		P		03 59 32.7	-0.4
	comp=Z,27nm,1.3s								
P42A				epP		pP		03 59 54.9	+1.4
P42A	Winchester	26.96	355	P		P		03 59 32.3	-0.7
	baz=174,SNR=6.0								
P43A	Skaggs, Pawnee	26.96	357	P		P		03 59 32.4	-0.7
	baz=176								
121A	Cookes Peak, D	27.06	320	P		P		03 59 35.5	+1.3
	baz=132,SNR=10.0								
P51A	Williamsport	27.07	8	eP		P		03 59 34.9	+0.8
	comp=Z,20nm,0.6s								
P51A	Williamsport	27.07	8	P		P		03 59 34.5	+0.4
	baz=190,SNR=5.7								
CBN	Corbin Frederi	27.09	18	eP		P		03 59 36.1	+1.9
	comp=Z,46nm,0.6s								
CBN	Corbin Frederi	27.09	18	P		P		03 59 35.6	+1.4
	baz=202,SNR=5.8								
P50A	Jamestown	27.10	7	P		P		03 59 34.5	+0.2
	baz=188								
P41A	Barry, Barry	27.11	354	P		P		03 59 33.5	-1.0
	baz=173,SNR=6.3								
Q55A	Buckhannon	27.12	13	P		P		03 59 35.8	+1.2
	baz=196,SNR=7.6								
319A	Douglas	27.28	317	eP		P		03 59 38.1	+2.0
	comp=Z,8.2nm,0.8s								
P53A	Whipple	27.33	11	eP		P		03 59 37.6	+1.2
	comp=Z,46nm,0.7s								
P53A	Whipple	27.33	11	P		P		03 59 37.3	+0.9
	baz=193,SNR=13								
P52A	Corning	27.35	9	P		P		03 59 37.0	+0.4
	baz=192,SNR=9.2								
O44A	Mansfield	27.43	359	P		P		03 59 36.8	-0.5
	baz=178,SNR=6.1								
BNM	Barren Site	27.50	324	eP		P		03 59 40.0	+1.7
O45A	Potomac	27.52	360	P		P		03 59 37.6	-0.5
	baz=180								
O41A	Passleys Farm,	27.53	355	P		P		03 59 37.2	-1.0
	baz=173								
KSU1	Kansas State U	27.54	345	P		P		03 59 38.1	-0.1
	baz=161								
O47A	Sheridan	27.54	3	P		P		03 59 37.6	-0.7
	baz=183								
O42A	Bath	27.55	356	P		P		03 59 37.6	-0.7
	baz=175								
O48A	Farmland	27.62	4	P		P		03 59 38.3	-0.6
	baz=185								
O49A	Covington	27.62	6	eP		P		03 59 39.2	+0.3
	comp=Z,19nm,0.7s								
O49A	Covington	27.62	6	P		P		03 59 38.8	-0.2
	baz=187,SNR=5.6								
P54A	Burton	27.62	12	P		P		03 59 39.8	+0.8
	baz=195,SNR=5.6								
O50A	Cable	27.65	7	P		P		03 59 39.7	+0.4
	baz=188,SNR=16								
SFIN	Lafayette	27.66	1	eP		P		03 59 39.0	-0.3
	comp=Z,19nm,0.6s								
SFIN	Lafayette	27.66	1	P		P		03 59 38.8	-0.5
	baz=181								
P55A	Reedsville	27.67	13	P		P		03 59 40.2	+0.7
	baz=196								
LENM	Lemitar	27.71	324	eP		P		03 59 42.2	+2.2
LENM				epP		pP		04 00 00.7	+0.1
O51A	Pataskala	27.78	8	P		P		03 59 40.8	+0.4
	baz=190,SNR=7.7								
MCWV	Mont Chateau	27.81	13	P		P		03 59 41.3	+0.6
	baz=196								
ACSO	Alum Creek Sta	27.82	8	eP		P		03 59 41.1	+0.5
	comp=Z,24nm,0.6s								
ACSO	Alum Creek Sta	27.82	8	P		P		03 59 41.2	+0.5
	baz=190,SNR=8.1								
O52A	Adamsville	27.87	10	eP		P		03 59 41.3	+0.1
	comp=Z,30nm,0.6s								
O52A	Adamsville	27.87	10	P		P		03 59 41.8	+0.6
	baz=192,SNR=7.9								
ANMO	Albuquerque	27.99	326	eP		P		03 59 44.4	+1.9
	comp=Z,7.3nm,0.9s								
ANMO	Albuquerque	27.99	326	↓↓ iP		P		03 59 43.9	+1.3
ANMO				pmax		pmax			
	comp=Z,9.0nm,1.0s								
ANMO	Albuquerque	27.99	326	P		P		03 59 43.3	+0.7
	baz=138								
ANMO	Albuquerque	27.99	326	P		P		03 59 43.9	+1.3
	comp=Z,4.8nm,0.9s,baz=153,slow=10.0,SNR=20								
ANMO				LR		LR		04 12 01.0	
	comp=Z,43nm,20.8s,baz=113,slow=39								
TASM	ASL Pad, Albuq	27.99	326	P		P		03 59 44.1	+1.5
	baz=138,SNR=11								
TASM	ASL Pad, Albuq	27.99	326	P		P		03 59 44.0	+1.4
	baz=138,SNR=11								
N44A	Piper City	28.07	359	P		P		03 59 42.3	-0.7
	baz=179								
O53A	New Philadelph	28.11	11	P		P		03 59 44.0	+0.7
	baz=193,SNR=10								
N41A	Harden Midland	28.12	355	eP		P		03 59 42.9	-0.5
	comp=Z,20nm,0.6s								
N41A	Harden Midland	28.12	355	P		P		03 59 42.4	-0.9
	baz=179,SNR=6.7								
N45A	Kentland	28.12	0	P		P		03 59 42.6	-0.8
	baz=180								
N42A	Yates City	28.18	356	P		P		03 59 43.8	-0.1
	baz=175								
N46A	Monticello	28.18	2	P		P		03 59 43.4	-0.5
	baz=182,SNR=5.8								
CBKS	Cedar Bluff	28.20	340	eP		P		03 59 44.8	+0.6
	comp=Z,18nm,0.6s								
CBKS	Cedar Bluff	28.20	340	eP		P		03 59 44.8	+0.6
CBKS				pmax		pmax			
	comp=Z,18nm,0.6s								
CBKS	Cedar Bluff	28.20	340	P		P		03 59 44.3	+0.1
	baz=154								
N47A	Urbana	28.21	3	P		P		03 59 43.7	-0.5
	baz=184								
N48A	Decatur	28.23	4	P		P		03 59 43.7	-0.7
	baz=185								
N43A	Stutzman Famil	28.24	358	P		P		03 59 44.1	-0.4
	baz=177								
N50A	Nevada	28.32	7	P		P		03 59 45.3	0.0
	baz=189								
SDMD	Soldier's Deli	28.36	18	eP		P		03 59 47.1	+1.5
	comp=Z,13nm,0.6s								
N49A	Columbus Grove	28.36	6	eP		P		03 59 45.7	+0.2
	comp=Z,34nm,1.0s								
N49A	Columbus Grove	28.36	6	P		P		03 59 45.4	-0.2
	baz=187,SNR=6.1								
N40A	Mertquake, Sal	28.36	354	P		P		03 59 44.9	-0.7
	baz=172,SNR=6.3								
O55A	Ligonier	28.46	14	P		P		03 59 46.7	+0.2
	baz=197								
N51A	Ashland	28.57	8	P		P		03 59 47.6	+0.2
	baz=191								
N52A	McGinn's Farm,	28.57	10	P		P		03 59 47.5	+0.1
	baz=192,SNR=5.6								
T25A	Trinidad	28.65	331	eP		P		03 59 50.4	+1.9
	comp=Z,8.3nm,0.8s								
T25A	Trinidad	28.65	331	P		P		03 59 49.7	+1.3
	baz=144,SNR=7.7								
M45A	Boilermakers S	28.66	1	P		P		03 59 47.9	-0.4
	baz=181								
M46A	Old House Fiel	28.70	2	P		P		03 59 48.0	-0.6
	baz=183								
N53A	Lisbon	28.71	11	P		P		03 59 49.3	+0.6
	baz=194								
M43A	Waltham Townsh	28.73	358	P		P		03 59 49.1	+0.3
	baz=177								
M41A	Milan	28.75	356	P		P		03 59 48.6	-0.4
	baz=174								
TUC	Tucson	28.86	317	eP		P		03 59 51.6	+1.4
	comp=Z,6.6nm,1.0s								
TUC	Tucson	28.86	317	eP		P		03 59 51.6	+1.4
TUC				pmax		pmax			
	comp=Z,7.0nm,1.0s								
M40A	Post Highland	28.87	354	P		P		03 59 49.7	-0.3
	baz=172								
M48A	Edgerton	28.87	5	P		P		03 59 49.3	-0.8
	baz=186								
M49A	Liberty Center	28.93	6	P		P		03 59 50.3	-0.3
	baz=187								
M50A	Fremont	28.96	7	P		P		03 59 50.8	0.0
	baz=189								
M39A	Webster	29.02	353	P		P		03 59 50.9	-0.4
	baz=171,SNR=6.5								
N54A	Moraine State	29.03	12	eP		P		03 59 52.2	+0.7
	comp=Z,32nm,0.6s								
N54A	Moraine State	29.03	12	P		P		03 59 52.1	+0.5
	baz=195,SNR=8.0								
MVL	Millersville	29.05	18	eP		P		03 59 53.5	+1.8
	comp=Z,17nm,0.7s								
N55A	Marion Center	29.07	14	P		P		03 59 52.4	+0.5
	baz=198								
PAGS	Pennsylvania G	29.15	17	eP		P		03 59 53.7	+1.2
	comp=Z,31nm,0.7s								
SSPA	Standing Stone	29.21	15	eP		P		03 59 54.4	+1.3
	comp=Z,18nm,0.6s								
SSPA	Standing Stone	29.21	15	P		P		03 59 53.9	+0.8
	baz=200								
L46A	Eue Claire	29.31	2	P		P		03 59 52.6	-1.3
	baz=183								
L42A	Oliver, Polo	29.32	357	P		P		03 59 53.1	-1.0
	baz=176								
L47A	Shenwood	29.33	4	P		P		03 59 53.1	-1.0
	baz=186								
L48A	N Adams	29.35	5	P		P		03 59 53.8	-0.5
	baz=186								
M53A	WI Miller and	29.36	11	P		P		03 59 54.3	-0.1
	baz=194								
KSCO	Kaye Shedlock'	29.44	336	eP		P		03 59 56.5	+1.1
	comp=Z,17nm,0.8s								
KSCO	Kaye Shedlock'	29.44	336	P		P		03 59 56.1	+0.8
	baz=149,SNR=7.7								
L41A	Preston	29.45	356	P		P		03 59 54.2	-1.0
	baz=174								
L44A	Lake County Fo	29.45	360	P		P		03 59 54.2	-0.9
	baz=179								
L43A	Garden Prairie	29.47	358	P		P		03 59 54.5	-0.9
	baz=178								
L40A	Anamosa	29.49	355	eP		P		03 59 55.3	-0.3
	comp=Z,20nm,0.8s								
L40A	Anamosa	29.49	355	P		P		03 59 54.9	-0.7
	baz=173,SNR=6.0								
L49A	Milan	29.58	6	P		P		03 59 56.0	-0.3
	baz=188								
L50A	Kingsville	29.62	7	P		P		03 59 57.1	+0.4
	baz=190								
M54A	Oil Creek Stat	29.62	12	eP		P		03 59 57.4	+0.6
	comp=Z,46nm,0.5s								
M54A	Oil Creek Stat	29.62	12	P		P		03 59 57.1	+0.4
	baz=196,SNR=12								
L39A	Vinton	29.63	354	P		P		03 59 56.3	-0.5
	baz=171								
SDCO	Great Sand Dun	29.65	331	eP		P		03 59 59.1	+1.7
	comp=Z,10nm,0.9s								
SDCO	Great Sand Dun	29.65	331	P		P		03 59 58.7	+1.3
	baz=143,SNR=18								
X18A	Snowflake	29.73	321	eP		P		04 00 00.0	+2.0
	comp=Z,4.7nm,1.0s								
AAM	Ann Arbor	29.78	6	eP		P		03 59 58.5	+0.4
	comp=Z,22nm,0.8s								
AAM	Ann Arbor	29.78	6	eP		P		03 59 58.5	+0.4
AAM				pmax		pmax			
	comp=Z,22nm,0.8s								
AAM	Ann Arbor	29.78	6	P		P		03 59 58.2	+0.1
	baz=188								
M55A	Ridgway	29.78	14	P		P		03 59 58.5	+0.3
	baz=198								
LUPA	Lehigh Univers	29.90	19	eP		P		04 00 00.8	+1.6
	comp=Z,17nm,0.6s								
K41A	Shullsburg	29.96	356	P		P		03 59 59.1	-0.6
	baz=175								
K43A	Burlington	29.98	359	P		P		03 59 59.7	-0.2
	baz=179								
W18A	Petrified Fore	30.00	322	eP		P		04 00 02.6	+2.3
	comp=Z,12nm,0.8s								
W18A	Petrified Fore	30.00	322	P		P		04 00 02.1	+1.7
	baz=133								
K47A	Vermontville	30.03	4	P		P		03 59 59.3	-1.1
	baz=185,SNR=5.4								
214A	Organ Pipe Nat	30.05	314	P		P		04 00 01.9	+1.2
	baz=124								
N59A	State Game Lan	30.07	18	eP		P		04 00 02.2	+1.5
	comp=Z,30nm,0.5s								
N59A	State Game Lan	30.07	18	P		P		04 00 02.3	+1.5
	baz=204,SNR=8.8								
K42A	Prairie Point,	30.08	358	P		P		03 59 59.9	-0.9
	baz=177								
BGNE	Belgrade	30.10	344	P		P		04 00 01.5	+0.5
	baz=159								
K40A	Colesburg	30.12	355	P		P		04 00 00.3	-0.8
	baz=173								
ERPA	Erie	30.14	11	P		P		04 00 00.1	-1.3
	baz=195								
K39A	Oelwein	30.20	354	P		P		04 00 01.3	-0.5
	baz=172,SNR=5.4								
K48A	Perry	30.23	5	P		P		04 00 01.4	-0.7
	baz=187,SNR=7.8								
BRNJ	Basking Ridge	30.24	20	eP		P		04 00 04.1	+1.9
	comp=Z,27nm,0.6s								
JFWS	Jewell Farm	30.27	356	eP		P		04 00 03.9	+1.5
	comp=Z,31nm,1.4s								
JFWS	Jewell Farm	30.27	356	eP		P		04 00 03.9	+1.5
JFWS				pmax		pmax			
	comp=Z,31nm,1.4s								
JFWS	Jewell Farm	30.27	356	P		P		04 00 01.7	-0.7
	baz=175								
K49A	Clarkson	30.28	6	P		P		04 00 02.0	-0.5
	baz=188,SNR=6.3								
S22A	4UR Ranch, Cre	30.30	329	eP		P		04 00 04.5	+1.3
	comp=Z,14nm,0.6s								
S22A				ePcP		PcP		04 03 02.9	+1.3
S22A	4UR Ranch, Cre	30.30	329	P		P		04 00 04.4	+1.3
	baz=141,SNR=20								
L55A	Hinsdale	30.54	14	P		P		04 00 05.3	+0.5
	baz=198								
X16A	Lo Mia Camp, P	30.60	319	eP		P		04 00 07.6	+1.9
	comp=Z,7.7nm,0.7s								
J47A	Sunmer	30.61	4	P		P		04 00 04.3	-1.1
	baz=185								
J42A	Columbus	30.61	358	P		P		04 00 04.9	-0.5
	baz=177,SNR=5.8								
J43A	Natural Harves	30.66	359	P		P		04 00 04.1	-1.8
	baz=178								
J46A	Howard City	30.67	3	P		P		04 00 04.0	-1.9
	baz=184								
J41A	Loganville	30.70	357	P		P		04 00 05.9	-0.4
	baz=175,SNR=6.3								
J45A	Montague	30.73	2	P		P		04 00 06.8	+0.4
	baz=182								
PAL	Palisades	30.75	21	P		P		04 00 07.0	+0.3
	baz=207								
J48A	Bridge Port	30.75	6	P		P		04 00 06.6	-0.1
	baz=189								
MVCO	Mesa Verde	30.77	326	eP		P		04 00 08.9	+1.7
	comp=Z,14nm,0.7s								
MVCO	Mesa Verde	30.77	326	P		P		04 00 08.4	+1.1
	baz=137,SNR=16								
J40A	Soldiers Grove	30.78	356	P		P		04 00 06.4	-0.5
	baz=174								
J39A	Decorah	30.80	354	P		P		04 00 06.3	-0.8
	baz=172								
J49A	Marlette	30.88	6	P		P		04 00 07.4	-0.4
	baz=188								
ELFO	Elginfield	30.96	9	P		P		04 00 08.0	-0.5
	baz=192								
J52A	Paris	31.14	10	P		P		04 00 10.1	0.0
	baz=194								
I43A	Langenfeld Bro	31.16	359	P		P		04 00 09.7	-0.5
	baz=179								
113A	Mohawk Valley,	31.17	314	eP		P		04 00 12.6	+2.0
	comp=Z,3.6nm,1.0s								
I42A	Draeger Farm,	31.18	358	P		P		04 00 09.9	-0.6
	baz=176								
MMNY	Mt. Morris Dam	31.18	14	eP		P		04 00 11.0	+0.6
	comp=Z,14nm,0.7s								
BINY	Binghamton	31.18	17	eP		P		04 00 11.8	+1.3
	comp=Z,24nm,0.8s								
BINY	Binghamton	31.18	17	P		P		04 00 11.3	+0.8
	baz=202,SNR=5.2								
WUAZ	Wupatki	31.26	321	eP		P		04 00 13.5	+2.0
WUAZ	Wupatki	31.26	321	P		P		04 00 12.9	+1.3
	baz=131								
I40A	Norwalk	31.26	356	P		P		04 00 10.2	-1.0
	baz=174								
I46A	Reed City	31.27	3	P		P		04 00 10.1	-1.2
	baz=184								
I39A	Houston	31.30	355	eP		P		04 00 10.9	-0.6
	comp=Z,35nm,0.6s								
I39A	Houston	31.30	355	P		P		04 00 10.6	-0.9
	baz=173,SNR=6.8								
Y14A	Wickenburg	31.32	317	eP		P		04 00 13.4	+1.5
	comp=Z,3.9nm,0.7s								
I45A	Fountain	31.33	2	P		P		04 00 11.0	-0.7
	baz=183								
ISCO	Idaho Springs	31.36	333	eP		P		04 00 13.9	+1.4
	comp=Z,9.8nm,1.4s								
ISCO	Idaho Springs	31.36	333	eP		P		04 00 13.9	+1.4
ISCO				pmax		pmax			
	comp=Z,10.0nm,1.4s								
ISCO	Idaho Springs	31.36	333	P		P		04 00 13.5	+1.0
	baz=145								
I41A	Arkdale	31.39	357	eP		P		04 00 11.7	-0.5
	comp=Z,123nm,0.3s								
I41A	Arkdale	31.39	357	P		P		04 00 11.8	-0.4
	baz=176								
I47A	Gladwin	31.41	4	P		P		04 00 11.6	-0.8
	baz=186								
MEDO	Medina	31.46	13	P		P		04 00 13.2	+0.2
	baz=197								
SMCO	Snowmass	31.49	331	eP		P		04 00 15.4	+1.7
	comp=Z,11nm,0.8s								
J54A	Appleton	31.53	13	P		P		04 00 13.3	-0.2
	baz=197								
ACTO	Acton	31.57	11	P		P		04 00 13.9	0.0
	baz=194								
H42A	Shiocton	31.79	359	P		P		04 00 15.0	-0.8
	baz=178								
H41A	Junction City	31.93	357	P		P		04 00 16.3	-0.7
	baz=176								
ECSD	EROS Data Cent	31.94	348	eP		P		04 00 16.4	-0.8
	comp=Z,21nm,0.8s								
ECSD	EROS Data Cent	31.94	348	P		P		04 00 16.4	-0.8
	baz=163,SNR=26								
H40A	Chili	31.98	356	P		P		04 00 16.8	-0.6
	baz=175								
I52A	Shelburne	32.00	10	P		P		04 00 17.5	-0.2
	baz=194								
H47A	Mio	32.01	5	P		P		04 00 16.8	-0.9
	baz=186								
DRWO	Darlington Wes	32.08	12	P		P		04 00 18.4	+0.1
	baz=196								
DRCO	St. Marys Ceme	32.09	12	P		P		04 00 18.4	-0.1
	baz=196								
H39A	Augusta	32.10	355	P		P		04 00 18.0	-0.5
	baz=173								
PKRO	Pickering	32.10	12	P		P		04 00 18.3	-0.2
	baz=196								
H38A	Maiden Rock	32.19	354	P		P		04 00 18.6	-0.7
	baz=171,SNR=6.2								
H48A	Harrisville	32.19	6	P		P		04 00 19.3	0.0
	baz=188								
GLMI	Grayling	32.20	4	P		P		04 00 18.9	-0.5
	baz=186								
WLVO	Wesleyville	32.20	13	P		P		04 00 19.8	+0.4
	baz=197								
PDMCI	Parker Dam,Lak	32.30	316	P		P		04 00 21.5	+1.1
	baz=126								
G45A	Suttons Bay	32.36	3	P		P		04 00 20.2	-0.5
	baz=184								
TRY	Troy	32.37	19	eP		P		04 00 22.6	+1.7
	comp=Z,22nm,0.8s								
N23A	Red Feather La	32.40	334	eP		P		04 00 23.2	+1.7
	comp=Z,4.3nm,0.6s								
N23A	Red Feather La	32.40	334	P		P		04 00 22.7	+1.2
	baz=145								
U15A	North Rim	32.42	321	eP		P		04 00 23.9	+2.2
	comp=Z,3.6nm,0.9s								
G41A	Antigo	32.51	358	P		P		04 00 21.2	-0.9
	baz=177								
G42A	Mountain	32.52	359	P		P		04 00 21.5	-0.7
	baz=178								
G43A	Wallace	32.53	0	P		P		04 00 21.3	-0.9
	baz=180								
H52A	Wyevale	32.60	10	P		P		04 00 22.5	-0.4
	baz=194								
G40A	Rib Lake	32.61	357	P		P		04 00 22.1	-0.8
	baz=175								
G38A	Ridgeland	32.63	355	P		P		04 00 22.0	-1.1
	baz=172,SNR=6.6								
I55A	Frankford	32.64	13	P		P		04 00 22.7	-0.6
	baz=198								
G39A	Holcombe	32.69	355	P		P		04 00 22.9	-0.8
	baz=174,SNR=11								
SWSC	Sam W. Stewart	32.70	313	P		P		04 00 22.5	-1.5
	baz=122								
SPMN	Marine on St.	32.79	353	eP		P		04 00 23.6	-1.0
	comp=Z,34nm,0.5s								
SPMN	Marine on St.	32.79	353	P		P		04 00 23.5	-1.0
	baz=171,SNR=16								
BC3	Big Chuckawall	32.84	314	P		P		04 00 26.7	+1.4
	baz=123,SNR=5.5								
O20A	White River Ci	32.85	330	eP		P		04 00 27.1	+1.7
	comp=Z,38nm,0.8s								
O20A	White River Ci	32.85	330	P		P		04 00 26.8	+1.5
	baz=141,SNR=24								
SADO	Sadowa	32.86	11	eP		P		04 00 25.4	+0.2
	comp=Z,30nm,0.6s								
NEE2	Needles Airpor	32.89	317	P		P		04 00 26.8	+1.3
	baz=126								
IRM	Iron Mountain	32.90	315	P		P		04 00 25.8	+0.1
	baz=124								
DELO	Deloro Mine	32.94	13	P		P		04 00 25.7	-0.1
	baz=198								
F41A	Three Lakes	33.03	358	P		P		04 00 26.3	-0.4
	baz=177								
PKCU	Pink Cliffs	33.10	323	eP		P		04 00 30.3	+2.6
	comp=Z,27nm,1.0s								
F43A	Flat Rock, Esc	33.10	1	P		P		04 00 26.4	-0.8
	baz=181								
KNB	Kanab	33.13	322	eP		P		04 00 30.0	+2.2
	comp=Z,7.3nm,0.9s								
KNB	Kanab	33.13	322	eP		P		04 00 30.0	+2.2
KNB				pmax		pmax			
	comp=Z,7.0nm,0.9s								
F46A	Macinaw City C	33.14	4	P		P		04 00 27.1	-0.5
	baz=185								
SUSD	Miller	33.15	345	P		P		04 00 27.0	-0.7
	baz=160,SNR=7.7								
KLBO	Killbear Provi	33.24	10	P		P		04 00 27.7	-0.7
	baz=193								
SRU	San Rafael Swe	33.25	327	eP		P		04 00 30.5	+1.6
	comp=Z,21nm,0.7s								
SRU	San Rafael Swe	33.25	327	eP		P		04 00 30.5	+1.6
SRU				pmax		pmax			
	comp=Z,21nm,0.7s								
F40A	Park Falls	33.25	357	P		P		04 00 27.8	-0.8
	baz=176								
F37A	Hinrichs Farm,	33.26	354	P		P		04 00 27.9	-0.7
	baz=171,SNR=6.5								
F44A	Big Bay de Noc	33.26	2	P		P		04 00 28.1	-0.5
	baz=182								
F39A	Loretta	33.30	356	P		P		04 00 27.6	-1.3
	baz=174,SNR=7.9								
G53A	Haliburton	33.30	12	P		P		04 00 28.1	-0.9
	baz=196								
H56A	Elgin	33.33	15	P		P		04 00 27.9	-1.4
	baz=200								
LCMT	Little Cre

baz=176
CCUT Cedar City 33.80 322 *e*P P 04 00 36.2 +2.4
comp=Z,6.6nm,0.9s
LONY Lake Ozonia 33.81 17 *e*P P 04 00 34.1 +0.7
comp=Z,15nm,0.8s
LONY Lake Ozonia 33.81 17 P P 04 00 33.4 0.0
baz=203,SNR=5.0
F52A Sundridge 33.82 11 P P 04 00 33.1 -0.4
baz=195
G55A Calabogie 33.84 14 P P 04 00 33.3 -0.4
baz=199
E47A Iron Bridge 33.93 5 P P 04 00 34.2 -0.3
baz=188
TCRU Three Creeks R 33.97 324 *e*P P 04 00 37.7 +2.5
comp=Z,13nm,0.8s
E38A The Farm, Brul 34.03 355 *e*P P 04 00 34.7 -0.6
comp=Z,16nm,0.6s
E38A The Farm, Brul 34.03 355 P P 04 00 34.3 -1.0
baz=173,SNR=6.5
K22A Casper 34.09 335 *e*P P 04 00 37.3 +1.2
comp=Z,27nm,1.4s
K22A Casper 34.09 335 P P 04 00 36.7 +0.6
baz=146,SNR=6.1
PEMO Pembroke 34.12 13 P P 04 00 35.9 -0.2
baz=198
E50A Wahnapitae 34.20 9 P P 04 00 36.8 0.0
baz=192
ALGO Algonquin Park 34.22 12 P P 04 00 36.6 -0.3
baz=197,SNR=6.0
ORIO Orleans, Innes 34.33 15 P P 04 00 37.8 -0.1
baz=201
RSSD Black Hills 34.39 339 *e*P P 04 00 40.1 +1.4
comp=Z,12nm,0.6s
RSSD Black Hills 34.39 339 *e*P P 04 00 40.1 +1.4
RSSD pmax pmax
comp=Z,12nm,0.6s
E52A Mattawa 34.41 11 P P 04 00 38.3 -0.3
baz=196
F55A Otter Lake 34.48 14 P P 04 00 39.1 0.0
baz=200
MPU Maple Canyon 34.49 327 *e*P P 04 00 41.4 +1.7
comp=Z,24nm,0.8s
E51A G1948 Merrick 34.51 10 P P 04 00 39.6 +0.2
baz=194
LPAZ La Paz 34.63 146 P P 04 00 43.2 +1.7
comp=Z,1.5nm,0.4s,baz=0.5,slow=5.8,SNR=11
LPAZ PcP PcP 04 03 15.2 +1.0
comp=Z,1.4nm,0.7s,baz=10,slow=4.0,SNR=4.1
LPAZ LR LR 04 13 50.8
comp=Z,64nm,20.4s,baz=326,slow=34
ALFO Alfred 34.65 16 P P 04 00 40.9 +0.3
baz=202
NLU North Lily Min 34.69 326 *e*P P 04 00 43.0 +1.7
comp=Z,5.8nm,0.9s
BFSC Mount Baldy Ra 34.70 313 P P 04 00 40.9 -0.6
baz=121
E53A Dumoine, Ponti 34.70 12 P P 04 00 41.1 0.0
baz=197
PSUT Pine Spring 34.73 323 *e*P P 04 00 43.9 +2.1
comp=Z,11nm,0.8s
D48A Paudash Townsh 34.80 7 P P 04 00 41.5 -0.5
baz=190
JLU Jordanelle 34.82 327 *e*P P 04 00 44.1 +1.6
comp=Z,13nm,0.8s
E54A Lac Daplat, Po 34.85 13 P P 04 00 42.3 -0.1
baz=198
D49A Beulah Townshi 34.95 8 P P 04 00 43.0 -0.3
baz=191
CTU Camp Tracy 35.04 327 *e*P P 04 00 46.0 +1.7
comp=Z,16nm,0.8s
D51A Lot 18 Range I 35.06 10 P P 04 00 44.0 -0.3
baz=194
D52A ZEK Kipawa Sen 35.13 11 P P 04 00 45.8 +1.0
baz=196
TCUT Toone Canyon 35.17 328 *e*P P 04 00 47.3 +1.7
comp=Z,23nm,0.7s
TPNV Topopah Spring 35.24 318 *e*P P 04 00 48.4 +2.3
comp=Z,5.8nm,0.9s
TPNV Topopah Spring 35.24 318 P P 04 00 47.8 +1.7
baz=126,SNR=8.2
DUG Dugway, Tooele 35.26 326 *e*P P 04 00 48.0 +1.8
comp=Z,9.7nm,0.8s
DUG Dugway, Tooele 35.26 326 *e*P P 04 00 48.0 +1.8
DUG pmax pmax
comp=Z,10.0nm,0.8s
DUG Dugway, Tooele 35.26 326 P P 04 00 47.6 +1.4
baz=134,SNR=17
EYMN Ely 35.36 356 P P 04 00 45.3 -1.5
baz=174
D53A Lac Vacive, Po 35.36 12 P P 04 00 47.5 +0.7
baz=197
BW06 Boulder Array 35.51 332 *e*P P 04 00 49.2 +0.7
comp=Z,6.8nm,0.8s
BW06 Boulder Array 35.51 332 P P 04 00 48.9 +0.4
baz=141,SNR=13
PD31 Pinedale Array 35.51 332 *e*P P 04 00 49.1 +0.7
comp=Z,6.2nm,0.8s
PD31 *e*pP pP 04 01 09.2 -0.1
PD31 *e*PcP PcP 04 03 15.4 -0.5
PDAR Pinedale Array 35.51 332 *e*P P 04 00 48.6 +0.1
PDAR Pinedale Array 35.51 332 P P 04 00 48.8 +0.4
comp=Z,6.4nm,0.7s,baz=120,slow=9.3,SNR=64
PDAR pP pP 04 01 09.2 -0.1
comp=Z,3.5nm,0.8s,baz=134,slow=11,SNR=4.7
PDAR PcP PcP 04 03 15.4 -0.5
comp=Z,0.9nm,0.7s,baz=140,slow=4.7,SNR=4.5
MPMC Manual Prospec 35.55 316 P P 04 00 49.8 +0.9
baz=124
SNCC San Nicolas Is 35.57 311 P P 04 00 50.0 +1.2
baz=118
HWUT Hardware Ranch 35.61 329 *e*P P 04 00 50.5 +1.3
comp=Z,29nm,0.8s
D54A Lac Fusel, La 35.65 13 P P 04 00 49.1 -0.1
baz=198
R11A Troy Canyon, C 35.66 321 *e*P P 04 00 51.8 +2.1
comp=Z,3.9nm,0.9s
R11A Troy Canyon, C 35.66 321 P P 04 00 51.3 +1.5
baz=128,SNR=7.4
SPUT South Promonto 35.85 327 *e*P P 04 00 52.7 +1.4
comp=Z,16nm,0.8s
BGU Big Grassy Mou 35.89 326 *e*P P 04 00 53.2 +1.6
comp=Z,22nm,1.3s
GRAC Grapevine Rang 35.99 318 P P 04 00 54.1 +1.7
baz=125,SNR=5.3
ISA Isabella, Lake 36.01 315 P P 04 00 53.1 +0.5
baz=122
PKME Peaks-Kenny Pk 36.11 22 P P 04 00 54.3 +1.1
baz=211
AGMN Agassiz Nation 36.22 351 *e*P P 04 00 53.3 -0.8
comp=Z,25nm,0.9s
AGMN Agassiz Nation 36.22 351 P P 04 00 53.3 -0.8
baz=166,SNR=15
AHID Auburn Hatcher 36.24 330 *e*P P 04 00 55.7 +1.1
comp=Z,33nm,0.6s
HVU Hansel Valley 36.36 328 *e*P P 04 00 56.9 +1.3
comp=Z,17nm,0.9s
HVU Hansel Valley 36.36 328 *e*P P 04 00 56.9 +1.3
HVU pmax pmax
comp=Z,17nm,0.9s
MDND Maddock 36.51 346 *e*P P 04 00 56.6 0.0
comp=Z,129nm,0.8s
MDND *e*pP pP 04 01 18.2 +0.7
MDND Maddock 36.51 346 P P 04 00 56.4 -0.2
baz=160,SNR=20
VES Vestal, Richgr 36.53 315 P P 04 00 58.2 +1.3
baz=121
PKM Mcpherson Peak 36.56 313 P P 04 00 57.5 0.0
baz=119
REDW Red Top Meadow 36.58 331 *e*P P 04 00 58.5 +1.0
comp=Z,79nm,0.6s
SNOW Snow King Moun 36.61 331 *e*P P 04 00 59.4 +1.6
comp=Z,72nm,0.6s
LOHW Long Hollow 36.65 332 *e*P P 04 00 58.9 +0.8
comp=Z,25nm,1.1s
TPAW Teton Pass 36.72 331 *e*P P 04 00 58.9 +0.1
MOOW Moose Ponds 36.82 332 *e*P P 04 01 00.5 +0.9
comp=Z,19nm,0.8s
LATQ La Tuque 36.84 17 P P 04 00 59.6 +0.2
baz=205
FXWY Fox Creek 36.87 331 *e*P P 04 01 00.8 +0.8
comp=Z,9.9nm,0.8s
ELK Elko 36.99 324 *e*P P 04 01 02.6 +1.5
comp=Z,12nm,0.9s
ELK Elko 36.99 324 *e*P P 04 01 02.6 +1.5
ELK pmax pmax
comp=Z,12nm,0.9s
IMW Indian Meadow 37.03 332 *e*P P 04 01 02.2 +0.8
comp=Z,12nm,0.7s

FLWY Flagg Ranch 37.06 332 *e*P P 04 01 02.8 +1.3
comp=Z,24nm,0.8s
H17A Grant Village 37.25 333 *e*P P 04 01 04.8 +1.6
comp=Z,5.5nm,0.8s
H17A Grant Village 37.25 333 P P 04 01 04.4 +1.2
baz=141
RLMT Red Lodge 37.25 335 *e*P P 04 01 04.1 +0.9
comp=Z,13nm,0.7s
RLMT Red Lodge 37.25 335 P P 04 01 03.4 +0.2
baz=144,SNR=5.7
YPP Pitchstone Pla 37.25 332 *e*P P 04 01 06.6 +3.3
comp=Z,6.3nm,0.6s
NV11 Mina Array Sit 37.33 319 *e*P P 04 01 05.7 +1.8
comp=Z,0.7nm,1.0s
LAO LASA Array 37.38 339 *e*P P 04 01 04.8 +0.7
comp=Z,21nm,1.3s
LAO LASA Array 37.38 339 P P 04 01 04.2 +0.1
baz=149
LSQQ Lebel-sur-Quev 37.40 12 P P 04 01 03.5 -0.6
baz=197
YFT Old Faithful 37.41 332 *e*P P 04 01 07.2 +2.7
comp=Z,19nm,0.8s
YFT *e*pP pP 04 01 30.5 +4.9
NV01 Mina Array Sit 37.42 319 *e*P P 04 01 06.4 +1.7
NV01 *e*pP pP 04 01 27.0 +1.3
NV01 *e*PcP PcP 04 03 22.8 +1.1
NV01 *e*ScP ScP 04 07 02.4 +1.4
NVAR Mina Array Bea 37.42 319 P P 04 01 06.6 +1.9
comp=Z,7.1nm,0.7s,baz=131,slow=7.4,SNR=31
NVAR pP pP 04 01 27.0 +1.3
comp=Z,3.3nm,0.7s,baz=127,slow=7.4,SNR=4.1
NVAR PcP PcP 04 03 22.8 +1.1
comp=Z,2.3nm,0.6s,baz=122,slow=3.4,SNR=5.7
NVAR pScP 04 03 46.3
comp=Z,5.2nm,0.7s,baz=139,slow=4.0,SNR=11
NVAR ScP ScP 04 07 02.4 +1.4
comp=Z,0.4nm,0.4s,baz=112,slow=5.9,SNR=3.5
YNR Norris Junctio 37.54 333 *e*P P 04 01 07.9 +2.2
comp=Z,8.9nm,0.9s
YMR Madison River 37.63 332 *e*P P 04 01 08.4 +1.9
comp=Z,29nm,0.8s
KVN Kaiserville 37.65 320 *e*P P 04 01 08.4 +1.7
comp=Z,8.7nm,0.8s
KVN Kaiserville 37.65 320 *e*P P 04 01 08.4 +1.7
KVN pmax pmax
comp=Z,9.0nm,0.8s
YHH Holmes Hill 37.67 333 *e*P P 04 01 08.5 +1.7
comp=Z,9.3nm,0.8s
YHB Horse Butte 37.80 332 *e*P P 04 01 09.5 +1.7
comp=Z,17nm,0.7s
BMN Battle Mountai 37.95 322 *e*P P 04 01 10.8 +1.7
GCMT Greycliff 37.96 335 *e*P P 04 01 09.4 +0.4
QLMT Earthquake Lak 37.97 332 *e*P P 04 01 11.1 +1.8
ULM Lac du Bonnet 38.12 351 *e*P P 04 01 08.7 -1.4
comp=Z,22nm,0.7s
ULM Lac du Bonnet 38.12 351 *e*P P 04 01 08.7 -1.4
ULM pmax pmax
comp=Z,22nm,0.7s
ULM Lac du Bonnet 38.12 351 P P 04 01 08.7 -1.4
comp=Z,28nm,0.8s,baz=167,slow=9.1,SNR=48
ULM pP pP 04 01 31.2 0.0
comp=Z,13nm,0.9s,baz=194,slow=9.3,SNR=5.0
ULM LR LR 04 18 15.2
comp=Z,81nm,18.1s,baz=160,slow=38
WAKR Walker 38.20 318 *e*P P 04 01 13.5 +2.3
comp=Z,5.4nm,0.9s
DGMT Dagmar 38.29 342 P P 04 01 12.1 +0.5
baz=153,SNR=7.2
HLID Hailey 38.48 328 *e*P P 04 01 14.3 +0.9
comp=Z,9.5nm,0.8s
HLID Hailey 38.48 328 P P 04 01 14.1 +0.6
baz=135,SNR=20
CMB Columbia Colle 38.57 317 *e*P P 04 01 16.0 +1.8
comp=Z,3.4nm,0.9s
CMB Columbia Colle 38.57 317 *e*P P 04 01 16.0 +1.8
CMB pmax pmax
comp=Z,3.0nm,0.9s
MCMT McKenzie Canyo 38.62 331 *e*P P 04 01 16.6 +1.8
BOZ Bozeman (W) 38.65 333 *e*P P 04 01 16.4 +1.6
comp=Z,16nm,0.8s
BOZ *e*pP pP 04 01 37.1 +1.1
BOZ Bozeman (W) 38.65 333 *e*P P 04 01 16.5 +1.6
BOZ pmax pmax
comp=Z,16nm,0.8s
BOZ Bozeman (W) 38.65 333 P P 04 01 15.8 +0.9
baz=141,SNR=12
CHGQ Chibougamau 38.76 14 P P 04 01 15.2 -0.3
baz=201
DLMT Dillon 38.91 332 *e*P P 04 01 18.5 +1.5
comp=Z,25nm,0.8s
DLMT *e*pP pP 04 01 39.8 +1.6
BEKR Beckworth 39.55 319 *e*P P 04 01 24.6 +2.0
comp=Z,7.1nm,0.9s
EGMT Eagleton 39.81 337 *e*P P 04 01 25.1 +0.7
comp=Z,49nm,1.5s
EGMT Eagleton 39.81 337 P P 04 01 24.9 +0.5
baz=145,SNR=11
ORV Oroville 40.12 318 *e*P P 04 01 28.7 +1.7
comp=Z,6.1nm,0.8s
ORV Oroville 40.12 318 *e*P P 04 01 28.7 +1.7
ORV pmax pmax
comp=Z,6.0nm,0.8s
J08A Circle Bar Ran 40.52 325 *e*P P 04 01 31.3 +0.9
comp=Z,10nm,0.8s
MSO Missoula 40.63 332 *e*P P 04 01 32.0 +0.8
comp=Z,20nm,1.0s
MSO Missoula 40.63 332 P P 04 01 31.6 +0.3
baz=138,SNR=12
O03E Paynes Creek 40.71 319 P P 04 01 32.1 +0.2
baz=123
BMO Blue Mountains 40.87 328 *e*P P 04 01 32.3 -0.9
comp=Z,8.9nm,0.8s
BMO Blue Mountains 40.87 328 *e*P P 04 01 32.3 -0.9
BMO pmax pmax
comp=Z,9.0nm,0.8s
O02D Mt. Diablo Mer 41.29 318 P P 04 01 36.8 +0.1
baz=122
I07A Izee 41.56 325 *e*P P 04 01 39.2 +0.3
comp=Z,9.6nm,0.8s
M04C Macdoel 41.56 321 P P 04 01 39.0 0.0
baz=124
F10A Beach Ranch, E 41.59 329 *e*P P 04 01 39.5 +0.4
comp=Z,18nm,0.8s
M02C Callahan 41.98 320 P P 04 01 41.9 -0.4
baz=123
YBH Yreka Blue Hor 42.07 320 P P 04 01 42.1 -1.0
comp=Z,1.0nm,0.4s,baz=186,slow=10,SNR=5.3
L04D Klamath Falls 42.09 321 P P 04 01 43.9 +0.6
baz=124
PINE Pine Mountain 42.20 324 *e*P P 04 01 45.0 +0.8
comp=Z,19nm,0.8s
KHMM Horse Mountain 42.26 318 *e*P P 04 01 46.0 +1.3
comp=Z,21nm,0.8s
E09A Wood Farm, Sta 42.43 329 *e*P P 04 01 47.0 +1.2
comp=Z,19nm,1.1s
I05D Tenebonne, OR 42.75 324 P P 04 01 49.4 +0.8
baz=127
I04A Tendick Farm, 43.05 323 P P 04 01 50.7 -0.3
baz=126
HAWA Hanford 43.06 328 *e*P P 04 01 51.1 +0.2
comp=Z,16nm,0.8s
NEW Newport 43.15 331 *e*P P 04 01 51.5 -0.1
NEW Newport 43.15 331 *e*P P 04 01 51.5 -0.1
NEW Newport 43.15 331 P P 04 01 51.5 -0.1
baz=135,SNR=6.2
NEW Newport 43.15 331 P P 04 01 51.3 -0.3
comp=Z,10nm,1.0s,baz=135,slow=12,SNR=10
D08A Wollman Farm, 43.19 329 *e*P P 04 01 52.6 +0.7
comp=Z,27nm,0.8s
G05D Wamic, OR 43.29 325 P P 04 01 52.9 +0.1
baz=128
E07A Sunnyside 43.34 328 *e*P P 04 01 53.9 +0.7
comp=Z,37nm,0.8s
C09A Chrisman Ranch 43.38 330 *e*P P 04 01 54.1 +0.7
comp=Z,18nm,0.6s
FFC Flin Flon 43.48 348 *e*P P 04 01 54.2 0.0
comp=Z,21nm,0.8s
FFC Flin Flon 43.48 348 *i* P P 04 01 54.4 +0.2
F05D White Salmon 43.77 326 P P 04 01 56.4 -0.2
baz=128
B08A Colville Reser 44.27 330 *e*P P 04 02 00.9 +0.3
comp=Z,13nm,0.9s
F04D Rainier, OR 44.75 325 P P 04 02 05.5 +1.1
baz=127
C06D Leavenworth 44.77 328 P P 04 02 05.2 +0.7
baz=131
SCHQ Schefferville 45.18 17 *e*P P 04 02 07.1 -0.7
comp=Z,45nm,0.7s
SCHQ Schefferville 45.18 17 P P 04 02 06.5 -1.3
comp=Z,43nm,0.6s,baz=218,slow=6.3,SNR=98
SCHQ LR LR 04 23 35.3
comp=Z,64nm,18.2s,baz=290,slow=40
B06A Marblemount 45.45 329 *e*P P 04 02 10.2 +0.3
comp=Z,33nm,0.7s
D03D Eldon 45.67 327 P P 04 02 11.6 0.0
baz=128
A04D Lummi Island 46.20 328 P P 04 02 15.9 +0.1
baz=129
FCC Fort Churchill 46.30 355 *e*P P 04 02 15.9 -0.5
comp=Z,19nm,0.7s
FCC Fort Churchill 46.30 355 *e*P P 04 02 15.9 -0.5
FCC pmax pmax
comp=Z,19nm,0.7s
LLLB Lilooet 47.02 331 *e*P P 04 02 23.1 +0.9
comp=Z,22nm,0.8s
BDFB Brasilia 48.26 124 P P 04 02 31.4 -1.1
comp=Z,0.7nm,0.3s,baz=328,slow=5.9,SNR=3.9
BDFB PcP PcP 04 03 58.0 -0.2
comp=Z,3.6nm,0.8s,baz=333,slow=4.5,SNR=3.3
BDFB LR LR 04 25 17.9
comp=Z,74nm,18.6s,baz=237,slow=39
CPUP Villa Florida 48.69 143 P P 04 02 35.0 -0.4
comp=Z,4.0nm,0.7s,baz=340,slow=9.0,SNR=9.7
CPUP PcP PcP 04 04 00.4 +1.0
comp=Z,1.0nm,0.4s,baz=290,slow=7.1,SNR=4.7
CPUP LR LR 04 22 53.1
comp=Z,41nm,18.5s,baz=254,slow=36
YKA Yellowknife Ar 53.39 345 P P 04 03 08.9 -1.1
comp=Z,4.1nm,0.6s,baz=145,slow=6.8,SNR=106
YKA pP pP 04 03 31.2 -1.0
comp=Z,1.6nm,0.5s,baz=140,slow=7.5,SNR=4.7
YKA PcP PcP 04 04 15.2 -1.0
comp=Z,1.4nm,0.6s,baz=146,slow=4.3,SNR=10
YKA pScP 04 04 38.8
comp=Z,1.5nm,0.8s,baz=141,slow=3.9,SNR=5.2
YKA ScP ScP 04 08 06.9 +1.0
comp=Z,0.3nm,0.5s,baz=147,slow=4.5,SNR=7.3
YKB5 Yellowknife Ar 53.39 345 *e*P P 04 03 08.6 -1.5
YKB5 *e*pP pP 04 03 31.2 -1.0
YKB5 *e*PcP PcP 04 04 15.2 -1.0
YKB5 *e*ScP ScP 04 08 06.9 +1.0
YKW3 Yellowknife Ar 53.45 345 *e*P P 04 03 09.6 -0.8
comp=Z,6.7nm,0.8s
YKW3 *e*pP pP 04 03 32.0 -0.6
PLCA Paso Flores 55.41 164 *e*P P 04 03 27.6 +2.5
comp=Z,3.7nm,1.1s
PLCA Paso Flores 55.41 164 *e*P P 04 03 27.6 +2.5
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA Paso Flores 55.41 164 P P 04 03 27.6 +2.5
comp=Z,1.0nm,0.5s,baz=1.0,slow=9.5,SNR=7.7
DLBC Dease Lake 55.66 335 *e*P P 04 03 27.8 +1.1
comp=Z,16nm,0.9s
DLBC *e*pP pP 04 03 49.6 +0.6
TAOE Nuku Hiva Isla 56.32 250 *e*LR LR 04 19 50.0
comp=Z,118nm,28.5s
RKT Rikitea 58.34 233 *e*T T 05 06 03.5
comp=Z,1.6nm,0.3s
RES Resolute Bay 62.18 358 *e*P P 04 04 10.4 -1.0
comp=Z,5.7nm,0.6s
RES Resolute Bay 62.18 358 *e*P P 04 04 10.4 -1.0
RES pmax pmax
comp=Z,6.0nm,0.6s
EPYK Eagle Plains 62.83 340 P P 04 04 15.6 -0.3
baz=124
INK Inuvik 62.97 343 *e*P P 04 04 16.6 -0.2
comp=Z,9.1nm,1.1s
INK *e*pP pP 04 04 37.5 -2.0
INK Inuvik 62.97 343 *e*P P 04 04 16.6 -0.2
INK pmax pmax
comp=Z,9.0nm,1.1s
INK Inuvik 62.97 343 P P 04 04 16.1 -0.7
comp=Z,6.6nm,1.0s,baz=121,slow=8.4,SNR=15
INK pP pP 04 04 37.5 -2.0
comp=Z,5.3nm,1.1s,baz=137,slow=7.4,SNR=4.9
INK PcP PcP 04 04 53.8 -0.2
comp=Z,2.2nm,0.9s,baz=148,slow=4.2,SNR=3.3
DOT Dot Lake 64.18 336 *e*P P 04 04 25.0 +0.1
comp=Z,4.1nm,0.7s
HDA Harding Lake 65.65 336 *e*P P 04 04 33.9 -0.5
comp=Z,12nm,1.1s
HDA Harding Lake 65.65 336 P P 04 04 33.4 -1.0
baz=113
IL1 Eielson Array 65.77 336 *e*P P 04 04 34.0 -1.2
ILAR Eielson Array 65.77 336 P P 04 04 34.1 -1.0
comp=Z,3.2nm,0.9s,baz=153,slow=5.1,SNR=31
ILAR pP pP 04 04 56.5 -1.6
comp=Z,4.2nm,1.0s,baz=120,slow=5.3,SNR=8.8
ILB Eielson Array 65.77 336 *e*P P 04 04 34.4 -0.7
comp=Z,14nm,1.4s
RND Reindeer 66.06 334 *e*P P 04 04 37.2 +0.1
comp=Z,15nm,0.9s
RND *e*pP pP 04 04 59.4 -0.6
RND Reindeer 66.06 334 *e*P P 04 04 37.2 +0.1
RND pmax pmax
comp=Z,15nm,0.9s
POKR Poker Plat Res 66.12 336 P P 04 04 36.9 -0.5
baz=113
COLA College 66.19 336⇑ *e*P P 04 04 37.3 -0.5
COLA pmax pmax
comp=Z,4.0nm,1.0s
TCOL CIGO, UAF Yank 66.20 336 P P 04 04 37.1 -0.7
baz=112
SUMG Summit 66.48 14 *e*P P 04 04 39.6 -0.4
comp=Z,8.3nm,0.9s
SUMG Summit 66.48 14 *i* P P 04 04 38.5 -1.5
SUMG Summit 66.48 14 *e*P P 04 04 39.6 -0.4
SUMG pmax pmax
comp=Z,8.0nm,0.9s
BWN Browne 66.59 335 *e*P P 04 04 40.2 -0.1
comp=Z,21nm,0.8s
BPAW Bear Paw Mtn. 67.19 335 *e*P P 04 04 43.6 -0.6
comp=Z,11nm,1.2s
BPAW *e*pP pP 04 05 06.5 -0.8
COLD Coldfoot 67.95 338 *e*P P 04 04 49.7 +0.8
comp=Z,4.7nm,1.0s
PPT Papeete 68.06 245 LR LR 04 26 08.9
comp=Z,87nm,18.4s,baz=83,slow=28
PPT2 Papeete2 68.07 245 *e*LR LR 04 25 20.8
comp=Z,137nm,30.5s
TOLK Toolik Lake Re 68.25 340 *e*P P 04 04 50.8 -0.1
comp=Z,6.0nm,1.1s
TOLK Toolik Lake Re 68.25 340 P P 04 04 50.0 -0.9
baz=112
BORG Borgarnes 68.65 25 *i* P P 04 05 00.1 +6.8
DAG Danmarks Havn 73.04 13 *i* P P 04 05 17.7 -2.0
comp=Z,2.6nm,0.5s
DAG Danmarks Havn 73.04 13 *i* P P 04 05 17.7 -2.0
DAG pmax pmax
comp=Z,2.0nm,0.5s
ESDC Sonseca Array 77.27 52 P P 04 05 41.8 -3.0
comp=Z,0.6nm,0.5s,baz=282,slow=5.8,SNR=7.1
ESDC pP pP 04 06 03.6 -4.7
comp=Z,1.0nm,0.8s,baz=290,slow=6.4,SNR=3.6
DBIC Dimbokro 81.60 85 *e*P P 04 06 06.0 -2.7
comp=Z,21nm,1.5s
DBIC Dimbokro 81.60 85 *e*P P 04 06 06.0 -2.7
DBIC pmax pmax
comp=Z,21nm,1.5s
DBIC Dimbokro 81.60 85 P P 04 06 06.0 -2.7
comp=Z,2.4nm,0.6s,baz=256,slow=6.3,SNR=2.9
DBIC LR LR 04 38 38.1
comp=Z,23nm,21.6s,baz=236,slow=33
NB200 NORSAR Array S 83.33 29 *e*P P 04 06 14.8 -2.1
NOA NORSAR Array B 83.33 29 P P 04 06 14.8 -2.1
comp=Z,0.8nm,0.8s,baz=287,slow=4.9,SNR=3.1
NOA LR LR 04 41 50.0
comp=Z,13nm,19.7s,baz=280,slow=35
BILL Bilibino 84.28 339 *e*P P 04 06 20.4 -1.1
comp=Z,9.5nm,0.9s
BILL Bilibino 84.28 339⇑ *e*P P 04 06 20.5 -1.0
BILL *e**SP pP 04 06 48.0 +2.6
BILL 04 09 38.0
BILL S S 04 16 38.0 -1.4
BILL *e* 04 17 37.6
BILL pmax pmax
comp=Z,11nm,1.0s
ARA0 ARCESS Array S 86.10 19 *e*P P 04 06 28.6 -1.9
ARCES ARCESS Array B 86.10 19 P P 04 06 28.7 -1.9
comp=Z,2.0nm,0.7s,baz=291,slow=3.8,SNR=5.4
TOA1 Torodi Ar. Sit 86.60 77 *e*P P 04 06 30.5 -3.5
TORD Torodi Ar. Bea 86.60 77 P P 04 06 30.5 -3.5
comp=Z,0.2nm,0.5s,baz=294,slow=6.7,SNR=4.9
TORD LR LR 04 44 07.7

	comp=Z,28nm,18.9s,baz=5.0,slow=35								
GERES	**GERESS Array B**	**87.96**	**40**	LR	LR	04 44 07.4			
	comp=Z,26nm,19.3s,baz=300,slow=34								
FINES	**FINESS Array B**	**89.92**	**26**	LR	LR	04 46 49.3			
	comp=Z,20nm,19.3s,baz=265,slow=35								
VSU	**Vasula**	**91.57**	**29**	*e*P		**P**	**04 06 59.4**	**+2.8**	
VSU				pmax	pmax				
	comp=Z,19nm,1.0s								
AKASG	**Malin Array Be**	**96.51**	**35**	LR	LR	04 49 17.4			
	comp=Z,15nm,19.9s,baz=275,slow=35								
OBN	**Obninsk**	**97.93**	**29**	*e*P		**P**	**04 07 25.5**	**-0.2**	
OBN				pmax	pmax				
	comp=Z,3.0nm,0.8s								
NRIK	**Noril'sk**	**98.18**	**2**	LR	LR	04 54 46.6			
	comp=Z,26nm,18.7s,baz=54,slow=37								
SONA0	**Songino Array**	**118.52**	**349**	*e*PKPdf		**PKPdf**	**04 12 36.1**	**-1.5**	
SONM	**Songino Array**	**118.52**	**349**	PKP		**PKPdf**	**04 12 36.1**	**-1.5**	
	comp=Z,0.3nm,0.4s,baz=323,slow=2.2,SNR=2.9								
KS01	**Wonju Array Si**	**120.00**	**328**	*e*PKPdf		**PKPdf**	**04 12 40.3**	**-0.2**	
KSRS	**Korea Array**	**120.01**	**328**	PKP		**PKPdf**	**04 12 40.1**	**-0.5**	
	comp=Z,2.4nm,0.8s,baz=352,slow=1.9,SNR=7.5								
KS15	**Wonju Array Si**	**120.03**	**328**	*e*PKPdf		**PKPdf**	**04 12 40.1**	**-0.5**	
MK32	**Makanchi Array**	**120.18**	**8**	*e*PKPdf		**PKPdf**	**04 12 40.6**	**-0.1**	
MKAR	**Makanchi Array**	**120.18**	**8**	PKP		**PKPdf**	**04 12 40.6**	**-0.1**	
	comp=Z,0.2nm,0.6s,baz=31,slow=3.4,SNR=2.8								
WMQ	**Urumqi**	**123.67**	**4**	*e*PKP		**PKiKP**	**04 12 48.8**	**+1.0**	
WMQ				sPKP			04 13 19.5		
WMQ				LR	LR				
	comp=Z,77nm,19.7s								
WMQ				LR	LR				
	comp=Z,27nm,31.5s								
WMQ				LR	LR				
	comp=Z,95nm,29.5s								
HHC	**Hu-ho-hao-te**	**123.89**	**342**	*e*PKP		**PKPdf**	**04 12 47.5**	**-0.6**	
KSH	**Kashi**	**125.94**	**16**	*e*PKP		**PKiKP**	**04 12 53.8**	**+1.3**	
KSH				sPKP			04 13 31.0		
GTA	**Gaotai**	**127.77**	**353**	*e*PKP		**PKPdf**	**04 12 54.3**	**-1.3**	
NJ2	**Nanjing**	**128.82**	**331**	*e*PKP		**PKiKP**	**04 12 58.8**	**+0.5**	
LZH	**Lanzhou**	**130.35**	**348**	*e*PKP		**PKPdf**	**04 12 59.8**	**-0.9**	
GYA	**Guiyang**	**138.72**	**340**	*e*Pdif		**Pdif**	**04 10 27.3**	**-0.7**	
GYA				PKP		**PKPdf**	**04 13 16.8**	**+0.3**	
GYA				sPKP			04 13 50.6		
GYA				PP		**PP**	**04 16 11.0**	**+4.1**	
WR1	**Warramunga Arr**	**139.09**	**254**	*e*PKPpre	PKPpre		04 13 12.6		
WR1				*e*PKPdf		**PKiKP**	**04 13 18.6**	**-0.9**	
WRA	**Warramunga Arr**	**139.09**	**254**	PKhKP	PKPpre		04 13 12.6		
	comp=Z,0.7nm,0.5s,baz=90,slow=3.0,SNR=12								
WRA				PKP		**PKiKP**	**04 13 18.6**	**-0.9**	
	comp=Z,2.8nm,0.6s,baz=88,slow=2.3,SNR=26								
WRA				pPKP	pPKPdf		04 13 40.3	-1.9	
	comp=Z,3.6nm,0.9s,baz=91,slow=1.9,SNR=5.7								
AS31	**Alice Springs**	**139.11**	**248**	*e*PKPpre	PKPpre		04 13 11.8		
AS31				*e*PKPdf		**PKiKP**	**04 13 18.9**	**-0.5**	
ASAR	**Alice Springs**	**139.12**	**248**	PKhKP	PKPpre		04 13 11.8		
	comp=Z,0.6nm,0.6s,baz=100,slow=3.9,SNR=3.6								
ASAR				PKP		**PKiKP**	**04 13 18.9**	**-0.5**	
	comp=Z,2.2nm,0.7s,baz=103,slow=1.8,SNR=12								
ASAR				pPKP	pPKPdf		04 13 40.0	-2.2	
	comp=Z,2.6nm,0.8s,baz=87,slow=1.4,SNR=6.3								
SIJI	**Sorong**	**139.67**	**284**	PKP		**PKiKP**	**04 13 19.9**	**-0.9**	
	comp=Z,3.0nm,0.3s,baz=22,slow=5.1,SNR=4.4								
FITZ	**Fitzroy Crossi**	**147.44**	**256**	*e*PKPbc		**PKiKP**	**04 13 36.1**	**-0.5**	
CM31	**Chiang Mai Arr**	**148.43**	**348**	*e*PKPdf		**PKPdf**	**04 13 33.4**	**-0.2**	
CM31				*e*PKPbc		**PKPbc**	**04 13 36.0**	**-1.0**	
CMAR	**Chiang Mai Arr**	**148.43**	**348**	PKP		**PKPdf**	**04 13 33.4**	**-0.2**	
	comp=Z,3.4nm,0.5s,baz=319,slow=3.0,SNR=14								
CMAR				PKPbc		**PKPbc**	**04 13 36.0**	**-1.0**	
	comp=Z,4.4nm,0.7s,baz=319,slow=2.6,SNR=19								
CMAR				pPKP		**pPKPdf**	**04 13 55.8**	**-2.8**	
	comp=Z,2.2nm,0.6s,baz=334,slow=2.9,SNR=2.5								

IDC 21 04:13:27.7±1.6, 13.73N×144.62E, h153km±52km, mb3.1/3, mb1 3.3/3, mb1mx2.9/32, mbtmp3.6/3, Error ellipse: s-maj=257.1km s-min=25.0km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.28**	**120**	P	Pn	04 13 49.6	+1.1
	177nm,0.3s,baz=11,slow=1.5,SNR=39						
GUMO				S	Sn	04 14 05.2	+0.9
	151nm,0.3s,baz=56,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**34.96**	**197**	P	P	04 20 05.1	-0.2
	0.6nm,0.8s,baz=22,slow=9.7,SNR=7.6						
SONM	**Songino Array**	**46.48**	**325**	P	P	04 21 39.3	-0.2
	0.4nm,0.6s,baz=130,slow=6.9,SNR=3.8						
MKAR	**Makanchi Array**	**61.22**	**316**	P	P	04 23 26.2	-0.3
	0.4nm,0.6s,baz=86,slow=8.5,SNR=6.0						

IDC 21 04:23:02.4±4.9, 4.92S×148.22E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=162.2km s-min=51.7km az=113.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.14**	**221**	P	P	04 27 38.5	+0.2
	0.7nm,0.3s,baz=48,slow=12,SNR=28						
ASAR	**Alice Springs**	**23.19**	**215**	P	P	04 28 10.9	-0.1
	0.5nm,0.6s,baz=42,slow=9.9,SNR=4.3						
FITZ	**Fitzroy Crossi**	**25.66**	**237**	P	P	04 28 34.2	0.0
	1.5nm,0.5s,baz=45,slow=12,SNR=9.5						
TORD	**Torodi Ar. Bea**	**145.98**	**286**	PKPbc	PKPdf	04 42 44.2	-0.3
	0.1nm,0.5s,baz=78,slow=4.8,SNR=3.4						

SJA 21 04:31:02.6±0.6, 21.45S×68.92W, h115km±4km, ML1.9, MW3.6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.46**	**221**	*i* P	Pn	04 31 20.6	+0.7
PB09				*i* S	Sn	04 31 33.8	+0.7
PB02	**IPOC Station P**	**0.92**	**278**	*i* P	Pn	04 31 24.7	+1.1
PB07	**IPOC Station P**	**0.94**	**253**	*i* P	Pn	04 31 24.7	+0.8
PB08	**IPOC Station P**	**1.32**	**350**	*i* P	Pn	04 31 28.9	+0.9
PB06	**IPOC Station P**	**1.39**	**206**	*i* P	Pn	04 31 29.6	+0.9
PB06				*i* S	Sn	04 31 49.1	+0.8
PB04	**IPOC Station P**	**1.45**	**232**	*i* P	Pn	04 31 30.2	+1.0
PB11	**IPOC Station P**	**1.81**	**337**	*i* P	Pn	04 31 34.3	+0.6
PB15	**IPOC Station P**	**1.83**	**196**	*i* P	Pn	04 31 34.7	+0.8
HJA	**Humahuaca**	**3.69**	**119**	*i* P	Pn	04 32 00.2	+1.9
HJA				IAML		04 32 00.6	
	comp=Z,1.9nm,0.3s						

MEX 21 04:32:00.7±1.0, 16.80N×94.78W, h116km±14km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.31**	**342**	*i* P	Pn	04 32 16.1	-1.1
CMIG				*e*S	Sn	04 32 27.4	-2.3
HUIG	**Huatulco**	**1.63**	**231**	*e*P	Pn	04 32 27.2	-2.2
HUIG				*i* S	Sn	04 32 50.1	-1.3
VHO	**Vista Hermosa**	**1.89**	**279**	*i* P	Pn	04 32 32.3	-0.4
VHO				*i* S	Sn	04 32 55.3	-1.9

IDC 21 04:40:23.2±2.1, 5.99S×130.41E, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=90.6km s-min=27.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.90**	**201**	Pn	Pn	04 43 28.3	+0.3
	0.1nm,0.3s,baz=30,slow=11,SNR=8.7						
FITZ				Sn	Sn	04 45 35.0	-17
	0.1nm,0.3s,baz=238,slow=22,SNR=6.4						
WRA	**Warramunga Arr**	**14.38**	**165**	Pn	Pn	04 43 48.5	+0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=14						
WRA				Sn	Sn	04 46 16.3	-12
	0.3nm,0.3s,baz=342,slow=21,SNR=7.4						
ASAR	**Alice Springs**	**17.89**	**170**	P	Pn	04 44 33.4	-0.3
	0.1nm,0.3s,baz=341,slow=9.9,SNR=3.6						
MKAR	**Makanchi Array**	**67.61**	**326**	P	P	04 51 21.9	0.0
	0.6nm,0.4s,baz=118,slow=7.6,SNR=11						

*DDA **21** 04:44:04.8, 37.21N×42.87E, h7km±4km, ML3.2*
*ISK **21** 04:44:05.4, 37.32N×42.90E, h3km, ML2.6/8*
*ISN **21** 04:44:07.2±0.6, 37.11N×42.96E, h2km±3km, ML2.6*
ISC 21 04:44:05.5±1.3, 37.26N±0.04×42.91E±0.03, h3km±12km, n20, σ0.87/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIRN	**Sirnak**	**0.46**	**300**	*i* P	**Pg**	**04 44 14.1**	**-0.3**
SIRN				*i* S	**Sg**	**04 44 19.7**	**-0.7**
SIRN				IAML_P			
	comp=Z,14μm,0.2s						
CUKT	**Cukurca**	**0.56**	**92**	PG	**Pg**	**04 44 17.2**	**+1.0**
CUKT				SG	**Sb**	**04 44 25.9**	**-0.4**
CUKT	**Cukurca**	**0.56**	**92**	*i* P	**Pg**	**04 44 17.2**	**+1.0**
CUKT				*i* S	**Sb**	**04 44 26.2**	**-0.2**
MSL	**Mosul**	**0.88**	**170**	*e*Pg	**Pb**	**04 44 23.0**	**-0.3**
	baz=350						
MSL				*e*Sg	**Sb**	**04 44 34.0**	**-1.4**
AKDM	**Akdamar-Van**	**1.06**	**3**	PG	**Pg**	**04 44 25.3**	**-0.6**
SRTM	**Siirt_Merkez**	**1.07**	**313**	*i* P	**Pg**	**04 44 25.8**	**-0.3**
SRTM				*i* S	**Sb**	**04 44 42.3**	**+1.1**
YOVA	**Hakkari_Yksek**	**1.14**	**73**	*i* P	**Pg**	**04 44 27.3**	**-0.1**
YOVA				*i* S	**Sb**	**04 44 44.8**	**+1.4**
YOVA				IAML_P			
	comp=Z,2μm,0.1s						
VANB	**Van**	**1.38**	**16**	PN	**Pn**	**04 44 30.2**	**-1.6**
BTMN	**Batman**	**1.45**	**296**	*i* P	**Pb**	**04 44 33.0**	**-0.1**
BTMN				*i* S	**Sn**	**04 44 52.6**	**+0.4**
GURO	**Guroymak-BITLI**	**1.46**	**332**	PN	**Pn**	**04 44 32.5**	**-0.4**
GURO				SN	**Sb**	**04 44 52.5**	**+0.1**
SVAN	**Silvan-Diyarba**	**1.62**	**304**	PN	**Pn**	**04 44 35.2**	**+0.2**
SVAN				SN	**Sn**	**04 44 56.8**	**+0.3**
MARD	**Mardin**	**1.70**	**272**	*i* P	**Pn**	**04 44 36.3**	**+0.1**
MARD				*i* S	**Sb**	**04 44 58.9**	**-0.4**
VMUR	**Van-Muradiye**	**1.80**	**17**	*i* P	**Pg**	**04 44 40.9**	**+0.9**
VMUR				IAML_P			
	comp=Z,378nm,0.3s						
IKRK	**Kirkuk**	**2.19**	**148**	*e*Pn	**Pn**	**04 44 43.0**	**+0.2**
IKRK				*e*Sn	**Sn**	**04 45 09.0**	**-1.4**
AGRB	**Hanur-Agry**	**2.31**	**2**	PN	**Pn**	**04 44 44.8**	**+0.2**
DIYA	**Diyarbakir**	**2.31**	**287**	*i* P	**Pb**	**04 44 47.9**	**+0.1**
BNGB	**Bingl**	**2.46**	**315**	PN	**Pn**	**04 44 47.0**	**+0.3**
URFA	**Urfa**	**3.26**	**274**	PN	**Pn**	**04 44 59.0**	**+1.4**
ELZG	**Elazig**	**3.34**	**293**	*i* P	**Pn**	**04 44 58.7**	**-0.1**
SURC	**SANLIURFA_SURC**	**3.46**	**265**	*i* P	**Pn**	**04 45 02.1**	**+1.8**
SURC				IAML_P			
	comp=Z,56nm,0.3s						

TAP 21 05:20:28.8, 24.44N×121.93E, h12km±1km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.17**	**266**	P	Pb	05 20 33.8	-0.3
	baz=265						
ENA				S	Sg	05 20 36.5	+1.1
	baz=265						
TWC	**Suao**	**0.19**	**336**	P	Pg	05 20 33.5	+0.6
	baz=338						
EOS1	**EOS1**	**0.21**	**58**	*e*P	Pg	05 20 33.9	+0.6
	baz=58						
EOS1				*e*S	Sg	05 20 37.7	+1.3
	baz=58						
NACB	**Ninganchiao**	**0.41**	**229**	*i* P	Pb	05 20 37.8	-0.2
	baz=229						
NDT	**Datong Townshi**	**0.41**	**293**	*e*P	Pb	05 20 38.4	+0.2
	baz=293						
ETLH	**Xiulin Townshi**	**0.47**	**241**	*e*P	Pb	05 20 39.1	0.0
	baz=240						
ETLH				*e*S	Sb	05 20 46.1	-0.1
	baz=240						
NNSB	**Datong**	**0.50**	**269**	*e*P	Pb	05 20 39.9	+0.2
	baz=268						
NNSB				*e*S	Sb	05 20 46.7	-0.3
	baz=268						
NWLT	**Wulai**	**0.52**	**311**	*e*P	Pb	05 20 40.5	+0.6
	baz=310						
TIPB	**Shuangxi**	**0.54**	**350**	*e*P	Pb	05 20 40.6	+0.3
	baz=349						
TIPB				*e*S	Sb	05 20 48.3	+0.2
	baz=349						

IDC 21 05:25:32.6±3.5, 10.78S×165.88E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/52, mbtmp3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/35, Error ellipse: s-maj=155.5km s-min=29.6km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.00**	**282**	LR	LR	05 28 49.9	
	comp=Z,27nm,20.1s,baz=66,slow=33						
H11S2	**WAKE ISLAND Hy**	**29.09**	**2**	T	T	06 02 07.1	
	baz=181,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.10**	**2**	T	T	06 02 03.1	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**29.11**	**2**	T	T	06 02 04.3	
	baz=181,slow=74						
H11N1	**WAKE ISLAND Hy**	**30.32**	**2**	T	T	06 03 34.5	
	baz=182,slow=76,SNR=4.2						
H11N3	**WAKE ISLAND Hy**	**30.32**	**2**	T	T	06 03 35.4	
	baz=182,slow=76,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**30.33**	**2**	T	T	06 03 35.8	
	baz=182,slow=76,SNR=3.9						
WRA	**Warramunga Arr**	**31.70**	**249**	P	P	05 31 59.0	+0.6
	2.0nm,0.8s,baz=80,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**33.03**	**243**	P	P	05 32 09.2	-0.8
	0.7nm,0.7s,baz=78,slow=8.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**39.58**	**255**	LR	LR	05 49 54.7	
	comp=Z,50nm,18.2s,baz=271,slow=37						
BATI	**Baumata**	**41.49**	**267**	LR	LR	05 51 35.1	
	comp=Z,78nm,19.8s,baz=302,slow=38						
ILAR	**Eielson Array**	**83.22**	**18**	P	P	05 38 00.6	+0.1
	0.6nm,0.6s,baz=235,slow=4.9,SNR=12						
MKAR	**Makanchi Array**	**93.42**	**317**	P	P	05 38 49.8	-0.2
	0.4nm,0.7s,baz=87,slow=6.1,SNR=4.5						

*BGR **21** 05:26:28.3±0.0, 19.73S×177.95W, h33km*
*BJI **21** 05:27:33.4, 22.02S×178.80W, h607km, mb5.0/37, mB5.2/22*
*ISCJB **21** 05:27:34.9±0.4, 22.08S±0.03×179.54W±0.03, h597km±5km, mb4.8/102, Error ellipse: s-maj=5.1km s-min=3.8km az=151.8*
*IDC **21** 05:27:35.0±0.8, 21.97S×179.52W, h583km±8km, mb4.0/32, mb1 4.1/33, mb1mx4.0/51, mbtmp4.9/33, Error ellipse: s-maj=9.8km s-min=8.6km az=166.0*
*NEIC **21** 05:27:35.5±0.4, 22.07S×179.52W, h593km±4km, mb5.0/54, Error ellipse: s-maj=5.1km s-min=3.8km az=131.0*
*MOS **21** 05:27:37.9±3.2, 22.03S×179.64W, h601km, mb5.0/13, Error ellipse: s-maj=9.9km s-min=9.4km az=99.3*
*GCMT **21** 05:27:38.5±0.5, 21.93S±0.05×179.84W±0.04, h592km±3km, MW5.3/63, Moment Tensor Solution. s63,c74; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr=0.34±.04; Mθθ=0.03±.07; Mφφ=0.36±.07; Mrθ=0.76±.07; Mθφ=0.09±.06; Mφr=0.79±.06; Best double couple: M0 1.13800×10^17 NP1:φs39.00000°, δ84.00000°, λ-79.00000°. NP2:φs157.00000°, δ13.00000°, λ-151.00000°. Principal axes: T 1.0220, Plg38.0000°, Azm119.0000°; N 0.2330, Plg11.0000°, Azm218.0000°; P -1.2550, Plg50.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*
ISC 21 05:27:36.1±0.4, 22.12S±0.05×179.46W±0.05, h602km±4km, h603km:pP-P, n554, σ1s21/618, mb4.9/101, 51C-23D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.95**	**331**	*e*P	**P**	**05 29 07.8**	**-1.1**
MSVF	**Nonsavu**	**4.95**	**331**	*c* *i*P	**P**	**05 29 09.5**	**+0.5**
RIZ	**Raoul Island**	**7.23**	**169**	P	**P**	**05 29 27.4**	**-0.8**
RAO	**Raoul Island**	**7.24**	**169**	P	**P**	**05 29 27.6**	**-0.6**
	197nm,0.3s,baz=116,slow=7.6,SNR=6.3						
RAO				S	**S**	**05 30 59.8**	**-0.4**
	101nm,0.3s,baz=73,slow=19,SNR=2.8						
GLKZ	**Green Lake**	**7.25**	**169**	P	**P**	**05 29 27.5**	**-0.9**
GLKZ				S	**S**	**05 30 57.2**	**-3.1**
NIUE	**Niue**	**9.43**	**73**	P	**P**	**05 29 47.5**	**-1.8**
	baz=9.2,SNR=16						
NIUE	**Niue**	**9.43**	**73**	*e*P	**P**	**05 29 47.7**	**-1.6**
MARNC	**Mare, Loyalty**	**11.64**	**271**	*e*P	**P**	**05 30 10.5**	**-0.8**
DZM	**Mont Dzumac**	**13.07**	**268**	*e*P	**P**	**05 30 24.5**	**-1.2**
	118nm,0.8s						
DZM	**Mont Dzumac**	**13.07**	**268**	*e*P	**P**	**05 30 25.1**	**-0.6**
OUZ	**Omahuta**	**14.40**	**203**	*e*P	**P**	**05 30 40.0**	**+1.5**
OUZ	**Omahuta**	**14.40**	**203**	P	**P**	**05 30 39.7**	**+1.1**

GRZ	**Great Barrier**	**14.76**	**196**	P		**P**	**05 30 42.9**	**+1.1**	
WCZ	**Waipu Caves**	**14.79**	**200**	P		**P**	**05 30 43.5**	**+1.4**	
KUZ	**Kuaotunu**	**15.17**	**195**	P		**P**	**05 30 46.5**	**+1.0**	
WIAZ	**Waiheke Island**	**15.36**	**197**	P		**P**	**05 30 49.5**	**+2.2**	
MXZ	**Matakaoa Point**	**15.52**	**187**	*e*P		**P**	**05 30 48.5**	**-0.2**	
	111nm,1.2s								
MXZ	**Matakaoa Point**	**15.52**	**187**	P		**P**	**05 30 48.5**	**-0.2**	
ETAZ	**East Tamaki Re**	**15.57**	**197**	P		**P**	**05 30 52.2**	**+3.0**	
WTAZ	**Waiatarua**	**15.64**	**198**	P		**P**	**05 30 52.3**	**+2.4**	
MKAZ	**Moumakai**	**15.65**	**196**	P		**P**	**05 30 51.6**	**+1.7**	
WMGZ	**Waiomatatini S**	**15.76**	**186**	P		**P**	**05 30 50.9**	**0.0**	
HAZ	**Te Kaha**	**15.77**	**188**	P		**P**	**05 30 51.3**	**+0.3**	
HAZ				S		**S**	**05 33 24.7**	**-5.2**	
PKGZ	**Pakihiroa**	**15.86**	**187**	P		**P**	**05 30 51.6**	**-0.4**	
RUGZ	**Raukumara Rang**	**15.99**	**188**	P		**P**	**05 30 52.6**	**-0.6**	
RUGZ				S		**S**	**05 33 27.2**	**-6.6**	
TGRZ	**Tauranga**	**15.99**	**192**	P		**P**	**05 30 55.6**	**+2.5**	
PUZ	**Puketiti**	**16.02**	**187**	P		**P**	**05 30 54.1**	**+0.7**	
PUZ				S		**S**	**05 33 31.1**	**-3.1**	
OPRZ	**Ohinepanea**	**16.05**	**191**	P		**P**	**05 30 55.1**	**+1.5**	
TOZ	**Tahuroa Road**	**16.16**	**194**	P		**P**	**05 30 56.4**	**+1.8**	
TWGZ	**Tauwhareparae**	**16.16**	**187**	P		**P**	**05 30 55.4**	**+0.7**	
KMRZ	**Kaimai**	**16.17**	**193**	P		**P**	**05 30 56.8**	**+2.1**	
URZ	**Urewera**	**16.36**	**190**	*e*P		**P**	**05 30 54.4**	**-2.1**	
	37nm,0.7s								
URZ				S		**S**	**05 33 33.5**	**-6.0**	
URZ	**Urewera**	**16.36**	**190**	P		**P**	**05 30 54.0**	**-2.4**	
	7.3nm,0.3s,baz=229,slow=3.8,SNR=44								
URZ				S		**S**	**05 33 33.5**	**-6.0**	
	3.6nm,0.3s,baz=52,slow=19,SNR=21								
URZ					ScP	**ScP**	**05 37 49.8**	**+0.5**	
	0.3nm,0.3s,baz=108,slow=3.2,SNR=3.9								
URZ	**Urewera**	**16.36**	**190**	P		**P**	**05 30 54.4**	**-2.1**	
MWZ	**Matawai**	**16.37**	**188**	P		**P**	**05 30 55.0**	**-1.6**	
TKGZ	**Te Karaka**	**16.43**	**187**	P		**P**	**05 30 58.0**	**+0.9**	
CNGZ	**Carnagh Statio**	**16.44**	**186**	P		**P**	**05 30 58.5**	**+1.3**	
RAGZ	**Rawiri**	**16.55**	**189**	P		**P**	**05 30 58.2**	**-0.1**	
MUGZ	**Murupara**	**16.63**	**190**	P		**P**	**05 30 58.5**	**-0.4**	
RTZ	**Ruatahuna**	**16.73**	**190**	P		**P**	**05 30 59.1**	**-0.9**	
WATZ	**Wairara**	**17.04**	**193**	P		**P**	**05 31 03.4**	**+0.6**	
HIZ	**Hauiti**	**17.06**	**195**	*e*P		**P**	**05 31 05.5**	**+2.7**	
	312nm,2.0s								
MHGZ	**Mahia Peninsul**	**17.13**	**187**	P		**P**	**05 31 04.0**	**+0.5**	
RATZ	**Rangitukua**	**17.19**	**193**	P		**P**	**05 31 03.7**	**-0.4**	
KATZ	**Kakaramea**	**17.31**	**193**	P		**P**	**05 31 06.1**	**+0.8**	
BKZ	**Black Stump Fm**	**17.34**	**191**	*e*P		**P**	**05 31 04.1**	**-1.4**	
	14nm,0.6s								
ARHZ	**Aropaoanui**	**17.36**	**189**	P		**P**	**05 31 05.9**	**+0.3**	
KRVZ	**Karewarewa**	**17.43**	**193**	P		**P**	**05 31 06.8**	**+0.4**	
WTVZ	**West Tongariro**	**17.47**	**193**	P		**P**	**05 31 07.0**	**+0.3**	
NGZ	**Ngauruhoe**	**17.52**	**193**	P		**P**	**05 31 08.7**	**+1.4**	
MCHZ	**McNeill Hill**	**17.58**	**190**	P		**P**	**05 31 06.6**	**-1.1**	
TUVZ	**Tukino**	**17.60**	**193**	P		**P**	**05 31 08.0**	**0.0**	
FWVZ	**Far West T-bar**	**17.61**	**193**	P		**P**	**05 31 08.1**	**0.0**	
KWHZ	**Kaweka Forest**	**17.61**	**191**	P		**P**	**05 31 07.1**	**-0.8**	
WHVZ	**Whangaehu Hut**	**17.63**	**193**	P		**P**	**05 31 08.1**	**-0.2**	
TRVZ	**Turoa**	**17.65**	**193**	P		**P**	**05 31 08.1**	**-0.4**	
PKVZ	**Pokaka**	**17.68**	**193**	P		**P**	**05 31 08.6**	**0.0**	
MOVZ	**Moawhango**	**17.71**	**192**	P		**P**	**05 31 07.9**	**-1.0**	
CKHZ	**Cape Kidnapper**	**17.73**	**189**	P		**P**	**05 31 09.6**	**+0.5**	
BHHZ	**Black Hill Sta**	**17.73**	**191**	P		**P**	**05 31 08.0**	**-1.1**	
KRHZ	**Kereru**	**17.83**	**191**	P		**P**	**05 31 09.7**	**-0.3**	
KAHZ	**Kahuranaki**	**17.90**	**189**	P		**P**	**05 31 10.2**	**-0.3**	
PKE	**Pukeiti**	**17.92**	**197**	P		**P**	**05 31 15.1**	**+4.3**	
PNHZ	**Pukenui**	**18.12**	**191**	P		**P**	**05 31 11.6**	**-1.0**	
PXZ	**Pawanui**	**18.13**	**189**	P		**P**	**05 31 12.4**	**-0.2**	
WAZ	**Wanganui**	**18.21**	**194**	P		**P**	**05 31 13.8**	**+0.4**	
TSZ	**Takapari Road**	**18.31**	**191**	P		**P**	**05 31 14.3**	**+0.1**	
RAR	**Rarotonga**	**18.32**	**91**	P		**P**	**05 31 13.9**	**-0.7**	
	1.2nm,0.3s,baz=223,slow=9.5,SNR=4.4								
PRHZ	**Porangahau**	**18.40**	**190**	P		**P**	**05 31 14.9**	**-0.2**	
DVHZ	**Dannevirke**	**18.50**	**191**	P		**P**	**05 31 15.3**	**-0.7**	
ANWZ	**Angora Road**	**18.61**	**190**	P		**P**	**05 31 16.5**	**-0.4**	
BFZ	**Birch Farm**	**18.86**	**190**	*e*P		**P**	**05 31 18.9**	**-0.3**	
	21nm,0.7s								
BFZ	**Birch Farm**	**18.86**	**190**	P		**P**	**05 31 18.4**	**-0.9**	
MRZ	**Mangatainoka R**	**18.96**	**192**	P		**P**	**05 31 19.2**	**-1.0**	
SNZO	**South Karori**	**19.76**	**193**	*e*P		**P**	**05 31 26.5**	**-0.8**	
	57nm,0.8s								
THZ	**Tophouse**	**20.61**	**196**	*e*P		**P**	**05 31 35.0**	**-0.1**	
	32nm,0.8s								
THZ				*e*S		**S**	**05 34 47.3**	**-0.7**	
KNTN	**Kanton**	**20.64

TOO	Toolangi	33.85	235	eP		P		05 33 31.2	+0.9	
	comp=Z,28nm,0.6s									
TOO	Toolangi	33.85	235	eP		P		05 33 31.2	+0.9	
TOO					pmax	pmax				
	comp=Z,28nm,0.6s									
MTSU	Mount Surprise	34.19	270	P		P		05 33 33.3	-0.1	
	baz=34,SNR=31									
PMG	Port Moresby	34.43	286	P		P		05 33 34.1	-1.3	
	comp=Z,24nm,0.5s,baz=98,slow=6.7,SNR=21									
PMG					ScP	ScP		05 38 44.3	+2.4	
	comp=Z,12nm,0.8s,baz=53,slow=3.7,SNR=5.7									
STKA	Stephens Creek	35.87	246	P		P		05 33 47.7	+0.6	
	baz=36,SNR=35									
STKA	Stephens Creek	35.87	246	eP		P		05 33 47.9	+0.8	
	comp=Z,7.1nm,1.0s									
STKA	Stephens Creek	35.87	246	eP		P		05 33 47.9	+0.8	
STKA					pmax	pmax				
	comp=Z,7.0nm,1.0s									
STKA	Stephens Creek	35.87	246	P		P		05 33 47.8	+0.8	
	comp=Z,24nm,0.6s,baz=93,slow=10,SNR=48									
STKA					ScP	ScP		05 38 49.9	+2.9	
	comp=Z,5.5nm,0.8s,baz=38,slow=5.3,SNR=4.1									
COEN	Coen	36.37	276	P		P		05 33 51.3	-0.1	
	baz=36,SNR=30									
COEN	Coen	36.37	276	eP		P		05 33 51.5	+0.2	
	comp=Z,38nm,1.0s									
MANU	Manus Island	37.91	297	eP		P		05 34 03.3	-0.7	
	comp=Z,159nm,1.8s									
QIS	Mount Isa	38.08	265	P		P		05 34 04.6	-0.7	
	baz=38,SNR=7.7									
HTT	Hallett	38.28	244	P		P		05 34 06.8	+0.1	
	baz=38,SNR=9.9									
JOHN	Johnston Islan	39.82	15	eP		P		05 34 16.0	-3.0	
	comp=Z,244nm,0.9s									
TAOE	Nuku Hiva Isla	39.98	77	eP		P		05 34 19.9	-0.8	
	comp=Z,224nm,1.1s									
BBOO	Buckleboo	40.62	245	P		P		05 34 25.3	-0.1	
	baz=41,SNR=24									
BBOO	Buckleboo	40.62	245	eP		P		05 34 25.2	-0.2	
	comp=Z,44nm,0.9s									
AS01	Alice Springs	42.80	259	eP		P		05 34 42.2	-0.5	
AS31	Alice Springs	42.84	259	eP		P		05 34 42.7	-0.3	
	comp=Z,9.8nm,0.6s									
ASAR	Alice Springs	42.84	259	P		P		05 34 42.9	-0.2	
	comp=Z,27nm,0.5s,baz=100,slow=8.2,SNR=240									
ASAR					PcP	PcP		05 36 19.6	-0.4	
	comp=Z,10.0nm,0.8s,baz=99,slow=4.8,SNR=9.6									
ASAR					ScP	ScP		05 39 17.6	+3.2	
	comp=Z,4.2nm,0.7s,baz=107,slow=4.1,SNR=9.6									
ASAR					S	S		05 40 23.2	-2.1	
	comp=Z,5.6nm,1.0s,baz=97,slow=15,SNR=11									
WB2	Warramunga Arr	43.04	264	eP		P		05 34 43.8	-0.8	
WRAB	Tennant Creek	43.05	264	eP		P		05 34 43.6	-1.0	
	comp=Z,36nm,1.0s									
WRAB	Tennant Creek	43.05	264	d iP		P		05 34 43.4	-1.2	
WRAB					pmax	pmax				
	comp=Z,48nm,1.2s									
WRA	Warramunga Arr	43.05	264	P		P		05 34 43.7	-1.0	
	comp=Z,18nm,0.6s,baz=97,slow=8.0,SNR=427									
WRA					PcP	PcP		05 36 20.4	-0.3	
	comp=Z,5.2nm,0.8s,baz=96,slow=3.8,SNR=5.9									
WRA					ScP	ScP		05 39 18.5	+3.2	
	comp=Z,9.2nm,0.8s,baz=95,slow=4.3,SNR=21									
WRA					S	S		05 40 25.6	-2.7	
	comp=Z,3.7nm,1.0s,baz=99,slow=13,SNR=8.8									
JAY	Jayapura	43.30	291	P		P		05 34 46.0	-0.7	
JAY	Jayapura	43.30	291	P		P		05 34 46.0	-0.7	
	comp=Z,31nm,0.5s,baz=134,slow=3.5,SNR=30									
KDU	Kakadu	46.65	273	P		P		05 35 11.3	-0.8	
	baz=47,SNR=58									
FORT	Forrest	47.42	248	P		P		05 35 17.3	-0.4	
	baz=48,SNR=20									
FORT	Forrest	47.42	248	eP		P		05 35 17.6	-0.1	
	comp=Z,86nm,0.7s									
WRKA	Warakurna	47.73	256	P		P		05 35 20.0	-0.2	
	baz=48,SNR=319									
MTN	Manton Dam	47.84	273	P		P		05 35 20.2	-0.9	
	baz=48,SNR=13									
MTN	Manton Dam	47.84	273	eP		P		05 35 19.9	-1.1	
	comp=Z,37nm,0.4s									
MTN					eS	S		05 41 34.0	-1.1	
HPAH	Hawaii Prepara	47.89	31	eP		P		05 35 21.1	-0.2	
	comp=Z,70nm,0.6s									
KNRA	Kununurra	49.22	268	P		P		05 35 30.8	-0.3	
	baz=49,SNR=15									
FAKI	Fak Fak	50.57	285	eP		P		05 35 40.4	-0.7	
	comp=Z,142nm,1.7s									
FAKI	Fak Fak	50.57	285	P		P		05 35 39.7	-1.4	
FITZ	Fitzroy Crossi	51.48	264	P		P		05 35 47.6	-0.1	
	baz=52,SNR=119									
FITZ	Fitzroy Crossi	51.48	264	eP		P		05 35 47.5	-0.2	
	comp=Z,17nm,0.8s									
BNDI	Bandanaira	52.00	282	P		P		05 35 51.4	0.0	
SIJI	Sorong	52.37	287	P		P		05 35 53.6	-0.5	
	comp=Z,54nm,0.5s,baz=87,slow=5.9,SNR=44									
SWI	Sorong	52.38	287	P		P		05 35 53.8	-0.3	
NLAI	Namlea	55.08	282	P		P		05 36 12.3	-0.7	
SOEI	Soe	55.21	273	eP		P		05 36 15.2	+1.0	
	comp=Z,84nm,0.6s									
SOEI	Soe	55.21	273	P		P		05 36 15.1	+1.0	
BATI	Baumata	55.62	273	P		P		05 36 17.0	+0.2	
MEEK	Meekatharra	56.12	252	P		P		05 36 19.2	-0.9	
	baz=56,SNR=10									
KLBR	Kellerberrin	56.15	246	P		P		05 36 19.9	-0.3	
	baz=56,SNR=15									
SBA	Scott Base	56.18	183	eP		P		05 36 23.6	+4.0	
	comp=Z,55nm,1.0s									
SBA	Scott Base	56.18	183	P		P		05 36 23.6	+4.0	
SBA					pmax	pmax				
	comp=Z,55nm,1.0s									
VNDA	Vanda	56.19	185	eP		P		05 36 22.1	+2.4	
	comp=Z,13nm,0.8s									
VNDA	Vanda	56.19	185	eP		P		05 36 22.1	+2.4	
VNDA					pmax	pmax				
	comp=Z,13nm,0.8s									
VNDA	Vanda	56.19	185	P		P		05 36 22.3	+2.6	
	comp=Z,9.6nm,0.7s,baz=353,slow=7.6,SNR=98									
NWAO	Narrogin (SRO)	56.44	244	P		P		05 36 22.2	0.0	
	baz=57,SNR=8.8									
RKGY	Rocky Gully	56.48	242	P		P		05 36 22.8	+0.4	
	baz=57,SNR=5.5									
TNTI	Ternate	56.58	286	P		P		05 36 23.1	-0.3	
BLDU	Ballidu	57.16	247	P		P		05 36 26.8	-0.3	
	baz=57,SNR=44									
MUN	Mundaring	57.41	245	P		P		05 36 29.0	+0.2	
	baz=58,SNR=3.8									
MMRI	Maumere	57.48	274	eP		P		05 36 29.0	-0.6	
	comp=Z,63nm,0.5s									
MMRI	Maumere	57.48	274	P		P		05 36 28.9	-0.6	
EDFI	Ende, Flores	57.94	273	P		P		05 36 31.7	-1.1	
MORW	Morawa	57.97	249	P		P		05 36 32.4	-0.3	
	baz=58,SNR=8.3									
MORW	Morawa	57.97	249	eP		P		05 36 32.3	-0.3	
	comp=Z,38nm,1.0s									
BSSI	Bau Bau, Buton	59.99	276	P		P		05 36 45.4	-1.0	
BKSI	Bulukumba	60.64	276	P		P		05 36 49.5	-1.1	
GIRL	Giralia	60.82	256	P		P		05 36 51.0	-0.7	
	baz=61,SNR=5.2									
BNSI	Bone	61.00	277	P		P		05 36 52.7	-0.3	
PLAI	Plampang	61.54	272	P		P		05 36 55.8	-0.7	
CASY	Casey	61.93	206	eP		P		05 36 58.8	+0.8	
	comp=Z,29nm,0.9s									
MPSI	Mapaga	63.10	282	P		P		05 37 05.5	-1.0	
SRBI	Singaraja	64.18	272	P		P		05 37 12.6	-0.8	
JAGI	Jajag, Banyuwa	65.03	271	P		P		05 37 17.1	-1.6	
TSM	Tawau	66.62	285	P		P		05 37 29.1	+0.5	
GRJI	Gresik	67.12	272	P		P		05 37 31.5	-0.2	
PWJI	Pagerwojo	67.36	270	P		P		05 37 32.6	-0.5	
PCJI	Pacitan	67.88	270	P		P		05 37 36.2	-0.1	
QSPA	South Pole Qui	67.96	180	eP		P		05 37 37.6	+1.6	
	comp=Z,48nm,0.8s									
QSPA					epP	pwP		05 39 40.5	+1.9	
KDM	Kudat	68.71	287	P		P		05 37 41.8	+0.5	
KKM	Kota Kinabalu	68.87	286	P		P		05 37 42.7	+0.3	
PBKI	Pangkalan Bun	69.42	276	P		P		05 37 45.7	+0.1	
SBUM	Sibu	70.95	281	P		P		05 37 54.6	+0.1	
CISI	Cisompet, Garu	71.22	269	eP		P		05 37 54.9	-1.3	
	comp=Z,29nm,0.9s									
KSM	Kuching	72.30	279	P		P		05 38 02.6	+0.2	
TPUB	Ta-pu	73.73	304	eP		P		05 38 08.8	-1.5	
	comp=Z,55nm,0.7s									
SSLB	Suanglung	73.75	305	eP		P		05 38 09.1	-1.4	
	comp=Z,53nm,1.0s									
PET	Petropavlovsk	77.20	347	eP		P		05 38 28.3	-0.5	
PET					pmax	pmax				
	comp=Z,21nm,0.6s									
KSRS	Korea Array	77.21	320	P		P		05 38 29.9	+0.7	
	comp=Z,5.0nm,0.9s,baz=135,slow=5.8,SNR=5.7									
KSAR	Wonju Array Be	77.22	320	P		P		05 38 29.9	+0.6	
KSAR	Wonju Array Be	77.22	320	P		P		05 38 29.9	+0.6	
KS01	Wonju Array Si	77.24	320	eP		P		05 38 29.6	+0.2	
PETK	Petropavlovsk-	77.49	346	eP		P		05 38 30.0	-0.4	
PETK	Petropavlovsk-	77.49	346	eP		P		05 38 30.0	-0.4	
PETK	Petropavlovsk-	77.49	346	P		P		05 38 30.2	-0.3	
	comp=Z,32nm,0.7s,baz=144,slow=7.8,SNR=34									
MYKOM	Kota Tinggi	78.36	277	P		P		05 38 36.1	+0.1	
KGM	Kluang	78.94	277	P		P		05 38 39.4	+0.4	
USRK	Ussuriysk Ar.	79.55	327	P		P		05 38 41.5	-0.1	
	comp=Z,9.5nm,0.9s,baz=190,slow=1.2,SNR=5.0									
MAW	Mawson	79.59	200	P		P		05 38 41.6	+0.2	
	comp=Z,9.2nm,0.6s,baz=135,slow=5.5,SNR=6.9									
NJ2	Nanjing	79.88	311	eP		P		05 38 44.6	+1.1	
NJ2					pmax	pmax				
	comp=Z,28nm,0.5s									
KTGM	Kuala Trenggan	80.40	280	P		P		05 38 47.3	+0.6	
VES	Vestal, Richgr	81.13	46	P		P		05 38 50.9	+1.0	
	baz=235									
BFSC	Mount Baldy Ra	81.18	48	P		P		05 38 51.3	+0.9	
	baz=236									
MONP2	Monument Peak	81.29	49	P		P		05 38 52.5	+1.4	
	baz=237									
O02D	Mt. Diablo Mer	81.38	40	P		P		05 38 53.2	+2.0	
	baz=232									
CMB	Columbia Colle	81.57	43	eP		P		05 38 53.1	+0.9	
	comp=Z,2.9nm,0.8s									
CMB	Columbia Colle	81.57	43	eP		P		05 38 53.1	+0.9	
CMB					pmax	pmax				
	comp=Z,3.0nm,0.8s									
AFDM	Forest Hills D	81.74	42	eP		P		05 38 54.5	+1.4	
	comp=Z,15nm,1.8s									
IPM	Ipoh	82.00	278	P		P		05 38 55.2	+0.3	
M02C	Callahan	82.10	39	P		P		05 38 56.7	+1.8	
	baz=231									
CWC	Cottonwood Cre	82.14	46	P		P		05 38 56.1	+0.8	
	baz=235									
BELC	Belle Mtn. Jos	82.19	49	P		P		05 38 56.6	+1.0	
	baz=237									
MPMC	Manual Prospec	82.31	46	P		P		05 38 56.9	+0.7	
	baz=236									
GSC	Goldstone, Bar	82.35	47	P		P		05 38 57.4	+1.1	
	baz=236									
BC3	Big Chuckawall	82.39	49	P		P		05 38 57.8	+1.2	
	baz=237									
YBH	Yreka Blue Hor	82.40	39	P		P		05 38 57.6	+1.2	
	comp=Z,4.8nm,0.7s,baz=192,slow=3.3,SNR=17									
WAKR	Walker	82.45	43	eP		P		05 38 58.2	+1.3	
	comp=Z,5.8nm,0.6s									
KDAK	Kodiak Island	82.70	14	P		P		05 38 57.0	-0.4	
KDAK	Kodiak Island	82.70	14	P		P		05 38 57.0	-0.4	
	comp=Z,10nm,1.0s,baz=141,slow=6.5,SNR=3.9									
CN2	Changchun	82.76	323	⇓P		P		05 38 58.1	+0.1	
CN2					esP	sP		05 42 05.6	+1.1	
CN2					eS	S		05 48 27.3	+0.2	
CN2					pmax	pmax				
	comp=Z,40nm,0.8s									
CN2					pmax	pmax				
	comp=Z,200nm,4.0s									
L04D	Klamath Falls	82.94	39	P		P		05 39 00.5	+1.4	
	baz=232									
NV01	Mina Array Sit	83.13	44	eP		P		05 39 00.6	+0.3	
NVAR	Mina Array Bea	83.13	44	P		P		05 39 00.9	+0.6	
	comp=Z,1.8nm,0.6s,baz=220,slow=8.9,SNR=15									
KLR	Kul'dur	83.23	330	P		P		05 39 00.1	-0.2	
	comp=Z,7.9nm,0.8s,baz=138,slow=3.6,SNR=5.3									
PSI	Prapat	83.29	276	eP		P		05 39 00.3	-1.2	
PSI	Prapat	83.29	276	eP		P		05 39 00.3	-1.2	
214A	Organ Pipe Nat	83.38	52	P		P		05 39 02.9	+1.4	
	baz=239									
USHA	Ushuaia	83.52	147	P		P		05 39 03.4	+1.7	
	comp=Z,10nm,0.9s,baz=262,slow=4.7,SNR=4.0									
KVN	Kaiserville	83.61	43	eP		P		05 39 03.4	+0.7	
	comp=Z,13nm,1.8s									
KVN	Kaiserville	83.61	43	eP		P		05 39 03.4	+0.7	
KVN					pmax	pmax				
	comp=Z,13nm,1.8s									
PDMCI	Parker Dam,Lak	83.65	49	P		P		05 39 04.0	+1.4	
	baz=238									
I04A	Tendick Farm,	83.85	38	P		P		05 39 04.2	+0.7	
	baz=232									
PANO	Nakornpanom	83.92	291	P		P		05 39 05.1	+0.7	
PANO	Nakornpanom	83.92	291	P		P		05 39 05.1	+0.7	
	comp=Z,1.3nm,1.0s									
SKNT	Sakolnakorn	84.39	291	P		P		05 39 07.4	+0.7	
SKNT	Sakolnakorn	84.39	291	P		P		05 39 07.4	+0.7	
	comp=Z,51nm,0.8s									
TRTT	Trang	84.52	281	P		P		05 39 08.7	+1.3	
SYO	Syowa Base	84.85	193	⇓eP		P		05 39 05.6	-2.3	
SYO	Syowa Base	84.85	193	⇓iPcP		P		05 39 08.0	+0.1	
SRAK	Srakaew	84.87	287	P		P		05 39 08.3	-0.7	
MA2	Magadan	84.98	345	P		P		05 39 08.1	-0.4	
	comp=Z,18nm,0.8s,baz=172,slow=7.3,SNR=5.9									
TUC	Tucson	85.04	52	P		P		05 39 11.0	+1.4	
	baz=240									
KHON	Khomkaen	85.14	290	P		P		05 39 12.0	+1.7	
KHON	Khomkaen	85.14	290	P		P		05 39 12.0	+1.7	
CHAI	Chaiyaphum	85.69	289	P		P		05 39 14.3	+1.4	
CHAI	Chaiyaphum	85.69	289	P		P		05 39 14.3	+1.4	
GAMB	Gambell	85.82	3	eP		P		05 39 13.0	+0.6	
GYA	Guiyang	86.27	300	P		P		05 39 16.3	+0.6	
GYA					pP	pP		05 41 25.4	+2.0	
GYA					sP	sP		05 42 24.0	+0.7	
GYA					PP	PP		05 42 51.8	+3.3	
GYA					SKS	SKSac		05 48 44.3	-1.2	
GYA					S	S		05 49 01.6	-0.4	
GYA					pmax	pmax				
	comp=Z,20nm,1.0s									
RC01	Rabbit Creek A	86.32	14	eP		P		05 39 14.8	-0.1	
ELK	Elko	86.39	43	P		P		05 39 16.3	+0.3	
	comp=Z,0.8nm,0.6s,baz=243,slow=9.0,SNR=4.7									
SNAA	Sanae	86.43	179	P		P		05 39 15.4	-0.2	
SNAA	Sanae	86.43	179	eP		P		05 39 15.5	-0.1	
SNAA					epP	pP		05 41 28.2	+4.3	
SNAA	Sanae	86.43	179	eP		P		05 39 15.5	-0.1	
SNAA					e*PP	pP		05 41 28.2	+4.3	
SUA	Susitna One	86.44	13	eP		P		05 39 14.9	-0.7	
PHET	Kaeng Krachan	86.57	285	P		P		05 39 19.1	+2.0	
VNA3	Neumayer Olymp	86.62	177	P		P		05 39 16.4	0.0	
G08A	Pilot Rock	86.72	38	eP		P		05 39 18.4	+1.0	
	comp=Z,31nm,1.9s									
PBKT	Sadao Pong	86.85	289	P		P		05 39 20.3	+1.9	
PBKT	Sadao Pong	86.85	289	P		P		05 39 20.3	+1.9	
KNK	Knik Glacier	86.90	14	eP		P		05 39 17.4	-0.2	
PMR	Palmer	86.90	14	eP		P		05 39 17.4	-0.2	
PMR	Palmer	86.90	14	eP		P		05 39 17.4	-0.2	
E07A	Sunnyside	86.97	37	eP		P		05 39 19.6	+1.3	
	comp=Z,65nm,1.9s									
NVL	N'lazarevskaya	87.03	184	eP		P		05 39 17.7	-0.6	
NVL					pmax	pmax				
	comp=Z,17nm,0.7s									
VNA2	Neumayer--Watz	87.05	177	P		P		05 39 18.6	+0.3	
	baz=191,slow=3.2									
HAWA	Hanford	87.05	37	eP		P		05 39 19.9	+1.2	
	comp=Z,7.0nm,0.7s									
GHO	Glory Hole Cre	87.11	14	eP		P		05 39 18.5	-0.2	
VNA1	Neumayer--Stat	87.28	177	P		P		05 39 17.9	-1.5	
DIV	Divide	87.30	16	eP		P		05 39 19.6	+0.1	
SCM	Sheep Creek Mo	87.53	15	eP		P		05 39 20.9	+0.2	
SCM	Sheep Creek Mo	87.53	15	eP		P		05 39 20.9	+0.2	
SEY	Seymchan	87.64	348	P		P		05 39 21.0	0.0	
SEY	Seymchan	87.64	348	P		P		05 39 20.9	0.0	
	comp=Z,11nm,0.7s,baz=155,slow=5.2,SNR=45									
UTTA	Uttaradit	87.69	290	P		P		05 39 24.0	+1.7	
UTTA	Uttaradit	87.69	290	P		P		05 39 24.0	+1.7	
	comp=Z,4.8nm,1.5s,comp=Z,56nm									
D08A	Wollman Farm,	87.78	37	eP		P		05 39 23.2	+1.1	
	comp=Z,8.5nm,0.8s									
UTHA	Uthaitani	87.79	288	P		P		05 39 24.9	+2.1	
XAN	Xi'an	88.04	308	P		P		05 39 24.4	+0.7	
XAN					pmax	pmax				
	comp=Z,24nm,0.9s									
XAN					pmax	pmax				
	comp=Z,180nm,4.3s									
Q16A	Castle Valley	88.08	46	eP		P		05 39 26.3	+2.3	
F10A	Beach Ranch, E	88.11	38	eP		P		05 39 24.5	+0.7	
TMUT	Trail Mountain	88.25	46	eP		P		05 39 26.4	+1.5	
TRF	Thorofare Moun	88.31	13	eP		P		05 39 23.6	-0.8	
B08A	Colville Reser	88.33	35	eP		P		05 39 24.6	0.0	
	comp=Z,6.1nm,0.8s									
SUKH	Sukhothai	88.39	289	P		P		05 39 27.7	+2.1	
SUKH	Sukhothai	88.39	289	P		P		05 39 27.7	+2.1	
HLID	Hailey	88.43	41	eP		P		05 39 26.7	+1.2	
	comp=Z,2.6nm,0.7s									
HLID	Hailey	88.43	41	P		P		05 39 26.6	+1.2	
	baz=237									
HVU	Hansel Valley	88.51	43	eP		P		05 39 27.1	+1.2	
UMPA	Umpang Tak	88.56	288	P		P		05 39 29.4	+3.0	
UMPA	Umpang Tak	88.56	288	P		P		05 39 29.4	+3.0	
RND	Reindeer	88.57	13	eP		P		05 39 24.9	-0.6	
RND	Reindeer	88.57	13	eP		P		05 39 24.9	-0.6	
DHY	Denali Highway	88.60	14	eP		P		05 39 25.4	-0.3	
SRU	San Rafael Swe	88.62	47	eP		P		05 39 27.5	+1.1	
SRU	San Rafael Swe	88.62	47	eP		P		05 39 27.5	+1.1	
BPAW	Bear Paw Mtn.	88.76	12	eP		P		05 39 25.2	-1.0	
MNTX	Cornudas Mount	88.79	55	eP		P		05 39 28.3	+1.1	
MNTX	Cornudas Mount	88.79	55	P		P		05 39 28.3	+1.1	
	baz=243									
LAMP	Lampang	88.81	290	P		P		05 39 29.3	+1.8	
LAMP	Lampang	88.81	290	P		P		05 39 29.3	+1.8	
	comp=Z,18nm,0.8s,comp=Z,147nm									
KMI	Kunming	88.88	298	P		P		05 39 29.4	+1.4	
KMI					pmax	pmax				
	comp=Z,21nm,1.0s									
TCUT	Toone Canyon	89.05	44	eP		P		05 39 30.0	+1.5	
TX31	Lajitas Ar. Si	89.07	58	eP		P		05 39 29.8	+1.2	
TX31					epP	pwP		05 41 41.2	+0.7	
TXAR	Lajitas Array	89.07	58	P		P		05 39 29.7	+1.0	
	comp=Z,2.4nm,0.9s,baz=208,slow=6.0,SNR=20									
TXAR					PKKPbc	PKKPbc		05 57 04.1	+1.1	
	comp=Z,0.4nm,0.7s,baz=96,slow=2.7,SNR=4.8									
BWN	Browne	89.12	13	eP		P		05 39 27.3	-0.7	
PLCA	Paso Flores	89.14	134	P		P		05 39 30.8	+1.9	
	comp=Z,4.8nm,0.7s,baz=258,slow=5.0,SNR=15									
HIA	Hailar	89.22	325	c iP		P		05 39 28.0	-0.8	
HIA					pmax	pmax				
	comp=Z,15nm,1.5s									
MENT	Mentasta	89.35	15	eP		P		05 39 29.4	+0.3	
CM01	Chiang Mai Arr	89.35	290	eP		P		05 39 30.7	+0.7	
CM31	Chiang Mai Arr	89.38	290	eP		P		05 39 32.2	+2.0	
CMAR	Chiang Mai Arr	89.38	290	i P		P		05 39 31.7	+1.6	
CMAR					pmax	pmax				
	comp=Z,17nm,0.8s									
CMAR	Chiang Mai Arr	89.38	290	P		P		05 39 31.8	+1.6	
	comp=Z,16nm,0.8s,baz=135,slow=3.2,SNR=97									
TASM	ASL Pad, Albuq	89.47	52	P		P		05 39 31.2	+0.7	
	baz=242									
TASM	ASL Pad, Albuq	89.47	52	P		P		05 39 31.2	+0.7	
	baz=242									
ANMO	Albuquerque	89.47	52	eP		P		05 39 31.4	+0.8	
ANMO	Albuquerque	89.47	52	⇑iP		P		05 39 31.1	+0.6	
ANMO					pmax	pmax				
	comp=Z,4.0nm,1.0s									
ANMO	Albuquerque	89.47	52	P		P		05 39 31.3	+0.8	
	baz=242									
ANMO	Albuquerque	89.47	52	P		P		05 39 30.9	+0.4	
	comp=Z,1.7nm,0.8s,baz=235,slow=7.4,SNR=6.1									
HHC	Hu-ho-hao-te	89.51	315	eP		P		05 39 31.3	+0.9	
HHC					SKS	SKSac		05 49 06.3	+2.4	
HHC					S	SKKSac		05 49 24.9	+5.6	
HHC					pmax	pmax				
	comp=Z,27nm,1.1s									
HHC					pmax	pmax				
	comp=Z,200nm,5.9s									
CMMT	Chiang Mai	89.52	290	P		P		05 39 32.0	+1.2	
CMMT	Chiang Mai	89.52	290	P		P		05 39 32.0	+1.2	
CHTO	Chiang Mai	89.52	290	eP		P		05 39 32.2	+1.3	
CHTO	Chiang Mai	89.52	290	P		P		05 39 32.2	+1.3	
CHTO	Chiang Mai	89.52	290	P		P		05 39 32.1	+1.3	
	comp=Z,149nm,0.8s									
WRH	Wood River Hil	89.67	13	eP		P		05 39 29.5	-0.9	
RIDG

LBTB	**Lobatse**	127.21	209	PKP		PKPdf	05 45 34.1	+0.2	
	comp=E,2.2nm,0.8s,baz=222,slow=4.1,SNR=4.1								
AKTO	**Aktyubinsk**	127.34	317	PKP		PKPdf	05 45 32.8	-0.4	
	comp=E,3.5nm,0.6s,baz=90,slow=3.0,SNR=4.0								
GEYT	**Alibeck**	128.48	301	PKP		PKPdf	05 45 36.0	+0.2	
	comp=E,5.7nm,0.7s,baz=0.0,slow=0.6,SNR=6.4								
GEYT				SKPbc	SKPbc		05 48 01.8		
	comp=E,3.6nm,0.9s,baz=121,slow=2.5,SNR=7.3								
KIRV	**Kirov**	129.67	329	PKP		PKPdf	05 45 37.5	+0.2	
	comp=E,20nm,0.6s,baz=55,slow=4.4,SNR=3.8								
KIRV				SKPbc	SKPab		05 48 04.7	+0.5	
	comp=E,64nm,0.7s,baz=105,slow=1.2,SNR=17								
MATP	**Matopo**	129.67	215	PKP		PKiKP	05 45 39.2	-0.4	
	comp=E,3.9nm,0.6s,baz=125,slow=2.3,SNR=8.5								
ARCES	**ARCESS Array B**	130.25	349	PKP		PKPdf	05 45 37.5	-0.6	
	comp=E,5.6nm,0.6s,baz=8.5,slow=1.8,SNR=8.9								
ARCES				SKPbc		SKPab	05 48 07.6	+1.2	
	comp=E,15nm,0.8s,baz=46,slow=5.2,SNR=11								
KLMR	**Klimovskoe**	132.79	335	*e*PKIKP		PKPdf	05 45 41.4	-1.7	
KLMR				pmax	pmax				
	comp=E,6.0nm,0.8s								
KLMR	**Klimovskoe**	132.79	335	*e*PKPdf		PKPdf	05 45 41.4	-1.7	
KLMR				AMP			05 45 44.2		
	comp=E,6.0nm,0.8s								
KLMR				*e*PP		PP	05 48 14.3	-3.0	
LSZ	**Lusaka**	134.01	219	PKP		PKiKP	05 45 48.5	+0.1	
	comp=E,5.0nm,0.7s,baz=117,slow=2.3,SNR=6.7								
TSUM	**Tsumeb**	135.68	203	PKP		PKiKP	05 45 51.8	0.0	
	comp=E,3.3nm,0.9s,baz=156,slow=1.6,SNR=5.2								
OBN	**Obninsk**	137.50	330	⇓*e*PKIKP		PKPdf	05 45 49.1	-2.9	
OBN				SS	SS		06 06 04.0	-3.7	
OBN				pmax	pmax				
	comp=E,19nm,1.3s								
NB2	**NORSAR Subarra**	140.40	352	PKP		PKPpre	05 45 50.6		
	comp=E,4.2nm,1.0s,baz=16,slow=3.2								
NOA	**NORSAR Array B**	140.40	352	PKhKP		PKPpre	05 45 49.0		
	comp=E,1.5nm,0.7s,baz=12,slow=4.5,SNR=11								
NOA				SKPbc		SKPbc	05 48 38.6	+1.0	
	comp=E,3.3nm,0.8s,baz=15,slow=4.3,SNR=7.0								
MBAR	**Mbarara**	142.89	236	PKP		PKPdf	05 46 02.0	-1.3	
	comp=E,30nm,0.6s,baz=23,slow=2.0,SNR=29								
AKASG	**Malin Array Be**	143.73	329	*i* PKHKP		PKPpre	05 45 58.4		
AKASG				pmax	pmax				
	comp=E,34nm,0.7s								
AKASG	**Malin Array Be**	143.73	329	SKPbc		SKiKP	05 48 46.9	+0.1	
	comp=E,5.0nm,0.7s,baz=49,slow=2.8,SNR=16								
SUW	**Suwalki**	143.83	337	*e*PKP		PKPbc	05 46 02.2	-0.6	
SUW	**Suwalki**	143.83	337	*e*P		PKPbc	05 46 02.4	-0.4	
	comp=Z,162nm,0.9s								
KAC	**Achnashellach**	144.40	5	*e*P		PKPdf	05 46 04.1	-0.2	
MCD	**Coleburn Disti**	144.47	4	*e*P		PKPdf	05 46 03.9	-0.5	
MUD	**Monsted U'grnd**	145.12	352	*i* P		PKPbc	05 46 06.2	-0.4	
MUD	**Monsted U'grnd**	145.12	352	*i* PKIKP		PKPbc	05 46 06.2	-0.4	
EDU	**Dundee**	145.51	3	*e*P		PKPbc	05 46 07.0	-0.7	
INVG	**Invergeldie, C**	145.56	5	*e*P		PKPdf	05 46 07.0	+0.6	
LAWE	**Loch Awe, Argy**	145.62	6	*e*P		PKPbc	05 46 07.8	-0.3	
BZK	**Bozkurt**	145.72	313	⇑*i* P		PKPbc	05 46 08.9	+0.1	
ESY	**Stoneypath**	146.16	3	*e*P		PKPbc	05 46 09.3	-0.3	
EBL	**Broad Law**	146.28	4	*e*P		PKPbc	05 46 09.8	-0.2	
GKP	**Gorka Klasztor**	146.38	342	*e*PKP		PKPbc	05 46 10.2	-0.1	
GKP	**Gorka Klasztor**	146.38	342	*e*PKIKP		PKPbc	05 46 10.2	-0.1	
BEL	**Belsk**	146.45	337	*e*PKP		PKPbc	05 46 10.8	+0.3	
BEL	**Belsk**	146.45	337	*e*PKIKP		PKPbc	05 46 10.8	+0.3	
LVV	**L'vov**	146.72	332	*e*PKIKP		PKPbc	05 46 10.6	-0.8	
ESK	**Eskdalemuir**	146.73	4	*i* PKIKP		PKPbc	05 46 11.3	+0.1	
BRTR	**Keskin Array B**	146.87	310	PKPbc		PKPbc	05 46 11.7	-0.6	
	comp=Z,10nm,0.7s,baz=133,slow=4.2,SNR=66								
EDMD	**Edmundbyers**	147.28	3	*e*P		PKPbc	05 46 11.7	-0.9	
TLCR		147.37	322	⇑*i* P		PKPbc	05 46 12.7	-0.5	
TLCR		147.37	322	⇑PKIKP		PKPbc	05 46 12.7	-0.5	
BSEG	**Bad Segeberg**	147.37	349	*e*PKPbc		PKPbc	05 46 13.0	+0.2	
	baz=17,slow=2.2								
PRAR	**RASCA**	147.42	327	⇑*i* P		PKPbc	05 46 14.0	+0.7	
KWP	**Kalwaria Pacla**	147.43	333	*e*PKP		PKPbc	05 46 13.2	0.0	
KWP	**Kalwaria Pacla**	147.43	333	*e*PKIKP		PKPbc	05 46 13.2	0.0	
BURAR	**Bucovina Array**	147.75	328	⇑*i* P		PKPbc	05 46 14.8	+0.6	
BURAR	**Bucovina Array**	147.75	328	⇑PKIKP		PKPbc	05 46 14.8	+0.6	
TESR	**Tescani**	147.76	325	⇓*i* P		PKPbc	05 46 14.1	0.0	
BIZ	**Bicaz**	147.76	326	⇑*i* P		PKiKP	05 46 15.0	-0.5	
CFR	**Carcaliu**	147.76	322	⇑*i* P		PKPbc	05 46 13.5	-0.7	
CFR	**Carcaliu**	147.76	322	⇑PKIKP		PKPbc	05 46 13.5	-0.7	
RUE	**Ruedersdorf**	148.02	345	*e*PKPbc		PKPbc	05 46 14.7	+0.2	
	baz=17,slow=2.2								
TIRR	**Tirgusor**	148.03	321	⇓*i* P		PKPbc	05 46 14.3	-0.5	
OJC	**Ojcow**	148.13	336	*e*PKP		PKPbc	05 46 14.8	-0.1	
TLB	**Topalu**	148.17	321	⇓*i* P		PKPbc	05 46 15.3	+0.1	
HARR	**Harsova**	148.17	322	⇓*i* P		PKPbc	05 46 14.2	-1.0	
PLOR	**Plostina**	148.18	324	⇑*i* P		PKPbc	05 46 15.1	-0.2	
MFTR	**Murfatlar**	148.18	320	⇑*i* P		PKPbc	05 46 15.3	+0.1	
UZH	**Uzhgorod**	148.37	332	*e*PKHKP		PKPbc	05 46 15.0	-0.6	
UZH				*e*			05 46 24.8		
OZUR		148.48	325	⇓*i* P		PKPbc	05 46 15.8	-0.2	
BMR	**Baia Mare**	148.53	330	⇑*i* P		PKPbc	05 46 16.3	+0.3	
ARCR	**ARCALIA**	148.54	328	⇑*i* P		PKiKP	05 46 17.4	+0.3	
NIE	**Niedzica**	148.58	335	*e*PKP		PKiKP	05 46 16.7	-0.4	
TRPA	**Tarpa**	148.64	331	⇑*i* P		PKPbc	05 46 15.9	-0.3	
TRPA	**Tarpa**	148.64	331	*e*P		PKPbc	05 46 16.0	-0.2	
ISR	**Istrita**	148.70	323	⇑*i* P		PKPbc	05 46 16.8	+0.2	
DOPR	**Dopca**	148.77	326	⇑*i* P		PKiKP	05 46 17.4	-0.3	
MLR	**Muntele Rosu**	148.79	324	⇑*i* P		PKPbc	05 46 16.6	-0.3	
NRDL	**Niedersach Rie**	148.79	349	*e*PKPbc		PKPbc	05 46 16.6	+0.2	
	baz=17,slow=2.2								
KSP	**Ksiaz**	148.79	341	*e*PKP		PKPbc	05 46 17.0	+0.4	
LEF	**Lefka**	148.93	302	⇓*i* P		PKPbc	05 46 16.9	-0.5	
SILT	**Sile**	149.01	314	⇓*i* P		PKPbc	05 46 17.1	-0.3	
SECR		149.01	324	⇑*i* P		PKPbc	05 46 16.9	-0.4	
ASSE	**Asse, Remlinge**	149.03	348	*e*PKPbc		PKPbc	05 46 17.3	+0.3	
	baz=17,slow=2.2								
OKC	**Ostrava-Krasne**	149.04	338	⇑*e*PKP		PKPbc	05 46 17.6	+0.4	
OKC				*e*PKPAB		PKPab	05 46 24.2	+0.2	
LANS	**Liptovska Anna**	149.12	335	*e*PKP		PKiKP	05 46 18.5	+0.2	
LANS				*e*			05 46 24.3		
FOEL	**Foel Wylfa**	149.14	4	*e*P		PKPbc	05 46 16.8	-0.6	
CJR	**Cluj-Napoca**	149.17	328	⇑*i* P		PKiKP	05 46 18.2	-0.3	
UPC	**Upice**	149.17	341	⇑*e*PKP		PKPbc	05 46 17.8	+0.3	
UPC				*e*PKPAB		PKPab	05 46 24.7	+0.2	
UPC				*ex*		x	05 48 41.3		
DPC	**Dobruska-Polom**	149.21	340	⇑*e*PKP		PKiKP	05 46 18.2	-0.3	
DPC				*e*PKPAB		PKPab	05 46 25.2	+0.5	
DPC				*ex*		x	05 48 41.6		
CLL	**Collm**	149.29	345	*e*PKPbc		PKPbc	05 46 17.7	0.0	
	baz=17,slow=2.2								
CLL	**Collm**	149.29	345	*i* PKPbc		PKPbc	05 46 17.7	0.0	
	comp=Z,58nm,0.8s								
CLL				*i* PKPab		PKPab	05 46 24.3	-0.6	
	comp=Z,28nm,0.9s								
CLL				*ep*PKPbc		pPKPbc	05 48 35.0	+0.5	
KRLC	**Kraliky**	149.30	339	⇑*e*PKP		PKiKP	05 46 18.5	-0.2	
MORC	**Moravsky Berou**	149.30	338	⇑*i* P		PKiKP	05 46 18.4	-0.3	
MORC	**Moravsky Berou**	149.30	338	*e*PKP		PKPbc	05 46 17.9	0.0	
MORC				*e*			05 46 25.2		
MORC				*e*			05 46 54.7		
MORC				*e*			05 48 41.6		
PRD	**Provadia**	149.35	320	*e*P		PKPbc	05 46 18.0	-0.1	
IBBN	**Ibbenburen**	149.35	351	*e*PKPbc		PKPbc	05 46 18.1	+0.3	
	baz=17,slow=2.2								
CLZ	**Clausthal**	149.36	348	*e*PKPbc		PKPbc	05 46 18.2	+0.3	
	baz=17,slow=2.2								
BRG	**Berggiesshubel**	149.44	343	*i* PKP		PKPbc	05 46 18.4	+0.2	
	comp=Z,41nm,0.8s								
BRG	**Berggiesshubel**	149.44	343	*i* PKP		PKPab	05 46 25.5	-0.1	
	comp=Z,18nm,0.8s								
BRG				*ep*PKP		pPKPab	05 48 41.6	+4.3	
	comp=Z,33nm,1.8s								
BRG	**Berggiesshubel**	149.44	343	*e*PKPbc		PKPbc	05 46 18.3	+0.2	
	baz=17,slow=2.2								
WACR	**West Acre**	149.44	360	*e*P		PKPbc	05 46 17.6	-0.4	
DRGR		149.54	329	⇑*i* P		PKPbc	05 46 17.9	-0.7	
FBE	**Freiberg**	149.55	344	*e*PKPbc		PKiKP	05 46 18.9	-0.2	
	baz=17,slow=2.2								
ARR	**Arges**	149.57	325	⇓*i* P		PKiKP	05 46 19.9	+0.5	
PVCC	**Panska Ves**	149.58	342	⇑*e*PKP		PKiKP	05 46 18.8	-0.4	
PVCC				*e*PKPAB		PKPab	05 46 26.6	+0.4	
PVCC				*ex*		x	05 48 43.9		
NEUB	**Neuenburg**	149.67	346	*e*PKPbc		PKPbc	05 46 18.7	+0.1	
	baz=17,slow=2.2								
GTTG	**Gvttingen**	149.72	348	*e*PKPbc		PKPbc	05 46 18.7	0.0	
	baz=17,slow=2.2								
CTYL	**Yalikoy Yolu**	149.73	316	⇓*i* P		PKPbc	05 46 18.9	-0.2	
WTSB	**Winterswijk**	149.81	352	*e*PKPdf		PKPdf	05 46 15.2	+1.8	
	comp=Z,7.5nm,0.6s								
WTSB				*e*PKPbc		PKPbc	05 46 18.8	-0.1	
	comp=Z,77nm,0.8s								
WTSB				*e*PKPab		PKPab	05 46 26.0	-1.1	

VYHS	**Vyhne**	149.90	335	*e*PKP		PKiKP	05 46 19.6	-0.3	
VYHS				*e*			05 46 27.9		
HUMR	**Humele**	149.93	324	⇓*i* P		PKPbc	05 46 19.0	-0.5	
PSZ	**Piszkesteto**	149.94	334	⇓*i* P		PKPbc	05 46 18.9	-0.6	
PSZ	**Piszkesteto**	149.94	334	*e*P		PKPbc	05 46 19.1	-0.4	
LOT	**Lotru**	149.96	326	⇑*i* P		PKPbc	05 46 19.1	-0.6	
VRAC	**Vranov**	150.03	339	*e*PKP		PKPbc	05 46 19.5	-0.1	
VRAC				*e*			05 46 28.3		
VRAC				*e*			05 46 59.1		
VRAC				*e*			05 48 44.6		
JAVC	**Velka Javorina**	150.03	337	*e*PKP		PKiKP	05 46 20.8	+0.6	
JAVC				*e*			05 46 29.4		
JAVC				*e*			05 46 59.0		
JAVC				*e*			05 48 45.2		
GOPC	**GO Pecny, Ondr**	150.07	341	⇑*e*PKP		PKPbc	05 46 19.9	+0.2	
GOPC				*e*PKPAB		PKPab	05 46 28.4	+0.1	
PRU	**Pruhonice**	150.07	342	⇑*e*PKP		PKPbc	05 46 19.6	0.0	
PRU				*e*PKPAB		PKPab	05 46 28.4	+0.2	
DEV	**Deva**	150.10	328	⇓*i* P		PKiKP	05 46 20.8	+0.4	
PHSR	**Pinarhisar**	150.14	317	⇑*i* P		PKPbc	05 46 19.5	-0.6	
MONM	**Monmouth**	150.22	4	*e*P		PKPbc	05 46 19.2	-0.6	
MOX	**Moxa**	150.23	346	*e*PKPbc		PKPbc	05 46 20.0	0.0	
	baz=17,slow=2.2								
TANN	**Tannenbergstha**	150.24	345	*e*PKPbc		PKPbc	05 46 20.1	0.0	
	baz=17,slow=2.2								
BUG	**Bochum--Univer**	150.26	351	*e*PKPbc		PKPbc	05 46 19.7	-0.2	
	baz=17,slow=2.2								
KRUC	**Moravsky**	150.31	339	*e*PKP		PKPbc	05 46 20.1	-0.1	
KRUC				*e*			05 46 29.5		
KRUC				*e*			05 47 00.2		
KRUC				*e*			05 48 45.4		
GUNZ	**Gunzen**	150.32	345	*e*PKPbc		PKiKP	05 46 20.5	-0.3	
	baz=17,slow=2.2								
WERN	**Wernitzgruen**	150.38	345	*e*PKPbc		PKiKP	05 46 21.0	+0.1	
	baz=17,slow=2.2								
TREC	**Trest**	150.40	340	⇑*e*PKP		PKPbc	05 46 20.6	+0.2	
TREC				*e*PKPAB		PKPab	05 46 29.7	0.0	
TREC	**Trest**	150.40	340	*e*PKIKP		PKPbc	05 46 20.6	+0.2	
TREC				*e*			05 46 29.7		
UBBA	**Unterbreizbach**	150.41	348	*e*PKPbc		PKiKP	05 46 20.7	0.0	
	baz=17,slow=2.2								
NKC	**Novy Kostel**	150.41	344	⇑*e*PKP		PKPbc	05 46 20.7	-0.2	
NKC				*e*PKPAB		PKPab	05 46 29.5	-0.2	
NKC	**Novy Kostel**	150.41	344	*e*PKIKP		PKiKP	05 46 20.7	-0.2	
NKC				*e*			05 46 29.5		
NKC				*e*			06 08 29.2		
NKC				smax	smax				
	comp=N,9.0nm,0.6s								
SIRR	**Siria**	150.42	330	⇑*i* P		PKPbc	05 46 20.2	-0.4	
GZR	**Gura Zlata**	150.51	327	⇓*i* P		PKPbc	05 46 20.3	-0.6	
MODS	**Modra-Piesok**	150.58	337	*e*PKIKP		PKiKP	05 46 21.5	+0.2	
MODS	**Modra-Piesok**	150.58	337	*e*PKP		PKiKP	05 46 21.5	+0.2	
MANZ	**Manzenberg**	150.73	345	*e*PKPbc		PKPbc	05 46 21.3	+0.2	
	baz=17,slow=2.2								
SRE	**Strehaia**	150.79	326	⇓*i* P		PKiKP	05 46 21.7	-0.2	
SRE	**Strehaia**	150.79	326	⇓PKIKP		PKiKP	05 46 21.7	-0.2	
ROTZ	**Rotzenmuhle**	150.91	344	*e*PKPbc		PKPbc	05 46 21.5	0.0	
	baz=17,slow=2.2								
BZS	**Buzias**	150.92	329	⇑*i* P		PKPbc	05 46 21.7	0.0	
BZS	**Buzias**	150.92	329	⇑PKIKP		PKPbc	05 46 21.7	0.0	
ELSH	**Elham, Standar**	151.02	359	*e*P		PKPbc	05 46 21.5	-0.2	
CSKK	**Cskako**	151.04	335	*e*P		PKPbc	05 46 21.1	-0.9	
HERR	**Herculane**	151.05	327	⇑*i* P		PKPbc	05 46 21.9	-0.1	
BEBN	**Eben Emael**	151.09	353	⇑PKPbc		PKPbc	05 46 21.5	-0.4	
BEBN				⇑PKPab		PKPab	05 46 32.1	-0.3	
HGN	**Heimansgroeve**	151.10	353	*ep*PKPbc		PKPbc	05 46 21.7	-0.2	
HGN				*ep*PKPab		PKPab	05 46 32.0	-0.5	
KHC	**Kasperske Hory**	151.12	342	⇑*e*PKP		PKPbc	05 46 22.0	-0.1	
KHC				*e*PKPAB		PKPab	05 46 32.4	-0.3	
KHC				*ep*PKP		pPKPbc	05 48 38.9	-0.2	
KHC	**Kasperske Hory**	151.12	342	*e*PKIKP		PKPbc	05 46 22.0	-0.1	
KHC				*e*			05 46 32.4		
KHC				*e*			05 48 38.9		
DIM	**Dimitrovgrad**	151.13	319	*e*P		PKPbc	05 46 22.0	-0.3	
UCC	**Uccle**	151.22	355	⇓PKP		PKPbc	05 46 21.9	-0.2	
MEM	**Membach**	151.24	353	⇓PKP		PKPbc	05 46 22.0	-0.2	
TNS	**Taunus Mts**	151.27	349	*e*PKPbc		PKPbc	05 46 22.4	0.0	
	baz=17,slow=2.2								
WET	**Wettzell**	151.30	343	*e*PKPbc		PKPbc	05 46 22.3	-0.2	
	baz=17,slow=2.2								
GEC2	**GERESS Array S**	151.34	342	*e*PKPbc		PKPbc	05 46 22.5	-0.3	
	baz=17,slow=2.2								
GERES	**GERESS Array B**	151.34	342	PKPbc		PKPbc	05 46 22.4	-0.3	
	comp=N,6.0nm,0.7s,baz=48,slow=2.0,SNR=28								
GERES				PKPab		PKPab	05 46 32.9	-0.9	
	comp=N,3.7nm,0.6s,baz=52,slow=3.8,SNR=7.7								
SOP	**Sopron**	151.42	337	*e*P		PKPbc	05 46 22.1	-0.7	
CONA	**Conrad Observa**	151.46	338	*i* PKPdf		PKPdf	05 46 15.5	-0.7	
	comp=N,2.8nm,1.0s								
CONA				*i* PKiKP		PKPbc	05 46 23.1	+0.1	
	comp=N,16nm,0.8s								
CONA				*i* PKPab		PKPab	05 46 35.1	+0.8	
	comp=N,11nm,0.8s								
BCLA	**Clavier**	151.50	354	⇑PKPbc		PKPbc	05 46 22.0	-0.9	
BCLA				⇑PKPab		PKPab	05 46 33.5	-0.7	
SNF	**Seneffe**	151.51	355	⇑PKPbc		PKiKP	05 46 23.0	-0.1	
SNF				⇑PKPab		PKPab	05 46 33.8	-0.4	
EZN	**Ezine**	151.86	315	⇑*i* P		PKPbc	05 46 23.1	-0.9	
EZN	**Ezine**	151.86	315	⇑PKIKP		PKPbc	05 46 23.1	-0.9	
DOU	**Dourbes**	151.89	354	⇑PKPbc		PKiKP	05 46 23.8	-0.1	
DOU				⇓PKPab		PKPab	05 46 35.0	-0.9	
MOA	**Molln**	152.06	340	*i* PKPbc		PKPbc	05 46 23.1	-1.1	
	comp=N,4.8nm,0.8s								
MOA				*i* PKPab		PKPab	05 46 37.0	+0.3	
	comp=N,6.3nm,0.9s								
WLF	**Walferdange**	152.15	352	*e*PKPbc		PKPbc	05 46 24.0	-0.3	
	baz=17,slow=2.2								
WLF	**Walferdange**	152.15	352	⇑PKP		PKiKP	05 46 24.6	+0.1	
MMB	**Musomiste**	152.49	320	*e*P		PKPab	05 46 39.0	+0.2	
STU	**Stuttgart**	152.52	348	*e*PKPbc		PKPbc	05 46 24.9	-0.3	
	baz=17,slow=2.2								
KKB	**Krupnik**	152.70	321	*e*P		PKPab	05 46 40.0	+0.3	
SOKA	**Soboth**	152.82	338	*i* PKPbc		PKPbc	05 46 25.3	-0.7	
	comp=N,7.4nm,0.9s								
SOKA				*i* PKPab		PKPab	05 46 40.0	-0.1	
	comp=N,5.3nm,0.8s								
KBA	**Koelnbreinsper**	153.03	340	*i* PKPbc		PKPbc	05 46 25.8	-0.7	
	comp=N,4.6nm,0.8s								
KBA				*i* PKPab		PKPab	05 46 40.0	-1.1	
	comp=N,11nm,0.7s								
BFO	**Black Forest**	153.11	348	*e*PKPbc		PKPbc	05 46 26.3	-0.2	
	baz=17,slow=2.2								
OBKA	**Obir**	153.14	338	*i* PKPab		PKPab	05 46 41.0	-0.5	
	comp=N,7.1nm,0.8s								
WATA	**Walderalm**	153.31	343	*i* PKPbc		PKPab	05 46 42.5	+0.3	
	comp=N,5.9nm,0.6s								
MYKA	**Terra Mystica**	153.34	340	*i* PKPbc		PKPbc	05 46 25.5	-1.6	
MYKA				*i* PKPab		PKPab	05 46 41.8	-0.5	
	comp=N,9.0nm,0.6s								
UBR	**Ueberruh**	153.36	345	*e*PKPbc		PKPbc	05 46 26.6	-0.5	
	baz=17,slow=2.2								
RETA	**Reutte**	153.38	344	*i* PKPab		PKPab	05 46 42.4	0.0	
	comp=N,9.7nm,0.7s								
MOTA	**Mosalm**	153.43	344	*i* PKPdf		PKPdf	05 46 18.4	-0.8	
	comp=N,1.9nm,0.6s								
MOTA				*i* PKPbc		PKPbc	05 46 27.2	-0.1	
	comp=N,6.0nm,0.9s								
MOTA				*i* PKPab		PKPab	05 46 43.0	+0.3	
	comp=N,8.2nm,0.7s								
SQTA	**Sankt Quirin**	153.51	344	*i* PKPdf		PKPdf	05 46 19.0	-0.3	
	comp=N,4.9nm,0.6s								
SQTA				*i* PKiKP		PKiKP	05 46 27.7	+0.2	
	comp=N,6.4nm,0.9s								
SQTA				*i* PKPab		PKPab	05 46 43.5	+0.4	
	comp=N,13nm,0.8s								
ABTA	**Abfaltersbach**	153.58	341	*i* PKPdf		PKPdf	05 46 18.1	-1.2	
	comp=N,3.2nm,0.9s								
ABTA				*i* PKPbc		PKPbc	05 46 26.6	-1.0	
	comp=N,7.2nm,0.7s								
ABTA				*i* PKPab		PKPab	05 46 42.7	-0.6	
	comp=N,13nm,0.8s								
DAVA	**Damuels**	153.78	346	*i* PKPab		PKPab	05 46 44.2	0.0	
	comp=N,9.2nm,0.7s								
FETA	**Feichten**	153.82	344	*i* PKPdf		PKPdf	05 46 19.5	-0.3	
	comp=N,7.0nm,0.9s								
FETA				*i* PKPab		PKPab	05 46 44.6	+0.2	
	comp=N,13nm,1.2s								
ESDC	**Sonseca Array**	162.08	11	PKPab		PKPab	05 47 20.1	-0.3	
	comp=N,0.9nm,0.6s,baz=352,slow=3.6,SNR=8.6								
LIC	**Lamto**	163.31	160	*e*PKP2		PKPab	05 47 27.4	+1.1	
	comp=N,35nm,0.7s								
KIC	**Kosan Boka**	163.53	161	*e*PKP2		PKPab	05 47 28.3	+1.0	
	comp=N,22nm,0.7s								
TIC	**Toumodi**	163.71	160	*e*PKP2		PKPab	05 47 29.0	+0.9	

DBIC	**Dimbokro**	163.78	160	PKP		PKPdf	05 46 31.1	-0.8	
	comp=N,1.8nm,0.8s,baz=169,slow=4.0,SNR=5.7								
DBIC				PKPab		PKPab	05 47 29.4	+1.1	
	comp=N,4.7nm,0.6s,baz=174,slow=5.9,SNR=8.8								
TORD	**Torodi Ar. Bea**	171.01	187	PKP		PKPdf	05 46 35.7	-1.3	
	comp=N,2.3nm,0.8s,baz=36,slow=0.1,SNR=14								

NIED ***21*** *05:34:00, 36.80N×140.40E, h74km, Mw4.6 Best double couple: M0 8.60000×10 15 NP1:φs57.00000°, δ24.00000°, λ120.00000°. NP2:φs205.00000°, δ69.00000°, λ77.00000°.*
BJI ***21*** *05:34:30.9, 36.64N×140.58E, h81km, mb4.8/52, mB5.0/32, Ms4.2/16, Ms7 4.0/5*
MOS ***21*** *05:34:32.7±1.2, 36.83N×140.31E, h75km, mb5.0/39, Error ellipse: s-maj=7.7km s-min=5.0km az=88.4*
JMA ***21*** *05:34:33.8, 36.74N×140.44E, h72km±1km, M4.7 Broadband fault plane solution: P waves. NP1: φs203.00000°, δ88.00000°, λ89.00000°. NP2:φs59.00000°, δ2.00000°, λ127.00000°. Principal axes: T Plg47.0000°, Azm111.0000°; N Plg1.0000°, Azm203.0000°; P Plg43.0000°, Azm294.0000°;*
JMA Felt III J1.
NEIC ***21*** *05:34:34.0±0.1, 36.72N×140.36E, mb4.7/125 Error ellipse: s-maj=4.1km s-min=3.1km az=151.0*
*NEIC Felt [IV] at Hitachi and Iwaki; [III] at Chiba, Tsukuba and Utsunomiya; [II] at Tokyo. Felt widely in east-central Honshu. Recorded [3 JMA] in Fukushima, Ibaraki and Tochig

comp=Z,490nm,10.2s
OKH Okha 16.90 5 *de* P **Pn** 05 38 23.1 -2.0
OKH pmax pmax
comp=Z,100nm,5.6s
OKH MLR MLR
comp=Z,100nm,8.0s
NJ2 Nanjing 18.45 262 *e* P **P** 05 38 42.4 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
BJI Beijing 19.33 287 P **P** 05 38 53.3 +0.4
BJI pmax pmax
comp=Z,13nm,0.9s
ZEA Zeya 19.33 336 *e* P **Pn** 05 38 57.4 +2.8
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,31nm,0.8s
BJT Baijiatuau 19.34 287 *e* P **P** 05 38 52.9 -0.1
comp=Z,16nm,0.6s
BJT Baijiatuau 19.34 287 *e* P **P** 05 38 52.9 -0.1
BJT pmax pmax
comp=Z,16µm,0.6s
PEA0B Petropavlovsk- 20.32 31 *e* P **P** 05 39 04.5 +0.9
comp=Z,32nm,1.1s
PEA0B Petropavlovsk- 20.32 31 *e* P **P** 05 39 04.4 +0.9
PEA0B pmax pmax
comp=Z,32nm,1.1s
PETK Petropavlovsk- 20.32 31 *e* P **P** 05 39 04.7 +1.2
PETK Petropavlovsk- 20.32 31 P **P** 05 39 04.5 +1.0
comp=Z,13nm,1.0s,baz=200,slow=12,SNR=3.1
PETK LR LR 05 46 27.7
comp=Z,47nm,19.1s,baz=232,slow=35
PET Petropavlovsk 20.66 32 *e* P Pn 05 39 08.7 -1.4
comp=Z,38nm,1.1s
PET Petropavlovsk 20.66 32 ⇑ *i* P **P** 05 39 08.0 +0.9
PET *e** SP **sP** 05 39 35.8 +4.7
PET *e*S **S** 05 42 52.9 -0.8
PET pmax pmax
comp=Z,51nm,0.8s
PET MLR MLR
comp=Z,100nm,16.0s
HHC Hu-ho-hao-te 22.87 289 *e* P **P** 05 39 29.4 -1.7
HHC pmax pmax
comp=Z,14nm,1.0s
HHC pmax pmax
comp=Z,210nm,5.0s
MA2 Magadan 23.80 13 *e* P **P** 05 39 40.2 +0.8
comp=Z,28nm,0.8s
MA2 Magadan 23.80 13 *i* P **P** 05 39 39.7 +0.3
MA2 pmax pmax
comp=Z,27nm,0.9s
MA2 Magadan 23.80 13 P **P** 05 39 40.0 +0.6
comp=Z,30nm,0.9s,baz=185,slow=12,SNR=6.5
XAN Xi'an 25.82 273 P **P** 05 39 56.1 -2.0
XAN pmax pmax
comp=Z,13nm,0.5s
XAN LR LR
comp=Z,170nm,15.2s
XAN LR LR
comp=Z,140nm,11.9s
XAN Xi'an 25.82 273 *e* P **P** 05 39 55.7 -2.4
comp=Z,55nm,0.5s
XAN Xi'an 25.82 273 *e* P **P** 05 39 55.7 -2.4
ENH Enshi 26.57 265 *e* P **P** 05 40 04.0 -0.9
comp=Z,35nm,0.6s
ULN Ulaanbaatar 26.91 305 *e* P **P** 05 40 08.8 +0.9
comp=Z,18nm,0.7s
ULN Ulaanbaatar 26.91 305 *d i* P **P** 05 40 08.2 +0.3
ULN pmax pmax
comp=Z,17nm,0.7s
SEY Seymchan 27.23 12 *i* P **P** 05 40 10.0 -0.3
SEY Seymchan 27.23 12 P **P** 05 40 10.3 0.0
comp=Z,9.9nm,0.8s,baz=226,slow=8.5,SNR=12
SONM Songino Array 27.34 305 P **P** 05 40 10.3 -1.4
comp=Z,30nm,0.7s,baz=106,slow=7.1,SNR=110
SONM LR LR 05 50 54.9
comp=Z,47nm,18.6s,baz=30,slow=36
BOD Bodaibo 27.39 329 ⇓ *i* P **P** 05 40 10.1 -1.8
BOD pmax pmax
comp=Z,11nm,0.7s
H11N2 WAKE ISLAND Hy 28.64 119 T T 06 10 32.6
baz=312,slow=75,SNR=142
H11N1 WAKE ISLAND Hy 28.65 119 T T 06 10 29.2
baz=312,slow=75,SNR=214
H11N3 WAKE ISLAND Hy 28.66 119 T T 06 10 32.6
baz=312,slow=75,SNR=44
H11S1 WAKE ISLAND Hy 29.33 121 T T 06 11 21.0
baz=314,slow=75,SNR=593
H11S3 WAKE ISLAND Hy 29.33 121 T T 06 11 21.1
baz=314,slow=75,SNR=466
H11S2 WAKE ISLAND Hy 29.34 121 T T 06 11 22.3
baz=314,slow=75,SNR=424
LZH Lanzhou 29.39 280 *e* P **P** 05 40 29.0 -1.1
LZH pP pP 05 40 44.4 -2.8
LZH sP sP 05 40 54.3 -1.4
LZH PP **PnPn** 05 41 26.3 -0.7
LZH pmax pmax
comp=Z,15nm,1.3s
LZH pmax pmax
comp=Z,150nm,4.9s
LZH LR LR
comp=Z,200nm,10.8s
LZH LR LR
comp=Z,220nm,13.0s
ZAK Zakamensk 29.88 309 *e* P **P** 05 40 33.4 -0.8
TLY Talaya 29.97 312 *e* P **P** 05 40 34.8 -0.1
comp=Z,5.1nm,0.6s
TLY Talaya 29.97 312 *e* P **P** 05 40 36.4 +1.5
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY MLR MLR
comp=Z,158nm,18.0s
CD2 Chengdu 30.94 270 *e* P **P** 05 40 45.3 +1.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,220nm,6.7s
GTA Gaotai 31.95 287 *e* P **P** 05 40 51.9 -0.7
GTA pP pP 05 41 09.0 -0.8
GTA sP sP 05 41 18.1 -0.1
GTA pmax pmax
comp=Z,4.0nm,0.6s
KMI Kunming 34.19 261 P **P** 05 41 12.4 +0.1
KMI pmax pmax
comp=Z,15nm,0.7s
BILL Bilibino 34.52 17 ⇑ *e* P **P** 05 41 13.5 -1.0
BILL S **S** 05 46 43.0 +5.3
BILL pmax pmax
comp=Z,4.0nm,0.9s
BILL MLR MLR
comp=Z,40nm,17.0s
TIXI Tiksi 35.50 354 ⇑ *i* P **P** 05 41 21.6 -1.2
TIXI pmax pmax
comp=Z,9.0nm,0.6s
TIXI Tiksi 35.50 354 P **P** 05 41 21.8 -1.0
comp=Z,9.4nm,0.7s,baz=142,slow=7.3,SNR=16
TIXI LR LR 05 56 26.0
comp=Z,32nm,19.7s,baz=178,slow=37
SIJI Sorong 38.39 195 P **P** 05 41 47.9 0.0
comp=Z,6.7nm,0.5s,baz=359,slow=13,SNR=6.1
DGZ Jazzator, Alta 39.97 306 *i* P **P** 05 42 01.1 +0.1
DGZ *i** PP **pP** 05 42 20.8 +2.2
DGZ pmax pmax
comp=Z,12nm,0.8s
WMQ Urumqi 40.32 297 P **P** 05 42 03.8 0.0
WMQ pP pP 05 42 24.0 +2.5
WMQ pmax pmax
comp=Z,22nm,1.1s
WMQ pmax pmax
comp=Z,80nm,3.6s
WMQ LR LR
comp=Z,97nm,27.7s
WMQ LR LR
comp=Z,190nm,27.7s
CMAR Chiang Mai Arr 40.71 255 P **P** 05 42 06.8 -0.4
comp=Z,1.5nm,0.5s,baz=59,slow=7.5,SNR=4.5
CMAR LR LR 05 59 27.5
comp=Z,68nm,18.9s,baz=98,slow=37
ZAA0 Zalesovo Array 41.57 313 *e* P **P** 05 42 13.1 -0.8
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 41.57 313 *e* P **P** 05 42 13.0 -0.9
ZALV Zalesovo Beam 41.57 313 P **P** 05 42 13.2 -0.7
comp=Z,19nm,0.6s,baz=94,slow=6.7,SNR=86
ZALV LR LR 05 59 00.9
comp=Z,39nm,19.3s,baz=70,slow=35
NVS Novosibirsk 42.51 314 *i* P **P** 05 42 21.1 -0.4

NRIK Noril'sk 43.23 336 P **P** 05 42 26.4 -0.7
comp=Z,1.6nm,0.4s,baz=69,slow=6.1,SNR=3.0
NRIK LR LR 06 01 09.8
comp=Z,40nm,18.3s,baz=27,slow=37
MK01 Makanchi Array 43.65 302 *e* P **P** 05 42 30.2 -0.7
MK31 Makanchi Array 43.65 302 *e* P **P** 05 42 30.2 -0.7
comp=Z,3.3nm,0.7s
MKAR Makanchi Array 43.65 302 P **P** 05 42 29.7 -1.2
comp=Z,4.6nm,0.5s,baz=86,slow=9.8,SNR=40
MKAR LR LR 06 01 26.7
comp=Z,38nm,19.1s,baz=62,slow=37
MAKZ Makanchi 43.86 302 *e* P **P** 05 42 32.0 -0.6
comp=Z,5.0nm,0.6s
MAKZ Makanchi 43.86 302 *e* P **P** 05 42 32.0 -0.6
KURK Kurchatov 45.53 308 *e* P **P** 05 42 44.4 -1.4
comp=Z,26nm,0.6s
KURK Kurchatov 45.53 308 *d i* P **P** 05 42 44.3 -1.5
KURK pmax pmax
comp=Z,20nm,0.6s
KURBB Kurchatov Arra 45.60 308 P **P** 05 42 45.0 -1.3
comp=Z,21nm,0.6s,baz=85,slow=7.9,SNR=146
SVW2 Sparrevohn 46.20 37 *e* P **P** 05 42 53.0 +2.1
comp=Z,9.8nm,0.6s
PDGK Podgornoye 46.26 298 P **P** 05 42 50.6 -1.2
PDGK pmax pmax
comp=Z,33nm,0.6s
RAMN Ramite 46.29 274 *e* P **P** 05 42 51.5 -0.8
comp=Z,46nm,0.6s
JIRN Jiri 46.31 275 *e* P **P** 05 42 52.1 -0.5
comp=Z,65nm,0.7s
GUN Gumba 46.45 275 *e* P **P** 05 42 52.9 -0.8
comp=Z,44nm,0.5s
PKI Pulchoki 46.97 275 *e* P **P** 05 42 56.6 -1.2
comp=Z,19nm,0.5s
PKIN Phulchoki 46.98 275 *e* P **P** 05 42 56.6 -1.2
comp=Z,19nm,0.6s
KKN Kakani 46.98 276 *e* P **P** 05 42 57.2 -0.5
comp=Z,45nm,0.5s
IM3 Indian Mountai 47.28 31 *e* P **P** 05 42 59.7 +0.4
GKN Gorkha 47.40 276 *e* P **P** 05 43 00.1 -0.8
comp=Z,54nm,0.5s
KDAK Kodiak Island 47.81 42 P **P** 05 43 03.6 +0.2
comp=Z,21nm,0.6s,baz=277,slow=4.5,SNR=23
DANN Dangsing 47.96 277 *e* P **P** 05 43 04.7 -0.7
comp=Z,74nm,0.5s
KOLN Koldanda 48.33 276 *e* P **P** 05 43 07.3 -0.9
comp=Z,12nm,0.6s
BPAW Bear Paw Mtn. 48.38 33 *e* P **P** 05 43 08.4 +0.7
comp=Z,2.7nm,0.8s
PYUN Piuthan 48.68 277 *e* P **P** 05 43 10.0 -0.8
comp=Z,30nm,0.5s
BWN Browne 49.04 33 *e* P **P** 05 43 15.0 +2.2
comp=Z,26nm,1.0s
TOLK Toolik Lake Re 49.07 27 P **P** 05 43 14.1 +1.0
baz=267
TKM2 Tokmak 2 49.12 298 P **P** 05 43 14.1 0.0
SNR=69
PMR Palmer 49.30 36 *e* P **P** 05 43 15.3 +0.5
comp=Z,8.0nm,0.7s
BATI Baumata 49.30 202 P **P** 05 43 14.1 -1.3
comp=Z,19nm,0.3s,baz=355,slow=1.7,SNR=3.7
RND Reindeer 49.34 34 *e* P **P** 05 43 15.7 +0.5
comp=Z,9.4nm,0.9s
RND Reindeer 49.34 34 P **P** 05 43 15.7 +0.5
RND pmax pmax
comp=Z,9.0nm,0.9s
GHO Glory Hole Cre 49.39 36 *e* P **P** 05 43 16.6 +1.0
comp=Z,12nm,0.7s
MDM Murphy Dome 49.56 32 *e* P **P** 05 43 18.3 +1.5
comp=Z,11nm,0.9s
KZA Kyzart 49.60 297 P **P** 05 43 18.8 +0.8
SNR=36
WRH Wood River Hil 49.63 33 *e* P **P** 05 43 18.2 +0.9
comp=Z,4.5nm,0.8s
KNK Knik Glacier 49.63 37 *e* P **P** 05 43 18.4 +0.9
comp=Z,9.4nm,0.7s
KBK Karagaybulak 49.65 298 P **P** 05 43 18.1 +0.1
SNR=37
SML Sawmill 49.67 36 *e* P **P** 05 43 18.7 +1.0
comp=Z,18nm,0.8s
SML Sawmill 49.67 36 P **P** 05 43 18.7 +1.0
SML pmax pmax
comp=Z,18nm,0.8s
CHMS Chumysh 49.70 299 P **P** 05 43 20.5 +2.3
SNR=9.6
TCOL CIGO, UAF Yank 49.72 32 P **P** 05 43 19.6 +1.7
baz=272
COLA College 49.72 32 *i* P **P** 05 43 18.3 +0.4
COLA pmax pmax
comp=Z,5.0nm,0.8s
CCB Clear Creek Bu 49.75 32 *e* P **P** 05 43 18.2 0.0
comp=Z,2.5nm,0.6s
USP Ospenovka 49.80 299 P **P** 05 43 18.4 -0.6
SNR=14
KSH Kashi 49.85 294 P **P** 05 43 22.8 +3.3
KSH pP pP 05 43 40.9 +3.2
KSH PP **PP** 05 45 20.5 +5.8
KSH S **S** 05 50 24.4 +0.3
KSH pmax pmax
comp=Z,88nm,4.0s
KSH LR LR
comp=Z,230nm,10.6s
KSH LR LR
comp=Z,170nm,10.5s
POKR Poker Flat Res 49.89 32 P **P** 05 43 20.5 +1.2
baz=272,SNR=11
AAK Ala-Archa 49.98 298 P **P** 05 43 22.8 +2.3
SNR=13
AAK Ala-Archa 49.98 298 *e* P **P** 05 43 20.2 -0.4
comp=Z,15nm,0.6s
AAK Ala-Archa 49.98 298 *i* P **P** 05 43 19.5 -1.0
AAK pmax pmax
comp=Z,12nm,0.5s
AAK Ala-Archa 49.98 298 P **P** 05 43 20.1 -0.4
comp=Z,12nm,0.5s,baz=103,slow=5.2,SNR=39
OTUK Ortayu 50.00 306 P **P** 05 43 19.7 -0.7
OTUK pmax pmax
comp=Z,16nm,0.8s
UCH Uchtor 50.09 298 P **P** 05 43 24.5 +2.8
SNR=14
MTN Manton Dam 50.10 192 *e* P **P** 05 43 21.3 0.0
comp=Z,9.1nm,0.6s
HDA Harding Lake 50.13 33 *e* P **P** 05 43 21.5 +0.4
comp=Z,11nm,0.8s
HDA Harding Lake 50.13 33 P **P** 05 43 21.2 0.0
baz=273,SNR=5.2
ILAR Eielson Array 50.14 32 P **P** 05 43 20.9 -0.2
comp=Z,7.7nm,0.8s,baz=270,slow=6.4,SNR=60
ILB Eielson Array 50.14 32 *e* P **P** 05 43 21.6 +0.4
comp=Z,9.9nm,0.8s
IL1 Eielson Array 50.14 32 *e* P **P** 05 43 20.0 -1.1
SCM Sheep Creek Mo 50.14 36 *e* P **P** 05 43 22.5 +1.2
comp=Z,14nm,0.8s
SCM Sheep Creek Mo 50.14 36 P **P** 05 43 22.5 +1.2
BVAR Borovoye Array 50.23 312 P **P** 05 43 20.6 -1.4
comp=Z,3.2nm,0.5s,baz=90,slow=8.9,SNR=17
BRVK Borovoye 50.28 312 *i* P **P** 05 43 22.3 -0.1
BRVK pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 50.48 299 P **P** 05 43 26.9 +2.6
SNR=14
COEN Coen 50.48 177 *e* P **P** 05 43 25.1 +0.8
comp=Z,28nm,1.1s
AML Almayashu 50.70 298 P **P** 05 43 26.1 -0.1
SNR=61
KLU Klutina 50.84 36 *e* P **P** 05 43 28.0 +1.4
comp=Z,9.1nm,0.7s
PSI Prapat 51.01 239 P **P** 05 43 28.4 -0.1
comp=Z,3.8nm,0.6s,baz=3.2,slow=5.6,SNR=4.1
SCRK Sand Creek 51.46 33 *e* P **P** 05 43 31.6 +0.3
comp=Z,12nm,0.9s
DOT Dot Lake 51.46 34 *e* P **P** 05 43 31.1 -0.1
comp=Z,8.4nm,0.6s
MENT Mentasta 51.70 34 *e* P **P** 05 43 34.6 +1.6
comp=Z,14nm,0.6s
EGAK Eagle 52.58 32 *e* P **P** 05 43 40.0 +0.7
comp=Z,6.1nm,0.6s
KK31 Karatay Array 52.63 300 *e* P **P** 05 43 40.0 -0.2
comp=Z,12nm,1.0s
KKAR Karatay Array 52.63 300 *e* P **P** 05 43 40.0 -0.2
comp=Z,12nm,1.0s
EPYK Eagle Plains 54.15 30 *e* P **P** 05 43 52.3 +1.4
comp=Z,26nm,0.8s
EPYK Eagle Plains 54.15 30 P **P** 05 43 52.2 +1.2
baz=281
GAR Garm 54.16 295 *e* P **P** 05 43 51.4 -0.1
comp=Z,13nm,0.5s

GAR Garm 54.16 295 *e* P **P** 05 43 51.4 -0.1
INK Inuvik 54.98 27 *e* P **P** 05 43 57.6 +0.7
comp=Z,7.5nm,0.8s
INK Inuvik 54.98 27 P **P** 05 43 57.4 +0.5
comp=Z,8.6nm,0.7s,baz=290,slow=6.6,SNR=49
ARU Arti 56.09 318 *e* P **P** 05 44 04.2 -0.8
comp=Z,25nm,0.9s
ARU Arti 56.09 318 *c i* P **P** 05 44 04.2 -0.8
ARU *PP **pP** 05 44 22.3 -1.3
ARU 05 45 02.0
ARU 05 46 09.6
ARU S **S** 05 51 46.6 -1.6
ARU SS **SS** 05 55 32.5 -2.3
ARU pmax pmax
comp=Z,6.0nm,0.6s
FITZ Fitzroy Crossi 56.31 197 *e* P **P** 05 44 07.7 +0.8
comp=Z,4.9nm,0.8s
FITZ Fitzroy Crossi 56.31 197 P **P** 05 44 07.2 +0.3
comp=Z,3.4nm,0.7s,baz=12,slow=6.9,SNR=11
WRAB Tennant Creek 56.66 187 *e* P **P** 05 44 08.9 -0.5
comp=Z,25nm,0.8s
WRAB Tennant Creek 56.66 187 *e* P **P** 05 44 08.9 -0.5
WB2 Warramunga Arr 56.67 187 *e* P **P** 05 44 07.8 -1.7
WRA Warramunga Arr 56.67 187 P **P** 05 44 08.8 -0.6
comp=Z,28nm,0.6s,baz=2.9,slow=7.3,SNR=154
CTA Charters Tower 56.78 174 P **P** 05 44 10.2 0.0
comp=Z,3.1nm,0.5s,baz=351,slow=6.0,SNR=6.5
HYB Hyderabad 57.46 268 *i* P **P** 05 44 14.5 -0.8
ABKAR Akbulak array 57.57 310 *e* P **P** 05 44 14.6 -1.0
comp=Z,9.9nm,0.9s
AKTO Aktyubinsk 58.32 312 P **P** 05 44 21.5 +0.7
comp=Z,5.6nm,0.7s,baz=82,slow=15,SNR=16
DLBC Dease Lake 59.31 38 P **P** 05 44 29.6 +2.0
comp=Z,3.6nm,0.8s,baz=287,slow=5.7,SNR=5.5
KIRV Kirov 60.04 323 P **P** 05 44 32.4 -0.1
comp=Z,21nm,0.5s,baz=87,slow=5.4,SNR=5.0
KIRV LR LR 06 11 57.6
comp=Z,49nm,19.4s,baz=102,slow=37
AS01 Alice Springs 60.39 187 *e* P **P** 05 44 35.0 -0.3
AS31 Alice Springs 60.40 187 *e* P **P** 05 44 35.4 0.0
comp=Z,4.0nm,0.6s
ASAR Alice Springs 60.40 187 P **P** 05 44 34.9 -0.5
comp=Z,10nm,0.7s,baz=14,slow=7.1,SNR=64
TMCR Tamitsa 62.65 331 *e* P **P** 05 44 50.7 +0.7
TMCR pmax pmax
comp=Z,11nm,0.6s
RES Resolute Bay 63.07 14 *e* P **P** 05 44 52.1 -0.5
comp=Z,4.8nm,0.8s
RES Resolute Bay 63.07 14 P **P** 05 44 52.1 -0.5
comp=Z,4.4nm,0.6s,baz=308,slow=5.9,SNR=31
GEYT Alibeck 63.33 299 P **P** 05 44 55.5 +0.4
comp=Z,3.0nm,0.5s,baz=54,slow=4.7,SNR=7.7
KLMR Klimovskoe 63.61 328 *e* P **P** 05 44 54.5 -1.9
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 63.61 328 *e* P **P** 05 44 54.6 -1.9
KLMR AMP 05 44 59.3
comp=Z,7.0nm,0.6s
ARCES ARCESS Array B 64.01 339 P **P** 05 44 58.9 -0.1
comp=Z,3.0nm,0.5s,baz=57,slow=8.0,SNR=25
YKA Yellowknife Ar 64.43 30 P **P** 05 45 01.7 -0.1
comp=Z,1.8nm,0.7s,baz=304,slow=6.8,SNR=32
YKB5 Yellowknife Ar 64.43 30 *e* P **P** 05 45 01.4 -0.4
DAG Danmarks Havn 66.00 355 *i* P **P** 05 45 11.1 -0.7
comp=Z,0.4nm,0.4s
DAG Danmarks Havn 66.00 355 *i* P **P** 05 45 11.1 -0.7
VRH Novokhopyorsk 67.30 318 *e* P **P** 05 45 22.5 +2.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
A04D Lummi Island 67.46 45 P **P** 05 45 23.8 +2.3
baz=300
D03D Eldon 67.84 47 P **P** 05 45 25.7 +1.8
baz=301
SUF Sumiainen 67.91 333 P **P** 05 45 25.8 +1.7
SUF pmax pmax
comp=Z,23nm,0.9s
LPSR Galich'ya Gora 68.05 320 *e* P **P** 05 45 24.0 -1.1
LPSR *e**PP **pP** 05 45 41.7 -2.5
LPSR pmax pmax
comp=Z,10.0nm,0.6s
D04E Lakebay 68.21 47 P **P** 05 45 28.4 +2.2
baz=301
STKA Stephens Creek 68.27 179 P **P** 05 45 26.2 -0.3
comp=Z,5.5nm,0.7s,baz=347,slow=9.7,SNR=7.0
E04D Cinebar 68.65 47 P **P** 05 45 30.8 +1.8
baz=301
VSR Storozhevoye 68.67 319 *e* P **P** 05 45 27.9 -1.1
VSR *e**PP **pP** 05 45 45.4 -2.7
VSR pmax pmax
comp=Z,10.0nm,0.5s
FIA1 FINESS Array S 68.73 332 *e* P **P** 05 45 29.6 +0.5
FINES FINESS Array B 68.73 332 *i* P **P** 05 45 29.2 0.0
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 68.73 332 P **P** 05 45 28.5 -0.7
comp=Z,5.5nm,0.7s,baz=39,slow=9.0,SNR=16
FINES LR LR 06 17 07.2
comp=Z,34nm,18.9s,baz=58,slow=37
B08A Colville Reser 69.56 44 *e* P **P** 05 45 35.9 +1.2
comp=Z,6.1nm,0.9s
J01E Myrtle Point 69.58 51 P **P** 05 45 35.9 +1.1
baz=302
H04D Lebanon 69.61 49 P **P** 05 45 36.5 +1.6
baz=302
F05D White Salmon 69.66 48 P **P** 05 45 36.8 +1.5
baz=302
I03D Drain, OR 69.67 50 P **P** 05 45 37.3 +2.0
baz=302
K02D Willamette Mer 69.99 51 P **P** 05 45 39.3 +1.8
baz=302
G05D Wamic, OR 70.08 48 P **P** 05 45 39.6 +1.8
baz=302
I04A Tendick Farm, 70.19 50 P **P** 05 45 40.6 +2.0
baz=302
L02E Cave Junction 70.32 52 P **P** 05 45 40.9 +1.6
baz=302
VSU Vasula 70.33 329 *e* P **P** 05 45 38.9 -0.2
VSU IAmb IAmb 05 45 57.8
comp=Z,43nm,0.8s
KBZ Khabaz 70.53 310 P **P** 05 45 40.4 -0.2
comp=Z,2.9nm,0.8s,baz=6.8,slow=4.2,SNR=7.9
KBZ LR LR 06 18 56.1
comp=Z,22nm,18.7s,baz=58,slow=38
I05D Terrebonne, OR 70.55 49 P **P** 05 45 42.3 +1.5
baz=303
J04D Umpqua Nationa 70.67 50 P **P** 05 45 43.5 +1.8
baz=303
E08A Dider Farm, El 70.73 46 *e* P **P** 05 45 43.2 +1.4
comp=Z,9.7nm,0.8s
NEW Newport 70.85 44 *e* P **P** 05 45 43.7 +1.1
comp=Z,6.9nm,0.8s
NEW Newport 70.85 44 P **P** 05 45 43.7 +1.1
NEW pmax pmax
comp=Z,7.0nm,0.8s
NEW Newport 70.85 44 P **P** 05 45 43.7 +1.1
baz=304
SUMG Summit 70.98 360 *i* P **P** 05 45 44.5 +1.2
comp=Z,19nm,0.9s
SUMG Summit 70.98 360 *i* P **P** 05 45 44.5 +1.2
SUMG pmax pmax
comp=Z,19nm,0.9s
PINE Pine Mountain 71.09 49 *e* P **P** 05 45 46.5 +2.2
comp=Z,30nm,0.9s
L04D Klamath Falls 71.10 51 P **P** 05 45 45.8 +1.5
baz=303
YBH Yreka Blue Hor 71.11 52 P **P** 05 45 45.9 +1.7
comp=Z,3.5nm,0.8s,baz=0.2,slow=5.3,SNR=6.6
J05D Fort Rock, OR 71.19 50 P **P** 05 45 46.4 +1.6
baz=303
M02C Callahan 71.20 52 P **P** 05 45 46.5 +1.7
baz=303
N02D Trinity Center 71.52 52 P **P** 05 45 48.2 +1.5
baz=303
M04C Macdoel 71.63 51 P **P** 05 45 48.8 +1.3
baz=303
O02D Mt. Diablo Mer 71.90 53 P **P** 05 45 50.6 +1.6
baz=303
IDID Didziasalis 72.32 327 *e* P **P** 05 45 50.8 -0.4
IDID IAmb IAmb 05 46 10.1
comp=Z,7.8nm,0.7s
ISAL Salakas 72.43 327 *e* P **P** 05 45 53.0 +1.2
ISAL IAmb IAmb 05 46 10.9
comp=Z,10nm,0.7s
O03E Paynes Creek 72.46 53 P **P** 05 45 53.2 +0.8
baz=304
IIGN Ignalina 72.53 327 *e* P **P** 05 45 53.1 +0.7
IIGN IAmb IAmb 05 46 11.4

NACGM **Naroch** 72.56 326 *e* P 05 45 52.0 -0.6
comp=Z,7.8nm,0.7s

BMO **Blue Mountains** 72.67 47 *e*P P 05 45 54.7 +1.1
comp=Z,9.0nm,0.8s

BMO **Blue Mountains** 72.67 47 P P 05 45 54.7 +1.1
BMO pmax pmax
comp=Z,9.0nm,0.8s

J08A **Circle Bar Ran** 72.82 49 *e*P P 05 45 52.2 -2.3
comp=Z,5.5nm,0.8s

ORV **Oroville** 73.07 53 *e*P P 05 45 56.9 +1.0
comp=Z,7.0nm,0.9s

ORV **Oroville** 73.07 53 P P 05 45 56.9 +1.0
ORV pmax pmax
comp=Z,7.0nm,1.0s

MSO **Missoula** 73.44 44 *e*P P 05 45 59.0 +0.8
comp=Z,5.8nm,1.0s

MSO **Missoula** 73.44 44 P P 05 45 58.7 +0.5
baz=306

NC405 **NORSAR Array S** 73.96 337 *e*P P 05 46 00.8 +0.1
comp=Z,17nm,1.1s

AKASG **Malin Array Be** 74.08 322 P P 05 46 00.9 -0.6
comp=Z,11nm,0.4s,baz=41,slow=4.4,SNR=14
AKASG LR LR 06 20 50.6
comp=Z,51nm,19.9s,baz=5.0,slow=38

AKBB **Malin Array Si** 74.08 322 *e*P P 05 46 00.9 -0.7
comp=Z,53nm,0.8s

KIEV **Kiev** 74.09 322 *e*P P 05 46 00.8 -0.8
comp=Z,49nm,0.8s

KIEV **Kiev** 74.09 322 *ce*P P 05 46 01.3 -0.4
KIEV pmax pmax
comp=Z,55nm,0.8s

AK11 **Malin Array Si** 74.12 322 *e*P P 05 46 01.0 -0.8

NC204 **NORSAR Array S** 74.13 337 *e*P P 05 46 02.3 +0.5
comp=Z,19nm,0.9s

NOA **NORSAR Array B** 74.17 337 P P 05 46 01.8 -0.3
comp=Z,1.4nm,0.4s,baz=54,slow=6.7,SNR=12
NOA LR LR 06 21 54.2
comp=Z,20nm,21.2s,baz=55,slow=38

FFC **Flin Flon** 74.35 32 *e*P P 05 46 03.4 +0.3
comp=Z,9.1nm,0.8s

FFC **Flin Flon** 74.35 32 *ce*P P 05 46 03.6 +0.5
FFC pmax pmax
comp=Z,70nm,2.5s

FCC **Fort Churchill** 74.59 26 *e*P P 05 46 04.5 +0.1
comp=Z,12nm,0.9s

FCC **Fort Churchill** 74.59 26 P P 05 46 03.5 -0.9
FCC pmax pmax
comp=Z,12nm,1.0s

CMB **Columbia Colle** 74.64 54 *e*P P 05 46 06.4 +1.2
comp=Z,10nm,1.0s

CMB **Columbia Colle** 74.64 54 P P 05 46 06.4 +1.2
CMB pmax pmax
comp=Z,10.0nm,1.1s

HRY **Holter Researc** 74.67 43 *e*P P 05 46 06.4 +1.1

LRM **Limekiln Ridge** 74.87 44 *e*P P 05 46 07.7 +1.0

EGMT **Eagleton** 74.98 41 *e*P P 05 46 07.9 +0.9
comp=Z,15nm,0.8s

EGMT **Eagleton** 74.98 41 P P 05 46 07.6 +0.6
baz=309,SNR=11

WAKR **Walker** 74.98 53 *e*P P 05 46 09.0 +1.6
comp=Z,9.1nm,1.0s

SIM **Simferopol'** 75.02 315 *de*P P 05 46 04.7 -2.5
SIM pmax pmax
comp=Z,31nm,0.7s

DLMT **Dillon** 75.07 44 *e*P P 05 46 08.9 +1.2
comp=Z,18nm,0.6s

HLID **Hailey** 75.11 47 *e*P P 05 46 08.8 +0.8
comp=Z,4.6nm,1.0s

HLID **Hailey** 75.11 47 P P 05 46 09.1 +1.2
baz=307,SNR=6.1

BOZ **Bozeman (W)** 75.47 44 *e*P P 05 46 10.9 +1.0
comp=Z,11nm,0.8s

BOZ **Bozeman (W)** 75.47 44 P P 05 46 11.0 +1.0
BOZ pmax pmax
comp=Z,11nm,0.9s

BOZ **Bozeman (W)** 75.47 44 P P 05 46 10.8 +0.9
baz=308

KVN **Kaiserville** 75.52 52 *e*P P 05 46 11.8 +1.4
comp=Z,17nm,1.0s

KVN **Kaiserville** 75.52 52 P P 05 46 11.8 +1.4
KVN pmax pmax
comp=Z,17nm,1.0s

NV01 **Mina Array Sit** 75.75 53 *e*P P 05 46 13.0 +1.2

NVAR **Mina Array Bea** 75.75 53 P P 05 46 13.2 +1.4
comp=Z,9.1nm,0.8s,baz=288,slow=5.6,SNR=45

NV11 **Mina Array Sit** 75.85 53 *e*P P 05 46 13.8 +1.6
comp=Z,0.3nm,0.9s

PAGB **Antelope Grade** 76.05 56 *e*P P 05 46 15.0 +1.7
comp=Z,21nm,1.1s

YHB **Horse Butte** 76.23 44 *e*P P 05 46 16.1 +1.7
comp=Z,13nm,0.9s

ELK **Elko** 76.30 49 *e*P P 05 46 16.4 +1.5
comp=Z,3.9nm,0.6s

ELK **Elko** 76.30 49 P P 05 46 16.4 +1.5
baz=287,slow=7.5

YHH **Holmes Hill** 76.40 44 *e*P P 05 46 16.6 +1.2
comp=Z,4.4nm,1.0s

YMR **Madison River** 76.41 44 *e*P P 05 46 17.2 +1.8
comp=Z,7.2nm,0.8s

GCMT **Greycliff** 76.42 43 *e*P P 05 46 16.9 +1.5

SMMC **Simmler** 76.46 56 P P 05 46 17.1 +1.5
baz=306

YFT **Old Faithful** 76.61 44 *e*P P 05 46 19.7 +3.1
comp=Z,6.0nm,0.7s

YPP **Pitchstone Pla** 76.75 44 *e*P P 05 46 20.1 +2.6
comp=Z,4.9nm,1.0s

VES **Vestal, Richgr** 76.75 55 P P 05 46 17.7 +0.5
baz=306

H17A **Grant Village** 76.80 44 *e*P P 05 46 20.6 +3.0
comp=Z,14nm,0.9s

H17A **Grant Village** 76.80 44 P P 05 46 20.2 +2.5
baz=309,SNR=9.8

PKM **Mcpherson Peak** 76.82 56 P P 05 46 19.4 +1.5
baz=306

IMW **Indian Meadow** 76.90 45 *e*P P 05 46 20.4 +2.1
comp=Z,8.0nm,0.8s

FXWY **Fox Creek** 77.01 45 *e*P P 05 46 20.8 +1.9
comp=Z,5.8nm,1.1s

CWC **Cottonwood Cre** 77.06 54 P P 05 46 19.7 +0.5
baz=306

RLMT **Red Lodge** 77.06 43 *e*P P 05 46 20.4 +1.3
comp=Z,4.5nm,0.6s

RLMT **Red Lodge** 77.06 43 P P 05 46 20.3 +1.2
baz=310,SNR=6.5

MOOW **Moose Ponds** 77.11 45 *e*P P 05 46 20.9 +1.6
comp=Z,3.7nm,0.9s

TPAW **Teton Pass** 77.15 45 *e*P P 05 46 20.5 +0.8
comp=Z,7.4nm,0.8s

HVU **Hansel Valley** 77.15 47 *e*P P 05 46 21.3 +1.8
comp=Z,7.2nm,0.9s

HVU **Hansel Valley** 77.15 47 P P 05 46 21.3 +1.8
HVU pmax pmax
comp=Z,7.0nm,0.9s

GRAC **Grapevine Rang** 77.20 53 P P 05 46 21.1 +1.3
baz=306,SNR=8.1

FRB **Frobisher Bay** 77.23 13 P P 05 46 20.8 +1.5

ISA **Isabella, Lake** 77.26 55 P P 05 46 20.6 +0.5
baz=306

LOHW **Long Hollow** 77.27 45 *e*P P 05 46 22.0 +1.7
comp=Z,3.8nm,1.0s

SNOW **Snow King Moun** 77.28 45 *e*P P 05 46 22.4 +2.0
comp=Z,6.0nm,1.0s

REDW **Red Top Meadow** 77.29 45 *e*P P 05 46 22.1 +1.7
comp=Z,5.7nm,1.1s

ARVC **Arvin** 77.34 56 P P 05 46 21.2 +0.7
baz=306

DAC **Darwin (Calif)** 77.47 54 *e*P P 05 46 24.8 +3.3
comp=Z,4.3nm,0.8s

DAC **Darwin (Calif)** 77.47 54 P P 05 46 24.8 +3.3
DAC pmax pmax
comp=Z,4.0nm,0.8s

R11A **Troy Canyon, C** 77.52 51 *e*P P 05 46 22.9 +1.1
comp=Z,13nm,1.1s

R11A **Troy Canyon, C** 77.52 51 P P 05 46 22.9 +1.1
baz=307,SNR=17

BGU **Big Grassy Mou** 77.53 48 *e*P P 05 46 23.3 +1.7
comp=Z,3.5nm,1.0s

MPMC **Manual Prospec** 77.67 54 P P 05 46 23.5 +0.9
baz=307,SNR=6.1

LAO **LASA Array** 77.68 40 P P 05 46 23.4 +1.1
baz=311

FURC **Furnace Creek,** 77.83 54 P P 05 46 24.4 +1.2
baz=307,SNR=7.5

LRMC **Laurel Mtn Rad** 77.89 55 P P 05 46 24.7 +0.9
baz=307

TPNV **Topopah Spring** 77.94 53 *e*P P 05 46 25.1 +1.0
comp=Z,11nm,0.9s

TPNV **Topopah Spring** 77.94 53 P P 05 46 25.1 +1.0
TPNV pmax pmax
comp=Z,11nm,1.0s

TPNV **Topopah Spring** 77.94 53 P P 05 46 25.1 +1.0
baz=307,SNR=12

HWUT **Hardware Ranch** 77.97 47 *e*P P 05 46 25.9 +1.7
comp=Z,4.3nm,1.1s

EDW2 **Edwards Air Fo** 78.04 55 P P 05 46 25.3 +0.9
baz=307

DUG **Dugway, Tooele** 78.10 49 *e*P P 05 46 26.2 +1.3
comp=Z,11nm,1.1s

DUG **Dugway, Tooele** 78.10 49 P P 05 46 26.2 +1.3
DUG pmax pmax
comp=Z,11nm,1.1s

DUG **Dugway, Tooele** 78.10 49 P P 05 46 26.2 +1.3
baz=308,SNR=10.0

TCUT **Toone Canyon** 78.37 47 *e*P P 05 46 28.0 +1.6
comp=Z,12nm,0.7s

BW06 **Boulder Array** 78.40 45 *e*P P 05 46 27.3 +0.8
comp=Z,3.0nm,0.6s

BW06 **Boulder Array** 78.40 45 P P 05 46 27.0 +0.4
baz=310,SNR=5.4

PD31 **Pinedale Array** 78.40 45 *e*P P 05 46 27.3 +0.7
comp=Z,2.7nm,0.6s

PDAR **Pinedale Array** 78.40 45 *e*P P 05 46 26.9 +0.3

PDAR **Pinedale Array** 78.40 45 P P 05 46 26.8 +0.2
comp=Z,3.0nm,0.7s,baz=258,slow=2.0,SNR=29

CTU **Camp Tracy** 78.43 48 *e*P P 05 46 28.2 +1.5
comp=Z,4.2nm,0.8s

PSUT **Pine Spring** 78.49 50 *e*P P 05 46 28.6 +1.5
comp=Z,7.1nm,0.9s

BRTR **Keskin Array B** 78.49 311 *i*P P 05 46 31.3 +4.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s

SHOC **Shoshone, Teco** 78.56 54 P P 05 46 28.5 +1.3
baz=307

GSC **Goldstone, Bar** 78.57 54 P P 05 46 28.1 +0.6
baz=307

CIS **Catalina Islan** 78.63 57 P P 05 46 28.7 +0.9
baz=307

JLU **Jordanelle** 78.67 48 *e*P P 05 46 29.7 +1.6
comp=Z,8.1nm,1.2s

NLU **North Lily Min** 78.70 48 *e*P P 05 46 29.8 +1.5
comp=Z,8.5nm,1.1s

SCI2 **San Clemente I** 78.80 57 P P 05 46 29.3 +0.7
baz=307

OJC **Ojcow** 78.87 326 *e*P pP 05 46 47.7 -0.6

SHPR **Sheep Range** 78.91 53 *e*P P 05 46 30.9 +1.5
comp=Z,6.6nm,0.9s
SHPR *ep*P **pP** 05 46 50.6 +1.8

MPU **Maple Canyon** 78.92 48 *e*P P 05 46 31.0 +1.5
comp=Z,8.6nm,1.0s

TUQ **Turquoise Moun** 79.06 54 P P 05 46 30.9 +0.7
baz=308

NIE **Niedzica** 79.21 325 *e*P pP 05 46 50.0 -0.2

MURC **Murrieta** 79.33 56 P P 05 46 32.1 +0.5
baz=307

CCUT **Cedar City** 79.40 51 *e*P P 05 46 33.9 +1.7
comp=Z,3.8nm,0.9s

MSU **Marysvale** 79.53 50 *e*P P 05 46 34.6 +1.7

MSU **Marysvale** 79.53 50 P P 05 46 34.6 +1.7

SZCU **Shurtz Canyon** 79.55 51 *e*P P 05 46 34.4 +1.5
comp=Z,2.9nm,0.9s

GMRC **Granite Mounta** 79.63 54 P P 05 46 34.1 +0.8
baz=308,SNR=6.0

TMUT **Trail Mountain** 79.63 48 *e*P P 05 46 35.0 +1.5
comp=Z,5.7nm,1.1s

LCMT **Little Creek M** 79.81 51 *e*P P 05 46 35.8 +1.5
comp=Z,8.4nm,1.0s

PFO **Pinyon Flats O** 79.81 56 *e*P P 05 46 35.4 +1.1
comp=Z,4.1nm,0.8s

PFO **Pinyon Flats O** 79.81 56 P P 05 46 34.8 +0.5
baz=308

PFO **Pinyon Flats O** 79.81 56 P P 05 46 34.9 +0.6
comp=Z,3.6nm,0.8s,baz=327,slow=4.4,SNR=5.5

XPFO **Pion Flat** 79.82 56 *e*P P 05 46 35.4 +1.0
comp=Z,4.6nm,0.8s

109C **Camp Elliot, M** 79.82 57 P P 05 46 34.8 +0.6
baz=307

MTPU **Mount Pierson** 79.83 50 *e*P P 05 46 36.7 +2.1
comp=Z,7.2nm,0.8s

BELC **Belle Mtn. Jos** 79.88 55 P P 05 46 34.9 +0.1
baz=308

Q16A **Castle Valley** 79.89 49 *e*P P 05 46 36.5 +1.7
comp=Z,5.5nm,1.0s

KSP **Ksiaz** 79.96 328 *e*P pP 05 46 53.8 -0.5

KNB **Kanab** 80.07 51 *e*P P 05 46 37.7 +2.0
comp=Z,11nm,1.0s

KNB **Kanab** 80.07 51 P P 05 46 37.7 +2.0
KNB pmax pmax
comp=Z,11nm,1.0s

ULM **Lac du Bonnet** 80.15 33 *e*P P 05 46 35.4 -0.2
comp=Z,6.9nm,0.8s

ULM **Lac du Bonnet** 80.15 33 P P 05 46 35.1 -0.6
comp=Z,5.3nm,0.7s,baz=316,slow=7.4,SNR=11

SRU **San Rafael Swe** 80.16 48 *e*P P 05 46 37.2 +1.0
comp=Z,14nm,0.9s

SRU **San Rafael Swe** 80.16 48 P P 05 46 37.2 +1.0
SRU pmax pmax
comp=Z,14nm,0.9s

K22A **Casper** 80.17 44 P P 05 46 36.5 +0.3
baz=312

MDND **Maddock** 80.19 36 P P 05 46 36.3 +0.4
baz=315

BAR **Barrett** 80.24 57 *e*P P 05 46 37.6 +1.1
comp=Z,6.0nm,0.8s

MONP2 **Monument Peak** 80.28 56 P P 05 46 37.3 +0.4
baz=308

IRM **Iron Mountain** 80.35 55 P P 05 46 37.8 +0.7
baz=308

BC3 **Big Chuckawall** 80.45 55 P P 05 46 38.3 +0.6
baz=308

RSSD **Black Hills** 80.54 41 *e*P P 05 46 38.7 +0.5
comp=Z,3.4nm,0.8s

RSSD **Black Hills** 80.54 41 P P 05 46 38.7 +0.5

RSSD **Black Hills** 80.54 41 P P 05 46 38.1 0.0
baz=313

IKP **In-Ko-Pah, Jac** 80.63 56 P P 05 46 39.2 +0.5
baz=308

SWSC **Sam W. Stewart** 80.66 56 P P 05 46 39.6 +0.9
baz=308

O20A **White River Ci** 80.85 46 *e*P P 05 46 40.9 +1.0
comp=Z,3.9nm,0.8s

O20A **White River Ci** 80.85 46 P P 05 46 40.8 +0.9
baz=311

PDMCI **Parker Dam,Lak** 80.91 54 P P 05 46 40.9 +0.9
baz=308

CLL **Collm** 80.98 330 *i*pP pP 05 46 58.5 -1.1
comp=Z,15nm,0.9s

Y12C **Blythe** 81.01 55 *e*P P 05 46 41.7 +1.2
comp=Z,7.6nm,0.9s

Y12C **Blythe** 81.01 55 P P 05 46 41.5 +1.0
baz=308

GLA **Glamis** 81.24 55 P P 05 46 42.8 +0.9
baz=308

AGMN **Agassiz Nation** 81.60 34 *e*P P 05 46 42.8 -0.6
comp=Z,8.1nm,0.8s

AGMN **Agassiz Nation** 81.60 34 P P 05 46 43.0 -0.4
baz=318

N23A **Red Feather La** 81.66 45 *e*P P 05 46 45.3 +1.1
comp=Z,8.7nm,1.0s

N23A **Red Feather La** 81.66 45 P P 05 46 45.2 +1.0
baz=312

WUAZ **Wupatki** 81.92 52 *e*P P 05 46 47.3 +1.7
comp=Z,5.5nm,0.8s

WUAZ **Wupatki** 81.92 52 P P 05 46 46.8 +1.2
baz=310

SMCO **Snowmass** 82.22 46 *e*P P 05 46 48.4 +1.0
comp=Z,3.4nm,0.8s

GERES **GERESS Array B** 82.57 328 P P 05 46 48.5 -0.1
comp=Z,2.2nm,0.6s,baz=52,slow=6.4,SNR=4.8

ISCO **Idaho Springs** 82.58 45 *e*P P 05 46 50.5 +1.4
comp=Z,2.5nm,0.8s

ISCO **Idaho Springs** 82.58 45 P P 05 46 50.5 +1.4
ISCO pmax pmax
comp=Z,2.0nm,0.8s

ISCO **Idaho Springs** 82.58 45 P P 05 46 50.1 +1.0
baz=312

MVCO **Mesa Verde** 82.60 49 *e*P P 05 46 50.5 +1.3

MVCO **Mesa Verde** 82.60 49 P P 05 46 50.1 +1.0
baz=311

W18A **Petrified Fore** 83.20 51 P P 05 46 53.3 +1.0
baz=311

S22A **4UR Ranch, Cre** 83.25 47 *e*P P 05 46 54.4 +1.8
comp=Z,5.9nm,0.9s

S22A **4UR Ranch, Cre** 83.25 47 P P 05 46 53.8 +1.2
baz=312

214A **Organ Pipe Nat** 83.25 55 P P 05 46 53.6 +1.2
baz=309

Q24A **Divide** 83.41 46 P P 05 46 54.0 +0.6
baz=313

EYMN **Ely** 83.78 32 P P 05 46 55.0 +0.3
baz=321

SDCO **Great Sand Dun** 84.03 47 *e*P P 05 46 57.7 +1.1
comp=Z,4.9nm,1.0s

SDCO **Great Sand Dun** 84.03 47 P P 05 46 57.5 +0.9
baz=313

TUC **Tucson** 84.35 54 *e*P P 05 46 59.0 +1.0
comp=Z,5.2nm,0.9s

TUC **Tucson** 84.35 54 P P 05 46 59.0 +1.0
TUC pmax pmax
comp=Z,5.0nm,0.9s

TUC **Tucson** 84.35 54 P P 05 46 58.8 +0.7
baz=310

ECSD **EROS Data Cent** 84.60 38 *e*P P 05 46 59.2 +0.2
comp=Z,4.4nm,0.8s

ECSD **EROS Data Cent** 84.60 38 P P 05 46 58.8 -0.2
baz=318

PMOR **Pomariorio Ree** 84.74 113 *e*T T 07 20 05.9
comp=Z,13nm,0.3s

E38A **The Farm, Brul** 84.79 33 P P 05 46 59.8 -0.1
baz=321

KSCO **Kaye Shedlock'** 84.81 44 P P 05 47 00.3 -0.1
baz=314

F37A **Hinrichs Farm,** 84.99 34 P P 05 47 01.3 +0.4
baz=320

T25A **Trinidad** 85.08 47 *e*P P 05 47 03.1 +1.3
comp=Z,9.7nm,0.8s

T25A **Trinidad** 85.08 47 P P 05 47 02.4 +0.6
baz=313

F38A **Pierce - Schro** 85.15 34 P P 05 47 01.6 -0.1
baz=320

PPT **Papeete** 85.16 116 LR LR 06 16 08.2
comp=Z,30nm,21.7s,baz=348,slow=29

PPT2 **Papeete2** 85.18 116 *e*LR LR 06 13 52.8
comp=Z,123nm,28.5s

PPT2 **Papeete2** 85.18 116 *e*T T 07 20 41.2
comp=Z,2.2nm,0.3s

SPMN **Marine on St.** 85.29 35 P P 05 47 01.4 -1.0
baz=320

TIAR **Tiarei** 85.32 116 *e*T T 07 20 51.2
comp=Z,2.3nm,0.4s

TASM **ASL Pad, Albuq** 85.34 49 P P 05 47 04.5 +1.4
baz=312

TASM **ASL Pad, Albuq** 85.34 49 P P 05 47 04.6 +1.4
baz=312

ANMO **Albuquerque** 85.34 49 *ce*P P 05 47 04.9 +1.8
ANMO pmax pmax
comp=Z,13nm,2.5s

ANMO **Albuquerque** 85.34 49 P P 05 47 04.6 +1.5
baz=312

E39A **Mellen** 85.40 33 P P 05 47 02.5 -0.4
baz=321

BGNE **Belgrade** 85.53 40 P P 05 47 03.2 -0.5
baz=317

E40A **Wakefield** 85.63 32 P P 05 47 03.3 -0.8
baz=322

D41A **Chassel** 85.71 31 P P 05 47 03.4 -1.1
baz=323

BNM **Barren Site** 85.77 50 *e*P P 05 47 06.5 +1.2

SCHQ **Schefferville** 85.82 15 P P 05 47 04.0 -0.8
comp=Z,3.4nm,0.8s,baz=339,slow=8.6,SNR=4.0

121A **Cookes Peak, D** 86.12 52 P P 05 47 07.3 +0.3
baz=312

H39A **Augusta** 86.40 34 P P 05 47 07.7 -0.2
baz=321

G40A **Rib Lake** 86.42 33 P P 05 47 07.2 -0.8
baz=322

E42A **Champion** 86.48 31 P P 05 47 07.9 -0.4
baz=323

H40A **Chili** 86.85 34 P P 05 47 10.2 +0.1
baz=322

I39A **Houston** 86.93 35 P P 05 47 09.9 -0.6
baz=321

G42A **Mountain** 87.22 32 P P 05 47 11.4 -0.4
baz=323

J39A **Decorah** 87.25 35 P P 05 47 11.3 -0.8
baz=321

I40A **Norwalk** 87.31 34 P P 05 47 12.1 -0.3
baz=321

I41A **Arkdale** 87.52 34 P P 05 47 12.9 -0.4
baz=322

K39A **Oelwein** 87.65 36 P P 05 47 13.6 -0.4
baz=321

D46A **Sault St. Mari** 87.67 29 P P 05 47 13.4 -0.6
baz=326

D47A **Chapleau** 87.89 28 P P 05 47 15.0 -0.1
baz=326

K40A **Colesburg** 88.00 35 P P 05 47 15.7 0.0
baz=321

L39A **Vinton** 88.04 36 P P 05 47 15.9 0.0
baz=321

H43A **Windswept, Lux** 88.11 32 P P 05 47 16.1 0.0
baz=323

MNTX **Cornudas Mount** 88.19 51 P P 05 47 17.0 +0.2
baz=313

MSTX **Muleshoe** 88.23 48 P P 05 47 17.4 +0.4
baz=314

AMTX **Amarillo** 88.23 47 *e*P P 05 47 18.2 +1.1
comp=Z,4.9nm,0.7s

AMTX **Amarillo** 88.23 47 P P 05 47 17.6 +0.6
baz=315

F46A **Macinaw City C** 88.30 30 P P 05 47 17.1 0.0
baz=325

LSQQ **Lebel-sur-Quev** 88.33 24 P P 05 47 17.1 +0.1
baz=331

CHGQ **Chibougamau** 88.38 22 P P 05 47 16.9 -0.4
baz=333

M39A **Webster** 88.46 37 P P 05 47 17.9 +0.1
baz=320

K41A **Shullsburg** 88.46 35 P P 05 47 17.6 -0.2
baz=322

K42A **Prairie Point,** 88.76 34 P P 05 47 18.8 -0.4
baz=322

L41A **Preston** 88.79 35 P P 05 47 19.3 -0.1
baz=322

M40A **Post Highland** 88.83 36 P P 05 47 19.4 -0.2
baz=321

TBI **Tubuai** 89.01 120 *e*T T 07 25 32.3
comp=Z,16nm,0.3s

GLMI **Grayling** 89.14 30 P P 05 47 20.8 -0.2
baz=326

G47A **Hillman** 89.16 30 P P 05 47 20.2 -0.8
baz=326

N40A **Mertquake, Sal** 89.20 37 P P 05 47 21.2 -0.1
baz=321

M41A **Milan** 89.31 36 P P 05 47 21.9 +0.1
baz=322

F49A **Sandfield** 89.37 28 P P 05 47 21.9 -0.2
baz=327

H47A **Mio** 89.49 30 P P 05 47 23.0 +0.4
baz=326

I46A **Reed City** 89.52 31 P P 05 47 23.1 +0.3
baz=325

J45A **Montague** 89.54 32 P P 05 47 22.9 0.0
baz=324

D52A **ZEK Kipawa Sen** 89.66 25 P P 05 47 23.2 -0.1
baz=330

I47A **Gladwin** 89.85 31 P P 05 47 24.4 +0.1
baz=326

M43A **Waltham Townsh** 90.00 35 P P 05 47 25.4 +0.3
baz=323

WMOK **Wichita Mounta** 90.01 45 P P 05 47 25.8 +0.5
baz=316

O41A **Passleys Farm,** 90.13 37 P P 05 47 25.7 0.0
baz=321

F52A **Sundridge** 90.35 27 P P 05 47 26.7 0.0
baz=329

HDIL **Hopedale** 90.54 36 P P 05 47 27.6 0.0
baz=322

P42A **Winchester** 90.80 37 P P 05 47 28.3 -0.5
baz=322

TUL1 **Leonard** 90.81 42 *e*P P 05 47 29.6 +0.6
comp=Z,7.4nm,0.8s

TUL1 **Leonard** 90.81 42 P P 05 47 28.8 -0.2
baz=318

TX31 **Lajitas Ar. Si** 90.88 52 *e*P P 05 47 30.1 +0.6
TX31 *ep*P **pP** 05 47 49.9 +0.5

TXAR **Lajitas Array** 90.88 52 P P 05 47 30.1 +0.6
comp=Z,2.4nm,0.6s,baz=300,slow=3.1,SNR=38

K48A **Perry** 91.01 31 P P 05 47 30.1 +0.4
baz=326

R41A **Rosebud** 91.30 38 P P 05 47 30.9 -0.2
baz=321

CCM **Cathedral Cave** 91.55 38 P P 05 47 31.7 -0.6
baz=321

U40A	**Yellville** baz=320	**92.04**	**40**	P	**P**	05 47 34.3	**-0.3**
O48A	**Farmland** baz=325	**92.66**	**33**	P	**P**	05 47 37.1	**-0.3**
WHTX	**Lake Whitney,** baz=317	**92.76**	**46**	P	**P**	05 47 38.4	**+0.3**
S44A	**Carbondale** baz=322	**92.81**	**37**	P	**P**	05 47 38.3	**+0.1**
MIAR	**Mount Ida** baz=320	**93.03**	**42**	P	**P**	05 47 39.0	**-0.2**
O50A	**Cable** baz=326	**93.42**	**32**	P	**P**	05 47 40.9	**0.0**
O51A	**Pataskala** baz=327	**93.85**	**32**	P	**P**	05 47 42.5	**-0.4**
T46A	**Princeton** baz=323	**93.99**	**37**	P	**P**	05 47 44.1	**+0.5**
T47A	**Sharon Grove** baz=324	**94.41**	**36**	P	**P**	05 47 45.6	**+0.1**
Q51A	**Peebles** baz=326	**94.46**	**33**	P	**P**	05 47 45.5	**-0.3**
V46A	**Holladay** baz=323	**94.87**	**38**	P	**P**	05 47 47.4	**-0.2**
U48A	**Cassie Pea, Po** baz=324	**95.06**	**36**	P	**P**	05 47 48.1	**-0.5**
V47A	**Nunnelly** baz=323	**95.14**	**37**	P	**P**	05 47 48.6	**-0.3**
T50A	**Nancy** baz=325	**95.45**	**35**	P	**P**	05 47 49.8	**-0.5**
W48A	**Pulaski** baz=324	**95.98**	**37**	P	**P**	05 47 52.5	**-0.3**
U53A	**Fall Branch** baz=327	**97.01**	**34**	P	**P**	05 47 56.8	**-0.6**
Z59A	**Georgetown, SC** baz=329	**101.10**	**33**	P	**Pdif**	05 48 15.0	**-0.7**
VNDA	**Vanda** comp=Z,0.7nm,0.8s,baz=11,slow=1.3,SNR=3.8	**114.74**	**175**	PKP	PKPdf	05 53 03.7	-0.6
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.4s,baz=8.5,slow=2.9,SNR=3.1	**117.01**	**314**	PKP	**PKPdf**	05 53 09.6	**-1.0**
BOSA	**Boshof** comp=Z,2.3nm,0.9s,baz=90,slow=2.0,SNR=3.2	**125.80**	**259**	PKP	**PKPdf**	05 53 26.8	**-0.5**
LPAZ	**La Paz** comp=Z,3.5nm,0.8s,baz=314,slow=2.8,SNR=14	**147.48**	**59**	PKPbc	**PKPbc**	05 54 10.7	**+0.1**
PLCA	**Paso Flores** comp=Z,2.4nm,0.8s,baz=270,slow=7.0,SNR=6.7	**155.52**	**109**	PKPab	**PKPab**	05 54 45.9	**+0.9**

IDC 21 06:09:55.9±2.9,**28°.18S**×**177°.98W**,**h0**km,**mb4.4**/5, **mb1 4.5**/5,**mb1mx4.0**/33,**mbtmp4.4**/5,**Error ellipse: s-maj=147.9km s-min=39.4km az=160.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 5.0nm,0.4s,baz=104,slow=11,SNR=6.0	**33.52**	**276**	P	P	06 16 38.8	+1.4
STKA	**Stephens Creek** 1.7nm,0.5s,baz=78,slow=9.3,SNR=2.6	**35.05**	**254**	P	P	06 16 51.6	+1.0
ASAR	**Alice Springs** 2.4nm,0.5s,baz=95,slow=6.8,SNR=31	**43.29**	**265**	P	P	06 17 59.1	-0.5
WRA	**Warramunga Arr** 2.8nm,0.4s,baz=109,slow=7.9,SNR=54	**44.07**	**270**	P	P	06 18 05.5	-0.5
FITZ	**Fitzroy Crossi** 2.8nm,0.8s,baz=129,slow=9.9,SNR=8.3	**52.41**	**268**	P	P	06 19 08.7	-1.7
FINES	**FINESS Array B** 1.8nm,0.9s,baz=78,slow=1.6,SNR=2.9	**143.06**	**341**	PKP	PKPbc	06 29 29.3	+1.4
AKASG	**Malin Array Be** 0.4nm,0.4s,baz=48,slow=3.2,SNR=5.6	**149.52**	**325**	PKPbc	PKPbc	06 29 46.9	+0.1
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=80,slow=2.5,SNR=2.5	**151.49**	**302**	PKPbc	PKPbc	06 29 52.0	-0.1

MEX 21 06:16:06.1±0.4,**14°.79N**×**93°.73W**,**h16**km±6km,**MD3.9, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.04**	**29**	*e*P	Pb	06 16 22.4	-3.3
PCIG				*i* S	Sb	06 16 34.7	-4.4
THIG		**1.43**	**85**	*i* P	Pn	06 16 27.8	-3.6
THIG				*i* S	Sn	06 16 45.6	-4.2
CCIG	**Comitan**	**2.14**	**46**	*i* P	Pn	06 16 38.6	-2.7
CCIG				*e*S	Sn	06 17 03.9	-3.8
HUIG	**Huatulco**	**2.49**	**293**	*i* P	Pn	06 16 43.4	-2.6
HUIG				*i* S	Sn	06 17 11.1	-5.0
CMIG	**Matias Romero**	**2.54**	**334**	*e*P	Pn	06 16 43.4	-3.3
CMIG				*i* S	Sn	06 17 13.0	-4.4

*IDC **21** 06:16:02.3±1.4, 11°.12S×163°.71E, h0km, mb3.7/5, mb1 4.0/7, mb1mx3.7/43, mbtmp3.9/7, ML4.1/2, MS3.1/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=31.1km s-min=26.9km az=131.0*

*ISCJB **21** 06:16:05.4±1.1, 11°.3S±0°.1×163°.7E±0°.1, h33km, mb3.6/5, MS3.0/1, Error ellipse: s-maj=22.8km s-min=10.8km az=41.6*

ISC 21 06:16:07.1±1.2,**11°.4S**±0°.1×**163°.7E**±0°.1,**h35**km,**n9,** σ1**86**/10,**mb3.6/5,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.18**	**297**	*e*P	**Sn**	**06 17 56.0**	**-0.1**
HNR	**Honiara** 40nm,0.3s,baz=154,slow=1.4,SNR=9.0	**4.18**	**297**	Pn	**Pn**	**06 17 07.6**	**-0.8**
HNR				Sn	**Sn**	**06 17 56.1**	**+0.1**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=53,slow=12,SNR=9.1	**10.96**	**167**	Pn	**Pn**	**06 18 44.0**	**+2.3**
DZM				Sn	**Sn**	**06 20 39.5**	**-3.6**
STKA	**Stephens Creek** comp=Z,33nm,19.6s,baz=26,slow=38	**28.87**	**222**	LR	LR	06 34 18.8	
WRA	**Warramunga Arr** 1.3nm,0.7s,baz=79,slow=9.3,SNR=11	**29.51**	**250**	P	**P**	**06 22 09.5**	**+1.0**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=64,slow=9.1,SNR=4.7	**30.88**	**243**	P	**P**	**06 22 21.8**	**+1.2**
FITZ	**Fitzroy Crossi** 2.8nm,0.9s,baz=94,slow=9.3,SNR=6.5	**37.38**	**255**	P	**P**	**06 23 17.2**	**+0.3**
SONM	**Songino Array** 0.3nm,0.5s,baz=123,slow=6.0,SNR=3.3	**77.76**	**325**	P	**P**	**06 27 59.2**	**-1.6**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=227,slow=3.9,SNR=4.0	**84.45**	**19**	P	**P**	**06 28 36.3**	**+0.5**

*IDC **21** 06:45:42.9±3.9, 10°.31S×116°.40E, h0km, mb3.9/3, mb1 3.8/5, mb1mx3.6/36, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=261.7km s-min=20.7km az=48.0*

*ISCJB **21** 06:45:45.5±1.0, 10°.74S±0°.07×116°.36E±0°.09, h33km, mb3.9/3, Error ellipse: s-maj=13.6km s-min=8.6km az=158.0*

*DJA **21** 06:45:47.0±0.8, 10°.5S±6°×11°.6E±°, h10km, M3.8/7, mb4.0/1, MLv3.7/7*

ISC 21 06:45:47.2±1.2,**10°.74S**±0°.09×**116°.38E**±0°.10,**h35**km,**n9,** σ3**22**/12,**mb4.2/3,South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.34**	**36**	P	**Pn**	**06 46 23.4**	**+0.1**
PLAI				S	**Sn**	**06 46 49.8**	**-1.1**
SRBI	**Singaraja**	**2.88**	**336**	P	**Pn**	**06 46 30.6**	**-0.1**
EDFI	**Ende, Flores**	**5.59**	**70**	P	**Pn**	**06 47 08.2**	**+0.1**
BKSI	**Bulukumba**	**6.53**	**35**	P	**Pn**	**06 47 24.2**	**+3.3**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=314,slow=13,SNR=4.8	**11.57**	**130**	Pn	**Pn**	**06 48 32.0**	**+2.1**
FITZ				Sn	Sn	06 50 30.8	-7.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=315,slow=8.6,SNR=3.5	**19.57**	**120**	P	**Pn**	**06 50 14.7**	**+0.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=293,slow=12,SNR=9.8	**19.57**	**120**	P	**S**	**06 53 44.6**	**-6.9**
ASAR	**Alice Springs** 1.3nm,0.6s,baz=302,slow=10,SNR=23	**21.07**	**130**	P	**P**	**06 50 32.4**	**+3.7**
ASAR				S	**S**	**06 54 18.4**	**-3.0**
MKAR	**Makanchi Array** 0.7nm,0.3s,baz=144,slow=6.9,SNR=19	**64.88**	**335**	P	**P**	**06 56 22.0**	**-0.9**
ZALV	**Zalesovo Beam** 1.2nm,0.6s,baz=155,slow=4.4,SNR=3.0	**69.78**	**341**	P	**P**	**06 56 51.7**	**-2.1**

*ISCJB **21** 06:54:20.2±0.7, 5°.95S±0°.05×147°.35E±0°.09, h100km, mb3.9/8, Error ellipse: s-maj=12.3km s-min=6.8km az=2.2*

*IDC **21** 06:54:20.8±3.1, 5°.90S×147°.43E, h89km±27km, mb3.8/5, mb1 4.1/10, mb1mx3.8/34, mbtmp4.2/10, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=33.2km s-min=19.3km az=85.0*

*NEIC **21** 06:54:24.0±0.6, 6°.00S×147°.21E, h118km±6km, mb4.4/9, Error ellipse: s-maj=9.7km s-min=5.9km az=108.0*

ISC 21 06:54:22.9±0.7,**6°.00S**±0°.06×**147°.17E**±0°.09,**h100**km,**n33,** σ1**59**/38,**mb4.0**/8,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.39**	**180**	*e*Pn	**Pn**	**06 55 13.8**	**0.0**
PMG				*e*Sn	**Sn**	**06 55 55.4**	**+2.2**
PMG	**Port Moresby** 9.3nm,0.3s,baz=7.1,slow=7.4,SNR=14	**3.39**	**180**	P	**Pn**	**06 55 12.7**	**-1.1**
PMG				S	**Sn**	**06 55 51.9**	**-1.4**
MANU	**Manus Island**	**3.93**	**3**	*e*Pn	**Pn**	**06 55 23.1**	**+1.9**
RABL	**Rabaul**	**5.29**	**70**	*e*Pn	**Pn**	**06 55 42.0**	**+2.4**
JAY	**Jayapura** 5.3nm,0.3s,baz=156,slow=1.9,SNR=17	**7.31**	**298**	P	**Pn**	**06 56 07.8**	**+0.7**
JAY				LR	LR	06 59 12.1	
COEN	**Coen**	**8.83**	**206**	*e*Pn	**Pn**	**06 56 28.8**	**+1.1**
HNR	**Honiara** comp=Z,51nm,19.4s,baz=290,slow=34	**13.12**	**106**	LR	LR	07 01 41.3	
CTA	**Charters Tower** 0.4nm,0.3s,baz=355,slow=12,SNR=2.7	**14.04**	**184**	P	**Pn**	**06 57 37.7**	**+0.3**
SIJI	**Sorong** 1.7nm,0.3s,baz=63,slow=12,SNR=6.8	**16.66**	**287**	P	**P**	**06 58 12.6**	**+1.4**
MTN	**Manton Dam** 8.0nm,0.9s	**17.21**	**246**	*e*P	**P**	**06 58 18.3**	**+1.1**
WRAB	**Tennant Creek** 14nm,0.6s	**18.63**	**221**	*e*P	**P**	**06 58 32.8**	**0.0**
WB2	**Warramunga Arr** 13nm,0.6s	**18.64**	**221**	*e*P	**P**	**06 58 33.5**	**+0.6**
WR1	**Warramunga Arr** 15nm,0.6s	**18.64**	**221**	*e*P	**P**	**06 58 33.6**	**+0.6**
WR1				*e*S	**S**	**07 01 57.2**	**-3.1**
WRA	**Warramunga Arr** 1.5nm,0.3s,baz=39,slow=11,SNR=102	**18.64**	**221**	P	**P**	**06 58 33.6**	**+0.6**
WRA				S	**S**	**07 01 57.2**	**-3.2**
EIDS	**Eidsvold** 20nm,1.3s	**19.63**	**169**	*e*P	**P**	**06 58 41.8**	**-1.8**
AS01	**Alice Springs**	**21.69**	**215**	*e*P	**P**	**06 59 06.2**	**+0.4**
AS31	**Alice Springs** 3.4nm,0.4s	**21.71**	**215**	*e*P	**P**	**06 59 06.9**	**+0.8**
AS31				*e*S	**S**	**07 03 03.3**	**+2.5**
ASAR	**Alice Springs** 3.5nm,0.4s,baz=51,slow=9.5,SNR=59	**21.72**	**215**	P	**P**	**06 59 07.1**	**+1.0**
ASAR				S	**S**	**07 03 03.3**	**+2.5**
FITZ	**Fitzroy Crossi** 1.5nm,1.0s,baz=34,slow=20,SNR=4.7	**24.21**	**238**	*e*P	**P**	**06 59 32.7**	**+2.3**
FITZ	**Fitzroy Crossi** 14nm,0.6s	**24.21**	**238**	*e*P	**P**	**06 59 32.1**	**+1.7**
FITZ	**Fitzroy Crossi** 18nm,0.6s,baz=56,slow=8.6,SNR=124	**24.21**	**238**	P	**P**	**06 59 32.1**	**+1.7**
STKA	**Stephens Creek** 4.6nm,1.6s	**26.27**	**191**	*e*P	**P**	**06 59 48.5**	**-0.5**
STKA	**Stephens Creek** 2.9nm,0.6s,baz=349,slow=7.4,SNR=4.6	**26.27**	**191**	P	**P**	**06 59 49.6**	**+0.7**
JAGI	**Jajag, Banyuwa** 13nm,1.0s	**32.84**	**264**	*e*P	**P**	**07 00 47.3**	**0.0**
SONA0	**Songino Array**	**64.48**	**331**	*e*P	**P**	**07 04 49.0**	**0.0**
SONM	**Songino Array** 0.1nm,0.3s,baz=155,slow=4.8,SNR=2.3	**64.48**	**331**	P	**P**	**07 04 49.0**	**0.0**
MK32	**Makanchi Array**	**77.60**	**320**	*e*P	**P**	**07 06 06.3**	**-1.9**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=108,slow=5.8,SNR=2.4	**77.60**	**320**	P	**P**	**07 06 06.3**	**-1.9**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=256,slow=5.7,SNR=6.0	**85.41**	**23**	P	**P**	**07 06 47.4**	**-1.6**
ILB	**Eielson Array** 4.5nm,1.4s	**85.41**	**23**	*e*P	**P**	**07 06 47.7**	**-1.2**
MANT	**Manisa**	**115.98**	**310**	*e*PKPdf	**PKPdf**	**07 12 52.6**	**-2.2**
CCIG	**Comitan**	**121.10**	**75**	*e*PKPdf	**PKPdf**	**07 13 03.6**	**-1.5**
TORD	**Torodi Ar. Bea** 0.3nm,0.6s,baz=61,slow=4.1,SNR=2.9	**145.25**	**284**	PKPbc	**PKPbc**	**07 13 49.8**	**-0.1**
TOA1	**Torodi Ar. Sit**	**145.25**	**284**	*e*PKPdf	**PKPbc**	**07 13 49.8**	**-0.1**

*SKHL **21** 06:59:48.5±0.5, 43°.37N×147°.71E, h30km, mb4.0/3*

*JMA **21** 06:59:49.2±0.1, 43°.19N×147°.47E, h57km, M3.3*

ISC 21 06:59:45.8±3.2,**43°.2N**±0°.1×**147°.8E**±0°.1,**h35**km,**n10,** σ1**23**/15,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.49**	**277**	P	**Pn**	**07 00 11.1**	**+1.1**
NEM2				*e*S	**Sn**	**07 00 27.1**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**1.62**	**302**	*e*P	**Pn**	**07 00 13.0**	**+1.2**
YUK	36nm,0.2s			AMB	AMB	07 00 14.0	
YUK				*e*S	**Sn**	**07 00 31.0**	**-0.4**
YUK	370nm,0.2s			A	A	07 00 32.0	
YUK	550nm,0.2s			A	A	07 00 32.0	
GRPR	**Tuman**	**1.65**	**299**	*e*P	**Pn**	**07 00 13.0**	**+0.7**
GRPR	52nm,0.3s			AMB	AMB	07 00 13.0	
GRPR				*e*S	**Sn**	**07 00 31.6**	**-0.7**
GRPR	378nm,0.3s			A	A	07 00 32.0	
GRPR	543nm,0.3s			A	A	07 00 32.0	
KUR	**Kuril'sk**	**2.04**	**2**	*e*P	**Pn**	**07 00 18.0**	**+0.5**
KUR	24nm,0.2s			AMB	AMB	07 00 18.9	
KUR				*e*S	**Sn**	**07 00 40.4**	**-1.3**
KUR	119nm,0.2s			A	A	07 00 43.0	
KUR	86nm,0.2s			A	A	07 00 43.0	
JRA	**Rausu**	**2.06**	**292**	P	**Pn**	**07 00 19.4**	**+1.6**
JRA				*e*S	**Sn**	**07 00 41.9**	**-0.4**
JNK	**Nakash**	**2.25**	**281**	*e*S	**Sn**	**07 00 46.0**	**-1.1**
JAK	**Akkeshi**	**2.26**	**266**	*e*S	**Sn**	**07 00 45.9**	**-1.3**
JOB	**Onbets**	**2.90**	**266**	*e*S	**Sn**	**07 01 01.4**	**-1.5**
JAR	**Ashorobuto**	**2.92**	**273**	*e*S	**Sn**	**07 01 02.5**	**-1.1**
JCH	**Churui**	**3.29**	**261**	*e*S	**Sn**	**07 01 11.1**	**-1.5**

*ISN **21** 07:01:00.8±1.4, 36°.67N×43°.52E, h0km±7km, ML3.2*

*TEH **21** 07:01:03.5, 36°.69N×43°.37E, h2km, ML3.2*

*DDA **21** 07:01:04.4, 36°.68N×43°.38E, h7km±2km, ML3.3*

*ISK **21** 07:01:06.6, 36°.77N×43°.61E, h6km, ML3.1/6*

ISC 21 07:01:03.2±1.1,**36°.57N**±0°.02×**43°.54E**±0°.03,**h9**km±9km, **n27,** σ1**33**/40,**Iraq**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSL	**Mosul**	**0.39**	**244**	*e*Pg	**Pg**	**07 01 11.0**	**+0.1**
MSL				*e*Sg	**Sg**	**07 01 16.3**	**+0.3**
MSL	**Mosul**	**0.39**	**244**	*e*Pg	**Pg**	**07 01 11.0**	**+0.1**
CUKT	**Cukurca**	**0.68**	**5**	PG	**Pg**	**07 01 16.5**	**+0.2**
CUKT				SG	**Sg**	**07 01 24.9**	**-0.3**
CUKT	**Cukurca**	**0.68**	**5**	*i* P	**Pb**	**07 01 16.9**	**-0.4**
CUKT				*i* S	**Sg**	**07 01 25.6**	**+0.4**
YOVA	**Hakkari_Yksek**	**1.18**	**30**	*i* P	**Pg**	**07 01 27.7**	**+1.8**
YOVA				*i* S	**Sn**	**07 01 44.5**	**+2.1**
SIRN	**Sırnak**	**1.29**	**316**	*i* P	**Pn**	**07 01 26.4**	**-1.1**
SIRN				*i* S	**Sb**	**07 01 42.9**	**-1.5**
IKRK	**Kirkuk**	**1.34**	**151**	*e*Pn	**Pn**	**07 01 28.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**07 01 48.8**	**+2.5**
IKRK	**Kirkuk**	**1.34**	**151**	*e*Pg	**Pn**	**07 01 27.9**	**-0.2**
BASK	**Baskale_VAN**	**1.52**	**14**	*i* P	**Pg**	**07 01 33.1**	**+0.6**
BASK				*i* S	**Sg**	**07 01 53.4**	**+1.2**
BASK	comp=Z,1μm,0.1s			IAML_P			
AKDM	**Akdamar-Van**	**1.81**	**346**	PN	**Pg**	**07 01 37.5**	**-0.4**
AKDM				SN	**Sg**	**07 02 00.5**	**-0.9**
SRTM	**Siirt_Merkez**	**1.92**	**318**	*i* P	**Pb**	**07 01 37.9**	**-0.5**
SRTM				*i* S	**Sb**	**07 02 02.6**	**+0.2**
VANB	**Van**	**2.02**	**357**	PN	**Pb**	**07 01 39.4**	**-0.8**
VANB				SN	**Sn**	**07 02 03.3**	**+0.2**
BTMN	**Batman**	**2.24**	**307**	*i* P	**Pb**	**07 01 43.3**	**-0.6**
BTMN				*i* S	**Sb**	**07 02 11.0**	**-0.7**
BTMN	comp=Z,496nm,0.4s comp=Z,2μm,0.4s			IAML_P			
IAZR	**Azarshahr**	**2.24**	**60**	IAMB	IAmb	07 02 27.9	
GURO	**Guroymak-BITLI**	**2.31**	**329**	PN	**Pb**	**07 01 45.7**	**+0.6**
GURO				SN	**Sb**	**07 02 13.5**	**-0.3**
MARD	**Mardin**	**2.33**	**289**	*i* P	**Pb**	**07 01 43.7**	**-1.8**
MARD				*i* S	**Sn**	**07 02 12.0**	**+1.2**
MARD	comp=Z,848nm,0.2s			IAML_P			
CLDR	**Caldiran**	**2.58**	**7**	PN	**Pb**	**07 01 48.7**	**-1.2**
IMRD	**Marand**	**2.74**	**38**	*e*Pn	**Pb**	**07 01 51.1**	**-1.4**
IMRD	comp=Z,490nm,0.6s			IAMB	IAmb	07 02 01.6	
IBST	**Bostanabad**	**2.91**	**66**	*e*Pn	**Pb**	**07 01 54.3**	**-1.1**
IBST	comp=Z,324nm,0.4s			IAMB	IAmb	07 02 05.1	
AGRB	**Hanur-Agry**	**3.03**	**352**	PN	**Pb**	**07 01 55.2**	**-2.2**
DIYA	**Diyarbakir**	**3.04**	**297**	*e*P	**Pb**	**07 01 57.9**	**+0.3**
DIYA				*i* S	**Sb**	**07 02 36.9**	**+2.1**
BNGB	**Bingl**	**3.31**	**318**	PN	**Pb**	**07 02 00.3**	**-1.9**
IVIS	**Veis**	**3.38**	**126**	*e*Pn	**Pb**	**07 02 02.4**	**-1.0**
KCHF	**Cheshme Sefid,**	**3.67**	**128**	*e*Pn	**Pb**	**07 02 06.1**	**-2.2**
KCHF	comp=Z,0.0nm,0.5s			IAMB	IAmb	07 03 21.4	
IKOM	**Komasi**	**4.03**	**125**	*e*Pn	**Pb**	**07 02 11.3**	**-3.2**
RTB	**Rutbah**	**4.42**	**218**	*e*Pn	**Pn**	**07 02 12.0**	**+1.4**
RTB				*e*Sn	**Sn**	**07 03 02.0**	**-0.2**
IKFM	**Kafar-mosalman**	**4.66**	**129**	*e*Pn	Pb	07 02 19.3	-5.8

IDC 21 07:16:25.2±6.7,**13°.02N**×**142°.58E**,**h159**km±59km,**mb2.9**/3, **mb1 3.3**/4,**mb1mx2.9**/38,**mbtmp3.4**/4,**Error ellipse: s-maj=114.4km s-min=22.3km az=116.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam** 7.4nm,0.3s,baz=250,slow=12,SNR=12	**2.30**	**76**	P	Pn	07 17 05.8	+1.5
GUMO				S	Sn	07 17 34.5	0.0
WRA	**Warramunga Arr** 0.3nm,0.6s,baz=4.6,slow=9.4,SNR=3.3	**33.75**	**194**	P	P	07 22 51.5	-0.3
ILAR	**Eielson Array** 0.3nm,0.6s,baz=255,slow=6.0,SNR=4.5	**70.03**	**25**	P	P	07 27 18.6	-0.9
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=286,slow=4.4,SNR=3.1	**84.38**	**27**	P	P	07 28 40.1	+0.7

IDC 21 07:16:30.5±1.6,**4°.66S**×**145°.33E**,**h0**km,**mb3.6**/3, **mb1 4.0**/5,**mb1mx3.7**/31,**mbtmp3.8**/5,**ML3.0/2**,**MS2.9**/2, **Ms1 2.9**/2,**ms1mx2.4**/30,**Error ellipse: s-maj=46.9km s-min=25.8km az=119.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 12nm,0.3s,baz=9.7,slow=6.0,SNR=29	**5.05**	**159**	Pn	Pn	07 17 46.5	-1.1
PMG				Sn	Sn	07 18 34.0	-13
PMG	11nm,0.3s,baz=135,slow=19,SNR=19			LR	LR	07 20 00.2	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=33,slow=11,SNR=13	**18.58**	**214**	P	P	07 20 48.4	-1.0
ASAR	**Alice Springs** 0.5nm,0.5s,baz=32,slow=13,SNR=7.8	**21.88**	**209**	P	P	07 21 25.1	-0.1
FITZ	**Fitzroy Crossi** 3.3nm,0.7s,baz=58,slow=8.8,SNR=12	**23.43**	**234**	P	P	07 21 42.3	+0.7
STKA	**Stephens Creek** comp=Z,38nm,19.4s,baz=21,slow=36	**27.30**	**187**	LR	LR	07 33 02.1	
ILAR	**Eielson Array** 0.3nm,0.6s,baz=247,slow=5.4,SNR=7.8	**84.92**	**23**	P	P	07 29 07.4	+0.2

IDC 21 07:20:50.1±8.9,**8°.39S**×**79°.70W**,**h121**km±78km,**mb2.9**/2, **mb1 3.2**/3,**mb1mx3.0**/21,**mbtmp3.4**/3,**MS3.3/1**,**Ms1 3.5**/1, **ms1mx3.0**/5,**Error ellipse: s-maj=70.1km s-min=43.6km az=47.0,Near coast of northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz** 0.1nm,0.3s,baz=315,slow=11,SNR=5.1	**13.75**	**126**	P	Pn	07 24 00.7	0.0
LPAZ				LR	LR	07 29 40.7	
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=141,slow=5.9,SNR=3.8	**75.62**	**344**	P	P	07 32 21.5	+0.1
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=276,slow=4.2,SNR=2.6	**83.60**	**76**	P	P	07 33 05.6	0.0
ASAR	**Alice Springs** 0.2nm,0.6s,baz=117,slow=2.9,SNR=3.3	**134.24**	**225**	PKP	PKPdf	07 39 54.0	-0.5
WRA	**Warramunga Arr** 0.4nm,0.9s,baz=112,slow=2.7,SNR=4.0	**136.23**	**230**	PKP	PKPdf	07 39 57.8	-0.5

NNC 21 07:23:08.4±1.4,**38°.87N**×**76°.51E**,**h20**km±8km,**mb3.8, mpv3.4,5C-4D,Error ellipse: s-maj=9.2km s-min=9.1km az=163.0,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa** 4.7nm,1.1s	**4.07**	**338**	⇑Pg	Pb	07 24 21.4	+2.0
AAK	9.0nm,0.7s			⇓Lg	Lg	07 25 17.6	
TKM2	**Tokmak 2** 2.3nm,0.7s	**4.11**	**351**	⇓Pg	Pb	07 24 21.8	+1.6
TKM2	4.5nm,0.5s			⇓Lg	Lg	07 25 19.6	
TNSS	**Tian-Shan** 1.9nm,0.3s	**4.18**	**4**	Pg	Pg	07 24 25.1	-3.4
TNSS	4.6nm,0.3s			Lg	Lg	07 25 21.2	
KST	**Kastek** 4.0nm,0.5s	**4.19**	**354**	Pg	Pg	07 24 26.0	-2.8
KST	8.6nm,0.5s			Lg	Lg	07 25 22.8	
MDOK	**Medeo** 1.4nm,0.3s	**4.31**	**5**	⇑Pg	Pb	07 24 27.0	+3.4
MDOK				⇓Lg	Lg	07 25 25.8	
MDOK	**Medeo** 1.4nm,0.3s	**4.31**	**5**	Pg	Pb	07 24 27.2	+3.6
MDOK	8.8nm,0.4s			Lg	Lg	07 25 24.7	
KOTS	**Kotyrbulak** 2.0nm,0.2s	**4.38**	**6**	Pg	Pg	07 24 28.7	-3.8
KOTS	21nm,0.7s			Lg	Lg	07 25 27.3	
DGS	**Degeres** 3.7nm,0.5s	**4.41**	**353**	Pg	Pg	07 24 30.1	-2.7
DGS	6.1nm,0.6s			Lg	Lg	07 25 29.8	
MRKS	**Merke** 4.2nm,0.4s	**4.61**	**328**	Pg	Pg	07 24 33.2	-3.4
MRKS	2.7nm,0.3s			Lg	Lg	07 25 34.8	
KURS	**Kuram** 3.0nm,0.6s	**4.78**	**15**	Pg	Pb	07 24 34.8	+3.2
KURS	3.7nm,0.6s			Lg	Lg	07 25 37.7	
PDGK	**Podgornoye** 6.8nm,0.7s	**4.99**	**26**	⇑Lg	Lg	07 25 48.3	
KUU	**Kurty** 1.1nm,0.2s	**5.02**	**359**	Pg	Pg	07 24 40.5	-4.1
KUU	5.1nm,0.4s			Lg	Lg	07 25 47.6	
KTMS	**Ketmen** 0.8nm,0.2s	**5.41**	**31**	Pg	Pg	07 24 47.8	-4.3
KTMS	1.8nm,0.2s			Lg	Lg	07 26 00.1	
ARXS	**Arharly** 12nm,0.5s	**5.43**	**10**	Pg	Pg	07 24 49.0	-3.4
ARXS	3.9nm,0.6s			Lg	Lg	07 26 02.2	
KK31	**Karatay Array** 0.3nm,0.3s,baz=124,slow=12,SNR=24	**6.21**	**315**	Pn	Pn	07 24 38.6	-0.3

IKMR	**Kamar-syah**	**0.84**	**35**	*e*Pg	**Pg**	**07 23 36.0**	**-1.0**
IKMR				IAMB	IAmb	07 23 52.1	
	comp=Z,0.0nm,0.5s						
IDOB	**Doab**	**1.01**	**18**	*e*Pg	**Pg**	**07 23 38.6**	**-1.6**
IDOB				IAMB	IAmb	07 24 03.6	
	comp=Z,0.0nm,0.3s						
SHGR	**Shooshtar-Gavs**	**1.11**	**130**	*e*Pg	**Pn**	**07 23 42.7**	**+0.3**
SHGR	**Shooshtar-Gavs**	**1.11**	**130**	*e*Pg	**Pn**	**07 23 42.7**	**+0.3**
IKOM	**Komasi**	**1.36**	**350**	*e*Pg	**Pb**	**07 23 45.8**	**-0.7**
IKOM				IAMB	IAmb	07 23 48.0	
	comp=Z,0.0nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.58**	**337**	*e*Pn	**Pb**	**07 23 49.5**	**-0.6**
KCHF				IAMB	IAmb	07 24 15.4	
	comp=Z,0.0nm,0.8s						
IBDR	**Badra**	**1.60**	**281**	*e*Pn	**Pb**	**07 23 50.0**	**-0.3**
IBDR				*e*Sn	**Sg**	**07 24 12.0**	**-0.1**
IBZA	**Bozab**	**1.64**	**2**	*e*Pn	**Pb**	**07 23 50.6**	**-0.6**
IBZA				IAMB	IAmb	07 24 16.3	
	comp=Z,0.0nm,0.8s						
AHWZ	**Ahwaz**	**1.66**	**154**	*e*Pn	**Pg**	**07 23 52.5**	**0.0**
AHWZ				IAMB	IAmb	07 24 17.7	
	comp=Z,0.0nm,0.4s						
IGHG	**Ghaleghazi**	**1.82**	**326**	*e*Pn	**Pg**	**07 23 54.7**	**-0.9**
IGHG				IAMB	IAmb	07 24 24.4	
	comp=N,7μm,0.4s						
IVIS	**Veis**	**1.87**	**335**	*e*Pn	**Pb**	**07 23 54.7**	**-0.4**
IVIS				IAMB	IAmb	07 24 24.2	
	comp=Z,3μm,0.4s						
KHMZ	**Khomeyn**	**2.02**	**63**	*e*Pn	**Pb**	**07 23 58.1**	**+0.3**
KHMZ	**Khomeyn**	**2.02**	**63**	*e*AML	AML	07 24 31.1	
	comp=N,317nm,0.6s						
KHMZ	**Khomeyn**	**2.02**	**63**	*e*Pn	**Pb**	**07 23 58.1**	**+0.3**
KHMZ				*e*Sg	**Sg**	**07 24 26.7**	**+0.8**
ILIN	**Lien**	**2.20**	**342**	*e*Pn	**Pb**	**07 24 00.2**	**-0.6**
ILIN				IAMB	IAmb	07 24 05.8	
	comp=Z,3μm,0.4s						
SNGE	**Sanandaj**	**2.29**	**351**	*e*Pn	**Pb**	**07 24 01.0**	**-1.3**
SNGE	**Sanandaj**	**2.29**	**351**	*e*AML	AML	07 24 39.6	
	comp=N,259nm,0.5s						
SNGE	**Sanandaj**	**2.29**	**351**	*e*Pn	**Pb**	**07 24 01.0**	**-1.3**
SNGE				*e*Sg	**Sg**	**07 24 33.3**	**-1.1**
NSR	**Nassriya**	**2.30**	**218**	*e*Pn	**Pn**	**07 23 59.0**	**+0.3**
NSR				*e*Sn	**Sb**	**07 24 29.0**	**-1.7**
JHBN	**Jahan bin**	**2.49**	**103**	*e*Pn	**Pn**	**07 24 03.2**	**+1.5**
JHBN				IAMB	IAmb	07 24 47.5	
	comp=Z,0.0nm,0.3s						
ASAO	**Ashtian**	**2.53**	**47**	*e*Pn	**Pb**	**07 24 04.7**	**-1.7**
ASAO	**Ashtian**	**2.53**	**47**	*e*Pn	**Pb**	**07 24 04.7**	**-1.7**
IPIR	**Pirpir**	**2.61**	**92**	*e*Pn	**Pb**	**07 24 05.8**	**-2.0**
IPIR				IAMB	IAmb	07 24 52.4	
	comp=Z,2μm,0.6s						
ZNGN	**Zangian**	**2.68**	**105**	*e*Pn	**Pn**	**07 24 05.9**	**+1.7**
ZNGN				IAMB	IAmb	07 24 50.8	
	comp=E,0.0nm,0.6s						
ROKH	**ROKH**	**2.77**	**99**	IAMB	IAmb	07 24 59.0	
	comp=Z,0.0nm,0.4s						
ROKH				*e*Pn	**Pn**	**07 24 06.9**	**+1.4**
BHD	**Baghdad**	**2.91**	**280**	*e*Pn	**Pn**	**07 24 08.0**	**+1.0**
BHD				*e*Sn	**Sn**	**07 24 44.0**	**+2.0**
IRAZ	**Razeghan**	**3.12**	**34**	*e*Pn	**Pb**	**07 24 13.2**	**-3.3**
IRAZ				IAMB	IAmb	07 24 24.0	
	comp=Z,2μm,0.5s						
IKLH	**Kolahrood**	**3.21**	**80**	*e*Pn	**Pn**	**07 24 13.7**	**+2.2**
IKLH				IAMB	IAmb	07 25 25.2	
	comp=Z,1μm,0.6s						
QABG	**Abgarm-Qazvin**	**3.23**	**27**	*e*Pn	**Pn**	**07 24 14.0**	**+2.2**
GHVR	**GHOM**	**3.35**	**60**	*e*Pn	**Pn**	**07 24 16.0**	**+2.7**
GHVR	**GHOM**	**3.35**	**60**	*e*AML	AML	07 25 00.3	
	comp=N,121nm,0.4s						
GHVR				*e*AML	AML	07 25 00.6	
	comp=E,132nm,0.4s						
GHVR	**GHOM**	**3.35**	**60**	*e*Pn	**Pn**	**07 24 16.0**	**+2.7**
IGAR	**Gharneh**	**3.61**	**96**	*e*Pn	**Pn**	**07 24 18.1**	**+1.2**
IGAR				IAMB	IAmb	07 25 20.0	
	comp=Z,1μm,0.5s						
IZEF	**Zefreh**	**3.81**	**88**	*e*Pn	**Pn**	**07 24 21.7**	**+1.9**
IZEF				IAMB	IAmb	07 24 36.0	
	comp=Z,504nm,0.4s						
IKRK	**Kirkuk**	**3.85**	**313**	*e*Pn	**Pn**	**07 24 21.0**	**+0.9**
IKRK				*e*Sn	**Sn**	**07 25 07.0**	**+1.6**
IHSB	**Hasanabad**	**3.88**	**47**	*e*Pn	**Pn**	**07 24 23.1**	**+2.5**
IHSB				IAMB	IAmb	07 25 15.4	
	comp=Z,0.0nm,0.6s						
IVRN	**Varamin**	**3.92**	**55**	*e*Pn	**Pn**	**07 24 23.0**	**+1.9**
IRAM	**Ramesheh**	**4.01**	**103**	*e*Pn	**Pn**	**07 24 23.2**	**+0.7**
IRAM				IAMB	IAmb	07 24 42.5	
	comp=Z,366nm,0.8s						
QALM	**Alamut, Qazvin**	**4.29**	**32**	*e*Pn	**Pn**	**07 24 28.0**	**+1.6**
IDMV	**Damavand**	**4.45**	**51**	*e*Pn	**Pn**	**07 24 30.2**	**+1.6**
IDMV				IAMB	IAmb	07 24 35.3	
	comp=Z,608nm,0.4s						
IKAZ	**Kazeroun**	**4.60**	**130**	*e*Pn	**Pn**	**07 24 33.1**	**+2.4**
IKAZ				IAMB	IAmb	07 25 49.2	
	comp=N,3μm,0.7s						
IBST	**Bostanabad**	**4.92**	**352**	*e*Pn	**Pn**	**07 24 35.2**	**+0.2**
IBST				IAMB	IAmb	07 25 08.0	
	comp=Z,85nm,0.5s						
IFIR	**Firoozkooh**	**4.97**	**54**	*e*Pn	**Pn**	**07 24 37.7**	**+2.0**
IFIR				IAMB	IAmb	07 24 40.8	
	comp=Z,713nm,0.2s						
ILAS	**Lasjerd**	**4.98**	**58**	IAMB	IAmb	07 24 36.1	
	comp=N,623nm,0.2s						
IPRN	**Peran**	**5.06**	**46**	*e*Pn	**Pn**	**07 24 40.3**	**+3.4**
IPRN				IAMB	IAmb	07 26 06.7	
	comp=Z,396nm,0.6s						
IALA	**Alasht**	**5.26**	**51**	*e*Pn	**Pn**	**07 24 42.5**	**+2.8**
IALA				IAMB	IAmb	07 24 46.6	
	comp=Z,575nm,0.2s						
ISHM	**Shahmirzad**	**5.43**	**55**	IAMB	IAmb	07 24 42.1	
	comp=Z,561nm,0.4s						
IANJ	**Anjilo**	**5.71**	**61**	IAMB	IAmb	07 24 45.9	
	comp=Z,241nm,0.5s						
IMEH	**Mehriz**	**5.96**	**102**	*e*Pn	**Pn**	**07 24 49.8**	**+0.5**
RTB	**Rutbah**	**6.30**	**274**	*e*Pn	**Pn**	**07 24 55.0**	**+1.2**
RTB				*e*Sn	**Sn**	**07 26 06.5**	**+0.6**

NEIC ***21*** *07:31:26.6±0.0, 16°.31N×98°.19W, h16km, MD4.0(MEX), After MEX.*

MEX 21 07:31:26.9±0.6,**16°.32N×98°.19W,h16**km±1km,**MD4.0, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**36**	*e*Pg	Pg	07 31 29.1	-1.1
PNIG				*e*Sg	Sg	07 31 32.0	-0.5
PNIG	**Pinotepa**	**0.10**	**36**	*e*P	Pg	07 31 29.1	-1.1
PNIG				*e*S	Sg	07 31 32.0	-0.5
TLIG	**Tlapa**	**1.29**	**344**	*e*Pn	Pn	07 31 46.2	-4.3
TLIG				*e*Sn	Sb	07 32 01.5	-5.9
TLIG	**Tlapa**	**1.29**	**344**	*e*P	Pn	07 31 46.6	-3.9
TLIG				*e*S	Sb	07 32 02.7	-4.7
VHO	**Vista Hermosa**	**1.58**	**61**	*e*Pn	Pn	07 31 51.9	-2.6
VHO				*e*Sn	Sn	07 32 09.3	-5.6
VHO	**Vista Hermosa**	**1.58**	**61**	*e*P	Pn	07 31 51.8	-2.7
VHO				*e*S	Sn	07 32 09.3	-5.6
HUIG	**Huatulco**	**2.07**	**105**	*e*Pn	Pn	07 31 58.4	-2.7
HUIG				*e*Sn	Sn	07 32 22.1	-4.5
HUIG	**Huatulco**	**2.07**	**105**	*e*P	Pn	07 31 58.4	-2.7
HUIG				*e*S	Sn	07 32 22.1	-4.5
MEIG	**Mezcala**	**2.11**	**320**	*e*Pn	Pn	07 31 58.4	-3.3
MEIG				*e*Sn	Sn	07 32 27.6	-0.1
MEIG	**Mezcala**	**2.11**	**320**	*e*P	Pn	07 31 58.4	-3.3
MEIG				*i* S	Sn	07 32 22.8	-4.8
CAIG	**El Cayaco**	**2.12**	**290**	*e*Pn	Pn	07 31 58.8	-3.0
CAIG	**El Cayaco**	**2.12**	**290**	*e*P	Pn	07 31 58.8	-3.0
CAIG				*e*S	Sn	07 32 23.4	-4.4
PLIG	**Platanillo**	**2.42**	**329**	*e*Pn	Pn	07 32 07.7	+1.7
PLIG				*e*Sn	Sb	07 32 38.0	-1.8
PLIG	**Platanillo**	**2.42**	**329**	*e*P	Pn	07 32 03.0	-3.0
PLIG				*i* S	Sn	07 32 31.5	-3.8
ARIG	**Puente Sto Nin**	**2.84**	**314**	*e*P	Pn	07 32 13.0	+1.3
ARIG				*e*S	Sn	07 32 47.5	+1.8
ARIG	**Puente Sto Nin**	**2.84**	**314**	*e*P	Pn	07 32 08.9	-2.8
ARIG				*i* S	Sn	07 32 40.8	-4.9
UNM	**Universidad Na**	**3.14**	**343**	*e*Pn	Pn	07 32 13.5	-2.6
UNM				*e*Sn	Sn	07 32 48.5	-4.9
UNM				*e*Sg	Sg	07 33 09.0	+1.0
ZIIG	**Zihuatanejo**	**3.39**	**293**	*e*P	Pn	07 32 16.8	-2.4
ZIIG				*i* S	Sn	07 32 55.6	-3.5
LVIG	**Laguna Verde**	**3.78**	**26**	*e*Pn	Pn	07 32 24.7	0.0
LVIG				*e*Sg	Sb	07 33 22.9	+3.8
MOIG	**Morelia**	**4.40**	**320**	*e*Pn	Pn	07 32 32.1	-1.2
MOIG				*e*Sn	Sn	07 33 22.8	-1.6

IEPN ***21*** *07:35:35.0, 76°.87N×18°.66E, h10km, station ZFI2 has station magnitude of 2.60*
ISCJB ***21*** *07:35:36.1±0.6, 76°.83N±0°.05×18°.4E±0°.2, h16km, Error ellipse: s-maj=9.1km s-min=4.9km az=38.8*
NAO ***21*** *07:35:37.3±1.0, 76°.93N×18°.31E, h17km±9km, ML2.6*
BER ***21*** *07:35:38.4±2.0, 76°.91N×18°.32E, h16km±13km, ML2.4, ML2.6(NAO), Confirmed Earthquake*

ISC 21 07:35:36.0±0.7,**76°.92N**±0°.03×**18°.64E**±0°.03,**h16**km,**n19,** σ1$96/40,**1C,Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.71**	**279**	Pg	**Pg**	**07 35 49.9**	**+0.1**
HSP				Lg	Lg	07 35 58.0	
HSPB	**Hornsund (broa**	**0.71**	**278**	*e*P	**Pg**	**07 35 49.9**	**0.0**
HSPB				*e*S	**Sg**	**07 35 58.4**	**-0.8**
HSPB				IAML		07 36 02.8	
	comp=Z,110nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.36**	**340**	Pn	**Pn**	**07 36 00.7**	**+0.4**
	baz=154,slow=18						
SPA0				Lg	Lg	07 36 18.7	
	baz=156,slow=37						
SPA0	**Spitsbergen Ar**	**1.36**	**340**	↑*i* P	**Pn**	**07 36 00.7**	**+0.4**
SPA0				*i* S	**Sn**	**07 36 18.6**	**+0.7**
SPA0	**Spitsbergen Ar**	**1.36**	**340**	Pn	**Pn**	**07 36 00.7**	**+0.4**
	baz=154,slow=18						
SPA0				*e*Pg	**Pb**	**07 36 00.8**	**-0.1**
SPA0				Sg	**Sn**	**07 36 18.7**	**+0.7**
	baz=156,slow=37						
SPA0				*e*Sg	**Sb**	**07 36 19.1**	**+1.0**
SPA0				IAML		07 36 21.8	
	comp=Z,64nm,0.4s						
BRBA	**Barentsburg A**	**1.50**	**322**	Pn	**Pn**	**07 36 02.7**	**+0.6**
BRBA				Pg	**Pb**	**07 36 03.9**	**+0.6**
BRBA				Lg	Lg	07 36 22.5	
BRBA	**Barentsburg A**	**1.50**	**322**	Pn	**Pn**	**07 36 02.7**	**+0.6**
BRBA				Pg	**Pb**	**07 36 03.9**	**+0.6**
BRBA				Sg	**Sn**	**07 36 22.5**	**+1.2**
HOPEN	**Hopen**	**1.53**	**102**	Pn	**Pb**	**07 36 04.9**	**+1.1**
HOPEN				Pg	**Pb**	**07 36 08.4**	**+3.1**
HOPEN				Sn	**Sb**	**07 36 24.5**	**+1.6**
HOPEN				Lg	Lg	07 36 27.1	
HOPEN	**Hopen**	**1.53**	**102**	*e*P	**Pb**	**07 36 04.7**	**+0.8**
HOPEN				*e*S	**Sb**	**07 36 24.9**	**+2.0**
HOPEN				IAML		07 36 29.3	
	comp=Z,218nm,0.3s						
BJO	**Bjornoya**	**2.43**	**177**	*e*Pg	**Pb**	**07 36 21.3**	**+2.1**
BJO				*e*Sg	**Sb**	**07 36 50.3**	**+1.4**
BJO				IAML		07 36 59.2	
	comp=Z,30nm,0.6s						
BJO1	**Bjornoya**	**2.43**	**178**	Pg	**Pg**	**07 36 23.1**	**+0.5**
BJO1				Lg	Lg	07 36 55.6	
KBS	**Kingsbay**	**2.46**	**328**	Pn	**Pn**	**07 36 15.3**	**0.0**
KBS				Pg	**Pb**	**07 36 21.0**	**+1.3**
KBS				Lg	Lg	07 36 50.8	
KBS	**Kingsbay**	**2.46**	**328**	*e*P	**Pn**	**07 36 15.1**	**-0.2**
KBS				*e*S	**Sb**	**07 36 49.9**	**+0.2**
KBS	**Kingsbay**	**2.46**	**328**	*e*P	**Pn**	**07 36 15.3**	**0.0**
KBS				*e*Pg	**Pb**	**07 36 20.9**	**+1.2**
KBS				*e*Sg	**Sb**	**07 36 51.0**	**+1.3**
KBS				IAML		07 36 54.4	
	comp=Z,67nm,0.2s						
ZFI2	**Zemlya Franca-**	**6.75**	**42**	*e*P	**Pn**	**07 37 11.6**	**-2.5**
ZFI2				*e*S	**Sn**	**07 38 25.2**	**-5.3**
	comp=Z,2.2nm,1.7s						
KEV	**Kevo**	**7.58**	**157**	Pn	**Pn**	**07 37 26.6**	**+1.0**
KEV				Sn	**Sn**	**07 38 47.4**	**-3.5**
KEV	**Kevo**	**7.58**	**157**	Pn	**Pn**	**07 37 26.6**	**+1.0**
KEV				Sn	**Sn**	**07 38 47.4**	**-3.5**
ARA0	**ARCESS Array S**	**7.67**	**162**	Pn	**Pn**	**07 37 28.1**	**+1.2**
	baz=347,slow=12						
ARA0				Sn	**Sn**	**07 38 48.8**	**-4.6**
	baz=358,slow=22						
ARA0	**ARCESS Array S**	**7.67**	**162**	Pn	**Pn**	**07 37 28.1**	**+1.2**
	baz=347,slow=12						
ARA0				Sn	**Sn**	**07 38 48.8**	**-4.6**
	baz=358,slow=22						

SJA ***21*** *07:41:32.8±0.4, 19°.46S×69°.47W, h94km±3km, ML2.3, MW4.2*
ISCJB ***21*** *07:41:33.4±1.0, 19°.45S±0°.04×69°.51W±0°.08, h97km±7km, Error ellipse: s-maj=12.7km s-min=6.6km az=166.8*
GUC ***21*** *07:41:34.3±0.4, 19°.49S×69°.46W, h91km±2km, ML3.7*

ISC 21 07:41:34.6±1.7,**19°.47S**±0°.05×**69°.51W**±0°.07,**h87**km±10km, **n19,** σ0$49/31,**4C-3D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.33**	**206**	*i* P	**Pn**	**07 41 47.6**	**-0.5**
PB11	**IPOC Station P**	**0.33**	**206**	↑*i* P	**Pn**	**07 41 47.6**	**-0.5**
PB11				*e*S	**Sn**	**07 41 57.9**	**-0.1**
PB11				IAML		07 41 58.7	
	comp=N,5μm,0.2s						
MNMC	**Minye Minye**	**0.34**	**346**	↓*i* P	**Pn**	**07 41 48.3**	**-0.1**
MNMC				*e*S	**Sn**	**07 41 59.0**	**+0.6**
MNMC				IAML		07 42 00.9	
	comp=E,6μm,0.1s						
MNMCX	**Minye Minye**	**0.34**	**346**	*i* P	**Pn**	**07 41 48.1**	**-0.2**
MNMCX				*i* S	**Sn**	**07 41 59.1**	**+0.7**
PSGC	**Pisagua**	**0.60**	**257**	↑*i* P	**Pn**	**07 41 49.6**	**-0.4**
PSGC				*e*S	**Sn**	**07 42 01.6**	**+0.1**
PSGCX	**Pisagua**	**0.60**	**257**	*i* P	**Pn**	**07 41 49.6**	**-0.4**
PSGCX				*i* S	**Sn**	**07 42 02.8**	**+1.3**
PB08	**IPOC Station P**	**0.75**	**154**	*i* P	**Pn**	**07 41 51.2**	**-0.6**
PB08				*i* S	**Sn**	**07 42 05.0**	**+0.5**
PB08	**IPOC Station P**	**0.75**	**154**	↑*i* P	**Pn**	**07 41 51.3**	**-0.5**
PB08				*e*S	**Sn**	**07 42 04.5**	**-0.1**
PB12	**IPOC Station P**	**1.15**	**317**	↓*e*P	**Pn**	**07 41 55.4**	**-0.6**
PB12				*e*S	**Sn**	**07 42 11.9**	**-0.1**
PB01	**IPOC Station P**	**1.57**	**179**	↑*e*P	**Pn**	**07 42 00.8**	**-0.5**
PB01				*e*S	**Sn**	**07 42 21.6**	**+0.2**
PB01				IAML		07 42 25.3	
	comp=N,1μm,0.5s						
PB02	**IPOC Station P**	**1.88**	**191**	*i* P	**Pn**	**07 42 05.1**	**-0.2**
PB02	**IPOC Station P**	**1.88**	**191**	*e*P	**Pn**	**07 42 05.0**	**-0.4**
PB02				*e*S	**Sn**	**07 42 28.8**	**+0.2**
PB02				IAML		07 42 36.6	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**2.28**	**189**	*i* P	**Pn**	**07 42 10.6**	**0.0**
PB07	**IPOC Station P**	**2.28**	**189**	*e*P	**Pn**	**07 42 10.4**	**-0.2**
PB07				*e*S	**Sn**	**07 42 38.1**	**0.0**
PB07				IAML		07 42 44.6	
	comp=E,658nm,0.4s						
PB09	**IPOC Station P**	**2.33**	**174**	*e*P	**Pn**	**07 42 11.1**	**-0.2**
PB09				IAML		07 42 47.7	
	comp=E,180nm,0.3s						
PB03	**IPOC Station P**	**2.58**	**185**	*e*P	**Pn**	**07 42 13.7**	**-0.9**
PB03				IAML		07 42 55.9	
	comp=E,292nm,0.3s						
PB04	**IPOC Station P**	**2.92**	**192**	*e*P	**Pn**	**07 42 19.5**	**+0.4**
PB04				IAML		07 43 06.7	
	comp=N,381nm,0.3s						
PB06	**IPOC Station P**	**3.23**	**181**	*e*P	**Pn**	**07 42 23.4**	**+0.1**
PB06				*e*S	**Sn**	**07 43 01.2**	**+0.4**
PB06				IAML		07 43 09.4	
	comp=N,149nm,0.4s						
HJA	**Humahuaca**	**5.33**	**135**	↓*i* P	**Pn**	**07 42 52.2**	**+0.1**
HJA				IAML		07 43 29.8	
	comp=Z,1.6nm,0.5s						

KRSC 21 07:57:10.8±10.0,**59°.45N×164°.37E,h74**km±10km,**ML3.7, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OSSR	**Ossora**	**0.70**	**254**	*e*P	Pn	07 57 26.7	+0.7
OSSR				*e*S	Sn	07 57 38.8	+1.6
TILK	**Tilichiki**	**1.34**	**41**	*e*P	Pn	07 57 35.1	+1.4
TILK				*e*S	Sn	07 57 53.3	+2.3
PALN	**Palana**	**2.29**	**263**	*e*P	Pn	07 57 48.3	+1.9
PALN				S	Sn	07 58 16.2	+2.6

IDC 21 08:08:42.2±1.6,**12°.20S×74°.48W,h0**km,**mb3.4**/3, **mb1 3.7**/5,**mb1mx3.5**/43,**mbtmp3.5**/5,**ML3.5/2**,**MS3.0**/1, **Ms1 3.0**/1,**ms1mx2.6**/18,**Error ellipse: s-maj=61.4km s-min=26.0km az=20.0,Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.32**	**275**	Pn	Pn	08 09 22.0	+0.3
	4.7nm,0.3s,baz=124,slow=12,SNR=10						
NNA				Sn	Sg	08 09 56.2	-0.6
	8.0nm,0.3s,baz=148,slow=12,SNR=7.1						
LPAZ	**La Paz**	**7.38**	**124**	Pn	Pn	08 10 31.1	-0.8
	1.0nm,0.3s,baz=290,slow=9.3,SNR=35						
SIV	**San Ignacio**	**13.54**	**108**	LR	LR	08 17 58.3	
	comp=Z,62nm,18.2s,baz=232,slow=41						
TXAR	**Lajitas Array**	**49.98**	**326**	P	P	08 17 38.5	0.0
	0.2nm,0.6s,baz=139,slow=8.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**79.62**	**74**	P	P	08 20 52.7	+0.7
	0.7nm,0.8s,baz=280,slow=5.4,SNR=4.1						
YKA	**Yellowknife Ar**	**80.72**	**342**	P	P	08 20 56.2	-0.7
	0.1nm,0.6s,baz=145,slow=5.9,SNR=2.9						

IDC ***21*** *08:15:24.5±2.1, 13°.13N×87°.74W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/45, mbtmp3.6/5, ML2.8/3, Error ellipse: s-maj=64.9km s-min=24.9km az=39.0*
ISCJB ***21*** *08:15:26.8±0.8, 13°.0N±0°.2×87°.8W±0°.2, h33km, mb3.6/3, Error ellipse: s-maj=38.7km s-min=6.9km az=41.9*

ISC 21 08:15:28.6±1.1,**13°.0N**±0°.2×**87°.8W**±0°.2,**h35**km,**n6,** σ0$82/8, **mb3.5/3,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**3.27**	**309**	Pn	**Pn**	**08 16 18.1**	**+0.5**
	0.2nm,0.3s,baz=122,slow=15,SNR=3.3						
APG				Sn	**Sn**	**08 16 56.4**	**+1.0**
	0.9nm,0.3s,baz=41,slow=15,SNR=5.3						
JTS	**JuntasAbangare**	**3.87**	**133**	Pn	**Pn**	**08 16 26.2**	**+0.6**
	1.3nm,0.3s,baz=10,slow=18,SNR=12						
JTS				Sn	**Sn**	**08 17 10.5**	**+0.5**
	0.8nm,0.3s,baz=299,slow=19,SNR=1.9						
CMIG	**Matias Romero**	**7.96**	**302**	Pn	**Pn**	**08 17 21.2**	**-0.7**
	0.2nm,0.3s,baz=106,slow=7.4,SNR=2.2						
TXAR	**Lajitas Array**	**21.95**	**320**	P	**P**	**08 20 19.0**	**-0.5**
	1.3nm,0.7s,baz=145,slow=12,SNR=22						
ULM	**Lac du Bonnet**	**37.77**	**352**	P	**P**	**08 22 41.7**	**+0.4**
	1.0nm,0.5s,baz=164,slow=5.0,SNR=4.2						
YKA	**Yellowknife Ar**	**53.03**	**345**	P	**P**	**08 24 41.1**	**-0.8**
	0.6nm,1.0s,baz=143,slow=7.3,SNR=7.9						

NIED ***21*** *08:18:00, 37°.20N×141°.40E, h47km, Mw4.0 Best double couple: M0 1.28000×10^15 NP1:φs165.00000°, δ21.00000°, λ46.00000°. NP2:φs31.00000°, δ75.00000°, λ105.00000°.*
ISCJB ***21*** *08:18:51.3±0.7, 37°.13N±0°.03×141°.46E±0°.07, h46km±5km, mb3.9/23, Error ellipse: s-maj=9.7km s-min=5.0km az=12.1*
JMA ***21*** *08:18:52.8±0.1, 37°.16N×141°.35E, h49km±1km, M3.9*
JMA Felt II J1.
IDC ***21*** *08:18:53.7±0.4, 37°.11N×141°.31E, h50km±3km, mb3.7/23, mb1 3.9/27, mb1mx3.8/57, mbtmp4.0/27, MS3.0/2, Ms1 3.0/2, ms1mx2.5/44, Error ellipse: s-maj=12.6km s-min=8.9km az=111.0*

ISC 21 08:18:53.1±0.5,**37°.12N**±0°.04×**141°.47E**±0°.06,**h49**km±4km, **n49,** σ1$81/67,**mb4.0/23,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.54**	**298**	P	**Pn**	**08 19 03.0**	**-1.8**
JFK				S	**Sn**	**08 19 10.1**	**-3.1**
ONAJ	**Iwakimizuishiy**	**0.54**	**269**	P	**Pn**	**08 19 03.3**	**-1.5**
ONAJ				S	**Sn**	**08 19 10.5**	**-2.7**
JFFD	**Fukushimafurud**	**0.73**	**268**	P	**Pn**	**08 19 05.7**	**-1.5**
JFFD				S	**Sn**	**08 19 14.6**	**-2.8**
JHO	**Hitachi**	**0.88**	**235**	P	**Pn**	**08 19 07.8**	**-1.4**
JHO				S	**Sn**	**08 19 18.5**	**-2.5**
JMM	**Marumori**	**0.92**	**324**	P	**Pn**	**08 19 08.2**	**-1.6**
JMM				S	**Sn**	**08 19 19.1**	**-2.9**
JFT	**Otama**	**0.99**	**294**	P	**Pn**	**08 19 09.8**	**-0.9**
JFT				S	**Sn**	**08 19 21.5**	**-2.1**
JIO	**Ouri**	**1.34**	**356**	P	**Pn**	**08 19 14.3**	**-1.1**
JIO				*e*S	**Sn**	**08 19 29.3**	**-2.8**
JOU	**Okura**	**1.40**	**333**	P	**Pn**	**08 19 15.1**	**-1.2**
JFY	**Yanaizu**	**1.44**	**282**	P	**Pn**	**08 19 16.0**	**-0.8**
JYS	**Shirataka**	**1.57**	**315**	P	**Pn**	**08 19 17.9**	**-0.7**
JYS				*e*S	**Sn**	**08 19 36.4**	**-1.3**
MJAR	**Matsushiro Arr**	**2.68**	**259**	P	**Pn**	**08 19 33.8**	**+0.1**
	3.6nm,0.3s,baz=82,slow=14,SNR=76						
MJAR				S	**Sn**	**08 20 08.2**	**+3.2**
	2.7nm,0.3s,baz=61,slow=13,SNR=6.6						
MAT	**Matsushiro**	**2.68**	**259**	P	**Pn**	**08 19 34.2**	**+0.4**
MAT				S	**Sn**	**08 20 08.8**	**+3.7**
JHJ	**Hachijo jima 2**	**4.22**	**

0.5nm,0.8s,baz=303,slow=6.7,SNR=8.5
GEYT Alibeck 63.84 299 P **P** **08 29 19.6 -1.0**
2.3nm,0.7s,baz=66,slow=3.6,SNR=4.1
FINES FINESS Array B 68.76 332 P **P** **08 29 50.6 -1.0**
3.0nm,0.9s,baz=352,slow=2.9,SNR=5.1
HFS Hagfors 74.03 336 P **P** **08 30 23.9 +0.5**
1.6nm,0.8s,baz=53,slow=7.4,SNR=3.8
NOA NORSAR Array B 74.13 337 P **P** **08 30 24.4 +0.4**
0.7nm,0.6s,baz=43,slow=5.4,SNR=2.5
AKASG Malin Array Be 74.26 322 P **P** **08 30 24.1 -0.8**
1.3nm,0.4s,baz=48,slow=6.1,SNR=8.4
AKASG pP **PcP** **08 30 39.4 -0.2**
0.7nm,0.5s,baz=46,slow=6.4,SNR=2.5
NVAR Mina Array Bea 74.90 53 P **P** **08 30 31.3 +2.2**
0.4nm,0.6s,baz=293,slow=4.7,SNR=3.6
NVAR pP **pP** **08 30 45.1 +2.1**
0.9nm,0.7s,baz=291,slow=5.4,SNR=4.3
PDAR Pinedale Array 77.58 45 P **P** **08 30 45.3 +1.1**
0.3nm,0.6s,baz=297,slow=2.9,SNR=2.6
PDAR pP **pP** **08 30 59.8 +1.5**
0.4nm,0.6s,baz=318,slow=2.0,SNR=3.9
BRTR Keskin Array B 78.83 312 P **P** **08 30 49.8 -1.3**
0.3nm,0.3s,baz=27,slow=4.5,SNR=2.5
GERES GERESS Array B 82.67 328 P **P** **08 31 11.5 +0.1**
0.4nm,0.5s,baz=31,slow=5.9,SNR=2.9
TXAR Lajitas Array 90.03 52 P **P** **08 31 49.0 +1.1**
0.2nm,0.7s,baz=296,slow=2.1,SNR=4.3
TXAR pP **pP** **08 32 03.2 +1.0**
0.5nm,0.7s,baz=293,slow=3.3,SNR=6.0
LPAZ La Paz 146.61 60 PKPbc **PKPab** **08 38 31.3 -0.3**
1.1nm,0.5s,baz=336,slow=3.1,SNR=9.3
LPAZ pPKPbc pPKPab 08 38 45.6 -0.4
1.3nm,0.5s,baz=338,slow=2.5,SNR=4.6

IDC 21 08:19:48.2±4.2, 27.54S×141.17E, h0km, mb1 3.3/3, mb1mx3.2/32, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=67.1km s-min=19.3km az=64.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.34**	**175**	Pn	Pn	08 20 56.7	+1.2
	0.1nm,0.3s,baz=356,slow=13,SNR=1.9						
STKA				Sn	Sn	08 21 41.8	-5.1
	1.0nm,0.3s,baz=320,slow=23,SNR=5.5						
STKA				Lg	Lg	08 22 04.1	
	1.6nm,0.3s,baz=67,slow=21,SNR=6.7						
ASAR	**Alice Springs**	**7.61**	**299**	Pn	Pn	08 21 40.6	+0.1
	0.2nm,0.3s,baz=118,slow=14,SNR=14						
ASAR				Sn	Sn	08 23 00.7	-6.8
	0.3nm,0.3s,baz=122,slow=23,SNR=7.1						
ASAR				Lg	Lg	08 23 48.5	
	0.1nm,0.3s,baz=119,slow=27,SNR=3.7						
WRA	**Warramunga Arr**	**9.81**	**319**	Pn	Pn	08 22 10.9	+0.2
	0.3nm,0.3s,baz=140,slow=13,SNR=8.8						
WRA				Sn	Sn	08 23 56.6	-5.0
	0.2nm,0.3s,baz=141,slow=23,SNR=4.8						
WRA				Lg	Lg	08 25 03.1	
	0.1nm,0.3s,baz=151,slow=30,SNR=2.5						

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*IDC **21** 08:22:46.0±2.2, 13.14N×87.73W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/32, mbtmp3.5/4, ML2.8/2, Error ellipse: s-maj=75.2km s-min=25.6km az=42.0*

ISC 21 08:22:48.0±1.4, 12.5N±0.3×88.2W±0.3, h35km, n6, σ1s75/8, mb3.4/3, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APG	**El Apazote**	**3.31**	**319**	Pn	**Pn**	**08 23 38.9**	**+1.3**
	0.4nm,0.3s,baz=168,slow=14,SNR=4.3						
APG				Sn	**Sn**	**08 24 17.5**	**+1.7**
	0.8nm,0.3s,baz=44,slow=15,SNR=4.5						
JTS	**JuntasAbangare**	**3.89**	**124**	Pn	**Pn**	**08 23 47.6**	**+2.3**
	1.7nm,0.3s,baz=23,slow=18,SNR=14						
JTS				Sn	**Sn**	**08 24 29.5**	**-0.3**
	1.0nm,0.3s,baz=342,slow=20,SNR=3.0						
CMIG	**Matias Romero**	**7.89**	**306**	Pn	**Pn**	**08 24 39.1**	**-1.3**
	0.1nm,0.3s,baz=135,slow=11,SNR=6.3						
TXAR	**Lajitas Array**	**22.07**	**322**	P	**P**	**08 27 41.0**	**+0.9**
	1.0nm,0.7s,baz=146,slow=11,SNR=17						
ULM	**Lac du Bonnet**	**38.17**	**352**	P	**P**	**08 30 02.6**	**-1.4**
	1.3nm,0.6s,baz=173,slow=13,SNR=3.3						
YKA	**Yellowknife Ar**	**53.38**	**345**	P	**P**	**08 32 02.8**	**-0.9**
	0.3nm,0.8s,baz=141,slow=7.4,SNR=6.4						

IDC 21 08:24:35.7±3.4, 34.82S×179.41E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/31, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=67.5km s-min=47.9km az=91.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**3.90**	**208**	Pn	Pn	08 25 36.0	-0.9
	3.0nm,0.3s,baz=271,slow=1.3,SNR=12						
URZ				Sn	Sn	08 26 22.2	-1.1
	4.2nm,0.3s,baz=115,slow=20,SNR=5.7						
ASAR	**Alice Springs**	**40.92**	**273**	P	P	08 32 20.4	+0.3
	1.1nm,0.5s,baz=114,slow=7.4,SNR=18						
WRA	**Warramunga Arr**	**42.32**	**278**	P	P	08 32 31.5	0.0
	0.6nm,0.5s,baz=117,slow=7.5,SNR=19						
FITZ	**Fitzroy Crossi**	**50.35**	**275**	P	P	08 33 33.4	-1.2
	0.7nm,0.7s,baz=130,slow=6.4,SNR=1.6						
MKAR	**Makanchi Array**	**118.88**	**309**	PKP	PKiKP	08 43 26.0	+0.2
	0.3nm,0.7s,baz=109,slow=3.3,SNR=3.9						

IDC 21 08:30:59.6±2.0, 6.22S×154.47E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/29, mbtmp3.6/3, ML1.9/1, Error ellipse: s-maj=106.7km s-min=36.1km az=145.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.90**	**246**	Pn	Pn	08 32 55.8	-0.1
	0.9nm,0.3s,baz=274,slow=6.6,SNR=2.0						
PMG				Sn	Sn	08 34 29.3	+3.2
	0.9nm,0.3s,baz=86,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**23.84**	**233**	P	P	08 36 14.9	+0.2
	1.1nm,0.8s,baz=57,slow=9.5,SNR=11						
WRA				PcP	PcP	08 39 58.2	0.0
	0.3nm,0.9s,baz=56,slow=2.6,SNR=6.3						
ASAR	**Alice Springs**	**26.31**	**227**	P	P	08 36 36.2	-1.0
	0.6nm,0.8s,baz=59,slow=8.4,SNR=4.3						
TORD	**Torodi Ar. Bea**	**152.31**	**286**	PKPbc	PKPbc	08 50 58.7	+0.1
	1.0nm,1.0s,baz=68,slow=1.8,SNR=2.7						

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*IDC **21** 08:31:52.4±0.5, 23.13N×63.97E, h0km, mb4.2/34, mb1 4.3/36, mb1mx4.3/49, mbtmp4.2/36, ML3.8/2, MS3.5/17, Ms1 3.5/17, ms1mx3.3/56, Error ellipse: s-maj=14.2km s-min=10.7km az=21.0*

*ISCJB **21** 08:31:52.4±0.2, 23.21N±0.03×63.96E±0.02, h10km, mb4.4/83, MS3.6/20, Error ellipse: s-maj=4.4km s-min=2.7km az=172.3*

*MOS **21** 08:31:53.2±1.1, 23.20N×63.98E, h15km, mb4.6/33, Error ellipse: s-maj=9.5km s-min=5.7km az=102.8*

*NEIC **21** 08:31:54.6±0.4, 23.29N×63.98E, h10km, mb4.5/26, Error ellipse: s-maj=8.4km s-min=6.4km az=161.0*

*BJI **21** 08:31:56.5, 23.47N×63.81E, h5km, mb4.5/23, mB4.8/15, Ms4.3/10, MS7 4.2/5*

*OMAN **21** 08:32:02.9±0.8, 23.19N×63.39E, h13km, mb5.8/1, ml4.8/4, ms3.2/6, Error ellipse: s-maj=10.2km s-min=7.0km az=16.0*

*DSN **21** 08:32:06.6±1.5, 24.31N×63.24E, h15km, mb4.5/1, ML4.2/9, Ms3.2/6, Error ellipse: s-maj=32.5km s-min=8.1km az=165.0*

ISC 21 08:31:54.5±0.3, 23.28N±0.04×63.88E±0.04, h10km, n233, σ1s78/232, mb4.4/83, MS3.5/20, 12C-7D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JLN	**Jalan Bani Buh**	**4.28**	**256**	P	**Pn**	**08 32 59.5**	**-0.2**
	SNR=38						
JLN				S	**Sn**	**08 33 46.6**	**-3.1**
	SNR=9.8						
JLN				S	**Sn**	**08 33 47.0**	**-2.7**
	SNR=16						
WBK	**Wadi Bani Khal**	**4.58**	**263**	P	**Pn**	**08 33 04.6**	**+0.8**
	SNR=61						
WBK				S	**Sn**	**08 33 55.6**	**-1.5**
WSAR	**Wadi Sarin**	**4.83**	**271**	P	**Pn**	**08 33 07.0**	**-0.3**
	SNR=295						
WSAR				S	**Sn**	**08 33 58.4**	**-4.9**
WSAR	**Wadi Sarin**	**4.83**	**271**	Pn	**Pn**	**08 33 07.0**	**-0.3**
	18nm,0.3s,baz=122,slow=8.9,SNR=344						
WSAR				Sn	**Sn**	**08 33 58.2**	**-5.0**
	36nm,0.3s,baz=323,slow=11,SNR=11						
BIDO	**Bidbid**	**5.29**	**274**	P	**Pn**	**08 33 14.4**	**+0.8**
	SNR=21						
BIDO				S	**Sn**	**08 34 12.0**	**-2.7**
	SNR=16						
BHJ	**Bhuj**	**5.31**	**89**	*e*P	**Pn**	**08 33 11.9**	**-1.9**
BHJ				*e*S	Sn	08 34 06.3	-8.8
BHJ				IAML		08 34 10.8	
	comp=E,411nm,0.3s						
BHJ				IAML		08 34 12.2	
	comp=N,3μm,1.0s						
SMDO	**Samad**	**5.37**	**269**	P	**Pn**	**08 33 15.7**	**+0.9**
	SNR=23						
JMDO	**Jabal Madar**	**5.41**	**261**	P	**Pn**	**08 33 16.9**	**+1.7**
	SNR=78						
JMDO				S	**Sn**	**08 34 15.7**	**-1.8**
MHTO	**MHTO**	**5.94**	**249**	P	**Pn**	**08 33 23.4**	**+0.9**
	SNR=18						
MHTO				S	**Sn**	**08 34 28.9**	**-1.7**
HOQ	**Hoqain**	**6.04**	**274**	P	**Pn**	**08 33 24.8**	**+0.8**
	SNR=31						
ARQ	**Araqi**	**6.76**	**272**	P	**Pn**	**08 33 37.5**	**+3.6**
DQM	**DQM**	**6.78**	**242**	P	**Pn**	**08 33 34.2**	**+0.1**
	SNR=7.4						
SOHO	**SOHO**	**6.79**	**279**	P	**Pn**	**08 33 34.2**	**0.0**
	SNR=16						
MDH	**Madha**	**7.20**	**288**	*i* P	**Pn**	**08 33 38.6**	**-1.2**
	SNR=20						
MDH	**Madha**	**7.20**	**288**	P	**Pn**	**08 33 39.1**	**-0.7**
	SNR=20						
HATD	**Hatta, Dubai**	**7.25**	**284**	*i* P	**Pn**	**08 33 40.3**	**-0.2**
	SNR=46						
HATD				S	**Sn**	**08 34 56.3**	**-6.6**
HATD	**Hatta, Dubai**	**7.25**	**284**	P	**Pn**	**08 33 40.5**	**0.0**
	SNR=46						
ASHO	**Ashiyiah**	**7.29**	**283**	*i* P	**Pn**	**08 33 42.5**	**+1.4**
	SNR=131						
ASHO	**Ashiyiah**	**7.29**	**283**	P	**Pn**	**08 33 43.8**	**+2.7**
	SNR=131						
MSFE	**Esma-Masafi**	**7.34**	**288**	*i* P	**Pn**	**08 33 40.5**	**-1.3**
	SNR=70						
ALNE	**Al Ain**	**7.49**	**278**	*i* P	**Pn**	**08 33 45.9**	**+2.0**
	SNR=12						
SHME	**Shamm**	**7.56**	**293**	*i* P	**Pn**	**08 33 44.3**	**-0.6**
	SNR=37						
NAZ	**Nazwa, Dubai**	**7.70**	**284**	*i* P	**Pn**	**08 33 47.8**	**+1.1**
	SNR=21						
NAZ	**Nazwa, Dubai**	**7.70**	**284**	P	**Pn**	**08 33 49.4**	**+2.7**
	SNR=11						
NAZ				S	**Sn**	**08 35 12.0**	**-1.9**
FAQ	**Al Faqa, Dubai**	**7.72**	**283**	*i* P	**Pn**	**08 33 49.2**	**+2.3**
	SNR=40						
FAQ	**Al Faqa, Dubai**	**7.72**	**283**	P	**Pn**	**08 33 49.9**	**+2.9**
	SNR=40						
FAQ				S	**Sn**	**08 35 11.7**	**-2.8**
UMQ	**Umm Al-Quwin**	**7.82**	**288**	P	**Pn**	**08 33 52.0**	**+3.7**
ASUD	**Al Ashush, Dub**	**7.94**	**281**	*i* P	**Pn**	**08 33 52.7**	**+2.8**
	SNR=11						
ASUD	**Al Ashush, Dub**	**7.94**	**281**	P	**Pn**	**08 33 53.2**	**+3.2**
	SNR=11						
ASUD				S	**Sn**	**08 35 18.4**	**-1.4**
	SNR=6.2						
DMTO	**DMTO**	**10.04**	**238**	P	**Pn**	**08 34 21.0**	**+2.2**
	SNR=21						
RBK	**Rakkut**	**10.74**	**239**	P	**Pn**	**08 34 31.2**	**+2.7**
	SNR=8.8						
WHFO	**Wadi Hawf**	**10.87**	**242**	P	**Pn**	**08 34 31.8**	**+1.7**
	SNR=7.3						
ABTO	**Aybut**	**11.55**	**241**	P	**Pn**	**08 34 40.8**	**+1.3**
	SNR=6.0						
ABTO				S	**Sn**	**08 36 46.3**	**-2.3**
KBL	**Kabul**	**12.09**	**21**	*e*Pn	**Pn**	**08 34 43.9**	**-3.2**
KBL				*e*Sn	**Sn**	**08 37 03.9**	**+1.8**
KBL	**Kabul**	**12.09**	**21**	P	**Pn**	**08 34 46.9**	**-0.2**
GOA	**Goa**	**12.16**	**128**	*e*P	**Pn**	**08 34 45.7**	**-2.2**
BHPL	**Bhopal**	**12.45**	**88**	*e*P	**Pn**	**08 34 50.1**	**-1.8**
BHPL				*e*S	Sn	08 36 56.0	-15
BHPL				IAML		08 37 26.0	
	comp=E,32nm,0.1s						
BHPL				IAML		08 37 26.1	
	comp=N,37nm,0.1s						
CEP	**Cherat**	**12.65**	**32**	P	**Pn**	**08 34 53.4**	**-1.2**
NDI	**New Delhi**	**13.14**	**63**	*e*P	**Pn**	**08 34 59.0**	**-2.2**
NIL	**Nilore**	**13.21**	**36**	*e*Pn	**Pn**	**08 34 59.1**	**-3.0**
NIL	**Nilore**	**13.21**	**36**	*e*P	**Pn**	**08 34 59.1**	**-3.0**
DHRM	**DHARAMSHALA**	**14.16**	**48**	*e*P	**Pn**	**08 35 13.5**	**-1.8**
DHRM				*ex*	x	08 37 45.4	
SMLA	**Simla**	**14.16**	**54**	*e*P	**Pn**	**08 35 13.2**	**-2.0**
SMLA				*ex*	x	08 37 42.1	
NGP	**Nagpur**	**14.21**	**96**	*i* P	**Pn**	**08 35 15.1**	**-0.8**
NGP				*ex*	x	08 36 12.9	
HYB	**Hyderabad**	**14.94**	**110**	*i* P	Pn	08 35 21.0	-4.9
HYB				*e*S	**Sn**	**08 38 09.0**	**-2.6**
HYB	**Hyderabad**	**14.94**	**110**	*ex*	Pn	08 35 20.9	-5.0
GEYT	**Alibeck**	**15.41**	**343**	Pn	**Pn**	**08 35 32.5**	**+0.5**
	comp=N,0.1nm,0.3s,baz=169,slow=10,SNR=2.4						
GEYT				LR	LR	08 43 01.5	
	comp=N,202nm,18.2s,baz=155,slow=43						
GYA0B	**ALIBECK ARRAY**	**15.41**	**343**	*e*Pn	**Pn**	**08 35 30.2**	**-1.9**
	comp=N,6.8nm,0.8s						
CHGR	**Chuyangaron**	**15.97**	**15**	*e*Pn	**Pn**	**08 35 39.4**	**-0.1**
	comp=N,11nm,0.9s						
GAR	**Garm**	**16.60**	**18**	*e*Pn	**Pn**	**08 35 47.9**	**+0.4**
	comp=N,5.4nm,0.7s						
GAR	**Garm**	**16.60**	**18**	*e*P	**Pn**	**08 35 47.9**	**+0.4**
GAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KOLN	**Koldanda**	**18.34**	**72**	*e*P	**Pn**	**08 36 08.4**	**-0.9**
	comp=Z,26nm,0.7s						
TAS	**Tashkent**	**18.56**	**13**	P	**Pn**	**08 36 13.2**	**+1.6**
DANN	**Dangsing**	**18.59**	**70**	*e*P	**Pn**	**08 36 13.2**	**+0.8**
	comp=Z,49nm,0.8s						
KSH	**Kashi**	**19.16**	**30**	P	**P**	**08 36 15.6**	**-2.6**
KSH				pP	Pn	08 36 18.8	-0.3
KSH				sP	pwP	08 36 22.8	-0.2
KSH				S	Sn	08 39 39.4	-15
KSH				sS	S	08 39 45.0	-11
KSH				SS	**SnSn**	**08 40 02.3**	**-5.9**
KSH				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KSH				pmax	pmax		
	comp=Z,55nm,5.1s						
KSH				LR	LR		
	comp=Z,120nm,9.0s						
KSH				LR	LR		
	comp=Z,100nm,8.4s						
TRD	**Trivandrum**	**19.31**	**137**	*e*P	**P**	**08 36 18.8**	**-1.1**
DMN	**Daman**	**19.64**	**73**	*e*P	**P**	**08 36 23.4**	**-0.3**
	comp=Z,40nm,0.8s						
KKN	**Kakani**	**19.82**	**72**	*e*P	**P**	**08 36 25.3**	**-0.3**
	comp=Z,27nm,0.6s						
PKIN	**Phulchoki**	**19.89**	**73**	*e*P	**P**	**08 36 25.8**	**-0.6**
	comp=Z,20nm,0.7s						
PKI	**Pulchoki**	**19.90**	**73**	*e*P	**P**	**08 36 26.0**	**-0.6**
	comp=Z,20nm,0.5s						
DAMY	**Dhamar**	**20.35**	**248**	*e*P	**P**	**08 36 32.0**	**+0.5**
	comp=Z,59nm,1.1s						
GUN	**Gumba**	**20.36**	**72**	*e*P	**P**	**08 36 31.7**	**+0.1**
	comp=Z,74nm,0.6s						
KK31	**Karatay Array**	**20.52**	**14**	*e*P	**P**	**08 36 32.6**	**-0.2**
	comp=Z,11nm,0.9s						
KK31	**Karatay Array**	**20.52**	**14**	*e*P	**P**	**08 36 32.6**	**-0.2**
KK31				pmax	pmax		
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**20.52**	**14**	*e*P	**P**	**08 36 32.9**	**0.0**
	comp=Z,11nm,0.9s						
KKAR	**Karatay Array**	**20.52**	**14**	*e*P	**P**	**08 36 32.9**	**0.0**
KKAR				pmax	pmax		
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**21.22**	**22**	*e*P	**P**	**08 36 41.3**	**+0.7**
	comp=Z,6.3nm,1.0s						
AAK				*e*S	**S**	**08 40 32.1**	**-4.6**
AAK	**Ala-Archa**	**21.22**	**22**	*i* P	**P**	**08 36 45.0**	**+4.4**
	SNR=7.4						
AAK	**Ala-Archa**	**21.22**	**22**	*i* P	**P**	**08 36 44.7**	**+4.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AAK	**Ala-Archa**	**21.22**	**22**	P	**P**	**08 36 41.8**	**+1.1**
	comp=Z,8.1nm,1.1s,baz=215,slow=5.9,SNR=11						
AAK				S	**S**	**08 40 32.1**	**-4.6**
	comp=Z,1.8nm,0.9s,baz=156,slow=20,SNR=2.2						
PALK	**Pallekele**	**22.69**	**132**	P	**P**	**08 36 54.9**	**-1.5**
	comp=Z,7.8nm,1.1s,baz=268,slow=3.2,SNR=2.6						
PALK				LR	LR	08 45 28.3	
	comp=Z,159nm,18.4s,baz=296,slow=36						
GNI	**Garni**	**23.33**	**321**	*i* P	**P**	**08 37 02.5**	**-0.5**
GNI				pmax	pmax		
	comp=Z,7.0nm,0.3s						
GNI	**Garni**	**23.33**	**321**	P	**P**	**08 37 05.6**	**+2.6**
	comp=Z,7.3nm,0.7s,baz=190,slow=7.1,SNR=4.7						
GNI				LR	LR	08 46 41.7	
	comp=Z,24nm,19.6s,baz=101,slow=38						
PDGK	**Podgornoye**	**23.80**	**29**	P	**P**	**08 37 07.6**	**+0.1**
PDGK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TBLG	**Delisi**	**24.38**	**324**	*e*P	**P**	**08 37 13.5**	**+0.6**
	comp=Z,8.1nm,0.6s						
TBLG	**Delisi**	**24.38**	**324**	*e*P	**P**	**08 37 13.5**	**+0.6**
TBLG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GROC	**Groznyy**	**24.87**	**327**	*e*P	**P**	**08 37 16.0**	**-1.3**
GROC				*e*		08 37 47.9	
GROC				*e*S	**S**	**08 41 35.8**	**-4.4**
GROC				pmax	pmax		
	comp=Z,60nm,1.3s						
ASF	**Jabal al Asfar**	**25.42**	**296**	P	**P**	**08 37 25.2**	**+2.7**
	comp=Z,2.9nm,0.7s,baz=63,slow=10,SNR=5.1						
ZEI	**Tsey**	**25.55**	**324**	*e*P	**P**	**08 37 24.1**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	**Shillong**	**25.58**	**79**	*e*P	**P**	**08 37 22.5**	**-1.6**
	comp=Z,9.7nm,0.6s						
SHL	**Shillong**	**25.58**	**79**	*e*P	**P**	**08 37 22.5**	**-1.6**
SHL				pmax	pmax		
	comp=Z,10.0nm,0.6s						
SHL	**Shillong**	**25.58**	**79**	*e*P	**P**	**08 37 23.2**	**-0.9**
OTUK	**Ortayu**	**25.80**	**13**	P	**P**	**08 37 27.3**	**+1.6**
OTUK				pmax	pmax		
	comp=Z,17nm,0.9s						
ABKAR	**Akbulak array**	**26.11**	**354**	*e*P	**P**	**08 37 30.2**	**+1.8**
	comp=Z,5.0nm,0.7s						
NEY	**Neytrino**	**26.50**	**324**	*i* P	**P**	**08 37 33.1**	**+0.8**
NEY				pmax	pmax		
	comp=Z,2.0nm,0.8s						
EIL	**Elat**	**26.62**	**290**	LR	LR	08 50 29.3	
	comp=Z,98nm,18.6s,baz=97,slow=42						
KBZ	**Khabaz**	**26.73**	**325**	P	**P**	**08 37 36.9**	**+2.8**
	comp=Z,7.0nm,0.9s,baz=142,slow=7.9,SNR=19						
MMAI	**Mount Meron Ar**	**26.84**	**297**	P	**P**	**08 37 38.5**	**+3.2**
	comp=Z,0.5nm,0.3s,baz=96,slow=12,SNR=3.5						
MMAI				LR	LR	08 51 13.9	
	comp=Z,99nm,21.0s,baz=80,slow=43						
KVAR	**Kislovodsk Arr**	**27.00**	**325**	P	**P**	**08 37 39.0**	**+2.4**
	comp=Z,1.6nm,0.3s,baz=101,slow=5.2,SNR=3.0						
AKTO	**Aktyubinsk**	**27.49**	**352**	P	**P**	**08 37 41.3**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=119,slow=1.5,SNR=3.6						
MAKZ	**Makanchi**	**27.62**	**27**	*e*P	**P**	**08 37 43.5**	**+1.4**
	comp=Z,5.3nm,0.9s						
MAKZ	**Makanchi**	**27.62**	**27**	P	**P**	**08 37 43.5**	**+1.4**
MAKZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MK01	**Makanchi Array**	**27.73**	**28**	*e*P	**P**	**08 37 42.3**	**-0.8**
MK31	**Makanchi Array**	**27.75**	**28**	*e*P	**P**	**08 37 43.1**	**-0.1**
	comp=Z,1.6nm,0.8s						
MK31	**Makanchi Array**	**27.75**	**28**	*e*P	**P**	**08 37 43.1**	**-0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MK32	**Makanchi Array**	**27.75**	**28**	*e*P	**P**	**08 37 43.0**	**-0.2**
MKAR	**Makanchi Array**	**27.75**	**28**	P	**P**	**08 37 43.0**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=209,slow=8.9,SNR=13						
MKAR				LR	LR	08 51 24.5	
	comp=Z,122nm,19.4s,baz=218,slow=42						
WMQ	**Urumqi**	**28.35**	**38**	*e*P	**P**	**08 37 53.3**	**+4.6**
WMQ				pP	pwP	08 37 57.6	+3.5
WMQ				LR	LR		
	comp=Z,220nm,24.1s						
WMQ				LR	LR		
	comp=Z,350nm,27.1s						
DGPR	**DIGLIPUR**	**29.31**	**105**	*e*P	**P**	**08 37 59.0**	**+1.6**
KURBB	**Kurchatov Arra**	**29.58**	**19**	P	**P**	**08 38 00.2**	**+0.8**
	comp=Z,2.0nm,0.8s,baz=214,slow=8.3,SNR=5.8						
KURK	**Kurchatov**	**29.69**	**19**	*ce*P	**P**	**08 38 03.5**	**+3.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BVAR	**Borovoye Array**	**30.11**	**8**	P	**P**	**08 38 04.1**	**0.0**
	comp=Z,0.8nm,0.7s,baz=187,slow=10,SNR=3.6						
BRVK	**Borovoye**	**30.13**	**8**	*i* P	**P**	**08 38 07.6**	**+3.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
H08N2	**Diego Garcia H**	**30.24**	**166**	T	T	09 09 38.2	
	baz=347,slow=76,SNR=140						
H08N3	**Diego Garcia H**	**30.25**	**166**	T	T	09 09 58.3	
	baz=347,slow=76,SNR=100						
H08N1	**Diego Carcia H**	**30.26**	**166**	T	T	09 09 59.0	
	baz=347,slow=76,SNR=83						
BR101	**Keskin Array S**	**30.36**	**310**	*e*P	**P**	**08 38 06.5**	**-0.3**
BR101				*e*PcP	**PcP**	**08 41 07.1**	**+0.4**
BRTR	**Keskin Array B**	**30.36**	**310**	*ce*P	**P**	**08 38 08.1**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**30.36**	**310**	P	**P**	**08 38 06.5**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=125,slow=11,SNR=9.4						
BRTR				PcP	**PcP**	**08 41 07.1**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=158,slow=5.2,SNR=3.9						
BRTR				LR	LR	08 54 01.8	
	comp=Z,88nm,19.8s,baz=98,slow=44						
DGZ	**Jazzator, Alta**	**32.20**	**29**	*i* P	P	08 38 27.6	+4.8
CHTO	**Chiang Mai**	**32.97**	**91**	*e*P	**P**	**08 38 29.7**	**0.0**
CHTO	**Chiang Mai**	**32.97**	**91**	*e*P	**P**	**08 38 29.7**	**0.0**
CHTO	**Chiang Mai**	**32.97**	**91**	P	P	08 38 40.3	+11
	SNR=7.6						
CHTO	**Chiang Mai**	**32.97**	**91**	P	P	08 38 41.1	+11
	comp=Z,112nm,1.0s						
CMMT	**Chiang Mai**	**32.98**	**91**	P	P	08 38 41.0	+11
	comp=Z,24nm,1.0s						
CM31	**Chiang Mai Arr**	**33.06**	**92**	*e*P	**P**	**08 38 31.0**	**+0.5**
	comp=

comp=Z,2.0nm,0.6s,baz=169,slow=16,SNR=3.5
SKNT Sakolnakorn 38.08 92 P P 08 39 24.8 +11
comp=Z,7.3nm,1.0s
AKASG Malin Array Be 38.34 324 *ceP* **P 08 39 16.0 +0.6**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 38.34 324 P P **08 39 16.0 +0.6**
comp=Z,3.2nm,0.6s,baz=119,slow=7.6,SNR=17
AKASG PcP **PcP 08 41 28.7 -0.4**
comp=Z,0.1nm,0.3s,baz=134,slow=2.1,SNR=4.0
AKBB Malin Array Si 38.34 324 *eP* P **08 39 15.6 +0.1**
comp=Z,6.3nm,0.6s
AKBB Malin Array Si 38.34 324 *eP* **P 08 39 15.6 +0.1**
AKBB pmax pmax
comp=Z,6.0nm,0.6s
KIEV Kiev 38.35 324 *eP* P **08 39 15.3 -0.2**
comp=Z,6.0nm,0.7s
KIEV Kiev 38.35 324 ⇓*iP* P **08 39 16.1 +0.6**
KIEV Kiev 38.35 324 *eP* **P 08 39 15.3 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.7s
AK11 Malin Array Si 38.36 324 *eP* P **08 39 15.2 -0.4**
DOPR Dopca 38.41 316 ⇓*iP* P **08 39 17.5 +1.4**
VOIR 38.42 315 ⇓*iP* P **08 39 17.3 +1.0**
VOIR 38.42 315 P P **08 39 16.9 +0.6**
VOIR pmax pmax
comp=Z,5.0nm,0.9s
PANO Nakornpanom 38.61 91 P P 08 39 29.3 +11
ARR Arges 38.67 314 ⇑*iP* P **08 39 19.5 +1.1**
VTS Vitosha 38.73 310 ⇑*iP* P **08 39 20.7 +1.7**
BURAR Bucovina Array 39.18 318 ⇓*iP* P 08 39 28.7 +6.1
FNA Florina 39.60 306 *eP* **P 08 39 27.3 +1.1**
comp=Z,19nm,0.7s
FNA Florina 39.60 306 *eP* **P 08 39 27.3 +1.1**
FNA pmax pmax
comp=Z,19nm,0.7s
XAN Xi'an 40.67 64 P P 08 39 41.0 +5.9
XAN pP pwP 08 39 48.6 +7.2
XAN pmax pmax
comp=Z,7.0nm,0.9s
BZS Buzias 40.75 314 ⇑*iP* **P 08 39 37.0 +1.4**
BZS Buzias 40.75 314 P P **08 39 37.6 +2.0**
BZS pmax pmax
comp=Z,8.0nm,1.1s
CEI Carei 40.92 317 ⇓*iP* P 08 39 29.3 -7.7
TRPA Tarpa 41.04 318 ⇓*iP* **P 08 39 38.5 +0.6**
KLMR Klimovskoe 41.17 342 *eP* **P 08 39 37.7 -1.1**
KLMR pmax pmax
comp=Z,13nm,0.9s
KLMR Klimovskoe 41.17 342 *eP* **P 08 39 37.7 -1.1**
KLMR AMP 08 39 39.9
comp=Z,13nm,0.9s
KLMR Klimovskoe 41.17 342 *eP* **P 08 39 37.8 -1.1**
KLMR AMP 08 39 39.9
comp=Z,13nm,0.9s
SONA0 Songino Array 41.66 43 *eP* **P 08 39 43.3 +0.1**
SONM Songino Array 41.66 43 P P **08 39 43.3 +0.1**
comp=Z,1.0nm,0.7s,baz=260,slow=8.5,SNR=5.5
HHC Hu-ho-hao-te 43.47 55 *eP* **P 08 40 01.4 +3.3**
HHC sP pwP 08 40 10.6 +6.2
HHC S S 08 46 37.6 +11
HHC sS sS 08 46 42.0 +11
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,79nm,5.1s
HHC LR LR
comp=Z,220nm,16.7s
HHC LR LR
comp=Z,250nm,16.9s
HHC LR LR
comp=Z,280nm,16.7s
VYHS Vyhne 43.48 317 *eP* **P 08 39 59.3 +1.4**
VYHS Vyhne 43.48 317 *eP* **P 08 39 59.3 +1.4**
FIA0 FINESS Array S 46.07 336 *eP* **P 08 40 18.8 +0.5**
FIA0 FINESS Array S 46.07 336 *eP* **P 08 40 18.8 +0.5**
FINES FINESS Array B 46.07 336 P P **08 40 18.8 +0.5**
comp=Z,1.4nm,0.8s,baz=148,slow=8.2,SNR=4.1
KBA Koelnbreinsper 46.66 313 P P **08 40 24.2 +0.8**
KBA pmax pmax
comp=Z,10.0nm,1.9s
GERES GERESS Array B 46.84 316 P P **08 40 25.4 +0.8**
comp=Z,1.4nm,0.8s,baz=96,slow=8.2,SNR=8.1
GERES PcP **PcP 08 41 58.6 +1.0**
comp=Z,1.8nm,0.9s,baz=118,slow=5.7,SNR=5.3
GERES LR LR 09 03 10.0
comp=Z,52nm,18.0s,baz=310,slow=40
KHC Kasperske Hory 46.99 316 P P **08 40 26.7 +0.9**
CLL Collm 47.92 319 *iP* P **08 40 34.5 +1.6**
comp=Z,10.0nm,1.1s
CLL Collm 47.92 319 *iP* **P 08 40 34.5 +1.6**
CLL pmax pmax
comp=Z,10.0nm,1.1s
APA Apatity 48.16 345 ⇑*iP* P **08 40 34.2 -0.3**
APA pmax pmax
comp=Z,5.0nm,0.8s
APA MLR MLR
comp=Z,600nm,16.0s
NRIK Noril'sk 48.22 11 P P **08 40 35.5 +0.5**
comp=Z,1.8nm,0.3s,baz=193,slow=2.8,SNR=5.4
NRIK LR LR 09 04 14.3
comp=Z,48nm,21.1s,baz=250,slow=40
GRF Grafenberg Arr 48.62 317 P P **08 40 40.1 +1.7**
GRF pmax pmax
comp=Z,10.0nm,0.8s
GRFO Grafenberg 48.62 317 P P **08 40 39.9 +1.6**
GRFO pmax pmax
comp=Z,14nm,1.1s
NJ2 Nanjing 49.02 67 *eP* **P 08 40 46.3 +4.6**
NJ2 pmax pmax
comp=Z,14nm,0.5s
ARA0 ARCESS Array S 51.58 344 *eP* **P 08 41 00.6 +0.1**
ARCES ARCESS Array B 51.58 344 *eP* **P 08 41 00.9 +0.4**
ARCES ARCESS Array B 51.58 344 *eP* **P 08 41 00.9 +0.4**
ARCES ARCESS Array B 51.58 344 P P **08 41 00.6 +0.1**
comp=Z,3.3nm,0.8s,baz=149,slow=7.4,SNR=8.5
NORES NORESS Array B 51.80 330 P P **08 41 02.6 +0.3**
NORES pmax pmax
comp=Z,2.0nm,0.5s
NB2 NORSAR Subarra 52.07 331 P P **08 41 04.2 -0.1**
comp=Z,3.4nm,0.7s,baz=109,slow=7.4
NB2 NORSAR Subarra 52.07 331 P P **08 41 04.1 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB200 NORSAR Array S 52.07 331 *eP* **P 08 41 04.2 -0.1**
NOA NORSAR Array B 52.07 331 P P **08 41 04.2 -0.1**
comp=Z,2.1nm,0.7s,baz=110,slow=7.5,SNR=7.8
NOA LR LR 09 07 12.5
comp=Z,44nm,18.5s,baz=125,slow=41
CN2 Changchun 53.98 52 *eP* P 08 41 24.1 +5.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s
KSRS Korea Array 56.06 60 P P **08 41 32.8 -1.0**
comp=Z,0.9nm,0.6s,baz=277,slow=7.5,SNR=4.5
KSRS LR LR 09 07 56.3
comp=Z,58nm,21.1s,baz=266,slow=39
ESK Eskdalemuir 58.19 322 *iP* P 08 41 55.7 +7.1
ESDC Sonseca Array 58.83 303 P P **08 41 52.5 -0.9**
comp=Z,0.5nm,0.6s,baz=80,slow=7.5,SNR=3.7
TOA0 Torodi Ar. Sit 59.55 272 *eP* **P 08 41 59.0 +0.4**
TOA0 Torodi Ar. Sit 59.55 272 P P **08 41 59.1 +0.4**
SNR=19
TORD Torodi Ar. Bea 59.55 272 P P **08 41 57.6 -1.0**
comp=Z,15nm,0.9s,baz=32,slow=6.1,SNR=68
TORD LR LR 09 10 00.9
comp=Z,95nm,18.1s,baz=5.0,slow=38
TOA1 Torodi Ar. Sit 59.55 272 *eP* **P 08 41 57.6 -1.0**
TIXI Tiksi 60.27 19 *eP* **P 08 42 01.6 -1.0**
comp=Z,2.5nm,0.5s
TIXI Tiksi 60.27 19 *eP* **P 08 42 01.7 -1.0**
TIXI pmax pmax
comp=Z,3.0nm,0.5s
LBTB Lobatse 60.69 220 *eP* **P 08 42 07.8 +1.5**
comp=Z,10nm,0.9s
LBTB Lobatse 60.69 220 *eP* **P 08 42 07.8 +1.5**
LBTB pmax pmax
comp=Z,10.0nm,0.9s
BOSA Boshof 63.62 218 P P **08 42 25.8 -0.2**
comp=Z,6.5nm,0.8s,baz=35,slow=9.4,SNR=8.7
BOSA LR LR 09 09 53.5
comp=Z,38nm,18.1s,baz=28,slow=36
MAJO Matsushiro 64.34 59 *eP* **P 08 42 30.5 -0.1**
MAJO Matsushiro 64.34 59 *eP* **P 08 42 30.5 -0.1**
MJAR Matsushiro Arr 64.34 59 P P **08 42 30.5 -0.1**
comp=Z,0.9nm,0.6s,baz=285,slow=4.6,SNR=2.7
MJAR LR LR 09 11 41.5
comp=Z,48nm,18.5s,baz=225,slow=37
DAG Danmarks Havn 65.80 346 ⇑*iP* **P 08 42 39.4 0.0**
comp=Z,10nm,0.9s
DAG Danmarks Havn 65.80 346 ⇑*iP* **P 08 42 39.4 0.0**
DAG pmax pmax
comp=Z,9.0nm,0.9s
DBIC Dimbokro 67.88 268 P P **08 42 52.1 -1.5**
comp=Z,2.7nm,0.8s,baz=17,slow=17,SNR=2.4
DBIC LR LR 09 14 27.9
comp=Z,52nm,18.1s,baz=36,slow=38
SIJI Sorong 69.66 100 P P **08 43 03.4 -1.3**
comp=Z,2.3nm,0.3s,baz=270,slow=20,SNR=2.3
SUMG Summit 71.60 342 *eP* **P 08 43 15.8 -0.4**
comp=Z,9.9nm,0.9s
SUMG Summit 71.60 342 *iP* **P 08 43 16.8 +0.7**
comp=Z,22nm,0.8s
SUMG Summit 71.60 342 *iP* **P 08 43 16.8 +0.7**
SUMG pmax pmax
comp=Z,22nm,0.8s
WRA Warramunga Arr 81.02 116 P P **08 44 08.3 -1.6**
comp=Z,1.9nm,0.8s,baz=312,slow=4.3,SNR=18
WR1 Warramunga Arr 81.02 116 *eP* **P 08 44 08.3 -1.6**
comp=Z,5.2nm,1.0s
WB2 Warramunga Arr 81.03 116 *eP* **P 08 44 08.8 -1.2**
ASAR Alice Springs 82.46 120 P P **08 44 16.4 -1.2**
comp=Z,0.9nm,0.7s,baz=305,slow=5.2,SNR=12
GAMB Gambell 83.04 22 *eP* **P 08 44 20.1 +0.3**
comp=Z,3.2nm,0.8s
TOLK Toolik Lake Re 85.14 12 *eP* **P 08 44 31.3 +0.7**
comp=Z,10.0nm,0.9s
IM3 Indian Mountai 86.53 14 *eP* **P 08 44 37.6 +0.2**
INK Inuvik 87.79 6 *eP* **P 08 44 43.9 +0.5**
comp=Z,2.2nm,0.6s
INK Inuvik 87.79 6 *eP* **P 08 44 43.9 +0.5**
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 87.79 6 P P **08 44 43.5 0.0**
comp=Z,2.2nm,0.7s,baz=358,slow=6.0,SNR=22
MDM Murphy Dome 88.62 13 *eP* **P 08 44 47.0 -0.5**
comp=Z,8.9nm,1.2s
ILAR Eielson Array 89.06 13 P P **08 44 48.8 -0.8**
comp=Z,0.8nm,0.7s,baz=318,slow=4.8,SNR=12
ILB Eielson Array 89.06 13 *eP* **P 08 44 49.5 0.0**
comp=Z,1.2nm,0.9s
SCRK Sand Creek 90.34 12 *eP* **P 08 44 56.0 +0.3**
comp=Z,2.8nm,1.0s
YKA Yellowknife Ar 94.51 359 P P **08 45 14.7 -0.1**
comp=Z,0.8nm,0.8s,baz=352,slow=4.7,SNR=19
YKB5 Yellowknife Ar 94.51 359 *eP* **P 08 45 14.7 -0.2**
MNTX Cornudas Mount 124.37 349 *e*PKPdf **PKiKP 08 50 55.0 +0.4**
RAO Raoul Island 124.81 110 PKIKP **PKiKP 08 50 57.5 +2.1**
TX31 Lajitas Ar. Si 126.33 346 *e*PKPdf **PKiKP 08 50 59.1 +0.5**
TXAR Lajitas Array 126.33 346 PKP **PKPdf 08 50 58.5 +0.2**
comp=Z,1.0nm,0.8s,baz=185,slow=1.5,SNR=12
LPAZ La Paz 134.47 270 PKP **PKPdf 08 51 14.4 -0.1**
comp=Z,0.8nm,0.7s,baz=326,slow=1.5,SNR=4.8

MAN 21 08:41:38.8, 9.23N×126.30E, h32km, MS2.0, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.72**	**249**	*eP*		Pn	08 41 52.4	-0.4
BUTP				*eS*		Sn	08 42 03.7	+1.0
SCPH	**Surigao**	**0.97**	**305**	⇑*eP*		Pb	08 41 58.7	+1.5
CGP	**Cagayan de Oro**	**1.76**	**244**	⇓*eP*		Pn	08 42 08.2	+1.0
CGP				*eS*		Sn	08 42 28.6	+0.1
BUKP	**Musuan**	**1.81**	**223**	*eP*		Pn	08 42 08.0	+0.1
BUKP				*eS*		Sn	08 42 30.2	+0.3

SJA 21 08:42:05.9±0.7, 32.18S×67.61W, h18km±2km, ML2.6, MW3.5, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACAN	**Cantantal**	**0.37**	**105**	*iP*		Pb	08 42 14.6	+0.5
ACAN				*iS*		Sb	08 42 19.6	+0.2
CFA	**Coronel Fontan**	**0.78**	**317**	*iP*		Pg	08 42 21.3	0.0
RTCV	**Cerro Valdivia**	**0.85**	**292**	*iP*		Pb	08 42 22.1	0.0
RTLL	**Cerro Villicun**	**1.12**	**319**	*iP*		Pg	08 42 27.4	-0.2
RTLL					IAML		08 42 49.3	
	comp=N,92nm,0.4s							
AMOG	**MOGNA**	**1.45**	**328**	*iP*		Pg	08 42 33.2	-0.6
AMOG				*iS*		Sg	08 42 53.4	+0.6
RTLS	**Leoncito**	**1.48**	**284**	*iP*		Pg	08 42 34.2	-0.4
RTLS				*iS*		Sg	08 42 55.9	+2.0
RTLS					IAML		08 42 58.9	
	comp=Z,72nm,0.2s							
AUSP	**Uspallata**	**1.51**	**268**	*iP*		Pg	08 42 34.6	-0.4
MRA	**San Martin**	**1.62**	**99**	*iP*		Pb	08 42 36.1	+0.8
MRA				*iS*		Sg	08 42 57.7	-0.5
MRA					IAML		08 43 01.5	
	comp=Z,94nm,0.2s							
ACCO	**Cerro Coronel**	**2.02**	**322**	*iP*		Pb	08 42 42.1	-0.1
ACDV	**Cuesta del Vie**	**2.38**	**327**	*iP*		Pb	08 42 47.2	-1.2
AROD	**Rodeo**	**2.56**	**321**	*iP*		Pb	08 42 49.9	-1.7

*ISCJB **21** 08:55:54.3±0.5, 8.69S±0.06×118.34E±0.04, h150km, mb3.9/6, Error ellipse: s-maj=8.7km s-min=5.6km az=25.4*
*IDC **21** 08:55:54.4±2.3, 8.56S×118.28E, h129km±19km, mb3.6/6, mb1 3.7/10, mb1mx3.5/45, mbtmp4.1/10, Error ellipse: s-maj=33.8km s-min=15.2km az=66.0*
*DJA **21** 08:55:55.9±0.3, 9°S±4'×11°8E±°, h119km±4km, M4.5/13, mb4.6/5, mB4.8/2, MLv4.4/13, Mw(mB)4.1/2*
ISC 21 08:55:55.8±0.7, 8.74S±0.06×118.33E±0.05, h150km, n26, σ2s64/33, mb4.0/6, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**0.56**	**261**	P		Pn	08 56 15.7	-1.8
PLAI				S		Sn	08 56 30.4	-3.5
WSI	**Waingapu**	**2.15**	**116**	P		Pn	08 56 32.0	-0.7
BASI	**Baing, Sumba**	**2.66**	**124**	P		Pn	08 56 38.5	-0.4
SRBI	**Singaraja**	**3.15**	**282**	P		Pn	08 56 44.8	-0.3
EDFI	**Ende, Flores**	**3.32**	**90**	P		Pn	08 56 46.6	-0.8
EDFI				S		Sn	08 57 25.3	-1.9
BSSI	**Bau Bau, Buton**	**3.35**	**40**	P		Pn	08 56 45.5	-2.2
BKSI	**Bulukumba**	**3.83**	**28**	P		Pn	08 56 52.1	-1.8
MMRI	**Maumere**	**3.86**	**89**	P		Pn	08 56 54.5	+0.2
JAGI	**Jajag, Banyuwa**	**4.14**	**273**	P		Pn	08 56 56.8	-1.2
BNSI	**Bone**	**4.65**	**22**	P		Pn	08 57 04.6	-0.1
SPSI	**Sidrap Palu**	**4.95**	**17**	P		Pn	08 57 14.8	+6.2
BATI	**Baumata**	**5.46**	**106**	P		Pn	08 57 15.2	-0.2
	61nm,0.5s,1μm0.3nm							
BATI	**Baumata**	**5.46**	**106**	P		Pn	08 57 15.2	-0.2
	44nm,0.3s,baz=320,slow=2.9,SNR=17							
BATI				S		Sn	08 58 15.4	-2.0
	32nm,0.3s,baz=322,slow=19,SNR=6.1							
TTSI	**Tana Toraja**	**5.84**	**15**	P		Pn	08 57 21.7	+1.2
SOEI	**Soe**	**5.94**	**100**	P		Pn	08 57 21.4	-0.5
	95nm,0.7s,1μm0.8nm							
FITZ	**Fitzroy Crossi**	**11.71**	**143**	P		Pn	08 58 38.0	-0.3
	1.0nm,0.3s,baz=332,slow=7.1,SNR=33							
FITZ				S		Sn	09 00 42.2	-5.5
	2.3nm,0.3s,baz=190,slow=14,SNR=9.0							
SIJI	**Sorong**	**15.06**	**59**	P		Pn	08 59 20.0	-1.2
	1.2nm,0.3s,baz=296,slow=8.6,SNR=5.5							
WRA	**Warramunga Arr**	**19.07**	**127**	P		Pn	09 00 08.2	-1.2
	0.4nm,0.3s,baz=302,slow=12,SNR=40							
WRA				S		S	09 03 30.9	-4.6
	0.1nm,0.3s,baz=305,slow=24,SNR=6.8							
WRA				ScP		ScP	09 07 49.7	+2.4
	0.1nm,0.3s,baz=306,slow=2.0,SNR=6.1							
ASAR	**Alice Springs**	**21.04**	**137**	P		P	09 00 30.4	+2.3
	1.6nm,0.5s,baz=312,slow=9.0,SNR=27							
ASAR				S		S	09 04 23.1	+9.2
	1.1nm,1.1s,baz=312,slow=22,SNR=4.8							
ASAR				ScP		ScP	09 07 54.8	+3.0
	0.6nm,0.8s,baz=336,slow=2.0,SNR=4.1							
NWAO	**Narrogin (SRO)**	**24.09**	**182**	P		P	09 01 00.6	+3.1
	7.9nm,0.7s,baz=19,slow=9.6,SNR=5.1							
NWAO				S		S	09 05 28.2	+24
	11nm,0.7s,baz=299,slow=13,SNR=7.7							
USRK	**Ussuriysk Ar.**	**54.12**	**12**	P		P	09 05 06.3	+1.1
	1.4nm,0.6s,baz=229,slow=6.6,SNR=2.9							
SONM	**Songino Array**	**57.31**	**350**	P		P	09 05 27.9	-0.1
	0.7nm,0.4s,baz=167,slow=8.9,SNR=4.5							
MKAR	**Makanchi Array**	**63.92**	**333**	P		P	09 06 11.6	-1.2
	0.3nm,0.3s,baz=149,slow=6.5,SNR=5.3							
ZALV	**Zalesovo Beam**	**68.56**	**339**	P		P	09 06 41.5	-0.6
	0.9nm,0.3s,baz=184,slow=4.3,SNR=9.7							
YKA Yellowknife Ar 114.22 24 PKP **PKiKP 09 14 17.8 +0.7**
0.1nm,0.5s,baz=301,slow=1.9,SNR=4.4
TORD Torodi Ar. Bea 117.77 280 PKP **PKiKP 09 14 26.4 +1.0**
0.3nm,0.4s,baz=106,slow=2.2,SNR=4.6

*IDC **21** 08:58:11.9±3.4, 36.91N×72.18E, h86km±26km, mb3.4/8, mb1 3.6/13, mb1mx3.4/51, mbtmp3.8/13, Error ellipse: s-maj=31.1km s-min=21.4km az=160.0*
*ISCJB **21** 08:58:15.7±0.4, 37.31N±0.03×71.93E±0.05, h130km, mb3.3/1, Error ellipse: s-maj=6.3km s-min=4.1km az=151.1*
*NNC **21** 08:58:20.9±2.0, 37.73N×71.63E, h95km±44km, mb3.5, mpv4.1, Error ellipse: s-maj=18.3km s-min=10.7km az=153.0*
ISC 21 08:58:16.5±0.6, 37.35N±0.05×71.92E±0.06, h130km, n45, σ2s43/54, 4C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.97**	**15**	P		Pn	08 59 29.8	+0.2
	SNR=55							
UCH	**Uchtor**	**5.27**	**21**	P		Pn	08 59 33.6	0.0
	SNR=32							
KZA	**Kyzart**	**5.38**	**27**	P		Pn	08 59 34.9	-0.1
	SNR=11							
EKS2	**Erkin-Say**	**5.50**	**14**	P		Pn	08 59 36.9	+0.6
	SNR=34							
AAK	**Ala-Archa**	**5.64**	**20**	P		Pn	08 59 39.1	+0.9
	SNR=65							
AAK	**Ala-Archa**	**5.64**	**20**	⇓P		Pn	08 59 39.0	+0.7
	16nm,0.4s							
AAK				⇓S		Sn	09 00 38.7	-3.4
	37nm,0.9s							
AAK	**Ala-Archa**	**5.64**	**20**	P		Pn	08 59 39.0	+0.7
	12nm,0.3s,baz=183,slow=5.2,SNR=158							
AAK				S		Sn	09 00 37.9	-4.2
	1.8nm,0.3s,baz=329,slow=23,SNR=12							
KK31	**Karatay Array**	**5.85**	**350**	P		Pn	08 59 41.1	+0.2
	7.0nm,0.5s,baz=170,slow=12,SNR=99							
KK31				⇑S		Sn	09 00 42.0	-4.9
	8.8nm,0.4s,baz=172,slow=21,SNR=13							
ULHL	**Ulahol**	**5.92**	**33**	P		Pn	08 59 42.1	+0.1
	SNR=13							
CHMS	**Chumysh**	**6.05**	**20**	P		Pn	08 59 44.3	+0.6
	SNR=22							
DHRM	**DHARAMSHALA**	**6.23**	**143**	*eP*		Pn	08 59 47.2	+0.9
DHRM				*eS*		Sn	09 00 52.2	-4.1
USP	**Ospenovka**	**6.23**	**18**	P		Pn	08 59 46.1	0.0
	SNR=9.0							
TKM2	**Tokmak 2**	**6.24**	**26**	P		Pn	08 59 47.0	+0.6
	SNR=48							
TKM2	**Tokmak 2**	**6.24**	**26**	⇓P		Pn	08 59 46.9	+0.6
	8.7nm,0.4s							
TKM2				⇑S		Sn	09 00 54.8	-1.8
	7.6nm,0.7s							
SMLA	**Simla**	**7.57**	**143**	*eP*		Pn	09 00 05.5	+1.4
SMLA				*eS*		Sn	09 01 24.5	-3.9
SMLA					IAML		09 01 31.6	
	comp=N,186nm,0.3s							
SMLA					IAML		09 01 32.1	
	comp=E,154nm,0.6s							
KKR	**Kurukshetra**	**8.42**	**150**	*eS*		Sn	09 01 48.0	-1.0
JOSI	**Joshimath**	**9.27**	**135**	*eP*		Pn	09 00 26.3	-1.0
JOSI				*eS*		Sn	09 01 58.5	-11
JOSI					IAML		09 02 09.4	
	comp=E,64nm,0.6s							
JOSI					IAML		09 02 11.1	
	comp=N,86nm,0.6s							
SONA	**Sohna**	**10.05**	**153**	*eS*		Sn	09 02 23.6	-5.0
SONA					IAML		09 02 30.3	
	comp=N,15nm,0.3s							
SONA					IAML		09 02 30.6	
	comp=E,36nm,0.2s							
GEYT	**Alibeck**	**10.97**	**277**	P		Pn	09 00 49.3	-0.4
	comp=E,1.8nm,0.3s,baz=105,slow=9.7,SNR=15							
GEYT				S		Sn	09 02 47.2	-3.3
	comp=E,0.8nm,0.3s,baz=84,slow=21,SNR=4.0							
GYA0B	**ALIBECK ARRAY**	**10.97**	**277**	⇑P		Pn	09 00 50.0	+0.2
GYA0B				⇓S		Sn	09 02 47.9	-2.6
MK31	**Makanchi Array**	**12.17**	**36**	⇓P		Pn	09 01 09.2	+3.6
	comp=E,1.4nm,0.5s,baz=210,slow=9.9,SNR=14							
MKAR	**Makanchi Array**	**12.17**	**36**	P		Pn	09 01 05.4	-0.1
	comp=E,0.1nm,0.3s,baz=220,slow=13,SNR=10							
PYUN	**Piuthan**	**13.10**	**132**	*eP*		Pn	09 01 16.9	-0.9
	comp=E,40nm,0.5s							
DANN	**Dangsing**	**13.39**	**129**	*eP*		Pn	09 01 20.8	-0.8
	comp=E,27nm,0.3s							
KOLN	**Koldanda**	**13.70**	**131**	*eP*		Pn	09 01 25.4	-0.2
	comp=E,27nm,0.4s							
KURBB	**Kurchatov Array**	**14.09**	**18**	P		Pn	09 01 27.4	-2.7
	comp=E,0.0nm,0.3s,baz=206,slow=12,SNR=4.2							
AB31	**Akbulak array**	**14.73**	**328**	⇓P		Pn	09 01 38.3	0.0
	comp=E,0.5nm,0.3s,baz=136,slow=14,SNR=18							
AB31				⇓S		Sn	09 04 13.4	-7.8
	comp=E,2.8nm,0.7s,baz=147,slow=22,SNR=9.0							
KKN	**Kakani**	**14.74**	**126**	*eP*		Pn	09 01 38.0	-0.8
	comp=E,26nm,0.6s							
DMN	**Daman**	**14.75**	**127**	*eP*		Pn	09 01 38.2	-0.8
	comp=E,13nm,0.4s							
PKIN	**Phulchoki**	**14.96**	**127**	*eP*		Pn	09 01 41.7	+0.1
	comp=E,13nm,0.4s							
PKI	**Pulchoki**	**14.97**	**127**	*eP*		Pn	09 01 41.7	-0.1
	comp=E,24nm,0.5s							
GUN	**Gumba**	**15.04**	**125**	*eP*		Pn	09 01 41.8	-0.9
	comp=E,12nm,0.3s							
BVA0	**Borovoye Array**	**15.72**	**357**	⇑P		P	09 01 53.2	+1.4
	comp=E,1.5nm,0.5s,baz=163,slow=12,SNR=11							
BVAR	**Borovoye Array**	**15.72**	**357**	P		P	09 01 49.6	-0.9
	comp=E,0.2nm,0.3s,baz=156,slow=11,SNR=4.0							
AKTO	**Aktyubinsk**	**16.45**	**327**	⇓P		P	09 02 00.9	+1.1
	comp=E,2.1nm,0.7s							
AKTO	**Aktyubinsk**	**16.45**	**327**	P		P	09 02 02.9	+3.0
	comp=E,0.6nm,0.3s,baz=109,slow=11,SNR=4.5							
ZALV	**Zalesovo Beam**	**18.84**	**24**	P		P	09 02 27.2	+1.1
	comp=E,0.6nm,0.3s,baz=226,slow=10,SNR=13							
FINES	**FINESS Array B**	**37.20**	**325**	P		P	09 05 18.2	+3.5
	comp=E,0.6nm,0.3s,baz=122,slow=9.9,SNR=8.6							
ARCES	**ARCESS Array B**	**40.65**	**337**	P		P	09 05 46.7	+3.3
	comp=E,3.9nm,0.9s,baz=112,slow=7.9,SNR=8.4							
NOA	**NORSAR Array B**	**44.16**	**322**	P		P	09 06 14.6	+2.7
	comp=E,0.4nm,0.6s,baz=94,slow=7.6,SNR=2.7							
TORD	**Torodi Ar. Bea**	**66.48**	**269**	P		P	09 08 54.2	+1.9
	comp=E,0.1nm,0.3s,baz=41,slow=6.6,SNR=6.5							
INK	**Inuvik**	**72.95**	**10**	P		P	09 09 34.4	+3.3
	comp=E,1.1nm,0.5s,baz=342,slow=6.3,SNR=12							
ILAR	**Eielson Array**	**73.76**	**16**	P		P	09 09 38.1	+2.1
	comp=E,0.2nm,0.7s,baz=334,slow=3.3,SNR=3.7							
YKA	**Yellowknife Ar**	**80.37**	**3**	P		P	09 10 15.9	+3.0
	comp=E,0.5nm,0.5s,baz=350,slow=5.5,SNR=20							
WRA	**Warramunga Arr**	**81.81**	**123**	P		P	09 10 19.0	-2.1
	comp=E,0.1nm,0.5s,baz=324,slow=5.2,SNR=2.6							

*SOME **21** 09:15:07.9, 43.70N×69.65E*
NNC 21 09:15:09.0±1.0, 43.69N×69.68E, h0km, mb3.8, mpv3.3, 3C-5D, Error ellipse: s-maj=7.0km s-min=5.1km az=93.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldaу**	**0.66**	**170**	P		Pn	09 15 25.6	-0.1
BRLS				S		Sn	09 15 37.9	+1.0
	2.7nm,0.3s							
KK31	**Karatay Array**	**0.84**	**134**	⇓P		Pg	09 15 24.5	-0.5
	1.1nm,0.3s,baz=268,slow=12,SNR=53							
KK31				S		Sg	09 15 37.0	+1.1
	10nm,0.4s,baz=296,slow=29,SNR=65							
IUG	**Iuzhnay**	**1.56**	**170**	P		Pg	09 15 39.3	+0.4
	22nm,0.2s							
IUG				S		Sb	09 16 01.5	+2.4
	29nm,0.2s					

TKM2					⇓Lg	Lg	09 17 30.4		
	4.2nm,0.6s								
DGS	**Degeres**	**4.46**	**94**		Pg	Pb	09 16 31.1	+2.9	
	4.1nm,0.2s								
DGS					Lg	Lg	09 17 30.9		
	8.0nm,0.5s								
KST	**Kastek**	**4.62**	**96**		Pg	Pg	09 16 34.9	-2.8	
	6.9nm,1.9s								
KST					Lg	Lg	09 17 37.2		
	8.2nm,0.6s								
KUU	**Kurty**	**4.83**	**85**		Pg	Pb	09 16 36.8	+2.4	
	1.2nm,0.1s								
KUU					Lg	Lg	09 17 40.7		
	7.1nm,0.2s								
OTUK	**Ortayu**	**4.92**	**21**	⇓	Pn	Pn	09 16 25.0	+0.8	
	2.2nm,0.2s								
OTUK					⇓Sn	Sn	09 17 22.8	+1.0	
	0.6nm,0.3s								
OTUK					⇑Lg	Lg	09 17 45.2		
	5.0nm,1.0s								
TNSS	**Tian-Shan**	**5.34**	**94**		Pg	Pg	09 16 47.6	-3.7	
	1.6nm,0.2s								
TNSS					Lg	Lg	09 17 59.1		
	3.9nm,0.4s								

*NNC **21** 09:20:09.5±0.8, 46°.88N×83°.20E, h4km±8km, mb3.7, mpv3.4, Error ellipse: s-maj=5.5km s-min=3.6km az=79.0*
*SOME **21** 09:20:18.7, 46°.70N×82°.57E, h15km*
ISC 21 09:20:11.8±1.3, 46°69N±0°.04×82°.94E±0°.04, h4km±14km, n26, σ1§28/45, 18C-5D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK07	**Makanchi Array**	**0.43**	**279**	⇑P	**Pb**	**09 20 21.8**	**-0.3**
MK07				⇑S	**Sb**	**09 20 30.8**	**+1.8**
MK06	**Makanchi Array**	**0.44**	**281**	⇑P	**Pb**	**09 20 21.8**	**-0.3**
MK06				⇑S	**Sb**	**09 20 30.8**	**+1.7**
MK02	**Makanchi Array**	**0.44**	**280**	⇑P	**Pb**	**09 20 21.8**	**-0.3**
MK02				⇑S	**Sb**	**09 20 31.0**	**+1.9**
MK03	**Makanchi Array**	**0.44**	**280**	⇑P	**Pb**	**09 20 21.8**	**-0.5**
MK03				⇑S	**Sb**	**09 20 31.1**	**+1.8**
MK01	**Makanchi Array**	**0.44**	**280**	⇑P	**Pb**	**09 20 21.9**	**-0.3**
MK01				⇑S	**Sb**	**09 20 31.2**	**+1.9**
MK04	**Makanchi Array**	**0.45**	**281**	⇑P	**Pb**	**09 20 22.0**	**-0.4**
MK04				⇑S	**Sb**	**09 20 31.2**	**+1.8**
MK08	**Makanchi Array**	**0.45**	**278**	⇑P	**Pb**	**09 20 22.2**	**-0.2**
MK08				⇑S	**Sb**	**09 20 31.4**	**+1.9**
MK05	**Makanchi Array**	**0.45**	**283**	⇑P	**Pb**	**09 20 22.1**	**-0.3**
MK05				⇓S	**Sb**	**09 20 31.1**	**+1.5**
MK31	**Makanchi Array**	**0.46**	**283**	⇓P	**Pb**	**09 20 21.9**	**-0.5**
	5.3nm,0.2s,baz=86,slow=18,SNR=2334						
MK31				⇑S	**Sb**	**09 20 31.1**	**+1.5**
	11nm,0.2s,baz=81,slow=34,SNR=43						
MK09	**Makanchi Array**	**0.46**	**281**	⇑P	**Pb**	**09 20 22.2**	**-0.3**
MK09				⇓S	**Sb**	**09 20 31.5**	**+1.8**
MAKZ	**Makanchi**	**0.67**	**280**	⇑P	**Pb**	**09 20 25.8**	**-0.3**
	8.3nm,0.3s						
MAKZ				⇑S	**Sn**	**09 20 37.8**	**-1.3**
	36nm,0.7s						
ZSN	**Zaisan**	**1.52**	**59**	P	**Pg**	**09 20 43.1**	**+2.1**
	4.9nm,0.2s						
ZSN				S	**Sb**	**09 20 59.9**	**-0.4**
	11nm,0.3s						
ZSN	**Zaisan**	**1.52**	**59**	*e*P	**Pg**	**09 20 43.1**	**+2.1**
	4.9nm,0.2s						
ZSN				*e*S	**Sb**	**09 20 59.9**	**-0.4**
	19nm,0.2s						
KAPS	**Kapalarasan**	**2.86**	**242**	Pg	**Pg**	**09 21 08.0**	**+1.3**
	4.7nm,0.2s						
KAPS				Lg	Lg	09 21 42.8	
	13nm,0.5s						
KAPS	**Kapalarasan**	**2.86**	**242**	*e*P	**Pg**	**09 21 08.0**	**+1.3**
	4.7nm,0.2s						
KAPS				*e*S	**Sg**	**09 21 42.8**	**-1.0**
	5.9nm,0.5s						
DJR	**Jarkent**	**3.23**	**224**	Pg	**Pg**	**09 21 15.1**	**+1.3**
	1.7nm,0.2s						
DJR				Lg	Lg	09 21 55.3	
	5.1nm,0.6s						
DJR	**Jarkent**	**3.23**	**224**	*e*P	**Pg**	**09 21 15.1**	**+1.3**
	1.9nm,0.4s						
DJR				*e*S	**Sg**	**09 21 55.3**	**-0.4**
	3.8nm,0.6s						
SEM	**Semipalatinsk**	**4.12**	**335**	Pg	**Pg**	**09 21 31.0**	**+0.2**
	3.9nm,0.1s						
SEM				Lg	Lg	09 22 21.9	
	23nm,0.2s						
SEM	**Semipalatinsk**	**4.12**	**335**	*e*P	**Pg**	**09 21 31.0**	**+0.2**
	3.9nm,0.1s						
SEM				⇓*i*S	**Sg**	**09 22 21.9**	**-2.3**
	18nm,0.1s						
PDGK	**Podgornoye**	**4.16**	**217**	Pg	**Pg**	**09 21 32.2**	**+0.7**
	0.5nm,0.2s						
PDGK				Lg	Lg	09 22 23.9	
	4.9nm,0.7s						
ARXS	**Arharly**	**4.37**	**237**	Pg	**Pg**	**09 21 35.7**	**+0.3**
	2.2nm,0.2s						
ARXS				Lg	Lg	09 22 30.4	
	7.8nm,0.5s						
ARXS	**Arharly**	**4.37**	**237**	*e*P	**Pg**	**09 21 35.7**	**+0.3**
	2.2nm,0.2s						
ARXS				*e*S	**Sg**	**09 22 30.4**	**-1.6**
	7.8nm,0.5s						
UZB	**Uzynbulak**	**4.50**	**220**	Pg	**Pg**	**09 21 38.2**	**+0.1**
	1.4nm,0.2s						
UZB				Lg	Lg	09 22 34.7	
	4.7nm,0.4s						
UZB	**Uzynbulak**	**4.50**	**220**	*e*P	**Pg**	**09 21 38.2**	**+0.1**
	1.4nm,0.2s						
UZB				*e*S	**Sg**	**09 22 34.7**	**-1.7**
	4.7nm,0.4s						
SATY	**Saty**	**4.85**	**223**	Pg	**Pg**	**09 21 44.9**	**+0.1**
	6.4nm,0.3s						
SATY				Lg	Lg	09 22 45.8	
	11nm,0.3s						
SATY	**Saty**	**4.85**	**223**	*e*P	**Pg**	**09 21 44.9**	**+0.1**
	6.4nm,0.3s						
SATY				*e*S	**Sg**	**09 22 45.8**	**-1.8**
	11nm,0.3s						

*ISK **21** 09:22:58.8, 39°.67N×29°.43E, h5km, ML2.2/15, Suspected Mining explosion.*
*ISCJB **21** 09:22:59.8±0.4, 39°.68N±0°.02×29°.42E±0°.03, h0km, Error ellipse: s-maj=3.9km s-min=3.5km az=19.4*
*DDA **21** 09:22:59.6, 39°.69N×29°.37E, h7km±2km, ML2.6*
ISC 21 09:22:59.9±0.9, 39°67N±0°.03×29°44E±0°.03, h0km, n19, σ0§55/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**176**	PG	**Pg**	**09 23 03.9**	**-0.2**
TVSB				SG	**Sg**	**09 23 08.1**	**+1.2**
AUBOZ	**BOZOYUK**	**0.51**	**62**	PG	**Pg**	**09 23 09.9**	**+0.2**
AUBOZ				SG	**Sb**	**09 23 18.6**	**-1.2**
ORLT	**Orhaneli**	**0.56**	**312**	PG	**Pg**	**09 23 10.7**	**0.0**
IGD	**Bursa**	**0.62**	**343**	*i* P	**Pg**	**09 23 11.9**	**+0.2**
IGD				*i* S	**Sg**	**09 23 20.8**	**+1.0**
IGD				IAML_P			
	comp=Z,456nm,0.1s						
DURS	**Dursunbey**	**0.75**	**265**	*i* P	**Pg**	**09 23 15.0**	**+0.7**
DURS				*i* S	**Sg**	**09 23 24.2**	**+0.2**
DURS				IAML_P			
	comp=Z,946nm,0.1s						
MDNY	**Mudanya-Bursa**	**0.82**	**329**	PG	**Pg**	**09 23 16.0**	**+0.4**
YLV	**Yalova**	**0.90**	**357**	PG	**Pg**	**09 23 17.5**	**+0.5**
SRCK	**Saricakaya, Es**	**0.98**	**67**	PG	**Pg**	**09 23 18.9**	**+0.2**
ARMT	**Armutlu**	**1.00**	**334**	PG	**Pg**	**09 23 19.2**	**+0.2**
USAK	**Uak-Merkez**	**1.01**	**199**	*i* P	**Pg**	**09 23 19.8**	**+0.6**
USAK				*i* S	**Sb**	**09 23 34.0**	**-0.1**
USAK				IAML_P			
	comp=Z,135nm,0.1s						
KCTX	**Karacabey (Bur**	**1.02**	**306**	PG	**Pg**	**09 23 20.0**	**+0.5**
GULT	**Gulveren**	**1.12**	**47**	PN	**Pb**	**09 23 22.0**	**-0.2**
BUY	**Buyukada**	**1.21**	**348**	PN	**Pg**	**09 23 22.9**	**-0.1**
BUY				SN	**Sn**	**09 23 40.9**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.37**	**258**	*i* P	**Pg**	**09 23 25.3**	**-0.8**
STEP				*i* S	**Sg**	**09 23 43.0**	**-0.7**
STEP				IAML_P			
	comp=Z,225nm,0.1s						
KAVV	**Kandilli-Istan**	**1.42**	**348**	PN	**Pg**	**09 23 27.2**	**+0.1**
ISK	**Istanbul-Kandi**	**1.42**	**348**	PN	**Pn**	**09 23 27.0**	**0.0**
AUMIH	**MIHALICIK**	**1.58**	**82**	PN	**Pn**	**09 23 29.3**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.62**	**97**	PN	**Pn**	**09 23 29.5**	**-0.3**
AUSIV	**SIVRIHISAR**	**1.64**	**97**	PN	**Pn**	**09 23 30.4**	**+0.4**

*NIED **21** 09:26:00, 33°.30N×139°.60E, h5km, Mw3.9 Best double couple: M0 6.74000×10^14 NP1:φ1=133.00000°, δ1=35.00000°, λ1=-129.00000°. NP2:φ2=357.00000°, δ2=63.00000°, λ2=-67.00000°.*
*IDC **21** 09:26:58.4±0.7, 33°.12N×139°.83E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.6/50, mbtmp3.5/9, ML2.6/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/32, Error ellipse: s-maj=21.1km s-min=6.3km az=141.0*
*ISCJB **21** 09:26:59.7±0.6, 33°.24N±0°.04×139°.58E±0°.07, h24km±4km, mb3.4/8, MS4.1/2, Error ellipse: s-maj=11.1km s-min=4.9km az=152.7*
*JMA **21** 09:26:59.8, 33°.27N×139°.58E, h24km±2km, M3.6*
JMA Felt I J1.
ISC 21 09:27:00.2±1.1, 33°29N±0°.04×139°54E±0°.08, h12km±8km, n32, σ1§26/28, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.26**	**129**	Pn	**Pg**	**09 27 06.1**	**+0.4**
	1μm,0.3s,baz=133,slow=22,SNR=372						
JHJ				Sn	**Sg**	**09 27 10.6**	**+1.3**
	6μm,0.3s,baz=143,slow=20,SNR=163						
JHJ2	**Mitsune**	**0.29**	**127**	P	**Pg**	**09 27 06.1**	**-0.1**
JHCJ	**Hachijojimakas**	**0.30**	**135**	P	**Pg**	**09 27 06.2**	**-0.2**
JHCJ				S	**Sg**	**09 27 10.5**	**0.0**
JMKN	**Mikurajimanish**	**0.61**	**4**	P	**Pg**	**09 27 11.9**	**-0.1**
JMKN				S	**Sg**	**09 27 20.5**	**+0.5**
JAOM	**Aogashimamukai**	**0.84**	**167**	P	**Pb**	**09 27 15.3**	**-1.5**
JKO	**Kozu shima**	**0.96**	**340**	P	**Pb**	**09 27 17.4**	**-1.4**
JTHY	**Toshimahigashi**	**1.25**	**350**	P	**Pn**	**09 27 22.5**	**-1.1**
JIM2	**Oshima 3**	**1.43**	**356**	P	**Pn**	**09 27 24.9**	**-1.1**
JIZS	**Izushimoda**	**1.53**	**339**	P	**Pn**	**09 27 26.3**	**-1.1**
TK03	**Tokai 3**	**1.58**	**304**	P	**Pn**	**09 27 27.0**	**-0.9**
TK02	**Tokai 2**	**1.63**	**294**	P	**Pn**	**09 27 27.5**	**-1.0**
KTJ3	**Kamata3**	**1.69**	**347**	P	**Pn**	**09 27 29.0**	**-0.6**
KTJ3				*e*S	**Sn**	**09 27 50.4**	**-0.7**
MJAR	**Matsushiro Arr**	**3.43**	**342**	Pn	**Pn**	**09 27 55.2**	**+1.7**
	0.5nm,0.3s,baz=278,slow=18,SNR=26						
MJAR				Sn	**Sb**	**09 28 41.4**	**-1.1**
	baz=177,slow=26,SNR=2.8						
MAT	**Matsushiro**	**3.43**	**342**	P	**Pn**	**09 27 55.3**	**+1.8**
JNU	**Nakatsue**	**7.26**	**271**	Pn	**Pn**	**09 28 46.1**	**-0.1**
	1.9nm,0.3s,baz=168,slow=3.6,SNR=16						
JNU				LR	LR	09 31 13.8	
	comp=Z,68nm,20.4s,baz=175,slow=34						
KSRS	**Korea Array**	**10.35**	**297**	LR	LR	09 33 11.2	
	comp=Z,40nm,19.2s,baz=100,slow=35						
H11N2	**WAKE ISLAND Hy 27.86**	**112**		T	T	10 01 41.1	
	baz=304,slow=75,SNR=44						
H11N1	**WAKE ISLAND Hy 27.86**	**112**		T	T	10 01 41.2	
	baz=304,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy 27.88**	**112**		T	T	10 01 42.1	
	baz=304,slow=75,SNR=46						
H11S3	**WAKE ISLAND Hy 28.41**	**114**		T	T	10 02 26.8	
	baz=307,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy 28.41**	**114**		T	T	10 02 33.2	
	baz=307,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy 28.43**	**114**		T	T	10 02 34.3	
	baz=307,slow=75,SNR=8.7						
SONM	**Songino Array**	**28.82**	**310**	P	**P**	**09 33 01.3**	**+3.0**
	0.3nm,0.5s,baz=90,slow=12,SNR=2.5						
HNR	**Honiara**	**46.71**	**152**	LR	LR	09 55 04.5	
	comp=Z,84nm,19.1s,baz=136,slow=36						
WRA	**Warramunga Arr**	**53.16**	**186**	P	**P**	**09 36 17.4**	**-0.7**
	0.1nm,0.4s,baz=5.0,slow=7.6,SNR=4.1						
ILAR	**Eielson Array**	**53.48**	**31**	P	**P**	**09 36 19.1**	**-0.9**
	0.5nm,0.8s,baz=276,slow=6.3,SNR=10						
ASAR	**Alice Springs**	**56.89**	**186**	P	**P**	**09 36 44.8**	**-0.3**
	0.5nm,1.1s,baz=1.2,slow=6.1,SNR=4.1						
ARCES	**ARCESS Array B**	**66.96**	**340**	LR	LR	10 10 45.5	
	comp=Z,312nm,20.9s,baz=310,slow=39						
YKA	**Yellowknife Ar**	**67.82**	**29**	P	**P**	**09 37 56.9**	**-0.9**
	0.1nm,0.6s,baz=298,slow=6.1,SNR=3.8						
NOA	**NORSAR Array B**	**77.03**	**337**	P	**P**	**09 38 55.4**	**+2.5**
	0.4nm,0.6s,baz=48,slow=5.3,SNR=2.4						
NVAR	**Mina Array Bea**	**78.49**	**52**	P	**P**	**09 39 01.4**	**-0.2**
	0.2nm,0.6s,baz=310,slow=5.8,SNR=3.6						
TXAR	**Lajitas Array**	**93.64**	**51**	P	**P**	**09 40 16.7**	**-0.3**
	0.3nm,0.8s,baz=270,slow=2.7,SNR=4.6						

*NNC **21** 09:31:03.1±1.9, 53°.48N×87°.89E, h1km±15km, mb3.0, mpv2.6, Error ellipse: s-maj=18.7km s-min=6.8km az=69.0, Suspected Mining explosion.*
*IDC **21** 09:31:03.5±2.8, 53°.54N×87°.91E, h0km, mb1 2.9/2, mb1mx2.8/57, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=23.7km s-min=15.9km az=61.0*
KRAR 21 09:31:01.2±0.1, 53°60N×87°92E, M2.4, 4C-5D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**282**	*i*		09 46 25.9	
	baz=102,slow=356,SNR=3.6						
ZAA0	**Zalesovo Array**	**1.87**	**282**	⇑P	Pb	09 31 36.1	-0.2
	0.5nm,0.4s						
ZAA0				⇓S	Sg	09 32 01.7	+0.4
	3.7nm,0.9s						
ZALV	**Zalesovo Beam**	**1.87**	**282**	Pn	Pb	09 31 36.1	-0.1
	2.1nm,0.3s,baz=102,slow=14,SNR=24						
ZALV				Lg	Lg	09 32 02.6	
	3.6nm,0.3s,baz=104,slow=24,SNR=19						
KURBB	**Kurchatov Arra**	**6.51**	**247**	⇑Pn	Pn	09 32 40.4	+2.3
	1.4nm,0.5s						
KURBB				⇓Sn	Sn	09 33 54.2	+1.2
	5.6nm,0.7s						
KURBB				⇑Lg	Lg	09 34 26.6	
	9.5nm,0.8s						
KURBB	**Kurchatov Arra**	**6.51**	**247**	Pn	Pn	09 32 40.4	+2.3
	0.1nm,0.3s,baz=64,slow=14,SNR=5.2						
KURBB				Sn	Sn	09 33 55.3	+2.3
	0.0nm,0.3s,baz=64,slow=25,SNR=3.2						
KURBB				Lg	Lg	09 34 27.4	
	0.0nm,0.3s,baz=65,slow=36,SNR=8.3						
MK31	**Makanchi Array**	**7.71**	**210**	Pn	Pn	09 32 55.1	+0.4
	0.1nm,0.3s,baz=28,slow=14,SNR=10						
MK31				⇓Sn	Sn	09 34 23.6	+1.0
	1.8nm,0.9s						
MK31				⇓Lg	Lg	09 35 05.9	
	3.2nm,0.9s,baz=25,slow=28,SNR=4.0						
MKAR	**Makanchi Array**	**7.71**	**210**	Pn	Pn	09 32 57.4	+2.7
	0.1nm,0.3s,baz=25,slow=13,SNR=7.6						
MKAR				Sn	Sn	09 34 23.6	+0.9
	0.0nm,0.3s,baz=33,slow=27,SNR=3.4						
MKAR				Lg	Lg	09 35 03.1	
	0.0nm,0.3s,baz=33,slow=24,SNR=2.7						
MAKZ	**Makanchi**	**7.79**	**212**	⇑Sn	Sn	09 34 23.2	-1.5
	1.4nm,0.9s						
MAKZ				⇓Lg	Lg	09 35 06.9	
	2.8nm,0.9s						

*ISCJB **21** 09:34:19.3±0.5, 5°.87N±0°.05×126°.80E±0°.07, h141km±4km, mb3.9/21, Error ellipse: s-maj=12.9km s-min=6.2km az=150.5*
*MAN **21** 09:34:19.1, 5°.84N×126°.80E, h134km, MS3.5*
*IDC **21** 09:34:21.6±1.0, 5°.88N×126°.77E, h145km±7km, mb3.7/21, mb1 3.8/22, mb1mx3.6/63, mbtmp4.1/22, Error ellipse: s-maj=23.1km s-min=8.5km az=69.0*
ISC 21 09:34:19.9±0.8, 5°91N±0°.06×126°87E±0°.08, h131km±7km, n34, σ1§36/45, mb3.9/20, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.16**	**279**	*e*P	**Pn**	**09 34 44.1**	**-0.4**
DDMP				*e*S	**Sn**	**09 35 03.2**	**0.0**
MATI	**Mati**	**1.19**	**330**	*e*P	**Pn**	**09 34 44.1**	**-0.7**
MATI				*e*S	**Sn**	**09 35 02.5**	**-1.3**
DAV	**Davao City (W)**	**1.72**	**312**	P	**Pn**	**09 34 51.8**	**+1.2**
	180nm,0.3s,baz=220,slow=5.6,SNR=7.4						
DAV				S	**Sn**	**09 35 16.8**	**+2.7**
	202nm,0.3s,baz=200,slow=22,SNR=15						
DAV				LR	LR	09 35 41.9	
	comp=Z,245nm,18.8s,baz=176,slow=48						
DMPH	**Davao City--Mi**	**1.78**	**311**	⇓*e*P	**Pn**	**09 34 52.5**	**+1.1**
DMPH				*e*S	**Sn**	**09 35 18.5**	**+3.1**
GSPH	**General Santos**	**1.91**	**275**	*e*P	**Pn**	**09 34 52.7**	**-0.3**
GSPH				*e*S	**Sn**	**09 35 18.2**	**-0.1**
KCP	**Kidapawan**	**2.07**	**302**	⇑*e*P	**Pn**	**09 34 55.3**	**+0.4**
KCP				*i* S	**Sn**	**09 35 23.2**	**+1.4**
BIPH	**Bislig**	**2.31**	**348**	⇑*i*P	**Pn**	**09 34 58.2**	**+0.3**
BIPH				*i* S	**Sn**	**09 35 21.9**	**-5.0**
SKMP	**Bagumbayan, Su**	**2.38**	**285**	*e*P	**Pn**	**09 34 57.8**	**-0.9**
SKMP				*e*S	**Sn**	**09 35 25.2**	**-3.3**
BUKP	**Musuan**	**2.65**	**318**	*e*P	**Pn**	**09 35 02.2**	**+0.1**
BUKP				*e*S	**Sn**	**09 35 34.7**	**0.0**
CTBH	**Cotabato--PC H**	**2.91**	**297**	⇑*i*P	**Pn**	**09 35 04.2**	**-1.2**
CTBH				*i* S	**Sn**	**09 35 40.0**	**-0.5**
CGP	**Cagayan de Oro**	**3.32**	**320**	⇓*e*P	**Pn**	**09 35 11.6**	**+0.8**
CGP				*e*S	**Sn**	**09 35 51.5**	**+1.5**
SIJI	**Sorong**	**8.04**	**147**	P	**Pn**	**09 36 15.2**	**+1.2**
	2.6nm,0.3s,baz=116,slow=7.8,SNR=10						
SIJI				S	**Sn**	**09 37 42.6**	**-1.0**
	1.0nm,0.3s,baz=197,slow=19,SNR=2.8						
FITZ	**Fitzroy Crossi**	**23.89**	**183**	P	**P**	**09 39 21.5**	**-0.1**
	1.2nm,0.8s,baz=6.3,slow=9.2,SNR=5.7						
WRA	**Warramunga Arr**	**26.73**	**164**	P	**P**	**09 39 47.2**	**-0.1**
	0.3nm,0.5s,baz=334,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**29.95**	**297**	P	**P**	**09 40 14.4**	**-1.5**
	0.9nm,0.3s,baz=110,slow=10,SNR=2.3						
ASAR	**Alice Springs**	**30.19**	**167**	P	**P**	**09 40 18.1**	**+0.1**
	0.6nm,0.9s,baz=342,slow=7.1,SNR=15						
USRK	**Ussuriysk Ar.**	**38.40**	**6**	P	**P**	**09 41 29.2**	**+0.8**
	2.9nm,0.5s,baz=185,slow=6.9,SNR=9.7						
NWAO	**Narrogin (SRO)**	**39.70**	**193**	P	**P**	**09 41 39.7**	**+0.2**
	12nm,1.0s,baz=23,slow=13,SNR=2.8						
STKA	**Stephens Creek**	**40.12**	**160**	P	**P**	**09 41 43.8**	**+0.8**
	4.2nm,0.8s,baz=342,slow=8.3,SNR=6.6						
KLR	**Kul'dur**	**43.36**	**5**	P	**P**	**09 42 09.5**	**+0.4**
	1.6nm,0.6s,baz=193,slow=7.5,SNR=6.6						
SONM	**Songino Array**	**45.29**	**341**	P	**P**	**09 42 25.4**	**+0.8**
	2.6nm,1.0s,baz=159,slow=8.5,SNR=15						
MKAR	**Makanchi Array**	**55.86**	**324**	P	**P**	**09 43 43.9**	**0.0**
	3.6nm,0.7s,baz=123,slow=8.4,SNR=25						
ZALV	**Zalesovo Beam**	**58.72**	**332**	P	**P**	**09 44 03.6**	**-0.2**
	1.3nm,0.5s,baz=116,slow=6.6,SNR=4.3						
AAK	**Ala-Archa**	**58.85**	**317**	P	**P**	**09 44 04.5**	**-0.7**
	0.6nm,0.5s,baz=117,slow=4.5,SNR=2.5						
KURBB	**Kurchatov Arra**	**59.99**	**327**	P	**P**	**09 44 12.5**	**-0.1**
	4.2nm,0.7s,baz=124,slow=6.2,SNR=38						
BVAR	**Borovoye Array**	**65.58**	**326**	P	**P**	**09 44 49.6**	**0.0**
	3.0nm,0.7s,baz=117,slow=9.0,SNR=18						
AKTO	**Aktyubinsk**	**72.05**	**321**	P	**P**	**09 45 29.4**	**-0.2**
	2.5nm,0.6s,baz=95,slow=6.7,SNR=12						
KBZ	**Khabaz**	**81.59**	**313**	P	**P**	**09 46 24.1**	**+0.8**
	1.2nm,0.8s,baz=95,slow=11,SNR=2.8						
ILAR	**Eielson Array**	**83.09**	**26**	P	**P**	**09 46 30.4**	**-0.3**
	0.6nm,1.1s,baz=243,slow=4.0,SNR=4.1						
ARCES	**ARCESS Array B**	**88.46**	**340**	P	**P**	**09 46 55.9**	**-1.2**
	6.1nm,1.0s,baz=76,slow=6.4,SNR=6.2						
BRTR	**Keskin Array B**	**88.74**	**310**	P	**P**	**09 46 59.4**	**+0.2**
	0.3nm,0.4s,baz=64,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**89.98**	**332**	P	**P**	**09 47 04.0**	**-0.3**
	0.6nm,0.5s,baz=64,slow=3.5,SNR=5.4						
YKA	**Yellowknife Ar**	**97.47**	**24**	P	Pdif	09 47 39.6	+0.9
	0.1nm,0.5s,baz=103,slow=14,SNR=2.5						
TORD	**Torodi Ar. Bea**	**122.34**	**290**	PKP	**PKiKP**	**09 53 01.1**	**+0.3**
	0.5nm,0.8s,baz=64,slow=3.4,SNR=2.5						

*NEIC **21** 09:35:55.3±0.7, 28°.59S×177°.14W, h65km±6km, mb4.4/25, Error ellipse: s-maj=10.1km s-min=6.8km az=131.0*
*IDC **21** 09:35:57.3±0.7, 28°.57S×177°.23W, h77km±5km, mb4. 1/14, mb1 4.3/15, mb1mx4.0/37, mbtmp4.3/15, MS3.6/17, Ms1 3.6/17, ms1mx3.5/28, Error ellipse: s-maj=24.2km s-min=13.3km az=154.0*
ISC 21 09:35:56.8±0.5, 28°58S±0°.06×177°15W±0°.08, h77km±4km, h77km:pP-P, n108, σ1§86/112, mb4.5/32, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**225**	*e*Pn	**Pn**	**09 36 16.5**	**+1.5**
RAO				*e*Pn	Pn	09 36 17.1	+2.0
RAO				*e*Sn	**Sn**	**09 36 31.5**	**+2.9**
RAO				*e*Sn	Sn	09 36 33.0	+4.4
RAO	**Raoul Island**	**0.95**	**225**	P	**Pn**	**09 36 16.5**	**+1.5**
	2μm,0.3s,baz=114,slow=3.9,SNR=98						
RAO				S	**Sn**	**09 36 33.0**	**+4.4**
	11μm,0.3s,baz=18,slow=20,SNR=50						
OUZ	**Omahuta**	**10.27**	**228**	*e*Pn	Pn	09 38 26.7	+5.4
URZ	**Urewera**	**10.77**	**205**	*e*Pn	**Pn**	**09 38 23.8**	**-4.3**
URZ				*e*Pn	Pn	09 38 24.8	-3.3
URZ				*e*Sn	**Sn**	**09 40 26.1**	**-0.8**
URZ				*e*Sn	Sn	09 40 26.4	-0.5
URZ	**Urewera**	**10.77**	**205**	P	**Pn**	**09 38 23.8**	**-4.3**
	0.3nm,0.3s,baz=249,slow=6.3,SNR=7.3						
URZ				S	**Sn**	**09 40 26.1**	**-0.8**
	3.2nm,0.3s,baz=147,slow=20,SNR=11						
NIUE	**Niue**	**11.54**	**36**	*e*Pn	Pn	09 38 31.6	-7.1
NIUE				*e*Sn	Sn	09 40 24.8	-21
MSVF	**Nonsavu**	**11.67**	**337**	*e*Pn	**P

comp=Z,143nm,18.9s,baz=33,slow=34
RKT Rikitea 38.20 92 *e*T T 10 23 01.2
3.3nm,0.4s
TAOE Nuku Hiva Isla 39.92 68 *e*LR LR 09 54 07.2
comp=Z,260nm,27.6s
AS01 Alice Springs 43.94 265 *e*P **P 09 43 55.7 -0.7**
AS31 Alice Springs 43.98 265 *e*P **P 09 43 56.1 -0.7**
1.2nm,1.0s
ASAR Alice Springs 43.98 265 P **P 09 43 56.1 -0.7**
2.5nm,0.6s,baz=96,slow=7.5,SNR=45
ASAR pP **pwP 09 44 15.2 +0.1**
1.3nm,0.6s,baz=96,slow=7.5,SNR=4.0
ASAR PcP **PcP 09 45 42.8 +1.4**
1.1nm,0.8s,baz=106,slow=4.9,SNR=3.6
ASAR LR LR 10 00 44.8
comp=Z,147nm,21.2s,baz=106,slow=34
WB2 Warramunga Arr 44.80 270 *e*P **P 09 44 02.5 -0.8**
WRAB Tennant Creek 44.80 270 *e*P **P 09 44 02.6 -0.7**
8.8nm,0.9s
WR1 Warramunga Arr 44.81 270 *e*P **P 09 44 02.1 -1.2**
8.6nm,0.7s
WR1 *e*pP **pP 09 44 21.7 0.0**
WR1 *e*PcP **PcP 09 45 45.7 +1.5**
WRA Warramunga Arr 44.81 270 P **P 09 44 02.1 -1.2**
5.8nm,0.7s,baz=109,slow=7.7,SNR=48
WRA pP **pP 09 44 21.7 0.0**
4.2nm,0.5s,baz=111,slow=6.5,SNR=7.7
WRA PcP **PcP 09 45 45.7 +1.5**
1.7nm,0.9s,baz=111,slow=3.3,SNR=4.5
WRA LR LR 10 01 38.6
comp=Z,79nm,19.0s,baz=125,slow=34
JAY Jayapura 47.76 295 LR LR 10 03 19.0
comp=Z,50nm,19.5s,baz=156,slow=34
VNDA Vanda 49.97 186 LR LR 10 02 56.0
comp=Z,25nm,21.6s,baz=102,slow=32
FITZ Fitzroy Crossi 53.13 268 *e*P **P 09 45 06.6 -0.4**
7.9nm,0.9s
SIJI Sorong 56.39 290 LR LR 10 07 52.1
comp=Z,76nm,20.8s,baz=85,slow=34
QSPA South Pole Qui 61.52 180 *e*P **P 09 46 09.7 +4.2**
16nm,1.0s
MAW Mawson 74.26 200 LR LR 10 18 38.3
comp=Z,101nm,18.7s,baz=131,slow=34
MJAR Matsushiro Arr 77.19 325 P **P 09 47 39.9 -2.4**
2.2nm,0.8s,baz=156,slow=5.7,SNR=4.7
MAJO Matsushiro 77.19 325 *e*P **P 09 47 39.9 -2.4**
SNAA Sanae 79.94 178 P **P 09 47 59.9 +2.8**
VNA3 Neumayer Olymp 80.06 176 P **P 09 48 00.4 +2.7**
VNA2 Neumayer--Watz 80.50 177 P **P 09 48 03.1 +3.1**
baz=176,slow=4.1
VNA1 Neumayer--Stat 80.73 176 P **P 09 48 03.0 +1.8**
PLCA Paso Flores 83.20 133 P **P 09 48 16.8 +1.9**
2.6nm,1.1s,baz=269,slow=8.7,SNR=3.1
PLCA LR LR 10 15 59.7
comp=Z,47nm,21.9s,baz=252,slow=29
USRK Ussuriysk Ar. 86.07 326 P **P 09 48 30.4 +1.5**
1.6nm,0.7s,baz=139,slow=6.8,SNR=3.2
NV01 Mina Array Sit 86.40 42 *e*P **P 09 48 29.6 -1.4**
NVAR Mina Array Bea 86.40 42 P **P 09 48 32.6 +1.7**
3.2nm,0.8s,baz=222,slow=8.7,SNR=19
NVAR LR LR 10 23 09.7
comp=Z,37nm,18.1s,baz=260,slow=33
TPNV Topopah Spring 86.69 45 *e*P **P 09 48 32.3 0.0**
3.7nm,0.9s
Y14A Wickenburg 86.88 49 *e*P **P 09 48 32.5 -0.7**
4.4nm,0.9s
SHPR Sheep Range 87.08 45 *e*P **P 09 48 33.8 -0.5**
1.4nm,0.9s
SHPR *e*pP **pP 09 48 55.6 +1.5**
TUC Tucson 87.40 51 *e*P **P 09 48 37.0 +1.3**
4.3nm,0.9s
TUC *e*pP **pP 09 48 57.6 +2.0**
X16A Lo Mia Camp, P 88.21 49 *e*P **P 09 48 41.5 +1.8**
3.7nm,0.8s
X16A *e*pP **pP 09 48 58.0 -1.5**
U15A North Rim 88.86 47 *e*P **P 09 48 42.5 -0.3**
5.2nm,0.9s
KNB Kanab 88.88 46 *e*P **P 09 48 42.2 -0.6**
7.9nm,1.2s
KNB *e*pP **pP 09 49 04.7 +2.1**
KLR Kul'dur 89.85 329 P **P 09 48 48.8 +2.0**
1.6nm,0.8s,baz=124,slow=3.6,SNR=5.1
KLR PP PP 09 52 11.7 -9.1
0.3nm,0.3s,baz=101,slow=4.9,SNR=3.6
G08A Pilot Rock 90.57 37 *e*P **P 09 48 51.8 +1.4**
6.3nm,1.0s
G08A *e*pP **pP 09 49 10.4 +0.2**
LTX Lajitas 90.78 57 *e*P **P 09 48 54.0 +2.3**
TX31 Lajitas Ar. Si 90.78 57 *e*P **P 09 48 51.9 +0.2**
0.2nm,0.8s
TX31 *e*P **P 09 48 52.8 +1.0**
TX31 *e*pP **pP 09 49 13.5 +1.8**
TXAR Lajitas Array 90.78 57 P **P 09 48 54.0 +2.3**
0.8nm,0.9s,baz=221,slow=5.0,SNR=7.6
TXAR pP **pP 09 49 12.9 +1.3**
2.4nm,1.1s,baz=216,slow=6.2,SNR=9.8
MNTX Cornudas Mount 90.82 54 *e*P **P 09 48 52.9 +1.1**
1.5nm,0.9s
MNTX *e*pP **pP 09 49 12.9 +1.2**
MA2 Magadan 91.75 344 LR LR 10 26 31.4
comp=Z,23nm,18.9s,baz=115,slow=33
E09A Wood Farm, Sta 91.80 36 *e*P **P 09 48 56.5 +0.6**
21nm,1.1s
ANMO Albuquerque 91.86 51 P **P 09 48 56.6 -0.1**
0.5nm,0.4s,baz=215,slow=5.7,SNR=5.2
ANMO pP **pP 09 49 17.9 +1.3**
1.4nm,0.7s,baz=218,slow=7.0,SNR=4.3
CMAR Chiang Mai Arr 93.51 289 P **P 09 49 03.9 -0.6**
0.5nm,0.3s,baz=122,slow=6.5,SNR=3.5
SNOW Snow King Moun 94.00 42 *e*pP pP 09 49 23.1 -3.3
PD31 Pinedale Array 94.31 43 *e*P **P 09 49 06.5 -1.4**
1.8nm,1.0s
PD31 *e*pP **pP 09 49 28.2 +0.4**
PDAR Pinedale Array 94.31 43 *e*P **P 09 49 07.3 -0.6**
PDAR *e*pP **pP 09 49 27.1 -0.7**
PDAR Pinedale Array 94.31 43 P **P 09 49 08.2 +0.4**
0.8nm,0.7s,baz=220,slow=3.9,SNR=8.3
PDAR LR LR 10 23 51.6
comp=Z,24nm,20.2s,baz=258,slow=30
SEY Seymchan 94.39 347 P **P 09 49 06.7 -0.7**
2.9nm,1.1s,baz=135,slow=4.7,SNR=5.7
ILAR Eielson Array 96.00 13 P **P 09 49 14.2 -0.6**
1.3nm,0.7s,baz=215,slow=5.3,SNR=16
ILAR LR LR 10 25 03.9
comp=Z,21nm,21.2s,baz=168,slow=31
LPAZ La Paz 98.20 113 LR LR 10 24 05.5
comp=Z,24nm,21.7s,baz=244,slow=29
RSSD Black Hills 98.41 44 *e*P **P 09 49 26.1 -0.3**
4.3nm,1.1s
INK Inuvik 101.84 15 P **Pdif 09 49 41.4 +0.6**
0.5nm,0.8s,baz=206,slow=6.3,SNR=2.4
YKA Yellowknife Ar 103.49 25 PKKPbc PKKPbc 10 05 41.4 -2.0
0.2nm,0.5s,baz=42,slow=2.6,SNR=9.3
MK32 Makanchi Array 117.17 311 *e*PKPdf **PKPdf 09 54 32.1 -0.8**
MKAR Makanchi Array 117.17 311 PKP **PKPdf 09 54 32.1 -0.8**
0.9nm,0.7s,baz=81,slow=1.4,SNR=8.8
MKAR PKKP **PKKPdf 10 05 22.6 -3.1**
0.1nm,0.3s,baz=305,slow=5.1,SNR=3.6
KURBB Kurchatov Arra 120.36 314 PKP **PKPdf 09 54 38.4 -0.4**
0.6nm,0.3s,baz=63,slow=2.5,SNR=8.9
AAK Ala-Archa 121.71 305 PKP **PKPdf 09 54 41.9 -0.1**
0.8nm,0.6s,baz=143,slow=9.4,SNR=4.0
KK31 Karatay Array 124.67 305 *e*PKPdf **PKPdf 09 54 46.9 -0.5**
BVAR Borovoye Array 125.61 317 PKP **PKPdf 09 54 48.7 -0.1**
2.1nm,0.8s,baz=66,slow=1.8,SNR=10
SPITS Spitsbergen Ar 129.95 356 PKP **PKiKP 09 54 57.0 -0.3**
5.3nm,0.9s,baz=39,slow=9.3,SNR=3.2
ARA0 ARCESS Array S 136.97 349 *e*PKPpre PKPpre 09 55 05.3
ARA0 *e*PKPdf **PKPdf 09 55 09.8 -0.1**
ARCES ARCESS Array B 136.97 349 PKhKP PKPpre 09 55 05.3
3.5nm,0.9s,baz=13,slow=1.2,SNR=2.6
ARCES PKP **PKPdf 09 55 09.8 -0.1**
3.9nm,0.7s,baz=302,slow=1.7,SNR=5.9
FIA0 FINESS Array S 143.68 341 *e*PKPpre PKPpre 09 55 18.4
FINES FINESS Array B 143.68 341 PKhKP PKPpre 09 55 18.4
2.5nm,0.6s,baz=0.0,slow=5.7,SNR=6.6
KBZ Khabaz 144.68 306 PKP **PKPab 09 55 22.7 -0.7**
0.8nm,0.8s,baz=66,slow=8.8,SNR=2.9
NB2 NORSAR Subarra147.06 353 PKP **PKPbc 09 55 29.3 -1.0**
comp=Z,2.9nm,0.6s,baz=9.8,slow=2.8
NB200 NORSAR Array S 147.06 353 *e*PKPbc **PKPbc 09 55 29.9 -0.4**
NOA NORSAR Array B 147.06 353 PKPbc **PKPbc 09 55 29.9 -0.4**
comp=Z,6.7nm,0.8s,baz=14,slow=4.4,SNR=16
AKASG Malin Array Be 150.27 325 PKPbc **PKPbc 09 55 38.1 -0.7**
comp=Z,7.3nm,0.7s,baz=46,slow=3.0,SNR=12
AKBB Malin Array Si 150.27 325 *e*PKPbc **PKPbc 09 55 38.0 -0.7**
BR101 Keskin Array S 152.33 302 *e*PKPbc **PKPbc 09 55 44.0 -0.2**
BRTR Keskin Array B 152.33 302 PKPbc **PKPbc 09 55 44.0 -0.2**
comp=Z,1.6nm,0.6s,baz=135,slow=3.6,SNR=8.5
TORD Torodi Ar. Bea 164.60 176 PKPab **PKPab 09 56 45.8 -1.8**
comp=Z,0.9nm,0.6s,baz=101,slow=2.9,SNR=2.3
TORD pPKPab **sPKPab 09 57 10.2 -5.2**
comp=Z,0.8nm,0.6s,baz=168,slow=3.5,SNR=2.9
TOA1 Torodi Ar. Sit 164.61 176 *e*PKPab **PKPab 09 56 45.8 -1.8**
ESDC Sonseca Array 167.55 25 PKPab **PKPab 09 57 00.3 0.0**
comp=Z,0.5nm,0.3s,baz=326,slow=3.9,SNR=5.3
KEST Kesra 171.00 324 PKP **PKPdf 09 55 56.6 +0.2**
comp=Z,2.2nm,0.6s,baz=128,slow=14,SNR=2.0

IDC 21 09:51:01.1±4.1, 11°19S×165°82E, h55km±38km, mb3.2/3, mb1 3.8/5, mb1mx3.4/34, mbtmpg3.9/5, ML4.5/2, MS3.1/1, Ms1 3.1/1, ms1mx2.7/12, Error ellipse: s-maj=37.3km s-min=35.4km az=120.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.03**	**286**	P		Pn		09 52 27.5	-0.2
	19nm,0.3s,baz=349,slow=6.8,SNR=8.3								
HNR	**Honiara**	**6.03**	**286**	*e*S		Pn		09 52 27.0	-0.8
DZM	**Mont Dzumac**	**10.84**	**177**	P		Pn		09 53 33.9	+0.2
	2.7nm,0.3s,baz=28,slow=5.3,SNR=45								
DZM				LR		LR		09 57 46.1	
	comp=Z,100nm,18.5s,baz=20,slow=37								
WRA	**Warramunga Arr**	**31.50**	**250**	P		P		09 57 19.1	+1.0
	0.7nm,0.7s,baz=82,slow=8.9,SNR=8.8								
ASAR	**Alice Springs**	**32.79**	**244**	P		P		09 57 27.9	-1.5
	0.4nm,0.6s,baz=64,slow=10,SNR=2.5								
ILAR	**Eielson Array**	**83.62**	**18**	P		P		10 03 23.3	0.0
	0.1nm,0.5s,baz=228,slow=4.8,SNR=5.1								

*DDA **21** 10:02:58.6, 39°62N×28°87E, h7km±1km, ML2.7*
*ISCJB **21** 10:02:59.1±0.4, 39°64N±0°03×28°97E±0°04, h12km±5km, Error ellipse: s-maj=4.9km s-min=4.1km az=150.3*
*ISK **21** 10:02:59.1, 39°61N×29°03E, h22km, ML2.3/14*
ISC 21 10:02:59.1±1.0, 39°61N±0°03×28°93E±0°03, h12km±9km, n21, σ1s18/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.35**	**269**	*i* P		**Pg**		**10 03 05.7**	**-0.6**
DURS				*i* S		**Sg**		**10 03 10.6**	**-0.6**
DURS				IAML_P					
	comp=Z,2μm,0.1s								
TVSB	**Tavsanli**	**0.44**	**111**	PG		**Pg**		**10 03 07.5**	**-0.3**
TVSB				SG		**Sg**		**10 03 13.8**	**+0.1**
ORLT	**Orhaneli**	**0.44**	**356**	PG		**Pb**		**10 03 08.8**	**-0.1**
ORLT				SG		**Sb**		**10 03 15.8**	**+0.4**
SHAP	**Saphane-Kutahy**	**0.62**	**159**	PG		**Pb**		**10 03 11.5**	**-0.5**
SHAP				SG		**Sb**		**10 03 20.7**	**-0.1**
GDZ	**Gediz**	**0.67**	**140**	*i* P		**Pb**		**10 03 13.1**	**+0.3**
GDZ				IAML_P					
	comp=Z,3μm,0.2s								
IGD	**Bursa**	**0.69**	**17**	*i* P		**Pg**		**10 03 12.1**	**-0.4**
IGD				IAML_P					
	comp=Z,2μm,0.1s								
KCTX	**Karacabey (Bur**	**0.79**	**326**	PG		**Pn**		**10 03 16.3**	**+0.1**
BALB	**Balikesir**	**0.81**	**273**	PG		**Pn**		**10 03 17.2**	**+0.8**
BALB				SG		**Sn**		**10 03 29.9**	**+1.6**
USAK	**Uak-Merkez**	**0.89**	**176**	*i* P		**Pn**		**10 03 16.7**	**-0.8**
USAK				*i* S		**Sn**		**10 03 29.6**	**-0.8**
USAK				IAML_P					
	comp=Z,1μm,0.2s								
AUBOZ	**BOZOYUK**	**0.90**	**70**	PG		**Pb**		**10 03 15.6**	**-1.1**
CAVI	**Cavuskoy**	**0.92**	**49**	PG		**Pg**		**10 03 16.6**	**-0.3**
ARMT	**Armutlu**	**0.96**	**357**	PG		**Pg**		**10 03 17.3**	**-0.4**
YLV	**Yalova**	**1.02**	**19**	PG		**Pb**		**10 03 17.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.06**	**295**	PN		**Pg**		**10 03 19.9**	**+0.4**
EDC	**Edincik**	**1.10**	**312**	PN		**Pg**		**10 03 20.5**	**+0.1**
AKHS	**Akhisar**	**1.13**	**230**	*i* P		**Pn**		**10 03 20.6**	**-0.2**
AKHS				IAML_P					
	comp=Z,787nm,0.2s								
BORA	**Eskisehir**	**1.20**	**76**	*i* P		**Pg**		**10 03 23.1**	**+0.8**
BORA				*i* S		**Sg**		**10 03 42.5**	**+4.4**
BORA				IAML_P					
	comp=Z,935nm,0.1s								
BUY	**Buyukada**	**1.25**	**6**	PN		**Pn**		**10 03 21.0**	**-1.4**
ISK	**Istanbul-Kandi**	**1.46**	**4**	PN		**Pn**		**10 03 24.4**	**-0.9**
SAUV	**Serdivan-Sakar**	**1.56**	**43**	PN		**Pn**		**10 03 25.4**	**-1.2**
CTKS	**Kestanelik-??a**	**1.66**	**349**	PN		**Pn**		**10 03 27.2**	**-0.8**

*IDC **21** 10:18:00.3±0.6, 36°35N×141°83E, h0km, mb3.7/14, mb1 4.0/17, mb1mx3.9/37, mbtmpg3.8/17, ML3.9/3, MS3.2/4, Ms1 3.2/4, ms1mx2.7/37, Error ellipse: s-maj=19.1km s-min=14.6km az=111.0*
*NIED **21** 10:18:00, 36°50N×141°70E, h26km, Mw3.9 Best double couple: M₀8.71000×10¹⁴ NP1:φ₀112.00000°, δ27.00000°, λ-53.00000°. NP2:φ₀252.00000°, δ69.00000°, λ-107.00000°.*
*ISCJB **21** 10:18:02.2±1.5, 36°43N±0°04×141°87E±0°08, h23km±10km, mb3.7/14, MS3.8/1, Error ellipse: s-maj=10.2km s-min=7.2km az=178.3*
*JMA **21** 10:18:04.4±0.1, 36°49N×141°70E, h59km±4km, M3.7*
ISC 21 10:18:02.0±3.1, 36°48N±0°04×141°83E±0°06, h11km±20km, n42, σ1s57/39, mb3.7/14, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.01**	**263**	P		**Pb**		**10 18 21.5**	**+0.1**
JHYU				*e*S		**Sb**		**10 18 34.0**	**-0.7**
JHO	**Hitachi**	**1.02**	**278**	P		**Pb**		**10 18 21.2**	**-0.5**
JHO				*e*S		**Sb**		**10 18 33.9**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.03**	**307**	P		**Pb**		**10 18 21.6**	**-0.3**
CHOJ	**Chosi**	**1.10**	**226**	P		**Pb**		**10 18 23.4**	**+0.4**
CHOJ				*e*S		**Sb**		**10 18 37.7**	**+0.3**
JFK	**Kawauchi**	**1.17**	**320**	P		**Pn**		**10 18 23.8**	**-0.5**
JFT	**Otama**	**1.58**	**311**	P		**Pn**		**10 18 30.6**	**+0.7**
JMM	**Marumori**	**1.61**	**330**	P		**Pn**		**10 18 30.1**	**-0.3**
JAG	**Ashikaga**	**1.91**	**269**	P		**Pn**		**10 18 34.2**	**-0.3**
BSO1	**Boso 1**	**1.95**	**201**	P		**Pn**		**10 18 34.9**	**+0.4**
BSO3	**Boso 3**	**1.99**	**213**	P		**Pn**		**10 18 35.9**	**+0.6**
JIO	**Ouri**	**2.01**	**349**	P		**Pn**		**10 18 35.5**	**-0.3**
MJAR	**Matsushiro Arr**	**2.91**	**272**	Pn		**Pn**		**10 18 49.0**	**+0.7**
	2.1nm,0.3s,baz=85,slow=9.0,SNR=47								
MJAR				Sn		**Sn**		**10 19 24.8**	**+1.5**
	1.8nm,0.3s,baz=100,slow=14,SNR=6.5								
MAT	**Matsushiro**	**2.92**	**272**	P		**Pn**		**10 18 49.9**	**+1.6**
MAT				S		**Sn**		**10 19 19.2**	**-4.1**
JHJ	**Hachijo jima 2**	**3.75**	**207**	Pn		**Pn**		**10 18 59.6**	**-0.2**
	33nm,0.3s,baz=62,slow=22,SNR=18								
JHJ				Sn		**Sn**		**10 19 39.6**	**-4.3**
	99nm,0.3s,baz=273,slow=22,SNR=11								
ASAJ	**Asahikawa**	**7.65**	**4**	Pn		**Pn**		**10 19 51.9**	**-1.4**
	1.5nm,0.3s,baz=214,slow=15,SNR=6.6								
ASAJ				Sn		**Sn**		**10 21 16.0**	**-4.0**
	0.4nm,0.3s,baz=75,slow=19,SNR=3.1								
JCJ	**Chichijima**	**9.36**	**178**	Pn		**Pn**		**10 20 15.4**	**-1.4**
	6.9nm,0.3s,baz=88,slow=22,SNR=5.4								
JCJ				Sn				10 21 50.3	-12
	6.5nm,0.3s,baz=319,slow=19,SNR=2.9								
USRK	**Ussuriysk Ar.**	**10.76**	**319**	Pn				10 20 42.0	+6.1
	0.2nm,0.3s,baz=142,slow=11,SNR=6.0								
USRK				LR		LR		10 24 30.8	
	comp=Z,72nm,19.7s,baz=156,slow=36								
KSRS	**Korea Array**	**11.17**	**279**	LR		LR		10 24 25.2	
	comp=Z,59nm,20.2s,baz=106,slow=34								
KLR	**Kul'dur**	**14.71**	**333**	LR		LR		10 27 06.9	
	comp=Z,84nm,19.5s,baz=143,slow=37								
SEY	**Seymchan**	**27.27**	**11**	P		**P**		**10 23 48.7**	**+2.7**
	0.4nm,0.3s,baz=165,slow=5.1,SNR=4.8								
H11N2	**WAKE ISLAND Hy**	**27.58**	**120**	T		T		10 53 11.4	
	baz=313,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**27.59**	**120**	T		T		10 53 15.8	
	baz=313,slow=75,SNR=17								
H11N3	**WAKE ISLAND Hy**	**27.60**	**120**	T		T		10 53 14.1	
	baz=313,slow=75,SNR=14								
H11S1	**WAKE ISLAND Hy**	**28.28**	**123**	T		T		10 53 58.6	
	baz=314,slow=75,SNR=12								
H11S3	**WAKE ISLAND Hy**	**28.28**	**123**	T		T		10 53 58.5	
	baz=314,slow=75,SNR=7.1								
H11S2	**WAKE ISLAND Hy**	**28.30**	**123**	T		T		10 54 14.4	
	baz=314,slow=75,SNR=8.8								
SONM	**Songino Array**	**28.37**	**305**	P		**P**		**10 23 56.2**	**0.0**
	1.5nm,0.8s,baz=96,slow=9.0,SNR=4.6								
CMAR	**Chiang Mai Ar**	**41.68**	**256**	P		**P**		**10 25 50.7**	**-0.1**
	0.5nm,0.3s,baz=47,slow=5.3,SNR=3.5								
ZALV	**Zalesovo Beam**	**42.53**	**313**	P		**P**		**10 25 57.7**	**+0.4**
	1.2nm,0.6s,baz=99,slow=8.0,SNR=3.2								
MKAR	**Makanchi Array**	**44.70**	**303**	P		**P**		**10 26 14.6**	**-0.3**
	0.3nm,0.6s,baz=75,slow=8.9,SNR=4.3								
ILAR	**Eielson Array**	**49.79**	**32**	P		**P**		**10 26 55.7**	**+1.4**
	0.2nm,0.7s,baz=263,slow=6.1,SNR=3.6								
INK	**Inuvik**	**54.73**	**27**	P		**P**		**10 27 31.9**	**+1.0**
	0.8nm,1.0s,baz=281,slow=5.2,SNR=2.3								
WRA	**Warramunga Arr**	**56.56**	**188**	P		**P**		**10 27 43.2**	**-1.3**
	1.5nm,0.5s,baz=7.1,slow=7.4,SNR=42								
ASAR	**Alice Springs**	**60.29**	**188**	P		**P**		**10 28 09.8**	**-0.7**
	1.6nm,0.8s,baz=15,slow=7.0,SNR=20								
YKA	**Yellowknife Ar**	**64.12**	**30**	P		**P**		**10 28 35.8**	**0.0**
	0.3nm,0.7s,baz=299,slow=6.7,SNR=4.1								
NB2	**NORSAR Subarra**	**74.83**	**337**	P		**P**		**10 29 44.3**	**+2.2**
	comp=Z,1.9nm,0.7s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**74.83**	**337**	P		**P**		**10 29 43.3**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=40,slow=5.7,SNR=3.3								
AKASG	**Malin Array Be**	**74.94**	**323**	P		**P**		**10 29 43.7**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=47,slow=5.4,SNR=2.9								
NVAR	**Mina Array Bea**	**75.06**	**53**	P		**P**		**10 29 44.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=303,slow=6.2,SNR=4.0								
GERES	**GERESS Array B**	**83.36**	**328**	LR		LR		11 11 00.8	
	comp=Z,34nm,18.3s,baz=288,slow=38								
TXAR	**Lajitas Array**	**90.20**	**53**	P		**P**		**10 31 02.7**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=298,slow=2.7,SNR=3.4								
LPAZ	**La Paz**	**146.68**	**61**	PKPbc		**PKPdf**		**10 37 44.6**	**+1.2**
	comp=Z,1.7nm,0.6s,baz=286,slow=2.4,SNR=8.9								

*NNC **21** 10:33:56.8±1.1, 47°40N×83°48E, h11km±9km, mb3.7, mpv3.2, Error ellipse: s-maj=6.5km s-min=5.3km az=82.0*
*SOME **21** 10:34:04.7, 47°47N×82°73E, h20km*
ISC 21 10:34:01.0±0.9, 47°50N±0°04×83°10E±0°04, h13km, n19, σ2s24/30, 5C-3D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**0.90**	**219**	P		**Pg**		**10 34 16.1**	**-2.3**
	1.7nm,0.2s,baz=52,slow=19,SNR=329								
MK31				⇑S		**Sb**		**10 34 30.4**	**+0.1**
	6.5nm,0.2s,baz=54,slow=32,SNR=18								
MAKZ	**Makanchi**	**1.03**	**228**	⇑P		**Pb**		**10 34 18.3**	**-2.4**
	3.1nm,0.2s								
MAKZ				⇓S		**Sn**		**10 34 34.8**	**-0.7**
	19nm,0.4s								
ZSN	**Zaisan**	**1.20**	**92**	P		**Pb**		**10 34 25.1**	**+1.6**
	2.0nm,0.2s								
ZSN				S		**Sb**		**10 34 39.1**	**+0.2**
	54nm,0.2s								
ZSN	**Zaisan**	**1.20**	**92**	*e*P		**Pb**		**10 34 25.1**	**+1.6**
	2.0nm,0.2s								
ZSN				*e*S		**Sb**		**10 34 39.1**	**+0.2**
	54nm,0.2s								
KAPS	**Kapalarasan**	**3.41**	**231**	Pg		**Pb**		**10 35 02.3**	**+1.1**
	2.4nm,0.1s								
KAPS				Lg		Lg		10 35 42.9	
	18nm,0.7s								
KAPS	**Kapalarasan**	**3.41**	**231**	*e*P		**Pb**		**10 35 02.3**	**+1.1**
	2.4nm,0.1s								
KAPS				*e*S		**Sb**		**10 35 42.9**	**+0.3**
	18nm,0.7s								
SEM	**Semipalatinsk**	**3.47**	**328**	Pg		**Pb**		**10 35 03.5**	**+1.2**
	7.4nm,0.1s								
SEM				Lg		Lg		10 35 45.2	
	61nm,0.2s								
SEM	**Semipalatinsk**	**3.47**	**328**	*e*P		**Pb**		**10 35 03.5**	**+1.2**
	7.4nm,0.1s								
SEM				*e*S		**Sb**		**10 35 45.2**	**+0.8**
	61nm,0.2s								
DJR	**Jarkent**	**3.92**	**217**	Pg		**Pb**		**10 35 12.4**	**+2.5**
	1.2nm,0.2s								
DJR				Lg		Lg		10 36 00.9	
	4.6nm,0.6s								
DJR	**Jarkent**	**3.92**	**217**	*e*P		**Pb**		**10 35 12.4**	**+2.5**
	1.2nm,0.2s								
DJR				*e*S		**Sb**		**10 36 00.9**	**+3.5**
	4.6nm,0.6s								
KURBB	**Kurchatov Arra**	**4.34**	**318**	⇑Pn		**Pn**		**10 35 06.9**	**+0.3**
	2.1nm,0.6s								
KURBB				⇓Lg		Lg		10 36 22.1	
	26nm,0.5s								
PDGK	**Podgornoye**	**4.88**	**213**	Pg		**Pb**		**10 35 28.9**	**+2.5**
	1.0nm,0.3s								
PDGK				Lg		Lg		10 36 29.0	
	2.7nm,0.5s								
PDGK	**Podgornoye**	**4.88**	**213**	⇑Pn		**Pn**		**10 35 12.1**	**-2.1**
	2.3nm,0.8s								
PDGK				⇓Sn		**Sn**		**10 36 09.8**	**-0.9**
	5.4nm,0.7s								
PDGK				⇑Lg		Lg		10 36 33.6	
	10nm,0.7s								
ARXS	**Arharly**	**4.94**	**230**	Pg		**Pb**		**10 35 30.4**	**+3.1**
	3.3nm,0.4s								
ARXS				Lg		Lg		10 36 30.9	
	13nm,0.5s								
ARXS	**Arharly**	**4.94**	**230**	*e*P		**Pb**		**10 35 30.4**	**+3.1**
	3.3nm,0.4s								
ARXS				*e*S		**Sb**		**10 36 30.9**	**+4.3**
	13nm,0.5s								
UZB	**Uzunbulak**	**5.22**	**215**	Pg		**Pb**		**10 35 34.9**	**+2.8**
	0.7nm,0.2s								
UZB				Lg		Lg		10 36 38.6	
	2.7nm,0.4s								
UZB	**Uzunbulak**	**5.22**	**215**	*e*P		**Pb**		**10 35 34.9**	**+2.8**
	0.7nm,0.2s								
UZB				*e*S		**Sb**		**10 36 38.6**	**+3.9**
	2.7nm,0.4s								
KOTS	**Kotyrbulak**	**6.00**	**227**	Pg		**Pg**		**10 35 54.2**	**-1.6**
	1.4nm,0.3s								
KOTS				Lg		Lg		10 37 11.7	
	7.1nm,0.4s								
KOTS	**Kotyrbulak**	**6.00**	**227**	*e*P		**Pg**		**10 35 54.2**	**-1.6**
	1.4nm,0.3s								
KOTS				*e*S		**Sg**		**10 37 11.7**	**-1.8**
	7.1nm,0.4s								

TRN 21 10:38:34.5, 15°92N×60°83W, h30km, MD3.7, 6C-2D, Leeward Islands

| Code | Station Name | Δ° | AZ° |

SEUS				*e*S	Sn	10 39 47.7	+2.7
SVB	**Belmont**	**2.66**	**189**	*e*P	Pn	10 39 18.1	+2.7
SVB				*e*S	Sn	10 39 48.4	+1.7
FCV	**Fort Charlotte**	**2.77**	**188**	*e*P	Pn	10 39 19.4	+2.5
FCV				*e*S	Sn	10 39 51.4	+2.0
SMRT	**St. Maarten**	**3.02**	**315**	*e*P	Pn	10 39 22.4	+2.1
SMRT				*e*S	Sn	10 39 56.2	+0.6
GRSS	**Sisters**	**3.68**	**192**	*e*P	Pn	10 39 32.0	+2.6
GRHS	**Sauteurs**	**3.76**	**192**	*e*P	Pn	10 39 32.1	+1.7

*SJA **21** 10:50:18.1±0.7,29°.67S×72°.44W,h40km±999km,ML3.1, MW3.7*
*GUC **21** 10:50:19.7±0.5,29°.57S×72°.00W,h40km,ML3.2*
ISC 21 10:50:12.0±3.4,**29°.59S**±0°.07×**72°.5W**±0°.1,**h17**km±7km,**n13, σ2§28/19, 2D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.60**	**112**	⇓	*e*P	**Pg**		**10 50 42.6**	**-0.2**
GO04					*e*S	**Sn**		**10 50 59.5**	**-0.6**
GO04					IAML			10 51 03.3	
	comp=N,1μm,0.5s								
LCO	**Las Campanas**	**1.69**	**70**	⇓	*i*P	**Pb**		**10 50 43.5**	**+0.8**
LCO					*e*S	**Sn**		**10 51 01.1**	**-1.1**
LCO					IAML			10 51 03.3	
	comp=E,469nm,0.3s								
VACH	**Vallenar**	**1.84**	**57**		*e*P	**Pb**		**10 50 45.6**	**+0.3**
VACH					*e*S	**Sn**		**10 51 05.0**	**-0.7**
CMCH	**Combarbala**	**2.05**	**141**		*e*P	**Pg**		**10 50 50.6**	**-0.7**
CMCH					*e*S	**Sb**		**10 51 12.7**	**-1.3**
AROD	**Rodeo**	**2.71**	**103**		*i*P	**Pb**		**10 51 00.2**	**+0.1**
AROD					*i*S	**Sb**		**10 51 32.4**	**-0.7**
ACDV	**Cuesta del Vie**	**3.01**	**102**		*i*P	**Pb**		**10 51 04.6**	**-0.5**
ACCO	**Cerro Coronel**	**3.15**	**109**		*i*P	**Pb**		**10 51 07.5**	**-0.3**
AGUA	**GUANDACOL**	**3.51**	**89**		*i*P	**Pb**		**10 51 12.0**	**-1.7**
RTLS	**Leoncito**	**3.54**	**129**		*i*P	**Pb**		**10 51 12.8**	**-1.6**
RTLS					*i*S	**Sn**		**10 51 52.4**	**+4.4**
RTLS					IAML			10 51 55.6	
	comp=Z,20nm,0.2s								
ROCH	**El Roble**	**3.61**	**159**		IAML			10 52 10.9	
	comp=N,30nm,0.2s								
ROC1	**El Roble**	**3.61**	**160**		*i*P	**Pb**		**10 51 12.8**	**-2.7**
AMOG	**MOGNA**	**3.73**	**112**		*i*P	**Pb**		**10 51 14.8**	**-2.6**
VCA	**Vinchina**	**3.87**	**78**		*i*P	**Pb**		**10 51 17.2**	**-2.6**
VCA					IAML			10 51 18.6	
	comp=Z,49nm,0.3s								
VCA					*i*S	**Sn**		**10 52 01.0**	**+5.1**

*IDC **21** 10:59:09.7±1.7,43°.66N×88°.24E,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.4/40,mbtmp3.6/3,ML3.3/1,Error ellipse: s-maj=92.8km s-min=18.8km az=45.0*
*NNC **21** 10:59:13.8±1.4,43°.02N×86°.96E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=10.1km s-min=7.5km az=133.0*
ISC 21 10:59:12.5±1.3,**43°.02N**±0°.09×**87°.34E**±0°.09,**h10**km,**n13, σ1§70/17, 4C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**5.12**	**277**		Pg	**Pb**		**11 00 41.1**	**-1.2**
	4.7nm,0.2s								
KTMS					Lg	Lg		11 01 47.5	
	15nm,0.3s								
MK31	**Makanchi Array**	**5.21**	**318**		Pn	**Pn**		**11 00 30.1**	**-0.3**
	0.7nm,0.3s,baz=133,slow=14,SNR=104								
MK31				⇑	Sn	**Sn**		**11 01 30.1**	**-0.4**
	6.4nm,0.7s,baz=137,slow=26,SNR=5.0								
MK31				⇓	Lg	Lg		11 01 53.4	
	5.3nm,0.6s,baz=136,slow=28,SNR=4.1								
MKAR	**Makanchi Array**	**5.21**	**318**		Pn	**Pn**		**11 00 29.6**	**-0.8**
	1.1nm,0.3s,baz=125,slow=15,SNR=74								
MKAR					Pg	**Pb**		**11 00 44.1**	**+0.5**
	0.8nm,0.3s,baz=126,slow=15,SNR=8.7								
MKAR					Sn	**Sn**		**11 01 29.9**	**-0.7**
	0.9nm,0.3s,baz=129,slow=24,SNR=4.6								
MKAR					Lg	Lg		11 01 50.1	
	1.3nm,0.3s,baz=129,slow=32,SNR=6.9								
MAKZ	**Makanchi**	**5.37**	**317**	⇓	Pn	**Pn**		**11 00 32.5**	**-0.2**
	1.2nm,0.3s								
MAKZ				⇓	Lg	Lg		11 01 59.2	
	5.7nm,0.6s								
DJR	**Jarkent**	**5.63**	**286**		Pg	**Pb**		**11 00 52.0**	**+1.1**
	2.8nm,0.6s								
DJR					Lg	Lg		11 02 06.2	
	6.2nm,0.6s								
PDGK	**Podgornoye**	**5.75**	**276**		Pg	**Pb**		**11 00 53.4**	**+0.4**
	1.6nm,0.5s								
PDGK					Lg	Lg		11 02 08.6	
	6.3nm,0.6s								
PDGK	**Podgornoye**	**5.75**	**276**	⇑	Pn	**Pn**		**11 00 38.3**	**+0.3**
	1.4nm,0.4s								
PDGK				⇑	Sn	**Sn**		**11 01 41.5**	**-2.6**
	8.6nm,0.7s								
PDGK				⇑	Lg	Lg		11 02 07.3	
	13nm,0.7s								
UZB	**Uzynbulak**	**6.09**	**274**		Pg	**Pb**		**11 00 58.4**	**-0.4**
	2.4nm,0.3s								
UZB					Lg	Lg		11 02 17.2	
	8.8nm,0.7s								
KAPS	**Kapalarasan**	**6.17**	**294**		Pg	**Pb**		**11 01 02.7**	**+2.6**
	4.2nm,0.5s								
KAPS					Lg	Lg		11 02 24.6	
	7.6nm,0.4s								
ARXS	**Arharly**	**7.01**	**283**		Pg	**Pb**		**11 01 16.4**	**+2.1**
	6.3nm,0.6s								
ARXS					Lg	Lg		11 02 48.6	
	7.7nm,0.5s								
KOTS	**Kotyrbulak**	**7.49**	**275**		Pg	**Pb**		**11 01 25.6**	**+3.0**
	1.5nm,0.5s								
KOTS					Lg	Lg		11 03 04.4	
	6.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**26.38**	**155**		P	**P**		**11 04 51.3**	**+2.3**
	0.5nm,0.3s,baz=332,slow=9.3,SNR=4.1								
WRA	**Warramunga Arr**	**76.11**	**135**		P	**P**		**11 10 58.6**	**-1.9**
	0.3nm,0.7s,baz=333,slow=4.8,SNR=5.2								

MEX 21 11:06:02.3±0.5,**16°.25N**×**98°.53W**,**h5**km,**MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**70**		*e*P	Pg		11 06 09.7	-0.6
PNIG					*e*S	Sg		11 06 15.6	0.0
TLIG	**Tlapa**	**1.30**	**358**		*e*P	Pn		11 06 23.0	-4.3
TLIG					*e*S	Sg		11 06 39.9	-4.3
VHO	**Vista Hermosa**	**1.90**	**64**		*e*P	Pn		11 06 32.7	-3.0
VHO					*i*S	Sn		11 06 55.3	-4.8

*IDC **21** 11:07:49.5±2.1,34°.33N×85°.99E,h0km,mb3.6/2, mb1 3.8/5,mb1mx3.3/52,mbtmp3.6/5,ML2.9/3,MS3.2/2, Ms1 3.4/2,ms1mx2.5/45,Error ellipse: s-maj=84.6km s-min=26.4km az=60.0*
*ISCJB **21** 11:07:52.7±0.7,34°.41N±0°.05×85°.7E±0°.2,h33km,mb3.5/2, MS3.3/2,Error ellipse: s-maj=24.8km s-min=7.4km az=176.0*
ISC 21 11:07:54.9±1.0,**34°.41N**±0°.10×**85°.7E**±0°.2,**h35**km,**n13, σ1§23/12, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.27**	**196**		*e*P	**Pn**		**11 09 25.3**	**+0.1**
	15nm,0.5s								
GUN	**Gumba**	**6.49**	**179**		*e*P	**Pn**		**11 09 29.9**	**+1.7**
	16nm,0.6s								
KKN	**Kakani**	**6.61**	**183**		*e*P	**Pn**		**11 09 31.4**	**+1.6**
	13nm,0.5s								
PYUN	**Piuthan**	**6.71**	**201**		*e*P	**Pn**		**11 09 29.6**	**-1.5**
PKIN	**Phulchoki**	**6.82**	**182**		*e*P	**Pn**		**11 09 33.4**	**+0.7**
	8.0nm,0.4s								
PKI	**Pulchoki**	**6.83**	**182**		*e*P	**Pn**		**11 09 33.3**	**+0.5**
	10nm,0.5s								
KOLN	**Koldanda**	**6.87**	**196**		*e*P	**Pn**		**11 09 32.3**	**-1.0**
	13nm,0.6s								
AAK	**Ala-Archa**	**12.01**	**316**		Pn	**Pn**		**11 10 45.2**	**+1.6**
	0.1nm,0.3s,baz=135,slow=14,SNR=2.6								
MKAR	**Makanchi Array**	**12.63**	**349**		Pn	**Pn**		**11 10 51.8**	**-0.2**
	0.1nm,0.3s,baz=169,slow=11,SNR=5.0								
KURBB	**Kurchatov Arra**	**17.02**	**344**		Pn	**Pn**		**11 11 50.5**	**+0.5**
	0.1nm,0.3s,baz=160,slow=12,SNR=3.8								
NOA	**NORSAR Array B**	**53.20**	**324**		LR	LR		11 39 28.6	
	comp=Z,15nm,19.0s,baz=250,slow=36								

WRA	**Warramunga Arr**	**71.14**	**132**		P	**P**		**11 19 08.9**	**-1.2**
	0.4nm,0.4s,baz=327,slow=6.3,SNR=6.4								
ILAR	**Eielson Array**	**72.96**	**21**		P	**P**		**11 19 20.2**	**-0.2**
	0.5nm,1.0s,baz=304,slow=4.5,SNR=3.5								
ILAR					LR	LR		11 56 31.5	
	comp=Z,29nm,20.5s,baz=161,slow=40								

MEX 21 11:08:45.7±0.6,**13°.51N**×**91°.50W**,**h15**km±220km,**MD3.8, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THIG		**1.58**	**332**		*i*P	Pn		11 09 10.6	-2.6
THIG					*i*S	Sn		11 09 28.8	-4.6
PCIG		**2.75**	**323**		*e*P	Pn		11 09 26.9	-2.4
PCIG					*i*S	Sn		11 09 58.2	-4.0
CCIG	**Comitan**	**2.83**	**347**		*i*P	Pn		11 09 27.9	-2.7
CCIG					*i*S	Sn		11 10 01.1	-3.4

*IDC **21** 11:12:21.5±3.4,13°.42S×166°.87E,h87km±27km,mb3.9/12, mb1 4.0/14,mb1mx3.8/41,mbtmp4.3/14,MS3.0/2, Ms1 3.0/2,ms1mx2.6/31,Error ellipse: s-maj=25.8km s-min=20.4km az=85.0*
*ISCJB **21** 11:12:22.4±0.8,13°.42S±0°.07×166°.7E±0°.1,h100km, mb4.1/16,Error ellipse: s-maj=15.7km s-min=7.9km az=153.1*
*NEIC **21** 11:12:22.8±1.3,13°.34S×166°.77E,h94km±11km,mb4.1/9, Error ellipse: s-maj=14.7km s-min=10.1km az=56.0*
ISC 21 11:12:23.9±0.9,**13°.41S**±0°.08×**166°.6E**±0°.1,**h100**km,**n33, σ1§67/39, mb4.1/16, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.63**	**300**		*e*P	**Pn**		**11 14 12.0**	**-0.4**
HNR					*e*S	**Sn**		**11 15 31.0**	**-6.3**
HNR	**Honiara**	**7.63**	**300**		*e*Pn	**Pn**		**11 14 13.0**	**+0.6**
HNR					*e*Pn	Pn		11 14 13.2	+0.8
HNR					*e*Sn	**Sn**		**11 15 35.5**	**-1.7**
HNR					*e*Sn	Sn		11 15 38.3	+1.0
HNR	**Honiara**	**7.63**	**300**		P	**Pn**		**11 14 13.2**	**+0.8**
	44nm,0.3s,baz=190,slow=6.8,SNR=16								
HNR					S	**Sn**		**11 15 35.5**	**-1.7**
	9.4nm,0.3s,baz=45,slow=20,SNR=2.2								
HNR					LR	LR		11 17 30.5	
	comp=Z,31nm,18.3s,baz=130,slow=39								
MARNC	**Mare, Loyalty**	**8.14**	**171**		*e*Pn	**Pn**		**11 14 18.2**	**-1.2**
DZM	**Mont Dzumac**	**8.62**	**181**		P	**Pn**		**11 14 24.1**	**-1.8**
	1.2nm,0.3s,baz=350,slow=11,SNR=23								
DZM					S	**Sn**		**11 15 57.3**	**-4.1**
	0.4nm,0.3s,baz=323,slow=20,SNR=2.2								
ONTNC	**Ouen Toro**	**8.86**	**181**		*e*Pn	**Pn**		**11 14 28.3**	**-0.8**
PINNC	**Pines Island,**	**9.19**	**175**		*e*Pn	**Pn**		**11 14 34.4**	**+0.8**
EIDS	**Eidsvold**	**18.85**	**229**		*e*P	**Pn**		**11 16 39.5**	**+1.8**
	16nm,0.6s								
CTA	**Charters Tower**	**20.58**	**248**		P	**P**		**11 16 57.0**	**+2.0**
	2.2nm,0.8s,baz=76,slow=12,SNR=7.5								
CTAO	**Charters Tower**	**20.58**	**248**		*e*P	**P**		**11 16 56.8**	**+1.8**
	6.3nm,0.9s								
ARMA	**Armidale**	**21.86**	**217**		*e*P	**P**		**11 17 10.3**	**+1.7**
	8.8nm,0.8s								
OUZ	**Omahuta**	**22.62**	**165**		*e*P	**P**		**11 17 17.7**	**+1.3**
	22nm,1.0s								
COEN	**Coen**	**22.77**	**266**		*e*P	**P**		**11 17 19.1**	**+1.0**
	13nm,1.0s								
STKA	**Stephens Creek**	**29.39**	**227**		*e*P	**P**		**11 18 17.5**	**-0.3**
	1.0nm,1.0s								
STKA	**Stephens Creek**	**29.39**	**227**		P	**P**		**11 18 18.9**	**+1.1**
	2.6nm,0.5s,baz=56,slow=10,SNR=9.1								
RPZ	**Rata Peaks**	**30.45**	**174**		LR	LR		11 30 44.8	
	comp=Z,92nm,18.9s,baz=205,slow=36								
WR1	**Warramunga Arr**	**31.55**	**254**		*e*P	**P**		**11 18 36.8**	**-0.2**
	3.6nm,1.1s								
WR1					*e*PcP	**PcP**		**11 21 27.3**	**-0.2**
WRA	**Warramunga Arr**	**31.55**	**254**		P	**P**		**11 18 36.8**	**-0.2**
	2.1nm,0.5s,baz=85,slow=9.4,SNR=44								
WRA					PcP	**PcP**		**11 21 27.3**	**-0.2**
	0.3nm,0.9s,baz=76,slow=3.5,SNR=2.9								
AS31	**Alice Springs**	**32.57**	**247**		*e*P	**P**		**11 18 46.0**	**+0.1**
	2.2nm,0.5s								
ASAR	**Alice Springs**	**32.57**	**247**		P	**P**		**11 18 45.9**	**-0.1**
	4.6nm,0.5s,baz=75,slow=9.4,SNR=73								
ASAR					PcP	**PcP**		**11 21 29.7**	**-0.6**
	0.3nm,0.5s,baz=73,slow=2.2,SNR=3.9								
SIJI	**Sorong**	**37.14**	**287**		P	**P**		**11 19 26.5**	**+1.2**
	7.8nm,0.7s,baz=99,slow=7.2,SNR=6.1								
FITZ	**Fitzroy Crossi**	**39.65**	**258**		*e*P	**P**		**11 19 46.6**	**+0.4**
	2.6nm,1.1s								
FITZ	**Fitzroy Crossi**	**39.65**	**258**		P	**P**		**11 19 46.6**	**+0.4**
	1.4nm,0.6s,baz=105,slow=8.1,SNR=7.9								
NWAO	**Narrogin (SRO)**	**48.89**	**238**		P	**P**		**11 20 59.9**	**+0.1**
	8.5nm,0.5s,baz=94,slow=5.7,SNR=12								
CMAR	**Chiang Mai Arr**	**73.83**	**294**		P	**P**		**11 23 50.1**	**+2.0**
	1.1nm,0.7s,baz=128,slow=4.4,SNR=7.7								
QSPA	**South Pole Qui**	**76.61**	**180**		P	**P**		**11 24 03.0**	**-0.4**
	1.1nm,0.7s,baz=329,slow=5.9,SNR=6.9								
SONA0	**Songino Array**	**81.06**	**324**		*e*P	**P**		**11 24 28.5**	**+0.5**
SONM	**Songino Array**	**81.06**	**324**		P	**P**		**11 24 28.5**	**+0.5**
	0.8nm,0.7s,baz=156,slow=7.5,SNR=4.7								
ILAR	**Eielson Array**	**85.47**	**18**		P	**P**		**11 24 47.6**	**-2.5**
	0.5nm,0.7s,baz=241,slow=4.7,SNR=7.0								
MK32	**Makanchi Array**	**95.81**	**317**		*e*P	**P**		**11 25 38.9**	**-0.1**
MKAR	**Makanchi Array**	**95.81**	**317**		P	**P**		**11 25 38.9**	**-0.1**
	0.6nm,0.8s,baz=89,slow=7.9,SNR=6.5								
TORD	**Torodi Ar. Bea**	**165.31**	**271**		PKPab	**PKPab**		**11 33 16.1**	**+0.3**
	0.3nm,0.5s,baz=104,slow=3.3,SNR=3.2								
TOA1	**Torodi Ar. Sit**	**165.31**	**271**		*e*PKPab	**PKPab**		**11 33 16.1**	**+0.3**

*IDC **21** 11:15:51.1±0.9,40°.84S×175°.93E,h0km,mb4.0/4, mb1 4.1/6,mb1mx3.9/34,mbtmp4.0/6,ML3.6/2,MS3.3/10, Ms1 3.3/10,ms1mx3.2/27,Error ellipse: s-maj=28.5km s-min=23.5km az=71.0*
*ISCJB **21** 11:15:52.2±0.3,41°.14S±0°.03×176°.31E±0°.04,h46km±4km, mb4.0/5,MS3.4/8,Error ellipse: s-maj=6.6km s-min=2.3km az=36.0*
*NEIC **21** 11:15:54.2±1.0,40°.95S×175°.96E,h24km±8km,mb4.3/3, Error ellipse: s-maj=14.0km s-min=5.1km az=126.0*
*WEL **21** 11:15:54.7,41°.0S±0°.6×17°.6E±°,h37km±1km,ML4.6/36*
ISC 21 11:15:55.2±0.7,**41°.01S**±0°.03×**176°.12E**±0°.03,**h31**km±4km, **n194, σ1§53/215, mb4.1/5, MS3.5/8, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPWZ	**Castlepoint**	**0.12**	**31**		P	**Pn**		**11 16 01.3**	**+0.4**
CPWZ					S	**Sb**		**11 16 06.4**	**+1.6**
TMWZ	**Te Maipa**	**0.20**	**242**		P	**Pn**		**11 16 02.1**	**+0.1**
TMWZ					S	**Sb**		**11 16 07.4**	**+1.4**
TIWZ	**Tintock**	**0.30**	**323**		P	**Pb**		**11 16 01.6**	**-1.2**
TIWZ					S	**Sb**		**11 16 06.4**	**-1.6**
BFZ	**Birch Farm**	**0.35**	**16**		*e*Pg	**Pb**		**11 16 03.0**	**-0.4**
BFZ					*e*Sg	**Sb**		**11 16 08.6**	**-0.4**
BFZ	**Birch Farm**	**0.35**	**16**		P	**Pb**		**11 16 03.0**	**-0.4**
BFZ					S	**Sb**		**11 16 08.8**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.47**	**284**		P	**Pb**		**11 16 04.5**	**-0.8**
HOWZ					S	**Sb**		**11 16 11.2**	**-1.0**
PRWZ	**Pori Road**	**0.47**	**346**		P	**Pb**		**11 16 04.5**	**-0.8**
PRWZ					S	**Sb**		**11 16 11.5**	**-0.7**
MTW	**Mount Morrison**	**0.49**	**253**		P	**Pb**		**11 16 05.5**	**0.0**
MTW					S	**Sb**		**11 16 13.1**	**+0.5**
TRWZ	**Traveller**	**0.50**	**220**		P	**Pb**		**11 16 06.5**	**+0.7**
MRZ	**Mangatainoka R**	**0.54**	**311**		P	**Pb**		**11 16 05.0**	**-1.4**
MRZ					S	**Sb**		**11 16 12.1**	**-1.9**
ANWZ	**Angora Road**	**0.62**	**26**		P	**Pn**		**11 16 07.0**	**-0.8**
PAWZ	**Paruwai Farm**	**0.64**	**235**		P	**Pn**		**11 16 08.0**	**-0.1**
PAWZ					S	**Sb**		**11 16 17.6**	**+0.8**
POWZ	**Post Office Ro**	**0.68**	**337**		P	**Pn**		**11 16 07.4**	**-1.3**
DVHZ	**Dannevirke**	**0.72**	**3**		P	**Pn**		**11 16 07.9**	**-1.3**
DVHZ					S	**Sn**		**11 16 17.9**	**-1.2**
OGWZ	**Otaki Gorge**	**0.75**	**285**		P	**Pn**		**11 16 08.7**	**-0.9**
MSWZ	**Moikau Station**	**0.77**	**238**		P	**Pn**		**11 16 09.5**	**-0.5**
CAW	**Cannon Point**	**0.80**	**263**		P	**Pn**		**11 16 09.8**	**-0.5**
PRHZ	**Porangahau**	**0.84**	**28**		P	**Pn**		**11 16 10.0**	**-1.0**
PLWZ	**Palliser**	**0.85**	**229**		P	**Pn**		**11 16 10.5**	**-0.7**
KIW	**Kapiti Island**	**0.93**	**279**		P	**Pn**		**11 16 11.6**	**-0.5**
TSZ	**Takapari Road**	**0.96**	**353**		P	**Pn**		**11 16 11.5**	**-1.1**
WPHZ	**Waipukurau**	**0.98**	**15**		P	**Pn**		**11 16 12.1**	**-0.7**
OHWZ	**Ohakea**	**1.01**	**323**		P	**Pn**		**11 16 13.1**	**-0.1**
BHW	**Baring Head**	**1.02**	**247**		P	**Pn**		**11 16 12.7**	**-0.6**
SNZO	**South Karori**	**1.11**	**254**		*e*Pn	**Pn**		**11 16 13.5**	**-1.0**
SNZO					*e*Sn	**Sn**		**11 16 27.8**	**-0.9**
PXZ	**Pawanui**	**1.13**	**30**		P	**Pn**		**11 16 13.9**	**-1.0**
KAHZ	**Kahuranaki**	**1.35**	**26**		P	**Pn**		**11 16 17.0**	**-1.0**
KRHZ	**Kereru**	**1.38**	**8**		P	**Pn**		**11 16 17.5**	**-0.9**
TCW	**Tory Channel**	**1.41**	**261**		P	**Pn**		**11 16 18.0**	**-0.6**
BHHZ	**Black Hill Sta**	**1.52**	**358**		P	**Pn**		**11 16 19.8**	**-0.6**
WAZ	**Wanganui**	**1.53**	**325**		P	**Pn**		**11 16 21.0**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.54**	**29**		P	**Pn**		**11 16 19.1**	**-1.4**
KWHZ	**Kaweka Forest**	**1.60**	**8**		P	**Pn**		**11 16 20.6**	**-0.9**
CMWZ	**Cape Campbell**	**1.61**	**242**		P	**Pn**		**11 16 21.2**	**-0.2**
MCHZ	**McNeill Hill**	**1.63**	**16**		P	**Pn**		**11 16 21.0**	**-0.8**
MOVZ	**Moawhango**	**1.63**	**350**		P	**Pn**		**11 16 21.6**	**-0.2**
DUWZ	**D'Urville Isla**	**1.68**	**277**		P	**Pn**		**11 16 22.2**	**-0.2**
TUWZ	**Tuamarina**	**1.69**	**255**		P	**Pn**		**11 16 21.5**	**-1.1**
MTVZ	**Mangateitei**	**1.70**	**343**		P	**Pn**		**11 16 23.4**	**+0.6**
TRVZ	**Turoa**	**1.77**	**345**		P	**Pn**		**11 16 24.0**	**+0.2**
WHVZ	**Whangaehu Hut**	**1.78**	**347**		P	**Pn**		**11 16 24.3**	**+0.3**
TUVZ	**Tukino**	**1.78**	**348**		P	**Pn**		**11 16 24.2**	**+0.3**
DRZ	**Dome Shelter**	**1.79**	**346**		P	**Pn**		**11 16 24.6**	**+0.4**
FWVZ	**Far West T-bar**	**1.81**	**346**		P	**Pn**		**11 16 24.4**	**0.0**
PKVZ	**Pokaka**	**1.82**	**341**		P	**Pn**		**11 16 24.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**1.83**	**247**		P	**Pn**		**11 16 23.7**	**-0.8**
BKZ	**Black Stump Fm**	**1.87**	**9**		*e*Pn	**Pn**		**11 16 24.1**	**-1.0**
BKZ	**Black Stump Fm**	**1.87**	**9**		P	**Pn**		**11 16 24.0**	**-1.0**
ARHZ	**Aropaoanui**	**1.87**	**21**		P	**Pn**		**11 16 24.2**	**-0.9**
NGZ	**Ngauruhoe**	**1.88**	**348**		P	**Pn**		**11 16 25.5**	**+0.2**
NGZ					P	**Pn**		**11 16 25.5**	**+0.2**
WTVZ	**West Tongariro**	**1.94**	**348**		P	**Pn**		**11 16 26.4**	**+0.3**
KRVZ	**Karewarewa**	**1.95**	**349**		P	**Pn**		**11 16 26.6**	**+0.3**
NMHZ	**Naumai**	**1.99**	**16**		P	**Pn**		**11 16 25.9**	**-0.8**
TWVZ	**Taurewa**	**2.01**	**345**		P	**Pn**		**11 16 27.5**	**+0.5**
LREZ	**Lake Rotokare**	**2.03**	**319**		P	**Pn**		**11 16 29.1**	**+1.8**
RITZ	**Rihia Road**	**2.04**	**354**		P	**Pn**		**11 16 27.5**	**+0.1**
KATZ	**Kakaramea**	**2.06**	**351**		P	**Pn**		**11 16 28.0**	**+0.1**
NNZ	**Nelson**	**2.08**	**264**		P	**Pn**		**11 16 27.4**	**-0.5**
WHHZ	**Waihua**	**2.12**	**24**		P	**Pn**		**11 16 27.3**	**-1.1**
HATZ	**Hinemaiaia**	**2.12**	**359**		P	**Pn**		**11 16 27.8**	**-0.7**
VRZ	**Vera Road**	**2.16**	**331**		P	**Pn**		**11 16 29.3**	**+0.3**
RATZ	**Rangitukua**	**2.16**	**353**		P	**Pn**		**11 16 28.8**	**-0.3**
MRHZ	**Matea Rd**	**2.19**	**6**		P	**Pn**		**11 16 28.6**	**-0.9**
RAHZ	**Arahi**	**2.22**	**20**		P	**Pn**		**11 16 28.7**	**-1.2**
MTHZ	**Maungataniwha**	**2.23**	**15**		P	**Pn**		**11 16 28.6**	**-1.4**
PREZ	**Palmer Road**	**2.25**	**317**		P	**Pn**		**11 16 31.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**2.31**	**37**		P	**Pn**		**11 16 29.1**	**-2.0**
KNZ	**Kokohu**	**2.32**	**31**		P	**Pn**		**11 16 29.3**	**-1.9**
WATZ	**Wairara**	**2.32**	**353**		P	**Pn**		**11 16 30.7**	**-0.6**
DREZ	**Durham Road**	**2.34**	**320**		P	**Pn**		**11 16 33.0**	**+1.4**
NMEZ	**Namu Road**	**2.35**	**312**		P	**Pn**		**11 16 32.6**	**+1.0**
WHTZ	**Whakaora**	**2.35**	**357**		P	**Pn**		**11 16 31.1**	**-0.6**
KHTZ	**Kahui Hut**	**2.36**	**316**		P	**Pn**		**11 16 33.0**	**+1.2**
MHEZ	**Mangahewa**	**2.38**	**324**		P	**Pn**		**11 16 34.0**	**+2.0**
KHZ	**Kahutara**	**2.39**	**233**		*e*Pn	**Pn**		**11 16 31.0**	**-1.1**
KHZ					*e*Sn	**Sn**		**11 16 58.2**	**-2.1**
KHZ	**Kahutara**	**2.39**	**233**		P	**Pn**		**11 16 30.7**	**-1.4**
SNGZ	**Shannon Statio**	**2.42**	**23**		P	**Pn**		**11 16 31.1**	**-1.5**
PKE	**Pukeiti**	**2.45**	**317**		P	**Pn**		**11 16 35.1**	**+2.1**
NBEZ	**Newall Road No**	**2.45**	**315**

SYZ	Scrubby Hill	7.48	220	P	Pn	11 17 41.5	-0.6	
WHZ	Wether Hill Ro	7.69	228	*e*Pn	Pn	11 17 42.9	-2.0	
WHZ	Wether Hill Ro	7.69	228	P	Pn	11 17 42.7	-2.2	
DZM	Mont Dzumac	20.58	334	*e*LR	LR	11 25 21.5		
	comp=Z,192nm,24.6s							
DZM	Mont Dzumac	20.58	334	LR	LR	11 28 33.9		
	comp=Z,61nm,18.8s,baz=216,slow=38							
STKA	Stephens Creek	29.07	277	LR	LR	11 32 11.5		
	comp=Z,71nm,20.3s,baz=58,slow=34							
TBI	Tubual	33.76	69	*e*T	T	11 57 06.6		
	6.6nm,0.3s							
PAE	Paea	37.52	62	*e*T	T	12 01 45.0		
	1.8nm,0.3s							
PPT2	Papeete2	37.57	62	*e*LR	LR	11 32 18.6		
	comp=Z,83nm,30.0s							
PPT2	Papeete2	37.57	62	*e*T	T	12 01 49.0		
	1.4nm,0.3s							
PPT	Papeete	37.59	62	LR	LR	11 37 02.9		
	comp=Z,69nm,19.3s,baz=158,slow=34							
ASAR	Alice Springs	39.21	283	P	P	11 23 19.7	-0.9	
	0.5nm,0.4s,baz=130,slow=8.1,SNR=6.5							
ASAR				LR	LR	11 39 47.7		
	comp=Z,71nm,18.8s,baz=103,slow=37							
WR1	Warramunga Arr	41.19	288	*e*P	P	11 23 35.7	-1.3	
	4.9nm,1.0s							
WRA	Warramunga Arr	41.19	288	P	P	11 23 35.7	-1.3	
	0.8nm,0.4s,baz=125,slow=8.3,SNR=24							
WRA				LR	LR	11 40 50.1		
	comp=Z,60nm,18.6s,baz=145,slow=37							
FITZ	Fitzroy Crossi	48.71	282	*e*P	P	11 24 36.8	-0.1	
	2.3nm,0.9s							
FITZ	Fitzroy Crossi	48.71	282	P	P	11 24 36.8	-0.1	
	0.7nm,0.4s,baz=121,slow=5.9,SNR=4.7							
FITZ				LR	LR	11 45 31.5		
	comp=Z,51nm,18.4s,baz=164,slow=37							
QSPA	South Pole Qui	49.11	180	*e*P	P	11 24 42.6	+3.1	
	9.3nm,1.1s							
QSPA				*e*P	P	11 24 42.8	+3.3	
QSPA	South Pole Qui	49.11	180	P	P	11 24 42.8	+3.3	
	7.5nm,1.1s,baz=359,slow=2.8,SNR=13							
SIJI	Sorong	56.89	303	LR	LR	11 49 48.7		
	comp=Z,32nm,18.8s,baz=148,slow=36							
VNA3	Neumayer Olymp	67.97	178	P	P	11 26 52.5	+1.9	
VNA2	Neumayer--Watz	68.34	179	P	P	11 26 55.3	+2.5	
	baz=187,slow=4.1							
VNA1	Neumayer--Stat	68.60	178	P	P	11 26 56.9	+2.4	
KSRS	Korea Array	89.68	324	LR	LR	12 10 52.0		
	comp=Z,12nm,18.7s,baz=300,slow=37							
LIC	Lamto	145.34	178	*e*PKP1	PKPdf	11 35 31.7	+1.4	
	69nm,1.5s							
KIC	Kosan Boka	145.49	178	*e*PKP1	PKPab	11 35 32.3	+1.5	
	33nm,1.0s							
TIC	Toumodi	145.76	178	*e*PKP1	PKPab	11 35 32.8	+1.0	
DBIC	Dimbokro	145.79	178	PKPbc	PKPab	11 35 33.0	+1.1	
	2.2nm,0.6s,baz=180,slow=1.0,SNR=3.0							
ARA0	ARCESS Array S	147.55	341	*e*PKPbc	PKPbc	11 35 35.0	0.0	
ARCES	ARCESS Array B	147.55	341	PKPbc	PKPbc	11 35 35.0	0.0	
	1.5nm,0.7s,baz=59,slow=2.3,SNR=3.4							
BR101	Keskin Array S	151.53	280	*e*PKPbc	PKPbc	11 35 46.3	+0.3	
BR101				*e*PKPab	sPKPdf	11 35 54.6	+0.9	
BRTR	Keskin Array B	151.53	280	PKPbc	PKPbc	11 35 46.3	+0.3	
	1.0nm,0.8s,baz=152,slow=7.0,SNR=5.0							
BRTR				PKPab	sPKPdf	11 35 54.6	+0.9	
	0.6nm,0.6s,baz=117,slow=5.7,SNR=3.0							
TORD	Torodi Ar. Bea	151.81	192	PKPbc	PKPbc	11 35 46.4	-0.8	
	0.6nm,0.4s,baz=166,slow=3.1,SNR=9.9							
TORD				PKPab	PKPab	11 35 56.5	+0.5	
	1.3nm,0.8s,baz=191,slow=1.7,SNR=6.3							
TOA1	Torodi Ar. Sit	151.82	192	*e*PKPbc	PKPbc	11 35 46.4	-0.8	
TOA1				*e*PKPab	PKPab	11 35 56.5	+0.5	

*TEH **21** 11:28:13.6,36.47N×45.63E,h9km,ML3.1*
*ISCJB **21** 11:28:15.1±0.5,36.51N±0.05×45.57E±0.08,h10km,Error ellipse: s-maj=11.0km s-min=4.7km az=146.3*
ISC 21 11:28:12.9±1.0,36.45N±0.04×45.47E±0.05,h10km,n15, σ1.976/19,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IAZR	Azarshahr	1.29	18	*e*Pg	Pg	11 28 37.6	-0.1
IAZR				IAMB	IAmb	11 28 59.4	
	comp=Z,8μm,0.6s						
YOVA	Hakkari_Yksek	1.47	321	*i* P	Pn	11 28 39.1	-0.6
YOVA				*i* S	Sn	11 29 01.0	+1.8
YOVA				IAML_P			
	comp=Z,3μm,0.2s						
IBST	Bostanabad	1.69	42	*e*Pn	Pb	11 28 43.2	-1.0
IBST				IAMB	IAmb	11 29 10.7	
	comp=Z,1μm,0.6s						
CUKT	Cukurca	1.69	299	*i* P	Pn	11 28 40.3	-2.3
CUKT				*i* S	Sn	11 29 01.9	-2.5
CUKT				IAML_P			
	comp=Z,4μm,0.2s						
ITBZ	Tabriz	1.86	17	*e*Pn	Pb	11 28 46.7	-0.4
ITBZ				IAMB	IAmb	11 29 18.9	
	comp=Z,1μm,0.4s						
ILIN	Lien	1.96	141	*e*Pn	Pb	11 28 48.3	-0.4
ILIN				IAMB	IAmb	11 29 21.2	
	comp=Z,1μm,0.3s						
BASK	Baskale_VAN	1.98	324	*i* P	Pn	11 28 47.5	+0.9
BASK				*i* S	Sb	11 29 15.6	+1.7
BASK				IAML_P			
	comp=Z,1μm,0.1s						
IVIS	Veis	2.23	149	*e*Pn	Pb	11 28 52.3	-1.0
IVIS				IAMB	IAmb	11 29 34.7	
	comp=Z,1μm,0.6s						
IMRD	Marand	2.27	5	*e*Pn	Pb	11 28 53.1	-0.9
IMRD				IAMB	IAmb	11 28 57.9	
	comp=Z,724nm,0.2s						
IGHG	Ghaleghazi	2.30	157	*e*Pn	Pb	11 28 53.3	-1.3
IGHG				IAMB	IAmb	11 29 30.0	
	comp=E,2μm,0.5s						
KCHF	Cheshme Sefid,	2.52	149	*e*Pn	Pb	11 28 57.1	-1.3
KCHF				IAMB	IAmb	11 29 53.9	
	comp=Z,0.0nm,0.0s						
IKOM	Komasi	2.82	143	*e*Pn	Pb	11 29 03.3	-0.1
IKOM				IAMB	IAmb	11 29 47.0	
	comp=Z,0.0nm,0.6s						
SRTM	Siirt_Merkez	3.22	300	*i* P	Pb	11 29 09.3	-0.9
SRTM				*i* S	Sb	11 29 52.8	+3.3
SRTM				IAML_P			
	comp=Z,559nm,0.4s						
QABG	Abgarm-Qazvin	3.42	101	*e*Pn	Pb	11 29 10.6	-3.0
IDOB	Doab	3.46	139	*e*Pn	Pn	11 29 09.0	+1.9

*ISCJB **21** 11:47:47.9±0.5,36.86N±0.03×29.00E±0.04,h6km±6km,*
Error ellipse: s-maj=6.0km s-min=4.3km az=28.7
*ISK **21** 11:47:47.1,36.87N×29.00E,h12km,ML2.4/10*
*DDA **21** 11:47:47.5,36.88N×29.00E,h7km±2km,ML2.6*
ISC 21 11:47:47.9±1.3,36.90N±0.03×29.04E±0.02,h0km±12km, n19,σ1.979/30,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.26	173	PG	Pg	11 47 52.8	-0.1
FETY				SG	Sg	11 47 56.7	+0.4
FETY	Fethiye	0.26	173	*i* P	Pg	11 47 53.3	+0.4
FETY				*i* S	Sg	11 47 57.4	+1.0
FETY				IAML_P			
	comp=Z,12μm,0.1s						
DALY	Dalyan (Mula)	0.32	256	PG	Pg	11 47 53.7	-0.3
DALY				SG	Sg	11 47 58.0	-0.1
DALY	Dalyan (Mula)	0.32	256	*i* P	Pg	11 47 54.4	+0.3
DALY				*i* S	Sg	11 47 58.1	-0.1
DALY				IAML_P			
	comp=Z,4μm,0.1s						
TURN	Turunc	0.35	266	PG	Pn	11 47 59.3	-0.9
TURN				SG	Sb	11 48 08.4	+5.3
TURN	Turunc	0.35	266	*i* P	Pn	11 48 00.8	+0.5
TURN				*i* S	Sb	11 48 08.7	+5.6
TURN				IAML_P			
	comp=Z,1μm,0.1s						
TAVA	DENIZLI_Tavas	0.58	350	*i* P	Pg	11 47 59.5	+0.5
TAVA				*i* S	Sb	11 48 08.4	-1.4
TAVA				IAML_P			
	comp=Z,1μm,0.1s						
YER	Yerkesik	0.65	292	PG	Pg	11 47 59.9	-0.5
ELL	Elmali	0.71	102	PG	Pg	11 48 01.8	+0.3
ELL				SG	Sb	11 48 12.9	-0.7
AKAS	Kas	0.80	145	PG	Pg	11 48 03.3	0.0
AKAS	Kas	0.80	145	*i* P	Pg	11 48 03.8	+0.5
AKAS				*i* S	Sn	11 48 18.3	-1.0
ARG	Arkhangelos	1.00	228	PG	Pg	11 48 05.7	-1.4
KORT	Korkueli	1.05	84	PN	Pg	11 48 08.3	+0.2
KORT	Korkueli	1.05	84	*i* P	Pg	11 48 09.1	+1.0
KORT				IAML_P			
	comp=Z,341nm,0.4s						
BRDR	BURDUR-Merkez	1.14	45	*i* P	Pb	11 48 10.2	-0.3
BRDR				*i* S	Sn	11 48 29.4	+1.8
BRDR				IAML_P			
	comp=Z,783nm,0.3s						
DAT	Datca	1.19	262	PN	Pb	11 48 09.2	-2.1
AYDN	Tasoluk	1.20	310	*i* P	Pg	11 48 11.7	+0.8
AYDN				*i* S	Sn	11 48 27.5	-1.5
AYDN				IAML_P			
	comp=Z,650nm,0.2s						
AYDB	Zeytinkoy-Aydi	1.39	319	PN	Pn	11 48 12.9	-1.8
KHAL	Karahalli	1.51	14	*i* P	Pb	11 48 16.5	-0.4
KHAL				IAML_P			
	comp=Z,194nm,0.2s						

*IDC **21** 11:50:30.4±0.6,15.72S×174.14W,h0km,mb4.3/13,*
mb1 4.6/13,mb1mx4.3/37,mbtmp4.3/13,Error ellipse:
s-maj=32.6km s-min=14.9km az=137.0
*NEIC **21** 11:50:36.1±0.2,15.76S×174.20W,h35km,mb4.6/35,*
Error ellipse: s-maj=12.2km s-min=5.0km az=141.0
*ISCJB **21** 11:50:43.5±0.3,15.88S±0.06×174.21W±0.06,h115km,*
mb4.3/45,Error ellipse: s-maj=9.3km s-min=7.6km
az=138.1
ISC 21 11:50:45.0±0.5,15.85S±0.09×174.10W±0.09,h115km, n71,σ0.999/72,mb4.3/45,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	5.11	130	*e*Pn	Pn	11 52 01.3	+1.9
NIUE				*e*Sn	Sn	11 52 56.6	-0.8
DZM	Mont Dzumac	19.41	248	*e*P	Pn	11 55 09.2	+4.5
	14nm,0.8s						
PPT2	Papeete2	23.54	98	*e*LR	LR	12 00 40.8	
	comp=Z,85nm,27.8s						
URZ	Urewera	23.63	197	P	P	11 55 45.5	-0.2
	1.6nm,0.4s,baz=39,slow=18,SNR=4.5						
URZ				S	S	11 59 49.2	-2.5
	7.7nm,0.9s,baz=324,slow=19,SNR=2.9						
H11S2	WAKE ISLAND Hy	39.01	330	T	T	12 39 28.6	
	baz=148						
H11S3	WAKE ISLAND Hy	39.02	330	T	T	12 39 29.2	
	baz=148						
H11S1	WAKE ISLAND Hy	39.03	330	T	T	12 39 28.0	
	baz=148						
STKA	Stephens Creek	43.23	240	*e*P	P	11 58 34.5	-0.5
	1.4nm,0.9s						
STKA	Stephens Creek	43.23	240	P	P	11 58 34.5	-0.5
	3.1nm,0.6s,baz=49,slow=15,SNR=4.5						
WB2	Warramunga Arr	49.08	257	*e*P	P	11 59 20.5	-0.5
WR1	Warramunga Arr	49.09	257	*e*P	P	11 59 19.4	-1.7
	6.6nm,1.0s						
WR1				*e*PcP	PcP	12 00 44.0	+0.8
WRA	Warramunga Arr	49.09	257	P	P	11 59 19.4	-1.7
	1.5nm,0.4s,baz=94,slow=6.4,SNR=67						
WRA				PcP	PcP	12 00 44.0	+0.8
	0.2nm,0.4s,baz=95,slow=3.9,SNR=2.8						
AS01	Alice Springs	49.29	252	*e*P	P	11 59 21.6	-1.0
AS31	Alice Springs	49.33	252	*e*P	P	11 59 22.3	-0.6
	2.4nm,0.8s						
ASAR	Alice Springs	49.34	252	P	P	11 59 21.5	-1.4
	11nm,0.8s,baz=87,slow=7.6,SNR=63						
VNDA	Vanda	62.87	186	P	P	12 00 58.4	+0.2
	2.2nm,1.0s,baz=0.0,slow=4.0,SNR=4.5						
QSPA	South Pole Qui	74.20	180	*e*P	P	12 02 09.0	-0.1
	7.5nm,0.8s						
YBH	Yreka Blue Hor	74.36	37	P	P	12 02 10.8	+0.5
	4.0nm,0.9s,baz=304,slow=3.1,SNR=6.4						
WAKR	Walker	74.42	42	*e*P	P	12 02 10.6	-0.2
	3.7nm,0.9s						
NV01	Mina Array Sit	75.11	42	*e*P	P	12 02 14.7	-0.1
NVAR	Mina Array Bea	75.11	42	P	P	12 02 15.0	+0.1
	4.8nm,1.0s,baz=226,slow=9.7,SNR=15						
PAHR	Pah Rah Range	75.15	41	*e*P	P	12 02 15.5	+0.6
	4.6nm,1.0s						
NV11	Mina Array Sit	75.21	42	*e*P	P	12 02 15.4	+0.1
	0.3nm,0.9s						
LDFC	Landfair	75.44	47	*e*P	P	12 02 17.4	+0.8
	11nm,1.0s						
TUC	Tucson	77.19	51	*e*P	P	12 02 26.6	0.0
	3.6nm,0.9s						
WVOR	Wild Horse Val	77.20	39	*e*P	P	12 02 26.9	+0.4
	5.0nm,1.0s						
X16A	Lo Mia Camp, P	77.71	49	*e*P	P	12 02 30.4	+0.9
	4.4nm,0.8s						
CCUT	Cedar City	77.92	45	*e*P	P	12 02 31.6	+0.8
	5.5nm,0.9s						
KNB	Kanab	78.02	46	*e*P	P	12 02 32.0	+0.8
	3.7nm,0.9s						
U15A	North Rim	78.09	47	*e*P	P	12 02 32.6	+0.8
	8.2nm,1.0s						
SZCU	Shurtz Canyon	78.13	45	*e*P	P	12 02 32.5	+0.6
	5.4nm,1.1s						
ELK	Elko	78.36	42	*e*P	P	12 02 33.3	+0.2
	2.3nm,0.9s						
ELK	Elko	78.36	42	P	P	12 02 33.0	0.0
	1.8nm,0.8s,baz=249,slow=6.7,SNR=7.8						
PKCU	Pink Cliffs	78.59	46	*e*P	P	12 02 36.0	+1.5
	6.9nm,0.9s						
HLID	Hailey	80.40	40	*e*P	P	12 02 44.5	+0.5
MNTX	Cornudas Mount	81.03	54	*e*P	P	12 02 47.8	+0.3
	5.7nm,1.0s						
RND	Reindeer	81.41	11	*e*P	P	12 02 49.3	+0.6
	8.3nm,1.0s						
TX31	Lajitas Ar. Si	81.42	56	*e*P	P	12 02 49.5	-0.1
TX31				*e*P	P	12 02 50.2	+0.5
LTX	Lajitas	81.42	56	*e*P	P	12 02 49.8	+0.2
TXAR	Lajitas Array	81.42	56	P	P	12 02 49.8	+0.2
	3.3nm,1.0s,baz=224,slow=5.2,SNR=20						
ANMO	Albuquerque	81.60	50	*e*P	P	12 02 50.6	0.0
	3.2nm,1.0s						
ANMO	Albuquerque	81.60	50	P	P	12 02 50.6	0.0
	1.3nm,0.4s,baz=210,slow=5.0,SNR=8.6						
WRH	Wood River Hil	82.52	11	*e*P	P	12 02 54.4	0.0
	9.3nm,1.0s						
S22A	4UR Ranch, Cre	82.56	48	*e*P	P	12 02 56.0	+0.3
	10.0nm,1.1s						
HDA	Harding Lake	82.68	12	*e*P	P	12 02 55.2	-0.1
	8.9nm,1.1s						
IMW	Indian Meadow	82.72	41	*e*P	P	12 02 56.8	+0.4
	4.9nm,0.8s						
COLA	College	82.93	11	*e*P	P	12 02 56.4	-0.1
	15nm,1.0s						
MDM	Murphy Dome	82.94	11	*e*P	P	12 02 56.8	+0.1
	7.8nm,1.1s						
YHB	Horse Butte	82.99	40	*e*P	P	12 02 58.6	+0.9
	9.0nm,0.9s						
IM3	Indian Mountai	83.01	8	*e*P	P	12 02 57.1	+0.2
IL1	Eielson Array	83.01	11	*e*P	P	12 02 56.0	-1.0
ILAR	Eielson Array	83.01	11	P	P	12 02 56.5	-0.5
	1.3nm,0.7s,baz=234,slow=6.3,SNR=18						
BW06	Boulder Array	83.05	42	*e*P	P	12 02 57.3	-0.7
	3.7nm,0.8s						
PD31	Pinedale Array	83.05	42	*e*P	P	12 02 57.5	-0.5
	3.5nm,0.8s						
PDAR	Pinedale Array	83.05	42	*e*P	P	12 02 57.0	-1.0
PDAR	Pinedale Array	83.05	42	P	P	12 02 57.4	-0.7
	3.6nm,0.8s,baz=213,slow=3.3,SNR=28						
SMCO	Snowmass	83.10	46	*e*P	P	12 02 58.6	0.0
	3.8nm,0.8s						
H17A	Grant Village	83.20	40	*e*P	P	12 03 00.3	+1.5
	4.4nm,0.6s						
YHH	Holmes Hill	83.22	40	*e*P	P	12 03 00.0	+1.0
	2.7nm,0.9s						
LKWY	Lake	83.39	40	*e*P	P	12 03 01.2	+1.4
	4.9nm,0.9s						
HRY	Holter Researc	83.61	38	*e*P	P	12 03 00.7	0.0
MSTX	Muleshoe	83.96	52	*e*P	P	12 03 02.6	-0.2
	12nm,1.0s						
COLD	Coldfoot	84.69	9	*e*P	P	12 03 06.2	+0.8
	3.7nm,1.2s						
ABTX	Abilene, Hawle	85.87	55	*e*P	P	12 03 12.4	+0.3
	25nm,1.1s						
YKA	Yellowknife Ar	90.77	24	P	P	12 03 34.6	-0.1
	0.4nm,0.9s,baz=242,slow=4.6,SNR=6.5						
ARA0	ARCESS Array S	124.96	352	*e*PKPdf	PKPdf	12 09 30.1	-0.9
ARCES	ARCESS Array B	124.96	352	PKP	PKPdf	12 09 30.1	-0.9
	3.3nm,0.9s,baz=45,slow=2.0,SNR=3.4						
BR101	Keskin Array S	146.07	320	*e*PKPdf	PKPab	12 10 11.9	-0.9
BRTR	Keskin Array B	146.07	320	PKPbc	PKPab	12 10 11.9	-0.9
	0.5nm,0.5s,baz=90,slow=2.9,SNR=3.6						
TOA1	Torodi Ar. Sit	175.12	123	*e*PKPab	PKPab	12 12 17.1	-1.3
TORD	Torodi Ar. Bea	175.12	123	PKPab	PKPab	12 12 17.1	-1.3
	0.3nm,0.8s,baz=261,slow=2.8,SNR=3.7						

*NEIC **21** 12:00:34.7±0.0,17.65N×101.40W,h31km,MD4.0(MEX),*
After MEX.
MEX 21 12:00:34.5±0.6,17.59N×101.38W,h31km±5km,MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.09	285	*i* P	Pb	12 00 38.3	-1.6
ZIIG				*i* S	Sb	12 00 42.4	-1.1
ZIIG	Zihuatanejo	0.09	285	*i* P	Pb	12 00 38.3	-1.6
ZIIG				*i* S	Sb	12 00 42.4	-1.1
CAIG	El Cayaco	1.19	117	*e*P	Pn	12 00 52.7	-2.3
CAIG				*e*S	Sn	12 01 06.5	-3.7
CAIG	El Cayaco	1.19	117	*e*P	Pn	12 00 52.3	-2.7
CAIG				*i* S	Sn	12 01 08.0	-2.2
ARIG	Puente Sto Nin	1.20	55	*e*P	Pn	12 00 52.7	-2.5
ARIG				*e*S	Sn	12 01 07.2	-3.3
ARIG	Puente Sto Nin	1.20	55	*e*P	Pn	12 00 52.7	-2.5
ARIG				*e*S	Sn	12 01 07.2	-3.3
MEIG	Mezcala	1.71	78	*e*P	Pn	12 01 01.1	-1.2
MEIG				*i* S	Sn	12 01 21.1	-2.1
MEIG	Mezcala	1.71	78	*e*P	Pn	12 01 01.1	-1.2
MEIG				*i* S	Sn	12 01 21.1	-2.1
PLIG	Platanillo	1.96	66	*e*P	Pn	12 01 04.7	-1.0
PLIG				*e*S	Sn	12 01 26.8	-2.5
PLIG	Platanillo	1.96	66	*e*P	Pn	12 01 04.7	-1.0
PLIG				*i* S	Sn	12 01 27.0	-2.3
MMIG	Aquila	2.00	291	*e*P	Pn	12 01 04.3	-1.9
MMIG	Aquila	2.00	291	*e*P	Pn	12 01 04.3	-1.9
MMIG				*i* S	Sn	12 01 27.6	-2.5
TLIG	Tlapa	2.68	90	*e*P	Pn	12 01 14.7	-1.0
TLIG				*i* S	Sn	12 01 45.6	-1.6
TLIG	Tlapa	2.68	90	*e*P	Pn	12 01 14.7	-1.0
TLIG				*i* S	Sn	12 01 45.0	-2.3
PNIG	Pinotepa	3.33	110	*i* P	Pn	12 01 22.9	-1.6
PNIG				*i* S	Sn	12 02 01.2	-1.9

*DDA **21** 12:04:59.9,39.13N×29.13E,h7km±2km,ML2.7*
*ISCJB **21** 12:05:00.4±0.5,39.14N±0.03×29.12E±0.04,h5km±5km,*
Error ellipse: s-maj=5.2km s-min=5.0km az=21.9
*ISK **21** 12:05:00.1,39.14N×29.13E,h5km,ML2.6/10*
ISC 21 12:05:00.4±0.9,39.14N±0.03×29.12E±0.03,h9km±8km, n19,σ0.940/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMAA	Simav-Kutahya	0.11	252	PG	Pg	12 05 03.0	-0.1
SMAA				SG	Sg	12 05 05.5	+0.4
SHAP	Saphane-Kutahy	0.14	144	PG	Pg	12 05 03.5	-0.1
SHAP				SG	Sg	12 05 05.9	+0.1
TVSB	Tavsanli	0.41	40	PG	Pg	12 05 08.3	-0.2
TVSB				SG	Sg	12 05 13.9	0.0
USAK	Uak-Merkez	0.43	191	*i* P	Pg	12 05 08.2	-0.5
USAK				*i* S	Sg	12 05 14.1	-0.3
DURS	Dursunbey	0.68	313	*i* P	Pb	12 05 14.2	-0.2
DURS				*i* S	Sg	12 05 22.2	-0.3
AKHS	Akhisar	1.05	256	*i* P	Pg	12 05 20.0	-0.5
STEP	BALIKESIR_Sava	1.11	283	*i* P	Pn	12 05 22.5	+0.3
STEP				IAML_P			
	comp=Z,565nm,0.1s						
IGD	Bursa	1.13	3	*i* P	Pg	12 05 21.6	-0.5
KZIL	AFYON_Kizioren	1.19	137	*i* P	Pn	12 05 23.4	+0.2
KZIL				IAML_P			
	comp=Z,328nm,0.2s						
CAVI	Cavuskoy	1.20	27	PN	Pn	12 05 23.6	+0.2
MDNY	Mudanya-Bursa	1.25	352	PN	Pg	12 05 23.9	-0.4
KCTX	Karacabey (Bur	1.27	333	PN	Pg	12 05 24.8	0.0
BORA	Eskisehir	1.27	54	PN	Pb	12 05 24.6	0.0
BORA				SN	Sn	12 05 42.5	+0.9
BORA	Eskisehir	1.27	54	*i* P	Pb	12 05 24.5	0.0
GONE	Gonen-Balikesi	1.43	310	PN	Pb	12 05 27.3	+0.1
ARMT	Armutlu	1.44	352	PN	Pg	12 05 27.7	-0.3
YLV	Yalova	1.44	8	PN	Pg	12 05 27.8	-0.3
SRCK	Saricakaya, Es	1.48	52	PN	Pg	12 05 28.2	-0.5
GULT	Gulveren	1.68	39	PN	Pb	12 05 30.8	-0.7

MEX 21 12:11:58.5±0.4,16.58N×98.63W,h37km±11km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.52	111	*i* P	Pn	12 12 07.6	-1.9
PNIG				*i* S	Sn	12 12 15.1	-1.9
TLIG	Tlapa	0.98	4	*e*P	Pn	12 12 14.3	-1.5
TLIG				*e*S	Sn	12 12 26.1	-2.4
CAIG	El Cayaco	1.64	287	*e*P	Pn	12 12 22.6	-2.1
CAIG				*i* S	Sn	12 12 42.2	-2.3

KRSC 21 12:22:37.7±10.0,54.17N×161.61E,h39km±10km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.40	10	*e*P	Pn	12 22 47.9	+0.9
MKZ				*e*S	Sn	12 22 52.8	-0.8
KZV	Kizimen	1.22	322	*e*P	Pn	12 22 59.6	+1.2
KZV				*e*S	Sn	12 23 14.5	+0.8
TUMD	Tumrok D	1.25	326	*e*P	Pn	12 22 59.4	+0.7
TUMD				*e*S	Sn	12 23 14.5	+0.1
TUMR	Tumrok	1.40	323	*e*P	Pn	12 23 02.5	+1.6
SPN	Mys Shipunski	1.43	222	*e*S	Sn	12 23 18.5	-0.1
NLC	Nalytchevo	1.68	234	P	Pn	12 23 07.2	+2.7
NLC				*e*S	Sn	12 23 26.0	+1.3
SDLR	Sedlovina	1.85	242	*e*P	Pn	12 23 09.4	+2.4
SDLR				*e*S

TPIG	**Tehuac#an**	**0.97**	**51**	*eP*	Pn	12 26 13.8	-1.4
TPIG				*eS*	Sn	12 26 26.3	-1.8
YAIG	**Yautepec**	**1.36**	**321**	*eP*	Pn	12 26 19.1	-1.4
YAIG				*i* S	Sn	12 26 35.8	-1.7
MEIG	**Mezcala**	**1.40**	**275**	*i* P	Pn	12 26 19.0	-2.0
MEIG				*eS*	Sn	12 26 36.6	-1.7
PLIG	**Platanillo**	**1.41**	**295**	*eP*	Pn	12 26 19.2	-1.9
PLIG				*i* S	Sn	12 26 36.9	-1.6
PNIG	**Pinotepa**	**1.41**	**179**	*eP*	Pn	12 26 19.6	-1.5
PNIG				*i* S	Sn	12 26 35.6	-2.9

*ISCJB **21** 12:26:34.7±0.6, 22°.66S×0°.04×68°.46W×0°.06, h128km±7km, mb3.3/1, Error ellipse: s-maj=9.4km s-min=6.1km az=2.0*
*SJA **21** 12:26:34.8±0.6, 22°.63S×68°.40W, h111km±7km, ML3.2, MW3.4*
*GUC **21** 12:26:34.7±0.6, 22°.65S×68°.55W, h133km±4km, ML3.6*
*IDC **21** 12:26:40.5±3.5, 22°.33S×68°.31W, h161km±42km, mb3.3/1, mb1 3.2/3, mb1mx3.0/32, mbtmp3.6/3, Error ellipse: s-maj=83.9km s-min=28.8km az=108.0*

ISC 21 12:26:36.0±1.0, **22°.66S**±0°.04×**68°.45W**±0°.06, **h117**km±8km, **n21**, σ1§**04**/34, **10C-2D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.43**	**276**	*eP*	**Pn**	**12 26 52.7**	**-1.0**
LVC				*eS*	**Sn**	**12 27 05.8**	**-1.2**
LVC				IAML		12 27 06.8	
	comp=Z,614nm,0.3s						
PB06	**IPOC Station P**	**1.04**	**267**	⇑*iP*	**Pn**	**12 26 57.9**	**-0.5**
PB06				*i* S	**Sn**	**12 27 16.1**	**+0.8**
PB06				IAML		12 27 17.1	
	comp=E,1μm,0.2s						
PB15	**IPOC Station P**	**1.09**	**240**	⇑*iP*	**Pn**	**12 26 58.7**	**-0.3**
PB15				*i* S	**Sn**	**12 27 17.2**	**+0.9**
PB09	**IPOC Station P**	**1.13**	**319**	⇓*iP*	**Pn**	**12 26 59.2**	**-0.1**
PB09				*i* S	**Sn**	**12 27 18.0**	**+1.1**
PB09				IAML		12 27 19.2	
	comp=E,650nm,0.4s						
PB03	**IPOC Station P**	**1.35**	**296**	⇑*iP*	**Pn**	**12 27 01.4**	**-0.4**
PB03				*i* S	**Sn**	**12 27 21.4**	**+0.2**
PB03				IAML		12 27 22.7	
	comp=E,1μm,0.5s						
PB04	**IPOC Station P**	**1.60**	**281**	⇑*iP*	**Pn**	**12 27 04.2**	**-0.5**
PB04				*i* S	**Sn**	**12 27 26.4**	**-0.1**
PB04				IAML		12 27 31.0	
	comp=N,943nm,0.3s						
PB07	**IPOC Station P**	**1.62**	**304**	⇑*iP*	**Pn**	**12 27 04.7**	**-0.2**
PB07				*i* S	**Sn**	**12 27 26.9**	**+0.1**
PB07				IAML		12 27 29.1	
	comp=E,1μm,0.3s						
PB05	**IPOC Station P**	**1.63**	**263**	⇑*iP*	**Pn**	**12 27 04.3**	**-0.7**
PB05				*i* S	**Sn**	**12 27 26.7**	**-0.2**
PB05				IAML		12 27 38.9	
	comp=E,309nm,0.3s						
PB01	**IPOC Station P**	**1.87**	**329**	⇑*iP*	**Pn**	**12 27 07.6**	**-0.3**
PB01				*i* S	**Sn**	**12 27 32.0**	**-0.1**
PB01				IAML		12 27 34.1	
	comp=N,801nm,0.3s						
PB02	**IPOC Station P**	**1.89**	**314**	⇑*iP*	**Pn**	**12 27 07.8**	**-0.3**
PB02				*i* S	**Sn**	**12 27 32.5**	**0.0**
PB02				IAML		12 27 37.9	
	comp=E,1μm,0.3s						
PB10	**IPOC Station P**	**2.12**	**246**	*eP*	**Pn**	**12 27 10.7**	**-0.1**
PB10				*eS*	**Sn**	**12 27 38.2**	**+0.7**
PB10	**IPOC Station P**	**2.12**	**246**	*eP*	**Pn**	**12 27 09.7**	**-1.1**
PB10				IAML		12 27 45.6	
	comp=E,120nm,0.3s						
PB08	**IPOC Station P**	**2.59**	**345**	⇓*iP*	**Pn**	**12 27 17.7**	**+0.4**
PB08				IAML		12 27 54.4	
	comp=E,126nm,0.2s						
GO02	**Mina Guanaco**	**2.71**	**202**	⇑*iP*	**Pn**	**12 27 17.4**	**-1.3**
GO02				*i* S	**Sn**	**12 27 50.6**	**-0.8**
GO02				IAML		12 27 55.0	
	comp=N,397nm,0.1s						
YJA	**Yavi**	**2.76**	**81**	*eP*	**Pn**	**12 27 19.4**	**-0.1**
HJA	**Humahuaca**	**2.85**	**102**	*eP*	**Pn**	**12 27 20.4**	**-0.3**
PB11	**IPOC Station P**	**3.09**	**338**	⇑*iP*	**Pn**	**12 27 22.3**	**-1.3**
PB11				*i* S	**Sn**	**12 27 59.0**	**-1.3**
PB11				IAML		12 28 03.0	
	comp=N,187nm,0.1s						
LPAZ	**La Paz**	**6.34**	**3**	P	**Pn**	**12 28 08.1**	**+0.4**
	comp=N,0.4nm,0.3s,baz=190,slow=7.0,SNR=8.4						
PLCA	**Paso Flores**	**18.11**	**185**	P	**Pn**	**12 30 43.9**	**+3.9**
	comp=N,0.1nm,0.3s,baz=12,slow=10,SNR=4.9						
TORD	**Torodi Ar. Bea**	**77.34**	**70**	P	**P**	**12 38 16.7**	**-1.6**
	comp=N,0.3nm,0.4s,baz=235,slow=5.7,SNR=8.1						
WRA	**Warramunga Arr**	**132.17**	**209**	PKP	**PKPdf**	**12 45 36.3**	**-0.5**
	comp=N,0.2nm,0.8s,baz=159,slow=1.4,SNR=3.8						

*JMA **21** 12:29:48.9±0.3, 24°.80N×122°.69E, h136km±3km, M2.2*
*TAP **21** 12:29:48.6, 24°.86N×122°.72E, h135km±1km, ML3.3, D*
*ISCJB **21** 12:29:49.5±0.6, 24°.83N±0°.03×122°.70E±0°.02, h126km±4km, Error ellipse: s-maj=5.5km s-min=3.3km az=178.1*

ISC 21 12:29:49.0±1.9, **24°.87N**±0°.06×**122°.69E**±0°.03, **h133**km±12km, **n59**, σ0§**70**/110, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.49**	**144**	*eP*	**Pn**	**12 30 08.4**	**+0.1**
	baz=146						
YOJ				*eS*	**Sn**	**12 30 22.6**	**-0.4**
	baz=146						
YOJ	**Yonaguni jima**	**0.49**	**144**	P	**Pn**	**12 30 08.5**	**+0.1**
EOS1	**EOS1**	**0.60**	**239**	*eP*	**Pn**	**12 30 09.2**	**+0.2**
	baz=239						
EOS1				*eS*	**Sn**	**12 30 25.1**	**+1.1**
	baz=239						
TWB1	**Santiao Chiao**	**0.66**	**283**	P	**Pn**	**12 30 09.1**	**-0.2**
	baz=282						
TWB1				S	**Sn**	**12 30 24.8**	**0.0**
	baz=282						
NTC	**Toucheng**	**0.79**	**269**	*eP*	**Pn**	**12 30 11.3**	**+1.1**
	baz=269						
TIPB	**Shuangxi**	**0.80**	**278**	P	**Pn**	**12 30 10.5**	**+0.1**
	baz=277						
TIPB				*eS*	**Sn**	**12 30 25.9**	**-0.7**
	baz=277						
TWC	**Suao**	**0.81**	**252**	P	**Pn**	**12 30 10.2**	**-0.2**
	baz=251						
TWC				S	**Sn**	**12 30 26.5**	**-0.2**
	baz=251						
NWF	**Wu-fen Shan**	**0.85**	**284**	*eP*	**Pn**	**12 30 11.0**	**0.0**
	baz=283						
NWF				*eS*	**Sn**	**12 30 27.8**	**+0.2**
	baz=283						
WFSB	**Wu-fen Shan**	**0.85**	**284**	*eP*	**Pn**	**12 30 11.1**	**+0.2**
	baz=283						
WFSB				*eS*	**Sn**	**12 30 27.4**	**-0.1**
	baz=283						
ILA	**Ilan**	**0.86**	**264**	*eP*	**Pn**	**12 30 10.8**	**-0.1**
	baz=263						
TWE	**Neicheng**	**0.94**	**261**	P	**Pn**	**12 30 11.7**	**+0.1**
	baz=261						
TWE				*eS*	**Sn**	**12 30 28.3**	**-0.5**
	baz=261						
PCYT	**Pengchaiyu**	**0.95**	**324**	*eP*	**Pn**	**12 30 11.7**	**0.0**
	baz=322						
ENA	**Nanau**	**0.97**	**244**	P	**Pn**	**12 30 12.4**	**+0.5**
	baz=243						
ENA				S	**Sn**	**12 30 29.6**	**+0.4**
	baz=243						
TWA	**Mucha**	**1.01**	**277**	*eP*	**Pn**	**12 30 12.6**	**+0.3**
	baz=276						
TWA				*eS*	**Sn**	**12 30 30.5**	**+0.5**
	baz=276						
ENTT	**Nioudou**	**1.05**	**258**	P	**Pn**	**12 30 13.2**	**+0.6**
	baz=257						
ENTT				*eS*	**Sn**	**12 30 30.5**	**-0.1**
	baz=257						
YM01	**YM01**	**1.06**	**286**	*eP*	**Pn**	**12 30 12.6**	**-0.2**
	baz=285						
YM01				*eS*	**Sn**	**12 30 30.4**	**-0.4**
	baz=285						
YM11	**YM11**	**1.06**	**287**	*eP*	**Pn**	**12 30 13.2**	**+0.4**
	baz=286						
YM11				*eS*	**Sn**	**12 30 31.6**	**+0.7**
	baz=286						
NHDH	**Xindian Distri**	**1.06**	**275**	*eP*	**Pn**	**12 30 12.7**	**-0.1**
	baz=275						
NHDH				*eS*	**Sn**	**12 30 30.9**	**+0.1**
	baz=275						
IRIF	**Iriomote-Funau**	**1.08**	**119**	P	**Pn**	**12 30 12.9**	**0.0**
IRIF				S	**Sn**	**12 30 31.0**	**0.0**
NWLT	**Wulai**	**1.09**	**266**	*eP*	**Pn**	**12 30 12.8**	**-0.2**
	baz=265						
NWLT				*eS*	**Sn**	**12 30 31.3**	**+0.1**
	baz=265						
YM04	**YM04**	**1.09**	**286**	*eS*	**Sn**	**12 30 31.3**	**+0.1**
	baz=285						
TAP	**Taipei**	**1.09**	**279**	*eP*	**Pn**	**12 30 13.0**	**0.0**
	baz=278						
TAP				*eS*	**Sn**	**12 30 31.0**	**-0.2**
	baz=278						
TATO	**Taipei**	**1.10**	**276**	*eP*	**Pn**	**12 30 13.3**	**+0.2**
	baz=275						
TATO				*eS*	**Sn**	**12 30 30.1**	**-1.3**
	baz=275						
NDT	**Datong Townshi**	**1.10**	**257**	P	**Pn**	**12 30 13.7**	**+0.5**
	baz=256						
NDT				*eS*	**Sn**	**12 30 31.8**	**+0.3**
	baz=256						
YHNB	**Yeheng**	**1.21**	**261**	*eP*	**Pn**	**12 30 14.6**	**+0.3**
	baz=260						
YHNB				*eS*	**Sn**	**12 30 33.2**	**-0.4**
	baz=260						
NACB	**Ninganchiao**	**1.22**	**236**	*eP*	**Pn**	**12 30 13.9**	**-0.3**
	baz=236						
NACB				*eS*	**Sn**	**12 30 32.8**	**-0.6**
	baz=236						
NSK	**Sanguang**	**1.23**	**261**	*i* P	**Pn**	**12 30 14.6**	**+0.1**
	baz=261						
NSK				*i* S	**Sn**	**12 30 33.5**	**-0.3**
	baz=261						
NNSB	**Datong**	**1.27**	**250**	*eP*	**Pn**	**12 30 15.3**	**+0.3**
	baz=250						
NNSB				*eS*	**Sn**	**12 30 34.6**	**-0.1**
	baz=250						
TWD	**Chiawan**	**1.27**	**232**	P	**Pn**	**12 30 14.3**	**-0.5**
	baz=232						
TWD				S	**Sn**	**12 30 34.1**	**-0.3**
	baz=232						
NNS	**Nan Shan**	**1.27**	**251**	P	**Pn**	**12 30 16.1**	**+1.1**
	baz=250						
NNS				S	**Sn**	**12 30 34.6**	**-0.1**
	baz=250						
ETLH	**Xiulin Townshi**	**1.28**	**240**	*eP*	**Pn**	**12 30 15.0**	**-0.1**
	baz=239						
ETLH				*eS*	**Sn**	**12 30 34.0**	**-0.8**
	baz=239						
HATJ	**Hateruma jima**	**1.29**	**128**	*eS*	**Sn**	**12 30 35.6**	**+0.7**
WLTB	**Daxi**	**1.31**	**270**	*eS*	**Sn**	**12 30 36.0**	**+0.8**
	baz=269						
HWA	**Hwalien**	**1.33**	**229**	*eS*	**Sn**	**12 30 35.9**	**+0.3**
	baz=228						
JKRS	**Kuro-shima**	**1.35**	**117**	P	**Pn**	**12 30 16.3**	**+0.7**
JKRS				S	**Sn**	**12 30 36.2**	**+0.3**
ENLB	**Shoufeng**	**1.38**	**226**	*eP*	**Pn**	**12 30 16.2**	**+0.3**
	baz=226						
ENLB				*eS*	**Sn**	**12 30 36.1**	**-0.4**
	baz=226						
JIJ	**Ishigaki jima**	**1.41**	**110**	P	**Pn**	**12 30 16.5**	**+0.2**
JIJ				S	**Sn**	**12 30 36.3**	**-0.8**
WHF	**Hehuan Shan**	**1.49**	**241**	P	**Pn**	**12 30 17.8**	**+0.2**
	baz=241						
WHF				*eS*	**Sn**	**12 30 38.6**	**-0.7**
	baz=241						
JISG	**Ishigakijimahi**	**1.50**	**100**	P	**Pn**	**12 30 17.1**	**-0.1**
JISG				S	**Sn**	**12 30 38.2**	**-0.5**
TWT	**Tachien**	**1.51**	**247**	*eP*	**Pn**	**12 30 18.6**	**+1.1**
	baz=246						
TWT				S	**Sn**	**12 30 39.8**	**+0.4**
	baz=246						
TDCB	**Techi**	**1.52**	**247**	*eP*	**Pn**	**12 30 18.6**	**+0.9**
	baz=246						
TDCB				*eS*	**Sn**	**12 30 39.5**	**-0.1**
	baz=246						
LIOB	**Emei**	**1.54**	**262**	*eP*	**Pn**	**12 30 15.2**	**-2.5**
	baz=262						
LIOB				*eS*	**Sn**	**12 30 36.3**	**-3.4**
	baz=262						
ESL	**Shilin**	**1.56**	**228**	P	**Pn**	**12 30 17.4**	**-0.5**
	baz=228						
ESL				S	**Sn**	**12 30 39.4**	**-0.6**
	baz=228						
CHGB	**Renai**	**1.60**	**240**	*eP*	**Pn**	**12 30 19.1**	**+0.5**
	baz=240						
CHGB				*eS*	**Sn**	**12 30 41.1**	**-0.1**
	baz=240						
OWD	**Renai**	**1.65**	**237**	*eP*	**Pn**	**12 30 19.9**	**+0.7**
	baz=237						
OWD				*eS*	**Sn**	**12 30 41.5**	**-0.8**
	baz=237						
EGFH	**Guangfu**	**1.66**	**224**	*eP*	**Pn**	**12 30 18.5**	**-0.6**
	baz=224						
EGFH				*eS*	**Sn**	**12 30 41.1**	**-1.0**
	baz=224						
WHP	**Taichung City**	**1.70**	**250**	*eP*	**Pn**	**12 30 20.6**	**+1.0**
	baz=250						
WHP				*eS*	**Sn**	**12 30 42.8**	**-0.2**
	baz=250						
HGSD	**Ruisui**	**1.79**	**221**	*eP*	**Pn**	**12 30 20.7**	**+0.1**
	baz=220						
HGSD				*eS*	**Sn**	**12 30 44.6**	**-0.2**
	baz=220						
VWDT	**VWDT**	**1.80**	**232**	*eP*	**Pn**	**12 30 21.5**	**+0.8**
	baz=232						
VWDT				*eS*	**Sn**	**12 30 45.0**	**+0.1**
	baz=232						
TWQ1	**Liyutan**	**1.82**	**254**	*eP*	**Pn**	**12 30 21.6**	**+0.6**
	baz=253						
TWQ1				*eS*	**Sn**	**12 30 45.1**	**-0.3**
	baz=253						
JTJ	**Tarama**	**1.84**	**97**	P	**Pn**	**12 30 21.5**	**+0.3**
JTJ				*eS*	**Sn**	**12 30 45.2**	**-0.6**
EHY	**Hungye**	**1.84**	**223**	*eP*	**Pn**	**12 30 21.1**	**-0.2**
	baz=223						
EHY				*eS*	**Sn**	**12 30 45.1**	**-0.8**
	baz=223						
SMLT	**Sun Moon Lake**	**1.91**	**239**	*eP*	**Pn**	**12 30 23.3**	**+1.2**
	baz=239						
SMLT				*eS*	**Sn**	**12 30 47.4**	**0.0**
	baz=239						
SSLB	**Suanglung**	**1.92**	**236**	*eP*	**Pn**	**12 30 22.8**	**+0.7**
	baz=236						
SSLB				*eS*	**Sn**	**12 30 47.6**	**+0.1**
	baz=236						
TYC	**Yuchr**	**1.93**	**241**	*eP*	**Pn**	**12 30 23.4**	**+1.2**
	baz=240						
TYC				*eS*	**Sn**	**12 30 47.7**	**0.0**
	baz=240						
YULB	**Yu-li**	**1.94**	**221**	*eP*	**Pn**	**12 30 21.9**	**-0.5**
	baz=221						
YULB				*eS*	**Sn**	**12 30 46.7**	**-1.4**
	baz=221						
TWF1	**Yuli**	**1.98**	**221**	*eP*	**Pn**	**12 30 23.2**	**+0.3**
	baz=220						
TWF1				*eS*	**Sn**	**12 30 47.9**	**-0.8**
	baz=220						
WHYT	**Xinyi Township**	**2.04**	**236**	*eP*	**Pn**	**12 30 25.1**	**+1.4**
	baz=235						
WHYT				*eS*	**Sn**	**12 30 52.1**	**+1.8**
	baz=235						
FULB	**Fuli**	**2.10**	**218**	*eP*	**Pn**	**12 30 24.5**	**+0.2**
	baz=218						
FULB				*eS*	**Sn**	**12 30 51.1**	**-0.3**
	baz=218						

*IDC **21** 12:46:59.3±2.1, 5°.08N×123°.91E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/51, mbtmp3.2/3, Error ellipse: s-maj=238.8km s-min=25.6km az=63.0*

ISC 21 12:47:13.1±1.7, **5°.6N**±0°.2×**126°.3E**±0°.2, **h100**km, **n8**, σ1§**75**/9, **mb3.1/3**, **1C**, **Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.79**	**310**	*eP*	**Pn**	**12 47 33.4**	**+2.0**
DDMP				*eS*	**Sn**	**12 47 48.1**	**+2.9**
GSPH	**General Santos**	**1.45**	**290**	*eP*	**Pn**	**12 47 39.0**	**+0.1**
DMPH	**Davao City--Mi**	**1.69**	**331**	*eP*	Pn	12 47 51.2	+9.4
DMPH				*eS*	**Sn**	**12 48 02.5**	**-1.1**
KCP	**Kidapawan**	**1.87**	**319**	⇑*iP*	**Pn**	**12 47 43.3**	**-0.7**
KCP				*i* S	**Sn**	**12 48 08.1**	**+0.5**
SKMP	**Bagumbayan, Su**	**2.00**	**298**	*eP*	**Pn**	**12 47 43.9**	**-1.7**
WRA	**Warramunga Arr**	**26.57**	**163**	P	**P**	**12 52 42.3**	**+0.3**
	0.3nm,1.0s,baz=336,slow=11,SNR=3.7						
ASAR	**Alice Springs**	**30.01**	**166**	P	**P**	**12 53 11.5**	**-1.0**
	0.2nm,0.5s,baz=339,slow=6.9,SNR=6.3						
MKAR	**Makanchi Array**	**55.81**	**325**	P	P	12 56 31.5	-8.5
	0.1nm,0.3s,baz=118,slow=8.9,SNR=2.5						

IDC 21 12:49:33.9±4.2, **4°.68S**×**101°.73E**, **h0**km, **mb3.4/5, mb1 3.5/5, mb1mx3.3/53, mbtmp3.4/5, Error ellipse: s-maj=178.5km s-min=22.1km az=54.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**29.21**	**263**	T	T	13 26 03.3	
	baz=85,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**29.22**	**263**	T	T	13 26 01.6	
	baz=85,slow=75,SNR=14						
H08S1	**Diego Garcia H**	**29.23**	**263**	T	T	13 25 59.9	
	baz=85,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**32.17**	**161**	T	T	13 30 02.8	
	baz=336						
H01W2	**Cape Leeuwin H**	**32.19**	**161**	T	T	13 30 06.3	
	baz=336						
H01W1	**Cape Leeuwin H**	**32.19**	**161**	T	T	13 30 23.9	
	baz=336						
WRA	**Warramunga Arr**	**35.18**	**118**	P	P	12 56 29.1	-0.8
	0.1nm,0.6s,baz=292,slow=9.8,SNR=5.2						
ASAR	**Alice Springs**	**36.30**	**124**	P	P	12 56 39.8	+0.2
	0.4nm,0.9s,baz=299,slow=7.7,SNR=3.1						
SONM	**Songino Array**	**52.46**	**4**	P	P	12 58 48.7	+0.1
	0.3nm,0.5s,baz=179,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**54.07**	**344**	P	P	12 59 00.5	+0.2
	0.3nm,0.6s,baz=154,slow=8.4,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.12**	**349**	P	P	12 59 42.1	-0.9
	0.5nm,0.4s,baz=149,slow=6.6,SNR=3.4						
TXAR	**Lajitas Array**	**145.66**	**42**	PKPbc	PKPbc	13 09 15.5	0.0
	0.2nm,0.5s,baz=324,slow=1.5,SNR=3.3						

*ISCJB **21** 13:08:47.0±0.9, 5°.95S±0°.07×130°.78E±0°.09, h100km, mb3.4/1, Error ellipse: s-maj=13.0km s-min=9.7km az=5.9*
*IDC **21** 13:08:49.8±2.3, 5°.89S×130°.70E, h119km±27km, mb3.2/1, mb1 3.4/6, mb1mx3.2/37, mbtmp3.7/6, Error ellipse: s-maj=42.8km s-min=20.4km az=93.0*

ISC 21 13:08:46.8±1.0, **5°.98S**±0°.06×**131°.0E**±0°.1, **h100**km, **n6**, σ3§**36**/10, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.09**	**3**	P	**Pn**	**13 10 02.7**	**+2.0**
	5.5nm,0.3s,baz=208,slow=17,SNR=22						
SIJI				S	**Sn**	**13 10 54.0**	**-4.3**
	5.1nm,0.3s,baz=218,slow=21,SNR=7.1						
BATI	**Baumata**	**8.38**	**239**	P	**Pn**	**13 10 47.2**	**+1.7**
	6.5nm,0.3s,baz=99,slow=1.9,SNR=8.5						
BATI				S	**Sn**	**13 12 16.5**	**-2.0**
	1.0nm,0.3s,baz=110,slow=15,SNR=1.8						
FITZ	**Fitzroy Crossi**	**13.13**	**203**	P	**Pn**	**13 11 49.6**	**+0.3**
	0.4nm,0.3s,baz=29,slow=13,SNR=16						
FITZ				S	Sn	13 14 04.1	-10
	0.4nm,0.3s,baz=289,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**14.25**	**167**	P	**Pn**	**13 12 06.5**	**+2.4**
	0.2nm,0.3s,baz=345,slow=13,SNR=17						
WRA				S	**Sn**	**13 14 38.1**	**-3.1**
	0.3nm,0.3s,baz=334,slow=22,SNR=7.4						
ASAR	**Alice Springs**	**17.81**	**171**	P	**Pn**	**13 12 52.1**	**+3.9**
	0.2nm,0.3s,baz=349,slow=9.1,SNR=24						
ASAR				S	**Sn**	**13 16 02.6**	**-4.2**
	0.1nm,0.3s,baz=344,slow=22,SNR=5.7						
MKAR	**Makanchi Array**	**67.92**	**326**	P	**P**	**13 19 34.1**	**-0.7**
	0.4nm,0.7s,baz=116,slow=8.0,SNR=5.2						

IDC 21 13:09:20.4±1.7, **14°.16N**×**145°.54E**, **h93**km±16km, **mb3.2/4, mb1 3.5/4, mb1mx3.1/41, mbtmp3.5/4, Error ellipse: s-maj=45.3km s-min=27.7km az=107.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.86**	**229**	P	Pn	13 09 39.1	+0.2
	578nm,0.3s,baz=342,slow=3.2,SNR=344						
GUMO				S	Sn	13 09 51.1	-1.5
	1μm,0.3s,baz=30,slow=20,SNR=148						
H11S3	**WAKE ISLAND Hy**	**20.74**	**75**	T	T	13 35 50.3	
	baz=261,slow=75,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**20.75**	**75**	T	T	13 35 51.0	
	baz=261,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**20.76**	**75**	T	T	13 35 51.4	
	baz=261,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**21.15**	**72**	T	T	13 36 58.4	
	baz=258,slow=75						
H11N2	**WAKE ISLAND Hy**	**21.16**	**72**	T	T	13 36 56.7	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**21.17**	**72**	T	T	13 37 06.4	
	baz=258,slow=75						
WRA	**Warramunga Arr**	**35.63**	**198**	P	P	13 16 09.4	-0.1
	0.8nm,0.6s,baz=20,slow=9.8,SNR=5.3						
MKAR	**Makanchi Array**	**61.54**	**316**	P	P	13 19 27.7	0.0
	0.4nm,0.5s,baz=91,slow=7.8,SNR=10.0						
ILAR	**Nelson Array**	**67.78**	**25**	P	P	13 20 07.7	-0.3
	0.3nm,0.6s,baz=249,slow=5.7,SNR=7.8						
YKA	**Yellowknife Ar**	**82.06**	**28**	P	P	13 21 30.6	+0.4
	0.1nm,0.5s,baz=287,slow=5.2,SNR=3.7						

IDC 21 13:12:26.8±2.8, **7°.06S**×**130°.24E**, **h68**km±40km, **mb3.0/1, mb1 3.4/5, mb1mx3.2/35, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=74.3km s-min=24.4km az=92.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.24**	**9**	P	Pn	13 13 56.4	+0.1
	1.2nm,0.3s,baz=150,slow=20,SNR=6.6						
SIJI				S	Sn	13 15 02.5	-3.7
	0.9nm,0.3s,baz=253,slow=19,SNR=3.3						
FITZ	**Fitzroy Crossi**	**11.85**	**202**	P	Pn	13 15 13.5	+0.5
	0.3nm,0.3s,baz=26,slow=12,SNR=1.9						
FITZ				S	Sn	13 17 12.8	-11
	0.3nm,0.3s,baz=294,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**13.41**	**163**	P	Pn	13 15 32.4	-1.7
	0.1nm,0.3s,baz=345,slow=13,SNR=2.6						
WRA				S	Sn	13 17 52.0	-10
	0.5nm,0.3s,baz=341,slow=22,SNR=8.7						
ASAR	**Alice Springs**	**16.88**	**168**	P	P	13 16 20.1	+0.2
	0.1nm,0.3s,baz=348,slow=13,SNR=5.1						
ASAR				S	Sn	13 19 15.6	-10
	0.1nm,0.3s,baz=356,slow=25,SNR=5.8						
MKAR	**Makanchi Array**	**68.41**	**327**	P	P	13 23 21.4	-0.1
	0.1nm,0.5s,baz=113,slow=5.8,SNR=4.0						

MEX 21 13:20:30.8±0.4, **18°.58N**×**106°.22W**, **h16**km±36km, **MD4.0, Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**1.44**	**50**	*i* P	Pn	13 20 52.6	-3.7

291nm,0.5s
NEM2 Nemuro 2 1.23 204 P **Pn** **13 26 53.1 -1.2**
NEM2 *e*S **S** **13 27 18.5 -1.5**
JNK Nakash 1.54 235 P **Pn** **13 26 56.3 -0.4**
JKHN Kushirohamanak 1.69 214 P **Pn** **13 26 58.0 0.0**
JTKR Abashiri--Toko 1.89 255 P **Pn** **13 26 58.6 -1.3**
JAK Akkeshi 1.96 221 P **Pn** **13 27 00.8 +0.2**
JAK *e*S **S** **13 27 31.7 +0.7**
JAR Ashorobuto 2.27 239 P **Pn** **13 27 04.7 +1.0**
JCH Churui 2.92 231 P **Pn** **13 27 11.7 +0.9**
JCH *e*S **S** **13 27 50.0 +0.6**
JNBK Urakawa-nobuka 3.48 232 P **Pn** **13 27 17.7 +0.4**
JNBK *e*S **S** **13 28 08.5 -0.6**
JKB Kayabe 4.73 239 P **Pn** **13 27 33.0 +0.4**
JKB *e*S **S** **13 28 27.5 -1.3**

IDC ***21*** *13:42:12.1±10.0, 58°.28S×25°.96W, h170km±88km, mb3.5/5, mb1 3.7/5, mb1mx3.6/19, mbtmp4.0/5, Error ellipse: s-maj=41.4km s-min=20.8km az=60.0*
ISC 21 13:42:01.0±0.9, **60°.6S**±0°.2×**25°.5W**±0°.3, **h150**km, **n13**, σ3**02**/14, **mb3.5/5, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.30**	**152**	P	**P**	**13 44 54.9**	**-1.9**
VNA1				S	**Sn**	**13 47 08.4**	**+1.9**
VNA3	**Neumayer Olymp**	**12.45**	**156**	P	**P**	**13 44 56.7**	**-1.9**
VNA3				S	**Sn**	**13 47 10.9**	**+0.8**
VNA2	**Neumayer--Watz**	**12.70**	**152**	P	**P**	**13 44 59.5**	**-1.8**
	baz=319,slow=14						
VNA2				S	**Sn**	**13 47 14.9**	**-1.2**
	baz=319,slow=21						
SNAA	**Sanae**	**14.29**	**150**	P	**P**	**13 45 20.8**	**+1.8**
SNAA				S	**Sn**	**13 47 51.6**	**-2.7**
PLCA	**Paso Flores**	**33.87**	**285**	P	P	13 48 30.9	+1.9
	3.2nm,0.7s,baz=157,slow=8.4,SNR=16						
VNDA	**Vanda**	**42.09**	**182**	P		13 50 04.9	+28
	0.5nm,0.6s,baz=173,slow=4.4,SNR=4.9						
LPAZ	**La Paz**	**53.75**	**306**	P	**P**	**13 51 07.2**	**-1.2**
	2.4nm,0.5s,baz=136,slow=3.6,SNR=12						
TORD	**Torodi Ar. Bea**	**76.62**	**27**	P	**P**	**13 53 31.6**	**-3.2**
	0.5nm,0.5s,baz=193,slow=7.2,SNR=3.7						
ASAR	**Alice Springs**	**94.40**	**161**	P	P	13 55 21.2	+17
	0.2nm,1.0s,baz=185,slow=3.6,SNR=3.1						
YKA	**Yellowknife Ar**	**140.05**	**314**	PKP	**PKiKP**	**14 01 15.6**	**+3.3**
	0.2nm,0.4s,baz=132,slow=2.1,SNR=6.4						
INK	**Inuvik**	**149.77**	**315**	PKPbc	**PKPab**	**14 01 34.4**	**-3.0**
	2.4nm,0.6s,baz=93,slow=4.2,SNR=14						
SONM	**Songino Array**	**149.85**	**93**	PKPbc	**PKPab**	**14 01 43.6**	**+5.1**
	0.2nm,0.5s,baz=220,slow=3.9,SNR=2.2						
ILAR	**Eielson Array**	**153.62**	**305**	PKPbc	**PKiKP**	**14 01 44.2**	**+4.0**
	0.7nm,0.6s,baz=149,slow=3.0,SNR=12						

NNC ***21*** *13:44:56.7±3.8, 31°.64N×59°.67E, h0km, mb4.0, Error ellipse: s-maj=54.3km s-min=15.8km az=43.0*
TEH ***21*** *13:44:59.9, 32°.21N×59°.56E, h8km, ML4.3*
IDC ***21*** *13:45:00.7±0.8, 32°.15N×59°.52E, h0km, mb3.7/16, mb1 3.9/22, mb1mx3.8/48, mbtmp3.8/22, ML3.3/6, MS3.2/22, Ms1 3.3/22, ms1mx3.1/47, Error ellipse: s-maj=18.0km s-min=13.2km az=180.0*
ISCJB ***21*** *13:45:01.0±0.3, 32°.21N±0°.03×59°.55E±0°.03, h10km, mb3.7/18, MS3.2/18, Error ellipse: s-maj=3.9km s-min=3.3km az=0.5*
THR ***21*** *13:45:01.3, 32°.12N×59°.66E, h18km, ML4.6*
ISC 21 13:45:02.0±0.5, **32°23N**±0°.05×**59°.52E**±0°.04, **h10**km, **n103**, σ1**27**/89, **mb3.7**/18, **MS3.3**/18, **3C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKOO	**Kooshah**	**0.48**	**294**	*e*Pg	**Pg**	**13 45 10.3**	**-1.2**
IKOO				*e*Sg	**Sb**	**13 45 18.8**	**-1.3**
IKOO				IAMB	IAmb	13 45 20.7	
	comp=Z,98μm,0.2s						
IDAH	**Dahanechah**	**0.59**	**30**	*e*Pg	**Pb**	**13 45 12.5**	**-2.1**
IDAH				IAMB	IAmb	13 45 12.8	
	comp=Z,47μm,0.2s						
ITEG	**Tejag**	**0.94**	**316**	*e*Pg	**Pg**	**13 45 18.3**	**-1.8**
ITEG				*e*Sg	**Sb**	**13 45 32.3**	**-0.8**
ITEG				IAMB	IAmb	13 45 40.1	
	comp=Z,71μm,0.3s						
SHRT	**Shahrakht**	**1.56**	**24**	*e*Pg	**Pg**	**13 45 30.9**	**-1.0**
SHRT	**Shahrakht**	**1.56**	**24**	*e*Pg	**Pg**	**13 45 30.9**	**-1.0**
TKDS	**Koohdasht(Taba**	**2.45**	**305**	*e*Pn	**Pn**	**13 45 42.3**	**+0.1**
TKDS				IAMB	IAmb	13 46 30.7	
	comp=Z,0.0nm,1.0s						
TABS	**Tabas**	**2.47**	**306**	*e*Pn	**Pb**	**13 45 45.0**	**-1.6**
TABS	**Tabas**	**2.47**	**306**	*e*Pn	**Pb**	**13 45 45.0**	**-1.6**
TPRV	**Parvadeh(Tabas**	**2.52**	**289**	*e*Pn	**Pn**	**13 45 43.4**	**+0.2**
TPRV				IAMB	IAmb	13 46 28.7	
	comp=Z,0.0nm,0.6s						
ZHSF	**Zahedan**	**2.82**	**157**	*e*Pn	**Pn**	**13 45 45.7**	**-1.7**
ZHSF	**Zahedan**	**2.82**	**157**	*e*Pn	**Pn**	**13 45 45.7**	**-1.7**
CHMN	**Cheshme madani**	**2.91**	**216**	*e*Pn	**Pn**	**13 45 48.2**	**-0.5**
SZD1	**Zahaedan-tmp**	**2.96**	**157**	*e*Pn	**Pn**	**13 45 48.2**	**-1.1**
TNSJ	**Nastanj**	**3.00**	**306**	*e*Pn	**Pn**	**13 45 50.2**	**+0.5**
TNSJ				IAMB	IAmb	13 46 54.1	
	comp=Z,0.0nm,0.7s						
KHGB	**Koh Gabri**	**3.19**	**236**	*e*Pn	**Pn**	**13 45 53.0**	**+0.5**
KHGB				IAMB	IAmb	13 46 48.4	
	comp=Z,0.0nm,0.8s						
TVBK	**TV Kerman**	**3.25**	**227**	*e*Pn	**Pn**	**13 45 54.1**	**+0.6**
TVBK				IAMB	IAmb	13 46 54.3	
	comp=Z,0.0nm,0.7s						
KRBR	**Kerman**	**3.26**	**227**	*e*Pn	**Pn**	**13 45 54.1**	**+0.6**
KRBR	**Kerman**	**3.26**	**227**	*e*AML	AML	13 46 52.8	
	comp=N,2μm,0.6s						
KRBR	**Kerman**	**3.26**	**227**	*e*Pn	**Pn**	**13 45 54.1**	**+0.6**
NGRK	**Negar Kerman**	**3.52**	**224**	*e*Pn	**Pn**	**13 45 57.8**	**+0.7**
NGRK				IAMB	IAmb	13 47 05.1	
	comp=Z,0.0nm,0.8s						
JRKH	**Jarkhoshk**	**3.74**	**10**	*e*Pn	**Pn**	**13 46 00.6**	**+0.7**
JRKH				IAMB	IAmb	13 47 12.2	
	comp=Z,0.0nm,1.2s						
IMOG	**Moghan**	**3.88**	**358**	*e*Pn	**Pn**	**13 46 02.6**	**+0.6**
IMOG				IAMB	IAmb	13 47 21.4	
	comp=Z,2μm,1.2s						
IMYA	**Miami**	**4.13**	**6**	*e*Pn	**Pn**	**13 46 06.1**	**+0.7**
IMYA				IAMB	IAmb	13 47 32.5	
	comp=Z,2μm,0.9s						
YZKH	**Yazd**	**4.18**	**274**	*e*Pn	**Pn**	**13 46 08.2**	**+2.2**
YZKH	**Yazd**	**4.18**	**274**	*e*AML	AML	13 47 17.8	
YZKH	comp=E,671nm,0.6s						
	comp=N,530nm,0.4s			*e*AML	AML	13 47 18.9	
YZKH	**Yazd**	**4.18**	**274**	*e*Pn	**Pn**	**13 46 08.2**	**+2.2**
IPAY	**Payeh**	**4.24**	**354**	*e*Pn	**Pn**	**13 46 08.3**	**+1.4**
IPAY				IAMB	IAmb	13 47 39.6	
	comp=Z,978nm,0.8s						
IMEH	**Mehriz**	**4.26**	**260**	*e*Pn	**Pn**	**13 46 07.7**	**+0.5**
IMEH				IAMB	IAmb	13 47 22.2	
	comp=Z,10μm,0.8s						
ICHK	**Chekchek**	**4.33**	**272**	*e*Pn	**Pn**	**13 46 08.7**	**+0.5**
ICHK				IAMB	IAmb	13 47 30.1	
	comp=Z,12μm,0.8s						
IAKL	**Akhelmad**	**4.41**	**352**	*e*Pn	**Pn**	**13 46 10.0**	**+0.7**
IAKL				IAMB	IAmb	13 47 42.7	
	comp=Z,2μm,1.1s						
SBZV	**Sabzevar**	**4.44**	**340**	*e*Pn	**Pn**	**13 46 11.0**	**+1.3**
IKRD	**Kardeh**	**4.62**	**350**	*e*Pn	**Pn**	**13 46 12.5**	**+0.4**
IKRD				IAMB	IAmb	13 47 40.1	
	comp=Z,1μm,0.8s						
ISAD	**Sadrabad**	**4.97**	**268**	*e*Pn	**Pn**	**13 46 16.5**	**-0.5**
ISAD				IAMB	IAmb	13 47 52.6	
	comp=Z,6μm,0.6s						
ANAR	**Anarak**	**4.98**	**283**	*e*Pn	**Pn**	**13 46 17.4**	**+0.4**
ANAR				IAMB	IAmb	13 47 57.2	
	comp=Z,0.0nm,1.6s						
ISFR	**Sfrayin**	**4.98**	**346**	*e*Pn	**Pn**	**13 46 18.6**	**+1.5**
ISFR				IAMB	IAmb	13 46 47.6	
	comp=Z,1μm,0.6s						
NIAN	**Nian**	**5.20**	**207**	*e*Pn	**Pn**	**13 46 21.3**	**+1.3**
IEMG	**Emamgholi**	**5.23**	**352**	*e*Pn	**Pn**	**13 46 21.6**	**+1.0**
IEMG				IAMB	IAmb	13 47 56.6	
	comp=Z,885nm,0.9s						
GENO	**Geno**	**5.62**	**212**	*e*Pn	**Pn**	**13 46 27.2**	**+1.3**
GENO				IAMB	IAmb	13 48 13.7	
	comp=N,0.0nm,0.7s						
IANJ	**Anjilo**	**5.68**	**306**	IAMB	IAmb	13 46 42.1	
	comp=Z,899nm,0.4s						
GEYT	**Alibeck**	**5.81**	**349**	Pn	**Pn**	**13 46 30.1**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=180,slow=14,SNR=5.9						
GEYT				Lg	Lg	13 48 08.4	
	comp=Z,0.1nm,0.3s,baz=178,slow=29,SNR=2.4						
GEYT				LR	LR	13 48 46.7	
	comp=Z,51nm,21.3s,baz=210,slow=38						
GYA0B	**ALIBECK ARRAY**	**5.81**	**349**	⇑Pn	Pn	13 46 32.6	+4.4
GYA0B				⇑Pg	**Pg**	**13 46 52.7**	**-0.5**
GYA0B				⇓Lg	Lg	13 48 21.4	
IRAM	**Ramesheh**	**6.08**	**268**	*e*Pn	**Pn**	**13 46 32.8**	**+0.6**
IRAM				IAMB	IAmb	13 48 19.9	
	comp=Z,1μm,0.7s						
IZEF	**Zefreh**	**6.11**	**278**	*e*Pn	**Pn**	**13 46 33.4**	**+0.7**
IZEF				IAMB	IAmb	13 48 27.9	
	comp=Z,1μm,0.6s						
IKIA	**Kiasar**	**6.26**	**311**	*e*Pn	**Pn**	**13 46 36.8**	**+2.1**
IKIA				IAMB	IAmb	13 48 42.8	
	comp=Z,1μm,1.2s						
ISHM	**Shahmirzad**	**6.29**	**306**	IAMB	IAmb	13 48 28.4	
	comp=Z,1μm,0.6s						
ILAS	**Lasjerd**	**6.31**	**302**	IAMB	IAmb	13 48 45.5	
	comp=N,1μm,0.6s						
IGAR	**Gharneh**	**6.34**	**274**	*e*Pn	**Pn**	**13 46 36.2**	**+0.5**
IGAR				IAMB	IAmb	13 48 30.1	
	comp=Z,2μm,0.8s						
KRSH	**Karshahi**	**6.44**	**288**	*e*Pn	**Pn**	**13 46 38.0**	**+0.9**
KRSH				IAMB	IAmb	13 48 40.5	
	comp=Z,0.0nm,2.0s						
ISFB	**Sefidab**	**6.46**	**291**	*e*Pn	**Pn**	**13 46 37.2**	**-0.1**
ISFB				IAMB	IAmb	13 48 38.1	
	comp=Z,1μm,0.7s						
IFIR	**Firoozkooh**	**6.58**	**303**	*e*Pn	**Pn**	**13 46 40.2**	**+1.1**
IFIR				IAMB	IAmb	13 48 58.4	
	comp=N,1μm,0.7s						
IALA	**Alasht**	**6.76**	**306**	*e*Pn	**Pn**	**13 46 44.1**	**+2.4**
IALA				IAMB	IAmb	13 49 03.0	
	comp=Z,871nm,0.7s						
IKLH	**Kolahrood**	**6.78**	**281**	*e*Pn	**Pn**	**13 46 43.4**	**+1.5**
IKLH				IAMB	IAmb	13 47 13.7	
	comp=Z,973nm,0.7s						
IDMV	**Damavand**	**7.07**	**300**	*e*Pn	**Pn**	**13 46 46.3**	**+0.5**
IDMV				IAMB	IAmb	13 49 28.7	
	comp=Z,2μm,1.3s						
IPRN	**Peran**	**7.17**	**306**	*e*Pn	**Pn**	**13 46 49.6**	**+2.5**
IPRN				IAMB	IAmb	13 47 02.7	
	comp=Z,2μm,0.4s						
ROKH	**ROKH**	**7.19**	**273**	*e*Pn	**Pn**	**13 46 49.1**	**+1.7**
ROKH				IAMB	IAmb	13 49 20.3	
	comp=Z,0.0nm,1.8s						
IPIR	**Pirpir**	**7.31**	**276**	*e*Pn	**Pn**	**13 46 51.9**	**+2.7**
IPIR				IAMB	IAmb	13 48 60.0	
	comp=Z,719nm,0.6s						
ZNGN	**Zangian**	**7.35**	**271**	*e*Pn	**Pn**	**13 46 52.0**	**+2.3**
ZNGN				IAMB	IAmb	13 49 26.9	
	comp=Z,0.0nm,1.4s						
IHSB	**Hasanabad**	**7.57**	**297**	*e*Pn	**Pn**	**13 46 53.9**	**+1.3**
IHSB				IAMB	IAmb	13 49 43.6	
	comp=Z,0.0nm,1.6s						
IMHD	**Mahdasht**	**8.13**	**298**	*e*Pn	**Pn**	**13 47 02.0**	**+1.8**
IMHD				IAMB	IAmb	13 47 24.4	
	comp=Z,272nm,0.4s						
QALM	**Alamut, Qazvin**	**8.46**	**302**	*e*Pn	**Pn**	**13 47 07.3**	**+2.5**
IRAZ	**Razeghan**	**8.59**	**294**	IAMB	IAmb	13 47 40.0	
	comp=Z,498nm,0.5s						
IRAZ				*e*Pn	**Pn**	**13 47 07.9**	**+1.3**
QABG	**Abgarm-Qazvin**	**8.96**	**296**	*e*Pn	**Pn**	**13 47 12.7**	**+1.0**
WSAR	**Wadi Sarin**	**8.99**	**185**	Pn	**Pn**	**13 47 09.7**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=65,slow=14,SNR=9.2						
KK31	**Karatay Array**	**13.90**	**36**	⇑P	**Pn**	**13 48 20.7**	**+1.6**
	comp=Z,3.8nm,0.9s,baz=220,slow=13,SNR=6.2						
GNI	**Garni**	**14.31**	**308**	Pn	**P**	**13 48 30.1**	**-2.0**
	comp=Z,1.1nm,0.3s,baz=143,slow=15,SNR=3.3						
GNI				LR	LR	13 54 47.6	
	comp=Z,75nm,20.3s,baz=93,slow=41						
AAK	**Ala-Archa**	**15.77**	**45**	Pn	**Pn**	**13 48 42.8**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=189,slow=7.3,SNR=8.7						
AAK				LR	LR	13 55 40.3	
	comp=Z,186nm,18.1s,baz=230,slow=40						
AB31	**Akbulak array**	**17.02**	**1**	P	**P**	**13 49 02.5**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=184,slow=11,SNR=21						
KBZ	**Khabaz**	**17.39**	**316**	Pn	**P**	**13 49 06.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=117,slow=9.0,SNR=3.2						
AKTO	**Aktyubinsk**	**18.23**	**357**	LR	LR	13 56 43.2	
	comp=Z,42nm,21.5s,baz=165,slow=38						
ASF	**Jabal al Asfar**	**19.15**	**276**	P	**Pn**	**13 49 27.7**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=47,slow=4.7,SNR=6.4						
MMAI	**Mount Meron Ar**	**20.33**	**279**	LR	LR	13 58 44.4	
	comp=Z,119nm,19.8s,baz=85,slow=40						
PYUN	**Piuthan**	**20.69**	**95**	*e*P	Pn	13 49 43.1	-1.8
EIL	**Elat**	**21.22**	**270**	P	**P**	**13 49 49.0**	**+1.0**
	comp=Z,2.6nm,0.8s,baz=74,slow=9.4,SNR=1.9						
EIL				LR	LR	13 59 41.5	
	comp=Z,114nm,18.1s,baz=72,slow=42						
DANN	**Dangsing**	**21.27**	**94**	*e*P	**P**	**13 49 49.6**	**+0.7**
	comp=Z,24nm,1.0s						
BRTR	**Keskin Array B**	**22.20**	**297**	P	**P**	**13 49 59.3**	**+0.7**
	comp=Z,2.7nm,0.9s,baz=110,slow=9.6,SNR=11						
BRTR				LR	LR	14 00 09.6	
	comp=Z,46nm,20.0s,baz=98,slow=41						
BVA0	**Borovoye Array**	**22.22**	**18**	P	**P**	**13 50 00.1**	**+1.4**
	comp=Z,5.5nm,0.9s,baz=201,slow=11,SNR=24						
BVAR	**Borovoye Array**	**22.22**	**18**	P	**P**	**13 49 59.2**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=200,slow=12,SNR=20						
BVAR				LR	LR	14 00 21.1	
	comp=Z,49nm,19.1s,baz=196,slow=41						
MK31	**Makanchi Array**	**22.70**	**44**	P	**P**	**13 50 03.0**	**-0.8**
	comp=Z,3.0nm,1.0s,baz=224,slow=8.3,SNR=10.0						
MKAR	**Makanchi Array**	**22.70**	**44**	P	**P**	**13 50 03.8**	**0.0**
	comp=Z,1.1nm,0.8s,baz=236,slow=10,SNR=9.4						
MKAR				LR	LR	14 00 15.3	
	comp=Z,101nm,18.7s,baz=238,slow=40						
KKN	**Kakani**	**22.72**	**95**	*e*P	**P**	**13 50 04.4**	**0.0**
	comp=Z,17nm,0.9s						
PKIN	**Phulchoki**	**22.88**	**95**	*e*P	**P**	**13 50 05.8**	**-0.3**
	comp=Z,20nm,1.1s						
KURBB	**Kurchatov Arra**	**23.14**	**32**	⇓P	**P**	**13 50 09.7**	**+1.4**
	comp=Z,10nm,1.1s						
KURBB	**Kurchatov Arra**	**23.14**	**32**	P	**P**	**13 50 09.6**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=226,slow=12,SNR=4.8						
GUN	**Gumba**	**23.19**	**94**	*e*P	**P**	**13 50 09.4**	**0.0**
	comp=Z,36nm,1.2s						
KIRV	**Kirov**	**27.24**	**348**	LR	LR	14 03 17.5	
	comp=Z,62nm,19.9s,baz=195,slow=40						
OBN	**Obninsk**	**28.02**	**332**	LR	LR	14 03 20.9	
	comp=Z,13nm,20.7s,baz=332,slow=39						
ZALV	**Zalesovo Beam**	**28.23**	**32**	P	**P**	**13 50 55.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=238,slow=8.3,SNR=2.4						
ZALV				LR	LR	14 03 42.2	
	comp=Z,38nm,18.8s,baz=68,slow=40						
AKASG	**Malin Array Be**	**28.96**	**319**	P	**P**	**13 51 01.3**	**-0.2**
	comp=Z,0.2nm,0.2s,baz=124,slow=7.5,SNR=5.0						
BRDH	**Bariadhala**	**29.95**	**100**	LR	LR	14 05 57.4	
	comp=Z,102nm,20.8s,baz=282,slow=42						
PALK	**Pallekele**	**31.70**	**137**	LR	LR	14 04 31.8	
	comp=Z,45nm,20.5s,baz=296,slow=37						
FINES	**FINESS Array B**	**36.37**	**333**	P	**P**	**13 52 07.2**	**+1.2**
	comp=Z,3.8nm,1.1s,baz=138,slow=13,SNR=3.2						
FINES				LR	LR	14 09 00.9	
	comp=Z,54nm,20.4s,baz=222,slow=40						
GERES	**GERESS Array B**	**37.95**	**310**	P	**P**	**13 52 19.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=112,slow=11,SNR=3.3						
CMAR	**Chiang Mai Arr**	**37.95**	**101**	P	**P**	**13 52 19.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=298,slow=7.4,SNR=4.8						
CMAR				LR	LR	14 12 06.4	
	comp=Z,53nm,18.8s,baz=254,slow=43						
SONM	**Songino Array**	**38.51**	**52**	P	**P**	**13 52 24.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=264,slow=8.5,SNR=2.5						
SONM				LR	LR	14 09 12.5	
	comp=Z,42nm,18.7s,baz=248,slow=38						
NRIK	**Noril'sk**	**40.39**	**15**	LR	LR	14 12 28.5	
	comp=Z,50nm,19.3s,baz=186,slow=41						
NOA	**NORSAR Array B**	**42.44**	**327**	LR	LR	14 12 08.4	
	comp=Z,29nm,19.3s,baz=110,slow=38						
TIXI	**Tiksi**	**53.27**	**22**	LR	LR	14 18 58.7	
	comp=Z,35nm,19.2s,baz=219,slow=38						
KSRS	**Korea Array**	**55.27**	**64**	P	**P**	**13 54 36.0**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=280,slow=5.6,SNR=3.3						
KSRS				LR	LR	14 19 19.5	
	comp=Z,16nm,18.0s,baz=145,slow=37						
TORD	**Torodi Ar. Bea**	**55.98**	**264**	P	**P**	**13 54 39.6**	**-1.3**
	comp=Z,3.0nm,0.8s,baz=84,slow=6.5,SNR=11						
DBIC	**Dimbokro**	**64.83**	**262**	LR	LR	14 28 18.3	
	comp=Z,32nm,19.6s,baz=45,slow=40						
YKA	**Yellowknife Ar**	**85.49**	**357**	P	**P**	**13 57 41.0**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=354,slow=5.3,SNR=5.6						
WRA	**Warramunga Arr**	**88.34**	**115**	P	**P**	**13 57 55.2**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=323,slow=4.0,SNR=2.9						
ASAR	**Alice Springs**	**90.15**	**118**	P	**P**	**13 58 03.7**	**+1.0**
	comp=Z,0.3nm,1.0s,baz=308,slow=4.6,SNR=3.6						

DDA ***21*** *14:16:56.5, 38°.90N×40°.77E, h7km±2km, ML2.7*
ISK ***21*** *14:16:59.2, 39°.00N×40°.74E, h8km, ML2.0/4*
ISC 21 14:16:57.8±1.1, **38°.90N**±0°.04×**40°.75E**±0°.04, **h13**km±9km, **n12**, σ1**16**/15, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.11**	**331**	PG	**Pg**	**14 17 01.2**	**+0.2**
MUSM	**Mu-Merkez**	**0.62**	**106**	*i* P	**Pg**	**14 17 08.9**	**-1.0**
MUSM				*i* S	**Sg**	**14 17 17.7**	**-0.4**
MUSM				IAML_P			
	comp=Z,756nm,0.2s						
TNCL	**Tunceli-Merkez**	**0.96**	**283**	*i* P	**Pg**	**14 17 15.0**	**-1.4**
TNCL				IAML_P			
	comp=Z,248nm,0.1s						
ERZN	**Erzincan**	**1.05**	**311**	PG	**Pn**	**14 17 18.7**	**+0.3**
GURO	**Guroymak-BITLI**	**1.06**	**109**	PN	**Pn**	**14 17 20.9**	**+2.4**
BTMN	**Batman**	**1.08**	**158**	*i* P	**Pg**	**14 17 19.0**	**+0.3**
BTMN				*i* S	**Sg**	**14 17 32.8**	**0.0**
BTMN				IAML_P			
	comp=Z,588nm,0.3s						
DIYA	**Diyarbakir**	**1.09**	**207**	*i* P	**Pg**	**14 17 19.5**	**+0.8**
SRTM	**Siirt_Merkez**	**1.29**	**134**	*i* P	**Pn**	**14 17 19.6**	**-2.0**
KOPR	**Koprukoy-ERZUR**	**1.39**	**38**	PN	**Pg**	**14 17 24.4**	**-0.1**
ELZG	**Elazig**	**1.44**	**255**	*i* P	**Pn**	**14 17 24.5**	**+0.8**
ELZG				IAML_P			
	comp=Z,489nm,0.2s						
MARD	**Mardin**	**1.58**	**179**	*i* P	**Pn**	**14 17 25.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.87**	**68**	PN	**Pb**	**14 17 32.0**	**+0.1**
AGRB				SN	**Sb**	**14 17 55.6**	**+0.3**

ISCJB ***21*** *14:31:32.9±0.3, 42°.95N±0°.01×1°.87W±0°.02, h11km±2km, mb3.7/2, MS2.8/1, Error ellipse: s-maj=2.4km s-min=1.5km az=142.5*
IDC ***21*** *14:31:35.1±1.5, 43°.00N×2°.32W, h0km, mb3.7/2, mb1 3.8/7, mb1mx3.4/46, mbtmp3.7/7, ML3.8/5, MS2.9/5, Ms1 2.9/5, ms1mx2.6/42, Error ellipse: s-maj=54.4km s-min=14.6km az=116.0*
SFS ***21*** *14:31:35.0, 42°.82N×1°.81W, ML3.7, NE. CIRIZA (NAVARRA)*
MDD ***21*** *14:31:36.0±0.3, 42°.83N×1°.78W, h10km±1km, mbLg3.6/45, Error ellipse: s-maj=2.6km s-min=2.5km az=6.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
INMG ***21*** *14:31:35.8±1.6, 42°.82N×1°.83W, h0km, ML3.4, Error ellipse: s-maj=2.1km s-min=1.5km az=160.0*
STR ***21*** *14:31:36.7±0.7, 43°N±3°×±°, h14km±4km, M4.0/7, mb4.1/1, MLv4.0/3, MLv4.0/7*
LDG ***21*** *14:31:36.0±0.1, 42°.84N×1°.85W, h2km, Md3.6/5, Ml4.0/79, Error ellipse: s-maj=1.5km s-min=1.1km az=123.0*
IGIL ***21*** *14:31:37.0, 42°.82N×1°.82W, h2km*
ISC 21 14:31:34.4±0.8, **42°.85N**±0°.02×**1°.84W**±0°.02, **h11**km±6km, **n179**, σ2**01**/343, **4C-4D, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.20**	**112**	⇓Pg	**Pg**	**14 31 38.7**	**-0.1**
	1μm,0.2s,SNR=18						
EARA				Lg	Lg	14 31 42.4	
	30μm,0.4s,SNR=5.0						
IUNC	**Unciti**	**0.27**	**111**	Pg	**Pg**	**14 31 40.2**	**+0.4**
	SNR=7.9						
IUNC				Lg	Lg	14 31 43.8	
	SNR=7.9						
EORO	**Oroz-Betelu**	**0.39**	**84**	Pg	**Pb**	**14 31 42.9**	**-0.5**
	0.9nm,0.3s,SNR=7.7						
EORO				Lg	Lg	14 31 48.9	
	8μm,0.6s,SNR=45						
IEPA	**Eparoz**	**0.43**	**100**	Pg	**Pb**	**14 31 44.1**	**+0.2**
	SNR=7.9						
IEPA				Lg	Lg	14 31 49.7	
	SNR=7.9						
EALK	**Alkurruntz**	**0.44**	**33**	Pg	**Pb**	**14 31 43.8**	**-0.5**
	838nm,0.5s,SNR=54						
EALK				Lg	Lg	14 31 51.8	
	9μm,0.5s,SNR=75						
EALK	**Alkurruntz**	**0.44**	**33**	Pg	**Pn**	**14 31 45.6**	**-1.2**
EALK				Sg	**Sn**	**14 31 52.7**	**+3.7**
IELO	**Elcoad**	**0.44**	**91**	Pg	**Pg**	**14 31 42.8**	**-0.3**
	782nm,0.4s,SN

ERTA	**Horta de San J**	**2.49**	**139**	Pn	**Pn**	**14 32 16.0**	**+1.1**
	9.1nm,0.2s,SNR=7.9						
ERTA				Sn	**Sn**	**14 32 46.3**	**+1.0**
	24nm,0.2s,SNR=7.9						
ERTA				Lg	Lg	14 32 52.9	
	171nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**2.51**	**281**	Pn	**Pn**	**14 32 17.4**	**+2.2**
	2.3nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**14 32 46.6**	**+0.8**
	25nm,0.4s,SNR=7.9						
EARI				Lg	Lg	14 32 56.2	
	180nm,0.7s,SNR=7.9						
EPOB	**Poblet**	**2.64**	**124**	Pn	**Pn**	**14 32 18.4**	**+1.4**
	4.5nm,0.2s,SNR=7.9						
EPOB				Pg	**Pg**	**14 32 23.3**	**-1.6**
	27nm,0.3s,SNR=7.9						
EPOB				Sn	**Sn**	**14 32 48.6**	**-0.3**
	22nm,0.3s,SNR=7.9						
EPOB				Lg	Lg	14 32 58.4	
	57nm,0.2s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.67**	**139**	Pn	**Pn**	**14 32 15.1**	**-2.3**
	54nm,0.1s,SNR=7.9						
EBR				Sn	**Sn**	**14 32 49.2**	**-0.5**
	304nm,0.6s,SNR=7.9						
EBR				Lg	Lg	14 32 59.2	
	1µm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.69**	**157**	Pn	**Pn**	**14 32 19.3**	**+1.6**
	0.6nm,0.1s,SNR=7.9						
EMOS				Pg	**Pb**	**14 32 23.1**	**+0.5**
	1.9nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**14 32 51.3**	**+0.9**
	42nm,0.5s,SNR=7.9						
EMOS				Lg	Lg	14 32 59.7	
	88nm,0.4s,SNR=7.9						
UCM	**Universidad Co**	**2.75**	**203**	*e*P	**Pn**	**14 32 20.1**	**+1.6**
UCM				/ S	**Sg**	**14 33 03.9**	**+1.2**
LFF	**La Frestale**	**2.80**	**41**	*e*Pn	**Pn**	**14 32 20.3**	**+1.2**
LFF				*e*Sn	**Sn**	**14 32 52.6**	**-0.2**
	134nm,0.4s						
LFF				*e*Sg	**Sg**	**14 33 04.7**	**+0.5**
	264nm,0.5s						
GUD	**Guadarrama**	**2.81**	**219**	Pn	**Pn**	**14 32 21.0**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**14 32 53.2**	**0.0**
	21nm,0.3s,SNR=7.9						
GUD				Lg	Lg	14 33 04.3	
	93nm,0.4s,SNR=7.5						
CLLI	**Llivia**	**2.84**	**96**	Pn	**Pn**	**14 32 21.5**	**+1.7**
	6.9nm,0.3s,SNR=7.9						
CLLI				Sn	**Sn**	**14 32 53.4**	**-0.6**
	31nm,0.5s,SNR=7.9						
CLLI				Lg	Lg	14 33 05.2	
	500nm,0.6s,SNR=7.9						
CARF	**Carcanieres**	**2.91**	**91**	Pg	**Pg**	**14 32 29.4**	**-0.6**
CARF				Sg	**Sg**	**14 33 07.8**	**+0.1**
MTLF	**Montolieu**	**3.01**	**79**	*e*Pn	**Pn**	**14 32 23.2**	**+1.2**
MTLF	**Montolieu**	**3.01**	**79**	*e*P	**Pn**	**14 32 26.1**	**-1.9**
MTLF	**Montolieu**	**3.01**	**79**	*e*Pg	**Pg**	**14 32 32.5**	**+0.5**
MTLF				*e*Sn	**Sn**	**14 32 57.1**	**-1.0**
	150nm,0.5s						
MTLF				*e*Sg	**Sg**	**14 33 11.4**	**+0.4**
	220nm,0.5s						
MTLF	**Montolieu**	**3.01**	**79**	Pn	**Pb**	**14 32 24.7**	**-3.3**
ECHE	**Chera**	**3.32**	**168**	Pn	**Pn**	**14 32 29.3**	**+2.9**
	1.8nm,0.2s,SNR=7.9						
ECHE				Pg	**Pg**	**14 32 38.5**	**+0.4**
	39nm,0.5s,SNR=7.9						
ECHE				Lg	Lg	14 33 19.9	
	71nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**3.35**	**108**	Pn	**Pn**	**14 32 28.4**	**+1.7**
	21nm,0.2s,SNR=7.9						
CFON				Pg	**Pg**	**14 32 37.4**	**-1.2**
	50nm,0.2s,SNR=7.9						
CFON				Sn	**Sn**	**14 33 07.0**	**+0.4**
	149nm,0.3s,SNR=7.9						
CFON				Lg	Lg	14 33 22.1	
	256nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.44**	**43**	*e*Pn	**Pn**	**14 32 29.2**	**+1.2**
RJF				*e*Sn	**Sn**	**14 33 08.2**	**-0.6**
	127nm,0.3s						
RJF				*e*Sg	**Sg**	**14 33 24.9**	**0.0**
	124nm,0.5s						
SJAF	**Saint Jean de**	**3.50**	**94**	Pn	**Pn**	**14 32 30.5**	**+1.8**
	9.3nm,0.5s,SNR=7.9						
SJAF				Pg	**Pg**	**14 32 39.9**	**-1.5**
	42nm,0.3s,SNR=7.9						
SJAF				Lg	Lg	14 33 26.3	
	163nm,0.5s,SNR=7.9						
SJAF	**Saint Jean de**	**3.50**	**94**	Pn	**Pn**	**14 32 31.3**	**+2.5**
SJAF				Pg	**Pg**	**14 32 41.2**	**-0.2**
SJAF				Sg	**Sg**	**14 33 27.1**	**+0.4**
CAF	**Calviac**	**3.50**	**52**	*e*Pn	**Pn**	**14 32 30.4**	**+1.6**
CAF				*e*Sn	**Sn**	**14 33 09.6**	**-0.6**
	121nm,0.3s						
CAF				*e*Sg	**Sg**	**14 33 27.0**	**+0.2**
	103nm,0.4s						
EJON	**La Jonquera**	**3.51**	**95**	Pn	**Pn**	**14 32 30.8**	**+1.9**
	7.6nm,0.3s,SNR=7.9						
EJON				Pg	**Pg**	**14 32 40.1**	**-1.5**
	133nm,0.5s,SNR=7.9						
EJON				Sn	**Sb**	**14 33 15.0**	**-4.2**
	36nm,0.5s,SNR=7.9						
EJON				Lg	Lg	14 33 26.5	
	407nm,0.6s,SNR=7.9						
ESDC	**Sonseca Array**	**3.56**	**207**	Pn	**Pn**	**14 32 30.6**	**+1.1**
	5.6nm,0.3s,baz=33,slow=14,SNR=7.9						
ESDC				Pg	**Pg**	**14 32 40.6**	**-1.9**
	2.3nm,0.1s,baz=32,slow=13,SNR=7.9						
ESDC				Sn	**Sn**	**14 33 10.9**	**-0.7**
	9.9nm,0.3s,baz=34,slow=24,SNR=7.9						
ESDC				Lg	Lg	14 33 25.7	
	20nm,0.3s,baz=27,slow=29,SNR=7.9						
ESDC	**Sonseca Array**	**3.56**	**207**	Pn	**Pn**	**14 32 30.4**	**+0.8**
	3.4nm,0.3s,baz=33,slow=13,SNR=22						
ESDC				Pg	**Pg**	**14 32 41.1**	**-1.4**
	4.9nm,0.3s,baz=31,slow=16,SNR=19						
ESDC				Sn	**Sn**	**14 33 11.5**	**-0.1**
	9.9nm,0.3s,baz=38,slow=15,SNR=7.0						
ESDC				Lg	Lg	14 33 27.9	
	21nm,0.3s,baz=25,slow=28,SNR=7.8						
ECAL	**Calabor**	**3.74**	**258**	Pn	**Pn**	**14 32 33.7**	**+1.6**
	13nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**14 33 19.1**	**+2.9**
	20nm,0.4s,SNR=7.9						
ECAL				Lg	Lg	14 33 34.3	
	102nm,0.4s,SNR=7.9						
PBRG	**Braganca**	**3.78**	**256**	*e*Pn	**Pn**	**14 32 34.7**	**+2.0**
PBRG				*e*Sg	**Sg**	**14 33 36.9**	**+1.0**
PBRG				A	A	14 33 44.7	
	61nm,0.5s						
PBRG	**Braganca**	**3.78**	**256**	Pn	**Pn**	**14 32 34.7**	**+2.0**
PBRG				Lg	Lg	14 33 36.9	
	31nm,0.5s						
PAB	**San Pablo**	**3.81**	**211**	Pn	**Pn**	**14 32 33.8**	**+0.7**
	1.0nm,0.2s,SNR=7.9						
PAB				Pg	**Pg**	**14 32 47.0**	**-0.3**
	1.2nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**14 33 18.0**	**+0.2**
	6.1nm,0.2s,SNR=7.9						
PAB				Lg	Lg	14 33 34.9	
	22nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**3.92**	**279**	Pn	**Pn**	**14 32 36.6**	**+2.1**
	0.7nm,0.1s,SNR=7.9						
EPON				Sn	**Sn**	**14 33 21.0**	**+0.5**
	15nm,0.4s,SNR=7.9						
EPON				Lg	Lg	14 33 42.1	
	34nm,0.4s,SNR=7.9						
MFF	**Saint Martin d**	**3.94**	**17**	*e*Pn	**Pn**	**14 32 35.4**	**+0.6**
MFF	**Saint Martin d**	**3.94**	**17**	*e*Pg	**Pg**	**14 32 48.8**	**-1.0**
MFF				*e*Sn	**Sn**	**14 33 19.5**	**-1.5**
	42nm,0.4s						
MFF				*e*Sg	**Sg**	**14 33 39.8**	**-1.0**
	36nm,0.3s						
ETOB	**Tobarra**	**4.21**	**177**	Pn	**Pn**	**14 32 40.9**	**+2.3**
	1.9nm,0.2s,SNR=4.2						
ETOB				Pg	**Pg**	**14 32 53.3**	**-1.7**
	2.0nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**14 33 29.5**	**+1.8**
	14nm,0.5s,SNR=7.9						
ETOB				Lg	Lg	14 33 48.6	
	107nm,0.8s,SNR=7.9						
MVO	**Moncorvo**	**4.22**	**248**	*e*Pn	**Pn**	**14 32 40.1**	**+1.4**
MVO				*e*Sn	**Sn**	**14 33 28.9**	**+0.9**
MVO				*e*Sg	**Sg**	**14 33 48.6**	**-1.2**
MVO				A	A	14 33 58.7	
	65nm,0.7s						
MVO	**Moncorvo**	**4.22**	**248**	Pn	**Pn**	**14 32 39.9**	**+1.2**
	4.8nm,0.1s,SNR=7.9						
MVO				Sn	**Sn**	**14 33 27.3**	**-0.7**
	20nm,0.2s,SNR=7.9						
MVO				Lg	Lg	14 33 46.1	
	42nm,0.3s,SNR=7.9						
AFON	**Font Roja**	**4.30**	**166**	Pn	**Pn**	**14 32 41.7**	**+1.9**
	1.6nm,0.1s,SNR=4.0						
AFON				Sn	**Sn**	**14 33 27.4**	**-2.5**
	11nm,0.2s,SNR=4.0						
AFON				Lg	Lg	14 33 51.8	
	77nm,0.5s,SNR=4.0						
LASF	**Ste Croix**	**4.32**	**72**	*e*Pn	**Pn**	**14 32 42.1**	**+2.0**
LASF				*e*Sn	**Sn**	**14 33 29.7**	**-0.8**
	343nm,0.5s						
LASF				*e*Sg	**Sg**	**14 33 53.2**	**+0.1**
	150nm,0.6s						
EBEN2	**Beniarda presa**	**4.35**	**163**	Pn	**Pn**	**14 32 42.4**	**+1.9**
	0.2nm,0.1s,SNR=7.9						
EBEN2				Sn	**Sn**	**14 33 30.3**	**-1.0**
	3.0nm,0.1s,SNR=7.9						
EBEN2				Lg	Lg	14 33 52.9	
	37nm,0.5s,SNR=7.9						
LBL	**Lubilhac**	**4.37**	**55**	Pn	**Pn**	**14 32 43.1**	**+2.3**
TRBF	**Trabuc cave**	**4.40**	**71**	Pn	**Pn**	**14 32 43.8**	**+2.7**
TCF	**Toulx Ste Croi**	**4.49**	**39**	*e*Pn	**Pn**	**14 32 43.4**	**+1.0**
TCF				*e*Sn	**Sn**	**14 33 33.2**	**-1.4**
	73nm,0.4s						
TCF				*e*Sg	**Sg**	**14 33 57.6**	**-0.9**
	75nm,0.5s						
EIBI	**Ibiza**	**4.52**	**147**	Pn	**Pn**	**14 32 43.7**	**+1.0**
	1.9nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**14 33 32.4**	**-2.8**
	9.3nm,0.3s,SNR=7.9						
PYM	**Petit Puy Mans**	**4.53**	**49**	Pn	**Pn**	**14 32 44.9**	**+1.9**
EAGO	**Agolada(Pontev**	**4.60**	**272**	Pn	**Pn**	**14 32 44.6**	**+0.8**
	1.9nm,0.1s,SNR=7.9						
EAGO				Sn	**Sn**	**14 33 37.7**	**+0.4**
	18nm,0.6s,SNR=7.9						
EAGO				Lg	Lg	14 34 03.3	
	10nm,0.3s,SNR=4.0						
PVRL	**Vila Real**	**4.65**	**252**	*e*Pn	**Pn**	**14 32 45.8**	**+1.2**
PVRL				*e*Sg	**Sg**	**14 34 03.5**	**-0.2**
PVRL				A	A	14 34 22.9	
	48nm,0.6s						
ETOS	**Mallorca**	**4.67**	**130**	Pn	**Pn**	**14 32 45.4**	**+0.7**
	2.5nm,0.3s,SNR=7.9						
ETOS				Sn	**Sn**	**14 33 36.4**	**-2.5**
	7.9nm,0.3s,SNR=7.9						
POLO	**Lamas de Olo**	**4.67**	**254**	*e*Pn	**Pn**	**14 32 46.6**	**+1.7**
POLO				*e*Sn	**Sn**	**14 33 40.7**	**+1.5**
POLO				*e*Sg	**Sg**	**14 34 04.2**	**-0.1**
POLO				A	A	14 34 18.1	
	19nm,0.7s						
ELOB	**Lobios**	**4.71**	**260**	Pn	**Pn**	**14 32 46.6**	**+1.1**
	1.9nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**14 33 39.3**	**-0.9**
	12nm,0.5s,SNR=7.9						
ELOB				Lg	Lg	14 34 03.6	
	37nm,0.5s,SNR=7.9						
PCAB	**Cabril**	**4.73**	**258**	*e*Pn	**Pn**	**14 32 47.4**	**+1.7**
PCAB				*e*Sg	**Sg**	**14 34 04.3**	**-2.0**
PCAB				A	A	14 34 22.4	
	41nm,1.0s						
SESP	**Santiago Espad**	**4.76**	**187**	Pn	**Pn**	**14 32 48.0**	**+1.8**
	6.8nm,0.3s,SNR=7.9						
SESP				Pg	**Pg**	**14 33 04.5**	**-1.0**
	32nm,0.4s,SNR=7.9						
SESP				Sn	**Sn**	**14 33 39.2**	**-2.2**
	14nm,0.3s,SNR=7.9						
SESP				Lg	Lg	14 34 06.0	
	60nm,0.4s,SNR=7.9						
AGO	**Saint Agoulin**	**4.78**	**46**	Pn	**Pn**	**14 32 48.5**	**+2.1**
PGAV	**Gavieira, Arco**	**4.84**	**262**	*e*Pn	**Pn**	**14 32 49.2**	**+1.9**
PGAV				*e*Sn	**Sn**	**14 33 42.5**	**-0.9**
PGAV				*e*Sg	**Sg**	**14 34 08.0**	**-1.9**
PGAV				A	A	14 34 28.4	
	30nm,0.7s						
MTE	**Manteigas**	**4.93**	**242**	*e*Sg	**Sg**	**14 34 11.1**	**-1.5**
MTE				A	A	14 34 21.6	
	57nm,0.6s						
BGF	**Bois d'Agland**	**4.99**	**40**	*e*Pn	**Pn**	**14 32 50.4**	**+1.2**
BGF				*e*Sn	**Sn**	**14 33 45.1**	**-1.7**
	228nm,0.6s						
BGF				*e*Sg	**Sg**	**14 34 13.7**	**-0.7**
	206nm,0.5s						
PVIS	**Viseu**	**5.01**	**247**	*e*Sg	**Sg**	**14 34 13.0**	**-2.1**
PVIS				A	A	14 34 20.2	
	29nm,0.7s						
EMUR	**La Murta**	**5.02**	**175**	Pn	**Pn**	**14 32 52.3**	**+2.6**
	1.5nm,0.3s,SNR=7.9						
EMUR				Pg	**Pg**	**14 33 07.4**	**-3.2**
	3.5nm,0.4s,SNR=7.9						
EMUR				Sn	**Sn**	**14 33 46.2**	**-1.6**
	15nm,0.7s,SNR=4.0						
EMUR				Lg	Lg	14 34 15.4	
	50nm,0.6s,SNR=7.9						
VIVF	**Saint-Julien-l**	**5.12**	**65**	*e*Pn	**Pn**	**14 32 53.0**	**+2.0**
VIVF				*e*Sn	**Sn**	**14 33 48.2**	**-1.8**
	94nm,0.5s						
VIVF				*e*Sg	**Sg**	**14 34 17.1**	**-1.5**
	41nm,0.4s						
EADA	**Adamuz**	**5.12**	**205**	Pn	**Pn**	**14 32 52.5**	**+1.4**
	1.2nm,0.1s,SNR=7.9						
EADA				Pg	**Pg**	**14 33 08.8**	**-3.7**
	1.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**14 33 49.4**	**-0.9**
	5.3nm,0.2s,SNR=7.9						
EADA				Lg	Lg	14 34 17.2	
	12nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.13**	**191**	Pn	**Pn**	**14 32 53.4**	**+2.1**
	1.2nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**14 33 11.3**	**-1.3**
	12nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**14 33 54.4**	**+3.9**
	12nm,0.4s,SNR=7.9						
EQES				Lg	Lg	14 34 18.1	
	44nm,0.6s,SNR=7.9						
QUIF	**Quistinic**	**5.15**	**350**	*e*Pn	**Pn**	**14 32 52.4**	**+1.0**
QUIF				*e*Sn	**Sn**	**14 33 48.0**	**-2.8**
	47nm,0.4s						
QUIF				*e*Sg	**Sg**	**14 34 16.7**	**-3.0**
	21nm,0.5s						
SSB	**Saint Sauveur**	**5.20**	**60**	Pn	**Pn**	**14 32 54.9**	**+2.8**
PCBR	**Castelo Branco**	**5.20**	**237**	*e*Pn	**Pn**	**14 32 54.4**	**+2.3**
PCBR				*e*Sg	**Sg**	**14 34 20.1**	**-1.3**
PCBR				A	A	14 34 36.8	
	37nm,0.6s						
EMAZ	**Mazaricos**	**5.25**	**273**	Pn	**Pn**	**14 32 54.0**	**+1.2**
	5.0nm,0.1s,SNR=7.9						
EMAZ				Sn	**Sn**	**14 33 52.2**	**-1.0**
	6.4nm,0.2s,SNR=7.9						
AVF	**Avril sur Loir**	**5.40**	**41**	*e*Pn	**Pn**	**14 32 55.6**	**+0.8**
AVF				*e*Sn	**Sn**	**14 33 55.0**	**-1.9**
	23nm,0.4s						
AVF				*e*Sg	**Sg**	**14 34 25.0**	**-2.6**
	97nm,0.7s						
PMRV	**Marv??o**	**5.41**	**233**	*e*Pn	**Pn**	**14 32 56.1**	**+1.1**
PMRV				*e*Sn	**Sn**	**14 33 56.4**	**-0.9**
PMRV				*e*Sg	**Sg**	**14 34 28.4**	**+0.4**
PMRV				A	A	14 34 52.9	
	31nm,0.6s						
SGMF	**Saint Gilles**	**5.43**	**355**	*e*Pn	**Pn**	**14 32 55.9**	**+0.7**
SGMF				*e*Sn	**Sn**	**14 33 53.8**	**-3.8**
SGMF				*e*Sg	**Sg**	**14 34 25.5**	**-3.0**
	62nm,0.7s						
HYF	**Humbligny**	**5.44**	**34**	*e*Pn	**Pn**	**14 32 56.1**	**+0.8**
HYF				*e*Sn	**Sn**	**14 33 55.7**	**-2.2**
HYF				*e*Sg	**Sg**	**14 34 27.4**	**-1.4**
GORA	**Gorafe**	**5.44**	**190**	Pn	**Pn**	**14 32 58.0**	**+2.5**
	13nm,0.4s,SNR=7.9						
GORA				Sn	**Sn**	**14 33 55.7**	**-2.5**
	20nm,0.4s,SNR=7.9						
GORA				Lg	Lg	14 34 29.6	
	117nm,0.4s,SNR=7.9						
RUSF	**Rustrel**	**5.45**	**76**	Pn	**Pn**	**14 32 58.3**	**+2.8**
RUSF				Sn	**Sn**	**14 33 58.7**	**+0.6**
ECAB	**El Cabril**	**5.50**	**211**	Pn	**Pn**	**14 32 57.0**	**+0.8**
	0.5nm,0.2s,SNR=7.9						
ECAB				Sn	**Sn**	**14 33 56.5**	**-3.0**
	5.0nm,0.5s,SNR=7.9						
ECAB				Lg	Lg	14 34 30.1	
	22nm,0.5s,SNR=7.9						
SMRF	**Simiane la Rot**	**5.51**	**76**	*e*Pn	**Pn**	**14 32 57.3**	**+0.8**
SMRF				*e*Sn	**Sn**	**14 33 57.8**	**-2.1**
	40nm,0.5s						
SMRF				*e*Sg	**Sg**	**14 34 30.3**	**-1.1**
	148nm,1.1s						
SMF	**Signal de Mont**	**5.54**	**45**	*e*Pn	**Pn**	**14 32 57.6**	**+0.8**
SMF				*e*Sn	**Sn**	**14 33 58.2**	**-2.3**
	42nm,0.5s						
SMF				*e*Sg	**Sg**	**14 34 30.9**	**-1.4**
	60nm,0.6s						
ROSF	**Rostrenen**	**5.58**	**350**	*e*Pn	**Pn**	**14 32 58.3**	**+1.0**
ROSF				*e*Sn	**Sn**	**14 33 57.8**	**-3.5**
	23nm,0.3s						
ROSF				*e*Sg	**Sg**	**14 34 30.6**	**-2.7**
	29nm,0.6s						
ROSF	**Rostrenen**	**5.58**	**350**	Pn	**Pn**	**14 32 58.5**	**+1.3**
GRR	**Gorron**	**5.58**	**7**	*e*Pn	**Pn**	**14 32 57.7**	**+0.4**
GRR				*e*Sn	**Sn**	**14 33 58.1**	**-3.3**
GRR				*e*Sg	**Sg**	**14 34 30.9**	**-2.5**
	54nm,0.7s						
COI	**Coimbra**	**5.60**	**244**	*e*Sg	**Sg**	**14 34 34.9**	**+0.9**
SSF	**Saint Saulge**	**5.67**	**40**	*e*Pn	**Pn**	**14 32 59.2**	**+0.7**
SSF				*e*Sn	**Sn**	**14 34 01.2**	**-2.3**
	28nm,0.4s						
SSF				*e*Sg	**Sg**	**14 34 34.3**	**-1.8**
	51nm,0.5s						
EBAD	**Badajoz**	**5.67**	**226**	Pn	**Pn**	**14 32 59.0**	**+0.5**
	1.6nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**14 34 01.2**	**-2.5**
	2.5nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	14 34 35.2	
	13nm,0.3s,SNR=7.9						
PCAS	**Casmilo, Conde**	**5.73**	**243**	*e*Pn	**Pn**	**14 33 01.2**	**+1.8**
PCAS				*e*Sg	**Sg**	**14 34 35.1**	**-3.3**
PCAS				A	A	14 34 51.5	
	43nm,0.7s						
LDF	**La Druitiere**	**5.87**	**11**	*e*Pn	**Pn**	**14 33 01.6**	**+0.4**
LDF				*e*Sn	**Sn**	**14 34 05.2**	**-3.3**
	25nm,0.5s						
LDF				*e*Sg	**Sg**	**14 34 40.2**	**-2.4**
	71nm,0.9s						
PESTR	**Estremoz**	**5.90**	**230**	*e*Pn	**Pn**	**14 33 03.2**	**+1.4**
PESTR				*e*Sg	**Sg**	**14 34 43.1**	**-0.7**
PESTR				A	A	14 34 58.4	
	25nm,0.6s						
PTOM	**Tomar**	**5.91**	**239**	*e*Pn	**Pn**	**14 33 04.5**	**+2.6**
PTOM				*e*Sg	**Sg**	**14 34 43.4**	**-0.8**
PTOM				A	A	14 35 08.1	
	45nm,0.6s						
ORIF	**Oris-en-Rattie**	**5.95**	**67**	*e*Pn	**Pn**	**14 33 02.7**	**+0.2**
ORIF	**Oris-en-Rattie**	**5.95**	**67**	*e*P	Pn	14 33 07.3	+4.8
ORIF				*e*Sn	**Sn**	**14 34 07.8**	**-2.8**
	149nm,0.6s						
ORIF				*e*Sg	**Sg**	**14 34 43.0**	**-2.2**
	61nm,0.8s						
ORIF	**Oris-en-Rattie**	**5.95**	**67**	Pn	**Pn**	**14 33 02.7**	**+0.2**
ORIF				Sn	**Sn**	**14 34 07.8**	**-2.8**
	74nm,0.6s						
ORIF				Lg	Lg	14 34 43.0	
	31nm,0.8s						
LOR	**Lormes**	**5.98**	**40**	*e*Pn	**Pn**	**14 33 03.0**	**+0.2**
	baz=222						
LOR				*e*Sn	**Sn**	**14 34 08.0**	**-3.3**
	20nm,0.3s,baz=221						
LOR				*e*Sg	**Sg**	**14 34 44.5**	**-1.8**
	71nm,0.7s,baz=210						
LOR	**Lormes**	**5.98**	**40**	Pn	**Pn**	**14 33 03.0**	**+0.2**
LOR				Sn	**Sn**	**14 34 08.0**	**-3.3**
	9.9nm,0.3s						
LOR				Lg	Lg	14 34 44.5	
	36nm,0.7s						
FLN	**La Foliniere**	**5.99**	**9**	*e*Pn	**Pn**	**14 33 03.1**	**+0.2**
	baz=192						
FLN				*e*Sn	**Sn**	**14 34 08.6**	**-2.8**
	10nm,0.4s						
FLN				*e*Sg	**Sg**	**14 34 43.4**	**-3.1**
	65nm,0.7s,baz=192						
FLN	**La Foliniere**	**5.99**	**9**	Pn	**Pn**	**14 33 03.1**	**+0.2**
FLN				Sn	**Sn**	**14 34 08.6**	**-2.8**
	5.2nm,0.4s						
FLN				Lg	Lg	14 34 43.4	
	32nm,0.7s						
EGOR	**Sierra Gorda,**	**5.99**	**198**	Pn	**Pn**	**14 33 05.2**	**+2.0**
	0.9nm,0.3s,SNR=4.0						
EBER	**Berja**	**6.00**	**188**	Pn	**Pn**	**14 33 06.8**	**+3.5**
	13nm,0.6s,SNR=7.9						
EBER				Sn	**Sn**	**14 34 08.1**	**-4.0**
	12nm,0.6s,SNR=7.9						
EBER				Lg	Lg	14 34 46.7	
	113nm,1.0s,SNR=7.9						
LMR	**La Mourre**	**6.13**	**83**	*e*Pn	**Pn**	**14 33 06.0**	**+1.1**
LMR				*e*Sn	**Sn**	**14 34 12.4**	**-2.6**
	20nm,0.6s						
LMR				*e*Sg	**Sg**	**14 34 48.8**	**-2.3**
	17nm,0.5s						
LMR	**La Mourre**	**6.13**	**83**	Pn	**Pn**	**14 33 06.0**	**+1.1**
LMR				Sn	**Sn**	**14 34 12.4**	**-2.6**
	9.8nm,0.6s						
LMR				Lg	Lg	14 34 48.8	
	8.4nm,0.5s						
ELGU	**Los Guajares,**	**6.13**	**194**	Pn	**Pn**	**14 33 08.2**	**+3.2**
	0.6nm,0.2s,SNR=4.0						
PMTG	**Montargil**	**6.14**	**234**	*e*Pn	**Pn**	**14 33 06.0**	**+1.1**
PMTG				*e*Sn	**Sn**	**14 34 14.4**	**-0.7**
PMTG				*e*Sg	**Sg**	**14 34 50.6**	**-0.7**
PMTG				A	A	14 35 02.4	
	26nm,0.6s						
FRF	**La Foret Royal**	**6.24**	**81**	*e*Pn	**Pn**	**14 33 07.0**	**+0.6**
FRF				*e*Sn	**Sn**	**14 34 14.7**	**-3.0**
	37nm,0.5s						
FRF				*e*Sg	**Sg**	**14 34 52.1**	**-2.5**
FRF	**La Foret Royal**	**6.24**	**81**	Pn	**Pn**	**14 33 07.0**	**+0.6**
FRF				Sn	**Sn**	**14 34 14.7**	**-3.0**
	18nm,0.5s						
FRF				Lg	Lg	14 34 52.1	
EMIN	**Mina Concepcio**	**6.28**	**218**	Pn	**Pn**	**14 33 08.0**	**+1.0**
	0.4nm,0.2s,SNR=7.9			

PNCL				A	A	14 35 28.3		
	12nm,0.6s							
MESJ	**Messejana**	**6.99**	**226**	*e*P	**Pn**	**14 33 17.3**	**+0.6**	
MESJ	**Messejana**	**6.99**	**226**	*e*Sg	**Sg**	**14 35 18.4**	**-0.1**	
MESJ				A	A	14 35 21.8		
	17nm,0.7s							
SFTF	**Sexfontaines**	**7.21**	**40**	*e*Pn	**Pn**	**14 33 19.6**	**0.0**	
SFTF				*e*Sn	**Sn**	**14 34 37.7**	**-3.8**	
	25nm,0.5s,baz=212							
SFTF				*e*Sg	**Sg**	**14 35 22.6**	**-3.0**	
	114nm,1.0s							
SFTF	**Sexfontaines**	**7.21**	**40**	Pn	**Pn**	**14 33 19.6**	**0.0**	
SFTF				Sn	**Sn**	**14 34 37.7**	**-3.8**	
	25nm,0.5s							
PBDV	**Barranco-do-Ve**	**7.29**	**222**	*e*Sg	**Sg**	**14 35 29.8**	**+1.4**	
PBDV				A	A	14 35 53.8		
	19nm,0.6s							
MEZF	**Maizieres J'vi**	**7.43**	**38**	*e*Sn	**Sn**	**14 34 42.9**	**-4.0**	
	16nm,0.3s,baz=220							
MEZF				*e*Sg	**Sg**	**14 35 28.6**	**-4.0**	
	28nm,0.5s							
MORF	**Marmelete**	**7.61**	**226**	*e*P	**Pn**	**14 33 25.6**	**+0.3**	
MORF	**Marmelete**	**7.61**	**226**	*e*Pn	**Pn**	**14 33 25.6**	**+0.3**	
HAU	**Haudompre**	**7.72**	**45**	*e*Pn	**Pn**	**14 33 26.1**	**-0.7**	
HAU				*e*Sn	**Sn**	**14 34 50.4**	**-3.8**	
	16nm,0.4s							
HAU				*e*Sg	**Sg**	**14 35 38.4**	**-3.8**	
	37nm,0.7s							
PAGF	**Fort de Pagny**	**7.78**	**40**	*e*Sn	**Sn**	**14 34 51.6**	**-3.9**	
	15nm,0.5s							
PAGF				*e*Sg	**Sg**	**14 35 40.0**	**-3.9**	
	96nm,0.9s							
PFVI	**Vila Bisbo**	**7.83**	**226**	*e*Pn	**Pn**	**14 33 29.6**	**+1.3**	
HINF	**Hinteralfeld**	**7.88**	**48**	*e*Pn	**Pn**	**14 33 29.2**	**+0.3**	
HINF				*e*Sn	**Sn**	**14 34 54.2**	**-3.9**	
	4.8nm,0.3s							
HINF				*e*Sg	**Sg**	**14 35 43.6**	**-3.5**	
	35nm,0.9s							
HINF	**Hinteralfeld**	**7.88**	**48**	Pn	**Pn**	**14 33 29.2**	**+0.3**	
HINF				Sn	**Sn**	**14 34 54.2**	**-3.9**	
	2.4nm,0.3s							
PGF	**Pioggiola**	**7.99**	**88**	*e*Pn	**Pn**	**14 33 32.2**	**+1.7**	
PGF				*e*Sn	**Sn**	**14 34 57.0**	**-3.9**	
	14nm,0.4s							
PGF	**Pioggiola**	**7.99**	**88**	Pn	**Pn**	**14 33 32.2**	**+1.7**	
BAIF	**Baives**	**8.33**	**28**	*e*Pn	**Pn**	**14 33 35.0**	**0.0**	
BAIF				*e*Sn	**Sn**	**14 35 04.6**	**-4.4**	
	22nm,0.7s							
BAIF				*e*Sg	**Sg**	**14 35 56.9**	**-4.5**	
	61nm,1.0s							
BAIF	**Baives**	**8.33**	**28**	Pn	**Pn**	**14 33 35.0**	**0.0**	
BAIF				Sn	**Sn**	**14 35 04.6**	**-4.4**	
	11nm,0.7s							
CDF	**Champ du Feu**	**8.46**	**46**	*e*Pn	**Pn**	**14 33 36.4**	**-0.6**	
CDF				*e*Sn	**Sn**	**14 35 07.8**	**-4.7**	
	9.0nm,0.5s							
CDF				*e*Sg	**Sg**	**14 36 01.6**	**-4.3**	
	31nm,0.8s							
DOU	**Dourbes**	**8.49**	**29**	⇓Pn	**Pn**	**14 33 37.6**	**+0.3**	
DOU				⇓Sn	**Sn**	**14 35 08.7**	**-4.3**	
	comp=N,11nm,0.0s							
GIVF	**Givet**	**8.58**	**30**	*e*Pn	**Pn**	**14 33 38.2**	**-0.3**	
GIVF				*e*Sn	**Sn**	**14 35 10.5**	**-4.7**	
	comp=N,13nm,0.3s							
GIVF				*e*Sg	**Sg**	**14 36 05.0**	**-4.6**	
	comp=N,43nm,0.9s							
SNF	**Seneffe**	**8.74**	**27**	⇑Pn	**Pn**	**14 33 40.9**	**+0.4**	
WLF	**Walferdange**	**8.78**	**36**	⇑Pn	**Pn**	**14 33 42.2**	**+1.1**	
WLF				⇑Sn	**Sn**	**14 35 19.6**	**-0.4**	
	comp=N,22nm,0.0s							
BCLA	**Clavier**	**9.02**	**30**	⇓Pn	**Pn**	**14 33 45.5**	**+1.1**	
BCLA				⇑Sn	**Sn**	**14 35 24.3**	**-1.7**	
	comp=N,15nm,0.0s							
DAVOX	**Davos/Dischmat**	**9.21**	**61**	Pn	Pn	14 33 54.0	+6.8	
	comp=N,0.6nm,0.3s,baz=249,slow=14,SNR=5.9							
DAVOX				Sn	**Sn**	**14 35 33.6**	**+2.7**	
	comp=N,0.5nm,0.3s,baz=343,slow=19,SNR=3.0							
DAVOX				LR	LR	14 37 58.0		
	comp=N,44nm,18.3s,baz=261,slow=40							
FETA	**Feichten**	**9.84**	**61**	*e*Pn	Pn	14 34 01.6	+5.8	
	comp=N,2.1nm,0.4s							
FETA				*e*Sn	**Sn**	**14 35 50.2**	**+3.9**	
	comp=N,3.1nm,0.5s							
MOTA	**Moosalm**	**10.19**	**59**	*e*Pn	Pn	14 34 05.5	+4.8	
	comp=N,7.9nm,0.5s							
MDT	**Midelt**	**10.26**	**193**	LR	LR	14 38 25.8		
	comp=N,68nm,20.5s,baz=330,slow=40							
GERES	**GERESS Array B**	**12.37**	**56**	Pn	**Pn**	**14 34 32.1**	**+1.7**	
	comp=N,0.3nm,0.3s,baz=262,slow=16,SNR=4.7							
KHC	**Kasperske Hory**	**12.41**	**54**	*e*SN	**Sn**	**14 36 46.7**	**-2.5**	
KHC				*ex*	x	14 38 13.7		
EKA	**Eskdalemuir Ar**	**12.52**	**357**	Pn	**Pn**	**14 34 31.4**	**-1.0**	
	baz=175,slow=14,SNR=8.4							
HFS	**Hagfors**	**19.73**	**23**	P	**Pn**	**14 36 06.8**	**+1.5**	
	comp=N,0.1nm,0.3s,baz=238,slow=8.3,SNR=3.2							
HFS				LR	LR	14 45 37.5		
	comp=N,46nm,20.1s,baz=180,slow=43							
NOA	**NORSAR Array B**	**19.84**	**19**	LR	LR	14 45 32.8		
	comp=N,35nm,18.7s,baz=215,slow=42							
MLR	**Muntele Rosu**	**20.06**	**73**	LR	LR	14 44 17.3		
	comp=N,42nm,19.4s,baz=264,slow=37							
FINES	**FINESS Array B**	**24.37**	**32**	P	**P**	**14 37 00.8**	**+3.3**	
	comp=N,2.7nm,0.9s,baz=254,slow=7.1,SNR=5.5							
MKAR	**Makanchi Array**	**57.04**	**55**	P	**P**	**14 41 24.0**	**+3.8**	
	comp=N,0.4nm,0.7s,baz=297,slow=5.3,SNR=5.3							

*IDC **21** 14:50:02.1±1.4,2.2°27N×89.73E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.8/48, mbtmp3.9/11, ML3.8/3, MS3.6/22, Ms1 3.6/22, ms1mx3.5/36, Error ellipse: s-maj=37.2km s-min=21.2km az=28.0*

ISC 21 14:50:02.0±1.2, 1°38N±0°2×89°60E±0°09, h10km, n40, σ2§60/19, mb4.0/9, MS3.7/21, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.37**	**84**	Pn	**Pn**	**14 52 15.1**	**-2.2**
	0.9nm,0.3s,baz=0.5,slow=18,SNR=4.7						
PSI				Sn	Sn	14 53 53.3	-10
	1.2nm,0.3s,baz=0.2,slow=16,SNR=4.1						
PSI				LR	LR	14 55 48.6	
	comp=Z,788nm,18.1s,baz=268,slow=38						
PALK	**Pallekele**	**10.38**	**302**	Pn	**Pn**	**14 52 30.1**	**-1.0**
	1.1nm,0.3s,baz=115,slow=16,SNR=8.3						
PALK				Sn	Sn	14 54 15.9	-12
	7.8nm,0.3s,baz=296,slow=5.1,SNR=15						
PKDT	**Phuket**	**10.57**	**55**	P	**Pn**	**14 52 37.0**	**+3.2**
	9.1nm,0.7s						
TRTT	**Trang**	**11.68**	**59**	P	**Pn**	**14 52 50.6**	**+1.7**
	5.6nm,0.9s						
SRDT	**SRDT**	**15.59**	**37**	P	**P**	**14 53 44.3**	**-2.0**
	10nm,1.3s,4µm						
SUKH	**Sukhothai**	**18.41**	**32**	P	**P**	**14 54 23.7**	**+6.2**
PBKT	**Sadao Pong**	**18.43**	**37**	P	**Pn**	**14 54 15.3**	**-2.4**
	8.6nm,1.2s						
CMAR	**Chiang Mai Arr**	**18.89**	**28**	P	**P**	**14 54 18.6**	**-4.2**
	0.1nm,0.3s,baz=222,slow=12,SNR=13						
HYB	**Hyderabad**	**18.91**	**326**	*e*P	**Pn**	**14 54 26.0**	**+2.4**
H08S2	**Diego Garcia H**	**19.49**	**241**	T	T	15 14 58.4	
	baz=60,slow=75,SNR=201						
H08S3	**Diego Garcia H**	**19.49**	**241**	T	T	15 14 59.3	
	baz=60,slow=75,SNR=236						
H08S1	**Diego Carcia H**	**19.51**	**241**	T	T	15 14 56.1	
	baz=60,slow=75,SNR=227						
PANO	**Nakornpanom**	**21.20**	**43**	P	**P**	**14 54 47.0**	**-0.9**
	0.2nm,1.2s						
TGY	**Tagaytay City**	**33.28**	**67**	LR	LR	15 11 01.0	
	comp=Z,41nm,18.1s,baz=220,slow=38						
H01W3	**Cape Leeuwin H**	**43.17**	**150**	T	T	15 44 28.6	
	baz=324,slow=74,SNR=5.4						
H01W2	**Cape Leeuwin H**	**43.18**	**150**	T	T	15 44 29.4	
	baz=324,SNR=6.0						
H01W1	**Cape Leeuwin H**	**43.19**	**150**	T	T	15 44 33.4	
	baz=324,slow=74,SNR=6.1						
MKAR	**Makanchi Array**	**45.22**	**353**	P	**P**	**14 58 17.0**	**-2.5**
	0.8nm,0.7s,baz=175,slow=9.1,SNR=9.9						
GEYT	**Alibeck**	**46.09**	**325**	P	**P**	**14 58 26.5**	**+0.1**
	2.4nm,0.7s,baz=141,slow=9.6,SNR=3.6						
GEYT				LR	LR	15 18 47.5	
	comp=Z,67nm,20.2s,baz=70,slow=38						
SONM	**Songino Array**	**48.07**	**15**	P	**P**	**14 58 40.4**	**-1.4**
	1.8nm,0.6s,baz=193,slow=9.3,SNR=14						
SONM				LR	LR	15 20 46.0	
	comp=Z,189nm,19.0s,baz=190,slow=39						
WRA	**Warramunga Arr**	**48.92**	**119**	P	**P**	**14 58 51.1**	**+2.4**
	0.6nm,0.6s,baz=297,slow=8.5,SNR=8.0						

KSRS	**Korea Array**	**49.96**	**40**	LR	LR	15 20 50.0		
	comp=Z,90nm,19.5s,baz=228,slow=37							
ZALV	**Zalesovo Beam**	**52.08**	**356**	P	**P**	**14 59 11.4**	**-0.6**	
	0.8nm,0.4s,baz=167,slow=11,SNR=2.9							
ZALV				LR	LR	15 22 06.7		
	comp=Z,150nm,21.6s,baz=62,slow=37							
MJAR	**Matsushiro Arr**	**56.56**	**46**	LR	LR	15 25 47.3		
	comp=Z,51nm,18.1s,baz=235,slow=38							
KBZ	**Khabaz**	**58.74**	**322**	P	**P**	**15 00 00.4**	**+0.2**	
	1.4nm,0.8s,baz=115,slow=5.2,SNR=4.4							
KBZ				LR	LR	15 27 28.0		
	comp=Z,17nm,19.8s,baz=158,slow=38							
STKA	**Stephens Creek**	**59.55**	**129**	LR	LR	15 26 03.1		
	comp=Z,24nm,18.5s,baz=237,slow=36							
BRTR	**Keskin Array B**	**63.14**	**314**	P	**P**	**15 00 30.3**	**-0.1**	
	1.2nm,0.7s,baz=137,slow=8.4,SNR=7.1							
BRTR				LR	LR	15 28 22.7		
	comp=Z,60nm,21.6s,baz=106,slow=37							
NRIK	**Noril'sk**	**67.40**	**359**	LR	LR	15 33 16.5		
	comp=Z,54nm,19.2s,baz=182,slow=39							
OBN	**Obninsk**	**68.19**	**330**	LR	LR	15 32 20.3		
	comp=Z,14nm,21.4s,baz=142,slow=37							
BOSA	**Boshof**	**68.58**	**238**	LR	LR	15 25 41.8		
	comp=Z,66nm,21.9s,baz=42,slow=31							
AKASG	**Malin Array Be**	**70.19**	**324**	LR	LR	15 33 27.8		
	comp=Z,36nm,21.4s,baz=95,slow=37							
MLR	**Muntele Rosu**	**70.44**	**318**	LR	LR	15 35 12.1		
	comp=Z,50nm,21.2s,baz=66,slow=39							
FINES	**FINESS Array B**	**75.99**	**334**	LR	LR	15 36 35.4		
	comp=Z,60nm,19.0s,baz=171,slow=37							
GERES	**GERESS Array B**	**79.35**	**319**	P	**P**	**15 02 08.9**	**+0.6**	
	0.3nm,0.3s,baz=116,slow=9.1,SNR=3.5							
GERES				LR	LR	15 43 26.4		
	comp=Z,26nm,18.1s,baz=341,slow=40							
KEST	**Kesra**	**81.01**	**306**	LR	LR	15 42 01.1		
	comp=Z,25nm,18.1s,baz=274,slow=39							
DAVOX	**Davos/Dischmat**	**81.62**	**317**	LR	LR	15 40 49.3		
	comp=Z,20nm,21.7s,baz=88,slow=37							
NOA	**NORSAR Array B**	**82.77**	**331**	LR	LR	15 43 01.1		
	comp=Z,28nm,18.9s,baz=110,slow=39							
VNDA	**Vanda**	**87.99**	**168**	LR	LR	15 38 00.8		
	comp=Z,83nm,18.1s,baz=272,slow=33							
DBIC	**Dimbokro**	**94.21**	**277**	LR	LR	15 41 46.7		
	comp=Z,33nm,22.0s,baz=76,slow=33							
TXAR	**Lajitas Array**	**146.50**	**21**	PKPbc	**PKPdf**	**15 09 44.4**	**+1.3**	
	0.4nm,0.8s,baz=318,slow=1.7,SNR=4.8							

*DDA **21** 15:17:39.5,36.94N×28.99E, h7km, 3km, ML2.2*
*ISK **21** 15:17:40.2,36.82N×28.95E, h24km, ML2.6/8*
*ISCJB **21** 15:17:41.2±0.6,36.80N±0.08×28.92E±0.05, h25km±7km, Error ellipse: s-maj=13.3km s-min=5.3km az=20.1*

ISC 21 15:17:40.5±1.0, 36.90N±0.04×28.97E±0.03, h15km±8km, n18, σ1§35/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DALY	**Dalyan (Mula)**	**0.26**	**252**	PG	**Pg**	**15 17 46.3**	**+0.2**
DALY				SG	**Sb**	**15 17 51.2**	**-0.1**
DALY	**Dalyan (Mula)**	**0.26**	**252**	*i* P	**Pg**	**15 17 45.8**	**-0.3**
DALY				*i* S	**Sb**	**15 17 51.1**	**-0.1**
DALY				IAML_P			
	comp=Z,1µm,0.1s						
FETY	**Fethiye**	**0.28**	**160**	PG	**Pg**	**15 17 45.9**	**-0.5**
FETY	**Fethiye**	**0.28**	**160**	*i* P	**Pg**	**15 17 46.5**	**+0.1**
FETY				*i* S	**Sg**	**15 17 50.9**	**+0.4**
FETY				IAML_P			
	comp=Z,3µm,0.2s						
TURN	**Turunc**	**0.29**	**265**	PG	**Pn**	**15 17 52.3**	**+2.0**
TURN				SG	Sn	15 18 01.0	+4.7
TURN	**Turunc**	**0.29**	**265**	*i* P	**Pn**	**15 17 53.9**	**+3.6**
TURN				IAML_P			
	comp=Z,484nm,0.1s						
TAVA	**DENIZLI_Tavas**	**0.57**	**356**	*i* P	**Pg**	**15 17 50.1**	**-1.6**
TAVA				IAML_P			
	comp=Z,1µm,0.2s						
YER	**Yerkesik**	**0.60**	**294**	PG	**Pb**	**15 17 53.1**	**+0.4**
YER				SG	**Sn**	**15 18 02.3**	**-1.7**
MRSB	**Marmaris-Mugla**	**0.64**	**254**	PG	**Pg**	**15 17 53.0**	**-0.1**
ELL	**Elmali**	**0.77**	**101**	PG	**Pb**	**15 17 55.9**	**+0.2**
ELL				SG	**Sn**	**15 18 07.5**	**-0.9**
AKAS	**Kas**	**0.84**	**142**	PG	**Pg**	**15 17 56.4**	**-0.4**
AKAS	**Kas**	**0.84**	**142**	*i* P	**Pn**	**15 17 57.5**	**-0.5**
AKAS				IAML_P			
	comp=Z,877nm,0.3s						
ARG	**Arkhangelos**	**0.96**	**225**	PG	**Pb**	**15 17 57.5**	**-1.3**
KORT	**Korkueli**	**1.11**	**84**	PN	**Pn**	**15 18 01.3**	**-0.4**
KORT	**Korkueli**	**1.11**	**84**	*i* P	**Pg**	**15 18 04.8**	**+2.8**
AYDN	**Tasoluk**	**1.15**	**312**	*i* P	**Pg**	**15 18 02.8**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.35**	**321**	PN	**Pn**	**15 18 04.7**	**-0.3**
KHAL	**Karahalli**	**1.53**	**16**	*i* P	**Pb**	**15 18 08.6**	**-0.1**

*ISCJB **21** 15:36:12.3±1.9,37.71N±0.04×142.0E±0.1, h8km±21km, mb3.5/2, Error ellipse: s-maj=15.4km s-min=5.4km az=19.9*
*JMA **21** 15:36:13.5±0.1,37.68N×142.01E, h33km, 3km, M3.0*
*IDC **21** 15:36:19.8±3.3,35.76N×141.54E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/35, mbtmp3.1/3, ML1.8/1, Error ellipse: s-maj=77.5km s-min=36.0km az=50.0*

ISC 21 15:36:10.3±2.1, 37.62N±0.05×142.13E±0.09, h27km±14km, n16, σ1§06/26, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.87**	**323**	P	**Pn**	**15 36 27.8**	**+1.0**
JIKH				S	**Sb**	**15 36 37.5**	**-0.5**
JFK	**Kawauchi**	**1.03**	**256**	P	**Pb**	**15 36 30.6**	**+1.1**
JFK				S	**Sn**	**15 36 42.6**	**0.0**
JIO	**Ouri**	**1.04**	**324**	P	**Pb**	**15 36 30.4**	**+0.8**
JIO				S	**Sb**	**15 36 41.9**	**-1.0**
JMM	**Marumori**	**1.09**	**284**	P	**Pb**	**15 36 31.2**	**+0.7**
JMM				S	**Sn**	**15 36 43.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**1.18**	**245**	P	**Pb**	**15 36 32.9**	**+0.9**
ONAJ				S	**Sb**	**15 36 46.9**	**0.0**
JKMT	**Kesennumamotoy**	**1.30**	**337**	P	**Pb**	**15 36 34.2**	**+0.2**
JKMT				S	**Sn**	**15 36 48.4**	**-0.8**
JOU	**Okura**	**1.38**	**303**	P	**Pb**	**15 36 36.3**	**+0.9**
JOU				S	**Sb**	**15 36 52.2**	**-0.4**
JFT	**Otama**	**1.43**	**267**	P	**Pb**	**15 36 37.2**	**+0.9**
JFT				S	**Sb**	**15 36 54.2**	**+0.1**
JMK	**Ichinoseki**	**1.51**	**332**	P	**Pb**	**15 36 37.9**	**+0.2**
JMK				S	**Sn**	**15 36 54.7**	**+0.2**
JYS	**Shirataka**	**1.74**	**291**	S	**Sb**	**15 37 03.0**	**0.0**
JYK	**Kaneyama**	**1.91**	**314**	P	**Pb**	**15 36 44.3**	**-0.1**
JOM	**Ohasama**	**1.97**	**341**	P	**Pb**	**15 36 44.6**	**-0.8**
JRG	**Rokugo**	**2.13**	**327**	P	**Pb**	**15 36 47.2**	**-1.0**
MJAR	**Matsushiro Arr**	**3.31**	**252**	Pn	**Pb**	**15 37 05.4**	**-2.9**
	0.2nm,0.3s,baz=105,slow=25,SNR=7.9						
MJAR				Sn	**Sb**	**15 37 46.1**	**-2.2**
	0.1nm,0.3s,baz=132,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**57.72**	**189**	P	**P**	**15 45 58.1**	**-0.6**
	0.3nm,0.4s,baz=6.3,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**61.45**	**189**	P	**P**	**15 46 25.6**	**+1.2**
	0.2nm,0.8s,baz=12,slow=14,SNR=3.6						

KRSC 21 15:48:08.9±10.0, 48.08N×155.90E, h40km±10km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.61**	**3**	*e*P	Pn	15 48 52.0	+3.4
SKR				*e*S	Sn	15 49 21.5	+2.4
PAU	**Pauzhetka**	**3.45**	**10**	*e*P	Pn	15 49 04.5	+4.5
PAU				*e*S	Sn	15 49 44.0	+4.4
ASAK	**Asacha**	**4.50**	**16**	*e*P	Pn	15 49 19.2	+4.6

KRSC 21 15:50:59.3±10.0, 53.43N×162.96E, h49km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**1.34**	**328**	*e*P	Pn	15 51 24.0	+2.4
SPN	**Mys Shipunski**	**1.80**	**261**	*e*P	Pn	15 51 29.9	+2.1
SPN				*e*S	Sn	15 51 50.5	+1.1
NLC	**Nalytchevo**	**2.19**	**265**	*e*P	Pn	15 51 35.8	+2.7
NLC				*e*S	Sn	15 52 01.0	+2.1
KZV	**Kizimen**	**2.30**	**318**	*e*P	Pn	15 51 38.2	+3.3
SDLR	**Sedlovina**	**2.45**	**268**	*e*P	Pn	15 51 40.0	+3.1
SDLR				*e*S	Sn	15 52 09.2	+3.6
TUMR	**Tumrok**	**2.48**	**320**	*e*P	Pn	15 51 40.9	+3.6
UGLR	**Uglovaya**	**2.49**	**267**	*e*P	Pn	15 51 40.6	+3.2
SMAR	**Somma**	**2.50**	**268**	*e*P	Pn	15 51 41.2	+3.5
AVH	**Avacha**	**2.54**	**268**	*e*P	Pn	15 51 41.6	+3.6
AVH				*e*S	Sn	15 52 12.3	+4.6
DALK	**Dalny**	**2.56**	**263**	*e*S	Sn	15 52 10.4	+2.2
KRX	**Arik**	**2.58**	**270**	*e*P	Pn	15 51 41.7	+3.0
KRX				*e*S	Sn	15 52 12.0	+3.0
PET	**Petropavlovsk**	**2.62**	**263**	S	Sn	15 52 12.8	+3.1
KBTR	**Krutoberegovo**	**2.79**	**358**	*e*P	Pn	15 51 43.3	+1.9
GNL	**Ganaly**	**3.01**	**277**	*e*P	Pn	15 51 48.8	+4.3
GNL				*e*S	Sn	15 52 24.2	+4.9
KLY	**Klyuchi**	**3.18**	**336**	*e*P	Pn	15 51 49.6	+2.8
ASAK	**Asacha**	**3.24**	**253**	*e*S	Sn	15 52 27.7	+2.7
SMKR	**Semkarok**	**3.27**	**345**	*e*P	Pn	15 51 51.3	+3.2
BDR	**Baidarnaya**	**3.30**	**343**	*e*P	Pn	15 51 51.7	+3.1
APC	**Apacha**	**3.53**	**264**	*e*S	Sn	15 52 35.6	+3.6

*ISCJB **21** 15:52:26.8±0.7, 43.95N±0.04×105.20W±0.08, h0km, Error ellipse: s-maj=8.3km s-min=5.5km az=16.7*
*ANF **21** 15:52:26.9±0.6, 43.92N×105.22W, ML3.3/7, Error ellipse: s-maj=7.7km s-min=5.4km az=138.0*
*IDC **21** 15:52:26.4±2.0, 43.90N×105.38W, h0km, mb1 3.6/2, mb1mx3.3/42, mbtmp3.4/2, ML3.3/2, Error ellipse: s-maj=60.7km s-min=9.3km az=149.0*
*NEIC **21** 15:52:27.8±0.8, 44.13N×105.18W, h0km, ML2.9, Error ellipse: s-maj=14.3km s-min=9.6km az=177.0, Suspected Mining explosion.*
NEIC 32 km [20 miles] SE of Gillette.

ISC 21 15:52:25.3±0.8, 44°08N±0°05×105°40W±0°05, h0km, n15, σ1§27/16, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.98**	**87**	*e*Pg	**Pg**	**15 52 43.5**	**-0.6**
RSSD	**Black Hills**	**0.98**	**87**	P	**Pg**	**15 52 44.0**	**-0.1**
	baz=271						
K22A	**Casper**	**1.65**	**210**	P	**Pn**	**15 52 55.4**	**-0.3**
	baz=33						
K22A				S	**Sn**	**15 53 17.3**	**-0.4**
	baz=33						
LAO	**LASA Array**	**2.67**	**348**	*e*Pn	**Pb**	**15 53 12.9**	**-1.2**
LAO	**LASA Array**	**2.67**	**348**	S	**Sg**	**15 53 50.5**	**-0.6**
	baz=164						
RLMT	**Red Lodge**	**2.95**	**292**	*e*Pn	**Pn**	**15 53 15.8**	**+2.1**
RLMT	**Red Lodge**	**2.95**	**292**	P	**Pb**	**15 53 17.4**	**-1.5**
	baz=108						
N23A	**Red Feather La**	**3.21**	**187**	P	**Pn**	**15 53 17.8**	**+0.6**
	baz=9.6						
N23A				S	**Sn**	**15 53 56.9**	**+0.5**
	baz=9.6						
BW06	**Boulder Array**	**3.30**	**248**	*e*Pn	**Pb**	**15 53 25.0**	**0.0**
BW06	**Boulder Array**	**3.30**	**248**	S	**Sb**	**15 54 06.3**	**+0.5**
	baz=65						
PDAR	**Pinedale Array**	**3.30**	**248**	Pn	**Pb**	**15 53 22.4**	**-2.6**
	2.1nm,0.3s,baz=71,slow=16,SNR=32						
PDAR				Lg	Lg	15 54 07.3	
	3.0nm,0.3s,baz=69,slow=34,SNR=6.0						
OGNE	**Ogallala**	**4.00**	**140**	*e*Pn	**Pn**	**15 53 29.1**	**+1.2**
O20A	**White River Ci**	**4.48**	**209**	S	**Sn**	**15 54 29.2**	**+1.7**
	baz=29						
I10CA	**LAC DU BONNET**	**8.84**	**43**	*i*		16 46 20.0	
	baz=222,slow=322,SNR=1.3						
ULM	**Lac du Bonnet**	**8.95**	**43**	Pn	**Pn**	**15 54 36.0**	**+0.3**
	0.8nm,0.3s,baz=222,slow=11,SNR=8.6						
ULM				Lg	Lg	15 57 06.8	
	0.3nm,0.3s,baz=310,slow=18,SNR=3.1						

*ISCJB **21** 15:56:40.5±0.5, 35.54N±0.03×97.46W±0.02, h14km±3km, Error ellipse: s-maj=5.2km s-min=3.2km az=170.5*
*NEIC **21** 15:56:41.7±0.4, 35.49N×97.38W, h10km±3km, ML3.3(TUL), Error ellipse: s-maj=3.6km s-min=2.6km az=176.0*
NEIC Felt [III] at Oklahoma City and Spencer and [II] at Choctaw. Also felt at Harrah and Norman.
*ANF **21** 15:56:42.0±1.5, 35.53N×97.46W, h19km±10km, ML3.6/6, Error ellipse: s-maj=7.4km s-min=3.4km az=160.0*

ISC 21 15:56:40.0±0.9, 35.62N±0.03×97.49W±0.02, h5km±7km, n43, σ2§37/79, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK001	**Jones High Sch**	**0.17**	**110**	*e*Pg	**Pg**	**15 56 44.2**	**+0.8**
OK001				*e*Sg	**Sg**	**15 56 46.1**	**+0.5**
OK005	**Luther M Schoo**	**0.24**	**82**	*e*Pg	**Pb**	**15 56 46.5**	**+1.7**
OK005				*e*Sg	**Sg**	**15 56 50.3**	**+2.4**
OK002	**Wilshire Harra**	**0.25**	**106**	*e*Pg	**Pg**	**15 56 45.5**	**+0.7**
OK002				*e*Sg	**Sg**	**15 56 48.2**	**+0.1**
WMOK

ANMO				*e*Pg	Pg	15 58 55.6	-5.5
MNTX	**Cornudas Mount**	**7.65**	**242**	*e*Pn	**Pn**	**15 58 34.8**	**+2.6**
MNTX				*e*Sn	**Sn**	**15 59 58.4**	**-1.0**
ISCO	**Idaho Springs**	**7.67**	**305**	*e*Pn	**Pn**	**15 58 36.4**	**+3.7**
ISCO				*e*Sn	**Sn**	**15 59 59.9**	**-0.3**
HDIL	**Hopedale**	**8.12**	**50**	*e*Pn	**Pn**	**15 58 39.4**	**+0.8**
HDIL				*e*Sn	**Sn**	**16 00 08.5**	**-2.3**
HDIL				*e*Lg	Lg	16 00 58.0	
ECSD	**EROS Data Cent**	**8.13**	**4**	*e*Pn	**Pn**	**15 58 41.0**	**+2.3**
ECSD				*e*Sn	**Sn**	**16 00 08.8**	**-2.2**
ECSD				*e*Lg	Lg	16 00 59.8	
TX31	**Lajitas Ar. Si**	**8.15**	**222**	*e*Pn	**Pn**	**15 58 39.6**	**+0.4**
TX31				*e*Pg	**Pg**	**15 59 12.9**	**-3.3**
TX31				*e*Sn	**Sn**	**16 00 06.0**	**-5.8**
TX31				*e*Lg	Lg	16 00 57.0	

IDC ***21*** *16:13:44.0±1.4, 67°.23N×59°.10W, h0km, mb3.9/2, mb1 3.9/3, mb1mx3.3/34, mbtmp3.9/3, ML2.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/33, Error ellipse: s-maj=68.5km s-min=21.5km az=121.0*

ISC 21 16:13:32.4±1.5, 60°.8N±0°.1×44°.1W±0°.1, h10km, n8, σ2°.83/10, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**0.76**	**303**	*i* P	**Pn**	**16 13 50.0**	**+0.8**
NRS				*i* S	**Sn**	**16 14 01.8**	**+1.1**
SFJD	**Kangerlussuaq**	**6.90**	**338**	*i* P	**Pn**	**16 15 15.8**	**+2.4**
SFJD				*i* S	**Sn**	**16 16 32.1**	**+0.3**
SUMG	**Summit**	**12.08**	**8**	*i* P	**Pn**	**16 16 23.8**	**-0.9**
SUMG				*e*S	**Sn**	**16 18 36.7**	**-2.7**
SCHQ	**Schefferville**	**13.45**	**254**	P	**Pn**	**16 16 45.8**	**+2.7**
	0.4nm,0.3s,baz=44,slow=15,SNR=3.4						
SCHQ				Sn	**Sn**	**16 19 07.5**	**-4.9**
	0.5nm,0.3s,baz=195,slow=19,SNR=3.8						
KBZ	**Khabaz**	**51.78**	**67**	LR	LR	16 46 39.4	
	comp=Z,29nm,19.0s,baz=17,slow=36						
MKAR	**Makanchi Array**	**64.36**	**38**	P	**P**	**16 24 09.7**	**+1.8**
	0.6nm,0.4s,baz=346,slow=5.1,SNR=12						
MJAR	**Matsushiro Arr**	**83.04**	**358**	LR	LR	17 00 43.8	
	comp=Z,11nm,18.7s,baz=275,slow=37						
ASAR	**Alice Springs**	**142.92**	**3**	PKP	**PKPdf**	**16 33 03.5**	**-2.4**
	0.3nm,0.6s,baz=0.4,slow=2.7,SNR=6.6						

ISCJB ***21*** *16:34:34.0±0.6, 35°.48N±0°.04×97°.42W±0°.03, h10km±5km, Error ellipse: s-maj=7.5km s-min=3.9km az=158.9*
NEIC ***21*** *16:34:35.0±0.0, 35°.47N×97°.40W, h5km, ML3.2(TUL), After TUL.*
NEIC Felt [III] at Oklahoma City. Also felt at Spencer.
ANF ***21*** *16:34:35.2±1.2, 35°.52N×97°.47W, h17km±7km, ML3.4/7, Error ellipse: s-maj=6.5km s-min=2.9km az=160.0*
TUL ***21*** *16:34:35.0, 35°.47N×97°.40W, h5km, ML3.2*

ISC 21 16:34:35.1±1.4, 35°.48N±0°.05×97°.46W±0°.03, h6km±11km, n29, σ1°.60/42, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK001	**Jones High Sch**	**0.16**	**60**	*e*Pg	**Pg**	**16 34 37.5**	**-0.7**
OK002	**Wilshire Harra**	**0.22**	**73**	*e*Pg	**Pg**	**16 34 38.8**	**-0.7**
OK005	**Luther M Schoo**	**0.28**	**51**	*e*Pg	**Pg**	**16 34 39.8**	**-0.7**
WMOK	**Wichita Mounta**	**1.32**	**236**	*e*Pn	**Pn**	**16 34 58.8**	**-1.2**
WMOK				*e*Sg	**Sb**	**16 35 17.1**	**-0.2**
WMOK	**Wichita Mounta**	**1.32**	**236**	P	**Pn**	**16 34 58.9**	**-1.2**
	baz=54						
WMOK				S	**Sb**	**16 35 17.2**	**-0.2**
	baz=54						
TUL1	**Leonard**	**1.42**	**72**	*e*Pn	**Pn**	**16 34 58.9**	**-2.5**
TUL1				*e*Sn	**Sn**	**16 35 19.6**	**-0.8**
TUL1	**Leonard**	**1.42**	**72**	P	**Pn**	**16 34 59.0**	**-2.5**
	baz=254						
TUL1				S	**Sn**	**16 35 19.1**	**-1.4**
	baz=254						
X37A	**Clayton**	**1.93**	**117**	*e*Pn	**Pn**	**16 35 07.6**	**-0.8**
X37A				*e*Sn	**Sn**	**16 35 32.9**	**-0.1**
HHAR	**Hobbs**	**2.96**	**73**	*e*Pn	**Pn**	**16 35 21.9**	**-0.7**
W39A	**Magazine**	**3.02**	**94**	*e*Pn	**Pn**	**16 35 22.1**	**-1.2**
W39A	**Magazine**	**3.02**	**94**	P	**Pn**	**16 35 22.2**	**-1.2**
	baz=277						
W39A				S	**Sn**	**16 35 58.7**	**-1.1**
	baz=277						
MIAR	**Mount Ida**	**3.32**	**105**	*e*Pn	**Pn**	**16 35 27.1**	**-0.5**
MIAR	**Mount Ida**	**3.32**	**105**	P	**Pn**	**16 35 27.3**	**-0.2**
	baz=288						
MIAR				S	**Sn**	**16 36 06.5**	**-0.8**
	baz=288						
ABTX	**Abilene, Hawle**	**3.38**	**213**	*e*Pn	**Pn**	**16 35 28.6**	**+0.2**
WHTX	**Lake Whitney,**	**3.48**	**180**	*e*Pn	**Pn**	**16 35 29.6**	**-0.2**
AMTX	**Amarillo**	**3.51**	**261**	*e*Pn	**Pn**	**16 35 31.5**	**+1.2**
KSU1	**Kansas State U**	**3.67**	**10**	S	**Sn**	**16 36 15.1**	**-1.0**
	baz=191						
CBKS	**Cedar Bluff**	**3.79**	**332**	*e*Pn	**Pn**	**16 35 35.3**	**+1.2**
U40A	**Yellville**	**3.83**	**76**	P	**Pn**	**16 35 34.0**	**-0.7**
	baz=259						
X40A	**Basin Creek Fa**	**3.92**	**103**	*e*Pn	**Pn**	**16 35 35.2**	**-0.7**
X40A				*e*Pg	**Pb**	**16 35 46.1**	**+1.5**
X40A				*e*Sn	**Sn**	**16 36 20.7**	**-1.5**
X40A				*e*Sg	**Sb**	**16 36 33.6**	**+1.3**
WLAR	**White Oak Lake**	**4.00**	**115**	*e*Pn	**Pn**	**16 35 36.2**	**-0.8**
WHAR	**Wooly Hollow**	**4.22**	**91**	*e*Pn	**Pn**	**16 35 38.8**	**-1.2**
WHAR				*e*Sn	**Sn**	**16 36 27.5**	**-2.2**
WHAR				*e*Sg	**Sb**	**16 36 44.5**	**+3.4**
UALR	**University of**	**4.25**	**98**	*e*Pn	**Pn**	**16 35 39.8**	**-0.6**
UALR				*e*Sg	**Sb**	**16 36 45.2**	**+3.5**
W41B	**Gary Mavity, V**	**4.27**	**93**	*e*Pn	**Pn**	**16 35 39.8**	**-0.7**
W41B				*e*Sg	**Sb**	**16 36 45.1**	**+2.8**
W41B	**Gary Mavity, V**	**4.27**	**93**	P	**Pn**	**16 35 39.9**	**-0.7**
	baz=276						
MSTX	**Muleshoe**	**4.63**	**253**	*e*Pn	**Pn**	**16 35 45.0**	**-0.8**
X43A	**Marvell**	**5.48**	**98**	*e*Pn	Pn	16 35 52.4	-4.8
HBAR	**Harrisburg**	**5.54**	**87**	*e*Pn	**Pn**	**16 35 53.7**	**-4.4**
CCM	**Cathedral Cave**	**5.61**	**61**	*e*Pn	**Pn**	**16 35 57.7**	**-1.3**

IDC ***21*** *16:45:12.9±1.0, 34°.25N×85°.73E, h0km, mb3.4/4, mb1 3.5/8, mb1mx3.3/35, mbtmp3.4/8, ML2.8/4, Error ellipse: s-maj=34.5km s-min=20.7km az=59.0*
ISCJB ***21*** *16:45:16.3±0.6, 34°.44N±0°.05×85°.7E±0°.2, h33km, mb3.3/3, Error ellipse: s-maj=18.9km s-min=7.1km az=176.7*

ISC 21 16:45:18.6±0.8, 34°.43N±0°.09×85°.6E±0°.1, h35km, n14, σ1°.07/14, mb3.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.26**	**195**	*e*P	**Pn**	**16 46 48.5**	**-0.3**
	8.8nm,0.4s						
GUN	**Gumba**	**6.50**	**178**	*e*P	**Pn**	**16 46 53.5**	**+1.4**
	14nm,0.6s						
KKN	**Kakani**	**6.62**	**183**	*e*P	**Pn**	**16 46 54.9**	**+1.2**
	6.6nm,0.5s						
JIRN	**Jiri**	**6.76**	**176**	*e*P	**Pn**	**16 46 56.3**	**+0.6**
	7.4nm,0.3s						
PKIN	**Phulchoki**	**6.83**	**182**	*e*P	**Pn**	**16 46 57.1**	**+0.5**
	4.6nm,0.4s						
KOLN	**Koldanda**	**6.86**	**195**	*e*P	**Pn**	**16 46 56.0**	**-0.9**
	4.8nm,0.5s						
AAK	**Ala-Archa**	**11.96**	**317**	Pn	**Pn**	**16 48 06.8**	**+0.2**
	0.1nm,0.3s,baz=247,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**12.61**	**349**	Pn	**Pn**	**16 48 15.0**	**-0.4**
	0.1nm,0.3s,baz=163,slow=14,SNR=8.6						
KURBB	**Kurchatov Arra**	**17.00**	**344**	P	**P**	**16 49 14.8**	**-0.2**
	0.0nm,0.3s,baz=162,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**19.53**	**359**	P	**P**	**16 49 42.8**	**-0.1**
	0.2nm,0.3s,baz=177,slow=11,SNR=5.2						
SONM	**Songino Array**	**20.52**	**43**	P	**P**	**16 49 54.8**	**+1.0**
	0.8nm,1.1s,baz=240,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**71.20**	**132**	P	**P**	**16 56 32.5**	**-1.6**
	0.5nm,0.7s,baz=327,slow=6.6,SNR=16						
ASAR	**Alice Springs**	**73.75**	**135**	P	**P**	**16 56 47.8**	**-1.5**
	0.3nm,0.7s,baz=312,slow=6.0,SNR=5.1						
TORD	**Torodi Ar. Bea**	**77.74**	**278**	P	**P**	**16 57 13.5**	**+1.1**
	0.1nm,0.5s,baz=57,slow=5.5,SNR=2.4						

IDC 21 17:08:39.9±4.4, 10°.81S×164°.82E, h90km±29km, mb3.2/3, mb1 3.5/5, mb1mx3.2/37, mbtmp3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=50.1km s-min=19.1km az=49.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.99**	**286**	*e*P	Pn	17 09 51.0	-1.4
HNR				*e*S	Sn	17 10 45.0	-3.9
HNR	**Honiara**	**4.99**	**286**	P	Pn	17 09 52.4	0.0
	42nm,0.3s,baz=141,slow=7.2,SNR=25						
HNR				S	Sn	17 10 49.2	+0.3
	14nm,0.3s,baz=170,slow=18,SNR=3.9						
HNR				LR	LR	17 11 58.2	
	comp=Z,113nm,20.7s,baz=328,slow=40						
DZM	**Mont Dzumac**	**11.30**	**172**	P	Pn	17 11 19.2	+0.7
	0.6nm,0.3s,baz=261,slow=22,SNR=20						
DZM				S	Sn	17 13 22.4	-0.6
	0.3nm,0.3s,baz=72,slow=20,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**29.18**	**4**	T	T	17 44 46.2	
	baz=184,slow=76,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**29.18**	**4**	T	T	17 44 46.4	
	baz=184,slow=76,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**29.19**	**4**	T	T	17 44 47.4	
	baz=184,slow=76,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**30.40**	**4**	T	T	17 46 21.9	
	baz=182,slow=75,SNR=3.6						
H11N3	**WAKE ISLAND Hy**	**30.41**	**4**	T	T	17 46 20.0	
	baz=182,slow=75,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**30.42**	**4**	T	T	17 46 20.4	
	baz=182,slow=75,SNR=3.0						
WRA	**Warramunga Arr**	**30.71**	**249**	P	P	17 14 47.0	+0.3
	0.4nm,0.9s,baz=97,slow=6.9,SNR=4.3						
ASAR	**Alice Springs**	**32.09**	**242**	P	P	17 14 58.6	-0.1
	0.3nm,0.6s,baz=63,slow=10,SNR=6.1						
MKAR	**Makanchi Array**	**92.73**	**317**	P	P	17 21 41.7	-0.4
	0.4nm,0.7s,baz=91,slow=6.7,SNR=5.1						

JMA ***21*** *17:14:46.5±0.2, 36°.31N×142°.47E, h71km, M3.0*
IDC ***21*** *17:14:49.4±2.0, 36°.78N×142°.02E, h0km, mb3.4/3, mb1 3.5/5, mb1mx3.3/44, mbtmp3.4/5, ML2.8/2, MS3.8/1, Ms1 3.8/1, ms1mx2.2/34, Error ellipse: s-maj=46.2km s-min=27.7km az=74.0*

ISC 21 17:14:49.2±2.0, 36°.34N±0°.07×142°.4E±0°.1, h35km, n18, σ1°.02/26, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.41**	**244**	P	**Pn**	**17 15 11.1**	**-1.3**
CHOJ				*e*S	**Sn**	**17 15 29.8**	**0.0**
JHYU	**Hitachinakayam**	**1.48**	**271**	P	**Pn**	**17 15 12.2**	**-1.1**
JHYU				*e*S	**Sn**	**17 15 31.2**	**-0.2**
ONAJ	**Iwakimizuishiy**	**1.51**	**301**	P	**Pn**	**17 15 12.4**	**-1.4**
JHO	**Hitachi**	**1.51**	**281**	P	**Pn**	**17 15 12.5**	**-1.3**
JHO				S	**Sn**	**17 15 32.5**	**+0.2**
JFK	**Kawauchi**	**1.61**	**310**	P	**Pn**	**17 15 13.8**	**-1.4**
JFK				*e*S	**Sn**	**17 15 35.1**	**+0.4**
JMM	**Marumori**	**2.00**	**320**	P	**Pn**	**17 15 19.2**	**-1.3**
JMM				*e*S	**Sn**	**17 15 44.0**	**-0.4**
JFT	**Otama**	**2.04**	**306**	P	**Pn**	**17 15 20.8**	**-0.3**
JAG	**Ashikaga**	**2.39**	**273**	P	**Pn**	**17 15 25.2**	**-0.7**
JAG				*e*S	**Sn**	**17 15 54.0**	**0.0**
JMK	**Ichinoseki**	**2.78**	**340**	P	**Pn**	**17 15 30.2**	**-1.0**
JMK				S	**Sn**	**17 16 04.0**	**+0.5**
JRY	**Ryogami san**	**2.86**	**265**	P	**Pn**	**17 15 31.5**	**-0.9**
JRY				*e*S	**Sn**	**17 16 05.0**	**-0.6**
JOD2	**Odawara 2**	**2.91**	**249**	P	**Pn**	**17 15 32.3**	**-0.7**
JOD2				*e*S	**Sn**	**17 16 06.2**	**-0.6**
MJAR	**Matsushiro Arr**	**3.40**	**275**	Pn	**Pn**	**17 15 38.5**	**-1.2**
	0.3nm,0.3s,baz=92,slow=14,SNR=20						
MAT	**Matsushiro**	**3.40**	**275**	P	**Pn**	**17 15 40.2**	**+0.4**
MAT				*e*S	**Sn**	**17 16 18.6**	**-0.3**
ASAJ	**Asahikawa**	**7.77**	**1**	Pn	**Pn**	**17 16 37.5**	**-2.3**
	0.3nm,0.3s,baz=315,slow=31,SNR=5.8						
SONM	**Songino Array**	**28.84**	**305**	P	**P**	**17 20 45.5**	**+1.2**
	0.4nm,0.7s,baz=99,slow=8.9,SNR=3.2						
MKAR	**Makanchi Array**	**45.17**	**303**	P	**P**	**17 23 03.4**	**+0.9**
	0.7nm,0.8s,baz=85,slow=10,SNR=5.8						
BATI	**Baumata**	**49.55**	**205**	LR	LR	17 46 06.1	
	comp=Z,95nm,18.5s,baz=250,slow=38						
WRA	**Warramunga Arr**	**56.49**	**189**	P	P	17 24 35.9	+8.1
	0.3nm,0.9s,baz=4.3,slow=7.6,SNR=3.6						

ISCJB ***21*** *17:45:09.6±0.5, 30°.41N±0°.05×49°.93E±0°.04, h10km, mb3.7/15, MS3.6/1, Error ellipse: s-maj=7.7km s-min=4.3km az=22.4*
IDC ***21*** *17:45:09.2±1.2, 30°.56N×49°.92E, h0km, mb3.8/15, mb1 3.9/18, mb1mx3.8/48, mbtmp3.8/18, ML3.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.4/51, Error ellipse: s-maj=26.8km s-min=16.2km az=13.0*
TEH ***21*** *17:45:11.4, 30°.58N×50°.05E, h10km, ML3.6*
THR ***21*** *17:45:12.7, 30°.58N×49°.97E, h27km, ML3.6*

ISC 21 17:45:11.0±0.6, 30°.52N±0°.05×50°.03E±0°.04, h10km, n77, σ1°.69/73, mb3.9/15, 5C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.44**	**305**	*e*Sg	**Sg**	**17 46 00.5**	**+3.1**
IKAZ	**Kazeroun**	**1.73**	**115**	*e*Pn	**Pb**	**17 45 43.4**	**+0.3**
IKAZ				IAMB	IAmb	17 46 29.3	
	comp=Z,9μm,0.8s						
IBRJ	**Brojen**	**1.74**	**37**	*e*Pn	**Pg**	**17 45 46.0**	**+1.5**
IBRJ				IAMB	IAmb	17 46 18.1	
	comp=Z,5μm,0.8s						
ZNGN	**Zangian**	**1.75**	**24**	*e*Pn	**Pb**	**17 45 43.1**	**-0.3**
ZNGN				IAMB	IAmb	17 46 09.3	
	comp=Z,0.0nm,1.1s						
JHBN	**Jahan bin**	**1.79**	**18**	*e*Pn	**Pb**	**17 45 43.9**	**-0.3**
JHBN				IAMB	IAmb	17 46 15.3	
	comp=Z,0.0nm,1.0s						
SHGR	**Shooshtar-Gavs**	**1.90**	**327**	*e*Pn	**Pb**	**17 45 45.3**	**-0.5**
SHGR	**Shooshtar-Gavs**	**1.90**	**327**	*e*Pg	**Pb**	**17 45 45.3**	**-0.5**
ROKH	**ROKH**	**2.02**	**25**	*e*Pn	**Pb**	**17 45 47.3**	**-0.6**
ROKH				IAMB	IAmb	17 46 27.9	
	comp=Z,0.0nm,1.4s						
IPIR	**Pirpir**	**2.28**	**19**	*e*Pn	**Pb**	**17 45 51.2**	**-1.3**
IPIR				IAMB	IAmb	17 46 35.9	
	comp=Z,8μm,1.3s						
SHI	**Shiraz**	**2.32**	**111**	*e*Pn	**Pb**	**17 45 52.8**	**-0.3**
SHI				IAMB	IAmb	17 46 55.7	
	comp=Z,2μm,0.6s						
IRAM	**Ramesheh**	**2.39**	**57**	*e*Pn	**Pb**	**17 45 53.0**	**-1.3**
IRAM				IAMB	IAmb	17 46 35.1	
	comp=Z,2μm,0.5s						
IGAR	**Gharneh**	**2.55**	**42**	*e*Pn	**Pb**	**17 45 55.2**	**-1.8**
IGAR				IAMB	IAmb	17 46 40.4	
	comp=Z,2μm,0.7s						
IPAR	**Pars**	**2.70**	**104**	*e*Pn	**Pb**	**17 45 57.9**	**-1.7**
IZEF	**Zefreh**	**3.08**	**39**	*e*Pn	**Pn**	**17 46 02.1**	**+2.2**
IZEF				IAMB	IAmb	17 47 07.0	
	comp=Z,1μm,1.0s						
IKLH	**Kolahrood**	**3.09**	**25**	*e*Pn	**Pb**	**17 46 02.9**	**-3.3**
IKLH				IAMB	IAmb	17 47 06.6	
	comp=Z,2μm,0.6s						
KHMZ	**Khomeyn**	**3.21**	**359**	*e*Pn	**Pn**	**17 46 03.1**	**+1.3**
KHMZ	**Khomeyn**	**3.21**	**359**	*e*Pn	**Pn**	**17 46 03.1**	**+1.3**
IKMR	**Kamar-syah**	**3.30**	**335**	*e*Pn	**Pn**	**17 46 03.7**	**+0.9**
IKMR				IAMB	IAmb	17 47 07.1	
	comp=Z,0.0nm,0.9s						
GHIR	**Ghir-Karzin**	**3.41**	**130**	*e*Pn	**Pn**	**17 46 07.5**	**+3.2**
GHIR	**Ghir-Karzin**	**3.41**	**130**	*e*Pn	**Pn**	**17 46 07.5**	**+3.2**
ISAD	**Sadrabad**	**3.43**	**65**	IAMB	IAmb	17 46 21.3	
	comp=Z,1μm,0.8s						
ISAD				*e*Pn	**Pn**	**17 46 06.9**	**+2.1**
IKFM	**Kafar-mosalman**	**3.53**	**329**	*e*Pn	**Pn**	**17 46 06.7**	**+0.9**
IKFM				IAMB	IAmb	17 47 33.6	
	comp=Z,0.0nm,0.7s						
IDOB	**Doab**	**3.62**	**335**	*e*Pn	**Pn**	**17 46 07.7**	**+0.3**
IDOB				IAMB	IAmb	17 47 40.5	
	comp=Z,0.0nm,1.5s						
KRSH	**Karshahi**	**3.88**	**27**	*e*Pn	**Pn**	**17 46 13.3**	**+2.4**
IMEH	**Mehriz**	**4.03**	**76**	*e*Pn	**Pn**	**17 46 14.9**	**+1.8**
IMEH				IAMB	IAmb	17 47 37.1	
	comp=Z,539nm,1.2s						
ICHK	**Chekchek**	**4.12**	**64**	*e*Pn	**Pn**	**17 46 16.0**	**+1.7**
ICHK				IAMB	IAmb	17 47 17.4	
	comp=Z,789nm,0.7s						
ANAR	**Anarak**	**4.12**	**49**	*e*Pn	**Pn**	**17 46 15.7**	**+1.5**
IKOM	**Komasi**	**4.22**	**330**	IAMB	IAmb	17 47 59.1	
	comp=Z,0.0nm,0.9s						
ISFB	**Sefidab**	**4.26**	**25**	*e*Pn	**Pn**	**17 46 17.5**	**+1.5**
ISFB				IAMB	IAmb	17 46 18.2	
	comp=Z,603nm,0.6s						
YZKH	**Yazd**	**4.32**	**63**	*e*Pn	**Pn**	**17 46 19.2**	**+2.3**
YZKH	**Yazd**	**4.32**	**63**	*e*Pn	**Pn**	**17 46 19.2**	**+2.3**
IBZA	**Bozab**	**4.35**	**336**	*e*Pn	**Pn**	**17 46 18.2**	**+0.8**
IBZA				IAMB	IAmb	17 47 59.1	
	comp=Z,0.0nm,0.9s						
IVIS	**Veis**	**4.82**	**327**	*e*Pn	**Pn**	**17 46 23.8**	**+0.1**
IVIS				IAMB	IAmb	17 48 04.2	
	comp=Z,702nm,0.8s						
IRAZ	**Razeghan**	**4.88**	**359**	*e*Pn	**Pn**	**17 46 25.6**	**+1.0**
IRAZ				IAMB	IAmb	17 47 50.3	
	comp=Z,594nm,0.7s						
SNGE	**Sanandaj**	**5.09**	**334**	*e*Pn	**Pn**	**17 46 28.5**	**+0.9**
SNGE	**Sanandaj**	**5.09**	**334**	*e*AML	AML	17 47 36.5	
	comp=N,33nm,0.7s						
SNGE				*e*AML	AML	17 47 37.7	
	comp=E,38nm,0.6s						
SNGE	**Sanandaj**	**5.09**	**334**	*e*Pn	**Pn**	**17 46 28.5**	**+0.9**
ILIN	**Lien**	**5.09**	**330**	*e*Pn	**Pn**	**17 46 28.4**	**+0.8**
ILIN				IAMB	IAmb	17 47 29.2	
	comp=Z,1μm,0.3s						
IMHD	**Mahdasht**	**5.18**	**6**	*e*Pn	**Pn**	**17 46 29.7**	**+1.0**
IMHD				IAMB	IAmb	17 46 47.1	
	comp=Z,222nm,0.6s						
QABG	**Abgarm-Qazvin**	**5.19**	**356**	*e*Pn	**Pn**	**17 46 30.2**	**+1.2**
IDMV	**Damavand**	**5.32**	**18**	*e*Pn	**Pn**	**17 46 31.8**	**+1.0**
IDMV				IAMB	IAmb	17 46 54.9	
	comp=Z,298nm,0.7s						
KHGB	**Koh Gabri**	**5.57**	**90**	*e*Pn	**Pn**	**17 46 35.8**	**+1.6**
IFIR	**Firoozkooh**	**5.60**	**23**	*e*Pn	**Pn**	**17 46 36.0**	**+1.4**
IFIR				IAMB	IAmb	17 46 45.5	
	comp=Z,212nm,0.3s						
NGRK	**Negar Kerman**	**5.87**	**97**	*e*Pn	**Pn**	**17 46 41.4**	**+2.9**
NGRK				IAMB	IAmb	17 46 42.7	
	comp=Z,0.0nm,0.5s						
QALM	**Alamut, Qazvin**	**5.92**	**5**	*e*Pn	**Pn**	**17 46 40.5**	**+1.5**
QALM				IAMB	IAmb	17 48 34.5	
	comp=Z,0.0nm,1.5s						
ISHM	**Shahmirzad**	**5.94**	**27**	IAMB	IAmb	17 46 35.6	
	comp=Z,372nm,0.6s						
IALA	**Alasht**	**6.02**	**22**	*e*Pn	**Pn**	**17 46 43.0**	**+2.6**
IALA				IAMB	IAmb	17 47 04.7	
	comp=Z,282nm,0.4s						
IPRN	**Peran**	**6.03**	**18**	*e*Pn	**Pn**	**17 46 42.1**	**+1.7**
IPRN				IAMB	IAmb	17 47 12.2	
	comp=Z,342nm,0.5s						
TPRV	**Parvadeh(Tabas**	**6.20**	**64**	*e*Pn	**Pn**	**17 46 44.3**	**+1.6**
TNSJ	**Nastanj**	**6.55**	**57**	*e*Pn	**Pn**	**17 46 49.1**	**+1.6**
SBZV	**Sabzevar**	**8.62**	**45**	*e*Pn	**Pn**	**17 47 18.3**	**+2.2**
GNI	**Garni**	**10.53**	**337**	LR	LR	17 51 30.5	
	comp=Z,25nm,20.0s,baz=352,slow=36						
WSAR	**Wadi Sarin**	**10.55**	**131**	Pn	**Pn**	**17 47 42.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=290,slow=12,SNR=7.0						
WSAR				Sn	**Sn**	**17 49 35.1**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=140,slow=19,SNR=2.1						
KBZ	**Khabaz**	**14.35**	**339**	Pn	**Pn**	**17 48 36.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=166,slow=10.0,SNR=9.6						
BRTR	**Keskin Array B**	**16.23**	**309**	Pn	**Pn**	**17 49 00.8**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=9.7						
AAK	**Ala-Archa**	**22.98**	**52**	P	**P**	**17 50 16.0**	**0.0**
	comp=Z,0.6nm,0.6s,baz=256,slow=4.2,SNR=3.0						
MLR	**Muntele Rosu**	**24.03**	**315**	↑*i*P	**P**	**17 50 27.2**	**+0.9**
MLR	**Muntele Rosu**	**24.03**	**315**	P	**P**	**17 50 25.9**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=238,slow=10,SNR=5.0						
TESR	**Tescani**	**24.15**	**318**	↑*i*P	**P**	**17 50 28.0**	**+0.8**
VOIR		**24.56**	**314**	↑*i*P	**P**	**17 50 32.3**	**+1.3**
BIZ	**Bicaz**	**24.70**	**318**	↓*i*P	**P**	**17 50 32.9**	**+0.7**
AKASG	**Malin Array Be**	**25.45**	**328**	P	**P**	**17 50 37.8**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=135,slow=8.7,SNR=19						
KIEV	**Kiev**	**25.46**	**328**	↑*i*P	**P**	**17 50 37.4**	**-1.6**
BURAR	**Bucovina Array**	**25.57**	**319**	↑*i*P	**P**	**17 50 41.0**	**+0.8**
OBN	**Obninsk**	**26.40**	**342**	P	**P**	**17 50 48.4**	**+0.9**
	comp=Z,1.5nm,0.4s,baz=141,slow=13,SNR=4.5						
BVAR	**Borovoye Array**	**26.95**	**28**	P	**P**	**17 50 53.0**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=214,slow=9.4,SNR=14						
KURBB	**Kurchatov Arra**	**29.24**	**38**	P	**P**	**17 51 13.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=241,slow=9.5,SNR=8.5						
MKAR	**Makanchi Array**	**29.72**	**48**	P	**P**	**17 51 17

KHEZ	Kahui Hut	2.42	309	P	Pn	17 56 47.2	-0.6
RAGZ	Rawiri	2.47	18	P	Pn	17 56 46.7	-1.9
PKE	Pukeiti	2.50	311	P	Pn	17 56 47.3	-1.6
HIZ	Hauiti	2.63	332	P	Pn	17 56 49.6	-1.0
MWZ	Matawai	2.65	19	P	Pn	17 56 48.7	-2.3
KHZ	Kahutara	2.67	233	P	Pn	17 56 42.5	-8.7
THZ	Tophouse	2.81	250	P	Pn	17 56 45.2	-8.0
LTZ	Lake Taylor	3.66	237	P	Pn	17 56 57.8	-7.1
RPZ	Rata Peaks	4.91	233	Pn	Pb	17 57 33.7	-0.6

0.8nm,0.3s,baz=83,slow=2.8,SNR=4.7

IDC 21 17:58:58.1±3.3, 38.30S×48.17E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.6/43, mbtmp3.9/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/42, Error ellipse: s-maj=108.3km s-min=52.5km az=54.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**21.37**	**290**	LR	LR	18 10 26.2	
	comp=Z,56nm,20.4s,baz=128,slow=32						
LBTB	**Lobatse**	**23.26**	**298**	LR	LR	18 11 26.4	
	comp=Z,46nm,19.3s,baz=142,slow=32						
MATP	**Matopo**	**24.63**	**311**	LR	LR	18 12 44.0	
	comp=Z,61nm,18.3s,baz=158,slow=34						
LSZ	**Lusaka**	**28.92**	**317**	LR	LR	18 15 08.6	
	comp=Z,83nm,20.1s,baz=152,slow=34						
MAW	**Mawson**	**30.49**	**169**	LR	LR	18 14 54.5	
	comp=Z,88nm,18.2s,baz=318,slow=31						
H08S1	**Diego Carcia H**	**37.59**	**42**	T	T	18 45 44.4	
	baz=211,slow=76,SNR=17						
H08S2	**Diego Garcia H**	**37.60**	**42**	T	T	18 45 48.1	
	baz=211,slow=76,SNR=6.9						
H08S3	**Diego Garcia H**	**37.61**	**42**	T	T	18 45 46.1	
	baz=211,slow=76,SNR=15						
H09N1	**TRISTAN DA CUN**	**47.12**	**252**	T	T	18 57 14.0	
	SNR=16						
H01W2	**Cape Leeuwin H**	**52.05**	**108**	T	T	19 03 44.5	
	baz=246,slow=75,SNR=62						
H01W3	**Cape Leeuwin H**	**52.06**	**108**	T	T	19 03 45.0	
	baz=246,slow=75,SNR=63						
H01W1	**Cape Leeuwin H**	**52.07**	**108**	T	T	19 03 46.2	
	baz=246,slow=75,SNR=65						
VNDA	**Vanda**	**57.75**	**166**	LR	LR	18 31 17.8	
	comp=Z,68nm,19.2s,baz=226,slow=34						
EIL	**Elat**	**68.73**	**348**	LR	LR	18 38 58.5	
	comp=Z,21nm,20.1s,baz=214,slow=35						
FITZ	**Fitzroy Crossi**	**69.33**	**97**	P	P	18 10 07.8	+0.1
	1.6nm,0.9s,baz=217,slow=8.4,SNR=3.6						
ASAR	**Alice Springs**	**72.54**	**107**	P	P	18 10 27.2	0.0
	0.8nm,0.8s,baz=225,slow=5.1,SNR=7.7						
CMAR	**Chiang Mai Arr**	**73.85**	**50**	P	P	18 10 34.9	+0.1
	0.7nm,0.8s,baz=224,slow=7.2,SNR=8.3						
WRA	**Warramunga Arr**	**75.01**	**104**	P	P	18 10 41.8	+0.1
	1.8nm,0.9s,baz=232,slow=5.0,SNR=12						
BRTR	**Keskin Array B**	**78.78**	**349**	LR	LR	18 43 13.8	
	comp=Z,10.0nm,20.9s,baz=246,slow=34						
ILAR	**Eielson Array**	**152.04**	**14**	PKPbc	PKPbc	18 18 54.0	-0.2
	0.6nm,0.5s,baz=309,slow=3.0,SNR=4.4						

*ISCJB **21** 17:59:20.8±0.6, 43.79N±0.04×105.21W±0.06, h0km, Error ellipse: s-maj=6.9km s-min=6.2km az=148.8*
*IDC **21** 17:59:20.5±1.7, 43.80N×105.45W, h0km, mb1 3.6/4, mb1mx3.3/55, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=46.1km s-min=7.9km az=149.0*
*NEIC **21** 17:59:21.6±0.5, 43.80N×105.17W, h0km, ML3.2, Error ellipse: s-maj=6.4km s-min=5.9km az=134.0, Suspected Mining explosion.*
NEIC 61 km [38 miles] SSE of Gillette.

ISC 21 17:59:21.0±1.0, 43.80N±0.05×105.23W±0.06, h0km, n37, σ1♀47/36, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.92**	**69**	*e*Pg	**Pg**	**17 59 39.3**	**+0.7**
K22A	**Casper**	**1.49**	**220**	*e*Pn	**Pn**	17 59 48.0	-1.2
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn	**Pn**	**18 00 03.8**	**+0.6**
RWWY	**Rawlins**	**2.56**	**215**	*e*Pn	**Pn**	**18 00 05.4**	**+1.4**
N23A	**Red Feather La**	**2.95**	**191**	*e*Pn	**Pn**	**18 00 10.3**	**+1.0**
LAO	**LASA Array**	**2.98**	**347**	*e*Pn	**Pn**	**18 00 09.8**	**+0.2**
RLMT	**Red Lodge**	**3.18**	**296**	*e*Pn	**Pn**	**18 00 13.0**	**+0.5**
PD31	**Pinedale Array**	**3.33**	**253**	*e*Pn	**Pn**	**18 00 15.3**	**+0.8**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**18 00 15.3**	**+0.8**
	9.1nm,0.3s,baz=71,slow=17,SNR=68						
PDAR				Pg	**Pb**	**18 00 20.4**	**-0.7**
	30nm,0.3s,baz=71,slow=22,SNR=85						
PDAR				Lg	Lg	18 01 00.5	
	14nm,0.3s,baz=75,slow=27,SNR=18						
BW06	**Boulder Array**	**3.33**	**253**	*e*Pn	**Pn**	**18 00 15.6**	**+1.0**
GCMT	**Greycliff**	**3.74**	**304**	*e*Pn	**Pn**	**18 00 18.8**	**-1.3**
LKWY	**Lake**	**3.80**	**283**	*e*Pn	**Pn**	**18 00 23.7**	**+2.7**
H17A	**Grant Village**	**3.90**	**281**	*e*Pn	**Pn**	**18 00 24.6**	**+2.1**
LOHW	**Long Hollow**	**3.91**	**269**	*e*Pn	Pn	18 00 17.9	-4.6
FLWY	**Flagg Ranch**	**3.96**	**276**	*e*Pn	**Pn**	**18 00 24.4**	**+1.2**
MOOW	**Moose Ponds**	**4.00**	**271**	*e*Pn	**Pn**	**18 00 24.9**	**+1.2**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**18 00 25.3**	**+1.4**
SNOW	**Snow King Moun**	**4.03**	**267**	*e*Pn	**Pn**	**18 00 26.1**	**+1.9**
YPP	**Pitchstone Pla**	**4.05**	**279**	*e*Pn	**Pn**	**18 00 27.1**	**+2.5**
REDW	**Red Top Meadow**	**4.11**	**266**	*e*Pn	**Pn**	**18 00 26.1**	**+0.8**
IMW	**Indian Meadow**	**4.13**	**273**	*e*Pn	**Pn**	**18 00 29.1**	**+3.4**
YHH	**Holmes Hill**	**4.16**	**286**	*e*Pn	**Pn**	**18 00 28.8**	**+2.8**
TPAW	**Teton Pass**	**4.17**	**268**	*e*Pn	**Pn**	**18 00 27.8**	**+1.6**
FXWY	**Fox Creek**	**4.21**	**270**	*e*Pn	**Pn**	**18 00 27.9**	**+1.2**
O20A	**White River Ci**	**4.29**	**213**	*e*Pn	**Pn**	**18 00 28.1**	**+0.3**
YHB	**Horse Butte**	**4.39**	**285**	*e*Pn	**Pn**	**18 00 29.8**	**+0.6**
AHID	**Auburn Hatcher**	**4.41**	**259**	*e*Pn	**Pn**	**18 00 30.5**	**+1.1**
DGMT	**Dagmar**	**4.73**	**8**	*e*Pn	**Pn**	**18 00 35.7**	**+2.1**
BOZ	**Bozeman (W)**	**4.91**	**294**	*e*Pn	**Pn**	**18 00 36.8**	**+0.6**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn	**Pn**	**18 00 39.0**	**-0.7**
KSCO	**Kaye Shedlock'**	**5.16**	**157**	*e*Pn	**Pn**	**18 00 40.4**	**+0.8**
TCUT	**Toone Canyon**	**5.30**	**242**	*e*Pn	**Pn**	**18 00 41.3**	**-0.4**
MCMT	**McKenzie Canyo**	**5.57**	**283**	*e*Pn	**Pn**	**18 00 46.1**	**+0.8**
ELK	**Elko**	**8.03**	**251**	Pn	**Pn**	**18 01 19.3**	**+0.3**
	0.4nm,0.3s,baz=64,slow=14,SNR=5.8						
I10CA	**LAC DU BONNET**	**8.97**	**41**	*i*		18 53 50.0	
	baz=223,slow=330,SNR=1.7						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**18 01 32.1**	**-1.1**
	1.9nm,0.3s,baz=234,slow=13,SNR=14						
ULM				Lg	Lg	18 04 02.5	
	0.2nm,0.3s,baz=170,slow=18,SNR=2.5						
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**P**	**18 03 48.0**	**-1.6**
	0.1nm,0.3s,baz=158,slow=11,SNR=3.3						

MEX 21 18:00:05.1±0.6, 17.38N×100.41W, h10km±14km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.36**	**158**	*e*P	Pg	18 00 11.3	-0.9
CAIG				*i* S	Sg	18 00 17.6	+0.6
ARIG	**Puente Sto Nin**	**0.90**	**4**	*e*P	Pg	18 00 19.9	-2.4
ARIG				*i* S	Sg	18 00 31.1	-3.0
MEIG	**Mezcala**	**0.93**	**54**	*e*P	Pg	18 00 20.4	-2.6
MEIG				*i* S	Sg	18 00 32.2	-2.9
PLIG	**Platanillo**	**1.32**	**41**	*i* P	Pn	18 00 25.7	-4.1
PLIG				*i* S	Sb	18 00 42.6	-4.6
TLIG	**Tlapa**	**1.77**	**84**	*i* P	Pn	18 00 32.7	-3.3
TLIG				*e*S	Sn	18 00 53.4	-5.1

*ISCJB **21** 18:02:22.6±0.3, 67.11N±0.02×21.01E±0.06, h0km, Error ellipse: s-maj=3.5km s-min=3.2km az=157.0*
*HEL **21** 18:02:23.6±0.1, 67.08N×20.89E, h0km, ML2.2, ML1.5(UPP), Explosion*
*NAO **21** 18:02:26.1±1.0, 67.11N×21.90E, ML2.4*
*IDC **21** 18:02:26.3±1.1, 67.11N×21.45E, h0km, mb1 3.0/3, mb1mx2.8/63, mbtmp2.8/3, ML2.0/3, Error ellipse: s-maj=17.9km s-min=7.9km az=104.0*
*BER **21** 18:02:27.3±2.9, 67.17N×21.03E, h0km, ML1.6, Suspected explosion*

ISC 21 18:02:24.0±0.8, 67.12N±0.02×20.91E±0.03, h0km, n43, σ1♀86/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.14**	**272**	*i* P	**Pg**	**18 02 25.6**	**-1.0**
DUNU				*i* S	**Sg**	**18 02 27.8**	**-0.5**
MASU	**Masugnsbyn**	**0.54**	**51**	*i* P	**Pg**	**18 02 34.1**	**-0.3**
ERTU	**Ertsjaerv**	**0.76**	**138**	*i* P	**Pg**	**18 02 36.6**	**-1.9**
PAJU	**Pajala**	**0.87**	**95**	*i* P	**Pg**	**18 02 39.3**	**-1.3**
KUA	**Kurravaara**	**0.87**	**345**	*e*P	**Pg**	**18 02 40.0**	**-0.6**
RATU	**Laukkuluspa**	**0.87**	**325**	*e*P	**Pg**	**18 02 39.5**	**-1.2**
HARU	**Harads**	**0.96**	**179**	*e*P	**Pg**	**18 02 39.8**	**-2.6**
LANU	**Lannavaara**	**1.02**	**23**	*e*P	**Pg**	**18 02 42.8**	**-0.8**
NIKU	**Nikkaluokta**	**1.04**	**317**	*e*P	**Pg**	**18 02 43.2**	**-0.8**
KALU	**Kalix**	**1.60**	**141**	*e*P	**Pn**	**18 02 52.8**	**-0.7**
SJUU	**Sjulsmark**	**1.64**	**170**	*e*P	**Pn**	**18 02 52.9**	**-1.2**
HEF	**Hetta**	**1.67**	**38**	*e*P	**Pn**	**18 02 54.4**	**-0.1**
HEF				*e*S	**Sn**	**18 03 15.7**	**-0.8**
HEF	**Hetta**	**1.67**	**38**	*e*PN	**Pn**	**18 02 54.2**	**-0.2**
	baz=215						
HEF				MSG		18 03 16.4	
	comp=Z,22nm,0.2s						
HEF				*e*SN	**Sg**	**18 03 20.8**	**+3.4**
TOF	**Tornio**	**1.71**	**126**	*e*PG	**Pn**	**18 02 54.1**	**-1.0**
	baz=308						
TOF				MSG		18 03 14.9	
	comp=Z,22nm,0.2s						
TOF				*e*SN	**Sg**	**18 03 19.2**	**+0.2**
KIF	**Kilpisjarvi**	**1.90**	**359**	Pn	**Pb**	**18 02 59.5**	**0.0**
KIF				Sn	**Sg**	**18 03 27.7**	**+2.9**
KIF	**Kilpisjarvi**	**1.90**	**359**	*e*P	**Pb**	**18 02 58.8**	**-0.6**
KIF	**Kilpisjarvi**	**1.90**	**359**	*e*PG	**Pb**	**18 02 58.6**	**-0.8**
	baz=176						
KIF				MSG		18 03 22.1	
	comp=Z,13nm,0.2s						
KIF				*e*		18 03 28.7	
RNF	**Rovaniemi**	**2.08**	**102**	*e*PB	**Pn**	**18 03 00.2**	**+0.1**
	baz=296						
RNF				*e*SG	**Sg**	**18 03 30.7**	**0.0**
KTK1	**Kautokeino**	**2.09**	**24**	*e*P	**Pn**	**18 02 59.9**	**-0.4**
KTK1				*e*S	**Sn**	**18 03 25.9**	**-1.1**
KTK1				IAML		18 03 35.7	
	comp=Z,7.2nm,0.2s						
SGF	**Sodankyl**	**2.20**	**79**	*e*PB	**Pn**	**18 03 02.4**	**+0.6**
	baz=262						
SGF				*e*SG	**Sg**	**18 03 34.4**	**-0.4**
MOR8	**Moi Rana**	**2.75**	**253**	*e*P	**Pn**	**18 03 09.7**	**+0.4**
MOR8				*e*S	**Sn**	**18 03 40.5**	**-2.7**
MOR8				IAML		18 03 50.5	
	comp=Z,7.4nm,0.3s						
ARA0	**ARCESS Array S**	**2.97**	**33**	Pn	**Pn**	**18 03 12.1**	**-0.3**
	baz=208,slow=16						
ARA0	**ARCESS Array S**	**2.97**	**33**	Pn	**Pn**	**18 03 12.1**	**-0.3**
	baz=208,slow=16						
ARCES	**ARCESS Array B**	**2.97**	**33**	Pn	**Pn**	**18 03 12.5**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=214,slow=14,SNR=44						
ARCES				Sn	**Sb**	**18 03 52.2**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=216,slow=23,SNR=8.5						
ARCES				Lg	Lg	18 03 58.1	
	comp=Z,1.2nm,0.3s,baz=218,slow=29,SNR=7.6						
ARE0	**ARCESS Array S**	**2.97**	**33**	*e*P	**Pn**	**18 03 12.3**	**0.0**
ARE0				*e*S	**Sn**	**18 03 49.6**	**+1.1**
LOF	**Lofoten**	**3.00**	**293**	*e*P	**Pn**	**18 03 13.0**	**+0.3**
LOF				IAML		18 04 10.6	
	comp=Z,5.0nm,0.2s						
VRF	**Varrio**	**3.41**	**75**	*e*PB	**Pn**	**18 03 21.4**	**+3.0**
	baz=254						
MSF	**Maaselka**	**3.47**	**107**	*e*PG	**Pb**	**18 03 25.0**	**-1.3**
	baz=283						
KEV	**Kevo**	**3.48**	**38**	Pn	**Pn**	**18 03 19.0**	**-0.2**
KEV	**Kevo**	**3.48**	**38**	Pn	**Pn**	**18 03 19.0**	**-0.2**
KEV				*e*S	**Sn**	**18 03 59.7**	**-1.3**
KEV	**Kevo**	**3.48**	**38**	*e*PB	**Pn**	**18 03 21.7**	**+2.5**
KU6	**Riekki**	**3.75**	**103**	*e*PB	**Pn**	**18 03 25.9**	**+2.8**
	baz=288						
VAF	**Ylistaro**	**4.16**	**169**	*e*SB	**Sn**	**18 04 23.1**	**+5.2**
FIA0	**FINESS Array S**	**6.12**	**156**	Pn	**Pn**	**18 03 57.2**	**+1.6**
	baz=348,slow=14						
FIA0	**FINESS Array S**	**6.12**	**156**	Pn	**Pn**	**18 03 57.2**	**+1.6**
	baz=348,slow=14						
FINES	**FINESS Array B**	**6.12**	**156**	Pn	**Pn**	**18 03 56.3**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=8.1						
FINES				Sn	**Sn**	**18 05 07.5**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=345,slow=22,SNR=7.2						
FINES				Lg	Lg	18 05 34.9	
	comp=Z,0.2nm,0.3s,baz=341,slow=29,SNR=2.5						
NB2	**NORSAR Subarra**	**7.43**	**219**	Pn	**Pn**	**18 04 16.9**	**+3.3**
	baz=14,slow=16						
NB2	**NORSAR Subarra**	**7.43**	**219**	Pn	**Pn**	**18 04 16.9**	**+3.3**
	baz=14,slow=16						
NOA	**NORSAR Array B**	**7.43**	**219**	Pn	**Pn**	**18 04 16.9**	**+3.3**
	comp=Z,0.0nm,0.3s,baz=21,slow=12,SNR=3.5						
NRA0	**NORESS Array S**	**7.61**	**217**	Pn	**Pn**	**18 04 18.9**	**+2.8**
	baz=31,slow=12						
NRA0	**NORESS Array S**	**7.61**	**217**	Pn	**Pn**	**18 04 18.9**	**+2.8**
	baz=31,slow=12						
HFS	**Hagfors**	**7.71**	**208**	Pn	**Pn**	**18 04 20.1**	**+2.7**
	baz=35,slow=12						
HFS	**Hagfors**	**7.71**	**208**	Pn	**Pn**	**18 04 20.1**	**+2.7**
	baz=35,slow=12						

*ISCJB **21** 18:18:52.7±1.1, 30.87S±0.04×71.6W±0.1, h42km±24km, Error ellipse: s-maj=15.4km s-min=5.4km az=11.1*
*SJA **21** 18:18:53.0±1.0, 30.87S×71.40W, h28km±10km, ML3.2, MW3.7*
*GUC **21** 18:18:53.3±0.5, 30.85S×71.45W, h57km±8km, ML3.5*

ISC 21 18:18:51.4±2.1, 30.84S±0.04×71.68W±0.10, h23km±16km, n25, σ0♀86/32, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.67**	**120**	*e*P	**Pb**	**18 19 05.0**	**+0.5**
CMCH				*e*S	**Sb**	**18 19 13.5**	**0.0**
GO04	**Tololo Observa**	**1.01**	**49**	*e*P	**Pb**	**18 19 10.2**	**-0.1**
GO04				*e*S	**Sb**	**18 19 23.0**	**-0.2**
GO04	**Tololo Observa**	**1.01**	**49**	*e*P	**Pb**	**18 19 09.8**	**-0.6**
GO04				*e*S	**Sb**	**18 19 22.8**	**-0.5**
GO04				IAML		18 19 25.2	
	comp=E,6μm,0.4s						
LCO	**Las Campanas**	**2.01**	**25**	*e*P	**Pn**	**18 19 24.7**	**+0.5**
LCO				*e*S	**Sn**	**18 19 48.9**	**+0.2**
LCO				IAML		18 19 50.3	
	comp=N,546nm,0.3s						
AROD	**Rodeo**	**2.02**	**71**	*e*P	**Pn**	**18 19 25.1**	**+0.7**
AROD				*e*S	**Sn**	**18 19 48.7**	**-0.4**
ROCH	**El Roble**	**2.20**	**165**	*e*P	**Pn**	**18 19 26.5**	**-0.3**
ROCH				*e*S	**Sn**	**18 19 52.4**	**-1.0**
ROCH				IAML		18 19 52.6	
	comp=N,198nm,0.2s						
ROC1	**El Roble**	**2.21**	**165**	*e*P	**Pn**	**18 19 26.6**	**-0.2**
RTLS	**Leoncito**	**2.25**	**116**	*e*P	**Pn**	**18 19 28.5**	**+0.9**
RTLS				IAML		18 19 58.1	
	comp=Z,211nm,0.4s						
ACCO	**Cerro Coronel**	**2.27**	**84**	*e*P	**Pn**	**18 19 28.4**	**+0.6**
ACDV	**Cuesta del Vie**	**2.31**	**74**	*e*P	**Pn**	**18 19 29.1**	**+0.9**
AUSP	**Uspallata**	**2.40**	**126**	*e*P	**Pn**	**18 19 30.3**	**+0.8**
PEL	**Peldehue**	**2.45**	**160**	*e*P	**Pn**	**18 19 31.1**	**+1.1**
ZON	**Zonda**	**2.67**	**106**	*e*P	**Pn**	**18 19 33.5**	**+0.4**
CLCH	**Cerro Calan**	**2.73**	**159**	*e*P	**Pn**	**18 19 34.7**	**+0.8**
CLCH				*i* S	**Sn**	**18 20 05.8**	**-0.4**
CLCH				IAML		18 20 18.5	
	comp=E,200nm,0.5s						
AMOG	**MOGNA**	**2.74**	**93**	*e*P	**Pn**	**18 19 34.7**	**+0.6**
RTLL	**Cerro Villicun**	**2.79**	**101**	*e*P	**Pn**	**18 19 34.4**	**-0.4**
RTCV	**Cerro Valdivia**	**2.87**	**112**	*e*P	**Pn**	**18 19 36.7**	**+0.8**
ASAL	**Salagasta**	**2.99**	**127**	*e*P	**Pn**	**18 19 38.7**	**+1.2**
CFA	**Coronel Fontan**	**3.05**	**105**	*e*P	**Pn**	**18 19 38.4**	**+0.2**
AGUA	**GUANDACOL**	**3.07**	**65**	*e*P	**Pn**	**18 19 41.2**	**+2.5**
ARCO	**CERRO ARCO**	**3.08**	**131**	*e*P	**Pn**	**18 19 38.8**	**+0.1**
ARCO				IAML		18 20 01.8	
	comp=Z,80nm,0.6s						
AAGR	**Agrelo**	**3.30**	**133**	*e*P	**Pn**	**18 19 43.2**	**+1.4**
ACAN	**Cantantal**	**4.09**	**112**	*e*P	**Pn**	**18 19 52.2**	**-0.4**
ACLC	**CERRO LA CRUZ**	**4.33**	**72**	*e*P	**Pn**	**18 19 55.5**	**-0.5**
APLL	**PUNTA DE LOS L**	**4.46**	**86**	*e*P	**Pn**	**18 19 56.6**	**-1.1**

*ISK **21** 18:20:27.4, 38.82N×43.74E, h30km, ML1.9/5*
*ISCJB **21** 18:20:29.6±0.8, 38.91N±0.04×43.60E±0.08, h18km±8km, Error ellipse: s-maj=10.2km s-min=5.7km az=18.3*
*DDA **21** 18:20:29.4, 38.90N×43.53E, h7km±2km, ML2.6*

ISC 21 18:20:28.5±1.3, 38.89N±0.04×43.61E±0.05, h16km±8km, n10, σ0♀95/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.11**	**343**	*i* P	**Pb**	**18 20 32.9**	**+0.5**
VMUR				*i* S	**Sg**	**18 20 34.6**	**-0.2**
VMUR				IAML_P			
	comp=Z,6μm,0.1s						
VANB	**Van**	**0.34**	**211**	PG	**Pb**	**18 20 37.0**	**+0.8**
VANB				SG	**Sn**	**18 20 44.1**	**-1.3**
CLDR	**Caldiran**	**0.35**	**42**	PG	**Pb**	**18 20 36.1**	**-0.4**
CLDR				SG	**Sb**	**18 20 42.8**	**+1.0**
CLDR	**Caldiran**	**0.35**	**42**	*i* P	**Pb**	**18 20 36.2**	**-0.3**
CLDR				*i* S	**Sb**	**18 20 43.7**	**+1.8**
TVAN	**Van**	**0.39**	**205**	*i* P	**Pb**	**18 20 37.6**	**+0.5**
TVAN				*i* S	**Sb**	**18 20 44.5**	**+1.5**
TVAN				IAML_P			
	comp=Z,3μm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.70**	**264**	*i* P	**Pb**	**18 20 42.8**	**+0.4**
ADCV				IAML_P			
	comp=Z,267nm,0.2s						
AKDM	**Akdamar-Van**	**0.74**	**222**	PG	**Pb**	**18 20 42.6**	**-0.6**
TUTA	**Tutak**	**0.81**	**310**	*i* P	**Pb**	**18 20 44.2**	**-0.1**
AGRB	**Hanur-Agry**	**0.84**	**325**	PG	**Pb**	**18 20 44.9**	**+0.1**
AGRB				SG	**Sn**	**18 20 57.8**	**-0.2**
GURO	**Guroymak-BITLI**	**1.28**	**255**	PN	**Pn**	**18 20 51.0**	**-0.8**

*ISCJB **21** 18:22:24.3±0.3, 38.66N±0.03×70.21E±0.04, h10km, mb3.9/26, Error ellipse: s-maj=4.5km s-min=3.8km az=36.4*
*IDC **21** 18:22:24.7±0.8, 38.62N×70.27E, h0km, mb3.8/15, mb1 4.0/23, mb1mx3.9/47, mbtmp3.8/23, ML3.7/7, MS2.5/1, Ms1 2.5/1, ms1mx2.0/45, Error ellipse: s-maj=14.3km s-min=9.2km az=155.0*
*NNC **21** 18:22:24.0±1.4, 38.16N×70.02E, h124km±21km, mb3.6, mpv4.4, Error ellipse: s-maj=13.3km s-min=7.7km az=165.0*
*NEIC **21** 18:22:26.3±1.4, 38.74N×70.18E, h5km±8km, mb4.0/4, Error ellipse: s-maj=10.4km s-min=5.8km az=163.0*
*MOS **21** 18:22:27.2±1.5, 38.93N×70.22E, h16km, mb4.3/7, Error ellipse: s-maj=8.2km s-min=5.2km az=87.6*
*BJI **21** 18:22:28.2, 39.30N×70.20E, h41km, mb4.1/3, ML4.0/3, Ms3.5/1, Ms7 3.5/1*

ISC 21 18:22:26.0±0.4, 38.71N±0.03×70.19E±0.04, h10km, n125, σ2♀52/131, mb3.9/26, 13C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.30**	**19**	*e*Pg	**Pg**	**18 22 29.5**	**-2.7**
GAR	**Garm**	**0.30**	**19**	*e*PG	**Pg**	**18 22 29.5**	**-2.7**
CHGR	**Chuyangaron**	**0.81**	**266**	*e*Pg	**Pb**	**18 22 42.2**	**-0.1**
KBL	**Kabul**	**4.26**	**193**	*e*Pn	**Pb**	**18 23 37.5**	**-3.8**
KBL	**Kabul**	**4.26**	**193**	*e*PN	**Pb**	**18 23 45.0**	**+3.8**
KBL				*e*S	**Sg**	**18 24 45.2**	**+2.2**
AML	**Almayashu**	**4.34**	**37**	P	**Pn**	**18 23 34.6**	**+2.2**
	SNR=94						
KK31	**Karatay Array**	**4.39**	**3**	*e*Pn	**Pn**	**18 23 34.7**	**+1.8**
KK31	**Karatay Array**	**4.39**	**3**	⇑P	**Pn**	**18 23 35.1**	**+2.3**
	23nm,0.3s,baz=191,slow=13,SNR=642						
KK31				⇑S	**Sb**	**18 24 34.4**	**-2.0**
	46nm,0.5s,baz=185,slow=30,SNR=4.8						
KK31	**Karatay Array**	**4.39**	**3**	*i* PN	**Pn**	**18 23 35.1**	**+2.3**
KK31				pmax	pmax		
	comp=Z,23nm,0.3s						
KKAR	**Karatay Array**	**4.39**	**3**	*e*Pn	**Pn**	**18 23 34.7**	**+1.9**
KKAR	**Karatay Array**	**4.39**	**3**	*e*PN	**Pn**	**18 23 34.7**	**+1.9**
KSH	**Kashi**	**4.57**	**78**	P	**Pn**	**18 23 33.5**	**-1.8**
KSH				S	Sn	18 24 13.9	-15
KSH				smax	smax		
	comp=Z,250nm,0.8s						
KSH				smax	smax		
	comp=Z,210nm,0.6s						
UCH	**Uchtor**	**4.82**	**42**	P	**Pn**	**18 23 41.5**	**+2.5**
	SNR=67						
CEP	**Cherat**	**5.07**	**164**	P	Pn	18 23 48.4	+6.1
CEP				S	**Sb**	**18 24 56.0**	**0.0**
AAK	**Ala-Archa**	**5.11**	**38**	P	**Pn**	**18 23 45.2**	**+2.4**
	SNR=85						
AAK	**Ala-Archa**	**5.11**	**38**	⇑P	**Pn**	**18 23 46.3**	**+3.6**
	comp=Z,27nm,0.4s						
AAK				⇑S	**Sn**	**18 24 48.9**	**+7.1**
	comp=Z,82nm,0.8s						
AAK	**Ala-Archa**	**5.11**	**38**	Pn	**Pn**	**18 23 45.1**	**+2.4**
	comp=Z,17nm,0.3s,baz=194,slow=6.5,SNR=76						
AAK				Sn	**Sn**	**18 24 45.2**	**+3.4**
	comp=Z,3.7nm,0.3s,baz=314,slow=9.3,SNR=3.5						
AAK				Lg	Lg	18 25 05.6	
	comp=Z,3.9nm,0.3s,baz=112,slow=18,SNR=5.6						
KZA	**Kyzart**	**5.12**	**47**	P	**Pn**	**18 23 46.1**	**+3.0**
	SNR=21						
KBK	**Karagaybulak**	**5.35**	**41**	P	**Pn**	**18 23 49.0**	**+3.0**
	SNR=86						
CHMS	**Chumysh**	**5.50**	**37**	P	**Pn**	**18 23 50.4**	**+2.3**
	SNR=43						
USP	**Ospenovka**	**5.60**	**34**	P	**Pn**	**18 23 51.0**	**+1.7**
	SNR=16						
CHCP	**Chirah Chowk**	**5.62**	**153**	P	Pn	18 23 55.6	+5.9
NIL	**Nilore**	**5.62**	**153**	*e*Pn	Pn

AB31				⇓S		Sn		18 27 51.4	-0.4
	comp=N,9.4nm,0.6s,baz=154,slow=23,SNR=11								
AB31	**Akbulak array**	**12.85**	**328**	*i* P		**Pn**		18 25 27.1	-1.6
AB31				pmax	pmax				
	comp=Z,3.0nm,0.4s								
ABKAR	**Akbulak array**	**12.85**	**328**	*e*Pn		**Pn**		18 25 27.6	-1.2
KURBB	**Kurchatov Arra**	**13.29**	**24**	⇓P		**Pn**		18 25 34.9	+0.2
	comp=Z,1.8nm,0.5s								
KURBB	**Kurchatov Arra**	**13.29**	**24**	Pn		**Pn**		18 25 34.2	-0.5
	comp=Z,0.1nm,0.3s,baz=213,slow=12,SNR=9.0								
KURBB				Lg		Lg		18 29 25.0	
	comp=Z,0.0nm,0.3s,baz=206,slow=32,SNR=5.1								
KURK	**Kurchatov**	**13.40**	**24**	*i* P		**Pn**		18 25 37.9	+1.7
KURK				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVA0	**Borovoye Array**	**14.32**	**0**	P		**Pn**		18 25 47.2	-1.5
	comp=Z,0.3nm,0.5s,baz=169,slow=12,SNR=34								
BVA0	**Borovoye Array**	**14.32**	**0**	P		**Pn**		18 25 47.2	-1.5
BVAR	**Borovoye Array**	**14.32**	**0**	Pn		**Pn**		18 25 47.4	-1.3
	comp=Z,1.0nm,0.3s,baz=167,slow=12,SNR=40								
BVAR				Lg		Lg		18 29 48.9	
	comp=Z,0.1nm,0.3s,baz=184,slow=21,SNR=3.6								
BRVK	**Borovoye**	**14.35**	**0**	*e*Pn		**Pn**		18 25 48.0	-1.1
BRVK	**Borovoye**	**14.35**	**0**	*i* P		**Pn**		18 25 47.7	-1.4
BRVK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
AKTO	**Aktyubinsk**	**14.56**	**328**	⇑P		**Pn**		18 25 51.1	-0.9
	comp=Z,23nm,0.8s								
AKTO				⇑S		**Sn**		18 28 32.8	-0.6
	comp=Z,9.9nm,0.8s								
AKTO	**Aktyubinsk**	**14.56**	**328**	Pn		**Pn**		18 25 50.6	-1.4
	comp=Z,0.8nm,0.3s,baz=115,slow=11,SNR=16								
AKTO				Sn		**Sn**		18 28 27.4	-5.9
	comp=Z,0.8nm,0.3s,baz=188,slow=20,SNR=5.0								
AKTO				Lg		Lg		18 30 11.7	
	comp=Z,0.1nm,0.3s,baz=137,slow=18,SNR=2.1								
PYUN	**Piuthan**	**15.02**	**131**	*e*P		**Pn**		18 25 56.7	-1.9
DANN	**Dangsing**	**15.30**	**128**	*e*P		**Pn**		18 26 00.7	-1.7
	comp=Z,14nm,0.5s								
KOLN	**Koldanda**	**15.63**	**130**	*e*P		**Pn**		18 26 05.4	-1.2
	comp=Z,5.0nm,0.5s								
DGZ	**Jazzator, Alta**	**16.49**	**43**	*i* P		**Pn**		18 26 16.5	-1.1
DGZ				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KKN	**Kakani**	**16.65**	**126**	*e*P		**Pn**		18 26 17.7	-2.0
	comp=Z,8.7nm,0.5s								
DMN	**Daman**	**16.66**	**127**	*e*P		**Pn**		18 26 17.7	-2.3
	comp=Z,11nm,0.6s								
PKIN	**Phulchoki**	**16.87**	**127**	*e*P		**Pn**		18 26 20.2	-2.4
	comp=Z,5.1nm,0.5s								
GUN	**Gumba**	**16.94**	**125**	*e*P		**Pn**		18 26 21.5	-2.1
	comp=Z,9.1nm,0.5s								
JIRN	**Jiri**	**17.32**	**125**	*e*P		**Pn**		18 26 26.6	-1.7
	comp=Z,29nm,0.5s								
ZAA0	**Zalesovo Array**	**18.22**	**29**	*e*Pn		**Pn**		18 26 37.5	-1.5
	comp=Z,3.7nm,0.6s								
ZAA0	**Zalesovo Array**	**18.22**	**29**	⇑P		**Pn**		18 26 33.5	-5.4
	comp=Z,0.5nm,0.6s								
ZALV	**Zalesovo Beam**	**18.22**	**29**	P		**Pn**		18 26 37.5	-1.4
	comp=Z,0.8nm,0.3s,baz=220,slow=13,SNR=14								
ZALV				Lg		Lg		18 32 06.9	
	comp=Z,0.2nm,0.3s,baz=214,slow=24,SNR=2.2								
ZAA1	**Zalesovo Array**	**18.23**	**29**	*e*Pn		**Pn**		18 26 37.5	-1.4
NVS	**Novosibirsk**	**18.39**	**24**	*e*P		**Pn**		18 26 37.2	-3.7
ARU	**Arti**	**19.34**	**340**	P		**P**		18 26 51.3	0.0
ARU				S		**Sn**		18 30 22.2	-6.9
LSA	**Lhasa**	**19.49**	**111**	*e*P		**Pn**		18 26 56.1	+1.2
	comp=Z,2.3nm,0.6s								
LSA	**Lhasa**	**19.49**	**111**	*e*P		**Pn**		18 26 56.1	+1.2
LSA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
GNI	**Garni**	**19.70**	**282**	*i* P		**Pn**		18 26 59.2	+2.2
GNI				pmax	pmax				
	comp=Z,12nm,1.1s								
GNI	**Garni**	**19.70**	**282**	P		**Pn**		18 26 58.4	+1.4
	comp=Z,0.2nm,0.3s,baz=111,slow=8.6,SNR=2.7								
GNI				LR		LR		18 35 51.9	
	comp=Z,15nm,19.6s,baz=94,slow=41								
NCK	**Nalchik**	**20.57**	**292**	*i* P		Pn		18 27 07.6	+0.5
NCK				pmax	pmax				
	comp=Z,7.0nm,0.9s								
KBZ	**Khabaz**	**21.09**	**292**	*e*P		**P**		18 27 12.0	+1.5
KBZ	**Khabaz**	**21.09**	**292**	P		**P**		18 27 12.0	+1.5
	comp=Z,1.9nm,1.0s,baz=114,slow=12,SNR=4.6								
GOF	**Gofitskoye**	**21.13**	**296**	*e*P		**P**		18 27 15.1	+4.2
GOF				pmax	pmax				
	comp=Z,20nm,0.8s								
NEY	**Neytrino**	**21.18**	**291**	*i* P		**P**		18 27 16.4	+4.7
NEY				pmax	pmax				
	comp=Z,1.0nm,0.9s								
KVAR	**Kislovodsk Arr**	**21.25**	**293**	P		**P**		18 27 13.6	+1.2
	comp=Z,0.9nm,0.4s,baz=270,slow=20,SNR=2.9								
KIV	**Kislovodsk**	**21.26**	**293**	*i* P		**P**		18 27 16.6	+4.2
KIV				pmax	pmax				
	comp=Z,10.0nm,0.7s								
GTA	**Gaotai**	**22.97**	**79**	*e*P		**P**		18 27 32.3	+1.5
GTA				pP		sP		18 27 37.1	+1.2
GTA				sP		pP		18 27 40.0	+5.7
GTA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
VRH	**Novokhopyorsk**	**23.54**	**311**	*e*P		**P**		18 27 36.7	+0.5
VRH				*e**PP		**sP**		18 27 42.2	+0.7
VRH				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KIRV	**Kirov**	**23.98**	**333**	P		**P**		18 27 41.6	+1.3
	comp=Z,9.6nm,0.6s,baz=180,slow=4.0,SNR=3.4								
VSR	**Storozhevoye**	**25.06**	**310**	*i* P		**P**		18 27 50.2	-0.1
VSR				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LPSR	**Galich'ya Gora**	**25.65**	**313**	*e*P		**P**		18 27 56.1	+0.4
LPSR				*e**PP		**sP**		18 28 06.9	+5.9
LPSR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
ZAK	**Zakamensk**	**26.09**	**53**	*e*P		**P**		18 27 53.9	-6.0
ZAK				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SONA0	**Songino Array**	**27.68**	**59**	*e*P		**P**		18 28 14.6	+0.4
SONM	**Songino Array**	**27.68**	**59**	P		**P**		18 28 14.6	+0.4
	comp=Z,0.3nm,0.5s,baz=260,slow=8.6,SNR=3.0								
BR101	**Keskin Array S**	**28.22**	**284**	*e*P		**P**		18 28 21.6	+2.5
BRTR	**Keskin Array B**	**28.22**	**284**	P		**P**		18 28 21.6	+2.5
	comp=Z,0.3nm,0.4s,baz=85,slow=10,SNR=3.5								
AKASG	**Malin Array Be**	**31.09**	**306**	P		**P**		18 28 44.7	+0.4
	comp=Z,0.9nm,0.5s,baz=80,slow=7.3,SNR=6.5								
AK11	**Malin Array Si**	**31.12**	**306**	*e*P		**P**		18 28 44.9	+0.4
FIA0	**FINESS Array S**	**35.30**	**325**	*e*P		**P**		18 29 21.3	+0.4
FIA0	**FINESS Array S**	**35.30**	**325**	*e*P		**P**		18 29 21.3	+0.4
FINES	**FINESS Array B**	**35.30**	**325**	P		**P**		18 29 21.3	+0.4
	comp=Z,1.5nm,0.6s,baz=117,slow=9.7,SNR=8.0								
ARA0	**ARCESS Array S**	**38.86**	**337**	*e*P		**P**		18 29 51.2	+0.1
ARCES	**ARCESS Array B**	**38.86**	**337**	*e*P		**P**		18 29 49.2	-1.8
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ARCES	**ARCESS Array B**	**38.86**	**337**	P		**P**		18 29 51.2	+0.1
	comp=Z,2.4nm,0.8s,baz=110,slow=7.6,SNR=8.1								
NB2	**NORSAR Subarra**	**42.24**	**322**	P		**P**		18 30 18.8	-0.3
	comp=Z,1.3nm,0.8s,baz=94,slow=8.6								
NB200	**NORSAR Array S**	**42.24**	**322**	*e*P		**P**		18 30 19.2	+0.1
NOA	**NORSAR Array B**	**42.24**	**322**	P		**P**		18 30 19.2	+0.1
	comp=Z,1.6nm,0.8s,baz=94,slow=8.1,SNR=7.1								
TIXI	**Tiksi**	**43.98**	**23**	*e*P		**P**		18 30 32.6	-0.4
	comp=Z,3.8nm,0.8s								
TIXI	**Tiksi**	**43.98**	**23**	*i* P		**P**		18 30 32.3	-0.7
ESDC	**Sonseca Array**	**55.88**	**296**	P		**P**		18 32 05.2	+1.2
	comp=Z,0.5nm,0.3s,baz=55,slow=7.1,SNR=5.4								
TOA1	**Torodi Ar. Sit**	**65.16**	**267**	*e*P		**P**		18 33 07.2	-0.4
TORD	**Torodi Ar. Bea**	**65.16**	**267**	P		**P**		18 33 07.2	-0.4
	comp=Z,0.5nm,0.5s,baz=57,slow=5.6,SNR=6.0								
MMRI	**Maumere**	**67.49**	**122**	*e*P		**P**		18 33 25.8	+3.4
	comp=Z,22nm,0.8s								
ILAR	**Eielson Array**	**72.83**	**16**	P		**P**		18 33 54.3	-0.2
	comp=Z,0.5nm,0.6s,baz=335,slow=6.3,SNR=5.5								
YKA	**Yellowknife Ar**	**79.07**	**2**	P		**P**		18 34 30.3	+0.3
	comp=Z,0.8nm,0.6s,baz=350,slow=5.8,SNR=14								
YKB5	**Yellowknife Ar**	**79.07**	**2**	*e*P		**P**		18 34 30.2	+0.1
WRA	**Warramunga Arr**	**83.70**	**122**	*e*P		**P**		18 34 56.6	+1.4
WRA	**Warramunga Arr**	**83.70**	**122**	P		**P**		18 34 55.2	-0.1
	comp=Z,2.0nm,0.5s,baz=324,slow=4.8,SNR=9.0								
WR1	**Warramunga Array**	**83.70**	**122**	*e*P		**P**		18 34 55.2	-0.1
	comp=Z,19nm,1.8s								
ASAR	**Alice Springs**	**86.04**	**125**	P		**P**		18 35 07.5	+0.5
	comp=Z,0.3nm,0.8s,baz=307,slow=4.5,SNR=6.6								

IDC 21 18:35:55.7±2.1, 7.84S×129.82E, h0km, mb3.1/1,
mb1 3.2/4, mb1mx3.1/35, mbtmp3.1/4, ML2.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=77.5km s-min=26.0km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.98**	**201**	Pn	Pn	18 38 35.7	+1.5
	baz=30,slow=8.4						
FITZ				Sn	Sn	18 40 37.9	+0.1
	0.0nm,0.3s,baz=235,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**12.81**	**160**	Pn	Pn	18 38 59.9	+0.6
	0.0nm,0.3s,baz=332,slow=13,SNR=4.6						
WRA				Sn	Sn	18 41 19.8	-3.0
	0.1nm,0.3s,baz=342,slow=23,SNR=3.6						
ASAR	**Alice Springs**	**16.22**	**166**	Pn	Pn	18 39 43.4	-1.8
	0.0nm,0.3s,baz=350,slow=9.8,SNR=3.0						
KSRS	**Korea Array**	**45.09**	**358**	LR	LR	19 02 54.7	
	comp=Z,20nm,21.2s,baz=190,slow=36						
MKAR	**Makanchi Array**	**68.82**	**327**	P	P	18 47 02.0	0.0
	0.1nm,0.5s,baz=121,slow=6.4,SNR=2.9						

MEX 21 18:47:47.9±0.3, 13.71N×92.88W, h15km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.33**	**26**	*i* P	Pn	18 48 07.4	-4.6
THIG				*i* S	Sn	18 48 24.9	-4.5
PCIG		**2.01**	**351**	*i* P	Pn	18 48 17.7	-3.6
PCIG				*i* S	Sn	18 48 41.8	-4.4
CCIG	**Comitan**	**2.65**	**16**	*e*P	Pn	18 48 27.8	-2.6
CCIG				*i* S	Sn	18 48 58.2	-4.2

*IDC **21** 18:53:55.5±0.9, 31.27S×179.78W, h342km±11km, mb2.8/1, mb1 3.4/3, mb1mx3.0/29, mbtmp4.0/3, Error ellipse: s-maj=48.4km s-min=15.1km az=118.0*
*ISCJB **21** 18:53:56.3±0.5, 31.46S±0.09×179.3W±0.2, h350km, mb2.9/1, Error ellipse: s-maj=25.8km s-min=4.8km az=25.6*
ISC 21 18:53:55.8±0.7, 31.41S±0.08×179.5W±0.1, h350km, n51, σ1s55/57, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.54**	**33**	P	**Pn**	18 54 51.2	**0.0**
GLKZ				S	**S**	18 55 34.0	**-1.8**
RAO	**Raoul Island**	**2.54**	**33**	P	**Pn**	18 54 51.9	**+0.5**
	44nm,0.3s,baz=148,slow=18,SNR=3.4						
RAO				S	**S**	18 55 34.7	**-1.2**
	197nm,0.3s,baz=92,slow=22,SNR=6.9						
RIZ	**Raoul Island**	**2.55**	**32**	P	**Pn**	18 54 52.0	**+0.6**
MXZ	**Matakaoa Point**	**6.40**	**196**	P	**Pn**	18 55 33.6	**+2.5**
HAZ	**Te Kaha**	**6.72**	**199**	P	**Pn**	18 55 35.4	**+0.6**
WCZ	**Waipu Caves**	**6.84**	**227**	P	**Pn**	18 55 39.1	**+2.9**
PUZ	**Puketiti**	**6.90**	**195**	P	**Pn**	18 55 37.8	**+0.9**
OUZ	**Omahuta**	**6.92**	**235**	P	**Pn**	18 55 39.2	**+2.0**
RUGZ	**Raukumara Rang**	**6.94**	**199**	P	**Pn**	18 55 38.2	**+0.7**
TWGZ	**Tauwhareparae**	**7.06**	**196**	P	**Pn**	18 55 40.9	**+2.0**
MWZ	**Matawai**	**7.33**	**199**	P	**Pn**	18 55 43.5	**+1.6**
TKGZ	**Te Karaka**	**7.34**	**197**	P	**Pn**	18 55 43.9	**+1.8**
URZ	**Urewera**	**7.38**	**201**	P	**Pn**	18 55 44.4	**+1.9**
	2.6nm,0.3s,baz=272,slow=4.5,SNR=51						
URZ				S	**S**	18 57 08.1	**-1.3**
	8.8nm,0.3s,baz=232,slow=17,SNR=16						
URZ	**Urewera**	**7.38**	**201**	P	**Pn**	18 55 44.0	**+1.4**
RAGZ	**Rawiri**	**7.51**	**199**	P	**Pn**	18 55 45.9	**+1.8**
MUGZ	**Murupara**	**7.69**	**203**	P	**Pn**	18 55 47.6	**+1.5**
RTZ	**Ruatahuna**	**7.75**	**201**	P	**Pn**	18 55 46.9	**0.0**
SNGZ	**Shannon Statio**	**7.80**	**199**	P	**Pn**	18 55 48.7	**+1.2**
KNZ	**Kokohu**	**7.94**	**196**	P	**Pn**	18 55 51.8	**+2.7**
MTHZ	**Maungataniwha**	**8.01**	**201**	P	**Pn**	18 55 51.3	**+1.3**
MTHZ				S	**S**	18 57 20.6	**-2.5**
MRHZ	**Matea Rd**	**8.13**	**203**	P	**P**	18 55 53.5	**-0.9**
ARHZ	**Aropaoanui**	**8.34**	**199**	P	**Pn**	18 55 55.6	**+1.7**
ARHZ				S	**S**	18 57 27.8	**-2.5**
BKZ	**Black Stump Fm**	**8.40**	**202**	P	**Pn**	18 55 56.4	**+1.7**
BKZ				S	**S**	18 57 29.5	**-2.3**
MCHZ	**McNeill Hill**	**8.60**	**200**	P	**P**	18 55 59.1	**-0.5**
KWHZ	**Kaweka Forest**	**8.66**	**202**	P	**Pn**	18 55 59.1	**+1.3**
WTVZ	**West Tongariro**	**8.67**	**206**	P	**Pn**	18 55 59.6	**+1.7**
NGZ	**Ngauruhoe**	**8.72**	**206**	P	**P**	18 56 01.1	**0.0**
TUVZ	**Tukino**	**8.78**	**206**	P	**P**	18 56 01.0	**-0.8**
FWVZ	**Far West T-bar**	**8.81**	**206**	P	**Pn**	18 56 01.1	**+1.4**
BHHZ	**Black Hill Sta**	**8.84**	**203**	P	**Pn**	18 56 00.4	**+0.5**
TRVZ	**Turoa**	**8.85**	**206**	P	**Pn**	18 56 01.5	**+1.3**
MOVZ	**Moawhango**	**8.87**	**205**	P	**Pn**	18 56 01.5	**+1.3**
KAHZ	**Kahuranaki**	**8.87**	**198**	P	**P**	18 56 02.5	**-0.1**
KRHZ	**Kereru**	**8.88**	**201**	P	**Pn**	18 56 01.5	**+1.2**
VRZ	**Vera Road**	**9.02**	**210**	P	**P**	18 56 05.9	**+1.7**
PXZ	**Pawanui**	**9.10**	**198**	P	**Pn**	18 56 04.5	**+1.7**
PNHZ	**Pukenui**	**9.18**	**201**	P	**Pn**	18 56 04.7	**+0.9**
PRHZ	**Porangahau**	**9.38**	**199**	P	**Pn**	18 56 07.3	**+1.1**
TSZ	**Takapari Road**	**9.38**	**202**	P	**Pn**	18 56 07.0	**+0.7**
ANWZ	**Angora Road**	**9.60**	**199**	P	**Pn**	18 56 10.2	**+1.3**
BFZ	**Birch Farm**	**9.87**	**199**	P	**Pn**	18 56 12.2	**0.0**
WRA	**Warramunga Arr**	**42.88**	**274**	P	**P**	19 01 19.2	**-2.0**
	0.3nm,0.3s,baz=112,slow=8.0,SNR=5.0						
VNA3	**Neumayer Olymp**	**77.38**	**177**	P	**P**	19 05 15.0	**+2.6**
VNA2	**Neumayer--Watz**	**77.80**	**177**	P	**P**	19 05 17.3	**+2.7**
VNA1	**Neumayer--Stat**	**78.03**	**177**	P	**P**	19 05 18.2	**+2.4**
MKAR	**Makanchi Array**	**117.44**	**310**	PKP	**PKPdf**	19 11 58.8	**-1.1**
	0.2nm,0.5s,baz=142,slow=2.4,SNR=3.0						
FINES	**FINESS Array B**	**145.64**	**338**	PKPbc	**PKPdf**	19 12 52.5	**+0.5**
	3.3nm,0.4s,baz=50,slow=4.0,SNR=44						
NB2	**NORSAR Subarra**	**149.54**	**350**	PKP	**PKPbc**	19 13 03.1	**-0.4**
	comp=Z,0.6nm,0.5s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**149.54**	**350**	PKPbc	**PKPbc**	19 13 03.3	**-0.2**
	comp=Z,1.1nm,0.6s,baz=17,slow=4.2,SNR=5.7						
AKASG	**Malin Array Be**	**151.30**	**320**	PKPbc	**PKPbc**	19 13 07.3	**-0.5**
	comp=Z,1.1nm,0.5s,baz=45,slow=2.9,SNR=7.2						
BRTR	**Keskin Array B**	**151.93**	**296**	PKPbc	**PKPbc**	19 13 09.5	**-0.5**
	comp=Z,1.4nm,0.9s,baz=137,slow=4.6,SNR=6.1						

*IDC **21** 18:55:31.1±7.4, 5.04S×153.77E, h100km±53km, mb3.5/7, mb1 3.7/9, mb1mx3.5/32, mbtmp3.9/9, Error ellipse: s-maj=57.1km s-min=25.5km az=91.0*
ISC 21 18:55:31.3±1.5, 5.15S±0.2×153.8E±0.2, h105km, n10, σ0s81/13, mb3.7/7, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.86**	**236**	P	**Pn**	18 57 22.5	**-0.5**
	5.7nm,0.3s,baz=34,slow=6.8,SNR=23						
PMG				S	**Sn**	18 58 51.2	**+0.8**
	12nm,0.3s,baz=322,slow=19,SNR=11						
JAY	**Jayapura**	**13.30**	**281**	P	**Pn**	18 58 36.0	**-0.1**
	0.4nm,0.3s,baz=234,slow=19,SNR=2.1						
SIJI	**Sorong**	**22.87**	**280**	P	**P**	19 00 25.4	**-0.8**
	1.6nm,0.4s,baz=143,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**24.02**	**230**	P	**P**	19 00 37.5	**+0.9**
	3.0nm,0.5s,baz=56,slow=10,SNR=72						
WRA				PcP	**PcP**	19 04 16.7	**+0.6**
	0.2nm,0.6s,baz=52,slow=2.3,SNR=3.1						
ASAR	**Alice Springs**	**26.63**	**224**	P	**P**	19 01 00.5	**+0.2**
	0.7nm,0.6s,baz=56,slow=8.8,SNR=18						
ASAR				PcP	**PcP**	19 04 22.5	**+0.6**
	0.1nm,0.3s,baz=70,slow=3.5,SNR=4.3						
FITZ	**Fitzroy Crossi**	**30.40**	**242**	P	**P**	19 01 33.3	**-0.5**
	3.4nm,0.6s,baz=51,slow=8.0,SNR=28						
CMAR	**Chiang Mai Arr**	**58.88**	**295**	P	**P**	19 05 20.6	**+0.9**
	0.5nm,0.7s,baz=104,slow=3.8,SNR=5.4						
SONM	**Songino Array**	**67.08**	**327**	P	**P**	19 06 13.8	**+0.2**
	0.3nm,0.9s,baz=159,slow=6.2,SNR=2.8						
MKAR	**Makanchi Array**	**81.17**	**319**	P	**P**	19 07 35.8	**+0.3**
	0.4nm,0.6s,baz=117,slow=6.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.33**	**288**	PKPbc	**PKPbc**	19 15 12.3	**-1.5**
	0.2nm,0.3s,baz=84,slow=2.1,SNR=7.0						

*ISCJB **21** 19:00:24.5±0.9, 17.5S±0.3×178.9W±0.2, h539km, mb3.8/15, Error ellipse: s-maj=37.1km s-min=13.1km az=155.1*
*IDC **21** 19:00:26.3±5.0, 17.60S×178.84W, h551km±55km, mb3.2/13, mb1 3.5/13, mb1mx3.2/33, mbtmp4.1/13, Error ellipse: s-maj=35.2km s-min=19.9km az=140.0*
ISC 21 19:00:25.2±1.1, 17.6S±0.3×178.8W±0.2, h539km, n16, σ0s70/18, mb3.6/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**22.16**	**289**	P	**P**	19 04 42.0	**+0.5**
	28nm,0.4s,baz=167,slow=22,SNR=9.5						
CTA	**Charters Tower**	**33.13**	**260**	P	**P**	19 06 16.7	**-0.4**
	5.2nm,0.7s,baz=97,slow=9.2,SNR=5.6						
STKA	**Stephens Creek**	**38.46**	**241**	P	**P**	19 07 01.3	**+0.2**
	4.7nm,0.5s,baz=89,slow=9.8,SNR=25						
WRA	**Warramunga Arr**	**44.32**	**259**	P	**P**	19 07 46.6	**-1.1**
	2.6nm,0.6s,baz=96,slow=7.5,SNR=92						
WRA				PcP	**PcP**	19 09 19.3	**-0.9**
	0.6nm,0.7s,baz=95,slow=3.3,SNR=4.1						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	19 07 49.1	**-0.1**
	30nm,0.6s,baz=88,slow=8.2,SNR=570						
ASAR				PcP	**PcP**	19 09 20.3	**-0.6**
	0.9nm,0.7s,baz=99,slow=5.0,SNR=4.1						
SIJI	**Sorong**	**51.78**	**283**	P	**P**	19 08 44.0	**+0.5**
	7.3nm,0.6s,baz=105,slow=3.9,SNR=8.4						
FITZ	**Fitzroy Crossi**	**52.71**	**260**	P	**P**	19 08 50.0	**0.0**
	1.3nm,0.5s,baz=67,slow=7.1,SNR=21						
BATI	**Baumata**	**56.15**	**269**	P	**P**	19 09 15.5	**+1.2**
	2.7nm,0.4s,baz=291,slow=21,SNR=3.7						
MJAR	**Matsushiro Arr**	**67.40**	**324**	P	**P**	19 10 27.0	**-0.1**
	1.1nm,0.6s,baz=170,slow=5.5,SNR=3.2						
NVAR	**Mina Array Bea**	**79.44**	**44**	P	**P**	19 11 36.4	**+0.4**
	1.0nm,0.7s,baz=228,slow=8.7,SNR=4.6						
ILAR	**Eielson Array**	**85.64**	**13**	P	**P**	19 12 05.4	**-1.0**
	0.4nm,0.4s,baz=227,slow=5.4,SNR=2.3						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	19 12 10.9	**+1.2**
	0.5nm,0.7s,baz=193,slow=5.1,SNR=6.4						
PDAR	**Pinedale Array**	**87.36**	**44**	P	**P**	19 12 15.2	**-0.1**
	0.3nm,0.6s,baz=144,slow=3.7,SNR=4.4						
CMAR	**Chiang Mai Arr**	**88.41**	**290**	P	**P**	19 12 20.5	**0.0**
	0.3nm,0.8s,baz=97,slow=2.1,SNR=3.2						
YKA	**Yellowknife Ar**	**94.18**	**25**	P	**P**	19 12 45.5	**-0.4**
	0.3nm,0.9s,baz=248,slow=5.2,SNR=4.4						
GERES	**GERESS Array B**	**147.18**	**345**	PKPbc	**PKPbc**	19 19 07.8	**-0.2**
	0.2nm,0.6s,baz=111,slow=2.2,SNR=2.9						

IDC 21 19:08:13.8±1.5, 28.01N×101.39E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.0/45, mbtmp3.2/3, Error ellipse: s-maj=81.3km s-min=26.6km az=59.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.77**	**194**	Pg	Pn	19 11 13.0	+37
	0.1nm,0.3s,baz=6.3,slow=17,SNR=4.2						
MKAR	**Makanchi Array**	**24.01**	**326**	P	P	19 13 30.3	+0.1
	0.2nm,0.6s,baz=136,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**57.34**	**143**	P	P	19 18 03.9	-0.1
	0.5nm,0.7s,baz=331,slow=8.0,SNR=5.7						
ASAR	**Alice Springs**	**60.19**	**145**	P	P	19 18 23.6	-0.2
	0.2nm,0.5s,baz=330,slow=6.7,SNR=5.3						

**IDC 21 19:28:24.0±888.0, 54.76N×4.69E, h0km, Error ellipse: s-maj=358.9km s-min=144.9

comp=Z,0.0nm,1.2s
SBZV Sabzevar 3.14 85 *e*Pn **Pn 19 37 56.4 +1.0**
IRAZ Razeghan 3.19 257 *e*Pn **Pn 19 37 56.8 +0.8**
IRAZ IAMB IAmb 19 38 55.1
comp=Z,22µm,0.6s
TNSJ Nastanj 3.25 133 *e*Pn **Pn 19 37 56.6 -0.2**
IKLH Kolahrood 3.38 212 *e*Pn **Pn 19 37 58.4 -0.2**
IKLH IAMB IAmb 19 39 01.3
comp=Z,26µm,0.7s
QABG Abgarm-Qazvin 3.40 263 *e*Pn **Pn 19 37 59.5 +0.6**
ASAO Ashtian 3.44 242 *e*Pn **Pn 19 37 59.9 +0.4**
ASAO Ashtian 3.44 242 *e*Pn **Pn 19 37 59.9 +0.4**
IZEF Zefreh 3.49 200 *e*Pn **Pn 19 37 59.3 -0.9**
IZEF IAMB IAmb 19 39 06.3
comp=Z,19µm,0.4s
ISFR Sfrayin 3.54 75 *e*Pn **Pn 19 38 02.8 +1.9**
ISFR IAMB IAmb 19 39 14.9
comp=Z,29µm,0.6s
TABS Tabas 3.78 131 *e*Pn **Pn 19 38 04.7 +0.7**
TABS Tabas 3.78 131 *e*AML AML 19 39 17.6
comp=N,1µm,0.6s
TABS Tabas 3.78 131 *e*Pn **Pn 19 38 04.7 +0.7**
TKDS Koohdasht(Taba 3.80 132 *e*Pn **Pn 19 38 04.5 +0.2**
YZKH Yazd 3.87 169 *e*Pn **Pn 19 38 06.0 +0.8**
YZKH Yazd 3.87 169 *e*AML AML 19 39 15.8
comp=E,1µm,0.6s
YZKH Yazd 3.87 169 *e*Pn **Pn 19 38 06.0 +0.8**
IKRD Kardeh 3.90 80 *e*Pn **Pb 19 38 17.9 +3.3**
IKRD IAMB IAmb 19 39 43.3
comp=Z,10µm,0.8s
GEYT Alibeck 3.91 63 Pn **Pn 19 38 07.8 +2.0**
comp=Z,222nm,0.3s,baz=246,slow=16,SNR=1621
GEYT Sn **Sn 19 38 56.9 +5.1**
comp=Z,73nm,0.3s,baz=219,slow=33,SNR=5.6
GEYT Lg Lg 19 39 14.4
baz=310,slow=11,SNR=3.2
GEYT LR LR 19 40 09.6
comp=Z,2µm,20.5s,baz=245,slow=46
GYA0B ALIBECK ARRAY 3.91 63 *e*Pn **Pn 19 38 07.6 +1.8**
GYA0B ALIBECK ARRAY 3.91 63 ⇓P **Pn 19 38 08.0 +2.2**
GYA0B ⇑Sn **Sn 19 38 57.0 +5.2**
KHMZ Khomeyn 3.95 233 *e*Pn **Pn 19 38 06.7 +0.2**
KHMZ Khomeyn 3.95 233 *e*Pn **Pn 19 38 06.7 +0.2**
ICHK Chekchek 3.99 172 *e*Pn **Pn 19 38 07.1 +0.1**
ICHK IAMB IAmb 19 39 18.1
comp=Z,30µm,0.6s
TPRV Parvadeh(Tabas 4.00 142 *e*Pn **Pn 19 38 07.1 +0.1**
IGAR Gharneh 4.04 201 IAMB IAmb 19 38 20.2
comp=Z,9µm,0.6s
IGAR *e*Pn **Pn 19 38 08.7 +1.0**
IAKL Akhelmad 4.08 83 *e*Pn **Pn 19 38 09.3 +1.0**
IAKL IAMB IAmb 19 39 33.1
comp=Z,13µm,0.9s
ASHT Ashkhabad 4.11 64 P **Pn 19 38 11.1 +2.6**
IEMG Emamgholi 4.13 71 IAMB IAmb 19 39 23.9
comp=Z,16µm,1.2s
IPIR Pirpir 4.22 215 *e*Pn **Pn 19 38 12.0 +1.8**
IPIR IAMB IAmb 19 39 29.8
comp=Z,6µm,0.5s
IPAY Payeh 4.26 85 *e*Pn **Pn 19 38 12.4 +1.6**
IPAY IAMB IAmb 19 39 40.2
comp=Z,8µm,0.7s
ISAD Sadrabad 4.28 180 *e*Pn **Pn 19 38 11.0 0.0**
ISAD IAMB IAmb 19 39 30.4
comp=Z,36µm,0.8s
ROKH ROKH 4.44 211 *e*Pn **Pn 19 38 14.5 +1.2**
IRAM Ramesheh 4.52 195 *e*Pn **Pn 19 38 14.7 +0.4**
IRAM IAMB IAmb 19 39 33.6
comp=Z,9µm,0.6s
IMOG Moghan 4.54 90 *e*Pn **Pn 19 38 15.6 +0.9**
IMOG IAMB IAmb 19 39 46.9
comp=Z,9µm,1.0s
ASTR Astara 4.58 302 *e*Pn **Pn 19 38 14.0 -0.9**
ASTR Astara 4.58 302 P **Pn 19 38 14.0 -0.9**
SNR=152
ASTR ⇓S **Sn 19 39 06.2 -2.0**
LKRN Lenkeran, Azer 4.66 304 P **Pn 19 38 15.0 -1.0**
LKRN Lenkeran, Azer 4.66 304 *e*Pn **Pn 19 38 15.0 -1.0**
LKRN Lenkeran, Azer 4.66 304 P **Pn 19 38 15.0 -1.0**
SNR=133
LKRN ⇑S **Sn 19 39 08.0 -2.2**
JHBN Jahan bin 4.70 213 *e*Pn **Pn 19 38 17.8 +0.9**
IMEH Mehriz 4.86 171 *e*Pn **Pn 19 38 19.1 +0.2**
IMEH IAMB IAmb 19 39 50.0
comp=Z,8µm,0.6s
LRK Lerik 4.93 301 ⇓P **Pn 19 38 17.9 -2.0**
SNR=107
LRK ⇑S **Sn 19 39 14.4 -2.7**
GALA Gala 5.05 327 P **Pn 19 38 25.3 +4.0**
SNR=5.0
GALA P **Pn 19 38 25.3 +4.0**
SNR=5.0
GALA ⇓S **Sn 19 39 25.4 +5.6**
GALA ⇓S **Sn 19 39 25.4 +5.6**
IBZA Bozab 5.10 252 *e*Pn **Pn 19 38 24.6 +2.3**
IKMR Kamar-syah 5.14 240 *e*Pn **Pn 19 38 24.2 +1.5**
IMYA Miami 5.15 87 *e*Pn **Pn 19 38 24.0 +1.0**
IMYA IAMB IAmb 19 40 18.6
comp=Z,7µm,0.9s
GLBA Clilabad 5.20 307 *e*Pn **Pn 19 38 22.6 -0.8**
GLBA Clilabad 5.20 307 ⇓P **Pn 19 38 22.7 -0.8**
SNR=38
GLBA ⇓P **Pn 19 38 22.7 -0.8**
SNR=38
GLBA ⇓S **Sn 19 39 21.3 -2.2**
GLBA ⇓S **Sn 19 39 21.3 -2.2**
GOBA Gobu 5.24 324 *e*Pn **Pn 19 38 26.7 +2.8**
GOBA Gobu 5.24 324 P **Pn 19 38 26.7 +2.8**
SNR=21
GOBA P **Pn 19 38 26.7 +2.8**
SNR=21
GOBA ⇓S **Sn 19 39 29.4 +5.1**
GOBA ⇓S **Sn 19 39 29.4 +5.1**
NDR Nardaran 5.27 327 *e*Pn **Pn 19 38 27.6 +3.3**
NDR Nardaran 5.27 327 ⇓P **Pn 19 38 27.7 +3.3**
SNR=4.7
NDR ⇓P **Pn 19 38 27.7 +3.3**
SNR=4.7
NDR ⇑S **Sn 19 39 32.2 +7.2**
NDR ⇑S **Sn 19 39 32.2 +7.2**
ALIB Äli-Bayra 5.28 317 *e*Pn **Pn 19 38 25.7 +1.2**
ALIB Äli-Bayra 5.28 317 ⇓P **Pn 19 38 25.8 +1.2**
SNR=68
ALIB ⇓S **Sn 19 39 28.8 +3.3**
ITEG Tejag 5.30 127 *e*Pn **Pn 19 38 25.6 +0.7**
ITEG IAMB IAmb 19 40 03.0
comp=Z,11µm,0.8s
GRMI Germi 5.32 301 *e*AML AML 19 39 28.1
comp=E,609nm,0.7s
JRKH Jarkhoshk 5.38 91 *e*Pn **Pn 19 38 27.1 +1.1**
SAAT Saatly 5.55 313 *e*Pn **Pn 19 38 29.5 +1.2**
SAAT Saatly 5.55 313 ⇑P **Pn 19 38 29.5 +1.2**
SNR=45
SAAT ⇑S **Sn 19 39 35.6 +3.4**
GBS Qobustan 5.73 320 *e*Pn **Pn 19 38 32.9 +2.1**
GBS Qobustan 5.73 320 ⇑P **Pn 19 38 32.9 +2.1**
GBS ⇓S **Sn 19 39 41.1 +4.5**
IKOO Kooshah 5.77 129 *e*Pn **Pn 19 38 31.5 0.0**
IKOO IAMB IAmb 19 40 24.3
comp=Z,8µm,0.8s
IVIS Veis 5.86 255 *e*Pn **Pn 19 38 33.5 +0.9**
IVIS IAMB IAmb 19 40 20.8
comp=Z,5µm,1.9s
ATGJ Altiaghaj 5.98 323 *e*Pn **Pn 19 38 36.3 +2.1**
ATGJ Altiaghaj 5.98 323 ⇓P **Pn 19 38 36.4 +2.1**
SNR=51
ATGJ ⇓S **Sn 19 39 46.4 +3.7**
PQL Pirkuli 6.10 320 *e*Pn **Pn 19 38 37.2 +1.3**
PQL Pirkuli 6.10 320 ⇑P **Pn 19 38 37.2 +1.3**
SNR=259
PQL ⇓S **Sn 19 39 47.6 +1.8**
IDAH Dahanechah 6.14 122 *e*Pn **Pn 19 38 37.2 +0.6**
IDAH IAMB IAmb 19 40 38.0
comp=Z,4µm,1.2s
IGHG Ghaleghazi 6.14 254 IAMB IAmb 19 40 42.6
comp=Z,11µm,1.6s
SIZA Siyzn 6.16 324 *e*Pn **Pn 19 38 39.0 +2.3**
SIZA Siyzn 6.16 324 ⇓P **Pn 19 38 39.1 +2.3**
SNR=65
SIZA ⇑S **Sn 19 39 51.3 +4.0**
ZRD Zardab 6.26 312 *e*Pn **Pn 19 38 38.2 +0.3**
ZRD Zardab 6.26 312 P **Pn 19 38 38.2 +0.3**
SNR=34
ZRD ⇑S **Sn 19 39 49.7 +0.2**

IML Ismayilli 6.32 318 *e*Pn **Pn 19 38 40.1 +1.3**
IML Ismayilli 6.32 318 ⇑P **Pn 19 38 40.1 +1.3**
SNR=45
IML ⇑S **Sn 19 39 52.0 +0.9**
IAZR Azarshahr 6.38 286 *e*Pn **Pn 19 38 41.4 +1.6**
IAZR IAMB IAmb 19 39 15.1
comp=Z,3µm,0.7s
ITBZ Tabriz 6.38 291 *e*Pn **Pn 19 38 40.9 +1.1**
ITBZ IAMB IAmb 19 39 13.6
comp=Z,2µm,1.0s
BRDA Brd 6.56 310 *e*Pn **Pn 19 38 42.7 +0.7**
BRDA Brd 6.56 310 P **Pn 19 38 42.7 +0.7**
SNR=38
BRDA ⇑S **Sn 19 39 57.0 +0.2**
QUBA Quba, Azerbaij 6.57 323 ⇓P **Pn 19 38 44.3 +2.0**
SNR=66
QUBA ⇑S **Sn 19 39 59.2 +1.9**
IKAZ Kazeroun 6.60 194 *e*Pn **Pn 19 38 43.6 +0.7**
IKAZ IAMB IAmb 19 41 03.8
comp=Z,3µm,1.2s
QBL Gabala 6.61 318 *e*Pn **Pn 19 38 43.3 +0.5**
QBL Gabala 6.61 318 ⇓P **Pn 19 38 43.4 +0.5**
SNR=48
QBL ⇑S **Sn 19 39 56.5 -1.8**
XNQ Khinaliq 6.61 320 *e*Pn **Pn 19 38 44.9 +1.9**
XNQ Khinaliq 6.61 320 ⇓P **Pn 19 38 45.0 +1.9**
SNR=186
XNQ ⇓S **Sn 19 40 00.2 +1.7**
QUB Quba 6.66 323 *e*Pn **Pn 19 38 44.2 +0.7**
ORD Ordubad 6.72 296 ⇓P **Pn 19 38 42.7 -1.6**
ORD ⇑S **Sn 19 39 56.1 -4.8**
QSAR Qusar 6.80 323 *e*Pn **Pn 19 38 47.6 +2.1**
QSAR Qusar 6.80 323 ⇑P **Pn 19 38 47.7 +2.1**
SNR=54
QSAR ⇓S **Sn 19 40 04.4 +1.4**
IMRD Marand 6.86 294 *e*Pn **Pn 19 38 47.8 +1.5**
IMRD IAMB IAmb 19 38 49.8
comp=Z,6µm,0.7s
MNGR Mingechevir, A 6.92 313 P **Pn 19 38 47.0 0.0**
MNGR Mingechevir, A 6.92 313 *e*Pn **Pn 19 38 47.6 +0.5**
MNGR Mingechevir, A 6.92 313 ⇑P **Pn 19 38 47.1 0.0**
SNR=5.6
MNGR ⇑S **Sn 19 40 04.7 -1.1**
NGRK Negar Kerman 7.01 158 *e*Pn **Pn 19 38 49.0 +0.3**
AKT Akhty 7.05 320 *i*P **Pn 19 38 48.9 0.0**
CHMN Cheshme madani 7.09 152 *e*Pn **Pn 19 38 50.1 +0.4**
SEKA Sheki 7.14 316 P **Pn 19 38 50.0 -0.2**
SEKA Sheki 7.14 316 ⇑P **Pn 19 38 50.0 -0.2**
SNR=185
SEKA ⇑S **Sn 19 40 11.1 -0.4**
NAX Nakhchivan 7.17 297 P **Pn 19 38 47.4 -3.1**
NAX Nakhchivan 7.17 297 ⇓P **Pn 19 38 47.5 -3.1**
SNR=54
NAX ⇑S **Sn 19 40 07.3 -4.8**
SBZ Shahbuz 7.21 299 ⇑P **Pn 19 38 48.4 -2.8**
SBZ ⇑S **Sn 19 40 08.5 -4.7**
GANJ Ganja 7.31 310 P **Pn 19 38 51.6 -0.8**
GANJ Ganja 7.31 310 *e*Pn **Pn 19 38 51.6 -0.8**
GANJ Ganja 7.31 310 ⇑P **Pn 19 38 51.6 -0.8**
SNR=194
GANJ ⇓S **Sn 19 40 13.8 -1.7**
YOVA Hakkari_Yksek 7.69 283 *i*P **Pn** 19 39 02.6 +4.9
ZKTA Zakatala 7.75 317 P **Pn 19 38 59.3 +0.8**
ZKTA Zakatala 7.75 317 ⇑P **Pn 19 38 59.3 +0.8**
SNR=154
ZKTA ⇓S **Sn 19 40 27.6 +1.3**
HYR Heyderabad 7.84 299 ⇑P **Pn 19 38 57.1 -2.7**
HYR ⇓S **Sn 19 40 24.5 -4.1**
DDFL Dedoflistskaro 7.92 314 P **Pn 19 38 58.2 -2.6**
LGD Lagodekhi 8.10 316 P **Pn 19 39 03.3 +0.1**
LGD S **Sn 19 40 33.2 -1.5**
LGD Lagodekhi 8.10 316 P **Pn 19 39 03.3 +0.1**
LGD S **Sn 19 40 33.3 -1.5**
GNI Garni 8.10 302 *e*P **Pn 19 39 07.4 +4.0**
GNI Garni 8.10 302 *e*Pn **Pn 19 39 04.4 +1.0**
GNI Garni 8.10 302 P **Pn 19 39 04.4 +1.0**
GNI Garni 8.10 302 ⇑*e*P **Pn 19 39 04.3 +0.9**
GNI Garni 8.10 302 P **Pn 19 39 07.3 +3.9**
SNR=43
GNI Garni 8.10 302 Pn **Pn 19 39 04.7 +1.3**
comp=Z,4.7nm,0.3s,baz=53,slow=1.4,SNR=26
GNI LR LR 19 42 53.5
comp=Z,555nm,19.8s,baz=94,slow=43
GNBR Gunib 8.10 322 *i*P **Pn 19 39 04.2 +0.9**
QZX Qazax, Azerbai 8.14 309 ⇓P **Pn 19 39 03.6 -0.2**
SNR=60
QZX ⇓S **Sn 19 40 35.0 -0.9**
CUKT Cukurca 8.19 280 *e*P **Pn 19 39 08.3 +3.7**
CUKT Cukurca 8.19 280 *i*P **Pn 19 39 08.2 +3.5**
MAK Makhachkala 8.28 326 *e*P **Pn 19 39 07.2 +1.5**
MAK *e*S **Sn 19 40 39.0 -0.3**
MAK pmax pmax
comp=Z,107nm,0.6s
MAK smax smax
comp=E,931nm,0.6s
MAK smax smax
comp=N,1µm,0.6s
MAK MLR MLR
comp=Z,1µm,27.0s
CLDR Caldiran 8.31 294 *e*P **Pn 19 39 09.3 +2.9**
CLDR Caldiran 8.31 294 *i*P **Pn 19 39 09.8 +3.4**
CLDR IAML_P
comp=Z,976nm,0.4s
TASB TASBURUN-IGDIR 8.38 300 *e*P Pn 19 39 17.9 +11
IGDI IGDIR 8.45 299 *i*P Pn 19 39 19.9 +12
IGDI IAML_P
comp=Z,12nm,0.4s
VMUR Van-Muradiye 8.53 292 *i*P **Pn 19 39 12.9 +3.6**
TVAN Van 8.54 289 *i*P Pn 19 39 14.9 +5.4
VANB Van 8.57 289 *e*P **Pn 19 39 13.8 +4.0**
BTLR Botlikh 8.68 320⇓*e*P **Pn 19 39 11.4 +0.2**
GEVA Gevas 8.76 287 *i*P Pn 19 39 17.5 +5.0
AKDM Akdamar-Van 8.83 287 *e*P Pn 19 39 18.3 +4.9
BTNK Botanikuri 8.85 311 P **Pn 19 39 12.8 -0.8**
BTNK S **Pn 19 39 09.8 -3.7**
TBLG Delisi 8.91 311 *e*P **Pn 19 39 17.7 +3.3**
TBLG Delisi 8.91 311 P **Pn 19 39 13.7 -0.7**
TBLG S **Pn 19 39 12.4 -2.0**
TBLG Delisi 8.91 311 *e*Pn **Pn 19 39 13.7 -0.7**
TBLG Delisi 8.91 311 *e*P **Pn 19 39 13.7 -0.7**
EAK Akyaka 9.11 302 *i*P Pn 19 39 26.1 +8.8
EAK IAML_P
comp=Z,1µm,0.6s
AGRB Hanur-Agry 9.13 295 *e*P Pn 19 39 22.5 +5.0
TRLG Trialeti 9.20 308 P **Pn 19 39 18.8 +0.3**
TRLG S **Pn 19 39 20.6 +2.1**
TUTA Tutak 9.21 294 *i*P Pn 19 39 24.4 +5.7
TUTA IAML_P
comp=Z,12nm,0.1s
GROC Groznyy 9.28 321 *e*P **Pn 19 39 19.4 0.0**
GROC *e*S **Sn 19 41 02.3 -1.6**
GROC pmax pmax
comp=Z,48nm,0.8s
MLAZ Malazgirt-MUS 9.33 292 *e*P Pn 19 39 36.7 +16
BGD Bogdanovka 9.39 306 P Pn 19 39 25.8 +4.7
BGD S 19 39 36.1
KARS Kars 9.45 301 *e*P Pn 19 39 28.1 +6.2
KARS Kars 9.45 301 *e*Pn **Pn 19 39 22.3 +0.4**
KARS Kars 9.45 301 *e*P **Pn 19 39 22.3 +0.4**
GUDG Gudauri 9.51 314 P **Pn 19 39 23.1 +0.4**
GUDG S 19 39 29.7
BLIS Bitlis-Merkez 9.51 287 *i*P **Pn 19 39 27.0 +4.2**
BLIS IAML_P
comp=Z,117nm,0.2s
GURO Guroymak-BITLI 9.60 288 *e*P **Pn 19 39 26.7 +2.8**
SRTM Siirt_Merkez 9.60 284 *i*P **Pn 19 39 27.2 +3.4**
SRTM IAML_P
comp=Z,274nm,0.8s
LACR Lac 9.84 315⇑*e*P **Pn 19 39 28.1 +0.9**
SENK Senkaya-Erzuru 9.93 299 *e*P Pn 19 39 32.9 +4.3
MUSM Mu-Merkez 10.03 288 *i*P Pn 19 39 34.1 +4.3
MUSM IAML_P
comp=Z,96nm,0.4s
ZEI Tsey 10.04 314 *e*P **Pn 19 39 29.1 -0.9**
ZEI pmax pmax
comp=Z,35nm,0.6s
BTKR Batakoyurt 10.06 318⇑*e*P **Pn 19 39 30.2 +0.1**
KOPR Koprukoy-ERZUR 10.09 296 *e*P Pn 19 39 35.3 +4.6
TRKR Terskaya 10.20 320*ce*P **Pn 19 39 32.6 +0.6**
SHME Shamm 10.33 168 P **Pn 19 39 32.8 -1.1**
LSNR Lesken 10.39 316*ce*P **Pn 19 39 36.6 +1.9**
PRTR Priterechnaya 10.45 319*ce*P **Pn 19 39 34.7 -0.7**
PRTR pmax pmax

comp=Z,140nm,1.1s
NCK Nalchik 10.66 316⇑*e*P **Pn 19 39 37.8 -0.5**
BNGB Bingl 10.72 289 *e*P Pn 19 39 43.6 +4.3
BCA Borcka 10.79 303 *e*P **Pn 19 39 41.8 +1.6**
KRIK Erzurum-spir 10.87 296 *i*P Pn 19 39 46.8 +5.4
KRIK IAML_P
comp=Z,6.1nm,0.1s
MSFE Esma-Masafi 11.01 168 *i*P **Pn 19 39 43.2 0.0**
SNR=6.1
NEY Neytrino 11.01 313⇑*i*P **Pn 19 39 45.1 +1.8**
KBZ Khabaz 11.20 315 Pn **Pn 19 39 45.1 -0.5**
comp=Z,0.3nm,0.3s,baz=122,slow=9.2,SNR=25
KBZ Sn **Sn 19 41 48.5 -2.4**
comp=Z,3.9nm,0.3s,baz=284,slow=12,SNR=5.7
CHOM Cayeli-Rize 11.25 300 *e*P Pn 19 39 50.7 +4.3
CHAY Cayeli-Rize 11.27 300 *e*P **Pn 19 39 50.1 +3.4**
PYA1 Pyatigorsk 11.30 317⇓*i*P **Pn 19 39 45.2 -1.9**
NAZ Nazwa, Dubai 11.30 171 P **Pn 19 39 47.9 +0.7**
SHA1 Shidzhatmaz 11.34 315 *i*P **Pn 19 39 47.8 0.0**
KVAR Kislovodsk Arr 11.45 316 pmax **Pn 19 39 47.8 -1.5**
baz=90,slow=20,SNR=13
KVAR Sn **Sn 19 41 52.8 -4.5**
baz=169,slow=19,SNR=4.8
KIV Kislovodsk 11.46 316 *e*Pn **Pn 19 39 48.1 -1.3**
KIV Kislovodsk 11.46 316 *i*P **Pn 19 39 48.0 -1.3**
SNR=13
KIV Kislovodsk 11.46 316 *i*P **Pn 19 39 48.0 -1.3**
KIV Kislovodsk 11.46 316 P **Pn 19 39 51.2 +1.9**
SNR=10
BAYT Aydıntepe-Bayb 11.46 295 *e*P Pn 19 39 54.0 +4.5
HATD Hatta, Dubai 11.53 169 *i*P **Pn 19 39 49.3 -0.9**
SNR=6.7
FAQ Al Faqa, Dubai 11.53 171 P **Pn 19 39 50.9 +0.6**
ASUD Al Ashush, Dub 11.62 173 P **Pn 19 39 52.3 +0.8**
ASHO Ashiyiah 11.65 169 P **Pn 19 39 51.6 -0.5**
DOMR Dombai 11.69 311 *i*P **Pn 19 39 51.4 -1.2**
DOMR pmax pmax
comp=Z,31nm,0.9s
GOF Gofitskoye 11.99 321 *e*P **Pn 19 39 54.3 -2.3**
GOF *e*S **Sn 19 42 03.1 -7.3**
GOF pmax pmax
comp=Z,80nm,0.7s
GOF smax smax
comp=E,340nm,0.7s
KBL Kabul 12.61 93 *e*Pn **Pn 19 40 07.2 +1.9**
KBL Kabul 12.61 93 *e*P **Pn 19 40 07.2 +1.9**
SOC Sochi 13.03 309 *e*P **Pn 19 40 10.7 0.0**
SOC *e* 19 42 35.7
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,158nm,10.0s
DARE Darende-Malaty 13.13 285 *e*P **Pn 19 40 15.1 +2.8**
TAS Tashkent 13.17 62 P **Pn 19 40 10.5 -2.2**
TAS pmax pmax
comp=Z,56nm,0.8s
WSAR Wadi Sarin 13.60 160 Pn **Pn 19 40 18.7 +0.1**
comp=Z,0.6nm,0.3s,baz=5.4,slow=7.2,SNR=8.4
WSAR LR LR 19 46 44.4
comp=Z,444nm,18.3s,baz=18,slow=43
CHM Chimkent 13.73 59*c i*P **Pn 19 40 17.9 -2.4**
CHM *i* S **Sn 19 42 49.9 -2.9**
CHM pmax pmax
comp=Z,802nm,0.5s
CHM smax smax
comp=N,714nm,0.9s
CHM Chimkent 13.73 59⇑*i*P **Pn 19 40 17.9 -2.4**
comp=N,802nm,0.5s
CHM *i* S **Sn 19 42 49.9 -2.9**
comp=N,714nm,0.9s
AB31 Akbulak array 13.82 17 ⇑P **Pn 19 40 18.1 -3.3**
comp=N,9.8nm,0.6s,baz=205,slow=14,SNR=284
AB31 ⇑S **Sn 19 42 49.7 -5.1**
comp=N,12nm,0.5s,baz=198,slow=24,SNR=11
AB31 Akbulak array 13.82 17 *e*P **Pn 19 40 18.1 -3.3**
AB31 19 42 45.9
AB31 pmax pmax
comp=Z,10.0nm,0.6s
AB31 smax smax
comp=N,12nm,0.5s
ABKAR Akbulak array 13.82 17 *e*Pn **Pn 19 40 18.1 -3.3**
IUG luzhnay 13.97 60*ce*P **Pn 19 40 20.5 -3.1**
IUG *e*S **Sn 19 42 53.0 -5.7**
IUG pmax pmax
comp=Z,615nm,0.6s
IUG smax smax
comp=E,479nm,1.3s
IUG MLR MLR
comp=Z,253nm,10.0s
IUG luzhnay 13.97 60⇑*e*P **Pn 19 40 20.5 -3.1**
comp=Z,614nm,0.6s
IUG *e*S **Sn 19 42 53.0 -5.7**
comp=Z,479nm,1.3s
IUG *e*LR LR 19 46 18.1
comp=Z,253nm,10.4s
ASF Jabal al Asfar 14.49 259 P **Pn 19 40 31.0 +0.1**
ASF Jabal al Asfar 14.49 259 Pn **Pn 19 40 31.0 +0.1**
comp=Z,0.4nm,0.3s,baz=3.0,slow=1.6,SNR=2.5
AKTO Aktyubinsk 14.56 11 ⇓P **Pn 19 40 28.4 -3.2**
comp=Z,47nm,0.8s
AKTO ⇓S **Sn 19 43 08.8 -4.3**
comp=Z,42nm,0.9s
AKTO Aktyubinsk 14.56 11 P **Pn 19 40 29.0 -2.6**
AKTO 19 43 02.4
AKTO pmax pmax
comp=Z,47nm,0.8s
AKTO smax smax
comp=N,42nm,1.0s
AKTO Aktyubinsk 14.56 11 Pn **Pn 19 40 29.2 -2.4**
comp=N,2.4nm,0.3s,baz=193,slow=12,SNR=46
AKTO Sn Sn 19 43 04.0 -9.0
comp=N,2.2nm,0.3s,baz=54,slow=20,SNR=4.4
AKTO LR LR 19 47 59.1
comp=N,416nm,18.3s,baz=186,slow=45
KK31 Karatay Array 14.64 57 *e*Pn **Pn 19 40 29.4 -3.4**
KK31 Karatay Array 14.64 57 P **Pn 19 40 29.3 -3.4**
comp=N,7.8nm,0.5s,baz=243,slow=15,SNR=124
KK31 ⇓S **Sn 19 43 17.3 +2.3**
comp=N,7.7nm,0.7s,baz=248,slow=22,SNR=4.3
KK31 Karatay Array 14.64 57 *e*P **Pn 19 40 29.3 -3.4**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 14.64 57 *e*Pn **Pn 19 40 29.4 -3.4**
KKAR Karatay Array 14.64 57 *e*P **Pn 19 40 29.4 -3.4**
ANN Anapa 15.06 310 *e*P **Pn 19 40 37.9 -0.4**
ANN *e*S **Sn 19 43 26.3 +1.2**
ANN pmax pmax
comp=Z,75nm,1.4s
CEP Cherat 15.09 94 P **P 19 40 44.1 -0.2**
DZA Taraz 15.12 58*c i*P **Pn 19 40 37.1 -2.2**
DZA *e*S **Sn 19 43 25.7 -1.1**
DZA pmax pmax
comp=Z,379nm,0.7s
DZA Taraz 15.12 58⇑*i*P **Pn 19 40 37.2 -2.2**
comp=Z,379nm,0.7s
DZA *e*S **Sn 19 43 25.7 -1.1**
GEM Giv'at Ha'Em 15.15 264 Pn **Pn 19 40 41.9 +2.2**
KSDI Kefar Szold 15.16 264 Pn **Pn 19 40 41.8 +2.0**
THW Thamme Wali 15.24 98 P **P 19 40 45.1 -0.8**
MMA0B Mount Meron ar 15.42 263 Pn **P 19 40 46.0 -1.9**
MMAI Mount Meron Ar 15.42 263 Pn **Pn 19 40 43.6 +0.4**
comp=Z,0.3nm,0.3s,baz=84,slow=17,SNR=8.4
MMAI LR LR 19 47 28.3
comp=Z,475nm,18.9s,baz=75,slow=41
HMDT Nahal Hemdat 15.56 261 Pn **P 19 40 47.5 -1.8**
HNTI Hanita 15.58 264 Pn **P 19 40 47.9 -1.7**
GHAJ Ghor Haditha 15.87 257 P **Pn 19 40 51.1 +2.1**
comp=Z,37nm,1.3s
GHAJ Ghor Haditha 15.87 257 Pn **Pn 19 40 50.8 +1.8**
LISJ El Lisan 15.96 257 P **P 19 40 52.3 -1.5**
comp=Z,26nm,1.3s
JDRJ Daraweish 16.02 255 P **Pn 19 40 52.6 +1.4**
comp=Z,81nm,1.3s
NIL Nilore 16.22 93 *e*Pn **Pn 19 40 54.3 +0.7**
comp=Z,34nm,0.8s
NIL Nilore 16.22 93 *e*P **Pn 19 40 54.3 +0.7**
NIL pmax pmax
comp=Z,34nm,0.8s
BR101 Keskin Array S 16.22 289 *e*Pn **Pn 19 40 55.2 +1.5**
BR131 Keskin Array S 16.22 289 *e*Pn **Pn 19 40 54.3 +0.5**
comp=Z,37nm,1.5s
BR131 Keskin Array S 16.22 289 P **P 19 40 58.4 +1.5**
SNR=9.7
BRTR Keskin Array B 16.22 289 Pn **Pn 19 40 55.2 +1.5**
comp=Z,0.1nm,0.3s,baz=117,slow=8.7,SNR=28

BRTR LR LR 19 47 42.3
comp=Z,247nm,21.0s,baz=94,slow=40
CHCP Chirah Chowk 16.23 93 P **P 19 40 57.0 +0.2**
ZFRI Zfri 16.48 255 Pn **P 19 40 58.9 -0.6**
AML Almayashu 16.57 63 P **Pn 19 40 56.4 -2.0**
SNR=23
CSS Mathiatis 16.64 272 *e*Pn **P 19 41 00.6 -0.8**
comp=Z,25nm,1.0s
CSS Mathiatis 16.64 272 P **Pn 19 40 59.3 +0.4**
comp=Z,6.5nm,1.2s
CSS Mathiatis 16.64 272 Pn **Pn 19 40 59.6 +0.7**
PRNI Paran 16.70 255 Pn **Pn 19 41 01.1 +1.4**
HRFI Mount Harif 16.81 254 Pn **P 19 41 02.8 -0.5**
ANTO Ankara 16.89 289 *e*Pn **Pn 19 41 02.5 +0.4**
comp=Z,29nm,1.0s
ANTO Ankara 16.89 289 *e*P **Pn 19 41 02.5 +0.4**
ANTO pmax pmax
comp=Z,29nm,1.0s
BR231 Keskin MP Arra 16.90 289 *e*Pn **Pn 19 41 01.7 -0.6**
comp=Z,38nm,1.3s
KZIT Kziot 16.95 257 Pn **P 19 41 04.4 -0.4**
MBRI Mt Berech 17.01 253 Pn **P 19 41 05.3 -0.3**
EIL Elat 17.04 253 P **P 19 41 05.7 -0.1**
comp=Z,28nm,1.3s
EIL Elat 17.04 253 Pn **P 19 41 05.3 -0.5**
EIL Elat 17.04 253 Pn **Pn 19 41 04.9 +0.9**
comp=Z,0.1nm,0.3s,baz=88,slow=5.4,SNR=14
EIL LR LR 19 48 48.2
comp=Z,1μm,18.4s,baz=68,slow=42
UCH Uchtor 17.18 63 P **Pn 19 41 06.8 +0.7**
SNR=13
SIM Simferopol' 17.24 306 P **P 19 41 07.6 -0.3**
SIM pmax pmax
comp=Z,21nm,1.1s
AAK Ala-Archa 17.27 62 P **Pn 19 41 06.0 -1.0**
SNR=24
AAK Ala-Archa 17.27 62 *e*Pn **Pn 19 41 05.4 -1.5**
comp=Z,53nm,1.1s
AAK Ala-Archa 17.27 62 ⇑P **Pn 19 41 08.4 +1.4**
comp=Z,38nm,0.9s
AAK Ala-Archa 17.27 62 *i* P **Pn 19 41 05.8 -1.1**
SNR=62
AAK Ala-Archa 17.27 62 *i* P **Pn 19 41 05.0 -1.9**
AAK Ala-Archa 17.27 62 P **Pn 19 41 05.8 -1.1**
SNR=28
AAK Ala-Archa 17.27 62 P **Pn 19 41 06.0 -1.0**
comp=Z,1.0nm,0.3s,baz=239,slow=7.6,SNR=49
AAK LR LR 19 49 29.7
comp=Z,182nm,20.1s,baz=249,slow=43
VRH Novokhopyorsk 17.29 334 *e*P **Pn 19 41 03.5 -3.4**
VRH *e*S **Sn 19 44 10.7 -8.5**
VRH pmax pmax
comp=Z,30nm,0.8s
VRH smax smax
comp=E,940nm,2.0s
USP Ospenovka 17.44 60 P **Pn 19 41 07.5 -1.6**
SNR=27
CHMS Chumysh 17.55 61 P **Pn 19 41 10.1 -0.2**
SNR=18
KBK Karagaybulak 17.60 62 P **Pn 19 41 10.5 -0.5**
SNR=17
KZA Kyzart 17.68 64 P **Pn 19 41 11.4 -0.9**
SNR=28
BTLS Baital 17.74 54 *e*P **Pn 19 41 10.3 -2.3**
BTLS *e*S **Sn 19 44 26.9 -3.3**
BTLS pmax pmax
comp=Z,109nm,0.9s
BTLS smax smax
comp=N,87nm,5.1s
BTLS MLR MLR
comp=Z,405nm,13.0s
BTLS Baital 17.74 54 *e*P **Pn 19 41 10.4 -2.3**
comp=Z,109nm,0.9s
BTLS *e*S **Sn 19 44 26.9 -3.3**
comp=Z,87nm,5.1s
BTLS *e*LR LR 19 48 32.2
comp=Z,405nm,12.7s
KSH Kashi 17.87 73 P **Pn 19 41 10.1 -4.3**
KSH pP P 19 41 13.8 -1.3
KSH sP pP 19 41 16.6 -1.8
KSH S Sn 19 44 22.3 -11
KSH SS **S 19 44 43.8 +3.4**
KSH pmax pmax
comp=Z,23nm,0.6s
KSH LR LR
comp=Z,610nm,10.8s
KSH LR LR
comp=Z,690nm,9.3s
KSH LR LR
comp=Z,1μm,17.7s
TKM2 Tokmak 2 18.12 62 P **Pn 19 41 16.1 -1.5**
SNR=8.7
TKM2 Tokmak 2 18.12 62 ⇑P **P 19 41 20.0 +2.1**
comp=Z,21nm,0.9s
OTUK Ortayu 18.24 43 ⇓P **Pn 19 41 17.6 -1.2**
comp=Z,50nm,1.1s
OTUK Ortayu 18.24 43 P **Pn 19 41 15.9 -2.9**
OTUK 19 44 29.9
OTUK pmax pmax
comp=Z,50nm,1.1s
OTUK smax smax
comp=N,14nm,0.8s
VSR Storozhevoye 18.28 330 *e*P **Pn 19 41 15.6 -3.6**
VSR *e*S Sn 19 44 29.9 -13
VSR pmax pmax
comp=Z,40nm,0.6s
VSR smax smax
comp=N,400nm,2.7s
VORR Voronezh 18.61 331 *e*P **P 19 41 22.0 -1.0**
VORR pmax pmax
comp=Z,250nm,1.2s
KUU Kurty 18.90 59 *e*P **P 19 41 24.6 -1.7**
KUU pmax pmax
comp=Z,104nm,1.1s
KUU MLR MLR
comp=Z,162nm,10.0s
KUU Kurty 18.90 59 *e*P **P 19 41 24.6 -1.7**
comp=Z,104nm,1.1s
KUU *e*LR LR 19 48 36.2
comp=Z,162nm,10.3s
AAA Alma-Ata 19.13 61 *e*P **P 19 41 29.5 +0.6**
AAA pmax pmax
comp=Z,176nm,0.8s
AAA MLR MLR
comp=Z,163nm,13.0s
AAA Alma-Ata 19.13 61 *e*P **P 19 41 29.5 +0.6**
comp=Z,176nm,0.8s
AAA *e*LR LR 19 48 50.5
comp=Z,163nm,13.5s
MDOK Medeo 19.22 62 ⇑P **Pn 19 41 31.5 +0.7**
MDOK Medeo 19.22 62 *e*P **P 19 41 28.9 -0.9**
MDOK pmax pmax
comp=Z,218nm,1.7s
MDOK MLR MLR
comp=Z,293nm,12.0s
MDOK Medeo 19.22 62 *e*P **P 19 41 29.0 -0.9**
comp=Z,218nm,1.7s
MDOK *e*LR LR 19 49 26.1
comp=Z,293nm,11.9s
LPSR Galich'ya Gora 19.44 332 *e*P **P 19 41 30.5 -1.6**
LPSR *e*S Sn 19 44 59.6 -12
LPSR pmax pmax
comp=Z,100nm,1.4s
LPSR smax smax
comp=E,440nm,4.3s
TARG Taragay, Kyrgy 19.49 66 *e*P **Pn 19 41 34.8 +0.4**
comp=E,63nm,1.5s
ZHN Zhinishke 20.21 62 *e*P **P 19 41 41.1 +0.4**
ZHN pmax pmax
comp=Z,186nm,1.0s
ZHN Zhinishke 20.21 62 *e*P **P 19 41 41.1 +0.4**
comp=Z,186nm,1.0s
KPKS Kokpek 20.45 62 *e*P **P 19 41 42.0 -1.2**
KPKS pmax pmax
comp=Z,73nm,1.2s
KPKS MLR MLR
comp=Z,300nm,10.0s
KPKS Kokpek 20.45 62 *e*P **P 19 41 42.0 -1.2**
comp=Z,73nm,1.2s
KPKS *e*LR LR 19 50 02.5
comp=Z,300nm,10.3s
CTYL Yalikoy Yolu 20.47 293 ⇑*i*P **P 19 41 43.9 +0.6**
BRVK Borovoye 20.48 29 *e*P **P 19 41 44.1 +0.7**
comp=Z,54nm,0.8s
BRVK Borovoye 20.48 29 ⇓*i*P **P 19 41 44.0 +0.7**
BRVK pmax pmax
comp=Z,44nm,0.9s
BRVK Borovoye 20.48 29 P **P 19 41 44.5 +1.1**
SNR=27
BVA0 Borovoye Array 20.50 30 ⇑P **P 19 41 42.1 -1.4**
comp=Z,53nm,0.7s,baz=216,slow=9.2,SNR=305
BVA0 Borovoye Array 20.50 30 *i* P **P 19 41 44.0 +0.4**
BVA0 *i* 19 45 23.0
BVA0 pmax pmax
comp=Z,53nm,0.7s
BVA0 smax smax
comp=N,7.0nm,0.9s
BVAR Borovoye Array 20.50 30 P **P 19 41 44.4 +0.9**
comp=N,46nm,0.8s,baz=217,slow=9.3,SNR=136
BVAR S **S 19 45 25.2 -7.6**
comp=N,3.2nm,0.6s,baz=221,slow=30,SNR=5.8
BVAR LR LR 19 50 44.9
comp=N,262nm,18.3s,baz=220,slow=40
ARU Arti 20.50 8 *e*P **P 19 41 43.9 +0.4**
comp=N,38nm,0.7s
ARU Arti 20.50 8 P **P 19 41 44.3 +0.8**
ARU 19 42 01.3
ARU SS Sn 19 45 53.1 +17
ARU MLR MLR
comp=Z,326nm,19.0s
UZB Uzynbulak 20.62 63 *e*P **P 19 41 45.3 +0.1**
UZB MLR MLR
comp=Z,251nm,16.0s
UZB Uzynbulak 20.62 63 *e*P **P 19 41 45.3 +0.1**
UZB *e*LR LR 19 50 20.7
comp=Z,250nm,15.8s
TDK Taldyqorghan 20.64 57 *e*P **P 19 41 45.0 -0.2**
TDK pmax pmax
comp=Z,420nm,1.1s
TDK MLR MLR
comp=Z,1μm,12.0s
TDK Taldyqorghan 20.64 57 *e*P **P 19 41 45.0 -0.2**
comp=Z,420nm,1.1s
TDK *e*LR LR 19 50 10.4
comp=Z,1μm,11.9s
TLCR 20.85 303 ⇑*i*P **P 19 41 48.1 +0.7**
TLCR 20.85 303 P **P 19 41 48.1 +0.7**
TIRR Tirgusor 20.93 301 P Pn 19 41 51.5 +0.7
TIRR pmax pmax
comp=Z,24nm,1.2s
SHLS Shalkode 20.94 63 *e*P Pn 19 41 51.7 +0.5
SHLS pmax pmax
comp=Z,480nm,1.3s
SHLS MLR MLR
comp=Z,259nm,14.0s
SHLS Shalkode 20.94 63 *e*P Pn 19 41 51.7 +0.5
comp=Z,480nm,1.3s
SHLS *e*LR LR 19 50 39.7
comp=Z,259nm,14.3s
PDGK Podgornoye 21.00 62 ⇓P **P 19 41 50.1 +0.9**
comp=Z,59nm,1.1s
PDGK Podgornoye 21.00 62 P **P 19 41 49.6 +0.4**
PDGK pmax pmax
comp=Z,59nm,1.1s
PHSR Pinarhisar 21.06 293 ⇑*i*P **P 19 41 51.3 +1.6**
SVE Sverdlovsk 21.15 11 ⇑*e*P **P 19 41 52.2 +1.6**
SVE *e*S **S 19 45 46.6 +0.9**
SVE pmax pmax
comp=Z,35nm,1.1s
TLB Topalu 21.21 301 ⇑*i*P **P 19 41 51.9 +0.5**
TLB Topalu 21.21 301 P **P 19 41 51.9 +0.5**
CFR Carcaliu 21.30 303 ⇑*i*P **P 19 41 52.1 -0.2**
CFR Carcaliu 21.30 303 P **P 19 41 52.4 +0.1**
CFR pmax pmax
comp=Z,23nm,1.3s
HARR Harsova 21.32 301 ⇑*i*P **P 19 41 53.0 +0.5**
HARR Harsova 21.32 301 P **P 19 41 53.0 +0.5**
KIS Kishinev 21.43 308 ⇑*i*P **P 19 41 52.0 -1.7**
comp=Z,360nm,1.6s
KIS Kishinev 21.43 308 *e*P **P 19 41 52.0 -1.7**
KIS *i* 19 42 03.0
KIS pmax pmax
comp=Z,360nm,1.6s
LEOM Leova 21.62 306 ⇑*i*P **P 19 41 55.6 -0.2**
LEOM Leova 21.62 306 P **P 19 41 55.5 -0.2**
OBN Obninsk 22.28 333 *e*P **P 19 42 03.5 +0.7**
comp=Z,283nm,1.7s
OBN S **S 19 46 09.7 +2.1**
OBN Obninsk 22.28 333 ⇑*i*P **P 19 42 04.2 +1.5**
OBN Obninsk 22.28 333 ⇓*e*P **P 19 42 03.0 +0.3**
OBN *i* 'SP **sP 19 42 07.9 +0.2**
OBN *e*PPP PPP 19 42 33.4
OBN *i* S **S 19 46 05.9 -1.8**
OBN *i* SS Sn 19 46 19.5 +0.1
OBN pmax pmax
comp=Z,62nm,0.8s
OBN MLR MLR
comp=Z,204nm,21.0s
OBN Obninsk 22.28 333 P **P 19 42 03.4 +0.7**
comp=Z,7.6nm,0.5s,baz=77,slow=12,SNR=7.7
OBN S **S 19 46 09.7 +2.1**
comp=Z,2.8nm,0.5s,baz=60,slow=23,SNR=3.4
OBN LR LR 19 53 09.2
comp=Z,35nm,20.3s,baz=176,slow=43
IAS Iasi 22.31 308 P **P 19 42 04.0 +0.9**
IAS pmax pmax
comp=Z,45nm,1.2s
ISR Istrita 22.38 302 P **P 19 42 04.8 +0.8**
ISR pmax pmax
comp=Z,50nm,1.1s
MOS Moscow 22.41 336 *e*P **P 19 42 02.4 -1.7**
MOS *e* 19 42 24.8
MOS *e*S **S 19 46 07.1 -3.0**
MOS pmax pmax
comp=Z,71nm,1.2s
MOS pmax pmax
comp=Z,400nm,3.2s
VRI Vrincioaia 22.45 304 ⇑*i*P **P 19 42 05.9 +1.3**
VRI Vrincioaia 22.45 304 P **P 19 42 05.9 +1.3**
PLOR Plostina 22.49 304 ⇑*i*P **P 19 42 06.2 +1.0**
PLOR Plostina 22.49 304 P **P 19 42 06.1 +0.9**
KIRV Kirov 22.57 354 P **P 19 42 06.3 +0.5**
comp=Z,35nm,0.6s,baz=157,slow=5.5,SNR=14
KIRV LR LR 19 53 36.5
comp=Z,334nm,18.1s,baz=206,slow=44
TESR Tescani 22.68 305 ⇑*i*P **P 19 42 07.5 +0.4**
AKASG Malin Array Be 22.80 317 P **P 19 42 07.5 -0.8**
comp=Z,12nm,0.9s,baz=122,slow=9.7,SNR=22
AKASG S **S 19 46 18.0 +0.7**
comp=Z,1.1nm,0.5s,baz=124,slow=22,SNR=7.1
AKASG LR LR 19 54 05.9
comp=Z,135nm,19.2s,baz=120,slow=45
AKBB Malin Array Si 22.80 317 *e*P **P 19 42 07.4 -0.9**
comp=Z,29nm,0.9s
AKBB Malin Array Si 22.80 317 *e*P **P 19 42 07.4 -0.9**
AKBB pmax pmax
comp=Z,29nm,0.9s
KIEV Kiev 22.81 317 *e*P **P 19 42 07.4 -0.9**
comp=Z,28nm,0.9s
KIEV Kiev 22.81 317 ⇑*i*P **P 19 42 08.0 -0.4**
KIEV Kiev 22.81 317 P **P 19 42 07.5 -0.8**
KIEV Kiev 22.81 317 *i* P **P 19 42 07.2 -1.2**
KIEV pmax pmax
comp=Z,23nm,1.0s
AK11 Malin Array Si 22.82 317 *e*P **P 19 42 07.1 -1.4**
MLR Muntele Rosu 22.88 303 *e*P **P 19 42 09.9 +0.6**
comp=Z,37nm,1.1s
MLR Muntele Rosu 22.88 303 ⇑*i*P **P 19 42 09.9 +0.6**
MLR Muntele Rosu 22.88 303 *e*P **P 19 42 09.9 +0.6**
MLR pmax pmax
comp=Z,37nm,1.1s
MLR Muntele Rosu 22.88 303 P **P 19 42 10.5 +1.2**
comp=Z,18nm,0.8s,baz=238,slow=4.5,SNR=17
KURBB Kurchatov Arra 22.93 43 P **P 19 42 11.2 +1.5**
comp=Z,47nm,1.0s,baz=244,slow=11,SNR=60
KURK Kurchatov 23.03 43 *e*P **P 19 42 11.0 +0.3**
comp=Z,116nm,1.0s
KURK Kurchatov 23.03 43 ⇑P **P 19 42 09.2 -1.5**
comp=Z,63nm,1.0s
KURK Kurchatov 23.03 43 *i* P **P 19 42 10.4 -0.2**
KURK pmax pmax
comp=Z,16nm,1.2s
KURK Kurchatov 23.03 43 P **P 19 42 12.4 +1.8**
SNR=59
DAMY Dhamar 23.10 204 *e*P **P 19 42 13.1 +1.1**
comp=Z,39nm,1.2s
BIZ Bicaz 23.17 306 ⇑*i*P **P 19 42 12.8 +0.6**
PRAR RASCA 23.22 307 ⇑*i*P **P 19 42 13.4 +0.7**
DOPR Dopca 23.37 303 ⇑*i*P **P 19 42 14.3 0.0**
IDI Anoyia 23.39 276 P **P 19 42 14.8 +0.2**
comp=Z,7.8nm,0.6s,baz=34,slow=15,SNR=3.4
VOIR 23.48 302 ⇑*i*P **P 19 42 17.0 +1.6**
VOIR 23.48 302 P **P 19 42 16.7 +1.3**
VOIR pmax pmax
comp=Z,22nm,0.8s
MAKZ Makanchi 23.54 54 *e*P **P 19 42 16.1 +0.1**
comp=Z,20nm,0.9s
MAKZ Makanchi 23.54 54 ⇓P **P 19 42 16.6 +0.7**
MAKZ Makanchi 23.54 54 *e*P **P 19 42 16.1 +0.1**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MK01 Makanchi Array 23.75 55 *e*P **P 19 42 17.4 -0.5**
MK31 Makanchi Array 23.75 55 *e*P **P 19 42 18.4 +0.4**
comp=Z,14nm,0.9s
MK31 Makanchi Array 23.75 55 P **P 19 42 18.5 +0.5**
comp=Z,16nm,0.8s,baz=245,slow=7.8,SNR=137
MK31 Makanchi Array 23.75 55 *e*P **P 19 42 18.4 +0.4**
MK31 pmax pmax
comp=Z,14nm,0.9s
MK32 Makanchi Array 23.75 55 *e*P **P 19 42 18.8 +0.8**
MKAR Makanchi Array 23.75 55 P **P 19 42 18.8 +0.8**
comp=Z,4.9nm,0.7s,baz=247,slow=9.3,SNR=38
MKAR LR LR 19 51 26.8
comp=Z,97nm,19.5s,baz=250,slow=36
ARR Arges 23.75 302 ⇑*i*P **P 19 42 18.2 +0.2**
HORU Horodok 23.75 312 P **P 19 42 17.6 -0.4**
BURAR Bucovina Array 23.95 307 ⇑*i*P **P 19 42 20.2 +0.2**
BURAR Bucovina Array 23.95 307 P **P 19 42 20.2 +0.2**
BUR08 Bucovina Ar. S 23.97 307 *e*P **P 19 42 20.0 -0.2**
comp=Z,23nm,1.0s
KSV Kosov 24.27 309 P **P 19 42 23.2 +0.3**
VTS Vitosha 24.33 295 *e*P **P 19 42 24.0 +0.4**
comp=Z,13nm,1.0s
VTS Vitosha 24.33 295 ⇑*i*P **P 19 42 24.8 +1.2**
VTS Vitosha 24.33 295 *e*P **P 19 42 24.0 +0.4**
VTS pmax pmax
comp=Z,13nm,1.0s
KNT Kendrikon 24.50 291 P **P 19 42 25.4 +0.4**
GZR Gura Zlata 25.04 301 ⇑*i*P **P 19 42 30.3 +0.4**
DEV Deva 25.04 302 P **P 19 42 32.1 +2.3**
DEV pmax pmax
comp=Z,28nm,1.2s
BMR Baia Mare 25.08 307 P **P 19 42 32.4 +2.2**
BMR pmax pmax
comp=Z,73nm,1.4s
MORS Morshin 25.27 310 P **P 19 42 32.9 +1.0**
DRGR 25.37 304 P **P 19 42 34.2 +1.3**
DRGR pmax pmax
comp=Z,60nm,0.9s
LVV L'vov 25.43 312 *e*P **P 19 42 35.4 +2.1**
MICGM Minsk 25.55 324 *e*P **P 19 42 35.0 +0.7**
MICGM *e*S **S 19 47 02.0 +0.3**
MNK Minsk 25.55 324 *e*P **P 19 42 35.0 +0.7**
MNK *e*S **S 19 47 02.0 +0.3**
TRSU Trosnyk 25.55 307 P **P 19 42 36.4 +2.0**
TRPA Tarpa 25.82 307 ⇓*i*P **P 19 42 37.8 +0.9**
TRPA Tarpa 25.82 307 *e*P **P 19 42 38.1 +1.2**
BZS Buzias 25.88 301 ⇑*i*P **P 19 42 37.9 +0.5**
BZS Buzias 25.88 301 P **P 19 42 37.8 +0.4**
BZS pmax pmax
comp=Z,10.0nm,1.0s
PRGR Permogore 25.97 351 *e*P **P 19 42 34.1 -3.9**
PRGR pmax pmax
comp=Z,12nm,0.8s
PYUN Piuthan 25.99 100 *e*P **P 19 42 39.3 +0.5**
comp=Z,39nm,0.7s
UZH Uzhgorod 26.12 308 *e*P **P 19 42 41.0 +1.4**
UZH *e* 19 42 48.0
UZH *e* 19 43 24.8
UZH *e*S **S 19 47 10.2 -0.8**
UZH *e*SS **SnSn 19 48 13.0 +4.0**
KWP Kalwaria Pacla 26.17 311 *e*P **P 19 42 41.7 +1.7**
KWP Kalwaria Pacla 26.17 311 *e*P **P 19 42 40.6 +0.5**
comp=Z,394nm,1.1s
KWP Kalwaria Pacla 26.17 311 *e*P **P 19 42 40.6 +0.5**
KWP pmax pmax
comp=Z,394nm,1.1s
KLMR Klimovskoe 26.29 344 *e*P **P 19 42 42.1 +1.2**
KLMR pmax pmax
comp=Z,31nm,0.9s
KLMR Klimovskoe 26.29 344 *e*P **P 19 42 42.1 +1.2**
KLMR AMP 19 42 46.6
comp=Z,31nm,0.9s
KLMR *e*S **S 19 47 19.6 +6.3**
KLMR *e*S **S 19 47 19.6 +6.3**
NACGM Naroch 26.30 324 *e*P **P 19 42 46.0 +4.9**
NACGM *e*S **S 19 47 16.0 +2.3**
ATD Arta Tunnel 26.46 205 LR LR 19 54 07.9
comp=Z,327nm,18.2s,baz=18,slow=39
DANN Dangsing 26.50 99 *e*P **P 19 42 44.4 +0.9**
comp=Z,104nm,0.7s
IDID Didziasalis 26.55 325 *e*P **P 19 42 44.9 +1.5**
IDID IAmb IAmb 19 43 00.1
comp=Z,15nm,1.1s
KOLN Koldanda 26.62 100 *e*P **P 19 42 45.5 +1.0**
comp=Z,61nm,0.9s
NGRH Nagyer 26.62 303 *e*P P 19 42 36.1 -8.0
IIGN Ignalina 26.82 324 *e*P **P 19 42 47.6 +1.8**
IIGN IAmb IAmb 19 42 53.2
comp=Z,13nm,1.1s
ISAL Salakas 26.99 325 *e*P **P 19 42 49.2 +1.9**
ISAL IAmb IAmb 19 42 55.0
comp=Z,10nm,0.9s
IZAR Zarasai 27.03 325 *e*P **P 19 42 49.6 +1.9**
IZAR IAmb IAmb 19 42 57.3
comp=Z,9.4nm,0.8s
PSZ Piszkesteto 27.49 306 P **P 19 42 53.5 +1.4**
PSZ pmax pmax
comp=Z,23nm,1.1s
NVS Novosibirsk 27.52 38 *e*P **P 19 42 51.7 -0.4**
NVS pmax pmax
comp=Z,18nm,1.4s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
NIE Niedzica 27.60 309 *e*P **P 19 42 56.5 +3.5**
NIE Niedzica 27.60 309 *e*P **P 19 42 56.5 +3.5**
SUW Suwalki 27.65 320 *e*P **P 19 42 56.0 +2.8**
SUW Suwalki 27.65 320 *e*P **P 19 42 53.2 -0.1**
comp=E,59nm,0.9s
SUW Suwalki 27.65 320 *e*P **P 19 42 53.2 -0.1**
SUW pmax pmax
comp=Z,59nm,0.9s
DGZ Jazzator, Alta 27.86 50 *i* P **P 19 42 57.1 +1.7**
DGZ pmax pmax
comp=Z,1.0nm,1.0s
ZAA0 Zalesovo Array 27.91 41 *e*P **P 19 42 55.6 0.0**
comp=Z,24nm,1.2s
ZALV Zalesovo Beam 27.91 41 *e*P **P 19 42 54.9 -0.7**
ZALV Zalesovo Beam 27.91 41 *i* P **P 19 42 56.2 +0.6**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 27.91 41 P **P 19 42 55.7 +0.1**
comp=Z,2.1nm,0.5s,baz=258,slow=12,SNR=10
ZALV LR LR 19 54 50.5
comp=Z,93nm,18.9s,baz=248,slow=38
ZAA1 Zalesovo Array 27.91 41 *e*P **P 19 42 55.7 +0.1**
KKN Kakani 27.95 98 *e*P **P 19 42 57.2 +0.7**
comp=Z,46nm,1.1s
LANS Liptovska Anna 28.06 308 *e*P **P 19 42 58.7 +1.6**
LANS Liptovska Anna 28.06 308 *e*P **P 19 42 58.7 +1.6**
LANS *e* 19 43 23.1
PKIN Phulchoki 28.14 99 *e*P **P 19 42 58.6 +0.4**
comp=Z,20nm,0.7s
OJC Ojcow 28.14 311 *e*P **P 19 42 59.5 +1.7**
OJC Ojcow 28.14 311 *e*P **P 19 42 58.3 +0.5**
comp=Z,21nm,1.0s
OJC Ojcow 28.14 311 *e*P **P 19 42 59.5 +1.7**
VYHS Vyhne 28.31 307 *e*P **P 19 42 59.9 +0.6**
VYHS Vyhne 28.31 307 *e*P **P 19 42 59.8 +0.5**
VYHS *e* 19 43 22.2
VSU Vasula 28.47 330 *i* P **P 19 43 03.3 +2.8**
VSU pmax pmax
comp=Z,27nm,0.8s
VSU Vasula 28.47 330 *e*P **P 19 43 01.8 +1.3**
VSU IAmb IAmb 19 43 04.2
comp=Z,35nm,0.8s
RAMN Ramite 29.37 99 *e*P **P 19 43 09.3 +0.1**
comp=Z,62nm,0.8s
SOP Sopron 29.66 304 P **P 19 43 11.8 +0.6**
SOP pmax pmax
comp=Z,10.0nm,0.8s
JOF Joensuu 30.11 340 P **P 19 43 15.4 +0.4**
JOF pmax pmax

	comp=Z,15nm,0.9s						
DPC	**Dobruska-Polom**	**30.33 310**	*e*P		**P**	**19 43 20.7**	**+3.5**
DPC	**Dobruska-Polom**	**30.33 310**	*e*P		**P**	**19 43 20.7**	**+3.5**
FIA0	**FINESS Array S**	**30.69 334**	*e*P		**P**	**19 43 19.2**	**-0.9**
FIA0	**FINESS Array S**	**30.69 334**	*e*P		**P**	**19 43 19.2**	**-0.9**
FINES	**FINESS Array B**	**30.69 334**	P		**P**	**19 43 19.2**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=116,slow=13,SNR=8.6						
FINES			LR		LR	19 58 11.4	
	comp=Z,174nm,20.2s,baz=133,slow=41						
VAE	**Valguarnera**	**31.34 284**	LR		LR	19 55 59.4	
	comp=Z,48nm,19.8s,baz=180,slow=36						
SUF	**Sumiainen**	**31.54 336**	P		**P**	**19 43 28.3**	**+0.6**
GEA0	**GERESS Array S**	**31.72 306**	*e*P		**P**	**19 43 29.0**	**-0.5**
GEC2	**GERESS Array S**	**31.72 306**	*e*P		**P**	**19 43 29.5**	**-0.1**
	comp=Z,5.0nm,0.8s						
GEC2	**GERESS Array S**	**31.72 306**	*e*P		**P**	**19 43 29.5**	**-0.1**
GEC2			pmax		pmax		
	comp=Z,5.0nm,0.8s						
GERES	**GERESS Array B**	**31.72 306**	P		**P**	**19 43 29.8**	**+0.2**
	comp=Z,2.5nm,0.9s,baz=103,slow=9.7,SNR=14						
GERES			PcP		**PcP**	**19 46 22.8**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=132,slow=1.5,SNR=3.5						
GERES			LR		LR	19 58 41.9	
	comp=Z,59nm,18.9s,baz=86,slow=41						
KBA	**Koelnbreinsper**	**31.75 303**	P		**P**	**19 43 30.2**	**+0.3**
KBA			pmax		pmax		
	comp=Z,12nm,1.3s						
KHC	**Kasperske Hory**	**31.84 307**	*e*P		**P**	**19 43 30.9**	**+0.3**
KHC	**Kasperske Hory**	**31.84 307**	*e*P		**P**	**19 43 30.9**	**+0.3**
LSA	**Lhasa**	**31.93 91**	*e*P		**P**	**19 43 31.6**	**-0.4**
	comp=Z,4.4nm,0.8s						
LSA	**Lhasa**	**31.93 91**	*e*P		**P**	**19 43 31.6**	**-0.4**
LSA			pmax		pmax		
	comp=Z,4.0nm,0.8s						
CLL	**Collm**	**32.59 311**	*e*P		**P**	**19 43 37.8**	**+0.7**
	comp=Z,8.5nm,0.8s						
CLL	**Collm**	**32.59 311**	*e*P		**P**	**19 43 37.0**	**0.0**
	comp=Z,11nm,0.9s						
CLL			*i*			19 43 45.9	
CLL			Lm		MLR	19 59 00.0	
	comp=Z,100nm,20.2s						
CLL	**Collm**	**32.59 311**	*e*P		**P**	**19 43 37.8**	**+0.7**
CLL			pmax		pmax		
	comp=Z,9.0nm,0.8s						
VAF	**Ylistaro**	**32.94 334**	P		**P**	**19 43 40.2**	**+0.3**
VAF			pmax		pmax		
	comp=Z,16nm,1.4s						
WATA	**Walderalm**	**32.97 303**	*i* P		**P**	**19 43 40.3**	**-0.3**
	comp=Z,6.4nm,0.6s						
SQTA	**Sankt Quirin**	**33.21 303**	*i* P		**P**	**19 43 41.7**	**-1.0**
	comp=Z,9.9nm,0.6s,SNR=8.7						
MOTA	**Moosalm**	**33.29 303**	*i* P		**P**	**19 43 42.4**	**-1.0**
	comp=Z,3.0nm,0.5s,SNR=7.1						
OUL	**Oulu**	**33.31 339**	P		**P**	**19 43 43.6**	**+0.4**
OUL			pmax		pmax		
	comp=Z,13nm,1.3s						
FETA	**Feichten**	**33.53 302**	*i* P		**P**	**19 43 45.1**	**-0.4**
	comp=Z,20nm,1.2s						
RETA	**Reutte**	**33.53 303**	*i* P		**P**	**19 43 44.3**	**-1.1**
	comp=Z,5.2nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**33.83 302**	*e*P		**P**	**19 43 48.0**	**-0.3**
	comp=Z,12nm,1.0s						
DAVOX	**Davos/Dischmat**	**34.10 302**	P		**P**	**19 43 49.8**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=114,slow=6.1,SNR=12						
DAVA	**Damuels**	**34.12 303**	*i* P		**P**	**19 43 49.8**	**-0.8**
	comp=Z,11nm,0.6s,SNR=10						
SHL	**Shillong**	**34.23 97**	*e*P		**P**	**19 43 51.2**	**-0.6**
SHL	**Shillong**	**34.23 97**	*e*P		**P**	**19 43 51.2**	**-0.6**
CLZ	**Clausthal**	**34.30 311**	P		**P**	**19 43 54.1**	**+2.1**
CLZ			pmax		pmax		
	comp=Z,11nm,1.1s						
HFS	**Hagfors**	**35.01 326**	P		**P**	**19 43 58.0**	**+0.1**
	comp=Z,14nm,0.7s,baz=112,slow=11,SNR=15						
SENIN	**Lac Senin/Sane**	**35.87 301**	*e*P		**P**	**19 44 04.4**	**-1.4**
	comp=Z,10nm,0.9s						
CDF	**Champ du Feu**	**35.92 305**	*e*P		**P**	**19 44 09.6**	**+3.5**
CDF			pmax		pmax		
	comp=Z,11nm,1.2s						
ECH	**Echery**	**35.99 304**	*e*P		**P**	**19 44 05.5**	**-1.1**
	comp=Z,18nm,1.4s						
ECH	**Echery**	**35.99 304**	*e*P		**P**	**19 44 05.5**	**-1.1**
ECH			pmax		pmax		
	comp=Z,18nm,1.4s						
GTA	**Gaotai**	**36.25 71**	*e*P		P	19 44 00.3	-8.8
GTA			pP		pP	19 44 04.6	-8.2
GTA			sP		sP	19 44 08.0	-6.2
GTA			pmax		pmax		
	comp=Z,2.0nm,0.6s						
GTA			LR		LR		
	comp=N,400nm,18.2s						
GTA			LR		LR		
	comp=E,410nm,14.1s						
GTA			LR		LR		
	comp=Z,460nm,16.5s						
LPL	**La Plagne**	**36.29 300**	*e*P		**P**	**19 44 08.6**	**-0.8**
LPL			pmax		pmax		
	comp=Z,14nm,1.2s						
NC405	**NORSAR Array S**	**36.30 327**	*e*P		**P**	**19 44 09.0**	**-0.1**
	comp=Z,187nm,1.9s						
BNI	**Bardonecchia**	**36.35 299**	*e*P		**P**	**19 44 09.7**	**-0.1**
	comp=Z,27nm,1.4s						
BNI	**Bardonecchia**	**36.35 299**	*e*P		**P**	**19 44 09.7**	**-0.1**
BNI			pmax		pmax		
	comp=Z,27nm,1.4s						
NB2	**NORSAR Subarra**	**36.50 326**	P		**P**	**19 44 09.9**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=116,slow=8.6						
NB200	**NORSAR Array S**	**36.50 326**	*e*P		**P**	**19 44 10.6**	**-0.2**
NOA	**NORSAR Array B**	**36.50 326**	P		**P**	**19 44 10.6**	**-0.2**
	comp=Z,5.3nm,0.8s,baz=116,slow=8.2,SNR=17						
NOA			LR		LR	20 02 01.1	
	comp=Z,155nm,19.6s,baz=105,slow=41						
HAU	**Haudompre**	**36.53 304**	*e*P		**P**	**19 44 10.2**	**-1.0**
HAU			pmax		pmax		
	comp=Z,30nm,1.7s						
MOY	**Mondy**	**36.69 50**	*e*P		P	19 44 17.6	+5.0
CABF	**La Chapelle**	**36.71 302**	*e*P		**P**	**19 44 12.4**	**-0.4**
CABF			pmax		pmax		
	comp=Z,29nm,1.1s						
ARA0	**ARCESS Array S**	**36.76 344**	*e*P		**P**	**19 44 13.2**	**+0.4**
ARCES	**ARCESS Array B**	**36.76 344**	P		**P**	**19 44 13.2**	**+0.4**
	comp=Z,10nm,1.1s,baz=132,slow=7.9,SNR=4.0						
GIVF	**Givet**	**37.60 307**	*e*P		**P**	**19 44 21.2**	**+1.0**
GIVF			pmax		pmax		
	comp=Z,16nm,1.1s						
NRIK	**Noril'sk**	**37.98 19**	P		**P**	**19 44 22.6**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=168,slow=20,SNR=3.2						
NRIK			PP		**PP**	**19 45 48.4**	**-1.4**
	comp=Z,2.4nm,0.5s,baz=230,slow=22,SNR=3.7						
NRIK			LR		LR	20 02 57.5	
	comp=Z,229nm,19.3s,baz=260,slow=41						
BAIF	**Baives**	**38.00 307**	*e*P		**P**	**19 44 24.9**	**+1.3**
BAIF			pmax		pmax		
	comp=Z,12nm,1.0s						
ZAK	**Zakamensk**	**38.03 52**	*e*P		**P**	**19 44 24.4**	**+0.4**
ZAK			*e*			19 46 41.6	
ZAK			pmax		pmax		
	comp=Z,2.0nm,1.4s						
ZAK			pmax		pmax		
	comp=Z,3.0nm,1.4s						
SMF	**Signal de Mont**	**38.26 302**	*e*P		**P**	**19 44 25.1**	**-0.7**
SMF			pmax		pmax		
	comp=Z,14nm,1.1s						
AVF	**Avril sur Loir**	**38.58 302**	*e*P		**P**	**19 44 27.2**	**-1.4**
AVF			pmax		pmax		
	comp=Z,15nm,1.1s						
TCF	**Toulx Ste Croi**	**39.40 301**	*e*P		**P**	**19 44 35.9**	**+0.4**
TCF			pmax		pmax		
	comp=Z,35nm,1.5s						
CAF	**Calviac**	**39.62 299**	*e*P		**P**	**19 44 41.0**	**+3.7**
CAF			pmax		pmax		
	comp=Z,104nm,2.4s						
RJF	**Les Rejaudoux**	**39.97 300**	*e*P		**P**	**19 44 40.7**	**+0.5**
RJF			pmax		pmax		
	comp=Z,40nm,1.6s						
SONA0	**Songino Array**	**40.09 56**	*e*P		**P**	**19 44 42.1**	**+0.8**
SONA0			*e*PP		**PP**	**19 46 15.1**	**+1.7**
SONM	**Songino Array**	**40.09 56**	P		**P**	**19 44 42.1**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=277,slow=9.2,SNR=9.8						
SONM			PP		**PP**	**19 46 15.1**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=310,slow=11,SNR=3.1						
SONM			LR		LR	20 04 04.9	
	comp=Z,214nm,20.4s,baz=264,slow=40						
KMBO	**Kilima Mbogo**	**40.18 206**	*i* P		**P**	**19 44 45.5**	**+3.1**
KMBO			pmax		pmax		
	comp=Z,1.0nm,0.3s						
FLN	**La Foliniere**	**41.07 305**	*e*P		**P**	**19 44 50.6**	**+1.4**
FLN			pmax		pmax		
	comp=Z,198nm,2.2s						
GRR	**Gorron**	**41.34 305**	*e*P		**P**	**19 44 50.7**	**-0.7**
GRR			pmax		pmax		
	comp=Z,96nm,1.7s						
SGMF	**Saint Gilles**	**42.48 305**	*e*P		**P**	**19 45 00.2**	**-0.6**
EKA	**Eskdalemuir Ar**	**42.69 315**	P		**P**	**19 45 02.7**	**+0.4**
	comp=Z,4.9nm,0.5s,baz=101,slow=7.9,SNR=14						
QUIF	**Quistinic**	**42.92 304**	*e*P		**P**	**19 45 04.2**	**-0.1**
QUIF			pmax		pmax		
	comp=Z,57nm,1.4s						
CHTO	**Chiang Mai**	**43.27 101**	*e*P		**P**	**19 45 07.2**	**-0.3**
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**43.27 101**	*e*P		**P**	**19 45 07.2**	**-0.3**
CHTO			pmax		pmax		
	comp=Z,11nm,0.7s						
CHTO	**Chiang Mai**	**43.27 101**	P		**P**	**19 45 10.0**	**+2.5**
	SNR=5.5						
CMMT	**Chiang Mai**	**43.27 101**	P		**P**	**19 45 07.5**	**0.0**
CM31	**Chiang Mai Arr**	**43.46 102**	*e*P		**P**	**19 45 08.9**	**-0.2**
	comp=Z,12nm,0.7s						
CM31	**Chiang Mai Arr**	**43.46 102**	P		**P**	**19 45 10.1**	**+1.1**
	SNR=7.3						
CMAR	**Chiang Mai Arr**	**43.46 102**	P		**P**	**19 45 08.9**	**-0.1**
	comp=Z,11nm,0.6s,baz=297,slow=8.3,SNR=56						
CMAR			PP		**PP**	**19 46 52.8**	**+2.7**
	comp=Z,0.6nm,0.4s,baz=301,slow=9.4,SNR=2.9						
CMAR			LR		LR	20 06 42.5	
	comp=Z,77nm,19.3s,baz=296,slow=41						
CM01	**Chiang Mai Arr**	**43.49 102**	*e*P		**P**	**19 45 08.8**	**-0.5**
BOD	**Bodaibo**	**44.66 41**	*e*P		**P**	**19 45 17.7**	**-0.4**
BOD			pmax		pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**44.68 76**	P		**P**	**19 45 19.0**	**+0.2**
XAN			pP		sP	19 45 27.9	+3.9
XAN			sP		pP	19 45 32.5	+10
XAN			pmax		pmax		
	comp=Z,9.0nm,1.2s						
XAN			pmax		pmax		
	comp=Z,130nm,4.5s						
XAN			LR		LR		
	comp=Z,370nm,19.5s						
XAN			LR		LR		
	comp=Z,240nm,18.4s						
SPITS	**Spitsbergen Ar**	**44.93 350**	P		**P**	**19 45 21.0**	**+0.9**
SPITS	**Spitsbergen Ar**	**44.93 350**	P		**P**	**19 45 21.0**	**+0.9**
	comp=Z,4.0nm,0.7s,baz=112,slow=11,SNR=10						
ESDC	**Sonseca Array**	**44.96 293**	P		**P**	**19 45 19.5**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=67,slow=7.6,SNR=6.7						
SRDT	**SRDT**	**45.95 106**	P		**P**	**19 45 31.8**	**+2.9**
	comp=Z,9.1nm,0.7s						
SKNT	**Sakolnakorn**	**48.28 100**	P		**P**	**19 45 48.3**	**+1.2**
	comp=Z,6.4nm,1.1s						
PKDT	**Phuket**	**49.41 114**	P		**P**	**19 45 59.6**	**+3.8**
	comp=Z,5.2nm,0.8s						
TRTT	**Trang**	**50.46 113**	P		**P**	**19 46 05.7**	**+1.9**
	comp=Z,6.5nm,0.9s						
DAG	**Danmarks Havn**	**51.05 344**	*i* P		**P**	**19 46 08.3**	**+0.9**
	comp=Z,11nm,1.2s						
DAG	**Danmarks Havn**	**51.05 344**	*i* P		**P**	**19 46 08.3**	**+0.9**
DAG			pmax		pmax		
	comp=Z,18nm,1.2s						
TIXI	**Tiksi**	**51.43 23**	*e*P		**P**	**19 46 10.8**	**+0.4**
	comp=Z,6.9nm,1.2s						
TIXI	**Tiksi**	**51.43 23**	*i* P		**P**	**19 46 09.6**	**-0.7**
TIXI			pmax		pmax		
	comp=Z,2.0nm,0.5s						
TIXI	**Tiksi**	**51.43 23**	P		**P**	**19 46 10.9**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=281,slow=5.2,SNR=8.7						
TOA1	**Torodi Ar. Sit**	**51.85 258**	*e*P		**P**	**19 46 12.4**	**-1.8**
TOA0	**Torodi Ar. Sit**	**51.85 258**	*e*P		**P**	**19 46 13.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**51.85 258**	P		**P**	**19 46 12.4**	**-1.8**
	comp=Z,1.3nm,1.0s,baz=34,slow=7.6,SNR=7.0						
TORD			LR		LR	20 08 50.2	
	comp=Z,102nm,18.2s,baz=350,slow=37						
KULM	**Kulim**	**52.85 114**	*e*P		**P**	**19 46 21.9**	**+0.3**
	comp=Z,12nm,0.8s						
PSI	**Prapat**	**53.29 118**	*e*P		**P**	**19 46 25.5**	**+0.5**
	comp=Z,8.2nm,1.0s						
PSI	**Prapat**	**53.29 118**	*e*P		**P**	**19 46 25.5**	**+0.5**
PSI			pmax		pmax		
	comp=Z,8.0nm,1.0s						
PSI	**Prapat**	**53.29 118**	P		**P**	**19 46 25.2**	**+0.2**
	comp=Z,3.9nm,0.4s,baz=1.8,slow=7.4,SNR=5.5						
IPM	**Ipoh**	**53.67 115**	*e*P		**P**	**19 46 28.6**	**+0.9**
	comp=Z,11nm,0.8s						
OPO	**Ambohidratompo**	**54.82 188**	P		**P**	**19 46 36.1**	**0.0**
	comp=Z,7.0nm,0.8s,baz=6.9,slow=7.6,SNR=6.6						
SUMG	**Summit**	**56.53 339**	*e*P		**P**	**19 46 48.8**	**+0.7**
	comp=Z,14nm,0.9s						
SUMG	**Summit**	**56.53 339**	*i* P		**P**	**19 46 49.2**	**+1.1**
	comp=Z,47nm,1.0s						
SUMG	**Summit**	**56.53 339**	*i* P		**P**	**19 46 49.2**	**+1.1**
SUMG			pmax		pmax		
	comp=Z,47nm,1.0s						
KSAR	**Wonju Array Be**	**57.88 65**	P		**P**	**19 46 58.0**	**+0.3**
KSAR	**Wonju Array Be**	**57.88 65**	P		**P**	**19 46 58.0**	**+0.3**
KSRS	**Korea Array**	**57.90 65**	P		**P**	**19 46 58.0**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=277,slow=7.0,SNR=11						
KSRS			LR		LR	20 15 06.1	
	comp=Z,151nm,19.5s,baz=296,slow=39						
USRK	**Ussuriysk Ar.**	**58.21 56**	P		**P**	**19 47 01.6**	**+1.7**
	comp=Z,4.0nm,0.8s,baz=278,slow=7.7,SNR=8.0						
USRK			LR		LR	20 14 07.1	
	comp=Z,196nm,18.3s,baz=284,slow=38						
DBIC	**Dimbokro**	**60.88 256**	LR		LR	20 16 28.4	
	comp=Z,118nm,18.7s,baz=28,slow=39						
SEY	**Seymchan**	**62.15 31**	P		**P**	**19 47 26.9**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=320,slow=4.4,SNR=6.5						
BILL	**Bilibino**	**64.65 23**	*e*P		**P**	**19 47 44.2**	**+1.2**
BILL			*e*			19 47 51.7	
BILL			*e*			19 47 55.6	
BILL			S		S	19 56 14.0	-8.6
BILL			pmax		pmax		
	comp=Z,11nm,2.1s						
BILL			MLR		MLR		
	comp=Z,123nm,17.0s						
MAJO	**Matsushiro**	**65.72 62**	*e*P		**P**	**19 47 50.6**	**+0.1**
MAJO	**Matsushiro**	**65.72 62**	*e*P		**P**	**19 47 50.6**	**+0.1**
MJAR	**Matsushiro Arr**	**65.72 62**	P		**P**	**19 47 50.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=297,slow=11,SNR=5.7						
MJAR			LR		LR	20 19 06.0	
	comp=Z,62nm,18.3s,baz=275,slow=38						
LBTB	**Lobatse**	**66.43 208**	*e*P		**P**	**19 47 55.7**	**+0.6**
	comp=Z,44nm,2.0s						
LBTB	**Lobatse**	**66.43 208**	*e*P		**P**	**19 47 55.7**	**+0.6**
LBTB			pmax		pmax		
	comp=Z,44nm,2.0s						
BOSA	**Boshof**	**69.82 207**	P		**P**	**19 48 15.9**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=24,slow=5.7,SNR=9.0						
BOSA			LR		LR	20 20 41.6	
	comp=Z,114nm,18.1s,baz=21,slow=38						
TOLK	**Toolik Lake Re**	**74.04 9**	*e*P		**P**	**19 48 42.0**	**+0.8**
	comp=Z,11nm,1.1s						
INK	**Inuvik**	**75.67 3**	P		**P**	**19 48 52.8**	**+2.3**
	comp=Z,1.0nm,0.8s,baz=329,slow=3.2,SNR=3.1						
ILAR	**Eielson Array**	**78.06 9**	P		**P**	**19 49 04.8**	**+0.7**
	comp=Z,0.3nm,0.8s,baz=210,slow=33,SNR=2.6						
ILAR			LR		LR	20 29 53.9	
	comp=Z,37nm,18.9s,baz=320,slow=41						
YKA	**Yellowknife Ar**	**81.20 355**	*i* P		P	19 49 26.1	+4.9
YKA			pmax		pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**81.20 355**	P		**P**	**19 49 20.9**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=5.8,slow=6.1,SNR=4.8						
YKB5	**Yellowknife Ar**	**81.20 355**	*e*P		**P**	**19 49 20.7**	**-0.5**
WRA	**Warramunga Arr**	**94.32 111**	*i* P		**P**	**19 50 26.6**	**+1.0**
WRA			pmax		pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**94.32 111**	P		**P**	**19 50 25.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=317,slow=4.0,SNR=7.3						
WR1	**Warramunga Arr**	**94.32 111**	*e*P		**P**	**19 50 25.4**	**-0.2**
	comp=Z,32nm,1.9s						
NEW	**Newport**	**95.51 354**	LR		LR	20 39 53.7	
	comp=Z,34nm,19.2s,baz=356,slow=40						
ASAR	**Alice Springs**	**96.21 115**	P		**P**	**19 50 32.5**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=310,slow=4.8,SNR=3.8						
LPAZ	**La Paz**	**125.02 275**	*e*PKPdf		**PKPdf**	**19 56 05.9**	**-1.4**
LPAZ	**La Paz**	**125.02 275**	*e*PKIKP		**PKPdf**	**19 56 05.9**	**-1.4**
LPAZ	**La Paz**	**125.02 275**	PKP		**PKPdf**	**19 56 07.9**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=188,slow=3.8,SNR=6.6						

MEX 21 19:40:12.9±0.7, 14.97N×94.06W, h77km±41km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
PCIG		**1.09**	**48**	*e*P		Pn	19 40 32.1	-0.8
PCIG				*e*S		Sn	19 40 45.5	-2.2
THIG		**1.73**	**92**	*e*P		Pn	19 40 40.3	-0.9
THIG				*i* S		Sn	19 41 01.5	-1.2
CMIG	**Matias Romero**	**2.25**	**339**	*e*P		Pn	19 40 46.6	-1.5
CMIG				*i* S		Sn	19 41 13.8	-1.2
CCIG	**Comitan**	**2.26**	**55**	*e*P		Pn	19 40 51.1	+2.6
CCIG				*i* S		Sn	19 41 14.5	-1.0

*TIF **21** 19:47:16.1, 42.33N×40.90E, h28km±3km*
*MOS **21** 19:47:19.1±0.0, 42.61N×41.11E, h1km, MPVA3.8*
*ISK **21** 19:47:19.1, 42.37N×41.64E, h5km, ML2.8/4*
*NORS **21** 19:47:20.0±0.0, 42.66N×41.15E, h5km, MPVA3.5*
*DDA **21** 19:47:22.4, 41.98N×41.27E, h8km±6km, ML2.6*

ISC 21 19:47:16.8±1.2, 42.40N±0.02×41.17E±0.03, h9km±10km, n37, σ1§77/64, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
BATM	**Batumi**	**0.89**	**154**	P	PG	**Pg**	**19 47 34.6**	**+0.7**
BATM					SG	**Sb**	**19 47 46.4**	**+0.1**
BATM	**Batumi**	**0.89**	**154**	P	P	**Pg**	**19 47 34.5**	**+0.7**
BATM					S	**Sn**	**19 47 47.7**	**-0.8**
DOMR	**Dombai**	**0.95**	**20**	*e*Pg		**Pg**	**19 47 32.3**	**-2.9**
DOMR				*e*Sg		**Sg**	**19 47 43.9**	**-3.7**
DBOC	**Borcka**	**1.12**	**161**	*i* P		**Pb**	**19 47 37.7**	**-0.7**
DBOC				*i* S		**Sb**	**19 47 53.4**	**+0.3**
ARXR	**Arkhyz**	**1.16**	**4**	*i* Pg		**Pb**	**19 47 38.5**	**-0.7**
ARXR				*i* Sg		**Sb**	**19 47 53.8**	**-0.7**
NEY	**Neytrino**	**1.42**	**53**	*e*Pg		**Pn**	**19 47 43.8**	**+0.8**
NEY				*e*Sg		**Sb**	**19 48 02.8**	**+0.9**
DAGI	**Agillar**	**1.43**	**157**	*i* P		**Pn**	**19 47 42.2**	**-0.9**
DAGI				*i* S		**Sn**	**19 47 57.3**	**-4.9**
DAGI				IAML_P				
	comp=Z,439nm,0.2s							
DBAD	**Bademkaya**	**1.44**	**164**	*i* P		**Pn**	**19 47 42.8**	**-0.4**
DBAD				*i* S		**Sn**	**19 47 56.4**	**-5.8**
DBAD				IAML_P				
	comp=Z,756nm,0.1s							
RPOR	**Krasnaya Polya**	**1.46**	**333**	*e*Pg		**Pn**	**19 47 42.4**	**-1.0**
RPOR				*e*Sg		**Sn**	**19 48 01.6**	**-1.0**
EPOS	**Posof**	**1.47**	**127**	*i* P		**Pn**	**19 47 44.3**	**+0.7**
EPOS				*i* S		**Sg**	**19 48 03.9**	**-0.1**
DDEM	**Demirkent**	**1.57**	**164**	*i* P		**Pn**	**19 47 45.3**	**+0.3**
DDEM				*i* S		**Sn**	**19 48 04.7**	**-0.7**
DDEM				IAML_P				
	comp=Z,636nm,0.2s							
SOC	**Sochi**	**1.59**	**318**	*e*Pg		**Pn**	**19 47 44.2**	**-1.0**
SOC				*e*Sg		**Sn**	**19 48 04.2**	**-1.7**
SHA1	**Shidzhatmaz**	**1.72**	**39**	*i* Pg		**Pn**	**19 47 48.8**	**+1.6**
SHA1				*i* Sg		**Sb**	**19 48 11.2**	**+0.5**
KTUT	**Trabzon**	**1.76**	**217**	PN		**Pg**	**19 47 54.7**	**+4.1**
GUZR	**Guzeripl'**	**1.77**	**335**	*e*Pg		**Pn**	**19 47 47.4**	**-0.3**
GUZR				*e*Sg		**Sn**	**19 48 10.2**	**-0.2**
MACK	**Trabzon**	**1.80**	**216**	*i* P		**Pn**	**19 47 46.1**	**-1.9**
DIGR	**Digorskoe uzhe**	**1.85**	**74**	*e*Pg		**Pg**	**19 47 54.0**	**+1.8**
DIGR				*e*Sg		**Sg**	**19 48 16.5**	**+0.3**
KIV	**Kislovodsk**	**1.91**	**35**	PN		**Pb**	**19 47 51.9**	**0.0**
KIV				SN		**Sb**	**19 48 16.2**	**+0.4**
KIV	**Kislovodsk**	**1.91**	**35**	*e*Pg		**Pb**	**19 47 51.9**	**0.0**
KIV				*e*Sg		**Sb**	**19 48 16.5**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.91**	**35**	*i* Pg		**Pb**	**19 47 52.2**	**+0.2**
KIV0				*i* Sg		**Sb**	**19 48 17.6**	**+1.6**
BEYR	**Belyy Ugol+**	**2.01**	**36**	*i* Pg		**Pb**	**19 47 54.0**	**+0.4**
BEYR				*i* Sg		**Sb**	**19 48 20.4**	**+1.7**
SENK	**Senkaya-Erzuru**	**2.04**	**154**	PN		**Pn**	**19 47 53.3**	**+1.7**
SENK				SN		**Sb**	**19 48 19.2**	**-0.6**
ZEI	**Tsey**	**2.05**	**78**	*e*Pg		**Pg**	**19 47 56.2**	**0.0**
ZEI				*e*Sg		**Sg**	**19 48 22.8**	**0.0**
KRIK	**Erzurum-spir**	**2.07**	**185**	*i* P		**Pn**	**19 47 52.9**	**+0.9**
NCK	**Nalchik**	**2.09**	**58**	*e*Pg		**Pb**	**19 47 55.7**	**+0.8**
LSNR	**Lesken**	**2.14**	**65**	*e*Pg		**Pb**	**19 47 57.6**	**+1.8**
LSNR				*e*Sg		**Sg**	**19 48 26.3**	**+0.7**
BAYT	**Aydıntepe-Bayb**	**2.15**	**201**	PN		**Pg**	**19 47 58.9**	**+0.8**
PYA1	**Pyatigorsk**	**2.18**	**40**	*e*Pg		**Pb**	**19 47 55.9**	**-0.5**
BAYB	**BAYBURT**	**2.25**	**198**	*i* P		**Pb**	**19 47 57.6**	**-0.2**
BAYB				IAML_P				
	comp=Z,132nm,0.2s							
LACR	**Lac**	**2.35**	**78**	*e*Pn		**Pg**	**19 48 01.7**	**-0.1**
LACR				*e*Sn		**Sb**	**19 48 30.6**	**+2.2**
TRLG	**Trialeti**	**2.35**	**111**	P		**Pb**	**19 47 59.9**	**+0.4**
TRLG				S		**Sb**	**19 48 30.4**	**+1.9**
KOPR	**Ko

NVAR Mina Array Bea 81.01 43 P P 20 07 31.3 +0.1
0.2nm,0.3s,baz=229,slow=10,SNR=4.1
TXAR Lajitas Array 87.00 57 P P 20 08 02.0 +1.3
0.6nm,0.9s,baz=201,slow=6.8,SNR=3.8
AKASG Malin Array Be 143.17 331 PKP PKPdf 20 14 41.1 -3.8
0.3nm,0.4s,baz=42,slow=4.0,SNR=4.4

IDC 21 20:07:52.0±1.2, 53.46N×171.30E, h0km, mb3.5/5, mb1 3.8/6, mb1mx3.4/42, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=40.8km s-min=27.8km az=7.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**8.16**	**273**	Pn	Pn	20 09 50.0	-1.6
	0.6nm,0.3s,baz=89,slow=21,SNR=5.6						
PETK				Sn	Sn	20 11 13.8	-11
	0.2nm,0.3s,baz=73,slow=20,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**33.84**	**187**	T	T	20 50 13.4	
	baz=4.8,slow=76,SNR=9.6						
H11N3	**WAKE ISLAND Hy**	**33.85**	**187**	T	T	20 50 19.4	
	baz=4.8,slow=76,SNR=11						
H11N1	**WAKE ISLAND Hy**	**33.86**	**187**	T	T	20 50 12.5	
	baz=4.8,slow=76,SNR=8.0						
H11S1	**WAKE ISLAND Hy**	**35.07**	**188**	T	T	20 51 51.1	
	baz=4.8,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.08**	**188**	T	T	20 51 49.9	
	baz=4.8						
H11S2	**WAKE ISLAND Hy**	**35.09**	**188**	T	T	20 51 43.6	
	baz=4.8,slow=74						
SONM	**Songino Array**	**40.25**	**289**	P	P	20 15 31.0	+0.6
	0.4nm,0.8s,baz=67,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**53.88**	**302**	P	P	20 17 16.5	-0.2
	0.3nm,0.4s,baz=54,slow=5.9,SNR=2.1						
TXAR	**Lajitas Array**	**64.16**	**75**	P	P	20 18 28.1	-0.2
	0.3nm,0.4s,baz=318,slow=5.2,SNR=4.4						
WRA	**Warramunga Arr**	**79.76**	**215**	P	P	20 20 02.1	+0.4
	0.5nm,1.1s,baz=26,slow=6.0,SNR=3.1						
ASAR	**Alice Springs**	**83.36**	**214**	P	P	20 20 20.4	-0.3
	0.5nm,1.0s,baz=20,slow=5.9,SNR=3.2						

*ISK **21** 20:17:57.8, 38.55N×43.14E, h5km, ML2.5/8*
*DDA **21** 20:17:59.1, 38.58N×43.14E, h7km±6km, ML2.6*
ISC 21 20:17:59.0±1.0, 38.58N±0.03×43.11E±0.02, h7km±11km, n19, σ0.70/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.22**	**85**	PG	**Pg**	**20 18 02.9**	**-0.5**
VANB				SG	**Sg**	**20 18 06.8**	**+0.5**
TVAN	**Van**	**0.23**	**102**	*i* P	**Pg**	**20 18 03.9**	**+0.2**
TVAN				*i* S	**Sg**	**20 18 07.6**	**+0.7**
GEVA	**Gevas**	**0.27**	**189**	*i* P	**Pg**	**20 18 04.2**	**-0.2**
GEVA				*i* S	**Sb**	**20 18 10.8**	**-0.4**
GEVA				IAML_P			
	comp=Z,9μm,0.2s						
AKDM	**Akdamar-Van**	**0.27**	**203**	PG	**Pg**	**20 18 04.1**	**-0.3**
AKDM				SG	**Sg**	**20 18 08.5**	**+0.5**
ADCV	**BITLIS_Adilcev**	**0.38**	**307**	*i* P	**Pg**	**20 18 07.2**	**+0.6**
ADCV				*i* S	**Sb**	**20 18 14.4**	**-0.1**
VMUR	**Van-Muradiye**	**0.55**	**41**	*i* P	**Pb**	**20 18 10.0**	**-1.1**
VMUR				*i* S	**Sb**	**20 18 19.7**	**+0.4**
MLAZ	**Malazgirt-MUS**	**0.72**	**322**	PG	**Pb**	**20 18 13.6**	**-0.4**
MLAZ				SG	**Sb**	**20 18 25.0**	**+0.9**
BLIS	**Bitlis-Merkez**	**0.80**	**259**	*i* P	**Pg**	**20 18 14.0**	**-0.4**
BLIS				*i* S	**Sg**	**20 18 24.5**	**-0.4**
BLIS				IAML_P			
	comp=Z,2μm,0.2s						
CLDR	**Caldiran**	**0.84**	**48**	PG	**Pg**	**20 18 15.0**	**-0.3**
CLDR	**Caldiran**	**0.84**	**48**	*i* P	**Pb**	**20 18 15.8**	**-0.5**
CLDR				*i* S	**Sb**	**20 18 28.1**	**+0.3**
GURO	**Guroymak-BITLI**	**0.85**	**269**	PG	**Pg**	**20 18 14.8**	**-0.6**
TUTA	**Tutak**	**0.86**	**344**	*i* P	**Pg**	**20 18 15.2**	**-0.3**
AGRB	**Hanur-Agry**	**1.00**	**355**	PG	**Pg**	**20 18 18.2**	**-0.1**
SRTM	**Siirt_Merkez**	**1.10**	**238**	*i* P	**Pn**	**20 18 22.3**	**+1.2**
SRTM				IAML_P			
	comp=Z,372nm,0.3s						
SIRN	**Sırnak**	**1.21**	**207**	*i* P	**Pn**	**20 18 24.2**	**+1.7**
MUSM	**Mu-Merkez**	**1.26**	**277**	*i* P	**Pn**	**20 18 22.9**	**-0.4**
MUSM				IAML_P			
	comp=Z,443nm,0.2s						
CUKT	**Cukurca**	**1.38**	**163**	PN	**Pg**	**20 18 24.8**	**-0.8**
BTMN	**Batman**	**1.61**	**245**	*i* P	**Pg**	**20 18 29.9**	**+0.1**
BTMN				*i* S	**Sg**	**20 18 50.4**	**-0.3**
BTMN				IAML_P			
	comp=Z,127nm,0.3s						
GNI	**Garni**	**2.01**	**38**	PN	**Pb**	**20 18 34.8**	**-1.3**

*SJA **21** 20:17:59.9±0.7, 23.36S×68.70W, h104km±5km, ML2.5, MW3.2*
*ISCJB **21** 20:18:00.5±0.8, 23.37S±0.04×68.75W±0.07, h112km±11km, Error ellipse: s-maj=11.0km s-min=6.9km az=0.5*
*GUC **21** 20:18:00.4±0.4, 23.40S×68.98W, h121km±3km, ML3.0*
ISC 21 20:18:01.4±1.6, 23.37S±0.05×68.75W±0.06, h103km±13km, n24, σ0.56/32, 6C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.68**	**284**	*e*P	**Pn**	**20 18 18.9**	**-0.3**
PB15				*e*S	**Sn**	**20 18 33.0**	**+0.5**
PB15	**IPOC Station P**	**0.68**	**284**	↑*i*P	**Pn**	**20 18 18.9**	**-0.3**
PB15				*i* S	**Sn**	**20 18 33.1**	**+0.6**
LVC	**Limon Verde**	**0.77**	**349**	*e*P	**Pn**	**20 18 19.5**	**-0.7**
LVC				*e*S	**Sn**	**20 18 33.6**	**-0.6**
LVC				IAML		20 18 35.6	
	comp=Z,162nm,0.5s						
PB06	**IPOC Station P**	**1.01**	**311**	*e*P	**Pn**	**20 18 22.2**	**-0.1**
PB06	**IPOC Station P**	**1.01**	**311**	↑*i*P	**Pn**	**20 18 22.1**	**-0.1**
PB06				*i* S	**Sn**	**20 18 38.5**	**+0.5**
PB06				IAML		20 18 39.6	
	comp=E,1μm,0.1s						
PB05	**IPOC Station P**	**1.43**	**291**	*e*P	**Pn**	**20 18 27.1**	**0.0**
PB05	**IPOC Station P**	**1.43**	**291**	IAML		20 18 53.0	
	comp=E,127nm,0.2s						
PB03	**IPOC Station P**	**1.61**	**325**	*e*P	**Pn**	**20 18 29.5**	**+0.1**
PB03	**IPOC Station P**	**1.61**	**325**	*e*P	**Pn**	**20 18 29.1**	**-0.2**
PB03				*i* S	**Sn**	**20 18 50.9**	**+0.3**
PB03				IAML		20 18 55.3	
	comp=E,277nm,0.5s						
PB09	**IPOC Station P**	**1.63**	**344**	*e*P	**Pn**	**20 18 30.1**	**+0.5**
PB09	**IPOC Station P**	**1.63**	**344**	↑*i*P	**Pn**	**20 18 30.1**	**+0.5**
PB09				*i* S	**Sn**	**20 18 52.9**	**+1.8**
PB09				IAML		20 18 54.9	
	comp=E,118nm,0.3s						
PB04	**IPOC Station P**	**1.65**	**308**	*e*P	**Pn**	**20 18 29.9**	**0.0**
PB04	**IPOC Station P**	**1.65**	**308**	*e*P	**Pn**	**20 18 28.7**	**-1.2**
PB04				*e*S	**Sn**	**20 18 50.8**	**-0.7**
PB04				IAML		20 18 58.9	
	comp=N,214nm,0.5s						
PB10	**IPOC Station P**	**1.66**	**265**	*e*P	**Pn**	**20 18 30.1**	**+0.3**
PB10	**IPOC Station P**	**1.66**	**265**	IAML		20 19 01.9	
	comp=N,88nm,0.1s						
GO02	**Mina Guanaco**	**1.94**	**203**	↑*i*P	**Pn**	**20 18 33.4**	**-0.2**
GO02				*i* S	**Sn**	**20 18 58.2**	**+0.1**
PB07	**IPOC Station P**	**1.95**	**327**	*e*P	**Pn**	**20 18 33.5**	**-0.1**
PB07	**IPOC Station P**	**1.95**	**327**	↑*i*P	**Pn**	**20 18 33.4**	**-0.1**
PB07				*i* S	**Sn**	**20 18 58.0**	**-0.1**
PB07				IAML		20 19 02.9	
	comp=E,149nm,0.2s						
PB14	**IPOC Station P**	**1.96**	**230**	*e*P	**Pn**	**20 18 33.7**	**-0.2**
PB02	**IPOC Station P**	**2.30**	**332**	*e*P	**Pn**	**20 18 37.6**	**-0.6**
PB02	**IPOC Station P**	**2.30**	**332**	↑*i*P	**Pn**	**20 18 37.7**	**-0.4**
PB02				*e*S	**Sn**	**20 19 06.3**	**0.0**
PB02				IAML		20 19 10.6	
	comp=N,186nm,0.2s						
PB01	**IPOC Station P**	**2.42**	**343**	↓*i*P	**Pn**	**20 18 39.3**	**-0.3**
PB01				IAML		20 19 14.1	
	comp=E,91nm,0.3s						
HJA	**Humahuaca**	**3.08**	**88**	*e*P	**Pn**	**20 18 48.8**	**+0.2**
HJA				IAML		20 18 49.0	
	comp=Z,8.9nm,0.3s						
YJA	**Yavi**	**3.22**	**69**	*e*P	**Pn**	**20 18 50.0**	**-0.5**

*IDC **21** 20:26:29.8±0.9, 58.08N×32.15W, h0km, mb3.7/14, mb1 3.9/17, mb1mx3.7/53, mbtmp3.8/17, ML3.7/3, MS3.4/24, Ms1 3.4/24, ms1mx3.2/49, Error ellipse: s-maj=27.7km s-min=13.8km az=6.0*

*ISCJB **21** 20:26:30.6±0.7, 58.2N±0.1×32.1W±0.1, h14km, mb3.6/14, MS3.3/19, Error ellipse: s-maj=14.5km s-min=8.9km az=178.0*
ISC 21 20:26:32.0±0.8, 58.1N±0.1×32.11W±0.08, h14km, n34, σ0.93/20, mb3.7/14, MS3.4/19, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**8.40**	**33**	Pn	**Pn**	**20 28 34.0**	**+0.9**
	0.9nm,0.3s,baz=178,slow=7.8,SNR=9.3						
BORG				Sn	**Sn**	**20 30 05.8**	**-1.7**
	0.2nm,0.3s,baz=2.6,slow=18,SNR=11.8						
BORG				LR	LR	20 31 03.3	
	comp=Z,282nm,21.3s,baz=268,slow=32						
SFJD	**Kangerlussuaq**	**12.26**	**324**	LR	LR	20 33 25.2	
	comp=Z,229nm,20.6s,baz=126,slow=34						
EKA	**Eskdalemuir Ar**	**16.07**	**88**	Pn	**Pn**	**20 30 17.1**	**-0.3**
	baz=302,slow=11,SNR=3.9						
JMIC	**Jan Mayen**	**16.22**	**28**	LR	LR	20 35 02.4	
	comp=Z,58nm,21.9s,baz=46,slow=32						
FRB	**Frobisher Bay**	**18.37**	**303**	P	**Pn**	**20 30 46.1**	**+0.2**
	0.3nm,0.3s,baz=80,slow=8.1,SNR=3.0						
FRB				LR	LR	20 36 54.7	
	comp=Z,249nm,18.3s,baz=93,slow=34						
SCHQ	**Schefferville**	**19.32**	**275**	LR	LR	20 37 13.6	
	comp=Z,174nm,18.5s,baz=352,slow=33						
NOA	**NORSAR Array B**	**21.82**	**64**	P	**P**	**20 31 22.8**	**-0.8**
	0.8nm,0.8s,baz=269,slow=12,SNR=3.3						
NOA				LR	LR	20 38 43.5	
	comp=Z,55nm,18.7s,baz=275,slow=34						
HFS	**Hagfors**	**23.23**	**66**	P	**P**	**20 31 39.2**	**+0.9**
	4.1nm,1.0s,baz=246,slow=7.2,SNR=2.4						
HFS				LR	LR	20 39 16.4	
	comp=Z,56nm,20.7s,baz=254,slow=33						
ESDC	**Sonseca Array**	**25.84**	**123**	LR	LR	20 40 23.3	
	comp=Z,43nm,21.1s,baz=335,slow=32						
ARCES	**ARCESS Array B**	**26.69**	**41**	P	**P**	**20 32 09.8**	**-0.4**
	5.6nm,1.0s,baz=277,slow=9.9,SNR=2.9						
DAVOX	**Davos/Dischmat**	**27.53**	**96**	LR	LR	20 42 31.3	
	comp=Z,115nm,19.8s,baz=261,slow=35						
RES	**Resolute Bay**	**28.15**	**330**	LR	LR	20 43 17.0	
	comp=Z,61nm,18.5s,baz=21,slow=36						
GERES	**GERESS Array B**	**28.28**	**89**	LR	LR	20 43 39.3	
	comp=Z,82nm,18.1s,baz=288,slow=36						
FINES	**FINESS Array B**	**28.62**	**58**	P	**P**	**20 32 27.6**	**+0.1**
	1.5nm,0.7s,baz=284,slow=5.6,SNR=3.4						
FINES				LR	LR	20 43 09.6	
	comp=Z,50nm,19.0s,baz=302,slow=35						
VRAC	**Vranov**	**29.54**	**86**	LR	LR	20 43 40.6	
	comp=Z,84nm,20.6s,baz=293,slow=35						
MDT	**Midelt**	**31.41**	**132**	LR	LR	20 44 24.1	
	comp=Z,50nm,18.7s,baz=322,slow=34						
SADO	**Sadowa**	**31.51**	**266**	LR	LR	20 44 11.9	
	comp=Z,128nm,19.9s,baz=266,slow=34						
KEST	**Kea**	**35.28**	**111**	LR	LR	20 46 24.1	
	comp=Z,78nm,19.8s,baz=246,slow=34						
AKASG	**Malin Array Be**	**35.31**	**75**	P	**P**	**20 33 25.7**	**-0.6**
	0.3nm,0.3s,baz=309,slow=7.9,SNR=4.0						
ULM	**Lac du Bonnet**	**36.82**	**286**	P	**P**	**20 33 38.2**	**-0.9**
	0.5nm,0.5s,baz=61,slow=10,SNR=2.5						
ULM				LR	LR	20 47 14.5	
	comp=Z,80nm,19.9s,baz=334,slow=34						
YKA	**Yellowknife Ar**	**38.47**	**312**	P	**P**	**20 33 53.3**	**+0.4**
	0.6nm,0.8s,baz=59,slow=9.0,SNR=5.1						
YKA				PcP	**PcP**	**20 36 07.0**	**+1.4**
	0.1nm,0.4s,baz=40,slow=3.2,SNR=3.4						
YKA				LR	LR	20 48 58.0	
	comp=Z,11nm,19.3s,baz=58,slow=35						
INK	**Inuvik**	**41.59**	**327**	P	**P**	**20 34 18.3**	**-0.5**
	1.0nm,0.8s,baz=63,slow=4.5,SNR=2.3						
BRTR	**Keskin Array B**	**44.96**	**84**	P	**P**	**20 34 47.8**	**+1.3**
	1.0nm,0.9s,baz=306,slow=10,SNR=3.9						
BRTR				LR	LR	20 54 21.6	
	comp=Z,35nm,20.0s,baz=276,slow=37						
ILAR	**Eielson Array**	**47.88**	**328**	P	**P**	**20 35 09.8**	**+0.9**
	0.7nm,0.8s,baz=20,slow=6.9,SNR=5.8						
ILAR				LR	LR	20 54 00.4	
	comp=Z,52nm,21.0s,baz=60,slow=34						
PDAR	**Pinedale Array**	**48.82**	**287**	P	**P**	**20 35 16.4**	**-0.3**
	0.4nm,0.7s,baz=60,slow=5.3,SNR=3.5						
PDAR				LR	LR	20 53 42.6	
	comp=Z,66nm,20.3s,baz=40,slow=33						
TORD	**Torodi Ar. Bea**	**51.61**	**136**	P	**P**	**20 35 37.1**	**-0.8**
	0.5nm,0.6s,baz=334,slow=9.5,SNR=6.5						
DBIC	**Dimbokro**	**55.51**	**146**	LR	LR	20 57 20.4	
	comp=Z,48nm,19.0s,baz=325,slow=33						
NVAR	**Mina Array Bea**	**56.47**	**290**	LR	LR	20 59 49.2	
	comp=Z,46nm,19.4s,baz=352,slow=36						
MKAR	**Makanchi Array**	**62.27**	**45**	P	**P**	**20 36 53.8**	**+0.7**
	0.7nm,0.8s,baz=341,slow=5.0,SNR=7.2						
H10S1	**ASCENSION NYDH**	**68.34**	**161**	T	T	21 51 29.1	
	baz=351,slow=75,SNR=12						
H10S3	**ASCENSION NYDH**	**68.35**	**161**	T	T	21 51 29.7	
	baz=351,slow=75,SNR=10						
H10S2	**ASCENSION NYDH**	**68.36**	**161**	T	T	21 51 32.0	
	baz=351,slow=75,SNR=14						
SONM	**Songino Array**	**68.98**	**29**	P	**P**	**20 37 36.7**	**+0.2**
	0.6nm,0.9s,baz=318,slow=6.2,SNR=4.4						
SONM				LR	LR	21 09 17.9	
	comp=Z,23nm,18.0s,baz=266,slow=37						
ASAR	**Alice Springs**	**144.13**	**22**	PKP	**PKPdf**	**20 46 05.7**	**-1.3**
	0.3nm,0.7s,baz=333,slow=1.0,SNR=3.1						

IDC 21 20:28:11.5±9.2, 3.35S×152.05E, h77km±66km, mb3.6/3, mb1 3.8/4, mb1mx3.2/41, mbtmp3.9/4, ML2.2/1, Error ellipse: s-maj=114.1km s-min=57.8km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.74**	**219**	P	Pn	20 30 02.2	+0.7
	1.8nm,0.3s,baz=37,slow=10,SNR=2.6						
PMG				S	Sn	20 31 27.8	+0.1
	0.8nm,0.3s,baz=273,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**23.89**	**225**	P	P	20 33 16.8	-1.5
	1.3nm,0.4s,baz=51,slow=9.7,SNR=32						
ASAR	**Alice Springs**	**26.75**	**219**	P	P	20 33 45.3	+1.1
	0.4nm,0.3s,baz=49,slow=8.5,SNR=15						
FITZ	**Fitzroy Crossi**	**29.73**	**239**	P	P	20 34 11.5	+0.7
	1.1nm,0.7s,baz=66,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**149.13**	**290**	PKPbc	PKPbc	20 47 51.4	-0.8
	0.2nm,0.3s,baz=51,slow=2.2,SNR=6.0						

IDC 21 20:53:32.3±3.1, 9.75S×154.14E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/38, mbtmp3.8/5, MS3.2/7, Ms1 3.2/7, ms1mx3.0/33, Error ellipse: s-maj=78.3km s-min=31.2km az=100.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.74**	**87**	LR	LR	20 56 47.0	
	comp=Z,139nm,19.0s,baz=250,slow=34						
WRA	**Warramunga Arr**	**21.63**	**240**	P	P	20 58 25.3	+0.9
	1.4nm,0.8s,baz=64,slow=10.0,SNR=8.3						
ASAR	**Alice Springs**	**23.77**	**232**	P	P	20 58 46.3	-0.4
	1.1nm,0.9s,baz=64,slow=10,SNR=8.7						
STKA	**Stephens Creek**	**24.90**	**206**	P	P	20 58 56.3	-0.7
	4.1nm,1.1s,baz=27,slow=9.0,SNR=4.5						
STKA				LR	LR	21 09 03.0	
	comp=Z,51nm,18.8s,baz=25,slow=37						
GUMO	**Guam**	**24.95**	**338**	LR	LR	21 07 24.4	
	comp=Z,18nm,18.7s,baz=130,slow=33						
RPZ	**Rata Peaks**	**36.90**	**159**	LR	LR	21 14 54.0	
	comp=Z,126nm,18.1s,baz=340,slow=35						
MJAR	**Matsushiro Arr**	**48.43**	**343**	LR	LR	21 19 43.5	
	comp=Z,19nm,21.6s,baz=100,slow=32						
KSRS	**Korea Array**	**53.00**	**58**	LR	LR	21 22 55.0	
	comp=Z,23nm,21.1s,baz=236,slow=33						
CMAR	**Chiang Mai Arr**	**61.24**	**297**	P	P	21 03 49.4	-0.3
	0.9nm,0.3s,baz=117,slow=5.2,SNR=4.8						
MKAR	**Makanchi Array**	**84.91**	**319**	P	P	21 06 09.7	+0.4
	0.6nm,1.0s,baz=116,slow=5.0,SNR=3.7						
ILAR	**Eielson Array**	**86.23**	**22**	LR	LR	21 37 57.2	
	comp=Z,31nm,20.8s,baz=199,slow=31						

IDC 21 20:54:36.1±9.9, 7.06S×130.00E, h132km±101km, mb3.4/1, mb1 3.0/4, mb1mx2.9/41, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=109.1km s-min=32.4km az=45.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.00**	**243**	P	Pn	20 56 16.7	+0.5
	2.6nm,0.3s,baz=130,slow=3.1,SNR=5.4						
BATI				S	Sn	20 57 32.6	-1.8
	2.4nm,0.3s,baz=270,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**13.48**	**162**	P	Pn	20 57 40.5	-1.7
	0.1nm,0.3s,baz=340,slow=13,SNR=15						
WRA				S	Sn	21 00 03.7	-7.3
	0.5nm,0.3s,baz=343,slow=23,SNR=11						
ASAR	**Alice Springs**	**16.93**	**168**	P	Pn	20 58 26.4	+1.2
	0.1nm,0.3s,baz=348,slow=12,SNR=3.6						
ASAR				S	Sn	21 01 24.9	-9.2
	0.1nm,0.3s,baz=2.5,slow=31,SNR=2.1						
MKAR	**Makanchi Array**	**68.28**	**327**	P	P	21 05 22.8	-0.1
	0.6nm,0.6s,baz=122,slow=7.0,SNR=7.6						

*IDC **21** 21:02:26.6±2.1, 1.65N×126.86E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.3/3, Error ellipse: s-maj=183.1km s-min=24.9km az=66.0*
*ISCJB **21** 21:02:41.2±1.3, 1.8N±0.1×127.45E±0.09, h150km, mb3.0/3, Error ellipse: s-maj=18.2km s-min=11.9km az=16.8*
*DJA **21** 21:02:46.2±1.0, 1.7N±7×127.7E±°, h145km±6km, M3.9/7, mb4.0/1, mB4.4/1, MLv3.9/7, Mw(mB)3.5/1*
ISC 21 21:02:43.1±1.5, 1.6N±0.1×127.4E±0.1, h150km, n8, σ1.29/10, mb3.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.86**	**184**	P	**Pn**	**21 03 08.3**	**+1.5**
TNTI				S	**Sn**	**21 03 26.3**	**+1.4**
KMSI	**Cibinong**	**3.60**	**253**	P	**Pn**	**21 03 39.4**	**+1.2**
KMSI				S	**Sn**	**21 04 20.8**	**-0.1**
SANI	**Sanana**	**3.93**	**201**	P	**Pn**	**21 03 41.6**	**-1.0**
NLAI	**Namlea**	**4.86**	**184**	P	**Pn**	**21 03 54.6**	**-0.1**
APSI	**Ampana**	**6.30**	**246**	P	**Pn**	**21 04 14.3**	**+0.4**
WRA	**Warramunga Arr**	**22.50**	**163**	P	**P**	**21 07 29.1**	**-1.3**
	0.2nm,0.3s,baz=340,slow=12,SNR=11						
ASAR	**Alice Springs**	**25.93**	**166**	P	**P**	**21 08 03.0**	**+1.3**
	0.1nm,0.5s,baz=344,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**59.66**	**326**	P	**P**	**21 12 30.3**	**-1.3**
	0.2nm,0.3s,baz=117,slow=6.8,SNR=7.8						

*ISCJB **21** 21:04:03.5±0.7, 67.54N±0.08×142.9E±0.1, h10km, mb3.5/5, Error ellipse: s-maj=11.3km s-min=7.3km az=164.5*
*IDC **21** 21:04:03.3±1.2, 67.47N×142.87E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.4/50, mbtmp3.5/7, ML2.8/1, Error ellipse: s-maj=28.2km s-min=16.8km az=29.0*
*YARS **21** 21:04:05.2±0.1, 67.62N±0.005×142.88E±0.01, h11km*
ISC 21 21:04:04.4±0.7, 67.50N±0.05×143.06E±0.04, h10km, n10, σ2.35/17, mb3.4/5, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.04**	**177**	*e*P	**Pn**	**21 04 26.0**	**+1.1**
MOMR				Pmax		21 04 26.0	
	comp=Z,100nm,0.3s						
MOMR				*e*S	**Sn**	**21 04 41.2**	**+1.8**
MOMR				Smax		21 04 41.2	
	comp=N,924nm,0.6s						
YBGR	**Belaya Gora**	**1.57**	**47**	*e*P	**Pn**	**21 04 32.8**	**+0.6**
YBGR				Pmax		21 04 32.8	
	comp=Z,72nm,0.3s						
YBGR				*e*S	**Sn**	**21 04 53.1**	**+0.5**
YBGR				Smax		21 04 53.1	
	comp=N,876nm,0.3s						
BTGS	**Batagay**	**3.23**	**277**	*e*P	**Pn**	**21 04 55.2**	**+0.1**
BTGS				*e*P	**Pb**	**21 05 01.7**	**-0.1**
BTGS				Pmax		21 05 01.7	
	comp=Z,52nm,0.8s						
BTGS				*e*S	**Sn**	**21 05 31.8**	**-1.8**
BTGS				*e*S	**Sb**	**21 05 42.7**	**+1.6**
BTGS				Smax		21 05 42.7	
	comp=N,351nm,0.7s						
SEY	**Seymchan**	**6.02**	**135**	Pn	**Pn**	**21 05 32.9**	**-0.5**
	comp=N,0.2nm,0.3s,baz=322,slow=19,SNR=5.0						
SEY				Pg	Pb	21 05 43.2	-6.1
	comp=N,0.4nm,0.3s,baz=322,slow=17,SNR=7.3						
SEY				Sn	**Sn**	**21 06 35.4**	**-6.9**
	comp=N,0.4nm,0.3s,baz=338,slow=13,SNR=4.8						
SEY				Lg	Lg	21 07 15.1	
	comp=N,0.2nm,0.3s,baz=9.5,slow=23,SNR=2.0						
TIXI	**Tiksi**	**6.47**	**316**	Pn	**Pn**	**21 05 40.1**	**+0.5**
	comp=N,1.5nm,0.3s,baz=124,slow=7.3,SNR=51						
TIXI				Sn	**Sn**	**21 06 49.9**	**-3.4**
	comp=N,2.2nm,0.3s,baz=342,slow=14,SNR=2.9						
TIXI				Lg	Lg	21 07 18.5	
	comp=N,1.7nm,0.3s,baz=42,slow=16,SNR=7.1						
ILAR	**Eielson Array**	**27.11**	**62**	P	**P**	**21 09 48.0**	**+1.2**
	comp=N,1.0nm,0.8s,baz=294,slow=7.2,SNR=12						
MKAR	**Makanchi Array**	**36.90**	**267**	P	**P**	**21 11 13.1**	**+0.4**
	comp=N,0.4nm,0.5s,baz=41,slow=7.9,SNR=6.7						
YKA	**Yellowknife Ar**	**38.81**	**46**	P	**P**	**21 11 30.1**	**+1.5**
	comp=N,0.3nm,0.6s,baz=322,slow=8.1,SNR=8.9						
FINES	**FINESS Array B**	**43.49**	**322**	P	**P**	**21 12 06.0**	**-1.2**
	comp=N,2.4nm,1.0s,baz=46,slow=9.9,SNR=3.2						
PDAR	**Pinedale Array**	**57.33**	**57**	P	**P**	**21 13 53.5**	**+1.2**
	comp=N,0.2nm,0.5s,baz=347,slow=3.7,SNR=2.7						

MEX 21 21:22:59.0±0.7, 18.17N×100.70W, h42km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.35**	**72**	*e*P	Pn	21 23 06.0	-2.0
ARIG				*e*S	Sn	21 23 12.7	-1.6
ZIIG	**

WRA				PcP	PcP	22 08 45.1	0.0	
	0.3nm,0.7s,baz=94,slow=3.5,SNR=3.1							
WRA				LR	LR	22 17 12.7		
	comp=Z,173nm,21.5s,baz=120,slow=34							
RAR	**Rarotonga**	**31.28**	**102**	LR	LR	22 15 46.5		
	comp=Z,104nm,19.8s,baz=308,slow=31							
AS01	**Alice Springs**	**31.60**	**254**	*e*P	**P**	**22 05 53.9**	**-0.1**	
ASAR	**Alice Springs**	**31.65**	**254**	P	**P**	**22 05 54.2**	**-0.1**	
	7.1nm,0.7s,baz=78,slow=8.9,SNR=51							
ASAR				PcP	**PcP**	**22 08 46.7**	**+0.3**	
	0.6nm,0.7s,baz=103,slow=2.9,SNR=4.3							
ASAR				LR	LR	22 17 56.4		
	comp=Z,233nm,19.9s,baz=94,slow=35							
FAKI	**Fak Fak**	**37.32**	**289**	*e*P	**P**	**22 06 42.4**	**-1.1**	
	11nm,0.7s							
FORT	**Forrest**	**37.77**	**243**	*e*P	**P**	**22 06 47.4**	**+0.2**	
	33nm,1.1s							
GUMO	**Guam**	**38.18**	**323**	LR	LR	22 21 08.1		
	comp=Z,64nm,19.4s,baz=114,slow=34							
SIJI	**Sorong**	**39.12**	**292**	P	**P**	**22 06 58.5**	**-0.1**	
	8.5nm,0.9s,baz=129,slow=12,SNR=4.1							
FITZ	**Fitzroy Crossi**	**39.49**	**263**	*e*P	**P**	**22 07 01.9**	**+0.2**	
	9.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**39.49**	**263**	LR	LR	22 22 40.2		
	comp=Z,177nm,19.9s,baz=92,slow=35							
TBI	**Tubuai**	**40.83**	**105**	*e*LR	LR	22 18 59.8		
	comp=Z,234nm,28.5s							
PPT2	**Papeete2**	**41.10**	**97**	*e*LR	LR	22 19 15.8		
	comp=Z,326nm,27.5s							
PPT	**Papeete**	**41.11**	**97**	LR	LR	22 20 33.5		
	comp=Z,135nm,20.4s,baz=227,slow=31							
TGY	**Tagaytay City**	**55.56**	**302**	LR	LR	22 31 24.4		
	comp=Z,59nm,20.1s,baz=193,slow=34							
VNDA	**Vanda**	**59.82**	**181**	P	**P**	**22 09 36.6**	**+0.8**	
	0.5nm,0.8s,baz=14,slow=6.1,SNR=2.6							
MJAR	**Matsushiro Arr**	**60.59**	**333**	P	**P**	**22 09 41.1**	**-0.4**	
	0.7nm,0.3s,baz=186,slow=7.9,SNR=3.8							
MAJO	**Matsushiro**	**60.59**	**333**	*e*P	**P**	**22 09 41.1**	**-0.4**	
KSRS	**Korea Array**	**66.23**	**327**	P	**P**	**22 10 18.8**	**0.0**	
	1.3nm,0.6s,baz=132,slow=4.8,SNR=4.2							
KSAR	**Wonju Array Be**	**66.25**	**327**	P	**P**	**22 10 18.8**	**-0.1**	
KS01	**Wonju Array Si**	**66.27**	**327**	*e*P	**P**	**22 10 19.1**	**0.0**	
GSI	**Gunungsitoli**	**71.06**	**278**	*e*P	**P**	**22 10 48.2**	**-1.3**	
	43nm,1.3s							
GSTR	**Great Sitkin T**	**71.10**	**11**	*e*P	**P**	**22 10 48.5**	**-0.4**	
QSPA	**South Pole Qui**	**72.26**	**180**	*e*P	**P**	**22 10 57.6**	**+1.6**	
	7.7nm,1.0s							
PBKT	**Sadao Pong**	**73.61**	**294**	P	**P**	**22 11 06.7**	**+2.0**	
CM01	**Chiang Mai Arr**	**76.12**	**295**	*e*P	**P**	**22 11 20.3**	**+1.1**	
CM31	**Chiang Mai Arr**	**76.15**	**295**	*e*P	**P**	**22 11 21.2**	**+1.8**	
	6.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**76.15**	**295**	P	**P**	**22 11 21.2**	**+1.8**	
	3.6nm,0.9s,baz=128,slow=4.4,SNR=27							
CMMT	**Chiang Mai**	**76.29**	**295**	P	**P**	**22 11 22.1**	**+1.9**	
CHTO	**Chiang Mai**	**76.30**	**295**	*e*P	**P**	**22 11 20.8**	**+0.6**	
	5.7nm,1.0s							
SDPT	**Sand Point**	**77.84**	**18**	*e*P	**P**	**22 11 27.7**	**-0.3**	
	66nm,1.0s							
SONA0	**Songino Array**	**84.91**	**324**	*e*P	**P**	**22 12 06.3**	**+0.3**	
SONM	**Songino Array**	**84.91**	**324**	P	**P**	**22 12 06.3**	**+0.3**	
	1.3nm,0.7s,baz=149,slow=5.3,SNR=11							
IM3	**Indian Mountai**	**88.52**	**15**	*e*P	**P**	**22 12 23.2**	**+0.3**	
NV01	**Mina Array Sit**	**89.30**	**49**	*e*P	**P**	**22 12 27.4**	**-0.2**	
NVAR	**Mina Array Bea**	**89.30**	**49**	P	**P**	**22 12 27.4**	**-0.2**	
	1.0nm,0.8s,baz=223,slow=7.4,SNR=3.2							
ILAR	**Eielson Array**	**89.44**	**18**	P	**P**	**22 12 26.0**	**-1.3**	
	1.5nm,0.6s,baz=238,slow=5.0,SNR=28							
ILB	**Eielson Array**	**89.44**	**18**	*e*P	**P**	**22 12 26.2**	**-1.1**	
	22nm,2.0s							
IL1	**Eielson Array**	**89.44**	**18**	*e*P	**P**	**22 12 26.4**	**-0.9**	
JIS	**Juneau Island**	**89.66**	**27**	*e*P	**P**	**22 12 28.9**	**+0.5**	
	61nm,1.5s							
MK32	**Makanchi Array**	**99.36**	**316**	*e*P	**Pdif**	**22 13 13.1**	**-0.1**	
MKAR	**Makanchi Array**	**99.36**	**316**	P	**Pdif**	**22 13 13.1**	**-0.1**	
	0.3nm,0.6s,baz=96,slow=6.3,SNR=4.3							
YKA	**Yellowknife Ar**	**100.27**	**28**	P	**Pdif**	**22 13 15.8**	**-1.0**	
	1.3nm,1.3s,baz=257,slow=5.6,SNR=3.5							
SSPA	**Standing Stone**	**120.15**	**53**	*e*Pdif	**Pdif**	**22 14 44.9**	**-0.9**	
ARA0	**ARCESS Array S**	**123.18**	**345**	*e*PKPdf	**PKPdf**	**22 18 26.3**	**-0.6**	
ARCES	**ARCESS Array B**	**123.18**	**345**	PKP	**PKPdf**	**22 18 26.3**	**-0.6**	
	2.5nm,0.8s,baz=63,slow=1.8,SNR=8.8							
FIA0	**FINESS Array S**	**128.52**	**337**	*e*PKPdf	**PKiKP**	**22 18 37.6**	**-0.3**	
FINES	**FINESS Array B**	**128.52**	**337**	PKP	**PKiKP**	**22 18 37.6**	**-0.3**	
	1.5nm,1.0s,baz=242,slow=4.1,SNR=3.4							
NB200	**NORSAR Array S**	**133.54**	**344**	*e*PKPdf	**PKiKP**	**22 18 47.8**	**-0.4**	
NOA	**NORSAR Array B**	**133.54**	**344**	PKP	**PKiKP**	**22 18 47.8**	**-0.4**	
	0.6nm,0.9s,baz=51,slow=1.7,SNR=3.2							
ABTA	**Abfaltersbach**	**144.37**	**330**	*i* PKPdf	PKPbc	22 19 06.0	+0.4	
	1.6nm,0.5s							
MOTA	**Moosalm**	**144.59**	**332**	*i* PKPdf	**PKPdf**	**22 19 07.7**	**0.0**	
	1.3nm,0.6s							
SQTA	**Sankt Quirin**	**144.63**	**331**	*i* PKPdf	**PKPdf**	**22 19 07.7**	**0.0**	
	2.7nm,0.6s							
RETA	**Reutte**	**144.63**	**332**	*i* PKPdf	**PKPdf**	**22 19 07.5**	**-0.1**	
	1.2nm,0.5s							
FETA	**Feichten**	**145.00**	**332**	*i* PKPdf	**PKPdf**	**22 19 08.9**	**+0.5**	
	5.8nm,0.7s,SNR=8.4							
DAVA	**Damuels**	**145.18**	**333**	*e*PKPdf	**PKPdf**	**22 19 09.5**	**+0.8**	
	4.8nm,0.5s,SNR=4.8							
ESDC	**Sonseca Array**	**156.88**	**342**	PKPab	**PKPab**	**22 19 56.8**	**+0.4**	
	0.5nm,0.6s,baz=24,slow=2.5,SNR=3.0							
TORD	**Torodi Ar. Bea**	**165.30**	**254**	PKP	**PKPdf**	**22 19 36.1**	**-0.1**	
	1.3nm,0.9s,baz=358,slow=2.2,SNR=5.6							
TORD				PKPab	**PKPab**	**22 20 33.2**	**-0.7**	
	1.3nm,1.1s,baz=86,slow=2.0,SNR=3.0							
TOA1	**Torodi Ar. Sit**	**165.30**	**254**	*e*PKPdf	**PKPdf**	**22 19 36.1**	**-0.1**	
TOA1				*e*PKPab	**PKPab**	**22 20 33.2**	**-0.7**	

*IDC **21** 22:09:20.4±1.3, 0.°65S×123.°56E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/37, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=55.0km s-min=21.5km az=60.0*
*DJA **21** 22:09:25.7±0.3, 1°S±2°×12°4E±°, h10km, M4.3/15, mb4.5/5, mB4.7/4, MLv4.3/15, Mw(mB)3.9/4*
*ISCJB **21** 22:09:27.0±0.5, 0.°85S±0.°05×123.°91E±0.°04, h35km, mb3.4/4, Error ellipse: s-maj=6.7km s-min=5.2km az=168.6*

IDC 21 22:09:27.3±0.9, 0.°75S±0.°05×123.°87E±0.°05, h35km, n18, σ2s11/22, mb3.4/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.14**	**255**	P	**Pn**	**22 09 46.9**	**+0.2**
LUWI				S	**Sn**	**22 10 02.2**	**+1.1**
KMSI	**Cibinong**	**1.32**	**5**	P	**Pn**	**22 09 50.2**	**+1.0**
KMSI				S	**Sn**	**22 10 08.8**	**+3.2**
APSI	**Ampana**	**2.23**	**266**	P	**Pn**	**22 10 03.1**	**+1.4**
APSI				S	**Sn**	**22 10 32.3**	**+4.2**
MRSI	**Marisa**	**2.28**	**302**	P	**Pn**	**22 10 02.6**	**+0.1**
SANI	**Sanana**	**2.48**	**121**	P	**Pn**	**22 10 04.6**	**-0.6**
KDI	**Kendari**	**3.43**	**201**	P	**Pn**	**22 10 18.5**	**+0.3**
MPSI	**Mapaga**	**4.12**	**285**	P	**Pn**	**22 10 29.4**	**+1.7**
TTSI	**Tana Toraja**	**4.65**	**241**	P	**Pn**	**22 10 36.3**	**+1.2**
BBSI	**Bau Bau**	**4.88**	**195**	P	**Pn**	**22 10 38.3**	**0.0**
SPSI	**Sidrap Palu**	**5.20**	**232**	P	**Pn**	**22 10 43.5**	**+0.9**
BNSI	**Bone**	**5.23**	**226**	P	**Pn**	**22 10 43.9**	**+0.9**
	30nm,0.5s,682nm						
BKSI	**Bulukumba**	**5.89**	**219**	P	**Pn**	**22 10 53.7**	**+1.6**
BSSI	**Bau Bau, Buton**	**6.33**	**212**	P	**Pn**	**22 10 59.9**	**+1.7**
SIJI	**Sorong**	**7.39**	**91**	Pn	**Pn**	**22 11 14.1**	**+1.2**
	2.3nm,0.3s,baz=320,slow=16,SNR=5.6						
SIJI				Sn	**Sn**	**22 12 39.8**	**+4.3**
	0.8nm,0.3s,baz=272,slow=16,SNR=2.1						
WRA	**Warramunga Arr**	**21.65**	**152**	P	**P**	**22 14 14.8**	**-0.1**
	1.4nm,0.8s,baz=325,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**24.77**	**158**	P	**P**	**22 14 46.4**	**+0.4**
	0.4nm,0.5s,baz=336,slow=8.1,SNR=5.1						
SONM	**Songino Array**	**50.73**	**345**	P	**P**	**22 18 20.5**	**-3.2**
	0.3nm,0.7s,baz=165,slow=6.0,SNR=3.3						
MKAR	**Makanchi Array**	**59.70**	**328**	P	**P**	**22 19 25.3**	**-3.1**
	0.3nm,0.5s,baz=122,slow=8.6,SNR=5.4						

KRSC 21 22:09:57.6±10.0, 52.°78N×160.°24E, h40km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.34**	**338**	*e*P	Pn	22 10 06.9	+0.5
SPN				*e*S	Sn	22 10 13.1	+0.6
NLC	**Nalytchevo**	**0.67**	**306**	*e*P	Pn	22 10 11.3	+0.7
NLC				*e*S	Sn	22 10 20.5	+0.6
DALK	**Dalny**	**0.94**	**286**	*e*P	Pn	22 10 15.2	+1.0
DALK				*e*S	Sn	22 10 27.1	+0.7
UGLR	**Uglovaya**	**0.96**	**297**	P	Pn	22 10 16.0	+1.4
UGLR				*e*S	Sn	22 10 29.5	+2.4
SDLR	**Sedlovina**	**0.96**	**302**	*e*P	Pn	22 10 16.0	+1.3
SDLR				*e*S	Sn	22 10 28.3	+1.1
PET	**Petropavlovsk**	**0.99**	**285**	*e*P	Pn	22 10 16.3	+1.3
PET				*e*S	Sn	22 10 28.9	+1.1
SMAR	**Somma**	**0.99**	**300**	P	Pn	22 10 16.6	+1.4
AVH	**Avacha**	**1.03**	**299**	*e*P	Pn	22 10 17.4	+1.8
AVH				*e*S	Sn	22 10 31.6	+2.8
KRER	**Koryakskii**	**1.04**	**301**	*e*P	Pn	22 10 17.5	+1.6
KRER				*e*S	Sn	22 10 31.6	+2.3
KOK	**Koryaka**	**1.10**	**299**	*e*P	Pn	22 10 18.1	+1.6
RUS	**Russkaya**	**1.11**	**252**	S	Sn	22 10 31.1	+0.5
KRX	**Arik**	**1.12**	**302**	*e*P	Pn	22 10 18.3	+1.4
KRMR	**Karymshinskiy**	**1.28**	**273**	*e*P	Pn	22 10 20.0	+1.1
KRMR				*e*S	Sn	22 10 35.4	+0.5
MTVR	**Mutnovka**	**1.29**	**258**	*e*P	Pn	22 10 20.6	+1.4
MTVR				*e*S	Sn	22 10 36.3	+1.0
ASAK	**Asacha**	**1.48**	**255**	*e*P	Pn	22 10 23.5	+1.7
ASAK				*e*S	Sn	22 10 42.6	+2.6
KDTR	**Khodutka, Kamc**	**1.65**	**235**	*e*S	Sn	22 10 45.3	+1.5
APC	**Apacha**	**1.87**	**276**	*e*P	Pn	22 10 29.9	+2.8
APC				*e*S	Sn	22 10 53.0	+3.5
MKZ	**Mys Kozlova**	**1.99**	**26**	S	Sn	22 10 53.2	+0.9
KZV	**Kizimen**	**2.34**	**1**	*e*P	Pn	22 10 36.8	+3.2
KZV				*e*S	Sn	22 11 04.7	+3.5
TUMD	**Tumrok D**	**2.43**	**2**	S	Sn	22 11 04.1	+0.8
PAU	**Pauzhetka**	**2.49**	**239**	*e*P	Pn	22 10 38.8	+3.3
TUMR	**Tumrok**	**2.51**	**359**	*e*P	Pn	22 10 38.8	+2.9
SMKR	**Semkarok**	**3.88**	**10**	P	Pn	22 10 59.7	+5.0

*NIED **21** 22:20:00, 37.°60N×141.°60E, h59km, Mw4.1 Best double couple: M0 1.52000×10^15 NP1:φs176.00000°, δ43.00000°, λ73.00000°. NP2:φs18.00000°, δ49.00000°, λ105.00000°.*
*ISCJB **21** 22:20:35.0±0.5, 37.°61N±0.°03×141.°74E±0.°04, h51km±4km, mb4.2/32, MS3.5/1, Error ellipse: s-maj=6.3km s-min=3.9km az=25.8*
*MOS **21** 22:20:35.9±1.0, 37.°68N×141.°69E, h60km, mb4.9/5, Error ellipse: s-maj=10.7km s-min=7.3km az=80.7*
*JMA **21** 22:20:36.4±1.5, 37.°63N×141.°61E, h47km±15km, mb3.8/22, mb1 4.1/27, mb1mx3.9/57, mbtmp4.1/27, ML3.6/5, MS3.0/3, Ms1 3.1/3, ms1mx2.6/51, Error ellipse: s-maj=16.0km s-min=10.6km az=104.0*
*NEIC **21** 22:20:37.2±0.6, 37.°65N×141.°67E, h54km±5km, mb4.6/14, Error ellipse: s-maj=6.9km s-min=5.2km az=123.0*
JMA Felt II J1.
NEIC Recorded [2 JMA] in Miyagi.

ISC 21 22:20:35.4±0.9, 37.°59N±0.°04×141.°81E±0.°05, h41km±9km, n101, σ1s63/116, mb4.4/35, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.77**	**254**	P	**Pn**	**22 20 49.6**	**-0.3**
JFK				*e*S	**Sn**	**22 20 58.9**	**-1.4**
JIKH	**Ishinomakikobu**	**0.77**	**340**	P	**Pn**	**22 20 50.1**	**+0.3**
JIKH				*e*S	**Sn**	**22 20 59.5**	**-0.8**
JMM	**Marumori**	**0.85**	**290**	P	**Pn**	**22 20 50.2**	**-0.7**
JMM				S	**Sn**	**22 20 59.9**	**-2.3**
ONAJ	**Iwakimizuishiy**	**0.94**	**239**	P	**Pn**	**22 20 52.1**	**0.0**
ONAJ				S	**Sn**	**22 21 03.0**	**-1.4**
JIO	**Ouri**	**0.94**	**338**	P	**Pn**	**22 20 52.3**	**+0.2**
JIO				S	**Sn**	**22 21 03.2**	**-1.2**
JFT	**Otama**	**1.17**	**267**	P	**Pn**	**22 20 55.4**	**+0.1**
JFT				S	**Sn**	**22 21 08.9**	**-1.1**
JOU	**Okura**	**1.19**	**311**	P	**Pn**	**22 20 55.0**	**-0.6**
JOU				*e*S	**Sn**	**22 21 08.5**	**-2.1**
JMK	**Ichinoseki**	**1.44**	**342**	P	**Pn**	**22 20 59.4**	**+0.4**
JMK				*e*S	**Sn**	**22 21 16.1**	**-0.6**
JYS	**Shirataka**	**1.52**	**295**	P	**Pn**	**22 20 59.5**	**-0.5**
JYS				*e*S	**Sn**	**22 21 16.2**	**-2.4**
JFY	**Yanaizu**	**1.68**	**265**	P	**Pn**	**22 21 02.2**	**-0.1**
JFY				*e*S	**Sn**	**22 21 21.2**	**-1.4**
JYK	**Kaneyama**	**1.75**	**320**	P	**Pn**	**22 21 03.2**	**-0.1**
JYA	**Atsumi**	**1.93**	**302**	P	**Pn**	**22 21 05.7**	**0.0**
JYA				*e*S	**Sn**	**22 21 28.0**	**-0.8**
MJAR	**Matsushiro Arr**	**3.06**	**251**	P	**Pn**	**22 21 22.1**	**+0.9**
	2.7nm,0.3s,baz=56,slow=9.0,SNR=61						
MJAR				S	**Sn**	**22 21 58.8**	**+2.2**
	2.9nm,0.3s,baz=226,slow=22,SNR=7.0						
MJAR				LR	LR	22 22 42.4	
	comp=Z,200nm,20.3s,baz=85,slow=43						
MAJO	**Matsushiro**	**3.06**	**251**	*e*Pn	**Pn**	**22 21 22.6**	**+1.3**
MAJO				*e*Sn	**Sn**	**22 21 58.8**	**+2.1**
MAJO	**Matsushiro**	**3.06**	**251**	*e*P	**Pn**	**22 21 22.6**	**+1.3**
MAJO				*e*		22 21 58.8	
MAT	**Matsushiro**	**3.06**	**251**	P	**Pn**	**22 21 22.4**	**+1.1**
MAT				S	**Sn**	**22 22 00.7**	**+4.1**
MJB9	**Matsu-Tunnel**	**3.06**	**251**	*e*Pn	**Pn**	**22 21 22.3**	**+1.0**
INU	**Inuyama**	**4.46**	**241**	*e*Pn	**Pn**	**22 21 42.0**	**+1.5**
ERM	**Erimo**	**4.54**	**13**	*e*Pn	**Pn**	**22 21 42.3**	**+0.7**
ERM	**Erimo**	**4.54**	**13**	*e*P	**Pn**	**22 21 42.3**	**+0.7**
JHJ2	**Mitsune**	**4.75**	**201**	*e*Pn	**Pn**	**22 21 46.4**	**+2.0**
JHJ	**Hachijo jima 2**	**4.75**	**201**	P	**Pn**	**22 21 45.6**	**+1.2**
	19nm,0.3s,baz=154,slow=22,SNR=15						
JHJ				S	**Sn**	**22 22 38.5**	**+0.2**
	25nm,0.3s,baz=277,slow=22,SNR=7.7						
ASAJ	**Asahikawa**	**6.55**	**5**	P	**Pn**	**22 22 08.8**	**-0.4**
	2.2nm,0.3s,baz=259,slow=16,SNR=3.2						
ASAJ				S	**Sn**	**22 23 20.8**	**-1.8**
	1.0nm,0.3s,baz=294,slow=20,SNR=2.1						
GRPR	**Tuman**	**7.07**	**24**	*e*P	**Pn**	**22 22 17.5**	**+1.2**
GRPR				*e*S	**Sn**	**22 23 30.1**	**-5.2**
GRPR				pmax	pmax		
	comp=Z,87nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**7.14**	**24**	*e*P	**Pn**	**22 22 20.6**	**+3.4**
YUK				*e*S	**Sn**	**22 23 35.6**	**-1.3**
YUK				pmax	pmax		
	comp=Z,98nm,0.4s						
KUR	**Kuril'sk**	**8.89**	**29**	P	**Pn**	**22 22 44.5**	**+3.3**
KUR				*e*S	**Sn**	**22 24 18.3**	**-1.7**
KUR				pmax	pmax		
	comp=Z,40nm,0.7s						
USRK	**Ussuriysk Ar.**	**9.94**	**315**	P	**Pn**	**22 22 56.2**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=137,slow=14,SNR=8.4						
CBIJ	**Chichi jima**	**10.46**	**178**	*e*Pn	**Pn**	**22 23 03.6**	**+0.8**
CBIJ				*e*Sn	**Sn**	**22 24 52.5**	**-6.2**
JCJ	**Chichijima**	**10.46**	**178**	P	**Pn**	**22 23 03.6**	**+0.8**
	comp=Z,2.4nm,0.3s,baz=263,slow=19,SNR=4.5						
JCJ				S	**Sn**	**22 24 52.5**	**-6.2**
	comp=Z,3.8nm,0.3s,baz=270,slow=19,SNR=2.7						
KSRS	**Korea Array**	**11.03**	**274**	P	**Pn**	**22 23 13.7**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=85,slow=14,SNR=9.9						
KSRS				LR	LR	22 27 19.7	
	comp=Z,49nm,20.1s,baz=57,slow=37						
KSAR	**Wonju Array Be**	**11.06**	**274**	P	**Pn**	**22 23 13.7**	**+2.7**
KSAR	**Wonju Array Be**	**11.06**	**274**	P	**Pn**	**22 23 13.7**	**+2.7**
KLR	**Kul'dur**	**13.73**	**331**	P	**P**	**22 23 53.5**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=5.5						
MA2	**Magadan**	**22.75**	**12**	P	**P**	**22 25 32.6**	**-1.1**
	comp=Z,3.6nm,0.3s,baz=247,slow=6.7,SNR=4.4						
SEY	**Seymchan**	**26.19**	**11**	*e*P	**P**	**22 26 06.0**	**+0.2**
SEY	**Seymchan**	**26.19**	**11**	P	**P**	**22 26 06.0**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=183,slow=8.0,SNR=9.0						
SONA0	**Songino Array**	**27.74**	**303**	*e*P	**P**	**22 26 19.6**	**-0.4**
SONM	**Songino Array**	**27.74**	**303**	P	**P**	**22 26 19.6**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=101,slow=9.0,SNR=12						
H11N2	**WAKE ISLAND Hy**	**28.17**	**122**	T	T	22 56 44.5	
	baz=316,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.18**	**122**	T	T	22 56 57.3	
	baz=316,slow=75						
H11N3	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	22 56 45.9	
	baz=316,slow=75						
H11S1	**WAKE ISLAND Hy**	**28.90**	**124**	T	T	22 57 49.2	
	baz=317,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.91**	**124**	T	T	22 57 47.3	
	baz=317,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.92**	**124**	T	T	22 57 48.0	
	baz=317						
CMAR	**Chiang Mai Arr**	**41.94**	**255**	P	**P**	**22 28 21.9**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=31,slow=9.5,SNR=3.6						
MK01	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**22 28 38.5**	**-0.9**
MK31	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**22 28 38.4**	**-1.0**
	comp=Z,1.4nm,0.7s						
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK32	**Makanchi Array**	**44.09**	**302**	*e*P	**P**	**22 28 38.6**	**-0.8**
MKAR	**Makanchi Array**	**44.09**	**302**	P	**P**	**22 28 38.6**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=85,slow=10,SNR=15						
KURK	**Kurchatov**	**45.84**	**308**	*e*P	**P**	**22 28 52.1**	**-1.0**
	comp=Z,9.8nm,0.8s						
KURK	**Kurchatov**	**45.84**	**308**	*e*P	**P**	**22 28 52.1**	**-1.0**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JIRN	**Jiri**	**47.28**	**275**	*e*P	**P**	**22 29 07.2**	**+2.0**
TOLK	**Toolik Lake Re**	**47.84**	**27**	*e*P	**P**	**22 29 09.7**	**+1.1**
	comp=Z,3.7nm,0.9s						
KKN	**Kakani**	**47.94**	**276**	*e*P	**P**	**22 29 11.0**	**+0.8**
	comp=Z,9.4nm,0.5s						
PKIN	**Phulchoki**	**47.95**	**275**	*e*P	**P**	**22 29 12.5**	**+2.2**
TARG	**Taragay, Kyrgy**	**48.44**	**296**	*e*P	**P**	**22 29 13.0**	**-1.1**
	comp=Z,2.4nm,0.8s						
IL1	**Eielson Array**	**48.86**	**33**	*e*P	**P**	**22 29 17.6**	**+1.1**
ILAR	**Eielson Array**	**48.86**	**33**	P	**P**	**22 29 17.1**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=271,slow=6.3,SNR=17						
ILB	**Eielson Array**	**48.86**	**33**	*e*P	**P**	**22 29 17.1**	**+0.7**
	comp=Z,8.8nm,1.5s						
DANN	**Dangsing**	**48.89**	**277**	*e*P	**P**	**22 29 16.9**	**-0.7**
	comp=Z,21nm,0.5s						
PYUN	**Piuthan**	**49.61**	**277**	*e*P	**P**	**22 29 22.2**	**-0.8**
	comp=Z,7.8nm,0.5s						
DOT	**Dot Lake**	**50.17**	**34**	*e*P	**P**	**22 29 28.3**	**+1.7**
	comp=Z,8.9nm,1.5s						
SCRK	**Sand Creek**	**50.17**	**34**	*e*P	**P**	**22 29 28.1**	**+1.5**
	comp=Z,18nm,1.9s						
INK	**Inuvik**	**53.76**	**27**	*e*P	**P**	**22 29 54.6**	**+1.6**
	comp=Z,10nm,1.6s						
INK	**Inuvik**	**53.76**	**27**	*e*P	**P**	**22 29 54.6**	**+1.6**
INK				pmax	pmax		
	comp=Z,10.0nm,1.6s						
INK	**Inuvik**	**53.76**	**27**	P	**P**	**22 29 54.5**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=293,slow=6.9,SNR=17						
CHGR	**Chuyangaron**	**55.71**	**295**	*e*P	**P**	**22 30 07.5**	**-0.3**
	comp=Z,9.7nm,0.7s						
ARU	**Arti**	**56.16**	**318**	*e*P	**P**	**22 30 09.5**	**-1.1**
	comp=Z,31nm,2.0s						
ARU	**Arti**	**56.16**	**318**	*e*P	**P**	**22 30 09.5**	**-1.1**
ARU				pmax	pmax		
	comp=Z,31nm,2.0s						
WR1	**Warramunga Arr**	**57.65**	**188**	*e*P	**P**	**22 30 21.7**	**+0.3**
	comp=Z,14nm,1.6s						
WRA	**Warramunga Arr**	**57.65**	**188**	P	**P**	**22 30 21.7**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=6.0,slow=7.2,SNR=23						
ABKAR	**Akbulak array**	**57.82**	**310**	*e*P	**P**	**22 30 21.2**	**-1.3**
	comp=Z,2.6nm,0.6s						
ASAR	**Alice Springs**	**61.38**	**188**	P	**P**	**22 30 47.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=14,slow=6.7,SNR=13						
RES	**Resolute Bay**	**61.99**	**15**	*e*P	**P**	**22 30 50.5**	**-0.1**
	comp=Z,8.8nm,1.8s						
RES	**Resolute Bay**	**61.99**	**15**	*e*P	**P**	**22 30 50.6**	**-0.1**
RES				pmax	pmax		
	comp=Z,9.0nm,1.8s						
RES	**Resolute Bay**	**61.99**	**15**	P	**P**	**22 30 50.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=297,slow=7.4,SNR=7.5						
YKA	**Yellowknife Ar**	**63.17**	**30**	P	**P**	**22 30 59.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=303,slow=6.7,SNR=14

NVAR	**Mina Array Bea**	**74.41**	**53**	P		**P**	**22 32 11.8**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=290,slow=3.4,SNR=2.1								
NVAR				LR		LR	22 57 20.3		
	comp=Z,25nm,21.3s,baz=286,slow=30								
FRB	**Frobisher Bay**	**76.17**	**13**	P		**P**	**22 32 18.6**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=337,slow=4.6,SNR=7.0								
PD31	**Pinedale Array**	**77.06**	**46**	*eP*		**P**	**22 32 25.9**	**+1.4**
	comp=Z,4.7nm,1.5s								
PDAR	**Pinedale Array**	**77.06**	**46**	P		**P**	**22 32 25.9**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=267,slow=3.0,SNR=4.6								
BR101	**Keskin Array S**	**78.72**	**312**	*eP*		**P**	**22 32 34.8**	**+1.1**
BRTR	**Keskin Array B**	**78.72**	**312**	P		**P**	**22 32 34.8**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=44,slow=6.8,SNR=3.3								
CLL	**Collm**	**80.77**	**330**	*eP*		**P**	**22 32 44.0**	**-0.3**
GEC2	**GERESS Array S**	**82.41**	**328**	*eP*		**P**	**22 32 52.5**	**-0.6**
	comp=Z,13nm,1.7s								
GEC2	**GERESS Array S**	**82.41**	**328**	*eP*		**P**	**22 32 52.5**	**-0.6**
GEC2				pmax		pmax			
	comp=Z,13nm,1.7s								
GERES	**GERESS Array B**	**82.41**	**328**	P		**P**	**22 32 52.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=52,slow=5.2,SNR=3.9								
TXAR	**Lajitas Array**	**89.54**	**53**	P		**P**	**22 33 30.1**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=299,slow=2.9,SNR=7.2								
LPAZ	**La Paz**	**146.15**	**59**	PKPbc		**PKPab**	**22 40 12.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=246,slow=3.6,SNR=5.3								

ISCJB ***21*** *22:22:25.7±0.4, 5.°33N±0.°03×82.°66W±0.°03, h15km, mb4.2/13, MS3.3/7, Error ellipse: s-maj=5.0km s-min=3.0km az=38.7*

NEIC ***21*** *22:22:26.7±2.8, 5.°27N×82.°63W, h11km±18km, mb4.6/6, Error ellipse: s-maj=11.1km s-min=8.1km az=202.0*

IDC ***21*** *22:22:26.4±2.5, 5.°54N×82.°55W, h0km, mb4.0/9, mb1 4.2/13, mb1mx4.0/43, mbtmp4.1/13, ML3.1/3, MS3.4/10, Ms1 3.4/10, ms1mx3.1/36, Error ellipse: s-maj=62.5km s-min=22.3km az=23.0*

UCR ***21*** *22:22:27.9±1.7, 5.°27N×82.°68W, h34km±34km, MD4.6, ML3.8, mb4.6(NEIC)*

ISC 21 22:22:26.9±0.8, 5.°25N±0.°07×82.°62W±0.°05, h15km, n111, σ1s89/120, mb4.2/13, MS3.4/7, 4C-3D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**3.34**	**348**	*eP*	**Pn**	**22 23 17.3**	**-1.2**
PTJ1				*i* S	**Sn**	**22 23 56.6**	**-1.3**
AZU	**Azuero**	**3.44**	**43**	*eP*	**Pn**	**22 23 18.6**	**-1.4**
AZU				*eS*	**Sn**	**22 23 52.7**	**-7.8**
AZU	**Azuero**	**3.44**	**43**	*eP*	**Pn**	**22 23 18.6**	**-1.4**
AZU				*eS*	**Sn**	**22 23 52.7**	**-7.8**
AZU	**Azuero**	**3.44**	**43**	*iP*	**Pn**	**22 23 18.8**	**-1.1**
	baz=218,slow=14						
AZU				AMP		22 23 21.5	
	comp=Z,407nm,0.3s						
AZU				*eS*	**Sn**	**22 23 59.7**	**-0.8**
TBS2		**3.52**	**359**	*iP*	**Pn**	**22 23 20.9**	**-0.4**
TBS2				*i* S	**Sn**	**22 24 01.8**	**-1.0**
BRU2	**Volcan**	**3.52**	**359**	*iP*	**Pn**	**22 23 19.8**	**-1.5**
BRU2				*i* S	**Sn**	**22 24 02.0**	**-0.9**
EDPN	**Palmar Norte**	**3.78**	**347**	*eP*	**Pn**	**22 23 23.9**	**-0.8**
EDPN				*eS*	**Sn**	**22 24 06.8**	**-2.2**
PNME	**Penonome**	**3.94**	**35**	*eP*	**Pn**	**22 23 29.8**	**+2.9**
PNME				*eS*	**Sn**	**22 24 12.6**	**-0.3**
EDLM	**Las Mercedes**	**4.12**	**347**	*eP*	**Pn**	**22 23 28.2**	**-1.2**
EDDO	**Dominical**	**4.17**	**343**	*eP*	**Pn**	**22 23 28.7**	**-1.3**
EDDO				*eS*	**Sn**	**22 24 16.5**	**-1.9**
ZANG	**Zanguenga, Cho**	**4.59**	**36**	*eP*	**Pn**	**22 23 36.1**	**+0.4**
ZANG				*i* S	**Sn**	**22 24 28.1**	**-0.7**
LCR2	**La Lucha 2**	**4.67**	**343**	*iP*	**Pn**	**22 23 34.9**	**-2.3**
LCR2				*eS*	**Sn**	**22 24 28.2**	**-3.0**
BCIP	**Isla Barro Col**	**4.77**	**35**	*ePn*	**Pn**	**22 23 38.8**	**+0.5**
BCIP	**Isla Barro Col**	**4.77**	**35**	*eP*	**Pn**	**22 23 37.9**	**-0.4**
BCIP	**Isla Barro Col**	**4.77**	**35**	*eP*	**Pn**	**22 23 37.9**	**-0.4**
BCIP	**Isla Barro Col**	**4.77**	**35**	*eP*	**Pn**	**22 23 38.0**	**-0.4**
BCIP				*eS*	**Sn**	**22 24 32.2**	**-1.3**
UPA	**Univ. de Panam**	**4.81**	**39**	*eP*	**Pn**	**22 23 39.3**	**+0.5**
UPA				*eS*	**Sn**	**22 24 33.8**	**-0.6**
FRIJ	**El Hiral**	**4.88**	**36**	*eP*	**Pn**	**22 23 40.0**	**+0.2**
FRIJ				*eS*	**Sn**	**22 24 35.8**	**-0.4**
HDC	**Heredia**	**4.95**	**343**	*ePn*	**Pn**	**22 23 40.5**	**-0.3**
HDC	**Heredia**	**4.95**	**343**	*eP*	**Pn**	**22 23 40.0**	**-0.9**
HDC				*i* S	**Sn**	**22 24 37.8**	**-0.3**
SOLC	**Bahia Solano**	**5.28**	**79**	*eP*	**Pn**	**22 23 44.5**	**-0.7**
SOLC	**Bahia Solano**	**5.28**	**79**	*eP*	**Pn**	**22 23 44.5**	**-0.7**
MALC	**Bahia Malaga**	**5.41**	**103**	*eP*	**Pn**	**22 23 46.9**	**-0.2**
MALC	**Bahia Malaga**	**5.41**	**103**	*eP*	**Pn**	**22 23 46.9**	**-0.2**
TRT1	**Tortuguero**	**5.42**	**349**	*eP*	**Pn**	**22 23 46.4**	**-0.8**
JTS	**JuntasAbangare**	**5.52**	**335**	Pn	**Pn**	**22 23 47.4**	**-1.2**
	comp=Z,38nm,0.3s,baz=149,slow=22,SNR=51						
JTS				Sn	**Sn**	**22 24 50.6**	**-1.3**
	comp=Z,48nm,0.3s,baz=0.0,slow=20,SNR=22						
JTS	**JuntasAbangare**	**5.52**	**335**	*iP*	**Pn**	**22 23 47.5**	**-1.2**
JTS				*eS*	**Sn**	**22 24 48.3**	**-3.5**
FORC	**Fortuna**	**5.57**	**339**	*i* P	**Pn**	**22 23 49.5**	**+0.2**
ARE1	**Arenal 1**	**5.58**	**338**	*eP*	**Pn**	**22 23 50.1**	**+0.6**
CEDE	**Laguna Cedeo**	**5.60**	**339**	*eP*	**Pn**	**22 23 49.2**	**-0.6**
UPD2	**Meteti**	**5.63**	**54**	*eP*	**Pn**	**22 23 50.1**	**0.0**
PLVR	**Palo Verde**	**5.75**	**332**	*eP*	**Pn**	**22 23 50.3**	**-1.6**
CUI	**Cuipilapa**	**5.94**	**335**	*eP*	**Pn**	**22 23 53.8**	**-0.6**
COLC	**Colonia**	**5.96**	**335**	*i* P	**Pn**	**22 23 55.5**	**+0.8**
MESS	**Mesas**	**6.03**	**335**	*eP*	**Pn**	**22 23 54.8**	**-0.8**
GPS2	**Hotel Rincn d**	**6.10**	**334**	*eP*	**Pn**	**22 23 55.9**	**-0.8**
GPS2				*i* S	**Sn**	**22 25 05.1**	**-1.3**
BUEV	**Buena Vista**	**6.17**	**334**	*eP*	**Pn**	**22 23 57.6**	**+0.1**
GBS3	**Finca Las Img**	**6.17**	**333**	*i* P	**Pn**	**22 23 56.7**	**-1.0**
GB1A	**Boringuen Arri**	**6.18**	**334**	*eP*	**Pn**	**22 23 57.3**	**-0.5**
YOTC	**Yotoco, Valle**	**6.38**	**101**	*eP*	Pn	22 23 55.2	-5.3
YOTC	**Yotoco, Valle**	**6.38**	**101**	*eP*	Pn	22 23 55.2	-5.3
OTAV	**Otavalo**	**6.49**	**140**	*ePn*	**Pn**	**22 24 01.5**	**-0.8**
OTAV	**Otavalo**	**6.49**	**140**	*eP*	**Pn**	**22 24 01.2**	**-1.1**
OTAV	**Otavalo**	**6.49**	**140**	*eP*	**Pn**	**22 24 01.2**	**-1.1**
DBBC	**Dabeiba**	**6.61**	**74**	*eP*	**Pn**	**22 24 05.5**	**+1.8**
DBBC	**Dabeiba**	**6.61**	**74**	*eP*	**Pn**	**22 24 05.5**	**+1.8**
SOTA	**Rioblanco**	**6.75**	**117**	*eP*	**Pn**	**22 24 06.5**	**+0.6**
SOTA	**Rioblanco**	**6.75**	**117**	*eP*	**Pn**	**22 24 06.5**	**+0.6**
PCON	**Cinco Dias**	**6.85**	**115**	*eP*	**Pn**	**22 24 08.5**	**+1.1**
PCON	**Cinco Dias**	**6.85**	**115**	*eP*	**Pn**	**22 24 08.5**	**+1.1**
MARP	**Paez Belalcaza**	**7.06**	**109**	*eP*	**Pn**	**22 24 11.8**	**+1.8**
MARP	**Paez Belalcaza**	**7.06**	**109**	*eP*	**Pn**	**22 24 11.8**	**+1.8**
ESPN	**Las Esperanzas**	**7.10**	**347**	*ePn*	**Pn**	**22 24 10.1**	**-0.3**
ESPN	**Las Esperanzas**	**7.10**	**347**	*eP*	**Pn**	**22 24 09.2**	**-1.1**
HELC	**Santa Helena**	**7.12**	**82**	*eP*	**Pn**	**22 24 11.8**	**+0.9**
HELC	**Santa Helena**	**7.12**	**82**	*eP*	**Pn**	**22 24 11.8**	**+0.9**
ACON	**Acoyapa**	**7.14**	**339**	*eP*	**Pn**	**22 24 10.4**	**-0.4**
ACON				*eS*	**Sn**	**22 25 30.1**	**-1.7**
UREC	**San Jos de Ur**	**7.47**	**70**	*eP*	**Pn**	**22 24 17.2**	**+1.8**
UREC	**San Jos de Ur**	**7.47**	**70**	*eP*	**Pn**	**22 24 17.2**	**+1.8**
NORC	**Norcasia**	**7.72**	**87**	*eP*	**Pn**	**22 24 21.8**	**+2.9**
NORC	**Norcasia**	**7.72**	**87**	*eP*	**Pn**	**22 24 21.8**	**+2.9**
PRAC	**Prado**	**7.86**	**101**	*eP*	**Pn**	**22 24 21.8**	**+1.0**
PRAC	**Prado**	**7.86**	**101**	*eP*	**Pn**	**22 24 21.8**	**+1.0**
ZARC	**Zaragoza, Cauc**	**8.03**	**73**	*eP*	**Pn**	**22 24 24.5**	**+1.4**
ZARC	**Zaragoza, Cauc**	**8.03**	**73**	*eP*	**Pn**	**22 24 24.5**	**+1.4**
PTBC	**PUERTO BERRIO,**	**8.22**	**81**	*eP*	**Pn**	**22 24 28.5**	**+2.7**
PTBC	**PUERTO BERRIO,**	**8.22**	**81**	*eP*	**Pn**	**22 24 28.5**	**+2.7**
ROSC	**El Rosal**	**8.28**	**92**	Pn	**Pn**	**22 24 28.9**	**+2.1**
	comp=Z,1.0nm,0.3s,baz=254,slow=16,SNR=1.9						
SJCC	**San Jacinto, C**	**8.70**	**57**	*eP*	**Pn**	**22 24 35.8**	**+3.4**
SJCC	**San Jacinto, C**	**8.70**	**57**	*eP*	**Pn**	**22 24 35.8**	**+3.4**
SJCC	**San Jacinto, C**	**8.70**	**57**	*eP*	**Pn**	**22 24 34.9**	**+2.5**
CHIC	**Chingaza**	**8.88**	**94**	*eP*	**Pn**	**22 24 38.4**	**+3.3**
CHIC	**Chingaza**	**8.88**	**94**	*eP*	**Pn**	**22 24 38.4**	**+3.3**
SMLC	**San Martn de**	**9.19**	**67**	*eP*	**Pn**	**22 24 41.8**	**+2.8**
SMLC	**San Martn de**	**9.19**	**67**	*eP*	**Pn**	**22 24 41.8**	**+2.8**
OCAC	**Ocana**	**9.70**	**72**	*eP*	**Pn**	**22 24 48.4**	**+2.2**
OCAC	**Ocana**	**9.70**	**72**	*eP*	**Pn**	**22 24 48.4**	**+2.2**
PAMC	**Pamplona, Colo**	**10.08**	**78**	*eP*	**Pn**	**22 24 55.0**	**+3.4**
PAMC	**Pamplona, Colo**	**10.08**	**78**	*eP*	**Pn**	**22 24 55.0**	**+3.4**
CODC	**Agustn Codazz**	**10.22**	**62**	*eP*	**Pn**	**22 24 56.4**	**+3.2**
CODC	**Agustn Codazz**	**10.22**	**62**	*eP*	**Pn**	**22 24 56.4**	**+3.2**
APG	**El Apazote**	**12.39**	**322**	Pn	**Pn**	**22 25 22.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=144,slow=9.6,SNR=2.3						
APG				LR	LR	22 29 38.5	
	comp=Z,138nm,20.0s,baz=124,slow=35						
ATAH	**Atahualpa**	**13.00**	**161**	LR	LR	22 30 04.9	
	comp=Z,392nm,18.7s,baz=350,slow=35						
CMIG	**Matias Romero**	**16.82**	**315**	Pn	**P**	**22 26 23.5**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=106,slow=11,SNR=2.5						
CMIG				LR	LR	22 32 03.1	
	comp=Z,120nm,18.8s,baz=113,slow=35						
BANI	**BANI**	**17.72**	**41**	*e*Sn	**Sn**	**22 29 51.3**	**+0.4**
SJG	**San Juan**	**20.55**	**50**	P	**P**	**22 27 05.3**	**+0.2**
	comp=Z,15nm,0.4s,baz=231,slow=7.1,SNR=7.9						
SJG				LR	LR	22 34 44.1	
	comp=Z,38nm,20.5s,baz=258,slow=36						
LPAZ	**La Paz**	**25.75**	**146**	LR	LR	22 39 13.9	
	comp=Z,117nm,20.2s,baz=312,slow=39						
SIV	**San Ignacio**	**30.00**	**135**	LR	LR	22 40 43.7	
	comp=Z,132nm,19.2s,baz=291,slow=36						
H06E1	**SOCORRO T-PHAS**	**30.71**	**298**	T	T	23 00 53.7	
	SNR=12						
WHAR	**Wooly Hollow**	**31.20**	**345**	*eP*	**P**	**22 28 45.6**	**0.0**
	comp=Z,6.6nm,0.8s						
CCM	**Cathedral Cave**	**33.59**	**348**	*eP*	**P**	**22 29 06.3**	**-0.2**
	comp=Z,10nm,0.8s						
N41A	**Harden Midland**	**36.07**	**349**	*eP*	**P**	**22 29 27.6**	**-0.4**
	comp=Z,17nm,0.8s						
CPUP	**Villa Florida**	**39.83**	**143**	LR	LR	22 49 36.8	
	comp=Z,61nm,21.6s,baz=266,slow=41						
BDFB	**Brasilia**	**40.06**	**122**	LR	LR	22 48 35.7	
	comp=Z,94nm,18.7s,baz=166,slow=39						
RSSD	**Black Hills**	**43.05**	**337**	*eP*	**P**	**22 30 28.0**	**+1.6**
	comp=Z,4.3nm,0.7s						
SHPR	**Sheep Range**	**43.10**	**321**	*eP*	**P**	**22 30 29.2**	**+2.4**
	comp=Z,3.1nm,1.0s						
PDAR	**Pinedale Array**	**44.34**	**331**	*eP*	**P**	**22 30 36.8**	**0.0**
PDAR	**Pinedale Array**	**44.34**	**331**	P	**P**	**22 30 38.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=123,slow=11,SNR=6.3						
ULM	**Lac du Bonnet**	**46.22**	**348**	P	**P**	**22 30 49.2**	**-2.1**
	comp=Z,2.1nm,0.7s,baz=178,slow=4.9,SNR=5.5						
NV01	**Mina Array Sit**	**46.25**	**321**	*eP*	**P**	**22 30 53.4**	**+1.4**
NVAR	**Mina Array Bea**	**46.25**	**321**	P	**P**	**22 30 53.3**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=135,slow=7.2,SNR=10						
YBH	**Yreka Blue Hor**	**50.91**	**322**	LR	LR	22 52 46.8	
	comp=Z,58nm,18.3s,baz=170,slow=36						
YKA	**Yellowknife Ar**	**61.80**	**344**	P	**P**	**22 32 45.0**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=139,slow=6.7,SNR=18						
YKB5	**Yellowknife Ar**	**61.80**	**344**	*eP*	**P**	**22 32 45.0**	**+0.2**
RES	**Resolute Bay**	**69.75**	**357**	P	**P**	**22 33 34.5**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=188,slow=7.1,SNR=4.2						
INK	**Inuvik**	**71.47**	**342**	*eP*	**P**	**22 33 46.4**	**-0.1**
	comp=Z,13nm,1.7s						
INK	**Inuvik**	**71.47**	**342**	P	**P**	**22 33 46.4**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=122,slow=3.1,SNR=6.2						
IL1	**Eielson Array**	**74.49**	**336**	*eP*	**P**	**22 34 05.0**	**+0.5**
ILAR	**Eielson Array**	**74.49**	**336**	P	**P**	**22 34 05.0**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=118,slow=4.4,SNR=8.2						
ESDC	**Sonseca Array**	**77.94**	**51**	P	**P**	**22 34 25.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=266,slow=4.6,SNR=4.3						
NOA	**NORSAR Array B**	**87.31**	**29**	LR	LR	23 09 29.3	
	comp=Z,4.2nm,21.8s,baz=35,slow=32						

ISCJB ***21*** *22:26:18.9±0.9, 55.°4N±0.°2×35.°2W±0.°2, h10km, mb3.6/7, MS3.2/4, Error ellipse: s-maj=33.5km s-min=14.2km az=13.3*

IDC ***21*** *22:26:19.1±1.1, 55.°44N×35.°23W, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.5/49, mbtmp3.7/8, ML2.9/1, MS3.2/8, Ms1 3.2/8, ms1mx2.9/51, Error ellipse: s-maj=41.1km s-min=19.1km az=18.0*

ISC 21 22:26:20.7±1.0, 55.°4N±0.°3×35.°3W±0.°1, h10km, n15, σ1s04/9, mb3.7/7, MS3.4/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**11.63**	**31**	LR	LR	22 32 18.0	
	comp=Z,90nm,21.5s,baz=300,slow=31						
SFJD	**Kangerlussuaq**	**13.71**	**334**	LR	LR	22 33 09.0	
	comp=Z,29nm,18.7s,baz=126,slow=30						
SCHQ	**Schefferville**	**17.97**	**281**	P	**P**	**22 30 31.4**	**+0.5**
	0.5nm,0.3s,baz=75,slow=7.8,SNR=7.9						
SCHQ				LR	LR	22 35 56.2	
	comp=Z,87nm,20.4s,baz=354,slow=32						
FRB	**Frobisher Bay**	**18.59**	**310**	LR	LR	22 36 08.4	
	comp=Z,0.9nm,18.7s,baz=158,slow=32						
NOA	**NORSAR Array B**	**24.68**	**58**	LR	LR	22 41 04.3	
	comp=Z,12nm,18.8s,baz=270,slow=36						
DAVOX	**Davos/Dischmat**	**29.18**	**88**	LR	LR	22 42 52.1	
	comp=Z,78nm,19.2s,baz=274,slow=34						
ULM	**Lac du Bonnet**	**35.94**	**288**	P	**P**	**22 33 19.4**	**-1.6**
	1.0nm,0.4s,baz=63,slow=2.3,SNR=3.1						
YKA	**Yellowknife Ar**	**39.04**	**314**	P	**P**	**22 33 46.5**	**-0.6**
	0.5nm,0.6s,baz=62,slow=9.2,SNR=3.9						
BRTR	**Keskin Array B**	**47.07**	**79**	P	**P**	**22 34 52.6**	**+0.1**
	0.6nm,0.6s,baz=312,slow=6.3,SNR=4.3						
PDAR	**Pinedale Array**	**47.96**	**287**	P	**P**	**22 35 00.4**	**+0.9**
	0.4nm,0.7s,baz=73,slow=7.6,SNR=3.0						
PDAR				LR	LR	22 53 30.7	
	comp=Z,55nm,18.9s,baz=83,slow=34						
ILAR	**Eielson Array**	**49.28**	**328**	P	**P**	**22 35 10.1**	**+1.0**
	0.5nm,0.7s,baz=41,slow=6.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**51.00**	**131**	P	**P**	**22 35 22.5**	**-0.1**
	0.9nm,0.9s,baz=335,slow=10.0,SNR=3.3						
DBIC	**Dimono**	**54.33**	**142**	LR	LR	22 56 25.2	
	comp=Z,34nm,18.1s,baz=291,slow=33						
MKAR	**Makanchi Array**	**65.44**	**42**	P	**P**	**22 37 02.7**	**-0.7**
	0.3nm,0.6s,baz=323,slow=5.4,SNR=5.3						
ASAR	**Alice Springs**	**147.29**	**19**	PKPbc	**PKPdf**	**22 46 02.9**	**+1.1**
	0.5nm,0.5s,baz=342,slow=2.7,SNR=6.3						

ISCJB ***21*** *22:47:17.7±0.5, 10.°74S±0.°07×161.°79E±0.°07, h54km, mb4.1/15, MS3.4/9, Error ellipse: s-maj=11.6km s-min=9.0km az=41.0*

NEIC ***21*** *22:47:19.7±1.1, 10.°67S×161.°81E, h58km±10km, mb4.4/8, Error ellipse: s-maj=9.7km s-min=9.5km az=98.0*

IDC ***21*** *22:47:20.3±2.5, 10.°67S×161.°79E, h63km±20km, mb3.8/10, mb1 4.1/13, mb1mx3.8/39, mbtmp4.1/13, MS3.4/11, Ms1 3.4/11, ms1mx3.2/28, Error ellipse: s-maj=21.1km s-min=15.3km az=71.0*

ISC 21 22:47:19.6±0.7, 10.°7S±0.°1×161.°8E±0.°1, h54km, n35, σ1s12/29, mb4.2/15, MS3.5/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.19**	**304**	*i* P	**Pn**	**22 47 51.0**	**-2.6**
HNR				*i* S	**Sn**	**22 48 20.0**	**+0.4**
HNR	**Honiara**	**2.19**	**304**	P	**Pn**	**22 47 54.1**	**+0.5**
	466nm,0.3s,baz=149,slow=7.8,SNR=23						
HNR				S	**Sn**	**22 48 21.5**	**+2.0**
	519nm,0.3s,baz=0.2,slow=17,SNR=11						
HNR				LR	LR	22 48 57.2	
	comp=Z,649nm,18.7s,baz=184,slow=44						
DZM	**Mont Dzumac**	**12.19**	**159**	*ePn*	**Pn**	**22 50 11.0**	**+0.4**
	6.7nm,0.2s						
DZM				*eLR*	LR	22 52 57.4	
	comp=Z,318nm,25.9s						
DZM	**Mont Dzumac**	**12.19**	**159**	P	**Pn**	**22 50 09.9**	**-0.7**
	1.7nm,0.3s,baz=110,slow=17,SNR=31						
DZM				LR	LR	22 53 59.3	
	comp=Z,147nm,21.4s,baz=30,slow=33						
CTA	**Charters Tower**	**17.66**	**236**	P	**P**	**22 51 23.4**	**+1.1**
	0.9nm,0.3s,baz=70,slow=13,SNR=9.9						
WR1	**Warramunga Arr**	**28.01**	**247**	*eP*	**P**	**22 53 05.3**	**-0.4**
	7.6nm,1.1s						
WRA	**Warramunga Arr**	**28.01**	**247**	P	**P**	**22 53 05.3**	**-0.4**
	0.8nm,0.5s,baz=77,slow=8.8,SNR=18						
WRA				LR	LR	23 04 21.5	
	comp=Z,109nm,18.4s,baz=40,slow=36						
STKA	**Stephens Creek**	**28.19**	**218**	LR	LR	23 04 24.0	
	comp=Z,158nm,18.9s,baz=28,slow=36						
AS31	**Alice Springs**	**29.55**	**240**	*eP*	**P**	**22 53 18.4**	**-1.0**
	1.0nm,0.9s						
ASAR	**Alice Springs**	**29.55**	**240**	P	**P**	**22 53 18.4**	**-1.0**
	0.7nm,0.6s,baz=63,slow=10,SNR=8.4						
ASAR				LR	LR	23 05 05.8	
	comp=Z,92nm,18.1s,baz=94,slow=36						
FITZ	**Fitzroy Crossi**	**35.75**	**254**	*eP*	**P**	**22 54 12.8**	**-0.7**
	3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**35.75**	**254**	P	**P**	**22 54 12.8**	**-0.7**
	1.5nm,0.6s,baz=46,slow=12,SNR=9.8						
PPT	**Papeete**	**47.55**	**104**	LR	LR	23 12 58.1	
	comp=Z,24nm,18.9s,baz=350,slow=32						
PPT2	**Papeete2**	**47.55**	**104**	*eLR*	LR	23 09 33.8	
	comp=Z,89nm,28.2s						
MJAR	**Matsushiro Arr**	**51.94**	**336**	LR	LR	23 17 41.0	
	comp=Z,9.8nm,21.7s,baz=210,slow=35						
ASAJ	**Asahikawa**	**57.24**	**344**	LR	LR	23 17 38.7	
	comp=Z,37nm,21.8s,baz=349,slow=32						
KSRS	**Korea Array**	**57.44**	**328**	LR	LR	23 20 02.7	
	comp=Z,13nm,19.7s,baz=110,slow=34						
RKT	**Rikitea**	**61.36**	**111**	*eT*	T	22 58 07.4	
	2.1nm,0.3s						
VNDA	**Vanda**	**66.85**	**180**	*eP*	**P**	**22 58 06.6**	**+1.2**
	14nm,1.9s						
VNDA	**Vanda**	**66.85**	**180**	P	**P**	**22 58 06.1**	**+0.7**
	3.0nm,0.7s,baz=342,slow=7.4,SNR=16						
VNDA				LR	LR	23 24 15.8	
	comp=Z,43nm,18.2s,baz=218,slow=33						
CM31	**Chiang Mai Arr**	**68.42**	**295**	*eP*	**P**	**22 58 16.3**	**0.0**
	3.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**68.42**	**295**	P	**P**	**22 58 16.3**	**0.0**
	0.4nm,0.3s,baz=122,slow=6.5,SNR=3.0						
SONA0	**Songino Array**	**76.10**	**325**	*eP*	**P**	**22 59 02.1**	**+0.4**
SONM	**Songino Array**	**76.10**	**325**	P	**P**	**22 59 02.1**	**+0.4**
	1.0nm,0.6s,baz=141,slow=5.0,SNR=8.8						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**22 59 45.4**	**-0.4**
	0.6nm,0.7s,baz=246,slow=3.8,SNR=5.3						
ILB	**Eielson Array**	**84.42**	**20**	*eP*	**P**	**22 59 45.4**	**-0.4**
	20nm,1.9s						
EGAK	**Eagle**	**86.38**	**21**	*eP*	**P**	**22 59 58.8**	**+3.1**
	5.7nm,0.9s						
NV01	**Mina Array Sit**	**88.76**	**51**	*eP*	**P**	**23 00 07.7**	**-0.3**
NVAR	**Mina Array Bea**	**88.76**	**51**	P	**P**	**23 00 07.7**	**-0.3**
	1.2nm,0.7s,baz=229,slow=8.2,SNR=3.7						
MK31	**Makanchi Array**	**90.60**	**317**	*eP*	**P**	**23 00 15.6**	**-0.5**
	0.8nm,0.8s						
MK32	**Makanchi Array**	**90.60**	**317**	*eP*	**P**	**23 00 14.8**	**-1.3**
MKAR	**Makanchi Array**	**90.60**	**317**	P	**P**	**23 00 14.8**	**-1.3**
	0.4nm,0.4s,baz=92,slow=6.9,SNR=11						
NRIK	**Noril'sk**	**94.42**	**340**	LR	LR	23 40 39.0	
	comp=Z,18nm,22.0s,baz=74,slow=34						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**23 00 42.2**	**-0.3**
	0.3nm,0.6s,baz=261,slow=4.6,SNR=4.1						
YKB5	**Yellowknife Ar**	**96.42**	**28**	*eP*	**P**	**23 00 42.2**	**-0.3**

IDC 21 22:50:03.4±78.0, 16.°96S×168.°36E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=1310.0km s-min=57.4km az=70.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**5.40**	**199**	Pn	Pn	22 51 23.1	-2.1
	1.1nm,0.3s,baz=340,slow=21,SNR=7.0						
STKA	**Stephens Creek**	**28.44**	**234**	P	P	22 56 01.1	+1.2
	2.8nm,0.6s,baz=80,slow=12,SNR=2.4						
WRA	**Warramunga Arr**	**32.38**	**259**	P	P	22 56 34.8	-0.2
	0.4nm,0.7s,baz=84,slow=9.1,SNR=2.9						
ASAR	**Alice Springs**	**32.94**	**253**	P	P	22 56 39

VWDT	**VWDT** baz=214	**1.73**	**212**	*e*P		**Pn**	**23 04 50.0**	**+1.4**
TYC	**Yuchr** baz=223	**1.76**	**222**	*e*P		**Pn**	**23 04 49.8**	**+0.8**
SSLB	**Suanglung** baz=219	**1.79**	**217**	P		**Pn**	**23 04 50.1**	**+0.7**
HGSD	**Ruisui** baz=203	**1.85**	**201**	*e*P		**Pn**	**23 04 49.5**	**-0.3**
HATJ	**Hateruma jima**	**1.92**	**127**	P		**Pn**	**23 04 51.5**	**+1.0**
HATJ				S		**S**	**23 05 20.9**	**+0.4**
JKRS	**Kuro-shima**	**1.97**	**120**	P		**Pn**	**23 04 51.8**	**+0.8**
JKRS				S		**S**	**23 05 20.9**	**-0.5**
YULB	**Yu-li** baz=205	**1.98**	**203**	*e*P		**Pn**	**23 04 51.1**	**0.0**
JIJ	**Ishigaki jima**	**2.02**	**115**	P		**Pn**	**23 04 51.8**	**+0.3**
JIJ				S		**S**	**23 05 20.6**	**-1.6**
JISG	**Ishigakijimahi**	**2.08**	**107**	P		**Pn**	**23 04 52.3**	**+0.3**
JISG				S		**S**	**23 05 22.3**	**-1.0**
CHN5	**Tsauling** baz=221	**2.10**	**220**	*e*P		**Pn**	**23 04 53.2**	**+0.8**
CHN5				*e*S		**S**	**23 05 23.4**	**-0.6**
FULB	**Fuli** baz=202	**2.16**	**201**	*e*P		**Pn**	**23 04 53.6**	**+0.6**
MATB	**Ma-tsu** baz=295	**2.18**	**295**	*e*P		**Pn**	**23 04 52.7**	**-0.3**
CHN4	**Tsaushan** baz=218	**2.34**	**217**	*e*P		**Pn**	**23 04 54.9**	**+0.1**
JTJ	**Tarama**	**2.40**	**104**	P		**Pn**	**23 04 56.3**	**+0.9**
JTJ				S		**S**	**23 05 29.0**	**-0.3**
WTP	**Ta-pu** baz=216	**2.41**	**215**	*e*P		**Pn**	**23 04 55.6**	**0.0**
TWK	**Hsinying** baz=219	**2.46**	**218**	*e*P		**Pn**	**23 04 56.1**	**-0.1**
CHN1	**Nanshi** baz=217	**2.51**	**216**	*e*P		**Pn**	**23 04 57.0**	**+0.4**
SLGT	**Liugui** baz=213	**2.61**	**212**	*e*P		**Pn**	**23 04 58.6**	**+0.9**
MASBT	**Mashibuluo** baz=209	**2.95**	**208**	*e*P		**Pn**	**23 05 02.0**	**+0.5**

IDC ***21*** *23:11:14.6±1.8, 17.°69S×167.°31E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.7/32, mbtmp3.7/6, ML3.2/1, Error ellipse: s-maj=53.0km s-min=28.1km az=121.0*
ISCJB ***21*** *23:11:16.2±1.4, 17.°7S±0.°1×167.°2E±0.°2, h19km, mb3.6/5, Error ellipse: s-maj=34.4km s-min=19.6km az=11.1*
ISC 21 23:11:17.5±1.5, 17.°7S±0.°2×167.°3E±0.°3, h19km, n6, σ0§37/6, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 1.2nm,0.3s,baz=15,slow=20,SNR=17	**4.40**	**191**	Pn		**Pn**	**Pn**	**23 12 23.6**	**+0.1**
DZM						Sn	Sn	23 13 01.4	-13
STKA	**Stephens Creek** 3.0nm,0.8s,baz=62,slow=8.4,SNR=4.0	**27.18**	**234**	P		**P**	**P**	**23 17 00.1**	**+0.1**
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=94,slow=9.5,SNR=4.7	**31.26**	**261**	P		**P**	**P**	**23 17 36.4**	**-0.1**
ASAR	**Alice Springs** 0.8nm,0.7s,baz=80,slow=9.2,SNR=7.7	**31.76**	**254**	P		**P**	**P**	**23 17 40.5**	**-0.4**
SONM	**Songino Array** 0.2nm,0.5s,baz=119,slow=5.6,SNR=2.9	**84.92**	**324**	P		**P**	**P**	**23 23 51.8**	**+0.4**
ILAR	**Eielson Array** 0.4nm,0.7s,baz=230,slow=5.5,SNR=5.6	**89.34**	**18**	P		**P**	**P**	**23 24 12.0**	**-0.3**

SJA ***21*** *23:16:34.1±2.4, 31.°53S×72.°51W, h40km±999km, ML2.8, MW3.5*
GUC ***21*** *23:16:36.5±0.4, 31.°59S×72.°03W, h43km±5km, ML2.8*
ISC 21 23:16:35.5±2.8, 31.°51S±0.°04×72.°0W±0.°2, h9km±14km, n17, σ0§90/23, 1C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.94**	**69**	⇑*i*P		**Pn**	**Pn**	**23 16 54.9**	**-0.1**
CMCH				*i* S		**Sn**	**Sn**	**23 17 09.3**	**+0.7**
ROCH	**El Roble**	**1.69**	**150**	⇓*i*P		**Pn**	**Pn**	**23 17 05.1**	**-0.4**
ROCH				*i* S		**Sn**	**Sn**	**23 17 27.1**	**-0.5**
ROCH	comp=E,181nm,0.4s			IAML				23 17 36.8	
ROC1	**El Roble**	**1.70**	**150**	*e*P		**Pn**	**Pn**	**23 17 05.3**	**-0.3**
ROC1				*e*S		**Sb**	**Sb**	**23 17 29.7**	**+1.1**
GO04	**Tololo Observa**	**1.70**	**39**	*e*P		**Pb**	**Pb**	**23 17 07.4**	**+0.3**
GO04				*e*S		**Sg**	**Sg**	**23 17 31.7**	**+1.5**
GO04	**Tololo Observa**	**1.70**	**39**	*e*P		**Pn**	**Pn**	**23 17 05.5**	**-0.1**
GO04				*i* S		**Sb**	**Sb**	**23 17 28.9**	**+0.2**
PEL	**Peldehue**	**1.99**	**145**	*e*P		**Pn**	**Pn**	**23 17 09.3**	**-0.2**
PEL				*e*S		**Sn**	**Sn**	**23 17 33.7**	**-0.8**
PEL	comp=E,88nm,0.3s			IAML				23 17 43.7	
CLCH	**Cerro Calan** comp=E,146nm,0.6s	**2.27**	**147**	IAML				23 17 55.9	
FCH	**Farellones**	**2.33**	**141**	⇓*i*P		**Pn**	**Pn**	**23 17 14.8**	**+0.3**
FCH				*i* S		**Sn**	**Sn**	**23 17 43.7**	**+0.3**
FCH	comp=E,54nm,0.2s			IAML				23 17 56.1	
RTLS	**Leoncito**	**2.35**	**98**	*e*P		**Pb**	**Pb**	**23 17 18.4**	**+0.2**
RTLS	comp=Z,57nm,0.3s			IAML				23 17 59.7	
AUSP	**Uspallata**	**2.36**	**108**	*e*P		**Pb**	**Pb**	**23 17 18.5**	**+0.1**
AROD	**Rodeo**	**2.57**	**59**	*e*P		**Pg**	**Pg**	**23 17 24.1**	**-0.7**
ACCO	**Cerro Coronel**	**2.70**	**71**	*e*P		**Pb**	**Pb**	**23 17 24.6**	**+0.3**
ASAL	**Salagasta**	**2.92**	**113**	*e*P		**Pb**	**Pb**	**23 17 29.2**	**+1.4**
ARCO	**CERRO ARCO**	**2.94**	**118**	*e*P		**Pb**	**Pb**	**23 17 28.4**	**+0.2**
ARCO	comp=Z,16nm,0.4s			IAML				23 17 33.6	
AMOG	**MOGNA**	**3.08**	**80**	*e*P		**Pb**	**Pb**	**23 17 28.4**	**-2.2**
AGUA	**GUANDACOL**	**3.66**	**57**	*e*P		**Pb**	**Pb**	**23 17 40.0**	**-0.4**
ACAN	**Cantantal**	**4.19**	**102**	*e*P		**Pb**	**Pb**	**23 17 47.9**	**-1.5**

KRNET ***21*** *23:30:11.4±0.1, 42.°51N×79.°66E, h19km, mb3.5*
SOME ***21*** *23:30:11.6, 42.°47N×79.°63E, h20km*
NNC ***21*** *23:30:12.5±0.9, 42.°59N×79.°60E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=5.7km s-min=3.1km az=136.0*
ISC 21 23:30:09.9±1.6, 42.°46N±0.°04×79.°70E±0.°04, h4km±10km, n64, σ1§41/112, 23C-19D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 242nm,0.1s	**0.71**	**346**	P		**Pg**	**Pg**	**23 30 24.9**	**+1.2**
SHLS				S		**Sg**	**Sg**	**23 30 34.3**	**+1.3**
SHLS	**Shalkode** baz=14	**0.71**	**346**	*e*P		**Pg**	**Pg**	**23 30 24.9**	**+1.2**
SHLS				*e*S		**Sg**	**Sg**	**23 30 34.3**	**+1.3**
SHLS	**Shalkode** 242nm,0.1s	**0.71**	**346**	*e*P		**Pg**	**Pg**	**23 30 24.9**	**+1.2**
SHLS				*e*S		**Sg**	**Sg**	**23 30 34.3**	**+1.3**
PDGK	**Podgornoye** 68nm,0.2s	**0.88**	**350**	P		**Pb**	**Pb**	**23 30 26.9**	**-1.0**
PDGK				S		**Sb**	**Sb**	**23 30 37.7**	**-2.3**
PDGK	**Podgornoye** 27nm,0.2s	**0.88**	**350**	⇓P		**Pb**	**Pb**	**23 30 26.8**	**-1.0**
PDGK				⇑S		**Sb**	**Sb**	**23 30 37.4**	**-2.5**
PDGK	**Podgornoye** baz=51	**0.88**	**350**	⇓*i*P		**Pb**	**Pb**	**23 30 26.8**	**-1.0**
PDGK				⇓*i*S		**Sb**	**Sb**	**23 30 37.7**	**-2.3**
PRZ	**Przheval'sk** baz=69	**0.96**	**272**	⇑*i*P		**Pb**	**Pb**	**23 30 28.9**	**-0.4**
PRZ				⇑*i*S		**Sg**	**Sg**	**23 30 41.8**	**+0.9**
KTMS	**Ketmen**	**1.09**	**26**	P		**Pn**	**Pn**	**23 30 31.5**	**-0.6**
KTMS				S		**Sn**	**Sn**	**23 30 45.5**	**-2.2**
KTMS	**Ketmen** baz=27	**1.09**	**26**	*e*P		**Pn**	**Pn**	**23 30 31.5**	**-0.6**
KTMS				*e*S		**Sn**	**Sn**	**23 30 45.6**	**-2.2**
KTMS	**Ketmen** 11nm,0.2s	**1.09**	**26**	*e*P		**Pn**	**Pn**	**23 30 31.5**	**-0.6**
KTMS				*e*S		**Sn**	**Sn**	**23 30 45.5**	**-2.2**
SATY	**Saty** 11nm,0.2s	**1.13**	**302**	P		**Pb**	**Pb**	**23 30 31.4**	**-0.6**
SATY				S		**Sb**	**Sb**	**23 30 45.2**	**-1.9**
SATY	**Saty**	**1.13**	**302**	*e*P		**Pb**	**Pb**	**23 30 31.4**	**-0.6**

SATY	11nm,0.2s			*e*S		**Sb**	**Sb**	**23 30 45.2**	**-1.9**
ZHN	**Zhinishke** 9.8nm,0.1s	**1.17**	**307**	*e*P		**Pn**	**Pn**	**23 30 31.7**	**-1.4**
ZHN				*e*S		**Sb**	**Sb**	**23 30 46.1**	**-2.2**
KPKS	**Kokpek** 91nm,0.2s	**1.25**	**324**	*e*P		**Pn**	**Pn**	**23 30 33.2**	**-1.0**
KPKS				*e*S		**Sb**	**Sb**	**23 30 48.6**	**-2.0**
KURS	**Kuram** 9.8nm,0.2s	**1.52**	**313**	P		**Pb**	**Pb**	**23 30 38.5**	**-0.2**
KURS				S		**Sb**	**Sb**	**23 30 57.6**	**-0.8**
KURS	**Kuram** baz=12	**1.52**	**313**	*e*P		**Pb**	**Pb**	**23 30 38.5**	**-0.2**
KURS				*e*S		**Sb**	**Sb**	**23 30 57.6**	**-0.8**
KURS	**Kuram** 9.8nm,0.2s	**1.52**	**313**	*e*P		**Pb**	**Pb**	**23 30 38.5**	**-0.2**
KURS				*e*S		**Sb**	**Sb**	**23 30 57.6**	**-0.8**
TARG	**Taragay, Kyrgy** baz=41	**1.59**	**243**	⇑*i*P		**Pb**	**Pb**	**23 30 40.0**	**-0.1**
TARG				⇑*i*S		**Sg**	**Sg**	**23 31 01.6**	**+0.5**
DJR	**Jarkent** 18nm,0.2s	**1.87**	**2**	P		**Pb**	**Pb**	**23 30 44.6**	**-0.1**
DJR				S		**Sb**	**Sb**	**23 31 08.4**	**0.0**
DJR	**Jarkent** 18nm,0.2s	**1.87**	**2**	*e*P		**Pb**	**Pb**	**23 30 44.6**	**-0.1**
DJR				*e*S		**Sb**	**Sb**	**23 31 08.4**	**0.0**
MNBS	**Baschi** 30nm,0.2s	**1.87**	**330**	P		**Pb**	**Pb**	**23 30 44.4**	**-0.3**
MNBS				S		**Sg**	**Sg**	**23 31 08.6**	**-1.6**
MNBS	**Baschi** 30nm,0.2s	**1.87**	**330**	*e*P		**Pb**	**Pb**	**23 30 44.5**	**-0.3**
MNBS				*e*S		**Sg**	**Sg**	**23 31 08.3**	**-1.8**
KDJ	**Kajisay** baz=59	**1.90**	**261**	⇑*i*P		**Pb**	**Pb**	**23 30 45.3**	**0.0**
KDJ				⇑*i*S		**Sg**	**Sg**	**23 31 10.8**	**-0.2**
KOTS	**Kotyrbulak** 28nm,0.2s	**2.06**	**293**	Pg		**Pb**	**Pb**	**23 30 48.5**	**+0.6**
KOTS				Lg		Lg	Lg	23 31 15.0	
KOTS	**Kotyrbulak** 28nm,0.2s	**2.06**	**293**	*e*P		**Pb**	**Pb**	**23 30 48.5**	**+0.6**
KOTS				*e*S		**Sg**	**Sg**	**23 31 15.0**	**-1.0**
MDOK	**Medeo**	**2.08**	**291**	⇓Pg		**Pb**	**Pb**	**23 30 47.7**	**-0.5**
MDOK				Lg		Lg	Lg	23 31 14.0	
MDOK	**Medeo** 15nm,0.2s	**2.08**	**291**	Pg		**Pb**	**Pb**	**23 30 48.1**	**-0.1**
MDOK				Lg		Lg	Lg	23 31 14.7	
MDOK	**Medeo** baz=90	**2.08**	**291**	*e*P		**Pb**	**Pb**	**23 30 48.1**	**-0.1**
MDOK				*e*S		**Sb**	**Sb**	**23 31 13.9**	**-0.5**
MDOK	**Medeo** 15nm,0.2s	**2.08**	**291**	*e*P		**Pb**	**Pb**	**23 30 48.1**	**-0.1**
MDOK				*e*S		**Sb**	**Sb**	**23 31 14.3**	**-0.1**
TNSS	**Tian-Shan** 25nm,0.2s	**2.11**	**287**	Pg		**Pb**	**Pb**	**23 30 48.7**	**-0.3**
TNSS				Lg		Lg	Lg	23 31 15.5	
TNSS	**Tian-Shan** baz=86	**2.11**	**287**	*e*P		**Pb**	**Pb**	**23 30 48.7**	**-0.3**
TNSS				*e*S		**Sb**	**Sb**	**23 31 15.6**	**-0.1**
TNSS	**Tian-Shan** 25nm,0.2s	**2.11**	**287**	*e*P		**Pb**	**Pb**	**23 30 48.7**	**-0.3**
TNSS				*e*S		**Sb**	**Sb**	**23 31 15.5**	**-0.1**
AAA	**Alma-Ata** 48nm,0.3s	**2.18**	**291**	Pg		**Pg**	**Pg**	**23 30 51.0**	**-0.7**
AAA				Lg		Lg	Lg	23 31 19.3	
ARXS	**Arharly** 26nm,0.3s	**2.22**	**323**	Pg		**Pb**	**Pb**	**23 30 50.1**	**-0.6**
ARXS				Lg		Lg	Lg	23 31 18.1	
ARXS	**Arharly** 26nm,0.3s	**2.22**	**323**	*e*P		**Pb**	**Pb**	**23 30 50.1**	**-0.6**
ARXS				*e*S		**Sb**	**Sb**	**23 31 17.8**	**-0.8**
MTBS	**Maitube** 21nm,0.3s	**2.50**	**287**	Pg		**Pb**	**Pb**	**23 30 55.7**	**+0.3**
MTBS				Lg		Lg	Lg	23 31 27.4	
MTBS	**Maitube** 21nm,0.3s	**2.50**	**287**	*e*P		**Pb**	**Pb**	**23 30 55.7**	**+0.3**
MTBS				⇑*i*S		**Sb**	**Sb**	**23 31 27.4**	**+0.8**
KTBS	**Karatobe** 12nm,0.2s	**2.54**	**300**	Pg		**Pb**	**Pb**	**23 30 56.1**	**0.0**
KTBS				Lg		Lg	Lg	23 31 28.0	
KTBS	**Karatobe** baz=99	**2.54**	**300**	*e*P		**Pb**	**Pb**	**23 30 56.1**	**0.0**
KTBS				*e*S		**Sb**	**Sb**	**23 31 28.1**	**+0.3**
KTBS	**Karatobe** 12nm,0.2s	**2.54**	**300**	*e*P		**Pb**	**Pb**	**23 30 56.1**	**0.0**
KTBS				*e*S		**Sb**	**Sb**	**23 31 28.0**	**+0.3**
ULHL	**Ulahol** baz=65	**2.58**	**266**	⇓*i*P		**Pb**	**Pb**	**23 30 55.0**	**-1.8**
ULHL				⇓*i*S		**Sb**	**Sb**	**23 31 26.8**	**-2.1**
TDK	**Taldyqorghan** 72nm,0.5s	**2.71**	**340**	Pg		**Pb**	**Pb**	**23 30 58.6**	**-0.3**
TDK				Lg		Lg	Lg	23 31 32.2	
TDK	**Taldyqorghan** 72nm,0.5s	**2.71**	**340**	*e*P		**Pb**	**Pb**	**23 30 58.6**	**-0.3**
TDK				*e*S		**Sb**	**Sb**	**23 31 32.2**	**-0.2**
BOOM	**Boomskoye usch** baz=71	**2.79**	**272**	⇓*i*P		**Pn**	**Pn**	**23 30 57.1**	**+1.7**
BOOM				⇓*i*S		**Sb**	**Sb**	**23 31 31.6**	**-3.3**
KST	**Kastek** 20nm,0.2s	**2.81**	**283**	Pg		**Pb**	**Pb**	**23 31 00.3**	**-0.6**
KST				Lg		Lg	Lg	23 31 35.4	
KST	**Kastek** 20nm,0.2s	**2.81**	**283**	*e*P		**Pb**	**Pb**	**23 31 00.2**	**-0.6**
KST				*e*S		**Sb**	**Sb**	**23 31 35.4**	**-0.3**
KAPS	**Kapalarasan** 8.2nm,0.3s	**2.83**	**355**	Pg		**Pb**	**Pb**	**23 31 01.4**	**+0.4**
KAPS				Lg		Lg	Lg	23 31 37.5	
KAPS	**Kapalarasan** 8.2nm,0.3s	**2.83**	**355**	*e*P		**Pb**	**Pb**	**23 31 01.4**	**+0.4**
KAPS				*e*S		**Sb**	**Sb**	**23 31 37.5**	**+1.4**
KUU	**Kurty** 4.3nm,0.2s	**2.85**	**301**	Pg		**Pb**	**Pb**	**23 31 01.1**	**-0.1**
KUU				Lg		Lg	Lg	23 31 37.0	
KUU	**Kurty** 4.3nm,0.2s	**2.85**	**301**	*e*P		**Pb**	**Pb**	**23 31 01.1**	**-0.1**
KUU				*e*S		**Sb**	**Sb**	**23 31 37.0**	**+0.5**
DGS	**Degeres** 24nm,0.3s	**2.99**	**286**	Pg		**Pb**	**Pb**	**23 31 03.8**	**-0.1**
DGS				Lg		Lg	Lg	23 31 41.4	
DGS	**Degeres** 24nm,0.3s	**2.99**	**286**	*e*P		**Pb**	**Pb**	**23 31 03.8**	**-0.1**
DGS				*e*S		**Sb**	**Sb**	**23 31 41.4**	**+0.6**
TKM2	**Tokmak 2** 5.3nm,0.4s	**3.06**	**280**	⇑Pn		**Pb**	**Pb**	**23 31 02.7**	**-2.3**
TKM2				⇑Lg		Lg	Lg	23 31 45.6	
TKM2	**Tokmak 2** baz=79	**3.06**	**280**	⇓*e*P		**Pn**	**Pn**	**23 31 01.2**	**+1.9**
TKM2				⇓*i*S		**Sb**	**Sb**	**23 31 38.2**	**-4.7**
KZA	**Kyzart** baz=64	**3.33**	**265**	⇑*i*P		**Pn**	**Pn**	**23 31 04.9**	**+1.8**
KZA				⇑*i*S		**Sn**	**Sn**	**23 31 45.2**	**+1.9**
KBK	**Karagaybulak** baz=74	**3.52**	**275**	⇑*i*P		**Pn**	**Pn**	**23 31 07.9**	**+2.4**
KBK				⇑*i*S		**Sn**	**Sn**	**23 31 49.0**	**+1.3**
CHMS	**Chumysh** baz=79	**3.69**	**280**	⇑*i*P		**Pn**	**Pn**	**23 31 09.5**	**+1.8**
CHMS				⇑*i*S		**Sn**	**Sn**	**23 31 52.8**	**+1.2**
AAK	**Ala-Archa** 2.6nm,0.9s	**3.85**	**274**	⇑Pn		**Pb**	**Pb**	**23 31 13.9**	**-4.6**
AAK				⇓Pg		**Pg**	**Pg**	**23 31 21.8**	**-1.9**
AAK	4.9nm,0.7s			⇑Lg		Lg	Lg	23 32 12.1	
AAK	**Ala-Archa** baz=74	**3.85**	**274**	⇓*e*P		**Pn**	**Pn**	**23 31 12.3**	**+2.2**
AAK				⇓*i*S		**Sn**	**Sn**	**23 31 56.9**	**+1.0**
UCH	**Uchtor** baz=67	**3.85**	**268**	⇓*i*P		**Pn**	**Pn**	**23 31 12.4**	**+2.0**
UCH				⇓*i*S		**Sn**	**Sn**	**23 31 57.4**	**+1.0**
USP	**Ospenovka** baz=83	**3.91**	**284**	⇑*i*P		**Pn**	**Pn**	**23 31 12.8**	**+2.0**
USP				⇑*i*S		**Sn**	**Sn**	**23 31 57.9**	**+0.8**
AML	**Almayashu** baz=67	**4.47**	**268**	⇑*i*P		**Pn**	**Pn**	**23 31 21.0**	**+2.2**
AML				⇑*i*S		**Sn**	**Sn**	**23 32 12.3**	**+0.9**
MK31	**Makanchi Array** 0.3nm,0.2s,baz=205,slow=13,SNR=68	**4.71**	**22**	⇑Pn		**Pn**	**Pn**	**23 31 24.5**	**+2.8**
MK31				⇓Sn		**Sn**	**Sn**	**23 32 19.4**	**+2.7**
MK31	0.4nm,0.2s,baz=203,slow=24,SNR=3.7			⇓Lg		Lg	Lg	23 32 39.8	
KK31	**Karatay Array** 0.7nm,0.5s,baz=92,slow=16,SNR=10	**6.79**	**278**	⇓Pg		Pb	Pb	23 32 14.2	+5.7
KK31	1.9nm,0.5s,baz=100,slow=29,SNR=10			⇓Lg		Lg	Lg	23 33 43.2	

ISCJB ***21*** *23:42:28.9±1.7, 4.°9N±0.°1×95.°7E±0.°1, h10km, mb3.7/2, Error ellipse: s-maj=18.0km s-min=13.6km az=144.5*
IDC ***21*** *23:42:30.2±2.5, 4.°17N×95.°41E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/55, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=59.2km s-min=29.1km az=33.0*
DJA ***21*** *23:42:31.4±1.1, 5.°N±5.°×9.°6E±.°, h10km, M4.0/7, mb4.2/1, mB4.4/1, MLv3.9/7, Mw(mB)3.6/1*
ISC 21 23:42:31.5±1.6, 4.°86N±0.°08×95.°8E±0.°1, h10km, n10, σ1§83/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.86**	**133**	P		**Pb**	**Pb**	**23 42 48.0**	**-0.6**
MLSI				S		**Sb**	**Sb**	**23 42 59.2**	**-1.0**
LHMI	**Lhok Sumawe**	**1.23**	**72**	P		**Pb**	**Pb**	**23 42 52.4**	**-2.4**
SNSI	**Sinabang, Aceh**	**2.50**	**167**	P		**Pn**	**Pn**	**23 43 11.8**	**-0.4**
PSI	**Prapat** 2.1nm,0.3s,baz=359,slow=5.4,SNR=9.7	**3.75**	**123**	Pn		**Pn**	**Pn**	**23 43 32.1**	**+2.6**
PSI	3.7nm,0.3s,baz=360,slow=13,SNR=4.3			Sn		**Sn**	**Sn**	**23 44 15.2**	**+1.3**
PSI	5.1nm,0.3s,baz=180,slow=16,SNR=7.4			Lg		Lg	Lg	23 44 30.9	
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=204,slow=11,SNR=4.3	**13.87**	**13**	Pn		**P**	**P**	**23 45 58.3**	**+1.6**
H08S2	**Diego Garcia H** baz=61,slow=75,SNR=6.2	**26.34**	**242**	T		T	T	00 15 04.5	
H08S3	**Diego Garcia H** baz=61,slow=75,SNR=4.3	**26.34**	**242**	T		T	T	00 15 05.6	
H08S1	**Diego Carcia H** baz=61,slow=75,SNR=4.1	**26.36**	**242**	T		T	T	00 15 03.9	
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=302,slow=9.7,SNR=4.2	**45.22**	**124**	P		**P**	**P**	**23 50 48.0**	**-1.3**
ASAR	**Alice Springs** 1.0nm,0.6s,baz=303,slow=7.5,SNR=7.6	**46.76**	**129**	P		**P**	**P**	**23 51 00.8**	**-0.7**

ISCJB ***22*** *00:09:55.4±0.4, 23.°08N±0.°03×101.°08E±0.°04, h10km, mb3.7/13, MS3.2/6, Error ellipse: s-maj=5.2km s-min=4.7km az=148.8*
IDC ***22*** *00:09:55.4±0.7, 23.°12N×101.°12E, h0km, mb3.7/14, mb1 3.9/15, mb1mx3.7/43, mbtmp3.7/15, ML3.8/1, MS3.3/5, Ms1 3.3/5, ms1mx2.8/38, Error ellipse: s-maj=23.2km s-min=13.0km az=84.0*
BJI ***22*** *00:09:56.0, 23.°07N×100.°95E, h8km, ML4.0/9, Ms3.7/5, Ms7 3.6/6*
PLV ***22*** *00:10:08.7±0.5, 23.°77N×102.°12E, h22km, ML3.3*
ISC 22 00:09:58.1±0.6, 23.°09N±0.°04×100.°98E±0.°05, h10km, n28, σ2§17/36, mb3.8/13, MS3.1/6, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MLAV	**Muong La stati**	**2.26**	**117**	*e*Pn		**Pn**	**Pn**	**00 10 37.6**	**+2.0**
MLAV				*e*Sg		**Sn**	**Sn**	**00 11 07.6**	**+4.1**
MLAV	comp=N,244nm,0.6s			IAML				00 11 17.3	
MLAV	comp=E,340nm,0.7s			IAML				00 11 18.4	
KMI	**Kunming**	**2.58**	**38**	Pg		**Pn**	**Pn**	**00 10 44.6**	**+4.4**
KMI				Sg		**Sg**	**Sg**	**00 11 21.4**	**+0.3**
KMI	comp=E,440nm,1.1s			smax		smax	smax		
KMI	comp=E,520nm,0.9s			smax		smax	smax		
TGV	**Tuan Giao**	**2.70**	**123**	*e*Pn		**Pb**	**Pb**	**00 10 47.3**	**+0.7**
TGV				*e*Sg		**Sb**	**Sb**	**00 11 22.7**	**+3.0**
TGV	comp=E,171nm,0.6s			IAML				00 11 27.2	
TGV	comp=N,132nm,0.6s			IAML				00 11 27.9	
TTVN	**Tram Tau**	**3.51**	**117**	*e*Pn		**Pn**	**Pn**	**00 10 52.6**	**-0.1**
TTVN				*e*Pg		**Pb**	**Pb**	**00 11 02.6**	**+2.3**
TTVN	comp=E,56nm,0.6s			IAML				00 11 54.3	
TTVN	comp=N,75nm,0.7s			IAML				00 12 02.9	
CHTO	**Chiang Mai** comp=N,322nm,1.4s,comp=N,3µm	**4.66**	**205**	P		**Pn**	**Pn**	**00 11 09.0**	**+0.4**
CMMT	**Chiang Mai** comp=N,63nm,0.8s,comp=N,695nm	**4.66**	**204**	P		**Pn**	**Pn**	**00 11 08.9**	**+0.3**
CMAR	**Chiang Mai Arr** comp=N,0.9nm,0.3s,baz=18,slow=13,SNR=20	**4.99**	**203**	Pn		**Pn**	**Pn**	**00 11 12.4**	**-0.7**
CMAR	comp=N,2.7nm,0.3s,baz=15,slow=17,SNR=62			Pg		**Pb**	**Pb**	**00 11 29.1**	**+3.6**
CMAR	comp=N,3.6nm,0.3s,baz=19,slow=29,SNR=15			Lg		Lg	Lg	00 12 35.4	
GYA	**Guiyang**	**6.16**	**56**	Pn		**Pn**	**Pn**	**00 11 27.8**	**-1.4**
GYA				Pg		**Pb**	**Pb**	**00 11 46.3**	**+0.8**
GYA				Sn		**Sn**	**Sn**	**00 12 37.4**	**-2.4**
GYA	comp=N,30nm,1.1s			smax		smax	smax		
GYA	comp=N,30nm,1.0s			smax		smax	smax		
GYA	comp=N,680nm,9.6s			LR		LR	LR		
GYA	comp=N,460nm,9.3s			LR		LR	LR		
GYA	comp=N,240nm,7.2s			LR		LR	LR		
SKNT	**Sakolnakorn**	**6.70**	**155**	P		**Pg**	**Pg**	**00 12 05.0**	**-1.5**
CD2	**Chengdu**	**8.17**	**17**	*e*P		**Pn**	**Pn**	**00 11 59.0**	**+2.2**
CD2				S		**Sn**	**Sn**	**00 13 34.1**	**+4.8**
CD2	comp=N,120nm,1.5s			smax		smax	smax		
CD2	comp=N,140nm,1.5s			smax		smax	smax		
GTA	**Gaotai**	**16.30**	**357**	*e*P		**P**	**P**	**00 13 52.8**	**+2.6**
GTA				pP		pP	pP	00 13 56.1	+2.6
GTA				sP		sP	sP	00 13 58.8	+3.8
GTA	comp=Z,3.0nm,1.2s			pmax		pmax	pmax		
HHC	**Hu-ho-hao-te**	**19.82**	**24**	*e*P		**P**	**P**	**00 14 31.8**	**+2.8**
PSI	**Prapat** comp=Z,2.4nm,0.4s,baz=357,slow=8.7,SNR=5.3	**20.27**	**186**	P		**P**	**P**	**00 14 35.8**	**+1.7**
PSI	comp=Z,103nm,18.9s,baz=294,slow=35			LR		LR	LR	00 21 48.9	
WMQ	**Urumqi**	**23.40**	**335**	*e*P		**P**	**P**	**00 15 04.8**	**-2.4**
WMQ	comp=Z,46nm,24.3s			LR		LR	LR		

WMQ					LR	LR			
	comp=Z,84nm,25.3s								
WMQ					LR	LR			
	comp=Z,95nm,25.3s								
SONM	**Songino Array**	**25.07**	**9**	P	**P**		**00 15 21.5**	**-1.2**	
	comp=Z,0.7nm,0.6s,baz=186,slow=10.0,SNR=6.2								
MKAR	**Makanchi Array**	**28.04**	**332**	P	**P**		**00 15 49.0**	**-0.5**	
	comp=Z,1.3nm,0.6s,baz=140,slow=10.0,SNR=18								
MKAR					LR	LR	00 28 51.5		
	comp=Z,43nm,20.7s,baz=116,slow=40								
AAK	**Ala-Archa**	**29.39**	**318**	P	**P**		**00 16 02.2**	**+0.6**	
	comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=2.7								
AAK					LR	LR	00 29 51.9		
	comp=Z,38nm,20.4s,baz=108,slow=41								
KURBB	**Kurchatov Arra**	**32.58**	**333**	P	**P**		**00 16 29.0**	**-0.5**	
	comp=Z,1.4nm,1.0s,baz=141,slow=9.8,SNR=7.9								
USRK	**Ussuriysk Ar.**	**33.01**	**43**	P	**P**		**00 16 32.1**	**-1.2**	
	comp=Z,0.8nm,0.5s,baz=247,slow=5.6,SNR=2.4								
ZALV	**Zalesovo Beam**	**33.14**	**342**	P	**P**		**00 16 33.7**	**-0.6**	
	comp=Z,1.4nm,0.8s,baz=148,slow=8.7,SNR=5.5								
ZALV					LR	LR	00 30 54.0		
	comp=Z,37nm,18.5s,baz=252,slow=38								
BVAR	**Borovoye Array**	**37.86**	**330**	P	**P**		**00 17 14.1**	**-0.8**	
	comp=Z,1.4nm,0.6s,baz=131,slow=8.2,SNR=8.5								
BVAR					PcP	**PcP**	**00 19 29.2**	**-1.9**	
	comp=Z,0.4nm,0.6s,baz=106,slow=3.6,SNR=3.2								
NRIK	**Noril'sk**	**46.97**	**354**	LR	LR		00 39 34.6		
	comp=Z,63nm,18.3s,baz=198,slow=38								
WRA	**Warramunga Arr**	**53.74**	**140**	P	**P**		**00 19 19.0**	**-1.8**	
	comp=Z,1.0nm,0.8s,baz=330,slow=7.9,SNR=8.4								
ASAR	**Alice Springs**	**56.42**	**143**	P	**P**		**00 19 38.7**	**-1.4**	
	comp=Z,0.8nm,0.8s,baz=329,slow=6.8,SNR=7.1								
AKASG	**Malin Array Be**	**61.04**	**316**	P	**P**		**00 20 10.2**	**-1.6**	
	comp=Z,0.4nm,0.4s,baz=79,slow=5.9,SNR=4.1								
GERES	**GERESS Array B**	**71.24**	**316**	P	**P**		**00 21 16.1**	**-1.5**	
	comp=Z,0.4nm,0.6s,baz=62,slow=2.7,SNR=3.3								
ILAR	**Eielson Array**	**78.25**	**24**	P	**P**		**00 21 55.6**	**-2.2**	
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=3.5								
YKA	**Yellowknife Ar**	**90.13**	**16**	P	**P**		**00 22 56.7**	**-1.5**	
	comp=Z,0.2nm,0.7s,baz=322,slow=4.3,SNR=4.6								

*ISCJB **22** 00:16:42.8±0.4, 39.61N±0.02×26.05E±0.03, h7km±3km, Error ellipse: s-maj=4.4km s-min=3.0km az=171.0*
*ATH **22** 00:16:42.9, 39.61N×26.00E, h21km±2km, ML2.4/2, Error ellipse: s-maj=3.1km s-min=1.0km az=227.0*
*DDA **22** 00:16:42.8, 39.62N×26.09E, h7km±2km, ML3.1*
*ISK **22** 00:16:42.2, 39.60N×26.06E, h6km, ML2.6/19*
*THE **22** 00:16:43.4, 39.61N×26.00E, h7km±1km, ML2.3/2, Error ellipse: s-maj=1.9km s-min=0.4km az=228.0*

ISC 22 00:16:43.0±0.9, 39.61N±0.02×26.07E±0.03, h9km±7km, n46, σ0.946/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.16**	**161**	PG	**Pg**	**00 16 46.0**	**-0.4**
GPNR				SG	**Sg**	**00 16 48.6**	**-0.2**
BOZC	**Bozcaada**	**0.23**	**357**	PG	**Pg**	**00 16 47.4**	**-0.4**
BOZC				SG	**Sg**	**00 16 51.3**	**+0.3**
BOZC	**Bozcaada**	**0.23**	**357**	*i* P	**Pg**	**00 16 48.5**	**+0.7**
BOZC				*i* S	**Sg**	**00 16 51.7**	**+0.7**
EZN	**Ezine**	**0.29**	**43**	PG	**Pg**	**00 16 48.6**	**-0.3**
EZN				SG	**Sg**	**00 16 53.2**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.39**	**70**	*i* P	**Pb**	**00 16 51.5**	**-0.7**
BAYC				*i* S	**Sg**	**00 16 56.1**	**+0.2**
PRK	**Paraskevi**	**0.40**	**156**	P	**Pb**	**00 16 51.8**	**-0.3**
PRK				S	**Sb**	**00 16 58.0**	**-0.3**
PRK	**Paraskevi**	**0.40**	**156**	P	**Pb**	**00 16 51.9**	**-0.3**
PRK				S	**Sb**	**00 16 57.8**	**-0.4**
PRK				AML	AML	00 16 59.4	
	comp=E,1981μm,0.4s						
PRK				AML	AML	00 16 59.7	
	comp=N,2248μm,0.3s						
SIGR	**SIGRI**	**0.43**	**202**	PG	**Pg**	**00 16 51.1**	**-0.2**
SIGR				SG	**Sg**	**00 16 57.2**	**+0.2**
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**00 16 51.2**	**-0.2**
SIGR				S	**Sg**	**00 16 57.6**	**+0.6**
SIGR	**SIGRI**	**0.43**	**202**	P	**Pg**	**00 16 51.2**	**-0.2**
SIGR				S	**Sg**	**00 16 57.2**	**+0.2**
SIGR				AML	AML	00 16 58.1	
	comp=E,561μm,0.3s						
SIGR				AML	AML	00 16 58.2	
	comp=N,831μm,0.6s						
AYVA	**Ayvalik**	**0.57**	**122**	*i* P	**Pb**	**00 16 54.7**	**-0.4**
AYVA				*i* S	**Sg**	**00 17 01.6**	**+0.1**
AYVA				IAML_P			
	comp=Z,870nm,0.1s						
LIA	**Limnos Island**	**0.74**	**293**	P	**Pg**	**00 16 57.0**	**-0.3**
LIA				S	**Sg**	**00 17 06.9**	**0.0**
LIA	**Limnos Island**	**0.74**	**293**	P	**Pg**	**00 16 56.6**	**-0.7**
LIA				S	**Sg**	**00 17 06.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.85**	**22**	PG	**Pg**	**00 16 59.1**	**-0.2**
LPK	**Lapseki**	**0.93**	**35**	PG	**Pg**	**00 17 00.6**	**-0.3**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**00 17 00.6**	**-0.8**
SMTH	**Samothraki Isl**	**0.95**	**335**	P	**Pg**	**00 17 00.6**	**-0.8**
ZEDA	**zmir-Bergama**	**1.01**	**129**	*i* P	**Pb**	**00 17 03.0**	**+0.3**
ZEDA				*i* S	**Sb**	**00 17 16.7**	**+0.6**
ZEDA				IAML_P			
	comp=Z,1μm,0.1s						
ERIK	**Erikli-Kesan**	**1.11**	**18**	PN	**Pg**	**00 17 03.3**	**-1.1**
ENEZ	**Enez**	**1.13**	**3**	PN	**Pg**	**00 17 04.3**	**-0.4**
CHOS	**Chios island**	**1.22**	**180**	PN	**Pg**	**00 17 05.9**	**-0.5**
CHOS	**Chios island**	**1.22**	**180**	P	**Pg**	**00 17 06.2**	**-0.2**
CHOS	**Chios island**	**1.22**	**180**	P	**Pg**	**00 17 06.2**	**-0.2**
KRBG	**Karabiga-Canak**	**1.23**	**50**	PN	**Pn**	**00 17 06.6**	**+0.3**
ALN	**Alexandroupoli**	**1.29**	**359**	PN	**Pn**	**00 17 07.0**	**-0.1**
ALN	**Alexandroupoli**	**1.29**	**359**	P	**Pn**	**00 17 06.5**	**-0.6**
ALN				S	**Sn**	**00 17 24.4**	**-0.1**
ALN	**Alexandroupoli**	**1.29**	**359**	P	**Pn**	**00 17 07.0**	**-0.1**
STEP	**BALIKESIR_Sava**	**1.30**	**100**	*i* P	**Pn**	**00 17 06.8**	**-0.5**
STEP				IAML_P			
	comp=Z,900nm,0.2s						
KESN	**Edirne-Kesan**	**1.30**	**21**	*i* P	**Pb**	**00 17 07.9**	**+0.1**
KESN				*i* S	**Sn**	**00 17 26.3**	**+0.9**
KESN				IAML_P			
	comp=Z,660nm,0.1s						
URLA	**Izmir**	**1.31**	**162**	PN	**Pn**	**00 17 07.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.32**	**70**	PN	**Pn**	**00 17 07.6**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.37**	**38**	PN	**Pn**	**00 17 08.4**	**0.0**
BALB	**Balikesir**	**1.40**	**88**	PN	**Pn**	**00 17 08.5**	**-0.2**
ZEY	**zmir**	**1.41**	**166**	*i* P	**Pn**	**00 17 09.1**	**+0.4**
ZEY				IAML_P			
	comp=Z,1μm,0.2s						
BLCB	**Balcova**	**1.44**	**148**	PN	**Pn**	**00 17 09.2**	**0.0**
MRMT	**Marmara Adasi**	**1.54**	**49**	PN	**Pn**	**00 17 10.8**	**+0.2**
AKHS	**Akhisar**	**1.54**	**118**	*i* P	**Pn**	**00 17 10.3**	**-0.4**
EDC	**Edincik**	**1.57**	**61**	PN	**Pn**	**00 17 11.1**	**+0.1**
RDO	**Rodhopi**	**1.59**	**345**	PN	**Pn**	**00 17 11.4**	**+0.1**
RDO	**Rodhopi**	**1.59**	**345**	P	**Pn**	**00 17 11.5**	**+0.3**
KAVA	**Kavala**	**1.82**	**320**	P	**Pn**	**00 17 14.9**	**+0.4**
KCTX	**Karacabey (Bur**	**1.88**	**69**	PN	**Pn**	**00 17 15.4**	**+0.1**
SMG	**Samos**	**1.99**	**162**	P	**Pn**	**00 17 18.2**	**+1.3**
MDNY	**Mudanya-Bursa**	**2.29**	**70**	PN	**Pn**	**00 17 21.5**	**+0.5**
EDRB	**Edirne**	**2.29**	**13**	PN	**Pn**	**00 17 21.5**	**+0.5**
ARMT	**Armutlu**	**2.35**	**65**	PN	**Pn**	**00 17 22.3**	**+0.6**

UPP 22 00:17:44.4±0.2, 67.82N×20.21E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	P	Pg	00 17 47.4	+0.2
KUA				S	Sg	00 17 49.4	+0.4
RATU	**Laukkuluspa**	**0.23**	**271**	P	Pg	00 17 49.1	+0.2
NIKU	**Nikkaluokta**	**0.45**	**277**	P	Pg	00 17 53.0	0.0
PAJU	**Pajala**	**1.38**	**124**	P	Pg	00 18 09.8	-0.9

*HEL **22** 00:17:45.7, 67.86N×19.97E, h0km, ML1.6, Explosion*
UPP 22 00:17:47.0±0.1, 67.82N×20.20E, h0km, ML1.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**21**	P	Pg	00 17 49.9	+0.3
KUA				S	Sg	00 17 51.9	+0.4
KUA	**Kurravaara**	**0.14**	**21**	*i* P	Pg	00 17 49.9	+0.3
KUA				*i* S	Sg	00 17 51.9	+0.4
RATU	**Laukkuluspa**	**0.23**	**270**	P	Pg	00 17 51.6	+0.2
RATU				S	Sg	00 17 54.9	+0.5
RATU	**Laukkuluspa**	**0.23**	**270**	*i* P	Pg	00 17 51.6	+0.2
RATU				*i* S	Sg	00 17 54.9	+0.5
NIKU	**Nikkaluokta**	**0.45**	**276**	P	Pg	00 17 55.5	0.0
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	00 17 55.5	0.0
LANU	**Lannavaara**	**0.71**	**71**	*e*P	Pg	00 18 00.3	-0.3
	baz=263						
LANU				*e*S	Sg	00 18 10.0	+0.2
DUNU	**Dundret**	**0.72**	**169**	P	Pg	00 18 00.5	-0.2
DUNU	**Dundret**	**0.72**	**169**	*i* P	Pg	00 18 00.5	-0.2
SALU	**Saltoluokta**	**0.79**	**236**	P	Pg	00 18 01.8	-0.3
SALU	**Saltoluokta**	**0.79**	**236**	*i* P	Pg	00 18 01.8	-0.3
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*P	Pg	00 18 10.3	+0.2
KIF	**Kilpisjarvi**	**1.21**	**10**	MSG		00 18 22.8	
	comp=Z,4.9nm,0.2s						
KIF				*e*SB	Sb	00 18 26.3	-0.5
HEF	**Hetta**	**1.42**	**64**	*e*P	Pn	00 18 10.9	-3.1
HEF	**Hetta**	**1.42**	**64**	MSG		00 18 30.3	
	comp=Z,5.9nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*P	Pn	00 18 13.8	-1.3
KALU	**Kalix**	**2.33**	**146**	*e*PB	Pn	00 18 27.7	+1.1
	baz=338						
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	00 18 28.7	+1.4
	baz=332						
TOF				MSG		00 18 58.8	
	comp=Z,2.3nm,0.2s						
SGF	**Sodankyl**	**2.45**	**96**	*e*P	Pn	00 18 28.9	+0.8
	baz=280						
SGF				*e*SG	Sb	00 19 03.6	+1.1
KEV	**Kevo**	**3.14**	**49**	MSG		00 19 19.2	
	comp=Z,1.7nm,0.2s						

*IDC **22** 00:19:42.9±5.0, 16.88N×101.52W, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.5/33, mbtmp3.2/6, ML3.0/2, Error ellipse: s-maj=110.4km s-min=38.3km az=25.0*
*ISCJB **22** 00:19:51.8±0.6, 17.58N±0.06×101.22W±0.03, h48km±6km, mb3.2/4, Error ellipse: s-maj=9.4km s-min=5.0km az=7.0*
*NEIC **22** 00:19:54.0±0.0, 17.59N×101.23W, h45km, MD4.1(MEX), After MEX.*
*MEX **22** 00:19:54.1±0.5, 17.59N×101.23W, h44km±5km, MD4.0*
ISC 22 00:19:52.5±1.0, 17.57N±0.06×101.20W±0.03, h42km±9km, n24, σ1.909/35, mb3.3/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.25**	**279**	*e*P	**Pn**	**00 20 00.3**	**-0.1**
ZIIG				*e*S	**Sn**	**00 20 06.1**	**+0.1**
ZIIG	**Zihuatanejo**	**0.25**	**279**	*e*P	**Pn**	**00 20 00.3**	**-0.1**
ZIIG				*e*S	**Sn**	**00 20 06.1**	**+0.1**
CAIG	**El Cayaco**	**1.03**	**120**	*e*P	**Pn**	**00 20 10.7**	**+0.2**
CAIG	**El Cayaco**	**1.03**	**120**	*e*P	**Pn**	**00 20 10.7**	**+0.2**
CAIG				*i* S	**Sn**	**00 20 23.8**	**0.0**
ARIG	**Puente Sto Nin**	**1.08**	**49**	*e*P	**Pn**	**00 20 11.1**	**-0.1**
ARIG				*e*S	**Sn**	**00 20 24.2**	**-0.8**
ARIG	**Puente Sto Nin**	**1.08**	**49**	*e*P	**Pn**	**00 20 11.1**	**-0.1**
ARIG				*e*S	**Sn**	**00 20 24.2**	**-0.8**
MEIG	**Mezcala**	**1.55**	**77**	*e*P	**Pn**	**00 20 18.7**	**+1.0**
MEIG	**Mezcala**	**1.55**	**77**	*e*P	**Pn**	**00 20 18.7**	**+1.0**
MEIG				*i* S	**Sn**	**00 20 37.3**	**+0.6**
PLIG	**Platanillo**	**1.81**	**63**	*e*P	**Pn**	**00 20 21.5**	**+0.1**
PLIG	**Platanillo**	**1.81**	**63**	*e*P	**Pn**	**00 20 21.5**	**+0.1**
PLIG				*i* S	**Sn**	**00 20 42.6**	**-0.6**
MOIG	**Morelia**	**2.10**	**0**	*e*P	**Pn**	**00 20 26.1**	**+0.7**
MOIG	**Morelia**	**2.10**	**0**	*i* P	**Pn**	**00 20 25.4**	**0.0**
MOIG				*i* S	**Sn**	**00 20 49.9**	**-0.6**
MMIG	**Aquila**	**2.16**	**290**	*e*P	**Pn**	**00 20 25.9**	**-0.2**
MMIG	**Aquila**	**2.16**	**290**	*e*P	**Pn**	**00 20 25.9**	**-0.2**
MMIG				*i* S	**Sn**	**00 20 50.7**	**-1.0**
YAIG	**Yautepec**	**2.40**	**57**	*e*P	**Pn**	**00 20 29.4**	**-0.1**
YAIG	**Yautepec**	**2.40**	**57**	*e*P	**Pn**	**00 20 29.4**	**-0.1**
YAIG				*i* S	**Sn**	**00 20 57.9**	**+0.1**
TLIG	**Tlapa**	**2.52**	**90**	*e*P	**Pn**	**00 20 32.5**	**+1.4**
TLIG	**Tlapa**	**2.52**	**90**	*e*P	**Pn**	**00 20 32.3**	**+1.3**
TLIG				*i* S	**Sn**	**00 21 00.9**	**+0.4**
CMIG	**Matias Romero**	**6.05**	**94**	Pn	**Pn**	**00 21 18.5**	**-1.0**
	0.2nm,0.3s,baz=256,slow=16,SNR=2.6						
CMIG				Sn	**Sn**	**00 22 23.1**	**-4.5**
	0.4nm,0.3s,baz=233,slow=19,SNR=2.3						
CMIG				Lg	Lg	00 22 58.0	
	0.3nm,0.3s,baz=64,slow=15,SNR=1.9						
TXAR	**Lajitas Array**	**11.93**	**350**	Pn	Pn	00 22 46.1	+5.9
	0.0nm,0.3s,baz=157,slow=14,SNR=4.4						
NVAR	**Mina Array Bea**	**25.60**	**328**	P	**P**	**00 25 18.2**	**0.0**
	1.5nm,0.8s,baz=154,slow=13,SNR=3.7						
PDAR	**Pinedale Array**	**26.11**	**346**	P	**P**	**00 25 24.8**	**+2.1**
	0.3nm,0.5s,baz=158,slow=9.7,SNR=2.4						
YKA	**Yellowknife Ar**	**45.85**	**351**	P	**P**	**00 28 09.5**	**-0.8**
	0.1nm,0.6s,baz=157,slow=7.1,SNR=3.3						
ILAR	**Eielson Array**	**56.17**	**338**	P	**P**	**00 29 28.6**	**+0.7**
	0.4nm,1.0s,baz=176,slow=5.4,SNR=4.6						

MEX 22 00:58:16.5±0.3, 14.37N×92.79W, h26km±24km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.74**	**43**	*i* P	Pb	00 58 28.6	-2.2
THIG				*i* S	Sb	00 58 38.1	-2.4
PCIG		**1.39**	**343**	*e*P	Pn	00 58 37.7	-2.6
PCIG				*i* S	Sn	00 58 54.1	-3.7
CCIG	**Comitan**	**2.00**	**18**	*e*P	Pn	00 58 46.9	-2.0
CCIG				*i* S	Sn	00 59 09.9	-3.3
CMIG	**Matias Romero**	**3.38**	**324**	*e*P	Pn	00 59 05.9	-1.7
CMIG				*i* S	Sn	00 59 44.1	-2.8

MEX 22 01:03:52.5±0.3, 14.10N×92.23W, h13km±54km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.86**	**329**	*e*P	Pn	01 04 20.6	-3.6
PCIG				*i* S	Sn	01 04 42.8	-4.8
CCIG	**Comitan**	**2.18**	**2**	*e*P	Pn	01 04 26.2	-2.5
CCIG				*i* S	Sn	01 04 51.5	-4.2
CMIG	**Matias Romero**	**3.92**	**320**	*e*P	Pn	01 04 50.1	-2.5
CMIG				*i* S	Sn	01 05 35.0	-3.5

*ISCJB **22** 01:05:31.7±0.3, 61.28N±0.03×69.41E±0.05, h10km, mb4.0/29, MS3.6/20, Error ellipse: s-maj=4.0km s-min=3.3km az=24.7*
*MOS **22** 01:05:32.1±1.6, 61.40N×69.36E, h10km, mb4.3/10, Error ellipse: s-maj=9.5km s-min=5.9km az=84.2*
*IDC **22** 01:05:32.3±0.6, 61.52N×69.71E, h0km, mb3.8/18, mb1 4.1/27, mb1mx3.9/44, mbtmp4.0/27, ML4.0/9, MS3.6/22, Ms1 3.6/22, ms1mx3.4/45, Error ellipse: s-maj=8.9km s-min=7.7km az=42.0*
*NEIC **22** 01:05:33.2±0.3, 61.44N×69.54E, h10km, mb4.2/11, Error ellipse: s-maj=6.9km s-min=4.6km az=222.0*
*NNC **22** 01:05:38.8±6.3, 61.05N×69.45E, h27km±105km, mb4.2, mpv4.5, Error ellipse: s-maj=70.3km s-min=22.0km az=177.0*
*MIRAS **22** 01:05:38.0±0.0, 61.54N×69.55E, h10km, mb5.6/7, Ms3.7/5*
ISC 22 01:05:33.2±0.4, 61.36N±0.04×69.55E±0.04, h10km, n128, σ2.547/158, mb4.1/29, MS3.6/20, 13C-7D, Northwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVUR	**Severouralsk**	**4.83**	**260**	P	**Pn**	**01 06 44.9**	**-1.0**
SVUR	**Severouralsk**	**4.83**	**260**	*i* P	**Pn**	**01 06 44.9**	**-1.0**
	4.3nm,0.3s						
SVE	**Sverdlovsk**	**6.46**	**229**	*e*P	**Pn**	**01 07 08.8**	**+0.6**
SVE				*e*S	**Sn**	**01 08 21.4**	**-0.4**
SVE				pmax	pmax		
	comp=Z,140nm,1.0s						
SVE				MLR	MLR		
	comp=Z,1μm,13.0s						
KAUR	**Kamensk Uralsk**	**6.46**	**224**	P	**Pn**	**01 07 08.2**	**0.0**
KAUR				S	**Sn**	**01 08 22.0**	**+0.1**
KAUR	**Kamensk Uralsk**	**6.46**	**224**	*i* P	**Pn**	**01 07 08.2**	**0.0**
	comp=Z,27nm,0.3s						
KAUR				*e*S	**Sn**	**01 08 22.0**	**+0.1**
	comp=Z,368nm,2.8s						
SOKR	**Solikamsk**	**6.55**	**260**	P	Pn	01 07 14.6	+5.2
SOKR	**Solikamsk**	**6.55**	**260**	*e*P	Pn	01 07 14.6	+5.2
	comp=Z,13nm,0.8s						
PR1R	**Pomanovo**	**6.73**	**257**	P	**Pn**	**01 07 10.6**	**-1.3**
PR1R				S	**Sn**	**01 08 25.8**	**-2.7**
PR1R	**Pomanovo**	**6.73**	**257**	*i* P	**Pn**	**01 07 10.6**	**-1.3**
	comp=Z,21nm,0.5s						
PR1R				*e*S	**Sn**	**01 08 25.8**	**-2.7**
	comp=Z,872nm,5.3s						
PR3R	**Kungur**	**7.50**	**244**	P	**Pn**	**01 07 21.6**	**-0.9**
PR3R				S	**Sn**	**01 08 44.2**	**-3.3**
PR3R	**Kungur**	**7.50**	**244**	*i* P	**Pn**	**01 07 21.6**	**-0.9**
	comp=Z,29nm,0.4s						
PR3R				*e*S	**Sn**	**01 08 44.2**	**-3.3**
	comp=Z,80nm,2.8s						
ARU	**Arti**	**7.53**	**234**	*e*Pn	**Pn**	**01 07 22.0**	**-0.9**
ARU	**Arti**	**7.53**	**234**	P	**Pn**	**01 07 22.2**	**-0.7**
ARU				S	**Sn**	**01 08 46.8**	**-1.4**
ARU	**Arti**	**7.53**	**234**	*i* P	**Pn**	**01 07 22.2**	**-0.7**
	comp=Z,1.5nm,0.4s						
ARU				*e*S	**Sn**	**01 08 46.8**	**-1.4**
	comp=Z,3μm,14.0s						
PR4R	**Vlasy**	**7.83**	**250**	P	**Pn**	**01 07 26.9**	**-0.1**
PR4R				S	**Sn**	**01 08 51.6**	**-3.9**
PR4R	**Vlasy**	**7.83**	**250**	*i* P	**Pn**	**01 07 26.9**	**-0.1**
	comp=Z,119nm,0.4s						
PR4R				*e*S	**Sn**	**01 08 51.6**	**-3.9**
	comp=Z,267nm,5.1s						
BRVK	**Borovoye**	**8.33**	**177**	*e*Pn	**Pn**	**01 07 34.7**	**+0.8**
BRVK	**Borovoye**	**8.33**	**177**	*e*P	**Pn**	**01 07 34.7**	**+0.8**
BVA0	**Borovoye Array**	**8.37**	**176**	⇑Pn	**Pn**	**01 07 35.3**	**+0.8**
	comp=Z,13nm,0.6s,baz=353,slow=15,SNR=102						
BVA0				⇑Sn	**Sn**	**01 09 08.7**	**-0.2**
	comp=Z,62nm,0.7s,baz=5.1,slow=28,SNR=6.5						
BVAR	**Borovoye Array**	**8.37**	**176**	Pn	**Pn**	**01 07 35.5**	**+1.1**
	comp=Z,5.3nm,0.3s,baz=351,slow=15,SNR=83						
BVAR				Sn	**Sn**	**01 09 09.5**	**+0.6**
	comp=Z,19nm,0.3s,baz=347,slow=27,SNR=17						
BVAR				Lg	Lg	01 10 09.9	
	comp=Z,3.6nm,0.3s,baz=358,slow=28,SNR=3.7						
BVAR				LR	LR	01 11 36.2	
	comp=Z,231nm,21.7s,baz=360,slow=43						
AMDE	**Amderma**	**9.03**	**342**	⇑*i* P	**Pn**	**01 07 39.1**	**-4.3**
	comp=Z,4.5nm,0.5s						
AMDE				*i* S	Sn	01 09 13.9	-11
NVS	**Novosibirsk**	**9.74**	**126**	*e*P	**Pn**	**01 07 55.2**	**+2.0**
NVS				*e*S	**Sn**	**01 09 44.5**	**+2.0**
KIRV	**Kirov**	**10.45**	**264**	Pn	**Pn**	**01 08 02.9**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=77,slow=1.7,SNR=10.0						
KIRV				Sn	**Sn**	**01 09 53.1**	**-6.8**
	comp=Z,2.6nm,0.3s,baz=213,slow=4.3,SNR=4.4						
KIRV				Lg	Lg	01 11 10.5	
	comp=Z,1.4nm,0.3s,baz=276,slow=22,SNR=3.6						
KIRV				LR	LR	01 13 05.5	
	comp=Z,100nm,20.2s,baz=244,slow=43						
NRIK	**Noril'sk**	**10.93**	**35**	Pn	**Pn**	**01 08 05.4**	**-4.0**
	comp=Z,2.6nm,0.3s,baz=233,slow=10,SNR=15						
NRIK				Sn	Sn	01 09 58.0	-14
	comp=Z,8.3nm,0.3s,baz=308,slow=21,SNR=9.9						
NRIK				LR	LR	01 13 30.1	
	comp=Z,303nm,18.4s,baz=216,slow=44						
ZAA1	**Zalesovo Array**	**11.02**	**125**	*e*Pn	**Pn**	**01 08 11.7**	**+1.0**
ZAA1				*e*Sn	**Sn**	**01 10 11.4**	**-2.5**
ZAA0	**Zalesovo Array**	**11.03**	**125**	*e*Pn	**Pn**	**01 08 11.6**	**+0.8**
ZAA0	**Zalesovo Array**	**11.03**	**125**	⇑Pn	**Pn**	**01 08 11.8**	**+1.0**
	comp=Z,0.9nm,0.8s						
ZAA0				⇑Sn	**Sn**	**01 10 08.9**	**-5.1**
	comp=Z,8.6nm,0.9s						
ZALV	**Zalesovo Beam**	**11.03**	**125**	*e*Pn	**Pn**	**01 08 11.2**	**+0.5**
ZALV				Sn	**Sn**	**01 10 11.4**	**-2.6**
ZALV				Lg	Lg	01 11 38.9	
ZALV	**Zalesovo Beam**	**11.03**	**125**	*e*P	**Pn**	**01 08 12.0**	**+1.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZALV	**Zalesovo Beam**	**11.03**	**125**	Pn	**Pn**	**01 08 11.7**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=316,slow=14,SNR=19						
ZALV				Sn	**Sn**	**01 10 11.4**	**-2.6**
	comp=Z,4.1nm,0.3s,baz=322,slow=21,SNR=11						
ZALV				Lg	Lg	01 11 38.9	
	baz=316,slow=27,SNR=1.5						
PRGR	**Permogore**	**11.41**	**282**	⇓*i* P	**Pn**	**01 08 15.5**	**-0.5**
PRGR				*i*		01 10 16.2	
PRGR				pmax	pmax		
	comp=Z,17nm,0.6s						
KURK	**Kurchatov**	**11.80**	**151**	*e*Pn	**Pn**	**01 08 19.7**	**-1.7**
KURK	**Kurchatov**	**11.80**	**151**	Pn	**Pn**	**01 08 19.0**	**-2.3**
KURK				Sn	**Sn**	**01 10 29.7**	**-3.2**
KURK	**Kurchatov**	**11.80**	**151**	*i* P	**Pn**	**01 08 20.6**	**-0.7**
KURBB	**Kurchatov Arra**

comp=Z,1.0nm,0.3s,baz=163,slow=22,SNR=3.5
OBN Lg Lg 01 15 14.1
comp=Z,0.5nm,0.3s,baz=162,slow=19,SNR=2.1
VRH Novokhopyorsk 18.34 249 *eP* **Pn 01 09 46.4 -0.9**
VRH pmax pmax
comp=Z,30nm,1.7s
LPSR Galich'ya Gora 18.68 256 *eP* **Pn 01 09 52.1 +0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
AAK Ala-Archa 18.99 169 *eP* **Pn 01 09 55.3 -0.1**
comp=Z,4.4nm,0.6s
AAK S **Sn 01 13 22.1 -5.8**
AAK Lg Lg 01 15 48.6
AAK Ala-Archa 18.99 169 ⇓*P* **Pn 01 09 58.2 +2.8**
comp=Z,4.7nm,0.9s
AAK ⇓S **Sn 01 13 24.4 -3.5**
comp=Z,13nm,1.1s
AAK Ala-Archa 18.99 169 *i P* **Pn 01 09 58.1 +2.7**
AAK Ala-Archa 18.99 169 P **Pn 01 09 58.5 +3.0**
comp=Z,0.5nm,0.3s,baz=33,slow=5.7,SNR=9.9
AAK S **Sn 01 13 22.1 -5.8**
comp=Z,0.3nm,0.3s,baz=215,slow=23,SNR=5.3
AAK Lg Lg 01 15 48.6
comp=Z,0.1nm,0.3s,baz=241,slow=19,SNR=1.5
AAK LR LR 01 18 06.5
comp=Z,241nm,18.5s,baz=342,slow=39
VSR Storozhevoye 19.49 252 *i P* **P 01 09 59.1 -0.9**
VSR pmax pmax
comp=Z,13nm,0.4s
ARA0 ARCESS Array S 19.59 313 *eP* **P 01 09 58.5 -2.5**
ARCES ARCESS Array B 19.59 313 P **P 01 09 58.5 -2.5**
comp=Z,0.6nm,0.3s,baz=86,slow=12,SNR=17
ARCES S S 01 13 22.2 -20
comp=Z,0.3nm,0.3s,baz=96,slow=26,SNR=3.3
TARG Taragay, Kyrgy 20.29 162 *eP* Pn 01 10 13.8 +2.6
comp=Z,12nm,0.7s
NRN Naryn 20.34 166 *eP* Pn 01 10 12.4 +0.7
comp=Z,5.0nm,0.8s
FIA1 FINESS Array S 20.52 289 *eP* **P 01 10 11.1 -0.1**
FIA0 FINESS Array S 20.53 289 *eP* **P 01 10 11.0 -0.2**
FIA0 FINESS Array S 20.53 289 *eP* **P 01 10 11.0 -0.2**
FINES FINESS Array B 20.53 289 *eP* **P 01 10 11.4 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 20.53 289 P **P 01 10 11.0 -0.2**
comp=Z,1.6nm,0.5s,baz=71,slow=10,SNR=12
FINES S S 01 13 46.7 -14
comp=Z,3.9nm,0.7s,baz=86,slow=22,SNR=3.7
FINES LR LR 01 18 13.0
comp=Z,27nm,19.4s,baz=80,slow=37
TLY Talaya 20.91 102 *eP* Pn 01 10 21.1 +3.0
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,158nm,11.0s
ZAK Zakamensk 21.62 105 *eP* **P 01 10 28.1 +4.9**
ZAK *e* 01 15 15.1
ZAK pmax pmax
comp=Z,3.0nm,1.4s
GAR Garm 22.39 178 *eP* **P 01 10 34.8 +3.2**
comp=Z,19nm,0.9s
GAR Garm 22.39 178 *eP* **P 01 10 34.8 +3.2**
GAR pmax pmax
comp=Z,19nm,0.9s
BOD Bodaibo 22.44 79 *eP* **P 01 10 34.0 +2.1**
BOD *e* 01 14 23.3
BOD pmax pmax
comp=Z,13nm,0.9s
GOF Gofitskoye 22.52 236 ⇓*iP* **P 01 10 38.8 +6.0**
GOF pmax pmax
comp=Z,70nm,0.9s
MAK Makhachkala 22.65 226 *eP* **P 01 10 32.2 -1.9**
MAK *eS* **S 01 14 40.8 -1.1**
MAK pmax pmax
comp=Z,30nm,0.8s
MAK MLR MLR
comp=Z,600nm,15.0s
CHGR Chuyangaron 22.73 181 *eP* **P 01 10 37.5 +2.4**
comp=Z,18nm,1.0s
GROC Groznyy 23.04 229 *eP* **P 01 10 36.8 -1.5**
GROC *e* 01 11 01.8
GROC *e* 01 14 26.5
GROC *eS* **S 01 14 47.0 -1.8**
GROC pmax pmax
comp=Z,23nm,1.3s
SPITS Spitsbergen Ar 23.51 336 P **P 01 10 41.5 -1.3**
comp=Z,71nm,0.9s,baz=111,slow=16,SNR=6.8
SPITS S **S 01 14 53.5 -2.6**
comp=Z,7.2nm,0.9s,baz=110,slow=28,SNR=3.5
SPITS LR LR 01 22 57.4
comp=Z,124nm,18.2s,baz=310,slow=45
NCK Nalchik 23.61 233 *i P* **P 01 10 44.1 +0.1**
NCK pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 23.68 234 P **P 01 10 46.3 +1.7**
comp=Z,4.9nm,0.8s,baz=12,slow=10.0,SNR=8.3
KBZ S **S 01 15 06.6 +7.3**
comp=Z,2.6nm,0.7s,baz=360,slow=18,SNR=3.9
KBZ LR LR 01 21 57.2
comp=Z,174nm,18.7s,baz=18,slow=41
SHA1 Shidzhatmaz 23.77 234 *i P* **P 01 10 48.4 +2.6**
ZEI Tsey 24.10 231 *eP* **P 01 10 54.7 +5.8**
ZEI pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 24.51 263 *i P* **P 01 10 52.5 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 24.51 263 P **P 01 10 52.2 -0.2**
comp=Z,2.3nm,0.7s,baz=43,slow=9.3,SNR=7.5
AKASG LR LR 01 21 07.4
comp=Z,193nm,20.5s,baz=30,slow=38
GEYT Alibeck 24.52 202 P **P 01 10 56.4 +3.8**
comp=Z,1.1nm,0.6s,baz=72,slow=9.5,SNR=2.7
GEYT LR LR 01 20 33.8
comp=Z,65nm,18.6s,baz=25,slow=36
KIEV Kiev 24.52 263 *eP* **P 01 10 52.2 -0.3**
comp=Z,2.8nm,0.4s
TIXI Tiksi 24.63 41 *ceP* **P 01 10 51.9 -1.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 24.63 41 P **P 01 10 52.2 -1.0**
comp=Z,2.2nm,0.3s,baz=279,slow=3.5,SNR=4.6
TIXI S **S 01 15 18.0 +4.0**
comp=Z,0.8nm,0.3s,baz=103,slow=19,SNR=2.3
TIXI LR LR 01 21 47.5
comp=Z,110nm,19.4s,baz=310,slow=40
SONA0 Songino Array 24.87 106 *eP* **P 01 10 56.9 +1.2**
SONM Songino Array 24.87 106 P **P 01 10 57.0 +1.2**
SONM Songino Array 24.87 106 P **P 01 10 56.9 +1.2**
comp=Z,0.2nm,0.4s,baz=289,slow=9.0,SNR=3.2
GNI Garni 26.10 227 *eP* **P 01 11 07.6 +0.5**
GNI Garni 26.10 227 P **P 01 11 08.7 +1.7**
comp=Z,3.3nm,0.9s,baz=51,slow=14,SNR=1.9
GNI LR LR 01 24 14.0
comp=Z,282nm,18.6s,baz=26,slow=43
HFS Hagfors 26.62 292 P **P 01 11 11.5 +0.2**
comp=Z,1.0nm,0.5s,baz=88,slow=9.0,SNR=4.3
NB2 NORSAR Subarra 27.30 295 P **P 01 11 17.5 0.0**
comp=Z,0.7nm,0.8s,baz=88,slow=8.6
NB200 NORSAR Array S 27.30 295 *eP* **P 01 11 17.6 0.0**
NOA NORSAR Array B 27.30 295 *eP* **P 01 11 21.0 +3.4**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 27.30 295 P **P 01 11 17.6 0.0**
comp=Z,0.8nm,0.7s,baz=62,slow=8.9,SNR=4.2
NOA LR LR 01 21 11.1
comp=Z,84nm,18.9s,baz=55,slow=34
BUR08 Bucovina Ar. S 28.53 262 *eP* **P 01 11 29.2 +0.5**
comp=Z,5.4nm,0.9s
MLR Muntele Rosu 29.74 258 P **P 01 11 43.1 +3.6**
comp=Z,1.8nm,0.8s,baz=153,slow=19,SNR=2.6
BRTR Keskin Array B 30.82 242 *eP* **P 01 11 52.1 +3.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 30.82 242 P **P 01 11 51.8 +2.7**
comp=Z,0.9nm,0.8s,baz=57,slow=6.6,SNR=6.1
BRTR LR LR 01 27 21.9
comp=Z,62nm,18.8s,baz=79,slow=42
CLL Collm 31.91 278 *eP* **P 01 12 00.0 +1.6**
GERES GERESS Array B 33.22 274 LR LR 01 27 12.3
comp=Z,103nm,18.1s,baz=52,slow=39
BFO Black Forest 36.15 278 *i P* **P 01 12 37.0 +1.7**
BILL Bilibino 37.75 38 *eP* **P 01 12 49.4 +0.8**
BILL pmax pmax
comp=Z,11nm,2.8s
BILL MLR MLR
comp=Z,288nm,24.0s
USRK Ussuriysk Ar. 39.73 86 LR LR 01 31 15.0
comp=Z,174nm,18.3s,baz=326,slow=39
KSRS Korea Array 42.97 96 LR LR 01 33 46.0
comp=Z,94nm,19.3s,baz=316,slow=40
CMAR Chiang Mai Arr 47.61 141 P **P 01 14 11.5 +2.4**
comp=Z,0.9nm,0.3s,baz=331,slow=7.8,SNR=5.9
CMAR LR LR 01 37 26.5
comp=Z,44nm,19.1s,baz=190,slow=40
ESDC Sonseca Array 48.49 279 P **P 01 14 17.2 +1.4**
comp=Z,0.3nm,0.4s,baz=31,slow=7.9,SNR=4.3
MAJO Matsushiro 48.65 88 *eP* **P 01 14 17.4 +0.4**
MAJO Matsushiro 48.65 88 *eP* **P 01 14 17.4 +0.4**
MJAR Matsushiro Arr 48.65 88 P **P 01 14 17.4 +0.4**
comp=Z,0.9nm,0.4s,baz=330,slow=7.4,SNR=2.5
MJAR LR LR 01 36 36.0
comp=Z,90nm,18.9s,baz=295,slow=38
IM3 Indian Mountai 49.01 22 *eP* **P 01 14 18.3 -1.1**
ILAR Eielson Array 51.27 19 P **P 01 14 36.7 +0.1**
comp=Z,0.2nm,0.7s,baz=349,slow=7.3,SNR=2.9
YKA Yellowknife Ar 56.43 2 P **P 01 15 13.7 -0.5**
comp=Z,0.4nm,0.7s,baz=354,slow=7.5,SNR=12
YKB5 Yellowknife Ar 56.43 2 *eP* **P 01 15 13.1 -1.2**
SCHQ Schefferville 59.14 332 LR LR 01 43 10.7
comp=Z,66nm,19.1s,baz=325,slow=38
TOA1 Torodi Ar. Sit 67.97 257 *eP* **P 01 16 32.8 +0.5**
TORD Torodi Ar. Bea 67.97 257 P **P 01 16 32.8 +0.5**
comp=Z,0.7nm,0.9s,baz=1.9,slow=8.9,SNR=4.2
TORD LR LR 01 48 38.3
comp=Z,38nm,18.6s,baz=300,slow=38
GUMO Guam 71.14 96 LR LR 01 48 58.2
comp=Z,32nm,18.7s,baz=100,slow=37

DJA ***22*** *01:31:51.2±2.2,3°S±6°×12°9E±°, h11km±18km, M3.0/6, MLv3.0/6*
ISCJB ***22*** *01:31:53.7±1.0,2°58S±0°10×129°2E±0°1, h100km, mb3.1/2, Error ellipse: s-maj=18.4km s-min=8.6km az=41.2*
IDC ***22*** *01:31:53.5±4.5,2°14S×128°96E, h136km±56km, mb2.8/2, mb1 3.0/5, mb1mx2.9/44, mbtmp3.3/5, Error ellipse: s-maj=64.3km s-min=19.1km az=88.0*

ISC 22 01:31:54.9±1.2, 2°63S±0°09×129°24E±0°08, h100km, n8, σ1s81/8, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.00**	**160**	P	**Pn**	**01 32 26.1**	**-1.4**
NLAI	**Namlea**	**2.22**	**254**	P	**Pn**	**01 32 28.6**	**-1.7**
SIJI	**Sorong**	**2.68**	**49**	P	**Pn**	**01 32 36.0**	**-0.4**
	1.5nm,0.3s,baz=239,slow=22,SNR=15						
SIJI				S	**Sn**	**01 33 08.4**	**+0.1**
	2.8nm,0.3s,baz=91,slow=23,SNR=5.4						
FAKI	**Fak Fak**	**3.02**	**96**	P	**Pn**	**01 32 38.5**	**-2.5**
FITZ	**Fitzroy Crossi**	**15.78**	**193**	P	**P**	**01 35 33.4**	**+0.1**
	0.1nm,0.3s,baz=18,slow=6.4,SNR=3.1						
WRA	**Warramunga Arr**	**17.92**	**164**	P	**Pn**	**01 35 59.7**	**+2.0**
	0.1nm,0.3s,baz=342,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**21.40**	**168**	P	**P**	**01 36 36.0**	**+1.2**
	0.7nm,0.5s,baz=348,slow=10,SNR=6.2						
MKAR	**Makanchi Array**	**64.18**	**326**	P	P	01 42 10.1	-8.9
	0.2nm,0.7s,baz=138,slow=7.3,SNR=2.7						

SJA 22 01:35:18.3±0.6, 31°81S×67°96W, h116km±4km, ML3.2, MW3.8, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.49**	**264**	*i* P	Pn	01 35 36.5	+0.6
RTCV				*i* S	Sn	01 35 49.6	+0.6
SJA	**San Juan**	**0.58**	**299**	*i* P	Pn	01 35 37.3	+0.8
SJA				IAML		01 35 37.5	
	comp=Z,410nm,0.1s						
RTLL	**Cerro Villicun**	**0.65**	**318**	*i* P	Pn	01 35 37.8	+0.9
RTLL				*i* S	Sn	01 35 51.8	+0.9
RTLL				AMSG		01 35 52.3	
	comp=N,31μm,0.1s						
AMOG	**MOGNA**	**0.98**	**332**	*i* P	Pn	01 35 40.9	+0.9
ASAL	**Salagasta**	**1.07**	**223**	*i* P	Pn	01 35 41.7	+0.8
ASAL				*i* S	Sn	01 35 59.1	+1.2
RTLS	**Leoncito**	**1.14**	**270**	*i* P	Pn	01 35 42.7	+1.0
RTLS				*i* S	Sn	01 36 00.9	+1.5
RTLS				IAML		01 36 01.2	
	comp=Z,277nm,0.3s						
AUSP	**Uspallata**	**1.28**	**251**	*i* P	Pn	01 35 44.2	+1.0
ARCO	**CERRO ARCO**	**1.31**	**218**	*i* P	Pn	01 35 44.4	+0.9
ARCO				IAML		01 36 06.8	
	comp=Z,278nm,0.3s						
AAGR	**Agrelo**	**1.47**	**210**	*i* P	Pn	01 35 46.3	+1.1
APLL	**PUNTA DE LOS L**	**1.87**	**41**	*i* P	Pn	01 35 50.8	+0.8
APLL				IAML		01 36 17.3	
	comp=Z,70nm,0.1s						
MRA	**San Martin**	**2.00**	**108**	*i* P	Pn	01 35 52.5	+0.9
MRA				IAML		01 36 18.8	
	comp=Z,62nm,0.2s						

IDC ***22*** *01:39:23.9±5.7, 15°76N×98°58W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/36, mbtmp3.4/7, ML3.2/2, MS3.4/4, Ms1 3.4/4, ms1mx3.0/21, Error ellipse: s-maj=110.4km s-min=37.7km az=13.0*
MEX ***22*** *01:39:33.7±0.6, 16°51N×98°48W, h17km±38km, MD4.2*
NEIC ***22*** *01:39:33.7±0.0, 16°52N×98°49W, h17km, MD4.2(MEX), After MEX.*

ISC 22 01:39:29.8±2.4, 16°53N±0°07×98°47W±0°03, h9km±14km, n26, σ1s28/39, mb3.4/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.03**	**355**	*eP*	**Pb**	**01 39 50.0**	**0.0**
TLIG				*i* S	**Sg**	**01 40 02.8**	**-0.4**
TLIG	**Tlapa**	**1.03**	**355**	*eP*	**Pb**	**01 39 50.0**	**0.0**
TLIG				*i* S	**Sg**	**01 40 02.8**	**-0.4**
VHO	**Vista Hermosa**	**1.75**	**72**	*eP*	**Pn**	**01 40 00.8**	**+0.3**
VHO	**Vista Hermosa**	**1.75**	**72**	*eP*	**Pn**	**01 40 00.8**	**+0.3**
VHO				*i* S	**Sn**	**01 40 21.6**	**-1.4**
MEIG	**Mezcala**	**1.77**	**322**	*eP*	**Pb**	**01 40 01.7**	**-0.8**
MEIG	**Mezcala**	**1.77**	**322**	*eP*	**Pn**	**01 40 00.7**	**0.0**
MEIG				*i* S	**Sn**	**01 40 22.4**	**-1.1**
CAIG	**El Cayaco**	**1.80**	**287**	*eP*	**Pn**	**01 40 01.2**	**+0.2**
CAIG				*i* S	**Sn**	**01 40 21.3**	**-2.7**
CAIG	**El Cayaco**	**1.80**	**287**	*eP*	**Pn**	**01 40 01.2**	**+0.2**
CAIG				*i* S	**Sn**	**01 40 21.3**	**-2.7**
PLIG	**Platanillo**	**2.10**	**332**	*eP*	**Pn**	**01 40 06.4**	**+1.2**
PLIG	**Platanillo**	**2.10**	**332**	*eP*	**Pn**	**01 40 05.7**	**+0.5**
PLIG				*i* S	**Sn**	**01 40 29.5**	**-2.1**
YAIG	**Yautepec**	**2.39**	**346**	*eP*	**Pb**	**01 40 11.9**	**-1.2**
YAIG	**Yautepec**	**2.39**	**346**	*eP*	**Pn**	**01 40 09.7**	**+0.4**
YAIG				*i* S	**Sn**	**01 40 36.8**	**-2.0**
HUIG	**Huatulco**	**2.39**	**108**	*eP*	**Pn**	**01 40 09.4**	**+0.3**
HUIG	**Huatulco**	**2.39**	**108**	*eP*	**Pn**	**01 40 09.4**	**+0.3**
HUIG				*i* S	**Sn**	**01 40 37.2**	**-1.4**
ARIG	**Puente Sto Nin**	**2.50**	**314**	*eP*	**Pn**	**01 40 12.6**	**+1.9**
ARIG	**Puente Sto Nin**	**2.50**	**314**	*i* P	**Pn**	**01 40 11.6**	**+0.9**
ARIG				*i* S	**Sn**	**01 40 40.3**	**-1.1**
ZIIG	**Zihuatanejo**	**3.06**	**291**	*eP*	**Pn**	**01 40 18.9**	**+0.6**
ZIIG	**Zihuatanejo**	**3.06**	**291**	*eP*	**Pn**	**01 40 18.9**	**+0.6**
ZIIG				*i* S	**Sn**	**01 40 53.6**	**-1.5**
CMIG	**Matias Romero**	**3.48**	**80**	*eP*	**Pn**	**01 40 24.1**	**0.0**
CMIG				*i* S	**Sn**	**01 41 05.0**	**-0.5**
CMIG	**Matias Romero**	**3.48**	**80**	P	**Pn**	**01 40 24.1**	**0.0**
	2.6nm,0.3s,baz=248,slow=9.1,SNR=16						
CMIG				S	**Sn**	**01 41 02.7**	**-2.8**
	5.3nm,0.3s,baz=89,slow=18,SNR=4.9						
CMIG				LR	LR	01 42 03.5	
	comp=Z,204nm,19.8s,baz=197,slow=42						
TXAR	**Lajitas Array**	**13.61**	**340**	Pn	**P**	**01 42 51.5**	**-0.8**
	0.0nm,0.3s,baz=157,slow=14,SNR=4.6						
TXAR				LR	LR	01 48 22.9	
	comp=Z,157nm,19.0s,baz=0.0,slow=38						
ANMO	**Albuquerque**	**19.69**	**340**	P	**Pn**	**01 44 03.1**	**+2.2**
	0.5nm,0.6s,baz=144,slow=12,SNR=2.7						
ANMO				LR	LR	01 52 16.7	
	comp=Z,152nm,19.8s,baz=124,slow=38						
PDAR	**Pinedale Array**	**27.82**	**342**	P	**P**	**01 45 19.8**	**+0.2**
	0.6nm,0.9s,baz=138,slow=12,SNR=4.0						
PDAR				LR	LR	01 56 21.4	
	comp=Z,83nm,20.5s,baz=158,slow=36						
NVAR	**Mina Array Bea**	**27.91**	**325**	P	**P**	**01 45 21.1**	**+0.6**
	0.2nm,0.3s,baz=155,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**47.30**	**350**	P	**P**	**01 48 03.8**	**+0.5**
	0.3nm,0.8s,baz=158,slow=7.4,SNR=6.5						
ILAR	**Eielson Array**	**58.11**	**338**	P	**P**	**01 49 24.8**	**+1.4**
	0.3nm,0.9s,baz=138,slow=6.8,SNR=2.8						

IDC 22 02:03:11.1±4.2, 47°05N×150°55E, h91km±41km, mb3.2/7, mb1 3.5/8, mb1mx3.2/41, mbtmp3.6/8, Error ellipse: s-maj=36.3km s-min=17.6km az=127.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**6.31**	**245**	P	Pn	02 04 41.5	+0.1
	0.4nm,0.3s,baz=66,slow=12,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**30.35**	**148**	T	T	02 41 00.7	
	baz=338,slow=76,SNR=25						
H11N1	**WAKE ISLAND Hy**	**30.36**	**148**	T	T	02 41 02.4	
	baz=338,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**30.37**	**148**	T	T	02 41 01.6	
	baz=338,slow=76,SNR=27						
H11S1	**WAKE ISLAND Hy**	**31.41**	**150**	T	T	02 42 22.5	
	baz=339,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**31.42**	**150**	T	T	02 42 24.6	
	baz=339,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy**	**31.43**	**150**	T	T	02 42 25.4	
	baz=339,slow=76,SNR=27						
ILAR	**Eielson Array**	**37.41**	**39**	P	P	02 10 14.8	+0.1
	1.0nm,1.2s,baz=299,slow=6.1,SNR=3.4						
INK	**Inuvik**	**42.34**	**32**	P	P	02 10 55.1	-0.3
	1.3nm,1.1s,baz=294,slow=7.4,SNR=4.4						
MKAR	**Makanchi Array**	**45.23**	**296**	P	P	02 11 18.9	-0.1
	0.2nm,0.7s,baz=70,slow=6.0,SNR=3.5						
YKA	**Yellowknife Ar**	**51.72**	**36**	P	P	02 12 08.2	-0.2
	0.5nm,0.7s,baz=298,slow=7.0,SNR=8.4						
WRA	**Warramunga Arr**	**68.27**	**196**	P	P	02 14 01.2	-0.8
	0.4nm,0.7s,baz=12,slow=6.7,SNR=4.8						
ASAR	**Alice Springs**	**71.98**	**196**	P	P	02 14 25.4	+0.7
	0.6nm,0.6s,baz=3.4,slow=4.8,SNR=6.2						
TXAR	**Lajitas Array**	**78.86**	**59**	P	P	02 15 04.4	+0.2
	0.4nm,0.7s,baz=315,slow=4.2,SNR=4.6						

IDC 22 02:11:14.0±1.6, 11°58S×165°11E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/28, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=51.3km s-min=30.4km az=125.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.52**	**173**	Pn	Pn	02 13 46.8	+0.6
	0.4nm,0.3s,baz=327,slow=17,SNR=3.9						
WRA	**Warramunga Arr**	**30.72**	**250**	P	P	02 17 31.3	+0.2
	1.2nm,0.8s,baz=84,slow=8.8,SNR=5.7						
ASAR	**Alice Springs**	**32.00**	**244**	P	P	02 17 41.6	-0.7
	0.8nm,0.8s,baz=66,slow=9.8,SNR=5.5						
ILAR	**Eielson Array**	**84.21**	**19**	P	P	02 23 46.6	-0.5
	0.3nm,0.5s,baz=231,slow=4.6,SNR=7.9						
MKAR	**Makanchi Array**	**93.48**	**317**	P	P	02 24 32.6	+0.9
	0.1nm,0.4s,baz=97,slow=4.8,SNR=6.3						

IDC 22 02:14:47.6±2.0, 10°95S×165°65E, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.6/29, mbtmp3.8/5, ML3.7/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/27, Error ellipse: s-maj=54.8km s-min=32.7km az=132.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.81**	**284**	LR	LR	02 18 42.4	
	comp=Z,52nm,18.6s,baz=18,slow=40						
DZM	**Mont Dzumac**	**11.09**	**176**	Pn	Pn	02 17 27.7	+0.1
	0.5nm,0.3s,baz=312,slow=16,SNR=4.2						
CTA	**Charters Tower**	**20.76**	**242**	P	P	02 19 31.4	+1.1
	2.5nm,0.6s,baz=58,slow=9.5,SNR=2.7						
WRA	**Warramunga Arr**	**31.43**	**250**	P	P	02 21 10.9	0.0
	1.0nm,0.4s,baz=80,slow=9.4,SNR=57						
ASAR	**Alice Springs**	**32.75**	**243**	P	P	02 21 21.8	-0.8
	0.8nm,0.8s,baz=73,slow=9.8,SNR=6.1						
ILAR	**Eielson Array**	**83.45**	**19**	P	P	02 27 16.8	+0.1
	0.2nm,0.7s,baz=212,slow=6.4,SNR=3.2						

IDC 22 02:20:02.8±12.0, 20°23S×170°18E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/28, mbtmp3.9/3, Error ellipse: s-maj=296.7km s-min=40.7km az=35.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.62**	**264**	P	P	02 26 45.2	-0.1
	0.6nm,0.5s,baz=95,slow=8.2,SNR=17						
ASAR	**Alice Springs**	**33.76**	**257**	P	P	02 26 46.5	-0.1
	3.9nm,0.8s,baz=88,slow=9.3,SNR=29						
VNDA	**Vanda**	**57.48**	**182**	P	P	02 29 53.2	0.0
	0.3nm,0.5s,baz=27,slow=7.7,SNR=5.2						

MEX 22 02:21:31.1±0.6, 16°49N×98°46W, h16km±8km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**107**	*eP*	Pg	02 21 37.1	-0.9
PNIG				*i* S	Sg	02 21 42.1	-0.7
TLIG	**Tlapa**	**1.07**	**355**	*eP*	Pb	02 21 47.4	-4.0
TLIG				*i* S	Sb	02 22 00.9	-4.3
VHO	**Vista Hermosa**	**1.75**	**71**	*i* P	Pn	02 21 58.2	-2.9
VHO				*i* S	Sn	02 22 18.8	-4.4
MEIG	**Mezcala**	**1.81**	**322**	*eP*	Pn	02 21 58.4	-3.3
MEIG				*i* S	Sn	02 22 20.0	-4.4
PLIG	**Platanillo**	**2.13**	**332**	*i* P	Pn	02 22 06.0	-0.2
CMIG	**Matias Romero**	**3.48**	**80**	*eP*	Pn	02 22 19.1	-5.5

DJA 22 02:39:44.3±1.7, 6°S±14°×10°3E±°, h14km±23km, M3.7/4, MLv3.7/4, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**1.42**	**38**	P	Pn	02 40 09.8	0.0
LWLI				S	Sn	02 40 28.3	-0.1
KASI	**Kota Agung**	**1.44**	**64**	P	Pn	02 40 10.3	+0.3
KASI				S	Sn	02 40 28.5	-0.2
MNAI	**Manna**	**1.79**	**353**	P	Pn	02 40 13.6	-1.3
MNAI				S	Sb	02 40 38.5	-0.8
MDSI	**Maura Dua**	**1.92**	**31**	P	Pn	02 40 17.0	+0.4

ISCJB ***22*** *02:50:24.5±0.6, 16°3S±0°2×176°5W±0°1, h379km, mb3.9/10, Error ellipse: s-maj=22.3km s-min=12.6km az=156.0*
IDC ***22*** *02:50:29.6±3.3, 16°49S×176°40W, h426km±38km, mb3.6/10, mb1 3.8/12, mb1mx3.5/29, mbtmp4.3/12, Error ellipse: s-maj=26.6km s-min=14.2km az=165.0*

ISC 22 02:50:25.2±0.7, 16°3S±0°2×176°4W±0°1, h379km, n15, σ1s09/15, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**16.43**	**110**	P	**Pn**	**02 53 58.3**	**+0.5**
	0.5nm,0.3s,baz=255,slow=5.8,SNR=3.1						
DZM	**Mont Dzumac**	**17.23**	**248**	P	**P**	**02 54 03.6**	**+0.9**
	0.6nm,0.3s,baz=66,slow=21,SNR=4.9						
URZ	**Urewera**	**22.61**	**193**	P	**P**	**02 54 53.6**	**-1.1**
	11nm,0.4s,baz=267,slow=2.9,SNR=36						
STKA	**Stephens Creek**	**41.12**	**240**	P	**P**	**02 57 34.4**	**+0.3**
	1.1nm,0.3s,baz=77,slow=11,SNR=6.2						
JAY	**Jayapura**	**44.41**	**283**	P	**P**	**02 58 02.0**	**+1.6**
	6.2nm,0.6s,baz=46,slow=22,SNR=3.3						
WRA	**Warramunga Arr**	**46.88**	**258**	P	**P**	**02 58 18.4**	**-1.0**
	3.0nm,0.5s,baz=90,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**47.13**	**253**	P	**P**	**02 58 20.9**	**-0.4**
	12nm,0.5s,baz=86,slow=8.1,SNR=186						
NVAR	**Mina Array Bea**	**76.92**	**43**	P	**P**	**03 01 37.9**	**+0.7**
	0.9nm,0.7s,baz=228,slow=9.1,SNR=15						
TXAR	**Lajitas Array**	**83.48**	**57**	P	**P**	**03 02 13.8**	**+1.9**
	1.7nm,0.9s,baz=206,slow=6.0,SNR=12						
ILAR	**Eielson Array**	**83.91**	**12**	P	**P**	**03 02 11

*IDC **22** 03:02:03.0±1.4,2°.98S×130°.33E,h0km,mb3.6/2, mb1 3.7/5,mb1mx3.5/34,mbtmp3.5/5,MS3.3/3,Error ellipse: s-maj=49.7km s-min=20.4km az=93.0*
*ISCJB **22** 03:02:04.5±1.0,3°.01S±0°.07×130°.2E±0°.1,h24km,mb3.4/1, Error ellipse: s-maj=21.5km s-min=8.7km az=18.1*
*DJA **22** 03:02:06.4±2.2,3°.5S×13°.0E±°,h17km±19km,M3.2/5, MLv3.2/5*
ISC 22 03:02:06.4±1.0,2°.99S±0°.08×130°.3E±0°.1,h24km,n7, σ1§09/8,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.57**	**194**	P	**Pb**	**03 02 35.0**	**+0.2**
FAKI	**Fak Fak**	**1.97**	**88**	P	**Pn**	**03 02 39.0**	**+0.7**
SIJI	**Sorong**	**2.32**	**25**	P	**Pn**	**03 02 43.0**	**-0.2**
	3.1nm,0.3s,baz=193,slow=23,SNR=7.1						
SIJI				Sn	**Sn**	**03 03 10.8**	**-0.3**
	6.5nm,0.3s,baz=98,slow=15,SNR=4.9						
FITZ	**Fitzroy Crossi**	**15.69**	**197**	Pn	**Pn**	**03 05 46.0**	**-0.1**
	0.1nm,0.3s,baz=25,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**17.31**	**167**	P	**Pn**	**03 06 04.5**	**-2.2**
	0.2nm,0.3s,baz=348,slow=11,SNR=11						
ASAR	**Alice Springs**	**20.86**	**171**	P	**P**	**03 06 47.1**	**+0.4**
	3.0nm,0.7s,baz=350,slow=11,SNR=32						
MKAR	**Makanchi Array**	**65.06**	**326**	P	**P**	**03 12 45.5**	**+0.6**
	0.3nm,0.7s,baz=126,slow=7.4,SNR=3.0						

*IDC **22** 03:45:32.2±0.9,6°.07S×130°.32E,h0km,mb4.0/5, mb1 4.3/9,mb1mx3.9/40,mbtmp4.2/9,ML4.4/4,Error ellipse: s-maj=45.9km s-min=17.1km az=72.0*
*ISCJB **22** 03:45:38.6±0.4,5°.99S±0°.03×131°.09E±0°.06,h86km, mb3.8/6,Error ellipse: s-maj=8.5km s-min=4.8km az=170.7*
*NEIC **22** 03:45:40.7±1.1,5°.90S×131°.00E,h76km±11km,mb4.1/2, Error ellipse: s-maj=15.5km s-min=9.7km az=72.0*
*DJA **22** 03:45:41.1±0.4,6°.5S×13°.1E±°,h86km±16km,M4.5/9, mb4.4/4,mB5.1/4,MLv4.6/9,Mw(mB)4.5/4*
ISC 22 03:45:40.9±0.7,5°.82S±0°.05×131°.05E±0°.07,h86km,n30, σ1§64/27,mb4.0/6,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.72**	**318**	P	**Pn**	**03 46 09.2**	**-0.1**
BNDI				S	**Sn**	**03 46 31.5**	**+0.7**
SAUI	**Saumlaki**	**2.17**	**173**	*e*Pn	**Pn**	**03 46 15.7**	**+0.5**
SAUI	**Saumlaki**	**2.17**	**173**	P	**Pn**	**03 46 16.1**	**+0.9**
FAKI	**Fak Fak**	**3.12**	**23**	*e*Pn	**Pn**	**03 46 28.4**	**+0.5**
FAKI	**Fak Fak**	**3.12**	**23**	P	**Pn**	**03 46 28.8**	**+0.9**
SIJI	**Sorong**	**4.92**	**3**	Pn	**Pn**	**03 46 52.5**	**+0.1**
	18nm,0.3s,baz=21,slow=23,SNR=32						
SIJI				Sn	**Sn**	**03 47 43.0**	**-5.0**
	26nm,0.3s,baz=286,slow=23,SNR=13						
RKPI	**Ransiki, Papua**	**5.29**	**36**	P	**Pn**	**03 46 59.3**	**+1.8**
RKPI				S	**Sn**	**03 47 58.3**	**+1.0**
SANI	**Sanana**	**6.28**	**306**	P	**Pn**	**03 47 12.4**	**+1.4**
	15nm,0.9s						
MTN	**Manton Dam**	**6.98**	**179**	*e*Pn	**Pn**	**03 47 18.7**	**-1.8**
SOEI	**Soe**	**7.78**	**239**	*e*Pn	**Pn**	**03 47 30.4**	**-1.1**
SOEI	**Soe**	**7.78**	**239**	P	**Pn**	**03 47 30.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**13.30**	**203**	*e*Pn	Pn	03 48 40.7	-5.6
FITZ				*e*Sn	Sn	03 50 56.2	-16
FITZ	**Fitzroy Crossi**	**13.30**	**203**	Pn	Pn	03 48 37.5	-8.8
	1.8nm,0.3s,baz=18,slow=9.0,SNR=66						
FITZ				Sn	Sn	03 50 56.2	-16
	3.2nm,0.3s,baz=232,slow=18,SNR=8.8						
WRAB	**Tennant Creek**	**14.40**	**167**	*e*Pn	Pn	03 48 55.2	-5.4
	6.4nm,0.6s						
WRA	**Warramunga Arr**	**14.40**	**167**	Pn	Pn	03 48 55.2	-5.5
	1.6nm,0.3s,baz=344,slow=13,SNR=68						
WRA				Sn	Sn	03 51 25.6	-14
	4.4nm,0.3s,baz=345,slow=23,SNR=9.7						
WR1	**Warramunga Arr**	**14.40**	**167**	*e*Pn	Pn	03 48 55.2	-5.5
WR1				*e*Sn	Sn	03 51 25.6	-14
COEN	**Coen**	**14.42**	**125**	*e*Pn	**Pn**	**03 48 59.5**	**-1.4**
AS31	**Alice Springs**	**17.96**	**171**	*e*P	**P**	**03 49 42.9**	**-1.6**
	4.1nm,0.8s						
ASAR	**Alice Springs**	**17.96**	**171**	P	**P**	**03 49 42.5**	**-1.9**
	1.7nm,0.3s,baz=347,slow=10,SNR=52						
ASAR				S	Sn	03 52 52.5	-13
	1.4nm,0.3s,baz=357,slow=25,SNR=12						
AS01	**Alice Springs**	**17.96**	**171**	*e*P	**P**	**03 49 42.8**	**-1.8**
CTA	**Charters Tower**	**20.49**	**135**	P	Pn	03 50 15.2	+0.3
	12nm,0.9s,baz=310,slow=12,SNR=6.5						
CTAO	**Charters Tower**	**20.49**	**135**	*e*P	**P**	**03 50 11.9**	**-0.1**
STKA	**Stephens Creek**	**27.74**	**160**	P	**P**	**03 51 22.7**	**+1.2**
	2.0nm,0.4s,baz=339,slow=8.1,SNR=6.4						
MK01	**Makanchi Array**	**67.80**	**326**	*e*P	**P**	**03 56 30.9**	**+1.2**
MK32	**Makanchi Array**	**67.82**	**326**	*e*P	**P**	**03 56 31.7**	**+1.9**
MKAR	**Makanchi Array**	**67.82**	**326**	P	**P**	**03 56 31.7**	**+1.9**
	1.0nm,0.3s,baz=121,slow=8.8,SNR=12						
MAKZ	**Makanchi**	**68.00**	**326**	*e*P	**P**	**03 56 31.1**	**+0.1**
	1.8nm,0.6s						
AAK	**Ala-Archa**	**70.32**	**319**	*e*P	**P**	**03 56 46.9**	**+1.4**
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**72.06**	**328**	P	**P**	**03 56 56.2**	**+0.5**
	0.2nm,0.4s,baz=116,slow=4.4,SNR=3.3						
VNDA	**Vanda**	**73.49**	**173**	P	**P**	**03 57 05.3**	**+1.6**
	0.6nm,0.7s,baz=319,slow=7.7,SNR=4.1						

IDC 22 03:47:41.5±2.5,23°.03S×113°.87W,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.5/24,mbtmp3.4/3,MS3.8/5,Ms1 3.8/5, ms1mx3.7/7,Error ellipse: s-maj=147.2km s-min=66.3km az=79.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**19.42**	**266**	*e*T	T	04 10 45.7	
	1.9nm,0.3s						
TBI	**Tubuai**	**32.67**	**262**	*e*T	T	04 27 19.7	
	2.4nm,0.3s						
PPT2	**Papeete2**	**33.87**	**273**	*e*LQ	LQ	04 01 30.2	
	250nm,24.8s						
PPT2				*e*LR	LR	04 02 49.0	
	comp=Z,112nm,25.2s						
PPT	**Papeete**	**33.88**	**273**	LR	LR	04 04 17.2	
	comp=Z,99nm,18.4s,baz=108,slow=29						
PLCA	**Paso Flores**	**40.34**	**126**	LR	LR	04 07 51.9	
	comp=Z,263nm,18.1s,baz=228,slow=30						
LPAZ	**La Paz**	**43.45**	**90**	LR	LR	04 09 38.7	
	comp=Z,102nm,20.2s,baz=228,slow=30						
CPUP	**Villa Florida**	**51.13**	**106**	LR	LR	04 14 40.6	
	comp=Z,93nm,19.3s,baz=222,slow=32						
TXAR	**Lajitas Array**	**52.98**	**11**	LR	LR	04 15 28.3	
	comp=Z,52nm,18.5s,baz=0.0,slow=32						
NVAR	**Mina Array Bea**	**61.28**	**356**	P	P	03 57 58.6	-0.2
	0.1nm,0.3s,baz=182,slow=5.3,SNR=2.8						
PDAR	**Pinedale Array**	**65.59**	**3**	P	P	03 58 27.4	+0.1
	0.4nm,0.8s,baz=170,slow=5.9,SNR=3.2						
DZM	**Mont Dzumac**	**72.65**	**253**	*e*LR	LR	04 21 11.9	
	comp=Z,399nm,26.1s						
YKA	**Yellowknife Ar**	**85.23**	**360**	P	P	04 00 19.5	+0.1
	0.2nm,0.7s,baz=181,slow=5.2,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**87.84**	**291**	T	T	05 36 47.1	
	baz=116,slow=75,SNR=30						
H11S1	**WAKE ISLAND Hy**	**87.85**	**291**	T	T	05 36 49.0	
	baz=116,slow=75,SNR=15						
H11S3	**WAKE ISLAND Hy**	**87.86**	**291**	T	T	05 36 47.8	
	baz=116,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**88.18**	**292**	T	T	05 37 11.2	
	baz=117,slow=76,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**88.19**	**292**	T	T	05 37 04.8	
	baz=117,slow=76,SNR=3.1						
H11N2	**WAKE ISLAND Hy**	**88.20**	**292**	T	T	05 37 10.2	
	baz=117,slow=76,SNR=11						
BRTR	**Keskin Array B**	**147.87**	**51**	PKPbc	PKPbc	04 07 28.2	-0.7
	0.7nm,0.8s,baz=254,slow=2.6,SNR=2.3						
MKAR	**Makanchi Array**	**152.95**	**335**	PKPbc	PKPbc	04 07 40.6	-0.1
	0.4nm,0.7s,baz=25,slow=0.9,SNR=3.0						

*IDC **22** 03:50:12.0±0.9,57°.31S×24°.97W,h0km,mb4.0/5, mb1 4.1/6,mb1mx3.9/25,mbtmp4.0/6,ML4.0/1,MS3.7/1, Ms1 3.5/1,ms1mx3.0/19,Error ellipse: s-maj=39.4km s-min=21.2km az=74.0*
*ISCJB **22** 03:50:12.5±0.9,57°.3S±0°.1×25°.0W±0°.4,h15km,mb4.0/5, MS3.6/1,Error ellipse: s-maj=37.4km s-min=11.5km az=153.7*
ISC 22 03:50:14.0±0.8,57°.3S±0°.1×25°.0W±0°.2,h15km,n14, σ0§61/13,mb4.0/5,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.14**	**159**	P	**Pn**	**03 53 47.3**	**+0.3**
VNA3	**Neumayer Olymp**	**15.37**	**161**	P	**Pn**	**03 53 49.3**	**-0.7**
VNA2	**Neumayer--Watz**	**15.54**	**158**	P	**Pn**	**03 53 52.5**	**+0.3**
	baz=323,slow=14						
SNAA	**Sanae**	**17.07**	**156**	P	**P**	**03 54 12.5**	**-1.0**
SNAA	**Sanae**	**17.07**	**156**	P	**Pn**	**03 54 12.2**	**+0.4**
	0.5nm,0.3s,baz=329,slow=22,SNR=13						
QSPA	**South Pole Qui**	**32.91**	**180**	P	**P**	**03 56 47.6**	**+0.2**
	1.3nm,0.5s,baz=183,slow=1.2,SNR=10						
CPUP	**Villa Florida**	**38.58**	**310**	P	**P**	**03 57 35.5**	**-0.7**
	3.0nm,0.9s,baz=148,slow=8.1,SNR=4.2						
BOSA	**Boshof**	**45.14**	**72**	LR	LR	04 14 21.8	
	comp=Z,73nm,18.3s,baz=210,slow=32						
VNDA	**Vanda**	**45.34**	**182**	P	**P**	**03 58 31.4**	**+0.7**
	0.8nm,0.6s,baz=185,slow=6.0,SNR=7.1						
LPAZ	**La Paz**	**52.12**	**304**	P	**P**	**03 59 24.6**	**+0.4**
	2.2nm,0.7s,baz=217,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**73.60**	**27**	P	**P**	**04 01 46.9**	**+0.5**
	0.9nm,0.7s,baz=216,slow=5.5,SNR=7.7						
YKA	**Yellowknife Ar**	**137.95**	**316**	PKP	**PKiKP**	**04 09 38.1**	**-0.3**
	0.2nm,0.5s,baz=127,slow=2.5,SNR=5.9						
SONM	**Songino Array**	**149.57**	**87**	PKPbc	**PKPbc**	**04 10 01.3**	**-0.6**
	0.6nm,0.8s,baz=247,slow=3.5,SNR=4.6						
ILAR	**Eielson Array**	**151.89**	**309**	PKPbc	**PKiKP**	**04 10 07.0**	**+0.1**
	1.0nm,0.8s,baz=127,slow=2.3,SNR=12						

*JMA **22** 04:07:30.1±0.2,43°.88N×147°.69E,h34km,M3.6*
*SKHL **22** 04:07:30.7±0.3,44°.12N×147°.72E,h45km±1km,mb4.4/4*
ISC 22 04:07:28.6±3.2,44°.1N±0°.1×147°.8E±0°.1,h31km±19km,n12, σ0§90/20,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.72**	**254**	*i* P	**Pn**	**04 07 43.0**	**+0.3**
SHO				AMB	AMB	04 07 44.0	
	200nm,0.3s						
SHO				*i* S	**Sb**	**04 07 52.0**	**-0.4**
SHO				A	A	04 07 52.0	
	1μm,0.2s						
SHO				A	A	04 07 52.0	
	980nm,0.2s						
KUR	**Kuril'sk**	**1.16**	**3**	*e*P	**Pn**	**04 07 49.0**	**+0.3**
KUR				AMB	AMB	04 07 52.0	
	92nm,0.2s						
KUR				*i* S	**Sn**	**04 08 03.0**	**-0.5**
KUR				A	A	04 08 05.0	
	501nm,0.2s						
KUR				A	A	04 08 05.0	
	612nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.39**	**269**	*e*P	**Pn**	**04 07 52.0**	**+0.1**
YUK				AMB	AMB	04 07 53.0	
	232nm,0.3s						
YUK				*i* S	**Sn**	**04 08 08.0**	**-1.2**
YUK				A	A	04 08 09.0	
	630nm,0.3s						
YUK				A	A	04 08 09.0	
	610nm,0.3s						
GRPR	**Tuman**	**1.46**	**268**	*e*P	**Pn**	**04 07 53.0**	**+0.2**
GRPR				AMB	AMB	04 07 54.0	
	55nm,0.2s						
GRPR				*i* S	**Sn**	**04 08 09.6**	**-1.3**
GRPR				A	A	04 08 10.0	
	492nm,0.2s						
GRPR				A	A	04 08 10.0	
	113nm,0.2s						
NEM2	**Nemuro 2**	**1.65**	**245**	P	**Pn**	**04 07 55.6**	**+0.2**
NEM2				*e*S	**Sn**	**04 08 14.3**	**-1.2**
JRA	**Rausu**	**1.93**	**267**	P	**Pn**	**04 08 00.8**	**+1.5**
JRA				*e*S	**Sn**	**04 08 23.3**	**+0.8**
JKHN	**Kushirohamanak**	**2.15**	**244**	*e*S	**Sn**	**04 08 27.5**	**-0.5**
JNK	**Nakash**	**2.28**	**259**	P	**Pn**	**04 08 05.3**	**+1.2**
JNK				*e*S	**Sn**	**04 08 30.7**	**-0.4**
JAK	**Akkeshi**	**2.50**	**246**	P	**Pn**	**04 08 07.6**	**+0.5**
JAK				*e*S	**Sn**	**04 08 35.0**	**-1.4**
JAR	**Ashorobuto**	**3.02**	**257**	*e*S	**Sn**	**04 08 50.2**	**+0.8**
JOB	**Onbets**	**3.11**	**249**	*e*S	**Sn**	**04 08 51.8**	**+0.2**
JCH	**Churui**	**3.55**	**247**	*e*S	**Sn**	**04 09 02.2**	**-0.2**

*TEH **22** 04:11:25.4,36°.14N×53°.71E,h5km,ML3.2*
*ISCJB **22** 04:11:26.5±0.4,36°.21N±0°.03×53°.62E±0°.04,h10km,Error ellipse: s-maj=5.3km s-min=3.8km az=136.7*
*THR **22** 04:11:26.2,36°.14N×53°.68E,h14km,ML3.2*
*AZER **22** 04:11:33.2±1.9,36°.52N×53°.64E,h20km±29km,ml3.9/4, Error ellipse: s-maj=31.5km s-min=24.7km az=160.0*
ISC 22 04:11:26.4±0.8,36°.18N±0°.04×53°.68E±0°.03,h10km,n34, σ1§45/40,10C-3D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISHM	**Shahmirzad**	**0.49**	**220**	*e*Pg	**Pg**	**04 11 35.3**	**-0.8**
ISHM				IAMB	IAmb	04 11 36.3	
	comp=Z,32μm,0.2s						
IALA	**Alasht**	**0.71**	**262**	*e*Pg	**Pg**	**04 11 40.0**	**-0.3**
IALA				IAMB	IAmb	04 11 53.3	
	comp=Z,44μm,0.3s						
IANJ	**Anjilo**	**0.74**	**165**	*e*Pg	**Pg**	**04 11 39.6**	**-1.1**
IANJ				IAMB	IAmb	04 11 53.0	
	comp=Z,8μm,0.2s						
IFIR	**Firoozkooh**	**0.93**	**235**	*e*Pg	**Pg**	**04 11 43.2**	**-1.1**
IFIR				IAMB	IAmb	04 11 58.9	
	comp=Z,7μm,0.3s						
ILAS	**Lasjerd**	**0.99**	**217**	*e*Pg	**Pg**	**04 11 44.7**	**-0.8**
ILAS				IAMB	IAmb	04 12 05.4	
	comp=Z,4μm,0.2s						
IPRN	**Peran**	**1.09**	**273**	*e*Pg	**Pg**	**04 11 46.9**	**-0.5**
IPRN				IAMB	IAmb	04 12 08.9	
	comp=Z,11μm,0.3s						
IDMV	**Damavand**	**1.47**	**246**	*e*Pn	**Pn**	**04 11 53.1**	**-0.2**
IDMV				IAMB	IAmb	04 11 56.5	
	comp=Z,4μm,0.3s						
DAMV	**Damavand**	**1.50**	**249**	*e*Pg	**Pn**	**04 11 53.5**	**-0.1**
IMND	**Minoodasht**	**1.75**	**52**	*e*Pn	**Pb**	**04 11 57.8**	**-0.9**
IMND				IAMB	IAmb	04 12 38.4	
	comp=Z,0.0nm,0.7s						
SHRO	**Shahrood**	**1.90**	**95**	*e*Pn	**Pb**	**04 12 00.3**	**-0.9**
SHRO	**Shahrood**	**1.90**	**95**	*e*Pn	**Pb**	**04 12 00.3**	**-0.9**
SHRO				*e*Sg	**Sg**	**04 12 26.2**	**-1.2**
IVRN	**Varamin**	**1.99**	**234**	*e*Pn	**Pb**	**04 12 02.2**	**-0.5**
IHSB	**Hasanabad**	**2.09**	**250**	IAMB	IAmb	04 12 08.8	
	comp=Z,0.0nm,0.4s						
IHSB				*e*Pn	**Pb**	**04 12 04.5**	**0.0**
MRVT	**Maraveh tapeh**	**2.43**	**52**	*e*Pn	**Pn**	**04 12 07.9**	**+1.7**
MRVT	**Maraveh tapeh**	**2.43**	**52**	*e*Pn	**Pn**	**04 12 07.9**	**+1.7**
QALM	**Alamut, Qazvin**	**2.46**	**277**	IAMB	IAmb	04 12 48.2	
	comp=Z,0.0nm,1.0s						
QALM				*e*Pn	**Pb**	**04 12 09.7**	**-1.3**
IMHD	**Mahdasht**	**2.50**	**259**	*e*Pn	**Pb**	**04 12 10.2**	**-1.2**
IMHD				IAMB	IAmb	04 12 14.2	
	comp=Z,678nm,0.4s						
GHVR	**GHOM**	**2.59**	**230**	*e*AML	AML	04 12 55.5	
	comp=E,117nm,0.4s						
GHVR				*e*AML	AML	04 12 59.2	
	comp=N,94nm,0.5s						
ANAR	**Anarak**	**2.99**	**179**	*e*Pn	**Pn**	**04 12 15.1**	**+1.1**
SBZV	**Sabzevar**	**3.18**	**85**	*e*Pn	**Pn**	**04 12 18.4**	**+1.7**
IKLH	**Kolahrood**	**3.34**	**212**	*e*Pn	**Pn**	**04 12 21.8**	**+2.8**
IKLH				IAMB	IAmb	04 12 33.2	
	comp=Z,722nm,0.4s						
IZEF	**Zefreh**	**3.46**	**199**	*e*Pn	**Pn**	**04 12 22.5**	**+1.8**
IZEF				IAMB	IAmb	04 13 21.7	
	comp=Z,472nm,0.4s						
TKDS	**Koohdasht(Taba**	**3.81**	**131**	*e*Pn	**Pn**	**04 12 26.5**	**+1.1**
TPRV	**Parvadeh(Tabas**	**4.00**	**141**	*e*Pn	**Pn**	**04 12 29.2**	**+1.3**
IPIR	**Pirpir**	**4.18**	**214**	*e*Pn	**Pn**	**04 12 33.8**	**+3.2**
IPIR				IAMB	IAmb	04 13 51.8	
	comp=Z,251nm,0.8s						
ISAD	**Sadrabad**	**4.26**	**180**	*e*Pn	**Pn**	**04 12 33.0**	**+1.4**
ISAD				IAMB	IAmb	04 13 53.7	
	comp=Z,657nm,0.7s						
IRAM	**Ramesheh**	**4.50**	**194**	IAMB	IAmb	04 14 05.5	
	comp=Z,182nm,0.7s						
ASTR	**Astara**	**4.56**	**303**	⇑P	**Pn**	**04 12 37.6**	**+2.1**
	SNR=4.9						
ASTR				⇑S	**Sn**	**04 13 28.3**	**-0.2**
LKRN	**Lenkeran, Azer**	**4.65**	**304**	⇑P	**Pn**	**04 12 38.2**	**+1.6**
LKRN				⇑S	**Sn**	**04 13 30.3**	**-0.3**
LRK	**Lerik**	**4.91**	**302**	⇑P	**Pn**	**04 12 41.3**	**+0.8**
	SNR=26						
LRK				⇓S	**Sn**	**04 13 38.6**	**+1.2**
GLBA	**Clilabad**	**5.19**	**308**	⇑P	**Pn**	**04 12 46.6**	**+2.5**
	SNR=3.1						
GLBA				⇓S	**Sn**	**04 13 45.1**	**+1.1**
PQL	**Pirkuli**	**6.09**	**321**	⇑P	**Pn**	**04 12 58.3**	**+1.7**
	SNR=6.8						
PQL				⇓S	**Sn**	**04 14 07.9**	**+1.4**
XNQ	**Khinaliq**	**6.60**	**321**	⇑P	**Pn**	**04 13 05.4**	**+1.6**
	SNR=9.7						
XNQ				⇑S	**Sn**	**04 14 17.7**	**-1.4**
GANJ	**Ganja**	**7.30**	**310**	P	**Pn**	**04 13 13.8**	**+0.7**
	SNR=5.7						
GANJ				⇑S	**Sn**	**04 14 34.2**	**-1.7**

*IDC **22** 04:47:40.8±1.4,0°.08S×125°.39E,h0km,mb3.9/4, mb1 4.1/6,mb1mx3.7/40,mbtmp3.9/6,ML3.4/2,MS3.4/2, Ms1 3.4/2,ms1mx2.7/32,Error ellipse: s-maj=49.2km s-min=22.9km az=63.0*
*ISCJB **22** 04:47:45.0±1.3,0°.1S±0°.1×125°.5E±0°.2,h49km,mb3.9/4, MS3.9/1,Error ellipse: s-maj=23.4km s-min=19.8km az=158.1*
ISC 22 04:47:47.1±1.4,0°.1S±0°.2×125°.5E±0°.2,h49km,n8,σ1§14/6, mb3.9/4,Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.79**	**98**	Pn	**Pn**	**04 49 10.3**	**-0.2**
	1.3nm,0.3s,baz=253,slow=19,SNR=2.2						
BATI	**Baumata**	**10.24**	**190**	LR	LR	04 54 20.3	
	comp=Z,132nm,21.9s,baz=274,slow=39						
FITZ	**Fitzroy Crossi**	**17.91**	**180**	P	**P**	**04 51 51.7**	**-1.2**
	0.1nm,0.3s,baz=16,slow=8.2,SNR=7.5						
WRA	**Warramunga Arr**	**21.55**	**157**	P	**P**	**04 52 31.5**	**-1.0**
	2.9nm,0.6s,baz=334,slow=9.6,SNR=27						
ASAR	**Alice Springs**	**24.82**	**161**	P	**P**	**04 53 05.6**	**+0.6**
	1.5nm,0.7s,baz=352,slow=15,SNR=18						
STKA	**Stephens Creek**	**35.09**	**156**	P	**P**	**04 54 36.8**	**+1.0**
	2.7nm,0.5s,baz=334,slow=8.4,SNR=6.2						
MKAR	**Makanchi Array**	**60.03**	**327**	P	**P**	**04 57 48.9**	**-0.1**
	0.4nm,0.5s,baz=131,slow=7.7,SNR=6.7						
KMBO	**Kilima Mbogo**	**88.28**	**269**	LR	LR	05 38 38.0	
	comp=Z,39nm,18.9s,baz=95,slow=35						

*ISCJB **22** 04:57:39.9±0.4,82°.12N±0°.05×7°.5W±0°.3,h10km,mb3.8/22, MS3.1/9,Error ellipse: s-maj=7.0km s-min=5.8km az=14.5*
*IDC **22** 04:57:40.5±0.6,82°.27N×7°.43W,h0km,mb3.6/16, mb1 3.8/18,mb1mx3.7/45,mbtmp3.6/18,ML3.9/2,MS3.2/12, Ms1 3.2/12,ms1mx2.9/46,Error ellipse: s-maj=20.6km s-min=11.9km az=38.0*
*NEIC **22** 04:57:41.9±0.3,82°.25N×7°.48W,h10km,mb4.1/8,Error ellipse: s-maj=10.0km s-min=6.3km az=213.0*
*IEPN **22** 04:57:46.0,82°.39N×3°.32W,h15km*
ISC 22 04:57:40.9±0.5,82°.25N±0°.07×6°.96W±0°.05,h10km,n69, σ2§55/77,mb3.8/22,MS3.1/9,3C,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**4.53**	**128**	*e*Pn	**Pn**	**04 58 48.9**	**-0.5**
KBS	**Kingsbay**	**4.53**	**128**	Pn	**Pn**	**04 58 49.1**	**-0.3**
KBS				Sn	**Sn**	**04 59 36.8**	**-5.1**
KBS	**Kingsbay**	**4.53**	**128**	⇑*i*P	**Pn**	**04 58 48.8**	**-0.5**
KBS				*e*S	**Sn**	**04 59 35.7**	**-6.3**
KBS	**Kingsbay**	**4.53**	**128**	Pn	**Pn**	**04 58 49.1**	**-0.3**
KBS				Sn	**Sn**	**04 59 36.8**	**-5.1**
BRBA	**Barentsburg A**	**5.51**	**128**	Pn	**Pn**	**04 59 03.6**	**+0.8**
BRBA				Sn	**Sn**	**05 00 04.3**	**-1.7**
BRBA	**Barentsburg A**	**5.51**	**128**	Pn	**Pn**	**04 59 03.6**	**+0.8**
BRBA				Sn	**Sn**	**05 00 04.3**	**-1.7**
SPA0	**Spitsbergen Ar**	**5.64**	**124**	*e*Pn	**Pn**	**04 59 04.4**	**-0.3**
SPA0	**Spitsbergen Ar**	**5.64**	**124**	Pn	**Pn**	**04 59 04.2**	**-0.5**
	slow=10						
SPA0	**Spitsbergen Ar**	**5.64**	**124**	⇑*i*P	**Pn**	**04 59 04.1**	**-0.5**
SPA0				*e*S	**Sn**	**05 00 04.0**	**-5.4**
SPA0	**Spitsbergen Ar**	**5.64**	**124**	*e*P	**Pn**	**04 59 04.2**	**-0.5**
SPA0				*e*S	**Sn**	**05 00 03.6**	**-5.8**
SPA0				IAML		05 00 14.0	
	comp=Z,7.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**5.64**	**124**	Pn	**Pn**	**04 59 04.2**	**-0.5**
	baz=1.0,slow=10.0,SNR=192						
SPITS				Sn	**Sn**	**05 00 03.0**	**-6.4**
	baz=1.3,slow=13,SNR=1.3						
SPITS				LR	LR	05 01 00.2	
	comp=Z,113nm,21.7s,baz=110,slow=35						
DAG	**Danmarks Havn**	**5.89**	**207**	*i* P	**Pn**	**04 59 09.1**	**+1.1**
DAG				*i* S	**Sn**	**05 00 13.3**	**-2.1**
HSP	**Hornsund**	**6.57**	**131**	Pn	**Pn**	**04 59 17.8**	**+0.4**
HSPB	**Hornsund (broa**	**6.58**	**131**	*e*P	**Pn**	**04 59 17.7**	**+0.2**
HSPB				*e*S	**Sn**	**05 00 26.9**	**-5.5**
HSPB				IAML		05 00 34.5	
	comp=Z,5.4nm,0.7s						
ZFI2	**Zemlya Franca-**	**7.91**	**72**	⇑*i*P	**Pn**	**04 59 32.4**	**-3.3**
	comp=Z,

ZALV	**Zalesovo Beam**	**37.19**	**78**	P	**P**	**05 04 54.1**	**+2.5**
	comp=Z,0.4nm,0.5s,baz=335,slow=6.4,SNR=2.6						
ZALV				LR	LR	05 23 09.0	
	comp=Z,26nm,18.3s,baz=64,slow=41						
KURK	**Kurchatov**	**39.52**	**85**	*eP*	**P**	**05 05 12.6**	**+1.4**
MAKZ	**Makanchi**	**43.80**	**83**	*eP*	**P**	**05 05 47.8**	**+1.5**
	comp=Z,12nm,1.8s						
MK31	**Makanchi Array**	**43.85**	**83**	*eP*	**P**	**05 05 48.3**	**+1.6**
	comp=Z,5.2nm,1.6s						
MK32	**Makanchi Array**	**43.85**	**83**	*eP*	**P**	**05 05 48.8**	**+2.0**
MKAR	**Makanchi Array**	**43.85**	**83**	P	**P**	**05 05 48.8**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=351,slow=8.2,SNR=9.4						
MKAR				LR	LR	05 27 10.7	
	comp=Z,33nm,19.6s,baz=349,slow=40						
MK01	**Makanchi Array**	**43.88**	**83**	*eP*	**P**	**05 05 48.6**	**+1.7**
BR101	**Keskin Array S**	**44.75**	**135**	*eP*	**P**	**05 05 56.7**	**+2.5**
BRTR	**Keskin Array B**	**44.75**	**135**	P	**P**	**05 05 56.7**	**+2.5**
	comp=Z,0.9nm,0.8s,baz=351,slow=5.2,SNR=3.6						
NEW	**Newport**	**45.10**	**298**	*eP*	**P**	**05 05 56.2**	**-0.6**
	comp=Z,0.8nm,0.5s						
SONA0	**Songino Array**	**45.90**	**59**	*eP*	**P**	**05 06 04.6**	**+1.4**
SONM	**Songino Array**	**45.90**	**59**	P	**P**	**05 06 04.6**	**+1.4**
	comp=Z,1.0nm,1.0s,baz=335,slow=6.7,SNR=4.8						
SONM				LR	LR	05 26 23.2	
	comp=Z,33nm,19.0s,baz=348,slow=38						
AAK	**Ala-Archa**	**46.88**	**91**	*eP*	**P**	**05 06 12.5**	**+1.6**
	comp=Z,1.3nm,0.7s						
PD31	**Pinedale Array**	**49.57**	**289**	*eP*	**P**	**05 06 32.9**	**+1.1**
	comp=Z,7.6nm,1.7s						
PDAR	**Pinedale Array**	**49.57**	**289**	P	**P**	**05 06 32.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=62,slow=12,SNR=2.8						
NVAR	**Mina Array Bea**	**54.94**	**297**	LR	LR	05 30 17.0	
	comp=Z,74nm,20.5s,baz=162,slow=36						
WMOK	**Wichita Mounta**	**56.05**	**277**	*eP*	**P**	**05 07 17.2**	**-2.3**
	comp=Z,4.0nm,0.6s						
TOA1	**Torodi Ar. Sit**	**69.22**	**171**	*eP*	**P**	**05 08 48.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**69.23**	**171**	P	**P**	**05 08 48.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=352,slow=6.9,SNR=4.5						
CMAR	**Chiang Mai Arr**	**73.95**	**72**	P	**P**	**05 09 16.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=347,slow=7.3,SNR=4.5						
CMAR				LR	LR	05 44 47.3	
	comp=Z,15nm,20.5s,baz=210,slow=38						

IDC ***22*** *05:08:32.2±1.8, 14°.16N×93°.08W, h0km, mb3.8/5, mb1 4.1/9, mb1mx3.8/34, mbtmp3.8/9, ML3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=44.1km s-min=20.8km az=24.0*

ISCJB ***22*** *05:08:35.2±1.8, 14°.32N±0°.06×93°.01W±0°.04, h18km±17km, mb3.9/9, MS3.1/1, Error ellipse: s-maj=11.1km s-min=4.5km az=21.7*

MEX ***22*** *05:08:37.4±0.3, 14°.31N×93°.00W, h10km±9km, MD3.8*

NEIC ***22*** *05:08:37.8±0.0, 14°.25N×92°.99W, h16km, mb4.0/9, MD4.2(MEX), After MEX.*

UCR ***22*** *05:08:41.6±2.0, 13°.93N×92°.56W, h114km±79km, MD3.9, ML3.7, mb4.0(NEIC)*

ISC 22 05:08:33.6±2.2, 14°.35N±0°.06×92°.95W±0°.04, h5km±13km, n45, σ1s94/56, mb4.0/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.37**	**349**	*eP*	**Pn**	**05 08 59.0**	**-0.5**
PCIG				*eS*	**Sb**	**05 09 15.2**	**-2.5**
PCIG		**1.37**	**349**	*eP*	**Pn**	**05 08 59.0**	**-0.5**
PCIG				*i* S	**Sn**	**05 09 16.9**	**-0.8**
FUG	**Fuego 3**	**2.04**	**87**	*eP*	**Pb**	**05 09 10.6**	**-0.8**
FUG				*eS*	**Sn**	**05 09 36.3**	**+1.4**
CCIG	**Comitan**	**2.08**	**22**	*e*Pn	**Pb**	**05 09 12.1**	**+0.1**
CCIG				*eP*	**Pg**	**05 09 12.5**	**-0.9**
CCIG	**Comitan**	**2.08**	**22**	*eP*	**Pn**	**05 09 10.0**	**+0.6**
CCIG				*i* S	**Sn**	**05 09 35.6**	**-0.1**
PCG	**Pacaya**	**2.27**	**89**	*eP*	**Pn**	**05 09 13.8**	**+1.7**
PCG				*eS*	**Sn**	**05 09 42.2**	**+1.6**
IXG	**Ixpaco**	**2.42**	**94**	*eS*	**Sn**	**05 09 43.5**	**-0.8**
APG	**El Apazote**	**2.49**	**75**	Pn	**Pb**	**05 09 17.5**	**-1.5**
	19nm,0.3s,baz=186,slow=14,SNR=173						
APG				Sn	**Sb**	**05 09 49.5**	**-0.6**
	48nm,0.3s,baz=328,slow=9.9,SNR=10						
NBG	**Las Nubes**	**2.53**	**84**	*eP*	**Pb**	**05 09 19.0**	**-0.8**
RTR	**El Retiro**	**3.23**	**98**	*eP*	**Pn**	**05 09 27.0**	**+1.7**
CEVE	**Cerro Verde**	**3.27**	**99**	*eP*	**Pn**	**05 09 27.1**	**+1.3**
CEVE				*eS*	**Sn**	**05 10 02.0**	**-3.2**
CEVE				IAML		05 10 25.1	
	comp=Z,1μm,0.4s						
SNJE	**San Jose**	**3.28**	**98**	*eP*	**Pn**	**05 09 27.3**	**+1.4**
CMIG	**Matias Romero**	**3.30**	**326**	*e*Pn	**Pn**	**05 09 26.4**	**+0.4**
CMIG				*e*S	**Sn**	**05 10 03.5**	**-2.3**
CMIG				*e*Sn	**Sn**	**05 10 04.4**	**-1.4**
CMIG	**Matias Romero**	**3.30**	**326**	*eP*	**Pn**	**05 09 26.4**	**+0.4**
CMIG				*eS*	**Sn**	**05 10 04.9**	**-0.9**
CMIG	**Matias Romero**	**3.30**	**326**	Pn	**Pn**	**05 09 26.4**	**+0.4**
	comp=Z,6.5nm,0.3s,baz=163,slow=11,SNR=61						
CMIG				Sn	**Sn**	**05 10 04.4**	**-1.4**
	comp=Z,8.6nm,0.3s,baz=122,slow=12,SNR=7.4						
HUIG	**Huatulco**	**3.36**	**295**	*eP*	**Pn**	**05 09 27.3**	**+0.4**
HUIG	**Huatulco**	**3.36**	**295**	*eP*	**Pn**	**05 09 27.3**	**+0.4**
HUIG				*i* S	**Sn**	**05 10 05.7**	**-1.6**
MTO3	**Montecristo**	**3.48**	**89**	*eP*	**Pn**	**05 09 29.8**	**+1.2**
LFRS	**El Faro**	**3.84**	**100**	*eP*	**Pn**	**05 09 34.6**	**+1.0**
LCND	**La Caada**	**5.02**	**101**	*eP*	**Pn**	**05 09 50.5**	**+0.9**
LCND				*eS*	**Sn**	**05 10 42.4**	**-5.7**
LCND				IAML		05 11 15.8	
	comp=Z,115nm,0.7s						
TGUH	**Tegucigalpa,Un**	**5.51**	**92**	*e*Pn	**Pn**	**05 09 58.1**	**+1.7**
LVIG	**Laguna Verde**	**6.29**	**329**	*e*Pn	**Pn**	**05 10 11.0**	**+3.9**
JTS	**JuntasAbangare**	**8.79**	**116**	*e*Pn	Pn	05 10 47.7	+6.2
JTS				Lg	Lg	05 12 57.4	
JTS	**JuntasAbangare**	**8.79**	**116**	Pn	**Pn**	**05 10 42.6**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=294,slow=20,SNR=1.8						
JTS				Lg	Lg	05 12 57.4	
	comp=Z,0.2nm,0.3s,baz=206,slow=19,SNR=5.7						
MTDJ	**Mount Denham**	**15.29**	**73**	*e*Pn	**P**	**05 12 16.9**	**+1.5**
	comp=Z,10nm,0.8s						
HKT	**Hockley**	**15.75**	**351**	*e*Pn	**P**	**05 12 18.7**	**-1.6**
	comp=Z,4.3nm,1.1s						
061Z	**Ochoppi**	**16.08**	**43**	*e*Pn	**Pn**	**05 12 20.6**	**0.0**
	comp=Z,5.5nm,1.1s						
TXAR	**Lajitas Array**	**17.91**	**328**	P	**P**	**05 12 45.9**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=156,slow=9.6,SNR=11						
TX31	**Lajitas Ar. Si**	**17.91**	**328**	*e*Pn	**P**	**05 12 48.1**	**+3.7**
	comp=Z,3.8nm,1.0s						
MIAR	**Mount Ida**	**20.12**	**358**	*eP*	Pn	05 13 13.9	+3.7
	comp=Z,6.0nm,0.9s						
V52A	**Sevierville**	**22.99**	**20**	*eP*	**P**	**05 13 42.0**	**+2.6**
	comp=Z,6.1nm,1.1s						
LENM	**Lemitar**	**23.46**	**330**	*eP*	**P**	**05 13 48.5**	**+4.2**
LAZ	**Ladron**	**23.73**	**330**	*eP*	**P**	**05 13 48.8**	**+1.7**
ANMO	**Albuquerque**	**23.85**	**332**	P	**P**	**05 13 49.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=152,slow=16,SNR=6.7						
T25A	**Trinidad**	**24.89**	**338**	*eP*	**P**	**05 14 01.8**	**+4.0**
	comp=Z,5.2nm,0.8s						
SDCO	**Great Sand Dun**	**25.84**	**337**	*eP*	**P**	**05 14 08.8**	**+2.4**
	comp=Z,3.6nm,1.0s						
SJG	**San Juan**	**25.99**	**78**	LR	LR	05 24 31.3	
	comp=Z,60nm,19.1s,baz=238,slow=37						
S22A	**4UR Ranch, Cre**	**26.36**	**335**	*eP*	**P**	**05 14 14.3**	**+3.1**
	comp=Z,2.5nm,0.9s						
PDAR	**Pinedale Array**	**31.73**	**336**	P	**P**	**05 14 59.5**	**+0.7**
	comp=Z,1.1nm,1.1s,baz=134,slow=6.4,SNR=3.7						
NVAR	**Mina Array Bea**	**32.83**	**322**	P	**P**	**05 15 09.4**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=140,slow=9.2,SNR=11						
YKA	**Yellowknife Ar**	**50.48**	**347**	P	**P**	**05 17 32.3**	**0.0**
	comp=Z,1.8nm,0.8s,baz=151,slow=7.4,SNR=44						
ILAR	**Eielson Array**	**62.16**	**337**	P	**P**	**05 18 54.5**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=146,slow=4.0,SNR=9.7						
WR1	**Warramunga Arr**	**134.59**	**256**	*e*PKPdf	**PKPdf**	**05 27 52.8**	**-1.4**
WRA	**Warramunga Arr**	**134.59**	**256**	PKP	**PKPdf**	**05 27 52.8**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=97,slow=1.8,SNR=2.7						
CMAR	**Chiang Mai Arr**	**145.36**	**340**	PKPbc	**PKPbc**	**05 28 11.8**	**-1.7**
	comp=Z,0.9nm,0.4s,baz=347,slow=2.9,SNR=6.1						

IDC 22 05:21:16.7±4.9, 65°.21S×179°.40E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/31, mbtmp3.9/4, ML3.7/1, MS4.0/12, Ms1 4.0/12, ms1mx3.8/23, Error ellipse: s-maj=159.0km s-min=27.4km az=69.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.46**	**196**	Pn	Pn	05 24 29.1	+0.5
	0.3nm,0.3s,baz=42,slow=18,SNR=30						
VNDA				LR	LR	05 28 31.5	
	comp=Z,483nm,20.1s,baz=9.5,slow=32						
RPZ	**Rata Peaks**	**22.04**	**344**	LR	LR	05 33 20.0	
	comp=Z,405nm,18.6s,baz=163,slow=33						
QSPA	**South Pole Qui**	**24.87**	**180**	P	P	05 26 40.8	0.0
	3.6nm,0.9s,baz=49,slow=4.3,SNR=6.8						
QSPA				LR	LR	05 34 59.2	
	comp=Z,478nm,20.2s,baz=47,slow=33						
URZ	**Urewera**	**27.03**	**356**	LR	LR	05 35 28.4	
	comp=Z,374nm,21.7s,baz=168,slow=32						
MAW	**Mawson**	**40.06**	**212**	LR	LR	05 44 58.4	
	comp=Z,482nm,19.3s,baz=146,slow=36						
DZM	**Mont Dzumac**	**43.96**	**343**	*e*LR	LR	05 41 32.0	
	comp=Z,369nm,23.0s						
TBI	**Tubuai**	**46.45**	**41**	*e*LQ	LQ	05 40 22.9	
	275nm,29.0s						
TBI	**Tubuai**	**46.45**	**41**	*eT*	T	06 18 58.9	
	16nm,0.3s						
H01W1	**Cape Leeuwin H**	**48.59**	**276**	T	T	06 22 32.0	
	baz=148,slow=76,SNR=47						
H01W2	**Cape Leeuwin H**	**48.59**	**275**	T	T	06 22 34.6	
	baz=148,slow=76,SNR=60						
H01W3	**Cape Leeuwin H**	**48.60**	**276**	T	T	06 22 34.3	
	baz=148,slow=76,SNR=47						
ASAR	**Alice Springs**	**50.73**	**302**	P	P	05 30 18.4	+0.3
	0.9nm,0.8s,baz=149,slow=6.9,SNR=5.4						
ASAR				LR	LR	05 48 58.1	
	comp=Z,36nm,18.5s,baz=154,slow=33						
RKT	**Rikitea**	**51.28**	**58**	*eT*	T	06 25 06.3	
	3.6nm,0.2s						
TVO	**Taravao**	**51.81**	**39**	*eT*	T	06 25 45.6	
	3.1nm,0.3s						
PPT2	**Papeete2**	**51.91**	**39**	*e*LQ	LQ	05 42 44.5	
	251nm,25.5s						
PPT2				*e*LR	LR	05 44 47.9	
	comp=Z,255nm,27.5s						
PPT2	**Papeete2**	**51.91**	**39**	*eT*	T	06 25 52.9	
	3.1nm,0.3s						
PPT	**Papeete**	**51.93**	**39**	LR	LR	05 48 05.5	
	comp=Z,58nm,19.2s,baz=181,slow=31						
TIAR	**Tiarei**	**52.00**	**39**	*eT*	T	06 25 59.6	
	1.5nm,0.2s						
WRA	**Warramunga Arr**	**54.01**	**305**	P	P	05 30 41.9	-0.5
	1.8nm,0.9s,baz=165,slow=6.4,SNR=8.0						
WRA				LR	LR	05 50 30.7	
	comp=Z,113nm,21.9s,baz=130,slow=32						
VAH	**Vaihoa**	**54.67**	**40**	*eT*	T	06 29 20.0	
	31nm,0.2s						
BOSA	**Boshof**	**84.35**	**203**	LR	LR	06 09 45.0	
	comp=Z,45nm,19.6s,baz=200,slow=34						
H08S2	**Diego Garcia H**	**90.10**	**252**	T	T	07 14 39.8	
	baz=154,slow=76,SNR=17						
H08S1	**Diego Garcia H**	**90.10**	**251**	T	T	07 14 37.8	
	baz=154,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**90.12**	**252**	T	T	07 14 42.0	
	baz=154,slow=76,SNR=17						
MATP	**Matopo**	**91.77**	**207**	LR	LR	06 12 08.7	
	comp=Z,102nm,20.7s,baz=174,slow=33						
TSUM	**Tsumeb**	**94.71**	**197**	LR	LR	06 15 20.5	
	comp=Z,152nm,18.9s,baz=146,slow=34						
LSZ	**Lusaka**	**96.84**	**208**	LR	LR	06 14 20.0	
	comp=Z,73nm,19.9s,baz=163,slow=33						

MEX 22 05:36:14.5±1.0, 16°.76N×94°.62W, h120km±10km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.42**	**323**	*eP*	Pn	05 36 30.7	-1.3
CMIG				*i* S	Sn	05 36 42.9	-2.4
PCIG		**1.71**	**128**	*eP*	Pn	05 36 42.5	-1.8
PCIG				*i* S	Sn	05 37 05.6	-1.5
HUIG	**Huatulco**	**1.73**	**236**	*eP*	Pn	05 36 42.8	-1.9
HUIG				*eS*	Sn	05 37 06.7	-1.1
VHO	**Vista Hermosa**	**2.05**	**279**	*i* P	Pn	05 36 48.4	-0.3
VHO				*i* S	Sn	05 37 14.1	-0.8
CCIG	**Comitan**	**2.43**	**101**	*eP*	Pn	05 36 52.8	-0.8
CCIG				*i* S	Sn	05 37 21.5	-2.0

NIED ***22*** *05:42:00, 37°.00N×142°.30E, h17km, Mw3.5 Best double couple: M0 1.83000×10^14 NP1:φs260.00000°, δ19.00000°, λ171.00000°. NP2:φs358.00000°, δ87.00000°, λ71.00000°.*

IDC ***22*** *05:42:27.5±1.4, 36°.99N×142°.49E, h0km, mb3.3/4, mb1 3.6/6, mb1mx3.4/42, mbtmp3.5/6, ML3.3/2, MS2.1/2, Ms1 2.1/2, ms1mx2.0/25, Error ellipse: s-maj=33.0km s-min=25.0km az=99.0*

JMA ***22*** *05:42:29.8±0.2, 37°.00N×142°.29E, h17km±3km, M3.5*

ISC 22 05:42:28.4±3.7, 37°.00N±0°.05×142°.30E±0°.07, h6km±24km, n23, σ1s30/31, mb3.4/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.20**	**275**	P	**Pn**	**05 42 51.6**	**-0.3**
ONAJ				*e*S	**Sn**	**05 43 07.7**	**-0.8**
JFFD	**Fukushimafurud**	**1.39**	**274**	P	**Pn**	**05 42 54.3**	**-0.1**
JFFD				*e*S	**Sn**	**05 43 12.4**	**-0.7**
JHO	**Hitachi**	**1.44**	**255**	P	**Pn**	**05 42 55.1**	**0.0**
JHO				*e*S	**Sn**	**05 43 13.2**	**-1.1**
JMM	**Marumori**	**1.48**	**306**	P	**Pn**	**05 42 55.6**	**+0.1**
JMM				*e*S	**Sb**	**05 43 14.9**	**-0.3**
JIO	**Ouri**	**1.63**	**333**	P	**Pn**	**05 42 58.5**	**+0.8**
JIO				*e*S	**Sn**	**05 43 18.6**	**-0.4**
JFT	**Otama**	**1.65**	**289**	P	**Pn**	**05 42 58.7**	**+0.8**
JFT				*e*S	**Sb**	**05 43 19.6**	**-0.6**
JOU	**Okura**	**1.88**	**317**	P	**Pb**	**05 43 02.4**	**-0.7**
JOU				*e*S	**Sb**	**05 43 25.9**	**-1.0**
JFY	**Yanaizu**	**2.11**	**282**	*e*S	**Sn**	**05 43 31.2**	**+0.4**
JMK	**Ichinoseki**	**2.12**	**337**	P	**Pn**	**05 43 05.5**	**+1.1**
JMK				*e*S	**Sn**	**05 43 31.3**	**+0.2**
JYS	**Shirataka**	**2.15**	**305**	P	**Pn**	**05 43 06.2**	**+1.4**
JAG	**Ashikaga**	**2.36**	**257**	P	**Pn**	**05 43 09.0**	**+1.3**
JAG				*e*S	**Sn**	**05 43 37.6**	**+0.7**
JYK	**Kaneyama**	**2.45**	**322**	P	**Pn**	**05 43 10.6**	**+1.7**
JYK				*e*S	**Sb**	**05 43 41.1**	**-2.2**
MJAR	**Matsushiro Arr**	**3.31**	**263**	Pn	**Pn**	**05 43 23.3**	**+2.4**
	1.1nm,0.3s,baz=81,slow=15,SNR=21						
MJAR				LR	LR	05 44 23.2	
	comp=Z,11nm,21.1s,baz=110,slow=34						
MAT	**Matsushiro**	**3.32**	**263**	P	**Pn**	**05 43 24.2**	**+3.3**
MAT				S	**Sn**	**05 44 01.9**	**+1.3**
JHJ	**Hachijo jima 2**	**4.39**	**209**	Pn	**Pn**	**05 43 36.8**	**+1.2**
	12nm,0.3s,baz=252,slow=20,SNR=4.5						
JHJ				Sn	**Sn**	**05 44 24.7**	**-2.3**
	17nm,0.3s,baz=253,slow=19,SNR=4.3						
KSRS	**Korea Array**	**11.47**	**277**	LR	LR	05 49 23.4	
	comp=Z,25nm,19.2s,baz=95,slow=36						
H11N2	**WAKE ISLAND Hy**	**27.53**	**122**	T	T	06 17 14.5	
	baz=314,slow=75,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**27.54**	**122**	T	T	06 17 12.1	
	baz=314,slow=75,SNR=5.4						
H11N3	**WAKE ISLAND Hy**	**27.55**	**122**	T	T	06 17 09.6	
	baz=314,slow=75,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.46**	**312**	P	**P**	**05 50 24.2**	**+0.3**
	0.5nm,0.6s,baz=90,slow=4.9,SNR=2.6						
MKAR	**Makanchi Array**	**44.73**	**302**	P	**P**	**05 50 43.5**	**+1.1**
	0.3nm,0.7s,baz=87,slow=9.6,SNR=5.3						
ILAR	**Eielson Array**	**49.14**	**32**	P	**P**	**05 51 16.4**	**-0.2**
	0.4nm,0.9s,baz=267,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**57.13**	**189**	P	**P**	**05 52 15.6**	**-0.3**
	0.2nm,0.6s,baz=2.5,slow=7.4,SNR=2.4						

IDC 22 05:43:44.5±2.5, 49°.26N×151°.38E, h319km±26km, mb2.6/3, mb1 3.0/7, mb1mx2.7/51, mbtmp3.6/7, Error ellipse: s-maj=63.1km s-min=19.6km az=145.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.53**	**43**	P	Pn	05 45 08.8	0.0
	0.5nm,0.3s,baz=220,slow=12,SNR=6.7						
KLR	**Kul'dur**	**12.83**	**277**	P	Pn	05 46 36.3	-0.2
	0.1nm,0.3s,baz=69,slow=12,SNR=6.8						
USRK	**Ussuriysk Ar.**	**14.22**	**256**	P	P	05 46 52.2	+0.3
	0.1nm,0.3s,baz=84,slow=12,SNR=2.4						
MJAR	**Matsushiro Arr**	**15.93**	**222**	P	P	05 47 10.5	-0.2
	0.2nm,0.3s,baz=20,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**35.35**	**41**	P	P	05 50 10.1	0.0
	0.1nm,0.4s,baz=273,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**49.62**	**37**	P	P	05 52 03.5	-0.3
	0.3nm,0.4s,baz=300,slow=6.8,SNR=7.8						
TXAR	**Lajitas Array**	**77.25**	**60**	P	P	05 55 04.2	+0.1
	0.3nm,0.6s,baz=296,slow=5.1,SNR=4.2						

IDC 22 05:54:54.3±1.9, 4°.78S×147°.24E, h0km, mb3.7/3,

mb1 4.1/4, mb1mx3.7/32, mbtmp3.8/4, ML4.2/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=114.0km s-min=25.8km az=124.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.60**	**181**		Sn	05 57 02.7	+3.4
	3.5nm,0.3s,baz=235,slow=21,SNR=6.5						
WRA	**Warramunga Arr**	**19.62**	**219**	P	P	05 59 24.9	+0.4
	0.7nm,0.3s,baz=39,slow=11,SNR=50						
ASAR	**Alice Springs**	**22.76**	**213**	P	P	05 59 58.2	-0.2
	0.9nm,0.4s,baz=46,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**24.93**	**236**	P	P	06 00 19.8	+0.4
	2.5nm,0.5s,baz=64,slow=10,SNR=20						
NWAO	**Narrogin (SRO)**	**39.60**	**221**	LR	LR	06 19 55.1	
	comp=Z,67nm,18.8s,baz=352,slow=38						
ILAR	**Eielson Array**	**84.27**	**23**	P	P	06 07 28.2	+0.6
	0.2nm,0.6s,baz=248,slow=4.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**145.00**	**286**	PKPbc	PKPbc	06 14 31.9	-2.1
	0.3nm,0.6s,baz=100,slow=4.4,SNR=3.4						

IDC 22 05:57:05.2±6.3, 30°.62S×178°.15W, h52km±46km, mb3.7/3, mb1 3.9/3, mb1mx3.5/25, mbtmp4.0/3, Error ellipse: s-maj=76.4km s-min=29.7km az=126.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.37**	**8**	P	Pn	05 57 27.2	-0.8
	74nm,0.3s,baz=53,slow=14,SNR=6.1						
RAO				S	Sn	05 57 45.2	+0.1
	284nm,0.3s,baz=17,slow=23,SNR=8.5						
STKA	**Stephens Creek**	**34.31**	**257**	P	P	06 03 46.4	-0.4
	1.9nm,0.6s,baz=86,slow=13,SNR=3.3						
ASAR	**Alice Springs**	**42.97**	**267**	P	P	06 04 59.5	-0.1
	1.3nm,0.8s,baz=109,slow=7.7,SNR=8.8						
WRA	**Warramunga Arr**	**43.98**	**272**	P	P	06 05 07.8	+0.1
	0.7nm,0.3s,baz=111,slow=8.0,SNR=19						
FINES	**FINESS Array B**	**145.30**	**340**	PKPbc	PKPbc	06 16 35.4	-1.0
	2.5nm,0.8s,baz=36,slow=3.5,SNR=7.4						

IDC 22 06:03:27.4±7.8, 19°.97S×179°.94E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/27, mbtmp3.7/3, Error ellipse: s-maj=344.9km s-min=37.1km az=146.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.76**	**262**	P	P	06 11 27.4	+0.5
	0.7nm,0.5s,baz=95,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**42.76**	**256**	P	P	06 11 26.0	-1.0
	0.5nm,0.6s,baz=96,slow=7.6,SNR=5.3						
ILAR	**Eielson Array**	**88.24**	**14**	P	P	06 16 20.0	0.0
	0.5nm,1.1s,baz=206,slow=6.0,SNR=2.9						

IDC 22 06:18:18.9±3.1, 5°.47S×133°.66E, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, ML3.0/3, Error ellipse: s-maj=126.2km s-min=29.3km az=83.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.40**	**177**	Pn	Pn	06 21 43.5	-0.8
	0.1nm,0.3s,baz=357,slow=13,SNR=3.6						
FITZ	**Fitzroy Crossi**	**14.80**	**211**	Pn	Pn	06 21 49.0	-0.5
	0.1nm,0.3s,baz=38,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**18.10**	**179**	P	P	06 22 32.5	+0.1
	0.0nm,0.3s,baz=5.3,slow=11,SNR=9.9						
MKAR	**Makanchi Array**	**69.01**	**325**	P	P	06 29 26.3	0.0
	0.5nm,0.9s,baz=131,slow=8.1,SNR=3.3						

NNC 22 06:21:26.4±4.6, 53°.75N×86°.47E, h0km, mb3.8, mpv3.4, 6C-3D, Error ellipse: s-maj=45.9km s-min=28.9km az=170.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.70**	**241**	↑Pn	Pn	06 22 52.4	+0.2
	1.0nm,0.4s						
KURK				↑Sn	Sn	06 23 58.0	-0.4
	2.0nm,1.2s						
KURK				↓Lg	Lg	06 24 28.8	
	3.6nm,0.9s						
KURBB	**Kurchatov Arra**	**5.80**

SEY	Seymchan	17.05	137	P		P	06 43 17.1	+2.0	
	comp=Z,0.4nm,0.3s,baz=321,slow=10,SNR=7.6								
AMDE	Amderma	18.62	280	*e*P		P	06 43 30.5	-1.8	
	comp=Z,2.3nm,0.6s								
AMDE				*e*S		Sn	06 46 39.9	-21	
SPITS	Spitsbergen Ar	19.69	325	P		P	06 43 41.6	-2.5	
	baz=62,slow=13,SNR=3.1								
BOD	Bodaibo	20.62	199	*e*P		P	06 43 55.7	+1.5	
BOD				pmax	pmax				
	comp=Z,42nm,1.3s								
TOLK	Toolik Lake Re	23.41	66	*e*P		P	06 44 24.5	+0.7	
	comp=Z,7.7nm,1.1s								
IM3	Indian Mountai	24.88	73	*e*P		P	06 44 38.3	+0.8	
ARA0	ARCESS Array S	25.72	307	*e*P		P	06 44 41.4	-3.8	
ARCES	ARCESS Array B	25.72	307	*e*P		P	06 44 44.9	-0.3	
ARCES	ARCESS Array B	25.72	307	*e*P		P	06 44 44.9	-0.3	
ARCES	ARCESS Array B	25.72	307	P		P	06 44 41.4	-3.8	
	comp=Z,11nm,0.9s,baz=43,slow=9.0,SNR=8.0								
INK	Inuvik	26.64	55	P		P	06 44 53.5	+0.1	
	comp=Z,1.2nm,1.0s,baz=340,slow=7.3,SNR=3.8								
IL1	Eielson Array	27.32	69	*e*P		P	06 45 01.7	+2.1	
ILAR	Eielson Array	27.32	69	P		P	06 45 00.8	+1.3	
	comp=Z,1.7nm,0.9s,baz=335,slow=8.7,SNR=18								
ILAR				LR		LR	06 56 37.4		
	comp=Z,54nm,18.1s,baz=348,slow=38								
ILB	Eielson Array	27.32	69	*e*P		P	06 45 00.8	+1.3	
	comp=Z,3.6nm,1.1s								
NVS	Novosibirsk	27.59	239	*e*P		P	06 45 03.6	+1.5	
TLY	Talaya	27.63	211	*e*P		P	06 45 05.2	+2.7	
TLY				pmax	pmax				
	comp=Z,7.0nm,1.6s								
ZAA1	Zalesovo Array	28.16	236	*e*P		P	06 45 06.0	-1.2	
ZALV	Zalesovo Beam	28.16	236	*e*P		P	06 45 08.2	+0.9	
ZALV	Zalesovo Beam	28.16	236	*e*P		P	06 45 08.1	+0.9	
ZALV				pmax	pmax				
	comp=Z,3.0nm,1.1s								
ZALV	Zalesovo Beam	28.16	236	P		P	06 45 06.0	-1.3	
	comp=Z,2.8nm,1.1s,baz=15,slow=7.7,SNR=5.8								
ZALV				LR		LR	06 57 11.4		
	comp=Z,109nm,20.5s,baz=74,slow=38								
KLR	Kul'dur	28.85	173	LR		LR	06 57 26.0		
	comp=Z,79nm,19.6s,baz=318,slow=38								
ZAK	Zakamensk	28.95	211	*e*P		P	06 45 16.2	+1.8	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.2s								
KLMR	Klimovskoe	30.93	288	*e*P		P	06 45 29.9	-1.7	
KLMR				pmax	pmax				
	comp=Z,7.0nm,1.3s								
KLMR	Klimovskoe	30.93	288	*e*P		P	06 45 29.9	-1.7	
KLMR				AMP			06 45 39.4		
	comp=Z,7.0nm,1.3s								
ARU	Arti	31.04	267	P		P	06 45 33.6	+1.0	
ARU							06 46 29.8		
ARU				S		S	06 50 40.2	+3.0	
ARU				SS		SnSn	06 52 22.3	+4.9	
SONA0	Songino Array	31.15	207	*e*P		P	06 45 35.3	+1.4	
SONM	Songino Array	31.15	207	*e*P		P	06 45 36.7	+2.8	
SONM				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SONM	Songino Array	31.15	207	P		P	06 45 35.3	+1.4	
	comp=Z,1.4nm,0.8s,baz=4.8,slow=7.9,SNR=10								
SONM				LR		LR	06 59 49.0		
	comp=Z,68nm,18.7s,baz=7.0,slow=40								
BRVK	Borovoye	31.77	252	*e*P		P	06 45 40.7	+1.6	
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
DGZ	Jazzator, Alta	31.81	231	*c*e		P	06 45 41.7	+2.0	
DGZ				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KURK	Kurchatov	32.38	242	*e*P		P	06 45 45.3	+0.8	
KURK				pmax	pmax				
	comp=Z,8.0nm,1.5s								
FIA0	FINESS Array S	32.97	300	*e*P		P	06 45 48.0	-1.5	
FIA0	FINESS Array S	32.97	300	*e*P		P	06 45 48.0	-1.5	
FINES	FINESS Array B	32.97	300	P		P	06 45 48.0	-1.5	
	comp=Z,3.9nm,1.1s,baz=14,slow=19,SNR=2.8								
FINES				LR		LR	07 01 11.6		
	comp=Z,106nm,19.6s,baz=40,slow=40								
USRK	Ussuriysk Ar.	33.89	173	LR		LR	07 01 20.7		
	comp=Z,64nm,19.2s,baz=241,slow=39								
YKW3	Yellowknife Ar	35.01	45	*e*P		P	06 46 07.0	-0.2	
	comp=Z,1.4nm,1.0s								
YKA	Yellowknife Ar	35.07	45	P		P	06 46 06.9	-0.8	
	comp=Z,0.5nm,0.4s,baz=345,slow=9.4,SNR=19								
YKA				PcP		PcP	06 46 38.2	-0.8	
	comp=Z,0.1nm,0.5s,baz=321,slow=3.3,SNR=4.3								
YKB5	Yellowknife Ar	35.07	45	*e*P		P	06 46 07.1	-0.6	
MK32	Makanchi Array	35.50	236	*e*P		P	06 46 11.8	+0.1	
MKAR	Makanchi Array	35.50	236	*e*P		P	06 46 21.4	+10	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
MKAR	Makanchi Array	35.50	236	P		P	06 46 11.8	+0.1	
	comp=Z,0.3nm,0.6s,baz=53,slow=9.8,SNR=4.4								
MKAR				LR		LR	07 02 41.2		
	comp=Z,101nm,18.5s,baz=17,slow=40								
MK01	Makanchi Array	35.52	236	*e*P		P	06 46 12.7	+0.9	
MAKZ	Makanchi	35.54	236	*e*P		P	06 46 12.7	+0.8	
	comp=Z,6.8nm,0.9s								
NB200	NORSAR Array S	35.90	311	*e*P		P	06 46 12.7	-2.2	
NOA	NORSAR Array B	35.90	311	P		P	06 46 12.7	-2.2	
	comp=Z,0.2nm,0.4s,baz=18,slow=8.5,SNR=2.5								
NOA				LR		LR	07 01 47.9		
	comp=Z,30nm,19.3s,baz=25,slow=38								
DLBC	Dease Lake	36.34	60	*e*P		P	06 46 20.2	+1.4	
	comp=Z,2.3nm,1.1s								
DLBC	Dease Lake	36.34	60	P		P	06 46 19.8	+1.0	
	comp=Z,1.1nm,0.4s,baz=6.9,slow=14,SNR=5.3								
OBN	Obninsk	36.85	287	*e*P		P	06 46 22.4	-0.6	
OBN				*e*			06 47 44.9		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,58nm,14.0s								
LPSR	Galich'ya Gora	38.73	283	*e*P		P	06 46 38.2	-0.7	
LPSR				pmax	pmax				
	comp=Z,10.0nm,1.4s								
VSR	Storozhevoye	39.99	282	*e*P		P	06 46 48.7	-0.7	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.3s								
KSRS	Korea Array	40.56	178	LR		LR	07 06 37.9		
	comp=Z,63nm,18.2s,baz=357,slow=40								
AAK	Ala-Archa	40.93	243	*i*P		P	06 46 59.3	+1.8	
AAK				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KK31	Karatay Array	41.24	247	*e*P		P	06 47 01.7	+1.8	
	comp=Z,2.7nm,1.0s								
FCC	Fort Churchill	41.34	31	*e*P		P	06 46 59.3	-1.2	
FCC	Fort Churchill	41.34	31	*e*P		P	06 46 59.3	-1.2	
ARSB	Arslanbob	42.48	244	*e*P		P	06 47 13.3	+3.1	
	comp=Z,9.4nm,1.1s								
AKASG	Malin Array Be	42.49	291	*e*P		P	06 47 18.7	+8.7	
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.5s								
AKASG	Malin Array Be	42.49	291	P		P	06 47 08.8	-1.2	
	comp=Z,1.8nm,0.6s,baz=20,slow=9.0,SNR=4.1								
AKBB	Malin Array Si	42.49	291	*e*P		P	06 47 09.9	-0.1	
	comp=Z,4.9nm,1.1s								
AKBB	Malin Array Si	42.49	291	*e*P		P	06 47 09.9	-0.1	
AKBB				pmax	pmax				
	comp=Z,5.0nm,1.1s								
AK11	Malin Array Si	42.52	291	*e*P		P	06 47 09.5	-0.7	
KSH	Kashi	43.68	240	*e*P		P	06 47 28.0	+8.1	
GAR	Garm	45.24	246	*e*P		P	06 47 33.8	+1.4	
	comp=Z,15nm,1.0s								
GAR	Garm	45.24	246	*e*P		P	06 47 33.8	+1.4	
GAR				pmax	pmax				
	comp=Z,15nm,1.0s								
CHGR	Chuyangaron	45.79	247	*e*P		P	06 47 37.8	+1.0	
	comp=Z,10nm,0.8s								
KBZ	Khabaz	46.34	275	P		P	06 47 41.2	+0.4	
	comp=Z,2.9nm,0.9s,baz=16,slow=4.3,SNR=5.3								
KBZ				LR		LR	07 09 00.7		
	comp=Z,58nm,18.7s,baz=5.0,slow=39								
NEW	Newport	48.35	53	P		P	06 47 57.4	+1.0	
	comp=Z,2.2nm,0.7s,baz=329,slow=11,SNR=5.6								
NEW				LR		LR	07 10 12.3		
	comp=Z,60nm,19.3s,baz=346,slow=38								
LTY	Liberty	48.71	57	*e*P		P	06 47 59.7	+0.4	
	comp=Z,3.0nm,1.0s								
GEYT	Alibeck	48.71	258	P		P	06 47 58.6	-0.8	
	comp=Z,2.2nm,0.8s,baz=320,slow=3.9,SNR=3.8								
GEYT				LR		LR	07 12 24.2		
	comp=Z,67nm,19.3s,baz=35,slow=41								
ULM	Lac du Bonnet	49.50	35	LR		LR	07 08 41.2		
	comp=Z,76nm,20.2s,baz=356,slow=36								
KBL	Kabul	49.80	246	*e*P		P	06 48 09.2	+1.2	
KBL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NIL	Nilore	49.88	241	*e*P		P	06 48 10.8	+2.5	
	comp=Z,5.0nm,0.8s								
NIL	Nilore	49.88	241	*e*P		P	06 48 10.8	+2.5	
NIL				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MSO	Missoula	50.27	51	*e*P		P	06 48 12.1	+0.8	
	comp=Z,2.0nm,1.0s								
F10A	Beach Ranch, E	50.55	54	*e*P		P	06 48 14.8	+1.4	
	comp=Z,5.5nm,1.0s								
HRY	Holter Researc	50.73	49	*e*P		P	06 48 15.2	+0.4	
LAO	LASA Array	51.61	44	*e*P		P	06 48 22.0	+0.7	
	comp=Z,3.8nm,0.8s								
BMO	Blue Mountains	51.62	54	*e*P		P	06 48 23.8	+2.3	
	comp=Z,2.6nm,1.1s								
GCMT	Greycliff	51.96	48	*e*P		P	06 48 24.2	+0.2	
BR101	Keskin Array S	52.11	283	*e*P		P	06 48 23.2	-2.0	
BRTR	Keskin Array B	52.11	283	*e*P		P	06 48 32.8	+7.6	
BRTR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
BRTR	Keskin Array B	52.11	283	P		P	06 48 23.2	-2.0	
	comp=Z,0.8nm,0.7s,baz=5.7,slow=2.9,SNR=2.9								
BRTR				LR		LR	07 15 51.1		
	comp=Z,28nm,19.0s,baz=298,slow=42								
MCMT	McKenzie Canyo	52.39	51	*e*P		P	06 48 28.1	+0.8	
RLMT	Red Lodge	52.68	47	*e*P		P	06 48 30.5	+1.1	
YHH	Hughes Hill	52.75	49	*e*P		P	06 48 31.3	+1.2	
	comp=Z,2.9nm,1.1s								
YBH	Yreka Blue Hor	53.69	60	LR		LR	07 13 38.5		
	comp=Z,32nm,19.9s,baz=347,slow=38								
MOOW	Moose Ponds	53.78	49	*e*P		P	06 48 39.2	+1.6	
	comp=Z,3.9nm,1.1s								
FXWY	Fox Creek	53.85	49	*e*P		P	06 48 39.5	+1.4	
	comp=Z,3.1nm,1.1s								
PDAR	Pinedale Array	54.93	48	*e*P		P	06 48 46.3	+0.3	
PDAR	Pinedale Array	54.93	48	P		P	06 48 45.3	-0.7	
	comp=Z,0.4nm,0.6s,baz=305,slow=5.2,SNR=4.6								
PDAR				LR		LR	07 15 07.1		
	comp=Z,47nm,18.6s,baz=334,slow=39								
BEKR	Beckworth	55.93	59	*e*P		P	06 48 54.5	+1.4	
	comp=Z,1.0nm,0.6s								
YERR	Yerington	56.98	58	*e*P		P	06 49 02.5	+1.8	
	comp=Z,7.8nm,1.2s								
NVAR	Mina Array Bea	57.69	57	P		P	06 49 05.2	-0.5	
	comp=Z,0.4nm,0.5s,baz=342,slow=5.5,SNR=4.2								
SMCO	Snowmass	58.84	47	*e*P		P	06 49 14.3	+0.4	
	comp=Z,4.6nm,1.1s								
KNB	Kanab	60.01	53	*e*P		P	06 49 23.3	+1.5	
	comp=Z,5.4nm,1.2s								
KNB	Kanab	60.01	53	*e*P		P	06 49 23.3	+1.5	
KNB				pmax	pmax				
	comp=Z,5.0nm,1.2s								
CMAR	Chiang Mai Arr	60.98	210	LR		LR	07 18 55.0		
	comp=Z,59nm,18.6s,baz=150,slow=39								
TX31	Lajitas Ar. Si	69.00	46	*e*P		P	06 50 20.5	0.0	
	comp=Z,4.4nm,1.0s								
TXAR	Lajitas Array	69.00	46	P		P	06 50 20.3	-0.2	
	comp=Z,2.0nm,0.8s,baz=7.0,slow=4.4,SNR=22								
TXAR				LR		LR	07 23 05.7		
	comp=Z,31nm,19.1s,baz=0.0,slow=38								
CCIG	Comitan	83.45	37	*e*P		P	06 51 40.3	-2.5	
	comp=Z,5.1nm,0.5s								
TOA1	Torodi Ar. Sit	84.04	306	*e*P		P	06 51 45.5	-0.1	
TORD	Torodi Ar. Bea	84.05	306	P		P	06 51 45.5	-0.2	
	comp=Z,0.4nm,0.8s,baz=2.1,slow=7.8,SNR=2.8								
WR1	Warramunga Arr	97.75	173	*e*P		P	06 52 50.2	+0.3	
	comp=Z,0.9nm,0.8s								
WRA	Warramunga Arr	97.75	173	P		P	06 52 50.2	+0.3	
	comp=Z,0.2nm,0.5s,baz=358,slow=5.8,SNR=4.2								
EFI	East Falkland	153.61	6	*e*PKPdf		PKPdf	06 59 08.4	+3.7	
EFI	East Falkland	153.61	6	*e*PKIKP		PKPdf	06 59 08.4	+3.7	

IDC **22** *06:40:34.4±3.6, 19.°41S×176.°62W, h0km, mb4.3/4, mb1 4.4/5, mb1mx3.9/31, mbtmp4.3/5, ML4.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=74.4km s-min=39.4km az=65.0*

ISCJB **22** *06:41:02.5±2.6, 20.°0S±0.°2×176.°9W±0.°3, h250km, mb4.3/20, Error ellipse: s-maj=47.7km s-min=12.2km az=145.8*

NEIC **22** *06:41:03.1±3.4, 20.°09S×177.°00W, h226km±23km, mb4.4/19, Error ellipse: s-maj=35.2km s-min=13.7km az=52.0*

ISC 22 06:41:04.6±1.9, 20.°1S×176.°9W±0.°2, h250km, n30, σ1s28/30, mb4.4/20, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
						Op	ISC	h m s	ISC
RAO	Raoul Island	9.14	185	*e*Pn		Pn	06 43 11.3	-0.9	
PINNC	Pines Island,	14.77	258	*e*Pn		Pn	06 44 22.1	+0.1	
URZ	Urewera	18.80	195	*e*P		P	06 45 05.3	-0.4	
	9.0nm,1.0s								
URZ	Urewera	18.80	195	P		P	06 45 04.9	-0.8	
	2.6nm,0.3s,baz=252,slow=2.4,SNR=18								
BKZ	Black Stump Fm	19.81	195	*e*P		P	06 45 14.8	-1.8	
	5.8nm,1.0s								
BFZ	Birch Farm	21.31	194	*e*P		P	06 45 29.8	-2.3	
	24nm,1.1s								
SNZO	South Karori	22.29	197	*e*P		P	06 45 43.1	+2.1	
	26nm,1.0s								
THZ	Tophouse	23.24	200	*e*P		P	06 45 48.3	-1.5	
	6.9nm,0.7s								
KHZ	Kahutara	23.64	198	*e*P		P	06 45 53.3	-0.1	
	13nm,1.1s								
LTZ	Lake Taylor	24.36	200	*e*P		P	06 46 00.2	+0.2	
	10.0nm,0.8s								
HNR	Honiara	24.72	292	LR		LR	06 55 00.5		
	comp=Z,44nm,19.2s,baz=77,slow=35								
MQZ	McQueen's Vall	25.09	198	*e*P		P	06 46 08.7	+2.4	
	15nm,1.0s								
RPZ	Rata Peaks	25.59	200	*e*P		P	06 46 13.1	+2.1	
	10.0nm,0.8s								
RPZ	Rata Peaks	25.59	200	P		P	06 46 11.4	+0.5	
	5.1nm,0.4s,baz=22,slow=5.0,SNR=6.8								
FOZ	Fox Glacier	25.85	202	*e*P		P	06 46 14.4	+1.1	
	21nm,1.1s								
WHZ	Wether Hill Ro	28.56	202	*e*P		P	06 46 39.0	+1.6	
	18nm,1.0s								
ARMA	Armidale	30.14	244	*e*P		P	06 46 52.8	+1.2	
	3.6nm,0.9s								
CAN	Canberra	33.56	236	*e*P		P	06 47 21.4	+0.1	
	10nm,1.1s								
RABL	Rabaul	34.01	294	*e*P		P	06 47 23.9	-1.4	
	64nm,0.3s								
TOO	Toolangi	36.94	234	*e*P		P	06 47 50.0	+0.1	
	20nm,1.1s								
STKA	Stephens Creek	38.86	244	*e*P		P	06 48 06.4	+0.4	
	0.8nm,0.6s								
STKA	Stephens Creek	38.86	244	P		P	06 48 05.7	-0.3	
	3.7nm,0.5s,baz=94,slow=9.6,SNR=6.3								
BBOO	Buckleboo	43.62	243	*e*P		P	06 48 44.1	-0.5	
	10nm,0.8s								
AS01	Alice Springs	45.55	256	*e*P		P	06 49 01.8	+1.8	
ASAR	Alice Springs	45.59	256	P		P	06 49 00.4	+0.1	
	2.0nm,0.9s,baz=87,slow=8.6,SNR=16								
ASAR				PcP		PcP	06 50 36.0	+1.6	
	0.5nm,0.6s,baz=104,slow=3.9,SNR=4.4								
WR1	Warramunga Arr	45.65	261	*e*P		P	06 49 00.5	-0.3	
	3.2nm,0.9s								
WRA	Warramunga Arr	45.65	261	P		P	06 49 00.5	-0.3	
	0.8nm,0.5s,baz=94,slow=8.0,SNR=36								
FORT	Forrest	50.37	246	*e*P		P	06 49 36.5	-0.2	
	14nm,0.7s								
CASY	Casey	64.74	205	*e*P		P	06 51 17.4	+1.5	
	1.6nm,0.8s								
AKASG	Malin Array Be	143.16	332	PKP		PKiKP	07 00 10.8	-1.2	
	0.5nm,0.5s,baz=43,slow=4.2,SNR=4.5								

SJA 22 07:05:46.1±0.7, 34.°47S×66.°52W, h23km±25km, ML3.7, MW3.9, San Luis Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
						Op	ISC	h m s	ISC
AVIZ	Vizcacheras	1.94	300	*i* P		Pb	07 06 19.9	-0.9	
MRA	San Martin	2.16	18	*i* P		Pb	07 06 23.2	-1.4	
MRA				*i* S		Sb	07 06 50.5	-0.3	
MRA				IAML			07 06 52.3		
	comp=Z,473nm,0.3s								
ACAN	Cantantal	2.27	345	*i* P		Pn	07 06 24.0	+1.9	
ARCO	CERRO ARCO	2.59	308	*i* P		Pn	07 06 29.2	+2.5	
ARCO				*i* S		Sb	07 07 01.3	-2.1	
ARCO				IAML			07 07 02.2		
ASAL	Salagasta	2.70	314	*i* P		Pb	07 06 30.9	-2.8	
RTCV	Cerro Valdivia	3.11	326	*i* P		Pn	07 06 37.1	+3.4	
RTLL	Cerro Villicun	3.54	332	IAML			07 07 45.5		
	comp=N,147nm,0.4s								
RTLS	Leoncito	3.54	318	*i* P		Pn	07 06 43.6	+3.7	
RTLS				IAML			07 07 34.9		
	comp=Z,77nm,0.5s								

IDC 22 07:12:34.7±3.2, 6.°22S×148.°19E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.4/40, mbtmp3.6/4, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/35, Error ellipse: s-maj=73.9km s-min=34.9km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
						Op	ISC	h m s	ISC
PMG	Port Moresby	3.33	198	P		Pn		07 13 29.7	+1.6
	4.2nm,0.3s,baz=12,slow=13,SNR=8.0								
PMG						Sn	Sn	07 14 11.4	+3.0
	12nm,0.3s,baz=123,slow=21,SNR=7.3								
PMG						LR	LR	07 15 10.1	
	comp=Z,78nm,18.5s,baz=299,slow=47								
WRA	Warramunga Arr	19.16	223	P		P		07 16 59.7	-0.3
	0.2nm,0.3s,baz=51,slow=10,SNR=10.0								
ASAR	Alice Springs	22.13	217	P		P		07 17 31.4	-0.7
	0.9nm,0.5s,baz=52,slow=9.2,SNR=12								
FITZ	Fitzroy Crossi	24.97	240	P		P		07 17 59.5	-0.8
	2.2nm,0.5s,baz=53,slow=8.0,SNR=17								
KLR	Kul'dur	57.05	347	LR		LR		07 45 56.5	
	comp=Z,33nm,18.1s,baz=292,slow=35								
TORD	Torodi Ar. Bea	146.29	284	PKPbc		PKPbc		07 32 18.6	+0.1
	0.1nm,0.3s,baz=62,slow=4.2,SNR=4.4								

KRSC 22 07:12:58.0±10.0, 60.°10N×163.°48E, h4km±10km, ML4.1, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
						Op	ISC	h m s	ISC
OSSR	Ossora	0.88	194	*e*P		Pb		07 13 15.7	0.0
OSSR				*e*S		Sb		07 13 27.9	+0.1
TILK	Tilichiki	1.37	74	*e*P		Pn		07 13 23.9	0.0
TILK				*e*S		Sn		07 13 42.6	+0.1
PALN	Palana	2.05	242	P		Pb		07 13 34.6	-1.2
PALN				S		Sb		07 14 01.7	0.0
KMSK	Kamenskaya	2.72	28	P		Pn		07 13 44.6	+2.2

IDC **22** *07:14:42.9±1.0, 31.°44S×178.°02W, h0km, mb4.2/5, mb1 4.3/7, mb1mx4.0/34, mbtmp4.2/7, ML4.1/2, MS3.2/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=29.0km s-min=23.6km az=98.0*

NEIC **22** *07:14:44.5±3.2, 31.°54S×177.°98W, h10km±19km, mb4.4/8, Error ellipse: s-maj=12.0km s-min=8.1km az=94.0*

ISCJB **22** *07:14:46.4±0.8, 31.°67S±0.°06×178.°1W±0.°1, h35km, mb4.5/13, MS3.2/2, Error ellipse: s-maj=18.0km s-min=8.2km az=11.0*

ISC 22 07:14:47.4±0.8, 31.°58S±0.°06×177.°9W±0.°1, h35km, n35, σ1s91/37, mb4.5/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
						Op	ISC	h m s	ISC
RAO	Raoul Island	2.32	359	*e*Pn		Pn		07 15 22.4	-0.7
RAO				*e*Sn		Sn		07 15 48.0	-2.5
RAO	Raoul Island	2.32	359	Pn		Pn		07 15 21.8	-1.3
	112nm,0.3s,baz=111,slow=13,SNR=6.1								
RAO				Sn		Sn		07 15 46.5	-4.0
	252nm,0.3s,baz=38,slow=23,SNR=6.8								
URZ	Urewera	7.83	210	*e*Pn		Pn		07 16 39.6	+0.8
URZ	Urewera	7.83	210	Pn		Pn		07 16 38.2	-0.6
	1.2nm,0.3s,baz=292,slow=4.0,SNR=9.4								
URZ				Sn		Sn		07 18 04.2	-1.9
	baz=108,slow=21,SNR=3.6								
OUZ	Omahuta	8.00	241	*e*Pn		Pn		07 16 45.6	+4.5
BKZ	Black Stump Fm	8.85	210	*e*Pn		Pn		07 16 52.3	-0.6
THZ	Tophouse	12.56	213	*e*Pn		Pn		07 17 42.7	-0.9
THZ				*e*Sn		Sn		07 19 55.2	-7.0
KHZ	Kahutara	12.80	210	*e*Pn		Pn		07 17 44.8	-2.0
PPT	Papeete	29.16	68	LR		LR		07 33 45.4	
	comp=Z,25nm,18.0s,baz=160,slow=39								
CTAO	Charters Tower	34.11	281	*e*P		P		07 21 30.4	+1.4
	5.5nm,1.0s								
STKA	Stephens Creek	34.34	259	*e*P		P		07 21 32.0	+1.2
	0.1nm,0.3s								
STKA	Stephens Creek	34.34	259	P		P		07 21 31.2	+0.4
	0.7nm,0.3s,baz=99,slow=11,SNR=4.9								
BBOO	Buckleboo	38.77	256	*e*P		P		07 22 08.0	-0.6
	8.9nm,1.0s								
AS01	Alice Springs	43.13	268	*e*P		P		07 22 44.4	-0.3
AS31	Alice Springs	43.17	268	*e*P		P		07 22 44.8	-0.2
	2.0nm,0.4s								
ASAR	Alice Springs	43.17	268	P		P		07 22 44.7	-0.3
	3.7nm,0.5s,baz=106,slow=7.

1.4nm,0.5s
ASAR Alice Springs 21.91 217 P **P 07 21 22.5 -0.9**
3.1nm,0.5s,baz=54,slow=8.8,SNR=24
FITZ Fitzroy Crossi 24.74 240 *eP* **P 07 21 51.0 -0.2**
7.5nm,0.6s
FITZ Fitzroy Crossi 24.74 240 P **P 07 21 49.7 -1.5**
6.0nm,0.4s,baz=56,slow=8.3,SNR=47
STKA Stephens Creek 26.08 192 *eP* **P 07 22 04.9 +1.7**
0.7nm,1.0s
BBOO Buckleboo 28.57 201 *eP* **P 07 22 26.6 +1.1**
11nm,1.1s
FORT Forrest 30.67 215 *eP* **P 07 22 46.1 +1.9**
18nm,1.0s
KSRS Korea Array 47.45 338 LR LR 07 44 21.8
comp=Z,15nm,19.0s,baz=135,slow=35
KULM Kulim 48.67 283 *eP* **P 07 25 13.8 -0.1**
5.5nm,1.0s
COCO West Island 50.77 260 *eP* **P 07 25 29.6 -0.2**
90nm,1.1s
MDJ Mudanjiang 53.39 344 *eP* **P 07 25 49.9 +1.2**
5.2nm,0.8s
QSPA South Pole Qui 83.61 180 *eP* **P 07 28 58.0 +0.9**
ILAR Eielson Array 85.42 23 P **P 07 29 05.2 -0.9**
0.1nm,0.6s,baz=249,slow=3.8,SNR=3.5
STVI Saint Thomas 145.74 67 *e*PKPdf **PKiKP 07 36 11.2 -1.0**
TOA0 Torodi Ar. Sit 146.15 284 *e*PKPdf **PKPab 07 36 11.2 +0.4**
TORD Torodi Ar. Bea 146.15 284 PKPbc **PKPbc 07 36 10.2 +0.1**
0.4nm,0.3s,baz=63,slow=4.7,SNR=11
TOA1 Torodi Ar. Sit 146.15 284 *e*PKPdf **PKPbc 07 36 10.2 +0.1**

IDC 22 07:17:37.6±17.0, 30.54N×137.68E, h420km±183km, mb2.8/5, mb1 2.9/5, mb1mx2.6/46, mbtmp3.6/5, Error ellipse: s-maj=247.0km s-min=18.1km az=68.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**29.50**	**315**	P	P	07 23 05.4	-0.1
	0.2nm,0.4s,baz=116,slow=9.8,SNR=3.6						
MKAR	**Makanchi Array**	**45.25**	**307**	P	P	07 25 15.7	+0.2
	0.3nm,0.3s,baz=88,slow=9.9,SNR=9.6						
WRA	**Warramunga Ar**	**50.29**	**184**	P	P	07 25 53.6	-0.2
	0.3nm,0.3s,baz=1.3,slow=8.3,SNR=7.9						
BVAR	**Borovoye Array**	**52.84**	**316**	P	P	07 26 11.6	-0.4
	0.9nm,0.5s,baz=90,slow=7.2,SNR=7.2						
ASAR	**Alice Springs**	**54.02**	**184**	P	P	07 26 20.8	0.0
	0.1nm,0.3s,baz=355,slow=5.6,SNR=5.2						

KRNET 22 07:24:42.0±0.1, 41.68N×79.39E, h12km, mb2.5
SOME 22 07:24:42.7, 41.63N×79.42E, h20km
NNC 22 07:24:44.2±2.0, 41.73N×79.42E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=13.9km s-min=8.3km az=155.0
ISC 22 07:24:43.6±1.6, 41.69N±0.06×79.45E±0.05, h10km, n41, σ1s32/73, 20C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.11**	**316**	⇑*i*P	**Pg**	**07 25 02.9**	**-2.1**
PRZ	baz=19			⇑*e*S	**Sg**	**07 25 18.0**	**-1.5**
TARG	**Taragay, Kyrgy**	**1.23**	**272**	⇑*i*P	**Pb**	**07 25 04.5**	**-2.7**
TARG	baz=73			⇑*i*S	**Sg**	**07 25 20.9**	**-2.4**
SHLS	**Shalkode**	**1.47**	**0**	P	**Pg**	**07 25 10.9**	**-0.9**
SHLS	14nm,0.2s			S	**Sg**	**07 25 31.9**	**+1.1**
SHLS	**Shalkode**	**1.47**	**0**	*e*P	**Pg**	**07 25 10.9**	**-0.9**
SHLS	11nm,0.3s			*e*S	**Sg**	**07 25 31.4**	**+0.6**
UZB	**Uzynbulak**	**1.49**	**348**	P	**Pn**	**07 25 10.3**	**-0.3**
UZB	8.5nm,0.2s			S	**Sg**	**07 25 30.6**	**-1.0**
UZB	**Uzynbulak**	**1.49**	**348**	*e*P	**Pn**	**07 25 10.3**	**-0.3**
UZB	7.0nm,0.2s			*e*S	**Sb**	**07 25 30.3**	**-0.2**
SATY	**Saty**	**1.57**	**331**	P	**Pb**	**07 25 11.8**	**-1.1**
SATY	22nm,0.4s			S	**Sb**	**07 25 32.9**	**0.0**
SATY	**Saty**	**1.57**	**331**	*e*P	**Pb**	**07 25 11.8**	**-1.1**
SATY	22nm,0.4s			*e*S	**Sb**	**07 25 32.9**	**0.0**
PDGK	**Podgornoye**	**1.64**	**1**	P	**Pb**	**07 25 12.8**	**-1.2**
PDGK	6.4nm,0.3s			S	**Sb**	**07 25 34.7**	**-0.1**
PDGK	**Podgornoye**	**1.64**	**1**	⇓Pn	**Pn**	**07 25 12.4**	**-0.2**
PDGK	9.5nm,0.4s			⇓Sn	**Sg**	**07 25 40.2**	**+3.9**
PDGK	**Podgornoye**	**1.64**	**1**	⇑*i*P	**Pn**	**07 25 12.6**	**0.0**
PDGK	74nm,0.5s			⇑*i*S	**Sg**	**07 25 35.7**	**-0.6**
KDJ	**Kajisay**	**1.75**	**285**	⇑*i*P	**Pn**	**07 25 14.2**	**0.0**
KDJ	baz=86			⇑*i*S	**Sb**	**07 25 37.4**	**-0.6**
KTMS	**Ketmen**	**1.88**	**21**	P	**Pb**	**07 25 17.1**	**-1.1**
KTMS	10.0nm,0.2s			S	**Sg**	**07 25 42.7**	**-1.4**
KTMS	**Ketmen**	**1.88**	**21**	*e*P	**Pb**	**07 25 17.8**	**-0.3**
KTMS	20nm,0.4s			*e*S	**Sg**	**07 25 43.0**	**-1.0**
KURS	**Kuram**	**2.03**	**333**	*e*P	**Pb**	**07 25 20.7**	**+0.1**
KURS	8.3nm,0.6s			*e*S	**Sg**	**07 25 47.9**	**-1.0**
TNSS	**Tian-Shan**	**2.29**	**307**	*e*P	**Pb**	**07 25 24.7**	**-0.5**
TNSS	7.8nm,0.2s			*e*S	**Sb**	**07 25 54.8**	**+1.0**
MDOK	**Medeo**	**2.31**	**310**	⇑Pn	**Pb**	**07 25 24.3**	**-1.2**
MDOK	27nm,0.3s			Sn	**Sb**	**07 25 55.1**	**+1.1**
MDOK	**Medeo**	**2.31**	**310**	*e*P	**Pb**	**07 25 24.6**	**-0.8**
MDOK	29nm,0.6s			*e*S	**Sb**	**07 25 54.6**	**+0.6**
KOTS	**Kotyrbulak**	**2.31**	**313**	Pg	**Pb**	**07 25 25.1**	**-0.5**
KOTS	87nm,0.6s			Lg	Lg	07 25 55.7	
KOTS	**Kotyrbulak**	**2.31**	**313**	*e*P	**Pb**	**07 25 24.5**	**-1.1**
KOTS	12nm,0.3s			*e*S	**Sb**	**07 25 54.8**	**+0.5**
AAA	**Alma-Ata**	**2.41**	**310**	Pg	**Pb**	**07 25 27.0**	**-0.2**
AAA	79nm,0.4s			Lg	Lg	07 25 59.0	
AAA	**Alma-Ata**	**2.41**	**310**	*e*P	**Pb**	**07 25 26.4**	**-0.8**
AAA	23nm,0.1s			*e*S	**Sb**	**07 25 57.8**	**+0.9**
ULHL	**Ulahol**	**2.45**	**284**	⇑*i*P	**Pn**	**07 25 25.0**	**+1.1**
ULHL	89nm,0.4s baz=85			⇑*i*S	**Sb**	**07 25 56.4**	**-1.9**
MNBS	**Baschi**	**2.51**	**343**	Pg	**Pb**	**07 25 27.8**	**-1.1**
MNBS	22nm,0.5s			Lg	Lg	07 26 01.0	
MNBS	**Baschi**	**2.51**	**343**	*e*P	**Pb**	**07 25 26.7**	**-2.2**
MNBS	11nm,0.4s			*e*S	**Sb**	**07 25 58.3**	**-1.5**
DJR	**Jarkent**	**2.65**	**5**	Pg	**Pb**	**07 25 29.6**	**-1.7**
DJR	34nm,0.3s			Lg	Lg	07 26 03.4	
DJR	**Jarkent**	**2.65**	**5**	*e*P	**Pb**	**07 25 31.2**	**-0.1**
DJR	1.3nm,0.3s			*e*S	**Sg**	**07 26 06.2**	**-2.6**
BOOM	**Boomskoye usch**	**2.73**	**288**	⇑*i*P	**Pn**	**07 25 28.7**	**+1.0**
BOOM	7.3nm,0.4s baz=89			⇑*i*S	**Sn**	**07 26 02.7**	**+1.9**
ARXS	**Arharly**	**2.79**	**335**	Pg	**Pb**	**07 25 32.6**	**-1.0**
ARXS	16nm,0.6s			Lg	Lg	07 26 09.0	
ARXS	**Arharly**	**2.79**	**335**	*e*P	**Pb**	**07 25 33.5**	**-0.1**
ARXS	17nm,0.6s			*e*S	**Sg**	**07 26 10.0**	**-3.1**
KTBS	**Karatobe**	**2.87**	**316**	Pg	**Pb**	**07 25 34.9**	**0.0**
KTBS	5.8nm,0.2s			Lg	Lg	07 26 12.1	
KTBS	**Karatobe**	**2.87**	**316**	*e*P	**Pb**	**07 25 34.7**	**-0.3**
KTBS	44nm,0.6s 2.0nm,0.4s			*e*S	**Sb**	**07 26 12.0**	**+1.9**
KST	**Kastek**	**2.91**	**299**	*e*P	**Pb**	**07 25 35.0**	**-0.7**
KST	1.1nm,0.4s			*e*S	**Sb**	**07 26 12.7**	**+1.2**
TKM2	**Tokmak 2**	**3.11**	**295**	⇑Pg	**Pg**	**07 25 43.3**	**+0.1**
TKM2	31nm,0.7s 1.6nm,0.4s			⇓Lg	Lg	07 26 18.4	
TKM2	**Tokmak 2**	**3.11**	**295**	⇑*i*P	**Pn**	**07 25 34.5**	**+1.6**
TKM2	18nm,0.6s baz=95			⇑*i*S	**Sn**	**07 26 12.1**	**+1.9**
DGS	**Degeres**	**3.13**	**301**	Pg	**Pb**	**07 25 38.8**	**-0.6**
DGS	baz=95 4.5nm,0.5s			Lg	Lg	07 26 19.2	
DGS	**Degeres**	**3.13**	**301**	*e*P	**Pb**	**07 25 39.2**	**-0.2**
DGS	24nm,0.5s 2.1nm,0.5s			*e*S	**Sb**	**07 26 19.8**	**+2.1**
KZA	**Kyzart**	**3.16**	**278**	⇑*i*P	**Pn**	**07 25 34.8**	**+1.0**
KZA	24nm,0.5s baz=79			⇑*i*S	**Sn**	**07 26 13.2**	**+1.5**
AAK	**Ala-Archa**	**3.80**	**286**	⇓Pg	**Pg**	**07 25 57.3**	**+0.9**
AAK	0.7nm,0.3s			⇑Lg	Lg	07 26 40.2	
ARLS	**Aral**	**3.83**	**274**	⇓*i*P	**Pn**	**07 25 44.1**	**+1.2**
ARLS	6.2nm,0.8s baz=75			⇓*i*S	**Sn**	**07 26 28.8**	**+0.7**
MK31	**Makanchi Array**	**5.50**	**21**	Pn	**Pn**	**07 26 07.4**	**+1.8**
MK31	baz=75 baz=202,slow=14,SNR=5.3			⇑Sn	**Sn**	**07 27 10.5**	**+1.7**
	0.7nm,0.6s,baz=197,slow=19,SNR=5.5						

ISCJB 22 07:34:02.8±0.7, 39.92N±0.04×41.90E±0.06, h6km±4km, Error ellipse: s-maj=8.0km s-min=6.0km az=157.3
DDA 22 07:34:02.2, 39.94N×41.90E, h12km±1km, ML2.7
ISK 22 07:34:02.9, 39.99N×41.90E, h8km, ML2.0/6
ISC 22 07:34:02.8±0.9, 39.96N±0.04×41.90E±0.04, h10km±5km, n15, σ0s50/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOPR	**Koprukoy-ERZUR**	**0.04**	**313**	PG	**Pg**	**07 34 04.6**	**-0.4**
KOPR				SG	**Sg**	**07 34 05.9**	**-0.6**
HOMI	**Horasan**	**0.08**	**5**	*i*P	**Pg**	**07 34 05.8**	**+0.3**
HOMI				*i*S	**Sg**	**07 34 08.5**	**+1.2**
SENK	**Senkaya-Erzuru**	**0.69**	**30**	PG	**Pg**	**07 34 16.2**	**-0.1**
KRIK	**Erzurum-spir**	**0.83**	**297**	*i*P	**Pb**	**07 34 19.4**	**-0.2**
KRIK				*i*S	**Sb**	**07 34 31.5**	**+0.6**
TUTA	**Tutak**	**0.90**	**128**	*i*P	**Pg**	**07 34 19.7**	**-0.6**
TUTA				*i*S	**Sn**	**07 34 35.4**	**+0.3**
AGRB	**Hanur-Agry**	**0.93**	**114**	PG	**Pb**	**07 34 21.3**	**+0.1**
DDEM	**Demirkent**	**0.94**	**353**	*i*P	**Pb**	**07 34 21.1**	**-0.2**
DDEM				*i*S	**Sn**	**07 34 35.4**	**-0.3**
DBAD	**Bademkaya**	**1.07**	**352**	*i*P	**Pb**	**07 34 23.4**	**-0.1**
DBAD				*i*S	**Sn**	**07 34 38.6**	**-0.3**
DBAD	comp=Z,648nm,0.1s			IAML_P			
DAGI	**Agillar**	**1.11**	**1**	*i*P	**Pg**	**07 34 24.2**	**-0.1**
DAGI				*i*S	**Sn**	**07 34 40.9**	**+0.7**
DAGI	comp=Z,506nm,0.2s			IAML_P			
BAYB	**BAYBURT**	**1.29**	**284**	*i*P	**Pn**	**07 34 27.2**	**0.0**
BNGB	**Bingl**	**1.35**	**225**	PN	**Pg**	**07 34 28.9**	**+0.1**
BAYT	**Aydintepe-Bayb**	**1.41**	**288**	PN	**Pn**	**07 34 28.8**	**0.0**
CHOM	**Cayeli-Rize**	**1.43**	**323**	PN	**Pb**	**07 34 29.5**	**-0.1**
BCA	**Borcka**	**1.50**	**352**	PN	**Pb**	**07 34 30.2**	**-0.6**
BATM	**Batumi**	**1.65**	**355**	PN	**Pb**	**07 34 32.5**	**-0.8**

MEX 22 07:57:36.2±0.6, 15.80N×96.18W, h33km±7km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.08**	**110**	*e*P	Pb	07 57 40.2	-1.6
HUIG				*i*S	Sb	07 57 43.9	-1.7
VHO	**Vista Hermosa**	**1.38**	**337**	*e*P	Pn	07 57 57.1	-2.3
VHO				*i*S	Sn	07 58 13.4	-3.1
CMIG	**Matias Romero**	**1.79**	**44**	*i*P	Pn	07 58 03.4	-1.5
CMIG				*i*S	Sn	07 58 24.3	-2.2

IDC 22 08:03:57.9±0.8, 35.21N×140.98E, h0km, mb3.7/9, mb1 3.9/12, mb1mx3.7/40, mbtmp3.7/12, ML2.9/3, MS3.0/7, Ms1 3.0/7, ms1mx2.8/57, Error ellipse: s-maj=22.0km s-min=16.0km az=102.0
JMA 22 08:04:00.5±0.1, 35.29N×141.18E, h31km±2km, M3.4
ISCJB 22 08:04:01.2±0.6, 35.23N±0.04×141.10E±0.06, h35km, MS3.2/3, Error ellipse: s-maj=7.3km s-min=5.6km az=1.4
ISC 22 08:04:02.8±0.7, 35.26N±0.05×141.10E±0.07, h35km, n31, σ1s60/25, MS3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.49**	**336**	P	**Pn**	**08 04 10.6**	**-2.7**
CHOJ				S	**Sn**	**08 04 18.2**	**-2.4**
BSO1	**Boso 1**	**0.61**	**189**	P	**Pn**	**08 04 12.9**	**-1.6**
BSO3	**Boso 3**	**0.66**	**227**	P	**Pn**	**08 04 14.5**	**-1.0**
BSO4	**Boso 4**	**0.68**	**247**	P	**Pn**	**08 04 15.1**	**-0.7**
JKUC	**kamogawauchiur**	**0.74**	**263**	P	**Pn**	**08 04 15.6**	**-1.2**
JKUC				S	**Sn**	**08 04 25.7**	**-1.2**
JYT	**Yasato**	**1.22**	**323**	P	**Pn**	**08 04 23.3**	**0.0**
JOD2	**Odawara 2**	**1.65**	**271**	P	**Pn**	**08 04 27.9**	**-1.3**
JHJ	**Hachijo jima 2**	**2.39**	**207**	Pn	**Pn**	**08 04 36.9**	**-2.6**
JHJ	17nm,0.3s,baz=277,slow=20,SNR=8.7			Sn	**Sn**	**08 05 06.4**	**-1.2**
	45nm,0.3s,baz=274,slow=22,SNR=5.9						
MJAR	**Matsushiro Arr**	**2.67**	**300**	Pn	**Pn**	**08 04 42.9**	**-0.5**
MJAR	1.1nm,0.3s,baz=126,slow=9.3,SNR=21			LR	LR	08 05 08.8	
	comp=Z,38nm,20.8s,baz=125,slow=28						
MAT	**Matsushiro**	**2.68**	**300**	P	**Pn**	**08 04 45.0**	**+1.6**
MAT				eS	**Sn**	**08 05 15.6**	**+1.0**
ASAJ	**Asahikawa**	**8.92**	**7**	Pn	**Pn**	**08 06 06.0**	**-3.2**
	0.8nm,0.3s,baz=282,slow=19,SNR=3.7						
ASAJ				LR	LR	08 10 03.5	
	comp=Z,86nm,19.6s,baz=86,slow=41						
KSRS	**Korea Array**	**10.85**	**286**	Pn	**Pn**	**08 06 35.4**	**-0.1**
	0.1nm,0.3s,baz=81,slow=14,SNR=3.3						
KSRS				LR	LR	08 11 09.8	
	comp=Z,74nm,18.2s,baz=102,slow=40						
USRK	**Ussuriysk Ar.**	**11.35**	**325**	LR	LR	08 10 56.1	
	comp=Z,122nm,18.3s,baz=128,slow=37						
PETK	**Petropavlovsk-**	**21.36**	**28**	P	**P**	**08 08 48.7**	**+1.8**
	9.3nm,1.0s,baz=251,slow=9.2,SNR=3.8						
H11N2	**WAKE ISLAND Hy**	**27.51**	**117**	T	T	08 38 34.2	
	baz=310,slow=75,SNR=46						
H11N1	**WAKE ISLAND Hy**	**27.51**	**117**	T	T	08 38 44.7	
	baz=310,slow=75,SNR=53						
H11N3	**WAKE ISLAND Hy**	**27.52**	**117**	T	T	08 38 47.6	
	baz=310,slow=75,SNR=42						
H11S3	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	08 39 32.6	
	baz=312,slow=75,SNR=188						
H11S1	**WAKE ISLAND Hy**	**28.16**	**120**	T	T	08 39 21.9	
	baz=312,slow=75,SNR=312						
H11S2	**WAKE ISLAND Hy**	**28.17**	**120**	T	T	08 39 19.7	
	baz=312,slow=75,SNR=172						
SONM	**Songino Array**	**28.60**	**307**	LR	LR	08 21 19.3	
	comp=Z,40nm,21.1s,baz=120,slow=36						
TIXI	**Tiksi**	**37.02**	**354**	LR	LR	08 26 15.0	
	comp=Z,37nm,19.4s,baz=158,slow=36						
ZALV	**Zalesovo Beam**	**42.94**	**314**	P	**P**	**08 11 56.5**	**-1.5**
	0.9nm,0.5s,baz=81,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**44.87**	**304**	P	**P**	**08 12 13.6**	**-0.1**
	1.0nm,0.9s,baz=91,slow=8.8,SNR=7.4						
ILAR	**Eielson Array**	**51.13**	**32**	P	**P**	**08 13 02.0**	**+0.2**
	0.3nm,0.8s,baz=279,slow=6.3,SNR=5.3						
WRA	**Warramunga Arr**	**55.27**	**188**	P	**P**	**08 13 31.8**	**-0.9**
	2.3nm,0.7s,baz=6.3,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**59.00**	**188**	P	**P**	**08 14 00.1**	**+1.1**
	0.5nm,0.6s,baz=15,slow=10,SNR=7.4						
FINES	**FINESS Array B**	**70.27**	**332**	P	**P**	**08 15 11.5**	**-0.6**
	2.3nm,0.9s,baz=42,slow=6.6,SNR=3.0						
AKASG	**Malin Array Be**	**75.55**	**322**	LR	LR	08 49 15.5	
	comp=Z,26nm,20.4s,baz=210,slow=36						
PDAR	**Pinedale Array**	**79.10**	**45**	P	**P**	**08 16 05.5**	**+1.5**
	0.2nm,0.6s,baz=297,slow=8.0,SNR=2.6						
TXAR	**Lajitas Array**	**91.41**	**52**	P	**P**	**08 17 07.2**	**+1.6**
	0.1nm,0.7s,baz=343,slow=2.8,SNR=2.3						

SJA 22 08:15:27.1±0.7, 21.46S×69.93W, h40km±2km, ML1.8, MW3.9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB02	**IPOC Station P**	**0.15**	**14**	*i*P	Pn	08 15 34.4	+0.1
PB02				*i*S	Sn	08 15 40.2	+0.8
PB07	**IPOC Station P**	**0.27**	**171**	*i*P	Pn	08 15 36.1	+0.8
PB07				*i*S	Sn	08 15 42.3	+1.3
PB01	**IPOC Station P**	**0.59**	**45**	*i*P	Pn	08 15 37.7	-1.4
PB01				*i*S	Sn	08 15 45.2	-2.5
PB03	**IPOC Station P**	**0.61**	**164**	*i*P	Pn	08 15 40.1	+0.6
PB03				*i*S	Sn	08 15 50.2	+2.0
HJA	**Humahuaca**	**4.53**	**113**	*i*P	Pn	08 16 37.8	+4.2
HJA	comp=Z,0.9nm,0.3s			IAML		08 16 38.1	

IDC 22 08:17:36.4±3.0, 54.04N×87.24E, h0km, mb1 2.7/2, mb1mx2.7/51, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=26.3km s-min=18.2km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**267**	*i*		08 28 40.7	
	baz=89,slow=331,SNR=4.5						
ZALV	**Zalesovo Beam**	**1.43**	**267**	Pg	Pn	08 18 00.9	-2.7
	2.0nm,0.3s,baz=85,slow=14,SNR=21						
ZALV				Lg	Lg	08 18 22.2	
	1.6nm,0.3s,baz=87,slow=25,SNR=8.3						
KURBB	**Kurchatov Arra**	**6.34**	**241**	Pn	Pn	08 19 11.7	+0.7
	0.0nm,0.3s,baz=56,slow=14,SNR=6.7						
KURBB				Lg	Lg	08 20 57.4	
	0.0nm,0.3s,baz=57,slow=34,SNR=6.0						
MKAR	**Makanchi Array**	**7.92**	**206**	Pn	Pn	08 19 34.5	+1.9
	0.1nm,0.3s,baz=27,slow=14,SNR=4.6						
MKAR				Lg	Lg	08 21 49.0	
	0.0nm,0.3s,baz=19,slow=28,SNR=9.2						

IDC 22 08:24:05.5±0.6, 25.64S×69.80E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.0/68, mbtmp4.2/16, MS3.6/10, Ms1 3.6/10, ms1mx3.3/42, Error ellipse: s-maj=18.2km s-min=16.7km az=29.0
ISCJB 22 08:24:06.9±0.4, 25.67S±0.09×69.86E±0.09, h21km, mb4.2/21, MS3.6/10, Error ellipse: s-maj=12.7km s-min=11.3km az=18.0
NEIC 22 08:24:07.3±0.2, 25.64S×69.83E, h10km, mb4.6/7, Error ellipse: s-maj=8.4km s-min=7.4km az=195.0
ISC 22 08:24:08.8±0.5, 25.65S±0.1×69.85E±0.1, h21km, n55, σ0s97/43, mb4.2/21, MS3.6/10, 2C-1D, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**18.07**	**9**	T	T	08 46 57.2	
	baz=189,slow=76,SNR=66						
H08S2	**Diego Garcia H**	**18.07**	**9**	T	T	08 46 57.3	
	baz=189,slow=76,SNR=159						
H08S3	**Diego Garcia H**	**18.09**	**9**	T	T	08 47 04.4	
	baz=189,slow=76,SNR=88						
OPO	**Ambohidratompo**	**22.09**	**284**	P	**P**	**08 29 04.1**	**+1.2**
	6.3nm,1.0s,baz=85,slow=9.7,SNR=3.8						
H01W2	**Cape Leeuwin H**	**39.12**	**114**	T	T	09 13 18.7	
	baz=272,slow=75,SNR=45						
H01W3	**Cape Leeuwin H**	**39.12**	**114**	T	T	09 13 18.9	
	baz=272,slow=75,SNR=52						
H01W1	**Cape Leeuwin H**	**39.13**	**114**	T	T	09 13 16.7	
	baz=272,slow=75,SNR=44						
BOSA	**Boshof**	**39.59**	**255**	P	**P**	**08 31 39.0**	**0.0**
	2.2nm,1.0s,baz=81,slow=19,SNR=3.1						
BOSA				LR	LR	08 44 42.7	
	comp=Z,61nm,20.7s,baz=196,slow=31						
KMBO	**Kilima Mbogo**	**39.72**	**303**	P	**P**	**08 31 40.2**	**-0.1**
	1.2nm,0.7s,baz=130,slow=3.4,SNR=3.9						
LSZ	**Lusaka**	**40.19**	**277**	*e*P	**P**	**08 31 44.6**	**+0.5**
LSZ	**Lusaka**	**40.19**	**277**	P	**P**	**08 31 43.6**	**-0.4**
	3.2nm,0.6s,baz=135,slow=8.2,SNR=5.9						
MAW	**Mawson**	**42.20**	**184**	LR	LR	08 45 51.3	
	comp=Z,106nm,21.0s,baz=294,slow=31						
ATD	**Arta Tunnel**	**45.32**	**321**	LR	LR	08 48 41.6	
	comp=Z,62nm,20.5s,baz=10,slow=33						
WSAR	**Wadi Sarin**	**49.78**	**346**	P	**P**	**08 32 58.8**	**-1.1**
	4.6nm,0.9s,baz=196,slow=19,SNR=2.4						
CMAR	**Chiang Mai Arr**	**52.19**	**36**	P	**P**	**08 33 19.1**	**+0.8**
	0.5nm,0.3s,baz=226,slow=7.0,SNR=4.6						
CMAR				LR	LR	08 50 56.6	
	comp=Z,33nm,20.9s,baz=220,slow=31						
ASAR	**Alice Springs**	**57.77**	**103**	P	**P**	**08 33 59.0**	**+0.2**
	1.7nm,0.8s,baz=249,slow=6.5,SNR=15						
AS01	**Alice Springs**	**57.81**	**103**	*e*P	**P**	**08 33 58.8**	**-0.3**
WR1	**Warramunga Arr**	**59.27**	**99**	*e*P	**P**	**08 34 09.4**	**+0.2**
	3.2nm,1.1s						
WRA	**Warramunga Arr**	**59.27**	**99**	P	**P**	**08 34 09.4**	**+0.2**
	1.1nm,0.8s,baz=255,slow=7.3,SNR=7.9						
SNAA	**Sanae**	**60.44**	**200**	*e*P	**P**	**08 34 17.6**	**+1.1**
	5.0nm,1.0s						
SNAA	**Sanae**	**60.44**	**200**	P	**P**	**08 34 17.3**	**+0.8**
	1.6nm,0.9s,baz=129,slow=7.3,SNR=4.0						
GEYT	**Alibeck**	**64.17**	**350**	LR	LR	08 58 39.3	
	comp=Z,30nm,21.8s,baz=95,slow=32						
QSPA	**South Pole Qui**	**64.50**	**180**	*e*P	**P**	**08 34 44.0**	**+0.2**
	1.8nm,1.0s						
QSPA	**South Pole Qui**	**64.50**	**180**	P	**P**	**08 34 43.7**	**-0.1**
	2.3nm,0.9s,baz=81,slow=2.0,SNR=4.7						
VNDA	**Vanda**	**65.61**	**166**	P	**P**	**08 34 49.8**	**-0.9**
	0.9nm,0.8s,baz=264,slow=5.9,SNR=4.3						
VNDA				LR	LR	08 59 20.3	
	comp=Z,48nm,20.6s,baz=212,slow=32						
KK31	**Karatay Array**	**68.40**	**1**	*e*P	**P**	**08 35 09.7**	**+1.0**
	11nm,0.6s						
KKAR	**Karatay Array**	**68.40**	**1**	*e*P	**P**	**08 35 09.5**	**+0.7**
	8.9nm,0.7s						
MK01	**Makanchi Array**	**72.94**	**9**	*e*P	**P**	**08 35 36.6**	**+0.2**
MK31	**Makanchi Array**	**72.97**	**9**	*e*P	**P**	**08 35 36.5**	**0.0**
	3.0nm,0.9s						
MK32	**Makanchi Array**	**72.97**	**9**	*e*P	**P**	**08 35 36.7**	**+0.2**
MKAR	**Makanchi Array**	**72.97**	**9**	P	**P**	**08 35 36.7**	**+0.2**
	3.6nm,0.7s,baz=194,slow=6.5,SNR=38						
BRTR	**Keskin Array B**	**73.25**	**332**	LR	LR	09 05 38.0	
	comp=Z,26nm,20.6s,baz=106,slow=34						
KURBB	**Kurchatov Arra**	**76.31**	**6**	P	**P**	**08 35 56.4**	**+0.7**
	2.6nm,0.8s,baz=203,slow=6.2,SNR=8.4						
KURK	**Kurchatov**	**76.41**	**6**	*e*P	**P**	**08 35 56.8**	**+0.5**
	7.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.67**	**292**	P	**P**	**08 35 58.4**	**-0.2**
	1.5nm,1.1s,baz=122,slow=4.5,SNR=5.2						
TORD				LR	LR	09 07 59.6	
	comp=Z,30nm

BMRM	**Bremner River**	**137.64**	**24**	*e*PKPdf	**PKPdf**	08 43 30.5	-0.2
HATHI	**Halema'uma'u T**	**138.07**	**89**	*e*PKPdf	**PKiKP**	08 43 34.4	-0.5
YKA	**Yellowknife Ar**	**143.03**	**3**	PKP	**PKPdf**	08 43 39.6	-0.8
	0.7nm,0.8s,baz=347,slow=2.9,SNR=7.3						
NCB	**Newcomb**	**145.61**	**311**	*e*PKPdf	**PKPab**	08 43 46.8	+0.7
N59A	**State Game Lan**	**147.68**	**307**	*e*PKPbc	**PKiKP**	08 43 52.6	-1.3
O56A	**Blue Knob Stat**	**149.90**	**307**	*e*PKPbc	**PKiKP**	08 43 59.0	+0.4
FFC	**Flin Flon**	**150.31**	**350**	*e*PKPbc	**PKiKP**	08 43 58.2	-0.7
E43A	**Lone Tree Farm**	**152.24**	**324**	*e*PKPbc	**PKiKP**	08 44 02.9	-0.2
ULM	**Lac du Bonnet**	**153.05**	**339**	PKPbc	**PKPbc**	08 44 03.5	-1.0
	1.1nm,0.7s,baz=111,slow=0.7,SNR=4.2						
TXAR	**Lajitas Array**	**173.13**	**304**	PKP	**PKPdf**	08 44 18.1	+1.0
	0.5nm,0.8s,baz=96,slow=2.5,SNR=5.9						

IDC 22 08:27:00.2±3.2, **53.57N×87.85E, h0**km, **mb1 2.3**/2, **mb1mx2.3**/63, **mbtmp2.3**/2, **ML1.9**/2, **Error ellipse: s-maj=29.1km s-min=19.1km az=55.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**283**	*i*			08 40 47.9	
	baz=99,slow=348,SNR=0.7							
ZALV	**Zalesovo Beam**	**1.84**	**283**	Pn		Pn	08 27 33.4	+0.3
	0.4nm,0.3s,baz=106,slow=11,SNR=5.7							
ZALV				Lg		Lg	08 27 58.9	
	0.6nm,0.3s,baz=104,slow=25,SNR=6.5							
KURBB	**Kurchatov Arra**	**6.46**	**247**	Pn		Pn	08 28 35.8	-0.7
	0.0nm,0.3s,baz=62,slow=12,SNR=2.1							
KURBB				Lg		Lg	08 30 25.5	
	0.0nm,0.3s,baz=64,slow=32,SNR=3.2							
MKAR	**Makanchi Array**	**7.66**	**210**	Pn		Pn	08 28 55.1	+2.1
	0.0nm,0.3s,baz=30,slow=12,SNR=3.0							

*IDC **22** 08:29:03.4±5.3,31.64S×179.98W,h275km±43km, mb3.3/3, mb1 3.5/4, mb1mx3.2/41, mbtmp4.0/4, Error ellipse: s-maj=49.1km s-min=21.4km az=48.0*
*ISCJB **22** 08:29:10.0±0.6,32.31S±0.07×179.1W±0.2, h300km, mb3.4/3, Error ellipse: s-maj=21.6km s-min=6.0km az=21.1*
*WEL **22** 08:29:10.6±0.8,32.5±6.6×17.9W±1.5, h303km±11km*
ISC 22 08:29:09.9±1.1, **32.26S**±0.09×**179.2W**±0.2, **h300**km, **n52,** σ1°**72**/**57**, **mb3.2**/3, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.18**	**21**	P		**Pn**	**08 30 09.7**	**+2.1**
GLKZ				S		S	**08 30 54.3**	**+0.7**
MXZ	**Matakaoa Point**	**5.67**	**200**	P		**Pn**	**08 30 37.5**	**+2.3**
MXZ				S		**S**	**08 31 43.5**	**-0.4**
WMGZ	**Waiomatatini S**	**5.88**	**199**	P		**Pn**	**08 30 40.6**	**+3.0**
GRZ	**Great Barrier**	**5.95**	**226**	P		**Pn**	**08 30 39.6**	**+1.1**
HAZ	**Te Kaha**	**6.02**	**203**	P		**Pn**	**08 30 40.1**	**+0.8**
HAZ				S		**S**	**08 31 51.6**	**+0.3**
PKGZ	**Pakihiroa**	**6.04**	**201**	P		**Pn**	**08 30 39.8**	**+0.1**
PKGZ				S		**S**	**08 31 52.0**	**-0.1**
PUZ	**Puketiti**	**6.16**	**199**	P		**Pn**	**08 30 41.1**	**+0.1**
PUZ				S		**S**	**08 31 54.7**	**+0.1**
RUGZ	**Raukumara Rang**	**6.24**	**203**	P		**Pn**	**08 30 43.2**	**+1.1**
TWGZ	**Tauwhareparae**	**6.34**	**200**	P		**Pn**	**08 30 47.0**	**+3.8**
TWGZ				S		**S**	**08 32 00.7**	**+2.2**
WCZ	**Waipu Caves**	**6.48**	**234**	P		**Pn**	**08 30 45.0**	**+0.1**
WIAZ	**Waiheke Island**	**6.50**	**224**	P		**Pn**	**08 30 46.9**	**+1.8**
CNGZ	**Carnagh Statio**	**6.56**	**199**	P		**Pn**	**08 30 46.9**	**+1.1**
OPRZ	**Ohinepanea**	**6.57**	**211**	P		**Pn**	**08 30 45.7**	**-0.2**
MWZ	**Matawai**	**6.62**	**203**	P		**Pn**	**08 30 46.0**	**-0.7**
MBAZ	**Motutapu North**	**6.62**	**226**	P		**Pn**	**08 30 48.5**	**+1.8**
MKAZ	**Moumakai**	**6.70**	**222**	P		**Pn**	**08 30 49.4**	**+1.9**
URZ	**Urewera**	**6.70**	**206**	P		**Pn**	**08 30 45.4**	**-2.1**
	3.5nm,0.3s,baz=276,slow=4.0,SNR=22							
URZ				S		**S**	**08 32 05.1**	**-1.3**
	7.1nm,0.3s,baz=242,slow=20,SNR=23							
URZ	**Urewera**	**6.70**	**206**	P		**Pn**	**08 30 46.1**	**-1.5**
RAGZ	**Rawiri**	**6.81**	**203**	P		**Pn**	**08 30 48.0**	**-0.9**
RIGZ	**Rimuhau**	**6.89**	**200**	P		**Pn**	**08 30 48.8**	**-1.1**
MUGZ	**Murupara**	**7.02**	**207**	P		**Pn**	**08 30 51.7**	**+0.3**
PRGZ	**Paritu Road**	**7.06**	**199**	P		**Pn**	**08 30 54.4**	**+2.5**
RTZ	**Ruatahuna**	**7.07**	**205**	P		**Pn**	**08 30 49.9**	**-2.1**
SNGZ	**Shannon Statio**	**7.09**	**202**	P		**Pn**	**08 30 51.2**	**-1.1**
KNZ	**Kokohu**	**7.21**	**200**	P		**Pn**	**08 30 56.4**	**+2.7**
ALRZ	**Allen Road**	**7.26**	**209**	P		**Pn**	**08 30 56.5**	**+2.1**
MHGZ	**Mahia Peninsul**	**7.27**	**198**	P		**Pn**	**08 30 56.6**	**+2.2**
RAHZ	**Arahi**	**7.30**	**203**	P		**Pn**	**08 30 54.8**	**-0.1**
WHHZ	**Waihua**	**7.39**	**202**	P		**Pn**	**08 30 55.5**	**-0.5**
TLZ	**Tolley Road**	**7.42**	**214**	P		**Pn**	**08 30 58.6**	**+2.2**
MRHZ	**Matea Rd**	**7.47**	**207**	P		**Pn**	**08 30 57.0**	**+0.1**
NMHZ	**Naumai**	**7.55**	**204**	P		**Pn**	**08 30 56.2**	**-1.8**
ARHZ	**Aropaoanui**	**7.64**	**203**	P		**Pn**	**08 30 58.9**	**0.0**
BKZ	**Black Stump Fm**	**7.73**	**206**	P		**Pn**	**08 30 57.9**	**-2.2**
HIZ	**Hauiti**	**7.90**	**216**	P		**Pn**	**08 31 05.0**	**+2.9**
MCHZ	**McNeill Hill**	**7.90**	**204**	P		**Pn**	**08 31 03.4**	**+1.2**
CKHZ	**Cape Kidnapper**	**7.97**	**201**	P		**Pn**	**08 31 05.4**	**+2.4**
KWHZ	**Kaweka Forest**	**7.98**	**205**	P		**Pn**	**08 31 02.1**	**-1.1**
TWVZ	**Taurewa**	**8.07**	**211**	P		**Pn**	**08 31 05.1**	**+0.7**
NGZ	**Ngauruhoe**	**8.09**	**210**	P		**Pn**	**08 31 05.4**	**+0.8**
BHHZ	**Black Hill Sta**	**8.17**	**207**	P		**Pn**	**08 31 04.1**	**-1.5**
FWVZ	**Far West T-bar**	**8.18**	**210**	P		**Pn**	**08 31 04.5**	**-1.3**
WHVZ	**Whangaehu Hut**	**8.19**	**210**	P		**Pn**	**08 31 06.1**	**+0.2**
KRHZ	**Kereru**	**8.20**	**205**	P		**Pn**	**08 31 04.2**	**-1.5**
TRVZ	**Turoa**	**8.21**	**210**	P		**Pn**	**08 31 05.6**	**-0.7**
VRZ	**Vera Road**	**8.43**	**214**	P		**Pn**	**08 31 10.3**	**+1.7**
PNHZ	**Pukenui**	**8.49**	**205**	P		**Pn**	**08 31 08.7**	**-0.8**
TSZ	**Takapari Road**	**8.71**	**205**	P		**Pn**	**08 31 11.5**	**-0.6**
ASAR	**Alice Springs**	**42.01**	**270**	P		P	08 36 22.9	-10
	0.3nm,0.3s,baz=107,slow=7.7,SNR=6.8							
WRA	**Warramunga Arr**	**43.17**	**275**	P		P	08 36 32.3	-10
	0.6nm,0.3s,baz=112,slow=8.0,SNR=17							
QSPA	**South Pole Qui**	**57.86**	**180**	P		**P**	**08 38 30.8**	**+0.2**
	2.2nm,0.5s,baz=12,slow=2.1,SNR=25							
FINES	**FINESS Array B**	**146.50**	**338**	PKPbc		**PKPdf**	**08 48 08.2**	**-5.1**
	4.3nm,0.9s,baz=25,slow=4.6,SNR=13							

*IDC **22** 08:30:07.0±8.7, 19.56S×177.48W, h250km±82km, mb3.8/5, mb1 4.0/6, mb1mx3.4/43, mbtmp4.4/6, Error ellipse: s-maj=36.8km s-min=21.0km az=47.0*
*ISCJB **22** 08:30:25.3±0.5, 19.86S±0.05×177.8W±0.1, h450km, mb4.0/25, Error ellipse: s-maj=12.8km s-min=6.2km az=178.4*
*NEIC **22** 08:30:27.1±1.5, 19.93S×177.76W, h462km±16km, mb4.2/25, Error ellipse: s-maj=20.3km s-min=11.4km az=90.0*
ISC 22 08:30:26.2±0.7, **19.86S**±0.08×**177.7W**±0.1, **h450**km, **n68,** σ1°**64**/**71**, **mb4.1**/25, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.55**	**297**	*e*P		**P**	**08 31 47.9**	**+1.4**
OUZ	**Omahuta**	**17.13**	**205**	*e*P		**P**	**08 34 00.8**	**+1.0**
	11nm,0.9s							
OUZ	**Omahuta**	**17.13**	**205**	P		**P**	**08 34 00.8**	**+1.0**
WCZ	**Waipu Caves**	**17.49**	**202**	P		**P**	**08 34 05.4**	**+1.9**
KUZ	**Kuaotunu**	**17.79**	**198**	P		**P**	**08 34 08.6**	**+2.0**
MXZ	**Matakaoa Point**	**17.99**	**190**	*e*P		**P**	**08 34 08.6**	**-0.1**
	34nm,0.8s							
MXZ	**Matakaoa Point**	**17.99**	**190**	P		**P**	**08 34 08.1**	**-0.6**
WIAZ	**Waiheke Island**	**18.01**	**199**	P		**P**	**08 34 09.6**	**+0.7**
HAZ	**Te Kaha**	**18.27**	**192**	P		**P**	**08 34 10.8**	**-0.6**
HAZ				S		**S**	**08 37 14.6**	**-1.3**
MKAZ	**Moumakai**	**18.29**	**198**	P		**P**	**08 34 12.1**	**+0.5**
PKGZ	**Pakihiroa**	**18.34**	**191**	P		**P**	**08 34 12.4**	**+0.2**
RUGZ	**Raukumara Rang**	**18.49**	**192**	P		**P**	**08 34 13.4**	**-0.3**
PUZ	**Puketiti**	**18.49**	**190**	P		**P**	**08 34 12.8**	**-0.8**
TOZ	**Tahuroa Road**	**18.77**	**197**	P		**P**	**08 34 17.1**	**+1.0**
MWZ	**Matawai**	**18.88**	**192**	P		**P**	**08 34 15.7**	**-1.5**
URZ	**Urewera**	**18.89**	**193**	*e*P		**P**	**08 34 14.3**	**-2.9**
	18nm,0.7s							
URZ				*e*S		**S**	**08 37 24.3**	**-1.7**
URZ	**Urewera**	**18.89**	**193**	P		**P**	**08 34 12.5**	**-4.8**
	2.3nm,0.3s,baz=1.1,slow=6.6,SNR=6.3							
URZ				S		**S**	**08 37 24.3**	**-1.7**
	0.2nm,0.3s,baz=123,slow=12,SNR=3.1							
URZ	**Urewera**	**18.89**	**193**	P		**P**	**08 34 14.3**	**-2.9**
RAGZ	**Rawiri**	**19.05**	**192**	P		**P**	**08 34 18.1**	**-0.8**
RIGZ	**Rimuhau**	**19.19**	**191**	P		**P**	**08 34 19.1**	**-1.1**
RTZ	**Ruatahuna**	**19.26**	**193**	P		**P**	**08 34 18.6**	**-2.2**
PRRZ	**Plateau Road**	**19.27**	**194**	P		**P**	**08 34 19.4**	**-1.4**
SNGZ	**Shannon Statio**	**19.34**	**192**	P		**P**	**08 34 19.3**	**-2.3**
MTHZ	**Maungataniwha**	**19.51**	**193**	P		**P**	**08 34 20.9**	**-2.2**
RAHZ	**Arahi**	**19.52**	**192**	P		**P**	**08 34 22.0**	**-1.1**
HIZ	**Hauiti**	**19.68**	**198**	*e*P		**P**	**08 34 25.8**	**+1.2**
	12nm,0.9s							
NMHZ	**Naumai**	**19.76**	**193**	P		**P**	**08 34 23.1**	**-2.2**
BKZ	**Black Stump Fm**	**19.89**	**193**	*e*P		**P**	**08 34 23.4**	**-3.1**
	5.4nm,0.4s							
BKZ	**Black Stump Fm**	**19.89**	**193**	P		**P**	**08 34 23.9**	**-2.6**
KWHZ	**Kaweka Forest**	**20.15**	**193**	P		**P**	**08 34 26.6**	**-2.3**
BHHZ	**Black Hill Sta**	**20.30**	**194**	P		**P**	**08 34 27.2**	**-3.1**
KRHZ	**Kereru**	**20.37**	**193**	P		**P**	**08 34 28.7**	**-2.2**
PXZ	**Pawanui**	**20.65**	**192**	P		**P**	**08 34 32.2**	**-1.1**
PNHZ	**Pukenui**	**20.67**	**193**	P		**P**	**08 34 32.5**	**-1.1**
BFZ	**Birch Farm**	**21.40**	**193**	*e*P		**P**	**08 34 37.9**	**-2.3**
	20nm,1.1s							
SNZO	**South Karori**	**22.35**	**195**	*e*P		**P**	**08 34 48.3**	**-0.4**
	25nm,1.1s							
THZ	**Tophouse**	**23.25**	**198**	*e*P		**P**	**08 34 56.3**	**-0.7**
	11nm,1.2s							
KHZ	**Kahutara**	**23.68**	**196**	*e*P		**P**	**08 34 59.3**	**-1.4**
	8.9nm,0.9s							
WHZ	**Wether Hill Ro**	**28.54**	**201**	*e*P		**P**	**08 35 43.9**	**+0.3**
	2.1nm,0.7s							
ARMA	**Armidale**	**29.61**	**243**	*e*P		**P**	**08 35 54.4**	**+1.0**
	7.9nm,1.1s							
CTAO	**Charters Tower**	**33.85**	**263**	*e*P		**P**	**08 36 30.2**	**+0.3**
	6.6nm,0.9s							
COEN	**Coen**	**37.84**	**273**	*e*P		**P**	**08 37 00.4**	**-2.8**
	3.9nm,0.7s							
JAY	**Jayapura**	**44.12**	**288**	P		**P**	**08 37 52.2**	**-1.4**
	20nm,0.5s,baz=118,slow=5.5,SNR=9.7							
AS01	**Alice Springs**	**44.91**	**256**	*e*P		**P**	**08 37 59.5**	**-0.1**
AS31	**Alice Springs**	**44.95**	**256**	*e*P		**P**	**08 38 00.9**	**+0.9**
	0.7nm,0.6s							
ASAR	**Alice Springs**	**44.95**	**256**	P		**P**	**08 37 60.0**	**0.0**
	2.7nm,0.7s,baz=88,slow=8.0,SNR=26							
WRAB	**Tennant Creek**	**44.97**	**261**	*e*P		**P**	**08 37 58.7**	**-1.4**
	6.3nm,0.5s							
WR1	**Warramunga Arr**	**44.98**	**261**	*e*P		**P**	**08 37 59.2**	**-0.9**
	3.7nm,0.5s							
WRA	**Warramunga Arr**	**44.98**	**261**	P		**P**	**08 37 59.2**	**-0.9**
	1.4nm,0.3s,baz=96,slow=7.5,SNR=24							
SBA	**Scott Base**	**58.53**	**184**	*e*P		**P**	**08 39 40.4**	**+2.8**
	0.9nm,0.8s							
VNDA	**Vanda**	**58.57**	**185**	P		**P**	**08 39 39.2**	**+1.3**
	1.3nm,0.6s,baz=19,slow=8.5,SNR=12							
CASY	**Casey**	**64.67**	**205**	*e*P		**P**	**08 40 18.6**	**+0.5**
	3.4nm,1.0s							
QSPA	**South Pole Qui**	**70.21**	**180**	*e*P		**P**	**08 40 53.2**	**+0.8**
	8.9nm,0.8s							
UNV	**Unalaska Valle**	**74.03**	**7**	*e*P		**P**	**08 41 15.1**	**+0.6**
	15nm,1.1s							
GAMB	**Gambell**	**83.49**	**3**	*e*P		**P**	**08 42 07.1**	**+2.1**
	2.8nm,1.2s							
KNK	**Knik Glacier**	**84.31**	**14**	*e*P		**P**	**08 42 07.8**	**-1.4**
	4.9nm,1.2s							
PMR	**Palmer**	**84.33**	**13**	*e*P		**P**	**08 42 10.2**	**+1.0**
	2.3nm,0.6s							
GHO	**Glory Hole Cre**	**84.53**	**13**	*e*P		**P**	**08 42 11.2**	**+0.8**
	4.4nm,0.5s							
PPLA	**Purkeypile**	**84.89**	**11**	*e*P		**P**	**08 42 12.6**	**+0.4**
	4.2nm,1.0s							
ILAR	**Eielson Array**	**87.62**	**13**	P		**P**	**08 42 24.9**	**-0.2**
	0.8nm,0.6s,baz=224,slow=5.2,SNR=22							
SUMG	**Summit**	**122.46**	**13**	*e*PKPdf		**PKPdf**	**08 48 29.5**	**+0.3**
ARCES	**ARCESS Array B**	**128.34**	**350**	*e*PKPdf		**PKPdf**	**08 48 37.3**	**-2.7**
BUR08	**Bucovina Ar. S**	**146.63**	**331**	*e*PKPdf		**PKiKP**	**08 49 18.8**	**0.0**
CLL	**Collm**	**147.50**	**347**	*e*PKPbc		**PKPbc**	**08 49 19.0**	**+0.4**
GEC2	**GERESS Array S**	**149.66**	**345**	*e*PKPbc		**PKPbc**	**08 49 25.0**	**+0.8**
GEA0	**GERESS Array S**	**149.67**	**345**	*e*PKPbc		**PKPbc**	**08 49 25.3**	**+1.1**
STU	**Stuttgart**	**150.62**	**351**	*e*PKPab		**PKPab**	**08 49 34.1**	**-0.9**
FNA	**Florina**	**153.54**	**326**	*e*PKPdf		**PKPdf**	**08 49 23.4**	**-1.6**

*BJI **22** 08:31:50.7, 40.20N×51.20E, h8km, mb4.7/25, mB4.9/16, Ms4.3/9, Ms7 4.3/4*
*MOS **22** 08:31:51.9±1.4, 40.34N×51.18E, h13km, mb4.6/28, Error ellipse: s-maj=5.4km s-min=4.1km az=44.7*
*NEIC **22** 08:31:52.3±1.7, 40.15N×51.06E, h12km±11km, mb4.5/64, Error ellipse: s-maj=7.2km s-min=3.4km az=192.0*
*ISCJB **22** 08:31:54.8±0.3, 40.08N±0.02×51.05E±0.02, h47km±3km, mb4.4/91, MS3.6/10, Error ellipse: s-maj=4.0km s-min=2.0km az=25.2*
*TEH **22** 08:31:55.1, 40.18N×51.19E, h40km, ML4.5*
*AZER **22** 08:31:55.7±0.7, 39.90N×50.94E, h60km, ml4.0/30, Error ellipse: s-maj=1.9km s-min=1.2km az=277.0*
*IDC **22** 08:31:57.6±0.9, 40.05N×51.03E, h63km±4km, mb3.8/27, mb1 4.0/34, mb1mx3.9/57, mbtmp4.1/34, MS3.4/11, Ms1 3.4/11, ms1mx3.0/46, Error ellipse: s-maj=19.4km s-min=9.8km az=8.0*
*NNC **22** 08:31:58.8±9.8, 40.36N×51.58E, h41km±82km, mb4.3, Error ellipse: s-maj=100.0km s-min=33.2km az=64.0*
ISC 22 08:31:57.3±0.5, **40.11N**±0.03×**51.04E**±0.03, **h59**km±4km, **h59**km:**pP-P, n344,** σ2°**01**/392, **mb4.5**/90, **MS3.4**/11, **45C-37D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GALA	**Gala**	**0.74**	**294**	⇓P		**Pn**	**08 32 13.8**	**+1.9**
GALA				⇑S		**Sn**	**08 32 26.9**	**+4.3**
NDR	**Nardaran**	**0.93**	**301**	⇓P		**Pn**	**08 32 15.7**	**+1.3**
	SNR=39							
NDR				⇓S		**Sn**	**08 32 31.3**	**+4.4**
GOBA	**Gobu**	**1.04**	**287**	⇓P		**Pn**	**08 32 18.9**	**+3.1**
	SNR=11							
GOBA				⇑S		**Sn**	**08 32 31.1**	**+1.6**
ALIB	**Äli-Bayra**	**1.56**	**265**	⇑Pg		**Pn**	**08 32 23.9**	**+1.1**
	SNR=20							
ALIB				⇓Sg		**Sn**	**08 32 46.9**	**+4.8**
GBS	**Qobustan**	**1.66**	**286**	*e*Pn		**Pn**	**08 32 26.3**	**+2.1**
GBS	**Qobustan**	**1.66**	**286**	⇑Pn		**Pn**	**08 32 25.1**	**+0.9**
	SNR=40							
GBS				⇑Sn		**Sn**	**08 32 46.5**	**+2.0**
ATGJ	**Altiaghaj**	**1.77**	**296**	*e*Pn		**Pn**	**08 32 26.3**	**+0.6**
ATGJ	**Altiaghaj**	**1.77**	**296**	Pn		**Pn**	**08 32 26.3**	**+0.6**
	SNR=5.5							
ATGJ				⇑Sn		**Sn**	**08 32 46.8**	**-0.4**
SIZA	**Siyzn**	**1.89**	**301**	*e*Pn		**Pn**	**08 32 27.1**	**-0.3**
SIZA	**Siyzn**	**1.89**	**301**	⇑Pn		**Pn**	**08 32 27.9**	**+0.5**
	SNR=5.8							
SIZA				⇓Sn		**Sn**	**08 32 52.2**	**+2.0**
PQL	**Pirkuli**	**1.98**	**291**	⇑Pn		**Pn**	**08 32 28.1**	**-0.6**
PQL				⇑Sn		**Sn**	**08 32 53.5**	**+1.0**
SAAT	**Saatly**	**2.02**	**264**	⇑Pn		**Pn**	**08 32 29.2**	**+0.2**
KDMR	**Kurdemir**	**2.20**	**278**	⇓Pn		**Pn**	**08 32 30.6**	**-0.9**
KDMR				⇓Sn		**Sn**	**08 32 58.1**	**+0.6**
GLBA	**Clilabad**	**2.21**	**248**	⇑Pn		**Pn**	**08 32 29.9**	**-1.7**
	SNR=47							
GLBA				⇑Sn		**Sn**	**08 32 55.9**	**-2.0**
LKRN	**Lenkeran, Azer**	**2.24**	**232**	⇑Pn		**Pn**	**08 32 30.1**	**-1.9**
	SNR=23							
LKRN				⇑Sn		**Sn**	**08 32 55.5**	**-2.9**
IML	**Ismayilli**	**2.28**	**288**	*e*Pn		**Pn**	**08 32 33.5**	**+0.8**
IML	**Ismayilli**	**2.28**	**288**	⇓Pn		**Pn**	**08 32 32.4**	**-0.2**
	SNR=3.8							
IML				⇑Sn		**Sn**	**08 32 59.8**	**+0.1**
QUBA	**Quba, Azerbaij**	**2.30**	**304**	⇓Pn		**Pn**	**08 32 33.5**	**+0.6**
	SNR=4.4							
QUBA				⇑Sn		**Sn**	**08 33 00.7**	**+0.7**
ASTR	**Astara**	**2.33**	**229**	⇑Pn		**Pn**	**08 32 30.8**	**-2.5**
	SNR=163							
ASTR				⇑Sn		**Sn**	**08 32 57.7**	**-3.0**
QUB	**Quba**	**2.40**	**303**	*e*Pn		**Pn**	**08 32 31.8**	**-2.5**
XNQ	**Khinaliq**	**2.45**	**297**	*e*Pn		**Pn**	**08 32 34.7**	**-0.3**
XNQ	**Khinaliq**	**2.45**	**297**	Pn		**Pn**	**08 32 34.7**	**-0.3**
	SNR=35							
XNQ				⇓Sn		**Sn**	**08 33 06.2**	**+2.3**
QSAR	**Qusar**	**2.53**	**305**	*e*Pn		**Pn**	**08 32 34.4**	**-1.6**
QSAR	**Qusar**	**2.53**	**305**	⇑Pn		**Pn**	**08 32 36.3**	**+0.3**
	SNR=19							
QSAR				⇑Sn		**Sn**	**08 33 07.3**	**+1.6**
LRK	**Lerik**	**2.55**	**236**	⇓Pn		**Pn**	**08 32 33.8**	**-2.7**
	SNR=130							
LRK				⇑Sn		**Sn**	**08 33 03.1**	**-3.3**
ZRD	**Zardab**	**2.57**	**275**	*e*Pn		**Pn**	**08 32 39.2**	**+2.7**
ZRD	**Zardab**	**2.57**	**275**	⇑Pn		**Pn**	**08 32 35.9**	**-0.6**
	SNR=6.5							
ZRD				⇓Sn		**Sn**	**08 33 06.9**	**+0.3**
QBL	**Gabala**	**2.58**	**290**	*e*Pn		**Pn**	**08 32 37.3**	**+0.6**
QBL	**Gabala**	**2.58**	**290**	⇑Pn		**Pn**	**08 32 35.7**	**-1.0**
	SNR=5.4							
QBL				⇓Sn		**Sn**	**08 33 05.8**	**-1.0**
AKT	**Akhty**	**2.86**	**300**	⇑*e*PN		**Pn**	**08 32 40.5**	**-0.1**

AKT	**Akhty**	**2.86**	**300**	*e*Pn		**Pn**	**08 32 40.5**	**-0.1**
BRDA	**Brd**	**2.96**	**274**	⇓Pn		**Pn**	**08 32 40.8**	**-1.0**
BRDA				⇓Sn		**Sn**	**08 33 16.6**	**+0.5**
MNGR	**Mingechevir, A**	**3.09**	**284**	⇑Pn		**Pn**	**08 32 43.0**	**-0.6**
MNGR				⇑Sn		**Sn**	**08 33 18.6**	**-0.7**
SEKA	**Sheki**	**3.12**	**292**	PN		**Pn**	**08 32 43.7**	**-0.4**
SEKA	**Sheki**	**3.12**	**292**	*e*Pn		**Pn**	**08 32 43.7**	**-0.4**
SEKA	**Sheki**	**3.12**	**292**	Pn		**Pn**	**08 32 43.7**	**-0.4**
	SNR=15							
SEKA				⇑Sn		**Sn**	**08 33 19.1**	**-1.0**
GANJ	**Ganja**	**3.64**	**280**	PN		**Pn**	**08 32 53.0**	**+1.8**
GANJ	**Ganja**	**3.64**	**280**	*e*Pn		**Pn**	**08 32 53.0**	**+1.8**
GANJ	**Ganja**	**3.64**	**280**	⇑Pn		**Pn**	**08 32 49.4**	**-1.8**
	SNR=12							
GANJ				⇓Sn		**Sn**	**08 33 29.2**	**-3.8**
ZKTA	**Zakatala**	**3.68**	**296**	PN		**Pn**	**08 32 51.4**	**-0.3**
ZKTA	**Zakatala**	**3.68**	**296**	*e*Pn		**Pn**	**08 32 51.4**	**-0.3**
ZKTA	**Zakatala**	**3.68**	**296**	⇓Pn		**Pn**	**08 32 53.2**	**+1.5**
	SNR=7.6							
ZKTA				⇑Sn		**Sn**	**08 33 31.4**	**-2.5**
QALM	**Alamut, Qazvin**	**3.68**	**185**	*e*Pn		**Pn**	**08 32 49.0**	**-3.0**
QALM				IAMB		IAmb	08 33 30.7	
	comp=Z,0.0nm,0.1s							
GNBR	**Gunib**	**3.82**	**308**	⇑*e*PN		**Pn**	**08 32 54.5**	**+0.8**
MAK	**Makhachkala**	**3.89**	**318**	⇑PN		**Pn**	**08 32 50.5**	**-4.1**
MAK				*e*			08 33 34.4	
MAK				pmax		pmax		
	comp=Z,147nm,0.2s							
MAK				smax		smax		
	comp=E,373nm,0.6s							
MAK				smax		smax		
	comp=E,320nm,0.6s							
DDFL	**Dedoflistskaro**	**3.96**	**291**	P		**Pn**	**08 32 52.5**	**-3.2**
DDFL				S		**Sn**	**08 33 39.0**	**-1.9**
DDFL	**Dedoflistskaro**	**3.96**	**291**	*e*Pn		**Pn**	**08 32 52.5**	**-3.2**
IPRN	**Peran**	**3.99**	**165**	*e*Pn		**Pn**	**08 32 54.0**	**-2.2**
IPRN				IAMB		IAmb	08 33 39.8	
	comp=Z,41µm,0.2s							
LGD	**Lagodekhi**	**4.02**	**297**	P		**Pn**	**08 32 55.8**	**-0.5**
LGD	**Lagodekhi**	**4.02**	**297**	PN		**Pn**	**08 32 55.9**	**-0.5**
IBST	**Bostanabad**	**4.03**	**235**	*e*Pn		**Pn**	**08 32 54.6**	**-2.1**
IBST				IAMB		IAmb	08 33 04.7	
	comp=Z,2µm,0.2s							
ORD	**Ordubad**	**4.07**	**255**	⇓Pn		**Pn**	**08 32 56.2**	**-1.0**
ORD				⇑Sn		**Sn**	**08 33 41.0**	**-2.6**
GDB	**GEDABAY**	**4.08**	**280**	⇑Pn		**Pn**	**08 32 55.1**	**-2.2**
GDB				⇑Sn		**Sn**	**08 33 39.7**	**-4.1**
ITBZ	**Tabriz**	**4.24**	**245**	*e*Pn		**Pn**	**08 32 58.6**

SHA1	Shidzhatmaz	7.22	303	⇓	eP		Pn	08 33 38.6	-1.8
IPAY	Payeh	7.25	118		ePn		Pn	08 33 39.6	-1.2
IPAY					IAMB		IAmb	08 33 42.9	
	comp=Z,1μm,0.2s								
KVAR	Kislovodsk Arr	7.30	304		P		Pn	08 33 42.8	+1.5
	baz=90,slow=20,SNR=3.4								
IMOG	Moghan	7.67	119		ePn		Pn	08 33 45.7	-0.9
IMOG					IAMB		IAmb	08 33 48.3	
	comp=Z,745nm,0.2s								
IMYA	Miami	8.06	115		ePn		Pn	08 33 50.2	-1.7
IMYA					IAMB		IAmb	08 33 51.8	
	comp=Z,2μm,0.2s								
TKDS	Koohdasht(Taba	8.11	141		ePn		Pn	08 33 51.4	-1.1
JRKH	Jarkhoshk	8.46	117		ePn		Pn	08 33 55.4	-1.9
JRKH					IAMB		IAmb	08 34 00.3	
	comp=Z,0.0nm,0.2s								
ANN	Anapa	11.09	299		eP		Pn	08 34 30.8	-2.2
ANN					eS		Sn	08 36 35.1	-0.2
ANN					pmax		pmax		
	comp=Z,33nm,1.0s								
AB31	Akbulak array	11.12	32	⇑	P		Pn	08 34 30.3	-3.2
	comp=Z,3.7nm,0.5s,baz=210,slow=14,SNR=237								
AB31					S		Sn	08 36 28.9	-7.2
	comp=Z,6.9nm,0.4s,baz=222,slow=24,SNR=6.6								
AB31	Akbulak array	11.12	32		P		Pn	08 34 30.2	-3.2
AB31								08 36 28.8	
AB31					pmax		pmax		
	comp=Z,4.0nm,0.5s								
AB31					smax		smax		
	comp=N,13nm,0.5s								
ABKAR	Akbulak array	11.12	32		ePn		Pn	08 34 29.7	-3.7
ABKAR					eSn		Sn	08 36 28.6	-7.5
AKTO	Aktyubinsk	11.43	23	⇓	P		Pn	08 34 33.7	-4.0
	comp=N,9.9nm,0.5s								
AKTO				⇑	S		Sn	08 36 34.5	-9.2
	comp=N,41nm,0.5s								
AKTO	Aktyubinsk	11.43	23		P		Pn	08 34 33.7	-4.0
AKTO								08 36 34.5	
AKTO					pmax		pmax		
	comp=Z,10.0nm,0.5s								
AKTO					smax		smax		
	comp=N,39nm,0.5s								
AKTO	Aktyubinsk	11.43	23		P		Pn	08 34 34.1	-3.6
	comp=N,2.3nm,0.3s,baz=208,slow=8.9,SNR=30								
AKTO					S		Sn	08 36 34.4	-9.3
	comp=N,8.5nm,0.3s,baz=40,slow=23,SNR=14								
VRH	Novokhopyorsk	12.85	333		eP		Pn	08 34 56.8	-0.2
VRH					pmax		pmax		
	comp=Z,10.0nm,0.7s								
BR101	Keskin Array S	13.36	274		ePn		Pn	08 35 03.1	-1.1
BRTR	Keskin Array B	13.36	274		P		Pn	08 35 03.1	-1.1
	comp=Z,0.1nm,0.3s,baz=83,slow=15,SNR=3.3								
VSR	Storozhevoye	13.84	327		eP		Pn	08 35 07.8	-2.7
VSR					pmax		pmax		
	comp=Z,3.0nm,0.4s								
CHGR	Chuyangaron	14.10	90		ePn		Pn	08 35 10.5	-3.5
KK31	Karatay Array	14.87	72		ePn		Pn	08 35 19.7	-4.4
KK31	Karatay Array	14.87	72		P		Pn	08 35 21.0	-3.1
KK31					pmax		pmax		
	comp=Z,7.0nm,0.5s								
KKAR	Karatay Array	14.87	72		ePn		Pn	08 35 19.6	-4.5
KKAR	Karatay Array	14.87	72		eP		Pn	08 35 19.6	-4.5
GAR	Garm	14.92	88		ePn		Pn	08 35 21.8	-3.0
GAR	Garm	14.92	88		eP		Pn	08 35 21.8	-3.0
LPSR	Galich'ya Gora	15.01	330		eP		Pn	08 35 23.8	-1.9
LPSR					pmax		pmax		
	comp=Z,20nm,0.7s								
BTK	Batken	15.15	84		ePn		Pn	08 35 25.5	-2.2
	comp=Z,7.4nm,0.8s								
BTK	Batken	15.15	84		eP		Pn	08 35 25.5	-2.2
BTK					pmax		pmax		
	comp=Z,7.0nm,0.8s								
KBL	Kabul	15.36	106		ePn		Pn	08 35 30.5	-0.1
	comp=Z,12nm,0.9s								
KBL	Kabul	15.36	106		eP		Pn	08 35 30.5	-0.1
KBL					pmax		pmax		
	comp=Z,12nm,0.9s								
ARSB	Arslanbob	16.68	79		ePn		Pn	08 35 44.6	-2.6
	comp=Z,30nm,1.0s								
ARU	Arti	17.07	14		ePn		Pn	08 35 47.5	-4.2
	comp=Z,21nm,0.5s								
ARU	Arti	17.07	14		P		Pn	08 35 47.9	-3.8
ARU					S		Sn	08 38 53.9	-6.5
AML	Almayashu	17.19	76		P		Pn	08 35 52.3	-1.4
	SNR=9.2								
EKS2	Erkin-Say	17.25	74		P		Pn	08 35 54.6	+0.3
	SNR=11								
CFR	Carcaliu	17.57	294	⇑	iP		P	08 36 04.9	+6.6
CFR	Carcaliu	17.57	294	⇑	P		P	08 36 04.9	+6.6
AAK	Ala-Archa	17.78	74		P		Pn	08 36 01.0	+0.2
	SNR=8.7								
AAK	Ala-Archa	17.78	74		ePn		Pn	08 36 00.5	-0.3
	comp=Z,6.5nm,0.8s								
AAK	Ala-Archa	17.78	74	⇓	iP		Pn	08 36 00.9	+0.2
AAK					pmax		pmax		
	comp=Z,6.0nm,0.7s								
AAK	Ala-Archa	17.78	74		P		Pn	08 36 00.1	-0.7
	comp=Z,1.1nm,0.3s,baz=258,slow=6.9,SNR=12								
AAK					LR		LR	08 43 50.3	
	comp=Z,92nm,20.1s,baz=264,slow=40								
UCH	Uchtor	17.79	76		P		P	08 36 02.1	+0.8
	SNR=9.4								
CEP	Cherat	17.80	104		P		P	08 36 01.7	+0.5
OBN	Obninsk	17.84	332		eP		P	08 35 58.9	-2.4
OBN					pmax		pmax		
	comp=Z,9.0nm,1.0s								
OBN					MLR		MLR		
	comp=Z,44nm,14.0s								
SVE	Sverdlovsk	17.87	17		eP		Pn	08 36 02.1	+0.5
SVE					eS		Sn	08 39 07.5	-12
SVE					pmax		pmax		
	comp=Z,9.0nm,0.5s								
FRU1	Bishkek	17.88	74		ePn		Pn	08 36 02.7	+0.8
	comp=Z,27nm,0.3s								
FRU1	Bishkek	17.88	74		eP		Pn	08 36 02.7	+0.8
FRU1					pmax		pmax		
	comp=Z,27nm,0.3s								
MOS	Moscow	17.98	335		eP		P	08 35 55.1	-7.7
MOS					eS		Sn	08 39 12.7	-10
MOS					pmax		pmax		
	comp=Z,25nm,0.7s								
THW	Thamme Wali	18.16	107		P		Pn	08 36 05.3	-0.1
KZA	Kyzart	18.35	76		P		Pn	08 36 08.1	+0.2
	SNR=10								
BRVK	Borovoye	18.44	39		eP		P	08 36 08.0	+0.2
	comp=Z,14nm,0.8s								
BRVK	Borovoye	18.44	39		deP		P	08 36 07.5	-0.3
BRVK					pmax		pmax		
	comp=Z,16nm,0.8s								
BVA0	Borovoye Array	18.47	39		P		P	08 36 08.4	+0.2
BVA0					pmax		pmax		
	comp=Z,21nm,0.8s								
BVAR	Borovoye Array	18.47	39		P		P	08 36 08.5	+0.3
	comp=Z,3.9nm,0.3s,baz=243,slow=9.1,SNR=54								
BVAR					S		Sn	08 39 22.6	-12
	comp=Z,1.0nm,0.3s,baz=239,slow=24,SNR=7.2								
BVAR					LR		LR	08 44 23.9	
	comp=Z,115nm,19.9s,baz=232,slow=40								
KIRV	Kirov	18.52	357		P		P	08 36 08.2	-0.5
	comp=Z,3.8nm,0.3s,baz=153,slow=4.5,SNR=3.9								
KIRV					LR		LR	08 44 38.6	
	comp=Z,86nm,19.2s,baz=162,slow=41								
AKASG	Malin Array Be	18.55	312		P		P	08 36 06.3	-2.8
	comp=Z,4.8nm,0.3s,baz=114,slow=13,SNR=14								
AKBB	Malin Array Si	18.55	312		eP		P	08 36 07.8	-1.3
	comp=Z,11nm,0.6s								
AKBB	Malin Array Si	18.55	312		eP		P	08 36 07.8	-1.3
AKBB					pmax		pmax		
	comp=Z,11nm,0.6s								
KIEV	Kiev	18.56	312		eP		P	08 36 08.2	-1.0
	comp=Z,10nm,0.7s								
KIEV	Kiev	18.56	312	⇑	iP		Pn	08 36 10.4	+0.5
KIEV	Kiev	18.56	312		eP		P	08 36 08.3	-0.8
AK11	Malin Array Si	18.57	312		eP		P	08 36 07.5	-1.8
TKM2	Tokmak 2	18.59	73		P		P	08 36 10.1	+0.2
	SNR=18								
BOOM	Boomskoye usch	18.85	75		P		Pn	08 36 13.5	-0.2
BOOM					pmax		pmax		
	comp=Z,10.0nm,0.6s								
NIL	Nilore	18.88	103		eP		Pn	08 36 14.3	+0.2
	comp=Z,26nm,1.1s								
NIL	Nilore	18.88	103		P		Pn	08 36 14.3	+0.2
NIL					pmax		pmax		
	comp=Z,26nm,1.1s								
CHCP	Chirah Chowk	18.89	103		P		Pn	08 36 13.7	-0.4
NRN	Naryn	18.94	78		eP		P	08 36 12.8	-1.0
	comp=Z,7.2nm,0.8s								
NRN	Naryn	18.94	78		eP		P	08 36 12.8	-1.0
NRN					pmax		pmax		
	comp=Z,7.0nm,0.8s								
ULHL	Ulahol	19.08	75		P		Pn	08 36 16.1	-0.4
	SNR=13								
KSH	Kashi	19.16	84		P		P	08 36 13.6	-2.4
KSH					pP		Pn	08 36 17.8	+0.4
KSH					sP		pP	08 36 20.3	-8.3
KSH					S		S	08 39 37.3	-13
KSH					SS		Sn	08 40 02.0	+11
KSH					pmax		pmax		
	comp=Z,12nm,0.5s								
KSH					pmax		pmax		
	comp=Z,110nm,5.2s								
KSH					LR		LR		
	comp=Z,180nm,6.5s								
KSH					LR		LR		
	comp=Z,190nm,6.9s								
VOIR		19.76	294	⇓	iP		Pn	08 36 23.7	-0.8
VOIR		19.76	294	⇓	P		Pn	08 36 23.7	-0.8
KDJ	Kajisay	19.78	76		eP		Pn	08 36 25.1	+0.3
	comp=Z,12nm,0.6s								
KDJ	Kajisay	19.78	76		eP		Pn	08 36 25.1	+0.3
KDJ					pmax		pmax		
	comp=Z,12nm,0.6s								
BURAR	Bucovina Array	20.01	301	⇓	iP		P	08 36 24.8	-0.4
BURAR	Bucovina Array	20.01	301	⇓	P		P	08 36 24.8	-0.4
BUR08	Bucovina Ar. S	20.03	301		eP		P	08 36 25.6	+0.3
	comp=Z,4.2nm,1.0s								
ARR	Arges	20.05	294	⇑	iP		Pn	08 36 30.7	+2.9
TARG	Taragay, Kyrgy	20.27	77		eP		P	08 36 29.4	+1.0
	comp=Z,4.3nm,0.7s								
PRZ	Przheval'sk	20.66	74		eP		P	08 36 31.8	-0.6
	comp=Z,16nm,0.4s								
PRZ	Przheval'sk	20.66	74		eP		P	08 36 31.8	-0.6
PRZ					pmax		pmax		
	comp=Z,16nm,0.4s								
SRS	Serrai	20.83	282		P		Pn	08 36 35.5	-1.5
SRS					pmax		pmax		
	comp=Z,11nm,0.8s								
VTS	Vitosha	20.98	286		eP		P	08 36 37.7	+1.9
	comp=Z,7.2nm,1.1s								
VTS	Vitosha	20.98	286		eP		P	08 36 37.7	+1.9
VTS					pmax		pmax		
	comp=Z,7.0nm,1.1s								
GZR	Gura Zlata	21.35	294	⇓	iP		P	08 36 40.1	+0.5
PDGK	Podgornoye	21.44	72		P		P	08 36 40.4	-0.2
PDGK					pmax		pmax		
	comp=Z,5.0nm,0.8s								
PRGR	Permogore	21.81	353		eP		P	08 36 41.0	-3.2
PRGR					eS		S	08 40 37.9	-4.0
PRGR					pmax		pmax		
	comp=Z,11nm,0.5s								
KURBB	Kurchatov Arra	21.87	52		P		P	08 36 43.6	-1.4
	comp=Z,8.5nm,0.8s,baz=255,slow=11,SNR=24								
KURK	Kurchatov	21.95	52		eP		P	08 36 45.9	0.0
	comp=Z,16nm,0.8s								
KURK	Kurchatov	21.95	52		eP		P	08 36 45.9	0.0
KURK					pmax		pmax		
	comp=Z,15nm,0.8s								
KLMR	Klimovskoe	21.96	345		eP		P	08 36 43.0	-2.8
KLMR					eS		S	08 40 41.0	-3.7
KLMR					pmax		pmax		
	comp=Z,18nm,0.7s								
KLMR	Klimovskoe	21.96	345		eP		P	08 36 43.1	-2.8
KLMR					AMP			08 37 01.6	
	comp=Z,18nm,0.7s								
KLMR					eS		S	08 40 41.0	-3.7
KLMR					eS		S	08 40 41.0	-3.7
KWP	Kalwaria Pacla	22.10	305		P		P	08 36 47.8	+0.2
KWP					pmax		pmax		
	comp=Z,18nm,2.3s								
UZH	Uzhgorod	22.14	302		eP		P	08 36 48.5	+0.6
UZH					e			08 36 52.4	
MAKZ	Makanchi	23.33	63		eP		P	08 37 01.0	+0.7
	comp=Z,8.9nm,0.8s								
MAKZ	Makanchi	23.33	63		eP		P	08 37 01.0	+0.7
MAKZ					pmax		pmax		
	comp=Z,9.0nm,0.8s								
MK31	Makanchi Array	23.55	63		eP		P	08 37 02.3	0.0
	comp=Z,5.7nm,0.7s								
MK31	Makanchi Array	23.55	63		P		P	08 37 00.6	-1.7
	comp=Z,3.7nm,0.8s,baz=195,slow=6.5,SNR=29								
MK31	Makanchi Array	23.55	63		eP		P	08 37 02.3	0.0
MK31					pmax		pmax		
	comp=Z,6.0nm,0.7s								
MK32	Makanchi Array	23.55	63		eP		P	08 37 02.4	+0.1
MKAR	Makanchi Array	23.55	63		ceP		P	08 37 02.5	+0.2
MKAR					pmax		pmax		
	comp=Z,7.0nm,0.7s								
MKAR	Makanchi Array	23.55	63		P		P	08 37 02.4	+0.1
	comp=Z,7.1nm,0.7s,baz=269,slow=8.1,SNR=40								
MK01	Makanchi Array	23.55	63		eP		P	08 37 02.7	+0.3
VSU	Vasula	24.03	328	⇓	eP		P	08 37 08.3	+1.8
VSU					pmax		pmax		
	comp=Z,107nm,2.5s								
JOF	Joensuu	25.71	339		P		P	08 37 20.8	-0.9
JOF					pmax		pmax		
	comp=Z,24nm,1.9s								
VRAC	Vranov	25.95	302		LR		LR	08 49 40.9	
	comp=Z,65nm,19.2s,baz=26,slow=41								
FIA0	FINESS Array S	26.25	333		eP		P	08 37 26.5	-0.1
FIA0	FINESS Array S	26.25	333		eP		P	08 37 26.5	-0.1
FIA1	FINESS Array S	26.25	333		eP		P	08 37 28.4	+1.8
	comp=Z,8.3nm,0.6s								
FINES	FINESS Array B	26.25	333		P		P	08 37 26.5	-0.1
	comp=Z,1.9nm,0.5s,baz=135,slow=11,SNR=17								
FINES					LR		LR	08 49 44.6	
	comp=Z,73nm,18.3s,baz=154,slow=41								
ZALV	Zalesovo Beam	26.57	47		LR		LR	08 49 45.0	
	comp=Z,78nm,18.5s,baz=252,slow=40								
WMQ	Urumqi	27.36	70		eP		P	08 37 39.3	+2.3
WMQ					sP		pP	08 37 45.8	-5.6
WMQ					PP		PnPn	08 38 23.8	+0.1
WMQ					pmax		pmax		
	comp=Z,23nm,0.9s								
WMQ					pmax		pmax		
	comp=Z,180nm,4.5s								
WMQ					LR		LR		
	comp=Z,130nm,20.9s								
WMQ					LR		LR		
	comp=Z,320nm,30.7s								
GERES	GERESS Array B	27.80	301		P		P	08 37 41.5	+0.6
	comp=Z,0.7nm,0.7s,baz=98,slow=9.8,SNR=4.6								
GERES					LR		LR	08 51 04.3	
	comp=Z,36nm,21.2s,baz=18,slow=41								
KBA	Koelnbreinsper	27.96	297		P		P	08 37 43.4	+1.0
PYUN	Piuthan	28.89	105		eP		P	08 37 51.7	+0.9
	comp=Z,23nm,0.5s								
APA	Apatity	29.18	346	⇓	iP		P	08 37 50.5	-2.2
APA					pmax		pmax		
	comp=Z,5.0nm,0.9s								
APA					MLR		MLR		
	comp=Z,700nm,10.0s								
DANN	Dangsing	29.33	103		eP		P	08 37 56.4	+1.6
	comp=Z,84nm,0.6s								
KOLN	Koldanda	29.52	105		eP		P	08 37 57.6	+1.2
	comp=Z,16nm,0.5s								
HFS	Hagfors	30.60	323		P		P	08 38 05.5	+0.1
	comp=Z,5.9nm,0.5s,baz=116,slow=10,SNR=20								
HFS					pP		pP	08 38 21.7	+1.8
	comp=Z,4.1nm,0.5s,baz=99,slow=9.2,SNR=3.3								
DMN	Daman	30.73	103		eP		P	08 38 08.4	+1.2
	comp=Z,11nm,0.4s								
KKN	Kakani	30.76	103		eP		P	08 38 08.3	+0.9
PKIN	Phulchoki	30.96	103		eP		P	08 38 10.1	+0.9
	comp=Z,18nm,0.5s								
PKI	Pulchoki	30.98	103		eP		P	08 38 10.4	+1.0
	comp=Z,16nm,0.5s								
GUN	Gumba	31.15	102		eP		P	08 38 11.9	+0.9
	comp=Z,47nm,0.9s								
JIRN	Jiri	31.51	102		eP		P	08 38 15.6	+1.4
	comp=Z,51nm,0.5s								
NC602	NORSAR Array S	31.82	324		eP		P	08 38 16.1	0.0
	comp=Z,4.1nm,0.9s								
NORES	NORESS Array B	31.82	324		P		P	08 38 15.8	-0.3
NC405	NORSAR Array S	31.89	324		eP		P	08 38 16.9	+0.2
	comp=Z,7.8nm,0.7s								
NB201	NORSAR Array S	32.05	324		eP		P	08 38 18.1	-0.1
	comp=Z,20nm,1.1s								
NB2	NORSAR Subarra	32.08	324		P		P	08 38 17.7	-0.8
	comp=Z,1.6nm,0.5s,baz=115,slow=8.6								
NB2	NORSAR Subarra	32.08	324		P		P	08 38 17.7	-0.8
NB2					pmax		pmax		
	comp=Z,2.0nm,0.6s								
NB200	NORSAR Array S	32.08	324		eP		P	08 38 18.1	-0.4
NB200					epP		pP	08 38 34.8	+1.8
NB200					ePP		PnPn	08 39 24.7	-1.0
NOA	NORSAR Array B	32.08	324		P		P	08 38 18.1	-0.4
	comp=Z,1.1nm,0.7s,baz=117,slow=8.4,SNR=13								
NOA					pP		pP	08 38 34.8	+1.8
	comp=Z,2.2nm,0.6s,baz=117,slow=8.4,SNR=5.9								
NOA					PP		PnPn	08 39 24.7	-1.0
	comp=Z,1.0nm,0.6s,baz=101,slow=12,SNR=3.7								
NC303	NORSAR Array S	32.09	324		eP		P	08 38 19.5	+1.1
	comp=Z,4.7nm,0.8s								
NAO01	NORSAR Array S	32.16	324		eP		P	08 38 18.6	-0.5
	comp=Z,14nm,1.1s								
RAMN	Ramite	32.20	103		eP		P	08 38 20.8	+0.7
	comp=Z,28nm,0.6s								
NBO00	NORSAR Array S	32.28	324		eP		P	08 38 20.1	-0.1
	comp=Z,8.1nm,0.8s								
KONO	Kongsberg	32.35	321		eP		P	08 38 20.4	-0.3
	comp=Z,13nm,0.4s								
KONO	Kongsberg	32.35	321		eP		P	08 38 20.4	-0.3
KONO					pmax		pmax		
	comp=Z,13nm,0.4s								
ARA0	ARCESS Array S	32.42	344		eP		P	08 38 21.0	-0.3
ARA0					ePP		PnPn	08 39 25.6	-4.2
ARCES	ARCESS Array B	32.42	344		P		P	08 38 21.0	-0.3
	comp=Z,1.4nm,0.7s,baz=141,slow=12,SNR=3.9								
ARCES					PP		PnPn	08 39 25.6	-4.2
	comp=Z,4.9nm,0.9s,baz=138,slow=9.7,SNR=3.6								
ODAN	Odare	32.84	102		eP		P	08 38 27.2	+1.5
	comp=Z,33nm,0.7s								
LSA	Lhasa	34.24	95		eP		P	08 38 37.4	-0.8
	comp=Z,7.4nm,0.6s								
LSA	Lhasa	34.24	95		eP		P	08 38 37.4	-0.8
LSA					pmax		pmax		
	comp=Z,7.0nm,0.6s								
NRIK	Noril'sk	35.05	22		LR		LR	08 56 03.5	
	comp=Z,57nm,18.2s,baz=219,slow=41								
SHL	Shillong	36.92	100		eP		P	08 39 00.9	+0.1
	comp=Z,20nm,0.8s								
SHL	Shillong	36.92	100		eP		P	08 39 00.9	+0.1
SHL					pmax		pmax		
	comp=Z,20nm,0.8s								
GTA	Gaotai	37.13	75		eP		P	08 39 04.1	+1.7
GTA					pmax		pmax		
	comp=Z,4.0nm,0.8s								
EKA	Eskdalemuir Ar	38.46	312		P		P	08 39 13.4	+0.2
	comp=Z,2.3nm,0.5s,baz=94,slow=8.4,SNR=15								
EKA					pP		pP	08 39 30.3	+2.2
	comp=Z,3.8nm,0.5s,baz=94,slow=8.4,SNR=4.6								
ESK	Eskdalemuir	38.49	312		eP		P	08 39 14.1	+0.7
	comp=Z,10nm,0.7s								
ESK	Eskdalemuir	38.49	312		eP		P	08 39 14.1	+0.7
ESK					pmax		pmax		
	comp=Z,11nm,0.7s								
SONA0	Songino Array	39.83	60		eP		P	08 39 24.8	-0.2
SONM	Songino Array	39.83	60		P		P	08 39 24.8	-0.2
	comp=Z,1.9nm,0.7s,baz=278,slow=9.4,SNR=7.6								
SONM					LR		LR	08 57 57.5	
	comp=Z,43nm,19.6s,baz=236,slow=39								
SPA0	Spitsbergen Ar	40.71	350		eP		P	08 39 33.2	+1.5
	comp=Z,12nm,1.1s								
SPITS	Spitsbergen Ar	40.71	350		P		P	08 39 33.0	+1.3
SPITS	Spitsbergen Ar	40.71	350		P		P	08 39 33.0	+1.3
	comp=Z,5.1nm,0.8s,baz=131,slow=12,SNR=13								
LZH	Lanzhou	41.25	78		eP		P	08 39 36.5	-0.3
LZH					pP		pP	08 39 41.6	-10
LZH					sP		sP	08 39 44.1	-14
LZH					PP		PP	08 41 14.4	+1.6
LZH					pmax		pmax		
	comp=Z,27nm,1.0s								
LZH					pmax		pmax		
	comp=Z,130nm,4.4s								
LZH					LR		LR		
	comp=Z,300nm,13.0s								
LZH					LR		LR		
	comp=Z,290nm,13.6s								
LZH					LR		LR		
	comp=Z,370nm,16.8s								
ESDC	Sonseca Array	41.62	288		P		P	08 39 39.7	0.0
	comp=Z,0.1nm,0.3s,baz=72,slow=19,SNR=5.4								
BOD	Bodaibo	43.23	44		eP		P	08 39 52.4	0.0
BOD					pmax		pmax		
	comp=Z,7.0nm,1.0s								
CD2	Chengdu	43.34	85		eP		P	08 39 55.1	+1.3
CD2					pmax		pmax		
	comp=Z,20nm,0.7s								
CD2					pmax		pmax		
	comp=Z,110nm,3.6s								
HHC	Hu-ho-hao-te	45.22	68		eP		P	08 40 07.3	-1.4
HHC					pmax		pmax		
	comp=Z,14nm,0.9s								
HHC					pmax		pmax		
	comp=Z,120nm,6.0s								
KMI	Kunming	45.43	93		P		P	08 40 11.4	+0.7
KMI					pmax		pmax		
	comp=Z,22nm,0.7s								
XAN	Xi'an	45.88	78		P		P	08 40 14.4	+0.4
XAN					pmax		pmax		
	comp=Z,11nm,0.7s								
CHTO	Chiang Mai	46.16	103		eP		P	08 40 16.6	+0.4
	comp=Z,5.3nm,0.6s								
CHTO	Chiang Mai	46.16	103		eP		P	08 40 16.6	+0.4
CHTO					pmax		pmax		
	comp=Z,5.0nm,0.6s								
CHTO	Chiang Mai	46.16	103		P		P	08 40 17.1	+0.9
CMMT	Chiang Mai	46.16	103		P		P	08 40 17.0	+0.7
CM31	Chiang Mai Arr	46.38	103		eP		P	08 40 18.7	+0.7
	comp=Z,6.6nm,0.6s								
CMAR	Chiang Mai Arr	46.38	103		P		P	08 40 18.7	+0.8
	comp=Z,4.2nm,0.5s,baz=303,slow=8.9,SNR=20								
CM01	Chiang Mai Arr	46.41	103		eP		P	08 40 18.7	+0.5
LAMP

PETK	**Petropavlovsk-** comp=Z,129nm,19.3s,baz=89,slow=39	**67.70**	**39**	LR	LR		09 15 46.1	
TOLK	**Toolik Lake Re** comp=Z,6.5nm,0.8s	**70.48**	**8**	*e*P	**P**		**08 43 06.7**	**+1.5**
DRLN	**Deer Lake** comp=Z,5.0nm,0.9s	**71.03**	**319**	*e*P	**P**		**08 43 09.5**	**+0.7**
SCHQ	**Schefferville** comp=Z,1.2nm,0.6s	**71.58**	**327**	*e*P	**P**		**08 43 12.5**	**+0.4**
SCHQ	**Schefferville** comp=Z,2.1nm,0.6s,baz=23,slow=3.5,SNR=7.9	**71.58**	**327**	P	**P**		**08 43 12.1**	**0.0**
INK	**Inuvik** comp=Z,2.3nm,1.0s	**71.85**	**2**	*e*P	**P**		**08 43 13.7**	**+0.4**
INK	**Inuvik** comp=Z,1.1nm,1.0s,baz=70,slow=2.7,SNR=3.0	**71.85**	**2**	P	**P**		**08 43 13.0**	**-0.3**
IM3	**Indian Mountai**	**72.51**	**10**	*e*P	**P**		**08 43 18.2**	**+0.8**
MLY	**Manley** comp=Z,6.6nm,1.1s	**73.82**	**9**	*e*P	**P**		**08 43 26.8**	**+1.7**
MDM	**Murphy Dome** comp=Z,2.7nm,1.2s	**74.18**	**8**	*e*P	**P**		**08 43 28.9**	**+1.6**
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=321,slow=4.2,SNR=5.2	**74.51**	**8**	P	**P**		**08 43 28.4**	**-0.8**
ILAR	comp=Z,1.0nm,1.0s,baz=336,slow=4.9,SNR=6.2			pP	**pP**		**08 43 45.8**	**+0.4**
ILB	**Eielson Array** comp=Z,0.2nm,0.6s	**74.51**	**8**	*e*P	**P**		**08 43 30.7**	**+1.5**
CCB	**Clear Creek Bu** comp=Z,1.7nm,1.0s	**74.53**	**8**	*e*P	**P**		**08 43 30.2**	**+1.0**
WRH	**Wood River Hil** comp=Z,1.8nm,1.1s	**74.67**	**8**	*e*P	**P**		**08 43 32.4**	**+2.4**
BPAW	**Bear Paw Mtn.** comp=Z,4.5nm,1.0s	**74.68**	**10**	*e*P	**P**		**08 43 31.2**	**+1.0**
CAST	**Castle Rocks** comp=Z,8.1nm,1.0s	**75.18**	**11**	*e*P	**P**		**08 43 34.3**	**+1.3**
MCK	**McKinley** comp=Z,7.6nm,1.2s	**75.29**	**9**	*e*P	**P**		**08 43 35.5**	**+1.8**
MCK	**McKinley**	**75.29**	**9**	*e*P	**P**		**08 43 35.5**	**+1.8**
MCK	comp=Z,8.0nm,1.2s			pmax	pmax			
TRF	**Thorofare Moun** comp=Z,4.7nm,1.1s	**75.39**	**10**	*e*P	**P**		**08 43 35.9**	**+1.5**
RND	**Reindeer** comp=Z,4.3nm,0.8s	**75.61**	**9**	*e*P	**P**		**08 43 36.2**	**+0.6**
RND	**Reindeer**	**75.61**	**9**	*e*P	**P**		**08 43 36.2**	**+0.6**
RND	comp=Z,4.0nm,0.8s			pmax	pmax			
PPLA	**Purkeypile** comp=Z,3.1nm,0.9s	**75.66**	**11**	*e*P	**P**		**08 43 37.2**	**+1.2**
DOT	**Dot Lake** comp=Z,2.8nm,0.8s	**75.89**	**7**	*e*P	**P**		**08 43 39.3**	**+2.2**
BATG	**Bathurst New B**	**76.58**	**321**	*e*P	**P**		**08 43 43.1**	**+1.8**
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.6s,baz=10,slow=5.9,SNR=24	**77.09**	**353**	P	**P**		**08 43 44.0**	**+0.1**
YKA	comp=Z,1.1nm,0.6s,baz=10,slow=6.0,SNR=9.4			pP	**pP**		**08 44 00.6**	**+0.5**
YKB5	**Yellowknife Ar**	**77.09**	**353**	*e*P	**P**		**08 43 43.9**	**0.0**
GHO	**Glory Hole Cre** comp=Z,4.1nm,1.0s	**77.19**	**10**	*e*P	**P**		**08 43 45.6**	**+1.0**
SML	**Sawmill** comp=Z,6.4nm,0.8s	**77.22**	**9**	*e*P	**P**		**08 43 45.1**	**+0.4**
SML	**Sawmill**	**77.22**	**9**	P	**P**		**08 43 45.1**	**+0.4**
SML	comp=Z,6.0nm,0.8s			pmax	pmax			
SUA	**Susitna One** comp=Z,10nm,1.0s	**77.24**	**11**	*e*P	**P**		**08 43 46.0**	**+1.1**
FCC	**Fort Churchill** comp=Z,5.6nm,0.9s	**77.30**	**342**	*e*P	**P**		**08 43 43.7**	**-1.4**
FCC	**Fort Churchill**	**77.30**	**342**	*e*P	**P**		**08 43 43.7**	**-1.4**
FCC	comp=Z,6.0nm,0.9s			pmax	pmax			
SCM	**Sheep Creek Mo** comp=Z,3.9nm,1.0s	**77.32**	**9**	*e*P	**P**		**08 43 47.1**	**+1.8**
SCM	**Sheep Creek Mo**	**77.32**	**9**	P	**P**		**08 43 47.1**	**+1.8**
SCM	comp=Z,4.0nm,1.0s			pmax	pmax			
PMR	**Palmer** comp=Z,3.6nm,0.8s	**77.33**	**10**	*e*P	**P**		**08 43 46.7**	**+1.5**
PMR	**Palmer**	**77.33**	**10**	*e*P	**P**		**08 43 46.7**	**+1.5**
PMR	comp=Z,4.0nm,0.8s			pmax	pmax			
KNK	**Knik Glacier** comp=Z,4.3nm,0.8s	**77.59**	**9**	*e*P	**P**		**08 43 48.2**	**+1.5**
RC01	**Rabbit Creek A** comp=Z,4.3nm,0.7s	**77.74**	**10**	*e*P	**P**		**08 43 48.5**	**+0.9**
KLU	**Klutina** comp=Z,11nm,1.2s	**77.81**	**8**	*e*P	**P**		**08 43 49.8**	**+1.7**
BRLK	**Bradley Lake** comp=Z,5.6nm,0.7s	**78.85**	**11**	*e*P	**P**		**08 43 54.5**	**+0.7**
HYT	**Haines Junctio** comp=Z,5.1nm,0.9s	**79.18**	**4**	*e*P	**P**		**08 43 57.2**	**+1.5**
DLBC	**Dease Lake** comp=Z,5.2nm,1.1s	**81.81**	**1**	*e*P	**P**		**08 44 11.8**	**+2.1**
DLBC	**Dease Lake** comp=Z,1.2nm,0.9s,baz=8.3,slow=3.4,SNR=4.8	**81.81**	**1**	P	**P**		**08 44 10.1**	**+0.4**
ULM	**Lac du Bonnet** comp=Z,1.5nm,0.7s,baz=35,slow=6.3,SNR=4.8	**85.44**	**339**	P	**P**		**08 44 28.3**	**-0.1**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.6s,baz=316,slow=4.0,SNR=4.3	**97.67**	**109**	P	**P**		**08 45 25.4**	**-0.4**
WR1	**Warramunga Arr** comp=Z,5.2nm,1.1s	**97.67**	**109**	*e*P	**P**		**08 45 25.4**	**-0.4**
LPAZ	**La Paz**	**122.53**	**276**	*e*PKPdf	**PKiKP**		**08 50 49.6**	**+2.1**
LPAZ	**La Paz**	**122.53**	**276**	*e*PKiKP	**PKiKP**		**08 50 49.6**	**+2.1**
QSPA	**South Pole Qui**	**129.92**	**180**	*e*PKPdf	**PKiKP**		**08 51 00.1**	**+0.2**

*ASRS **22** 08:35:12.1,53°.60N×87°.92E,M2.9,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 22 08:35:16.3±2.6,53°.55N×87°.84E,h0km,mb1 3.8/2, mb1mx3.2/66,mbtmp3.8/2,ML3.4/2,Error ellipse: s-maj=23.2km s-min=15.5km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=105,slow=354,SNR=14	**1.84**	**284**	*i*		08 48 45.0	
ZALV	**Zalesovo Beam** 9.2nm,0.3s,baz=104,slow=17,SNR=84	**1.84**	**284**	Pn	Pn	08 35 48.1	-1.0
ZALV	5.3nm,0.3s,baz=95,slow=27,SNR=5.8			Lg	Lg	08 36 13.2	
KURBB	**Kurchatov Arra** 0.6nm,0.3s,baz=61,slow=14,SNR=53	**6.44**	**247**	Pn	Pn	08 36 52.9	+0.5
KURBB	0.1nm,0.3s,baz=62,slow=30,SNR=2.9			Sn	Sn	08 38 08.0	+1.5
KURBB	0.2nm,0.3s,baz=63,slow=33,SNR=10			Lg	Lg	08 38 40.2	
MKAR	**Makanchi Array** 0.8nm,0.3s,baz=26,slow=13,SNR=14	**7.64**	**210**	Pn	Pn	08 37 10.0	+1.1
MKAR	0.3nm,0.3s,baz=27,slow=22,SNR=3.7			Sn	Sn	08 38 36.2	+0.1
MKAR	0.2nm,0.3s,baz=26,slow=38,SNR=5.8			Lg	Lg	08 39 17.7	

MEX 22 08:35:24.8±0.8,16°.64N×98°.34W,h6km±16km,MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.32**	**141**	*e*P	Pg	08 35 30.2	-0.7
PNIG				*e*S	Sg	08 35 35.3	+0.2
TLIG	**Tlapa**	**0.95**	**346**	*e*P	Pg	08 35 40.2	-2.8
TLIG				*e*S	Sg	08 35 53.2	-2.1
MEIG	**Mezcala**	**1.77**	**316**	*e*P	Pn	08 35 53.2	-2.9
MEIG				*e*S	Sn	08 36 14.0	-5.1

*IDC **22** 08:46:24.9±2.4,39°.55N×47°.37E,h0km,mb3.4/2, mb1 3.5/5,mb1mx3.2/45,mbtmp3.3/5,ML2.2/2,Error ellipse: s-maj=49.2km s-min=16.2km az=5.0*
*NSSP **22** 08:46:29.9,40°.63N×47°.17E,h10km,Ms3.3*
*ISCJB **22** 08:46:30.1±0.4,40°.59N±0°.02×47°.15E±0°.02,h3km±3km, mb3.1/2,Error ellipse: s-maj=2.6km s-min=2.2km az=12.6*
*AZER **22** 08:46:30.3±0.3,40°.65N×47°.12E,h25km,ml3.2/28,Error ellipse: s-maj=0.6km s-min=0.4km az=351.0*
*MOS **22** 08:46:30.2±0.0,40°.68N×47°.08E,h9km,MPVA4.2*
*NORS **22** 08:46:30.9±0.0,40°.65N×47°.08E,h3km,MPVA4.1*
ISC 22 08:46:32.2±0.8,40°.62N±0°.02×47°.18E±0°.02,h16km±6km, n58,σ1°46/104,22C-32D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNGR	**Mingechevir, A** SNR=66	**0.17**	**335**	⇑P	**Pg**	**08 46 36.6**	**+0.1**
MNGR				⇓S	**Sg**	**08 46 39.7**	**+0.3**
BRDA	**Brd** SNR=23	**0.35**	**180**	⇑P	**Pg**	**08 46 40.3**	**+0.8**
BRDA				⇑S	**Sg**	**08 46 46.4**	**+1.9**
ZRD	**Zardab** SNR=68	**0.51**	**131**	⇑P	**Pg**	**08 46 42.5**	**+0.2**
ZRD				⇓S	**Sb**	**08 46 52.3**	**+2.4**
SEKA	**Sheki** SNR=148	**0.59**	**1**	P	**Pg**	**08 46 42.7**	**-1.2**
SEKA				⇑S	**Sg**	**08 46 51.5**	**-0.2**
QBL	**Gabala** SNR=37	**0.60**	**56**	P	**Pg**	**08 46 43.3**	**-0.7**
QBL				P		08 46 43.3	
	SNR=32						
QBL				⇓S	**Sg**	**08 46 52.5**	**+0.6**
GANJ	**Ganja** SNR=161	**0.66**	**273**	P	**Pg**	**08 46 43.3**	**-1.7**
GANJ				⇑S	**Sg**	**08 46 52.5**	**-1.3**
IML	**Ismayilli** SNR=12	**0.78**	**77**	⇑P	**Pg**	**08 46 46.0**	**-1.4**
IML				⇓S	**Sg**	**08 46 58.3**	**+0.6**
KDMR	**Kurdemir** SNR=5.0	**0.80**	**107**	P	**Pg**	**08 46 46.5**	**-1.3**
KDMR				⇑S	**Sb**	**08 46 59.9**	**+1.6**
XNQ	**Khinaliq** SNR=22	**0.91**	**52**	⇑P	**Pg**	**08 46 47.9**	**-2.1**
XNQ				⇑S	**Sg**	**08 47 00.6**	**-1.4**
AKT	**Akhty**	**0.96**	**25**	*i* Pg	**Pg**	**08 46 49.2**	**-1.6**
AKT				*e*Sg	**Sg**	**08 47 03.0**	**-0.3**
PQL	**Pirkuli** SNR=64	**1.09**	**80**	P	**Pg**	**08 46 51.2**	**-2.0**
PQL				⇓S	**Sg**	**08 47 07.3**	**-0.2**
GDB	**GEDABAY**	**1.09**	**276**	⇓P	**Pb**	**08 46 50.1**	**-2.7**
GDB				⇓S	**Sg**	**08 47 05.0**	**-2.6**
ZKTA	**Zakatala** SNR=49	**1.10**	**338**	⇓P	**Pb**	**08 46 51.2**	**-1.7**
ZKTA				⇓S	**Sb**	**08 47 07.3**	**+0.2**
DDFL	**Dedoflistskaro**	**1.16**	**316**	P	Pb	08 46 50.4	-3.4
DDFL				S	**Sb**	**08 47 06.4**	**-2.2**
VADZ	**Vardenis**	**1.19**	**248**	*i* P	**Pb**	**08 46 52.9**	**-1.5**
VADZ				*i* S	**Sb**	**08 47 09.9**	**+0.3**
QSAR	**Qusar** SNR=7.9	**1.21**	**42**	⇓P	**Pb**	**08 46 53.8**	**-1.0**
QSAR				⇑S	**Sb**	**08 47 10.5**	**+0.3**
SAAT	**Saatly** SNR=4.3	**1.21**	**128**	⇓P	**Pn**	**08 46 51.6**	**-2.9**
SAAT				⇓S	**Sb**	**08 47 08.4**	**-1.7**
QUBA	**Quba, Azerbaij** SNR=11	**1.24**	**53**	⇓P	**Pn**	**08 46 54.2**	**-0.6**
QUBA				⇑S	**Sb**	**08 47 12.5**	**+1.6**
GBS	**Qobustan** SNR=23	**1.34**	**93**	⇓Pn	**Pn**	**08 46 56.8**	**+0.4**
GBS				⇓Sn	**Sb**	**08 47 14.4**	**+0.4**
ATGJ	**Altiaghaj** SNR=16	**1.36**	**79**	⇑Pn	**Pn**	**08 46 56.5**	**-0.1**
ATGJ				⇓Sn	**Sb**	**08 47 15.8**	**+1.4**
SIZA	**Siyzn** SNR=119	**1.38**	**70**	P	**Pn**	**08 46 56.5**	**-0.4**
SIZA				Pn	Pn	08 46 56.5	-0.4
	SNR=8.6						
SIZA				⇓Sn	**Sn**	**08 47 17.0**	**+2.1**
LGD	**Lagodekhi**	**1.41**	**330**	P	**Pn**	**08 46 56.4**	**-0.8**
LGD				S	**Sn**	**08 47 15.8**	**+0.4**
LGD	**Lagodekhi**	**1.41**	**330**	*e*Pg	**Pn**	**08 46 56.4**	**-0.8**
LGD				*e*Sg	**Sn**	**08 47 15.8**	**+0.4**
QZX	**Qazax, Azerbai** SNR=223	**1.44**	**288**	⇑Pn	**Pn**	**08 46 55.9**	**-1.7**
QZX				⇑Sn	**Sn**	**08 47 15.7**	**-0.6**
ALIB	**Äli-Bayra** SNR=4.3	**1.54**	**115**	⇑Pn	**Pn**	**08 47 00.1**	**+1.1**
DRN	**Derbent**	**1.66**	**31**	*e*Pg	**Pn**	**08 47 02.9**	**+2.4**
DRN				*e*Sg	**Sg**	**08 47 25.8**	**+0.3**
GLBA	**Clilabad** SNR=15	**1.66**	**145**	⇓Pn	**Pn**	**08 46 59.9**	**-0.7**
GLBA				⇑Sn	**Sn**	**08 47 23.3**	**+1.8**
SBZ	**Shahbuz**	**1.75**	**226**	⇑Pg	**Pn**	**08 47 02.7**	**+0.7**
SBZ				⇑Sg	**Sn**	**08 47 25.6**	**+1.7**
GNBR	**Gunib**	**1.78**	**355**	*e*Pg	**Pn**	**08 47 03.4**	**+1.1**
GNBR				*e*Sg	**Sn**	**08 47 27.5**	**+2.9**
ORD	**Ordubad**	**1.92**	**209**	⇓Pn	**Pn**	**08 47 04.7**	**+0.4**
ORD				⇓Sn	**Sn**	**08 47 29.1**	**+1.0**
GNI	**Garni**	**1.92**	**257**	⇑*i* P	**Pn**	**08 47 05.9**	**+1.5**
GNI				*i* S	**Sn**	**08 47 32.0**	**+3.7**
GNI	**Garni** 8.0nm,0.3s,baz=105,slow=1.8,SNR=16	**1.92**	**257**	Pn	**Pn**	**08 47 04.5**	**+0.1**
GNI				Lg	Lg	08 47 31.4	
	17nm,0.3s,baz=110,slow=20,SNR=6.6						
NAX	**Nakhchivan** SNR=4.3	**1.94**	**223**	⇓Pn	**Pn**	**08 47 03.8**	**-0.7**
XNZR	**Khunzakh**	**1.96**	**350**	*e*Pg	**Pn**	**08 47 07.6**	**+2.8**
XNZR				*e*Sg	**Sb**	**08 47 33.0**	**+1.3**
HYR	**Heyderabad**	**2.00**	**244**	⇓Pg	**Pn**	**08 47 06.5**	**+1.2**
HYR				⇑Sg	**Sn**	**08 47 31.7**	**+1.7**
BTNK	**Botanikuri**	**2.09**	**301**	P	**Pn**	**08 47 06.5**	**-0.1**
BTNK				S	**Sn**	**08 47 34.3**	**+2.0**
BTNK	**Botanikuri**	**2.09**	**301**	*i* P	**Pn**	**08 47 07.2**	**+0.6**
BTNK				*i* S	**Sn**	**08 47 34.3**	**+2.0**
BTNK	comp=Z,8μm,0.1s			IAML_P			
STEZ	**Stepenevan**	**2.15**	**281**	⇓*e*P	**Pn**	**08 47 08.0**	**+0.5**
STEZ				⇓*e*S	**Sb**	**08 47 39.0**	**+1.8**
TBLG	**Delisi**	**2.15**	**302**	P	**Pn**	**08 47 07.7**	**+0.2**
TBLG				S	**Sn**	**08 47 36.3**	**+2.4**
TBLG	**Delisi**	**2.15**	**302**	*e*Pg	**Pn**	**08 47 07.7**	**+0.2**
TBLG				*e*Sg	**Sn**	**08 47 36.3**	**+2.4**
LRK	**Lerik** SNR=12	**2.17**	**155**	⇑Pn	**Pn**	**08 47 07.0**	**-0.7**
LRK				⇓Sn	**Sn**	**08 47 34.5**	**+0.2**
BTLR	**Botlikh**	**2.17**	**341**	*e*Pg	**Pn**	**08 47 08.7**	**+1.0**
KZRT	**Kazreti**	**2.24**	**291**	P	**Pn**	**08 47 07.9**	**-0.8**
KZRT				S	**Sn**	**08 47 37.1**	**+1.1**
LKRN	**Lenkeran, Azer** SNR=12	**2.27**	**147**	⇓Pn	**Pn**	**08 47 08.7**	**-0.3**
LKRN				⇓Sn	**Sn**	**08 47 36.7**	**+0.1**
ASTR	**Astara** SNR=12	**2.40**	**148**	⇓Pn	**Pn**	**08 47 10.3**	**-0.5**
ASTR				⇓Sn	**Sn**	**08 47 39.5**	**-0.4**
DBC	**Dubki**	**2.42**	**354**	*e*Pn	**Pn**	**08 47 10.9**	**-0.2**
DBC				*e*Sn	**Sn**	**08 47 42.5**	**+2.2**
DVE	**Vedeno**	**2.47**	**342**	*e*Pn	**Pn**	**08 47 12.8**	**+1.0**
DVE				*e*Sn	**Sn**	**08 47 44.1**	**+2.4**
TRLG	**Trialeti**	**2.50**	**293**	P	**Pn**	**08 47 12.8**	**+0.3**
TRLG				S	**Sn**	**08 47 42.9**	**+2.2**
EAK	**Akyaka**	**2.72**	**273**	*i* P	**Pn**	**08 47 18.4**	**+3.0**
EAK				*i* S	**Sb**	**08 47 54.4**	**+0.6**
EAK	comp=Z,336nm,0.2s			IAML_P			
DIGO	**Kars**	**2.91**	**267**	*i* P	**Pb**	**08 47 25.4**	**+1.5**
DIGO				*i* S	**Sn**	**08 47 52.1**	**-0.7**
DIGO	comp=Z,1μm,0.1s			IAML_P			
LACR	**Lac**	**3.09**	**317**	*e*Pn	**Pn**	**08 47 21.0**	**+0.6**
LACR				*e*Sn	**Sn**	**08 47 58.7**	**+1.7**
ZEI	**Tsey**	**3.28**	**313**	*e*Pn	**Pn**	**08 47 23.9**	**+0.8**
DIGR	**Digorskoe uzhe**	**3.53**	**311**	*e*Pn	**Pn**	**08 47 27.8**	**+1.3**
DBAD	**Bademkaya**	**4.18**	**277**	*e*P	**Pb**	**08 47 43.0**	**-2.5**
DBAD	comp=Z,140nm,0.3s			IAML_P			
KBZ	**Khabaz** comp=Z,0.4nm,0.3s,baz=135,slow=10.0,SNR=5.7	**4.45**	**316**	Pn	**Pb**	**08 47 49.2**	**-0.7**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=122,slow=11,SNR=4.5	**16.06**	**315**	Pn	**Pn**	**08 50 19.3**	**+2.1**
GERES	**GERESS Array B** comp=Z,0.3nm,0.3s,baz=92,slow=9.0,SNR=4.2	**25.00**	**300**	P	**P**	**08 51 55.0**	**-0.2**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.5s,baz=283,slow=7.2,SNR=2.9	**25.97**	**64**	P	**P**	**08 52 02.3**	**-1.6**

*ISCJB **22** 08:48:35.1±0.7,35°.21N±0°.05×139°.41E±0°.10, h122km±4km,Error ellipse: s-maj=13.6km s-min=7.7km az=171.6*
*JMA **22** 08:48:36.5±0.1,35°.24N×139°.40E,h110km±1km,M3.3*
*IDC **22** 08:48:36.3±2.6,34°.84N×138°.67E,h93km±36km,mb3.4/3, mb1 3.6/3,mb1mx3.2/32,mbtmp3.7/3,MS3.5/1,Ms1 3.5/1, ms1mx2.5/28,Error ellipse: s-maj=55.5km s-min=26.4km az=57.0*
ISC 22 08:48:36.2±1.0,35°.23N±0°.05×139°.39E±0°.08,h116km±7km, n17,σ0°52/24,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOD2	**Odawara 2**	**0.25**	**278**	P	**Pn**	**08 48 52.3**	**-0.1**
JOD2				S	**Sn**	**08 49 03.9**	**-0.8**
JIM2	**Oshima 3**	**0.51**	**176**	S	**Sn**	**08 49 06.6**	**-0.3**
JFNN	**Fujinakano**	**0.58**	**267**	P	**Pn**	**08 48 54.4**	**+0.2**
JFNN				S	**Sn**	**08 49 08.1**	**+0.4**
JIZS	**Izushimoda**	**0.66**	**220**	P	**Pn**	**08 48 54.8**	**0.0**
JIZS				S	**Sn**	**08 49 08.9**	**+0.2**
JYN	**Shimob**	**0.74**	**292**	P	**Pn**	**08 48 55.7**	**+0.2**
JRY	**Ryogami san**	**0.88**	**333**	P	**Pn**	**08 48 57.3**	**+0.6**
JRY				S	**Sn**	**08 49 12.6**	**+0.3**
SHZ3	**Shizuoka 3**	**0.98**	**261**	P	**Pn**	**08 48 57.9**	**+0.2**
JAG	**Ashikaga**	**1.20**	**2**	P	**Pn**	**08 49 00.0**	**+0.1**
BSO1	**Boso 1**	**1.43**	**113**	P	**Pn**	**08 49 02.8**	**+0.9**
MJAR	**Matsushiro Arr** 2.9nm,0.3s,baz=166,slow=11,SNR=139	**1.62**	**324**	P	**Pn**	**08 49 05.0**	**+0.1**
MJAR	2.8nm,0.3s,baz=164,slow=20,SNR=15			S	**Sn**	**08 49 26.9**	**+0.3**
MAT	**Matsushiro**	**1.63**	**324**	P	**Pn**	**08 49 05.2**	**+0.3**
MAT				S	**Sn**	**08 49 26.9**	**+0.2**
MAT	**Matsushiro**	**1.63**	**324**	P	**Pn**	**08 49 05.4**	**+0.5**
MAT				S	**Sn**	**08 49 26.9**	**+0.2**
TK02	**Tokai 2**	**1.86**	**227**	P	**Pn**	**08 49 07.9**	**+0.5**
TK02				S	**Sn**	**08 49 32.3**	**+1.0**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=76,slow=6.7,SNR=3.0	**43.72**	**303**	P	**P**	**08 56 29.8**	**0.0**
PMG	**Port Moresby** comp=Z,54nm,18.0s,baz=353,slow=35	**44.99**	**169**	LR	LR	09 14 57.0	
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=0.4,slow=7.7,SNR=20	**55.07**	**186**	P	**P**	**08 57 55.1**	**-1.0**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=357,slow=6.4,SNR=4.1	**58.80**	**186**	P	**P**	**08 58 22.1**	**-0.3**

*DJA **22** 08:50:45.9±1.5,0°.5±13°×13°.3E±°,h25km,M4.2/2, MLv4.2/2*
*IDC **22** 08:50:50.3±3.5,1°.07S×134°.10E,h0km,mb4.0/2, mb1 4.1/3,mb1mx3.6/28,mbtmp4.0/3,ML3.8/1,Error ellipse: s-maj=110.2km s-min=29.0km az=94.0*
ISC 22 08:50:41.8±3.6,0°.3N±0°.3×132°.78E±0°.08,h35km,n5, σ2s27/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.89**	**233**	P	**Pn**	**08 51 13.6**	**+2.1**
SWI				S	**Sn**	**08 51 35.0**	**+0.9**
RKPI	**Ransiki, Papua**	**2.26**	**142**	P	**Pn**	**08 51 19.0**	**+2.4**
RKPI				S	**Sn**	**08 51 44.4**	**+1.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=358,slow=11,SNR=30	**20.14**	**176**	P	**P**	**08 55 10.9**	**-2.2**
WRA	0.1nm,0.3s,baz=357,slow=22,SNR=4.8			S	S	08 58 41.5	-16
ASAR	**Alice Springs** 3.1nm,0.6s,baz=359,slow=11,SNR=38	**23.82**	**177**	P	**P**	**08 55 50.7**	**-1.0**
ASAR	1.2nm,1.0s,baz=0.4,slow=26,SNR=6.2			S	**S**	**09 00 02.8**	**-2.6**
STKA	**Stephens Creek** 1.6nm,0.5s,baz=339,slow=13,SNR=5.3	**33.04**	**166**	P	**P**	**08 57 12.9**	**-1.1**

*ISCJB **22** 09:06:19.7±1.4,24°.5S±0°.5×179°.7E±0°.2,h500km,mb3.9/9, Error ellipse: s-maj=69.8km s-min=18.2km az=161.8*
*IDC **22** 09:06:19.6±2.8,24°.59S×179°.83E,h495km±24km,mb3.5/9, mb1 3.7/9,mb1mx3.3/36,mbtmp4.4/9,Error ellipse: s-maj=59.4km s-min=20.3km az=158.0*
ISC 22 09:06:20.6±1.3,24°.5S±0°.5×179°.8E±0°.2,h500km,n11, σ1s11/14,mb3.9/9,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 12nm,0.5s,baz=97,slow=11,SNR=21	**31.26**	**271**	P	**P**	**09 12 00.1**	**+1.2**
STKA	**Stephens Creek** 1.6nm,0.4s,baz=101,slow=12,SNR=9.7	**34.28**	**249**	P	**P**	**09 12 24.4**	**-0.1**
ASAR	**Alice Springs** 1.6nm,0.4s,baz=93,slow=7.2,SNR=56	**41.71**	**261**	P	**P**	**09 13 25.4**	**+0.1**
ASAR	0.5nm,1.0s,baz=90,slow=3.7,SNR=3.0			ScP	**ScP**	**09 18 13.0**	**+0.2**
WRA	**Warramunga Arr** 5.8nm,0.4s,baz=101,slow=8.0,SNR=25	**42.14**	**267**	P	**P**	**09 13 28.3**	**-0.4**
WRA	0.2nm,0.5s,baz=100,slow=4.3,SNR=2.9			PcP	**PcP**	**09 15 10.3**	**-1.6**
WRA	1.0nm,0.9s,baz=102,slow=4.0,SNR=5.6			ScP	**ScP**	**09 18 16.2**	**+1.6**
FITZ	**Fitzroy Crossi** 4.0nm,0.6s,baz=128,slow=3.5,SNR=10	**50.55**	**266**	P	**P**	**09 14 31.4**	**-1.3**
SIJI	**Sorong** 8.5nm,0.6s,baz=118,slow=9.0,SNR=5.1	**52.42**	**289**	P	**P**	**09 14 46.5**	**+0.1**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=128,slow=5.2,SNR=4.8	**89.53**	**290**	P	**P**	**09 18 23.6**	**-1.0**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=224,slow=5.2,SNR=4.1	**90.96**	**58**	P	**P**	**09 18 31.4**	**+0.2**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=218,slow=4.1,SNR=2.8	**93.31**	**44**	P	**P**	**09 18 41.4**	**-0.4**
AKASG	**Malin Array Be** 0.4nm,0.3s,baz=43,slow=4.5,SNR=4.1	**145.38**	**327**	PKPbc	**PKPdf**	**09 25 00.9**	**+0.1**
BRTR	**Keskin Array B** 0.7nm,0.7s,baz=63,slow=2.1,SNR=2.8	**147.77**	**306**	PKPbc	**PKPdf**	**09 25 07.4**	**+1.9**

*HEL **22** 09:08:32.8±0.4,67°.67N×34°.18E,h0km,ML2.5,Explosion*
*NAO **22** 09:08:33.1±1.6,67°.30N×33°.47E,ML2.9*
*KOLA **22** 09:08:34.0,67°.64N×33°.95E,M1.6,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
ISC 22 09:08:35.1±1.9,67°.68N±0°.04×33°.73E±0°.09,h0km,n25, σ1s32/46,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ9	**Apatity**	**0.17**	**228**	Pg	**Pg**	**09 08 38.0**	**-0.4**
APZ9				Lg	Lg	09 08 42.4	
APZ9	**Apatity**	**0.17**	**228**	Pg	**Pg**	**09 08 38.0**	**-0.4**
APZ9				Sg	**Sg**	**09 08 42.4**	**+1.9**
APA0	**Apatity Array**	**0.29**	**255**	Pg	**Pg**	**09 08 40.6**	**-0.1**
APA0				Lg	Lg	09 08 45.4	
APA0				Rg	Rg	09 08 47.4	
APA0	**Apatity Array**	**0.29**

KTK1			*e*S	**Sn**	09 10 27.5	**-0.3**
KTK1			IAML		09 10 45.6	
	comp=Z,12nm,0.4s					
HAMF	**Hammerfest**	**4.66 314**	*e*P	**Pn**	09 09 45.9	**-0.6**
HAMF			*e*S	**Sn**	09 10 39.7	**-1.5**
HAMF			IAML		09 11 10.1	
	comp=Z,14nm,0.6s					
KIF	**Kilpisjarvi**	**4.97 291**	Pn	**Pn**	09 09 51.9	**+1.0**
KIF			Sn	**Sn**	09 10 48.0	**-0.9**
KIF			Lg	Lg	09 11 10.7	
KIF	**Kilpisjarvi**	**4.97 291**	Pn	**Pn**	09 09 51.9	**+1.0**
KIF			Sn	**Sn**	09 10 48.0	**-0.9**
KIF			Sg	**Sg**	09 11 10.7	**-3.8**
SPA0	**Spitsbergen Ar**	**11.62 342**	Pn	**Pn**	09 11 20.3	**-1.7**
	baz=147,slow=14					
SPA0	**Spitsbergen Ar**	**11.62 342**	Pn	**Pn**	09 11 20.3	**-1.7**
	baz=147,slow=14					

IDC ***22*** *09:08:42.7±2.4, 5°.75S×149°.66E, h104km±18km, mb3.5/5, mb1 3.6/6, mb1mx3.3/36, mbtmp3.8/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=55.4km s-min=15.4km az=126.0*

ISC 22 09:08:41.9±1.4, 5°.7S±0°.3×149°.8E±0°.4, h100km, n8, σ1§39/10, mb3.4/4, New Britain region

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.46 215**	P	**Pn**	**09 09 48.7**	**+1.3**
	4.4nm,0.3s,baz=46,slow=9.8,SNR=11					
PMG			S	**Sn**	**09 10 37.9**	**-0.4**
	31nm,0.3s,baz=34,slow=17,SNR=15					
WRA	**Warramunga Arr**	**20.60 225**	P	**P**	**09 13 13.4**	**+0.3**
	1.7nm,0.4s,baz=49,slow=10,SNR=43					
WRA			S	**S**	**09 16 55.7**	**-2.3**
	0.5nm,1.0s,baz=51,slow=21,SNR=3.2					
ASAR	**Alice Springs**	**23.47 219**	P	**P**	**09 13 43.8**	**+1.0**
	0.6nm,0.4s,baz=56,slow=9.0,SNR=15					
ASAR			S	**S**	**09 17 50.2**	**+1.4**
	0.1nm,0.6s,baz=39,slow=17,SNR=2.7					
FITZ	**Fitzroy Crossi**	**26.56 240**	P	**P**	**09 14 10.2**	**-0.5**
	2.6nm,0.6s,baz=49,slow=11,SNR=14					
STKA	**Stephens Creek**	**27.10 195**	P	**P**	**09 14 13.8**	**-1.7**
	1.7nm,0.9s,baz=29,slow=16,SNR=2.1					
KSRS	**Korea Array**	**47.56 336**	LR	LR	09 34 35.3	
	comp=Z,10.0nm,20.8s,baz=115,slow=33					
ILAR	**Eielson Array**	**84.17 23**	P	**P**	**09 21 01.4**	**-0.3**
	0.2nm,0.7s,baz=261,slow=4.9,SNR=4.6					
TORD	**Torodi Ar. Bea**	**147.68 285**	PKPbc	**PKPbc**	**09 28 16.5**	**+0.5**
	0.2nm,0.5s,baz=98,slow=2.9,SNR=1.8					

IDC ***22*** *09:21:10.0±2.8, 53°.46N×87°.54E, h0km, mb1 3.4/2, mb1mx3.1/37, mbtmp3.4/2, ML3.1/2, Error ellipse: s-maj=26.0km s-min=13.5km az=62.0*
NNC ***22*** *09:21:11.0±2.8, 53°.40N×87°.50E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=21.7km s-min=17.5km az=16.0, Suspected Mining explosion.*

KRAR 22 09:21:08.4±0.1, 53°.81N×87°.73E, M2.3, 6C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73 276**	*i*		09 34 05.4	
	baz=104,slow=350,SNR=9.4					
ZALV	**Zalesovo Beam**	**1.73 276**	Pg	Pn	09 21 39.5	-0.2
	6.5nm,0.3s,baz=104,slow=15,SNR=77					
ZALV			Lg	Lg	09 22 03.1	
	8.3nm,0.3s,baz=99,slow=27,SNR=12					
KURK	**Kurchatov**	**6.39 245**	⇑Pn	Pn	09 22 41.5	-2.2
	3.9nm,1.0s					
KURK			⇑Sn	Sn	09 23 54.6	-2.8
	1.4nm,0.6s					
KURK			⇑Lg	Lg	09 24 24.2	
	3.8nm,0.6s					
KURBB	**Kurchatov Arra**	**6.49 244**	⇓Pn	Pn	09 22 43.3	-1.8
	2.5nm,0.4s					
KURBB			⇓Sn	Sn	09 23 55.6	-4.2
	2.6nm,0.5s					
KURBB			⇑Lg	Lg	09 24 30.4	
	8.7nm,0.7s					
KURBB	**Kurchatov Arra**	**6.49 244**	Pn	Pn	09 22 44.2	-0.9
	0.3nm,0.3s,baz=62,slow=14,SNR=23					
KURBB			Lg	Lg	09 24 29.8	
	0.1nm,0.3s,baz=63,slow=32,SNR=11					
MK31	**Makanchi Array**	**7.84 209**	⇑Pn	Pn	09 23 01.6	-2.0
	0.5nm,0.5s,baz=30,slow=13,SNR=21					
MK31			⇑Sn	Sn	09 24 25.9	-7.1
	0.7nm,0.5s					
MK31			⇓Lg	Lg	09 25 03.9	
	3.4nm,0.8s,baz=29,slow=30,SNR=6.2					
MKAR	**Makanchi Array**	**7.84 209**	Pn	Pn	09 23 01.8	-1.8
	0.5nm,0.3s,baz=28,slow=14,SNR=29					
MKAR			Sn	Sn	09 24 23.1	-10
	0.2nm,0.3s,baz=27,slow=24,SNR=5.9					
MKAR			Lg	Lg	09 25 08.7	
	0.2nm,0.3s,baz=33,slow=29,SNR=10.0					

IDC 22 10:24:03.9±2.4, 5°.05N×128°.02E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/41, mbtmp3.5/4, Error ellipse: s-maj=188.3km s-min=26.0km az=66.0, East of Philippine Islands

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.60 166**	P	P	10 29 34.8	-0.3
	0.9nm,0.7s,baz=347,slow=9.7,SNR=12					
ASAR	**Alice Springs**	**29.11 169**	P	P	10 30 06.3	-0.4
	0.1nm,0.3s,baz=349,slow=7.6,SNR=3.8					
STKA	**Stephens Creek**	**38.93 161**	P	P	10 31 32.3	+0.6
	0.9nm,0.4s,baz=330,slow=14,SNR=2.9					
MKAR	**Makanchi Array**	**57.23 324**	P	P	10 33 53.0	-0.1
	0.2nm,0.3s,baz=112,slow=6.7,SNR=5.0					

ISCJB ***22*** *10:27:33.3±0.3, 6°.86S±0°.04×127°.29E±0°.05, h407km, mb3.7/7, Error ellipse: s-maj=6.2km s-min=5.3km az=13.3*
IDC ***22*** *10:27:33.6±1.0, 6°.79S×127°.20E, h397km±13km, mb3.4/7, mb1 3.5/13, mb1mx3.2/41, mbtmp4.3/13, Error ellipse: s-maj=15.3km s-min=12.6km az=76.0*
DJA ***22*** *10:27:34.0±0.2, 7°.S±3°×12°.7E±°, h422km±5km, M4.2/16, mB4.7/9, mb4.3/16, MLv4.5/13, Mw(mB)3.9/9*

ISC 22 10:27:33.9±0.6, 6°.88S±0°.05×127°.25E±0°.07, h407km, n30, σ1§75/38, mb3.7/7, Banda Sea

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.53 49**	P	**P**	**10 28 43.0**	**+0.9**
NLAI	**Namlea**	**3.62 358**	P	**P**	**10 28 45.3**	**+2.4**
NLAI			S	**S**	**10 29 39.9**	**+0.9**
BATI	**Baumata**	**4.85 227**	P	**P**	**10 28 56.3**	**+1.7**
BATI			S	**S**	**10 29 56.8**	**-3.7**
BATI	**Baumata**	**4.85 227**	P	**P**	**10 28 55.6**	**+1.0**
	171nm,0.3s,baz=97,slow=0.7,SNR=114					
BATI			S	**S**	**10 29 58.8**	**-1.7**
	64nm,0.3s,baz=127,slow=0.7,SNR=6.7					
SANI	**Sanana**	**4.96 345**	P	**P**	**10 28 55.5**	**-0.2**
SANI			S	**S**	**10 29 58.8**	**-3.8**
MMRI	**Maumere**	**5.26 250**	P	**S**	**10 30 10.9**	**+2.6**
KDI	**Kendari**	**5.45 302**	P	**P**	**10 29 02.6**	**+1.8**
	49nm,0.8s,0.2nm					
EDFI	**Ende, Flores**	**5.81 251**	P	**P**	**10 29 04.1**	**-0.6**
	31nm,0.6s,892nm0.1nm					
FAKI	**Fak Fak**	**6.35 52**	P	**P**	**10 29 09.8**	**-0.5**
BSSI	**Bau Bau, Buton**	**6.76 276**	P	**P**	**10 29 16.5**	**+0.9**
	48nm,0.6s,556nm0.2nm					
SIJI	**Sorong**	**7.19 34**	P	**P**	**10 29 18.7**	**-1.7**
	9.3nm,0.3s,baz=224,slow=10,SNR=19					
SIJI			S	**S**	**10 30 42.4**	**-4.3**
	1.8nm,0.3s,baz=294,slow=20,SNR=6.4					
BKSI	**Bulukumba**	**7.26 282**	P	**P**	**10 29 21.8**	**+0.7**
	20nm,0.7s,0.1nm					
BNSI	**Bone**	**7.53 289**	P	**P**	**10 29 26.0**	**+1.9**
SPSI	**Sidrap Palu**	**7.99 291**	P	**P**	**10 29 30.6**	**+1.3**
RKPI	**Ransiki, Papua**	**8.73 53**	P	**P**	**10 29 38.6**	**+1.2**
PLAI	**Plampang**	**9.58 258**	P	**P**	**10 29 45.2**	**-1.6**
SGSI	**Sangihe**	**10.64 351**	P	**P**	**10 30 00.9**	**+2.4**
FITZ	**Fitzroy Crossi**	**11.26 188**	P	**P**	**10 30 06.6**	**+1.3**
	1.1nm,0.3s,baz=19,slow=8.2,SNR=45					
JAY	**Jayapura**	**14.09 73**	P	**P**	**10 30 37.7**	**+1.2**
	1.4nm,0.3s,baz=223,slow=11,SNR=5.0					
WRA	**Warramunga Arr**	**14.69 153**	P	**P**	**10 30 43.8**	**+0.8**
	1.0nm,0.3s,baz=334,slow=11,SNR=12					
WRA			S	**S**	**10 33 17.3**	**-2.1**
	0.4nm,0.3s,baz=326,slow=20,SNR=19					
ASAR	**Alice Springs**	**17.87 160**	P	**P**	**10 31 18.4**	**+1.4**
	0.8nm,0.3s,baz=345,slow=13,SNR=69					
ASAR			S	**S**	**10 34 20.6**	**-0.7**
	0.4nm,0.3s,baz=342,slow=25,SNR=13					
ASAR			ScP	**ScP**	**10 38 28.4**	**+0.7**
	0.1nm,0.3s,baz=342,slow=1.6,SNR=8.9					
CISI	**Cisompet, Garu**	**19.29 267**	P	**P**	**10 31 31.2**	**-0.4**
PMG	**Port Moresby**	**19.86 99**	P	**P**	**10 31 36.9**	**0.0**
	1.6nm,0.3s,baz=244,slow=8.5,SNR=5.1					
STKA	**Stephens Creek**	**28.24 154**	P	**P**	**10 32 53.3**	**+1.5**
	1.9nm,0.5s,baz=334,slow=8.4,SNR=7.7					
PSI	**Prapat**	**29.87 288**	P	**P**	**10 33 05.8**	**-0.7**
	8.1nm,0.8s,baz=178,slow=12,SNR=5.5					
MJAR	**Matsushiro Arr**	**44.40 13**	P	**P**	**10 35 05.7**	**-0.7**
	2.3nm,0.5s,baz=206,slow=9.9,SNR=6.6					
USRK	**Ussuriysk Ar.**	**51.02 4**	P	**P**	**10 35 56.1**	**-0.2**
	1.4nm,0.5s,baz=190,slow=4.9,SNR=3.8					
PETK	**Petropavlovsk-**	**65.10 20**	P	**P**	**10 37 33.6**	**+1.0**
	3.8nm,0.7s,baz=192,slow=5.4,SNR=4.3					
MKAR	**Makanchi Array**	**66.66 328**	P	**P**	**10 37 42.4**	**-0.1**
	0.2nm,0.4s,baz=129,slow=7.7,SNR=2.9					
ZALV	**Zalesovo Beam**	**70.30 335**	P	**P**	**10 38 04.3**	**-0.2**
	1.0nm,0.5s,baz=131,slow=6.1,SNR=3.5					

NAO ***22*** *10:32:41.9±1.9, 61°.54N×4°.80E, h1km±13km, ML3.4*
BGS ***22*** *10:32:43.4±1.4, 61°.58N×4°.47E, h15km±13km, ML3.7*
BER ***22*** *10:32:44.2±1.5, 61°.59N×4°.62E, h13km, ML3.1, MW3.4, ML3.6(BGS), Confirmed Earthquake*
UPP ***22*** *10:32:46.1±2.3, 61°.36N×5°.21E, h0km, ML2.4, Suspected explosion*

ISC 22 10:32:40.3±2.0, 61°.53N±0°.03×4°.56E±0°.03, h6km±14km, n64, σ1§92/93, 4C, Southern Norway

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
SUE	**Sulen**	**0.48 168**	⇑*i*P	**Pn**	**10 32 53.7**	**0.0**
SUE			*e*S	**Sb**	**10 33 01.0**	**+2.5**
SUE			IAML		10 33 03.1	
	comp=Z,759nm,0.3s					
HYA	**Hoyanger**	**0.87 114**	⇑*i*P	**Pn**	**10 32 59.0**	**+0.1**
HYA			*e*S	**Sb**	**10 33 10.3**	**+0.9**
HYA			IAML		10 33 11.5	
	comp=Z,2µm,0.4s					
ASK	**Askoy**	**1.09 163**	*e*P	**Pn**	**10 33 04.0**	**+1.9**
ASK			*i*		10 33 09.2	
ASK			*e*S	**Sn**	**10 33 19.5**	**+2.0**
ASK			IAML		10 33 26.3	
	comp=Z,672nm,0.2s					
BER	**Bergen**	**1.21 161**	Pg	**Pn**	**10 33 06.0**	**+2.3**
BER			Lg	Lg	10 33 21.6	
BER	**Bergen**	**1.21 161**	*e*P	**Pn**	**10 33 05.7**	**+2.1**
BER			*e*S	**Sn**	**10 33 22.0**	**+1.7**
BER	**Bergen**	**1.21 161**	*e*P	**Pn**	**10 33 05.8**	**+2.1**
BER			*e*S	**Sn**	**10 33 22.0**	**+1.7**
BER			IAML		10 33 24.6	
	comp=Z,447nm,0.3s					
AKN	**Aaknes**	**1.33 60**	Pg	**Pn**	**10 33 05.7**	**+0.4**
AKN			Lg	Lg	10 33 22.2	
AKN	**Aaknes**	**1.33 60**	*e*P	**Pn**	**10 33 05.4**	**+0.1**
AKN			*e*S	**Sg**	**10 33 22.2**	**-0.7**
MOL	**Molde**	**1.75 52**	*e*P	**Pb**	**10 33 12.3**	**-0.5**
MOL			*e*S	**Sn**	**10 33 33.4**	**-0.3**
MOL	**Molde**	**1.75 52**	*e*P	**Pb**	**10 33 12.3**	**-0.5**
MOL			*e*S	**Sn**	**10 33 33.7**	**0.0**
MOL			IAML		10 33 36.4	
	comp=Z,977nm,0.2s					
ODD1	**Odda**	**1.92 147**	*e*P	**Pb**	**10 33 15.7**	**+0.1**
SKAR	**Skarslia**	**2.01 113**	*e*P	**Pb**	**10 33 16.4**	**-0.8**
SKAR			*e*Sg	**Sg**	**10 33 43.5**	**-1.3**
DOMB	**Dombas**	**2.20 75**	*e*P	**Pb**	**10 33 19.1**	**-1.3**
DOMB			*e*S	**Sn**	**10 33 45.8**	**+0.9**
DOMB			*e*Sg	**Sb**	**10 33 48.4**	**+0.5**
DOMB			IAML		10 33 52.6	
	comp=Z,422nm,0.4s					
BLS5	**Blasjo**	**2.31 155**	⇑*i*P	**Pb**	**10 33 21.2**	**-1.2**
BLS5			*e*S	**Sn**	**10 33 48.7**	**+1.1**
BLS5			IAML		10 34 02.5	
	comp=Z,256nm,0.5s					
KMY	**Karmoy**	**2.35 171**	*e*P	**Pb**	**10 33 21.8**	**-1.2**
NC204	**NORSAR Array S**	**3.00 92**	*e*P	**Pn**	**10 33 29.4**	**+1.1**
NC204			*e*Sg	**Sb**	**10 34 11.9**	**+1.1**
LRW	**Lerwick**	**3.14 246**	*e*P	**Pn**	**10 33 31.6**	**+1.4**
LRW			*e*S	**Sn**	**10 34 07.7**	**-0.1**
LRW			IAML		10 34 13.7	
	comp=N,27nm,0.3s					
LRW			IAML		10 34 15.5	
	comp=E,34nm,0.4s					
LRW	**Lerwick**	**3.14 246**	*e*P	**Pn**	**10 33 31.6**	**+1.4**
LRW			*e*S	**Sn**	**10 34 07.7**	**-0.1**
LRW			IAML		10 34 13.7	
	comp=N,27nm,0.3s					
LRW			IAML		10 34 15.5	
	comp=E,34nm,0.4s					
NB2	**NORSAR Subarra**	**3.25 96**	Pn	**Pn**	**10 33 32.8**	**+1.0**
	baz=283,slow=14					
NB2			Pg	**Pb**	**10 33 37.9**	**-0.5**
NB2			Lg	Lg	10 34 20.1	
	baz=285,slow=37					
NB2	**NORSAR Subarra**	**3.25 96**	Pn	**Pn**	**10 33 32.8**	**+1.0**
	baz=283,slow=14					
NB2			Pg	**Pb**	**10 33 37.9**	**-0.5**
NB2			Sg	**Sb**	**10 34 20.1**	**+1.9**
	baz=285,slow=37					
OSL	**Oslo**	**3.42 115**	*e*Pg	**Pb**	**10 33 38.6**	**-2.6**
OSL			IAML		10 34 36.9	
	comp=Z,306nm,0.6s					
SNART	**Snartemo**	**3.47 156**	⇑*i*P	**Pn**	**10 33 36.7**	**+2.0**
NRA0	**NORESS Array S**	**3.48 100**	Pn	**Pn**	**10 33 35.7**	**+0.8**
	baz=292,slow=12					
NRA0			Pg	**Pb**	**10 33 41.4**	**-0.8**
	baz=294,slow=18					
NRA0			Lg	Lg	10 34 27.4	
	baz=290,slow=28					
NRA0	**NORESS Array S**	**3.48 100**	Pn	**Pn**	**10 33 35.7**	**+0.8**
	baz=292,slow=12					
NRA0			Pg	**Pb**	**10 33 41.4**	**-0.8**
	baz=294,slow=18					
NRA0			Sg	**Sb**	**10 34 27.4**	**+2.7**
	baz=290,slow=28					
HOMB	**Homborsund**	**3.83 147**	*e*P	**Pn**	**10 33 41.9**	**+2.3**
STRU	**Stroemstad**	**4.14 124**	P	**Pn**	**10 33 44.7**	**+0.8**
STRU			S	**Sn**	**10 34 29.1**	**-3.4**
UDD	**Uddeholm**	**4.66 104**	P	**Pn**	**10 33 52.0**	**+0.9**
UDD			S	**Sn**	**10 34 43.0**	**-2.4**
HFS	**Hagfors**	**4.69 103**	Pn	**Pn**	**10 33 52.0**	**+0.6**
	baz=285,slow=14					
HFS			Lg	Lg	10 35 05.6	
	baz=288,slow=37					
HFS	**Hagfors**	**4.69 103**	Pn	**Pn**	**10 33 52.0**	**+0.6**
	baz=285,slow=14					
VANU	**Vaenersborg**	**4.85 126**	P	**Pn**	**10 33 54.8**	**+1.2**
VANU			S	**Sn**	**10 34 46.1**	**-3.9**
TJOU	**Tjoern**	**5.00 131**	P	**Pn**	**10 33 57.0**	**+1.2**
NASU	**Vaermlandsnaes**	**5.03 117**	P	**Pn**	**10 33 56.8**	**+0.7**
NASU			S	**Sn**	**10 34 50.4**	**-4.0**
BIGH	**Upper Bighouse**	**5.23 238**	*e*P	**Pn**	**10 34 00.2**	**+1.4**
BIGH			*e*S	**Sn**	**10 34 57.2**	**-2.1**
BIGH			IAML		10 35 01.0	
	comp=N,31nm,0.5s					
BIGH			IAML		10 35 03.4	
	comp=E,26nm,0.4s					
BIGH	**Upper Bighouse**	**5.23 238**	*e*P	**Pn**	**10 34 00.2**	**+1.4**
BIGH			*e*S	**Sn**	**10 34 57.2**	**-2.1**
BIGH			IAML		10 35 01.0	
	comp=N,31nm,0.5s					
BIGH			IAML		10 35 03.4	
	comp=E,26nm,0.4s					
NRAU	**Nora**	**5.53 106**	P	**Pn**	**10 34 04.9**	**+1.8**
FALU	**Falun**	**5.58 96**	P	**Pn**	**10 34 04.8**	**+1.1**
ONAU	**Onsala**	**5.59 135**	P	**Pn**	**10 34 04.8**	**+1.0**
MCD	**Coleburn Disti**	**5.61 229**	*e*S	**Sn**	**10 35 05.7**	**-3.0**
MCD			IAML		10 35 09.9	
	comp=E,30nm,0.3s					
MCD			IAML		10 35 12.1	
	comp=N,38nm,0.5s					
MCD	**Coleburn Disti**	**5.61 229**	*e*S	**Sn**	**10 35 05.7**	**-3.0**
MCD			IAML		10 35 09.9	
	comp=E,30nm,0.3s					
MCD			IAML		10 35 12.1	
	comp=N,38nm,0.5s					
MUD	**Monsted U'grnd**	**5.62 153**	*i* P	**Pn**	**10 34 07.1**	**+2.9**
BORU	**Boraas**	**5.71 129**	P	**Pn**	**10 34 06.4**	**+0.9**
HASU	**Hassela**	**5.74 78**	P	**Pn**	**10 34 07.4**	**+1.5**
ASKU	**Askersund**	**5.76 113**	P	**Pn**	**10 34 07.2**	**+1.0**
DRUM	**Mains of Drumt**	**5.87 221**	*e*P	**Pn**	**10 34 08.8**	**+1.0**
DRUM			*e*S	**Sn**	**10 35 11.9**	**-3.4**
DRUM			IAML		10 35 16.2	
	comp=N,91nm,0.4s					
DRUM			IAML		10 35 16.4	
	comp=E,54nm,0.4s					
DRUM	**Mains of Drumt**	**5.87 221**	*e*P	**Pn**	**10 34 08.8**	**+1.0**
DRUM			*e*S	**Sn**	**10 35 11.9**	**-3.4**
DRUM			IAML		10 35 16.2	
	comp=N,91nm,0.4s					
DRUM			IAML		10 35 16.4	
	comp=E,54nm,0.4s					
HUDU	**Hudiksvall**	**5.99 83**	P	**Pn**	**10 34 10.1**	**+0.8**
MDO	**Dochfour**	**6.12 232**	*e*P	**Pn**	**10 34 13.8**	**+2.7**
MDO	**Dochfour**	**6.12 232**	*e*P	**Pn**	**10 34 13.8**	**+2.7**
KONS	**Konsvik**	**6.24 33**	*e*P	**Pn**	**10 34 13.5**	**+0.8**
KONS			IAML		10 35 56.5	
	comp=Z,22nm,0.4s					
ESKU	**Eskilstuna**	**6.30 106**	P	**Pn**	**10 34 15.3**	**+1.7**
BACU	**Backbrunna**	**6.39 100**	P	**Pn**	**10 34 15.6**	**+0.9**
INVG	**Invergeldie, C**	**6.78 225**	*e*P	**Pn**	**10 34 21.7**	**+1.6**
INVG			IAML		10 35 38.6	
	comp=E,14nm,0.7s					
INVG			IAML		10 35 47.2	
	comp=N,11nm,0.7s					
INVG	**Invergeldie, C**	**6.78 225**	*e*P	**Pn**	**10 34 21.7**	**+1.6**
INVG			IAML		10 35 38.6	
	comp=E,14nm,0.7s					
INVG			IAML		10 35 47.2	
	comp=N,11nm,0.7s					
EDI	**Edinburgh**	**6.92 219**	*e*S	**Sn**	**10 35 36.9**	**-4.0**
EDI			IAML		10 35 41.3	
	comp=E,40nm,0.4s					
EDI			IAML		10 35 41.8	
	comp=N,48nm,0.5s					
EDI	**Edinburgh**	**6.92 219**	*e*S	**Sn**	**10 35 36.9**	**-4.0**
EDI			IAML		10 35 41.3	
	comp=E,40nm,0.4s					
EDI			IAML		10 35 41.8	
	comp=N,48nm,0.5s					
ESK	**Eskdalemuir**	**7.44 217**	*e*S	**Sn**	**10 35 49.0**	**-4.9**
ESK			IAML		10 35 52.7	
	comp=E,22nm,0.7s					
ESK			IAML		10 35 53.9	
	comp=N,18nm,0.5s					
ESK	**Eskdalemuir**	**7.44 217**	*e*S	**Sn**	**10 35 49.0**	**-4.9**
ESK			IAML		10 35 52.7	
	comp=E,22nm,0.7s					
ESK			IAML		10 35 53.9	
	comp=N,18nm,0.5s					
FIA0	**FINESS Array S**	**10.28 81**	Pn	**Pn**	**10 35 06.8**	**-1.3**
	baz=284,slow=11					
FIA0			Lg	Lg	10 37 57.1	
	baz=271,slow=28					
FIA0	**FINESS Array S**	**10.28 81**	Pn	**Pn**	**10 35 06.8**	**-1.3**
	baz=284,slow=11					
ARA0	**ARCESS Array S**	**11.75 38**	Pn	**Pn**	**10 35 27.5**	**-0.7**
	baz=228,slow=14					
ARA0	**ARCESS Array S**	**11.75 38**	Pn	**Pn**	**10 35 27.5**	**-0.7**
	baz=228,slow=14					
KLMR	**Klimovskoe**	**16.74 77**	*e*Pn	**P**	**10 36 37.2**	**-0.2**
KLMR			AMP		10 36 44.9	
	comp=Z,4.0nm,0.8s					
KLMR			*e*Lg	Lg	10 41 19.5	
KLMR			*e*Lg	Lg	10 41 19.5	
SPA0	**Spitsbergen Ar**	**17.14 8**	P	**P**	**10 36 43.9**	**+2.1**
	baz=189,slow=12					
SPA0	**Spitsbergen Ar**	**17.14 8**	P	**P**	**10 36 43.9**	**+2.1**
	baz=189,slow=12					

IDC 22 10:53:08.2±2.0, 8°.52S×127°.82E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.2/32, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=93.1km s-min=27.6km az=72.0, Timor region

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.75 192**	Pn	Pn	10 55 29.9	+0.1
	0.1nm,0.3s,baz=349,slow=8.7,SNR=7.1					
FITZ			Sn	Sn	10 57 11.4	-8.7
	0.1nm,0.3s,baz=74,slow=15,SNR=4.6					
WRA	**Warramunga Arr**	**12.99 152**	Pn	Pn	10 56 14.6	+0.5
	0.1nm,0.3s,baz=333,slow=13,SNR=7.7					
WRA			Sn	Sn	10 58 34.5	-5.0
	0.1nm,0.3s,baz=333,slow=21,SNR=5.1					
ASAR	**Alice Springs**	**16.15 160**	Pn	Pn	10 56 56.0	-0.7
	0.0nm,0.3s,baz=334,slow=10,SNR=2.7					
MKAR	**Makanchi Array**	**68.34 328**	P	P	11 04 11.4	0.0
	0.3nm,0.7s,baz=133,slow=6.3,SNR=2.8					

IDC ***22*** *11:03:13.9±0.9, 11°.70S×164°.73E, h0km, mb4.1/10, mb1 4.3/13, mb1mx4.1/41, mbtmp4.1/13, ML4.1/3, MS3.2/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=27.5km s-min=18.9km az=155.0*
NEIC ***22*** *11:03:15.5±0.4, 11°.65S×164°.70E, h10km, mb4.1/3, Error ellipse: s-maj=10.1km s-min=9.2km az=77.0*
ISCJB ***22*** *11:03:17.2±0.5, 11°.79S±0°.07×164°.61E±0°.06, h33km, mb4.0/14, MS3.5/2, Error ellipse: s-maj=10.6km s-min=6.7km az=36.4*

ISC 22 11:03:19.0±0.6, 11°.80S±0°.07×164°.69E±0°.09, h35km, n33, σ1§39/29, mb4.0/14, Santa Cruz Islands region

Code	Station Name	Δ° AZ°	Phase ID		Time	Res
			Op	ISC	h m s	ISC
HNR	**Honiara**	**5.22 296**	*e*P	**Pn**	**11 04 34.0**	**-0.5**
HNR			*e*S	**Sn**	**11 05 31.0**	**-2.6**
HNR	**Honiara**	**5.22 296**	*e*Pn	**Pn**	**11 04 34.1**	**-0.5**
HNR	**Honiara**	**5.22 296**	Pn	**Pn**	**11 04 34.8**	**+0.2**
	28nm,0.3s,baz=177,slow=2.0,SNR=8.1					
HNR			Sn	**Sn**	**11 05 33.8**	**+0.2**
	11nm,0.3s,baz=18,slow=20,SNR=5.0					
DZM	**Mont Dzumac**	**10.36 171**	*e*Pn	**Pn**	**11 05 46.0**	**+0.8**
DZM			*e*Sn	**Sn**	**11 07 39.4**	**-0.7**
DZM	**Mont Dzumac**	**10.36 171**	Pn	**Pn**	**11 05 45.1**	**0.0**
	1.9nm,0.3s,baz=114,slow=23,SNR=30					
DZM			Sn	**Sn**	**11 07 35.8**	**-4.3**
	0.4nm,0.3s,baz=144,slow=19,SNR=2.9					
DZM			LR	LR	11 08 10.6	
	comp=Z,25nm,20.0s,baz=47,slow=28					
**ONT

NVAR	**Mina Array Bea**	**87.30**	**50**	P		**P**	**11 16 02.7**	**+0.1**
	1.5nm,0.8s,baz=222,slow=7.2,SNR=9.0							
NVAR				LR		LR	11 54 07.3	
	comp=Z,32nm,18.1s,baz=200,slow=35							
MK32	**Makanchi Array**	**93.36**	**317**	*e*P		**P**	**11 16 30.1**	**-0.4**
MKAR	**Makanchi Array**	**93.36**	**317**	P		**P**	**11 16 30.1**	**-0.4**
	1.5nm,0.7s,baz=95,slow=6.4,SNR=3.2							
PDAR	**Pinedale Array**	**94.82**	**47**	P		**P**	**11 16 38.5**	**+0.9**
	0.4nm,0.8s,baz=250,slow=5.4,SNR=3.0							
YKA	**Yellowknife Ar**	**96.11**	**27**	P		**P**	**11 16 41.3**	**-1.4**
	0.4nm,0.8s,baz=265,slow=4.9,SNR=4.4							
LTX	**Lajitas**	**97.10**	**62**	*e*P		**P**	**11 16 49.1**	**+1.0**
TXAR	**Lajitas Array**	**97.10**	**62**	P		**P**	**11 16 49.1**	**+1.0**
	0.2nm,0.7s,baz=224,slow=7.0,SNR=3.4							

IDC ***22*** *11:05:25.0±0.5,55˚.40N×109˚.37E,h0km,mb3.9/18, mb1 4.1/24,mb1mx4.0/45,mbtmp4.0/24,ML3.8/5,MS3.6/17, Ms1 3.6/17,ms1mx3.4/38,Error ellipse: s-maj=13.5km s-min=12.4km az=162.0*

MOS ***22*** *11:05:25.0±1.1,55˚.41N×109˚.27E,h8km,mb4.6/15, MS4.0/5,Error ellipse: s-maj=7.4km s-min=5.4km az=72.6*

MOS Felt (III-IV) at Severobaykal'sk; (II-III) at Nizhneangarsk.

BJI ***22*** *11:05:25.4,55˚.45N×109˚.21E,h10km,mb4.3/12,mB4.5/8, Ms4.2/6,Ms7 4.0/6*

NEIC ***22*** *11:05:26.6±0.2,55˚.47N×109˚.33E,h10km,mb4.3/15,Error ellipse: s-maj=5.6km s-min=4.3km az=165.0*

BYKL ***22*** *11:05:27.3±0.3,55˚.33N×109˚.33E,Mw4.3/9(IEC), #STATIONS PET MAJO TATO XAN CHTO AAK KURK BRVK ARU FELT I=III-IV MSK at Severobaykalsk, III at Nizhneangarsk. Energy_class=12.1+.2*

ISC 22 11:05:25.5±1.1,55.46N±0.02×109.31E±0.02,h3km±7km, n148,σ2s32/207,mb4.2/39,MS3.7/17,15C-14D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**23**	⇓*i*Pg		**Pb**	**11 05 35.8**	**+1.5**
NIZ				Pmax			11 05 36.1	
	10μm,1.0s							
NIZ				*i* Sg		**Sb**	**11 05 42.0**	**+1.9**
NIZ				Smax			11 05 42.4	
	46μm,0.5s							
NIZ	**Nizh Angarsk**	**0.34**	**23**	⇑*i*PG		**Pb**	**11 05 35.9**	**+1.6**
NIZ				*e*			11 05 41.7	
NIZ				pmax	pmax			
	comp=Z,3μm,0.3s							
NIZ				smax	smax			
	comp=N,7μm,0.5s							
KMO	**Kumora**	**1.15**	**68**	⇓*i*Pg		**Pn**	**11 05 48.8**	**+0.1**
KMO				*e*			11 05 51.1	
KMO				max			11 05 51.4	
	comp=N,11μm,0.4s							
KMO				*e*Sg		**Sn**	**11 06 05.1**	**+0.2**
KMO				*e*Sb		**Sg**	**11 06 08.0**	**+5.5**
KMO				max			11 06 11.8	
	comp=N,993nm,0.6s							
KMO	**Kumora**	**1.15**	**68**	*e*PG		**Pn**	**11 05 48.7**	**+0.1**
KMO				*e*			11 06 05.0	
KMO				pmax	pmax			
	comp=Z,11μm,0.4s							
KMO				smax	smax			
	comp=N,580nm,0.8s							
YLYR	**Ulyunkhan**	**1.22**	**118**	⇑*i*Pg		**Pb**	**11 05 48.1**	**-1.1**
YLYR				Pmax			11 05 57.0	
	comp=N,937nm,0.5s							
YLYR				*e*Sg		**Sb**	**11 06 03.6**	**-1.7**
YLYR				*e*Sb		**Sn**	**11 06 06.6**	**+0.2**
YLYR				max			11 06 07.2	
	comp=N,10μm,0.8s							
YLYR	**Ulyunkhan**	**1.22**	**118**	⇑*i*PG		**Pb**	**11 05 48.2**	**-1.0**
YLYR				*e*			11 06 02.0	
YLYR				pmax	pmax			
	comp=Z,1μm,0.5s							
YLYR				smax	smax			
	comp=N,3μm,0.5s							
YOA	**Uoyan**	**1.52**	**63**	*e*Pg		**Pg**	**11 05 55.8**	**+1.2**
YOA				Pmax			11 05 57.2	
	comp=N,6μm,0.7s							
YOA				*e*Sg		**Sg**	**11 06 18.0**	**+3.7**
YOA				Smax			11 06 20.9	
	comp=N,34μm,0.9s							
YOA	**Uoyan**	**1.52**	**63**	*e*PG		**Pg**	**11 05 55.9**	**+1.3**
YOA				*e*			11 06 18.1	
YOA				pmax	pmax			
	comp=Z,7μm,0.4s							
YOA				smax	smax			
	comp=N,40μm,1.0s							
SYVR	**Suvo**	**1.85**	**167**	*e*Pn		**Pn**	**11 05 58.1**	**-0.1**
SYVR				⇓*i*Pg		**Pb**	**11 05 59.2**	**-0.8**
SYVR				*e*			11 06 03.5	
SYVR				max			11 06 07.1	
	comp=N,820nm,1.0s							
SYVR				*e*Sg		**Sn**	**11 06 22.6**	**+0.5**
SYVR				Smax			11 06 24.8	
	comp=N,12μm,1.1s							
SYVR	**Suvo**	**1.85**	**167**	⇑*i*PN		**Pn**	**11 05 58.8**	**+0.6**
SYVR				*e*			11 06 22.3	
SYVR				pmax	pmax			
	comp=Z,855nm,0.3s							
SYVR				smax	smax			
	comp=N,3μm,0.6s							
OGRR	**Ongureny**	**2.08**	**209**	*i* Pn		**Pn**	**11 06 01.7**	**+0.4**
OGRR				⇑*e*Pg		**Pb**	**11 06 04.1**	**+0.2**
OGRR				Pmax			11 06 06.8	
	comp=N,295nm,0.4s							
OGRR				*e*Sn		**Sn**	**11 06 26.5**	**-1.2**
OGRR				*i* Sg		**Sb**	**11 06 29.8**	**-0.3**
OGRR				Smax			11 06 33.5	
	comp=N,2μm,1.3s							
OGRR	**Ongureny**	**2.08**	**209**	⇑*i*PN		**Pn**	**11 06 01.8**	**+0.4**
OGRR				*e*			11 06 03.6	
OGRR				*e*			11 06 29.8	
OGRR				pmax	pmax			
	comp=Z,327nm,0.6s							
OGRR				smax	smax			
	comp=E,2μm,1.2s							
MXMB	**Maximikha**	**2.23**	**189**	*e*Pn		**Pn**	**11 06 03.1**	**-0.3**
MXMB				*e*Pg		**Pb**	**11 06 05.7**	**-0.7**
MXMB				*e*Sg		**Sn**	**11 06 32.3**	**+0.9**
UKT	**Uakit**	**2.46**	**88**	⇓*i*Pn		**Pn**	**11 06 08.0**	**+1.4**
UKT				*e*Pg		**Pb**	**11 06 10.8**	**+0.4**
UKT				*e*			11 06 13.6	
UKT				Pmax			11 06 14.3	
	comp=E,1μm,0.7s							
UKT				*e*Sg		**Sb**	**11 06 42.9**	**+1.8**
UKT				Smax			11 06 44.0	
	comp=E,13μm,1.1s							
UKT	**Uakit**	**2.46**	**88**	⇓*i*PN		**Pn**	**11 06 08.2**	**+1.6**
UKT				*e*			11 06 10.8	
UKT				*e*			11 06 43.0	
UKT				pmax	pmax			
	comp=Z,609nm,0.7s							
UKT				smax	smax			
	comp=N,3μm,0.9s							
SVKR	**Severomuysk**	**2.49**	**73**	*e*Pn		**Pb**	**11 06 09.1**	**-1.8**
SVKR				*e*Pg		**Pg**	**11 06 12.2**	**-1.0**
SVKR				Pmax			11 06 13.0	
	comp=N,2μm,0.7s							
SVKR				*e*Sg		**Sg**	**11 06 46.4**	**+1.0**
SVKR				Smax			11 06 48.1	
	comp=N,11μm,0.5s							
SVKR	**Severomuysk**	**2.49**	**73**	*e*PN		**Pb**	**11 06 09.2**	**-1.7**
SVKR				*e*			11 06 12.0	
SVKR				*e*S		**Sn**	**11 06 38.8**	**+0.9**
SVKR				*e*			11 06 45.5	
SVKR				pmax	pmax			
	comp=Z,2μm,0.6s							
SVKR				smax	smax			
	comp=N,3μm,1.0s							
TRG	**Tyrgan**	**3.22**	**214**	⇑*i*Pn		**Pn**	**11 06 16.8**	**-0.2**
TRG				*e*Pg		**Pb**	**11 06 22.8**	**-0.6**
TRG				Pmax			11 06 27.3	
	comp=N,128nm,0.3s							
TRG				*e*			11 06 56.8	
TRG				*e*Sg		**Sb**	**11 07 04.6**	**+1.6**
TRG				Smax			11 07 06.4	
	comp=N,2μm,1.2s							
TRG	**Tyrgan**	**3.22**	**214**	⇑*i*PN		**Pn**	**11 06 16.8**	**-0.2**
TRG				*e*			11 06 23.4	
TRG				*e*S		**Sn**	**11 06 55.2**	**-0.7**
TRG				*e*			11 07 04.6	
	comp=Z,141nm,0.4s							
TRG				pmax	pmax			
	comp=E,2μm,0.7s							
TRG				smax	smax			
TRTB	**Turuntaevo**	**3.39**	**198**	*e*Pn		**Pn**	**11 06 19.0**	**-0.3**
TRTB				*e*Pg		**Pb**	**11 06 24.3**	**-1.9**
TRTB				*e*			11 06 27.7	
TRTB				*e*Sn		**Sn**	**11 06 57.4**	**-2.6**
TRTB				*e*Sg		**Sb**	**11 07 07.2**	**-0.6**
BOD	**Bodaibo**	**3.51**	**46**	⇓*i*Pn		**Pn**	**11 06 23.1**	**+2.2**
BOD				*e*Pg		**Pg**	**11 06 31.1**	**-1.6**
BOD				Pmax			11 06 32.8	
	comp=E,250nm,0.7s							
BOD				*e*			11 07 07.8	
BOD				*e*Sg		**Sg**	**11 07 17.0**	**-1.1**
BOD				Smax			11 07 18.7	
	comp=E,3μm,0.6s							
BOD	**Bodaibo**	**3.51**	**46**	⇓*i*PN		**Pn**	**11 06 23.2**	**+2.3**
BOD				*e*			11 06 30.9	
BOD				*e*			11 07 16.8	
BOD				pmax	pmax			
	comp=Z,253nm,0.6s							
BOD				smax	smax			
	comp=N,3μm,0.6s							
NLYR	**Nelyaty**	**3.74**	**71**	⇓*i*Pn		**Pn**	**11 06 25.9**	**+1.8**
NLYR				*e*Pg		**Pb**	**11 06 34.9**	**+2.7**
NLYR				Pmax			11 06 38.7	
	comp=N,666nm,0.7s							
NLYR				*e*Sn		**Sn**	**11 07 06.9**	**-1.7**
NLYR				*e*Sg		**Sg**	**11 07 23.9**	**-1.6**
NLYR				*e*			11 07 33.2	
NLYR				max			11 07 35.7	
	comp=N,3μm,0.9s							
NLYR	**Nelyaty**	**3.74**	**71**	⇓*i*PN		**Pn**	**11 06 25.9**	**+1.8**
NLYR				*e*			11 06 34.4	
NLYR				*e*			11 07 23.2	
NLYR				pmax	pmax			
	comp=Z,664nm,0.8s							
NLYR				smax	smax			
	comp=N,3μm,0.9s							
KAB	**Kabansk**	**3.77**	**206**	*e*Pg		**Pb**	**11 06 32.1**	**-0.5**
KAB				Pmax			11 06 48.2	
	comp=N,247nm,0.7s							
KAB				*e*Sg		**Sb**	**11 07 19.9**	**+1.3**
KAB				Smax			11 07 28.9	
	comp=N,3μm,1.2s							
HRMR	**Khuramsha**	**4.09**	**201**	*e*		**Pb**	**11 06 35.5**	**-2.7**
HRMR				*e*			11 06 40.1	
HRMR				*e*			11 06 42.8	
HRMR				*e*			11 06 46.4	
HRMR				max			11 06 49.4	
	comp=N,224nm,0.6s							
HRMR				*e*Sg		**Sb**	**11 07 30.1**	**+2.1**
HRMR				Smax			11 07 45.7	
	comp=N,1μm,1.5s							
BGT	**Bolshoye Golou**	**4.13**	**216**	⇓*i*Pn		**Pn**	**11 06 29.3**	**-0.2**
BGT				*e*Pg		**Pb**	**11 06 37.6**	**-1.3**
BGT				*e*			11 06 41.4	
BGT				*e*			11 06 48.1	
BGT				*e*Sn		**Sn**	**11 07 15.0**	**-3.4**
BGT				*e*Sg		**Sb**	**11 07 30.7**	**+1.5**
CIT	**Chita**	**4.27**	**142**	*e*Pg		**Pb**	**11 06 42.0**	**+0.8**
CIT				Pmax			11 06 50.1	
	comp=N,390nm,0.6s							
CIT				*e*Sg		**Sb**	**11 07 36.6**	**+3.4**
CIT				Smax			11 07 39.7	
	comp=N,3μm,1.2s							
CIT	**Chita**	**4.27**	**142**	*e*PN		**Pn**	**11 06 30.1**	**-1.4**
CIT				*e*			11 06 42.1	
CIT				*e*S		**Sn**	**11 07 17.8**	**-4.0**
CIT				*e*			11 07 34.3	
CIT				pmax	pmax			
	comp=Z,282nm,1.0s							
CIT				smax	smax			
	comp=E,3μm,1.0s							
VTMR	**Vitim**	**4.36**	**22**	*e*Pn		**Pn**	**11 06 33.8**	**+1.3**
VTMR				*e*Pg		**Pg**	**11 06 47.0**	**-1.9**
VTMR				*e*Sn		**Sn**	**11 07 27.4**	**+3.6**
VTMR				*e*Sg		**Sg**	**11 07 45.7**	**+0.4**
IRK	**Irkutsk**	**4.39**	**225**	*e*Pg		**Pb**	**11 06 45.5**	**+2.2**
IRK				Pmax			11 06 53.7	
	comp=E,227nm,0.7s							
IRK				*e*Sg		**Sb**	**11 07 41.4**	**+4.7**
IRK				Smax			11 07 44.6	
	comp=E,3μm,1.1s							
IRK	**Irkutsk**	**4.39**	**225**	*e*PN		**Pn**	**11 06 33.1**	**0.0**
IRK				*e*			11 06 44.5	
IRK				*e*			11 07 40.8	
IRK				pmax	pmax			
	comp=Z,169nm,0.1s							
IRK				smax	smax			
	comp=E,3μm,0.9s							
TLY	**Talaya**	**5.07**	**224**	*e*Pn		**Pn**	**11 06 43.2**	**+0.8**
TLY	**Talaya**	**5.07**	**224**	*e*Pn		**Pn**	**11 06 41.9**	**-0.6**
TLY				*e*Pg		**Pb**	**11 06 56.6**	**+1.7**
TLY				*e*			11 07 05.3	
TLY				max			11 07 10.7	
	comp=E,120nm,1.0s							
TLY				*e*			11 07 45.9	
TLY				*e*Sg		**Sb**	**11 08 00.0**	**+3.7**
TLY				Smax			11 08 05.3	
	comp=E,601nm,1.2s							
TLY	**Talaya**	**5.07**	**224**	*e*PN		**Pn**	**11 06 43.2**	**+0.8**
TLY				*e*			11 06 58.6	
TLY				*e*			11 08 01.7	
TLY				pmax	pmax			
	comp=Z,165nm,0.6s							
CRS	**Chara**	**5.21**	**70**	*e*Pn		**Pn**	**11 06 46.2**	**+1.9**
CRS				*e*Pg		**Pb**	**11 07 01.0**	**+3.8**
CRS				Pmax			11 07 08.0	
	comp=Z,315nm,1.3s							
CRS				*e*Sg		**Sg**	**11 08 08.6**	**-4.1**
CRS				Smax			11 08 20.6	
	comp=Z,2μm,1.4s							
CRS	**Chara**	**5.21**	**70**	*e*PN		**Pn**	**11 06 46.6**	**+2.3**
CRS				*e*			11 07 01.5	
CRS				*e*			11 08 09.1	
CRS				pmax	pmax			
	comp=Z,315nm,1.4s							
CRS				smax	smax			
	comp=E,2μm,1.5s							
ARS	**Arshan**	**5.42**	**232**	*e*Pn		**Pn**	**11 06 46.8**	**-0.4**
ARS				*e*Pg		**Pb**	**11 07 03.8**	**+3.1**
ARS				Pmax			11 07 13.1	
	comp=E,230nm,0.6s							
ARS				*e*Sn		**Sn**	**11 07 47.5**	**-2.5**
ARS				*e*Sg		**Sg**	**11 08 14.6**	**-4.7**
ARS				Smax			11 08 18.6	
	comp=E,3μm,1.1s							
ARS	**Arshan**	**5.42**	**232**	*e*PN		**Pn**	**11 06 47.7**	**+0.5**
ARS				*e*			11 07 03.5	
ARS				*e*S		**Sn**	**11 07 47.2**	**-2.8**
ARS				*e*			11 08 09.9	
ARS				pmax	pmax			
	comp=Z,231nm,0.6s							
ARS				smax	smax			
	comp=E,3μm,0.9s							
KPC	**Khapcheranga**	**6.06**	**161**	*e*Pn		**Pn**	**11 06 54.7**	**-1.4**
KPC				*e*			11 07 08.0	
KPC				*e*Pg		**Pb**	**11 07 14.3**	**+2.5**
KPC				Pmax			11 07 23.6	
	comp=E,146nm,1.1s							
KPC				*e*Sn		**Sn**	**11 08 02.6**	**-3.4**
KPC				*e*Sg		**Sb**	**11 08 32.0**	**+7.2**
KPC				Smax			11 08 33.3	
	comp=E,989nm,1.0s							
KPC	**Khapcheranga**	**6.06**	**161**	*e*PN		**Pn**	**11 06 55.7**	**-0.4**
KPC				*e*			11 07 13.6	
KPC				*e*S		**Sn**	**11 08 03.7**	**-2.3**
KPC				*e*			11 08 31.0	
KPC				pmax	pmax			
	comp=Z,146nm,1.1s							
KPC				smax	smax			
	comp=E,978nm,1.2s							
KHNR	**Khani**	**6.13**	**72**	*e*Pn		**Pn**	**11 06 59.5**	**+2.5**
KHNR				*e*Pg		**Pb**	**11 07 16.6**	**+3.6**
KHNR				*e*			11 08 00.0	
KHNR				*e*Sg		**Sg**	**11 08 37.6**	**-4.7**
MOY	**Mondy**	**6.24**	**236**	*e*Pn		**Pn**	**11 06 58.9**	**+0.3**
MOY				max			11 07 04.6	
	comp=E,168nm,1.3s							
MOY				*e*Sn		**Sn**	**11 08 07.2**	**-3.3**
MOY				*e*Sg		**Sb**	**11 08 37.9**	**+7.9**
MOY				Smax			11 08 43.6	
	comp=E,1μm,1.5s							
MOY	**Mondy**	**6.24**	**236**	*e*PN		**Pn**	**11 06 59.8**	**+1.2**
MOY				*e*			11 07 19.3	
MOY				*e*S		**Sn**	**11 08 09.7**	**-0.8**
MOY				*e*			11 08 39.9	
MOY				pmax	pmax			
	comp=Z,86nm,0.5s							
MOY				smax	smax			
	comp=E,1μm,1.4s							
ZAK	**Zakamensk**	**6.26**	**218**	*e*Pn		**Pn**	**11 06 58.5**	**-0.3**
ZAK				*e*Pg		**Pb**	**11 07 19.1**	**+4.0**
ZAK				Pmax			11 07 28.2	
	comp=E,44nm,0.9s							
ZAK				*e*Sg		**Sb**	**11 08 37.7**	**+7.3**
ZAK				Smax			11 08 45.5	
	comp=E,615nm,1.3s							
ZAK	**Zakamensk**	**6.26**	**218**	*e*PN		**Pn**	**11 07 02.0**	**+3.2**
ZAK				*e*			11 08 37.7	
ZAK				pmax	pmax			
	comp=Z,41nm,0.5s							
ZAK				smax	smax			
	comp=E,616nm,1.2s							
ORL	**Orlik**	**6.32**	**246**	*e*Pn		**Pn**	**11 07 00.6**	**+0.9**
ORL				*e*			11 07 11.8	
ORL				*e*Sn		**Sn**	**11 08 10.6**	**-1.8**
ORL				*e*Sg		**Sg**	**11 08 43.0**	**-5.3**
ORL				Smax			11 08 46.4	
	comp=E,2μm,1.5s							
ORL				max				
	comp=E,128nm,1.2s							
ORL	**Orlik**	**6.32**	**246**	*e*PN		**Pn**	**11 07 00.9**	**+1.2**
ORL				*e*			11 07 20.1	
ORL				*e*S		**Sn**	**11 08 10.7**	**-1.7**
ORL				*e*			11 08 43.0	
ORL				pmax	pmax			
	comp=Z,141nm,0.9s							
ORL				smax	smax			
	comp=N,2μm,1.5s							
YKLR	**Yuktali**	**7.01**	**76**	*e*Sg		**Sg**	**11 09 04.7**	**-5.8**
SONA0	**Songino Array**	**7.85**	**195**	*e*Pn		**Pn**	**11 07 21.7**	**+1.0**
SONM	**Songino Array**	**7.85**	**195**	Pn		**Pn**	**11 07 21.7**	**+1.0**
	comp=N,1.8nm,0.3s,baz=10,slow=13,SNR=13							
SONM				Lg		Lg	11 09 32.3	
	comp=N,3.7nm,0.3s,baz=6.7,slow=27,SNR=11							
IENR	**Iengra**	**8.78**	**79**	*e*Sg		**Sg**	**11 10 00.6**	**-6.7**
HIA	**Hailar**	**8.90**	**130**	*e*Pn		**Pn**	**11 07 36.1**	**+1.2**
HIA				*e*Sn		**Sn**	**11 09 19.5**	**+3.9**
HIA	**Hailar**	**8.90**	**130**	*e*PN		**Pn**	**11 07 36.1**	**+1.2**
HIA				*e*			11 09 19.5	
ZEA	**Zeya**	**10.55**	**92**	*e*P		**Pn**	**11 07 57.8**	**+0.3**
ZEA				*e*			11 10 05.4	
ZEA				pmax	pmax			
	comp=E,21nm,0.8s							
ZEA				pmax	pmax			
	comp=Z,26nm,1.0s							
ZEA				MLR	MLR			
	comp=Z,1μm,9.0s							
ZEA				MLR	MLR			
	comp=E,1μm,7.0s							
ZAA1	**Zalesovo Array**	**14.22**	**274**	*e*Pn		**Pn**	**11 08 48.5**	**+0.9**
ZAA0	**Zalesovo Array**	**14.22**	**274**	*e*Pn		**Pn**	**11 08 47.9**	**+0.2**
ZALV	**Zalesovo Beam**	**14.22**	**274**	*e*Pn		**Pn**	**11 08 47.9**	**+0.2**
ZALV	**Zalesovo Beam**	**14.22**	**274**	Pn		**Pn**	**11 08 48.5**	**+0.9**
	comp=E,0.7nm,0.3s,baz=78,slow=10,SNR=43							
ZALV				Lg		Lg	11 12 52.3	
	comp=E,0.5nm,0.3s,baz=83,slow=24,SNR=8.7							
ZALV				LR		LR	11 14 35.6	
	comp=E,343nm,18.6s,baz=70,slow=39							
DGZ	**Jazzator, Alta**	**14.46**	**256**	⇓*e*P		**Pn**	**11 08 52.6**	**+1.4**
NVS	**Novosibirsk**	**14.89**	**278**	⇑*i*P		**Pn**	**11 08 57.5**	**+0.8**
KLR	**Kul'dur**	**15.03**	**105**	⇑*e*P		**Pn**	**11 09 00.0**	**+1.4**
KLR	**Kul'dur**	**15.03**	**105**	Pn		**Pn**	**11 08 58.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=300,slow=8.9,SNR=6.1							
KLR				Lg		Lg	11 13 18.0	
	comp=E,0.6nm,0.3s,baz=206,slow=20,SNR=9.2							
KLR				LR		LR	11 15 19.9	
	comp=E,234nm,19.6s,baz=301,slow=40							
CN2	**Changchun**	**15.62**	**132**	*e*P		**P**	**11 09 16.9**	**+6.1**
CN2				*e*pP		sP	11 09 20.3	+8.2
CN2				*e*S		S	11 13 16.1	+61
CN2				LR		LR		
	comp=N,460nm,13.0s							
CN2				LR		LR		
	comp=E,340nm,13.0s							
CN2				LR		LR		
	comp=Z,540nm,13.0s							
NRIK	**Noril'sk**	**17.02**	**333**	Pn		**Pn**	**11 09 18.8**	**-5.4**
	comp=Z,1.2nm,0.3s,baz=123,slow=12,SNR=7.1							
NRIK				Sn		**Sn**	**11 12 23.3**	**-10**
	comp=Z,1.4nm,0.3s,baz=148,slow=21,SNR=5.1							
GTA	**Gaotai**	**17.27**	**205**	*e*P		P	11 09 38.8	+10
GTA				pP		sP	11 09 42.3	+12
GTA				sP		pP	11 09 44.6	+14
GTA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
GTA				pmax	pmax			
	comp=Z,57nm,4.5s							
GTA				smax	smax			
	comp=N,4.0nm,1.4s							
GTA				smax	smax			
	comp=E,6.0nm,1.9s							
GTA				LR	LR			
	comp=N,200nm,12.4s							
GTA				LR	LR			
	comp=E,260nm,13.4s							
GTA				LR	LR			
	comp=Z,280nm,14.1s							
TIXI	**Tiksi**	**18.26**	**20**	⇑*e*P		**Pn**	**11 09 37.8**	**-1.8**
TIXI				pmax	pmax			
	comp=Z,11nm,0.6s							
TIXI	**Tiksi**	**18.26**	**20**	Pn		**Pn**	**11 09 37.1**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=223,slow=8.9,SNR=21							
TIXI				Sn		Sn	11 12 47.1	-16
	comp=Z,0.9nm,0.3s,baz=132,slow=9.3,SNR=5.0							
TIXI				Lg		Lg	11 15 00.6	
	comp=Z,0.6nm,0.3s,baz=300,slow=16,SNR=4.1							
TIXI				LR		LR	11 16 06.6	
	comp=Z,43nm,21.6s,baz=225,slow=35							
NKL	**Nikolayevsk**	**18.37**	**84**	*e*P		**P**	**11 09 43.0**	**+1.9**
NKL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**18.37**	**118**	P		**Pn**	**11 09 40.5**	**-0.6**
	baz=322,slow=12,SNR=2.4							
USRK				Lg		Lg	11 14 59.0	
	comp=Z,0.1nm,0.3s,baz=327,slow=27,SNR=4.5							
USRK				LR		LR	11 17 22.7	
	comp=Z,223nm,18.3s,baz=318,slow=39							
KURK	**Kurchatov**	**18.94**	**268**	*e*P		**P**	**11 09 46.4**	**-1.0**
	comp=Z,26nm,0.7s							
KURK	**Kurchatov**	**18.94**	**268**	*ce*P		**P**	**11 09 47.2**	**-0.2**
KURK				pmax	pmax			
	comp=Z,26nm,0.7s							
MK31	**Makanchi Array**	**18.94**	**254**	*e*P		**P**	**11 09 47.1**	**-0.5**
	comp=Z,6.2nm,0.8s							
MK31	**Makanchi Array**	**18.94**	**254**	*i* P		**P**	**11 09 47.2**	**-0.3**
MK31				pmax	pmax			
	comp=Z,11nm,0.9s							
MK32	**Makanchi Array**	**18.94**	**254**	*e*P		**P**	**11 09 46.8**	**-0.7**
MKAR	**Makanchi Array**	**18.94**	**254**	*ce*P		**P**	**11 09 47.5**	**0.0**
MKAR	**Makanchi Array**	**18.94**	**254**	P		**P**	**11 09 46.8**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=69,slow=11,SNR=57							
MKAR				Lg		Lg	11 15 22.7	
	baz=54,slow=23,SNR=6.7							
MKAR				LR		LR	11 17 20.1	
	comp=Z,342nm,21.4s,baz=40,slow=38							
MK01	**Makanchi Array**	**18.95**	**254**	*e*P		**P**	**11 09 47.0**	**-0.

	comp=Z,160nm,8.3s							
KSAR	**Wonju Array Be**	**21.98**	**137**	P		**P**	**11 10 19.6**	**-0.9**
KSAR	**Wonju Array Be**	**21.98**	**137**	P		**P**	**11 10 19.6**	**-0.9**
KSRS	**Korea Array**	**21.99**	**137**	P		**P**	**11 10 19.5**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=336,slow=10,SNR=2.9							
KSRS				LR		LR	11 17 49.3	
	comp=Z,39nm,21.9s,baz=345,slow=34							
BVA0	**Borovoye Array**	**22.67**	**280**	P		**P**	**11 10 27.1**	**-0.7**
BVA0				pmax		pmax		
	comp=Z,19nm,1.0s							
BVAR	**Borovoye Array**	**22.67**	**280**	P		**P**	**11 10 27.9**	**+0.2**
	comp=Z,14nm,0.7s,baz=67,slow=8.2,SNR=64							
BVAR				LR		LR	11 20 09.2	
	comp=Z,205nm,20.1s,baz=70,slow=39							
PDGK	**Podgornoye**	**22.69**	**250**	P		**P**	**11 10 28.1**	**-0.1**
PDGK				pmax		pmax		
	comp=Z,16nm,1.1s							
BRVK	**Borovoye**	**22.72**	**280**	*e*P		**P**	**11 10 28.2**	**-0.1**
	comp=Z,26nm,0.9s							
BRVK	**Borovoye**	**22.72**	**280**	*e*P		**P**	**11 10 28.2**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,26nm,0.9s							
SEY	**Seymchan**	**22.89**	**53**	⇑*i*P		**P**	**11 10 33.3**	**+3.3**
SEY	**Seymchan**	**22.89**	**53**	P		**P**	**11 10 31.2**	**+1.2**
	comp=Z,3.1nm,0.4s,baz=266,slow=9.6,SNR=10							
SEY				Lg		Lg	11 17 23.7	
	comp=Z,8.4nm,1.1s,baz=254,slow=17,SNR=5.5							
KDJ	**Kajisay**	**24.75**	**251**	*e*P		**P**	**11 10 50.2**	**+1.9**
	comp=Z,4.7nm,0.9s							
KDJ	**Kajisay**	**24.75**	**251**	*e*P		**P**	**11 10 50.2**	**+1.9**
KDJ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TKM2	**Tokmak 2**	**25.08**	**254**	P		**P**	**11 10 52.0**	**+0.7**
TKM2				pmax		pmax		
	comp=Z,12nm,1.0s							
AAK	**Ala-Archa**	**25.87**	**255**	*e*P		**P**	**11 10 59.8**	**+1.3**
AAK	**Ala-Archa**	**25.87**	**255**⇑	*e*P		**P**	**11 11 01.8**	**+3.4**
AAK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AAK	**Ala-Archa**	**25.87**	**255**	P		**P**	**11 10 59.4**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=156,slow=7.8,SNR=7.8							
AAK				LR		LR	11 21 40.3	
	comp=Z,282nm,19.5s,baz=31,slow=38							
SVE	**Sverdlovsk**	**26.70**	**293**	*e*P		**P**	**11 11 06.7**	**+1.1**
SVE				pmax		pmax		
	comp=Z,17nm,0.9s							
SVE				MLR		MLR		
	comp=Z,367nm,13.0s							
MJAR	**Matsushiro Arr**	**27.27**	**122**	LR		LR	11 22 24.2	
	comp=Z,118nm,19.2s,baz=350,slow=37							
KK31	**Karatay Array**	**27.78**	**260**	*e*P		**P**	**11 11 19.6**	**+4.1**
	comp=Z,7.2nm,0.8s							
KK31	**Karatay Array**	**27.78**	**260**	*e*P		**P**	**11 11 19.6**	**+4.1**
KK31				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KKAR	**Karatay Array**	**27.78**	**260**	*e*P		**P**	**11 11 20.0**	**+4.5**
	comp=Z,7.2nm,0.8s							
KKAR	**Karatay Array**	**27.78**	**260**	*e*P		**P**	**11 11 20.0**	**+4.5**
KKAR				pmax		pmax		
	comp=Z,7.0nm,0.8s							
PETK	**Petropavlovsk-**	**27.89**	**74**	LR		LR	11 22 47.2	
	comp=Z,214nm,20.1s,baz=308,slow=37							
ARU	**Arti**	**27.91**	**293**	*d*iP		**P**	**11 11 17.1**	**+0.6**
ARU							11 12 01.9	
ARU				S		**S**	**11 16 00.4**	**-0.1**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.1s							
ARU				MLR		MLR		
	comp=Z,314nm,13.0s							
BILL	**Bilibino**	**28.55**	**41**	*e*P		**P**	**11 11 23.0**	**+0.9**
BILL				*e*PPP		PPP	11 12 21.4	
BILL				pmax		pmax		
	comp=Z,2.0nm,0.8s							
BILL				MLR		MLR		
	comp=Z,124nm,20.0s							
ABKAR	**Akbulak array**	**30.23**	**279**	*e*P		**P**	**11 11 38.1**	**+0.9**
	comp=Z,3.4nm,1.1s							
KLMR	**Klimovskoe**	**35.60**	**308**	*e*P		**P**	**11 12 22.7**	**-1.1**
KLMR				pmax		pmax		
	comp=Z,12nm,1.3s							
KLMR	**Klimovskoe**	**35.60**	**308**	*e*P		**P**	**11 12 22.8**	**-1.1**
KLMR				AMP			11 12 42.5	
	comp=Z,12nm,1.3s							
ARA0	**ARCESS Array S**	**37.71**	**325**	*e*P		**P**	**11 12 41.5**	**-0.3**
ARCES	**ARCESS Array B**	**37.71**	**325**	P		**P**	**11 12 41.5**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=76,slow=9.6,SNR=5.5							
CMAR	**Chiang Mai Arr**	**37.77**	**196**	P		**P**	**11 12 43.2**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=178,slow=30,SNR=7.6							
GEYT	**Alibeck**	**38.24**	**265**	P		**P**	**11 12 47.1**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=47,slow=8.3,SNR=4.5							
GEYT				LR		LR	11 29 48.2	
	comp=Z,79nm,19.9s,baz=55,slow=38							
OBN	**Obninsk**	**39.66**	**301**	*e*P		**P**	**11 12 57.4**	**-0.8**
OBN				*e*			11 14 34.3	
OBN				pmax		pmax		
	comp=Z,12nm,0.4s							
OBN				MLR		MLR		
	comp=Z,250nm,16.0s							
VSR	**Storozhevoye**	**40.47**	**294**⇓	*e*P		**P**	**11 13 05.4**	**+0.3**
VSR				pmax		pmax		
	comp=Z,16nm,1.0s							
FIA1	**FINESS Array S**	**41.14**	**314**	*e*P		**P**	**11 13 11.0**	**+0.6**
FIA0	**FINESS Array S**	**41.14**	**314**	*e*P		**P**	**11 13 10.4**	**0.0**
FIA0	**FINESS Array S**	**41.14**	**314**	*e*P		**P**	**11 13 10.4**	**0.0**
FINES	**FINESS Array B**	**41.14**	**314**	P		**P**	**11 13 10.4**	**0.0**
	comp=Z,3.7nm,0.7s,baz=60,slow=9.1,SNR=8.6							
FINES				LR		LR	11 31 53.0	
	comp=Z,95nm,19.1s,baz=42,slow=38							
KBZ	**Khabaz**	**43.00**	**283**	LR		LR	11 33 45.1	
	comp=Z,81nm,18.6s,baz=48,slow=40							
NEY	**Neytrino**	**43.40**	**283**⇓	*i*P		**P**	**11 13 31.4**	**+2.1**
NEY				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**45.84**	**299**	P		**P**	**11 13 48.5**	**+0.1**
	comp=Z,4.0nm,0.6s,baz=46,slow=8.7,SNR=19							
AKASG				LR		LR	11 34 58.3	
	comp=Z,111nm,19.1s,baz=35,slow=39							
AK11	**Malin Array Si**	**45.88**	**299**	*e*P		**P**	**11 13 49.0**	**+0.2**
IL1	**Eielson Array**	**46.81**	**35**	*e*P		**P**	**11 13 56.9**	**+1.0**
ILAR	**Eielson Array**	**46.81**	**35**	P		**P**	**11 13 57.5**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=301,slow=6.7,SNR=31							
ILB	**Eielson Array**	**46.81**	**35**	*e*P		**P**	**11 13 57.0**	**+1.1**
	comp=Z,3.6nm,0.9s							
NOA	**NORSAR Array B**	**47.23**	**319**	LR		LR	11 35 19.3	
	comp=Z,30nm,20.6s,baz=25,slow=38							
GHO	**Glory Hole Cre**	**48.09**	**39**	*e*P		**P**	**11 14 06.8**	**+0.7**
	comp=Z,8.2nm,1.1s							
RIDG	**Independ'e Rid**	**48.16**	**35**	*e*P		**P**	**11 14 05.2**	**-1.4**
	comp=Z,2.4nm,0.8s							
INK	**Inuvik**	**48.21**	**26**	P		**P**	**11 14 07.2**	**+0.5**
	comp=Z,1.5nm,1.0s,baz=331,slow=9.3,SNR=6.0							
SML	**Sawmill**	**48.28**	**38**	*e*P		**P**	**11 14 06.0**	**-1.5**
	comp=Z,2.5nm,0.9s							
SML	**Sawmill**	**48.28**	**38**	*e*P		**P**	**11 14 06.0**	**-1.5**
SML				pmax		pmax		
	comp=Z,3.0nm,0.9s							
DOT	**Dot Lake**	**48.48**	**35**	*e*P		**P**	**11 14 08.5**	**-0.5**
	comp=Z,5.0nm,0.7s							
DAWY	**Dawson**	**49.66**	**33**	*e*P		**P**	**11 14 19.1**	**+1.0**
	comp=Z,1.2nm,0.7s							
BR101	**Keskin Array S**	**50.80**	**285**	*e*P		**P**	**11 14 27.9**	**+0.7**
BRTR	**Keskin Array B**	**50.81**	**285**	P		**P**	**11 14 27.9**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=66,slow=4.7,SNR=8.7							
BRTR				LR		LR	11 40 55.9	
	comp=Z,36nm,19.2s,baz=346,slow=42							
GERES	**GERESS Array B**	**54.53**	**306**	LR		LR	11 40 40.7	
	comp=Z,110nm,20.8s,baz=92,slow=39							
YKA	**Yellowknife Ar**	**57.48**	**22**	P		**P**	**11 15 15.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=332,slow=7.2,SNR=11							
YKB5	**Yellowknife Ar**	**57.48**	**22**	*e*P		**P**	**11 15 15.1**	**-0.2**
NVAR	**Mina Array Bea**	**78.04**	**36**	P		**P**	**11 17 24.9**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=324,slow=4.5,SNR=2.3							
WR1	**Warramunga Arr**	**78.07**	**156**	*e*P		**P**	**11 17 23.9**	**-1.4**
WRA	**Warramunga Ar**	**78.07**	**156**	P		**P**	**11 17 24.0**	**-1.4**
WRA	**Warramunga Arr**	**78.07**	**156**	P		**P**	**11 17 23.9**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=349,slow=6.2,SNR=17							
ASAR	**Alice Springs**	**81.56**	**157**	P		**P**	**11 17 43.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=356,slow=5.1,SNR=12							
TOA1	**Torodi Ar. Sit**	**88.97**	**292**	*e*P		**P**	**11 18 21.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**88.97**	**292**	P		**P**	**11 18 21.4**	**-0.3**
	comp=Z,0.4nm,0.9s,baz=19,slow=6.1,SNR=2.5							
TXAR	**Lajitas Array**	**90.95**	**28**	P		**P**	**11 18 29.7**	**-1.2**
	comp=Z,0.2nm,0.9s,baz=325,slow=4.4,SNR=2.3							

ISK ***22*** *11:40:29.0, 38.78N×43.18E, h11km±4km, ML2.0/5*

DDA ***22*** *11:40:30.1, 38.76N×43.19E, h7km±4km, ML2.7*

ISC 22 11:40:29.4±1.0, 38.75N±0.04×43.23E±0.04, h30km±9km, n10, σ0.961/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.20**	**142**	PG	**Pb**	**11 40 35.9**	**+0.2**
VANB				SG	**Sb**	**11 40 41.1**	**+1.1**
TVAN	**Van**	**0.26**	**148**	*i* P	**Pb**	**11 40 35.1**	**-1.5**
TVAN				*i* S	**Sb**	**11 40 41.5**	**+0.1**
TVAN				IAML_P			
	comp=Z,3μm,0.2s						
VMUR	**Van-Muradiye**	**0.36**	**48**	*i* P	**Pn**	**11 40 38.6**	**-0.1**
VMUR				*i* S	**Sb**	**11 40 44.0**	**+0.5**
VMUR				IAML_P			
	comp=Z,697nm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.40**	**279**	*i* P	**Pb**	**11 40 38.4**	**-0.1**
ADCV				*i* S	**Sb**	**11 40 44.5**	**-0.2**
ADCV				IAML_P			
	comp=Z,329nm,0.1s						
GEVA	**Gevas**	**0.46**	**198**	*i* P	**Pb**	**11 40 39.5**	**+0.2**
GEVA				*i* S	**Sb**	**11 40 46.2**	**+0.1**
GEVA				IAML_P			
	comp=Z,2μm,0.1s						
AKDM	**Akdamar-Van**	**0.47**	**205**	PG	**Pb**	**11 40 38.8**	**-0.6**
AKDM				SG	**Sb**	**11 40 46.1**	**-0.2**
CLDR	**Caldiran**	**0.66**	**53**	PG	**Pb**	**11 40 42.7**	**0.0**
CLDR				SG	**Sn**	**11 40 52.6**	**0.0**
TUTA	**Tutak**	**0.73**	**333**	*i* P	**Pb**	**11 40 43.4**	**-0.4**
TUTA				*i* S	**Sn**	**11 40 54.6**	**+0.4**
TUTA				IAML_P			
	comp=Z,8μm,0.2s						
AGRB	**Hanur-Agry**	**0.85**	**347**	PG	**Pb**	**11 40 45.0**	**-0.8**
GURO	**Guroymak-BITLI**	**0.96**	**259**	PG	**Pn**	**11 40 47.4**	**+0.4**

IDC 22 11:46:13.8±2.0, 7.12S×128.81E, h0km, mb3.6/1, mb1 3.9/3, mb1mx3.5/24, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=138.1km s-min=31.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.83**	**158**	Pn	Pn	11 49 30.9	-0.4
	0.5nm,0.3s,baz=340,slow=13,SNR=26						
WRA				Sn	Sn	11 51 52.7	-13
	2.0nm,0.3s,baz=333,slow=23,SNR=18						
ASAR	**Alice Springs**	**17.16**	**164**	P	Pn	11 50 15.6	+0.3
	0.3nm,0.3s,baz=338,slow=12,SNR=18						
ASAR				S	Sn	11 53 15.8	-11
	0.4nm,0.3s,baz=315,slow=16,SNR=6.0						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	11 57 13.0	0.0
	0.2nm,0.4s,baz=131,slow=7.5,SNR=7.8						

ISCJB ***22*** *11:53:04.9±0.3, 3.77N±0.03×126.67E±0.06, h100km, mb3.7/9, Error ellipse: s-maj=9.4km s-min=3.7km az=160.8*
NEIC ***22*** *11:53:08.2±0.9, 3.77N×126.72E, h119km±10km, mb4.1/2, Error ellipse: s-maj=17.7km s-min=7.8km az=78.0*
MAN ***22*** *11:53:08.7, 3.83N×126.11E, h72km, MS3.6*
IDC ***22*** *11:53:08.1±1.3, 3.77N×126.78E, h118km±14km, mb3.4/8, mb1 3.6/10, mb1mx3.3/38, mbtmp3.9/10, MS3.8/1, Ms1 3.8/1, ms1mx2.6/33, Error ellipse: s-maj=31.5km s-min=9.4km az=69.0*
DJA ***22*** *11:53:16.2±1.2, 3°N±9°×12°6E±°, h110km±11km, M4.5/6, mB5.3/2, mb4.8/6, MLv4.4/5, Mw(mB)4.7/2*

ISC 22 11:53:06.7±0.6, 3.73N±0.05×126.48E±0.08, h100km, n36, σ2.928/43, mb3.9/9, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.48**	**342**	*e*P	**Pn**	**11 53 45.5**	**-0.2**
DDMP				*e*S	**Sn**	**11 54 12.8**	**-2.7**
TNTI	**Ternate**	**3.06**	**163**	*e*Pn	**Pn**	**11 53 53.5**	**+0.2**
TNTI	**Ternate**	**3.06**	**163**	P	**Pn**	**11 53 55.0**	**+1.7**
TNTI				S	**Sn**	**11 54 31.1**	**+1.8**
MATI	**Mati**	**3.21**	**356**	*e*P	**Pn**	**11 53 55.8**	**+0.6**
MATI				*e*S	**Sn**	**11 54 33.4**	**+0.7**
SKMP	**Bagumbayan, Su**	**3.38**	**325**	*e*P	**Pn**	**11 53 58.1**	**+0.6**
SKMP				*e*S	**Sn**	**11 54 35.7**	**-1.2**
DAV	**Davao City (W)**	**3.44**	**345**	P	**Pn**	**11 54 02.3**	**+3.9**
	29nm,0.3s,baz=52,slow=12,SNR=3.2						
DAV				S	**Sn**	**11 54 42.2**	**+3.9**
	73nm,0.3s,baz=110,slow=22,SNR=8.4						
DMPH	**Davao City--Mi**	**3.47**	**344**	*e*P	Pn	11 54 11.4	+13
DMPH				*e*S	**Sn**	**11 54 44.8**	**+5.7**
KCP	**Kidapawan**	**3.54**	**337**⇓	*i*P	**Pn**	**11 54 02.7**	**+2.9**
KCP				*i* S	**Sn**	**11 54 41.9**	**+1.0**
CTBH	**Cotabato--PC H**	**4.12**	**327**⇓	*i*P	**Pn**	**11 54 10.7**	**+3.2**
IPIL	**Ipil**	**5.61**	**316**	*e*P	**Pn**	**11 54 27.8**	**+0.1**
IPIL				*e*S	**Sn**	**11 55 27.0**	**-3.8**
SANI	**Sanana**	**5.76**	**185**	P	**Pn**	**11 54 28.4**	**-1.4**
SANI				S	Sn	11 55 27.1	-7.4
LUWI	**Luwuk**	**6.02**	**218**	*e*Pn	**Pn**	**11 54 36.3**	**+3.1**
LUWI	**Luwuk**	**6.02**	**218**	P	**Pn**	**11 54 37.1**	**+3.9**
SIJI	**Sorong**	**6.61**	**134**	P	**Pn**	**11 54 39.5**	**-1.9**
	2.4nm,0.3s,baz=216,slow=23,SNR=8.5						
SIJI				S	**Sn**	**11 55 51.8**	**-3.5**
	baz=229,slow=19,SNR=3.0						
NLAI	**Namlea**	**6.95**	**175**	P	**Pn**	**11 54 45.9**	**0.0**
FAKI	**Fak Fak**	**8.76**	**139**	*e*Pn	**Pn**	**11 55 09.9**	**-0.7**
SPSI	**Sidrap Palu**	**10.17**	**221**	P	**Pn**	**11 55 31.1**	**+1.4**
	12nm,0.6s						
EDFI	**Ende, Flores**	**13.28**	**201**	P	**Pn**	**11 56 10.2**	**-1.3**
	14nm,0.6s						
SOEI	**Soe**	**13.57**	**189**	*e*Pn	**Pn**	**11 56 19.2**	**+3.9**
BATI	**Baumata**	**14.12**	**191**	P	**Pn**	**11 56 25.8**	**+3.5**
BATI	**Baumata**	**14.12**	**191**	P	**Pn**	**11 56 25.0**	**+2.6**
	7.0nm,0.3s,baz=272,slow=1.9,SNR=12						
PLAI	**Plampang**	**15.20**	**215**	P	**Pn**	**11 56 37.5**	**+1.5**
FITZ	**Fitzroy Crossi**	**21.70**	**182**	P	**P**	**11 57 48.6**	**-1.1**
	10nm,0.8s,baz=2.6,slow=7.8,SNR=21						
WR1	**Warramunga Arr**	**24.76**	**162**	*e*P	**P**	**11 58 19.0**	**-0.1**
	5.0nm,0.9s						
WRA	**Warramunga Ar**	**24.76**	**162**	P	**P**	**11 58 19.0**	**-0.1**
	3.8nm,0.7s,baz=342,slow=10.0,SNR=21						
ASAR	**Alice Springs**	**28.17**	**165**	P	**P**	**11 58 50.0**	**+0.1**
	0.3nm,0.6s,baz=344,slow=6.9,SNR=4.8						
JHJ	**Hachijo jima 2**	**31.78**	**22**	LR	LR	12 13 41.7	
	comp=Z,178nm,19.7s,baz=152,slow=39						
STKA	**Stephens Creek**	**38.21**	**159**	P	**P**	**12 00 17.7**	**+0.8**
	1.3nm,0.7s,baz=320,slow=17,SNR=2.4						
SONA0	**Songino Array**	**47.22**	**342**	*e*P	**P**	**12 01 29.9**	**+0.3**
SONM	**Songino Array**	**47.22**	**342**	P	**P**	**12 01 29.9**	**+0.2**
	0.6nm,0.4s,baz=151,slow=8.3,SNR=1.9						
PETK	**Petropavlovsk-**	**55.52**	**22**	P	**P**	**12 02 29.6**	**-1.8**
	1.4nm,0.7s,baz=214,slow=5.8,SNR=3.6						
PEA1	**Petropavlovsk-**	**55.53**	**22**	*e*P	**P**	**12 02 29.6**	**-1.8**
MK01	**Makanchi Array**	**57.40**	**325**	*e*P	**P**	**12 02 44.5**	**-0.3**
MK32	**Makanchi Array**	**57.42**	**325**	*e*P	**P**	**12 02 44.1**	**-0.8**
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**12 02 44.1**	**-0.8**
	0.2nm,0.4s,baz=113,slow=8.2,SNR=4.6						
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**12 05 30.1**	**-1.7**
	0.2nm,0.8s,baz=253,slow=4.5,SNR=4.0						

ISCJB ***22*** *12:01:22.3±0.7, 36.41N±0.08×137.1E±0.2, h277km±6km, mb2.5/2, Error ellipse: s-maj=22.4km s-min=11.8km az=21.0*
IDC ***22*** *12:01:22.6±0.9, 36.43N×137.01E, h263km±12km, mb2.5/2, mb1 2.9/4, mb1mx2.7/40, mbtmp3.5/4, Error ellipse: s-maj=35.6km s-min=20.2km az=74.0*
JMA ***22*** *12:01:23.7±0.2, 36.32N×137.16E, h270km±2km, M2.5*

ISC 22 12:01:23.0±1.0, 36.40N±0.09×137.1E±0.1, h272km±8km, n14, σ0.972/19, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.23**	**139**	P	**Pn**	**12 01 58.3**	**+0.3**
JGN				*e*S	**S**	**12 02 25.5**	**-0.1**
JKG	**Kaga**	**0.66**	**260**	P	**Pn**	**12 01 59.8**	**+1.0**
JYTA	**Yamagatataniai**	**0.86**	**202**	P	**Pn**	**12 01 59.9**	**+0.2**
JYTA				*e*S	**S**	**12 02 28.1**	**-0.7**
MAT	**Matsushiro**	**0.88**	**80**	P	**Pn**	**12 02 00.4**	**+0.6**
MAT				S	**S**	**12 02 29.0**	**+0.2**
MAT	**Matsushiro**	**0.88**	**80**	P	**Pn**	**12 02 00.4**	**+0.6**
MJAR	**Matsushiro Arr**	**0.88**	**80**	P	**Pn**	**12 02 00.8**	**+1.0**
	1.0nm,0.3s,baz=256,slow=6.3,SNR=66						
MJAR				S	**S**	**12 02 27.5**	**-1.3**
	0.0nm,0.3s,baz=273,slow=7.9,SNR=4.6						
JSZ	**Suzu**	**1.06**	**10**	P	**Pn**	**12 02 01.5**	**+0.9**
JYN	**Shimob**	**1.46**	**128**	P	**Pn**	**12 02 03.4**	**+0.2**
JWT	**Wachi**	**1.79**	**232**	P	**Pn**	**12 02 05.9**	**+0.3**
JIE	**Ise**	**2.03**	**190**	P	**Pn**	**12 02 08.1**	**+0.5**
JIE				*e*S	**S**	**12 02 42.3**	**-0.7**
ASAJ	**Asahikawa**	**8.77**	**27**	P	**Pn**	**12 03 25.2**	**-0.6**
	1.9nm,0.3s,baz=235,slow=12,SNR=14						
KLR	**Kul'dur**	**13.41**	**345**	P	**Pn**	**12 04 22.9**	**-0.2**
	0.2nm,0.3s,baz=180,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**41.54**	**302**	P	**P**	**12 08 43.7**	**-0.5**
	0.1nm,0.6s,baz=80,slow=8.6,SNR=2.2						
WRA	**Warramunga Arr**	**56.10**	**183**	P	**P**	**12 10 34.9**	**+0.5**
	0.1nm,0.3s,baz=360,slow=7.6,SNR=6.2						

SJA 22 12:02:16.3±0.6, 31.47S×69.36W, h110km±3km, ML3.3, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.34**	**170**	*i* P	Pn	12 02 33.5	+0.8
RTLS				*i* S	Sn	12 02 46.4	+1.5
AUSP	**Uspallata**	**0.76**	**182**	*i* P	Pn	12 02 36.7	+1.2
AUSP				*i* S	Sn	12 02 51.7	+1.8
RTLL	**Cerro Villicun**	**0.77**	**80**	*i* P	Pn	12 02 36.0	+0.7
RTLL				*i* S	Sn	12 02 50.9	+1.2
RTLL				IAML		12 02 51.0	
	comp=N,2μm,0.4s						
RTCV	**Cerro Valdivia**	**0.80**	**120**	*i* P	Pn	12 02 36.8	+1.1
RTCV				*i* S	Sn	12 02 51.3	+1.0
AMOG	**MOGNA**	**0.91**	**55**	*i* P	Pn	12 02 37.4	+0.7
ACCO	**Cerro Coronel**	**0.91**	**16**	*i* P	Pn	12 02 38.0	+1.0
CFA	**Coronel Fontan**	**0.97**	**98**	*i* P	Pn	12 02 37.9	+0.6
CFA				*i* S	Sn	12 02 54.2	+1.1
AROD	**Rodeo**	**1.30**	**356**	*i* P	Pn	12 02 42.5	+1.4
AROD				*i* S	Sn	12 03 02.0	+2.1
ACDV	**Cuesta del Vie**	**1.31**	**9**	*i* P	Pn	12 02 42.1	+1.0
ARCO	**CERRO ARCO**	**1.42**	**165**	*i* P	Pn	12 02 43.8	+1.4
ARCO				*i* S	Sn	12 03 03.0	+1.0
ARCO				IAML		12 03 06.1	
	comp=Z,276nm,0.6s						
ACAN	**Cantantal**	**2.02**	**114**	*i* P	Pn	12 02 50.4	+0.8
AGUA	**GUANDACOL**	**2.11**	**21**	*i* P	Pn	12 02 52.2	+1.3

MEX 22 12:13:39.2±0.6, 17.03N×95.14W, h126km±6km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.25**	**75**	*e*P	Pn	12 13 55.5	-1.2
CMIG				*i* S	Sn	12 14 07.6	-2.2
VHO	**Vista Hermosa**	**1.52**	**272**	*e*P	Pn	12 14 06.5	-1.0
VHO				*i* S	Sn	12 14 27.3	-1.7
HUIG	**Huatulco**	**1.56**	**217**	*e*P	Pn	12 14 05.9	-1.8
HUIG				*e*S	Sn	12 14 28.2	-1.2
PCIG		**2.27**	**125**	*e*P	Pn	12 14 14.5	-1.7
PCIG				*i* S	Sn	12 14 43.1	-1.5

NIED ***22*** *12:15:00, 47.20N×153.00E, h14km, Mw3.8 Best double couple: M0 6.11000×10^14 NP1:φs217.00000°, δ51.00000°, λ-169.00000°. NP2:φs120.00000°, δ82.00000°, λ-39.00000°.*
ISCJB ***22*** *12:15:12.4±0.4, 46.80N±0.05×153.08E±0.07, h52km, mb4.0/21, MS3.2/5, Error ellipse: s-maj=9.4km s-min=3.0km az=137.5*
SKHL ***22*** *12:15:12.7±0.6, 46.58N×153.44E, h73km±1km, mb4.7/7*
IDC ***22*** *12:15:14.7±0.6, 47.00N×152.88E, h52km±5km, mb3.7/21, mb1 3.9/24, mb1mx3.8/48, mbtmp4.0/24, MS3.1/8, Ms1 3.1/8, ms1mx2.9/30, Error ellipse: s-maj=15.8km s-min=11.2km az=144.0*
MOS ***22*** *12:15:16.3±1.2, 46.55N×153.41E, h89km, mb4.3/1, Error ellipse: s-maj=11.5km s-min=8.1km az=66.8*

ISC 22 12:15:14.1±0.6, 46.80N±0.07×153.06E±0.07, h52km, n90, σ1.981/109, mb4.0/21, MS3.3/5, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**249**	*i* P	**Pn**	**12 16 14.1**	**+2.1**
KUR				AMB	AMB	12 16 17.0	
	114nm,0.3s						
KUR				*e*S	**Sn**	**12 16 59.4**	**+2.5**
KUR				A	A	12 17 12.0	
	36nm,0.2s						
KUR				A	A	12 17 12.0	
	110nm,0.2s						
KUR	**Kuril'sk**	**3.94**	**249**	*d*iPN	**Pn**	**12 16 15.4**	**+3.4**
KUR				*e*S	**Sn

GRPR				pmax	pmax		
	comp=N,56nm,0.1s						
GRPR				pmax	pmax		
	comp=E,63nm,0.1s						
GRPR				smax	smax		
	comp=N,188nm,0.4s						
GRPR				smax	smax		
	comp=E,122nm,0.3s						
NEM2	**Nemuro 2**	**6.21**	**239**	P	**Pn**	12 16 42.9	-0.2
NEM2				*eS*	**Sn**	12 17 50.8	-1.9
JRA	**Rausu**	**6.28**	**246**	P	**Pn**	12 16 46.4	+2.4
JNK	**Nakash**	**6.71**	**244**	P	**Pn**	12 16 51.6	+1.6
JNK				*eS*	**Sn**	12 18 07.1	+2.1
PETK	**Petropavlovsk-**	**6.99**	**24**	P	**Pn**	12 16 53.6	-0.2
	comp=E,0.8nm,0.3s,baz=188,slow=14,SNR=14						
PETK				S	**Sn**	12 18 17.9	+6.1
	baz=173,slow=1.2,SNR=1.9						
JTKR	**Abashiri--Toko**	**7.03**	**250**	P	**Pn**	12 16 57.0	+2.6
JAK	**Akkeshi**	**7.05**	**240**	P	**Pn**	12 16 54.5	-0.1
JAK				*eS*	**Sn**	12 18 11.3	-2.0
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	*erx*	rx	12 16 55.6	
YSS	**Yuzh-Sakhalins**	**7.06**	**275**	PN	**Pn**	12 16 55.6	+0.8
PET	**Petropavlovsk**	**7.20**	**28**	*eS*	**Sn**	12 18 12.4	-4.6
PET				A	A	12 18 13.4	
	comp=E,64nm,0.5s						
PET				A	A	12 18 13.4	
	comp=E,29nm,0.5s						
JAR	**Ashorobuto**	**7.45**	**245**	P	**Pn**	12 17 02.0	+1.9
JAR				*eS*	**Sn**	12 18 25.3	+2.1
JOB	**Onbets**	**7.62**	**243**	P	**Pn**	12 17 03.2	+0.8
JOB				*eS*	**Sn**	12 18 26.8	-0.5
UGL	**Uglegorsk**	**7.73**	**291**	*eP*	Pn	12 17 07.1	+3.3
HRK	**Horoka**	**7.77**	**248**	*eP*	**Pn**	12 17 07.1	+2.6
JKA	**Kamikawa-asahi**	**7.83**	**254**	*eP*	**Pn**	12 17 08.9	+3.7
ASAJ	**Asahikawa**	**7.83**	**254**	P	**Pn**	12 17 08.8	+3.6
	comp=E,1.6nm,0.3s,baz=71,slow=16,SNR=14						
ASAJ				LR	LR	12 20 30.9	
	comp=E,23nm,18.2s,baz=307,slow=41						
JKK2	**Kamakawa 2**	**7.83**	**252**	P	**Pn**	12 17 08.4	+3.1
TYV	**Tymovskoe**	**7.98**	**304**	*eP*	**Pn**	12 17 09.5	+2.2
JCH	**Churui**	**8.07**	**242**	P	**Pn**	12 17 08.7	+0.1
JCH				*eS*	**Sn**	12 18 35.5	-2.9
MYR	**Moyori**	**8.30**	**241**	*eP*	**Pn**	12 17 11.6	-0.2
JBT2	**Biratori 2**	**8.60**	**246**	P	**Pn**	12 17 16.7	+0.9
JBT2				*eS*	**Sn**	12 18 52.3	+0.9
JKB	**Kayabe**	**9.91**	**245**	P	**Pn**	12 17 33.3	-0.5
JKB				*eS*	**Sn**	12 19 19.2	-4.3
NKL	**Nikolayevsk**	**10.19**	**313**	*eP*	**Pn**	12 17 39.5	+2.0
NKL				AMB	AMB	12 17 41.7	
	comp=E,28nm,1.0s						
NKL	**Nikolayevsk**	**10.19**	**313**	*e*PN	**Pn**	**12 17 39.0**	**+1.5**
NKL				pmax	pmax		
	comp=Z,28nm,1.1s						
JANG	**Nango**	**10.54**	**237**	P	**Pn**	12 17 39.5	-3.0
JANG				*eS*	Sn	12 19 29.0	-10
EKMR	**Ekimchan**	**14.37**	**303**	*eP*	**P**	12 18 37.0	-3.1
EKMR				AMB	AMB	12 18 50.9	
	comp=E,4.0nm,0.7s						
KLR	**Kul'dur**	**14.46**	**287**	P	**P**	**12 18 39.4**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=84,slow=12,SNR=3.0						
USRK	**Ussuriysk Ar.**	**15.00**	**268**	P	**Pn**	**12 18 43.5**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=70,slow=14,SNR=7.9						
USRK				LR	LR	12 24 01.9	
	comp=Z,92nm,21.4s,baz=20,slow=35						
MJAR	**Matsushiro Arr**	**15.08**	**233**	P	**Pn**	**12 18 44.6**	**+0.8**
	comp=Z,0.0nm,0.3s,baz=34,slow=8.9,SNR=3.2						
MJAR				LR	LR	12 24 33.7	
	comp=Z,43nm,19.5s,baz=125,slow=37						
SEY	**Seymchan**	**16.18**	**359**	P	**P**	**12 18 59.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=187,slow=13,SNR=10						
BMKR	**Bomnak**	**17.18**	**306**	*eP*	**P**	**12 19 11.0**	**-0.3**
KROS	**Kirovskiy**	**18.15**	**304**	*eP*	**P**	**12 19 22.2**	**+0.2**
KROS				AMB	AMB	12 19 24.2	
	comp=Z,4.0nm,0.4s						
KSRS	**Korea Array**	**20.77**	**252**	P	**P**	**12 19 51.9**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=54,slow=11,SNR=7.2						
KSRS				LR	LR	12 27 16.0	
	comp=Z,24nm,18.1s,baz=75,slow=35						
BILL	**Bilibino**	**22.36**	**13**	*eP*	**P**	**12 20 07.9**	**+0.6**
BILL	**Bilibino**	**22.36**	**13**	*eP*	**P**	**12 20 07.9**	**+0.6**
TIK	**Tiksi**	**27.40**	**344**	*eP*	**P**	**12 20 51.9**	**-2.3**
TIXI	**Tiksi**	**27.41**	**344**	P	**P**	**12 20 51.9**	**-2.4**
	comp=Z,1.5nm,0.3s,baz=115,slow=4.0,SNR=6.4						
H11N2	**WAKE ISLAND Hy**	**29.28**	**153**	T	T	12 52 35.6	
	baz=340,slow=76,SNR=1213						
H11N1	**WAKE ISLAND Hy**	**29.29**	**153**	T	T	12 52 36.0	
	baz=340,slow=76,SNR=639						
H11N3	**WAKE ISLAND Hy**	**29.30**	**153**	T	T	12 52 36.8	
	baz=340,slow=76,SNR=600						
H11S1	**WAKE ISLAND Hy**	**30.37**	**154**	T	T	12 53 55.2	
	baz=341,slow=76,SNR=1486						
H11S3	**WAKE ISLAND Hy**	**30.38**	**154**	T	T	12 54 07.1	
	baz=341,slow=76,SNR=984						
H11S2	**WAKE ISLAND Hy**	**30.38**	**154**	T	T	12 53 54.7	
	baz=341,slow=76,SNR=767						
ILAR	**Eielson Array**	**36.54**	**39**	P	**P**	**12 22 14.2**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=260,slow=8.2,SNR=15						
ILAR				pP	**pP**	**12 22 26.9**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=253,slow=7.8,SNR=4.9						
NRIK	**Noril'sk**	**38.70**	**329**	LR	LR	12 40 07.1	
	comp=Z,46nm,18.8s,baz=64,slow=39						
INK	**Inuvik**	**41.63**	**32**	*eP*	**P**	**12 22 57.0**	**+0.3**
INK	**Inuvik**	**41.63**	**32**	P	**P**	**12 22 57.0**	**+0.3**
INK	**Inuvik**	**41.63**	**32**	P	**P**	**12 22 57.0**	**+0.3**
	comp=Z,1.0nm,0.5s,baz=293,slow=7.2,SNR=8.6						
INK				pP	**pP**	**12 23 10.6**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=296,slow=9.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**42.55**	**306**	P	**P**	**12 23 01.3**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=54,slow=6.9,SNR=2.2						
ZALV				PcP	**PcP**	**12 24 56.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=20,slow=1.7,SNR=3.5						
ZALV				LR	LR	12 41 06.8	
	comp=Z,47nm,18.9s,baz=70,slow=37						
MKAR	**Makanchi Array**	**46.88**	**297**	P	**P**	**12 23 37.9**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=66,slow=6.7,SNR=5.4						
KURK	**Kurchatov**	**47.31**	**304**	*eP*	**P**	**12 23 41.7**	**-0.5**
KURK	**Kurchatov**	**47.31**	**304**	P	**P**	**12 23 41.7**	**-0.5**
KURK						12 25 12.5	
KURBB	**Kurchatov Arra**	**47.40**	**303**	P	**P**	**12 23 41.7**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=71,slow=8.4,SNR=4.1						
KURBB				pP	**pP**	**12 23 55.9**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=71,slow=7.3,SNR=1.7						
KURBB				PcP	**PcP**	**12 25 12.5**	**-0.2**
	comp=Z,0.8nm,1.0s,baz=60,slow=4.8,SNR=3.4						
BVAR	**Borovoye Array**	**50.80**	**309**	PcP	**PcP**	**12 25 25.4**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=101,slow=2.9,SNR=3.1						
YKA	**Yellowknife Ar**	**50.91**	**37**	P	**P**	**12 24 10.2**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=296,slow=7.2,SNR=14						
YKA				pP	**pP**	**12 24 23.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=298,slow=7.3,SNR=11						
YKA				PcP	**PcP**	**12 25 25.8**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=310,slow=3.9,SNR=2.9						
CMAR	**Chiang Mai Arr**	**52.34**	**256**	P	**P**	**12 24 22.1**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=37,slow=7.2,SNR=9.1						
SPITS	**Spitsbergen Ar**	**52.56**	**350**	P	**P**	**12 24 20.8**	**-0.9**
	comp=Z,9.8nm,1.1s,baz=40,slow=14,SNR=3.0						
JIRN	**Jiri**	**54.90**	**274**	*eP*	**P**	**12 24 40.4**	**+0.5**
	comp=Z,1.6nm,0.5s						
GUN	**Gumba**	**54.96**	**275**	*eP*	**P**	**12 24 40.7**	**+0.4**
RAMN	**Ramite**	**55.07**	**274**	*eP*	**P**	**12 24 41.4**	**+0.4**
	comp=Z,21nm,0.8s						
KKN	**Kakani**	**55.44**	**275**	*eP*	**P**	**12 24 44.7**	**+1.0**
PKI	**Pulchoki**	**55.49**	**275**	*eP*	**P**	**12 24 44.3**	**+0.1**
	comp=Z,10nm,0.8s						
DANN	**Dangsing**	**56.13**	**277**	*eP*	**P**	**12 24 49.5**	**+0.9**
KOLN	**Koldanda**	**56.60**	**276**	*eP*	**P**	**12 24 52.7**	**+0.8**
	comp=Z,9.0nm,0.8s						
PYUN	**Piuthan**	**56.81**	**277**	*eP*	**P**	**12 24 53.9**	**+0.5**
ARCES	**ARCESS Array B**	**57.80**	**341**	P	**P**	**12 24 58.8**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=27,slow=8.1,SNR=2.9						
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**12 25 33.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=294,slow=7.6,SNR=3.3						
NVAR				LR	LR	12 53 27.4	
	comp=Z,36nm,18.0s,baz=258,slow=37						
FINES	**FINESS Array B**	**63.98**	**335**	*eP*	**P**	**12 25 40.0**	**-1.5**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**12 25 40.0**	**-1.5**
FINES	**FINESS Array B**	**63.98**	**335**	P	**P**	**12 25 40.0**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=37,slow=8.0,SNR=12						
PDAR	**Pinedale Array**	**64.75**	**54**	P	**P**	**12 25 46.5**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=281,slow=2.0,SNR=7.3						
OBN	**Obninsk**	**65.25**	**326**	*eP*	**P**	**12 25 46.5**	**-3.4**
OBN	**Obninsk**	**65.25**	**326**	*eP*	**P**	**12 25 46.5**	**-3.4**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NB2	**NORSAR Subarra**	**68.17**	**341**	P	**P**	**12 26 07.0**	**-1.5**
	comp=Z,1.7nm,0.7s,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.17**	**341**	P	**P**	**12 26 07.6**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=27,slow=6.3,SNR=7.9						
NOA				LR	LR	12 59 33.4	
	comp=Z,13nm,20.1s,baz=240,slow=39						
WRA	**Warramunga Arr**	**68.54**	**199**	P	**P**	**12 26 11.8**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=9.9,slow=6.6,SNR=5.0						
KBZ	**Khabaz**	**70.80**	**314**	P	**P**	**12 26 24.9**	**0.0**
	comp=Z,2.1nm,0.7s,baz=76,slow=4.2,SNR=4.3						
AKASG	**Malin Array Be**	**71.49**	**326**	P	**P**	**12 26 27.8**	**-1.2**
	comp=Z,2.3nm,0.4s,baz=34,slow=6.2,SNR=8.0						
ASAR	**Alice Springs**	**72.24**	**198**	P	**P**	**12 26 35.2**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=9.6,slow=5.5,SNR=13						
ASAR				pP	**pP**	**12 26 49.5**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=9.0,slow=5.4,SNR=4.9						
TXAR	**Lajitas Array**	**77.50**	**61**	P	**P**	**12 27 04.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=300,slow=4.8,SNR=22						
TXAR				pP	**pP**	**12 27 19.0**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=299,slow=4.1,SNR=11						
GERES	**GERESS Array B**	**78.40**	**334**	P	**P**	**12 27 07.8**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=109,slow=2.4,SNR=2.6						

IDC 22 12:15:32.8±4.7, 4.87S×103.10E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/43, mbtmp3.2/3, Error ellipse: s-maj=188.9km s-min=28.7km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.54**	**350**	P	P	12 20 45.4	+0.4
	0.6nm,0.5s,baz=182,slow=8.3,SNR=6.0						
H08S2	**Diego Garcia H**	**30.55**	**263**	T	T	12 52 23.5	
	baz=87,slow=76,SNR=108						
H08S3	**Diego Garcia H**	**30.55**	**263**	T	T	12 52 24.0	
	baz=87,slow=76,SNR=122						
H08S1	**Diego Garcia H**	**30.56**	**263**	T	T	12 52 25.2	
	baz=87,slow=76,SNR=145						
WRA	**Warramunga Arr**	**33.89**	**119**	P	P	12 22 17.7	0.0
	0.3nm,0.9s,baz=292,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**35.08**	**125**	P	P	12 22 28.4	+0.4
	0.3nm,0.9s,baz=308,slow=8.4,SNR=3.8						
TXAR	**Lajitas Array**	**144.88**	**43**	PKP	PKPab	12 35 10.6	-1.2
	0.2nm,0.5s,baz=222,slow=1.2,SNR=3.0						

SJA 22 12:39:57.9±0.5, 31.08S×70.99W, h15km±3km, ML2.3, MW3.6
ISCJB 22 12:39:59.1±1.3, 31.03S±0.04×71.2W±0.1, h81km±9km, Error ellipse: s-maj=14.7km s-min=6.4km az=14.9
GUC 22 12:39:59.2±0.7, 31.03S×70.76W, h73km±9km, ML2.6
ISC 22 12:40:00.4±2.0, 31.04S±0.05×71.17W±0.10, h74km±13km, n13, σ0s59/20, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.19**	**133**	*eP*	**Pn**	**12 40 11.6**	**0.0**
CMCH				*i* S	**Sn**	**12 40 20.0**	**+0.2**
GO04	**Tololo Observa**	**0.92**	**20**	*eP*	**Pn**	**12 40 17.8**	**-0.6**
GO04				*i* S	**Sn**	**12 40 31.4**	**-0.4**
AROD	**Rodeo**	**1.70**	**60**	*i* P	**Pn**	**12 40 28.3**	**-0.1**
AROD				*i* S	**Sn**	**12 40 51.0**	**+1.4**
RTLS	**Leoncito**	**1.77**	**116**	*i* P	**Pn**	**12 40 28.9**	**-0.4**
RTLS				*i* S	**Sn**	**12 40 51.1**	**-0.1**
RTLS				IAML		12 40 51.6	
	comp=Z,35nm,0.3s						
ACCO	**Cerro Coronel**	**1.86**	**77**	*i* P	**Pn**	**12 40 30.2**	**-0.4**
ACCO				*i* S	**Sn**	**12 40 54.4**	**+0.8**
AUSP	**Uspallata**	**1.92**	**128**	*i* P	**Pn**	**12 40 31.1**	**-0.3**
ROCH	**El Roble**	**1.93**	**176**	*eP*	**Pn**	**12 40 31.6**	**+0.2**
ROCH				IAML		12 41 00.7	
	comp=N,97nm,0.3s						
ACDV	**Cuesta del Vie**	**1.97**	**64**	*i* P	**Pn**	**12 40 31.4**	**-0.4**
PEL	**Peldehue**	**2.14**	**169**	*eP*	**Pn**	**12 40 33.8**	**-0.2**
PEL				*i* S	**Sn**	**12 41 00.0**	**+0.3**
PEL				IAML		12 41 06.3	
	comp=N,39nm,0.4s						
AMOG	**MOGNA**	**2.30**	**88**	*i* P	**Pn**	**12 40 35.2**	**-1.0**
RTCV	**Cerro Valdivia**	**2.39**	**111**	*i* P	**Pn**	**12 40 36.8**	**-0.6**
FCH	**Farellones**	**2.40**	**162**	*eP*	**Pn**	**12 40 37.6**	**-0.2**
FCH				*i* S	**Sn**	**12 41 06.5**	**+0.1**
FCH				IAML		12 41 10.5	
	comp=E,33nm,0.2s						
AGUA	**GUANDACOL**	**2.79**	**57**	*i* P	**Pn**	**12 40 43.3**	**+0.4**

IDC 22 12:42:28.3±2.2, 0.47S×128.11E, h0km, mb2.9/3, mb1 3.2/3, mb1mx3.1/26, mbtmp3.0/3, Error ellipse: s-maj=167.2km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.30**	**163**	P	P	12 47 05.6	-0.3
	0.9nm,1.1s,baz=342,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**23.74**	**167**	P	P	12 47 42.6	+0.3
	0.2nm,0.5s,baz=346,slow=12,SNR=7.9						
MKAR	**Makanchi Array**	**61.77**	**326**	P	P	12 52 48.8	-0.1
	0.1nm,0.5s,baz=109,slow=8.2,SNR=3.3						

MAN 22 13:05:23.2, 5.81N×125.95E, h100km, MS3.5, Mindanao

ISCJB 22 13:08:33.5±0.6, 33.74N±0.08×136.9E±0.1, h379km±4km, mb3.0/6, Error ellipse: s-maj=14.3km s-min=12.2km az=34.3
IDC 22 13:08:33.8±1.0, 33.68N×136.98E, h365km±12km, mb2.8/6, mb1 3.0/10, mb1mx2.8/45, mbtmp3.6/10, Error ellipse: s-maj=23.7km s-min=13.5km az=75.0
JMA 22 13:08:34.1±0.4, 33.76N×136.91E, h377km±3km, M2.7
ISC 22 13:08:34.5±0.9, 33.77N±0.09×136.9E±0.1, h372km±6km, n23, σ0s65/28, mb3.0/6, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.43**	**78**	P	**Pn**	**13 09 21.8**	**+0.9**
TTO4	**TONANKAI O.B.S**	**0.59**	**66**	P	**Pn**	**13 09 21.3**	**+0.3**
JIE	**Ise**	**0.63**	**346**	P	**Pn**	**13 09 22.0**	**+0.6**
JIE				S	**S**	**13 09 59.0**	**-0.3**
TK02	**Tokai 2**	**0.74**	**76**	P	**Pn**	**13 09 22.5**	**+1.0**
JTNC	**Tanabenakahech**	**1.06**	**273**	S	**S**	**13 10 01.2**	**-0.6**
JWY	**Kouya**	**1.16**	**293**	P	**Pn**	**13 09 23.9**	**+0.6**
JWY				S	**S**	**13 10 02.1**	**-0.5**
JYTA	**Yamagatataniai**	**1.82**	**356**	P	**Pn**	**13 09 27.4**	**+0.8**
JWT	**Wachi**	**1.94**	**321**	P	**Pn**	**13 09 27.9**	**+0.5**
JWT				S	**S**	**13 10 09.2**	**-0.9**
JYN	**Shimob**	**2.20**	**38**	P	**Pn**	**13 09 29.4**	**+0.2**
JOD2	**Odawara 2**	**2.35**	**50**	P	**Pn**	**13 09 30.5**	**+0.2**
JRY	**Ryogami san**	**2.78**	**36**	P	**Pn**	**13 09 34.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.97**	**21**	P	**Pn**	**13 09 35.0**	**-0.1**
	0.7nm,0.3s,baz=203,slow=11,SNR=44						
MJAR				S	**S**	**13 10 23.5**	**-0.7**
	baz=173,slow=18,SNR=2.8						
MAT	**Matsushiro**	**2.97**	**21**	P	**Pn**	**13 09 35.2**	**+0.1**
MAT				S	**S**	**13 10 24.3**	**+0.1**
MAT	**Matsushiro**	**2.97**	**21**	P	**Pn**	**13 09 35.3**	**+0.1**
KSRS	**Korea Array**	**8.17**	**299**	P	**P**	**13 10 32.1**	**-0.4**
	0.3nm,0.3s,baz=116,slow=12,SNR=7.8						
USRK	**Ussuriysk Ar.**	**11.08**	**341**	P	**Pn**	**13 11 05.3**	**+0.3**
	0.7nm,0.3s,baz=149,slow=11,SNR=10						
KLR	**Kul'dur**	**15.91**	**348**	P	**P**	**13 11 56.8**	**-0.9**
	0.1nm,0.3s,baz=181,slow=10,SNR=4.1						
MKAR	**Makanchi Array**	**42.81**	**305**	P	**P**	**13 15 58.1**	**+0.9**
	0.1nm,0.4s,baz=92,slow=8.4,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.18**	**310**	P	**P**	**13 16 16.1**	**+0.5**
	0.3nm,0.7s,baz=89,slow=6.5,SNR=3.3						
WRA	**Warramunga Arr**	**53.47**	**183**	P	**P**	**13 17 17.1**	**-0.9**
	1.1nm,0.3s,baz=360,slow=7.6,SNR=59						
ASAR	**Alice Springs**	**57.19**	**183**	P	**P**	**13 17 43.3**	**-0.9**
	0.4nm,0.6s,baz=12,slow=13,SNR=17						
YKA	**Yellowknife Ar**	**68.45**	**28**	P	**P**	**13 18 57.6**	**+0.6**
	0.1nm,0.3s,baz=304,slow=5.9,SNR=2.7						
FINES	**FINESS Array B**	**69.94**	**331**	P	**P**	**13 19 06.4**	**+0.3**
	0.5nm,0.5s,baz=66,slow=11,SNR=4.2						

ISCJB 22 13:24:07.8±0.6, 40.70N±0.04×41.31E±0.05, h8km±12km, Error ellipse: s-maj=7.4km s-min=4.4km az=140.3
DDA 22 13:24:07.7, 40.72N×41.32E, h7km±3km, ML2.6
ISK 22 13:24:07.0, 40.71N×41.33E, h25km, ML2.1/4
ISC 22 13:24:07.4±2.2, 40.70N±0.04×41.33E±0.04, h13km±22km, n10, σ0s42/15, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDEM	**Demirkent**	**0.38**	**59**	*i* P	**Pb**	**13 24 15.4**	**-0.7**
DDEM				IAML_P			
	comp=Z,4μm,0.1s						
DBAD	**Bademkaya**	**0.43**	**41**	*i* P	**Pb**	**13 24 17.2**	**+0.3**
DBAD				*i* S	**Sb**	**13 24 22.8**	**-0.5**
KRIK	**Erzurum-spir**	**0.47**	**221**	*i* P	**Pb**	**13 24 17.7**	**0.0**
KRIK				*i* S	**Sb**	**13 24 24.4**	**-0.2**
DAGI	**Agillar**	**0.59**	**49**	*i* P	**Pb**	**13 24 19.8**	**+0.1**
DAGI				*i* S	**Sb**	**13 24 27.9**	**-0.1**
DAGI				IAML_P			
	comp=Z,535nm,0.1s						
CHOM	**Cayeli-Rize**	**0.59**	**313**	PG	**Pb**	**13 24 19.4**	**-0.2**
CHOM				SG	**Sb**	**13 24 28.3**	**+0.4**
DBOC	**Borcka**	**0.70**	**22**	*i* P	**Pb**	**13 24 21.2**	**-0.3**
DBOC				IAML_P			
	comp=Z,2μm,0.1s						
BCA	**Borcka**	**0.78**	**17**	PG	**Pb**	**13 24 22.6**	**-0.3**
HOMI	**Horasan**	**0.79**	**146**	*i* P	**Pn**	**13 24 24.9**	**+0.4**
HOMI				IAML_P			
	comp=Z,350nm,0.2s						
KOPR	**Koprukoy-ERZUR**	**0.81**	**150**	PG	**Pb**	**13 24 23.3**	**-0.2**
BAYT	**Aydintepe-Bayb**	**0.95**	**252**	PG	**Pb**	**13 24 25.3**	**-0.6**
BAYT				SG	**Sg**	**13 24 38.5**	**+0.2**

NIED 22 13:28:00, 38.40N×144.60E, h5km, Mw3.8 Best double couple: M0 5.51000×10^14 NP1:φ=25.00000°, δ=24.00000°, λ=-93.00000°. NP2:φ=209.00000°, δ=66.00000°, λ=-89.00000°.
IDC 22 13:28:47.8±0.7, 38.30N×144.91E, h0km, mb3.7/11, mb1 3.9/15, mb1mx3.8/36, mbtmp3.7/15, ML3.5/3, MS2.8/4, Ms1 2.8/4, ms1mx2.5/54, Error ellipse: s-maj=20.7km s-min=15.9km az=115.0
ISCJB 22 13:28:51.3±0.5, 38.48N±0.03×144.65E±0.04, h35km, mb3.7/11, MS3.5/1, Error ellipse: s-maj=5.2km s-min=4.3km az=146.8
JMA 22 13:28:51.9±0.2, 38.40N×144.59E, h44km, M4.1
ISC 22 13:28:53.1±0.7, 38.45N±0.05×144.67E±0.07, h35km, n37, σ1s71/49, mb3.6/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.43**	**286**	P	**Pn**	**13 29 29.9**	**-0.4**
MIYJ	**Miyakonagasawa**	**2.49**	**298**	P	**Pn**	**13 29 30.6**	**-0.6**
MIYJ				S	**Sn**	**13 29 59.0**	**-1.3**
JIKH	**Ishinomakikobu**	**2.52**	**268**	P	**Pn**	**13 29 30.7**	**-0.9**
JIKH				S	**Sn**	**13 29 59.3**	**-1.8**
JKMT	**Kesennumamotoy**	**2.53**	**279**	P	**Pn**	**13 29 31.2**	**-0.5**
JKMT				*eS*	**Sn**	**13 29 59.9**	**-1.4**
JMK	**Ichinoseki**	**2.75**	**282**	P	**Pn**	**13 29 34.5**	**-0.2**
JMK				*eS*	**Sn**	**13 30 06.3**	**-0.3**
JOM	**Ohasama**	**2.83**	**292**	P	**Pn**	**13 29 35.7**	**-0.1**
JOM				*eS*	**Sn**	**13 30 08.5**	**-0.1**
JANG	**Nango**	**3.11**	**309**	P	**Pn**	**13 29 39.3**	**-0.4**
JANG				*eS*	**Sn**	**13 30 14.4**	**-1.2**
JYK	**Kaneyama**	**3.41**	**279**	P	**Pn**	**13 29 44.0**	**+0.3**
JYK				*eS*	**Sn**	**13 30 23.1**	**+0.2**
JFT	**Otama**	**3.55**	**256**	P	**Pn**	**13 29 46.0**	**+0.3**
JFT				S	**Sn**	**13 30 25.7**	**-0.7**
JOT	**Ohata**	**4.04**	**318**	*eS*	**Sn**	**13 30 36.7**	**-1.9**
JCH	**Churui**	**4.28**	**347**	P	**Pn**	**13 29 55.2**	**-0.5**
JCH				*eS*	**Sn**	**13 30 42.1**	**-2.3**
NEM2	**Nemuro 2**	**4.98**	**9**	P	**Pn**	**13 30 03.8**	**-1.5**
NEM2				*eS*	**Sn**	**13 30 55.8**	**-5.8**
JRY	**Ryogami san**	**5.20**	**244**	P	**Pn**	**13 30 07.5**	**-1.0**
JRY				S	**Sn**	**13 31 03.9**	**-3.4**
MJAR	**Matsushiro Arr**	**5.48**	**252**	Pn	**Pn**	**13 30 13.0**	**+0.8**
	0.2nm,0.3s,baz=89,slow=16,SNR=12						
MJAR				Sn	**Sn**	**13 31 14.6**	**+0.5**
	0.3nm,0.3s,baz=112,slow=31,SNR=4.1						
MJAR				LR	LR	13 33 08.5	
	comp=Z,34nm,18.6s,baz=125,slow=47						
MAT	**Matsushiro**	**5.48**	**252**	P	**Pn**	**13 30 12.9**	**+0.6**

KRSC 22 13:46:56.6±10.0, 50°.31N×156°.77E, h107km±10km, ML3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.56**	**312**	*eP*	Pn	13 47 14.2	+0.7
SKR				*eS*	Sn	13 47 27.0	+0.8
PAU	**Pauzhetka**	**1.16**	**1**	*eP*	Pn	13 47 20.5	+1.3
PAU				*eS*	Sn	13 47 38.6	+2.3
KDTR	**Khodutka, Kamc**	**1.71**	**28**	*eP*	Pn	13 47 27.0	+1.3
KDTR				*eS*	Sn	13 47 49.7	+1.8
ASAK	**Asacha**	**2.19**	**18**	*eP*	Pn	13 47 34.0	+2.1
MTVR	**Mutnovka**	**2.35**	**22**	*eP*	Pn	13 47 35.9	+1.9
MTVR				*eS*	Sn	13 48 04.6	+2.0
RUS	**Russkaya**	**2.39**	**26**	*eP*	Pn	13 47 35.3	+1.0
RUS				*eS*	Sn	13 48 05.1	+1.8
APC	**Apacha**	**2.63**	**5**	*eP*	Pn	13 47 38.6	+1.1
KRMR	**Karymshinskiy**	**2.66**	**18**	*eP*	Pn	13 47 39.8	+1.9
DALK	**Dalny**	**2.99**	**24**	*eP*	Pn	13 47 43.9	+1.7
DALK				*eS*	Sn	13 48 18.5	+1.0
UGLR	**Uglovaya**	**3.17**	**23**	*eP*	Pn	13 47 47.1	+2.3
AVH	**Avacha**	**3.20**	**22**	*eP*	Pn	13 47 47.6	+2.5
KOK	**Koryaka**	**3.20**	**20**	*eP*	Pn	13 47 48.0	+2.8
SMAR	**Somma**	**3.21**	**22**	*eP*	Pn	13 47 47.4	+2.0
KRER	**Koryakskii**	**3.24**	**21**	*eP*	Pn	13 47 48.0	+2.2
SDLR	**Sedlovina**	**3.25**	**23**	*eP*	Pn	13 47 47.6	+1.8
KRX	**Arik**	**3.27**	**20**	*eP*	Pn	13 47 48.5	+2.4
KBTR	**Krutoberegovo**	**6.93**	**29**	P	Pn	13 48 37.5	+2.2

*NAO **22** 13:52:21.0±1.8, 61°.56N×4°.79E, h0km±11km, ML3.2*
*BGS **22** 13:52:21.5±0.9, 61°.62N×4°.47E, h6km±7km, ML3.5*
*BER **22** 13:52:23.4±2.0, 61°.61N×4°.62E, h14km, ML2.9, MW3.3, ML3.5(BGS), Confirmed Earthquake*
*UPP **22** 13:52:24.3±2.5, 61°.38N×5°.12E, h0km, ML2.3, Suspected explosion*
*IDC **22** 13:52:25.9±2.3, 61°.69N×5°.42E, h0km, mb1 3.7/5, mb1mx3.2/65, mbtmp3.6/5, ML2.8/5, Error ellipse: s-maj=19.8km s-min=12.5km az=49.0*

ISC 22 13:52:20.2±1.2, 61°.56N±0°.03×4°.66E±0°.03, h18km±4km, n68, σ2=29/114, 1C-1D, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUE	**Sulen**	**0.51**	**174**	*eP*	**Pn**	**13 52 32.8**	**+0.3**
SUE				*eS*	**Sb**	**13 52 40.7**	**+3.1**
SUE				IAML		13 52 40.9	
	comp=N,389nm,0.1s						
SUE				IAML		13 52 41.5	
	comp=Z,761nm,0.1s						
HYA	**Hoyanger**	**0.84**	**118**	*eP*	**Pn**	**13 52 38.1**	**+1.1**
HYA				*eS*	**Sn**	**13 52 49.8**	**+0.9**
HYA				IAML		13 52 53.0	
	comp=Z,1μm,0.4s						
ASK	**Askoy**	**1.12**	**166**	*eP*	**Pn**	**13 52 43.6**	**+2.8**
ASK				*eS*	**Sn**	**13 52 59.1**	**+3.5**
ASK				IAML		13 53 00.5	
	comp=Z,422nm,0.1s						
BER	**Bergen**	**1.23**	**164**	Pg	**Pg**	**13 52 45.0**	**+1.1**
BER				Lg	Lg	13 53 00.9	
BER	**Bergen**	**1.23**	**164**	*eP*	**Pg**	**13 52 44.9**	**+1.0**
BER				*eS*	**Sn**	**13 53 01.6**	**+3.2**
BER	**Bergen**	**1.23**	**164**	*eP*	**Pg**	**13 52 45.0**	**+1.0**
BER				*eS*	**Sn**	**13 53 01.6**	**+3.2**
BER				IAML		13 53 03.3	
	comp=Z,370nm,0.4s						
AKN	**Aaknes**	**1.27**	**60**	Pg	**Pg**	**13 52 45.0**	**+0.4**
AKN				Lg	Lg	13 53 01.4	
AKN	**Aaknes**	**1.27**	**60**	⇓*iP*	**Pg**	**13 52 44.6**	**0.0**
AKN				*eS*	**Sn**	**13 53 01.4**	**+1.8**
AKN				IAML		13 53 03.2	
	comp=Z,975nm,0.1s						
MOL	**Molde**	**1.69**	**52**	*eP*	**Pb**	**13 52 51.2**	**+0.5**
MOL				*eS*	**Sb**	**13 53 12.5**	**+0.9**
MOL	**Molde**	**1.69**	**52**	*eP*	**Pb**	**13 52 51.6**	**+0.9**
MOL				*eSg*	**Sb**	**13 53 12.8**	**+1.2**
MOL				IAML		13 53 14.9	
	comp=Z,472nm,0.4s						
ODD1	**Odda**	**1.92**	**149**	*eP*	**Pb**	**13 52 54.8**	**+0.2**
ODD1				*ePg*	**Pg**	**13 52 56.8**	**-0.3**
ODD1				*eS*	**Sb**	**13 53 18.9**	**+0.7**
ODD1				*eSg*	**Sg**	**13 53 22.4**	**+0.4**
ODD1				IAML		13 53 22.6	
	comp=E,739nm,0.4s						
ODD1				IAML		13 53 25.0	
	comp=Z,366nm,0.4s						
SKAR	**Skarslia**	**1.98**	**115**	*eP*	**Pb**	**13 52 55.3**	**-0.3**
SKAR				*eS*	**Sb**	**13 53 19.8**	**-0.1**
SKAR				IAML		13 53 28.2	
	comp=Z,57nm,0.4s						
DOMB	**Dombas**	**2.15**	**75**	*eP*	**Pb**	**13 52 58.2**	**-0.3**
DOMB				*ePg*	**Pg**	**13 52 59.8**	**-1.5**
DOMB				*eS*	**Sb**	**13 53 24.7**	**0.0**
DOMB				IAML		13 53 31.4	
	comp=Z,316nm,0.4s						
BLS5	**Blasjo**	**2.33**	**157**	⇑*iP*	**Pb**	**13 53 00.3**	**-1.2**
BLS5				*eS*	**Sn**	**13 53 28.0**	**+2.4**
BLS5				IAML		13 53 41.5	
	comp=Z,101nm,0.4s						
KMY	**Karmoy**	**2.38**	**173**	*eP*	**Pn**	**13 53 00.8**	**+2.7**
KMY				*eS*	**Sn**	**13 53 28.5**	**+1.7**
KMY				IAML		13 53 41.5	
	comp=Z,96nm,0.3s						
NAO01	**NORSAR Array S**	**3.10**	**101**	*eP*	**Pn**	**13 53 10.4**	**+2.3**
NAO01				*ePg*	**Pb**	**13 53 15.6**	**+0.9**
NAO01				*eS*	**Sn**	**13 53 45.5**	**+0.8**
NAO01				*eSg*	**Sb**	**13 53 55.7**	**+3.6**
NAO01				IAML		13 54 00.7	
	comp=Z,159nm,0.4s						
LRW	**Lerwick**	**3.19**	**246**	*eP*	**Pn**	**13 53 10.4**	**+1.0**
LRW				*eS*	**Sn**	**13 53 47.1**	**+0.2**
LRW	**Lerwick**	**3.19**	**246**	*eP*	**Pn**	**13 53 10.4**	**+1.0**
LRW				*eS*	**Sn**	**13 53 47.1**	**+0.2**
NB2	**NORSAR Subarra**	**3.21**	**97**	Pn	**Pn**	**13 53 12.1**	**+2.4**
	baz=283,slow=14						
NB2				Lg	Lg	13 53 59.8	
	baz=278,slow=37						
NB2	**NORSAR Subarra**	**3.21**	**97**	Pn	**Pn**	**13 53 12.1**	**+2.4**
	baz=283,slow=14						
NB2				Sg	**Sb**	**13 53 59.8**	**+4.5**
	baz=278,slow=37						
NOA	**NORSAR Array B**	**3.21**	**97**	Pn	**Pn**	**13 53 11.5**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=285,slow=17,SNR=35						
NOA				Pg	**Pb**	**13 53 17.1**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=286,slow=16,SNR=45						
NOA				Sn	**Sn**	**13 53 45.3**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=300,slow=20,SNR=4.6						
NOA				Lg	Lg	13 53 54.8	
	comp=Z,3.2nm,0.3s,baz=295,slow=21,SNR=10						
NB201	**NORSAR Array S**	**3.24**	**96**	*eP*	**Pn**	**13 53 12.2**	**+2.1**
OSL	**Oslo**	**3.40**	**116**	*ePg*	**Pg**	**13 53 24.5**	**-0.6**
OSL				*eS*	**Sn**	**13 53 53.3**	**+1.5**
OSL				IAML		13 54 15.9	
	comp=Z,185nm,0.6s						
NC602	**NORSAR Array S**	**3.44**	**101**	*eP*	**Pn**	**13 53 14.5**	**+1.7**
NRA0	**NORESS Array S**	**3.44**	**101**	Pn	**Pn**	**13 53 14.4**	**+1.6**
	baz=302,slow=12						
NRA0				Pg	**Pb**	**13 53 21.1**	**+0.6**
	baz=288,slow=12						
NRA0				Lg	Lg	13 54 04.5	
	baz=290,slow=28						
NRA0	**NORESS Array S**	**3.44**	**101**	Pn	**Pn**	**13 53 14.4**	**+1.6**
	baz=302,slow=12						
NRA0				Pg	**Pb**	**13 53 21.1**	**+0.6**
	baz=288,slow=12						
NRA0				Sg	**Sb**	**13 54 04.5**	**+2.6**
	baz=290,slow=28						
SNART	**Snartemo**	**3.48**	**157**	*eP*	**Pn**	**13 53 16.0**	**+2.6**
SNART				*eS*	**Sn**	**13 53 55.1**	**+1.1**
SNART				*eSg*	**Sg**	**13 54 07.8**	**-4.0**
SNART				IAML		13 54 15.5	
	comp=Z,100nm,0.3s						
HOMB	**Homborsund**	**3.83**	**148**	*eP*	**Pn**	**13 53 21.1**	**+3.0**
HOMB				*eS*	**Sn**	**13 54 03.2**	**+0.7**
HOMB				IAML		13 54 28.1	
	comp=Z,35nm,0.4s						
STRU	**Stroemstad**	**4.12**	**125**	P	**Pn**	**13 53 23.4**	**+1.3**
STRU				S	**Sn**	**13 54 08.3**	**-1.4**
STRU	**Stroemstad**	**4.12**	**125**	*eP*	**Pn**	**13 53 26.4**	**+4.3**
STRU				*eS*	**Sn**	**13 54 08.4**	**-1.4**
UDD	**Uddeholm**	**4.62**	**105**	P	**Pn**	**13 53 31.1**	**+2.1**
UDD				S	**Sn**	**13 54 22.5**	**+0.4**
HFS	**Hagfors**	**4.65**	**104**	Pn	**Pn**	**13 53 31.1**	**+1.8**
	baz=285,slow=14						
HFS				Lg	Lg	13 54 44.5	
	baz=294,slow=28						
HFS	**Hagfors**	**4.65**	**104**	Pn	**Pn**	**13 53 31.2**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=294,slow=14,SNR=18						
HFS				Pg	**Pb**	**13 53 42.7**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=297,slow=13,SNR=10						
HFS				Sn	**Sn**	**13 54 20.6**	**-2.1**
	comp=Z,2.9nm,0.3s,baz=298,slow=19,SNR=5.6						
HFS				Lg	Lg	13 54 44.4	
	comp=Z,15nm,0.3s,baz=292,slow=28,SNR=13						
HFS	**Hagfors**	**4.65**	**104**	Pn	**Pn**	**13 53 31.1**	**+1.8**
	baz=285,slow=14						
HFS				Sg	**Sg**	**13 54 44.5**	**-4.7**
	baz=294,slow=28						
VANU	**Vaenersborg**	**4.83**	**126**	P	**Pn**	**13 53 33.7**	**+1.9**
TJOU	**Tjoern**	**4.99**	**132**	P	**Pn**	**13 53 36.2**	**+2.1**
NASU	**Vaermlandsnaes**	**5.00**	**118**	P	**Pn**	**13 53 35.9**	**+1.6**
NASU				S	**Sn**	**13 54 30.3**	**-1.2**
BIGH	**Upper Bighouse**	**5.29**	**238**	*eP*	**Pn**	**13 53 39.3**	**+1.3**
BIGH				*eS*	**Sn**	**13 54 36.4**	**-2.1**
BIGH				IAML		13 54 41.3	
	comp=E,15nm,0.6s						
BIGH				IAML		13 54 41.6	
	comp=N,17nm,0.4s						
BIGH	**Upper Bighouse**	**5.29**	**238**	*eP*	**Pn**	**13 53 39.3**	**+1.3**
BIGH				*eS*	**Sn**	**13 54 36.4**	**-2.1**
BIGH				IAML		13 54 41.3	
	comp=E,15nm,0.6s						
BIGH				IAML		13 54 41.6	
	comp=N,17nm,0.4s						
ROTU	**Roteberg**	**5.35**	**87**	P	**Pn**	**13 53 41.2**	**+2.3**
NRAU	**Nora**	**5.50**	**107**	P	**Pn**	**13 53 43.3**	**+2.3**
FALU	**Falun**	**5.54**	**96**	P	**Pn**	**13 53 44.0**	**+2.4**
MUD	**Monsted U'grnd**	**5.63**	**154**	*eP*	**Pn**	**13 53 45.9**	**+3.1**
MCD	**Coleburn Disti**	**5.67**	**229**	*eS*	**Sn**	**13 54 45.5**	**-2.3**
MCD				IAML		13 54 47.4	
	comp=E,13nm,0.3s						
MCD				IAML		13 54 56.0	
	comp=N,25nm,0.8s						
MCD	**Coleburn Disti**	**5.67**	**229**	*eS*	**Sn**	**13 54 45.5**	**-2.3**
MCD				IAML		13 54 47.4	
	comp=E,13nm,0.3s						
MCD				IAML		13 54 56.0	
	comp=N,25nm,0.8s						
HASU	**Hassela**	**5.69**	**79**	P	**Pn**	**13 53 46.3**	**+2.7**
FKPU	**Falk**	**5.70**	**123**	P	**Pn**	**13 53 45.3**	**+1.5**
ASKU	**Askersund**	**5.73**	**113**	P	**Pn**	**13 53 46.0**	**+1.8**
DRUM	**Mains of Drumt**	**5.93**	**221**	*eP*	**Pn**	**13 53 48.8**	**+1.9**
DRUM				*eS*	**Sn**	**13 54 53.2**	**-1.2**
DRUM				IAML		13 54 55.2	
	comp=N,34nm,0.4s						
DRUM				IAML		13 54 56.7	
	comp=E,22nm,0.6s						
DRUM	**Mains of Drumt**	**5.93**	**221**	*eP*	**Pn**	**13 53 48.8**	**+1.9**
DRUM				*eS*	**Sn**	**13 54 53.2**	**-1.2**
DRUM				IAML		13 54 55.2	
	comp=N,34nm,0.4s						
DRUM				IAML		13 54 56.7	
	comp=E,22nm,0.6s						
HUDU	**Hudiksvall**	**5.94**	**83**	P	**Pn**	**13 53 49.2**	**+2.1**
STOK	**Stokkvaagen**	**6.04**	**34**	*eP*	**Pn**	**13 53 51.5**	**+3.2**
ARNU	**Arnoeviken**	**6.07**	**83**	P	**Pn**	**13 53 50.8**	**+1.9**
IGGU	**Iggoen**	**6.16**	**91**	P	**Pn**	**13 53 52.0**	**+2.0**
KONS	**Konsvik**	**6.19**	**33**	*eP*	**Pn**	**13 53 53.7**	**+3.3**
MOR8	**Moi Rana**	**6.32**	**39**	*eP*	Pn	13 53 57.5	+5.1
MOR8				*eS*	**Sn**	**13 55 08.4**	**+4.3**
MOR8				IAML		13 55 41.2	
	comp=Z,16nm,0.4s						
EKA	**Eskdalemuir Ar**	**7.47**	**217**	Pn	**Pn**	**13 54 08.5**	**+0.4**
	baz=27,slow=12,SNR=13						
EKA				Sn	**Sn**	**13 55 26.8**	**-5.5**
	baz=32,slow=23,SNR=12						
LOF	**Lofoten**	**7.59**	**26**	*eS*	**Sn**	**13 55 28.6**	**-6.5**
LOF				IAML		13 55 42.6	
	comp=Z,5.2nm,0.4s						
STEI	**Steigen**	**7.82**	**31**	*eP*	**Pn**	**13 54 15.7**	**+2.9**
FIA0	**FINESS Array S**	**10.23**	**81**	Pn	**Pn**	**13 54 47.4**	**+1.6**
	baz=285,slow=12						
FIA0				Sn	**Sn**	**13 56 36.3**	**-3.5**
	baz=285,slow=22						
FIA0				Lg	Lg	13 57 35.6	
	baz=281,slow=28						
FIA0	**FINESS Array S**	**10.23**	**81**	Pn	**Pn**	**13 54 47.4**	**+1.6**
	baz=285,slow=12						
FIA0				Sn	**Sn**	**13 56 36.3**	**-3.5**
	baz=285,slow=22						
FIA0				Sg		13 57 35.6	
	baz=281,slow=28						
FINES	**FINESS Array B**	**10.23**	**81**	Pn	**Pn**	**13 54 47.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=284,slow=11,SNR=10.0						
FINES				Sn	Sn	13 56 31.9	-7.9
	comp=Z,0.3nm,0.3s,baz=277,slow=11,SNR=2.6						
FINES				Lg	Lg	13 57 38.0	
	comp=Z,1.2nm,0.3s,baz=274,slow=25,SNR=9.7						
ARA0	**ARCESS Array S**	**11.70**	**38**	Pn	**Pn**	**13 55 05.7**	**-0.2**
	baz=226,slow=12						
ARA0	**ARCESS Array S**	**11.70**	**38**	Pn	**Pn**	**13 55 05.7**	**-0.2**
	baz=226,slow=12						
ARCES	**ARCESS Array B**	**11.70**	**38**	Pn	**Pn**	**13 55 06.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=228,slow=13,SNR=4.1						
ARCES				Sn	**Sn**	**13 57 11.2**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=230,slow=22,SNR=3.3						
ARCES				Lg	Lg	13 58 23.4	
	comp=Z,0.4nm,0.3s,baz=236,slow=26,SNR=4.1						
SPA0	**Spitsbergen Ar**	**17.10**	**8**	P	**P**	**13 56 23.3**	**+3.8**
	baz=178,slow=14						
SPA0	**Spitsbergen Ar**	**17.10**	**8**	P	**P**	**13 56 23.3**	**+3.8**
	baz=178,slow=14						
SPITS	**Spitsbergen Ar**	**17.10**	**8**	Pn	**P**	**13 56 22.9**	**+3.5**
	baz=192,slow=13,SNR=12						

*TAP **22** 14:00:34.9, 25°.31N×122°.55E, h238km, ML3.2, D*
*ISCJB **22** 14:00:36.7±0.7, 25°.25N±0°.05×122°.56E±0°.03, h219km±4km, Error ellipse: s-maj=8.8km s-min=3.7km az=166.1*
*JMA **22** 14:00:36.8±0.2, 25°.39N×122°.52E, h211km±3km, M2.5*

ISC 22 14:00:36.3±2.4, 25°.28N±0°.09×122°.54E±0°.04, h222km±13km, n53, σ0=56/102, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCYT	**Pengchaiyu**	**0.55**	**310**	P	**Pn**	**14 01 06.6**	**+0.4**
	baz=306						
PCYT				S	**S**	**14 01 29.3**	**-0.3**
	baz=306						
TIPB	**Shuangxi**	**0.71**	**245**	P	**Pn**	**14 01 06.9**	**0.0**
	baz=243						
TIPB				*eS*	**S**	**14 01 30.6**	**-0.1**
	baz=243						
NWF	**Wu-fen Shan**	**0.71**	**253**	P	**Pn**	**14 01 07.3**	**+0.3**
	baz=251						
NWF				S	**S**	**14 01 30.3**	**-0.6**
	baz=251						
WFSB	**Wu-fen Shan**	**0.71**	**253**	*eP*	**Pn**	**14 01 07.1**	**+0.2**
	baz=251						
WFSB				*eS*	**S**	**14 01 30.4**	**-0.2**
	baz=251						
NTC	**Toucheng**	**0.77**	**237**	P	**Pn**	**14 01 07.1**	**-0.1**
	baz=235						
EOS1	**EOS1**	**0.81**	**207**	*eP*	**Pn**	**14 01 07.4**	**0.0**
	baz=207						
EOS1				*eS*	**S**	**14 01 32.2**	**+0.7**
	baz=207						
JYNG	**Yonagunijimaku**	**0.91**	**156**	P	**Pn**	**14 01 07.9**	**0.0**
TWC	**Suao**	**0.91**	**223**	*eP*	**Pn**	**14 01 08.3**	**+0.3**
	baz=222						
TWC				*eS*	**S**	**14 01 32.2**	**-0.3**
	baz=222						
YOJ	**Yonaguni jima**	**0.92**	**152**	*eP*	**Pn**	**14 01 08.0**	**0.0**
	baz=153						
YOJ				*eS*	**S**	**14 01 32.6**	**0.0**
	baz=153						
TWE	**Neicheng**	**0.96**	**235**	*eP*	**Pn**	**14 01 08.1**	**-0.1**
	baz=233						
TWE				S	**S**	**14 01 33.2**	**+0.2**
	baz=233						
SLBB	**Yuanshan**	**0.97**	**238**	P	**Pn**	**14 01 08.8**	**+0.5**
	baz=236						
SLBB				*eS*	**S**	**14 01 33.7**	**+0.5**
	baz=236						
NWLT	**Wulai**	**1.06**	**242**	*eP*	**Pn**	**14 01 08.7**	**-0.2**
	baz=241						
NWLT				*eS*	**S**	**14 01 34.1**	**-0.1**
	baz=241						
ENTT	**Nioudou**	**1.09**	**234**	*eP*	**Pn**	**14 01 09.2**	**+0.2**
	baz=233						
ENTT				*eS*	**S**	**14 01 34.3**	**-0.1**
	baz=233						
ENA	**Nanau**	**1.11**	**221**	P	**Pn**	**14 01 08.8**	**-0.4**
	baz=219						
ENA				S	**S**	**14 01 34.8**	**0.0**
	baz=219						
NDT	**Datong Townshi**	**1.15**	**234**	P	**Pn**	**14 01 09.9**	**+0.5**
	baz=233						
NDT				S	**S**	**14 01 35.3**	**+0.1**
	baz=233						
YHNB	**Yeheng**	**1.22**	**240**	*eP*	**Pn**	**14 01 09.6**	**-0.4**
	baz=239						
YHNB				*eS*	**S**	**14 01 35.1**	**-1.0**
	baz=239						
NSK	**Sanguang**	**1.23**	**241**	P	**Pn**	**14 01 09.7**	**-0.3**
	baz=239						
NSK				S	**S**	**14 01 35.2**	**-1.0**
	baz=239						
NNS	**Nan Shan**	**1.35**	**232**	*eP*	**Pn**	**14 01 11.5**	**+0.4**
	baz=230						
NNS				*eS*	**S**	**14 01 38.3**	**+0.4**
	baz=230						
NNSB	**Datong**	**1.35**	**231**	*eP*	**Pn**	**14 01 11.2**	**+0.1**
	baz=230						
NNSB				*eS*	**S**	**14 01 37.3**	**-0.6**
	baz=230						
NACB	**Ninganchiao**	**1.39**	**218**	*eP*	**Pn**	**14 01 11.0**	**-0.2**
	baz=217						
NACB				*eS*	**S**	**14 01 37.8**	**-0.6**
	baz=217						
ETLH	**Xiulin Townshi**	**1.43**	**222**	*eP*	**Pn**	**14 01 11.7**	**0.0**
	baz=221						
ETLH				*eS*	**S**	**14 01 39.0**	**-0.1**
	baz=221						
IRIF	**Iriomote-Funau**	**1.44**	**131**	P	**Pn**	**14 01 12.0**	**+0.4**
IRIF				*eS*	**S**	**14 01 39.0**	**+0.1**
TWD	**Chiawan**	**1.47**	**216**	P	**Pn**	**14 01 11.7**	**-0.1**
	baz=215						
TWD				S	**S**	**14 01 39.2**	**-0.2**
	baz=215						
TWT	**Tachien**	**1.60**	**231**	*eP*	**Pn**	**14 01 13.4**	**+0.2**
	baz=230						
TWT				*eS*	**S**	**14 01 42.2**	**+0.5**
	baz=230						
TDCB	**Techi**	**1.62**	**231**	*eP*	**Pn**	**14 01 13.6**	**+0.4**
	baz=230						
TDCB				*eS*	**S**	**14 01 42.0**	**+0.1**
	baz=230						
WHF	**Hehuan Shan**	**1.62**	**226**	*eP*	**Pn**	**14 01 14.1**	**+0.6**
	baz=225						
WHF				S	**S**	**14 01 41.3**	**-1.1**
	baz=225						
HATJ	**Hateruma jima**	**1.68**	**136**	P	**Pn**	**14 01 14.5**	**+0.9**
HATJ				*eS*	**S**	**14 01 43.5**	**+1.0**
JKRS	**Kuro-shima**	**1.69**	**127**	P	**Pn**	**14 01 14.3**	**+0.6**
JKRS				S	**S**	**14 01 42.8**	**0.0**
JIJ	**Ishigaki jima**	**1.72**	**122**	P	**Pn**	**14 01 14.0**	**0.0**
JIJ				S	**S**	**14 01 42.2**	**-1.0**
CHGB	**Renai**	**1.73**	**226**	*eP*	**Pn**	**14 01 15.4**	**+1.0**
	baz=225						
CHGB				*eS*	**S**	**14 01 44.5**	**+0.6**
	baz=225						
JISG	**Ishigakijimahi**	**1.75**	**113**	P	**Pn**	**14 01 14.3**	**+0.1**
JISG				S	**S**	**14 01 42.7**	**-1.0**
WHP	**Taichung City**	**1.75**	**236**	*eP*	**Pn**	**14 01 14.4**	**0.0**
	baz=234						
WHP				*eS*	**S**	**14 01 43.4**	**-0.5**
	baz=234						
ESL	**Shilin**	**1.77**	**215**	*eP*	**Pn**	**14 01 13.9**	**-0.6**
	baz=214						
ESL				*eS*	**S**	**14 01 43.4**	**-0.7**
	baz=214						
OWD	**Renai**	**1.81**	**223**	*eP*	**Pn**	**14 01 15.6**	**+0.6**
	baz=222						
OWD				*eS*	**S**	**14 01 45.4**	**+0.4**
	baz=222						
VWDT	**VWDT**	**1.98**	**220**	*eP*	**Pn**	**14 01 17.2**	**+0.8**
	baz=219						
VWDT				*eS*	**S**	**14 01 48.1**	**+0.6**
	baz=219						
HGSD	**Ruisui**	**2.05**	**210**	*eP*	**Pn**	**14 01 17.1**	**0.0**
	baz=209						
HGSD				*eS*	**S**	**14 01 49.1**	**+0.4**
	baz=209						
TYC	**Yuchr**	**2.05**	**228**	*eP*	**Pn**	**14 01 17.6**	**+0.5**
	baz=227						
TYC				*eS*	**S**	**14 01 49.0**	**+0.3**
	baz=227						
JTJ	**Tarama**	**2.07**	**107**	P	**Pn**	**14 01 17.8**	**+0.6**
JTJ				S	**S**	**14 01 48.9**	**0.0**
SSLB	**Suanglung**	**2.07**	**224**	*eP*	**Pn**	**14 01 17.1**	**-0.2**
	baz=223						
SSLB				*eS*	**S**	**14 01 48.8**	**-0.4**
	baz=223						
EHY	**Hungye**	**2.08**	**212**	*eP*	**Pn**	**14 01 18.0**	**+0.6**
	baz=211						
EHY				*eS*	**S**	**14 01 48.5**	**-0.9**
	baz=211						
YULB	**Yu-li**	**2.19**	**211**	*eP*	**Pn**	**14 01 18.3**	**-0.2**
	baz=210						
YULB				*eS*	**S**	**14 01 50.5**	**-0.9**
	baz=210						
WHYT	**Xinyi Township**	**2.20**	**225**	*eP*	**Pn**	**14 01 19.0**	**+0.4**
	baz=223						
WHYT				*eS*	**S**	**14 01 52.0**	**+0.5**
	baz=223						
TWF1	**Yuli**	**2.23**	**211**	*eP*	**Pn**	**14 01 18.8**	**-0.1**
	baz=210						
TWF1				*eS*	**S**	**14 01 51.2**	**-0.8**
	baz=210						
ALS	**Alishan**	**2.36**	**222**	*eP*	**Pn**	**14 01 21.4**	**+0.8**
	baz=221						
ALS				*eS*	**S**	**14 01 54.7**	**-0.3**
	baz=221						
CHN5	**Tsauling**	**2.38**	**226**	*eP*	**Pn**	**14 01 20.7**	**+0.2**
	baz=225						
CHN5				*eS*	**S**	**14 01 55.0**	**+0.1**
	baz=225						
JIRB	**Irabujima**	**2.43**	**100**	P	**Pn**	**14 01 21.4**	**+0.4**
JIRB				S	**S**	**14 01 54.5**	**-1.2**
JIKM	**Ikemajima**	**2.48**	**98**	P	**Pn**	**14 01 21.4**	**-0.1**
JIKM				S	**S**	**14 01 55.9**	**-0.7**
ELDTW	**Lidau**	**2.50**	**214**	*eP*	**Pn**	**14 01 21.9**	**+0.1**
	baz=213						
JOGS	**Gusukube**	**2.66**	**101**	P	**Pn**	**14 01 23.7**	**+0.4**
JOGS				S	**S**	**14 02 00.0**	**+0.1**
STYT	**Tauyuan**	**2.66**	**218**	*eP*	**Pn**	**14 01 23.4**	**-0.1**
	baz=217			

comp=Z,81nm,19.2s,baz=178,slow=50
DMPH Davao City--Mi 1.33 342 ⇑*i* P **Pn 14 05 50.4 +1.6**
DMPH *i* S **Sn 14 06 08.2 +0.7**
KCP Kidapawan 1.45 326 ⇑*i* P **Pn 14 05 51.0 +0.6**
KCP *i* S **Sn 14 06 10.3 +0.2**
SKMP Bagumbayan, Su 1.53 297 *eP* **Pn 14 05 50.8 -0.5**
SKMP *eS* **Sn 14 06 09.9 -1.9**
CTBH Cotabato--PC H 2.17 310 ⇑*i* P **Pn 14 05 58.7 -0.6**
BUKP Musuan 2.22 338 *eP* **Pn 14 06 00.1 +0.1**
BUKP *eS* **Sn 14 06 26.7 -0.7**
CGP Cagayan de Oro 2.89 335⇓*eP* **Pn 14 06 11.9 +3.2**
CGP *eS* **Sn 14 06 48.8 +5.8**
BUTP Butuan 3.15 355 *eP* **Pn 14 06 11.3 -0.9**
BUTP *eS* **Sn 14 06 44.5 -4.7**
BUTP Butuan 3.15 355 *eP* **Pn 14 06 13.5 +1.3**
BUTP *eS* Sn 14 06 57.3 +8.1
PAGZ Pagadian 3.23 309 *eP* **Pn 14 06 13.5 +0.3**
FITZ Fitzroy Crossi 23.76 181 P **P 14 10 27.8 +0.9**
1.7nm,0.7s,baz=359,slow=7.9,SNR=8.1
WRA Warramunga Arr 26.90 162 P **P 14 10 55.5 +0.1**
0.4nm,0.3s,baz=343,slow=10.0,SNR=10
ASAR Alice Springs 30.32 165 P **P 14 11 26.1 +0.5**
0.7nm,0.5s,baz=345,slow=7.3,SNR=25
ASAR PcP **PcP 14 14 22.6 -1.1**
0.3nm,0.4s,baz=354,slow=2.6,SNR=6.3
STKA Stephens Creek 40.35 159 P **P 14 12 52.6 +1.1**
2.8nm,0.7s,baz=315,slow=6.6,SNR=5.3
MKAR Makanchi Array 55.40 325 P **P 14 14 45.4 -1.9**
0.2nm,0.6s,baz=117,slow=8.6,SNR=3.5

IDC 22 14:06:08.9±4.1, 13°.91N×119°.43E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.4/46, mbtmp3.7/4, Error ellipse: s-maj=201.6km s-min=26.9km az=90.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**32.04**	**17**	P	P	14 12 37.1	-0.1
	2.4nm,0.8s,baz=209,slow=11,SNR=4.4						
FITZ	**Fitzroy Crossi**	**32.39**	**169**	P	P	14 12 40.7	+0.2
	0.6nm,0.4s,baz=11,slow=9.7,SNR=6.2						
WRA	**Warramunga Arr**	**36.70**	**156**	P	P	14 13 16.5	-1.4
	0.6nm,0.4s,baz=335,slow=10,SNR=8.8						
ASAR	**Alice Springs**	**38.94**	**159**	P	P	14 13 46.4	+1.3
	0.4nm,0.9s,baz=345,slow=14,SNR=5.1						

*IDC **22** 14:18:56.2±0.5, 55°.19S×21°.75W, h0km, mb4.7/19, mb1 4.7/20, mb1mx4.6/33, mbtmp4.7/20, ML4.7/1, MS4.4/17, Ms1 4.4/17, ms1mx4.3/23, Error ellipse: s-maj=15.5km s-min=12.1km az=4.0*
*ISCJB **22** 14:18:56.2±0.3, 55°.20S±0°.04×21°.74W±0°.08, h10km, mb4.9/35, MS4.5/19, Error ellipse: s-maj=7.8km s-min=5.3km az=138.7*
*NEIC **22** 14:18:57.5±0.2, 55°.16S×21°.71W, h10km, mb5.0/24, Error ellipse: s-maj=7.1km s-min=5.1km az=11.0*
*MOS **22** 14:18:57.1±1.4, 55°.19S×21°.89W, h10km, mb5.4/10, Error ellipse: s-maj=20.9km s-min=12.3km az=112.0*
*BJI **22** 14:18:59.5, 55°.10S×21°.70W, h15km, mB5.4/6, Ms5.1/4*
*GCMT **22** 14:19:02.5±0.2, 55°.42S±0°.01×21°.86W±0°.02, h34km±1km, MW5.2/94, Moment Tension Solution. s71,c94; s94,c138; Duration: 1ᵎ9 Moment tensor: Scale 10¹⁶Nm; Mrr-0.52±.22; Mθθ2.93±.22; Mϕϕ-2.41±.19; Mrθ0.60±.30; Mθϕ-8.56±.15; Mϕr-1.36±.26; Best double couple: Mᵢ9.08400×10¹⁶ NP1:ϕs171.00000°,δ88.00000°, λ9.00000°. NP2:ϕs81.00000°,δ81.00000°,λ178.00000°. Principal axes: T 9.3950, Plg7.0000°, Azm37.0000°; N -0.6250, Plg81.0000°, Azm181.0000°; P -8.7740, Plg5.0000°, Azm306.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 14:18:57.6±0.3, 55°.28S±0°.06×21°.74W±0°.06, h10km, n207, σ1ᵎ40/190, mb4.8/35, MS4.4/19, 5C-3D, Southwestern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.58**	**271**	*e*Pn	**Pn**	**14 21 02.4**	**+0.6**
HOPE				*e*Sn	Sn	14 22 29.0	-10
VNA1	**Neumayer--Stat**	**16.52**	**164**	P	**P**	**14 22 51.2**	**-0.4**
VNA3	**Neumayer Olymp**	**16.85**	**167**	P	**P**	**14 22 56.5**	**+1.1**
VNA3				S	Sn	14 25 48.9	-11
VNA2	**Neumayer--Watz**	**16.90**	**164**	P	**Pn**	**14 22 55.1**	**+1.2**
	baz=328,slow=15						
VNA2				S	**Sn**	**14 25 52.2**	**-9.3**
	baz=335,slow=26						
SNAA	**Sanae**	**18.32**	**161**	P	**P**	**14 23 12.8**	**+1.1**
SNAA				S	Sn	14 26 26.1	-10
SNAA	**Sanae**	**18.32**	**161**	*e*P	**Pn**	**14 23 12.3**	**+0.7**
	129nm,0.7s						
SNAA				*e*Sn	**Sn**	**14 26 35.5**	**-0.5**
SNAA	**Sanae**	**18.32**	**161**	Pn	**Pn**	**14 23 12.2**	**+0.7**
	2.4nm,0.3s,baz=315,slow=12,SNR=57						
SNAA				Sn	Sn	14 26 26.3	-10
	0.3nm,0.3s,baz=189,slow=19,SNR=2.9						
SNAA				LR	LR	14 28 25.8	
	comp=Z,801nm,18.4s,baz=328,slow=31						
H09N1	**TRISTAN DA CUN**	**19.32**	**23**	T	T	14 43 06.2	
	SNR=7.3						
EFI	**East Falkland**	**21.75**	**264**	*e*P	**P**	**14 23 48.8**	**-0.2**
	281nm,1.1s						
EFI	**East Falkland**	**21.75**	**264**⇑	*e*P	**P**	**14 23 48.9**	**-0.1**
PMSA	**Palmer Station**	**22.73**	**228**	P	**P**	**14 24 00.5**	**+1.2**
	58nm,0.9s,baz=14,slow=6.5,SNR=3.5						
PMSA				LR	LR	14 31 26.9	
	comp=Z,914nm,19.2s,baz=116,slow=33						
USHA	**Ushuaia**	**26.36**	**251**	P	**P**	**14 24 32.8**	**-0.8**
	19nm,0.9s,baz=99,slow=11,SNR=6.4						
SYO	**Syowa Base**	**30.23**	**141**⇓	*e*P	**P**	**14 25 05.8**	**-2.1**
SYO	**Syowa Base**	**30.23**	**141**↑	epP	pP	14 25 10.3	+0.5
SYO	**Syowa Base**	**30.23**	**141**⇑	esP	sP	14 25 12.6	+2.0
TRQA	**Tornquist**	**31.98**	**286**	*e*P	**P**	**14 25 22.9**	**-0.8**
	64nm,1.2s						
TRQA	**Tornquist**	**31.98**	**286**	*e*P	**P**	**14 25 22.9**	**-0.8**
TRQA				pmax	pmax		
	comp=Z,64nm,1.2s						
CNLB	**Canela**	**33.27**	**309**	*e*P	**P**	**14 25 35.8**	**+0.7**
CPSB	**Cacapava Do Su**	**33.53**	**305**	*e*P	**P**	**14 25 37.9**	**+0.6**
QSPA	**South Pole Qui**	**34.97**	**180**	*e*P	**P**	**14 25 50.5**	**+0.9**
	comp=Z,106nm,1.5s						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**14 25 50.9**	**+1.3**
	comp=Z,18nm,1.0s,baz=206,slow=2.6,SNR=45						
QSPA				LR	LR	14 38 51.1	
	comp=Z,376nm,18.2s,baz=196,slow=34						
PLCA	**Paso Flores**	**34.97**	**274**	*e*P	**P**	**14 25 48.6**	**-1.2**
	comp=Z,23nm,1.0s						
PLCA	**Paso Flores**	**34.97**	**274**	P	**P**	**14 25 49.4**	**-0.4**
	comp=Z,13nm,0.9s,baz=167,slow=7.7,SNR=24						
PLCA				LR	LR	14 41 44.2	
	comp=Z,309nm,18.4s,baz=145,slow=39						
PLCA	**Paso Flores**	**34.97**	**274**	*e*P	**P**	**14 25 50.0**	**+0.2**
ITAB	**Concordia**	**35.63**	**309**	*e*P	**P**	**14 25 56.4**	**+0.9**
GO06	**Curarrehue**	**36.26**	**275**	*e*P	**P**	**14 25 59.8**	**-1.1**
	comp=Z,8.3nm,0.8s						
ESAR	**Angra dos Reis**	**36.37**	**323**	*e*P	**P**	**14 26 02.7**	**+0.9**
SPB	**Sao Paulo**	**36.93**	**319**	*e*P	**P**	**14 26 06.9**	**+0.3**
SUR	**Sutherland**	**37.47**	**70**	P	**P**	**14 26 12.5**	**+1.2**
	comp=Z,12nm,1.1s,baz=44,slow=3.8,SNR=2.8						
PTGB	**Pitanga**	**37.80**	**311**	*e*P	**P**	**14 26 14.8**	**+0.7**
FRTB	**Fartura**	**37.98**	**316**	*e*P	**P**	**14 26 15.3**	**-0.3**
BSCB	**Bom Sucesso**	**38.36**	**324**	*e*P	**P**	**14 26 20.0**	**+1.2**
TCA	**Tanti**	**38.43**	**291**	*i* P	**P**	**14 26 19.1**	**-0.3**
CPUP	**Villa Florida**	**38.80**	**304**	*e*P	**P**	**14 26 21.0**	**-1.3**
	comp=Z,23nm,1.1s						
CPUP	**Villa Florida**	**38.80**	**304**	*e*P	**P**	**14 26 21.0**	**-1.3**
CPUP				pmax	pmax		
	comp=Z,23nm,1.1s						
CPUP	**Villa Florida**	**38.80**	**304**	P	**P**	**14 26 21.8**	**-0.5**
	comp=Z,9.2nm,0.8s,baz=139,slow=7.6,SNR=13						
CPUP				LR	LR	14 40 56.8	
	comp=Z,460nm,20.0s,baz=170,slow=34						
CPUP	**Villa Florida**	**38.80**	**304**	*e*P	**P**	**14 26 22.4**	**+0.1**
MAW	**Mawson**	**38.91**	**143**	*e*P	**P**	**14 26 22.6**	**-0.2**
	comp=Z,10nm,1.4s						
MAW	**Mawson**	**38.91**	**143**	*e*P	**P**	**14 26 22.6**	**-0.2**
MAW				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MAW	**Mawson**	**38.91**	**143**	P	**P**	**14 26 24.0**	**+1.2**
	comp=Z,18nm,1.0s,baz=278,slow=16,SNR=6.5						
MAW				LR	LR	14 40 34.1	
	comp=Z,439nm,18.2s,baz=246,slow=33						
SJMB	**Sao Joao De Ma**	**39.40**	**330**	*e*P	**P**	**14 26 27.7**	**+0.3**
BB19B	**Bebedouro**	**39.64**	**319**	*e*P	**P**	**14 26 29.2**	**-0.2**
GO05	**Huala**	**39.73**	**279**	*e*P	**P**	**14 26 29.8**	**-0.3**
	comp=Z,36nm,1.0s						
TRCB	**Terra Rica**	**39.73**	**312**	*e*P	**P**	**14 26 31.0**	**+0.7**
ASAL	**Salagasta**	**39.78**	**285**	*i* P	**P**	**14 26 29.4**	**-1.2**
RTCV	**Cerro Valdivia**	**40.17**	**286**	*i* P	**P**	**14 26 33.5**	**-0.3**
CFA	**Coronel Fontan**	**40.20**	**287**	P	**P**	**14 26 33.8**	**-0.3**
	comp=Z,87nm,0.8s,baz=147,slow=7.9,SNR=92						
APLL	**PUNTA DE LOS L**	**40.20**	**289**	*i* P	**P**	**14 26 33.1**	**-1.0**
AUSP	**Uspallata**	**40.37**	**285**	*i* P	**P**	**14 26 35.4**	**-0.3**
PEL	**Peldehue**	**40.40**	**283**	*e*P	**P**	**14 26 35.8**	**+0.1**
	comp=Z,68nm,0.9s						
PEL	**Peldehue**	**40.40**	**283**	*e*P	**P**	**14 26 35.8**	**+0.1**
PEL				pmax	pmax		
	comp=Z,68nm,0.9s						
RTLS	**Leoncito**	**40.64**	**285**	*i* P	**P**	**14 26 38.2**	**+0.2**
ROC1	**El Roble**	**40.71**	**282**	*e*P	**P**	**14 26 38.7**	**+0.2**
	comp=Z,47nm,1.0s						
AMOG	**MOGNA**	**40.85**	**287**	*i* P	**P**	**14 26 39.6**	**+0.1**
ACLC	**CERRO LA CRUZ**	**41.19**	**290**	*i* P	**P**	**14 26 41.7**	**-0.7**
PMNB	**Patos De Minas**	**41.21**	**323**	*e*P	**P**	**14 26 42.7**	**+0.2**
CYA	**Choya**	**41.35**	**292**	*i* P	**P**	**14 26 42.3**	**-1.3**
ITRB	**Iturama**	**41.58**	**317**	*e*P	**P**	**14 26 46.5**	**+1.1**
MCI6	**Montes Claros**	**41.99**	**327**	*e*P	**P**	**14 26 48.6**	**-0.3**
MCI9	**Montes Claros**	**42.09**	**327**	*e*P	**P**	**14 26 49.7**	**-0.1**
MCI8	**Montes Claros**	**42.14**	**327**	*e*P	**P**	**14 26 49.9**	**-0.3**
GO04	**Tololo Observa**	**42.71**	**285**	*e*P	**P**	**14 26 55.3**	**+0.4**
	comp=Z,54nm,0.8s						
BOSA	**Boshof**	**42.79**	**71**	P	**P**	**14 26 54.5**	**-0.9**
	comp=Z,5.8nm,0.7s,baz=213,slow=7.1,SNR=13						
BOSA				LR	LR	14 41 22.8	
	comp=Z,1μm,18.4s,baz=219,slow=32						
BOSA	**Boshof**	**42.79**	**71**	*e*P	**P**	**14 26 54.9**	**-0.5**
AQDB	**Aquidauana**	**43.10**	**310**	*e*P	**P**	**14 26 57.7**	**-0.1**
LCO	**Las Campanas**	**43.55**	**286**	*e*P	**P**	**14 27 01.9**	**+0.1**
	comp=Z,117nm,1.1s						
LCO	**Las Campanas**	**43.55**	**286**	*e*P	**P**	**14 27 01.9**	**+0.1**
LCO				pmax	pmax		
	comp=Z,117nm,1.1s						
LCO	**Las Campanas**	**43.55**	**286**	*e*P	**P**	**14 27 02.1**	**+0.3**
BDFB	**Brasilia**	**44.44**	**322**	P	**P**	**14 27 09.0**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=141,slow=6.3,SNR=6.6						
BDFB				LR	LR	14 42 45.1	
	comp=Z,640nm,20.4s,baz=134,slow=32						
LBTB	**Lobatse**	**45.84**	**68**	*e*P	**P**	**14 27 19.6**	**-0.2**
	comp=Z,36nm,1.2s						
LBTB	**Lobatse**	**45.84**	**68**	*e*P	**P**	**14 27 19.7**	**-0.2**
LBTB				pmax	pmax		
	comp=Z,36nm,1.2s						
LBTB	**Lobatse**	**45.84**	**68**	P	**P**	**14 27 19.6**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=209,slow=11,SNR=5.5						
GO02	**Mina Guanaco**	**45.99**	**291**	*e*P	**P**	**14 27 21.7**	**+0.4**
	comp=Z,165nm,1.3s						
H10S2	**ASCENSION HYDR**	**46.55**	**10**	T	T	15 17 21.4	
	baz=186,slow=75,SNR=45						
H10S3	**ASCENSION HYDR**	**46.55**	**10**	T	T	15 17 18.0	
	baz=186,slow=75,SNR=33						
H10S1	**ASCENSION HYDR**	**46.56**	**10**	T	T	15 17 22.5	
	baz=186,slow=75,SNR=42						
TSUM	**Tsumeb**	**46.66**	**55**	*e*P	**P**	**14 27 26.4**	**+0.1**
	comp=Z,5.0nm,1.2s						
TSUM	**Tsumeb**	**46.66**	**55**	P	**P**	**14 27 26.4**	**+0.1**
	comp=Z,9.1nm,1.0s,baz=212,slow=7.1,SNR=9.9						
SBA	**Scott Base**	**47.02**	**182**	P	**P**	**14 27 30.5**	**+2.1**
	comp=Z,2.4nm,0.7s						
SBA	**Scott Base**	**47.02**	**182**	P	**P**	**14 27 30.5**	**+2.1**
SBA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**47.44**	**181**	*e*P	**P**	**14 27 33.6**	**+1.9**
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**47.44**	**181**	*e*P	**P**	**14 27 33.6**	**+1.9**
VNDA				pmax	pmax		
	comp=Z,13nm,1.0s						
VNDA	**Vanda**	**47.44**	**181**	P	**P**	**14 27 33.0**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=166,slow=5.5,SNR=4.9						
VNDA				LR	LR	14 46 26.0	
	comp=Z,252nm,18.9s,baz=168,slow=35						
H10N1	**ASCENSION HYDR**	**47.66**	**10**	T	T	15 18 44.3	
	baz=207,slow=76,SNR=12						
H10N3	**ASCENSION HYDR**	**47.66**	**10**	T	T	15 18 42.0	
	baz=207,slow=76,SNR=45						
H10N2	**ASCENSION HYDR**	**47.68**	**10**	T	T	15 18 47.3	
	baz=207,slow=76,SNR=41						
LVC	**Limon Verde**	**47.71**	**294**	*e*P	**P**	**14 27 35.8**	**+1.1**
	comp=Z,35nm,0.7s,baz=145,slow=6.4,SNR=31						
LVC	**Limon Verde**	**47.71**	**294**	*e*P	**P**	**14 27 35.6**	**+0.8**
PB01	**IPOC Station P**	**49.30**	**294**	*e*P	**P**	**14 27 47.0**	**+0.2**
	comp=Z,74nm,1.2s						
SIV	**San Ignacio**	**49.45**	**307**	P	**P**	**14 27 46.6**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=163,slow=9.5,SNR=6.7						
MNMC	**Minye Minye**	**50.94**	**295**	*e*P	**P**	**14 27 59.9**	**+0.5**
	comp=Z,27nm,1.0s						
LPAZ	**La Paz**	**52.58**	**299**	*e*P	**P**	**14 28 10.3**	**-1.8**
LPAZ	**La Paz**	**52.58**	**299**	*e*P	**P**	**14 28 11.6**	**-0.5**
LPAZ	**La Paz**	**52.58**	**299**	P	**P**	**14 28 12.3**	**+0.2**
	comp=Z,9.8nm,1.2s,baz=137,slow=6.0,SNR=23						
LPAZ				LR	LR	14 49 28.4	
	comp=Z,274nm,21.7s,baz=165,slow=35						
LPAZ	**La Paz**	**52.58**	**299**	*e*P	**P**	**14 28 12.3**	**+0.2**
CASY	**Casey**	**53.53**	**158**	*e*P	**P**	**14 28 18.2**	**+0.4**
	comp=Z,1.9nm,0.5s						
LSZ	**Lusaka**	**55.24**	**64**	*e*P	**P**	**14 28 28.4**	**-2.5**
	comp=Z,1.9nm,0.5s						
LSZ	**Lusaka**	**55.24**	**64**	*e*P	**P**	**14 28 28.4**	**-2.5**
LSZ				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NNA	**Nana**	**60.69**	**293**	P	**P**	**14 29 08.6**	**-0.5**
NNA	**Nana**	**60.69**	**293**	*i* P	**P**	**14 29 09.8**	**+0.7**
DBIC	**Dimbokro**	**63.31**	**19**	P	**P**	**14 29 25.8**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=178,slow=5.8,SNR=5.5						
TOA0	**Torodi Ar. Sit**	**70.98**	**24**	*e*P	**P**	**14 30 13.8**	**-1.4**
TORD	**Torodi Ar. Bea**	**70.98**	**24**	P	**P**	**14 30 15.2**	**+0.1**
	comp=Z,4.2nm,0.6s,baz=211,slow=5.7,SNR=33						
TORD				LR	LR	14 55 19.4	
	comp=Z,179nm,19.9s,baz=260,slow=31						
TOA1	**Torodi Ar. Sit**	**70.98**	**24**	*e*P	**P**	**14 30 15.2**	**0.0**
KMBO	**Kilima Mbogo**	**71.90**	**64**	LR	LR	14 58 22.2	
	comp=Z,291nm,20.9s,baz=104,slow=33						
OTAV	**Otavalo**	**71.90**	**298**	*e*P	**P**	**14 30 21.5**	**0.0**
	comp=Z,3.7nm,0.7s						
OTAV	**Otavalo**	**71.90**	**298**	*e*P	**P**	**14 30 21.5**	**0.0**
OTAV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
OTAV	**Otavalo**	**71.90**	**298**	*e*P	**P**	**14 30 21.9**	**+0.4**
ROSC	**El Rosal**	**73.88**	**305**	P	**P**	**14 30 33.0**	**0.0**
	comp=Z,3.6nm,0.4s,baz=163,slow=14,SNR=3.6						
ROSC				LR	LR	15 03 04.0	
	comp=Z,214nm,20.5s,baz=230,slow=36						
SDV	**Santo Domingo**	**75.77**	**310**	*e*P	**P**	**14 30 42.7**	**-1.0**
MTP	**Monte Pirata**	**81.98**	**318**	*e*P	**P**	**14 31 16.4**	**-1.1**
JTS	**JuntasAbangare**	**83.79**	**298**	*e*P	**P**	**14 31 25.1**	**-2.0**
	comp=Z,2.2nm,0.5s						
JTS	**JuntasAbangare**	**83.79**	**298**	*ce*P	**P**	**14 31 27.7**	**+0.7**
ACON	**Acoyapa**	**85.33**	**299**	*e*P	**P**	**14 31 33.9**	**-0.9**
H08N3	**Diego Garcia H**	**86.39**	**96**	T	T	16 07 35.7	
	baz=216,slow=76,SNR=8.2						
H08N1	**Diego Carcia H**	**86.41**	**96**	T	T	16 07 36.0	
	baz=216,slow=76,SNR=6.8						
H08N2	**Diego Garcia H**	**86.41**	**96**	T	T	16 07 38.3	
	baz=216,slow=76,SNR=7.9						
TBI	**Tubuai**	**89.91**	**227**	*e*LR	LR	15 00 49.6	
	comp=Z,406nm,24.2s						
BBOO	**Buckleboo**	**90.22**	**161**	*e*P	**P**	**14 31 57.0**	**-1.2**
STKA	**Stephens Creek**	**92.02**	**166**	LR	LR	15 11 03.7	
	comp=Z,331nm,18.8s,baz=193,slow=34						
KEST	**Kesra**	**94.49**	**25**	LR		15 09 25.0	
	comp=Z,180nm,21.0s,baz=254,slow=32						
PPT2	**Papeete2**	**95.07**	**229**	*e*LR	LR	15 03 06.7	
	comp=Z,359nm,26.2s						
PPT	**Papeete**	**95.09**	**229**	LR	LR	15 06 39.4	
	comp=Z,166nm,20.8s,baz=169,slow=30						
ASAR	**Alice Springs**	**98.66**	**158**	LR	LR	15 13 14.2	
	comp=Z,113nm,20.3s,baz=212,slow=33						
DZM	**Mont Dzumac**	**102.64**	**188**	*e*LR	LR	15 06 44.0	
	comp=Z,145nm,22.1s						
OBN	**Obninsk**	**119.91**	**34**	*e*PKIKP	**PKiKP**	**14 37 48.0**	**+1.0**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FIA0	**FINESS Array S**	**122.32**	**25**	*e*PKPdf	**PKPdf**	**14 37 50.5**	**-0.8**
FIA0	**FINESS Array S**	**122.32**	**25**	*e*PKIKP	**PKPdf**	**14 37 50.6**	**-0.8**
FINES	**FINESS Array B**	**122.32**	**25**	PKP	**PKPdf**	**14 37 50.5**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=132,slow=2.8,SNR=9.4						
CMAR	**Chiang Mai Arr**	**122.36**	**105**	PKP	**PKPdf**	**14 37 52.2**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=228,slow=3.2,SNR=10						
NVAR	**Mina Array Bea**	**123.99**	**290**	PKP	**PKiKP**	**14 37 55.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=137,slow=3.3,SNR=2.8						
YHH	**Holmes Hill**	**124.72**	**300**	*e*PKPdf	**PKPdf**	**14 37 57.0**	**+0.1**
KK31	**Karatay Array**	**125.09**	**63**	*e*PKPdf	**PKPdf**	**14 37 56.7**	**-0.6**
KK31	**Karatay Array**	**125.09**	**63**	*e*PKIKP	**PKPdf**	**14 37 56.7**	**-0.6**
KSH	**Kashi**	**125.39**	**70**	*e*PKP	**PKiKP**	**14 37 58.8**	**+0.3**
KSH				PP	**PP**	**14 39 52.3**	**+2.8**
KSH				AMB	AMB		
	comp=Z,72nm,5.4s						
KLMR	**Klimovskoe**	**125.49**	**32**	*e*PKIKP	**PKiKP**	**14 38 03.7**	**+5.9**
KLMR				pmax	pmax		
	comp=Z,14nm,1.3s						
KLMR	**Klimovskoe**	**125.49**	**32**	*e*PKPdf	**PKiKP**	**14 38 03.7**	**+5.9**
KLMR				AMP		14 38 13.2	
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**126.83**	**66**	*e*PKPdf	**PKiKP**	**14 38 01.4**	**+0.1**
AAK	**Ala-Archa**	**126.83**	**66**	*e*PKIKP	**PKiKP**	**14 38 01.4**	**+0.1**
PRGR	**Permogore**	**127.99**	**34**	*e*PKIKP	**PKPdf**	**14 37 57.9**	**-4.3**
PRGR				pmax	pmax		
	comp=Z,11nm,0.9s						
ARU	**Arti**	**128.93**	**45**	*i* PKIKP	**PKPdf**	**14 38 04.0**	**-0.2**
ARU						14 40 12.1	
ARA0	**ARCESS Array S**	**129.14**	**19**	*e*PKPdf	**PKPdf**	**14 38 03.5**	**-0.7**
ARCES	**ARCESS Array B**	**129.14**	**19**	PKP	**PKPdf**	**14 38 03.5**	**-0.7**
	comp=Z,8.5nm,1.1s,baz=110,slow=1.4,SNR=7.3						
APA	**Apatity**	**129.19**	**24**⇓	*i* PKIKP	PKiKP	14 38 13.1	+8.1
APA				pmax	pmax		
	comp=Z,13nm,1.0s						
APA				MLR	MLR		
	comp=Z,800nm,16.0s						
KMI	**Kunming**	**129.79**	**103**	PKP	**PKiKP**	**14 38 08.8**	**+0.9**
SVE	**Sverdlovsk**	**130.05**	**45**	*e*PKIKP	**PKPdf**	**14 38 06.5**	**+0.2**
SVE				pmax	pmax		
	comp=Z,13nm,1.4s						
BRVK	**Borovoye**	**131.77**	**54**⇓	*e*PKIKP	**PKiKP**	**14 38 10.5**	**-0.2**
GYA	**Guiyang**	**133.01**	**106**	*e*Pdif	**Pdif**	**14 35 10.4**	**+0.8**
GYA				PKP	**PKiKP**	**14 38 14.0**	**-0.2**
GYA				PP	**PP**	**14 40 44.6**	**+5.5**
GYA				AMB	AMB		
	comp=Z,120nm,7.8s						
MK32	**Makanchi Array**	**133.73**	**67**	*e*PKPdf	**PKPdf**	**14 38 12.4**	**-1.2**
MKAR	**Makanchi Array**	**133.73**	**67**	PKP	**PKPdf**	**14 38 12.4**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=221,slow=2.2,SNR=6.3						
KURK	**Kurchatov**	**134.31**	**61**⇑	*e*PKIKP	**PKiKP**	**14 38 15.4**	**-0.5**
WMQ	**Urumqi**	**134.72**	**74**	*e*PKP	**PKiKP**	**14 38 17.4**	**+0.3**
WMQ				LR	LR		
	comp=Z,270nm,23.3s						
WMQ				LR	LR		
	comp=Z,95nm,22.1s						
CD2	**Chengdu**	**134.81**	**99**	*e*PKP	**PKiKP**	**14 38 17.0**	**-0.7**
YKA	**Yellowknife Ar**	**137.70**	**316**	PKhKP	PKPpre	14 38 08.0	
	comp=Z,1.0nm,0.9s,baz=108,slow=4.4,SNR=7.9						
YKA				PKP	**PKPdf**	**14 38 19.4**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=126,slow=2.1,SNR=12						
YKB5	**Yellowknife Ar**	**137.70**	**316**	*e*PKPdf	**PKPdf**	**14 38 19.4**	**-1.0**
YKW3	**Yellowknife Ar**	**137.74**	**317**	*e*PKPdf	**PKPdf**	**14 38 19.2**	**-1.3**
GTA	**Gaotai**	**138.64**	**87**	PKP	**PKiKP**	**14 38 29.6**	**+4.3**
LZH	**Lanzhou**	**138.65**	**94**	*e*PKP	**PKPdf**	**14 38 20.9**	**-2.4**
LZH				sPKP		14 38 34.6	
LZH				LR	LR		
	comp=Z,79nm,18.0s						
LZH				LR	LR		
	comp=Z,82nm,18.1s						
ZALV	**Zalesovo Beam**	**139.28**	**60**	PKP	**PKPdf**	**14 38 22.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=203,slow=1.1,SNR=3.2						
ZAA1	**Zalesovo Array**	**139.28**	**60**	*e*PKPdf	**PKPdf**	**14 38 22.8**	**-0.9**
NJ2	**Nanjing**	**143.95**	**114**	*e*PKPdf	**PKPdf**	**14 38 34.3**	**+1.6**
JIS	**Juneau Island**	**144.36**	**303**	*e*PKPdf	PKPbc	14 38 31.7	+0.7
BESE	**Bessie Mountai**	**144.71**	**303**	*e*PKPdf	**PKPdf**	**14 38 32.8**	**-0.5**
BTO	**Bootou**	**145.27**	**95**	*e*PKPb

	53nm,1.5s							
RAR	**Rarotonga**	**16.78**	**72**	P	**Pn**	**14 28 23.7**	**-3.6**
	1.4nm,0.3s,baz=224,slow=11,SNR=4.9							
RAR				S	Sn	14 31 09.2	-24
	0.5nm,0.3s,baz=69,slow=14,SNR=2.1							
RAR				LR	LR	14 32 59.4	
	comp=Z,179nm,20.3s,baz=256,slow=30							
RAR				T	T	14 45 25.9	
	5.5nm,0.3s,baz=81,slow=15,SNR=6.4							
RPZ	**Rata Peaks**	**19.00**	**208**	LR	LR	14 35 34.8		
	comp=Z,171nm,19.5s,baz=24,slow=35							
TBI	**Tubuai**	**25.11**	**87**	*e*LR	LR	14 36 06.8		
	comp=Z,222nm,25.5s							
TBI	**Tubuai**	**25.11**	**87**	*e*T	T	14 55 33.1		
	24nm,0.3s							
PAE	**Paea**	**26.98**	**75**	*e*T	T	14 58 00.8		
	17nm,0.3s							
PPT2	**Papeete2**	**27.02**	**75**	*e*LR	LR	14 37 02.3		
	comp=Z,224nm,26.0s,baz=247							
PPT2	**Papeete2**	**27.02**	**75**	*e*T	T	14 58 03.9		
	5.3nm,0.3s							
PPT	**Papeete**	**27.03**	**75**	LR	LR	14 38 07.7		
	comp=Z,61nm,19.0s,baz=246,slow=30							
TVO	**Taravao**	**27.21**	**75**	*e*T	T	14 58 17.6		
	2.6nm,0.3s							
HNR	**Honiara**	**28.19**	**305**	LR	LR	14 40 05.4		
	comp=Z,95nm,18.2s,baz=218,slow=33							
VAH	**Vaihoa**	**29.76**	**72**	*e*T	T	15 01 29.5		
	9.7nm,0.2s							
CTA	**Charters Tower**	**34.39**	**274**	P	**P**	**14 31 18.5**	**+0.5**	
	8.2nm,0.6s,baz=104,slow=11,SNR=13							
STKA	**Stephens Creek**	**36.19**	**253**	*e*P	**P**	**14 31 29.5**	**-3.9**	
	2.5nm,1.4s							
STKA	**Stephens Creek**	**36.19**	**253**	P	**P**	**14 31 33.1**	**-0.3**	
	1.9nm,0.5s,baz=108,slow=13,SNR=6.5							
STKA				LR	LR	14 44 45.8		
	comp=Z,128nm,18.4s,baz=115,slow=34							
RKT	**Rikitea**	**38.05**	**93**	*e*T	T	15 11 39.6		
	2.9nm,0.3s							
PMG	**Port Moresby**	**38.29**	**291**	P	**P**	**14 31 50.8**	**-0.5**	
	6.6nm,0.6s,baz=90,slow=5.1,SNR=4.7							
TAOE	**Nuku Hiva Isla**	**39.29**	**69**	*e*LR	LR	14 42 27.0		
	comp=Z,125nm,27.7s							
AS01	**Alice Springs**	**44.27**	**263**	*e*P	**P**	**14 32 39.2**	**-1.2**	
AS01	**Alice Springs**	**44.27**	**263**	*e*P	**P**	**14 32 38.1**	**-2.3**	
AS31	**Alice Springs**	**44.31**	**263**	*e*P	**P**	**14 32 39.9**	**-0.8**	
AS31	**Alice Springs**	**44.31**	**263**	*e*P	**P**	**14 32 39.9**	**-0.8**	
	1.0nm,0.6s							
ASAR	**Alice Springs**	**44.31**	**263**	P	**P**	**14 32 39.9**	**-0.8**	
ASAR	**Alice Springs**	**44.31**	**263**	P	**P**	**14 32 39.9**	**-0.8**	
	2.5nm,0.7s,baz=93,slow=7.0,SNR=62							
ASAR				LR	LR	14 49 25.1		
	comp=Z,53nm,20.0s,baz=182,slow=34							
WB2	**Warramunga Arr**	**45.02**	**269**	*e*P	**P**	**14 32 44.9**	**-1.4**	
WRAB	**Tennant Creek**	**45.02**	**269**	*e*P	**P**	**14 32 45.5**	**-0.9**	
	6.1nm,0.7s							
WR1	**Warramunga Arr**	**45.03**	**269**	*e*P	**P**	**14 32 45.1**	**-1.3**	
	6.8nm,0.6s							
WRA	**Warramunga Arr**	**45.03**	**269**	P	**P**	**14 32 45.2**	**-1.3**	
WRA	**Warramunga Arr**	**45.03**	**269**	P	**P**	**14 32 45.1**	**-1.3**	
	6.5nm,0.7s,baz=108,slow=7.6,SNR=68							
VNDA	**Vanda**	**51.21**	**186**	P	**P**	**14 33 34.9**	**+1.6**	
	1.1nm,0.6s,baz=358,slow=8.3,SNR=6.1							
FITZ	**Fitzroy Crossi**	**53.39**	**267**	*e*P	**P**	**14 33 47.0**	**-3.3**	
	3.7nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.39**	**267**	P	**P**	**14 33 49.7**	**-0.6**	
	2.7nm,0.9s,baz=99,slow=4.9,SNR=6.3							
SIJI	**Sorong**	**56.17**	**289**	P	**P**	**14 34 10.4**	**-0.2**	
	13nm,0.6s,baz=79,slow=7.3,SNR=12							
BATI	**Baumata**	**58.27**	**275**	LR	LR	14 57 36.1		
	comp=Z,133nm,20.4s,baz=40,slow=34							
QSPA	**South Pole Qui**	**62.74**	**180**	P	**P**	**14 34 56.8**	**+1.6**	
	2.7nm,0.6s,baz=343,slow=1.2,SNR=16							
MAW	**Mawson**	**75.48**	**200**	*e*P	**P**	**14 36 14.4**	**+0.6**	
	9.9nm,1.8s							
MAW	**Mawson**	**75.48**	**200**	P	**P**	**14 36 15.0**	**+1.2**	
	4.0nm,0.6s,baz=128,slow=10,SNR=6.3							
MAW				LR	LR	15 11 28.1		
	comp=Z,78nm,18.4s,baz=226,slow=37							
MJAR	**Matsushiro Arr**	**76.31**	**324**	P	**P**	**14 36 18.2**	**-0.8**	
	1.9nm,0.6s,baz=166,slow=6.3,SNR=7.1							
MAJO	**Matsushiro**	**76.31**	**324**	*e*P	**P**	**14 36 18.2**	**-0.8**	
SNAA	**Sanae**	**81.16**	**178**	*e*P	**P**	**14 36 45.4**	**+0.2**	
	28nm,1.9s							
SNAA	**Sanae**	**81.16**	**178**	P	**P**	**14 36 45.4**	**+0.2**	
	2.6nm,0.9s,baz=149,slow=12,SNR=3.5							
KSRS	**Korea Array**	**82.67**	**319**	P	**P**	**14 36 54.0**	**+0.5**	
	1.6nm,0.6s,baz=128,slow=6.5,SNR=6.5							
KSAR	**Wonju Array Be**	**82.68**	**319**	P	**P**	**14 36 54.0**	**+0.4**	
PETK	**Petropavlovsk-**	**83.12**	**345**	P	**P**	**14 36 56.5**	**+1.1**	
	5.3nm,0.7s,baz=98,slow=11,SNR=6.3							
PEA1	**Petropavlovsk-**	**83.13**	**345**	*e*P	**P**	**14 36 56.5**	**+1.1**	
PLCA	**Paso Flores**	**83.88**	**133**	P	**P**	**14 37 00.7**	**+0.7**	
	2.5nm,1.0s,baz=225,slow=4.3,SNR=4.0							
USRK	**Ussuriysk Ar.**	**85.17**	**326**	P	**P**	**14 37 07.2**	**+1.1**	
	1.3nm,0.6s,baz=194,slow=5.2,SNR=3.2							
USRK				LR	LR	15 10 02.2		
	comp=Z,40nm,19.3s,baz=41,slow=32							
NVAR	**Mina Array Bea**	**85.36**	**42**	P	**P**	**14 37 08.7**	**+1.2**	
	2.1nm,0.8s,baz=222,slow=8.7,SNR=12							
PSI	**Prapat**	**86.09**	**275**	LR	LR	15 16 52.7		
	comp=Z,56nm,18.1s,baz=98,slow=36							
TXAR	**Lajitas Array**	**89.94**	**57**	P	**P**	**14 37 31.0**	**+1.4**	
	0.5nm,0.8s,baz=210,slow=7.2,SNR=6.0							
PDAR	**Pinedale Array**	**93.28**	**43**	P	**P**	**14 37 45.9**	**+1.0**	
	0.8nm,0.9s,baz=180,slow=1.5,SNR=5.9							
ILAR	**Eielson Array**	**94.76**	**12**	P	**P**	**14 37 50.8**	**-0.1**	
	0.5nm,0.7s,baz=221,slow=5.8,SNR=7.1							
ZAA1	**Zalesovo Array**	**116.38**	**319**	*e*PKPdf	**PKPdf**	**14 43 11.5**	**-1.4**	
ZALV	**Zalesovo Beam**	**116.38**	**319**	PKP	**PKPdf**	**14 43 11.5**	**-1.4**	
	0.7nm,0.5s,baz=70,slow=2.1,SNR=3.2							
MK32	**Makanchi Array**	**116.52**	**311**	*e*PKPdf	**PKPdf**	**14 43 12.7**	**-0.8**	
MKAR	**Makanchi Array**	**116.52**	**311**	PKP	**PKPdf**	**14 43 12.7**	**-0.8**	
	1.6nm,0.9s,baz=77,slow=2.9,SNR=8.7							
ARA0	**ARCESS Array S**	**135.81**	**349**	*e*PKPdf	**PKPdf**	**14 43 49.9**	**+0.3**	
ARCES	**ARCESS Array B**	**135.81**	**349**	PKP	**PKPdf**	**14 43 49.9**	**+0.3**	
	2.9nm,0.8s,baz=337,slow=1.4,SNR=6.5							
H10S3	**ASCENSION HYDR**	**140.02**	**152**	T	T	17 20 32.0		
	baz=203							
H10S2	**ASCENSION HYDR**	**140.02**	**152**	T	T	17 20 40.5		
	baz=203							
H10S1	**ASCENSION HYDR**	**140.03**	**152**	T	T	17 20 36.1		
	baz=203							
H10N3	**ASCENSION HYDR**	**141.09**	**152**	T	T	17 21 43.8		
	baz=205,slow=75,SNR=7.1							
H10N1	**ASCENSION HYDR**	**141.09**	**152**	T	T	17 21 55.1		
	baz=205,slow=75,SNR=5.8							
H10N2	**ASCENSION HYDR**	**141.10**	**152**	T	T	17 21 45.0		
	baz=205,slow=75,SNR=7.4							
FIA0	**FINESS Array S**	**142.59**	**342**	*e*PKPpre	PKPpre	14 43 58.1		
FINES	**FINESS Array B**	**142.59**	**342**	PKhKP	PKPpre	14 43 58.1		
	1.6nm,0.7s,baz=48,slow=2.8,SNR=7.7							
NB2	**NORSAR Subarra**	**145.88**	**353**	PKP	**PKPdf**	**14 44 08.0**	**0.0**	
	comp=Z,2.5nm,0.7s,baz=11,slow=3.0							
NB200	**NORSAR Array S**	**145.88**	**353**	*e*PKPdf	**PKPdf**	**14 44 08.3**	**+0.3**	
NOA	**NORSAR Array B**	**145.88**	**353**	PKPbc	**PKPdf**	**14 44 08.3**	**+0.3**	
	comp=Z,3.7nm,0.8s,baz=16,slow=4.6,SNR=16							
AKASG	**Malin Array Be**	**149.37**	**327**	PKPbc	**PKPbc**	**14 44 18.0**	**-0.4**	
	comp=Z,4.7nm,0.7s,baz=41,slow=3.6,SNR=21							
BR101	**Keskin Array S**	**151.84**	**304**	*e*PKPbc	**PKPbc**	**14 44 24.5**	**-0.4**	
BRTR	**Keskin Array B**	**151.84**	**304**	PKPbc	**PKPbc**	**14 44 24.5**	**-0.4**	
	comp=Z,2.9nm,0.7s,baz=138,slow=4.3,SNR=9.6							
CLL	**Collm**	**154.93**	**345**	*i* PKPab	**PKPab**	**14 44 46.6**	**+0.1**	
	comp=Z,8.0nm,1.0s							
GERES	**GERESS Array B**	**157.02**	**342**	PKPab	**PKPab**	**14 44 55.9**	**+0.2**	
	comp=Z,0.8nm,0.8s,baz=20,slow=4.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**165.80**	**174**	PKPab	**PKPab**	**14 45 35.2**	**+0.6**	
	comp=Z,1.1nm,0.6s,baz=169,slow=4.2,SNR=6.7							
TOA1	**Torodi Ar. Sit**	**165.81**	**174**	*e*PKPab	**PKPab**	**14 45 35.2**	**+0.6**	

*ISN **22** 14:38:34.5±1.4, 37.40N×42.66E, h0km±7km, ML2.5*
*ISCJB **22** 14:38:39.4±0.9, 37.26N±0.04×42.72E±0.05, h1km±7km,*
Error ellipse: s-maj=8.8km s-min=4.6km az=136.4
*DDA **22** 14:38:39.5, 37.34N×42.66E, h7km±4km, ML2.8*
*ISK **22** 14:38:40.7, 37.38N×42.60E, h6km, ML2.5/5*
ISC 22 14:38:39.8±1.3, 37.26N±0.04×42.68E±0.04, h6km±11km, n15, σ1$08/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIRN	**Srnak**	**0.32**	**318**	*i* P			**Pg**	**14 38 45.0**	**-1.1**
SIRN				*i* S			**Sg**	**14 38 49.7**	**-0.6**
SIRN				IAML_P					
	comp=Z,12μm,0.3s								
CUKT	**Cukurca**	**0.74**	**91**	PG			**Pn**	**14 38 56.9**	**0.0**
CUKT				SG			**Sn**	**14 39 08.6**	**0.0**
MSL	**Mosul**	**0.93**	**158**	*e*Pg			**Pg**	**14 38 57.3**	**-0.3**
	baz=340								
MSL				*e*Sg			**Sn**	**14 39 13.7**	**+0.7**
SRTM	**Siirt_Merkez**	**0.95**	**321**	*i* P			**Pg**	**14 38 56.9**	**-1.1**
SRTM				*i* S			**Sg**	**14 39 11.3**	**+1.0**
SRTM				IAML_P					
	comp=Z,857nm,0.3s								
BLIS	**Bitlis-Merkez**	**1.24**	**339**	*i* P			**Pn**	**14 39 03.2**	**-0.6**
BLIS				*i* S			**Sn**	**14 39 21.1**	**+0.2**
BLIS				IAML_P					
	comp=Z,3μm,0.4s								
BTMN	**Batman**	**1.28**	**300**	*i* P			**Pn**	**14 39 04.4**	**0.0**
BTMN				*i* S			**Sg**	**14 39 23.6**	**+2.4**
BTMN				IAML_P					
	comp=Z,2μm,0.4s								
YOVA	**Hakkari_Yksek**	**1.32**	**75**	*i* P			**Pg**	**14 39 05.6**	**+0.4**
GURO	**Guroymak-BITLI**	**1.39**	**338**	PN			**Pn**	**14 39 05.1**	**-0.7**
SVAN	**Silvan-Diyarba**	**1.47**	**308**	PN			**Pn**	**14 39 06.7**	**-0.2**
MARD	**Mardin**	**1.52**	**273**	*i* P			**Pn**	**14 39 07.8**	**+0.2**
MARD				*i* S			**Sg**	**14 39 30.0**	**+1.4**
MUSM	**Mu-Merkez**	**1.73**	**328**	*i* P			**Pn**	**14 39 10.9**	**+0.3**
MUSM				*i* S			**Sb**	**14 39 34.4**	**+0.3**
MUSM				IAML_P					
	comp=Z,330nm,0.3s								
MLAZ	**Malazgirt-MUS**	**1.88**	**357**	PN			**Pn**	**14 39 12.4**	**-0.3**
HANI	**Diyarbakir_Han**	**2.14**	**303**	*i* P			**Pb**	**14 39 18.3**	**-0.8**
HANI				*i* S			**Sg**	**14 39 51.5**	**+2.9**
HANI				IAML_P					
	comp=Z,593nm,0.3s								
IKRK	**Kirkuk**	**2.29**	**144**	*e*Pn			**Pn**	**14 39 17.0**	**-1.1**
IKRK				*e*Sn			**Sn**	**14 39 46.0**	**-0.6**
AGRB	**Hanur-Agry**	**2.32**	**6**	PN			**Pn**	**14 39 19.0**	**+0.2**

*NEIC **22** 14:43:46.4±0.0, 16.66N×94.82W, h97km, MD4.1(MEX), After MEX.*
MEX 22 14:43:46.1±0.8, 16.69N×94.80W, h104km±7km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**349**	*e*P			Pn	14 43 59.9	-1.8
CMIG				*i* S			Sn	14 44 11.0	-2.5
CMIG	**Matias Romero**	**0.41**	**349**	*e*P			Pn	14 43 59.9	-1.8
CMIG				*i* S			Sn	14 44 11.8	-1.7
HUIG	**Huatulco**	**1.55**	**234**	*e*P			Pn	14 44 11.8	-1.4
HUIG				*i* S			Sn	14 44 35.1	+1.2
HUIG	**Huatulco**	**1.55**	**234**	*e*P			Pn	14 44 11.8	-1.4
HUIG				*i* S			Sn	14 44 32.4	-1.5
PCIG		**1.81**	**123**	*e*P			Pn	14 44 15.4	-1.0
PCIG				*i* S			Sn	14 44 39.3	-0.1
PCIG		**1.81**	**123**	*e*P			Pn	14 44 15.4	-1.0
PCIG				*i* S			Sn	14 44 38.2	-1.2
VHO	**Vista Hermosa**	**1.89**	**282**	*e*P			Pn	14 44 17.2	-0.4
VHO				*i* S			Sn	14 44 41.5	-0.2
VHO	**Vista Hermosa**	**1.89**	**282**	*e*P			Pn	14 44 17.2	-0.4
VHO				*i* S			Sn	14 44 40.6	-1.0
CCIG	**Comitan**	**2.59**	**99**	*e*P			Pn	14 44 24.9	-1.8
CCIG				*i* S			Sn	14 44 55.9	-1.9

IDC 22 14:55:37.6±1.4, 0.65S×127.68E, h0km, mb3.3/3, mb1 3.6/5, mb1mx3.4/41, mbtmp3.4/5, ML3.1/2, Error ellipse: s-maj=42.3km s-min=23.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.59**	**93**	Pn			Pn	14 56 35.3	+0.6
	1.3nm,0.3s,baz=206,slow=23,SNR=8.7								
SIJI				Sn			Sn	14 57 14.2	-3.7
	0.3nm,0.3s,baz=60,slow=20,SNR=3.4								
FITZ	**Fitzroy Crossi**	**17.45**	**186**	P			P	14 59 44.7	+0.7
	0.1nm,0.3s,baz=34,slow=3.6,SNR=2.9								
WRA	**Warramunga Arr**	**20.25**	**162**	P			P	15 00 13.3	-1.5
	0.6nm,0.7s,baz=340,slow=12,SNR=8.1								
ASAR	**Alice Springs**	**23.66**	**166**	P			P	15 00 51.2	+0.2
	0.7nm,0.7s,baz=346,slow=12,SNR=22								
MKAR	**Makanchi Array**	**61.69**	**326**	P			P	15 05 57.5	-0.1
	0.2nm,0.3s,baz=126,slow=7.2,SNR=7.4								

*ISCJB **22** 15:05:05.0±0.6, 33.78N±0.08×137.71E±0.09, h347km, mb2.8/5, Error ellipse: s-maj=13.9km s-min=7.1km az=139.5*
*JMA **22** 15:05:05.1±0.3, 33.82N×137.64E, h350km±3km, M2.8*
*IDC **22** 15:05:05.6±1.0, 33.70N×137.61E, h330km±13km, mb2.7/5, mb1 2.9/7, mb1mx2.7/47, mbtmp3.4/7, Error ellipse: s-maj=26.3km s-min=16.6km az=75.0*
ISC 22 15:05:06.2±1.0, 33.8N±0.1×137.67E±0.09, h347km, n22, σ1$09/25, mb2.8/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTO5	**TONANKAI O.B.S**	**0.43**	**5**	P			**Pn**	**15 05 49.9**	**+0.2**
TTO1	**TONANKAI O.B.S**	**0.76**	**255**	P			**Pn**	**15 05 50.0**	**-0.4**
JKN2	**Miekihoku**	**1.23**	**290**	P			**Pn**	**15 05 51.7**	**-0.9**
JAO	**Obara**	**1.48**	**347**	P			**Pn**	**15 05 53.9**	**0.0**
JNY	**Yasuok**	**1.54**	**6**	P			**Pn**	**15 05 54.2**	**-0.1**
JTNC	**Tanabenakahech**	**1.71**	**270**	P			**Pn**	**15 05 54.2**	**-1.1**
JWY	**Kouya**	**1.77**	**283**	P			**Pn**	**15 05 54.9**	**-0.8**
JOD2	**Odawara 2**	**1.85**	**39**	P			**Pn**	**15 05 56.2**	**0.0**
JWT	**Wachi**	**2.37**	**309**	P			**Pn**	**15 05 59.3**	**-0.6**
JHU	**Hanno**	**2.42**	**33**	P			**Pn**	**15 06 00.2**	**-0.1**
JHU				S			**S**	**15 06 41.8**	**-2.0**
JAI	**Aioi**	**2.68**	**270**	P			**Pn**	**15 06 01.3**	**-1.2**
MJAR	**Matsushiro Arr**	**2.75**	**9**	P			**Pn**	**15 06 03.0**	**0.0**
	0.1nm,0.3s,baz=194,slow=10,SNR=12								
MJAR				S			**S**	**15 06 47.7**	**-1.1**
	0.1nm,0.3s,baz=180,slow=16,SNR=5.5								
JMN	**Monobe**	**3.16**	**269**	P			**Pn**	**15 06 05.8**	**-1.0**
JHO	**Hitachi**	**3.66**	**40**	P			**Pn**	**15 06 10.6**	**-0.9**
JHO				S			**S**	**15 07 02.0**	**-2.1**
JHS	**Saijyo**	**3.94**	**289**	P			**Pn**	**15 06 14.1**	**-0.3**
JFK	**Kawauchi**	**4.40**	**36**	S			**S**	**15 07 15.9**	**-2.1**
KSRS	**Korea Array**	**8.72**	**297**	P			**Pn**	**15 07 09.1**	**+0.3**
	0.3nm,0.3s,baz=112,slow=12,SNR=6.2								
MKAR	**Makanchi Array**	**43.32**	**305**	P			**P**	**15 12 36.1**	**+1.1**
	0.4nm,0.6s,baz=90,slow=9.3,SNR=5.7								
KURBB	**Kurchatov Arra**	**45.64**	**310**	P			**P**	**15 12 53.5**	**+0.5**
	0.2nm,0.3s,baz=83,slow=6.7,SNR=4.6								
WRA	**Warramunga Arr**	**53.56**	**184**	P			**P**	**15 13 52.2**	**-0.3**
	0.4nm,0.4s,baz=0.2,slow=7.7,SNR=16								
ILAR	**Eielson Array**	**53.83**	**31**	P			**P**	**15 13 55.9**	**+1.9**
	0.2nm,0.5s,baz=260,slow=4.8,SNR=4.4								
ASAR	**Alice Springs**	**57.28**	**184**	P			**P**	**15 14 18.9**	**+0.2**
	0.1nm,0.3s,baz=352,slow=4.4,SNR=14								

*MOS **22** 15:13:08.2±0.0, 43.25N×41.73E, h1km, MPVA3.1*
NORS 22 15:13:10.6±0.0, 43.21N×41.92E, h2km, MPVA3.1, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.23**	**291**	*i* Pg			Pg	15 13 09.4	-5.6
DOMR				*i* Sg			Sg	15 13 11.8	-6.1
ARXR	**Arkhyz**	**0.58**	**307**	*i* Pg			Pg	15 13 18.2	-3.6
ARXR				*i* Sg			Sg	15 13 25.8	-3.6
NEY	**Neytrino**	**0.59**	**86**	*e*Pg			Pg	15 13 22.1	+0.2
NEY				*e*Sg			Sb	15 13 31.3	-1.5
SHA1	**Shidzhatmaz**	**0.76**	**45**	*i* Pg			Pg	15 13 25.3	+0.2
SHA1				*i* Sg			Sb	15 13 37.2	-0.3
KIV0	**Kislovodsk Arr**	**0.94**	**37**	*i* Pg			Pg	15 13 28.5	-0.1
KIV0				*i* Sg			Sb	15 13 42.5	-0.2
BEYR	**Belyy Ugol+**	**1.03**	**39**	*i* Pg			Pg	15 13 30.4	-0.1
BEYR				*i* Sg			Sb	15 13 45.7	+0.3
KBTC	**Kuba-Taba**	**1.24**	**60**	*e*Pg			Pn	15 13 36.1	+1.0
KBTC				*e*Sg			Sn	15 13 54.8	+2.3
RPOR	**Krasnaya Polya**	**1.30**	**293**	*e*Pg			Pg	15 13 32.5	-3.0
RPOR				*e*Sg			Sg	15 13 49.7	-2.5
ZEI	**Tsey**	**1.52**	**105**	*e*Pg			Pg	15 13 40.7	+1.1
ZEI				*e*Sg			Sn	15 14 04.0	+4.5
GUZR	**Guzeripl'**	**1.52**	**302**	*e*Pg			Pn	15 13 35.0	-4.0
GUZR				*e*Sg			Sn	15 13 53.2	-6.2
SOC	**Sochi**	**1.65**	**284**	*e*Pg			Pn	15 13 36.8	-3.8
SOC				*e*Sg			Sn	15 13 58.1	-4.2
ALER	**Alexandrovskoy**	**1.71**	**25**	*e*Pg			Pn	15 13 41.6	+0.1
ALER				*e*Sg			Sg	15 14 07.5	+1.9
LACR	**Lac**	**1.79**	**102**	*e*Pg			Pg	15 13 46.7	+1.8
LACR				*e*Sg			Sg	15 14 13.8	+5.8
LZRR	**Lazarevskoye**	**1.98**	**292**	*e*Pg			Pn	15 13 42.6	-2.6
LZRR				*e*Sg			Sn	15 14 08.2	-2.4

*MOS **22** 15:14:11.9±0.0, 42.96N×46.02E, h80km±2km, MPVA3.9*
*ISCJB **22** 15:14:12.4±0.6, 43.02N±0.04×46.04E±0.03, h89km±5km, Error ellipse: s-maj=6.9km s-min=3.1km az=27.3*
*NORS **22** 15:14:12.0±0.0, 42.92N×46.01E, h77km±2km, MPVA3.8*
ISC 22 15:14:13.4±1.3, 42.99N±0.04×46.01E±0.03, h82km±7km, n33, σ1$20/66, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVE	**Vedeno**	**0.09**	**113**	*e*Pg			**Pn**	**15 14 24.3**	**-0.9**
DVE				*e*Sg			**Sn**	**15 14 32.7**	**-1.2**
GROC	**Groznyy**	**0.26**	**323**	*e*Pg			**Pn**	**15 14 25.8**	**+0.1**
GROC				*e*Sg			**Sn**	**15 14 36.0**	**+1.2**
BTLR	**Botlikh**	**0.36**	**155**	*i* Pg			**Pn**	**15 14 25.7**	**-0.6**
BTLR				*e*Sg			**Sn**	**15 14 35.1**	**-0.8**
DBC	**Dubki**	**0.60**	**87**	*i* Pg			**Pn**	**15 14 27.5**	**-0.7**
DBC				*e*Sg			**Sn**	**15 14 38.4**	**-1.0**
XNZR	**Khunzakh**	**0.68**	**131**	*e*Pg			**Pn**	**15 14 28.9**	**-0.3**
XNZR				*e*Sg			**Sn**	**15 14 39.8**	**-1.1**
KMGR	**Komgaron**	**0.84**	**275**	*e*Pg			**Pn**	**15 14 30.1**	**-0.6**
KMGR				*e*Sg			**Sn**	**15 14 44.2**	**+0.4**
GNBR	**Gunib**	**0.92**	**130**	*e*Pg			**Pn**	**15 14 31.6**	**-0.1**
GNBR				*e*Sg			**Sn**	**15 14 45.9**	**+0.5**
VLKR	**Vladikavkaz**	**0.98**	**274**	*e*Pg			**Pn**	**15 14 33.9**	**+1.5**
VLKR				*e*Sg			**Sn**	**15 14 48.6**	**+2.1**
MAK	**Makhachkala**	**1.09**	**91**	*e*Pg			**Pn**	**15 14 33.0**	**-0.6**
MAK				*e*Sg			**Sn**	**15 14 49.9**	**+1.1**
BTKR	**Batakoyurt**	**1.14**	**290**	*e*Pg			**Pn**	**15 14 35.2**	**+0.9**
BTKR				*e*Sg			**Sn**	**15 14 51.6**	**+1.7**
LGD	**Lagodekhi**	**1.17**	**172**	P			**Pn**	**15 14 34.6**	**0.0**
LGD				S			**Sn**	**15 14 51.3**	**+0.8**
LGD	**Lagodekhi**	**1.17**	**172**	*e*Pg			**Pn**	**15 14 34.6**	**0.0**
LGD				*e*Sg			**Sn**	**15 14 51.3**	**+0.8**
TRKR	**Terskaya**	**1.19**	**308**	*e*Pg			**Pn**	**15 14 35.2**	**+0.5**
TRKR				*e*Sg			**Sn**	**15 14 52.4**	**+1.6**
GUDG	**Gudauri**	**1.25**	**246**	P			**Pn**	**15 14 37.3**	**+1.5**
GUDG				S			**Sn**	**15 14 55.3**	**+2.7**
LACR	**Lac**	**1.27**	**263**	*e*Pg			**Pn**	**15 14 35.4**	**-0.6**
LACR				*e*Sg			**Sn**	**15 14 52.3**	**-0.7**
ARNR	**Ardon**	**1.28**	**279**	*e*Pg			**Pn**	**15 14 36.5**	**+0.5**
ARNR				*e*Sg			**Sn**	**15 14 54.8**	**+1.8**
KORR	**Kora**	**1.43**	**274**	*e*Pg			**Pn**	**15 14 37.2**	**-0.7**
KORR				*e*Sg			**Sn**	**15 14 57.2**	**+0.8**
PRTR	**Priterechnaya**	**1.47**	**302**	*e*Pg			**Pn**	**15 14 39.0**	**+0.6**
PRTR				*e*Sg			**Sn**	**15 14 59.1**	**+1.8**
STDR	**Stavd-Durt**	**1.48**	**285**	*e*Pg			**Pn**	**15 14 39.1**	**+0.7**
STDR				*e*Sg			**Sn**	**15 14 59.0**	**+1.6**
DDFL	**Dedoflistskaro**	**1.55**	**177**	P			**Pn**	**15 14 36.8**	**-2.6**
DDFL				S			**Sn**

	baz=205							
ENTT				S		Sn	15 21 12.5	-0.6
	baz=205							
TWC	**Suao**	**0.32**	**163**	P		**Pn**	**15 21 02.1**	**+0.8**
	baz=157							
TWC				S		Sn	15 21 14.5	+1.5
	baz=157							
ANP	**Anpu**	**0.34**	**323**	P		**Pn**	**15 21 01.6**	**+0.1**
	baz=327							
ANP				S		Sn	15 21 13.4	0.0
	baz=327							
TWS1	**Kuangyinshan**	**0.35**	**302**	*i* P		**Pn**	**15 21 01.9**	**+0.4**
	baz=304							
TWS1				*i* S		Sn	15 21 13.2	0.0
	baz=304							
NTST	**Danshui**	**0.36**	**313**	*e*P		**Pn**	**15 21 01.9**	**+0.4**
	baz=315							
NTST				*e*S		Sn	15 21 13.2	-0.2
	baz=315							
NDT	**Datong Townshi**	**0.38**	**214**	P		**Pn**	**15 21 02.0**	**+0.3**
	baz=210							
NDT				*e*S		Sn	15 21 12.6	-1.0
	baz=210							
TWY	**Chenhua**	**0.38**	**340**⇑	*i*P		**Pn**	**15 21 02.0**	**+0.4**
	baz=344							
TWY				*i* S		Sn	15 21 13.6	0.0
	baz=344							
YHNB	**Yeheng**	**0.42**	**234**	*e*P		**Pn**	**15 21 01.7**	**-0.2**
	baz=231							
YHNB				*e*S		Sn	15 21 12.7	-1.4
	baz=231							
NSK	**Sanguang**	**0.43**	**236**	*i* P		**Pn**	**15 21 01.8**	**-0.2**
	baz=232							
NSK				*i* S		Sn	15 21 12.7	-1.5
	baz=232							
ENA	**Nanau**	**0.49**	**180**	*e*P		**Pn**	**15 21 03.0**	**+0.7**
	baz=176							
ENA				S		Sn	15 21 15.9	+1.2
	baz=176							
EOS1	**EOS1**	**0.51**	**136**	*e*P		**Pn**	**15 21 02.9**	**+0.6**
	baz=134							
EOS1				*e*S		Sn	15 21 15.3	+0.5
	baz=134							
NCU	**National Centr**	**0.51**	**276**	P		**Pn**	**15 21 02.9**	**+0.6**
	baz=276							
NCU				*i* S		Sn	15 21 15.0	+0.1
	baz=276							
NCUH	**Zhongli**	**0.51**	**276**	*e*P		**Pn**	**15 21 02.6**	**+0.2**
	baz=276							
NCUH				*e*S		Sn	15 21 14.5	-0.4
	baz=276							
NNS	**Nan Shan**	**0.58**	**215**	*i* P		**Pn**	**15 21 03.4**	**+0.3**
	baz=212							
NNS				*i* S		Sn	15 21 15.6	-0.6
	baz=212							
NNSB	**Datong**	**0.59**	**214**	*e*P		**Pn**	**15 21 03.2**	**+0.1**
	baz=212							
NNSB				*e*S		Sn	15 21 15.5	-0.7
	baz=212							
SBCB	**Hsinchu**	**0.70**	**260**	*e*P		**Pn**	**15 21 04.2**	**+0.3**
	baz=259							
SBCB				*e*S		Sn	15 21 17.3	-0.2
	baz=259							
HSN	**Hsinchu**	**0.71**	**261**	*e*P		**Pn**	**15 21 04.0**	**0.0**
	baz=262							
HSN				S		Sn	15 21 17.1	-0.6
	baz=262							
LIOB	**Emei**	**0.71**	**248**	*e*P		**Pn**	**15 21 01.5**	**-2.5**
	baz=247							
LIOB				*e*S		Sn	15 21 14.2	-3.6
	baz=247							
ETLH	**Xiulin Townshi**	**0.75**	**199**	*e*P		**Pn**	**15 21 04.1**	**-0.3**
	baz=196							
ETLH				*e*S		Sn	15 21 17.6	-0.8
	baz=196							
NACB	**Ninganchiao**	**0.75**	**190**	*e*P		**Pn**	**15 21 03.6**	**-0.8**
	baz=188							
NACB				*e*S		Sn	15 21 16.6	-1.7
	baz=188							
PCYT	**Pengchaiyu**	**0.77**	**23**	P		**Pn**	**15 21 05.2**	**+0.7**
	baz=24							
PCYT				S		Sn	15 21 19.3	+0.7
	baz=24							
TWT	**Tachien**	**0.84**	**218**	P		**Pn**	**15 21 06.3**	**+1.0**
	baz=217							
TWT				S		Sn	15 21 20.4	+0.3
	baz=217							
TWD	**Chiawan**	**0.85**	**189**	P		**Pn**	**15 21 04.6**	**-0.6**
	baz=187							
TWD				S		Sn	15 21 18.4	-1.5
	baz=187							
TDCB	**Techi**	**0.85**	**219**	*e*P		**Pn**	**15 21 06.2**	**+0.8**
	baz=217							
TDCB				*e*S		Sn	15 21 19.8	-0.4
	baz=217							
WHF	**Hehuan Shan**	**0.89**	**210**	P		**Pn**	**15 21 06.7**	**+0.7**
	baz=207							
WHF				S		Sn	15 21 21.6	+0.2
	baz=207							
HWA	**Hwalien**	**0.95**	**188**	*e*P		**Pn**	**15 21 07.2**	**+1.0**
	baz=185							
HWA				*e*S		Sn	15 21 21.9	+0.3
	baz=185							
NMLH	**Miaoli**	**0.95**	**247**	P		**Pn**	**15 21 06.8**	**+0.6**
	baz=245							
NMLH				S		Sn	15 21 22.1	+0.4
	baz=245							
WHP	**Taichung City**	**0.97**	**229**	P		**Pn**	**15 21 07.2**	**+0.7**
	baz=227							
WHP				S		Sn	15 21 22.0	-0.1
	baz=227							
CHGB	**Renai**	**1.00**	**211**	*e*P		**Pn**	**15 21 07.8**	**+0.9**
	baz=210							
CHGB				*e*S		Sn	15 21 23.0	0.0
	baz=210							
ENLB	**Shoufeng**	**1.02**	**187**	*e*P		**Pn**	**15 21 07.3**	**+0.4**
	baz=185							
ENLB				*e*S		Sn	15 21 23.1	+0.1
	baz=185							
NSY	**Sanyi**	**1.02**	**241**	*i* P		**Pn**	**15 21 07.8**	**+0.8**
	baz=239							
NSY				S		Sn	15 21 23.6	+0.5
	baz=239							
TWQ1	**Liyutan**	**1.05**	**237**	*i* P		**Pn**	**15 21 07.6**	**+0.3**
	baz=236							
TWQ1				S		Sn	15 21 23.3	-0.2
	baz=236							
OWD	**Renai**	**1.09**	**208**	P		**Pn**	**15 21 09.0**	**+1.2**
	baz=207							
OWD				*e*S		Sn	15 21 24.4	-0.2
	baz=207							
ESL	**Shilin**	**1.14**	**195**	*e*P		**Pn**	**15 21 07.3**	**-0.9**
	baz=192							
ESL				*e*S		Sn	15 21 23.3	-1.9
	baz=192							
WDJ	**Dajia District**	**1.15**	**241**	P		**Pn**	**15 21 09.1**	**+0.8**
	baz=240							
WDJ				S		Sn	15 21 26.2	+0.7
	baz=240							
JYNG	**Yonagunijimaku**	**1.19**	**113**	P		**Pn**	**15 21 08.7**	**0.0**
JYNG				*e*S		Sn	15 21 25.4	-0.8
TCU	**Taichung**	**1.24**	**232**	*e*P		**Pn**	**15 21 10.0**	**+0.7**
	baz=230							
TCU				*e*S		Sn	15 21 27.6	+0.4
	baz=230							
YOJ	**Yonaguni jima**	**1.24**	**111**	*e*P		**Pn**	**15 21 09.2**	**0.0**
	baz=110							
YOJ				*e*S		Sn	15 21 27.8	+0.6
	baz=110							
YOJ	**Yonaguni jima**	**1.24**	**111**	P		**Pn**	**15 21 09.3**	**0.0**
YOJ				*e*S		Sn	15 21 27.2	0.0
EGFH	**Guangfu**	**1.28**	**193**	*e*P		**Pn**	**15 21 09.6**	**-0.2**
	baz=192							
EGFH				*e*S		Sn	15 21 26.3	-1.7
	baz=192							
VWDT	**VWDT**	**1.28**	**205**	*e*P		**Pn**	**15 21 10.8**	**+1.0**
	baz=204							
VWDT				*e*S		Sn	15 21 28.3	+0.2
	baz=204							
SMLT	**Sun Moon Lake**	**1.29**	**217**	P		**Pn**	**15 21 10.6**	**+0.6**
	baz=215							
SMLT				S		Sn	15 21 28.6	+0.3
	baz=215							
TYC	**Yuchr**	**1.29**	**219**	P		**Pn**	**15 21 10.6**	**+0.7**
	baz=217							
TYC				S		Sn	15 21 29.0	+0.6
	baz=217							
SSLB	**Suanglung**	**1.34**	**213**	*e*P		**Pn**	**15 21 11.0**	**+0.5**
	baz=211							
SSLB				*e*S		Sn	15 21 29.6	+0.3
	baz=211							
WCHH	**Zhanghua**	**1.36**	**233**	*e*P		**Pn**	**15 21 11.1**	**+0.3**
	baz=231							
WCHH				*e*S		Sn	15 21 29.8	0.0
	baz=231							
WNT	**Mingjian**	**1.42**	**223**	P		**Pn**	**15 21 12.2**	**+0.8**
	baz=222							
WNT				*e*S		Sn	15 21 31.3	+0.5
	baz=222							
WJS	**Zhushan**	**1.43**	**221**	*e*P		**Pn**	**15 21 12.2**	**+0.6**
	baz=219							
WJS				S		Sn	15 21 31.7	+0.4
	baz=219							
HGSD	**Ruisui**	**1.45**	**192**	*e*P		**Pn**	**15 21 12.5**	**+0.7**
	baz=190							
HGSD				*e*S		Sn	15 21 32.3	+0.7
	baz=190							
EHY	**Hungye**	**1.46**	**195**	*e*P		**Pn**	**15 21 12.6**	**+0.6**
	baz=194							
EHY				*e*S		Sn	15 21 30.4	-1.4
	baz=194							
WHYT	**Xinyi Township**	**1.46**	**214**	*e*P		**Pn**	**15 21 12.6**	**+0.6**
	baz=212							
WHYT				*e*S		Sn	15 21 32.1	+0.1
	baz=212							
YULB	**Yu-li**	**1.57**	**195**	*e*P		**Pn**	**15 21 12.1**	**-1.2**
	baz=194							
YULB				*e*S		Sn	15 21 34.4	+0.1
	baz=194							
TWF1	**Yuli**	**1.61**	**195**	P		**Pn**	**15 21 14.1**	**+0.4**
	baz=193							
TWF1				*e*S		Sn	15 21 35.3	+0.2
	baz=193							
RLNB	**Erlin**	**1.62**	**231**	*e*P		**Pn**	**15 21 14.2**	**+0.4**
	baz=230							
RLNB				*e*S		Sn	15 21 35.5	+0.2
	baz=230							
WGK	**Gukeng**	**1.63**	**222**	*e*P		**Pn**	**15 21 14.8**	**+0.8**
	baz=220							
WGK				S		Sn	15 21 36.3	+0.8
	baz=220							
CHN5	**Tsauling**	**1.64**	**217**	P		**Pn**	**15 21 14.7**	**+0.5**
	baz=215							
CHN5				S		Sn	15 21 36.1	+0.4
	baz=215							
WDLH	**Douliu**	**1.65**	**222**	*e*P		**Pn**	**15 21 14.7**	**+0.5**
	baz=221							
WDLH				*e*S		Sn	15 21 35.7	-0.1
	baz=221							
WTCT	**Ta-ch'eng**	**1.70**	**232**	P		**Pn**	**15 21 14.9**	**+0.1**
	baz=231							
WTCT				S		Sn	15 21 36.8	-0.1
	baz=231							
FULB	**Fuli**	**1.76**	**194**	*e*P		**Pn**	**15 21 16.0**	**+0.3**
	baz=192							
FULB				*e*S		Sn	15 21 38.3	-0.1
	baz=192							
CHKT	**Chengkung**	**1.84**	**191**	*e*P		**Pn**	**15 21 16.8**	**+0.2**
	baz=189							
CHKT				*e*S		Sn	15 21 39.2	-1.0
	baz=189							
ELDTW	**Lidau**	**1.84**	**201**	*e*P		**Pn**	**15 21 17.8**	**+1.1**
	baz=200							
ELDTW				*e*S		Sn	15 21 41.0	+0.6
	baz=200							
CHY	**Chiayi**	**1.86**	**221**	*e*P		**Pn**	**15 21 17.3**	**+0.5**
	baz=219							
CHY				*e*S		Sn	15 21 41.4	+0.9
	baz=219							
CHN4	**Tsaushan**	**1.88**	**214**	P		**Pn**	**15 21 17.8**	**+0.7**
	baz=213							
CHN4				S		Sn	15 21 41.5	+0.4
	baz=213							
WSF	**Szhu**	**1.89**	**228**	*e*S		**Sn**	**15 21 41.7**	**+0.6**
	baz=226							
IRIF	**Iriomote-Funau**	**1.90**	**107**	P		**Pn**	15 21 17.0	-0.3
IRIF				S		Sn	15 21 40.5	-0.9
TPUB	**Ta-pu**	**1.91**	**213**	*e*P		**Pn**	**15 21 17.9**	**+0.5**
	baz=211							
TPUB				*e*S		Sn	15 21 42.1	+0.5
	baz=211							
WLGB	**Puzi**	**1.95**	**223**	*e*S		**Sn**	**15 21 43.0**	**+0.5**
	baz=222							
WTP	**Ta-pu**	**1.96**	**212**	P		**Pn**	**15 21 18.7**	**+0.6**
	baz=211							
WTP				S		Sn	15 21 42.9	+0.1
	baz=211							
STYT	**Tauyuan**	**1.97**	**208**	P		**Pn**	**15 21 18.8**	**+0.6**
	baz=206							
STYT				S		Sn	15 21 43.8	+0.7
	baz=206							
TWK	**Hsinying**	**2.00**	**215**	*e*P		**Pn**	**15 21 18.6**	**-0.2**
	baz=214							
TWK				*e*S		Sn	15 21 43.9	0.0
	baz=214							
MATB	**Ma-tsu**	**2.04**	**307**	*e*P		**Pn**	**15 21 19.0**	**0.0**
	baz=307							
MATB				S		Sn	15 21 44.2	-0.3
	baz=307							
SNST	**Tainan City**	**2.04**	**214**	*e*P		**Pn**	**15 21 21.0**	**+1.9**
	baz=213							
SNST				*e*S		Sn	15 21 44.6	0.0
	baz=213							
CHN1	**Nanshi**	**2.05**	**213**	P		**Pn**	**15 21 19.6**	**+0.3**
	baz=212							
CHN1				S		Sn	15 21 45.0	0.0
	baz=212							
HATJ	**Hateruma jima**	**2.06**	**114**	P		**Pn**	15 21 19.9	+0.5
HATJ				*e*S		Sn	15 21 44.9	-0.3
VWUC	**VWUC**	**2.08**	**272**	*e*P		**Pn**	**15 21 19.8**	**+0.2**
	baz=272							
CHN8	**Yiju**	**2.10**	**222**	*e*S		**Sn**	**15 21 46.5**	**+0.5**
	baz=221							
SGST	**Jiashian**	**2.11**	**210**	P		**Pn**	**15 21 20.7**	**+0.6**
	baz=209							
SGST				S		Sn	15 21 46.7	+0.4
	baz=209							
SLGT	**Liugui**	**2.16**	**208**	*e*P		**Pn**	**15 21 21.2**	**+0.5**
	baz=207							
SLGT				*e*S		Sn	15 21 47.6	+0.1
	baz=207							
JKRS	**Kuro-shima**	**2.17**	**108**	P		**Pn**	**15 21 21.1**	**+0.4**
TWG	**Pinlang**	**2.18**	**197**	*e*P		**Pn**	**15 21 20.7**	**-0.2**
	baz=195							
TWG				*e*S		Sn	15 21 47.0	-0.8
	baz=195							
TWGBT	**Beinan**	**2.18**	**196**	*e*P		**Pn**	**15 21 20.6**	**-0.3**
	baz=195							
TWGBT				*e*S		Sn	15 21 48.4	+0.6
	baz=195							
SCLT	**Jiali**	**2.24**	**220**	*e*P		**Pn**	**15 21 20.5**	**-1.2**
	baz=218							
SCLT				*e*S		Sn	15 21 50.2	+1.0
	baz=218							
JIJ	**Ishigaki jima**	**2.25**	**104**	P		**Pn**	**15 21 21.9**	**+0.1**
JIJ				S		Sn	15 21 48.5	-1.0
JISG	**Ishigakijimahi**	**2.36**	**98**	P		**Pn**	**15 21 23.4**	**+0.3**
JISG				*e*S		Sn	15 21 51.1	-0.8
PTMZ	**Houxiangcun**	**2.38**	**273**	*e*P		**Pn**	**15 21 23.5**	**+0.1**
	baz=273							
PTMZ				*e*S		Sn	15 21 51.4	-1.1
	baz=273							
SSD	**Sandimen**	**2.39**	**205**	*e*P		**Pn**	**15 21 24.0**	**+0.4**
	baz=204							
SSD				*e*S		Sn	15 21 52.8	+0.1
	baz=204							
PNG	**Penghu**	**2.41**	**236**	*e*P		**Pn**	**15 21 23.3**	**-0.5**
	baz=235							
PNG				*e*S		Sn	15 21 51.3	-1.8
	baz=235							
LYJJ	**Jianjiangzhen**	**2.42**	**313**	*e*P		**Pn**	**15 21 24.1**	**+0.2**
	baz=312							
LYJJ				*e*S		Sn	15 21 52.8	-0.5
	baz=312							
ECL	**Taimali**	**2.42**	**198**	*e*P		**Pn**	**15 21 24.4**	**+0.3**
	baz=196							
ECL				*e*S		Sn	15 21 52.8	-0.6
	baz=196							
PHUB	**P'eng-hu**	**2.43**	**235**	*e*P		**Pn**	**15 21 23.7**	**-0.4**
	baz=234							
PHUB				*e*S		Sn	15 21 52.4	-1.1
	baz=234							
XPSS	**Dashiqiu**	**2.44**	**325**	*e*P		**Pn**	**15 21 24.5**	**+0.3**
	baz=325							
XPSS				*e*S		Sn	15 21 53.6	-0.3
	baz=325							
MASBT	**Mashibuluo**	**2.51**	**204**	*e*P		**Pn**	**15 21 25.7**	**+0.5**
	baz=203							
MASBT				*e*S		Sn	15 21 55.0	-0.5
	baz=203							
WDGT	**Dungji**	**2.52**	**230**	*e*P		**Pn**	**15 21 25.1**	**-0.2**
	baz=228							
EAST	**Anshuo**	**2.65**	**198**	*e*P		**Pn**	**15 21 27.5**	**+0.4**
	baz=197							
JTJ	**Tarama**	**2.70**	**95**	P		**Pn**	**15 21 28.7**	**+1.0**
VCHM	**Qimei**	**2.71**	**232**	*e*P		**Pn**	**15 21 27.6**	**-0.2**
	baz=230							
VCHM				*e*S		Sn	15 21 59.5	-0.7
	baz=230							
MHZQ	**Yeshan**	**2.72**	**296**	*e*P		**Pn**	**15 21 28.2**	**+0.3**
	baz=295							
SCZT	**Fangliau**	**2.74**	**202**	*e*P		**Pn**	**15 21 30.1**	**+1.9**
	baz=201							
SCZT				*e*S		Sn	15 22 00.4	-0.4
	baz=201							
LAY	**Lan-yu**	**2.87**	**184**	P		**Pn**	**15 21 29.3**	**-0.7**
	baz=182							
LAY				*e*S		Sn	15 22 02.2	-1.9
	baz=182							
KNM	**Kinmen**	**3.05**	**261**	P		**Pn**	**15 21 34.0**	**+1.8**
	baz=260							
KNMB	**Chin-men Tao**	**3.08**	**262**	*e*P		**Pn**	**15 21 32.4**	**-0.3**
	baz=261							
AXDP	**Jialang**	**3.43**	**270**	*e*P		**Pn**	**15 21 37.8**	**+0.6**
	baz=269							

MEX 22 15:42:59.2±0.3, 18°.38N×102°.61W, h46^{km}±14^{km}, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMIG	**Aquila**	**0.71**	**263**	*e*P		Pn	15 43 11.2	-1.7
MMIG				*i* S		Sn	15 43 20.9	-1.9
R15V		**1.52**	**301**	*e*P		Pn	15 43 22.4	-1.6
R15V				*i* S		Sn	15 43 40.7	-2.0
ARIG	**Puente Sto Nin**	**2.15**	**92**	*e*P		Pn	15 43 31.2	-1.4
ARIG				*e*S		Sn	15 43 55.8	-2.2

IDC 22 16:15:51.4±3.7, 22°.46N×144°.25E, h0^{km}, mb3.6/4, mb1 3.8/4, mb1mx3.3/54, mbtmp3.6/4, Error ellipse: s-maj=184.2km s-min=25.9km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.24**	**194**	P		P	16 23 55.0	+0.3
	0.2nm,0.4s,baz=13,slow=8.6,SNR=10							
ASAR	**Alice Springs**	**46.94**	**193**	P		P	16 24 23.5	-0.6
	0.2nm,0.6s,baz=10,slow=7.1,SNR=5.7							
BVAR	**Borovoye Array**	**62.74**	**319**	P		P	16 26 18.9	+0.5
	0.5nm,0.4s,baz=97,slow=6.6,SNR=7.4							
FINES	**FINESS Array B**	**82.92**	**335**	P		P	16 28 17.2	-0.7
	0.4nm,0.4s,baz=76,slow=7.3,SNR=4.7							

*NEIC **22** 16:16:57.4±0.0, 65°.24N×141°.06W, h11^{km}, ML2.8(AEIC), After AEIC.*
*PGC **22** 16:16:57.3±0.0, 65°.26N×140°.91W, h1^{km}, ML3.2/10, 151km northwest of Dawson, Yt Northern Yukon Territory, Canada*
*AEIC **22** 16:16:57.4, 65°.24N×141°.06W, h11^{km}, ML2.8*

ISC 22 16:16:55.3±1.1, 65°.27N±0'.02×140°.94W±0'.02, h13^{km}±9km, n50, σ2^{s}51/80, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EGAK	**Eagle**	**0.51**	**191**	P		**Pb**	**16 17 06.4**	**+0.3**
EGAK				S		**Sb**	**16 17 13.3**	**0.0**
DAWY	**Dawson**	**1.38**	**151**	P		**Pg**	**16 17 22.3**	**+0.5**
DAWY				S		**Sg**	**16 17 41.7**	**+1.9**
DAWY	**Dawson**	**1.38**	**151**	Pn		**Pb**	**16 17 21.9**	**+0.9**
DAWY				Sg		**Sg**	**16 17 40.8**	**+1.0**
SCRK	**Sand Creek**	**1.85**	**227**	P		**Pn**	**16 17 28.6**	**+1.8**
SCRK				S		**Sn**	**16 17 51.8**	**+1.7**
PRP	**Porcupine Dome**	**1.93**	**279**	P		**Pn**	**16 17 29.7**	**+1.8**
PRP				S		**Sb**	**16 17 54.4**	**-0.1**
EPYK	**Eagle Plains**	**2.06**	**56**	P		**Pb**	**16 17 32.4**	**0.0**
EPYK				S		**Sb**	**16 17 59.7**	**+1.7**
EPYK	**Eagle Plains**	**2.06**	**56**	S		**Sg**	**16 18 01.7**	**+0.4**
	baz=239							
DOT	**Dot Lake**	**2.12**	**221**	P		**Pn**	**16 17 31.7**	**+1.3**
DOT	**Dot Lake**	**2.12**	**221**	Pn		**Pn**	**16 17 32.5**	**+2.1**
DOT				Pg		**Pg**	**16 17 35.6**	**-0.3**
DOT				Sg		**Sg**	**16 18 02.1**	**-1.3**
FYU	**Fort Yukon**	**2.19**	**308**	P		**Pn**	**16 17 33.5**	**+2.2**
FYU				S		**Sb**	**16 18 01.2**	**-0.4**
BCA3	**Beaver Creek A**	**2.25**	**190**	P		**Pn**	**16 17 34.2**	**+2.0**
RIDG	**Independ'e Rid**	**2.28**	**229**	P		**Pn**	**16 17 34.6**	**+1.9**
BM3	**Burnt Mountain**	**2.61**	**327**	P		**Pn**	**16 17 40.0**	**+2.8**
MENT	**Mentasta**	**2.64**	**209**	P		**Pn**	**16 17 39.0**	**+1.4**
HDA	**Harding Lake**	**2.71**	**254**	P		**Pn**	**16 17 39.9**	**+1.4**
	baz=69							
HDA				Sb		**Sg**	**16 18 21.4**	**-0.8**
	baz=69							
POKR	**Poker Plat Res**	**2.74**	**270**	Pb		**Pg**	**16 17 46.8**	**-1.0**
	baz=84							
POKR				Sb		**Sg**	**16 18 22.2**	**-1.1**
	baz=84							
BVCY	**Beaver Creek**	**2.87**	**179**	P		**Pn**	**16 17 43.0**	**+2.2**
BVCY	**Beaver Creek**	**2.87**	**179**	Pn		**Pn**	**16 17 42.9**	**+2.2**
BVCY				Sg		**Sg**	**16 18 25.7**	**-1.7**
TCOL	**CIGO, UAF Yank**	**2.96**	**265**	P		**Pn**	**16 17 45.6**	**+3.7**
	baz=79							
TCOL				Sb		**Sg**	**16 18 30.0**	**-0.2**
	baz=79							
PAX	**Paxson**	**3.05**	**223**	Pn		**Pn**	**16 17 45.5**	**+2.3**
PAX				Sg		**Sg**	**16 18 30.8**	**-2.3**
WRH	**Wood River Hil**	**3.16**	**258**	P		**Pn**	**16 17 46.2**	**+1.6**
HARP	**HAARP**	**3.43**	**215**	P		**Pn**	**16 17 50.2**	**+1.8**
HARP	**HAARP**	**3.43**	**215**	Pn		**Pn**	**16 17 52.0**	**+3.6**
YUK2	**White River**	**3.50**	**179**	P		**Pn**	**16 17 52.2**	**+2.7**
YUK2	**White River**	**3.50**	**179**	Pn		**Pn**	**16 17 51.7**	**+2.2**
YUK2				Sn		**Sn**	**16 18 32.6**	**+1.8**
YUK2				Sg		**Sg**	**16 18 45.0**	**-2.6**
YUK3	**Moose Creek**	**3.52**	**176**	P		**Pn**	**16 17 52.1**	**+2.3**
YUK3	**Moose Creek**	**3.52**	**176**	Pn		**Pn**	**16 17 51.9**	**+2.1**
YUK3				Sn		**Sn**	**16 18 32.9**	**+1.5**
YUK3				Sg		**Sg**	**16 18 45.0**	**-3.1**
YUK4	**Talbot Arm**	**4.08**	**164**	P		**Pn**	**16 17 58.9**	**+1.4**
YUK4	**Talbot Arm**	**4.08**	**164**	Pn		**Pn**	**16 17 58.7**	**+1.3**
YUK4				Sg		**Sb**	**16 19 00.2**	**+4.0**
MLY	**Manley**	**4.14**	**271**	P		**Pn**	**16 18 00.5**	**+2.3**
COLD	**Coldfoot**	**4.23**	**302**	P		**Pn**	**16 18 01.8**	**+2.5**
COLD	**Coldfoot**	**4.23**	**302**	Pn		**Pn**	**16 18 02.3**	**+3.0**
COLD				Sn		**Sn**	**16 18 50.0**	**+1.5**
COLD				Sg		**Sg**	**16 19 08.6**	**-2.3**
INK	**Inuvik**	**4.23**	**41**	P		**Pn**	**16 18 00.8**	**+1.5**
INK	**Inuvik**	**4.23**	**41**	Pn		**Pn**	**16 18 01.2**	**+1.9**
INK				Sn		**Sn**	**16 18 48.2**	**-0.2**
BALM	**Baldy**	**4.30**	**189**	Pn		**Pn**	**16 18 03.2**	**+2.7**
BALM				Sn		**Sn**	**16 18 52.1**	**+1.6**
YUK5	**Granite Creek**	**4.38**	**160**	Pn		**Pn**	**16 18 04.5**	**+2.9**
YUK5				Sg		**Sg**	**16 19 12.0**	**-3.9**
KIAG	**Kiagna River**	**4.41**	**189**	Pn		**Pn**	**16 18 05.7**	**+3.6**
KIAG				Sn		**Sn**	**16 18 55.4**	**+2.1**
YUK6	**Outpost Mounta**	**4.50**	**164**	P		**Pn**	**16 18 06.1**	**+2.8**
YUK6	**Outpost Mounta**	**4.50**	**164**	Pn		**Pn**	**16 18 05.9**	**+2.6**
YUK6				Sg		**Sg**	**16 19 16.9**	**-2.8**
**H

*IDC **22** 16:34:01.1±1.0,8.°03N×138.°09E,h0km,mb3.7/7, mb1 4.0/7,mb1mx3.7/42,mbtmp3.7/7,MS3.1/11, Ms1 3.2/11,ms1mx2.9/48,Error ellipse: s-maj=38.2km s-min=20.4km az=89.0*

*ISCJB **22** 16:34:04.8±0.7,8.°06N±0.°08×137.°9E±0.°2,h33km,mb3.6/7, MS3.2/8,Error ellipse: s-maj=29.9km s-min=8.9km az=166.4*

ISC 22 16:34:07.1±0.8,**8.°13N**±0.°10×**138.°0E**±0.°2,**h35**km,**n22,** σ1§**51/9,mb3.7/7,MS3.1/8,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GUMO	**Guam**	**8.69**	**51**	LR		LR	16 40 02.8	
	comp=Z,45nm,18.1s,baz=147,slow=42							
JAY	**Jayapura**	**10.92**	**165**	Pn		**Pn**	**16 36 41.8**	**+0.8**
	0.6nm,0.3s,baz=278,slow=7.1,SNR=4.9							
JAY				Sn		**Sn**	**16 38 43.0**	**+1.0**
	1.0nm,0.3s,baz=197,slow=19,SNR=4.1							
JAY				LR		LR	16 39 43.9	
	comp=Z,89nm,20.9s,baz=348,slow=32							
SIJI	**Sorong**	**11.15**	**217**	LR		LR	16 40 38.7	
	comp=Z,81nm,18.8s,baz=30,slow=36							
JNU	**Nakatsue**	**25.73**	**346**	LR		LR	16 48 40.4	
	comp=Z,21nm,19.1s,baz=156,slow=34							
HNR	**Honiara**	**27.99**	**128**	LR		LR	16 50 45.8	
	comp=Z,38nm,18.3s,baz=254,slow=36							
WRA	**Warramunga Arr**	**28.12**	**187**	P		**P**	**16 39 54.2**	**-1.7**
	0.4nm,0.8s,baz=6.9,slow=10.0,SNR=4.2							
FITZ	**Fitzroy Crossi**	**28.76**	**205**	LR		LR	16 51 31.1	
	comp=Z,40nm,18.6s,baz=196,slow=37							
H11S3	**WAKE ISLAND Hy**	**29.75**	**67**	T		T	17 12 04.7	
	baz=254,slow=75,SNR=30							
H11S1	**WAKE ISLAND Hy**	**29.76**	**67**	T		T	17 11 56.9	
	baz=254,slow=75,SNR=24							
H11S2	**WAKE ISLAND Hy**	**29.76**	**67**	T		T	17 11 56.4	
	baz=254,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**30.29**	**65**	T		T	17 12 43.1	
	baz=266,slow=75,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**30.30**	**65**	T		T	17 12 43.7	
	baz=266							
H11N3	**WAKE ISLAND Hy**	**30.31**	**65**	T		T	17 12 45.0	
	baz=266,slow=75,SNR=4.1							
KSRS	**Korea Array**	**30.58**	**344**	LR		LR	16 52 05.8	
	comp=Z,37nm,20.3s,baz=132,slow=35							
ASAR	**Alice Springs**	**31.84**	**187**	P		**P**	**16 40 27.2**	**-1.7**
	0.3nm,0.6s,baz=16,slow=12,SNR=11							
CMAR	**Chiang Mai Arr**	**39.26**	**289**	P		**P**	**16 41 34.1**	**+1.4**
	0.4nm,0.3s,baz=72,slow=7.8,SNR=6.2							
CMAR				LR		LR	16 56 25.9	
	comp=Z,37nm,20.8s,baz=216,slow=34							
DZM	**Mont Dzumac**	**40.99**	**138**	LR		LR	16 55 58.4	
	comp=Z,102nm,18.6s,baz=344,slow=32							
KLR	**Kul'dur**	**41.30**	**354**	P		**P**	**16 41 49.6**	**+0.5**
	1.5nm,0.8s,baz=129,slow=2.7,SNR=4.9							
KLR				LR		LR	16 56 16.1	
	comp=Z,52nm,20.2s,baz=84,slow=32							
MKAR	**Makanchi Array**	**60.95**	**320**	P		**P**	**16 44 16.0**	**-0.8**
	1.9nm,0.7s,baz=107,slow=8.4,SNR=23							
ZALV	**Zalesovo Beam**	**62.34**	**328**	LR		LR	17 14 25.2	
	comp=Z,17nm,18.1s,baz=63,slow=39							
ILAR	**Eielson Array**	**76.37**	**25**	P		**P**	**16 45 51.2**	**-1.3**
	0.2nm,0.8s,baz=233,slow=5.5,SNR=4.1							
YKA	**Yellowknife Ar**	**90.77**	**26**	P		**P**	**16 47 07.6**	**+1.3**
	0.6nm,0.8s,baz=295,slow=4.6,SNR=7.1							

MEX 22 16:35:20.9±0.5,**18.°24N**×**103.°62W**,**h4**km±708km,**MD3.6, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MMIG	**Aquila**	**0.27**	**79**	*e*P		Pg	16 35 25.9	-0.2
MMIG				*e*S		Sg	16 35 29.7	+0.1
R15V		**0.99**	**340**	*e*P		Pg	16 35 37.5	-2.5
R15V				*e*S		Sg	16 35 50.6	-2.2

*KRNET **22** 16:51:04.0±0.1,40.°31N×77.°57E,mb3.2*

*SOME **22** 16:51:05.4,40.°38N×77.°55E,h10km*

*NNC **22** 16:51:08.8±2.5,40.°49N×77.°55E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=17.1km s-min=11.3km az=165.0*

ISC 22 16:51:07.9±1.6,**40.°46N**±0.°07×**77.°50E**±0.°04,**h10**km,**n54,** σ1§**71/78,27C-10D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NRN	**Naryn**	**1.49**	**311**	⇑*i*P		**Pn**	**16 51 34.3**	**-0.8**
	baz=13							
NRN				⇑*i*S		**Sg**	**16 51 57.0**	**+1.1**
	baz=13							
KDJ	**Kajisay**	**1.68**	**352**	⇑*i*P		**Pb**	**16 51 38.8**	**-0.3**
	baz=51							
KDJ				⇑*i*S		**Sg**	**16 52 03.5**	**+1.5**
	baz=51							
ULHL	**Ulahol**	**2.02**	**332**	P		**Pb**	**16 51 44.9**	**+0.1**
	SNR=37							
ULHL	**Ulahol**	**2.02**	**332**	⇓*i*P		**Pb**	**16 51 43.8**	**-1.0**
	baz=33							
ULHL				⇓*i*S		**Sg**	**16 52 12.8**	**+0.1**
	baz=33							
PRZ	**Przheval'sk**	**2.13**	**18**	⇑*i*P		**Pn**	**16 51 44.4**	**+0.7**
	baz=16							
PRZ				⇑*i*S		**Sb**	**16 52 14.0**	**+0.7**
	baz=16							
BOOM	**Boomskoye usch**	**2.34**	**331**	⇑*i*P		**Pb**	**16 51 48.1**	**-2.1**
	baz=31							
BOOM				⇑*i*S		**Sb**	**16 52 20.4**	**+1.1**
	baz=31							
KZA	**Kyzart**	**2.34**	**314**	P		**Pb**	**16 51 50.2**	**-0.2**
	SNR=45							
KZA	**Kyzart**	**2.34**	**314**	⇑*i*P		**Pb**	**16 51 48.1**	**-2.3**
	baz=16							
KZA				⇑*i*S		**Sb**	**16 52 20.2**	**+0.7**
	baz=16							
SATY	**Saty**	**2.68**	**14**	Pg		**Pb**	**16 51 56.5**	**+0.5**
	12nm,0.3s							
SATY				Lg		Lg	16 52 33.2	
	31nm,0.4s							
SATY	**Saty**	**2.68**	**14**	*e*P		**Pb**	**16 51 56.5**	**+0.5**
	2.7nm,0.4s							
SATY				*e*S		**Sg**	**16 52 33.2**	**-0.8**
	31nm,0.4s							
MDOK	**Medeo**	**2.72**	**353**	⇑Pg		**Pg**	**16 51 58.4**	**-1.6**
	16nm,0.5s							
MDOK				Lg		Lg	16 52 35.2	
	27nm,0.5s							
ARLS	**Aral**	**2.77**	**301**	⇑*i*P		**Pn**	**16 51 53.7**	**+1.2**
	baz=4.0							
ARLS				⇑*i*S		**Sb**	**16 52 29.5**	**-2.2**
	baz=4.0							
AAA	**Alma-Ata**	**2.78**	**351**	Pg		**Pb**	**16 51 58.8**	**+1.1**
	23nm,0.3s							
AAA				Lg		Lg	16 52 38.0	
	176nm,0.4s							
AAA	**Alma-Ata**	**2.78**	**351**	*e*P		**Pb**	**16 51 58.8**	**+1.1**
	11nm,0.1s							
AAA				*e*S		**Sg**	**16 52 38.0**	**+0.8**
	158nm,0.7s							
KNDC	**Almaty**	**2.78**	**352**	⇑Pg		Pg	16 52 06.0	+4.8
	18nm,0.5s							
KNDC				⇑Lg		Lg	16 52 38.1	
	25nm,0.3s							
KOTS	**Kotyrbulak**	**2.78**	**354**	Pg		**Pb**	**16 51 58.9**	**+1.1**
	14nm,0.2s							
KOTS				Lg		Lg	16 52 37.5	
	60nm,0.3s							
KOTS	**Kotyrbulak**	**2.78**	**354**	*e*P		**Pb**	**16 51 59.0**	**+1.1**
	14nm,0.2s							
KOTS				*e*S		**Sg**	**16 52 37.5**	**+0.2**
	60nm,0.3s							
KST	**Kastek**	**2.82**	**337**	Pg		**Pb**	**16 51 58.9**	**+0.5**
	8.9nm,0.3s							
KST				Lg		Lg	16 52 37.7	
	23nm,0.6s							
KST	**Kastek**	**2.82**	**337**	*e*P		**Pb**	**16 51 58.9**	**+0.5**
	8.9nm,0.3s							
KST				*e*S		**Sg**	**16 52 37.7**	**-0.9**
	23nm,0.6s							
TKM2	**Tokmak 2**	**2.84**	**331**	P		**Pb**	**16 51 59.0**	**+0.2**
	SNR=7.2							
TKM2	**Tokmak 2**	**2.84**	**331**	⇑Pg		**Pg**	**16 52 00.6**	**-1.7**
	5.2nm,0.3s							
TKM2				⇓Lg		Lg	16 52 39.6	
	13nm,0.6s							
TKM2	**Tokmak 2**	**2.84**	**331**	⇑*i*P		**Pn**	**16 51 54.7**	**+1.2**
	baz=31							
TKM2				⇑*i*S		**Sb**	**16 52 32.2**	**-1.5**
	baz=31							
UCH	**Uchtor**	**2.85**	**309**	P		**Pb**	**16 51 59.0**	**-0.2**
	SNR=15							
UCH	**Uchtor**	**2.85**	**309**	⇓*e*P		**Pn**	**16 51 55.1**	**+1.2**
	baz=11							
UCH				⇓*i*S		**Sb**	**16 52 32.3**	**-2.1**
	baz=11							
KBK	**Karagaybulak**	**2.91**	**320**	P		**Pb**	**16 52 00.4**	**+0.4**
	SNR=15							
KBK	**Karagaybulak**	**2.91**	**320**	⇑*i*P		**Pn**	**16 51 56.0**	**+1.6**
	baz=21							
KBK				⇑*e*S		**Sb**	**16 52 33.9**	**-1.8**
	baz=21							
DGS	**Degeres**	**3.06**	**336**	Pg		**Pb**	**16 52 03.9**	**+1.4**
	17nm,0.5s							
DGS				Lg		Lg	16 52 46.0	
	32nm,0.6s							
DGS	**Degeres**	**3.06**	**336**	*e*P		**Pb**	**16 52 04.0**	**+1.4**
	17nm,0.5s							
DGS				*e*S		**Sg**	**16 52 46.0**	**-0.2**
	32nm,0.6s							
KURS	**Kuram**	**3.06**	**9**	Pg		**Pb**	**16 52 03.5**	**+0.9**
	4.6nm,0.6s							
KURS				Lg		Lg	16 52 45.2	
	16nm,0.5s							
KURS	**Kuram**	**3.06**	**9**	*e*P		**Pb**	**16 52 03.5**	**+0.9**
	3.6nm,0.7s							
KURS				*e*S		**Sg**	**16 52 45.2**	**-1.1**
	12nm,0.5s							
AAK	**Ala-Archa**	**3.13**	**315**	P		**Pb**	**16 52 04.1**	**+0.4**
	SNR=22							
AAK	**Ala-Archa**	**3.13**	**315**	⇑Pg		**Pb**	**16 52 04.3**	**+0.6**
	7.5nm,0.5s							
AAK				Lg		Lg	16 52 49.1	
	31nm,0.8s							
AAK	**Ala-Archa**	**3.13**	**315**	⇓*e*P		**Pn**	**16 51 59.2**	**+1.8**
	baz=16							
AAK				⇓*i*S		**Sb**	**16 52 38.9**	**-3.1**
	baz=16							
FRU1	**Bishkek**	**3.18**	**318**	⇓*i*P		**Pn**	**16 51 59.6**	**+1.6**
	baz=20							
FRU1				⇓*i*S		**Sn**	**16 52 39.6**	**+3.5**
	baz=20							
PDGK	**Podgornoye**	**3.23**	**27**	Pg		**Pb**	**16 52 04.8**	**-0.6**
	2.6nm,0.5s							
PDGK				Lg		Lg	16 52 47.4	
	17nm,0.8s							
PDGK	**Podgornoye**	**3.23**	**27**	⇓Pg		**Pg**	**16 52 12.1**	**+2.3**
	5.0nm,0.4s							
PDGK				Lg		Lg	16 52 48.3	
	17nm,0.6s							
CHMS	**Chumysh**	**3.26**	**322**	P		**Pb**	**16 52 06.2**	**+0.3**
	SNR=11							
KTBS	**Karatobe**	**3.30**	**350**	Pg		**Pb**	**16 52 07.3**	**+0.7**
	9.4nm,0.4s							
KTBS				Lg		Lg	16 52 52.2	
	19nm,0.4s							
KTBS	**Karatobe**	**3.30**	**350**	*e*P		**Pb**	**16 52 07.3**	**+0.7**
	4.5nm,0.4s							
KTBS				*e*S		**Sg**	**16 52 52.1**	**-1.9**
	70nm,0.4s							
AML	**Almayashu**	**3.31**	**301**	⇑*i*P		**Pn**	**16 52 01.5**	**+1.3**
	baz=3.0							
AML				⇑*i*S		**Sn**	**16 52 43.1**	**+3.3**
	baz=3.0							
ARSB	**Arslanbob**	**3.53**	**286**	⇑*i*P		**Pn**	**16 52 03.4**	**+0.5**
	baz=88							
ARSB				⇑*i*S		**Sn**	**16 52 47.4**	**+2.7**
	baz=88							
EKS2	**Erkin-Say**	**3.55**	**309**	P		Pg	16 52 31.4	+15
	SNR=8.8							
USP	**Ospenovka**	**3.59**	**322**	P		**Pb**	**16 52 12.6**	**+1.2**
	SNR=17							
KTMS	**Ketmen**	**3.66**	**35**	Pg		**Pb**	**16 52 13.6**	**+0.8**
	3.2nm,0.2s							
KTMS				Lg		Lg	16 53 02.8	
	20nm,0.5s							
KTMS	**Ketmen**	**3.66**	**35**	*e*P		**Pb**	**16 52 13.6**	**+0.8**
	3.2nm,0.2s							
KTMS				*e*S		**Sg**	**16 53 02.8**	**-2.7**
	20nm,0.5s							
ARXS	**Arharly**	**3.76**	**4**	Pg		**Pb**	**16 52 15.8**	**+1.4**
	3.7nm,0.3s							
ARXS				Lg		Lg	16 53 06.4	
	23nm,0.5s							
ARXS	**Arharly**	**3.76**	**4**	*e*P		**Pb**	**16 52 15.8**	**+1.4**
	3.7nm,0.3s							
ARXS				*e*S		**Sg**	**16 53 06.4**	**-2.1**
	23nm,0.5s							
MRKS	**Merke**	**3.93**	**307**	Pg		**Pb**	**16 52 19.6**	**+2.2**
	7.9nm,0.4s							
MRKS				Lg		Lg	16 53 12.7	
	7.6nm,0.6s							
MRKS	**Merke**	**3.93**	**307**	*e*P		**Pb**	**16 52 19.6**	**+2.2**
	7.9nm,0.4s							
MRKS				*e*S		**Sg**	**16 53 12.7**	**-1.4**
	7.6nm,0.6s							
KAPS	**Kapalarasan**	**5.01**	**15**	Pg		**Pg**	**16 52 39.3**	**-4.5**
	1.8nm,0.4s							
KAPS				Lg		Lg	16 53 46.7	
	5.2nm,0.7s							
KAPS	**Kapalarasan**	**5.01**	**15**	*e*P		**Pg**	**16 52 39.3**	**-4.5**
	0.9nm,0.4s							
KAPS				*e*S		**Sg**	**16 53 46.7**	**-2.0**
	5.7nm,0.7s							
KK31	**Karatay Array**	**5.85**	**299**	⇑Pg		**Pg**	**16 53 00.4**	**+0.5**
	0.3nm,0.3s,baz=110,slow=16,SNR=3.6							
KK31				⇑Lg		Lg	16 54 13.3	
	2.3nm,0.7s,baz=116,slow=28,SNR=5.0							
IUG	**Iuzhnay**	**5.87**	**289**	Pg		**Pg**	**16 52 57.5**	**-2.8**
	5.2nm,0.5s							
IUG				Lg		Lg	16 54 19.8	
IUG	**Iuzhnay**	**5.87**	**289**	*e*P		**Pg**	**16 52 56.1**	**-4.2**
	5.6nm,0.5s							
IUG				*e*S		**Sg**	**16 54 16.0**	**-0.2**
	8.4nm,0.7s							

*MOS **22** 16:52:49.3±1.1,34.°90N×23.°02E,h33km,mb4.3/8,Error ellipse: s-maj=10.5km s-min=4.8km az=80.2*

*ISCJB **22** 16:52:50.4±0.4,34.°89N±0.°03×23.°00E±0.°04,h54km±3km, mb4.0/23,MS3.1/3,Error ellipse: s-maj=6.2km s-min=3.3km az=42.5*

*IDC **22** 16:52:52.4±2.6,35.°08N×23.°30E,h33km±18km,mb4.0/16, mb1 4.0/22,mb1mx3.8/62,mbtmp4.1/22,ML3.9/6,MS3.2/4, Ms1 3.1/4,ms1mx2.7/44,Error ellipse: s-maj=19.1km s-min=16.0km az=28.0*

*HLW **22** 16:52:52.3,35.°15N×23.°51E,h33km±49km,Md4.8,Ml4.1*

*ATH **22** 16:52:53.2,35.°01N×23.°17E,h40km±2km,ML3.9/3,Error ellipse: s-maj=4.4km s-min=1.2km az=44.0*

*THE **22** 16:52:55.8,35.°04N×23.°30E,h49km±4km,ML3.8/4,Error ellipse: s-maj=4.3km s-min=0.8km az=57.0*

ISC 22 16:52:52.9±0.6,**35.°02N**±0.°05×**23.°19E**±0.°05,**h41**km±5km, **n163,**σ1§**93/175,mb4.0/23,MS2.9/3,8C-4D,Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GVD	**Gavdhos**	**0.76**	**104**	P		**Pn**	**16 53 08.5**	**+1.4**
GVD				S		**Sn**	**16 53 19.1**	**+1.7**
GVD	**Gavdhos**	**0.76**	**104**	P		**Pn**	**16 53 08.5**	**+1.4**
GVD				S		**Sn**	**16 53 20.4**	**+2.9**
GVD				AML	AML		16 53 23.9	
	comp=N,21783μm,0.4s							
GVD				AML	AML		16 53 26.2	
	comp=E,16610μm,0.3s							
IMMV	**Iera Moni Meta**	**0.78**	**55**	P		**Pn**	**16 53 09.0**	**+1.5**
IMMV				S		**Sn**	**16 53 20.2**	**+2.1**
IMMV	**Iera Moni Meta**	**0.78**	**55**	P		**Pn**	**16 53 09.2**	**+1.7**
IMMV				AML	AML		16 53 26.1	
	comp=E,11554μm,0.4s							
IMMV				AML	AML		16 53 26.9	
	comp=N,16631μm,0.7s							
ANKY	**Antikythira Is**	**0.85**	**6**	P		**Pn**	**16 53 10.7**	**+2.2**
ANKY				S		**Sn**	**16 53 22.4**	**+2.7**
CHAN	**Chania**	**0.85**	**54**	P		**Pn**	**16 53 10.2**	**+1.7**
CHAN				S		**Sn**	**16 53 21.7**	**+1.9**
VAM	**Vamos**	**0.91**	**65**	P		**Pn**	**16 53 10.9**	**+1.6**
VAM				S		**Sn**	**16 53 22.0**	**+0.8**
VAM	**Vamos**	**0.91**	**65**	P		**Pn**	**16 53 10.9**	**+1.6**
VAM				S		**Sn**	**16 53 22.0**	**+0.8**
VAM	**Vamos**	**0.91**	**65**	P		**Pn**	**16 53 11.1**	**+1.9**
VAM				S		**Sn**	**16 53 24.3**	**+3.1**
VAM				AML	AML		16 53 25.2	
	comp=N,11143μm,0.6s							
VAM				AML	AML		16 53 26.2	
	comp=E,13851μm,0.7s							
PRNS	**Prines Rethymn**	**1.12**	**72**	P		**Pn**	**16 53 13.2**	**+1.0**
PRNS				S		**Sn**	**16 53 25.6**	**-0.9**
KTHR	**Kythira**	**1.25**	**353**	P		**Pn**	**16 53 16.3**	**+2.4**
KYTH	**Kíthira**	**1.25**	**355**	P		**Pn**	**16 53 16.6**	**+2.7**
KYTH	**Kithira**	**1.25**	**355**	P		**Pn**	**16 53 16.1**	**+2.1**
SIVA	**Sivas**	**1.33**	**90**	P		**Pn**	**16 53 16.6**	**+1.6**
SIVA	**Sivas**	**1.33**	**90**	P		**Pn**	**16 53 16.8**	**+1.8**
IDI	**Anoyia**	**1.42**	**79**	Pg		**Pn**	**16 53 18.0**	**+1.7**
	comp=E,56nm,0.3s,baz=283,slow=9.5,SNR=118							
IACM	**Heraklion**	**1.56**	**79**	P		**Pn**	**16 53 20.8**	**+2.5**
VLI	**Veliai**	**1.71**	**353**	P		**Pn**	**16 53 22.9**	**+2.7**
VLI	**Veliai**	**1.71**	**353**	P		**Pn**	**16 53 22.6**	**+2.4**
LAST	**Lasithi**	**1.88**	**85**	P		**Pn**	**16 53 24.6**	**+2.0**
LAST	**Lasithi**	**1.88**	**85**	P		**Pn**	**16 53 25.0**	**+2.3**
MHLA	**Plaka, Milos I**	**1.99**	**30**	P		**Pn**	**16 53 26.1**	**+2.0**
NPS	**Neapolis**	**2.00**	**82**	P		**Pn**	**16 53 26.4**	**+2.2**
NPS	**Neapolis**	**2.00**	**82**	P		**Pn**	**16 53 26.8**	**+2.6**
PYL	**PYLOS**	**2.21**	**328**	P		**Pn**	**16 53 28.7**	**+1.5**
THR6	**Thira Island,**	**2.24**	**53**	P		**Pn**	**16 53 29.1**	**+1.7**
THR3	**Thira Island,**	**2.27**	**52**	P		**Pn**	**16 53 28.9**	**+1.0**
SANT	**Santorini**	**2.29**	**53**	*e*P		**Pn**	**16 53 27.7**	**-0.5**
ITM	**Ithomi**	**2.39**	**335**	P		**Pn**	**16 53 31.9**	**+2.4**
DID	**Didima**	**2.48**	**1**	P		**Pn**	**16 53 33.5**	**+2.6**
DID	**Didima**	**2.48**	**1**	P		**Pn**	**16 53 33.7**	**+2.8**
ZKR	**Zakros**	**2.48**	**87**	*e*P		**Pn**	**16 53 31.4**	**+0.6**
ZKR	**Zakros**	**2.48**	**87**	P		**Pn**	**16 53 33.2**	**+2.4**
APE	**Apeiranthos**	**2.79**	**42**	*e*P		**Pn**	**16 53 35.3**	**+0.2**
APE	**Apeiranthos**	**2.79**	**42**	⇓*i*P		**Pn**	**16 53 35.4**	**+0.3**
VLY	**Voula,Athens**	**2.87**	**10**	P		**Pn**	**16 53 37.6**	**+1.4**
ATH	**Athens Observa**	**2.98**	**8**	P		**Pn**	**16 53 39.5**	**+1.9**
GUR	**Goura**	**2.99**	**347**	P		**Pn**	**16 53 40.8**	**+2.9**
GUR	**Goura**	**2.99**	**347**	P		**Pn**	**16 53 40.7**	**+2.8**
DION	**Dionisos Attik**	**3.11**	**11**	P		**Pn**	**16 53 41.4**	**+1.9**
KLV	**Kalavryta, Ach**	**3.13**	**345**	P		**Pn**	**16 53 42.5**	**+2.7**
DRO	**Drossia**	**3.16**	**338**	P		**Pn**	**16 53 43.0**	**+2.8**
KARP	**Karpathos**	**3.29**	**80**	*e*P		**Pn**	**16 53 42.1**	**+0.1**
DSF	**Desfina**	**3.43**	**351**	P		**Pn**	**16 53 45.9**	**+2.0**
EREA	**Eretria**	**3.44**	**10**	P		**Pn**	**16 53 45.9**	**+1.8**
EFP	**Efpalio**	**3.55**	**343**	P		**Pn**	**16 53 48.3**	**+2.8**
LKR	**Lokris**	**3.63**	**358**	P		**Pn**	**16 53 48.7**	**+2.1**
SLUM	**Salum**	**3.90**	**154**	P		**Pn**	**16 53 51.1**	**+0.7**
	baz=158							
SLUM				AMP			16 54 00.0	
	baz=158							
SLUM				S		**Sn**	**16 54 32.8**	**-2.2**
	baz=158							
AGG	**Agios Georgios**	**4.05**	**350**	P		**Pn**	**16 53 54.0**	**+1.5**
CHOS	**Chios island**	**4.07**	**34**	*e*P		**Pn**	**16 53 53.8**	**+1.1**
ARG	**Arkhangelos**	**4.19**	**72**	*e*P		**Pn**	**16 53 53.6**	**-0.7**
URLA	**Izmir**	**4.31**	**38**	*e*P		**Pn**	**16 53 57.1**	**+1.1**
TURN	**Turunc**	**4.76**	**66**	*i* P		**Pn**	**16 53 60.0**	**-2.2**
TURN				IAML_P				
	comp=Z,2μm,0.2s							
DALY	**Dalyan (Mula)**	**4.78**	**66**	*i* P		**Pn**	**16 54 04.8**	**+2.4**
DALY				IAML_P				
	comp=Z,1μm,0.2s							
PAIG	**Paliouri**	**4.91**	**4**	P		**Pn**	**16 54 04.8**	**+0.6**
PAIG				pmax	pmax			
	comp=Z,39nm,1.3s							
LIT	**Litokhoron**	**5.10**	**354**	P		**Pn**	**16 54 07.2**	**+0.3**
LIT				pmax	pmax			
	comp=Z,39nm,1.1s							
TAVA	**DENIZLI_Tavas**	**5.23**	**61**	*i* P		**Pn**	**16 54 10.2**	**+1.5**
TAVA				IAML_P				
	comp=Z,200nm,0.2s							
AKAS	**Kas**	**5.36**	**75**	*e*P		**Pn**	**16 54 11.2**	**+0.7**
AKAS	**Kas**	**5.36**	**75**	*i* P		**Pn**	**16 54 11.6**	**+1.1**
THE	**Thessaloniki**	**5.61**	**358**	P		**Pn**	**16 54 13.5**	**-0.2**
THE				pmax	pmax			
	comp=Z,15nm,0.8s							
ELL	**Elmali**	**5.72**	**71**	*e*P		**Pn**	**16 54 16.5**	**+1.1**
SOH	**Sokhos**	**5.79**	**1**	P		**Pn**	**16 54 17.5**	**+1.1**
SOH				pmax	pmax			
	comp=Z,12nm,0.5s							
FNA	**Florina**	**5.93**	**347**	P		**Pn**	**16 54 19.3**	**+1.0**
AKUM	**Antalya-Kumluc**	**5.96**	**75**	*i* P		**Pn**	**16 54 19.4**	**+0.8**
KHAL	**Karahalli**	**6.07**	**55**	*i* P		**Pn**	**16 54 23.0**	**+2.8**
SWA2		**6.07**	**161**	P		**Pn**	**16 54 20.0**	**-0.1**
	baz=163							
SWA2				AMP			16 55 00.0	
	baz=163							
SWA2				S		**Sn**	**16 55 24.7**	**-3.6**
	baz=163							
SRS	**Serrai**	**6.10**	**3**	P		**Pn**	**16 54 19.3**	**-1.2**
KNT	**Kendrikon**	**6.14**	**358**	P		**Pn**	**16 54 21.6**	**+0.6**
KNT				pmax	pmax			
	comp=Z,25nm,0.8s							
ALN	**Alexandroupoli**	**6.29**	**20**	P		**Pn**	**16 54 24.1**	**+1.1**
ALN				pmax	pmax			
	comp=Z,14nm,1.6s							
VAY	**Valandovo**	**6.31**	**356**	*e*Pn		**Pn**	**16 54 24.5**	**+1.1**
KRUS	**Krusevo**	**6.52**	**347**	*e*Pn		**Pn**	**16 54 26.4**	**0.0**
STIP	**Stip**	**6.71**	**354**	*e*Pn		**Pn**	**16 54 30.0**	**+1.1**
SKO	**Skopje**	**7.08**	**349**	*e*Pn		**Pn**	**16 54 33.1**	**-0.8**
TAR1	**Taranto**	**7.22**	**321**	*e*P		**Pn**	**16 54 35.4**	**-0.4**
MASS	**Massafra**	**7.37**	**321**	*e*P		**Pn**	**16 54 36.9**	**-1.0**
FASA	**Fasano**	**7.40**	**323**	*e*P		**Pn**	**16 54 37.3**	**-1.0**
FASA				S		Sn	16 55 51.6	-9.4
VAE	**Valguarnera**	**7.51**	**292**	Sn		**Sn**	**16 55 59.9**	**-3.9**
	comp=Z,1.9nm,0.3s,baz=326,slow=7.3,SNR=2.4	

RETA	**Reutte**	**15.55**	**327**	*i* Pn		**P**	**16 56 36.1**	**+3.2**
	comp=Z,1.0nm,0.2s							
KRLC	**Kraliky**	**15.76**	**345**	*e*P		**P**	**16 56 36.8**	**+1.5**
KRLC	**Kraliky**	**15.76**	**345**	*e*P		**P**	**16 56 36.8**	**+1.5**
KHC	**Kasperske Hory**	**15.78**	**336**	*e*P		**P**	**16 56 37.1**	**+1.6**
KHC	**Kasperske Hory**	**15.78**	**336**	*e*P		**P**	**16 56 37.1**	**+1.6**
DPC	**Dobruska-Polom**	**16.12**	**344**	*e*P		**P**	**16 56 40.1**	**+0.9**
DPC	**Dobruska-Polom**	**16.12**	**344**	*e*P		**P**	**16 56 40.1**	**+0.9**
AKASG	**Malin Array Be**	**16.27**	**14**	Pn		**Pn**	**16 56 35.8**	**-2.5**
	comp=Z,0.8nm,0.3s,baz=198,slow=11,SNR=3.6							
NEY	**Neytrino**	**17.21**	**56**⇑	*e*P		**P**	**16 56 51.2**	**-0.3**
NEY				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KBZ	**Khabaz**	**17.51**	**54**	P		**P**	**16 56 54.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=260,slow=5.3,SNR=7.2							
KBZ				LR		LR	17 05 11.7	
	comp=Z,46nm,19.2s,baz=256,slow=42							
VSR	**Storozhevoye**	**19.88**	**31**⇑	*e*P		**P**	**16 57 19.1**	**-1.4**
VSR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
OBN	**Obninsk**	**22.13**	**21**	*e*P		**P**	**16 57 44.2**	**-0.5**
OBN				*e*PPP		PPP	16 58 13.1	
OBN				pmax	pmax			
	comp=Z,32nm,1.9s							
OBN				MLR		MLR		
	comp=Z,56nm,22.0s							
HFS	**Hagfors**	**25.88**	**349**	P		**P**	**16 58 19.9**	**-0.6**
	comp=Z,2.7nm,0.4s,baz=150,slow=12,SNR=18							
FINES	**FINESS Array B**	**26.51**	**3**	*i* P		**P**	**16 58 26.0**	**-0.2**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**26.51**	**3**	P		**P**	**16 58 24.8**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=156,slow=8.5,SNR=9.2							
NB2	**NORSAR Subarra**	**27.15**	**347**	P		**P**	**16 58 31.6**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**27.15**	**347**	P		**P**	**16 58 31.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=151,slow=9.7,SNR=8.9							
NOA				LR		LR	17 11 23.5	
	comp=Z,26nm,20.8s,baz=210,slow=41							
EKA	**Eskdalemuir Ar**	**27.24**	**326**	P		**P**	**16 58 33.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=124,slow=12,SNR=2.7							
TORD	**Torodi Ar. Bea**	**29.19**	**227**	P		**P**	**16 58 51.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=27,slow=9.0,SNR=5.7							
ARU	**Arti**	**32.13**	**37***c*	*i*P		**P**	**16 59 14.7**	**-1.5**
ARU							17 00 20.5	
ARU				S		**S**	**17 04 26.2**	**+0.5**
ARU				pmax	pmax			
	comp=Z,11nm,1.7s							
ARCES	**ARCESS Array B**	**34.59**	**1**	P		**P**	**16 59 36.3**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=182,slow=9.0,SNR=6.9							
ARCES				PcP		**PcP**		
	comp=Z,5.2nm,1.0s,baz=204,slow=2.0,SNR=3.9						**17 02 11.7**	**+0.6**
AAK	**Ala-Archa**	**40.16**	**63**⇑	*e*P		**P**	**17 00 25.7**	**+0.5**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
KURBB	**Kurchatov Arra**	**42.46**	**51**	P		**P**	**17 00 42.9**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=272,slow=8.6,SNR=9.3							
KURK	**Kurchatov**	**42.52**	**51**⇓	*e*P		**P**	**17 00 43.4**	**-0.7**
KURK				pmax	pmax			
	comp=Z,4.0nm,1.4s							
SPITS	**Spitsbergen Ar**	**43.36**	**358**	P		**P**	**17 00 51.1**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=145,slow=10,SNR=22							
MKAR	**Makanchi Array**	**45.19**	**56**	P		**P**	**17 01 05.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=261,slow=7.1,SNR=42							
NVS	**Novosibirsk**	**45.33**	**45**	*e*P		**P**	**17 01 06.9**	**+0.3**
ZALV	**Zalesovo Beam**	**46.26**	**46**	P		**P**	**17 01 13.0**	**-1.0**
	comp=Z,3.9nm,0.4s,baz=270,slow=8.1,SNR=23							
DGZ	**Jazzator, Alta**	**48.23**	**52**⇑	*e*P		**P**	**17 01 29.1**	**-0.5**
NRIK	**Noril'sk**	**48.69**	**25**	LR		LR	17 24 21.2	
	comp=Z,51nm,20.0s,baz=128,slow=39							
PYUN	**Piuthan**	**50.77**	**80**	*e*P		**P**	**17 01 49.5**	**+0.2**
	comp=Z,7.0nm,0.5s							
DANN	**Dangsing**	**51.29**	**80**	*e*P		**P**	**17 01 53.7**	**+0.3**
DMN	**Daman**	**52.68**	**80**	*e*P		**P**	**17 02 03.8**	**+0.2**
	comp=Z,7.4nm,0.3s							
KKN	**Kakani**	**52.75**	**80**	*e*P		**P**	**17 02 03.8**	**-0.3**
	comp=Z,6.8nm,0.6s							
PKIN	**Phulchoki**	**52.93**	**80**	*e*P		**P**	**17 02 05.0**	**-0.5**
	comp=Z,3.8nm,0.4s							
PKI	**Pulchoki**	**52.94**	**80**	*e*P		**P**	**17 02 05.4**	**-0.3**
GUN	**Gumba**	**53.18**	**79**	*e*P		**P**	**17 02 07.3**	**-0.1**
	comp=Z,7.5nm,0.3s							
JIRN	**Jiri**	**53.53**	**79**	*e*P		**P**	**17 02 10.0**	**-0.1**
	comp=Z,7.1nm,0.4s							
TLY	**Talaya**	**57.87**	**46**⇓	*e*P		**P**	**17 02 41.2**	**+0.8**
ULN	**Ulaanbaatar**	**61.22**	**50**⇓	*e*P		**P**	**17 03 03.8**	**+0.1**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TIXI	**Tiksi**	**61.86**	**20**⇑	*e*P		**P**	**17 03 06.7**	**-0.7**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**68.19**	**82**	*i* P		**P**	**17 03 51.2**	**+1.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR	**Chiang Mai Arr**	**68.19**	**82**	P		**P**	**17 03 49.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=297,slow=8.5,SNR=5.8							
BILL	**Bilibino**	**73.59**	**14**	*e*P		**P**	**17 04 19.4**	**-1.9**
BILL				*e*			17 04 36.9	
BILL				*e*			17 07 02.1	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.3s							
KLR	**Kul'dur**	**74.92**	**40**⇑	*e*P		**P**	**17 04 29.1**	**-0.3**
KLR	**Kul'dur**	**74.92**	**40**	P		**P**	**17 04 29.4**	**0.0**
	comp=Z,1.2nm,0.6s,baz=309,slow=8.2,SNR=5.5							
YKA	**Yellowknife Ar**	**77.08**	**341**	P		**P**	**17 04 42.5**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=34,slow=5.5,SNR=8.1							
USRK	**Ussuriysk Ar.**	**78.07**	**44**	P		**P**	**17 04 46.7**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=301,slow=4.2,SNR=9.2							
KSRS	**Korea Array**	**79.64**	**51**	P		**P**	**17 04 55.9**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=309,slow=4.4,SNR=7.8							
SIV	**San Ignacio**	**94.45**	**254**	P		**P**	**17 06 10.3**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=80,slow=0.9,SNR=10							

*DDA **22** 16:53:16.2,37.07N×28.31E,h7km±5km,ML1.9*
ISC 22 16:53:16.1,37.10N×28.29E,h11km,ML1.9/2,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.03**	**352**	PG		Pg	16 53 18.4	+0.1
YER				SG		Sg	16 53 20.1	+0.2
TURN	**Turunc**	**0.34**	**132**	PG		Pg	16 53 23.1	+0.2
TURN				SG		Sg	16 53 28.3	+0.8
TURN	**Turunc**	**0.34**	**132**	*i* P		Pb	16 53 24.0	-0.2
TURN				IAML_P				
	comp=Z,2μm,0.1s							
DALY	**Dalyan (Mula)**	**0.41**	**134**	PG		Pg	16 53 24.6	+0.4
DALY				SG		Sb	16 53 30.9	-0.6
DALY	**Dalyan (Mula)**	**0.41**	**134**	*i* P		Pg	16 53 24.6	+0.4
DALY				IAML_P				
	comp=Z,396nm,0.2s							
TAVA	**DENIZLI_Tavas**	**0.62**	**54**	*i* P		Pn	16 53 30.0	-0.9
TAVA				IAML_P				
	comp=Z,166nm,0.2s							
AYDN	**Tasoluk**	**0.65**	**330**	*i* P		Pn	16 53 30.8	-0.4
BDRM	**Kayabasi**	**0.68**	**267**	*i* P		Pb	16 53 30.0	+0.1
BDRM				IAML_P				
	comp=Z,202nm,0.1s							

*IDC **22** 17:03:28.6±1.5,38.99S×178.94E,h0km,mb4.0/3,*
mb1 4.1/4,mb1mx3.8/23,mbtmp3.9/4,ML3.4/1,Error
ellipse: s-maj=37.6km s-min=27.1km az=0.0
*WEL **22** 17:03:31.9,38.5S×17.9E+,h33km,ML4.3/29*
ISC 22 17:03:27.7±2.3,38.37S±0.04×179.32E±0.09,h7km±12km,
n147,σ1s25/155,mb3.9/3,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CNGZ	**Carnagh Statio**	**0.88**	**263**	P		**Pn**	**17 03 47.6**	**+1.0**
PUZ	**Puketiti**	**0.89**	**289**	P		**Pb**	**17 03 46.1**	**+0.6**
PUZ				S		**Sg**	**17 03 55.9**	**-0.5**
TWGZ	**Tauwhareparae**	**1.07**	**280**	P		**Pn**	**17 03 49.4**	**+0.2**
TWGZ				S		**Sg**	**17 04 01.7**	**-0.5**
PKGZ	**Pakihiroa**	**1.10**	**296**	P		**Pb**	**17 03 49.1**	**0.0**
PKGZ				S		**Sg**	**17 04 00.7**	**-2.2**
MXZ	**Matakaoa Point**	**1.14**	**315**	P		**Pb**	**17 03 49.9**	**+0.1**
MXZ				S		**Sb**	**17 04 02.8**	**-2.0**
TKGZ	**Te Karaka**	**1.16**	**266**	P		**Pg**	**17 03 51.0**	**+1.1**
PRGZ	**Paritu Road**	**1.25**	**244**	P		**Pg**	**17 03 53.4**	**+1.7**
RIGZ	**Rimuhau**	**1.27**	**254**	P		**Pg**	**17 03 53.0**	**+1.0**
RIGZ				S		**Sb**	**17 04 07.6**	**-0.9**
MHGZ	**Mahia Peninsul**	**1.35**	**234**	P		**Pg**	**17 03 55.1**	**+1.5**
RUGZ	**Raukumara Rang**	**1.36**	**287**	P		**Pn**	**17 03 52.7**	**-0.5**
HAZ	**Te Kaha**	**1.36**	**296**	P		**Pn**	**17 03 52.6**	**-0.6**
MWZ	**Matawai**	**1.41**	**271**	P		**Pn**	**17 03 54.2**	**+0.3**
KNZ	**Kokohu**	**1.44**	**243**	P		**Pg**	**17 03 55.6**	**+0.3**
RAGZ	**Rawiri**	**1.50**	**265**	P		**Pb**	**17 03 55.9**	**-0.1**
SNGZ	**Shannon Statio**	**1.61**	**255**	P		**Pb**	**17 03 57.5**	**-0.2**
URZ	**Urewera**	**1.74**	**273**	Pn		**Pn**	**17 03 59.2**	**+0.8**
	30nm,0.3s,baz=262,slow=4.8,SNR=249							
URZ				Sn		**Sn**	**17 04 18.9**	**-2.0**
	91nm,0.3s,baz=36,slow=19,SNR=13							
URZ	**Urewera**	**1.74**	**273**	P		**Pn**	**17 03 59.0**	**+0.6**
WHHZ	**Waihua**	**1.78**	**246**	P		**Pb**	**17 04 00.9**	**+0.3**
RAHZ	**Arahi**	**1.83**	**252**	P		**Pb**	**17 04 01.4**	**-0.2**
RTZ	**Ruatahuna**	**1.85**	**262**	P		**Pn**	**17 04 00.8**	**+0.8**
WHRZ	**Whale Island**	**1.92**	**285**	P		**Pn**	**17 04 01.6**	**+0.7**
MTHZ	**Maungataniwha**	**2.00**	**255**	P		**Pn**	**17 04 03.4**	**+1.4**
MUGZ	**Murupara**	**2.01**	**266**	P		**Pn**	**17 04 03.2**	**+1.1**
ARHZ	**Aropaoanui**	**2.02**	**243**	P		**Pb**	**17 04 04.3**	**-0.5**
EDRZ	**Edgecumbe**	**2.05**	**277**	P		**Pn**	**17 04 03.8**	**+1.1**
NMHZ	**Naumai**	**2.10**	**249**	P		**Pb**	**17 04 05.4**	**-0.7**
MARZ	**Manawahe**	**2.12**	**280**	P		**Pn**	**17 04 04.2**	**+0.5**
CKHZ	**Cape Kidnapper**	**2.17**	**233**	P		**Pn**	**17 04 06.0**	**+1.7**
RRRZ	**Republican Roa**	**2.21**	**270**	P		**Pn**	**17 04 06.1**	**+1.3**
TARZ	**Mount Tarawera**	**2.22**	**273**	P		**Pn**	**17 04 06.2**	**+1.1**
TARZ				P		**Pb**	**17 04 06.4**	**-1.9**
OPRZ	**Ohinepanea**	**2.25**	**283**	P		**Pn**	**17 04 05.1**	**-0.2**
MKRZ	**Makatiti**	**2.26**	**275**	P		**Pn**	**17 04 07.0**	**+1.4**
PRRZ	**Plateau Road**	**2.31**	**266**	P		**Pn**	**17 04 07.4**	**+1.3**
MCHZ	**McNeill Hill**	**2.31**	**242**	P		**Pb**	**17 04 08.3**	**-1.4**
MRHZ	**Matea Rd**	**2.32**	**258**	P		**Pn**	**17 04 07.9**	**+1.4**
OMRZ	**Omania**	**2.34**	**276**	P		**Pn**	**17 04 07.4**	**+0.8**
HLRZ	**Highlands Stat**	**2.34**	**272**	P		**Pn**	**17 04 07.9**	**+1.3**
HLRZ				P		**Pb**	**17 04 11.5**	**+1.3**
LIRZ	**Lichensteins R**	**2.34**	**278**	P		**Pn**	**17 04 07.4**	**+0.8**
ALRZ	**Allen Road**	**2.35**	**264**	P		**Pn**	**17 04 07.9**	**+1.2**
BKZ	**Black Stump Fm**	**2.35**	**249**	P		**Pn**	**17 04 08.4**	**+1.6**
KAHZ	**Kahuranaki**	**2.37**	**233**	P		**Pn**	**17 04 08.8**	**+1.7**
HRRZ	**Handcock Road**	**2.39**	**269**	P		**Pb**	**17 04 08.2**	**-2.8**
HRRZ				P		**Pn**	**17 04 08.1**	**+0.8**
HSRZ	**Hossack Road**	**2.42**	**271**	P		**Pn**	**17 04 09.0**	**+1.3**
KARZ	**Kaharoa**	**2.45**	**277**	P		**Pn**	**17 04 08.6**	**+0.5**
KARZ				P		**Pn**	**17 04 08.6**	**+0.5**
UTU	**Utuhina**	**2.47**	**274**	P		**Pn**	**17 04 10.1**	**+1.7**
NGRZ	**Ngongotaha**	**2.48**	**275**	P		**Pn**	**17 04 09.7**	**+1.0**
WPRZ	**Whakapapatarin**	**2.49**	**266**	P		**Pn**	**17 04 10.1**	**+1.4**
KWHZ	**Kaweka Forest**	**2.49**	**244**	P		**Pn**	**17 04 10.3**	**+1.5**
TGRZ	**Tauranga**	**2.50**	**284**	P		**Pn**	**17 04 08.4**	**-0.4**
GRRZ	**Galatos Road**	**2.53**	**270**	P		**Pn**	**17 04 10.5**	**+1.3**
PXZ	**Pawanui**	**2.53**	**228**	P		**Pn**	**17 04 10.2**	**+1.1**
HATZ	**Hinemaiaia**	**2.58**	**257**	P		**Pn**	**17 04 11.1**	**+1.1**
KRHZ	**Kereru**	**2.63**	**240**	P		**Pn**	**17 04 11.7**	**+1.2**
WHTZ	**Whakaora**	**2.66**	**263**	P		**Pn**	**17 04 12.8**	**+1.8**
MYRZ	**Mayor Island**	**2.67**	**293**	P		**Pn**	**17 04 10.9**	**-0.3**
KMRZ	**Kaimai**	**2.72**	**280**	P		**Pn**	**17 04 12.0**	**+0.1**
KUTZ	**Kaahu Road**	**2.75**	**267**	P		**Pn**	**17 04 13.2**	**+1.0**
BHHZ	**Black Hill Sta**	**2.78**	**245**	P		**Pn**	**17 04 14.0**	**+1.3**
RITZ	**Rihia Road**	**2.78**	**256**	P		**Pn**	**17 04 14.2**	**+1.6**
WPHZ	**Waipukurau**	**2.80**	**232**	P		**Pn**	**17 04 14.2**	**+1.2**
PRHZ	**Porangahau**	**2.81**	**227**	P		**Pn**	**17 04 14.1**	**+1.0**
RATZ	**Rangitukua**	**2.83**	**259**	P		**Pn**	**17 04 14.9**	**+1.6**
WATZ	**Wairara**	**2.83**	**262**	P		**Pn**	**17 04 14.7**	**+1.2**
PNHZ	**Pukenui**	**2.87**	**237**	P		**Pn**	**17 04 15.1**	**+1.1**
KATZ	**Kakaramea**	**2.90**	**257**	P		**Pn**	**17 04 16.2**	**+1.7**
KRVZ	**Karewarewa**	**2.97**	**255**	P		**Pn**	**17 04 16.6**	**+1.2**
MOVZ	**Moawhango**	**2.97**	**245**	P		**Pn**	**17 04 16.7**	**+1.3**
TLZ	**Tolley Road**	**2.98**	**270**	P		**Pn**	**17 04 16.1**	**+0.7**
TUVZ	**Tukino**	**3.00**	**252**	P		**Pn**	**17 04 17.7**	**+1.9**
WTVZ	**West Tongariro**	**3.01**	**255**	P		**Pn**	**17 04 17.7**	**+1.8**
NGZ	**Ngauruhoe**	**3.02**	**253**	P		**Pn**	**17 04 17.4**	**+1.3**
ANWZ	**Angora Road**	**3.03**	**226**	P		**Pn**	**17 04 17.2**	**+1.1**
WHVZ	**Whangaehu Hut**	**3.06**	**252**	P		**Pn**	**17 04 18.2**	**+1.6**
DRZ	**Dome Shelter**	**3.07**	**252**	P		**Pn**	**17 04 18.6**	**+1.6**
FWVZ	**Far West T-bar**	**3.07**	**252**	P		**Pn**	**17 04 18.3**	**+1.4**
TOZ	**Tahuroa Road**	**3.08**	**281**	P		**Pn**	**17 04 16.7**	**-0.2**
TRVZ	**Turoa**	**3.09**	**251**	P		**Pn**	**17 04 18.5**	**+1.4**
TSZ	**Takapari Road**	**3.11**	**236**	P		**Pn**	**17 04 17.7**	**+0.6**
DVHZ	**Dannevirke**	**3.11**	**231**	P		**Pn**	**17 04 18.0**	**+0.7**
TWVZ	**Taurewa**	**3.12**	**256**	P		**Pn**	**17 04 18.6**	**+1.2**
MTVZ	**Mangateitei**	**3.17**	**250**	P		**Pn**	**17 04 20.0**	**+1.9**
PKVZ	**Pokaka**	**3.24**	**252**	P		**Pn**	**17 04 20.6**	**+1.6**
KUZ	**Kuaotunu**	**3.29**	**298**	P		**Pn**	**17 04 18.8**	**-0.8**
BFZ	**Birch Farm**	**3.31**	**225**	P		**Pn**	**17 04 20.0**	**+0.1**
PRWZ	**Pori Road**	**3.33**	**259**	P		**Pn**	**17 04 20.9**	**+0.9**
POWZ	**Post Office Ro**	**3.41**	**233**	P		**Pn**	**17 04 22.1**	**+0.7**
CPWZ	**Castlepoint**	**3.50**	**223**	P		**Pn**	**17 04 22.8**	**+0.3**
HIZ	**Hauiti**	**3.51**	**266**	P		**Pn**	**17 04 24.4**	**+1.7**
MKAZ	**Moumakai**	**3.53**	**290**	P		**Pn**	**17 04 22.6**	**-0.4**
TIWZ	**Tintock**	**3.58**	**227**	P		**Pn**	**17 04 24.0**	**+0.3**
OHWZ	**Ohakea**	**3.61**	**238**	P		**Pn**	**17 04 25.9**	**+1.9**
VRZ	**Vera Road**	**3.65**	**257**	P		**Pn**	**17 04 26.1**	**+1.6**
WAZ	**Wanganui**	**3.65**	**246**	P		**Pn**	**17 04 27.4**	**+2.8**
WIAZ	**Waiheke Island**	**3.68**	**294**	P		**Pn**	**17 04 24.8**	**-0.3**
MRZ	**Mangatainoka R**	**3.69**	**231**	P		**Pn**	**17 04 25.3**	**+0.2**
GRZ	**Great Barrier**	**3.74**	**303**	P		**Pn**	**17 04 25.7**	**-0.1**
KBAZ	**Karaka Road Bo**	**3.74**	**289**	P		**Pn**	**17 04 26.7**	**+0.9**
ETAZ	**East Tamaki Re**	**3.77**	**291**	P		**Pn**	**17 04 26.2**	**0.0**
TMWZ	**Te Maipa**	**3.80**	**223**	P		**Pn**	**17 04 26.8**	**+0.1**
MBAZ	**Motutapu North**	**3.86**	**293**	P		**Pn**	**17 04 27.6**	**0.0**
HOWZ	**Holdsworth Sta**	**3.87**	**228**	P		**Pn**	**17 04 27.5**	**-0.1**
EPAZ	**Eden Park BICE**	**3.93**	**291**	P		**Pn**	**17 04 29.1**	**+0.7**
AWAZ	**Awhitu Peninsu**	**3.94**	**289**	P		**Pn**	**17 04 29.2**	**+0.7**
HBAZ	**Herne Bay Bore**	**3.95**	**291**	P		**Pn**	**17 04 29.4**	**+0.7**
MHEZ	**Mangahewa**	**3.97**	**258**	P		**Pn**	**17 04 30.4**	**+1.3**
ABAZ	**Army Bay**	**3.99**	**295**	P		**Pn**	**17 04 29.6**	**+0.4**
LREZ	**Lake Rotokare**	**3.99**	**253**	P		**Pn**	**17 04 31.2**	**+2.0**
OGWZ	**Otaki Gorge**	**4.03**	**231**	P		**Pn**	**17 04 29.8**	**-0.1**
WTAZ	**Waiatarua**	**4.04**	**289**	P		**Pn**	**17 04 30.7**	**+0.8**
MTW	**Mount Morrison**	**4.05**	**225**	P		**Pn**	**17 04 29.6**	**-0.5**
TRWZ	**Traveller**	**4.12**	**222**	P		**Pn**	**17 04 30.0**	**-1.0**
PREZ	**Palmer Road**	**4.15**	**255**	P		**Pn**	**17 04 34.3**	**+2.8**
KIW	**Kapiti Island**	**4.22**	**233**	P		**Pn**	**17 04 32.4**	**0.0**
PAWZ	**Paruwai Farm**	**4.24**	**224**	P		**Pn**	**17 04 31.8**	**-1.0**
KHEZ	**Kahui Hut**	**4.25**	**256**	P		**Pn**	**17 04 35.8**	**+2.9**
PKE	**Pukeiti**	**4.25**	**257**	P		**Pn**	**17 04 35.4**	**+2.5**
CAW	**Cannon Point**	**4.27**	**229**	P		**Pn**	**17 04 32.7**	**-0.4**
MSWZ	**Moikau Station**	**4.36**	**225**	P		**Pn**	**17 04 33.1**	**-1.3**
PLWZ	**Palliser**	**4.47**	**223**	P		**Pn**	**17 04 34.8**	**-1.1**
BHW	**Baring Head**	**4.52**	**227**	P		**Pn**	**17 04 36.4**	**-0.9**
WCZ	**Waipu Caves**	**4.66**	**300**	P		**Pn**	**17 04 38.8**	**+0.3**
TCW	**Tory Channel**	**4.81**	**232**	P		**Pn**	**17 04 40.2**	**-0.4**
DUWZ	**D'Urville Isla**	**4.83**	**238**	P		**Pn**	**17 04 40.1**	**-0.7**
TUWZ	**Tuamarina**	**5.14**	**232**	P		**Pn**	**17 04 43.6**	**-1.5**
BSWZ	**Blackbirch Sta**	**5.35**	**230**	P		**Pn**	**17 04 46.7**	**-1.3**
NNZ	**Nelson**	**5.39**	**236**	P		**Pn**	**17 04 48.1**	**-0.4**
OUZ	**Omahuta**	**5.57**	**303**	P		**Pn**	**17 04 52.1**	**+1.1**
QRZ	**Quartz Range**	**5.79**	**243**	P		**Pn**	**17 04 52.4**	**-1.6**
THZ	**Tophouse**	**5.97**	**233**	P		**Pn**	**17 04 54.6**	**-1.9**
KHZ	**Kahutara**	**5.98**	**226**	P		**Pn**	**17 04 54.7**	**-1.9**
CTZ	**Chatham Island**	**6.17**	**151**	P		**Pn**	17 05 05.9	+6.6
DSZ	**Denniston Nort**	**6.68**	**237**	P		**Pn**	**17 05 05.1**	**-1.1**
LTZ	**Lake Taylor**	**6.94**	**228**	P		**Pn**	**17 05 08.2**	**-1.7**
AMCZ	**Amberley**	**6.97**	**224**	P		**Pn**	**17 05 09.4**	**-0.8**
OKCZ	**Okains Bay**	**7.14**	**220**	P		**Pn**	**17 05 11.0**	**-1.5**
AKCZ	**Akaroa Harbour**	**7.32**	**219**	P		**Pn**	**17 05 13.7**	**-1.4**
MQZ	**McQueen's Vall**	**7.33**	**221**	P		**Pn**	**17 05 12.9**	**-2.2**
INZ	**Inchbonnie**	**7.41**	**232**	P		**Pn**	**17 05 14.5**	**-1.7**
OXZ	**Oxford**	**7.41**	**226**	P		**Pn**	**17 05 14.4**	**-1.9**
WVZ	**Waitaha Valley**	**8.03**	**232**	P		**Pn**	**17 05 24.1**	**-0.7**
RPZ	**Rata Peaks**	**8.21**	**227**	Pn		Pn	17 05 18.9	-8.3
	0.6nm,0.3s,baz=42,slow=15,SNR=4.2							
RPZ				Sn		Sn	17 06 49.6	-11
	5.1nm,0.3s,baz=322,slow=23,SNR=17							
STKA	**Stephens Creek**	**31.37**	**270**	P		**P**	**17 09 50.3**	**+1.1**
	1.6nm,0.6s,baz=69,slow=8.4,SNR=4.7							
ASAR	**Alice Springs**	**41.18**	**277**	P		**P**	**17 11 12.9**	**-0.1**
	1.2nm,0.5s,baz=125,slow=8.4,SNR=18							
WRA	**Warramunga Arr**	**42.89**	**282**	P		**P**	**17 11 26.6**	**-0.4**
	0.5nm,0.3s,baz=122,slow=8.4,SNR=20							
ARCES	**ARCESS Array B**	**145.77**	**344**	PKPbc		**PKiKP**	**17 23 09.2**	**-0.9**
	4.3nm,0.6s,baz=46,slow=3.3,SNR=15							
FINES	**FINESS Array B**	**151.57**	**333**	PKPbc		**PKiKP**	**17 23 24.3**	**+2.2**
	3.3nm,0.9s,baz=24,slow=3.8,SNR=5.4							
BRTR	**Keskin Array B**	**153.41**	**284**	PKPbc		**PKiKP**	**17 23 28.8**	**+1.9**
	1.1nm,0.8s,baz=79,slow=3.1,SNR=4.2							

IDC 22 17:07:21.1±16.0,5.66S×67.77E,h0km,mb3.6/3,
mb1 3.9/3,mb1mx3.4/46,mbtmp3.6/3,MS3.4/4,Ms1 3.4/4,
ms1mx3.0/45,Error ellipse: s-maj=523.6km
s-min=39.8km az=65.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08N3	**Diego Garcia H**	**3.27**	**102**	Pn		Pn	17 08 01.4	-12
	baz=273,slow=15							
H08N3				T		T	17 10 40.4	
	baz=290							
H08N2	**Diego Garcia H**	**3.28**	**102**	Pn		Pn	17 08 01.4	-12
	baz=273,slow=15							
H08N2				T		T	17 10 40.0	
	baz=290							
H08N1	**Diego Garcia H**	**3.29**	**102**	Pn		Pn	17 08 01.7	-12
	baz=273,slow=15							
H08N1				T		T	17 10 42.1	
	baz=290							
H08S1	**Diego Garcia H**	**5.07**	**113**	Pn		Pn	17 08 33.1	-5.1
	baz=320,slow=19,SNR=430							
H08S1				T		T	17 13 17.3	
	baz=317,slow=75,SNR=22							
H08S3	**Diego Garcia H**	**5.07**	**113**	Pn		Pn	17 08 32.9	-5.3
	baz=320,slow=19,SNR=885							
H08S3				T		T	17 13 18.6	
	baz=317,slow=75,SNR=5.3							
H08S2	**Diego Garcia H**	**5.09**	**113**	Pn		Pn	17 08 33.3	-5.2
	baz=320,slow=19,SNR=648							
H08S2				T		T	17 13 14.2	
	baz=317,slow=75,SNR=23							
WSAR	**Wadi Sarin**	**30.08**	**343**	LR		LR	17 22 27.6	
	comp=Z,37nm,20.9s,baz=214,slow=30							
ATD	**Arta Tunnel**	**30.11**	**305**	LR		LR	17 22 35.9	

BTK	**Batken**	**0.19**	**221**	⇑*iP*	**Pg**	**17 39 31.6**	**-0.9**
	baz=17						
BTK				⇑*iS*	**Sg**	**17 39 34.2**	**-1.1**
	baz=17						
TAS	**Tashkent**	**1.71**	**312**	⇑*iP*	**Pn**	**17 39 58.9**	**+0.7**
	baz=18						
TAS				⇑*iS*	**Sb**	**17 40 21.2**	**-0.3**
	baz=18						
ARK	**Arkit**	**1.76**	**25**	⇓*iP*	**Pg**	**17 40 01.5**	**-0.5**
	baz=26						
ARK				⇓*iS*	**Sg**	**17 40 26.5**	**+1.7**
	baz=26						
ARSB	**Arslanbob**	**1.89**	**53**	⇑*iP*	**Pb**	**17 40 03.2**	**+0.2**
	baz=51						
ARSB				⇑*iS*	**Sg**	**17 40 29.5**	**+0.5**
	baz=51						
IUG	**Iuzhnay**	**2.07**	**340**	Pg	**Pg**	**17 40 07.3**	**-0.8**
	157nm,0.4s						
IUG				Lg	Lg	17 40 34.1	
	271nm,0.3s						
IUG	**Iuzhnay**	**2.07**	**340**	*eP*	**Pg**	**17 40 07.2**	**-0.8**
	77nm,0.2s						
IUG				*eS*	**Sg**	**17 40 34.1**	**-0.8**
	271nm,0.3s						
CHM	**Chimkent**	**2.35**	**334**	*eP*	**Pg**	**17 40 13.2**	**-0.3**
	51nm,0.2s						
CHM				*eS*	**Sg**	**17 40 44.5**	**+0.5**
	321nm,0.3s						
AML	**Almayashu**	**2.81**	**46**	P	**Pn**	**17 40 16.2**	**+2.5**
	SNR=13						
AML	**Almayashu**	**2.81**	**46**	⇑*iP*	**Pn**	**17 40 16.3**	**+2.6**
	baz=45						
AML				⇑*iS*	**Sb**	**17 40 51.5**	**-2.0**
	baz=45						
KK31	**Karatay Array**	**2.92**	**353**	⇑Pn	**Pn**	**17 40 16.7**	**+1.8**
	3.4nm,0.3s						
KK31				⇑Sn	**Sg**	**17 41 00.5**	**-1.6**
	17nm,0.3s						
BRLS	**Borolday**	**2.95**	**343**	Pg	**Pb**	**17 40 19.6**	**-1.5**
	2.3nm,0.2s						
BRLS				Lg	Lg	17 40 55.3	
	6.3nm,0.2s						
BRLS	**Borolday**	**2.95**	**343**	*eP*	**Pb**	**17 40 19.6**	**-1.5**
	0.2nm,0.1s						
BRLS				*eS*	**Sb**	**17 40 55.2**	**-1.9**
	13nm,0.2s						
ARLS	**Aral**	**3.02**	**56**	⇑*iP*	**Pn**	**17 40 19.2**	**+2.8**
	baz=54						
ARLS				⇑*iS*	**Sb**	**17 40 57.1**	**-2.2**
	baz=54						
MRKS	**Merke**	**3.05**	**33**	Pg	**Pg**	**17 40 25.9**	**-0.8**
	32nm,0.3s						
MRKS				Lg	Lg	17 41 06.8	
	72nm,0.4s						
MRKS	**Merke**	**3.05**	**33**	*eP*	**Pg**	**17 40 25.9**	**-0.8**
	32nm,0.3s						
MRKS				*eS*	**Sg**	**17 41 06.3**	**+0.1**
	72nm,0.4s						
EKS2	**Erkin-Say**	**3.23**	**40**	P	**Pb**	**17 40 22.6**	**-3.3**
	SNR=26						
UCH	**Uchtor**	**3.34**	**52**	P	**Pn**	**17 40 24.2**	**+3.2**
	SNR=19						
UCH	**Uchtor**	**3.34**	**52**	⇓*iP*	**Pn**	**17 40 24.1**	**+3.0**
	baz=51						
UCH				⇓*iS*	**Sn**	**17 41 04.6**	**+3.5**
	baz=51						
AAK	**Ala-Archa**	**3.59**	**46**	P	**Pn**	**17 40 27.6**	**+3.4**
	SNR=19						
AAK	**Ala-Archa**	**3.59**	**46**	⇑Pn	**Pb**	**17 40 28.1**	**-3.9**
	11nm,0.6s						
AAK				⇑Lg	Lg	17 41 24.1	
	21nm,0.6s						
AAK	**Ala-Archa**	**3.59**	**46**	⇑*iP*	**Pn**	**17 40 27.2**	**+3.0**
	baz=46						
AAK				⇑*iS*	**Sn**	**17 41 10.0**	**+3.3**
	baz=46						
KZA	**Kyzart**	**3.73**	**58**	P	**Pn**	**17 40 30.0**	**+3.6**
	SNR=13						
KZA	**Kyzart**	**3.73**	**58**	⇑*iP*	**Pn**	**17 40 29.6**	**+3.3**
	baz=57						
KZA				⇑*iS*	**Sn**	**17 41 13.7**	**+3.2**
	baz=57						
FRU1	**Bishkek**	**3.78**	**45**	⇑*iP*	**Pn**	**17 40 29.9**	**+3.2**
	baz=45						
FRU1				⇑*iS*	**Sn**	**17 41 14.2**	**+2.9**
	baz=45						
KBK	**Karagaybulak**	**3.86**	**49**	P	**Pn**	**17 40 31.9**	**+4.0**
	SNR=30						
KBK	**Karagaybulak**	**3.86**	**49**	⇑*iP*	**Pn**	**17 40 31.3**	**+3.4**
	baz=49						
KBK				⇑*iS*	**Sn**	**17 41 16.7**	**+3.3**
	baz=49						
CHMS	**Chumysh**	**3.97**	**44**	P	**Pn**	**17 40 32.5**	**+3.2**
	SNR=5.4						
CHMS	**Chumysh**	**3.97**	**44**	⇓*iP*	**Pn**	**17 40 32.5**	**+3.2**
	baz=44						
CHMS				⇓*eS*	**Sn**	**17 41 19.0**	**+3.0**
	baz=44						
USP	**Ospenovka**	**4.04**	**40**	P	**Pn**	**17 40 33.4**	**+3.1**
	SNR=36						
USP	**Ospenovka**	**4.04**	**40**	⇑*iP*	**Pn**	**17 40 32.8**	**+2.6**
	baz=39						
USP				⇑*iS*	**Sn**	**17 41 20.5**	**+2.9**
	baz=39						
TKM2	**Tokmak 2**	**4.40**	**50**	P	**Pn**	**17 40 38.6**	**+3.2**
	SNR=30						
TKM2	**Tokmak 2**	**4.40**	**50**	⇑Pn	**Pn**	**17 40 38.0**	**+2.7**
	4.5nm,0.3s						
TKM2				⇓Lg	Lg	17 41 49.5	
	20nm,0.7s						
TKM2	**Tokmak 2**	**4.40**	**50**	⇑*iP*	**Pn**	**17 40 38.4**	**+3.0**
	baz=50						
TKM2				⇑*iS*	**Sn**	**17 41 29.6**	**+2.8**
	baz=50						
ULHL	**Ulahol**	**4.46**	**61**	⇓*eP*	**Pn**	**17 40 39.2**	**+3.0**
	baz=60						
ULHL				⇓*iS*	**Sn**	**17 41 31.0**	**+2.7**
	baz=60						
KST	**Kastek**	**4.69**	**51**	Pg	**Pg**	**17 40 56.6**	**-1.5**
	9.1nm,0.4s						
KST				Lg	Lg	17 41 58.8	
	14nm,0.6s						
KST	**Kastek**	**4.69**	**51**	*eP*	**Pg**	**17 40 56.6**	**-1.5**
	8.0nm,0.4s						
KST				*eS*	**Sg**	**17 41 58.7**	**-0.1**
	15nm,0.5s						
DGS	**Degeres**	**4.70**	**48**	Pg	**Pg**	**17 40 56.3**	**-2.0**
	14nm,0.5s						
DGS				Lg	Lg	17 41 59.7	
	20nm,0.5s						
DGS	**Degeres**	**4.70**	**48**	*eP*	**Pg**	**17 40 56.3**	**-2.0**
	14nm,0.5s						
DGS				*eS*	**Sg**	**17 41 58.7**	**-0.4**
	20nm,0.5s						
KOTS	**Kotyrbulak**	**5.49**	**55**	Pg	**Pg**	**17 41 11.6**	**-2.0**
	3.1nm,0.4s						
KOTS				Lg	Lg	17 42 24.4	
	9.5nm,0.7s						
KOTS	**Kotyrbulak**	**5.49**	**55**	*eP*	**Pg**	**17 41 11.6**	**-2.0**
	3.1nm,0.4s						
KOTS				*eS*	**Sg**	**17 42 24.4**	**-0.3**
	9.5nm,0.7s						
KTBS	**Karatobe**	**5.51**	**49**	Pg	**Pg**	**17 41 11.0**	**-2.8**
	2.0nm,0.7s						
KTBS				Lg	Lg	17 42 23.3	
	26nm,0.5s						
KTBS	**Karatobe**	**5.51**	**49**	*eP*	**Pg**	**17 41 11.0**	**-2.8**
	2.0nm,0.7s						
KTBS				*eS*	**Sg**	**17 42 23.3**	**-1.8**
	26nm,0.5s						
ARXS	**Arharly**	**6.47**	**50**	Pg	**Pg**	**17 41 28.1**	**-4.1**
	4.0nm,0.5s						
ARXS				Lg	Lg	17 42 52.6	
	9.8nm,0.6s						
ARXS	**Arharly**	**6.47**	**50**	*eP*	**Pg**	**17 41 28.1**	**-4.1**
	4.0nm,0.5s						
ARXS				*eS*	**Sg**	**17 42 52.6**	**-3.4**
	9.8nm,0.6s						

IDC ***22*** *17:41:12.0±2.1,36°.51N×21°.65E,h0km,mb3.9/10, mb1 3.9/13,mb1mx3.7/39,mbtmp3.8/13,ML3.3/3,Error ellipse: s-maj=48.7km s-min=17.6km az=44.0*
ATH ***22*** *17:41:17.3,36°.52N×21°.59E,h33km±1km,ML3.5/8,Error ellipse: s-maj=4.2km s-min=1.7km az=52.0*
THE ***22*** *17:41:20.1,36°.61N×21°.66E,h19km±1km,ML3.4/9,Error ellipse: s-maj=1.7km s-min=0.7km az=257.0*

ISC 22 17:41:16.4±1.0,36°.51N±0°.04×21°.44E±0°.04,h35km±2km, n77,σ1s72/96,mb3.8/10,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MES2	**Methoni**	**0.38**	**34**	P	**Pn**	**17 41 25.3**	**-0.1**
MES2				S	**Sn**	**17 41 31.6**	**+0.2**
PYL	**PYLOS**	**0.45**	**32**	P	**Pn**	**17 41 26.3**	**-0.1**
PYL				S	**Sb**	**17 41 32.1**	**-1.1**
PYL	**PYLOS**	**0.45**	**32**	P	**Pn**	**17 41 26.3**	**-0.1**
PYL				S	**Sn**	**17 41 32.9**	**-0.3**
PYL				AML	AML	17 41 34.1	
	comp=N,11303μm,0.3s						
PYL				AML	AML	17 41 34.6	
	comp=E,20346μm,0.4s						
MES3	**Kyparissia**	**0.76**	**14**	P	**Pb**	**17 41 31.7**	**+0.5**
ITM	**Ithomi**	**0.77**	**30**	P	**Pb**	**17 41 31.6**	**+0.1**
ITM				S	**Sb**	**17 41 40.8**	**-0.9**
ITM	**Ithomi**	**0.77**	**30**	P	**Pb**	**17 41 31.7**	**+0.1**
ITM				S	**Sn**	**17 41 42.8**	**+1.6**
ITM				AML	AML	17 41 44.7	
	comp=N,6982μm,0.3s						
ITM				AML	AML	17 41 52.2	
	comp=E,7704μm,0.7s						
AMT	**Artemida-Makis**	**1.04**	**12**	P	**Pb**	**17 41 36.6**	**+0.6**
AMT				S	**Sb**	**17 41 50.2**	**+0.8**
AMT	**Artemida-Makis**	**1.04**	**12**	P	**Pb**	**17 41 36.5**	**+0.5**
AMT				AML	AML	17 41 57.4	
	comp=N,4791μm,0.4s						
AMT				AML	AML	17 42 06.0	
	comp=E,5175μm,0.8s						
VLX	**Vlachokerasia**	**1.14**	**41**	P	**Pb**	**17 41 37.5**	**-0.2**
VLX				S	**Sn**	**17 41 50.7**	**+0.4**
VLX	**Vlachokerasia**	**1.14**	**41**	P	**Pb**	**17 41 37.8**	**+0.1**
VLX				AML	AML	17 41 56.0	
	comp=N,5084μm,0.8s						
VLX				AML	AML	17 42 00.9	
	comp=E,5846μm,0.6s						
TRIP	**Tripoli**	**1.21**	**33**	P	**Pb**	**17 41 39.5**	**+0.6**
TRIP				S	**Sb**	**17 41 53.2**	**-1.0**
VLI	**Veliai**	**1.22**	**80**	P	**Pb**	**17 41 39.0**	**+0.1**
VLI				S	**Sb**	**17 41 53.7**	**-0.7**
VLI	**Veliai**	**1.22**	**80**	P	**Pb**	**17 41 38.9**	**-0.1**
VLI				AML	AML	17 41 59.4	
	comp=E,3257μm,0.4s						
VLI				AML	AML	17 42 04.6	
	comp=N,5352μm,0.5s						
KTHR	**Kythira**	**1.28**	**101**	P	**Pb**	**17 41 40.5**	**+0.4**
KTHR				S	**Sb**	**17 41 55.7**	**-0.6**
MNVA	**Monemvasia**	**1.29**	**82**	P	**Pb**	**17 41 40.4**	**+0.2**
KYTH	**Kithira**	**1.32**	**100**	P	**Pb**	**17 41 40.8**	**+0.2**
KYTH	**Kithira**	**1.32**	**100**	P	**Pb**	**17 41 40.3**	**-0.3**
KYTH				AML	AML	17 41 59.8	
	comp=N,4415μm,0.3s						
KYTH				AML	AML	17 42 00.0	
	comp=E,2981μm,0.3s						
DRO	**Drossia**	**1.45**	**8**	P	**Pb**	**17 41 42.8**	**-0.1**
DRO				S	**Sb**	**17 42 01.6**	**+0.5**
DRO	**Drossia**	**1.45**	**8**	P	**Pb**	**17 41 42.8**	**-0.1**
DRO				AML	AML	17 42 17.2	
	comp=N,3543μm,0.5s						
DRO				AML	AML	17 42 18.9	
	comp=E,4578μm,0.5s						
RLS	**Riolos of Patr**	**1.54**	**1**	P	**Pb**	**17 41 44.6**	**+0.2**
GUR	**Goura**	**1.59**	**27**	P	**Pb**	**17 41 44.6**	**-0.7**
GUR				S	**Sn**	**17 42 02.9**	**+1.3**
GUR	**Goura**	**1.59**	**27**	P	**Pb**	**17 41 44.9**	**-0.4**
KRND	**KRANIDI**	**1.62**	**57**	P	**Pn**	**17 41 43.8**	**+1.4**
KRND				S	**Sn**	**17 42 02.9**	**+0.8**
KRND	**KRANIDI**	**1.62**	**57**	P	**Pn**	**17 41 43.9**	**+1.4**
KLV	**Kalavryta, Ach**	**1.63**	**20**	P	**Pb**	**17 41 45.2**	**-0.7**
KLV	**Kalavryta, Ach**	**1.63**	**20**	P	**Pb**	**17 41 45.0**	**-0.9**
ANKY	**Antikythira Is**	**1.64**	**113**	P	**Pb**	**17 41 44.9**	**-1.0**
ANKY	**Antikythira Is**	**1.64**	**113**	P	**Pb**	**17 41 45.0**	**-1.0**
EPID	**Epidavros**	**1.73**	**50**	P	**Pn**	**17 41 45.4**	**+1.4**
DID	**Didima**	**1.74**	**55**	P	**Pn**	**17 41 45.3**	**+1.1**
DID	**Didima**	**1.74**	**55**	P	**Pn**	**17 41 45.4**	**+1.1**
LAKA	**Lakka**	**1.77**	**14**	P	**Pb**	**17 41 48.0**	**-0.3**
VLS	**Valsamata**	**1.79**	**338**	P	**Pb**	**17 41 47.4**	**-1.3**
TRIZ	**Trizonia**	**1.92**	**15**	P	**Pb**	**17 41 50.3**	**-0.4**
LTK	**Loutraki**	**1.94**	**38**	P	**Pn**	**17 41 48.2**	**+1.4**
SERG	**Sergoula**	**1.96**	**14**	P	**Pb**	**17 41 50.7**	**-0.8**
DSF	**Desfina**	**2.08**	**24**	P	**Pn**	**17 41 50.5**	**+1.6**
DSF	**Desfina**	**2.08**	**24**	P	**Pn**	**17 41 50.8**	**+1.9**
PVO	**Paravola**	**2.10**	**2**	P	**Pb**	**17 41 53.2**	**-0.6**
ANX	**Ano Chora**	**2.11**	**10**	P	**Pb**	**17 41 52.7**	**-1.4**
EVGI	**Lefkada island**	**2.19**	**344**	P	**Pb**	**17 41 54.2**	**-1.3**
VIL2	**Platees**	**2.23**	**40**	P	**Pn**	**17 41 52.0**	**+1.1**
VIL2				AML	AML	17 42 36.3	
	comp=N,919μm,0.8s						
VIL2				AML	AML	17 42 36.3	
	comp=E,1432μm,0.6s						
VLY	**Voula,Athens**	**2.30**	**54**	P	**Pn**	**17 41 52.4**	**+0.6**
IMMV	**Iera Moni Meta**	**2.31**	**116**	P	**Pn**	**17 41 53.8**	**+1.8**
ATHU	**Athens Univers**	**2.36**	**51**	P	**Pn**	**17 41 53.2**	**+0.6**
EVR	**Evrytania**	**2.42**	**7**	P	**Pn**	**17 41 57.4**	**-1.8**
LKR	**Lokris**	**2.46**	**30**	P	**Pn**	**17 41 55.9**	**+1.8**
PTL	**Penteli**	**2.46**	**51**	P	**Pn**	**17 41 55.0**	**+0.9**
VAM	**Vamos**	**2.49**	**115**	P	**Pn**	**17 41 56.2**	**+1.7**
SERI	**Serifos**	**2.52**	**74**	P	**Pn**	**17 41 55.1**	**+0.2**
DION	**Dionisos Attik**	**2.52**	**51**	P	**Pn**	**17 41 55.8**	**+0.9**
AGG	**Agios Georgios**	**2.60**	**15**	P	**Pn**	**17 41 58.8**	**+2.9**
SMIA	**Simia**	**2.75**	**30**	P	**Pn**	**17 41 59.6**	**+1.7**
IDI	**Anoyia**	**3.05**	**113**	Pn	**Pn**	**17 41 59.8**	**-2.4**
	comp=E,0.7nm,0.3s,baz=305,slow=12,SNR=3.3						
IDI				Sn	**Sn**	**17 42 37.3**	**-0.3**
	comp=E,6.5nm,0.3s,baz=288,slow=20,SNR=5.4						
THL	**Klokotos Trika**	**3.08**	**8**	P	**Pn**	**17 42 05.3**	**+2.8**
APE	**Apeiranthos**	**3.33**	**79**	P	**Pn**	**17 42 06.4**	**+0.4**
KPRO	**Kipourio**	**3.44**	**359**	P	**Pn**	**17 42 11.2**	**+3.7**
KRUS	**Krusevo**	**4.85**	**358**	*i* Pn	**Pn**	**17 42 28.6**	**+1.6**
MASS	**Massafra**	**5.32**	**322**	*eP*	**Pn**	**17 42 34.8**	**+1.5**
MASS				S	**Sn**	**17 43 29.8**	**-3.5**
FASA	**Fasano**	**5.36**	**325**	*eP*	**Pn**	**17 42 35.4**	**+1.6**
FASA				S	**Sn**	**17 43 30.4**	**-3.8**
VAE	**Valguarnera**	**5.71**	**282**	Sn	**Sn**	**17 43 49.0**	**+5.9**
	comp=E,3.2nm,0.3s,baz=4.4,slow=19,SNR=4.8						
BAI	**Bari**	**5.81**	**324**	*eP*	**Pn**	**17 42 41.6**	**+1.6**
BAI				S	**Sn**	**17 43 43.1**	**-2.2**
STON	**Ston**	**6.97**	**337**	*ePn*	**Pn**	**17 42 56.0**	**0.0**
STON				Sn	**Sn**	**17 44 08.0**	**-6.0**
NVLJ	**Novalja**	**9.47**	**330**	*ePn*	**Pn**	**17 43 30.5**	**+0.3**
NVLJ				Sn	**Sn**	**17 45 09.1**	**-6.1**
MMAI	**Mount Meron Ar**	**12.00**	**103**	Sn	**Sn**	**17 46 08.2**	**-9.4**
	comp=E,0.8nm,0.3s,baz=247,slow=20,SNR=3.0						
EIL	**Elat**	**13.21**	**117**	Pn	**Pn**	**17 44 17.6**	**-3.9**
	comp=E,0.2nm,0.3s,baz=324,slow=19,SNR=2.4						
EIL				Sn	Sn	17 46 33.0	-14
	comp=E,0.3nm,0.3s,baz=72,slow=16,SNR=3.1						
AKASG	**Malin Array Be**	**15.25**	**19**	Pn	**Pn**	**17 44 48.3**	**-0.5**
	comp=E,0.6nm,0.3s,baz=210,slow=12,SNR=3.2						
HFS	**Hagfors**	**24.16**	**351**	P	**P**	**17 46 28.8**	**-0.2**
	comp=E,1.4nm,0.4s,baz=155,slow=11,SNR=10						
FINES	**FINESS Array B**	**25.12**	**5**	P	**P**	**17 46 38.3**	**+0.6**
	comp=E,1.4nm,0.5s,baz=164,slow=11,SNR=12						
NOA	**NORSAR Array B**	**25.39**	**348**	P	**P**	**17 46 40.6**	**+0.4**
	comp=E,0.5nm,0.7s,baz=159,slow=10,SNR=2.8						
GEYT	**Alibeck**	**29.12**	**76**	P	**P**	**17 47 13.6**	**-0.3**
	comp=E,1.4nm,0.5s,baz=260,slow=8.6,SNR=3.7						
ARCES	**ARCESS Array B**	**33.15**	**3**	P	**P**	**17 47 50.3**	**+1.2**
	comp=E,6.0nm,1.1s,baz=197,slow=8.5,SNR=4.7						
MKAR	**Makanchi Array**	**45.56**	**57**	P	**P**	**17 49 32.1**	**-0.7**
	comp=E,0.4nm,0.4s,baz=271,slow=7.7,SNR=9.2						
MKAR				PcP	**PcP**	**17 51 12.3**	**+1.4**
	comp=E,0.1nm,0.5s,baz=251,slow=4.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**46.27**	**47**	P	**P**	**17 49 37.0**	**-1.1**
	comp=E,1.2nm,0.3s,baz=270,slow=9.6,SNR=6.0						
CMAR	**Chiang Mai Arr**	**69.39**	**82**	P	**P**	**17 52 20.6**	**-0.4**
	comp=E,0.4nm,0.6s,baz=294,slow=7.5,SNR=3.3						
YKA	**Yellowknife Ar**	**75.20**	**341**	P	**P**	**17 52 57.2**	**+2.3**
	comp=E,0.3nm,0.7s,baz=37,slow=5.4,SNR=5.7						
KSRS	**Korea Array**	**79.81**	**51**	P	**P**	**17 53 21.8**	**+0.7**
	comp=E,0.7nm,0.6s,baz=301,slow=4.3,SNR=2.8						

ISCJB ***22*** *17:57:35.0±0.7,10°.15N×103°.90W±0°.07,h10km, mb4.4/40,MS3.7/16,Error ellipse: s-maj=12.2km s-min=7.9km az=40.2*
IDC ***22*** *17:57:35.1±1.3,10°.16N×104°.05W,h0km,mb3.8/5, mb1 4.2/9,mb1mx4.0/32,mbtmp3.9/9,ML3.8/4,MS3.8/20, Ms1 3.8/20,ms1mx3.6/34,Error ellipse: s-maj=37.4km s-min=19.4km az=61.0*
NEIC ***22*** *17:57:36.6±0.7,10°.14N×103°.93W,h10km,mb4.6/43, Error ellipse: s-maj=12.3km s-min=8.2km az=223.0*
BJI ***22*** *17:57:39.5,10°.10N×103°.90W,h30km,Ms4.9/1*

ISC 22 17:57:36.1±0.9,10°.1N±0°.1×104°.0W±0°.1,h10km,n86, σ1s54/67,mb4.4/40,MS3.8/17,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**9.07**	**35**	*e*Pn	**Pn**	**17 59 47.4**	**+0.1**
MOIG	**Morelia**	**9.86**	**16**	*e*Pn	**Pn**	**17 59 59.7**	**+1.4**
CMIG	**Matias Romero**	**11.23**	**51**	Pn	**Pn**	**18 00 18.0**	**+1.2**
	0.2nm,0.3s,baz=172,slow=16,SNR=6.2						
CMIG				LR	LR	18 03 33.0	
	comp=Z,497nm,21.4s,baz=194,slow=32						
ZAIG	**Zacatecas**	**12.63**	**6**	*e*Pn	**Pn**	**18 00 34.0**	**-2.2**
CCIG	**Comitan**	**13.05**	**61**	*e*Pn	**Pn**	**18 00 41.6**	**-0.4**
APG	**El Apazote**	**14.06**	**69**	Pn	**Pn**	**18 00 55.9**	**+0.1**
	0.2nm,0.3s,baz=3.0,slow=8.5,SNR=4.1						
LPIG	**La Paz**	**15.13**	**337**	LR	LR	18 05 32.7	
	comp=Z,503nm,18.1s,baz=165,slow=32						
LNIG	**Linares**	**15.30**	**16**	*e*Pn	**Pn**	**18 01 10.9**	**-1.4**
	10nm,1.3s						
HPIG		**16.78**	**355**	*e*Pn	**Pn**	**18 01 28.4**	**-3.2**
	8.3nm,0.7s						
KVTX	**Kingsville**	**18.24**	**18**	*e*Pn	Pn	18 01 41.7	-7.9
	409nm,1.9s						
833A	**Chaparral WMA,**	**18.60**	**13**	*e*P	**P**	**18 01 53.9**	**+0.3**
	129nm,1.8s						
JTS	**JuntasAbangare**	**18.74**	**88**	*e*P	**Pn**	**18 01 55.5**	**-0.2**
	7.7nm,1.0s						
JTS	**JuntasAbangare**	**18.74**	**88**	P	**Pn**	**18 01 56.4**	**+0.6**
	1.4nm,0.3s,baz=299,slow=19,SNR=3.2						
JTS				LR	LR	18 07 15.3	
	comp=Z,254nm,19.1s,baz=343,slow=31						
TXAR	**Lajitas Array**	**19.10**	**1**	P	**Pn**	**18 02 01.2**	**+1.1**
	0.1nm,0.3s,baz=189,slow=9.1,SNR=14						
TXAR				LR	LR	18 09 05.5	
	comp=Z,228nm,18.6s,baz=0.0,slow=36						
TX31	**Lajitas Ar. Si**	**19.10**	**1**	*e*P	**Pn**	**18 02 00.5**	**+0.4**
ESPN	**Las Esperanzas**	**19.43**	**82**	*e*P	**P**	**18 02 02.5**	**-0.4**
	34nm,1.4s						
JCT	**Junction City**	**20.61**	**10**	*e*P	**P**	**18 02 14.7**	**-1.0**
	22nm,1.3s						
HKT	**Hockley**	**21.13**	**20**	*e*P	**P**	**18 02 21.9**	**+0.7**
	25nm,1.4s						
435B	**Jarrell**	**21.39**	**15**	*e*P	**P**	**18 02 24.5**	**+0.4**
	48nm,1.3s						
MNTX	**Cornudas Mount**	**21.49**	**357**	*e*P	**P**	**18 02 26.6**	**+1.4**
	9.6nm,1.0s						
GDL2	**Guadalupe Moun**	**21.96**	**359**	*e*P	**P**	**18 02 31.2**	**+0.9**
ABTX	**Abilene, Hawle**	**22.73**	**10**	*e*P	**P**	**18 02 39.6**	**+1.2**
	15nm,1.1s						
TUC	**Tucson**	**22.94**	**345**	*e*P	**P**	**18 02 39.8**	**-0.9**
	20nm,1.8s						
NATX	**Nacogdoches**	**23.19**	**21**	*e*P	**P**	**18 02 43.0**	**-0.2**
	213nm,2.0s						
MSTX	**Muleshoe**	**23.75**	**3**	*e*P	**P**	**18 02 49.9**	**+1.0**
	19nm,1.3s						
BNM	**Barren Site**	**24.02**	**355**	*e*P	**P**	**18 02 54.7**	**+3.1**
LENM	**Lemitar**	**24.07**	**354**	*e*P	**P**	**18 02 52.6**	**+0.6**
113A	**Mohawk Valley,**	**24.26**	**340**	*e*P	**P**	**18 02 53.7**	**+0.2**
	18nm,1.8s						
LAZ	**Ladron**	**24.32**	**354**	*e*P	**P**	**18 02 54.2**	**-0.1**
AMTX	**Amarillo**	**24.72**	**5**	*e*P	**P**	**18 02 57.8**	**0.0**
	22nm,1.4s						
ANMO	**Albuquerque**	**24.80**	**355**	*e*P	**P**	**18 03 01.7**	**+3.1**
	6.6nm,1.1s						
WMOK	**Wichita Mounta**	**24.94**	**10**	*e*P	**P**	**18 03 00.2**	**+0.5**
	12nm,1.5s						
Y14A	**Wickenburg**	**25.09**	**342**	*e*P	**P**	**18 03 06.3**	**+5.2**
	8.8nm,1.6s						
X16A	**Lo Mia Camp, P**	**25.11**	**345**	*e*P	**P**	**18 03 03.9**	**+2.5**
	2.5nm,0.9s						
Z41A	**Richland Creek**	**25.21**	**22**	*e*P	**P**	**18 03 03.0**	**+0.9**
	19nm,0.6s						
WLAR	**White Oak Lake**	**25.48**	**21**	*e*P	**P**	**18 03 05.0**	**+0.4**
	27nm,1.1s						
WUAZ	**Wupatki**	**26.14**	**346**	*e*P	**P**	**18 03 15.1**	**+4.4**
	7.3nm,1.2s						
X40A	**Basin Creek Fa**	**26.30**	**21**	*e*P	**P**	**18 03 14.2**	**+2.2**
	13nm,1.5s						
T25A	**Trinidad**	**26.88**	**359**	*e*P	**P**	**18 03 19.7**	**+2.2**
	8.9nm,1.2s						
W41B	**Gary Mavity, V**	**27.12**	**21**	*e*P	**P**	**18 03 19.6**	**+0.1**
	56nm,1.8s						
250A	**Grady**	**27.23**	**34**	*e*P	**P**	**18 03 20.8**	**+0.4**
	70nm,1.6s						
OTAV	**Otavalo**	**27.24**	**110**	*e*P	**P**	**18 03 20.4**	**-0.9**
	3.7nm,0.7s						
MVCO	**Mesa Verde**	**27.26**	**352**	*e*P	**P**	**18 03 22.2**	**+1.3**
	16nm,1.8s						
SDCO	**Great Sand Dun**	**27.52**	**357**	*e*P	**P**	**18 03 24.2**	**+0.9**
	6.5nm,1.5s						
HHAR	**Hobbs**	**27.58**	**18**	*e*P	**P**	**18 03 23.6**	**+0.1**
	17nm,1.7s						
LRAL	**Lakeview Retre**	**27.64**	**32**	*e*P	**P**	**18 03 24.9**	**+0.8**
	34nm,1.8s						
OXF	**Oxford**	**27

NOA	NORSAR Array B	92.94	26	LR	LR	18 53 13.3	
	comp=Z,13nm,18.3s,baz=295,slow=36						
FINES	FINESS Array B	98.69	22	LR	LR	18 55 57.3	
	comp=Z,35nm,18.4s,baz=246,slow=36						
HHC	Hu-ho-hao-te	119.58	330	*e*PKP	PKPdf	18 16 27.0	+0.2
NJ2	Nanjing	121.37	317	*e*PKP	PKPdf	18 16 29.1	-1.2
WMQ	Urumqi	125.25	350	*e*PKP	PKPdf	18 16 37.3	-0.3
WMQ				LR	LR		
	comp=N,180nm,26.3s						
LZH	Lanzhou	127.06	332	*e*PKP	PKPdf	18 16 37.4	-4.0
LZH				sPKP		18 16 56.3	

*NEIC **22** 18:10:33.4±0.0, 15°.60N×92°.62W, h160km, MD4.0(MEX), After MEX.*

MEX 22 18:10:32.9±0.7**, 15°.60N×92°.59W, h164**km±7km**, MD4.0, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCIG		0.62	280	*e*P	Pn	18 10 55.0	-1.3
PCIG				*e*S	Sn	18 11 11.7	-2.6
PCIG		0.62	280	*e*P	Pn	18 10 55.0	-1.4
PCIG				*i* S	Sn	18 11 12.3	-2.0
THIG		0.75	156	*e*P	Pn	18 10 56.2	-1.0
THIG				*e*S	Sn	18 11 14.2	-1.6
THIG		0.75	156	*e*P	Pn	18 10 56.2	-1.0
THIG				*e*S	Sn	18 11 14.2	-1.6
CCIG	Comitan	0.81	32	*e*P	Pn	18 10 56.9	-0.9
CCIG				*e*S	Sn	18 11 14.6	-2.4
CCIG	Comitan	0.81	32	*e*P	Pn	18 10 56.9	-0.9
CCIG				*e*S	Sn	18 11 14.6	-2.4
CMIG	Matias Romero	2.66	304	*e*P	Pn	18 11 15.6	-1.0
CMIG				*e*S	Sn	18 11 47.7	-2.8
CMIG	Matias Romero	2.66	304	*e*P	Pn	18 11 15.6	-1.0
CMIG				*e*S	Sn	18 11 47.7	-2.8

IDC 22 18:15:00.6±3.7**, 11°.79S×166°.74E, h0**km**, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.7**/42**, mbtmp4.0**/4**, ML4.7**/1**, MS3.2**/2**, Ms1 3.2**/2**, ms1mx2.8**/27**, Error ellipse: s-maj=77.2km s-min=52.8km az=122.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.08	289	Pn	Pn	18 16 45.6	0.0
	14nm,0.3s,baz=169,slow=3.9,SNR=8.9						
HNR				Sn	Sn	18 18 00.5	-6.3
	5.2nm,0.3s,baz=77,slow=19,SNR=2.0						
HNR				LR	LR	18 19 14.1	
	comp=Z,86nm,19.8s,baz=214,slow=36						
WRA	Warramunga Arr	32.16	251	P	P	18 21 30.0	-0.3
	0.8nm,0.9s,baz=83,slow=9.1,SNR=5.6						
ASAR	Alice Springs	33.35	245	P	P	18 21 41.0	+0.2
	0.8nm,0.8s,baz=68,slow=10,SNR=14						
MKAR	Makanchi Array	94.73	317	P	P	18 28 23.9	-0.1
	0.5nm,0.6s,baz=88,slow=5.7,SNR=7.4						
MKAR				LR	LR	19 09 43.2	
	comp=Z,30nm,21.7s,baz=24,slow=35						

IDC 22 18:36:00.2±7.0**, 9°.41N×103°.96W, h0**km**, mb3.7**/3**, mb1 4.1**/5**, mb1mx3.8**/34**, mbtmp3.8**/5**, ML3.1**/2**, MS3.6**/11**, Ms1 3.6**/11**, ms1mx3.4**/32**, Error ellipse: s-maj=131.8km s-min=59.4km az=162.0, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	11.67	48	Pn	Pn	18 38 47.9	-0.2
	0.1nm,0.3s,baz=217,slow=12,SNR=3.5						
CMIG				LR	LR	18 42 05.4	
	comp=Z,317nm,19.5s,baz=200,slow=31						
LPIG	La Paz	15.82	338	LR	LR	18 44 04.0	
	comp=Z,240nm,19.6s,baz=188,slow=31						
JTS	JuntasAbangare	18.75	86	LR	LR	18 45 14.8	
	comp=Z,86nm,20.8s,baz=342,slow=30						
TXAR	Lajitas Array	19.82	1	P	P	18 40 33.0	+0.4
	0.0nm,0.3s,baz=185,slow=12,SNR=14						
TXAR				LR	LR	18 47 28.1	
	comp=Z,96nm,20.7s,baz=0.0,slow=35						
ATAH	Atahualpa	30.31	122	LR	LR	18 52 01.9	
	comp=Z,313nm,21.9s,baz=330,slow=32						
NVAR	Mina Array Bea	31.64	338	LR	LR	18 52 52.8	
	comp=Z,132nm,18.6s,baz=215,slow=32						
PDAR	Pinedale Array	33.59	353	P	P	18 42 42.2	-0.2
	0.4nm,0.6s,baz=148,slow=9.1,SNR=2.3						
PDAR				LR	LR	18 56 23.8	
	comp=Z,60nm,18.4s,baz=192,slow=36						
NNA	Nana	34.33	128	LR	LR	18 53 06.9	
	comp=Z,41nm,20.0s,baz=266,slow=30						
LPAZ	La Paz	43.69	126	LR	LR	19 00 23.1	
	comp=Z,154nm,21.1s,baz=7.5,slow=34						
YKA	Yellowknife Ar	53.55	354	P	P	18 45 22.5	0.0
	0.9nm,1.0s,baz=166,slow=7.8,SNR=7.8						
ILAR	Eielson Array	62.84	341	P	P	18 46 27.5	-0.1
	1.1nm,0.7s,baz=154,slow=5.4,SNR=13						
PETK	Petropavlovsk-	87.52	323	LR	LR	19 21 18.7	
	comp=Z,59nm,19.7s,baz=77,slow=31						
NOA	NORSAR Array B	93.57	26	LR	LR	19 32 07.2	
	comp=Z,12nm,18.0s,baz=315,slow=36						

*ISCJB **22** 18:39:04.0±0.6, 32°.11S±0°.06×179°.9W±0°.1, h350km, mb2.9/2, Error ellipse: s-maj=18.2km s-min=6.5km az=19.5*

*IDC **22** 18:39:05.4±8.0, 32°.17S×179°.79E, h344km±92km, mb2.7/2, mb1 3.1/3, mb1mx3.0/23, mbtmp3.7/3, Error ellipse: s-maj=103.2km s-min=45.5km az=1.0*

*WEL **22** 18:39:08.9±1.0, 32°S±7°×18°0W±1°5, h280km±19km*

ISC 22 18:39:03.7±1.0**, 32°.19S**±0°.08**×179°.8W**±0°.1**, h350**km**, n74, σ2.17**/75**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.31	29	P	Pn	18 40 06.4	+0.4
GLKZ				S	S	18 40 54.2	-1.9
MXZ	Matakaoa Point	5.59	196	P	Pn	18 40 33.9	+4.1
MXZ				S	S	18 41 37.8	-1.7
GRZ	Great Barrier	5.67	223	P	Pn	18 40 34.6	+4.0
WMGZ	Waiomatatini S	5.82	194	P	Pn	18 40 36.0	+3.7
KUZ	Kuaotunu	5.89	218	P	Pn	18 40 37.5	+4.4
HAZ	Te Kaha	5.91	199	P	Pn	18 40 36.4	+3.0
PKGZ	Pakihiroa	5.96	197	P	Pn	18 40 38.4	+4.4
PUZ	Puketiti	6.09	195	P	Pn	18 40 39.5	+4.1
PUZ				S	S	18 41 47.7	-2.2
RUGZ	Raukumara Rang	6.14	199	P	Pn	18 40 37.7	+1.6
WCZ	Waipu Caves	6.17	231	P	Pn	18 40 37.6	+1.3
WIAZ	Waiheke Island	6.24	221	P	Pn	18 40 40.6	+3.5
TWGZ	Tauwhareparae	6.26	197	P	Pn	18 40 42.1	+4.7
OPRZ	Ohinepanea	6.41	207	P	Pn	18 40 42.7	+3.7
CNGZ	Carnagh Statio	6.50	194	P	Pn	18 40 45.0	+4.9
MWZ	Matawai	6.52	199	P	Pn	18 40 43.2	+2.7
TKGZ	Te Karaka	6.54	197	P	Pn	18 40 43.4	+2.9
URZ	Urewera	6.58	202	P	Pn	18 40 42.7	+1.6
	3.3nm,0.3s,baz=269,slow=4.6,SNR=61						
URZ				S	S	18 41 57.6	-2.6
	5.9nm,0.3s,baz=79,slow=19,SNR=30						
URZ	Urewera	6.58	202	P	Pn	18 40 42.7	+1.6
RAGZ	Rawiri	6.71	199	P	Pn	18 40 44.9	+2.3
RIGZ	Rimuhau	6.81	197	P	Pn	18 40 46.6	+2.9
MUGZ	Murupara	6.89	203	P	Pn	18 40 45.9	+1.3
RTZ	Ruatahuna	6.95	202	P	Pn	18 40 45.0	-0.4
PRGZ	Paritu Road	6.99	195	P	Pn	18 40 50.3	+4.4
SNGZ	Shannon Statio	6.99	199	P	Pn	18 40 46.2	+0.3
ALRZ	Allen Road	7.12	206	P	Pn	18 40 48.0	+0.7
KNZ	Kokohu	7.13	196	P	Pn	18 40 49.4	+1.9
RAHZ	Arahi	7.19	200	P	Pn	18 40 50.4	+2.2
MHGZ	Mahia Peninsul	7.21	195	P	Pn	18 40 51.5	+3.2
MTHZ	Maungataniwha	7.21	202	P	Pn	18 40 50.6	+2.2
TLZ	Tolley Road	7.24	211	P	Pn	18 40 53.6	+4.9
WHHZ	Waihua	7.30	199	P	Pn	18 40 52.3	+2.9
MRHZ	Matea Rd	7.33	204	P	Pn	18 40 49.8	-0.1
NMHZ	Naumai	7.44	201	P	Pn	18 40 54.2	+3.0
BKZ	Black Stump Fm	7.60	203	P	Pn	18 40 53.8	+0.7
HIZ	Hauiti	7.70	213	P	Pn	18 40 59.4	+5.3
MCHZ	McNeill Hill	7.79	201	P	Pn	18 40 57.3	+2.1
KWHZ	Kaweka Forest	7.86	202	P	Pn	18 40 57.9	+1.7
WTVZ	West Tongariro	7.88	207	P	Pn	18 40 58.6	+2.1
CKHZ	Cape Kidnapper	7.89	198	P	Pn	18 40 58.6	+2.3
TWVZ	Taurewa	7.91	208	P	Pn	18 40 58.6	+1.9
NGZ	Ngauruhoe	7.93	207	P	Pn	18 40 59.3	+2.3
TUVZ	Tukino	7.99	207	P	Pn	18 40 59.2	+1.4
FWVZ	Far West T-bar	8.02	207	P	Pn	18 40 59.7	+1.5
WHVZ	Whangaehu Hut	8.03	207	P	Pn	18 40 59.8	+1.5
BHHZ	Black Hill Sta	8.04	204	P	Pn	18 40 58.9	+0.7
TRVZ	Turoa	8.06	207	P	Pn	18 41 00.2	+1.6
KAHZ	Kahuranaki	8.07	199	P	Pn	18 40 59.6	+1.1
MOVZ	Moawhango	8.08	206	P	Pn	18 40 59.2	+0.6
KRHZ	Kereru	8.08	202	P	Pn	18 40 59.5	+0.9
PKVZ	Pokaka	8.13	208	P	Pn	18 41 01.1	+1.8
MTVZ	Mangateitei	8.16	207	P	Pn	18 41 01.1	+1.4
VRZ	Vera Road	8.24	211	P	P	18 41 03.8	+0.4
PXZ	Pawanui	8.29	198	P	Pn	18 41 02.5	+1.3
PNHZ	Pukenui	8.38	202	P	Pn	18 41 02.4	+0.2
WPHZ	Waipukurau	8.44	200	P	P	18 41 04.8	-0.9
PRHZ	Porangahau	8.57	199	P	Pn	18 41 05.6	+1.1
TSZ	Takapari Road	8.59	203	P	Pn	18 41 05.0	+0.3
PKE	Pukeiti	8.65	214	P	P	18 41 10.0	+2.0
DVHZ	Dannevirke	8.74	201	P	Pn	18 41 07.1	+0.6
ANWZ	Angora Road	8.80	199	P	Pn	18 41 08.2	+1.1
POWZ	Post Office Ro	8.95	203	P	Pn	18 41 09.5	+0.5
PRWZ	Pori Road	9.03	201	P	Pn	18 41 11.1	+1.2
BFZ	Birch Farm	9.07	200	P	Pn	18 41 10.3	-0.1
MRZ	Mangatainoka R	9.25	203	P	Pn	18 41 12.0	-0.6
TIWZ	Tintock	9.26	201	P	Pn	18 41 13.0	+0.3
CPWZ	Castlepoint	9.29	199	P	P	18 41 14.5	-0.6
HOWZ	Holdsworth Sta	9.49	202	P	Pn	18 41 15.1	-0.3
OGWZ	Otaki Gorge	9.53	204	P	Pn	18 41 15.2	-0.7
TMWZ	Te Maipa	9.56	200	P	Pn	18 41 17.3	+1.0
KIW	Kapiti Island	9.66	205	P	Pn	18 41 17.1	-0.4
CAW	Cannon Point	9.83	204	P	Pn	18 41 18.9	-0.5
ASAR	Alice Springs	41.56	270	P	P	18 46 17.3	-1.2
	0.5nm,0.9s,baz=106,slow=7.5,SNR=7.2						
WRA	Warramunga Arr	42.71	275	P	P	18 46 26.9	-0.9
	0.5nm,0.4s,baz=112,slow=8.0,SNR=23						
FINES	FINESS Array B	146.27	338	PKPbc	PKPbc	18 58 03.4	+0.7
	1.8nm,1.1s,baz=64,slow=3.2,SNR=4.3						

UCR 22 18:47:52.9±1.4**, 11°.58N×87°.12W, h38**km±199km**, ML3.5, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNGN	Cerro Negro	1.00	25	*e*P	Pn	18 48 10.5	0.0
MGAN	Managua	1.02	57	*e*P	Pn	18 48 10.7	-0.1
MGAN				*e*S	Sn	18 48 24.7	+0.8
CRIN	San Cristobal	1.11	4	*e*P	Pn	18 48 12.6	+0.6
BRAN	Las Pilas	1.36	34	*e*P	Pn	18 48 10.0	-5.4
MATN	Matagalpa	1.78	41	*e*P	Pn	18 48 21.4	+0.2
MATN				*e*S	Sn	18 48 43.8	+1.1
CNCH	Conchagua	1.82	338	*e*P	Pn	18 48 22.6	+0.8
CNCH				*e*S	Sn	18 48 44.3	+0.6
CNCH				IAML		18 48 49.1	
	comp=Z,838nm,0.3s						
LCND	La Caada	1.87	336	*e*P	Pn	18 48 23.0	+0.6
LCND				*e*S	Sn	18 48 44.5	-0.2
LCND				IAML		18 48 50.3	
	comp=Z,414nm,0.4s						
ACON	Acoyapa	1.95	79	*e*P	Pn	18 48 22.9	-0.5
TGUH	Tegucigalpa,Un	2.46	357	*e*P	Pn	18 48 31.4	+0.9

MEX 22 18:50:02.1±0.7**, 18°.15N×100°.42W, h64**km±8km**, MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARIG	Puente Sto Nin	0.15	29	*e*P	Pn	18 50 10.6	-1.3
ARIG				*e*S	Sn	18 50 16.6	-2.3
MEIG	Mezcala	0.80	106	*i* P	Pn	18 50 16.3	-1.6
MEIG				*i* S	Sn	18 50 27.5	-2.0
PLIG	Platanillo	0.91	75	*e*P	Pn	18 50 18.0	-1.2
PLIG				*e*S	Sn	18 50 30.8	-1.1
CAIG	El Cayaco	1.11	172	*e*P	Pn	18 50 19.5	-2.2
CAIG				*e*S	Sn	18 50 35.1	-1.2

*IDC **22** 19:19:29.0±5.4, 16°.86S×175°.44W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/34, mbtmp4.2/3, Error ellipse: s-maj=194.6km s-min=62.2km az=134.0*

*ISCJB **22** 19:20:09.6±1.4, 18°.1S±0°.2×176°.1W±0°.2, h350km, mb4.1/13, Error ellipse: s-maj=34.5km s-min=16.0km az=29.6*

*NEIC **22** 19:20:13.7±2.9, 18°.03S×176°.04W, h380km±32km, mb4.4/10, Error ellipse: s-maj=29.3km s-min=14.6km az=126.0*

ISC 22 19:20:11.3±1.5**, 18°.1S**±0°.2**×176°.0W**±0°.3**, h350**km**, n19, σ1.02**/19**, mb4.1**/13**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNTN	Kanton	15.80	16	*e*P	P	19 23 35.0	+0.3
	83nm,1.1s						
COEN	Coen	39.39	270	*e*P	P	19 27 09.2	+0.5
	36nm,1.8s						
STKA	Stephens Creek	40.55	242	*e*P	P	19 27 19.9	+1.9
	5.3nm,1.6s						
STKA	Stephens Creek	40.55	242	P	P	19 27 19.5	+1.6
	1.0nm,0.4s,baz=82,slow=10,SNR=4.6						
MCQ	Macquarie Isla	41.11	202	*e*P	P	19 27 21.6	-0.4
	519nm,1.7s						
BBOO	Buckleboo	45.32	242	*e*P	P	19 27 57.1	+1.2
	60nm,1.7s						
WB2	Warramunga Arr	46.84	259	*e*P	P	19 28 06.5	-1.2
WRAB	Tennant Creek	46.84	259	*e*P	P	19 28 06.9	-0.8
	25nm,2.0s						
WR1	Warramunga Arr	46.85	259	*e*P	P	19 28 06.8	-0.9
	13nm,1.6s						
WRA	Warramunga Arr	46.85	259	P	P	19 28 06.8	-1.0
	1.2nm,0.3s,baz=96,slow=7.6,SNR=109						
AS01	Alice Springs	46.90	254	*e*P	P	19 28 07.7	-0.5
AS31	Alice Springs	46.94	254	*e*P	P	19 28 07.9	-0.6
	1.0nm,0.8s						
ASAR	Alice Springs	46.94	254	P	P	19 28 08.2	-0.4
	2.3nm,0.4s,baz=90,slow=8.0,SNR=91						
MTN	Manton Dam	51.08	268	*e*P	P	19 28 38.0	-1.6
	33nm,1.8s						
SARN	Sarigan	51.10	310	*e*P	P	19 28 39.8	+0.1
	235nm,1.7s						
FORT	Forrest	51.99	245	*e*P	P	19 28 45.6	-0.5
	44nm,1.4s						
FITZ	Fitzroy Crossi	55.25	260	*e*P	P	19 29 08.8	-0.9
	7.1nm,1.4s						
BR101	Keskin Array S	146.52	316	*e*PKPdf	PKPdf	19 39 10.3	0.0
BRTR	Keskin Array B	146.52	316	PKPbc	PKPdf	19 39 10.3	0.0
	0.6nm,0.7s,baz=31,slow=3.4,SNR=2.0						

*BJI **22** 19:30:01.2, 37°.51N×71°.57E, h110km, mb4.5/10, mB4.5/5*

*ISCJB **22** 19:30:02.5±0.3, 37°.37N±0°.02×71°.93E±0°.04, h130km, mb4.8/2, Error ellipse: s-maj=5.0km s-min=3.1km az=173.4*

*NEIC **22** 19:30:03.9±0.5, 37°.45N×71°.78E, h116km±5km, mb4.0/7, Error ellipse: s-maj=6.8km s-min=6.0km az=78.0*

*IDC **22** 19:30:03.2±4.9, 37°.43N×71°.79E, h104km±41km, mb3.5/5, mb1 3.7/10, mb1mx3.3/45, mbtmp4.0/10, MS3.6/1, Ms1 3.6/1, ms1mx2.4/38, Error ellipse: s-maj=39.6km s-min=22.0km az=42.0*

*NNC **22** 19:30:07.7±4.6, 37°.74N×71°.58E, h118km±91km, mb3.7, mpv4.2, Error ellipse: s-maj=39.3km s-min=27.0km az=5.0*

ISC 22 19:30:02.8±0.5**, 37°.31N**±0°.04**×71°.78E**±0°.05**, h130**km**, n86, σ2.81**/99**, 2C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GAR	Garm	2.04	326	*e*Pn	Pn	19 30 36.4	-0.9
GAR				*e*Sn	Sn	19 31 00.6	-3.2
CHGR	Chuyangaron	2.47	304	*e*Pn	Pn	19 30 41.3	-1.3
CHGR				*e*Sn	Sn	19 31 07.8	-5.4
BTK	Batken	2.84	345	*e*Pn	Pn	19 30 47.6	+0.2
CEP	Cherat	3.48	178	P	Pn	19 30 58.0	+2.1
CEP				S	Sn	19 31 40.0	+3.1
KBL	Kabul	3.55	220	*e*Pn	Pn	19 30 58.9	+2.1
KBL				*e*Sn	Sn	19 31 42.1	+3.6
CHCP	Chirah Chowk	3.84	161	P	Pn	19 31 03.2	+2.7
NIL	Nilore	3.85	161	*e*Pn	Pn	19 31 03.2	+2.6
KSH	Kashi	3.96	55	P	Pn	19 30 58.8	-3.3
KSH				sP		19 31 24.1	
KSH				S	Sn	19 31 38.6	-9.5
KSH				smax	smax		
	comp=N,170nm,0.3s						
KSH				smax	smax		
	comp=E,220nm,0.3s						
ARSB	Arslanbob	4.11	13	*e*Pn	Pn	19 31 03.3	-0.8
ARSB				*e*Sn	Sn	19 31 47.0	-4.7
THW	Thamme Wali	4.51	180	P	Pn	19 31 10.8	+1.4
AML	Almayashu	5.03	16	P	Pn	19 31 16.5	-0.1
	SNR=130						
NRN	Naryn	5.25	37	*e*Pn	Pn	19 31 18.7	-0.8
UCH	Uchtor	5.34	22	P	Pn	19 31 20.9	+0.1
	SNR=25						
KZA	Kyzart	5.46	28	P	Pn	19 31 22.2	-0.1
	SNR=20						
EKS2	Erkin-Say	5.56	15	P	Pn	19 31 23.8	+0.4
	SNR=24						
AAK	Ala-Archa	5.71	21	P	Pn	19 31 26.0	+0.5
	SNR=60						
AAK	Ala-Archa	5.71	21	*e*Pn	Pn	19 31 25.5	0.0
AAK	Ala-Archa	5.71	21	⇑P	Pn	19 31 26.0	+0.5
	16nm,0.4s						
AAK				⇓S	Sn	19 32 27.4	-2.6
	17nm,0.7s						
AAK	Ala-Archa	5.71	21	P	Pn	19 31 25.9	+0.5
	11nm,0.3s,baz=181,slow=6.9,SNR=264						
AAK				S	Sn	19 32 27.5	-2.4
	2.0nm,0.3s,baz=16,slow=18,SNR=8.9						
KBK	Karagaybulak	5.86	24	P	Pn	19 31 28.0	+0.5
	SNR=14						
KK31	Karatay Array	5.86	351	*e*Pn	Pn	19 31 26.8	-0.6
KK31	Karatay Array	5.86	351	P	Pn	19 31 26.8	-0.6
	9.6nm,0.2s,baz=177,slow=13,SNR=664						
KK31				⇓S	Sn	19 32 27.8	-5.6
	2.7nm,0.2s,baz=170,slow=20,SNR=11						
KKAR	Karatay Array	5.86	351	*e*Pn	Pn	19 31 26.8	-0.6
FRU1	Bishkek	5.91	21	*e*Pn	Pn	19 31 28.4	+0.4
ULHL	Ulahol	6.00	34	P	Pn	19 31 30.4	+0.9
	SNR=11						
CHMS	Chumysh	6.12	21	P	Pn	19 31 31.1	+0.3
	SNR=25						
DHRM	DHARAMSHALA	6.27	142	*e*P	Pn	19 31 34.2	+1.0
DHRM				*e*S	Sn	19 32 39.8	-3.9
DHRM				IAML		19 32 44.7	
	comp=E,342nm,0.5s						
DHRM				IAML		19 32 45.1	
	comp=N,288nm,0.3s						
USP	Ospenovka	6.30	18	P	Pn	19 31 33.0	-0.2
	SNR=19						
TKM2	Tokmak 2	6.32	26	P	Pn	19 31 33.9	+0.2
	SNR=30						
TKM2	Tokmak 2	6.32	26	⇑P	Pn	19 31 33.7	0.0
	comp=N,5.7nm,0.4s						
TKM2				⇓S	Sn	19 32 42.1	-2.6
	comp=N,3.6nm,0.7s						
KDJ	Kajisay	6.36	39	*e*Pn	Pn	19 31 35.2	+1.0
PRZ	Przheval'sk	7.25	43	*e*Pn	Pn	19 31 46.0	-0.2
SMLA	Simla	7.61	143	*e*P	Pn	19 31 50.9	0.0
SMLA				*e*S	Sn	19 33 09.4	-6.4
SMLA				IAML		19 33 15.1	
	comp=E,116nm,0.2s						
SMLA				IAML		19 33 15.1	
	comp=N,109nm,0.1s						
DDI	Dehra Dun	8.71	141	*e*S	Sn	19 33 36.3	-6.1
DDI				IAML		19 33 41.7	
	comp=N,92nm,0.5s						
DDI				IAML		19 33 43.2	
	comp=E,104nm,0.2s						
JOSI	Joshimath	9.33	134	*e*P	Pn	19 32 13.4	-1.0
JOSI				*e*S	Sn	19 33 49.8	-7.9
JOSI				IAML		19 33 58.0	
	comp=N,110nm,0.4s						
JOSI				IAML		19 33 58.0	
	comp=E,68nm,0.5s						
KALG	Kalgarh	9.72	141	*e*S	Sn	19 33 59.3	-7.5
KUDL	Kundal	9.96	155	*e*P	Pn	19 32 23.6	+1.0
KUDL				*e*S	Sn	19 34 07.4	-5.3
SONA	Sohna	10.08	152	*e*S	Sn	19 34 07.8	-7.6
GEYT	Alibeck	10.86	277	P	Pn	19 32 31.5	-3.1
	comp=E,0.9nm,0.3s,baz=122,slow=11,SNR=5.2						
GEYT				S	Sn	19 34 27.4	-6.8
	comp=E,2.0nm,0.3s,baz=100,slow=16,SNR=9.1						
GYA0B	ALIBECK ARRAY	10.86	277	*e*Pn	Pn	19 32 31.0	-3.5
GYA0B				*e*Sn	Sn	19 34 25.4	-8.8
MAKZ	Makanchi	12.13	35	*e*Pn	Pn	19 32 50.5	-0.7
MK01	Makanchi Array	12.25	36	*e*Pn	Pn	19 32 52.6	-0.2
MK31	Makanchi Array	12.27	36	*e*Pn	Pn	19 32 52.3	-0.8
MKAR	Makanchi Array	12.27	36	P	Pn	19 32 52.8	-0.2
	comp=E,0.1nm,0.3s,baz=225,slow=14,SNR=26						
PYUN	Piuthan	13.16	131	*e*P	Pn	19 33 02.3	-2.7
	comp=E,12nm,0.4s						
DANN	Dangsing	13.46	128	*e*P	Pn	19 33 06.5	-2.3
	comp=E,17nm,0.4s						
WMQ	Urumqi	13.72	57	*e*P	Pn	19 33 13.0	+1.1
WMQ				LR	LR		
	comp=E,150nm,24.9s						
WMQ				LR	LR		
	comp=E,91nm,14.3s						
WMQ				LR	LR		
	comp=E,60nm,13.1s						
KOLN	Koldanda	13.77	130	*e*P	Pn	19 33 10.4	-2.4
	comp=E,6.6nm,0.4s						
KURBB	Kurchatov Arra	14.15	18	P	Pn	19 33 14.8	-2.5
	comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=3.6						
AB31	Akbulak array	14.70	328	⇓P	Pn	19 33 21.9	-2.3
	comp=E,2.3nm,0.6s,baz=136,slow=12,SNR=15						
ABKAR	Akbulak array	14.70	328	*e*Pn	Pn	19 33 22.1	-2.1
ABKAR				*e*Sn	Sn	19 35 49.9	-17
KKN	Kakani	14.81	126	*e*P	Pn	19 33 23.6	-2.4
	comp=E,13nm,0.5s						
DMN	Daman	14.82	127	*e*P	Pn	19 33 23.9	-2.3
	comp=E,17nm,0.6s						
PKIN	Phulchoki	15.03	126	*e*P	Pn	19 33 26.8	-2.0
	comp=E,9.0nm,0.5s						
PKI	Pulchoki	15.04	126	*e*P	Pn	19 33 26.9	-2.1
GUN	Gumba	15.12	124	*e*P	Pn	19 33 28.8	-1.2
	comp=E,20nm,0.5s						
JIRN	Jiri	15.49	124	*e*P	Pn	19 33 33.0	-1.6
	comp=E,21nm,0.4s						
BVAR	Borovoye Array	15.74	357	P	Pn	19 33 35.8	-1.3
	comp=E,0.9nm,0.3s,baz=159,slow=10,SNR=13						
BRVK	Borovoye	15.78	357	*e*Pn	Pn	19 33 36.1	-1.4
	comp=E,5.0nm,1.0s						
RAMN	Ramite	16.24	125	*e*P	Pn	19 33 41.6	-2.1
	comp=E,14nm,0.5s						
AKTO	Aktyubinsk	16.41	327	⇓P	P	19 33 47.9	+2.1
	comp=E,8.7nm,0.5s						
AKTO	Aktyubinsk	16.41	327	P	Pn	19 33 45.5	+0.1
	comp=E,4.0nm,0.3s,baz=135,slow=12,SNR=60						
LSA	Lhasa	17.83	110	*e*P	Pn	19 34 03.9	+0.7
	comp=E,1.8nm,0.8s						
ZAA0	Zalesovo Array	18.92	24	*e*P	P	19 34 13.4	+0.2
	comp=E,3.4nm,0.5s						
ZALV	Zalesovo Beam	18.92	24	*e*P	P	19 34 14.0	+0.8
ZALV	Zalesovo Beam	18.92	24	P	P	19 34 14.3	+1.1
	comp=E,1.1nm,0.3s,baz=222,slow=11,SNR=20						
SHL	Shillong	20.72	119	*e*P	P	19 34 35.3	+2.1
	comp=E,4.9nm,0.7s						
ARU	Arti	21.08	339	*e*P	P	19 34 37.6	+1.1
	comp=E,3.7nm,0.8s						
GTA	Gaotai	22.05	76	*e*P	P	19 34 50.8	+3.7
GTA				pP	pP	19 35 12.3	-0.1
GTA				sP	sP	19 35 28.3	-0.9
LZH	Lanzhou	25.68	83	*e*P	P	19 35 24.4	+3.6
LZH				pP	pP	19 35 47.8	-2.0
LZH				sP	sP	19 36 01.3	-4.0
LZH				PP	PnPn	19 36 07.0	+1.5
LZH				pmax	pmax		
	comp=E,17nm,1.0s						
CD2	Chengdu	27.15	94	*e*P	P	19 35 38.0	+4.1
KMI	Kunming	29.00	106	P	P	19 35 54.6	+4.0
KMI				pmax	pmax		
	comp=E,13nm,0.5s						
CMAR	Chiang Mai Arr	30.32	121	P	P	19 36 05.1	+3.1
	comp=E,0.2nm,0.7s,baz=315,slow=8.9,SNR=4.4						
PBA	Port Blair	31.73	138	*e*P	P	19 36 18.8	+4.4
	comp=E,34nm,0.9s						
FIA1	FINESS Array S	37.16	325	*e*P	P	19 37 02.8	+2.1
FINES	FINESS Array B	37.16	325	P	P	19 37 03.1	+2.4
	comp=E,0.6nm,0.4s,baz=128,slow=10.0,SNR=8.5						
VYHS	Vyhne	39.62	304	*e*P	P	19 37 23.2	+1.7
ARCES	ARCESS Array B	40.64	337	P	P	19 37 31.8	+2.2
	comp=E,6.2nm,1.1s,baz=96,slow=6.5,SNR=3.9						
NC303	NORSAR Array S	44.05	323	*e*P	P	19 38 00.1	+2.8
	comp=E,93nm,2.0s						
NB201	NORSAR Array S	44.07	323	*e*P	P	19 37 59.7	+2.2
	comp=E,128nm,2.0s						
NB2	NORSAR Subarra	44.11	322	P	P	19 37 59.7	+1.9
	comp=Z,0.3nm,0.4s,baz=92,slow=7.9						
NOA	NORSAR Array B	44.11	322	P	P	19 37 59.8	+1.9
	comp=Z,0.5nm,0.8s,baz=94,slow=7.7,SNR=4.8						
NC204	NORSAR Array S	44.35	323	*e*P	P	19 38 01.9	+2.2

comp=Z,52nm,1.6s
KONO Kongsberg 44.85 320 *e*P **P** **19 38 05.8 +2.2**
comp=Z,108nm,1.8s
JHJ Hachijo jima 2 54.63 73 LR LR 20 06 29.2
comp=Z,47nm,18.0s,baz=108,slow=40
INK Inuvik 73.00 10 P **P** **19 41 20.8 +3.1**
comp=Z,0.5nm,0.6s,baz=320,slow=4.1,SNR=3.3

IDC 22 19:39:39.2±5.5, 50.18N×114.05W, h0km, mb1 3.9/1, mb1mx3.1/3, mbtmp3.6/1, ML3.3/1, Error ellipse: s-maj=83.6km s-min=41.1km az=74.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.78**	**228**	*i*		19 59 05.0	
	baz=42,slow=326,SNR=5.2						
I10CA	**LAC DU BONNET**	**11.56**	**83**	*i*		20 54 20.0	
	baz=274,slow=326,SNR=2.6						
YKA	**Yellowknife Ar**	**12.35**	**359**	Pn	Pn	19 42 31.9	-4.2
	0.3nm,0.3s,baz=182,slow=13,SNR=10						
YKA				Sn	Sn	19 44 45.1	-9.1
	0.1nm,0.3s,baz=180,slow=22,SNR=3.8						
YKA				Lg	Lg	19 46 01.7	
	0.0nm,0.3s,baz=171,slow=28,SNR=2.7						

*SKO **22** 19:55:41.2, 40.14N×20.37E, h0km*
*ATH **22** 19:55:45.9, 40.34N×20.64E, h14km±3km, ML2.3/4, Error ellipse: s-maj=3.8km s-min=1.4km az=41.0*
*TIR **22** 19:55:47.7, 40.15N×20.92E, h17km, Md3.3/5*
ISC 22 19:55:47.0±1.1, 40.25N±0.03×20.76E±0.04, h17km±9km, n19, σ1.39/28, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.28**	**53**	P	**Pg**	**19 55 52.7**	**-0.5**
NEST				S	**Sg**	**19 55 57.4**	**0.0**
NEST				AML	AML	19 56 01.7	
	comp=N,1811μm,0.6s						
NEST				AML	AML	19 56 03.7	
	comp=E,1793μm,0.3s						
KPRO	**Kipourio**	**0.55**	**122**	P	**Pb**	**19 55 58.6**	**+0.4**
KPRO				S	**Sn**	**19 56 08.9**	**0.0**
KPRO				AML	AML	19 56 12.1	
	comp=E,468μm,0.4s						
KPRO				AML	AML	19 56 19.1	
	comp=N,476μm,0.4s						
TPE	**Tepelena**	**0.57**	**275**	*i* PG	**Pn**	**19 55 58.4**	**-2.0**
TPE				*i* SG	**Sn**	**19 56 10.1**	**+0.7**
MEV	**Metsovon**	**0.58**	**142**	P	**Pn**	**19 55 59.4**	**-1.2**
JAN	**Janina**	**0.59**	**173**	P	**Pn**	**19 56 08.2**	**-0.4**
SRN	**Sarande**	**0.69**	**238**	*i* PG	**Pn**	**19 56 00.8**	**-1.1**
SRN				*i* SG	**Sn**	**19 56 11.4**	**-0.8**
FNA	**Florina**	**0.72**	**41**	*i* PG	**Pg**	**19 55 58.8**	**-2.2**
FNA				*i* SG	**Sg**	**19 56 10.6**	**+0.1**
FNA	**Florina**	**0.72**	**41**	P	**Pg**	**19 55 59.5**	**-1.5**
FNA				S	**Sg**	**19 56 10.0**	**-0.5**
FNA				AML	AML	19 56 13.4	
	comp=N,855μm,0.3s						
FNA				AML	AML	19 56 15.6	
	comp=E,887μm,0.3s						
KZN	**Kozani**	**0.78**	**85**	P	**Pb**	**19 56 02.2**	**+0.2**
KZN				AML	AML	19 56 22.2	
	comp=E,324μm,0.3s						
KZN				AML	AML	19 56 26.6	
	comp=N,269μm,0.5s						
OHR	**Ohrid**	**0.87**	**2**	*e*Pg	Pb	19 55 58.1	-5.5
OHR				*i* Sg	**Sb**	**19 56 14.4**	**-0.5**
BIA	**Bitola**	**0.89**	**29**	*e*Pg	Pb	19 56 00.3	-3.7
BIA				*i* Sg	**Sb**	**19 56 17.1**	**+1.6**
KEK	**Kerkira**	**0.91**	**235**	P	**Pn**	**19 56 03.2**	**-1.7**
THL	**Klokotos Trika**	**1.18**	**125**	P	**Pg**	**19 56 10.1**	**+0.3**
KRUS	**Krusevo**	**1.18**	**18**	*e*Pg	**Pn**	**19 56 07.5**	**-1.4**
KRUS				*i* Sg	**Sb**	**19 56 25.6**	**+1.5**
TIR	**Tirane**	**1.29**	**329**	*i* PN	**Pb**	**19 56 10.7**	**-0.1**
TIR				*i* SN	**Sg**	**19 56 32.5**	**+3.7**
LIT	**Litokhoron**	**1.33**	**96**	P	**Pg**	**19 56 13.0**	**+0.2**
PHP	**Peshkopia**	**1.46**	**351**	*i* PN	**Pb**	**19 56 14.5**	**+0.8**
PHP				*i* SN	**Sg**	**19 56 35.9**	**+1.8**
AGG	**Agios Georgios**	**1.72**	**135**	P	**Pg**	**19 56 19.7**	**-0.4**
STIP	**Stip**	**1.81**	**36**	*e*Pn	**Pb**	**19 56 21.3**	**+1.7**

JMA 22 20:06:08.2±0.2, 37.77N×142.53E, h30km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**1.00**	**303**	P	Pn	20 06 26.2	0.0
JIO	**Ouri**	**1.16**	**307**	P	Pn	20 06 28.5	+0.2
JIO				*e*S	Sn	20 06 42.3	-0.8
JKMT	**Kesennumamotoy**	**1.33**	**322**	P	Pn	20 06 31.1	+0.4
JFK	**Kawauchi**	**1.38**	**253**	P	Pn	20 06 31.8	+0.4
JMM	**Marumori**	**1.38**	**275**	P	Pn	20 06 31.8	+0.4
JMM				S	Sn	20 06 48.1	-0.5
JMK	**Ichinoseki**	**1.57**	**319**	P	Pn	20 06 34.6	+0.6
JOU	**Okura**	**1.59**	**293**	P	Pn	20 06 35.5	+1.2
JFT	**Otama**	**1.76**	**262**	P	Pb	20 06 38.4	-1.4
JFT				*e*S	Sb	20 07 00.5	-1.0
JOM	**Ohasama**	**1.96**	**331**	P	Pn	20 06 40.9	+1.5
JYS	**Shirataka**	**2.00**	**284**	P	Pb	20 06 43.0	-0.9
JYS				S	Sb	20 07 07.2	-1.2
JYK	**Kaneyama**	**2.06**	**305**	P	Pn	20 06 42.3	+1.6
JYK				S	Sn	20 07 07.2	+1.9
JRG	**Rokugo**	**2.20**	**318**	P	Pb	20 06 45.2	-2.1
JFY	**Yanaizu**	**2.27**	**262**	P	Pb	20 06 46.9	-1.7
JAG	**Ashikaga**	**2.80**	**242**	P	Pn	20 06 53.6	+2.6

IDC 22 20:15:35.4±1.4, 27.00N×105.25E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.4/54, mbtmp3.6/6, Error ellipse: s-maj=41.7km s-min=24.5km az=54.0, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**20.81**	**2**	P	P	20 20 19.0	+0.5
	1.8nm,0.5s,baz=185,slow=10,SNR=16						
KSRS	**Korea Array**	**21.78**	**56**	P	P	20 20 28.4	-0.4
	1.0nm,0.5s,baz=241,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**26.80**	**324**	P	P	20 21 18.5	+1.3
	0.4nm,0.6s,baz=134,slow=9.2,SNR=7.3						
ZALV	**Zalesovo Beam**	**30.85**	**336**	P	P	20 21 52.5	-0.6
	1.8nm,0.6s,baz=139,slow=10.0,SNR=6.9						
WRA	**Warramunga Arr**	**54.52**	**146**	P	P	20 25 05.5	+0.1
	0.2nm,0.6s,baz=335,slow=8.5,SNR=5.3						
NOA	**NORSAR Array B**	**68.66**	**329**	P	P	20 26 39.6	-0.8
	0.4nm,0.8s,baz=72,slow=5.5,SNR=2.4						

IDC 22 20:26:14.2±2.4, 8.08S×129.34E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/38, mbtmp3.2/3, ML3.2/2, Error ellipse: s-maj=202.9km s-min=28.6km az=68.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.75**	**158**	Pn	Pn	20 29 18.4	+1.5
	0.1nm,0.3s,baz=337,slow=14,SNR=11						
WRA				Sn	Sn	20 31 35.6	-4.1
	0.3nm,0.3s,baz=328,slow=23,SNR=9.5						
ASAR	**Alice Springs**	**16.11**	**165**	Pn	Pn	20 30 01.1	-1.0
	0.2nm,0.3s,baz=343,slow=12,SNR=11						
ASAR				Sn	Sn	20 33 01.1	-0.5
	0.1nm,0.3s,baz=346,slow=25,SNR=2.9						
MKAR	**Makanchi Array**	**68.77**	**327**	P	P	20 37 20.1	0.0
	0.5nm,0.7s,baz=132,slow=6.2,SNR=5.8						

*ISCJB **22** 20:44:29.0±0.5, 38.29S±0.03×176.34E±0.05, h169km±4km, mb3.2/2, Error ellipse: s-maj=5.8km s-min=4.4km az=178.5*
*IDC **22** 20:44:29.0±1.0, 38.57S×176.48E, h149km±10km, mb3.1/2, mb1 3.3/3, mb1mx3.1/18, mbtmp3.6/3, Error ellipse: s-maj=45.3km s-min=17.2km az=128.0*
*WEL **22** 20:44:30.8, 38.S±1.×17.E±., h152km±3km*
ISC 22 20:44:29.5±0.9, 38.36S±0.04×176.31E±0.05, h160km±6km, n149, σ1.60/156, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HRRZ	**Handcock Road**	**0.04**	**207**	P	**Pn**	**20 44 51.3**	**+0.5**
HSRZ	**Hossack Road**	**0.07**	**314**	P	**Pn**	**20 44 51.3**	**+0.5**
HLRZ	**Highlands Stat**	**0.11**	**20**	P	**Pn**	**20 44 51.4**	**+0.5**
GRRZ	**Galatos Road**	**0.15**	**272**	P	**Pn**	**20 44 51.6**	**+0.7**
PRRZ	**Plateau Road**	**0.16**	**154**	P	**Pn**	**20 44 51.4**	**+0.5**
RRRZ	**Republican Roa**	**0.17**	**84**	P	**Pn**	**20 44 51.1**	**+0.2**
WPRZ	**Whakapapataran**	**0.20**	**214**	P	**Pn**	**20 44 51.8**	**+0.8**
TARZ	**Mount Tarawera**	**0.20**	**53**	P	**Pn**	**20 44 51.3**	**+0.2**
UTU	**Utuhina**	**0.20**	**334**	P	**Pn**	**20 44 51.5**	**+0.4**
ALRZ	**Allen Road**	**0.21**	**172**	P	**Pn**	**20 44 51.7**	**+0.7**
MKRZ	**Makatiti**	**0.25**	**30**	P	**Pn**	**20 44 51.8**	**+0.5**
OMRZ	**Omania**	**0.26**	**12**	P	**Pn**	**20 44 51.1**	**-0.1**
NGRZ	**Ngongotaha**	**0.27**	**340**	P	**Pn**	**20 44 51.5**	**+0.2**
KARZ	**Kaharoa**	**0.34**	**352**	P	**Pn**	**20 44 51.3**	**-0.1**
LIRZ	**Lichensteins R**	**0.36**	**10**	P	**Pn**	**20 44 51.3**	**-0.1**
MURZ	**Murupara**	**0.39**	**108**	P	**Pn**	**20 44 51.6**	**+0.2**
MUGZ				S	Sn	20 45 07.4	-0.9
KUTZ	**Kaahu Road**	**0.40**	**251**	P	**Pn**	**20 44 52.6**	**+1.0**
WHTZ	**Whakaora**	**0.41**	**221**	P	**Pn**	**20 44 53.1**	**+1.5**
EDRZ	**Edgecumbe**	**0.42**	**54**	P	**Pn**	**20 44 51.5**	**-0.3**
MARZ	**Manawahe**	**0.47**	**38**	P	**Pn**	**20 44 51.7**	**-0.2**
MRHZ	**Matea Rd**	**0.48**	**170**	P	**Pn**	**20 44 53.0**	**+1.0**
OPRZ	**Ohinepanea**	**0.55**	**21**	P	**Pn**	**20 44 51.7**	**-0.5**
OPRZ				S	Sn	20 45 07.0	-2.5
HATZ	**Hinemaiaia**	**0.56**	**197**	P	**Pn**	**20 44 53.5**	**+1.2**
WATZ	**Wairara**	**0.57**	**232**	P	**Pn**	**20 44 53.6**	**+1.3**
KMRZ	**Kaimai**	**0.58**	**331**	P	**Pn**	**20 44 52.5**	**0.0**
KMRZ				S	Sn	20 45 08.8	-1.2
RTZ	**Ruatahuna**	**0.59**	**116**	P	**Pn**	**20 44 53.1**	**+0.6**
RTZ				S	Sn	20 45 09.8	-0.3
TLZ	**Tolley Road**	**0.60**	**272**	P	**Pn**	**20 44 53.5**	**+1.0**
TGRZ	**Tauranga**	**0.63**	**357**	P	**Pn**	**20 44 52.3**	**-0.4**
URZ	**Urewera**	**0.64**	**82**	P	**Pn**	**20 44 52.4**	**-0.3**
	162nm,0.3s,baz=267,slow=4.7,SNR=1328						
URZ				S	Sn	20 45 08.1	-2.3
	111nm,0.3s,baz=72,slow=18,SNR=32						
URZ	**Urewera**	**0.64**	**82**	P	**Pn**	**20 44 52.4**	**-0.3**
URZ				S	Sn	20 45 08.0	-2.3
MTHZ	**Maungataniwha**	**0.65**	**140**	P	**Pn**	**20 44 53.8**	**+1.1**
RATZ	**Rangitukua**	**0.66**	**219**	P	**Pn**	**20 44 54.2**	**+1.4**
RITZ	**Rihia Road**	**0.71**	**209**	P	**Pn**	**20 44 55.0**	**+1.9**
WHRZ	**Whale Island**	**0.73**	**47**	P	**Pn**	**20 44 53.2**	**-0.1**
KATZ	**Kakaramea**	**0.78**	**218**	P	**Pn**	**20 44 55.2**	**+1.5**
BKZ	**Black Stump Fm**	**0.82**	**170**	P	**Pn**	**20 44 55.3**	**+1.4**
RAHZ	**Arahi**	**0.83**	**133**	P	**Pn**	**20 44 55.5**	**+1.6**
NMHZ	**Naumai**	**0.84**	**152**	P	**Pn**	**20 44 56.2**	**+2.2**
RAGZ	**Rawiri**	**0.88**	**99**	P	**Pn**	**20 44 55.0**	**+0.6**
TOZ	**Tahuroa Road**	**0.89**	**314**	P	**Pn**	**20 44 54.7**	**+0.4**
KRVZ	**Karewarewa**	**0.90**	**315**	P	**Pn**	**20 44 56.2**	**+1.6**
SNGZ	**Shannon Statio**	**0.92**	**118**	P	**Pn**	**20 44 55.9**	**+1.3**
WTVZ	**West Tongariro**	**0.94**	**216**	P	**Pn**	**20 44 56.5**	**+1.7**
MWZ	**Matawai**	**0.96**	**89**	P	**Pn**	**20 44 55.1**	**+0.2**
TWVZ	**Taurewa**	**0.98**	**223**	P	**Pn**	**20 44 56.8**	**+1.7**
NGZ	**Ngauruhoe**	**0.99**	**214**	P	**Pn**	**20 44 57.0**	**+1.8**
WHHZ	**Waihua**	**1.02**	**135**	P	**Pn**	**20 44 57.1**	**+1.8**
TUVZ	**Tukino**	**1.04**	**209**	P	**Pn**	**20 44 57.7**	**+2.0**
ARHZ	**Aropaoanui**	**1.05**	**149**	P	**Pn**	**20 44 57.7**	**+2.1**
KWHZ	**Kaweka Forest**	**1.07**	**175**	P	**Pn**	**20 44 57.8**	**+2.0**
FWVZ	**Far West T-bar**	**1.07**	**213**	P	**Pn**	**20 44 57.6**	**+1.6**
MYRZ	**Mayor Island**	**1.08**	**357**	P	**Pn**	**20 44 55.7**	**-0.2**
WHVZ	**Whangaehu Hut**	**1.08**	**211**	P	**Pn**	**20 44 57.8**	**+1.7**
DRZ	**Dome Shelter**	**1.08**	**212**	P	**Pn**	**20 44 58.3**	**+2.1**
TRVZ	**Turoa**	**1.11**	**212**	P	**Pn**	**20 44 58.1**	**+1.7**
MCHZ	**McNeill Hill**	**1.13**	**164**	P	**Pn**	**20 44 58.7**	**+2.5**
MOVZ	**Moawhango**	**1.13**	**202**	P	**Pn**	**20 44 58.0**	**+1.6**
BHHZ	**Black Hill Sta**	**1.15**	**189**	P	**Pn**	**20 44 58.3**	**+1.8**
HIZ	**Hauiti**	**1.15**	**262**	P	**Pn**	**20 44 58.0**	**+1.6**
RUGZ	**Raukumara Rang**	**1.15**	**71**	P	**Pn**	**20 44 55.6**	**-1.0**
PKVZ	**Pokaka**	**1.20**	**219**	P	**Pn**	**20 44 58.9**	**+2.0**
RIGZ	**Rimuhau**	**1.20**	**107**	P	**Pn**	**20 44 58.0**	**+1.1**
TKGZ	**Te Karaka**	**1.22**	**94**	P	**Pn**	**20 44 57.8**	**+0.8**
MTVZ	**Mangateitei**	**1.22**	**212**	P	**Pn**	**20 44 59.2**	**+2.1**
KNZ	**Kokohu**	**1.26**	**122**	P	**Pn**	**20 44 58.7**	**+1.3**
KRHZ	**Kereru**	**1.29**	**178**	P	**Pn**	**20 44 59.7**	**+2.0**
HAZ	**Te Kaha**	**1.31**	**63**	P	**Pn**	**20 44 56.9**	**-1.0**
TWGZ	**Tauwhareparae**	**1.33**	**83**	P	**Pn**	**20 44 58.8**	**+0.6**
PRGZ	**Paritu Road**	**1.36**	**115**	P	**Pn**	**20 44 59.7**	**+1.3**
CKHZ	**Cape Kidnapper**	**1.43**	**155**	P	**Pn**	**20 45 01.4**	**+2.3**
VRZ	**Vera Road**	**1.43**	**237**	P	**Pn**	**20 45 01.2**	**+2.1**
PKGZ	**Pakihiroa**	**1.47**	**72**	P	**Pn**	**20 44 59.6**	**0.0**
MHGZ	**Mahia Peninsul**	**1.48**	**123**	P	**Pn**	**20 45 01.3**	**+1.7**
CNGZ	**Carnagh Statio**	**1.50**	**95**	P	**Pn**	**20 45 01.0**	**+1.3**
KAHZ	**Kaharanaki**	**1.50**	**163**	P	**Pn**	**20 45 02.2**	**+2.4**
MKAZ	**Moumakai**	**1.54**	**324**	P	**Pn**	**20 45 00.5**	**+0.2**
PNHZ	**Pukenui**	**1.56**	**183**	P	**Pn**	**20 45 02.2**	**+1.8**
PUZ	**Puketiti**	**1.56**	**80**	P	**Pn**	**20 45 00.3**	**-0.1**
KUZ	**Kuaotunu**	**1.67**	**344**	P	**Pn**	**20 45 01.2**	**-0.5**
WPHZ	**Waipukurau**	**1.71**	**177**	P	**Pn**	**20 45 03.9**	**+2.0**
WPHZ	**Waipukurau**	**1.71**	**177**	P	**Sn**	**20 45 28.4**	**+1.3**
TSZ	**Takapari Road**	**1.72**	**189**	P	**Pn**	**20 45 04.0**	**+1.9**
PXZ	**Pawanui**	**1.73**	**166**	P	**Pn**	**20 45 04.2**	**+2.1**
PXZ	**Pawanui**	**1.73**	**166**	P	**Sn**	**20 45 24.0**	**-3.3**
WAZ	**Wanganui**	**1.73**	**216**	P	**Pn**	**20 45 04.5**	**+2.3**
WMGZ	**Waiomatatini S**	**1.75**	**73**	P	**Pn**	**20 45 02.4**	**0.0**
MXZ	**Matakaoa Point**	**1.77**	**64**	P	**Pn**	**20 45 02.6**	**0.0**
ETAZ	**East Tamaki Re**	**1.78**	**322**	P	**Pn**	**20 45 03.0**	**+0.3**
WIAZ	**Waiheke Island**	**1.82**	**329**	P	**Pn**	**20 45 03.3**	**+0.1**
DREZ	**Durham Road**	**1.84**	**243**	P	**Pn**	**20 45 06.2**	**+2.8**
AWAZ	**Awhitu Peninsu**	**1.84**	**314**	P	**Pn**	**20 45 03.8**	**+0.3**
PRHZ	**Porangahau**	**1.92**	**172**	P	**Pn**	**20 45 06.3**	**+2.0**
MBAZ	**Motutapu North**	**1.94**	**324**	P	**Pn**	**20 45 04.8**	**+0.3**
DVHZ	**Dannirke**	**1.94**	**183**	P	**Pn**	**20 45 06.2**	**+1.7**
WTAZ	**Waiatarua**	**1.98**	**315**	P	**Pn**	**20 45 05.1**	**+0.1**
PKE	**Pukeiti**	**2.00**	**245**	P	**Pn**	**20 45 07.8**	**+2.6**
OHWZ	**Ohakea**	**2.00**	**202**	P	**Pn**	**20 45 07.5**	**+2.4**
KHEZ	**Kahui Hut**	**2.02**	**242**	P	**Pn**	**20 45 08.3**	**+2.8**
POWZ	**Post Office Ro**	**2.08**	**191**	P	**Pn**	**20 45 07.7**	**+1.6**
ANWZ	**Angora Road**	**2.10**	**176**	P	**Pn**	**20 45 08.4**	**+2.1**
ANWZ	**Angora Road**	**2.10**	**176**	P	**Sn**	**20 45 31.6**	**-3.4**
ABAZ	**Army Bay**	**2.11**	**326**	P	**Pn**	**20 45 07.0**	**+0.6**
NBEZ	**Newall Road No**	**2.11**	**244**	P	**Pn**	**20 45 09.1**	**+2.7**
GRZ	**Great Barrier**	**2.21**	**342**	P	**Pn**	**20 45 07.4**	**-0.2**
PRWZ	**Pori Road**	**2.21**	**187**	P	**Pn**	**20 45 09.5**	**+1.9**
PRWZ	**Pori Road**	**2.21**	**187**	P	**Sn**	**20 45 34.7**	**-2.5**
BFZ	**Birch Farm**	**2.32**	**181**	P	**Pn**	**20 45 10.5**	**+1.6**
BFZ	**Birch Farm**	**2.32**	**181**	P	**Sn**	**20 45 36.7**	**-2.8**
MRZ	**Mangatainoka R**	**2.37**	**193**	P	**Pn**	**20 45 10.9**	**+1.4**
TIWZ	**Tintock**	**2.44**	**188**	P	**Pn**	**20 45 11.9**	**+1.5**
TIWZ	**Tintock**	**2.44**	**188**	P	**Sn**	**20 45 42.8**	**+0.8**
CPWZ	**Castlepoint**	**2.55**	**182**	P	**Pn**	**20 45 13.9**	**+2.2**
CPWZ	**Castlepoint**	**2.55**	**182**	P	**Sn**	**20 45 41.9**	**-2.5**
OGWZ	**Otaki Gorge**	**2.61**	**199**	P	**Pn**	**20 45 13.7**	**+1.4**
HOWZ	**Holdsworth Sta**	**2.61**	**193**	P	**Pn**	**20 45 13.5**	**+1.1**
HOWZ	**Holdsworth Sta**	**2.61**	**193**	P	**Sn**	**20 45 40.9**	**-4.8**
KIW	**Kapiti Island**	**2.72**	**203**	P	**Pn**	**20 45 14.7**	**+0.9**
TMWZ	**Te Maipa**	**2.77**	**187**	P	**Pn**	**20 45 15.5**	**+1.2**
TMWZ	**Te Maipa**	**2.77**	**187**	P	**Sn**	**20 45 44.6**	**-4.5**
MTW	**Mount Morrison**	**2.87**	**192**	P	**Pn**	**20 45 16.3**	**+0.8**
MTW	**Mount Morrison**	**2.87**	**192**	P	**Sn**	**20 45 46.2**	**-5.1**
WCZ	**Waipu Caves**	**2.88**	**326**	P	**Pn**	**20 45 16.0**	**+0.3**
CAW	**Cannon Point**	**2.91**	**199**	P	**Pn**	**20 45 17.0**	**+1.0**
DUWZ	**D'Urville Isla**	**3.06**	**216**	P	**Pn**	**20 45 18.5**	**+0.6**
TRWZ	**Traveller**	**3.08**	**189**	P	**Pn**	**20 45 19.0**	**+0.9**
PAWZ	**Paruwai Farm**	**3.10**	**192**	P	**Pn**	**20 45 19.1**	**+0.6**
MSWZ	**Moikau Station**	**3.16**	**195**	P	**Pn**	**20 45 19.7**	**+0.5**
BHW	**Baring Head**	**3.24**	**199**	P	**Pn**	**20 45 20.5**	**+0.4**
TCW	**Tory Channel**	**3.25**	**208**	P	**Pn**	**20 45 20.8**	**+0.5**
PLWZ	**Palliser**	**3.31**	**194**	P	**Pn**	**20 45 21.4**	**+0.3**
TUWZ	**Tuamarina**	**3.57**	**210**	P	**Pn**	**20 45 24.6**	**+0.3**
NNZ	**Nelson**	**3.64**	**217**	P	**Pn**	**20 45 25.7**	**+0.4**
OUZ	**Omahuta**	**3.81**	**324**	P	**Pn**	**20 45 28.3**	**+0.8**
QRZ	**Quartz Range**	**3.82**	**229**	P	**Pn**	**20 45 27.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**3.84**	**208**	P	**Pn**	**20 45 28.0**	**+0.2**
THZ	**Tophouse**	**4.29**	**216**	P	**Pn**	**20 45 34.0**	**+0.3**
KHZ	**Kahutara**	**4.57**	**207**	P	**Pn**	**20 45 37.3**	**0.0**
LTZ	**Lake Taylor**	**5.38**	**214**	P	**Pn**	**20 45 47.3**	**-0.8**
OKCZ	**Okains Bay**	**5.90**	**204**	P	**Pn**	**20 45 54.0**	**-0.8**
MQZ	**McQueen's Vall**	**6.01**	**206**	P	**Pn**	**20 45 54.7**	**-1.6**
AKCZ	**Akaroa Harbour**	**6.08**	**204**	P	**Pn**	**20 45 56.2**	**-1.0**
RPZ	**Rata Peaks**	**6.66**	**215**	P	**Pn**	**20 46 04.7**	**-0.2**
	1.1nm,0.3s,baz=39,slow=13,SNR=1.7						
RPZ				S	**Sn**	**20 47 15.9**	**-4.1**
	2.6nm,0.3s,baz=273,slow=20,SNR=14						
RPZ	**Rata Peaks**	**6.66**	**215**	P	Pn	**20 46 05.2**	**+0.2**
ODZ	**Otahua Downs**	**7.91**	**211**	P	Pn	**20 46 20.7**	**-0.8**
TUZ	**Tuapeka**	**9.06**	**211**	P	Pn	**20 46 36.9**	**+0.1**
ASAR	**Alice Springs**	**38.83**	**280**	P	**P**	**20 51 41.6**	**+2.6**
	0.3nm,0.3s,baz=125,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**40.58**	**285**	P	**P**	**20 51 55.1**	**+1.6**
	0.4nm,0.8s,baz=122,slow=8.1,SNR=10.0						
ARCES	**ARCESS Array B**	**145.07**	**343**	PKPbc	**PKPdf**	**21 03 46.9**	**+0.4**
	6.0nm,0.9s,baz=42,slow=2.8,SNR=3.7						
FINES	**FINESS Array B**	**150.44**	**331**	PKPbc	**PKPbc**	**21 04 01.2**	**+0.2**
	1.4nm,0.8s,baz=90,slow=1.4,SNR=3.9						

*ISCJB **22** 20:53:15.5±0.6, 36.20N±0.04×53.51E±0.06, h10km, Error ellipse: s-maj=7.5km s-min=4.8km az=151.4*
*THR **22** 20:53:15.8, 36.08N×53.67E, h18km, ML2.6*
*TEH **22** 20:53:15.3, 36.11N×53.69E, h10km, ML3.1*
*AZER **22** 20:53:20.8±1.4, 35.81N×52.96E, h50km, ml3.4, Error ellipse: s-maj=13.2km s-min=8.6km az=40.0*
ISC 22 20:53:14.9±0.9, 36.08N±0.06×53.65E±0.03, h10km, n28, σ2.04/38, 10C-14D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISHM	**Shahmirzad**	**0.40**	**227**	*e*Pg	**Pg**	**20 53 24.3**	**+1.5**
IANJ	**Anjilo**	**0.65**	**160**	*e*Pg	**Pg**	**20 53 28.5**	**+1.0**
IANJ				IAMB	IAmb	20 53 40.0	
	comp=Z,11μm,0.2s						
IALA	**Alasht**	**0.68**	**271**	*e*Pg	**Pg**	**20 53 29.3**	**+1.3**
IALA				IAMB	IAmb	20 53 42.8	
	comp=Z,20μm,0.3s						
ILAS	**Lasjerd**	**0.89**	**219**	*e*Pg	**Pg**	**20 53 33.3**	**+1.2**
ILAS				IAMB	IAmb	20 53 36.6	
	comp=Z,2μm,0.3s						
IPRN	**Peran**	**1.07**	**279**	*e*Pn	**Pb**	**20 53 36.6**	**+1.0**
IPRN				IAMB	IAmb	20 53 59.0	
	comp=Z,6μm,0.3s						
DAMV	**Damavand**	**1.43**	**252**	*e*Pg	**Pb**	**20 53 42.7**	**+0.9**
DAMV	**Damavand**	**1.43**	**252**	*e*Pg	**Pb**	**20 53 42.7**	**+0.9**
SHRO	**Shahrood**	**1.92**	**92**	*e*Pn	**Pb**	**20 53 49.4**	**-0.6**
SHRO	**Shahrood**	**1.92**	**92**	*e*Pn	**Pb**	**20 53 49.4**	**-0.6**
SHRO				*e*Sg	**Sg**	**20 54 15.8**	**-0.7**
KRSH	**Karshahi**	**2.44**	**211**	*e*Pn	**Pb**	**20 53 58.2**	**-0.8**
KRSH				IAMB	IAmb	20 54 37.8	
	comp=Z,0.0nm,0.4s						
QALM	**Alamut, Qazvin**	**2.45**	**279**	*e*Pn	**Pb**	**20 53 59.6**	**+0.4**
QALM				IAMB	IAmb	20 54 35.1	
	comp=N,0.0nm,0.6s						
GHVR	**GHOM**	**2.50**	**231**	*e*AML	AML	20 54 45.6	
	comp=Z,25nm,0.4s						
GHVR				*e*AML	AML	20 54 47.6	
	comp=N,28nm,0.6s						
MRVT	**Maraveh tapeh**	**2.52**	**50**	*e*Pn	**Pn**	**20 53 57.6**	**+1.8**
MRVT	**Maraveh tapeh**	**2.52**	**50**	*e*Pn	**Pn**	**20 53 57.6**	**+1.8**
ASTR	**Astara**	**4.59**	**304**	⇑P	**Pn**	**20 54 24.2**	**-0.2**
ASTR				⇓S	**Sn**	**20 55 13.3**	**-4.5**
LKRN	**Lenkeran, Azer**	**4.68**	**306**	⇓P	**Pn**	**20 54 26.3**	**+0.7**
LKRN				⇓S	**Sn**	**20 55 17.2**	**-2.7**
LRK	**Lerik**	**4.94**	**303**	⇑P	**Pn**	**20 54 29.4**	**+0.1**
LRK				⇓S	**Sn**	**20 55 23.1**

mb3.6/4, Error ellipse: s-maj=7.3km s-min=5.3km az=26.4
*IDC **22** 21:29:37.7±1.1, 24.2°20S×67.03°W, h188km±11km, mb3.5/4, mb1 3.5/9, mb1mx3.4/32, mbtmp3.9/9, Error ellipse: s-maj=21.0km s-min=12.4km az=81.0*
*GUC **22** 21:29:39.4±0.5, 23.88°S×67.43°W, h230km±6km, ML3.9*

ISC 22 21:29:37.9±0.8, 24.14°S±0.06×67.06°W±0.05, h195km±7km, n44, σ1§22/63, mb3.7/4, 12C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.77**	**59**	*eP*	**Pn**	**21 30 14.2**	**0.0**
HJA				IAML		21 30 15.6	
	comp=Z,61nm,0.5s						
HJA				*eS*	**Sn**	**21 30 41.9**	**-0.4**
FSA	**Cafayete**	**2.20**	**154**	*eP*	**Pn**	**21 30 18.2**	**0.0**
FSA				IAML		21 30 20.8	
	comp=Z,17nm,0.5s						
LVC	**Limon Verde**	**2.28**	**311**	*eP*	**Pn**	**21 30 20.6**	**+1.2**
LVC				*eS*	**Sn**	**21 30 52.3**	**+0.7**
LVC				IAML		21 30 53.2	
	comp=Z,68nm,0.5s						
LVC	**Limon Verde**	**2.28**	**311**	⇓*iP*	**Pn**	**21 30 20.6**	**+1.2**
LVC				*i* S	**Sn**	**21 30 52.1**	**+0.4**
LVC	**Limon Verde**	**2.28**	**311**	P	**Pn**	**21 30 20.6**	**+1.2**
	comp=Z,22nm,0.3s,baz=92,slow=6.4,SNR=200						
LVC				S	**Sn**	**21 30 52.1**	**+0.4**
	comp=Z,42nm,0.3s,baz=320,slow=23,SNR=46						
PB15	**IPOC Station P**	**2.39**	**292**	*eP*	**Pn**	**21 30 21.9**	**+1.4**
PB15	**IPOC Station P**	**2.39**	**292**	⇑*iP*	**Pn**	**21 30 21.8**	**+1.4**
PB15				*i* S	**Sn**	**21 30 53.9**	**+0.3**
YJA	**Yavi**	**2.42**	**36**	*eP*	**Pn**	**21 30 21.3**	**+0.3**
YJA				IAML		21 30 22.3	
	comp=Z,8.2nm,0.4s						
YJA				*eS*	**Sn**	**21 30 54.1**	**-0.4**
PB06	**IPOC Station P**	**2.71**	**301**	*eP*	**Pn**	**21 30 25.2**	**+1.2**
PB06	**IPOC Station P**	**2.71**	**301**	⇑*iP*	**Pn**	**21 30 25.1**	**+1.2**
PB06				*i* S	**Sn**	**21 30 59.8**	**-0.2**
PB06				IAML		21 31 04.1	
	comp=N,278nm,0.4s						
AHML	**Horco Molle**	**3.06**	**150**	*eP*	**Pn**	**21 30 27.9**	**-0.2**
PB09	**IPOC Station P**	**3.08**	**319**	*eP*	**Pn**	**21 30 29.6**	**+1.3**
PB09	**IPOC Station P**	**3.08**	**319**	⇑*iP*	**Pn**	**21 30 29.6**	**+1.3**
PB09				*i* S	**Sn**	**21 31 08.2**	**+0.5**
PB09				IAML		21 31 14.6	
	comp=N,169nm,0.4s						
PB14	**IPOC Station P**	**3.09**	**260**	*eP*	**Pn**	**21 30 30.1**	**+1.5**
PB05	**IPOC Station P**	**3.15**	**293**	⇑*iP*	**Pn**	**21 30 29.8**	**+0.6**
PB05				*i* S	**Sn**	**21 31 08.4**	**-0.9**
PB03	**IPOC Station P**	**3.23**	**309**	*eP*	**Pn**	**21 30 30.9**	**+0.6**
PB03	**IPOC Station P**	**3.23**	**309**	⇑*iP*	**Pn**	**21 30 30.8**	**+0.6**
PB03				*i* S	**Sn**	**21 31 10.0**	**-1.2**
PB10	**IPOC Station P**	**3.26**	**280**	*eP*	**Pn**	**21 30 31.4**	**+1.1**
PB10	**IPOC Station P**	**3.26**	**280**	⇑*iP*	**Pn**	**21 30 31.3**	**+0.9**
PB10				*i* S	**Sn**	**21 31 10.8**	**-0.5**
PB04	**IPOC Station P**	**3.36**	**302**	*eP*	**Pn**	**21 30 32.4**	**+0.7**
PB04	**IPOC Station P**	**3.36**	**302**	⇑*iP*	**Pn**	**21 30 32.4**	**+0.7**
PB04				*i* S	**Sn**	**21 31 12.6**	**-1.3**
PB04				IAML		21 31 19.6	
	comp=N,195nm,0.3s						
PB07	**IPOC Station P**	**3.54**	**312**	*eP*	**Pn**	**21 30 34.7**	**+0.7**
PB07	**IPOC Station P**	**3.54**	**312**	⇑*iP*	**Pn**	**21 30 34.4**	**+0.4**
PB07				*i* S	**Sn**	**21 31 15.9**	**-1.9**
PB01	**IPOC Station P**	**3.81**	**323**	⇑*iP*	**Pn**	**21 30 37.3**	**+0.1**
PB01				*i* S	**Sn**	**21 31 22.3**	**-1.4**
PB02	**IPOC Station P**	**3.83**	**316**	*eP*	**Pn**	**21 30 38.4**	**+0.8**
PB02	**IPOC Station P**	**3.83**	**316**	⇑*iP*	**Pn**	**21 30 37.6**	**0.0**
PB02				*i* S	**Sn**	**21 31 22.1**	**-2.2**
PB08	**IPOC Station P**	**4.42**	**334**	*eP*	**Pn**	**21 30 46.1**	**+0.9**
PB08	**IPOC Station P**	**4.42**	**334**	⇑*iP*	**Pn**	**21 30 45.9**	**+0.7**
PB08				*i* S	**Sn**	**21 31 37.2**	**-0.8**
PB11	**IPOC Station P**	**4.97**	**331**	*eP*	**Pn**	**21 30 51.5**	**-0.6**
PB11	**IPOC Station P**	**4.97**	**331**	⇑*iP*	**Pn**	**21 30 51.1**	**-1.0**
PB11				*i* S	**Sn**	**21 31 47.3**	**-3.1**
MNMC	**Minye Minye**	**5.51**	**334**	*eP*	**Pn**	**21 30 58.5**	**-0.6**
MNMC				*eS*	**Sn**	**21 32 00.3**	**-2.7**
PB12	**IPOC Station P**	**6.28**	**330**	*eP*	**Pn**	**21 31 07.3**	**-1.5**
CFA	**Coronel Fontan**	**7.51**	**188**	P	**Pn**	**21 31 24.0**	**-0.7**
	comp=N,0.9nm,0.3s,baz=24,slow=11,SNR=16						
CFA				S	**Sn**	**21 32 45.0**	**-4.7**
	comp=N,2.3nm,0.3s,baz=262,slow=18,SNR=7.0						
LPAZ	**La Paz**	**7.87**	**352**	P	**Pn**	**21 31 30.3**	**+0.2**
	comp=N,1.2nm,0.3s,baz=141,slow=8.2,SNR=16						
SIV	**San Ignacio**	**9.86**	**36**	P	**Pn**	**21 31 56.7**	**+1.1**
	comp=N,0.5nm,0.3s,baz=233,slow=8.5,SNR=7.2						
BDFB	**Brasilia**	**19.79**	**68**	P	**P**	**21 33 53.3**	**-0.3**
	comp=N,0.6nm,0.3s,baz=226,slow=9.0,SNR=3.6						
SNAA	**Sanae**	**59.24**	**161**	P	**P**	**21 39 19.4**	**+1.1**
	comp=N,1.3nm,0.8s,baz=295,slow=17,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.67**	**69**	P	**P**	**21 41 07.5**	**-0.2**
	comp=N,0.4nm,0.4s,baz=263,slow=5.6,SNR=5.9						
ULM	**Lac du Bonnet**	**78.34**	**342**	P	**P**	**21 41 17.1**	**+1.0**
	comp=N,1.0nm,0.4s,baz=163,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**94.23**	**340**	P	**P**	**21 42 34.2**	**+0.1**
	comp=N,0.3nm,0.5s,baz=132,slow=4.5,SNR=8.7						
ASAR	**Alice Springs**	**128.31**	**205**	PKP	**PKPdf**	**21 48 21.2**	**-0.6**
	comp=N,0.2nm,0.3s,baz=143,slow=2.2,SNR=4.7						
WRA	**Warramunga Arr**	**131.48**	**207**	PKP	**PKiKP**	**21 48 28.9**	**0.0**
	comp=N,0.3nm,0.4s,baz=158,slow=1.8,SNR=7.1						
ZALV	**Zalesovo Beam**	**143.54**	**28**	PKP	**PKPdf**	**21 48 48.5**	**-0.4**
	comp=N,0.8nm,0.5s,baz=272,slow=5.5,SNR=4.7						
MKAR	**Makanchi Array**	**146.66**	**40**	PKPbc	**PKPbc**	**21 48 56.5**	**0.0**
	comp=N,1.1nm,0.5s,baz=309,slow=2.9,SNR=21						

IDC 22 21:38:18.7±3.0, 32.08°S×178.13°W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/23, mbtmp3.6/3, ML3.1/1, Error ellipse: s-maj=70.3km s-min=36.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.30**	**211**	Pn	Pn	21 40 06.9	+0.3
	0.3nm,0.3s,baz=63,slow=11,SNR=3.6						
URZ				Sn	Sn	21 41 29.0	-1.1
	1.3nm,0.3s,baz=258,slow=23,SNR=7.0						
ASAR	**Alice Springs**	**42.94**	**269**	P	P	21 46 19.6	+0.1
	0.2nm,0.4s,baz=99,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**44.08**	**274**	P	P	21 46 28.6	-0.2
	0.5nm,0.4s,baz=114,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**146.67**	**339**	PKPbc	PKPdf	21 58 00.7	+0.7
	1.4nm,0.7s,baz=67,slow=2.6,SNR=6.3						

*TIF **22** 21:42:20.4, 42.99°N×47.60°E, h17km±5km*
*DRS **22** 21:42:21.1±0.0, 43.04°N×47.06°E, h4km*
*NORS **22** 21:42:22.9±0.0, 42.96°N×47.00°E, h7km, MPVA3.6*
*MOS **22** 21:42:22.6±0.0, 42.99°N×47.03°E, h5km, MPVA3.7*

ISC 22 21:42:24.3±1.0, 43.01°N±0.03×47.06°E±0.03, h8km±7km, n33, σ1§37/62, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.17**	**274**	*i* Pg	**Pg**	**21 42 26.4**	**-1.4**
DBC				*e*Sg	**Sg**	**21 42 29.8**	**-0.5**
BUJR	**Buynaksk**	**0.19**	**168**	*i* Pg	**Pg**	**21 42 28.0**	**-0.1**
BUJR				*i* Sg	**Sg**	**21 42 33.0**	**+2.3**
KRNR	**Karanay**	**0.21**	**211**	*i* Pg	**Pg**	**21 42 27.5**	**-1.1**
KRNR				*e*Sg	**Sg**	**21 42 32.2**	**+0.7**
MAK	**Makhachkala**	**0.33**	**98**	*e*Pg	**Pg**	**21 42 31.1**	**+0.2**
MAK				*e*Sg	**Sb**	**21 42 36.5**	**-1.5**
ARKR	**Arakani**	**0.41**	**186**	*e*Pg	**Pg**	**21 42 32.0**	**-0.3**
ARKR				*e*Sg	**Sb**	**21 42 39.5**	**-0.7**
XNZR	**Khunzakh**	**0.53**	**209**	*e*Pg	**Pg**	**21 42 32.5**	**-2.2**
XNZR				*e*Sg	**Sg**	**21 42 42.2**	**+0.6**
GNBR	**Gunib**	**0.62**	**186**	*e*Pg	**Pb**	**21 42 37.1**	**-0.4**
GNBR				*e*Sg	**Sb**	**21 42 46.3**	**-0.1**
DVE	**Vedeno**	**0.68**	**266**	*i* Pg	**Pg**	**21 42 37.2**	**-0.2**
DVE				*e*Sg	**Sb**	**21 42 47.6**	**-0.5**
BTLR	**Botlikh**	**0.70**	**241**	*e*Pg	**Pg**	**21 42 37.1**	**-0.7**
BTLR				*e*Sg	**Sb**	**21 42 48.6**	**0.0**
GROC	**Groznyy**	**0.94**	**282**	*e*Pg	**Pn**	**21 42 43.3**	**-0.5**
GROC				*e*Sg	**Sn**	**21 42 56.9**	**-0.6**
LGD	**Lagodekhi**	**1.32**	**207**	P	**Pn**	**21 42 49.0**	**0.0**
LGD				S	**Sg**	**21 43 07.0**	**+0.4**
LGD	**Lagodekhi**	**1.32**	**207**	*e*Pg	**Pn**	**21 42 49.0**	**0.0**
LGD				*e*Sg	**Sg**	**21 43 07.0**	**+0.4**
DRN	**Derbent**	**1.36**	**136**	*e*Pg	**Pb**	**21 42 49.6**	**-0.3**
DRN				*e*Sg	**Sg**	**21 43 10.2**	**+2.2**
KMGR	**Komgaron**	**1.61**	**273**	*e*Pg	**Pb**	**21 42 54.6**	**+0.3**
KMGR				*e*Sg	**Sg**	**21 43 19.1**	**+3.2**
AKT	**Akhty**	**1.61**	**162**	*e*Pg	**Pb**	**21 42 53.6**	**-0.7**
AKT				*e*Sg	**Sg**	**21 43 17.2**	**+1.2**
DDFL	**Dedoflistskaro**	**1.71**	**204**	P	**Pn**	**21 42 54.6**	**+0.1**
DDFL				S	**Sg**	**21 43 23.1**	**+3.8**
VLKR	**Vladikavkaz**	**1.74**	**272**	*e*Pg	**Pg**	**21 42 59.1**	**+1.4**
VLKR				*e*Sg	**Sg**	**21 43 23.5**	**+3.1**
TRKR	**Terskaya**	**1.84**	**294**	*e*Pg	**Pb**	**21 42 58.2**	**+0.1**
TRKR				*e*Sg	**Sg**	**21 43 24.3**	**+1.0**
BTKR	**Batakoyurt**	**1.87**	**282**	*e*Pg	**Pg**	**21 43 00.1**	**-0.2**
BTKR				*e*Sg	**Sg**	**21 43 26.9**	**+2.4**
GUDG	**Gudauri**	**1.98**	**255**	P	**Pb**	**21 43 01.0**	**+0.4**
GUDG				S	**Sg**	**21 43 28.4**	**+0.6**
LACR	**Lac**	**2.03**	**266**	*e*Pg	**Pn**	**21 43 00.1**	**+1.1**
LACR				*e*Sg	**Sb**	**21 43 27.8**	**+0.7**
ARNR	**Ardon**	**2.04**	**276**	*e*Pg	**Pg**	**21 43 03.5**	**+0.2**
ARNR				*e*Sg	**Sg**	**21 43 30.2**	**+0.5**
TBLG	**Delisi**	**2.14**	**234**	P	**Pb**	**21 43 03.3**	**0.0**
TBLG				S	**Sg**	**21 43 33.6**	**+0.6**
TBLG	**Delisi**	**2.14**	**234**	*e*Pg	**Pb**	**21 43 03.3**	**0.0**
LSNR	**Lesken**	**2.38**	**278**	*e*Pn	**Pn**	**21 43 04.5**	**+0.8**
LSNR				*e*Sn	**Sb**	**21 43 37.1**	**+0.2**
DIGR	**Digorskoe uzhe**	**2.55**	**269**	*e*Pn	**Pn**	**21 43 05.7**	**-0.5**
KZRT	**Kazreti**	**2.55**	**232**	P	**Pb**	**21 43 10.1**	**-0.3**
TRLG	**Trialeti**	**2.64**	**237**	P	**Pb**	**21 43 10.0**	**-1.8**
TRLG				S	**Sb**	**21 43 47.0**	**+2.5**
KBTC	**Kuba-Taba**	**2.78**	**288**	*e*Pn	**Pg**	**21 43 15.8**	**-1.7**
KBTC				*e*Sn	**Sb**	**21 43 48.7**	**+0.3**
PYA1	**Pyatigorsk**	**3.07**	**291**	*e*Pn	**Pn**	**21 43 10.2**	**-2.9**
PYA1				*e*Sn	**Sn**	**21 43 48.1**	**-1.8**
SHA1	**Shidzhatmaz**	**3.29**	**284**	*e*Pn	**Pn**	**21 43 14.8**	**-1.5**
KIV0	**Kislovodsk Arr**	**3.31**	**288**	*e*Pn	**Pn**	**21 43 16.4**	**-0.1**
KIV0				*e*Sn	**Sn**	**21 43 54.0**	**-2.1**
ALER	**Alexandrovskoy**	**3.47**	**302**	*e*Pn	**Pn**	**21 43 18.7**	**+0.1**
ALER				*e*Sn	**Sn**	**21 44 02.2**	**+2.3**

MDD 22 21:48:44.5±1.5, 42.70°N×1.75°W, h1km±27km, mbLg1.0/2, Error ellipse: s-maj=12.4km s-min=6.5km az=7.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EARA	**Aranguren**	**0.14**	**61**	Pg	Pg	21 48 46.9	-0.4
	2.4nm,0.1s,SNR=7.9						
EARA				Lg	Lg	21 48 49.0	
	20nm,0.1s,SNR=7.7						
IELO	**Elcoad**	**0.40**	**70**	Pg	Pg	21 48 52.2	-0.1
	0.1nm,0.1s,SNR=7.9						
IELO				Lg	Lg	21 48 58.5	
	1.0nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.55**	**19**	Pg	Pg	21 48 54.2	-0.8
	0.1nm,0.1s,SNR=7.9						
EALK				Lg	Lg	21 49 02.6	
	0.2nm,0.1s,SNR=5.6						
ATE	**Arette**	**0.86**	**63**	Lg	Lg	21 49 11.1	
	0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**1.34**	**294**	Lg	Lg	21 49 28.4	
	0.1nm,0.1s,SNR=7.9						

*LDG **22** 21:49:51.0±0.1, 45.92°N×6.07°E, h2km, Md1.8/3, Ml2.1/13, Error ellipse: s-maj=1.1km s-min=0.7km az=74.0*

STR 22 21:49:51.5±0.3, 46°N±2°×°±°, h7km±4km, M1.3/6, MLv1.3/6, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG02	**Monnetier-Morn**	**0.24**	**25**	Pg	Pg	21 49 55.4	-0.9
OG02				Sg	Sg	21 49 59.7	+0.1
OG35	**Corcelles**	**0.37**	**288**	Pg	Pg	21 49 58.3	-0.4
OG35				Sg	Sg	21 50 03.8	+0.2
OGSM	**Saint Maurice**	**0.42**	**219**	Pg	Pg	21 49 59.5	-0.1
OGSM				Sg	Sg	21 50 05.7	+0.6
RSL	**Roselend**	**0.46**	**122**	Pg	Pg	21 50 00.2	-0.1
RSL				Sg	Sg	21 50 06.6	+0.2
LPL	**La Plagne**	**0.62**	**132**	*e*Pg	Pg	21 50 02.9	-0.6
LPL				*e*Sg	Sg	21 50 11.0	-0.7
	1.9nm,0.4s						
LPG	**La Plagne**	**0.65**	**132**	*e*Pg	Pg	21 50 03.7	-0.2
LPG				*e*Sg	Sg	21 50 11.9	-0.5
	1.5nm,0.2s						
CABF	**La Chapelle**	**0.68**	**1**	*e*Pg	Pg	21 50 03.9	-0.6
CABF				*e*Sg	Sg	21 50 13.6	+0.2
	2.3nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.02**	**188**	*e*Pg	Pg	21 50 10.1	-1.1
ORIF	**Oris-en-Rattie**	**1.02**	**188**	*e*P	Pn	21 50 12.3	0.0
ORIF				*e*Sg	Sg	21 50 22.9	-1.6
	14nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.02**	**188**	P	Pn	21 50 12.3	0.0
ORIF	**Oris-en-Rattie**	**1.02**	**188**	Pn	Pg	21 50 10.3	-0.9
MBDF	**Montbardon**	**1.30**	**158**	*e*Sg	Sb	21 50 31.9	-1.4
	1.2nm,0.3s						
CHMF	**Charmoille**	**1.37**	**17**	Pn	Pn	21 50 16.2	-0.9
CHMF				Pg	Pb	21 50 17.5	-0.1
CHMF				Sg	Sg	21 50 36.4	+0.7
VIVF	**Saint-Julien-l**	**1.46**	**223**	*e*Pg	Pn	21 50 18.3	0.0
VIVF				*e*Sg	Sg	21 50 38.5	0.0
	8.7nm,0.2s						
VIVF	**Saint-Julien-l**	**1.46**	**223**	Pg	Pn	21 50 18.3	0.0
SMF	**Signal de Mont**	**1.70**	**295**	*e*Pg	Pb	21 50 22.4	-0.7
SMF				*e*Sg	Sg	21 50 45.5	-0.7
HINF	**Hinteralfeld**	**1.96**	**16**	*e*Pg	Pb	21 50 27.8	+0.3
HINF				*e*Sg	Sb	21 50 52.7	+0.6
	1.5nm,0.3s						
LOR	**Lormes**	**2.03**	**312**	*e*Pg	Pb	21 50 28.8	+0.1
LOR				*e*Sg	Sb	21 50 54.8	+0.7
	2.9nm,0.3s						
AVF	**Avril sur Loir**	**2.07**	**295**	*e*Pg	Pb	21 50 30.1	+0.8
AVF				*e*Sg	Sb	21 50 55.7	+0.5
	1.0nm,0.2s						
HAU	**Haudompre**	**2.08**	**5**	*e*Sg	Sb	21 50 56.8	+1.2
	2.6nm,0.3s						
SSF	**Saint Saulge**	**2.10**	**303**	*e*Sg	Sb	21 50 57.0	+0.8
	1.2nm,0.2s						
BGF	**Bois d'Agland**	**2.33**	**287**	*e*Sg	Sg	21 51 04.4	-1.8
	0.6nm,0.2s						
SFTF	**Sexfontaines**	**2.38**	**343**	*e*Sg	Sg	21 51 06.3	-1.6
	2.0nm,0.3s						
LASF	**Ste Croix**	**2.43**	**221**	*e*Pg	Pb	21 50 36.2	+0.6
LASF				*e*Sg	Sb	21 51 06.8	+1.0
	2.0nm,0.3s						
MEZF	**Maizieres J'vi**	**2.66**	**345**	*e*Sg	Sg	21 51 15.3	-1.6
	3.2nm,0.3s						

*ISCJB **22** 22:06:56.8±1.5, 30.16°S±0.04×71.60°W±0.08, h27km±9km, Error ellipse: s-maj=12.6km s-min=6.0km az=23.7*
*SJA **22** 22:06:57.5±0.8, 30.12°S×71.43°W, h34km±2km, ML3.5, MW3.9*
*GUC **22** 22:06:58.3±0.4, 30.12°S×71.01°W, h65km±3km, ML3.9*

ISC 22 22:06:54.9±3.4, 30.10°S±0.06×71.61°W±0.08, h14km±26km, n28, σ1§41/30, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.70**	**96**	*e*P	**Pn**	**22 07 10.0**	**-0.6**
GO04				*e*S	**Sb**	**22 07 18.5**	**-0.2**
GO04	**Tololo Observa**	**0.70**	**96**	⇑*iP*	**Pb**	**22 07 09.7**	**-0.6**
GO04				*i* S	**Sb**	**22 07 18.3**	**-0.4**
GO04				IAML		22 07 20.3	
	comp=E,30µm,0.7s						
CMCH	**Combarbala**	**1.19**	**154**	IAML		22 07 33.7	
	comp=E,4µm,0.6s						
LCO	**Las Campanas**	**1.34**	**36**	⇑*iP*	**Pb**	**22 07 20.1**	**+0.2**
LCO				*i* S	**Sb**	**22 07 36.7**	**-0.4**
AROD	**Rodeo**	**1.85**	**93**	*e*P	**Pb**	**22 07 27.9**	**-0.7**
AROD				*e*S	**Sn**	**22 07 49.7**	**-0.1**
ACDV	**Cuesta del Vie**	**2.16**	**92**	*e*P	**Pb**	**22 07 33.0**	**-0.8**
ACCO	**Cerro Coronel**	**2.25**	**103**	*e*P	**Pb**	**22 07 34.0**	**-1.5**
ACCO				*e*S	**Sn**	**22 08 00.1**	**+0.4**
RTLS	**Leoncito**	**2.61**	**131**	*e*P	**Pn**	**22 07 38.9**	**+2.0**
RTLS				IAML		22 07 55.8	
	comp=Z,334nm,0.9s						
AGUA	**GUANDACOL**	**2.78**	**78**	*e*P	**Pb**	**22 07 42.4**	**-2.0**
AMOG	**MOGNA**	**2.82**	**108**	*e*P	**Pn**	**22 07 41.7**	**+2.2**
AUSP	**Uspallata**	**2.85**	**139**	*e*P	**Pn**	**22 07 42.1**	**+2.0**
ZON	**Zonda**	**2.90**	**120**	IAML		22 08 27.5	
	comp=Z,62nm,0.3s						
ROCH	**El Roble**	**2.91**	**170**	*e*P	**Pn**	**22 07 40.9**	**0.0**
ROCH				*e*S	**Sn**	**22 08 14.8**	**-0.9**
ROC1	**El Roble**	**2.91**	**170**	*e*P	**Pn**	**22 07 41.0**	**+0.1**
RTLL	**Cerro Villicun**	**2.96**	**115**	*e*P	**Pn**	**22 07 42.7**	**+1.2**
RTLL				IAML		22 08 36.3	
	comp=Z,260nm,0.4s						
PEL	**Peldehue**	**3.13**	**166**	*e*P	**Pn**	**22 07 45.3**	**+1.4**
PEL				*e*S	**Sn**	**22 08 19.7**	**-1.4**
PEL				IAML		22 08 32.8	
	comp=N,196nm,0.4s						
RTCV	**Cerro Valdivia**	**3.17**	**124**	*e*P	**Pn**	**22 07 45.6**	**+1.3**
FCH	**Farellones**	**3.41**	**161**	*e*P	**Pn**	**22 07 49.5**	**+1.6**
FCH				IAML		22 08 41.0	
	comp=E,181nm,0.2s						
ASAL	**Salagasta**	**3.44**	**137**	*e*P	**Pn**	**22 07 50.3**	**+2.2**
ARCO	**CERRO ARCO**	**3.56**	**141**	*e*P	**Pn**	**22 07 52.2**	**+2.4**
ARCO				IAML		22 08 45.9	
	comp=Z,107nm,0.3s						
AAGR	**Agrelo**	**3.81**	**142**	*e*P	**Pn**	**22 07 55.4**	**+2.3**
LMEL	**Las Melosas**	**3.92**	**163**	*e*P	**Pn**	**22 07 55.9**	**+1.1**
LMEL				*e*S	**Sn**	**22 08 40.0**	**-0.7**
ACLC	**CERRO LA CRUZ**	**4.10**	**82**	*e*P	**Pn**	**22 07 58.6**	**+1.2**
APLL	**PUNTA DE LOS L**	**4.41**	**95**	*e*P	**Pn**	**22 08 01.9**	**+0.5**
APLL				IAML		22 09 02.0	
	comp=Z,46nm,0.5s						
CYA	**Choya**	**5.33**	**73**	IAML		22 09 22.6	
	comp=Z,34nm,0.6s						
RFA	**San Rafael**	**5.36**	**151**	IAML		22 08 56.7	
	comp=Z,14nm,0.3s						
MRA	**San Martin**	**5.55**	**116**	IAML		22 09 25.6	
	comp=Z,34nm,0.5s						
TCA	**Tanti**	**6.16**	**103**	IAML		22 09 40.7	
	comp=Z,22nm,0.5s						

IDC 22 22:17:36.0±2.8, 44.33°S×80.34°W, h0km, mb3.9/4, mb1 4.2/6, mb1mx3.9/29, mbtmp4.0/6, ML3.8/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/28, Error ellipse: s-maj=61.4km s-min=39.9km az=175.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.07**	**67**	Pn	Pn	22 19 33.6	-1.0
	0.3nm,0.3s,baz=256,slow=12,SNR=12						
USHA	**Ushuaia**	**13.03**	**148**	LR	LR	22 24 46.7	
	comp=Z,350nm,19.0s,baz=152,slow=33						
CFA	**Coronel Fontan**	**15.86**	**41**	Pn	P	22 21 22.7	-1.9
	0.3nm,0.3s,baz=209,slow=12,SNR=2.1						
CFA				LR	LR	22 26 42.4	
	comp=Z,145nm,20.8s,baz=233,slow=34						
LVC	**Limon Verde**	**23.62**	**27**	P	P	22 22 49.3	+0.2
	3.3nm,0.7s,baz=186,slow=8.0,SNR=3.6						
LVC				LR	LR	22 30 03.1	
	comp=Z,184nm,19.8s,baz=202,slow=32						
CPUP	**Villa Florida**	**25.84**	**54**	P	P	22 23 08.3	-0.7
	2.9nm,0.8s,baz=226,slow=10.0,SNR=5.7						
CPUP				LR	LR	22 33 49.0	
	comp=Z,154nm,18.6s,baz=198,slow=38						
LPAZ	**La Paz**	**29.80**	**24**	P	P	22 23 45.4	+0.1
	1.2nm,0.7s,baz=225,slow=8.1,SNR=4.1						
BDFB	**Brasilia**	**39.57**	**54**	LR	LR	22 41 11.5	
	comp=Z,67nm,18.7s,baz=205,slow=36						
TXAR	**Lajitas Array**	**76.34**	**339**	P	P	22 29 26.6	-0.3
	0.4nm,0.7s,baz=163,slow=9.1,SNR=4.8						
MKAR	**Makanchi Array**	**167.58**	**72**	PKPab	PKPab	22 38 49.9	+0.3
	0.7nm,0.8s,baz=300,slow=2.7,SNR=6.9						

*ISCJB **22** 22:40:52.1±0.1, 28.17°S±0.02×176.57°W±0.03, h10km, mb5.2/190, MS5.4/350, Error ellipse: s-maj=4.5km s-min=2.1km az=28.2*
*BJI **22** 22:40:52.3, 28.00°S×176.60°W, h13km, mb5.3/49, mB5.8/33, Ms5.4/52, Ms7 5.1/47*
*IDC **22** 22:40:52.1±0.4, 27.73°S×176.49°W, h0km, mb4.9/26, mb1 5.0/26, mb1mx4.9/41, mbtmp4.9/26, MS5.1/21, Ms1 5.1/21, ms1mx5.0/26, Error ellipse: s-maj=15.1km s-min=12.9km az=155.0*
*NEIC **22** 22:40:53.8±0.4, 28.04°S×176.57°W, h12km±2km, mb5.3/156, MS5.5/298, Error ellipse: s-maj=4.8km s-min=3.0km az=134.0*
*MOS **22** 22:40:53.8±0.9, 27.77°S×176.65°W, h16km, mb5.4/34, MS5.4/23, Error ellipse: s-maj=9.5km s-min=8.4km az=78.5*
*GCMT **22** 22:40:57.8±0.1, 27.65°S±0.01×176.10°W±0.01, h18km, MW5.5/113,

FWVZ	**Far West T-bar**	**13.03**	**209**	P		**Pn**	**22**	**43**	**58.6**	**-0.1**
KRHZ	**Kereru**	**13.03**	**205**	P		**Pn**	**22**	**43**	**56.3**	**-2.4**
TRVZ	**Turoa**	**13.07**	**209**	P		**Pn**	**22**	**43**	**59.8**	**+0.6**
MOVZ	**Moawhango**	**13.07**	**208**	P		**Pn**	**22**	**43**	**57.7**	**-1.5**
PXZ	**Pawanui**	**13.19**	**203**	P		**Pn**	**22**	**43**	**58.5**	**-2.3**
PNHZ	**Pukenui**	**13.33**	**205**	P		**Pn**	**22**	**44**	**00.3**	**-2.4**
PRHZ	**Porangahau**	**13.48**	**203**	P		Pn	22	43	59.4	-5.4
DVHZ	**Dannevirke**	**13.68**	**205**	P		**Pn**	**22**	**44**	**05.1**	**-2.3**
DVHZ				P		P	22	44	06.6	-10
ANWZ	**Angora Road**	**13.71**	**203**	P		**Pn**	**22**	**44**	**05.0**	**-2.9**
PRWZ	**Pori Road**	**13.98**	**205**	P		**Pn**	**22**	**44**	**10.6**	**-0.9**
BFZ	**Birch Farm**	**13.99**	**204**	*e*Pn		**Pn**	**22**	**44**	**08.7**	**-3.0**
BFZ				*e*Sn		**Sn**	**22**	**46**	**42.2**	**-4.8**
BFZ	**Birch Farm**	**13.99**	**204**	P		Pn	22	44	06.8	-4.9
BFZ				P		P	22	44	09.4	-10
TIWZ	**Tintock**	**14.20**	**204**	P		**Pn**	**22**	**44**	**12.0**	**-2.6**
TIWZ				P		**Pn**	**22**	**44**	**12.0**	**-2.6**
CPWZ	**Castlepoint**	**14.21**	**203**	P		**Pn**	**22**	**44**	**14.6**	**0.0**
MRZ	**Mangatainoka R**	**14.21**	**205**	P		Pn	22	44	09.2	-5.5
MRZ				P		P	22	44	15.8	-6.4
HOWZ	**Holdsworth Sta**	**14.44**	**205**	P		**Pn**	**22**	**44**	**13.7**	**-4.2**
TMWZ	**Te Maipa**	**14.49**	**204**	P		**Pn**	**22**	**44**	**14.6**	**-3.9**
TMWZ				P		P	22	44	16.0	-9.3
OGWZ	**Otaki Gorge**	**14.51**	**206**	P		Pn	22	44	13.9	-4.8
TRWZ	**Traveller**	**14.82**	**204**	P		**Pn**	**22**	**44**	**19.1**	**-3.9**
TRWZ				P		P	22	44	21.2	-7.7
PAWZ	**Paruwai Farm**	**14.90**	**204**	P		**Pn**	**22**	**44**	**21.3**	**-2.8**
MSWZ	**Moikau Station**	**14.99**	**205**	P		**Pn**	**22**	**44**	**21.3**	**-4.1**
DUWZ	**D'Urville Isla**	**15.01**	**209**	P		**Pn**	**22**	**44**	**26.9**	**+1.3**
SNZO	**South Karori** 84nm,0.9s	**15.11**	**206**	*e*Pn		**Pn**	**22**	**44**	**25.4**	**-1.5**
SNZO				*e*Sn		**Sn**	**22**	**47**	**05.1**	**-9.2**
PLWZ	**Palliser**	**15.12**	**205**	P		**Pn**	**22**	**44**	**24.6**	**-2.5**
BHW	**Baring Head**	**15.13**	**206**	P		**Pn**	**22**	**44**	**23.4**	**-3.8**
TUWZ	**Tuamarina**	**15.52**	**208**	P		**Pn**	**22**	**44**	**31.4**	**-0.9**
PINNC	**Pines Island,** 400nm,1.3s	**15.53**	**287**	*e*Pn		**Pn**	**22**	**44**	**32.5**	**-0.1**
MARNC	**Mare, Loyalty** 733nm,1.3s	**15.53**	**291**	*e*Pn		**Pn**	**22**	**44**	**32.8**	**+0.2**
NNZ	**Nelson**	**15.59**	**210**	P		**Pn**	**22**	**44**	**32.7**	**-0.4**
QRZ	**Quartz Range**	**15.66**	**213**	P		**Pn**	**22**	**44**	**35.5**	**+1.4**
BSWZ	**Blackbirch Sta**	**15.79**	**208**	P		**Pn**	**22**	**44**	**35.8**	**0.0**
THZ	**Tophouse** 67nm,0.4s	**16.24**	**210**	*e*Pn		**Pn**	**22**	**44**	**40.4**	**-1.2**
THZ				*e*Sn		**Sn**	**22**	**47**	**33.6**	**-8.1**
ONTNC	**Ouen Toro** 204nm,1.2s	**16.49**	**286**	*e*Pn		**Pn**	**22**	**44**	**44.8**	**-0.2**
KHZ	**Kahutara** 152nm,0.6s	**16.51**	**207**	*e*Pn		**Pn**	**22**	**44**	**42.5**	**-2.5**
KHZ				*e*Sn		Sn	22	47	37.2	-11
RAR	**Rarotonga** 3.7nm,0.3s,baz=206,slow=2.5,SNR=14	**16.59**	**70**	Pn		Pn	22	44	35.9	-10
RAR				Sn		Sn	22	47	24.1	-27
	2.6nm,0.3s,baz=116,slow=17,SNR=5.3									
DZM	**Mont Dzumac** 534nm,1.7s	**16.60**	**287**	*e*P		**P**	**22**	**44**	**50.5**	**+1.6**
DZM				*e*LR		LR	22	48	40.6	
	comp=Z,18μm,23.6s									
DZM	**Mont Dzumac** 451nm,1.6s	**16.60**	**287**	*e*Pn		**P**	**22**	**44**	**49.4**	**+0.5**
DZM	**Mont Dzumac** 0.7nm,0.3s,baz=113,slow=8.3,SNR=24	**16.60**	**287**	Pn		**P**	**22**	**44**	**50.7**	**+1.8**
DZM				LR		LR	22	50	11.4	
	comp=Z,15μm,18.6s,baz=114,slow=34									
LTZ	**Lake Taylor** 29nm,0.6s	**17.34**	**209**	*e*Pn		**Pn**	**22**	**44**	**53.8**	**-1.7**
LTZ	**Lake Taylor**	**17.34**	**209**	P		**Pn**	**22**	**44**	**54.0**	**-1.5**
OXZ	**Oxford** 111nm,0.5s	**17.88**	**208**	*e*Pn		**Pn**	**22**	**45**	**00.5**	**-1.7**
OXZ				*e*Sn		Sn	22	48	08.2	-13
MQZ	**McQueen's Vall** 161nm,2.0s	**17.95**	**206**	*e*Pn		**Pn**	**22**	**45**	**02.0**	**-0.9**
AKCZ	**Akaroa Harbour**	**17.99**	**206**	P		**Pn**	**22**	**45**	**01.5**	**-2.0**
RPZ	**Rata Peaks** 30nm,0.6s	**18.61**	**209**	*e*P		**Pn**	**22**	**45**	**11.2**	**0.0**
RPZ				S		Sn	22	48	24.7	-15
RPZ	**Rata Peaks** 6.1nm,0.3s,baz=65,slow=3.0,SNR=15	**18.61**	**209**	P		**Pn**	**22**	**45**	**11.6**	**+0.4**
RPZ				S		Sn	22	48	24.7	-15
	1.0nm,0.3s,baz=172,slow=15,SNR=3.9									
RPZ				LR		LR	22	53	09.7	
	comp=Z,8μm,18.8s,baz=24,slow=39									
FOZ	**Fox Glacier** 56nm,1.2s	**19.03**	**212**	*e*P		**Pn**	**22**	**45**	**15.9**	**-0.4**
LBZ	**Lake Benmore** 87nm,1.7s	**19.53**	**210**	*e*P		**P**	**22**	**45**	**20.4**	**-0.5**
ODZ	**Otahua Downs** 27nm,0.8s	**19.86**	**208**	*e*P		**P**	**22**	**45**	**24.9**	**+0.4**
WKZ	**Wanaka** 63nm,1.1s	**20.39**	**211**	*e*P		**P**	**22**	**45**	**28.7**	**-1.7**
WKZ				LR		LR				
	comp=Z,8μm,18.0s									
LHI	**Lord Howe Isla** baz=22,SNR=3.6	**21.54**	**255**	P		**P**	**22**	**45**	**45.6**	**+2.8**
LHI	**Lord Howe Isla**	**21.54**	**255**	*e*P		**P**	**22**	**45**	**43.8**	**+1.0**
	comp=Z,714nm,1.5s									
LHI				LR		LR				
	comp=Z,7μm,18.0s									
WHZ	**Wether Hill Ro**	**21.70**	**211**	*e*P		**P**	**22**	**45**	**44.1**	**-0.3**
	comp=Z,190nm,2.0s									
WHZ				LR		LR				
	comp=Z,4μm,18.0s									
PYZ	**Puysegur Point** comp=Z,243nm,1.6s	**22.48**	**212**	*e*P		**P**	**22**	**45**	**53.0**	**+0.1**
PYZ				LR		LR				
	comp=Z,8μm,18.0s									
TBI	**Tubuai** comp=Z,2μm,27.5s	**24.73**	**85**	*e*LQ		LQ	22	51	05.6	
TBI				*e*LR		LR	22	52	09.7	
	comp=Z,7μm,29.2s,baz=251									
TBI	**Tubuai** comp=Z,13nm,0.3s	**24.73**	**85**	*e*T		T	23	11	19.4	
KNTN	**Kanton** comp=Z,224nm,1.1s	**25.51**	**11**	*e*P		**P**	**22**	**46**	**22.4**	**+0.3**
PAE	**Paea** comp=Z,20nm,1.3s	**26.76**	**73**	*e*P		**P**	**22**	**46**	**30.2**	**-3.3**
PAE	**Paea** comp=Z,25nm,0.3s	**26.76**	**73**	*e*T		T	23	13	51.5	
PPT2	**Papeete2** comp=Z,109nm,1.4s	**26.80**	**73**	*e*P		**P**	**22**	**46**	**31.0**	**-2.9**
PPT2				*e*LQ		LQ	22	51	51.5	
	comp=Z,4μm,22.8s									
PPT2				*e*LR		LR	22	53	02.7	
	comp=Z,7μm,28.2s,baz=235									
PPT	**Papeete**	**26.81**	**73**	*e*P		**P**	**22**	**46**	**33.0**	**-0.9**
PPT	**Papeete**	**26.81**	**73**	*e*P		**P**	**22**	**46**	**33.0**	**-0.9**
PPT	**Papeete**	**26.81**	**73**	P		**P**	**22**	**46**	**32.9**	**-1.1**
	comp=Z,29nm,0.7s,baz=297,slow=7.8,SNR=3.6									
PPT				LR		LR	22	56	34.7	
	comp=Z,3μm,18.6s,baz=242,slow=35									
TVO	**Taravao** comp=Z,36nm,1.4s	**26.98**	**74**	*e*P		**P**	**22**	**46**	**32.4**	**-3.2**
TIAR	**Tiarei** comp=Z,26nm,1.0s	**27.01**	**73**	*e*P		**P**	**22**	**46**	**32.7**	**-3.0**
ARMA	**Armidale** baz=28,SNR=10	**27.92**	**257**	P		**P**	**22**	**46**	**46.1**	**+2.1**
ARMA	**Armidale** comp=Z,16nm,0.8s	**27.92**	**257**	*e*P		**P**	**22**	**46**	**44.0**	**0.0**
ARMA				LR		LR				
	comp=Z,11μm,18.0s									
MGCD	**Mangrove Creek** baz=29,SNR=4.6	**28.33**	**251**	P		**P**	**22**	**46**	**50.2**	**+2.7**
HNR	**Honiara**	**28.92**	**305**	P		**P**	**22**	**46**	**50.1**	**-2.7**
	comp=Z,37nm,0.3s,baz=272,slow=3.1,SNR=5.4									
HNR				LR		LR	22	57	16.3	
	comp=Z,7μm,18.9s,baz=146,slow=34									
EIDS	**Eidsvold** baz=30,SNR=6.4	**29.09**	**268**	P		**P**	**22**	**46**	**56.0**	**+1.7**
EIDS	**Eidsvold** comp=Z,23nm,0.8s	**29.09**	**268**	*e*P		**P**	**22**	**46**	**54.5**	**+0.1**
EIDS				LR		LR				
	comp=Z,6μm,20.0s									
VAH	**Vaihoa** comp=Z,37nm,0.2s	**29.57**	**71**	*e*T		T	23	17	21.8	
CNB	**Canberra Magne** baz=30,SNR=10	**29.89**	**247**	P		**P**	**22**	**47**	**04.4**	**+3.0**
CAN	**Canberra** comp=Z,36nm,1.1s	**30.19**	**247**	*e*P		**P**	**22**	**47**	**05.2**	**+1.2**
CAN				LR		LR				
	comp=Z,5μm,19.0s									
CAN	**Canberra**	**30.19**	**247**	*e*P		**P**	**22**	**47**	**05.2**	**+1.2**
CAN				pmax		pmax				
	comp=Z,36nm,1.1s									
CAN				MLR		MLR				
	comp=Z,5μm,19.0s									
MILA	**Mila**	**30.24**	**244**	P		**P**	**22**	**47**	**06.7**	**+2.2**
	baz=31,SNR=7.5									
TAU	**Tasmania Unive** comp=Z,94nm,1.5s	**32.76**	**233**	*e*P		**P**	**22**	**47**	**26.1**	**-0.4**
TAU	**Tasmania Unive**	**32.76**	**233**	*e*P		**P**	**22**	**47**	**26.1**	**-0.4**
TAU				pmax		pmax				
	comp=Z,94nm,1.5s									
CMSA	**Cobar Meteorol** baz=33,SNR=12	**32.95**	**255**	P		**P**	**22**	**47**	**29.3**	**+1.1**
TOO	**Toolangi** baz=34,SNR=5.7	**33.20**	**243**	P		**P**	**22**	**47**	**32.2**	**+1.8**
TOO	**Toolangi** comp=Z,124nm,1.9s	**33.20**	**243**	*e*P		**P**	**22**	**47**	**31.2**	**+0.7**
TOO				LR		LR				
	comp=Z,3μm,18.0s									
TOO	**Toolangi**	**33.20**	**243**	*e*P		**P**	**22**	**47**	**31.2**	**+0.7**
TOO				pmax		pmax				
	comp=Z,124nm,1.9s									
TOO				MLR		MLR				
	comp=Z,3μm,18.0s									
CTA	**Charters Tower** comp=Z,5.9nm,0.4s,baz=101,slow=10,SNR=15	**34.86**	**275**	P		**P**	**22**	**47**	**45.8**	**+0.7**
CTA				LR		LR	23	00	55.8	
	comp=Z,9μm,18.7s,baz=119,slow=35									
CTAO	**Charters Tower** comp=Z,17nm,0.8s	**34.86**	**275**	*e*P		**P**	**22**	**47**	**44.6**	**-0.4**
CTAO				LR		LR				
	comp=Z,10μm,19.0s									
CTAO	**Charters Tower**	**34.86**	**275**	*e*P		**P**	**22**	**47**	**44.6**	**-0.4**
CTAO				pmax		pmax				
	comp=Z,17nm,0.8s									
CTAO				MLR		MLR				
	comp=Z,10μm,19.0s									
XMAS	**Kiritimati**	**35.03**	**35**	PFAKE			22	48	00.0	+14
XMAS				LR		LR				
	comp=Z,6μm,18.0s									
ARPS	**Mount Arapiles** baz=36,SNR=7.5	**36.06**	**245**	P		**P**	**22**	**47**	**56.7**	**+1.6**
STKA	**Stephens Creek** baz=37,SNR=15	**36.40**	**253**	P		**P**	**22**	**47**	**58.8**	**+0.6**
STKA	**Stephens Creek** comp=Z,3.6nm,0.9s	**36.40**	**253**	*e*P		**P**	**22**	**47**	**58.1**	**-0.1**
STKA	**Stephens Creek** comp=Z,6.7nm,0.6s,baz=76,slow=9.8,SNR=12	**36.40**	**253**	P		**P**	**22**	**47**	**58.4**	**+0.3**
STKA				LR		LR	23	01	58.5	
	comp=Z,4μm,18.3s,baz=85,slow=35									
MTSU	**Mount Surprise** baz=38,SNR=4.1	**37.28**	**277**	P		**P**	**22**	**48**	**06.7**	**+0.9**
RKT	**Rikitea** comp=Z,3μm,31.8s,baz=248	**37.59**	**92**	*e*LR		LR	22	57	54.0	
RKT	**Rikitea** comp=Z,2.3nm,0.3s	**37.59**	**92**	*e*T		T	23	27	23.1	
RABL	**Rabaul**	**38.13**	**303**	PFAKE			22	48	20.0	+7.0
RABL				LR		LR				
	comp=Z,4μm,21.0s									
HTT	**Hallett** baz=39,SNR=15	**38.52**	**251**	P		**P**	**22**	**48**	**16.4**	**+0.2**
PMG	**Port Moresby** comp=Z,55nm,1.1s	**38.92**	**291**	*e*P		**P**	**22**	**48**	**19.6**	**0.0**
PMG				LR		LR				
	comp=Z,5μm,20.0s									
PMG	**Port Moresby**	**38.92**	**291**	*d i*P		**P**	**22**	**48**	**18.9**	**-0.7**
PMG				pmax		pmax				
	comp=Z,231nm,1.2s									
PMG	**Port Moresby** comp=Z,76nm,1.3s,baz=121,slow=4.0,SNR=7.7	**38.92**	**291**	P		**P**	**22**	**48**	**19.0**	**-0.6**
TAOE	**Nuku Hiva Isla** comp=Z,610nm,24.3s	**39.14**	**68**	*e*S		**S**	**22**	**54**	**16.5**	**-5.1**
TAOE				*e*LR		LR	22	58	42.0	
	comp=Z,3μm,27.5s,baz=249									
TAOE	**Nuku Hiva Isla**	**39.14**	**68**	PFAKE			22	48	30.0	+8.5
TAOE				LR		LR				
	comp=Z,3μm,18.0s									
COEN	**Coen** baz=40,SNR=13	**40.02**	**282**	P		**P**	**22**	**48**	**29.2**	**+0.4**
COEN	**Coen** comp=Z,41nm,1.1s	**40.02**	**282**	*e*P		**P**	**22**	**48**	**29.5**	**+0.7**
COEN				LR		LR				
	comp=Z,6μm,19.0s									
BBOO	**Buckleboo** baz=41,SNR=7.2	**40.97**	**251**	P		**P**	**22**	**48**	**35.9**	**-0.7**
BBOO	**Buckleboo** comp=Z,29nm,1.0s	**40.97**	**251**	*e*P		**P**	**22**	**48**	**35.8**	**-0.7**
BBOO				LR		LR				
	comp=Z,5μm,18.0s									
PTCN	**Pitcairn Islan**	**41.38**	**97**	PFAKE			22	48	50.0	+10
PTCN				LR		LR				
	comp=Z,5μm,20.0s									
MANU	**Manus Island**	**43.15**	**300**	PFAKE			22	49	10.0	+16
MANU				LR		LR				
	comp=Z,2μm,21.0s									
AS01	**Alice Springs**	**44.62**	**264**	*e*P		**P**	**22**	**49**	**04.6**	**-1.7**
AS31	**Alice Springs** comp=Z,10nm,1.3s	**44.66**	**264**	*e*P		**P**	**22**	**49**	**06.0**	**-0.6**
AS31				LR		LR				
	comp=Z,100nm,19.0s									
ASAR	**Alice Springs**	**44.66**	**264**	P		**P**	**22**	**49**	**05.9**	**-0.7**
	comp=Z,12nm,0.9s,baz=112,slow=8.2,SNR=65									
ASAR				ScP		**ScP**	**22**	**54**	**42.9**	**+1.2**
	comp=Z,2.1nm,1.1s,baz=151,slow=3.1,SNR=5.1									
ASAR				S		**S**	**22**	**55**	**39.3**	**-3.8**
	comp=Z,0.9nm,0.9s,baz=102,slow=12,SNR=4.4									
ASAR				LR		LR	23	07	05.8	
	comp=Z,4μm,18.8s,baz=106,slow=35									
WRAB	**Tennant Creek** comp=Z,27nm,0.9s	**45.43**	**269**	*e*P		**P**	**22**	**49**	**11.7**	**-1.0**
WRAB				LR		LR				
	comp=Z,2μm,20.0s									
WRAB	**Tennant Creek**	**45.43**	**269**	*‖ i*P		**P**	**22**	**49**	**11.5**	**-1.2**
WRAB				pmax		pmax				
	comp=Z,96nm,2.8s									
WRA	**Warramunga Arr** comp=Z,6.9nm,0.4s,baz=109,slow=6.2,SNR=91	**45.44**	**269**	P		**P**	**22**	**49**	**11.4**	**-1.4**
WRA				ScP		**ScP**	**22**	**54**	**46.0**	**+1.1**
	comp=Z,4.0nm,1.3s,baz=113,slow=3.6,SNR=4.8									
WRA				S		**S**	**22**	**55**	**52.2**	**-2.2**
	comp=Z,4.3nm,1.3s,baz=112,slow=14,SNR=3.1									
WRA				LR		LR	23	07	42.6	
	comp=Z,2μm,18.1s,baz=130,slow=36									
FORT	**Forrest** baz=48,SNR=7.1	**48.01**	**253**	P		**P**	**22**	**49**	**32.1**	**-0.7**
FORT	**Forrest** comp=Z,52nm,0.8s	**48.01**	**253**	*e*P		**P**	**22**	**49**	**30.6**	**-2.3**
FORT				LR		LR				
	comp=Z,3μm,20.0s									
JAY	**Jayapura**	**48.10**	**294**	LR		LR	23	07	44.7	
	comp=Z,2μm,21.5s,baz=170,slow=34									
WRKA	**Warakurna** baz=50,SNR=31	**49.18**	**260**	P		**P**	**22**	**49**	**40.6**	**-1.4**
KDU	**Kakadu** baz=50,SNR=9.1	**49.91**	**277**	P		**P**	**22**	**49**	**47.8**	**+0.3**
SBA	**Scott Base**	**50.50**	**185**	PFAKE			22	50	00.0	+8.8
SBA				LR		LR				
	comp=Z,2μm,19.0s									
VNDA	**Vanda** comp=Z,70nm,1.8s	**50.59**	**186**	*e*P		**P**	**22**	**49**	**53.5**	**+1.7**
VNDA	**Vanda** comp=Z,3.0nm,0.9s,baz=359,slow=5.6,SNR=11	**50.59**	**186**	P		**P**	**22**	**49**	**54.5**	**+2.7**
VNDA				LR		LR	23	07	41.9	
	comp=Z,1μm,20.9s,baz=11,slow=32									
MTN	**Manton Dam**	**51.02**	**276**	PFAKE			22	50	10.0	+14
MTN				LR		LR				
	comp=Z,4μm,19.0s									
AIN	**Ainahou**	**51.31**	**26**	PFAKE			22	50	10.0	+12
AIN				LR		LR				
	comp=Z,3μm,18.0s									
STCH	**Steam Cracks**	**51.45**	**26**	PFAKE			22	50	10.0	+11
STCH				LR		LR				
	comp=Z,2μm,20.0s									
KNRA	**Kununurra** baz=52,SNR=10	**51.94**	**272**	P		**P**	**22**	**50**	**02.6**	**-0.3**
SAUI	**Saumlaki**	**53.10**	**282**	PFAKE			22	50	20.0	+8.6
SAUI				LR		LR				
	comp=Z,6μm,19.0s									
FITZ	**Fitzroy Crossi** baz=54,SNR=20	**53.78**	**267**	P		**P**	**22**	**50**	**15.6**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,28nm,1.4s	**53.78**	**267**	*e*P		**P**	**22**	**50**	**15.7**	**-0.7**
FAKI	**Fak Fak** comp=Z,26nm,1.1s	**54.86**	**288**	*e*P		**P**	**22**	**50**	**22.8**	**-1.5**
FAKI				LR		LR				
	comp=Z,2μm,22.0s									
GUMO	**Guam** comp=Z,226nm,1.2s	**55.82**	**313**	*e*P		**P**	**22**	**50**	**30.0**	**-1.1**
GUMO				LR		LR				
	comp=Z,2μm,20.0s									
GUMO	**Guam**	**55.82**	**313**	*e*P		**P**	**22**	**50**	**30.0**	**-1.1**
GUMO				pmax		pmax				
	comp=Z,226nm,1.2s									
GUMO				MLR		MLR				
	comp=Z,2μm,20.0s									
NWAO	**Narrogin (SRO)** comp=Z,1μm,20.8s,baz=106,slow=33	**56.54**	**247**	LR		LR	23	11	59.3	
MEEK	**Meekatharra** baz=58,SNR=5.9	**57.08**	**255**	P		**P**	**22**	**50**	**38.5**	**-1.6**
CASY	**Casey** comp=Z,58nm,0.8s	**57.87**	**207**	*e*P		**P**	**22**	**50**	**45.7**	**+0.7**
CASY				LR		LR				
	comp=Z,3μm,18.0s									
SOEI	**Soe** comp=Z,56nm,0.9s	**58.42**	**276**	*e*P		**P**	**22**	**50**	**49.2**	**-0.6**
SOEI				LR		LR				
	comp=Z,4μm,18.0s									
MORW	**Morawa** baz=59,SNR=3.7	**58.54**	**251**	P		**P**	**22**	**50**	**50.9**	**+0.5**
MORW	**Morawa**	**58.54**	**251**	PFAKE			22	51	00.0	+10
MORW				LR		LR				
	comp=Z,3μm,18.0s									
MMRI	**Maumere**	**60.71**	**276**	PFAKE			22	51	20.0	+15
MMRI				LR		LR				
	comp=Z,2μm,20.0s									
TNTI	**Ternate**	**60.95**	**288**	PFAKE			22	51	20.0	+13
TNTI				LR		LR				
	comp=Z,300nm,19.0s									
QSPA	**South Pole Qui** comp=Z,53nm,1.1s	**62.08**	**180**	*e*P		**P**	**22**	**51**	**16.1**	**+1.9**
QSPA				LR		LR				
	comp=Z,2μm,20.0s									
GIRL	**Giralia** baz=62,SNR=3.4	**62.14**	**258**	P		**P**	**22**	**51**	**15.7**	**+0.6**
GIRL	**Giralia**	**62.14**	**258**	PFAKE			22	51	30.0	+15
GIRL				LR		LR				
	comp=Z,7μm,18.0s									
LUWI	**Luwuk** comp=Z,48nm,1.0s	**63.91**	**284**	*e*P		**P**	**22**	**51**	**24.8**	**-2.1**
JAGI	**Jajag, Banyuwa** comp=Z,67nm,1.1s	**67.91**	**272**	*e*P		**P**	**22**	**51**	**49.9**	**-2.8**
JAGI				*es*P		**sP**	**22**	**51**	**56.2**	**+0.9**
JAGI				LR		LR				
	comp=Z,2μm,20.0s									
UGM	**Wanagama** comp=Z,117nm,1.1s	**71.37**	**271**	*e*P		**P**	**22**	**52**	**13.1**	**-1.0**
UGM				LR		LR				
	comp=Z,2μm,20.0s									
SMRI	**Semarang** comp=Z,58nm,1.0s	**71.83**	**272**	*e*P		**P**	**22**	**52**	**16.5**	**-0.4**
SMRI				LR		LR				
	comp=Z,2μm,21.0s									
KKM	**Kota Kinabalu** comp=Z,94nm,1.8s	**73.16**	**286**	*e*P		**P**	**22**	**52**	**23.9**	**-1.0**
KKM	**Kota Kinabalu**	**73.16**	**286**	P		**P**	**22**	**52**	**23.9**	**-1.0**
CISI	**Cisompet, Garu** comp=Z,99nm,1.0s	**73.92**	**270**	*e*P		**P**	**22**	**52**	**28.2**	**-1.1**
CISI				LR		LR				
	comp=Z,2μm,19.0s									
XMIS	**Christmas Isla** comp=Z,71nm,0.9s	**74.54**	**266**	*e*P		**P**	**22**	**52**	**32.1**	**-0.8**
XMIS				LR		LR				
	comp=Z,2μm,19.0s									
SBUM	**Sibu** comp=Z,38nm,1.3s	**74.77**	**281**	*e*P		**P**	**22**	**52**	**33.1**	**-1.1**
SBUM				LR		LR				
	comp=Z,1μm,20.0s									
SBUM	**Sibu**	**74.77**	**281**	P		**P**	**22**	**52**	**34.0**	**-0.2**
MAW	**Mawson** comp=Z,13nm,0.8s,baz=162,slow=6.1,SNR=4.3	**75.00**	**200**	P		**P**	**22**	**52**	**37.9**	**+3.3**
MAW				LR		LR	23	26	07.9	
	comp=Z,3μm,18.2s,baz=118,slow=36									
KSM	**Kuching** comp=Z,45nm,1.1s	**75.95**	**279**	*e*P		**P**	**22**	**52**	**40.3**	**-0.7**
KSM				LR		LR				
	comp=Z,1μm,20.0s									
KSM	**Kuching**	**75.95**	**279**	P		**P**	**22**	**52**	**40.8**	**-0.2**
JOW	**Kunigami** comp=Z,17nm,0.7s,baz=143,slow=12,SNR=3.8	**76.11**	**311**	P		**P**	**22**	**52**	**40.0**	**-1.6**
GO09	**Cerro Castillo** comp=Z,149nm,1.7s	**76.80**	**141**	*e*P		**P**	**22**	**52**	**46.1**	**+0.9**
INU	**Inuyama** comp=Z,121nm,1.5s	**76.83**	**322**	*e*P		**P**	**22**	**52**	**45.0**	**-0.4**
INU				LR		LR				
	comp=Z,1μm,19.0s									
MJAR	**Matsushiro Arr** comp=Z,22nm,1.0s,baz=166,slow=5.6,SNR=28	**77.10**	**324**	P		**P**	**22**	**52**	**45.8**	**-1.1**
MJAR				LR		LR	23	22	30.5	
	comp=Z,366nm,20.6s,baz=135,slow=32									
MAJO	**Matsushiro** comp=Z,48nm,1.1s	**77.10**	**324**	*e*P		**P**	**22**	**52**	**46.2**	**-0.8**
MAJO				LR		LR				
	comp=Z,700nm,20.0s									
MAJO	**Matsushiro**	**77.10**	**324**	*e*P		**P**	**22**	**52**	**46.2**	**-0.8**
MAJO				pmax		pmax				
	comp=Z,49nm,1.1s									
MAJO				MLR		MLR				
	comp=Z,700nm,20.0s									
MAT	**Matsushiro**	**77.10**	**324**	P		**P**	**22**	**52**	**45.4**	**-1.6**
MAT				S		**S**	**23**	**02**	**33.0**	**-3.0**
MJB9	**Matsu-Tunnel** comp=Z,52nm,1.2s	**77.11**	**324**	*e*P		**P**	**22**	**52**	**46.8**	**-0.2**
MJB9				LR		LR				
	comp=Z,700nm,20.0s									
TWG	**Pinlang**	**78.66**	**303**	PFAKE			22	53	10.0	+14
TWG				LR		LR				
	comp=Z,2μm,20.0s									
JNU	**Nakats

MYKOM **Kota Tinggi** 81.76 276 *e*P P 22 53 12.7 -0.2
comp=Z,27nm,1.0s
MYKOM LR LR
comp=Z,2µm,18.0s
MYKOM **Kota Tinggi** 81.76 276 P P 22 53 12.7 -0.2
KGM Kluang 82.33 276 P P 22 53 16.4 +0.5
SRIG Santa Rosalia 82.59 54 PFAKE 22 53 30.0 +13
SRIG LR LR
comp=Z,2µm,20.0s
SAO San Andreas Ge 82.60 42 PFAKE 22 53 30.0 +13
SAO LR LR
comp=Z,4µm,18.0s
PAGB Antelope Grade 82.62 43 PFAKE 22 53 30.0 +13
PAGB LR LR
comp=Z,3µm,18.0s
MCCM Marconi Confer 82.73 40 PFAKE 22 53 30.0 +13
MCCM LR LR
comp=Z,2µm,18.0s
OSI Osito Audit: C 82.81 45 PFAKE 22 53 30.0 +12
OSI LR LR
comp=Z,2µm,18.0s
PASC Pasadena Art C 82.86 45 PFAKE 22 53 30.0 +12
PASC LR LR
comp=Z,2µm,18.0s
MWC Mount Wilson 82.97 45 PFAKE 22 53 30.0 +11
MWC LR LR
comp=Z,2µm,18.0s
TJN Taejon 83.05 318⇑ *e*P P 22 53 19.5 +0.4
GO06 Curarrehue 83.10 131 *e*P P 22 53 20.9 +1.2
comp=Z,45nm,1.5s
GO06 LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 83.11 133 *e*P P 22 53 21.4 +1.6
comp=Z,14nm,0.9s
PLCA Paso Flores 83.11 133 *e*P P 22 53 21.4 +1.6
PLCA pmax pmax
comp=Z,14nm,0.9s
PLCA Paso Flores 83.11 133 P P 22 53 21.3 +1.6
comp=Z,8.3nm,0.7s,baz=244,slow=5.5,SNR=19
PLCA LR LR 23 24 44.7
comp=Z,822nm,18.4s,baz=259,slow=32
HOPS Hopland Field 83.21 39 PFAKE 22 53 30.0 +10
HOPS LR LR
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 83.23 333 *e*P P 22 53 20.0 +0.3
comp=Z,75nm,1.0s
YSS Yuzh-Sakhalins 83.23 333 *e*P P 22 53 20.0 +0.3
YSS pmax pmax
comp=Z,75nm,1.0s
GDXM Geysers 83.24 39 PFAKE 22 53 30.0 +10
GDXM LR LR
comp=Z,2µm,18.0s
KCPM Cahto Peak 83.42 38 PFAKE 22 53 30.0 +8.9
KCPM LR LR
comp=Z,2µm,18.0s
KSRS Korea Array 83.45 319 P P 22 53 21.4 +0.3
comp=Z,9.7nm,1.0s,baz=139,slow=5.9,SNR=23
KSRS LR LR 23 28 51.4
comp=Z,340nm,18.0s,baz=118,slow=35
KS15 Wonju Array Si 83.46 319 *e*P P 22 53 21.8 +0.6
comp=Z,63nm,1.4s
KSAR Wonju Array Be 83.46 319 P P 22 53 21.4 +0.2
KSAR Wonju Array Be 83.46 319 P P 22 53 21.4 +0.2
KS01 Wonju Array Si 83.48 319 *e*P P 22 53 20.8 -0.4
BKNI Bangkinang 83.54 274 PFAKE 22 53 30.0 +7.8
BKNI LR LR
comp=Z,2µm,20.0s
PFO Pinyon Flats O 83.59 47 *e*P P 22 53 23.2 +1.0
comp=Z,21nm,1.4s
PFO LR LR
comp=Z,2µm,18.0s
XPFO Pion Flat 83.60 47 *e*P P 22 53 23.3 +1.2
comp=Z,23nm,1.4s
XPFO LR LR
comp=Z,2µm,18.0s
SSE Sheshan 83.60 310 PFAKE 22 53 30.0 +8.0
SSE LR LR
comp=Z,600nm,19.0s
ISA Isabella, Lake 83.65 44 PFAKE 22 53 30.0 +7.7
ISA LR LR
comp=Z,2µm,18.0s
PETK Petropavlovsk- 83.87 345 *e*P P 22 53 22.7 -0.2
PETK Petropavlovsk- 83.87 345 *e*P P 22 53 22.7 -0.2
PETK Petropavlovsk- 83.87 345 P P 22 53 22.4 -0.5
comp=Z,6.3nm,0.9s,baz=126,slow=6.0,SNR=3.6
LRMC Laurel Mtn Rad 84.02 45 P P 22 53 25.0 +0.7
baz=229
KTGM Kuala Trenggan 84.07 279 P P 22 53 25.8 +0.9
CMB Columbia Colle 84.09 41 *e*P P 22 53 25.2 +0.7
comp=Z,17nm,1.2s
CMB LR LR
comp=Z,3µm,18.0s
CMB Columbia Colle 84.09 41 *e*P P 22 53 25.2 +0.7
CMB pmax pmax
comp=Z,17nm,1.2s
CMB MLR MLR
comp=Z,3µm,18.0s
BELC Belle Mtn. Jos 84.14 47 P P 22 53 25.1 +0.1
baz=231
SDPT Sand Point 84.16 9 *e*P P 22 53 25.2 +0.9
comp=Z,65nm,1.2s
KHMM Horse Mountain 84.18 37 PFAKE 22 53 40.0 +15
KHMM LR LR
comp=Z,2µm,18.0s
BC3 Big Chuckawall 84.27 47 P P 22 53 26.4 +0.8
baz=231
GLA Glamis 84.30 48 *e*P P 22 53 27.4 +1.8
comp=Z,28nm,1.4s
AFDM Forest Hills D 84.37 40 *e*P P 22 53 26.5 +0.7
comp=Z,16nm,1.2s
AFDM LR LR
comp=Z,3µm,18.0s
CWC Cottonwood Cre 84.40 44 P P 22 53 27.1 +0.9
baz=229
HEC Hector,Ludlow 84.45 46 P P 22 53 26.6 +0.2
baz=230
GSC Goldstone, Bar 84.45 45 *e*P P 22 53 26.3 -0.1
comp=Z,30nm,1.5s
GSC LR LR
comp=Z,2µm,18.0s
GSC Goldstone, Bar 84.45 45 *e*P P 22 53 26.3 -0.1
GSC pmax pmax
comp=Z,30nm,1.5s
GSC MLR MLR
comp=Z,2µm,18.0s
GSC Goldstone, Bar 84.45 45 P P 22 53 26.7 +0.2
baz=230
ORV Oroville 84.48 39 *e*P P 22 53 27.2 +0.8
comp=Z,51nm,1.9s
ORV LR LR
comp=Z,1µm,18.0s
ORV Oroville 84.48 39 *e*P P 22 53 27.2 +0.8
ORV pmax pmax
comp=Z,51nm,1.9s
ORV MLR MLR
comp=Z,1µm,18.0s
HSIG 84.51 53 PFAKE 22 53 40.0 +13
HSIG LR LR
comp=Z,1µm,18.0s
MPMC Manual Prospec 84.52 44 P P 22 53 27.1 +0.2
baz=230
MDPB Devils Postpil 84.58 42 *e*P P 22 53 29.1 +1.8
comp=Z,14nm,1.1s
MDPB LR LR
comp=Z,3µm,18.0s
DAC Darwin (Calif) 84.59 44 *e*P P 22 53 28.0 +0.7
comp=Z,26nm,1.5s
DAC LR LR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 84.61 38 *e*P P 22 53 27.9 +0.9
comp=Z,24nm,1.1s
WDC LR LR
comp=Z,1µm,20.0s
WDC Whiskeytown Da 84.61 38 *e*P P 22 53 27.9 +0.9
WDC pmax pmax
comp=Z,24nm,1.1s
WDC MLR MLR
comp=Z,1µm,20.0s
OMMB Old Mammoth Mi 84.62 42 *e*P P 22 53 29.1 +1.6
comp=Z,21nm,1.5s
OMMB LR LR
comp=Z,3µm,18.0s
GZH Guangzhou 84.64 300 P P 22 53 27.9 +0.4
GZH S S 23 03 53.6 -1.6
GZH LR LR
comp=Z,340nm,16.4s
GZH LR LR
comp=Z,670nm,16.8s
IRM Iron Mountain 84.79 47 P P 22 53 29.1 +1.0
baz=231
N02D Trinity Center 84.80 38 P P 22 53 29.1 +1.1
baz=226
O03E Paynes Creek 84.82 39 P P 22 53 30.2 +2.1
baz=226
113A Mohawk Valley, 84.83 49 PFAKE 22 53 40.0 +12
113A LR LR
comp=Z,2µm,21.0s
GMRC Granite Mounta 84.85 46 P P 22 53 28.9 +0.4
baz=231
RUBR Rubicon Trail 84.91 41 PFAKE 22 53 40.0 +11
RUBR LR LR
comp=Z,3µm,18.0s
WAKR Walker 84.95 41 *e*P P 22 53 30.0 +1.0
comp=Z,52nm,1.5s
WAKR LR LR
comp=Z,2µm,18.0s
214A Organ Pipe Nat 84.97 50 P P 22 53 29.2 +0.1
baz=233
TUQ Turquoise Moun 85.09 46 P P 22 53 30.8 +1.1
baz=230
GRAC Grapevine Rang 85.20 44 P P 22 53 31.3 +1.2
baz=230
QIZ Qiongzhong 85.24 294 P P 22 53 31.6 +1.0
QIZ S S 23 04 04.9 +3.7
QIZ LR LR
comp=Z,150nm,7.3s
QIZ LR LR
comp=Z,380nm,14.1s
PNTR Pine Nut 85.25 41 *e*P P 22 53 31.3 +0.8
comp=Z,22nm,1.0s
PNTR LR LR
comp=Z,3µm,18.0s
YBH Yreka Blue Hor 85.33 37 *e*P P 22 53 32.1 +1.5
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 85.33 37 *e*P P 22 53 32.2 +1.5
YBH pmax pmax
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 85.33 37 P P 22 53 31.1 +0.4
comp=Z,7.5nm,1.0s,baz=68,slow=6.3,SNR=6.2
BEKR Beckworth 85.34 40 *e*P P 22 53 31.8 +0.9
comp=Z,16nm,0.9s
BEKR LR LR
comp=Z,2µm,19.0s
VCNR Virginia City 85.36 41 PFAKE 22 53 40.0 +9.0
VCNR LR LR
comp=Z,3µm,18.0s
CHGN Chignik 85.38 10 *e*P P 22 53 30.8 +0.4
comp=Z,27nm,1.1s
LDFC Landfair 85.39 46 PFAKE 22 53 40.0 +8.8
LDFC LR LR
comp=Z,2µm,18.0s
YERR Yerington 85.39 41 *e*P P 22 53 31.8 +0.6
comp=Z,24nm,1.3s
YERR LR LR
comp=Z,2µm,18.0s
IPM Ipoh 85.51 277 *e*P P 22 53 31.5 -0.7
comp=Z,24nm,1.3s
IPM LR LR
comp=Z,1µm,18.0s
IPM Ipoh 85.51 277 P P 22 53 32.0 -0.2
NV01 Mina Array Sit 85.57 42 *e*P P 22 53 32.4 +0.2
NVAR Mina Array Bea 85.57 42 P P 22 53 32.5 +0.3
comp=Z,8.8nm,0.9s,baz=228,slow=9.6,SNR=11
NVAR LR LR 23 28 03.9
comp=Z,2µm,18.1s,baz=248,slow=33
RYN Ryan 85.57 42 *e*P P 22 53 32.1 0.0
comp=Z,19nm,1.3s
RYN LR LR
comp=Z,2µm,18.0s
NV11 Mina Array Sit 85.66 42 *e*P P 22 53 33.0 +0.5
comp=Z,2.6nm,1.5s
NV11 LR LR
comp=Z,200nm,18.0s
NJ2 Nanjing 85.76 310⇑ *i*P P 22 53 33.1 +0.2
NJ2 S S 23 04 07.6 +1.8
NJ2 pmax pmax
comp=Z,39nm,1.2s
NJ2 LR LR
comp=Z,1µm,21.0s
NJ2 LR LR
comp=Z,970nm,22.9s
NJ2 LR LR
comp=Z,2µm,24.0s
PAHR Pah Rah Range 85.79 40 *e*P P 22 53 35.3 +2.2
comp=Z,14nm,1.2s
PAHR LR LR
comp=Z,3µm,18.0s
HUMO Hull Mountain 85.81 37 *e*P P 22 53 33.4 +0.4
comp=Z,18nm,1.2s
HUMO LR LR
comp=Z,800nm,18.0s
TPNV Topopah Spring 85.85 44 *e*P P 22 53 34.5 +1.0
comp=Z,20nm,1.1s
TPNV LR LR
comp=Z,2µm,18.0s
TPNV Topopah Spring 85.85 44 P P 22 53 34.4 +0.8
baz=230
USA0B Ussuriysk Arra 85.96 326 *e*P P 22 53 34.2 +0.6
comp=Z,123nm,1.8s
USRK Ussuriysk Ar. 85.96 326 P P 22 53 33.4 -0.2
comp=Z,6.6nm,0.9s,baz=159,slow=5.9,SNR=15
USRK LR LR 23 28 30.3
comp=Z,566nm,19.8s,baz=126,slow=33
Y14A Wickenburg 86.05 48 *e*P P 22 53 35.0 +0.6
comp=Z,15nm,1.1s
Y14A LR LR
comp=Z,1µm,18.0s
KVN Kaiserville 86.10 42 *e*P P 22 53 34.2 -0.5
comp=Z,11nm,1.1s
KVN LR LR
comp=Z,2µm,18.0s
KVN Kaiserville 86.10 42 *e*P P 22 53 34.2 -0.5
KVN pmax pmax
comp=Z,11nm,1.1s
KVN MLR MLR
comp=Z,2µm,18.0s
W13A Hualapai Mount 86.18 47 *e*P P 22 53 35.6 +0.3
comp=Z,6.2nm,1.0s
W13A LR LR
comp=Z,1µm,19.0s
KULM Kulim 86.22 278 *e*P P 22 53 34.8 -0.9
comp=Z,35nm,1.4s
KULM LR LR
comp=Z,1µm,20.0s
KULM Kulim 86.22 278 P P 22 53 33.3 -2.4
SHPR Sheep Range 86.25 45 *e*P P 22 53 36.8 +1.3
comp=Z,12nm,1.2s
SHPR LR LR
comp=Z,2µm,18.0s
SII Sitkinak Islan 86.34 12 *e*P P 22 53 34.9 -0.4
comp=Z,66nm,1.2s
TYV Tymovskoe 86.45 335 *e*P P 22 53 35.3 -0.6
TYV pmax pmax
comp=Z,10.0nm,1.4s
TYV pmax pmax
comp=Z,400nm,4.0s
K04D Chiloquin, OR 86.46 37 P P 22 53 37.0 +0.7
baz=226
TUC Tucson 86.56 51 *e*P P 22 53 37.9 +0.9
comp=Z,20nm,1.1s
TUC LR LR
comp=Z,1µm,18.0s
TUC Tucson 86.56 51 *e*P P 22 53 37.9 +0.9
TUC pmax pmax
comp=Z,20nm,1.1s
TUC MLR MLR
comp=Z,1µm,18.0s
TUC Tucson 86.56 51 P P 22 53 38.3 +1.3
baz=234
PSI Prapat 86.57 275 *e*P P 22 53 36.0 -1.6
comp=Z,35nm,1.2s
PSI LR LR
comp=Z,2µm,19.0s
PSI Prapat 86.57 275 *e*P P 22 53 36.0 -1.6
PSI pmax pmax
comp=Z,35nm,1.2s
PSI MLR MLR
comp=Z,2µm,19.0s
PSI Prapat 86.57 275 P P 22 53 35.6 -2.0
comp=Z,22nm,1.1s,baz=180,slow=6.0,SNR=16
MOD Modoc Plateau 86.75 38 *e*P P 22 53 39.1 +1.3
comp=Z,13nm,1.2s
MOD LR LR
comp=Z,1µm,20.0s
K05A Summer Lake 86.99 37 PFAKE 22 53 50.0 +11
K05A LR LR
comp=Z,1µm,22.0s
COR Corvallis 87.02 35 PFAKE 22 53 50.0 +11
COR LR LR
comp=Z,2µm,18.0s
319A Douglas 87.06 52 PFAKE 22 53 50.0 +10
319A LR LR
comp=Z,2µm,18.0s
GSI Gunungsitoli 87.06 273 *e*P P 22 53 40.5 +0.7
comp=Z,79nm,0.9s
GSI LR LR
comp=Z,2µm,18.0s
R11A Troy Canyon, C 87.15 43 *e*P P 22 53 41.5 +1.6
comp=Z,11nm,1.5s
R11A LR LR
comp=Z,2µm,18.0s
HPIG 87.17 58 PFAKE 22 53 50.0 +10
HPIG LR LR
comp=Z,1µm,20.0s
ZAIG Zacatecas 87.32 63 PFAKE 22 53 50.0 +8.8
ZAIG LR LR
comp=Z,1µm,18.0s
X16A Lo Mia Camp, P 87.37 49 *e*P P 22 53 42.6 +1.5
comp=Z,55nm,1.9s
X16A LR LR
comp=Z,1µm,18.0s
MDJ Mudanjiang 87.46 325 P P 22 53 41.6 +0.6
MDJ S S 23 04 17.4 -4.5
MDJ pmax pmax
comp=Z,14nm,1.0s
MDJ pmax pmax
comp=Z,550nm,5.9s
MDJ LR LR
comp=Z,470nm,20.7s
MDJ LR LR
comp=Z,680nm,16.3s
MDJ Mudanjiang 87.46 325 *e*P P 22 53 41.7 +0.7
comp=Z,34nm,1.0s
MDJ LR LR
comp=Z,1µm,20.0s
BMN Battle Mountai 87.51 41 PFAKE 22 53 50.0 +8.5
BMN LR LR
comp=Z,2µm,18.0s
H04A Detroit Lake 87.66 35 PFAKE 22 53 50.0 +8.0
H04A LR LR
comp=Z,1µm,18.0s
LCMT Little Creek M 87.77 46 PFAKE 22 53 50.0 +7.2
LCMT LR LR
comp=Z,2µm,18.0s
U15A North Rim 88.02 47 *e*P P 22 53 44.5 +0.3
comp=Z,17nm,1.0s
U15A LR LR
comp=Z,1µm,19.0s
WVOR Wild Horse Val 88.02 39 PFAKE 22 54 00.0 +16
WVOR LR LR
comp=Z,2µm,18.0s
CCUT Cedar City 88.02 45 *e*P P 22 53 45.4 +1.2
comp=Z,9.5nm,1.1s
CCUT LR LR
comp=Z,2µm,18.0s
WHN Wuhan 88.03 306 ⇑P P 22 53 44.0 0.0
WHN SKS SKSac 23 04 09.9 -2.8
WHN pmax pmax
comp=Z,830nm,11.0s
WHN LR LR
comp=Z,730nm,14.7s
WHN LR LR
comp=Z,1µm,17.8s
WHN LR LR
comp=Z,2µm,23.7s
KNB Kanab 88.04 46 *e*P P 22 53 44.4 +0.2
comp=Z,32nm,1.3s
KNB LR LR
comp=Z,2µm,18.0s
KNB Kanab 88.04 46 *e*P P 22 53 44.4 +0.2
KNB pmax pmax
comp=Z,32nm,1.3s
KNB MLR MLR
comp=Z,2µm,18.0s
WUAZ Wupatki 88.07 48 PFAKE 22 54 00.0 +16
WUAZ LR LR
comp=Z,1µm,20.0s
DL2 Dalian 88.15 316 P P 22 53 44.3 -0.1
DL2 S S 23 04 29.4 +0.7
DL2 pmax pmax
comp=Z,54nm,1.2s
DL2 pmax pmax
comp=Z,560nm,7.0s
DL2 LR LR
comp=Z,430nm,15.7s
DL2 LR LR
comp=Z,520nm,16.7s
DL2 LR LR
comp=Z,550nm,17.6s
SZCU Shurtz Canyon 88.22 45 PFAKE 22 54 00.0 +15
SZCU LR LR
comp=Z,2µm,19.0s
TRTT Trang 88.27 280 P P 22 53 46.6 +1.0
comp=Z,7.6nm,0.9s,comp=Z,284nm
PSUT Pine Spring 88.32 44 *e*P P 22 53 46.1 +0.5
comp=Z,6.7nm,1.1s
PSUT LR LR
comp=Z,2µm,18.0s
X18A Snowflake 88.43 49 *e*P P 22 53 48.4 +2.3
X18A *es*P sP 22 53 51.0 +2.2
X18A LR LR
comp=Z,1µm,18.0s
GO04 Tololo Observa 88.43 123 PFAKE 22 54 00.0 +13
GO04 LR LR
comp=Z,3µm,18.0s
PANO Nakornpanom 88.56 290 P P 22 53 47.9 +1.1
comp=Z,0.7nm,1.6s
PKCU Pink Cliffs 88.62 46 PFAKE 22 54 00.0 +13
PKCU LR LR
comp=Z,2µm,18.0s
I07A Izee 88.65 37 *e*P P 22 53 47.9 +1.0
comp=Z,13nm,1.4s
I07A LR LR
comp=Z,1µm,21.0s
J08A Circle Bar Ran 88.72 38 *e*P P 22 53 48.4 +1.2
comp=Z,24nm,1.5s
J08A LR LR
comp=Z,2µm,18.0s
NLWA Neilton Lookou 88.73 33 PFAKE 22 54 00.0 +13
NLWA LR LR
comp=Z,2µm,18.0s
GRNR Gornyy 88.81 332 *e*P P 22 53 47.1 -0.1
GRNR pmax pmax
comp=Z,25nm,1.0s
ELK Elko 88.87 42 *e*P P 22 53 48.5 +0.4
comp=Z,6.9nm,1.1s
ELK LR LR
comp=Z,3µm,18.0s
ELK Elko 88.87 42 *e*P P 22 53 48.5 +0.4
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK MLR MLR
comp=Z,3µm,18.0s
W18A Petrified Fore 88.92 49 *e*P P 22 53 49.6 +1.3
comp=Z,23nm,1.3s
W18A LR LR
comp=Z,2µm,18.0s
W18A Petrified Fore 88.92 49 P P 22 53 50.5 +2.1
baz=234
SKNT Sakolnakorn 89.00 290 P P 22 53 49.9 +1.0
comp=Z,16nm,1.8s
NKL Nikolayevsk 89.02 336 *e*P P 22 53 47.0 -1.1
NKL *e* 23 04 39.0
NKL pmax pmax
comp=Z,110nm,1.6s
NKL pmax pmax
comp=Z,1µm,11.0s
NKL MLR MLR
comp=N,1µm,15.0s
NKL MLR MLR
comp=Z,1µm,15.0s
MTPU Mount Pierson 89.06 45 *e*P P 22 53 50.8 +1.5
comp=Z,49nm,1.8s
MTPU *e*S S 23 04 39.6 +1.5
MTPU LR LR
comp=Z,2µm,18.0s
CN2 Changchun 89.10 322 *e*P P 22 53 47.0 -1.7
CN2 *e*PP PP 22 57 19.9 +0.7
CN2 *e*S S 23 04 33.8 -3.6
CN2 *e*SS SS 23 10 30.9 -0.8
CN2 pmax pmax
comp=Z,20nm,1.5s

CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,640nm,20.0s
CN2 LR LR
comp=Z,580nm,20.0s
CN2 LR LR
comp=Z,580nm,22.0s
SRAK Srakaew 89.19 286 P **P** **22 53 49.3 -0.5**
comp=Z,18nm,1.1s,comp=Z,540nm
TCRU Three Creeks R 89.24 45 PFAKE 22 54 00.0 +10
TCRU LR LR
comp=Z,1μm,18.0s
LON Longmire 89.28 34 PFAKE 22 54 00.0 +10
LON LR LR
comp=Z,900nm,19.0s
LHMI Lhok Sumawe 89.44 276 PFAKE 22 54 00.0 +8.9
LHMI LR LR
comp=Z,2μm,19.0s
D05A Enumclaw 89.50 34 *eP* **P** **22 53 53.2 +2.6**
comp=Z,84nm,1.3s
D05A LR LR
comp=Z,1μm,18.0s
CFA Coronel Fontan 89.54 126 P **P** **22 53 51.6 +0.2**
comp=Z,3.8nm,0.6s,baz=255,slow=4.4,SNR=8.0
F07A Phinny Hill Vi 89.65 36 PFAKE 22 54 00.0 +8.7
F07A LR LR
comp=Z,2μm,18.0s
KHON Khomkaen 89.66 289 P **P** **22 53 54.2 +2.2**
comp=Z,8.0nm,0.4s
PATY Pattaya 89.67 285 P **P** **22 53 55.9 +3.8**
comp=Z,11nm,0.9s,comp=Z,783nm
KLR Kul'dur 89.69 329 ⇓*iP* **P** **22 53 51.6 +0.2**
KLR Kul'dur 89.69 329 P **P** **22 53 50.4 -1.0**
comp=Z,7.5nm,1.1s,baz=111,slow=4.5,SNR=10
G08A Pilot Rock 89.75 37 *eP* **P** **22 53 52.5 +0.6**
comp=Z,19nm,1.1s
TX31 Lajitas Ar. Si 89.95 57 *eP* **P** **22 53 53.4 +0.1**
TXAR Lajitas Array 89.95 57 P **P** **22 53 53.4 +0.1**
comp=Z,2.8nm,1.0s,baz=205,slow=5.5,SNR=12
TXAR LR LR 23 28 55.3
comp=Z,623nm,18.0s,baz=0.0,slow=32
BRLK Bradley Lake 89.97 13 PFAKE 22 54 00.0 +7.5
BRLK LR LR
comp=Z,2μm,18.0s
DUG Dugway, Tooele 89.98 43 PFAKE 22 54 00.0 +6.8
DUG LR LR
comp=Z,2μm,18.0s
MNTX Cornudas Mount 89.99 54 PFAKE 22 54 10.0 +17
MNTX LR LR
comp=Z,900nm,19.0s
MNTX Cornudas Mount 89.99 54 P **P** **22 53 53.9 +0.6**
baz=237
E07A Sunnyside 90.13 35 *eP* **P** **22 53 54.6 +1.1**
comp=Z,21nm,1.0s
E07A LR LR
comp=Z,2μm,18.0s
CHAI Chaiyaphum 90.15 288 P **P** **22 53 55.5 +1.2**
comp=Z,4.8nm,1.0s,comp=Z,61nm
HAWA Hanford 90.19 35 *eP* **P** **22 53 56.2 +2.4**
comp=Z,37nm,1.4s
HAWA LR LR
comp=Z,2μm,18.0s
B05A Bryant 90.19 33 P **P** **22 53 54.5 +0.7**
baz=226
LTY Liberty 90.20 34 *eP* **P** **22 53 56.3 +2.4**
comp=Z,44nm,1.9s
LTY LR LR
comp=Z,1μm,18.0s
Q16A Castle Valley 90.22 45 PFAKE 22 54 10.0 +16
Q16A LR LR
comp=Z,1μm,18.0s
Y22D IRIS PASSCAL I 90.22 51 PFAKE 22 54 10.0 +16
Y22D LR LR
comp=Z,1μm,19.0s
LAZ Ladron 90.26 51 *eP* **P** **22 53 54.6 -0.1**
LAZ *eS* **S** **23 04 51.3 +2.2**
NLU North Lily Min 90.28 44 PFAKE 22 54 10.0 +15
NLU LR LR
comp=Z,3μm,18.0s
BGU Big Grassy Mou 90.30 43 PFAKE 22 54 10.0 +15
BGU LR LR
comp=Z,2μm,18.0s
BMO Blue Mountains 90.34 38 *eP* **P** **22 53 56.9 +2.2**
comp=Z,19nm,1.7s
BMO LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 90.34 38 *eP* **P** **22 53 56.9 +2.2**
BMO pmax pmax
comp=Z,19nm,1.7s
BMO MLR MLR
comp=Z,1μm,20.0s
TMUT Trail Mountain 90.43 45 *eP* **P** **22 53 56.3 +0.8**
comp=Z,15nm,1.1s
TMUT LR LR
comp=Z,2μm,19.0s
E08A Dider Farm, El 90.50 36 PFAKE 22 54 10.0 +15
E08A LR LR
comp=Z,2μm,18.0s
MPU Maple Canyon 90.59 44 PFAKE 22 54 10.0 +14
MPU LR LR
comp=Z,2μm,18.0s
B06A Marblemount 90.67 33 PFAKE 22 54 10.0 +14
B06A LR LR
comp=Z,1μm,18.0s
LVIG Laguna Verde 90.72 68 PFAKE 22 54 10.0 +13
LVIG LR LR
comp=Z,1μm,18.0s
SRU San Rafael Swe 90.74 45 PFAKE 22 54 10.0 +13
SRU LR LR
comp=Z,2μm,18.0s
P17A Butcher Ranch, 90.82 45 PFAKE 22 54 10.0 +13
P17A LR LR
comp=Z,2μm,18.0s
LNIG Linares 90.84 62 *eP* **P** **22 53 57.1 -0.3**
comp=Z,32nm,1.8s
LNIG LR LR
comp=Z,900nm,18.0s
SPUT South Promonto 90.88 43 *eP* **P** **22 53 56.8 -0.5**
comp=Z,25nm,1.2s
SPUT LR LR
comp=Z,2μm,18.0s
CTU Camp Tracy 90.93 43 PFAKE 22 54 10.0 +12
CTU LR LR
comp=Z,2μm,18.0s
MVCO Mesa Verde 90.94 48 PFAKE 22 54 10.0 +12
MVCO LR LR
comp=Z,1μm,18.0s
D08A Wollman Farm, 90.94 35 *eP* **P** **22 53 58.2 +0.9**
comp=Z,22nm,1.0s
D08A LR LR
comp=Z,2μm,18.0s
HVU Hansel Valley 90.97 42 *eP* **P** **22 53 58.3 +0.5**
comp=Z,15nm,1.2s
HVU LR LR
comp=Z,2μm,18.0s
HVU Hansel Valley 90.97 42 *eP* **P** **22 53 58.3 +0.5**
HVU pmax pmax
comp=Z,15nm,1.2s
HVU MLR MLR
comp=Z,2μm,18.0s
E09A Wood Farm, Sta 90.98 36 *eP* **P** **22 53 58.0 +0.5**
comp=Z,24nm,1.1s
TASM ASL Pad, Albuq 91.03 51 P **P** **22 53 58.7 +0.5**
baz=236
TASM ASL Pad, Albuq 91.03 51 P **P** **22 53 58.8 +0.5**
baz=236
ANMO Albuquerque 91.03 51 *eP* **P** **22 53 58.7 +0.4**
comp=Z,28nm,1.6s
ANMO LR LR
comp=Z,1μm,19.0s
ANMO Albuquerque 91.03 51 *eP* **P** **22 53 58.7 +0.4**
ANMO pmax pmax
comp=Z,28nm,1.6s
ANMO MLR MLR
comp=Z,1μm,19.0s
ANMO Albuquerque 91.03 51 P **P** **22 53 58.7 +0.4**
baz=236
JLU Jordanelle 91.06 44 PFAKE 22 54 10.0 +12
JLU LR LR
comp=Z,3μm,18.0s
F10A Beach Ranch, E 91.11 37 *eP* **P** **22 53 57.2 -1.0**
comp=Z,13nm,0.8s
HLID Hailey 91.12 40 *eP* **P** **22 53 58.9 +0.4**
comp=Z,5.5nm,1.1s
HLID LR LR
comp=Z,2μm,18.0s
HLID Hailey 91.12 40 P **P** **22 53 58.9 +0.4**
baz=231
PBKT Sadao Pong 91.33 288 P **P** **22 54 01.3 +1.6**
comp=Z,15nm,1.2s,comp=Z,538nm
TCUT Toone Canyon 91.39 43 PFAKE 22 54 10.0 +10
TCUT LR LR
comp=Z,3μm,18.0s
ENH Enshi 91.41 304 *eP* **P** **22 53 59.7 -0.2**
comp=Z,158nm,1.3s
ENH LR LR
comp=Z,600nm,20.0s
GAMB Gambell 91.56 2 *eP* **P** **22 53 59.2 -0.6**
comp=Z,15nm,1.0s
GYA Guiyang 91.57 299 P **P** **22 54 01.3 +0.4**
GYA PP **PP** **22 57 43.8 +4.4**
GYA SKS **SKSac** **23 04 33.5 -0.4**
GYA S **S** **23 05 00.8 -0.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.9s
GYA LR LR
comp=Z,260nm,17.1s
GYA LR LR
comp=Z,340nm,18.7s
GYA LR LR
comp=Z,390nm,16.9s
SUA Susitna One 91.57 12 *eP* **P** **22 53 59.8 -0.2**
comp=Z,21nm,1.0s
B08A Colville Reser 91.61 34 *eP* **P** **22 54 01.9 +1.5**
comp=Z,40nm,2.0s
C09A Chrisman Ranch 91.77 35 *eP* **P** **22 54 05.5 +4.4**
comp=Z,20nm,1.4s
C09A LR LR
comp=Z,2μm,18.0s
SRDT SRDT 91.84 285 P **P** **22 54 04.3 +2.1**
comp=Z,16nm,1.6s
LLLB Lillooet 91.93 31 *eP* **P** **22 54 03.6 +1.8**
comp=Z,15nm,1.4s
LLLB LR LR
comp=Z,2μm,18.0s
GO02 Mina Guanaco 91.98 120 PFAKE 22 54 10.0 +6.8
GO02 LR LR
comp=Z,1μm,21.0s
UTHA Uthaitani 92.13 286 P **P** **22 54 05.9 +2.4**
comp=Z,2.5nm,0.8s,comp=Z,51nm
BJT Baijiatuau 92.20 315 *eP* **P** **22 54 03.7 +0.4**
BJT Baijiatuau 92.20 315 *eP* **P** **22 54 03.7 +0.4**
GHO Glory Hole Cre 92.20 13 *eP* **P** **22 54 03.2 +0.4**
comp=Z,39nm,1.2s
BJI Beijing 92.21 315 P **P** **22 54 03.6 +0.3**
BJI S **S** **23 05 10.3 +4.2**
BJI pmax pmax
comp=Z,19nm,2.2s
BJI LR LR
comp=Z,570nm,15.7s
BJI LR LR
comp=Z,350nm,15.5s
BJI LR LR
comp=Z,370nm,21.0s
UTTA Uttaradit 92.23 289 P **P** **22 54 06.5 +2.6**
comp=Z,3.2nm,1.1s,comp=Z,41nm
S22A 4UR Ranch, Cre 92.34 48 PFAKE 22 54 20.0 +16
S22A LR LR
comp=Z,1μm,19.0s
S22A 4UR Ranch, Cre 92.34 48 P **P** **22 54 04.3 -0.1**
baz=236
BMRM Bremner River 92.39 15 PFAKE 22 54 20.0 +16
BMRM LR LR
comp=Z,100nm,21.0s
AHID Auburn Hatcher 92.56 42 PFAKE 22 54 20.0 +15
AHID LR LR
comp=Z,2μm,19.0s
NEW Newport 92.65 35 PFAKE 22 54 20.0 +15
NEW LR LR
comp=Z,2μm,18.0s
ANM Nome 92.69 5 PFAKE 22 54 20.0 +15
ANM LR LR
comp=Z,600nm,19.0s
NNA Nana 92.74 105 PFAKE 22 54 20.0 +13
NNA LR LR
comp=Z,600nm,18.0s
MCMT McKenzie Canyo 92.78 40 *eP* **P** **22 54 06.8 +0.5**
CMBY CAMPBELL BAY 92.93 276 *eP* **P** **22 54 07.2 -0.1**
UMPA Umpang Tak 92.93 287 P P 22 54 16.5 +9.2
SMCO Snowmass 93.04 47 *eP* **P** **22 54 06.8 -1.0**
comp=Z,9.3nm,1.1s
REDW Red Top Meadow 93.06 42 *eP* **P** **22 54 08.5 +1.0**
comp=Z,24nm,1.4s
REDW LR LR
comp=Z,2μm,18.0s
MSTX Muleshoe 93.06 53 PFAKE 22 54 20.0 +12
MSTX LR LR
comp=Z,1μm,18.0s
TPAW Teton Pass 93.07 42 PFAKE 22 54 20.0 +12
TPAW LR LR
comp=Z,2μm,18.0s
FXWY Fox Creek 93.12 41 *eP* **P** **22 54 08.4 +0.7**
comp=Z,12nm,1.3s
SNOW Snow King Moun 93.17 42 *eP* **P** **22 54 09.6 +1.5**
comp=Z,17nm,1.1s
SNOW LR LR
comp=Z,2μm,18.0s
SDCO Great Sand Dun 93.21 49 PFAKE 22 54 20.0 +12
SDCO LR LR
comp=Z,900nm,18.0s
IMW Indian Meadow 93.32 41 *eP* **P** **22 54 10.9 +2.1**
comp=Z,9.4nm,1.2s
IMW LR LR
comp=Z,2μm,18.0s
MOOW Moose Ponds 93.35 41 *eP* **P** **22 54 10.8 +2.0**
comp=Z,14nm,1.5s
MOOW LR LR
comp=Z,2μm,19.0s
LOHW Long Hollow 93.35 42 *eP* **P** **22 54 09.7 +0.9**
comp=Z,30nm,1.6s
LOHW LR LR
comp=Z,2μm,18.0s
LAMP Lampang 93.37 289 P **P** **22 54 12.2 +3.0**
comp=Z,3.5nm,0.9s
JCT Junction City 93.41 57 PFAKE 22 54 20.0 +11
JCT LR LR
comp=Z,900nm,19.0s
MSO Missoula 93.41 38 PFAKE 22 54 20.0 +11
MSO LR LR
comp=Z,1μm,21.0s
BW06 Boulder Array 93.47 43 PFAKE 22 54 20.0 +11
BW06 LR LR
comp=Z,2μm,18.0s
PDAR Pinedale Array 93.47 43 P **P** **22 54 08.6 -0.9**
comp=Z,1.0nm,0.8s,baz=186,slow=1.8,SNR=6.0
PDAR PKKPbc **PKKPbc** **23 11 17.0 +0.2**
comp=Z,0.5nm,0.6s,baz=95,slow=3.5,SNR=6.6
PDAR LR LR 23 33 17.0
comp=Z,781nm,18.1s,baz=249,slow=34
TRF Thorofare Moun 93.49 11 *eP* **P** **22 54 08.6 -0.3**
comp=Z,17nm,1.1s
TRF LR LR
comp=Z,2μm,18.0s
FLWY Flagg Ranch 93.57 41 *eP* **P** **22 54 10.1 +0.3**
comp=Z,56nm,1.9s
FLWY LR LR
comp=Z,2μm,18.0s
QLMT Earthquake Lak 93.59 40 *eP* **P** **22 54 10.9 +1.0**
LRM Limekiln Ridge 93.61 39 *eP* **P** **22 54 13.7 +3.7**
T25A Trinidad 93.61 50 PFAKE 22 54 20.0 +10
T25A LR LR
comp=Z,800nm,19.0s
YPP Pitchstone Pla 93.62 41 PFAKE 22 54 20.0 +10
YPP LR LR
comp=Z,3μm,18.0s
YHB Horse Butte 93.68 40 PFAKE 22 54 20.0 +10
YHB LR LR
comp=Z,1μm,18.0s
YFT Old Faithful 93.71 41 PFAKE 22 54 20.0 +10
YFT LR LR
comp=Z,2μm,18.0s
RND Reindeer 93.71 12 *eP* **P** **22 54 10.0 +0.2**
comp=Z,24nm,1.2s
RND Reindeer 93.71 12 *eP* **P** **22 54 10.0 +0.2**
RND pmax pmax
comp=Z,25nm,1.2s
YMR Madison River 93.76 41 *eP* **P** **22 54 11.9 +1.2**
comp=Z,22nm,1.5s
YMR LR LR
comp=Z,1μm,18.0s
XAN Xi'an 93.78 307 P **P** **22 54 10.6 -0.2**
XAN pmax pmax
comp=Z,14nm,1.5s
XAN pmax pmax
comp=Z,320nm,8.0s
XAN LR LR
comp=Z,270nm,26.0s
XAN LR LR
comp=Z,500nm,24.5s
XAN LR LR
comp=Z,700nm,27.9s
XAN Xi'an 93.78 307 *eP* **P** **22 54 12.0 +1.1**
comp=Z,24nm,1.3s
XAN LR LR
comp=Z,600nm,21.0s
H17A Grant Village 93.83 41 PFAKE 22 54 20.0 +9.0
H17A LR LR
comp=Z,1μm,18.0s
H17A Grant Village 93.83 41 P **P** **22 54 12.6 +1.6**
baz=234
LVC Limon Verde 93.86 118 *eP* **P** **22 54 11.1 -1.0**
comp=Z,35nm,1.8s
LVC Limon Verde 93.86 118 *eP* **P** **22 54 11.0 -1.0**
CM01 Chiang Mai Arr 93.89 289 *eP* **P** **22 54 12.3 +0.7**
YHH Holmes Hill 93.90 41 *eP* **P** **22 54 12.3 +0.9**
comp=Z,22nm,1.6s
YHH LR LR
comp=Z,1μm,18.0s
CMAR Chiang Mai Arr 93.92 289 P **P** **22 54 13.1 +1.3**
comp=Z,1.2nm,0.3s,baz=143,slow=3.5,SNR=24
BOZ Bozeman (W) 93.94 40 *eP* **P** **22 54 11.7 +0.3**
comp=Z,38nm,1.9s
BOZ LR LR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 93.94 40 *eP* **P** **22 54 11.7 +0.3**
BOZ pmax pmax
comp=Z,37nm,1.9s
BOZ MLR MLR
comp=Z,2μm,18.0s
BOZ Bozeman (W) 93.94 40 P **P** **22 54 11.7 +0.3**
baz=233
YNR Norris Junctio 93.95 41 PFAKE 22 54 20.0 +8.4
YNR LR LR
comp=Z,1μm,18.0s
BPAW Bear Paw Mtn. 93.97 11 PFAKE 22 54 20.0 +9.1
BPAW LR LR
comp=Z,1μm,18.0s
KMI Kunming 93.98 296 P **P** **22 54 13.6 +1.4**
KMI pP sP 22 54 15.8 +1.0
KMI sP pwP 22 54 17.8 -2.0
KMI PP **PP** **22 58 00.4 +1.9**
KMI S **S** **23 05 23.6 +0.6**
KMI sS sS 23 05 28.8 +2.7
KMI pmax pmax
comp=Z,20nm,1.0s
KMI pmax pmax
comp=Z,180nm,3.9s
KMI LR LR
comp=Z,230nm,24.4s
KMI LR LR
comp=Z,420nm,19.2s
KMI LR LR
comp=Z,490nm,21.4s
KMI Kunming 93.98 296 PFAKE 22 54 20.0 +7.8
KMI LR LR
comp=Z,500nm,20.0s
SEY Seymchan 93.99 346 ⇑*eP* **P** **22 54 10.2 -0.8**
SEY Seymchan 93.99 346 P **P** **22 54 10.8 -0.2**
comp=Z,1.3nm,0.7s,baz=136,slow=4.3,SNR=3.9
MCK McKinley 94.00 12 *eP* **P** **22 54 10.8 -0.2**
comp=Z,17nm,1.1s
MCK McKinley 94.00 12 *eP* **P** **22 54 10.8 -0.2**
MCK pmax pmax
comp=Z,17nm,1.1s
LKWY Lake 94.03 41 *eP* **P** **22 54 12.9 +0.9**
comp=Z,7.4nm,0.3s
LKWY LR LR
comp=Z,3μm,18.0s
LKWY Lake 94.03 41 *eP* **P** **22 54 12.9 +0.9**
LKWY pmax pmax
comp=Z,7.0nm,0.3s
LKWY MLR MLR
comp=Z,3μm,18.0s
CMMT Chiang Mai 94.08 289 P **P** **22 54 13.7 +1.2**
comp=Z,10nm,1.4s,comp=Z,461nm
Q24A Divide 94.11 48 PFAKE 22 54 20.0 +7.4
Q24A LR LR
comp=Z,1μm,18.0s
BWN Browne 94.30 11 PFAKE 22 54 20.0 +7.6
BWN LR LR
comp=Z,2μm,20.0s
AMTX Amarillo 94.30 53 PFAKE 22 54 20.0 +6.7
AMTX LR LR
comp=Z,2μm,19.0s
MENT Mentasta 94.33 14 PFAKE 22 54 20.0 +7.4
MENT LR LR
comp=Z,900nm,18.0s
ABTX Abilene, Hawle 94.61 56 PFAKE 22 54 30.0 +15
ABTX LR LR
comp=Z,2μm,18.0s
PB11 IPOC Station P 94.78 115 *eP* **P** **22 54 16.5 +0.5**
comp=Z,12nm,1.0s
WRH Wood River Hil 94.82 12 *eP* **P** **22 54 14.3 -0.4**
comp=Z,23nm,1.3s
DOT Dot Lake 94.88 14 *eP* **P** **22 54 15.7 +0.5**
comp=Z,6.9nm,1.0s
HDA Harding Lake 94.98 12 *eP* **P** **22 54 14.8 -0.7**
comp=Z,8.5nm,1.1s
HDA Harding Lake 94.98 12 P **P** **22 54 14.5 -1.0**
baz=206
RLMT Red Lodge 95.01 41 PFAKE 22 54 30.0 +14
RLMT LR LR
comp=Z,2μm,19.0s
CCB Clear Creek Bu 95.03 12 *eP* **P** **22 54 15.1 -0.7**
comp=Z,21nm,1.6s
435B Jarrell 95.22 58 PFAKE 22 54 30.0 +13
435B LR LR
comp=Z,1μm,20.0s
MDM Murphy Dome 95.24 12 *eP* **P** **22 54 16.4 -0.4**
comp=Z,12nm,1.2s
K22A Casper 95.25 44 PFAKE 22 54 30.0 +12
K22A LR LR
comp=Z,3μm,18.0s
IM3 Indian Mountai 95.31 9 *eP* **P** **22 54 16.3 -0.7**
IL1 Eielson Array 95.32 12 *eP* **P** **22 54 15.3 -1.8**
ILAR Eielson Array 95.32 12 P **P** **22 54 15.7 -1.4**
comp=Z,1.9nm,0.8s,baz=222,slow=5.7,SNR=14
ILAR LR LR 23 32 47.4
comp=Z,228nm,18.3s,baz=212,slow=33
ILB Eielson Array 95.32 12 *eP* **P** **22 54 17.5 +0.4**
comp=Z,17nm,1.5s
HHC Hu-ho-hao-te 95.58 314 *eP* **P** **22 54 20.9 +1.9**
HHC PP **PP** **22 58 11.3 +0.7**
HHC S **S** **23 05 40.1 +4.1**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=Z,740nm,16.3s
HHC LR LR
comp=Z,410nm,20.2s
HHC LR LR
comp=Z,840nm,17.3s
HIA Hailar 95.60 324 PFAKE 22 54 30.0 +11
HIA LR LR
comp=Z,900nm,19.0s
TGUH Tegucigalpa,Un 95.76 77 PFAKE 22 54 30.0 +10
TGUH LR LR
comp=Z,700nm,21.0s
KSCO Kaye Shedlock' 95.80 49 PFAKE 22 54 30.0 +10
KSCO LR LR
comp=Z,800nm,18.0s
WHTX Lake Whitney, 95.91 57 PFAKE 22 54 30.0 +9.5
WHTX LR LR
comp=Z,900nm,18.0s
CD2 Chengdu 95.99 302 ⇓P **P** **22 54 22.1 +1.1**
CD2 S **S** **23 05 40.5 +0.6**
CD2 LR LR
comp=Z,870nm,18.2s
CD2 LR LR
comp=Z,1μm,16.6s
CD2 LR LR
comp=Z,900nm,21.9s
JTS JuntasAbangare 96.06 82 PFAKE 22 54 30.0 +8.3
JTS LR LR
comp=Z,1μm,18.0s

HKT Hockley 96.14 59 PFAKE 22 54 30.0 +8.4
HKT LR LR
comp=Z,800nm,20.0s
EGMT Eagleton 96.40 38 PFAKE 22 54 30.0 +7.5
EGMT LR LR
comp=Z,2μm,18.0s
EGMT Eagleton 96.40 38 P **P** **22 54 22.7 +0.2**
baz=235
DGPR DIGLIPUR 96.62 281 *e*P **P** **22 54 23.4 -0.8**
BILL Bilibino 96.64 354 *e*P **P** **22 54 22.3 -0.7**
BILL *e* 22 58 16.6
BILL pmax pmax
comp=Z,4.0nm,1.1s
HDC Heredia 96.66 82 PFAKE 22 54 40.0 +15
HDC LR LR
comp=Z,1μm,18.0s
MYIG Mrida 96.81 70 PFAKE 22 54 40.0 +15
MYIG LR LR
comp=Z,800nm,19.0s
OGNE Ogallala 97.19 47 PFAKE 22 54 40.0 +14
OGNE LR LR
comp=Z,1μm,19.0s
ESPN Las Esperanzas 97.49 80 PFAKE 22 54 40.0 +12
ESPN LR LR
comp=Z,900nm,18.0s
RSSD Black Hills 97.57 44 *e*P **P** **22 54 28.1 0.0**
comp=Z,15nm,1.0s
RSSD LR LR
comp=Z,3μm,18.0s
RSSD Black Hills 97.57 44 *e*P **P** **22 54 28.1 0.0**
RSSD pmax pmax
comp=Z,15nm,1.0s
RSSD MLR MLR
comp=Z,3μm,18.0s
RSSD Black Hills 97.57 44 P **P** **22 54 28.1 0.0**
baz=238
CBKS Cedar Bluff 97.64 50 PFAKE 22 54 40.0 +12
CBKS LR LR
comp=Z,1μm,19.0s
LAO LASA Array 97.64 41 PFAKE 22 54 40.0 +12
LAO LR LR
comp=Z,2μm,18.0s
LPAZ La Paz 97.84 113 LR LR 23 33 51.9
comp=Z,400nm,18.0s,baz=244,slow=32
LZH Lanzhou 98.41 306 *e*P Pdif 22 54 32.3 +0.3
LZH pP sP 22 54 36.1 +1.5
LZH sP pwP 22 54 39.3 -0.3
LZH SKS **SKSac** **23 05 12.1 +1.9**
LZH S **S** **23 05 56.8 -3.8**
LZH sS sS 23 06 04.3 +0.4
LZH SS **SS** **23 12 39.0 -6.5**
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=Z,450nm,18.6s
LZH LR LR
comp=Z,880nm,19.0s
LZH LR LR
comp=Z,1μm,19.9s
X37A Clayton 98.68 56 PFAKE 22 54 40.0 +7.0
X37A LR LR
comp=Z,2μm,19.0s
TUL1 Leonard 98.99 54 PFAKE 22 54 50.0 +16
TUL1 LR LR
comp=Z,2μm,18.0s
KSU1 Kansas State U 99.91 51 PFAKE 22 54 50.0 +12
KSU1 LR LR
comp=Z,2μm,18.0s
WLAR White Oak Lake 99.93 57 PFAKE 22 54 50.0 +11
WLAR LR LR
comp=Z,1μm,18.0s
MIAR Mount Ida 99.97 56 PFAKE 22 54 50.0 +11
MIAR LR LR
comp=Z,1μm,20.0s
BCIP Isla Barro Col 100.04 85 PFAKE 22 54 50.0 +10
BCIP LR LR
comp=Z,800nm,19.0s
W39A Magazine 100.12 56 PFAKE 22 54 50.0 +11
W39A LR LR
comp=Z,3μm,19.0s
X40A Basin Creek Fa 100.49 57 PFAKE 22 54 50.0 +8.9
X40A LR LR
comp=Z,1μm,18.0s
INK Inuvik 101.14 15 P **Pdif** **22 54 41.6 -1.4**
comp=Z,0.9nm,0.9s,baz=222,slow=7.9,SNR=2.9
W41B Gary Mavity, V 101.23 56 *e*Sdif Sdif 23 06 25.3 +1.4
W41B LR LR
comp=Z,2μm,20.0s
WHAR Wooly Hollow 101.25 56 PFAKE 22 55 00.0 +16
WHAR LR LR
comp=Z,2μm,18.0s
X43A Marvell 101.95 57 PFAKE 22 55 00.0 +12
X43A LR LR
comp=Z,1μm,18.0s
ECSD EROS Data Cent 102.05 47 PFAKE 22 55 00.0 +12
ECSD LR LR
comp=Z,1μm,19.0s
SONM Songino Array 102.30 318 P **Pdif** **22 54 47.4 -1.5**
comp=Z,0.4nm,0.9s,baz=132,slow=2.1,SNR=2.4
SONM PKKPbc **PKKPbc** **23 10 50.7 -1.5**
comp=Z,0.4nm,0.7s,baz=282,slow=2.8,SNR=3.4
YKA Yellowknife Ar 102.72 25 P **Pdif** **22 54 48.3 -2.0**
comp=Z,0.1nm,0.5s,baz=240,slow=4.1,SNR=2.4
YKA PKKPbc **PKKPbc** **23 10 49.4 -1.8**
comp=Z,0.3nm,0.6s,baz=40,slow=2.8,SNR=5.6
GTA Gaotai 102.76 308 *e*P **Pdif** **22 54 51.1 -0.1**
GTA pP sPdif 22 55 01.5 +7.7
GTA sP pPdif 22 55 05.6 +12
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,470nm,21.3s
GTA LR LR
comp=Z,560nm,24.0s
GTA LR LR
comp=Z,880nm,24.0s
MET Memphis--Engin 102.92 57 PFAKE 22 55 00.0 +8.2
MET LR LR
comp=Z,1μm,18.0s
SHL Shillong 102.94 292 *e*P **Pdif** **22 54 53.2 +0.7**
OXF Oxford 103.05 58 PFAKE 22 55 00.0 +7.6
OXF LR LR
comp=Z,1μm,18.0s
CCM Cathedral Cave 103.21 54 PFAKE 22 55 10.0 +17
CCM LR LR
comp=Z,1μm,19.0s
GNAR Gosnell 103.21 56 PFAKE 22 55 10.0 +17
GNAR LR LR
comp=Z,2μm,19.0s
PBMO Poplar Bluff 103.25 55 PFAKE 22 55 10.0 +17
PBMO LR LR
comp=Z,2μm,18.0s
PVMO Portageville 103.63 56 PFAKE 22 55 10.0 +15
PVMO LR LR
comp=Z,2μm,18.0s
HALT Halls 103.69 57 PFAKE 22 55 10.0 +15
HALT LR LR
comp=Z,1μm,18.0s
PARMO Parma 103.70 56 PFAKE 22 55 10.0 +15
PARMO LR LR
comp=Z,2μm,19.0s
GLAT Glass 103.88 56 PFAKE 22 55 10.0 +14
GLAT LR LR
comp=Z,2μm,18.0s
SLM Saint Louis 104.17 54 PFAKE 22 55 10.0 +13
SLM LR LR
comp=Z,1μm,18.0s
P42A Winchester 104.48 53 PFAKE 22 55 10.0 +11
P42A LR LR
comp=Z,1μm,18.0s
AGMN Agassiz Nation 104.55 43 PFAKE 22 55 10.0 +11
AGMN LR LR
comp=Z,2μm,18.0s
N41A Harden Midland 104.59 52 PFAKE 22 55 10.0 +11
N41A LR LR
comp=Z,2μm,19.0s
T45A Paducah 104.66 56 PFAKE 22 55 10.0 +10
T45A LR LR
comp=Z,2μm,18.0s
PALK Pallekele 104.71 270 PFAKE 22 55 10.0 +10
PALK LR LR
comp=Z,2μm,19.0s
X48A Hartselle 104.80 59 PFAKE 22 55 10.0 +10
X48A LR LR
comp=Z,700nm,19.0s

WVT Waverly 104.89 57 PFAKE 22 59 30.0 +14
WVT LR LR
comp=Z,1μm,18.0s
Q44A Meyer Farm, Va 105.15 54 PFAKE 22 59 30.0 +14
Q44A LR LR
comp=Z,1μm,18.0s
Z50A Ashland 105.18 60 PFAKE 22 59 30.0 +14
Z50A LR LR
comp=Z,900nm,18.0s
ULM Lac du Bonnet 105.39 41 PFAKE 22 59 30.0 +14
ULM LR LR
comp=Z,2μm,18.0s
V48A Smith Brothers 105.49 58 PFAKE 22 59 30.0 +13
V48A LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 105.62 52 PFAKE 22 59 30.0 +13
HDIL LR LR
comp=Z,2μm,18.0s
USIN University of 105.75 55 PFAKE 22 59 30.0 +13
USIN LR LR
comp=Z,1μm,18.0s
T47A Sharon Grove 105.77 56 PFAKE 22 59 30.0 +13
T47A LR LR
comp=Z,1μm,18.0s
SWET Sewanee 105.95 58 PFAKE 22 59 30.0 +12
SWET LR LR
comp=Z,1μm,19.0s
P45A Graceland, Par 106.30 54 PFAKE 22 59 30.0 +12
P45A LR LR
comp=Z,1μm,19.0s
W50A Signal Mountai 106.41 59 PFAKE 22 59 30.0 +11
W50A LR LR
comp=Z,1μm,18.0s
M44A Midewin, Midew 106.81 52 PFAKE 22 59 30.0 +11
M44A LR LR
comp=Z,2μm,18.0s
WCI Wyandotte Cave 106.85 55 PFAKE 22 59 30.0 +11
WCI LR LR
comp=Z,1μm,18.0s
H41A Junction City 106.96 48 PFAKE 22 59 30.0 +11
H41A LR LR
comp=Z,1μm,19.0s
EYMN Ely 107.08 44 PFAKE 22 59 30.0 +11
EYMN LR LR
comp=Z,2μm,18.0s
CPCT Cooper Cave 107.10 59 PFAKE 22 59 30.0 +10
CPCT LR LR
comp=Z,1μm,18.0s
K43A Burlington 107.12 50 PFAKE 22 59 30.0 +10
K43A LR LR
comp=Z,1μm,18.0s
GOGA Godfrey 107.13 61 PFAKE 22 59 30.0 +10
GOGA LR LR
comp=Z,1μm,18.0s
BOK Bokaro 107.20 288 *e*P **Pdif** **22 55 10.2 -1.0**
V51A Loudon 107.36 58 PFAKE 22 59 30.0 +10
V51A LR LR
comp=Z,1μm,18.0s
W52A Murphy 107.42 59 PFAKE 22 59 30.0 +10
W52A LR LR
comp=Z,1μm,19.0s
F41A Three Lakes 107.75 47 PFAKE 22 59 30.0 +9.2
F41A LR LR
comp=Z,1μm,18.0s
V52A Sevierville 107.95 59 PFAKE 22 59 30.0 +8.6
V52A LR LR
comp=Z,1μm,18.0s
M46A Old House Fiel 108.00 52 PFAKE 22 59 30.0 +8.7
M46A LR LR
comp=Z,2μm,18.0s
G42A Mountain 108.01 48 PFAKE 22 59 30.0 +8.8
G42A LR LR
comp=Z,900nm,19.0s
BG3 Lake Jocassee 108.14 60 PFAKE 22 59 30.0 +8.2
BG3 LR LR
comp=Z,1μm,19.0s
H43A Windswept, Lux 108.16 49 PFAKE 22 59 30.0 +8.5
H43A LR LR
comp=Z,1μm,19.0s
TZTN Tazewell 108.24 58 PFAKE 22 59 30.0 +8.0
TZTN LR LR
comp=Z,1μm,18.0s
D41A Chassel 108.58 46 PFAKE 22 59 30.0 +7.8
D41A LR LR
comp=Z,2μm,18.0s
S51A Beattyville 108.61 57 PFAKE 22 59 30.0 +7.4
S51A LR LR
comp=Z,1μm,19.0s
O49A Covington 108.98 54 PFAKE 22 59 40.0 +17
O49A LR LR
comp=Z,2μm,18.0s
N49A Columbus Grove 109.35 53 PFAKE 22 59 40.0 +16
N49A LR LR
comp=Z,1μm,18.0s
KMSC Kings Mountain 109.41 60 PFAKE 22 59 40.0 +16
KMSC LR LR
comp=Z,1μm,18.0s
NHSC New Hope 109.57 62 PFAKE 22 59 40.0 +15
NHSC LR LR
comp=Z,900nm,18.0s
P51A Williamsport 109.65 55 PFAKE 22 59 40.0 +16
P51A LR LR
comp=Z,2μm,18.0s
ACSO Alum Creek Sta 109.97 54 PFAKE 22 59 40.0 +15
ACSO LR LR
comp=Z,1μm,20.0s
AAM Ann Arbor 110.20 52 PFAKE 22 59 40.0 +15
AAM LR LR
comp=Z,1μm,18.0s
M50A Fremont 110.33 53 PFAKE 22 59 40.0 +14
M50A LR LR
comp=Z,2μm,18.0s
SDDR Presa de Saban 111.70 79 PFAKE 22 59 40.0 +11
SDDR LR LR
comp=Z,400nm,18.0s
N54A Moraine State 112.36 54 PFAKE 22 59 40.0 +10
N54A LR LR
comp=Z,2μm,19.0s
ERPA Erie 112.72 53 PFAKE 22 59 40.0 +10
ERPA LR LR
comp=Z,2μm,18.0s
WMQ Urumqi 112.82 309 *e*PKP **PKiKP** **22 59 30.6 +0.1**
WMQ LR LR
comp=Z,400nm,22.3s
WMQ LR LR
comp=Z,790nm,25.5s
WMQ LR LR
comp=Z,1μm,26.7s
R58B Mineral 112.98 58 PFAKE 22 59 40.0 +9.2
R58B LR LR
comp=Z,1μm,18.0s
O56A Blue Knob Stat 113.18 56 PFAKE 22 59 40.0 +8.8
O56A LR LR
comp=Z,2μm,18.0s
CBN Corbin Frederi 113.43 58 PFAKE 22 59 40.0 +8.3
CBN LR LR
comp=Z,1μm,19.0s
SSPA Standing Stone 113.78 55 PFAKE 22 59 40.0 +7.7
SSPA LR LR
comp=Z,1μm,18.0s
BDFB Brasilia 113.84 124 PFAKE 22 59 50.0 +17
BDFB LR LR
comp=Z,1μm,19.0s
BHPL Bhopal 114.17 284 *e*P PKPdf 22 59 30.5 -3.1
BHPL IAMs_20 IAMs_20 23 59 35.5
comp=Z,409nm,13.7s
SDMD Soldier's Deli 114.19 57 PFAKE 22 59 50.0 +17
SDMD LR LR
comp=Z,600nm,19.0s
GOA Goa 114.32 275 *e*P PKPdf 22 59 32.3 -1.7
GOA IAMs_20 IAMs_20 23 53 25.0
comp=Z,1μm,24.6s
MPR Mayaguez 115.02 82 PFAKE 22 59 50.0 +15
MPR LR LR
comp=Z,600nm,18.0s
EMPR Esperanza - Ma 115.66 82 PFAKE 22 59 50.0 +14
EMPR LR LR
comp=Z,500nm,18.0s
DDI Dehra Dun 116.05 292 *e*P **PKPdf** **22 59 37.3 +0.2**
DDI IAMs_20 IAMs_20 23 46 09.6
comp=Z,247nm,9.1s
CBYP Canovanas 116.17 82 PFAKE 22 59 50.0 +12
CBYP LR LR
comp=Z,500nm,19.0s
MTP Monte Pirata 116.37 83 PFAKE 22 59 50.0 +12
MTP LR LR
comp=Z,400nm,18.0s
ABPO Ambohimpanom 116.98 227 PFAKE 22 59 50.0 +11
ABPO LR LR
comp=Z,1μm,19.0s
SMLA Simla 117.03 293 *e*P **PKPdf** **22 59 37.8 -1.0**
ZAA0 Zalesovo Array 117.16 319 *e*PKPdf **PKPdf** **22 59 37.4 -1.0**
ZALV Zalesovo Beam 117.16 319 *e*PKPdf **PKPdf** **22 59 36.7 -1.6**
ZALV Zalesovo Beam 117.16 319 PKP **PKPdf** **22 59 37.3 -1.0**
comp=Z,1.6nm,0.6s,baz=157,slow=0.8,SNR=10
MK01 Makanchi Array 117.27 311 *e*PKPdf **PKPdf** **22 59 37.6 -1.3**
MK31 Makanchi Array 117.28 311 *e*PKPdf **PKPdf** **22 59 38.0 -0.8**
MK31 Makanchi Array 117.28 311 *e*PKIKP **PKPdf** **22 59 38.1 -0.8**
MKAR Makanchi Array 117.28 311 PKP **PKPdf** **22 59 37.8 -1.1**
comp=Z,2.9nm,0.8s,baz=76,slow=2.6,SNR=30
MKAR PKKPbc **PKKPab** **23 10 05.8 +1.1**
comp=Z,0.4nm,0.7s,baz=280,slow=3.6,SNR=4.4
NCB Newcomb 117.29 53 PFAKE 22 59 50.0 +11
NCB LR LR
comp=Z,2μm,18.0s
MAKZ Makanchi 117.49 311 *e*PKPdf **PKPdf** **22 59 38.4 -0.9**
MAKZ Makanchi 117.49 311 *e*PKIKP **PKPdf** **22 59 38.4 -0.9**
SUR Sutherland 117.73 196 PFAKE 22 59 50.0 +9.4
SUR LR LR
comp=Z,2μm,18.0s
NRIK Noril'sk 118.02 336 PKP **PKPdf** **22 59 38.1 -1.4**
comp=Z,1.1nm,0.3s,baz=134,slow=3.2,SNR=3.6
DHRM DHARAMSHALA 118.06 294 *e*P **PKPdf** **22 59 39.2 -1.9**
DHRM IAMs_20 IAMs_20 23 58 50.4
comp=Z,446nm,17.1s
NVS Novosibirsk 118.22 320 *e*PKIKP **PKPdf** **22 59 39.6 -0.7**
WES Weston 119.00 55 PFAKE 22 59 50.0 +7.7
WES LR LR
comp=Z,2μm,19.0s
BOSA Boshof 119.97 202 PKIKP **PKiKP** **22 59 46.0 +1.0**
BOSA Boshof 119.97 202 PKP **PKiKP** **22 59 46.0 +1.0**
comp=Z,3.1nm,0.9s,baz=282,slow=5.3,SNR=3.6
KSH Kashi 120.19 301 PKP **PKiKP** **22 59 45.6 +0.7**
KSH PP **PP** **23 01 16.4 +5.8**
KSH SS SS 23 17 42.4 +4.0
KSH AMB AMB
comp=Z,250nm,5.7s
MSEY Mahe Island 120.37 245 PFAKE 23 00 00.0 +14
MSEY LR LR
comp=Z,800nm,19.0s
KURK Kurchatov 120.38 315 *e*PKPdf **PKPdf** **22 59 43.9 -0.7**
KURK Kurchatov 120.38 315 *e*PKIKP **PKPdf** **22 59 43.9 -0.7**
KURBB Kurchatov Arra 120.42 314 PKP **PKPdf** **22 59 43.3 -1.4**
comp=Z,3.2nm,0.8s,baz=106,slow=2.0,SNR=30
NRN Naryn 120.58 304 *e*PKPdf **PKPdf** **22 59 45.3 -0.5**
NRN Naryn 120.58 304 *e*PKIKP **PKPdf** **22 59 45.3 -0.5**
WVL Waterville 120.62 53 PFAKE 23 00 00.0 +15
WVL LR LR
comp=Z,3μm,18.0s
BHJ Bhuj 120.86 282 *e*P **PKPdf** **22 59 44.3 -2.1**
TULEG Thule 121.14 15 PFAKE 23 00 00.0 +14
TULEG LR LR
comp=Z,1μm,18.0s
AAK Ala-Archa 121.91 305 *e*PKPdf **PKPdf** **22 59 47.9 -0.1**
AAK LR LR
comp=Z,600nm,20.0s
AAK Ala-Archa 121.91 305 ⇑ *i*PKIKP **PKPdf** **22 59 48.0 -0.1**
AAK Ala-Archa 121.91 305 PKP **PKPdf** **22 59 47.7 -0.4**
comp=Z,1.7nm,0.7s,baz=144,slow=3.2,SNR=10
GAR Garm 124.39 300 *e*PKPdf **PKPdf** **22 59 53.2 +0.3**
GAR Garm 124.39 300 *e*PKIKP **PKPdf** **22 59 53.2 +0.3**
KBL Kabul 124.52 294 *e*PKPdf **PKPdf** **22 59 53.8 +0.4**
KBL LR LR
comp=Z,500nm,22.0s
KK31 Karatay Array 124.87 305 *e*PKPdf **PKPdf** **22 59 53.3 -0.3**
KK31 Karatay Array 124.87 305 *e*PKIKP **PKPdf** **22 59 53.3 -0.3**
KKAR Karatay Array 124.87 305 *e*PKPdf **PKPdf** **22 59 53.3 -0.3**
KKAR Karatay Array 124.87 305 *e*PKIKP **PKPdf** **22 59 53.3 -0.3**
CHGR Chuyangaron 125.22 299 *e*PKPdf **PKPdf** **22 59 54.8 +0.3**
BVAR Borovoye Array 125.63 317 PKP **PKPdf** **22 59 54.3 -0.3**
comp=Z,4.5nm,0.8s,baz=90,slow=3.0,SNR=19
BRVK Borovoye 125.70 317 *e*PKPdf **PKPdf** **22 59 54.6 -0.2**
BRVK Borovoye 125.70 317 *e*PKIKP **PKPdf** **22 59 54.6 -0.2**
RCBR Riachuelo 129.19 125 PFAKE 23 00 10.0 +6.5
RCBR LR LR
comp=Z,900nm,18.0s
SPITS Spitsbergen Ar 129.43 357 PKP **PKPdf** **22 59 59.5 -1.8**
comp=Z,7.5nm,0.9s,baz=84,slow=3.4,SNR=7.0
DAG Danmarks Havn 130.04 7 *i* P **PKiKP** **23 00 06.4 +3.2**
DAG Danmarks Havn 130.04 7 *e*PKIKP **PKiKP** **23 00 06.4 +3.2**
LSZ Lusaka 130.78 212 PFAKE 23 00 20.0 +13
LSZ LR LR
comp=Z,900nm,20.0s
TSUM Tsumeb 131.13 198 PFAKE 23 00 20.0 +13
TSUM LR LR
comp=Z,2μm,19.0s
ARU Arti 132.09 322 *e*PKPdf **PKPdf** **23 00 07.5 +0.6**
ARU Arti 132.09 322 *i* PKIKP **PKPdf** **23 00 07.4 +0.6**
ARU 23 02 24.6
ARU PPP PPP 23 05 16.6
ARU MLR MLR
comp=Z,833nm,20.0s
AKTO Aktyubinsk 133.47 314 PKP **PKPdf** **23 00 09.4 -0.3**
comp=Z,3.1nm,0.9s,baz=19,slow=0.9,SNR=11
GEYT Alibeck 133.75 297 PKP **PKPdf** **23 00 11.2 +0.6**
comp=Z,4.3nm,0.8s,baz=42,slow=2.4,SNR=8.1
GYA0B ALIBECK ARRAY 133.75 297 *e*PKPdf **PKPdf** **23 00 10.6 0.0**
GYA0B LR LR
comp=Z,500nm,19.0s
KIRV Kirov 136.11 327 PKP **PKPdf** **23 00 14.0 -0.2**
comp=Z,6.5nm,0.8s,baz=153,slow=2.3,SNR=3.0
PRGR Permogore 136.39 332 *e*PKIKP **PKPdf** **23 00 07.9 -6.8**
PRGR pmax pmax
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 136.54 349 PKP **PKPdf** **23 00 15.6 +0.7**
comp=Z,4.9nm,0.7s,baz=81,slow=0.7,SNR=14
KMBO Kilima Mbogo 136.58 234 PKP **PKiKP** **23 00 19.4 +0.7**
KMBO LR LR
comp=Z,500nm,18.0s
KMBO Kilima Mbogo 136.58 234 PKP **PKiKP** **23 00 19.4 +0.7**
comp=Z,1.2nm,0.8s,baz=347,slow=5.1,SNR=5.2
KLMR Klimovskoe 139.28 334 *e*PKIKP **PKPdf** **23 00 17.7 -2.4**
KLMR pmax pmax
comp=Z,23nm,1.5s
KLMR Klimovskoe 139.28 334 *e*PKPdf **PKPdf** **23 00 17.7 -2.4**
KLMR AMP 23 00 34.6
comp=Z,23nm,1.6s
KLMR *e*PP **PP** **23 03 08.6 -5.1**
DAMY Dhamar 139.86 259 PFAKE 23 00 30.0 +4.7
DAMY LR LR
comp=Z,1μm,20.0s
FURI Furi 141.84 247 PFAKE 23 00 40.0 +11
FURI LR LR
comp=Z,1μm,20.0s
MOS Moscow 143.10 328 *i* PKIKP **PKPdf** **23 00 26.8 -0.3**
MOS *e* 23 03 37.9
VRH Novokhopyorsk 143.19 320 *e*PKHKP PKPpre 23 00 21.7
VRH pmax pmax
comp=Z,20nm,1.4s
FIA1 FINESS Array S 143.35 342 *e*PKPpre PKPpre 23 00 25.3
FINES FINESS Array B 143.35 342 PKhKP PKPpre 23 00 22.6
comp=Z,1.5nm,0.4s,baz=47,slow=4.3,SNR=19
TBLG Delisi 143.90 303 *e*PKPdf PKPbc 23 00 27.2 +0.4
TBLG Delisi 143.90 303 *e*PKIKP PKPbc 23 00 27.2 +0.4
OBN Obninsk 143.95 328 *e*PKHKP PKPpre 23 00 23.8
OBN *e* 23 00 29.3
OBN pmax pmax
comp=Z,9.0nm,1.2s
LPSR Galich'ya Gora 144.10 323 *e*PKIKP **PKPab** **23 00 25.3 -1.2**
LPSR pmax pmax
comp=Z,20nm,1.6s
GNI Garni 144.11 301 *e*P PKPbc 23 00 28.6 +0.9
GNI Garni 144.11 301 *e*PKPdf PKPbc 23 00 28.3 +0.6
GNI Garni 144.11 301 *e*PKIKP PKPbc 23 00 28.3 +0.6
ZEI Tsey 144.33 305 *i* PKIKP **PKPab** **23 00 27.7 -0.3**
ZEI pmax pmax
comp=Z,26nm,1.0s
NCK Nalchik 144.40 306 ‖ *i*PKIKP **PKPab** **23 00 28.3 +0.3**
GOF Gofitskoye 144.42 309 *e*PKHKP PKPpre 23 00 25.2
GOF pmax pmax
comp=Z,50nm,1.2s
TASB TASBURUN-IGDIR 144.52 300 *e*P PKPbc 23 00 29.5 +0.7
VSR Storozhevoye 144.63 321 *e*PKHKP PKPpre 23 00 26.1
VSR pmax pmax
comp=Z,20nm,1.4s
IGDI IGDIR 144.65 300 *i* P **PKPdf** **23 00 30.2 -0.2**
IGDI IAML_P
comp=Z,230nm,0.6s
KBZ Khabaz 144.85 307 PKP **PKPab** **23 00 29.3 -0.3**

comp=Z,8.3nm,0.9s,baz=115,slow=5.1,SNR=9.8
CLDR Caldiran 144.86 299 *e*P **PKPab 23 00 30.2 +0.1**
CLDR Caldiran 144.86 299 *i* P **PKPdf 23 00 31.8 +0.8**
CLDR IAML_P
comp=Z,2µm,0.7s
EAK Akyaka 144.90 302 *i* P **PKPdf 23 00 31.2 +0.2**
EAK IAML_P
comp=Z,984nm,0.9s
DYDN Diyadin 144.99 300 *i* P **PKPdf 23 00 32.2 +0.9**
DYDN IAML_P
comp=Z,212nm,0.1s
NEY Neytrino 145.08 306*d i*PKIKP **PKPab 23 00 30.9 +0.2**
VMUR Van-Muradiye 145.14 299 *i* P **PKPdf 23 00 32.0 +0.5**
VMUR IAML_P
comp=Z,271nm,1.0s
CUKT Cukurca 145.26 296 *e*P **PKPbc 23 00 30.9 -0.5**
CUKT Cukurca 145.26 296 *i* P **PKPdf 23 00 32.6 +0.9**
CUKT IAML_P
comp=Z,29nm,0.3s
KARS Kars 145.31 302 *e*P **PKPab 23 00 31.7 +0.1**
KARS Kars 145.31 302 *e*PKPbc **PKPdf 23 00 32.3 +0.6**
KARS Kars 145.31 302 *e*PKIKP **PKPdf 23 00 32.3 +0.6**
TVAN Van 145.31 298 *i* P **PKPdf 23 00 33.8 +2.0**
TVAN IAML_P
comp=Z,587nm,0.8s
VANB Van 145.32 298 *e*P **PKPdf 23 00 32.5 +0.8**
EPOS Posof 145.42 303 *i* P **PKPab 23 00 32.9 +0.9**
AGRB Hanur-Agry 145.52 300 *e*P **PKPbc 23 00 31.4 -0.8**
VSU Vasula 145.57 339*c i*PKP2 **PKPdf 23 00 29.8 -1.5**
VSU Vasula 145.57 339 *e*P **PKPdf 23 00 29.7 -1.5**
VSU IAmb IAmb 23 00 31.9
comp=Z,143nm,1.0s
AKDM Akdamar-Van 145.67 298 *e*P **PKPab 23 00 33.7 +0.6**
ADCV BITLIS_Adilcev 145.82 299 *i* P **PKPab 23 00 34.6 +1.0**
ADCV IAML_P
comp=Z,7.8nm,0.4s
SENK Senkaya-Erzuru 145.86 302 *e*P **PKPdf 23 00 32.5 -0.2**
MLAZ Malazgirt-MUS 145.91 299 *e*P **PKPdf 23 00 32.1 -0.7**
DAGI Agillar 146.10 303 *i* P **PKPab 23 00 34.8 +0.2**
DAGI IAML_P
comp=Z,55nm,0.3s
DBOC Borcka 146.24 303 *i* P **PKPbc 23 00 34.4 +0.2**
DBOC IAML_P
comp=Z,11nm,0.4s
BCA Borcka 146.25 303 *e*P **PKPab 23 00 35.1 +0.1**
DBAD Bademkaya 146.28 303 *i* P **PKPab 23 00 35.4 +0.2**
DBAD IAML_P
comp=Z,4.9nm,0.3s
BLIS Bitlis-Merkez 146.34 298 *i* P **PKPab 23 00 35.8 +0.2**
BLIS IAML_P
comp=Z,850nm,0.5s
NC303 NORSAR Array S 146.39 353 *e*PKPdf **PKPdf 23 00 33.4 +0.7**
NC405 NORSAR Array S 146.46 353 *e*PKPdf **PKPdf 23 00 33.6 +0.8**
SRTM Siirt_Merkez 146.53 297 *i* P **PKPab 23 00 36.7 +0.4**
SRTM IAML_P
comp=Z,141nm,0.4s
NB201 NORSAR Array S 146.57 353 *e*PKPdf **PKPdf 23 00 34.1 +1.1**
NB2 NORSAR Subarra146.59 353 PKP **PKPdf 23 00 33.1 0.0**
comp=Z,236nm,2.5s,baz=8.2,slow=2.8
NB2 NORSAR Subarra146.59 353 PKIKP **PKPdf 23 00 31.5 -1.6**
NB2 pmax pmax
comp=Z,237nm,2.7s
NB2 NORSAR Subarra146.59 353 PKP **PKPdf 23 00 33.1 0.0**
baz=8.2,slow=2.8
NOA NORSAR Array B 146.59 353 PKPbc **PKPdf 23 00 33.4 +0.3**
comp=Z,7.5nm,0.8s,baz=14,slow=4.5,SNR=17
NBO00 NORSAR Array S 146.64 354 *e*PKPdf **PKPdf 23 00 34.3 +1.2**
MUSM Mu-Merkez 146.77 299 *i* P **PKPab 23 00 36.9 -0.3**
MUSM IAML_P
comp=Z,368nm,1.0s
NC602 NORSAR Array S 146.85 353 *e*PKPdf **PKPdf 23 00 34.0 +0.5**
NORES NORESS Array B 146.85 353 PKIKP **PKPdf 23 00 33.3 -0.1**
CHOM Cayeli-Rize 146.96 303 *e*P **PKPbc 23 00 36.4 +0.1**
BNGB Bingl 147.38 299 *e*P **PKPbc 23 00 38.2 +0.6**
MARD Mardin 147.50 296 *i* P **PKPbc 23 00 38.8 +0.7**
MARD IAML_P
comp=Z,125nm,0.2s
HANI Diyarbakir_Han 147.67 298 *i* P **PKPbc 23 00 39.1 +0.7**
HANI IAML_P
comp=Z,149nm,0.1s
KTUT Trabzon 147.71 303 *e*P **PKiKP 23 00 39.7 -0.6**
KTUT Trabzon 147.71 303 *i*P **PKPab 23 00 43.3 +2.6**
IDID Didziasalis 148.00 335 *e*P **PKPdf 23 00 37.1 +1.6**
IDID IAmb IAmb 23 00 45.9
comp=Z,24nm,1.2s
ISAL Salakas 148.03 336 *e*P **PKPdf 23 00 37.3 +1.7**
ISAL IAmb IAmb 23 00 45.0
comp=Z,17nm,1.1s
MICGM Minsk 148.16 333 *e*P **PKPbc 23 00 38.0 -1.1**
MNK Minsk 148.16 333 *e*PKP2 **PKPbc 23 00 38.0 -1.1**
IIGN Ignalina 148.17 335 *e*P **PKPbc 23 00 38.0 -1.1**
IIGN IAmb IAmb 23 00 46.5
comp=Z,26nm,1.1s
TNCL Tunceli-Merkez 148.23 300 *i* P **PKiKP 23 00 41.1 -0.5**
TNCL IAML_P
comp=Z,16nm,0.2s
KELT Kelkit 148.26 302 *i* P **PKiKP 23 00 41.2 -0.6**
KELT IAML_P
comp=Z,18nm,0.3s
NACGM Naroch 148.29 334 *e* **PKPdf 23 00 37.0 +1.0**
NACGM eLR LR 00 02 46.0
ANN Anapa 148.30 311 *i* PKP2 **PKPbc 23 00 38.3 -1.4**
ANN pmax pmax
comp=Z,72nm,1.5s
REFA Refahiye_ERZN 148.78 300 *i* P **PKiKP 23 00 42.9 0.0**
REFA IAML_P
comp=Z,20nm,0.3s
SANL SANLIURFA_Merk148.94 296 *i* P **PKiKP 23 00 42.9 -0.2**
SANL IAML_P
comp=Z,118nm,0.1s
URFA Urfa 149.04 297 *e*P **PKPab 23 00 45.9 -0.3**
SURC SANLIURFA_SURC149.27 296 *i* P **PKPbc 23 00 42.9 +0.3**
SURC IAML_P
comp=Z,17nm,0.2s
CUZAR Zara_SIVAS 149.44 302 *i* P **PKiKP 23 00 44.0 -0.2**
RSDY Resadiye-TOKAT 149.65 303 *e*P **PKPbc 23 00 41.9 -1.5**
DARE Darende-Malaty 149.91 299 *e*P **PKPbc 23 00 44.6 +0.4**
SVSK Karacayir 150.01 302 *e*P **PKPdf 23 00 39.2 0.0**
AKASG Malin Array Be 150.16 326 PKPbc **PKPbc 23 00 43.3 -0.9**
comp=Z,8.8nm,0.7s,baz=44,slow=2.7,SNR=38
AKBB Malin Array Si 150.16 326 *ep*PKPdf **PKPbc 23 00 43.2 -1.0**
KIEV Kiev 150.17 326 *e*PKPdf **PKPbc 23 00 42.0 -2.2**
KIEV Kiev 150.17 326⇑*i*P **PKPbc 23 00 42.5 -1.7**
AK11 Malin Array Si 150.20 326 *ep*PKPdf **PKPbc 23 00 43.2 -1.1**
SUW Suwalki 150.32 336 *e*PKP **PKPbc 23 00 44.4 0.0**
SUW Suwalki 150.32 336 *ep*PKPdf **PKPbc 23 00 43.5 -1.0**
SUW Suwalki 150.32 336 *e*PKIKP **PKPbc 23 00 43.5 -1.0**
SIM Simferopol' 150.42 313 *e*PKIKP **PKPab 23 00 51.2 -0.3**
SIM pmax pmax
comp=Z,31nm,0.8s
SIM pmax pmax
comp=Z,170nm,12.4s
KVT Kavak 150.42 305 *e*P **PKPbc 23 00 45.5 +0.3**
KLNR Kaliningrad 150.80 340⇑*e*PKIKP **PKPdf 23 00 41.5 +1.5**
CEYT Ceyhan 151.53 297 *e*P PKPpre 23 00 33.9
BR131 Keskin Array S 152.56 303 *e*PKPbc **PKPbc 23 00 50.1 -0.2**
BRTR Keskin Array B 152.56 303 PKPbc **PKPbc 23 00 49.3 -1.1**
comp=Z,2.9nm,0.9s,baz=104,slow=2.5,SNR=7.6
BRTR PKPab **PKPab 23 01 00.5 -0.3**
comp=Z,4.4nm,0.7s,baz=74,slow=2.9,SNR=8.4
KIS Kishinev 152.62 321 *e*PKP **PKPbc 23 00 48.0 -2.0**
LVV L'vov 153.20 330 *e*PKIKP **PKPbc 23 00 50.8 -0.4**
BUR08 Bucovina Ar. S 154.16 325 *e*PKPbc **PKiKP 23 00 55.0 +1.4**
BURAR Bucovina Array 154.17 325 ||*i*P **PKiKP 23 00 55.2 +1.6**
BURAR Bucovina Array 154.17 325 ||PKIKP **PKiKP 23 00 55.2 +1.6**
VRI Vrincioaia 154.46 320 ||*i*P **PKPab 23 01 14.7 +6.3**
VRI Vrincioaia 154.46 320 ||PKP2 **PKPab 23 01 14.7 +6.3**
PLOR Plostina 154.51 320⇑*i*P **PKPab 23 01 08.6 -0.1**
PLOR Plostina 154.51 320⇑⇑PKP2 **PKPab 23 01 08.6 -0.1**
UZH Uzhgorod 154.84 330 *e*PKIKP **PKPbc 23 00 52.6 -2.2**
UZH *e* 23 01 01.2
UZH *i* 23 01 06.3
NIE Niedzica 155.07 333 *e*PKP **PKPdf 23 00 45.0 -1.5**
NIE Niedzica 155.07 333 *e*PKIKP **PKPdf 23 00 45.0 -1.5**
VOIR 155.65 321⇑*i*P **PKPab 23 01 15.4 +1.8**
VOIR 155.65 321⇑⇑PKP2 **PKPab 23 01 15.4 +1.8**
CLL Collm 155.68 346 *i* PKPdf **PKPdf 23 00 46.1 -1.1**
comp=Z,22nm,1.8s
CLL *e*PKPdif pPKPbc 23 00 55.0 -3.4
CLL *i* PKPab **PKPab 23 01 11.9 -1.5**
comp=Z,33nm,1.8s
CLL Collm 155.68 346 *i* PKIKP **PKPdf 23 00 46.1 -1.1**
CLL *i* 23 01 11.9
CLL pmax pmax
comp=Z,22nm,1.8s
CLL pmax pmax
comp=Z,33nm,1.8s
DPC Dobruska-Polom 155.68 340 *e*PKPDF **PKPdf 23 00 51.5 +4.2**
DPC *ep*PKP **sPKPab 23 01 18.2 +2.1**
DPC Dobruska-Polom 155.68 340 *e*PKIKP **PKPdf 23 00 51.5 +4.2**
MORC Moravsky Berou 155.78 338 *e*PKP **PKPab 23 01 09.6 -4.4**
BRG Berggiesshubel 155.86 344 *e*PKP **PKPdf 23 00 47.2 -0.2**
comp=Z,26nm,1.9s
BRG *i* 23 01 22.2
comp=Z,36nm,1.7s
BRG Berggiesshubel 155.86 344 *e*PKIKP **PKPdf 23 00 47.2 -0.2**
BRG pmax pmax
comp=Z,26nm,1.9s
ARR Arges 155.93 322 ||*i*P **PKPab 23 01 15.4 +0.6**
DRGR 155.98 326⇑*i*P PKPab 23 01 02.8 -12
VYHS Vyhne 156.39 334 *e*PKIKP **PKPdf 23 00 53.3 +5.1**
VYHS Vyhne 156.39 334 *e*PKP **PKPdf 23 00 53.3 +5.1**
VYHS *e* 23 01 16.5
PSZ Piszkesteto 156.42 332 *e*PKPab **PKPab 23 01 16.1 -0.7**
PSZ Piszkesteto 156.42 332⇑*i*P **PKPab 23 01 15.6 -1.2**
PSZ Piszkesteto 156.42 332⇑⇑PKP2 **PKPab 23 01 15.6 -1.2**
VRAC Vranov 156.50 338 ||*i*P **PKPab 23 01 17.0 -0.1**
VRAC Vranov 156.50 338 ||PKP2 **PKPab 23 01 17.0 -0.1**
VRAC Vranov 156.50 338 *e*PKP **PKPab 23 01 16.9 -0.1**
PRU Pruhonice 156.51 342 *e*PKPAB **PKPab 23 01 15.6 -1.4**
PRU Pruhonice 156.51 342 *e*PKP2 **PKPab 23 01 15.6 -1.4**
JAVC Velka Javorina 156.52 336 *e*PKP **PKPab 23 01 17.4 +0.2**
KRUC Moravsky 156.78 338 *e*PKP **PKPab 23 01 17.8 -0.4**
MODS Modra-Pîesok 157.07 336 *e*PKP **PKPab 23 01 26.4 +6.9**
KHC Kasperske Hory 157.56 343 *e*PKPDF **PKPdf 23 00 53.8 +4.0**
KHC *e*PKPAB **PKPab 23 01 21.5 -0.1**
KHC Kasperske Hory 157.56 343 *e*PKIKP **PKPdf 23 00 53.8 +4.0**
GERES GERESS Array B 157.78 342 PKP **PKPdf 23 00 50.3 +0.1**
comp=Z,0.4nm,0.4s,baz=84,slow=3.1,SNR=2.7
GERES PKPab **PKPab 23 01 20.6 -2.0**
comp=Z,0.2nm,0.2s,baz=31,slow=5.0,SNR=2.5
CONA Conrad Observa 157.94 338 *i* PKPab **PKPab 23 01 22.9 -0.5**
comp=Z,17nm,1.4s
VTS Vitosha 158.40 318 *e*PKPab **PKPab 23 01 26.4 +0.7**
VTS LR LR
comp=Z,600nm,20.0s
VTS Vitosha 158.40 318 ||*i*P **PKPab 23 01 24.5 -1.2**
VTS Vitosha 158.40 318 ||PKP2 **PKPab 23 01 24.5 -1.2**
MOA Molln 158.52 340 *i* PKPab **PKPab 23 01 25.3 -0.5**
comp=Z,11nm,1.4s
ARSA Arzberg 158.64 337 *i* PKPab **PKPab 23 01 27.2 +0.9**
comp=Z,3nm,0.7s
SOKA Soboth 159.31 337 *i* PKPab **PKPab 23 01 28.6 -0.7**
comp=Z,13nm,1.7s
APE Apeiranthos 159.44 302⇑*i*P PKPdf 23 01 01.7 +9.3
KBA Koelnbreinsper 159.49 341 *i* PKPab **PKPab 23 01 30.1 -0.1**
comp=Z,10nm,1.3s
STIP Stip 159.57 317 *e*Pn **PKPab 23 01 29.9 -0.7**
WATA Walderalm 159.73 344 *i* PKPab **PKPab 23 01 30.8 -0.3**
comp=Z,1.6nm,0.5s
RETA Reutte 159.77 346 *i* PKPab **PKPab 23 01 31.8 +0.5**
comp=Z,16nm,1.6s
MYKA Terra Mystica 159.80 340 *i* PKPab **PKPab 23 01 30.2 -1.2**
comp=Z,11nm,1.5s
MOTA Moosalm 159.83 345 *i* PKPab **PKPab 23 01 29.9 -1.7**
comp=Z,3.8nm,1.0s
SQTA Sankt Quirin 159.92 345 *i* PKPab **PKPab 23 01 32.5 +0.5**
comp=Z,6.9nm,1.5s
ABTA Abfaltersbach 160.03 342 *i* PKPab **PKPab 23 01 31.6 -0.8**
comp=Z,9.1nm,1.3s
DAVA Damuels 160.14 347 *i* PKPab **PKPab 23 01 32.2 -0.8**
comp=Z,10.0nm,1.2s
FETA Feichten 160.22 345 *i* PKPab **PKPab 23 01 32.6 -0.7**
comp=Z,5.9nm,1.1s
TOA0 Torodi Ar. Sit 165.10 173 *e*PKPdf **PKPdf 23 00 58.3 -0.3**
TOA0 *e*PKPdf **PKPdf 23 01 00.8 +2.2**
TOA0 *e*PKPab **PKPab 23 01 56.1 +0.9**
TOA0 *e*PKPab **PKPab 23 01 56.4 +1.2**
TORD Torodi Ar. Bea 165.10 173 PKP **PKPdf 23 00 58.7 0.0**
comp=Z,2.5nm,0.9s,baz=355,slow=2.7,SNR=7.7
TORD PKPab **PKPab 23 01 56.0 +0.7**
comp=Z,9.1nm,0.7s,baz=216,slow=2.1,SNR=27
TORD PP **PP 23 05 46.0 +5.6**
comp=Z,3.6nm,1.3s,baz=193,slow=4.6,SNR=3.6
ESDC Sonseca Array 166.81 26 PKP **PKPdf 23 00 59.5 0.0**
comp=Z,0.7nm,0.8s,baz=353,slow=1.5,SNR=3.7
ESDC PKPab **PKPab 23 02 01.8 -0.6**
comp=Z,0.3nm,0.6s,baz=313,slow=3.8,SNR=3.3

*ISCJB **22** 22:45:20.1±0.8,25°.58N±0°.05×128°.46E±0°.05,h35km±9km, mb3.5/7,Error ellipse: s-maj=8.6km s-min=6.8km az=10.2*
*JMA **22** 22:45:20.9±0.3,25°.63N×128°.34E,h63km±4km,M3.1*
*IDC **22** 22:45:20.4±2.8,25°.01N×127°.00E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.4/51,mbtmp3.6/7,Error ellipse: s-maj=185.0km s-min=18.5km az=66.0*
ISC 22 22:45:20.2±2.8,25°.56N±0°.06×128°.43E±0°.04,h23km±21km, n19,σ1§71/29,mb3.5/7,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**0.82**	**315**	P	**Pn**	**22 45 35.7**	**-0.7**
JJT3				S	**Sb**	**22 45 46.9**	**+0.4**
JNTH	**Nagotoyohara**	**1.02**	**339**	P	**Pn**	**22 45 38.1**	**-1.0**
JNTH				S	**Sn**	**22 45 50.1**	**-2.7**
JOW	**Kunigami**	**1.28**	**354**	P	**Pn**	**22 45 42.0**	**-0.6**
JYRO	**Yoronjima**	**1.46**	**1**	P	**Pn**	**22 45 44.4**	**-0.8**
JYRO				eS	**Sn**	**22 46 02.4**	**-1.2**
JAGN	**Aguni-jima**	**1.48**	**314**	P	**Pn**	**22 45 44.9**	**-0.5**
JAGN				eS	**Sn**	**22 46 02.2**	**-1.9**
JIH	**Iheya**	**1.53**	**344**	P	**Pn**	**22 45 46.0**	**-0.1**
JIH				S	**Sn**	**22 46 03.6**	**-1.6**
JKE	**Kume jima 2**	**1.67**	**298**	P	**Pn**	**22 45 46.8**	**-1.2**
JKE				eS	**Sn**	**22 46 05.8**	**-2.8**
JOKE	**Okinoerabujima**	**1.80**	**4**	P	**Pn**	**22 45 49.8**	**0.0**
JOKE				eS	**Sn**	**22 46 10.5**	**-1.5**
JTK	**Tokunoshima**	**2.27**	**12**	P	**Pn**	**22 45 56.3**	**0.0**
JTK				eS	**Sn**	**22 46 21.1**	**-2.4**
JMZ	**Minamidaito 2**	**2.53**	**84**	P	**Pn**	**22 45 58.4**	**-1.5**
JMZ				eS	**Sn**	**22 46 27.2**	**-2.8**
JAMN	**Amaminishikomi**	**2.76**	**14**	P	**Pn**	**22 46 03.4**	**+0.4**
JIKM	**Ikemajima**	**2.95**	**258**	P	**Pn**	**22 46 06.3**	**+0.7**
JIKM				eS	**Sn**	**22 46 36.4**	**-3.9**
SONM	**Songino Array**	**28.21**	**328**	P	**P**	**22 51 14.3**	**+2.9**
	0.3nm,0.3s,baz=145,slow=11,SNR=6.8						
MKAR	**Makanchi Array**	**42.12**	**312**	P	**P**	**22 53 10.5**	**-0.1**
	0.5nm,0.6s,baz=101,slow=10,SNR=9.4						
ZALV	**Zalesovo Beam**	**42.89**	**323**	P	**P**	**22 53 16.0**	**-0.7**
	0.3nm,0.3s,baz=118,slow=8.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**45.46**	**317**	P	**P**	**22 53 37.0**	**-0.4**
	0.1nm,0.3s,baz=102,slow=8.3,SNR=4.2						
WRA	**Warramunga Arr**	**45.59**	**172**	P	**P**	**22 53 38.9**	**+0.2**
	0.4nm,0.6s,baz=350,slow=9.0,SNR=3.7						
ASAR	**Alice Springs**	**49.22**	**173**	P	**P**	**22 54 08.5**	**+1.6**
	0.4nm,0.5s,baz=3.9,slow=15,SNR=3.6						
BVAR	**Borovoye Array**	**50.89**	**319**	P	**P**	**22 54 19.5**	**+0.1**
	0.3nm,0.3s,baz=105,slow=8.9,SNR=4.2						

*IDC **22** 22:54:07.0±1.6,17°.65N×60°.92W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/41,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=50.7km s-min=26.4km az=71.0*
*TRN **22** 22:54:06.8,17°.53N×61°.03W,h3km,MD3.8*
*ISCJB **22** 22:54:07.2±1.1,17°.68N±0°.04×60°.80W±0°.05,h13km±9km, mb3.5/4,Error ellipse: s-maj=9.0km s-min=4.7km az=140.2*
ISC 22 22:54:07.3±2.4,17°.60N±0°.05×60°.91W±0°.07,h1km±13km, n36,σ1§16/49,mb3.5/4,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANWB	**Willy Bob**	**0.84**	**275**	*e*P	**Pb**	**22 54 24.8**	**+0.1**
ANWB				eS	**Sb**	**22 54 37.1**	**+0.6**
BPA	**Boggy Peak**	**1.06**	**239**	*e*P	**Pg**	**22 54 27.4**	**-0.3**
BPA				eS	**Sn**	**22 54 44.2**	**-0.7**
ABD	**La Joyeuse, An**	**1.25**	**206**	*e*P	**Pn**	**22 54 30.9**	**-1.1**
H05N1	**Guadeloupe/Mar**	**1.28**	**186**	Pn	**Pn**	**22 54 31.8**	**-0.7**
H05N1				Sn	**Sb**	**22 54 48.6**	**-0.7**
DEG	**La Desirade**	**1.29**	**187**	*e*P	**Pn**	**22 54 32.8**	**+0.2**
MLYT	**Lee's Yard**	**1.51**	**235**	*e*P	**Pn**	**22 54 34.9**	**-0.6**
MLYT				eS	**Sg**	**22 54 57.0**	**+1.3**
NEV	**Hard Times**	**1.66**	**254**	eS	**Sg**	**22 55 00.1**	**-0.3**
CBE	**Ff, Capester**	**1.66**	**204**	*e*P	**Pn**	**22 54 37.8**	**+0.2**
MAGL	**Barre de l'ile**	**1.68**	**192**	*e*P	**Pn**	**22 54 38.0**	**+0.2**
TBG	**Guadaloupe-3**	**1.88**	**202**	*e*P	**Pn**	**22 54 40.3**	**-0.2**
TBG				eS	**Sb**	**22 55 06.5**	**+0.1**
TDBA	**Terre de Bas,**	**1.88**	**202**	*e*P	**Pn**	**22 54 40.7**	**+0.1**
SEUS	**St. Eustatius**	**1.98**	**267**	*e*P	**Pn**	**22 54 41.7**	**-0.3**
SEUS				eS	**Sb**	**22 55 08.7**	**-0.7**
MDPV	**Dominica, Penn**	**2.02**	**194**	*e*P	**Pn**	**22 54 42.9**	**+0.2**
MDPV				eS	**Sn**	**22 55 09.3**	**+0.7**
DWS	**Wesley**	**2.06**	**191**	*e*P	**Pn**	**22 54 44.1**	**+1.1**
DWS				eS	**Sb**	**22 55 10.5**	**-1.1**
MDPO	**Dominica; Chan**	**2.08**	**195**	*e*P	**Pn**	**22 54 44.1**	**+0.7**
MDPO				eS	**Sn**	**22 55 10.5**	**+0.5**
SMRT	**St. Maarten**	**2.11**	**283**	*e*P	**Pn**	**22 54 44.4**	**+0.6**
SMRT				eS	**Sb**	**22 55 12.2**	**-1.0**
BBL	**Barber's Block**	**2.13**	**195**	*e*P	**Pn**	**22 54 44.6**	**+0.5**
DLPL	**La Plaine**	**2.28**	**188**	eS	**Sn**	**22 55 16.0**	**+1.1**
BAMF	**Morne Balai**	**2.78**	**185**	*e*P	**Pn**	**22 54 54.5**	**+1.4**
CXM	**Morne La Croix**	**2.79**	**185**	*e*P	**Pn**	**22 54 54.4**	**+1.1**
PCM	**Pelee Case Pet**	**2.79**	**186**	*e*P	**Pn**	**22 54 54.0**	**+0.9**
GBMF	**Grand Be**	**2.80**	**185**	*e*P	**Pn**	**22 54 55.0**	**+1.6**
FDF	**Fort de France**	**2.86**	**185**	*e*P	**Pn**	**22 54 54.7**	**+0.5**
FDF				eS	**Sn**	**22 55 30.1**	**+0.8**
LPMF	**Morne Lapointe**	**3.01**	**181**	*e*P	**Pn**	**22 54 56.7**	**+0.6**
ZAM	**Aeronautique**	**3.01**	**182**	*e*P	**Pn**	**22 54 57.5**	**+1.3**
MVM	**Montagne Vaucl**	**3.03**	**180**	*e*P	**Pn**	**22 54 57.2**	**+0.8**
TRMF	**Trois Ilets**	**3.05**	**183**	*e*P	**Pn**	**22 54 57.0**	**+0.3**
BIM	**Bigot**	**3.07**	**183**	*e*P	**Pn**	**22 54 58.5**	**+1.5**
H05S1	**Guadeloupe/Mar**	**3.16**	**179**	Pn	**Pn**	**22 55 00.4**	**+2.2**
H05S1				Sn	**Sn**	**22 55 35.1**	**-1.4**
MCLT	**Moule a Chique**	**3.87**	**180**	*e*P	**Pn**	**22 55 08.5**	**+0.5**
SJG	**San Juan**	**5.02**	**277**	Pn	**Pn**	**22 55 23.6**	**-0.2**
	1.8nm,0.3s,baz=113,slow=14,SNR=5.9						
SJG				Sn	**Sn**	**22 56 27.4**	**+4.9**
	2.5nm,0.3s,baz=311,slow=20,SNR=2.5						
TOSP	**Speyside**	**6.28**	**177**	*e*P	**Pn**	**22 55 42.7**	**+1.6**
SIV	**San Ignacio**	**33.38**	**180**	P	**P**	**23 00 47.6**	**+0.1**
	2.4nm,0.6s,baz=16,slow=7.5,SNR=14						
TXAR	**Lajitas Array**	**40.72**	**295**	P	**P**	**23 01 49.2**	**-0.8**
	0.2nm,0.6s,baz=107,slow=7.8,SNR=2.7						
YKA	**Yellowknife Ar**	**58.10**	**334**	P	**P**	**23 04 01.2**	**-0.9**
	0.4nm,0.7s,baz=107,slow=7.4,SNR=5.8						
ILAR	**Eielson Array**	**72.53**	**333**	P	**P**	**23 05 35.6**	**-0.2**
	0.3nm,0.8s,baz=94,slow=5.7,SNR=3.7						

MEX 22 22:56:05.7±0.3,14°.13N×92°.95W,h16km±51km,MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.02**	**41**	*i* P	Pb	22 56 23.1	-1.9
THIG				eS	Sb	22 56 34.2	-4.0
PCIG		**1.58**	**351**	*e*P	Pn	22 56 29.5	-3.6
PCIG				*i* S	Sn	22 56 48.4	-5.0
CCIG	**Comitan**	**2.28**	**20**	*i* P	Pn	22 56 40.0	-2.9
CCIG				*i* S	Sn	22 57 06.5	-4.3

*IDC **22** 23:16:28.2±1.9,3°.25N×92°.99E,h0km,mb3.6/3,mb1 3.8/6, mb1mx3.5/42,mbtmp3.7/6,ML3.8/3,MS4.2/2,Ms1 4.2/2, ms1mx3.4/32,Error ellipse: s-maj=48.8km s-min=22.9km az=36.0*
*ISCJB **22** 23:16:31.7±0.6,3°.28N±0°.05×93°.01E±0°.04,h33km, mb3.9/6,MS4.3/2,Error ellipse: s-maj=7.6km s-min=5.1km az=30.3*
*NEIC **22** 23:16:32.5±1.8,3°.20N×92°.83E,h31km±14km,mb4.3/3, Error ellipse: s-maj=9.8km s-min=5.3km az=222.0*
*DJA **22** 23:16:35.2±0.7,3°.N±4°×9°3E±°,h10km,M4.3/10,mb4.2/5, mB5.1/3,MLv4.3/10,Mw(mB)4.5/3*
ISC 22 23:16:32.8±0.9,3°.24N±0°.07×92°.94E±0°.07,h35km,n32, σ1§45/36,mb3.8/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.24**	**46**	P	**Pn**	**23 17 21.3**	**0.0**
BSI				S	**Sn**	**23 17 57.0**	**-1.7**
SNSI	**Sinabang, Aceh**	**3.48**	**104**	P	**Pn**	**23 17 25.3**	**+0.8**
SNSI				S	**Sn**	**23 18 01.4**	**-3.1**
MLSI	**Meulaboh, Aceh**	**3.60**	**73**	P	**Pn**	**23 17 27.0**	**+0.8**
MLSI				S	**Sn**	**23 18 05.0**	**-2.5**
LHMI	**Lhok Sumawe**	**4.45**	**64**	*e*Pn	**Pn**	**23 17 40.2**	**+2.3**
LHMI	**Lhok Sumawe**	**4.45**	**64**	P	**Pn**	**23 17 39.2**	**+1.3**
LHMI				S	**Sn**	**23 18 27.8**	**-0.8**
KCSI	**Kotacane, Aceh**	**4.83**	**87**	P	**Pn**	**23 17 42.7**	**-0.4**
KCSI				S	**Sn**	**23 18 36.6**	**-1.3**
GSI	**Gunungsitoli**	**5.01**	**112**	*e*Pn	**Pn**	**23 17 46.5**	**+0.9**
GSI	**Gunungsitoli**	**5.01**	**112**	P	**Pn**	**23 17 46.0**	**+0.4**
GSI				S	**Sn**	**23 18 41.6**	**-0.8**
PSI	**Prapat**	**5.99**	**94**	*e*Pn	**Pn**	**23 18 00.9**	**+1.7**
PSI				*e*Sn	**Sn**	**23 19 08.3**	**+1.6**
PSI	**Prapat**	**5.99**	**94**	Pn	**Pn**	**23 17 56.8**	**-2.4**
	0.4nm,0.3s,baz=360,slow=8.7,SNR=2.0						
PSI				Sn	**Sn**	**23 19 06.2**	**-0.4**
	2.2nm,0.3s,baz=360,slow=7.7,SNR=5.8						
PBSI	**Pulau Batu**	**6.26**	**121**	P	**Pn**	**23 18 04.1**	**+1.3**
	205nm,0.6s,2µm0.7nm						
PBSI				S	**Sn**	**23 19 09.8**	**-3.3**
	205nm,0.6s,2µm0.7nm						
MNSI	**Mandailing Nat**	**7.06**	**110**	P	**Pn**	**23 18 15.3**	**+1.5**
SISI	**Saibi**	**7.64**	**126**	P	**Pn**	**23 18 22.8**	**+1.1**
	36nm,0.7s,0.1nm						
KULM	**Kulim**	**7.95**	**75**	*e*Pn	**Pn**	**23 18 27.5**	**+1.5**
PBA	**Port Blair**	**8.36**	**359**	*e*Pn	**Pn**	**23 18 32.3**	**+0.7**
MNAI	**Manna**	**12.54**	**127**	*e*Pn	**Pn**	**23 19 30.0**	**+1.1**
PALK	**Pallekele**	**12.83**	**289**	*e*Pn	**Pn**	**23 19 31.6**	**-1.2**
PALK				*e*Sn	**Sn**	**23 21 41.9**	**-13**
PALK	**Pallekele**	**12.83**	**289**	Pn	**Pn**	**23 19 31.6**	**-1.2**
	0.7nm,0.3s,baz=115,slow=10.0,SNR=5.4						
PALK				Sn	**Sn**	**23 21 40.2**	**-14**
	3.0nm,0.3s,baz=117,slow=3.8,SNR=12						
CMAR	**Chiang Mai Arr**	**16.22**	**21**	Pn	**Pn**	**23 20 18.7**	**+0.5**
	0.3nm,0.3s,baz=214,slow=12,SNR=2.6						
H08S2	**Diego Garcia H**	**23.09**	**242**	T	T	23 47 05.0	
	baz=61,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**23.09**	**242**	T	T	23 47 03.9	
	baz=61,slow=76,SNR=43						
H08S1	**Diego Car

SVW2	Sparrevohn	6.70	346	P		Pn	23 20 15.9	+0.6
EYAK	Cordova Ski Ar	6.88	28	P		Pn	23 20 17.4	-0.3
SUA	Susitna One	6.88	6	P		Pn	23 20 18.2	+0.3
JPK	Jack Peak	7.10	23	P		Pn	23 20 21.1	+0.2
NICHA	Nichawak Mount	7.17	35	P		Pn	23 20 22.1	+0.2
GHO	Glory Hole Cre	7.36	13	P		Pn	23 20 23.2	-1.3
SML	Sawmill	7.47	15	P		Pn	23 20 25.7	-0.3
KHIT	Khitrov Hills	7.57	36	P		Pn	23 20 27.2	-0.1
KULT	Kultieth River	7.62	39	P		Pn	23 20 27.3	-0.7
KLU	Klutina	7.64	24	P		Pn	23 20 27.9	-0.5
SCM	Sheep Creek Mo	7.66	18	P		Pn	23 20 28.3	-0.3
MESA	MESA	7.86	41	P		Pn	23 20 31.1	-0.3
KIAG	Kiagna River	8.22	36	P		Pn	23 20 35.6	-0.8
KIAG			3	S		Sn	23 22 04.4	-4.8
SAMH	Samovar Hills	8.29	44	P		Pn	23 20 37.8	+0.6
GRNC	Granite Creek	8.30	38	P		Pn	23 20 37.7	+0.2
PCA	Pinnacle	8.48	45	P		Pn	23 20 39.9	+0.1
PNL	Peninsula	8.62	49	P		Pn	23 20 41.9	+0.2
BCPM	Bancas Point	8.66	47	P		Pn	23 20 42.7	+0.4
YUK7	Dusty Glacier	9.60	46	P		Pn	23 20 55.5	+0.2
YUK6	Outpost Mounta	9.73	44	P		Pn	23 20 57.0	-0.1
PLBC	Pleasant Camp	9.91	54	P		Pn	23 20 59.7	+0.4
BCA3	Beaver Creek A	10.02	28	P		Pn	23 21 01.1	+0.2
WRH	Wood River Hil	10.08	10	P		Pn	23 21 01.5	0.0
WHY	Whitehorse	11.08	50	P		Pn	23 21 15.5	+0.1
IM3	Indian Mountai	11.39	357	P		Pn	23 21 19.5	-0.1

*ATH **22** 23:35:44.8, 34°.89N×23°.61E, h42$^{km}_{\pm}$1^{km}, ML3.5/5, Error ellipse: s-maj=3.3km s-min=1.4km az=42.0*
*THE **22** 23:35:44.9, 34°.79N×23°.50E, h18$^{km}_{\pm}$1^{km}, ML3.2/7, Error ellipse: s-maj=2.2km s-min=1.0km az=190.0*

ISC 22 23:35:45.2±1.6, **34°.87N**±0°.07×**23°.54E**±0°.05, **h23**$^{km}_{\pm}$12km, **n47**, σ0**°81/59**, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**93**	P	**Pb**	**23 35 54.0**	**-0.6**
GVD				S	**Sn**	**23 36 03.0**	**-0.6**
GVD	**Gavdhos**	**0.45**	**93**	P	**Pb**	**23 35 54.0**	**-0.6**
GVD				S	**Sb**	**23 36 01.7**	**+0.8**
GVD				AML	AML	23 36 02.7	
	comp=E,13445µm,0.3s						
GVD				AML	AML	23 36 06.2	
	comp=N,16221µm,0.5s						
KERA	**Keramoti**	**0.50**	**2**	P	**Pn**	**23 35 56.4**	**-0.6**
KERA				S	**Sn**	**23 36 04.3**	**-0.7**
KERA				AML	AML	23 36 08.0	
	comp=E,5233µm,0.5s						
KERA				AML	AML	23 36 08.1	
	comp=N,6019µm,0.4s						
IMMV	**Iera Moni Meta**	**0.69**	**31**	P	**Pb**	**23 35 58.9**	**+0.2**
IMMV				S	**Sn**	**23 36 10.6**	**+0.9**
IMMV	**Iera Moni Meta**	**0.69**	**31**	P	**Pb**	**23 35 58.6**	**-0.1**
IMMV				S	**Sb**	**23 36 08.2**	**+0.3**
IMMV				AML	AML	23 36 11.4	
	comp=N,9312µm,0.7s						
IMMV				AML	AML	23 36 11.5	
	comp=E,9182µm,0.5s						
VAM	**Vamos**	**0.76**	**45**	P	**Pb**	**23 35 59.7**	**-0.2**
VAM				S	**Sn**	**23 36 12.2**	**+0.8**
VAM	**Vamos**	**0.76**	**45**	P	**Pb**	**23 35 59.6**	**-0.2**
VAM				S	**Sb**	**23 36 10.1**	**+0.3**
VAM				AML	AML	23 36 13.0	
	comp=N,6667µm,0.8s						
VAM				AML	AML	23 36 17.3	
	comp=E,4825µm,0.9s						
CHAN	**Chania**	**0.77**	**32**	P	**Pb**	**23 35 59.9**	**-0.1**
CHAN				S	**Sn**	**23 36 12.9**	**+1.4**
PRNS	**Prines Rethymn**	**0.93**	**57**	P	**Pn**	**23 36 01.8**	**-1.1**
PRNS				S	**Sn**	**23 36 15.4**	**-0.1**
ANKY	**Antikythira Is**	**1.02**	**349**	P	**Pb**	**23 36 04.6**	**+0.4**
ANKY	**Antikythira Is**	**1.02**	**349**	P	**Pb**	**23 36 04.4**	**+0.2**
TMBK	**Timbaki Herakl**	**1.03**	**78**	P	**Pn**	**23 36 03.8**	**-0.4**
TMBK				S	**Sn**	**23 36 18.9**	**+1.1**
SIVA	**Sivas**	**1.05**	**81**	P	**Pn**	**23 36 04.2**	**-0.4**
SIVA				S	**Sn**	**23 36 19.6**	**+1.1**
SIVA	**Sivas**	**1.05**	**81**	P	**Pn**	**23 36 04.2**	**-0.4**
SIVA				AML	AML	23 36 22.8	
	comp=E,7725µm,0.5s						
SIVA				AML	AML	23 36 28.6	
	comp=N,4306µm,0.7s						
KSTL	**Kastelli Herak**	**1.33**	**70**	P	**Pb**	**23 36 10.9**	**+1.4**
KYTH	**Kithira**	**1.45**	**344**	P	**Pb**	**23 36 10.9**	**-0.7**
KYTH				S	**Sb**	**23 36 30.3**	**+0.6**
KTHR	**Kythira**	**1.46**	**343**	P	**Pn**	**23 36 10.6**	**+0.4**
KTHR				S	**Sb**	**23 36 29.5**	**-0.3**
LAST	**Lasithi**	**1.62**	**79**	P	**Pn**	**23 36 12.3**	**-0.1**
VLI	**Veliai**	**1.91**	**345**	P	**Pn**	**23 36 17.2**	**+0.8**
VLI	**Veliai**	**1.91**	**345**	P	**Pn**	**23 36 17.0**	**+0.7**
MHLO	**Agia Marina, M**	**1.95**	**21**	P	**Pn**	**23 36 16.0**	**-0.9**
ZKR	**Zakros**	**2.21**	**83**	P	**Pn**	**23 36 20.6**	**+0.1**
PYL	**PYLOS**	**2.50**	**325**	P	**Pn**	**23 36 24.9**	**+0.4**
KRND	**KRANIDI**	**2.53**	**353**	P	**Pn**	**23 36 25.4**	**+0.5**
DID	**Didima**	**2.65**	**355**	P	**Pn**	**23 36 26.0**	**-0.5**
APE	**Apeiranthos**	**2.73**	**36**	P	**Pn**	**23 36 26.3**	**-1.4**
AMGA	**Amorgos Island**	**2.74**	**44**	P	**Pn**	**23 36 26.4**	**-1.3**
VLY	**Voula,Athens**	**2.99**	**4**	P	**Pn**	**23 36 30.5**	**-0.6**
ATHU	**Athens Univers**	**3.10**	**4**	P	**Pn**	**23 36 31.8**	**-0.9**
PTLI	**Penteli**	**3.19**	**5**	P	**Pn**	**23 36 33.2**	**-0.7**
GUR	**Goura**	**3.21**	**343**	P	**Pn**	**23 36 35.4**	**+1.1**
DION	**Dionisos Attik**	**3.22**	**6**	P	**Pn**	**23 36 33.8**	**-0.6**
VIL2	**Platees**	**3.35**	**356**	P	**Pn**	**23 36 35.0**	**-1.2**
KLV	**Kalavryta, Ach**	**3.36**	**341**	P	**Pn**	**23 36 35.9**	**-0.5**
DRO	**Drossia**	**3.42**	**335**	P	**Pn**	**23 36 37.1**	**+0.1**
PROD	**Prodromos**	**3.42**	**352**	P	**Pn**	**23 36 37.0**	**-0.2**
LAKA	**Lakka**	**3.59**	**340**	P	**Pn**	**23 36 39.8**	**+0.3**
RLS	**Riolos of Patr**	**3.60**	**333**	P	**Pn**	**23 36 39.4**	**-0.2**
DSF	**Desfina**	**3.63**	**347**	P	**Pn**	**23 36 40.0**	**-0.1**
ANX	**Ano Chora**	**3.94**	**341**	P	**Pn**	**23 36 44.5**	**+0.1**
ARG	**Arkhangelos**	**3.97**	**69**	P	**Pn**	**23 36 44.0**	**-0.7**
TURN	**Turunc**	**4.57**	**63**	*i* P	Pn	23 36 47.7	-5.2
TURN				*i* S	Sn	23 37 34.0	-11
TURN				IAML_P			
	comp=Z,248nm,0.2s						
DALY	**Dalyan (Mula)**	**4.59**	**63**	*i* P	**Pn**	**23 36 53.2**	**0.0**
FETY	**Fethiye**	**4.84**	**67**	*i* P	**Pn**	**23 36 55.9**	**-0.8**
FETY				IAML_P			
	comp=Z,356nm,0.2s						
TAVA	**DENIZLI_Tavas**	**5.06**	**58**	*i* P	**Pn**	**23 37 02.6**	**+2.8**
KHC	**Kasperske Hory**	**16.04**	**336**	*e*P	**P**	**23 39 31.5**	**-1.0**
KHC	**Kasperske Hory**	**16.04**	**336**	*e*P	**P**	**23 39 31.5**	**-1.0**

*ISCJB **23** 00:09:51.0±0.4, 40°.55N×0°.02×25°.63E±0°.03, h3$^{km}_{\pm}$5^{km}, Error ellipse: s-maj=4.2km s-min=3.5km az=151.6*
*ISK **23** 00:09:50.7, 40°.55N×25°.63E, h5^{km}, ML2.3/12*
*ATH **23** 00:09:51.1, 40°.55N×25°.63E, h10$^{km}_{\pm}$3^{km}, ML2.5/1, Error ellipse: s-maj=3.5km s-min=1.0km az=189.0*
*DDA **23** 00:09:52.3, 40°.52N×25°.74E, h8$^{km}_{\pm}$2^{km}, ML2.5*

ISC 23 00:09:51.3±0.9, **40°.55N**±0°.02×**25°.63E**±0°.02, **h10**$^{km}_{\pm}$7km, **n27**, σ0**°32/36**, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.10**	**225**	P	**Pg**	**00 09 53.9**	**-0.1**
SMTH				S	**Sg**	**00 09 55.8**	**-0.1**
SMTH				AML	AML	00 09 55.9	
	comp=N,8533µm,0.1s						
SMTH				AML	AML	00 09 56.0	
	comp=E,7179µm,0.1s						
GOKC	**Gokceada-Canak**	**0.41**	**147**	PG	**Pg**	**00 09 59.2**	**-0.2**
GOKC				SG	**Sg**	**00 10 05.3**	**+0.5**
ENEZ	**Enez**	**0.44**	**64**	PG	**Pg**	**00 10 00.1**	**+0.1**
ENEZ				SG	**Sg**	**00 10 06.4**	**+0.5**
ALN	**Alexandroupoli**	**0.47**	**42**	PG	**Pg**	**00 10 00.3**	**-0.3**
ALN	**Alexandroupoli**	**0.47**	**42**	P	**Pg**	**00 10 00.5**	**-0.1**
ALN				S	**Sg**	**00 10 06.9**	**+0.1**
RDO	**Rodhopi**	**0.60**	**354**	PG	**Pg**	**00 10 02.7**	**-0.4**
RDO	**Rodhopi**	**0.60**	**354**	P	**Pg**	**00 10 02.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.66**	**103**	PG	**Pg**	**00 10 03.8**	**-0.4**
ERIK	**Erikli-Kesan**	**0.69**	**79**	PG	**Pg**	**00 10 04.4**	**-0.2**
THAS	**Thassos island**	**0.69**	**275**	P	**Pg**	**00 10 04.2**	**-0.6**
THAS				S	**Sg**	**00 10 14.3**	**+0.5**
LIA	**Limnos Island**	**0.73**	**208**	P	**Pg**	**00 10 05.2**	**-0.3**
LIA				S	**Sg**	**00 10 15.4**	**+0.4**
BOZC	**Bozcaada**	**0.78**	**155**	PG	**Pg**	**00 10 05.9**	**-0.4**
BOZC	**Bozcaada**	**0.78**	**155**	*i* P	**Pg**	**00 10 06.2**	**-0.1**
BOZC				*i* S	**Sg**	**00 10 16.5**	**+0.1**
KESN	**Edirne-Kesan**	**0.85**	**70**	*i* P	**Pb**	**00 10 08.7**	**+0.3**
KESN				*i* S	**Sg**	**00 10 18.8**	**-0.1**
KESN				IAML_P			
	comp=Z,349nm,0.1s						
LPK	**Lapseki**	**0.88**	**101**	PG	**Pg**	**00 10 08.0**	**-0.3**
EZN	**Ezine**	**0.90**	**143**	PG	**Pg**	**00 10 08.5**	**-0.1**
KAVA	**Kavala**	**0.96**	**298**	P	**Pg**	**00 10 09.4**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**1.07**	**138**	*i* P	**Pn**	**00 10 12.2**	**-0.2**
BAYC				*i* S	**Sn**	**00 10 26.9**	**-0.4**
OUR	**Ouranopolis**	**1.27**	**261**	PN	**Pg**	**00 10 15.8**	**0.0**
OUR	**Ouranopolis**	**1.27**	**261**	P	**Pg**	**00 10 15.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.28**	**96**	PN	**Pn**	**00 10 15.2**	**-0.1**
PRK	**Paraskevi**	**1.39**	**159**	P	**Pb**	**00 10 17.2**	**-0.2**
AYVA	**Ayvalik**	**1.48**	**146**	*i* P	**Pb**	**00 10 19.0**	**+0.1**
EDRB	**Edirne**	**1.55**	**33**	PN	**Pb**	**00 10 19.9**	**-0.2**
NVR	**Nevrokopi**	**1.56**	**302**	P	**Pn**	**00 10 19.7**	**+0.5**
KIRK	**Kirklareli**	**1.66**	**41**	*i* P	**Pn**	**00 10 20.8**	**+0.2**
KIRK				IAML_P			
	comp=Z,114nm,0.1s						
BALB	**Balikesir**	**1.95**	**117**	PN	**Pn**	**00 10 25.0**	**+0.5**

*ISCJB **23** 00:42:30.0±0.9, 10°.3S×0°.1×161°.0E±0°.1, h67^{km}, mb3.5/5, Error ellipse: s-maj=23.6km s-min=8.0km az=144.5*
*IDC **23** 00:42:32.1±2.2, 10°.21S×161°.04E, h76$^{km}_{\pm}$16^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.4/41, mbtmp3.8/6, Error ellipse: s-maj=29.8km s-min=18.0km az=64.0*

ISC 23 00:42:31.4±1.0, **10°.2S**×0°.1×**161°.0E**±0°.2, **h67**^{km}, **n8**, σ1**°31/11**, **mb3.6/5**, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.31**	**305**	*e*P	**Pn**	**00 42 52.0**	**-1.8**
HNR				*e*S	**Sn**	**00 43 11.0**	**+0.5**
HNR	**Honiara**	**1.31**	**305**	P	**Pn**	**00 42 53.9**	**+0.1**
	108nm,0.3s,baz=140,slow=7.9,SNR=22						
HNR				S	**Sn**	**00 43 12.2**	**+1.7**
	427nm,0.3s,baz=190,slow=24,SNR=15						
DZM	**Mont Dzumac**	**12.91**	**157**	P	**Pn**	**00 45 33.8**	**+1.7**
	0.4nm,0.3s,baz=140,slow=23,SNR=12						
DZM				S	**Sn**	**00 47 52.9**	**-1.3**
	0.2nm,0.3s,baz=56,slow=18,SNR=2.1						
WRA	**Warramunga Arr**	**27.51**	**246**	P	**P**	**00 48 11.9**	**0.0**
	1.0nm,0.5s,baz=75,slow=9.5,SNR=9.1						
ASAR	**Alice Springs**	**29.15**	**239**	P	**P**	**00 48 25.5**	**-0.9**
	0.5nm,0.3s,baz=62,slow=9.8,SNR=8.9						
SONM	**Songino Array**	**75.28**	**325**	P	**P**	**00 54 06.7**	**-0.7**
	1.0nm,0.6s,baz=136,slow=5.9,SNR=5.6						
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**00 54 54.7**	**-0.6**
	0.2nm,0.7s,baz=247,slow=4.6,SNR=3.2						
MKAR	**Makanchi Array**	**89.75**	**318**	P	**P**	**00 55 23.7**	**+1.2**
	0.1nm,0.4s,baz=93,slow=6.0,SNR=3.2						

PGC 23 00:44:15.8±0.2, **59°.97N**×**140°.69W**, **h5**^{km}, **ML2.0**/10, **101km Wnw of Yakutat, Ak Southeastern Alaska, Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAMH	**Samovar Hills**	**0.17**	**343**	P	Pg	00 44 18.5	-0.7
SAMH				S	Sg	00 44 21.5	0.0
PCA	**Pinnacle**	**0.25**	**59**	P	Pg	00 44 20.7	0.0
PCA				S	Sg	00 44 24.9	+0.9
RKAV	**Rock Avalanche**	**0.47**	**315**	P	Pg	00 44 25.0	+0.1
RKAV				S	Sg	00 44 31.0	0.0
MESA	**MESA**	**0.67**	**289**	P	Pg	00 44 28.5	-0.2
MESA				S	Sg	00 44 37.6	+0.2
PNL	**Peninsula**	**0.72**	**114**	P	Pg	00 44 28.6	-1.0
PNL				S	Sg	00 44 38.6	-0.3
CTGM	**Chitina Glacie**	**1.05**	**342**	P	Pg	00 44 33.8	-2.1
KIAG	**Kiagna River**	**1.27**	**320**	P	Pg	00 44 37.6	-2.5
KIAG				S	Sg	00 44 55.5	-1.0
BALM	**Baldy**	**1.35**	**323**	P	Pn	00 44 38.8	-2.6
BALM				S	Sg	00 44 58.4	-0.7
YUK7	**Dusty Glacier**	**1.39**	**65**	Pn	Pn	00 44 40.8	-1.3
YUK7				Sg	Sg	00 44 59.6	-0.8
PTPK	**Patty Peak**	**1.50**	**325**	Pn	Pn	00 44 41.5	-2.2
PTPK				Sg	Sn	00 45 02.6	-1.2
YUK6	**Outpost Mounta**	**1.51**	**49**	Pn	Pn	00 44 42.8	-1.0
YUK6				Sg	Sn	00 45 02.8	-1.1
YUK4	**Talbot Arm**	**1.71**	**35**	Pn	Pb	00 44 47.6	-0.2
HYT	**Haines Junctio**	**1.80**	**60**	Pn	Pn	00 44 47.1	-0.5
HYT				Sg	Sn	00 45 11.0	+0.2
YUK3	**Moose Creek**	**1.81**	**3**	Pn	Pn	00 44 47.4	-0.6
YUK3				Sg	Sb	00 45 12.5	-0.3
YUK5	**Granite Creek**	**1.82**	**49**	Pn	Pn	00 44 47.9	0.0
YUK5				Sg	Sn	00 45 11.5	+0.1
YUK2	**White River**	**1.82**	**358**	Pn	Pn	00 44 47.4	-0.5
YUK2				Sg	Sn	00 45 11.2	-0.3
PLBC	**Pleasant Camp**	**2.25**	**101**	Pn	Pn	00 44 52.4	-1.3
PLBC				Sn	Sn	00 45 21.4	-0.4
BVCY	**Beaver Creek**	**2.45**	**358**	Pn	Pn	00 44 56.2	-0.3
WHY	**Whitehorse**	**2.97**	**74**	Pn	Pn	00 45 02.3	-1.4
WHY				Sn	Sn	00 45 38.9	-0.8

*ISCJB **23** 00:45:39.3±0.8, 41°.80N±0°.03×19°.77E±0°.07, h13$^{km}_{\pm}$7^{km}, Error ellipse: s-maj=9.7km s-min=5.2km az=162.3*
*TIR **23** 00:45:39.3, 41°.72N×19°.79E, h7^{km}, Md2.5/3*
*BEO **23** 00:45:40.3±0.6, 41°.78N×19°.67E, h17$^{km}_{\pm}$5^{km}, ML1.5/3*

ISC 23 00:45:39.7±1.1, **41°.78N**±0°.04×**19°.78E**±0°.06, **h11**$^{km}_{\pm}$10km, **n7**, σ0**°74/14**, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.28**	**17**	*i* PG	**Pg**	**00 45 44.9**	**-0.5**
PUK				*i* SG	**Sg**	**00 45 50.0**	**+0.8**
TIR	**Tirane**	**0.43**	**172**	*e*Pg	**Pb**	**00 45 49.5**	**+0.2**
TIR				*e*Sg	**Sb**	**00 45 56.9**	**+1.0**
TIR	**Tirane**	**0.43**	**172**	*i* PG	**Pg**	**00 45 47.8**	**-0.4**
TIR				*i* SG	**Sb**	**00 45 55.2**	**-0.7**
PHP	**Peshkopia**	**0.50**	**100**	*i* PG	**Pg**	**00 45 48.6**	**-0.8**
PHP				*i* SG	**Sg**	**00 45 56.8**	**+0.8**
PDG	**Podgorica**	**0.76**	**329**	*e*Pg	**Pg**	**00 45 54.2**	**-0.2**
PDG				*e*Sg	**Sg**	**00 46 04.1**	**-0.3**
SJES	**Sjenica**	**1.49**	**5**	*e*Pg	**Pn**	**00 46 07.3**	**+0.7**
SJES				*e*Sg	**Sg**	**00 46 28.3**	**+0.6**
IVAS	**Ivanjica**	**1.82**	**8**	*e*Pn	**Pn**	**00 46 10.3**	**-0.8**
IVAS				*e*Sn	**Sn**	**00 46 34.0**	**-0.2**

*ISCJB **23** 00:55:07.3±0.2, 52°.71N±0°.05×174°.08W±0°.04, h189$^{km}_{\pm}$2^{km}, mb4.1/50, Error ellipse: s-maj=8.8km s-min=3.7km az=163.8*
*AEIC **23** 00:55:07.1±0.0, 53°.24N×174°.30W, h155^{km}*
*NEIC **23** 00:55:08.3±0.2, 52°.60N×174°.00W, h184$^{km}_{\pm}$2^{km}, mb4.3/54, ML3.8(AEIC), Error ellipse: s-maj=6.7km s-min=3.5km az=159.0*
*IDC **23** 00:55:09.3±3.8, 52°.82N×174°.01W, h196$^{km}_{\pm}$35^{km}, mb3.5/23, mb1 3.7/24, mb1mx3.5/57, mbtmp4.0/24, Error ellipse: s-maj=16.8km s-min=9.6km az=7.0*

ISC 23 00:55:07.9±0.6, **52°.62N**±0°.08×**173°.98W**±0°.05, **h188**$^{km}_{\pm}$6^{km}, **n127**, σ1**°20/13**8, **mb4.1**/50, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**0.31**	**213**	P	**Pn**	**00 55 33.0**	**-0.1**
KOKL	**Mount Kliuchef**	**0.33**	**205**	P	**Pn**	**00 55 33.2**	**0.0**
KOFP	**Korovin Flat P**	**0.36**	**192**	P	**Pn**	**00 55 32.7**	**-0.5**
KOFP				S	**Sn**	**00 55 54.2**	**+1.6**
GSTR	**Great Sitkin T**	**1.38**	**248**	*e*Pn	**Pn**	**00 55 39.5**	**0.0**
GSTR				*e*Sn	**Sn**	**00 56 03.1**	**-0.8**
GSMY	**Great Sitkin M**	**1.40**	**246**	P	**Pn**	**00 55 39.3**	**-0.4**
GSTD	**Great Sitkin T**	**1.45**	**248**	P	**Pn**	**00 55 39.8**	**-0.3**
GSTD				S	**Sn**	**00 56 03.5**	**-1.6**
ETKA	**Kagalaska Isla**	**1.68**	**244**	P	**Pn**	**00 55 41.8**	**-0.4**
ADAG	**Mount Adagdak**	**1.73**	**249**	P	**Pn**	**00 55 42.7**	**-0.1**
ADK	**Adak**	**1.82**	**247**	P	**Pn**	**00 55 43.3**	**-0.4**
ADK				S	**Sn**	**00 56 09.8**	**-1.6**
KIWB	**Kanaga Island**	**2.10**	**250**	*e*Pn	**Pn**	**00 55 46.9**	**+0.3**
KIWB				*e*Sn	**Sn**	**00 56 16.6**	**0.0**
KIKV	**Kanaga Island**	**2.10**	**250**	P	**Pn**	**00 55 46.7**	**+0.1**
KIMD	**Kanaga Island**	**2.18**	**248**	P	**Pn**	**00 55 47.5**	**0.0**
TAFP	**Tanaga Falls P**	**2.57**	**255**	P	**Pn**	**00 55 52.1**	**+0.3**
TAFP				S	**Sn**	**00 56 24.0**	**-2.0**
TASE	**Tanaga Southea**	**2.62**	**254**	P	**Pn**	**00 55 52.8**	**+0.4**
GAEA	**Gareloi East**	**3.05**	**256**	P	**Pn**	**00 55 58.1**	**+0.6**
NIKH	**Nikolski High**	**3.13**	**82**	P	**Pn**	**00 55 58.1**	**-0.3**
OKAK	**Okmok**	**3.52**	**72**	P	**Pn**	**00 56 02.7**	**-0.5**
OKWE	**Okmok W'ng Wal**	**3.57**	**74**	P	**Pn**	**00 56 03.9**	**+0.2**

OKTU	**Okmok Mt. Tuli**	**3.67**	**76**	P		**Pn**	**00 56 05.3**	**+0.3**
OKER	**Okmok East Rim**	**3.67**	**75**	P		**Pn**	**00 56 05.7**	**+0.5**
MREP	**Makushin Rep't**	**4.51**	**72**	P		**Pn**	**00 56 16.1**	**+0.4**
MSW	**Makushin Switc**	**4.51**	**70**	P		**Pn**	**00 56 15.7**	**+0.1**
MTBL	**Makushin Table**	**4.58**	**70**	P		**Pn**	**00 56 17.1**	**+0.5**
UNV	**Unalaska Valle**	**4.66**	**72**	P		**Pn**	**00 56 17.7**	**+0.2**
AKMO	**Akutan Morgan**	**4.99**	**70**	P		**Pn**	**00 56 22.6**	**+0.7**
SPIA	**Saint Paul Isl**	**5.05**	**24**	*e*Pn		**Pn**	**00 56 24.0**	**+1.5**
AHB	**Akutan Harbor**	**5.11**	**70**	P		**Pn**	**00 56 24.1**	**+0.8**
AKUT	**Akutan**	**5.14**	**70**	*e*Pn		**Pn**	**00 56 24.7**	**+1.0**
SDPT	**Sand Point**	**8.41**	**66**	*e*Pn		**Pn**	**00 57 05.6**	**-0.8**
CHGN	**Chignik**	**9.78**	**62**	*e*Pn		**Pn**	**00 57 24.1**	**-0.1**
SVW2	**Sparrevohn**	**13.12**	**42**	*e*Pn		**P**	**00 58 10.6**	**+0.1**
KDAK	**Kodiak Island**	**13.24**	**59**	*e*Pn		**P**	**00 58 10.2**	**-1.5**
KDAK	**Kodiak Island**	**13.24**	**59**	P		**Pn**	**00 58 05.7**	**-2.8**
	2.5nm,0.3s,baz=226,slow=3.3,SNR=37							
KDAK				S		Sn	01 00 24.0	-12
	0.2nm,0.3s,baz=236,slow=20,SNR=6.1							
BRLK	**Bradley Lake**	**14.65**	**52**	*e*Pn		**P**	**00 58 27.6**	**+0.2**
PPLA	**Purkeypile**	**15.44**	**40**	*e*Pn		**P**	**00 58 40.4**	**+4.2**
	26nm,1.3s							
SEW	**Seward**	**15.45**	**51**	*e*Pn		**Pn**	**00 58 35.1**	**-0.6**
	52nm,1.2s							
RC01	**Rabbit Creek A**	**15.65**	**48**	*e*P		**P**	**00 58 39.9**	**+1.5**
	41nm,1.7s							
GHO	**Glory Hole Cre**	**16.27**	**46**	*e*P		**Pn**	**00 58 47.1**	**+1.3**
	23nm,1.3s							
KNK	**Knik Glacier**	**16.34**	**47**	*e*P		**Pn**	**00 58 46.7**	**+0.1**
	20nm,1.3s							
TRF	**Thorofare Moun**	**16.46**	**40**	*e*P		**Pn**	**00 58 49.6**	**+1.4**
	14nm,1.0s							
BPAW	**Bear Paw Mtn.**	**16.54**	**37**	*e*P		**Pn**	**00 58 50.2**	**+1.2**
	8.3nm,0.4s							
SML	**Sawmill**	**16.55**	**46**	*e*P		**Pn**	**00 58 50.5**	**+1.4**
	40nm,1.6s							
IM3	**Indian Mountai**	**16.79**	**29**	*e*P		**Pn**	**00 58 53.6**	**+1.7**
SCM	**Sheep Creek Mo**	**17.00**	**47**	*e*P		**Pn**	**00 58 55.3**	**+0.8**
	70nm,1.7s							
RND	**Reindeer**	**17.00**	**41**	*e*P		**Pn**	**00 58 53.5**	**-1.1**
	16nm,0.7s							
MCK	**McKinley**	**17.13**	**40**	*e*P		**Pn**	**00 58 55.8**	**-0.2**
	12nm,0.6s							
MLY	**Manley**	**17.16**	**35**	*e*P		**Pn**	**00 58 57.1**	**+0.8**
	11nm,0.6s							
KLU	**Klutina**	**17.52**	**49**	*e*P		**Pn**	**00 59 00.8**	**+0.2**
	22nm,1.3s							
WRH	**Wood River Hil**	**17.81**	**38**	*e*P		**P**	**00 59 01.6**	**-0.5**
	29nm,1.6s							
CCB	**Clear Creek Bu**	**18.01**	**38**	*e*P		**P**	**00 59 03.4**	**-0.8**
	6.2nm,0.7s							
MDM	**Murphy Dome**	**18.01**	**37**	*e*P		**Pn**	**00 59 05.5**	**-0.9**
	22nm,1.6s							
BILL	**Bilibino**	**18.14**	**336**	*e*P		**Pn**	**00 59 07.2**	**-0.6**
	6.7nm,0.7s							
HDA	**Harding Lake**	**18.22**	**39**	*e*P		**Pn**	**00 59 07.6**	**-1.2**
	21nm,0.6s							
PAX	**Paxson**	**18.22**	**44**	*e*P		**Pn**	**00 59 07.7**	**-1.2**
	5.9nm,0.7s							
IL1	**Eielson Array**	**18.41**	**38**	*e*P		**P**	**00 59 06.6**	**-2.0**
ILAR	**Eielson Array**	**18.41**	**38**	P		**P**	**00 59 06.2**	**-2.5**
	1.8nm,0.3s,baz=226,slow=10,SNR=43							
ILAR				S		**S**	**01 02 26.8**	**-1.9**
	0.1nm,0.3s,baz=225,slow=7.5,SNR=4.0							
ILB	**Eielson Array**	**18.41**	**38**	*e*P		**P**	**00 59 07.3**	**-1.4**
	8.1nm,0.4s							
COLD	**Coldfoot**	**18.68**	**29**	*e*P		**Pn**	**00 59 14.2**	**+0.2**
	4.1nm,1.0s							
RIDG	**Independ'e Rid**	**18.77**	**42**	*e*P		**P**	**00 59 12.5**	**-0.1**
	8.3nm,0.6s							
DOT	**Dot Lake**	**19.06**	**43**	*e*P		**P**	**00

	comp=Z,3.3nm,0.9s,baz=8.0,slow=8.4,SNR=3.9							
KURK	**Kurchatov**	**60.27**	**316**	*e*P		**P**	**01 04 55.9**	**-0.1**
	comp=Z,1.9nm,0.7s							
KURBB	**Kurchatov Arra**	**60.37**	**316**	P		**P**	**01 04 56.1**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=44,slow=6.8,SNR=19							
WMQ	**Urumqi**	**61.12**	**305**	*e*P		**P**	**01 05 05.4**	**+3.4**
MKAR	**Makanchi Array**	**61.54**	**311**	P		**P**	**01 05 03.9**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=40,slow=5.6,SNR=9.4							
MK01	**Makanchi Array**	**61.55**	**311**	*e*P		**P**	**01 05 04.5**	**-0.4**
BVAR	**Borovoye Array**	**61.81**	**322**	P		**P**	**01 05 06.2**	**-0.2**
	comp=Z,3.0nm,0.5s,baz=53,slow=6.1,SNR=29							
FINES	**FINESS Array B**	**65.17**	**350**	P		**P**	**01 05 27.2**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=23,slow=7.5,SNR=5.1							
KMI	**Kunming**	**66.46**	**281**	P		**P**	**01 05 39.3**	**+2.0**
KMI				pmax	pmax			
	comp=Z,18nm,0.6s							
AAK	**Ala-Archa**	**68.29**	**312**	P		**P**	**01 05 48.6**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=96,slow=5.8,SNR=10							
ABKAR	**Akbulak array**	**68.68**	**325**	*e*P		**P**	**01 05 50.8**	**+0.3**
	comp=Z,1.8nm,0.6s							
KKAR	**Karatay Array**	**69.67**	**315**	*e*P		**P**	**01 05 56.9**	**+0.1**
	comp=Z,1.9nm,1.0s							
KSH	**Kashi**	**70.08**	**309**	P		**P**	**01 06 02.8**	**+3.3**
KSH				S		**S**	**01 14 53.1**	**-1.7**
KSH				pmax	pmax			
	comp=Z,240nm,9.5s							
AKASG	**Malin Array Be**	**75.20**	**345**	P		**P**	**01 06 28.0**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=15,slow=6.0,SNR=3.5							
GERES	**GERESS Array B**	**78.70**	**355**	P		**P**	**01 06 48.3**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=357,slow=2.2,SNR=2.9							
PSZ	**Piszkesteto**	**79.14**	**351**	*e*P		**P**	**01 06 52.4**	**+1.1**
	comp=Z,26nm,2.0s							
BNI	**Bardonecchia**	**82.70**	**360**	*e*P		**P**	**01 07 12.0**	**+1.7**
	comp=Z,49nm,1.8s							
BRTR	**Keskin Array B**	**84.95**	**339**	P		**P**	**01 07 20.9**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=2.9,slow=5.8,SNR=3.6							
WRA	**Warramunga Arr**	**85.02**	**228**	P		**P**	**01 07 22.8**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=35,slow=6.1,SNR=1.9							
ESDC	**Sonseca Array**	**87.67**	**8**	P		**P**	**01 07 33.6**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=342,slow=7.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**114.39**	**5**	PKP		**PKiKP**	**01 13 23.9**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=344,slow=3.0,SNR=1.7							
BOSA	**Boshof**	**152.10**	**322**	PKPbc		**PKPbc**	**01 14 40.3**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=357,slow=3.5,SNR=1.4							

*KRNET **23** 01:06:19.6±0.1, 43.°51N×77.°84E, h20km, mb3.4*
*NNC **23** 01:06:19.3±0.2, 43.°49N×77.°84E, h2km±1km, mb3.5, mpv3.5, Error ellipse: s-maj=2.1km s-min=1.0km az=171.0*
*SOME **23** 01:06:20.0, 43.°48N×77.°83E, h10km*
ISC 23 01:06:19.8±1.1, 43.°51N±0.°02×77.°80E±0.°01, h2km±9km, n82, σ1§50/145, 38C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURS	**Kuram**	**0.27**	**94**	P	**Pg**	**01 06 25.2**	**+0.2**
	72nm,0.4s						
KURS				S	**Sg**	**01 06 28.7**	**+0.3**
	467nm,0.3s						
KURS	**Kuram**	**0.27**	**94**	⇑*e*P	**Pg**	**01 06 25.2**	**+0.2**
	baz=96						
KURS				⇓*e*S	**Sg**	**01 06 28.7**	**+0.3**
	baz=96						
KURS	**Kuram**	**0.27**	**94**	⇑*e*P	**Pg**	**01 06 25.2**	**+0.2**
	72nm,0.4s						
KURS				⇓*e*S	**Sg**	**01 06 28.7**	**+0.3**
	152nm,0.3s						
KOTS	**Kotyrbulak**	**0.57**	**242**	P	**Pg**	**01 06 31.5**	**+0.7**
	50nm,0.1s						
KOTS				S	**Sg**	**01 06 39.9**	**+1.6**
	187nm,0.3s						
KOTS	**Kotyrbulak**	**0.57**	**242**	*e*P	**Pg**	**01 06 31.5**	**+0.7**
	baz=42						
KOTS				*e*S	**Sg**	**01 06 39.9**	**+1.6**
	baz=42						
KOTS	**Kotyrbulak**	**0.57**	**242**	*e*P	**Pg**	**01 06 31.5**	**+0.7**
	50nm,0.1s						
KOTS				*e*S	**Sg**	**01 06 39.9**	**+1.6**
	187nm,0.3s						
SATY	**Saty**	**0.63**	**135**	P	**Pg**	**01 06 31.4**	**-0.5**
	86nm,0.2s						
SATY				S	**Sg**	**01 06 39.5**	**-0.5**
	499nm,0.2s						
SATY	**Saty**	**0.63**	**135**	*e*P	**Pg**	**01 06 31.3**	**-0.5**
	86nm,0.2s						
SATY				*e*S	**Sg**	**01 06 39.3**	**-0.7**
	456nm,0.2s						
KPKS	**Kokpek**	**0.64**	**93**	*e*P	**Pg**	**01 06 31.7**	**-0.4**
	baz=96						
KPKS				*e*S	**Sg**	**01 06 39.9**	**-0.5**
	baz=96						
KPKS	**Kokpek**	**0.64**	**93**	*e*P	**Pg**	**01 06 31.7**	**-0.4**
	137nm,0.2s						
KPKS				*e*S	**Sg**	**01 06 40.0**	**-0.5**
	293nm,0.2s						
MDOK	**Medeo**	**0.65**	**238**	⇑P	**Pg**	**01 06 32.4**	**+0.1**
MDOK				⇑S	**Sg**	**01 06 41.6**	**+0.9**
MDOK	**Medeo**	**0.65**	**238**	Pg	**Pg**	**01 06 32.6**	**+0.3**
	41nm,0.4s						
MDOK				Lg	Lg	01 06 41.6	
	50nm,0.2s						
MDOK	**Medeo**	**0.65**	**238**	*e*P	**Pg**	**01 06 32.6**	**+0.3**
	baz=39						
MDOK				*e*S	**Sg**	**01 06 41.6**	**+0.9**
	baz=39						
MDOK	**Medeo**	**0.65**	**238**	*e*P	**Pg**	**01 06 32.6**	**+0.3**
	44nm,0.4s						
MDOK				*e*S	**Sg**	**01 06 41.6**	**+0.9**
	66nm,0.3s						
KNDC	**Almaty**	**0.68**	**245**	⇑P	**Pg**	**01 06 33.3**	**+0.5**
KNDC				⇓S	**Sg**	**01 06 43.0**	**+1.4**
ARXS	**Arharly**	**0.71**	**1**	P	**Pg**	**01 06 33.6**	**+0.3**
	21nm,0.1s						
ARXS				S	**Sg**	**01 06 43.3**	**+0.8**
	274nm,0.3s						
ARXS	**Arharly**	**0.71**	**1**	*e*P	**Pg**	**01 06 33.6**	**+0.3**
	21nm,0.1s						
ARXS				*e*S	**Sg**	**01 06 43.3**	**+0.8**
	274nm,0.3s						
AAA	**Alma-Ata**	**0.71**	**246**	P	**Pg**	**01 06 34.2**	**+0.7**
	62nm,0.2s						
AAA				S	**Sg**	**01 06 44.5**	**+1.8**
	208nm,0.2s						
AAA	**Alma-Ata**	**0.71**	**246**	*e*P	**Pg**	**01 06 34.2**	**+0.7**
	baz=46						
AAA				*e*S	**Sg**	**01 06 44.5**	**+1.8**
	baz=46						
AAA	**Alma-Ata**	**0.71**	**246**	*e*P	**Pg**	**01 06 34.2**	**+0.7**
	61nm,0.4s						
AAA				*e*S	**Sg**	**01 06 44.5**	**+1.8**
	194nm,0.2s						
MNBS	**Baschi**	**0.72**	**37**	P	**Pg**	**01 06 33.4**	**-0.2**
	36nm,0.2s						
MNBS				S	**Sg**	**01 06 42.9**	**+0.1**
	116nm,0.3s						
MNBS	**Baschi**	**0.72**	**37**	*e*P	**Pg**	**01 06 33.4**	**-0.2**
	36nm,0.2s						
MNBS				*e*S	**Sg**	**01 06 42.9**	**+0.1**
	116nm,0.3s						
TNSS	**Tian-Shan**	**0.78**	**233**	P	**Pg**	**01 06 34.8**	**0.0**
	34nm,0.3s						
TNSS				S	**Sg**	**01 06 45.8**	**+0.8**
	36nm,0.3s						
TNSS	**Tian-Shan**	**0.78**	**233**	⇑*i*P	**Pg**	**01 06 34.8**	**0.0**
	baz=34						
TNSS				⇑*e*S	**Sg**	**01 06 45.6**	**+0.6**
	baz=34						
TNSS	**Tian-Shan**	**0.78**	**233**	⇑*i*P	**Pg**	**01 06 34.8**	**0.0**
	32nm,0.3s						
TNSS				*e*S	**Sg**	**01 06 45.6**	**+0.6**
	36nm,0.3s						
KTBS	**Karatobe**	**0.84**	**284**	P	**Pg**	**01 06 36.2**	**+0.3**
	13nm,0.1s						
KTBS				S	**Sg**	**01 06 47.8**	**+1.0**
	202nm,0.2s						
KTBS	**Karatobe**	**0.84**	**284**	*e*P	**Pg**	**01 06 36.2**	**+0.3**
	13nm,0.1s						
KTBS				*e*S	**Sg**	**01 06 47.7**	**+1.0**
	202nm,0.2s						
UZB	**Uzynbulak**	**0.96**	**112**	P	**Pg**	**01 06 37.2**	**-1.1**
	15nm,0.1s						
UZB				S	**Sg**	**01 06 49.2**	**-1.4**
	127nm,0.2s						
UZB	**Uzynbulak**	**0.96**	**112**	*e*P	**Pg**	**01 06 37.1**	**-1.1**
	baz=13						
UZB				*e*S	**Sg**	**01 06 49.2**	**-1.4**
	baz=13						
UZB	**Uzynbulak**	**0.96**	**112**	*e*P	**Pg**	**01 06 37.1**	**-1.1**
	15nm,0.1s						
UZB				*e*S	**Sg**	**01 06 49.2**	**-1.4**
	127nm,0.2s						
MTBS	**Maitube**	**1.07**	**250**	P	**Pb**	**01 06 40.2**	**-1.0**
	52nm,0.2s						
MTBS				S	**Sb**	**01 06 55.0**	**-0.7**
	145nm,0.3s						
MTBS	**Maitube**	**1.07**	**250**	*e*P	**Pb**	**01 06 40.2**	**-1.0**
	baz=50						
MTBS				*e*S	**Sb**	**01 06 54.7**	**-1.0**
	baz=50						
MTBS	**Maitube**	**1.07**	**250**	*e*P	**Pb**	**01 06 40.2**	**-1.0**
	52nm,0.2s						
MTBS				*e*S	**Sb**	**01 06 54.7**	**-1.0**
	145nm,0.3s						
KUU	**Kurty**	**1.13**	**290**	P	**Pb**	**01 06 41.2**	**-0.9**
	4.2nm,0.1s						
KUU				S	**Sb**	**01 06 56.3**	**-1.0**
	109nm,0.2s						
KUU	**Kurty**	**1.13**	**290**	⇑*i*P	**Pb**	**01 06 41.2**	**-0.9**
	baz=90						
KUU				⇓*i*S	**Sb**	**01 06 56.3**	**-1.0**
	baz=90						
KUU	**Kurty**	**1.13**	**290**	⇑*i*P	**Pb**	**01 06 41.2**	**-0.9**
	4.2nm,0.1s						
KUU				⇓*i*S	**Sb**	**01 06 56.3**	**-1.0**
	109nm,0.2s						
PDGK	**Podgornoye**	**1.24**	**98**	P	**Pn**	**01 06 42.1**	**-2.3**
	14nm,0.2s						
PDGK				S	**Sb**	**01 06 58.0**	**-2.5**
	54nm,0.2s						
PDGK	**Podgornoye**	**1.24**	**98**	⇑P	**Pn**	**01 06 42.1**	**-2.3**
	7.4nm,0.3s						
PDGK				⇑S	**Sb**	**01 06 58.1**	**-2.5**
	28nm,0.2s						
PDGK	**Podgornoye**	**1.24**	**98**	⇑*i*P	**Pn**	**01 06 42.1**	**-2.3**
	baz=98						
PDGK				⇑*i*S	**Sb**	**01 06 57.9**	**-2.7**
	baz=98						
SHLS	**Shalkode**	**1.26**	**106**	P	**Pg**	**01 06 48.1**	**+4.2**
	13nm,0.1s						
SHLS				S	**Sn**	**01 07 08.3**	**+6.1**
	127nm,0.3s						
SHLS	**Shalkode**	**1.26**	**106**	*e*P	**Pg**	**01 06 48.1**	**+4.2**
	baz=3.0						
SHLS				*e*S	**Sn**	**01 07 08.2**	**+6.1**
	baz=3.0						
SHLS	**Shalkode**	**1.26**	**106**	*e*P	**Pg**	**01 06 48.1**	**+4.2**
	13nm,0.1s						
SHLS				*e*S	**Sn**	**01 07 08.3**	**+6.1**
	127nm,0.3s						
KST	**Kastek**	**1.42**	**252**	P	**Pn**	**01 06 46.1**	**-0.7**
	44nm,0.2s						
KST				S	**Sn**	**01 07 05.4**	**-0.9**
	53nm,0.4s						
KST	**Kastek**	**1.42**	**252**	*e*P	**Pn**	**01 06 46.1**	**-0.7**
	baz=52						
KST				*e*S	**Sn**	**01 07 04.9**	**-1.3**
	baz=52						
KST	**Kastek**	**1.42**	**252**	*e*P	**Pn**	**01 06 46.1**	**-0.7**
	34nm,0.5s						
KST				*e*S	**Sn**	**01 07 05.0**	**-1.3**
	22nm,0.5s						
KDJ	**Kajisay**	**1.45**	**199**	⇑*i*P	**Pn**	**01 06 47.6**	**-0.1**
	baz=99						
KDJ				⇑*i*S	**Sg**	**01 07 06.5**	**+0.1**
	baz=99						
DGS	**Degeres**	**1.50**	**261**	P	**Pn**	**01 06 47.8**	**-0.1**
	46nm,0.3s						
DGS				S	**Sn**	**01 07 07.6**	**-0.6**
	82nm,0.3s						
DGS	**Degeres**	**1.50**	**261**	*e*P	**Pn**	**01 06 47.6**	**-0.4**
	baz=61						
DGS				*e*S	**Sn**	**01 07 07.7**	**-0.6**
	baz=61						
DGS	**Degeres**	**1.50**	**261**	*e*P	**Pn**	**01 06 47.5**	**-0.4**
	46nm,0.3s						
DGS				*e*S	**Sn**	**01 07 07.6**	**-0.6**
	82nm,0.3s						
TDK	**Taldyqorghan**	**1.56**	**16**	P	**Pn**	**01 06 48.4**	**-0.2**
	44nm,0.4s						
TDK				S	**Sn**	**01 07 08.7**	**-0.7**
	243nm,0.4s						
TDK	**Taldyqorghan**	**1.56**	**16**	*e*P	**Pn**	**01 06 48.4**	**-0.2**
	44nm,0.4s						
TDK				*e*S	**Sn**	**01 07 08.7**	**-0.7**
	243nm,0.4s						
DJR	**Jarkent**	**1.66**	**59**	P	**Pn**	**01 06 49.4**	**-0.6**
	7.0nm,0.3s						
DJR				S	**Sb**	**01 07 11.8**	**-0.6**
	28nm,0.3s						
DJR	**Jarkent**	**1.66**	**59**	*e*P	**Pn**	**01 06 49.6**	**-0.4**
	3.3nm,0.5s						
DJR				*e*S	**Sb**	**01 07 11.2**	**-1.2**
	20nm,0.4s						
BOOM	**Boomskoye usch**	**1.70**	**234**	⇑*i*P	**Pn**	**01 06 50.9**	**+0.1**
	baz=34						
BOOM				⇑*i*S	**Sb**	**01 07 13.5**	**-0.4**
	baz=34						
ULHL	**Ulahol**	**1.71**	**223**	P	**Pb**	**01 06 51.4**	**-0.7**
	SNR=23						
ULHL	**Ulahol**	**1.71**	**223**	⇑*i*P	**Pb**	**01 06 51.3**	**-0.7**
	baz=23						
ULHL				⇑*i*S	**Sb**	**01 07 13.4**	**-0.6**
	baz=23						
TKM2	**Tokmak 2**	**1.72**	**251**	P	**Pn**	**01 06 51.3**	**+0.4**
	SNR=39						
TKM2	**Tokmak 2**	**1.72**	**251**	⇑Pn	**Pn**	**01 06 51.2**	**+0.2**
	10nm,0.4s						
TKM2				⇑Sn	**Sb**	**01 07 14.4**	**0.0**
	14nm,0.2s						
TKM2	**Tokmak 2**	**1.72**	**251**	⇑*i*P	**Pn**	**01 06 51.3**	**+0.4**
	baz=51						
TKM2				⇑*i*S	**Sb**	**01 07 14.3**	**0.0**
	baz=51						
KTMS	**Ketmen**	**1.86**	**91**	P	**Pb**	**01 06 53.5**	**-1.1**
	27nm,0.3s						
KTMS				S	**Sb**	**01 07 17.3**	**-1.0**
	73nm,0.3s						
KTMS	**Ketmen**	**1.86**	**91**	*e*P	**Pn**	**01 06 52.5**	**-0.3**
	baz=91						
KTMS				*e*S	**Sb**	**01 07 16.2**	**-2.1**
	baz=91						
KTMS	**Ketmen**	**1.86**	**91**	*e*P	**Pn**	**01 06 52.5**	**-0.3**
	27nm,0.3s						
KTMS				*e*S	**Sb**	**01 07 16.2**	**-2.1**
	73nm,0.3s						
KAPS	**Kapalarasan**	**2.10**	**32**	Pg	**Pb**	**01 06 57.8**	**-0.9**
	6.4nm,0.3s						
KAPS				Lg	Lg	01 07 25.3	
	49nm,0.5s						
KAPS	**Kapalarasan**	**2.10**	**32**	⇓*i*P	**Pb**	**01 06 57.8**	**-0.9**
	6.8nm,0.3s						
KAPS				⇓*i*S	**Sb**	**01 07 25.3**	**+0.1**
	48nm,0.2s						
KBK	**Karagaybulak**	**2.26**	**249**	P	**Pn**	**01 06 59.5**	**+1.1**
	SNR=31						
KBK	**Karagaybulak**	**2.26**	**249**	⇑*i*P	**Pn**	**01 06 59.6**	**+1.2**
	baz=49						
KBK				⇑*i*S	**Sn**	**01 07 27.8**	**+0.9**
	baz=49						
CHMS	**Chumysh**	**2.29**	**258**	P	**Pb**	**01 07 00.5**	**-1.4**
	SNR=9.0						
CHMS	**Chumysh**	**2.29**	**258**	⇑*i*P	**Pn**	**01 06 59.8**	**+1.2**
	baz=58						
CHMS				⇑*i*S	**Sb**	**01 07 28.6**	**-2.0**
	baz=58						
KZA	**Kyzart**	**2.36**	**234**	P	**Pb**	**01 07 03.3**	**0.0**
	SNR=26						
USP	**Ospenovka**	**2.42**	**265**	P	**Pb**	**01 07 02.9**	**-1.3**
	SNR=15						
USP	**Ospenovka**	**2.42**	**265**	⇓*i*P	**Pn**	**01 07 01.4**	**+0.9**
	baz=65						
USP				⇓*i*S	**Sn**	**01 07 31.4**	**+0.7**
	baz=65						
AAK	**Ala-Archa**	**2.58**	**251**	P	**Pb**	**01 07 05.8**	**-1.0**
	SNR=14						
AAK	**Ala-Archa**	**2.58**	**251**	⇑Pg	**Pb**	**01 07 05.5**	**-1.3**
	2.7nm,0.3s						
AAK				⇓Lg	Lg	01 07 40.2	
	12nm,0.7s						
UCH	**Uchtor**	**2.74**	**243**	P	**Pb**	**01 07 08.9**	**-0.8**
	SNR=9.9						
ARLS	**Aral**	**3.05**	**239**	⇑*i*P	**Pn**	**01 07 10.7**	**+1.5**
	baz=39						
ARLS				⇑*i*S	**Sn**	**01 07 45.8**	**-0.6**
	baz=39						
AML	**Almayashu**	**3.32**	**247**	P	**Pb**	**01 07 18.9**	**-0.8**
	SNR=7.4						
MRKS	**Merke**	**3.44**	**259**	Pg	**Pb**	**01 07 23.1**	**+1.6**
	9.0nm,0.4s						
MRKS				Lg	Lg	01 08 07.8	
	12nm,0.3s						
MAKZ	**Makanchi**	**4.43**	**40**	⇑Pg	**Pb**	**01 07 39.4**	**+1.1**
	0.5nm,0.4s						
MAKZ				⇑Lg	Lg	01 08 38.5	
	2.2nm,0.6s						
MK31	**Makanchi Array**	**4.57**	**42**	⇑Pn	**Pn**	**01 07 31.3**	**+1.3**
	0.2nm,0.2s,baz=218,slow=15,SNR=19						
MK31				⇓Pg	**Pb**	**01 07 43.1**	**+2.4**
	0.3nm,0.3s,baz=223,slow=16,SNR=6.1						
MK31				⇓Lg	Lg	01 08 41.4	
	1.4nm,0.5s,baz=224,slow=28,SNR=6.6						
KK31	**Karatay Array**	**5.34**	**268**	⇑Pg	**Pg**	**01 07 58.8**	**-3.2**
	0.4nm,0.4s,baz=82,slow=15,SNR=11						
KK31				⇑Lg	Lg	01 09 05.4	
	2.1nm,0.5s,baz=81,slow=27,SNR=9.4						
KURBB	**Kurchatov Arra**	**7.14**	**4**	⇑Lg	Lg	01 10 05.7	
	7.8nm,0.6s						
KURK	**Kurchatov**	**7.23**	**4**	⇑Lg	Lg	01 10 06.4	
	4.7nm,0.8s						

*IDC **23** 01:17:38.6±2.0, 27.°65S×176.°56W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/25, mbtmp3.7/3, ML3.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/19, Error ellipse: s-maj=59.2km s-min=27.0km az=121.0*
ISC 23 01:17:42.5±1.5, 28.°0S±0.°2×176.°2W±0.°2, h34km, n9, σ1§46/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.93**	**230**	Pn	**Pn**	**01 18 13.5**	**+0.5**
	22nm,0.3s,baz=37,slow=20,SNR=2.5						
RAO				Sn	**Sb**	**01 18 42.1**	**+1.3**
	265nm,0.3s,baz=75,slow=23,SNR=10						
URZ	**Urewera**	**11.64**	**207**	Pn	**Pn**	**01 20 27.2**	**+1.0**
	0.3nm,0.3s,baz=7.1,slow=18,SNR=3.0						
URZ				Sn	**Sn**	**01 22 32.7**	**-2.2**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=5.0						
DZM	**Mont Dzumac**	**16.77**	**287**	LR	LR	01 26 18.0	
	comp=Z,119nm,20.9s,baz=77,slow=32						
ASAR	**Alice Springs**	**44.85**	**264**	P	**P**	**01 25 52.2**	**-1.5**
	0.4nm,0.3s,baz=102,slow=7.9,SNR=5.5						
WRA	**Warramunga Arr**	**45.62**	**269**	P	**P**	**01 25 58.9**	**-1.1**
	0.7nm,0.6s,baz=108,slow=7.6,SNR=9.8						
MKAR	**Makanchi Array**	**117.41**	**311**	PKP	**PKiKP**	**01 36 25.6**	**+1.2**
	0.6nm,0.9s,baz=134,slow=4.2,SNR=3.6						
BVAR	**Borovoye Array**	**125.75**	**317**	PKP	**PKPdf**	**01 36 39.9**	**-0.3**
	0.3nm,0.6s,baz=62,slow=3.4,SNR=2.9						
FINES	**FINESS Array B**	**143.40**	**342**	PKhKP	PKPpre	01 37 10.1	
	1.8nm,1.0s,baz=113,slow=2.1,SNR=1.9						
HFS	**Hagfors**	**147.18**	**351**	PKPbc	**PKPbc**	**01 37 21.9**	**+0.3**
	1.5nm,0.8s,baz=46,slow=4.2,SNR=1.2						

*DDA **23** 02:04:55.4, 38.°89N×43.°73E, h7km±2km, ML2.7*
*ISK **23** 02:04:55.8, 38.°95N×43.°72E, h3km, ML2.5/12*
ISC 23 02:04:55.6±1.0, 38.°90N±0.°03×43.°70E±0.°04, h13km±8km, n23, σ0§55/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.14**	**314**	*i* P	**Pg**	**02 04 59.8**	**+0.4**
CLDR	**Caldiran**	**0.30**	**35**	PG	**Pg**	**02 05 01.5**	**-0.5**
CLDR				SG	**Sg**	**02 05 05.5**	**-0.8**
CLDR	**Caldiran**	**0.30**	**35**	*i* P	**Pg**	**02 05 01.6**	**-0.4**
CLDR				*i* S	**Sg**	**02 05 06.8**	**+0.4**
CLDR				IAML_P			
	comp=Z,15µm,0.1s						
ERCV	**ERCIS-VAN**	**0.31**	**294**	PG	**Pb**	**02 05 02.9**	**-0.2**
VANB	**Van**	**0.39**	**219**	PG	**Pn**	**02 05 05.9**	**-1.1**
VANB				SG	**Sn**	**02 05 14.1**	**-0.2**
TVAN	**Van**	**0.43**	**212**	*i* P	**Pb**	**02 05 06.0**	**+0.8**
TVAN				IAML_P			
	comp=Z,9µm,0.3s						
DYDN	**Diyadin**	**0.65**	**359**	*i* P	**Pg**	**02 05 08.5**	**+0.2**
DYDN				*i* S	**Sb**	**02 05 18.6**	**+0.7**
DYDN				IAML_P			
	comp=Z,3µm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.77**	**264**	*i* P	**Pb**	**02 05 11.2**	**+0.3**
ADCV				*i* S	**Sn**	**02 05 22.9**	**-0.8**
ADCV				IAML_P			
	comp=Z,1µm,0.2s						
GEVA	**Gevas**	**0.77**	**221**	*i* P	**Pg**	**02 05 10.5**	**-0.1**
GEVA				IAML_P			
	comp=Z,1µm,0.2s						
AKDM	**Akdamar-Van**	**0.80**	**225**	PG	**Pb**	**02 05 11.9**	**+0.5**
AGRB	**Hanur-Agry**	**0.87**	**321**	PG	**Pg**	**02 05 12.4**	**-0.2**
AGRB				SG	**Sb**	**02 05 24.9**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.93**	**286**	PG	**Pn**	**02 05 14.5**	**0.0**
IGDI	**IGDIR**	**1.01**	**17**	*i* P	**Pn**	**02 05 15.7**	**+0.1**
IGDI				IAML_P			
	comp=Z,262nm,0.2s						
TASB	**TASBURUN-IGDIR**	**1.17**	**21**	PN	**Pn**	**02 05 17.5**	**-0.2**
YOVA	**Hakkari_Yksek**	**1.39**	**160**	*i* P	**Pg**	**02 05 22.4**	**+0.1**
YOVA				IAML_P			
	comp=Z,315nm,0.4s						
GNI	**Garni**	**1.49**	**32**	PN	**Pb**	**02 05 23.7**	**+0.4**
DIGO	**Kars**	**1.54**	**351**	*i* P	**Pg**	**02 05 26.5**	**+1.3**
DIGO				IAML_P			
	comp=Z,2µm,0.2s						
CUKT	**Cukurca**	**1.65**	**183**	PN	**Pg**	**02 05 27.6**	**+0.3**
SRTM	**Siirt_Merkez**	**1.66**	**238**	*i* P	**Pg**	**02 05 27.6**	**0.0**
SRTM				IAML_P			
	comp=Z,128nm,0.1s						
MUSM	**Mu-Merkez**	**1.72**	**265**	*i* P	**Pg**	**02 05 28.9**	**+0.3**
MUSM				IAML_P			
	comp=Z,141nm,0.3s						
KARS	**Kars**	**1.79**	**345**	PN	**Pb**	**02 05 28.3**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.80**	**308**	PN	**Pb**	**02 05 28.6**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**328**	PN	**Pb**	**02 05 30.7**	**-0.6**

*IDC **23** 02:13:21.7±0.8, 31.°12S×67.°75W, h0km, mb3.6/2, mb1 3.9/6, mb1mx3.7/30, mbtmp3.7/6, ML3.6/4, MS3.0/2, Ms1 3.0/2, ms1mx2.7/27, Error ellipse: s-maj=25.3km s-min=7.9km az=126.0*
*SJA **23** 02:13:24.2±0.8, 31.°13S×68.°00W, h23km±3km, ML3.7, MW4.3*
*GUC **23** 02:13:25.9

CMCH				*i* S		**Sb**	**02 14 45.5**	**+0.2**
TCA	**Tanti**	**2.75**	**96**	IAML			02 15 03.0	
	comp=Z,556nm,0.6s							
TCA	**Tanti**	**2.75**	**96**	*e*P		**Pb**	**02 14 11.6**	**+0.2**
TCA				IAML			02 14 54.1	
	comp=N,1μm,0.7s							
FCH	**Farellones**	**3.07**	**223**	⇓ *i*P		**Pb**	**02 14 16.0**	**-0.8**
FCH				IAML			02 15 00.2	
	comp=E,439nm,0.6s							
CYA	**Choya**	**3.16**	**34**	IAML			02 15 18.8	
	comp=Z,284nm,0.4s							
CYA	**Choya**	**3.16**	**34**	⇑ *i*P		**Pb**	**02 14 16.9**	**-1.5**
CYA				*i* S		**Sb**	**02 14 55.5**	**-1.7**
CYA				IAML			02 15 16.9	
	comp=E,588nm,0.4s							
PEL	**Peldehue**	**3.19**	**229**	*e*P		**Pb**	**02 14 16.9**	**-1.9**
PEL				*i* S		**Sb**	**02 14 55.8**	**-2.2**
CLCH	**Cerro Calan**	**3.26**	**225**	*e*P		**Pb**	**02 14 18.5**	**-1.6**
CLCH				*i* S		**Sb**	**02 14 57.4**	**-2.8**
LCO	**Las Campanas**	**3.27**	**309**	⇓ *i*P		**Pb**	**02 14 18.6**	**-1.6**
LCO				IAML			02 15 05.2	
	comp=E,925nm,0.3s							
ROCH	**El Roble**	**3.31**	**235**	⇓ *i*P		**Pb**	**02 14 17.8**	**-3.1**
LMEL	**Las Melosas**	**3.42**	**216**	*e*P		**Pb**	**02 14 21.1**	**-1.6**
RFA	**San Rafael**	**3.71**	**189**	IAML			02 15 23.2	
	comp=Z,569nm,0.5s							
FSA	**Cafayete**	**5.22**	**18**	IAML			02 16 10.9	
	comp=Z,68nm,0.4s							
CCHI	**Chillan**	**6.54**	**212**	*e*P		**Pg**	**02 15 28.2**	**+1.3**
AGCH	**Angol**	**7.82**	**210**	*i* S		**Pn**	**02 15 17.3**	**+1.2**
LVC	**Limon Verde**	**8.51**	**353**	Pn		**Pn**	**02 15 27.4**	**+1.5**
	comp=Z,1.8nm,0.3s,baz=171,slow=8.4,SNR=12							
LVC				Sn		**Sn**	**02 17 02.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=295,slow=19,SNR=2.1							
LVC				Lg	Lg		02 17 53.3	
	comp=Z,1.0nm,0.3s,baz=310,slow=16,SNR=3.1							
LVC				LR	LR		02 19 21.6	
	comp=Z,126nm,21.9s,baz=194,slow=42							
GO06	**Curarrehue**	**8.98**	**199**	*e*P		**Pn**	**02 15 33.0**	**+1.0**
PLCA	**Paso Flores**	**9.87**	**192**	*e*P		Pn	02 15 51.9	+7.7
PLCA	**Paso Flores**	**9.87**	**192**	Pn		**Pn**	**02 15 43.8**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=345,slow=14,SNR=1.8							
PLCA				Lg	Lg		02 18 34.4	
	comp=Z,0.2nm,0.3s,baz=330,slow=18,SNR=1.7							
PLCA				LR	LR		02 19 17.9	
	comp=Z,82nm,20.4s,baz=326,slow=36							
CPUP	**Villa Florida**	**10.34**	**65**	Pn		**Pn**	**02 15 51.3**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=242,slow=14,SNR=6.7							
CPUP				Sn		**Sn**	**02 17 43.4**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=251,slow=18,SNR=2.1							
CPUP				Lg	Lg		02 18 49.8	
	comp=Z,0.6nm,0.3s,baz=165,slow=20,SNR=1.8							
LPAZ	**La Paz**	**14.75**	**359**	Pn		**Pn**	**02 16 52.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=190,slow=6.1,SNR=2.3							
TXAR	**Lajitas Array**	**69.12**	**327**	P		**P**	**02 24 30.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=147,slow=8.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**79.83**	**68**	P		**P**	**02 25 31.8**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=262,slow=4.1,SNR=5.0							
WRA	**Warramunga Arr**	**124.98**	**206**	PKP		**PKiKP**	**02 32 23.2**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=163,slow=1.7,SNR=6.1							
ZALV	**Zalesovo Beam**	**149.86**	**33**	PKPbc		**PKiKP**	**02 33 13.7**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=332,slow=4.7,SNR=7.8							
MKAR	**Makanchi Array**	**152.16**	**47**	PKPbc		**PKiKP**	**02 33 18.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=266,slow=1.7,SNR=11							

ATH ***23*** *02:33:51.9,40.32N×19.51E, h7km±3km, ML2.0/1, Error ellipse: s-maj=5.1km s-min=1.8km az=101.0*
THE ***23*** *02:33:52.8,40.22N×19.57E, h0km±5km, ML2.7/3, Error ellipse: s-maj=5.2km s-min=1.1km az=236.0*
TIR ***23*** *02:33:53.1,40.31N×19.63E, h8km, Md2.8/6*
ISC 23 02:33:53.8±0.9, 40°26N±0.02×19°51E±0.02, h14km±8km, n36, σ1§21/50, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.22**	**337**	P	**Pg**	**02 33 56.9**	**-1.8**
VLO				S	**Sg**	**02 34 02.4**	**+0.4**
VLO	**Vlora**	**0.22**	**337**	*i* PG	**Sb**	**02 34 06.0**	**+2.5**
VLO				*i* SG	**Sg**	**02 34 01.8**	**-0.2**
TPE	**Tepelena**	**0.31**	**84**	P	**Pg**	**02 33 58.7**	**-1.4**
TPE				S	**Sg**	**02 34 05.2**	**+0.7**
TPE	**Tepelena**	**0.31**	**84**	*i* PG	**Pg**	**02 33 58.9**	**-1.3**
TPE				*i* SG	**Sg**	**02 34 05.0**	**+0.5**
SRN	**Sarande**	**0.49**	**142**	P	**Pg**	**02 34 01.7**	**-1.7**
SRN				S	**Sg**	**02 34 08.6**	**-1.3**
SRN	**Sarande**	**0.49**	**142**	*i* PG	**Pg**	**02 34 02.8**	**-0.6**
SRN				*i* SN	**Sb**	**02 34 11.3**	**+0.3**
KEK	**Kerkira**	**0.57**	**165**	P	**Pg**	**02 34 03.7**	**-1.2**
KEK	**Kerkira**	**0.57**	**165**	P	**Pg**	**02 34 03.8**	**-1.2**
KEK				S	**Sb**	**02 34 13.5**	**0.0**
KEK				AML	AML	02 34 18.3	
	comp=E,368μm,0.6s						
KEK				AML	AML	02 34 20.8	
	comp=N,319μm,0.3s						
TIR	**Tirane**	**1.10**	**10**	*i* PG	**Pb**	**02 34 13.2**	**-1.4**
TIR				*i* PG	**Sg**	**02 34 28.6**	**-0.7**
TIR	**Tirane**	**1.10**	**10**	P	**Pb**	**02 34 12.9**	**-1.7**
NEST	**Nestorio**	**1.11**	**82**	P	**Pb**	**02 34 14.6**	**-0.2**
NEST	**Nestorio**	**1.11**	**82**	P	**Pb**	**02 34 14.6**	**-0.2**
JAN	**Janina**	**1.13**	**122**	P	**Pb**	**02 34 14.6**	**-0.5**
JAN	**Janina**	**1.13**	**122**	P	**Pg**	**02 34 15.7**	**+0.2**
PENT	**Pentalofos**	**1.17**	**93**	P	**Pg**	**02 34 16.4**	**0.0**
OHR	**Ohrid**	**1.24**	**46**	*e*Pn	**Pn**	**02 34 16.8**	**+0.1**
KPRO	**Kipourio**	**1.38**	**102**	P	**Pb**	**02 34 19.1**	**-0.3**
KPRO	**Kipourio**	**1.38**	**102**	P	**Pb**	**02 34 19.3**	**0.0**
FNA	**Florina**	**1.44**	**68**	P	**Pn**	**02 34 19.6**	**+0.1**
FNA	**Florina**	**1.44**	**68**	P	**Pn**	**02 34 19.3**	**-0.2**
BIA	**Bitola**	**1.51**	**59**	*i* Pn	**Pb**	**02 34 21.8**	**+0.3**
PHP	**Peshkopia**	**1.55**	**24**	*i* PG	Pg	02 34 31.6	+8.0
PHP				*i* SG	**Sb**	**02 34 42.1**	**+0.3**
KZN	**Kozani**	**1.65**	**88**	P	**Pb**	**02 34 24.8**	**+0.8**
KRUS	**Krusevo**	**1.66**	**48**	*i* Pn	**Pb**	**02 34 23.7**	**-0.5**
CGL1	**Ceglie Messapi**	**1.68**	**284**	*e*Pn	**Pb**	**02 34 23.5**	**-0.9**
CGL1				Sn	**Sg**	**02 34 47.6**	**-0.1**
LKD2	**Lefkada island**	**1.68**	**151**	P	**Pb**	**02 34 25.1**	**+0.6**
PUK	**Puka**	**1.79**	**7**	*i* PN	**Pb**	**02 34 26.3**	**-0.1**
PUK				*i* SN	**Sg**	**02 34 53.1**	**+1.8**
FASA	**Fasano**	**1.81**	**289**	*e*Pn	**Pb**	**02 34 26.4**	**-0.2**
FASA				Sn	**Sg**	**02 34 56.4**	**+4.5**
MASS	**Massafra**	**1.92**	**282**	*e*Pn	**Pb**	**02 34 27.9**	**-0.6**
MASS				Sn	**Sg**	**02 34 57.0**	**+1.5**
THL	**Klokotos Trika**	**1.98**	**110**	P	**Pb**	**02 34 29.7**	**+0.2**
EVR	**Evrytania**	**2.17**	**128**	P	**Pb**	**02 34 32.2**	**-0.6**
PVO	**Paravola**	**2.21**	**137**	P	**Pn**	**02 34 31.2**	**+1.2**
BAI	**Bari**	**2.24**	**293**	*e*Pn	**Pn**	**02 34 29.9**	**-0.5**
BAI				Sn	**Sb**	**02 35 00.6**	**-1.0**
SG1	**Sgolgore (BA)**	**2.31**	**285**	*e*Pn	**Pn**	**02 34 30.6**	**-0.8**
SG1				Sn	**Sb**	**02 35 05.3**	**+1.8**
STIP	**Stip**	**2.42**	**53**	*e*Pn	**Pg**	**02 34 39.3**	**-0.8**
AGG	**Agios Georgios**	**2.44**	**120**	P	**Pb**	**02 34 35.5**	**-1.9**

MEX 23 02:44:37.9±0.5, 16°09N×98°23W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.50**	**348**	*e*P	Pn	02 45 01.9	-3.8
TLIG				*e*S	Sn	02 45 20.7	-5.0
VHO	**Vista Hermosa**	**1.73**	**55**	*e*P	Pn	02 45 05.1	-3.8
VHO				*i* S	Sn	02 45 27.4	-4.2

BJI ***23*** *02:47:48.5, 12.34N×144.11E, h8km, mb4.7/42, mB5.1/23, Ms4.6/16, Ms7 4.3/12*
IDC ***23*** *02:47:48.0±0.5, 12.34N×144.06E, h0km, mb4.4/25, mb1 4.5/27, mb1mx4.3/50, mbtmp4.4/27, ML4.1/2, MS3.9/22, Ms1 3.9/22, ms1mx3.7/40, Error ellipse: s-maj=18.3km s-min=10.4km az=98.0*
ISCJB ***23*** *02:47:51.2±0.2, 12.30N±0.03×143.93E±0.04, h26km, mb4.7/95, MS4.0/25, Error ellipse: s-maj=6.2km s-min=4.4km az=19.1*
MOS ***23*** *02:47:52.6±0.9, 12.27N×143.91E, h39km, mb4.9/34, Error ellipse: s-maj=12.6km s-min=6.5km az=100.7*
NEIC ***23*** *02:47:53.3±2.1, 12.32N×143.95E, h30km±15km, mb4.8/46, Error ellipse: s-maj=7.2km s-min=4.5km az=97.0*
ISC 23 02:47:52.5±0.4, 12°24N±0.05×144°13E±0.07, h26km, n192, σ1§46/187, mb4.8/96, MS4.1/25, 9C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.52**	**28**	*e*P	**Pn**	**02 48 17.8**	**-0.3**
GUMO						02 48 38.3	
GUMO	**Guam**	**1.52**	**28**	Pn	**Pn**	**02 48 17.5**	**-0.6**
	365nm,0.3s,baz=278,slow=3.8,SNR=157						
GUMO				Sn	**Sb**	**02 48 38.2**	**-0.7**
	679nm,0.3s,baz=163,slow=19,SNR=29						
SARN	**Sarigan**	**4.71**	**20**	*e*Pn	**Pn**	**02 49 04.2**	**+2.2**
JAY	**Jayapura**	**15.05**	**193**	Pn	**Pn**	**02 51 22.5**	**-1.0**
	0.4nm,0.3s,baz=0.0,slow=17,SNR=2.4						
JAY				LR	LR	02 56 33.3	
	comp=Z,1μm,18.6s,baz=1.5,slow=35						
SIJI	**Sorong**	**18.24**	**225**	P	**Pn**	**02 52 03.2**	**-0.8**
	1.3nm,0.3s,baz=28,slow=11,SNR=2.6						
SIJI				LR	LR	02 58 59.8	
	comp=Z,415nm,19.4s,baz=161,slow=37						
DAV	**Davao City (W)**	**18.99**	**256**	LR	LR	03 00 38.2	
	comp=Z,145nm,18.8s,baz=68,slow=41						
FAKI	**Fak Fak**	**19.14**	**219**	*e*P	**Pn**	**02 52 15.3**	**+0.5**
	30nm,1.0s						
KCP	**Kidapawan**	**19.47**	**256**	⇑ *e*P	**Pn**	**02 52 18.7**	**-0.3**
PMG	**Port Moresby**	**21.71**	**172**	*e*P	**P**	**02 52 43.2**	**+1.4**
	45nm,1.4s						
PMG	**Port Moresby**	**21.71**	**172**	*e*P	**P**	**02 52 43.2**	**+1.4**
PMG				pmax	pmax		
	comp=Z,45nm,1.4s						
PMG	**Port Moresby**	**21.71**	**172**	P	**P**	**02 52 42.7**	**+0.9**
	comp=Z,4.5nm,0.4s,baz=282,slow=19,SNR=2.3						
H11S3	**WAKE ISLAND Hy**	**22.61**	**71**	T	T	03 16 29.6	
	baz=258						
H11S1	**WAKE ISLAND Hy**	**22.63**	**71**	T	T	03 16 29.7	
	baz=258,slow=74						
H11S2	**WAKE ISLAND Hy**	**22.63**	**71**	T	T	03 16 29.1	
	baz=258,slow=74						
TGY	**Tagaytay City**	**22.66**	**277**	LR	LR	03 01 12.9	
	comp=Z,92nm,18.1s,baz=91,slow=36						
H11N1	**WAKE ISLAND Hy**	**23.09**	**68**	T	T	03 17 01.3	
	baz=255,slow=75						
H11N2	**WAKE ISLAND Hy**	**23.10**	**68**	T	T	03 17 01.1	
	baz=255,slow=75,SNR=37						
H11N3	**WAKE ISLAND Hy**	**23.11**	**68**	T	T	03 17 01.8	
	baz=255,slow=75,SNR=36						
JNU	**Nakatsue**	**24.07**	**332**	P	**P**	**02 53 05.5**	**-0.3**
	comp=Z,17nm,0.8s,baz=69,slow=4.3,SNR=7.0						
JNU				LR	LR	03 01 17.5	
	comp=Z,100nm,19.1s,baz=124,slow=34						
MJAR	**Matsushiro Arr**	**24.78**	**349**	P	**P**	**02 53 09.8**	**-2.4**
	comp=Z,16nm,1.2s,baz=176,slow=11,SNR=9.0						
MJAR				LR	LR	03 02 25.0	
	comp=Z,585nm,18.2s,baz=180,slow=36						
MAJO	**Matsushiro**	**24.78**	**349**	*e*P	**P**	**02 53 12.4**	**+0.1**
	comp=Z,26nm,1.1s						
MAJO	**Matsushiro**	**24.78**	**349**	*e*P	**P**	**02 53 12.4**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,26nm,1.1s						
MAT	**Matsushiro**	**24.78**	**349**	P	**P**	**02 53 10.4**	**-1.9**
MAT				S	**S**	**02 57 40.0**	**+6.8**
COEN	**Coen**	**26.05**	**182**	*e*P	**P**	**02 53 24.6**	**+0.7**
	comp=Z,29nm,1.1s						
MTN	**Manton Dam**	**28.06**	**208**	*e*P	**P**	**02 53 42.0**	**0.0**
	comp=Z,8.3nm,0.8s						
KSRS	**Korea Array**	**29.00**	**333**	P	**P**	**02 53 47.6**	**-2.6**
	comp=Z,2.4nm,0.8s,baz=141,slow=9.0,SNR=4.4						
KSRS				LR	LR	03 05 01.7	
	comp=Z,126nm,18.0s,baz=140,slow=36						
KSAR	**Wonju Array Be**	**29.01**	**333**	P	**P**	**02 53 47.6**	**-2.6**
KSAR	**Wonju Array Be**	**29.01**	**333**	P	**P**	**02 53 47.6**	**-2.6**
KS01	**Wonju Array Si**	**29.03**	**333**	*e*P	**P**	**02 53 49.5**	**-1.0**
NJ2	**Nanjing**	**30.47**	**314**	*e*P	**P**	**02 54 03.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
CTA	**Charters Tower**	**32.19**	**176**	P	**P**	**02 54 19.8**	**+1.3**
	comp=Z,8.7nm,0.9s,baz=4.5,slow=18,SNR=4.2						
CTAO	**Charters Tower**	**32.19**	**176**	*e*P	**P**	**02 54 19.3**	**+0.8**
CTAO	**Charters Tower**	**32.19**	**176**	*e*P	**P**	**02 54 19.3**	**+0.8**
WRAB	**Tennant Creek**	**33.39**	**197**	*e*P	**P**	**02 54 29.0**	**0.0**
	comp=Z,4.9nm,0.6s						
WRAB	**Tennant Creek**	**33.39**	**197**	*ce*P	**P**	**02 54 29.7**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA	**Warramunga Arr**	**33.40**	**197**	*i* P	**P**	**02 54 29.7**	**+0.6**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WRA	**Warramunga Arr**	**33.40**	**197**	P	**P**	**02 54 29.4**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=21,slow=9.7,SNR=44						
WRA				LR	LR	03 08 24.7	
	comp=Z,430nm,19.9s,baz=35,slow=37						
USRK	**Ussuriysk Ar.**	**33.52**	**344**	P	**P**	**02 54 29.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=148,slow=9.6,SNR=3.1						
QIZ	**Qiongzhong**	**33.66**	**286**	P	**P**	**02 54 31.3**	**-0.1**
QIZ				S	**S**	**02 59 53.3**	**+0.2**
QIZ				LR	LR		
	comp=Z,120nm,4.1s						
QIZ				LR	LR		
	comp=Z,180nm,8.1s						
MDJ	**Mudanjiang**	**34.59**	**342**	P	**P**	**02 54 43.4**	**+4.2**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,100nm,3.4s						
FITZ	**Fitzroy Crossi**	**35.24**	**212**	P	**P**	**02 54 45.4**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=62,slow=7.6,SNR=4.4						
AS01	**Alice Springs**	**37.05**	**196**	*e*P	**P**	**02 55 00.8**	**+0.3**
AS31	**Alice Springs**	**37.06**	**196**	*e*P	**P**	**02 55 02.1**	**+1.5**
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**37.06**	**196**	P	**P**	**02 55 01.4**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=17,slow=12,SNR=32						
ASAR				PcP	**PcP**	**02 57 21.7**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=33,slow=2.9,SNR=4.4						
GYA	**Guiyang**	**37.91**	**297**	*e*P	**P**	**02 55 08.4**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EIDS	**Eidsvold**	**37.99**	**170**	*e*P	**P**	**02 55 10.5**	**+2.1**
	comp=Z,15nm,1.2s						
KLR	**Kul'dur**	**38.28**	**347**	*i* P	**P**	**02 55 09.9**	**-0.7**
KLR	**Kul'dur**	**38.28**	**347**	P	**P**	**02 55 09.2**	**-1.4**
	comp=Z,2.6nm,0.6s,baz=141,slow=11,SNR=12						
HHC	**Hu-ho-hao-te**	**40.34**	**321**	*e*P	**P**	**02 55 29.9**	**+1.8**
HHC				S	**S**	**03 01 39.0**	**+4.5**
HHC				pmax	pmax		
	comp=Z,15nm,1.1s						
HHC				pmax	pmax		
	comp=Z,250nm,6.0s						
HHC				LR	LR		
	comp=Z,450nm,14.5s						
HHC				LR	LR		
	comp=Z,330nm,15.7s						
HHC				LR	LR		
	comp=Z,380nm,17.1s						
DZM	**Mont Dzumac**	**40.52**	**147**	*e*LR	LR	03 06 48.3	
	comp=Z,185nm,22.6s						
KMI	**Kunming**	**41.08**	**294**	P	**P**	**02 55 34.6**	**0.0**
KMI				pmax	pmax		
	comp=Z,24nm,0.5s						
PETK	**Petropavlovsk-**	**42.19**	**12**	LR	LR	03 10 21.3	
	comp=Z,310nm,20.9s,baz=179,slow=32						
ARMA	**Armidale**	**43.02**	**170**	*e*P	**P**	**02 55 52.8**	**+2.7**
	comp=Z,20nm,1.2s						
LZH	**Lanzhou**	**43.32**	**310**	*e*P	**P**	**02 55 53.1**	**+0.5**
LZH				pP	pP	02 55 58.6	-0.5
LZH				sP	sP	02 56 01.5	-0.2
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,97nm,4.4s						
LZH				LR	LR		
	comp=Z,390nm,10.8s						
LZH				LR	LR		
	comp=Z,240nm,10.6s						
LZH				LR	LR		
	comp=Z,430nm,11.7s						
CMAR	**Chiang Mai Arr**	**43.92**	**284**	*ce*P	**P**	**02 55 59.4**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**43.92**	**284**	P	**P**	**02 55 55.6**	**-1.9**
	comp=Z,1.5nm,0.4s,baz=92,slow=6.4,SNR=7.5						
CMAR				LR	LR	03 12 07.6	
	comp=Z,79nm,21.1s,baz=96,slow=33						
STKA	**Stephens Creek**	**43.93**	**183**	P	**P**	**02 55 56.1**	**-1.2**
	comp=Z,2.8nm,0.8s,baz=331,slow=14,SNR=5.0						
BBOO	**Buckleboo**	**45.45**	**190**	*e*P	**P**	**02 56 10.6**	**+1.2**
	comp=Z,55nm,1.5s						
SONM	**Songino Array**	**47.42**	**326**	LR	LR	03 15 58.8	
	comp=Z,120nm,20.7s,baz=150,slow=36						
GTA	**Gaotai**	**47.54**	**313**	P	**P**	**02 56 26.4**	**+0.4**
GTA				pP	pP	02 56 31.9	-0.6
GTA				sP	sP	02 56 35.0	-0.2
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,210nm,7.4s						
GTA				LR	LR		
	comp=Z,190nm,16.8s						
GTA				LR	LR		
	comp=Z,220nm,19.6s						
GTA				LR	LR		
	comp=Z,260nm,21.0s						
ZAK	**Zakamensk**	**50.56**	**327**	*e*P	P	02 56 38.5	-10
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
YAK	**Yakutsk**	**50.80**	**351**	*e*P	**P**	**02 56 49.6**	**-0.7**
YAK				*e**PP	**pwP**	**02 57 01.3**	**-2.2**
YAK				*e*		02 58 09.5	
YAK				*e*PPP	PPP	02 59 42.0	
YAK				*e*S	**S**	**03 04 02.2**	**-2.2**
YAK				*e**SS	**sS**	**03 04 20.6**	**+5.7**
YAK				*e*		03 06 36.5	
YAK				*e*SS	**SS**	**03 07 40.1**	**+1.0**
YAK				*e*SSS	SSS	03 09 13.8	
YAK				pmax	pmax		
	comp=Z,28nm,0.6s						
YAK				pmax	pmax		
	comp=N,11nm,0.8s						
YAK				pmax	pmax		
	comp=E,13nm,0.7s						
YAK				smax	smax		
	comp=N,1μm,4.5s						
YAK				smax	smax		
	comp=E,945nm,4.2s						
SEY	**Seymchan**	**50.96**	**5**	⇓ *e*P	**P**	**02 56 51.2**	**-0.3**
TLY	**Talaya**	**51.12**	**329**	*e*P	**P**	**02 56 52.4**	**-0.6**
	comp=E,5.7nm,0.6s						
TLY	**Talaya**	**51.12**	**329**	*e*P	**P**	**02 56 53.5**	**+0.5**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RAMN	**Ramite**	**55.71**	**294**	*e*P	**P**	**02 57 27.2**	**-0.2**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**56.11**	**295**	*e*P	**P**	**02 57 30.5**	**0.0**
	comp=Z,16nm,0.5s						
GUN	**Gumba**	**56.40**	**295**	*e*P	**P**	**02 57 32.7**	**+0.2**
	comp=Z,24nm,0.4s						
PKI	**Pulchoki**	**56.80**	**295**	*e*P	**P**	**02 57 34.7**	**-0.6**
PKIN	**Phulchoki**	**56.81**	**295**	*e*P	**P**	**02 57 34.5**	**-0.8**
	comp=Z,8.1nm,0.5s						
KKN	**Kakani**	**56.93**	**295**	*e*P	**P**	**02 57 35.5**	**-0.6**
DMN	**Daman**	**57.07**	**295**	*e*P	**P**	**02 57 37.0**	**-0.1**
WMQ	**Urumqi**	**57.55**	**314**	*e*P	**P**	**02 57 40.8**	**+0.8**
WMQ				sP	pP	02 57 47.8	+1.1
WMQ				pmax	pmax		
	comp=Z,22nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,360nm,4.9s						
WMQ				LR	LR		
	comp=Z,410nm,26.7s						
WMQ				LR	LR		
	comp=Z,210nm,31.3s						
WMQ				LR	LR		
	comp=Z,160nm,20.9s						
BILL	**Bilibino**	**57.60**	**10**	⇓ *e*P	**P**	**02 57 38.6**	**-1.3**
BILL				*e*		02 58 29.7	
BILL				*i*		02 59 43.5	
BILL				*e*S	**S**	**03 05 33.1**	**-3.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BILL				MLR	MLR		
	comp=Z,349nm,22.0s						
DANN	**Dangsing**	**58.30**	**296**	*e*P	**P**	**02 57 45.5**	**-0.3**
	comp=Z,24nm,0.5s						
KOLN	**Koldanda**	**58.41**	**295**	*e*P	**P**	**02 57 46.0**	**-0.5**
	comp=Z,12nm,0.7s						
URZ	**Urewera**	**58.96**	**150**	LR	LR	03 21 16.1	
	comp=Z,122nm,20.6s,baz=340,slow=34						
PYUN	**Piuthan**	**58.97**	**295**	*e*P	**P**	**02 57 50.0**	**-0.4**
	comp=Z,24nm,0.8s						
DGZ	**Jazzator, Alta**	**59.42**	**321**	*c i*P	**P**	**02 57 53.9**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TIXI	**Tiksi**	**60.10**	**354**	⇓ *e*P	**P**	**02 57 56.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,3.0s						
RPZ	**Rata Peaks**	**60.86**	**158**	LR	LR	03 21 11.3	
	comp=Z,155nm,18.7s,baz=284,slow=33						
MK01	**Makanchi Array**	**61.95**	**317**	*e*P	**P**	**02 58 09.6**	**-0.6**
MK31	**Makanchi Array**	**61.96**	**317**	*e*P	**P**	**02 58 10.3**	**0.0**
	comp=Z,5.3nm,0.6s						
MK31	**Makanchi Array**	**61.96**	**317**	*i* P	**P**	**02 58 10.7**	**+0.4**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
MKAR	**Makanchi Array**	**61.96**	**317**	*ce*P	**P**	**02 58 10.8**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MKAR	**Makanchi Array**	**61.96**	**317**	P	**P**	**02 58 10.4**	**+0.1**
	comp=Z,6.7nm,0.5s,baz=92,slow=8.4,SNR=91						
MAKZ	**Makanchi**	**62.18**	**317**	*e*P	**P**	**02 58 11.4**	**-0.3**
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**62.30**	**325**	*e*P	**P**	**02 58 11.2**	**-1.2**
ZALV				PcP	**PcP**	**02 58 49.4**	**-2.6**
ZALV

comp=Z,1.8nm,0.6s,baz=250,slow=5.6,SNR=34
ILB Eielson Array 70.09 25 *e*P **P 02 59 00.5 -1.7**
comp=Z,8.8nm,1.3s
TOLK Toolik Lake Re 70.13 21 *e*P **P 02 59 02.7 +0.3**
comp=Z,22nm,1.8s
BRVK Borovoye 70.60 322 *e*P **P 02 59 04.2 -1.3**
BRVK Borovoye 70.60 322 *d*iP **P 02 59 04.9 -0.6**
BRVK pmax pmax
comp=Z,14nm,1.3s
CHGR Chuyangaron 70.76 307 *e*P **P 02 59 05.6 -1.2**
comp=Z,25nm,1.1s
KBL Kabul 70.94 302 *e*P **P 02 59 07.1 -1.1**
comp=Z,13nm,1.1s
KBL Kabul 70.94 302 *e*P **P 02 59 07.1 -1.1**
KBL pmax pmax
comp=Z,13nm,1.1s
PPT Papeete 71.84 113 LR LR 03 24 10.3
comp=Z,145nm,18.2s,baz=270,slow=30
PPT2 Papeete2 71.84 113 *e*LR LR 03 21 21.2
comp=Z,129nm,21.2s
DAWY Dawson 73.16 27 *e*P **P 02 59 20.5 -0.2**
comp=Z,29nm,1.9s
HYT Haines Junctio 73.73 30 *e*P **P 02 59 24.5 +0.3**
comp=Z,7.7nm,0.9s
EPYK Eagle Plains 74.52 24 *e*P **P 02 59 28.5 -0.1**
comp=Z,18nm,1.5s
INK Inuvik 75.88 22 *e*P **P 02 59 36.0 -0.3**
comp=Z,14nm,1.5s
INK Inuvik 75.88 22 *e*P **P 02 59 36.0 -0.3**
INK pmax pmax
comp=Z,14nm,1.5s
SVE Sverdlovsk 76.30 326 *e*P **P 02 59 38.6 -0.3**
SVE pmax pmax
comp=Z,14nm,1.2s
AB31 Akbulak array 77.05 318 P **P 02 59 42.7 -0.7**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 77.05 318 *e*P **P 02 59 43.0 -0.4**
comp=Z,14nm,0.6s
ARU Arti 77.46 325 *e*P **P 02 59 44.7 -0.8**
ARU Arti 77.46 325 *c*iP **P 02 59 45.1 -0.4**
ARU 03 02 39.4
ARU S **S 03 09 37.3 +2.6**
ARU SS **SS 03 14 32.6 -0.8**
ARU pmax pmax
comp=Z,12nm,1.0s
GEYT Alibeck 79.47 307 P **P 02 59 56.5 -0.6**
comp=Z,8.1nm,0.8s,baz=18,slow=0.5,SNR=14
GYA0B ALIBECK ARRAY 79.47 307 *e*P **P 02 59 56.8 -0.2**
comp=Z,10.0nm,0.8s
CASY Casey 82.14 193 *e*P **P 03 00 11.9 +1.4**
comp=Z,2.7nm,0.9s
LLLB Lillooet 83.17 40 *e*P **P 03 00 18.2 +1.8**
comp=Z,22nm,1.7s
PRGR Permogore 83.33 332 *e*P **P 03 00 15.9 -1.0**
PRGR pmax pmax
comp=Z,15nm,1.1s
YKW3 Yellowknife Ar 84.36 27 *e*P **P 03 00 21.9 -0.3**
comp=Z,11nm,1.3s
YKA Yellowknife A 84.38 27 P **P 03 00 21.6 -0.7**
comp=Z,1.5nm,0.5s,baz=286,slow=5.1,SNR=30
YKB5 Yellowknife Ar 84.38 27 *e*P **P 03 00 21.8 -0.5**
PINE Pine Mountain 85.16 46 *e*P **P 03 00 28.0 +1.1**
comp=Z,12nm,1.3s
B08A Colville Reser 85.26 42 *e*P **P 03 00 27.7 +0.6**
comp=Z,11nm,1.3s
TMCR Tamitsa 85.95 335 *e*P **P 03 00 28.9 -1.2**
TMCR pmax pmax
comp=Z,15nm,1.0s
RES Resolute Bay 86.02 13 *e*P **P 03 00 30.6 +0.3**
RES Resolute Bay 86.02 13 *e*P **P 03 00 30.6 +0.3**
G08A Pilot Rock 86.21 45 *e*P **P 03 00 33.4 +1.4**
comp=Z,7.1nm,1.4s
NEW Newport 86.71 41 *e*P **P 03 00 35.3 +1.0**
NEW Newport 86.71 41 *e*P **P 03 00 35.3 +1.0**
BMO Blue Mountains 87.45 45 *e*P **P 03 00 39.0 +1.0**
comp=Z,9.9nm,1.4s
BMO Blue Mountains 87.45 45 *e*P **P 03 00 39.1 +1.0**
BMO pmax pmax
comp=Z,10.0nm,1.4s
ARCES ARCESS Array B 88.14 342 P **P 03 00 40.2 -0.4**
comp=Z,3.0nm,0.9s,baz=61,slow=7.3,SNR=8.1
VRH Novokhopyorsk 88.19 322 *e*P **P 03 00 39.1 -2.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
NV01 Mina Array Sit 88.32 51 *e*P **P 03 00 43.7 +1.2**
NVAR Mina Array Bea 88.32 51 P **P 03 00 43.6 +1.1**
comp=Z,2.2nm,0.6s,baz=257,slow=6.4,SNR=12
KVN Kaiserville 88.33 51 *e*P **P 03 00 44.0 +1.5**
comp=Z,8.2nm,1.3s
KVN Kaiserville 88.33 51 *e*P **P 03 00 44.0 +1.5**
KVN pmax pmax
comp=Z,8.0nm,1.3s
LPSR Galich'ya Gora 89.39 324 *e*P **P 03 00 43.7 -3.2**
LPSR pmax pmax
comp=Z,9.0nm,0.9s
KBZ Khabaz 89.59 315 P **P 03 00 47.0 -1.0**
comp=Z,3.0nm,0.8s,baz=150,slow=6.5,SNR=4.6
KBZ LR LR 03 45 16.6
comp=Z,49nm,19.7s,baz=60,slow=38
VSR Storozhevoye 89.71 323 *c*e**P P 03 00 46.5 -1.9**
HLID Hailey 89.80 45 *e*P **P 03 00 50.3 +1.0**
comp=Z,6.0nm,1.4s
OBN Obninsk 89.83 327⇑ *e*P **P 03 00 47.7 -1.1**
OBN pmax pmax
comp=Z,20nm,1.1s
OBN MLR MLR
comp=Z,93nm,18.0s
ELK Elko 90.01 48 *e*P **P 03 00 51.3 +0.9**
comp=Z,3.2nm,1.0s
ELK Elko 90.01 48 *e*P **P 03 00 51.3 +0.9**
ELK pmax pmax
comp=Z,3.0nm,1.0s
GSC Goldstone, Bar 90.28 54 *e*P **P 03 00 53.2 +1.7**
comp=Z,7.2nm,1.1s
GSC Goldstone, Bar 90.28 54 *e*P **P 03 00 53.2 +1.7**
GSC pmax pmax
comp=Z,7.0nm,1.1s
R11A Troy Canyon, C 90.41 51 *e*P **P 03 00 53.4 +1.1**
comp=Z,11nm,1.8s
HRY Holter Researc 90.59 42 *e*P **P 03 00 53.9 +1.1**
BOZ Bozeman (W) 91.08 43 P **P 03 00 58.2 +3.0**
BOZ pmax pmax
comp=Z,5.0nm,0.3s
YHB Horse Butte 91.64 44 *e*P **P 03 00 59.5 +1.6**
comp=Z,6.8nm,1.1s
FINES FINESS Array B 92.07 335 *i*P **P 03 00 57.5 -1.7**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 92.07 335 P **P 03 00 57.3 -1.9**
comp=Z,1.5nm,0.4s,baz=68,slow=5.2,SNR=38
FINES LR LR 03 45 51.3
comp=Z,38nm,19.3s,baz=47,slow=38
H17A Grant Village 92.18 44 *e*P **P 03 01 01.8 +1.4**
comp=Z,7.9nm,1.4s
VSU Vasula 93.28 332⇑ *e*P **P 03 01 02.5 -2.3**
VSU pmax pmax
comp=Z,124nm,3.2s
PDAR Pinedale Array 93.42 45 P **P 03 01 05.4 -0.8**
comp=Z,0.2nm,0.4s,baz=113,slow=2.1,SNR=4.2
LAO LASA Array 94.22 41 *e*P **P 03 01 10.6 +1.1**
comp=Z,7.3nm,0.9s
AKASG Malin Array Be 95.69 325 P **P 03 01 13.9 -2.2**
comp=Z,0.2nm,0.2s,baz=60,slow=3.6,SNR=3.1
AKASG LR LR 03 47 58.9
comp=Z,78nm,18.1s,baz=25,slow=38
BRTR Keskin Array B 97.46 313 *i*P **P 03 01 23.1 -1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 97.46 313 P **P 03 01 22.4 -2.1**
comp=Z,0.7nm,0.5s,baz=126,slow=3.5,SNR=8.5
BRTR LR LR 03 49 26.0
comp=Z,21nm,20.0s,baz=101,slow=38
NOA NORSAR Array B 98.04 339 LR LR 03 50 22.9
comp=Z,42nm,18.1s,baz=10.0,slow=38
ULM Lac du Bonnet 98.76 34 LR LR 03 42 58.3
comp=Z,87nm,19.4s,baz=350,slow=34
VYHS Vyhne 102.61 326 *e*P **Pdif 03 01 46.3 -0.9**
VYHS Vyhne 102.61 326 *e*PDIF **Pdif 03 01 46.3 -0.9**
TOA0 Torodi Ar. Sit 135.01 303 *e*PKPdf **PKPdf 03 07 10.2 -0.2**
TORD Torodi Ar. Bea 135.01 303 PKP **PKPdf 03 07 10.0 -0.4**
comp=Z,1.1nm,0.7s,baz=66,slow=2.7,SNR=16
DBIC Dimbokro 143.89 300 PKP PKPbc 03 07 25.0 +0.7
comp=Z,5.0nm,0.6s,baz=58,slow=2.8,SNR=16
KIC Kosan Boka 143.95 299 *e*PKIKP PKPab 03 07 24.0 0.0
comp=Z,9.1nm,0.6s

TIC Toumodi 144.04 300 *e*PKIKP **PKPab 03 07 23.6 -0.7**
LIC Lamto 144.26 299 *e*PKIKP **PKPab 03 07 23.9 -1.2**
comp=Z,23nm,0.5s
PB11 IPOC Station P 146.72 107 *e*PKPdf **PKPdf 03 07 32.3 +0.8**
PB11 *e*PKPdf **PKiKP 03 07 35.5 -0.4**
LPAZ La Paz 148.50 101 PKPbc **PKPbc 03 07 37.7 -1.0**
comp=Z,0.7nm,0.6s,baz=289,slow=3.2,SNR=3.1

*ISCJB **23** 02:57:36.5±0.3, 42°.95N±0°.01×1°.90W±0°.01, h10km±1km, mb3.8/10, MS3.8/2, Error ellipse: s-maj=2.3km s-min=1.4km az=141.6*
*IDC **23** 02:57:38.1±0.9, 42°.70N×2°.01W, h0km, mb3.6/8, mb1 3.8/14, mb1mx3.6/46, mbtmp3.6/14, ML3.6/6, MS3.1/5, Ms1 3.1/5, ms1mx2.8/40, Error ellipse: s-maj=22.8km s-min=15.1km az=110.0*
*SFS **23** 02:57:39.0, 42°.81N×1°.80W, ML4.1, ETXAURI (NAVARRA)*
*INMG **23** 02:57:39.7±1.6, 42°.83N×1°.81W, h0km, ML3.5, Error ellipse: s-maj=2.0km s-min=1.6km az=135.0*
*MDD **23** 02:57:39.5±0.2, 42°.84N×1°.81W, h0km, mbLg3.8/68, Error ellipse: s-maj=2.2km s-min=1.5km az=173.0, PRXIMO*
MDD EMS: IV INTENSIDAD MAXIMA.
*IGIL **23** 02:57:40.0, 42°.82N×1°.81W, h0km*
*STR **23** 02:57:40.3±0.6, 43°.N±3°×±°, h5km, M4.1/9, MLv4.1/9*
*LDG **23** 02:57:40.3±0.1, 42°.86N×1°.80W, h2km, Md3.8/5, Ml4.2/71, Error ellipse: s-maj=1.3km s-min=0.9km az=136.0*
*NEIC **23** 02:57:40.3±0.0, 42°.86N×1°.80W, h2km, ML4.2(LDG), MN3.7(MDD), After LDG.*
ISC 23 02:57:38.2±0.9, 42°.91N±0°.02×1°.83W±0°.02, h5km±6km, n326, σ2s27/628, mb3.6/10, 9C-6D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EARA	**Aranguren**	**0.23**	**127**	⇓Pg	**Pg**	**02 57 42.5**	**-0.2**
	13μm,0.6s,SNR=18						
EARA				Lg	Lg	02 57 45.2	
	38μm,0.4s						
EARA	**Aranguren**	**0.23**	**127**	Pg	**Pg**	**02 57 42.8**	**0.0**
EARA				Sg	**Sg**	**02 57 46.5**	**+0.7**
IUNC	**Unciti**	**0.29**	**122**	Pg	**Pg**	**02 57 43.9**	**0.0**
	SNR=7.9						
IUNC				Lg	Lg	02 57 47.6	
	SNR=7.9						
EORO	**Oroz-Betelu**	**0.38**	**93**	Pg	**Pg**	**02 57 46.3**	**+0.6**
	12nm,0.4s,SNR=7.5						
EORO				Lg	Lg	02 57 52.1	
	12μm,0.4s,SNR=22						
EALK	**Alkurruntz**	**0.39**	**37**	⇑Pg	**Pb**	**02 57 47.7**	**0.0**
	2μm,0.4s,SNR=18						
EALK				Lg	Lg	02 57 54.7	
	12μm,0.4s						
EALK	**Alkurruntz**	**0.39**	**37**	Pg	**Pn**	**02 57 49.6**	**-0.9**
EALK				Sg	**Sb**	**02 57 56.5**	**+2.5**
IEPA	**Eparoz**	**0.43**	**107**	Pg	**Pg**	**02 57 47.1**	**+0.5**
	SNR=7.9						
IEPA				Lg	Lg	02 57 52.6	
	SNR=7.9						
IELO	**Elcoad**	**0.44**	**99**	⇓Pg	**Pg**	**02 57 47.3**	**+0.5**
	1μm,0.4s,SNR=18						
IELO				Lg	Lg	02 57 53.9	
	5μm,0.5s,SNR=7.9						
SJPF	**Ste Jean**	**0.49**	**65**	*e*Pg	**Pb**	**02 57 49.3**	**0.0**
SJPF				*e*Sg	**Sg**	**02 57 55.5**	**+1.5**
	3μm,0.4s						
SJPF	**Ste Jean**	**0.49**	**65**	*e*Pg	**Pb**	**02 57 49.3**	**0.0**
SJPF				*e*Sg	**Sg**	**02 57 55.5**	**+1.5**
YASP	**Aspurt**	**0.52**	**110**	Pg	**Pg**	**02 57 48.6**	**+0.3**
	SNR=7.9						
YASP				Lg	Lg	02 57 55.2	
	SNR=7.9						
YARA	**Arangoiti**	**0.54**	**119**	Pg	**Pg**	**02 57 48.5**	**-0.2**
	SNR=7.9						
YARA				Lg	Lg	02 57 56.6	
	SNR=7.9						
YUND	**Undues**	**0.61**	**123**	Pg	**Pg**	**02 57 50.2**	**+0.2**
	SNR=7.9						
YUND				Lg	Lg	02 57 57.4	
	SNR=7.9						
YSIG	**Sigues**	**0.67**	**114**	Pg	**Pg**	**02 57 51.1**	**0.0**
	SNR=7.9						
YSIG				Lg	Lg	02 57 59.9	
	SNR=7.9						
YSOS	**Sos del Rey Ca**	**0.68**	**132**	Pg	**Pg**	**02 57 50.9**	**-0.4**
	SNR=7.9						
YSOS				Lg	Lg	02 57 59.0	
	SNR=7.9						
YMUS	**Pea Musera**	**0.68**	**119**	Pg	**Pg**	**02 57 51.5**	**+0.1**
	SNR=7.9						
YMUS				Lg	Lg	02 58 01.2	
	SNR=7.9						
ATE	**Arette**	**0.85**	**78**	⇓Pg	**Pg**	**02 57 55.2**	**+0.8**
	96nm,0.4s,SNR=18						
ATE				Lg	Lg	02 58 06.5	
	4μm,0.8s,SNR=7.9						
ATE	**Arette**	**0.85**	**78**	P	**Pg**	**02 57 55.3**	**+0.8**
ATE				Pg	**Pn**	**02 57 57.5**	**+0.7**
ATE				Sg	**Sn**	**02 58 09.5**	**-0.1**
TERF	**Tercis-les-Bai**	**0.93**	**34**	Pg	**Pn**	**02 57 58.7**	**+0.8**
TERF				Sg	**Sn**	**02 58 14.8**	**+3.2**
ETSF	**Etsaut**	**0.93**	**90**	*e*Pg	**Pg**	**02 57 56.7**	**+0.5**
ETSF				*e*Sg	**Sb**	**02 58 09.5**	**-0.1**
	1μm,0.4s						
ETSF	**Etsaut**	**0.93**	**90**	*e*Pg	**Pg**	**02 57 56.7**	**+0.5**
ETSF				*e*Sg	**Sb**	**02 58 09.5**	**-0.1**
ETSF	**Etsaut**	**0.93**	**90**	Pg	**Pg**	**02 57 56.7**	**+0.5**
ETSF				Lg	Lg	02 58 09.5	
	502nm,0.4s						
URDF	**Urds**	**1.05**	**59**	Pg	**Pn**	**02 58 01.5**	**+2.0**
URDF				Sg	**Sn**	**02 58 16.7**	**+2.2**
ELAN	**Lanestosa**	**1.22**	**286**	Pg	**Pn**	**02 58 02.8**	**+0.9**
	201nm,0.5s,SNR=458						
ELAN				Lg	Lg	02 58 21.4	
	2μm,0.8s,SNR=7.2						
PYLO	**Lourdes**	**1.32**	**81**	Pg	**Pg**	**02 58 05.7**	**+2.1**
PYLO				Sg	**Sg**	**02 58 23.8**	**+3.1**
LABF	**Labassere**	**1.40**	**84**	Pg	**Pg**	**02 58 07.2**	**+2.1**
LABF				Sg	**Sg**	**02 58 26.2**	**+2.9**
ESAC	**San Caprasio**	**1.56**	**139**	⇓Pg	**Pn**	**02 58 06.6**	**0.0**
	762nm,0.4s,SNR=18						
ESAC				Lg	Lg	02 58 26.8	
	5μm,0.4s,SNR=20						
EPF	**Esparros**	**1.60**	**85**	*e*Pg	**Pg**	**02 58 09.1**	**+0.3**
EPF				*e*Sn	**Sn**	**02 58 26.7**	**-1.5**
EPF				*e*Sg	**Sg**	**02 58 29.6**	**+0.1**
	3μm,0.6s						
EPF	**Esparros**	**1.60**	**85**	*e*Pg	**Pg**	**02 58 09.1**	**+0.3**
EPF				*e*Sn	**Sn**	**02 58 26.7**	**-1.5**
EPF				*e*Sg	**Sg**	**02 58 29.6**	**+0.1**
EPF	**Esparros**	**1.60**	**85**	Pg	**Pg**	**02 58 09.1**	**+0.3**
EPF				Sn	**Sn**	**02 58 26.7**	**-1.5**
EPF				Lg	Lg	02 58 29.6	
	2μm,0.6s						
MELF	**Melles**	**1.90**	**90**	Pn	**Pb**	**02 58 14.1**	**+0.6**
ETOR	**Torete**	**2.10**	**185**	Pn	**Pn**	**02 58 14.1**	**+0.1**
	106nm,0.3s,SNR=45						
ETOR				Pg	**Pb**	**02 58 17.6**	**+0.9**
	55nm,0.4s,SNR=7.9						
ETOR				Lg	Lg	02 58 44.2	
	2μm,0.9s,SNR=17						
MLS	**Moulis**	**2.15**	**88**	Pg	**Pb**	**02 58 18.8**	**+1.2**
MLS				Sg	**Sg**	**02 58 48.7**	**+1.5**
CSOR	**Sort**	**2.25**	**103**	Pg	**Pg**	**02 58 20.8**	**-0.6**
	247nm,0.5s,SNR=7.9						
CSOR				Lg	Lg	02 58 50.0	
	2μm,0.6s,SNR=7.9						
LRVF	**chteau la Riv**	**2.31**	**28**	Pn	**Pb**	**02 58 19.2**	**-1.2**
EARI	**Arriondas**	**2.51**	**280**	Pn	**Pn**	**02 58 21.2**	**+1.5**
	22nm,0.5s,SNR=32						
EARI				Pg	**Pg**	**02 58 26.6**	**+0.4**
	129nm,0.6s,SNR=7.9						
EARI				Lg	Lg	02 59 00.2	
	588nm,1.0s,SNR=5.3						
ERTA	**Horta de San J**	**2.53**	**140**	Pn	**Pn**	**02 58 19.7**	**-0.3**
	12nm,0.3s,SNR=76						
ERTA				Lg	Lg	02 58 56.4	
	631nm,0.7s,SNR=5.0						
MONQ	**Montcuq**	**2.63**	**55**	Pn	**Pb**	**02 58 24.3**	**-1.6**
MONQ				Sn	**Sb**	**02 58 56.5**	**-2.0**
EPOB	**Poblet**	**2.67**	**125**	Pn	**Pn**	**02 58 21.7**	**-0.1**
	6.0nm,0.3s,SNR=25						
EPOB				Pg	**Pb**	**02 58 27.6**	**+1.1**
	86nm,0.7s,SNR=48						
EPOB				Sn	**Sn**	**02 58 52.1**	**-2.5**
	63nm,0.5s,SNR=7.9						
EPOB				Lg	Lg	02 59 01.7	
	608nm,0.7s,SNR=6.9						
EMIR	**Miracle**	**2.68**	**111**	Pn	**Pn**	**02 58 22.8**	**+0.8**
	44nm,0.5s,SNR=50						
EMIR				Pg	**Pb**	**02 58 27.6**	**+1.0**
	206nm,0.4s,SNR=99						
EMIR				Sn	**Sn**	**02 58 54.0**	**-0.8**
	556nm,0.6s,SNR=8.4						
EMIR				Lg	Lg	02 59 03.4	
	1μm,0.5s,SNR=9.8						
EBR	**Ebro Roquetas**	**2.72**	**140**	Pn	**Pn**	**02 58 22.3**	**-0.2**
	60nm,0.2s,SNR=7.9						
EBR				Pg	**Pg**	**02 58 30.7**	**+0.4**
	SNR=7.9						
EBR				Lg	Lg	02 59 02.7	
	4μm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**2.74**	**158**	Pn	**Pn**	**02 58 23.6**	**+0.6**
	5.9nm,0.4s,SNR=17						
EMOS				Pg	**Pb**	**02 58 29.3**	**+1.5**
	79nm,0.5s,SNR=12						
EMOS				Lg	Lg	02 59 03.7	
	964nm,0.8s,SNR=6.8						
LFF	**La Frestale**	**2.75**	**42**	*e*Pn	**Pn**	**02 58 24.1**	**+1.2**
LFF	**La Frestale**	**2.75**	**42**	*e*Pg	**Pg**	**02 58 31.2**	**+0.3**
LFF				*e*Sn	**Sn**	**02 58 55.3**	**-1.2**
	155nm,0.3s						
LFF				*e*Sg	**Sg**	**02 59 07.8**	**+1.3**
	383nm,0.5s						
LFF	**La Frestale**	**2.75**	**42**	*e*Pn	**Pn**	**02 58 24.1**	**+1.2**
LFF				*e*Pg	**Pg**	**02 58 31.2**	**+0.3**
LFF				*e*Sn	**Sn**	**02 58 55.3**	**-1.2**
LFF				*e*Sg	**Sg**	**02 59 07.8**	**+1.3**
LFF	**La Frestale**	**2.75**	**42**	Pn	**Pn**	**02 58 24.1**	**+1.2**
LFF				Pg	**Pg**	**02 58 31.2**	**+0.3**
LFF				Sn	**Sn**	**02 58 55.3**	**-1.2**
	77nm,0.3s						
LFF				Lg	Lg	02 59 07.8	
	192nm,0.5s						
UCM	**Universidad Co**	**2.81**	**203**⇑	*i*P	**Pn**	**02 58 23.4**	**-0.4**
UCM				*i*S	**Sg**	**02 59 07.8**	**-0.6**
CLLI	**Llivia**	**2.84**	**97**	Pn	**Pn**	**02 58 26.7**	**+2.4**
	28nm,0.4s,SNR=73						
CLLI				Pg	**Pg**	**02 58 31.5**	**-1.1**
	SNR=7.9						
CLLI				Lg	Lg	02 59 10.6	
	803nm,0.6s,SNR=19						
GUD	**Guadarrama**	**2.86**	**218**	Pn	**Pn**	**02 58 24.8**	**+0.2**
	6.3nm,0.3s,SNR=36						
GUD				Pg	**Pg**	**02 58 31.4**	**-1.5**
	20nm,0.3s,SNR=7.9						
GUD				Sn	**Sn**	**02 58 56.1**	**-3.3**
	38nm,0.4s,SNR=6.4						
GUD				Lg	Lg	02 59 09.1	
	203nm,0.6s,SNR=7.3						
VALF	**Valcebollere**	**2.88**	**99**	Pn	**Pn**	**02 58 27.3**	**+2.4**
FNEB	**Nbias**	**2.89**	**89**	Pn	**Pb**	**02 58 28.0**	**-2.4**
FNEB				Sg	**Sb**	**02 59 09.0**	**+3.1**
CARF	**Carcanieres**	**2.90**	**93**	Pn	**Pb**	**02 58 28.5**	**-2.0**
MTLF	**Montolieu**	**2.99**	**80**	*e*P	**Pn**	**02 58 28.6**	**+2.3**
MTLF	**Montolieu**	**2.99**	**80**	*e*Pg	**Pg**	**02 58 34.4**	**-1.2**
MTLF				*e*Sn	**Sn**	**02 59 00.8**	**-1.8**
	299nm,0.5s						
MTLF	**Montolieu**	**2.99**	**80**	*e*P	**Pn**	**02 58 28.6**	**+2.3**
MTLF				*e*Pg	**Pg**	**02 58 34.4**	**-1.2**
MTLF				*e*Sn	**Sn**	**02 59 00.8**	**-1.8**
MTLF	**Montolieu**	**2.99**	**80**	P	**Pn**	**02 58 28.6**	**+2.3**
MTLF				Pg	**Pg**	**02 58 34.4**	**-1.2**
MTLF				Sn	**Sn**	**02 59 00.8**	**-1.8**
	150nm,0.5s						
MTLF	**Montolieu**	**2.99**	**80**	Pn	**Pn**	**02 58 28.7**	**+2.4**
CFON	**Fontmartina**	**3.36**	**109**	Pn	**Pn**	**02 58 32.3**	**+0.8**
	99nm,0.3s,SNR=175						
CFON				Pg	**Pb**	**02 58 40.3**	**+1.9**
	115nm,0.3s,SNR=32						
CFON				Sn	**Sn**	**02 59 08.5**	**-3.3**
	633nm,0.8s,SNR=14						
CFON				Lg	Lg	02 59 23.7	
	668nm,0.3s,SNR=9.2						
ECHE	**Chera**	**3.38**	**169**	Pn	**Pn**	**02 58 32.7**	**+1.0**
	0.3nm,0.3s,SNR=7.9						
ECHE				Pg	**Pb**	**02 58 38.8**	**+0.2**
	92nm,0.6s,SNR=7.9						
ECHE				Lg	Lg	02 59 23.3	
	341nm,0.6s,SNR=7.9						
RJF	**Les Rejaudoux**	**3.40**	**44**	*e*Pn	**Pn**	**02 58 33.3**	**+1.5**
RJF				*e*Sn	**Sn**	**02 59 11.5**	**-1.0**
	188nm,0.3s						
RJF				*e*Sg	**Sg**	**02 59 28.0**	**+0.7**
	239nm,0.6s						
RJF	**Les Rejaudoux**	**3.40**	**44**	*e*Pn	**Pn**	**02 58 33.3**	**+1.5**
RJF				*e*Sn	**Sn**	**02 59 11.5**	**-1.0**
RJF				*e*Sg	**Sg**	**02 59 28.0**	**+0.7**
RJF	**Les Rejaudoux**	**3.40**	**44**	Pn	**Pn**	**02 58 33.3**	**+1.5**
RJF				Sn	**Sn**	**02 59 11.5**	**-1.0**
	94nm,0.3s						
RJF				Lg	Lg	02 59 28.0	
	119nm,0.6s						
CAF	**Calviac**	**3.46**	**53**	*e*Pn	**Pn**	**02 58 34.2**	**+1.4**
CAF				*e*Sn	**Sn**	**02 59 12.3**	**-1.8**
	506nm,0.3s						
CAF	**Calviac**	**3.46**	**53**	*e*Pn	**Pn**	**02 58 34.2**	**+1.4**
CAF				*e*Sn	**Sn**	**02 59 12.3**	**-1.8**
CAF	**Calviac**	**3.46**	**53**	Pn	**Pn**	**02 58 34.2**	**+1.4**
CAF				Sn	**Sn**	**02 59 12.3**	**-1.8**
	253nm,0.3s						
SJAF	**Saint Jean de**	**3.50**	**95**	Pn	**Pn**	**02 58 34.1**	**+0.8**
	43nm,0.5s,SNR=7.9						
SJAF				Pg	**Pg**	**02 58 44.1**	**-1.2**
	SNR=7.9						
SJAF				Lg	Lg	02 59 30.1	
	729nm,1.0s,SNR=7.9						
SJAF	**Saint Jean de**	**3.50**	**95**	Pn	**Pn**	**02 58 35.4**	**+2.1**
EJON	**La Jonquera**	**3.51**	**96**	Pn	**Pn**	**02 58 33.9**	**+0.5**
	25nm,0.5s,SNR=41						
EJON				Pg	**Pb**	**02 58 42.6**	**+1.8**
	166nm,0.5s,SNR=27						
EJON				Lg	Lg	02 59 26.0	
	574nm,0.6s,SNR=11						
ES06	**SONSECA Array**	**3.61**	**207**	*e*Pn	**Pn**	**02 58 34.0**	**-0.8**
ESDC	**Sonseca Array**	**3.61**	**207**	Pn	**Pn**	**02 58 34.3**	**-0.6**
	3.8nm,0.3s,baz=32,slow=13,SNR=52						
ESDC				Pg	**Pb**	**02 58 44.4**	**+1.8**
	19nm,0.6s,baz=31,slow=14,SNR=8.0						
ESDC				Sn	**Sn**	**02 59 14.6**	**-3.2**
	8.8nm,0.3s,baz=34,slow=24,SNR=4.4						
ESDC				Lg	Lg	02 59 31.7	
	50nm,0.7s,baz=28,slow=29,SNR=12						
ESDC	**Sonseca Array**	**3.61**	**207**	Pn	**Pn**	**02 58 34.0**	**-0.9**
	6.9nm,0.3s,baz=34,slow=13,SNR=110						
ESDC				Sn	**Sn**	**02 59 13.6**	**-4.3**
	12nm,0.3s,baz=34,slow=24,SNR=6.9						
ESDC				Lg	Lg	02 59 30.5	
	24nm,0.3s,baz=111,slow=36,SNR=8.3						
ESLA	**Sonseca Array**	**3.61**	**207**	*e*Pn	**Pn**	**02 58 34.0**	**-0.8**
ECAL	**Calabor**	**3.76**	**257**	Pn	**Pn**	**02 58 37.4**	**+0.5**
	18nm,0.3s,SNR=36						
ECAL				Pg	**Pg**	**02 58 47.9**	**-2.4**
	34nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**02 59 20.9**	**-0.7**
	65nm,0.7s,SNR=5.1						
ECAL				Lg	Lg	02 59 40.4	
	215nm,0.5s,SNR=6.0						
PBRG	**Braganca**	**3.80**	**255**	*e*Pn	**Pn**	**02 58 37.9**	**+0.4**
PBRG				*e*Sg	**Sg**	**02 59 39.7**	**-0.7**
PBRG				A	A	02 59 49.2	
	86nm,0.6s						
PBRG	**Braganca**	**3.80**	**255**	*e*Pn	**Pn**	**02 58 37.9**	**+0.4**
PBRG				*e*Sg	**Sg**	**02 59 39.7**	**-0.7**
PBRG				A	A	02 59 49.2	
	86nm,0.6s						
PBRG	**Braganca**	**3.80**	**255**	Pn	**Pn**	**02 58 37.9**	**+0.4**
PBRG				Pn	**Pn**	**02 58 37.9**	**+0.4**
PBRG				Lg	Lg	02 59 39.7	
	43nm,0.6s						
PAB	**San Pablo**	**3.86**	**210**	*e*Pn

MFF				*e*Sn	**Sn**	**02 59 23.4**	**-1.0**
	72nm,0.6s							
MFF				*e*Sg	**Sg**	**02 59 43.4**	**+0.6**
	101nm,0.5s							
MFF	**Saint Martin d**	**3.88**	**17**	*e*Pn	**Pn**	**02 58 39.6**	**+1.1**
MFF				*e*Sn	**Sn**	**02 59 23.4**	**-1.0**
MFF				*e*Sg	**Sg**	**02 59 43.4**	**+0.6**
MFF	**Saint Martin d**	**3.88**	**17**	Pn	**Pn**	**02 58 39.6**	**+1.1**
MFF				Sn	**Sn**	**02 59 23.4**	**-1.0**
	36nm,0.6s							
MFF				Lg	Lg	02 59 43.4		
	51nm,0.5s							
EPON	**Pontenova**	**3.92**	**278**	Pn	**Pn**	**02 58 40.0**	**+1.0**
	15nm,0.5s,SNR=15							
EPON				Pg	**Pb**	**02 58 49.2**	**+1.4**
	12nm,0.4s,SNR=7.9							
EPON				Sn	**Sn**	**02 59 24.1**	**-1.3**
	12nm,0.3s,SNR=5.6							
EPON				Lg	Lg	02 59 46.3		
	501nm,1.2s,SNR=7.9							
MVO	**Moncorvo**	**4.25**	**247**	*e*Pn	**Pn**	**02 58 43.8**	**+0.2**
MVO				*e*Sn	**Sn**	**02 59 33.2**	**-0.4**
MVO				*e*Sg	**Sg**	**02 59 52.3**	**-2.3**
MVO				A	A	03 00 06.0		
	105nm,0.5s							
MVO	**Moncorvo**	**4.25**	**247**	*e*Pn	**Pn**	**02 58 43.8**	**+0.2**
MVO				*e*Sn	**Sn**	**02 59 33.2**	**-0.4**
MVO				*e*Sg	**Sg**	**02 59 52.3**	**-2.3**
MVO				A	A	03 00 06.0		
	105nm,0.5s							
MVO	**Moncorvo**	**4.25**	**247**	Pn	**Pn**	**02 58 43.8**	**+0.2**
	8.8nm,0.3s,SNR=15							
MVO				Pg	**Pg**	**02 58 56.5**	**-3.1**
	61nm,0.6s,SNR=7.9							
MVO				Sn	**Sn**	**02 59 32.0**	**-1.5**
	14nm,0.2s,SNR=7.9							
MVO				Lg	Lg	02 59 54.6		
	449nm,1.3s,SNR=6.4							
ETOB	**Tobarra**	**4.27**	**177**	Pn	**Pn**	**02 58 43.8**	**-0.1**
	17nm,0.8s,SNR=26							
ETOB				Lg	Lg	02 59 52.9		
	472nm,1.3s,SNR=5.0							
LASF	**Ste Croix**	**4.30**	**72**	*e*Pn	**Pn**	**02 58 45.8**	**+1.5**
LASF	**Ste Croix**	**4.30**	**72**	*e*Pg	**Pg**	**02 58 59.8**	**-0.8**
LASF				*e*Sn	**Sn**	**02 59 32.1**	**-2.7**
	738nm,0.6s							
LASF	**Ste Croix**	**4.30**	**72**	*e*Pn	**Pn**	**02 58 45.8**	**+1.5**
LASF				*e*Pg	**Pg**	**02 58 59.8**	**-0.8**
LASF				*e*Sn	**Sn**	**02 59 32.1**	**-2.7**
LASF	**Ste Croix**	**4.30**	**72**	Pn	**Pn**	**02 58 45.8**	**+1.5**
LASF				Pg	**Pg**	**02 58 59.8**	**-0.8**
LASF				Sn	**Sn**	**02 59 32.1**	**-2.7**
	369nm,0.6s							
LBL	**Lubilhac**	**4.33**	**56**	Pn	**Pn**	**02 58 46.8**	**+2.1**
AFON	**Font Roja**	**4.35**	**167**	Pn	**Pn**	**02 58 45.7**	**+0.6**
	5.5nm,0.3s,SNR=7.6							
AFON				Lg	Lg	02 59 55.5		
	508nm,1.4s,SNR=5.0							
EBEN2	**Beniarda presa**	**4.41**	**163**	Pn	**Pn**	**02 58 45.5**	**-0.3**
	4.0nm,0.1s,SNR=7.9							
EBEN2				Lg	Lg	02 59 57.6		
	213nm,0.6s,SNR=7.9							
TCF	**Toulx Ste Croi**	**4.44**	**39**	*e*Pn	**Pn**	**02 58 47.1**	**+0.9**
TCF				*e*Sn	**Sn**	**02 59 36.5**	**-1.8**
	103nm,0.4s							
TCF				*e*Sg	**Sg**	**03 00 00.5**	**-0.3**
	109nm,0.5s							
TCF	**Toulx Ste Croi**	**4.44**	**39**	*e*Pn	**Pn**	**02 58 47.1**	**+0.9**
TCF				*e*Sn	**Sn**	**02 59 36.5**	**-1.8**
TCF				*e*Sg	**Sg**	**03 00 00.5**	**-0.3**
TCF	**Toulx Ste Croi**	**4.44**	**39**	Pn	**Pn**	**02 58 47.1**	**+0.9**
TCF				Sn	**Sn**	**02 59 36.5**	**-1.8**
	52nm,0.4s							
PYM	**Petit Puy Mans**	**4.48**	**49**	Pn	**Pn**	**02 58 49.4**	**+2.5**
EIBI	**Ibiza**	**4.56**	**147**	Pn	**Pn**	**02 58 47.9**	**0.0**
	5.4nm,0.4s,SNR=48							
EIBI				Sn	**Sn**	**02 59 36.4**	**-4.9**
	21nm,0.4s,SNR=7.9							
EIBI				Lg	Lg	03 00 00.5		
	101nm,1.1s,SNR=7.9							
EAGO	**Agolada(Pontev**	**4.60**	**271**	Pn	**Pn**	**02 58 48.9**	**+0.5**
	1.7nm,0.2s,SNR=7.9							
EAGO				Sn	**Sn**	**02 59 41.5**	**-0.8**
	11nm,0.4s,SNR=7.9							
EAGO				Lg	Lg	03 00 07.5		
	361nm,1.7s,SNR=7.9							
PVRL	**Vila Real**	**4.67**	**252**	*e*Pn	**Pn**	**02 58 49.7**	**+0.2**
PVRL				*e*Sg	**Sg**	**03 00 05.7**	**-2.7**
PVRL				A	A	03 00 25.2		
	72nm,0.6s							
PVRL	**Vila Real**	**4.67**	**252**	*e*Pn	**Pn**	**02 58 49.7**	**+0.2**
PVRL				*e*Sg	**Sg**	**03 00 05.7**	**-2.7**
PVRL				A	A	03 00 25.2		
	72nm,0.6s							
PVRL	**Vila Real**	**4.67**	**252**	Pn	**Pn**	**02 58 49.7**	**+0.2**
PVRL				Lg	Lg	03 00 05.7		
	36nm,0.6s							
POLO	**Lamas de Olo**	**4.69**	**253**	*e*Pn	**Pn**	**02 58 50.4**	**+0.6**
POLO				A	A	03 00 19.0		
	34nm,0.6s							
POLO	**Lamas de Olo**	**4.69**	**253**	*e*Pn	**Pn**	**02 58 50.4**	**+0.6**
POLO				A	A	03 00 19.0		
	34nm,0.6s							
POLO	**Lamas de Olo**	**4.69**	**253**	Pn	**Pn**	**02 58 50.4**	**+0.6**
ETOS	**Mallorca**	**4.70**	**130**	Pn	**Pn**	**02 58 48.6**	**-1.2**
	4.9nm,0.4s,SNR=5.1							
ETOS				Sn	**Sn**	**02 59 41.1**	**-3.6**
	9.5nm,0.4s,SNR=5.0							
ELOB	**Lobios**	**4.73**	**259**	Pn	**Pn**	**02 58 50.4**	**+0.1**
	4.7nm,0.5s,SNR=8.6							
ELOB				Pg	**Pb**	**02 59 03.7**	**+2.1**
	6.9nm,0.2s,SNR=7.9							
ELOB				Sn	**Sn**	**02 59 44.8**	**-0.8**
	3.5nm,0.3s,SNR=5.0							
ELOB				Lg	Lg	03 00 07.9		
	244nm,1.3s,SNR=7.9							
AGO	**Saint Agoulin**	**4.74**	**47**	Pn	**Pn**	**02 58 51.7**	**+1.4**
PCAB	**Cabril**	**4.75**	**257**	*e*Pn	**Pn**	**02 58 50.9**	**+0.4**
PCAB				*e*Sg	**Sg**	**03 00 07.4**	**-3.3**
PCAB				A	A	03 00 22.0		
	62nm,0.6s							
PCAB	**Cabril**	**4.75**	**257**	*e*Pn	**Pn**	**02 58 50.9**	**+0.4**
PCAB				*e*Sg	**Sg**	**03 00 07.4**	**-3.3**
PCAB				A	A	03 00 22.0		
	62nm,0.6s							
PCAB	**Cabril**	**4.75**	**257**	Pn	**Pn**	**02 58 50.9**	**+0.4**
PCAB				Lg	Lg	03 00 07.4		
	31nm,0.6s							
SESP	**Santiago Espad**	**4.82**	**187**	Pn	**Pn**	**02 58 51.9**	**+0.4**
	9.5nm,0.2s,SNR=7.9							
SESP				Pg	**Pb**	**02 59 06.4**	**+3.2**
	SNR=7.9							
SESP				Lg	Lg	03 00 10.2		
	588nm,1.4s,SNR=7.9							
PGAV	**Gavieira, Arco**	**4.86**	**261**	*e*Pn	**Pn**	**02 58 54.7**	**+2.7**
PGAV				*e*Sg	**Sg**	**03 00 10.8**	**-3.5**
PGAV				A	A	03 00 32.4		
	60nm,0.6s							
PGAV	**Gavieira, Arco**	**4.86**	**261**	*e*Pn	**Pn**	**02 58 54.7**	**+2.7**
PGAV				*e*Sg	**Sg**	**03 00 10.8**	**-3.5**
PGAV				A	A	03 00 32.4		
	60nm,0.6s							
PGAV	**Gavieira, Arco**	**4.86**	**261**	Pn	**Pn**	**02 58 54.7**	**+2.7**
BGF	**Bois d'Agland**	**4.94**	**41**	*e*Pn	**Pn**	**02 58 53.4**	**+0.4**
BGF				*e*Sn	**Sn**	**02 59 48.9**	**-1.6**
	207nm,0.4s							
BGF				*e*Sg	**Sg**	**03 00 15.4**	**-1.4**
	320nm,0.5s							
BGF	**Bois d'Agland**	**4.94**	**41**	*e*Pn	**Pn**	**02 58 53.4**	**+0.4**
BGF				*e*Sn	**Sn**	**02 59 48.9**	**-1.6**
BGF				*e*Sg	**Sg**	**03 00 15.4**	**-1.4**
BGF	**Bois d'Agland**	**4.94**	**41**	Pn	**Pn**	**02 58 53.4**	**+0.4**
BGF				Sn	**Sn**	**02 59 48.9**	**-1.6**
	104nm,0.4s							
BGF				Lg	Lg	03 00 15.4		
	160nm,0.5s							
MTE	**Manteigas**	**4.96**	**242**	*e*Pn	**Pn**	**02 58 52.9**	**-0.5**
MTE				*e*Sg	**Sg**	**03 00 15.4**	**-2.2**
MTE				A	A	03 00 29.9		
	82nm,0.8s							
MTE	**Manteigas**	**4.96**	**242**	*e*Pn	**Pn**	**02 58 52.9**	**-0.5**
MTE				*e*Sg	**Sg**	**03 00 15.4**	**-2.2**
MTE				A	A	03 00 29.9		
	82nm,0.8s							
MTE	**Manteigas**	**4.96**	**242**	*e*Pn	**Pn**	**02 58 54.2**	**+0.8**
MTE	**Manteigas**	**4.96**	**242**	Pn	**Pn**	**02 58 52.9**	**-0.5**
MTE				Lg	Lg	03 00 15.4		
	41nm,0.8s							
PVIS	**Viseu**	**5.04**	**246**	*e*Pn	**Pn**	**02 58 54.0**	**-0.4**
PVIS				*e*Sn	**Sn**	**02 59 51.5**	**-1.5**
PVIS				*e*Sg	**Sg**	**03 00 19.1**	**-0.8**
PVIS				A	A	03 00 52.9		
	40nm,0.7s							
PVIS	**Viseu**	**5.04**	**246**	*e*Pn	**Pn**	**02 58 54.0**	**-0.4**
PVIS				*e*Sn	**Sn**	**02 59 51.5**	**-1.5**
PVIS				*e*Sg	**Sg**	**03 00 19.1**	**-0.8**
PVIS				A	A	03 00 52.9		
	40nm,0.7s							
PVIS	**Viseu**	**5.04**	**246**	Pn	**Pn**	**02 58 54.0**	**-0.4**
PVIS				Pn	**Pn**	**02 58 54.0**	**-0.4**
PVIS				Sn	**Sn**	**02 59 51.5**	**-1.5**
PVIS				Lg	Lg	03 00 19.1		
	20nm,0.7s							
EMUR	**La Murta**	**5.08**	**175**	Pn	**Pn**	**02 58 56.1**	**+1.1**
	8.7nm,0.7s,SNR=8.2							
EMUR				Pg	**Pb**	**02 59 11.0**	**+3.4**
	31nm,0.6s,SNR=7.9							
EMUR				Lg	Lg	03 00 18.3		
	204nm,1.1s,SNR=5.0							
VIVF	**Saint-Julien-l**	**5.09**	**65**	*e*Pn	**Pn**	**02 58 56.6**	**+1.5**
VIVF	**Saint-Julien-l**	**5.09**	**65**	*e*Pg	**Pg**	**02 59 14.2**	**-1.4**
VIVF				*e*Sn	**Sn**	**02 59 50.4**	**-3.8**
	128nm,0.6s							
VIVF	**Saint-Julien-l**	**5.09**	**65**	*e*Pn	**Pn**	**02 58 56.6**	**+1.5**
VIVF				*e*Pg	**Pg**	**02 59 14.2**	**-1.4**
VIVF				*e*Sn	**Sn**	**02 59 50.4**	**-3.8**
VIVF	**Saint-Julien-l**	**5.09**	**65**	Pn	**Pn**	**02 58 56.6**	**+1.5**
VIVF				Pg	**Pg**	**02 59 14.2**	**-1.4**
VIVF				Sn	**Sn**	**02 59 50.4**	**-3.8**
	64nm,0.6s							
QUIF	**Quistinic**	**5.09**	**350**	*e*Pn	**Pn**	**02 58 56.4**	**+1.3**
QUIF				*e*Sn	**Sn**	**02 59 52.1**	**-2.2**
	70nm,0.4s							
QUIF				*e*Sg	**Sg**	**03 00 22.6**	**+0.9**
	40nm,0.6s							
QUIF	**Quistinic**	**5.09**	**350**	*e*Pn	**Pn**	**02 58 56.4**	**+1.3**
QUIF				*e*Sn	**Sn**	**02 59 52.1**	**-2.2**
QUIF				*e*Sg	**Sg**	**03 00 22.6**	**+0.9**
QUIF	**Quistinic**	**5.09**	**350**	Pn	**Pn**	**02 58 56.4**	**+1.3**
QUIF				Sn	**Sn**	**02 59 52.1**	**-2.2**
	35nm,0.4s							
EZAM	**Zamans**	**5.13**	**264**	Pn	**Pn**	**02 58 55.9**	**+0.2**
	3.0nm,0.2s,SNR=7.9							
EZAM				Sn	**Sn**	**02 59 53.3**	**-2.0**
	SNR=7.9							
EZAM				Lg	Lg	03 00 24.1		
	228nm,1.6s,SNR=7.9							
SSB	**Saint Sauveur**	**5.16**	**61**	*e*Pn	**Pn**	**02 58 58.3**	**+2.1**
SSB	**Saint Sauveur**	**5.16**	**61**	Pn	**Pn**	**02 58 58.2**	**+2.0**
EADA	**Adamuz**	**5.18**	**205**	Pn	**Pn**	**02 58 56.4**	**0.0**
	1.8nm,0.3s,SNR=20							
EADA				Sn	**Sn**	**02 59 53.3**	**-3.2**
	6.2nm,0.3s,SNR=7.9							
EADA				Lg	Lg	03 00 23.9		
	305nm,1.4s,SNR=4.6							
EQES	**Quesada**	**5.19**	**191**	Pn	**Pn**	**02 58 56.7**	**+0.1**
	2.7nm,0.3s,SNR=12							
EQES				Pg	**Pb**	**02 59 13.0**	**+3.5**
	27nm,0.6s,SNR=17							
EQES				Lg	Lg	03 00 21.5		
	338nm,1.6s,SNR=5.0							
PCBR	**Castelo Branco**	**5.24**	**236**	*e*Pn	**Pn**	**02 58 56.7**	**-0.5**
PCBR				*e*Sg	**Sg**	**03 00 24.1**	**-2.4**
PCBR				A	A	03 00 40.8		
	66nm,0.7s							
PCBR	**Castelo Branco**	**5.24**	**236**	*e*Pn	**Pn**	**02 58 56.7**	**-0.5**
PCBR				*e*Sg	**Sg**	**03 00 24.1**	**-2.4**
PCBR				A	A	03 00 40.8		
	66nm,0.7s							
PCBR	**Castelo Branco**	**5.24**	**236**	Pn	**Pn**	**02 58 56.7**	**-0.5**
EMAZ	**Mazaricos**	**5.25**	**273**	Pn	**Pn**	**02 58 56.9**	**-0.4**
	2.2nm,0.1s,SNR=7.9							
EMAZ				Sn	**Sn**	**02 59 55.8**	**-2.4**
	3.2nm,0.2s,SNR=7.9							
EMAZ				Lg	Lg	03 00 27.6		
	159nm,1.7s,SNR=7.9							
PTO	**Porto**	**5.35**	**253**	*e*Pn	**Pn**	**02 58 59.2**	**+0.6**
PTO				*e*Sg	**Sg**	**03 00 26.5**	**-3.4**
PTO	**Porto**	**5.35**	**253**	*e*Pn	**Pn**	**02 58 59.2**	**+0.6**
PTO				*e*Sg	**Sg**	**03 00 26.5**	**-3.4**
PTO	**Porto**	**5.35**	**253**	Pn	**Pn**	**02 58 59.2**	**+0.6**
PTO				Lg	Lg	03 00 26.5		
AVF	**Avril sur Loir**	**5.35**	**42**	*e*Pn	**Pn**	**02 58 59.8**	**+1.1**
AVF				*e*Sn	**Sn**	**02 59 58.4**	**-2.2**
	68nm,0.5s							
AVF				*e*Sg	**Sg**	**03 00 28.9**	**-1.0**
	140nm,0.7s							
AVF	**Avril sur Loir**	**5.35**	**42**	*e*Pn	**Pn**	**02 58 59.8**	**+1.1**
AVF				*e*Sn	**Sn**	**02 59 58.4**	**-2.2**
AVF				*e*Sg	**Sg**	**03 00 28.9**	**-1.0**
AVF	**Avril sur Loir**	**5.35**	**42**	Pn	**Pn**	**02 58 59.8**	**+1.1**
AVF				Sn	**Sn**	**02 59 58.4**	**-2.2**
	34nm,0.5s							
SGMF	**Saint Gilles**	**5.37**	**355**	*e*Pn	**Pn**	**02 58 59.8**	**+0.9**
SGMF				*e*Sn	**Sn**	**02 59 59.3**	**-1.7**
	28nm,0.4s							
SGMF				*e*Sg	**Sg**	**03 00 30.3**	**-0.2**
	95nm,0.8s							
SGMF	**Saint Gilles**	**5.37**	**355**	*e*Pn	**Pn**	**02 58 59.8**	**+0.9**
SGMF				*e*Sn	**Sn**	**02 59 59.3**	**-1.7**
SGMF				*e*Sg	**Sg**	**03 00 30.3**	**-0.2**
SGMF	**Saint Gilles**	**5.37**	**355**	Pn	**Pn**	**02 58 59.8**	**+0.9**
SGMF				Sn	**Sn**	**02 59 59.3**	**-1.7**
	14nm,0.4s							
HYF	**Humbligny**	**5.38**	**34**	*e*Pn	**Pn**	**02 59 00.4**	**+1.2**
HYF				*e*Sn	**Sn**	**02 59 58.7**	**-2.8**
HYF				*e*Sg	**Sg**	**03 00 30.5**	**-0.6**
HYF	**Humbligny**	**5.38**	**34**	*e*Pn	**Pn**	**02 59 00.4**	**+1.2**
HYF				*e*Sn	**Sn**	**02 59 58.7**	**-2.8**
HYF				*e*Sg	**Sg**	**03 00 30.5**	**-0.6**
HYF	**Humbligny**	**5.38**	**34**	Pn	**Pn**	**02 59 00.4**	**+1.2**
HYF				Sn	**Sn**	**02 59 58.7**	**-2.8**
	45nm,0.5s							
PMRV	**Marv??o**	**5.45**	**232**	*e*Pn	**Pn**	**02 58 59.5**	**-0.6**
PMRV				*e*Sn	**Sn**	**03 00 00.7**	**-2.5**
PMRV				*e*Sg	**Sg**	**03 00 32.1**	**-1.2**
PMRV				A	A	03 00 43.2		
	45nm,0.5s							
PMRV	**Marv??o**	**5.45**	**232**	*e*Pn	**Pn**	**02 58 59.5**	**-0.6**
PMRV				*e*Sn	**Sn**	**03 00 00.7**	**-2.5**
PMRV				*e*Sg	**Sg**	**03 00 32.1**	**-1.2**
PMRV				A	A	03 00 43.2		
	45nm,0.5s							
PMRV	**Marv??o**	**5.45**	**232**	Pn	**Pn**	**02 58 59.5**	**-0.6**
PMRV				Sn	**Sn**	**03 00 00.7**	**-2.5**
PMRV				Lg	Lg	03 00 32.1		
	45nm,0.5s							
SMRF	**Simiane la Rot**	**5.50**	**76**	*e*Pn	**Pn**	**02 59 02.5**	**+1.8**
SMRF	**Simiane la Rot**	**5.50**	**76**	*e*P	Pn	02 59 06.1	+5.4
SMRF				*e*Sn	**Sn**	**03 00 00.5**	**-3.8**
	51nm,0.5s							
SMRF	**Simiane la Rot**	**5.50**	**76**	*e*Pn	**Pn**	**02 59 02.5**	**+1.8**
SMRF				*e*Sn	**Sn**	**03 00 00.5**	**-3.8**
SMF	**Signal de Mont**	**5.50**	**45**	*e*Pn	**Pn**	**02 59 01.6**	**+0.9**
SMF				*e*Sn	**Sn**	**03 00 01.7**	**-2.6**
	63nm,0.5s							
SMF				*e*Sg	**Sg**	**03 00 33.1**	**-1.6**
	168nm,0.9s							
SMF	**Signal de Mont**	**5.50**	**45**	*e*Pn	**Pn**	**02 59 01.6**	**+0.9**
SMF				*e*Sn	**Sn**	**03 00 01.7**	**-2.6**
SMF				*e*Sg	**Sg**	**03 00 33.1**	**-1.6**
SMF	**Signal de Mont**	**5.50**	**45**	Pn	**Pn**	**02 59 01.6**	**+0.9**
SMF				Sn	**Sn**	**03 00 01.7**	**-2.6**
	32nm,0.5s							
GORA	**Gorafe**	**5.50**	**190**	Pn	**Pn**	**02 59 01.3**	**+0.4**
	13nm,0.4s,SNR=7.9							
GORA				Pg	**Pg**	**02 59 23.3**	**-0.4**
	100nm,0.7s,SNR=7.9							
GORA				Sn	**Sn**	**02 59 59.6**	**-5.0**
	5.4nm,0.4s,SNR=7.9							
GORA				Lg	Lg	03 00 32.7		
	1µm,1.8s,SNR=7.9							
ROSF	**Rostrenen**	**5.52**	**350**	*e*Pn	**Pn**	**02 59 02.0**	**+1.0**
ROSF				*e*Sn	**Sn**	**03 00 02.5**	**-2.3**
	52nm,0.4s							
ROSF				*e*Sg	**Sg**	**03 00 35.2**	**-0.2**
	68nm,0.7s							
ROSF	**Rostrenen**	**5.52**	**350**	*e*Pn	**Pn**	**02 59 02.0**	**+1.0**
ROSF				*e*Sn	**Sn**	**03 00 02.5**	**-2.3**
ROSF				*e*Sg	**Sg**	**03 00 35.2**	**-0.2**
ROSF	**Rostrenen**	**5.52**	**350**	Pn	**Pn**	**02 59 02.0**	**+1.0**
GRR	**Gorron**	**5.52**	**7**	*e*Pn	**Pn**	**02 59 02.2**	**+1.2**
GRR				*e*Sn	**Sn**	**03 00 02.6**	**-2.2**
	34nm,0.4s							
GRR				*e*Sg	**Sg**	**03 00 36.1**	**+0.7**
	202nm,1.0s							
GRR	**Gorron**	**5.52**	**7**	*e*Pn	**Pn**	**02 59 02.2**	**+1.2**
GRR				*e*Sn	**Sn**	**03 00 02.6**	**-2.2**
GRR				*e*Sg	**Sg**	**03 00 36.1**	**+0.7**
ECAB	**El Cabril**	**5.55**	**211**	Pn	**Pn**	**02 59 01.3**	**-0.2**
	2.9nm,0.6s,SNR=10							
ECAB				Sn	**Sn**	**03 00 00.5**	**-5.1**
	4.6nm,0.4s,SNR=6.1							
ECAB				Lg	Lg	03 00 33.6		
	278nm,1.4s,SNR=5.8							
SSF	**Saint Saulge**	**5.62**	**41**	*e*Pn	**Pn**	**02 59 02.1**	**-0.2**
SSF				*e*Sn	**Sn**	**03 00 04.8**	**-2.4**
	51nm,0.5s							
SSF				*e*Sg	**Sg**	**03 00 37.4**	**-1.1**
	96nm,0.6s							
SSF	**Saint Saulge**	**5.62**	**41**	*e*Pn	**Pn**	**02 59 02.1**	**-0.2**
SSF				*e*Sn	**Sn**	**03 00 04.8**	**-2.4**
SSF				*e*Sg	**Sg**	**03 00 37.4**	**-1.1**
COI	**Coimbra**	**5.63**	**244**	*e*Pn	**Pn**	**02 59 03.7**	**+1.2**
COI				*e*Sg	**Sg**	**03 00 37.9**	**-1.0**
COI				A	A	03 00 53.0		
	99nm,0.6s							
COI	**Coimbra**	**5.63**	**244**	*e*Pn	**Pn**	**02 59 03.7**	**+1.2**
COI				*e*Sg	**Sg**	**03 00 37.9**	**-1.0**
COI				A	A	03 00 53.0		
	99nm,0.6s							
COI	**Coimbra**	**5.63**	**244**	Pn	**Pn**	**02 59 03.7**	**+1.2**
COI				Lg	Lg	03 00 37.9		
	49nm,0.6s							
EBAD	**Badajoz**	**5.72**	**225**	Pn	**Pn**	**02 59 02.3**	**-1.5**
	3.5nm,0.3s,SNR=19							
EBAD				Sn	**Sn**	**03 00 06.4**	**-3.3**
	8.8nm,0.3s,SNR=7.9							
EBAD				Lg	Lg	03 00 38.0		
	144nm,1.0s,SNR=6.0							
PCAS	**Casmilo, Conde**	**5.76**	**243**	*e*Pn	**Pn**	**02 59 05.0**	**+0.6**
PCAS				*e*Sn	**Sn**	**03 00 08.0**	**-2.9**
PCAS				*e*Sg	**Sg**	**03 00 39.4**	**-3.9**
PCAS				A	A	03 00 49.3		
	50nm,0.7s							
PCAS	**Casmilo, Conde**	**5.76**	**243**	*e*Pn	**Pn**	**02 59 05.0**	**+0.6**
PCAS				*e*Sn	**Sn**	**03 00 08.0**	**-2.9**
PCAS				*e*Sg	**Sg**	**03 00 39.4**	**-3.9**
PCAS				A	A	03 00 49.3		
	50nm,0.7s							
PCAS	**Casmilo, Conde**	**5.76**	**243**	Pn	**Pn**	**02 59 05.0**	**+0.6**
PCAS				Sn	**Sn**	**03 00 08.0**	**-2.9**
LDF	**La Druitiere**	**5.81**	**11**	*e*Pn	**Pn**	**02 59 05.6**	**+0.7**
LDF				*e*Sn	**Sn**	**03 00 08.8**	**-3.1**
	33nm,0.6s							
LDF				*e*Sg	**Sg**	**03 00 44.3**	**-0.3**
	123nm,0.9s							
LDF	**La Druitiere**	**5.81**	**11**	*e*Pn	**Pn**	**02 59 05.6**	**+0.7**
LDF				*e*Sn	**Sn**	**03 00 08.8**	**-3.1**
LDF				*e*Sg	**Sg**	**03 00 44.3**	**-0.3**
EQUE	**Quentar**	**5.83**	**193**	Lg	Lg	03 00 43.6		
	98nm,0.8s,SNR=7.9							
CLF	**Chambon-Foret**	**5.87**	**28**	*e*Pn	**Pn**	**02 59 07.0**	**+1.2**
ORIF	**Oris-en-Rattie**	**5.92**	**68**	*e*Pn	**Pn**	**02 59 08.7**	**+2.1**
ORIF				*e*Sn	**Sn**	**03 00 11.0**	**-3.8**
	224nm,0.6s							
ORIF	**Oris-en-Rattie**	**5.92**	**68**	*e*Pn	**Pn**	**02 59 08.7**	**+2.1**
ORIF				*e*Sn	**Sn**	**03 00 11.0**	**-3.8**
ORIF	**Oris-en-Rattie**	**5.92**	**68**	Pn	**Pn**	**02 59 08.7**	**+2.1**
ORIF				Sn	**Sn**	**03 00 11.0**	**-3.8**
	112nm,0.6s							
FLN	**La Foliniere**	**5.93**	**9**	*e*Pn	**Pn**	**02 59 07.4**	**+0.8**
	baz=187							
FLN				*e*Sn	**Sn**	**03 00 12.2**	**-2.6**
	31nm,0.6s							
FLN				*e*Sg	**Sg**	**03 00 47.9**	**-0.6**
	116nm,0.8s							
FLN	**La Foliniere**	**5.93**	**9**	*e*Pn	**Pn**	**02 59 07.4**	**+0.8**
FLN				*e*Sn	**Sn**	**03 00 12.2**	**-2.6**
FLN				*e*Sg	**Sg**	**03 00 47.9**	**-0.6**
LOR	**Lormes**	**5.93**	**41**	*e*Pn	**Pn**	**02 59 07.1**	**+0.4**
	baz=228							
LOR				*e*Sn	**Sn**	**03 00 10.7**	**-4.3**
	50nm,0.5s,baz=233							
LOR				*e*Sg	**Sg**	**03 00 47.6**	**-1.0**
	129nm,0.8s,baz=231							
LOR	**Lormes**	**5.93**	**41**	*e*Pn	**Pn**	**02 59 07.1**	**+0.4**
LOR				*e*Sn	**Sn**	**03 00 10.7**	**-4.3**
LOR				*e*Sg	**Sg**	**03 00 47.6**	**-1.0**
LOR	**Lormes**	**5.93**	**41**	Pn	**Pn**	**02 59 07.1**	**+0.4**
ENIJ	**Nijar**	**5.94**	**183**	Pn	**Pn**	**02 59 06.6**	**-0.2**
	2.2nm,0.3s,SNR=7.9							
ENIJ				Pg	**Pb**

ALMR	**Almeirim**	**6.33**	**236**	*e*P	**Pn**	**02 59 11.4**	**-0.8**
ALMR	**Almeirim**	**6.33**	**236**	*e*Pn	**Pn**	**02 59 12.6**	**+0.4**
ALMR				*e*Sn	**Sn**	**03 00 23.8**	**-1.0**
ALMR				*e*Sg	**Sg**	**03 01 00.6**	**-0.9**
ALMR				A	A	03 01 26.9	
	67nm,0.7s						
ALMR	**Almeirim**	**6.33**	**236**	*e*Pn	**Pn**	**02 59 12.6**	**+0.4**
ALMR				*e*Sn	**Sn**	**03 00 23.8**	**-1.0**
ALMR				*e*Sg	**Sg**	**03 01 00.6**	**-0.9**
ALMR				A	A	03 01 26.9	
	67nm,0.7s						
ALMR	**Almeirim**	**6.33**	**236**	Pn	**Pn**	**02 59 12.6**	**+0.4**
ALMR				Lg	Lg	03 01 00.6	
	34nm,0.7s						
EMAL	**Malaga-Limoner**	**6.46**	**199**	P	**Pn**	**02 59 14.9**	**+1.0**
EMAL	**Malaga-Limoner**	**6.46**	**199**	*e*P	**Pn**	**02 59 14.9**	**+1.0**
EMAL				*e*s	**Sn**	**03 00 26.1**	**-1.8**
MBDF	**Montbardon**	**6.48**	**71**	*e*Pn	**Pn**	**02 59 16.8**	**+2.4**
MBDF				*e*Sn	**Sn**	**03 00 24.2**	**-4.5**
	42nm,0.5s						
MBDF	**Montbardon**	**6.48**	**71**	*e*Pn	**Pn**	**02 59 16.8**	**+2.4**
MBDF				*e*Sn	**Sn**	**03 00 24.2**	**-4.5**
MBDF	**Montbardon**	**6.48**	**71**	Pn	**Pn**	**02 59 16.8**	**+2.4**
MBDF				Sn	**Sn**	**03 00 24.2**	**-4.5**
	21nm,0.5s						
BNI	**Bardonecchia**	**6.50**	**68**	*e*Pn	**Pn**	**02 59 17.2**	**+2.6**
LPL	**La Plagne**	**6.68**	**64**	*e*P	**Pn**	**02 59 21.2**	**+4.0**
LPL				*e*Sn	**Sn**	**03 00 29.9**	**-3.8**
	45nm,0.8s						
LPL	**La Plagne**	**6.68**	**64**	*e*P	**Pn**	**02 59 21.2**	**+4.0**
LPL				*e*Sn	**Sn**	**03 00 29.9**	**-3.8**
LPG	**La Plagne**	**6.69**	**64**	*e*P	**Pn**	**02 59 21.3**	**+4.0**
LPG				*e*Sn	**Sn**	**03 00 28.7**	**-5.3**
	46nm,0.7s						
LPG	**La Plagne**	**6.69**	**64**	*e*P	**Pn**	**02 59 21.3**	**+4.0**
LPG				*e*Sn	**Sn**	**03 00 28.7**	**-5.3**
PBEJ	**Beja**	**6.71**	**225**	*e*Pn	**Pn**	**02 59 18.3**	**+1.0**
PBEJ				*e*Sn	**Sn**	**03 00 33.6**	**-0.5**
PBEJ				*e*Sg	**Sg**	**03 01 13.0**	**-0.5**
PBEJ				A	A	03 01 35.9	
	19nm,0.6s						
PBEJ	**Beja**	**6.71**	**225**	*e*Pn	**Pn**	**02 59 18.3**	**+1.0**
PBEJ				*e*Sn	**Sn**	**03 00 33.6**	**-0.5**
PBEJ				*e*Sg	**Sg**	**03 01 13.0**	**-0.5**
PBEJ				A	A	03 01 35.9	
	19nm,0.6s						
PBEJ	**Beja**	**6.71**	**225**	Pn	**Pn**	**02 59 18.3**	**+1.0**
PBEJ				Lg	Lg	03 01 13.0	
	9.4nm,0.6s						
EMIJ	**Mijas**	**6.73**	**201**	Pn	**Pn**	**02 59 18.5**	**+0.8**
	4.3nm,0.4s,SNR=5.3						
EMIJ				Lg	Lg	03 01 12.3	
	123nm,1.3s,SNR=7.9						
CABF	**La Chapelle**	**6.74**	**54**	*e*Pn	**Pn**	**02 59 20.2**	**+2.3**
CABF				*e*Sn	**Sn**	**03 00 30.6**	**-4.4**
	52nm,0.7s						
CABF				*e*Sg	**Sg**	**03 01 12.4**	**-2.2**
	136nm,0.9s						
CABF	**La Chapelle**	**6.74**	**54**	*e*Pn	**Pn**	**02 59 20.2**	**+2.3**
CABF				*e*Sn	**Sn**	**03 00 30.6**	**-4.4**
CABF				*e*Sg	**Sg**	**03 01 12.4**	**-2.2**
ESPR	**Espera**	**6.78**	**208**	Pn	**Pn**	**02 59 19.2**	**+0.9**
	2.8nm,0.3s,SNR=7.9						
ESPR				Sn	**Sn**	**03 00 29.8**	**-6.1**
	7.2nm,0.4s,SNR=7.9						
ESPR				Lg	Lg	03 01 14.1	
	74nm,0.8s,SNR=7.9						
SBF	**Sospel**	**6.82**	**79**	*e*Pn	**Pn**	**02 59 17.8**	**-1.1**
SBF	**Sospel**	**6.82**	**79**	*e*P	**Pn**	**02 59 23.1**	**+4.2**
SBF				*e*Sn	**Sn**	**03 00 32.2**	**-4.7**
	49nm,0.5s						
SBF	**Sospel**	**6.82**	**79**	*e*Pn	**Pn**	**02 59 17.8**	**-1.1**
SBF				*e*Sn	**Sn**	**03 00 32.2**	**-4.7**
SBF	**Sospel**	**6.82**	**79**	Sn	**Sn**	**03 00 32.2**	**-4.7**
	24nm,0.5s						
EGRO	**El Granado**	**6.89**	**221**	Pn	**Pn**	**02 59 19.9**	**0.0**
	3.8nm,0.3s,SNR=6.9						
EGRO				Sn	**Sn**	**03 00 32.8**	**-5.9**
	1.4nm,0.4s,SNR=7.9						
EGRO				Lg	Lg	03 01 18.9	
	184nm,1.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**7.00**	**229**	*e*Pn	**Pn**	**02 59 20.9**	**-0.5**
PNCL				*e*Sn	**Sn**	**03 00 38.5**	**-2.8**
PNCL				A	A	03 01 28.8	
	22nm,0.6s						
PNCL	**Nicolau / Gran**	**7.00**	**229**	*e*Pn	**Pn**	**02 59 20.9**	**-0.5**
PNCL				*e*Sn	**Sn**	**03 00 38.5**	**-2.8**
PNCL				A	A	03 01 28.8	
	22nm,0.6s						
PNCL	**Nicolau / Gran**	**7.00**	**229**	Pn	**Pn**	**02 59 20.9**	**-0.5**
MESJ	**Messejana**	**7.03**	**226**	*e*P	**Pn**	**02 59 20.7**	**-1.1**
MESJ	**Messejana**	**7.03**	**226**	*e*Pn	**Pn**	**02 59 21.4**	**-0.4**
MESJ				*e*Sg	**Sg**	**03 01 21.5**	**-2.4**
MESJ				A	A	03 01 52.0	
	20nm,0.7s						
MESJ	**Messejana**	**7.03**	**226**	*e*Pn	**Pn**	**02 59 21.4**	**-0.4**
MESJ				*e*Sg	**Sg**	**03 01 21.5**	**-2.4**
MESJ				A	A	03 01 52.0	
	20nm,0.7s						
MESJ	**Messejana**	**7.03**	**226**	Pn	**Pn**	**02 59 21.4**	**-0.4**
MESJ				Lg	Lg	03 01 21.5	
	20nm,0.7s						
PCVE	**Castro Verde**	**7.09**	**224**	*e*Pn	**Pn**	**02 59 22.0**	**-0.6**
PCVE				*e*Sn	**Sn**	**03 00 39.6**	**-4.0**
PCVE				*e*Sg	**Sg**	**03 01 21.9**	**-4.0**
PCVE				A	A	03 01 44.2	
	20nm,0.6s						
PCVE	**Castro Verde**	**7.09**	**224**	*e*Pn	**Pn**	**02 59 22.0**	**-0.6**
PCVE				*e*Sn	**Sn**	**03 00 39.6**	**-4.0**
PCVE				*e*Sg	**Sg**	**03 01 21.9**	**-4.0**
PCVE				A	A	03 01 44.2	
	20nm,0.6s						
PCVE	**Castro Verde**	**7.09**	**224**	Pn	**Pn**	**02 59 22.0**	**-0.6**
PCVE				Sn	**Sn**	**03 00 39.6**	**-4.0**
PVAQ	**Vaqueiros**	**7.11**	**221**	*e*Pn	**Pn**	**02 59 22.5**	**-0.4**
PVAQ				*e*Sn	**Sn**	**03 00 40.8**	**-3.3**
PVAQ	**Vaqueiros**	**7.11**	**221**	*e*Pn	**Pn**	**02 59 22.5**	**-0.4**
PVAQ				*e*Sn	**Sn**	**03 00 40.7**	**-3.3**
PVAQ	**Vaqueiros**	**7.11**	**221**	Pn	**Pn**	**02 59 22.5**	**-0.4**
SFTF	**Sexfontaines** baz=223	**7.16**	**40**	*e*Pn	**Pn**	**02 59 24.6**	**+1.1**
SFTF				*e*Sn	**Sn**	**03 00 41.4**	**-3.7**
	42nm,0.6s,baz=216						
SFTF				*e*Sg	**Sg**	**03 01 25.3**	**-2.6**
	136nm,0.9s,baz=218						
SFTF	**Sexfontaines**	**7.16**	**40**	*e*Pn	**Pn**	**02 59 24.6**	**+1.1**
SFTF				*e*Sn	**Sn**	**03 00 41.4**	**-3.7**
SFTF				*e*Sg	**Sg**	**03 01 25.3**	**-2.6**
SFTF	**Sexfontaines**	**7.16**	**40**	Pn	**Pn**	**02 59 24.6**	**+1.1**
PBDV	**Barranco-do-Ve**	**7.34**	**222**	*e*Pn	**Pn**	**02 59 26.5**	**+0.4**
PBDV				*e*Sn	**Sn**	**03 00 45.9**	**-3.9**
PBDV				*e*Sg	**Sg**	**03 01 33.8**	**-0.1**
PBDV				A	A	03 01 57.8	
	31nm,0.7s						
PBDV	**Barranco-do-Ve**	**7.34**	**222**	*e*Pn	**Pn**	**02 59 26.5**	**+0.4**
PBDV				*e*Sn	**Sn**	**03 00 45.9**	**-3.9**
PBDV				*e*Sg	**Sg**	**03 01 33.8**	**-0.1**
PBDV				A	A	03 01 57.8	
	31nm,0.7s						
PBDV	**Barranco-do-Ve**	**7.34**	**222**	Pn	**Pn**	**02 59 26.5**	**+0.4**
PBDV				Sn	**Sn**	**03 00 45.9**	**-3.9**
PBDV				Lg	Lg	03 01 33.8	
	31nm,0.7s						
SENIN	**Lac Senin/Sane**	**7.37**	**59**	*e*Pn	**Pn**	**02 59 29.4**	**+2.8**
MEZF	**Maizieres J'vi**	**7.38**	**38**	*e*Pn	**Pn**	**02 59 27.3**	**+0.8**
MEZF				*e*Sn	**Sn**	**03 00 47.0**	**-3.5**
	27nm,0.5s						
MEZF				*e*Sg	**Sg**	**03 01 33.0**	**-2.0**
	107nm,0.9s						
MEZF	**Maizieres J'vi**	**7.38**	**38**	*e*Pn	**Pn**	**02 59 27.3**	**+0.8**
MEZF				*e*Sn	**Sn**	**03 00 47.0**	**-3.5**
MEZF				*e*Sg	**Sg**	**03 01 33.0**	**-2.0**
MEZF	**Maizieres J'vi**	**7.38**	**38**	Pn	**Pn**	**02 59 27.3**	**+0.8**
MEZF				Sn	**Sn**	**03 00 47.0**	**-3.5**
	27nm,0.5s						
MORF	**Marmelete**	**7.66**	**225**	*e*P	**Pn**	**02 59 28.8**	**-1.6**
MORF	**Marmelete**	**7.66**	**225**	*e*Pn	**Pn**	**02 59 29.9**	**-0.5**
MORF				A	A	03 01 59.1	
	10nm,0.9s						
MORF	**Marmelete**	**7.66**	**225**	*e*Pn	**Pn**	**02 59 29.9**	**-0.5**
MORF				A	A	03 01 59.1	
	10nm,0.9s						
MORF	**Marmelete**	**7.66**	**225**	Pn	**Pn**	**02 59 29.9**	**-0.5**
HAU	**Haudompre**	**7.68**	**46**	*e*Sn	**Sn**	**03 00 54.0**	**-4.0**
	28nm,0.5s						
HAU				*e*Sg	**Sg**	**03 01 41.4**	**-3.2**
	44nm,0.7s						
HAU	**Haudompre**	**7.68**	**46**	*e*Sn	**Sn**	**03 00 54.0**	**-4.0**
HAU				*e*Sg	**Sg**	**03 01 41.4**	**-3.2**
HAU	**Haudompre** 14nm,0.5s	**7.68**	**46**	Sn	**Sn**	**03 00 54.0**	**-4.0**
PAGF	**Fort de Pagny** baz=222	**7.73**	**41**	*e*Pn	**Pn**	**02 59 32.9**	**+1.6**
PAGF				*e*Sn	**Sn**	**03 00 55.2**	**-4.0**
	25nm,0.6s,baz=218						
PAGF				*e*Sg	**Sg**	**03 01 43.2**	**-3.0**
	304nm,1.3s						
PAGF	**Fort de Pagny**	**7.73**	**41**	*e*Pn	**Pn**	**02 59 32.9**	**+1.6**
PAGF				*e*Sn	**Sn**	**03 00 55.2**	**-4.0**
PAGF				*e*Sg	**Sg**	**03 01 43.2**	**-3.0**
HINF	**Hinteralfeld**	**7.84**	**48**	*e*Pn	**Pn**	**02 59 32.6**	**-0.2**
HINF				*e*Sn	**Sn**	**03 00 57.4**	**-4.5**
	19nm,0.6s						
HINF				*e*Sg	**Sg**	**03 01 45.8**	**-3.9**
	44nm,0.9s						
HINF	**Hinteralfeld**	**7.84**	**48**	*e*Pn	**Pn**	**02 59 32.6**	**-0.2**
HINF				*e*Sn	**Sn**	**03 00 57.4**	**-4.5**
HINF				*e*Sg	**Sg**	**03 01 45.8**	**-3.9**
HINF	**Hinteralfeld** 9.6nm,0.6s	**7.84**	**48**	Sn	**Sn**	**03 00 57.4**	**-4.5**
PFVI	**Vila Bisbo**	**7.88**	**225**	*e*Pn	**Pn**	**02 59 33.4**	**0.0**
PFVI	**Vila Bisbo**	**7.88**	**225**	*e*Pn	**Pn**	**02 59 33.4**	**0.0**
PGF	**Pioggiola**	**7.98**	**89**	*e*Pn	**Pn**	**02 59 35.1**	**+0.2**
PGF				*e*Sn	**Sn**	**03 00 59.6**	**-6.0**
	34nm,0.6s						
PGF	**Pioggiola**	**7.98**	**89**	*e*Pn	**Pn**	**02 59 35.1**	**+0.2**
PGF				*e*Sn	**Sn**	**03 00 59.6**	**-6.0**
PGF	**Pioggiola**	**7.98**	**89**	Pn	**Pn**	**02 59 35.1**	**+0.2**
BAIF	**Baives**	**8.27**	**28**	*e*Pn	**Pn**	**02 59 38.9**	**+0.2**
BAIF				*e*Sn	**Sn**	**03 01 08.2**	**-4.3**
	39nm,0.7s						
BAIF				*e*Sg	**Sg**	**03 02 00.6**	**-3.0**
	349nm,1.4s						
BAIF	**Baives**	**8.27**	**28**	*e*Pn	**Pn**	**02 59 38.9**	**+0.2**
BAIF				*e*Sn	**Sn**	**03 01 08.2**	**-4.3**
BAIF				*e*Sg	**Sg**	**03 02 00.6**	**-3.0**
BAIF	**Baives** 19nm,0.7s	**8.27**	**28**	Sn	**Sn**	**03 01 08.2**	**-4.3**
CDF	**Champ du Feu**	**8.42**	**46**	*e*Pn	**Pn**	**02 59 40.8**	**-0.1**
CDF				*e*Sn	**Sn**	**03 01 11.3**	**-5.0**
	9.5nm,0.5s						
CDF				*e*Sg	**Sg**	**03 02 08.7**	**+0.4**
	53nm,0.9s						
CDF	**Champ du Feu**	**8.42**	**46**	*e*Pn	**Pn**	**02 59 40.8**	**-0.1**
CDF				*e*Sn	**Sn**	**03 01 11.3**	**-5.0**
CDF				*e*Sg	**Sg**	**03 02 08.7**	**+0.4**
DOU	**Dourbes**	**8.44**	**29**	⇑Pn	**Pn**	**02 59 41.4**	**+0.3**
DOU				⇑Sn	**Sn**	**03 01 12.9**	**-3.7**
	comp=N,17nm,0.0s						
GIVF	**Givet**	**8.53**	**30**	*e*Pn	**Pn**	**02 59 42.6**	**+0.3**
GIVF				*e*Sn	**Sn**	**03 01 14.3**	**-4.5**
	comp=N,40nm,0.5s						
GIVF				*e*Sg	**Sg**	**03 02 08.3**	**-3.5**
	comp=N,44nm,0.8s						
GIVF	**Givet**	**8.53**	**30**	*e*Pn	**Pn**	**02 59 42.6**	**+0.3**
GIVF				*e*Sn	**Sn**	**03 01 14.3**	**-4.5**
GIVF				*e*Sg	**Sg**	**03 02 08.3**	**-3.5**
GIVF	**Givet**	**8.53**	**30**	Sn	**Sn**	**03 01 14.3**	**-4.5**
	comp=N,20nm,0.5s						
SNF	**Seneffe**	**8.68**	**27**	⇑Pn	**Pn**	**02 59 45.6**	**+1.3**
WLF	**Walferdange**	**8.72**	**37**	*e*Pn	**Pn**	**02 59 45.5**	**+0.6**
WLF	**Walferdange**	**8.72**	**37**	⇑Pn	**Pn**	**02 59 45.7**	**+0.8**
WLF				⇑Sn	**Sn**	**03 01 17.1**	**-6.5**
	comp=N,28nm,0.0s						
UCC	**Uccle**	**8.95**	**26**	*e*Pn	**Pn**	**02 59 49.4**	**+1.3**
BCLA	**Clavier**	**8.96**	**31**	⇑Pn	**Pn**	**02 59 48.4**	**+0.2**
BCLA				⇑Sn	Sn	03 01 16.0	-13
	comp=N,19nm,0.0s						
DAVOX	**Davos/Dischmat**	**9.17**	**61**	Pn	**Pn**	**02 59 55.7**	**+4.4**
	comp=N,0.8nm,0.3s,baz=246,slow=10,SNR=15						
DAVOX				Sn	**Sn**	**03 01 36.9**	**+2.0**
	comp=N,0.8nm,0.3s,baz=318,slow=22,SNR=8.1						
DAVOX				LR	LR	03 03 26.3	
	comp=N,131nm,19.9s,baz=257,slow=37						
DAVA	**Damuels**	**9.36**	**58**	*e*Pn	**Pn**	**02 59 55.9**	**+2.0**
	comp=N,2.1nm,0.5s						
DAVA				*e*Sn	**Sn**	**03 01 41.1**	**+1.6**
	comp=N,4.5nm,0.4s						
MEM	**Membach**	**9.39**	**32**	⇓Pn	**Pn**	**02 59 55.2**	**+1.2**
MEM				⇓Sn	Sn	03 01 30.6	-9.3
	comp=N,24nm,0.0s						
FETA	**Feichten**	**9.80**	**61**	*e*Pn	**Pn**	**03 00 01.7**	**+1.8**
	comp=N,2.8nm,0.4s,SNR=12						
FETA				*e*Sn	**Sn**	**03 01 51.4**	**+1.1**
	comp=N,2.8nm,0.5s						
RETA	**Reutte**	**9.99**	**58**	*e*Pn	**Pn**	**03 00 05.9**	**+3.4**
	comp=N,0.5nm,0.2s						
RETA				*e*Sn	**Sn**	**03 01 57.1**	**+2.2**
	comp=N,1.8nm,0.5s						
MOTA	**Moosalm**	**10.15**	**60**	*e*Pn	**Pn**	**03 00 08.9**	**+4.2**
	comp=N,10.0nm,0.5s,SNR=17						
MOTA				*e*Sn	**Sn**	**03 01 58.9**	**-0.1**
	comp=N,1.5nm,0.3s						
SQTA	**Sankt Quirin**	**10.18**	**60**	*e*Pn	**Pn**	**03 00 09.5**	**+4.5**
	comp=N,1.2nm,0.2s,SNR=8.6						
SQTA				*e*Sn	**Sn**	**03 02 01.6**	**+2.1**
	comp=N,3.1nm,0.3s						
MDT	**Midelt**	**10.32**	**193**	Pn	**Pn**	**03 00 05.2**	**-1.8**
	comp=N,0.1nm,0.3s,baz=18,slow=16,SNR=2.4						
MDT				Sn	**Sn**	**03 01 58.1**	**-4.9**
	comp=N,0.1nm,0.3s,baz=225,slow=1.4,SNR=2.4						
WATA	**Walderalm**	**10.45**	**60**	*e*Pn	Pn	03 00 13.6	+4.8
	comp=N,5.7nm,0.6s						
WATA				*e*Sn	**Sn**	**03 02 06.8**	**+0.5**
	comp=N,4.2nm,0.4s						
WTTA	**Wattenberg**	**10.47**	**61**	*e*Pn	Pn	03 00 14.5	+5.5
	comp=N,2.0nm,0.1s						
WTTA				*e*Sn	**Sn**	**03 02 08.5**	**+1.8**
	comp=N,12nm,0.6s						
ABTA	**Abfaltersbach**	**10.88**	**64**	*i* Pn	**Pn**	**03 00 19.0**	**+4.3**
	comp=N,1.1nm,0.5s						
ABTA				*e*Sn	**Sn**	**03 02 16.5**	**-0.2**
	comp=N,2.4nm,0.5s						
KEST	**Kesra**	**11.23**	**126**	Pn	**Pn**	**03 00 20.1**	**+0.6**
	comp=N,0.1nm,0.3s,baz=260,slow=2.6,SNR=2.8						
KEST				Sn	**Sn**	**03 02 25.1**	**-0.3**
	comp=N,0.2nm,0.3s,baz=347,slow=14,SNR=3.1						
GEA0	**GERESS Array S**	**12.33**	**56**	*e*Pn	**Pn**	**03 00 34.8**	**+0.4**
GERES	**GERESS Array B**	**12.33**	**56**	Pn	**Pn**	**03 00 37.2**	**+2.7**
	comp=N,0.5nm,0.3s,baz=245,slow=14,SNR=12						
GERES				Sn	**Sn**	**03 02 49.1**	**-3.2**
	comp=N,1.2nm,0.3s,baz=257,slow=22,SNR=11						
GERES				LR	LR	03 06 07.9	
	comp=N,52nm,20.4s,baz=309,slow=41						
MOA	**Molln**	**12.34**	**61**	*i* Sn	**Sn**	**03 02 55.4**	**+3.0**
KHC	**Kasperske Hory**	**12.38**	**55**	*e*P	**Pn**	**03 00 37.8**	**+2.8**
KHC				*e*S	**Sn**	**03 02 50.3**	**-2.9**
EKA	**Eskdalemuir Ar**	**12.46**	**356**	Pn	**Pn**	**03 00 35.5**	**-0.6**
	baz=176,slow=14,SNR=15						
EKA				Sn	**Sn**	**03 02 46.9**	**-8.3**
	baz=174,slow=26,SNR=3.7						
ARSA	**Arzberg**	**13.00**	**65**	*e*Pn	**Pn**	**03 00 42.9**	**-0.7**
	comp=N,0.6nm,0.3s						
ARSA				*e*Sn	**Sn**	**03 03 10.0**	**+1.5**
	comp=N,0.9nm,0.5s						
CONA	**Conrad Observa**	**13.39**	**62**	*e*Pn	**Pn**	**03 00 52.5**	**+3.6**
	comp=N,0.7nm,0.6s						
HFS	**Hagfors**	**19.68**	**23**	P	**Pn**	**03 02 10.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=206,slow=16,SNR=4.1						
HFS				LR	LR	03 10 41.4	
	comp=N,60nm,19.0s,baz=252,slow=39						
NOA	**NORSAR Array B**	**19.78**	**19**	LR	LR	03 10 58.5	
	comp=N,34nm,21.6s,baz=195,slow=40						
AKASG	**Malin Array Be**	**22.51**	**59**	P	**P**	**03 02 41.4**	**+2.9**
	comp=N,0.3nm,0.4s,baz=252,slow=10,SNR=2.8						
FINES	**FINESS Array B**	**24.92**	**32**	P	**P**	**03 03 04.4**	**+2.6**
	comp=N,2.4nm,0.7s,baz=238,slow=8.0,SNR=7.7						
FIA1	**FINESS Array S**	**24.92**	**32**	*e*P	**P**	**03 03 03.5**	**+1.7**
BRTR	**Keskin Array B**	**26.71**	**85**	P	**P**	**03 03 20.8**	**+2.3**
	comp=N,1.1nm,0.7s,baz=312,slow=9.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**29.81**	**173**	P	**P**	**03 03 43.3**	**-2.8**
	comp=N,0.6nm,1.0s,baz=350,slow=7.9,SNR=3.6						
ARCES	**ARCESS Array B**	**30.16**	**19**	P	**P**	**03 03 50.6**	**+1.9**
	comp=N,2.0nm,0.7s,baz=235,slow=7.2,SNR=4.6						
DBIC	**Dimbokro**	**36.19**	**185**	LR	LR	03 19 29.6	
	comp=N,72nm,18.2s,baz=347,slow=36						
KSH	**Kashi**	**56.63**	**65**	P	**P**	**03 07 19.3**	**-3.0**
KSH				sP	sP	03 07 26.0	+1.1
KSH				PP	**PP**	**03 09 26.8**	**-1.1**
KSH				pmax	pmax		
	comp=Z,240nm,6.4s						
MKAR	**Makanchi Array**	**57.00**	**55**	P	**P**	**03 07 28.4**	**+3.7**
	comp=Z,0.3nm,0.6s,baz=296,slow=6.7,SNR=4.4						
WMQ	**Urumqi**	**61.80**	**55**	*e*P	P	03 08 02.9	+4.9
WMQ				LR	LR		
	comp=N,140nm,17.7s						
WMQ				LR	LR		
	comp=E,140nm,22.1s						
WMQ				LR	LR		
	comp=Z,130nm,19.3s						
YKA	**Yellowknife Ar**	**62.04**	**331**	P	**P**	**03 07 59.9**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=54,slow=6.6,SNR=6.8						
ILAR	**Eielson Array**	**69.22**	**345**	P	**P**	**03 08 48.6**	**+3.2**
	comp=Z,0.3nm,0.9s,baz=28,slow=4.1,SNR=2.9						
HHC	**Hu-ho-hao-te**	**77.25**	**46**	*e*P	**P**	**03 09 36.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,110nm,5.4s						
KMI	**Kunming**	**83.17**	**62**	P	**P**	**03 10 07.3**	**+1.5**
KMI				pmax	pmax		
	comp=Z,25nm,0.5s						

IDC 23 03:10:39.0±2.9, 6°32S×147°98E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/32, mbtmpb3.7/5, ML3.6/1, Error ellipse: s-maj=64.7km s-min=34.3km az=93.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18**	**195**			Pn	Pn	03 11 32.3	+2.0
	7.2nm,0.3s,baz=16,slow=11,SNR=15								
PMG						Sn	Sn	03 12 11.7	+2.8
	4.3nm,0.3s,baz=343,slow=19,SNR=4.9								
WRA	**Warramunga Arr**	**18.95**	**223**			P	P	03 15 01.5	-0.4
	0.2nm,0.3s,baz=48,slow=11,SNR=11								
ASAR	**Alice Springs**	**21.93**	**217**			P	P	03 15 34.2	-0.1
	0.7nm,0.4s,baz=52,slow=9.1,SNR=12								
FITZ	**Fitzroy Crossi**	**24.74**	**240**			P	P	03 16 01.9	-0.5
	1.5nm,0.4s,baz=68,slow=7.0,SNR=14								
STKA	**Stephens Creek**	**26.12**	**192**			P	P	03 16 13.5	-1.3
	1.1nm,0.5s,baz=350,slow=11,SNR=3.5								
TORD	**Torodi Ar. Bea**	**146.12**	**284**			PKPbc	PKPbc	03 30 22.4	+0.1
	0.1nm,0.5s,baz=74,slow=3.6,SNR=5.0								

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*IDC **23** 03:16:46.7±9.2, 24°73S×179°88E, h478km±94km, mb3.3/5, mb1 3.5/6, mb1mx3.1/33, mbtmp4.3/6, Error ellipse: s-maj=74.2km s-min=27.0km az=36.0*
*ISCJB **23** 03:16:48.5±4.4, 24°9S±0°2×179°7E±0°6, h500km, mb3.7/4, Error ellipse: s-maj=79.4km s-min=14.3km az=159.5*
ISC 23 03:16:48.5±2.2, 25°0S±0°1×179°9E±0°3, h500km, n10, σ1§01/9, mb3.7/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.45**	**189**			P	**P**	**03 19 43.0**	**+0.8**
	2.3nm,0.3s,baz=12,slow=4.1,SNR=20								
URZ						S	**S**	**03 22 04.3**	**-1.2**
	0.2nm,0.3s,baz=353,slow=18,SNR=2.2								
RPZ	**Rata Peaks**	**20.04**	**199**			P	**P**	**03 20 48.9**	**+1.6**
	6.9nm,0.7s,baz=32,slow=4.2,SNR=3.5								
CTA	**Charters Tower**	**31.36**	**272**			P	**P**	**03 22 28.3**	**+0.6**
	4.8nm,0.6s,baz=98,slow=10.0,SNR=6.2								
ASAR	**Alice Springs**	**41.74**	**262**			P	**P**	**03 23 53.2**	**-0.2**
	0.6nm,0.4s,baz=94,slow=8.5,SNR=6.9								
WRA	**Warramunga Arr**	**42.21**	**267**			P	**P**	**03 23 56.5**	**-0.7**
	1.7nm,0.5s,baz=102,slow=8.1,SNR=15								
FITZ	**Fitzroy Crossi**	**50.62**	**267**			P	**P**	**03 25 01.2**	**+0.1**
	1.1nm,0.6s,baz=104,slow=7.9,SNR=4.6								
NB2	**NORSAR Subarra**	**143.11**	**351**			PKP	PKPab	03 35 21.9	-0.3
	comp=Z,0.3nm,0.5s,baz=14,slow=3.1								
NOA	**NORSAR Array B**	**143.11**	**351**			PKP	PKPbc	03 35 22.8	+0.2
	comp=Z,0.8nm,0.8s,baz=32,slow=2.6,SNR=3.7								
AKASG	**Malin Array Be**	**145.79**	**326**			PKPbc	**PKPbc**	**03 35 30.5**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=46,slow=4.0,SNR=4.1								
BRTR	**Keskin Array

ACCO	**Cerro Coronel**	**3.48**	**46**	*eP*	**Pb**	**03 44 39.6**	**-0.6**
AROD	**Rodeo**	**3.57**	**37**	*eP*	**Pb**	**03 44 41.5**	**-0.3**
AMOG	**MOGNA**	**3.62**	**56**	*eP*	**Pb**	**03 44 42.4**	**-0.2**

ISCJB ***23*** *03:55:54.5±0.4, 2.36S±0.06×68.15E±0.08, h11km, mb4.3/26, MS3.6/12, Error ellipse: s-maj=12.0km s-min=7.2km az=154.3*

IDC ***23*** *03:55:54.8±0.6, 2.34S×68.12E, h0km, mb4.1/12, mb1 4.2/12, mb1mx3.9/45, mbtmp4.1/12, MS3.6/13, Ms1 3.6/13, ms1mx3.4/43, Error ellipse: s-maj=20.3km s-min=17.6km az=168.0*

NEIC ***23*** *03:55:56.3±0.3, 2.33S×68.11E, h10km, mb4.4/17, Error ellipse: s-maj=8.9km s-min=8.6km az=79.0*

ISC 23 03:55:56.5±0.5, 2.46S±0.09×68.1E±0.1, h11km, n58, σ1§25/53, mb4.3/26, MS3.7/12, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**4.78**	**144**	Pn	**Pn**	**03 57 05.7**	**-2.5**
	baz=312,slow=15,SNR=56						
H08N2				T	T	04 01 59.0	
	baz=325,slow=75,SNR=1917						
H08N3	**Diego Garcia H**	**4.79**	**144**	Pn	**Pn**	**03 57 05.7**	**-2.7**
	baz=312,slow=15,SNR=43						
H08N3				T	T	04 02 01.6	
	baz=325,slow=75,SNR=1736						
H08N1	**Diego Garcia H**	**4.80**	**144**	Pn	**Pn**	**03 57 05.7**	**-2.8**
	baz=312,slow=15,SNR=50						
H08N1				T	T	04 02 05.2	
	baz=325,slow=75,SNR=1883						
H08S3	**Diego Garcia H**	**6.71**	**140**	Pn	**Pn**	**03 57 36.6**	**+1.8**
	baz=337,slow=17,SNR=11						
H08S1	**Diego Garcia H**	**6.72**	**140**	Pn	**Pn**	**03 57 36.6**	**+1.7**
	baz=337,slow=17,SNR=4.6						
H08S2	**Diego Garcia H**	**6.73**	**140**	Pn	**Pn**	**03 57 36.6**	**+1.5**
	baz=337,slow=17,SNR=10						
PALK	**Pallekele**	**15.83**	**52**	LR	LR	04 03 57.9	
	comp=Z,131nm,18.6s,baz=285,slow=31						
OPO	**Ambohidratompo**	**26.04**	**231**	LR	LR	04 09 47.8	
	comp=Z,149nm,18.1s,baz=181,slow=32						
WSAR	**Wadi Sarin**	**27.17**	**341**	LR	LR	04 10 33.9	
	comp=Z,198nm,18.4s,baz=178,slow=32						
ATD	**Arta Tunnel**	**28.74**	**299**	LR	LR	04 10 55.6	
	comp=Z,132nm,21.1s,baz=140,slow=31						
CM31	**Chiang Mai Arr**	**36.76**	**54**	*eP*	**P**	**04 03 05.7**	**+1.3**
	8.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**36.76**	**54**	P	**P**	**04 03 05.7**	**+1.3**
	1.0nm,0.3s,baz=250,slow=11,SNR=10						
CMAR				LR	LR	04 16 12.9	
	comp=Z,24nm,19.7s,baz=220,slow=33						
KBL	**Kabul**	**36.81**	**1**	*eP*	**P**	**04 03 07.1**	**+2.3**
	4.1nm,0.7s						
CHTO	**Chiang Mai**	**36.94**	**54**	*eP*	**P**	**04 03 05.0**	**-0.9**
	5.0nm,1.0s						
GEYT	**Alibeck**	**41.24**	**348**	LR	LR	04 19 39.5	
	comp=Z,98nm,21.2s,baz=25,slow=35						
GAR	**Garm**	**41.30**	**3**	*eP*	**P**	**04 03 42.0**	**-0.2**
	23nm,1.1s						
LSZ	**Lusaka**	**41.38**	**250**	*eP*	**P**	**04 03 44.0**	**+0.7**
	3.1nm,0.7s						
LSZ	**Lusaka**	**41.38**	**250**	P	P	**04 03 44.3**	**+1.0**
	2.6nm,0.6s,baz=54,slow=9.1,SNR=6.2						
AAK	**Ala-Archa**	**45.25**	**7**	*eP*	**P**	**04 04 14.0**	**-0.2**
	6.5nm,1.3s						
AAK	**Ala-Archa**	**45.25**	**7**	P	**P**	**04 04 14.5**	**+0.3**
	0.7nm,0.4s,baz=194,slow=12,SNR=4.0						
BOSA	**Boshof**	**48.40**	**233**	P	**P**	**04 04 39.6**	**+0.6**
	4.3nm,1.0s,baz=56,slow=11,SNR=2.8						
MAKZ	**Makanchi**	**50.55**	**12**	*eP*	**P**	**04 04 54.4**	**-0.6**
	4.1nm,1.3s						
MK01	**Makanchi Array**	**50.58**	**13**	*eP*	**P**	**04 04 53.5**	**-1.7**
MK01				*e*PcP	**PcP**	**04 06 13.2**	**+0.3**
MK31	**Makanchi Array**	**50.60**	**13**	*eP*	**P**	**04 04 54.6**	**-0.8**
	3.2nm,1.4s						
MK32	**Makanchi Array**	**50.60**	**13**	*eP*	**P**	**04 04 53.3**	**-2.1**
MK32				*e*PcP	**PcP**	**04 06 12.0**	**-1.0**
MKAR	**Makanchi Array**	**50.60**	**13**	P	**P**	**04 04 53.3**	**-2.1**
	0.6nm,0.8s,baz=184,slow=7.3,SNR=5.4						
MKAR				PcP	**PcP**	**04 06 12.0**	**-1.0**
	1.3nm,1.1s,baz=208,slow=4.3,SNR=3.6						
KBZ	**Khabaz**	**51.26**	**337**	LR	LR	04 27 55.9	
	comp=Z,62nm,18.4s,baz=150,slow=38						
ABKAR	**Akbulak array**	**51.99**	**353**	*eP*	**P**	**04 05 05.8**	**+0.1**
	5.7nm,1.2s						
BRTR	**Keskin Array B**	**52.56**	**327**	LR	LR	04 27 28.2	
	comp=Z,95nm,19.1s,baz=106,slow=36						
KURK	**Kurchatov**	**53.72**	**8**	*eP*	**P**	**04 05 18.5**	**+0.1**
	5.6nm,1.1s						
ZAA0	**Zalesovo Array**	**57.90**	**12**	*eP*	**P**	**04 05 46.7**	**-1.7**
	5.2nm,1.3s						
ZALV	**Zalesovo Beam**	**57.90**	**12**	P	**P**	**04 05 46.4**	**-2.0**
	1.6nm,0.8s,baz=238,slow=8.3,SNR=5.7						
ZALV				LR	LR	04 30 22.7	
	comp=Z,40nm,19.4s,baz=74,slow=36						
ZAA1	**Zalesovo Array**	**57.91**	**12**	*eP*	**P**	**04 05 46.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**58.41**	**110**	*eP*	**P**	**04 05 54.8**	**+2.1**
	6.5nm,1.3s						
SONA0	**Songino Array**	**60.19**	**29**	*eP*	**P**	**04 06 04.3**	**-0.3**
SONM	**Songino Array**	**60.19**	**29**	P	**P**	**04 06 04.3**	**-0.3**
	3.7nm,0.7s,baz=222,slow=7.4,SNR=23						
ULN	**Ulaanbaatar**	**60.53**	**29**	*eP*	**P**	**04 06 06.3**	**-0.6**
	1.3nm,0.5s						
WR1	**Warramunga Arr**	**66.81**	**111**	*eP*	**P**	**04 06 49.1**	**+0.3**
	11nm,1.0s						
WRA	**Warramunga Arr**	**66.81**	**111**	P	**P**	**04 06 49.1**	**+0.3**
	4.5nm,0.9s,baz=287,slow=5.9,SNR=24						
WRAB	**Tennant Creek**	**66.82**	**111**	*eP*	**P**	**04 06 49.2**	**+0.3**
	3.9nm,0.6s						
ASAR	**Alice Springs**	**66.85**	**115**	P	**P**	**04 06 49.5**	**+0.4**
	2.3nm,0.8s,baz=283,slow=6.0,SNR=23						
AS31	**Alice Springs**	**66.86**	**115**	*eP*	**P**	**04 06 49.5**	**+0.4**
	1.4nm,1.0s						
AS01	**Alice Springs**	**66.90**	**115**	*eP*	**P**	**04 06 48.1**	**-1.2**
TORD	**Torodi Ar. Bea**	**67.71**	**285**	P	**P**	**04 06 54.1**	**-0.5**
	0.9nm,1.1s,baz=112,slow=6.4,SNR=3.3						
TORD				LR	LR	04 36 27.3	
	comp=Z,79nm,18.5s,baz=315,slow=36						
TOA1	**Torodi Ar. Sit**	**67.72**	**285**	*eP*	**P**	**04 06 54.1**	**-0.5**
GERES	**GERESS Array B**	**69.40**	**325**	LR	LR	04 37 14.1	
	comp=Z,51nm,18.3s,baz=96,slow=36						
FINES	**FINESS Array B**	**71.39**	**340**	LR	LR	04 38 44.4	
	comp=Z,54nm,19.9s,baz=190,slow=36						
STKA	**Stephens Creek**	**74.67**	**122**	*eP*	**P**	**04 07 37.0**	**+0.6**
	8.7nm,1.9s						
STKA	**Stephens Creek**	**74.67**	**122**	P	**P**	**04 07 37.0**	**+0.6**
	1.5nm,0.7s,baz=293,slow=7.7,SNR=3.7						
NOA	**NORSAR Array B**	**76.81**	**335**	LR	LR	04 42 25.9	
	comp=Z,22nm,19.6s,baz=200,slow=36						
ESDC	**Sonseca Array**	**77.89**	**311**	P	**P**	**04 07 54.5**	**-0.1**
	0.5nm,0.6s,baz=94,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**120.07**	**1**	PKP	**PKPdf**	**04 14 46.0**	**-1.1**
	0.3nm,0.8s,baz=341,slow=1.8,SNR=5.5						
YKA				PP	**PP**	**04 16 11.6**	**+0.6**
	0.8nm,1.1s,baz=349,slow=7.2,SNR=8.8						
YKB5	**Yellowknife Ar**	**120.07**	**1**	*e*PKPdf	**PKPdf**	**04 14 46.0**	**-1.1**
YKB5				*e*PP	**PP**	**04 16 11.6**	**+0.6**
PD31	**Pinedale Array**	**139.81**	**357**	*e*PKPdf	**PKPdf**	**04 15 25.3**	**0.0**
PDAR	**Pinedale Array**	**139.81**	**357**	PKP	**PKPdf**	**04 15 25.3**	**0.0**
	0.3nm,0.6s,baz=41,slow=1.6,SNR=3.3						
OTAV	**Otavalo**	**146.53**	**267**	*e*PKPbc	**PKPbc**	**04 15 39.8**	**+0.1**
MNTX	**Cornudas Mount**	**150.28**	**349**	*e*PKPbc	**PKPbc**	**04 15 48.2**	**-0.2**
TXAR	**Lajitas Array**	**152.16**	**345**	PKPbc	**PKiKP**	**04 15 53.2**	**-0.1**
	0.8nm,0.8s,baz=180,slow=1.3,SNR=8.9						

IDC 23 03:57:40.2±3.4, 30.34S×177.73W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.5/23, mbtmp3.3/2, Error ellipse: s-maj=72.2km s-min=23.9km az=106.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**352**	Pn	Pn	03 58 03.9	+1.1
	87nm,0.3s,baz=270,slow=20,SNR=5.6						
RAO				Sn	Sn	03 58 18.9	+0.2
	187nm,0.3s,baz=126,slow=21,SNR=8.1						
ASAR	**Alice Springs**	**43.34**	**267**	P	P	04 05 44.7	+0.4
	0.1nm,0.3s,baz=105,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**44.33**	**272**	P	P	04 05 51.5	-0.8
	0.2nm,0.4s,baz=108,slow=8.0,SNR=5.9						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	PKPbc	04 17 16.9	-1.6
	1.3nm,0.9s,baz=58,slow=3.6,SNR=4.4						

ISCJB ***23*** *04:28:30.6±0.2, 10.96S±0.03×165.81E±0.04, h10km, mb4.8/90, MS4.3/26, Error ellipse: s-maj=5.2km s-min=4.1km az=24.5*

IDC ***23*** *04:28:30.1±0.5, 10.91S×165.89E, h0km, mb4.5/20, mb1 4.7/21, mb1mx4.5/37, mbtmp4.5/21, ML4.7/1, MS4.1/23, Ms1 4.1/23, ms1mx4.1/28, Error ellipse: s-maj=18.3km s-min=13.7km az=103.0*

MOS ***23*** *04:28:32.6±0.8, 10.94S×165.77E, h24km, mb5.0/20, Error ellipse: s-maj=9.3km s-min=8.7km az=149.6*

BJI ***23*** *04:28:32.0, 10.57S×166.19E, h16km, mb4.8/38, mB5.2/22, Ms5.0/13, Ms7 4.7/12*

NEIC ***23*** *04:28:33.9±1.9, 10.93S×165.80E, h22km±13km, mb4.9/66, Error ellipse: s-maj=4.4km s-min=3.7km az=51.0*

GCMT ***23*** *04:28:37.9±0.3, 10.91S±0.02×165.58E±0.02, h30km±1km, MW5.1/77, Moment Tensor Solution. s36,c44; s77,c110; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.68±.23; Mθθ 1.67±.17; Mφφ 0.01±.17; Mrθ-3.12±.27; Mφθ-4.07±.14; Mφr 0.04±.24; Best double couple: M0 5.32200×10^16 NP1: ϑ91.00000°, δ79.00000°, λ-138.00000°. NP2: ϕs351.00000°, δ49.00000°, λ-15.00000°. Principal axes: T 5.8350, Plg19.0000°, Azm215.0000°; N -1.0240, Plg47.0000°, Azm104.0000°; P -4.8080, Plg37.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 04:28:31.8±0.4, 11.00S±0.05×165.89E±0.06, h10km, n210, σ1§09/199, mb4.9/90, MS4.2/28, 4C-3D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.06**	**284**	*e*P	**Pn**	**04 30 02.0**	**+0.5**
HNR				*e*S	Sn	04 30 53.0	-18
HNR	**Honiara**	**6.06**	**284**	*e*Pn	**Pn**	**04 29 58.9**	**-2.6**
HNR				Sn	**Sn**	**04 31 11.0**	**+0.1**
HNR	**Honiara**	**6.06**	**284**	Pn	**Pn**	**04 30 03.3**	**+1.8**
	40nm,0.3s,baz=153,slow=8.4,SNR=10						
HNR				Sn	**Sn**	**04 31 11.0**	**+0.1**
	38nm,0.3s,baz=171,slow=23,SNR=7.0						
HNR				LR	LR	04 32 23.3	
	comp=Z,2μm,18.1s,baz=272,slow=39						
MARNC	**Mare, Loyalty**	**10.62**	**169**	*e*Pn	**Pn**	**04 31 05.9**	**+1.8**
DZM	**Mont Dzumac**	**11.02**	**177**	*e*Pn	**Pn**	**04 31 12.0**	**+2.4**
	34nm,0.3s						
DZM				*e*Sn	**Sn**	**04 33 08.4**	**-4.7**
	14nm,0.3s						
DZM				*e*LR	LR	04 33 42.8	
	comp=Z,4μm,24.4s						
DZM	**Mont Dzumac**	**11.02**	**177**	*e*Pn	**Pn**	**04 31 11.5**	**+1.9**
DZM				Sn	**Sn**	**04 33 09.3**	**-3.8**
DZM	**Mont Dzumac**	**11.02**	**177**	Pn	**Pn**	**04 31 11.8**	**+2.2**
	5.3nm,0.3s,baz=34,slow=6.4,SNR=54						
DZM				Sn	**Sn**	**04 33 09.3**	**-3.8**
	1.7nm,0.3s,baz=300,slow=20,SNR=2.3						
ONTNC	**Ouen Toro**	**11.25**	**177**	*e*Pn	**Pn**	**04 31 14.4**	**+1.6**
PINNC	**Pines Island,**	**11.64**	**173**	*e*Pn	**Pn**	**04 31 20.0**	**+1.9**
TARA	**Tarawa**	**14.13**	**30**	*e*Pn	P	04 31 53.4	-6.4
PMG	**Port Moresby**	**18.51**	**273**	*e*P	**Pn**	**04 32 47.2**	**-1.3**
	27nm,1.0s						
PMG	**Port Moresby**	**18.51**	**273**	*e*P	**Pn**	**04 32 47.2**	**-1.3**
PMG				pmax	pmax		
	comp=Z,27nm,1.0s						
EIDS	**Eidsvold**	**20.02**	**222**	P	Pn	04 33 07.5	+0.8
	baz=20,SNR=13						
EIDS	**Eidsvold**	**20.02**	**222**	*e*P	Pn	04 33 06.1	-0.6
	comp=Z,189nm,1.4s						
MANU	**Manus Island**	**20.43**	**295**	*e*P	Pn	04 33 09.8	-1.8
	comp=Z,94nm,0.9s						
CTA	**Charters Tower**	**20.95**	**242**	P	Pn	04 33 16.1	-1.5
	baz=21						
CTA	**Charters Tower**	**20.95**	**242**	P	Pn	04 33 16.7	-0.9
	comp=Z,35nm,0.8s,baz=70,slow=12,SNR=16						
CTA				LR	LR	04 40 27.5	
	comp=Z,845nm,19.8s,baz=72,slow=34						
CTAO	**Charters Tower**	**20.95**	**242**	*e*P	Pn	04 33 15.4	-2.2
CTAO	**Charters Tower**	**20.95**	**242**	*e*P	Pn	04 33 15.4	-2.2
LHI	**Lord Howe Isla**	**21.37**	**196**	*e*P	**P**	**04 33 20.4**	**+0.9**
	comp=Z,242nm,1.4s						
MTSU	**Mount Surprise**	**22.04**	**249**	P	**P**	**04 33 28.4**	**+1.6**
	baz=22,SNR=9.0						
RMQ	**Roma**	**22.33**	**224**	P	**P**	**04 33 31.8**	**+1.9**
	baz=22,SNR=16						
COEN	**Coen**	**22.37**	**260**	P	**P**	**04 33 31.7**	**+1.3**
	baz=22,SNR=4.9						
COEN	**Coen**	**22.37**	**260**	*e*P	**P**	**04 33 30.5**	**+0.1**
	comp=Z,35nm,1.0s						
ARMA	**Armidale**	**23.43**	**212**	P	**P**	**04 33 43.0**	**+1.6**
	baz=23,SNR=18						
ARMA	**Armidale**	**23.43**	**212**	*e*P	**P**	**04 33 42.2**	**+0.8**
	comp=Z,60nm,1.1s						
MGCD	**Mangrove Creek**	**25.94**	**209**	P	**P**	**04 34 06.6**	**+2.2**
	baz=26,SNR=4.3						
JAY	**Jayapura**	**26.37**	**287**	LR	LR	04 44 36.6	
	comp=Z,346nm,21.6s,baz=20,slow=37						
QIS	**Mount Isa**	**26.98**	**246**	P	**P**	**04 34 14.6**	**+0.6**
	baz=27,SNR=6.9						
CMSA	**Cobar Meteorol**	**27.69**	**219**	P	**P**	**04 34 21.0**	**+0.8**
	baz=28,SNR=15						
CNB	**Canberra Magne**	**28.49**	**209**	P	**P**	**04 34 29.1**	**+1.7**
	baz=28,SNR=5.4						
HIZ	**Hauiti**	**28.54**	**165**	*e*P	**P**	**04 34 29.1**	**+1.3**
	comp=Z,21nm,0.9s						
URZ	**Urewera**	**28.94**	**162**	*e*P	**P**	**04 34 31.8**	**+0.5**
	comp=Z,13nm,0.8s						
URZ	**Urewera**	**28.94**	**162**	P	**P**	**04 34 32.4**	**+1.2**
	comp=Z,5.9nm,0.5s,baz=39,slow=6.5,SNR=6.6						
URZ				LR	LR	04 44 12.8	
	comp=Z,1μm,21.6s,baz=338,slow=32						
H11S2	**WAKE ISLAND Hy**	**29.32**	**2**	T	T	05 05 02.8	
	baz=181,slow=76,SNR=132						
H11S3	**WAKE ISLAND Hy**	**29.32**	**2**	T	T	05 05 02.8	
	baz=181,slow=76,SNR=88						
H11S1	**WAKE ISLAND Hy**	**29.34**	**2**	T	T	05 05 03.3	
	baz=181,slow=76,SNR=105						
BKZ	**Black Stump Fm**	**29.59**	**163**	*e*P	**P**	**04 34 38.5**	**+1.3**
	comp=Z,86nm,1.7s						
H11N1	**WAKE ISLAND Hy**	**30.54**	**2**	T	T	05 06 33.5	
	baz=182,slow=76,SNR=121						
H11N3	**WAKE ISLAND Hy**	**30.54**	**2**	T	T	05 06 18.7	
	baz=182,slow=76,SNR=75						
H11N2	**WAKE ISLAND Hy**	**30.56**	**2**	T	T	05 06 32.1	
	baz=182,slow=76,SNR=88						
STKA	**Stephens Creek**	**30.57**	**223**	P	**P**	**04 34 47.2**	**+1.4**
	baz=30,SNR=17						
STKA	**Stephens Creek**	**30.57**	**223**	*e*P	**P**	**04 34 46.5**	**+0.7**
	comp=Z,3.6nm,0.9s						
STKA	**Stephens Creek**	**30.57**	**223**	*e*P	**P**	**04 34 47.2**	**+1.4**
STKA	**Stephens Creek**	**30.57**	**223**	P	**P**	**04 34 46.5**	**+0.7**
	comp=Z,10nm,0.7s,baz=41,slow=9.3,SNR=20						
STKA				LR	LR	04 46 42.7	
	comp=Z,587nm,18.6s,baz=39,slow=36						
BFZ	**Birch Farm**	**30.94**	**165**	*e*P	**P**	**04 34 49.5**	**+0.6**
	comp=Z,49nm,1.3s						
THZ	**Tophouse**	**31.25**	**170**	*e*P	**P**	**04 34 53.2**	**+1.4**
	comp=Z,40nm,0.8s						
WRAB	**Tennant Creek**	**31.62**	**250**	*e*P	**P**	**04 34 55.5**	**+0.3**
	comp=Z,9.1nm,0.8s						
WRAB	**Tennant Creek**	**31.62**	**250**	*c i*P	**P**	**04 34 54.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,44nm,1.7s						
WRA	**Warramunga Arr**	**31.63**	**250**	*i*P	**P**	**04 34 55.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**31.63**	**250**	P	**P**	**04 34 54.8**	**-0.6**
	comp=Z,17nm,0.9s,baz=81,slow=9.1,SNR=93						
WRA				PcP	**PcP**	**04 37 48.1**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=85,slow=3.3,SNR=3.0						
WRA				LR	LR	04 47 36.5	
	comp=Z,338nm,18.4s,baz=70,slow=36						
KHZ	**Kahutara**	**32.00**	**169**	*e*P	**P**	**04 34 59.6**	**+1.4**
	comp=Z,40nm,0.8s						
LTZ	**Lake Taylor**	**32.14**	**171**	*e*P	**P**	**04 35 01.0**	**+1.4**
	comp=Z,33nm,0.8s						
TOO	**Toolangi**	**32.18**	**211**	P	**P**	**04 35 01.6**	**+1.6**
	baz=32,SNR=6.2						
TOO	**Toolangi**	**32.18**	**211**	*e*P	**P**	**04 35 00.7**	**+0.7**
	comp=Z,22nm,0.9s						
TOO	**Toolangi**	**32.18**	**211**	*e*P	**P**	**04 35 00.7**	**+0.7**
TOO				pmax	pmax		
	comp=Z,23nm,0.9s						
RPZ	**Rata Peaks**	**32.90**	**173**	P	**P**	**04 35 06.5**	**+0.4**
	comp=Z,46nm,0.7s,baz=34,slow=0.5,SNR=17						
AS01	**Alice Springs**	**32.90**	**243**	*e*P	**P**	**04 35 05.5**	**-1.0**
ASAR	**Alice Springs**	**32.94**	**243**	P	**P**	**04 35 06.1**	**-0.7**
	comp=Z,4.9nm,0.8s,baz=74,slow=9.5,SNR=41						
ASAR				PcP	**PcP**	**04 37 51.1**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=97,slow=2.7,SNR=6.5						
ASAR				ScP	**ScP**	**04 41 36.0**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=73,slow=3.3,SNR=8.1						
ASAR				LR	LR	04 47 12.1	
	comp=Z,421nm,21.1s,baz=71,slow=34						
HTT	**Hallett**	**33.30**	**224**	P	**P**	**04 35 10.9**	**+1.0**
	baz=33,SNR=6.4						
BBOO	**Buckleboo**	**34.96**	**227**	P	**P**	**04 35 24.7**	**+0.5**
	baz=35,SNR=15						
BBOO	**Buckleboo**	**34.96**	**227**	*e*P	**P**	**04 35 24.2**	**-0.1**
	comp=Z,38nm,0.9s						
TAU	**Tasmania Unive**	**35.66**	**204**	*e*P	**P**	**04 35 30.7**	**+0.6**
	comp=Z,15nm,0.7s						
TAU	**Tasmania Unive**	**35.66**	**204**	*e*P	**P**	**04 35 30.7**	**+0.6**
TAU				pmax	pmax		
	comp=Z,15nm,0.7s						
KNRA	**Kununurra**	**36.39**	**259**	P	**P**	**04 35 35.0**	**-1.7**
	baz=36,SNR=5.1						
WRKA	**Warakurna**	**38.23**	**243**	P	**P**	**04 35 51.7**	**-0.6**
	baz=38,SNR=11						
FITZ	**Fitzroy Crossi**	**39.53**	**255**	P	**P**	**04 36 03.0**	**-0.2**
	baz=39,SNR=11						
FITZ	**Fitzroy Crossi**	**39.53**	**255**	*e*P	**P**	**04 36 03.1**	**-0.2**
	comp=Z,12nm,0.8s						
FORT	**Forrest**	**40.19**	**235**	P	**P**	**04 36 09.0**	**+0.5**
	baz=40,SNR=7.1						
FORT	**Forrest**	**40.19**	**235**	*e*P	**P**	**04 36 08.1**	**-0.4**
	comp=Z,36nm,0.8s						
PPT2	**Papeete2**	**43.57**	**104**	*e*LQ	LQ	04 47 07.8	
	comp=Z,1μm,28.0s						
PPT2				*e*LR	LR	04 48 48.9	
	comp=Z,267nm,24.0s						
TBI	**Tubuai**	**44.21**	**112**	*e*LQ	LQ	04 47 23.0	
	comp=Z,803nm,31.0s						
TBI				*e*LR	LR	04 49 06.0	
	comp=Z,736nm,29.2s,baz=275						
BNSI	**Bone**	**45.80**	**275**	P	**P**	**04 36 54.3**	**+0.1**
MEEK	**Meekatharra**	**47.10**	**244**	P	**P**	**04 37 05.0**	**+0.7**
	baz=47,SNR=14						
KLBR	**Kellerberrin**	**48.85**	**238**	P	**P**	**04 37 17.9**	**+0.1**
	baz=49,SNR=7.4						
NWAO	**Narrogin (SRO)**	**49.61**	**236**	P	**P**	**04 37 24.2**	**+0.7**
	baz=49,SNR=3.8						
NWAO	**Narrogin (SRO)**	**49.61**	**236**	*e*P	**P**	**04 37 23.9**	**+0.4**
NWAO	**Narrogin (SRO)**	**49.61**	**236**	*e*P	**P**	**04 37 24.0**	**+0.4**
MORW	**Morawa**	**49.77**	**241**	P	**P**	**04 37 25.2**	**+0.3**
	baz=50,SNR=6.7						
MORW	**Morawa**	**49.77**	**241**	*e*P	**P**	**04 37 24.8**	**-0.1**
	comp=Z,30nm,0.8s						
MUN	**Mundaring**	**50.22**	**237**	P	**P**	**04 37 29.0**	**+0.7**
	baz=50,SNR=4.2						
TAOE	**Nuku Hiva Isla**	**53.14**	**93**	*e*LR	LR	04 53 08.3	
	comp=Z,840nm,30.7s						
MJAR	**Matsushiro Arr**	**54.00**	**332**	P	**P**	**04 37 55.3**	**-0.9**
	comp=Z,7.6nm,1.0s,baz=172,slow=7.3,SNR=11						
MAJO	**Matsushiro**	**54.00**	**332**	*e*P	**P**	**04 37 55.5**	**-0.8**
	comp=Z,6.6nm,0.6s						
MAJO	**Matsushiro**	**54.00**	**332**	*e*P	**P**	**04 37 55.5**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MAT	**Matsushiro**	**54.00**	**332**	P	**P**	**04 37 55.6**	**-0.6**
KSRS	**Korea Array**	**59.92**	**326**	P	**P**	**04 38 37.8**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=139,slow=7.8,SNR=5.8						
KSRS				LR	LR	05 01 12.3	
	comp=Z,126nm,21.4s,baz=132,slow=33						
KSAR	**Wonju Array Be**	**59.94**	**326**	P	**P**	**04 38 37.8**	**-0.5**
KSAR	**Wonju Array Be**	**59.94**	**326**	P	**P**	**04 38 37.8**	**-0.5**
KS01	**Wonju Array Si**	**59.96**	**326**	*e*P	**P**	**04 38 38.4**	**0.0**
NJ2	**Nanjing**	**62.09**	**315**	*e*P	**P**	**04 38 53.8**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
USA0B	**Ussuriysk Arra**	**62.98**	**333**	*e*P	**P**	**04 38 58.8**	**+0.1**
	comp=Z,13nm,1.0s						
USA0B	**Ussuriysk Arra**	**62.98**	**333**	*e*P	**P**	**04 38 58.8**	**+0.1**
USA0B				pmax	pmax		
	comp=Z,13nm,1.0s						
USRK	**Ussuriysk Ar.**	**62.98**	**333**	P	**P**	**04 38 59.2**	**+0.5**
	comp=Z,6.0nm,0.9s,baz=171,slow=5.0,SNR=6.7						
USRK				LR	LR	05 05 11.8	
	comp=Z,100nm,19.0s,baz=127,slow=35						
PETK	**Petropavlovsk-**	**64.24**	**355**	LR	LR	05 03 09.9	
	comp=Z,146nm,19.4s,baz=155,slow=32						
CN2	**Changchun**	**65.78**	**329**	*e*P	**P**	**04 39 16.9**	**-0

LZH					LR		LR		
	comp=Z,370nm,14.9s								
LZH					LR		LR		
	comp=Z,430nm,16.3s								
GAMB	**Gambell**	**76.50**	**10**	*e*P		**P**		**04 40 21.9**	**+0.3**
	comp=Z,28nm,1.4s								
SVW2	**Sparrevohn**	**78.03**	**18**	*e*P		**P**		**04 40 30.1**	**-0.2**
	comp=Z,15nm,1.1s								
ULN	**Ulaanbaatar**	**78.35**	**324**	*e*P		**P**		**04 40 31.9**	**-0.7**
	comp=Z,6.6nm,0.9s								
ULN	**Ulaanbaatar**	**78.35**	**324**	*d i*P		**P**		**04 40 32.3**	**-0.3**
ULN					pmax		pmax		
	comp=Z,8.0nm,1.0s								
SONM	**Songino Array**	**78.72**	**324**	P		**P**		**04 40 34.5**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=130,slow=6.0,SNR=14								
SONM					LR		LR	05 13 05.4	
	comp=Z,118nm,21.6s,baz=90,slow=34								
BILL	**Bilibino**	**78.84**	**0**	*e*P		**P**		**04 40 34.4**	**-0.3**
	comp=Z,12nm,0.8s								
BILL	**Bilibino**	**78.84**	**0**	ǁ *e*P		**P**		**04 40 34.3**	**-0.3**
BILL				*e*				04 40 44.2	
BILL				*e*				04 43 30.4	
BILL				*e*S		**S**		**04 50 33.2**	**+0.9**
BILL					pmax		pmax		
	comp=Z,25nm,1.3s								
QSPA	**South Pole Qui**	**79.00**	**180**	*e*P		**P**		**04 40 36.7**	**+0.9**
GTA	**Gaotai**	**79.13**	**314**	P		**P**		**04 40 37.3**	**+0.3**
GTA				pP		PcP		04 40 42.8	-2.6
GTA				sP		sP		04 40 45.9	+4.9
GTA					pmax		pmax		
	comp=Z,8.0nm,1.2s								
GTA					pmax		pmax		
	comp=Z,110nm,6.6s								
GTA					LR		LR		
	comp=Z,300nm,17.5s								
GTA					LR		LR		
	comp=Z,300nm,21.0s								
GTA					LR		LR		
	comp=Z,370nm,17.9s								
BRDH	**Bariadhala**	**80.01**	**295**		LR		LR	05 18 20.4	
	comp=Z,53nm,18.1s,baz=157,slow=37								
ZAK	**Zakamensk**	**81.75**	**325**	*e*P		**P**		**04 40 49.5**	**-1.3**
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.2s								
RND	**Reindeer**	**81.85**	**19**	*e*P		**P**		**04 40 51.9**	**+0.9**
	comp=Z,24nm,1.4s								
RND	**Reindeer**	**81.85**	**19**	*e*P		**P**		**04 40 51.9**	**+0.9**
RND					pmax		pmax		
	comp=Z,25nm,1.4s								
TLY	**Talaya**	**82.17**	**326**	*e*P		**P**		**04 40 52.2**	**-0.7**
	comp=Z,8.4nm,0.5s								
TLY	**Talaya**	**82.17**	**326**	*e*P		**P**		**04 40 52.6**	**-0.3**
TLY					pmax		pmax		
	comp=Z,18nm,1.1s								
TLY					MLR		MLR		
	comp=Z,315nm,11.0s								
IM3	**Indian Mountai**	**82.35**	**16**	*e*P		**P**		**04 40 52.5**	**-1.0**
WRH	**Wood River Hil**	**82.84**	**18**	*e*P		**P**		**04 40 55.9**	**-0.2**
	comp=Z,9.4nm,0.7s								
MDM	**Murphy Dome**	**83.15**	**18**	*e*P		**P**		**04 40 57.4**	**-0.3**
	comp=Z,15nm,1.2s								
HDA	**Harding Lake**	**83.16**	**19**	*e*P		**P**		**04 40 57.6**	**-0.2**
	comp=Z,22nm,1.0s								
COLA	**College**	**83.20**	**18**	*e*P		**P**		**04 40 56.5**	**-1.3**
	comp=Z,25nm,1.4s								
COLA	**College**	**83.20**	**18**	*e*P		**P**		**04 40 58.4**	**+0.5**
RIDG	**Independ'e Rid**	**83.39**	**20**	*e*P		**P**		**04 40 59.8**	**+0.8**
	comp=Z,13nm,1.1s								
ILAR	**Eielson Array**	**83.43**	**18**	P		**P**		**04 40 58.1**	**-1.0**
	comp=Z,3.8nm,0.8s,baz=226,slow=6.6,SNR=16								
ILAR					LR		LR	05 10 58.7	
	comp=Z,86nm,21.8s,baz=284,slow=31								
IL1	**Eielson Array**	**83.43**	**18**	*e*P		**P**		**04 40 57.9**	**-1.2**
DOT	**Dot Lake**	**83.59**	**20**	*e*P		**P**		**04 41 00.3**	**+0.3**
	comp=Z,9.5nm,1.0s								
YBH	**Yreka Blue Hor**	**83.76**	**46**	P		**P**		**04 41 00.8**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=270,slow=3.0,SNR=3.7								
ORV	**Oroville**	**83.88**	**48**	*e*P		**P**		**04 41 03.6**	**+1.6**
	comp=Z,4.1nm,1.1s								
ORV	**Oroville**	**83.88**	**48**	*e*P		**P**		**04 41 03.6**	**+1.6**
ORV					pmax		pmax		
	comp=Z,4.0nm,1.1s								
HUMO	**Hull Mountain**	**83.90**	**45**	*e*P		**P**		**04 41 02.1**	**+0.1**
AFDM	**Forest Hills D**	**84.06**	**49**	*e*P		**P**		**04 41 03.9**	**+0.9**
	comp=Z,7.5nm,1.2s								
HYT	**Haines Junctio**	**84.29**	**24**	*e*P		**P**		**04 41 04.5**	**+0.7**
MAW	**Mawson**	**84.81**	**202**	LR		LR		05 13 01.0	
	comp=Z,225nm,20.6s,baz=140,slow=32								
EGAK	**Eagle**	**85.29**	**20**	*e*P		**P**		**04 41 08.8**	**+0.2**
	comp=Z,17nm,1.0s								
DAWY	**Dawson**	**85.47**	**21**	*e*P		**P**		**04 41 10.2**	**+0.7**
	comp=Z,7.0nm,1.0s								
PAHR	**Pah Rah Range**	**85.47**	**48**	*e*P		**P**		**04 41 10.3**	**0.0**
	comp=Z,7.2nm,1.1s								
MOD	**Modoc Plateau**	**85.51**	**46**	*e*P		**P**		**04 41 10.3**	**-0.1**
	comp=Z,1.7nm,0.6s								
PINE	**Pine Mountain**	**85.69**	**44**	*e*P		**P**		**04 41 11.6**	**+0.3**
	comp=Z,34nm,1.9s								
NV01	**Mina Array Sit**	**85.89**	**50**	*e*P		**P**		**04 41 12.9**	**+0.5**
NVAR	**Mina Array Bea**	**85.89**	**50**	P		**P**		**04 41 12.6**	**+0.2**
	comp=Z,3.1nm,1.0s,baz=239,slow=7.5,SNR=7.9								
NVAR					LR		LR	05 12 42.7	
	comp=Z,209nm,19.6s,baz=270,slow=31								
NV11	**Mina Array Sit**	**86.00**	**50**	*e*P		**P**		**04 41 13.4**	**+0.5**
	comp=Z,0.9nm,1.4s								
TIXI	**Tiksi**	**86.08**	**349**	*e*P		**P**		**04 41 11.9**	**-0.4**
	comp=Z,7.4nm,1.1s								
TIXI	**Tiksi**	**86.08**	**349**	*e*P		**P**		**04 41 11.9**	**-0.4**
TIXI					pmax		pmax		
	comp=Z,7.0nm,1.1s								
KVN	**Kaiserville**	**86.22**	**49**	*e*P		**P**		**04 41 14.0**	**-0.1**
	comp=Z,5.8nm,1.2s								
KVN	**Kaiserville**	**86.22**	**49**	*e*P		**P**		**04 41 14.0**	**-0.1**
KVN					pmax		pmax		
	comp=Z,6.0nm,1.2s								
WVOR	**Wild Horse Val**	**86.85**	**46**	*e*P		**P**		**04 41 17.8**	**+0.8**
	comp=Z,2.3nm,0.5s								
WVOR	**Wild Horse Val**	**86.85**	**46**	*e*P		**P**		**04 41 17.8**	**+0.8**
WVOR					pmax		pmax		
	comp=Z,2.0nm,0.5s								
J08A	**Circle Bar Ran**	**87.25**	**45**	*e*P		**P**		**04 41 19.6**	**+0.7**
	comp=Z,5.4nm,0.9s								
HAWA	**Hanford**	**87.48**	**42**	*e*P		**P**		**04 41 19.9**	**+0.1**
	comp=Z,2.8nm,0.7s								
G08A	**Pilot Rock**	**87.52**	**43**	*e*P		**P**		**04 41 20.9**	**+0.8**
	comp=Z,5.7nm,1.1s								
EPYK	**Eagle Plains**	**87.72**	**20**	*e*P		**P**		**04 41 20.9**	**+0.3**
	comp=Z,12nm,1.1s								
E08A	**Dider Farm, El**	**87.83**	**42**	*e*P		**P**		**04 41 22.1**	**+0.7**
	comp=Z,9.4nm,1.2s								
ELK	**Elko**	**88.81**	**48**	P		**P**		**04 41 27.3**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=262,slow=3.8,SNR=3.7								
WMQ	**Urumqi**	**89.17**	**315**	*e*P		**P**		**04 41 29.3**	**+1.4**
WMQ					LR		LR		
	comp=Z,240nm,19.9s								
WMQ					LR		LR		
	comp=Z,390nm,36.1s								
WMQ					LR		LR		
	comp=Z,290nm,27.3s								
U15A	**North Rim**	**89.97**	**53**	*e*P		**P**		**04 41 32.1**	**0.0**
	comp=Z,10nm,1.1s								
HLID	**Hailey**	**90.14**	**46**	*e*P		**P**		**04 41 32.9**	**+0.3**
	comp=Z,1.2nm,0.7s								
X16A	**Lo Mia Camp, P**	**90.18**	**55**	*e*P		**P**		**04 41 33.0**	**0.0**
	comp=Z,4.4nm,1.1s								
TUC	**Tucson**	**90.24**	**57**	*e*P		**P**		**04 41 33.5**	**+0.3**
	comp=Z,11nm,1.4s								
TUC	**Tucson**	**90.24**	**57**	*e*P		**P**		**04 41 33.5**	**+0.3**
TUC					pmax		pmax		
	comp=Z,11nm,1.4s								
MTPU	**Mount Pierson**	**90.43**	**51**	*e*P		**P**		**04 41 34.7**	**+0.4**
	comp=Z,4.7nm,1.1s								
WUAZ	**Wupatki**	**90.48**	**54**	*e*P		**P**		**04 41 34.9**	**+0.5**
	comp=Z,3.3nm,0.8s								
MSU	**Marysvale**	**90.54**	**51**	*e*P		**P**		**04 41 34.8**	**+0.1**
MSU	**Marysvale**	**90.54**	**51**	*e*P		**P**		**04 41 34.8**	**+0.1**
DGZ	**Jazzator, Alta**	**90.96**	**320**	ǁ *i*P		**P**		**04 41 35.6**	**-0.6**
DGZ					pmax		pmax		
	comp=Z,2.0nm,0.8s								
DLMT	**Dillon**	**91.85**	**44**	*e*P		**P**		**04 41 41.0**	**+0.5**
	comp=Z,6.1nm,1.0s								
BOZ	**Bozeman (W)**	**92.57**	**44**	*e*P		**P**		**04 41 44.3**	**+0.5**
	comp=Z,1.4nm,0.7s								
BOZ	**Bozeman (W)**	**92.57**	**44**	*e*P		**P**		**04 41 44.3**	**+0.5**
BOZ					pmax		pmax		
	comp=Z,1.0nm,0.7s								
BW06	**Boulder Array**	**93.42**	**47**	*e*P		**P**		**04 41 48.1**	**+0.2**
	comp=Z,0.8nm,0.4s								
PDAR	**Pinedale Array**	**93.42**	**47**	*e*P		**P**		**04 41 48.1**	**+0.2**
PDAR	**Pinedale Array**	**93.42**	**47**	P		**P**		**04 41 48.9**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=209,slow=2.7,SNR=5.8								
PDAR					LR		LR	05 20 00.3	
	comp=Z,49nm,18.0s,baz=284,slow=33								
MK01	**Makanchi Array**	**93.58**	**317**	*e*P		**P**		**04 41 47.5**	**-0.8**
MKAR	**Makanchi Array**	**93.59**	**317**	*i*P		**P**		**04 41 48.0**	**-0.3**
MKAR					pmax		pmax		
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**93.59**	**317**	P		**P**		**04 41 47.9**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=101,slow=6.3,SNR=13								
MKAR					PKKPbc	**PKKPbc**		**04 58 55.4**	**-0.1**
	comp=Z,0.7nm,1.0s,baz=299,slow=1.2,SNR=3.5								
MKAR					LR		LR	05 23 30.3	
	comp=Z,63nm,21.0s,baz=74,slow=35								
ZALV	**Zalesovo Beam**	**93.61**	**324**	*i*P		**P**		**04 41 46.9**	**-1.3**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.9s								
ZALV	**Zalesovo Beam**	**93.61**	**324**	P		**P**		**04 41 46.5**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=118,slow=5.4,SNR=6.9								
ZALV					LR		LR	05 23 46.2	
	comp=Z,73nm,20.0s,baz=70,slow=36								
MAKZ	**Makanchi**	**93.80**	**317**	*e*P		**P**		**04 41 49.2**	**-0.1**
	comp=Z,11nm,1.2s								
MAKZ	**Makanchi**	**93.80**	**317**	*e*P		**P**		**04 41 49.2**	**-0.1**
MAKZ					pmax		pmax		
	comp=Z,11nm,1.2s								
YKA	**Yellowknife Ar**	**94.87**	**27**	P		**P**		**04 41 51.5**	**-2.2**
	comp=Z,0.6nm,0.8s,baz=256,slow=4.4,SNR=8.6								
YKA					PP		**PP**	**04 45 45.1**	**+2.4**
	comp=Z,0.1nm,0.6s,baz=266,slow=8.0,SNR=4.1								
YKA					LR		LR	05 19 04.6	
	comp=Z,17nm,19.6s,baz=273,slow=32								
TXAR	**Lajitas Array**	**95.68**	**61**	LR		LR		05 17 24.6	
	comp=Z,175nm,20.4s,baz=0.0,slow=31								
NRIK	**Noril'sk**	**96.13**	**340**	LR		LR		05 24 34.0	
	comp=Z,158nm,20.3s,baz=90,slow=35								
ARCES	**ARCESS Array B**	**116.33**	**346**	PKP		**PKPdf**		**04 47 14.0**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=42,slow=3.8,SNR=4.4								
FINES	**FINESS Array B**	**121.79**	**339**	PKP		**PKiKP**		**04 47 25.7**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=48,slow=2.8,SNR=4.4								
NOA	**NORSAR Array B**	**126.70**	**345**	PKP		**PKiKP**		**04 47 34.7**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=33,slow=2.0,SNR=2.6								
CLL	**Collm**	**134.12**	**337**	*e*PKPdf		**PKiKP**		**04 47 51.0**	**0.0**
CLL					Lm		MLR	05 48 00.0	
	comp=Z,200nm,19.4s								
CLL	**Collm**	**134.12**	**337**	*e*PKIKP		**PKiKP**		**04 47 51.0**	**0.0**
KEST	**Kesra**	**147.47**	**323**	*e*PKPbc		**PKiKP**		**04 48 17.0**	**-1.9**
KEST	**Kesra**	**147.47**	**323**	PKPbc		**PKPab**		**04 48 16.5**	**-2.1**
	comp=Z,6.5nm,0.9s,baz=16,slow=2.5,SNR=5.4								
ES06	**SONSECA Array**	**150.05**	**344**	*e*PKPbc		**PKiKP**		**04 48 22.7**	**-1.4**
ESDC	**Sonseca Array**	**150.06**	**344**	PKPbc		**PKPbc**		**04 48 21.7**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=349,slow=3.1,SNR=6.3								
TORD	**Torodi Ar. Bea**	**164.40**	**279**	PKP		**PKPdf**		**04 48 36.0**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=90,slow=1.0,SNR=2.8								
TORD					PKPab	**PKPab**		**04 49 30.7**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=111,slow=3.0,SNR=2.7								

IDC 23 04:34:58.7±1.6, 30°62S×177°53W, h0km, mb4.1/2, mb1 4.3/3, mb1mx3.8/35, mbtmp4.0/3, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx2.9/33, Error ellipse: s-maj=45.8km s-min=26.9km az=113.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.40**	**346**	Pn	Pn	04 35 24.8	-0.6
	245nm,0.3s,baz=68,slow=19,SNR=9.5						
RAO				Sn	Sg	04 35 40.1	-3.6
	1µm,0.3s,baz=145,slow=16,SNR=14						
URZ	**Urewera**	**8.82**	**209**	Pn	Pn	04 37 05.9	-1.4
	0.3nm,0.3s,baz=38,slow=17,SNR=4.8						
URZ				Sn	Sn	04 38 43.4	-4.0
	0.9nm,0.3s,baz=313,slow=18,SNR=4.5						
PPT	**Papeete**	**28.54**	**69**	LR	LR	04 50 48.5	
	comp=Z,116nm,18.6s,baz=270,slow=33						
STKA	**Stephens Creek**	**34.83**	**257**	P	P	04 41 55.0	+3.5
	4.4nm,0.7s,baz=104,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**43.50**	**267**	P	P	04 43 04.5	+0.3
	1.3nm,0.6s,baz=105,slow=7.0,SNR=17						
WRA	**Warramunga Arr**	**44.51**	**272**	P	P	04 43 12.1	-0.2
	2.4nm,0.6s,baz=110,slow=8.0,SNR=33						
FINES	**FINESS Array B**	**145.49**	**340**	PKPbc	PKPdf	04 54 37.5	-0.5
	3.5nm,0.6s,baz=53,slow=4.1,SNR=21						
NB2	**NORSAR Subarra1**	**49.02**	**352**	PKP	PKPbc	04 54 47.8	-0.3
	comp=Z,0.7nm,0.6s,baz=15,slow=2.8						
NOA	**NORSAR Array B**	**149.02**	**352**	PKPbc	PKPbc	04 54 47.5	-0.6
	comp=Z,0.9nm,0.7s,baz=13,slow=4.2,SNR=4.8						
AKASG	**Malin Array Be**	**151.72**	**323**	PKPbc	PKPbc	04 54 54.6	-0.1
	comp=Z,0.4nm,0.4s,baz=44,slow=2.1,SNR=5.7						
BRTR	**Keskin Array B**	**153.06**	**298**	PKPbc	PKPbc	04 54 58.3	-0.1
	comp=Z,1.0nm,0.8s,baz=31,slow=5.1,SNR=3.7						

*ISCJB **23** 04:45:45.4±0.7, 31°04S±0°07×179°8W±0°1, h400km, mb2.9/2, Error ellipse: s-maj=17.9km s-min=8.2km az=21.4*
*IDC **23** 04:45:46.9±6.3, 31°24S×179°96E, h404km±64km, mb2.6/2, mb1 3.0/3, mb1mx2.9/25, mbtmp3.7/3, Error ellipse: s-maj=84.3km s-min=35.5km az=12.0*

ISC 23 04:45:45.5±0.9, 31°20S±0°08×179°7W±0°1, h400km, n36, σ2s05/42, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.46**	**39**	P	**Pn**	**04 46 44.8**	**+0.3**
GLKZ				S	**S**	**04 47 30.3**	**-1.9**
MXZ	**Matakaoa Point**	**6.56**	**194**	P	**P**	**04 47 27.2**	**+2.5**
MXZ				S	**S**	**04 48 41.5**	**-3.2**
WMGZ	**Waiomatatini S**	**6.79**	**193**	P	**P**	**04 47 30.3**	**+3.1**
WCZ	**Waipu Caves**	**6.87**	**225**	P	**P**	**04 47 30.1**	**+2.0**
HAZ	**Te Kaha**	**6.87**	**197**	P	**P**	**04 47 30.2**	**+2.1**
HAZ				S	**S**	**04 48 48.4**	**-2.5**
OUZ	**Omahuta**	**6.92**	**233**	P	**P**	**04 47 30.1**	**+1.4**
PKGZ	**Pakihiroa**	**6.93**	**195**	P	**P**	**04 47 31.6**	**+2.8**
ABAZ	**Army Bay**	**7.06**	**219**	P	**P**	**04 47 32.8**	**+2.5**
PUZ	**Puketiti**	**7.07**	**193**	P	**P**	**04 47 32.9**	**+2.6**
PUZ				S	**S**	**04 48 53.4**	**-1.7**
RUGZ	**Raukumara Rang**	**7.09**	**197**	P	**P**	**04 47 32.5**	**+1.8**
TWGZ	**Tauwhareparae**	**7.22**	**195**	P	**P**	**04 47 33.9**	**+1.8**
OPRZ	**Ohinepanea**	**7.32**	**204**	P	**P**	**04 47 36.8**	**+3.6**
MWZ	**Matawai**	**7.48**	**197**	P	**P**	**04 47 36.5**	**+1.5**
EDRZ	**Edgecumbe**	**7.50**	**202**	P	**P**	**04 47 37.5**	**+2.3**
TKGZ	**Te Karaka**	**7.51**	**195**	P	**P**	**04 47 36.3**	**+1.2**
URZ	**Urewera**	**7.52**	**200**	P	**Pn**	**04 47 34.8**	**-0.1**
	7.3nm,0.3s,baz=17,slow=19,SNR=32						
URZ	**Urewera**	**7.52**	**200**	P	**P**	**04 47 36.6**	**+1.3**
RAGZ	**Rawiri**	**7.66**	**197**	P	**P**	**04 47 39.2**	**+2.1**
TARZ	**Mount Tarawera**	**7.69**	**203**	P	**P**	**04 47 40.5**	**+3.1**
RIGZ	**Rimuhau**	**7.78**	**195**	P	**P**	**04 47 40.4**	**+2.1**
MUGZ	**Murupara**	**7.83**	**201**	P	**P**	**04 47 40.4**	**+1.6**
RTZ	**Ruatahuna**	**7.89**	**199**	P	**P**	**04 47 40.0**	**+0.4**
SNGZ	**Shannon Statio**	**7.95**	**197**	P	**P**	**04 47 42.3**	**+2.1**
PRGZ	**Paritu Road**	**7.96**	**194**	P	**P**	**04 47 42.2**	**+1.9**
KNZ	**Kokohu**	**8.10**	**195**	P	**P**	**04 47 43.6**	**+1.8**
RAHZ	**Arahi**	**8.14**	**198**	P	**P**	**04 47 43.7**	**+1.4**
MHGZ	**Mahia Peninsul**	**8.18**	**193**	P	**P**	**04 47 45.9**	**+3.2**
WHHZ	**Waihua**	**8.26**	**197**	P	**P**	**04 47 45.4**	**+1.9**
NMHZ	**Naumai**	**8.39**	**199**	P	**P**	**04 47 46.5**	**+1.4**
ARHZ	**Aropaoanui**	**8.49**	**198**	P	**P**	**04 47 47.9**	**+1.7**
BKZ	**Black Stump Fm**	**8.54**	**200**	P	**P**	**04 47 47.5**	**+0.7**
KAHZ	**Kahuranaki**	**9.03**	**197**	P	**P**	**04 47 53.8**	**+1.7**
ASAR	**Alice Springs**	**41.63**	**269**	P	**P**	**04 52 55.5**	**-1.2**
	0.2nm,0.4s,baz=104,slow=7.7,SNR=3.6						
ASAR				PcP	**PP**	**04 54 44.9**	**+1.7**
	0.3nm,0.5s,baz=112,slow=4.0,SNR=4.1						
WRA	**Warramunga Arr**	**42.69**	**274**	P	**P**	**04 53 03.7**	**-1.5**
	0.3nm,0.4s,baz=112,slow=8.0,SNR=12						
WRA				PcP	**PcP**	**04 54 48.5**	**-0.1**
	0.3nm,0.8s,baz=110,slow=3.2,SNR=4.7						
FINES	**FINESS Array B**	**145.37**	**338**	PKPbc	**PKPbc**	**05 04 36.6**	**+0.2**
	1.6nm,0.4s,baz=53,slow=3.8,SNR=31						
BRTR	**Keskin Array B**	**151.68**	**297**	PKPbc	**PKPbc**	**05 04 53.2**	**-0.2**
	0.5nm,0.6s,baz=116,slow=5.5,SNR=3.5						

IDC 23 04:48:45.7±1.4, 15°83N×46°66W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/35, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.6/34, Error ellipse: s-maj=43.4km s-min=36.4km az=144.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.78**	**280**	LR	LR	05 01 35.3	

	comp=Z,36nm,18.1s,baz=86,slow=41								
LPAZ	**La Paz**	**38.31**	**215**	P		P		04 56 08.9	-0.1
	0.5nm,0.6s,baz=23,slow=7.7,SNR=3.6								
H10N3	**ASCENSION HYDR**	**39.59**	**124**	T		T		05 38 16.2	
	baz=306								
H10N2	**ASCENSION HYDR**	**39.60**	**124**	T		T		05 38 27.0	
	baz=306								
H10N1	**ASCENSION HYDR**	**39.61**	**124**	T		T		05 38 27.6	
	baz=306								
H10S3	**ASCENSION HYDR**	**40.13**	**126**	T		T		05 38 59.1	
	baz=307,slow=74								
H10S1	**ASCENSION HYDR**	**40.14**	**126**	T		T		05 39 15.1	
	baz=307,slow=74								
H10S2	**ASCENSION HYDR**	**40.15**	**126**	T		T		05 39 08.7	
	baz=307								
TORD	**Torodi Ar. Bea**	**46.82**	**87**	P		P		04 57 17.6	-0.1
	0.7nm,0.6s,baz=291,slow=8.2,SNR=5.0								
ILAR	**Eielson Array**	**80.11**	**335**	P		P		05 00 57.4	+0.1
	1.4nm,0.9s,baz=73,slow=4.8,SNR=11								

IDC 23 04:57:07.4±3.2, 6°39S×148°06E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.5/37, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=73.2km s-min=34.4km az=100.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.12**	**196**	Pn	Pn	04 57 59.7	+1.8
	4.4nm,0.3s,baz=20,slow=8.9,SNR=9.4						
PMG				Sn	Sn	04 58 36.3	+0.4
	4.3nm,0.3s,baz=40,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**18.95**	**223**	P	P	05 01 30.2	0.0
	0.1nm,0.3s,baz=50,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**21.91**	**217**	P	P	05 02 02.0	-0.4
	1.7nm,0.7s,baz=53,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**24.77**	**240**	P	P	05 02 30.3	-0.8
	2.7nm,0.5s,baz=60,slow=9.4,SNR=30						
TORD	**Torodi Ar. Bea**	**146.21**	**284**	PKPbc	PKPbc	05 16 50.7	-0.2
	0.2nm,0.4s,baz=77,slow=4.4,SNR=4.3						

*IDC **23** 05:18:44.2±1.7, 38°07S×75°13W, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.8/24, mbtmp3.6/6, ML3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.8/25, Error ellipse: s-maj=45.0km s-min=26.7km az=42.0*
*ISCJB **23** 05:18:48.5±1.1, 37°87S±0°07×74°9W±0°1, h33km, mb3.6/4, Error ellipse: s-maj=14.8km s-min=10.1km az=162.2*

ISC 23 05:18:49.9±1.3, 37°9S±0°1×75°0W±0°1, h35km, n6, σ1s71/8, mb3.6/4, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**4.45**	**130**	Pn	**Pn**	**05 19 53.4**	**-1.5**
	0.6nm,0.3s,baz=324,slow=13,SNR=18						
PLCA				Sn	**Sn**	**05 20 47.5**	**+2.1**
	1.6nm,0.3s,baz=280,slow=16,SNR=5.9						
CFA	**Coronel Fontan**	**8.42**	**43**	Pn	**Pn**	**05 20 47.9**	**-1.6**
	0.7nm,0.3s,baz=215,slow=15,SNR=10						
CFA				Sn	**Sn**	**05 22 23.9**	**+0.6**
	0.4nm,0.3s,baz=295,slow=19,SNR=3.1						
CFA				LR	LR	05 24 02.6	
	comp=Z,141nm,21.5s,baz=266,slow=37						
SIV	**San Ignacio**	**25.08**	**33**	P	**P**	**05 24 13.4**	**+2.2**
	1.5nm,0.8s,baz=231,slow=11,SNR=6.8						
TXAR	**Lajitas Array**	**72.09**	**334**	P	**P**	**05 30 11.2**	**+0.6**
	0.5nm,0.7s,baz=152,slow=10.0,SNR=5.1						
PDAR	**Pinedale Array**	**86.25**	**335**	P	**P**	**05 31 27.8**	**0.0**
	0.3nm,0.7s,baz=137,slow=6.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**87.78**	**72**	P	**

baz=254
TWT **Tachien** 0.77 256 *e*P Pg 05 22 24.7 -0.2
baz=254
TWT S Sg 05 22 35.0 0.0
baz=254
TDCB **Techi** 0.78 256 P Pg 05 22 25.1 -0.1
baz=255
TDCB *e*S Sg 05 22 34.9 -0.7
baz=255
YM01 **YM01** 0.79 331 P Pb 05 22 26.0 +0.4
baz=341
YM11 **YM11** 0.81 332 P Pb 05 22 26.1 +0.3
baz=333
ESL **Shilin** 0.81 219 *e*P Pg 05 22 24.8 -0.9
baz=225
YM05 **YM05** 0.81 332 P Pb 05 22 26.2 +0.3
baz=342
YM04 **YM04** 0.82 330 *e*P Pb 05 22 26.1 +0.2
baz=330
TWS1 **Kuangyinshan** 0.83 321 *e*P Pb 05 22 27.2 +1.0
baz=314
TWS1 *e*S Sb 05 22 38.8 +1.6
baz=314
CHGB **Renai** 0.84 243 ⇓P Pg 05 22 25.9 -0.3
baz=251
CHGB *e*S Sg 05 22 36.8 -0.5
baz=251
NTST **Danshui** 0.87 326 *e*P Pb 05 22 27.8 +1.0
baz=326
JYNG **Yonagunijimaku** 0.87 90 P Pg 05 22 26.8 0.0
JYNG *e*S Sg 05 22 38.3 0.0
OWD **Renai** 0.89 237 *e*P Pg 05 22 26.2 -1.1
baz=230
NCU **National Centr** 0.90 306 *e*P Pn 05 22 28.4 +0.3
baz=305
NCUH **Zhongli** 0.90 305 *e*P Pn 05 22 29.0 +0.9
baz=295
TWY **Chenhua** 0.90 337 *e*P Pb 05 22 27.8 +0.5
baz=337
LIOB **Emei** 0.91 283 *e*P Pg 05 22 24.9 -2.7
baz=282
YOJ **Yonaguni jima** 0.93 89 P Pg 05 22 27.4 -0.6
baz=89
YOJ S Sg 05 22 40.1 -0.1
baz=89
YOJ **Yonaguni jima** 0.93 89 P Pg 05 22 27.7 -0.3
YOJ *e*S Sb 05 22 40.6 +0.5
WHP **Taichung City** 0.97 260 P Pb 05 22 28.8 +0.3
baz=259
VWDT **VWDT** 1.04 229 *e*P Pg 05 22 29.8 -0.2
baz=234
NMLH **Miaoli** 1.10 275 *e*P Pn 05 22 32.2 +1.3
baz=274
TWQ1 **Liyutan** 1.11 265 *e*P Pn 05 22 32.4 +1.2
baz=264
EHY **Hungye** 1.12 213 *e*P Pg 05 22 31.1 -0.5
baz=213
NSY **Sanyi** 1.12 269 *e*P Pn 05 22 32.3 +1.1
baz=268
SMLT **Sun Moon Lake** 1.14 241 P Pg 05 22 31.6 -0.4
baz=240
SSLB **Suanglung** 1.15 235 ⇓P Pg 05 22 31.4 -0.7
baz=235
TYC **Yuchr** 1.17 243 *e*P Pg 05 22 31.7 -0.8
baz=249
TYC *e*S Sg 05 22 47.1 -0.5
baz=249
PCYT **Pengchaiyu** 1.18 4 *e*P Pg 05 22 31.5 -1.2
baz=4.0
TWF1 **Yuli** 1.26 210 *e*P Pn 05 22 33.9 +0.7
baz=226
CHN5 **Tsauling** 1.47 235 *e*P Pg 05 22 38.5 +0.3
baz=238
CHN5 *e*S Sg 05 22 59.6 +2.3
baz=238
IRIF **Iriomote-Funau** 1.59 94 P Pn 05 22 37.1 -0.6
IRIF *e*S Sn 05 22 58.0 0.0
CHN4 **Tsaushan** 1.68 230 *e*P Pg 05 22 42.2 0.0
baz=233
CHN4 *e*S Sg 05 23 06.4 +2.3
baz=233
TWK **Hsinying** 1.81 230 *e*P Pg 05 22 44.4 -0.3
baz=231
JKRS **Kuro-shima** 1.85 96 P Pn 05 22 41.4 +0.1
JKRS *e*S Sn 05 23 03.7 -0.8
JIJ **Ishigaki jima** 1.96 92 P Pn 05 22 42.9 +0.1
JIJ *e*S Sn 05 23 05.8 -1.5
JISG **Ishigakijimahi** 2.12 86 P Pn 05 22 44.3 -0.6
WDGT **Dungji** 2.44 241 *e*P Pb 05 22 52.4 -1.2
baz=244

NEIC ***23*** *05:28:30.5±1.0, 18°.79S×175°.60W, h178km±9km, mb4.5/34, Error ellipse: s-maj=7.5km s-min=5.0km az=139.0*
ISCJB ***23*** *05:28:34.9±0.3, 18°.88S±0°.04×175°.65W±0°.07, h231km, mb4.4/48, Error ellipse: s-maj=8.6km s-min=5.1km az=1.6*
IDC ***23*** *05:28:34.4±3.9, 18°.90S×175°.66W, h215km±38km, mb4.1/20, mb1 4.2/21, mb1mx3.9/42, mbtmp4.6/21, Error ellipse: s-maj=18.1km s-min=12.6km az=167.0*
ISC 23 05:28:36.3±0.4, 18°.92S±0°.07×175°.64W±0°.08, h231km, n130, σ1°.53/134, mb4.4/48, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	5.40	93	*e*Pn		Pn		05 29 49.2	-7.4
NIUE				*e*Sn		S		05 30 48.1	-12
GLKZ	**Green Lake**	10.51	191	P		Pn		05 31 00.2	-1.3
RAR	**Rarotonga** 13nm,0.8s	15.08	101	*e*Pn		Pn		05 32 01.6	+3.3
RAR	**Rarotonga** 1.3nm,0.3s,baz=274,slow=11,SNR=3.2	15.08	101	P		Pn		05 31 59.2	+1.0
MARNC	**Mare, Loyalty** 92nm,0.9s	15.54	258	*e*Pn		Pn		05 32 06.0	+2.2
PINNC	**Pines Island,** 77nm,1.1s	16.24	254	*e*P		Pn		05 32 14.7	+2.6
DZM	**Mont Dzumac** 16nm,0.8s	17.08	256	*e*P		Pn		05 32 24.8	+2.6
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=84,slow=18,SNR=10	17.08	256	P		Pn		05 32 24.2	+2.0
KUZ	**Kuaotunu**	19.32	201	P		P		05 32 44.8	+0.6
MXZ	**Matakaoa Point**	19.32	195	P		P		05 32 45.4	+1.1
WMGZ	**Waiomatatini S**	19.54	194	P		P		05 32 48.1	+1.5
WIAZ	**Waiheke Island**	19.57	203	P		P		05 32 48.1	+1.2
HAZ	**Te Kaha**	19.63	196	P		P		05 32 47.1	-0.4
PKGZ	**Pakihiroa**	19.68	195	P		P		05 32 48.9	+0.7
PUZ	**Puketiti**	19.82	194	P		P		05 32 48.1	-1.5
MKAZ	**Moumakai**	19.84	202	P		P		05 32 47.9	-1.8
RUGZ	**Raukumara Rang**	19.86	196	P		P		05 32 49.6	-0.5
MWZ	**Matawai**	20.24	196	P		P		05 32 53.8	-0.4
TKGZ	**Te Karaka**	20.26	195	P		P		05 32 55.3	+1.0
URZ	**Urewera** 17nm,0.4s	20.28	197	*e*P		P		05 32 53.4	-1.1
URZ				S		S		05 36 22.2	-6.6
URZ	**Urewera** 13nm,0.5s,baz=359,slow=2.2,SNR=41	20.28	197	P		P		05 32 53.0	-1.5
URZ	1.9nm,0.5s,baz=72,slow=20,SNR=2.9			S		S		05 36 22.2	-6.6
URZ	**Urewera**	20.28	197	P		P		05 32 53.4	-1.1
RAGZ	**Rawiri**	20.43	196	P		P		05 32 56.3	+0.1
RIGZ	**Rimuhau**	20.54	195	P		P		05 32 57.5	+0.2
RTZ	**Ruatahuna**	20.65	197	P		P		05 32 57.2	-1.4
SNGZ	**Shannon Statio**	20.71	196	P		P		05 32 59.6	+0.4
KNZ	**Kokohu**	20.86	195	P		P		05 32 59.9	-0.7
KNZ				S		S		05 36 36.3	-2.6
RAHZ	**Arahi**	20.91	196	P		P		05 33 00.1	-1.1
NMHZ	**Naumai**	21.15	196	P		P		05 33 03.6	-0.1
HIZ	**Hauiti** 12nm,1.0s	21.21	201	*e*P		P		05 33 05.0	+0.8
BKZ	**Black Stump Fm** 5.5nm,0.8s	21.30	197	*e*P		P		05 33 03.5	-1.7
BKZ	**Black Stump Fm**	21.30	197	P		P		05 33 03.7	-1.5
BHHZ	**Black Hill Sta**	21.72	198	P		P		05 33 08.6	-0.7
KAHZ	**Kahuranaki**	21.79	196	P		P		05 33 10.9	+1.0
BFZ	**Birch Farm** 24nm,1.1s	22.79	196	*e*P		P		05 33 18.3	-0.7
BFZ	**Birch Farm**	22.79	196	P		P		05 33 18.3	-0.7
BFZ				S		S		05 37 17.9	+7.7
THZ	**Tophouse** 7.3nm,0.8s	24.78	201	*e*P		P		05 33 37.4	+0.3
KHZ	**Kahutara** 8.5nm,0.8s	25.16	199	*e*P		P		05 33 40.2	-0.3
LTZ	**Lake Taylor** 19nm,1.2s	25.90	201	*e*P		P		05 33 47.4	+0.3
WHZ	**Wether Hill Ro** 26nm,1.2s	30.14	203	*e*P		P		05 34 28.9	+4.2
EIDS	**Eidsvold** 14nm,0.9s	31.43	252	*e*P		P		05 34 36.0	-0.3
ARMA	**Armidale** 9.3nm,0.6s	31.77	243	*e*P		P		05 34 40.0	+0.7
CAN	**Canberra** 5.2nm,1.1s	35.24	235	*e*P		P		05 35 12.6	+3.5
CTA	**Charters Tower** 14nm,0.4s,baz=90,slow=11,SNR=15	35.89	262	P		P		05 35 13.9	-0.9
CTAO	**Charters Tower** 19nm,0.8s	35.89	262	*e*P		P		05 35 15.6	+0.8
PMG	**Port Moresby** 19nm,0.9s,baz=82,slow=4.7,SNR=5.2	37.22	279	P		P		05 35 25.3	-0.7
TOO	**Toolangi** 10.0nm,1.1s	38.62	233	*e*P		P		05 35 37.2	-0.3
COEN	**Coen** 6.1nm,0.6s	39.75	271	*e*P		P		05 35 46.7	-0.3
STKA	**Stephens Creek** 1.2nm,0.8s	40.48	243	*e*P		P		05 35 53.4	+0.5
STKA	**Stephens Creek** 8.2nm,1.1s,baz=84,slow=8.8,SNR=9.0	40.48	243	P		P		05 35 52.9	0.0
BBOO	**Buckleboo** 11nm,1.1s	45.25	242	*e*P		P		05 36 30.3	-0.7
JAY	**Jayapura** 6.4nm,0.6s,baz=124,slow=15,SNR=3.3	45.71	286	P		P		05 36 34.7	-0.2
AS01	**Alice Springs**	47.02	255	*e*P		P		05 36 44.4	-0.6
WRAB	**Tennant Creek** 15nm,0.6s	47.04	260	*e*P		P		05 36 44.2	-0.9
WR1	**Warramunga Arr** 24nm,0.6s	47.05	260	*e*P		P		05 36 44.0	-1.1
WR1				*e*PcP		PcP		05 38 13.3	-0.2
WRA	**Warramunga Arr** 13nm,0.4s,baz=97,slow=5.7,SNR=398	47.05	260	P		P		05 36 44.0	-1.2
WRA	1.3nm,0.6s,baz=99,slow=3.2,SNR=5.2			PcP		PcP		05 38 13.3	-0.2
AS31	**Alice Springs** 4.7nm,0.5s	47.06	255	*e*P		P		05 36 45.1	-0.2
AS31				*e*PcP		PcP		05 38 13.0	-0.5
ASAR	**Alice Springs** 18nm,0.6s,baz=94,slow=8.0,SNR=339	47.06	255	P		P		05 36 44.5	-0.8
ASAR	2.7nm,0.6s,baz=106,slow=3.9,SNR=9.0			PcP		PcP		05 38 13.0	-0.5
MTN	**Manton Dam** 21nm,0.6s	51.40	268	*e*P		P		05 37 17.6	-0.5
FORT	**Forrest** 17nm,0.6s	51.97	245	*e*P		P		05 37 21.3	-0.8
SIJI	**Sorong** 13nm,0.7s,baz=85,slow=12,SNR=5.6	55.02	283	P		P		05 37 44.4	-0.2
FITZ	**Fitzroy Crossi** 3.4nm,0.5s	55.46	261	*e*P		P		05 37 47.5	-0.1
FITZ	**Fitzroy Crossi** 3.8nm,0.5s,baz=109,slow=4.0,SNR=30	55.46	261	P		P		05 37 47.0	-0.5
SOEI	**Soe** 33nm,0.6s	58.70	270	*e*P		P		05 38 10.8	+0.3
SBA	**Scott Base** 3.2nm,0.9s	59.60	184	*e*P		P		05 38 17.2	+1.8
VNDA	**Vanda** 1.6nm,0.9s	59.69	186	*e*P		P		05 38 17.3	+1.3
VNDA	**Vanda** 0.8nm,0.6s,baz=13,slow=4.7,SNR=4.6	59.69	186	P		P		05 38 16.9	+0.8
MJAR	**Matsushiro Arr** 2.7nm,0.6s,baz=168,slow=7.0,SNR=8.4	70.30	322	P		P		05 39 24.4	-0.4
MAJO	**Matsushiro**	70.30	322	*e*P		P		05 39 24.4	-0.4
QSPA	**South Pole Qui** 2.0nm,0.9s	71.15	180	*e*P		P		05 39 29.9	+0.3
JNU	**Nakatsue** 6.7nm,0.7s,baz=50,slow=5.1,SNR=4.2	72.69	315	P		P		05 39 38.8	-0.5
SSLB	**Suanglung** 9.0nm,1.0s	74.99	302	*e*P		P		05 39 53.0	+0.3
PETK	**Petropavlovsk-**	75.35	344	*e*P		P		05 39 54.3	+0.2
PETK	**Petropavlovsk-** 5.0nm,0.7s,baz=159,slow=8.7,SNR=4.9	75.35	344	P		P		05 39 53.4	-0.6
PEA1	**Petropavlovsk-**	75.35	344	*e*P		P		05 39 53.4	-0.7
LPIG	**La Paz** 16nm,0.5s,baz=270,slow=4.0,SNR=2.9	76.69	59	P		P		05 40 02.4	+0.2
KSRS	**Korea Array** 3.8nm,0.9s,baz=139,slow=6.3,SNR=11	77.21	317	P		P		05 40 05.8	+0.9
KS15	**Wonju Array Si** 7.4nm,1.1s	77.23	317	*e*P		P		05 40 04.7	-0.3
KSAR	**Wonju Array Be**	77.23	317	P		P		05 40 05.8	+0.8
NV01	**Mina Array Sit**	78.35	42	*e*P		P		05 40 10.9	-0.5
NVAR	**Mina Array Bea** 0.8nm,0.7s,baz=231,slow=9.4,SNR=3.5	78.35	42	P		P		05 40 11.1	-0.4
NJ2	**Nanjing**	80.62	308	*e*P		P		05 40 24.3	+0.8
NJ2	comp=Z,22nm,0.5s			pmax		pmax			
SEY	**Seymchan** 3.7nm,0.7s,baz=134,slow=6.9,SNR=10	85.37	346	P		P		05 40 46.5	-0.5
IL1	**Eielson Array**	86.30	12	*e*P		P		05 40 50.9	-0.8
ILAR	**Eielson Array** 1.1nm,0.9s,baz=229,slow=6.1,SNR=8.7	86.30	12	P		P		05 40 50.2	-1.4
ILB	**Eielson Array** 3.3nm,1.1s	86.30	12	*e*P		P		05 40 50.8	-0.8
SYO	**Syowa Base**	88.74	192⇑	*e*PcP		PcP		05 41 06.2	+1.5
XAN	**Xi'an**	88.97	306	P		P		05 41 06.5	+1.4
XAN	comp=Z,8.0nm,1.1s			pmax		pmax			
HHC	**Hu-ho-hao-te**	89.86	314	*e*P		P		05 41 10.0	+0.8
HHC	comp=Z,24nm,0.9s			pmax		pmax			
HHC	comp=Z,230nm,6.7s			pmax		pmax			
KMI	**Kunming**	90.63	296	P		P		05 41 13.3	0.0
KMI	comp=Z,15nm,0.5s			pmax		pmax			
CMAR	**Chiang Mai Arr** 1.2nm,0.3s,baz=111,slow=2.8,SNR=7.2	91.70	289	P		P		05 41 19.0	+0.9
INK	**Inuvik** 3.7nm,1.0s	92.18	14	*e*P		P		05 41 18.3	-0.8
LZH	**Lanzhou**	93.59	307	*e*P		P		05 41 27.9	+1.3
LZH				pP		pP		05 42 12.9	-9.4
LZH				sP		pwP		05 42 31.6	+6.1
LZH	comp=Z,17nm,1.0s			pmax		pmax			
YKA	**Yellowknife Ar** 0.4nm,0.9s,baz=237,slow=4.5,SNR=6.6	94.16	24	P		P		05 41 27.3	-1.0
ARA0	**ARCESS Array S**	127.75	351	*e*PKPdf		PKPdf		05 47 12.4	-1.1
ARCES	**ARCESS Array B** 4.3nm,0.9s,baz=37,slow=3.5,SNR=3.8	127.75	351	PKP		PKPdf		05 47 12.4	-1.1
FIA0	**FINESS Array S**	134.84	345	*e*PKPdf		PKPpre		05 47 24.0	
FINES	**FINESS Array B** 1.3nm,0.9s,baz=0.0,slow=2.9,SNR=2.8	134.84	345	PKhKP		PKPpre		05 47 24.0	
AKASG	**Malin Array Be** 0.5nm,0.4s,baz=41,slow=3.9,SNR=3.3	142.65	334	PKhKP		PKPpre		05 47 36.9	
KWP	**Kalwaria Pacla**	146.00	339	*e*PKPdf		PKPbc		05 47 48.8	-0.1
OJC	**Ojcow**	146.42	342	*e*PKPdf		PKPbc		05 47 49.7	-0.3
BUR08	**Bucovina Ar. S**	146.69	334	*e*PKPdf		PKPab		05 47 52.4	-0.2
CLL	**Collm**	146.96	350	*e*PKPbc		PKPbc		05 47 51.5	0.0
CLL	**Collm** comp=Z,9.0nm,0.9s	146.96	350	*i* PKPbc		PKPbc		05 47 51.1	-0.4
CLL	comp=Z,200nm,19.1s			LmV				14 18 00.0	
UPC	**Upice**	147.14	346	*e*PKP		PKPbc		05 47 52.0	0.0
BRG	**Berggiesshubel** comp=Z,4.0nm,0.9s	147.22	349	*e*PKP		PKPbc		05 47 52.0	-0.2
DPC	**Dobruska-Polom**	147.22	346	*e*PKP		PKPbc		05 47 52.7	+0.4
BR101	**Keskin Array S**	147.35	316	*e*PKPdf		PKPbc		05 47 52.3	-0.8
BR131	**Keskin Array S**	147.35	316	*e*PKPbc		PKPbc		05 47 53.1	0.0
BRTR	**Keskin Array B** comp=Z,2.6nm,0.8s,baz=129,slow=3.2,SNR=16	147.35	316	PKPbc		PKPbc		05 47 52.3	-0.8
LANS	**Liptovska Anna**	147.47	341	*e*PKP		PKPbc		05 47 53.5	+0.5
PRU	**Pruhonice**	147.95	348	*e*PKP		PKPbc		05 47 52.5	-1.7
VYHS	**Vyhne**	148.25	342	*e*PKP		PKPbc		05 47 55.4	+0.4
MODS	**Modra-Piesok**	148.80	343	*e*PKP		PKPbc		05 47 57.0	+0.6
KHC	**Kasperske Hory**	148.95	348	*e*PKPbc		PKPbc		05 47 57.2	+0.4
KHC	**Kasperske Hory**	148.95	348	*e*PKP		PKPbc		05 47 55.4	-1.4
GERES	**GERESS Array B** comp=Z,1.5nm,0.7s,baz=354,slow=1.0,SNR=4.8	149.20	348	PKPbc		PKPbc		05 47 57.2	-0.4
GEA0	**GERESS Array S**	149.21	348	*e*PKPbc		PKPbc		05 47 57.5	-0.1
CONA	**Conrad Observa** comp=Z,2.5nm,0.7s	149.58	345	*e*PKPbc		PKPbc		05 47 58.5	0.0
ARSA	**Arzberg** comp=Z,3.2nm,1.1s	150.30	345	PKPdf		PKPdf		05 47 54.1	-0.7
SOKA	**Soboth** comp=Z,4.5nm,1.2s	150.95	345	*e*PKPbc		PKPbc		05 47 59.8	-1.9
KBA	**Koelnbreinsper** comp=Z,5.9nm,1.1s	150.96	347	*e*PKPbc		PKPbc		05 48 00.4	-1.5
SQTA	**Sankt Quirin** comp=Z,4.5nm,0.7s	151.22	350	*e*PKPbc		PKPbc		05 48 02.1	-0.3
OBKA	**Obir** comp=Z,3.3nm,0.8s	151.23	345	*e*PKPbc		PKPbc		05 47 59.8	-2.6
MYKA	**Terra Mystica** comp=Z,2.0nm,0.5s	151.32	347	PKPbc		PKPbc		05 48 00.9	-1.7
DAVA	**Damuels** comp=Z,5.7nm,0.9s	151.34	352	PKiKP		PKiKP		05 48 02.9	-0.3
ABTA	**Abfaltersbach** comp=Z,4.0nm,0.6s	151.44	348	*e*PKPbc		PKPbc		05 48 02.0	-0.9
VTS	**Vitosha**	151.47	330	*e*PKPbc		PKiKP		05 48 03.4	-0.2
FETA	**Feichten** comp=Z,4.2nm,0.8s	151.49	351	*e*PKPbc		PKPbc		05 48 02.7	-0.3
FUORN	**Ofenpass-Fuorn**	151.95	351	*e*PKPbc		PKPbc		05 48 04.1	-0.1

IDC 23 05:29:51.5±4.8, 46°.91N×151°.54E, h106km±46km, mb3.1/5, mb1 3.3/7, mb1mx3.1/49, mbtmp3.5/7, Error ellipse: s-maj=38.9km s-min=26.7km az=179.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa** 1.4nm,0.3s,baz=90,slow=14,SNR=5.3	6.87	249	P		Pn		05 31 29.1	-0.5
ASAJ	0.2nm,0.3s,baz=313,slow=19,SNR=2.0			S		Sn		05 32 35.2	-11
KSRS	**Korea Array** 0.2nm,0.3s,baz=53,slow=9.8,SNR=6.1	19.82	250	P		P		05 34 14.4	+0.8
H11N2	**WAKE ISLAND Hy** baz=339,slow=76,SNR=175	29.88	150	T		T		06 07 12.2	
H11N1	**WAKE ISLAND Hy** baz=339,slow=76,SNR=98	29.89	150	T		T		06 07 18.3	
H11N3	**WAKE ISLAND Hy** baz=339,slow=76,SNR=110	29.90	150	T		T		06 07 18.4	
H11S1	**WAKE ISLAND Hy** baz=340,slow=76,SNR=120	30.95	151	T		T		06 08 36.6	
H11S3	**WAKE ISLAND Hy** baz=340,slow=76,SNR=86	30.96	151	T		T		06 08 30.7	
H11S2	**WAKE ISLAND Hy** baz=340,slow=76,SNR=78	30.97	151	T		T		06 08 37.9	
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=72,slow=8.5,SNR=2.7	45.90	297	P		P		05 38 03.6	+0.4
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=296,slow=7.0,SNR=3.4	51.44	36	P		P		05 38 45.5	+0.3
FINES	**FINESS Array B** 0.5nm,0.5s,baz=35,slow=7.0,SNR=5.9	63.43	334	P		P		05 40 08.5	-0.8
NOA	**NORSAR Array B** 0.4nm,0.6s,baz=29,slow=6.3,SNR=3.5	67.72	340	P		P		05 40 37.0	0.0
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=306,slow=5.2,SNR=3.2	78.35	60	P		P		05 41 40.4	+0.2
TXAR				pP		pP		05 42 03.5	-3.6
PLCA	**Paso Flores** 0.7nm,0.8s,baz=315,slow=2.9,SNR=2.8	149.30	94	PKPbc		PKPbc		05 49 26.5	-0.9

SJA ***23*** *05:32:25.6±0.6, 22°.61S×70°.31W, h36km±2km, ML1.6, MW3.6*
ISCJB ***23*** *05:32:26.0±0.8, 22°.62S±0°.03×70°.41W±0°.07, h27km±5km, Error ellipse: s-maj=10.2km s-min=5.1km az=12.3*
GUC ***23*** *05:32:26.0±0.7, 22°.62S×70°.38W, h34km±3km, ML2.5*
ISC 23 05:32:26.1±1.3, 22°.62S±0°.03×70°.39W±0°.07, h33km±4km, n18, σ0°.78/28, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB05	**IPOC Station P**	0.28	143	*i* P		Pn		05 32 33.7	-0.2
PB05	**IPOC Station P**	0.28	143	⇑*i*P		Pb		05 32 33.9	+0.1
PB05				*i* S		Sb		05 32 38.9	-0.1
PB05	comp=E,1μm,0.1s			IAML				05 32 39.4	
PB04	**IPOC Station P**	0.36	37	*i* P		Pb		05 32 34.6	-0.2
PB04	**IPOC Station P**	0.36	37	⇓*i*P		Pb		05 32 34.7	-0.1
PB04				*i* S		Sb		05 32 40.6	-0.1
PB04	comp=E,1μm,0.2s			IAML				05 32 41.0	
PB06	**IPOC Station P**	0.76	96	*i* P		Pn		05 32 40.4	-0.2
PB06				*i* S		Sn		05 32 50.7	-0.2
PB06	**IPOC Station P**	0.76	96	*e*P		Pn		05 32 40.4	-0.2
PB06				*i* S		Sn		05 32 50.7	-0.2
PB06	comp=E,231nm,0.5s			IAML				05 32 51.2	
PB03	**IPOC Station P**	0.82	46	*i* P		Pn		05 32 41.4	-0.1
PB03	**IPOC Station P**	0.82	46	*e*P		Pn		05 32 41.3	-0.1
PB03				*i* S		Sn		05 32 52.2	-0.3
PB03	comp=N,377nm,0.3s			IAML				05 32 52.4	
PB10	**IPOC Station P**	0.90	190	*e*P		Pn		05 32 42.2	-0.2
PB10				*i* S		Sn		05 32 54.4	+0.2
PB07	**IPOC Station P**	1.01	27	*i* P		Pn		05 32 44.1	+0.1
PB07	**IPOC Station P**	1.01	27	⇓*i*P		Pn		05 32 44.1	+0.1
PB07				*i* S		Sb		05 32 57.4	-0.7
PB07	comp=E,252nm,0.4s			IAML				05 32 59.7	
PB15	**IPOC Station P**	1.02	125	*i* P		Pn		05 32 44.5	+0.2
PB15	**IPOC Station P**	1.02	125	*e*P		Pn		05 32 44.6	+0.3
PB15				*e*S		Sb		05 32 58.3	-0.4
PB15	comp=E,449nm,0.5s			IAML				05 33 02.6	
PB09	**IPOC Station P**	1.34	52	*e*P		Pb		05 32 49.9	-0.9
PB09				*e*S		Sb		05 33 07.6	-0.1
PB09	comp=E,67nm,0.2s			IAML				05 33 10.9	
PB02	**IPOC Station P**	1.38	19	*i* P		Pn		05 32 49.9	+0.8
PB02	**IPOC Station P**	1.38	19	⇑*i*P		Pn		05 32 49.7	+0.7
PB02				*i* S		Sb		05 33 07.5	-1.1
PB02	comp=E,116nm,0.2s			IAML				05 33 11.5	
PB01	**IPOC Station P**	1.78	28	*e*P		Pn		05 32 56.0	+1.4
YJA	**Yavi**	4.53	85	*i* P		Pn		05 33 35.6	+2.9
YJA	comp=Z,0.6nm,0.2s			IAML				05 33 50.6	

IDC 23 05:33:19.1±11.0, 15°.57S×175°.47W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/38, mbtmp3.4/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/20, Error ellipse: s-maj=479.9km s-min=61.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks** comp=Z,118nm,18.0s,baz=211,slow=33	30.32	200	LR		LR		05 49 54.7	
H11S2	**WAKE ISLAND Hy** baz=147,slow=76	38.12	332	T		T		06 21 07.6	
H11S3	**WAKE ISLAND Hy** baz=147,slow=76	38.13	332	T		T		06 21 05.8	
H11S1	**WAKE ISLAND Hy** baz=147,slow=76	38.14	332	T		T		06 21 12.6	
WRA	**Warramunga Arr** 0.1nm,0.5s,baz=90,slow=7.3,SNR=4.0	47.86	257	P		P		05 41 59.3	+0.1
ASAR	**Alice Springs** 0.5nm,0.5s,baz=84,slow=7.8,SNR=3.3	48.16	252	P		P		05 42 01.0	-0.5
BRTR	**Keskin Array B** 1.0nm,0.8s,baz=55,slow=3.1,SNR=3.3	145.00	319	PKPbc		PKPab		05 52 57.5	-0.7

IDC 23 05:36:02.2±3.6, 6°.67S×148°.50E, h0km, mb4.0/2, mb1 4.1/4, mb1mx3.6/36, mbtmp3.9/4, ML3.4/1, MS3.5/1, Ms1 3.5/1, ms1mx2.7/32, Error ellipse: s-maj=93.9km s-min=35.8km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 4.3nm,0.3s,baz=20,slow=18,SNR=6.4	3.02	206	Pn		Pn		05 36 53.3	+1.9
PMG	5.0nm,0.3s,baz=309,slow=2.7,SNR=4.9			Sn		Sn		05 37 29.5	+1.1
HNR	**Honiara** comp=Z,248nm,21.5s,baz=76,slow=30	11.66	104	LR		LR		05 41 51.5	
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=50,slow=11,SNR=3.7	19.05	225	P		P		05 40 25.6	-0.6
ASAR	**Alice Springs** 3.1nm,0.9s,baz=58,slow=9.2,SNR=17	21.96	218	P		P		05 40 57.5	-0.3
FITZ	**Fitzroy Crossi** 7.2nm,0.8s,baz=84

	26nm,0.3s,baz=116,slow=7.8,SNR=5.1								
HNR					Sn	Sn	05 40 40.2	-0.3	
	16nm,0.3s,baz=18,slow=20,SNR=4.2								
DZM	**Mont Dzumac**	10.61	173	Pn	Pn	05 40 48.2	-1.7		
	3.1nm,0.3s,baz=306,slow=9.9,SNR=59								
ONTNC	**Ouen Toro**	10.85	173	*e*Pn	Pn	05 40 52.8	-0.2		
PINNC	**Pines Island,**	11.30	169	*e*Pn	Pn	05 40 58.2	-1.0		
CTA	**Charters Tower**	20.02	242	P	P	05 42 50.9	+0.7		
	8.4nm,0.9s,baz=79,slow=13,SNR=3.9								
RMQ	**Roma**	21.43	224	P	P	05 43 06.3	+0.9		
	baz=20,SNR=11								
KNTN	**Kanton**	24.57	71	*e*P	P	05 43 36.2	-1.0		
	46nm,1.1s								
BKZ	**Black Stump Fm**	29.38	162	*e*P	P	05 44 22.2	+2.0		
	6.0nm,1.0s								
H11S2	**WAKE ISLAND Hy**	29.82	3	T	T	06 15 51.2			
	baz=184,slow=76,SNR=6.7								
H11S3	**WAKE ISLAND Hy**	29.83	3	T	T	06 15 49.0			
	baz=184,slow=76,SNR=8.2								
H11S1	**WAKE ISLAND Hy**	29.84	3	T	T	06 15 51.6			
	baz=184,slow=76,SNR=7.5								
WR1	**Warramunga Arr**	30.73	250	*e*P	P	05 44 31.3	-1.0		
	11nm,0.9s								
WRA	**Warramunga Arr**	30.73	250	P	P	05 44 31.3	-1.0		
	6.1nm,0.9s,baz=80,slow=9.0,SNR=6.9								
H11N1	**WAKE ISLAND Hy**	31.05	3	T	T	06 17 25.0			
	baz=182,slow=76,SNR=6.4								
H11N3	**WAKE ISLAND Hy**	31.05	3	T	T	06 17 25.3			
	baz=182,slow=76,SNR=5.4								
H11N2	**WAKE ISLAND Hy**	31.07	3	T	T	06 17 22.9			
	baz=182,slow=76,SNR=5.2								
JNU	**Nakatsue**	55.06	325	*e*P	P	05 47 49.3	+0.5		
	7.7nm,1.0s								
GAMB	**Gambell**	77.11	10	*e*P	P	05 50 09.9	+0.3		
	2.7nm,0.9s								
ULN	**Ulaanbaatar**	78.27	324	*e*P	P	05 50 17.6	+0.8		
	3.4nm,0.7s								
QSPA	**South Pole Qui**	78.53	180	*e*P	P	05 50 17.8	-0.1		
	4.6nm,0.9s								
SONA0	**Songino Array**	78.63	324	*e*P	P	05 50 19.3	+0.6		
SONM	**Songino Array**	78.63	324	P	P	05 50 19.3	+0.6		
	1.1nm,0.8s,baz=139,slow=6.1,SNR=6.1								
BILL	**Bilibino**	79.32	0	*e*P	P	05 50 21.7	-0.1		
	6.5nm,0.9s								
SCM	**Sheep Creek Mo**	81.97	21	*e*P	P	05 50 37.5	+1.2		
	14nm,1.2s								
TRF	**Thorofare Moun**	82.14	19	*e*P	P	05 50 37.7	+0.5		
	3.3nm,1.1s								
IM3	**Indian Mountai**	83.02	16	*e*P	P	05 50 41.7	+0.2		
MLY	**Manley**	83.15	17	*e*P	P	05 50 42.3	0.0		
	0.3nm,0.5s								
BALM	**Baldy**	83.27	23	*e*P	P	05 50 43.4	+0.3		
	7.7nm,0.8s								
WRH	**Wood River Hil**	83.55	19	*e*P	P	05 50 43.6	-0.7		
CCB	**Clear Creek Bu**	83.76	19	*e*P	P	05 50 44.6	-0.8		
	0.3nm,0.5s								
MDM	**Murphy Dome**	83.84	18	*e*P	P	05 50 46.0	+0.1		
	3.3nm,1.1s								
HDA	**Harding Lake**	83.86	19	*e*P	P	05 50 45.9	-0.1		
	6.6nm,1.2s								
IL1	**Eielson Array**	84.13	19	*e*P	P	05 50 47.5	+0.2		
ILAR	**Eielson Array**	84.13	19	P	P	05 50 46.3	-1.0		
	1.4nm,0.5s,baz=238,slow=5.0,SNR=34								
ILB	**Eielson Array**	84.13	19	*e*P	P	05 50 46.5	-0.8		
	2.1nm,0.6s								
EGAK	**Eagle**	86.01	20	*e*P	P	05 50 56.7	0.0		
	2.8nm,0.8s								
NV01	**Mina Array Sit**	86.80	50	*e*P	P	05 51 01.2	-0.3		
NVAR	**Mina Array Bea**	86.80	50	P	P	05 51 01.4	-0.1		
	1.3nm,0.8s,baz=222,slow=7.0,SNR=6.7								
MK32	**Makanchi Array**	93.39	317	*e*P	P	05 51 32.2	+0.2		
MKAR	**Makanchi Array**	93.39	317	P	P	05 51 32.2	+0.2		
	0.9nm,0.6s,baz=90,slow=6.9,SNR=6.1								
YKA	**Yellowknife Ar**	95.66	27	P	P	05 51 40.2	-1.7		
	0.3nm,0.6s,baz=258,slow=4.5,SNR=10								
YKB5	**Yellowknife Ar**	95.66	27	*e*P	P	05 51 41.1	-0.8		
TXAR	**Lajitas Array**	96.61	61	P	P	05 51 48.2	+1.0		
	0.2nm,0.7s,baz=218,slow=6.9,SNR=3.7								
ARA0	**ARCESS Array S**	116.59	345	*e*PKPdf	PKPdf	05 56 59.5	-0.5		
ARCES	**ARCESS Array B**	116.59	345	PKP	PKPdf	05 56 59.5	-0.5		
	2.3nm,1.0s,baz=63,slow=2.0,SNR=5.1								
GEA0	**GERESS Array S**	135.81	333	*e*PKPdf	PKiKP	05 57 38.5	-0.6		
KEST	**Kesra**	147.36	322	PKPbc	PKPbc	05 58 01.4	+0.6		
	2.3nm,0.9s,baz=42,slow=3.5,SNR=3.8								

*IDC **23** 05:38:38.1±0.8, 6.63S×148.62E, h0km, mb4.4/7, mb1 4.5/9, mb1mx4.1/33, mbtmp4.4/9, ML4.3/1, MS3.8/7, Ms1 3.8/7, ms1mx3.4/31, Error ellipse: s-maj=23.1km s-min=17.6km az=97.0*

*ISCJB **23** 05:38:43.7±0.5, 6.75S±0.06×148.46E±0.06, h46km, mb4.4/17, MS3.7/6, Error ellipse: s-maj=10.4km s-min=6.5km az=37.2*

*NEIC **23** 05:38:44.5±0.4, 6.72S×148.46E, h35km, mb4.4/15, Error ellipse: s-maj=10.4km s-min=7.3km az=118.0*

ISC 23 05:38:45.4±0.6, 6.75S±0.07×148.43E±0.09, h46km, n57, σ1ş46/62, mb4.4/17, MS3.7/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	2.93	205	*e*Pn	Pn	Pn	05 39 31.0	+1.4
PMG				*e*Sn	Sn	Sn	05 40 08.8	+5.3
PMG	**Port Moresby**	2.93	205	Pn	Pn	Pn	05 39 30.6	+1.0
	24nm,0.3s,baz=37,slow=4.5,SNR=18							
PMG				Sn	Sn	Sn	05 40 06.9	+3.5
	109nm,0.3s,baz=41,slow=19,SNR=20							
RABL	**Rabaul**	4.50	56	*e*Pn	Pn	Pn	05 39 52.5	+1.4
COEN	**Coen**	8.84	215	P	Pn	Pn	05 40 50.7	0.0
	baz=8.8,SNR=6.7							
COEN	**Coen**	8.84	215	*e*Pn	Pn	Pn	05 40 50.5	-0.1
COEN				*e*Sn	Sn	Sn	05 42 27.8	-1.2
QIS	**Mount Isa**	16.18	211	P	Pn	Pn	05 42 28.7	-1.0
	baz=16,SNR=8.2							
KDU	**Kakadu**	16.80	248	P	Pn	Pn	05 42 37.6	+0.1
	baz=17,SNR=11							
MTN	**Manton Dam**	18.08	249	P	Pn	Pn	05 42 53.8	+0.4
	baz=18,SNR=4.0							
MTN	**Manton Dam**	18.08	249	*e*P	Pn	Pn	05 42 53.9	+0.4
	8.1nm,0.9s							
EIDS	**Eidsvold**	18.69	172	*e*P	P	P	05 42 60.0	0.0
	7.1nm,0.7s							
WR1	**Warramunga Ar**	18.95	225	*e*P	P	P	05 43 02.4	-0.6
	8.7nm,0.6s							
WR1				*e*S	Sn	Sn	05 46 30.9	-4.5
WRA	**Warramunga Arr**	18.95	225	P	P	P	05 43 02.4	-0.6
	1.0nm,0.3s,baz=52,slow=11,SNR=26							
WRA				S	Sn	Sn	05 46 30.9	-4.5
	0.1nm,0.3s,baz=42,slow=23,SNR=4.4							
WRA				LR	LR	LR	05 51 46.2	
	comp=Z,242nm,20.5s,baz=50,slow=41							
KNRA	**Kununurra**	21.22	244	P	P	P	05 43 27.9	+0.3
	baz=21,SNR=8.7							
AS01	**Alice Springs**	21.83	218	*e*P	P	P	05 43 34.5	+0.4
AS31	**Alice Springs**	21.86	218	*e*P	P	P	05 43 34.8	+0.4
	9.1nm,0.8s							
ASAR	**Alice Springs**	21.86	218	P	P	P	05 43 34.6	+0.2
	18nm,0.8s,baz=55,slow=9.0,SNR=59							
ASAR				S	S	S	05 47 33.7	0.0
	3.8nm,0.9s,baz=38,slow=22,SNR=8.0							
ASAR				LR	LR	LR	05 52 41.9	
	comp=Z,274nm,19.1s,baz=52,slow=38							
DZM	**Mont Dzumac**	23.12	133	*e*P	P	P	05 43 46.4	-1.4
	13nm,0.9s							
DZM	**Mont Dzumac**	23.12	133	P	P	P	05 43 45.7	-2.1
	8.9nm,0.9s,baz=270,slow=6.1,SNR=3.6							
DZM				LR	LR	LR	05 50 41.6	
	comp=Z,256nm,21.4s,baz=14,slow=31							
ARMA	**Armidale**	23.74	173	*e*P	P	P	05 43 52.7	-1.0
	9.1nm,1.0s							
BATI	**Baumata**	24.73	260	P	P	P	05 44 04.6	+1.8
	53nm,0.6s,baz=134,slow=1.3,SNR=6.3							
FITZ	**Fitzroy Crossi**	24.92	241	P	P	P	05 44 04.7	+0.3
	baz=25,SNR=117							
FITZ	**Fitzroy Crossi**	24.92	241	*e*P	P	P	05 44 05.0	+0.6
	54nm,0.8s							
FITZ	**Fitzroy Crossi**	24.92	241	P	P	P	05 44 05.0	+0.6
	53nm,0.7s,baz=50,slow=7.8,SNR=79							
FITZ				LR	LR	LR	05 55 26.5	
	comp=Z,181nm,19.4s,baz=65,slow=40							
STKA	**Stephens Creek**	25.81	193	P	P	P	05 44 11.7	-0.6
	baz=26,SNR=4.9							
STKA	**Stephens Creek**	25.81	193	*e*P	P	P	05 44 13.6	+1.3
	1.3nm,0.7s							
STKA	**Stephens Creek**	25.81	193	P	P	P	05 44 12.1	-0.2
	4.9nm,0.7s,baz=12,slow=10.0,SNR=11							
STKA				LR	LR	LR	05 54 23.9	
	comp=Z,251nm,19.2s,baz=12,slow=36							
LUWI	**Luwuk**	26.21	281	*e*P	P	P	05 44 18.5	+2.3
	52nm,0.9s							
WRKA	**Warakurna**	26.50	224	P	P	P	05 44 17.7	-1.0
	baz=26,SNR=47							
HTT	**Hallett**	27.98	197	P	P	P	05 44 32.2	+0.3
	baz=28,SNR=5.1							
FORT	**Forrest**	30.60	216	*e*P	P	P	05 44 55.4	+0.2
	23nm,1.0s							
MEEK	**Meekatharra**	34.58	232	P	P	P	05 45 30.5	+0.4
	baz=35,SNR=7.5							
MORW	**Morawa**	37.76	230	*e*P	P	P	05 45 58.1	+0.9
	8.8nm,0.8s							
KLBR	**Kellerberrin**	37.84	225	P	P	P	05 45 57.9	0.0
	baz=38,SNR=7.1							
NWAO	**Narrogin (SRO)**	38.96	224	*e*P	P	P	05 46 08.0	+0.7
	17nm,1.1s							
NWAO	**Narrogin (SRO)**	38.96	224	P	P	P	05 46 07.3	+0.1
	5.3nm,0.7s,baz=38,slow=6.7,SNR=2.7							
KSRS	**Korea Array**	47.96	338	LR	LR		06 06 58.5	
	comp=Z,65nm,19.1s,baz=160,slow=36							
CASY	**Casey**	64.93	196	*e*P	P	P	05 49 19.9	0.0
	3.2nm,0.8s							
SONA0	**Songino Array**	65.75	330	*e*P	P	P	05 49 24.5	-1.2
SONM	**Songino Array**	65.75	330	P	P	P	05 49 24.5	-1.2
	0.2nm,0.5s,baz=131,slow=6.4,SNR=2.9							
SONM				LR	LR		06 19 12.8	
	comp=Z,64nm,18.7s,baz=70,slow=37							
VNDA	**Vanda**	71.09	177	*e*P	P	P	05 49 59.1	+0.6
VNDA	**Vanda**	71.09	177	P	P	P	05 49 58.2	-0.3
	0.4nm,0.3s,baz=314,slow=6.1,SNR=3.2							
MK01	**Makanchi Array**	78.96	320	*e*P	P	P	05 50 44.0	-0.4
MK32	**Makanchi Array**	78.97	320	*e*P	P	P	05 50 43.6	-0.9
MKAR	**Makanchi Array**	78.97	320	P	P	P	05 50 43.6	-0.9
	0.3nm,0.5s,baz=102,slow=7.1,SNR=3.9							
QSPA	**South Pole Qui**	83.23	180	*e*P	P	P	05 51 06.7	-0.2
	3.1nm,1.0s							
MCK	**McKinley**	84.34	23	*e*P	P	P	05 51 13.5	+1.1
	5.5nm,1.2s							
HOPE	**Hope Point**	119.06	177	*e*PKPdf	PKPdf	PKPdf	05 57 26.4	-2.8
PLCA	**Paso Flores**	120.72	146	*e*PKPdf	PKiKP	PKiKP	05 57 33.2	+0.2
PLCA	**Paso Flores**	120.72	146	PKP	PKiKP	PKiKP	05 57 33.0	0.0
	0.4nm,0.4s,baz=207,slow=2.3,SNR=3.3							
GEC2	**GERESS Array S**	123.32	326	*e*PKPdf	PKiKP	PKiKP	05 57 38.0	0.0
GERES	**GERESS Array B**	123.32	326	PKP	PKiKP	PKiKP	05 57 37.9	0.0
	0.8nm,0.5s,baz=60,slow=2.4,SNR=4.6							
TOA0	**Torodi Ar. Sit**	146.65	284	*e*PKPbc	PKPbc	PKPbc	05 58 23.6	+0.4
TORD	**Torodi Ar. Bea**	146.65	284	PKPbc	PKPbc	PKPbc	05 58 23.6	+0.4
	2.9nm,0.5s,baz=38,slow=3.5,SNR=19							
TOA1	**Torodi Ar. Sit**	146.65	284	*e*PKPdf	PKPbc	PKPbc	05 58 23.6	+0.4
BDFB	**Brasilia**	152.43	144	PKPbc	PKPbc	PKPbc	05 58 37.2	-0.5
	3.2nm,0.7s,baz=272,slow=4.3,SNR=6.9							
DBIC	**Dimbokro**	153.47	271	*e*PKPbc	PKiKP	PKiKP	05 58 40.4	+0.3
DBIC	**Dimbokro**	153.47	271	PKPbc	PKPbc	PKPbc	05 58 39.9	-0.1
	1.4nm,0.5s,baz=176,slow=2.9,SNR=4.4							

*SJA **23** 05:51:59.7±0.6, 23.32S×66.81W, h234km±7km, ML2.5, MW3.4*

*ISCJB **23** 05:52:02.2±1.1, 23.30S±0.06×66.93W±0.05, h211km±12km, Error ellipse: s-maj=10.4km s-min=6.4km az=20.7*

*GUC **23** 05:52:03.2±0.5, 23.17S×67.25W, h233km±6km, ML4.0*

ISC 23 05:52:00.6±2.4, 23.32S±0.07×66.87W±0.06, h223km±20km, n24, σ1ş14/38, 5C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	1.35	85	*i* P	P	Pn	05 52 35.6	-0.1
HJA				IAML			05 52 36.7	
	comp=Z,75nm,0.5s							
YJA	**Yavi**	1.69	48	*i* P	P	Pn	05 52 39.0	+0.4
YJA				IAML			05 52 40.1	
	comp=Z,7.8nm,0.2s							
YJA				*i* S	S	S	05 53 08.6	+0.6
SLA	**San Lorenzo**	1.87	138	*i* P	P	Pn	05 52 40.2	+0.4
SLA				IAML			05 52 41.5	
	comp=Z,58nm,0.6s							
LVC	**Limon Verde**	2.01	290	*e*P	P	Pn	05 52 42.6	+1.2
LVC				*e*S	S	S	05 53 12.7	-0.4
PB15	**IPOC Station P**	2.40	272	*i* P	P	Pn	05 52 46.2	+1.1
PB15				*i* S	S	S	05 53 20.1	+0.4
PB15	**IPOC Station P**	2.40	272	*e*P	P	Pn	05 52 46.2	+1.1
PB15				*e*S	S	S	05 53 19.5	-0.2
PB15				IAML			05 53 24.8	
	comp=E,711nm,0.2s							
PB06	**IPOC Station P**	2.57	283	*i* P	P	Pn	05 52 47.7	+0.8
PB06	**IPOC Station P**	2.57	283	ǁ *i* P	P	Pn	05 52 48.0	+1.1
PB06				*i* S	S	S	05 53 21.8	-1.0
PB06				IAML			05 53 23.9	
	comp=N,173nm,0.1s							
PB09	**IPOC Station P**	2.67	304	*e*P	P	Pn	05 52 49.4	+1.4
PB09				*e*S	S	S	05 53 23.8	-1.1
FSA	**Cafayete**	2.89	164	ǁ *i* P	P	Pn	05 52 50.8	+0.3
FSA				IAML			05 52 53.2	
	comp=Z,2.2nm,0.3s							
PB03	**IPOC Station P**	2.95	295	*i* P	P	Pn	05 52 51.7	+0.6
PB03				*i* S	S	S	05 53 30.2	-0.3
PB03	**IPOC Station P**	2.95	295	ǁ *i* P	P	Pn	05 52 52.1	+1.0
PB03				*i* S	S	S	05 53 29.1	-1.4
PB03				IAML			05 53 31.1	
	comp=E,232nm,0.1s							
GO02	**Mina Guanaco**	3.09	233	IAML			05 53 34.6	
	comp=N,225nm,0.1s							
PB05	**IPOC Station P**	3.11	278	*i* P	P	Pn	05 52 53.7	+0.8
PB05	**IPOC Station P**	3.11	278	*e*P	Pn	Pn	05 52 53.7	+0.8
PB05				*e*S	S	S	05 53 32.1	-1.5
PB04	**IPOC Station P**	3.18	287	*i* P	P	Pn	05 52 54.6	+0.8
PB04	**IPOC Station P**	3.18	287	ǁ *i* P	P	Pn	05 52 54.8	+1.0
PB04				*i* S	S	S	05 53 34.5	-0.8
PB04				IAML			05 53 36.1	
	comp=N,166nm,0.1s							
PB07	**IPOC Station P**	3.21	299	*i* P	P	Pn	05 52 54.8	+0.6
PB07	**IPOC Station P**	3.21	299	ǁ *i* P	P	Pn	05 52 55.1	+1.0
PB07				*i* S	S	S	05 53 34.0	-1.9
PB07				IAML			05 53 34.9	
	comp=N,350nm,0.3s							
PB01	**IPOC Station P**	3.32	313	*e*P	P	Pn	05 52 56.4	+1.1
PB01				*i* S	S	S	05 53 36.3	-1.8
PB01				IAML			05 53 39.3	
	comp=E,115nm,0.1s							
PB10	**IPOC Station P**	3.39	266	*i* P	P	Pn	05 52 57.0	+1.0
PB02	**IPOC Station P**	3.44	305	ǁ *i* P	P	Pn	05 52 57.4	+0.6
PB02				*i* S	S	S	05 53 38.6	-2.0
PB02				IAML			05 53 40.4	
	comp=E,156nm,0.2s							
PB08	**IPOC Station P**	3.81	326	*e*P	P	Pn	05 53 03.6	+2.2
PB08				*e*S	S	S	05 53 49.3	+0.1
PB08				IAML			05 53 55.5	
	comp=N,44nm,0.2s							
PB11	**IPOC Station P**	4.39	323	*e*P	P	Pn	05 53 08.7	+0.3
PB11				*e*S	S	S	05 53 59.3	-2.2
PB11				IAML			05 54 00.9	
	comp=E,106nm,0.1s							

*IDC **23** 05:56:01.0±0.5, 17.61S×13.96W, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.2/33, mbtmp4.3/21, MS4.2/24, Ms1 4.2/24, ms1mx4.1/31, Error ellipse: s-maj=16.8km s-min=12.0km az=166.0*

*ISCJB **23** 05:56:02.4±0.2, 17.61S±0.05×13.84W±0.04, h14km, mb4.5/52, MS4.3/24, Error ellipse: s-maj=8.4km s-min=5.1km az=153.9*

*NEIC **23** 05:56:03.1±0.2, 17.58S×13.88W, h10km, mb4.7/30, Error ellipse: s-maj=9.3km s-min=6.3km az=162.0*

ISC 23 05:56:04.1±0.3, 17.59S±0.08×13.86W±0.06, h14km, n133, σ1ş28/110, mb4.6/53, MS4.3/25, 1C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	7.94	79	*e*Pn	Pn	Pn	05 57 57.8	-1.5
H10S2	**ASCENSION HYDR**	8.61	355	T	T		06 07 01.3	
	baz=176,slow=74,SNR=152							
H10S3	**ASCENSION HYDR**	8.62	355	T	T		06 06 59.3	
	baz=176,slow=74,SNR=128							
H10S1	**ASCENSION HYDR**	8.63	355	T	T		06 07 02.6	
	baz=176,slow=74,SNR=160							
H10N1	**ASCENSION HYDR**	9.71	356	T	T		06 08 17.4	
	baz=179,slow=77							
H10N3	**ASCENSION HYDR**	9.71	356	T	T		06 08 22.5	
	baz=179,slow=77							
H10N2	**ASCENSION HYDR**	9.72	356	T	T		06 08 18.6	
	baz=179,slow=77							
RCBR	**Riachuelo**	24.51	296	*e*P	P		06 01 22.9	-0.4
RCBR	**Riachuelo**	24.51	296	*e*P	P		06 01 24.4	+1.1
LIC	**Lamto**	25.22	21	*e*PKP2	P		06 01 34.1	+4.4
	90nm,1.5s							
KIC	**Kosan Boka**	25.45	22	*e*PKP2	P		06 01 32.9	+1.1
	40nm,1.2s							
TIC	**Toumodi**	25.62	21	*e*PKP2	P		06 01 33.9	+0.6
DBIC	**Dimbokro**	25.70	21	P	P		06 01 33.4	-0.6
	3.4nm,0.9s,baz=188,slow=14,SNR=2.7							
DBIC				LR	LR		06 09 49.5	
	comp=Z,476nm,18.1s,baz=173,slow=32							
DBIC	**Dimbokro**	25.70	21	*e*P	P		06 01 38.6	+4.6
SJMB	**Sao Joao De Ma**	25.98	263	*e*P	P		06 01 36.8	+0.2
MCI8	**Montes Claros**	28.73	267	*e*P	P		06 02 02.1	+0.7
ESAR	**Angra dos Reis**	29.15	254	*e*P	P		06 02 06.1	+1.1
JANB	**Januaria**	29.32	270	*e*P	P		06 02 06.7	+0.1
BSCB	**Bom Sucesso**	29.35	258	*e*P	P		06 02 09.3	+2.4
TSUM	**Tsumeb**	29.86	98	*e*P	P		06 02 11.1	-0.5
	4.3nm,0.9s							
TSUM	**Tsumeb**	29.86	98	P	P		06 02 10.4	-1.1
	1.7nm,0.8s,baz=266,slow=13,SNR=3.6							
TSUM				LR	LR		06 11 43.9	
	comp=Z,834nm,21.9s,baz=306,slow=32							
PMNB	**Patos De Minas**	30.96	263	*e*P	P		06 02 21.4	+0.1
SPB	**Sao Paulo**	31.94	254	*e*P	P		06 02 30.7	+1.0
BDFB	**Brasilia**	32.76	268	P	P		06 02 36.5	-0.6
	2.3nm,0.8s,baz=140,slow=13,SNR=3.8							
BDFB				LR	LR		06 13 18.5	
	comp=Z,1μm,21.2s,baz=96,slow=32							
BB19B	**Bebedouro**	32.86	259	*e*P	P		06 02 38.6	+0.8
PEXB	**Peixe**	33.70	275	*e*P	P		06 02 46.3	+1.1
FRTB	**Fartura**	33.88	254	*e*P	P		06 02 46.9	+0.3
TOA0	**Torodi Ar. Sit**	34.19	28	*e*P	P		06 02 50.8	+1.5
	9.4nm,1.1s							
TORD	**Torodi Ar. Bea**	34.19	28	P	P		06 02 49.8	+0.5
	3.7nm,0.9s,baz=216,slow=7.6,SNR=8.9							
TORD				LR	LR		06 14 09.7	
	comp=Z,689nm,21.4s,baz=275,slow=32							
TOA1	**Torodi Ar. Sit**	34.19	28	*e*P	P		06 02 49.8	+0.4
SUR	**Sutherland**	34.53	122	*e*P	P		06 02 53.1	+0.7
	13nm,1.1s							
SUR	**Sutherland**	34.53	122	P	P		06 02 52.6	+0.2
	8.9nm,1.1s,baz=285,slow=12,SNR=2.6							
ITRB	**Iturama**	34.60	261	*e*P	P		06 02 53.2	+0.2
PTGB	**Pitanga**	36.24	252	*e*P	P		06 03 07.5	+0.4
LBTB	**Lobatse**	37.40	108	*e*P	P		06 03 16.6	-0.5
	7.1nm,0.9s							
LBTB	**Lobatse**	37.40	108	P	P		06 03 16.5	-0.5
	5.4nm,0.8s,baz=260,slow=8.8,SNR=4.2							
BOSA	**Boshof**	37.46	114	*e*P	P		06 03 18.8	+1.3
	3.8nm,0.8s							
BOSA	**Boshof**	37.46	114	P	P		06 03 18.4	+0.9
	5.7nm,0.9s,baz=275,slow=12,SNR=4.2							
BOSA				LR	LR		06 16 35.1	
	comp=Z,500nm,18.8s,baz=268,slow=33							
BOSA	**Boshof**	37.46	114	*e*P	P		06 03 18.0	+0.5
AQDB	**Aquidauana**	39.58	259	*e*P	P		06 03 34.7	-0.6
MATP	**Matopo**	40.07	101	P	P		06 03 38.7	-0.9
	10nm,1.0s,baz=266,slow=8.8,SNR=8.2							
LSZ	**Lusaka**	40.34	93	*e*P	P		06 03 43.2	+1.5
	17nm,1.1s							
LSZ	**Lusaka**	40.34	93	P	P		06 03 42.0	+0.2
	5.7nm,0.7s,baz=239,slow=7.8,SNR=8.2							
CPUP	**Villa Florida**	41.08	250	*e*P	P		06 03 47.4	-0.3
	5.7nm,1.1s							
CPUP	**Villa Florida**	41.08	250	P	P		06 03 46.7	-1.0
	7.0nm,1.1s,baz=83,slow=9.1,SNR=7.8							
CPUP				LR	LR		06 18 60.0	
	comp=Z,316nm,18.4s,baz=102,slow=34							
CPUP	**Villa Florida**	41.08	250	*e*P	P		06 03 47.9	+0.3
SIV	**San Ignacio**	45.14	265	P	P		06 04 18.4	-2.3
	9.5nm,1.1s,baz=96,slow=10,SNR=12							
TRQA	**Tornquist**	46.60	234	*e*P	P		06 04 31.3	-0.7
	7.4nm,1.0s							
PTGA	**Pitinga**	48.31	285	*e*P	P		06 04 45.5	0.0
	18nm,1.1s							
PTGA

AK11	**Malin Array Si**	**77.77**	**26**	*e*P	**P**	**06 07 59.4**	**-1.2**
KiEV	**Kiev**	**77.80**	**26**	*e*P	**P**	**06 08 01.9**	**+1.1**
	8.8nm,1.1s						
AKASG	**Malin Array Be**	**77.81**	**26**	P	**P**	**06 07 59.5**	**-1.3**
	2.1nm,0.6s,baz=224,slow=5.5,SNR=7.3						
AKASG				LR	LR	06 44 46.0	
	comp=Z,43nm,18.2s,baz=255,slow=38						
AKBB	**Malin Array Si**	**77.81**	**26**	*e*P	**P**	**06 08 00.3**	**-0.5**
	9.0nm,1.1s						
HRV	**Adam Dziewonsk**	**79.94**	**321**	*e*P	**P**	**06 08 12.8**	**+0.1**
	35nm,1.1s						
NOA	**NORSAR Array B**	**80.91**	**12**	LR	LR	06 44 32.0	
	comp=Z,50nm,20.1s,baz=210,slow=36						
LONY	**Lake Ozonia**	**82.94**	**321**	*e*P	**P**	**06 08 30.5**	**+1.8**
	5.7nm,1.0s						
TRQ	**Mont Tremblant**	**83.80**	**322**	*e*P	**P**	**06 08 32.7**	**-0.4**
OBN	**Obninsk**	**84.07**	**26**	LR	LR	06 48 18.9	
	comp=Z,16nm,18.1s,baz=66,slow=37						
SBA	**Scott Base**	**84.75**	**180**	*e*P	**P**	**06 08 38.8**	**+1.4**
	6.0nm,1.0s						
FIA0	**FINESS Array S**	**84.95**	**18**	*e*P	**P**	**06 08 38.3**	**-0.2**
FINES	**FINESS Array B**	**84.95**	**18**	P	**P**	**06 08 38.3**	**-0.2**
	1.1nm,0.8s,baz=235,slow=4.9,SNR=3.3						
FINES				LR	LR	06 46 24.4	
	comp=Z,82nm,19.4s,baz=207,slow=36						
SCHQ	**Schefferville**	**84.99**	**332**	LR	LR	06 38 37.4	
	comp=Z,178nm,20.1s,baz=118,slow=30						
VNDA	**Vanda**	**85.05**	**179**	P	**P**	**06 08 37.8**	**-1.2**
	2.6nm,1.1s,baz=233,slow=4.9,SNR=3.2						
GEYT	**Alibeck**	**87.16**	**49**	LR	LR	06 45 32.8	
	comp=Z,166nm,21.5s,baz=55,slow=34						
CCM	**Cathedral Cave**	**91.14**	**310**	*e*P	**P**	**06 09 07.9**	**-0.9**
	9.3nm,1.1s						
ARCES	**ARCESS Array B**	**91.25**	**13**	LR	LR	06 51 14.8	
	comp=Z,102nm,19.5s,baz=330,slow=36						
AKTO	**Aktyubinsk**	**92.36**	**37**	LR	LR	06 51 59.1	
	comp=Z,75nm,20.6s,baz=222,slow=36						
HHAR	**Hobbs**	**92.53**	**307**	*e*P	**P**	**06 09 16.0**	**+0.7**
	3.0nm,1.0s						
ULM	**Lac du Bonnet**	**98.35**	**320**	LR	LR	06 47 54.1	
	comp=Z,84nm,18.2s,baz=144,slow=32						
KSH	**Kashi**	**100.85**	**52**	*e*P	**Pdif**	**06 09 52.5**	**-0.5**
WMQ	**Urumqi**	**110.22**	**49**	*e*PKP	**PKiKP**	**06 14 36.0**	**+0.2**
WMQ				LR	LR		
	comp=N,200nm,27.5s						
TBI	**Tubuai**	**120.53**	**228**	*e*LR	LR	06 51 57.4	
	comp=Z,272nm,36.0s						
SONA0	**Songino Array**	**123.08**	**44**	*e*PKPdf	**PKPdf**	**06 15 00.3**	**-0.1**
SONM	**Songino Array**	**123.08**	**44**	PKP	**PKPdf**	**06 15 00.3**	**-0.1**
	0.1nm,0.3s,baz=246,slow=2.5,SNR=2.7						
ILAR	**Eielson Array**	**123.39**	**338**	PKP	**PKPdf**	**06 14 58.8**	**-1.6**
	0.7nm,1.0s,baz=8.5,slow=1.8,SNR=5.5						
PPT2	**Papeete2**	**124.13**	**234**	*e*LR	LR	06 53 38.7	
	comp=Z,144nm,23.8s						
FITZ	**Fitzroy Crossi**	**126.66**	**130**	*e*PKPdf	**PKPdf**	**06 15 08.0**	**0.0**
FITZ	**Fitzroy Crossi**	**126.66**	**130**	PKP	**PKPdf**	**06 15 07.5**	**-0.5**
	2.2nm,0.9s,baz=201,slow=22,SNR=3.6						
HHC	**Hu-ho-hao-te**	**127.96**	**52**	*e*PKP	**PKiKP**	**06 15 12.3**	**+1.7**
ASAR	**Alice Springs**	**128.31**	**141**	PKP	**PKPdf**	**06 15 09.3**	**-1.8**
	0.5nm,0.8s,baz=192,slow=2.1,SNR=4.5						
AS01	**Alice Springs**	**128.34**	**141**	*e*PKPdf	**PKPdf**	**06 15 10.8**	**-0.4**
WR1	**Warramunga Arr**	**131.36**	**139**	*e*PKPdf	**PKPdf**	**06 15 14.7**	**-2.3**
WRA	**Warramunga Arr**	**131.36**	**139**	PKP	**PKPdf**	**06 15 14.7**	**-2.3**
	0.8nm,0.9s,baz=252,slow=2.3,SNR=4.9						
NJ2	**Nanjing**	**135.08**	**62**	*e*PKP	**PKPdf**	**06 15 22.3**	**-1.2**
MAJO	**Matsushiro**	**148.95**	**47**	*e*pPKPdf	pPKPdf	06 15 50.3	-1.2
MJAR	**Matsushiro Arr**	**148.95**	**47**	PKPbc	**PKPbc**	**06 15 50.3**	**-1.8**
	4.3nm,1.1s,baz=281,slow=3.3,SNR=4.4						

*IDC **23** 06:04:49.2±1.4,6°.64S×148°.40E,h0km,mb4.0/4, mb1 4.1/6,mb1mx3.7/30,mbtmp3.9/6,ML3.9/1,MS3.6/6, Ms1 3.5/6,ms1mx3.2/33,Error ellipse: s-maj=55.3km s-min=21.5km az=117.0*

*ISCJB **23** 06:04:54.1±0.6,6°.48S±0°.07×148°.07E±0°.09,h51km, mb3.8/2,MS3.4/6,Error ellipse: s-maj=14.1km s-min=8.4km az=32.4*

*NEIC **23** 06:04:54.9±0.6,6°.53S×148°.14E,h35km,mb4.4/8,Error ellipse: s-maj=13.4km s-min=8.9km az=146.0*

ISC 23 06:04:55.9±0.7,6°.55S±0°.09×148°.21E±0°.09,h51km,n26, σ1§21/26,MS3.3/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.02**	**200**	Pn	**Pn**	**06 05 39.9**	**-1.4**
	18nm,0.3s,baz=4.4,slow=13,SNR=26						
PMG				Sn	**Sn**	**06 06 17.7**	**+1.5**
	16nm,0.3s,baz=43,slow=16,SNR=6.7						
RABL	**Rabaul**	**4.58**	**59**	*e*Pn	**Pn**	**06 06 02.9**	**+0.1**
COEN	**Coen**	**8.87**	**214**	*e*Pn	**Pn**	**06 07 01.1**	**-0.4**
HNR	**Honiara**	**11.97**	**105**	*e*Pn	**Pn**	**06 07 41.8**	**-2.2**
WB2	**Warramunga Arr**	**18.93**	**224**	*e*P	**P**	**06 09 12.8**	**0.0**
	8.7nm,1.1s						
WR1	**Warramunga Arr**	**18.94**	**224**	*e*P	**P**	**06 09 11.9**	**-0.9**
	3.4nm,0.8s						
WR1				*e*S	**S**	**06 12 46.2**	**+0.7**
WRA	**Warramunga Arr**	**18.94**	**224**	P	**P**	**06 09 11.9**	**-0.9**
	0.4nm,0.3s,baz=51,slow=11,SNR=17						
WRA				S	**S**	**06 12 46.2**	**+0.7**
	baz=46,slow=21,SNR=11						
GUMO	**Guam**	**20.28**	**351**	LR	LR	06 17 37.2	
	comp=Z,95nm,18.1s,baz=112,slow=38						
AS01	**Alice Springs**	**21.85**	**217**	*e*P	**P**	**06 09 44.1**	**-0.3**
AS31	**Alice Springs**	**21.88**	**217**	*e*P	**P**	**06 09 44.3**	**-0.3**
	2.2nm,0.6s						
ASAR	**Alice Springs**	**21.88**	**217**	P	**P**	**06 09 44.3**	**-0.4**
	2.7nm,0.5s,baz=54,slow=9.5,SNR=64						
ASAR				S	**S**	**06 13 44.0**	**+0.2**
	0.9nm,1.1s,baz=33,slow=22,SNR=3.9						
DZM	**Mont Dzumac**	**23.41**	**133**	LR	LR	06 17 00.5	
	comp=Z,240nm,20.2s,baz=16,slow=32						
FITZ	**Fitzroy Crossi**	**24.82**	**240**	*e*P	**P**	**06 10 14.5**	**+1.0**
	8.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.82**	**240**	P	**P**	**06 10 14.3**	**+0.8**
	8.2nm,0.6s,baz=48,slow=9.7,SNR=33						
FITZ				LR	LR	06 21 34.6	
	comp=Z,83nm,18.3s,baz=69,slow=40						
STKA	**Stephens Creek**	**25.94**	**193**	*e*P	**P**	**06 10 23.1**	**-0.5**
	0.7nm,1.1s						
STKA	**Stephens Creek**	**25.94**	**193**	P	**P**	**06 10 22.9**	**-0.7**
	2.5nm,0.9s,baz=354,slow=10,SNR=4.2						
STKA				LR	LR	06 21 15.9	
	comp=Z,94nm,18.3s,baz=6.7,slow=38						
LUWI	**Luwuk**	**25.96**	**281**	*e*P	**P**	**06 10 23.1**	**-0.8**
	57nm,0.5s						
NWAO	**Narrogin (SRO)**	**38.94**	**224**	LR	LR	06 30 19.7	
	comp=Z,194nm,21.2s,baz=72,slow=39						
THZ	**Tophouse**	**41.36**	**152**	*e*P	**P**	**06 12 39.1**	**+2.0**
	28nm,0.5s						
LTZ	**Lake Taylor**	**41.87**	**153**	*e*P	**P**	**06 12 44.7**	**+3.5**
	11nm,0.6s						
MQZ	**McQueen's Vall**	**42.78**	**154**	*e*P	**P**	**06 12 49.4**	**+0.9**
	15nm,1.1s						
KSRS	**Korea Array**	**47.70**	**338**	LR	LR	06 33 17.5	
	comp=Z,29nm,18.6s,baz=155,slow=36						
SHL	**Shillong**	**63.33**	**303**	*e*P	**P**	**06 15 19.5**	**-0.8**
	17nm,0.3s						
ILAR	**Eielson Array**	**85.52**	**23**	P	**P**	**06 17 28.3**	**+0.2**
	0.2nm,0.8s,baz=258,slow=4.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**146.39**	**284**	PKPbc	**PKPab**	**06 24 33.8**	**+0.5**
	0.7nm,0.5s,baz=72,slow=3.1,SNR=6.7						
TOA1	**Torodi Ar. Sit**	**146.39**	**284**	*e*PKPdf	**PKPab**	**06 24 33.8**	**+0.5**

*ISCJB **23** 06:37:05.3±0.5,57°.31S±0°.08×25°.9W±0°.2,h65km, mb4.2/16,Error ellipse: s-maj=17.2km s-min=7.4km az=149.5*

*IDC **23** 06:37:06.6±2.9,57°.29S×25°.92W,h61km±23km,mb3.9/9, mb1 4.0/9,mb1mx3.8/24,mbtmp4.1/9,Error ellipse: s-maj=29.5km s-min=18.7km az=54.0*

*NEIC **23** 06:37:09.3±1.2,57°.32S×25°.92W,h83km±10km,mb4.2/10, Error ellipse: s-maj=12.2km s-min=6.1km az=55.0*

ISC 23 06:37:07.0±0.4,57°.31S±0°.10×25°.8W±0°.1,h65km,n87, σ0§74/90,mb4.2/16,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.76**	**292**	*e*Pn	**Pn**	**06 38 46.7**	**+3.2**
VNA1	**Neumayer--Stat**	**15.33**	**158**	P	**Pn**	**06 40 38.6**	**-0.5**
VNA3	**Neumayer Olymp**	**15.54**	**160**	P	**Pn**	**06 40 40.5**	**-1.3**
VNA2	**Neumayer--Watz**	**15.73**	**158**	P	**Pn**	**06 40 43.6**	**-0.6**
	baz=320,slow=14						
SNAA	**Sanae**	**17.27**	**155**	P	**P**	**06 41 05.2**	**+1.1**
SNAA	**Sanae**	**17.27**	**155**	*e*Pn	**Pn**	**06 41 03.8**	**+0.3**
	2.0nm,0.8s						
GO09	**Cerro Castillo**	**27.39**	**263**	*e*P	**P**	**06 42 45.2**	**-0.8**
	7.1nm,1.0s						
QSPA	**South Pole Qui**	**32.94**	**180**	*e*P	**P**	**06 43 34.9**	**-0.1**
	5.7nm,0.6s						
CPUP	**Villa Florida**	**38.23**	**311**	P	**P**	**06 44 19.2**	**-1.3**
	1.0nm,0.6s,baz=136,slow=5.7,SNR=4.4						
CPUP				PcP	**PcP**	**06 46 33.0**	**-0.5**
	1.0nm,0.6s,baz=153,slow=4.5,SNR=3.7						
CFA	**Coronel Fontan**	**38.78**	**293**	P	**P**	**06 44 23.7**	**-1.4**
	1.0nm,0.5s,baz=185,slow=5.7,SNR=3.6						
CFA				PcP	**PcP**	**06 46 34.7**	**-0.6**
	1.0nm,0.4s,baz=130,slow=3.2,SNR=3.8						
BDFB	**Brasilia**	**44.85**	**329**	*e*P	**P**	**06 45 15.9**	**+1.1**
	1.9nm,0.8s						
BDFB	**Brasilia**	**44.85**	**329**	P	**P**	**06 45 15.1**	**+0.3**
	1.6nm,0.5s,baz=170,slow=5.8,SNR=5.5						
SBA	**Scott Base**	**44.88**	**184**	*e*P	**P**	**06 45 15.6**	**+1.4**
VNDA	**Vanda**	**45.35**	**182**	*e*P	**P**	**06 45 18.5**	**+0.6**
	2.2nm,0.6s						
VNDA	**Vanda**	**45.35**	**182**	P	**P**	**06 45 18.1**	**+0.2**
	2.5nm,0.7s,baz=188,slow=7.2,SNR=13						
LVC	**Limon Verde**	**46.61**	**300**	P	**P**	**06 45 27.6**	**-1.4**
	1.2nm,0.3s,baz=157,slow=7.7,SNR=2.8						
H10S2	**ASCENSION HYDR**	**49.00**	**15**	T	T	07 39 31.0	
	baz=188,slow=75,SNR=20						
H10S3	**ASCENSION HYDR**	**49.00**	**15**	T	T	07 39 32.1	
	baz=188,slow=75,SNR=21						
SIV	**San Ignacio**	**49.01**	**313**	P	**P**	**06 45 45.8**	**-1.4**
	0.8nm,0.5s,baz=190,slow=9.8,SNR=11						
SIV				PcP	**PcP**	**06 47 10.4**	**+0.2**
	0.2nm,0.4s,baz=76,slow=4.7,SNR=3.7						
H10S1	**ASCENSION HYDR**	**49.02**	**15**	T	T	07 39 34.0	
	baz=188,slow=75,SNR=19						
GO01	**Chusmiza**	**49.28**	**301**	*e*P	**P**	**06 45 48.5**	**-1.1**
	3.3nm,0.9s						
MNMC	**Minye Minye**	**49.93**	**301**	*e*P	**P**	**06 45 53.8**	**-0.6**
	4.8nm,0.9s						
H10N1	**ASCENSION HYDR**	**50.12**	**15**	T	T	07 40 56.7	
	baz=186,slow=75						
H10N3	**ASCENSION HYDR**	**50.12**	**15**	T	T	07 40 56.8	
	baz=186,slow=75						
H10N2	**ASCENSION HYDR**	**50.13**	**15**	T	T	07 40 55.5	
	baz=186,slow=75						
LPAZ	**La Paz**	**51.74**	**304**	P	**P**	**06 46 07.9**	**-0.6**
	3.1nm,0.5s,baz=156,slow=5.2,SNR=23						
LPAZ				PcP	**PcP**	**06 47 21.1**	**+0.1**
	0.5nm,0.5s,baz=122,slow=2.7,SNR=2.5						
CASY	**Casey**	**52.45**	**159**	*e*P	**P**	**06 46 12.5**	**+0.1**
	2.2nm,1.0s						
TOA0	**Torodi Ar. Sit**	**73.78**	**28**	*e*P	**P**	**06 48 35.0**	**+0.9**
	2.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**73.78**	**28**	P	**P**	**06 48 34.1**	**0.0**
	1.2nm,0.6s,baz=202,slow=6.3,SNR=13						
TORD				pP	**pP**	**06 48 51.7**	**+1.1**
	1.4nm,0.8s,baz=205,slow=5.2,SNR=5.5						
TOA1	**Torodi Ar. Sit**	**73.79**	**28**	*e*P	**P**	**06 48 34.1**	**0.0**
TOA1				*e*pP	**pP**	**06 48 51.7**	**+1.1**
NWAO	**Narrogin (SRO)**	**84.84**	**149**	*e*P	**P**	**06 49 35.1**	**+0.8**
	14nm,1.1s						
ASAR	**Alice Springs**	**97.55**	**161**	P	**P**	**06 50 33.1**	**-0.9**
	0.6nm,1.0s,baz=179,slow=5.5,SNR=4.0						
RSSD	**Black Hills**	**120.22**	**305**	*e*PKPdf	**PKPdf**	**06 55 49.6**	**-0.3**
NLU	**North Lily Min**	**120.69**	**297**	*e*PKPdf	**PKiKP**	**06 55 51.5**	**+0.5**
PDAR	**Pinedale Array**	**121.67**	**301**	*e*PKPdf	**PKPdf**	**06 55 51.9**	**-0.8**
PDAR	**Pinedale Array**	**121.67**	**301**	PKP	**PKPdf**	**06 55 51.6**	**-1.2**
	0.2nm,0.8s,baz=134,slow=5.2,SNR=3.1						
ULM	**Lac du Bonnet**	**121.70**	**315**	*e*PKPdf	**PKPdf**	**06 55 51.3**	**-0.8**
AHID	**Auburn Hatcher**	**122.39**	**300**	*e*PKPdf	**PKPdf**	**06 55 52.9**	**-1.2**
NV01	**Mina Array Sit**	**122.60**	**291**	*e*PKPdf	**PKPdf**	**06 55 54.6**	**0.0**
NVAR	**Mina Array Bea**	**122.60**	**291**	PKP	**PKiKP**	**06 55 55.3**	**+0.5**
	0.3nm,0.5s,baz=134,slow=3.9,SNR=2.3						
REDW	**Red Top Meadow**	**122.74**	**300**	*e*PKPdf	**PKiKP**	**06 55 55.0**	**0.0**
LOHW	**Long Hollow**	**122.81**	**301**	*e*PKPdf	**PKPdf**	**06 55 54.7**	**-0.2**
TPAW	**Teton Pass**	**122.88**	**300**	*e*PKPdf	**PKiKP**	**06 55 55.5**	**+0.2**
MOOW	**Moose Ponds**	**122.98**	**301**	*e*PKPdf	**PKPdf**	**06 55 55.1**	**0.0**
FXWY	**Fox Creek**	**123.03**	**300**	*e*PKPdf	**PKPdf**	**06 55 55.4**	**+0.1**
FIA0	**FINESS Array S**	**125.13**	**28**	*e*PKPdf	**PKPdf**	**06 55 57.9**	**-0.5**
FINES	**FINESS Array B**	**125.13**	**28**	PKP	**PKPdf**	**06 55 57.9**	**-0.5**
	1.1nm,0.7s,baz=288,slow=1.8,SNR=7.9						
FIA1	**FINESS Array S**	**125.14**	**28**	*e*PKPdf	**PKPdf**	**06 55 58.4**	**0.0**
FCC	**Fort Churchill**	**127.76**	**322**	*e*PKPdf	**PKPdf**	**06 56 02.8**	**-0.7**
YKA	**Yellowknife Ar**	**137.63**	**316**	PKhKP	PKPpre	06 56 07.1	
	0.1nm,0.5s,baz=128,slow=3.3,SNR=7.4						
YKA				PKP	**PKPdf**	**06 56 21.5**	**-0.5**
	0.6nm,0.4s,baz=132,slow=2.0,SNR=9.8						
YKA				SKPbc	**SKPbc**	**06 59 48.5**	**-1.1**
	0.1nm,0.6s,baz=133,slow=3.9,SNR=4.6						
YKB5	**Yellowknife Ar**	**137.63**	**316**	*e*PKPdf	**PKPdf**	**06 56 21.6**	**-0.4**
HYT	**Haines Junctio**	**146.17**	**305**	*e*PKPdf	**PKPab**	**06 56 39.0**	**-0.4**
INK	**Inuvik**	**147.27**	**319**	*e*PKPbc	**PKPbc**	**06 56 41.1**	**-0.2**
INK	**Inuvik**	**147.27**	**319**	PKPbc	**PKPbc**	**06 56 40.9**	**-0.5**
	2.4nm,0.4s,baz=96,slow=1.2,SNR=36						
EPYK	**Eagle Plains**	**147.88**	**315**	*e*PKPbc	**PKPbc**	**06 56 42.9**	**-0.3**
DAWY	**Dawson**	**148.21**	**310**	*e*PKPbc	**PKPbc**	**06 56 43.3**	**-0.8**
MENT	**Mentasta**	**149.69**	**307**	*e*PKPbc	**PKPbc**	**06 56 48.1**	**+0.3**
SONA0	**Songino Array**	**150.01**	**88**	*e*PKPbc	**PKPbc**	**06 56 49.1**	**-0.1**
SONM	**Songino Array**	**150.01**	**88**	PKPbc	**PKPbc**	**06 56 49.1**	**-0.1**
	1.1nm,0.6s,baz=239,slow=3.4,SNR=3.4						
DOT	**Dot Lake**	**150.05**	**308**	*e*PKPdf	**PKPdf**	**06 56 44.2**	**+0.7**
DOT				*e*PKPbc	**PKiKP**	**06 56 49.2**	**-0.3**
SCRK	**Sand Creek**	**150.11**	**309**	*e*PKPbc	**PKPbc**	**06 56 49.3**	**+0.4**
KLU	**Klutina**	**150.20**	**303**	*e*PKPdf	**PKPdf**	**06 56 43.8**	**-0.1**
KLU				*e*PKPbc	**PKiKP**	**06 56 49.9**	**0.0**
RIDG	**Independ'e Rid**	**150.41**	**308**	*e*PKPbc	**PKiKP**	**06 56 50.3**	**0.0**
SCM	**Sheep Creek Mo**	**150.94**	**304**	*e*PKPbc	**PKiKP**	**06 56 51.0**	**-0.1**
FYU	**Fort Yukon**	**151.24**	**314**	*e*PKPbc	**PKiKP**	**06 56 52.1**	**+0.4**
KNK	**Knik Glacier**	**151.33**	**302**	*e*PKPbc	**PKPbc**	**06 56 52.0**	**+0.3**
SML	**Sawmill**	**151.39**	**303**	*e*PKPbc	**PKPbc**	**06 56 52.0**	**+0.1**
HDA	**Harding Lake**	**151.48**	**309**	*e*PKPbc	**PKiKP**	**06 56 52.3**	**-0.1**
IL1	**Eielson Array**	**151.53**	**310**	*e*PKPbc	**PKPbc**	**06 56 51.7**	**-0.4**
ILAR	**Eielson Array**	**151.53**	**310**	PKPbc	**PKPbc**	**06 56 51.9**	**-0.2**
	3.4nm,0.6s,baz=147,slow=4.9,SNR=62						
ILB	**Eielson Array**	**151.53**	**310**	*e*PKPbc	**PKPbc**	**06 56 51.9**	**-0.2**
GHO	**Glory Hole Cre**	**151.65**	**303**	*e*PKPbc	**PKPbc**	**06 56 52.7**	**+0.2**
RC01	**Rabbit Creek A**	**151.82**	**301**	*e*PKPbc	**PKiKP**	**06 56 53.2**	**+0.1**
CCB	**Clear Creek Bu**	**151.89**	**309**	*e*PKPbc	**PKPbc**	**06 56 52.5**	**-0.4**
BRLK	**Bradley Lake**	**151.94**	**298**	*e*PKPbc	**PKPbc**	**06 56 53.1**	**-0.1**
WRH	**Wood River Hil**	**151.97**	**309**	*e*PKPbc	**PKPbc**	**06 56 53.0**	**-0.1**
RND	**Reindeer**	**152.06**	**306**	*e*PKPbc	**PKiKP**	**06 56 53.9**	**+0.2**
KDAK	**Kodiak Island**	**152.06**	**294**	*e*PKPbc	**PKPbc**	**06 56 53.2**	**-0.2**
MDM	**Murphy Dome**	**152.13**	**310**	*e*PKPbc	**PKPbc**	**06 56 52.9**	**-0.6**
MCK	**McKinley**	**152.17**	**307**	*e*PKPbc	**PKiKP**	**06 56 53.8**	**0.0**
TRF	**Thorofare Moun**	**152.69**	**306**	*e*PKPbc	**PKPbc**	**06 56 54.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**153.13**	**307**	*e*PKPbc	**PKPbc**	**06 56 55.7**	**0.0**
TOLK	**Toolik Lake Re**	**153.15**	**318**	*e*PKPbc	**PKiKP**	**06 56 56.1**	**+0.3**
COLD	**Coldfoot**	**153.27**	**314**	*e*PKPbc	**PKiKP**	**06 56 56.7**	**+0.7**
PPLA	**Purkeypile**	**153.41**	**305**	*e*PKPbc	**PKPbc**	**06 56 56.3**	**-0.2**
IM3	**Indian Mountai**	**154.56**	**311**	*e*PKPbc	**PKiKP**	**06 56 59.1**	**+0.4**
TIXI	**Tiksi**	**162.18**	**26**	*e*PKPdf	**PKPdf**	**06 57 01.1**	**+2.0**

JMA 23 06:42:37.3±0.1,36°.90N×141°.08E,h51km±1km,M2.2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.30**	**312**	P	Pn	06 42 46.4	-0.2
ONAJ				S	Sn	06 42 52.8	-0.5
JFFD	**Fukushimafurud**	**0.46**	**295**	P	Pn	06 42 48.1	0.0
JFFD				S	Sn	06 42 55.3	-0.6
JFK	**Kawauchi**	**0.49**	**341**	P	Pn	06 42 48.3	-0.3
JFK				S	Sn	06 42 56.0	-0.7
JHO	**Hitachi**	**0.50**	**235**	P	Pn	06 42 48.4	-0.2
JHO				S	Sn	06 42 56.1	-0.7
JFT	**Otama**	**0.86**	**316**	P	Pn	06 42 53.9	+0.7
JMM	**Marumori**	**0.99**	**347**	P	Pn	06 42 54.8	-0.1
JMM				S	Sn	06 43 07.6	-0.3
MAT	**Matsushiro**	**2.34**	**262**	P	Pn	06 43 14.1	+0.8
MAT				*e*S	Sn	06 43 43.0	+2.2

*IDC **23** 06:51:13.9±0.7,6°.08N×126°.72E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.6/42,mbtmp3.8/9,Error ellipse: s-maj=44.5km s-min=16.0km az=70.0*

*ISCJB **23** 06:51:21.4±0.5,6°.02N±0°.07×126°.7E±0°.1,h71km,Error ellipse: s-maj=20.9km s-min=7.8km az=158.0*

*NEIC **23** 06:51:21.9±1.2,6°.06N×126°.73E,h60km±11km,mb4.2/7, Error ellipse: s-maj=19.0km s-min=6.8km az=66.0*

ISC 23 06:51:23.0±0.6,6°.06N±0°.09×126°.5E±0°.1,h71km,n35, σ1§31/31,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.39**	**316**	*e*Pn	**Pn**	**06 51 46.1**	**-0.5**
	117nm,0.3s,baz=80,slow=17,SNR=2.7						
KCP	**Kidapawan**	**1.72**	**303**	⇓*e*P	**Pn**	**06 51 47.6**	**-3.5**
TNTI	**Ternate**	**5.32**	**171**	*e*Pn	**Pn**	**06 52 39.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**24.02**	**182**	*e*P	**P**	**06 56 31.4**	**-0.1**
	2.3nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.02**	**182**	P	**P**	**06 56 31.3**	**-0.1**
	0.8nm,0.4s,baz=16,slow=9.4,SNR=14						
PMG	**Port Moresby**	**25.66**	**127**	*e*P	**P**	**06 56 44.9**	**-1.5**
	8.6nm,0.9s						
PMG	**Port Moresby**	**25.66**	**127**	P	**P**	**06 56 44.7**	**-1.7**
	4.3nm,0.4s,baz=270,slow=14,SNR=3.1						
WR1	**Warramunga Arr**	**26.95**	**164**	*e*P	**P**	**06 56 57.2**	**-0.9**
	3.6nm,1.1s						
WRA	**Warramunga Arr**	**26.95**	**164**	P	**P**	**06 56 57.2**	**-0.9**
	0.6nm,0.5s,baz=334,slow=11,SNR=3.8						
GSI	**Gununguitoli**	**29.28**	**262**	*e*P	**P**	**06 57 21.2**	**+2.3**
	21nm,1.1s						
ASAR	**Alice Springs**	**30.41**	**167**	P	**P**	**06 57 27.1**	**-1.7**
	0.2nm,0.4s,baz=347,slow=7.2,SNR=6.5						
ASAR				PcP	**PcP**	**07 00 28.6**	**+1.4**
	0.4nm,0.6s,baz=351,slow=2.9,SNR=7.8						
BBOO	**Buckleboo**	**39.70**	**167**	*e*P	**P**	**06 58 49.1**	**+0.6**
	9.7nm,1.1s						
NWAO	**Narrogin (SRO)**	**39.77**	**192**	*e*P	**P**	**06 58 49.0**	**-0.1**
H11S3	**WAKE ISLAND Hy**	**41.02**	**69**	T	T	07 42 49.2	
	baz=258,slow=75,SNR=68						
H11S1	**WAKE ISLAND Hy**	**41.04**	**69**	T	T	07 42 49.3	
	baz=258,slow=75,SNR=54						
H11S2	**WAKE ISLAND Hy**	**41.04**	**69**	T	T	07 42 47.2	
	baz=258,slow=75,SNR=88						
H11N1	**WAKE ISLAND Hy**	**41.48**	**67**	T	T	07 43 23.5	
	baz=255,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**41.49**	**67**	T	T	07 43 25.6	
	baz=255,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**41.50**	**67**	T	T	07 43 24.9	
	baz=255,slow=75,SNR=9.8						
SONA0	**Songino Array**	**45.05**	**341**	*e*P	**P**	**06 59 32.7**	**+0.8**
SONM	**Songino Array**	**45.05**	**341**	P	**P**	**06 59 32.7**	**+0.8**
	0.1nm,0.3s,baz=159,slow=7.6,SNR=3.2						
MK01	**Makanchi Array**	**55.54**	**324**	*e*P	**P**	**07 00 52.3**	**+1.3**
MK32	**Makanchi Array**	**55.55**	**324**	*e*P	**P**	**07 00 52.5**	**+1.3**
MK32				*e*PcP	**PcP**	**07 01 50.5**	**+0.2**
MKAR	**Makanchi Array**	**55.55**	**324

	20nm,0.8s						
AAK				Lg	Lg	07 01 34.2	
	19nm,0.8s						
AAK	**Ala-Archa**	**2.90**	**318**	⇑*i*P	**Pn**	**07 00 50.1**	**+0.8**
	baz=19						
AAK				⇑*i*S	**Sn**	**07 01 27.0**	**+2.7**
	baz=19						
DGS	**Degeres**	**2.91**	**340**	Pg	**Pb**	**07 00 54.3**	**-0.7**
	22nm,0.5s						
DGS				Lg	Lg	07 01 34.2	
	25nm,0.5s						
DGS	**Degeres**	**2.91**	**340**	*e*P	**Pb**	**07 00 54.8**	**-0.3**
	22nm,0.5s						
DGS				*e*S	**Sg**	**07 01 34.2**	**-2.2**
	25nm,0.5s						
UZB	**Uzynbulak**	**2.99**	**28**	Pg	**Pb**	**07 00 54.9**	**-1.6**
UZB				Lg	Lg	07 01 34.4	
UZB	**Uzynbulak**	**2.99**	**28**	*e*P	**Pb**	**07 00 54.9**	**-1.6**
UZB				*e*S	**Sb**	**07 01 34.4**	**+1.2**
AML	**Almayashu**	**3.04**	**303**	P	**Pn**	**07 00 52.2**	**+0.6**
	SNR=8.4						
AML	**Almayashu**	**3.04**	**303**	⇓*e*P	**Pn**	**07 00 52.1**	**+0.5**
	baz=5.0						
AML				⇓*i*S	**Sn**	**07 01 29.9**	**+1.6**
	baz=5.0						
CHMS	**Chumysh**	**3.05**	**325**	⇑*e*P	**Pn**	**07 00 51.7**	**+0.3**
	baz=26						
CHMS				⇑*i*S	**Sn**	**07 01 30.0**	**+2.1**
	baz=26						
KURS	**Kuram**	**3.08**	**14**	Pg	**Pb**	**07 00 56.6**	**-1.3**
	21nm,0.5s						
KURS				Lg	Lg	07 01 37.5	
	19nm,0.6s						
KURS	**Kuram**	**3.08**	**14**	*e*P	**Pb**	**07 00 56.6**	**-1.3**
	21nm,0.5s						
KURS				⇓*e*S	**Sb**	**07 01 37.5**	**+2.0**
	19nm,0.6s						
SHLS	**Shalkode**	**3.17**	**33**	Pg	**Pg**	**07 01 01.2**	**-2.6**
	9.0nm,0.4s						
SHLS				Lg	Lg	07 01 45.2	
	40nm,0.7s						
SHLS	**Shalkode**	**3.17**	**33**	*e*P	**Pg**	**07 01 01.2**	**-2.6**
	9.0nm,0.4s						
SHLS				*e*S	**Sg**	**07 01 45.2**	**+0.4**
	40nm,0.7s						
KTBS	**Karatobe**	**3.21**	**354**	Pg	**Pb**	**07 00 60.0**	**-0.2**
	23nm,0.6s						
KTBS				Lg	Lg	07 01 43.7	
	25nm,0.5s						
KTBS	**Karatobe**	**3.21**	**354**	*e*P	**Pb**	**07 01 00.2**	**0.0**
	23nm,0.6s						
KTBS				*e*S	**Sg**	**07 01 43.7**	**-2.5**
	25nm,0.5s						
EKS2	**Erkin-Say**	**3.30**	**312**	P	**Pn**	**07 00 56.0**	**+1.1**
	SNR=7.7						
PDGK	**Podgornoye**	**3.33**	**31**	Pg	**Pb**	**07 01 00.5**	**-1.7**
	5.9nm,0.4s						
PDGK				Lg	Lg	07 01 44.1	
	8.8nm,0.5s						
PDGK	**Podgornoye**	**3.33**	**31**	⇓Pn	**Pb**	**07 01 00.6**	**-1.6**
	7.9nm,0.5s						
PDGK				⇑Lg	Lg	07 01 50.3	
	20nm,0.6s						
USP	**Ospenovka**	**3.38**	**325**	P	**Pb**	**07 01 02.4**	**-0.6**
	SNR=13						
KUU	**Kurty**	**3.43**	**351**	Pg	**Pb**	**07 01 04.0**	**+0.1**
	4.3nm,0.3s						
KUU				Lg	Lg	07 01 50.1	
	11nm,0.5s						
KUU	**Kurty**	**3.43**	**351**	*e*P	**Pb**	**07 01 04.0**	**+0.1**
	4.3nm,0.3s						
KUU				⇓*i*S	**Sg**	**07 01 50.1**	**-3.0**
	11nm,0.5s						
MRKS	**Merke**	**3.67**	**309**	Pg	**Pb**	**07 01 08.6**	**+0.5**
	6.4nm,0.3s						
MRKS				Lg	Lg	07 01 58.1	
	7.5nm,0.5s						
MRKS	**Merke**	**3.67**	**309**	*e*P	**Pb**	**07 01 08.6**	**+0.5**
	6.4nm,0.3s						
MRKS				*e*S	**Sg**	**07 01 58.2**	**-2.7**
	7.5nm,0.5s						
MNBS	**Baschi**	**3.69**	**15**	Pg	**Pb**	**07 01 06.7**	**-1.6**
	3.0nm,0.4s						
MNBS				Lg	Lg	07 01 55.4	
	13nm,0.4s						
MNBS	**Baschi**	**3.69**	**15**	*e*P	**Pb**	**07 01 07.0**	**-1.4**
	3.0nm,0.4s						
MNBS				*e*S	**Sb**	**07 01 55.4**	**+2.2**
	13nm,0.4s						
ARXS	**Arharly**	**3.73**	**8**	Pg	**Pb**	**07 01 08.6**	**-0.6**
	8.1nm,0.6s						
ARXS				Lg	Lg	07 01 58.4	
	23nm,0.4s						
ARXS	**Arharly**	**3.73**	**8**	*e*P	**Pb**	**07 01 08.9**	**-0.2**
	8.1nm,0.6s						
ARXS				*e*S	**Sb**	**07 01 58.4**	**+3.9**
	23nm,0.4s						
KTMS	**Ketmen**	**3.79**	**38**	Pg	**Pb**	**07 01 08.9**	**-1.3**
	6.8nm,0.3s						
KTMS				Lg	Lg	07 01 58.9	
	12nm,0.5s						
KTMS	**Ketmen**	**3.79**	**38**	*e*P	**Pb**	**07 01 09.1**	**-1.1**
	6.8nm,0.3s						
KTMS				*e*S	**Sb**	**07 01 58.9**	**+2.7**
	12nm,0.5s						
DJR	**Jarkent**	**4.30**	**27**	Pg	**Pb**	**07 01 18.1**	**-0.7**
	0.8nm,0.4s						
DJR				Lg	Lg	07 02 14.4	
	3.2nm,0.6s						
DJR	**Jarkent**	**4.30**	**27**	*e*P	**Pb**	**07 01 18.1**	**-0.7**
	0.8nm,0.4s						
DJR				*e*S	**Sb**	**07 02 14.4**	**+3.7**
	3.2nm,0.6s						
KAPS	**Kapalarasan**	**5.04**	**18**	Pg	**Pb**	**07 01 32.2**	**+0.7**
	2.6nm,0.6s						
KAPS				Lg	Lg	07 02 38.6	
	4.6nm,0.9s						
KAPS	**Kapalarasan**	**5.04**	**18**	*e*P	**Pb**	**07 01 32.2**	**+0.7**
	2.6nm,0.6s						
KAPS				⇓*i*S	**Sb**	**07 02 38.6**	**+6.4**
	4.6nm,0.9s						
KK31	**Karatay Array**	**5.57**	**300**	⇓Pg	**Pb**	**07 01 42.2**	**+1.8**
	1.2nm,0.6s,baz=120,slow=16,SNR=6.0						
KK31				⇑Lg	Lg	07 02 58.3	
	1.6nm,0.6s,baz=122,slow=29,SNR=5.2						

IDC 23 07:18:28.8±10.0, **56°45S×27°36W, h148**km±88km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/20, **mbtmp3.8**/3, **Error ellipse: s-maj=42.4km s-min=26.6km az=74.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**46.17**	**183**	P	P	07 26 37.6	-0.1
	1.0nm,1.0s,baz=197,slow=7.3,SNR=3.9						
LPAZ	**La Paz**	**50.53**	**306**	P	P	07 27 12.4	-0.1
	1.6nm,0.5s,baz=133,slow=5.6,SNR=11						
LPAZ				PcP	PcP	07 28 28.3	-0.1
	0.5nm,0.5s,baz=213,slow=3.2,SNR=3.1						
TORD	**Torodi Ar. Bea**	**73.45**	**30**	P	P	07 29 44.8	+0.1
	0.3nm,0.4s,baz=204,slow=5.7,SNR=4.8						
YKA	**Yellowknife Ar**	**136.41**	**318**	PKP	PKPdf	07 37 30.6	-0.6
	0.3nm,0.5s,baz=126,slow=2.3,SNR=8.8						
INK	**Inuvik**	**146.05**	**320**	PKPbc	PKPdf	07 37 48.9	+0.6
	1.7nm,0.8s,baz=96,slow=2.5,SNR=11						
ILAR	**Eielson Array**	**150.31**	**311**	PKPbc	PKPbc	07 38 00.4	-0.4
	1.1nm,0.8s,baz=108,slow=2.0,SNR=13						
KDAK	**Kodiak Island**	**150.91**	**296**	PKPbc	PKPbc	07 38 02.0	-0.4
	12nm,1.1s,baz=104,slow=4.2,SNR=5.3						

*ISCJB **23** 08:00:10.0±0.7, 16°.08S×0°.10×73°.9W×0°.1, h54km, Error ellipse: s-maj=21.3km s-min=5.7km az=141.8*
*ARE **23** 08:00:11.0±0.0, 16°.00S×74°.02W, h55km*
*NEIC **23** 08:00:12.2±1.1, 16°.10S×74°.04W, h35km, ML4.2(ARE), Error ellipse: s-maj=27.1km s-min=11.8km az=55.0*
NEIC Felt [II] at Atico and Chala.
ISC 23 08:00:12.2±0.9, **16°13S**±0°.08×**73°.9W**±0°.1, **h54**km, **n11, σ2s34/19, 1C-1D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.99**	**325**	*e*Pn	**Pn**	**08 01 23.5**	**-1.1**
NNA				*e*Sn	**Sn**	**08 02 18.9**	**-2.1**
MNMC	**Minye Minye**	**5.11**	**126**	*e*Pn	**Pn**	**08 01 25.0**	**-1.5**
MNMC				*e*Sn	**Sn**	**08 02 24.8**	**+0.5**
PB11	**IPOC Station P**	**5.45**	**132**	*e*Pn	**Pn**	**08 01 30.2**	**-0.8**
PB11				*e*Sn	**Sn**	**08 02 28.6**	**-3.9**
LPAZ	**La Paz**	**5.58**	**92**	*e*Pn	**Pn**	**08 01 36.0**	**+2.7**
GO01	**Chusmiza**	**5.73**	**129**	*e*Pn	**Pn**	**08 01 35.6**	**+0.5**
GO01				*e*Sn	**Sn**	**08 02 38.3**	**-1.6**
PB01	**IPOC Station P**	**6.46**	**140**	*e*Pn	**Pn**	**08 01 45.9**	**+1.1**
PB01				*e*Sn	**Sn**	**08 02 53.1**	**-4.2**
PB04	**IPOC Station P**	**7.14**	**150**	*e*Pn	**Pn**	**08 01 55.5**	**+1.3**
PB04				*e*Sn	**Sn**	**08 03 09.8**	**-4.2**
LVC	**Limon Verde**	**8.01**	**144**	*e*Pn	**Pn**	**08 02 08.6**	**+2.3**
LVC				*e*Sn	**Sn**	**08 03 35.3**	**-0.4**
GO02	**Mina Guanaco**	**9.87**	**156**	*e*Pn	**Pn**	**08 02 33.7**	**+2.0**
GO02				*e*Sn	**Sn**	**08 04 21.3**	**+0.1**
SYO	**Syowa Base**	**83.15**	**161⇑**	*e*P	**P**	**08 12 34.0**	**+2.0**
SYO	**Syowa Base**	**83.15**	**161⇓**	*e*PcP	**PcP**	**08 12 38.0**	**+1.5**

*ISCJB **23** 08:16:07.1±0.5, 5°.12N±0°.03×75°.71W±0°.04, h126km±5km, mb3.1/2, Error ellipse: s-maj=6.6km s-min=4.4km az=33.2*
*RSNC **23** 08:16:08.7±1.0, 5°.08N×75°.69W, h109km±6km, ML3.2, Mw3.6*
*IDC **23** 08:16:09.4±2.3, 5°.16N×75°.62W, h134km±18km, mb3.0/2, mb1 3.1/2, mb1mx2.8/30, mbtmp3.4/2, Error ellipse: s-maj=51.0km s-min=36.5km az=23.0*
ISC 23 08:16:07.6±0.9, **5°11N**±0°.04×**75°74W**±0°.04, **h119**km±7km, **n26, σ1s02/42, 2C-3D, Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RREF	**El Recreo**	**0.44**	**118**	⇓*i*P	**Pn**	**08 16 25.5**	**-0.4**
RREF				*e*S	**Sn**	**08 16 38.5**	**-1.1**
RREF				*i*		08 16 40.6	
	comp=Z,287nm,0.3s						
HELC	**Santa Helena**	**1.09**	**11**	*i* P	**Pn**	**08 16 31.1**	**+0.2**
HELC				*e*S	**Sn**	**08 16 48.6**	**+0.1**
HELC				*i*		08 16 51.2	
	comp=N,311nm,0.5s						
YOTC	**Yotoco, Valle**	**1.27**	**208**	*e*P	**Pn**	**08 16 32.1**	**-0.5**
YOTC				*e*S	**Sn**	**08 16 50.5**	**-1.0**
YOTC				*i*		08 16 55.1	
	comp=E,270nm,0.2s						
ROSC	**El Rosal**	**1.44**	**101**	⇓*i*P	**Pn**	**08 16 35.8**	**+1.1**
ROSC				*e*S	**Sn**	**08 16 57.2**	**+2.1**
ROSC				*i*		08 17 00.0	
	comp=Z,56nm,0.3s						
ROSC	**El Rosal**	**1.44**	**101**	P	**Pn**	**08 16 35.8**	**+1.1**
	comp=Z,21nm,0.3s,baz=294,slow=20,SNR=38						
ROSC				S	**Sn**	**08 16 56.9**	**+1.7**
	comp=Z,11nm,0.3s,baz=315,slow=22,SNR=22						
PRAC	**Prado**	**1.63**	**149**	*e*P	**Pn**	**08 16 36.5**	**0.0**
PRAC				*i*		08 17 03.0	
	comp=Z,32nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.91**	**42**	⇓*i*P	**Pn**	**08 16 39.8**	**-0.1**
PTBC				*e*S	**Sn**	**08 17 03.5**	**-1.1**
PTBC				*i*		08 17 04.4	
	comp=N,348nm,0.4s						
MALC	**Bahia Malaga**	**1.93**	**236**	*e*P	**Pn**	**08 16 42.1**	**+1.9**
MALC				*i*		08 17 17.1	
	comp=N,270nm,0.3s						
DBBC	**Dabeiba**	**1.95**	**346**	*e*P	**Pn**	**08 16 42.1**	**+1.6**
DBBC				*i*		08 17 10.7	
	comp=Z,71nm,0.5s						
SOLC	**Bahia Solano**	**2.00**	**304**	*e*P	**Pn**	**08 16 41.3**	**+0.3**
CHIC	**Chingaza**	**2.06**	**103**	*e*P	**Pn**	**08 16 43.4**	**+1.3**
CHIC				*e*S	**Sn**	**08 17 07.9**	**-0.6**
CHIC				*i*		08 17 10.5	
	comp=N,79nm,0.7s						
VILC	**Villavicencio,**	**2.27**	**116**	*e*	**Pn**	**08 16 46.0**	**+1.6**
VILC				*e*P	**Pn**	**08 16 46.1**	**+1.6**
ZARC	**Zaragoza, Cauc**	**2.52**	**20**	⇑*i*P	**Pn**	**08 16 48.3**	**+0.6**
ZARC				*e*S	**Sn**	**08 17 18.7**	**+0.2**
ZARC				*i*		08 17 19.7	
	comp=N,214nm,0.2s						
UREC	**San Jos de Ur**	**2.63**	**4**	⇑*e*P	**Pn**	**08 16 49.8**	**+0.7**
UREC				*e*S	**Sn**	**08 17 21.9**	**+0.8**
UREC				*i*		08 17 22.5	
	comp=N,96nm,0.2s						
POPC	**Popayan, Colom**	**2.72**	**200**	*e*P	**Pn**	**08 16 49.9**	**-0.6**
POPC				*i*		08 17 23.4	
	comp=N,75nm,0.7s						
RUSC	**La Rusia**	**2.75**	**73**	*e*P	**Pn**	**08 16 51.9**	**+0.7**
RUSC				*e*S	**Sn**	**08 17 23.7**	**-0.9**
RUSC				*i*		08 17 28.2	
	comp=N,32nm,0.3s						
BRRC	**Barranca, Sant**	**2.83**	**45**	*e*P	**Pn**	**08 16 51.7**	**0.0**
BRRC				*e*S	**Sn**	**08 17 24.3**	**-1.2**
BRRC				*i*		08 17 26.5	
	comp=N,276nm,0.2s						
BARC	**Barichara**	**2.94**	**60**	*e*P	**Pn**	**08 16 53.9**	**+0.6**
BARC				*e*S	**Sn**	**08 17 27.2**	**-1.2**
BARC				*i*		08 17 29.5	
	comp=Z,189nm,0.4s						
CRUC	**La Cruz**	**3.72**	**199**	*e*P	**Pn**	**08 17 04.6**	**+0.8**
CRUC				*e*S	**Sn**	**08 17 47.1**	**-0.1**
CRUC				*i*		08 17 56.6	
	comp=Z,52nm,0.5s						
PAMC	**Pamplona, Colo**	**3.75**	**54**	*e*P	**Pn**	**08 17 04.3**	**+0.1**
PAMC				*e*S	**Sn**	**08 17 46.2**	**-1.8**
PAMC				*i*		08 17 52.7	
	comp=E,84nm,0.4s						
OCAC	**Ocana**	**3.93**	**38**	*e*P	**Pn**	**08 17 07.1**	**+0.8**
TAMC	**Tame, Arauca**	**4.14**	**71**	*e*P	**Pn**	**08 17 09.3**	**+0.2**
TAMC				*e*S	**Sn**	**08 17 55.8**	**-1.0**
TAMC				*i*		08 18 02.0	
	comp=N,26nm,0.5s						
CODC	**Agustn Codazz**	**5.30**	**25**	*e*P	**Pn**	**08 17 25.2**	**+0.5**
CODC				*i*		08 18 25.9	
	comp=E,22nm,0.3s						
YKA	**Yellowknife Ar**	**63.99**	**341**	P	**P**	**08 26 28.4**	**+0.3**
	comp=E,0.1nm,0.5s,baz=138,slow=6.3,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.64**	**78**	P	**P**	**08 27 45.3**	**-0.6**
	comp=E,0.6nm,0.9s,baz=290,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**146.00**	**234**	PKPbc	**PKPbc**	**08 35 34.1**	**-0.3**
	comp=E,0.3nm,0.6s,baz=113,slow=3.8,SNR=6.0						

*SJA **23** 08:16:53.7±0.6, 20°.89S×69°.43W, h96km±5km, ML1.8, MW3.3*
*ISCJB **23** 08:16:55.2±0.9, 20°.90S±0°.03×69°.48W±0°.08, h93km±8km, Error ellipse: s-maj=12.3km s-min=4.5km az=178.7*
*GUC **23** 08:16:55.0±0.7, 20°.88S×69°.45W, h88km±3km, ML2.9*
ISC 23 08:16:55.6±1.6, **20°89S**±0°.03×**69°47W**±0°.07, **h88**km±11km, **n20, σ0s40/31, 4C-3D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.15**	**186**	⇓*i*P	**Pn**	**08 17 08.1**	**-0.4**
PB01				*i* S	**Sn**	**08 17 17.6**	**-0.3**
PB01				IAML		08 17 18.8	
	comp=E,2μm,0.1s						
PB02	**IPOC Station P**	**0.58**	**223**	*i* P	**Pn**	**08 17 11.1**	**+0.1**
PB02				*i* S	**Sn**	**08 17 23.6**	**+1.1**
PB02	**IPOC Station P**	**0.58**	**223**	⇑*i*P	**Pn**	**08 17 11.2**	**+0.1**
PB02				*i* S	**Sn**	**08 17 22.9**	**+0.4**
PB02				IAML		08 17 24.1	
	comp=E,970nm,0.2s						
PB08	**IPOC Station P**	**0.80**	**22**	*i* P	**Pn**	**08 17 13.3**	**-0.2**
PB08				*i* S	**Sn**	**08 17 26.9**	**+0.1**
PB08	**IPOC Station P**	**0.80**	**22**	⇓*i*P	**Pn**	**08 17 13.4**	**-0.2**
PB08				*i* S	**Sn**	**08 17 26.8**	**+0.1**
PB08				IAML		08 17 27.3	
	comp=E,468nm,0.2s						
PB07	**IPOC Station P**	**0.92**	**205**	*i* P	**Pn**	**08 17 14.2**	**-0.3**
PB07				*i* S	**Sn**	**08 17 29.2**	**+0.6**
PB07	**IPOC Station P**	**0.92**	**205**	⇑*i*P	**Pn**	**08 17 14.2**	**-0.3**
PB07				IAML		08 17 30.8	
	comp=E,257nm,0.1s						
PB09	**IPOC Station P**	**0.93**	**167**	*i* P	**Pn**	**08 17 14.4**	**-0.2**
PB09	**IPOC Station P**	**0.93**	**167**	⇑*i*P	**Pn**	**08 17 14.4**	**-0.2**
PB09				*i* S	**Sn**	**08 17 29.0**	**+0.3**
PB09				IAML		08 17 32.7	
	comp=E,224nm,0.4s						
PB11	**IPOC Station P**	**1.14**	**351**	*e*P	**Pn**	**08 17 16.9**	**-0.1**
PB11				*i* S	**Sn**	**08 17 33.3**	**+0.2**
PB11				IAML		08 17 35.7	
	comp=E,537nm,0.2s						
PB03	**IPOC Station P**	**1.18**	**193**	*i* P	**Pn**	**08 17 16.9**	**-0.6**
PB03	**IPOC Station P**	**1.18**	**193**	⇑*i*P	**Pn**	**08 17 17.1**	**-0.5**
PB03				*i* S	**Sn**	**08 17 33.4**	**-0.6**
PB03				IAML		08 17 34.6	
	comp=E,215nm,0.1s						
GO01	**Chusmiza**	**1.24**	**12**	*e*P	**Pn**	**08 17 18.6**	**-0.1**
GO01				*e*S	**Sn**	**08 17 35.8**	**0.0**
PSGC	**Pisagua**	**1.43**	**334**	⇓*i*P	**Pn**	**08 17 20.1**	**-0.4**
PSGC				*i* S	**Sn**	**08 17 39.0**	**-0.2**
PSGC				IAML		08 17 40.2	
	comp=N,132nm,0.2s						
PSGCX	**Pisagua**	**1.43**	**334**	*i* P	**Pn**	**08 17 20.1**	**-0.4**
PB04	**IPOC Station P**	**1.57**	**204**	IAML		08 17 50.2	
	comp=N,88nm,0.1s						
MNMC	**Minye Minye**	**1.75**	**356**	*e*P	**Pn**	**08 17 25.0**	**+0.1**
MNMC				*e*S	**Sn**	**08 17 47.6**	**+0.6**
MNMC				IAML		08 17 50.1	
	comp=N,381nm,0.2s						
LVC	**Limon Verde**	**1.79**	**163**	*e*P	**Pn**	**08 17 25.8**	**+0.4**
LVC				*e*S	**Sn**	**08 17 48.0**	**+0.1**
PB06	**IPOC Station P**	**1.81**	**183**	IAML		08 17 47.3	
	comp=N,127nm,0.2s						
YJA	**Yavi**	**3.90**	**110**	*i* P	**Pn**	**08 17 53.5**	**-0.2**
YJA				IAML		08 17 58.1	
	comp=Z,1.4nm,0.7s						

*IDC **23** 08:35:39.5±1.5, 1°.06N×127°.21E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/54, mbtmp3.9/5, MS3.2/2, Ms1 3.2/2, ms1mx2.5/38, Error ellipse: s-maj=162.0km s-min=20.1km az=69.0*
*ISCJB **23** 08:35:46.9±0.5, 0°.94N±0°.05×127°.06E±0°.07, h72km, mb3.9/14, Error ellipse: s-maj=10.7km s-min=7.5km az=17.3*
*NEIC **23** 08:35:49.6±0.7, 0°.90N×127°.04E, h81km±7km, mb4.2/10, Error ellipse: s-maj=10.5km s-min=8.2km az=78.0*
*DJA **23** 08:35:49.5±0.4, 1°.1N±6°×12°.7E±°, h10km, M4.3/6, mb4.8/1, mB5.9/1, MLv4.0/6, Mw(mB)5.5/1*
ISC 23 08:35:49.2±0.8, **0°93N**±0°.09×**126°95E**±0°.08, **h72**km, **n26, σ1s21/24, mb4.1/14, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.44**	**111**	*e*Pn	**Pn**	**08 36 03.0**	**+1.3**
TNTI	**Ternate**	**0.44**	**111**	P	**Pn**	**08 36 03.1**	**+1.4**
SANI	**Sanana**	**3.11**	**198**	P	**Pn**	**08 36 34.9**	**-1.1**
LUWI	**Luwuk**	**4.62**	**245**	*e*Pn	**Pn**	**08 36 56.0**	**-0.4**
LUWI				*e*Sn	**Sn**	**08 37 52.2**	**+3.4**
FAKI	**Fak Fak**	**6.53**	**126**	P	Pn	08 37 28.2	+5.5
SMRI	**Semarang**	**18.28**	**244**	*e*P	**Pn**	**08 39 59.4**	**+1.3**
	57nm,1.0s						
WR1	**Warramunga Arr**	**21.97**	**161**	*e*P	**P**	**08 40 35.6**	**-1.7**
	3.5nm,0.9s						
WRA	**Warramunga Arr**	**21.97**	**161**	P	**P**	**08 40 35.6**	**-1.7**
	1.4nm,0.5s,baz=341,slow=9.8,SNR=4.6						
TPUB	**Ta-pu**	**23.07**	**345**	*e*P	**P**	**08 40 46.9**	**-2.0**
	8.2nm,0.9s						
AS31	**Alice Springs**	**25.36**	**165**	*e*P	**P**	**08 41 09.4**	**-0.4**
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.37**	**165**	P	**P**	**08 41 09.3**	**-0.5**
	0.7nm,0.3s,baz=347,slow=9.7,SNR=2.7						
PSI	**Prapat**	**28.07**	**274**	LR	LR	08 55 16.8	
	comp=Z,43nm,18.9s,baz=78,slow=42						
KS01	**Wonju Array Si**	**36.38**	**1**	*e*P	**P**	**08 42 46.8**	**+0.3**
MAJO	**Matsushiro**	**36.94**	**15**	*e*P	**P**	**08 42 51.3**	**0.0**
	3.3nm,0.8s						
MJB9	**Matsu-Tunnel**	**36.94**	**15**	*e*P	**P**	**08 42 51.3**	**-0.1**
	3.3nm,0.8s						
USRK	**Ussuriysk Ar.**	**43.32**	**5**	LR	LR	09 06 19.4	
	comp=Z,23nm,18.1s,baz=220,slow=43						
SONA0	**Songino Array**	**50.01**	**342**	*e*P	**P**	**08 44 35.5**	**-0.9**
SONM	**Songino Array**	**50.01**	**342**	P	**P**	**08 44 35.5**	**-0.9**
	0.6nm,0.6s,baz=155,slow=7.8,SNR=4.6						
MK01	**Makanchi Array**	**59.96**	**326**	*e*P	**P**	**08 45 48.2**	**+0.2**
MK31	**Makanchi Array**	**59.98**	**326**	*e*P	**P**	**08 45 48.3**	**+0.1**
	1.4nm,0.8s						
MK32	**Makanchi Array**	**59.98**	**326**	*e*P	**P**	**08 45 48.3**	**+0.1**
MKAR	**Makanchi Array**	**59.98**	**326**	P	**P**	**08 45 48.3**	**+0.1**
	1.4nm,0.4s,baz=123,slow=7.9,SNR=32						
MAKZ	**Makanchi**	**60.16**	**326**	*e*P	**P**	**08 45 49.4**	**-0.1**
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.21**	**328**	P	**P**	**08 46 16.1**	**-0.3**
	1.5nm,0.7s,baz=127,slow=6.2,SNR=15						
KURK	**Kurchatov**	**64.21**	**328**	*e*P	**P**	**08 46 16.2**	**-0.2**
	3.3nm,0.7s						
ABKAR	**Akbulak array**	**74.45**	**321**	*e*P	**P**	**08 47 20.6**	**+0.9**
	1.5nm,1.0s						

*ISCJB **23** 08:36:25.4±0.6, 6°.21S±0°.05×130°.32E±0°.07, h90km, mb3.9/7, Error ellipse: s-maj=10.6km s-min=6.5km az=3.5*
*IDC **23** 08:36:30.0±2.6, 6°.33S×130°.28E, h122km±27km, mb3.7/7, mb1 3.7/12, mb1mx3.4/52, mbtmp4.1/12, Error ellipse: s-maj=36.7km s-min=16.2km az=76.0*
ISC 23 08:36:26.9±0.7, **6°40S**±0°.06×**130°41E**±0°.10, **h90**km, **n13, σ2s70/17, mb3.8/7, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.56**	**9**	P	**Pn**	**08 37 50.1**	**+2.9**
	6.9nm,0.3s,baz=183,slow=16,SNR=24						
SIJI				S	**Sn**	**08 38 46.6**	**-3.1**
	24nm,0.3s,baz=221,slow=23,SNR=22						
BATI	**Baumata**	**7.67**	**240**	S	**Sn**	**08 39 43.4**	**+1.9**
	5.9nm,0.3s,baz=151,slow=10,SNR=2.5						
FITZ	**Fitzroy Crossi**	**12.53**	**201**	P	**Pn**	**08 39 23.9**	**+1.9**
	0.4nm,0.3s,baz=22,slow=11,SNR=23						
FITZ				S	**Sn**	**08 41 35.3**	**-4.4**
	1.8nm,0.3s,baz=85,slow=13,SNR=13						
WRA	**Warramunga Arr**	**14.00**	**165**	P	**Pn**	**08 39 42.5**	**+1.1**
	0.4nm,0.3s,baz=348,slow=13,SNR=17						
WRA				S	**Sn**	**08 42 10.4**	**-5.0**
	1.3nm,0.3s,baz=357,slow=19,SNR=11						
PMG	**Port Moresby**	**16.86**	**101**	P	**P**	**08 40 20.7**	**+2.6**
	1.4nm,0.3s,baz=182,slow=22,SNR=3.6						
ASAR	**Alice

FINES FINESS Array B 83.19 334 P **P** **08 56 34.4 -0.5**
0.4nm,0.3s,baz=67,slow=5.0,SNR=7.2

MAN 23 08:49:52.4, 16°.10N×122°.00E, h8km, MS3.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.54**	**229**	*eP*	Pg	08 50 02.8	-0.2
BALP				*eS*	Sg	08 50 09.5	-0.5
CAUP	**Cauayan**	**0.85**	**349**	*eP*	Pb	08 50 09.8	+0.3
CAUP				*eS*	Sn	08 50 22.9	-0.5
SMPP	**San Manuel, Pa**	**1.27**	**272**	*eP*	Pn	08 50 13.3	-3.2
SMPP				*eS*	Sb	08 50 28.6	-4.5
CVP	**Callao Caves**	**1.60**	**354**	*i*/*P*	Pn	08 50 20.5	-0.6
CVP				*i* S	Sn	08 50 41.3	-0.6
APYP	**Conner**	**1.89**	**338**	*eP*	Pn	08 50 24.7	-0.3
APYP				*eS*	Sg	08 50 52.6	-0.7
ABRA	**Dolores**	**1.97**	**321**	*eP*	Pn	08 50 26.5	+0.4
ABRA				*eS*	Sn	08 50 52.0	+1.0
BOLP	**Bolinao**	**2.02**	**278**	*eP*	Pn	08 50 27.4	+0.5
BOLP				*eS*	Sn	08 50 53.3	+1.0
SCZP	**Santa Cruz**	**2.04**	**261**	*eP*	Pg	08 50 41.6	+10

*AEIC **23** 08:51:01.5±0.0, 61°.21N×140°.44W, h0km*
*PGC **23** 08:51:02.4, 61°.19N×140°.36W, h1km, ML2.7/11, 160km west of Haines Jct., Yt Southern Yukon Territory, Canada*
*NEIC **23** 08:51:02.4±0.0, 61°.19N×140°.36W, h1km, ML2.7(OTT), ML2.8(AEIC), After OTT.*

ISC 23 08:51:01.6±1.1, 61°.20N±0°.02×140°.37W±0°.02, h1km±10km, n97, σ1§71/134, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTGM	**Chitina Glacie**	**0.52**	**244**	P	**Pg**	**08 51 11.4**	**-0.2**
CTGM				S	**Sg**	**08 51 18.8**	**+0.4**
CTGM	**Chitina Glacie**	**0.52**	**244**	P	**Pg**	**08 51 11.4**	**-0.2**
CTGM				S	**Sg**	**08 51 18.8**	**+0.4**
YUK3	**Moose Creek**	**0.58**	**356**	P	**Pg**	**08 51 12.7**	**-0.1**
YUK3				S	**Sg**	**08 51 20.7**	**+0.3**
YUK3	**Moose Creek**	**0.58**	**356**	P	**Pg**	**08 51 12.8**	**-0.1**
YUK3				S	**Sg**	**08 51 21.4**	**+1.0**
YUK2	**White River**	**0.64**	**339**	P	**Pg**	**08 51 13.7**	**-0.1**
YUK2				S	**Sg**	**08 51 23.2**	**+1.2**
YUK2	**White River**	**0.64**	**339**	P	**Pg**	**08 51 13.8**	**0.0**
YUK2				S	**Sg**	**08 51 23.0**	**+0.9**
GRNC	**Granite Creek**	**0.82**	**236**	P	**Pg**	**08 51 16.7**	**-0.7**
GRNC				S	**Sg**	**08 51 27.8**	**-0.2**
GRNC	**Granite Creek**	**0.82**	**236**	P	**Pg**	**08 51 16.7**	**-0.7**
GRNC				S	**Sg**	**08 51 27.8**	**-0.2**
YUK4	**Talbot Arm**	**0.84**	**79**	P	**Pg**	**08 51 18.5**	**+0.7**
YUK4	**Talbot Arm**	**0.84**	**79**	P	**Pg**	**08 51 18.6**	**+0.7**
YUK4				S	**Sg**	**08 51 29.6**	**+0.9**
BALM	**Baldy**	**0.97**	**261**	P	**Pg**	**08 51 19.2**	**-1.0**
BALM				S	**Sg**	**08 51 32.6**	**-0.2**
BALM	**Baldy**	**0.97**	**261**	P	**Pg**	**08 51 19.5**	**-0.8**
BALM				S	**Sg**	**08 51 33.1**	**+0.3**
KIAG	**Kiagna River**	**1.01**	**255**	P	**Pg**	**08 51 19.6**	**-1.3**
KIAG				S	**Sg**	**08 51 33.4**	**-0.5**
KIAG	**Kiagna River**	**1.01**	**255**	P	**Pg**	**08 51 19.8**	**-1.1**
KIAG				S	**Sg**	**08 51 33.8**	**-0.1**
YUK6	**Outpost Mounta**	**1.01**	**104**	P	**Pg**	**08 51 20.2**	**-0.7**
YUK6	**Outpost Mounta**	**1.01**	**104**	P	**Pg**	**08 51 20.3**	**-0.7**
YUK6				S	**Sg**	**08 51 34.2**	**+0.3**
PTPK	**Patty Peak**	**1.02**	**270**	P	**Pg**	**08 51 20.1**	**-1.0**
PTPK	**Patty Peak**	**1.02**	**270**	P	**Pg**	**08 51 20.1**	**-1.0**
PTPK				S	**Sg**	**08 51 34.6**	**+0.4**
RKAV	**Rock Avalanche**	**1.02**	**209**	P	**Pg**	**08 51 20.2**	**-1.0**
RKAV	**Rock Avalanche**	**1.02**	**209**	P	**Pg**	**08 51 20.4**	**-0.7**
RKAV				S	**Sg**	**08 51 34.0**	**-0.3**
SAMH	**Samovar Hills**	**1.09**	**191**	P	**Pg**	**08 51 22.2**	**-0.3**
SAMH	**Samovar Hills**	**1.09**	**191**	P	**Pg**	**08 51 22.2**	**-0.3**
SAMH				S	**Sg**	**08 51 35.9**	**-0.7**
YUK5	**Granite Creek**	**1.22**	**92**	P	**Pg**	**08 51 24.0**	**-0.9**
YUK5				S	**Sg**	**08 51 40.0**	**-0.6**
YUK5	**Granite Creek**	**1.22**	**92**	P	**Pg**	**08 51 24.0**	**-0.9**
YUK5				S	**Sg**	**08 51 40.0**	**-0.6**
BVCY	**Beaver Creek**	**1.25**	**349**	P	**Pg**	**08 51 24.9**	**-0.5**
BVCY	**Beaver Creek**	**1.25**	**349**	P	**Pg**	**08 51 25.0**	**-0.5**
BVCY				S	**Sg**	**08 51 42.0**	**+0.4**
YUK7	**Dusty Glacier**	**1.28**	**121**	P	**Pg**	**08 51 25.0**	**-1.1**
YUK7	**Dusty Glacier**	**1.28**	**121**	P	**Pg**	**08 51 25.0**	**-1.1**
YUK7				S	**Sg**	**08 51 42.3**	**-0.3**
TGL	**Tana Glacier**	**1.28**	**251**	P	**Pg**	**08 51 24.6**	**-1.5**
MESA	**MESA**	**1.28**	**218**	P	**Pg**	**08 51 26.2**	**0.0**
MESA	**MESA**	**1.28**	**218**	P	**Pg**	**08 51 25.7**	**-0.5**
MESA				S	**Sg**	**08 51 43.1**	**+0.3**
MCARA	**McCarthy VSAT**	**1.30**	**280**	P	**Pg**	**08 51 25.1**	**-1.4**
BCPM	**Bancas Point**	**1.30**	**164**	*ePg*	**Pg**	**08 51 25.4**	**-1.0**
HYT	**Haines Junctio**	**1.44**	**104**	P	**Pn**	**08 51 27.5**	**-1.5**
HYT	**Haines Junctio**	**1.44**	**104**	Pn	**Pn**	**08 51 27.3**	**-1.7**
HYT				Sg	**Sg**	**08 51 47.6**	**-0.3**
KULT	**Kultieth River**	**1.50**	**232**	P	**Pn**	**08 51 29.6**	**0.0**
KHIT	**Khitrov Hills**	**1.60**	**243**	P	**Pn**	**08 51 30.7**	**-0.4**
PNL	**Peninsula**	**1.61**	**162**	P	**Pn**	**08 51 31.3**	**+0.2**
PNL	**Peninsula**	**1.61**	**162**	Pn	**Pn**	**08 51 31.4**	**+0.2**
PNL				Sg	**Sn**	**08 51 52.8**	**+0.4**
BCA3	**Beaver Creek A**	**1.99**	**341**	P	**Pn**	**08 51 36.4**	**-0.1**
HMT	**Hamilton**	**2.10**	**247**	*ePn*	**Pb**	**08 51 39.9**	**-0.5**
HMT				*eSn*	**Sg**	**08 52 10.0**	**+1.1**
MENT	**Mentasta**	**2.35**	**319**	*ePn*	**Pn**	**08 51 38.5**	**-2.9**
MENT				*ePg*	**Pb**	**08 51 44.9**	**+0.1**
HARP	**HAARP**	**2.58**	**300**	*ePn*	**Pb**	**08 51 48.3**	**-0.3**
HARP	**HAARP**	**2.58**	**300**	Pg	**Pb**	**08 51 48.0**	**-0.6**
DIV	**Divide**	**2.62**	**271**	*ePn*	**Pn**	**08 51 47.4**	**+2.3**
DIV	**Divide**	**2.62**	**271**	Pn	**Pn**	**08 51 46.2**	**+1.1**
DIV				Sg	**Sb**	**08 52 23.3**	**+1.3**
PLBC	**Pleasant Camp**	**2.65**	**129**	Pg	**Pb**	**08 51 49.4**	**-0.4**
PLBC				Sg	**Sg**	**08 52 25.3**	**-1.2**
PLBC	**Pleasant Camp**	**2.65**	**129**	Pg	**Pb**	**08 51 49.4**	**-0.4**
PLBC				Sg	**Sg**	**08 52 25.3**	**-1.2**
KLU	**Klutina**	**2.69**	**279**	*ePn*	**Pn**	**08 51 48.8**	**+2.7**
EYAK	**Cordova Ski Ar**	**2.71**	**259**	*ePn*	**Pn**	**08 51 48.8**	**+2.5**
WHY	**Whitehorse**	**2.73**	**99**	P	**Pn**	**08 51 47.1**	**+0.4**
WHY	**Whitehorse**	**2.73**	**99**	Pn	**Pn**	**08 51 47.0**	**+0.4**
WHY				Pg	**Pb**	**08 51 50.9**	**-0.4**
WHY				Sg	**Sb**	**08 52 27.6**	**+2.4**
DAWY	**Dawson**	**2.92**	**8**	P	**Pn**	**08 51 49.6**	**+0.5**
DAWY	**Dawson**	**2.92**	**8**	Pn	**Pn**	**08 51 49.6**	**+0.5**
DAWY				Sg	**Sg**	**08 52 34.0**	**-1.2**
PAX	**Paxson**	**2.99**	**309**	*ePn*	**Pn**	**08 51 53.5**	**+3.3**
PAX	**Paxson**	**2.99**	**309**	Pg	**Pn**	**08 51 53.5**	**+3.3**
DOT	**Dot Lake**	**3.00**	**327**	*ePn*	**Pn**	**08 51 50.6**	**+0.3**
DOT	**Dot Lake**	**3.00**	**327**	Pn	**Pn**	**08 51 50.5**	**+0.3**
DOT				Sg	**Sb**	**08 52 37.0**	**-1.0**
SKAG	**Skagway**	**3.05**	**123**	*ePn*	**Pn**	**08 51 50.9**	**0.0**
SKAG				*ePg*	**Pb**	**08 51 58.0**	**+1.4**
SCRK	**Sand Creek**	**3.25**	**331**	*ePn*	**Pn**	**08 51 54.2**	**+0.4**
RIDG	**Independ'e Rid**	**3.29**	**323**	*ePn*	**Pn**	**08 51 54.6**	**+0.3**
SCM	**Sheep Creek Mo**	**3.40**	**284**	*ePn*	**Pn**	**08 51 58.2**	**+2.4**
EGAK	**Eagle**	**3.61**	**355**	*ePn*	**Pn**	**08 51 59.7**	**+1.0**
BESE	**Bessie Mountai**	**3.82**	**131**	*ePn*	**Pn**	**08 52 03.3**	**+1.7**
BESE				*eSg*	**Sg**	**08 53 01.1**	**-3.2**
BESE	**Bessie Mountai**	**3.82**	**131**	Pn	**Pn**	**08 52 02.3**	**+0.8**
BESE				Sg	**Sb**	**08 53 00.7**	**+4.1**
SML	**Sawmill**	**3.87**	**283**	*ePn*	**Pn**	**08 52 05.0**	**+2.8**
KNK	**Knik Glacier**	**3.91**	**277**	*ePn*	**Pn**	**08 52 05.7**	**+3.0**
GHO	**Glory Hole Cre**	**4.14**	**282**	*ePn*	**Pn**	**08 52 08.7**	**+2.7**
JIS	**Juneau Island**	**4.21**	**131**	*ePn*	**Pn**	**08 52 08.0**	**+1.2**
PMR	**Palmer**	**4.23**	**279**	*ePg*	**Pb**	**08 52 14.1**	**-2.7**
HDA	**Harding Lake**	**4.42**	**320**	*ePn*	**Pn**	**08 52 09.8**	**+0.1**
RND	**Reindeer**	**4.54**	**303**	*ePn*	**Pn**	**08 52 14.6**	**+3.1**
RC01	**Rabbit Creek A**	**4.54**	**273**	*ePn*	**Pn**	**08 52 14.8**	**+3.4**
SEW	**Seward**	**4.60**	**260**	*ePn*	**Pn**	**08 52 13.5**	**+1.3**
IL1	**Eielson Array**	**4.66**	**323**	*ePn*	**Pn**	**08 52 12.3**	**-0.7**
ILB	**Eielson Array**	**4.66**	**323**	*ePn*	**Pn**	**08 52 12.7**	**-0.3**
MCK	**McKinley**	**4.72**	**306**	*ePn*	**Pn**	**08 52 12.5**	**-1.4**
WRH	**Wood River Hil**	**4.83**	**316**	*ePn*	**Pn**	**08 52 16.7**	**+1.4**
CCB	**Clear Creek Bu**	**4.85**	**319**	*ePn*	**Pn**	**08 52 19.6**	**+3.9**
TRF	**Thorofare Moun**	**5.15**	**300**	*ePn*	**Pn**	**08 52 24.0**	**+4.1**
BRLK	**Bradley Lake**	**5.40**	**259**	*ePn*	**Pn**	**08 52 24.7**	**+1.5**
EPYK	**Eagle Plains**	**5.44**	**16**	*ePn*	**Pn**	**08 52 23.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**5.70**	**305**	*ePn*	**Pn**	**08 52 28.9**	**+1.7**
FYU	**Fort Yukon**	**5.80**	**340**	*ePn*	**Pn**	**08 52 30.2**	**+1.5**
FYU				*eLg*	Lg	08 54 08.6	
PPLA	**Purkeypile**	**5.82**	**292**	*ePn*	**Pn**	**08 52 31.3**	**+2.3**
CAST	**Castle Rocks**	**5.90**	**297**	*ePn*	**Pn**	**08 52 27.8**	**-2.3**
DLBC	**Dease Lake**	**5.90**	**113**	*ePn*	**Pn**	**08 52 30.7**	**+0.6**
DLBC	**Dease Lake**	**5.90**	**113**	Sg	**Sb**	**08 54 04.0**	**+7.6**

WRAK	**Wrangell Islan**	**6.35**	**135**	*ePn*	**Pn**	**08 52 36.5**	**+0.4**
KDAK	**Kodiak Island**	**7.10**	**247**	*ePn*	**Pn**	**08 52 48.5**	**+2.1**
SVW2	**Sparrevohn**	**7.36**	**276**	*ePn*	**Pn**	**08 52 51.6**	**+1.4**
IM3	**Indian Mountai**	**7.65**	**315**	*ePn*	**Pn**	**08 52 57.3**	**+3.3**
INK	**Inuvik**	**7.71**	**19**	*ePn*	**Pn**	**08 52 56.3**	**+1.5**
INK				*eSn*	**Sn**	**08 54 21.1**	**-1.5**
INK	**Inuvik**	**7.71**	**19**	Pn	**Pn**	**08 52 53.6**	**-1.2**
INK				Sn	**Sn**	**08 54 16.1**	**-6.5**
TOLK	**Toolik Lake Re**	**8.42**	**336**	*ePn*	**Pn**	**08 53 07.2**	**+2.6**
TOLK				*eSn*	Sn	08 54 30.7	-10
FNBB	**Fort Nelson**	**8.98**	**97**	Sg	Sg	08 55 39.4	-10
YKB5	**Yellowknife Ar**	**12.21**	**73**	*ePn*	**Pn**	**08 53 55.7**	**-0.6**

*ISCJB **23** 09:15:57.1±1.1, 24°.4N±0°.1×94°.9E±0°.1, h82km, Error ellipse: s-maj=17.6km s-min=12.3km az=159.3*
*IDC **23** 09:16:00.1±9.0, 24°.34N×94°.73E, h94km±98km, mb3.1/3, mb1 3.5/4, mb1mx3.1/49, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=80.1km s-min=27.7km az=71.0*

ISC 23 09:15:58.8±1.4, 24°.5N±0°.1×94°.7E±0°.1, h82km, n5, σ1§68/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.77**	**293**	*ePN*	**Pn**	**09 16 42.0**	**+0.8**
SHL				*eSN*	**Sn**	**09 17 11.5**	**-2.4**
BRDH	**Bariadhala**	**3.36**	**238**	P	**Pn**	**09 16 49.3**	**+0.3**
	32nm,0.3s,baz=241,slow=19,SNR=1.9						
BRDH				S	**Sn**	**09 17 28.4**	**+0.5**
	53nm,0.3s,baz=228,slow=22,SNR=2.4						
MKAR	**Makanchi Array**	**24.35**	**339**	P	**P**	**09 21 10.8**	**+1.8**
	0.2nm,0.6s,baz=153,slow=9.1,SNR=2.8						
WRA	**Warramunga Arr**	**58.66**	**135**	P	**P**	**09 25 47.0**	**-0.9**
	0.6nm,0.3s,baz=323,slow=7.3,SNR=22						
ASAR	**Alice Springs**	**61.15**	**139**	P	**P**	**09 26 04.0**	**-0.9**
	0.4nm,0.4s,baz=314,slow=6.4,SNR=8.0						

IDC 23 09:22:38.0±1.2, 13°.18N×143°.86E, h0km, mb3.2/5, mb1 3.5/5, mb1mx3.3/39, mbtmp3.2/5, Error ellipse: s-maj=66.1km s-min=24.9km az=102.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.23**	**196**	P	P	09 29 25.6	-0.2
	0.4nm,0.7s,baz=18,slow=9.6,SNR=5.8						
ASAR	**Alice Springs**	**37.90**	**195**	P	P	09 29 57.2	0.0
	0.2nm,0.7s,baz=20,slow=14,SNR=4.2						
KURBB	**Kurchatov Arra**	**64.30**	**320**	P	P	09 33 15.3	-0.1
	0.2nm,0.5s,baz=104,slow=6.5,SNR=2.6						
ILAR	**Eielson Array**	**69.35**	**25**	P	P	09 33 46.8	-0.5
	0.1nm,0.5s,baz=251,slow=5.5,SNR=1.3						
YKA	**Yellowknife Ar**	**83.67**	**27**	P	P	09 35 09.0	+0.6
	0.1nm,0.6s,baz=285,slow=5.0,SNR=3.1						

*ISCJB **23** 09:40:33.4±0.5, 67°.64N±0°.05×142°.6E±0°.1, h10km, mb3.4/7, Error ellipse: s-maj=6.8km s-min=6.5km az=22.8*
*IDC **23** 09:40:33.4±0.9, 67°.63N×142°.60E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.5/35, mbtmp3.6/10, ML3.0/2, Error ellipse: s-maj=19.0km s-min=16.7km az=19.0*
*YARS **23** 09:40:34.7±0.1, 67°.650N±0°.007×142°.66E±0°.02, h10km*

ISC 23 09:40:34.4±0.7, 67°.63N±0°.05×142°.62E±0°.04, h10km, n13, σ1§23/19, mb3.6/7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.19**	**169**	*eP*	**Pb**	**09 40 56.2**	**-0.9**
MOMR				Pmax		09 40 56.2	
	comp=Z,77nm,0.2s						
MOMR				*eS*	**Sb**	**09 41 12.1**	**-0.5**
MOMR				Smax		09 41 12.1	
	comp=E,1µm,0.7s						
YBGR	**Belaya Gora**	**1.61**	**54**	*eP*	**Pn**	**09 41 03.1**	**+0.2**
YBGR				Pmax		09 41 03.1	
	comp=Z,67nm,0.2s						
YBGR				*eS*	**Sb**	**09 41 24.2**	**-0.5**
YBGR				Smax		09 41 24.2	
	comp=N,952nm,0.3s						
BTGS	**Batagay**	**3.05**	**274**	*eP*	**Pn**	**09 41 23.6**	**+0.9**
BTGS				*eP*	**Pb**	**09 41 29.7**	**+1.0**
BTGS				Pmax		09 41 29.7	
	comp=Z,44nm,0.3s						
BTGS				*eS*	**Sn**	**09 41 59.2**	**0.0**
BTGS				*eS*	**Sg**	**09 42 09.6**	**-2.7**
BTGS				Smax		09 42 09.6	
	comp=N,404nm,0.4s						
SEY	**Seymchan**	**6.24**	**134**	Pn	**Pn**	**09 42 06.7**	**+0.3**
	comp=N,0.2nm,0.3s,baz=313,slow=14,SNR=6.0						
SEY				Lg	Lg	09 43 49.8	
	comp=N,0.9nm,0.3s,baz=27,slow=19,SNR=5.8						
TIXI	**Tiksi**	**6.26**	**316**	Pn	**Pn**	**09 42 07.4**	**+0.8**
	comp=N,3.9nm,0.3s,baz=128,slow=17,SNR=46						
TIXI				Sn	**Sn**	**09 43 14.6**	**-3.4**
	comp=N,7.4nm,0.3s,baz=140,slow=18,SNR=13						
TIXI				Lg	Lg	09 43 45.4	
	comp=N,3.7nm,0.3s,baz=38,slow=19,SNR=9.5						
KLR	**Kul'dur**	**19.26**	**202**	P	**Pn**	**09 45 00.1**	**+0.4**
	comp=N,0.1nm,0.3s,baz=8.1,slow=7.1,SNR=2.6						
USRK	**Ussuriysk Ar.**	**24.16**	**199**	P	**P**	**09 45 50.6**	**+0.3**
	comp=N,1.4nm,0.6s,baz=4.8,slow=12,SNR=5.6						
SONM	**Songino Array**	**27.04**	**241**	P	**P**	**09 46 16.5**	**0.0**
	comp=N,0.4nm,0.4s,baz=39,slow=9.3,SNR=2.6						
ILAR	**Eielson Array**	**27.19**	**62**	P	**P**	**09 46 18.2**	**+0.5**
	comp=N,0.5nm,0.9s,baz=294,slow=7.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**30.04**	**272**	P	**P**	**09 46 43.5**	**+0.5**
	comp=N,0.6nm,0.6s,baz=51,slow=9.4,SNR=2.8						
MKAR	**Makanchi Array**	**36.73**	**267**	P	**P**	**09 47 41.7**	**+0.3**
	comp=N,1.2nm,0.5s,baz=49,slow=7.4,SNR=18						
YKA	**Yellowknife Ar**	**38.83**	**46**	P	**P**	**09 47 59.4**	**+0.5**
	comp=N,0.1nm,0.7s,baz=322,slow=7.9,SNR=3.1						
FINES	**FINESS Array B**	**43.28**	**321**	P	**P**	**09 48 35.8**	**+0.3**
	comp=N,1.1nm,0.7s,baz=28,slow=8.6,SNR=5.1						

*ISCJB **23** 10:05:15.5±0.3, 23°.71N±0°.01×121°.46E±0°.02, h13km±2km, Error ellipse: s-maj=2.7km s-min=1.4km az=29.7*
*JMA **23** 10:05:15.0±0.1, 23°.68N×121°.51E, h7km, M2.8*
*TAP **23** 10:05:16.0, 23°.73N×121°.44E, h9km, ML2.6, C*

ISC 23 10:05:15.2±0.8, 23°.71N±0°.01×121°.44E±0°.02, h14km±4km, n89, σ0§72/163, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.04**	**192**	P	**Pg**	**10 05 17.9**	**0.0**
	baz=187						
EGFH				S	**Sg**	**10 05 19.6**	**0.0**
	baz=187						
ESL	**Shilin**	**0.10**	**358**	P	**Pg**	**10 05 18.6**	**+0.1**
	baz=3.0						
ESL				*eS*	**Sg**	**10 05 20.6**	**+0.1**
	baz=3.0						
HGSD	**Ruisui**	**0.22**	**183**	P	**Pg**	**10 05 20.9**	**+0.8**
	baz=182						
HGSD				*eS*	**Sg**	**10 05 25.0**	**+1.6**
	baz=182						
EHY	**Hungye**	**0.23**	**207**	P	**Pb**	**10 05 20.6**	**-0.6**
	baz=203						
EHY				S	**Sb**	**10 05 23.5**	**-1.6**
	baz=203						
ENLB	**Shoufeng**	**0.24**	**38**	*eP*	**Pg**	**10 05 20.9**	**+0.4**
	baz=40						
ENLB				*eS*	**Sg**	**10 05 25.1**	**+1.0**
	baz=40						
VWDT	**VWDT**	**0.27**	**279**	P	**Pg**	**10 05 21.6**	**+0.6**
	baz=276						
VWDT				*eS*	**Sg**	**10 05 26.0**	**+1.0**
	baz=276						
HWA	**Hwalien**	**0.30**	**30**	*eP*	**Pg**	**10 05 21.9**	**+0.4**
	baz=33						
HWA				S	**Sb**	**10 05 27.6**	**+0.3**
	baz=33						
OWD	**Renai**	**0.34**	**315**	P	**Pg**	**10 05 22.5**	**+0.3**
	baz=313						
OWD				S	**Sg**	**10 05 26.8**	**-0.2**
	baz=313						
YULB	**Yu-li**	**0.34**	**202**	*eP*	**Pg**	**10 05 22.3**	**+0.1**
	baz=200						
YULB				*eS*	**Sg**	**10 05 27.2**	**+0.2**
	baz=200						
TWF1	**Yuli**	**0.38**	**200**	P	**Pg**	**10 05 23.2**	**+0.2**
	baz=197						
TWF1				S	**Sg**	**10 05 28.5**	**+0.4**
	baz=197						

TWD	**Chiawan**	**0.39**	**22**	P	**Pg**	**10 05 23.7**	**+0.5**
	baz=23						
TWD				S	**Sg**	**10 05 28.6**	**+0.1**
	baz=23						
CHGB	**Renai**	**0.42**	**325**	P	**Pg**	**10 05 24.3**	**+0.6**
	baz=324						
CHGB				S	**Sg**	**10 05 30.0**	**+0.4**
	baz=324						
SSLB	**Suanglung**	**0.45**	**280**	P	**Pg**	**10 05 24.5**	**+0.4**
	baz=278						
SSLB				S	**Sg**	**10 05 30.4**	**+0.2**
	baz=278						
WHF	**Hehuan Shan**	**0.46**	**340**	P	**Pg**	**10 05 24.7**	**+0.2**
	baz=340						
WHF				S	**Sg**	**10 05 30.6**	**-0.1**
	baz=340						
NACB	**Ninganchiao**	**0.48**	**17**	P	**Pg**	**10 05 24.9**	**+0.2**
	baz=18						
NACB				S	**Sg**	**10 05 31.4**	**+0.2**
	baz=18						
ETLH	**Xiulin Townshi**	**0.49**	**5**	P	**Pg**	**10 05 25.1**	**+0.1**
	baz=5.0						
ETLH				S	**Sg**	**10 05 31.5**	**-0.2**
	baz=5.0						
SMLT	**Sun Moon Lake**	**0.52**	**289**	P	**Pg**	**10 05 26.0**	**+0.5**
	baz=287						
SMLT				*eS*	**Sg**	**10 05 33.3**	**+0.8**
	baz=287						
WHYT	**Xinyi Township**	**0.54**	**268**	*eP*	**Pg**	**10 05 26.1**	**+0.3**
	baz=266						
WHYT				S	**Sg**	**10 05 33.5**	**+0.5**
	baz=266						
TYC	**Yuchr**	**0.56**	**290**	P	**Pb**	**10 05 26.7**	**-0.1**
	baz=289						
TYC				S	**Sg**	**10 05 34.1**	**+0.3**
	baz=289						
TWT	**Tachien**	**0.59**	**336**	*eP*	**Pg**	**10 05 27.4**	**+0.6**
	baz=334						
TWT				S	**Sg**	**10 05 34.7**	**0.0**
	baz=334						
TDCB	**Techi**	**0.59**	**335**	P	**Pg**	**10 05 27.6**	**+0.6**
	baz=334						
TDCB				*eS*	**Sb**	**10 05 34.4**	**-1.4**
	baz=334						
ALS	**Alishan**	**0.61**	**251**	*eP*	**Pg**	**10 05 28.4**	**+1.0**
	baz=249						
ALS				*eS*	**Sb**	**10 05 36.2**	**-0.2**
	baz=249						
ELDTW	**Lidau**	**0.65**	**217**	*eP*	**Pb**	**10 05 27.8**	**-0.6**
	baz=215						
ELDTW				*eS*	**Sb**	**10 05 36.2**	**-1.0**
	baz=215						
WJS	**Zhushan**	**0.66**	**280**	*eP*	**Pn**	**10 05 29.8**	**-0.2**
	baz=278						
WJS				*eS*	**Sg**	**10 05 37.9**	**+1.1**
	baz=278						
CHN5	**Tsauling**	**0.71**	**261**	*eP*	**Pn**	**10 05 30.0**	**-0.8**
	baz=259						
CHN5				*eS*	**Sg**	**10 05 39.5**	**+1.2**
	baz=259						
WNT	**Mingjian**	**0.71**	**284**	*eP*	**Pb**	**10 05 29.1**	**-0.1**
	baz=282						
NNSB	**Datong**	**0.71**	**356**	P	**Pb**	**10 05 29.5**	**+0.1**
	baz=356						
NNSB				*eS*	**Sb**	**10 05 38.6**	**-0.6**
	baz=356						
WHP	**Taichung City**	**0.72**	**321**	*eP*	**Pb**	**10 05 29.2**	**-0.3**
	baz=320						
WHP				S	**Sg**	**10 05 39.7**	**+0.9**
	baz=320						
NNS	**Nan Shan**	**0.73**	**355**	P	**Pg**	**10 05 29.9**	**+0.5**
	baz=356						
NNS				*eS*	**Sb**	**10 05 39.2**	**-0.4**
	baz=356						
ENA	**Nanau**	**0.76**	**21**	*eP*	**Pb**	**10 05 30.1**	**-0.1**
	baz=22						
ENA				*eS*	**Sn**	**10 05 41.5**	**-1.3**
	baz=22						
WDLH	**Douliu**	**0.82**	**269**	*eP*	**Pn**	**10 05 31.9**	**-0.4**
	baz=267						
WDLH				*eS*	**Sn**	**10 05 44.6**	**+0.3**
	baz=267						
STYT	**Tauyuan**	**0.83**	**229**	P	**Pn**	**10 05 32.1**	**-0.4**
	baz=227						
STYT				*eS*	**Sn**	**10 05 43.5**	**-1.1**
	baz=227						
TPUB	**Ta-pu**	**0.85**	**241**	*eP*	**Pn**	**10 05 32.6**	**-0.1**
	baz=240						
TPUB				*eS*	**Sn**	**10 05 44.0**	**-0.9**
	baz=240						
CHN4	**Tsaushan**	**0.85**	**245**	*eP*	**Pn**	**10 05 32.8**	**+0.1**
	baz=244						
CHN4				*eS*

NMLH	**Miaoli**	**1.01**	**324**	*e*P		**Pb**	**10 05 32.2**	**-2.3**
	baz=323								
NMLH				*e*S		**Sg**	**10 05 48.7**	**+0.8**
	baz=323								
SLGT	**Liugui**	**1.02**	**226**	*e*P		**Pg**	**10 05 35.6**	**+0.7**
	baz=224								
SLGT				*e*S		**Sg**	**10 05 49.4**	**+1.1**
	baz=224								
TWE	**Neicheng**	**1.02**	**12**	*e*P		**Pg**	**10 05 35.7**	**+0.7**
	baz=12								
TWE				*e*S		**Sb**	**10 05 47.8**	**-0.2**
	baz=12								
EOS1	**EOS1**	**1.04**	**37**	*e*P		**Pn**	**10 05 35.2**	**-0.1**
	baz=37								
EOS1				*e*S		**Sg**	**10 05 50.1**	**+1.0**
	baz=37								
NWLT	**Wulai**	**1.06**	**3**	P		**Pg**	**10 05 36.0**	**+0.2**
	baz=3.0								
NWLT				*e*S		**Sb**	**10 05 49.0**	**-0.1**
	baz=3.0								
WTCT	**Ta-ch'eng**	**1.07**	**278**	*e*S		**Sg**	**10 05 51.4**	**+1.6**
	baz=277								
ILA	**Ilan**	**1.09**	**15**	*e*P		**Pg**	**10 05 36.7**	**+0.5**
	baz=15								
CHN8	**Yiju**	**1.18**	**252**	*e*S		**Sb**	**10 05 50.1**	**-2.4**
	baz=251								
ECL	**Taimali**	**1.20**	**202**	*e*P		**Pn**	**10 05 37.1**	**-0.4**
	baz=201								
ECL				*e*S		**Sg**	**10 05 53.9**	**+0.1**
	baz=201								
SSD	**Sandimen**	**1.21**	**218**	*e*P		**Pb**	**10 05 37.6**	**-0.3**
	baz=216								
SSD				*e*S		**Sb**	**10 05 52.8**	**-0.7**
	baz=216								
NHDH	**Xindian Distri**	**1.25**	**4**	*e*S		**Sb**	**10 05 52.5**	**-1.9**
	baz=3.0								
TATO	**Taipei**	**1.26**	**2**	*e*P		**Pg**	**10 05 40.1**	**+0.7**
	baz=2.0								
TATO				*e*S		**Sb**	**10 05 52.6**	**-2.1**
	baz=2.0								
TIPB	**Shuangxi**	**1.30**	**16**	*e*P		**Pb**	**10 05 40.0**	**+0.5**
	baz=15								
TIPB				*e*S		**Sb**	**10 05 56.8**	**+0.7**
	baz=15								
MASBT	**Mashibuluo**	**1.32**	**214**	*e*P		**Pb**	**10 05 40.0**	**+0.2**
	baz=213								
MASBT				*e*S		**Sg**	**10 05 58.3**	**+0.4**
	baz=213								
TWB1	**Santiao Chiao**	**1.38**	**21**	*e*S		**Sb**	**10 05 58.9**	**+0.6**
	baz=21								
NWF	**Wu-fen Shan**	**1.39**	**13**	*e*P		**Pb**	**10 05 41.4**	**+0.5**
	baz=13								
NWF				*e*S		**Sn**	**10 05 57.7**	**-0.6**
	baz=13								
WFSB	**Wu-fen Shan**	**1.39**	**13**	*e*P		**Pb**	**10 05 41.4**	**+0.5**
	baz=13								
WFSB				*e*S		**Sn**	**10 05 57.8**	**-0.5**
	baz=13								
SNJT	**Kaohsiung City**	**1.39**	**227**	*e*P		**Pb**	**10 05 40.5**	**-0.5**
	baz=226								
SNJT				*e*S		**Sb**	**10 05 58.9**	**+0.3**
	baz=226								
EAST	**Anshuo**	**1.43**	**202**	*e*P		**Pb**	**10 05 41.6**	**-0.1**
	baz=201								
YM01	**YM01**	**1.43**	**5**	*e*P		**Pn**	**10 05 40.5**	**-0.2**
	baz=4.0								
YM01				*e*S		**Sb**	**10 05 59.9**	**+0.1**
	baz=4.0								
YM04	**YM04**	**1.44**	**4**	*e*P		**Pn**	**10 05 40.6**	**-0.2**
	baz=3.0								
YM04				*e*S		**Sb**	**10 05 59.6**	**-0.3**
	baz=3.0								
YM05	**YM05**	**1.45**	**5**	*e*P		**Pn**	**10 05 39.9**	**-1.2**
	baz=4.0								
YM05				*e*S		**Sb**	**10 06 00.2**	**-0.1**
	baz=4.0								
YM11	**YM11**	**1.45**	**5**	*e*P		**Pn**	**10 05 41.3**	**+0.2**
	baz=5.0								
SSPT	**Xinbi**	**1.46**	**213**	*e*P		**Pn**	**10 05 40.3**	**-0.8**
	baz=212								
SCZT	**Fangliau**	**1.53**	**210**	*e*P		**Pb**	**10 05 42.7**	**-0.6**
	baz=208								
JYNG	**Yonagunijimaku**	**1.56**	**62**	P		**Pn**	**10 05 42.4**	**-0.1**
WDGT	**Dungji**	**1.69**	**255**	*e*P		**Pn**	**10 05 44.8**	**+0.5**
	baz=254								
WDGT				*e*S		**Sn**	**10 06 06.1**	**+0.4**
	baz=254								
PHUB	**P'eng-hu**	**1.72**	**264**	*e*P		**Pn**	**10 05 44.4**	**-0.3**
	baz=262								
PHUB				*e*S		**Sb**	**10 06 08.1**	**+0.1**
	baz=262								
PNG	**Penghu**	**1.73**	**266**	*e*P		**Pn**	**10 05 45.3**	**+0.5**
	baz=264								
PNG				*e*S		**Sn**	**10 06 07.2**	**+0.5**
	baz=264								
HEN	**Hengchun**	**1.82**	**201**	*e*P		**Pn**	**10 05 46.1**	**+0.1**
	baz=200								
VCHM	**Qimei**	**1.91**	**255**	*e*P		**Pn**	**10 05 47.1**	**-0.2**
	baz=254								
VCHM				*e*S		**Sn**	**10 06 11.2**	**+0.1**
	baz=254								
VWUC	**VWUC**	**2.21**	**305**	*e*S		**Sn**	**10 06 18.3**	**-0.3**
	baz=304								
JKRS	**Kuro-shima**	**2.41**	**77**	P		**Pn**	**10 05 54.7**	**+0.6**
JKRS				*e*S		**Sn**	**10 06 23.8**	**+0.4**
JIJ	**Ishigaki jima**	**2.56**	**75**	P		**Pn**	**10 05 56.3**	**+0.1**
JIJ				S		**Sn**	**10 06 26.8**	**-0.3**
JISG	**Ishigakijimahi**	**2.77**	**71**	P		**Pn**	**10 05 58.7**	**-0.3**
KNMB	**Chin-men Tao**	**2.88**	**286**	*e*P		**Pn**	**10 06 01.0**	**+0.3**
	baz=284								
KNMB				*e*S		**Sn**	**10 06 35.4**	**+0.2**
	baz=284								

*ISCJB **23** 10:07:55.7±0.2,24°.45N±0°.01×121°.99E±0°.02,h18km±4km, Error ellipse: s-maj=2.6km s-min=2.0km az=31.3*
*JMA **23** 10:07:55.7,24°.40N×121°.95E,h27km,M2.1*
*TAP **23** 10:07:55.1,24°.45N×121°.94E,h11km,ML2.5,B*
ISC 23 10:07:55.4±0.9,24°.44N±0°.02×121°.95E±0°.02,h18km±2km, n64,σ0s55/117,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ENA	**Nanau**	**0.19**	**267**	P		**Pg**	**Pg**	**10 08 00.1**	**-0.1**
	baz=261								
ENA				S		**Sg**	**Sg**	**10 08 03.1**	**-0.4**
	baz=261								
TWC	**Suao**	**0.19**	**331**	P		**Pb**	**Pb**	**10 07 59.8**	**-0.1**
TWC				S		**Sb**	**Sb**	**10 08 02.3**	**-0.6**
	baz=335								
EOS1	**EOS1**	**0.20**	**56**	P		**Pb**	**Pb**	**10 07 59.8**	**-0.1**
	baz=61								
EOS1				S		**Sb**	**Sb**	**10 08 03.5**	**+0.7**
	baz=61								
ILA	**Ilan**	**0.37**	**330**	*e*S		**Sg**	**Sg**	**10 08 09.0**	**+0.5**
	baz=332								
TWE	**Neicheng**	**0.38**	**317**	P		**Pb**	**Pb**	**10 08 03.7**	**0.0**
	baz=318								
TWE				S		**Sg**	**Sg**	**10 08 08.3**	**-0.4**
	baz=318								
ENTT	**Nioudou**	**0.40**	**300**	P		**Pg**	**Pg**	**10 08 03.9**	**+0.2**
	baz=299								
ENTT				*e*S		**Sg**	**Sg**	**10 08 09.6**	**+0.2**
	baz=299								
EGS		**0.41**	**358**	P		**Pg**	**Pg**	**10 08 03.5**	**-0.3**
	baz=1.0								
EGS				*e*S		**Sb**	**Sb**	**10 08 10.3**	**+0.4**
	baz=1.0								
NACB	**Ninganchiao**	**0.42**	**231**	P		**Pb**	**Pb**	**10 08 04.2**	**-0.1**
	baz=228								
NACB				S		**Sb**	**Sb**	**10 08 10.4**	**+0.1**
	baz=228								
NTC	**Toucheng**	**0.43**	**345**	*e*P		**Pg**	**Pg**	**10 08 04.2**	**0.0**
	baz=346								
NTC				*e*S		**Sg**	**Sg**	**10 08 10.2**	**+0.1**
	baz=346								
NDT	**Datong Townshi**	**0.43**	**292**	P		**Pb**	**Pb**	**10 08 04.8**	**+0.3**
	baz=291								
NDT				*e*S		**Sb**	**Sb**	**10 08 10.7**	**+0.1**
	baz=291								
TWD	**Chiawan**	**0.48**	**222**	*e*P		**Pb**	**Pb**	**10 08 05.3**	**0.0**
	baz=219								
TWD				S		**Sb**	**Sb**	**10 08 12.7**	**+0.6**
	baz=219								
ETLH	**Xiulin Townshi**	**0.49**	**242**	*e*P		**Pb**	**Pb**	**10 08 05.5**	**+0.1**
	baz=239								
ETLH				S		**Sb**	**Sb**	**10 08 12.6**	**+0.4**
	baz=239								
NNSB	**Datong**	**0.52**	**269**	P		**Pb**	**Pb**	**10 08 06.2**	**+0.2**
	baz=267								
NNSB				*e*S		**Sb**	**Sb**	**10 08 13.7**	**+0.5**
	baz=267								
NNS	**Nan Shan**	**0.53**	**270**	P		**Pg**	**Pg**	**10 08 06.4**	**+0.4**
	baz=268								
NNS				*e*S		**Sb**	**Sb**	**10 08 13.7**	**+0.3**
	baz=268								
NWLT	**Wulai**	**0.53**	**310**	*e*P		**Pg**	**Pg**	**10 08 06.2**	**+0.2**
	baz=309								
NWLT				S		**Sg**	**Sg**	**10 08 13.7**	**+0.5**
	baz=309								
TIPB	**Shuangxi**	**0.54**	**348**	P		**Pg**	**Pg**	**10 08 06.6**	**+0.3**
	baz=348								
TIPB				*e*S		**Sg**	**Sg**	**10 08 14.7**	**+1.1**
	baz=348								
HWA	**Hwalien**	**0.56**	**215**	*e*P		**Pb**	**Pb**	**10 08 06.3**	**-0.2**
	baz=211								
HWA				*e*S		**Sn**	**Sn**	**10 08 16.3**	**-0.9**
	baz=211								
TWB1	**Santiao Chiao**	**0.57**	**3**	*e*P		**Pg**	**Pg**	**10 08 07.1**	**+0.4**
	baz=5.0								
TWB1				*e*S		**Sb**	**Sb**	**10 08 13.5**	**-0.9**
	baz=5.0								
YHNB	**Yeheng**	**0.57**	**294**	*e*P		**Pg**	**Pg**	**10 08 07.5**	**+0.7**
	baz=292								
YHNB				S		**Sg**	**Sg**	**10 08 14.8**	**+0.2**
	baz=292								
NSK	**Sanguang**	**0.59**	**294**	*e*P		**Pb**	**Pb**	**10 08 07.1**	**0.0**
	baz=292								
NSK				S		**Sg**	**Sg**	**10 08 15.1**	**0.0**
	baz=292								
ENLB	**Shoufeng**	**0.62**	**211**	*e*P		**Pg**	**Pg**	**10 08 07.6**	**-0.1**
	baz=209								
TWA	**Mucha**	**0.63**	**328**	*e*P		**Pg**	**Pg**	**10 08 08.1**	**+0.1**
	baz=329								
TWA				*e*S		**Sb**	**Sb**	**10 08 16.1**	**-0.2**
	baz=329								
NWF	**Wu-fen Shan**	**0.65**	**346**	*e*P		**Pg**	**Pg**	**10 08 09.1**	**+0.9**
	baz=347								
NWF				*e*S		**Sb**	**Sb**	**10 08 15.1**	**-1.8**
	baz=347								
WFSB	**Wu-fen Shan**	**0.65**	**346**	*e*P		**Pg**	**Pg**	**10 08 09.0**	**+0.8**
	baz=347								
WFSB				*e*S		**Sb**	**Sb**	**10 08 15.2**	**-1.6**
	baz=347								
NHDH	**Xindian Distri**	**0.65**	**323**	*e*P		**Pg**	**Pg**	**10 08 08.4**	**+0.2**
	baz=323								
NHDH				*e*S		**Sb**	**Sb**	**10 08 17.0**	**+0.2**
	baz=323								
TATO	**Taipei**	**0.68**	**322**	*e*P		**Pg**	**Pg**	**10 08 09.2**	**+0.5**
	baz=322								
TATO				*e*S		**Sb**	**Sb**	**10 08 18.0**	**+0.3**
	baz=322								
WHF	**Hehuan Shan**	**0.69**	**245**	P		**Pg**	**Pg**	**10 08 09.5**	**+0.4**
	baz=243								
WHF				*e*S		**Sg**	**Sg**	**10 08 19.3**	**+0.9**
	baz=243								
TWT	**Tachien**	**0.73**	**256**	*e*P		**Pg**	**Pg**	**10 08 09.7**	**0.0**
	baz=254								
TWT				*e*S		**Sn**	**Sn**	**10 08 20.6**	**-1.1**
	baz=254								
TDCB	**Techi**	**0.75**	**256**	*e*P		**Pn**	**Pn**	**10 08 10.8**	**-0.3**
	baz=254								
TDCB				*e*S		**Sg**	**Sg**	**10 08 20.1**	**+0.1**
	baz=254								
ESL	**Shilin**	**0.78**	**217**	*e*P		**Pg**	**Pg**	**10 08 10.8**	**+0.1**
	baz=215								
ESL				*e*S		**Sg**	**Sg**	**10 08 20.7**	**-0.3**
	baz=215								
YM01	**YM01**	**0.79**	**334**	*e*P		**Pn**	**Pn**	**10 08 11.5**	**0.0**
	baz=334								
YM01				*e*S		**Sg**	**Sg**	**10 08 22.0**	**+0.8**
	baz=334								
YM11	**YM11**	**0.80**	**335**	*e*P		**Pn**	**Pn**	**10 08 11.6**	**-0.2**
	baz=335								
CHGB	**Renai**	**0.80**	**242**	P		**Pn**	**Pn**	**10 08 11.9**	**-0.1**
	baz=240								
CHGB				*e*S		**Sn**	**Sn**	**10 08 23.0**	**-0.6**
	baz=240								
YM04	**YM04**	**0.81**	**332**	*e*P		**Pn**	**Pn**	**10 08 12.0**	**+0.2**
	baz=332								
YM04				*e*S		**Sn**	**Sn**	**10 08 24.5**	**+1.1**
	baz=332								
TWS1	**Kuangyinshan**	**0.82**	**324**	*e*P		**Pg**	**Pg**	**10 08 11.4**	**0.0**
	baz=324								
TWS1				*e*S		**Sg**	**Sg**	**10 08 22.8**	**+0.6**
	baz=324								
ANP	**Anpu**	**0.84**	**332**	*e*P		**Pb**	**Pb**	**10 08 11.3**	**-0.2**
	baz=333								
ANP				*e*S		**Sg**	**Sg**	**10 08 23.6**	**+0.6**
	baz=333								
NTST	**Danshui**	**0.85**	**328**	*e*P		**Pb**	**Pb**	**10 08 11.5**	**-0.1**
	baz=328								
NTST				*e*S		**Sg**	**Sg**	**10 08 23.9**	**+0.6**
	baz=328								
OWD	**Renai**	**0.86**	**236**	*e*P		**Pg**	**Pg**	**10 08 12.1**	**0.0**
	baz=234								
OWD				*e*S		**Sn**	**Sn**	**10 08 23.8**	**-1.0**
	baz=234								
NCUH	**Zhongli**	**0.87**	**307**	*e*P		**Pn**	**Pn**	**10 08 12.8**	**+0.1**
	baz=306								
NCUH				*e*S		**Sg**	**Sg**	**10 08 24.4**	**+0.4**
	baz=306								
LIOB	**Emei**	**0.88**	**284**	*e*P		**Pg**	**Pg**	**10 08 12.2**	**-0.2**
	baz=282								
LIOB				*e*S		**Sn**	**Sn**	**10 08 24.6**	**-0.5**
	baz=282								
EGFH	**Guangfu**	**0.90**	**212**	*e*S		**Sn**	**Sn**	**10 08 25.1**	**-0.7**
	baz=210								
JYNG	**Yonagunijimaku**	**0.91**	**89**	P		**Pb**	**Pb**	**10 08 12.3**	**-0.2**
JYNG				S		**Sb**	**Sb**	**10 08 23.9**	**-0.3**
WHP	**Taichung City**	**0.93**	**260**	*e*P		**Pn**	**Pn**	**10 08 13.5**	**-0.1**
	baz=259								
WHP				*e*S		**Sn**	**Sn**	**10 08 26.5**	**0.0**
	baz=259								
SBCB	**Hsinchu**	**0.95**	**292**	*e*S		**Sg**	**Sg**	**10 08 26.2**	**-0.1**
	baz=291								
YOJ	**Yonaguni jima**	**0.97**	**88**	P		**Pb**	**Pb**	**10 08 13.4**	**-0.1**
	baz=89								
YOJ				*e*S		**Sb**	**Sb**	**10 08 25.6**	**-0.4**
	baz=89								
YOJ	**Yonaguni jima**	**0.97**	**88**	P		**Pb**	**Pb**	**10 08 13.3**	**-0.2**
YOJ				S		**Sb**	**Sb**	**10 08 26.2**	**+0.2**
VWDT	**VWDT**	**1.01**	**227**	*e*P		**Pg**	**Pg**	**10 08 15.4**	**+0.5**
	baz=226								
VWDT				*e*S		**Sg**	**Sg**	**10 08 29.7**	**+1.5**
	baz=226								
HGSD	**Ruisui**	**1.06**	**207**	*e*P		**Pg**	**Pg**	**10 08 16.0**	**+0.1**
	baz=206								
HGSD				*e*S		**Sg**	**Sg**	**10 08 30.8**	**+1.0**
	baz=206								
TWQ1	**Liyutan**	**1.08**	**265**	*e*S		**Sg**	**Sg**	**10 08 30.3**	**-0.1**
	baz=264								
EHY	**Hungye**	**1.09**	**212**	*e*P		**Pg**	**Pg**	**10 08 16.5**	**-0.1**
	baz=210								
SMLT	**Sun Moon Lake**	**1.11**	**240**	*e*P		**Pg**	**Pg**	**10 08 16.6**	**-0.3**
	baz=238								
SSLB	**Suanglung**	**1.12**	**235**	P		**Pg**	**Pg**	**10 08 17.3**	**+0.3**
	baz=233								
SSLB				*e*S		**Sg**	**Sg**	**10 08 32.0**	**+0.2**
	baz=233								
TYC	**Yuchr**	**1.13**	**242**	*e*P		**Pb**	**Pb**	**10 08 16.4**	**0.0**
	baz=240								
TYC				*e*S		**Sg**	**Sg**	**10 08 32.5**	**+0.3**
	baz=240								
PCYT	**Pengchaiyu**	**1.19**	**5**	*e*P		**Pn**	**Pn**	**10 08 17.3**	**+0.2**
	baz=6.0								
PCYT				*e*S		**Sg**	**Sg**	**10 08 33.9**	**-0.2**
	baz=6.0								
WDJ	**Dajia District**	**1.20**	**266**	*e*P		**Pb**	**Pb**	**10 08 17.5**	**0.0**
	baz=264								
YULB	**Yu-li**	**1.20**	**210**	*e*P		**Pb**	**Pb**	**10 08 17.6**	**0.0**
	baz=208								
YULB				*e*S		**Sg**	**Sg**	**10 08 35.4**	**+1.0**
	baz=208								
TWF1	**Yuli**	**1.24**	**209**	*e*P		**Pg**	**Pg**	**10 08 19.0**	**-0.3**
	baz=207								
WHYT	**Xinyi Township**	**1.25**	**234**	*e*P		**Pg**	**Pg**	**10 08 19.1**	**-0.4**
	baz=232								
WHYT				*e*S		**Sg**	**Sg**	**10 08 35.6**	**-0.2**
	baz=232								
WJS	**Zhushan**	**1.27**	**241**	*e*P		**Pb**	**Pb**	**10 08 18.5**	**-0.3**
	baz=240								
CHN5	**Tsauling**	**1.44**	**235**	*e*P		**Pn**	**Pn**	**10 08 20.6**	**+0.1**
	baz=233								
CHN5				*e*S		**Sg**	**Sg**	**10 08 43.9**	**+2.1**
	baz=233								
IRIF	**Iriomote-Funau**	**1.62**	**93**	P		**Pn**	**Pn**	**10 08 22.8**	**-0.3**
IRIF				S		**Sn**	**Sn**	**10 08 43.8**	**+0.3**
JKRS	**Kuro-shima**	**1.89**	**96**	P		**Pn**	**Pn**	**10 08 27.2**	**+0.5**
JKRS				S		**Sn**	**Sn**	**10 08 50.3**	**+0.3**
JIJ	**Ishigaki jima**	**2.00**	**92**	P		**Pn**	**Pn**	**10 08 28.4**	**+0.2**
JIJ				S		**Sn**	**Sn**	**10 08 52.1**	**-0.7**
JISG	**Ishigakijimahi**	**2.15**	**86**	P		**Pn**	**Pn**	**10 08 29.7**	**-0.6**
JISG				S		**Sn**	**Sn**	**10 08 56.0**	**-0.6**

IDC 23 10:09:24.8±2.0,1°.65N×126°.13E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/27,mbtmp3.2/3,MS3.0/1,Ms1 3.0/1, ms1mx2.5/11,Error ellipse: s-maj=184.7km s-min=24.7km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JAY	**Jayapura**	**15.15**	**106**	LR		LR	LR	10 19 07.4	
	comp=Z,56nm,18.8s,baz=3.0,slow=38								
WRA	**Warramunga Arr**	**22.93**	**160**	P		P		10 14 30.1	-0.6
	0.5nm,0.5s,baz=338,slow=11,SNR=5.0								
ASAR	**Alice Springs**	**26.28**	**164**	P		P		10 15 02.6	+0.4
	0.2nm,0.6s,baz=346,slow=12,SNR=3.8								
MKAR	**Makanchi Array**	**58.92**	**326**	P		P		10 19 25.8	-0.1
	0.1nm,0.4s,baz=127,slow=7.7,SNR=3.9								

*ISCJB **23** 10:43:33.0±0.6,5°.97N±0°.04×124°.27E±0°.06,h54km, mb3.8/7,MS3.7/1,Error ellipse: s-maj=9.1km s-min=6.0km az=13.3*
*IDC **23** 10:43:38.7±3.1,6°.06N×124°.57E,h98km±30km,mb3.5/7, mb1 3.7/7,mb1mx3.2/41,mbtmp3.8/7,MS3.9/1,Ms1 3.9/1, ms1mx2.4/35,Error ellipse: s-maj=49.0km s-min=15.2km az=79.0*
ISC 23 10:43:33.7±0.8,5°.96N±0°.07×124°.27E±0°.05,h54km,n18, σ2s73/24,mb3.8/7,2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SKMP	**Bagumbayan, Su**	**0.62**	**26**	*e*P		**Pn**	**Pn**	**10 43 46.6**	**-0.1**
SKMP				*e*S		**Sn**	**Sn**	**10 43 54.9**	**-1.2**
CTBH	**Cotabato--PC H**	**1.25**	**359**	⇑*i*P		**Pn**	**Pn**	**10 43 55.7**	**+0.7**
CTBH				*i* S		**Sn**	**Sn**	**10 44 10.8**	**0.0**
KCP	**Kidapawan**	**1.32**	**38**	⇓*i*P		**Pn**	**Pn**	**10 43 56.0**	**0.0**
KCP				*i* S		**Sn**	**Sn**	**10 44 11.0**	**-1.7**
DDMP	**Don Marcelino,**	**1.44**	**84**	*e*P		**Pn**	**Pn**	**10 43 57.7**	**+0.2**
DDMP				*e*S		**Sn**	**Sn**	**10 44 08.2**	**-7.2**
DAV	**Davao City (W)**	**1.71**	**50**	P		**Pn**	**Pn**	**10 44 01.7**	**+0.6**
	40nm,0.3s,baz=222,slow=12,SNR=2.7								
DAV				S		**Sn**	**Sn**	**10 44 23.2**	**+1.4**
	89nm,0.3s,baz=302,slow=23,SNR=6.3								
DAV				LR		LR	LR	10 44 56.0	
	comp=Z,79nm,18.2s,baz=188,slow=55								
BUKP	**Musuan**	**2.06**	**22**	*e*P		**Pn**	**Pn**	**10 44 05.3**	**-0.7**
BUKP				*e*S		**Sn**	**Sn**	**10 44 29.0**	**-1.7**
PAGZ	**Pagadian**	**2.07**	**335**	*e*P		**Pn**	**Pn**	**10 44 05.7**	**-0.4**
PAGZ				*e*S		**Sn**	**Sn**	**10 44 24.4**	**-6.4**
IPIL	**Ipil**	**2.48**	**317**	*e*P		**Pn**	**Pn**	**10 44 13.0**	**+1.3**
IPIL				*e*S		**Sn**	**Sn**	**10 44 36.1**	**-4.6**
CGP	**Cagayan de Oro**	**2.51**	**10**	⇓*e*P		Pn	Pn	10 44 21.7	+10
CGP				*e*S		**Sn**	**Sn**	**10 44 46.1**	**+4.5**
DCPH	**Dipolog City**	**2.76**	**341**	⇑*e*P		Pn	Pn	10 44 21.6	+6.1
FITZ	**Fitzroy Crossi**	**23.94**	**177**	P		**P**	**P**	**10 48 45.3**	**+2.2**
	1.2nm,0.4s,baz=0.2,slow=9.4,SNR=9.2								
PMG	**Port Moresby**	**27.45**	**124**	LR		LR		11 00 59.6	
	comp=Z,243nm,21.6s,baz=164,slow=38								
WRA	**Warramunga Arr**	**27.58**	**159**	P		**P**		**10 49 16.4**	**+0.4**
	1.3nm,0.6s,baz=341,slow=9.4,SNR=17								
ASAR	**Alice Springs**	**30.91**	**163**	P		**P**		**10 49 46.6**	**+1.0**
	0.4nm,0.5s,baz=343,slow=6.9,SNR=15								
STKA	**Stephens Creek**	**41.09**	**157**	P		**P**		**10 51 12.8**	**+0.4**
	2.5nm,0.6s,baz=318,slow=7.2,SNR=2.8								
MKAR	**Makanchi Array**	**54.34**	**326**	P		**P**		**10 52 56.4**	**+1.5**
	0.3nm,0.5s,baz=116,slow=6.6,SNR=4.2								
ZALV	**Zaleosos Beam**	**57.51**	**334**	P		**P**		**10 53 17.7**	**+0.4**
	1.0nm,0.3s,baz=147,slow=6.7,SNR=5.1								
ILAR	**Eielson Array**	**84.16**	**26**	P		**P**		**10 55 57.2**	**-1.7**
	0.3nm,0.7s,baz=252,slow=5.3,SNR=5.6								

IDC 23 11:00:34.6±4.4,16°.46S×175°.58E,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.6/37,mbtmp3.8/4,MS4.4/1,Ms1 4.4/1, ms1mx3.0/23,Error ellipse: s-maj=188.1km s-min=42.0km az=147.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
RAO	**Raoul Island**	**14.06**	**156**	LR		LR	LR	11 08 16.4	
	comp=Z,2μm,21.1s,baz=66,slow=33								
WRA	**Warramunga Arr**	**39.26**	**259**	P		P		11 08 06.6	+1.2
	0.9nm,0.9s,baz=94,slow=8.3,SNR=2.2								
ASAR	**Alice Springs**	**39.69**	**253**	P		P		11 08 08.8	-0.1
	0.9nm,1.0s,baz=79,slow=9.5,SNR=4.2								
CMAR	**Chiang Mai Arr**	**83.00**	**291**	P		P		11 13 01.0	-1.3
	1.3nm,0.3s,baz=119,slow=3.3,SNR=8.1								
YKA	**Yellowknife Ar**	**95.49**	**26**	P		P		11 14 01.8	+0.8
	0.1nm,0.9s,baz=245,slow=4.3,SNR=2.1								

IDC 23 11:11:44.5±2.7,26°.37N×141°.58E,h63km±28km,mb3.2/4, mb1 3.4/4,mb1mx3.1/36,mbtmp3.5/4,MS3.2/2,Ms1 3.2/2, ms1mx2.5/16,Error ellipse: s-maj=78.9km s-min=22.7km az=101.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JCJ	**Chichijima**	**0.91**	**37**	P	

PB02				*i* S	**Sn**	**11 19 31.5**	**+0.3**
PB02				IAML		11 19 32.2	
	comp=N,873nm,0.3s						
PB08	**IPOC Station P**	**1.47**	**339**⇑	*i* P	**Pn**	**11 19 14.6**	**+0.5**
PB08				*i* S	**Sn**	**11 19 36.4**	**+0.4**
PB08				IAML		11 19 39.4	
	comp=E,163nm,0.3s						
PB06	**IPOC Station P**	**1.50**	**218**⇓	*i* P	**Pn**	**11 19 14.3**	**+0.1**
PB06				*e*S	**Sn**	**11 19 36.0**	**-0.2**
PB06				IAML		11 19 36.7	
	comp=E,517nm,0.1s						
PB04	**IPOC Station P**	**1.66**	**240**	*e*P	**Pn**	**11 19 16.1**	**+0.1**
PB04				IAML		11 19 40.7	
	comp=N,273nm,0.1s						
PB15	**IPOC Station P**	**1.87**	**206**	*i* P	**Pn**	**11 19 18.8**	**+0.3**
PB15	**IPOC Station P**	**1.87**	**206**⇓	*i*P	**Pn**	**11 19 18.5**	**0.0**
PB15				*i* S	**Sn**	**11 19 44.2**	**+0.3**
GO01	**Chusmiza**	**1.93**	**343**	*e*P	**Pn**	**11 19 19.5**	**+0.1**
GO01				*e*S	**Sn**	**11 19 45.7**	**+0.3**
PB05	**IPOC Station P**	**2.00**	**228**	*e*P	**Pn**	**11 19 20.1**	**+0.1**
PB11	**IPOC Station P**	**2.01**	**330**⇑	*i* P	**Pn**	**11 19 19.8**	**-0.3**
PB11				*i* S	**Sn**	**11 19 46.7**	**-0.1**
PB11				IAML		11 19 47.6	
	comp=E,228nm,0.3s						
PSGC	**Pisagua**	**2.39**	**323**⇑	*i* P	**Pn**	**11 19 24.0**	**-0.7**
PSGC				*i* S	**Sn**	**11 19 54.2**	**-0.8**
PSGC				IAML		11 19 58.7	
	comp=E,64nm,0.4s						
MNMC	**Minye Minye**	**2.56**	**338**	*e*P	**Pn**	**11 19 27.0**	**+0.1**
MNMC				*i* S	**Sn**	**11 19 59.2**	**+0.3**
MNMC				IAML		11 20 02.4	
	comp=N,196nm,0.2s						
HJA	**Humahuaca**	**3.39**	**120**	*i* P	**Pn**	**11 19 37.6**	**0.0**
HJA				IAML		11 19 38.9	
	comp=Z,12nm,0.6s						

*IDC **23** 11:24:18.2±1.9, 46°.56N×142°.67E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/43, mbtmp3.2/4, ML2.7/1, Error ellipse: s-maj=54.0km s-min=29.9km az=142.0*
*ISCJB **23** 11:24:39.5±0.7, 45°.05N±0°.07×143°.0E±0°.1, h300km, mb2.8/3, Error ellipse: s-maj=11.6km s-min=9.5km az=0.7*
*JMA **23** 11:24:40.2±0.3, 45°.23N×142°.86E, h280km, M3.0*
ISC 23 11:24:39.9±0.9, 45°.09N±0°.09×142°.95E±0°.09, h300km, n14, σ2s06/19, mb2.6/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.78**	**287**	P	**Pn**	**11 25 17.0**	**-2.3**
JWK2				*e*S	**S**	**11 25 45.6**	**-5.0**
JMP	**Maruseppu**	**1.12**	**165**	P	**Pn**	**11 25 20.2**	**-0.8**
JTKR	**Abashiri--Toko**	**1.31**	**148**	P	**Pn**	**11 25 21.6**	**-0.3**
JAR	**Ashorobuto**	**1.89**	**161**	P	**Pn**	**11 25 26.0**	**+0.1**
JAR				*e*S	**S**	**11 26 02.8**	**+0.3**
JAK	**Akkeshi**	**2.44**	**148**	*e*S	**S**	**11 26 09.0**	**-1.7**
JCH	**Churui**	**2.49**	**173**	P	**Pn**	**11 25 30.1**	**-0.8**
JCH				*e*S	**S**	**11 26 08.7**	**-2.9**
JEW	**Eniwo**	**2.50**	**206**	P	**Pn**	**11 25 31.7**	**+0.8**
NEM2	**Nemuro 2**	**2.65**	**130**	P	**Pn**	**11 25 31.7**	**-0.6**
NEM2				*e*S	**S**	**11 26 10.9**	**-3.1**
JNBK	**Urakawa-nobuka**	**2.81**	**183**	P	**Pn**	**11 25 34.6**	**+0.7**
JKB	**Kayabe**	**3.49**	**204**	P	**Pn**	**11 25 40.2**	**-0.5**
JKB				*e*S	**S**	**11 26 27.1**	**-2.2**
MJAR	**Matsushiro Arr**	**9.26**	**204**	Pn	**Pn**	**11 26 50.9**	**+1.9**
	0.1nm,0.3s,baz=16,slow=14,SNR=2.3						
SONM	**Songino Array**	**25.18**	**289**	P	**P**	**11 29 39.5**	**+0.9**
	0.6nm,0.4s,baz=86,slow=9.1,SNR=5.3						
ILAR	**Eielson Array**	**42.20**	**37**	P	**P**	**11 32 04.8**	**+1.3**
	0.2nm,0.5s,baz=256,slow=7.8,SNR=1.6						
YKA	**Yellowknife Ar**	**56.34**	**33**	P	**P**	**11 33 51.2**	**+1.6**
	0.1nm,0.5s,baz=308,slow=7.3,SNR=5.2						

*IDC **23** 11:58:00.7±13.0, 17°.06S×178°.91W, h498km±170km, mb3.0/8, mb1 3.4/8, mb1mx3.1/27, mbtmp3.8/8, Error ellipse: s-maj=99.2km s-min=39.8km az=165.0*
*ISCJB **23** 11:58:02.7±1.3, 17°.1S±0°.6×179°.0W±0°.4, h533km, mb3.4/8, Error ellipse: s-maj=85.0km s-min=16.5km az=148.7*
ISC 23 11:58:03.4±1.5, 17°.1S±0°.5×179°.0W±0°.4, h533km, n9, σ0s22/9, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.55**	**240**	P	**P**	**12 04 40.2**	**-0.2**
	0.9nm,0.4s,baz=20,slow=12,SNR=1.8						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**12 05 25.8**	**0.0**
	0.4nm,0.3s,baz=92,slow=7.9,SNR=21						
ASAR	**Alice Springs**	**44.49**	**253**	P	**P**	**12 05 28.0**	**+0.3**
	4.8nm,0.6s,baz=89,slow=7.9,SNR=116						
NVAR	**Mina Array Bea**	**79.23**	**44**	P	**P**	**12 09 14.0**	**+0.3**
	0.7nm,0.6s,baz=216,slow=8.4,SNR=5.5						
ILAR	**Eielson Array**	**85.24**	**13**	P	**P**	**12 09 43.1**	**-0.1**
	0.2nm,0.4s,baz=218,slow=5.5,SNR=5.2						
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**	**12 09 48.0**	**0.0**
	0.9nm,0.8s,baz=218,slow=5.1,SNR=12						
PDAR	**Pinedale Array**	**87.15**	**44**	P	**P**	**12 09 53.0**	**-0.2**
	0.4nm,0.6s,baz=226,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**93.84**	**25**	P	**P**	**12 10 23.1**	**-0.1**
	0.1nm,0.6s,baz=243,slow=3.9,SNR=3.2						
GERES	**GERESS Array B**	**146.71**	**345**	PKPbc	**PKPbc**	**12 16 45.6**	**0.0**
	0.4nm,0.5s,baz=56,slow=3.7,SNR=2.3						

*ISCJB **23** 12:17:59.5±0.6, 28°.30S±0°.07×175°.9W±0°.1, h10km, mb4.0/10, MS3.8/6, Error ellipse: s-maj=16.1km s-min=7.4km az=24.9*
*NEIC **23** 12:17:59.9±0.6, 28°.12S×175°.88W, h10km, mb4.2/8, Error ellipse: s-maj=18.1km s-min=9.0km az=120.0*
*IDC **23** 12:18:02.5±1.0, 27°.96S×176°.46W, h0km, mb4.0/8, mb1 4.3/9, mb1mx4.1/22, mbtmp4.0/9, ML4.1/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/26, Error ellipse: s-maj=38.6km s-min=25.7km az=149.0*
ISC 23 12:18:00.9±0.6, 28°.17S±0°.09×175°.89W±0°.10, h10km, n47, σ1s74/35, mb4.1/10, MS3.7/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.08**	**238**	*e*Pn	**Pn**	**12 18 35.1**	**-0.7**
RAO				*e*Sn	**Sb**	**12 19 03.6**	**-1.1**
RAO	**Raoul Island**	**2.08**	**238**	Pn	**Pg**	**12 18 40.5**	**-0.4**
	119nm,0.3s,baz=68,slow=10,SNR=7.9						
RAO				Sn	**Sb**	**12 19 06.2**	**+1.5**
	408nm,0.3s,baz=40,slow=22,SNR=11						
NIUE	**Niue**	**10.57**	**32**	*e*Pn	**Pn**	**12 20 28.1**	**-4.4**
URZ	**Urewera**	**11.64**	**208**	*e*Pn	**Pn**	**12 20 46.8**	**-0.3**
URZ				*e*Sn	**Sn**	**12 22 55.7**	**-1.4**
URZ	**Urewera**	**11.64**	**208**	Pn	**Pn**	**12 20 45.1**	**-1.9**
	0.3nm,0.3s,baz=171,slow=19,SNR=3.4						
URZ				Sn	**Sn**	**12 22 55.7**	**-1.4**
	1.2nm,0.3s,baz=357,slow=22,SNR=10.0						
BKZ	**Black Stump Fm**	**12.67**	**208**	*e*Pn	**Pn**	**12 21 00.0**	**-1.1**
BFZ	**Birch Farm**	**14.06**	**205**	*e*Pn	**Pn**	**12 21 19.6**	**-0.5**
RAR	**Rarotonga**	**16.19**	**68**	*e*Pn	**Pn**	**12 21 47.5**	**-1.0**
	18nm,0.9s						
RAR	**Rarotonga**	**16.19**	**68**	Pn	**Pn**	**12 21 47.8**	**-0.7**
	0.6nm,0.3s,baz=325,slow=12,SNR=3.3						
RAR				LR	LR	12 28 59.5	
	comp=Z,133nm,18.0s,baz=261,slow=40						
THZ	**Tophouse**	**16.36**	**211**	*e*Pn	**Pn**	**12 21 49.6**	**-1.0**
	7.7nm,0.5s						
KHZ	**Kahutara**	**16.61**	**208**	*e*Pn	**Pn**	**12 21 53.1**	**-0.6**
	15nm,1.0s						
DZM	**Mont Dzumac**	**17.11**	**287**	*e*LR	LR	12 25 57.2	
	comp=Z,853nm,27.8s						
OXZ	**Oxford**	**17.99**	**210**	*e*Pn	**Pn**	**12 22 10.8**	**-0.3**
	14nm,0.8s						
MQZ	**McQueen's Vall**	**18.04**	**208**	*e*P	**P**	**12 22 11.4**	**-0.6**
	28nm,1.1s						
RPZ	**Rata Peaks**	**18.74**	**211**	*e*P	**P**	**12 22 19.0**	**-0.8**
	16nm,1.0s						
RPZ	**Rata Peaks**	**18.74**	**211**	P	**Pn**	**12 22 22.8**	**+2.6**
	0.5nm,0.3s,baz=342,slow=20,SNR=2.8						
RPZ				LR	LR	12 28 44.3	
	comp=Z,119nm,21.4s,baz=12,slow=34						
TBI	**Tubuai**	**24.26**	**85**	*e*LR	LR	12 29 08.9	
	comp=Z,241nm,29.8s						
TBI	**Tubuai**	**24.26**	**85**	*e*T	T	12 48 24.7	
	2.3nm,0.3s						
PAE	**Paea**	**26.34**	**72**	*e*T	T	12 50 57.9	
	2.6nm,0.2s						
PPT2	**Papeete2**	**26.37**	**72**	*e*LR	LR	12 30 09.6	
	comp=Z,254nm,28.8s						
PPT2	**Papeete2**	**26.37**	**72**	*e*T	T	12 51 01.6	
	1.3nm,0.2s						
PPT	**Papeete**	**26.38**	**72**	LR	LR	12 33 44.6	
	comp=Z,121nm,18.1s,baz=248,slow=35						
TVO	**Taravao**	**26.56**	**73**	*e*T	T	12 51 14.7	
	0.4nm,0.3s						
VAH	**Vaihoa**	**29.16**	**70**	*e*T	T	12 54 29.3	
	6.2nm,0.2s						
STKA	**Stephens Creek**	**36.83**	**254**	LR	LR	12 37 59.9	
	comp=Z,116nm,18.6s,baz=40,slow=33						
TAOE	**Nuku Hiva Isla**	**38.74**	**67**	*e*LR	LR	12 36 01.3	
	comp=Z,1μm,27.4s						
AS01	**Alice Springs**	**45.09**	**264**	*e*P	**P**	**12 26 14.6**	**-2.9**
ASAR	**Alice Springs**	**45.13**	**264**	P	**P**	**12 26 16.9**	**-0.8**
	1.9nm,0.9s,baz=113,slow=9.0,SNR=12						
ASAR				LR	LR	12 45 38.5	
	comp=Z,135nm,18.0s,baz=104,slow=37						
WR1	**Warramunga Arr**	**45.92**	**269**	*e*P	**P**	**12 26 22.6**	**-1.4**
	4.1nm,1.1s						
WRA	**Warramunga Arr**	**45.92**	**269**	P	**P**	**12 26 22.6**	**-1.4**
	2.2nm,0.9s,baz=106,slow=7.9,SNR=10.0						
WRA				LR	LR	12 44 19.2	
	comp=Z,76nm,18.8s,baz=220,slow=35						
SIJI	**Sorong**	**57.30**	**289**	LR	LR	12 51 08.0	
	comp=Z,49nm,18.2s,baz=280,slow=35						
BATI	**Baumata**	**59.25**	**275**	LR	LR	12 53 45.0	
	comp=Z,217nm,18.9s,baz=124,slow=36						
QSPA	**South Pole Qui**	**61.94**	**180**	*e*P	**P**	**12 28 22.0**	**+1.4**
	1.2nm,0.8s						
MJAR	**Matsushiro Arr**	**77.50**	**324**	P	**P**	**12 29 57.1**	**+0.4**
	1.9nm,0.9s,baz=167,slow=6.3,SNR=3.5						
MAJO	**Matsushiro**	**77.50**	**324**	*e*P	**P**	**12 29 57.1**	**+0.4**
KSRS	**Korea Array**	**83.88**	**318**	P	**P**	**12 30 32.5**	**+1.7**
	1.5nm,0.9s,baz=134,slow=7.0,SNR=3.9						
KSAR	**Wonju Array Be**	**83.89**	**318**	P	**P**	**12 30 32.5**	**+1.6**
NVAR	**Mina Array Bea**	**85.35**	**42**	P	P	12 30 42.4	+3.8
	0.2nm,0.5s,baz=200,slow=6.6,SNR=2.4						
TXAR	**Lajitas Array**	**89.63**	**56**	P	P	12 31 04.4	+5.2
	0.7nm,1.2s,baz=258,slow=3.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**94.43**	**288**	P	**P**	**12 31 23.0**	**+1.4**
	0.2nm,0.4s,baz=145,slow=4.9,SNR=3.3						
ILAR	**Eielson Array**	**95.36**	**12**	P	**P**	**12 31 27.1**	**+2.4**
	0.5nm,1.0s,baz=205,slow=4.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**117.58**	**319**	PKP	**PKiKP**	**12 36 49.4**	**+2.7**
	0.3nm,0.5s,baz=114,slow=1.7,SNR=2.5						
MKAR	**Makanchi Array**	**117.74**	**311**	PKP	**PKiKP**	**12 36 48.3**	**+1.1**
	0.3nm,0.6s,baz=130,slow=2.0,SNR=3.7						
FINES	**FINESS Array B**	**143.63**	**342**	PKhKP	PKPpre	12 37 33.8	
	1.0nm,0.8s,baz=36,slow=7.1,SNR=4.7						
NOA	**NORSAR Array B**	**146.78**	**354**	PKPbc	**PKiKP**	**12 37 44.7**	**-0.6**
	1.3nm,0.8s,baz=4.6,slow=2.3,SNR=5.1						
BRTR	**Keskin Array B**	**153.05**	**303**	PKPab	**PKPab**	**12 38 11.2**	**+0.9**
	1.1nm,0.9s,baz=34,slow=5.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**164.89**	**171**	PKPab	**PKPab**	**12 39 05.6**	**+3.8**
	0.5nm,0.6s,baz=193,slow=5.0,SNR=3.6						

IDC 23 12:47:11.7±2.3, 7°.98S×131°.69E, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.4/27, mbtmp3.5/5, ML2.9/3, Error ellipse: s-maj=81.1km s-min=33.0km az=96.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.65**	**210**	Pn	Pn	12 49 58.7	-0.6
	0.1nm,0.3s,baz=32,slow=9.5,SNR=1.2						
WRA	**Warramunga Arr**	**12.16**	**168**	Pn	Pn	12 50 07.0	+0.6
	0.1nm,0.3s,baz=354,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**15.74**	**172**	Pn	Pn	12 50 54.6	-0.3
	0.1nm,0.3s,baz=346,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**25.50**	**160**	P	P	12 52 42.0	+0.1
	0.9nm,0.4s,baz=340,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**93.52**	**25**	P	P	13 00 29.1	-0.1
	0.3nm,0.8s,baz=251,slow=5.4,SNR=4.0						

*IDC **23** 13:00:01.5±1.2, 0°.73S×12°.81W, h0km, mb4.0/12, mb1 4.2/14, mb1mx3.9/57, mbtmp4.1/14, ML4.4/2, MS3.7/11, Ms1 3.7/11, ms1mx3.5/35, Error ellipse: s-maj=33.2km s-min=19.9km az=65.0*
*ISCJB **23** 13:00:02.0±0.7, 0°.66S±0°.09×12°.7W±0°.1, h10km, mb4.0/12, MS3.7/9, Error ellipse: s-maj=16.2km s-min=12.2km az=25.5*
*NEIC **23** 13:00:03.0±0.7, 0°.73S×12°.82W, h10km, mb4.2/1, Error ellipse: s-maj=15.9km s-min=12.9km az=82.0*
ISC 23 13:00:03.6±0.9, 0°.7S±0°.1×12°.7W±0°.1, h10km, n37, σ1s36/26, mb4.0/12, MS3.6/9, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**7.33**	**194**	T	T	13 09 12.1	
	baz=9.6,slow=74,SNR=346						
H10N1	**ASCENSION HYDR**	**7.35**	**194**	T	T	13 08 58.3	
	baz=9.6,slow=74,SNR=466						
H10N3	**ASCENSION HYDR**	**7.35**	**194**	T	T	13 08 58.2	
	baz=9.6,slow=74,SNR=222						
H10S1	**ASCENSION HYDR**	**8.45**	**193**	T	T	13 10 20.4	
	baz=6.7,slow=74,SNR=9.2						
H10S3	**ASCENSION HYDR**	**8.46**	**193**	T	T	13 10 22.1	
	baz=6.7,slow=74,SNR=11						
H10S2	**ASCENSION HYDR**	**8.46**	**193**	T	T	13 10 30.9	
	baz=6.7,slow=74,SNR=8.7						
LIC	**Lamto**	**10.29**	**48**	*e*P	**Pn**	**13 02 34.8**	**+3.3**
	20nm,0.2s						
TIC	**Toumodi**	**10.58**	**47**	*e*P	**Pn**	**13 02 36.3**	**+0.9**
KIC	**Kosan Boka**	**10.59**	**49**	*e*P	**Pn**	**13 02 37.2**	**+1.6**
	9.6nm,0.2s						
DBIC	**Dimbokro**	**10.71**	**47**	*e*Pn	**Pn**	**13 02 38.5**	**+1.2**
DBIC				*e*Sn	Sn	13 04 29.6	-7.8
DBIC	**Dimbokro**	**10.71**	**47**	Pn	**Pn**	**13 02 37.7**	**+0.5**
	2.2nm,0.3s,baz=218,slow=11,SNR=37						
DBIC				Sn	**Sn**	**13 04 34.5**	**-2.8**
	1.7nm,0.3s,baz=120,slow=20,SNR=3.1						
DBIC				LR	LR	13 06 20.8	
	comp=Z,477nm,19.5s,baz=203,slow=35						
TOA0	**Torodi Ar. Sit**	**19.82**	**46**	*e*P	**Pn**	**13 04 35.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**19.82**	**46**	P	**P**	**13 04 34.5**	**-0.1**
	1.2nm,0.3s,baz=229,slow=10,SNR=45						
TORD				S	S	13 08 07.8	-10
	0.3nm,0.3s,baz=228,slow=23,SNR=3.3						
TORD				LR	LR	13 11 55.8	
	comp=Z,341nm,18.4s,baz=295,slow=36						
TOA1	**Torodi Ar. Sit**	**19.82**	**46**	*e*P	**P**	**13 04 34.5**	**-0.1**
TSUM	**Tsumeb**	**34.96**	**124**	*e*P	**P**	**13 06 56.2**	**-0.2**
	2.0nm,0.6s						
TSUM	**Tsumeb**	**34.96**	**124**	P	**P**	**13 06 56.4**	**0.0**
	0.9nm,0.9s,baz=279,slow=6.4,SNR=5.3						
ESDC	**Sonseca Array**	**40.94**	**10**	LR	LR	13 24 25.4	
	comp=Z,81nm,18.9s,baz=200,slow=36						
KEST	**Kesra**	**41.65**	**27**	LR	LR	13 26 49.2	
	comp=Z,269nm,18.5s,baz=209,slow=38						
LSZ	**Lusaka**	**42.93**	**112**	P	**P**	**13 08 03.9**	**+0.7**
	4.8nm,0.7s,baz=301,slow=5.5,SNR=4.5						
LBTB	**Lobatse**	**44.23**	**126**	P	**P**	**13 08 12.7**	**-0.9**
	5.2nm,0.7s,baz=296,slow=6.5,SNR=7.5						
LBTB				LR	LR	13 24 00.8	
	comp=Z,53nm,19.6s,baz=278,slow=32						
SUR	**Sutherland**	**44.66**	**138**	LR	LR	13 24 59.6	
	comp=Z,73nm,18.2s,baz=226,slow=34						
BOSA	**Boshof**	**45.70**	**131**	P	**P**	**13 08 23.8**	**-1.5**
	7.5nm,0.9s,baz=312,slow=12,SNR=6.7						
GERES	**GERESS Array B**	**54.34**	**21**	P	**P**	**13 09 30.3**	**-0.2**
	1.3nm,0.8s,baz=186,slow=5.4,SNR=4.9						
GERES				LR	LR	13 33 52.8	
	comp=Z,71nm,19.9s,baz=287,slow=37						
BR101	**Keskin Array S**	**58.34**	**41**	*e*P	**P**	**13 10 01.1**	**+1.8**
BRTR	**Keskin Array B**	**58.34**	**41**	P	**P**	**13 10 01.1**	**+1.8**
	1.3nm,1.0s,baz=233,slow=5.5,SNR=3.1						
BRTR				LR	LR	13 38 16.0	
	comp=Z,37nm,19.6s,baz=252,slow=39						
AKASG	**Malin Array Be**	**62.35**	**29**	LR	LR	13 40 54.5	
	comp=Z,42nm,18.1s,baz=260,slow=39						
NB200	**NORSAR Array S**	**64.23**	**13**	*e*P	**P**	**13 10 37.6**	**-1.0**
NOA	**NORSAR Array B**	**64.23**	**13**	P	**P**	**13 10 37.6**	**-1.0**
	1.1nm,0.9s,baz=206,slow=6.4,SNR=3.1						
NOA				LR	LR	13 38 55.9	
	comp=Z,28nm,18.1s,baz=210,slow=36						
FIA0	**FINESS Array S**	**68.63**	**19**	*e*P	**P**	**13 11 06.2**	**-0.6**
FINES	**FINESS Array B**	**68.63**	**19**	P	**P**	**13 11 06.2**	**-0.6**
	0.9nm,0.8s,baz=217,slow=6.0,SNR=4.9						
FINES				LR	LR	13 43 53.2	
	comp=Z,54nm,18.1s,baz=206,slow=38						
BVAR	**Borovoye Array**	**86.37**	**37**	P	**P**	**13 12 46.5**	**+0.3**
	0.4nm,0.7s,baz=256,slow=5.8,SNR=2.8						
TXAR	**Lajitas Array**	**91.14**	**299**	P	**P**	**13 13 10.7**	**+1.3**
	0.4nm,0.8s,baz=124,slow=6.0,SNR=2.6						
MK32	**Makanchi Array**	**93.92**	**43**	*e*P	**P**	**13 13 22.0**	**+0.2**
MKAR	**Makanchi Array**	**93.92**	**43**	P	**P**	**13 13 22.0**	**+0.2**
	0.5nm,0.8s,baz=220,slow=0.9,SNR=4.8						
PDAR	**Pinedale Array**	**95.47**	**313**	P	**P**	**13 13 27.3**	**-2.0**
	0.1nm,0.4s,baz=113,slow=9.2,SNR=2.3						
ASAR	**Alice Springs**	**139.56**	**129**	PKhKP	PKPpre	13 19 20.8	
	0.5nm,0.8s,baz=224,slow=2.5,SNR=7.8						
WRA	**Warramunga Arr**	**141.78**	**124**	PKhKP	PKPpre	13 19 25.6	
	0.5nm,0.9s,baz=251,slow=1.9,SNR=3.6						

GUC 23 13:04:34.5±0.6, 35°.05S×73°.23W, h23km±4km, ML3.8, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHPI	**Pichilemu**	**1.20**	**57**	*e*S	Sn	13 05 10.2	-1.2
CCHI	**Chillan**	**1.81**	**149**	*e*P	Pn	13 05 04.4	+0.1
CCHI				IAML		13 05 31.6	
	comp=N,1μm,0.4s						
LMEL	**Las Melosas**	**2.77**	**65**	*e*P	Pn	13 05 18.7	+1.1
LMEL				*e*S	Sn	13 05 51.8	+1.4
LMEL				IAML		13 05 60.0	
	comp=N,406nm,0.6s						
ROCH	**El Roble**	**2.77**	**42**	*e*P	Pn	13 05 18.7	+1.1
ROCH				IAML		13 06 04.4	
	comp=N,348nm,0.6s						
CLCH	**Cerro Calan**	**2.77**	**54**	*e*P	Pn	13 05 18.0	+0.4
CLCH				IAML		13 06 04.9	
	comp=N,634nm,0.6s						
PEL	**Peldehue**	**2.84**	**49**	*e*P	Pn	13 05 19.5	+1.1
PEL				*i* S	Sn	13 05 53.1	+1.2
PEL				IAML		13 06 12.1	
	comp=N,232nm,0.5s						
FCH	**Farellones**	**2.98**	**56**	*e*P	Pn	13 05 21.2	+0.6
FCH				*i* S	Sn	13 05 52.9	-2.9
FCH				IAML		13 06 08.5	
	comp=E,261nm,0.7s						

*ISCJB **23** 13:14:01.3±0.3, 60°.93S±0°.06×19°.2W±0°.2, h10km, mb4.9/30, MS4.6/23, Error ellipse: s-maj=12.8km s-min=5.3km az=146.5*
*IDC **23** 13:14:01.1±0.4, 60°.63S×19°.00W, h0km, mb4.9/20, mb1 4.9/20, mb1mx4.8/28, mbtmp4.8/20, MS4.5/21, Ms1 4.5/21, ms1mx4.4/26, Error ellipse: s-maj=18.9km s-min=12.7km az=50.0*
*NEIC **23** 13:14:02.2±0.3, 60°.73S×19°.32W, h10km, mb5.0/16, Error ellipse: s-maj=12.0km s-min=7.9km az=221.0*
*BJI **23** 13:14:04.5, 60°.70S×19°.50W, h20km, mB5.5/6, Ms5.2/6, Ms7 5.0/4*
*GCMT **23** 13:14:06.2±0.1, 61°.07S±0°.01×19°.49W±0°.02, h17km, MW5.3/106, Moment Tensor Solution. s67,c100; s106,c174; Duration: 181 Moment tensor: Scale 10^17 Nm; Mrr-0.10±.02; Mtθ-0.46±.02; Mpφ0.56±.02; Mrθ-0.22±.05; Mtφ0.83±.02; Mrφ0.10±.04; Best double couple: M0 1.00500×10^17 NP1:φs73.00000°, δ80.00000°, λ-12.00000°. NP2:φs165.00000°, δ79.00000°, λ-170.00000°. Principal axes: T 1.0250, Plg1.0000°, Azm119.0000°; N -0.0380, Plg75.0000°, Azm213.0000°; P -0.9860, Plg15.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 13:14:02.8±0.3, 60°.84S±0°.08×19°.43W±0°.07, h10km, n133, σ1s68/118, mb4.9/30, MS4.6/23, 1C-1D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**10.84**	**160**	P	**Pn**	**13 16 37.8**	**+0.1**
VNA3	**Neumayer Olymp**	**11.15**	**164**	P	**Pn**	**13 16 41.2**	**-0.8**
VNA2	**Neumayer--Watz**	**11.22**	**159**	P	**Pn**	**13 16 41.9**	**-1.1**
	baz=324,slow=13						
HOPE	**Hope Point**	**11.25**	**298**	*e*Pn	**Pn**	**13 16 41.6**	**-1.8**
SNAA	**Sanae**	**12.69**	**156**	P	**Pn**	**13 17 01.5**	**-1.6**
SNAA	**Sanae**	**12.69**	**156**	*e*Pn	**Pn**	**13 17 01.8**	**-1.2**
SNAA				*e*Sn	Sn	13 19 08.8	-15
SNAA	**Sanae**	**12.69**	**156**	Pn	**Pn**	**13 17 01.4**	**-1.6**
	16nm,0.3s,baz=317,slow=14,SNR=202						
SNAA				Sn	Sn	13 19 08.8	-15
	4.0nm,0.3s,baz=298,slow=15,SNR=6.3						
SNAA				LR	LR	13 21 05.5	
	comp=Z,2μm,21.3s,baz=323,slow=33						
PMSA	**Palmer Station**	**20.42**	**240**	P	Pn	13 18 47.6	+5.8
	45nm,0.4s,baz=84,slow=8.8,SNR=24						
PMSA				LR	LR	13 25 22.3	
	comp=Z,930nm,20.1s,baz=100,slow=33						
PMSA	**Palmer Station**	**20.42**	**240**	*e*P

comp=Z,826nm,21.8s,baz=123,slow=32
LVC Limon Verde 51.15 296 *e*P **P** **13 23 03.2 -2.9**
15nm,0.9s
LVC Limon Verde 51.15 296 P **P** **13 23 06.1 0.0**
9.9nm,0.8s,baz=172,slow=8.1,SNR=6.8
LVC Limon Verde 51.15 296 *e*P **P** **13 23 06.5 +0.4**
H10S2 ASCENSION HYDR 51.90 6 T T 14 19 26.0
baz=183,slow=75,SNR=12
H10S3 ASCENSION HYDR 51.91 6 T T 14 19 32.3
baz=183,slow=75,SNR=13
H10S1 ASCENSION HYDR 51.92 6 T T 14 19 26.5
baz=183,slow=75,SNR=12
H10N1 ASCENSION HYDR 53.01 6 T T 14 20 50.1
baz=188
H10N3 ASCENSION HYDR 53.02 6 T T 14 20 53.9
baz=188,slow=74
H10N2 ASCENSION HYDR 53.03 6 T T 14 21 03.8
baz=188,slow=74
PEXB Peixe 53.05 324 *e*P **P** **13 23 22.2 +2.3**
SIV San Ignacio 53.80 308 P **P** **13 23 25.2 -0.2**
9.6nm,1.0s,baz=165,slow=6.7,SNR=28
PB11 IPOC Station P 53.98 296 *e*P **P** **13 23 25.9 -1.0**
48nm,1.1s
MNMC Minye Minye 54.51 297 *e*P **P** **13 23 29.7 -1.2**
52nm,0.8s
LPAZ La Paz 56.40 300 *e*P **P** **13 23 43.2 -1.7**
LPAZ La Paz 56.40 300 P **P** **13 23 45.0 +0.1**
19nm,0.9s,baz=133,slow=7.2,SNR=36
LPAZ LR LR 13 49 24.4
comp=Z,287nm,19.5s,baz=165,slow=38
LPAZ La Paz 56.40 300 *e*P **P** **13 23 44.8 -0.1**
NNA Nana 64.03 293 P **P** **13 24 38.7 +2.2**
34nm,1.2s,baz=185,slow=12,SNR=4.3
RPN Rapa Nui 66.66 256 P **P** **13 24 55.8 +2.4**
56nm,1.0s,baz=194,slow=4.2
PTGA Pitinga 67.47 315 P **P** **13 24 57.3 -1.3**
6.0nm,0.8s,baz=161,slow=8.7
PTGA Pitinga 67.47 315 *e*P **P** **13 25 00.4 +1.8**
DBIC Dimbokro 68.27 16 P **P** **13 25 00.7 -2.8**
22nm,0.9s,baz=175,slow=2.0,SNR=15
DBIC LR LR 13 48 58.4
comp=Z,276nm,18.7s,baz=169,slow=31
DBIC Dimbokro 68.27 16 *e*P **P** **13 25 01.1 -2.4**
ATAH Atahualpa 69.02 294 P **P** **13 25 10.3 +1.4**
5.3nm,0.7s,baz=122,slow=13,SNR=3.9
RPZ Rata Peaks 75.45 188 LR LR 13 56 36.4
comp=Z,232nm,19.2s,baz=195,slow=34
OTAV Otavalo 75.61 298 *e*P **P** **13 25 47.9 -0.4**
TOA0 Torodi Ar. Sit 75.64 21 *e*P **P** **13 25 45.5 -2.3**
TORD Torodi Ar. Bea 75.64 21 P **P** **13 25 45.8 -2.0**
7.8nm,0.9s,baz=192,slow=5.4,SNR=35
TORD LR LR 13 52 17.3
comp=Z,343nm,21.1s,baz=295,slow=30
TOA1 Torodi Ar. Sit 75.65 21 *e*P **P** **13 25 45.8 -2.0**
ROSC El Rosal 78.02 304 LR LR 14 02 23.8
comp=Z,180nm,19.4s,baz=180,slow=37
NWAO Narrogin (SRO) 80.09 144 LR LR 13 57 39.9
comp=Z,270nm,20.4s,baz=159,slow=33
URZ Urewera 80.32 193 LR LR 13 58 37.5
comp=Z,231nm,20.1s,baz=188,slow=33
STKA Stephens Creek 86.32 164 *e*P **P** **13 26 45.0 +0.3**
1.9nm,1.1s
STKA Stephens Creek 86.32 164 P **P** **13 26 44.6 0.0**
5.2nm,0.8s,baz=152,slow=17,SNR=7.8
STKA LR LR 14 03 15.0
comp=Z,1μm,19.9s,baz=190,slow=34
SJG San Juan 87.14 316 P **P** **13 26 48.3 -0.2**
13nm,0.3s,baz=345,slow=19,SNR=5.0
JTS JuntasAbangare 87.42 296 P **P** **13 26 51.7 +1.5**
1.6nm,0.3s,baz=282,slow=9.3,SNR=3.4
PPT2 Papeete2 92.25 227 *e*LR LR 13 56 58.7
comp=Z,437nm,29.0s
PPT Papeete 92.27 227 LR LR 14 04 39.6
comp=Z,105nm,18.3s,baz=195,slow=33
ASAR Alice Springs 93.05 156 P **P** **13 27 15.9 -0.6**
1.9nm,0.8s,baz=189,slow=4.3,SNR=17
ASAR LR LR 14 09 07.9
comp=Z,314nm,18.2s,baz=176,slow=36
AS01 Alice Springs 93.06 156 *e*P **P** **13 27 15.6 -1.0**
TAOE Nuku Hiva Isla 96.54 239 *e*LR LR 13 59 04.7
comp=Z,236nm,26.5s
WR1 Warramunga Arr 96.76 155 *e*P **P** **13 27 32.4 -1.1**
15nm,1.5s
WRA Warramunga Arr 96.76 155 P **P** **13 27 32.4 -1.1**
1.0nm,0.8s,baz=201,slow=3.8,SNR=6.8
WRA LR LR 14 11 31.3
comp=Z,210nm,18.1s,baz=165,slow=36
KEST Kesra 99.07 23 LR LR 14 09 30.2
comp=Z,300nm,18.2s,baz=210,slow=34
ANMO Albuquerque 118.44 291 PP PP 13 34 06.6 -0.8
0.4nm,0.3s,baz=146,slow=2.2,SNR=3.5
CMAR Chiang Mai Arr 119.69 106 PKP **PKiKP** **13 32 53.0 +0.3**
0.3nm,0.4s,baz=231,slow=2.9,SNR=4.1
CMAR PP **PP** **13 34 13.8 -1.7**
0.4nm,0.3s,baz=225,slow=4.6,SNR=4.4
NB200 NORSAR Array S 123.82 17 *e*PKPdf **PKPdf** **13 32 58.1 -1.2**
NOA NORSAR Array B 123.82 17 PKP **PKPdf** **13 32 58.1 -1.2**
0.7nm,0.9s,baz=178,slow=1.4,SNR=2.5
QIZ Qiongzhong 125.16 116 PKP **PKPdf** **13 33 02.8 -0.3**
QIZ PP **PP** **13 34 52.5 0.0**
QIZ SS SS 13 51 50.9 +1.9
QIZ LR LR
comp=E,82nm,5.9s
QIZ LR LR
comp=Z,170nm,4.7s
KSH Kashi 126.03 72 PKP **PKiKP** **13 33 07.3 +2.5**
KSH PP **PP** **13 35 05.3 +6.6**
KSH AMB AMB
comp=Z,110nm,5.3s
PDAR Pinedale Array 126.21 294 PKP **PKiKP** **13 33 05.3 +0.2**
0.9nm,0.9s,baz=111,slow=3.8,SNR=3.6
NVAR Mina Array Bea 126.80 284 PKP **PKiKP** **13 33 08.5 +2.0**
0.8nm,0.8s,baz=159,slow=2.7,SNR=3.5
FIA0 FINESS Array S 126.85 25 *e*PKPdf **PKPdf** **13 33 03.8 -1.2**
FINES FINESS Array B 126.85 25 PKP **PKPdf** **13 33 03.8 -1.2**
1.4nm,0.7s,baz=110,slow=2.2,SNR=5.2
KMI Kunming 127.19 106 PKP **PKPdf** **13 33 06.9 -0.2**
SFJD Kangerlussuaq 129.57 345 *e*P **PKPdf** **13 33 07.7 -2.3**
GYA Guiyang 130.16 109 *e*Pdif **Pdif** **13 30 02.0 0.0**
GYA PKP **PKiKP** **13 33 13.3 -0.1**
GYA PP **PP** **13 35 30.8 +5.1**
GYA AMB AMB
comp=Z,120nm,8.2s
CD2 Chengdu 132.53 103 PKP **PKPdf** **13 33 17.0 +0.1**
MK32 Makanchi Array 134.57 71 *e*PKPdf **PKPdf** **13 33 19.2 -1.0**
MKAR Makanchi Array 134.57 71 PKP **PKPdf** **13 33 19.2 -1.0**
1.5nm,0.9s,baz=241,slow=1.2,SNR=9.3
WMQ Urumqi 134.91 78 *e*PKP **PKPdf** **13 33 21.6 +0.7**
WMQ LR LR
comp=N,400nm,35.5s
WMQ LR LR
comp=E,240nm,30.5s
WMQ LR LR
comp=Z,200nm,24.1s
LZH Lanzhou 136.79 98 *e*PKP **PKPdf** **13 33 23.5 -1.4**
LZH sPKP 13 33 37.3
LZH LR LR
comp=N,270nm,15.2s
LZH LR LR
comp=Z,390nm,15.7s
GTA Gaotai 137.45 92 PKP **PKiKP** **13 33 28.9 +1.1**
GTA sPKP 13 33 38.0
GTA LR LR
comp=N,130nm,24.0s
GTA LR LR
comp=E,170nm,24.0s
NJ2 Nanjing 140.43 117 *e*PKP **PKPdf** **13 33 31.5 +0.1**
ZALV Zalesovo Beam 140.76 65 PKP **PKPdf** **13 33 32.3 +1.1**
0.5nm,0.7s,baz=262,slow=5.4,SNR=3.2
ZAA1 Zalesovo Array 140.76 65 *e*PKPdf **PKPdf** **13 33 32.3 +1.1**
YKA Yellowknife Ar 142.44 311 PKP **PKPdf** **13 33 32.8 -1.2**
0.6nm,0.8s,baz=111,slow=2.2,SNR=4.4
YKA PP **PP** **13 36 40.3 -2.1**
1.0nm,0.9s,baz=124,slow=6.1,SNR=6.8
RES Resolute Bay 143.89 334 PKhKP PKPpre 13 33 32.6
4.9nm,0.9s,baz=139,slow=3.3,SNR=6.1
HHC Hu-ho-hao-te 144.27 101 *e*PKP **PKiKP** **13 33 40.1 -1.6**
DLBC Dease Lake 146.32 297 PKPbc **PKPab** **13 33 42.7 -0.4**
9.5nm,1.0s,baz=184,slow=2.1,SNR=10.0
SONA0 Songino Array 146.87 88 *e*PKPbc **PKPbc** **13 33 43.9 -0.3**
SONM Songino Array 146.87 88 PKPbc **PKPbc** **13 33 43.9 -0.3**
12nm,1.1s,baz=209,slow=3.2,SNR=25
KSAR Wonju Array Be 148.86 124 PKPbc **PKPbc** **13 33 48.8 -1.0**
KSRS Korea Array 148.88 124 PKPbc **PKPbc** **13 33 48.8 -1.0**
0.8nm,0.6s,baz=218,slow=2.0,SNR=3.2
NRIK Noril'sk 149.98 43 PKPbc **PKPbc** **13 33 51.0 -0.6**
1.8nm,0.3s,baz=279,slow=0.7,SNR=5.2
MAJO Matsushiro 151.84 140 *e*PKPbc **PKPbc** **13 33 56.7 -0.2**
MAJO Matsushiro 151.84 140 *e*P PKPpre 13 33 47.1
MAT Matsushiro 151.84 140 PKP **PKiKP** **13 33 57.3 0.0**
MJAR Matsushiro Arr 151.84 140 PKPbc **PKPbc** **13 33 56.7 -0.2**
3.8nm,0.9s,baz=205,slow=2.8,SNR=6.5
INK Inuvik 152.09 314 PKPbc **PKPbc** **13 33 54.8 -1.7**
6.2nm,1.0s,baz=105,slow=3.7,SNR=11
CN2 Changchun 153.05 113 *e*P **PKPab** **13 34 11.8 +0.9**
ILAR Eielson Array 156.26 302 PKPbc PKPbc 13 34 05.0
2.3nm,1.0s,baz=203,slow=0.6,SNR=9.4
TIXI Tiksi 163.53 36 PKPab **PKPab** **13 34 55.1 -0.5**
0.4nm,0.5s,baz=284,slow=4.2,SNR=2.9

*NNC **23** 13:14:28.7±5.2, 36.93N×69.06E, h0km, mb4.2, mpv4.2, Error ellipse: s-maj=42.9km s-min=33.0km az=170.0*
ISC 23 13:14:26.3±3.5, 36.5N±0.2×69.0E±0.1, h37km, n13, σ1s63/17, 4C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.69**	**10**	⇓P	**Pn**	**13 16 04.9**	**+2.9**
	2.8nm,0.5s,baz=198,slow=12,SNR=50						
KK31				⇑S	**Sn**	**13 17 16.9**	**+0.1**
	5.3nm,0.4s,baz=196,slow=20,SNR=9.6						
AML	**Almayashu**	**6.70**	**32**	P	**Pn**	**13 16 04.2**	**+1.7**
	SNR=26						
UCH	**Uchtor**	**7.15**	**35**	P	**Pn**	**13 16 10.2**	**+1.5**
	SNR=37						
EKS2	**Erkin-Say**	**7.18**	**30**	P	**Pn**	**13 16 11.1**	**+2.3**
	SNR=18						
KZA	**Kyzart**	**7.39**	**39**	P	**Pn**	**13 16 12.9**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**7.46**	**33**	P	**Pn**	**13 16 14.3**	**+1.6**
	SNR=17						
AAK	**Ala-Archa**	**7.46**	**33**	P	**Pn**	**13 16 14.2**	**+1.4**
	9.7nm,0.5s						
AAK				S	**Sn**	**13 17 36.0**	**-0.2**
	14nm,0.5s						
KBK	**Karagaybulak**	**7.68**	**35**	P	**Pn**	**13 16 17.8**	**+2.0**
	SNR=16						
CHMS	**Chumysh**	**7.86**	**33**	P	**Pn**	**13 16 19.2**	**+1.1**
	SNR=25						
USP	**Ospenovka**	**7.98**	**31**	P	**Pn**	**13 16 20.3**	**+0.6**
	SNR=20						
TKM2	**Tokmak 2**	**8.19**	**37**	P	**Pn**	**13 16 23.4**	**+0.7**
	SNR=38						
TKM2	**Tokmak 2**	**8.19**	**37**	⇑P	**Pn**	**13 16 23.1**	**+0.3**
	18nm,0.5s						
TKM2				⇑S	**Sn**	**13 17 52.2**	**-1.9**
	4.1nm,0.9s						
AB31	**Akbulak array**	**14.33**	**336**	⇑P	**Pn**	**13 17 44.7**	**-1.7**
	0.3nm,0.5s,baz=144,slow=14,SNR=15						
AB31				⇓S	**Sn**	**13 20 23.4**	**-0.5**
	0.4nm,0.4s,baz=160,slow=24,SNR=2.7						

*ISCJB **23** 13:24:08.0±0.6, 16.02N±0.06×98.01W±0.04, h16km, mb4.0/8, MS3.7/9, Error ellipse: s-maj=9.8km s-min=3.5km az=22.7*
*MEX **23** 13:24:09.6±0.5, 15.80N×98.18W, h14km±5km, MD4.3*
*NEIC **23** 13:24:09.4±0.0, 15.81N×98.16W, h10km, mb4.3/6, MD4.4(MEX), After MEX.*
*IDC **23** 13:24:10.6±1.8, 16.24N×97.81W, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.8/46, mbtmp3.8/9, ML3.6/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/34, Error ellipse: s-maj=48.6km s-min=16.3km az=39.0*
ISC 23 13:24:09.4±0.8, 15.92N±0.07×98.13W±0.04, h16km, n156, σ1s61/157, mb4.0/8, MS3.6/9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.69**	**346**	*e*P	**Pn**	**13 24 36.9**	**-1.4**
TLIG	**Tlapa**	**1.69**	**346**	*e*P	**Pn**	**13 24 36.9**	**-1.4**
TLIG				*i* S	**Sn**	**13 24 58.5**	**-1.2**
VHO	**Vista Hermosa**	**1.77**	**49**	*e*P	**Pn**	**13 24 38.3**	**-1.2**
VHO	**Vista Hermosa**	**1.77**	**49**	*e*P	**Pn**	**13 24 38.3**	**-1.2**
VHO				*i* S	**Sn**	**13 25 00.8**	**-1.0**
HUIG	**Huatulco**	**1.96**	**94**	*e*P	**Pn**	**13 24 39.8**	**-2.2**
HUIG	**Huatulco**	**1.96**	**94**	*e*P	**Pn**	**13 24 39.8**	**-2.2**
HUIG				*i* S	**Sn**	**13 25 02.3**	**-3.8**
CAIG	**El Cayaco**	**2.33**	**299**	*e*P	**Pn**	**13 24 45.0**	**-2.1**
CAIG	**El Cayaco**	**2.33**	**299**	*e*P	**Pn**	**13 24 45.0**	**-2.1**
CAIG				*i* S	**Sn**	**13 25 12.2**	**-3.2**
MEIG	**Mezcala**	**2.45**	**325**	*i* P	**Pn**	**13 24 48.1**	**-0.6**
MEIG				*e*S	**Sn**	**13 25 16.8**	**-1.7**
CMIG	**Matias Romero**	**3.33**	**69**	*e*P	**Pn**	**13 24 59.1**	**-1.7**
CMIG	**Matias Romero**	**3.33**	**69**	*e*P	**Pn**	**13 24 59.1**	**-1.7**
CMIG				*i* S	**Sn**	**13 25 39.2**	**-0.8**
ZIIG	**Zihuatanejo**	**3.60**	**298**	*i* P	**Pn**	**13 25 02.0**	**-2.6**
ZIIG				*i* S	**Sn**	**13 25 44.4**	**-2.4**
PCIG		**4.74**	**92**	*e*P	**Pn**	**13 25 18.6**	**-1.5**
PCIG		**4.74**	**92**	*e*P	**Pn**	**13 25 18.6**	**-1.5**
PCIG				*i* S	**Sn**	**13 26 13.0**	**-1.8**
CCIG	**Comitan**	**5.78**	**86**	*i* P	**Pn**	**13 25 32.8**	**-1.8**
APG	**El Apazote**	**7.45**	**96**	Pn	**Pn**	**13 25 58.7**	**+1.0**
	0.5nm,0.3s,baz=332,slow=11,SNR=4.1						
APG				Sn	**Sn**	**13 27 21.2**	**-0.9**
	1.3nm,0.3s,baz=65,slow=19,SNR=4.0						
APG				Lg	Lg	13 27 58.5	
	0.6nm,0.3s,baz=36,slow=19,SNR=4.0						
H06E1	**SOCORRO T-PHAS**	**12.54**	**285**	T	T	13 39 58.8	
	SNR=5.9						
JTS	**JuntasAbangare**	**14.00**	**112**	Pn	**Pn**	**13 27 28.5**	**+1.2**
	0.6nm,0.3s,baz=287,slow=17,SNR=2.1						
TXAR	**Lajitas Array**	**14.29**	**340**	Pn	**Pn**	**13 27 33.4**	**+2.2**
	0.1nm,0.3s,baz=168,slow=14,SNR=4.1						
TXAR				Lg	Lg	13 31 51.1	
	0.0nm,0.3s,baz=171,slow=25,SNR=3.2						
TXAR				LR	LR	13 33 40.3	
	comp=Z,325nm,20.1s,baz=0.0,slow=40						
JCT	**Junction City**	**14.57**	**354**	*e*Pn	**Pn**	**13 27 35.9**	**+0.8**
	9.9nm,1.0s						
ABTX	**Abilene, Hawle**	**16.69**	**356**	P	**Pn**	**13 28 04.1**	**+1.4**
	baz=175,SNR=11						
MNTX	**Cornudas Mount**	**17.04**	**338**	*e*P	**P**	**13 28 10.6**	**+1.8**
	39nm,2.3s						
MNTX	**Cornudas Mount**	**17.04**	**338**	P	**Pn**	**13 28 08.6**	**+1.6**
	baz=156						
121A	**Cookes Peak, D**	**18.71**	**334**	P	**P**	**13 28 26.8**	**-0.7**
	baz=150						
WMOK	**Wichita Mounta**	**18.75**	**358**	P	**P**	**13 28 26.4**	**-1.2**
	baz=178						
MIAR	**Mount Ida**	**18.99**	**12**	P	P	13 28 20.7	-10
MIAR	**Mount Ida**	**18.99**	**12**	P	**P**	**13 28 26.7**	**-3.6**
	baz=194						
AMTX	**Amarillo**	**19.15**	**351**	P	**P**	**13 28 32.2**	**+0.1**
	16nm,1.1s						
AMTX	**Amarillo**	**19.15**	**351**	P	**P**	**13 28 32.0**	**-0.1**
	baz=170						
149A	**Jones**	**19.54**	**30**	P	**P**	**13 28 34.0**	**-2.2**
	baz=214						
W39A	**Magazine**	**19.59**	**11**	P	**P**	**13 28 35.3**	**-1.5**
	baz=192						
TUC	**Tucson**	**19.96**	**327**	P	**P**	**13 28 41.9**	**+0.9**
	baz=142						
TUL1	**Leonard**	**20.02**	**6**	P	**P**	**13 28 41.4**	**-0.1**
	baz=187						
OXF	**Oxford**	**20.11**	**21**	P	**P**	**13 28 41.4**	**-1.0**
	baz=205						
252A	**Lumpkin**	**20.12**	**35**	P	**P**	**13 28 40.0**	**-2.7**
	baz=220						
Z49A	**Columbiana**	**20.15**	**29**	P	**P**	**13 28 40.3**	**-2.6**
	baz=214						
151A	**Opelika**	**20.21**	**33**	P	**P**	**13 28 40.7**	**-2.9**
	baz=218						
ANMO	**Albuquerque**	**20.36**	**340**	P	**P**	**13 28 46.6**	**+1.1**
	8.9nm,1.1s						
ANMO	**Albuquerque**	**20.36**	**340**	P	**P**	**13 28 46.9**	**+1.4**
	baz=157						
ANMO	**Albuquerque**	**20.36**	**340**	P	**P**	**13 28 48.2**	**+2.7**
	5.9nm,1.0s,baz=148,slow=12,SNR=11						
TASM	**ASL Pad, Albuq**	**20.36**	**340**	P	**P**	**13 28 46.9**	**+1.4**
	baz=157,SNR=8.5						
TASM	**ASL Pad, Albuq**	**20.36**	**340**	P	**P**	**13 28 46.4**	**+0.9**
	baz=157,SNR=8.5						
X46A	**Booneville**	**20.45**	**23**	P	**P**	**13 28 45.1**	**-1.1**
	baz=207						
Z50A	**Ashland**	**20.49**	**30**	P	**P**	**13 28 45.1**	**-1.6**
	baz=215						
X47A	**Russelville**	**20.70**	**25**	P	**P**	**13 28 48.3**	**-0.5**
	baz=209						
U40A	**Yellville**	**20.89**	**12**	P	**P**	**13 28 50.8**	**-0.2**
	baz=194,SNR=7.7						
U41A	**Viola**	**21.08**	**14**	P	**P**	**13 28 52.6**	**-0.4**
	baz=197						
Y50A	**Piedmont**	**21.10**	**30**	P	**P**	**13 28 51.8**	**-1.5**
	baz=215						
Z52A	**Williamson**	**21.20**	**33**	P	**P**	**13 28 53.0**	**-1.4**
	baz=219						
X49A	**Woodville**	**21.34**	**28**	P	**P**	**13 28 55.4**	**-0.4**
	baz=213						
255A	**Hazlehurst**	**21.38**	**39**	P	**P**	**13 28 54.7**	**-1.5**
	baz=225						
V46A	**Holladay**	**21.73**	**22**	P	**P**	**13 28 58.6**	**-1.4**
	baz=207						
Z53A	**Monticello**	**21.73**	**35**	P	**P**	**13 28 58.5**	**-1.6**
	baz=221						
T25A	**Trinidad**	**21.86**	**346**	P	**P**	**13 29 01.7**	**+0.1**
	baz=164,SNR=11						
W49A	**Belvidere**	**21.88**	**27**	P	**P**	**13 29 00.6**	**-1.1**
	baz=212						
GOGA	**Godfrey**	**21.89**	**35**	P	**P**	**13 28 59.9**	**-1.7**
	baz=221						
Y52A	**Lilburn**	**21.91**	**33**	P	**P**	**13 29 00.0**	**-2.0**
	baz=219						
V47A	**Nunnelly**	**21.98**	**24**	P	**P**	**13 29 01.6**	**-1.1**
	baz=208						
WVT	**Waverly**	**22.12**	**23**	P	**P**	**13 29 02.5**	**-1.7**
	baz=207						
Y53A	**Monroe**	**22.16**	**34**	P	**P**	**13 29 03.0**	**-1.7**
	baz=220						
V48A	**Smith Brothers**	**22.18**	**25**	P	**P**	**13 29 02.4**	**-2.4**
	baz=210						
T43A	**Greenville**	**22.20**	**17**	P	**P**	**13 29 04.2**	**-0.8**
	baz=200,SNR=6.8						
S41A	**Jillco Farms,**	**22.31**	**13**	P	**P**	**13 29 04.8**	**-1.5**
	baz=196						
W50A	**Signal Mountai**	**22.37**	**29**	P	**P**	**13 29 04.7**	**-2.2**
	baz=214						
X52A	**Dahlonega**	**22.58**	**32**	P	**P**	**13 29 07.5**	**-1.6**
	baz=218						
V49A	**McMinnville**	**22.58**	**27**	P	**P**	**13 29 06.7**	**-2.5**
	baz=212						
W51A	**Cleveland**	**22.60**	**30**	P	**P**	**13 29 07.4**	**-2.0**
	baz=215						
Y54A	**Tignall**	**22.65**	**35**	P	**P**	**13 29 08.3**	**-1.7**
	baz=222						
SDCO	**Great Sand Dun**	**22.69**	**345**	P	**P**	**13 29 09.4**	**-1.3**
	baz=162,SNR=6.0						
S42A	**Caledonia**	**22.71**	**15**	P	**P**	**13 29 09.1**	**-1.4**
	baz=198						
X53A	**Estanollee**	**22.81**	**33**	P	**P**	**13 29 08.3**	**-3.3**
	baz=219						
WUAZ	**Wupatki**	**22.83**	**331**	P	**P**	**13 29 12.7**	**+0.8**
	12nm,1.0s						
WUAZ	**Wupatki**	**22.83**	**331**	P	**P**	**13 29 13.9**	**+1.9**
	baz=146,SNR=5.9						
V50A	**Pikeville**	**22.86**	**28**	P	**P**	**13 29 09.6**	**-2.5**
	baz=214						
CCM	**Cathedral Cave**	**22.87**	**14**	P	**P**	**13 29 11.1**	**-1.1**
	baz=197						
T46A	**Princeton**	**22.91**	**21**	P	**P**	**13 29 10.7**	**-1.9**
	baz=206						
W52A	**Murphy**	**22.95**	**31**	P	**P**	**13 29 11.4**	**-1.7**
	baz=217						
U48A	**Cassie Pea, Po**	**22.95**	**25**	P	**P**	**13 29 11.2**	**-1.9**
	baz=210						
S22A	**4UR Ranch, Cre**	**23.06**	**342**	P	**P**	**13 29 15.5**	**+1.0**
	baz=158						
S44A	**Carbondale**	**23.07**	**18**	P	**P**	**13 29 13.0**	**-1.2**
	baz=202						
R41A	**Rosebud**	**23.07**	**14**	P	**P**	**13 29 13.8**	**-0.5**
	baz=197						
MVCO	**Mesa Verde**	**23.11**	**339**	P	**P**	**13 29 12.7**	**-2.2**
	14nm,1.1s						
MVCO	**Mesa Verde**	**23.11**	**339**	P	**P**	**13 29 15.0**	**+0.1**
	baz=154						
T47A	**Sharon Grove**	**23.15**	**23**	P	**P**	**13 29 13.8**	**-1.3**
	baz=208						
Y55A	**Saluda**	**23.17**	**36**	P	**P**	**13 29 13.9**	**-1.5**
	baz=223						
R42A	**Luebbering**	**23.19**	**15**	P	**P**	**13 29 15.3**	**-0.2**
	baz=198						
U49A	**Red Boiling Sp**	**23.27**	**26**	P	**P**	**13 29 15.6**	**-0.7**
	baz=211						
V51A	**Loudon**	**23.31**	**29**	P	**P**	**13 29 15.2**	**-1.5**
	baz=215						
R43A	**Red Bud**	**23.41**	**16**	P	**P**	**13 29 16.5**	**-1.2**
	baz=200						
TKL	**Tuckaleechee C**	**23.47**	**30**	LR	LR	13 40 25.1	
	comp=Z,78nm,19.4s,baz=190,slow=42						
T48A	**Bowling Green**	**23.53**	**24**	P	**P**	**13 29 18.0**	**-0.9**
	baz=209						
R44A	**Walton Ville**	**23.63**	**18**	P	**P**	**13 29 18.8**	**-1.0**
	baz=202						
Q41A	**Truxton**	**23.73**	**13**	P	**P**	**13 29 20.1**	**-0.7**
	baz=197						
W54A	**Cherokee Point**	**23.84**	**34**	P	**P**	**13 29 19.3**	**-2.6**
	baz=221						
Q42A	**Golden Eagle**	**23.86**	**15**	P	**P**	**13 29 21.2**	**-0.8**
	baz=198						
PFO	**Pinyon Flats O**	**24.16**	**320**	P	**P**	**13 29 25.9**	**+0.9**
	baz=133						
PFO	**Pinyon Flats O**	**24.16**	**320**	LR	LR	13 39 24.2	
	comp=Z,163nm,20.1s,baz=136,slow=38						
KMSC	**Kings Mountain**	**24.35**	**35**	P	**P**	**13 29 25.3**	**-1.3**
	baz=222						
GMRC	**Granite Mounta**	**24.50**	**323**	P	**P**	**13 29 30.2**	**+2.1**
	baz=136						
R47A	**Wooly Knot Far**	**24.52**	**22**	P	**P**	**13 29 27.0**	**-1.1**
	baz=208						
P42A	**Winchester**	**24.54**	**15**	P	**P**	**13 29 27.8**	**-0.5**
	baz=198						
WCI	**Wyandotte Cave**	**24.55**	**23**	P	**P**	**13 29 27.7**	**-0.7**
	baz=208						
S49A	**Springfield**	**24.56**	**25**	P	**P**	**13 29 27.3**	**-1.2**
	baz=211						
ISCO	**Idaho Springs**	**24.67**	**346**	*e*P	**P**	**13 29 31.9**	**+2.0**
	14nm,1.1s						
ISCO	**Idaho Springs**	**24.67**	**346**	P	**P**	**13 29 31.5**	**+1.6**
	baz=163,SNR=13						
W56A	**Indian Trail**	**24.76**	**36**	P	**P**	**13 29 28.3**	**-2.1**
	baz=224						
S50A	**Richmond**	**24.84**	**27**	P	**P**	**13 29 31.2**	**+0.2**
	baz=213						
P44A	**Sand Creek, Wi**	**24.89**	**18**	P	**P**	**13 29 32.2**	**+0.7**
	baz=202						
HEC	**Hector,Ludlow**	**24.92**	**322**	P	**P**	**13 29 34.0**	**+2.0**
	baz=135						
O41A	**Passleys Farm,**	**24.92**	**13**	P	**P**	**13 29 30.9**	**-0.8**
	baz=197						
U54A	**Nelsons Funny**	**25.13**	**32**	P	**P**	**13 29 33.7**	**-0.1**
	baz=219						
T53A	**Wise**	**25.13**	**30**	P	**P**	**13 29 31.7**	**-2.1**
	baz=217						
S51A	**Beattyville**	**25.16**	**28**	P	**P**	**13 29 33.1**	**-0.9**
	baz=214						
U55A	**TA2, Sparta**	**25.52**	**33**	P	**P**	**13 29 36.7**	**-0.6**
	baz=221						
O20A	**White River Ci**	**25.68**	**342**	P	**P**	**13 29 40.0**	**+1.1**
	baz=157						
R51A	**Hillsboro**	**25.71**	**27**	P	**P**	**13 29 39.0**	**0.0**
	baz=214						
V57A	**Coltrane Farms**	**25.76**	**36**	P	**P**	**13 29 38.4**	**-1.0**
	baz=224						
O45A	**Potomac**	**25.88**	**18**	P	**P**	**13 29 38.8**	**-1.7**
	baz=203						
Q50A	**Georgetown**	**26.00**	**26**	P	**P**	**13 29 40.8**	**-0.8**
	baz=212						
M40A	**Post Highland**	**26.03**	**11**	P	**P**	**13 29 41.0**	**-0.8**
	baz=195						
N43A	**Stutzman Famil**	**26.11**	**16**	P	**P**	**13 29 41.5**	**-1.1**
	baz=200						
LRMC	**Laurel Mtn Rad**	**26.17**	**322**	P	**P**	**13 29 44.4**	**+1.1**
	baz=133						
M41A	**Milan**	**26.20**	**13**	P	**P**	**13 29 42.2**	**-1.1**

L40A	**Anamosa**	**26.72**	**11**	P	**P**	**13 29 47.0**	**-1.1**
	baz=195							
O48A	**Farmland**	**26.75**	**22**	P	**P**	**13 29 47.5**	**-0.9**
	baz=209							
R54A	**Victor**	**26.83**	**31**	P	**P**	**13 29 47.0**	**-2.1**
	baz=219							
M44A	**Midewin, Midew**	**26.84**	**17**	P	**P**	**13 29 48.0**	**-1.0**
	baz=202							
T57A	**Hurt**	**26.85**	**35**	P	**P**	**13 29 46.8**	**-2.4**
	baz=223							
L41A	**Preston**	**26.88**	**13**	P	**P**	**13 29 48.3**	**-1.1**
	baz=196							
L42A	**Oliver, Polo**	**27.00**	**14**	P	**P**	**13 29 50.0**	**-0.5**
	baz=198							
O49A	**Covington**	**27.00**	**24**	P	**P**	**13 29 48.6**	**-1.9**
	baz=210							
N47A	**Urbana**	**27.11**	**21**	P	**P**	**13 29 50.4**	**-1.2**
	baz=207							
R11A	**Troy Canyon, C**	**27.11**	**329**	P	**P**	**13 29 51.9**	**+0.1**
	baz=141							
K39A	**Oelwein**	**27.23**	**10**	P	**P**	**13 29 51.9**	**-0.7**
	baz=193							
K40A	**Colesburg**	**27.36**	**11**	P	**P**	**13 29 53.0**	**-0.7**
	baz=195							
DUG	**Dugway, Tooele**	**27.36**	**335**	P	**P**	**13 29 53.2**	**-0.7**
	baz=148							
BW06	**Boulder Array**	**28.49**	**342**	P	**P**	**13 30 03.6**	**-0.6**
	baz=157							
PDAR	**Pinedale Array**	**28.49**	**342**	P	**P**	**13 30 06.9**	**+2.7**
	0.6nm,0.7s,baz=157,slow=9.5,SNR=5.3							
PDAR				LR	LR	13 42 30.6		
	comp=Z,243nm,19.7s,baz=169,slow=39							
NVAR	**Mina Array Bea**	**28.59**	**326**	P	**P**	**13 30 08.2**	**+3.1**
	1.4nm,0.9s,baz=142,slow=7.5,SNR=5.1							
NVAR				LR	LR	13 42 44.3		
	comp=Z,193nm,19.5s,baz=207,slow=39							
H40A	**Chili**	**29.35**	**11**	P	**P**	**13 30 10.1**	**-1.4**
	baz=195							
LAO	**LASA Array**	**31.41**	**349**	P	**P**	**13 30 28.7**	**-1.1**
	baz=165							
YBH	**Yreka Blue Hor**	**33.31**	**325**	LR	LR	13 43 48.2		
	comp=Z,77nm,20.9s,baz=188,slow=35							
ULM	**Lac du Bonnet**	**34.29**	**3**	P	**P**	**13 30 55.2**	**+0.4**
	0.8nm,0.4s,baz=180,slow=6.7,SNR=3.1							
ULM				LR	LR	13 46 15.8		
	comp=Z,68nm,19.7s,baz=91,slow=39							
NNA	**Nana**	**34.83**	**142**	LR	LR	13 40 56.8		
	comp=Z,115nm,20.3s,baz=4.0,slow=29							
YKA	**Yellowknife Ar**	**47.95**	**350**	P	**P**	**13 32 47.1**	**+0.2**
	1.2nm,0.9s,baz=157,slow=7.4,SNR=12							
SIV	**San Ignacio**	**48.41**	**129**	P	**P**	**13 32 54.3**	**+3.1**
	0.6nm,0.6s,baz=280,slow=11,SNR=2.9							
ESDC	**Sonseca Array**	**83.15**	**51**	LR	LR	14 10 29.9		
	comp=Z,99nm,20.1s,baz=235,slow=34							
GERES	**GERESS Array B**	**91.82**	**38**	LR	LR	14 16 52.9		
	comp=Z,114nm,21.1s,baz=250,slow=35							

*ISCJB **23** 13:25:34.3±0.2,59.69N±0.03×153.40W±0.06, h132km±2km, mb3.9/10, Error ellipse: s-maj=5.7km s-min=3.4km az=40.2*

*IDC **23** 13:25:34.6±1.2,59.69N×153.75W, h106km±14km, mb3.7/10, mb1 3.9/15, mb1mx3.6/52, mbtmp4.1/15, Error ellipse: s-maj=14.7km s-min=14.0km az=64.0*

*NEIC **23** 13:25:36.5±0.0,59.71N×153.49W, h122km, mb4.6/2, ML3.9(AEIC), After AEIC.*

ISC 23 13:25:35.4±0.7, 59.70N±0.03×153.41W±0.04, h125km±5km, n81, σ1°44/98, mb3.8/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.31**	**33**	P		P	**Pn**	**13 25 53.4**	**+0.4**
AUL	**Augustine Lava**	**0.32**	**183**	P		P	**Pn**	**13 25 53.4**	**+0.5**
AUL				S		S	**Sn**	**13 26 5.6**	**+0.3**
AUW	**Augustine West**	**0.33**	**186**	P		P	**Pn**	**13 25 53.5**	**+0.4**
IVE	**Iliamna Volcan**	**0.38**	**31**	P		P	**Pn**	**13 25 53.6**	**+0.2**
ILW	**Iliamna West**	**0.39**	**20**	P		P	**Pn**	**13 25 53.6**	**+0.1**
RED	**Redoubt Volcan**	**0.79**	**23**	P		P	**Pn**	**13 25 56.3**	**+0.3**
RED				S		S	**Sn**	**13 26 12.2**	**+0.5**
RDWB	**Redoubt West**	**0.84**	**19**	P		P	**Pn**	**13 25 56.7**	**+0.1**
RDWB				S		S	**Sn**	**13 26 13.0**	**+0.4**
RDN	**Redoubt North**	**0.88**	**21**	P		P	**Pn**	**13 25 57.3**	**+0.4**
HOM	**Homer**	**0.90**	**92**	P		P	**Pn**	**13 25 57.7**	**+0.9**
FONW	**Fourpeaked Sta**	**0.91**	**197**	P		P	**Pn**	**13 25 57.2**	**+0.2**
RDJH	**Redoubt Jeurge**	**0.95**	**18**	P		P	**Pn**	**13 25 57.8**	**+0.4**
RDJH				S		S	**Sn**	**13 26 14.8**	**+0.6**
BRLK	**Bradley Lake**	**1.28**	**86**	P		P	**Pn**	**13 26 00.8**	**+0.2**
BRLK				S		S	**Sn**	**13 26 19.5**	**-0.4**
KAHG	**Katmai Hook Gl**	**1.34**	**207**	P		P	**Pn**	**13 26 01.6**	**+0.2**
NKA	**Nikishka**	**1.51**	**45**	P		P	**Pn**	**13 26 05.4**	**+2.3**
NKA				S		S	**Sn**	**13 26 28.9**	**+4.7**
CKL	**Chakachamna La**	**1.59**	**19**	P		P	**Pn**	**13 26 05.1**	**+0.8**
SPCR	**Spurr Chakacha**	**1.62**	**21**	P		P	**Pn**	**13 26 05.2**	**+0.7**
SPCR				S		S	**Sn**	**13 26 27.2**	**+0.4**
SPWE	**Spurr West**	**1.64**	**14**	P		P	**Pn**	**13 26 05.8**	**+1.1**
KABU	**Katmai Buttres**	**1.73**	**215**	P		P	**Pn**	**13 26 06.2**	**+0.3**
KABU				S		S	**Sn**	**13 26 28.7**	**-0.4**
SVW2	**Sparrevohn**	**1.77**	**323**	P		P	**Pn**	**13 26 05.8**	**-0.4**
SVW2				S		S	**Sn**	**13 26 28.4**	**-1.5**
SLKM	**Skilak Lake**	**1.79**	**62**	P		P	**Pn**	**13 26 06.8**	**+0.3**
ACHA	**Angle Creek He**	**1.79**	**215**	P		P	**Pn**	**13 26 06.7**	**+0.1**
ANCK	**Angle Creek**	**1.85**	**217**	P		P	**Pn**	**13 26 07.5**	**+0.2**
KDAK	**Kodiak Island**	**1.97**	**167**	*e*Pn		P	**Pn**	**13 26 08.0**	**-0.6**
KDAK						*e*Sn	**Sn**	**13 26 32.7**	**-1.3**
KDAK	**Kodiak Island**	**1.97**	**167**	P		P	**Pn**	**13 26 07.9**	**-0.7**
	125nm,0.3s,baz=51,slow=6.0,SNR=2868								
KDAK				S		S	**Sn**	**13 26 32.6**	**-1.4**
	112nm,0.3s,baz=22,slow=7.7,SNR=12								
SEW	**Seward**	**2.04**	**77**	P		P	**Pn**	**13 26 09.9**	**+0.5**
FIB	**Fire Island**	**2.18**	**46**	P		P	**Pn**	**13 26 12.8**	**+1.7**
RC01	**Rabbit Creek A**	**2.29**	**51**	P		P	**Pn**	**13 26 13.1**	**+0.4**
RC01				S		S	**Sn**	**13 26 40.8**	**-0.6**
PWL	**Port Wells**	**2.78**	**63**	P		P	**Pn**	**13 26 18.8**	**-0.1**
PWL				S		S	**Sn**	**13 26 51.2**	**-1.3**
PMR	**Palmer**	**2.84**	**46**	P		P	**Pn**	**13 26 19.1**	**-0.4**
KNK	**Knik Glacier**	**2.99**	**53**	P		P	**Pn**	**13 26 21.5**	**-0.1**
GHO	**Glory Hole Cre**	**3.03**	**45**	P		P	**Pn**	**13 26 21.9**	**-0.3**
SII	**Sitkinak Islan**	**3.17**	**188**	P		P	**Pn**	**13 26 22.9**	**-1.2**
PPLA	**Purkeypile**	**3.26**	**10**	P		P	**Pn**	**13 26 27.0**	**+1.7**
SML	**Sawmill**	**3.27**	**47**	P		P	**Pn**	**13 26 25.0**	**-0.3**
TT01	**Tatalina**	**3.46**	**340**	P		P	**Pn**	**13 26 27.4**	**-0.4**
SCM	**Sheep Creek Mo**	**3.67**	**52**	P		P	**Pn**	**13 26 30.6**	**0.0**
ANNW	**Aniakchak Nort**	**3.73**	**225**	P		P	**Pn**	**13 26 31.7**	**+0.2**
HUR	**Hurricane**	**3.76**	**27**	P		P	**Pn**	**13 26 32.7**	**+1.0**
CAST	**Castle Rocks**	**3.79**	**9**	P		P	**Pn**	**13 26 33.0**	**+0.9**
AZAC	**Aniakchak**	**3.79**	**224**	P		P	**Pn**	**13 26 32.4**	**+0.2**
EYAK	**Cordova Ski Ar**	**3.92**	**74**	P		P	**Pn**	**13 26 33.8**	**-0.1**
DIV	**Divide**	**4.05**	**66**	P		P	**Pn**	**13 26 35.5**	**-0.1**
TRF	**Thorofare Moun**	**4.05**	**20**	P		P	**Pn**	**13 26 35.7**	**0.0**
KLU	**Klutina**	**4.11**	**61**	P		P	**Pn**	**13 26 36.3**	**-0.1**
CHUM	**Lake Minchumin**	**4.23**	**7**	P		P	**Pn**	**13 26 38.8**	**+0.9**
RND	**Reindeer**	**4.31**	**28**	P		P	**Pn**	**13 26 38.8**	**-0.3**
CHGN	**Chignik**	**4.32**	**220**	P		P	**Pn**	**13 26 38.6**	**-0.6**
BPAW	**Bear Paw Mtn.**	**4.56**	**13**	P		P	**Pn**	**13 26 39.6**	**-2.8**
MCK	**McKinley**	**4.57**	**26**	P		P	**Pn**	**13 26 42.8**	**+0.3**
VNFG	**Veniaminof 2**	**4.73**	**226**	P		P	**Pn**	**13 26 45.1**	**+0.3**
VNSS	**Veniaminof 8**	**4.74**	**225**	P		P	**Pn**	**13 26 45.2**	**+0.2**
HARP	**HAARP**	**4.84**	**52**	P		P	**Pn**	**13 26 46.5**	**+0.4**
PAX	**Paxson**	**5.04**	**46**	P		P	**Pn**	**13 26 49.2**	**+0.4**
KHIT	**Khitrov Hills**	**5.14**	**77**	P		P	**Pn**	**13 26 51.1**	**+0.8**
GCSA	**Galena City Sc**	**5.32**	**344**	P		P	**Pn**	**13 26 52.3**	**-0.2**
KULT	**Kultieth River**	**5.39**	**80**	P		P	**Pn**	**13 26 54.6**	**+0.9**
MCARA	**McCarthy VSAT**	**5.40**	**67**	P		P	**Pn**	**13 26 54.7**	**+1.1**
WRH	**Wood River Hil**	**5.40**	**25**	P		P	**Pn**	**13 26 53.4**	**-0.2**
MLY	**Manley**	**5.50**	**12**	P		P	**Pn**	**13 26 54.4**	**-0.5**
CCB	**Clear Creek Bu**	**5.62**	**25**	P		P	**Pn**	**13 26 55.9**	**-0.6**
MENT	**Mentasta**	**5.68**	**51**	P		P	**Pn**	**13 26 57.5**	**0.0**
RIDG	**Independ'e Rid**	**5.75**	**41**	P		P	**Pn**	**13 26 58.7**	**+0.4**
SDPT	**Sand Point**	**5.79**	**224**	P		P	**Pn**	**13 26 57.5**	**-1.3**
COLA	**College**	**5.80**	**24**	P		P	**Pn**	**13 26 58.8**	**-0.2**
ILAR	**Eielson Array**	**5.93**	**28**	P		P	**Pn**	**13 27 00.4**	**-0.3**
	5.1nm,0.3s,baz=217,slow=14,SNR=157								
ILAR				S		S	**Sn**	**13 28 02.1**	**-5.3**
	3.5nm,0.3s,baz=208,slow=19,SNR=6.7								
EGAK	**Eagle**	**7.65**	**43**	*e*Pn		P	**Pn**	**13 27 22.7**	**-1.2**
	13nm,0.7s								
DAWY	**Dawson**	**7.93**	**51**	*e*Pn		P	**Pn**	**13 27 28.2**	**+0.5**
	6.9nm,0.5s								
DLBC	**Dease Lake**	**12.08**	**86**	P		P	**P**	**13 28 27.1**	**-3.6**
	2.1nm,0.3s,baz=259,slow=9.9,SNR=42								
DLBC				S		S	**Sn**	**13 30 34.3**	**-1.8**
	0.7nm,0.3s,baz=165,slow=20,SNR=4.1								
INK	**Inuvik**	**12.21**	**37**	P		P	**Pn**	**13 28 25.1**	**+0.5**
	0.5nm,0.3s,baz=236,slow=15,SNR=26								
INK				S		S	**Sn**	**13 30 31.9**	**-6.9**
	0.1nm,0.3s,baz=252,slow=16,SNR=2.6								
YKA	**Yellowknife Ar**	**18.76**	**65**	P		P	**Pn**	**13 29 46.0**	**-0.2**
	0.4nm,0.3s,baz=278,slow=9.8,SNR=51								
YKA				ScP		ScP	**ScP**	**13 37 30.4**	**+0.9**
	0.1nm,0.3s,baz=288,slow=2.0,SNR=11								
NEW	**Newport**	**23.88**	**102**	P		P	**P**	**13 30 40.5**	**+3.3**
	1.1nm,0.5s,baz=305,slow=13,SNR=3.6								
SEY	**Seymchan**	**25.57**	**301**	P		P	**P**	**13 30 52.0**	**-0.2**
	0.7nm,0.7s,baz=75,slow=20,SNR=3.0								
PETK	**Petropavlovsk-**	**27.30**	**278**	P		P	**P**	**13 31 07.8**	**0.0**
	4.9nm,0.6s,baz=73,slow=13,SNR=19								
NVAR	**Mina Array Bea**	**30.76**	**118**	P		P	**P**	**13 31 43.0**	**+4.2**
	0.2nm,0.5s,baz=310,slow=13,SNR=2.6								
KSRS	**Korea Array**	**53.05**	**282**	P		P	**P**	**13 34 39.8**	**+0.7**
	4.7nm,0.5s,baz=40,slow=7.0,SNR=24								
KSAR	**Wonju Array Be**	**53.07**	**282**	P		P	**P**	**13 34 39.8**	**+0.4**
SONM	**Songino Array**	**54.80**	**306**	P		P	**P**	**13 34 53.1**	**+1.1**
	7.2nm,0.7s,baz=50,slow=5.4,SNR=19								
ZALV	**Zalesovo Beam**	**57.50**	**323**	P		P	**P**	**13 35 10.9**	**+0.1**
	3.6nm,0.6s,baz=32,slow=6.5,SNR=14								
FINES	**FINESS Array B**	**59.19**	**0**	P		P	**P**	**13 35 24.1**	**+1.6**
	0.4nm,0.4s,baz=0.0,slow=11,SNR=3.3								
MKAR	**Makanchi Array**	**64.54**	**321**	P		P	**P**	**13 35 57.9**	**-0.7**
	0.4nm,0.7s,baz=47,slow=5.7,SNR=3.6								
CMAR	**Chiang Mai Arr**	**82.80**	**294**	P		P	**P**	**13 37 44.7**	**-0.7**
	0.5nm,0.3s,baz=19,slow=6.3,SNR=3.8								

*IDC **23** 13:33:34.1±1.8,20.95S×176.62E, h0km, mb4.3/7, mb1 4.5/9, mb1mx4.1/28, mbtmp4.3/9, ML3.9/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/36, Error ellipse: s-maj=41.9km s-min=28.6km az=131.0*

*ISCJB **23** 13:33:36.1±0.7, 20.92S±0.07×176.73E±0.10, h33km, mb4.3/15, MS3.6/2, Error ellipse: s-maj=15.1km s-min=7.2km az=35.4*

*NEIC **23** 13:33:37.3±3.1, 21.00S×176.81E, h36km±7km, mb4.5/11, Error ellipse: s-maj=17.3km s-min=8.4km az=46.0*

ISC 23 13:33:37.9±0.8, 20.92S±0.09×176.8E±0.1, h35km, n32, σ1°46/28, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.38**	**21**	*e*Pn		P	**Pn**	**13 34 26.4**	**-1.9**
MSVF				*e*Sn		S	**Sn**	**13 35 08.1**	**+0.8**
PINNC	**Pines Island,**	**8.85**	**257**	*e*Pn		P	**Pn**	**13 35 44.6**	**+1.3**
DZM	**Mont Dzumac**	**9.71**	**261**	*e*Pn		P	**Pn**	**13 35 57.4**	**+2.2**
DZM	**Mont Dzumac**	**9.71**	**261**	Pn		P	**Pn**	**13 35 54.8**	**-0.3**
	0.6nm,0.3s,baz=90,slow=12,SNR=8.8								
DZM				LR		LR	13 38 33.3		
	comp=Z,133nm,19.8s,baz=36,slow=31								
ONTNC	**Ouen Toro**	**9.72**	**260**	*e*Pn		P	**Pn**	**13 35 57.9**	**+2.7**
URZ	**Urewera**	**17.29**	**179**	*e*Pn		P	**Pn**	**13 37 36.8**	**+0.3**
	28nm,0.9s								
URZ	**Urewera**	**17.29**	**179**	P		P	**Pn**	**13 37 37.4**	**+1.0**
	1.0nm,0.3s,baz=102,slow=4.3,SNR=7.3								
URZ				LR		LR	13 42 25.9		
	comp=Z,370nm,21.1s,baz=22,slow=31								
RAR	**Rarotonga**	**21.87**	**95**	LR		LR	13 44 54.5		
	comp=Z,98nm,21.4s,baz=262,slow=31								
EIDS	**Eidsvold**	**24.04**	**254**	*e*P		P	**P**	**13 38 48.6**	**-1.2**
	5.5nm,0.8s								
ARMA	**Armidale**	**24.53**	**242**	*e*P		P	**P**	**13 38 53.2**	**-1.2**
	13nm,0.9s								
PMG	**Port Moresby**	**30.75**	**287**	*e*P		P	**P**	**13 39 49.9**	**-0.2**
	16nm,0.8s								
PMG	**Port Moresby**	**30.75**	**287**	P		P	**P**	**13 39 50.6**	**+0.5**
	15nm,0.8s,baz=103,slow=5.7,SNR=5.9								
STKA	**Stephens Creek**	**33.23**	**243**	*e*P		P	**P**	**13 40 11.8**	**0.0**
	1.2nm,0.7s								
STKA	**Stephens Creek**	**33.23**	**243**	P		P	**P**	**13 40 12.1**	**+0.4**
	5.6nm,0.7s,baz=89,slow=13,SNR=14								
AS01	**Alice Springs**	**39.63**	**258**	*e*P		P	**P**	**13 41 05.2**	**-1.3**
AS31	**Alice Springs**	**39.67**	**258**	*e*P		P	**P**	**13 41 05.2**	**-1.7**
	1.4nm,0.8s								
ASAR	**Alice Springs**	**39.67**	**258**	P		P	**P**	**13 41 06.3**	**-0.5**
	4.0nm,0.7s,baz=81,slow=8.6,SNR=65								
WR1	**Warramunga Arr**	**39.71**	**264**	*e*P		P	**P**	**13 41 05.4**	**-1.8**
	4.2nm,1.1s								
WRA	**Warramunga Arr**	**39.71**	**264**	P		P	**P**	**13 41 05.4**	**-1.8**
	1.8nm,1.1s,baz=91,slow=8.4,SNR=13								
H11S2	**WAKE ISLAND Hy**	**40.39**	**345**	T		T	14 24 17.1		
	baz=166,slow=76,SNR=39								
H11S3	**WAKE ISLAND Hy**	**40.40**	**345**	T		T	14 24 17.3		
	baz=166,slow=76,SNR=19								
H11S1	**WAKE ISLAND Hy**	**40.41**	**345**	T		T	14 24 18.5		
	baz=166,slow=76,SNR=26								
MTN	**Manton Dam**	**44.30**	**273**	*e*P		P	**P**	**13 41 42.9**	**-1.8**
	13nm,1.0s								
FORT	**Forrest**	**44.65**	**247**	*e*P		P	**P**	**13 41 45.6**	**-1.7**
	14nm,0.7s								
FAKI	**Fak Fak**	**46.89**	**286**	*e*P		P	**P**	**13 42 04.0**	**-1.2**
	14nm,0.9s								
VNDA	**Vanda**	**57.12**	**184**	LR		LR	14 03 44.4		
	comp=Z,107nm,19.4s,baz=295,slow=32								
MJAR	**Matsushiro Arr**	**67.78**	**327**	P		P	**P**	**13 44 33.9**	**+1.6**
	2.5nm,1.0s,baz=171,slow=6.7,SNR=2.8								
MAJO	**Matsushiro**	**67.78**	**327**	*e*P		P	**P**	**13 44 33.9**	**+1.6**
QSPA	**South Pole Qui**	**69.15**	**180**	*e*P		P	**P**	**13 44 40.1**	**-0.5**
	11nm,1.1s								
CM01	**Chiang Mai Arr**	**85.67**	**291**	*e*P		P	**P**	**13 46 14.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**85.69**	**291**	P		P	**P**	**13 46 15.2**	**+1.6**
	0.6nm,0.3s,baz=131,slow=4.5,SNR=4.6								
ILAR	**Eielson Array**	**89.88**	**15**	P		P	**P**	**13 46 34.3**	**+1.6**
	0.5nm,0.8s,baz=229,slow=6.4,SNR=5.2								

DJA 23 13:43:43.0±0.4, 7°S±2°×13°0E±°, h175km±6km, M4.5/2, mb4.0/2, mB4.3/1, MLv4.7/2, Mw(mB)3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.71**	**147**	P		P	Pn	13 44 16.9	+0.2
SAUI				S		S	Sn	13 44 43.4	+0.5
BNDI	**Bandanaira**	**2.05**	**348**	P		P	Pn	13 44 21.1	+0.8
BNDI				S		S	Sn	13 44 50.1	+0.8
FAKI	**Fak Fak**	**4.06**	**28**	P		P	Pn	13 44 45.0	+0.2
FAKI				S		S	Sn	13 45 31.5	-1.7
RKPI	**Ransiki, Papua**	**6.29**	**38**	P		P	Pn	13 45 13.9	+0.1
RKPI				S		S	Sn	13 46 26.5	+1.2
SOEI	**Soe**	**6.82**	**242**	P		P	Pn	13 45 21.3	+0.4
BATI	**Baumata**	**7.55**	**241**	P		P	Pn	13 45 29.2	-1.3
BATI				S		S	Sn	13 46 55.4	0.0

MEX 23 13:52:16.0±0.3, 15°21N×93°28W, h78km±4km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.49**	**7**	*e*P		P	Pn	13 52 28.1	-1.4
PCIG				*e*S		S	Sn	13 52 37.6	-1.8
THIG		**1.02**	**107**	*i* P		P	Pn	13 52 33.5	-1.7
THIG				*e*S		S	Sn	13 52 47.7	-1.9
CCIG	**Comitan**	**1.53**	**46**	*i* P		P	Pn	13 52 40.1	-1.7
CCIG				*i* S		S	Sn	13 52 59.5	-1.8

*ISCJB **23** 14:08:00.3±0.9, 6.65S±0.06×130.00E±0.08, h146km, mb2.9/1, Error ellipse: s-maj=11.0km s-min=8.3km az=174.3*

*IDC **23** 14:08:01.0±1.7, 6.49S×129.92E, h137km±24km, mb2.8/1, mb1 3.4/6, mb1mx3.1/38, mbtmp3.8/6, Error ellipse: s-maj=29.6km s-min=13.3km az=113.0*

ISC 23 14:08:00.2±0.9, 6.67S±0.06×130.1E±0.1, h146km, n6, σ2°97/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.88**	**11**	P		P	**Pn**	**14 09 26.1**	**+0.9**
	6.3nm,0.3s,baz=41,slow=22,SNR=32								
SIJI				S		S	**Sn**	**14 10 28.1**	**-3.7**
	5.0nm,0.3s,baz=238,slow=22,SNR=9.6								
BATI	**Baumata**	**7.29**	**241**	P		P	**Pn**	**14 09 45.2**	**+1.0**
	2.0nm,0.3s,baz=78,slow=19,SNR=3.3								
BATI				S		S	**Sn**	**14 11 04.8**	**-1.0**
	5.2nm,0.3s,baz=138,slow=20,SNR=10								
FITZ	**Fitzroy Crossi**	**12.17**	**201**	P		P	**Pn**	**14 10 50.0**	**+1.2**
	0.7nm,0.3s,baz=17,slow=9.6,SNR=30								
FITZ				S		S	**Sn**	**14 12 59.8**	**-3.6**
	0.3nm,0.3s,baz=66,slow=20,SNR=3.8								
WRA	**Warramunga Arr**	**13.81**	**163**	P		P	**Pn**	**14 11 12.5**	**+2.6**
	0.5nm,0.3s,baz=341,slow=13,SNR=22								
WRA				S		S	**Sn**	**14 13 41.5**	**-1.4**
	1.2nm,0.3s,baz=340,slow=22,SNR=11								
ASAR	**Alice Springs**	**17.28**	**168**	P		P	**Pn**	**14 11 56.8**	**+4.0**
	0.2nm,0.3s,baz=334,slow=9.0,SNR=7.6								
ASAR				S		S	**S**	**14 15 00.8**	**-3.9**
	0.1nm,0.3s,baz=357,slow=28,SNR=3.5								
MKAR	**Makanchi Array**	**68.02**	**327**	P		P	**P**	**14 18 44.0**	**+0.2**
	0.1nm,0.4s,baz=118,slow=9.4,SNR=2.3								

MEX 23 14:08:20.5±0.5, 15°19N×93°27W, h72km±7km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.52**	**5**	*e*P		P	Pn	14 08 32.0	-1.7
PCIG				*e*S		S	Sn	14 08 41.6	-1.8
THIG		**1.01**	**106**	*e*S		S	Sn	14 08 51.6	-1.6
CCIG	**Comitan**	**1.54**	**45**	*e*P		P	Pn	14 08 45.2	-1.1
CCIG				*e*S		S	Sn	14 09 03.8	-1.9

*IDC **23** 14:17:54.9±1.0, 19.54N×69.15W, h0km, mb3.7/7, mb1 4.1/8, mb1mx3.7/42, mbtmp3.8/8, ML4.5/1, Error ellipse: s-maj=34.7km s-min=20.7km az=49.0*

*ISCJB **23** 14:18:02.8±0.5, 18.59N±0.06×69.11W±0.05, h124km, mb3.6/7, Error ellipse: s-maj=8.6km s-min=6.2km az=173.5*

ISC 23 14:18:04.1±0.7, 18.5N±0.1×69.11W±0.07, h124km, n28, σ1°27/29, mb3.7/7, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**2.84**	**98**	Pn		P	**Pn**	**14 18 48.2**	**-0.3**
	59nm,0.3s,baz=311,slow=10,SNR=56								
SJG						Sn	**Sn**	**14 19 21.6**	**-1.1**
	88nm,0.3s,baz=48,slow=21,SNR=16								
H05N1	**Guadeloupe/Mar**	**8.00**	**105**	Pn		P	**Pn**	**14 19 58.7**	**+1.0**
H05N1				Sn		S	**Sn**	**14 21 26.7**	**+0.1**
H05S1	**Guadeloupe/Mar**	**8.93**	**116**	Pn		P	**Pn**	**14 20 12.3**	**+2.1**
CODC	**Agustn Codazz**	**9.53**	**207**	*e*P		P	**Pn**	**14 20 15.6**	**-2.7**
CODC	**Agustn Codazz**	**9.53**	**207**	*e*P		P	**Pn**	**14 20 15.6**	**-2.7**
SJCC	**San Jacinto, C**	**10.41**	**215**	*e*P		P	**Pn**	**14 20 30.8**	**+0.5**
SJCC	**San Jacinto, C**	**10.41**	**215**	*e*P		P	**Pn**	**14 20 30.8**	**+0.5**
PAMC	**Pamplona, Colo**	**11.67**	**198**	*e*P		P	**Pn**	**14 20 46.4**	**-1.0**
PAMC	**Pamplona, Colo**	**11.67**	**198**	*e*P		P	**Pn**	**14 20 46.4**	**-1.0**
GIRC	**Giron, Santand**	**12.07**	**200**	*e*P		P	**Pn**	**14 20 51.1**	**-1.3**
GIRC	**Giron, Santand**	**12.07**	**200**	*e*P		P	**Pn**	**14 20 51.1**	**-1.3**
ZARC	**Zaragoza, Cauc**	**12.33**	**208**	*e*P		P	**Pn**	**14 20 57.8**	**+2.2**
ZARC	**Zaragoza, Cauc**	**12.33**	**208**	*e*P		P	**Pn**	**14 20 57.8**	**+2.2**
BARC	**Barichara**	**12.53**	**199**	*e*P		P	**Pn**	**14 20 57.4**	**-1.0**
BARC	**Barichara**	**12.53**	**199**	*e*P		P	**Pn**	**14 20 57.4**	**-1.0**
PTBC	**PUERTO BERRIO,**	**13.02**	**204**	*e*P		P	**Pn**	**14 21 04.6**	**-0.1**
PTBC	**PUERTO BERRIO,**	**13.02**	**204**	*e*P		P	**Pn**	**14 21 04.6**	**-0.1**
RUSC	**La Rusia**	**13.16**	**198**	*e*P		P	**

	1.4nm,0.6s,baz=178,slow=8.5,SNR=3.3							
GTA	**Gaotai**	**50.45**	**331**	*e*P		**P**	**14 34 23.8**	**+0.8**
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
RAMN	**Ramite**	**50.82**	**309**	*e*P		**P**	**14 34 26.4**	**+0.3**
	19nm,0.4s							
JIRN	**Jiri**	**51.49**	**310**	*e*P		**P**	**14 34 31.0**	**-0.2**
	12nm,0.6s							
GUN	**Gumba**	**51.85**	**310**	*e*P		**P**	**14 34 33.7**	**-0.2**
	13nm,0.5s							
KKN	**Kakani**	**52.25**	**310**	*e*P		**P**	**14 34 36.4**	**-0.3**
DMN	**Daman**	**52.30**	**309**	*e*P		**P**	**14 34 37.0**	**-0.1**
KLR	**Kul'dur**	**52.70**	**2**	LR		LR	14 56 27.7	
	comp=Z,74nm,19.7s,baz=10.0,slow=35							
KOLN	**Koldanda**	**53.55**	**309**	*e*P		**P**	**14 34 46.2**	**0.0**
DANN	**Dangsing**	**53.70**	**309**	*e*P		**P**	**14 34 47.0**	**-0.4**
	20nm,0.8s							
PYUN	**Piuthan**	**54.18**	**309**	*e*P		**P**	**14 34 50.8**	**0.0**
SONA0	**Songino Array**	**54.88**	**342**	*e*P		**P**	**14 34 55.8**	**+0.4**
SONM	**Songino Array**	**54.88**	**342**	P		**P**	**14 34 55.8**	**+0.4**
	0.5nm,0.6s,baz=168,slow=7.6,SNR=5.3							
SONM				pP		**pP**	**14 35 23.0**	**+3.0**
	0.8nm,0.9s,baz=163,slow=7.1,SNR=3.1							
KSH	**Kashi**	**64.73**	**317**	P		**P**	**14 36 04.0**	**+0.8**
KSH				S		**S**	**14 44 30.5**	**-5.6**
MK01	**Makanchi Array**	**64.74**	**327**	*e*P		**P**	**14 36 02.5**	**-0.4**
MK31	**Makanchi Array**	**64.76**	**327**	*e*P		**P**	**14 36 02.5**	**-0.5**
	2.2nm,0.8s							
MK32	**Makanchi Array**	**64.76**	**327**	*e*P		**P**	**14 36 03.0**	**0.0**
MKAR	**Makanchi Array**	**64.76**	**327**	P		**P**	**14 36 03.0**	**0.0**
	1.9nm,0.5s,baz=113,slow=7.6,SNR=4.2							
MAKZ	**Makanchi**	**64.94**	**326**	*e*P		**P**	**14 36 03.8**	**-0.4**
	5.7nm,1.4s							
KDJ	**Kajisay**	**65.22**	**320**	*e*P		**P**	**14 36 07.1**	**+0.7**
	2.7nm,0.5s							
AAK	**Ala-Archa**	**67.20**	**319**	*e*P		**P**	**14 36 18.9**	**-0.1**
	3.2nm,1.0s							
ZALV	**Zalesovo Beam**	**68.04**	**334**	*e*P		**P**	**14 36 22.9**	**-0.8**
ZALV	**Zalesovo Beam**	**68.04**	**334**	P		**P**	**14 36 23.4**	**-0.3**
	1.0nm,0.4s,baz=118,slow=6.2,SNR=7.7							
ZAA1	**Zalesovo Array**	**68.04**	**334**	*e*P		**P**	**14 36 23.4**	**-0.4**
ILAR	**Eielson Array**	**90.82**	**25**	P		**P**	**14 38 25.2**	**-1.8**
	0.3nm,0.6s,baz=241,slow=5.4,SNR=7.6							
BRTR	**Keskin Array B**	**96.26**	**309**	LR		LR	15 28 05.5	
	comp=Z,21nm,21.7s,baz=108,slow=39							
TORD	**Torodi Ar. Bea**	**126.91**	**284**	PKP		**PKPdf**	**14 44 27.3**	**-1.2**
	0.7nm,0.6s,baz=117,slow=1.9,SNR=5.0							

*IDC **23** 14:25:48.9±5.1, 7.45S×128.72E, h108km±48km, mb3.6/2, mb1 4.1/6, mb1mx3.6/30, mbtmp4.4/6, Error ellipse: s-maj=43.9km s-min=21.7km az=42.0*

ISC 23 14:25:47.1±0.8, 7.46S±0.08×128.83E±0.08, h100km, n17, σ3.9 11/22, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**5.06**	**243**	*e*Pn		**Pn**	**14 27 03.6**	**+2.8**
SOEI				*e*Sn		**Sn**	**14 28 01.8**	**+3.7**
BATI	**Baumata**	**5.79**	**241**	P		**Pn**	**14 27 12.9**	**+2.3**
	18nm,0.3s,baz=144,slow=1.0,SNR=24							
BATI				S		**Sn**	**14 28 15.7**	**-0.2**
	30nm,0.3s,baz=110,slow=20,SNR=16							
MTN	**Manton Dam**	**5.81**	**157**	*e*Pn		**Pn**	**14 27 15.4**	**+4.5**
MTN				*e*Sn		**Sn**	**14 28 20.4**	**+4.2**
FITZ	**Fitzroy Crossi**	**11.03**	**196**	P		**Pn**	**14 28 21.2**	**-0.6**
	4.2nm,0.3s,baz=21,slow=13,SNR=52							
FITZ				S		Sn	14 30 14.8	-8.3
	1.9nm,0.3s,baz=90,slow=20,SNR=2.5							
WRAB	**Tennant Creek**	**13.51**	**157**	*e*Pn		**Pn**	**14 28 55.1**	**+0.4**
	28nm,1.1s							
WRA	**Warramunga Arr**	**13.51**	**157**	P		**Pn**	**14 28 55.0**	**+0.2**
	6.0nm,0.3s,baz=326,slow=13,SNR=132							
WRA				S		**Sn**	**14 31 18.0**	**-5.6**
	3.5nm,0.3s,baz=329,slow=22,SNR=6.5							
AS31	**Alice Springs**	**16.84**	**164**	*e*P		**Pn**	**14 29 39.0**	**+2.2**
	11nm,0.4s							
ASAR	**Alice Springs**	**16.84**	**164**	P		**Pn**	**14 29 38.7**	**+1.9**
	1.5nm,0.3s,baz=330,slow=9.7,SNR=90							
ASAR				S		**Sn**	**14 32 36.8**	**-7.2**
	0.6nm,0.3s,baz=345,slow=25,SNR=3.5							
AS01	**Alice Springs**	**16.85**	**164**	*e*P		**Pn**	**14 29 38.8**	**+1.8**
STKA	**Stephens Creek**	**27.05**	**156**	P		**P**	**14 31 22.9**	**+2.7**
	1.3nm,0.5s,baz=334,slow=9.6,SNR=5.7							
CMAR	**Chiang Mai Arr**	**39.15**	**311**	pP		**P**	**14 33 03.4**	**-1.9**
	1.2nm,0.8s,baz=143,slow=7.6,SNR=3.6							
SONM	**Songino Array**	**58.51**	**342**	P		**P**	**14 35 33.7**	**+0.7**
	0.7nm,0.6s,baz=152,slow=6.5,SNR=4.5							
MKAR	**Makanchi Array**	**67.98**	**327**	pP		**P**	**14 36 33.6**	**-1.9**
	1.3nm,0.4s,baz=114,slow=8.4,SNR=8.1							
ZALV	**Zalesovo Beam**	**71.48**	**334**	pP		**P**	**14 36 54.7**	**-2.1**
	1.6nm,0.5s,baz=136,slow=5.8,SNR=5.3							
ZALV	**Zalesovo Beam**	**71.48**	**334**	pP		**P**	**14 36 54.7**	**-2.1**
TXAR	**Lajitas Array**	**126.15**	**59**	PKP		**PKPdf**	**14 44 39.4**	**+0.7**
	0.2nm,0.5s,baz=4.8,slow=1.1,SNR=1.8							
TORD	**Torodi Ar. Bea**	**127.76**	**281**	PKP		**PKPdf**	**14 44 41.5**	**-0.4**
	0.8nm,0.7s,baz=116,slow=2.2,SNR=4.7							

*NEIC **23** 14:28:16.8±0.0, 57.69N×142.68W, h5km, ML2.5(AEIC), After AEIC.*

PGC 23 14:28:14.4±3.5, 57.75N×142.54W, h10km, ML2.5, ML2.9/3, 246km Wsw of Yakutat, Ak Gulf Of Alaska, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNL	**Peninsula**	**2.52**	**39**	P		Pn	14 28 55.0	-0.4
PNL				S		Sn	14 29 24.7	-1.6
PNL	**Peninsula**	**2.52**	**39**	Pn		Pn	14 28 54.8	-0.6
PNL				Sn		Sn	14 29 25.0	-1.2
PCA	**Pinnacle**	**2.63**	**26**	P		Pn	14 28 56.5	-0.4
BCPM	**Bancas Point**	**2.67**	**33**	P		Pn	14 28 56.9	-0.6
TGL	**Tana Glacier**	**3.02**	**357**	P		Pn	14 29 01.2	-1.1
TGL				S		Sn	14 29 35.8	-2.6
KIAG	**Kiagna River**	**3.18**	**2**	P		Pn	14 29 03.8	-0.8
KIAG				S		Sn	14 29 39.9	-2.8
KIAG	**Kiagna River**	**3.18**	**2**	Pn		Pn	14 29 03.2	-1.4
KIAG				Sn		Sn	14 29 40.8	-1.9
BALM	**Baldy**	**3.30**	**2**	P		Pn	14 29 05.6	-0.5
BALM				S		Sn	14 29 43.3	-2.1
BALM	**Baldy**	**3.30**	**2**	Pn		Pn	14 29 05.6	-0.5
BALM				Sn		Sn	14 29 43.3	-2.1
PTPK	**Patty Peak**	**3.45**	**1**	Sn		Sn	14 29 47.9	-1.3
YUK7	**Dusty Glacier**	**3.59**	**37**	Pn		Pn	14 29 10.6	+0.4
PLBC	**Pleasant Camp**	**3.65**	**59**	P		Pn	14 29 10.5	-0.4
PLBC	**Pleasant Camp**	**3.65**	**59**	Pn		Pn	14 29 10.8	-0.1
YUK6	**Outpost Mounta**	**3.85**	**32**	Pn		Pn	14 29 14.2	+0.4
YUK5	**Granite Creek**	**4.15**	**33**	Pn		Pn	14 29 16.3	-1.5

*GUC **23** 14:37:13.0±0.6, 28.04S×71.18W, h52km±9km, ML4.3*
*NEIC **23** 14:37:13.0±0.0, 28.04S×71.17W, h53km, ML4.5(GUC), After GUC.*
NEIC Felt [III] at Copiapo and Tierra Amarilla and [II] at Alto del Carmen.
*ISCJB **23** 14:37:14.4±0.5, 28.03S±0.03×70.92W±0.09, h38km, mb3.8/6, Error ellipse: s-maj=11.7km s-min=3.8km az=0.5*
*SJA **23** 14:37:14.5±0.3, 28.13S×71.02W, h62km±4km, ML3.8, MW4.1*
*IDC **23** 14:37:17.1±2.6, 28.07S×70.78W, h52km±21km, mb3.6/6, mb1 3.8/10, mb1mx3.6/36, mbtmp3.8/10, ML3.7/4, Error ellipse: s-maj=33.6km s-min=10.8km az=81.0*

ISC 23 14:37:15.2±0.6, 28.08S±0.04×71.07W±0.08, h38km, n40, σ1.9 47/48, mb3.8/6, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**0.98**	**161**	*e*Pn		**Pn**	**14 37 33.2**	**+0.4**
LCO				*e*Sn		**Sn**	**14 37 43.6**	**-2.0**
LCO	**Las Campanas**	**0.98**	**161**	*i* P		**Pn**	**14 37 32.9**	**+0.2**
LCO				*i* S		**Sn**	**14 37 46.6**	**+1.0**
LCO	**Las Campanas**	**0.98**	**161**	*e*P		**Pn**	**14 37 33.1**	**+0.4**
GO04	**Tololo Observa**	**2.10**	**174**	*e*Pn		**Pn**	**14 37 50.1**	**+2.0**
GO04	**Tololo Observa**	**2.10**	**174**	*e*P		**Pn**	**14 37 49.3**	**+1.2**
GO04				*e*S		**Sn**	**14 38 16.2**	**+3.1**
GO04				IAML			14 38 35.4	
	comp=N,3μm,0.5s							
VCA	**Vinchina**	**2.60**	**105**	*i* P		**Pn**	**14 37 55.7**	**+0.8**
VCA				IAML			14 38 35.8	
	comp=Z,537nm,0.4s							
VCA	**Vinchina**	**2.60**	**105**	*e*P		**Pn**	**14 37 56.6**	**+1.7**
VCA				*e*S		**Sn**	**14 38 29.6**	**+4.2**
VCA				IAML			14 38 36.7	
	comp=N,861nm,0.5s							
CMCH	**Combarbala**	**3.09**	**179**	*e*P		**Pn**	**14 38 03.1**	**+1.7**
GO02	**Mina Guanaco**	**3.19**	**25**	*e*Pn		**Pn**	**14 38 04.2**	**+1.1**
GO02				*e*Sn		Sn	14 38 21.7	-18
GO02	**Mina Guanaco**	**3.19**	**25**	*e*P		**Pn**	**14 38 04.0**	**+0.9**
GO02				*e*S		**Sn**	**14 38 41.9**	**+1.9**
GO02				IAML			14 39 01.6	
	comp=N,621nm,0.3s							
PB14	**IPOC Station P**	**3.49**	**10**	*e*P		**Pn**	**14 38 07.3**	**+0.1**
PB14				IAML			14 39 04.5	
	comp=E,351nm,0.3s							
RTLS	**Leoncito**	**4.01**	**158**	*i* P		**Pn**	**14 38 15.8**	**+1.3**
RTLS				IAML			14 39 18.5	
	comp=Z,94nm,0.4s							
CFA	**Coronel Fontan**	**4.29**	**146**	P		**Pn**	**14 38 19.2**	**+1.2**
	comp=Z,21nm,0.3s,baz=335,slow=13,SNR=138							
CFA				S		**Sn**	**14 39 06.2**	**-0.6**
	comp=Z,8.2nm,0.3s,baz=344,slow=15,SNR=5.0							
RTCV	**Cerro Valdivia**	**4.36**	**150**	*i* P		**Pn**	**14 38 19.7**	**+0.7**
ROCH	**El Roble**	**4.88**	**179**	*e*P		**Pn**	**14 38 27.2**	**+1.0**
ROCH				*e*S		**Sn**	**14 39 24.2**	**+2.6**
ROC1	**El Roble**	**4.88**	**179**	*e*Pn		**Pn**	**14 38 27.3**	**+1.0**
PB15	**IPOC Station P**	**5.06**	**17**	*e*P		**Pn**	**14 38 29.1**	**+0.3**
PEL	**Peldehue**	**5.06**	**176**	*e*Pn		**Pn**	**14 38 30.0**	**+1.4**
LVC	**Limon Verde**	**5.78**	**20**	P		**Pn**	**14 38 38.6**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=192,slow=7.3,SNR=17							
LVC				S		**Sn**	**14 39 43.1**	**-1.0**
	comp=Z,5.5nm,0.3s,baz=192,slow=14,SNR=2.4							
PB01	**IPOC Station P**	**7.15**	**12**	*e*Pn		**Pn**	**14 38 55.8**	**-1.5**
LPAZ	**La Paz**	**12.04**	**14**	P		**Pn**	**14 40 06.9**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=222,slow=12,SNR=2.6							
CPUP	**Villa Florida**	**12.35**	**85**	*e*Pn		**Pn**	**14 40 07.4**	**-1.1**
CPUP	**Villa Florida**	**12.35**	**85**	P		**Pn**	**14 40 07.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=271,slow=13,SNR=2.6							
TRQA	**Tornquist**	**12.53**	**145**	*e*Pn		**Pn**	**14 40 11.7**	**+0.9**
SNAA	**Sanae**	**56.78**	**159**	P		**P**	**14 46 54.5**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=272,slow=7.7,SNR=11							
QSPA	**South Pole Qui**	**62.14**	**180**	P		**P**	**14 47 32.4**	**+0.2**
	comp=Z,2.8nm,1.1s,baz=172,slow=1.7,SNR=5.6							
TXAR	**Lajitas Array**	**65.05**	**329**	P		**P**	**14 47 54.1**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=161,slow=8.0,SNR=3.9							
PDAR	**Pinedale Array**	**76.90**	**332**	P		**P**	**14 49 15.9**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=138,slow=7.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**81.42**	**70**	P		**P**	**14 49 27.5**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=278,slow=5.0,SNR=7.9							
YKA	**Yellowknife Ar**	**96.73**	**341**	P		**P**	**14 50 40.8**	**-0.2**
	comp=Z,0.1nm,0.7s,baz=144,slow=3.6,SNR=2.7							
ASAR	**Alice Springs**	**123.20**	**208**	PKP		**PKPdf**	**14 56 07.5**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=134,slow=1.6,SNR=8.2							
WRA	**Warramunga Arr**	**126.31**	**210**	PKP		**PKiKP**	**14 56 14.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=154,slow=1.8,SNR=14							
KURBB	**Kurchatov Arra**	**147.82**	**37**	PKPbc		**PKPbc**	**14 56 55.5**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=306,slow=3.0,SNR=11							
AAK	**Ala-Archa**	**148.62**	**53**	PKPbc		**PKiKP**	**14 56 58.5**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=225,slow=8.6,SNR=3.8							
ZAA0	**Zalesovo Array**	**148.69**	**28**	*e*PKPbc		**PKiKP**	**14 56 58.1**	**-1.2**
ZALV	**Zalesovo Beam**	**148.69**	**28**	*e*PKPbc		**PKiKP**	**14 56 57.6**	**-1.7**
ZALV	**Zalesovo Beam**	**148.69**	**28**	PKPbc		**PKiKP**	**14 56 57.8**	**-1.6**
	comp=Z,2.5nm,0.6s,baz=288,slow=2.8,SNR=10							
MK31	**Makanchi Array**	**151.99**	**41**	*e*PKPbc		**PKiKP**	**14 57 05.6**	**-0.8**
MKAR	**Makanchi Array**	**151.99**	**41**	PKPbc		**PKiKP**	**14 57 05.5**	**-0.9**
	comp=Z,1.3nm,0.6s,baz=309,slow=1.9,SNR=17							
MK01	**Makanchi Array**	**152.00**	**41**	*e*PKPbc		**PKiKP**	**14 57 05.4**	**-1.1**

*ISCJB **23** 14:39:14.9±0.5, 35.7S±0.1×78.6E±0.1, h14km, mb4.1/16, MS4.1/17, Error ellipse: s-maj=17.2km s-min=15.1km az=177.6*
*IDC **23** 14:39:14.2±0.6, 35.60S×78.58E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/55, mbtmp4.1/15, MS4.0/17, Ms1 4.0/17, ms1mx3.8/37, Error ellipse: s-maj=20.5km s-min=19.2km az=2.0*

ISC 23 14:39:16.5±0.7, 35.6S±0.1×78.6E±0.2, h14km, n31, σ1.9 07/17, mb4.1/16, MS4.0/17, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.38**	**347**	T		T	15 14 12.5	
	baz=170,slow=76,SNR=168							
H08S1	**Diego Garcia H**	**28.39**	**347**	T		T	15 14 10.9	
	baz=170,slow=76,SNR=231							
H08S3	**Diego Garcia H**	**28.40**	**347**	T		T	15 14 14.0	
	baz=170,slow=76,SNR=295							
H01W2	**Cape Leeuwin H**	**28.94**	**99**	T		T	15 15 35.9	
	baz=259,slow=74,SNR=153							
H01W3	**Cape Leeuwin H**	**28.95**	**99**	T		T	15 15 37.5	
	baz=259,slow=74,SNR=141							
H01W1	**Cape Leeuwin H**	**28.96**	**99**	T		T	15 15 35.6	
	baz=259,slow=74,SNR=130							
MAW	**Mawson**	**32.39**	**191**	LR		LR	14 56 04.0	
	comp=Z,337nm,21.4s,baz=7.0,slow=30							
PALK	**Pallekele**	**42.69**	**3**	LR		LR	15 00 32.7	
	comp=Z,205nm,20.5s,baz=115,slow=30							
FITZ	**Fitzroy Crossi**	**45.01**	**80**	LR		LR	15 04 38.7	
	comp=Z,170nm,18.7s,baz=251,slow=34							
BOSA	**Boshof**	**45.25**	**263**	P		**P**	**14 47 34.2**	**+0.5**
	3.5nm,1.0s,baz=161,slow=1.8,SNR=3.1							
BOSA				LR		LR	15 02 22.9	
	comp=Z,289nm,21.3s,baz=107,slow=31							
MATP	**Matopo**	**46.25**	**275**	P		**P**	**14 47 40.0**	**-1.7**
	2.4nm,0.9s,baz=145,slow=12,SNR=3.2							
LBTB	**Lobatse**	**46.47**	**268**	P		**P**	**14 47 43.5**	**+0.2**
	5.4nm,0.9s,baz=135,slow=8.7,SNR=4.7							
ASAR	**Alice Springs**	**48.97**	**92**	P		**P**	**14 48 01.9**	**-0.7**
	1.4nm,1.0s,baz=233,slow=6.9,SNR=6.2							
ASAR				LR		LR	15 06 40.4	
	comp=Z,135nm,20.1s,baz=254,slow=34							
WRA	**Warramunga Arr**	**51.10**	**88**	P		**P**	**14 48 19.4**	**+0.5**
	3.1nm,1.1s,baz=239,slow=7.3,SNR=6.7							
WRA				LR		LR	15 07 47.0	
	comp=Z,187nm,20.4s,baz=305,slow=34							
STKA	**Stephens Creek**	**51.74**	**105**	LR		LR	15 06 47.2	
	comp=Z,227nm,21.0s,baz=210,slow=32							
VNDA	**Vanda**	**54.09**	**165**	P		**P**	**14 48 39.6**	**-0.6**
	1.8nm,1.0s,baz=285,slow=14,SNR=3.0							
VNDA				LR		LR	15 09 10.6	
	comp=Z,164nm,19.9s,baz=270,slow=33							
QSPA	**South Pole Qui**	**54.55**	**180**	P		**P**	**14 48 44.4**	**+0.5**
	4.6nm,0.9s,baz=193,slow=0.4,SNR=8.9							
CMAR	**Chiang Mai Arr**	**57.12**	**23**	P		**P**	**14 49 01.5**	**-1.1**
	0.4nm,0.4s,baz=206,slow=6.0,SNR=6.0							
CMAR				LR		LR	15 09 37.0	
	comp=Z,39nm,19.9s,baz=215,slow=32							
JAY	**Jayapura**	**66.05**	**75**	LR		LR	15 19 51.3	
	comp=Z,74nm,18.2s,baz=224,slow=37							
PMG	**Port Moresby**	**67.18**	**85**	LR		LR	15 17 58.4	
	comp=Z,393nm,20.8s,baz=214,slow=35							
GEYT	**Alibeck**	**75.58**	**343**	LR		LR	15 20 23.8	
	comp=Z,51nm,19.3s,baz=5.0,slow=33							
MKAR	**Makanchi Array**	**82.09**	**3**	P		**P**	**14 51 36.0**	**-0.1**
	0.7nm,0.9s,baz=186,slow=4.3,SNR=5.5							
MKAR				LR		LR	15 25 27.9	
	comp=Z,72nm,20.6s,baz=188,slow=34							
BRTR	**Keskin Array B**	**85.65**	**327**	P		**P**	**14 51 54.8**	**+0.2**
	1.6nm,1.0s,baz=173,slow=7.5,SNR=3.5							
KURBB	**Kurchatov Arra**	**85.86**	**360**	P		**P**	**14 51 54.8**	**-0.3**
	1.5nm,1.0s,baz=195,slow=4.8,SNR=7.7							
SONM	**Songino Array**	**86.71**	**18**	P		**P**	**14 52 00.1**	**+0.4**
	0.7nm,0.9s,baz=198,slow=4.2,SNR=4.1							
SONM				LR		LR	15 28 23.7	
	comp=Z,67nm,19.8s,baz=186,slow=34							
TORD	**Torodi Ar. Bea**	**87.19**	**288**	P		**P**	**14 52 02.3**	**-0.3**
	0.8nm,1.0s,baz=136,slow=4.3,SNR=3.9							
TORD				LR		LR	15 28 14.0	
	comp=Z,204nm,20.8s,baz=25,slow=34							
AKTO	**Aktyubinsk**	**87.57**	**347**	P		**P**	**14 52 04.4**	**+0.8**
	0.9nm,0.3s,baz=117,slow=11,SNR=11							
DBIC	**Dimbokro**	**88.54**	**279**	LR		LR	15 26 52.8	
	comp=Z,143nm,21.5s,baz=112,slow=32							
BVAR	**Borovoye Array**	**88.55**	**355**	P		**P**	**14 52 09.7**	**+1.5**
	0.6nm,0.7s,baz=169,slow=8.5,SNR=3.4							
ZALV	**Zalesovo Beam**	**89.35**	**4**	P		**P**	**14 52 14.4**	**+2.6**
	0.4nm,0.4s,baz=228,slow=5.6,SNR=3.3							
ZALV				LR		LR	15 29 18.8	
	comp=Z,49nm,21.2s,baz=79,slow=34							
YKA	**Yellowknife Ar**	**151.85**	**13**	PKPbc		**PKiKP**	**14 59 09.7**	**-0.6**
	1.2nm,1.0s,baz=333,slow=2.8,SNR=10							

*ISCJB **23** 14:42:12.0±1.1, 41.59N±0.05×78.38E±0.05, h0km, Error ellipse: s-maj=8.6km s-min=4.7km az=150.7*
*SOME **23** 14:42:11.8, 41.62N×78.37E, h5km*
*KRNET **23** 14:42:11.1±0.1, 41.59N×78.36E, h19km, mb2.1*
*NNC **23** 14:42:12.1±1.1, 41.62N×78.34E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=7.6km s-min=4.2km az=169.0, Suspected Mining explosion.*

ISC 23 14:42:10.9±1.5, 41.62N±0.06×78.31E±0.04, h0km, n29, σ0.64/52, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDJ	**Kajisay**	**0.98**	**301**	⇑*i*P		**Pb**	**14 42 30.4**	**-0.6**
	baz=2.0							
KDJ				⇑*i*S		**Sb**	**14 42 44.6**	**0.0**
	baz=2.0							
SATY	**Saty**	**1.44**	**3**	P		**Pn**	**14 42 38.1**	**-0.3**
SATY				S		**Sb**	**14 42 57.6**	**0.0**
SATY	**Saty**	**1.44**	**3**	*e*P		**Pg**	**14 42 38.5**	**-0.1**
	1.7nm,0.1s							
SATY				*e*S		**Sb**	**14 42 57.6**	**0.0**
	3.2nm,0.2s							
UZB	**Uzynbulak**	**1.61**	**19**	P		**Pb**	**14 42 41.4**	**-0.3**
	2.0nm,0.3s							
UZB				S		**Sg**	**14 43 02.9**	**+0.1**
	3.2nm,0.3s							
UZB	**Uzynbulak**	**1.61**	**19**	*e*P		**Pb**	**14 42 41.5**	**-0.3**
	0.6nm,0.2s							
UZB				*e*S		**Sg**	**14 43 02.9**	**+0.1**
	1.1nm,0.2s							
ULHL	**Ulahol**	**1.66**	**293**	⇑*i*P		**Pb**	**14 42 42.2**	**-0.4**
ULHL	baz=93			⇑*i*S		**Sg**	**14 43 05.2**	**+0.8**
	baz=93							
TNSS	**Tian-Shan**	**1.74**	**325**	P		**Pg**	**14 42 44.2**	**0.0**
	1.3nm,0.3s							
TNSS				S		**Sg**	**14 43 07.9**	**+1.1**
	4.5nm,0.3s							
TNSS	**Tian-Shan**	**1.74**	**325**	*e*P		**Pg**	**14 42 44.4**	**+0.2**
	1.3nm,0.3s							
TNSS				*e*S		**Sg**	**14 43 07.9**	**+1.1**
	4.5nm,0.3s							
NRN	**Naryn**	**1.74**	**265**	⇑*i*P		**Pg**	**14 42 44.4**	**+0.1**
	baz=66							
NRN				⇑*i*S		**Sg**	**14 43 08.3**	**+1.4**
	baz=66							
MDOK	**Medeo**	**1.80**	**329**	Pg		**Pg**	**14 42 45.7**	**+0.3**
	1.4nm,0.3s							
MDOK				Lg		Lg	14 43 10.3	
	2.6nm,0.4s							
MDOK	**Medeo**	**1.80**	**329**	*e*P		**Pg**	**14 42 45.7**	**+0.3**
	0.6nm,0.2s							
MDOK				*e*S		**Sg**	**14 43 10.2**	**+1.4**
	2.9nm,0.6s							
KOTS	**Kotyrbulak**	**1.84**	**332**	P		**Pg**	**14 42 46.0**	**-0.2**
	1.9nm,0.4s							
KOTS				S		**Sg**	**14 43 10.7**	**+0.7**
	5.9nm,0.3s							
KOTS	**Kotyrbulak**	**1.84**	**332**	*e*P		**Pg**	**14 42 46.0**	**-0.2**
	1.9nm,0.4s							
KOTS				*e*S		**Sg**	**14 43 10.7**	**+0.7**
	5.9nm,0.3s							
KURS	**Kuram**	**1.87**	**357**	P		**Pg**	**14 42 46.6**	**-0.1**
	1.0nm,0.3s							
KURS				S		**Sg**	**14 43 11.8**	**+0.8**
	1.5nm,0.3s							
KURS	**Kuram**	**1.87**	**357**	*e*P		**Pg**	**14 42 46.6**	**-0.1**
	0.9nm,0.3s							
KURS				*e*S		**Sg**	**14 43 11.8**	**+0.8**
	1.4nm,0.4s							
PDGK	**Podgornoye**	**1.92**	**27**	P		**Pb**	**14 42 46.4**	**-0.5**
	0.7nm,0.2s							
PDGK				S		**Sb**	**14 43 11.4**	**+0.1**
	5.0nm,0.6s							
PDGK	**Podgornoye**	**1.92**	**27**	⇓Pn		**Pn**	**14 42 45

PKIN	**Phulchoki**	**14.65**	**131**	*e*P	**Pn**	**14 51 40.0**	**-0.6**
GUN	**Gumba**	**14.71**	**129**	*e*P	**Pn**	**14 51 40.5**	**-0.8**
	4.6nm,0.3s						
AB31	**Akbulak array**	**14.74**	**325**	⇓P	**Pn**	**14 51 41.2**	**0.0**
	0.9nm,0.5s,baz=124,slow=12,SNR=23						
AB31				⇓S	Sn	14 54 10.7	-14
	2.0nm,0.6s,baz=144,slow=20,SNR=11						
JIRN	**Jiri**	**15.08**	**129**	*e*P	**Pn**	**14 51 45.7**	**-0.3**
	7.9nm,0.3s						
BVAR	**Borovoye Array**	**15.24**	**354**	P	**P**	**14 51 49.5**	**+0.1**
	0.3nm,0.3s,baz=159,slow=10,SNR=10						
KIRV	**Kirov**	**25.73**	**331**	LR	LR	15 05 13.9	
	comp=Z,78nm,19.1s,baz=61,slow=39						
SONM	**Songino Array**	**26.25**	**57**	P	**P**	**14 53 42.5**	**0.0**
	0.2nm,0.5s,baz=263,slow=11,SNR=2.6						
FINES	**FINESS Array B**	**37.23**	**325**	P	**P**	**14 55 18.4**	**+0.5**
	0.4nm,0.3s,baz=114,slow=10,SNR=7.1						
ARCES	**ARCESS Array B**	**40.48**	**336**	P	**P**	**14 55 45.6**	**+0.7**
	4.7nm,1.0s,baz=106,slow=9.5,SNR=4.7						
NB2	**NORSAR Subarra**	**44.23**	**322**	P	**P**	**14 56 15.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**322**	P	**P**	**14 56 16.1**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=95,slow=7.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**67.31**	**269**	P	**P**	**14 59 01.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=56,slow=5.3,SNR=3.0						
YKA	**Yellowknife Ar**	**79.77**	**4**	P	**P**	**15 00 12.7**	**0.0**
	comp=Z,0.1nm,0.4s,baz=354,slow=6.0,SNR=1.5						

IDC ***23*** *14:53:49.1±1.3,21.20S×168.50E,h0km,mb4.2/9, mb1 4.4/10,mb1mx4.1/34,mbtmp4.2/10,ML4.3/1,MS3.7/2, Ms1 3.7/2,ms1mx3.0/30,Error ellipse: s-maj=44.6km s-min=19.5km az=149.0*

ISCJB ***23*** *14:53:50.3±1.6,21.1S±0.1×168.6E±0.1,h23km±10km, mb4.0/13,Error ellipse: s-maj=24.3km s-min=8.5km az=43.1*

NEIC ***23*** *14:53:50.5±0.6,21.13S×168.56E,h10km,mb4.1/3,Error ellipse: s-maj=20.4km s-min=7.6km az=136.0*

ISC 23 14:53:50.3±4.1,21.2S±0.1×168.6E±0.1,h10km±24km,n49, σ0°88/53,mb4.1/13,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.58**	**239**	*e*Pg		**Pb**	**14 54 02.8**	**+0.2**
MARNC				*e*Sg		**Sb**	**14 54 11.2**	**+0.3**
PINNC	**Pines Island,**	**1.76**	**216**	*e*Pn		**Pn**	**14 54 20.6**	**-0.3**
PINNC				*e*Sn		**Sn**	**14 54 42.9**	**-0.4**
DZM	**Mont Dzumac**	**2.17**	**246**	*e*Pn		**Pn**	**14 54 26.1**	**-0.4**
	375nm,0.2s							
DZM				*e*Sn		**Sn**	**14 54 54.0**	**+0.5**
	712nm,0.3s							
DZM	**Mont Dzumac**	**2.17**	**246**	*e*Pn		**Pn**	**14 54 26.1**	**-0.4**
DZM				*e*Sn		**Sn**	**14 54 54.5**	**+1.1**
DZM	**Mont Dzumac**	**2.17**	**246**	Pn		**Pn**	**14 54 26.5**	**0.0**
	101nm,0.3s,baz=121,slow=20,SNR=924							
DZM				Sn		**Sn**	**14 54 52.0**	**-1.5**
	226nm,0.3s,baz=78,slow=21,SNR=7.5							
DZM				LR		LR	14 55 14.3	
	comp=Z,468nm,19.0s,baz=176,slow=41							
ONTNC	**Ouen Toro**	**2.26**	**240**	*e*Pn		**Pn**	**14 54 28.1**	**+0.3**
ONTNC				*e*Sn		**Sb**	**14 54 57.2**	**-2.0**
RAO	**Raoul Island**	**14.62**	**126**	LR		LR	15 00 40.9	
	comp=Z,1μm,21.9s,baz=128,slow=28							
STKA	**Stephens Creek**	**26.31**	**241**	P		**P**	**14 59 29.6**	**+3.3**
	1.7nm,0.7s,baz=95,slow=12,SNR=2.3							
WR1	**Warramunga Arr**	**32.04**	**266**	*e*P		**P**	**15 00 16.0**	**-1.4**
	1.3nm,0.9s							
WRA	**Warramunga Arr**	**32.04**	**266**	P		**P**	**15 00 16.0**	**-1.4**
	1.1nm,0.9s,baz=90,slow=8.3,SNR=9.2							
AS01	**Alice Springs**	**32.05**	**259**	*e*P		**P**	**15 00 17.4**	**-0.1**
AS31	**Alice Springs**	**32.09**	**259**	*e*P		**P**	**15 00 18.0**	**+0.2**
	2.2nm,0.8s							
ASAR	**Alice Springs**	**32.09**	**259**	P		**P**	**15 00 17.8**	**-0.1**
	5.7nm,0.7s,baz=83,slow=9.0,SNR=93							
PPT2	**Papeete2**	**39.56**	**92**	*e*LR		LR	15 12 20.6	
	comp=Z,131nm,31.2s							
FITZ	**Fitzroy Crossi**	**40.46**	**267**	*e*P		**P**	**15 01 29.9**	**+0.5**
	3.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.46**	**267**	P		**P**	**15 01 28.5**	**-0.9**
	3.5nm,0.7s,baz=112,slow=8.4,SNR=10							
MJAR	**Matsushiro Arr**	**64.18**	**333**	P		**P**	**15 04 24.8**	**-0.4**
	0.7nm,0.5s,baz=166,slow=5.0,SNR=3.2							
MAJO	**Matsushiro**	**64.18**	**333**	*e*P		**P**	**15 04 24.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**73.18**	**333**	P		**P**	**15 05 21.6**	**+0.5**
	3.5nm,0.9s,baz=120,slow=5.8,SNR=4.6							
PETK	**Petropavlovsk-**	**74.58**	**353**	P		**P**	**15 05 29.8**	**+0.6**
	3.6nm,0.8s,baz=157,slow=8.0,SNR=3.5							
PEA1	**Petropavlovsk-**	**74.58**	**353**	*e*P		**P**	**15 05 29.8**	**+0.6**
CM01	**Chiang Mai Arr**	**78.70**	**295**	*e*P		**P**	**15 05 52.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**78.73**	**295**	P		**P**	**15 05 54.8**	**+1.3**
	2.0nm,0.8s,baz=134,slow=4.5,SNR=17							
SONM	**Songino Array**	**88.39**	**323**	P		**P**	**15 06 42.8**	**+0.3**
	1.7nm,0.8s,baz=146,slow=5.3,SNR=15							
NVAR	**Mina Array Bea**	**90.55**	**49**	P		**P**	**15 06 52.6**	**-0.4**
	0.7nm,0.8s,baz=225,slow=8.4,SNR=2.4							
ILAR	**Eielson Array**	**92.27**	**18**	P		**P**	**15 06 57.6**	**-2.4**
	0.1nm,0.5s,baz=243,slow=5.1,SNR=5.5							
CPUP	**Villa Florida**	**115.11**	**135**	PKP		**PKPdf**	**15 12 33.4**	**+0.9**
	1.7nm,0.2s,baz=300,slow=8.5,SNR=6.5							
ARA0	**ARCESS Array S**	**126.77**	**345**	*e*PKPdf		**PKPdf**	**15 12 53.0**	**-0.5**
ARCES	**ARCESS Array B**	**126.77**	**345**	PKP		**PKPdf**	**15 12 53.0**	**-0.5**
	5.0nm,1.0s,baz=50,slow=7.2,SNR=4.6							
FIA0	**FINESS Array S**	**132.13**	**337**	*e*PKPdf		**PKPdf**	**15 13 03.9**	**+0.1**
FINES	**FINESS Array B**	**132.13**	**337**	PKP		**PKPdf**	**15 13 03.9**	**+0.1**
	1.0nm,0.7s,baz=17,slow=7.0,SNR=5.0							
NB200	**NORSAR Array S**	**137.14**	**344**	*e*PKPdf		**PKPdf**	**15 13 14.1**	**+0.8**
NOA	**NORSAR Array B**	**137.14**	**344**	PKP		**PKPdf**	**15 13 14.1**	**+0.8**
	1.4nm,1.0s,baz=43,slow=2.0,SNR=3.4							
NKC	**Novy Kostel**	**145.43**	**333**	*e*PKP		**PKPab**	**15 13 29.0**	**+0.4**
CONA	**Conrad Observa**	**145.45**	**327**	*i* PKPdf		**PKPab**	**15 13 29.4**	**+0.6**
	7.7nm,0.9s							
KHC	**Kasperske Hory**	**145.73**	**330**	*e*PKP		**PKPbc**	**15 13 29.8**	**+0.4**
GERES	**GERESS Array B**	**145.88**	**330**	PKPbc		**PKPbc**	**15 13 30.1**	**+0.1**
	5.9nm,0.8s,baz=49,slow=2.5,SNR=23							
ARSA	**Arzberg**	**146.07**	**326**	*i* PKPab		**PKPbc**	**15 13 30.5**	**0.0**
	4.3nm,1.3s							
MOA	**Molln**	**146.30**	**328**	*i* pPKPdf		**PKPab**	**15 13 32.2**	**+0.2**
	8.4nm,1.9s							
SOKA	**Soboth**	**146.70**	**326**	*i* PKPab		**PKPbc**	**15 13 32.2**	**-0.3**
	5.3nm,1.2s							
KBA	**Koelnbreinsper**	**147.28**	**328**	*i* pPKPdf		**PKPbc**	**15 13 33.9**	**-0.3**
	5.1nm,1.0s							
MYKA	**Terra Mystica**	**147.44**	**327**	*i* pPKPdf		**PKPbc**	**15 13 34.2**	**-0.3**
	4.1nm,1.0s							
ABTA	**Abfaltersbach**	**147.93**	**328**	*i* pPKPdf		**PKPbc**	**15 13 35.4**	**-0.5**
	6.9nm,0.9s							
WATA	**Walderalm**	**147.95**	**330**	*i* pPKPbc		**PKPab**	**15 13 38.5**	**-0.1**
	2.8nm,0.6s							
MOTA	**Moosalm**	**148.17**	**330**	*i* P		**PKPbc**	**15 13 36.5**	**-0.1**
	11nm,1.0s,SNR=5.4							
SQTA	**Sankt Quirin**	**148.21**	**330**	*i* pPKPdf		**PKPbc**	**15 13 36.3**	**-0.4**
	7.5nm,0.6s,SNR=4.9							
RETA	**Reutte**	**148.22**	**331**	*i* pPKPdf		**PKPbc**	**15 13 36.4**	**-0.3**
	6.4nm,1.0s							
FETA	**Feichten**	**148.58**	**330**	*i* P		**PKPbc**	**15 13 37.9**	**+0.2**
	13nm,1.0s							
DAVA	**Damuels**	**148.76**	**332**	*i* P		**PKPbc**	**15 13 37.8**	**-0.3**
	5.9nm,0.7s							

MEX 23 15:04:11.9±0.5,15.36N×92.31W,h160km±5km,MD3.8, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.46**	**175**	*i* P		Pn	15 04 32.2	-2.0
THIG				*i* S		Sn	15 04 48.8	-2.5
CCIG	**Comitan**	**0.93**	**10**	*e*P		Pn	15 04 35.9	-1.3
CCIG				*e*S		Sn	15 04 54.5	-2.3
PCIG		**0.94**	**291**	*e*P		Pn	15 04 36.0	-1.1
PCIG				*e*S		Sn	15 04 54.3	-2.2

ISCJB ***23*** *15:15:43.1±1.0,10.87S×165.87E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.8/38,mbtmp4.0/11,ML4.3/2,MS3.5/3, Ms1 3.5/3,ms1mx2.8/35,Error ellipse: s-maj=25.7km s-min=20.9km az=101.0*

ISC 23 15:15:44.7±1.0,10.93S±0.10×165.9E±0.1,h10km,n20, σ0°88/14,mb3.9/8,Santa Cruz Islands

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

HNR	**Honiara**	**6.04**	**284**	P		**Pn**	**15 17 14.0**	**-0.1**
HNR	**Honiara**	**6.04**	**284**	Pn		**Pn**	**15 17 15.4**	**+1.3**
	14nm,0.3s,baz=150,slow=6.3,SNR=7.4							
HNR				Sn		**Sn**	**15 18 23.4**	**+0.1**
	3.3nm,0.3s,baz=175,slow=22,SNR=1.5							
DZM	**Mont Dzumac**	**11.09**	**177**	Pn		**Pn**	**15 18 24.9**	**+1.3**
	1.4nm,0.3s,baz=28,slow=7.1,SNR=29							
DZM				Sn		**Sn**	**15 20 26.3**	**-1.5**
	0.2nm,0.3s,baz=166,slow=22,SNR=1.6							
DZM				LR		LR	15 21 52.8	
	comp=Z,150nm,21.6s,baz=94,slow=33							
CTA	**Charters Tower**	**20.98**	**242**	P		Pn	15 20 29.8	-1.0
	4.8nm,0.8s,baz=78,slow=15,SNR=3.5							
H11S2	**WAKE ISLAND Hy**	**29.24**	**2**	T		T	15 52 10.9	
	baz=181,slow=76,SNR=8.4							
H11S3	**WAKE ISLAND Hy**	**29.25**	**2**	T		T	15 52 12.5	
	baz=181,slow=76,SNR=5.4							
H11S1	**WAKE ISLAND Hy**	**29.26**	**2**	T		T	15 52 16.8	
	baz=181,slow=76,SNR=9.9							
H11N1	**WAKE ISLAND Hy**	**30.47**	**2**	T		T	15 53 42.4	
	baz=182,slow=76,SNR=7.9							
H11N3	**WAKE ISLAND Hy**	**30.47**	**2**	T		T	15 53 42.7	
	baz=182,slow=76,SNR=6.2							
H11N2	**WAKE ISLAND Hy**	**30.48**	**2**	T		T	15 53 44.4	
	baz=182,slow=76,SNR=7.1							
STKA	**Stephens Creek**	**30.62**	**223**	P		**P**	**15 21 59.3**	**+0.1**
	1.7nm,0.6s,baz=31,slow=9.2,SNR=7.3							
WRA	**Warramunga Arr**	**31.66**	**250**	P		**P**	**15 22 08.3**	**-0.2**
	1.9nm,0.7s,baz=81,slow=9.1,SNR=16							
ASAR	**Alice Springs**	**32.97**	**243**	P		**P**	**15 22 18.8**	**-1.3**
	0.5nm,0.5s,baz=64,slow=10,SNR=17							
ASAR				PcP		**PcP**	**15 25 04.3**	**+0.1**
	0.2nm,0.6s,baz=86,slow=3.0,SNR=4.8							
RPZ	**Rata Peaks**	**32.97**	**173**	P		**P**	**15 22 20.2**	**+0.5**
	9.6nm,0.9s,baz=353,slow=8.1,SNR=2.9							
KSRS	**Korea Array**	**59.86**	**326**	LR		LR	15 51 37.9	
	comp=Z,26nm,18.0s,baz=67,slow=36							
CMAR	**Chiang Mai Arr**	**72.19**	**293**	P		**P**	**15 27 10.6**	**+0.1**
	0.2nm,0.3s,baz=120,slow=5.3,SNR=2.7							
KDAK	**Kodiak Island**	**76.42**	**21**	LR		LR	15 58 02.0	
	comp=Z,75nm,19.6s,baz=137,slow=33							
SONM	**Songino Array**	**78.66**	**324**	P		**P**	**15 27 46.3**	**-0.8**
	0.2nm,0.5s,baz=122,slow=7.0,SNR=3.1							
ILAR	**Eielson Array**	**83.36**	**18**	P		**P**	**15 28 11.8**	**+0.2**
	0.5nm,0.7s,baz=236,slow=5.1,SNR=13							
MKAR	**Makanchi Array**	**93.53**	**317**	P		**P**	**15 29 00.6**	**-0.4**
	0.4nm,0.7s,baz=89,slow=7.5,SNR=4.8							

ISCJB ***23*** *15:27:02.7±0.9,60.9S±0.1×19.3W±0.5,h10km,mb3.8/4, MS3.5/3,Error ellipse: s-maj=41.8km s-min=11.3km az=153.1*

IDC ***23*** *15:27:04.0±1.2,60.66S×19.45W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.8/24,mbtmp3.8/4,MS3.6/3,Ms1 3.6/3, ms1mx3.1/17,Error ellipse: s-maj=55.6km s-min=31.5km az=33.0*

ISC 23 15:27:04.8±0.9,60.8S±0.2×19.4W±0.3,h10km,n15, σ0°61/9,mb3.9/4,MS3.6/3,East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**10.87**	**160**	P		**Pn**	**15 29 40.6**	**+0.5**
VNA3	**Neumayer Olymp**	**11.18**	**164**	P		**Pn**	**15 29 43.9**	**-0.5**
VNA2	**Neumayer--Watz**	**11.25**	**160**	P		**Pn**	**15 29 45.0**	**-0.3**
	baz=324,slow=13							
SNAA	**Sanae**	**12.71**	**156**	P		**Pn**	**15 30 04.7**	**-0.7**
MAW	**Mawson**	**33.86**	**137**	LR		LR	15 46 36.8	
	comp=Z,134nm,18.2s,baz=285,slow=34							
PLCA	**Paso Flores**	**36.87**	**279**	LR		LR	15 48 14.0	
	comp=Z,51nm,18.4s,baz=158,slow=34							
VNDA	**Vanda**	**41.93**	**180**	LR		LR	15 52 23.9	
	comp=Z,72nm,19.0s,baz=170,slow=36							
CPUP	**Villa Florida**	**43.00**	**306**	P		**P**	**15 35 03.9**	**-0.1**
	1.9nm,0.9s,baz=159,slow=8.6,SNR=3.6							
H10S2	**ASCENSION HYDR**	**51.85**	**6**	T		T	16 32 42.6	
	baz=183							
H10S3	**ASCENSION HYDR**	**51.86**	**6**	T		T	16 32 26.8	
	baz=183							
H10S1	**ASCENSION HYDR**	**51.87**	**6**	T		T	16 32 41.4	
	baz=183							
LPAZ	**La Paz**	**56.41**	**300**	P		**P**	**15 36 47.0**	**0.0**
	1.0nm,0.7s,baz=153,slow=8.6,SNR=1.8							
TORD	**Torodi Ar. Bea**	**75.59**	**21**	P		**P**	**15 38 49.0**	**-0.5**
	0.6nm,0.5s,baz=201,slow=5.2,SNR=5.0							
ASAR	**Alice Springs**	**93.08**	**156**	P		**P**	**15 40 19.1**	**+0.5**
	0.2nm,0.7s,baz=190,slow=4.9,SNR=2.9							
SONM	**Songino Array**	**146.83**	**88**	PKPbc		**PKPab**	**15 46 48.3**	**+0.8**
	1.0nm,1.0s,baz=207,slow=3.6,SNR=6.3							

IDC ***23*** *15:32:32.7±3.3,27.92S×176.58W,h81km±29km,mb3.7/8, mb1 4.0/8,mb1mx3.6/33,mbtmp3.9/8,MS3.2/1,Ms1 3.2/1, ms1mx2.7/21,Error ellipse: s-maj=31.7km s-min=25.6km az=180.0*

ISCJB ***23*** *15:32:33.5±0.8,28.0S±0.2×176.7W±0.2,h100km,mb3.8/8, Error ellipse: s-maj=27.9km s-min=11.8km az=136.1*

ISC 23 15:32:34.1±0.7,28.2S±0.1×176.6W±0.1,h100km,n21, σ1°49/22,mb3.9/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.56**	**226**	P		**Pn**	**15 33 01.5**	**+0.4**
	75nm,0.3s,baz=81,slow=17,SNR=5.3							
RAO				S		**Sn**	**15 33 24.0**	**+2.5**
	183nm,0.3s,baz=82,slow=22,SNR=3.7							
URZ	**Urewera**	**11.34**	**206**	P		Pn	15 35 03.3	-10
	0.2nm,0.3s,baz=48,slow=15,SNR=2.9							
URZ				S		**Sn**	**15 37 13.8**	**-3.7**
	0.7nm,0.3s,baz=244,slow=19,SNR=9.3							
DZM	**Mont Dzumac**	**16.47**	**288**	LR		LR	15 41 57.0	
	comp=Z,71nm,18.1s,baz=120,slow=34							
ASAR	**Alice Springs**	**44.47**	**264**	P		**P**	**15 40 36.1**	**+0.5**
	1.0nm,0.8s,baz=103,slow=7.2,SNR=11							
ASAR				PcP		**PP**	**15 42 19.6**	**-1.5**
	0.2nm,0.6s,baz=116,slow=4.2,SNR=2.4							
WRA	**Warramunga Arr**	**45.26**	**269**	P		**P**	**15 40 42.0**	**+0.1**
	0.9nm,0.6s,baz=108,slow=7.7,SNR=5.2							
MJAR	**Matsushiro Arr**	**77.11**	**324**	P		**P**	**15 44 17.0**	**+0.4**
	1.7nm,0.7s,baz=155,slow=5.8,SNR=4.1							
PLCA	**Paso Flores**	**83.15**	**133**	P		**P**	**15 44 50.8**	**+1.5**
	1.0nm,0.7s,baz=219,slow=6.5,SNR=3.8							
NVAR	**Mina Array Bea**	**85.80**	**42**	P		**P**	**15 45 02.2**	**-0.4**
	0.9nm,0.7s,baz=221,slow=6.7,SNR=5.1							
PDAR	**Pinedale Array**	**93.70**	**43**	P		**P**	**15 45 39.4**	**-0.3**
	0.2nm,0.5s,baz=218,slow=5.7,SNR=2.4							
CMAR	**Chiang Mai Arr**	**93.80**	**289**	P		**P**	**15 45 41.9**	**+1.5**
	0.4nm,0.3s,baz=101,slow=8.3,SNR=3.8							
ILAR	**Eielson Array**	**95.50**	**12**	P		**P**	**15 45 46.1**	**-0.9**
	0.4nm,0.6s,baz=220,slow=5.3,SNR=5.4							
SONM	**Songino Array**	**102.29**	**318**	P		**Pdif**	**15 46 17.3**	**-0.8**
	0.1nm,0.4s,baz=117,slow=5.0,SNR=2.3							
ZALV	**Zalesovo Beam**	**117.15**	**319**	PKP		**PKiKP**	**15 51 07.1**	**+0.1**
	0.3nm,0.4s,baz=180,slow=2.5,SNR=2.7							
MKAR	**Makanchi Array**	**117.24**	**311**	PKP		**PKiKP**	**15 51 08.1**	**+0.6**
	0.7nm,0.8s,baz=74,slow=2.2,SNR=7.3							
BVAR	**Borovoye Array**	**125.62**	**317**	PKP		**PKiKP**	**15 51 24.0**	**+0.2**
	0.6nm,0.6s,baz=132,slow=2.2,SNR=4.9							
GEYT	**Alibeck**	**133.66**	**297**	PKP		**PKiKP**	**15 51 39.8**	**-0.6**
	1.4nm,0.5s,baz=113,slow=3.3,SNR=3.1							
FINES	**FINESS Array B**	**143.43**	**342**	PKhKP		PKPpre	15 51 53.4	
	0.7nm,0.7s,baz=0.0,slow=4.2,SNR=3.8							
NB2	**NORSAR Subarra**	**146.71**	**353**	PKP		**PKPab**	**15 52 03.5**	**-1.6**
	comp=Z,0.8nm,0.7s,baz=8.5,slow=3.0							
NOA	**NORSAR Array B**	**146.71**	**353**	PKPbc		**PKPab**	**15 52 02.4**	**-2.7**
	comp=Z,1.5nm,0.8s,baz=6.9,slow=2.3,SNR=7.6							
AKASG	**Malin Array Be**	**150.18**	**326**	PKPbc		**PKiKP**	**15 52 12.9**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=48,slow=2.5,SNR=2.6							
TORD	**Torodi Ar. Bea**	**164.97**	**174**	PKP		**PKPdf**	**15 52 28.2**	**+1.0**
	comp=Z,1.1nm,1.1s,baz=202,slow=1.5,SNR=3.3							
TORD				PKPab		**PKPab**	**15 53 24.7**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=180,slow=4.3,SNR=7.0							

ISCJB ***23*** *15:33:32.8±0.8,17.8S±0.2×178.7W±0.1,h579km, mb4.0/16,Error ellipse: s-maj=28.3km s-min=12.2km az=153.5*

IDC ***23*** *15:33:32.8±2.7,17.84S×178.55W,h569km±30km, mb3.5/16,mb1 3.7/17,mb1mx3.4/38,mbtmp4.4/17,Error ellipse: s-maj=28.9km s-min=14.8km az=149.0*

ISC 23 15:33:33.6±0.8,17.8S±0.2×178.6W±0.1,h579km,n19, σ0°69/22,mb4.0/16,Fiji Islands region

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

DZM	**Mont Dzumac**	**14.69**	**251**	P		**P**	**15 36 39.0**	**-0.5**
	0.6nm,0.3s,baz=101,slow=18,SNR=5.8							
CTA	**Charters Tower**	**33.28**	**260**	P		**P**	**15 39 23.6**	**-0.9**
	5.4nm,0.7s,baz=71,slow=7.6,SNR=6.4							
PMG	**Port Moresby**	**34.27**	**280**	P		**P**	**15 39 33.3**	**+0.4**
	18nm,0.8s,baz=122,slow=6.6,SNR=6.8							
STKA	**Stephens Creek**	**38.52**	**241**	P		**P**	**15 40 07.4**	**-0.1**
	7.0nm,0.5s,baz=90,slow=10,SNR=21							
JAY	**Jayapura**	**42.71**	**286**	P		**P**	**15 40 42.0**	**+1.0**
	12nm,0.7s,baz=161,slow=10,SNR=7.5							
WRA	**Warramunga Arr**	**44.47**	**259**	P		**P**	**15 40 54.1**	**-0.5**
	5.1nm,0.5s,baz=95,slow=7.3,SNR=59							
WRA				PcP		**PcP**	**15 42 25.3**	**-0.1**
	0.4nm,0.4s,baz=95,slow=3.7,SNR=3.0							
ASAR	**Alice Springs**	**44.64**	**254**	P		**P**	**15 40 56.0**	**+0.1**
	33nm,0.5s,baz=88,slow=8.6,SNR=195							
ASAR				PcP		**PcP**	**15 42 26.0**	**0.0**
	0.6nm,0.4s,baz=104,slow=4.2,SNR=3.6							
ASAR				ScP		**ScP**	**15 45 24.1**	**+0.5**
	0.3nm,0.9s,baz=102,slow=3.9,SNR=1.9							
SIJI	**Sorong**	**52.04**	**283**	P		**P**	**15 41 51.5**	**+0.6**
	14nm,0.6s,baz=108,slow=7.7,SNR=11							
FITZ	**Fitzroy Crossi**	**52.87**	**261**	P		**P**	**15 41 56.9**	**+0.2**
	1.8nm,0.6s,baz=122,slow=2.7,SNR=8.6							
MJAR	**Matsushiro Arr**	**67.73**	**323**	P		**P**	**15 43 33.0**	**-1.3**
	0.8nm,0.6s,baz=148,slow=4.7,SNR=3.0							
NVAR	**Mina Array Bea**	**79.48**	**44**	P		**P**	**15 44 41.4**	**+0.2**
	1.3nm,0.7s,baz=226,slow=8.5,SNR=8.7							
MAW	**Mawson**	**83.88**	**200**	P		**P**	**15 45 02.7**	**0.0**
	8.0nm,1.1s,baz=90,slow=6.1,SNR=2.5							
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**	**15 45 11.3**	**-0.9**
	0.4nm,0.4s,baz=222,slow=4.7,SNR=12							
TXAR	**Lajitas Array**	**86.10**	**58**	P		**P**	**15 45 15.1**	**+0.8**
	1.3nm,0.8s,baz=224,slow=5.6,SNR=12							
PDAR	**Pinedale Array**	**87.41**	**44**	P		**P**	**15 45 20.6**	**+0.2**
	0.8nm,0.6s,baz=238,slow=3.7,SNR=9.0							
CMAR	**Chiang Mai Arr**	**88.69**	**290**	P		**P**	**15 45 28.0**	**+1.5**
	0.3nm,0.4s,baz=104,slow=3.8,SNR=5.2							
YKA	**Yellowknife Ar**	**94.33**	**25**	P		**P**	**15 45 51.1**	**-0.3**
	0.2nm,0.5s,baz=236,slow=4.5,SNR=4.1							
BVAR	**Borovoye Array**	**116.67**	**321**	PKP		**PKPdf**	**15 51 11.9**	**-0.6**
	0.2nm,0.4s,baz=89,slow=2.9,SNR=3.4							
BRTR	**Keskin Array B**	**144.59**	**315**	PKP		**PKPdf**	**15 52 05.3**	**0.0**
	0.6nm,0.6s,baz=84,slow=0.6,SNR=5.9							

IDC ***23*** *16:13:46.6±0.8,6.58S×102.08E,h0km,mb4.1/13, mb1 4.1/13,mb1mx4.0/37,mbtmp4.1/13,MS3.4/3, Ms1 3.4/3,ms1mx2.8/42,Error ellipse: s-maj=32.3km s-min=13.9km az=46.0*

ISCJB ***23*** *16:13:49.4±0.5,6.52S±0.04×102.14E±0.03,h33km, mb4.0/16,MS3.3/3,Error ellipse: s-maj=5.9km s-min=4.0km az=34.6*

DJA ***23*** *16:13:51.0±0.5,7.S±4.×10.2E±.,h66km±33km,M4.7/14, mb4.7/7,mB5.2/4,MLv4.7/14,Mw(mB)4.6/4*

ISC 23 16:13:51.8±0.7,6.51S±0.07×102.15E±0.06,h35km,n45, σ1°17/48,mb4.1/16,MS2.9/3,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.28**	**21**	P		**Pn**	**16 14 26.3**	**-0.7**
MNAI				S		**Sn**	**16 14 53.2**	**-0.7**
LWLI	**Liwa**	**2.41**	**52**	P		**Pn**	**16 14 28.1**	**-0.8**
LWLI				S		**Sn**	**16 14 57.2**	**0.0**
KASI	**Kota Agung**	**2.53**	**67**	P		**Pn**	**16 14 29.2**	**-1.2**
MDSI	**Maura Dua**	**2.85**	**45**	P		**Pn**	**16 14 34.5**	**-0.3**
MDSI				S		**Sn**	**16 15 06.2**	**

*JMA **23** 16:42:53.4±0.4, 44.61N×146.95E, h169km±4km, M3.7*
ISC 23 16:42:52.2±0.7, **44.56N**±0.06×**147.12E**±0.06, **h168**km±6km, **n43**, σ1°**10**/49, **mb3.5**/7, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.72**	**197**	*i* P		**Pn**	**16 43 17.0**	**+0.2**
SHO					AMB	AMB	16 43 18.0	
	11nm,0.3s							
SHO					AMB	AMB	16 43 18.0	
	273nm,0.3s							
SHO				*i* S		**Sn**	**16 43 35.8**	**+0.2**
SHO					A	A	16 43 37.0	
	279nm,0.4s							
SHO					A	A	16 43 37.0	
	372nm,0.4s							
KUR	**Kuril'sk**	**0.86**	**38**	*i* P		**Pn**	**16 43 18.0**	**+0.4**
KUR					AMB	AMB	16 43 18.0	
	204nm,0.3s							
KUR				*i* S		**Sn**	**16 43 37.0**	**-0.2**
KUR					A	A	16 43 43.0	
	150nm,0.3s							
KUR					A	A	16 43 43.0	
	250nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.05**	**240**	*i* P		**Pn**	**16 43 20.0**	**+1.0**
YUK					AMB	AMB	16 43 21.0	
	320nm,0.2s							
YUK				*i* S		**Sn**	**16 43 40.8**	**+1.2**
YUK					A	A	16 43 42.0	
	891nm,0.4s							
YUK					A	A	16 43 42.0	
	561nm,0.4s							
GRPR	**Tuman**	**1.12**	**240**	*i* P		**Pn**	**16 43 20.9**	**+1.2**
GRPR					AMB	AMB	16 43 23.0	
	220nm,0.3s							
GRPR				*i* S		**Sn**	**16 43 42.1**	**+1.3**
GRPR					A	A	16 43 44.0	
	800nm,0.5s							
GRPR					A	A	16 43 44.0	
	125nm,0.5s							
NEM2	**Nemuro 2**	**1.56**	**220**	P		**Pn**	**16 43 24.5**	**+0.8**
NEM2				*e*S		**Sn**	**16 43 48.3**	**+0.3**
JRA	**Rausu**	**1.56**	**247**	P		**Pn**	**16 43 24.3**	**+0.6**
JNK	**Nakash**	**1.99**	**241**	P		**Pn**	**16 43 29.2**	**+0.9**
JKHN	**Kushirohamanak**	**2.05**	**224**	P		**Pn**	**16 43 29.9**	**+1.0**
JKHN				*e*S		**Sn**	**16 43 58.3**	**+0.9**
JAK	**Akkeshi**	**2.35**	**229**	P		**Pn**	**16 43 33.3**	**+0.9**
JAK				*e*S		**Sn**	**16 44 03.6**	**0.0**
JTKR	**Abashiri--Toko**	**2.38**	**257**	P		**Pn**	**16 43 32.8**	**+0.1**
JTKR				*e*S		**Sn**	**16 44 04.2**	**0.0**
JAR	**Ashorobuto**	**2.73**	**244**	P		**Pn**	**16 43 38.0**	**+1.1**
JMP	**Maruseppu**	**2.76**	**260**	P		**Pn**	**16 43 37.1**	**-0.2**
JOB	**Onbets**	**2.90**	**236**	P		**Pn**	**16 43 40.2**	**+1.2**
JOB				*e*S		**Sn**	**16 44 15.4**	**0.0**
JKK2	**Kamakawa 2**	**3.22**	**259**	P		**Pn**	**16 43 43.3**	**+0.4**
JSE	**Soyaes**	**3.25**	**279**	P		**Pn**	**16 43 42.6**	**-0.7**
ASAJ	**Asahikawa**	**3.27**	**264**	P		**Pn**	**16 43 44.0**	**+0.3**
	27nm,0.3s,baz=80,slow=14,SNR=282							
ASAJ					S	**Sn**	**16 44 21.5**	**-2.2**
	baz=256,slow=25,SNR=1.6							
JCH	**Churui**	**3.35**	**236**	P		**Pn**	**16 43 45.1**	**+0.5**
JCH				*e*S		**Sn**	**16 44 24.2**	**-1.2**
JFR	**Furan**	**3.56**	**248**	P		**Pn**	**16 43 48.0**	**+0.8**
JWK2	**Keihoku**	**3.78**	**283**	P		**Pn**	**16 43 50.3**	**+0.3**
ERM	**Erimo**	**3.85**	**230**	*e*P		**Pn**	**16 43 52.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**3.88**	**310**	*e*P		**Pn**	**16 43 53.5**	**+2.3**
YSS					AMB	AMB	16 43 59.9	
	20nm,1.0s							
JNBK	**Urakawa-nobuka**	**3.91**	**236**	P		**Pn**	**16 43 51.4**	**-0.4**
JEW	**Eniwo**	**4.46**	**249**	P		**Pn**	**16 43 59.8**	**+1.1**
UGL	**Uglegorsk**	**5.69**	**324**	*e*P		**Pn**	**16 44 16.8**	**+2.0**
TYV	**Tymovskoe**	**6.98**	**336**	*e*P		**Pn**	**16 44 34.0**	**+2.1**
TYV					AMB	AMB	16 44 36.3	
	5.0nm,0.8s							
MJAR	**Matsushiro Arr**	**10.49**	**223**	P		**Pn**	**16 45 18.4**	**+0.1**
	0.0nm,0.3s,baz=28,slow=13,SNR=2.8							
USRK	**Ussuriysk Ar.**	**10.84**	**273**	P		**Pn**	**16 45 20.9**	**-1.8**
	0.3nm,0.3s,baz=92,slow=13,SNR=5.4							
PETK	**Petropavlovsk-**	**11.02**	**35**	P		**Pn**	**16 45 22.4**	**-2.7**
	0.3nm,0.3s,baz=208,slow=11,SNR=7.2							
ULN	**Ulaanbaatar**	**27.70**	**291**	*e*P		**P**	**16 48 22.9**	**-1.7**
SONM	**Songino Array**	**28.14**	**291**	P		**P**	**16 48 28.1**	**-0.4**
	0.1nm,0.3s,baz=74,slow=11,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**29.73**	**140**	T		T	17 20 04.4	
	baz=330,slow=75,SNR=43							
H11N1	**WAKE ISLAND Hy**	**29.75**	**140**	T		T	17 20 14.8	
	baz=330,slow=75,SNR=41							
H11N3	**WAKE ISLAND Hy**	**29.75**	**140**	T		T	17 20 05.8	
	baz=330,slow=75,SNR=40							
H11S1	**WAKE ISLAND Hy**	**30.71**	**141**	T		T	17 21 15.4	
	baz=330,slow=76,SNR=60							
H11S3	**WAKE ISLAND Hy**	**30.72**	**142**	T		T	17 21 14.8	
	baz=330,slow=76,SNR=58							
H11S2	**WAKE ISLAND Hy**	**30.73**	**141**	T		T	17 21 15.3	
	baz=330,slow=76,SNR=46							
ILAR	**Eielson Array**	**40.85**	**37**	P		**P**	**16 50 16.9**	**0.0**
	1.2nm,0.9s,baz=269,slow=5.7,SNR=9.5							
MKAR	**Makanchi Array**	**44.19**	**297**	P		**P**	**16 50 45.1**	**+1.0**
	0.1nm,0.4s,baz=58,slow=6.0,SNR=2.5							
MKAR					PcP	**PcP**	**16 52 26.0**	**+0.2**
	0.2nm,0.8s,baz=78,slow=3.4,SNR=2.6							
INK	**Inuvik**	**45.72**	**31**	P		**P**	**16 50 54.9**	**-0.9**
	1.2nm,0.4s,baz=298,slow=7.6,SNR=17							
YKA	**Yellowknife Ar**	**55.14**	**34**	P		**P**	**16 52 06.6**	**+0.1**
	0.9nm,0.7s,baz=300,slow=6.9,SNR=15							
NVAR	**Mina Array Bea**	**67.17**	**58**	P		**P**	**16 53 28.6**	**+0.5**
	0.2nm,0.4s,baz=310,slow=7.0,SNR=2.4							
ASAR	**Alice Springs**	**68.97**	**193**	P		**P**	**16 53 39.5**	**+0.5**
	1.1nm,0.8s,baz=7.5,slow=7.9,SNR=2.2							
PLCA	**Paso Flores**	**152.19**	**95**	PKPbc		**PKiKP**	**17 02 28.4**	**+0.8**
	0.7nm,0.8s,baz=236,slow=3.6,SNR=3.3							

*BJI **23** 16:45:47.5, 3.36S×139.89E, h45km, mb4.6/40, mB5.1/24, Ms4.5/9, Ms7 4.2/9*
*IDC **23** 16:45:51.9±2.5, 2.82S×139.48E, h25km±18km, mb4.0/18, mb1 4.2/22, mb1mx4.1/33, mbtmp4.3/22, ML4.3/4, MS3.6/18, Ms1 3.6/18, ms1mx3.4/35, Error ellipse: s-maj=17.2km s-min=11.3km az=89.0*
*ISCJB **23** 16:45:52.6±0.2, 2.86S±0.03×139.39E±0.03, h46km, mb4.7/62, MS3.6/18, Error ellipse: s-maj=4.2km s-min=3.5km az=30.3*
*DJA **23** 16:45:54.8±0.3, 2.2°S±11.1°×14.0°E±0.5°, h44km±6km, M4.5/9, mb4.7/9, mB4.9/4, MLv4.6/1, Mw(mB)4.2/4*
*NEIC **23** 16:45:54.3±0.8, 2.81S×139.33E, h45km±7km, mb4.8/41, Error ellipse: s-maj=6.1km s-min=5.0km az=64.0*
ISC 23 16:45:54.3±0.3, **2.88S**±0.04×**139.40E**±0.04, **h46**km, **n115**, σ2°**04**/121, **mb4.7**/62, **MS3.6**/18, **Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.82**	**70**	P		**Pn**	**16 46 08.7**	**-0.8**
GENI				S		**Sn**	**16 46 20.4**	**-0.2**
JAY	**Jayapura**	**1.36**	**74**	P		**Pn**	**16 46 14.7**	**-2.1**
JAY				S		**Sn**	**16 46 29.7**	**-4.0**
JAY	**Jayapura**	**1.36**	**74**	Pg		**Pn**	**16 46 14.8**	**-2.0**
	139nm,0.3s,baz=232,slow=11,SNR=542							
JAY				Lg		Lg	16 46 29.8	
	395nm,0.3s,baz=246,slow=9.6,SNR=10							
SRPI	**Serui, Papua**	**3.31**	**288**	P		**Pn**	**16 46 45.4**	**+1.8**
SRPI				S		**Sn**	**16 47 23.1**	**+1.4**
FAKI	**Fak Fak**	**7.14**	**270**	*e*Pn		**Pn**	**16 47 37.6**	**+1.4**
FAKI				*e*Sn		**Sn**	**16 48 56.4**	**+0.3**
FAKI	**Fak Fak**	**7.14**	**270**	P		**Pn**	**16 47 37.4**	**+1.2**
	32nm,0.7s,0.2nm							
FAKI				S		**Sn**	**16 48 59.1**	**+3.1**
	32nm,0.7s,0.2nm							
MANU	**Manus Island**	**8.01**	**84**	*e*Pn		**Pn**	**16 47 50.9**	**+2.8**
SIJI	**Sorong**	**8.37**	**284**	Pn		**Pn**	**16 47 54.4**	**+1.3**
	5.2nm,0.3s,baz=123,slow=22,SNR=30							
SIJI						Sn	**Sn**	**16 49 21.9**	**-4.4**
	2.5nm,0.3s,baz=297,slow=23,SNR=2.5							
PMG	**Port Moresby**	**10.07**	**130**	Pn		**Pn**	**16 48 19.0**	**+2.6**
	1.5nm,0.3s,baz=116,slow=0.6,SNR=7.7							
PMG						Sn	**Sn**	**16 50 09.2**	**+1.0**
	0.2nm,0.3s,baz=17,slow=22,SNR=0.7							
COEN	**Coen**	**11.62**	**161**	*e*Pn		**Pn**	**16 48 38.6**	**+1.0**
MTN	**Manton Dam**	**12.84**	**219**	*e*Pn		**Pn**	**16 48 53.9**	**-0.3**
SANI	**Sanana**	**13.42**	**273**	P		**Pn**	**16 49 03.2**	**+1.0**
	58nm,0.9s							
SOEI	**Soe**	**16.51**	**245**	*e*Pn		**Pn**	**16 49 42.8**	**-0.1**
	93nm,0.8s							
SOEI	**Soe**	**16.51**	**245**	P		**P**	**16 49 48.5**	**+3.6**
	149nm,1.1s,1μm							
LUWI	**Luwuk**	**16.71**	**276**	*e*Pn		**Pn**	**16 49 44.1**	**-1.2**
	33nm,0.9s							
BATI	**Baumata**	**17.23**	**244**	P		**P**	**16 49 57.8**	**+5.0**
	68nm,0.9s,576nm							
BATI	**Baumata**	**17.23**	**244**	P		**P**	**16 49 53.3**	**+0.5**
	1.6nm,0.3s,baz=90,slow=8.1,SNR=4.5							
BATI					S	**Sn**	**16 52 53.1**	**-10**
	0.4nm,0.3s,baz=5.8,slow=22,SNR=1.4							
GUMO	**Guam**	**17.24**	**18**	LR		LR	16 55 39.2	
	comp=Z,90nm,19.5s,baz=184,slow=34							
WRAB	**Tennant Creek**	**17.65**	**196**	*e*Pn		**Pn**	**16 49 53.7**	**-3.2**
	36nm,0.8s							
WB2	**Warramunga Arr**	**17.66**	**196**	*e*Pn		**Pn**	**16 49 54.5**	**-2.5**
WR1	**Warramunga Arr**	**17.66**	**196**	*e*Pn		**Pn**	**16 49 56.1**	**-0.9**
	45nm,0.8s							
WRA	**Warramunga Arr**	**17.66**	**196**	P		**Pn**	**16 49 56.1**	**-0.9**
	1.7nm,0.3s,baz=18,slow=12,SNR=48							
WRA					S	**Sn**	**16 53 07.2**	**-5.8**
	0.7nm,0.3s,baz=15,slow=22,SNR=3.8							
WRA					Lg	Lg	16 55 13.8	
	baz=21,slow=28,SNR=3.0							
WRA					LR	LR	16 57 15.9	
	comp=Z,437nm,21.4s,baz=5.0,slow=38							
APSI	**Ampana**	**17.84**	**276**	P		**P**	**16 50 01.3**	**+1.7**
	27nm,1.1s,320nm							
MMRI	**Maumere**	**18.00**	**251**	*e*Pn		**Pn**	**16 50 00.3**	**-0.9**
	21nm,1.0s							
CTA	**Charters Tower**	**18.36**	**159**	P		**P**	**16 50 05.0**	**-0.2**
	0.1nm,0.3s,baz=328,slow=18,SNR=3.4							
CTA					Lg	Lg	16 55 37.4	
	0.2nm,0.3s,baz=20,slow=21,SNR=1.9							
CTAO	**Charters Tower**	**18.36**	**159**	*e*P		**P**	**16 50 05.4**	**+0.1**
	27nm,1.2s							
EDFI	**Ende, Flores**	**18.55**	**251**	P		**Pn**	**16 50 09.7**	**+1.7**
	11nm,1.4s							
SPSI	**Sidrap Palu**	**19.62**	**266**	P		**Pn**	**16 50 22.6**	**+1.8**
	13nm,1.1s							
MPSI	**Mapaga**	**19.75**	**279**	P		**P**	**16 50 19.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.26**	**221**	*e*P		**P**	**16 50 26.6**	**+0.6**
	20nm,0.7s							
FITZ	**Fitzroy Crossi**	**20.26**	**221**	P		**P**	**16 50 26.4**	**+0.4**
	9.0nm,0.7s,baz=41,slow=11,SNR=22							
FITZ					S	**S**	**16 54 02.4**	**-8.5**
	9.5nm,0.8s,baz=119,slow=10.0,SNR=4.2							
FITZ					Lg	Lg	16 56 52.8	
	9.0nm,0.9s,baz=138,slow=8.0,SNR=2.0							
FITZ					LR	LR	16 58 57.4	
	comp=Z,261nm,20.7s,baz=45,slow=39							
AS01	**Alice Springs**	**21.32**	**194**	*e*P		**P**	**16 50 38.0**	**+0.5**
AS31	**Alice Springs**	**21.33**	**194**	*e*P		**P**	**16 50 38.3**	**+0.7**
	11nm,0.6s							
ASAR	**Alice Springs**	**21.33**	**194**	P		**P**	**16 50 38.0**	**+0.4**
	4.0nm,0.4s,baz=22,slow=11,SNR=85							
ASAR					S	Sn	16 54 37.9	-3.7
	3.9nm,0.9s,baz=15,slow=24,SNR=4.2							
ASAR					Lg	Lg	16 57 14.3	
	3.5nm,0.9s,baz=15,slow=30,SNR=3.3							
ASAR					LR	LR	16 59 48.9	
	comp=Z,201nm,20.0s,baz=12,slow=39							
HNR	**Honiara**	**21.43**	**109**	P		**P**	**16 50 37.7**	**-1.0**
	14nm,0.5s,baz=314,slow=6.9,SNR=4.7							
TGY	**Tagaytay City**	**24.89**	**313**	P		**P**	**16 51 13.6**	**+0.5**
	102nm,0.3s,baz=192,slow=7.5,SNR=4.4							
TGY					LR	LR	17 00 03.7	
	comp=Z,104nm,20.2s,baz=133,slow=34							
EIDS	**Eidsvold**	**25.03**	**154**	*e*P		**P**	**16 51 17.0**	**+2.8**
	41nm,0.8s							
JAGI	**Jajag, Banyuwa**	**25.72**	**256**	*e*P		**P**	**16 51 18.5**	**-2.0**
	30nm,0.7s							
STKA	**Stephens Creek**	**28.91**	**176**	*e*P		**P**	**16 51 50.5**	**+1.5**
	6.0nm,1.7s							
STKA	**Stephens Creek**	**28.91**	**176**	P		**P**	**16 51 50.6**	**+1.6**
	2.4nm,0.5s,baz=329,slow=10,SNR=7.6							
STKA					LR	LR	17 04 22.7	
	comp=Z,277nm,20.1s,baz=22,slow=38							
ARMA	**Armidale**	**29.73**	**158**	*e*P		**P**	**16 51 59.3**	**+2.8**
	18nm,1.4s							
FORT	**Forrest**	**29.75**	**200**	*e*P		**P**	**16 51 58.2**	**+1.8**
	38nm,0.8s							
BBOO	**Buckleboo**	**29.94**	**186**	*e*P		**P**	**16 51 58.9**	**+0.8**
	111nm,2.0s							
TPUB	**Ta-pu**	**31.81**	**326**	*e*P		**P**	**16 52 13.8**	**-1.0**
	30nm,1.3s							
CAN	**Canberra**	**33.48**	**166**	*e*P		**P**	**16 52 30.2**	**+0.9**
	20nm,1.1s							
MORW	**Morawa**	**34.23**	**218**	*e*P		**P**	**16 52 36.3**	**+0.5**
	31nm,1.2s							
TOO	**Toolangi**	**34.97**	**172**	*e*P		**P**	**16 52 43.1**	**+1.0**
	38nm,1.7s							
JHJ	**Hachijo jima 2**	**35.81**	**1**	LR		LR	17 04 27.1	
	comp=Z,96nm,19.1s,baz=212,slow=31							
MNAI	**Manna**	**36.40**	**267**	*e*P		**P**	**16 52 53.9**	**-0.8**
	170nm,0.9s							
NWAO	**Narrogin (SRO)**	**36.40**	**212**	*e*P		**P**	**16 52 54.6**	**+0.2**
	68nm,1.4s							
NWAO	**Narrogin (SRO)**	**36.40**	**212**	LR		LR	17 09 15.3	
	comp=Z,358nm,19.0s,baz=53,slow=38							
JNU	**Nakatsue**	**36.70**	**348**	LR		LR	17 05 29.9	
	comp=Z,64nm,20.4s,baz=172,slow=32							
MJAR	**Matsushiro Arr**	**39.24**	**358**	P		**P**	**16 53 17.6**	**-0.7**
	0.7nm,0.7s,baz=186,slow=9.8,SNR=2.6							
MJAR					LR	LR	17 07 52.7	
	comp=Z,36nm,21.3s,baz=225,slow=34							
MAJO	**Matsushiro**	**39.24**	**358**	*e*P		**P**	**16 53 17.6**	**-0.8**
NJ2	**Nanjing**	**39.84**	**332**	*e*P		**P**	**16 53 21.8**	**-1.6**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
TAU	**Tasmania Unive**	**40.48**	**171**	*e*P		**P**	**16 53 31.1**	**+2.6**
	93nm,1.5s							
PSI	**Prapat**	**40.85**	**278**	*e*P		**P**	**16 53 31.7**	**-0.5**
	18nm,1.1s							
KSAR	**Wonju Array Be**	**41.52**	**346**	P		**P**	**16 53 35.6**	**-1.6**
KSRS	**Korea Array**	**41.52**	**346**	P		**P**	**16 53 35.6**	**-1.6**
	0.3nm,0.5s,baz=154,slow=7.0,SNR=3.0							
KSRS					LR	LR	17 08 08.1	
	comp=Z,37nm,21.9s,baz=152,slow=32							
GSI	**Gunungsitoli**	**42.01**	**275**	*e*P		**P**	**16 53 39.2**	**-2.4**
	8.6nm,0.7s							
GYA	**Guiyang**	**43.03**	**315**	*e*P		**P**	**16 53 51.0**	**+1.2**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
CM01	**Chiang Mai Arr**	**45.09**	**300**	*e*P		**P**	**16 54 04.2**	**-2.1**
CM31	**Chiang Mai Arr**	**45.12**	**300**	*e*P		**P**	**16 54 06.1**	**-0.4**
	4.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**45.12**	**300**	P		**P**	**16 54 06.4**	**-0.1**
	0.8nm,0.5s,baz=119,slow=6.2,SNR=17							
CMAR					LR	LR	17 12 55.1	
	comp=Z,17nm,21.9s,baz=315,slow=36							
KMI	**Kunming**	**45.15**	**310**	P		**P**	**16 54 07.4**	**+0.4**
KMI					pmax	pmax		
	comp=Z,10.0nm,0.8s							
XAN	**Xi'an**	**46.61**	**325**	P		**P**	**16 54 18.1**	**0.0**
XAN					pP	pP	16 54 26.6	-4.3
XAN					pmax	pmax		
	comp=Z,4.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**47.34**	**353**	P		**P**	**16 54 24.1**	**+0.6**
	4.0nm,1.0s,baz=168,slow=9.8,SNR=4.4							
USRK					LR	LR	17 11 10.6	
	comp=Z,61nm,20.0s,baz=172,slow=32							
CD2	**Chengdu**	**47.77**	**317**	*e*P		**P**	**16 54 28.3**	**+1.1**
RPZ	**Rata Peaks**	**49.40**	**150**	*e*P		**P**	**16 54 43.0**	**+3.6**
	40nm,1.3s							
BKZ	**Black Stump Fm**	**49.40**	**142**	*e*P		**P**	**16 54 40.9**	**+1.2**
	34nm,1.6s							
LBZ	**Lake Benmore**	**49.46**	**151**	*e*P		**P**	**16 54 42.4**	**+2.5**
	150nm,1.9s							
KHZ	**Kahutara**	**49.78**	**147**	*e*P		**P**	**16 54 43.6**	**+1.2**
	50nm,1.5s							
CRLZ	**Canterbury Las**	**50.09**	**149**	*e*P		**P**	**16 54 46.5**	**+1.8**
	188nm,1.5s							
BFZ	**Birch Farm**	**50.19**	**144**	*e*P		**P**	**16 54 46.8**	**+1.3**
	22nm,0.9s							
MQZ	**McQueen's Vall**	**50.20**	**149**	*e*P		**P**	**16 54 44.2**	**-1.3**
	60nm,1.4s							
HHC	**Hu-ho-hao-te**	**50.40**	**333**	*e*P		**P**	**16 54 49.9**	**+2.7**
HHC					sP	sP	16 55 07.9	+2.4
HHC					S	**S**	**17 01 54.6**	**-2.8**
HHC					sS	sS	17 02 21.3	+2.5
HHC					pmax	pmax		
	comp=Z,8.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,160nm,6.0s							
LZH	**Lanzhou**	**51.03**	**323**	*e*P		**P**	**16 54 53.6**	**+1.5**
LZH					pP	pP	16 55 06.3	+1.2
LZH					sP	sP	16 55 11.1	+0.7
LZH					pmax	pmax		
	comp=Z,25nm,1.0s							
KLR	**Kul'dur**	**52.33**	**354**	P		**P**	**16 55 01.7**	**+0.3**
	5.1nm,1.0s,baz=181,slow=8.8							
GTA	**Gaotai**	**55.62**	**323**	*e*P		**P**	**16 55 26.5**	**+0.8**
GTA					pP	sP	16 55 42.6	-1.6
GTA					sP	pP	16 55 49.3	+11
GTA					pmax	pmax		
	comp=Z,4.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,36nm,4.8s							
GTA					LR	LR		
	comp=N,180nm,18.9s							
GTA					LR	LR		
	comp=E,170nm,18.6s							
GTA					LR	LR		
	comp=Z,130nm,16.8s							
PEA0B	**Petropavlovsk-**	**57.87**	**13**	*e*P		**P**	**16 55 40.4**	**-0.9**
	96nm,1.4s							
PETK	**Petropavlovsk-**	**57.87**	**13**	*e*P		**P**	**16 55 42.6**	**+1.3**
PETK	**Petropavlovsk-**	**57.87**	**13**	P		**P**	**16 55 42.4**	**+1.1**
	2.0nm,0.6s,baz=108,slow=3.3,SNR=6.8							
PETK					LR	LR	17 16 50.9	
	comp=Z,38nm,22.0s,baz=181,slow=32							
PEA1	**Petropavlovsk-**	**57.88**	**13**	*e*P		**P**	**16 55 42.4**	**+1.1**
ULN	**Ulaanbaatar**	**57.91**	**335**	*e*P		**P**	**16 55 40.2**	**-1.7**
	2.2nm,0.9s							
SONA0	**Songino Array**	**58.17**	**334**	*e*P		**P**	**16 55 43.7**	**+0.1**
SONM	**Songino Array**	**58.17**	**334**	P		**P**	**16 55 43.7**	**+0.1**
	0.6nm,0.5s,baz=146,slow=5.6,SNR=6.2							
SONM					LR	LR	17 19 22.6	
	comp=Z,57nm,21.7s,baz=132,slow=35							
WMQ	**Urumqi**	**65.57**	**321**	*e*P		**P**	**16 56 34.0**	**+0.6**
WMQ					pP	sP	16 56 50.0	-2.1
WMQ					sP	pP	16 56 55.4	+8.6
WMQ					pmax	pmax		
	comp=Z,23nm,0.9s							
WMQ					pmax	pmax		
	comp=Z,52nm,3.7s							
WMQ					LR	LR		
	comp=N,100nm,17.1s							
WMQ					LR	LR		
	comp=E,110nm,18.5s							
WMQ					LR	LR		
	comp=Z,95nm,18.5s							
SEY	**Seymchan**	**66.37**	**6**	P		**P**	**16 56 38.7**	**+0.6**
	0.8nm,0.5s,baz=18,slow=23,SNR=5.7							
CASY	**Casey**	**66.45**	**192**	*e*P		**P**	**16 56 37.9**	**-0.6**
	9.9nm,0.9s							
AIN	**Ainahou**	**67.68**	**68**	*e*P		**P**	**16 56 48.2**	**+0.8**
	356nm,1.8s							
MK01	**Makanchi Array**	**70.33**	**322**	*e*P		**P**	**16 57 00.3**	**-2.9**
MK31	**Makanchi Array**	**70.34**	**322**	*e*P		**P**	**16 57 03.1**	**-0.2**
	6.3nm,1.1s							
MK32	**Makanchi Array**	**70.34**	**322**	*e*P		**P**	**16 57 03.2**	**-0.1**
MKAR	**Makanchi Array**	**70.34**	**322**	P		**P**	**16 57 03.2**	**-0.1**
	2.7nm,0.9s,baz=186,slow=25,SNR=18							
MAKZ	**Makanchi**	**70.54**	**322**	*e*P		**P**	**16 57 03.4**	**-1.1**
	6.9nm,1.0s							
KDJ	**Kajisay**	**71.77**	**316**	*e*P		**P**	**16 57 13.2**	**+0.9**
	3.2nm,1.0s							
NIL	**Nilore**	**71.98**	**307**	*e*P		**P**	**16 57 12.9**	**-0.5**
	5.7nm,0.8s							
NRN	**Naryn**	**72.34**	**315**	*e*P		**P**	**16 57 15.7**	**-0.1**
	2.1nm,0.9s							
ZALV	**Zalesovo Beam**	**72.43**	**330**	P		**P**	**16 57 14.9**	**-0.7**
	0.6nm,0.4s,baz=106,slow=4.8,SNR=6.0							
ZALV					LR	LR	17 28 46.8	
	comp=Z,34nm,20.7s,baz=66,slow=36							
ZAA1	**Zalesovo Array**	**72.43**	**330**	*e*P		**P**	**16 57 14.9**	**-0.7**
KURK	**Kurchatov**	**74.25**	**325**	*e*P		**P**	**16 57 26.2**	**-0.3**
	5.2nm,1.0s							
TIXI	**Tiksi**	**74.71**	**357**	P		**P**	**16 57 29.1**	**+0.4**
	1.4nm,0.5s,baz=172,slow=2.4,SNR=8.1							
TIXI					LR	LR	17 29 40.7	
	comp=Z,28nm,18.1s,baz=157,slow=35							
VNDA	**Vanda**	**75.55**	**175**	*e*P		**P**	**16 57 34.8**	**+1.2**
VNDA	**Vanda**	**75.55**	**175**	P		**P**	**16 57 35.1**	**+1.6**
	4.5nm,0.7s,baz=324,slow=7.2,SNR=32							
VNDA					LR	LR	17 29 39.0	
	comp=Z,99nm,18.4s,baz=330,slow=35							
GAR	**Garm**	**75.72**	**311**	*e*P		**P**	**16 57 35.7**	**+0.2**
	9.2nm,0.9s							
CHGR	**Chuyangaron**	**76.51**	**311**	*e*P		**P**	**16 57 40.7**	**+0.8**
BRVK	**Borovoye**	**79.92**	**325**	*e*P		**P**	**16 57 58.6**	**+0.3**
	18nm,1.8s							

SHO	**Shikotan**	**0.64**	**273**	*i* P		**Pb**	**16 57 55.5**	**+0.3**
SHO				AMB	AMB		16 57 55.9	
	268nm,0.3s							
SHO				*i* S		**Sn**	**16 58 04.8**	**-0.4**
SHO				A	A		16 58 05.0	
	3µm,0.3s							
SHO				A	A		16 58 05.0	
	450nm,0.3s							
SHO	**Shikotan**	**0.64**	**273**	*d* PN		**Pb**	**16 57 55.3**	**+0.1**
SHO				*i* S		**Sb**	**16 58 04.1**	**+0.4**
SHO				pmax	pmax			
	comp=N,662nm,0.3s							
SHO				pmax	pmax			
	comp=E,1µm,0.3s							
SHO				pmax	pmax			
	comp=Z,3µm,0.3s							
SHO				smax	smax			
	comp=N,3µm,0.4s							
SHO				smax	smax			
	comp=E,5µm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**279**	*i* P		**Pn**	**16 58 05.6**	**-0.2**
YUK				AMB	AMB		16 58 07.0	
	comp=E,114nm,0.2s							
YUK				*i* S		**Sn**	**16 58 22.4**	**-0.3**
YUK				A	A		16 58 23.0	
	comp=E,2µm,0.3s							
YUK				A	A		16 58 23.0	
	comp=E,341nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**279**	*d* PN		**Pn**	**16 58 05.5**	**-0.2**
YUK				*i* S		**Sn**	**16 58 22.2**	**-0.5**
YUK				pmax	pmax			
	comp=N,211nm,0.2s							
YUK				pmax	pmax			
	comp=E,386nm,0.2s							
YUK				pmax	pmax			
	comp=E,1µm,0.2s							
YUK				smax	smax			
	comp=N,2µm,0.2s							
YUK				smax	smax			
	comp=E,3µm,0.4s							
KUR	**Kuril'sk**	**1.40**	**5**	*e*P		**Pb**	**16 58 06.7**	**-1.5**
KUR				AMB	AMB		16 58 08.0	
	comp=E,103nm,0.3s							
KUR				AMB	AMB		16 58 08.0	
	comp=E,81nm,0.3s							
KUR				AMB	AMB		16 58 08.0	
	comp=E,186nm,0.3s							
KUR				*i* S		**Sb**	**16 58 24.7**	**-0.9**
KUR				A	A		16 58 29.9	
	comp=E,760nm,0.4s							
KUR				A	A		16 58 29.9	
	comp=E,610nm,0.4s							
KUR	**Kuril'sk**	**1.40**	**5**⇑	*i* PN		**Pb**	**16 58 07.1**	**-1.1**
KUR				*e*S		**Sb**	**16 58 24.7**	**-0.9**
KUR				pmax	pmax			
	comp=Z,186nm,0.3s							
KUR				pmax	pmax			
	comp=N,103nm,0.2s							
KUR				pmax	pmax			
	comp=E,81nm,0.2s							
KUR				smax	smax			
	comp=E,612nm,0.4s							
KUR				smax	smax			
	comp=N,276nm,0.3s							
GRPR	**Tuman**	**1.41**	**277**	*i* P		**Pn**	**16 58 06.0**	**-0.5**
GRPR				AMB	AMB		16 58 07.0	
	comp=N,498nm,0.4s							
GRPR				AMB	AMB		16 58 07.0	
	comp=N,160nm,0.4s							
GRPR				AMB	AMB		16 58 07.0	
	comp=N,400nm,0.4s							
GRPR				*i* S		**Sn**	**16 58 23.0**	**-1.2**
GRPR				A	A		16 58 25.0	
	comp=N,362nm,0.4s							
GRPR				A	A		16 58 25.0	
	comp=N,1µm,0.4s							
GRPR	**Tuman**	**1.41**	**277**⇓	*i* PN		**Pn**	**16 58 06.2**	**-0.3**
GRPR				*i* S		**Sn**	**16 58 23.6**	**-0.6**
GRPR				pmax	pmax			
	comp=N,498nm,0.4s							
GRPR				pmax	pmax			
	comp=E,160nm,0.4s							
GRPR				pmax	pmax			
	comp=Z,800nm,0.4s							
GRPR				smax	smax			
	comp=N,4µm,0.4s							
GRPR				smax	smax			
	comp=E,1µm,0.4s							
NEM2	**Nemuro 2**	**1.50**	**252**	P		**Pn**	**16 58 06.4**	**-1.4**
NEM2				*e*S		**Sn**	**16 58 26.3**	**-0.2**
JRA	**Rausu**	**1.87**	**274**	P		**Pn**	**16 58 13.2**	**+0.3**
JRA				*e*S		**Sb**	**16 58 37.4**	**-1.7**
JKHN	**Kushirohamanak**	**2.00**	**249**	P		**Pn**	**16 58 15.1**	**+0.4**
JNK	**Nakash**	**2.18**	**264**	P		**Pn**	**16 58 17.2**	**0.0**
JNK				*e*S		**Sn**	**16 58 43.8**	**+0.5**
JAK	**Akkeshi**	**2.35**	**250**	P		**Pn**	**16 58 18.6**	**-0.9**
JTKR	**Abashiri--Toko**	**2.75**	**274**	P		**Pn**	**16 58 26.2**	**+1.2**
JTKR				*e*S		**Sn**	**16 59 00.2**	**+2.9**
JAR	**Ashorobuto**	**2.91**	**261**	P		**Pn**	**16 58 28.1**	**+0.9**
JAR				*e*S		**Sn**	**16 59 03.1**	**+1.7**
JOB	**Onbets**	**2.98**	**253**	P		**Pn**	**16 58 28.1**	**0.0**
JOB				*e*S		**Sn**	**16 59 03.8**	**+1.0**
JMP	**Maruseppu**	**3.15**	**275**	P		**Pn**	**16 58 33.6**	**+3.1**
HRK	**Horoka**	**3.34**	**265**	*e*P		**Pn**	**16 58 35.1**	**+1.9**
HRK				*e*S		**Sn**	**16 59 15.0**	**+2.9**
JCH	**Churui**	**3.40**	**250**	P		**Pn**	**16 58 34.4**	**+0.4**
JCH				*e*S		**Sn**	**16 59 14.7**	**+1.3**
JKK2	**Kamakawa 2**	**3.59**	**272**	P		**Pn**	**16 58 38.8**	**+2.3**
JKA	**Kamikawa-asahi**	**3.70**	**276**	*e*P		**Pn**	**16 58 41.5**	**+3.5**
ASAJ	**Asahikawa**	**3.70**	**276**	P		**Pn**	**16 58 41.9**	**+3.8**
ASAJ	**Asahikawa**	**3.70**	**276**	P		**Pn**	**16 58 41.5**	**+3.4**
	comp=E,2.5nm,0.3s,baz=138,slow=12,SNR=22							
ASAJ				S		**Sb**	**16 59 28.7**	**-3.0**
	comp=E,0.7nm,0.3s,baz=313,slow=30,SNR=2.0							
ASAJ				LR	LR		17 00 16.9	
	comp=E,200nm,18.4s,baz=124,slow=40							
JFR	**Furan**	**3.78**	**262**	P		**Pn**	**16 58 40.8**	**+1.6**
ERM	**Erimo**	**3.81**	**243**	*e*P		**Pn**	**16 58 41.3**	**+1.8**
ERM	**Erimo**	**3.81**	**243**	*i* PN		**Pn**	**16 58 41.3**	**+1.8**
JNBK	**Urakawa-nobuka**	**3.95**	**249**	P		**Pn**	**16 58 42.3**	**+0.8**
JNBK				*e*S		**Sn**	**16 59 28.9**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.68**	**314**	*e*P		**Pn**	**16 58 53.0**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.68**	**314**⇑	*e*PN		**Pn**	**16 58 53.7**	**+2.2**
YSS				*e*S		**Sn**	**16 59 46.6**	**+1.7**
YSS				pmax	pmax			
	comp=Z,20nm,1.0s							
UGL	**Uglegorsk**	**6.53**	**325**	*e*P		**Pn**	**16 59 18.3**	**+1.4**
TYV	**Tymovskoe**	**7.82**	**336**	*e*P		**Pn**	**16 59 36.2**	**+1.6**
MJA0	**Matsu Arr-Jizo**	**10.26**	**228**	*e*PN		**Pn**	**17 00 11.4**	**+3.2**
MJAR	**Matsushiro Arr**	**10.28**	**228**	P		**Pn**	**17 00 11.4**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=30,slow=13,SNR=5.1							
PETK	**Petropavlovsk-**	**11.39**	**32**	P		**Pn**	**17 00 26.8**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=212,slow=14,SNR=4.2							
KLR	**Kul'dur**	**12.24**	**302**	*e*P		**Pn**	**17 00 35.1**	**+0.1**
KLR	**Kul'dur**	**12.24**	**302**	*i* PN		**Pn**	**17 00 35.1**	**+0.1**
KLR	**Kul'dur**	**12.24**	**302**	LR	LR		17 05 25.0	
	comp=Z,62nm,18.3s,baz=132,slow=37							
EKMR	**Ekimchan**	**13.44**	**319**	*e*rx		rx	17 00 56.2	
KSRS	**Korea Array**	**16.30**	**254**	P		**P**	**17 01 31.5**	**-0.9**
	baz=66,slow=10,SNR=4.9							
BMKR	**Bomnak**	**16.37**	**318**	*e*rx		rx	17 01 34.2	
JNU	**Nakatsue**	**16.94**	**237**	P		**P**	**17 01 40.2**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=54,slow=19,SNR=3.9							
SEY	**Seymchan**	**19.32**	**6**	P		**Pn**	**17 02 06.4**	**-0.3**
	baz=19,slow=22,SNR=1.8							
HIA	**Hailar**	**19.92**	**296**	*e*P		**P**	**17 02 11.5**	**-0.7**
HIA	**Hailar**	**19.92**	**296**	*i* P		**P**	**17 02 11.5**	**-0.7**
HIA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
BILL	**Bilibino**	**26.17**	**16**	*e*P		**P**	**17 03 13.0**	**-1.4**
BILL	**Bilibino**	**26.17**	**16**⇑	*e*P		**P**	**17 03 13.0**	**-1.4**
BILL				*e*			17 03 51.1	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.2s							
BILL				MLR	MLR			
	comp=Z,61nm,20.0s							
SONM	**Songino Array**	**28.81**	**293**	*e*P		**P**	**17 03 39.9**	**+1.4**
SONM	**Songino Array**	**28.81**	**293**	P		**P**	**17 03 38.4**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=87,slow=5.6,SNR=4.0							
H11N2	**WAKE ISLAND Hy**	**28.90**	**140**	T		T	17 34 16.2	
	baz=331,slow=76,SNR=151							
H11N1	**WAKE ISLAND Hy**	**28.92**	**140**	T		T	17 34 20.8	
	baz=331,slow=76,SNR=133							
H11N3	**WAKE ISLAND Hy**	**28.92**	**140**	T		T	17 34 21.2	
	baz=331,slow=76,SNR=163							
H11S1	**WAKE ISLAND Hy**	**29.88**	**142**	T		T	17 35 30.6	
	baz=332,slow=76,SNR=256							
H11S3	**WAKE ISLAND Hy**	**29.89**	**142**	T		T	17 35 33.4	
	baz=332,slow=76,SNR=200							
H11S2	**WAKE ISLAND Hy**	**29.90**	**142**	T		T	17 35 31.9	
	baz=332,slow=76,SNR=149							
DGZ	**Jazzator, Alta**	**40.73**	**300**	*i* P		**P**	**17 05 20.0**	**-1.1**
DGZ				pmax	pmax			
	comp=Z,1.0nm,1.7s							
ILAR	**Eielson Array**	**41.18**	**36**	*e*P		**P**	**17 05 25.1**	**+0.7**
ILAR	**Eielson Array**	**41.18**	**36**	*e*P		**P**	**17 05 25.1**	**+0.7**
ILAR	**Eielson Array**	**41.18**	**36**	P		**P**	**17 05 24.3**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=270,slow=8.6,SNR=5.9							
ZALV	**Zalesovo Beam**	**41.27**	**307**	PcP		**PcP**	**17 07 23.0**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=59,slow=1.8,SNR=4.4							
MKAR	**Makanchi Array**	**44.90**	**298**	P		**P**	**17 05 54.5**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=81,slow=8.3,SNR=9.6							
MKAR				PcP		**PcP**	**17 07 35.1**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=50,slow=4.5,SNR=2.6							
INK	**Inuvik**	**46.12**	**30**	P		**P**	**17 06 04.9**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=292,slow=4.3,SNR=6.3							
CMAR	**Chiang Mai Arr**	**47.94**	**254**	*e*P		**P**	**17 06 18.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**47.94**	**254**	P		**P**	**17 06 18.7**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=40,slow=7.4,SNR=4.3							
YKA	**Yellowknife Ar**	**55.51**	**34**	*e*P		**P**	**17 07 16.9**	**+2.1**
YKA	**Yellowknife Ar**	**55.51**	**34**	P		**P**	**17 07 14.8**	**0.0**
	comp=Z,0.4nm,0.8s,baz=299,slow=6.7,SNR=7.1							
GEYT	**Alibeck**	**64.75**	**299**	P		**P**	**17 08 17.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=37,slow=10.0,SNR=2.2							
FINES	**FINESS Array B**	**64.98**	**333**	P		**P**	**17 08 18.3**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=39,slow=6.5,SNR=12							
NVAR	**Mina Array Bea**	**67.19**	**58**	P		**P**	**17 08 33.9**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=306,slow=7.7,SNR=3.1							
NB2	**NORSAR Subarra**	**69.67**	**339**	P		**P**	**17 08 48.2**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=31,slow=6.5							
NOA	**NORSAR Array B**	**69.67**	**339**	P		**P**	**17 08 48.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=41,slow=7.8,SNR=7.5							
KBZ	**Khabaz**	**70.05**	**312**	P		**P**	**17 08 52.6**	**+0.7**
	comp=Z,4.4nm,0.8s,baz=107,slow=1.2,SNR=7.6							
AKASG	**Malin Array Be**	**71.75**	**324**	*e*P		**P**	**17 09 01.5**	**-0.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**71.75**	**324**	P		**P**	**17 09 01.1**	**-1.1**
	comp=Z,1.5nm,0.5s,baz=39,slow=6.3,SNR=14							
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**17 09 35.0**	**-0.1**
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**17 09 35.0**	**-0.1**
CLL	**Collm**	**77.42**	**333**	*e*P		**P**	**17 09 35.0**	**-0.1**
TXAR	**Lajitas Array**	**82.27**	**57**	P		**P**	**17 10 02.3**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=2.4							

IDC ***23*** *16:57:57.6±0.5, 16°.81S×173°.54W, h0km, mb4.5/22, mb1 4.7/23, mb1mx4.6/34, mbtmp4.6/23, ML4.3/1, MS3.6/12, Ms1 3.6/12, ms1mx3.5/23, Error ellipse: s-maj=17.4km s-min=13.5km az=145.0*

BJI ***23*** *16:57:58.7, 16°.40S×173°.20W, h16km, mb5.0/19, mB5.4/13, Ms5.1/3, Ms7 4.8/2*

ISCJB ***23*** *16:58:01.7±0.2, 16°.67S±0°.03×173°.50W±0°.04, h35km, mb4.7/69, MS3.6/11, Error ellipse: s-maj=6.1km s-min=4.1km az=24.2*

MOS ***23*** *16:58:02.8±1.9, 16°.73S×173°.75W, h34km, mb4.8/13, Error ellipse: s-maj=11.3km s-min=11.2km az=21.3*

NEIC ***23*** *16:58:02.5±0.2, 16°.85S×173°.47W, h35km, mb4.7/33, Error ellipse: s-maj=7.6km s-min=5.5km az=144.0*

ISC 23 16:58:02.4±0.3, 16°.98S±0°.05×173°.46W±0°.05, h35km, n279, σ1§88/267, mb4.7/69, MS3.6/11, 20C-7D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NIUE	**Niue**	**3.95**	**122**	*e*Pn		**Pn**	**16 59 02.0**	**+1.4**
NIUE				*e*Sn		**Sn**	**16 59 41.6**	**-4.1**
MSVF	**Nonsavu**	**8.14**	**263**	*e*Pn		**Pn**	**16 59 58.5**	**+0.3**
MSVF	**Nonsavu**	**8.14**	**263**	*e*P		**Pn**	**16 59 58.5**	**+0.3**
GLKZ	**Green Lake**	**12.89**	**198**	P		**Pn**	**17 01 04.7**	**+1.5**
GLKZ				S		**Sn**	**17 03 22.9**	**-2.6**
RAR	**Rarotonga**	**13.60**	**110**	*e*Pn		**Pn**	**17 01 12.5**	**-0.4**
RAR				*e*Sn		Sn	17 03 33.6	-9.1
RAR	**Rarotonga**	**13.60**	**110**	*e*P		**Pn**	**17 01 12.5**	**-0.4**
RAR	**Rarotonga**	**13.60**	**110**	Pn		**Pn**	**17 01 12.8**	**0.0**
	15nm,0.3s,baz=257,slow=7.3,SNR=60							
RAR				Sn		Sn	17 03 30.7	-12
	1.8nm,0.3s,baz=24,slow=22,SNR=1.2							
DZM	**Mont Dzumac**	**19.60**	**252**	*e*LR		LR	17 07 37.4	
	comp=Z,615nm,26.9s							
DZM	**Mont Dzumac**	**19.60**	**252**	P		**Pn**	**17 02 30.1**	**+0.7**
	0.2nm,0.3s,baz=79,slow=18,SNR=2.2							
DZM				LR		LR	17 09 01.9	
	comp=Z,265nm,21.7s,baz=352,slow=34							
OUZ	**Omahuta**	**21.53**	**210**	*e*P		**P**	**17 02 49.9**	**+1.5**
	28nm,1.3s							
OUZ	**Omahuta**	**21.53**	**210**	P		**P**	**17 02 54.1**	**+5.6**
GRZ	**Great Barrier**	**21.57**	**205**	P		**P**	**17 02 51.8**	**+2.9**
MXZ	**Matakaoa Point**	**21.75**	**198**	P		**P**	**17 02 56.5**	**+5.7**
WCZ	**Waipu Caves**	**21.77**	**208**	P		**P**	**17 02 53.5**	**+2.4**
KUZ	**Kuaotunu**	**21.89**	**204**	P		**P**	**17 02 56.1**	**+3.7**
WMGZ	**Waiomatatini S**	**21.96**	**197**	P		**P**	**17 02 57.9**	**+4.9**
HAZ	**Te Kaha**	**22.09**	**199**	P		**P**	**17 02 57.5**	**+3.1**
HAZ				S		**S**	**17 06 51.0**	**-5.0**
PKGZ	**Pakihiroa**	**22.12**	**198**	P		**P**	**17 02 59.4**	**+4.5**
WIAZ	**Waiheke Island**	**22.17**	**205**	P		**P**	**17 02 59.5**	**+4.2**
PUZ	**Puketiti**	**22.24**	**197**	P		**P**	**17 02 60.0**	**+3.9**
PUZ				S		**S**	**17 06 50.5**	**-8.3**
RUGZ	**Raukumara Rang**	**22.31**	**199**	P		**P**	**17 03 00.8**	**+3.9**
RUGZ				S		**S**	**17 06 56.0**	**-4.4**
ETAZ	**East Tamaki Re**	**22.39**	**205**	P		**P**	**17 03 00.5**	**+2.8**
TWGZ	**Tauwhareparae**	**22.42**	**198**	P		**P**	**17 03 02.3**	**+4.3**
MKAZ	**Moumakai**	**22.43**	**204**	P		**P**	**17 03 01.7**	**+3.6**
WTAZ	**Waiatarua**	**22.52**	**206**	P		**P**	**17 03 02.0**	**+2.9**
OPRZ	**Ohinepanea**	**22.57**	**201**	P		**P**	**17 03 04.5**	**+4.9**
MWZ	**Matawai**	**22.70**	**199**	P		**P**	**17 03 04.7**	**+3.7**
TKGZ	**Te Karaka**	**22.70**	**198**	P		**P**	**17 03 05.0**	**+4.0**
URZ	**Urewera**	**22.76**	**199**	*e*P		**P**	**17 03 03.8**	**+2.2**
URZ	**Urewera**	**22.76**	**199**	P		**P**	**17 03 03.4**	**+1.8**
	14nm,0.4s,baz=333,slow=1.8,SNR=30							
URZ				S		**S**	**17 07 01.2**	**-6.9**
	13nm,1.0s,baz=77,slow=12,SNR=2.2							
URZ	**Urewera**	**22.76**	**199**	P		**P**	**17 03 04.2**	**+2.6**
KMRZ	**Kaimai**	**22.78**	**202**	P		**P**	**17 03 07.1**	**+5.2**
PAE	**Paea**	**22.80**	**95**	*e*P		**P**	**17 03 02.8**	**+0.5**
	5.7nm,1.1s							
PAE	**Paea**	**22.80**	**95**	*e*T		T	17 26 27.7	
	5.1nm,0.3s							
PPT2	**Papeete2**	**22.81**	**95**	*e*P		**P**	**17 03 03.4**	**+1.0**
	31nm,1.1s							
PPT2				*e*LR		LR	17 08 20.2	
	comp=Z,451nm,29.5s,baz=286							
PPT2	**Papeete2**	**22.81**	**95**	*e*T		T	17 26 29.2	
	9.7nm,0.3s							
PPT	**Papeete**	**22.81**	**95**	P		**P**	**17 03 03.3**	**+0.9**
	24nm,0.9s,baz=278,slow=10,SNR=3.5							
PPT				LR		LR	17 09 29.2	
	comp=Z,40nm,20.2s,baz=239,slow=30							
TOZ	**Tahuroa Road**	**22.84**	**203**	P		**P**	**17 03 06.8**	**+4.3**
RAGZ	**Rawiri**	**22.88**	**199**	P		**P**	**17 03 06.4**	**+3.5**
RAGZ				S		**S**	**17 07 08.4**	**-1.9**
RIGZ	**Rimuhau**	**22.97**	**198**	P		**P**	**17 03 09.6**	**+5.8**
TVO	**Taravao**	**23.11**	**96**	*e*P		**P**	**17 03 06.3**	**+0.8**
	9.1nm,0.9s							
TVO	**Taravao**	**23.11**	**96**	*e*T		T	17 26 33.8	
	2.7nm,0.3s							
RTZ	**Ruatahuna**	**23.13**	**199**	P		**P**	**17 03 07.5**	**+2.0**
PRGZ	**Paritu Road**	**23.14**	**197**	P		**P**	**17 03 10.2**	**+4.7**
KNZ	**Kokohu**	**23.29**	**198**	P		**P**	**17 03 11.7**	**+4.7**
TLZ	**Tolley Road**	**23.36**	**202**	P		**P**	**17 03 13.5**	**+5.8**
RAHZ	**Arahi**	**23.37**	**199**	P		**P**	**17 03 12.5**	**+4.7**
TBI	**Tubuai**	**23.38**	**110**	*e*P		**P**	**17 03 10.5**	**+2.4**
	33nm,0.9s							
TBI				*e*LR		LR	17 08 43.5	
	comp=Z,546nm,31.5s,baz=293							
TBI	**Tubuai**	**23.38**	**110**	*e*T		T	17 27 16.5	
	13nm,0.3s							
MTHZ	**Maungataniwha**	**23.39**	**199**	P		**P**	**17 03 12.1**	**+4.0**
NMHZ	**Naumai**	**23.62**	**199**	P		**P**	**17 03 14.0**	**+3.7**
HIZ	**Hauiti**	**23.77**	**203**	P		**P**	**17 03 16.8**	**+5.2**
BKZ	**Black Stump Fm**	**23.78**	**200**	*e*P		**P**	**17 03 12.3**	**+0.5**
	9.8nm,1.0s							
BKZ	**Black Stump Fm**	**23.78**	**200**	P		**P**	**17 03 14.8**	**+2.9**
PMOR	**Pomariorio Ree**	**24.65**	**89**	*e*P		**P**	**17 03 20.0**	**+0.1**
	56nm,0.9s							
PMOR	**Pomariorio Ree**	**24.65**	**89**	*e*T		T	17 28 43.5	
	7.3nm,0.3s							
VAH	**Vaihoa**	**24.87**	**90**	*e*P		**P**	**17 03 22.2**	**+0.3**
	42nm,1.0s							
VAH	**Vaihoa**	**24.87**	**90**	*e*T		T	17 28 59.6	
	12nm,0.3s							
HNR	**Honiara**	**26.93**	**283**	LR		LR	17 12 53.4	
	comp=Z,281nm,21.6s,baz=130,slow=33							
THZ	**Tophouse**	**27.34**	**203**	*e*P		**P**	**17 03 45.2**	**+1.1**
	12nm,0.8s							
RPZ	**Rata Peaks**	**29.71**	**203**	P		**P**	**17 04 08.4**	**+3.3**
	10nm,0.8s,baz=36,slow=19,SNR=2.4							
TAOE	**Nuku Hiva Isla**	**33.41**	**80**	*e*T		T	17 39 37.5	
	76nm,0.2s							
RKT	**Rikitea**	**36.59**	**106**	*e*T		T	17 43 44.7	
	5.9nm,0.3s							
PMG	**Port Moresby**	**39.02**	**276**	*ce*P		P	17 05 32.2	+6.3
PMG					pmax	pmax		
	comp=Z,52nm,0.9s							
PMG	**Port Moresby**	**39.02**	**276**	P		**P**	**17 05 24.4**	**-1.5**
	comp=Z,6.1nm,0.7s,baz=90,slow=1.0,SNR=2.7							
H11S2	**WAKE ISLAND Hy**	**40.29**	**330**	T		T	17 46 55.7	
	baz=150,slow=74							
H11S3	**WAKE ISLAND Hy**	**40.30**	**330**	T		T	17 46 56.6	
	baz=150,slow=74							
H11S1	**WAKE ISLAND Hy**	**40.31**	**330**	T		T	17 48 22.8	
	baz=150							
H11N3	**WAKE ISLAND Hy**	**41.26**	**331**	T		T	17 49 50.4	
	baz=151,slow=77,SNR=4.8							
H11N1	**WAKE ISLAND Hy**	**41.26**	**331**	T		T	17 49 47.1	
	baz=151,slow=77,SNR=24							
H11N2	**WAKE ISLAND Hy**	**41.27**	**331**	T		T	17 49 50.8	
	baz=151,slow=77,SNR=6.0							
TOO	**Toolangi**	**41.44**	**232**	P		**P**	**17 05 44.7**	**-1.1**
TOO				pmax	pmax			
	comp=Z,12nm,1.3s							
STKA	**Stephens Creek**	**43.22**	**241**	*e*P		**P**	**17 05 59.4**	**-0.9**
	comp=Z,3.2nm,1.0s							
STKA	**Stephens Creek**	**43.22**	**241**	*e*P		**P**	**17 05 59.4**	**-0.9**
STKA				pmax	pmax			
	comp=Z,3.0nm,1.0s							
STKA	**Stephens Creek**	**43.22**	**241**	P		**P**	**17 06 00.6**	**+0.3**
	comp=Z,9.5nm,0.8s,baz=81,slow=9.2,SNR=11							
STKA				LR	LR		17 21 47.1	
	comp=Z,31nm,18.1s,baz=129,slow=33							
JAY	**Jayapura**	**47.26**	**283**	P		**P**	**17 06 31.7**	**-0.9**
	comp=Z,8.4nm,0.8s,baz=78,slow=6.2,SNR=4.1							
WB2	**Warramunga Arr**	**49.44**	**258**	*e*P		**P**	**17 06 47.8**	**-1.6**
WR1	**Warramunga Arr**	**49.45**	**258**	*e*P		**P**	**17 06 48.1**	**-1.3**
	comp=Z,4.9nm,0.6s							
WRA	**Warramunga Arr**	**49.45**	**258**	P		**P**	**17 06 48.1**	**-1.3**
	comp=Z,2.1nm,0.5s,baz=97,slow=7.0,SNR=69							
AS01	**Alice Springs**	**49.54**	**253**	*e*P		**P**	**17 06 49.1**	**-1.1**
AS31	**Alice Springs**	**49.59**	**253**	*e*P		**P**	**17 06 49.8**	**-0.7**
	comp=Z,10.0nm,0.6s							
ASAR	**Alice Springs**	**49.59**	**253**	P		**P**	**17 06 49.6**	**-0.9**
	comp=Z,30nm,0.6s,baz=88,slow=8.6,SNR=677							
SIJI	**Sorong**	**56.67**	**280**	P		**P**	**17 07 42.8**	**+0.1**
	comp=Z,13nm,0.8s,baz=122,slow=6.4,SNR=8.7							
FITZ	**Fitzroy Crossi**	**57.84**	**259**	*e*P		**P**	**17 07 50.4**	**-0.6**
	comp=Z,3.8nm,1.0s							
FITZ	**Fitzroy Crossi**	**57.84**	**259**	P		**P**	**17 07 50.4**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=335,slow=3.2,SNR=6.9							
SOEI	**Soe**	**60.81**	**268**	*e*P		**P**	**17 08 12.9**	**+1.2**
	comp=Z,23nm,0.7s							
BATI	**Baumata**	**61.28**	**268**	P		**P**	**17 08 16.2**	**+1.5**
	comp=Z,8.9nm,0.6s,baz=105,slow=1.3,SNR=5.4							
VNDA	**Vanda**	**61.81**	**186**	*e*P		**P**	**17 08 19.3**	**+2.1**
	comp=Z,8.5nm,1.4s							
VNDA	**Vanda**	**61.81**	**186**	*e*P		**P**	**17 08 19.3**	**+2.1**
VNDA				pmax	pmax			
	comp=Z,9.0nm,1.4s							
VNDA	**Vanda**	**61.81**	**186**	P		**P**	**17 08 19.6**	**+2.4**
	comp=Z,1.7nm,0.8s,baz=2.3,slow=6.0,SNR=9.2							
MJAR	**Matsushiro Arr**	**70.11**	**320**	P		**P**	**17 09 10.8**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=159,slow=5.7,SNR=6.6				

IM3	Indian Mountai	84.04	8	*e*P		P	17 10 28.9	+0.1
BILL	Bilibino	86.06	352	*e*P		P	17 10 38.8	-0.1
	comp=Z,20nm,1.4s							
BILL	Bilibino	86.06	352	*ce*P		P	17 10 39.1	+0.2
BILL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
MAW	Mawson	86.29	199	P		P	17 10 41.3	+1.1
	comp=Z,3.8nm,0.9s,baz=140,slow=9.4,SNR=1.9							
RSSD	Black Hills	87.66	42	P		P	17 10 47.0	-0.5
PSI	Prapat	88.53	273	P		P	17 10 51.9	-0.4
TRTT	Trang	89.27	278	P		P	17 10 57.6	+2.1
INK	Inuvik	89.81	14	P		P	17 10 56.5	-0.3
HHC	Hu-ho-hao-te	90.06	313	*e*P		P	17 11 00.3	+1.5
HHC				pmax	pmax			
	comp=Z,12nm,1.0s							
HHC				pmax	pmax			
	comp=Z,190nm,6.3s							
PBKT	Sadao Pong	90.65	287	P		P	17 11 04.2	+2.3
YKA	Yellowknife Ar	91.56	23	P		P	17 11 04.6	-0.4
	comp=Z,1.2nm,1.0s,baz=238,slow=4.4,SNR=12							
KMI	Kunming	91.66	296	P		P	17 11 05.9	-0.8
KMI				pmax	pmax			
	comp=Z,15nm,0.7s							
UTHA	Uthaitani	91.76	286	P		P	17 11 09.0	+1.9
	comp=Z,4.3nm,0.8s							
LAMP	Lampang	92.45	288	P		P	17 11 12.2	+2.0
	comp=Z,5.4nm,0.7s							
UMPA	Umpang Tak	92.48	286	P		P	17 11 12.8	+2.3
	comp=Z,3.6nm,0.9s							
CMAR	Chiang Mai Arr	93.06	288	P		P	17 11 14.2	+1.2
	comp=Z,2.5nm,0.7s,baz=101,slow=2.2,SNR=23							
CMAR				LR		LR	17 47 16.6	
	comp=Z,24nm,21.4s,baz=128,slow=32							
CMMT	Chiang Mai	93.15	289	P		P	17 11 14.8	+1.3
	comp=Z,6.8nm,0.9s							
CHTO	Chiang Mai	93.16	289	*e*P		P	17 11 14.8	+1.3
	comp=Z,4.1nm,0.8s							
CHTO	Chiang Mai	93.16	289	*e*P		P	17 11 14.8	+1.3
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
LZH	Lanzhou	94.11	306	*e*P		P	17 11 19.8	+2.1
LZH				pP	pP		17 11 28.6	+0.1
LZH				sP	sP		17 11 32.1	-0.2
LZH				pmax	pmax			
	comp=Z,26nm,1.1s							
ULM	Lac du Bonnet	95.19	39	LR		LR	17 47 18.4	
	comp=Z,78nm,18.3s,baz=92,slow=31							
ULN	Ulaanbaatar	95.57	318	*ce*P		P	17 11 23.2	-0.9
ULN				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SONA0	Songino Array	95.98	318	*e*P		P	17 11 26.4	+0.5
SONM	Songino Array	95.98	318	P		P	17 11 26.4	+0.5
	comp=Z,0.4nm,0.8s,baz=123,slow=5.3,SNR=4.0							
SONM				LR		LR	17 48 16.3	
	comp=Z,31nm,20.8s,baz=54,slow=32							
TIXI	Tiksi	96.50	344	*ce*P		P	17 11 25.2	-2.4
TIXI				pmax	pmax			
	comp=Z,2.0nm,1.2s							
LPAZ	La Paz	99.32	110	LR		LR	17 49 32.0	
	comp=Z,18nm,19.0s,baz=144,slow=31							
ZAA1	Zalesovo Array	110.43	322	*e*PKiKP		PKiKP	17 16 30.2	-0.5
ZALV	Zalesovo Beam	110.43	322	PKiKP		PKiKP	17 16 30.2	-0.5
	comp=Z,0.7nm,0.4s,baz=202,slow=1.6,SNR=4.0							
MK32	Makanchi Array	111.89	314	*e*PKiKP		PKiKP	17 16 33.0	-0.7
MKAR	Makanchi Array	111.89	314	PKiKP		PKiKP	17 16 33.0	-0.7
	comp=Z,1.2nm,0.6s,baz=69,slow=1.5,SNR=17							
KURK	Kurchatov	114.28	318	*c i* PKiKP		PKPdf	17 16 38.0	-0.1
KURK				pmax	pmax			
	comp=Z,4.0nm,2.5s							
KSH	Kashi	116.36	306	*e*PKP		PKPdf	17 16 42.0	-0.7
AAK	Ala-Archa	117.45	310	*i* PKiKP		PKPdf	17 16 44.1	-0.6
BRVK	Borovoye	119.14	322	*c i* PKiKP		PKiKP	17 16 48.2	+0.7
BRVK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ARU	Arti	124.64	328	*i* PKiKP		PKPdf	17 16 57.5	-0.4
ARU							17 18 41.9	
ARU							17 24 06.2	
ARU				SS		SS	17 35 30.9	-5.4
ARA0	ARCESS Array S	126.16	352	*e*PKPdf		PKPdf	17 17 00.4	-0.1
ARCES	ARCESS Array B	126.16	352	PKP		PKPdf	17 17 00.4	-0.1
	comp=Z,2.3nm,0.6s,baz=24,slow=0.9,SNR=15							
BOSA	Boshof	131.19	202	PKP		PKPdf	17 17 11.7	+0.2
	comp=Z,4.1nm,1.0s,baz=202,slow=5.4,SNR=3.1							
FIA0	FINESS Array S	133.46	347	*e*PKPpre		PKPpre	17 17 11.5	
FIA0				*e*PKPdf		PKPdf	17 17 14.9	+0.4
FIA0	FINESS Array S	133.46	347	*e*PKiKP		PKPpre	17 17 11.5	
FINES	FINESS Array B	133.46	347	PKhKP		PKPpre	17 17 11.5	
	comp=Z,1.4nm,0.7s,baz=47,slow=2.7,SNR=5.6							
FINES				PKP		PKPdf	17 17 14.9	+0.4
	comp=Z,1.6nm,0.7s,baz=50,slow=2.4,SNR=4.8							
OBN	Obninsk	135.53	336	⇑*e*PKiKP		PKPdf	17 17 18.9	+0.4
OBN				*e*			17 19 58.9	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NB200	NORSAR Array S	135.87	357	*e*PKPdf		PKPdf	17 17 19.5	+0.4
NOA	NORSAR Array B	135.87	357	PKP		PKPdf	17 17 19.5	+0.4
	comp=Z,0.7nm,0.8s,baz=13,slow=4.1,SNR=2.8							
AKASG	Malin Array Be	141.76	337	*i* PKiKP		PKPdf	17 17 29.7	-0.4
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	Malin Array Be	141.76	337	PKP		PKPdf	17 17 29.8	-0.3
	comp=Z,0.5nm,0.5s,baz=38,slow=3.4,SNR=7.8							
LVV	L'vov	144.32	341	*e*PKiKP		PKPbc	17 17 32.8	-0.2
KMBO	Kilima Mbogo	144.78	242	PKP		PKPbc	17 17 36.5	+0.6
	comp=Z,4.7nm,1.0s,baz=90,slow=4.3,SNR=7.7							
KWP	Kalwaria Pacla	144.90	342	*e*PKP		PKPdf	17 17 35.1	-0.6
KWP	Kalwaria Pacla	144.90	342	*e*PKPdf		PKPdf	17 17 35.2	-0.5
KWP	Kalwaria Pacla	144.90	342	*e*PKiKP		PKPdf	17 17 35.2	-0.5
OJC	Ojcow	145.16	345	*e*PKP		PKPdf	17 17 35.8	-0.3
OJC	Ojcow	145.16	345	*e*PKPbc		PKPdf	17 17 36.0	-0.2
OJC	Ojcow	145.16	345	*e*PKiKP		PKPdf	17 17 36.0	-0.2
KSP	Ksiaz	145.32	349	*e*PKP		PKPdf	17 17 36.7	+0.3
KSP	Ksiaz	145.32	349	*e*PKiKP		PKPdf	17 17 36.7	+0.3
CLL	Collm	145.37	353	*e*PKPbc		PKPab	17 17 36.1	-0.4
CLL	Collm	145.37	353	⇑*i*PKPdf		PKPab	17 17 36.1	-0.4
	comp=Z,23nm,1.2s							
CLL				*e*PKiKP		PKiKP	17 17 41.0	+0.6
CLL	Collm	145.37	353	*e*PKP2		PKPab	17 17 36.1	-0.4
BRG	Berggiesshubel	145.67	352	*i* PKP		PKPab	17 17 37.3	-0.3
	comp=Z,13nm,0.9s							
BRG	Berggiesshubel	145.67	352	*i* PKiKP		PKPab	17 17 37.3	-0.3
BRG				pmax	pmax			
	comp=Z,13nm,0.9s							
UPC	Upice	145.70	349	*e*PKP		PKPab	17 17 37.9	+0.1
UPC	Upice	145.70	349	*e*PKiKP		PKPab	17 17 37.9	+0.1
NIE	Niedzica	145.77	344	*e*PKP		PKPab	17 17 38.4	+0.3
NIE	Niedzica	145.77	344	*e*PKiKP		PKPab	17 17 38.4	+0.3
BUR08	Bucovina Ar. S	145.78	337	*e*PKPdf		PKPab	17 17 38.8	+0.5
DPC	Dobruska-Polom	145.79	349	*e*PKP		PKPab	17 17 38.3	+0.1
DPC				*ex*		x	17 18 00.6	
DPC	Dobruska-Polom	145.79	349	*e*PKiKP		PKPab	17 17 38.3	+0.1
BURAR	Bucovina Array	145.80	337	⇑PKiKP		PKPab	17 17 39.2	+0.8
OKC	Ostrava-Krasne	145.91	347	*e*PKP		PKPab	17 17 38.5	-0.1
OKC	Ostrava-Krasne	145.91	347	*e*PKP2		PKPab	17 17 38.5	-0.1
UZH	Uzhgorod	145.91	341	⇓*i* PKP2		PKPab	17 17 38.5	-0.1
PVCC	Panska Ves	145.92	351	*e*PKP		PKPab	17 17 38.6	0.0
PVCC	Panska Ves	145.92	351	*e*PKP2		PKPab	17 17 38.6	0.0
KRLC	Kraliky	145.97	348	*e*PKP		PKPab	17 17 38.7	-0.2
KRLC	Kraliky	145.97	348	*e*PKP2		PKPab	17 17 38.7	-0.2
MORC	Moravsky Berou	146.10	347	⇑PKP2		PKPab	17 17 39.3	0.0
MORC	Moravsky Berou	146.10	347	*e*PKP		PKPab	17 17 39.0	-0.3
LANS	Liptovska Anna	146.23	345	*e*PKP2		PKPab	17 17 40.3	+0.4
LANS	Liptovska Anna	146.23	345	*e*PKP		PKPab	17 17 40.3	+0.4
PRU	Pruhonice	146.44	351	*e*PKP		PKPab	17 17 40.3	-0.3
PRU				*ex*		x	17 17 59.6	
PRU	Pruhonice	146.44	351	*e*PKP2		PKPab	17 17 40.3	-0.3
MEM	Membach	146.45	1	⇓PKP		PKPab	17 17 40.0	-0.6
GOPC	GO Pecny, Ondr	146.48	350	*e*PKP		PKPab	17 17 40.5	-0.3
GOPC	GO Pecny, Ondr	146.48	350	*e*PKP2		PKPab	17 17 40.5	-0.3
NKC	Novy Kostel	146.49	353	*e*PKP		PKPab	17 17 40.1	-0.7
NKC	Novy Kostel	146.49	353	*e*PKP2		PKPab	17 17 40.1	-0.7
SNF	Seneffe	146.50	3	⇑PKP		PKPbc	17 17 39.1	-0.7
BCLA	Clavier	146.63	1	⇑PKPbc		PKPdf	17 17 39.1	+0.5
BCLA				⇓PKPab		PKPab	17 17 41.2	-0.1
VRAC	Vranov	146.74	348	⇓PKP2		PKPab	17 17 41.1	-0.7
VRAC	Vranov	146.74	348	*e*PKP		PKPab	17 17 41.0	-0.7
DOU	Dourbes	146.93	2	⇓PKP		PKPab	17 17 41.5	-0.9
JAVC	Velka Javorina	146.93	346	*e*PKP		PKPab	17 17 42.7	+0.1
VYHS	Vyhne	147.00	345	*e*PKP2		PKPbc	17 17 41.7	+0.3
VYHS	Vyhne	147.00	345	*e*PKP		PKPbc	17 17 41.7	+0.3
KRUC	Moravsky	147.01	348	*e*PKP		PKPbc	17 17 41.4	0.0
CJR	Cluj-Napoca	147.15	338	PKP2		PKPab	17 17 43.3	-0.2
PSZ	Piszkesteto	147.25	343	PKP2		PKPab	17 17 43.6	-0.3
MLR	Muntele Rosu	147.27	334	⇑PKP2		PKPab	17 17 43.3	-0.8
BR101	Keskin Array S	147.33	319	*e*PKPbc		PKPbc	17 17 42.9	+0.1
BR131	Keskin Array S	147.33	319	*e*PKPdf		PKPbc	17 17 42.8	0.0
BRTR	Keskin Array B	147.33	319	PKPbc		PKPbc	17 17 42.9	+0.1
	comp=Z,7.3nm,0.9s,baz=109,slow=2.2,SNR=17							
DRGR		147.39	339	⇓PKP2		PKPbc	17 17 42.8	+0.2
WLF	Walferdange	147.40	0	⇑PKP		PKPab	17 17 43.5	-0.8
KHC	Kasperske Hory	147.43	351	*e*PKPbc		PKPab	17 17 43.2	-1.3
KHC	Kasperske Hory	147.43	351	*e*PKP		PKPbc	17 17 43.1	+0.5
KHC				*ex*		x	17 18 03.4	
KHC	Kasperske Hory	147.43	351	*e*PKP2		PKPab	17 17 43.2	-1.3
MODS	Modra-Piesok	147.48	347	*e*PKP2		PKPab	17 17 43.6	-1.1
MODS	Modra-Piesok	147.48	347	*e*PKP		PKPab	17 17 43.6	-1.1
VOIR		147.68	335	⇑PKP2		PKPbc	17 17 42.9	-0.5
GEC2	GERESS Array S	147.69	351	*e*PKPbc		PKPbc	17 17 43.9	+0.5
GEC2	GERESS Array S	147.69	351	*e*PKP2		PKPbc	17 17 43.9	+0.5
GERES	GERESS Array B	147.69	351	PKPbc		PKPbc	17 17 43.6	+0.3
	comp=Z,4.3nm,1.0s,baz=40,slow=2.3,SNR=13							
GEA0	GERESS Array S	147.69	351	*e*PKPbc		PKPbc	17 17 43.3	-0.1
CONA	Conrad Observa	148.20	348	*i* PKiKP		PKiKP	17 17 45.5	-1.0
	comp=Z,19nm,1.3s,SNR=8.3							
MOA	Molln	148.57	350	*i* PKiKP		PKPbc	17 17 45.6	0.0
	comp=Z,4.8nm,1.1s							
GZR	Gura Zlata	148.58	338	⇓PKiKP		PKPbc	17 17 45.9	+0.1
BFO	Black Forest	148.70	358	*e*PKPbc		PKiKP	17 17 46.5	-0.9
BFO	Black Forest	148.70	358	*e*PKP2		PKiKP	17 17 47.0	-0.4
BZS	Buzias	148.79	339	⇑PKP2		PKPbc	17 17 46.3	+0.1
ARSA	Arzberg	148.91	348	*i* PKiKP		PKiKP	17 17 47.1	-0.8
	comp=Z,6.1nm,1.1s							
RETA	Reutte	149.38	354	*e*PKiKP		PKPbc	17 17 47.8	+0.1
	comp=Z,11nm,1.2s							
WATA	Walderalm	149.44	353	*e*PKiKP		PKiKP	17 17 48.7	-0.4
	comp=Z,4.6nm,0.6s							
KBA	Koelnbreinsper	149.46	351	*i* PKiKP		PKPbc	17 17 47.7	-0.4
	comp=Z,4.6nm,0.8s							
MOTA	Moosalm	149.49	354	*e*PKiKP		PKPbc	17 17 48.4	+0.3
	comp=Z,10nm,1.1s,SNR=6.2							
WTTA	Wattenberg	149.51	353	*e*PKiKP		PKPbc	17 17 48.4	+0.1
	comp=Z,13nm,0.6s							
SOKA	Soboth	149.56	348	*i* PKiKP		PKPbc	17 17 47.9	-0.4
	comp=Z,13nm,1.4s,SNR=5.5							
SQTA	Sankt Quirin	149.60	354	*e*PKiKP		PKiKP	17 17 48.8	-0.6
	comp=Z,14nm,1.2s							
DAVA	Damuels	149.65	356	*e*PKiKP		PKPbc	17 17 48.8	+0.2
	comp=Z,25nm,1.3s							
OBKA	Obir	149.81	349	*e*PKPbc		PKPbc	17 17 48.0	-0.9
	comp=Z,4.7nm,0.8s							
FETA	Feichten	149.84	354	*e*PKiKP		PKiKP	17 17 49.4	-0.6
	comp=Z,20nm,1.1s							
MYKA	Terra Mystica	149.85	350	*i* PKiKP		PKPbc	17 17 48.6	-0.3
	comp=Z,6.4nm,0.7s							
ABTA	Abfaltersbach	149.91	352	*e*PKiKP		PKPbc	17 17 48.9	-0.2
	comp=Z,15nm,0.7s,SNR=8.8							
LJU	Ljubljana	150.27	349	*i* PKPbc		PKPbc	17 17 50.0	+0.1
CRNS	Crni Vrh	150.28	349	*i* PKPbc		PKPbc	17 17 49.6	-0.3
FUORN	Ofenpass-Fuorn	150.28	355	*e*PKPbc		PKiKP	17 17 51.0	0.0
GBAS	Gorenja Brezov	150.39	349	*i* PKPbc		PKPbc	17 17 50.0	-0.1
SENIN	Lac Senin/Sane	150.69	359	*e*PKPbc		PKiKP	17 17 52.3	+0.4
VTS	Vitosha	150.74	334	*e*PKPbc		PKiKP	17 17 51.7	-0.3
VTS	Vitosha	150.74	334	⇑PKiKP		PKiKP	17 17 51.5	-0.5
ESDC	Sonseca Array	155.61	20	PKPab		PKPab	17 18 19.4	+0.6
	comp=Z,0.4nm,0.6s,baz=323,slow=4.4,SNR=3.8							
TORD	Torodi Ar. Bea	173.96	128	PKP		PKPdf	17 18 08.3	-0.9
	comp=Z,1.6nm,0.9s,baz=275,slow=2.0,SNR=7.1							
TORD				PKPab		PKPab	17 19 40.4	+0.4
	comp=Z,0.9nm,0.7s,baz=250,slow=3.2,SNR=4.5							
TOA1	Torodi Ar. Sit	173.97	128	*e*PKPdf		PKPdf	17 18 08.3	-0.8
TOA1				*e*PKPab		PKPab	17 19 40.4	+0.4

WEL 23 17:48:23.2±0.7,33°S±7′×17°9W±1′8,h12km,ML4.7/29,
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.78	14	S	Sn	17 50 06.1	+0.5
MXZ	Matakaoa Point	5.12	205	P	Pn	17 49 41.7	+2.0
MXZ				S	Sn	17 50 40.1	+1.3
WMGZ	Waiomatatini S	5.32	203	P	Pn	17 49 43.9	+1.5
HAZ	Te Kaha	5.49	208	P	Pn	17 49 45.0	+0.3
PKGZ	Pakihiroa	5.50	205	P	Pn	17 49 44.5	-0.4
PUZ	Puketiti	5.60	203	P	Pn	17 49 46.0	-0.3
PUZ				S	Sn	17 50 51.0	+0.5
GRZ	Great Barrier	5.67	233	P	Pn	17 49 45.8	-1.5
RUGZ	Raukumara Rang	5.71	208	P	Pn	17 49 48.2	+0.2
TWGZ	Tauwhareparae	5.79	205	P	Pn	17 49 49.5	+0.6
TWGZ				S	Sn	17 50 56.4	+1.1
KUZ	Kuaotunu	5.80	228	P	Pn	17 49 49.8	+0.8
CNGZ	Carnagh Statio	5.99	202	P	Pn	17 49 55.0	+3.4
TKGZ	Te Karaka	6.07	205	P	Pn	17 49 51.0	-1.7
TKGZ				S	Sn	17 51 01.8	-0.3
MWZ	Matawai	6.09	207	P	Pn	17 49 51.3	-1.8
OPRZ	Ohinepanea	6.11	216	P	Pn	17 49 54.4	+1.1
TGRZ	Tauranga	6.17	218	P	Pn	17 49 55.2	+1.1
URZ	Urewera	6.20	210	P	Pn	17 49 53.8	-0.7
RAGZ	Rawiri	6.28	207	P	Pn	17 49 55.2	-0.5
RIGZ	Rimuhau	6.34	204	P	Pn	17 49 56.5	0.0
MKRZ	Makatiti	6.39	215	P	Pn	17 49 59.5	+2.3
KARZ	Kaharoa	6.41	216	P	Pn	17 49 57.8	+0.5
KMRZ	Kaimai	6.43	219	P	Pn	17 49 58.5	+0.8
TARZ	Mount Tarawera	6.45	214	P	Pn	17 49 59.1	+1.0
PRGZ	Paritu Road	6.49	202	P	Pn	17 50 00.4	+1.9
MUGZ	Murupara	6.53	211	P	Pn	17 49 57.0	-2.0
RRRZ	Republican Roa	6.53	213	P	Pn	17 49 59.6	+0.6
HLRZ	Highlands Stat	6.53	215	P	Pn	17 49 59.6	+0.5
RTZ	Ruatahuna	6.55	209	P	Pn	17 49 57.4	-2.0
SNGZ	Shannon Statio	6.56	206	P	Pn	17 49 59.0	-0.4
TOZ	Tahuroa Road	6.59	222	P	Pn	17 50 00.7	+0.9
KNZ	Kokohu	6.65	203	P	Pn	17 50 01.8	+0.1
MHGZ	Mahia Peninsul	6.70	202	P	Pn	17 50 02.0	+0.7
RAHZ	Arahi	6.77	207	P	Pn	17 50 01.6	-0.8
ALRZ	Allen Road	6.79	213	P	Pn	17 50 01.8	-0.7
MTHZ	Maungataniwha	6.81	209	P	Pn	17 50 01.1	-1.8
MRHZ	Matea Rd	6.98	211	P	Pn	17 50 04.0	-1.2
TLZ	Tolley Road	7.00	218	P	Pn	17 50 05.6	0.0
NMHZ	Naumai	7.04	208	P	Pn	17 50 04.0	-2.1
ARHZ	Aropaoanui	7.11	206	P	Pn	17 50 04.3	-2.6
WATZ	Wairara	7.19	215	P	Pn	17 50 06.5	-1.7
BKZ	Black Stump Fm	7.22	210	P	Pn	17 50 07.4	-1.2
RATZ	Rangitukua	7.30	215	P	Pn	17 50 08.3	-1.3
RITZ	Rihia Road	7.34	214	P	Pn	17 50 09.3	-0.9
MCHZ	McNeill Hill	7.38	207	P	Pn	17 50 09.1	-1.6
KATZ	Kakaramea	7.42	214	P	Pn	17 50 09.9	-1.5
CKHZ	Cape Kidnapper	7.43	205	P	Pn	17 50 10.7	-0.6
KWHZ	Kaweka Forest	7.47	209	P	Pn	17 50 09.0	-3.0
HIZ	Hauiti	7.50	221	P	Pn	17 50 12.1	-0.3
KRWZ	Karewarewa	7.54	214	P	Pn	17 50 11.2	-1.8
WTVZ	West Tongariro	7.58	214	P	Pn	17 50 11.6	-1.9
KAHZ	Kahuranaki	7.62	205	P	Pn	17 50 11.7	-2.4
TWVZ	Taurewa	7.62	215	P	Pn	17 50 11.7	-2.4
NGZ	Ngauruhoe	7.62	214	P	Pn	17 50 12.1	-2.1
TUVZ	Tukino	7.67	213	P	Pn	17 50 12.6	-2.3
BHHZ	Black Hill Sta	7.67	210	P	Pn	17 50 11.7	-3.1
KRHZ	Kereru	7.68	208	P	Pn	17 50 10.5	-4.3
FWVZ	Far West T-bar	7.71	214	P	Pn	17 50 12.6	-2.8
FWVZ	Far West T-bar	7.71	214	P	Pn	17 50 12.6	-2.8
WHVZ	Whangaehu Hut	7.71	213	P	Pn	17 50 13.1	-2.4
MOVZ	Moawhango	7.74	212	P	Pn	17 50 12.5	-3.2
TRVZ	Turoa	7.75	214	P	Pn	17 50 13.5	-2.4
PXZ	Pawanui	7.83	204	P	Pn	17 50 14.1	-2.8
PKVZ	Pokaka	7.83	215	P	Pn	17 50 14.2	-2.8
PNHZ	Pukenui	7.98	208	P	Pn	17 50 15.0	-3.9
VRZ	Vera Road	8.00	218	P	Pn	17 50 17.2	-2.0
WPHZ	Waipukurau	8.01	206	P	Pn	17 50 16.8	-2.6
PRHZ	Porangahau	8.12	205	P	Pn	17 50 18.2	-2.7
TSZ	Takapari Road	8.20	209	P	Pn	17 50 18.0	-3.9
DVHZ	Dannevirke	8.32	207	P	Pn	17 50 19.7	-3.9
ANWZ	Angora Road	8.35	205	P	Pn	17 50 20.6	-3.4
WAZ	Wanganui	8.37	214	P	Pn	17 50 20.4	-3.9
LREZ	Lake Rotokare	8.43	218	P	Pn	17 50 22.4	-2.8
KHEZ	Kahui Hut	8.52	220	P	Pn	17 50 24.1	-2.3
POWZ	Post Office Ro	8.56	208	P	Pn	17 50 22.6	-4.2
PRWZ	Pori Road	8.62	207	P	Pn	17 50 23.8	-3.9
BFZ	Birch Farm	8.63	205	P	Pn	17 50 22.7	-5.1
TIWZ	Tintock	8.84	206	P	Pn	17 50 25.5	-5.3
CPWZ	Castlepoint	8.85	205	P	Pn	17 50 27.4	-3.4
MRZ	Mangatainoka R	8.86	208	P	Pn	17 50 24.8	-6.2
HOWZ	Holdsworth Sta	9.09	208	P	Pn	17 50 27.3	-6.8
TMWZ	Te Maipa	9.13	205	P	Pn	17 50 29.3	-5.4
OGWZ	Otaki Gorge	9.16	209	P	Pn	17 50 28.0	-7.1
KIW	Kapiti Island	9.30	210	P	Pn	17 50 30.3	-6.8
MTW	Mount Morrison	9.32	207	P	Pn	17 50 30.9	-6.4
CAW	Cannon Point	9.45	209	P	Pn	17 50 31.1	-7.9
TRWZ	Traveller	9.46	205	P	Pn	17 50 33.1	-6.2
PAWZ	Paruwai Farm	9.54	206	P	Pn	17 50 33.9	-6.4
MSWZ	Moikau Station	9.64	207	P	Pn	17 50 35.0	-6.6
DUWZ	D'Urville Isla	9.70	214	P	Pn	17 50 34.6	-8.0
PLWZ	Palliser	9.77	207	P	Pn	17 50 36.6	-6.9
BHW	Baring Head	9.78	209	P	Pn	17 50 36.0	-7.5
TCW	Tory Channel	9.86	211	P	Pn	17 50 36.4	-8.3
CTZ	Chatham Island	10.92	171	P	Pn	17 51 14.7	+15

*ISCJB **23** 17:57:40.5±0.3,23°69N±0′.02×121°63E±0′.02,h27km±2km,*
Error ellipse: s-maj=3.3km s-min=2.1km az=39.2
*TAP **23** 17:57:40.5,23°70N×121°60E,h32km,ML2.8,C*
*JMA **23** 17:57:40.0±0.1,23°66N×121°57E,h29km±3km,M2.4*
ISC 23 17:57:40.6±0.9,23°69N±0′.02×121°60E±0′.02,h30km±4km,
n74,σ0.985/119,7C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.15	261	*i* P	Pn	17 57 46.5	-0.4
EGFH	baz=267			S	Sn	17 57 50.7	-0.1
ESL	Shilin	0.19	309	*i* P	Pb	17 57 46.8	0.0
ESL	baz=301			*e*S	Sn	17 57 51.0	-0.7
ENLB	Shoufeng	0.21	2	⇓*i* P	Pn	17 57 47.2	-0.5
ENLB	baz=6.0			S	Sn	17 57 52.7	+0.5
HGSD	Ruisui	0.25	218	*i* P	Pn	17 57 48.1	-0.3
HGSD	baz=218			*e*S	Sn	17 57 54.5	+1.3
HWA	Hwalien	0.28	2	*e*P	Pn	17 57 48.4	-0.3
HWA	baz=6.0			*e*S	Sn	17 57 54.5	+0.5
EHY	Hungye	0.31	233	⇑*i* P	Pb	17 57 47.9	-0.3
EHY	baz=242			*e*S	Sb	17 57 53.2	-0.2
TWD	Chiawan	0.39	0	*i* P	Pb	17 57 49.4	+0.1
TWD	baz=351			*e*S	Sn	17 57 56.3	-0.2
YULB	Yu-li	0.41	222	⇑*i* P	Pb	17 57 49.2	-0.5
VWDT	baz=231 VWDT

	baz=250							
TWGBT	**Beinan**	**0.99**	**209**	*e*P		**Pn**	**17 57 56.9**	**-1.6**
	baz=197							
TWG	**Pinlang**	**0.99**	**209**	*e*P		**Pn**	**17 57 56.7**	**-1.8**
	baz=196							
YHNB	**Yeheng**	**0.99**	**348**	*e*P		**Pn**	**17 57 58.7**	**+0.1**
	baz=356							
YHNB				*e*S		**Sn**	**17 58 11.1**	**-0.5**
	baz=356							
TWQ1	**Liyutan**	**0.99**	**311**	P		**Pb**	**17 57 59.9**	**+0.6**
	baz=309							
TWQ1				*e*S		**Sb**	**17 58 13.2**	**+1.1**
	baz=309							
NSK	**Sanguang**	**1.00**	**348**	*e*P		**Pb**	**17 57 59.6**	**+0.1**
	baz=357							
WTP	**Ta-pu**	**1.00**	**244**	*e*P		**Pb**	**17 57 59.1**	**-0.4**
	baz=244							
WCHH	**Zhanghua**	**1.02**	**292**	*e*P		**Pb**	**17 57 60.0**	**+0.2**
	baz=290							
WCHH				*e*S		**Sb**	**17 58 15.8**	**+2.9**
	baz=290							
TWE	**Neicheng**	**1.03**	**4**	*e*P		**Pn**	**17 57 59.1**	**+0.2**
	baz=3.0							
CHN2	**Minshiung**	**1.04**	**261**	*e*P		**Pb**	**17 58 00.5**	**+0.5**
	baz=261							
NWLT	**Wulai**	**1.08**	**356**	*e*P		**Pb**	**17 58 00.2**	**-0.6**
	baz=355							
WDJ	**Dajia District**	**1.09**	**307**	*e*P		**Pb**	**17 58 00.3**	**-0.6**
	baz=306							
CHY	**Chiayi**	**1.09**	**260**	*e*P		**Pb**	**17 58 01.0**	**+0.1**
	baz=260							
TWK	**Hsinying**	**1.10**	**248**	*e*P		**Pb**	**17 58 00.8**	**-0.3**
	baz=248							
TWK				*e*S		**Sb**	**17 58 16.1**	**+1.0**
	baz=248							
CHN1	**Nanshi**	**1.10**	**243**	*e*P		**Pb**	**17 58 01.0**	**-0.2**
	baz=244							
CHN1				*e*S		**Sb**	**17 58 16.7**	**+1.5**
	baz=244							
SGST	**Jiashian**	**1.11**	**237**	*e*P		**Pb**	**17 58 00.5**	**-0.8**
	baz=237							
SNST	**Tainan City**	**1.11**	**245**	*e*P		**Pb**	**17 58 00.9**	**-0.4**
	baz=246							
SLGT	**Liugui**	**1.12**	**232**	P		**Pb**	**17 58 00.8**	**-0.5**
	baz=232							
SLGT				*e*S		**Sb**	**17 58 18.0**	**+2.4**
	baz=232							
RLNB	**Erlin**	**1.15**	**280**	*e*P		**Pb**	**17 58 01.7**	**-0.2**
	baz=280							
WTCT	**Ta-ch'eng**	**1.22**	**278**	*e*P		**Pb**	**17 58 02.7**	**-0.3**
	baz=277							
WTCT				*e*S		**Sb**	**17 58 20.9**	**+2.5**
	baz=277							
ECL	**Taimali**	**1.24**	**209**	*e*P		**Pn**	**17 58 00.0**	**-1.9**
	baz=199							
TIPB	**Shuangxi**	**1.29**	**9**	*e*P		**Pb**	**17 58 03.8**	**-0.6**
	baz=358							
SSD	**Sandimen**	**1.29**	**223**	*e*P		**Pb**	**17 58 03.8**	**-0.5**
	baz=221							
SSD				*e*S		**Sb**	**17 58 21.0**	**+0.4**
	baz=221							
CHN8	**Yiju**	**1.32**	**255**	*e*P		**Pb**	**17 58 04.0**	**-0.7**
	baz=256							
MASBT	**Mashibuluo**	**1.39**	**220**	*e*P		**Pn**	**17 58 04.1**	**+0.1**
	baz=221							
JYNG	**Yonagunijimaku**	**1.45**	**58**	P		**Pn**	**17 58 05.2**	**+0.5**
EAST	**Anshuo**	**1.47**	**208**	*e*P		**Pn**	**17 58 04.5**	**-0.7**
	baz=200							
YOJ	**Yonaguni jima**	**1.50**	**59**	P		**Pn**	**17 58 05.9**	**+0.4**
SCZT	**Fangliau**	**1.59**	**215**	*e*P		**Pb**	**17 58 08.5**	**-0.9**
	baz=202							
IRIF	**Iriomote-Funau**	**2.06**	**71**	P		**Pn**	**17 58 14.1**	**+1.0**
IRIF				*e*S		**Sn**	**17 58 38.9**	**+1.2**
HATJ	**Hateruma jima**	**2.06**	**79**	*e*S		**Sn**	**17 58 38.5**	**+0.8**
JKRS	**Kuro-shima**	**2.27**	**76**	P		**Pn**	**17 58 17.5**	**+1.4**
JKRS				*e*S		**Sn**	**17 58 44.6**	**+1.5**
JIJ	**Ishigaki jima**	**2.42**	**73**	P		**Pn**	**17 58 18.4**	**+0.2**
JIJ				*e*S		**Sn**	**17 58 46.5**	**-0.3**
JISG	**Ishigakijimahi**	**2.64**	**70**	P		**Pn**	**17 58 21.0**	**-0.1**
JISG				*e*S		**Sn**	**17 58 51.2**	**-0.9**

*ISCJB **23** 17:58:01.4±0.4, 4.°14S±0.°08×103.°35E±0.°07, h133km±4km, mb3.7/9, Error ellipse: s-maj=16.0km s-min=6.3km az=39.2*
*DJA **23** 17:58:03.2±0.3, 4.°S±4.°×10.°3E±.°, h114km±4km, M4.0/8, mb4.5/3, MLv3.7/8*
*IDC **23** 17:58:09.8±2.9, 3.°84S×103.°72E, h191km±27km, mb3.4/9, mb1 3.5/9, mb1mx3.2/40, mbtmp3.9/9, Error ellipse: s-maj=23.8km s-min=11.2km az=45.0*

ISC 23 17:58:02.2±0.7, 4.°15S±0.°08×103.°35E±0.°07, h128km±6km, n26, σ1°99/35, mb3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LHSI	**Lahat**	**0.36**	**29**	P		**Pn**	**17 58 20.5**	**0.0**
MNAI	**Manna**	**0.44**	**241**	P		**Pn**	**17 58 20.3**	**-0.5**
MNAI				S		**Sn**	**17 58 34.9**	**+0.1**
MDSI	**Maura Dua**	**0.90**	**112**	P		**Pn**	**17 58 23.8**	**-0.2**
MDSI				S		**Sn**	**17 58 39.3**	**-1.2**
LWLI	**Liwa**	**1.12**	**141**	P		**Pn**	**17 58 26.1**	**-0.2**
KLI	**Kotabumi**	**1.67**	**115**	P		**Pn**	**17 58 33.0**	**+0.9**
KASI	**Kota Agung**	**1.79**	**140**	P		**Pn**	**17 58 33.6**	**+0.1**
KASI				S		**Sn**	**17 58 57.6**	**+0.1**
KRJI	**Kerinci**	**2.78**	**317**	P		**Pn**	**17 58 48.0**	**+2.0**
PPSI	**Pulau Pagai**	**3.60**	**292**	P		**Pn**	**17 58 57.0**	**+0.3**
DSRI	**Dabo**	**3.85**	**19**	P		**Pn**	**17 59 01.7**	**+1.7**
PDSI	**Padang**	**4.32**	**318**	P		**Pn**	**17 59 06.8**	**+0.6**
SISI	**Saibi**	**5.09**	**303**	P		**Pn**	**17 59 15.9**	**-0.7**
	17nm,0.6s,0.1nm							
SISI				S		**Sn**	**18 00 09.6**	**-4.8**
	17nm,0.6s,0.1nm							
CISI	**Cisompet, Garu**	**5.59**	**127**	P		**Pn**	**17 59 22.3**	**-1.0**
KPJI	**Karang Pucung**	**6.40**	**120**	P		**Pn**	**17 59 36.2**	**+2.1**
	32nm,0.5s							
GSI	**Gunungsitoli**	**7.91**	**313**	P		**Pn**	**17 59 55.0**	**+0.5**
BATI	**Baumata**	**21.03**	**108**	P		**P**	**18 02 37.0**	**+0.9**
	3.5nm,0.3s,baz=262,slow=9.9,SNR=4.2							
BATI				S		**S**	**18 06 17.9**	**-5.4**
	8.9nm,0.7s,baz=303,slow=20,SNR=5.7							
FITZ	**Fitzroy Crossi**	**25.85**	**124**	P		**P**	**18 03 21.7**	**-0.3**
	2.9nm,1.2s,baz=311,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**34.03**	**120**	P		**P**	**18 04 34.1**	**-0.3**
	0.2nm,0.4s,baz=312,slow=9.5,SNR=12							
WRA				PcP		**PcP**	**18 07 09.5**	**+0.1**
	0.3nm,0.8s,baz=318,slow=2.2,SNR=4.7							
ASAR	**Alice Springs**	**35.30**	**126**	P		**P**	**18 04 45.9**	**+0.7**
	0.3nm,0.5s,baz=296,slow=7.3,SNR=22							
ASAR				PcP		**PcP**	**18 07 13.3**	**+0.2**
	0.3nm,0.4s,baz=301,slow=2.6,SNR=6.8							
ASAR				S		**S**	**18 10 05.0**	**-5.0**
	0.4nm,0.9s,baz=301,slow=15,SNR=4.8							
STKA	**Stephens Creek**	**45.24**	**132**	P		**P**	**18 06 07.9**	**+1.0**
	1.8nm,0.5s,baz=309,slow=8.1,SNR=6.6							
SONM	**Songino Array**	**51.83**	**3**	P		**P**	**18 06 56.4**	**-0.9**
	0.3nm,0.5s,baz=186,slow=8.2,SNR=3.7							
SONM				PcP		**PcP**	**18 08 08.0**	**-0.5**
	0.2nm,0.4s,baz=153,slow=1.3,SNR=3.1							
MKAR	**Makanchi Array**	**54.03**	**342**	P		**P**	**18 07 12.2**	**-1.1**
	0.2nm,0.5s,baz=141,slow=9.1,SNR=4.6							
ZALV	**Zalesovo Beam**	**59.93**	**347**	P		**P**	**18 07 53.5**	**-1.2**
	0.8nm,0.4s,baz=173,slow=6.4,SNR=6.6							
MAW	**Mawson**	**69.08**	**195**	P		**P**	**18 08 56.7**	**+2.8**
	7.7nm,1.0s,baz=45,slow=14,SNR=2.4							
VYHS	**Vyhne**	**89.44**	**319**	*e*P		**P**	**18 10 48.0**	**+3.3**
YKA	**Yellowknife Ar**	**115.39**	**18**	PKP		**PKiKP**	**18 16 27.4**	**-1.1**
	0.2nm,0.8s,baz=335,slow=2.7,SNR=3.5							
CPUP	**Villa Florida**	**144.39**	**211**	PKP		**PKPab**	**18 17 24.4**	**+1.9**
	0.6nm,0.4s,baz=153,slow=2.3,SNR=3.1							

*SOF **23** 18:00:13.8, 42.°17N×25.°15E, h1km*
*ISK **23** 18:00:13.6, 42.°11N×25.°15E, h5km, ML2.5/11*
*BEO **23** 18:00:18.2±1.5, 42.°08N×24.°92E, h0km, ML1.6/3*

ISC 23 18:00:13.5±1.2, 42.°15N±0.°03×25.°19E±0.°02, h3km±13km, n32, σ0°78/39, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DIM	**Dimitrovgrad**	**0.28**	**112**	*i* Pg		**Pb**	**18 00 20.9**	**-0.3**
PLD	**Plovdiv**	**0.36**	**262**	PG		**Pg**	**18 00 20.4**	**-0.1**
PLD	**Plovdiv**	**0.36**	**262**	*i* Pg		**Pg**	**18 00 20.4**	**-0.1**
RZN	**Rozhen**	**0.58**	**217**	*i* Pg		**Pb**	**18 00 25.0**	**-1.5**
PGB	**Panagyurishte**	**0.85**	**298**	*i* Pg		**Pg**	**18 00 29.6**	**-0.3**
RDO	**Rodhopi**	**1.04**	**165**	PG		**Pb**	**18 00 33.6**	**-0.6**
RDO				SG		**Sb**	**18 00 47.3**	**-0.9**
PVL	**Pavlikeni**	**1.07**	**6**	P		**Pg**	**18 00 33.5**	**-0.5**
JMB	**Yambol**	**1.08**	**73**	Pg		**Pg**	**18 00 34.8**	**+0.6**
EDRB	**Edirne**	**1.20**	**104**	PN		**Pg**	**18 00 37.1**	**+0.6**
MMB	**Musomiste**	**1.23**	**243**	P		**Pb**	**18 00 36.9**	**-0.5**
SZH	**Strazhica**	**1.24**	**26**	*i* P		**Pg**	**18 00 38.2**	**+0.9**
ALN	**Alexandroupoli**	**1.41**	**153**	PN		**Pg**	**18 00 40.3**	**-0.3**
ALN				SN		**Sn**	**18 00 58.9**	**-0.3**
KIRK	**Kırklareli**	**1.47**	**104**	*i* P		**Pn**	**18 00 41.1**	**+0.1**
KIRK				*i* S		**Sg**	**18 01 00.1**	**-0.7**
KIRK				IAML_P				
	comp=Z,76nm,0.1s							
VTS	**Vitosha**	**1.53**	**287**	*e*Pg		**Pn**	**18 00 41.7**	**-0.3**
VTS				*e*Sg		**Sg**	**18 01 01.5**	**-1.2**
VTS	**Vitosha**	**1.53**	**287**	*i* P		**Pn**	**18 00 41.6**	**-0.4**
ENEZ	**Enez**	**1.59**	**153**	PN		**Pn**	**18 00 42.8**	**+0.2**
KESN	**Edirne-Kesan**	**1.74**	**139**	*i* P		**Pb**	**18 00 46.1**	**-0.2**
KESN				*i* S		**Sg**	**18 01 09.3**	**0.0**
KESN				IAML_P				
	comp=Z,83nm,0.1s							
ERIK	**Erikli-Kesan**	**1.79**	**146**	PN		**Pn**	**18 00 45.8**	**+0.5**
KNT	**Kendrikon**	**1.98**	**241**	PN		**Pn**	**18 00 48.1**	**+0.1**
GELI	**Tayfur-Gelibol**	**2.00**	**151**	PN		**Pn**	**18 00 48.6**	**+0.3**
OUR	**Ouranopolis**	**2.03**	**207**	PN		**Pn**	**18 00 48.9**	**+0.2**
BOSS	**Bosilegrad**	**2.04**	**281**	*e*Pg		**Pb**	**18 00 51.5**	**+0.3**
BOSS				*e*Sg		**Sb**	**18 01 17.7**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.09**	**134**	PN		**Pn**	**18 00 49.9**	**+0.3**
VAY	**Valandovo**	**2.13**	**248**	*e*Pn		**Pg**	**18 00 57.4**	**+3.1**
LPK	**Lapseki**	**2.14**	**146**	PN		**Pn**	**18 00 50.5**	**+0.4**
ZAPS	**Zavoj**	**2.19**	**302**	*e*Pg		**Pg**	**18 00 56.4**	**+0.9**
ZAPS				*e*Sg		**Sg**	**18 01 23.6**	**-0.3**
HORT	**Hortiatis**	**2.21**	**226**	PN		**Pn**	**18 00 51.2**	**0.0**
STIP	**Stip**	**2.29**	**259**	*e*Pn		**Pb**	**18 00 55.3**	**-0.2**
KRBG	**Karabiga-Canak**	**2.37**	**137**	PN		**Pn**	**18 00 53.6**	**+0.3**
MRMT	**Marmara Adasi**	**2.38**	**130**	PN		**Pn**	**18 00 54.4**	**+0.8**
BOZC	**Bozcaada**	**2.40**	**164**	PN		**Pn**	**18 00 54.4**	**+0.7**
ZAGS	**Zajecar**	**2.73**	**308**	*e*Sg		**Sg**	**18 01 41.5**	**+0.3**

IDC 23 18:06:54.2±3.9, 28.°22N×141.°33E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.3/35, mbtmp3.5/3, ML2.4/1, Error ellipse: s-maj=157.2km s-min=29.7km az=76.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MJAR	**Matsushiro Arr**	**8.71**	**343**	Pn		Pn	18 09 01.7	+0.3
	0.0nm,0.3s,baz=160,slow=12,SNR=5.7							
WRA	**Warramunga Arr**	**48.35**	**189**	P		P	18 15 37.8	0.0
	0.5nm,0.4s,baz=11,slow=8.4,SNR=9.3							
MKAR	**Makanchi Array**	**49.18**	**309**	P		P	18 15 43.5	-0.5
	0.3nm,0.7s,baz=90,slow=7.7,SNR=3.7							

*SJA **23** 18:20:47.7±0.7, 21.°33S×68.°84W, h135km±24km, ML2.2, MW3.8*
*ISCJB **23** 18:20:48.8±0.8, 21.°32S±0.°03×68.°88W±0.°09, h130km±9km, Error ellipse: s-maj=13.9km s-min=5.1km az=179.7*
*GUC **23** 18:20:48.5±0.7, 21.°32S×68.°86W, h125km±4km, ML3.3*

ISC 23 18:20:49.4±1.7, 21.°32S±0.°04×68.°86W±0.°08, h125km±13km, n22, σ0°32/34, 9C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB09	**IPOC Station P**	**0.59**	**217**	*i* P		**Pn**	**18 21 08.5**	**-0.2**
PB09				*i* S		**Sn**	**18 21 23.1**	**-0.2**
PB09				IAML			18 21 26.2	
	comp=N,454nm,0.4s							
PB01	**IPOC Station P**	**0.65**	**295**	*i* P		**Pn**	**18 21 09.0**	**0.0**
PB01	**IPOC Station P**	**0.65**	**295**	*i* P		**Pn**	**18 21 08.6**	**-0.3**
PB01				*i* S		**Sn**	**18 21 23.7**	**0.0**
PB01				IAML			18 21 24.2	
	comp=N,2μm,0.2s							
PB02	**IPOC Station P**	**0.96**	**270**	*i* P		**Pn**	**18 21 11.9**	**+0.3**
PB02	**IPOC Station P**	**0.96**	**270**	*i* P		**Pn**	**18 21 11.8**	**+0.3**
PB02				*i* S		**Sn**	**18 21 28.8**	**+0.4**
PB02				IAML			18 21 29.4	
	comp=N,2μm,0.5s							
PB07	**IPOC Station P**	**1.04**	**247**	*i* P		**Pn**	**18 21 12.5**	**+0.1**
PB07	**IPOC Station P**	**1.04**	**247**	*i* P		**Pn**	**18 21 12.5**	**+0.1**
PB07				*i* S		**Sn**	**18 21 30.0**	**+0.2**
PB07				IAML			18 21 31.6	
	comp=E,1μm,0.7s							
PB03	**IPOC Station P**	**1.10**	**229**	*i* P		**Pn**	**18 21 12.9**	**-0.1**
PB03	**IPOC Station P**	**1.10**	**229**	*i* P		**Pn**	**18 21 13.0**	**-0.1**
PB03				*i* S		**Sn**	**18 21 30.9**	**-0.1**
PB03				IAML			18 21 31.6	
	comp=E,849nm,0.2s							
PB08	**IPOC Station P**	**1.20**	**347**	*i* P		**Pn**	**18 21 14.1**	**-0.3**
PB08	**IPOC Station P**	**1.20**	**347**	*i* P		**Pn**	**18 21 14.3**	**0.0**
PB08				*i* S		**Sn**	**18 21 33.5**	**+0.3**
PB08				IAML			18 21 35.0	
	comp=E,287nm,0.2s							
LVC	**Limon Verde**	**1.28**	**182**	*i* P		**Pn**	**18 21 14.5**	**-0.7**
PB06	**IPOC Station P**	**1.53**	**205**	*i* P		**Pn**	**18 21 17.2**	**-0.4**
PB06	**IPOC Station P**	**1.53**	**205**	*i* P		**Pn**	**18 21 17.6**	**-0.1**
PB06				*i* S		**Sn**	**18 21 39.1**	**0.0**
PB06				IAML			18 21 42.1	
	comp=E,344nm,0.1s							
PB04	**IPOC Station P**	**1.56**	**230**	*i* P		**Pn**	**18 21 18.3**	**+0.2**
PB04				*i* S		**Sn**	**18 21 40.1**	**+0.2**
PB04				IAML			18 21 42.8	
	comp=N,241nm,0.2s							
PB11	**IPOC Station P**	**1.72**	**334**	*i* P		**Pn**	**18 21 19.6**	**-0.3**
PB11				*i* S		**Sn**	**18 21 43.5**	**+0.3**
PB15	**IPOC Station P**	**1.96**	**197**	*i* P		**Pn**	**18 21 23.0**	**+0.2**
PB15				*e*S		**Sn**	**18 21 48.8**	**+0.3**
PB05	**IPOC Station P**	**1.97**	**219**	*i* P		**Pn**	**18 21 22.7**	**-0.2**
PB05				IAML			18 21 54.2	
	comp=E,72nm,0.3s							
PSGC	**Pisagua**	**2.08**	**325**	*i* P		**Pn**	**18 21 23.5**	**-0.7**
PSGC				*i* S		**Sn**	**18 21 50.4**	**-0.4**
MNMC	**Minye Minye**	**2.28**	**342**	*i* P		**Pn**	**18 21 26.9**	**-0.1**
MNMC				*i* S		**Sn**	**18 21 56.4**	**+0.7**
MNMC				IAML			18 21 58.5	
	comp=E,325nm,0.2s							
PB10	**IPOC Station P**	**2.69**	**215**	*e*P		**Pn**	**18 21 31.4**	**-0.4**
HJA	**Humahuaca**	**3.71**	**121**	*i* P		**Pn**	**18 21 45.7**	**+0.2**
HJA				IAML			18 21 47.3	
	comp=Z,3.5nm,0.7s							

*DJA **23** 18:22:52.6±0.2, 8.°S±2.°×11.°9E±.°, h10km, M4.4/11, mb4.7/2, mB4.7/2, MLv4.2/11, Mw(mB)4.0/2*
*ISCJB **23** 18:22:53.3±0.2, 7.°78S±0.°03×118.°96E±0.°03, h33km, mb4.5/21, MS3.3/3, Error ellipse: s-maj=4.8km s-min=3.5km az=27.6*
*NEIC **23** 18:22:54.3±1.9, 7.°76S×119.°00E, h27km±14km, mb4.5/15, Error ellipse: s-maj=8.5km s-min=5.1km az=222.0*
*BJI **23** 18:22:55.3, 7.°50S×119.°21E, h25km, mb4.4/4, mB4.9/2*
*IDC **23** 18:22:59.3±3.4, 7.°71S×119.°16E, h73km±33km, mb3.8/8, mb1 4.0/11, mb1mx3.7/40, mbtmp4.2/11, ML4.3/3, MS3.3/4, Ms1 3.4/4, ms1mx2.8/37, Error ellipse: s-maj=37.2km s-min=13.5km az=57.0*

ISC 23 18:22:55.0±0.4, 7.°82S±0.°04×119.°01E±0.°05, h35km, n70, σ1°79/78, mb4.4/27, MS3.5/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLAI	**Plampang**	**1.57**	**230**	P		**Pn**	**18 23 20.5**	**0.0**
BSSI	**Bau Bau, Buton**	**2.22**	**42**	P		**Pn**	**18 23 29.3**	**-0.1**
BSSI				S		**Sn**	**18 23 55.7**	**0.0**
WSI	**Waingapu**	**2.24**	**145**	P		**Pn**	**18 23 31.0**	**+1.4**
BKSI	**Bulukumba**	**2.72**	**24**	P		**Pn**	**18 23 35.9**	**-0.3**
EDFI	**Ende, Flores**	**2.81**	**109**	P		**Pn**	**18 23 38.3**	**+0.7**
EDFI				S		**Sn**	**18 24 12.5**	**+2.1**
BASI	**Baing, Sumba**	**2.85**	**147**	P		**Pn**	**18 23 39.8**	**+1.8**
MMRI	**Maumere**	**3.30**	**104**	*e*Pn		**Pn**	**18 23 44.8**	**+0.6**
MMRI	**Maumere**	**3.30**	**104**	P		**Pn**	**18 23 44.8**	**+0.6**
MMRI				S		**Sn**	**18 24 23.0**	**+0.7**
BNSI	**Bone**	**3.57**	**18**	P		**Pn**	**18 23 48.8**	**+0.9**
SRBI	**Singaraja**	**3.77**	**266**	P		**Pn**	**18 23 49.8**	**-0.8**
SPSI	**Sidrap Palu**	**3.90**	**11**	P		**Pn**	**18 23 53.0**	**+0.5**
BBSI	**Bau Bau**	**4.23**	**57**	P		**Pn**	**18 23 58.5**	**+1.5**
JAGI	**Jajag, Banyuwa**	**4.85**	**262**	*e*Pn		**Pn**	**18 24 05.1**	**-0.4**
JAGI	**Jajag, Banyuwa**	**4.85**	**262**	P		**Pn**	**18 24 05.1**	**-0.4**
KMMI	**Kalianget**	**5.05**	**278**	P		**Pn**	**18 24 09.2**	**+0.9**
BATI	**Baumata**	**5.18**	**118**	P		**Pn**	**18 24 10.7**	**+0.6**
BATI	**Baumata**	**5.18**	**118**	P		**Pn**	**18 24 13.2**	**+3.2**
	4.5nm,0.3s,baz=244,slow=4.7,SNR=18							
BATI				S		**Sn**	**18 25 12.3**	**+3.7**
	3.2nm,0.3s,baz=162,slow=19,SNR=1.8							
BATI				LR		LR	18 26 32.7	
	comp=Z,240nm,20.7s,baz=320,slow=42							
SOEI	**Soe**	**5.55**	**111**	*e*Pn		**Pn**	**18 24 17.9**	**+2.7**
SOEI	**Soe**	**5.55**	**111**	P		**Pn**	**18 24 16.7**	**+1.5**
LUWI	**Luwuk**	**7.71**	**29**	*e*Pn		**Pn**	**18 24 43.6**	**-1.2**
CISI	**Cisompet, Garu**	**11.09**	**271**	*e*Pn		**Pn**	**18 25 32.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**12.09**	**148**	*e*Pn		**Pn**	**18 25 44.6**	**-0.3**
FITZ				*e*Sn		**Sn**	**18 27 50.9**	**-7.6**
FITZ	**Fitzroy Crossi**	**12.09**	**148**	P		**Pn**	**18 25 44.7**	**-0.1**
	0.2nm,0.3s,baz=334,slow=8.8,SNR=11							
FITZ				S		**Sn**	**18 27 51.5**	**-7.0**
	0.4nm,0.3s,baz=210,slow=20,SNR=3.7							
SAUI	**Saumlaki**	**12.18**	**92**	*e*Pn		**Pn**	**18 25 44.0**	**-2.1**
KSM	**Kuching**	**12.67**	**316**	*e*Pn		**Pn**	**18 25 50.2**	**-2.6**
MTN	**Manton Dam**	**12.93**	**114**	*e*Pn		**Pn**	**18 25 54.6**	**-1.8**
SIJI	**Sorong**	**14.03**	**61**	P		**Pn**	**18 26 11.8**	**+0.3**
	2.7nm,0.3s,baz=75,slow=1.7,SNR=11							
FAKI	**Fak Fak**	**14.05**	**70**	*e*Pn		**Pn**	**18 26 12.4**	**+0.7**
GIRL	**Giralia**	**15.44**	**197**	*e*Pn		**Pn**	**18 26 30.1**	**-0.2**
	150nm,1.1s							
WR1	**Warramunga Arr**	**19.13**	**131**	*e*P		**P**	**18 27 15.3**	**0.0**
	11nm,0.9s							
WR1				*e*Sn		Sn	18 30 35.6	-14
WRA	**Warramunga Arr**	**19.13**	**131**	P		**P**	**18 27 15.3**	**0.0**
	1.1nm,0.3s,baz=303,slow=13,SNR=54							
WRA				S		Sn	18 30 35.6	-14
	0.1nm,0.3s,baz=303,slow=19,SNR=2.7							
AS31	**Alice Springs**	**21.27**	**139**	*e*P		**P**	**18 27 39.5**	**+0.9**
	4.5nm,0.7s							
AS31				*e*S		**S**	**18 31 32.8**	**-0.4**
ASAR	**Alice Springs**	**21.27**	**139**	P		**P**	**18 27 39.2**	**+0.7**
	12nm,0.7s,baz=326,slow=13,SNR=66							
ASAR				S		**S**	**18 31 27.3**	**-5.9**
	1.0nm,0.8s,baz=319,slow=34,SNR=5.1							
AS01	**Alice Springs**	**21.30**	**139**	*e*P		**P**	**18 27 39.6**	**+0.8**
MORW	**Morawa**	**21.32**	**187**	*e*P		**P**	**18 27 40.6**	**+1.6**
	52nm,1.6s							
PSI	**Prapat**	**22.64**	**297**	*e*P		**P**	**18 27 54.6**	**+1.2**
	10nm,0.9s							
PSI	**Prapat**	**22.64**	**297**	P		**P**	**18 27 54.8**	**+1.4**
	2.4nm,0.4s,baz=180,slow=5.0,SNR=5.2							
COEN	**Coen**	**24.49**	**107**	*e*P		**P**	**18 28 11.7**	**+0.4**
	15nm,0.8s							
BBOO	**Buckleboo**	**29.47**	**150**	*e*P		**P**	**18 28 56.7**	**+0.9**
	77nm,1.9s							
STKA	**Stephens Creek**	**31.86**	**142**	*e*P		**P**	**18 29 17.6**	**+0.7**
	6.0nm,1.8s							
STKA	**Stephens Creek**	**31.86**	**142**	P		**P**	**18 29 17.9**	**+1.0**
	3.4nm,0.5s,baz=318,slow=7.9,SNR=14							
STKA				LR		LR	18 44 18.6	
	comp=Z,99nm,20.3s,baz=199,slow=40							
TATO	**Taipei**	**32.69**	**4**	*e*P		**P**	**18 29 24.8**	**+0.7**
	122nm,1.4s							
CMAR	**Chiang Mai Arr**	**32.77**	**323**	P		**P**	**18 29 26.4**	**+1.5**
	0.7nm,1.1s,baz=150,slow=7.3,SNR=2.9							
CMAR				LR		LR	18 44 16.3	
	comp=Z,32nm,18.8s,baz=185,slow=39							
ARMA	**Armidale**	**37.91**	**131**	*e*P		**P**	**18 30 10.9**	**+1.6**
	45nm,1.8s							
JIRN	**Jiri**	**47.45**	**319**	*e*P		**P**	**18 31 27.4**	**+0.4**
	8.7nm,0.6s							
GUN	**Gumba**	**47.82**	**319**	*e*P		**P**	**18 31 30.6**	**+0.7**
	12nm,0.7s							
PKI	**Pulchoki**	**47.90**	**319**	*e*P		**P**	**18 31 30.4**	**0.0**
PKIN	**Phulchoki**	**47.91**	**319**	*e*P		**P**	**18 31 30.3**	**-0.2**
	3.7nm,0.6s							
KOLN	**Koldanda**	**49.23**	**317**	*e*P		**P**	**18 31 40.4**	**-0.1**
	9.5nm,0.8s							
DANN	**Dangsing**	**49.51**	**318**	*e

HELC			*i*			18 50 48.5
	comp=N,243nm,0.3s					
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	Pn	18 50 09.7 -1.3
UREC				*e*S	Sn	18 50 41.2 -1.8
UREC				*i*		18 50 51.3
	comp=N,448nm,0.3s					
VILC	**Villavicencio,**	**2.77**	**191**	*e*P	Pn	18 50 13.4 -0.6
VILC				*e*S	Sn	18 50 46.4 -1.9
VILC				*i*		18 50 59.2
	comp=N,482nm,0.5s					
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	Pn	18 50 17.2 -0.2
CODC	**Agustn Codazz**	**3.09**	**355**	*e*P	Pn	18 50 16.9 -1.0
CODC				*e*S	Sn	18 50 55.0 -0.4
CODC				*i*		18 51 00.4
	comp=N,77nm,0.5s					
PRAC	**Prado**	**3.56**	**209**	*e*P	Pn	18 50 23.2 -0.8
PRAC				*e*S	Sn	18 51 05.3 -0.9
PRAC				*i*		18 51 12.8
	comp=N,133nm,0.3s					
SJAC	**San Juan de Ar**	**3.63**	**193**	*e*P	Pn	18 50 26.0 +0.9
SJCC	**San Jacinto, C**	**3.64**	**327**	*e*P	Pn	18 50 23.4 -1.7
SJCC				*e*S	Sn	18 51 04.6 -3.7
SJCC				*i*		18 51 05.5
	comp=N,183nm,0.5s					
YOTC	**Yotoco, Valle**	**4.27**	**228**	*e*P	Pn	18 50 32.5 -0.9
GUVC	**San Jose del G**	**4.30**	**173**	*e*P	Pn	18 50 32.9 -0.8
GUVC				*i*		18 51 26.3
	comp=N,320nm,0.5s					
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	Pn	18 50 35.2 -0.1
SMRC				*e*S	Sn	18 51 22.2 -4.3
SMRC				*i*		18 51 23.7
	comp=N,59nm,0.2s					
MARP	**Paez Belalcaza**	**4.86**	**215**	*e*P	Pn	18 50 41.1 -0.2
SOTA	**Rioblanco**	**5.81**	**217**	*e*P	Pn	18 50 54.9 +0.7

ISCJB ***23*** *18:51:26.5±0.4, 6°.85N±0°.02×73°.14W±0°.04, h153km±3km, mb3.5/6, Error ellipse: s-maj=6.6km s-min=4.0km az=3.3*
RSNC ***23*** *18:51:28.6±1.2, 6°.79N×73°.16W, h142km±5km, ML4.2, Mw4.1*
IDC ***23*** *18:51:29.1±2.0, 6°.61N×73°.18W, h173km±17km, mb3.3/6, mb1 3.6/9, mb1mx3.3/36, mbtmp3.9/9, Error ellipse: s-maj=31.0km s-min=14.8km az=58.0*

ISC 23 18:51:26.7±0.7, 6°.84N±0°.03×73°.12W±0°.05, h155km±5km, n36, σ1§30/55, mb3.5/6, 6C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**193**	*i* P	**Pn**	**18 51 48.0**	**-0.1**
BARC				*e*S	**Sn**	**18 52 02.3**	**-2.0**
BARC				*i*		18 52 03.6	
	comp=Z,3µm,0.3s						
BRRC	**Barranca, Sant**	**0.64**	**294**	⇑*i*P	**Pn**	**18 51 49.9**	**+0.5**
BRRC				*e*S	**Sn**	**18 52 06.4**	**-0.3**
BRRC				*i*		18 52 10.0	
	comp=Z,2µm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**40**	⇓*e*P	**Pn**	**18 51 50.9**	**+0.9**
PAMC				*e*S	**Sn**	**18 52 07.3**	**-0.5**
PAMC				*i*		18 52 08.9	
	comp=N,6µm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.36**	**257**	*e*P	**Pn**	**18 51 54.9**	**-0.4**
PTBC				*e*S	**Sn**	**18 52 15.3**	**-1.7**
PTBC				*i*		18 52 20.9	
	comp=N,3µm,0.4s						
TAMC	**Tame, Arauca**	**1.38**	**107**	⇓*i*P	**Pn**	**18 51 56.3**	**+0.8**
TAMC				*i*		18 52 18.2	
	comp=N,3µm,0.4s						
OCAC	**Ocana**	**1.40**	**352**	⇑*e*P	**Pn**	**18 51 56.4**	**+0.5**
OCAC				*e*S	**Sn**	**18 52 18.0**	**-0.2**
OCAC				*i*		18 52 21.5	
	comp=N,13µm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*e*P	**Pn**	**18 52 00.7**	**+0.4**
ZARC				*e*S	**Sn**	**18 52 26.5**	**+0.4**
ZARC				*i*		18 52 32.0	
	comp=N,2µm,0.3s						
CTAU	**Tausa, Cundina**	**1.87**	**209**	*e*P	**Pn**	**18 52 04.0**	**+2.8**
CTAB	**Cerro Tablazo,**	**2.11**	**211**	*e*P	**Pn**	**18 52 05.5**	**+1.6**
NORC	**Norcasia**	**2.15**	**234**	⇑*e*P	**Pn**	**18 52 04.1**	**+0.1**
NORC				*e*S	**Sn**	**18 52 31.3**	**-1.3**
NORC				*i*		18 52 34.4	
	comp=Z,512nm,0.5s						
SMLC	**San Martn de**	**2.16**	**334**	*e*P	**Pn**	**18 52 04.5**	**+0.4**
SMLC				*e*S	**Sn**	**18 52 33.2**	**+0.3**
SMLC				*i*		18 52 35.6	
	comp=N,902nm,0.3s						
CHIC	**Chingaza**	**2.28**	**195**	⇑*e*P	**Pn**	**18 52 06.0**	**+0.1**
CHIC				*e*S	**Sn**	**18 52 34.4**	**-1.7**
CHIC				*i*		18 52 41.5	
	comp=N,525nm,0.4s						
ROSC	**El Rosal**	**2.32**	**211**	P	**Pn**	**18 52 08.4**	**+2.1**
	comp=N,39nm,0.3s,baz=268,slow=20,SNR=9.4						
ROSC				S	**Sn**	**18 52 36.5**	**-0.3**
	comp=N,73nm,0.3s,baz=129,slow=18,SNR=7.3						
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**18 52 09.3**	**+1.2**
HELC				*e*S	**Sn**	**18 52 39.5**	**-0.6**
HELC				*i*		18 52 45.9	
	comp=N,690nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P	**Pn**	**18 52 08.2**	**-0.6**
UREC				*e*S	**Sn**	**18 52 40.2**	**-1.0**
UREC				*i*		18 52 50.1	
	comp=N,2µm,0.2s						
VILC	**Villavicencio,**	**2.77**	**192**	*e*P	**Pn**	**18 52 11.3**	**-0.3**
VILC				*e*S	**Sn**	**18 52 44.6**	**-1.7**
VILC				*i*		18 52 53.2	
	comp=N,918nm,0.6s						
DBBC	**Dabeiba**	**3.07**	**273**	⇑*e*P	**Pn**	**18 52 16.1**	**+0.9**
CODC	**Agustn Codazz**	**3.09**	**354**	*e*P	**Pn**	**18 52 15.8**	**+0.3**
CODC				*e*S	**Sn**	**18 52 52.7**	**-0.5**
CODC				*i*		18 53 03.1	
	comp=N,272nm,0.3s						
PRAC	**Prado**	**3.57**	**210**	*e*P	**Pn**	**18 52 21.9**	**+0.2**
PRAC				*e*S	**Sn**	**18 53 04.4**	**+0.2**
PRAC				*i*		18 53 09.3	
	comp=N,286nm,0.3s						
SJAC	**San Juan de Ar**	**3.64**	**193**	*e*P	**Pn**	**18 52 24.1**	**+1.5**
SJCC	**San Jacinto, C**	**3.65**	**326**	⇑*i*P	**Pn**	**18 52 22.3**	**-0.4**
SJCC				*e*S	**Sn**	**18 53 03.4**	**-2.8**
SJCC				*i*		18 53 07.3	
	comp=N,658nm,0.4s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**18 52 31.2**	**+0.2**
YOTC				*e*S	**Sn**	**18 53 23.6**	**+2.6**
GUVC	**San Jose del G**	**4.30**	**173**	*e*S	**Sn**	**18 53 19.2**	**-2.0**
SMRC	**Santa Marta, M**	**4.43**	**346**	*e*P	**Pn**	**18 52 34.1**	**+1.4**
SMRC				*e*S	**Sn**	**18 53 22.2**	**-2.0**
SMRC				*i*		18 53 23.9	
	comp=N,165nm,0.3s						
MARP	**Paez Belalcaza**	**4.87**	**216**	*e*P	**Pn**	**18 52 39.1**	**+0.2**
JTS	**JuntasAbangare**	**12.19**	**287**	P	**P**	**18 54 18.8**	**-2.6**
	baz=197,slow=19,SNR=2.1						
PTGA	**Pitinga**	**15.13**	**119**	P	**P**	**18 54 54.4**	**+0.2**
	comp=N,0.4nm,0.3s,baz=284,slow=11,SNR=9.4						
BDFB	**Brasilia**	**33.43**	**132**	P	**P**	**18 57 50.9**	**-0.3**
	comp=N,2.0nm,0.5s,baz=307,slow=13,SNR=3.8						
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**18 58 18.5**	**+1.6**
	comp=N,0.7nm,0.5s,baz=127,slow=8.0,SNR=4.3						
PLCA	**Paso Flores**	**47.40**	**177**	P	**P**	**18 59 43.8**	**-1.7**
	comp=N,0.7nm,0.8s,baz=24,slow=10.0,SNR=2.6						
PDAR	**Pinedale Array**	**48.06**	**324**	P	**P**	**18 59 52.1**	**+1.3**
	comp=N,0.3nm,0.4s,baz=130,slow=9.9,SNR=2.7						
NVAR	**Mina Array Bea**	**51.47**	**315**	P	**P**	**19 00 18.1**	**+1.5**
	comp=N,0.3nm,0.7s,baz=112,slow=9.0,SNR=3.7						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**19 01 39.4**	**+1.0**
	comp=N,0.7nm,0.6s,baz=133,slow=6.6,SNR=18						
YKA				pP	**pP**	**19 02 17.1**	**+1.9**
	comp=N,0.5nm,0.6s,baz=130,slow=6.9,SNR=4.1						
SONM	**Songino Array**	**125.56**	**0**	PKP	**PKiKP**	**19 10 10.5**	**+0.2**
	comp=N,0.1nm,0.4s,baz=298,slow=2.9,SNR=2.1						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**19 10 57.0**	**-0.6**
	comp=N,0.8nm,0.5s,baz=116,slow=3.5,SNR=9.4						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKiKP**	**19 11 00.6**	**-0.8**
	comp=N,0.9nm,0.8s,baz=111,slow=2.3,SNR=7.1						

IDC ***23*** *18:52:37.5±6.6, 31°.72S×179°.58W, h115km±55km, mb3.9/5, mb1 4.0/6, mb1mx3.6/39, mbtmp4.1/6, MS3.6/1, Ms1 3.6/1, ms1mx2.7/26, Error ellipse: s-maj=50.0km s-min=24.1km az=33.0*
ISCJB ***23*** *18:52:45.9±0.7, 31°.88S±0°.07×179°.9W±0°.1, h200km, mb3.8/5, Error ellipse: s-maj=17.7km s-min=8.0km az=16.4*
WEL ***23*** *18:52:46.0, 31°.94S×179°.91W, h193km*

ISC 23 18:52:46.5±0.8, 32°.05S±0°.08×179°.8W±0°.2, h200km, n31, σ2§58/35, mb3.9/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.22**	**31**	S	**Sn**	**18 54 16.4**	**-3.3**
MXZ	**Matakaoa Point**	**5.71**	**195**	P	**Pn**	**18 54 13.0**	**+3.0**
WMGZ	**Waiomatatini S**	**5.94**	**194**	P	**Pn**	**18 54 15.8**	**+2.9**
WMGZ				S	**Sn**	**18 55 18.6**	**-2.7**
HAZ	**Te Kaha**	**6.03**	**198**	P	**Pn**	**18 54 16.5**	**+2.5**
HAZ				S	**Sn**	**18 55 22.2**	**-1.2**
PKGZ	**Pakihiroa**	**6.08**	**196**	P	**Pn**	**18 54 17.5**	**+2.7**
PUZ	**Puketiti**	**6.21**	**194**	P	**Pn**	**18 54 19.0**	**+2.6**
PUZ				S	**Sn**	**18 55 23.5**	**-4.3**
RUGZ	**Raukumara Rang**	**6.25**	**198**	P	**Pn**	**18 54 19.6**	**+2.5**
TWGZ	**Tauwhareparae**	**6.38**	**196**	P	**Pn**	**18 54 21.7**	**+3.1**
CNGZ	**Carnagh Statio**	**6.62**	**193**	P	**Pn**	**18 54 24.8**	**+3.1**
MWZ	**Matawai**	**6.64**	**198**	P	**Pn**	**18 54 24.0**	**+2.0**
TKGZ	**Te Karaka**	**6.66**	**196**	P	**Pn**	**18 54 25.1**	**+2.9**
URZ	**Urewera**	**6.69**	**201**	P	**Pn**	**18 54 18.2**	**-4.3**
	0.2nm,0.3s,baz=311,slow=20,SNR=2.7						
URZ				S	Sn	18 55 30.3	-8.5
	1.2nm,0.3s,baz=258,slow=9.3,SNR=2.8						
URZ	**Urewera**	**6.69**	**201**	P	**Pn**	**18 54 24.5**	**+1.9**
URZ				S	**Sn**	**18 55 33.4**	**-5.4**
RIGZ	**Rimuhau**	**6.93**	**196**	P	**Pn**	**18 54 27.9**	**+2.1**
MUGZ	**Murupara**	**6.99**	**202**	P	**Pn**	**18 54 29.1**	**+2.5**
RTZ	**Ruatahuna**	**7.05**	**201**	P	**Pn**	**18 54 28.3**	**+0.8**
SNGZ	**Shannon Statio**	**7.11**	**198**	P	**Pn**	**18 54 29.8**	**+1.7**
NMHZ	**Naumai**	**7.55**	**200**	P	**Pn**	**18 54 35.4**	**+1.5**
NMHZ				S	**Sn**	**18 55 55.9**	**-3.5**
ARHZ	**Aropaoanui**	**7.65**	**199**	P	**Pn**	**18 54 37.2**	**+2.0**
BKZ	**Black Stump Fm**	**7.71**	**202**	P	**Pn**	**18 54 37.0**	**+1.0**
KWHZ	**Kaweka Forest**	**7.97**	**201**	P	**Pn**	**18 54 39.9**	**+0.6**
FWVZ	**Far West T-bar**	**8.12**	**206**	P	**Pn**	**18 54 43.2**	**+1.8**
KAHZ	**Kahuranaki**	**8.18**	**198**	P	**Pn**	**18 54 42.6**	**+0.6**
ASAR	**Alice Springs**	**41.49**	**270**	P	**P**	**19 00 15.3**	**+1.1**
	1.9nm,0.5s,baz=105,slow=7.6,SNR=21						
WRA	**Warramunga Arr**	**42.63**	**275**	P	**P**	**19 00 24.2**	**+0.7**
	1.2nm,0.3s,baz=112,slow=8.0,SNR=40						
VNDA	**Vanda**	**46.31**	**185**	LR	LR	19 16 40.8	
	comp=Z,64nm,19.0s,baz=162,slow=31						
FITZ	**Fitzroy Crossi**	**50.82**	**272**	P	**P**	**19 01 27.1**	**+0.2**
	1.8nm,0.9s,baz=101,slow=5.7,SNR=6.6						
QSPA	**South Pole Qui**	**58.07**	**180**	P	**P**	**19 02 20.7**	**+2.1**
	1.3nm,0.8s,baz=2.0,slow=1.1,SNR=7.2						
LPAZ	**La Paz**	**98.88**	**115**	P	**P**	**19 06 05.0**	**-0.1**
	0.9nm,0.4s,baz=207,slow=2.3,SNR=4.9						
FINES	**FINESS Array B**	**146.11**	**338**	PKPbc	**PKPab**	**19 12 02.4**	**-0.9**
	1.9nm,0.3s,baz=52,slow=4.0,SNR=36						
NOA	**NORSAR Array B**	**150.10**	**349**	PKPbc	**PKiKP**	**19 12 12.8**	**-0.7**
	0.2nm,0.7s,baz=20,slow=3.8,SNR=2.3						

IDC 23 19:05:57.3±5.9, 50°.41N×114°.13W, h0km, mb1 3.6/1, mb1mx2.9/40, mbtmp3.3/1, ML3.1/1, Error ellipse: s-maj=88.3km s-min=45.7km az=72.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**2.91**	**224**	*i*		19 24 30.0	
	baz=42,slow=314,SNR=1.2						
I10CA	**LAC DU BONNET**	**11.58**	**84**	*i*		20 22 10.0	
	baz=275,slow=321,SNR=1.7						
YKA	**Yellowknife Ar**	**12.12**	**359**	Pn	Pn	19 08 47.4	-3.7
	0.2nm,0.3s,baz=181,slow=13,SNR=16						
YKA				Sn	Sn	19 10 57.1	-10
	0.1nm,0.3s,baz=178,slow=23,SNR=3.3						

NNC 23 19:17:54.5±7.6, 52°.17N×95°.59E, h0km, mb3.9, mpv3.1, 7C-3D, Error ellipse: s-maj=59.7km s-min=40.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	**Zalesovo Array**	**6.73**	**290**	⇓Pg	Pg	19 20 02.0	-1.4
	1.1nm,0.8s						
ZAA0				⇑Sn	Sn	19 20 50.0	-1.9
	9.0nm,1.4s						
MK31	**Makanchi Array**	**10.18**	**243**	⇑Pn	Pn	19 20 21.3	-0.6
	1.7nm,0.5s,baz=58,slow=13,SNR=36						
MK31				⇑Sn	Sn	19 22 19.4	+2.8
	2.1nm,0.5s,baz=58,slow=25,SNR=3.8						
MAKZ	**Makanchi**	**10.35**	**244**	⇑Pn	Pn	19 20 23.8	-0.3
	0.7nm,0.5s						
MAKZ				⇓Sn	Sn	19 22 22.3	+1.6
	18nm,1.1s						
KURK	**Kurchatov**	**10.69**	**269**	⇑Pn	Pn	19 20 29.8	+1.0
	2.5nm,1.0s						
KURK				⇓Sn	Sn	19 22 31.5	+2.4
	8.3nm,0.6s						
KURBB	**Kurchatov Arra**	**10.77**	**268**	⇑Pn	Pn	19 20 29.4	-0.5
	2.1nm,0.4s						
KURBB				⇑Sn	Sn	19 22 32.3	+1.3
	27nm,1.0s						

KRNET ***23*** *19:21:50.4±0.1, 40°.33N×77°.11E, mb3.3*
SOME ***23*** *19:21:51.9, 40°.45N×77°.23E, h10km*
NNC ***23*** *19:21:54.6±1.8, 40°.55N×77°.19E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=13.1km s-min=10.1km az=160.0*

ISC 23 19:21:53.2±1.8, 40°.43N±0°.08×77°.07E±0°.03, h10km, n59, σ1§57/87, 28C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.29**	**322**	⇑*i*P	**Pn**	**19 22 16.1**	**-1.5**
	baz=22						
NRN				⇑*i*S	**Sb**	**19 22 34.5**	**0.0**
	baz=22						
KDJ	**Kajisay**	**1.70**	**3**	⇑*i*P	**Pb**	**19 22 24.0**	**-0.8**
	baz=2.0						
KDJ				⇑*i*S	**Sg**	**19 22 47.8**	**-0.2**
	baz=2.0						
ULHL	**Ulahol**	**1.92**	**341**	P	**Pb**	**19 22 26.9**	**-1.6**
	SNR=14						
ULHL	**Ulahol**	**1.92**	**341**	⇑*i*P	**Pn**	**19 22 26.6**	**+0.4**
	baz=41						
ULHL				⇑*i*S	**Sb**	**19 22 53.4**	**+0.8**
	baz=41						
KZA	**Kyzart**	**2.14**	**321**	P	**Pn**	**19 22 30.2**	**+0.8**
	SNR=35						
KZA	**Kyzart**	**2.14**	**321**	⇑*i*P	**Pn**	**19 22 29.8**	**+0.4**
	baz=22						
KZA				⇑*i*S	**Sb**	**19 22 58.9**	**-0.3**
	baz=22						
BOOM	**Boomskoye usch**	**2.23**	**338**	⇑*i*P	**Pn**	**19 22 31.0**	**+0.6**
	baz=38						
BOOM				⇑*i*S	**Sb**	**19 23 00.6**	**-0.8**
	baz=38						
PRZ	**Przheval'sk**	**2.29**	**26**	⇓*i*P	**Pn**	**19 22 31.5**	**+0.3**
	baz=24						
PRZ				⇓*i*S	**Sb**	**19 23 01.1**	**-2.0**
	baz=24						
ARLS	**Aral**	**2.52**	**306**	⇑*i*P	**Pn**	**19 22 34.5**	**+0.1**
	baz=7.0						
ARLS				⇑*i*S	**Sb**	**19 23 07.9**	**-1.8**
	baz=7.0						
TNSS	**Tian-Shan**	**2.61**	**358**	Pg	**Pb**	**19 22 39.9**	**-0.4**
	30nm,0.5s						
TNSS				Lg	Lg	19 23 15.5	
	70nm,0.3s						
TNSS	**Tian-Shan**	**2.61**	**358**	*e*P	**Pb**	**19 22 39.2**	**-1.1**
	30nm,0.5s						
TNSS				*e*S	**Sb**	**19 23 13.1**	**+0.5**
	70nm,0.3s						
UCH	**Uchtor**	**2.63**	**314**	P	**Pn**	**19 22 37.1**	**+0.9**
	SNR=9.2						
UCH	**Uchtor**	**2.63**	**314**	⇑*i*P	**Pn**	**19 22 36.4**	**+0.2**
	baz=15						
UCH				⇑*i*S	**Sn**	**19 23 10.3**	**+1.9**
	baz=15						
TKM2	**Tokmak 2**	**2.72**	**337**	P	**Pn**	**19 22 37.8**	**+0.5**
	SNR=9.9						
TKM2	**Tokmak 2**	**2.72**	**337**	⇑Pn	**Pn**	**19 22 37.9**	**+0.6**
	4.1nm,0.3s						
TKM2				⇑Lg	Lg	19 23 19.2	
	27nm,0.5s						
TKM2	**Tokmak 2**	**2.72**	**337**	⇑*i*P	**Pn**	**19 22 37.7**	**+0.5**
	baz=37						
TKM2				⇑*i*S	**Sb**	**19 23 13.2**	**-2.5**
	baz=37						
MDOK	**Medeo**	**2.73**	**360**	Pn	**Pb**	**19 22 41.2**	**-1.1**
	34nm,0.9s						
MDOK				Lg	Lg	19 23 18.6	
	66nm,0.5s						
MDOK	**Medeo**	**2.73**	**360**	Pg	**Pb**	**19 22 42.1**	**-0.2**
	22nm,0.6s						
MDOK				Lg	Lg	19 23 18.4	
	85nm,0.6s						
MDOK	**Medeo**	**2.73**	**360**	*e*P	**Pb**	**19 22 42.1**	**-0.2**
	22nm,0.6s						
MDOK				*e*S	**Sb**	**19 23 18.4**	**+2.5**
	85nm,0.6s						
KBK	**Karagaybulak**	**2.74**	**325**	P	**Pn**	**19 22 38.8**	**+1.4**
	SNR=12						
KBK	**Karagaybulak**	**2.74**	**325**	⇑*i*P	**Pn**	**19 22 38.3**	**+0.9**
	baz=26						
KBK				⇑*i*S	**Sn**	**19 23 12.8**	**+2.2**
	baz=26						
KST	**Kastek**	**2.74**	**343**	Pg	**Pb**	**19 22 42.6**	**+0.2**
	7.3nm,0.4s						
KST				Lg	Lg	19 23 19.6	
	29nm,0.8s						
KST	**Kastek**	**2.74**	**343**	*e*P	**Pb**	**19 22 42.2**	**-0.2**
	7.3nm,0.4s						
KST				*e*S	**Sb**	**19 23 18.6**	**+2.5**
	29nm,0.8s						
MTBS	**Maitube**	**2.74**	**350**	Pg	**Pb**	**19 22 42.5**	**+0.1**
	9.6nm,0.4s						
MTBS				Lg	Lg	19 23 19.1	
	31nm,0.5s						
MTBS	**Maitube**	**2.74**	**350**	*e*P	**Pb**	**19 22 42.5**	**+0.1**
	9.6nm,0.4s						
MTBS				*e*S	**Sg**	**19 23 19.1**	**-2.3**
	31nm,0.5s						
KNDC	**Almaty**	**2.79**	**358**	⇓Pn	**Pb**	**19 22 44.1**	**+0.9**
	24nm,0.6s						
KNDC				⇓Lg	Lg	19 23 20.4	
	105nm,0.5s						
KOTS	**Kotyrbulak**	**2.81**	**1**	Pg	**Pb**	**19 22 44.1**	**+0.6**
	19nm,0.6s						
KOTS				Lg	Lg	19 23 21.5	
	101nm,0.5s						
KOTS	**Kotyrbulak**	**2.81**	**1**	*e*P	**Pb**	**19 22 44.1**	**+0.6**
	19nm,0.6s						
KOTS				*e*S	**Sg**	**19 23 21.5**	**-1.8**
	101nm,0.5s						
SATY	**Saty**	**2.81**	**20**	Pg	**Pb**	**19 22 42.9**	**-0.8**
	15nm,0.6s						
SATY				Lg	Lg	19 23 19.6	
	37nm,0.8s						
SATY	**Saty**	**2.81**	**20**	*e*P	**Pb**	**19 22 42.9**	**-0.8**
	15nm,0.6s						
SATY				*e*S	**Sb**	**19 23 19.6**	**+1.4**
	37nm,0.8s						
AAK	**Ala-Archa**	**2.93**	**320**	P	**Pn**	**19 22 41.0**	**+1.0**
	SNR=11						
AAK	**Ala-Archa**	**2.93**	**320**	⇑Pn	**Pn**	**19 22 40.8**	**+0.8**
	18nm,0.7s						
AAK				⇑Lg	Lg	19 23 26.2	
	25nm,0.9s						
AAK	**Ala-Archa**	**2.93**	**320**	⇓*i*P	**Pn**	**19 22 40.7**	**+0.6**
	baz=20						
AAK				⇓*i*S	**Sn**	**19 23 17.6**	**+2.2**
	baz=20						
DGS	**Degeres**	**2.97**	**341**	Pg	**Pb**	**19 22 47.0**	**+0.7**
	10nm,0.7s						
DGS				Lg	Lg	19 23 26.6	
	18nm,0.6s						
DGS	**Degeres**	**2.97**	**341**	*e*P	**Pb**	**19 22 47.0**	**+0.7**
	10nm,0.7s						
DGS				*e*S	**Sg**	**19 23 26.6**	**-2.2**
	18nm,0.6s						
AML	**Almayashu**	**3.06**	**305**	P	**Pn**	**19 22 42.9**	**+0.9**
	SNR=18						
AML	**Almayashu**	**3.06**	**305**	⇑*i*P	**Pn**	**19 22 42.6**	**+0.6**
	baz=6.0						
AML				⇑*i*S	**Sn**	**19 23 20.1**	**+1.3**
	baz=6.0						
UZB	**Uzynbulak**	**3.09**	**28**	Pg	**Pb**	**19 22 47.5**	**-0.8**
	5.5nm,0.7s						
UZB				Lg	Lg	19 23 27.4	
	17nm,0.8s						
UZB	**Uzynbulak**	**3.09**	**28**	*e*P	**Pb**	**19 22 47.5**	**-0.8**
	5.5nm,0.7s						
UZB				*e*S	**Sb**	**19 23 27.4**	**+1.3**
	17nm,0.8s						
CHMS	**Chumysh**	**3.10**	**327**	P	**Pn**	**19 22 43.2**	**+1.0**
	SNR=9.8						
KURS	**Kuram**	**3.17**	**15**	Pg	**Pb**	**19 22 49.4**	**-0.3**
	8.1nm,0.7s						
KURS				Lg	Lg	19 23 31.0	
	17nm,0.8s						
KURS	**Kuram**	**3.17**	**15**	*e*P	**Pb**	**19 22 49.4**	**-0.3**
	8.1nm,0.7s						
KURS				*e*S	**Sb**	**19 23 31.1**	**+2.7**
	17nm,0.8s						
SHLS	**Shalkode**	**3.26**	**33**	Pg	**Pb**	**19 22 52.0**	**+0.7**
	9.0nm,0.7s						
SHLS				Lg	Lg	19 23 35.2	
	14nm,0.9s						
SHLS	**Shalkode**	**3.26**	**33**	*e*P	**Pb**	**19 22 52.0**	**+0.7**
	9.0nm,0.7s						
SHLS				*e*S	**Sg**	**19 23 35.2**	**-2.8**
	14nm,0.9s						
KTBS	**Karatobe**	**3.29**	**355**	Pg	**Pb**	**19 22 52.2**	**+0.5**
	18nm,0.5s						
KTBS				Lg	Lg	19 23 35.5	
	28nm,0.7s						
KTBS	**Karatobe**	**3.29**	**355**	*e*P	**Pb**	**19 22 52.2**	**+0.5**
	18nm,0.5s						
KTBS				*e*S	**Sb**	**19 23 35.5**	**+3.5**
	28nm,0.7s						
PDGK	**Podgornoye**	**3.42**	**31**	Pg	**Pb**	**19 22 53.2**	**-0.7**
	4.1nm,0.5s						
PDGK				Lg	Lg	19 23 37.3	
	12nm,0.7s						
PDGK	**Podgornoye**	**3.42**	**31**	⇑Pg	**Pb**	**19 22 52.5**	**-1.4**
	9.2nm,0.5s						
PDGK				⇑Lg	Lg	19 23 42.6	
	29nm,0.8s						
PDGK	**Podgornoye**	**3.42**	**31**	⇑*i*P	**P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.29**	**306**	⇑*i*P	**Pg**	**19 42 45.1**	**-0.1**
ARSB	baz=11			⇑*i*S	**Sg**	**19 42 49.7**	**+0.6**
AML	**Almayashu**	**1.02**	**17**	⇑P	**Pb**	**19 42 59.4**	**-0.3**
AML	20nm,0.1s,SNR=29			⇓S	**Sn**	**19 43 14.6**	**-0.9**
AML	112nm,0.2s **Almayashu**	**1.02**	**17**	⇑*e*P	**Pb**	**19 42 59.5**	**-0.3**
AML	baz=17			⇑*i*S	**Sg**	**19 43 13.4**	**+0.9**
ARLS	**Aral**	**1.05**	**47**	⇑*i*P	**Pb**	**19 42 59.4**	**-0.7**
ARLS	baz=46			⇑*i*S	**Sn**	**19 43 14.7**	**-1.0**
ARK	**Arkit**	**1.19**	**303**	⇓*i*P	**Pn**	**19 43 01.5**	**-1.1**
ARK	baz=4.0			⇓*i*S	**Sn**	**19 43 17.6**	**-1.5**
UCH	**Uchtor**	**1.41**	**40**	⇑P	**Pb**	**19 43 06.2**	**-0.2**
UCH	19nm,0.2s,SNR=95			⇓S	**Sg**	**19 43 26.5**	**+1.7**
UCH	46nm,0.3s **Uchtor**	**1.41**	**40**	⇑*i*P	**Pb**	**19 43 06.2**	**-0.2**
UCH	baz=40			⇑*i*S	**Sg**	**19 43 26.0**	**+1.1**
MRKS	**Merke**	**1.59**	**358**	P	**Pb**	**19 43 09.5**	**+0.2**
MRKS	34nm,0.3s			S	**Sg**	**19 43 32.1**	**+1.4**
MRKS	50nm,0.3s **Merke**	**1.59**	**358**	*e*P	**Pg**	**19 43 09.7**	**-0.3**
MRKS	34nm,0.3s			*e*S	**Sg**	**19 43 31.7**	**+1.0**
AAK	50nm,0.3s **Ala-Archa**	**1.73**	**31**	⇑P	**Pg**	**19 43 12.4**	**-0.4**
AAK	23nm,0.3s,SNR=38			⇑S	**Sg**	**19 43 36.1**	**+0.9**
AAK	61nm,0.2s **Ala-Archa**	**1.73**	**31**	Pn	**Pb**	**19 43 12.2**	**+0.5**
AAK	8.7nm,0.3s			Sn	**Sg**	**19 43 36.1**	**+0.9**
AAK	22nm,0.3s **Ala-Archa**	**1.73**	**31**	⇑*i*P	**Pb**	**19 43 12.2**	**+0.5**
AAK	baz=31			⇑*i*S	**Sg**	**19 43 35.8**	**+0.6**
KZA	**Kyzart**	**1.73**	**57**	⇓P	**Pb**	**19 43 12.0**	**0.0**
KZA	32nm,0.2s,SNR=41						
KZA	**Kyzart**	**1.73**	**57**	⇑*i*P	**Pb**	**19 43 11.9**	**0.0**
KZA	baz=57			⇑*i*S	**Sg**	**19 43 35.2**	**0.0**
FRU1	baz=57 **Bishkek**	**1.93**	**31**	⇓*i*P	**Pb**	**19 43 15.3**	**+0.2**
FRU1	baz=30			⇓*i*S	**Sg**	**19 43 41.6**	**0.0**
KBK	baz=30 **Karagaybulak**	**1.95**	**39**	⇑P	**Pb**	**19 43 16.0**	**+0.6**
KBK	21nm,0.2s,SNR=41 **Karagaybulak**	**1.95**	**39**	⇓*i*P	**Pb**	**19 43 16.0**	**+0.6**
KBK	baz=39			⇓*i*S	**Sg**	**19 43 41.7**	**-0.3**
CHMS	baz=39 **Chumysh**	**2.14**	**30**	⇑P	**Pb**	**19 43 18.9**	**+0.3**
CHMS	8.2nm,0.3s,SNR=11 **Chumysh**	**2.14**	**30**	⇓*e*P	**Pb**	**19 43 18.7**	**+0.1**
CHMS	baz=30			⇓*i*S	**Sg**	**19 43 47.0**	**-1.2**
USP	baz=30 **Ospenovka**	**2.30**	**23**	⇑*e*P	**Pb**	**19 43 21.0**	**-0.2**
USP	baz=23			⇑*e*S	**Sb**	**19 43 50.6**	**+0.8**
BOOM	baz=23 **Boomskoye usch**	**2.39**	**55**	⇑*i*P	**Pb**	**19 43 22.4**	**-0.5**
BOOM	baz=55			⇑*i*S	**Sb**	**19 43 52.7**	**+0.1**
TKM2	baz=55 **Tokmak 2**	**2.46**	**43**	⇑Pg	**Pg**	**19 43 25.8**	**-0.9**
TKM2	6.1nm,0.5s			⇑Lg	Lg	19 43 59.4	
TKM2	11nm,0.5s **Tokmak 2**	**2.46**	**43**	⇑*i*P	**Pb**	**19 43 23.0**	**-1.2**
TKM2	baz=43			⇑*i*S	**Sb**	**19 43 54.7**	**-0.1**
ULHL	baz=43 **Ulahol**	**2.46**	**63**	⇓P	**Pb**	**19 43 22.5**	**-1.7**
ULHL	3.8nm,0.1s,SNR=14 **Ulahol**	**2.46**	**63**	⇑*e*P	**Pb**	**19 43 23.3**	**-0.9**
ULHL	baz=62			⇑*i*S	**Sb**	**19 43 54.6**	**-0.2**
KST	baz=62 **Kastek**	**2.74**	**46**	Pg	**Pb**	**19 43 29.5**	**+0.6**
KST	5.1nm,0.4s			Lg	Lg	19 44 06.2	
KST	16nm,0.5s **Kastek**	**2.74**	**46**	*e*P	**Pb**	**19 43 28.2**	**-0.7**
KST	5.1nm,0.4s			*e*S	**Sb**	**19 44 03.6**	**+0.8**
DGS	16nm,0.5s **Degeres**	**2.79**	**41**	Pg	**Pg**	**19 43 31.4**	**-1.4**
DGS	9.1nm,0.4s			Lg	Lg	19 44 08.8	
DGS	42nm,0.7s **Degeres**	**2.79**	**41**	*e*P	**Pg**	**19 43 31.4**	**-1.4**
DGS	9.1nm,0.4s			*e*S	**Sg**	**19 44 08.8**	**-0.1**
KK31	42nm,0.7s **Karatay Array**	**2.84**	**314**	⇓Pg	**Pn**	**19 43 25.7**	**+0.4**
KK31	2.7nm,0.5s,baz=127,slow=12,SNR=43			⇑Lg	Lg	19 44 03.4	
KDJ	8.1nm,0.5s,baz=138,slow=28,SNR=11 **Kajisay**	**3.07**	**70**	⇑*e*P	**Pn**	**19 43 30.6**	**+2.0**
KDJ	baz=70			⇑*i*S	**Sb**	**19 44 08.8**	**-3.5**
TNSS	baz=70 **Tian-Shan**	**3.31**	**54**	Pg	**Pb**	**19 43 40.6**	**+1.9**
TNSS	10.0nm,0.4s			Lg	Lg	19 44 24.6	
TNSS	6.9nm,0.7s **Tian-Shan**	**3.31**	**54**	*e*P	**Pb**	**19 43 40.6**	**+1.9**
TNSS	10.0nm,0.4s			*e*S	**Sg**	**19 44 24.6**	**-1.1**
MDOK	6.9nm,0.7s **Medeo**	**3.44**	**53**	Pn	**Pb**	**19 43 38.2**	**-2.6**
MDOK	3.5nm,0.6s			Sn	**Sb**	**19 44 23.6**	**+0.8**
MDOK	9.6nm,0.6s **Medeo**	**3.44**	**53**	Pg	**Pg**	**19 43 43.2**	**-2.1**
MDOK	3.8nm,0.7s			Lg	Lg	19 44 29.5	
MDOK	6.4nm,0.6s **Medeo**	**3.44**	**53**	*e*P	**Pg**	**19 43 43.2**	**-2.1**
MDOK	4.2nm,0.6s			*e*S	**Sg**	**19 44 29.5**	**-0.4**
KOTS	8.7nm,0.9s **Kotyrbulak**	**3.52**	**52**	Pg	**Pg**	**19 43 44.7**	**-2.1**
KOTS	3.6nm,0.4s			Lg	Lg	19 44 31.6	
KOTS	9.7nm,0.8s **Kotyrbulak**	**3.52**	**52**	*e*P	**Pg**	**19 43 44.7**	**-2.1**
KOTS	3.6nm,0.4s			*e*S	**Sg**	**19 44 31.6**	**-0.9**
KUU	9.7nm,0.8s **Kurty**	**3.55**	**38**	Pg	**Pb**	**19 43 44.5**	**+2.0**
KUU	2.9nm,0.5s			Lg	Lg	19 44 31.8	
KUU	10.0nm,0.6s **Kurty**	**3.55**	**38**	*e*P	**Pb**	**19 43 44.9**	**+2.3**
KUU	2.9nm,0.5s			*e*S	**Sg**	**19 44 31.8**	**-1.5**
KTBS	10.0nm,0.6s **Karatobe**	**3.58**	**43**	Pg	**Pg**	**19 43 45.7**	**-2.4**
KTBS	3.5nm,0.5s			Lg	Lg	19 44 33.3	
KTBS	4.9nm,0.5s **Karatobe**	**3.58**	**43**	*e*P	**Pg**	**19 43 45.7**	**-2.4**
KTBS	3.5nm,0.5s			*e*S	**Sg**	**19 44 33.2**	**-1.3**
SATY	4.9nm,0.5s **Saty**	**4.25**	**62**	Pg	**Pg**	**19 43 59.9**	**-1.1**
SATY	3.8nm,0.6s			Lg	Lg	19 44 57.8	
SATY	4.5nm,0.6s **Saty**	**4.25**	**62**	*e*P	**Pg**	**19 43 59.6**	**-1.4**
SATY	2.6nm,0.6s			*e*S	**Sg**	**19 44 57.6**	**+1.5**
ARXS	7.9nm,0.7s **Arharly**	**4.53**	**46**	Pg	**Pb**	**19 44 01.8**	**+2.4**
ARXS	2.9nm,0.7s			Lg	Lg	19 45 00.8	
ARXS	4.8nm,0.6s **Arharly**	**4.53**	**46**	*e*P	**Pb**	**19 44 01.8**	**+2.4**
ARXS	2.9nm,0.7s			*e*S	**Sg**	**19 45 00.8**	**-4.1**
UZB	4.8nm,0.6s **Uzynbulak**	**4.70**	**63**	Pg	**Pb**	**19 44 05.6**	**+3.3**
UZB	1.3nm,0.4s			Lg	Lg	19 45 07.5	
UZB	2.8nm,0.6s **Uzynbulak**	**4.70**	**63**	*e*P	**Pb**	**19 44 05.6**	**+3.3**
UZB	2.1nm,0.8s			*e*S	**Sg**	**19 45 07.5**	**-2.9**
SHLS	2.8nm,0.5s **Shalkode**	**5.00**	**64**	Pg	**Pg**	**19 44 15.5**	**+0.2**
SHLS	1.6nm,0.4s			Lg	Lg	19 45 24.6	
SHLS	2.6nm,0.6s **Shalkode**	**5.00**	**64**	*e*P	**Pg**	**19 44 15.6**	**+0.2**
SHLS	1.3nm,0.4s			*e*S	**Sg**	**19 45 24.5**	**+4.4**
PDGK	2.5nm,0.5s **Podgornoye**	**5.09**	**63**	Pg	**Pg**	**19 44 13.2**	**-3.8**
PDGK	0.3nm,0.5s			Lg	Lg	19 45 20.7	
PDGK	1.2nm,0.5s **Podgornoye**	**5.09**	**63**	⇑Pn	**Pn**	**19 43 58.4**	**+2.2**
PDGK	1.4nm,0.7s			⇓Lg	Lg	19 45 27.4	
PDGK	1.7nm,0.5s **Podgornoye**	**5.09**	**63**	⇓*i*P	**Pn**	**19 43 58.3**	**+2.1**
PDGK	baz=62			⇓*i*S	**Sn**	**19 44 56.5**	**+1.2**
	baz=62						

*IDC **23** 19:52:23.5±0.9, 15°.23S×173°.52W, h0km, mb3.8/10, mb1 4.1/10, mb1mx3.8/42, mbtmp3.8/10, MS2.7/2, Ms1 2.7/2, ms1mx2.5/30, Error ellipse: s-maj=46.7km s-min=17.2km az=141.0*
*ISCJB **23** 19:52:26.6±0.7, 15°.2S±0°.2×173°.6W±0°.2, h30km, mb3.8/10, MS2.9/1, Error ellipse: s-maj=36.9km s-min=14.9km az=138.3*

ISC 23 19:52:28.2±0.9, 15°.3S±0°.3×173°.6W±0°.3, h30km, n12, σ0s57/10, mb3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.36**	**116**	LR	LR	20 00 30.8	
PPT	comp=Z,13nm,18.3s,baz=102,slow=34 **Papeete**	**23.11**	**99**	LR	LR	20 03 40.6	
URZ	comp=Z,47nm,20.3s,baz=228,slow=29 **Urewera**	**24.35**	**198**	P	**P**	**19 57 43.2**	**-0.3**
STKA	10nm,1.0s,baz=135,slow=1.4,SNR=4.3 **Stephens Creek**	**43.98**	**240**	P	**P**	**20 00 33.2**	**+0.2**
WRA	1.5nm,0.5s,baz=73,slow=9.1,SNR=6.1 **Warramunga Arr**	**49.74**	**257**	P	**P**	**20 01 17.9**	**-0.3**
ASAR	0.7nm,0.7s,baz=93,slow=6.6,SNR=11 **Alice Springs**	**50.02**	**252**	P	**P**	**20 01 20.1**	**-0.2**
FITZ	2.0nm,0.6s,baz=86,slow=7.9,SNR=44 **Fitzroy Crossi**	**58.10**	**258**	P	**P**	**20 02 20.1**	**+0.9**
NVAR	1.4nm,1.0s,baz=104,slow=4.2,SNR=2.8 **Mina Array Bea**	**74.32**	**42**	P	**P**	**20 04 03.5**	**+0.3**
TXAR	0.7nm,0.7s,baz=229,slow=9.0,SNR=4.6 **Lajitas Array**	**80.65**	**56**	P	**P**	**20 04 39.2**	**+0.5**
PDAR	0.9nm,0.9s,baz=225,slow=4.6,SNR=6.3 **Pinedale Array**	**82.25**	**42**	P	**P**	**20 04 46.4**	**-0.6**
ILAR	0.6nm,0.8s,baz=183,slow=3.0,SNR=5.1 **Eielson Array**	**82.33**	**11**	P	**P**	**20 04 46.0**	**-0.6**
YKA	0.3nm,0.8s,baz=219,slow=7.2,SNR=4.1 **Yellowknife Ar**	**90.02**	**23**	P	**P**	**20 05 24.7**	**+0.2**
	0.2nm,0.7s,baz=239,slow=3.5,SNR=4.0						

RSNC 23 19:56:03.9±1.0, 6°.81N×73°.15W, h146km±4km, ML3.3, Mw3.5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**189**	*e*P	Pn	19 56 23.6	-0.5
BARC				*e*S	Sn	19 56 38.4	-1.0
BARC				*i*		19 56 39.7	
	comp=Z,388nm,0.5s						
BRRC	**Barranca, Sant**	**0.63**	**298**	*e*P	Pn	19 56 25.6	0.0
BRRC				*e*S	Sn	19 56 42.0	0.0
BRRC				*i*		19 56 46.1	
	comp=N,324nm,0.2s						
PAMC	**Pamplona, Colo**	**0.69**	**40**	*e*P	Pn	19 56 26.5	0.0
PAMC				*e*S	Sn	19 56 43.4	-0.2
PAMC				*i*		19 56 44.6	
	comp=N,515nm,0.5s						
PTBC	**PUERTO BERRIO,**	**1.33**	**258**	*e*P	Pn	19 56 30.6	-0.8
PTBC				*e*S	Sn	19 56 51.5	-0.8
PTBC				*i*		19 56 53.8	
	comp=N,365nm,0.3s						
TAMC	**Tame, Arauca**	**1.40**	**106**	*e*P	Pn	19 56 32.0	-0.2
TAMC				*i*		19 56 53.9	
	comp=N,337nm,0.6s						
OCAC	**Ocana**	**1.43**	**353**	*e*P	Pn	19 56 32.0	-0.6
OCAC				*e*S	Sn	19 56 53.6	-0.9
OCAC				*i*		19 56 57.2	
	comp=N,1μm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	*e*P	Pn	19 56 36.8	0.0
ZARC				*e*S	Sn	19 57 02.3	+0.3
ZARC				*i*		19 57 05.2	
	comp=N,233nm,0.1s						
NORC	**Norcasia**	**2.12**	**234**	*e*P	Pn	19 56 39.9	-0.3
NORC				*e*S	Sn	19 57 08.0	-0.1
NORC				*i*		19 57 16.2	
	comp=N,199nm,0.1s						
SMLC	**San Martn de**	**2.18**	**335**	*e*P	Pn	19 56 40.1	-0.8
SMLC				*e*S	Sn	19 57 08.1	-1.2
SMLC				*i*		19 57 12.3	
	comp=N,234nm,0.3s						
CHIC	**Chingaza**	**2.25**	**195**	*e*P	Pn	19 56 41.9	-0.3
CHIC				*e*S	Sn	19 57 10.8	-0.8
CHIC				*i*		19 57 18.4	
	comp=N,62nm,0.6s						
HELC	**Santa Helena**	**2.44**	**255**	*e*P	Pn	19 56 44.2	-0.3
HELC				*e*S	Sn	19 57 14.8	-0.9
HELC				*i*		19 57 23.5	
	comp=N,37nm,0.5s						
VILC	**Villavicencio,**	**2.74**	**191**	*e*P	Pn	19 56 47.5	-0.5
VILC				*e*S	Sn	19 57 17.1	-4.9
VILC				*i*		19 57 29.2	
	comp=N,157nm,0.5s						
DBBC	**Dabeiba**	**3.05**	**274**	*e*P	Pn	19 56 52.0	+0.2
DBBC				*e*S	Sn	19 57 28.5	-0.3
DBBC				*i*		19 57 32.4	
	comp=Z,46nm,0.4s						
PRAC	**Prado**	**3.53**	**209**	*e*P	Pn	19 56 57.5	-0.5
PRAC				*e*S	Sn	19 57 39.0	-1.0
PRAC				*i*		19 57 44.4	
	comp=N,28nm,0.3s						
SJCC	**San Jacinto, C**	**3.66**	**327**	*e*P	Pn	19 56 58.2	-1.5
SJCC				*e*S	Sn	19 57 39.2	-3.8
SJCC				*i*		19 57 43.2	
	comp=N,80nm,0.5s						

*ISCJB **23** 19:58:59.8±0.6, 44°.41N±0°.07×141°.4E±0°.2, h250km, mb2.9/3, Error ellipse: s-maj=17.5km s-min=10.2km az=178.8*
*JMA **23** 19:58:59.6±0.1, 44°.49N×141°.39E, h251km, M2.5*
*IDC **23** 19:59:08.1±9.7, 44°.99N×141°.17E, h286km±78km, mb2.7/3, mb1 2.8/5, mb1mx2.6/57, mbtmp3.4/5, Error ellipse: s-maj=101.5km s-min=23.4km az=162.0*

ISC 23 19:59:00.8±1.0, 44°.41N±0°.08×141°.4E±0°.1, h250km, n15, σ1s36/17, mb2.9/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.35**	**92**	P	**Pn**	**19 59 32.6**	**-0.6**
JHR	**Hokuryu**	**0.71**	**159**	P	**Pn**	**19 59 34.0**	**-0.5**
JRR	**Rishiri**	**0.73**	**357**	P	**Pn**	**19 59 33.5**	**-0.9**
ASAJ	**Asahikawa**	**0.93**	**108**	P	**Pn**	**19 59 34.3**	**-1.1**
JWK2	**Keihoku**	**0.98**	**22**	P	**Pn**	**19 59 34.2**	**-1.4**
JWK2				*e*S	**S**	**20 00 00.1**	**-3.0**
JSE	**Soyaes**	**1.03**	**57**	P	**Pn**	**19 59 34.3**	**-1.5**
JKK2	**Kamakawa 2**	**1.13**	**118**	P	**Pn**	**19 59 35.7**	**-0.9**
JBT2	**Biratori 2**	**1.78**	**156**	P	**Pn**	**19 59 40.6**	**-0.8**
JBT2				*e*S	**S**	**20 00 12.1**	**-1.3**
JTKR	**Abashiri--Toko**	**1.88**	**103**	P	**Pn**	**19 59 41.9**	**-0.2**
JKB	**Kayabe**	**2.53**	**186**	P	**Pn**	**19 59 47.4**	**-1.0**
PETK	**Petropavlovsk-**	**13.82**	**45**	P	**P**	**20 02 08.8**	**+1.5**
	0.2nm,0.3s,baz=230,slow=10,SNR=5.5						
SEY	**Seymchan**	**19.62**	**15**	P	**P**	**20 03 09.9**	**-0.4**
	0.2nm,0.3s,baz=216,slow=9.7,SNR=9.5						
SONM	**Songino Array**	**24.36**	**291**	P	**P**	**20 03 57.5**	**+1.4**
	0.4nm,0.6s,baz=88,slow=8.8,SNR=5.7						
ILAR	**Eielson Array**	**43.42**	**36**	P	**P**	**20 06 39.8**	**+1.2**
	0.1nm,0.5s,baz=288,slow=10,SNR=4.6						
INK	**Inuvik**	**47.92**	**30**	P	**P**	**20 07 14.0**	**+0.4**
	0.2nm,0.3s,baz=287,slow=6.0,SNR=3.2						

*NNC **23** 20:00:18.7±1.9, 41°.13N×78°.29E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=13.2km s-min=7.9km az=167.0*
*KRNET **23** 20:00:20.7±0.1, 41°.16N×78°.26E, h18km, mb2.1*

ISC 23 20:00:19.5±2.6, 41°.1N±0°.1×78°.29E±0°.06, h7km±15km, n14, σ0s86/20, 6C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**1.30**	**321**	⇓*i*P	**Pg**	**20 00 44.8**	**+0.4**
KDJ	baz=21			⇓*i*S	**Sn**	**20 01 01.9**	**-0.1**
NRN	baz=21 **Naryn**	**1.75**	**281**	⇑*i*P	**Pg**	**20 00 53.0**	**-0.1**
NRN	baz=80			⇑*i*S	**Sg**	**20 01 17.1**	**+1.4**
ULHL	baz=80 **Ulahol**	**1.89**	**307**	⇓*i*P	**Pb**	**20 00 54.8**	**+0.3**
ULHL	baz=6.0			⇓*i*S	**Sg**	**20 01 20.4**	**0.0**
SATY	**Saty**	**1.93**	**3**	Pg	**Pb**	**20 00 55.3**	**+0.2**
SATY	1.6nm,0.5s			Lg	Lg	20 01 21.5	
UZB	5.5nm,0.3s **Uzynbulak**	**2.09**	**15**	Pg	**Pb**	**20 00 57.2**	**-0.6**
UZB	0.6nm,0.4s			Lg	Lg	20 01 24.3	
SHLS	2.2nm,0.4s **Shalkode**	**2.21**	**23**	Pg	**Pg**	**20 01 02.1**	**+0.3**
SHLS	2.1nm,0.3s			Lg	Lg	20 01 32.8	
BOOM	3.4nm,0.8s **Boomskoye usch**	**2.22**	**309**	⇓*e*P	**Pb**	**20 00 59.9**	**-0.2**
BOOM	baz=8.0			⇓*i*S	**Sg**	**20 01 29.2**	**-1.6**
MDOK	baz=8.0 **Medeo**	**2.23**	**336**	Pg	**Pb**	**20 00 59.4**	**-0.8**
MDOK	1.6nm,0.5s			Lg	Lg	20 01 30.3	
KOTS	1.9nm,0.5s **Kotyrbulak**	**2.28**	**338**	Pg	**Pb**	**20 01 01.5**	**+0.5**
KOTS	1.5nm,0.4s			Lg	Lg	20 01 31.9	
PDGK	5.1nm,0.4s **Podgornoye**	**2.37**	**22**	Pg	**Pb**	**20 01 02.1**	**-0.5**
PDGK	0.5nm,0.3s			Lg	Lg	20 01 32.8	
PDGK	1.7nm,0.7s **Podgornoye**	**2.37**	**22**	Pg	**Pb**	**20 01 01.9**	**-0.8**
PDGK	0.8nm,0.5s			Lg	Lg	20 01 32.9	
PDGK	4.6nm,0.8s **Podgornoye**	**2.37**	**22**	⇑*i*P	**Pb**	**20 01 02.0**	**-0.7**
PDGK	baz=22			⇑*i*S	**Sb**	**20 01 33.0**	**+0.8**
KZA	baz=22 **Kyzart**	**2.46**	**294**	⇑*e*P	**Pb**	**20 01 03.8**	**-0.6**
KZA	baz=93			⇑*i*S	**Sb**	**20 01 35.8**	**+0.7**
TKM2	**Tokmak 2**	**2.69**	**313**	Pg	**Pb**	**20 01 06.3**	**-1.7**
TKM2	1.1nm,0.7s			Lg	Lg	20 01 44.1	
	2.3nm,0.7s						

GUC 23 20:03:00.5±0.5, 23°.63S×67°.17W, h254km±7km, ML3.9, 5C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.90**	**302**	*e*P	Pn	20 03 43.9	+1.1
LVC				*i* S	S	20 04 17.8	+1.7
PB15	**IPOC Station P**	**2.15**	**281**	⇓*i*P	Pn	20 03 46.7	+1.7
PB15				*i* S	S	20 04 21.9	+2.0
PB06	**IPOC Station P**	**2.39**	**292**	⇑*i*P	Pn	20 03 49.2	+2.0
PB06				*i* S	S	20 04 26.3	+2.3
PB06				IAML		20 04 28.9	
	comp=N,170nm,0.4s						
PB09	**IPOC Station P**	**2.64**	**313**	*e*P	Pn	20 03 52.5	+2.8
PB03	**IPOC Station P**	**2.85**	**303**	⇑*i*P	Pn	20 03 54.2	+2.3
PB03				*i* S	S	20 04 34.8	+2.3
PB03				IAML		20 04 36.9	
	comp=N,115nm,0.4s						
PB05	**IPOC Station P**	**2.89**	**285**	*e*P	Pn	20 03 54.4	+2.2
PB05				*i* S	S	20 04 35.3	+2.1
PB05				IAML		20 04 39.9	
	comp=E,57nm,0.3s						
PB04	**IPOC Station P**	**3.03**	**295**	⇑*i*P	Pn	20 03 56.2	+2.4
PB04				*i* S	S	20 04 38.6	+2.7
PB04				IAML		20 04 41.5	
	comp=N,135nm,0.4s						
PB07	**IPOC Station P**	**3.14**	**307**	⇑*i*P	Pn	20 03 57.4	+2.4
PB07				*i* S	S	20 04 40.7	+2.6
PB07				IAML		20 04 41.8	
	comp=N,135nm,0.3s						
PB01	**IPOC Station P**	**3.35**	**320**	⇓*i*P	Pn	20 03 59.5	+2.4
PB01				*i* S	S	20 04 44.5	+2.4
PB01				IAML		20 04 47.1	
	comp=E,66nm,0.3s						
PB02	**IPOC Station P**	**3.41**	**312**	*e*P	Pn	20 04 00.3	+2.4
PB02				*i* S	S	20 04 45.8	+2.5
PB02				IAML		20 04 49.1	
	comp=E,90nm,0.3s						
PB08	**IPOC Station P**	**3.93**	**332**	*e*P	Pn	20 04 07.1	+3.0
PB08				*e*S	S	20 04 58.0	+3.4
MNMC	**Minye Minye**	**5.01**	**333**	⇑*i*P	Pn	20 04 19.4	+2.5
MNMC				*i* S	S	20 05 20.1	+2.2

*IDC **23** 20:04:05.4±1.6, 9°.97S×118°.60E, h0km, mb3.6/3, mb1 3.7/8, mb1mx3.5/39, mbtmp3.6/8, ML3.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/31, Error ellipse: s-maj=54.1km s-min=20.1km az=46.0*
*ISCJB **23** 20:04:09.3±0.9, 9°.96S±0°.05×118°.81E±0°.07, h33km, mb3.5/3, MS3.3/1, Error ellipse: s-maj=10.0km s-min=6.3km az=159.6*
*DJA **23** 20:04:13.3±1.0, 10°S±4°×11°9E±°, h18km±10km, M4.1/11, mb4.3/2, MLv3.9/11*

ISC 23 20:04:10.2±0.9, 10°.05S±0°.06×118°.90E±0°.05, h33km, n18, σ2s35/25, mb3.6/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.43**	**75**	P	**Pb**	**20 04 35.9**	**-0.3**
WSI				S	**Sb**	**20 04 53.4**	**-0.7**
PLAI	**Plampang**	**1.65**	**318**	P	**Pb**	**20 04 39.2**	**-0.8**
PLAI				S	**Sb**	**20 05 01.9**	**+1.4**
EDFI	**Ende, Flores**	**3.04**	**65**	P	**Pn**	**20 04 57.0**	**+0.9**
MMRI	**Maumere**	**3.58**	**67**	P	**Pn**	**20 05 04.9**	**+1.4**
BSSI	**Bau Bau, Buton**	**4.19**	**22**	P	**Pn**	**20 05 12.7**	**+0.8**
BSSI				S	**Sn**	**20 05 57.6**	**-2.1**
BATI	**Baumata**	**4.69**	**92**	P	**Pn**	**20 05 21.7**	**+3.0**
BATI	**Baumata**	**4.69**	**92**	Pn	**Pn**	**20 05 21.8**	**+3.1**
	14nm,0.3s,baz=304,slow=3.0,SNR=37						
BATI				Sn	**Sn**	**20 06 12.3**	**+0.3**
	7.5nm,0.3s,baz=235,slow=22,SNR=6.1						
BKSI	**Bulukumba**	**4.85**	**14**	P	**Pn**	**20 05 21.7**	**+0.7**
BKSI				S	**Sn**	**20 06 14.4**	**-1.7**
SOEI	**Soe**	**5.29**	**87**	P	**Pn**	**20 05 29.5**	**+2.4**
	22nm,0.6s,0.1nm						
BNSI	**Bone**	**5.74**	**12**	P	**Pn**	**20 05 35.0**	**+1.8**
BNSI				S	**Sn**	**20 06 38.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**10.32**	**142**	Pn	**Pn**	**20 06 39.7**	**+3.6**
	0.2nm,0.3s,baz=331,slow=10,SNR=15						
FITZ				Sn	**Sn**	**20 08 28.3**	**-2.5**
	0.9nm,0.3s,baz=171,slow=22,SNR=12						
SIJI	**Sorong**	**15.31**	**54**	Pn	**Pn**	**20 07 45.7**	**+1.6**
	0.6nm,0.3s,baz=298,slow=17,SNR=4.6						

WRA	**Warramunga Arr**	**17.84**	**125**	P	**P**	**20 08 18.3**	**+1.7**
	0.1nm,0.3s,baz=301,slow=13,SNR=3.4							
ASAR	**Alice Springs**	**19.70**	**135**	P	**Pn**	**20 08 39.2**	**+0.6**
	0.1nm,0.3s,baz=311,slow=10,SNR=6.1							
ASAR				S	**S**	**20 12 10.5**	**-7.1**
	0.1nm,0.3s,baz=310,slow=22,SNR=2.8							
PSI	**Prapat**	**23.64**	**302**	LR	LR	20 19 44.9		
	comp=Z,93nm,18.4s,baz=300,slow=40							
SONM	**Songino Array**	**58.69**	**350**	P	**P**	**20 14 04.6**	**-0.1**
	0.2nm,0.4s,baz=178,slow=8.3,SNR=3.9							
MKAR	**Makanchi Array**	**65.35**	**333**	P	**P**	**20 14 48.9**	**-0.4**
	0.2nm,0.4s,baz=158,slow=6.2,SNR=5.0							
ZALV	**Zalesovo Beam**	**69.99**	**339**	P	**P**	**20 15 16.3**	**-2.0**
	0.3nm,0.3s,baz=153,slow=8.2,SNR=2.5							

*SJA **23** 20:26:06.7±0.7,28°.95S×71°.61W,h24km±8km, ML3.4, MW4.3*
*ISCJB **23** 20:26:07.2±1.3,29°.08S±0°.05×71°.8W±0°.1,h31km, Error ellipse: s-maj=14.1km s-min=6.5km az=19.1*
*GUC **23** 20:26:08.1±0.7,29°.08S×71°.28W,h77km±18km, ML3.5*

ISC 23 20:26:07.1±2.0,29°.00S±0°.07×71°.8W±0°.1,h31km,n14, σ1°72/20,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.92**	**91**	*i*P	**Pn**	**20 26 22.7**	**-1.4**
LCO				*i*S	**Sn**	**20 26 34.5**	**-1.9**
LCO	**Las Campanas**	**0.92**	**91**	⇓*i*P	**Pn**	**20 26 23.4**	**-0.7**
LCO				*i*S	**Sn**	**20 26 34.3**	**-2.1**
LCO				IAML		20 26 35.5	
	comp=E,2μm,0.1s						
GO04	**Tololo Observa**	**1.43**	**145**	⇓*i*P	**Pn**	**20 26 30.6**	**-0.5**
GO04				*i*S	**Sn**	**20 26 47.5**	**-1.5**
GO04				IAML		20 26 49.5	
	comp=E,3μm,0.4s						
CMCH	**Combarbala**	**2.26**	**164**	*e*P	**Pn**	**20 26 42.5**	**+0.1**
AROD	**Rodeo**	**2.30**	**121**	*i*P	**Pn**	**20 26 45.4**	**+2.2**
ACCO	**Cerro Coronel**	**2.82**	**125**	*i*P	**Pn**	**20 26 53.2**	**+2.9**
AGUA	**GUANDACOL**	**2.89**	**100**	*i*P	**Pn**	**20 26 52.4**	**+1.3**
AMOG	**MOGNA**	**3.42**	**125**	*i*P	**Pn**	**20 27 00.9**	**+2.5**
RTLL	**Cerro Villicun**	**3.66**	**130**	*i*P	**Pn**	**20 27 03.7**	**+2.0**
RTLL				IAML		20 28 07.4	
	comp=N,77nm,0.5s						
ROCH	**El Roble**	**4.01**	**171**	⇑*i*P	**Pn**	**20 27 06.6**	**0.0**
ROCH				*i*S	**Sn**	**20 27 51.3**	**-1.3**
ACLC	**CERRO LA CRUZ**	**4.21**	**97**	*i*P	**Pn**	**20 27 11.6**	**+2.2**
PEL	**Peldehue**	**4.23**	**168**	*i*P	**Pn**	**20 27 09.8**	**+0.3**
PEL				*i*S	**Sn**	**20 27 56.8**	**-1.0**
GO02	**Mina Guanaco**	**4.28**	**27**	*e*P	**Pn**	**20 27 11.6**	**+1.1**
FCH	**Farellones**	**4.49**	**164**	*e*P	**Pn**	**20 27 14.7**	**+1.4**
FCH				*i*S	**Sn**	**20 28 04.4**	**-0.2**

IDC 23 20:29:30.6±1.6,2°.86N×123°.95E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/36,mbtmp3.6/5,Error ellipse: s-maj=133.5km s-min=22.8km az=65.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.89**	**175**	P	P	20 34 14.6	-0.1
	1.5nm,0.5s,baz=6.2,slow=9.0,SNR=7.8						
WRA	**Warramunga Arr**	**24.85**	**156**	P	P	20 34 56.0	+0.9
	0.5nm,0.3s,baz=336,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**28.09**	**160**	P	P	20 35 23.8	-0.5
	0.2nm,0.3s,baz=338,slow=9.6,SNR=9.7						
STKA	**Stephens Creek**	**38.40**	**155**	P	P	20 36 53.2	-0.7
	2.7nm,0.9s,baz=350,slow=11,SNR=4.5						
MKAR	**Makanchi Array**	**56.72**	**327**	P	P	20 39 16.1	-0.1
	0.1nm,0.4s,baz=117,slow=8.9,SNR=3.9						

*NEIC **23** 20:35:02.0±0.0, 15°.94N×96°.67W,h4km,MD4.0(MEX), After MEX.*

MEX 23 20:35:00.9±0.7,15°.82N×96°.58W,h16km±6km,MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**1.25**	**353**	*e*Pg	Pn	20 35 20.1	-3.8
VHO				*e*Sg	Sb	20 35 35.0	-5.2
VHO	**Vista Hermosa**	**1.25**	**353**	*e*P	Pn	20 35 20.2	-3.7
VHO				*e*S	Sb	20 35 34.9	-5.3
PNIG	**Pinotepa**	**1.59**	**291**	*e*Pn	Pn	20 35 24.4	-4.0
PNIG				*e*Sn	Sn	20 35 44.3	-4.4
PNIG	**Pinotepa**	**1.59**	**291**	*e*P	Pn	20 35 24.4	-4.0
PNIG				*e*S	Sn	20 35 44.3	-4.4
TLIG	**Tlapa**	**2.57**	**313**	*e*Pn	Pn	20 35 42.2	+0.2
TLIG				*e*Sn	Sn	20 36 12.6	-0.5
TLIG	**Tlapa**	**2.57**	**313**	*i*P	Pn	20 35 39.8	-2.2
TLIG				*i*S	Sn	20 36 08.7	-4.4
PLIG	**Platanillo**	**3.78**	**313**	*e*Pn	Pn	20 36 03.0	+4.3
PLIG				*e*Sn	Sn	20 36 36.9	-6.0
PLIG	**Platanillo**	**3.78**	**313**	*e*P	Pn	20 35 56.2	-2.5
PLIG				*i*S	Sn	20 36 38.9	-4.1
LVIG	**Laguna Verde**	**3.88**	**2**	*e*Pn	Pn	20 36 00.8	+0.9
CCIG	**Comitan**	**4.30**	**83**	*e*Pn	Pn	20 36 08.9	+3.1
CCIG				*e*Sn	Sn	20 37 00.3	+4.6

*IDC **23** 20:47:00.7±1.6, 10°.28N×93°.66E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/44, mbtmp3.5/6, MS3.5/4, Ms1 3.5/4, ms1mx2.8/52, Error ellipse: s-maj=66.5km s-min=21.6km az=61.0*
*ISCJB **23** 20:47:03.1±1.2, 10°.4N±0°.1×93°.9E±0°.2, h25km, mb3.6/5, MS3.7/3, Error ellipse: s-maj=34.0km s-min=17.5km az=160.4*

ISC 23 20:47:04.8±1.5,10°.3N±0°.2×93°.8E±0°.3,h25km,n10, σ0°21/6,mb3.4/5,MS3.7/3,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.50**	**31**	Pn	**Pn**	**20 49 20.0**	**0.0**
	baz=217,slow=14,SNR=2.5						
BRDH	**Bariadhala**	**12.44**	**351**	LR	LR	20 55 14.7	
	comp=Z,61nm,19.0s,baz=354,slow=40						
MKAR	**Makanchi Array**	**37.62**	**347**	P	**P**	**20 54 17.7**	**+0.2**
	0.2nm,0.5s,baz=155,slow=7.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**44.08**	**352**	P	**P**	**20 55 10.8**	**+0.2**
	0.7nm,0.4s,baz=179,slow=8.6,SNR=4.6						
NWAO	**Narrogin (SRO)**	**48.50**	**153**	LR	LR	21 17 52.0	
	comp=Z,36nm,19.4s,baz=178,slow=38						
WRA	**Warramunga Arr**	**50.01**	**127**	P	**P**	**20 55 57.5**	**0.0**
	0.3nm,0.7s,baz=305,slow=9.0,SNR=4.2						
ASAR	**Alice Springs**	**51.79**	**131**	P	**P**	**20 56 10.9**	**0.0**
	0.3nm,0.8s,baz=309,slow=7.3,SNR=3.8						
STKA	**Stephens Creek**	**62.08**	**134**	LR	LR	21 24 28.1	
	comp=Z,56nm,21.9s,baz=201,slow=36						
ARCES	**ARCESS Array B**	**72.84**	**340**	P	**P**	**20 58 30.8**	**-0.2**
	4.1nm,1.0s,baz=92,slow=6.3,SNR=3.0						
ESDC	**Sonseca Array**	**89.36**	**310**	LR	LR	21 42 47.1	
	comp=Z,67nm,18.3s,baz=300,slow=38						

*IDC **23** 20:52:45.4±4.3, 15°.66S×173°.46W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/29, mbtmp3.8/3, Error ellipse: s-maj=292.4km s-min=28.1km az=150.0*
*NEIC **23** 20:52:48.7±0.6, 15°.48S×173°.70W, h10km, mb4.4/6, Error ellipse: s-maj=12.7km s-min=11.6km az=129.0*
*ISCJB **23** 20:52:50.3±0.7, 15°.49S±0°.08×173°.60W±0°.08, h42km, mb4.0/7, Error ellipse: s-maj=13.1km s-min=9.0km az=36.3*

ISC 23 20:52:52.4±0.8,15°.50S±0°.10×173°.6W±0°.1,h42km,n14, σ0°80/15,mb4.3/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.99**	**136**	*e*Pn	**Pn**	**20 54 05.0**	**+0.1**
NIUE				*e*Sn	**Sn**	**20 55 00.5**	**-0.9**
KNTN	**Kanton**	**12.78**	**9**	*e*Pn	**Pn**	**20 55 52.2**	**+0.6**
DZM	**Mont Dzumac**	**19.99**	**248**	*e*P	**P**	**20 57 21.1**	**-0.4**
	8.7nm,1.0s						
ONTNC	**Ouen Toro**	**20.04**	**247**	*e*P	**P**	**20 57 21.9**	**-0.2**
	43nm,1.1s						
URZ	**Urewera**	**24.11**	**198**	*e*P	**P**	**20 58 05.1**	**+0.9**
	13nm,1.0s						
BKZ	**Black Stump Fm**	**25.13**	**198**	*e*P	**P**	**20 58 14.6**	**+1.0**
	9.5nm,1.1s						
WR1	**Warramunga Arr**	**49.64**	**257**	*e*P	**P**	**21 01 39.4**	**-0.8**
	5.7nm,1.1s						
WRA	**Warramunga Arr**	**49.64**	**257**	P	**P**	**21 01 39.4**	**-0.8**
	0.4nm,0.7s,baz=89,slow=7.0,SNR=13						
AS01	**Alice Springs**	**49.86**	**252**	*e*P	**P**	**21 01 41.0**	**-0.9**
AS31	**Alice Springs**	**49.90**	**252**	*e*P	**P**	**21 01 42.1**	**-0.2**
	0.7nm,0.9s						
ASAR	**Alice Springs**	**49.90**	**252**	P	**P**	**21 01 41.8**	**-0.4**
	2.0nm,0.5s,baz=86,slow=8.1,SNR=42						
NVAR	**Mina Array Bea**	**74.53**	**42**	P	**P**	**21 04 26.5**	**-0.6**
	0.2nm,0.5s,baz=233,slow=8.9,SNR=3.2						
QSPA	**South Pole Qui**	**74.55**	**180**	*e*P	**P**	**21 04 27.9**	**+1.2**
BRTR	**Keskin Array B**	**146.11**	**321**	PKPbc	**PKPbc**	**21 12 27.9**	**-0.5**
	1.8nm,0.8s,baz=76,slow=3.1,SNR=4.5						

*KRNET **23** 21:00:09.6±0.1,43°.13N×77°.08E,h30km,mb2.3*
*SOME **23** 21:00:10.5,43°.02N×77°.22E,h0km*
*NNC **23** 21:00:10.3±0.5,43°.08N×77°.13E,h10km±4km,mb2.5, mpv2.2,Error ellipse: s-maj=6.5km s-min=2.9km az=164.0*
*ISCJB **23** 21:00:11.1±0.5,43°.07N±0°.03×77°.15E±0°.04,h15km±7km, Error ellipse: s-maj=5.7km s-min=4.5km az=144.4*

ISC 23 21:00:10.6±0.8,43°.05N±0°.03×77°.14E±0°.03,h18km±4km, n20,σ0°77/39,9C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDOK	**Medeo**	**0.13**	**328**	⇑P	**Pg**	**21 00 14.2**	**-0.6**
MDOK				⇑S	**Sg**	**21 00 17.1**	**-0.4**
MDOK	**Medeo**	**0.13**	**328**	Pg	**Pg**	**21 00 14.3**	**-0.4**
	8.6nm,0.1s						
MDOK				Lg	Lg	21 00 17.2	
	36nm,0.2s						
MDOK	**Medeo**	**0.13**	**328**	*e*P	**Pg**	**21 00 14.3**	**-0.4**
	baz=28						
MDOK				*e*S	**Sg**	**21 00 17.2**	**-0.4**
	baz=28						
MDOK	**Medeo**	**0.13**	**328**	*e*P	**Pg**	**21 00 14.3**	**-0.4**
	8.6nm,0.1s						
MDOK				*e*S	**Sg**	**21 00 17.1**	**-0.4**
	36nm,0.2s						
TNSS	**Tian-Shan**	**0.14**	**263**	P	**Pg**	**21 00 15.0**	**-0.2**
	27nm,0.1s						
TNSS				S	**Sg**	**21 00 18.2**	**0.0**
	52nm,0.2s						
TNSS	**Tian-Shan**	**0.14**	**263**	*e*P	**Pg**	**21 00 15.0**	**-0.2**
	baz=28						
TNSS				*e*S	**Sg**	**21 00 18.2**	**0.0**
	baz=28						
TNSS	**Tian-Shan**	**0.14**	**263**	*e*P	**Pg**	**21 00 15.0**	**-0.2**
	27nm,0.1s						
TNSS				*e*S	**Sg**	**21 00 18.2**	**0.0**
	52nm,0.2s						
KOTS	**Kotyrbulak**	**0.18**	**353**	P	**Pg**	**21 00 15.1**	**-0.3**
	3.3nm,0.2s						
KOTS				S	**Sg**	**21 00 18.3**	**-0.4**
	37nm,0.3s						
KOTS	**Kotyrbulak**	**0.18**	**353**	*e*P	**Pg**	**21 00 15.1**	**-0.3**
	baz=12						
KOTS				*e*S	**Sg**	**21 00 18.3**	**-0.4**
	baz=12						
KOTS	**Kotyrbulak**	**0.18**	**353**	*e*P	**Pg**	**21 00 15.1**	**-0.3**
	3.3nm,0.2s						
KOTS				*e*S	**Sg**	**21 00 18.3**	**-0.4**
	37nm,0.3s						
KTBS	**Karatobe**	**0.74**	**333**	P	**Pg**	**21 00 24.4**	**-0.7**
	1.5nm,0.1s						
KTBS				S	**Sb**	**21 00 34.3**	**-0.6**
	11nm,0.4s						
KDJ	**Kajisay**	**0.92**	**178**	⇑*i*P	**Pb**	**21 00 29.0**	**+0.8**
	baz=75						
KDJ				⇑*i*S	**Sb**	**21 00 41.7**	**+1.4**
	baz=75						
SATY	**Saty**	**0.93**	**89**	P	**Pg**	**21 00 27.5**	**-1.2**
	0.7nm,0.3s						
SATY				S	**Sg**	**21 00 39.7**	**-1.2**
	5.0nm,0.2s						
DGS	**Degeres**	**1.02**	**281**	P	**Pg**	**21 00 29.7**	**-0.8**
	0.6nm,0.4s						
DGS				S	**Sb**	**21 00 43.3**	**+0.3**
	1.8nm,0.3s						
ULHL	**Ulahol**	**1.05**	**220**	⇑*i*P	**Pg**	**21 00 29.9**	**-1.0**
	baz=15						
ULHL				⇑*i*S	**Sg**	**21 00 44.0**	**-0.7**
	baz=15						
BOOM	**Boomskoye usch**	**1.05**	**238**	⇓*i*P	**Pg**	**21 00 29.3**	**-1.7**
	baz=33						
BOOM				⇓*i*S	**Sg**	**21 00 42.8**	**-2.0**
	baz=33						
TKM2	**Tokmak 2**	**1.14**	**264**	⇑P	**Pn**	**21 00 32.8**	**+0.8**
	0.8nm,0.4s						
TKM2				⇓S	**Sb**	**21 00 47.1**	**+0.5**
	0.6nm,0.3s						
PDGK	**Podgornoye**	**1.74**	**80**	P	**Pb**	**21 00 41.9**	**-0.2**
	0.2nm,0.4s						
PDGK				S	**Sb**	**21 01 04.4**	**+0.7**
	0.7nm,0.6s						
PDGK	**Podgornoye**	**1.74**	**80**	⇓P	**Pn**	**21 00 40.9**	**+0.9**
	0.4nm,0.4s						
PDGK				⇓S	**Sb**	**21 01 03.8**	**+0.2**
	0.6nm,0.3s						
PDGK	**Podgornoye**	**1.74**	**80**	⇑*i*P	**Pn**	**21 00 40.7**	**+0.6**
	baz=83						
PDGK				⇑*i*S	**Sn**	**21 01 02.8**	**+0.9**
	baz=83						

*IDC **23** 21:06:16.5±1.1,37°.49N×22°.03E,h0km,mb3.5/8, mb1 3.5/10,mb1mx3.3/49,mbtmp3.4/10,ML2.6/2,Error ellipse: s-maj=23.4km s-min=20.0km az=71.0*
*ATH **23** 21:06:18.0,37°.56N×22°.05E,h20km,ML3.2/21,Error ellipse: s-maj=0.9km s-min=0.5km az=227.0*
*ISCJB **23** 21:06:18.4±0.3,37°.54N±0°.01×22°.05E±0°.02,h11km±2km, mb3.4/8,Error ellipse: s-maj=2.8km s-min=2.5km az=167.2*
*THE **23** 21:06:18.8,37°.56N×22°.05E,h5km±1km,ML3.2/13,Error ellipse: s-maj=1.1km s-min=0.4km az=257.0*

ISC 23 21:06:18.8±0.8,37°.55N±0°.01×22°.05E±0°.02,h14km±5km, n116,σ0°86/152,mb3.5/8,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIP	**Tripoli**	**0.17**	**97**	P	**Pg**	**21 06 22.8**	**-0.2**
TRIP				S	**Sg**	**21 06 25.9**	**+0.1**
TRIP	**Tripoli**	**0.17**	**97**	P	**Pg**	**21 06 22.7**	**-0.2**
TRIP				S	**Sg**	**21 06 25.8**	**+0.1**
TRIP				AML	AML	21 06 26.2	
	comp=E,44727μm,0.3s						
TRIP				AML	AML	21 06 26.4	
	comp=N,21805μm,0.4s						
AMT	**Artemida-Makis**	**0.27**	**267**	P	**Pg**	**21 06 24.0**	**-0.6**
AMT				S	**Sg**	**21 06 28.2**	**-0.2**
AMT	**Artemida-Makis**	**0.27**	**267**	P	**Pg**	**21 06 23.9**	**-0.6**
AMT				S	**Sg**	**21 06 27.9**	**-0.5**
AMT				AML	AML	21 06 29.1	
	comp=E,13339μm,0.3s						
AMT				AML	AML	21 06 32.2	
	comp=N,23614μm,0.4s						
VLX	**Vlachokerasia**	**0.32**	**124**	P	**Pg**	**21 06 25.0**	**-0.3**
VLX				S	**Sb**	**21 06 30.2**	**-1.1**
VLX	**Vlachokerasia**	**0.32**	**124**	P	**Pg**	**21 06 25.0**	**-0.3**
VLX				S	**Sb**	**21 06 30.2**	**-1.1**
VLX				AML	AML	21 06 33.4	
	comp=N,9849μm,0.5s						
VLX				AML	AML	21 06 33.5	
	comp=E,12303μm,0.5s						
ITM	**Ithomi**	**0.38**	**195**	P	**Pg**	**21 06 26.1**	**-0.4**
ITM				S	**Sg**	**21 06 31.9**	**+0.3**
ITM	**Ithomi**	**0.38**	**195**	P	**Pg**	**21 06 26.0**	**-0.4**
ITM				S	**Sb**	**21 06 32.2**	**-0.9**
ITM				AML	AML	21 06 32.7	
	comp=E,13583μm,0.3s						
ITM				AML	AML	21 06 35.4	
	comp=N,6996μm,0.4s						
MES3	**Kyparissia**	**0.42**	**225**	P	**Pg**	**21 06 26.8**	**-0.5**
MES3				S	**Sg**	**21 06 33.0**	**+0.1**
GUR	**Goura**	**0.45**	**31**	P	**Pg**	**21 06 27.1**	**-0.7**
GUR				S	**Sg**	**21 06 33.3**	**-0.6**
GUR	**Goura**	**0.45**	**31**	P	**Pg**	**21 06 27.0**	**-0.7**
GUR				S	**Sg**	**21 06 33.6**	**-0.2**
GUR				AML	AML	21 06 34.3	
	comp=E,21782μm,0.2s						
GUR				AML	AML	21 06 36.4	
	comp=N,31716μm,0.3s						
DRO	**Drossia**	**0.49**	**326**	P	**Pg**	**21 06 27.9**	**-0.5**
DRO				S	**Sb**	**21 06 34.9**	**-1.3**
DRO	**Drossia**	**0.49**	**326**	P	**Pg**	**21 06 27.9**	**-0.5**
DRO				S	**Sg**	**21 06 34.1**	**-0.8**
DRO				AML	AML	21 06 38.0	
	comp=N,7627μm,0.2s						
DRO				AML	AML	21 06 44.2	
	comp=E,8626μm,0.3s						
KLV	**Kalavryta, Ach**	**0.50**	**9**	P	**Pg**	**21 06 27.8**	**-0.9**
KLV				S	**Sb**	**21 06 36.0**	**-0.7**
KLV	**Kalavryta, Ach**	**0.50**	**9**	P	**Pg**	**21 06 27.7**	**-0.9**
KLV				S	**Sg**	**21 06 35.2**	**-0.2**
KLV				AML	AML	21 06 36.6	
	comp=N,8310μm,0.3s						
KLV				AML	AML	21 06 36.7	
	comp=E,5369μm,0.3s						
RLS	**Riolos of Patr**	**0.69**	**318**	P	**Pg**	**21 06 31.2**	**-1.0**
RLS	**Riolos of Patr**	**0.69**	**318**	P	**Pg**	**21 06 31.2**	**-1.0**
RLS				S	**Sb**	**21 06 41.5**	**-0.4**
RLS				AML	AML	21 06 44.7	
	comp=N,4461μm,0.3s						
RLS				AML	AML	21 06 45.7	
	comp=E,4153μm,0.3s						
LAKA	**Lakka**	**0.69**	**355**	P	**Pg**	**21 06 31.4**	**-0.9**
LAKA				S	**Sg**	**21 06 41.2**	**-0.3**
LAKA	**Lakka**	**0.69**	**355**	P	**Pg**	**21 06 31.2**	**-1.0**
LAKA				S	**Sg**	**21 06 41.1**	**-0.3**
LAKA				AML	AML	21 06 43.2	
	comp=N,3129μm,0.4s						
LAKA				AML	AML	21 06 43.6	
	comp=E,3670μm,0.3s						
PYL	**PYLOS**	**0.70**	**201**	P	**Pg**	**21 06 31.6**	**-0.7**
PYL				S	**Sb**	**21 06 42.1**	**-0.1**
PYL	**PYLOS**	**0.70**	**201**	P	**Pg**	**21 06 31.6**	**-0.7**
PYL				S	**Sb**	**21 06 42.1**	**-0.1**
PYL				AML	AML	21 06 44.2	
	comp=N,4162μm,0.3s						
PYL				AML	AML	21 06 44.7	
	comp=E,2567μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.71**	**4**	P	**Pg**	**21 06 31.6**	**-1.0**
UPR	**University Cam**	**0.76**	**344**	P	**Pb**	**21 06 33.6**	**-0.3**
UPR	**University Cam**	**0.76**	**344**	P	**Pb**	**21 06 33.3**	**-0.5**
MES2	**Methoni**	**0.77**	**201**	P	**Pg**	**21 06 32.9**	**-0.9**
MES2				S	**Sb**	**21 06 44.4**	**+0.1**
MES2				AML	AML	21 06 47.6	
	comp=N,5360μm,0.5s						
MES2				AML	AML	21 06 50.3	
	comp=E,3719μm,0.5s						
VTN	**Vitineika**	**0.78**	**298**	P	**Pb**	**21 06 34.1**	**0.0**
VTN				S	**Sb**	**21 06 44.8**	**+0.2**
VTN	**Vitineika**	**0.78**	**298**	P	**Pg**	**21 06 33.3**	**-0.6**
VTN				S	**Sb**	**21 06 44.7**	**+0.2**
TRIZ	**Trizonia**	**0.82**	**1**	P	**Pg**	**21 06 33.3**	**-1.3**
TRIZ				S	**Sb**	**21 06 45.9**	**+0.2**
TRIZ	**Trizonia**	**0.82**	**1**	P	**Pg**	**21 06 33.3**	**-1.3**
TRIZ				S	**Sb**	**21 06 45.9**	**+0.2**
EPID	**Epidavros**	**0.85**	**85**	P	**Pg**	**21 06 34.5**	**-0.8**
LOUT	**Loutraki**	**0.85**	**59**	P	**Pg**	**21 06 34.5**	**-0.8**
LOUT	**Loutraki**	**0.85**	**59**	P	**Pg**	**21 06 34.5**	**-0.8**
SERG	**Sergoula**	**0.86**	**0**	P	**Pg**	**21 06 34.3**	**-1.2**
SERG				S	**Sb**	**21 06 48.0**	**+0.9**
SERG	**Sergoula**	**0.86**	**0**	P	**Pg**	**21 06 34.3**	**-1.2**
SERG				AML	AML	21 06 49.5	
	comp=E,6890μm,0.3s						
SERG				AML	AML	21 06 49.7	
	comp=N,5567μm,0.2s						
LTK	**Loutraki**	**0.87**	**57**	P	**Pg**	**21 06 34.7**	**-0.8**
LTK				S	**Sb**	**21 06 46.9**	**-0.2**
LTK	**Loutraki**	**0.87**	**57**	P	**Pg**	**21 06 34.5**	**-1.0**
LTK				S	**Sb**	**21 06 47.2**	**0.0**
LTK				AML	AML	21 06 48.6	
	comp=N,3783μm,0.2s						
LTK				AML	AML	21 06 51.3	
	comp=E,2504μm,0.3s						
EFP	**Efpalio**	**0.89**	**353**	P	**Pg**	**21 06 34.9**	**-1.0**
EFP	**Efpalio**	**0.89**	**353**	P	**Pg**	**21 06 34.9**	**-1.0**
EFP				S	**Sb**	**21 06 47.9**	**+0.3**
EFP				AML	AML	21 06 50.7	
	comp=N,3392μm,0.2s						
EFP				AML	AML	21 06 51.3	
	comp=E,2743μm,0.2s						
KRND	**KRANIDI**	**0.89**	**100**	P	**Pb**	**21 06 35.8**	**-0.2**
KRND	**KRANIDI**	**0.89**	**100**	P	**Pg**	**21 06 35.3**	**-0.7**
KRND				S	**Sb**	**21 06 48.0**	**+0.3**
KRND				AML	AML	21 06 53.6	
	comp=N,1674μm,0.3s						
KRND				AML	AML	21 06 55.5	
	comp=E,2482μm,0.4s						
DSF	**Desfina**	**0.94**	**23**	P	**Pg**	**21 06 35.5**	**-1.5**
DSF	**Desfina**	**0.94**	**23**	P	**Pg**	**21 06 35.3**	**-1.6**
DID	**Didima**	**0.94**	**92**	P	**Pb**	**21 06 36.8**	**-0.1**
DID	**Didima**	**0.94**	**92**	P	**Pg**	**21 06 35.9**	**-1.1**
PROD	**Prodromos**	**0.98**	**43**	P	**Pg**	**21 06 36.8**	**-0.9**
PROD	**Prodromos**	**0.98**	**43**	P	**Pg**	**21 06 36.8**	**-0.9**
DLFA	**Delphi**	**0.99**	**21**	P	**Pb**	**21 06 37.3**	**-0.5**
DLFA				S	**Sb**	**21 06 51.6**	**+0.8**
ANX	**Ano Chora**	**1.05**	**354**	P	**Pg**	**21 06 37.6**	**-1.4**
ANX				S	**Sn**	**21 06 54.3**	**+0.6**
ANX	**Ano Chora**	**1.05**	**354**	P	**Pg**	**21 06 37.5**	**-1.6**
ANX				S	**Sb**	**21 06 52.0**	**-0.4**
ANX				AML	AML	21 06 55.9	
	comp=N,3870μm,0.4s						
ANX				AML	AML	21 06 57.3	
	comp=E,3928μm,0.5s						
VLI	**Veliai**	**1.09**	**139**	P	**Pb**	**21 06 39.3**	**-0.1**
VLI	**Veliai**	**1.09**	**139**	P	**Pb**	**21 06 39.3**	**-0.1**
YDRA	**Hydra**	**1.14**	**100**	P	**Pn**	**21 06 40.6**	**+0.2**
PVO	**Paravola**	**1.15**	**339**	P	**Pb**	**21 06 40.0**	**-0.4**
PVO	**Paravola**	**1.15**	**339**	P	**Pb**	**21 06 40.0**	**-0.4**
PVO				AML	AML	21 07 01.5	
	comp=E,1106μm,0.3s						
PVO				AML	AML	21 07 02.8	
	comp=N,1194μm,0.4s						
MNVA	**Monemvasia**	**1.17**	**137**	P	**Pn**	**21 06 41.8**	**+1.1**
VIL2	**Platees**	**1.17**	**55**	P	**Pg**	**21 06 40.1**	**-1.2**
VILL	**Villia**	**1.17**	**58**	P	**Pg**	**21 06 40.1**	**-1.2**
AXAR	**Agios Charalam**	**1.31**	**21**	P	**Pb**	**21 06 44.5**	**+1.4**
VLS	**Valsamata**	**1.32**	**299**	P	**Pb**	**21 06 43.7**	**+0.4**
VLS	**Valsamata**	**1.32**	**299**	P	**

THL	**Klokotos Trika**	**2.01**	**359**	P		**Pn**	**21 06 53.1**	**+0.7**
THL	**Klokotos Trika**	**2.01**	**359**	P		**Pn**	**21 06 53.1**	**+0.7**
XOR	**Xorichti**	**2.02**	**26**	P		**Pn**	**21 06 52.7**	**+0.2**
XOR	**Xorichti**	**2.02**	**26**	P		**Pn**	**21 06 52.7**	**+0.2**
ALNA	**Alonissos**	**2.14**	**41**	P		**Pn**	**21 06 53.9**	**-0.2**
AOS	**Alonnisos**	**2.17**	**41**	P		**Pn**	**21 06 54.3**	**-0.1**
AOS	**Alonnisos**	**2.17**	**41**	P		**Pn**	**21 06 54.4**	**0.0**
KPRO	**Kipourio**	**2.46**	**348**	P		**Pn**	**21 07 00.5**	**+1.9**
KERA	**Keramoti**	**2.49**	**150**	P		**Pn**	**21 07 00.1**	**+1.2**
PAIG	**Paliouri**	**2.69**	**28**	P		**Pn**	**21 07 01.6**	**-0.1**
APE	**Apeiranthos**	**2.81**	**99**	P		**Pn**	**21 07 04.1**	**+0.6**
OUR	**Ouranopolis**	**3.16**	**28**	P		**Pn**	**21 07 08.4**	**+0.3**
IDI	**Anoyia**	**3.21**	**134**	Pn		**Pn**	**21 07 07.7**	**-1.3**
	comp=N,0.4nm,0.3s,baz=280,slow=14,SNR=5.4							
IDI				Sn		**Sn**	**21 07 45.9**	**-1.2**
	comp=N,2.3nm,0.3s,baz=303,slow=18,SNR=3.2							
KRUS	**Krusevo**	**3.87**	**351**	*i* Pn		**Pn**	**21 07 21.7**	**+3.8**
STIP	**Stip**	**4.14**	**1**	*i* Pn		**Pn**	**21 07 25.0**	**+3.4**
BRTR	**Keskin Array B**	**9.32**	**73**	Pn		**Pn**	**21 08 36.1**	**+3.2**
	comp=N,0.1nm,0.3s,baz=257,slow=15,SNR=4.9							
HFS	**Hagfors**	**23.23**	**349**	P		**P**	**21 11 25.1**	**-0.1**
	comp=N,0.8nm,0.4s,baz=156,slow=11,SNR=9.2							
FINES	**FINESS Array B**	**24.05**	**5**	P		**P**	**21 11 33.8**	**+0.6**
	comp=N,0.7nm,0.7s,baz=198,slow=8.7,SNR=4.4							
NB2	**NORSAR Subarra**	**24.49**	**347**	P		**P**	**21 11 37.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=159,slow=10							
NOA	**NORSAR Array B**	**24.49**	**347**	P		**P**	**21 11 37.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=154,slow=9.0,SNR=7.7							
TORD	**Torodi Ar. Bea**	**30.34**	**222**	P		**P**	**21 12 29.7**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=56,slow=9.1,SNR=3.7							
ARCES	**ARCESS Array B**	**32.10**	**2**	P		**P**	**21 12 45.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=199,slow=10,SNR=8.2							
KURBB	**Kurchatov Arra**	**41.63**	**53**	P		**P**	**21 14 05.8**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=279,slow=8.7,SNR=2.8							
MKAR	**Makanchi Array**	**44.60**	**58**	P		**P**	**21 14 30.4**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=272,slow=8.4,SNR=5.9							
ZALV	**Zalesovo Beam**	**45.21**	**48**	P		**P**	**21 14 36.3**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=263,slow=9.3,SNR=3.0							

SJA ***23*** *21:25:01.4±0.6,24.°79S×71.°91W,h40km±34km, ML3.3, MW4.1*
GUC ***23*** *21:25:05.1±0.5,24.°10S×67.°64W,h209km±8km, ML3.5*

ISC 23 21:25:05.2±3.6, 24.°11S±0.°08×67.°6W±0.°2, h219km±28km, n13, σ0s61/25, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB15	**IPOC Station P**	**1.97**	**297**	*i* P		**Pn**	**21 25 45.1**	**0.0**
PB15				*i* S		**S**	**21 26 17.1**	**+1.1**
PB15	**IPOC Station P**	**1.97**	**297**	*e*P		**Pn**	**21 25 45.0**	**-0.1**
PB15				*e*S		**S**	**21 26 15.3**	**-0.7**
GO02	**Mina Guanaco**	**2.12**	**240**	*e*P		**Pn**	**21 25 46.4**	**-0.3**
GO02				*e*S		**S**	**21 26 18.7**	**-0.2**
GO02				IAML			21 26 20.8	
	comp=N,207nm,0.1s							
PB06	**IPOC Station P**	**2.32**	**307**	*i* P		**Pn**	**21 25 48.4**	**-0.2**
PB06				*i* S		**S**	**21 26 23.7**	**+1.5**
PB06	**IPOC Station P**	**2.32**	**307**	⇑*i*P		**Pn**	**21 25 48.8**	**+0.2**
PB06				*e*S		**S**	**21 26 21.6**	**-0.7**
PB06				IAML			21 26 23.1	
	comp=N,136nm,0.1s							
PB14	**IPOC Station P**	**2.64**	**258**	*e*P		**Pn**	**21 25 52.7**	**+0.5**
PB14				*e*S		**S**	**21 26 28.5**	**-0.1**
PB14				IAML			21 26 30.5	
	comp=E,94nm,0.3s							
PB05	**IPOC Station P**	**2.73**	**297**	*e*P		**Pn**	**21 25 53.2**	**+0.2**
PB05				*e*S		**S**	**21 26 29.5**	**-0.6**
PB05				IAML			21 26 31.3	
	comp=E,34nm,0.1s							
PB09	**IPOC Station P**	**2.78**	**326**	*e*P		**Pn**	**21 25 54.2**	**+0.6**
PB09				*e*S		**S**	**21 26 31.2**	**0.0**
PB09				IAML			21 26 32.2	
	comp=E,60nm,0.5s							
PB10	**IPOC Station P**	**2.81**	**282**	*e*P		**Pn**	**21 25 54.3**	**+0.7**
PB10				*e*S		**S**	**21 26 30.9**	**-0.5**
PB03	**IPOC Station P**	**2.88**	**315**	*i* P		**Pn**	**21 25 54.4**	**-0.3**
PB03	**IPOC Station P**	**2.88**	**315**	*e*P		**Pn**	**21 25 55.0**	**+0.2**
PB03				*e*S		**S**	**21 26 32.2**	**-1.0**
PB03				IAML			21 26 34.7	
	comp=E,176nm,0.3s							
PB04	**IPOC Station P**	**2.97**	**306**	*e*P		**Pn**	**21 25 56.1**	**+0.4**
PB04				*e*S		**S**	**21 26 34.7**	**-0.3**
PB04				IAML			21 26 39.1	
	comp=N,79nm,0.1s							
PB02	**IPOC Station P**	**3.52**	**322**	*i* P		**Pn**	**21 26 01.6**	**-0.5**
PB02				*i* S		**S**	**21 26 46.6**	**+0.1**

IDC ***23*** *21:29:24.1±4.7,36.°09N×71.°37E,h94km±30km, mb3.3/6, mb1 3.3/12,mb1mx3.2/47, mbtmp3.6/12, MS3.1/1, Ms1 3.1/1, ms1mx2.3/30, Error ellipse: s-maj=55.7km s-min=23.1km az=148.0*
ISCJB ***23*** *21:29:25.5±0.5,36.°38N±0.°05×71.°19E±0.°08, h100km, mb3.4/5, Error ellipse: s-maj=10.7km s-min=4.0km az=142.9*
NNC ***23*** *21:29:35.8±3.0,37.°03N×71.°18E, h135km±51km, mb3.0, mpv3.7, Error ellipse: s-maj=24.8km s-min=18.1km az=29.0*

ISC 23 21:29:26.1±0.6, 36.°40N±0.°05×71.°15E±0.°06, h100km, n34, σ2s52/44, mb3.3/5, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DHRM	**DHARAMSHALA**	**5.94**	**133**	*e*P		**Pn**	**21 30 56.2**	**+4.5**
DHRM				*e*S		**Sn**	**21 31 59.6**	**+1.1**
DHRM				IAML			21 32 03.7	
	comp=N,116nm,0.1s							
DHRM				IAML			21 32 04.3	
	comp=E,104nm,0.3s							
KK31	**Karatay Array**	**6.71**	**356**	⇑P		**Pn**	**21 31 03.6**	**+1.6**
	comp=E,6.9nm,0.3s,baz=181,slow=13,SNR=334							
KK31				⇑S		**Sn**	**21 32 13.0**	**-4.0**
	comp=E,7.7nm,0.4s,baz=185,slow=25,SNR=11							
AAK	**Ala-Archa**	**6.74**	**21**	⇓P		**Pn**	**21 31 04.5**	**+1.9**
	comp=E,2.8nm,0.6s							
AAK				⇓S		**Sn**	**21 32 13.6**	**-4.3**
	comp=E,15nm,0.6s							
AAK	**Ala-Archa**	**6.74**	**21**	P		**Pn**	**21 31 04.7**	**+2.1**
	comp=E,1.6nm,0.3s,baz=105,slow=2.7,SNR=32							
AAK				S		**Sn**	**21 32 15.6**	**-2.3**
	comp=E,2.0nm,0.3s,baz=122,slow=22,SNR=19							
SMLA	**Simla**	**7.26**	**135**	*e*P		**Pn**	**21 31 13.3**	**+3.8**
SMLA				*e*S		**Sn**	**21 32 29.0**	**-1.3**
SMLA				IAML			21 32 33.8	
	comp=E,47nm,0.2s							
SMLA				IAML			21 32 34.1	
	comp=N,62nm,0.2s							
TKM2	**Tokmak 2**	**7.36**	**26**	⇑P		**Pn**	**21 31 12.9**	**+1.9**
	comp=N,2.5nm,0.8s							
TKM2				⇑S		**Sn**	**21 32 29.9**	**-3.0**
	comp=N,2.8nm,0.6s							
DDI	**Dehra Dun**	**8.37**	**134**	*e*S		**Sn**	**21 32 53.2**	**-4.3**
JOSI	**Joshimath**	**9.12**	**127**	*e*P		**Pn**	**21 31 37.8**	**+2.7**
JOSI				*e*S		**Sn**	**21 33 13.9**	**-2.1**
JOSI				IAML			21 33 15.8	
	comp=E,22nm,0.6s							
KHET	**Khetri**	**9.19**	**153**	*e*S		**Sn**	**21 33 13.3**	**-4.0**
KHET				IAML			21 33 17.1	
	comp=E,17nm,0.4s							
KHET				IAML			21 33 18.3	
	comp=N,15nm,0.3s							
KUDL	**Kundal**	**9.39**	**150**	*e*P		**Pn**	**21 31 39.0**	**+0.6**
KUDL				*e*S		**Sn**	**21 33 15.7**	**-6.5**
GEYT	**Alibeck**	**10.52**	**282**	P		**Pn**	**21 31 55.2**	**+1.4**
	comp=N,0.6nm,0.3s,baz=88,slow=16,SNR=4.4							
GEYT				S		**Sn**	**21 33 47.6**	**-2.0**
	comp=N,0.3nm,0.3s,baz=81,slow=18,SNR=2.7							
PYUN	**Piuthan**	**12.98**	**126**	*e*P		**Pn**	**21 32 26.6**	**-0.4**
	comp=N,7.3nm,0.4s							
MKAR	**Makanchi Array**	**13.30**	**35**	P		**Pn**	**21 32 32.0**	**+1.2**
	comp=N,0.1nm,0.3s,baz=212,slow=14,SNR=4.4							
DANN	**Dangsing**	**13.33**	**123**	*e*P		**Pn**	**21 32 31.6**	**0.0**
	comp=N,11nm,0.4s							
KOLN	**Koldanda**	**13.61**	**126**	*e*P		**Pn**	**21 32 34.0**	**-1.1**
	comp=N,6.4nm,0.6s							
BHPL	**Bhopal**	**14.19**	**156**	*e*P		**P**	**21 32 46.5**	**-0.4**
DMN	**Daman**	**14.72**	**123**	*e*P		**Pn**	**21 32 48.9**	**-0.5**
	comp=N,7.9nm,0.5s							
KKN	**Kakani**	**14.72**	**122**	*e*P		**Pn**	**21 32 49.3**	**-0.2**
	comp=N,4.1nm,0.4s							
PKIN	**Phulchoki**	**14.93**	**122**	*e*P		**Pn**	**21 32 51.6**	**-0.6**
	comp=N,5.3nm,0.4s							
GUN	**Gumba**	**15.06**	**120**	*e*P		**Pn**	**21 32 54.7**	**+0.8**
	comp=N,3.6nm,0.3s							
KURBB	**Kurchatov Arra**	**15.18**	**18**	P		**Pn**	**21 32 54.2**	**-0.6**
	comp=N,0.0nm,0.3s,baz=207,slow=12,SNR=2.7							
AB31	**Akbulak array**	**15.23**	**331**	⇓P		**Pn**	**21 32 55.9**	**+0.3**
	comp=N,0.8nm,0.5s,baz=142,slow=13,SNR=37							
AB31				⇓S		**Sn**	**21 35 38.6**	**-5.0**
	comp=N,1.3nm,0.6s,baz=161,slow=22,SNR=8.6							
JIRN	**Jiri**	**15.43**	**120**	*e*P		**Pn**	**21 32 59.7**	**+1.1**
	comp=N,30nm,0.6s							
RAMN	**Ramite**	**16.16**	**121**	*e*P		**Pn**	**21 33 06.6**	**-1.0**
BVAR	**Borovoye Array**	**16.63**	**358**	P		**Pn**	**21 33 13.4**	**+0.5**
	comp=N,0.2nm,0.3s,baz=151,slow=11,SNR=4.9							
AKTO	**Aktyubinsk**	**16.93**	**330**	⇓P		**P**	**21 33 19.3**	**+2.3**
	comp=N,1.4nm,0.8s							
AKTO				⇑S		**Sn**	**21 36 20.9**	**-3.6**
	comp=N,4.7nm,0.9s							
AKTO	**Aktyubinsk**	**16.93**	**330**	P		**P**	**21 33 19.2**	**+2.3**
	comp=N,0.4nm,0.3s,baz=133,slow=7.6,SNR=5.8							
ZALV	**Zalesovo Beam**	**19.95**	**24**	P		**P**	**21 33 50.0**	**0.0**
	comp=N,2.3nm,0.3s,baz=212,slow=10,SNR=7.8							
BRDH	**Bariadhala**	**22.41**	**122**	LR		LR	21 44 35.6	
	comp=N,56nm,20.3s,baz=173,slow=41							
FINES	**FINESS Array B**	**37.63**	**326**	P		**P**	**21 36 32.8**	**+1.8**
	comp=N,0.4nm,0.3s,baz=130,slow=5.6,SNR=6.8							
ARCES	**ARCESS Array B**	**41.28**	**338**	P		**P**	**21 37 03.0**	**+1.9**
	comp=N,2.3nm,0.8s,baz=120,slow=8.9,SNR=5.5							
NOA	**NORSAR Array B**	**44.53**	**323**	P		**P**	**21 37 28.4**	**+0.9**
	comp=N,0.1nm,0.3s,baz=101,slow=7.3,SNR=5.1							
TORD	**Torodi Ar. Bea**	**65.84**	**269**	P		**P**	**21 40 00.6**	**-0.5**
	comp=N,0.2nm,0.5s,baz=98,slow=6.5,SNR=3.1							
YKA	**Yellowknife Ar**	**81.34**	**3**	P		**P**	**21 41 31.7**	**+0.7**
	comp=N,0.2nm,0.4s,baz=353,slow=5.6,SNR=6.2							

IDC 23 21:40:29.8±5.3, 50.°43N×113.°57W, h0km, mb1 3.6/1, mb1mx2.9/38, mbtmp3.3/1, ML3.2/1, Error ellipse: s-maj=89.3km s-min=41.1km az=77.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I56US	**NEWPORT INFRAS**	**3.18**	**228**	*i*			21 58 30.0	
	baz=47,slow=332,SNR=0.8							
I10CA	**LAC DU BONNET**	**11.22**	**84**	*i*			22 56 10.0	
	baz=274,slow=382,SNR=1.4							
YKA	**Yellowknife Ar**	**12.11**	**358**	Pn		Pn	21 43 19.8	-3.6
	0.2nm,0.3s,baz=178,slow=13,SNR=11							
YKA				Sn		Sn	21 45 28.3	-11
	0.1nm,0.3s,baz=177,slow=23,SNR=4.7							
YKA				Lg		Lg	21 46 45.5	
	0.0nm,0.3s,baz=175,slow=27,SNR=2.9							

DJA 23 21:44:45.0±0.8, 10.°5S±8.°×11.°6E±.°, h41km±178km, M3.9/10, MLv3.9/10, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DNP	**Denpasar**	**1.71**	**330**	P		Pn	21 45 12.8	+0.5
DNP				S		Sn	21 45 33.6	+0.7
PLAI	**Plampang**	**2.15**	**52**	P		Pn	21 45 17.3	-1.1
PLAI				S		Sn	21 45 44.5	+0.7
SRBI	**Singaraja**	**2.24**	**338**	P		Pn	21 45 19.4	-0.2
JAGI	**Jajag, Banyuwa**	**2.54**	**312**	P		Pn	21 45 23.3	-0.4
JAGI				S		Sn	21 45 53.0	-0.4
GMJI	**Gumukmas**	**3.21**	**306**	P		Pn	21 45 33.1	+0.2
BLJI	**Banyuglugur**	**3.43**	**314**	P		Pn	21 45 36.7	+0.7

IDC 23 22:33:14.7±2.0, 6.°36S×150.°28E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, ML1.2/1, Error ellipse: s-maj=125.9km s-min=23.5km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.33**	**225**	Pn		Pn	22 34 22.0	+0.2
	0.9nm,0.3s,baz=270,slow=19,SNR=2.2							
PMG				Sn		Sn	22 35 12.7	-0.3
	2.0nm,0.3s,baz=324,slow=17,SNR=3.3							
WRA	**Warramunga Arr**	**20.54**	**227**	P		P	22 37 54.9	-0.2
	0.6nm,0.5s,baz=52,slow=10,SNR=8.3							
ASAR	**Alice Springs**	**23.33**	**221**	P		P	22 38 23.8	-0.9
	0.3nm,0.4s,baz=56,slow=8.4,SNR=8.1							
ILAR	**Eielson Array**	**84.54**	**23**	P		P	22 45 49.2	-0.2
	0.3nm,0.7s,baz=244,slow=5.6,SNR=2.9							
TORD	**Torodi Ar. Bea**	**148.34**	**285**	PKPbc		PKPbc	22 53 04.5	+0.4
	0.4nm,0.8s,baz=82,slow=2.9,SNR=2.4							

ISCJB ***23*** *22:37:32.0±0.2, 15.°93S±0.°04×72.°07W±0.°06, h10km, mb4.5/38, MS4.0/10, Error ellipse: s-maj=9.3km s-min=3.8km az=148.7*
IDC ***23*** *22:37:31.5±0.7, 15.°86S×71.°74W, h0km, mb4.2/10, mb1 4.4/15, mb1mx4.2/30, mbtmp4.2/15, ML3.9/5, MS4.0/14, Ms1 3.9/14, ms1mx3.7/26, Error ellipse: s-maj=25.9km s-min=17.0km az=58.0*
NEIC ***23*** *22:37:35.8±1.9, 15.°89S×71.°85W, h26km±14km, mb4.7/30, ML4.6(ARE), Error ellipse: s-maj=9.7km s-min=6.0km az=66.0*
NEIC Felt [III] at Maca and [II] at Madrigal.
VAO ***23*** *22:37:36.8±0.4, 16.°00S×71.°78W, h10km, mb4.3*

ISC 23 22:37:34.0±0.4, 15.°89S±0.°06×71.°94W±0.°07, h10km, n104, σ1s46/97, mb4.7/38, MS4.0/11, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I08BO	**LAS PENAS INFR**	**3.37**	**96**	*i*			22 59 30.0	
	baz=278,slow=320,SNR=0.8							
LPAZ	**La Paz**	**3.68**	**97**	*e*Pn		**Pn**	**22 38 33.0**	**+1.3**
LPAZ	**La Paz**	**3.68**	**97**	Pn		**Pn**	**22 38 32.4**	**+0.7**
	1.2nm,0.3s,baz=267,slow=12,SNR=24							
LPAZ	**La Paz**	**3.68**	**97**	*e*P		**Pn**	**22 38 32.0**	**+0.4**
MNMC	**Minye Minye**	**3.92**	**146**	*e*Pn		**Pn**	**22 38 35.2**	**+0.6**
PB11	**IPOC Station P**	**4.42**	**151**	*e*Pn		**Pn**	**22 38 41.7**	**+0.3**
PB01	**IPOC Station P**	**5.63**	**156**	*e*Pn		**Pn**	**22 38 58.8**	**+0.8**
NNA	**Nana**	**6.14**	**309**	*e*Pn		**Pn**	**22 39 05.5**	**+0.6**
NNA	**Nana**	**6.14**	**309**	Pn		**Pn**	**22 39 07.0**	**+2.1**
	2.5nm,0.3s,baz=129,slow=7.2,SNR=8.4							
NNA				LR		LR	22 41 41.5	
	comp=Z,2μm,18.0s,baz=146,slow=40							
PB04	**IPOC Station P**	**6.63**	**165**	*e*Pn		**Pn**	**22 39 10.0**	**-1.8**
LVC	**Limon Verde**	**7.27**	**157**	Pn		**Pn**	**22 39 20.3**	**-0.5**
	3.5nm,0.3s,baz=329,slow=8.7,SNR=35							
LVC				Sn		**Sn**	**22 40 44.3**	**+0.7**
	4.7nm,0.3s,baz=66,slow=23,SNR=7.0							
LVC				LR		LR	22 42 30.4	
	comp=Z,2μm,20.6s,baz=324,slow=41							
LVC	**Limon Verde**	**7.27**	**157**	*e*P		**Pn**	**22 39 22.1**	**+1.3**
PB10	**IPOC Station P**	**7.70**	**170**	*e*Pn		**Pn**	**22 39 25.4**	**-0.8**
GO02	**Mina Guanaco**	**9.49**	**167**	*e*Pn		**Pn**	**22 39 49.9**	**-1.2**
SIV	**San Ignacio**	**10.45**	**92**	Pn		**Pn**	**22 40 01.4**	**-2.7**
	0.7nm,0.3s,baz=277,slow=14,SNR=13							
SIV				LR		LR	22 44 15.2	
	comp=E,651nm,18.1s,baz=282,slow=39							
LCO	**Las Campanas**	**13.11**	**175**	*e*Pn		**Pn**	**22 40 41.0**	**+0.3**
LCO	**Las Campanas**	**13.11**	**175**	*e*P		**Pn**	**22 40 41.0**	**+0.3**
GO04	**Tololo Observa**	**14.26**	**176**	*e*Pn		**Pn**	**22 40 56.6**	**+0.3**
CFA	**Coronel Fontan**	**16.01**	**168**	Pn		**Pn**	**22 41 16.4**	**-3.0**
	0.5nm,0.3s,baz=332,slow=11,SNR=2.9							
AQDB	**Aquidauana**	**16.09**	**109**	*e*P		**Pn**	**22 41 22.6**	**+2.1**
CPUP	**Villa Florida**	**17.12**	**130**	LR		LR	22 49 23.0	
	comp=Z,560nm,19.5s,baz=314,slow=42							
OTAV	**Otavalo**	**17.26**	**338**	*e*Pn		**Pn**	**22 41 35.8**	**-0.1**
	98nm,1.9s							
OTAV	**Otavalo**	**17.26**	**338**	*e*P		**P**	**22 41 40.4**	**+3.0**
PTGA	**Pitinga**	**19.14**	**39**	*e*P		**P**	**22 41 56.6**	**-1.0**
	10nm,0.9s							
PTGA	**Pitinga**	**19.14**	**39**	P		**P**	**22 41 53.8**	**-3.8**
	0.5nm,0.3s,baz=216,slow=12,SNR=8.1							
TRCB	**Terra Rica**	**19.46**	**114**	*e*P		**Pn**	**22 42 02.7**	**+0.4**
ITRB	**Iturama**	**20.89**	**104**	*e*P		**P**	**22 42 17.0**	**+0.3**
ITAB	**Concordia**	**21.57**	**125**	*e*P		**P**	**22 42 23.9**	**0.0**
CPSB	**Cacapava Do Su**	**22.27**	**134**	*e*P		**P**	**22 42 31.8**	**+0.3**
FRTB	**Fartura**	**22.33**	**113**	*e*P		**P**	**22 42 32.3**	**+0.1**
BB19B	**Bebedouro**	**22.78**	**107**	*e*P		**P**	**22 42 37.7**	**+0.7**
PLTB	**Pereas Altas**	**22.99**	**137**	*e*P		**P**	**22 42 39.7**	**+0.7**
BDFB	**Brasilia**	**23.03**	**93**	LR		LR	22 51 44.4	
	comp=Z,188nm,19.7s,baz=280,slow=37							
PEXB	**Peixe**	**23.24**	**84**	*e*P		**P**	**22 42 42.2**	**+0.5**
CNLB	**Canela**	**23.56**	**128**	*e*P		**P**	**22 42 44.8**	**-0.1**
GO06	**Curarrehue**	**23.61**	**179**	*e*P		**P**	**22 42 45.1**	**-0.3**
	19nm,1.4s							
RCLB	**Rio Claro- Sao**	**23.94**	**110**	*e*P		**P**	**22 42 48.4**	**-0.2**
PLCA	**Paso Flores**	**24.79**	**177**	*e*P		**P**	**22 42 56.2**	**0.0**
	27nm,1.2s							
PLCA	**Paso Flores**	**24.79**	**177**	P		**P**	**22 42 54.1**	**-2.1**
	14nm,1.1s,baz=0.0,slow=10,SNR=4.9							
BSCB	**Bom Sucesso**	**26.25**	**105**	*e*P		**P**	**22 43 12.0**	**+2.3**
LNIG	**Linares**	**48.62**	**326**	*e*P		**P**	**22 46 17.6**	**-0.6**
	20nm,1.5s							
X43A	**Marvell**	**53.27**	**340**	*e*P		**P**	**22 46 53.2**	**+0.2**
	25nm,0.8s							
MIAR	**Mount Ida**	**54.21**	**338**	*e*P		**P**	**22 46 59.0**	**-1.0**
	6.0nm,0.8s							
TXAR	**Lajitas Array**	**54.40**	**326**	P		**P**	**22 47 00.6**	**-1.0**
	1.3nm,0.7s,baz=149,slow=8.0,SNR=8.9							
TXAR				LR		LR	23 07 59.0	
	comp=Z,94nm,20.8s,baz=0.0,slow=34							
TX31	**Lajitas Ar. Si**	**54.40**	**326**	*e*P		**P**	**22 47 00.8**	**-0.8**
X37A	**Clayton**	**54.92**	**336**	*e*P		**P**	**22 47 05.3**	**+0.1**
	26nm,1.3s							
ABTX	**Abilene, Hawle**	**55.04**	**331**	*e*P		**P**	**22 47 05.4**	**-0.7**
	19nm,1.2s							
TUL1	**Leonard**	**56.25**	**337**	*e*P		**P**	**22 47 14.1**	**-0.6**
	12nm,1.1s							
SDCO	**Great Sand Dun**	**61.98**	**330**	*e*P		**P**	**22 47 54.0**	**-0.8**
	17nm,1.4s							
X16A	**Lo Mia Camp, P**	**62.56**	**324**	*e*P		**P**	**22 47 58.1**	**-0.5**
	4.3nm,1.1s							
E44A	**Grand Marais A**	**63.48**	**349**	*e*P		**P**	**22 48 02.9**	**-1.3**
	146nm,1.0s							
ECSD	**EROS Data Cent**	**63.48**	**340**	*e*P		**P**	**22 48 03.8**	**-0.5**
	11nm,1.4s							
ISCO	**Idaho Springs**	**63.67**	**332**	*e*P		**P**	**22 48 04.9**	**-1.1**
	8.9nm,1.6s							
SMCO	**Snowmass**	**63.82**	**330**	*e*P		**P**	**22 48 07.4**	**+0.3**
	4.3nm,0.9s							
U15A	**North Rim**	**64.50**	**325**	*e*P		**P**	**22 48 12.5**	**+1.1**
	20nm,2.0s							
KNB	**Kanab**	**65.21**	**325**	*e*P		**P**	**22 48 17.1**	**+1.1**
	8.5nm,1.2s							
CCUT	**Cedar City**	**65.90**	**325**	*e*P		**P**	**22 48 20.6**	**+0.1**
	3.4nm,1.0s							
SHPR	**Sheep Range**	**66.18**	**323**	*e*P		**P**	**22 48 21.5**	**-0.7**
	5.0nm,1.2s							
PSUT	**Pine Spring**	**66.87**	**325**	*e*P		**P**	**22 48 26.6**	**-0.1**
	3.8nm,1.0s							
TPNV	**Topopah Spring**	**67.12**	**323**	*e*P		**P**	**22 48 27.7**	**-0.5**
	7.1nm,1.2s							
AGMN	**Agassiz Nation**	**67.37**	**343**	*e*P		**P**	**22 48 28.4**	**-1.0**
	6.0nm,1.0s							
DUG	**Dugway, Tooele**	**67.51**	**327**	*e*P		**P**	**22 48 30.9**	**+0.2**
	4.6nm,1.0s							
R11A	**Troy Canyon, C**	**67.70**	**324**	*e*P		**P**	**22 48 32.6**	**+0.7**
	2.1nm,1.0s							
PDAR	**Pinedale Array**	**67.84**	**331**	*e*P		**P**	**22 48 32.9**	**+0.2**
PDAR	**Pinedale Array**	**67.84**	**331**	P		**P**	**22 48 31.2**	**-1.5**
	0.6nm,0.7s,baz=130,slow=6.6,SNR=4.8							
PDAR				LR		LR	23 20 02.7	
	comp=Z,99nm,20.9s,baz=122,slow=38							
ULM	**Lac du Bonnet**	**69.14**	**344**	P		**P**	**22 48 39.0**	**-1.5**
	5.7nm,1.1s,baz=146,slow=9.4,SNR=2.7							
ULM				LR		LR	23 21 03.3	
	comp=Z,78nm,19.9s,baz=144,slow=38							
MOOW	**Moose Ponds**	**69.15**	**331**	*e*P		**P**	**22 48 40.9**	**0.0**
	8.1nm,1.8s							
NVAR	**Mina Array Bea**	**69.32**	**323**	P		**P**	**22 48 41.9**	**-0.2**
	1.0nm,0.8s,baz=178,slow=8.6,SNR=4.4							
FLWY	**Flagg Ranch**	**69.38**	**331**	*e*P		**P**	**22 48 42.4**	**+0.1**
	7.1nm,1.0s							
YHH	**

GRPR			A	A	22 47 28.0	
	336nm,0.3s					
GRPR			A	A	22 47 28.0	
	358nm,0.3s					
NEM2	**Nemuro 2**	**1.16 256**	P	**Pn**	**22 47 12.7**	**+0.2**
NEM2			*e*S	**Sn**	**22 47 25.8**	**-1.7**
JRA	**Rausu**	**1.59 281**	P	**Pn**	**22 47 19.3**	**+1.1**
JRA			*e*S	**Sn**	**22 47 37.9**	**+0.1**
KUR	**Kuril'sk**	**1.62 15**	*e*P	Pn	22 47 18.0	-0.7
KUR			*e*S	**Sn**	**22 47 37.0**	**-1.6**
KUR			A	A	22 47 42.0	
	63nm,0.2s					
KUR			A	A	22 47 42.0	
	137nm,0.2s					
JKHN	**Kushirohamanak**	**1.66 250**	P	**Pn**	**22 47 19.8**	**+0.7**
JKHN			*e*S	**Sn**	**22 47 37.6**	**-1.7**
JNK	**Nakash**	**1.87 268**	P	**Pn**	**22 47 22.5**	**+0.5**
JAK	**Akkeshi**	**2.00 251**	P	**Pn**	**22 47 24.5**	**+0.7**
JAK			*e*S	**Sn**	**22 47 46.6**	**-1.2**
JTKR	**Abashiri--Toko**	**2.47 278**	P	**Pn**	**22 47 31.8**	**+1.7**
JAR	**Ashorobuto**	**2.59 263**	P	**Pn**	**22 47 33.1**	**+1.3**
JAR			*e*S	**Sn**	**22 48 01.5**	**-0.5**
JOB	**Onbets**	**2.63 254**	P	**Pn**	**22 47 33.7**	**+1.3**

*ISCJB **23** 22:57:07.3±0.7, 11°.6N±0°.1×141°.9E±0°.1, h49km, mb3.8/9, MS2.7/1, Error ellipse: s-maj=20.4km s-min=9.9km az=142.5*

*IDC **23** 22:57:11.8±2.9, 11°.59N×142°.10E, h77km±26km, mb3.5/8, mb1 3.8/8, mb1mx3.4/46, mbtmp3.8/8, MS2.7/1, Ms1 2.9/1, ms1mx2.4/21, Error ellipse: s-maj=26.0km s-min=16.5km az=111.0*

ISC 23 22:57:08.9±0.8, 11°.6N±0°.2×141°.9E±0°.1, h49km, n13, σ1°28/13, mb3.7/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.52**	**55**	P	**Pn**	**22 58 02.9**	**+1.7**
	105nm,0.3s,baz=201,slow=2.1,SNR=53						
GUMO				S	**Sn**	**22 58 41.1**	**-0.5**
	89nm,0.3s,baz=156,slow=23,SNR=7.8						
WRA	**Warramunga Arr**	**32.20**	**193**	P	**P**	**23 03 32.6**	**+0.1**
	0.9nm,0.7s,baz=97,slow=9.6,SNR=9.7						
ASAR	**Alice Springs**	**35.90**	**193**	P	**P**	**23 04 05.1**	**+0.5**
	0.4nm,0.8s,baz=20,slow=15,SNR=4.8						
CMAR	**Chiang Mai Arr**	**41.96**	**285**	LR	LR	23 22 13.2	
	comp=Z,10nm,19.4s,baz=145,slow=36						
SONM	**Songino Array**	**46.77**	**328**	PcP	**PcP**	**23 07 06.7**	**+0.4**
	0.3nm,0.4s,baz=141,slow=3.6,SNR=2.1						
MKAR	**Makanchi Array**	**60.94**	**317**	P	**P**	**23 07 18.3**	**+1.2**
	0.1nm,0.5s,baz=80,slow=7.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**64.30**	**321**	P	**P**	**23 07 40.3**	**+1.0**
	0.3nm,0.5s,baz=107,slow=7.4,SNR=3.1						
BVAR	**Borovoye Array**	**69.71**	**322**	P	**P**	**23 08 14.3**	**+0.7**
	0.3nm,0.5s,baz=95,slow=4.6,SNR=2.6						
ILAR	**Eielson Array**	**71.61**	**25**	P	**P**	**23 08 24.3**	**-0.7**
	1.8nm,0.6s,baz=247,slow=6.0,SNR=46						
YKA	**Yellowknife Ar**	**85.96**	**27**	P	**P**	**23 09 41.1**	**-2.6**
	0.3nm,0.5s,baz=289,slow=5.2,SNR=6.8						
NVAR	**Mina Array Bea**	**90.43**	**51**	P	**P**	**23 10 06.4**	**+0.6**
	0.5nm,0.6s,baz=258,slow=4.5,SNR=3.0						
FINES	**FINESS Array B**	**91.72**	**334**	P	**P**	**23 10 09.7**	**-1.3**
	0.7nm,0.4s,baz=66,slow=5.3,SNR=7.2						
LPAZ	**La Paz**	**150.51**	**103**	PKPbc	**PKPbc**	**23 16 56.2**	**-0.8**
	1.0nm,0.5s,baz=5.0,slow=5.6,SNR=5.2						

*IDC **24** 00:17:51.4±6.2, 51°.80N×174°.36W, h0km, mb3.4/3, mb1 3.9/5, mb1mx3.4/37, mbtmp3.6/5, ML3.8/2, Error ellipse: s-maj=118.0km s-min=55.6km az=96.0*

*ISCJB **24** 00:17:58.0±0.6, 52°.1N±0°.2×175°.2W±0°.1, h92km±5km, mb3.4/3, Error ellipse: s-maj=38.9km s-min=4.9km az=165.9*

*NEIC **24** 00:17:58.7±0.0, 52°.19N×175°.26W, h81km, ML3.6(AEIC), After AEIC.*

ISC 24 00:17:58.8±0.9, 52°.1N±0°.2×175°.22W±0°.07, h85km±7km, n34, σ0§98/36, mb3.5/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSIG	**Igitkin Island**	**0.46**	**251**	P	**Pn**	**00 18 12.4**	**-0.3**
GSTR	**Great Sitkin T**	**0.52**	**265**	P	**Pn**	**00 18 13.5**	**+0.4**
GSMY	**Great Sitkin M**	**0.52**	**260**	P	**Pn**	**00 18 13.2**	**0.0**
GSMY				S	**Sn**	**00 18 24.5**	**+0.6**
GSTD	**Great Sitkin T**	**0.57**	**262**	P	**Pn**	**00 18 13.8**	**+0.1**
GSTD				S	**Sn**	**00 18 25.4**	**+0.6**
GSSP	**Great Sitkin S**	**0.59**	**266**	P	**Pn**	**00 18 14.1**	**+0.4**
KOWE	**Korovin West**	**0.64**	**69**	P	**Pn**	**00 18 14.5**	**+0.2**
KOKL	**Mount Kliuchef**	**0.66**	**73**	P	**Pn**	**00 18 14.5**	**+0.1**
KOKL				S	**Sn**	**00 18 26.1**	**0.0**
KOFP	**Korovin Flat P**	**0.71**	**78**	P	**Pn**	**00 18 14.7**	**-0.3**
ETKA	**Kagalaska Isla**	**0.78**	**250**	P	**Pn**	**00 18 15.5**	**-0.1**
ETKA				S	**Sn**	**00 18 28.7**	**+0.4**
ADAG	**Mount Adagdak**	**0.87**	**260**	P	**Pn**	**00 18 17.1**	**+0.6**
ADK	**Adak**	**0.94**	**255**	P	**Pn**	**00 18 17.6**	**+0.2**
ADK				S	**Sn**	**00 18 32.0**	**+0.8**
KIRH	**Kanaga Island**	**1.18**	**259**	P	**Pn**	**00 18 20.9**	**+0.7**
KINC	**Kanaga Island**	**1.20**	**261**	P	**Pn**	**00 18 21.0**	**+0.6**
KIKV	**Kanaga Island**	**1.23**	**259**	P	**Pn**	**00 18 21.4**	**+0.5**
KIKV				S	**Sn**	**00 18 39.1**	**+1.6**
KIMD	**Kanaga Island**	**1.30**	**254**	P	**Pn**	**00 18 22.1**	**+0.4**
TAFP	**Tanaga Falls P**	**1.72**	**263**	P	**Pn**	**00 18 27.9**	**+0.7**
TAFP				S	**Sn**	**00 18 49.6**	**+0.9**
TASE	**Tanaga Southea**	**1.77**	**261**	P	**Pn**	**00 18 28.6**	**+0.8**
GAEA	**Gareloi East**	**2.21**	**262**	P	**Pn**	**00 18 33.6**	**+0.1**
GALAA	**Gareloi Lava P**	**2.23**	**262**	P	**Pn**	**00 18 33.9**	**+0.1**
NIKH	**Nikolski High**	**3.98**	**75**	P	**Pn**	**00 18 57.7**	**+0.4**
NIKH				S	**Sn**	**00 19 45.5**	**+2.8**
MREP	**Makushin Rep't**	**5.39**	**69**	P	**Pn**	**00 19 17.6**	**+1.0**
MSW	**Makushin Switc**	**5.40**	**67**	P	**Pn**	**00 19 17.9**	**+1.2**
UNV	**Unalaska Valle**	**5.54**	**69**	P	**Pn**	**00 19 20.1**	**+1.5**
KDAK	**Kodiak Island**	**14.14**	**58**	Pn	**Pn**	**00 21 11.9**	**-2.9**
	0.6nm,0.3s,baz=260,slow=8.6,SNR=11						
ILAR	**Eielson Array**	**19.27**	**38**	P	**Pn**	**00 22 17.4**	**-0.6**
	0.2nm,0.3s,baz=229,slow=11,SNR=26						
YKA	**Yellowknife Ar**	**33.09**	**48**	P	**P**	**00 24 25.8**	**-0.2**
	0.1nm,0.3s,baz=279,slow=9.3,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**35.23**	**210**	T	T	01 01 35.9	
	baz=18,slow=76,SNR=19						
H11N3	**WAKE ISLAND Hy**	**35.24**	**210**	T	T	01 01 46.2	
	baz=18,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**35.25**	**210**	T	T	01 01 38.6	
	baz=18,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**36.44**	**210**	T	T	01 03 41.0	
	baz=19,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**36.46**	**210**	T	T	01 03 47.0	
	baz=19,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**36.46**	**210**	T	T	01 03 45.0	
	baz=19,slow=76,SNR=6.6						
PDAR	**Pinedale Array**	**43.96**	**75**	P	**P**	**00 25 57.8**	**+0.3**
	0.4nm,0.5s,baz=337,slow=2.4,SNR=6.0						
TXAR	**Lajitas Array**	**56.35**	**84**	P	**P**	**00 27 30.0**	**-1.0**
	0.6nm,0.7s,baz=321,slow=6.9,SNR=3.8						

*IDC **24** 00:47:26.5±0.9, 7°.66S×154°.93E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.2/30, mbtmp4.2/15, MS3.4/5, Ms1 3.4/5, ms1mx3.0/25, Error ellipse: s-maj=30.8km s-min=16.2km az=110.0*

*ISCJB **24** 00:47:30.0±0.4, 7°.62S±0°.08×154°.81E±0°.10, h31km, mb4.5/29, MS3.4/4, Error ellipse: s-maj=14.9km s-min=9.2km az=31.6*

*NEIC **24** 00:47:32.1±1.9, 7°.67S×154°.85E, h36km±16km, mb4.7/7, Error ellipse: s-maj=14.6km s-min=6.9km az=113.0*

ISC 24 00:47:31.4±0.8, 7°.7S±0°.1×154°.9E±0°.2, h31km, n45, σ0§75/42, mb4.5/29, MS3.4/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.39**	**322**	*e*Pn	**Pn**	**00 48 36.4**	**+0.5**
DZM	**Mont Dzumac**	**18.14**	**143**	LR	LR	00 57 40.8	
	comp=Z,86nm,21.1s,baz=213,slow=34						
WR1	**Warramunga Arr**	**23.33**	**236**	*e*P	**P**	**00 52 36.7**	**-0.5**
	27nm,1.9s						
WRA	**Warramunga Arr**	**23.33**	**236**	P	**P**	**00 52 36.7**	**-0.5**
	2.2nm,0.8s,baz=60,slow=9.1,SNR=20						
GUMO	**Guam**	**23.35**	**335**	LR	LR	01 00 47.0	
	comp=Z,32nm,18.9s,baz=77,slow=34						
AS31	**Alice Springs**	**25.63**	**229**	*e*P	**P**	**00 52 58.5**	**+0.1**
	2.3nm,1.4s						
ASAR	**Alice Springs**	**25.63**	**229**	P	**P**	**00 52 58.5**	**+0.1**
	1.4nm,0.6s,baz=60,slow=9.5,SNR=23						
STKA	**Stephens Creek**	**27.07**	**205**	P	**P**	**00 53 11.8**	**+0.5**
	3.6nm,0.6s,baz=32,slow=13,SNR=6.5						
STKA				LR	LR	01 04 06.6	
	comp=Z,107nm,18.1s,baz=5.7,slow=37						
MJAR	**Matsushiro Arr**	**46.68**	**341**	P	**P**	**00 55 55.3**	**-2.0**
	2.0nm,0.8s,baz=171,slow=8.4,SNR=7.5						
MAJO	**Matsushiro**	**46.69**	**341**	*e*P	**P**	**00 55 55.3**	**-2.0**
ASAJ	**Asahikawa**	**52.73**	**349**	P	**P**	**00 56 43.4**	**+0.2**
	9.1nm,0.8s,baz=90,slow=20,SNR=4.0						
USRK	**Ussuriysk Ar.**	**55.63**	**340**	P	**P**	**00 57 04.3**	**0.0**
	3.6nm,1.0s,baz=141,slow=9.3,SNR=3.5						
PEA0B	**Petropavlovsk-**	**60.60**	**2**	*e*P	**P**	**00 57 39.4**	**+0.4**
	164nm,1.6s						
PETK	**Petropavlovsk-**	**60.60**	**2**	*e*P	**P**	**00 57 39.5**	**+0.6**
PETK	**Petropavlovsk-**	**60.60**	**2**	P	**P**	**00 57 39.0**	**+0.1**
	3.1nm,0.6s,baz=151,slow=9.0,SNR=7.8						
PETK				LR	LR	01 25 21.0	
	comp=Z,27nm,18.0s,baz=83,slow=38						
PEA1	**Petropavlovsk-**	**60.60**	**2**	*e*P	**P**	**00 57 39.0**	**0.0**
CMAR	**Chiang Mai Arr**	**60.97**	**296**	P	**P**	**00 57 43.1**	**+0.9**
	0.7nm,0.4s,baz=114,slow=4.2,SNR=4.4						
SONA0	**Songino Array**	**69.84**	**327**	*e*P	**P**	**00 58 39.8**	**+0.6**
SONM	**Songino Array**	**69.84**	**327**	P	**P**	**00 58 39.8**	**+0.6**
	2.0nm,0.7s,baz=142,slow=7.1,SNR=8.0						
SVW2	**Sparrevohn**	**78.67**	**22**	*e*P	**P**	**00 59 31.4**	**+1.1**
	28nm,1.7s						
SUA	**Susita One**	**80.75**	**23**	*e*P	**P**	**00 59 41.4**	**-0.2**
	7.1nm,0.6s						
RC01	**Rabbit Creek A**	**80.94**	**24**	*e*P	**P**	**00 59 42.8**	**+0.3**
	73nm,2.0s						
CAST	**Castle Rocks**	**81.40**	**21**	*e*P	**P**	**00 59 45.0**	**0.0**
	4.3nm,0.8s						
TRF	**Thorofare Moun**	**82.07**	**22**	*e*P	**P**	**00 59 49.1**	**+0.4**
	41nm,1.9s						
BPAW	**Bear Paw Mtn.**	**82.20**	**21**	*e*P	**P**	**00 59 49.3**	**+0.2**
	26nm,1.9s						
QSPA	**South Pole Qui**	**82.30**	**180**	P	**P**	**00 59 49.3**	**-0.6**
	1.0nm,0.9s,baz=333,slow=15,SNR=6.7						
IM3	**Indian Mountai**	**82.41**	**19**	*e*P	**P**	**00 59 50.4**	**+0.3**
RND	**Reindeer**	**82.58**	**22**	*e*P	**P**	**00 59 51.4**	**+0.2**
	38nm,1.9s						
MCK	**McKinley**	**82.73**	**22**	*e*P	**P**	**00 59 51.5**	**-0.5**
	14nm,1.2s						
MLY	**Manley**	**82.83**	**20**	*e*P	**P**	**00 59 52.8**	**+0.3**
	23nm,2.0s						
DHY	**Denali Highway**	**82.96**	**23**	*e*P	**P**	**00 59 53.7**	**+0.4**
	23nm,1.7s						
MK32	**Makanchi Array**	**83.83**	**319**	*e*P	**P**	**00 59 58.4**	**+0.4**
MKAR	**Makanchi Array**	**83.83**	**319**	P	**P**	**00 59 58.4**	**+0.4**
	2.5nm,0.7s,baz=108,slow=5.4,SNR=33						
MAKZ	**Makanchi**	**84.04**	**319**	*e*P	**P**	**00 59 59.2**	**+0.2**
	3.6nm,0.8s						
IL1	**Eielson Array**	**84.05**	**21**	*e*P	**P**	**00 59 57.5**	**-1.2**
ILAR	**Eielson Array**	**84.05**	**21**	P	**P**	**00 59 57.5**	**-1.2**
	2.1nm,0.9s,baz=243,slow=5.3,SNR=17						
ILB	**Eielson Array**	**84.05**	**21**	*e*P	**P**	**00 59 57.5**	**-1.2**
	5.6nm,1.1s						
ZALV	**Zalesovo Beam**	**84.67**	**326**	*e*P	**P**	**01 00 01.2**	**-0.9**
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	**P**	**01 00 01.3**	**-0.8**
	1.7nm,0.5s,baz=115,slow=4.9,SNR=8.4						
ZAA1	**Zalesovo Array**	**84.67**	**326**	*e*P	**P**	**01 00 01.3**	**-0.8**
NV01	**Mina Array Sit**	**92.24**	**52**	*e*P	**P**	**01 00 38.3**	**-0.6**
NVAR	**Mina Array Bea**	**92.24**	**52**	P	**P**	**01 00 39.6**	**+0.7**
	1.1nm,0.7s,baz=257,slow=5.7,SNR=7.2						
YKA	**Yellowknife Ar**	**96.99**	**28**	P	**P**	**01 01 00.3**	**+0.5**
	0.1nm,0.4s,baz=266,slow=4.6,SNR=7.6						
YKB5	**Yellowknife Ar**	**96.99**	**28**	*e*P	**P**	**01 01 00.3**	**+0.5**
SNAA	**Sanae**	**99.45**	**187**	LR	LR	01 44 42.8	
	comp=Z,53nm,18.0s,baz=340,slow=34						

PGC 24 01:30:03.5±0.0, 61°.49N×140°.64W, h1km, ML2.3/11, 186km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.30**	**17**	P	Pg	01 30 08.6	-0.8
YUK3				S	Sg	01 30 13.1	-0.2
YUK2	**White River**	**0.32**	**343**	P	Pg	01 30 09.1	-0.5
YUK2				S	Sg	01 30 14.1	+0.4
CTGM	**Chitina Glacie**	**0.62**	**213**	P	Pg	01 30 14.4	-0.9
CTGM				S	Sg	01 30 23.2	-0.2
PTPK	**Patty Peak**	**0.93**	**252**	P	Pg	01 30 20.0	-1.3
PTPK				S	Sg	01 30 33.1	-0.1
BALM	**Baldy**	**0.94**	**242**	P	Pg	01 30 20.0	-1.4
BALM				S	Sg	01 30 33.4	-0.2
BVCY	**Beaver Creek**	**0.94**	**354**	P	Pg	01 30 20.1	-1.4
BVCY				S	Sg	01 30 33.1	-0.5
YUK4	**Talbot Arm**	**0.97**	**97**	P	Pg	01 30 21.2	-0.9
YUK4				S	Sg	01 30 34.8	+0.2
KIAG	**Kiagna River**	**1.00**	**237**	P	Pg	01 30 21.2	-1.4
KIAG				S	Sg	01 30 35.3	-0.4
YUK6	**Outpost Mounta**	**1.23**	**115**	P	Pg	01 30 25.0	-2.0
YUK6				S	Sg	01 30 42.6	-0.4
RKAV	**Rock Avalanche**	**1.24**	**196**	P	Pg	01 30 25.4	-1.8
RKAV				S	Sg	01 30 42.0	-1.1
SAMH	**Samovar Hills**	**1.36**	**183**	Pn	Pg	01 30 28.4	-1.1
SAMH				Sg	Sn	01 30 48.8	+0.4
YUK5	**Granite Creek**	**1.39**	**104**	Pn	Pg	01 30 28.5	-1.5
YUK5				Sn	Sb	01 30 48.7	+0.1
MESA	**MESA**	**1.46**	**207**	Pn	Pn	01 30 30.5	-0.7
MESA				Sn	Sg	01 30 49.5	-0.7
YUK7	**Dusty Glacier**	**1.55**	**127**	Pn	Pn	01 30 31.2	-1.2
YUK7				Sn	Sg	01 30 52.4	-0.8
HYT	**Haines Junctio**	**1.66**	**112**	Pn	Pn	01 30 32.9	-0.9
HYT				Sn	Sn	01 30 55.1	-0.7
PNL	**Peninsula**	**1.92**	**161**	Pn	Pn	01 30 37.1	-0.2
HARP	**HAARP**	**2.33**	**295**	Pn	Pn	01 30 44.2	+1.4
HARP				Sg	Sg	01 31 18.3	+0.2
DIV	**Divide**	**2.50**	**264**	Pn	Pn	01 30 47.2	+1.9
DAWY	**Dawson**	**2.65**	**12**	Pn	Pn	01 30 46.2	-1.2
DAWY				Sg	Sb	01 31 25.1	+0.2
DOT	**Dot Lake**	**2.69**	**325**	Pn	Pn	01 30 46.5	-1.3
DOT				Sg	Sb	01 31 26.5	+0.7
WHY	**Whitehorse**	**2.92**	**104**	Pn	Pn	01 30 49.6	-1.5
WHY				Pg	Pb	01 30 56.5	+0.1
WHY				Sn	Sn	01 31 26.2	-0.7
WHY				Sg	Sb	01 31 34.8	+2.3
PLBC	**Pleasant Camp**	**2.94**	**132**	Pg	Pb	01 30 55.1	-1.5
PLBC				Sg	Sg	01 31 36.1	-1.6

*IDC **24** 01:35:48.9±0.5, 6°.69S×148°.49E, h0km, mb4.4/27, mb1 4.5/32, mb1mx4.4/51, mbtmp4.4/32, ML3.6/2, MS4.7/22, Ms1 4.7/22, ms1mx4.5/37, Error ellipse: s-maj=14.6km s-min=8.3km az=115.0*

*GCMT **24** 01:35:52.7±0.2, 6°.76S±0°.01×148°.66E±0°.01, h12km, MW5.0/92, Moment Tensor Solution. s40,c49; s92,c143; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.43±.11; Mθθ3.36±.09; Mφφ-4.80±.09; Mrθ-0.53±.30; Mrφ1.73±.10; Mθφ1.64±.28; Best double couple: M₀4.65100×10^16 NP1:φs123.00000°, δ84.00000°, λ-14.00000°. NP2: φs215.00000°, δ76.00000°, λ-174.00000°. Principal axes: T 3.7310, Plg6.0000°, Azm170.0000°; N 1.8300, Plg75.0000°, Azm281.0000°; P -5.5710, Plg14.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*ISCJB **24** 01:35:54.1±0.2, 6°.79S±0°.03×148°.47E±0°.03, h47km, mb4.9/110, MS4.7/35 Error ellipse: s-maj=4.9km s-min=4.0km az=25.1*

*MOS **24** 01:35:54.7±1.1, 6°.74S×148°.22E, h49km, mb5.1/33, MS4.9/5, Error ellipse: s-maj=10.4km s-min=6.4km az=96.7*

*DJA **24** 01:35:55.8±1.1, 7°.5S±6°×14°.9E±°, h59km±6km, M5.2/30, mb5.1/30, mB5.7/21, MLv5.0/1, Mw(mB)5.2/21*

*NEIC **24** 01:35:55.7±0.5, 6°.79S×148°.40E, h48km±4km, mb5.0/57, Error ellipse: s-maj=4.5km s-min=3.6km az=99.0*

*BJI **24** 01:35:57.6, 6°.81S×148°.32E, h59km, mb4.8/44, mB5.0/33, Ms4.9/31, Ms7 4.7/30*

ISC 24 01:35:56.0±0.3, 6°.80S±0°.04×148°.51E±0°.05, h47km, n346, σ3§13/337, mb4.9/109, MS4.8/35, 10C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.92**	**207**	*ce*P	**Pn**	**01 36 39.1**	**-0.9**
PMG				pmax	pmax		
	comp=Z,3μm,2.5s						
PMG	**Port Moresby**	**2.92**	**207**	Pn	**Pn**	**01 36 39.3**	**-0.6**
	comp=Z,12nm,0.3s,baz=9.6,slow=9.0,SNR=49						
PMG				Sn	**Sn**	**01 37 16.8**	**+3.0**
	comp=Z,83nm,0.3s,baz=204,slow=17,SNR=9.0						
RABL	**Rabaul**	**4.46**	**55**	*e*Pn	**Pn**	**01 37 01.4**	**+0.2**
MANU	**Manus Island**	**4.86**	**346**	*e*Pn	**Pn**	**01 37 08.1**	**+1.5**
COEN	**Coen**	**8.84**	**216**	P	**Pn**	**01 38 00.3**	**-0.9**
	baz=8.8,SNR=8.1						
COEN	**Coen**	**8.84**	**216**	*e*Pn	**Pn**	**01 38 01.1**	**-0.2**
JAY	**Jayapura**	**8.86**	**298**	P	**Pn**	**01 38 03.7**	**+2.1**
	comp=Z,305nm,1.3s,comp=Z,7μm						
JAY	**Jayapura**	**8.86**	**298**	Pn	**Pn**	**01 37 57.8**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=29,slow=15,SNR=3.1						
GENI	**Genyem**	**9.30**	**296**	P	**Pn**	**01 38 10.9**	**+3.3**
	comp=Z,99nm,1.5s,comp=Z,3μm						
CTA	**Charters Tower**	**13.39**	**189**	P	**Pn**	**01 39 03.0**	**-0.6**
CTA	**Charters Tower**	**13.39**	**189**	Pn	**Pn**	**01 39 03.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=9.7,slow=14,SNR=7.5						
CTA				LR	LR	01 44 13.8	
	comp=Z,5μm,19.1s,baz=9.0,slow=37						
CTAO	**Charters Tower**	**13.39**	**189**	*e*Pn	**Pn**	**01 39 02.9**	**-0.6**
CTAO	**Charters Tower**	**13.39**	**189**	*e*P	**Pn**	**01 39 02.9**	**-0.6**
QIS	**Mount Isa**	**16.18**	**211**	P	**Pn**	**01 39 39.9**	**-0.3**
	baz=16,SNR=9.9						
FAKI	**Fak Fak**	**16.65**	**283**	*e*Pn	**Pn**	**01 39 46.3**	**+0.1**
	comp=Z,180nm,1.6s						
FAKI	**Fak Fak**	**16.65**	**283**	P	**P**	**01 39 50.2**	**+2.1**
	comp=Z,68nm,1.4s,comp=Z,1μm						
KDU	**Kakadu**	**16.85**	**248**	P	**P**	**01 39 50.2**	**-0.1**
	baz=17,SNR=4.3						
SAUI	**Saumlaki**	**17.11**	**265**	P	**P**	**01 39 54.5**	**+1.4**
MTN	**Manton Dam**	**18.14**	**249**	P	**P**	**01 40 04.5**	**+0.1**
	baz=18,SNR=4.7						
SIJI	**Sorong**	**18.18**	**288**	P	**P**	**01 40 03.0**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=62,slow=6.1,SNR=5.6						
SIJI				LR	LR	01 48 57.0	
	comp=Z,5μm,19.1s,baz=81,slow=44						
EIDS	**Eidsvold**	**18.63**	**173**	P	**P**	**01 40 09.4**	**-0.5**
	baz=18,SNR=5.6						
EIDS	**Eidsvold**	**18.63**	**173**	*e*P	**P**	**01 40 08.7**	**-1.1**
	comp=Z,31nm,1.1s						
BNDI	**Bandanaira**	**18.65**	**276**	P	**Pn**	**01 40 11.1**	**+0.3**
WRAB	**Tennant Creek**	**18.96**	**225**	*e*P	**P**	**01 40 12.3**	**-1.2**
	comp=Z,8.3nm,0.4s						
WRAB	**Tennant Creek**	**18.96**	**225**	*i* P	**P**	**01 40 12.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,13nm,1.7s						
WRA	**Warramunga Arr**	**18.97**	**225**	P	**P**	**01 40 12.5**	**-1.1**
	comp=Z,2.9nm,0.3s,baz=53,slow=11,SNR=52						
WRA				S	**S**	**01 43 48.2**	**+1.4**
	baz=48,slow=21,SNR=7.4						
WRA				LR	LR	01 48 28.9	
	comp=Z,4μm,18.3s,baz=50,slow=40						
RMQ	**Roma**	**19.58**	**179**	P	**P**	**01 40 20.7**	**+0.4**
	baz=20,SNR=9.9						
GUMO	**Guam**	**20.57**	**350**	LR	LR	01 48 03.3	
	comp=Z,757nm,19.0s,baz=160,slow=36						
KNRA	**Kununurra**	**21.27**	**244**	P	**P**	**01 40 38.2**	**-0.4**
	baz=21,SNR=9.8						
AS01	**Alice Springs**	**21.84**	**218**	*e*P	**P**	**01 40 43.2**	**-1.5**
AS31	**Alice Springs**	**21.87**	**218**	*e*P	**P**	**01 40 44.1**	**-0.9**
	comp=Z,16nm,0.6s						
ASAR	**Alice Springs**	**21.87**	**218**	P	**P**	**01 40 44.5**	**-0.5**
	comp=Z,20nm,0.6s,baz=54,slow=9.5,SNR=112						
ASAR				S	**S**	**01 44 47.1**	**+2.8**
	comp=Z,5.8nm,1.0s,baz=34,slow=21,SNR=5.4						
SANI	**Sanana**	**22.94**	**281**	P	**P**	**01 40 54.2**	**-2.2**
DZM	**Mont Dzumac**	**23.03**	**133**	*e*LR	LR	01 46 36.8	
	comp=Z,4μm,21.9s						
DZM	**Mont Dzumac**	**23.03**	**133**	P	**P**	**01 40 57.1**	**-0.3**
	comp=Z,24nm,1.2s,baz=261,slow=19,SNR=2.8						
DZM				LR	LR	01 48 30.3	
	comp=Z,3μm,19.9s,baz=324,slow=33						
ARMA	**Armidale**	**23.68**	**173**	P	**P**	**01 41 02.3**	**-1.3**
	baz=24,SNR=3.9						
ARMA	**Armidale**	**23.68**	**173**	*e*P	**P**	**01 41 02.3**	**-1.3**
	comp=Z,88nm,1.8s						
SOEI	**Soe**	**24.16**	**261**	*e*P	**P**	**01 41 07.1**	**-1.1**
	comp=Z,591nm,1.7s						
SOEI	**Soe**	**24.16**	**261**	P	**P**	**01 41 08.4**	**+0.1**
	comp=Z,92nm,1.2s,comp=Z,3μm						
CMSA	**Cobar Meteorol**	**24.76**	**186**	P	**P**	**01 41 12.8**	**-0.5**
	baz=25,SNR=6.8				

comp=Z,31nm,1.3s
KASI Kota Agung 43.77 269 P **P** **01 43 57.9 +0.5**
comp=Z,92nm,1.1s,comp=Z,1µm
MDSI Maura Dua 44.16 271 P **P** **01 43 59.9 -0.7**
comp=Z,50nm,1.2s,comp=Z,515nm
MJAR Matsushiro Arr 44.18 348 P **P** **01 43 56.8 -3.6**
comp=Z,4.9nm,1.1s,baz=178,slow=10,SNR=7.7
MJAR LR LR 02 00 39.7
comp=Z,523nm,18.7s,baz=165,slow=34
MAJO Matsushiro 44.18 348 *e*P **P** **01 43 59.0 -1.4**
comp=Z,23nm,0.8s
MAJO Matsushiro 44.18 348 *e*P **P** **01 43 59.0 -1.4**
MAJO pmax pmax
comp=Z,23nm,0.8s
MAT Matsushiro 44.18 348 P **P** **01 43 58.2 -2.2**
MAT S **S** **01 50 28.6 -1.8**
MJB9 Matsu-Tunnel 44.18 348 *e*P **P** **01 43 59.4 -1.0**
comp=Z,23nm,0.8s
LWLI Liwa 44.24 270 P P 01 44 09.1 +7.7
TPRI Tanjung Pinang 44.55 278 P **P** **01 44 04.9 +1.2**
comp=Z,140nm,1.1s,comp=Z,25µm
LHSI Lahat 44.88 271 P P 01 44 13.1 +6.8
QIZ Qiongzhong 45.94 305 P **P** **01 44 14.6 0.0**
QIZ S **S** **01 50 54.8 -1.5**
QIZ LR LR
comp=Z,460nm,17.6s
QIZ LR LR
comp=Z,310nm,20.5s
QIZ LR LR
comp=Z,620nm,20.8s
KGM Kluang 45.95 279 P **P** **01 44 15.9 +1.1**
KTGM Kuala Trenggan 46.86 284 P **P** **01 44 22.7 +0.8**
KRJI Kerinci 47.12 273 P **P** **01 44 22.5 -1.6**
FRIM Kepong 47.85 281 P **P** **01 44 30.5 +0.8**
NJ2 Nanjing 47.87 325 *e*P **P** **01 44 29.1 -0.4**
NJ2 pmax pmax
comp=Z,13nm,0.5s
KSRS Korea Array 48.04 338 P **P** **01 44 28.6 -2.1**
comp=Z,2.2nm,0.8s,baz=156,slow=9.8,SNR=7.0
KSRS LR LR 02 04 19.9
comp=Z,819nm,18.0s,baz=163,slow=36
KSAR Wonju Array Be 48.04 338 P **P** **01 44 28.6 -2.1**
KSAR Wonju Array Be 48.04 338 P **P** **01 44 28.6 -2.1**
KS01 Wonju Array Si 48.07 338 *e*P **P** **01 44 29.6 -1.3**
MCQ Macquarie Isla 48.31 172 P **P** **01 44 33.3 +0.8**
baz=48,SNR=4.5
MCQ Macquarie Isla 48.31 172 *e*P **P** **01 44 32.8 +0.3**
comp=Z,740nm,1.9s
MCQ Macquarie Isla 48.31 172 *e*P **P** **01 44 32.8 +0.3**
KULM Kulim 49.25 283 P **P** **01 44 40.6 +0.2**
SKLT Songkhla 49.74 285 P P 01 44 52.0 +7.8
comp=Z,32nm,1.2s,comp=Z,974nm
SKNT Sakolnakorn 49.95 299 P **P** **01 44 48.7 +3.0**
comp=Z,6.2nm,1.2s
PSI Prapat 50.40 279 *e*P **P** **01 44 48.1 -1.3**
comp=Z,90nm,1.4s
PSI Prapat 50.40 279 *e*P **P** **01 44 48.1 -1.3**
PSI pmax pmax
comp=Z,90nm,1.4s
PSI Prapat 50.40 279 P **P** **01 44 48.7 -0.6**
comp=Z,26nm,1.2s,baz=179,slow=2.5,SNR=16
PSI LR LR 02 10 52.3
comp=Z,446nm,18.7s,baz=92,slow=42
GSI Gunungsitoli 51.46 277 *e*P **P** **01 44 56.1 -1.0**
comp=Z,136nm,1.3s
KUR Kuril'sk 51.79 359 *i* P **P** **01 44 58.9 -0.1**
GYA Guiyang 52.33 311 *e*P **P** **01 45 05.3 +1.7**
GYA pmax pmax
comp=Z,10.0nm,1.0s
USA0B Ussuriysk Arra 52.91 345 *e*P **P** **01 45 07.3 0.0**
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 52.91 345 *e*P **P** **01 45 07.3 0.0**
USA0B pmax pmax
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 52.91 345 P **P** **01 45 05.5 -1.9**
comp=Z,1.3nm,0.6s,baz=179,slow=6.4,SNR=4.4
YSS Yuzh-Sakhalins 53.76 355 *e*P **P** **01 45 12.3 -1.2**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=Z,600nm,16.0s
MDJ Mudanjiang 53.94 343 *e*P **P** **01 45 14.1 -0.8**
comp=Z,18nm,1.0s
CN2 Changchun 54.51 340 *e*P **P** **01 45 23.8 +4.7**
CN2 *e*S **S** **01 52 57.1 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,530nm,17.0s
CN2 LR LR
comp=Z,440nm,17.0s
CN2 LR LR
comp=Z,550nm,16.0s
XMAS Kiritimati 54.65 83 *e*P **P** **01 45 22.4 +1.7**
comp=Z,203nm,1.4s
KMI Kunming 54.67 307 P **P** **01 45 22.3 +1.4**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.1s
KMI LR LR
comp=Z,230nm,15.1s
KMI LR LR
comp=Z,360nm,18.5s
KMI LR LR
comp=Z,540nm,20.3s
CM01 Chiang Mai Arr 54.92 298 *e*P **P** **01 45 21.8 -0.7**
CMAR Chiang Mai Arr 54.94 298 P **P** **01 45 22.2 -0.5**
comp=Z,0.6nm,0.3s,baz=129,slow=5.9,SNR=3.2
CMAR LR LR 02 07 35.1
comp=Z,286nm,21.4s,baz=124,slow=35
XAN Xi'an 55.25 320 P **P** **01 45 28.8 +4.1**
XAN pmax pmax
comp=Z,12nm,1.1s
XAN pmax pmax
comp=Z,73nm,3.5s
XAN LR LR
comp=Z,550nm,18.3s
XAN LR LR
comp=Z,210nm,22.4s
XAN LR LR
comp=Z,530nm,19.3s
CD2 Chengdu 56.90 314 P **P** **01 45 36.3 -0.3**
CD2 S **S** **01 53 26.9 -0.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,290nm,5.4s
CD2 LR LR
comp=Z,1µm,18.1s
CD2 LR LR
comp=Z,2µm,18.6s
CD2 LR LR
comp=Z,2µm,18.1s
KLR Kul'dur 57.68 347 *i* P **P** **01 45 40.7 -0.9**
KLR Kul'dur 57.68 347 P **P** **01 45 40.5 -1.1**
comp=Z,5.8nm,1.2s,baz=142,slow=5.1,SNR=5.3
HHC Hu-ho-hao-te 58.30 328 *e*P **P** **01 45 49.0 +2.7**
HHC pP sP 01 46 00.8 -2.4
HHC S **S** **01 53 50.4 +5.0**
HHC sS sS 01 54 15.8 +9.3
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.9s
HHC LR LR
comp=Z,450nm,20.7s
HHC LR LR
comp=Z,430nm,18.1s
HHC LR LR
comp=Z,810nm,17.3s
LZH Lanzhou 59.79 319 *e*P P 01 46 02.8 +6.0
LZH pP pwP 01 46 18.8 +4.6
LZH sP sP 01 46 25.8 +12
LZH PP **PP** **01 48 14.5 +5.3**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.6s
LZH LR LR
comp=Z,590nm,15.7s
LZH LR LR
comp=Z,490nm,14.3s
LZH LR LR
comp=Z,730nm,16.1s
PETK Petropavlovsk- 60.18 6 P **P** **01 45 57.7 -1.2**
comp=Z,1.3nm,0.6s,baz=187,slow=8.6,SNR=2.5
PETK LR LR 02 08 34.8
comp=Z,430nm,21.7s,baz=181,slow=33
HIA Hailar 61.22 339 *e*P **P** **01 46 06.4 +0.3**
HIA Hailar 61.22 339 *i* P **P** **01 46 05.5 -0.6**
HIA pmax pmax
comp=Z,11nm,1.1s
PPT Papeete 61.23 106 LR LR 02 09 32.0
comp=Z,175nm,19.4s,baz=257,slow=33
PPT2 Papeete2 61.23 106 *e*S **S** **01 54 25.0 +1.1**
comp=Z,293nm,29.0s
PPT2 *e*LQ LQ 02 01 50.0
comp=Z,822nm,29.0s
PPT2 *e*LR LR 02 04 24.6
comp=Z,692nm,24.2s
TBI Tubuai 61.68 113 *e*S **S** **01 54 30.2 +0.9**
comp=Z,725nm,26.2s
TBI *e*LQ LQ 02 01 53.9
comp=Z,591nm,26.8s
TBI *e*LR LR 02 04 32.4
comp=Z,630nm,35.2s
ZEA Zeya 62.92 346 *e*P **P** **01 46 16.6 -0.7**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,24nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA MLR MLR
comp=Z,700nm,16.0s
ZEA MLR MLR
comp=N,700nm,16.0s
GTA Gaotai 64.31 320 P P 01 46 32.4 +5.4
GTA pP pwP 01 46 49.4 +4.8
GTA pmax pmax
comp=N,7.0nm,1.1s
GTA pmax pmax
comp=N,120nm,5.9s
GTA LR LR
comp=N,250nm,17.9s
GTA LR LR
comp=N,230nm,21.3s
GTA LR LR
comp=N,290nm,19.2s
CASY Casey 64.90 196 *e*P **P** **01 46 29.2 -1.0**
comp=N,12nm,0.6s
ULN Ulaanbaatar 65.53 331 *e*P **P** **01 46 33.6 -1.2**
comp=N,9.0nm,1.1s
ULN Ulaanbaatar 65.53 331 *ce*P **P** **01 46 32.8 -2.0**
ULN pmax pmax
comp=Z,2.0nm,1.1s
SONM Songino Array 65.83 330 P **P** **01 46 35.6 -1.0**
comp=Z,2.0nm,1.0s,baz=148,slow=5.3,SNR=13
SONM LR LR 02 15 53.8
comp=Z,709nm,18.7s,baz=129,slow=37
LSA Lhasa 65.91 307 *e*P **P** **01 46 37.2 -0.8**
comp=Z,9.4nm,0.6s
LSA Lhasa 65.91 307 *e*P **P** **01 46 37.2 -0.8**
LSA pmax pmax
comp=Z,9.0nm,0.6s
ZAK Zakamensk 69.06 331 *e*P **P** **01 46 55.1 -1.9**
ZAK pmax pmax
comp=Z,11nm,1.1s
PALK Pallekele 69.06 280 *e*P **P** **01 46 56.7 -1.0**
comp=Z,30nm,1.0s
PALK Pallekele 69.06 280 *e*P **P** **01 46 56.7 -1.0**
PALK pmax pmax
comp=Z,30nm,1.0s
PALK Pallekele 69.06 280 P **P** **01 46 58.3 +0.6**
comp=Z,7.3nm,0.9s,baz=114,slow=1.9,SNR=4.5
JIRN Jiri 69.21 303 *e*P **P** **01 46 58.0 -0.8**
GUN Gumba 69.55 303 *e*P **P** **01 47 00.3 -0.6**
comp=Z,56nm,1.2s
SEY Seymchan 69.59 2 P **P** **01 46 59.1 -0.8**
comp=Z,0.4nm,0.2s,baz=163,slow=20,SNR=2.0
TLY Talaya 69.74 332 *e*P P 01 47 07.1 +6.0
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,1µm,19.0s
PKIN Phulchoki 69.85 303 *e*P **P** **01 47 01.5 -1.1**
comp=Z,24nm,1.1s
DMN Daman 70.10 302 *e*P **P** **01 47 03.7 -0.4**
comp=Z,47nm,1.0s
BOD Bodaibo 70.20 341 *e*P **P** **01 47 00.8 -3.0**
MOY Mondy 70.99 331 *e*P P 01 47 14.0 +5.2
MOY pmax pmax
comp=Z,14nm,2.0s
VNDA Vanda 71.04 177 *e*P **P** **01 47 08.8 +0.2**
comp=Z,6.3nm,0.9s
VNDA Vanda 71.04 177 *e*P **P** **01 47 08.8 +0.2**
VNDA pmax pmax
comp=Z,6.0nm,0.9s
VNDA Vanda 71.04 177 P **P** **01 47 08.8 +0.2**
comp=Z,0.9nm,0.6s,baz=340,slow=7.5,SNR=11
VNDA LR LR 02 14 50.4
comp=Z,428nm,19.4s,baz=0.5,slow=33
KOLN Koldanda 71.42 302 *e*P **P** **01 47 11.2 -0.9**
comp=Z,44nm,1.1s
DANN Dangsing 71.47 303 *e*P **P** **01 47 11.4 -1.1**
comp=Z,32nm,1.0s
SBA Scott Base 71.66 176 *e*P **P** **01 47 11.7 -0.6**
comp=Z,6.0nm,0.8s
SBA Scott Base 71.66 176 *e*P **P** **01 47 11.7 -0.6**
SBA pmax pmax
comp=Z,6.0nm,0.8s
PYUN Piuthan 72.03 302 *e*P **P** **01 47 14.5 -1.3**
comp=Z,44nm,1.0s
HYB Hyderabad 73.14 290 *i* P **P** **01 47 23.0 +0.7**
comp=Z,50nm,1.0s
HYB *e* 01 47 28.5
WMQ Urumqi 74.37 319 *e*P **P** **01 47 30.8 +1.7**
WMQ pP pP 01 47 42.3 +0.3
WMQ pmax pmax
comp=Z,23nm,1.3s
WMQ pmax pmax
comp=Z,560nm,5.1s
WMQ LR LR
comp=Z,610nm,21.5s
WMQ LR LR
comp=Z,610nm,17.9s
WMQ LR LR
comp=Z,810nm,17.3s
BILL Bilibino 75.71 7 *e*P **P** **01 47 35.8 -0.4**
comp=Z,9.4nm,1.1s
BILL Bilibino 75.71 7 *d* P 01 47 41.0 +4.8
BILL *i* 01 47 48.4
BILL *i* 01 50 25.9
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,226nm,17.0s
DGZ Jazzator, Alta 77.15 324 *i* P **P** **01 47 43.8 -1.1**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
MK01 Makanchi Array 79.05 320 *e*P **P** **01 47 53.7 -1.6**
MK31 Makanchi Array 79.06 320 *e*P **P** **01 47 54.3 -1.1**
comp=Z,5.8nm,1.0s
MK31 Makanchi Array 79.06 320 *e*P **P** **01 47 54.3 -1.1**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 79.06 320 *ce*P **P** **01 47 56.7 +1.3**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 79.06 320 P **P** **01 47 54.4 -1.0**
comp=Z,4.8nm,0.9s,baz=111,slow=5.7,SNR=11
MAKZ Makanchi 79.27 320 *e*P **P** **01 47 55.1 -1.4**
comp=Z,7.4nm,0.9s
MAKZ Makanchi 79.27 320 *e*P **P** **01 47 55.1 -1.4**
MAKZ pmax pmax
comp=Z,7.0nm,0.9s
TIXI Tiksi 79.35 354 *i* P **P** **01 47 57.1 +0.7**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
ZAA0 Zalesovo Array 80.48 328 *e*P **P** **01 48 02.7 -0.1**
comp=Z,7.6nm,1.0s
ZALV Zalesovo Beam 80.48 328 *e*P **P** **01 48 01.8 -1.0**
ZALV Zalesovo Beam 80.48 328 P **P** **01 48 00.4 -2.5**
comp=Z,0.8nm,0.7s,baz=131,slow=8.1,SNR=3.6
ZALV LR LR 02 23 38.4
comp=Z,428nm,21.0s,baz=72,slow=36
KDJ Kajisay 80.91 314 *e*P **P** **01 48 05.3 -0.5**
comp=Z,24nm,1.4s
KDJ Kajisay 80.91 314 *e*P **P** **01 48 05.3 -0.5**
KDJ pmax pmax
comp=Z,25nm,1.4s
KSH Kashi 81.02 312 P P 01 48 13.1 +6.8
KSH sP sP 01 48 31.3 +7.1
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,96nm,5.4s
NRN Naryn 81.55 314 *e*P **P** **01 48 08.3 -1.0**
comp=Z,8.9nm,1.4s
NRN Naryn 81.55 314 P **P** **01 48 08.7 -0.6**
NRN pmax pmax
comp=Z,9.0nm,1.4s
NIL Nilore 81.61 305 *e*P **P** **01 48 08.2 -1.2**
comp=Z,28nm,1.0s
NIL Nilore 81.61 305 *e*P **P** **01 48 08.2 -1.2**
NIL pmax pmax
comp=Z,28nm,1.0s
NVS Novosibirsk 81.70 328 *e*P **P** **01 48 08.0 -1.3**
NVS pmax pmax
comp=Z,8.0nm,1.2s
NVS pmax pmax
comp=E,6.0nm,1.4s
KURK Kurchatov 82.74 323 *e*P **P** **01 48 13.6 -1.3**
comp=E,9.4nm,1.1s
KURK Kurchatov 82.74 323 *ce*P **P** **01 48 14.0 -0.9**
KURK pmax pmax
comp=Z,6.0nm,1.7s
KURBB Kurchatov Arra 82.76 323 P P **01 48 13.4 -1.6**
comp=Z,0.8nm,0.9s,baz=112,slow=4.1,SNR=7.1
AAK Ala-Archa 82.96 314 *e*P **P** **01 48 15.7 -0.8**
comp=Z,12nm,1.2s
AAK Ala-Archa 82.96 314 *i* P **P** **01 48 15.8 -0.7**
AAK pmax pmax
comp=Z,5.0nm,0.9s
AAK Ala-Archa 82.96 314 P **P** **01 48 16.6 +0.2**
comp=Z,1.2nm,0.6s,baz=123,slow=6.6,SNR=5.9
QSPA South Pole Qui 83.18 180 P **P** **01 48 16.7 -0.4**
comp=Z,2.1nm,0.6s,baz=330,slow=0.9,SNR=17
IM3 Indian Mountai 83.70 20 *e*P **P** **01 48 19.6 +0.1**
ARSB Arslanbob 83.71 313 *e*P **P** **01 48 19.2 -1.1**
comp=Z,49nm,1.4s
RND Reindeer 84.23 24 *e*P **P** **01 48 22.9 +0.5**
comp=Z,10nm,0.8s
RND Reindeer 84.23 24 *e*P **P** **01 48 22.9 +0.5**
RND pmax pmax
comp=Z,11nm,0.8s
BTK Batken 85.00 311 *e*P **P** **01 48 25.9 -0.9**
comp=Z,17nm,1.4s
BTK Batken 85.00 311 *e*P **P** **01 48 25.9 -0.9**
BTK pmax pmax
comp=Z,17nm,1.4s
GAR Garm 85.14 310 *e*P **P** **01 48 26.1 -1.5**
comp=Z,24nm,1.1s
GAR Garm 85.14 310 *e*P **P** **01 48 26.1 -1.5**
GAR pmax pmax
comp=Z,24nm,1.1s
CCB Clear Creek Bu 85.21 23 *e*P **P** **01 48 27.7 +0.6**
comp=Z,6.1nm,1.0s
COLA College 85.30 23 *e*P **P** **01 48 26.8 -0.8**
comp=Z,9.6nm,1.0s
COLA College 85.30 23 *e*P **P** **01 48 26.8 -0.8**
COLA pmax pmax
comp=Z,10.0nm,1.0s
ILAR Eielson Array 85.62 23 P **P** **01 48 28.2 -1.0**
comp=Z,1.5nm,0.9s,baz=256,slow=5.0,SNR=6.4
ILB Eielson Array 85.62 23 *e*P **P** **01 48 29.7 +0.5**
comp=Z,6.8nm,0.8s
IL1 Eielson Array 85.62 23 *e*P **P** **01 48 29.5 +0.2**
KK31 Karatay Array 85.92 314 *e*P **P** **01 48 30.5 -0.7**
comp=Z,32nm,1.2s
KK31 Karatay Array 85.92 314 *e*P **P** **01 48 30.5 -0.7**
KK31 pmax pmax
comp=Z,32nm,1.2s
KKAR Karatay Array 85.92 314 *e*P **P** **01 48 30.7 -0.5**
comp=Z,32nm,1.2s
KKAR Karatay Array 85.92 314 *e*P **P** **01 48 30.7 -0.5**
KKAR pmax pmax
comp=Z,32nm,1.2s
CHGR Chuyangaron 85.95 310 *e*P **P** **01 48 31.0 -0.6**
comp=Z,40nm,1.0s
DOT Dot Lake 86.28 24 *e*P **P** **01 48 32.8 +0.2**
comp=Z,6.1nm,0.9s
TOLK Toolik Lake Re 86.45 19 *e*P **P** **01 48 33.6 +0.2**
comp=Z,9.0nm,0.9s
NRIK Noril'sk 86.49 342 LR LR 02 28 43.1
comp=Z,410nm,18.4s,baz=140,slow=37
EGAK Eagle 87.88 24 *e*P **P** **01 48 40.4 +0.2**
comp=Z,9.1nm,1.0s
HYT Haines Junctio 88.18 28 *e*P **P** **01 48 42.3 +0.4**
comp=Z,20nm,1.0s
DAWY Dawson 88.36 25 *e*P **P** **01 48 43.3 +0.7**
comp=Z,9.1nm,0.9s
BRVK Borovoye 88.36 324 *e*P **P** **01 48 41.3 -1.5**
BRVK Borovoye 88.36 324 *ce*P **P** **01 48 42.5 -0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
SYO Syowa Base 90.36 200 ⇓ *e*PcP **PcP** **01 48 52.6 -0.4**
INK Inuvik 91.84 21 *e*P **P** **01 48 58.5 -0.2**
comp=Z,3.6nm,1.0s
INK Inuvik 91.84 21 *e*P **P** **01 48 58.5 -0.2**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 91.84 21 P **P** **01 48 59.0 +0.3**
comp=Z,3.7nm,1.1s,baz=226,slow=4.8,SNR=2.4
HUMO Hull Mountain 93.47 48 *e*P **P** **01 49 05.6 -1.2**
comp=Z,7.8nm,0.9s
YBH Yreka Blue Hor 93.56 49 *e*P **P** **01 49 07.0 -0.4**
comp=Z,8.5nm,1.4s
YBH Yreka Blue Hor 93.56 49 *e*P **P** **01 49 07.0 -0.4**
YBH pmax pmax
comp=Z,9.0nm,1.4s
YBH Yreka Blue Hor 93.56 49 P **P** **01 49 07.2 -0.2**
comp=Z,3.1nm,1.1s,baz=106,slow=18,SNR=2.6
ABKAR Akbulak array 94.16 319 *e*P **P** **01 49 08.3 -1.5**
comp=Z,12nm,1.2s
ORV Oroville 94.27 51 *e*P **P** **01 49 10.7 +0.1**
comp=Z,6.8nm,1.3s
ORV Oroville 94.27 51 *e*P **P** **01 49 10.7 +0.1**
ORV pmax pmax
comp=Z,7.0nm,1.3s
GEYT Alibeck 94.43 308 P **P** **01 49 11.2 -0.2**
comp=Z,3.2nm,1.0s,baz=37,slow=15,SNR=4.6
MOD Modoc Plateau 95.37 49 *e*P **P** **01 49 15.9 +0.2**
comp=Z,6.5nm,1.2s
ARU Arti 95.58 326 P **P** **01 49 13.7 -2.4**
ARU 01 53 04.6
ARU S **SKSac** **01 59 43.9 -4.4**
ARU sS **SS** **02 06 57.3 -1.3**
NV01 Mina Array Sit 96.67 52 *e*P **P** **01 49 21.6 -0.2**
NVAR Mina Array Bea 96.67 52 P **P** **01 49 22.4 +0.5**
comp=Z,0.8nm,0.7s,baz=269,slow=4.9,SNR=5.6
NVAR LR LR 02 30 16.0
comp=Z,364nm,18.1s,baz=282,slow=34
NV11 Mina Array Sit 96.78 52 *e*P **P** **01 49 22.5 +0.3**
comp=Z,0.3nm,1.1s
YKA Yellowknife Ar 99.17 28 P **Pdif** **01 49 33.1 +0.9**
comp=Z,0.1nm,0.5s,baz=291,slow=4.0,SNR=3.2
SUW Suwalki 115.71 328 *e*PKP **PKPdf** **01 54 39.1 +6.0**
SUW Suwalki 115.71 328 *e*PKIKP **PKPdf** **01 54 39.1 +6.0**
NB2 NORSAR Subarra 117.25 338 PKPdf **PKiKP** **01 54 42.1 +6.1**
comp=Z,0.3nm,0.7s,baz=44,slow=1.9
KWP Kalwaria Pacla 117.84 323 *e*PKP **PKiKP** **01 54 42.4 +5.0**
KWP Kalwaria Pacla 117.84 323 *e*PKIKP **PKiKP** **01 54 42.4 +5.0**
BEL Belsk 117.98 326 *e*PKP PKiKP 01 54 46.8 +9.2
BEL Belsk 117.98 326 *e*PKIKP PKiKP 01 54 46.8 +9.2
DRGR 118.98 320 ⇑PKIKP **PKiKP** **01 54 46.1 +6.3**
GKP Gorka Klasztor 119.17 329 *e*PKP **PKiKP** **01 54 46.7 +6.9**
GKP Gorka Klasztor 119.17 329 *e*PKIKP **PKiKP** **01 54 46.7 +6.9**
NIE Niedzica 119.35 324 *e*PKP **PKiKP** **01 54 47.1 +6.7**
NIE Niedzica 119.35 324 *e*PKIKP **PKiKP** **01 54 47.1 +6.7**
GZR Gura Zlata 119.47 319 ⇓ *e*PKIKP **PKiKP** **01 54 46.9 +6.1**
LANS Liptovska Anna 119.96 324 *e*PKIKP **PKiKP** **01 54 49.3 +7.7**
LANS Liptovska Anna 119.96 324 *e*PKP **PKiKP** **01 54 49.3 +7.7**
BZS Buzias 120.14 320 ⇑PKIKP **PKPdf** **01 54 40.4 -1.5**
VTS Vitosha 120.17 316 ⇑PKIKP **PKiKP** **01 54 48.6 +6.2**
OKC Ostrava-Krasne 120.40 325 *e*PKP **PKiKP** **01 54 49.1 +6.7**
OKC Ostrava-Krasne 120.40 325 *e*PKIKP **PKiKP** **01 54 49.1 +6.7**
VYHS Vyhne 120.63 323 *e*PKIKP **PKiKP** **01 54 49.0 +6.1**
VYHS Vyhne 120.63 323 *e*PKP **PKiKP** **01 54 49.0 +6.1**
MORC Moravsky Berou 120.77 325 ⇑PKIKP **PKiKP** **01 54 50.0 +6.8**
MORC Moravsky Berou 120.77 325 *e*PKP **PKiKP** **01 54 49.4 +6.2**
KRLC Kraliky 121.05 326 *e*PKP **PKPdf** **01 54 43.1 -0.5**
KRLC *ex* x 01 54 50.6

KRLC	**Kraliky**	**121.05**	**326**	*e*PKIKP	**PKPdf**	**01 54 43.1**	**-0.5**
JAVC	**Velka Javorina**	**121.14**	**324**	*e*PKP	**PKiKP**	**01 54 51.1**	**+7.1**
DPC	**Dobruska-Polom**	**121.16**	**326**	*e*PKIKP	**PKiKP**	**01 54 50.7**	**+6.7**
SRO	**Srobarova**	**121.25**	**323**	*e*PKIKP	**PKiKP**	**01 54 50.9**	**+6.8**
SRO	**Srobarova**	**121.25**	**323**	*e*PKP	**PKiKP**	**01 54 50.9**	**+6.8**
UPC	**Upice**	**121.25**	**327**	*e*PKP	**PKiKP**	**01 54 50.8**	**+6.7**
UPC				AMS	AMS	02 48 40.0	
	comp=Z,400nm,16.2s						
UPC	**Upice**	**121.25**	**327**	*e*PKIKP	**PKiKP**	**01 54 50.8**	**+6.7**
UPC				MLR	MLR		
	comp=Z,400nm,16.2s						
MODS	**Modra-Piesok**	**121.60**	**324**	*e*PKIKP	**PKiKP**	**01 54 51.8**	**+7.0**
MODS	**Modra-Piesok**	**121.60**	**324**	*e*PKP	**PKiKP**	**01 54 51.8**	**+7.0**
KRUC	**Moravsky**	**121.77**	**325**	*e*PKP	**PKiKP**	**01 54 51.3**	**+6.2**
PVCC	**Panska Ves**	**122.03**	**327**	*e*PKP	**PKiKP**	**01 54 51.9**	**+6.3**
PVCC				AMS	AMS	02 52 00.0	
	comp=Z,400nm,15.1s						
PVCC	**Panska Ves**	**122.03**	**327**	*e*PKIKP	**PKiKP**	**01 54 51.9**	**+6.3**
PVCC				MLR	MLR		
	comp=Z,400nm,15.1s						
FNA	**Florina**	**122.12**	**314**	*e*PKPdf	**PKiKP**	**01 54 46.2**	**0.0**
FNA	**Florina**	**122.12**	**314**	*e*PKIKP	**PKiKP**	**01 54 46.2**	**0.0**
BRG	**Berggiesshubel**	**122.17**	**328**	*i* PKP	**PKiKP**	**01 54 52.5**	**+6.7**
	comp=Z,20nm,1.1s						
BRG	**Berggiesshubel**	**122.17**	**328**	*e*PKPdf	**PKiKP**	**01 54 52.5**	**+6.7**
	baz=54,slow=1.9						
BRG	**Berggiesshubel**	**122.17**	**328**	*i* PKIKP	**PKiKP**	**01 54 52.5**	**+6.7**
BRG				pmax	pmax		
	comp=Z,20nm,1.1s						
BSEG	**Bad Segeberg**	**122.17**	**332**	*e*PKPdf	**PKiKP**	**01 54 52.7**	**+6.9**
	baz=54,slow=1.9						
GOPC	**GO Pecny, Ondr**	**122.23**	**326**	*e*PKP	**PKPdf**	**01 54 45.2**	**-0.7**
GOPC				*ex*	x	01 54 52.2	
GOPC	**GO Pecny, Ondr**	**122.23**	**326**	*e*PKIKP	**PKPdf**	**01 54 45.2**	**-0.7**
PRU	**Pruhonice**	**122.33**	**327**	*e*PKP	**PKiKP**	**01 54 46.4**	**+0.2**
PRU				*ex*	x	01 54 52.6	
PRU				AMS	AMS	02 52 00.0	
	comp=Z,300nm,19.6s						
PRU	**Pruhonice**	**122.33**	**327**	*e*PKIKP	**PKiKP**	**01 54 46.4**	**+0.2**
PRU				MLR	MLR		
	comp=Z,300nm,19.6s						
CLL	**Collm**	**122.42**	**329**	*e*PKPdf	**PKiKP**	**01 54 52.7**	**+6.4**
	baz=54,slow=1.9						
CLL	**Collm**	**122.42**	**329**	*i* PKPdf	**PKiKP**	**01 54 52.2**	**+5.9**
	comp=Z,11nm,0.9s						
CLL				*e*PP	**PP**	**01 56 19.0**	**-3.4**
CLL				LmV		02 51 00.0	
	comp=Z,700nm,19.1s						
CLL				LmH		02 52 00.0	
	comp=N,300nm,20.5s						
CLL				LmH		02 52 00.0	
	comp=E,300nm,19.4s						
CLL	**Collm**	**122.42**	**329**	*i* PKIKP	**PKiKP**	**01 54 52.2**	**+5.9**
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
FBE	**Freiberg**	**122.45**	**328**	*e*PKPdf	**PKiKP**	**01 54 53.3**	**+6.9**
	baz=54,slow=1.9						
CONA	**Conrad Observa**	**122.65**	**324**	*e*pPKPdf	**PKiKP**	**01 54 53.0**	**+6.0**
	comp=Z,6.2nm,0.8s,SNR=4.9						
NRDL	**Niedersach Rie**	**123.17**	**331**	*e*PKPdf	**PKiKP**	**01 54 54.6**	**+7.0**
	baz=54,slow=1.9						
ARSA	**Arzberg**	**123.18**	**323**	*i* pPKPdf	**PKiKP**	**01 54 54.2**	**+6.2**
TANN	**Tannenbergstha**	**123.21**	**328**	*e*PKPdf	**PKiKP**	**01 54 54.6**	**+6.6**
	baz=54,slow=1.9						
GUNZ	**Gunzen**	**123.31**	**328**	*e*PKPdf	**PKiKP**	**01 54 54.9**	**+6.7**
	baz=54,slow=1.9						
KHC	**Kasperske Hory**	**123.32**	**326**	*e*PKPdf	**PKiKP**	**01 54 48.2**	**0.0**
KHC	**Kasperske Hory**	**123.32**	**326**	*e*PKP	**PKiKP**	**01 54 48.2**	**0.0**
KHC				*ex*	x	01 54 54.2	
KHC	**Kasperske Hory**	**123.32**	**326**	*e*PKIKP	**PKiKP**	**01 54 48.2**	**0.0**
WERN	**Wernitzgruen**	**123.33**	**328**	*e*PKPdf	**PKiKP**	**01 54 54.9**	**+6.6**
	baz=54,slow=1.9						
GEC2	**GERESS Array S**	**123.41**	**326**	*e*PKPdf	**PKPdf**	**01 54 48.3**	**0.0**
GEC2	**GERESS Array S**	**123.41**	**326**	*e*PKIKP	**PKPdf**	**01 54 48.3**	**0.0**
GERES	**GERESS Array B**	**123.41**	**326**	PKP	**PKPdf**	**01 54 47.9**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=309,slow=4.6,SNR=4.3						
GEA0	**GERESS Array S**	**123.41**	**326**	*e*PKPdf	**PKPdf**	**01 54 48.1**	**-0.1**
CLZ	**Clausthal**	**123.44**	**330**	*e*PKPdf	**PKiKP**	**01 54 55.2**	**+6.9**
	baz=54,slow=1.9						
MOX	**Moxa**	**123.52**	**329**	*e*PKPdf	**PKiKP**	**01 54 55.0**	**+6.4**
	baz=54,slow=1.9						
MOA	**Molln**	**123.61**	**325**	*e*PKiKP	**PKiKP**	**01 54 54.0**	**+5.2**
	comp=Z,6.2nm,1.0s						
MANZ	**Manzenberg**	**123.64**	**328**	*e*PKPdf	**PKiKP**	**01 54 55.5**	**+6.6**
	baz=54,slow=1.9						
SOKA	**Soboth**	**123.76**	**323**	*e*pPKPdf	**PKiKP**	**01 54 55.4**	**+6.2**
	comp=Z,9.5nm,1.0s,SNR=6.9						
OBKA	**Obir**	**124.13**	**323**	*i* pPKPdf	**PKiKP**	**01 54 56.2**	**+6.2**
	comp=Z,4.2nm,0.8s						
KBA	**Koelnbreinsper**	**124.55**	**324**	*e*PKiKP	**PKiKP**	**01 54 56.5**	**+5.6**
	comp=Z,15nm,1.2s						
MYKA	**Terra Mystica**	**124.61**	**324**	*e*PKiKP	**PKiKP**	**01 54 56.6**	**+5.7**
	comp=Z,6.4nm,1.0s						
FUR	**Furstenfeldbru**	**125.12**	**326**	*e*PKPdf	**PKiKP**	**01 54 58.2**	**+6.3**
	baz=54,slow=1.9						
ABTA	**Abfaltersbach**	**125.21**	**324**	*e*PKiKP	**PKiKP**	**01 54 57.7**	**+5.6**
	comp=Z,13nm,0.9s,SNR=7.8						
TNS	**Taunus Mts**	**125.39**	**330**	*e*PKPdf	**PKiKP**	**01 54 58.8**	**+6.5**
	baz=54,slow=1.9						
WATA	**Walderalm**	**125.42**	**325**	*e*pPKPdf	**PKiKP**	**01 54 58.4**	**+5.8**
	comp=Z,12nm,1.1s,SNR=4.5						
MOTA	**Moosalm**	**125.68**	**325**	*e*pPKPdf	**PKiKP**	**01 54 59.1**	**+5.9**
	comp=Z,13nm,0.8s						
SQTA	**Sankt Quirin**	**125.69**	**325**	*e*pPKPdf	**PKiKP**	**01 54 59.3**	**+6.1**
	comp=Z,15nm,0.9s,SNR=7.1						
STU	**Stuttgart**	**125.90**	**328**	*e*PKPdf	**PKiKP**	**01 54 59.7**	**+6.4**
	baz=54,slow=1.9						
UBR	**Ueberruh**	**126.05**	**326**	*e*PKPdf	**PKiKP**	**01 54 59.7**	**+6.0**
	baz=54,slow=1.9						
FETA	**Feichten**	**126.08**	**325**	*i* pPKPdf	**PKiKP**	**01 55 00.3**	**+6.4**
	comp=Z,23nm,1.0s						
MEM	**Membach**	**126.34**	**331**	⇓PKiKP	**PKiKP**	**01 55 00.1**	**+6.0**
DAVA	**Damuels**	**126.40**	**326**	*e*pPKPdf	**PKiKP**	**01 55 00.8**	**+6.2**
	comp=Z,17nm,1.0s,SNR=7.6						
FUORN	**Ofenpass-Fuorn**	**126.57**	**325**	*e*PKPdf	**PKPdf**	**01 54 54.3**	**-0.3**
BFO	**Black Forest**	**126.62**	**328**	*e*PKPdf	**PKiKP**	**01 55 00.7**	**+5.9**
	baz=54,slow=1.9						
BCLA	**Clavier**	**126.80**	**331**	⇑PKiKP	**PKiKP**	**01 55 01.2**	**+6.2**
OTAV	**Otavalo**	**132.71**	**96**	*e*PKPdf	**PKPdf**	**01 55 07.0**	**-0.5**
OTAV	**Otavalo**	**132.71**	**96**	*e*PKIKP	**PKPdf**	**01 55 07.0**	**-0.5**
LPAZ	**La Paz**	**137.10**	**123**	PKP	**PKPdf**	**01 55 15.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=125,slow=18,SNR=3.4						
ROSC	**El Rosal**	**137.36**	**90**	PKP	**PKPdf**	**01 55 16.0**	**0.0**
	comp=Z,2.7nm,0.3s,baz=239,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**138.61**	**144**	PKP	**PKPdf**	**01 55 18.2**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=249,slow=10,SNR=3.2						
TAM	**Tamanrasset**	**140.99**	**298**	*e*PKPdf	**PKPdf**	**01 55 22.3**	**+0.2**
TAM	**Tamanrasset**	**140.99**	**298**	*e*PKIKP	**PKPdf**	**01 55 22.3**	**+0.2**
SIV	**San Ignacio**	**142.98**	**128**	PKhKP	PKPpre	01 55 22.9	
	comp=Z,1.9nm,0.6s,baz=345,slow=19,SNR=6.2						
TOA0	**Torodi Ar. Sit**	**146.74**	**284**	*e*PKPbc	**PKPbc**	**01 55 33.8**	**-0.1**
TORD	**Torodi Ar. Bea**	**146.74**	**284**	PKPbc	**PKPbc**	**01 55 33.3**	**-0.6**
	comp=Z,31nm,1.1s,baz=90,slow=1.7,SNR=73						
PTGA	**Pitinga**	**150.62**	**104**	*e*PKPbc	**PKiKP**	**01 55 44.4**	**-0.3**
BDFB	**Brasilia**	**152.34**	**144**	*e*PKPbc	**PKPbc**	**01 55 47.9**	**-0.1**
BDFB	**Brasilia**	**152.34**	**144**	*e*PKIKP	**PKPbc**	**01 55 47.9**	**-0.1**
BDFB	**Brasilia**	**152.34**	**144**	PKPbc	**PKPbc**	**01 55 47.5**	**-0.6**
	comp=Z,5.8nm,0.8s,baz=332,slow=4.0,SNR=6.3						
KIC	**Kosan Boka**	**153.42**	**271**	*e*PKIKP	**PKPab**	**01 55 57.5**	**-5.2**
	comp=Z,36nm,0.8s						
DBIC	**Dimbokro**	**153.55**	**271**	*e*PKPbc	**PKPbc**	**01 55 50.6**	**0.0**
DBIC	**Dimbokro**	**153.55**	**271**	*e*PKIKP	**PKPbc**	**01 55 50.6**	**0.0**
DBIC	**Dimbokro**	**153.55**	**271**	PKPbc	**PKPbc**	**01 55 50.3**	**-0.3**
	comp=Z,17nm,0.9s,baz=78,slow=2.3,SNR=5.9						
LIC	**Lamto**	**153.70**	**270**	*e*PKIKP	**PKPab**	**01 55 58.0**	**-5.8**
	comp=Z,58nm,0.8s						
TIC	**Toumodi**	**153.71**	**271**	*e*PKIKP	**PKPab**	**01 55 58.0**	**-5.9**

ZUR 24 01:37:57.3, 47°59N×8°01E, h20km↓2km, MLh0.9/4, 3C-2D, Error ellipse: s-maj=4.6km s-min=1.2km az=264.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULZ	**Cheisacher**	**0.10**	**131**	⇑Pg	Pg	01 38 01.4	+0.1
ROTHE	**Rothenfluh**	**0.13**	**207**	Pg	Pg	01 38 01.8	+0.1
ACHB	**Acheberg**	**0.17**	**90**	⇑Pg	Pg	01 38 02.2	+0.1
BERGE	**Lenzkirch (DE)**	**0.31**	**22**	⇓Pg	Pg	01 38 04.3	+0.1
BERGE				Sg	Sg	01 38 09.0	+0.2
BALST	**Balsthal**	**0.33**	**220**	Pg	Pg	01 38 04.5	-0.1
KIZ	**Kirchzarten**	**0.37**	**351**	⇓Pg	Pg	01 38 05.3	0.0
KIZ				Sg	Sb	01 38 10.7	0.0
SLE	**Schleitheim**	**0.37**	**62**	⇑Pg	Pg	01 38 05.3	0.0
SLE				Sg	Sg	01 38 10.7	0.0

ROM 24 01:38:08.9±0.1, 43°501N±0°003×12°371E±0°004, h9km, Md1.7/12, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.06**	**156**	P	Pg	01 38 11.2	+0.3
ATPI				S	Sg	01 38 12.6	+0.3
ATPI				AML	AML		
	comp=E,21250μm,0.3s						
ATPI				AML	AML		
	comp=N,26250μm,0.1s						
ATPI				AML	AML		
	comp=E,79950μm,0.1s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				AML	AML		
	comp=E,79950μm,0.1s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPC	**Poggio Castell**	**0.07**	**108**	P	Pg	01 38 11.4	+0.4
ATPC				S	Sg	01 38 13.1	+0.6
ATPC				AML	AML		
	comp=E,6720μm,0.2s						
ATPC				AML	AML		
	comp=N,19900μm,0.8s						
ATPC				AML	AML		
	comp=E,23900μm,0.2s						
ATPC				AML	AML		
	comp=N,21700μm,0.8s						
ATPC				AML	AML		
	comp=E,27300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,99300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,27300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,99300μm,0.2s						
ATPC				AML	AML		
ATPC				END			
ATPC				END			
ATPC				END			
ATPC				END			
BADI	**Badiali**	**0.09**	**275**	P	Pg	01 38 11.6	+0.3
BADI				S	Sg	01 38 13.4	+0.4
BADI				AML	AML		
	comp=E,7745μm,0.3s						
BADI				AML	AML		
	comp=N,12750μm,0.3s						
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				END			
CDCA	**Citt' di Caste**	**0.11**	**247**	P	Pg	01 38 12.1	+0.6
CDCA				S	Sg	01 38 14.5	+1.2
CDCA				AML	AML		
	comp=E,7335μm,1.1s						
CDCA				AML	AML		
	comp=N,14250μm,0.3s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				END			
CDCA				END			
ATVO	**AVT- Monte Val**	**0.12**	**168**	P	Pg	01 38 12.3	+0.6
ATVO				S	Sg	01 38 14.7	+0.9
ATVO				AML	AML		
	comp=E,15100μm,0.7s						
ATVO				AML	AML		
	comp=N,10605μm,0.2s						
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
PIEI	**Pieia**	**0.12**	**74**	P	Pg	01 38 12.2	+0.4
PIEI				S	Sg	01 38 14.6	+0.8
PIEI				AML	AML		
	comp=E,8345μm,1.0s						
PIEI				AML	AML		
	comp=N,6775μm,0.3s						
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
PIEI				AML	AML		
	comp=N,34300μm,0.3s						
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
PIEI				AML	AML		
	comp=N,34300μm,0.3s						
PIEI				END			
PIEI				END			
PIEI				END			
PIEI				END			
ATBU	**Serra di Buran**	**0.13**	**101**	P	Pg	01 38 12.6	+0.7
ATBU				S	Sg	01 38 15.2	+1.2
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
ATBU				AML	AML		
	comp=N,40200μm,1.5s						
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
ATBU				AML	AML		
	comp=N,40150μm,1.5s						
ATBU				END			
ATBU				END			
ATBU				END			
ATBU				END			
ATMC	**Monte Cedrone**	**0.14**	**247**	P	Pg	01 38 12.5	+0.4
ATMC				S	Sg	01 38 15.0	+0.7
ATMC				AML	AML		
	comp=E,4585μm,0.8s						
ATMC				AML	AML		
	comp=N,4925μm,0.4s						
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
PARC	**Parchiule**	**0.18**	**327**	P	Pg	01 38 13.1	+0.5
PARC				AML	AML		
	comp=E,47600μm,0.6s						
PARC				AML	AML		
	comp=N,50200μm,0.3s						
PARC				AML	AML		
	comp=E,47600μm,0.6s						
PARC				AML	AML		
	comp=N,50200μm,0.3s						
NARO	**Abbazia di Nar**	**0.19**	**54**	P	Pg	01 38 13.2	+0.4
NARO				S	Sg	01 38 16.4	+0.9
NARO				AML	AML		
	comp=E,9805μm,0.9s						
NARO				AML	AML		
	comp=N,15750μm,0.2s						
NARO				AML	AML		
	comp=E,9805μm,0.9s						
NARO				AML	AML		
	comp=N,15750μm,0.2s						
SSP9	**Sansepolcro**	**0.19**	**293**	AML	AML		
	comp=N,8715μm,1.6s						
SSP9				AML	AML		
	comp=E,949μm,0.4s						
SSP9				AML	AML		
	comp=N,830μm,1.6s						
SSP9				AML	AML		
	comp=E,10050μm,1.5s						
SSP9				AML	AML		
	comp=N,8705μm,1.6s						
SSP9				AML	AML		
	comp=E,10040μm,1.5s						
PE3	**Peglio**	**0.21**	**25**	P	Pg	01 38 14.0	+0.6
PE3				S	Sg	01 38 18.1	+1.7
PE3				AML	AML		
	comp=E,30000μm,0.5s						
PE3				AML	AML		
	comp=N,36950μm,0.9s						
PE3				AML	AML		
	comp=E,30000μm,0.5s						
PE3				AML	AML		
	comp=N,36950μm,0.9s						
PE3				END			
PE3				END			
ATVA	**AVT- Monte Val**	**0.23**	**196**	AML	AML		
	comp=N,4895μm,1.4s						
ATVA				AML	AML		
	comp=E,5695μm,0.5s						
ATVA				AML	AML		
	comp=N,4895μm,1.4s						
ATVA				AML	AML		
	comp=E,5695μm,0.5s						
FRON	**Frontone**	**0.26**	**86**	P	Pg	01 38 14.5	+0.4
FRON				S	Sg	01 38 18.9	+1.3
FRON				AML	AML		
	comp=E,4620μm,0.4s						
FRON				AML	AML		
	comp=N,6560μm,1.5s						
FRON				AML	AML		
	comp=E,4615μm,0.4s						
FRON				AML	AML		
	comp=N,6560μm,1.5s						
FRON				END			
FRON				END			
MURB	**Monte Urbino**	**0.26**	**155**	P	Pg	01 38 14.8	+0.6
MURB				S	Sb	01 38 19.6	-0.8
MURB				AML	AML		
	comp=E,25950μm,1.4s						
MURB				AML	AML		
	comp=N,17400μm,0.7s						
MURB				AML	AML		
	comp=E,25950μm,1.4s						
MURB				AML	AML		
	comp=N,17400μm,0.7s						
MURB				END			
MURB				END			
CPGN	**Carpegna, Ital**	**0.30**	**353**	P	Pb	01 38 16.0	-0.5
CPGN				AML	AML		
	comp=E,9370μm,0.7s						
CPGN				AML	AML		
	comp=N,14600μm,0.3s						
CPGN				AML	AML		
	comp=E,9265μm,0.7s						
CPGN				AML	AML		
	comp=N,14050μm,0.3s						
CPGN				AML	AML		
	comp=E,9365μm,0.7s						
CPGN				AML	AML		
	comp=N,14600μm,0.3s						
CPGN				AML	AML		
	comp=E,9195μm,0.7s						
CPGN				AML	AML		
	comp=N,14050μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.30**	**182**	P	Pg	01 38 15.3	+0.4
ATTE				S	Sb	01 38 20.4	-1.2
ATTE				AML	AML		
	comp=E,6765μm,1.1s						
ATTE				AML	AML		
	comp=N,5830μm,1.1s						
ATTE				AML	AML		
	comp=E,6765μm,1.1s						
ATTE				AML	AML		
	comp=N,5830μm,1.1s						
ATTE				END			
ATTE				END			
SSFR	**Montelago di S**	**0.31**	**102**	P	Pg	01 38 15.4	+0.4
SSFR				S	Sb	01 38 20.6	-1.1
SSFR				AML	AML		
	comp=E,7645μm,1.3s						
SSFR				AML	AML		
	comp=N,11150μm,0.4s						
MPAG	**Monte Paganucc**	**0.31**	**66**	P	Pg	01 38 15.5	+0.4
MPAG				S	Sb	01 38 20.7	-1.1
MPAG				AML	AML		
	comp=E,4525μm,0.6s						
MPAG				AML	AML		
	comp=N,7220μm,0.2s						
MPAG				AML	AML		
	comp=E,4420μm,0.5s						
MPAG				AML	AML		
	comp=N,7270μm,0.3s						
MPAG				AML	AML		
	comp=E,4525μm,0.6s						
MPAG				AML	AML		
	comp=N,7215μm,0.2s						
MPAG				AML	AML		
	comp=E,4420μm,0.5s						
MPAG				AML	AML		
	comp=N,7275μm,0.3s						
MPAG				END			
MPAG				END			
CAFI	**Castiglion Fio**	**0.34**	**240**	AML	AML		
	comp=N,9740μm,0.3s						
CAFI				AML	AML		
	comp=E,8850μm,0.3s						
CAFI				AML	AML		
	comp=N,9770μm,0.3s						
CAFI				AML	AML		
	comp=E,9070μm,0.3s						
CAFI				AML	AML		
	comp=N,10405μm,0.3s						
CAFI				AML	AML		
	comp=E,8850μm,0.3s						
CAFI				AML	AML		
	comp=E,9070μm,0.3s						
CAFI				AML	AML		
	comp=N,10405μm,0.3s						
FSSB	**Fossombrone**	**0.35**	**57**	P	Pg	01 38 16.3	+0.5
FSSB				S	Sb	01 38 22.4	-0.6
FSSB				AML	AML		
	comp=E,12150μm,0.3s						
FSSB				AML	AML		
	comp=N,13250μm,0.3s						
FSSB				AML	AML		
	comp=E,12150μm,0.3s						
FSSB				AML	AML		
	comp=N,13250μm,0.3s						
FSSB				END			
FSSB				END			
ATCC	**AVT- Casa Cast**	**0.37**	**148**	P	Pg	01 38 16.9	+0.7
ATCC				S	Sb	01 38 23.5	0.0
ATCC				AML	AML		
	comp=E,11550μm,0.5s						
ATCC				AML	AML		
	comp=N,7345μm,0.6s						
ATCC				AML	AML		
	comp=E,11550μm,0.5s						
ATCC				AML	AML		
	comp=N,7345μm,0.6s						
ARVD	**Arcevia**	**0.41**	**90**	P	Pg	01 38 17.4	+0.4
ARVD				S	Sb	01 38 24.3	-0.5
ARVD				AML	AML		
	comp=E,2160μm,0.7s						
ARVD				AML	AML		
	comp=N,1910μm,0.4s						
ARVD				AML	AML		
	comp=E,2160μm,0.7s						
ARVD				AML	AML		
	comp=N,1910μm,0.4s						
COR1	**Corinaldo**	**0.48**	**74**	P	Pb	01 38 19.1	-0.3
COR1				S	Sb	01 38 26.5	-0.1
COR1				AML	AML		
	comp=E,7845μm,0.7s						
COR1				AML	AML		
	comp=N,13340μm,1.1s						
COR1				AML	AML		
	comp=E,4005μm,0.7s						
COR1				AML	AML		
	comp=N,5030μm,0.7s						

COR1				AML	AML			
	comp=E,21520μm,1.6s							
COR1				AML	AML			
	comp=N,58440μm,1.1s							
SNTG	**Esanatoglia**	**0.48**	**120**	AML	AML			
	comp=N,5520μm,0.3s							
SNTG				AML	AML			
	comp=E,2575μm,0.3s							
SNTG				AML	AML			
	comp=N,5520μm,0.3s							
SNTG				AML	AML			
	comp=E,2575μm,0.3s							
ASSB	**Assisi San Ben**	**0.50**	**155**	P	Pg	01 38 18.9	+0.3	
ASSB				S	Sb	01 38 27.0	-0.4	
ASSB				AML	AML			
	comp=E,2150μm,0.3s							
ASSB				AML	AML			
	comp=N,3250μm,0.8s							
ASSB				AML	AML			
	comp=E,2150μm,0.3s							
ASSB				AML	AML			
	comp=N,3250μm,0.8s							
ASQU	**Asqua**	**0.52**	**305**	AML	AML			
	comp=N,4205μm,1.6s							
ASQU				AML	AML			
	comp=E,3610μm,0.3s							
ASQU				AML	AML			
	comp=E,3610μm,0.3s							
ASQU				AML	AML			
	comp=N,4205μm,1.6s							
PESA	**Pesaro**	**0.56**	**38**	P	Pb	01 38 20.2	-0.5	
PESA				AML	AML			
	comp=E,6520μm,1.6s							
PESA				AML	AML			
	comp=N,6370μm,0.4s							
PESA				AML	AML			
	comp=E,6520μm,1.6s							
PESA				AML	AML			
	comp=N,6370μm,0.4s							
EL6	**Elcito**	**0.56**	**108**	AML	AML			
	comp=N,4030μm,0.4s							
EL6				AML	AML			
	comp=E,2535μm,0.4s							
EL6				AML	AML			
	comp=E,2535μm,0.4s							
EL6				AML	AML			
	comp=N,4030μm,0.4s							
CING	**Cingoli**	**0.61**	**102**	P	Pg	01 38 21.0	+0.2	
CING				S	Sb	01 38 30.2	-0.3	
CING				AML	AML			
	comp=E,984μm,0.5s							
CING				AML	AML			
	comp=N,1030μm,0.8s							
MGAB	**Montegabbione**	**0.62**	**198**	AML	AML			
	comp=N,7105μm,1.6s							
MGAB				AML	AML			
	comp=E,7475μm,0.7s							
MGAB				AML	AML			
	comp=N,8020μm,1.6s							
MGAB				AML	AML			
	comp=E,9005μm,0.7s							
CESI	**CESI - Serrava**	**0.63**	**142**	P	Pg	01 38 21.3	+0.2	
CESI				S	Sg	01 38 30.1	+0.7	
CESI				AML	AML			
	comp=E,286μm,0.6s							
CESI				AML	AML			
	comp=N,962μm,0.5s							
CESI				AML	AML			
	comp=E,298μm,0.7s							
CESI				AML	AML			
	comp=N,962μm,0.5s							
FDMO	**Fiordimonte**	**0.70**	**131**	P	Pg	01 38 22.4	0.0	
FDMO				AML	AML			
	comp=E,879μm,0.6s							
FDMO				AML	AML			
	comp=N,1350μm,0.6s							
FDMO				AML	AML			
	comp=E,879μm,0.6s							
FDMO				AML	AML			
	comp=N,1350μm,0.6s							
CSP1	**Cessapalombo**	**0.73**	**124**	AML	AML			
	comp=E,2170μm,0.3s							
CSP1				AML	AML			
	comp=N,2086μm,0.5s							
CSP1				AML	AML			
	comp=E,2170μm,0.3s							
CSP1				AML	AML			
	comp=N,4705μm,0.6s							
SACS	**San Casciano d**	**0.73**	**208**	AML	AML			
	comp=E,2405μm,0.6s							
SACS				AML	AML			
	comp=N,3025μm,1.5s							
SACS				AML	AML			
	comp=E,2265μm,0.6s							
SACS				AML	AML			
	comp=N,3140μm,1.5s							
SACS				AML	AML			
	comp=E,2405μm,0.6s							
SACS				AML	AML			
	comp=N,3030μm,1.5s							
SACS				AML	AML			
	comp=E,2265μm,0.6s							
SACS				AML	AML			
	comp=N,3140μm,1.5s							
NRCA	**Norcia**	**0.86**	**141**	AML	AML			
	comp=E,1084μm,0.8s							
NRCA				AML	AML			
	comp=N,1142μm,0.7s							

*ISCJB **24** 01:38:41.3±0.2, 43°.51N±0°.01×12°.33E±0°.01, h15km±1km, Error ellipse: s-maj=2.2km s-min=1.7km az=13.9*
*ROM **24** 01:38:41.3±0.0, 43°.502N±0°.003×12°.371E±0°.003, h9km, ML3.3/63*
*PRU **24** 01:38:42.9±0.0, 43°.52N×12°.87E, h0km*
*LDG **24** 01:38:45.3±0.3, 43°.33N×12°.19E, h10km, MI3.0/14, Error ellipse: s-maj=5.5km s-min=5.2km az=149.0*
*STR **24** 01:38:48.6±1.3, 44°N±11°×1°2E±°, h10km, M3.4/6, mB4.0/2, mb3.8/5, MLv3.2/6, Mw(mB)3.0/2*

ISC 24 01:38:41.3±0.7, **43°47N**±0°.02×**12°34E**±0°.01, **h11**km±4km, **n144**, σt²**68**/186, **1D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ATPI	**Pietralunga -**	**0.05**	**114**	*i* P	**Pg**	**01 38 43.6**	**0.0**
ATPI				S	**Sg**	**01 38 44.9**	**-0.3**
ATPI				AML	AML		
	comp=E,79900μm,0.1s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				AML	AML		
	comp=E,79950μm,0.1s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				AML	AML		
	comp=E,79950μm,0.1s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				AML	AML		
	comp=N,90150μm,0.5s						
ATPI				AML	AML		
	comp=E,79950μm,0.1s						
BADI	**Badiali**	**0.08**	**299**	*i* P	**Pg**	**01 38 44.1**	**+0.3**
BADI				S	**Sg**	**01 38 45.8**	**+0.2**
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
BADI				AML	AML		
CDCA	**Citt' di Caste**	**0.08**	**259**	*i* P	**Pg**	**01 38 44.4**	**+0.7**
CDCA				S	**Sg**	**01 38 46.5**	**+1.0**
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
CDCA				AML	AML		
CDCA				AML	AML		
CDCA				AML	AML		
	comp=E,47350μm,1.6s						
CDCA				AML	AML		
	comp=N,47300μm,0.2s						
ATPC	**Poggio Castell**	**0.09**	**85**	P	**Pg**	**01 38 43.8**	**-0.1**
ATPC				S	**Sg**	**01 38 45.5**	**-0.4**
ATPC				AML	AML		
	comp=E,27300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,99300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,27300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,99300μm,0.2s						
ATPC				AML	AML		
ATPC				AML	AML		
ATPC				AML	AML		
ATPC				AML	AML		
	comp=E,99300μm,0.2s						
ATPC				AML	AML		
	comp=E,27300μm,0.2s						
ATVO	**AVT- Monte Val**	**0.10**	**150**	*i* P	**Pg**	**01 38 44.8**	**+0.7**
ATVO				S	**Sg**	**01 38 47.0**	**+0.8**
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATVO				AML	AML		
	comp=E,59800μm,0.7s						
ATVO				AML	AML		
	comp=N,19100μm,0.9s						
ATMC	**Monte Cedrone**	**0.11**	**256**	P	**Pg**	**01 38 44.9**	**+0.7**
ATMC				S	**Sg**	**01 38 47.1**	**+0.8**
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
ATMC				AML	AML		
	comp=E,88250μm,0.8s						
ATMC				AML	AML		
	comp=N,77300μm,0.8s						
ATBU	**Serra di Buran**	**0.15**	**89**	P	**Pg**	**01 38 45.0**	**+0.1**
ATBU				S	**Sg**	**01 38 47.6**	**+0.2**
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
ATBU				AML	AML		
	comp=N,40150μm,1.5s						
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
ATBU				AML	AML		
	comp=N,40200μm,1.5s						
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
ATBU				AML	AML		
	comp=N,40150μm,1.5s						
ATBU				AML	AML		
	comp=N,40150μm,1.5s						
ATBU				AML	AML		
	comp=E,35100μm,0.5s						
PIEI	**Pieia**	**0.16**	**66**	P	**Pg**	**01 38 44.6**	**-0.3**
PIEI				S	**Sg**	**01 38 47.2**	**-0.3**
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
PIEI				AML	AML		
	comp=N,34250μm,0.3s						
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
PIEI				AML	AML		
	comp=N,34300μm,0.3s						
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
PIEI				AML	AML		
	comp=N,34300μm,0.3s						
PIEI				AML	AML		
	comp=N,34300μm,0.3s						
PIEI				AML	AML		
	comp=E,47300μm,0.5s						
SSP9	**Sansepolcro**	**0.18**	**304**	P	**Pg**	**01 38 45.8**	**+0.6**
SSP9				S	**Sg**	**01 38 48.8**	**+0.8**
SSP9				AML	AML		
	comp=E,10040μm,1.5s						
SSP9				AML	AML		
	comp=N,8715μm,1.6s						
SSP9				AML	AML		
	comp=N,8715μm,1.6s						
SSP9				AML	AML		
	comp=E,10040μm,1.5s						
PARC	**Parchiule**	**0.19**	**338**	P	**Pg**	**01 38 45.5**	**+0.1**
PARC				S	**Sg**	**01 38 48.8**	**+0.5**
PARC				AML	AML		
	comp=E,47600μm,0.6s						
PARC				AML	AML		
	comp=N,50200μm,0.3s						
PARC				AML	AML		
	comp=E,47600μm,0.6s						
PARC				AML	AML		
	comp=N,50200μm,0.3s						
PARC				AML	AML		
	comp=N,50200μm,0.3s						
PARC				AML	AML		
	comp=E,47600μm,0.6s						
ATVA	**AVT- Monte Val**	**0.20**	**191**	AML	AML		
	comp=E,5695μm,0.5s						
ATVA				AML	AML		
	comp=E,5695μm,0.5s						
ATVA				AML	AML		
	comp=N,4895μm,1.4s						
ATVA				AML	AML		
	comp=N,4895μm,1.4s						
ATVA				AML	AML		
	comp=E,5695μm,0.5s						
ATVA				AML	AML		
	comp=N,4895μm,1.4s						
NARO	**Abbazia di Nar**	**0.23**	**52**	P	**Pg**	**01 38 45.6**	**-0.4**
NARO				S	**Sg**	**01 38 48.8**	**-0.4**
NARO				AML	AML		
	comp=E,9805μm,0.9s						
NARO				AML	AML		
	comp=N,15750μm,0.2s						
NARO				AML	AML		
	comp=E,9805μm,0.9s						
NARO				AML	AML		
	comp=N,15750μm,0.2s						
NARO				AML	AML		
	comp=E,9805μm,0.9s						
NARO				AML	AML		
	comp=N,15750μm,0.2s						
MURB	**Monte Urbino**	**0.25**	**147**	P	**Pg**	**01 38 47.3**	**+0.8**
MURB				S	**Sb**	**01 38 52.3**	**+0.1**
MURB				AML	AML		
	comp=E,25100μm,1.3s						
MURB				AML	AML		
	comp=N,17700μm,1.0s						
MURB				AML	AML		
	comp=E,25950μm,1.4s						
MURB				AML	AML		
	comp=N,17400μm,0.7s						
MURB				AML	AML		
	comp=E,25100μm,1.3s						
MURB				AML	AML		
	comp=N,17650μm,1.0s						
MURB				AML	AML		
	comp=E,25950μm,1.4s						
MURB				AML	AML		
	comp=N,17400μm,0.7s						
MURB				AML	AML		
	comp=N,17400μm,0.7s						
MURB				AML	AML		
	comp=N,17650μm,1.0s						
MURB				AML	AML		
	comp=E,25100μm,1.3s						
MURB				AML	AML		
	comp=E,25950μm,1.4s						
PE3	**Peglio**	**0.25**	**27**	P	**Pg**	**01 38 46.4**	**-0.1**
PE3				S	**Sg**	**01 38 50.1**	**0.0**
PE3				AML	AML		
	comp=E,30000μm,0.5s						
PE3				AML	AML		
	comp=N,36950μm,0.9s						
PE3				AML	AML		
	comp=E,30000μm,0.5s						
PE3				AML	AML		
	comp=N,36950μm,0.9s						
PE3				AML	AML		
	comp=E,30000μm,0.5s						
PE3				AML	AML		
	comp=N,36950μm,0.9s						
ATTE	**AVT- Monte Tez**	**0.28**	**177**	P	**Pg**	**01 38 47.7**	**+0.8**
ATTE				S	**Sb**	**01 38 53.0**	**+0.1**
ATTE				AML	AML		
	comp=E,6765μm,1.1s						
ATTE				AML	AML		
	comp=N,5830μm,1.1s						
ATTE				AML	AML		
	comp=E,6765μm,1.1s						
ATTE				AML	AML		
	comp=N,5830μm,1.1s						
ATTE				AML	AML		
	comp=N,5830μm,1.1s						
ATTE				AML	AML		
	comp=E,6765μm,1.1s						
FRON	**Frontone**	**0.29**	**81**	P	**Pg**	**01 38 46.9**	**-0.2**
FRON				S	**Sg**	**01 38 51.3**	**+0.2**
FRON				AML	AML		
	comp=E,4620μm,0.4s						
FRON				AML	AML		
	comp=N,6560μm,1.5s						
FRON				AML	AML		
	comp=E,4615μm,0.4s						
FRON				AML	AML		
	comp=N,6560μm,1.5s						
FRON				AML	AML		
	comp=N,6560μm,1.5s						
FRON				AML	AML		
	comp=E,4615μm,0.4s						
CAFI	**Castiglion Fio**	**0.30**	**242**	P	**Pg**	**01 38 48.6**	**+1.2**
CAFI				AML	AML		
	comp=E,8850μm,0.3s						
CAFI				AML	AML		
	comp=N,9770μm,0.3s						
CAFI				AML	AML		
	comp=E,9070μm,0.3s						
CAFI				AML	AML		
	comp=N,10405μm,0.3s						
CAFI				AML	AML		
	comp=E,8850μm,0.3s						
CAFI				AML	AML		
	comp=N,9740μm,0.3s						
CAFI				AML	AML		
	comp=E,9070μm,0.3s						
CAFI				AML	AML		
	comp=N,10405μm,0.3s						
CAFI				AML	AML		
	comp=N,9740μm,0.3s						
CAFI				AML	AML		
	comp=N,10405μm,0.3s						
CAFI				AML	AML		
	comp=E,9070μm,0.3s						
CAFI				AML	AML		
	comp=E,8850μm,0.3s						
SSFR	**Montelago di S**	**0.33**	**96**	P	**Pg**	**01 38 47.8**	**-0.1**
SSFR				S	**Sb**	**01 38 53.0**	**-1.4**
SSFR				AML	AML		
	comp=E,7645μm,1.3s						
SSFR				AML	AML		
	comp=N,11150μm,0.4s						
SSFR				AML	AML		
	comp=N,11150μm,0.4s						
SSFR				AML	AML		
	comp=E,7645μm,1.3s						
CPGN	**Carpegna, Ital**	**0.33**	**358**	P	**Pb**	**01 38 48.5**	**-0.8**
CPGN				AML	AML		
	comp=E,9400μm,0.7s						
CPGN				AML	AML		
	comp=N,14600μm,0.3s						
CPGN				AML	AML		
	comp=E,9265μm,0.7s						
CPGN				AML	AML		
	comp=N,14050μm,0.3s						
CPGN				AML	AML		
	comp=E,9365μm,0.7s						
CPGN				AML	AML		
	comp=N,14600μm,0.3s						
CPGN				AML	AML		
	comp=E,9195μm,0.7s						
CPGN				AML	AML		
	comp=N,14050μm,0.3s						
CPGN				AML	AML		
	comp=E,9365μm,0.7s						
CPGN				AML	AML		
	comp=E,9195μm,0.7s						
CPGN				AML	AML		
	comp=N,14600μm,0.3s						
CPGN				AML	AML		
	comp=N,14050μm,0.3s						
MPAG	**Monte Paganucc**	**0.34**	**63**	P	**Pg**	**01 38 48.0**	**-0.3**
MPAG				S	**Sb**	**01 38 53.1**	**-1.9**
MPAG				AML	AML		
	comp=E,4525μm,0.6s						
MPAG				AML	AML		
	comp=N,7220μm,0.2s						
MPAG				AML	AML		
	comp=E,4420μm,0.5s						
MPAG				AML	AML		
	comp=N,7270μm,0.3s						
MPAG				AML	AML		
	comp=E,4525μm,0.6s						
MPAG				AML	AML		
	comp=N,7215μm,0.2s						
MPAG				AML	AML		
	comp=E,4420μm,0.5s						
MPAG				AML	AML		
	comp=N,7275μm,0.3s						
MPAG				AML	AML		
	comp=N,7275μm,0.3s						
MPAG				AML	AML		
	comp=E,4420μm,0.5s						
MPAG				AML	AML		
	comp=E,4525μm,0.6s						
MPAG				AML	AML		
	comp=N,7215μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.36**	**142**	P	**Pg**	**01 38 49.3**	**+0.7**
ATCC				S	**Sb**	**01 38 55.9**	**+0.5**
ATCC				AML	AML		
	comp=E,11550μm,0.5s						
ATCC				AML	AML		
	comp=N,7345μm,0.6s						
ATCC				AML	AML		
	comp=E,11550μm,0.5s						
ATCC				AML	AML		
	comp=N,7345μm,0.6s						
ATCC				AML	AML		
	comp=E,11550μm,0.5s						
ATCC				AML	AML		
	comp=N,7345μm,0.6s						
FSSB	**Fossombrone**	**0.39**	**55**	P	**Pg**	**01 38 48.7**	**-0.3**
FSSB				S	**Sb**	**01 38 54.6**	**-1.6**
FSSB				AML	AML		
	comp=E,12150μm,0.3s						
FSSB				AML	AML		
	comp=N,13250μm,0.3s						
FSSB				AML	AML		

	comp=E,12150µm,0.3s								
FSSB					AML	AML			
	comp=N,13250µm,0.3s								
FSSB					AML	AML			
	comp=E,12150µm,0.3s								
FSSB					AML	AML			
	comp=N,13250µm,0.3s								
ARVD	**Arcevia**	**0.44**	**86**		P	**Pg**	**01 38 49.9**	**-0.1**	
ARVD					S	**Sb**	**01 38 56.7**	**-1.0**	
ARVD					AML	AML			
	comp=E,2160µm,0.7s								
ARVD					AML	AML			
	comp=N,1910µm,0.4s								
ARVD					AML	AML			
	comp=E,2160µm,0.7s								
ARVD					AML	AML			
	comp=N,1910µm,0.4s								
ARVD					AML	AML			
	comp=N,1910µm,0.4s								
ARVD					AML	AML			
	comp=E,2160µm,0.7s								
RSM	**Repubblica di**	**0.47**	**10**	*i*	P	**Pb**	**01 38 51.3**	**-0.3**	
RSM					AML	AML			
	comp=E,5375µm,1.2s								
RSM					AML	AML			
	comp=N,9215µm,0.7s								
RSM					AML	AML			
	comp=E,5375µm,1.2s								
RSM					AML	AML			
	comp=N,9210µm,0.7s								
RSM					AML	AML			
	comp=N,9210µm,0.7s								
RSM					AML	AML			
	comp=E,5375µm,1.2s								
ASSB	**Assisi San Ben**	**0.49**	**151**		P	**Pg**	**01 38 51.3**	**+0.5**	
ASSB					S	**Sb**	**01 38 59.3**	**+0.2**	
ASSB					AML	AML			
	comp=E,2150µm,0.3s								
ASSB					AML	AML			
	comp=N,3250µm,0.8s								
ASSB					AML	AML			
	comp=E,2150µm,0.3s								
ASSB					AML	AML			
	comp=N,3250µm,0.8s								
ASSB					AML	AML			
	comp=E,2150µm,0.3s								
SNTG	**Esanatoglia**	**0.49**	**116**		P	**Pg**	**01 38 51.0**	**+0.1**	
SNTG					S	**Sb**	**01 38 58.9**	**-0.3**	
SNTG					AML	AML			
	comp=E,2575µm,0.3s								
SNTG					AML	AML			
	comp=N,5520µm,0.3s								
SNTG					AML	AML			
	comp=E,2575µm,0.3s								
SNTG					AML	AML			
	comp=N,5520µm,0.3s								
SNTG					AML	AML			
	comp=N,5520µm,0.3s								
SNTG					AML	AML			
	comp=E,2575µm,0.3s								
COR1	**Corinaldo**	**0.51**	**72**		P	**Pb**	**01 38 51.3**	**-0.9**	
COR1					S	**Sb**	**01 38 59.2**	**-0.4**	
COR1					AML	AML			
	comp=E,21530µm,1.6s								
COR1					AML	AML			
	comp=N,60265µm,1.2s								
ASQU	**Asqua**	**0.51**	**309**		P	**Pg**	**01 38 51.6**	**+0.3**	
ASQU					AML	AML			
	comp=E,3610µm,0.3s								
ASQU					AML	AML			
	comp=N,4205µm,1.6s								
ASQU					AML	AML			
	comp=E,3610µm,0.3s								
ASQU					AML	AML			
	comp=N,4205µm,1.6s								
ASQU					AML	AML			
	comp=E,3610µm,0.3s								
ASQU					AML	AML			
	comp=N,4205µm,1.6s								
EL6	**Elcito**	**0.58**	**104**		P	**Pg**	**01 38 52.3**	**-0.2**	
EL6					S	**Sb**	**01 39 01.4**	**-0.2**	
EL6					AML	AML			
	comp=E,2535µm,0.4s								
EL6					AML	AML			
	comp=N,4030µm,0.4s								
EL6					AML	AML			
	comp=E,2535µm,0.4s								
EL6					AML	AML			
	comp=N,4030µm,0.4s								
EL6					AML	AML			
	comp=E,2535µm,0.4s								
EL6					AML	AML			
	comp=N,4030µm,0.4s								
MGAB	**Montegabbione**	**0.58**	**196**		P	**Pg**	**01 38 53.6**	**+0.9**	
MGAB					S	**Sb**	**01 39 02.8**	**+1.0**	
MGAB					AML	AML			
	comp=E,7475µm,0.7s								
MGAB					AML	AML			
	comp=N,8020µm,1.6s								
MGAB					AML	AML			
	comp=E,9005µm,0.7s								
MGAB					AML	AML			
	comp=N,7105µm,1.6s								
MGAB					AML	AML			
	comp=N,7105µm,1.6s								
MGAB					AML	AML			
	comp=N,8020µm,1.6s								
MGAB					AML	AML			
	comp=E,7475µm,0.7s								
MGAB					AML	AML			
	comp=E,9005µm,0.7s								
PESA	**Pesaro**	**0.59**	**38**	*i*	P	**Pg**	**01 38 52.6**	**-0.2**	
PESA					AML	AML			
	comp=E,6520µm,1.6s								
PESA					AML	AML			
	comp=N,6370µm,0.4s								
PESA					AML	AML			
	comp=E,6520µm,1.6s								
PESA					AML	AML			
	comp=N,6370µm,0.4s								
PESA					AML	AML			
	comp=N,6370µm,0.4s								
PESA					AML	AML			
	comp=E,6520µm,1.6s								
CESI	**CESI - Serrava**	**0.62**	**138**		P	**Pg**	**01 38 53.7**	**+0.3**	
CESI					S	**Sb**	**01 39 03.0**	**0.0**	
CESI					AML	AML			
	comp=E,298µm,0.7s								
CESI					AML	AML			
	comp=N,962µm,0.5s								
CESI					AML	AML			
	comp=E,298µm,0.7s								
CESI					AML	AML			
	comp=N,962µm,0.5s								
CESI					AML	AML			
	comp=N,962µm,0.5s								
CESI					AML	AML			
	comp=E,298µm,0.7s								
CING	**Cingoli**	**0.63**	**99**		P	**Pg**	**01 38 53.5**	**-0.1**	
CING					S	**Sb**	**01 39 02.8**	**-0.4**	
CING					AML	AML			
	comp=E,984µm,0.5s								
CING					AML	AML			
	comp=N,1030µm,0.8s								
CING					AML	AML			
	comp=N,1030µm,0.8s								
CING					AML	AML			
	comp=E,984µm,0.5s								
BLLA	**Bellaria**	**0.68**	**8**		AML	AML			
	comp=E,2996µm,1.4s								
BLLA					AML	AML			
	comp=E,3034µm,1.4s								
BLLA					AML	AML			
	comp=N,2945µm,1.4s								
BLLA					AML	AML			
	comp=E,2996µm,1.4s								
BLLA					AML	AML			
	comp=N,2995µm,1.4s								
BLLA					AML	AML			
	comp=N,2995µm,1.4s								
SENI	**Senigallia**	**0.69**	**70**		AML	AML			
	comp=E,8030µm,0.5s								
SENI					AML	AML			
	comp=N,6565µm,0.4s								
SENI					AML	AML			
	comp=E,1979µm,1.0s								
SENI					AML	AML			
	comp=N,2415µm,0.8s								
SENI					AML	AML			
	comp=E,8035µm,0.5s								
SENI					AML	AML			
	comp=N,6565µm,0.4s								
SENI					AML	AML			
	comp=E,1980µm,1.0s								
SENI					AML	AML			
	comp=N,2420µm,0.8s								
SENI					AML	AML			
	comp=N,2420µm,0.8s								
SENI					AML	AML			
	comp=E,1980µm,1.0s								
SENI					AML	AML			
	comp=N,6565µm,0.4s								
SENI					AML	AML			
	comp=E,8035µm,0.5s								
SACS	**San Casciano d**	**0.70**	**207**		P	**Pg**	**01 38 55.7**	**+0.9**	
SACS					AML	AML			
	comp=E,2405µm,0.6s								
SACS					AML	AML			
	comp=N,3030µm,1.5s								
SACS					AML	AML			
	comp=E,2265µm,0.6s								
SACS					AML	AML			
	comp=N,3140µm,1.5s								
SACS					AML	AML			
	comp=E,2265µm,0.6s								
SACS					AML	AML			
	comp=N,3140µm,1.5s								
SACS					AML	AML			
	comp=N,3030µm,1.5s								
SACS					AML	AML			
	comp=E,2405µm,0.6s								
FDMO	**Fiordimonte**	**0.70**	**128**		P	**Pg**	**01 38 54.8**	**-0.1**	
FDMO					AML	AML			
	comp=E,879µm,0.6s								
FDMO					AML	AML			
	comp=N,1350µm,0.6s								
FDMO					AML	AML			
	comp=E,879µm,0.6s								
FDMO					AML	AML			
	comp=N,1350µm,0.6s								
FDMO					AML	AML			
	comp=E,879µm,0.6s								
FDMO					AML	AML			
	comp=N,1350µm,0.6s								
CSP1	**Cessapalombo**	**0.74**	**121**		P	**Pg**	**01 38 55.7**	**+0.1**	
CSP1					AML	AML			
	comp=E,2170µm,0.3s								
CSP1					AML	AML			
	comp=N,4705µm,0.6s								
CSP1					AML	AML			
	comp=N,4705µm,0.6s								
CSP1					AML	AML			
	comp=E,2170µm,0.3s								
CSNT	**Castellina Chi**	**0.76**	**270**		P	**Pg**	**01 38 56.8**	**+0.8**	
CSNT					AML	AML			
	comp=E,1031µm,1.0s								
CSNT					AML	AML			
	comp=N,1420µm,0.7s								
CSNT					AML	AML			
	comp=E,1031µm,1.0s								
CSNT					AML	AML			
	comp=N,1420µm,0.7s								
CSNT					AML	AML			
	comp=E,1031µm,1.0s								
CSNT					AML	AML			
	comp=N,1420µm,0.7s								
MCIV	**Monte Civitell**	**0.84**	**215**		P	**Pg**	**01 38 58.2**	**+0.6**	
MCIV					AML	AML			
	comp=E,897µm,0.5s								
MCIV					AML	AML			
	comp=N,506µm,0.6s								
MCIV					AML	AML			
	comp=E,897µm,0.5s								
MCIV					AML	AML			
	comp=N,506µm,0.6s								
MCIV					AML	AML			
	comp=E,897µm,0.5s								
MCIV					AML	AML			
	comp=N,506µm,0.6s								
NRCA	**Norcia**	**0.86**	**138**		P	**Pg**	**01 38 57.9**	**+0.1**	
NRCA					AML	AML			
	comp=E,1084µm,0.8s								
NRCA					AML	AML			
	comp=N,1142µm,0.7s								
NRCA					AML	AML			
	comp=E,1084µm,0.8s								
NRCA					AML	AML			
	comp=N,1142µm,0.7s								
CESX	**Cesi**	**0.88**	**168**		AML	AML			
	comp=N,1810µm,0.5s								
CESX					AML	AML			
	comp=E,1730µm,1.3s								
CESX					AML	AML			
	comp=N,1810µm,0.5s								
CESX					AML	AML			
	comp=E,1730µm,1.3s								
ARCI	**Arcidosso**	**0.88**	**226**		AML	AML			
	comp=E,649µm,1.1s								
ARCI					AML	AML			
	comp=E,649µm,1.1s								
ARCI					AML	AML			
	comp=N,1150µm,0.9s								
ARCI					AML	AML			
	comp=E,649µm,1.1s								
ARCI					AML	AML			
	comp=N,1150µm,0.9s								
ARCI					AML	AML			
	comp=N,1150µm,0.9s								
FROS	**Frosini**	**0.90**	**253**		P	**Pg**	**01 38 59.3**	**+0.7**	
FROS					AML	AML			
	comp=E,1800µm,0.4s								
FROS					AML	AML			
	comp=N,1310µm,0.7s								
FROS					AML	AML			
	comp=N,1310µm,0.7s								
FROS					AML	AML			
	comp=E,1800µm,0.4s								
ARRO	**Arrone**	**0.95**	**160**		AML	AML			
	comp=E,837µm,0.6s								
ARRO					AML	AML			
	comp=N,816µm,0.7s								
ARRO					AML	AML			
	comp=N,816µm,0.7s								
ARRO					AML	AML			
	comp=E,837µm,0.6s								
IMOL	**Imola, Italy**	**0.98**	**334**		AML	AML			
	comp=E,599µm,0.8s								
IMOL					AML	AML			
	comp=E,3025µm,0.8s								
IMOL					AML	AML			
	comp=N,1935µm,0.6s								
IMOL					AML	AML			
	comp=E,599µm,0.8s								
IMOL					AML	AML			
	comp=N,272µm,0.6s								
IMOL					AML	AML			
	comp=E,3025µm,0.8s								
IMOL					AML	AML			
	comp=N,272µm,0.6s								
IMOL					AML	AML			
	comp=N,1935µm,0.6s								
CRMI	**Carmignano**	**1.04**	**288**		P	**Pb**	**01 39 01.9**	**+0.6**	
CRMI					AML	AML			
	comp=E,373µm,0.4s								
CRMI					AML	AML			
	comp=N,720µm,0.6s								
CRMI					AML	AML			
	comp=E,148µm,0.4s								
CRMI					AML	AML			
	comp=N,294µm,0.6s								
CRMI					AML	AML			
	comp=N,720µm,0.6s								
CRMI					AML	AML			
	comp=N,294µm,0.6s								
CRMI					AML	AML			
	comp=E,373µm,0.4s								
CRMI					AML	AML			
	comp=E,148µm,0.4s								
TRIF	**Trifonti**	**1.11**	**252**		P	**Pg**	**01 39 03.2**	**+0.6**	
TRIF					AML	AML			
	comp=E,552µm,0.2s								
TRIF					AML	AML			
	comp=N,644µm,0.7s								
TRIF					AML	AML			
	comp=E,552µm,0.2s								
TRIF					AML	AML			
	comp=N,644µm,0.7s								
MTCR	**Monte La Croce**	**1.12**	**300**		P	**Pg**	**01 39 02.8**	**0.0**	
MTCR					AML	AML			
	comp=E,800µm,0.9s								
MTCR					AML	AML			
	comp=N,768µm,0.5s								
MTCR					AML	AML			
	comp=E,800µm,0.9s								
MTCR					AML	AML			
	comp=N,768µm,0.5s								
CAMP	**Campotosto**	**1.22**	**140**		P	**Pb**	**01 39 04.5**	**0.0**	
CAMP					AML	AML			
	comp=E,684µm,0.6s								
CAMP					AML	AML			
	comp=N,784µm,0.6s								
CAMP					AML	AML			
	comp=E,684µm,0.6s								
CAMP					AML	AML			
	comp=N,784µm,0.6s								
GUMA	**Gualdo di Mace**	**1.24**	**109**		P	Pb	01 38 57.8	-6.9	
GUMA					AML	AML			
	comp=E,4280µm,0.6s								
GUMA					AML	AML			
	comp=N,3465µm,0.6s								
GUMA					AML	AML			
	comp=E,4280µm,0.6s								
GUMA					AML	AML			
	comp=N,3465µm,0.6s								
TERO	**Teramo**	**1.26**	**132**		AML	AML			
	comp=N,334µm,0.6s								
TERO					AML	AML			
	comp=E,354µm,0.6s								
TERO					AML	AML			
	comp=E,354µm,0.6s								
TERO					AML	AML			
	comp=N,334µm,0.6s								
CASP	**Castiglione de**	**1.27**	**238**		P	**Pn**	**01 39 04.7**	**-0.3**	
CASP					AML	AML			
	comp=E,191µm,0.8s								
CASP					AML	AML			
	comp=N,166µm,0.3s								
CASP					AML	AML			
	comp=E,191µm,0.8s								
CASP					AML	AML			
	comp=N,166µm,0.3s								
POPM	**Popiglio**	**1.28**	**297**		P	**Pn**	**01 39 05.1**	**0.0**	
AQU	**L'Aquila**	**1.36**	**145**	*e*Pn		**Pn**	**01 39 02.1**	**-4.2**	
MAIM	**Mastiano**	**1.41**	**289**		P	**Pn**	**01 39 06.5**	**-0.3**	
MAIM					S	**Sn**	**01 39 25.2**	**-0.2**	
CARD	**Cardoso**	**1.45**	**293**		P	**Pn**	**01 39 07.2**	**-0.2**	
CARD					S	**Sn**	**01 39 24.7**	**-1.8**	
SARO	**Sassorosso**	**1.57**	**298**		AML	AML			
	comp=E,305µm,0.9s								
SARO					AML	AML			
	comp=E,305µm,0.9s								
SARO					AML	AML			
	comp=N,268µm,0.6s								
SARO					AML	AML			
	comp=N,268µm,0.6s								
TEOL	**Teolo**	**1.95**	**346**	*e*Pg		**Pg**	**01 39 18.0**	**-0.6**	
TEOL					*e*Sg	**Sb**	**01 39 40.6**	**-0.4**	
NVLJ	**Novalja**	**2.13**	**58**	*e*Pn		**Pn**	**01 39 17.2**	**+0.5**	
NVLJ					Sn	**Sn**	**01 39 43.2**	**+0.1**	
SKDS	**Skadanscina**	**2.40**	**29**	*i* Pn		**Pn**	**01 39 18.3**	**-2.1**	
SKDS				*i*			01 39 21.0		
RIY	**Rijeka**	**2.41**	**39**	*e*Pn		**Pn**	**01 39 20.4**	**-0.2**	
TRI	**Trieste**	**2.46**	**24**	*e*Pg		**Pn**	**01 39 20.8**	**-0.4**	
TRI				*e*Sg		**Sn**	**01 39 51.4**	**+0.1**	
TRI	**Trieste**	**2.46**	**24**		AML	AML			
	comp=E,142µm,0.7s								
TRI					AML	AML			
	comp=E,142µm,0.7s								
TRI					AML	AML			
	comp=N,141µm,0.7s								
TRI					AML	AML			
	comp=N,141µm,0.7s								
POLC	**Polcenigo**	**2.56**	**3**		AML	AML			
	comp=N,658µm,0.5s								
POLC					AML	AML			
	comp=E,370µm,0.8s								
POLC					AML	AML			
	comp=N,658µm,0.5s								
POLC					AML	AML			
	comp=E,370µm,0.8s								
PGF	**Pioggiola**	**2.62**	**250**	*e*Pn		**Pn**	**01 39 24.1**	**+0.6**	
	SNR=1.0								
PGF				*e*Sn		**Sn**	**01 39 53.8**	**-1.5**	
	comp=E,3.3nm,0.3s								
SABO	**M.te Sabotino**	**2.66**	**19**		AML	AML			
	comp=E,296µm,1.3s								
SABO					AML	AML			
	comp=N,370µm,0.6s								
SABO					AML	AML			
	comp=E,296µm,1.3s								
SABO					AML	AML			
	comp=N,370µm,0.6s								
CEY	**Cerknica**	**2.71**	**33**	*e*Pn		**Pn**	**01 39 24.5**	**-0.3**	
JAVS	**Javornik**	**2.72**	**26**	*i* Pn		**Pn**	**01 39 24.8**	**-0.1**	
STAL	**STALIGIAL**	**2.80**	**5**		AML	AML			
	comp=E,244µm,0.8s								
STAL					AML	AML			
	comp=E,244µm,0.8s								
STAL					AML	AML			
	comp=N,310µm,1.1s								
STAL					AML	AML			
	comp=E,213µm,0.6s								
STAL					AML	AML			
	comp=N,166µm,0.5s								
STAL					AML	AML			
	comp=N,166µm,0.5s								
STAL					AML	AML			
	comp=N,310µm,1.1s								
STAL					AML	AML			
	comp=E,213µm,0.6s								
VISS	**Visnje**	**2.94**	**37**	*i* Pn		**Pn**	**01 39 28.4**	**+0.5**	
LJU	**Ljubljana**	**3.01**	**31**	*e*Pn		**Pn**	**01 39 29.4**	**+0.6**	
PTCC	**Patocco-Chiusa**	**3.02**	**13**		AML	AML			
	comp=E,78µm,1.6s								
PTCC					AML	AML			
	comp=E,78µm,1.6s								
PTCC					AML	AML			
	comp=N,93µm,0.6s								
PTCC					AML	AML			
	comp=N,93µm,0.6s								
OZLJ	**Ozalj**	**3.10**	**45**	*e*Pn		**Pn**	**01 39 31.4**	**+1.4**	
CRES	**Cresnjev**	**3.24**	**42**	*e*Pn		**Pn**	**01 39 32.7**	**+0.7**	
ABTA	**Abfaltersbach**	**3.28**	**2**	*e*Pn		**Pn**	**01 39 33.9**	**+1.3**	
	comp=N,8.5nm,0.4s								
ABTA				*e*Sn		**Sb**	**01 40 15.9**	**-3.5**	
	comp=N,63nm,0.7s								
MYKA	**Terra Mystica**	**3.29**	**16**	*e*Pn		**Pn**	**01 39 33.6**	**+0.8**	
	comp=N,5.4nm,0.5s								
OBKA	**Obir**	**3.42**	**27**	*e*Pn		**Pn**	**01 39 35.2**	**+0.7**	
	comp=N,3.1nm,0.4s								
OBKA					Sg	**Sg**	**01 40 34.8**	**+3.8**	
	comp=N,56nm,0.7s								
SAOF	**Saorge**	**3.50**	**280**		Pn	**Pn**	**01 39 36.8**	**+1.1**	
SAOF					Sn	**Sn**	**01 40 17.0**	**-0.1**	
SBF	**Sospel**	**3.58**	**278**	*e*Pn		**Pn**	**01 39 37.8**	**+1.1**	
	SNR=1.0								
SBF				*e*Sn		**Sn**	**01 40 17.6**	**-1.4**	
	comp=N,14nm,0.3s								
KBA	**Koelnbreinsper**	**3.67**	**11**	*e*Pn		**Pn**	**01 39 39.6**	**+1.4**	
	comp=N,13nm,0.4s,SNR=7.1								
KBA					Sg	Sg	01 40 50.3	+11	
	comp=N,25nm,0.6s								
BLY	**Banja Luka**	**3.72**	**68**	*e*Pn		**Pb**	**01 39 47.9**	**+1.0**	
FETA	**Feichten**	**3.73**	**343**	*e*Pn		**Pn**	**01 39 41.6**	**+2.8**	
	comp=N,13nm,0.7s								
FETA				*e*Sn		**Sn**	**01 40 27.2**	**+4.4**	
	comp=N,8.2nm,0.4s								
SOKA	**Soboth**	**3.73**	**30**	*e*Pn		**Pn**	**01 39 39.6**	**+0.7**	
	comp=N,0.4nm,0.3s								
WTTA	**Wattenberg**	**3.82**	**353**	*e*Pn		**Pn**	**01 39 43.7**	**+3.5**	
	comp=N,4.8nm,0.2s								
SQTA	**Sankt Quirin**	**3.83**	**348**	*e*Pn		**Pn**	**01 39 43.5**	**+3.3**	
	comp=N,3.0nm,0.1s,SNR=14								
SQTA				*e*Sn		**Sb**	**01 40 30.4**	**-5.0**	
	comp=N,29nm,0.5s								
ISO	**Isola**	**3.89**	**282**		Pn	**Pn**	**01 39 41.4**	**+0.4**	
ISO					Sn	**Sn**	**01 40 27.4**	**+0.7**	
WATA	**Walderalm**	**3.90**	**352**	*e*Pn		**Pn**	**01 39 44.5**	**+3.3**	
	comp=N,6.2nm,0.2s								
MOTA	**Moosalm**	**3.97**	**348**	*e*Pn		**Pn**	**01 39 45.4**	**+3.3**	

	comp=N,13nm,0.6s,SNR=18						
STON	Ston	3.97	97	ePn	Pn	01 39 44.0	+1.9
STON				Sn	Sn	01 40 29.9	+1.4
STON	Ston	3.97	97	ePn	Pn	01 39 43.9	+1.9
SURF	Saint Ours	4.11	286	Pn	Pn	01 39 45.2	+1.0
SURF				Sn	Sn	01 40 31.5	-0.9
FRF	La Foret Royal	4.14	273	ePn	Pn	01 39 46.1	+1.7
	SNR=1.0						
FRF				eSn	Sn	01 40 30.5	-2.2
	comp=N,2.0nm,0.2s,SNR=1.0						
RETA	Reutte	4.16	345	ePn	Pn	01 39 48.1	+3.3
	comp=N,8.3nm,0.3s,SNR=11						
RETA				eSn	Sn	01 40 39.0	+5.5
	comp=N,14nm,0.5s						
DAVA	Damuels	4.19	336	ePn	Pn	01 39 48.8	+3.6
	comp=N,3.4nm,0.2s						
DAVA				eSn	Sn	01 40 39.6	+5.5
	comp=N,14nm,0.5s						
MBDF	Montbardon	4.20	289	ePn	Pn	01 39 45.7	+0.3
	SNR=1.0						
MBDF				eSn	Sn	01 40 32.8	-1.6
	comp=N,15nm,0.6s,SNR=1.0						
LMR	La Mourre	4.25	270	ePn	Pn	01 39 46.6	+0.7
	SNR=1.0						
LMR				eSn	Sn	01 40 32.7	-2.7
	comp=N,1.7nm,0.3s						
BEHE	Becsehely	4.35	45	ePn	Pn	01 39 45.3	-1.9
ARSA	Arzberg	4.39	30	ePn	Pn	01 39 48.0	+0.1
	comp=N,1.7nm,0.3s						
TREB	Trebinje	4.47	98	ePn	Pb	01 39 54.6	-5.1
LPG	La Plagne	4.48	299	ePn	Pn	01 39 49.9	+0.6
	SNR=1.0						
LPG				eSn	Sn	01 40 40.3	-1.2
LPL	La Plagne	4.50	299	ePn	Pn	01 39 51.0	+1.5
	SNR=1.0						
LPL				eSn	Sn	01 40 40.6	-1.3
	comp=N,6.3nm,0.4s						
BRY	Bratogost	4.57	95	ePn	Pn	01 39 53.5	+3.0
MOA	Molln	4.58	16	ePn	Pn	01 39 51.8	+1.3
	comp=N,5.2nm,0.4s,SNR=16						
MOA				eSn	Sn	01 40 46.3	+2.7
	comp=N,5.9nm,0.3s						
HAPS	Han Pijesak,Bl	4.83	80	ePn	Pn	01 39 55.8	+1.8
ORIF	Oris-en-Rattie	4.86	290	ePn	Pn	01 39 55.5	+1.1
	SNR=1.0						
ORIF				eSn	Sn	01 40 48.7	-2.0
	comp=N,10nm,0.6s,SNR=1.0						
ORIF	Oris-en-Rattie	4.86	290	Pn	Pn	01 39 54.5	+0.1
SMRF	Simiane la Rot	4.93	278	ePn	Pn	01 39 56.2	+1.0
	SNR=1.0						
CONA	Conrad Observa	5.09	28	ePn	Pn	01 39 58.0	+0.4
	comp=N,1.3nm,0.3s						
CONA				Sn	Sn	01 40 59.2	+2.9
	comp=N,5.3nm,0.7s						
OG02	Monnetier-Morn	5.11	304	Pn	Pn	01 39 58.6	+0.9
PDG	Podgorica	5.18	99	ePn	Pn	01 40 00.4	+1.7
DRME	Dracevica, Mon	5.20	102	ePn	Pn	01 40 00.6	+1.7
OGSM	Saint Maurice	5.20	297	Pn	Pn	01 40 00.4	+1.3
MORH	Mrgy, Hungar	5.26	56	ePn	Pn	01 39 53.8	-5.9
CABF	La Chapelle	5.43	307	ePn	Pn	01 40 04.0	+1.9
	SNR=1.0						
KIZ	Kirchzarten	5.45	327	Pn	Pn	01 40 04.3	+2.0
OG35	Corcelles	5.46	300	Pn	Pn	01 40 04.3	+1.7
CHMF	Charmoille	5.50	315	Pn	Pn	01 40 04.9	+1.7
KHC	Kasperske Hory	5.72	8	ePN	Pn	01 40 06.1	-0.1
KHC				ex	x	01 40 17.5	
KHC				eSN	Sn	01 41 11.2	-0.7
OPP	Oppenau	5.80	332	Pn	Pn	01 40 09.6	+2.5
HINF	Hinteralfeld	5.80	320	ePn	Pn	01 40 08.6	+1.4
	SNR=1.0						
HINF				eSn	Sn	01 41 10.8	-2.9
	comp=N,26nm,0.8s						
ECH	Echery	5.96	324	Pn	Pn	01 40 11.7	+2.2
MODS	Modra-Piesok	5.99	33	esPN		01 40 19.0	
CDF	Champ du Feu	6.07	326	ePn	Pn	01 40 12.7	+1.7
	SNR=1.0						
CDF				eSn	Sn	01 41 20.1	-0.3
	comp=N,18nm,0.7s,SNR=1.0						
LASF	Ste Croix	6.17	279	ePn	Pn	01 40 13.5	+1.2
	SNR=1.0						
LASF	Ste Croix	6.17	279	ePg	Pg	01 40 36.8	-2.6
	SNR=1.0						
LASF				eSn	Sn	01 41 19.2	-3.6
HAU	Haudompre	6.17	319	ePn	Pn	01 40 14.0	+1.7
	SNR=1.0						
HAU				eSn	Sn	01 41 20.7	-2.1
	comp=N,9.7nm,0.5s,SNR=1.0						
TREC	Trest	6.22	19	ePN	Pn	01 40 12.7	-0.2
GOPC	GO Pecny, Ondr	6.66	14	ePN	Pn	01 40 18.1	-0.9
PRU	Pruhonice	6.69	12	ePN	Pn	01 40 19.5	+0.1
PRU				ex	x	01 40 36.5	
PRU				eSN	Sn	01 41 33.5	-2.1
VYHS	Vyhne	6.76	40	esPN	Pn	01 40 29.4	+9.0
SMF	Signal de Mont	6.80	301	ePn	Pn	01 40 21.5	+0.6
	SNR=1.0						
SMF				eSn	Sn	01 41 35.4	-2.9
	comp=N,1.2nm,0.3s						
PAGF	Fort de Pagny	6.86	320	eSn	Sn	01 41 37.5	-2.1
	comp=N,2.4nm,0.3s						
SFTF	Sexfontaines	6.95	315	ePn	Pn	01 40 24.6	+1.6
LOR	Lormes	7.07	305	ePn	Pn	01 40 26.5	+1.8
	SNR=1.0						
LOR				eSn	Sn	01 41 42.2	-2.8
	comp=N,4.5nm,0.4s,SNR=1.0						
MEZF	Maizieres J'vi	7.14	317	ePn	Pn	01 40 27.5	+1.9
	SNR=1.0						
AVF	Avril sur Loir	7.17	301	ePn	Pn	01 40 25.0	-0.9
	SNR=1.0						
SSF	Saint Saulge	7.19	303	ePn	Pn	01 40 26.8	+0.6
SSF				eSn	Sn	01 41 44.8	-3.0
	comp=N,0.9nm,0.3s						
MTLF	Montolieu	7.37	272	ePn	Pn	01 40 29.4	+0.6
MTLF	Montolieu	7.37	272	ePg	Pg	01 40 58.8	-3.5
BGF	Bois d'Agland	7.40	298	ePn	Pn	01 40 30.0	+0.9
DPC	Dobruska-Polom	7.40	20	ePN	Pn	01 40 28.6	-0.6
BRG	Berggiesshubel	7.48	8	PG	Pn	01 40 29.8	-0.5
BRG				SG	Sb	01 42 09.2	-11
	comp=N,4.7nm,0.8s						
CLL	Collm	7.85	3	e	Sn	01 42 14.0	+10
CLL				eSg	Sg	01 42 58.0	+4.9

ROM 24 01:39:31.6±0.0,43.508N±0.003×12.375E±0.004, h9km,ML3.0/22,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	Pietralunga -	0.06	161	P	Pg	01 39 33.9	+0.3
ATPI				S	Sg	01 39 35.3	+0.3
ATPI				AML	AML		
	comp=E,31100µm,1.2s						
ATPI				AML	AML		
	comp=N,30300µm,0.5s						
ATPI				AML	AML		
	comp=E,31050µm,1.2s						
ATPI				AML	AML		
	comp=N,30300µm,0.5s						
ATPI				AML	AML		
	comp=E,31050µm,1.2s						
ATPI				AML	AML		
	comp=N,30350µm,0.5s						
ATPI				AML	AML		
	comp=E,31050µm,1.2s						
ATPI				AML	AML		
	comp=N,30350µm,0.5s						
ATPC	Poggio Castell	0.07	114	P	Pg	01 39 34.1	+0.5
ATPC				S	Sg	01 39 35.8	+0.7
ATPC				AML	AML		
	comp=E,10800µm,0.2s						
ATPC				AML	AML		
	comp=N,34700µm,0.6s						
ATPC				AML	AML		
	comp=E,39800µm,0.2s						
ATPC				AML	AML		
	comp=N,35700µm,0.6s						
ATPC				AML	AML		
	comp=E,10800µm,0.2s						
ATPC				AML	AML		
	comp=N,34700µm,0.6s						
ATPC				AML	AML		
	comp=E,39800µm,0.2s						
ATPC				AML	AML		
	comp=N,35700µm,0.6s						
ATPC				AML	AML		
	comp=E,10800µm,0.2s						
ATPC				AML	AML		
	comp=N,34700µm,0.6s						
ATPC				AML	AML		
	comp=E,39800µm,0.2s						
ATPC				AML	AML		
	comp=N,35700µm,0.6s						
ATPC				AML	AML		
	comp=N,34700µm,0.6s						
ATPC				AML	AML		
	comp=N,35700µm,0.6s						
ATPC				AML	AML		
	comp=E,10800µm,0.2s						
ATPC				AML	AML		
	comp=E,39800µm,0.2s						
BADI	Badiali	0.10	271	P	Pg	01 39 34.4	+0.4
BADI				S	Sg	01 39 36.2	+0.5
BADI				AML	AML		
	comp=E,12900µm,1.2s						
BADI				AML	AML		
	comp=N,13950µm,0.3s						
BADI				AML	AML		
	comp=E,12950µm,1.2s						
BADI				AML	AML		
	comp=N,13900µm,0.3s						
BADI				AML	AML		
	comp=E,12900µm,1.2s						
BADI				AML	AML		
	comp=N,13900µm,0.3s						
BADI				AML	AML		
	comp=N,13900µm,0.3s						
BADI				AML	AML		
	comp=E,12900µm,1.2s						
CDCA	Citt' di Caste	0.11	245	P	Pg	01 39 34.8	+0.6
CDCA				S	Sg	01 39 37.2	+1.2
CDCA				AML	AML		
	comp=E,8575µm,1.0s						
CDCA				AML	AML		
	comp=N,7715µm,0.8s						
CDCA				AML	AML		
	comp=E,8600µm,1.0s						
CDCA				AML	AML		
	comp=N,7725µm,0.8s						
CDCA				AML	AML		
	comp=E,8600µm,1.0s						
CDCA				AML	AML		
	comp=N,7725µm,0.8s						
PIEI	Pieia	0.12	76	AML	AML		
	comp=N,8930µm,0.2s						
PIEI				AML	AML		
	comp=E,13000µm,0.2s						
PIEI				AML	AML		
	comp=N,8930µm,0.2s						
PIEI				AML	AML		
	comp=E,13000µm,0.2s						
PIEI				AML	AML		
	comp=N,8930µm,0.2s						
PIEI				AML	AML		
	comp=E,13000µm,0.2s						
PIEI				AML	AML		
	comp=N,8930µm,0.2s						
PIEI				AML	AML		
	comp=E,13000µm,0.2s						
ATVO	AVT- Monte Val	0.13	170	P	Pg	01 39 35.1	+0.6
ATVO				S	Sg	01 39 37.2	+0.8
ATVO				AML	AML		
	comp=E,18300µm,0.7s						
ATVO				AML	AML		
	comp=N,10450µm,0.2s						
ATVO				AML	AML		
	comp=E,18300µm,0.7s						
ATVO				AML	AML		
	comp=N,10450µm,0.2s						
ATVO				AML	AML		
	comp=E,18300µm,0.7s						
ATVO				AML	AML		
	comp=N,10450µm,0.2s						
ATVO				AML	AML		
	comp=E,18300µm,0.7s						
ATVO				AML	AML		
	comp=N,10450µm,0.2s						
ATBU	Serra di Buran	0.13	104	AML	AML		
	comp=E,9360µm,1.4s						
ATBU				AML	AML		
	comp=E,9370µm,1.4s						
ATBU				AML	AML		
	comp=N,7710µm,0.2s						
ATBU				AML	AML		
	comp=E,9380µm,1.4s						
ATBU				AML	AML		
	comp=N,7710µm,0.2s						
ATBU				AML	AML		
	comp=E,9360µm,1.4s						
ATBU				AML	AML		
	comp=N,7710µm,0.2s						
ATBU				AML	AML		
	comp=N,7710µm,0.2s						
ATMC	Monte Cedrone	0.15	245	AML	AML		
	comp=N,8845µm,0.4s						
ATMC				AML	AML		
	comp=E,6900µm,0.8s						
ATMC				AML	AML		
	comp=N,8845µm,0.4s						
ATMC				AML	AML		
	comp=E,6900µm,0.8s						
ATMC				AML	AML		
	comp=N,8845µm,0.4s						
ATMC				AML	AML		
	comp=E,6900µm,0.8s						
ATMC				AML	AML		
	comp=N,8845µm,0.4s						
ATMC				AML	AML		
	comp=E,6900µm,0.8s						
PARC	Parchiule	0.17	325	P	Pg	01 39 35.8	+0.6
PARC				S	Sg	01 39 38.9	+1.1
PARC				AML	AML		
	comp=E,5620µm,1.6s						
PARC				AML	AML		
	comp=N,5295µm,1.3s						
PARC				AML	AML		
	comp=E,5620µm,1.6s						
PARC				AML	AML		
	comp=N,5295µm,1.3s						
PARC				AML	AML		
	comp=N,5295µm,1.3s						
PARC				AML	AML		
	comp=E,5620µm,1.6s						
NARO	Abbazia di Nar	0.18	55	P	Pg	01 39 35.9	+0.5
NARO				S	Sg	01 39 39.0	+1.1
NARO				AML	AML		
	comp=E,6190µm,0.8s						
NARO				AML	AML		
	comp=N,7405µm,0.6s						
NARO				AML	AML		
	comp=E,6190µm,0.8s						
NARO				AML	AML		
	comp=N,7405µm,0.6s						
NARO				AML	AML		
	comp=E,6190µm,0.8s						
NARO				AML	AML		
	comp=N,7405µm,0.6s						
PE3	Peglio	0.21	25	AML	AML		
	comp=N,8220µm,0.3s						
PE3				AML	AML		
	comp=E,9280µm,0.5s						
FRON	Frontone	0.26	88	P	Pg	01 39 37.3	+0.5
FRON				S	Sb	01 39 41.7	-1.3
FRON				AML	AML		
	comp=E,1820µm,0.4s						
FRON				AML	AML		
	comp=N,3080µm,0.1s						
FRON				AML	AML		
	comp=E,1820µm,0.4s						
FRON				AML	AML		
	comp=N,3080µm,0.1s						
FRON				AML	AML		
	comp=E,1820µm,0.4s						
FRON				AML	AML		
	comp=N,3080µm,0.1s						
MURB	Monte Urbino	0.27	156	P	Pg	01 39 37.6	+0.6
MURB				S	Sb	01 39 42.3	-1.0
MURB				AML	AML		
	comp=E,7885µm,0.3s						
MURB				AML	AML		
	comp=N,9435µm,0.3s						
MURB				AML	AML		
	comp=E,8110µm,0.3s						
MURB				AML	AML		
	comp=N,10255µm,0.3s						
MURB				AML	AML		
	comp=E,7885µm,0.3s						
MURB				AML	AML		
	comp=N,9430µm,0.3s						
MURB				AML	AML		
	comp=E,8110µm,0.3s						
MURB				AML	AML		
	comp=N,10255µm,0.3s						
MURB				AML	AML		
	comp=N,10255µm,0.3s						
MURB				AML	AML		
	comp=N,9430µm,0.3s						
MURB				AML	AML		
	comp=E,8110µm,0.3s						
MURB				AML	AML		
	comp=E,7885µm,0.3s						
CPGN	Carpegna, Ital	0.30	352	P	Pb	01 39 38.8	-0.4
MPAG	Monte Paganucc	0.30	66	P	Pg	01 39 38.2	+0.6
MPAG				S	Sb	01 39 43.4	-1.0
MPAG				AML	AML		
	comp=E,1645µm,0.9s						
MPAG				AML	AML		
	comp=N,3240µm,0.1s						
MPAG				AML	AML		
	comp=E,1750µm,0.9s						
MPAG				AML	AML		
	comp=N,3265µm,0.1s						
MPAG				AML	AML		
	comp=E,1645µm,0.9s						
MPAG				AML	AML		
	comp=N,3240µm,0.1s						
MPAG				AML	AML		
	comp=E,1750µm,0.9s						
MPAG				AML	AML		
	comp=N,3265µm,0.1s						
MPAG				AML	AML		
	comp=N,3240µm,0.1s						
MPAG				AML	AML		
	comp=N,3265µm,0.1s						
MPAG				AML	AML		
	comp=E,1645µm,0.9s						
MPAG				AML	AML		
	comp=E,1750µm,0.9s						
SSFR	Montelago di S	0.30	103	P	Pg	01 39 38.1	+0.5
SSFR				S	Sb	01 39 43.3	-1.1
SSFR				AML	AML		
	comp=E,3985µm,0.7s						
SSFR				AML	AML		
	comp=N,3675µm,0.1s						
SSFR				AML	AML		
	comp=E,3985µm,0.7s						
SSFR				AML	AML		
	comp=N,3675µm,0.1s						
ATTE	AVT- Monte Tez	0.31	183	P	Pg	01 39 38.2	+0.4
ATTE				S	Sb	01 39 43.4	-1.2
ATTE				AML	AML		
	comp=E,2155µm,1.5s						
ATTE				AML	AML		
	comp=N,1745µm,0.2s						
ATTE				AML	AML		
	comp=E,2155µm,1.5s						
ATTE				AML	AML		
	comp=N,1745µm,0.2s						
ATTE				AML	AML		
	comp=N,1745µm,0.2s						
ATTE				AML	AML		
	comp=E,2155µm,1.5s						
FSSB	Fossombrone	0.35	58	P	Pg	01 39 39.0	+0.6
FSSB				S	Sb	01 39 45.1	-0.5
FSSB				AML	AML		
	comp=E,4870µm,0.3s						
FSSB				AML	AML		
	comp=N,4435µm,0.3s						
FSSB				AML	AML		
	comp=E,4870µm,0.3s						
FSSB				AML	AML		
	comp=N,4435µm,0.3s						
FSSB				AML	AML		
	comp=E,4870µm,0.3s						
FSSB				AML	AML		
	comp=N,4435µm,0.3s						
CAFI	Castiglion Fio	0.35	239	P	Pg	01 39 38.9	+0.5
CAFI				AML	AML		
	comp=E,836µm,1.2s						
CAFI				AML	AML		
	comp=N,1435µm,0.7s						
CAFI				AML	AML		
	comp=E,836µm,1.2s						
CAFI				AML	AML		
	comp=N,1435µm,0.7s						
CAFI				AML	AML		
	comp=E,836µm,1.2s						
CAFI				AML	AML		
	comp=N,1435µm,0.7s						
ATCC	AVT- Casa Cast	0.38	149	P	Pg	01 39 39.6	+0.6
ATCC				S	Sb	01 39 46.3	-0.1
ATCC				AML	AML		
	comp=E,4645µm,1.1s						
ATCC				AML	AML		
	comp=N,4340µm,0.2s						
ATCC				AML	AML		
	comp=E,4645µm,1.1s						
ATCC				AML	AML		
	comp=N,4340µm,0.2s						
ATCC				AML	AML		
	comp=N,4340µm,0.2s						
ATCC				AML	AML		
	comp=E,4645µm,1.1s						
ARVD	Arcevia	0.41	91	P	Pg	01 39 40.2	+0.5
ARVD				S	Sb	01 39 47.2	-0.2
SNTG	Esanatoglia	0.48	121	P	Pg	01 39 41.6	+0.7
SNTG				S	Sb	01 39 49.3	-0.2
SNTG				AML	AML		
	comp=E,1160µm,0.8s						
SNTG				AML	AML		
	comp=N,1955µm,0.8s						
SNTG				AML	AML		
	comp=E,1160µm,0.8s						
SNTG				AML	AML		
	comp=N,1955µm,0.8s						
SNTG				AML	AML		
	comp=N,1955µm,0.8s						
SNTG				AML	AML		
	comp=E,1160µm,0.8s						
ASSB	Assisi San Ben	0.51	156	P	Pg	01 39 41.7	+0.2
ASSB				S	Sb	01 39 49.8	-0.5
PESA	Pesaro	0.55	38	iP	Pb	01 39 43.0	-0.5
MGAB	Montegabbione	0.62	198	P	Pg	01 39 43.9	+0.2
MGAB				AML	AML		
	comp=E,1765µm,0.8s						
MGAB				AML	AML		
	comp=N,2325µm,1.5s						
MGAB				AML	AML		
	comp=E,1765µm,0.8s						
MGAB				AML	AML		
	comp=N,2325µm,1.5s						
CESI	CESI - Serrava	0.63	142	P	Pg	01 39 44.0	+0.2
CESI				S	Sb	01 39 53.6	-0.3
FDMO	Fiordimonte	0.70	132	P	Pg	01 39 45.2	+0.1
FDMO				S	Sb	01 39 56.0	+0.2
CSP1	Cessapalombo	0.73	124	P	Pg	01 39 45.9	+0.2
SACS	San Casciano d	0.74	207	P	Pg	01 39 46.1	+0.2

ROM 24 01:40:14.6±0.1,43.505N±0.003×12.369E±0.004, h10km,Md1.3/7,ML2.1/1,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	Pietralunga -	0.06	156	P	Pg	01 40 16.9	+0.2
ATPI				S	Sg	01 40 18.3	+0.1
ATPI				END			
ATPI				END			
ATPC	Poggio Castell	0.07	111	P	Pg	01 40 17.1	+0.4
ATPC				S	Sg	01 40 18.8	+0.4
ATPC				END			
ATPC				END			
BADI	Badiali	0.09	273	P	Pg	01 40 17.4	+0.4
BADI				S	Sg	01 40 19.2	+0.4
BADI				END			
BADI				END			
CDCA	Citt' di Caste	0.11	245	P	Pg	01 40 17.9	+0.6
CDCA				S	Sg	01 40 20.2	+1.1
CDCA				END			
CDCA				END			
ATVO	AVT- Monte Val	0.13	167	P	Pg	01 40 18.1	+0.5
ATVO				S	Sg	01 40 20.4	+0.8
ATVO				AML	AML		

	comp=E,1795µm,0.5s					
ATVO				AML	AML	
	comp=N,1034µm,0.2s					
ATVO				AML	AML	
	comp=N,1034µm,0.2s					
ATVO				AML	AML	
	comp=E,1795µm,0.5s					
ATVO				END		
ATVO				END		
ATVO				END		
ATVO				END		
ATBU	**Serra di Buran**	**0.13**	**103**	P	Pg	01 40 18.4 +0.7
ATBU				S	Sg	01 40 21.1 +1.2
ATBU				END		
ATMC	**Monte Cedrone**	**0.14**	**246**	P	Pg	01 40 18.3 +0.5
ATMC				S	Sg	01 40 20.7 +0.7
ATMC				END		
ATMC				END		
PARC	**Parchiule**	**0.17**	**327**	P	Pg	01 40 18.8 +0.5
PARC				S	Sg	01 40 21.9 +1.0
PARC				END		
PARC				END		
PARC				END		
PARC				END		
NARO	**Abbazia di Nar**	**0.19**	**56**	P	Pg	01 40 19.1 +0.5
NARO				S	Sg	01 40 22.0 +0.8
NARO				END		
NARO				END		
ATVA	**AVT- Monte Val**	**0.23**	**195**	P	Pg	01 40 20.1 +0.7
ATVA				S	Sg	01 40 24.2 +1.6
FRON	**Frontone**	**0.26**	**87**	P	Pg	01 40 20.4 +0.6
FRON				S	Sg	01 40 24.6 +1.2
FRON				END		
FRON				END		
FSSB	**Fossombrone**	**0.35**	**58**	P	Pg	01 40 22.1 +0.6
FSSB				S	Sb	01 40 28.0 -0.6

ROM 24 01:41:07.0±0.0, 43°.503N±0°.003×12°.369E±0°.003, h9km, ML1.8/22, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.06**	**155**	P	Pg	01 41 09.2	+0.2
ATPI				S	Sg	01 41 10.7	+0.2
ATPC	**Poggio Castell**	**0.07**	**109**	P	Pg	01 41 09.5	+0.4
ATPC				S	Sg	01 41 11.1	+0.5
BADI	**Badiali**	**0.09**	**275**	P	Pg	01 41 09.8	+0.4
BADI				S	Sg	01 41 11.7	+0.6
CDCA	**Citt' di Caste**	**0.11**	**246**	P	Pg	01 41 10.1	+0.5
CDCA				S	Sg	01 41 12.3	+0.9
CDCA				AML	AML		
	comp=E,2125µm,1.3s						
CDCA				AML	AML		
	comp=N,5150µm,0.1s						
ATVO	**AVT- Monte Val**	**0.12**	**167**	P	Pg	01 41 10.5	+0.6
ATVO				S	Sg	01 41 12.8	+0.9
ATVO				AML	AML		
	comp=E,1795µm,0.5s						
ATVO				AML	AML		
	comp=N,1034µm,0.2s						
ATVO				AML	AML		
	comp=E,1795µm,0.5s						
ATVO				AML	AML		
	comp=N,1034µm,0.2s						
ATVO				AML	AML		
	comp=E,1795µm,0.5s						
ATVO				AML	AML		
	comp=N,1034µm,0.2s						
ATVO				AML	AML		
	comp=N,1034µm,0.2s						
ATVO				AML	AML		
	comp=E,1795µm,0.5s						
PIEI	**Pieia**	**0.12**	**74**	P	Pg	01 41 10.3	+0.4
PIEI				S	Sg	01 41 12.8	+0.9
PIEI				AML	AML		
	comp=E,1075µm,0.4s						
PIEI				AML	AML		
	comp=N,824µm,1.3s						
PIEI				AML	AML		
	comp=E,1075µm,0.4s						
PIEI				AML	AML		
	comp=N,824µm,1.3s						
PIEI				AML	AML		
	comp=N,824µm,1.3s						
PIEI				AML	AML		
	comp=E,1075µm,0.4s						
ATBU	**Serra di Buran**	**0.13**	**102**	P	Pg	01 41 10.7	+0.7
ATBU				S	Sg	01 41 13.5	+1.3
ATBU				AML	AML		
	comp=E,598µm,0.7s						
ATBU				AML	AML		
	comp=N,632µm,1.5s						
ATBU				AML	AML		
	comp=E,599µm,0.7s						
ATBU				AML	AML		
	comp=N,632µm,1.5s						
ATBU				AML	AML		
	comp=E,599µm,0.7s						
ATBU				AML	AML		
	comp=N,632µm,1.5s						
ATMC	**Monte Cedrone**	**0.14**	**247**	P	Pg	01 41 10.6	+0.5
ATMC				S	Sg	01 41 13.2	+0.9
ATMC				AML	AML		
	comp=E,1175µm,0.8s						
ATMC				AML	AML		
	comp=N,966µm,0.8s						
ATMC				AML	AML		
	comp=E,1175µm,0.8s						
ATMC				AML	AML		
	comp=N,966µm,0.8s						
ATMC				AML	AML		
	comp=E,1175µm,0.8s						
ATMC				AML	AML		
	comp=N,966µm,0.8s						
PARC	**Parchiule**	**0.17**	**327**	P	Pg	01 41 11.3	+0.6
PARC				S	Sg	01 41 14.6	+1.3
PARC				AML	AML		
	comp=E,476µm,0.9s						
PARC				AML	AML		
	comp=N,520µm,0.3s						
PARC				AML	AML		
	comp=E,476µm,0.9s						
PARC				AML	AML		
	comp=N,520µm,0.3s						
PARC				AML	AML		
	comp=E,476µm,0.9s						
PARC				AML	AML		
	comp=N,520µm,0.3s						
PARC				AML	AML		
	comp=E,476µm,0.9s						
PARC				AML	AML		
	comp=N,520µm,0.3s						
NARO	**Abbazia di Nar**	**0.19**	**55**	P	Pg	01 41 11.3	+0.4
NARO				S	Sg	01 41 14.5	+0.9
NARO				AML	AML		
	comp=E,551µm,0.7s						
NARO				AML	AML		
	comp=N,465µm,0.2s						
NARO				AML	AML		
	comp=E,551µm,0.7s						
NARO				AML	AML		
	comp=N,465µm,0.2s						
NARO				AML	AML		
	comp=E,551µm,0.7s						
NARO				AML	AML		
	comp=N,464µm,0.2s						
NARO				AML	AML		
	comp=N,464µm,0.2s						
NARO				AML	AML		
	comp=E,551µm,0.7s						
PE3	**Peglio**	**0.21**	**26**	P	Pg	01 41 12.2	+0.7
PE3				AML	AML		
	comp=E,434µm,0.3s						
PE3				AML	AML		
	comp=N,618µm,0.3s						
PE3				AML	AML		
	comp=E,434µm,0.3s						
PE3				AML	AML		
	comp=N,618µm,0.3s						
PE3				AML	AML		
	comp=E,434µm,0.3s						
PE3				AML	AML		
	comp=N,618µm,0.3s						
ATVA	**AVT- Monte Val**	**0.23**	**195**	P	Pg	01 41 12.3	+0.6
ATVA				S	Sg	01 41 16.1	+1.2
ATVA				AML	AML		
	comp=E,85µm,0.2s						
ATVA				AML	AML		
	comp=N,85µm,0.7s						
ATVA				AML	AML		
	comp=E,85µm,0.2s						
ATVA				AML	AML		
	comp=N,85µm,0.7s						
ATVA				AML	AML		
	comp=N,85µm,0.7s						
ATVA				AML	AML		
	comp=E,85µm,0.2s						
FRON	**Frontone**	**0.26**	**87**	P	Pg	01 41 12.7	+0.4
FRON				S	Sg	01 41 17.1	+1.3
FRON				AML	AML		
	comp=E,186µm,0.7s						
FRON				AML	AML		
	comp=N,272µm,0.3s						
FRON				AML	AML		
	comp=E,186µm,0.7s						
FRON				AML	AML		
	comp=N,272µm,0.3s						
FRON				AML	AML		
	comp=N,272µm,0.3s						
FRON				AML	AML		
	comp=E,186µm,0.7s						
MURB	**Monte Urbino**	**0.27**	**155**	P	Pg	01 41 13.0	+0.7
MURB				S	Sb	01 41 17.8	-0.8
MURB				AML	AML		
	comp=E,704µm,0.8s						
MURB				AML	AML		
	comp=N,384µm,0.3s						
MURB				AML	AML		
	comp=E,704µm,0.8s						
MURB				AML	AML		
	comp=N,384µm,0.3s						
MURB				AML	AML		
	comp=E,704µm,0.8s						
MURB				AML	AML		
	comp=N,384µm,0.3s						
CPGN	**Carpegna, Ital**	**0.30**	**353**	P	Pb	01 41 14.2	-0.4
CPGN				AML	AML		
	comp=E,137µm,1.5s						
CPGN				AML	AML		
	comp=N,152µm,0.3s						
CPGN				AML	AML		
	comp=E,136µm,1.5s						
CPGN				AML	AML		
	comp=N,152µm,0.3s						
CPGN				AML	AML		
	comp=N,152µm,0.3s						
CPGN				AML	AML		
	comp=E,136µm,1.5s						
ATTE	**AVT- Monte Tez**	**0.30**	**182**	P	Pg	01 41 13.6	+0.6
ATTE				S	Sg	01 41 18.3	+1.2
ATTE				AML	AML		
	comp=E,191µm,0.4s						
ATTE				AML	AML		
	comp=N,122µm,1.1s						
ATTE				AML	AML		
	comp=E,191µm,0.4s						
ATTE				AML	AML		
	comp=N,122µm,1.1s						
ATTE				AML	AML		
	comp=E,191µm,0.4s						
ATTE				AML	AML		
	comp=N,122µm,1.1s						
SSFR	**Montelago di S**	**0.31**	**102**	P	Pg	01 41 13.5	+0.4
SSFR				S	Sb	01 41 18.7	-1.1
SSFR				AML	AML		
	comp=E,483µm,0.1s						
SSFR				AML	AML		
	comp=N,541µm,1.5s						
SSFR				AML	AML		
	comp=E,483µm,0.1s						
SSFR				AML	AML		
	comp=N,541µm,1.5s						
MPAG	**Monte Paganucc**	**0.31**	**66**	P	Pg	01 41 13.7	+0.5
MPAG				S	Sb	01 41 18.9	-1.1
MPAG				AML	AML		
	comp=E,155µm,0.1s						
MPAG				AML	AML		
	comp=N,131µm,1.2s						
MPAG				AML	AML		
	comp=E,156µm,0.1s						
MPAG				AML	AML		
	comp=N,131µm,1.2s						
MPAG				AML	AML		
	comp=N,131µm,1.2s						
MPAG				AML	AML		
	comp=E,156µm,0.1s						
CAFI	**Castiglion Fio**	**0.34**	**240**	P	Pg	01 41 14.3	+0.6
CAFI				S	Sb	01 41 19.6	-1.1
CAFI				AML	AML		
	comp=E,120µm,1.5s						
CAFI				AML	AML		
	comp=N,162µm,0.5s						
CAFI				AML	AML		
	comp=E,120µm,1.5s						
CAFI				AML	AML		
	comp=N,162µm,0.5s						
CAFI				AML	AML		
	comp=E,120µm,1.5s						
FSSB	**Fossombrone**	**0.35**	**57**	P	Pg	01 41 14.4	+0.5
FSSB				AML	AML		
	comp=E,296µm,0.2s						
FSSB				AML	AML		
	comp=N,376µm,0.5s						
FSSB				AML	AML		
	comp=E,296µm,0.2s						
FSSB				AML	AML		
	comp=N,376µm,0.5s						
FSSB				AML	AML		
	comp=N,376µm,0.5s						
FSSB				AML	AML		
	comp=E,296µm,0.2s						
ATCC	**AVT- Casa Cast**	**0.37**	**148**	P	Pb	01 41 15.1	-0.7
ATCC				S	Sb	01 41 21.6	-0.1
ATCC				AML	AML		
	comp=E,211µm,0.3s						
ATCC				AML	AML		
	comp=N,194µm,0.2s						
ATCC				AML	AML		
	comp=E,212µm,0.3s						
ATCC				AML	AML		
	comp=N,194µm,0.2s						
ATCC				AML	AML		
	comp=N,194µm,0.2s						
ATCC				AML	AML		
	comp=E,212µm,0.3s						
ARVD	**Arcevia**	**0.42**	**90**	P	Pg	01 41 15.6	+0.4
ARVD				S	Sb	01 41 22.4	-0.5
ARVD				AML	AML		
	comp=E,117µm,0.8s						
ARVD				AML	AML		
	comp=N,87µm,1.3s						
ARVD				AML	AML		
	comp=E,117µm,0.8s						
ARVD				AML	AML		
	comp=N,87µm,1.3s						
ARVD				AML	AML		
	comp=E,117µm,0.8s						
ARVD				AML	AML		
	comp=N,87µm,1.3s						
SNTG	**Esanatoglia**	**0.48**	**120**	AML	AML		
	comp=N,73µm,1.1s						
SNTG				AML	AML		
	comp=E,47µm,1.0s						
SNTG				AML	AML		
	comp=N,73µm,1.1s						
SNTG				AML	AML		
	comp=E,47µm,1.0s						
SNTG				AML	AML		
	comp=E,47µm,1.0s						
SNTG				AML	AML		
	comp=N,73µm,1.1s						
ASQU	**Asqua**	**0.51**	**305**	P	Pb	01 41 17.7	-0.5
PESA	**Pesaro**	**0.56**	**38**	P	Pb	01 41 18.4	-0.5
EL6	**Elcito**	**0.56**	**108**	P	Pg	01 41 18.3	+0.5
EL6				S	Sb	01 41 26.8	-0.4
MGAB	**Montegabbione**	**0.62**	**198**	P	Pg	01 41 19.2	+0.3
MGAB				S	Sb	01 41 28.1	-0.7
MGAB				AML	AML		
	comp=E,150µm,0.8s						
MGAB				AML	AML		
	comp=N,128µm,0.4s						
MGAB				AML	AML		
	comp=E,150µm,0.8s						
MGAB				AML	AML		
	comp=N,128µm,0.4s						
SACS	**San Casciano d**	**0.73**	**207**	P	Pg	01 41 21.5	+0.3
CSP1	**Cessapalombo**	**0.74**	**124**	P	Pg	01 41 21.6	+0.4

*ISCJB **24** 01:41:38.8±0.3, 60°.07N±0°.02×152°.93W±0°.06, h121km±3km, mb3.6/2, Error ellipse: s-maj=5.0km s-min=4.1km az=14.2*
*IDC **24** 01:41:39.4±1.8, 60°.05N×153°.02W, h94km±21km, mb3.4/2, mb1 3.6/7, mb1mx3.2/52, mbtmp3.7/7, MS3.5/1, Ms1 3.5/1, ms1mx2.6/30, Error ellipse: s-maj=28.2km s-min=15.0km az=101.0*
*NEIC **24** 01:41:40.9±0.0, 60°.07N×152°.96W, h110km, ML3.3(AEIC), After AEIC.*

ISC 24 01:41:40.4±0.9, 60°.07N±0°.04×152°.93W±0°.04, h115km±6km, n87, σ1§01/101, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.07**	**219**	P	**Pn**	**01 41 55.5**	**-0.8**
ILW	**Iliamna West**	**0.10**	**263**	P	**Pn**	**01 41 55.6**	**-0.8**
ILW				S	**Sn**	**01 42 07.9**	**-0.5**
ILS	**Iliamna Low So**	**0.14**	**212**	P	**Pn**	**01 41 55.4**	**-0.9**
RED	**Redoubt Volcan**	**0.36**	**12**	P	**Pn**	**01 41 56.4**	**-0.6**
RED				S	**Sn**	**01 42 09.0**	**-0.6**
RDSO	**Redoubt South**	**0.39**	**13**	P	**Pn**	**01 41 56.8**	**-0.5**
RDSO				S	**Sn**	**01 42 10.0**	**-0.1**
RDWB	**Redoubt West**	**0.42**	**6**	P	**Pn**	**01 41 56.8**	**-0.7**
RDN	**Redoubt North**	**0.45**	**10**	P	**Pn**	**01 41 57.2**	**-0.4**
RDJH	**Redoubt Jeurge**	**0.52**	**7**	P	**Pn**	**01 41 57.8**	**-0.3**
RDJH				S	**Sn**	**01 42 10.5**	**-0.9**
PDB	**Pedro Bay**	**0.70**	**246**	P	**Pn**	**01 41 58.6**	**-0.6**
PDB				S	**Sn**	**01 42 12.5**	**-0.8**
AUL	**Augustine Lava**	**0.74**	**201**	P	**Pn**	**01 41 59.0**	**-0.5**
AUL				S	**Sn**	**01 42 13.6**	**-0.3**
AUW	**Augustine West**	**0.76**	**202**	P	**Pn**	**01 41 59.2**	**-0.4**
HOM	**Homer**	**0.77**	**122**	P	**Pn**	**01 41 59.7**	**0.0**
HOM				S	**Sn**	**01 42 14.8**	**+0.5**
AUI	**Augustine Isla**	**0.78**	**199**	P	**Pn**	**01 41 59.3**	**-0.6**
AUI				S	**Sn**	**01 42 13.6**	**-1.0**
BRLK	**Bradley Lake**	**1.07**	**106**	P	**Pn**	**01 42 02.5**	**-0.2**
BRLK				S	**Sn**	**01 42 18.9**	**-0.7**
NKA	**Nikishka**	**1.07**	**51**	P	**Pn**	**01 42 04.2**	**+1.5**
CKL	**Chakachamna La**	**1.17**	**14**	P	**Pn**	**01 42 03.8**	**0.0**
CKN	**Chakachatna No**	**1.21**	**17**	P	**Pn**	**01 42 04.3**	**+0.1**
CRP	**Crater Peak**	**1.26**	**17**	P	**Pn**	**01 42 05.0**	**+0.1**
CRP				S	**Sn**	**01 42 23.8**	**+0.4**
FONW	**Fourpeaked Sta**	**1.34**	**203**	P	**Pn**	**01 42 05.0**	**-0.7**
SLKM	**Skilak Lake**	**1.42**	**71**	P	**Pn**	**01 42 06.0**	**-0.5**
SVW2	**Sparrevohn**	**1.67**	**309**	P	**Pn**	**01 42 08.6**	**-0.9**
SVW2				S	**Sn**	**01 42 30.0**	**-1.5**
SEW	**Seward**	**1.74**	**87**	P	**Pn**	**01 42 09.5**	**-0.8**
FIB	**Fire Island**	**1.75**	**50**	P	**Pn**	**01 42 11.1**	**+0.8**
SUA	**Susitna One**	**1.76**	**37**	P	**Pn**	**01 42 10.9**	**+0.2**
KAHG	**Katmai Hook Gl**	**1.79**	**208**	P	**Pn**	**01 42 10.6**	**-0.4**
RC01	**Rabbit Creek A**	**1.88**	**56**	P	**Pn**	**01 42 11.6**	**-0.4**
RC01				S	**Sn**	**01 42 35.2**	**-1.0**
PTE	**Portage**	**2.09**	**66**	P	**Pn**	**01 42 13.9**	**-0.7**
KABU	**Katmai Buttres**	**2.18**	**215**	P	**Pn**	**01 42 15.7**	**-0.2**
ANCK	**Angle Creek**	**2.30**	**216**	P	**Pn**	**01 42 17.1**	**-0.3**
KDAK	**Kodiak Island**	**2.30**	**175**	P	**Pn**	**01 42 15.5**	**-1.9**
	38nm,0.3s,baz=14,slow=6.9,SNR=136						
KDAK				S	**Sn**	**01 42 43.7**	**-2.0**
	36nm,0.3s,baz=252,slow=22,SNR=22						
PMR	**Palmer**	**2.40**	**49**	P	**Pn**	**01 42 17.9**	**-0.8**
PWL	**Port Wells**	**2.41**	**69**	P	**Pn**	**01 42 17.3**	**-1.5**
KNK	**Knik Glacier**	**2.57**	**57**	P	**Pn**	**01 42 19.6**	**-1.3**
GHO	**Glory Hole Cre**	**2.59**	**47**	P	**Pn**	**01 42 20.4**	**-0.9**
SML	**Sawmill**	**2.84**	**50**	P	**Pn**	**01 42 23.4**	**-1.0**
PPLA	**Purkeypile**	**2.86**	**7**	P	**Pn**	**01 42 24.9**	**+0.2**
TT01	**Tatalina**	**3.21**	**334**	P	**Pn**	**01 42 28.4**	**-0.7**
HIN	**Hinchinbrook I**	**3.22**	**81**	P	**Pn**	**01 42 29.0**	**-0.4**
SCM	**Sheep Creek Mo**	**3.25**	**55**	P	**Pn**	**01 42 28.9**	**-1.0**
JPK	**Jack Peak**	**3.28**	**70**	P	**Pn**	**01 42 28.9**	**-1.3**
CAST	**Castle Rocks**	**3.38**	**6**	P	**Pn**	**01 42 31.5**	**0.0**
MID	**Middleton Isla**	**3.40**	**98**	P	**Pn**	**01 42 31.4**	**-0.2**
SII	**Sitkinak Islan**	**3.58**	**191**	P	**Pn**	**01 42 32.1**	**-2.1**
EYAK	**Cordova Ski Ar**	**3.60**	**79**	P	**Pn**	**01 42 34.0**	**-0.5**
TRF	**Thorofare Moun**	**3.62**	**19**	P	**Pn**	**01 42 34.2**	**-0.5**
DIV	**Divide**	**3.68**	**70**	P	**Pn**	**01 42 34.0**	**-1.6**
KLU	**Klutina**	**3.72**	**64**	P	**Pn**	**01 42 34.6**	**-1.4**
CHUM	**Lake Minchumin**	**3.83**	**4**	P	**Pn**	**01 42 37.6**	**+0.1**
RND	**Reindeer**	**3.87**	**28**	P	**Pn**	**01 42 37.2**	**-0.8**
DHY	**Denali Highway**	**4.02**	**39**	P	**Pn**	**01 42 39.6**	**-0.5**
PS12	**TAPS Pump St12**	**4.07**	**66**	P	**Pn**	**01 42 39.7**	**-0.9**
MCK	**McKinley**	**4.13**	**25**	P	**Pn**	**01 42 41.5**	**0.0**
PS11	**TAPS Pump St11**	**4.14**	**58**	P	**Pn**	**01 42 41.0**	**-0.7**
BPAW	**Bear Paw Mtn.**	**4.14**	**12**	P	**Pn**	**01 42 41.0**	**-0.7**
HARP	**HAARP**	**4.42**	**55**	P	**Pn**	**01 42 44.6**	**-0.8**
PAX	**Paxson**	**4.60**	**48**	P	**Pn**	**01 42 47.3**	**-0.7**
KHIT	**Khitrov Hills**	**4.84**	**81**	P	**Pn**	**01 42 49.9**	**-1.1**
NEA	**Nenana**	**4.86**	**20**	P	**Pn**	**01 42 51.0**	**-0.3**
WRH	**Wood River Hil**	**4.96**	**25**	P	**Pn**	**01 42 51.9**	**-0.7**
GCSA	**Galena City Sc**	**5.04**	**340**	P	**Pn**	**01 42 53.4**	**-0.2**
MLY	**Manley**	**5.08**	**11**	P	**Pn**	**01 42 53.6**	**-0.7**
CCB	**Clear Creek Bu**	**5.17**	**25**	P	**Pn**	**01 42 54.5**	**-0.9**
PTPK	**Patty Peak**	**5.27**	**73**	P	**Pn**	**01 42 56.6**	**-0.4**
KIAG	**Kiagna River**	**5.29**	**76**	P	**Pn**	**01 42 57.0**	**-0.3**
RIDG	**Independ'e Rid**	**5.30**	**43**	P	**Pn**	**01 42 57.0**	**-0.3**
BALM	**Baldy**	**5.31**	**75**	P	**Pn**	**01 42 57.1**	**-0.4**
PS08	**TAPS Pump Stn8**	**5.31**	**30**	P	**Pn**	**01 42 56.7**	**-0.7**
COLA	**College**	**5.36**	**24**	P	**Pn**	**01 42 57.7**	**-0.3**
MDM	**Murphy Dome**	**5.36**	**22**	P	**Pn**	**01 42 57.5**	**-0.5**
IL1	**Eielson Array**	**5.49**	**28**	P	**Pn**	**01 42 58.9**	**-0.8**
ILAR	**Eielson Array**	**5.49**	**28**	P	**Pn**	**01 42 58.7**	**-1.0**
	3.2nm,0.3s,baz=215,slow=14,SNR=287						
ILAR				S	**Sn**	**01 43 55.8**	**-5.7**
	1.3nm,0.3s,baz=210,slow=16,SNR=5.6						
MESA	**MESA**	**5.49**	**84**	P	**Pn**	**01 42 59.1**	**-0.9**
SCRK	**Sand Creek**	**5.75**	**43**	P	**Pn**	**01 43 02.5**	**-0.8**
CTGM	**Chitina Glacie**	**5.80**	**76**	P	**Pn**	**01 43 03.7**	**-0.4**
IM3	**Indian Mountai**	**5.95**	**357**	P	**Pn**	**01 43 05.3**	**-0.6**
PS06	**TAPS Pump Stn6**	**5.98**	**13**	P	**Pn**	**01 43 06.4**	**+0.1**
BCA3	**Beaver Creek A**	**6.11**	**56**	P	**Pn**	**01 43 07.3**	**-0.9**
PRP	**Porcupine Dome**	**6.43**	**29**	P	**Pn**	**01 43 12.2**	**-0.4**
PNL	**Peninsula**	**6.83**	**88**	P	**Pn**	**01 43 17.4**	**-0.5**
COLD	**Coldfoot**	**7.28**	**8**	P	**Pn**	**01 43 22.6**	**-1.4**
BM3	**Burnt Mountain**	**8.24**	**23**	P	**Pn**	**01 43 35.0**	**-1.9**
INK	**Inuvik**	**11.76**	**37**	P	**Pn**	**01 44 23.7**	**-0.5**
	0.1nm,0.3s,baz=253,slow=12,SNR=5.8						
DLBC	**Dease Lake**	**11.82**	**88**	P	**Pn**	**01 44 26.2**	**+1.0**
	0.7nm,0.3s,baz=283,slow=2.7,SNR=15						
DLBC				S	**Sn**	**01 46 35.7**	**+0.7**
	0.3nm,0.3s,baz=90,slow=20,SNR=5.8						
YKA	**Yellowknife Ar**	**18.39**	**66**	P	**P**	**01 45 46.6**	**+0.6**
	0.2nm,0.3s,baz=276,slow=9.9,SNR=7.9						
ANMO	**Albuquerque**	**39.01**	**109**	LR	LR	02 04 10.4	
	comp=Z,56nm,18.3s,baz=60,slow=35						
TXAR	**Lajitas Array**	**44.97**	**111**	P	**P**	**01 49 45.1**	**+1.1**
	0.1nm,0.6s,baz=347,slow=5.1,SNR=3.4						
ARCES	**ARCESS Array B**	**50.68**	**1**	P	**P**	**01 50 28.5**	**+1.1**
	3.6nm,0.9s,baz=15,slow=7.5,SNR=2.4						

*ISCJB **24** 01:47:42.8±0.4, 20°.30N±0°.04×65°.25W±0°.04, h10km, mb3.8/9, Error ellipse: s-maj=6.2km s-min=4.0km az=39.4*
*IDC **24** 01:47:43.3±1.1, 20°.33N×65°.25W, h0km, mb3.7/8, mb1 4.0/9, mb1mx3.7/39, mbtmp3.7/9, ML3.9/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/38, Error ellipse: s-maj=30.7km s-min=23.8km az=33.0*
*NEIC **24** 01:47:44.1±0.4, 20°.30N×65°.28W, h10km, mb4.5/1, Error ellipse: s-maj=6.7km s-min=5.0km az=52.0*

ISC 24 01:47:44.1±0.7, 20°.32N±0°.06×65°.28W±0°.05, h10km, n54, σ1§40/61, mb3.9/9, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**1.81**	**150**	*e*Pn	**Pn**	**01 48 14.8**	**-0.6**
STVI	**Saint Thomas**	**1.98**	**171**	*e*Pn	**Pn**	**01 48 17.7**	**+0.1**
CUPR	**Culebra, Puert**	**2.00**	**180**	*e*Pn	**Pn**	**01 48 17.7**	**-0.2**
CUPR					Sn	**01 48 40.9**	**-2.1**
CBYP	**Canovanas**	**2.10**	**195**	*e*Pn	**Pn**	**01 48 18.8**	**-0.7**
EMPR	**Esperanza - Ma**	**2.18**	**213**	*e*Pn	**Pn**	**01 48 19.9**	**-0.5**
MTP	**Monte Pirata**	**2.22**	**187**	*e*Pn	**Pn**	**01 48 21.0**	**-0.1**
HUMP	**Col San Antoni**	**2.23**	**194**	*e*Pn	**Pn**	**01 48 20.9**	**-0.2**
SJG	**San Juan**	**2.34**	**201**	*e*Pn	**Pn**	**01 48 22.1**	**-0.6**

SJG			*e*Pg		Pn	01 48 22.6	-0.1
SJG				Sn	Sn	01 48 49.0	-2.5
SJG	**San Juan**	**2.34 201**		Pn	Pn	01 48 22.6	-0.1
	26nm,0.3s,baz=16,slow=11,SNR=52						
SJG				Sn	Sn	01 48 49.0	-2.5
	39nm,0.3s,baz=258,slow=20,SNR=14						
SJG				LR	LR	01 49 46.8	
	comp=Z,118nm,18.1s,baz=54,slow=52						
OBIP	**Obispado Ponce**	**2.59 209**	*e*Pn		Pn	01 48 25.0	-1.1
AGP	**Aguadilla**	**2.59 223**	*e*Pn		Pn	01 48 24.8	-1.3
CDVI	**St. Croix**	**2.59 169**	*e*Pn		Pn	01 48 27.1	+0.9
ICMP	**Isla Caja de M**	**2.69 206**	*e*Pn		Pn	01 48 27.4	0.0
MPR	**Mayaguez**	**2.73 220**	*e*Pn		Pn	01 48 28.1	0.0
SMRT	**St. Maarten**	**3.07 137**	*e*Pn		Pn	01 48 32.5	-0.2
SMRT			S		Sn	01 49 08.6	-0.9
SMRT	**St. Maarten**	**3.07 137**	*e*P		Pn	01 48 32.5	-0.2
SMRT			*e*S		Sn	01 49 08.6	-0.9
PCDR	**Punta Cana, DR**	**3.43 239**	*e*Pn		Pn	01 48 37.7	0.0
SEUS	**St. Eustatius**	**3.55 142**	P		Pn	01 48 38.8	-0.5
SEUS	**St. Eustatius**	**3.55 142**	*e*P		Pn	01 48 38.8	-0.5
NEV	**Hard Times**	**4.07 141**	P		Pn	01 48 46.2	-0.2
NEV			S		Sn	01 49 38.1	+3.8
NEV	**Hard Times**	**4.07 141**	*e*P		Pn	01 48 46.2	-0.2
ANWB	**Willy Bob**	**4.22 128**	*e*Pn		Pn	01 48 46.7	-1.9
ANWB			S		Sn	01 49 34.7	-3.3
ANWB	**Willy Bob**	**4.22 128**	*e*P		Pn	01 48 46.5	-2.1
BPA	**Boggy Peak**	**4.59 135**	P		Pn	01 48 52.9	-0.8
BPA			S		Sn	01 49 43.0	-4.2
BPA	**Boggy Peak**	**4.59 135**	*e*P		Pn	01 48 52.9	-0.8
MLYT	**Lee's Yard**	**4.62 140**	*e*P		Pn	01 48 53.9	-0.1
MLYT	**Lee's Yard**	**4.62 140**	*e*S		Sn	01 49 46.4	-1.4
BANI	**BANI**	**5.16 249**	*e*Pn		Pn	01 49 02.7	+1.0
GRTK	**Grand Turk**	**5.60 283**	Pn		Pn	01 49 05.6	-1.9
TBG	**Guadaloupe-3**	**5.62 142**	*e*P		Pn	01 49 09.1	+1.3
TBG	**Guadaloupe-3**	**5.62 142**	*e*S		Sn	01 50 12.4	-0.1
SDDR	**Presa de Saban**	**5.82 258**	*e*Pn		Pn	01 49 10.9	+0.4
BBL	**Barber's Block**	**5.99 142**	P		Pn	01 49 13.2	+0.3
BBL			S		Sn	01 50 23.0	+1.5
BBL	**Barber's Block**	**5.99 142**	*e*P		Pn	01 49 13.2	+0.3
PCM	**Pelee Case Pet**	**6.71 144**	*e*P		Pn	01 49 23.4	+0.6
CXM	**Morne La Croix**	**6.73 144**	*e*P		Pn	01 49 23.9	+0.8
BAMF	**Morne Balai**	**6.74 144**	*e*P		Pn	01 49 24.0	+0.8
GBMF	**Grand Be**	**6.75 144**	*e*P		Pn	01 49 23.9	+0.6
GTBY	**Guantanamo Bay**	**9.25 269**	Pn		Pn	01 49 55.1	-2.5
BBSR	**BB Station**	**12.02 2**	Pn		Pn	01 50 32.9	-2.6
SADO	**Sadowa**	**26.96 338**	LR		LR	02 03 03.5	
	comp=Z,58nm,18.9s,baz=84,slow=34						
TXAR	**Lajitas Array**	**35.85 292**	P		**P**	**01 54 46.5**	**+2.2**
	0.3nm,0.7s,baz=98,slow=9.4,SNR=3.8						
MNMC	**Minye Minye**	**39.43 186**	*e*P		**P**	**01 55 14.7**	**-0.1**
	11nm,0.9s						
PDAR	**Pinedale Array**	**43.26 311**	P		**P**	**01 55 47.5**	**+1.4**
	0.6nm,0.8s,baz=116,slow=10,SNR=3.5						
NV01	**Mina Array Sit**	**48.93 304**	*e*P		**P**	**01 56 31.7**	**+0.8**
NVAR	**Mina Array Bea**	**48.93 304**	P		**P**	**01 56 31.9**	**+1.0**
	0.9nm,0.8s,baz=110,slow=6.5,SNR=5.4						
NEW	**Newport**	**49.89 317**	P		**P**	**01 56 38.7**	**+0.8**
	0.5nm,0.3s,baz=110,slow=7.1,SNR=4.2						
YBH	**Yreka Blue Hor**	**52.63 307**	P		**P**	**01 56 57.9**	**-0.7**
	2.4nm,0.9s,baz=89,slow=5.9,SNR=5.1						
YKA	**Yellowknife Ar**	**53.87 334**	P		**P**	**01 57 07.2**	**0.0**
	0.3nm,0.7s,baz=110,slow=7.5,SNR=6.6						
INK	**Inuvik**	**63.27 337**	P		**P**	**01 58 12.9**	**+0.3**
	1.4nm,1.0s,baz=95,slow=7.8,SNR=4.0						
TOA1	**Torodi Ar. Sit**	**64.17 85**	*e*P		**P**	**01 58 20.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**64.17 85**	P		**P**	**01 58 20.5**	**+1.0**
	1.0nm,1.1s,baz=303,slow=6.9,SNR=3.7						
TIXI	**Tiksi**	**87.76 356**	LR		LR	02 39 46.4	
	comp=Z,40nm,19.4s,baz=40,slow=36						
LBTB	**Lobatse**	**99.10 113**	LR		LR	02 42 36.5	
	comp=Z,184nm,18.1s,baz=116,slow=33						

*ISCJB **24** 02:09:19.2±0.4,48°.20N±0°.04×148°.97E±0°.09,h400km, mb3.5/17, Error ellipse: s-maj=8.9km s-min=4.2km az=26.9*
*SKHL **24** 02:09:20.5±0.8,47°.72N×148°.76E,h436km±11km,mb4.3/3, msh5.2/2*
*IDC **24** 02:09:21.4±1.3,48°.53N×148°.83E,h399km±15km, mb3.3/18,mb1 3.4/22,mb1mx3.3/46,mbtmp4.1/22,Error ellipse: s-maj=13.7km s-min=9.3km az=145.0*

ISC 24 02:09:19.9±0.6,48°.05N±0°.07×149°.00E±0°.08,h400km,n57, σ1§90/53,mb3.5/17,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.92 196**		*e*S	**S**	**02 11 14.5**	**+1.4**
KUR				A	A	02 11 17.3	
	64nm,0.4s						
KUR				A	A	02 11 17.3	
	105nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.37 258**	*i*	P	**Pn**	**02 10 37.8**	**+2.4**
YSS				AMB	AMB	02 10 38.3	
	35nm,0.5s						
SHO	**Shikotan**	**4.45 201**	*i*	P	**Pn**	**02 10 37.0**	**+0.7**
SHO				AMB	AMB	02 10 37.0	
	20nm,0.4s						
SHO				AMB	AMB	02 10 37.0	
	9.0nm,0.4s						
SHO				AMB	AMB	02 10 37.0	
	60nm,0.4s						
SHO			*i*	S	**S**	**02 11 36.0**	**-2.3**
SHO				A	A	02 11 40.0	
	104nm,0.5s						
SHO				A	A	02 11 40.0	
	149nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**4.57 210**	*e*P		**Pn**	**02 10 36.7**	**-0.8**
YUK				AMB	AMB	02 10 36.9	
	600nm,0.2s						
YUK				AMB	AMB	02 10 36.9	
	10.0nm,0.2s						
UGL	**Uglegorsk**	**4.71 285**	*e*rx		rx	02 10 45.2	
NEM2	**Nemuro 2**	**5.21 207**	P		**Pn**	**02 10 43.8**	**-0.3**
NEM2			*e*S		**S**	**02 11 50.5**	**-2.0**
JNK	**Nakash**	**5.37 215**	P		Pn	02 10 49.0	+2.2
JTKR	**Abashiri--Toko**	**5.41 223**	P		Pn	02 10 49.6	+3.5
JAK	**Akkeshi**	**5.89 212**	P		**Pn**	**02 10 52.4**	**+1.1**
JAK			*e*S		**S**	**02 12 04.6**	**-1.1**
ASAJ	**Asahikawa**	**5.94 231**	P		Pn	02 10 55.9	+4.1
ASAJ	**Asahikawa**	**5.94 231**	P		Pn	02 10 56.0	+4.2
	2.2nm,0.3s,baz=68,slow=10,SNR=17						
ASAJ				S	S	02 12 12.8	+6.1
	0.5nm,0.3s,baz=180,slow=20,SNR=2.6						
JAR	**Ashorobuto**	**6.00 220**	P		Pn	02 10 54.5	+2.0
JOB	**Onbets**	**6.30 217**	P		**Pn**	**02 10 57.1**	**+1.4**
JOB			*e*S		**S**	**02 12 14.0**	**+0.1**
JAB	**Ashibetsu**	**6.56 229**	P		Pn	02 11 02.3	+3.6
JCH	**Churui**	**6.73 218**	*e*S		**S**	**02 12 20.2**	**-2.5**
MYR	**Moyori**	**7.03 217**	*e*P		**P**	**02 11 03.8**	**-0.7**
MYR			*e*S		**S**	**02 12 25.0**	**-3.9**
JBT2	**Biratori 2**	**7.04 224**	P		**P**	**02 11 05.9**	**+1.3**
JBT2			*e*S		**S**	**02 12 30.6**	**+1.6**
JNBK	**Urakawa-nobuka**	**7.26 220**	P		**P**	**02 11 07.0**	**0.0**
JNBK			*e*S		**S**	**02 12 30.7**	**-2.9**
JNB	**Noboribetsu**	**7.91 228**	*e*S		**S**	**02 12 48.2**	**+1.0**
JSH	**Shimam**	**8.30 233**	P		S	02 11 20.5	+1.9
JKB	**Kayabe**	**8.36 225**	P		**P**	**02 11 19.0**	**-0.1**
JKB			*e*S		**S**	**02 12 54.5**	**-1.9**
JYM2	**Yakumo 2**	**8.51 229**	P		S	02 11 22.9	+2.0
JTM	**Tenmabayashi**	**9.21 221**	*e*S		**S**	**02 13 09.6**	**-5.0**
JANG	**Nango**	**9.36 218**	*e*S		**S**	**02 13 13.2**	**-4.6**
EKMR	**Ekimchan**	**11.37 302**	*e*P		**P**	**02 11 53.2**	**+0.8**
EKMR				AMB	AMB	02 11 58.0	
	4.0nm,0.5s						
KLR	**Kul'dur**	**11.47 282**	P		**Pn**	**02 11 55.8**	**+1.0**
	0.7nm,0.3s,baz=76,slow=10,SNR=18						
USRK	**Ussuriysk Ar.**	**12.41 258**	P		**Pn**	**02 12 06.4**	**+0.7**
	0.4nm,0.3s,baz=67,slow=12,SNR=5.7						
MAT	**Matsushiro**	**13.98 219**	P		Pn	02 12 25.5	+1.5
MJAR	**Matsushiro Arr**	**13.98 219**	P		Pn	02 12 26.0	+1.9
	0.2nm,0.3s,baz=15,slow=9.7,SNR=14						
BMKR	**Bomnak**	**14.21 305**	*e*P		**P**	**02 12 22.5**	**-1.0**
KROS	**Kirovskiy**	**15.16 303**	*e*P		**P**	**02 12 32.2**	**-1.6**
KROS				AMB	AMB	02 12 35.0	
	6.0nm,0.4s						
KSRS	**Korea Array**	**18.69 243**	P		**P**	**02 13 15.1**	**+3.5**
	0.9nm,0.3s,baz=46,slow=9.9,SNR=17						
JNU	**Nakatsue**	**20.22 229**	P		**P**	**02 13 30.4**	**+4.1**
	4.3nm,0.6s,baz=22,slow=5.4,SNR=5.8						
SONM	**Songino Array**	**28.27 286**	P		**P**	**02 14 38.5**	**+0.1**
	0.7nm,0.6s,baz=70,slow=8.8,SNR=7.7						
KDAK	**Kodiak Island**	**35.48 52**	P		**P**	**02 15 39.7**	**-0.3**
	3.9nm,0.7s,baz=242,slow=10.0,SNR=4.2						
ILAR	**Eielson Array**	**37.30 40**	P		P	02 15 53.8	-1.4
	1.2nm,0.5s,baz=254,slow=5.8,SNR=24						
ZALV	**Zalesovo Beam**	**39.57 303**	P		**P**	**02 16 12.2**	**-1.7**
	0.8nm,0.5s,baz=70,slow=6.7,SNR=4.9						
INK	**Inuvik**	**42.06 33**	P		**P**	**02 16 34.0**	**+0.2**
	0.8nm,0.5s,baz=305,slow=5.2,SNR=6.7						
MKAR	**Makanchi Array**	**43.86 294**	P		**P**	**02 16 47.9**	**-0.4**
	1.6nm,0.4s,baz=63,slow=6.6,SNR=27						
MKAR				PcP	**PcP**	**02 18 27.1**	**+0.8**
	0.3nm,0.5s,baz=73,slow=3.1,SNR=3.1						
MKAR				ScP	**ScP**	**02 21 39.4**	**+0.5**
	0.3nm,0.6s,baz=67,slow=3.3,SNR=4.6						
YKA	**Yellowknife Ar**	**51.54 36**	P		**P**	**02 17 45.1**	**-1.0**
	0.8nm,0.4s,baz=302,slow=7.0,SNR=18						
JIRN	**Jiri**	**52.09 271**	*e*P		**P**	**02 17 52.9**	**+1.7**
GUN	**Gumba**	**52.14 271**	*e*P		**P**	**02 17 52.8**	**+1.3**
	5.2nm,0.3s						
DMN	**Daman**	**52.85 271**	*e*P		**P**	**02 17 58.2**	**+1.6**
	16nm,0.7s						
DANN	**Dangsing**	**53.27 273**	*e*P		**P**	**02 18 01.5**	**+1.9**
	34nm,0.5s						
KOLN	**Koldanda**	**53.76 273**	*e*P		**P**	**02 18 04.3**	**+1.3**
PYUN	**Piuthan**	**53.95 273**	*e*P		**P**	**02 18 05.9**	**+1.5**
ARCES	**ARCESS Array B**	**55.67 339**	P		**P**	**02 18 13.8**	**-1.8**
	2.0nm,0.8s,baz=51,slow=6.4,SNR=5.0						
FINES	**FINESS Array B**	**61.63 333**	P		**P**	**02 18 54.4**	**-1.9**
	1.9nm,0.5s,baz=32,slow=7.6,SNR=30						
GEYT	**Alibeck**	**63.53 298**	P		**P**	**02 19 09.2**	**+0.1**
	2.9nm,0.7s,baz=18,slow=5.2,SNR=5.3						
NVAR	**Mina Array Bea**	**64.27 61**	P		**P**	**02 19 15.2**	**+1.1**
	1.1nm,0.7s,baz=295,slow=8.8,SNR=7.2						
NB2	**NORSAR Subarra**	**66.05 339**	P		**P**	**02 19 23.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**66.05 339**	P		**P**	**02 19 23.1**	**-1.7**
	comp=Z,1.2nm,0.5s,baz=29,slow=6.7,SNR=12						
PDAR	**Pinedale Array**	**66.19 52**	P		**P**	**02 19 26.8**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=226,slow=0.2,SNR=6.0						
AKASG	**Malin Array Be**	**68.87 324**	P		**P**	**02 19 40.6**	**-1.7**
	comp=Z,1.1nm,0.4s,baz=35,slow=5.8,SNR=2.3						
WRA	**Warramunga Arr**	**68.95 195**	P		P	02 19 46.9	+3.8
	comp=Z,0.2nm,0.4s,baz=7.5,slow=6.5,SNR=4.5						
ASAR	**Alice Springs**	**72.66 194**	P		P	02 20 09.5	+4.3
	comp=Z,0.3nm,0.5s,baz=5.9,slow=5.8,SNR=3.9						
TXAR	**Lajitas Array**	**79.23 58**	P		**P**	**02 20 43.2**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=294,slow=4.3,SNR=22						

*ISCJB **24** 02:19:38.7±0.2,38°.52S±0°.02×175°.44E±0°.04,h246km±2km, mb4.1/15, Error ellipse: s-maj=5.6km s-min=3.8km az=16.6*
*NEIC **24** 02:19:38.5±0.3,38°.60S×175°.68E,h248km±3km,mb4.2/8, ML4.4(WEL),Error ellipse: s-maj=8.0km s-min=5.3km az=112.0*
*IDC **24** 02:19:38.6±0.4,38°.14S×175°.80E,h242km±5km,mb3.9/10, mb1 4.0/10,mb1mx3.8/33,mbtmp4.5/10,Error ellipse: s-maj=22.3km s-min=12.3km az=29.0*
*WEL **24** 02:19:39.8,38°S±2°×17°E±°,h239km±6km*

ISC 24 02:19:39.1±0.6,38°.51S±0°.05×175°.49E±0°.05,h245km±5km, n210,σ1§07/217,mb4.1/15,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLZ	**Tolley Road**	**0.19**	**12**	P	**Pn**	**02 20 10.7**	**-0.2**
KUTZ	**Kaahu Road**	**0.27**	**85**	P	**Pn**	**02 20 10.9**	**0.0**
WATZ	**Wairara**	**0.27**	**135**	P	**Pn**	**02 20 11.2**	**+0.4**
WHTZ	**Whakaora**	**0.40**	**113**	P	**Pn**	**02 20 11.6**	**+0.5**
RATZ	**Rangitukua**	**0.42**	**148**	P	**Pn**	**02 20 11.2**	**+0.1**
KATZ	**Kakaramea**	**0.49**	**161**	P	**Pn**	**02 20 11.7**	**+0.2**
HIZ	**Hauiti**	**0.49**	**270**	*e*Pn	**Pn**	**02 20 10.8**	**-0.5**
HIZ	**Hauiti**	**0.49**	**270**	P	**Pn**	**02 20 11.6**	**+0.2**
HIZ				S	**S**	**02 20 36.6**	**-0.1**
GRRZ	**Galatos Road**	**0.52**	**72**	P	**Pn**	**02 20 11.3**	**-0.2**
WPRZ	**Whakapapatarin**	**0.53**	**91**	P	**Pn**	**02 20 11.2**	**-0.2**
RITZ	**Rihia Road**	**0.55**	**148**	P	**Pn**	**02 20 12.1**	**+0.5**
TWVZ	**Taurewa**	**0.56**	**184**	P	**Pn**	**02 20 11.8**	**+0.2**
TWVZ				S	**S**	**02 20 35.9**	**-1.4**
KRVZ	**Karewarewa**	**0.59**	**168**	P	**Pn**	**02 20 12.2**	**+0.5**
KRVZ				S	**S**	**02 20 36.8**	**-0.8**
HATZ	**Hinemaiaia**	**0.60**	**129**	P	**Pn**	**02 20 11.7**	**0.0**
WTVZ	**West Tongariro**	**0.61**	**172**	P	**Pn**	**02 20 12.1**	**+0.3**
HSRZ	**Hossack Road**	**0.63**	**72**	P	**Pn**	**02 20 11.7**	**-0.1**
HRRZ	**Handcock Road**	**0.64**	**79**	P	**Pn**	**02 20 11.7**	**-0.2**
UTU	**Utuhina**	**0.65**	**59**	P	**Pn**	**02 20 12.0**	**+0.1**
NGZ	**Ngauruhoe**	**0.67**	**172**	P	**Pn**	**02 20 12.5**	**+0.4**
ALRZ	**Allen Road**	**0.67**	**94**	P	**Pn**	**02 20 11.7**	**-0.3**
NGRZ	**Ngongotaha**	**0.69**	**53**	P	**Pn**	**02 20 11.8**	**-0.3**
PRRZ	**Plateau Road**	**0.71**	**89**	P	**Pn**	**02 20 11.9**	**-0.2**
HLRZ	**Highlands Stat**	**0.73**	**69**	P	**Pn**	**02 20 12.7**	**+0.4**
FWVZ	**Far West T-bar**	**0.74**	**176**	P	**Pn**	**02 20 12.9**	**+0.4**
KMRZ	**Kaimai**	**0.76**	**28**	P	**Pn**	**02 20 12.1**	**-0.3**
DRZ	**Dome Shelter**	**0.76**	**176**	P	**Pn**	**02 20 13.3**	**+0.6**
TUVZ	**Tukino**	**0.76**	**170**	P	**Pn**	**02 20 13.1**	**+0.6**
WHVZ	**Whangaehu Hut**	**0.77**	**174**	P	**Pn**	**02 20 13.1**	**+0.5**
KARZ	**Kaharoa**	**0.77**	**51**	P	**Pn**	**02 20 12.0**	**-0.5**
TOZ	**Tahuroa Road**	**0.78**	**1**	P	**Pn**	**02 20 12.2**	**-0.3**
PKVZ	**Pokaka**	**0.78**	**188**	P	**Pn**	**02 20 13.0**	**+0.5**
TRVZ	**Turoa**	**0.79**	**177**	P	**Pn**	**02 20 13.2**	**+0.5**
MRHZ	**Matea Rd**	**0.80**	**114**	P	**Pn**	**02 20 12.4**	**-0.1**
MRHZ				S	**S**	**02 20 35.8**	**-3.1**
OMRZ	**Omania**	**0.81**	**60**	P	**Pn**	**02 20 12.2**	**-0.4**
RRRZ	**Republican Roa**	**0.83**	**78**	P	**Pn**	**02 20 12.4**	**-0.3**
VRZ	**Vera Road**	**0.83**	**223**	P	**Pn**	**02 20 13.1**	**+0.5**
TARZ	**Mount Tarawera**	**0.85**	**71**	P	**Pn**	**02 20 12.7**	**-0.2**
MKRZ	**Makatiti**	**0.86**	**64**	P	**Pn**	**02 20 13.1**	**+0.1**
MTVZ	**Mangateitei**	**0.87**	**181**	P	**Pn**	**02 20 13.4**	**+0.5**
LIRZ	**Lichensteins R**	**0.87**	**54**	P	**Pn**	**02 20 12.5**	**-0.4**
MOVZ	**Moawhango**	**0.92**	**167**	P	**Pn**	**02 20 13.4**	**+0.2**
TGRZ	**Tauranga**	**0.99**	**38**	P	**Pn**	**02 20 12.9**	**-0.6**
MUGZ	**Murupara**	**1.01**	**88**	P	**Pn**	**02 20 13.0**	**-0.6**
BKZ	**Black Stump Fm**	**1.02**	**130**	*e*Pn	**Pn**	**02 20 13.6**	**-0.1**
BKZ	**Black Stump Fm**	**1.02**	**130**	P	**Pn**	**02 20 14.0**	**+0.3**
EDRZ	**Edgecumbe**	**1.06**	**68**	P	**Pn**	**02 20 13.5**	**-0.6**
MHEZ	**Mangahewa**	**1.07**	**238**	P	**Pn**	**02 20 14.9**	**+1.1**
BHHZ	**Black Hill Sta**	**1.07**	**155**	P	**Pn**	**02 20 14.3**	**+0.4**
MARZ	**Manawahe**	**1.07**	**61**	P	**Pn**	**02 20 13.8**	**-0.3**
OPRZ	**Ohinepanea**	**1.07**	**52**	P	**Pn**	**02 20 13.3**	**-0.7**
MTHZ	**Maungataniwha**	**1.11**	**108**	P	**Pn**	**02 20 14.4**	**+0.1**
KWHZ	**Kaweka Forest**	**1.17**	**142**	P	**Pn**	**02 20 15.5**	**+0.9**
RTZ	**Ruatahuna**	**1.18**	**95**	P	**Pn**	**02 20 14.4**	**-0.2**
NMHZ	**Naumai**	**1.18**	**120**	P	**Pn**	**02 20 15.9**	**+1.2**
DREZ	**Durham Road**	**1.21**	**236**	P	**Pn**	**02 20 15.7**	**+0.9**
LREZ	**Lake Rotokare**	**1.27**	**221**	P	**Pn**	**02 20 15.9**	**+0.8**
WAZ	**Wanganui**	**1.30**	**197**	P	**Pn**	**02 20 16.2**	**+0.8**
URZ	**Urewera**	**1.30**	**79**	P	**Pn**	**02 20 14.6**	**-0.8**
	408nm,0.3s,baz=253,slow=4.4,SNR=2676						
URZ				S	**S**	**02 20 40.0**	**-4.0**
	783nm,0.3s,baz=97,slow=10.0,SNR=27						
URZ	**Urewera**	**1.30**	**79**	P	**Pn**	**02 20 14.6**	**-0.8**
RAHZ	**Arahi**	**1.31**	**108**	P	**Pn**	**02 20 16.2**	**+0.7**
KRHZ	**Kereru**	**1.32**	**149**	P	**Pn**	**02 20 16.2**	**+0.7**
MCHZ	**McNeill Hill**	**1.32**	**135**	P	**Pn**	**02 20 16.8**	**+1.3**
PREZ	**Palmer Road**	**1.33**	**231**	P	**Pn**	**02 20 16.6**	**+1.0**
WHRZ	**Whale Island**	**1.34**	**61**	P	**Pn**	**02 20 15.7**	**-0.1**
PKE	**Pukeiti**	**1.35**	**239**	P	**Pn**	**02 20 16.8**	**+0.9**
MYRZ	**Mayor Island**	**1.37**	**26**	P	**Pn**	**02 20 15.6**	**-0.4**
KHEZ	**Kahui Hut**	**1.39**	**235**	P	**Pn**	**02 20 17.0**	**+0.9**
ARHZ	**Aropaoanui**	**1.40**	**123**	P	**Pn**	**02 20 17.0**	**+0.9**
MKAZ	**Moumakai**	**1.43**	**349**	P	**Pn**	**02 20 16.0**	**-0.4**
NBEZ	**Newall Road No**	**1.47**	**239**	P	**Pn**	**02 20 17.8**	**+1.1**
SNGZ	**Shannon Statio**	**1.48**	**101**	P	**Pn**	**02 20 17.1**	**+0.4**
WHHZ	**Waihua**	**1.48**	**113**	P	**Pn**	**02 20 17.4**	**+0.7**
KBAZ	**Karaka Road Bo**	**1.49**	**341**	P	**Pn**	**02 20 16.8**	**0.0**
PNHZ	**Pukenui**	**1.50**	**159**	P	**Pn**	**02 20 17.4**	**+0.5**
RAGZ	**Rawiri**	**1.51**	**90**	P	**Pn**	**02 20 16.9**	**-0.1**
NMEZ	**Namu Road**	**1.54**	**234**	P	**Pn**	**02 20 18.3**	**+1.2**
TSZ	**Takapari Road**	**1.59**	**167**	P	**Pn**	**02 20 18.1**	**+0.6**
AWAZ	**Awhitu Peninsu**	**1.59**	**335**	P	**Pn**	**02 20 17.6**	**-0.1**
MWZ	**Matawai**	**1.61**	**84**	P	**Pn**	**02 20 17.4**	**-0.4**
ETAZ	**East Tamaki Re**	**1.62**	**344**	P	**Pn**	**02 20 17.6**	**-0.3**
KAHZ	**Kahuranaki**	**1.67**	**140**	P	**Pn**	**02 20 19.2**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.69**	**133**	P	**Pn**	**02 20 19.2**	**+0.9**
OHWZ	**Ohakea**	**1.69**	**184**	P	**Pn**	**02 20 19.6**	**+1.2**
WPHZ	**Waipukurau**	**1.72**	**155**	P	**Pn**	**02 20 19.2**	**+0.6**
WTAZ	**Waiatarua**	**1.74**	**335**	P	**Pn**	**02 20 19.1**	**+0.2**
EPAZ	**Eden Park BICE**	**1.74**	**340**	P	**Pn**	**02 20 18.7**	**-0.2**
WIAZ	**Waiheke Island**	**1.74**	**351**	P	**Pn**	**02 20 18.5**	**-0.4**
HBAZ	**Herne Bay Bore**	**1.77**	**340**	P	**Pn**	**02 20 19.0**	**-0.1**
KUZ	**Kuaotunu**	**1.77**	**6**	P	**Pn**	**02 20 18.5**	**-0.6**
KNZ	**Kokohu**	**1.78**	**107**	P	**Pn**	**02 20 19.4**	**+0.3**
RIGZ	**Rimuhau**	**1.79**	**97**	P	**Pn**	**02 20 19.7**	**+0.4**
MBAZ	**Motutapu North**	**1.80**	**345**	P	**Pn**	**02 20 19.1**	**-0.3**
RUGZ	**Raukumara Rang**	**1.81**	**73**	P	**Pn**	**02 20 18.0**	**-1.6**
PXZ	**Pawanui**	**1.85**	**145**	P	**Pn**	**02 20 20.3**	**+0.6**
TKGZ	**Te Karaka**	**1.85**	**88**	P	**Pn**	**02 20 20.0**	**+0.2**
DVHZ	**Dannevirke**	**1.86**	**164**	P	**Pn**	**02 20 20.1**	**+0.3**
POWZ	**Post Office Ro**	**1.89**	**173**	P	**Pn**	**02 20 20.5**	**+0.4**
PRGZ	**Paritu Road**	**1.92**	**103**	P	**Pn**	**02 20 20.6**	**+0.2**
HAZ	**Te Kaha**	**1.96**	**68**	P	**Pn**	**02 20 19.3**	**-1.4**
PRHZ	**Porangahau**	**1.96**	**153**	P	**Pn**	**02 20 21.2**	**+0.5**
ABAZ	**Army Bay**	**1.98**	**345**	P	**Pn**	**02 20 20.7**	**-0.2**
TWGZ	**Tauwhareparae**	**1.99**	**81**	P	**Pn**	**02 20 21.1**	**+0.1**
MHGZ	**Mahia Peninsul**	**2.00**	**109**	P	**Pn**	**02 20 21.5**	**+0.5**
PRWZ	**Pori Road**	**2.07**	**170**	P	**Pn**	**02 20 22.2**	**+0.5**
ANWZ	**Angora Road**	**2.09**	**159**	P	**Pn**	**02 20 22.4**	**+0.6**
CNGZ	**Carnagh Statio**	**2.13**	**90**	P	**Pn**	**02 20 23.0**	**+0.6**
MRZ	**Mangatainoka R**	**2.15**	**178**	P	**Pn**	**02 20 22.6**	**+0.2**
PUZ	**Puketiti**	**2.22**	**79**	P	**Pn**	**02 20 22.6**	**-0.6**
BFZ	**Birch Farm**	**2.24**	**165**	*e*Pn	**Pn**	**02 20 23.4**	**+0.2**
BFZ	**Birch Farm**	**2.24**	**165**	P	**Pn**	**02 20 23.5**	**+0.2**
GRZ	**Great Barrier**	**2.26**	**359**	P	**Pn**	**02 20 23.1**	**-0.5**
TIWZ	**Tintock**	**2.28**	**172**	P	**Pn**	**02 20 23.9**	**+0.2**
OGWZ	**Otaki Gorge**	**2.31**	**186**	P	**Pn**	**02 20 24.4**	**+0.4**
HOWZ	**Holdsworth Sta**	**2.38**	**179**	P	**Pn**	**02 20 24.6**	**-0.1**
KIW	**Kapiti Island**	**2.39**	**191**	P	**Pn**	**02 20 24.8**	**+0.1**
WMGZ	**Waiomatatini S**	**2.41**	**74**	P	**Pn**	**02 20 24.4**	**-0.6**
MXZ	**Matakaoa Point**	**2.42**	**68**	*e*Pn	**Pn**	**02 20 24.5**	**-0.7**
MXZ	**Matakaoa Point**	**2.42**	**68**	P	**Pn**	**02 20 24.6**	**-0.5**
CPWZ	**Castlepoint**	**2.46**	**167**	P	**Pn**	**02 20 26.1**	**+0.7**
DUWZ	**D'Urville Isla**	**2.58**	**207**	P	**Pn**	**02 20 26.5**	**-0.2**
TMWZ	**Te Maipa**	**2.61**	**173**	P	**Pn**

	comp=N,2915µm,0.5s					
ATPI				AML	AML	
	comp=E,2675µm,0.4s					
ATPI				AML	AML	
	comp=N,2920µm,0.5s					
ATPI				AML	AML	
	comp=E,2675µm,0.4s					
ATPI				AML	AML	
	comp=N,2915µm,0.5s					
ATPI				AML	AML	
	comp=E,2675µm,0.4s					
ATPI				AML	AML	
	comp=N,2915µm,0.5s					
ATPC	**Poggio Castell**	**0.07 113**		P	Pg	02 20 50.6 +0.4
ATPC				S	Sg	02 20 52.3 +0.5
ATPC				AML	AML	
	comp=E,1010µm,0.3s					
ATPC				AML	AML	
	comp=N,2550µm,0.6s					
ATPC				AML	AML	
	comp=E,3595µm,0.3s					
ATPC				AML	AML	
	comp=N,2700µm,0.6s					
ATPC				AML	AML	
	comp=E,1011µm,0.3s					
ATPC				AML	AML	
	comp=N,2550µm,0.6s					
ATPC				AML	AML	
	comp=E,3595µm,0.3s					
ATPC				AML	AML	
	comp=N,2700µm,0.6s					
ATPC				AML	AML	
	comp=E,1010µm,0.3s					
ATPC				AML	AML	
	comp=N,2545µm,0.6s					
ATPC				AML	AML	
	comp=E,3595µm,0.3s					
ATPC				AML	AML	
	comp=N,2700µm,0.6s					
ATPC				AML	AML	
	comp=N,2545µm,0.6s					
ATPC				AML	AML	
	comp=N,2700µm,0.6s					
ATPC				AML	AML	
	comp=E,3595µm,0.3s					
ATPC				AML	AML	
	comp=E,1010µm,0.3s					
BADI	**Badiali**	**0.09 271**		P	Pg	02 20 50.8 +0.4
BADI				S	Sg	02 20 52.6 +0.5
BADI				AML	AML	
	comp=E,2700µm,0.4s					
BADI				AML	AML	
	comp=N,4680µm,0.3s					
BADI				AML	AML	
	comp=E,2705µm,0.4s					
BADI				AML	AML	
	comp=N,4675µm,0.3s					
BADI				AML	AML	
	comp=E,2705µm,0.4s					
BADI				AML	AML	
	comp=N,4680µm,0.3s					
BADI				AML	AML	
	comp=N,4680µm,0.3s					
BADI				AML	AML	
	comp=E,2705µm,0.4s					
CDCA	**Citt' di Caste**	**0.11 243**		P	Pg	02 20 51.3 +0.6
CDCA				S	Sg	02 20 53.8 +1.2
CDCA				AML	AML	
	comp=E,2320µm,1.2s					
CDCA				AML	AML	
	comp=N,5710µm,0.1s					
CDCA				AML	AML	
	comp=E,2320µm,1.2s					
CDCA				AML	AML	
	comp=N,5710µm,0.1s					
CDCA				AML	AML	
	comp=E,948µm,1.1s					
CDCA				AML	AML	
	comp=N,948µm,0.4s					
CDCA				AML	AML	
	comp=E,2320µm,1.2s					
CDCA				AML	AML	
	comp=N,5710µm,0.1s					
CDCA				AML	AML	
	comp=E,951µm,1.1s					
CDCA				AML	AML	
	comp=N,945µm,0.4s					
CDCA				AML	AML	
	comp=N,945µm,0.4s					
CDCA				AML	AML	
	comp=E,2320µm,1.2s					
CDCA				AML	AML	
	comp=E,951µm,1.1s					
CDCA				AML	AML	
	comp=N,5710µm,0.1s					
PIEI	**Pieia**	**0.12 77**		P	Pg	02 20 51.4 +0.4
PIEI				S	Sg	02 20 53.7 +0.7
PIEI				AML	AML	
	comp=E,944µm,0.5s					
PIEI				AML	AML	
	comp=N,872µm,0.2s					
PIEI				AML	AML	
	comp=E,944µm,0.5s					
PIEI				AML	AML	
	comp=N,872µm,0.2s					
PIEI				AML	AML	
	comp=E,944µm,0.5s					
PIEI				AML	AML	
	comp=N,872µm,0.2s					
PIEI				AML	AML	
	comp=N,872µm,0.2s					
PIEI				AML	AML	
	comp=E,944µm,0.5s					
ATVO	**AVT- Monte Val**	**0.13 168**		P	Pg	02 20 51.5 +0.6
ATVO				S	Sg	02 20 54.0 +0.9
ATVO				AML	AML	
	comp=E,2620µm,0.7s					
ATVO				AML	AML	
	comp=N,1485µm,0.2s					
ATVO				AML	AML	
	comp=E,2620µm,0.7s					
ATVO				AML	AML	
	comp=N,1485µm,0.2s					
ATVO				AML	AML	
	comp=E,2620µm,0.7s					
ATVO				AML	AML	
	comp=N,1485µm,0.2s					
ATVO				AML	AML	
	comp=N,1485µm,0.2s					
ATVO				AML	AML	
	comp=E,2620µm,0.7s					
ATBU	**Serra di Buran**	**0.14 104**		P	Pg	02 20 51.7 +0.6
ATBU				S	Sg	02 20 54.7 +1.4
ATBU				AML	AML	
	comp=E,778µm,0.8s					
ATBU				AML	AML	
	comp=N,805µm,0.3s					
ATBU				AML	AML	
	comp=E,779µm,0.8s					
ATBU				AML	AML	
	comp=N,804µm,0.3s					
ATBU				AML	AML	
	comp=E,779µm,0.8s					
ATBU				AML	AML	
	comp=N,804µm,0.3s					
ATMC	**Monte Cedrone**	**0.14 244**		P	Pg	02 20 51.7 +0.5
ATMC				S	Sg	02 20 54.2 +0.8
ATMC				AML	AML	
	comp=E,1415µm,0.8s					
ATMC				AML	AML	
	comp=N,1690µm,0.8s					
ATMC				AML	AML	
	comp=E,1415µm,0.8s					
ATMC				AML	AML	
	comp=N,1695µm,0.8s					
ATMC				AML	AML	
	comp=E,1415µm,0.8s					
ATMC				AML	AML	
	comp=N,1695µm,0.8s					
ATMC				AML	AML	
	comp=E,1415µm,0.8s					
ATMC				AML	AML	
	comp=N,1695µm,0.8s					
PARC	**Parchiule**	**0.17 326**		P	Pg	02 20 52.2 +0.6
PARC				S	Sg	02 20 55.3 +1.2
PARC				AML	AML	
	comp=E,692µm,0.8s					
PARC				AML	AML	
	comp=N,867µm,1.3s					
PARC				AML	AML	
	comp=E,692µm,0.8s					
PARC				AML	AML	
	comp=N,867µm,1.3s					
PARC				AML	AML	
	comp=E,692µm,0.8s					
PARC				AML	AML	
	comp=N,867µm,1.3s					
NARO	**Abbazia di Nar**	**0.18 56**		P	Pg	02 20 52.3 +0.4
NARO				S	Sg	02 20 55.5 +0.9
NARO				AML	AML	
	comp=E,502µm,0.1s					
NARO				AML	AML	
	comp=N,558µm,0.1s					
NARO				AML	AML	
	comp=E,502µm,0.1s					
NARO				AML	AML	
	comp=N,558µm,0.1s					
NARO				AML	AML	
	comp=N,558µm,0.1s					
NARO				AML	AML	
	comp=E,502µm,0.1s					
SSP9	**Sansepolcro**	**0.18 291**		P	Pg	02 20 52.5 +0.6
SSP9				S	Sg	02 20 55.8 +1.3
PE3	**Peglio**	**0.21 26**		P	Pg	02 20 53.1 +0.8
PE3				AML	AML	
	comp=E,791µm,0.6s					
PE3				AML	AML	
	comp=N,619µm,0.6s					
PE3				AML	AML	
	comp=E,791µm,0.6s					
PE3				AML	AML	
	comp=N,620µm,0.6s					
PE3				AML	AML	
	comp=E,791µm,0.6s					
PE3				AML	AML	
	comp=N,620µm,0.6s					
ATVA	**AVT- Monte Val**	**0.24 195**		P	Pg	02 20 53.1 +0.3
ATVA				S	Sg	02 20 57.3 +1.2
ATVA				AML	AML	
	comp=E,125µm,1.0s					
ATVA				AML	AML	
	comp=N,131µm,1.0s					
ATVA				AML	AML	
	comp=E,125µm,1.0s					
ATVA				AML	AML	
	comp=N,131µm,1.0s					
ATVA				AML	AML	
	comp=E,125µm,1.0s					
ATVA				AML	AML	
	comp=N,131µm,1.0s					
FRON	**Frontone**	**0.26 88**		P	Pg	02 20 53.7 +0.4
FRON				S	Sg	02 20 58.0 +1.3
FRON				AML	AML	
	comp=E,208µm,0.4s					
FRON				AML	AML	
	comp=N,271µm,0.3s					
FRON				AML	AML	
	comp=E,208µm,0.4s					
FRON				AML	AML	
	comp=N,271µm,0.3s					
FRON				AML	AML	
	comp=N,271µm,0.3s					
FRON				AML	AML	
	comp=E,208µm,0.4s					
MURB	**Monte Urbino**	**0.27 155**		P	Pg	02 20 54.0 +0.6
MURB				S	Sb	02 20 58.8 -0.9
MURB				AML	AML	
	comp=E,1062µm,0.7s					
MURB				AML	AML	
	comp=N,1125µm,1.5s					
MURB				AML	AML	
	comp=E,1062µm,0.7s					
MURB				AML	AML	
	comp=N,1125µm,1.5s					
MURB				AML	AML	
	comp=N,1125µm,1.5s					
MURB				AML	AML	
	comp=E,1062µm,0.7s					
CPGN	**Carpegna, Ital**	**0.29 353**		P	Pb	02 20 55.1 -0.4
CPGN				AML	AML	
	comp=E,244µm,0.3s					
CPGN				AML	AML	
	comp=N,394µm,1.6s					
CPGN				AML	AML	
	comp=E,244µm,0.3s					
CPGN				AML	AML	
	comp=N,394µm,1.6s					
CPGN				AML	AML	
	comp=E,244µm,0.3s					
CPGN				AML	AML	
	comp=N,394µm,1.6s					
MPAG	**Monte Paganucc**	**0.31 67**		P	Pg	02 20 54.7 +0.5
MPAG				S	Sb	02 20 59.8 -1.1
MPAG				AML	AML	
	comp=E,146µm,1.2s					
MPAG				AML	AML	
	comp=N,272µm,0.2s					
MPAG				AML	AML	
	comp=E,146µm,1.2s					
MPAG				AML	AML	
	comp=N,272µm,0.2s					
MPAG				AML	AML	
	comp=N,272µm,0.2s					
MPAG				AML	AML	
	comp=E,146µm,1.2s					
SSFR	**Montelago di S**	**0.31 103**		P	Pg	02 20 54.6 +0.4
SSFR				S	Sb	02 20 59.7 -1.2
SSFR				AML	AML	
	comp=E,415µm,0.7s					
SSFR				AML	AML	
	comp=N,332µm,0.2s					
SSFR				AML	AML	
	comp=E,415µm,0.7s					
SSFR				AML	AML	
	comp=N,332µm,0.2s					
ATTE	**AVT- Monte Tez**	**0.31 182**		P	Pg	02 20 54.7 +0.5
ATTE				S	Sg	02 20 59.6 +1.2
ATTE				AML	AML	
	comp=E,306µm,1.1s					
ATTE				AML	AML	
	comp=N,232µm,1.0s					
ATTE				AML	AML	
	comp=E,306µm,1.1s					
ATTE				AML	AML	
	comp=N,232µm,1.0s					
ATTE				AML	AML	
	comp=E,306µm,1.1s					
ATTE				AML	AML	
	comp=N,232µm,1.0s					
CAFI	**Castiglion Fio**	**0.34 239**		P	Pg	02 20 55.4 +0.6
CAFI				S	Sb	02 21 00.7 -1.1
CAFI				AML	AML	
	comp=E,224µm,0.3s					
CAFI				AML	AML	
	comp=N,235µm,0.8s					
CAFI				AML	AML	
	comp=E,224µm,0.3s					
CAFI				AML	AML	
	comp=N,235µm,0.8s					
CAFI				AML	AML	
	comp=E,224µm,0.3s					
CAFI				AML	AML	
	comp=N,235µm,0.8s					
FSSB	**Fossombrone**	**0.35 58**		P	Pg	02 20 55.5 +0.5
FSSB				AML	AML	
	comp=E,536µm,0.3s					
FSSB				AML	AML	
	comp=N,443µm,0.3s					
FSSB				AML	AML	
	comp=E,536µm,0.3s					
FSSB				AML	AML	
	comp=N,443µm,0.3s					
FSSB				AML	AML	
	comp=E,536µm,0.3s					
FSSB				AML	AML	
	comp=N,443µm,0.3s					
ATCC	**AVT- Casa Cast**	**0.38 148**		P	Pg	02 20 56.1 +0.7
ATCC				S	Sb	02 21 02.4 -0.4
ATCC				AML	AML	
	comp=E,524µm,1.0s					
ATCC				AML	AML	
	comp=N,300µm,0.3s					
ATCC				AML	AML	
	comp=E,524µm,1.0s					
ATCC				AML	AML	
	comp=N,299µm,0.3s					
ATCC				AML	AML	
	comp=N,299µm,0.3s					
ATCC				AML	AML	
	comp=E,524µm,1.0s					
ARVD	**Arcevia**	**0.42 91**		P	Pg	02 20 56.6 +0.5
ARVD				S	Sb	02 21 03.5 -0.4
ARVD				AML	AML	
	comp=E,77µm,0.6s					
ARVD				AML	AML	
	comp=N,64µm,0.2s					
ARVD				AML	AML	
	comp=E,77µm,0.6s					
ARVD				AML	AML	
	comp=N,64µm,0.2s					
ARVD				AML	AML	
	comp=E,77µm,0.6s					
ARVD				AML	AML	
	comp=N,64µm,0.2s					
SNTG	**Esanatoglia**	**0.49 121**		P	Pb	02 20 58.1 -0.6
SNTG				S	Sb	02 21 05.9 -0.1
SNTG				AML	AML	
	comp=E,71µm,0.3s					
SNTG				AML	AML	
	comp=N,104µm,1.6s					
SNTG				AML	AML	
	comp=E,71µm,0.3s					
SNTG				AML	AML	
	comp=N,104µm,1.6s					
SNTG				AML	AML	
	comp=E,71µm,0.3s					
SNTG				AML	AML	
	comp=N,104µm,1.6s					
ASQU	**Asqua**	**0.51 305**		P	Pg	02 20 58.4 +0.5
ASQU				AML	AML	
	comp=E,65µm,0.9s					
ASQU				AML	AML	
	comp=N,97µm,1.6s					
ASQU				AML	AML	
	comp=E,65µm,0.9s					
ASQU				AML	AML	
	comp=N,97µm,1.6s					
ASQU				AML	AML	
	comp=N,97µm,1.6s					
ASQU				AML	AML	
	comp=E,65µm,0.9s					
ASSB	**Assisi San Ben**	**0.51 155**		P	Pg	02 20 58.1 +0.2
ASSB				S	Sb	02 21 06.3 -0.4
ASSB				AML	AML	
	comp=E,77µm,0.4s					
ASSB				AML	AML	
	comp=N,90µm,1.0s					
ASSB				AML	AML	
	comp=E,77µm,0.4s					
ASSB				AML	AML	
	comp=N,90µm,1.0s					
ASSB				AML	AML	
	comp=N,90µm,1.0s					
ASSB				AML	AML	
	comp=E,77µm,0.4s					
PESA	**Pesaro**	**0.55 38**		P	Pb	02 20 59.3 -0.5
PESA				AML	AML	
	comp=E,186µm,1.6s					
PESA				AML	AML	
	comp=N,194µm,0.3s					
PESA				AML	AML	
	comp=E,186µm,1.6s					
PESA				AML	AML	
	comp=N,194µm,0.3s					
PESA				AML	AML	
	comp=E,186µm,1.6s					
PESA				AML	AML	
	comp=N,194µm,0.3s					
EL6	**Elcito**	**0.56 108**		P	Pg	02 20 59.4 +0.5
MGAB	**Montegabbione**	**0.62 198**		P	Pg	02 21 00.4 +0.3
MGAB				S	Sb	02 21 09.6 -0.3
MGAB				AML	AML	
	comp=E,207µm,0.8s					
MGAB				AML	AML	
	comp=N,318µm,1.5s					
MGAB				AML	AML	
	comp=E,264µm,0.8s					
MGAB				AML	AML	
	comp=N,300µm,0.2s					
MGAB				AML	AML	
	comp=N,318µm,1.5s					
MGAB				AML	AML	
	comp=E,207µm,0.8s					
MGAB				AML	AML	
	comp=E,264µm,0.8s					
MGAB				AML	AML	
	comp=N,300µm,0.2s					
CESI	**CESI - Serrava**	**0.64 142**		P	Pg	02 21 00.7 +0.4
CESI				S	Sb	02 21 10.1 -0.2
CESI				AML	AML	
	comp=E,11µm,0.7s					
CESI				AML	AML	
	comp=N,28µm,0.9s					
CESI				AML	AML	
	comp=E,11µm,0.7s					
CESI				AML	AML	
	comp=N,28µm,0.9s					
CESI				AML	AML	
	comp=E,11µm,0.7s					
CESI				AML	AML	
	comp=N,28µm,0.9s					
FDMO	**Fiordimonte**	**0.71 132**		P	Pg	02 21 01.4 -0.2
CSP1	**Cessapalombo**	**0.74 124**		P	Pg	02 21 02.5 +0.2

ROM 24 02:21:30.9±0.2,**43°.510N**±0°.005×**12°.370E**±0°.006, **h9**km±1km,**Md1.0/6,ML1.2/3,Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.06**	**158**	P	Pg	02 21 33.1	+0.2
ATPI				S	Sg	02 21 34.6	+0.2
ATPI				END			
ATPI				END			
ATPC	**Poggio Castell**	**0.07**	**114**	P	Pg	02 21 33.3	+0.3
ATPC				S	Sg	02 21 34.9	+0.4
ATPC				AML	AML		
	comp=E,380µm,1.0s						
ATPC				AML	AML		
	comp=N,233µm,0.4s						
ATPC				AML	AML		
	comp=N,232µm,0.4s						
ATPC				AML	AML		
	comp=E,379µm,1.0s						
ATPC				END			
ATPC				END			
BADI	**Badiali**	**0.09**	**270**	P	Pg	02 21 33.6	+0.4
BADI				S	Sg	02 21 35.6	+0.6
BADI				END			
BADI				END			
PIEI	**Pieia**	**0.12**	**77**	P	Pg	02 21 34.3	+0.5
PIEI				S	Sg	02 21 37.1	+1.4
PIEI				AML	AML		
	comp=E,115µm,0.4s						
PIEI				AML	AML		
	comp=N,87µm,0.3s						
PIEI				AML	AML		
	comp=E,115µm,0.4s						
PIEI				AML	AML		
	comp=N,87µm,0.3s						
PIEI				END			
PIEI				END			
ATVO	**AVT- Monte Val**	**0.13**	**168**	P	Pg	02 21 34.3	+0.4
ATVO				S	Sg	02 21 36.8	+0.9
ATVO				AML	AML		
	comp=E,236µm,0.7s						
ATVO				AML	AML		
	comp=N,138µm,0.2s						
ATVO				AML	AML		
	comp=N,138µm,0.2s						
ATVO				AML	AML		
	comp=E,236µm,0.7s						
ATVO				END			
ATVO				END			
NARO	**Abbazia di Nar**	**0.18**	**56**	P	Pg	02 21 35.3	+0.5
NARO				S	Sg	02 21 38.3	+0.9
NARO				END			
NARO				END			

ROM 24 02:22:06.7±0.0,**43°.506N**±0°.003×**12°.370E**±0°.003,

h10km,ML1.1/8,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATPI	**Pietralunga -**	**0.06**	**157**	P	Pg	02 22 09.1	+0.3
ATPI				S	Sg	02 22 10.6	+0.2
ATPC	**Poggio Castell**	**0.07**	**112**	P	Pg	02 22 09.2	+0.3
ATPC				S	Sg	02 22 10.9	+0.4
ATPC				AML	AML		
	comp=E,379μm,1.0s						
ATPC				AML	AML		
	comp=N,232μm,0.4s						
ATPC				AML	AML		
	comp=E,380μm,1.0s						
ATPC				AML	AML		
	comp=N,233μm,0.4s						
ATPC				AML	AML		
	comp=N,232μm,0.4s						
ATPC				AML	AML		
	comp=E,379μm,1.0s						
BADI	**Badiali**	**0.09**	**272**	P	Pg	02 22 09.6	+0.4
BADI				S	Sg	02 22 11.3	+0.4
BADI				AML	AML		
	comp=E,321μm,0.9s						
BADI				AML	AML		
	comp=N,557μm,0.3s						
BADI				AML	AML		
	comp=N,557μm,0.3s						
BADI				AML	AML		
	comp=E,321μm,0.9s						
CDCA	**Citt' di Caste**	**0.11**	**245**	P	Pg	02 22 09.9	+0.5
CDCA				S	Sg	02 22 12.1	+0.8
CDCA				AML	AML		
	comp=E,1434μm,1.4s						
CDCA				AML	AML		
	comp=N,645μm,1.6s						
PIEI	**Pieia**	**0.12**	**76**	P	Pg	02 22 10.1	+0.4
PIEI				S	Sg	02 22 12.6	+0.9
PIEI				AML	AML		
	comp=E,115μm,0.4s						
PIEI				AML	AML		
	comp=N,87μm,0.3s						
PIEI				AML	AML		
	comp=E,115μm,0.4s						
PIEI				AML	AML		
	comp=N,87μm,0.3s						
PIEI				AML	AML		
	comp=E,115μm,0.4s						
PIEI				AML	AML		
	comp=N,87μm,0.3s						
ATVO	**AVT- Monte Val**	**0.13**	**168**	P	Pg	02 22 10.3	+0.6
ATVO				S	Sg	02 22 12.7	+1.0
ATVO				AML	AML		
	comp=E,236μm,0.7s						
ATVO				AML	AML		
	comp=N,138μm,0.2s						
ATVO				AML	AML		
	comp=E,236μm,0.7s						
ATVO				AML	AML		
	comp=N,138μm,0.2s						
ATVO				AML	AML		
	comp=E,236μm,0.7s						
ATVO				AML	AML		
	comp=N,138μm,0.2s						
ATBU	**Serra di Buran**	**0.13**	**103**	P	Pg	02 22 10.5	+0.7
ATBU				S	Sg	02 22 13.3	+1.3
ATMC	**Monte Cedrone**	**0.14**	**246**	P	Pg	02 22 10.4	+0.5
ATMC				S	Sg	02 22 12.9	+0.7
ATMC				AML	AML		
	comp=E,140μm,0.8s						
ATMC				AML	AML		
	comp=N,170μm,0.1s						
ATMC				AML	AML		
	comp=N,170μm,0.1s						
ATMC				AML	AML		
	comp=E,140μm,0.8s						
PARC	**Parchiule**	**0.17**	**326**	P	Pg	02 22 11.1	+0.7
PARC				S	Sg	02 22 14.1	+1.1
PARC				AML	AML		
	comp=E,50μm,0.7s						
PARC				AML	AML		
	comp=N,54μm,0.9s						
PARC				AML	AML		
	comp=E,50μm,0.7s						
PARC				AML	AML		
	comp=N,54μm,0.9s						
PARC				AML	AML		
	comp=N,54μm,0.9s						
PARC				AML	AML		
	comp=E,50μm,0.7s						
NARO	**Abbazia di Nar**	**0.18**	**55**	P	Pg	02 22 11.0	+0.4
NARO				S	Sg	02 22 14.2	+0.9
NARO				AML	AML		
	comp=E,45μm,1.4s						
NARO				AML	AML		
	comp=N,39μm,1.1s						
NARO				AML	AML		
	comp=E,45μm,1.4s						
NARO				AML	AML		
	comp=N,39μm,1.1s						
NARO				AML	AML		
	comp=N,39μm,1.1s						
NARO				AML	AML		
	comp=E,45μm,1.4s						
PE3	**Peglio**	**0.21**	**26**	P	Pg	02 22 12.0	+0.9
PE3				S	Sg	02 22 16.0	+1.9
FRON	**Frontone**	**0.26**	**87**	P	Pg	02 22 12.4	+0.4
FRON				S	Sb	02 22 16.8	-1.2
ATTE	**AVT- Monte Tez**	**0.31**	**182**	P	Pg	02 22 13.5	+0.6
ATTE				S	Sb	02 22 18.5	-1.0
SSFR	**Montelago di S**	**0.31**	**103**	P	Pg	02 22 13.3	+0.5
SSFR				S	Sb	02 22 18.4	-1.0
SSFR				AML	AML		
	comp=E,51μm,0.7s						
SSFR				AML	AML		
	comp=N,51μm,0.2s						
SSFR				AML	AML		
	comp=N,51μm,0.2s						
SSFR				AML	AML		
	comp=E,51μm,0.7s						
MPAG	**Monte Paganucc**	**0.31**	**66**	P	Pg	02 22 13.4	+0.5
MPAG				S	Sb	02 22 18.6	-0.9
CAFI	**Castiglion Fio**	**0.34**	**239**	P	Pg	02 22 14.1	+0.6
CAFI				S	Sb	02 22 19.9	-0.5

IDC ***24*** *02:26:23.8±0.6,6°.73S×148°.56E, h0km, mb4.5/17, mb1 4.6/22, mb1mx4.4/45, mbtmp4.5/22, ML4.1/4, MS4.2/21, Ms1 4.3/21, ms1mx4.0/40, Error ellipse: s-maj=17.2km s-min=12.1km az=91.0*

MOS ***24*** *02:26:28.5±1.2,6°.77S×148°.29E, h40km, mb4.9/17, Error ellipse: s-maj=11.0km s-min=7.3km az=92.6*

ISCJB ***24*** *02:26:28.4±0.3,6°.82S±0°.03×148°.55E±0°.05, h47km, mb4.7/61, MS4.3/24, Error ellipse: s-maj=6.7km s-min=4.4km az=2.9*

NEIC ***24*** *02:26:29.7±0.8,6°.81S×148°.54E, h46km±7km, mb4.9/31, Error ellipse: s-maj=6.8km s-min=4.5km az=70.0*

BJI ***24*** *02:26:30.5,6°.90S×148°.50E, h55km, mb4.7/29, mB5.0/18, Ms4.7/11, Ms7 4.4/10*

DJA ***24*** *02:26:31.4±1.8,7°S±10°×14°8E±1°2, h52km±11km, M4.9/23, mb4.9/23, mB5.4/13, MLv4.9/1, Mw(mB)4.9/13*

ISC 24 02:26:30.2±0.3,6.79S±0.05×148.56E±0.06,h47km,n206, **σ1§21/198,mb4.8/61,MS4.3/25,1C-1D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.95**	**208**	*e*Pn	**Pn**	**02 27 14.2**	**-0.3**
PMG				Sn	**Sn**	**02 27 52.1**	**+3.5**
PMG	**Port Moresby**	**2.95**	**208**	*e*P	**Pn**	**02 27 14.2**	**-0.3**
PMG						02 27 52.2	
PMG	**Port Moresby**	**2.95**	**208**	Pn	**Pn**	**02 27 14.6**	**+0.1**
	48nm,0.3s,baz=7.7,slow=8.8,SNR=113						
PMG				Sn	**Sn**	**02 27 52.1**	**+3.5**
	97nm,0.3s,baz=175,slow=23,SNR=10						
RABL	**Rabaul**	**4.42**	**55**	*e*Pn	**Pn**	**02 27 38.2**	**+3.4**
COEN	**Coen**	**8.87**	**216**	P	**Pn**	**02 28 35.4**	**-0.4**
	baz=8.8,SNR=18						
COEN	**Coen**	**8.87**	**216**	*e*Pn	**Pn**	**02 28 35.7**	**-0.2**
JAY	**Jayapura**	**8.90**	**298**	P	Pn	02 28 42.3	+6.0
JAY	**Jayapura**	**8.90**	**298**	Pn	**Pn**	**02 28 34.1**	**-2.2**
	0.6nm,0.3s,baz=197,slow=14,SNR=2.6						
GENI	**Genyem**	**9.34**	**296**	P	Pn	02 28 57.2	+15
HNR	**Honiara**	**11.58**	**104**	LR	LR	02 32 34.0	

	comp=Z,2μm,21.0s,baz=280,slow=32					
MTSU	**Mount Surprise**	**12.01**	**200**	P	**Pn**	**02 29 19.9**	**+1.0**
	baz=12,SNR=24					
CTA	**Charters Tower**	**13.41**	**189**	Pn	**Pn**	**02 29 36.2**	**-1.8**
	0.5nm,0.3s,baz=348,slow=11,SNR=5.0					
CTAO	**Charters Tower**	**13.41**	**189**	*e*Pn	**Pn**	**02 29 37.2**	**-0.7**
CTAO	**Charters Tower**	**13.41**	**189**	*e*P	**Pn**	**02 29 37.2**	**-0.7**
QIS	**Mount Isa**	**16.21**	**211**	P	**Pn**	**02 30 15.0**	**+0.2**
	baz=16,SNR=38						
FAKI	**Fak Fak**	**16.69**	**283**	*e*P	**P**	**02 30 22.9**	**+0.2**
	76nm,1.4s						
KDU	**Kakadu**	**16.89**	**248**	P	**Pn**	**02 30 22.7**	**-0.7**
	baz=17,SNR=4.5						
MTN	**Manton Dam**	**18.18**	**249**	P	**P**	**02 30 38.9**	**-0.2**
	baz=18,SNR=7.0						
SIJI	**Sorong**	**18.22**	**288**	P	**P**	**02 30 38.4**	**-1.2**
	0.8nm,0.3s,baz=72,slow=20,SNR=5.1						
SIJI				LR	LR	02 39 34.0	
	comp=Z,2μm,19.4s,baz=56,slow=43						
EIDS	**Eidsvold**	**18.64**	**173**	P	**Pn**	**02 30 44.8**	**0.0**
	baz=19,SNR=7.1						
EIDS	**Eidsvold**	**18.64**	**173**	*e*P	**P**	**02 30 43.8**	**-0.2**
	54nm,1.1s						
BNDI	**Bandanaira**	**18.70**	**276**	P	**Pn**	**02 30 45.6**	**+0.1**
WRAB	**Tennant Creek**	**19.00**	**225**	*e*P	**P**	**02 30 47.4**	**-0.7**
	20nm,0.6s						
WRAB	**Tennant Creek**	**19.00**	**225**	*de*P	**P**	**02 30 48.1**	**0.0**
WRAB				pmax	pmax		
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**19.00**	**225**	*e*P	**P**	**02 30 47.6**	**-0.5**
WRA	**Warramunga Arr**	**19.01**	**225**	P	**P**	**02 30 47.8**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=53,slow=11,SNR=38						
WRA				S	**S**	**02 34 23.4**	**+1.6**
	baz=47,slow=22,SNR=15						
WRA				LR	LR	02 39 04.2	
	comp=Z,2μm,18.4s,baz=55,slow=40						
RMQ	**Roma**	**19.59**	**179**	P	**Pn**	**02 30 55.6**	**-0.6**
	baz=20,SNR=23						
KNRA	**Kununurra**	**21.31**	**244**	P	**P**	**02 31 12.0**	**-1.2**
	baz=21,SNR=17						
AS01	**Alice Springs**	**21.88**	**218**	*e*P	**P**	**02 31 18.0**	**-1.3**
AS31	**Alice Springs**	**21.90**	**218**	*e*P	**P**	**02 31 19.4**	**-0.2**
	comp=Z,25nm,0.6s						
ASAR	**Alice Springs**	**21.91**	**218**	P	**P**	**02 31 19.3**	**-0.3**
	comp=Z,51nm,0.8s,baz=54,slow=9.6,SNR=230						
ASAR				S	**S**	**02 35 21.6**	**+2.4**
	comp=Z,12nm,1.0s,baz=30,slow=23,SNR=11						
ASAR				LR	LR	02 40 32.2	
	comp=Z,774nm,18.9s,baz=47,slow=39						
SANI	**Sanana**	**22.98**	**281**	P	**P**	**02 31 29.2**	**-1.8**
DZM	**Mont Dzumac**	**23.00**	**133**	*e*LR	LR	02 37 15.4	
	comp=Z,1μm,22.9s						
DZM	**Mont Dzumac**	**23.00**	**133**	*e*P	**P**	**02 31 30.8**	**-0.5**
	comp=Z,44nm,1.3s						
DZM	**Mont Dzumac**	**23.00**	**133**	P	**P**	**02 31 30.7**	**-0.5**
	comp=Z,16nm,1.0s,baz=284,slow=13,SNR=4.3						
DZM				LR	LR	02 39 05.1	
	comp=Z,1μm,20.2s,baz=336,slow=33						
ARMA	**Armidale**	**23.68**	**173**	P	**P**	**02 31 37.5**	**-0.2**
	baz=24,SNR=11						
ARMA	**Armidale**	**23.68**	**173**	*e*P	**P**	**02 31 36.9**	**-0.9**
	comp=Z,23nm,0.9s						
SOEI	**Soe**	**24.21**	**261**	*e*P	**P**	**02 31 42.7**	**-0.2**
	comp=Z,103nm,1.0s						
SOEI	**Soe**	**24.21**	**261**	P	**P**	**02 31 43.4**	**+0.6**
	comp=Z,95nm,1.0s,comp=Z,2μm						
CMSA	**Cobar Meteorol**	**24.77**	**186**	P	**P**	**02 31 48.0**	**+0.5**
	baz=25,SNR=16						
BATI	**Baumata**	**24.85**	**260**	P	**P**	**02 31 48.9**	**+0.4**
BATI	**Baumata**	**24.85**	**260**	P	**P**	**02 31 48.9**	**+0.4**
	comp=Z,62nm,0.7s,baz=141,slow=2.8,SNR=24						
FITZ	**Fitzroy Crossi**	**25.00**	**241**	P	**P**	**02 31 49.5**	**-0.4**
	baz=25,SNR=214						
FITZ	**Fitzroy Crossi**	**25.00**	**241**	*e*P	**P**	**02 31 48.9**	**-1.0**
	comp=Z,124nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.00**	**241**	P	**P**	**02 31 50.1**	**+0.2**
	comp=Z,134nm,0.8s,baz=60,slow=9.0,SNR=177						
FITZ				LR	LR	02 42 35.7	
	comp=Z,905nm,19.1s,baz=67,slow=39						
STKA	**Stephens Creek**	**25.80**	**194**	P	**P**	**02 31 56.6**	**-0.3**
	baz=26,SNR=9.5						
STKA	**Stephens Creek**	**25.80**	**194**	*e*P	**P**	**02 31 55.5**	**-1.4**
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**25.80**	**194**	*e*P	**P**	**02 31 55.5**	**-1.4**
STKA				pmax	pmax		
	comp=Z,19nm,1.3s						
STKA	**Stephens Creek**	**25.80**	**194**	P	**P**	**02 31 57.0**	**+0.1**
	comp=Z,79nm,1.2s,baz=360,slow=9.4,SNR=24						
STKA				LR	LR	02 43 09.4	
	comp=Z,955nm,18.4s,baz=9.7,slow=39						
BBSI	**Bau Bau**	**25.87**	**271**	P	**P**	**02 32 00.2**	**+2.4**
MMRI	**Maumere**	**26.14**	**264**	*e*P	**P**	**02 31 59.8**	**-0.4**
	comp=Z,150nm,1.0s						
MMRI	**Maumere**	**26.14**	**264**	P	**P**	**02 32 00.3**	**+0.1**
	comp=Z,118nm,0.7s,comp=Z,4μm						
LUWI	**Luwuk**	**26.34**	**281**	*e*P	**P**	**02 32 02.4**	**+0.4**
	comp=Z,507nm,1.7s						
LUWI	**Luwuk**	**26.34**	**281**	P	**P**	**02 32 02.4**	**+0.4**
	comp=Z,140nm,1.2s						
WRKA	**Warakurna**	**26.55**	**225**	P	**P**	**02 32 03.5**	**-0.4**
	baz=26,SNR=124						
EDFI	**Ende, Flores**	**26.69**	**264**	P	**P**	**02 32 04.3**	**-1.0**
APSI	**Ampana**	**27.46**	**281**	P	**P**	**02 32 12.3**	**+0.2**
	comp=Z,53nm,1.7s,comp=Z,776nm						
MRSI	**Marisa**	**27.52**	**284**	P	**P**	**02 32 14.1**	**+1.5**
BSSI	**Bau Bau, Buton**	**27.89**	**270**	P	**P**	**02 32 17.4**	**+1.4**
	comp=Z,77nm,1.3s,comp=Z,834nm						
HTT	**Hallett**	**27.98**	**197**	P	**P**	**02 32 17.0**	**+0.4**
	baz=28,SNR=11						
BBOO	**Buckleboo**	**28.38**	**203**	P	**P**	**02 32 20.1**	**0.0**
	baz=28,SNR=4.7						
CAN	**Canberra**	**28.40**	**179**	*e*P	**P**	**02 32 19.5**	**-0.8**
	comp=Z,24nm,1.2s						
CAN	**Canberra**	**28.40**	**179**	*e*P	**P**	**02 32 19.5**	**-0.8**
CAN				pmax	pmax		
	comp=Z,24nm,1.2s						
MPSI	**Mapaga**	**29.46**	**283**	P	**P**	**02 32 29.0**	**-0.9**
FORT	**Forrest**	**30.64**	**216**	P	**P**	**02 32 40.5**	**+0.3**
	baz=31,SNR=8.1						
FORT	**Forrest**	**30.64**	**216**	*e*P	**P**	**02 32 39.0**	**-1.2**
	comp=Z,40nm,0.8s						
JAGI	**Jajag, Banyuwa**	**34.13**	**265**	*e*P	**P**	**02 33 10.6**	**-0.4**
	comp=Z,119nm,1.5s						
TGY	**Tagaytay City**	**34.38**	**307**	LR	LR	02 47 11.2	
	comp=Z,259nm,20.9s,baz=128,slow=36						
MEEK	**Meekatharra**	**34.66**	**232**	P	**P**	**02 33 15.5**	**+0.1**
	baz=35,SNR=23						
SBUM	**Sibu**	**37.41**	**283**	P	**P**	**02 33 40.2**	**+1.1**
MORW	**Morawa**	**37.83**	**230**	P	**P**	**02 33 42.3**	**-0.1**
	baz=38,SNR=6.6						
MORW	**Morawa**	**37.83**	**230**	*e*P	**P**	**02 33 42.4**	**-0.1**
	comp=Z,106nm,1.5s						
KLBR	**Kellerberrin**	**37.90**	**225**	P	**P**	**02 33 42.5**	**-0.4**
	baz=38,SNR=50						
BLDU	**Ballidu**	**38.12**	**227**	P	**P**	**02 33 44.5**	**-0.3**
	baz=38,SNR=4.1						
NWAO	**Narrogin (SRO)**	**39.01**	**224**	*e*P	**P**	**02 33 51.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**39.01**	**224**	*e*P	**P**	**02 33 51.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**39.01**	**224**	P	**P**	**02 33 52.6**	**+0.3**
	comp=Z,13nm,0.9s,baz=61,slow=9.2,SNR=5.3						
KSM	**Kuching**	**39.04**	**281**	P	**P**	**02 33 53.7**	**+0.9**
MUN	**Mundaring**	**39.21**	**226**	P	**P**	**02 33 54.2**	**+0.3**
	baz=39,SNR=4.2						
URZ	**Urewera**	**40.62**	**145**	LR	LR	02 50 00.6	
	comp=Z,558nm,18.3s,baz=358,slow=35						
MJAR	**Matsushiro Arr**	**44.18**	**348**	P	**P**	**02 34 34.7**	**+0.2**
	comp=Z,3.8nm,0.8s,baz=182,slow=8.7,SNR=4.4						
MAJO	**Matsushiro**	**44.18**	**348**	*e*P	**P**	**02 34 34.7**	**+0.2**
	comp=Z,4.5nm,0.6s						
MAJO	**Matsushiro**	**44.18**	**348**	*e*P	**P**	**02 34 34.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAT	**Matsushiro**	**44.18**	**348**	P	**P**	**02 34 34.6**	**+0.1**
QIZ	**Qiongzhong**	**45.97**	**305**	P	**P**	**02 34 49.3**	**+0.3**
QIZ				S	**S**	**02 41 32.1**	**+1.2**
QIZ				LR	LR		
	comp=Z,160nm,15.7s						
QIZ				LR	LR		
	comp=Z,170nm,16.5s						
QIZ				LR	LR		
	comp=Z,260nm,22.6s						
KGM	**Kluang**	**45.99**	**279**	P	**P**	**02 34 50.6**	**+1.3**
NJ2	**Nanjing**	**47.89**	**325**	*e*P	**P**	**02 35 04.1**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.6s						
KSRS	**Korea Array**	**48.05**	**338**	P	**P**	**02 35 04.5**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=150,slow=8.1,SNR=5.0						

KSAR	**Wonju Array Be**	**48.05**	**338**	P	**P**	**02 35 04.5**	**-0.4**
KSAR	**Wonju Array Be**	**48.05**	**338**	P	**P**	**02 35 04.5**	**-0.4**
KS01	**Wonju Array Si**	**48.08**	**338**	*e*P	**P**	**02 35 04.2**	**-1.0**
KULM	**Kulim**	**49.29**	**283**	P	**P**	**02 35 15.3**	**+0.4**
SKNT	**Sakolnakorn**	**49.99**	**299**	P	P	02 35 30.5	+10
PSI	**Prapat**	**50.45**	**279**	*e*P	**P**	**02 35 23.0**	**-0.9**
	comp=Z,67nm,1.6s						
PSI	**Prapat**	**50.45**	**279**	*e*P	**P**	**02 35 23.0**	**-0.9**
PSI				pmax	pmax		
	comp=Z,67nm,1.6s						
PSI	**Prapat**	**50.45**	**279**	P	**P**	**02 35 23.0**	**-0.9**
	comp=Z,9.0nm,0.9s,baz=180,slow=4.0,SNR=13						
PSI				LR	LR	03 01 09.5	
	comp=Z,156nm,18.9s,baz=259,slow=41						
TRTT	**Trang**	**50.85**	**286**	P	**P**	**02 35 28.0**	**+1.3**
	comp=Z,7.5nm,1.6s						
GSI	**Gunungsitoli**	**51.51**	**277**	*e*P	**P**	**02 35 31.2**	**-0.5**
	comp=Z,38nm,1.1s						
PKDT	**Phuket**	**52.16**	**285**	P	**P**	**02 35 37.4**	**+0.9**
	comp=Z,16nm,1.1s,comp=Z,596nm						
GYA	**Guiyang**	**52.36**	**311**	*e*P	**P**	**02 35 40.0**	**+2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.91**	**345**	P	**P**	**02 35 42.2**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=189,slow=4.7,SNR=2.9						
USRK				LR	LR	02 57 22.4	
	comp=Z,116nm,18.6s,baz=156,slow=35						
UTTA	**Uttaradit**	**53.29**	**298**	P	P	02 35 55.5	+11
UTHA	**Uthaitani**	**53.47**	**295**	P	**P**	**02 35 49.4**	**+3.3**
	comp=Z,2.8nm,1.2s						
UMPA	**Umpang Tak**	**54.22**	**295**	P	**P**	**02 35 54.9**	**+3.2**
	comp=Z,2.7nm,1.0s,comp=Z,1μm						
KMI	**Kunming**	**54.70**	**307**	P	**P**	**02 35 57.1**	**+1.8**
KMI				pmax	pmax		
	comp=Z,18nm,0.6s						
KMI				pmax	pmax		
	comp=Z,80nm,4.1s						
KMI				LR	LR		
	comp=Z,200nm,13.5s						
KMI				LR	LR		
	comp=Z,220nm,12.5s						
KMI				LR	LR		
	comp=Z,280nm,16.8s						
CMAR	**Chiang Mai Arr**	**54.98**	**298**	P	**P**	**02 35 57.8**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=103,slow=7.9,SNR=3.8						
CD2	**Chengdu**	**56.93**	**314**	*e*P	**P**	**02 36 11.0**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KLR	**Kul'dur**	**57.69**	**347**	*i* P	**P**	**02 36 14.3**	**-1.5**
HHC	**Hu-ho-hao-te**	**58.32**	**328**	*e*P	**P**	**02 36 22.8**	**+2.3**
HHC				sP	pwP	02 36 47.1	+9.1
HHC				S	**S**	**02 44 21.8**	**+2.0**
HHC				sS	sS	02 44 42.8	+1.8
HHC				pmax	pmax		
	comp=Z,20nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,7.0s						
HHC				LR	LR		
	comp=Z,220nm,15.2s						
HHC				LR	LR		
	comp=Z,280nm,14.9s						
HHC				LR	LR		
	comp=Z,310nm,16.7s						
LZH	**Lanzhou**	**59.81**	**319**	*e*P	**P**	**02 36 34.5**	**+3.4**
LZH				pP	pwP	02 36 51.3	+2.3
LZH				sP	sP	02 36 58.5	+11
LZH				PP	PP	02 38 52.1	+8.5
LZH				SS	SS	02 48 37.6	+1.2
LZH				pmax	pmax		
	comp=Z,33nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,4.9s						
LZH				LR	LR		
	comp=Z,420nm,14.1s						
LZH				LR	LR		
	comp=Z,380nm,14.1s						
LZH				LR	LR		
	comp=Z,470nm,17.9s						
PETK	**Petropavlovsk-**	**60.17**	**6**	LR	LR	02 59 00.4	
	comp=Z,137nm,21.4s,baz=179,slow=32						
PPT	**Papeete**	**61.19**	**106**	LR	LR	03 00 40.6	
	comp=Z,118nm,18.5s,baz=245,slow=34						
PPT2	**Papeete2**	**61.19**	**106**	*e*S	**S**	**02 44 54.4**	**-3.1**
	comp=Z,119nm,27.8s						
PPT2	**Papeete2**	**61.19**	**106**	*e*LR	LR	02 55 01.4	
	comp=Z,236nm,24.2s						
BRDH	**Bariadhala**	**62.89**	**300**	LR	LR	03 07 21.7	
	comp=Z,83nm,18.4s,baz=150,slow=39						
ZEA	**Zeya**	**62.92**	**346**	*e*P	**P**	**02 36 51.2**	**-0.3**
ZEA				pmax	pmax		
	comp=Z,17nm,1.0s						
GTA	**Gaotai**	**64.33**	**320**	*e*P	P	02 37 07.8	+6.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,54nm,4.1s						
GTA				LR	LR		
	comp=Z,230nm,19.9s						
GTA				LR	LR		
	comp=Z,210nm,20.3s						
GTA				LR	LR		
	comp=Z,120nm,19.9s						
CASY	**Casey**	**64.92**	**196**	*e*P	**P**	**02 37 03.9**	**-0.6**
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**65.54**	**331**	*e*P	**P**	**02 37 08.9**	**-0.2**
	comp=Z,1.1nm,0.4s						
ULN	**Ulaanbaatar**	**65.54**	**331**	*i* P	**P**	**02 37 07.8**	**-1.2**
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	**65.84**	**330**	P	**P**	**02 37 10.1**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=145,slow=7.0,SNR=7.0						
SONM				LR	LR	03 05 45.1	
	comp=Z,192nm,19.9s,baz=135,slow=36						
ZAK	**Zakamensk**	**69.07**	**331**	*e*P	**P**	**02 37 30.0**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s						
PALK	**Pallekele**	**69.11**	**280**	*e*P	**P**	**02 37 31.1**	**-1.0**
	comp=Z,7.7nm,0.8s						
PALK	**Pallekele**	**69.11**	**280**	*e*P	**P**	**02 37 31.1**	**-1.0**
PALK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PALK	**Pallekele**	**69.11**	**280**	LR	LR	03 10 06.1	
	comp=Z,162nm,21.6s,baz=115,slow=38						
VNDA	**Vanda**	**71.05**	**177**	*e*P	**P**	**02 37 43.0**	**+0.2**
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**71.05**	**177**	*e*P	**P**	**02 37 43.0**	**+0.2**
VNDA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**71.05**	**177**	P	**P**	**02 37 42.7**	**-0.1**
	comp=Z,6.8nm,1.0s,baz=330,slow=7.0,SNR=24						
VNDA				LR	LR	03 05 06.1	
	comp=Z,130nm,19.8s,baz=7.0,slow=33						
HYB	**Hyderabad**	**73.18**	**290**	*i* P	**P**	**02 37 57.0**	**+0.3**
HYB				*e*		02 38 03.5	
WMQ	**Urumqi**	**74.39**	**319**	*e*P	**P**	**02 38 04.3**	**+1.0**
WMQ				LR	LR		
	comp=Z,200nm,20.5s						
WMQ				LR	LR		
	comp=Z,180nm,19.1s						
BILL	**Bilibino**	**75.70**	**7**	*i* P	P	02 38 16.3	+6.1
BILL				*i*		02 38 24.4	
BILL				*i*		02 41 07.6	
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s						
DGZ	**Jazzator, Alta**

	comp=Z,1.0nm,0.7s,baz=118,slow=5.7,SNR=4.4							
ZALV				LR	LR	03 14 11.8		
	comp=Z,248nm,21.0s,baz=72,slow=36							
KSH	**Kashi**	**81.05 312**		P	**P**	**02 38 40.3**	**-0.3**	
KSH				pP	pwP	02 38 56.5	-1.0	
KSH				S	**S**	**02 48 39.4**	**-7.4**	
KSH				pmax	pmax			
	comp=Z,38nm,4.5s							
NIL	**Nilore**	**81.64 305**	*eP*	P	**P**	**02 38 43.4**	**-0.3**	
	comp=Z,9.1nm,0.8s							
NIL	**Nilore**	**81.64 305**	*eP*	P	**P**	**02 38 43.4**	**-0.3**	
NIL				pmax	pmax			
	comp=Z,9.0nm,0.8s							
NVS	**Novosibirsk**	**81.72 328**	*eP*	P	P	02 38 52.4	+8.8	
KURK	**Kurchatov**	**82.76 323**	*eP*	P	**P**	**02 38 47.8**	**-1.3**	
KURK	**Kurchatov**	**82.76 323**	*i P*	P	**P**	**02 38 49.6**	**+0.5**	
KURK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
AAK	**Ala-Archa**	**82.99 314**	*eP*	P	**P**	**02 38 50.1**	**-0.7**	
	comp=Z,11nm,1.4s							
AAK	**Ala-Archa**	**82.99 314**	*i P*	P	**P**	**02 38 50.7**	**-0.1**	
AAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
QSPA	**South Pole Qui**	**83.19 180**	*eP*	P	**P**	**02 38 50.7**	**-0.5**	
QSPA	**South Pole Qui**	**83.19 180**	P	P	**P**	**02 38 51.5**	**+0.3**	
	comp=Z,11nm,1.1s,baz=341,slow=2.0,SNR=15							
ARSB	**Arslanbob**	**83.73 313**	*eP*	P	**P**	**02 38 53.9**	**-0.7**	
	comp=Z,31nm,1.5s							
ILAR	**Eielson Array**	**85.60 23**	P	P	**P**	**02 39 03.8**	**+0.5**	
	comp=Z,0.4nm,0.6s,baz=247,slow=4.7,SNR=7.2							
IL1	**Eielson Array**	**85.60 23**	*eP*	P	**P**	**02 39 04.0**	**+0.7**	
IL1				*ep*P	**sP**	**02 39 20.9**	**+1.0**	
KK31	**Karatay Array**	**85.94 314**	*eP*	P	**P**	**02 39 04.6**	**-0.9**	
	comp=Z,20nm,1.3s							
KK31	**Karatay Array**	**85.94 314**	*eP*	P	**P**	**02 39 04.6**	**-0.9**	
KK31				pmax	pmax			
	comp=Z,20nm,1.3s							
KKAR	**Karatay Array**	**85.94 314**	*eP*	P	**P**	**02 39 04.6**	**-0.9**	
	comp=Z,20nm,1.3s							
KKAR	**Karatay Array**	**85.94 314**	*eP*	P	**P**	**02 39 04.6**	**-0.9**	
KKAR				pmax	pmax			
	comp=Z,20nm,1.3s							
CHGR	**Chuyangaron**	**85.98 310**	*eP*	P	**P**	**02 39 05.7**	**-0.2**	
	comp=Z,29nm,1.2s							
BVAR	**Borovoye Array**	**88.31 324**	LR	LR	LR	03 19 31.2		
	comp=Z,69nm,20.6s,baz=91,slow=36							
BRVK	**Borovoye**	**88.38 324**	*eP*	P	**P**	**02 39 15.9**	**-1.1**	
BRVK	**Borovoye**	**88.38 324**	*i P*	P	**P**	**02 39 17.4**	**+0.4**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ABKAR	**Akbulak array**	**94.18 319**	*eP*	P	**P**	**02 39 42.8**	**-1.2**	
	comp=Z,3.9nm,1.2s							
GEYT	**Alibeck**	**94.47 308**	LR	LR	LR	03 25 14.5		
	comp=Z,77nm,20.4s,baz=30,slow=37							
NV01	**Mina Array Sit**	**96.63 52**	*eP*	P	**P**	**02 39 55.5**	**-0.2**	
NVAR	**Mina Array Bea**	**96.63 52**	P	P	**P**	**02 39 57.6**	**+1.8**	
	comp=Z,0.8nm,0.8s,baz=267,slow=7.9,SNR=3.5							
NVAR				LR	LR	03 20 43.8		
	comp=Z,206nm,18.1s,baz=266,slow=34							
NOA	**NORSAR Array B**	**117.26 338**		PKP	**PKiKP**	**02 45 10.2**	**+0.1**	
	comp=Z,0.4nm,0.8s,baz=42,slow=1.9,SNR=2.3							
PLCA	**Paso Flores**	**120.62 146**		PKP	**PKiKP**	**02 45 17.9**	**+0.4**	
	comp=Z,2.3nm,1.0s,baz=173,slow=3.9,SNR=3.3							
VYHS	**Vyhne**	**120.65 324**	*e*PKIKP		**PKiKP**	**02 45 18.4**	**+1.3**	
VYHS	**Vyhne**	**120.65 324**	*e*PKP		**PKiKP**	**02 45 18.4**	**+1.3**	
PVCC	**Panska Ves**	**122.04 327**	*e*PKPdf		**PKiKP**	**02 45 19.9**	**+0.1**	
PVCC	**Panska Ves**	**122.04 327**	*e*PKIKP		**PKiKP**	**02 45 19.9**	**+0.1**	
TREC	**Trest**	**122.19 326**	*e*PKPdf		**PKiKP**	**02 45 20.8**	**+0.7**	
TREC			*ep*PKP		**pPKPdf**	**02 45 29.2**	**-3.6**	
TREC	**Trest**	**122.19 326**	*e*PKIKP		**PKiKP**	**02 45 20.8**	**+0.7**	
TREC			*e*			02 45 29.2		
BRG	**Berggiesshubel**	**122.19 328**	*e*PKP		**PKiKP**	**02 45 20.7**	**+0.6**	
	comp=Z,7.0nm,1.1s							
BRG			*e*			02 45 28.6		
	comp=Z,9.5nm,1.2s							
BRG	**Berggiesshubel**	**122.19 328**	*e*PKIKP		**PKiKP**	**02 45 20.7**	**+0.7**	
BRG			*e*			02 45 28.6		
BRG			pmax		pmax			
	comp=Z,7.0nm,1.1s							
PRU	**Pruhonice**	**122.35 327**	*e*PKPdf		**PKiKP**	**02 45 22.0**	**+1.6**	
PRU			*ex*		x	02 45 29.1		
PRU	**Pruhonice**	**122.35 327**	*e*PKIKP		**PKiKP**	**02 45 22.0**	**+1.6**	
PRU			*e*			02 45 29.1		
CLL	**Collm**	**122.44 329**	*e*PKPdf		**PKiKP**	**02 45 22.0**	**+1.5**	
CLL			*i*			02 45 29.2		
CLL			Lm		MLR	03 41 00.0		
	comp=Z,200nm,19.0s							
CLL	**Collm**	**122.44 329**	*e*PKIKP		**PKiKP**	**02 45 22.0**	**+1.5**	
CLL			*i*			02 45 29.2		
KHC	**Kasperske Hory**	**123.34 326**	*e*PKPdf		**PKiKP**	**02 45 22.9**	**+0.5**	
KHC			*ex*		x	02 45 30.7		
KHC			*ep*PKP		**pPKPdf**	**02 45 37.0**	**+2.0**	
KHC	**Kasperske Hory**	**123.34 326**	*e*PKIKP		**PKiKP**	**02 45 22.9**	**+0.5**	
KHC			*e*			02 45 30.7		
KHC			*e*			02 45 37.0		
GERES	**GERESS Array B**	**123.42 326**		PKP	**PKiKP**	**02 45 23.2**	**+0.5**	
	comp=Z,1.7nm,0.8s,baz=114,slow=3.2,SNR=3.6							
GEA0	**GERESS Array S**	**123.43 326**	*e*PKPdf		**PKPdf**	**02 45 22.3**	**-0.2**	
ABTA	**Abfaltersbach**	**125.23 324**	*e*PKiKP		**PKiKP**	**02 45 26.2**	**-0.1**	
	comp=Z,3.7nm,0.8s							
WATA	**Walderalm**	**125.44 325**	*e*PKiKP		**PKiKP**	**02 45 26.9**	**+0.1**	
	comp=Z,3.4nm,1.1s							
MOTA	**Moosalm**	**125.70 326**	*e*PKiKP		**PKiKP**	**02 45 27.7**	**+0.4**	
	comp=Z,6.1nm,1.1s							
SQTA	**Sankt Quirin**	**125.72 325**	*e*PKiKP		**PKiKP**	**02 45 27.6**	**+0.3**	
	comp=Z,9.6nm,1.1s							
FETA	**Feichten**	**126.10 325**	*e*PKiKP		**PKiKP**	**02 45 28.7**	**+0.6**	
	comp=Z,5.0nm,1.1s							
DAVA	**Damuels**	**126.42 326**	*e*PKiKP		**PKPdf**	**02 45 28.6**	**+0.2**	
	comp=Z,6.9nm,1.1s							
LCO	**Las Campanas**	**128.09 135**	*e*PKPdf		**PKPdf**	**02 45 32.4**	**+0.1**	
LCO	**Las Campanas**	**128.09 135**	*e*PKIKP		**PKPdf**	**02 45 32.4**	**+0.1**	
NNA	**Nana**	**131.16 112**	*e*PKPdf		**PKPdf**	**02 45 37.6**	**-0.5**	
NNA	**Nana**	**131.16 112**	*c i*PKIKP		**PKiKP**	**02 45 38.9**	**-0.1**	
OTAV	**Otavalo**	**132.66 96**	*e*PKPdf		**PKPdf**	**02 45 40.5**	**-1.1**	
OTAV	**Otavalo**	**132.66 96**	*e*PKIKP		**PKPdf**	**02 45 40.5**	**-1.1**	
LPAZ	**La Paz**	**137.06 123**	*e*PKPdf		**PKPdf**	**02 45 48.4**	**-1.5**	
LPAZ	**La Paz**	**137.06 123**	*e*PKIKP		**PKPdf**	**02 45 48.4**	**-1.5**	
LPAZ	**La Paz**	**137.06 123**	PKP		**PKiKP**	**02 45 52.0**	**+0.3**	
	comp=Z,2.9nm,0.9s,baz=180,slow=3.9,SNR=6.5							
TOA0	**Torodi Ar. Sit**	**146.78 284**	*e*PKPbc		**PKPbc**	**02 46 07.7**	**-0.5**	
TORD	**Torodi Ar. Bea**	**146.78 284**	PKPbc		**PKPbc**	**02 46 07.5**	**-0.7**	
	comp=Z,27nm,1.0s,baz=0.0,slow=3.0,SNR=70							
BDFB	**Brasilia**	**152.32 144**	*e*PKPbc		**PKPbc**	**02 46 22.1**	**0.0**	
BDFB	**Brasilia**	**152.32 144**	*e*PKIKP		**PKPbc**	**02 46 22.1**	**0.0**	
BDFB	**Brasilia**	**152.32 144**	PKPbc		**PKiKP**	**02 46 23.3**	**+0.9**	
	comp=Z,13nm,0.9s,baz=154,slow=1.8,SNR=14							
DBIC	**Dimbokro**	**153.59 271**	PKPbc		**PKiKP**	**02 46 25.8**	**+0.8**	
	comp=Z,7.2nm,0.9s,baz=52,slow=3.6,SNR=5.8							

*VIE **24** 02:43:40.4±0.4, 45°.06N×11°.20E, h8km, mb1.9/1, ml2.1/8, Error ellipse: s-maj=6.7km s-min=1.6km az=100.0*

ROM 24 02:43:33.9±0.9, 44°.89N±0°.02×11°.22E±0°.04, h7km±3km, ML1.8/2, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SERM	**Sermide**	**0.14**	**25**	AML	AML		
	comp=E,390μm,0.4s						
SERM				AML	AML		
	comp=N,605μm,0.4s						
SERM				AML	AML		
	comp=N,605μm,0.4s						
SERM				AML	AML		
	comp=E,390μm,0.4s						
SERM				END			
RAVA	**Ravarino**	**0.15**	**207**	P	Pg	02 43 40.0	+3.0
RAVA				S	Sg	02 43 44.2	+5.2
RAVA				AML	AML		
	comp=E,8840μm,0.2s						
RAVA				AML	AML		
	comp=N,3035μm,0.6s						
RAVA				AML	AML		
	comp=E,8840μm,0.2s						
RAVA				AML	AML		
	comp=N,3035μm,0.6s						
RAVA				END			
RAVA				END			
TEOL	**Teolo**	**0.57**	**34**	P	Pn	02 43 47.6	-0.9
TREG	**Tregnago**	**0.64**	**357**	P	Pn	02 43 50.7	+1.3
ROVR	**Rover Verones**	**0.77**	**352**	P	Pn	02 43 51.5	+0.2
MAGA	**Magasa**	**0.98**	**335**	P	Pn	02 43 56.0	+1.8
MAGA				AML	AML		
	comp=E,358μm,0.6s						
MAGA				AML	AML		
	comp=N,393μm,0.6s						
MAGA				AML	AML		
	comp=E,358μm,0.6s						
MAGA				AML	AML		
	comp=N,393μm,0.6s						
MAGA				END			
MAGA				END			
ABTA	**Abfaltersbach**	**2.07**	**26**	Pg	Pg	02 44 17.2	+3.6
	comp=N,1.7nm,0.5s						
FETA	**Feichten**	**2.16**	**351**	Pg	Pg	02 44 17.3	+2.0
	comp=N,0.3nm,0.3s						
FETA				Sg	Sg	02 44 46.3	+2.9
	comp=N,0.5nm,0.2s						
SQTA	**Sankt Quirin**	**2.33**	**360**	Pn	Pg	02 44 17.8	-0.8
	comp=N,1.9nm,0.3s						
SQTA				Sg	Sg	02 44 51.3	+2.5
	comp=N,1.8nm,0.2s						
WATA	**Walderalm**	**2.46**	**6**	Pn	Pg	02 44 20.6	-0.4
	comp=N,0.2nm,0.1s						

*IDC **24** 02:44:24.9±0.7, 3°.45S×144°.82E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/37, mbtmp4.3/20, ML3.9/2, MS3.9/2, Ms1 3.9/2, ms1mx3.1/32, Error ellipse: s-maj=22.5km s-min=12.4km az=93.0*

*BJI **24** 02:44:26.1, 4°.09S×145°.08E, h45km, mb4.5/24, mB4.9/14, Ms4.5/5, Ms7 4.2/4*

*ISCJB **24** 02:44:27.4±0.3, 3°.51S±0°.04×144°.74E±0°.06, h26km, mb4.4/33, Error ellipse: s-maj=8.9km s-min=5.5km az=175.4*

*NEIC **24** 02:44:30.4±0.8, 3°.48S×144°.75E, h37km±8km, mb4.3/11, Error ellipse: s-maj=7.7km s-min=5.3km az=108.0*

ISC 24 02:44:29.4±0.5, 3°.50S±0°.06×144°.72E±0°.09, h26km, n51, σ1$05/52, mb4.5/33, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.01**	**61**	*e*Pn	**Pn**	**02 45 16.4**	**+0.9**
JAY	**Jayapura**	**4.12**	**284**	Pn	**Pn**	**02 45 30.3**	**-0.6**
	0.8nm,0.3s,baz=73,slow=17,SNR=3.6						
PMG	**Port Moresby**	**6.35**	**158**	*e*Pn	**Pn**	**02 46 01.8**	**+0.4**
PMG				Sn	**Sn**	**02 47 14.3**	**+1.1**
PMG	**Port Moresby**	**6.35**	**158**	Pn	**Pn**	**02 46 01.0**	**-0.4**
	3.2nm,0.3s,baz=336,slow=8.3,SNR=9.4						
PMG				Sn	**Sn**	**02 47 14.3**	**+1.1**
	2.8nm,0.3s,baz=137,slow=19,SNR=4.2						
WRAB	**Tennant Creek**	**19.21**	**211**	*e*P	**P**	**02 48 51.6**	**0.0**
	5.1nm,0.4s						
WB2	**Warramunga Arr**	**19.22**	**211**	*e*P	**P**	**02 48 51.5**	**-0.2**
WRA	**Warramunga Arr**	**19.23**	**211**	P	**P**	**02 48 52.0**	**+0.2**
	0.9nm,0.3s,baz=31,slow=11,SNR=45						
WRA				LR	LR	02 57 09.8	
	comp=Z,332nm,20.9s,baz=10.0,slow=40						
SOEI	**Soe**	**21.23**	**252**	*e*P	**P**	**02 49 14.6**	**+0.8**
	53nm,1.1s						
BATI	**Baumata**	**21.93**	**251**	P	**P**	**02 49 20.8**	**-0.4**
	16nm,0.4s,baz=20,slow=2.5,SNR=5.0						
AS01	**Alice Springs**	**22.59**	**206**	*e*P	**P**	**02 49 28.0**	**-0.1**
EIDS	**Eidsvold**	**22.59**	**165**	*e*P	**P**	**02 49 27.7**	**-0.4**
	14nm,1.0s						
AS31	**Alice Springs**	**22.61**	**207**	*e*P	**P**	**02 49 28.5**	**+0.1**
	3.6nm,0.8s						
ASAR	**Alice Springs**	**22.61**	**207**	P	**P**	**02 49 28.9**	**+0.4**
	9.5nm,0.6s,baz=31,slow=11,SNR=150						
ASAR				LR	LR	02 59 05.3	
	comp=Z,260nm,18.2s,baz=9.5,slow=39						
FITZ	**Fitzroy Crossi**	**23.66**	**231**	*e*P	**P**	**02 49 38.8**	**-0.2**
	26nm,0.6s						
FITZ	**Fitzroy Crossi**	**23.66**	**231**	P	**P**	**02 49 38.2**	**-0.8**
	27nm,0.6s,baz=46,slow=9.0,SNR=142						
STKA	**Stephens Creek**	**28.38**	**186**	P	**P**	**02 50 22.1**	**+0.3**
	2.7nm,0.6s,baz=354,slow=10.0,SNR=8.5						
FORT	**Forrest**	**31.36**	**208**	*e*P	**P**	**02 50 47.6**	**-0.5**
	20nm,0.7s						
MJAR	**Matsushiro Arr**	**40.29**	**352**	P	**P**	**02 52 04.0**	**-0.5**
	2.1nm,0.9s,baz=170,slow=7.6,SNR=5.0						
NJ2	**Nanjing**	**43.05**	**327**	*e*P	**P**	**02 52 28.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,22nm,0.5s						
KSRS	**Korea Array**	**43.63**	**341**	P	**P**	**02 52 30.9**	**-0.8**
	1.1nm,0.7s,baz=154,slow=7.9,SNR=3.3						
KSAR	**Wonju Array Be**	**43.63**	**340**	P	**P**	**02 52 30.9**	**-0.9**
PSI	**Prapat**	**46.20**	**277**	*e*P	**P**	**02 52 53.0**	**+0.2**
	13nm,1.2s						
PSI	**Prapat**	**46.20**	**277**	P	**P**	**02 52 51.5**	**-1.2**
	1.9nm,0.4s,baz=176,slow=4.3,SNR=5.4						
USRK	**Ussuriysk Ar.**	**48.84**	**348**	P	**P**	**02 53 11.8**	**-0.8**
	1.8nm,0.9s,baz=174,slow=7.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**50.08**	**298**	P	**P**	**02 53 23.1**	**+0.5**
	1.8nm,0.5s,baz=124,slow=6.2,SNR=6.1						
HHC	**Hu-ho-hao-te**	**53.53**	**329**	*e*P	**P**	**02 53 50.5**	**+2.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,180nm,7.6s						
KLR	**Kul'dur**	**53.71**	**349**	P	**P**	**02 53 47.8**	**-1.3**
	0.5nm,0.3s,baz=205,slow=5.4,SNR=5.0						
LZH	**Lanzhou**	**54.84**	**320**	*e*P	**P**	**02 54 00.5**	**+2.7**
LZH				pP	sP	02 54 14.8	+6.0
LZH				sP	pP	02 54 21.3	+16
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
GTA	**Gaotai**	**59.38**	**321**	P	**P**	**02 54 31.5**	**+1.7**
GTA				pP	sP	02 54 42.9	+2.4
GTA				sP	pP	02 54 47.6	+10
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,81nm,5.4s						
GTA				LR	LR		
	comp=N,110nm,19.9s						
GTA				LR	LR		
	comp=E,200nm,19.9s						
GTA				LR	LR		
	comp=Z,110nm,17.9s						
SONM	**Songino Array**	**61.13**	**332**	P	**P**	**02 54 42.6**	**+0.9**
	0.5nm,0.8s,baz=141,slow=4.8,SNR=3.4						
SEY	**Seymchan**	**66.51**	**4**	P	**P**	**02 55 15.6**	**-0.9**
	3.2nm,0.8s,baz=179,slow=5.6,SNR=9.9						
WMQ	**Urumqi**	**69.42**	**320**	P	**P**	**02 55 36.8**	**+1.3**
WMQ				pP	sP	02 55 51.4	+5.2
WMQ				pmax	pmax		
	comp=Z,24nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.5s						
WMQ				LR	LR		
	comp=N,200nm,20.1s						
WMQ				LR	LR		
	comp=Z,180nm,19.1s						
MK01	**Makanchi Array**	**74.12**	**321**	*e*P	**P**	**02 56 03.9**	**+0.3**
MK31	**Makanchi Array**	**74.13**	**321**	*e*P	**P**	**02 56 03.6**	**-0.1**
	4.4nm,1.1s						
MKAR	**Makanchi Array**	**74.13**	**321**	P	**P**	**02 56 04.4**	**+0.7**
	3.9nm,0.8s,baz=105,slow=7.2,SNR=30						
MAKZ	**Makanchi**	**74.34**	**321**	*e*P	**P**	**02 56 05.2**	**+0.3**
	6.6nm,0.9s						
VNDA	**Vanda**	**74.54**	**176**	*e*P	**P**	**02 56 05.1**	**-0.3**
	2.1nm,0.8s						
VNDA	**Vanda**	**74.54**	**176**	P	**P**	**02 56 05.3**	**-0.1**
	2.0nm,0.8s,baz=317,slow=5.5,SNR=11						
ZALV	**Zalesovo Beam**	**75.70**	**328**	*e*P	**P**	**02 56 12.0**	**-0.5**
ZALV	**Zalesovo Beam**	**75.70**	**328**	P	**P**	**02 56 11.2**	**-1.2**
	1.6nm,0.8s,baz=114,slow=6.6,SNR=6.7						
KURK	**Kurchatov**	**77.86**	**324**	*e*P	**P**	**02 56 24.6**	**-0.1**
NRIK	**Noril'sk**	**82.22**	**342**	P	**P**	**02 56 48.1**	**+0.2**
	2.4nm,0.4s,baz=133,slow=13,SNR=4.0						
BRVK	**Borovoye**	**83.49**	**324**	*e*P	**P**	**02 56 54.7**	**-0.2**
	3.1nm,0.4s						
COLA	**College**	**83.76**	**23**	*e*P	**P**	**02 56 54.9**	**-1.1**
	1.1nm,0.4s						
IL1	**Eielson Array**	**84.10**	**24**	*e*P	**P**	**02 56 54.7**	**-3.1**
ILAR	**Eielson Array**	**84.10**	**24**	P	**P**	**02 56 55.3**	**-2.5**
	2.0nm,0.7s,baz=254,slow=4.9,SNR=22						
EGAK	**Eagle**	**86.43**	**24**	*e*P	**P**	**02 57 08.7**	**-0.7**
	0.7nm,0.5s						
DAWY	**Dawson**	**86.99**	**25**	*e*P	**P**	**02 57 11.5**	**-0.7**
	1.9nm,0.7s						
ABKAR	**Akbulak array**	**89.21**	**319**	*e*P	**P**	**02 57 22.1**	**-1.0**
	2.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**142.23**	**287**	PKhKP	PKPpre	03 03 55.6	
	0.4nm,0.6s,baz=55,slow=3.5,SNR=6.6						
DBIC	**Dimbokro**	**149.53**	**277**	PKPbc	**PKiKP**	**03 04 18.1**	**-0.6**
	6.3nm,0.7s,baz=72,slow=1.3,SNR=8.2						

*IDC **24** 02:49:15.1±2.0, 7°.04S×129°.42E, h163km±21km, mb3.6/2, mb1 3.8/7, mb1mx3.3/40, mbtmp4.2/7, MS3.7/1, Ms1 3.7/1, ms1mx2.6/32, Error ellipse: s-maj=25.3km s-min=18.3km az=110.0*

ISC 24 02:49:12.7±0.9, 7°.18S±0°.06×129°.68E±0°.10, h139km, n8, σ3$18/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.47**	**14**	P	**Pn**	**02 50 47.2**	**+1.6**
	2.4nm,0.3s,baz=201,slow=23,SNR=17						
SIJI				S	**Sn**	**02 51 55.6**	**-2.7**
	2.8nm,0.3s,baz=251,slow=23,SNR=9.0						
BATI	**Baumata**	**6.66**	**243**	P	**Pn**	**02 50 50.6**	**+2.4**
	10nm,0.3s,baz=302,slow=7.8,SNR=7.3						
BATI				S	**Sn**	**02 52 01.7**	**-1.2**
	18nm,0.3s,baz=54,slow=19,SNR=12						
FITZ	**Fitzroy Crossi**	**11.54**	**200**	P	**Pn**	**02 51 55.3**	**+2.0**
	1.7nm,0.3s,baz=29,slow=10,SNR=32						
FITZ				S	**Sn**	**02 53 55.3**	**-5.4**
	1.1nm,0.3s,baz=59,slow=12,SNR=4.2						
WRA	**Warramunga Arr**	**13.47**	**161**	P	**Pn**	**02 52 20.7**	**+2.3**
	1.1nm,0.3s,baz=341,slow=13,SNR=18						
WRA				S	**Sn**	**02 54 45.0**	**-2.2**
	1.5nm,0.3s,baz=342,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**16.89**	**167**	P	**Pn**	**02 53 05.3**	**+4.4**
	1.6nm,0.3s,baz=344,slow=9.5,SNR=71						
ASAR				S	**S**	**02 56 07.9**	**-1.6**
	0.3nm,0.3s,baz=342,slow=26,SNR=5.4						
RPZ	**Rata Peaks**	**51.29**	**142**	LR	LR	03 20 13.0	
	comp=Z,77nm,18.8s,baz=184,slow=36						
MKAR	**Makanchi Array**	**68.20**	**327**	P	**P**	**02 59 57.0**	**-1.2**
	1.2nm,0.4s,baz=126,slow=7.7,SNR=23						
ZALV	**Zalesovo Beam**	**71.60**	**334**	P	**P**	**03 00 16.2**	**-2.5**
	0.4nm,0.4s,baz=137,slow=5.0,SNR=3.5						

*ISCJB **24** 02:53:59.9±1.0, 37°.58N±0°.03×141°.78E±0°.06, h17km±6km, mb3.5/5, Error ellipse: s-maj=8.5km s-min=4.6km az=27.9*

*IDC **24** 02:53:59.1±1.1, 37°.77N×141°.85E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.5/40, mbtmp3.5/7, ML2.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/34, Error ellipse: s-maj=31.3km s-min=20.0km az=123.0*

*JMA **24** 02:54:01.0±0.1, 37°.58N×141°.71E, h26km±2km, M4.0*

JMA Felt I J1.

ISC 24 02:53:59.3±1.6, 37°.63N±0°.03×141°.77E±0°.06, h7km±10km, n26, σ1$30/33, mb3.4/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.72**	**341**	P	**Pn**	**02 54 15.1**	**-0.8**
JIKH				S	**Sn**	**02 54 24.9**	**-2.2**
JFK	**Kawauchi**	**0.76**	**250**	P	**Pg**	**02 54 14.2**	**+0.3**
JFK				*e*S	**Sg**	**02 54 23.1**	**-0.6**
JMM	**Marumori**	**0.81**	**287**	P	**Pg**	**02 54 15.5**	**+0.7**
JMM				S	**Sg**	**02 54 25.4**	**+0.1**
JIO	**Ouri**	**0.89**	**338**	P	**Pn**	**02 54 17.8**	**-0.4**
JIO				*e*S	**Sb**	**02 54 28.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.94**	**236**	P	**Pb**	**02 54 16.7**	**-1.2**
ONAJ				*e*S	**Sg**	**02 54 27.2**	**-2.2**
JOU	**Okura**	**1.14**	**310**	P	**Pg**	**02 54 21.9**	**+0.8**
JOU				*e*S	**Sg**	**02 54 36.5**	**+0.6**
JFT	**Otama**	**1.14**	**265**	P	**Pb**	**02 54 21.6**	**-0.4**
JFT				*e*S	**Sb**	**02 54 34.9**	**-1.5**
JKMT	**Kesennumamotoy**	**1.20**	**349**	P	**Pg**	**02 54 22.7**	**+0.4**
JKMT				*e*S	**Sn**	**02 54 37.8**	**-1.2**
JMK	**Ichinoseki**	**1.39**	**342**	P	**Pg**	**02 54 25.8**	**-0.1**
JMK				*e*S	**Sg**	**02 54 43.3**	**-0.6**
JYS	**Shirataka**	**1.47**	**294**	P	**Pb**	**02 54 26.9**	**0.0**
JYS				*e*S	**Sb**	**02 54 45.8**	**0.0**
JFY	**Yanaizu**	**1.66**	**263**	P	**Pn**	**02 54 29.2**	**+0.4**
JFY				*e*S	**Sn**	**02 54 49.2**	**-1.1**
MJAR	**Matsushiro Arr**	**3.05**	**250**	Pn	**Pn**	**02 54 50.2**	**+2.3**
	0.3nm,0.3s,baz=69,slow=8.3,SNR=18						
MJAR				Sn	**Sb**	**02 55 29.6**	**-1.6**
	0.8nm,0.3s,baz=229,slow=23,SNR=7.7						
MAT	**Matsushiro**	**3.05**	**250**	P	**Pn**	**02 54 49.1**	**+1.2**
MAT				*e*S	**Sn**	**02 55 24.6**	**-0.1**
JHJ	**Hachijo jima 2**	**4.79**	**200**	Pn	**Pn**	**02 55 12.9**	**+1.1**
	8.2nm,0.3s,baz=47,slow=19,SNR=2.4						
JHJ				Sn	**Sn**	**02 56 04.2**	**-3.3**
	5.5nm,0.3s,baz=86,slow=19,SNR=3.4						
JCJ	**Chichijima**	**10.51**	**178**	LR	LR	03 04 23.1	
	comp=Z,56nm,18.1s,baz=138,slow=59						
H11N2	**WAKE ISLAND Hy**	**28.22**	**122**	T	T	03 29 25.0	
	baz=315,slow=75,SNR=38				

KEV	**Kevo**	**3.31 314**	Pn	**Pn**	**03 10 31.3**	**+1.8**
KEV			Sn	**Sn**	**03 11 10.3**	**+0.8**
KEV	**Kevo**	**3.31 314**	PN	**Pn**	**03 10 30.9**	**+1.4**
	baz=126					
KEV			SG	**Sg**	**03 11 23.6**	**+0.9**
ARA0	**ARCESS Array S**	**3.64 306**	Pn	**Pn**	**03 10 35.0**	**+1.0**
	baz=123,slow=16					
ARA0			Pg	**Pb**	**03 10 42.7**	**+1.2**
	baz=121,slow=16					
ARA0			Sn	**Sn**	**03 11 16.1**	**-1.4**
	baz=121,slow=28					
ARA0			Lg	Lg	03 11 27.3	
	baz=119,slow=37					
ARA0	**ARCESS Array S**	**3.64 306**	Pn	**Pn**	**03 10 35.0**	**+1.0**
	baz=123,slow=16					
ARA0			Pg	**Pb**	**03 10 42.7**	**+1.2**
	baz=121,slow=16					
ARA0			Sn	**Sn**	**03 11 16.1**	**-1.4**
	baz=121,slow=28					
ARA0			Sg	**Sb**	**03 11 27.3**	**+1.2**
	baz=119,slow=37					
ARCES	**ARCESS Array B**	**3.64 306**	Pn	**Pn**	**03 10 35.0**	**+1.0**
	comp=Z,4.7nm,0.3s,baz=122,slow=15,SNR=522					
ARCES			Pg	**Pb**	**03 10 42.2**	**+0.7**
	comp=Z,4.6nm,0.3s,baz=123,slow=14,SNR=19					
ARCES			Sn	**Sn**	**03 11 16.3**	**-1.3**
	comp=Z,2.3nm,0.3s,baz=120,slow=28,SNR=6.3					
ARCES			Lg	Lg	03 11 29.4	
	comp=Z,3.6nm,0.3s,baz=114,slow=32,SNR=7.5					
ARE0	**ARCESS Array S**	**3.64 306**	PN	**Pn**	**03 10 34.8**	**+0.8**
ARE0			SN	**Sn**	**03 11 17.3**	**-0.2**
HEF	**Hetta**	**3.94 286**	Pn	**Pn**	**03 10 38.9**	**+0.8**
HEF			Pg	**Pb**	**03 10 48.1**	**+1.4**
HEF			Sn	**Sn**	**03 11 26.6**	**+1.7**
HEF			Lg	Lg	03 11 36.9	
HEF	**Hetta**	**3.94 286**	Pn	**Pn**	**03 10 38.9**	**+0.8**
HEF			Pg	**Pb**	**03 10 48.1**	**+1.4**
HEF			Sg	**Sb**	**03 11 36.9**	**+2.1**
HEF	**Hetta**	**3.94 286**	PN	**Pn**	**03 10 38.7**	**+0.6**
TOF	**Tornio**	**4.09 252**	PN	**Pn**	**03 10 40.9**	**+0.7**
OUL	**Oulu**	**4.11 236**	PN	**Pn**	**03 10 43.3**	**+2.8**
	baz=44					
OUL			SG	**Sg**	**03 11 47.0**	**-1.5**
KTK1	**Kautokeino**	**4.20 294**	*eP*	**Pn**	**03 10 43.1**	**+1.3**
LANU	**Lannavaara**	**4.54 281**	P	**Pn**	**03 10 46.1**	**-0.2**
LANU			S	**Sn**	**03 11 39.4**	**-0.4**
LANU	**Lannavaara**	**4.54 281**	PN	**Pn**	**03 10 46.2**	**-0.2**
LANU			SG	**Sg**	**03 11 58.1**	**-4.1**
KALU	**Kalix**	**4.54 252**	P	**Pn**	**03 10 47.3**	**+0.9**
KALU			S	**Sn**	**03 11 39.5**	**-0.3**
KALU	**Kalix**	**4.54 252**	PN	**Pn**	**03 10 47.3**	**+0.9**
KALU			SG	**Sg**	**03 12 00.3**	**-2.0**
ERTU	**Ertsjaerv**	**4.71 262**	P	**Pn**	**03 10 49.2**	**+0.5**
ERTU			S	**Sn**	**03 11 43.1**	**-0.8**
HAMF	**Hammerfest**	**4.75 314**	*eP*	**Pn**	**03 10 50.1**	**+0.9**
KIF	**Kilpisjarvi**	**5.06 292**	Pn	**Pn**	**03 10 54.0**	**+0.5**
KIF			Sn	**Sn**	**03 11 49.4**	**-3.1**
KIF	**Kilpisjarvi**	**5.06 292**	Pn	**Pn**	**03 10 54.0**	**+0.5**
KIF			Sn	**Sn**	**03 11 49.4**	**-3.1**
DUNU	**Dundret**	**5.18 271**	P	**Pn**	**03 10 56.3**	**+1.1**
DUNU			S	**Sn**	**03 11 54.7**	**-0.9**
SJUU	**Sjulsmark**	**5.35 252**	P	**Pn**	**03 10 57.8**	**+0.3**
SJUU			S	**Sn**	**03 11 58.8**	**-0.9**
RATU	**Laukkuluspa**	**5.46 279**	P	**Pn**	**03 10 59.6**	**+0.7**
NIKU	**Nikkaluokta**	**5.66 279**	P	**Pn**	**03 11 01.5**	**-0.2**
TRO	**Tromso**	**5.84 297**	*eP*	**Pn**	**03 11 05.2**	**+1.1**
TRO			*eS*	**Sn**	**03 12 06.8**	**-4.8**
TRO			IAML		03 12 12.2	
	comp=Z,3.9nm,0.4s					
SALU	**Saltoluokta**	**5.92 275**	P	**Pn**	**03 11 06.0**	**+0.6**
SALU	**Saltoluokta**	**5.92 275**	*eP*	**Pn**	**03 11 05.7**	**+0.4**
BURU	**Burvik**	**5.94 245**	P	**Pn**	**03 11 06.2**	**+0.7**
FIA0	**FINESS Array S**	**7.06 212**	Pn	**Pn**	**03 11 22.2**	**+1.3**
	baz=34,slow=14					
FIA0			Sn	**Sn**	**03 12 41.2**	**-0.5**
	baz=24,slow=28					
FIA0			Lg	Lg	03 13 13.7	
	baz=23,slow=28					
FIA0	**FINESS Array S**	**7.06 212**	Pn	**Pn**	**03 11 22.2**	**+1.3**
	baz=34,slow=14					
FIA0			Sn	**Sn**	**03 12 41.2**	**-0.5**
	baz=24,slow=28					
FINES	**FINESS Array B**	**7.06 212**	Pn	**Pn**	**03 11 22.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=5.0					
FINES			Sn	**Sn**	**03 12 39.0**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=29,slow=18,SNR=3.2					
FINES			Lg	Lg	03 13 13.6	
	comp=Z,0.7nm,0.3s,baz=33,slow=26,SNR=9.2					
KLMR	**Klimovskoe**	**7.21 158**	*e*Pn	**Pn**	**03 11 26.4**	**+3.4**
KLMR			AMP		03 11 47.1	
	comp=Z,7.0nm,1.4s					
KLMR			*e*Lg	Lg	03 13 17.3	
KLMR			*e*Lg	Lg	03 13 17.3	
HFS	**Hagfors**	**11.60 239**	Pn	**Pn**	**03 12 21.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=14,SNR=4.2					
HFS			Sn	**Sn**	**03 14 29.1**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=45,slow=20,SNR=3.4					
HFS			Lg	Lg	03 15 36.4	
	comp=Z,0.2nm,0.3s,baz=51,slow=28,SNR=4.5					
SPA0	**Spitsbergen Ar**	**11.71 342**	Pn	**Pn**	**03 12 22.4**	**-2.0**
	baz=141,slow=16					
SPA0	**Spitsbergen Ar**	**11.71 342**	Pn	**Pn**	**03 12 22.4**	**-2.0**
	baz=141,slow=16					
SPITS	**Spitsbergen Ar**	**11.71 342**	Pn	**Pn**	**03 12 23.1**	**-1.4**
	baz=139,slow=16,SNR=20					
SPITS			Sn	**Sn**	**03 14 28.4**	**-7.2**
	baz=143,slow=29,SNR=2.5					
NOA	**NORSAR Array B**	**11.79 247**	Pn	**Pn**	**03 12 25.1**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=45,slow=11,SNR=4.5					
NRA0	**NORESS Array S**	**11.89 245**	Pn	**Pn**	**03 12 25.7**	**-1.3**
	baz=38,slow=11					
NRA0	**NORESS Array S**	**11.89 245**	Pn	**Pn**	**03 12 25.7**	**-1.3**
	baz=38,slow=11					

*ISCJB **24** 03:36:32.2±0.7,6.88N±0.03×73.19W±0.04,h155km±5km, mb3.4/1,Error ellipse: s-maj=6.4km s-min=4.8km az=179.3*

*RSNC **24** 03:36:33.7±1.2,6.84N×73.16W,h149km±5km,ML3.5, Mw3.7*

*IDC **24** 03:36:36.2±3.8,6.71N×75.37W,h147km±49km,mb3.1/1, mb1 3.4/2,mb1mx2.9/28,mbtmp3.6/2,Error ellipse: s-maj=123.9km s-min=32.3km az=86.0*

ISC 24 03:36:33.0±0.9,6.87N±0.04×73.18W±0.05,h151km±6km, n21,σ0s97/39,2C-3D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.21**	**356**	⇓*i* P	**Pn**	**03 36 53.7**	**0.0**
GIRC				*e*S	**Sn**	**03 37 09.1**	**-0.3**
BARC	**Barichara**	**0.28**	**181**	*i* P	**Pn**	**03 36 53.7**	**-0.2**
BARC				*e*S	**Sn**	**03 37 09.3**	**-0.6**
BRRC	**Barranca, Sant**	**0.58**	**294**	⇓*i* P	**Pn**	**03 36 55.4**	**+0.6**
BRRC				*e*S	**Sn**	**03 37 12.3**	**+0.7**
BRRC				*i*		03 37 15.8	
	comp=E,901nm,0.2s						
PAMC	**Pamplona, Colo**	**0.67**	**45**	*e*P	**Pn**	**03 36 56.4**	**+0.4**
PAMC				*e*S	**Sn**	**03 37 13.5**	**0.0**
PAMC				*i*		03 37 14.3	
	comp=N,729nm,0.5s						
RUSC	**La Rusia**	**0.97**	**174**	*e*P	**Pn**	**03 36 57.7**	**-0.5**
RUSC				*e*S	**Sn**	**03 37 16.3**	**-1.2**
RUSC				*i*		03 37 17.4	
	comp=N,360nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.31**	**256**	⇓*i* P	**Pn**	**03 37 00.2**	**-0.5**
PTBC				*e*S	**Sn**	**03 37 21.7**	**-0.2**
PTBC				*i*		03 37 26.6	
	comp=N,770nm,0.5s						
OCAC	**Ocana**	**1.37**	**354**	*e*P	**Pn**	**03 37 01.6**	**+0.1**
OCAC				*e*S	**Sn**	**03 37 23.8**	**+0.5**
OCAC				*i*		03 37 28.3	
	comp=N,946nm,0.2s						
TAMC	**Tame, Arauca**	**1.44**	**107**	⇑*i* P	**Pn**	**03 37 02.2**	**+0.1**
TAMC				*e*S	**Sn**	**03 37 23.9**	**-0.5**
TAMC				*i*		03 37 28.0	
	comp=N,324nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.78**	**290**	*e*P	**Pn**	**03 37 05.9**	**+0.3**
ZARC				*e*S	**Sn**	**03 37 32.2**	**+1.5**
CHIC	**Chingaza**	**2.29**	**194**	⇑*i* P	**Pn**	**03 37 12.5**	**+0.5**
CHIC				*e*S	**Sn**	**03 37 41.4**	**-0.7**
CHIC				*i*		03 37 44.1	
	comp=N,204nm,0.6s						
ROSC	**El Rosal**	**2.31**	**209**	P	**Pn**	**03 37 13.9**	**+1.6**
	comp=N,16nm,0.3s,baz=327,slow=18,SNR=68						
ROSC				S	**Sn**	**03 37 41.6**	**-1.0**
	comp=N,39nm,0.3s,baz=137,slow=23,SNR=6.8						
HELC	**Santa Helena**	**2.43**	**254**	*e*P	**Pn**	**03 37 13.9**	**+0.2**
HELC				*e*S	**Sn**	**03 37 46.4**	**+1.4**
HELC				*i*		03 37 52.9	
	comp=N,117nm,0.6s						
UREC	**San Jos de Ur**	**2.50**	**291**	*e*P	**Pn**	**03 37 13.5**	**-0.6**
UREC				*e*S	**Sn**	**03 37 44.8**	**-1.0**
UREC				*i*		03 37 59.0	
	comp=N,395nm,0.2s						
VILC	**Villavicencio,**	**2.79**	**191**	*e*P	**Pn**	**03 37 17.9**	**0.0**
VILC				*e*S	**Sn**	**03 37 52.0**	**-0.5**
VILC				*i*		03 38 05.1	
	comp=N,230nm,0.4s						
DBBC	**Dabeiba**	**3.01**	**273**	*e*P	**Pn**	**03 37 21.3**	**+0.7**
DBBC				*e*S	**Sn**	**03 37 55.5**	**-2.0**
DBBC				*i*		03 38 03.4	
	comp=Z,79nm,0.3s						
CODC	**Agustn Codazz**	**3.06**	**355**	*e*P	**Pn**	**03 37 21.5**	**+0.3**
CODC				*e*S	**Sn**	**03 37 58.9**	**+0.4**
CODC				*i*		03 38 08.2	
	comp=N,36nm,0.5s						
PRAC	**Prado**	**3.57**	**209**	*e*P	**Pn**	**03 37 27.8**	**+0.1**
PRAC				*e*S	**Sn**	**03 38 10.2**	**0.0**
PRAC				*i*		03 38 16.4	
	comp=N,91nm,0.3s						
SJCC	**San Jacinto, C**	**3.60**	**327**	*e*P	**Pn**	**03 37 27.4**	**-0.7**
SJCC				*e*S	**Sn**	**03 38 08.8**	**-2.1**
SJCC				*i*		03 38 11.9	
	comp=N,125nm,0.5s						
YKA	**Yellowknife Ar**	**63.20**	**340**	P	**P**	**03 46 44.5**	**-0.2**
	comp=N,0.3nm,0.5s,baz=132,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**149.09**	**234**	PKPbc	**PKPdf**	**03 56 02.5**	**+2.5**
	comp=N,0.1nm,0.4s,baz=107,slow=3.1,SNR=4.6						
WRA	**Warramunga Arr**	**150.31**	**241**	PKPbc	**PKPbc**	**03 56 05.7**	**-1.6**
	comp=N,0.3nm,0.6s,baz=106,slow=2.7,SNR=5.6						

IDC 24 03:41:50.0±2.0,6.62S×150.05E,h0km,mb3.7/4, mb1 4.0/5,mb1mx3.5/43,mbtmp3.8/5,ML1.8/1,Error ellipse: s-maj=99.5km s-min=25.2km az=130.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**226**	Pn	Pn	03 42 52.7	+0.4
	4.5nm,0.3s,baz=319,slow=5.0,SNR=7.3						
PMG				Sn	Sn	03 43 33.4	-6.4
	6.5nm,0.3s,baz=120,slow=20,SNR=5.2						
WRA	**Warramunga Arr**	**20.20**	**228**	P	P	03 46 25.8	-0.7
	0.6nm,0.4s,baz=54,slow=11,SNR=10						
ASAR	**Alice Springs**	**22.98**	**221**	P	P	03 46 57.4	+0.9
	1.9nm,0.5s,baz=53,slow=9.6,SNR=44						
FITZ	**Fitzroy Crossi**	**26.39**	**242**	P	P	03 47 27.8	-0.6
	1.7nm,0.4s,baz=44,slow=8.9,SNR=22						
ILAR	**Eielson Array**	**84.87**	**23**	P	P	03 54 26.6	+0.2
	0.2nm,0.5s,baz=248,slow=4.9,SNR=4.1						

IDC 24 03:43:59.4±1.3,19.68N×145.66E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.4/52,mbtmp3.8/4,Error ellipse: s-maj=60.2km s-min=29.4km az=96.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.91**	**196**	P	P	03 51 43.5	-0.1
	0.4nm,0.3s,baz=18,slow=8.6,SNR=8.8						
BVAR	**Borovoye Array**	**65.70**	**320**	P	P	03 54 46.4	+0.7
	0.4nm,0.3s,baz=93,slow=5.8,SNR=2.9						
YKA	**Yellowknife Ar**	**77.14**	**28**	P	P	03 55 55.0	+0.4
	0.2nm,0.5s,baz=291,slow=5.6,SNR=6.4						
FINES	**FINESS Array B**	**85.98**	**335**	P	P	03 56 40.1	-1.3
	1.1nm,0.5s,baz=64,slow=6.5,SNR=9.2						

*NDI **24** 03:47:26.1±3.1,33.56N×95.55E,h10km,mb4.4, mb4.5(NEIC)*

*IDC **24** 03:47:27.1±0.6,33.34N×95.25E,h0km,mb4.1/20, mb1 4.2/24,mb1mx4.1/55,mbtmp4.1/24,ML4.0/4,MS3.4/9, Ms1 3.4/9,ms1mx3.1/53,Error ellipse: s-maj=17.9km s-min=13.8km az=44.0*

*BJI **24** 03:47:28.9,33.26N×95.17E,h15km,mb4.5/26,mB4.5/8, ML4.0/5,Ms4.0/26,Ms7 3.9/22*

*MOS **24** 03:47:29.4±1.0,33.37N×95.36E,h21km,mb4.5/20,Error ellipse: s-maj=8.4km s-min=5.5km az=107.6*

*NEIC **24** 03:47:29.2±0.2,33.40N×95.35E,h10km,mb4.5/33,Error ellipse: s-maj=4.7km s-min=4.2km az=221.0*

*ISCJB **24** 03:47:30.4±0.2,33.31N±0.03×95.24E±0.03,h33km, mb4.3/49,MS3.4/6,Error ellipse: s-maj=3.9km s-min=3.2km az=158.1*

ISC 24 03:47:32.9±0.3,33.30N±0.04×95.21E±0.04,h35km,n166, σ1s70/170,mb4.4/51,MS3.3/6,11C,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.99**	**225**	P	**Pn**	**03 48 49.1**	**+3.3**
LSA				S	**Sn**	**03 49 38.3**	**-4.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
LSA				LR	LR		
	comp=N,390nm,6.5s						
LSA				LR	LR		
	comp=E,370nm,5.0s						
LSA				LR	LR		
	comp=Z,2μm,5.8s						
LSA	**Lhasa**	**4.99**	**225**	*e*Pn	**Pn**	**03 48 48.7**	**+2.9**
	comp=Z,30nm,0.8s						
LSA	**Lhasa**	**4.99**	**225**	*e*P	**Pn**	**03 48 48.7**	**+2.9**
LSA				pmax	pmax		
	comp=Z,30nm,0.8s						
GTA	**Gaotai**	**7.14**	**30**	Pn	**Pn**	**03 49 15.6**	**+0.6**
GTA				Sn	**Sn**	**03 50 38.8**	**+3.9**
GTA				LR	LR		
	comp=Z,610nm,8.9s						
GTA				LR	LR		
	comp=Z,500nm,13.1s						
GTA				LR	LR		
	comp=Z,750nm,9.6s						
CD2	**Chengdu**	**7.63**	**106**	*e*Pn	**Pn**	**03 49 20.5**	**-1.2**
CD2				Sn	**Sn**	**03 50 47.9**	**+1.0**
CD2				LR	LR		
	comp=Z,810nm,7.7s						
CD2				LR	LR		
	comp=Z,2μm,6.7s						
LZH	**Lanzhou**	**7.63**	**66**	*e*Pn	**Pn**	**03 49 23.3**	**+1.5**
LZH				Sn	**Sn**	**03 50 51.6**	**+4.5**
LZH				LR	LR		
	comp=Z,1μm,7.6s						
LZH				LR	LR		
	comp=Z,1μm,8.3s						
LZH				LR	LR		
	comp=Z,1μm,9.2s						
SHL	**Shillong**	**8.23**	**201**	*e*Pn	**Pn**	**03 49 31.9**	**+1.8**
SHL	**Shillong**	**8.23**	**201**	*e*P	**Pn**	**03 49 31.9**	**+1.8**
SHL	**Shillong**	**8.23**	**201**	*e*P	**Pn**	**03 49 29.6**	**-0.4**
SHL				IAmb	IAmb	03 49 33.9	
	comp=Z,9.5nm,0.7s						
SHL				*ex*	x	03 51 09.8	
JIRN	**Jiri**	**9.60**	**237**	*e*P	**Pn**	**03 49 48.8**	**-0.2**
	comp=Z,12nm,0.3s						
GUN	**Gumba**	**9.67**	**239**	*e*P	**Pn**	**03 49 49.3**	**-0.6**
	comp=Z,20nm,0.3s						
RAMN	**Ramite**	**9.78**	**232**	*e*P	**Pn**	**03 49 50.1**	**-1.2**
	comp=Z,10nm,0.3s						
KKN	**Kakani**	**10.17**	**240**	*e*P	**Pn**	**03 49 56.1**	**-0.6**
	comp=Z,17nm,0.4s						
PKI	**Pulchoki**	**10.21**	**239**	*e*P	**Pn**	**03 49 56.6**	**-0.6**
	comp=Z,28nm,0.3s						
PKIN	**Phulchoki**	**10.21**	**239**	*e*P	**Pn**	**03 49 56.6**	**-0.7**
	comp=Z,24nm,0.3s						
KMI	**Kunming**	**10.46**	**139**	P	**Pn**	**03 50 03.9**	**+3.2**
KMI				pP		03 50 10.3	
KMI				sP		03 50 14.9	
KMI				pmax	pmax		
	comp=Z,21nm,0.6s						
KMI				pmax	pmax		
	comp=Z,82nm,4.9s						
KMI				LR	LR		
	comp=Z,420nm,8.0s						
KMI				LR	LR		
	comp=Z,360nm,8.5s						
KMI				LR	LR		
	comp=Z,350nm,12.7s						

DANN	**Dangsing**	**11.01**	**246**	*e*P	**Pn**	**03 50 08.0**	**-0.2**
	comp=Z,36nm,0.3s							
BRDH	**Bariadhala**	**11.04**	**197**	LR	LR	03 54 40.6		
	comp=Z,101nm,18.5s,baz=354,slow=39							
KOLN	**Koldanda**	**11.43**	**244**	*e*P	**Pn**	**03 50 12.5**	**-1.3**	
	comp=Z,26nm,0.8s							
PYUN	**Piuthan**	**11.72**	**247**	*e*P	**Pn**	**03 50 16.9**	**-1.0**	
	comp=Z,30nm,0.6s							
WMQ	**Urumqi**	**12.03**	**333**	P	**Pn**	**03 50 21.0**	**-0.9**	
WMQ				sP	P	03 50 28.8	-5.6	
WMQ				pmax	pmax			
	comp=Z,60nm,1.3s							
WMQ				LR	LR			
	comp=Z,650nm,11.5s							
WMQ				LR	LR			
	comp=Z,770nm,9.9s							
WMQ				LR	LR			
	comp=Z,410nm,13.9s							
WMQ	**Urumqi**	**12.03**	**333**	*e*Pn	**Pn**	**03 50 20.8**	**-1.1**	
WMQ	**Urumqi**	**12.03**	**333**	*e*P	**Pn**	**03 50 20.8**	**-1.1**	
GYA	**Guiyang**	**12.04**	**121**	P	**Pn**	**03 50 22.5**	**+0.3**	
GYA				pP	P	03 50 30.0	-4.7	
GYA				S	**Sn**	**03 52 37.8**	**+2.4**	
GYA				sS		03 52 52.3		
GYA				pmax	pmax			
	comp=Z,10.0nm,0.4s							
GYA				LR	LR			
	comp=Z,170nm,8.4s							
GYA				LR	LR			
	comp=Z,210nm,7.3s							
GYA				LR	LR			
	comp=Z,210nm,7.5s							
BOK	**Bokaro**	**12.52**	**223**	*e*P	**Pn**	**03 50 26.8**	**-1.8**	
CMMT	**Chiang Mai**	**14.81**	**166**	P	**P**	**03 51 05.1**	**-0.2**	
	comp=Z,4.1nm,0.9s							
DDI	**Dehra Dun**	**14.89**	**263**	*e*P	**Pn**	**03 51 02.0**	**+1.1**	
DDI				IAmb	IAmb	03 51 04.1		
HHC	**Hu-ho-hao-te**	**15.06**	**55**	*e*P	**Pn**	**03 50 59.6**	**-3.5**	
HHC				pP	P	03 51 04.8	-3.3	
HHC				S	**Sn**	**03 53 46.9**	**-1.8**	
HHC				SS	**S**	**03 54 07.9**	**+2.6**	
HHC				pmax	pmax			
	comp=Z,11nm,0.9s							
HHC				pmax	pmax			
	comp=Z,64nm,5.1s							
HHC				LR	LR			
	comp=Z,330nm,10.1s							
HHC				LR	LR			
	comp=Z,450nm,10.8s							
HHC				LR	LR			
	comp=Z,460nm,10.8s							
CMAR	**Chiang Mai Arr**	**15.15**	**166**	*ce*P	**P**	**03 51 09.3**	**+0.2**	
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**15.15**	**166**	Pn	**Pn**	**03 51 03.8**	**-0.6**	
	comp=Z,0.9nm,0.3s,baz=352,slow=12,SNR=6.8							
CMAR				LR	LR	03 57 36.7		
	comp=Z,108nm,18.1s,baz=343,slow=40							
LAMP	**Lampang**	**15.24**	**164**	P	**P**	**03 51 12.0**	**+1.9**	
	comp=Z,4.0nm,0.8s							
BWNR	**Bhubaneshwar**	**15.42**	**215**	*e*P	**P**	**03 51 09.8**	**-2.3**	
BWNR				IAmb	IAmb	03 52 30.1		
	comp=Z,265nm,0.1s							
SMLA	**Simla**	**15.43**	**267**	*e*P	**Pn**	**03 51 08.8**	**+0.9**	
SMLA				IAmb	IAmb	03 51 16.9		
	comp=Z,9.6nm,0.9s							
DHRM	**DHARAMSHALA**	**15.95**	**271**	*e*P	**Pn**	**03 51 14.0**	**-0.9**	
DHRM				IAmb	IAmb	03 51 15.6		
	comp=Z,8.1nm,0.6s							
MK01	**Makanchi Array**	**16.67**	**328**	*e*Pn	**Pn**	**03 51 21.3**	**-2.4**	
KSH	**Kashi**	**16.67**	**297**	*e*P	**P**	**03 51 27.9**	**+1.9**	
MK31	**Makanchi Array**	**16.69**	**328**	*e*Pn	**Pn**	**03 51 22.2**	**-1.7**	
	comp=Z,4.4nm,1.1s							
MK31	**Makanchi Array**	**16.69**	**328**	*e*P	**Pn**	**03 51 22.3**	**-1.7**	
MK31				pmax	pmax			
	comp=Z,4.0nm,1.1s							
MKAR	**Makanchi Array**	**16.69**	**328**	Pn	**Pn**	**03 51 21.2**	**-2.8**	
	comp=Z,0.3nm,0.3s,baz=140,slow=13,SNR=11							
MKAR				LR	LR	03 58 27.7		
	comp=Z,124nm,21.7s,baz=154,slow=40							
KDJ	**Kajisay**	**16.75**	**307**	*e*Pn	**Pn**	**03 51 25.2**	**+0.2**	
	comp=Z,11nm,1.0s							
KDJ	**Kajisay**	**16.75**	**307**	P	**P**	**03 51 26.8**	**-0.1**	
KDJ				pmax	pmax			
	comp=Z,11nm,1.0s							
SONM	**Songino Array**	**16.79**	**27**	Pn	**Pn**	**03 51 23.7**	**-1.7**	
	comp=Z,0.5nm,0.3s,baz=210,slow=13,SNR=29							
MAKZ	**Makanchi**	**16.84**	**327**	*e*Pn	**Pn**	**03 51 25.1**	**-0.8**	
	comp=Z,15nm,1.6s							
MAKZ	**Makanchi**	**16.84**	**327**	*e*P	**Pn**	**03 51 25.1**	**-0.8**	
MAKZ				pmax	pmax			
	comp=Z,15nm,1.6s							
ULN	**Ulaanbaatar**	**17.07**	**28**	*e*Pn	**Pn**	**03 51 26.8**	**-2.2**	
	comp=Z,1.1nm,1.4s							
ULN	**Ulaanbaatar**	**17.07**	**28**	*ce*P	**Pn**	**03 51 25.5**	**-3.4**	
ULN				pmax	pmax			
	comp=Z,8.0nm,1.3s							
NRN	**Naryn**	**17.27**	**304**	*e*Pn	**P**	**03 51 32.1**	**-0.8**	
	comp=Z,6.0nm,1.0s							
NRN	**Naryn**	**17.27**	**304**	*e*P	**P**	**03 51 32.1**	**-0.8**	
NRN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DGZ	**Jazzator, Alta**	**17.38**	**343**	*i* P	**P**	**03 51 33.7**	**0.0**	
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
SKNT	**Sakolnakorn**	**18.07**	**152**	P	**P**	**03 51 47.1**	**+5.6**	
	comp=Z,4.7nm,1.8s							
ZAK	**Zakamensk**	**18.08**	**17**	*e*P	**Pn**	**03 51 40.3**	**-1.0**	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s							
NIL	**Nilore**	**18.32**	**277**	*e*P	**P**	**03 51 43.6**	**-0.6**	
	comp=Z,33nm,0.9s							
NIL	**Nilore**	**18.32**	**277**	*e*P	**P**	**03 51 43.6**	**-0.6**	
NIL				pmax	pmax			
	comp=Z,33nm,0.9s							
BHPL	**Bhopal**	**18.57**	**242**	*ex*	**P**	**03 51 44.0**	**-3.0**	
BHPL				IAmb	IAmb	03 51 45.8		
	comp=Z,20nm,1.4s							
NGP	**Nagpur**	**18.76**	**234**	*e*P	**Pn**	**03 51 50.5**	**+0.8**	
AAK	**Ala-Archa**	**18.77**	**306**	*e*P	**Pn**	**03 51 50.1**	**+0.2**	
	comp=Z,3.8nm,0.8s							
AAK	**Ala-Archa**	**18.77**	**306**	*ce*P	**Pn**	**03 51 51.8**	**+2.0**	
AAK				pmax	pmax			
	comp=Z,

KKAR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
CHGR	**Chuyangaron**	**21.72**	**292**	*eP*	**P**		**03 52 21.2**	**+0.1**	
	comp=Z,41nm,0.8s								
KBL	**Kabul**	**21.74**	**281**	*eP*	**P**		**03 52 21.8**	**+0.3**	
	comp=Z,71nm,0.9s								
KBL	**Kabul**	**21.74**	**281**	*eP*	**P**		**03 52 21.8**	**+0.3**	
KBL					pmax	pmax			
	comp=Z,71nm,0.9s								
HYB	**Hyderabad**	**21.79**	**228**	*i* P	**P**		**03 52 24.0**	**+2.1**	
HYB	**Hyderabad**	**21.79**	**228**	*eP*	**P**		**03 52 21.5**	**-0.4**	
HYB					IAmb	IAmb	03 52 24.4		
	comp=Z,9.7nm,0.6s								
ZAA0	**Zalesovo Array**	**21.92**	**343**	*eP*	**P**		**03 52 23.3**	**+0.2**	
	comp=Z,5.7nm,0.9s								
ZALV	**Zalesovo Beam**	**21.92**	**343**	*eP*	**P**		**03 52 23.3**	**+0.2**	
ZALV	**Zalesovo Beam**	**21.92**	**343**	*eP*	**P**		**03 52 23.3**	**+0.2**	
ZALV	**Zalesovo Beam**	**21.92**	**343**	P	**P**		**03 52 22.4**	**-0.6**	
	comp=Z,3.6nm,0.7s,baz=157,slow=10,SNR=17								
ZALV					LR	LR	04 01 32.1		
	comp=Z,106nm,20.5s,baz=57,slow=39								
NVS	**Novosibirsk**	**23.13**	**342**	*eP*	**P**		**03 52 34.4**	**-1.3**	
NVS					pmax	pmax			
	comp=Z,8.0nm,1.0s								
NVS					pmax	pmax			
	comp=N,5.0nm,1.1s								
NVS					pmax	pmax			
	comp=E,4.0nm,1.0s								
POO	**Poona**	**24.13**	**238**	*eP*	**P**		**03 52 43.5**	**-2.2**	
MDRS	**Chennai**	**24.33**	**218**	*ex*	**P**		**03 52 52.0**	**+4.5**	
BHJ	**Bhuj**	**24.58**	**253**	*eP*	**P**		**03 52 49.2**	**-0.5**	
TRTT	**Trang**	**25.68**	**170**	P	**P**		**03 53 02.5**	**+2.8**	
	comp=E,4.2nm,1.0s								
CN2	**Changchun**	**25.73**	**57**	*eP*	**P**		**03 52 59.6**	**-0.4**	
CN2				*eS*	**S**		**03 57 21.8**	**-4.8**	
CN2					pmax	pmax			
	comp=E,10.0nm,0.6s								
CN2					pmax	pmax			
	comp=E,200nm,3.0s								
CN2					LR	LR			
	comp=E,200nm,14.0s								
CN2					LR	LR			
	comp=E,200nm,12.0s								
CMBY	**CAMPBELL BAY**	**26.19**	**183**	*eP*	**P**		**03 53 02.4**	**-1.9**	
CMBY					IAmb	IAmb	03 53 03.0		
	comp=Z,72nm,0.7s								
BVAR	**Borovoye Array**	**26.54**	**325**	P	**P**		**03 53 06.0**	**-1.2**	
	comp=Z,1.1nm,0.8s,baz=136,slow=9.4,SNR=2.8								
BVAR					LR	LR	04 04 07.1		
	comp=Z,89nm,21.1s,baz=110,slow=38								
BRVK	**Borovoye**	**26.61**	**325**	*eP*	**P**		**03 53 06.8**	**-1.0**	
BRVK	**Borovoye**	**26.61**	**325**	*i* P	**P**		**03 53 09.7**	**+1.9**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KSAR	**Wonju Array Be**	**26.88**	**72**	P	**P**		**03 53 09.8**	**-0.7**	
KSAR	**Wonju Array Be**	**26.88**	**72**	P	**P**		**03 53 09.8**	**-0.7**	
KSRS	**Korea Array**	**26.91**	**72**	P	**P**		**03 53 09.8**	**-1.0**	
	comp=Z,1.6nm,0.9s,baz=268,slow=9.6,SNR=3.5								
KSRS					LR	LR	04 05 14.9		
	comp=Z,34nm,19.8s,baz=272,slow=40								
TRD	**Trivandrum**	**29.89**	**218**	*eP*	**P**		**03 53 37.8**	**+0.4**	
KLR	**Kul'dur**	**31.38**	**49**	*i* P	**P**		**03 53 49.2**	**-1.1**	
KLR	**Kul'dur**	**31.38**	**49**	P	**P**		**03 53 49.5**	**-0.7**	
	comp=Z,2.2nm,0.9s,baz=260,slow=12,SNR=4.5								
AKTO	**Aktyubinsk**	**32.14**	**313**	LR	LR		04 07 58.9		
	comp=Z,60nm,19.6s,baz=84,slow=38								
SVE	**Sverdlovsk**	**33.33**	**325**	*eP*	**P**		**03 54 08.4**	**+1.2**	
ARU	**Arti**	**34.14**	**324**	*eP*	**P**		**03 54 14.1**	**-0.3**	
	comp=Z,9.5nm,1.0s								
ARU	**Arti**	**34.14**	**324**	*c i* P	**P**		**03 54 15.4**	**+1.0**	
ARU							03 55 29.7		
ARU					S	**S**	**03 59 43.2**	**+5.2**	
ARU					SS	**SnSn**	**04 01 55.1**	**+7.7**	
ARU					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KBZ	**Khabaz**	**41.62**	**300**	LR	LR		04 16 19.3		
	comp=Z,65nm,18.1s,baz=80,slow=42								
PRGR	**Permogore**	**42.32**	**327**	*eP*	P		03 55 18.1	-4.9	
PRGR					pmax	pmax			
	comp=Z,11nm,1.5s								
TIXI	**Tiksi**	**42.34**	**15**	*eP*	**P**		**03 55 21.6**	**-1.5**	
	comp=Z,17nm,2.0s								
TIXI	**Tiksi**	**42.34**	**15**	*ceP*	**P**		**03 55 22.1**	**-1.0**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.0s								
TIXI	**Tiksi**	**42.34**	**15**	P	**P**		**03 55 21.0**	**-2.1**	
	comp=Z,1.6nm,0.5s,baz=195,slow=4.7,SNR=8.1								
VSR	**Storozhevoye**	**44.03**	**311**	*i* P	**P**		**03 55 38.5**	**+1.5**	
VSR					pmax	pmax			
	comp=Z,4.0nm,1.0s								
KLMR	**Klimovskoe**	**44.96**	**325**	*eP*	**P**		**03 55 43.6**	**-0.7**	
KLMR					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KLMR	**Klimovskoe**	**44.96**	**325**	*eP*	**P**		**03 55 43.6**	**-0.7**	
KLMR					AMP		03 55 48.4		
	comp=Z,10.0nm,1.1s								
OBN	**Obninsk**	**45.76**	**317**	*i* P	**P**		**03 55 52.1**	**+1.4**	
OBN					pmax	pmax			
	comp=Z,5.0nm,1.0s								
SEY	**Seymchan**	**46.08**	**32**	P	**P**		**03 55 52.4**	**-0.7**	
	comp=Z,1.8nm,0.8s,baz=246,slow=19,SNR=3.7								
BRTR	**Keskin Array B**	**49.06**	**296**	*ceP*	**P**		**03 56 19.7**	**+2.9**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
BRTR	**Keskin Array B**	**49.06**	**296**	P	**P**		**03 56 16.0**	**-0.8**	
	comp=Z,3.8nm,1.0s,baz=91,slow=7.4,SNR=8.3								
FINES	**FINESS Array B**	**51.50**	**325**	P	**P**		**03 56 33.7**	**-1.0**	
	comp=Z,2.8nm,0.9s,baz=72,slow=6.2,SNR=5.8								
ARCES	**ARCESS Array B**	**52.14**	**335**	P	**P**		**03 56 39.2**	**-0.2**	
	comp=Z,3.2nm,0.9s,baz=97,slow=7.7,SNR=5.3								
BILL	**Bilibino**	**52.51**	**27**	*eP*	**P**		**03 56 41.9**	**-0.4**	
	comp=Z,4.6nm,1.0s								
BILL	**Bilibino**	**52.51**	**27**	*eP*	**P**		**03 56 41.8**	**-0.4**	
BILL				*i*			03 56 52.6		
BILL				*i*			03 58 40.6		
BILL					pmax	pmax			
	comp=Z,7.0nm,1.3s								
MSEY	**Mahe Island**	**53.29**	**233**	*ceP*	**P**		**03 56 50.2**	**+1.5**	
KWP	**Kalwaria Pacla**	**54.63**	**310**	P	**P**		**03 56 58.8**	**+0.8**	
VYHS	**Vyhne**	**57.37**	**310**	*eP*	**P**		**03 57 18.1**	**+0.5**	
VYHS	**Vyhne**	**57.37**	**310**	*eP*	**P**		**03 57 18.1**	**+0.5**	
NB2	**NORSAR Subarra**	**58.67**	**325**	P	**P**		**03 57 25.3**	**-1.2**	
	comp=Z,0.9nm,0.7s,baz=76,slow=6.9								
NOA	**NORSAR Array B**	**58.67**	**325**	P	**P**		**03 57 25.6**	**-0.9**	
	comp=Z,2.1nm,0.9s,baz=76,slow=6.9,SNR=7.0								
CLL	**Collm**	**60.22**	**314**	*eP*	**P**		**03 57 34.0**	**-3.4**	
GERES	**GERESS Array B**	**60.53**	**311**	P	**P**		**03 57 40.0**	**+0.3**	
GERES	**GERESS Array B**	**60.53**	**311**	P	**P**		**03 57 40.0**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=60,slow=8.2,SNR=3.2								
ANM	**Nome**	**64.30**	**28**	*eP*	**P**		**03 58 04.1**	**-0.3**	
	comp=Z,4.9nm,1.0s								
ANM	**Nome**	**64.30**	**28**	*eP*	**P**		**03 58 04.1**	**-0.3**	
ANM					pmax	pmax			
	comp=Z,5.0nm,1.0s								
KMBO	**Kilima Mbogo**	**64.31**	**250**	*ceP*	**P**		**03 58 07.1**	**+1.6**	
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KMBO	**Kilima Mbogo**	**64.31**	**250**	P	**P**		**03 58 05.2**	**-0.3**	
	comp=Z,1.1nm,0.7s,baz=46,slow=13,SNR=3.7								
WRAB	**Tennant Creek**	**64.79**	**139**	*eP*	**P**		**03 58 07.8**	**-0.4**	
	comp=Z,3.3nm,0.6s								
WRAB	**Tennant Creek**	**64.79**	**139**	*ceP*	**P**		**03 58 08.7**	**+0.5**	
WRAB					pmax	pmax			
	comp=Z,14nm,1.3s								
WRA	**Warramunga Arr**	**64.79**	**139**	*i* P	**P**		**03 58 08.1**	**-0.1**	
WRA					pmax	pmax			
	comp=Z,4.0nm,0.9s								
WRA	**Warramunga Arr**	**64.79**	**139**	P	**P**		**03 58 07.7**	**-0.5**	
	comp=Z,4.0nm,0.9s,baz=333,slow=7.2,SNR=14								
AS31	**Alice Springs**	**67.59**	**142**	*eP*	**P**		**03 58 26.8**	**+0.7**	
	comp=Z,0.9nm,0.8s								
ASAR	**Alice Springs**	**67.59**	**142**	P	**P**		**03 58 26.1**	**0.0**	
	comp=Z,2.3nm,0.7s,baz=324,slow=6.3,SNR=20								
AS01	**Alice Springs**	**67.61**	**142**	*eP*	**P**		**03 58 26.1**	**-0.1**	
IM3	**Indian Mountai**	**67.94**	**24**	*eP*	**P**		**03 58 26.7**	**-1.1**	
COLD	**Coldfoot**	**68.43**	**22**	*eP*	**P**		**03 58 30.4**	**-0.4**	
	comp=Z,5.4nm,1.4s								
BPAW	**Bear Paw Mtn.**	**69.97**	**25**	*eP*	**P**		**03 58 39.5**	**-1.0**	
	comp=Z,17nm,1.5s								
PPLA	**Purkeypile**	**70.22**	**27**	*eP*	**P**		**03 58 41.6**	**-0.6**	
	comp=Z,10nm,0.8s								
COLA	**College**	**70.60**	**24**	*eP*	**P**		**03 58 43.4**	**-0.8**	
	comp=Z,3.7nm,0.8s								
COLA	**College**	**70.60**	**24**	*eP*	**P**		**03 58 43.4**	**-0.8**	
COLA					pmax	pmax			
	comp=Z,4.0nm,0.8s								

IL1	**Eielson Array**	**70.99**	**24**	*eP*	**P**		**03 58 44.9**	**-1.7**	
ILAR	**Eielson Array**	**70.99**	**24**	P	**P**		**03 58 45.5**	**-1.1**	
	comp=Z,2.1nm,0.8s,baz=296,slow=5.5,SNR=31								
ILB	**Eielson Array**	**70.99**	**24**	*eP*	**P**		**03 58 45.3**	**-1.3**	
	comp=Z,3.3nm,0.8s								
SUA	**Susitna One**	**71.61**	**28**	*eP*	**P**		**03 58 49.6**	**-1.0**	
	comp=Z,9.2nm,0.8s								
SML	**Sawmill**	**72.32**	**27**	*eP*	**P**		**03 58 54.3**	**-0.4**	
	comp=Z,19nm,0.9s								
SML	**Sawmill**	**72.32**	**27**	*eP*	**P**		**03 58 54.3**	**-0.4**	
SML					pmax	pmax			
	comp=Z,19nm,0.9s								
RIDG	**Independ'e Rid**	**72.34**	**24**	*eP*	**P**		**03 58 53.8**	**-1.0**	
	comp=Z,39nm,1.9s								
INK	**Inuvik**	**72.43**	**17**	*eP*	**P**		**03 58 54.4**	**-0.8**	
	comp=Z,1.2nm,0.7s								
INK	**Inuvik**	**72.43**	**17**	*eP*	**P**		**03 58 54.4**	**-0.8**	
INK					pmax	pmax			
	comp=Z,1.0nm,0.7s								
INK	**Inuvik**	**72.43**	**17**	P	**P**		**03 58 54.5**	**-0.7**	
	comp=Z,2.0nm,1.0s,baz=330,slow=6.5,SNR=6.5								
SCRK	**Sand Creek**	**72.47**	**23**	*eP*	**P**		**03 58 54.5**	**-1.2**	
	comp=Z,5.8nm,0.8s								
KNK	**Knik Glacier**	**72.52**	**27**	*eP*	**P**		**03 58 55.4**	**-0.4**	
	comp=Z,18nm,1.1s								
KDAK	**Kodiak Island**	**73.03**	**31**	*ceP*	**P**		**03 58 59.0**	**+0.1**	
KDAK	**Kodiak Island**	**73.03**	**31**	P	**P**		**03 58 57.9**	**-1.0**	
	comp=Z,5.7nm,0.8s,baz=324,slow=2.8,SNR=6.2								
YKA	**Yellowknife Ar**	**81.57**	**13**	P	**P**		**03 59 45.7**	**-0.9**	
	comp=Z,1.6nm,0.8s,baz=332,slow=5.0,SNR=23								
YKB5	**Yellowknife Ar**	**81.57**	**13**	*eP*	**P**		**03 59 45.3**	**-1.4**	
TORD	**Torodi Ar. Bea**	**85.79**	**283**	P	**P**		**04 00 08.3**	**-0.8**	
	comp=Z,1.0nm,0.9s,baz=48,slow=5.4,SNR=5.7								
FFC	**Flin Flon**	**91.09**	**10**	*eP*	**P**		**04 00 32.6**	**-1.1**	
	comp=Z,2.1nm,0.7s								
FFC	**Flin Flon**	**91.09**	**10**	*eP*	**P**		**04 00 32.6**	**-1.1**	
FFC					pmax	pmax			
	comp=Z,2.0nm,0.7s								
OTAV	**Otavalo**	**146.11**	**349**	*e*PKPbc	**PKPbc**		**04 07 10.0**	**-0.5**	
OTAV	**Otavalo**	**146.11**	**349**	*e*PKP2	**PKPbc**		**04 07 10.0**	**-0.5**	

ROM 24 03:55:23.3±0.0, 43.507N±0.003×12.372E±0.003, h10km, ML1.3/10, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPC	**Poggio Castell**	**0.07**	**113**	P	Pg	03 55 25.9	+0.3
ATPC				S	Sg	03 55 27.4	+0.2
ATPC				AML	AML		
	comp=E,862μm,0.2s						
ATPC				AML	AML		
	comp=N,571μm,0.7s						
ATPC				AML	AML		
	comp=E,862μm,0.2s						
ATPC				AML	AML		
	comp=N,572μm,0.7s						
ATPC				AML	AML		
	comp=N,572μm,0.7s						
ATPC				AML	AML		
	comp=E,862μm,0.2s						
BADI	**Badiali**	**0.09**	**272**	P	Pg	03 55 26.3	+0.5
BADI				S	Sg	03 55 28.2	+0.5
CDCA	**Citt' di Caste**	**0.11**	**244**	P	Pg	03 55 26.6	+0.6
CDCA				S	Sg	03 55 28.8	+0.8
PIEI	**Pieia**	**0.12**	**76**	P	Pg	03 55 26.7	+0.4
PIEI				S	Sg	03 55 29.2	+0.9
PIEI				AML	AML		
	comp=E,216μm,0.5s						
PIEI				AML	AML		
	comp=N,153μm,0.3s						
PIEI				AML	AML		
	comp=E,216μm,0.5s						
PIEI				AML	AML		
	comp=N,153μm,0.3s						
PIEI				AML	AML		
	comp=E,216μm,0.5s						
PIEI				AML	AML		
	comp=N,153μm,0.3s						
ATVO	**AVT- Monte Val**	**0.13**	**169**	P	Pg	03 55 26.9	+0.6
ATVO				S	Sg	03 55 29.3	+0.8
ATVO				AML	AML		
	comp=E,382μm,0.7s						
ATVO				AML	AML		
	comp=N,308μm,0.2s						
ATVO				AML	AML		
	comp=E,382μm,0.7s						
ATVO				AML	AML		
	comp=N,308μm,0.2s						
ATVO				AML	AML		
	comp=N,308μm,0.2s						
ATVO				AML	AML		
	comp=E,382μm,0.7s						
ATBU	**Serra di Buran**	**0.13**	**104**	P	Pg	03 55 27.1	+0.7
ATBU				S	Sg	03 55 29.7	+1.0
ATBU				AML	AML		
	comp=E,152μm,0.4s						
ATBU				AML	AML		
	comp=N,184μm,0.3s						
ATBU				AML	AML		
	comp=E,152μm,0.4s						
ATBU				AML	AML		
	comp=N,184μm,0.3s						
ATBU				AML	AML		
	comp=E,152μm,0.4s						
ATBU				AML	AML		
	comp=N,184μm,0.3s						
ATMC	**Monte Cedrone**	**0.14**	**245**	P	Pg	03 55 27.1	+0.5
ATMC				S	Sg	03 55 29.7	+0.7
PARC	**Parchiule**	**0.17**	**326**	P	Pg	03 55 27.7	+0.6
NARO	**Abbazia di Nar**	**0.18**	**56**	P	Pg	03 55 27.7	+0.5
NARO				S	Sg	03 55 30.9	+0.9
NARO				AML	AML		
	comp=E,61μm,0.5s						
NARO				AML	AML		
	comp=N,90μm,0.2s						
NARO				AML	AML		
	comp=E,61μm,0.5s						
NARO				AML	AML		
	comp=N,90μm,0.2s						
NARO				AML	AML		
	comp=N,90μm,0.2s						
NARO				AML	AML		
	comp=E,61μm,0.5s						
FRON	**Frontone**	**0.26**	**88**	P	Pg	03 55 29.0	+0.4
FRON				S	Sb	03 55 33.4	-1.1
MURB	**Monte Urbino**	**0.27**	**155**	P	Pg	03 55 29.4	+0.6
MURB				S	Sb	03 55 34.1	-0.8
MURB				AML	AML		
	comp=E,162μm,0.3s						
MURB				AML	AML		
	comp=N,206μm,0.9s						
MURB				AML	AML		
	comp=E,162μm,0.3s						
MURB				AML	AML		
	comp=N,206μm,0.9s						
MURB				AML	AML		
	comp=E,162μm,0.3s						
MURB				AML	AML		
	comp=N,206μm,0.9s						
MPAG	**Monte Paganucc**	**0.31**	**66**	P	Pg	03 55 30.0	+0.5
MPAG				S	Sb	03 55 34.9	-1.2
SSFR	**Montelago di S**	**0.31**	**103**	P	Pg	03 55 29.9	+0.5
SSFR				S	Sb	03 55 34.9	-1.1
SSFR				AML	AML		
	comp=E,56μm,1.2s						
SSFR				AML	AML		
	comp=N,58μm,0.3s						
SSFR				AML	AML		
	comp=N,58μm,0.3s						
SSFR				AML	AML		
	comp=E,56μm,1.2s						
ATTE	**AVT- Monte Tez**	**0.31**	**183**	P	Pg	03 55 29.9	+0.3
ATTE				S	Sb	03 55 35.2	-0.9
CAFI	**Castiglion Fio**	**0.34**	**239**	P	Pg	03 55 30.8	+0.7
CAFI				S	Sb	03 55 36.1	-0.9
FSSB	**Fossombrone**	**0.35**	**58**	P	Pg	03 55 30.9	+0.6
FSSB				S	Sb	03 55 36.8	-0.4
FSSB				AML	AML		
	comp=E,77μm,0.3s						
FSSB				AML	AML		
	comp=N,77μm,0.8s						
FSSB				AML	AML		
	comp=E,77μm,0.3s						
FSSB				AML	AML		
	comp=N,77μm,0.8s						

ASRS 24 04:00:29.5±1.1, 50.39N×89.84E, h15km, Ms2.8/3
NNC 24 04:00:33.1±1.6, 50.39N×89.41E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=12.9km s-min=7.4km az=97.0
ISC 24 04:00:33.2±1.7, 50.28N±0.06×89.73E±0.08, h10km, n11, σ2.937/20, 9C-4D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARTR	**Artybash**	**2.16**	**315**	*e*Pg	**Pn**	**04 01 08.7**	**-0.7**
TASR	**Tashtagol**	**2.73**	**336**	*e*Pg	**Pn**	**04 01 19.8**	**+2.6**
TASR				*e*Sg	**Sb**	**04 01 54.4**	**-1.4**
CERR	**Cheremushki**	**2.78**	**22**	*e*Pg	**Pn**	**04 01 18.8**	**+1.0**
CERR				*e*Sg	**Sn**	**04 01 49.0**	**-2.4**
UKR	**Ust'-Kan**	**3.22**	**284**	*e*Pg	**Pn**	**04 01 28.0**	**+4.0**
UKR				*e*Sg	**Sb**	**04 02 10.0**	**+0.1**
ELT	**Eltsovka**	**3.69**	**325**	*e*Sn	**Sn**	**04 02 10.0**	**-3.7**
ELT				*e*Sg	**Sb**	**04 02 22.6**	**-0.5**
ZAA0	**Zalesovo Array**	**4.75**	**322**	⇑Pg	**Pb**	**04 01 55.8**	**-0.8**
	0.4nm,0.7s						
ZAA0				Lg	Lg	04 02 56.1	
	3.3nm,0.7s						
NVS	**Novosibirsk**	**6.04**	**322**	*e*Pg	**Pb**	**04 02 20.0**	**+1.5**
NVS				*e*Sg	**Sb**	**04 03 36.2**	**+5.4**
MK31	**Makanchi Array**	**6.05**	**238**	⇓Pn	**Pn**	**04 02 02.7**	**0.0**
	2.7nm,0.5s,baz=53,slow=14,SNR=42						
MK31				⇑Sn	**Sn**	**04 03 12.2**	**+0.2**
	1.9nm,0.5s,baz=56,slow=30,SNR=4.5						
MK31				⇑Lg	Lg	04 03 40.3	
	4.3nm,0.5s,baz=49,slow=31,SNR=3.8						
MAKZ	**Makanchi**	**6.21**	**239**	⇑Pn	**Pn**	**04 02 04.5**	**-0.5**
	2.2nm,0.4s						
MAKZ				⇑Sn	**Sn**	**04 03 15.9**	**-0.1**
	1.8nm,0.3s						
MAKZ				⇓Lg	Lg	04 03 44.6	
	8.9nm,1.1s						
KURK	**Kurchatov**	**7.10**	**278**	⇑Pn	**Pn**	**04 02 15.1**	**-2.0**
	2.6nm,1.1s						
KURK				⇑Sn	**Sn**	**04 03 34.8**	**-2.9**
	1.8nm,0.6s						
KURK				⇓Lg	Lg	04 04 11.7	
	6.8nm,0.6s						
KURBB	**Kurchatov Arra**	**7.16**	**277**	⇑Pn	**Pn**	**04 02 15.9**	**-2.0**
	1.0nm,0.3s						
KURBB				⇑Sn	**Sn**	**04 03 39.0**	**-0.2**
	8.6nm,0.7s						
KURBB				⇓Lg	Lg	04 04 11.0	
	24nm,0.6s						

ISCJB 24 04:00:39.4±0.5, 37.47N±0.07×135.00E±0.08, h378km, mb3.0/5, Error ellipse: s-maj=9.8km s-min=7.7km az=29.7
JMA 24 04:00:39.5±0.2, 37.39N×135.07E, h392km, M2.8
IDC 24 04:00:40.1±1.1, 37.40N×135.03E, h387km±15km, mb2.8/5, mb1 2.9/9, mb1mx2.7/50, mbtmp3.5/9, Error ellipse: s-maj=27.7km s-min=14.4km az=59.0
ISC 24 04:00:39.7±0.8, 37.43N±0.08×135.08E±0.08, h378km, n20, σ1.903/23, mb3.0/5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**1.53**	**139**	P	**Pn**	**04 01 31.9**	**+1.0**
JSZ	**Suzu**	**1.82**	**89**	P	**Pn**	**04 01 34.4**	**+2.0**
JWT	**Wachi**	**2.16**	**173**	P	**Pn**	**04 01 35.7**	**+0.9**
JWT				S	**S**	**04 02 19.2**	**+0.1**
JYTA	**Yamagatataniai**	**2.27**	**144**	P	**Pn**	**04 01 36.5**	**+1.0**
MAT	**Matsushiro**	**2.66**	**109**	P	**Pn**	**04 01 39.4**	**+1.0**
MAT	**Matsushiro**	**2.66**	**109**	P	**Pn**	**04 01 39.4**	**+1.0**
MJAR	**Matsushiro Arr**	**2.66**	**109**	P	**Pn**	**04 01 39.8**	**+1.3**
	0.8nm,0.3s,baz=282,slow=9.9,SNR=102						
JIE	**Ise**	**3.31**	**156**	P	**Pn**	**04 01 45.0**	**+1.0**
JRY	**Ryogami san**	**3.38**	**114**	P	**Pn**	**04 01 46.5**	**+1.9**
JOD2	**Odawara 2**	**3.89**	**123**	P	**Pn**	**04 01 50.4**	**+1.0**
JOD2				*e*S	**S**	**04 02 46.0**	**+0.2**
JMK	**Ichinoseki**	**5.07**	**71**	P	**Pn**	**04 02 01.7**	**+0.4**
JMK				*e*S	**S**	**04 03 06.3**	**-1.2**
BSO1	**Boso 1**	**5.52**	**118**	P	**Pn**	**04 02 05.6**	**-0.1**
KSRS	**Korea Array**	**5.70**	**272**	P	**Pn**	**04 02 08.9**	**+0.9**
	0.2nm,0.3s,baz=93,slow=11,SNR=5.7						
USRK	**Ussuriysk Ar.**	**7.16**	**342**	P	**P**	**04 02 26.1**	**+0.8**
	1.0nm,0.3s,baz=164,slow=11,SNR=12						
ASAJ	**Asahikawa**	**8.78**	**38**	P	**P**	**04 02 44.2**	**0.0**
	1.0nm,0.3s,baz=222,slow=14,SNR=8.0						
SONM	**Songino Array**	**23.40**	**305**	P	**P**	**04 05 16.3**	**-0.2**
	0.2nm,0.3s,baz=104,slow=8.8,SNR=2.6						
MKAR	**Makanchi Array**	**39.60**	**301**	P	**P**	**04 07 34.9**	**-1.1**
	0.2nm,0.4s,baz=90,slow=6.9,SNR=3.3						
WRA	**Warramunga Arr**	**57.07**	**181**	P	**P**	**04 09 47.1**	**-0.8**
	0.5nm,0.4s,baz=356,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**60.78**	**181**	P	**P**	**04 10 12.8**	**-0.3**
	0.1nm,0.4s,baz=1.8,slow=6.6,SNR=4.5						
FINES	**FINESS Array B**	**66.03**	**330**	P	**P**	**04 10 46.4**	**-0.2**
	1.3nm,1.0s,baz=57,slow=5.1,SNR=4.4						

SJA 24 04:01:13.1±0.4, 31.57S×69.54W, h109km±3km, ML3.0, MW3.7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.31**	**137**	*i* P	Pn	04 01 30.3	+1.0
RTLS				IAML		04 01 30.4	
	comp=Z,531nm,0.3s						
RTLS				*i* S	Sn	04 01 42.8	+1.5
AUSP	**Uspallata**	**0.67**	**169**	*i* P	Pn	04 01 32.5	+1.0
ZON	**Zonda**	**0.74**	**88**	IAML		04 01 49.7	
	comp=Z,95nm,0.2s						
SJA	**San Juan**	**0.84**	**87**	IAML		04 01 49.7	
	comp=Z,162nm,0.2s						
RTCV	**Cerro Valdivia**	**0.90**	**109**	*i* P	Pn	04 01 33.9	+0.6
RTLL	**Cer

BOOM	**Boomskoye usch**	**1.75**	**309**	⇑*i*P		**Pb**	**04 02 47.4**	**-1.3**
	baz=8.0								
BOOM				⇑*i*S		**Sb**	**04 03 10.8**	**+0.1**
	baz=8.0								
ZHN	**Zhinishke**	**1.82**	**15**	*e*P		**Pn**	**04 02 47.9**	**-0.1**
ZHN	11nm,0.1s								
				*e*S		**Sb**	**04 03 11.5**	**-1.3**
	11nm,0.2s								
MDOK	**Medeo**	**1.83**	**343**	⇓Pg		**Pn**	**04 02 48.1**	**0.0**
	2.2nm,0.2s								
MDOK				Lg		Lg	04 03 13.9		
	6.9nm,0.7s								
MDOK	**Medeo**	**1.83**	**343**	Pg		**Pb**	**04 02 49.1**	**-1.1**
	9.4nm,0.3s								
MDOK				Lg		Lg	04 03 13.6		
	6.8nm,0.9s								
MDOK	**Medeo**	**1.83**	**343**	*e*P		**Pb**	**04 02 49.1**	**-1.1**
	9.4nm,0.3s								
MDOK				*e*S		**Sb**	**04 03 13.6**	**+0.3**
	6.8nm,0.9s								
KOTS	**Kotyrbulak**	**1.89**	**345**	P		**Pb**	**04 02 50.2**	**-0.9**
	9.2nm,0.2s								
KOTS				S		**Sb**	**04 03 15.4**	**+0.7**
	11nm,0.3s								
KOTS	**Kotyrbulak**	**1.89**	**345**	*e*P		**Pb**	**04 02 50.2**	**-0.9**
	9.2nm,0.2s								
KOTS				*e*S		**Sb**	**04 03 15.5**	**+0.7**
	11nm,0.3s								
UZB	**Uzynbulak**	**1.96**	**28**	P		**Pb**	**04 02 51.3**	**-1.1**
	1.9nm,0.4s								
UZB				S		**Sb**	**04 03 16.8**	**-0.1**
	9.1nm,0.3s								
UZB	**Uzynbulak**	**1.96**	**28**	*e*P		**Pb**	**04 02 51.3**	**-1.1**
	1.9nm,0.4s								
UZB				*e*S		**Sb**	**04 03 16.8**	**-0.1**
	9.1nm,0.3s								
MTBS	**Maitube**	**1.99**	**330**	Pg		**Pb**	**04 02 51.8**	**-1.0**
	4.0nm,0.1s								
MTBS				Lg		Lg	04 03 18.1		
	11nm,0.2s								
MTBS	**Maitube**	**1.99**	**330**	*e*P		**Pb**	**04 02 51.8**	**-1.0**
	4.0nm,0.1s								
MTBS				*e*S		**Sb**	**04 03 18.1**	**+0.4**
	11nm,0.2s								
KURS	**Kuram**	**2.09**	**8**	Pg		**Pb**	**04 02 53.9**	**-0.7**
	3.2nm,0.2s								
KURS				Lg		Lg	04 03 21.6		
	6.1nm,0.3s								
KURS	**Kuram**	**2.09**	**8**	*e*P		**Pb**	**04 02 53.5**	**-1.0**
	4.2nm,0.4s								
KURS				*e*S		**Sb**	**04 03 21.2**	**+0.5**
	6.1nm,0.3s								
KST	**Kastek**	**2.12**	**321**	Pg		**Pb**	**04 02 54.0**	**-0.9**
	4.6nm,0.2s								
KST				Lg		Lg	04 03 22.4		
	18nm,0.4s								
KST	**Kastek**	**2.12**	**321**	⇑*i*P		**Pb**	**04 02 54.0**	**-0.9**
	4.6nm,0.2s								
KST				*e*S		**Sb**	**04 03 22.4**	**+1.0**
	18nm,0.4s								
SHLS	**Shalkode**	**2.14**	**35**	Pg		**Pg**	**04 02 58.5**	**+1.0**
	9.4nm,0.2s								
SHLS				Lg		Lg	04 03 29.9		
	36nm,0.4s								
SHLS	**Shalkode**	**2.14**	**35**	*e*P		**Pg**	**04 02 58.5**	**+1.0**
	9.4nm,0.2s								
SHLS				*e*S		**Sg**	**04 03 29.9**	**+4.6**
	36nm,0.4s								
PDGK	**Podgornoye**	**2.30**	**33**	Pg		**Pb**	**04 02 56.9**	**-1.1**
	1.1nm,0.2s								
PDGK				Lg		Lg	04 03 27.8		
	8.2nm,0.4s								
PDGK	**Podgornoye**	**2.30**	**33**	Pg		**Pb**	**04 02 56.8**	**-1.2**
	1.4nm,0.5s								
PDGK				Lg		Lg	04 03 27.5		
	8.9nm,0.4s								
PDGK	**Podgornoye**	**2.30**	**33**	⇑*e*P		**Pn**	**04 02 53.6**	**-0.9**
	baz=31								
PDGK				⇑*i*S		**Sn**	**04 03 22.4**	**-0.5**
	baz=31								
DGS	**Degeres**	**2.36**	**321**	Pg		**Pb**	**04 02 58.5**	**-0.6**
	3.3nm,0.3s								
DGS				Lg		Lg	04 03 29.5		
	19nm,0.2s								
DGS	**Degeres**	**2.36**	**321**	*e*P		**Pb**	**04 02 58.5**	**-0.6**
	3.3nm,0.3s								
DGS				*e*S		**Sb**	**04 03 29.5**	**+1.2**
	19nm,0.2s								
KTBS	**Karatobe**	**2.44**	**341**	Pg		**Pb**	**04 02 59.6**	**-0.9**
	2.7nm,0.2s								
KTBS				Lg		Lg	04 03 32.1		
	9.6nm,0.2s								
KTBS	**Karatobe**	**2.44**	**341**	*e*P		**Pb**	**04 02 59.6**	**-0.9**
	2.7nm,0.2s								
KTBS				*e*S		**Sb**	**04 03 32.1**	**+1.5**
	9.6nm,0.2s								
ARLS	**Aral**	**2.63**	**281**	⇓*i*P		**Pn**	**04 02 59.6**	**+0.5**
	baz=82								
ARLS				⇓*i*S		**Sn**	**04 03 32.2**	**+1.0**
	baz=82								
KUU	**Kurty**	**2.70**	**337**	Pg		**Pb**	**04 03 03.8**	**-1.1**
	1.8nm,0.4s								
KUU				Lg		Lg	04 03 39.3		
	5.9nm,0.4s								
KUU	**Kurty**	**2.70**	**337**	⇓*i*P		**Pb**	**04 03 03.8**	**-1.1**
	1.8nm,0.4s								
KUU				*e*S		**Sb**	**04 03 39.3**	**+1.4**
	5.9nm,0.4s								
MNBS	**Baschi**	**2.70**	**9**	Pg		**Pb**	**04 03 04.6**	**-0.4**
	1.7nm,0.2s								
MNBS				Lg		Lg	04 03 39.1		
	12nm,0.4s								
MNBS	**Baschi**	**2.70**	**9**	*e*P		**Pb**	**04 03 04.1**	**-0.9**
	1.7nm,0.2s								
MNBS				*e*S		**Sb**	**04 03 39.1**	**+0.8**
	12nm,0.4s								
KTMS	**Ketmen**	**2.78**	**42**	Pg		**Pb**	**04 03 05.2**	**-1.1**
	2.9nm,0.2s								
KTMS				Lg		Lg	04 03 42.0		
	16nm,0.6s								
KTMS	**Ketmen**	**2.78**	**42**	*e*P		**Pb**	**04 03 05.7**	**-0.7**
	2.9nm,0.2s								
KTMS				*e*S		**Sb**	**04 03 41.9**	**+1.3**
	14nm,0.7s								
ARXS	**Arharly**	**2.80**	**1**	Pg		**Pb**	**04 03 06.0**	**-0.6**
	6.0nm,0.5s								
ARXS				Lg		Lg	04 03 42.5		
	20nm,0.5s								
ARXS	**Arharly**	**2.80**	**1**	*e*P		**Pb**	**04 03 06.0**	**-0.6**
	6.0nm,0.5s								
ARXS				*e*S		**Sb**	**04 03 42.5**	**+1.5**
	20nm,0.5s								
DJR	**Jarkent**	**3.27**	**26**	Pg		**Pb**	**04 03 13.6**	**-1.0**
	0.8nm,0.2s								
DJR				Lg		Lg	04 03 55.4		
	2.5nm,0.4s								
DJR	**Jarkent**	**3.27**	**26**	*e*P		**Pb**	**04 03 13.6**	**-1.0**
	0.8nm,0.2s								
DJR				*e*S		**Sb**	**04 03 55.4**	**+0.9**
	2.5nm,0.4s								
MRKS	**Merke**	**3.64**	**293**	Pg		**Pb**	**04 03 22.3**	**+1.3**
	1.3nm,0.4s								
MRKS				Lg		Lg	04 04 11.8		
	4.9nm,0.3s								
MRKS	**Merke**	**3.64**	**293**	*e*P		**Pb**	**04 03 22.4**	**+1.4**
	1.3nm,0.4s								
MRKS				*e*S		**Sg**	**04 04 11.4**	**-2.0**
	4.9nm,0.3s								

IDC ***24*** *04:04:43.3±2.1,9.°63N×91.°44E,h0km,mb3.5/6,mb1 3.7/7, mb1mx3.5/47,mbtmp3.5/7,ML4.1/1,MS3.3/1,Ms1 3.3/1, ms1mx2.8/49,Error ellipse: s-maj=69.3km s-min=22.5km az=66.0*

ISCJB ***24*** *04:04:44.7±1.4,9.°6N±0.°1×91.°5E±0.°2,h20km,mb3.5/6, Error ellipse: s-maj=35.0km s-min=18.2km az=162.9*

ISC 24 04:04:46.0±1.7,9.°6N±0.°2×91.°4E±0.°3,h20km,n11,σ1s05/7, mb3.6/6,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.80**	**258**	LR		LR	04 11 09.5	
	comp=Z,136nm,19.3s,baz=115,slow=36							
CMAR	**Chiang Mai Arr**	**11.47**	**39**	Pn		**Pn**	**04 07 29.2**	**+0.5**
	0.4nm,0.3s,baz=218,slow=12,SNR=2.9							
H08S3	**Diego Garcia H**	**25.43**	**228**	T		T	04 37 10.8	
	baz=48,slow=75,SNR=106							
H08S2	**Diego Garcia H**	**25.43**	**228**	T		T	04 36 49.8	
	baz=48,slow=75,SNR=101							
H08S1	**Diego Garcia H**	**25.45**	**228**	T		T	04 37 00.6	
	baz=48,slow=75,SNR=78							
MKAR	**Makanchi Array**	**37.87**	**350**	P		**P**	**04 12 02.2**	**+0.6**
	0.3nm,0.6s,baz=164,slow=8.1,SNR=3.7							
SONM	**Songino Array**	**40.17**	**16**	P		**P**	**04 12 19.7**	**-1.2**
	0.4nm,0.6s,baz=198,slow=9.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**44.54**	**354**	P		**P**	**04 12 57.2**	**+0.9**
	0.6nm,0.6s,baz=152,slow=9.4,SNR=4.3							
WRA	**Warramunga Arr**	**51.49**	**125**	P		**P**	**04 13 50.0**	**-0.6**
	0.5nm,0.6s,baz=300,slow=9.7,SNR=4.7							
ASAR	**Alice Springs**	**53.12**	**129**	P		**P**	**04 14 03.5**	**+0.9**
	0.4nm,0.7s,baz=307,slow=6.2,SNR=6.4							
ILAR	**Eielson Array**	**94.17**	**21**	P		**P**	**04 18 02.7**	**-0.5**
	0.2nm,0.7s,baz=317,slow=3.8,SNR=3.3							

BJI ***24*** *04:18:31.1,50.°71N×160.°14E,h10km,mb5.7/79,mB6.0/80, Ms6.2/98,Ms7 6.1/89*

IDC ***24*** *04:18:32.7±0.3,50.°72N×160.°25E,h0km,mb5.6/34, mb1 5.7/38,mb1mx5.7/38,mbtmp5.6/38,ML4.8/4,MS5.4/42, Ms1 5.4/42,ms1mx5.3/58,Error ellipse: s-maj=10.8km s-min=9.1km az=138.0*

KRSC ***24*** *04:18:33.0±10.0,50.°68N×160.°35E,h42km±10km,ML6.3, FELT [III] at lighthouse Krugliy, MGeoES-I, Viluchinsk, Petropavlovsk, Paratunka, state-farm Termalniy, Nikolaevka, Severo-Kurilsk, Elizovo; [II] at river Karimshina (stationary KF GS), Nagorniy, GMS Kronoki.*

ISCJB ***24*** *04:18:33.1±0.5,50.°69N±0.°01×160.°24E±0.°01,h12km±2km, mb6.0/830,MS5.6/584,Error ellipse: s-maj=2.3km s-min=1.5km az=175.4*

NEIC ***24*** *04:18:34.0±0.1,50.°73N×160.°16E,h8km,mb6.1/299, ME6.6,MS5.5/299,MW6.1,MW5.9,Error ellipse: s-maj=1.7km s-min=1.0km az=162.0,Moment Tensor Solution. s62 Moment tensor: Scale 1018Nm; Mrr-1.28; Mθθ1.04; Mφφ0.24; Mrθ0.09; Mθφ0.66; Mφr1.06; Best double couple: M0 1.70000×1018 NP1:φs83.00000°, δ38.00000°,λ-47.00000°. NP2:φs214.00000°,δ63.00000°, λ-118.00000°. Principal axes: T 1.5600, Plg14.0000°, Azm323.0000°; N 0.2900, Plg24.0000°, Azm227.0000°; P -1.8400, Plg61.0000°, Azm80.0000°; Broadband fault plane solution: P waves. NP1:φs316.00000°,δ62.00000°, λ-157.00000°. NP2:φs215.00000°,δ70.00000°, λ-30.00000°. Principal axes: T Plg5.0000°, Azm267.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm173.0000°; Apparent Stress 3.60 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC ***24*** *04:18:34.0±0.0,50.°62N×160.°31E,h15km,Moment Tensor Solution. s35 Moment tensor: Scale 1017Nm; Mrr-8.85; Mθθ5.02; Mφφ3.83; Mrθ-2.13; Mθφ5.12; Mφr0.15; Best double couple: M0 9.50000×1017 NP1:φs58.00000°, δ50.00000°,λ-76.00000°. NP2:φs218.00000°,δ41.00000°, λ-105.00000°. Principal axes: T 9.7100, Plg4.0000°, Azm139.0000°; N -0.4600, Plg10.0000°, Azm229.0000°; P -9.2400, Plg78.0000°, Azm24.0000°;*

BGR ***24*** *04:18:34.5±0.6,50.°11N×160.°74E,h10km±3km,mb5.9, Ms5.8 Error ellipse: s-maj=33.4km s-min=8.9km az=74.0*

MOS ***24*** *04:18:35.8±0.8,50.°71N×160.°18E,h35km,mb6.2/210, MS5.7/130,Error ellipse: s-maj=4.9km s-min=2.7km az=95.8*

MOS Felt (III) at Vilyuchinsk, Elizovo, Nikolaevka, Paratunka, Petropavlovsk-Kamchatskiy, Severo-Kuril'sk, Termal'nyy; (II) at Nagornyy.

GCMT ***24*** *04:18:38.0±0.1,50.°68N×160.°36E,h12km,MW6.0/131, Moment Tensor Solution. s115,c252; s131,c499; Duration: 2s5 Moment tensor: Scale 1018Nm; Mrr-1.17±.01; Mθθ0.67±.01; Mφφ0.50±.01; Mrθ0.35±.02; Mθφ0.71±.01; Mφr0.44±.02; Best double couple: M0 1.35900×1018 NP1:φs224.00000°,δ57.00000°, λ-95.00000°. NP2:φs53.00000°,δ33.00000°,λ-82.00000°. Principal axes: T 1.4200, Plg12.0000°, Azm317.0000°; N -0.1190, Plg4.0000°, Azm227.0000°; P -1.2980, Plg77.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 04:18:37.2±0.4,50.66N±0.03×160.23E±0.02,h30km±2km, h30km:pP-P,n2529,σ1s39/2789,mb6.1/855,MS5.6/591, 85C-112D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.78**	**311**	*e*P		**Pn**	**04 19 04.2**	**-1.6**
KDTR				*e*S		**Sn**	**04 19 26.5**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.78**	**311**	PN		**Pn**	**04 19 04.2**	**-1.6**
KDTR				S		**Sn**	**04 19 26.5**	**-0.9**
RUS	**Russkaya**	**2.07**	**329**	*e*P		**Pn**	**04 19 07.9**	**-2.0**
RUS	**Russkaya**	**2.07**	**329**	PN		**Pn**	**04 19 07.9**	**-2.0**
MTVR	**Mutnovka**	**2.23**	**326**	*e*P		**Pn**	**04 19 10.4**	**-1.8**
MTVR	**Mutnovka**	**2.23**	**326**	PN		**Pn**	**04 19 10.4**	**-1.8**
ASAK	**Asacha**	**2.26**	**321**	*e*P		**Pn**	**04 19 11.3**	**-1.2**
ASAK	**Asacha**	**2.26**	**321**	PN		**Pn**	**04 19 11.3**	**-1.2**
PAU	**Pauzhetka**	**2.31**	**292**	*e*P		**Pn**	**04 19 11.6**	**-1.5**
PAU				*e*S		**Sn**	**04 19 39.3**	**-1.1**
PAU	**Pauzhetka**	**2.31**	**292**	PN		**Pn**	**04 19 11.6**	**-1.5**
PAU				S		**Sn**	**04 19 39.3**	**-1.1**
GRL	**Gorelyy**	**2.32**	**325**	*i* P		**Pn**	**04 19 13.1**	**-0.4**
GRL	**Gorelyy**	**2.32**	**325**	PN		**Pn**	**04 19 13.1**	**-0.4**
SPN	**Mys Shipunski**	**2.44**	**357**	*e*P		**Pn**	**04 19 12.8**	**-2.2**
SPN	**Mys Shipunski**	**2.44**	**357**	PN		**Pn**	**04 19 12.8**	**-2.2**
KRMR	**Karymshinskiy**	**2.53**	**330**	*e*P		**Pn**	**04 19 15.1**	**-1.2**
KRMR	**Karymshinskiy**	**2.53**	**330**	PN		**Pn**	**04 19 15.1**	**-1.2**
PET	**Petropavlovsk**	**2.56**	**338**	*e*Pn		**Pn**	**04 19 14.7**	**-1.9**
PET	**Petropavlovsk**	**2.56**	**338**	*e*P		**Pn**	**04 19 14.9**	**-1.7**
PET	**Petropavlovsk**	**2.56**	**338**	α *i*PN		**Pn**	**04 19 14.8**	**-1.8**
PET				*i* S		**Sn**	**04 19 44.0**	**-2.7**
PET	comp=Z,70μm,9.1s			pmax	pmax			
PET	comp=Z,6μm,0.5s			pmax	pmax			
PET	comp=Z,82μm,18.6s			pmax	pmax			
PET	comp=E,11μm,0.6s			smax	smax			
PET	comp=N,20μm,0.4s			smax	smax			
PET	comp=N,110μm,3.0s			smax	smax			
PET	comp=Z,247μm,12.0s			MLR	MLR			
PET	comp=Z,204μm,11.0s			MLR	MLR			
NLC	**Nalytchevo**	**2.57**	**348**	*e*P		**Pn**	**04 19 15.9**	**-0.9**
NLC				*e*S		**Sn**	**04 19 46.7**	**-0.3**
NLC	**Nalytchevo**	**2.57**	**348**	PN		**Pn**	**04 19 15.9**	**-0.9**
NLC				S		**Sn**	**04 19 46.7**	**-0.3**
SKR	**Severo-Kuril's**	**2.62**	**272**	*e*P		**Pn**	**04 19 16.1**	**-1.3**
SKR	**Severo-Kuril's**	**2.62**	**272**	⇑*i*PN		**Pn**	**04 19 16.4**	**-1.0**
SKR				*i* S		**Sn**	**04 19 45.9**	**-2.2**
SKR	comp=Z,8μm,0.4s			pmax	pmax			
SKR	comp=Z,55μm,9.1s			pmax	pmax			
SKR	comp=N,100μm,0.7s			smax	smax			
SKR	comp=E,151μm,0.7s			smax	smax			
SKR	comp=Z,132μm,9.0s			MLR	MLR			
SKR	comp=Z,155μm,11.0s			MLR	MLR			
UGLR	**Uglovaya**	**2.70**	**342**	*i* P		**Pn**	**04 19 17.4**	**-1.2**
UGLR	**Uglovaya**	**2.70**	**342**	PN		**Pn**	**04 19 17.4**	**-1.2**
SDLR	**Sedlovina**	**2.75**	**343**	*i* P		**Pn**	**04 19 17.6**	**-1.7**
SDLR	**Sedlovina**	**2.75**	**343**	PN		**Pn**	**04 19 17.6**	**-1.7**
SMAR	**Somma**	**2.75**	**342**	*i* P		**Pn**	**04 19 17.8**	**-1.7**
SMAR	**Somma**	**2.75**	**342**	PN		**Pn**	**04 19 17.8**	**-1.7**
AVH	**Avacha**	**2.77**	**341**	*e*P		**Pn**	**04 19 18.3**	**-1.2**
AVH	**Avacha**	**2.77**	**341**	PN		**Pn**	**04 19 18.3**	**-1.2**
KRER	**Koryakskii**	**2.80**	**341**	*e*P		**Pn**	**04 19 18.3**	**-1.8**
KRER	**Koryakskii**	**2.80**	**341**	PN		**Pn**	**04 19 18.3**	**-1.8**
KOK	**Koryaka**	**2.81**	**340**	*i* P		**Pn**	**04 19 19.1**	**-1.1**
KOK	**Koryaka**	**2.81**	**340**	PN		**Pn**	**04 19 19.1**	**-1.1**
KRX	**Arik**	**2.87**	**341**	*e*P		**Pn**	**04 19 19.7**	**-1.4**
KRX	**Arik**	**2.87**	**341**	PN		**Pn**	**04 19 19.7**	**-1.4**
I44RU	**PETROPAVLOVSK-**	**2.90**	**328**	Pn		**Pn**	**04 19 21.4**	**+0.1**
	baz=128,slow=18,SNR=0.9							
PEA0B	**Petropavlovsk-**	**2.91**	**328**	*e*Pn		**Pn**	**04 19 20.6**	**-0.8**
PEA0B	**Petropavlovsk-**	**2.91**	**328**	*e*PN		**Pn**	**04 19 20.6**	**-0.8**
PETK	**Petropavlovsk-**	**2.91**	**328**	*e*Pn		**Pn**	**04 19 20.0**	**-1.4**
PETK				Sn		**Sn**	**04 19 54.2**	**-1.2**
PETK	**Petropavlovsk-**	**2.91**	**328**	*e*PN		**Pn**	**04 19 20.0**	**-1.4**
PETK							04 19 54.2	
PETK	**Petropavlovsk-**	**2.91**	**328**	Pn		**Pn**	**04 19 20.8**	**-0.7**
	comp=Z,957nm,0.3s,baz=124,slow=18,SNR=2862							
PETK				Sn		**Sn**	**04 19 54.2**	**-1.2**
	comp=Z,1μm,0.3s,baz=127,slow=16,SNR=8.7							
APC	**Apacha**	**2.96**	**321**	*e*P		**Pn**	**04 19 21.1**	**-1.0**
APC	**Apacha**	**2.96**	**321**	PN		**Pn**	**04 19 21.1**	**-1.0**
ALID	**Alaid**	**2.98**	**276**	*e*P		**Pn**	**04 19 22.2**	**-0.3**
ALID	**Alaid**	**2.98**	**276**	PN		**Pn**	**04 19 22.2**	**-0.3**
MKZ	**Mys Kozlova**	**4.01**	**13**	*i* P		**Pn**	**04 19 33.9**	**-2.5**
MKZ	**Mys Kozlova**	**4.01**	**13**	PN		**Pn**	**04 19 33.9**	**-2.5**
KZV	**Kizimen**	**4.46**	**0**	*e*P		**Pn**	**04 19 41.7**	**-1.1**
KZV	**Kizimen**	**4.46**	**0**	PN		**Pn**	**04 19 41.7**	**-1.1**
TUMD	**Tumrok D**	**4.55**	**1**	*e*P		**Pn**	**04 19 42.7**	**-1.3**
TUMD				*e*S		**Sn**	**04 20 32.4**	**-3.4**
TUMR	**Tumrok**	**4.63**	**359**	*i* P		**Pn**	**04 19 44.8**	**-0.4**
TUMR	**Tumrok**	**4.63**	**359**	PN		**Pn**	**04 19 44.8**	**-0.4**
BZMR	**Bezymyannaya**	**5.29**	**2**	*e*P		**Pn**	**04 19 54.9**	**+0.7**
BZMR	**Bezymyannaya**	**5.29**	**2**	PN		**Pn**	**04 19 54.9**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**5.29**	**3**	*e*P		**Pn**	**04 19 54.9**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**5.29**	**3**	PN		**Pn**	**04 19 54.9**	**+0.6**
KIRR	**Kirishev**	**5.30**	**1**	*e*P		**Pn**	**04 19 55.1**	**+0.7**
KIRR	**Kirishev**	**5.30**	**1**	PN		**Pn**	**04 19 55.1**	**+0.7**
BZWR	**Bezymyannyi-We**	**5.31**	**2**	*e*P		**Pn**	**04 19 55.6**	**+1.0**
BZWR	**Bezymyannyi-We**	**5.31**	**2**	PN		**Pn**	**04 19 55.6**	**+1.0**
KPT	**Kopyto**	**5.31**	**360**	*e*P		**Pn**	**04 19 55.2**	**+0.7**
KPT	**Kopyto**	**5.31**	**360**	PN		**Pn**	**04 19 55.2**	**+0.7**
ESO	**Esso**	**5.35**	**351**	*e*P		**Pn**	**04 19 53.9**	**-1.1**
ESO	**Esso**	**5.35**	**351**	PN		**Pn**	**04 19 53.9**	**-1.1**
ZLN	**Zelenaya**	**5.38**	**3**	*e*P		**Pn**	**04 19 55.8**	**+0.4**
ZLN	**Zelenaya**	**5.38**	**3**	PN		**Pn**	**04 19 55.8**	**+0.4**
KOZ	**Kozyrevsk**	**5.41**	**358**	*e*P		**Pn**	**04 19 56.3**	**+0.5**
KOZ	**Kozyrevsk**	**5.41**	**358**	PN		**Pn**	**04 19 56.3**	**+0.5**
LGNR	**Loginova**	**5.44**	**3**	*e*P		**Pn**	**04 19 57.1**	**+0.7**
LGNR	**Loginova**	**5.44**	**3**	PN		**Pn**	**04 19 57.1**	**+0.7**
KRSR	**Krestovskiy**	**5.57**	**2**	*e*P		**Pn**	**04 19 57.4**	**-0.6**
KRSR	**Krestovskiy**	**5.57**	**2**	PN		**Pn**	**04 19 57.4**	**-0.6**
KLY	**Klyuchi**	**5.67**	**2**	*e*P		**Pn**	**04 19 58.9**	**-0.4**
KLY	**Klyuchi**	**5.67**	**2**	PN		**Pn**	**04 19 58.9**	**-0.4**
SRDR	**Sredinnyy**	**5.67**	**357**	*e*P		**Pn**	**04 19 58.9**	**-0.5**
SRDR	**Sredinnyy**	**5.67**	**357**	PN		**Pn**	**04 19 58.9**	**-0.5**
BKI	**Bering**	**5.72**	**35**	*e*P		**Pn**	**04 19 57.6**	**-2.4**
BKI	**Bering**	**5.72**	**35**	PN		**Pn**	**04 19 57.6**	**-2.4**
KBTR	**Krutoberegovo**	**5.77**	**15**	*e*P		**Pn**	**04 19 58.8**	**-1.8**
KBTR	**Krutoberegovo**	**5.77**	**15**	PN		**Pn**	**04 19 58.8**	**-1.8**
KBG	**Krutoberegovo**	**5.79**	**14**	*e*P		**Pn**	**04 19 59.8**	**-1.2**
KBG	**Krutoberegovo**	**5.79**	**14**	PN		**Pn**	**04 19 59.8**	**-1.2**
BDR	**Baidarnaya**	**5.95**	**5**	*e*P		**Pn**	**04 20 03.2**	**0.0**
BDR	**Baidarnaya**	**5.95**	**5**	PN		**Pn**	**04 20 03.2**	**0.0**
SMKR	**Semkarok**	**5.98**	**7**	*e*P		**Pn**	**04 20 03.5**	**-0.1**
SMKR	**Semkarok**	**5.98**	**7**	PN		**Pn**	**04 20 03.5**	**-0.1**
SRKR	**Sorokina**	**6.03**	**5**	*e*P		**Pn**	**04 20 04.2**	**-0.1**
SRKR	**Sorokina**	**6.03**	**5**	PN		**Pn**	**04 20 04.2**	**-0.1**
OSSR	**Ossora**	**8.76**	**10**	*e*P		**Pn**	**04 20 40.2**	**-1.4**
OSSR	**Ossora**	**8.76**	**10**	PN		**Pn**	**04 20 40.2**	**-1.4**
SMY	**Shemya**	**8.86**	**71**	*e*Pn		**Pn**	**04 20 40.9**	**-2.2**
SMY	**Shemya**	**8.86**	**71**	*e*PN		**Pn**	**04 20 40.9**	**-2.2**
KUR	**Kuril'sk**	**9.91**	**242**	*e*PN		**Pn**	**04 20 56.7**	**-0.8**
KUR				pmax	pmax			
KUR	comp=Z,464nm,0.6s			pmax	pmax			
KUR	comp=N,133nm,0.5s			pmax	pmax			
KUR	comp=E,118nm,0.3s			pmax	pmax			
KUR	comp=Z,7μm,4.2s			pmax	pmax			
KUR	comp=N,5μm,4.4s			pmax	pmax			
KUR	comp=E,4μm,3.6s			MLR	MLR			
KUR	comp=Z,23μm,19.0s			MLR	MLR			
KUR	comp=N,14μm,15.0s			MLR	MLR			
KUR	comp=E,6μm,17.0s			MLR	MLR			
TILK	**Tilichiki**	**10.36**	**17**	*e*P		**Pn**	**04 21 03.7**	**+0.2**
TILK	**Tilichiki**	**10.36**	**17**	PN		**Pn**	**04 21 03.7**	**+0.2**
OKH	**Okha**	**11.03**	**292**	*c i*PN		**Pn**	**04 21 13.6**	**+0.9**
OKH				*i* S		**Sn**	**04 23 21.4**	**+6.6**
OKH	comp=Z,5μm,8.2s			pmax	pmax			
OKH	comp=N,4μm,6.6s			smax	smax			
OKH	comp=Z,62μm,14.0s			MLR	MLR			
TYV	**Tymovskoe**	**11.14**	**278**	*e*PN		**Pn**	**04 21 16.3**	**+2.0**
TYV				pmax	pmax			
TYV	comp=Z,251nm,1.0s			pmax	pmax			
TYV	comp=Z,4μm,2.1s			MLR	MLR			
TYV	comp=E,113μm,13.0s			MLR	MLR			
TYV	comp=Z,96μm,13.0s			MLR	MLR			
SHO	**Shikotan**	**11.35**	**238**	*e*PN		**Pn**	**04 21 13.1**	**-4.1**
SHO				pmax	pmax			
SHO	comp=Z,91nm,0.8s			pmax	pmax			
SHO	comp=N,41nm,0.6s			pmax	pmax			
SHO	comp=E,58nm,0.3s			pmax	pmax			
YUK	**Yuzh-Kuril'sk**	**11.78**	**241**	*e*PN		**Pn**	**04 21 19.4**	**-3.6**
YUK				*e*			04 23 45.3	
YUK	comp=E,192nm,0.6s			pmax

NKL MLR MLR
comp=E,49µm,14.0s
comp=Z,77µm,15.0s
SEY Seymchan 13.02 344 *ce*PN **Pn 04 21 39.3 -0.5**
SEY Seymchan 13.02 344 Pn **Pn 04 21 40.7 +0.8**
comp=Z,2.7nm,0.3s,baz=145,slow=12,SNR=86
SEY LR LR 04 27 06.7
comp=Z,41µm,19.9s,baz=154,slow=40
ASAJ Asahikawa 13.61 248 Pn **Pn 04 21 47.5 -0.6**
comp=Z,11nm,0.3s,baz=78,slow=14,SNR=43
ASAJ LR LR 04 27 07.5
comp=Z,17µm,18.3s,baz=60,slow=38
KIWB Kanaga Island 14.20 76 *e*Pn **Pn 04 21 56.7 +0.6**
ADK Adak 14.49 76 *e*Pn **Pn 04 22 00.4 +0.5**
ERM Erimo 14.60 240 *e*Pn **Pn 04 21 58.6 -2.9**
ERM Erimo 14.60 240 *ce*P **Pn 04 21 59.6 -1.9**
ERM pmax pmax
comp=Z,22nm,0.8s
ERM MLR MLR
comp=Z,21µm,15.0s
GSTR Great Sitkin T 14.86 75 *e*Pn **Pn 04 22 07.0 +2.0**
GRNR Gornyy 15.07 280⇑ *i*P **Pn 04 22 09.0 +1.1**
GRNR pmax pmax
comp=E,750nm,2.0s
GRNR pmax pmax
comp=Z,810nm,2.0s
TEY Ternei 16.80 260⇈ *e*P **Pn 04 22 29.3 -0.7**
TEY pmax pmax
comp=E,250nm,1.1s
TEY pmax pmax
comp=Z,280nm,1.1s
TEY pmax pmax
comp=N,100nm,1.2s
TEY MLR MLR
comp=N,17µm,13.0s
TEY MLR MLR
comp=E,17µm,13.0s
TEY MLR MLR
comp=Z,26µm,14.0s
BILL Bilibino 17.68 7 *e*Pn **Pn 04 22 40.7 -0.2**
comp=Z,2µm,1.6s
BILL Bilibino 17.68 7 *d i*P **Pn 04 22 41.1 +0.2**
BILL *i* S **S 04 26 00.9 -2.5**
BILL pmax pmax
comp=Z,1µm,1.6s
BILL MLR MLR
comp=Z,18µm,14.0s
KLR Kul'dur 18.34 277 *c i*P **P 04 22 48.9 -0.1**
KLR Kul'dur 18.34 277 P **Pn 04 22 49.5 +0.3**
comp=Z,2.6nm,0.3s,baz=75,slow=12,SNR=76
KLR S **S 04 26 16.3 -0.6**
baz=17,slow=19,SNR=3.4
KLR LR LR 04 30 14.7
comp=Z,15µm,19.3s,baz=78,slow=38
SPIA Saint Paul Isl 18.46 58 *e*P **P 04 22 49.7 -0.5**
comp=Z,1µm,1.0s
NIKH Nikolski High 19.18 71 *e*P **P 04 22 58.2 +0.1**
comp=Z,344nm,0.9s
GAMB Gambell 19.86 38 *e*P **P 04 23 05.4 0.0**
comp=Z,518nm,1.0s
USA0B Ussuriysk Arra 20.09 262 *e*P **P 04 23 06.5 -1.7**
comp=Z,212nm,1.2s
USA0B Ussuriysk Arra 20.09 262 *e*P **P 04 23 06.5 -1.7**
USA0B pmax pmax
comp=Z,212nm,1.2s
USRK Ussuriysk Ar. 20.09 262 P **P 04 23 06.1 -2.1**
comp=Z,40nm,0.8s,baz=67,slow=11,SNR=34
USRK S **S 04 26 42.0 -10**
comp=Z,2.4nm,0.8s,baz=64,slow=16,SNR=2.0
USRK PcP **PcP 04 27 23.2 +0.8**
comp=Z,4.9nm,0.6s,baz=42,slow=2.9,SNR=3.9
USRK LR LR 04 30 46.1
comp=Z,15µm,21.5s,baz=51,slow=36
YAK Yakutsk 20.18 316 *c i*P **P 04 23 06.1 -2.8**
YAK *e* 04 23 17.0
YAK *e*PPP PPP 04 23 28.0
YAK *e*S **S 04 26 44.4 -9.2**
YAK *e* 04 27 27.5
YAK *e* 04 34 38.7
YAK pmax pmax
comp=Z,10µm,0.9s
YAK pmax pmax
comp=N,2µm,1.1s
YAK pmax pmax
comp=E,6µm,1.3s
YAK smax smax
comp=N,33µm,3.2s
YAK smax smax
comp=E,15µm,2.8s
YAK MLR MLR
comp=Z,203µm,15.0s
YAK MLR MLR
comp=E,129µm,14.0s
YAK MLR MLR
comp=N,84µm,13.0s
ZEA Zeya 20.34 292 *ce*P **P 04 23 09.2 -1.6**
ZEA *e* 04 23 32.0
ZEA *e*S **S 04 26 50.0 -7.1**
ZEA *e* 04 27 16.0
ZEA *e* 04 27 33.0
ZEA pmax pmax
comp=N,200nm,1.2s
ZEA pmax pmax
comp=E,480nm,1.4s
ZEA pmax pmax
comp=Z,750nm,1.4s
ZEA pmax pmax
comp=Z,7µm,12.0s
ZEA pmax pmax
comp=E,5µm,13.0s
ZEA pmax pmax
comp=Z,6µm,11.0s
ZEA pmax pmax
comp=N,3µm,13.0s
ZEA pmax pmax
comp=E,4µm,13.0s
ZEA smax smax
comp=E,5µm,5.0s
ZEA MLR MLR
comp=E,58µm,14.0s
ZEA MLR MLR
comp=Z,70µm,14.0s
ZEA MLR MLR
comp=N,12µm,12.0s
UNV Unalaska Valle 20.50 68 *e*P **P 04 23 12.0 -0.5**
comp=N,2µm,1.3s
UNV LR LR
comp=Z,13µm,18.0s
AKUT Akutan 20.91 67 *e*P **P 04 23 16.9 0.0**
comp=Z,1µm,1.1s
AKUT LR LR
comp=Z,10µm,18.0s
MJB9 Matsu-Tunnel 21.19 237 *e*P **P 04 23 19.8 -0.3**
comp=Z,585nm,0.9s
MAJO Matsushiro 21.19 237 *e*P **P 04 23 19.9 -0.2**
comp=Z,572nm,0.9s
MAJO LR LR
comp=Z,12µm,18.0s
MAJO Matsushiro 21.19 237 *e*P **P 04 23 19.9 -0.2**
MAJO pmax pmax
comp=Z,572nm,0.9s
MAJO MLR MLR
comp=Z,12µm,18.0s
MAT Matsushiro 21.19 237 P **P 04 23 19.6 -0.5**
MAT S **S 04 27 17.0 +3.0**
MJAR Matsushiro Arr 21.19 237 P **P 04 23 20.0 -0.1**
comp=Z,224nm,1.0s,baz=30,slow=8.1,SNR=116
MJAR S **S 04 27 17.5 +3.5**
comp=Z,3.6nm,0.9s,baz=74,slow=19,SNR=3.1
MJAR LR LR 04 32 48.9
comp=Z,9µm,19.8s,baz=40,slow=40
MJAR P3KPbc 04 57 19.7
comp=Z,3.8nm,0.9s,baz=206,slow=5.4,SNR=9.8
MDJ Mudanjiang 21.41 266 P **P 04 23 20.5 -1.9**
MDJ pP pP 04 23 23.3 -5.4
MDJ sP sP 04 23 24.4 -7.3
MDJ PP **PnPn 04 23 40.8 -1.9**
MDJ PcP **PcP 04 27 21.6 -3.3**
MDJ sS Sn 04 27 26.8 -0.1
MDJ SS **SnSn 04 27 43.3 +1.4**
MDJ PcS **PcS 04 30 59.9 -3.1**
MDJ ScS **ScS 04 34 43.9 +0.5**
MDJ pmax pmax
comp=Z,4µm,12.9s
MDJ LR LR
comp=Z,48µm,19.9s
MDJ LR LR
comp=Z,25µm,19.9s
MDJ LR LR
comp=Z,45µm,13.9s
MDJ Mudanjiang 21.41 266 *eP* **P 04 23 20.6 -1.8**
comp=Z,235nm,0.9s
MDJ *eS* **S 04 27 16.5 -1.8**
MDJ LR LR
comp=Z,23µm,18.0s
MSHR Mys Shultsa 21.44 259 *c iP* **P 04 23 22.5 -0.2**
FALS False Pass 22.23 65 *eP* **P 04 23 30.5 -0.5**
comp=Z,256nm,0.8s
FALS LR LR
comp=Z,14µm,19.0s
ANM Nome 22.71 39 *eP* **P 04 23 36.1 0.0**
comp=Z,2µm,1.2s
ANM Nome 22.71 39 *eP* **P**
ANM pmax pmax
comp=Z,2µm,1.2s
INU Inuyama 22.72 237 *eP* **P 04 23 35.7 -0.8**
comp=Z,423nm,1.0s
JHJ2 Mitsune 23.08 228 *eP* **P 04 23 39.8 -0.4**
comp=Z,616nm,1.1s
JHJ Hachijo jima 2 23.09 228 P **P 04 23 41.0 +0.7**
comp=Z,360nm,1.0s,baz=113,slow=17,SNR=5.8
SDPT Sand Point 23.87 63 *eP* **P 04 23 46.5 -1.2**
comp=Z,545nm,1.4s
CN2 Changchun 24.43 267 *eP* **P 04 23 52.5 -0.5**
CN2 *ep*P pP 04 23 56.8 -3.0
CN2 *es*P sP 04 23 59.6 -3.2
CN2 PcP **PcP 04 27 29.4 -1.8**
CN2 *eS* **S 04 28 08.3 -2.5**
CN2 pmax pmax
comp=Z,3µm,7.0s
CN2 LR LR
comp=Z,26µm,14.0s
CN2 LR LR
comp=Z,29µm,14.0s
CN2 LR LR
comp=Z,37µm,14.0s
CHGN Chignik 24.95 61 *eP* **P 04 23 55.6 -2.0**
comp=Z,149nm,0.9s
CHGN LR LR
comp=Z,16µm,20.0s
RDOG Red Dog Mine 25.02 32 *eP* **P 04 23 57.5 -0.6**
comp=Z,711nm,1.0s
TIXI Tiksi 25.35 337 *eP* **P 04 24 00.4 -0.6**
comp=Z,955nm,0.7s
TIXI PcP **PcP 04 27 33.3 +0.6**
TIXI S **S 04 28 24.2 -0.8**
TIXI *e* 04 56 59.1
TIXI Tiksi 25.35 337 *eP* **P 04 24 00.4 -0.6**
TIXI pmax pmax
comp=Z,791nm,0.8s
TIXI MLR MLR
comp=Z,27µm,19.0s
TIXI Tiksi 25.35 337 P **P 04 24 00.5 -0.6**
comp=Z,663nm,0.8s,baz=126,slow=10,SNR=1035
TIXI PcP **PcP 04 27 33.3 +0.6**
comp=Z,24nm,0.8s,baz=107,slow=4.6,SNR=3.2
TIXI S **S 04 28 24.2 -0.8**
comp=Z,14nm,0.9s,baz=296,slow=19,SNR=6.1
TIXI LR LR 04 35 00.7
comp=Z,28µm,19.5s,baz=124,slow=39
TIXI P3KPbc 04 56 59.1
comp=Z,2.2nm,0.9s,baz=356,slow=3.5,SNR=5.7
HIA Hailar 25.86 283 *eP* **P 04 24 04.7 -1.3**
comp=Z,237nm,0.8s
HIA *eS* **S 04 28 28.5 -5.2**
HIA LR LR
comp=Z,9µm,20.0s
HIA Hailar 25.86 283 *eP* **P 04 24 04.7 -1.3**
HIA *eS* **S 04 28 28.5 -5.2**
HIA pmax pmax
comp=Z,237nm,0.8s
HIA MLR MLR
comp=Z,9µm,20.0s
SVW2 Sparrevohn 26.38 50 *eP* **P 04 24 10.6 +0.2**
comp=Z,239nm,0.9s
SVW2 LR LR
comp=Z,8µm,19.0s
KSRS Korea Array 26.47 253 P **P 04 24 12.9 +1.4**
comp=Z,86nm,0.9s,baz=52,slow=9.0,SNR=145
KSRS PcP **PcP 04 27 36.9 +1.0**
comp=Z,24nm,1.1s,baz=1.5,slow=1.9,SNR=6.5
KSRS S **S 04 28 52.5 +9.1**
comp=Z,2.4nm,1.0s,baz=34,slow=12,SNR=2.7
KSRS LR LR 04 34 21.2
comp=Z,10µm,19.3s,baz=44,slow=36
KS01 Wonju Array Si 26.48 253 *eP* **P 04 24 11.1 -0.4**
KS15 Wonju Array Si 26.50 253 *eP* **P 04 24 12.2 +0.3**
comp=Z,388nm,1.4s
KSAR Wonju Array Be 26.50 253 P **P 04 24 12.9 +1.1**
KSAR PcP **PcP 04 27 36.9 +0.9**
KSAR S **S 04 28 52.5 +8.5**
KSAR Wonju Array Be 26.50 253 P **P 04 24 12.9 +1.1**
KSAR 04 27 36.9
SNY Shenyang 26.61 265⇑ P **P 04 24 12.8 +0.1**
SNY S **S 04 28 47.0 +1.5**
SNY pmax pmax
comp=Z,46nm,1.9s
SNY pmax pmax
comp=Z,4µm,8.6s
SNY LR LR
comp=Z,24µm,19.6s
SNY LR LR
comp=Z,17µm,20.1s
SNY LR LR
comp=Z,27µm,16.1s
SII Sitkinak Islan 27.26 60 *eP* **P 04 24 17.8 -0.7**
comp=Z,304nm,1.0s
SII LR LR
comp=Z,18µm,21.0s
CBIJ Chichi jima 27.26 217 P **P 04 24 19.9 +1.1**
JCJ Chichijima 27.26 217 P **P 04 24 19.9 +1.1**
comp=Z,160nm,0.9s,baz=25,slow=7.3,SNR=8.9
JCJ LR LR 04 32 29.0
comp=Z,2µm,21.0s,baz=5.0,slow=31
BOD Bodaibo 27.48 303⇓ *i*P **P 04 24 18.8 -1.6**
BOD pmax pmax
comp=Z,517nm,1.6s
TJN Taejon 27.52 251 *de*P **P 04 24 21.7 +0.8**
JNU Nakatsue 27.75 242 *eP* **P 04 24 22.5 -0.6**
comp=Z,699nm,1.5s
JNU Nakatsue 27.75 242 P **P 04 24 23.6 +0.5**
comp=Z,37nm,1.0s,baz=35,slow=8.7,SNR=12
JNU LR LR 04 34 58.6
comp=Z,4µm,21.2s,baz=40,slow=36
IM3 Indian Mountai 27.79 39 *eP* **P 04 24 22.5 -0.6**
KDAK Kodiak Island 27.99 57 *eP* **P 04 24 23.5 -1.5**
comp=Z,210nm,0.9s
KDAK *e*PcP **PcP 04 27 39.5 +0.3**
KDAK LR LR
comp=Z,12µm,20.0s
KDAK Kodiak Island 27.99 57 *eP* **P 04 24 23.5 -1.5**
KDAK *e* 04 27 39.5
KDAK pmax pmax
comp=Z,210nm,0.9s
KDAK MLR MLR
comp=Z,12µm,20.0s
KDAK Kodiak Island 27.99 57 P **P 04 24 23.5 -1.5**
comp=Z,150nm,0.9s,baz=307,slow=3.5,SNR=59
KDAK PcP **PcP 04 27 39.2 +0.1**
comp=Z,41nm,1.0s,baz=226,slow=5.3,SNR=4.9
PPLA Purkeypile 28.08 46 *eP* **P 04 24 26.1 +0.2**
comp=Z,1µm,1.7s
PPLA LR LR
comp=Z,12µm,18.0s
MIDW Midway 28.11 134 PFAKE 04 24 40.0 +14
MIDW LR LR
comp=Z,14µm,20.0s
CAST Castle Rocks 28.16 45 *eP* **P 04 24 26.4 -0.1**
comp=Z,660nm,1.8s
CAST LR LR
comp=Z,12µm,18.0s
HOM Homer 28.33 53 *eP* **P 04 24 27.8 -0.1**
comp=Z,423nm,0.9s
BPAW Bear Paw Mtn. 28.70 43 *eP* **P 04 24 30.6 -0.6**
comp=Z,377nm,1.7s
BPAW LR LR
comp=Z,12µm,18.0s
BRLK Bradley Lake 28.71 53 *eP* **P 04 24 30.8 -0.6**
comp=Z,165nm,1.0s
BRLK LR LR
comp=Z,7µm,20.0s
SUA Susitna One 28.72 49 *eP* **P 04 24 30.9 -0.7**
comp=Z,92nm,1.0s
CIT Chita 28.81 291 *eP* **P 04 24 31.5 -0.9**
CIT *e* 04 24 42.3
CIT *e* 04 24 49.1
CIT *e* 04 25 19.3
CIT *e* 04 25 43.5
CIT *e* 04 27 42.2
CIT *eS* **S 04 29 19.2 -0.9**
CIT pmax pmax
comp=Z,331nm,2.1s
MLY Manley 28.89 42 *eP* **P 04 24 32.4 -0.6**
comp=Z,194nm,1.2s
MLY LR LR
comp=Z,6µm,20.0s
TRF Thorofare Moun 28.97 45 *eP* **P 04 24 33.5 -0.3**
comp=Z,84nm,0.8s
TRF LR LR
comp=Z,12µm,18.0s
RC01 Rabbit Creek A 29.21 50 *eP* **P 04 24 34.8 -1.0**
comp=Z,93nm,1.1s
RC01 LR LR
comp=Z,9µm,18.0s
BWN Browne 29.37 43 *eP* **P 04 24 37.6 +0.5**
comp=Z,3µm,1.7s
BWN LR LR
comp=Z,9µm,19.0s
COLD Coldfoot 29.40 37 *eP* **P 04 24 37.1 -0.4**
comp=Z,72nm,0.7s
COLD LR LR
comp=Z,5µm,18.0s
SEW Seward 29.41 52 *eP* **P 04 24 36.3 -1.2**
comp=Z,107nm,1.0s
SEW LR LR
comp=Z,9µm,21.0s
DL2 Dalian 29.48 262⇑ *i*P **P 04 24 40.3 +1.9**
DL2 S **S 04 29 32.3 +1.6**
DL2 pmax pmax
comp=Z,73nm,1.3s
DL2 pmax pmax
comp=Z,2µm,7.8s
DL2 LR LR
comp=Z,13µm,16.3s
DL2 LR LR
comp=Z,17µm,17.5s
DL2 LR LR
comp=Z,15µm,13.0s
PMR Palmer 29.49 49 *eP* **P 04 24 37.4 -0.8**
comp=Z,181nm,1.5s
PMR LR LR
comp=Z,6µm,21.0s
PMR Palmer 29.49 49 *eP* **P 04 24 37.4 -0.8**
PMR pmax pmax
comp=Z,181nm,1.5s
PMR MLR MLR
comp=Z,6µm,21.0s
GHO Glory Hole Cre 29.58 48 *eP* **P 04 24 38.5 -0.7**
comp=Z,88nm,1.0s
GHO LR LR
comp=Z,8µm,19.0s
MCK McKinley 29.59 44 *eP* **P 04 24 38.2 -0.9**
comp=Z,866nm,1.8s
MCK LR LR
comp=Z,10µm,18.0s
MCK McKinley 29.59 44 *eP* **P 04 24 38.2 -0.9**
MCK pmax pmax
comp=Z,866nm,1.8s
MCK MLR MLR
comp=Z,10µm,18.0s
RND Reindeer 29.61 45 *eP* **P 04 24 38.7 -0.7**
comp=Z,1µm,1.8s
RND LR LR
comp=Z,13µm,19.0s
RND Reindeer 29.61 45 *eP* **P 04 24 38.7 -0.7**
RND pmax pmax
comp=Z,1µm,1.8s
RND MLR MLR
comp=Z,13µm,19.0s
KNK Knik Glacier 29.82 49 *eP* **P 04 24 40.6 -0.6**
comp=Z,271nm,1.0s
KNK LR LR
comp=Z,8µm,19.0s
SML Sawmill 29.86 48 *eP* **P 04 24 41.0 -0.6**
comp=Z,304nm,0.9s
SML LR LR
comp=Z,8µm,20.0s
SML Sawmill 29.86 48 *eP* **P 04 24 41.0 -0.6**
SML pmax pmax
comp=Z,304nm,0.9s
SML MLR MLR
comp=Z,8µm,20.0s
TOLK Toolik Lake Re 29.89 34 *eP* **P 04 24 41.8 0.0**
comp=Z,168nm,0.9s
TOLK LR LR
comp=Z,6µm,19.0s
TOLK Toolik Lake Re 29.89 34 P **P 04 24 42.0 +0.1**
baz=259
TOLK S **S 04 29 37.1 +0.3**
baz=259
MDM Murphy Dome 29.95 42 *eP* **P 04 24 42.2 -0.2**
comp=Z,231nm,1.2s
MDM LR LR
comp=Z,10µm,18.0s
WRH Wood River Hil 29.98 43 *eP* **P 04 24 42.4 -0.2**
comp=Z,563nm,1.7s
WRH LR LR
comp=Z,9µm,19.0s
TCOL CIGO_UAF Yank 30.10 42 P **P 04 24 44.0 +0.4**
baz=267
COLA College 30.11 42 *eP* **P 04 24 43.3 -0.3**
comp=Z,344nm,0.9s
COLA LR LR
comp=Z,10µm,18.0s
COLA College 30.11 42 *eP* **P 04 24 43.3 -0.3**
COLA pmax pmax
comp=Z,344nm,0.9s
COLA MLR MLR
comp=Z,10µm,18.0s
CCB Clear Creek Bu 30.11 43 *eP* **P 04 24 43.4 -0.3**
comp=Z,303nm,1.2s
CCB LR LR
comp=Z,9µm,19.0s
POKR Poker Plat Res 30.30 42 P **P 04 24 46.0 +0.6**
baz=267
SCM Sheep Creek Mo 30.34 48 *eP* **P 04 24 45.6 -0.3**
comp=Z,178nm,1.1s
SCM LR LR
comp=Z,7µm,20.0s
SCM Sheep Creek Mo 30.34 48 *eP* **P 04 24 45.6 -0.3**
SCM pmax pmax
comp=Z,178nm,1.1s
SCM MLR MLR
comp=Z,7µm,20.0s
HDA Harding Lake 30.48 43 *eP* **P 04 24 45.8 -1.1**
comp=Z,260nm,1.5s
HDA LR LR
comp=Z,10µm,18.0s
HDA Harding Lake 30.48 43 P **P 04 24 46.0 -0.9**
baz=269
IL1 Eielson Array 30.51 42 *eP* **P 04 24 46.0 -1.3**
ILAR Eielson Array 30.51 42 P **P 04 24 46.5 -0.8**
comp=Z,64nm,0.7s,baz=250,slow=7.9,SNR=273
ILAR PcP **PcP 04 27 44.8 -0.7**
comp=Z,9.0nm,0.6s,baz=290,slow=3.6,SNR=7.9
ILAR LR LR 04 37 47.4
comp=Z,7µm,18.1s,baz=279,slow=38
ILAR P3KPbc 04 56 37.2
comp=Z,1.8nm,1.0s,baz=113,slow=3.3,SNR=11
ILB Eielson Array 30.51 42 *eP* **P 04 24 46.5 -0.8**
comp=Z,337nm,1.5s
KLU Klutina 31.03 49 *eP* **P 04 24 51.8 -0.2**
comp=Z,143nm,1.1s
KLU LR LR
comp=Z,8µm,20.0s
MID Middleton Isla 31.04 53 *eP* **P 04 24 52.3 +0.4**
comp=Z,421nm,1.0s
MID Middleton Isla 31.04 53 *eP* **P 04 24 52.3 +0.4**
MID pmax pmax
comp=Z,421nm,1.0s
PRP Porcupine Dome 31.11 41 *eP* **P 04 24 52.9 +0.2**
comp=Z,352nm,1.0s
PRP LR LR
comp=Z,8µm,19.0s
DIV Divide 31.13 49 *eP* **P 04 24 52.5 -0.3**
comp=Z,139nm,0.9s
DIV LR LR
comp=Z,8µm,19.0s
PAX Paxson 31.15 46 *eP* **P 04 24 52.6 -0.4**
comp=Z,332nm,1.8s

PAX LR LR
comp=Z,10µm,19.0s
PAX Paxson 31.15 46 *e*P **P 04 24 52.6 -0.4**
PAX pmax pmax
comp=Z,332nm,1.8s
PAX MLR MLR
comp=Z,10µm,19.0s
EYAK Cordova Ski Ar 31.20 51 *e*P **P 04 24 53.3 0.0**
comp=Z,139nm,0.9s
EYAK LR LR
comp=Z,20µm,19.0s
FYU Fort Yukon 31.28 39 *e*P **P 04 24 54.4 +0.4**
comp=Z,906nm,0.9s
FYU LR LR
comp=Z,5µm,20.0s
H11N2 WAKE ISLAND Hy 31.31 168 T T 04 57 50.3
baz=352,slow=76,SNR=62
HARP HAARP 31.32 47 *e*P **P 04 24 54.7 +0.2**
comp=Z,594nm,1.9s
HARP LR LR
comp=Z,10µm,20.0s
H11N3 WAKE ISLAND Hy 31.33 168 T T 04 57 58.9
baz=352,slow=76,SNR=42
H11N1 WAKE ISLAND Hy 31.33 168 T T 04 57 57.1
baz=352,slow=76,SNR=124
RIDG Independ'e Rid 31.41 44 *e*P **P 04 24 54.1 -1.1**
comp=Z,554nm,1.5s
RIDG LR LR
comp=Z,10µm,18.0s
DOT Dot Lake 31.76 44 *e*P **P 04 24 57.2 -1.1**
comp=Z,72nm,0.7s
DOT LR LR
comp=Z,12µm,18.0s
SCRK Sand Creek 31.78 44 *e*P **P 04 24 57.2 -1.3**
comp=Z,869nm,2.0s
SCRK LR LR
comp=Z,9µm,18.0s
MENT Mentasta 31.95 46 *e*P **P 04 25 00.0 0.0**
comp=Z,113nm,1.2s
MENT LR LR
comp=Z,8µm,19.0s
HMT Hamilton 31.96 51 *e*P **P 04 25 00.2 +0.1**
comp=Z,164nm,0.9s
HMT LR LR
comp=Z,8µm,18.0s
BJI Beijing 32.29 268 P **P 04 25 04.0 +0.9**
BJI PP **PnPn 04 26 10.9 +1.1**
BJI S **S 04 30 13.4 -1.2**
BJT Baijiatuau 32.30 268 *e*P **P 04 25 02.7 -0.5**
comp=Z,39nm,0.8s
BJT LR LR
comp=Z,12µm,20.0s
BJT Baijiatuau 32.30 268 *e*P **P 04 25 02.7 -0.5**
BJT pmax pmax
comp=Z,39nm,0.8s
BJT MLR MLR
comp=Z,12µm,20.0s
H11S1 WAKE ISLAND Hy 32.49 169 T T 04 59 21.7
baz=353
H11S3 WAKE ISLAND Hy 32.50 169 T T 04 59 26.3
baz=353
H11S2 WAKE ISLAND Hy 32.51 169 T T 04 59 26.9
baz=353
TGL Tana Glacier 32.60 50 *e*P **P 04 25 06.1 +0.3**
comp=Z,195nm,1.1s
TGL LR LR
comp=Z,12µm,19.0s
BALM Baldy 32.80 49 *e*P **P 04 25 07.3 -0.2**
comp=Z,617nm,1.9s
BALM LR LR
comp=Z,7µm,19.0s
BALM Baldy 32.80 49 *e*P **P 04 25 07.3 -0.2**
BALM pmax pmax
comp=Z,617nm,1.9s
BALM MLR MLR
comp=Z,7µm,19.0s
EGAK Eagle 32.97 42 *e*P **P 04 25 08.0 -0.9**
comp=Z,335nm,0.9s
EGAK LR LR
comp=Z,7µm,18.0s
DAWY Dawson 33.79 43 *e*P **P 04 25 16.2 +0.2**
comp=Z,217nm,1.1s
DAWY *e*PcP **PcP 04 27 54.8 +0.3**
DAWY LR LR
comp=Z,9µm,18.0s
TIA Tai'an 33.96 262 P **P 04 25 18.6 +0.8**
TIA S **S 04 30 45.3 +4.6**
TIA pmax pmax
comp=Z,39nm,1.6s
TIA pmax pmax
comp=Z,1µm,8.6s
TIA LR LR
comp=Z,5µm,13.2s
TIA LR LR
comp=Z,5µm,14.7s
TIA LR LR
comp=Z,8µm,14.2s
JOW Kunigami 34.02 238 P **P 04 25 18.6 +0.2**
comp=Z,4.3nm,0.7s,baz=139,slow=13,SNR=5.8
IRK Irkutsk 34.17 295 *e*P **P 04 25 17.8 -1.7**
IRK *e*S **S 04 30 46.2 +2.5**
IRK pmax pmax
comp=Z,380nm,3.5s
ULN Ulaanbaatar 34.20 286 *e*P **P 04 25 19.5 -0.4**
comp=Z,36nm,1.0s
ULN *e*S **S 04 30 42.1 -2.4**
ULN LR LR
comp=Z,13µm,22.0s
ULN Ulaanbaatar 34.20 286*ce*P **P 04 25 19.1 -0.8**
ULN pmax pmax
comp=Z,16nm,1.0s
ULN MLR MLR
comp=Z,12µm,14.0s
ULN Ulaanbaatar 34.20 286 P **P 04 25 19.9 -0.1**
SNR=24
SONM Songino Array 34.61 287 P **P 04 25 22.9 -0.6**
comp=Z,11nm,0.7s,baz=61,slow=7.1,SNR=38
SONM PcP **PcP 04 27 57.1 -0.2**
comp=Z,12nm,0.7s,baz=96,slow=1.4,SNR=5.0
SONM LR LR 04 41 18.6
comp=Z,14µm,18.3s,baz=64,slow=40
SONM P3KPbc 04 56 19.7
comp=Z,0.9nm,0.8s,baz=228,slow=3.7,SNR=4.4
EPYK Eagle Plains 34.70 39 *e*P **P 04 25 24.0 +0.1**
comp=Z,814nm,1.0s
EPYK LR LR
comp=Z,4µm,19.0s
EPYK Eagle Plains 34.70 39 P **P 04 25 24.6 +0.7**
baz=275
TLY Talaya 34.74 294 *e*P **P 04 25 24.6 +0.1**
comp=Z,572nm,2.0s
TLY LR LR
comp=Z,16µm,19.0s
TLY Talaya 34.74 294*c i*P **P 04 25 24.3 -0.1**
TLY *e* 04 26 46.7
TLY *e*PPP PPP 04 26 56.2
TLY *e* 04 27 58.9
TLY *e*S **S 04 30 54.4 +2.0**
TLY *e*SSS SSS 04 33 35.3
TLY pmax pmax
comp=Z,553nm,1.9s
TLY MLR MLR
comp=Z,34µm,19.0s
TLY Talaya 34.74 294 P **P 04 25 24.5 +0.1**
SNR=91
TLY P **P 04 25 24.5 +0.1**
SNR=91
HHC Hu-ho-hao-te 34.77 273 *e*P **P 04 25 25.0 +0.1**
HHC pP pP 04 25 29.6 -2.0
HHC S **S 04 30 48.8 -4.6**
HHC sS pS 04 30 58.6 -2.4
HHC pmax pmax
comp=Z,28nm,0.7s
HHC pmax pmax
comp=Z,2µm,7.1s
HHC LR LR
comp=Z,23µm,13.7s
HHC LR LR
comp=Z,20µm,12.8s
HHC LR LR
comp=Z,21µm,14.1s
SSE Sheshan 34.87 251 P **P 04 25 27.3 +1.6**
SSE sP **sP 04 25 38.0 +2.6**
SSE S **S 04 30 59.9 +5.1**
SSE pmax pmax
comp=Z,46nm,1.1s
SSE pmax pmax
comp=Z,930nm,6.1s
SSE LR LR
comp=Z,3µm,13.1s
SSE Sheshan 34.87 251 *e*P **P 04 25 25.9 +0.2**
comp=Z,222nm,0.9s
SSE LR LR
comp=Z,5µm,18.0s
HYT Haines Junctio 35.16 49 *e*P **P 04 25 28.5 +0.4**
comp=Z,179nm,0.9s
HYT LR LR
comp=Z,9µm,19.0s
ZAK Zakamensk 35.44 292 *e*P **P 04 25 30.8 +0.3**
ZAK pmax pmax
comp=Z,72nm,1.4s
NJ2 Nanjing 35.62 255 ⇓P **P 04 25 32.6 +0.5**
NJ2 pP **pP 04 25 36.6 -2.4**
NJ2 S **S 04 31 10.8 +4.5**
NJ2 pmax pmax
comp=Z,52nm,1.1s
NJ2 pmax pmax
comp=Z,2µm,7.4s
NJ2 LR LR
comp=Z,21µm,13.0s
NJ2 LR LR
comp=Z,8µm,13.9s
NJ2 LR LR
comp=Z,20µm,13.4s
INK Inuvik 35.77 36 *e*P **P 04 25 33.2 +0.2**
comp=Z,347nm,1.1s
INK LR LR
comp=Z,5µm,20.0s
INK Inuvik 35.77 36 *e*P **P 04 25 33.2 +0.2**
INK pmax pmax
comp=Z,347nm,1.1s
INK MLR MLR
comp=Z,5µm,20.0s
SARN Sarigan 35.81 204 *e*P **P 04 25 34.4 +0.5**
comp=Z,190nm,1.4s
BTO Baotou 35.89 274 *e*P **P 04 25 36.1 +1.6**
TIY Taiyuan 36.01 268 *e*P **P 04 25 37.9 +2.4**
TIY S **S 04 31 20.5 +8.1**
TIY SS **SnSn 04 33 35.8 -2.0**
TIY ScS **ScS 04 35 55.3 +4.4**
TIY pmax pmax
comp=Z,150nm,1.1s
TIY pmax pmax
comp=Z,2µm,8.6s
TIY LR LR
comp=Z,14µm,12.6s
TIY LR LR
comp=Z,4µm,14.2s
TIY LR LR
comp=Z,7µm,12.9s
MOY Mondy 36.27 295 *e*P **P 04 25 37.4 -0.3**
MOY *e* 04 27 06.2
MOY *e* 04 31 18.9
MOY pmax pmax
comp=Z,417nm,2.7s
WHY Whitehorse 36.45 49 *e*P **P 04 25 39.7 +0.6**
comp=Z,214nm,1.1s
WHY LR LR
comp=Z,5µm,22.0s
SKAG Skagway 36.54 51 *e*P **P 04 25 40.3 +0.6**
comp=Z,256nm,0.9s
SKAG LR LR
comp=Z,6µm,19.0s
BESE Bessie Mountai 37.02 52 *e*P **P 04 25 44.3 +0.4**
comp=Z,1µm,2.0s
BESE LR LR
comp=Z,6µm,19.0s
SIT Sitka 37.25 55 *e*P **P 04 25 46.4 +0.7**
comp=Z,231nm,1.0s
SIT LR LR
comp=Z,4µm,19.0s
SIT Sitka 37.25 55 *e*P **P 04 25 46.4 +0.7**
SIT pmax pmax
comp=Z,231nm,1.0s
SIT MLR MLR
comp=Z,4µm,19.0s
JIS Juneau Island 37.35 52 *e*P **P 04 25 47.4 +0.8**
comp=Z,221nm,1.0s
JIS LR LR
comp=Z,6µm,20.0s
NRIK Noril'sk 37.97 327 P **P 04 25 51.2 -0.5**
comp=Z,58nm,1.2s,baz=91,slow=8.7,SNR=34
NRIK LR LR 04 43 42.9
comp=Z,15µm,18.4s,baz=62,slow=40
YOJ Yonaguni jima 38.79 242 PFAKE 04 26 10.0 +11
YOJ LR LR
comp=Z,4µm,21.0s
CRAG Craig 38.95 56 *e*P **P 04 26 01.4 +1.4**
comp=Z,159nm,1.0s
CRAG LR LR
comp=Z,7µm,19.0s
WRAK Wrangell Islan 39.01 55 *e*P **P 04 26 01.5 +1.0**
comp=Z,208nm,0.9s
WRAK *e*PcP **PcP 04 28 10.9 +0.7**
WRAK LR LR
comp=Z,4µm,20.0s
GUMO Guam 39.03 204 LR LR 04 46 02.7
comp=Z,3µm,18.1s,baz=29,slow=42
TATO Taipei 39.25 244 PFAKE 04 26 10.0 +7.1
TATO LR LR
comp=Z,5µm,19.0s
WHN Wuhan 39.44 257 ⇓P **P 04 26 04.5 0.0**
WHN S **S 04 32 00.5 -3.8**
WHN pmax pmax
comp=Z,250nm,1.3s
WHN LR LR
comp=Z,24µm,13.2s
WHN LR LR
comp=Z,27µm,13.4s
WHN LR LR
comp=Z,45µm,13.8s
DLBC Dease Lake 39.47 51 *e*P **P 04 26 05.6 +1.1**
comp=Z,202nm,1.1s
DLBC *e*PcP **PcP 04 28 10.8 -0.9**
DLBC LR LR
comp=Z,7µm,18.0s
YHNB Yeheng 39.55 244 PFAKE 04 26 20.0 +14
YHNB LR LR
comp=Z,5µm,19.0s
NACB Ninganchiao 39.81 243 PFAKE 04 26 20.0 +12
NACB LR LR
comp=Z,4µm,19.0s
SSLB Suanglung 40.48 243 *e*P **P 04 26 14.0 +0.8**
comp=Z,141nm,1.8s
SSLB LR LR
comp=Z,6µm,21.0s
XAN Xi'an 40.52 266 P **P 04 26 14.1 +0.6**
XAN pP pP 04 26 17.4 -3.1
XAN PP **PnPn 04 27 49.3 -1.7**
XAN S **S 04 32 19.5 -1.1**
XAN sS sS 04 32 31.8 +0.1
XAN ScS **ScS 04 36 18.3 +1.4**
XAN pmax pmax
comp=Z,70nm,1.4s
XAN pmax pmax
comp=Z,2µm,8.4s
XAN LR LR
comp=Z,16µm,15.3s
XAN LR LR
comp=Z,8µm,12.9s
XAN LR LR
comp=Z,10µm,13.8s
XAN Xi'an 40.52 266 *e*P **P 04 26 13.9 +0.4**
comp=Z,174nm,1.4s
XAN *e*S **S 04 32 18.6 -2.0**
XAN LR LR
comp=Z,11µm,19.0s
XAN Xi'an 40.52 266 *e*P **P 04 26 13.9 +0.4**
XAN *e*S **S 04 32 18.6 -2.0**
XAN pmax pmax
comp=Z,174nm,1.4s
XAN MLR MLR
comp=Z,11µm,19.0s
YULB Yu-li 40.59 243 *e*P **P 04 26 14.1 0.0**
comp=Z,150nm,1.5s
YULB LR LR
comp=Z,3µm,18.0s
QZH Quanzhou 40.95 247 ⇓*i*P **P 04 26 17.3 +0.3**
QZH S **S 04 32 29.8 +2.9**
QZH pmax pmax
comp=Z,2µm,3.7s
QZH LR LR
comp=Z,7µm,15.6s
QZH LR LR
comp=Z,4µm,14.3s
QZH LR LR
comp=Z,5µm,13.3s
TPUB Ta-pu 41.04 243 *e*P **P 04 26 16.9 -0.9**
comp=Z,110nm,1.2s
TPUB LR LR
comp=Z,4µm,20.0s
TWG Pinlang 41.17 242 *e*P **P 04 26 19.1 +0.3**
comp=Z,462nm,1.1s
TWG LR LR
comp=Z,8µm,20.0s
JOHN Johnston Islan 41.62 133 PFAKE 04 26 30.0 +7.5
JOHN LR LR
comp=Z,12µm,20.0s
KWAJ Kwajalein Atol 42.18 169 PFAKE 04 26 40.0 +13
KWAJ LR LR
comp=Z,12µm,21.0s
LZH Lanzhou 42.47 272 ⇑P **P 04 26 31.0 +1.5**
LZH pP pP 04 26 36.3 -0.1
LZH sP sP 04 26 38.8 -0.3
LZH PP **PP 04 28 09.4 +1.4**
LZH S **S 04 32 50.0 +0.5**
LZH sS pS 04 32 57.6 +0.2
LZH pmax pmax
comp=Z,200nm,1.2s
LZH pmax pmax
comp=Z,3µm,4.9s
LZH LR LR
comp=Z,33µm,15.6s
LZH LR LR
comp=Z,33µm,15.1s
LZH LR LR
comp=Z,38µm,16.2s
ENH Enshi 42.67 261 *e*P **P 04 26 30.7 -0.4**
ENH *e*S **S 04 32 51.4 -1.0**
ENH LR LR
comp=Z,5µm,19.0s
BBB Bella Bella 43.02 59 *e*P **P 04 26 34.3 +0.7**
comp=Z,170nm,1.0s
BBB LR LR
comp=Z,5µm,21.0s
GTA Gaotai 43.02 279 ⇑P **P 04 26 34.8 +0.9**
GTA pP sP 04 26 43.8 +0.2
GTA PP **PP 04 28 14.8 +0.9**
GTA S **S 04 32 57.1 -0.4**
GTA sS pS 04 33 03.8 -1.6
GTA SS **SS 04 36 04.3 -5.5**
GTA pmax pmax
comp=Z,53nm,1.3s
GTA pmax pmax
comp=Z,2µm,7.2s
GTA LR LR
comp=Z,25µm,15.8s
GTA LR LR
comp=Z,18µm,15.8s
GTA LR LR
comp=Z,30µm,12.4s
OPA Opana 43.53 116 *e*P **P 04 26 39.0 +0.9**
comp=Z,998nm,1.8s
OPA LR LR
comp=Z,9µm,21.0s
OPA Opana 43.53 116 *e*P **P 04 26 39.0 +0.9**
OPA pmax pmax
comp=Z,998nm,1.8s
OPA MLR MLR
comp=Z,9µm,21.0s
PATS Pohnpei 43.71 183 PFAKE 04 26 50.0 +10
PATS LR LR
comp=Z,5µm,19.0s
KIP Kipapa 43.74 116 *e*P **P 04 26 40.4 +0.7**
comp=Z,239nm,1.0s
KIP Kipapa 43.74 116 *e*P **P 04 26 40.4 +0.7**
KIP pmax pmax
comp=Z,239nm,1.0s
HON Honolulu 43.83 116 *e*P **P 04 26 40.7 +0.3**
comp=Z,252nm,1.0s
HON Honolulu 43.83 116 *e*P **P 04 26 40.7 +0.3**
HON pmax pmax
comp=Z,252nm,1.0s
ZAA0 Zalesovo Array 44.20 305 *e*P **P 04 26 42.1 -1.0**
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 44.20 305 *i* P **P 04 26 42.0 -1.1**
ZALV pmax pmax
comp=Z,29nm,0.6s
ZALV Zalesovo Beam 44.20 305 P **P 04 26 41.9 -1.2**
comp=Z,30nm,0.6s,baz=57,slow=6.1,SNR=46
ZALV PcP **PcP 04 28 27.7 +0.4**
comp=Z,14nm,0.8s,baz=0.0,slow=3.0,SNR=5.5
ZALV LR LR 04 45 57.0
comp=Z,7µm,19.8s,baz=50,slow=37
ZALV P3KP 04 57 29.7
comp=Z,0.8nm,0.3s,baz=301,slow=4.8,SNR=4.5
NVS Novosibirsk 44.60 307 *e*P **P 04 26 46.0 -0.3**
NVS *e* 04 28 28.5
NVS *e*S **S 04 33 17.2 -2.7**
NVS *e*SS **SS 04 36 35.8 -4.1**
NVS pmax pmax
comp=N,167nm,1.8s
NVS pmax pmax
comp=Z,547nm,1.8s
NVS pmax pmax
comp=E,260nm,1.4s
NVS smax smax
comp=N,187nm,2.1s
NVS smax smax
comp=E,411nm,3.0s
DGZ Jazzator, Alta 44.86 298*c i*P **P 04 26 49.2 +0.6**
DGZ pmax pmax
comp=Z,58nm,0.9s
DGZ MLR MLR
comp=Z,5µm,16.0s
YKW3 Yellowknife Ar 44.89 41 *e*P **P 04 26 48.7 +0.3**
YKA Yellowknife Ar 44.92 41 P **P 04 26 49.0 +0.3**
YKA Yellowknife Ar 44.92 41 P **P 04 26 48.9 +0.3**
comp=Z,116nm,0.8s,baz=295,slow=7.9,SNR=740
YKA PKiKP **PKiKP 04 35 26.0 -2.0**
comp=Z,0.5nm,0.7s,baz=312,slow=1.4,SNR=4.3
YKA LR LR 04 47 18.0
comp=Z,345nm,19.6s,baz=286,slow=38
YKA P3KP 04 57 38.9
comp=Z,0.1nm,0.5s,baz=169,slow=2.8,SNR=2.9
YKB5 Yellowknife Ar 44.92 41 *e*P **P 04 26 48.0 -0.7**
KHLH Kahului Airpor 45.06 115 *e*P **P 04 26 51.1 +0.8**
comp=Z,143nm,0.9s
HLK Haleakala 45.28 115 *e*P **P 04 26 53.3 +1.0**
comp=Z,684nm,1.5s
GZH Guangzhou 45.47 251 P **P 04 26 49.3 -4.2**
GZH PcP **PcP 04 28 31.3 -0.8**
GZH PP **PP 04 28 35.3 -4.8**
GZH S **S 04 33 26.3 -6.9**
GZH LR LR
comp=Z,7µm,17.5s
GZH LR LR
comp=Z,9µm,17.1s
RES Resolute Bay 45.56 21 *e*P **P 04 26 53.4 -0.2**
comp=Z,101nm,1.1s
RES Resolute Bay 45.56 21 *e*P **P 04 26 53.4 -0.2**
RES pmax pmax
comp=Z,101nm,1.1s
HKC Hong Kong Obse 45.57 249 ⇑P **P 04 26 55.0 +0.7**
CD2 Chengdu 45.86 267 ⇓P **P 04 26 57.5 +0.8**
CD2 pP pP 04 27 00.6 -3.1
CD2 PP **PP 04 28 44.6 +0.4**
CD2 S **S 04 33 40.5 +1.7**
CD2 SS **SS 04 36 58.0 -5.4**
CD2 pmax pmax
comp=Z,390nm,0.9s
CD2 pmax pmax
comp=Z,5µm,5.3s
CD2 LR LR
comp=Z,22µm,15.1s
CD2 LR LR
comp=Z,15µm,14.6s
CD2 LR LR
comp=Z,18µm,14.6s
MCO Taipa Grande 46.08 249 P **P 04 26 59.0 +0.7**
HPAH Hawaii Prepara 46.16 115 *e*P **P 04 26 59.7 +0.5**
comp=Z,260nm,0.9s
POHA Pohakuloa 46.47 115 *e*P **P 04 27 02.5 +0.7**
comp=Z,416nm,0.9s
POHA LR LR
comp=Z,6µm,18.0s
MLOA Mauna Loa Obse 46.62 115 *e*P **P 04 27 04.0 +0.8**
comp=Z,214nm,0.9s
HMH Humu'ula Sheep 46.62 115 *e*P **P 04 27 03.7 +0.7**
comp=Z,220nm,0.9s

MWH	**Moku'aweowe**	**46.65**	**115**	*e*P		**P**	**04 27 04.3**	**+0.8**
	comp=Z,370nm,1.2s								
MWH				LR		LR			
	comp=Z,7µm,22.0s								
MLH	**Mauna Loa**	**46.77**	**115**	*e*P		**P**	**04 27 04.8**	**+0.7**
	comp=Z,249nm,0.9s								
MLH				LR		LR			
	comp=Z,7µm,22.0s								
MLH	**Mauna Loa**	**46.77**	**115**	*e*P		**P**	**04 27 04.8**	**+0.7**
MLH				pmax		pmax			
	comp=Z,249nm,0.9s								
MLH				MLR		MLR			
	comp=Z,7µm,22.0s								
AIN	**Ainahou**	**46.82**	**115**	*e*P		**P**	**04 27 05.5**	**+1.1**
	comp=Z,419nm,1.0s								
KHU	**Kahuku**	**46.83**	**116**	*e*P		**P**	**04 27 05.3**	**+0.8**
	comp=Z,344nm,1.0s								
KHU				LR		LR			
	comp=Z,7µm,21.0s								
KHU	**Kahuku**	**46.83**	**116**	*e*P		**P**	**04 27 05.3**	**+0.8**
KHU				pmax		pmax			
	comp=Z,344nm,1.0s								
KHU				MLR		MLR			
	comp=Z,7µm,21.0s								
UWE	**Uwekahuna**	**46.88**	**115**	*e*P		**P**	**04 27 05.5**	**+0.7**
	comp=Z,606nm,1.6s								
UWE				LR		LR			
	comp=Z,6µm,19.0s								
UWB	**Uwekahuna B**	**46.88**	**115**	*e*P		**P**	**04 27 05.6**	**+0.8**
	comp=Z,286nm,1.4s								
OBL	**Observatory Le**	**46.88**	**115**	*e*P		**P**	**04 27 06.0**	**+1.2**
	comp=Z,424nm,1.4s								
OBL				LR		LR			
	comp=Z,6µm,20.0s								
WRMHI	**West Rim**	**46.88**	**115**	*e*P		**P**	**04 27 05.7**	**+0.9**
	comp=Z,579nm,1.7s								
WRMHI				LR		LR			
	comp=Z,6µm,20.0s								
SBLHI	**Steaming Bluff**	**46.89**	**115**	*e*P		**P**	**04 27 05.6**	**+0.8**
	comp=Z,381nm,1.5s								
SBLHI				LR		LR			
	comp=Z,6µm,22.0s								
NPH	**North Pit**	**46.89**	**115**	*e*P		**P**	**04 27 05.4**	**+0.5**
	comp=Z,195nm,1.3s								
NPH				LR		LR			
	comp=Z,6µm,20.0s								
NPH	**North Pit**	**46.89**	**115**	*e*P		**P**	**04 27 05.4**	**+0.5**
NPH				pmax		pmax			
	comp=Z,195nm,1.3s								
NPH				MLR		MLR			
	comp=Z,6µm,20.0s								
HATHI	**Halema'uma'u T**	**46.89**	**115**	*e*P		**P**	**04 27 05.7**	**+0.8**
	comp=Z,711nm,1.7s								
HATHI				LR		LR			
	comp=Z,6µm,22.0s								
SDHHI	**Sand Hill**	**46.90**	**115**	*e*P		**P**	**04 27 05.5**	**+0.5**
	comp=Z,198nm,1.1s								
SDHHI				LR		LR			
	comp=Z,6µm,19.0s								
BYL	**Byron's Ledge**	**46.90**	**115**	*e*P		**P**	**04 27 05.8**	**+0.9**
	comp=Z,567nm,1.7s								
BYL				LR		LR			
	comp=Z,5µm,18.0s								
RIM	**Rim**	**46.91**	**115**	*e*P		**P**	**04 27 05.7**	**+0.7**
	comp=Z,225nm,1.1s								
RIM				LR		LR			
	comp=Z,6µm,19.0s								
KKO	**Keanakako`i**	**46.91**	**115**	*e*P		**P**	**04 27 06.2**	**+1.1**
	comp=Z,267nm,1.3s								
KKO				LR		LR			
	comp=Z,6µm,19.0s								
PUH	**Pauahi**	**46.96**	**115**	*e*P		**P**	**04 27 06.0**	**+0.6**
	comp=Z,168nm,0.9s								
PUH				LR		LR			
	comp=Z,5µm,20.0s								
HLP	**Hilina Pali**	**46.97**	**115**	*e*P		**P**	**04 27 06.3**	**+0.9**
	comp=Z,268nm,1.0s								
HLP				LR		LR			
	comp=Z,8µm,22.0s								
STCH	**Steam Cracks**	**47.00**	**115**	PFAKE			04 27 20.0	+14	
STCH				LR		LR			
	comp=Z,7µm,18.0s								
GYA	**Guiyang**	**47.11**	**260**	⇓*i*P		**P**	**04 27 06.8**	**+0.3**
GYA				PcP		**PcP**	**04 28 40.0**	**+2.0**
GYA				PP		**PP**	**04 29 00.3**	**+2.9**
GYA				ScP		**ScP**	**04 32 33.8**	**+4.3**
GYA				S		**S**	**04 33 59.4**	**+2.5**
GYA				SS		**SS**	**04 37 19.0**	**-4.9**
GYA				pmax		pmax			
	comp=Z,80nm,1.2s								
GYA				pmax		pmax			
	comp=Z,1µm,5.9s								
GYA				LR		LR			
	comp=Z,7µm,14.6s								
GYA				LR		LR			
	comp=Z,9µm,13.9s								
GYA				LR		LR			
	comp=Z,14µm,13.0s								
LLLB	**Lillooet**	**47.19**	**58**	*e*P		**P**	**04 27 07.0**	**+0.2**
	comp=Z,176nm,1.1s								
LLLB				LR		LR			
	comp=Z,5µm,19.0s								
PGC	**Sidney**	**47.38**	**61**	*e*P		**P**	**04 27 08.6**	**+0.4**
	comp=Z,90nm,0.8s								
PGC				*e*PcP		**PcP**	**04 28 38.2**	**-0.2**
ZSN	**Zaisan**	**47.50**	**297***c*	*i*P		**P**	**04 27 09.0**	**-0.2**
ZSN				*e*S		**S**	**04 34 00.0**	**-1.8**
ZSN				pmax		pmax			
	comp=Z,373nm,0.9s								
ZSN				MLR		MLR			
	comp=Z,5µm,15.0s								
ZSN	**Zaisan**	**47.50**	**297**⇑	*i*P		**P**	**04 27 09.1**	**-0.2**
	comp=Z,373nm,0.9s								
ZSN				*e*S		**S**	**04 34 00.1**	**-1.8**
ZSN				*e*LR		LR	04 48 18.2		
	comp=Z,5µm,15.5s								
A04D	**Lummi Island**	**47.75**	**61**	P		**P**	**04 27 11.9**	**+0.8**
	baz=303,SNR=55								
NLWA	**Neilton Lookou**	**47.83**	**63**	*e*P		**P**	**04 27 12.2**	**+0.3**
	comp=Z,275nm,0.9s								
NLWA				LR		LR			
	comp=Z,3µm,19.0s								
WMQ	**Urumqi**	**47.90**	**291**	P		**P**	**04 27 14.3**	**+1.9**
WMQ				pP		pP	04 27 18.4	-1.0	
WMQ				sP		sP	04 27 20.8	-1.4	
WMQ				PP		**PP**	**04 29 05.8**	**+1.6**
WMQ				S		**S**	**04 34 10.4**	**+2.7**
WMQ				ScS		**ScS**	**04 37 05.6**	**+2.3**
WMQ				SS		**SS**	**04 37 33.1**	**-2.9**
WMQ				pmax		pmax			
	comp=Z,450nm,0.9s								
WMQ				pmax		pmax			
	comp=Z,6µm,4.5s								
WMQ				LR		LR			
	comp=Z,67µm,16.9s								
WMQ				LR		LR			
	comp=Z,50µm,12.5s								
WMQ				LR		LR			
	comp=Z,22µm,12.9s								
WMQ	**Urumqi**	**47.90**	**291**	*e*P		**P**	**04 27 12.4**	**0.0**	
	comp=Z,161nm,0.8s								
WMQ				LR		LR			
	comp=Z,17µm,18.0s								
WMQ	**Urumqi**	**47.90**	**291**	*e*P		**P**	**04 27 12.4**	**0.0**	
WMQ				pmax		pmax			
	comp=Z,161nm,0.8s								
WMQ				MLR		MLR			
	comp=Z,17µm,18.0s								
D03D	**Eldon**	**48.19**	**62**	P		**P**	**04 27 15.6**	**+1.1**
	baz=304,SNR=153								
B05A	**Bryant**	**48.34**	**61**	P		**P**	**04 27 16.3**	**+0.6**
	baz=304,SNR=102								
SEM	**Semipalatinsk**	**48.43**	**303**	*e*P		**P**	**04 27 14.0**	**-2.6**
SEM				pmax		pmax			
	comp=Z,801nm,0.6s								
SEM				MLR		MLR			
	comp=Z,7µm,13.0s								
SEM	**Semipalatinsk**	**48.43**	**303**	*e*P		**P**	**04 27 14.1**	**-2.6**
	comp=Z,801nm,0.6s								
SEM				*e*LR		LR	04 49 45.6		
	comp=Z,7µm,12.7s								
B06A	**Marblemount**	**48.54**	**60**	*e*P		**P**	**04 27 17.4**	**+0.2**
	comp=Z,160nm,0.9s								
B06A				LR		LR			
	comp=Z,3µm,18.0s								
D04E	**Lakebay**	**48.57**	**62**	P		**P**	**04 27 18.8**	**+1.3**
	baz=304,SNR=34								
PLP	**Palo**	**48.82**	**229**⇓	*e*P		**P**	**04 27 19.4**	**-0.3**
F03A	**Seaside**	**48.83**	**64**	*e*P		**P**	**04 27 20.0**	**+0.5**
	comp=Z,318nm,1.1s								
D05A	**Enumclaw**	**49.01**	**62**	*e*P		**P**	**04 27 21.4**	**+0.5**
	comp=Z,270nm,0.8s								
E04D	**Cinebar**	**49.04**	**63**	P		**P**	**04 27 22.1**	**+1.0**
	baz=305,SNR=160								
F04D	**Rainier, OR**	**49.06**	**64**	P		**P**	**04 27 21.8**	**+0.6**
	baz=305,SNR=10.0								
KURK	**Kurchatov**	**49.12**	**304**	*e*P		**P**	**04 27 20.7**	**-1.0**
	comp=Z,2µm,1.9s								
KURK				*e*S		**S**	**04 34 21.4**	**-3.2**	
KURK				LR		LR			
	comp=Z,8µm,19.0s								
KURK	**Kurchatov**	**49.12**	**304***c*	*e*P		**P**	**04 27 21.2**	**-0.5**	
KURK				pmax		pmax			
	comp=Z,792nm,1.9s								
KURK				MLR		MLR			
	comp=Z,8µm,14.0s								
KURK	**Kurchatov**	**49.12**	**304**	P		**P**	**04 27 21.5**	**-0.2**	
	SNR=269								
C06D	**Leavenworth**	**49.20**	**61**	P		**P**	**04 27 22.8**	**+0.4**	
	baz=305,SNR=12								
TULEG	**Thule**	**49.30**	**14**	*e*P		**P**	**04 27 22.6**	**0.0**	
	comp=Z,205nm,1.1s								
KBS	**Kingsbay**	**49.30**	**352**	*e*P		**P**	**04 27 23.0**	**+0.3**	
	comp=Z,887nm,1.9s								
KBS				LR		LR			
	comp=Z,5µm,19.0s								
KBS	**Kingsbay**	**49.30**	**352**	*e*P		**P**	**04 27 23.0**	**+0.3**	
KBS				pmax		pmax			
	comp=Z,887nm,1.9s								
KBS				MLR		MLR			
	comp=Z,5µm,19.0s								
KBS	**Kingsbay**	**49.30**	**352**	*e*P		**P**	**04 27 23.5**	**+0.9**	
KBS				*e*S		**S**	**04 34 25.3**	**-1.1**	
KBS				IVMs_BB		IVMs_BB	04 48 44.5		
	comp=Z,2µm,16.0s								
MK31	**Makanchi Array**	**49.32**	**298**	*e*P		**P**	**04 27 23.1**	**-0.2**	
	comp=Z,266nm,1.5s								
MK31	**Makanchi Array**	**49.32**	**298**	*e*P		**P**	**04 27 23.1**	**-0.2**	
MK31				pmax		pmax			
	comp=Z,266nm,1.5s								
MKAR	**Makanchi Array**	**49.32**	**298**	*i* P		**P**	**04 27 23.2**	**-0.1**	
MKAR				pmax		pmax			
	comp=Z,42nm,0.5s								
MKAR	**Makanchi Array**	**49.32**	**298**	P		**P**	**04 27 23.3**	**0.0**	
	comp=Z,42nm,0.5s,baz=57,slow=6.5,SNR=287								
MKAR				S		**S**	**04 34 29.0**	**+1.4**	
	comp=Z,9.2nm,1.1s,baz=57,slow=16,SNR=5.2								
MKAR				LR		LR	04 49 02.2		
	comp=Z,7µm,20.2s,baz=43,slow=37								
MK01	**Makanchi Array**	**49.33**	**298**	*e*P		**P**	**04 27 22.9**	**-0.5**	
G03D	**McMinnville, O**	**49.41**	**65**	P		**P**	**04 27 24.6**	**+0.6**	
	baz=306,SNR=16								
MAKZ	**Makanchi**	**49.49**	**298**	*e*P		**P**	**04 27 24.3**	**-0.3**	
	comp=Z,832nm,2.0s								
MAKZ				LR		LR			
	comp=Z,8µm,22.0s								
MAKZ	**Makanchi**	**49.49**	**298**	*e*P		**P**	**04 27 24.3**	**-0.3**	
MAKZ				pmax		pmax			
	comp=Z,832nm,2.0s								
MAKZ				MLR		MLR			
	comp=Z,8µm,22.0s								
SPA0	**Spitsbergen Ar**	**49.55**	**351**	*e*P		**P**	**04 27 24.3**	**-0.3**	
	comp=Z,460nm,1.2s								
SPA0	**Spitsbergen Ar**	**49.55**	**351**	*e*P		**P**	**04 27 24.8**	**+0.2**	
SPA0				*e*PP		**PP**	**04 29 20.3**	**+1.7**	
SPA0				*e*S		**S**	**04 34 31.6**	**+1.6**	
SPA0				IVMs_BB		IVMs_BB	04 48 54.5		
	comp=Z,2µm,5.3s								
RCP	**Roxas**	**49.57**	**232**⇑	*e*P		**P**	**04 27 26.6**	**+1.1**	
LTY	**Liberty**	**49.70**	**61**	*e*P		**P**	**04 27 26.3**	**0.0**	
	comp=Z,630nm,1.9s								
LTY				LR		LR			
	comp=Z,2µm,19.0s								
I02D	**Swisshome**	**49.72**	**66**	P		**P**	**04 27 27.5**	**+1.2**	
	baz=306,SNR=22								
COR	**Corvallis**	**49.76**	**66**	*e*P		**P**	**04 27 27.1**	**+0.6**	
	comp=Z,229nm,0.9s								
COR				*e*PcP		**PcP**	**04 28 47.5**	**+0.4**	
COR				LR		LR			
	comp=Z,3µm,22.0s								
COR	**Corvallis**	**49.76**	**66**	*e*P		**P**	**04 27 27.1**	**+0.6**	
COR				*e*			04 28 47.5		
COR				pmax		pmax			
	comp=Z,229nm,0.9s								
COR				MLR		MLR			
	comp=Z,3µm,22.0s								
B08A	**Colville Reser**	**49.81**	**59**	*e*P		**P**	**04 27 27.1**	**+0.1**	
	comp=Z,150nm,0.9s								
B08A				LR		LR			
	comp=Z,4µm,19.0s								
HOPEN	**Hopen**	**49.93**	**348**	*e*P		**P**	**04 27 28.0**	**+0.6**	
HOPEN				*e*S		**S**	**04 34 37.3**	**+2.0**	
LLP	**Lapu-Lapu**	**50.05**	**229**⇓	*e*P		**P**	**04 27 28.8**	**-0.2**	
F05D	**White Salmon**	**50.05**	**63**	P		**P**	**04 27 29.3**	**+0.5**	
	baz=306,SNR=26								
H04D	**Lebanon**	**50.12**	**65**	P		**P**	**04 27 30.2**	**+0.8**	
	baz=306,SNR=46								
KEBM	**Edson Butte**	**50.16**	**68**	*e*P		**P**	**04 27 30.5**	**+0.7**	
	comp=Z,236nm,1.0s								
J01E	**Myrtle Point**	**50.23**	**67**	P		**P**	**04 27 31.4**	**+1.2**	
	baz=307,SNR=33								
I03D	**Drain, OR**	**50.25**	**66**	P		**P**	**04 27 31.5**	**+1.2**	
	baz=307,SNR=43								
TARA	**Tarawa**	**50.30**	**163**	PFAKE			04 27 40.0	+9.1	
TARA				LR		LR			
	comp=Z,13µm,19.0s								
H04A	**Detroit Lake**	**50.34**	**65**	*e*P		**P**	**04 27 31.5**	**+0.4**	
	comp=Z,295nm,1.1s								
H04A				LR		LR			
	comp=Z,2µm,18.0s								
G05D	**Wamic, OR**	**50.51**	**64**	P		**P**	**04 27 33.2**	**+0.8**	
	baz=306,SNR=134								
KMI	**Kunming**	**50.53**	**262**	P		**P**	**04 27 33.8**	**+0.9**	
KMI				pP		pP	04 27 37.8	-2.3	
KMI				sP		sP	04 27 39.8	-3.1	
KMI				PP		**PP**	**04 29 31.9**	**+3.2**	
KMI				S		**S**	**04 34 45.6**	**+0.4**	
KMI				sS		pS	04 34 50.8	-2.5	
KMI				pmax		pmax			
	comp=Z,93nm,1.5s								
KMI				pmax		pmax			
	comp=Z,2µm,4.4s								
KMI				LR		LR			
	comp=Z,9µm,15.5s								
KMI				LR		LR			
	comp=Z,8µm,16.6s								
KMI				LR		LR			
	comp=Z,5µm,18.9s								
KMI	**Kunming**	**50.53**	**262**	*e*P		**P**	**04 27 33.3**	**+0.4**	
	comp=Z,492nm,1.4s								
KMI				LR		LR			
	comp=Z,6µm,21.0s								
KMI	**Kunming**	**50.53**	**262**	*e*P		**P**	**04 27 33.3**	**+0.4**	
KMI				pmax		pmax			
	comp=Z,492nm,1.4s								
KMI				MLR		MLR			
	comp=Z,6µm,21.0s								
E07A	**Sunnyside**	**50.57**	**62**	*e*P		**P**	**04 27 33.1**	**+0.3**	
	comp=Z,896nm,1.9s								
QIZ	**Qiongzhong**	**50.66**	**250**	P		**P**	**04 27 35.3**	**+1.6**	
QIZ				PP		**PP**	**04 29 31.8**	**+2.0**	
QIZ				S		**S**	**04 34 51.3**	**+4.5**	
QIZ				pmax		pmax			
	comp=Z,45nm,1.2s								
QIZ				pmax		pmax			
	comp=Z,1µm,7.3s								
QIZ				LR		LR			
	comp=Z,5µm,16.7s								
QIZ				LR		LR			
	comp=Z,2µm,15.7s								
QIZ				LR		LR			
	comp=Z,7µm,14.3s								
QIZ	**Qiongzhong**	**50.66**	**250**	*e*P		**P**	**04 27 33.2**	**-0.5**	
	comp=Z,169nm,1.1s								
QIZ				LR		LR			
	comp=Z,4µm,18.0s								
K02D	**Willamette Mer**	**50.67**	**68**	P		**P**	**04 27 34.6**	**+1.0**	
	baz=307,SNR=35								
HSPB	**Hornsund (broa**	**50.67**	**350**	*e*P		**P**	**04 27 33.2**	**+0.1**	
HSPB				*e*S		**S**	**04 34 45.1**	**-0.5**	
HSPB	**Hornsund (broa**	**50.67**	**350**	*e*P		**P**	**04 27 33.5**	**+0.4**	
HSPB				IVmB_BB			04 27 35.0		
	comp=Z,2µm,2.1s								
HSPB				*e*S		**S**	**04 34 46.5**	**+0.9**	
C09A	**Chrisman Ranch**	**50.72**	**59**	*e*P		**P**	**04 27 33.8**	**0.0**	
	comp=Z,680nm,1.8s								
C09A				LR		LR			
	comp=Z,4µm,18.0s								
I04A	**Tendick Farm,**	**50.74**	**66**	P		**P**	**04 27 34.8**	**+0.6**	
	baz=307,SNR=115								
I04A				S		**S**	**04 34 50.0**	**+2.5**	
	baz=307								
D08A	**Wollman Farm,**	**50.79**	**61**	*e*P		**P**	**04 27 34.2**	**-0.2**	
	comp=Z,553nm,2.0s								
HAWA	**Hanford**	**50.84**	**62**	*e*P		**P**	**04 27 35.0**	**+0.2**	
	comp=Z,200nm,1.0s								
HAWA				*e*PcP		**PcP**	**04 28 51.2**	**+0.1**	
G06A	**Carlson Farm,**	**50.90**	**63**	*e*P		**P**	**04 27 35.5**	**+0.2**	
	comp=Z,523nm,2.0s								
G06A				LR		LR			
	comp=Z,2µm,20.0s								
F07A	**Phinny Hill Vi**	**50.91**	**62**	*e*P		**P**	**04 27 35.8**	**+0.5**	
	comp=Z,286nm,0.8s								
L02E	**Cave Junction**	**51.03**	**68**	P		**P**	**04 27 37.6**	**+1.3**	
	baz=308,SNR=31								
I05D	**Terrebonne, OR**	**51.03**	**65**	P		**P**	**04 27 37.0**	**+0.7**	
	baz=307,SNR=62								
E08A	**Dider Farm, El**	**51.05**	**61**	*e*P		**P**	**04 27 36.4**	**0.0**	
	comp=Z,126nm,1.1s								
NEW	**Newport**	**51.07**	**58**	*e*P		**P**	**04 27 36.4**	**-0.2**	
	comp=Z,600nm,1.9s								
NEW				*e*PcP		**PcP**	**04 28 52.4**	**+0.4**	
NEW	**Newport**	**51.07**	**58**	*e*P		**P**	**04 27 36.4**	**-0.2**	
NEW				*e*			04 28 52.4		
NEW				pmax		pmax			
	comp=Z,600nm,1.9s								
NEW	**Newport**	**51.07**	**58**	P		**P**	**04 27 36.6**	**+0.1**	
	baz=306,SNR=107								
HUMO	**Hull Mountain**	**51.14**	**67**	*e*P		**P**	**04 27 37.8**	**+0.8**	
	comp=Z,135nm,1.0s								
HUMO				*e*PcP		**PcP**	**04 28 53.1**	**+0.8**	
HUMO				LR		LR			
	comp=Z,4µm,22.0s								
KRMB	**Red Mountain**	**51.23**	**69**	*e*P		**P**	**04 27 38.4**	**+0.5**	
J04D	**Umpqua Nationa**	**51.25**	**66**	P		**P**	**04 27 39.3**	**+1.1**	
	baz=307,SNR=152								
E09A	**Wood Farm, Sta**	**51.55**	**61**	*e*P		**P**	**04 27 40.1**	**+0.1**	
	comp=Z,239nm,1.0s								
JCC	**Jacoby Creek,**	**51.59**	**70**	*e*P		**P**	**04 27 41.5**	**+1.1**	
	comp=Z,1µm,2.0s								
JCC				LR		LR			
	comp=Z,3µm,22.0s								
PINE	**Pine Mountain**	**51.59**	**65**	*e*P		**P**	**04 27 41.4**	**+0.7**	
	comp=Z,175nm,0.9s								
PINE				LR		LR			
	comp=Z,3µm,21.0s								
J05D	**Fort Rock, OR**	**51.73**	**66**	P		**P**	**04 27 43.2**	**+1.5**	
	baz=308,SNR=248								
KHMM	**Horse Mountain**	**51.74**	**70**	*e*P		**P**	**04 27 42.3**	**+0.6**	
	comp=Z,604nm,1.6s								
KHMM				LR		LR			
	comp=Z,4µm,19.0s								
L04D	**Klamath Falls**	**51.76**	**67**	P		**P**	**04 27 43.0**	**+1.1**	
	baz=308,SNR=133								
YBH	**Yreka Blue Hor**	**51.81**	**68**	*e*P		**P**	**04 27 43.1**	**+0.8**	
	comp=Z,162nm,0.9s								
YBH				LR		LR			
	comp=Z,3µm,20.0s								
YBH	**Yreka Blue Hor**	**51.81**	**68**	*e*P		**P**	**04 27 43.1**	**+0.8**	
YBH				pmax		pmax			
	comp=Z,162nm,0.9s								
YBH				MLR		MLR			
	comp=Z,3µm,20.0s								
G08A	**Pilot Rock**	**51.82**	**62**	*e*P		**P**	**04 27 42.2**	**0.0**	
	comp=Z,93nm,1.1s								
G08A				LR		LR			
	comp=Z,2µm,21.0s								
K04D	**Chiloquin, OR**	**51.83**	**67**	P		**P**	**04 27 43.6**	**+1.2**	
	baz=308,SNR=6.3								
M02C	**Callahan**	**51.94**	**69**	P		**P**	**04 27 44.8**	**+1.6**	
	baz=308,SNR=39								
BVA0	**Borovoye Array**	**51.99**	**310**	*i* P		**P**	**04 27 43.2**	**-0.1**	
BVA0				pmax		pmax			
	comp=Z,169nm,0.9s								
BRVK	**Borovoye**	**52.02**	**310**	*e*P		**P**	**04 27 43.3**	**-0.2**	
	comp=Z,151nm,0.8s								
BRVK				*e*S		S	04 34 55.3	-9.5	
BRVK				LR		LR			
	comp=Z,15µm,20.0s								
BRVK	**Borovoye**	**52.02**	**310***c*	*i*P		**P**	**04 27 43.0**	**-0.5**	
BRVK				pmax		pmax			
	comp=Z,233nm,1.1s								
BRVK				MLR		MLR			
	comp=Z,13µm,15.0s								
BRVK	**Borovoye**	**52.02**	**310**	P		**P**	**04 27 43.0**	**-0.5**	
	SNR=136								
DAV	**Davao City (W)**	**52.13**	**226**	PFAKE			04 28 00.0	+15	
DAV				LR		LR			
	comp=Z,3µm,18.0s								
DAV	**Davao City (W)**	**52.13**	**226**	⇓*i*P		**P**	**04 27 44.0**	**-0.7**	
DAV	**Davao City (W)**	**52.13**	**226**	P		**P**	**04 27 45.9**	**+1.2**	
	SNR=13								
DAV	**Davao City (W)**	**52.13**	**226**	*e*P		**P**	**04 27 43.6**	**-1.1**	
KMRM	**Mail Ridge**	**52.15**	**70**	*e*P		**P**	**04 27 46.0**	**+1.2**	
	comp=Z,177nm,1.1s								
KMRM				LR		LR			
	comp=Z,3µm,20.0s								
I07A	**Izee**	**52.24**	**64**	*e*P		**P**	**04 27 45.9**	**+0.5**	
	comp=Z,110nm,1.1s								
I07A				LR		LR			
	comp=Z,2µm,18.0s								
K05A	**Summer Lake**	**52.27**	**66**	*e*P		**P**	**04 27 46.2**	**+0.4**	
	comp=Z,1µm,1.9s								
K05A				LR		LR			
	comp=Z,3µm,21.0s								
N02D	**Trinity Center**	**52.28**	**69**	P		**P**	**04 27 47.3**	**+1.6**	
	baz=309,SNR=46								
M04C	**Macdoel**	**52.30**	**68**	P		**P**	**04 27 47.2**	**+1.3**	
	baz=308,SNR=72								
F10A	**Beach Ranch, E**	**52.38**	**61**	*e*P		**P**	**04 27 46.5**	**+0.1**	
	comp=Z,288nm,1.7s								
KCP	**Kidapawan**	**52.40**	**226**	⇓*i*P		**P**	**04 27 47.6**	**+0.8**	
BJO	**Bjornoya**	**52.42**	**348**	*e*P		**P**	**04 27 46.6**	**+0.4**	
BJO				*e*S		**S**	**04 35 10.4**	**+0.8**	
BJO				*e*SS		**SS**	**04 38 50.2**	**+3.4**	
KULLO	**Kullorsuaq**	**52.55**	**12**⇓	*i*P		**P**	**04 27 47.4**	**+0.3**	
	comp=Z,388nm,1.1s								
	comp=Z,6µm,16.0s								
KULLO	**Kullorsuaq**	**52.55**	**12**⇓	*i*P		**P**	**04 27 47.4**	**+0.3**	
KULLO				pmax		pmax			
	comp=Z,390nm,1.1s								
KULLO				MLR		MLR			
	comp=Z,6µm,16.0s								
KCPM	**Cahto Peak**	**52.56**	**71**	*e*P		**P**	**04 27 48.9**	**+1.0**	
	comp=Z,581nm,1.8s								
KCPM				LR		LR			
	comp=Z,4µm,18.0s								
TDK	**Taldyqorghan**	**52.57**	**298***d*	*i*P		**P**	**04 27 46.0**	**-1.7**	
TDK				*i* S		**S**	**04 35 12.5**	**0.0**	
TDK				smax		smax			
	comp=N,6µm,5.2s								
TDK				MLR		MLR			
	comp=Z,10µm,17.0s								
TDK	**Taldyqorghan**	**52.57**

BMO ePcP **PcP** **04 28 59.6 +0.2**
comp=Z,104nm,1.0s
BMO LR LR
BMO eP **P** **04 27 51.5 +0.4**
comp=Z,2μm,20.0s
BMO Blue Mountains 53.02 62
BMO e 04 28 59.6
BMO pmax pmax
comp=Z,104nm,1.0s
BMO MLR MLR
comp=Z,2μm,20.0s
SHLS Shalkode 53.10 295 *d* iP **P** **04 27 48.9 -2.9**
SHLS eS **S** **04 35 16.8 -3.2**
SHLS smax smax
comp=E,3μm,4.3s
SHLS MLR MLR
comp=Z,9μm,16.0s
SHLS Shalkode 53.10 295 ⇓ *i* P **P** **04 27 49.0 -2.9**
comp=Z,1μm,0.7s
SHLS eS **S** **04 35 16.9 -3.2**
comp=Z,3μm,4.2s
SHLS eLR LR 04 52 58.6
comp=Z,9μm,15.9s
MOD Modoc Plateau 53.12 67 eP **P** **04 27 52.3 +0.3**
comp=Z,369nm,1.0s
MOD LR LR
comp=Z,2μm,21.0s
O03E Paynes Creek 53.25 69 P **P** **04 27 53.5 +0.6**
baz=309,SNR=152
J08A Circle Bar Ran 53.28 64 eP **P** **04 27 53.6 +0.5**
comp=Z,131nm,1.1s
HOPS Hopland Field 53.31 71 eP **P** **04 27 54.1 +0.9**
comp=Z,517nm,1.4s
HOPS LR LR
comp=Z,4μm,19.0s
KPKS Kokpek 53.36 296 eP **P** **04 27 51.7 -1.9**
KPKS *i* S **S** **04 35 19.1 -4.3**
KPKS pmax pmax
comp=Z,629nm,1.2s
KPKS smax smax
comp=E,508nm,5.8s
KPKS MLR MLR
comp=Z,7μm,14.0s
KPKS Kokpek 53.36 296 eP **P** **04 27 51.8 -1.9**
comp=Z,629nm,1.2s
KPKS ⇑ *i* S **S** **04 35 19.2 -4.3**
comp=Z,508nm,5.8s
KPKS eLR LR 04 51 36.5
comp=Z,7μm,14.2s
UZB Uzynbulak 53.36 296 *d* iP **P** **04 27 51.3 -2.4**
UZB *i* S **S** **04 35 24.0 +0.4**
UZB pmax pmax
comp=Z,508nm,1.5s
UZB smax smax
comp=N,1μm,6.6s
UZB MLR MLR
comp=Z,4μm,13.0s
UZB Uzynbulak 53.36 296 ⇓ *i* P **P** **04 27 51.3 -2.4**
comp=Z,508nm,1.5s
UZB *i* S **S** **04 35 24.1 +0.4**
comp=Z,1μm,6.6s
UZB eLR LR 04 51 50.4
comp=Z,4μm,13.4s
GDXM Geysers 53.59 71 eP **P** **04 27 56.0 +0.5**
comp=Z,260nm,1.2s
GDXM LR LR
comp=Z,5μm,18.0s
MANU Manus Island 53.65 196 eP **P** **04 27 56.3 +0.5**
comp=Z,210nm,1.3s
MANU LR LR
comp=Z,4μm,18.0s
MSO Missoula 53.66 58 eP **P** **04 27 55.9 +0.1**
comp=Z,684nm,1.8s
MSO Missoula 53.66 58 P **P** **04 27 56.0 +0.1**
baz=308,SNR=75
ZHN Zhinishke 53.68 296 eP **P** **04 27 54.2 -1.9**
ZHN eS **S** **04 35 32.7 +4.8**
ZHN pmax pmax
comp=Z,454nm,1.3s
ZHN MLR MLR
comp=Z,3μm,14.0s
ZHN Zhinishke 53.68 296 eP **P** **04 27 54.2 -1.9**
comp=Z,454nm,1.3s
ZHN eS **S** **04 35 32.8 +4.8**
ZHN eLR LR 04 52 03.2
comp=Z,3μm,14.0s
WVOR Wild Horse Val 53.76 65 eP **P** **04 27 57.3 +0.7**
comp=Z,264nm,0.9s
WVOR LR LR
comp=Z,3μm,22.0s
SATY Saty 53.77 296 eP **P** **04 27 54.7 -2.0**
SATY *i* S **S** **04 35 30.8 +1.7**
SATY pmax pmax
comp=Z,1μm,1.2s
SATY smax smax
comp=N,1μm,5.9s
SATY MLR MLR
comp=Z,7μm,16.0s
SATY Saty 53.77 296 eP **P** **04 27 54.8 -2.0**
comp=Z,1μm,1.2s
SATY *i* S **S** **04 35 30.9 +1.7**
comp=Z,1μm,5.9s
SATY eLR LR 04 52 02.8
comp=Z,7μm,16.1s
OTUK Ortayu 53.89 304 P **P** **04 27 57.2 -0.2**
OTUK pmax pmax
comp=Z,158nm,1.0s
ORV Oroville 53.89 70 eP **P** **04 27 57.2 -0.3**
comp=Z,150nm,0.9s
ORV LR LR
comp=Z,2μm,22.0s
ORV Oroville 53.89 70 eP **P** **04 27 57.2 -0.3**
ORV pmax pmax
comp=Z,150nm,0.9s
ORV MLR MLR
comp=Z,2μm,22.0s
MCCM Marconi Confer 53.97 72 eP **P** **04 27 58.5 +0.5**
comp=Z,520nm,1.8s
MCCM LR LR
comp=Z,4μm,19.0s
SVE Sverdlovsk 54.13 318 *c* iP **P** **04 27 59.3 +0.4**
SVE *e* 04 30 01.9
SVE eS **S** **04 35 34.2 +0.9**
SVE eSS **SS** **04 39 11.7 -2.6**
SVE pmax pmax
comp=Z,388nm,1.6s
SVE pmax pmax
comp=Z,1μm,9.7s
SVE MLR MLR
comp=Z,16μm,15.0s
SVE MLR MLR
comp=N,8μm,15.0s
PRZ Przheval'sk 54.13 295 eP **P** **04 27 59.4 0.0**
comp=N,167nm,1.1s
PRZ LR LR
comp=Z,4μm,19.0s
PRZ Przheval'sk 54.13 295 eP **P** **04 27 59.4 0.0**
PRZ pmax pmax
comp=Z,167nm,1.1s
PRZ MLR MLR
comp=Z,4μm,19.0s
BEKR Beckworth 54.37 69 eP **P** **04 28 01.5 +0.3**
comp=Z,242nm,1.0s
BEKR LR LR
comp=Z,2μm,20.0s
KUU Kurty 54.42 298 eP **P** **04 27 58.3 -3.0**
KUU eS **S** **04 35 38.0 +0.3**
KUU pmax pmax
comp=Z,329nm,1.4s
KUU smax smax
comp=E,706nm,2.2s
KUU MLR MLR
comp=Z,3μm,14.0s
KUU Kurty 54.42 298 eP **P** **04 27 58.4 -3.0**
comp=Z,329nm,1.4s
KUU eS **S** **04 35 38.0 +0.3**
comp=Z,706nm,2.2s
KUU eLR LR 04 52 09.5
comp=Z,3μm,13.8s
MDOK Medeo 54.48 297 *d* iP **P** **04 27 59.9 -2.0**
MDOK eS **S** **04 35 38.8 +0.1**
MDOK pmax pmax
comp=Z,440nm,1.3s
MDOK MLR MLR
comp=Z,8μm,16.0s
MDOK Medeo 54.48 297 ⇓ *i* P **P** **04 27 60.0 -2.0**
comp=Z,440nm,1.3s
MDOK eS **S** **04 35 38.9 +0.1**
comp=Z,8μm,8.4s
MDOK eLR LR 04 52 29.5
comp=Z,8μm,16.2s
AAA Alma-Ata 54.52 297 eP **P** **04 28 01.3 -0.8**
AAA *i* S **S** **04 35 39.9 +0.8**
AAA pmax pmax
comp=Z,301nm,0.9s
AAA smax smax
comp=N,1μm,8.2s
AAA MLR MLR
comp=Z,3μm,17.0s
AAA Alma-Ata 54.52 297 eP **P** **04 28 01.4 -0.7**
comp=Z,301nm,0.9s
AAA *i* S **S** **04 35 40.0 +0.8**
comp=Z,1μm,8.2s
AAA eLR LR 04 51 57.2
comp=Z,3μm,17.4s
AFDM Forest Hills D 54.60 70 eP **P** **04 28 03.2 +0.6**
comp=Z,220nm,1.2s
AFDM LR LR
comp=Z,2μm,20.0s
TNSS Tian-Shan 54.62 297 ⇓ *i* P **P** **04 28 01.9 -1.3**
TNSS pmax pmax
comp=Z,272nm,1.3s
TNSS Tian-Shan 54.62 297 ⇓ *i* P **P** **04 28 02.0 -1.3**
comp=Z,272nm,1.3s
FFC Flin Flon 54.67 45 eP **P** **04 28 03.2 +0.3**
comp=Z,205nm,1.1s
FFC LR LR
comp=Z,8μm,18.0s
FFC Flin Flon 54.67 45 eP **P** **04 28 03.2 +0.3**
FFC pmax pmax
comp=Z,205nm,1.1s
FFC MLR MLR
comp=Z,8μm,18.0s
LSA Lhasa 54.70 275 P **P** **04 28 05.9 +1.9**
LSA pP **pP** **04 28 12.6 +1.6**
LSA S **S** **04 35 41.3 -1.3**
LSA pmax pmax
comp=Z,120nm,1.5s
LSA pmax pmax
comp=Z,2μm,8.6s
LSA LR LR
comp=Z,2μm,17.2s
LSA LR LR
comp=Z,3μm,16.0s
LSA LR LR
comp=Z,11μm,14.8s
LSA Lhasa 54.70 275 eP **P** **04 28 04.2 +0.1**
comp=Z,331nm,1.5s
LSA LR LR
comp=Z,8μm,21.0s
LSA Lhasa 54.70 275 P **P** **04 28 05.7 +1.7**
LSA Lhasa 54.70 275 P **P** **04 28 05.9 +1.9**
LSA pmax pmax
comp=Z,154nm,1.2s
MTBS Maitube 54.85 297 eP **P** **04 28 03.8 -0.7**
MTBS pmax pmax
comp=Z,339nm,0.9s
MTBS Maitube 54.85 297 eP **P** **04 28 03.9 -0.7**
comp=Z,339nm,0.9s
HRY Holter Researc 54.87 57 eP **P** **04 28 05.2 +0.5**
BTLS Baital 54.97 300 eP **P** **04 28 02.9 -2.3**
BTLS eS **S** **04 35 45.2 +0.3**
BTLS pmax pmax
comp=Z,429nm,1.4s
BTLS smax smax
comp=E,675nm,5.6s
BTLS MLR MLR
comp=Z,4μm,14.0s
BTLS Baital 54.97 300 eP **P** **04 28 03.0 -2.3**
comp=Z,429nm,1.4s
BTLS eS **S** **04 35 45.3 +0.3**
comp=Z,676nm,5.6s
BTLS eLR LR 04 52 02.9
comp=Z,4μm,14.1s
LVZ Lovozero 54.98 338 eP **P** **04 28 05.0 0.0**
comp=Z,193nm,1.3s
LVZ LR LR
comp=Z,10μm,20.0s
LVZ Lovozero 54.98 338 *de* P **P** **04 28 05.2 +0.2**
LVZ pmax pmax
comp=Z,75nm,1.0s
LVZ MLR MLR
comp=Z,10μm,20.0s
RUBR Rubicon Trail 55.02 69 eP **P** **04 28 06.1 +0.2**
comp=Z,108nm,0.8s
RUBR LR LR
comp=Z,2μm,20.0s
HAMF Hammerfest 55.03 344 eP **P** **04 28 06.4 +1.1**
HAMF IVmB_BB 04 28 13.6
comp=Z,3μm,3.5s
HAMF eS **S** **04 35 43.9 -1.2**
PAHR Pah Rah Range 55.05 68 eP **P** **04 28 07.0 +0.9**
comp=Z,223nm,0.9s
PAHR LR LR
comp=Z,3μm,20.0s
KDJ Kajisay 55.06 296 eP **P** **04 28 06.9 +0.7**
comp=Z,183nm,0.9s
KDJ LR LR
comp=Z,6μm,21.0s
KDJ Kajisay 55.06 296 P **P** **04 28 07.8 +1.6**
RABL Rabaul 55.08 190 eP **P** **04 28 07.0 +0.8**
comp=Z,1μm,1.7s
RABL LR LR
comp=Z,3μm,21.0s
EGMT Eagleton 55.14 55 eP **P** **04 28 06.7 +0.2**
comp=Z,1μm,1.9s
EGMT LR LR
comp=Z,5μm,22.0s
EGMT Eagleton 55.14 55 P **P** **04 28 06.7 +0.2**
baz=309,SNR=92
KEV Kevo 55.15 342 eP **P** **04 28 05.8 -0.4**
comp=Z,342nm,2.0s
KEV LR LR
comp=Z,8μm,21.0s
KEV Kevo 55.15 342 eP **P** **04 28 05.8 -0.4**
KEV pmax pmax
comp=Z,342nm,2.0s
KEV MLR MLR
comp=Z,8μm,21.0s
KEV Kevo 55.15 342 eP **P** **04 28 05.0 -1.2**
VCNR Virginia City 55.16 69 eP **P** **04 28 07.8 +0.9**
comp=Z,232nm,0.9s
VCNR LR LR
comp=Z,2μm,18.0s
ARU Arti 55.26 319 eP **P** **04 28 06.3 -0.8**
comp=Z,162nm,0.6s
ARU LR LR
comp=Z,3μm,19.0s
ARU Arti 55.26 319 *d* iP **P** **04 28 06.8 -0.4**
ARU 04 29 07.8
ARU 04 30 08.1
ARU PPP PPP 04 31 22.5
ARU eS **S** **04 35 49.9 +1.4**
ARU 04 37 54.3
ARU SS **SS** **04 39 34.0 +1.8**
ARU pmax pmax
comp=Z,189nm,0.8s
ARU MLR MLR
comp=Z,15μm,16.0s
PANO Nakornpanom 55.28 254 P **P** **04 28 09.2 +1.5**
comp=Z,3.6nm,1.3s
DLMT Dillon 55.31 59 eP **P** **04 28 08.1 +0.2**
comp=Z,294nm,1.7s
PNTR Pine Nut 55.32 69 eP **P** **04 28 08.6 +0.4**
comp=Z,276nm,0.7s
FCC Fort Churchill 55.34 38 eP **P** **04 28 07.9 +0.2**
comp=Z,241nm,1.0s
FCC Fort Churchill 55.34 38 eP **P** **04 28 07.9 +0.2**
FCC pmax pmax
comp=Z,241nm,1.0s
HLID Hailey 55.45 62 eP **P** **04 28 09.3 +0.3**
comp=Z,421nm,1.8s
HLID ePcP **PcP** **04 29 10.1 +1.2**
HLID LR LR
comp=Z,2μm,18.0s
HLID Hailey 55.45 62 P **P** **04 28 09.8 +0.9**
baz=310,SNR=193
NONG Nongkai 55.48 256 P **P** **04 28 10.6 +1.4**
comp=Z,2.0nm,1.5s,comp=Z,56nm
MCMT McKenzie Canyo 55.51 60 eP **P** **04 28 09.5 0.0**
BOOM Boomskoye usch 55.53 297 P **P** **04 28 10.4 +0.8**
CMB Columbia Colle 55.54 70 eP **P** **04 28 10.3 +0.8**
comp=Z,505nm,1.6s
CMB LR LR
comp=Z,3μm,20.0s
CMB Columbia Colle 55.54 70 eP **P** **04 28 10.3 +0.8**
CMB pmax pmax
comp=Z,505nm,1.6s
CMB MLR MLR
comp=Z,3μm,20.0s
APA Apatity 55.54 338 ⇓ *i* P **P** **04 28 07.9 -1.1**
APA *i* 04 29 10.0
APA *i* 04 30 12.0
APA *i* PPP PPP 04 31 27.0
APA *i* S **S** **04 35 49.0 -2.9**
APA *i* 04 37 58.0
APA pmax pmax
comp=Z,53nm,1.1s
APA MLR MLR
comp=Z,13μm,16.0s
JAY Jayapura 55.55 204 LR LR 04 50 43.5
comp=Z,2μm,19.7s,baz=11,slow=35
YERR Yerington 55.60 69 eP **P** **04 28 10.5 +0.3**
comp=Z,2μm,2.0s
YERR LR LR
comp=Z,2μm,19.0s
BAKI Biak 55.61 210 P **P** **04 28 11.6 +1.5**
ARCES ARCESS Array B 55.63 342 P **P** **04 28 09.2 -0.4**
comp=Z,55nm,0.9s,baz=44,slow=8.9,SNR=44
ARCES LR LR 04 57 56.4
comp=Z,6μm,18.5s,baz=25,slow=42
ARCES PKPPKP **P'P'df** **04 58 14.7 -4.8**
comp=Z,3.3nm,0.9s,baz=246,slow=3.8,SNR=4.8
ARE0 ARCESS Array S 55.63 342 eP **P** **04 28 09.8 +0.1**
comp=Z,6.9nm,1.1s
ARE0 ARCESS Array S 55.63 342 eP **P** **04 28 09.6 0.0**
ARE0 eS **S** **04 35 54.5 +1.3**
BOZ Bozeman (W) 55.68 58 eP **P** **04 28 10.3 -0.3**
comp=Z,1μm,2.0s
BOZ LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 55.68 58 eP **P** **04 28 10.3 -0.3**
BOZ pmax pmax
comp=Z,1μm,2.0s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 55.68 58 P **P** **04 28 11.3 +0.7**
baz=310,SNR=177
SAO San Andreas Ge 55.73 72 eP **P** **04 28 11.2 +0.5**
comp=Z,337nm,1.7s
SAO LR LR
comp=Z,4μm,22.0s
SAO San Andreas Ge 55.73 72 eP **P** **04 28 11.3 +0.5**
SAO pmax pmax
comp=Z,337nm,1.7s
SAO MLR MLR
comp=Z,4μm,22.0s
SKNT Sakolnakorn 55.80 254 P **P** **04 28 12.5 +1.0**
comp=Z,79nm,1.6s,comp=Z,2μm
WAKR Walker 55.80 69 eP **P** **04 28 12.4 +0.9**
comp=Z,203nm,0.8s
WAKR LR LR
comp=Z,3μm,19.0s
FRU1 Bishkek 56.07 298 eP **P** **04 28 13.4 +0.1**
comp=Z,162nm,0.8s
FRU1 LR LR
comp=Z,10μm,20.0s
FRU1 Bishkek 56.07 298 eP **P** **04 28 13.4 +0.1**
FRU1 pmax pmax
comp=Z,162nm,0.8s
FRU1 MLR MLR
comp=Z,10μm,20.0s
NRN Naryn 56.18 296 eP **P** **04 28 15.1 +0.7**
comp=Z,101nm,1.4s
NRN LR LR
comp=Z,6μm,18.0s
NRN Naryn 56.18 296 P **P** **04 28 15.1 +0.7**
KVN Kaiserville 56.23 68 eP **P** **04 28 15.0 +0.3**
comp=Z,249nm,0.9s
KVN LR LR
comp=Z,3μm,19.0s
AAK Ala-Archa 56.26 298 eP **P** **04 28 14.5 -0.3**
comp=Z,121nm,0.9s
AAK eS **S** **04 36 00.9 -1.6**
AAK LR LR
comp=Z,11μm,18.0s
AAK Ala-Archa 56.26 298 P **P** **04 28 14.9 +0.1**
AAK Ala-Archa 56.26 298 *de* P **P** **04 28 14.8 +0.1**
AAK pmax pmax
comp=Z,142nm,0.9s
AAK MLR MLR
comp=Z,9μm,17.0s
AAK Ala-Archa 56.26 298 P **P** **04 28 14.9 +0.1**
SNR=107
RYN Ryan 56.26 69 eP **P** **04 28 15.2 +0.4**
comp=Z,166nm,0.9s
RYN LR LR
comp=Z,2μm,18.0s
QLMT Earthquake Lak 56.28 59 eP **P** **04 28 15.4 +0.4**
SUMG Summit 56.37 7 eP **P** **04 28 14.8 -0.6**
comp=Z,2μm,2.0s
SUMG LR LR
comp=Z,5μm,20.0s
SUMG Summit 56.37 7 ⇓ *i* P **P** **04 28 16.2 +0.9**
comp=Z,1μm,1.2s
comp=Z,20μm,17.0s
SUMG Summit 56.37 7 eP **P** **04 28 14.8 -0.6**
SUMG pmax pmax
comp=Z,2μm,2.0s
SUMG MLR MLR
comp=Z,5μm,20.0s
YHB Horse Butte 56.46 59 eP **P** **04 28 16.7 +0.4**
comp=Z,262nm,0.9s
KTK1 Kautokeino 56.51 343 eP **P** **04 28 15.8 -0.1**
KTK1 IVmB_BB 04 28 24.6
comp=Z,3μm,2.7s
KTK1 eS **S** **04 36 06.1 +1.3**
KTK1 eSS **SS** **04 39 57.6 +6.3**
KTK1 IVMsBB 05 03 18.1
comp=Z,3μm,12.4s
NV01 Mina Array Sit 56.52 69 eP **P** **04 28 16.8 0.0**
NVAR Mina Array Bea 56.52 69 P **P** **04 28 17.7 +1.0**
comp=Z,110nm,0.7s,baz=294,slow=7.4,SNR=643
NVAR LR LR 04 50 07.0
comp=Z,1μm,19.5s,baz=304,slow=34
NVAR PKPPKP 04 57 56.6
comp=Z,0.4nm,0.6s,baz=198,slow=5.1,SNR=3.6
KDM Kudat 56.54 235 P **P** **04 28 19.5 +2.7**
PRGR Permogore 56.55 329 ⇓ *i* P **P** **04 28 16.5 +0.2**
PRGR *e* 04 29 08.7
PRGR *i* S **S** **04 36 09.0 +3.5**
PRGR pmax pmax
comp=Z,115nm,0.6s
MDPB Devils Postpil 56.58 70 eP **P** **04 28 17.5 +0.2**
comp=Z,312nm,1.5s
MDPB LR LR
comp=Z,3μm,20.0s
NV11 Mina Array Sit 56.61 69 eP **P** **04 28 17.8 +0.5**
comp=Z,57nm,1.9s
GCMT Greycliff 56.61 57 eP **P** **04 28 17.4 +0.3**
YHH Holmes Hill 56.62 58 eP **P** **04 28 17.6 +0.1**
comp=Z,157nm,1.0s
YMR Madison River 56.64 59 eP **P** **04 28 18.1 +0.6**
comp=Z,257nm,1.1s
OMMB Old Mammoth Mi 56.64 70 eP **P** **04 28 17.9 +0.2**
comp=Z,111nm,1.2s
OMMB LR LR
comp=Z,3μm,19.0s
MLAC Mammoth, Mammo 56.73 70 P **P** **04 28 19.8 +1.5**
baz=312,SNR=30
TRO Tromso 56.73 345 eP **P** **04 28 17.7 +0.3**
TRO IVmB_BB 04 28 26.4
comp=Z,3μm,3.2s
TRO eS **S** **04 36 09.4 +1.7**
YNR Norris Junctio 56.76 58 eP **P** **04 28 18.9 +0.5**
comp=Z,825nm,1.9s
ELK Elko 56.80 65 eP **P** **04 28 19.2 +0.5**
comp=Z,72nm,0.8s
ELK LR LR
comp=Z,2μm,19.0s
ELK Elko 56.80 65 eP **P** **04 28 19.2 +0.5**
ELK pmax pmax
comp=Z,72nm,0.8s
ELK MLR MLR
comp=Z,2μm,19.0s
YFT Old Faithful 56.85 59 eP **P** **04 28 20.2 +1.2**
comp=Z,188nm,0.9s
YPP Pitchstone Pla 56.98 59 eP **P** **04 28 20.4 +0.4**
comp=Z,655nm,1.9s
TNTI Ternate 56.99 220 eP **P** **04 28 21.2 +1.2**
comp=Z,787nm,1.9s
TNTI LR LR

comp=Z,1µm,19.0s
KHON Khomkaen 56.99 255 P **P** **04 28 22.1 +2.1**
comp=Z,81nm,0.9s,comp=Z,706nm
TMCR Tamitsa 56.99 334 *e*P **P** **04 28 18.7 -0.7**
TMCR *e*S **S** **04 36 10.8 -0.4**
TMCR pmax pmax
comp=Z,248nm,1.0s
LKWY Lake 57.01 58 *e*P **P** **04 28 21.1 +0.9**
comp=Z,125nm,0.8s
H17A Grant Village 57.03 59 *e*P **P** **04 28 21.9 +1.6**
comp=Z,236nm,0.9s
H17A Grant Village 57.03 59 P **P** **04 28 22.9 +2.6**
baz=311,SNR=91
SHL Shillong 57.10 271 *e*P **P** **04 28 20.8 -0.2**
SHL LR LR
comp=Z,11µm,20.0s
SHL Shillong 57.10 271 *e*P **P** **04 28 20.8 -0.2**
SHL pmax pmax
comp=Z,261nm,0.9s
SHL MLR MLR
comp=Z,11µm,20.0s
SHL Shillong 57.10 271 *i* P **P** **04 28 22.0 +1.0**
SHL *i* S **S** **04 36 17.0 +2.9**
PAGB Antelope Grade 57.13 72 *e*P **P** **04 28 21.3 +0.4**
comp=Z,185nm,1.2s
PAGB LR LR
comp=Z,2µm,20.0s
IMW Indian Meadow 57.16 59 *e*P **P** **04 28 21.6 +0.3**
comp=Z,189nm,1.0s
FLWY Flagg Ranch 57.16 59 *e*P **P** **04 28 22.1 +0.8**
comp=Z,191nm,0.8s
SGF Sodankyl 57.18 341 P **P** **04 28 20.9 +0.2**
SGF pmax pmax
comp=Z,153nm,1.4s
RLMT Red Lodge 57.26 57 *e*P **P** **04 28 22.7 +0.8**
comp=Z,1µm,2.0s
RLMT Red Lodge 57.26 57 P **P** **04 28 23.3 +1.4**
baz=311,SNR=191
VOG Valley Oaks Go 57.27 71 P **P** **04 28 22.4 +0.6**
baz=312,SNR=14
FXWY Fox Creek 57.28 60 *e*P **P** **04 28 22.9 +0.8**
comp=Z,110nm,1.0s
LAMP Lampang 57.32 259 P **P** **04 28 24.3 +2.0**
comp=Z,35nm,1.1s,comp=Z,371nm
UTTA Uttaradit 57.33 258 P **P** **04 28 23.8 +1.4**
comp=Z,22nm,1.0s,comp=Z,203nm
MOOW Moose Ponds 57.36 59 *e*P **P** **04 28 23.2 +0.6**
comp=Z,127nm,1.0s
TPAW Teton Pass 57.41 60 *e*P **P** **04 28 23.4 +0.4**
comp=Z,280nm,1.1s
SDKM Sandakan 57.44 234 P **P** **04 28 24.1 +0.9**
KSH Kashi 57.45 294 P **P** **04 28 27.5 +4.3**
KSH pP pP 04 28 31.1 +0.9
KSH PP **PP** **04 30 38.1 +7.7**
KSH S **S** **04 36 22.5 +4.2**
KSH pmax pmax
comp=Z,920nm,1.5s
KSH pmax pmax
comp=Z,5µm,4.0s
KSH LR LR
comp=Z,8µm,15.4s
KSH LR LR
comp=Z,7µm,12.5s
KSH LR LR
comp=Z,12µm,17.4s
MNI Manado 57.45 223 P **P** **04 28 22.1 -1.2**
MNI pmax pmax
comp=Z,127nm,1.5s
TIN Tinemaha, Big 57.47 70 P **P** **04 28 24.6 +1.2**
baz=312,SNR=35
HVU Hansel Valley 57.52 62 *e*P **P** **04 28 24.6 +0.9**
comp=Z,149nm,1.2s
HVU LR LR
comp=Z,2µm,19.0s
HVU Hansel Valley 57.52 62 *e*P **P** **04 28 24.6 +0.9**
HVU pmax pmax
comp=Z,149nm,1.2s
HVU MLR MLR
comp=Z,2µm,19.0s
LOHW Long Hollow 57.52 59 *e*P **P** **04 28 24.1 +0.3**
comp=Z,754nm,1.8s
CMMT Chiang Mai 57.53 260 P **P** **04 28 25.1 +1.3**
comp=Z,109nm,1.1s,comp=Z,3µm
CHTO Chiang Mai 57.53 260 *e*P **P** **04 28 24.5 +0.7**
comp=Z,433nm,1.7s
CHTO Chiang Mai 57.53 260 *e*P **P** **04 28 24.5 +0.7**
CHTO pmax pmax
comp=Z,433nm,1.7s
SNOW Snow King Moun 57.54 60 *e*P **P** **04 28 24.1 +0.1**
comp=Z,283nm,1.2s
REDW Red Top Meadow 57.55 60 *e*P **P** **04 28 24.3 +0.3**
comp=Z,2µm,1.9s
SMMC Simmler 57.57 72 P **P** **04 28 25.1 +1.1**
baz=312,SNR=26
KKM Kota Kinabalu 57.60 235 *e*P **P** **04 28 24.7 +0.3**
comp=Z,300nm,1.8s
KKM LR LR
comp=Z,2µm,18.0s
KKM Kota Kinabalu 57.60 235 P **P** **04 28 25.7 +1.3**
DGMT Dagmar 57.68 52 *e*P **P** **04 28 25.0 +0.4**
comp=Z,956nm,1.8s
DGMT *e*PcP **PcP** **04 29 17.5 +0.2**
DGMT LR LR
comp=Z,7µm,21.0s
DGMT Dagmar 57.68 52 P **P** **04 28 25.1 +0.5**
baz=312,SNR=44
VES Vestal, Richgr 57.77 71 P **P** **04 28 25.4 +0.2**
baz=312,SNR=55
CM31 Chiang Mai Arr 57.80 260 *e*P **P** **04 28 26.0 +0.3**
CM31 Chiang Mai Arr 57.80 260 P **P** **04 28 27.5 +1.8**
SNR=39
CMAR Chiang Mai Arr 57.80 260 P **P** **04 28 27.1 +1.5**
comp=Z,14nm,0.6s,baz=28,slow=7.1,SNR=71
CMAR LR LR 04 53 47.8
comp=Z,4µm,21.1s,baz=31,slow=37
CMAR PKPPKP
04 58 08.4
comp=Z,0.5nm,0.3s,baz=251,slow=2.8,SNR=6.9
AHID Auburn Hatcher 57.81 60 *e*P **P** **04 28 26.3 +0.6**
comp=Z,245nm,1.1s
AHID LR LR
comp=Z,2µm,21.0s
CM01 Chiang Mai Arr 57.81 260 *e*P **P** **04 28 26.2 +0.4**
LAO LASA Array 57.83 54 *e*P **P** **04 28 26.1 +0.4**
comp=Z,364nm,1.1s
LAO *e*PcP **PcP** **04 29 18.4 +0.5**
LAO LR LR
comp=Z,5µm,20.0s
LAO LASA Array 57.83 54 P **P** **04 28 26.9 +1.2**
baz=312,SNR=177
CHAI Chaiyaphum 57.84 255 P **P** **04 28 27.2 +1.2**
comp=Z,46nm,0.9s,comp=Z,370nm
DZA Taraz 57.86 300 *e*P **P** **04 28 24.7 -1.1**
DZA *e*S **S** **04 36 23.0 -0.3**
DZA pmax pmax
comp=Z,545nm,1.4s
DZA MLR MLR
comp=Z,4µm,17.0s
DZA Taraz 57.86 300 *e*P **P** **04 28 24.8 -1.1**
comp=Z,545nm,1.4s
DZA *e*S **S** **04 36 23.1 -0.3**
DZA *e*LR LR 04 53 40.1
comp=Z,4µm,17.0s
MSF Maaselka 57.91 339 P **P** **04 28 26.2 +0.4**
MSF pmax pmax
comp=Z,295nm,1.5s
BGU Big Grassy Mou 57.94 63 *e*P **P** **04 28 27.1 +0.4**
comp=Z,67nm,1.1s
PBKT Sadao Pong 57.96 257 P **P** **04 28 27.9 +1.1**
comp=Z,51nm,1.2s,comp=Z,2µm
PKM Mcpherson Peak 57.96 73 P **P** **04 28 27.8 +0.9**
baz=313,SNR=22
CWC Cottonwood Cre 57.97 70 P **P** **04 28 27.7 +0.8**
baz=312
SPUT South Promonto 58.02 63 *e*P **P** **04 28 28.1 +0.9**
comp=Z,192nm,1.1s
SPUT LR LR
comp=Z,2µm,18.0s
GRAC Grapevine Rang 58.02 69 P **P** **04 28 28.4 +1.2**
baz=312,SNR=48
SUKH Sukhothai 58.10 258 P **P** **04 28 30.4 +2.6**
comp=Z,15nm,0.7s
KK31 Karatay Array 58.17 300 *e*P **P** **04 28 28.1 0.0**
comp=Z,98nm,1.0s
KK31 Karatay Array 58.17 300 *i* P **P** **04 28 28.1 0.0**
KK31 pmax pmax
comp=Z,107nm,1.2s
KKAR Karatay Array 58.17 300 *e*P **P** **04 28 28.1 0.0**
comp=Z,98nm,1.0s
R11A Troy Canyon, C 58.17 67 *e*P **P** **04 28 28.8 +0.4**
comp=Z,109nm,0.8s
R11A Troy Canyon, C 58.17 67 P **P** **04 28 29.1 +0.7**
baz=312,SNR=234
ILULI Ilulissat 58.23 13 *e*P **P** **04 28 27.8 -0.2**
comp=Z,135nm,0.9s
ILULI LR LR
comp=Z,5µm,19.0s
ILULI Ilulissat 58.23 13 ⇓ *i*P **P** **04 28 27.8 -0.2**
comp=Z,192nm,1.1s
comp=Z,7µm,20.0s
ILULI Ilulissat 58.23 13 *e*P **P** **04 28 27.8 -0.2**
ILULI pmax pmax
comp=Z,135nm,0.9s
ILULI MLR MLR
comp=Z,5µm,19.0s
TSM Tawau 58.24 232 P **P** **04 28 29.8 +1.1**
ISA Isabella, Lake 58.25 71 *e*P **P** **04 28 28.7 -0.1**
comp=Z,348nm,1.9s
ISA LR LR
comp=Z,3µm,22.0s
ISA Isabella, Lake 58.25 71 *e*P **P** **04 28 28.7 -0.1**
ISA pmax pmax
comp=Z,348nm,1.9s
ISA MLR MLR
comp=Z,3µm,22.0s
ISA Isabella, Lake 58.25 71 P **P** **04 28 28.7 -0.1**
baz=312,SNR=35
SBC Santa Barbara 58.33 73 P **P** **04 28 30.3 +1.1**
baz=313,SNR=7.2
DAC Darwin (Calif) 58.37 70 *e*P **P** **04 28 31.3 +1.5**
comp=Z,414nm,1.9s
DAC LR LR
comp=Z,2µm,21.0s
DAC Darwin (Calif) 58.37 70 *e*P **P** **04 28 31.3 +1.5**
DAC pmax pmax
comp=Z,414nm,1.9s
DAC MLR MLR
comp=Z,2µm,21.0s
JMIC Jan Mayen 58.39 356 *e*P **P** **04 28 30.4 +1.3**
ARVC Arvin 58.40 72 P **P** **04 28 29.8 +0.1**
baz=313,SNR=16
KNTN Kanton 58.40 147 PFAKE 04 28 40.0 +10
KNTN LR LR
comp=Z,10µm,22.0s
FAKI Fak Fak 58.52 213 *e*P **P** **04 28 30.5 -0.2**
comp=Z,288nm,1.2s
FAKI LR LR
comp=Z,3µm,18.0s
FAKI Fak Fak 58.52 213 P **P** **04 28 30.8 +0.1**
DUG Dugway, Tooele 58.55 64 *e*P **P** **04 28 31.4 +0.5**
comp=Z,210nm,0.9s
DUG Dugway, Tooele 58.55 64 *e*P **P** **04 28 31.4 +0.5**
DUG pmax pmax
comp=Z,210nm,0.9s
DUG Dugway, Tooele 58.55 64 P **P** **04 28 32.1 +1.2**
baz=312,SNR=207
MPMC Manual Prospec 58.58 70 P **P** **04 28 31.9 +0.7**
baz=313,SNR=102
BW06 Boulder Array 58.66 60 *e*P **P** **04 28 32.4 +0.6**
comp=Z,224nm,1.0s
BW06 Boulder Array 58.66 60 P **P** **04 28 32.6 +0.9**
baz=312,SNR=316
PD31 Pinedale Array 58.66 60 *e*P **P** **04 28 31.6 -0.1**
comp=Z,207nm,1.0s
PDAR Pinedale Array 58.66 60 *e*P **P** **04 28 31.9 +0.1**
PDAR P'P' 04 57 49.0
PDAR Pinedale Array 58.66 60 P **P** **04 28 32.4 +0.7**
comp=Z,110nm,0.7s,baz=302,slow=2.5,SNR=736
PDAR PKPPKP 04 57 49.0
comp=Z,2.0nm,1.0s,baz=56,slow=2.4,SNR=7.8
SCZ2 Santa Cruz Isl 58.67 73 P **P** **04 28 32.2 +0.5**
baz=313,SNR=6.1
FURC Furnace Creek, 58.68 69 P **P** **04 28 32.8 +1.1**
baz=313,SNR=173
TPNV Topopah Spring 58.72 69 *e*P **P** **04 28 32.8 +0.6**
comp=Z,225nm,1.1s
TPNV LR LR
comp=Z,3µm,20.0s
TPNV Topopah Spring 58.72 69 *e*P **P** **04 28 32.8 +0.6**
TPNV pmax pmax
comp=Z,225nm,1.1s
TPNV MLR MLR
comp=Z,3µm,20.0s
TPNV Topopah Spring 58.72 69 P **P** **04 28 33.0 +0.8**
baz=312,SNR=175
TCUT Toone Canyon 58.73 62 *e*P **P** **04 28 32.8 +0.5**
comp=Z,203nm,1.1s
OSI Osito Audit: C 58.81 72 *e*P **P** **04 28 33.2 +0.5**
comp=Z,171nm,0.8s
OSI LR LR
comp=Z,3µm,20.0s
OSI Osito Audit: C 58.81 72 P **P** **04 28 33.4 +0.8**
baz=313,SNR=28
CTU Camp Tracy 58.82 63 *e*P **P** **04 28 33.3 +0.5**
comp=Z,122nm,1.0s
CTU LR LR
comp=Z,2µm,20.0s
LRMC Laurel Mtn Rad 58.85 71 P **P** **04 28 33.5 +0.4**
baz=313,SNR=25
STEI Steigen 58.86 345 *e*P **P** **04 28 31.8 -0.6**
STEI *e*S **S** **04 36 38.8 +3.2**
STEI *e*SS **SS** **04 40 31.1 +2.9**
LOFF Lofoten 58.94 346 *e*P **P** **04 28 32.7 -0.3**
LOF *e*S **S** **04 36 37.7 +1.1**
LOF IVMs_BB IVMs_BB 05 04 43.6
comp=Z,4µm,12.4s
BLG Laguna Peak, P 58.94 73 P **P** **04 28 33.9 +0.3**
baz=313,SNR=8.1
JLU Jordanelle 59.05 63 *e*P **P** **04 28 34.8 +0.3**
comp=Z,196nm,1.3s
PSUT Pine Spring 59.06 66 *e*P **P** **04 28 35.0 +0.4**
comp=Z,495nm,1.9s
PSUT LR LR
comp=Z,3µm,20.0s
IUG luzhnay 59.07 300 *e*P **P** **04 28 32.6 -1.8**
IUG *e*S **S** **04 36 41.1 +1.8**
IUG pmax pmax
comp=Z,2µm,1.3s
IUG MLR MLR
comp=Z,3µm,16.0s
IUG luzhnay 59.07 300 *e*P **P** **04 28 32.6 -1.8**
comp=Z,2µm,1.3s
IUG *e*S **S** **04 36 41.1 +1.8**
IUG *e*LR LR 04 54 30.3
comp=Z,3µm,16.4s
EDW2 Edwards Air Fo 59.07 72 P **P** **04 28 35.1 +0.6**
baz=313,SNR=79
KLMR Klimovskoe 59.11 331 *e*P **P** **04 28 32.6 -1.6**
KLMR *e* 04 30 42.8
KLMR pmax pmax
comp=Z,348nm,1.4s
KLMR Klimovskoe 59.11 331 *e*P **P** **04 28 32.6 -1.6**
KLMR AMP 04 28 41.2
comp=Z,348nm,1.4s
KLMR *e*PP **PP** **04 30 42.8 -1.6**
NLU North Lily Min 59.13 63 *e*P **P** **04 28 35.2 +0.2**
comp=Z,131nm,0.9s
NLU LR LR
comp=Z,2µm,20.0s
SCO Scoresbysund 59.15 1 *e*P **P** **04 28 34.6 +0.2**
comp=Z,128nm,1.3s
SCO LR LR
comp=Z,3µm,20.0s
SCO Scoresbysund 59.15 1 ⇓ *i*P **P** **04 28 35.6 +1.2**
SCO Scoresbysund 59.15 1 *e*P **P** **04 28 34.6 +0.2**
SCO pmax pmax
comp=Z,128nm,1.3s
SCO MLR MLR
comp=Z,3µm,20.0s
CHM Chimkent 59.19 300 *e*P **P** **04 28 33.7 -1.4**
CHM *i* S **S** **04 36 41.2 +0.6**
CHM pmax pmax
comp=Z,1µm,1.3s
CHM smax smax
comp=N,4µm,5.2s
CHM MLR MLR
comp=Z,2µm,17.0s
CHM Chimkent 59.19 300 *e*P **P** **04 28 33.7 -1.4**
comp=Z,1µm,1.3s
CHM *i* S **S** **04 36 41.2 +0.6**
comp=Z,4µm,5.2s
CHM *e*LR LR 04 54 56.8
comp=Z,2µm,16.9s
JIRN Jiri 59.24 277 *e*P **P** **04 28 37.1 +0.9**
comp=Z,1µm,1.4s
SNCC San Nicolas Is 59.25 74 *e*P **P** **04 28 36.1 +0.4**
comp=Z,179nm,1.1s
SNCC San Nicolas Is 59.25 74 P **P** **04 28 35.7 +0.1**
baz=313
GUN Gumba 59.27 278 *e*P **P** **04 28 37.1 +0.8**
DECC Green Verdugo 59.29 72 P **P** **04 28 36.5 +0.6**
baz=313,SNR=21
OUL Oulu 59.32 339 P **P** **04 28 35.6 0.0**
OUL pmax pmax
comp=Z,135nm,1.4s
MPU Maple Canyon 59.34 63 *e*P **P** **04 28 36.4 0.0**
comp=Z,181nm,1.1s
SHOC Shoshone, Teco 59.41 70 P **P** **04 28 37.5 +0.7**
baz=313,SNR=57
PASC Pasadena Art C 59.44 72 *e*P **P** **04 28 37.3 +0.4**
comp=Z,803nm,2.0s
PASC LR LR
comp=Z,3µm,21.0s
AB31 Akbulak array 59.45 312 *i* P **P** **04 28 36.6 -0.2**
AB31 pmax pmax
comp=Z,86nm,0.8s
ABKAR Akbulak array 59.45 312 *e*P **P** **04 28 36.5 -0.3**
comp=Z,332nm,1.4s
PAS Pasadena 59.46 72 P **P** **04 28 37.3 +0.2**
MWC Mount Wilson 59.48 72 *e*P **P** **04 28 37.5 0.0**
comp=Z,675nm,1.6s
MWC LR LR
comp=Z,3µm,20.0s
MWC Mount Wilson 59.48 72 *e*P **P** **04 28 37.5 0.0**
MWC pmax pmax
comp=Z,675nm,1.6s
MWC MLR MLR
comp=Z,3µm,20.0s
RAMN Ramite 59.48 276 *e*P **P** **04 28 38.5 +0.8**
GSC Goldstone, Bar 59.50 70 *e*P **P** **04 28 37.6 +0.1**
comp=Z,674nm,2.0s
GSC LR LR
comp=Z,2µm,19.0s
GSC Goldstone, Bar 59.50 70 *e*P **P** **04 28 37.6 +0.1**
GSC pmax pmax
comp=Z,674nm,2.0s
GSC MLR MLR
comp=Z,2µm,19.0s
GSC Goldstone, Bar 59.50 70 P **P** **04 28 38.1 +0.6**
baz=313,SNR=83
UMPA Umpang Tak 59.54 258 P **P** **04 28 41.0 +3.1**
comp=Z,36nm,0.8s,comp=Z,722nm
AKTO Aktyubinsk 59.55 314 P **P** **04 28 36.8 -0.7**
AKTO pmax pmax
comp=Z,100nm,1.1s
MRSI Marisa 59.61 226 P **P** **04 28 38.4 +0.1**
SHPR Sheep Range 59.66 68 *e*P **P** **04 28 39.0 +0.3**
comp=Z,371nm,1.8s
SHPR LR LR
comp=Z,3µm,22.0s
UTHA Uthaitani 59.67 257 P **P** **04 28 40.8 +2.1**
comp=Z,20nm,1.1s,comp=Z,212nm
RRX Edison Barstow 59.67 71 P **P** **04 28 39.1 +0.5**
baz=313
FMP Fort Macarthur 59.68 73 P **P** **04 28 39.0 +0.4**
baz=313
BFSC Mount Baldy Ra 59.71 72 P **P** **04 28 39.4 +0.4**
baz=313,SNR=41
FRB Frobisher Bay 59.71 23 P **P** **04 28 37.6 -0.7**
KKN Kakani 59.73 278 *e*P **P** **04 28 40.5 +1.2**
PKI Pulchoki 59.80 278 *e*P **P** **04 28 40.8 +0.9**
comp=Z,839nm,1.3s
PKIN Phulchoki 59.80 278 *e*P **P** **04 28 40.8 +0.9**
comp=Z,283nm,0.7s
JOF Joensuu 59.81 336 P **P** **04 28 39.1 0.0**
JOF pmax pmax
comp=Z,144nm,1.5s
CIS Catalina Islan 59.82 73 P **P** **04 28 40.0 +0.3**
baz=314,SNR=13
TCRU Three Creeks R 59.82 65 *e*P **P** **04 28 40.3 +0.5**
comp=Z,240nm,1.4s
TCRU LR LR
comp=Z,3µm,19.0s
HNR Honiara 59.84 180 PFAKE 04 28 50.0 +10
HNR LR LR
comp=Z,4µm,19.0s
TUQ Turquoise Moun 59.94 70 P **P** **04 28 41.2 +0.6**
baz=313,SNR=138
DMN Daman 59.96 278 *e*P **P** **04 28 42.2 +1.2**
comp=Z,1µm,1.4s
CCUT Cedar City 60.01 66 *e*P **P** **04 28 41.9 +0.8**
comp=Z,121nm,0.9s
CCUT LR LR
comp=Z,2µm,20.0s
SCI2 San Clemente I 60.03 74 P **P** **04 28 41.6 +0.5**
baz=314,SNR=5.8
TAS Tashkent 60.03 300 P **P** **04 28 41.2 +0.2**
TAS pmax pmax
comp=Z,155nm,1.3s
BTK Batken 60.04 298 *e*P **P** **04 28 41.0 -0.1**
comp=Z,370nm,1.0s
BTK LR LR
comp=Z,13µm,20.0s
BTK Batken 60.04 298 *e*P **P** **04 28 41.0 -0.1**
BTK pmax pmax
comp=Z,370nm,1.0s
BTK MLR MLR
comp=Z,13µm,20.0s
MSU Marysvale 60.05 65 *e*P **P** **04 28 41.9 +0.5**
MSU Marysvale 60.05 65 *e*P **P** **04 28 41.9 +0.5**
TMUT Trail Mountain 60.07 64 *e*P **P** **04 28 41.6 0.0**
comp=Z,113nm,0.8s
TMUT LR LR
comp=Z,2µm,21.0s
HEC Hector,Ludlow 60.10 71 P **P** **04 28 42.2 +0.6**
baz=313,SNR=35
SANI Sanana 60.11 220 P **P** **04 28 41.2 -0.5**
BBRC Big Bear Solar 60.14 71 P **P** **04 28 42.7 +0.6**
baz=314,SNR=7.3
SZCU Shurtz Canyon 60.14 66 *e*P **P** **04 28 42.7 +0.7**
comp=Z,168nm,1.2s
SZCU LR LR
comp=Z,2µm,19.0s
P17A Butcher Ranch, 60.22 63 *e*P **P** **04 28 42.9 +0.4**
comp=Z,762nm,1.8s
P17A LR LR
comp=Z,2µm,18.0s
DANN Dangsing 60.29 279 *e*P **P** **04 28 44.3 +1.0**
comp=Z,359nm,0.8s
Q16A Castle Valley 60.35 64 *e*P **P** **04 28 43.6 +0.3**
comp=Z,620nm,1.8s
Q16A LR LR
comp=Z,2µm,20.0s
MTPU Mount Pierson 60.36 65 *e*P **P** **04 28 44.4 +0.7**
comp=Z,150nm,1.1s
MTPU LR LR
comp=Z,3µm,21.0s
SFJD Kangerlussuaq 60.36 13 *e*P **P** **04 28 42.7 -0.1**
comp=Z,143nm,1.0s
SFJD LR LR
comp=Z,5µm,18.0s
SFJD Kangerlussuaq 60.36 13 ⇓ *i*P **P** **04 28 42.6 -0.1**
comp=Z,118nm,0.9s
comp=Z,5µm,18.0s
SFJD Kangerlussuaq 60.36 13 ⇓ *i*P **P** **04 28 42.6 -0.1**
SFJD pmax pmax
comp=Z,120nm,0.9s
SFJD MLR MLR
comp=Z,5µm,18.0s
SFJD Kangerlussuaq 60.36 13 *e*P **P** **04 28 42.0 -0.8**
MDND Maddock 60.37 50 *e*P **P** **04 28 43.8 +0.7**
comp=Z,762nm,1.0s
MDND LR LR
comp=Z,5µm,18.0s
MDND Maddock 60.37 50 P **P** **04 28 44.2 +1.0**
baz=314,SNR=25
K22A Casper 60.39 58 *e*P **P** **04 28 43.8 +0.2**
comp=Z,281nm,1.4s
K22A LR LR
comp=Z,2µm,21.0s
K22A Casper 60.39 58 P **P** **04 28 44.2 +0.6**
baz=313,SNR=59
MURC Murrieta 60.43 72 P **P** **04 28 44.2 +0.4**
baz=314,SNR=69
ULM Lac du Bonnet 60.44 46 *e*P **P** **04 28 44.0 +0.4**
comp=Z,1µm,1.9s
ULM Lac du Bonnet 60.44 46 *e*P **P** **04 28 44.0 +0.4**
ULM pmax pmax
comp=Z,1µm,1.9s
ULM Lac du Bonnet 60.44 46 P **P** **04 28 43.9 +0.4**
comp=Z,106nm,0.9s,baz=313,slow=7.1,SNR=175

ULM LR LR 04 56 24.0
comp=Z,3µm,18.0s,baz=332,slow=38
LCMT Little Creek M 60.45 67 *eP* **P 04 28 44.5 +0.5**
comp=Z,202nm,0.9s
LCMT LR LR
comp=Z,3µm,20.0s
KONS Konsvik 60.51 346 *eP* **P 04 28 44.2 +0.5**
KONS *eS* **S 04 36 58.7 +1.8**
GMRC Granite Mounta 60.54 70 P **P 04 28 45.3 +0.6**
baz=314,SNR=74
LUWI Luwuk 60.58 224 *eP* **P 04 28 43.5 -1.4**
comp=Z,294nm,1.4s
SRU San Rafael Swe 60.58 63 *eP* **P 04 28 45.3 +0.3**
comp=Z,225nm,0.8s
SRU LR LR
comp=Z,2µm,18.0s
SRU San Rafael Swe 60.58 63 *eP* **P 04 28 45.3 +0.3**
SRU pmax pmax
comp=Z,225nm,0.8s
SRU MLR MLR
comp=Z,2µm,18.0s
MOR8 Moi Rana 60.60 345 *eP* **P 04 28 43.0 -1.5**
MOR8 IVmB_BB 04 28 52.4
comp=Z,3µm,2.3s
MOR8 *eS* **S 04 36 58.2 +0.2**
MOR8 IVMsBB 04 59 28.0
comp=Z,3µm,22.7s
LDFC Landfair 60.67 70 *eP* **P 04 28 45.5 -0.1**
comp=Z,251nm,0.9s
LDFC LR LR
comp=Z,2µm,19.0s
RWWY Rawlins 60.67 59 *eP* **P 04 28 46.1 +0.4**
comp=Z,972nm,2.0s
STOK Stokkvaagen 60.68 345 *eP* **P 04 28 45.1 +0.2**
KNB Kanab 60.69 66 *eP* **P 04 28 46.1 +0.4**
comp=Z,301nm,1.1s
KNB LR LR
comp=Z,3µm,22.0s
KNB Kanab 60.69 66 *eP* **P 04 28 46.2 +0.4**
KNB pmax pmax
comp=Z,301nm,1.1s
KNB MLR MLR
comp=Z,3µm,22.0s
PKCU Pink Cliffs 60.70 66 *eP* **P 04 28 46.7 +0.8**
comp=Z,160nm,1.1s
PKCU LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 60.70 55 *eP* **P 04 28 46.0 +0.2**
comp=Z,284nm,1.0s
RSSD LR LR
comp=Z,4µm,20.0s
RSSD Black Hills 60.70 55 *eP* **P 04 28 46.0 +0.2**
RSSD pmax pmax
comp=Z,284nm,1.0s
RSSD MLR MLR
comp=Z,4µm,20.0s
RSSD Black Hills 60.70 55 P **P 04 28 46.4 +0.6**
baz=314
SRDT SRDT 60.79 256 P **P 04 28 48.2 +1.8**
comp=Z,46nm,1.8s,comp=Z,4µm
KOLN Koldanda 60.80 279 *eP* **P 04 28 47.5 +0.9**
comp=Z,246nm,0.8s
PATY Pattaya 60.82 254 P P 04 28 51.8 +5.2
comp=Z,22nm,0.9s
BNDI Bandanaira 60.84 215 P **P 04 28 46.7 0.0**
PFO Pinyon Flats O 60.86 72 *eP* **P 04 28 46.9 0.0**
comp=Z,315nm,1.8s
PFO Pinyon Flats O 60.86 72 *eP* **P 04 28 46.9 0.0**
PFO pmax pmax
comp=Z,315nm,1.8s
PFO Pinyon Flats O 60.86 72 P **P 04 28 47.1 +0.2**
baz=314,SNR=33
PFO Pinyon Flats O 60.86 72 LR LR 04 49 39.7
comp=Z,3µm,21.4s,baz=294,slow=31
XPFO Pion Flat 60.87 72 *eP* **P 04 28 46.9 0.0**
comp=Z,338nm,1.8s
XPFO LR LR
comp=Z,4µm,21.0s
BELC Belle Mtn. Jos 60.87 71 P **P 04 28 46.9 0.0**
baz=314,SNR=57
PMG Port Moresby 60.89 195 *eP* **P 04 28 47.5 +0.6**
comp=Z,118nm,1.0s
PMG Port Moresby 60.89 195 *deP* **P 04 28 46.8 -0.1**
PMG pmax pmax
comp=Z,388nm,1.0s
PMG Port Moresby 60.89 195 LR LR 04 53 33.5
comp=Z,2µm,18.8s,baz=4,5,slow=34
PYUN Piuthan 60.95 280 *eP* **P 04 28 48.4 +0.7**
comp=Z,1µm,1.2s
109C Camp Elliot, M 60.97 73 P **P 04 28 47.8 +0.3**
baz=314,SNR=20
APSI Ampana 60.97 225 P **P 04 28 47.4 -0.2**
CPE Camp Elliot 60.97 73 *eP* **P 04 28 47.9 +0.5**
comp=Z,467nm,1.8s
GAR Garm 61.04 297 *eP* **P 04 28 47.9 -0.1**
comp=Z,596nm,1.0s
GAR Garm 61.04 297 *eP* **P 04 28 47.9 -0.1**
GAR pmax pmax
comp=Z,596nm,1.0s
O20A White River Ci 61.17 61 *eP* **P 04 28 49.5 +0.6**
comp=Z,185nm,1.1s
O20A White River Ci 61.17 61 P **P 04 28 49.4 +0.5**
baz=314,SNR=54
NEE2 Needles Airpor 61.17 69 P **P 04 28 49.3 +0.5**
baz=314,SNR=15
IRM Iron Mountain 61.28 70 P **P 04 28 50.1 +0.5**
baz=314,SNR=89
SUF Sumiainen 61.28 338 P **P 04 28 49.2 +0.1**
SUF pmax pmax
comp=Z,141nm,0.8s
BAR Barrett 61.38 73 *eP* **P 04 28 50.4 +0.2**
comp=Z,321nm,1.8s
W13A Hualapai Mount 61.38 69 *eP* **P 04 28 50.8 +0.3**
comp=Z,108nm,1.1s
W13A LR LR
comp=Z,2µm,20.0s
MONP2 Monument Peak 61.38 72 P **P 04 28 50.7 +0.2**
baz=314,SNR=32
U15A North Rim 61.40 67 *eP* **P 04 28 51.0 +0.3**
comp=Z,484nm,1.8s
U15A LR LR
comp=Z,3µm,21.0s
BC3 Big Chuckawall 61.44 71 P **P 04 28 51.0 +0.3**
baz=314,SNR=68
BTM Bintulu 61.65 236 P **P 04 28 53.9 +1.7**
SWSC Sam W. Stewart 61.72 72 P **P 04 28 52.7 +0.2**
baz=314,SNR=19
IKP In-Ko-Pah, Jac 61.74 72 P **P 04 28 53.1 +0.3**
baz=314,SNR=28
PDMCI Parker Dam,Lak 61.78 70 P **P 04 28 53.4 +0.5**
baz=314,SNR=38
VAF Ylistaro 61.80 340 P **P 04 28 52.8 +0.2**
VAF pmax pmax
comp=Z,92nm,1.1s
AGMN Agassiz Nation 61.83 47 *eP* **P 04 28 53.1 0.0**
comp=Z,292nm,1.1s
AGMN LR LR
comp=Z,3µm,20.0s
AGMN Agassiz Nation 61.83 47 P **P 04 28 53.3 +0.2**
baz=316,SNR=120
PHWY Pilot Hill 61.89 58 *eP* **P 04 28 54.3 +0.4**
comp=Z,250nm,1.7s
N23A Red Feather La 61.91 59 *eP* **P 04 28 55.0 +0.9**
comp=Z,986nm,1.9s
N23A Red Feather La 61.91 59 P **P 04 28 55.1 +1.1**
baz=314,SNR=114
Y12C Blythe 61.93 70 *eP* **P 04 28 54.4 +0.5**
comp=Z,737nm,1.9s
Y12C LR LR
comp=Z,3µm,20.0s
Y12C Blythe 61.93 70 P **P 04 28 54.6 +0.7**
baz=314,SNR=79
CHGR Chuyangaron 61.93 297 *eP* **P 04 28 54.2 +0.1**
comp=Z,434nm,0.9s
BOK Bokaro 62.18 274 *eP* **P 04 28 56.7 +1.0**
BOK IAmb IAmb 04 28 58.0
comp=Z,72nm,1.5s
DHRM DHARAMSHALA 62.19 288 *eP* **P 04 28 55.8 -0.1**
DHRM IAmb IAmb 04 28 57.1
comp=Z,276nm,1.5s
GLA Glamis 62.23 71 *eP* **P 04 28 56.6 +0.6**
comp=Z,818nm,1.9s
GLA LR LR
comp=Z,3µm,21.0s
GLA Glamis 62.23 71 P **P 04 28 56.6 +0.6**
GLA Glamis 62.23 71 P **P 04 28 56.7 +0.6**
baz=314,SNR=37

FIA1 FINESS Array S 62.39 337 *eP* **P 04 28 56.0 -0.6**
FINES FINESS Array B 62.39 337 P **P 04 28 56.4 -0.2**
comp=Z,32nm,0.6s,baz=38,slow=6.7,SNR=98
FINES PKPPKP P'P'df 04 57 47.7 -21
comp=Z,3.7nm,0.8s,baz=116,slow=3.2,SNR=5.6
FINES LR LR 04 59 43.8
comp=Z,14µm,19.6s,baz=24,slow=40
SMLA Simla 62.44 286 *eP* **P 04 28 57.3 -0.1**
SMLA IAmb IAmb 04 28 58.0
comp=Z,281nm,1.1s
DDI Dehra Dun 62.46 285 *eP* **P 04 28 57.8 +0.2**
DDI IAmb IAmb 04 28 58.5
comp=Z,196nm,1.1s
NSS Namsos 62.52 345 *eP* **P 04 28 56.9 -0.5**
NSS IVmB_BB 04 28 59.3
comp=Z,2µm,3.1s
NSS *eS* **S 04 37 24.9 +2.6**
NSS IVMs_BB IVMs_BB 05 03 47.3
comp=Z,3µm,13.9s
SMCO Snowmass 62.53 61 *eP* **P 04 28 59.0 +0.6**
comp=Z,131nm,1.0s
WUAZ Wupatki 62.57 67 *eP* **P 04 28 59.4 +1.0**
comp=Z,310nm,1.4s
WUAZ LR LR
comp=Z,3µm,20.0s
WUAZ Wupatki 62.57 67 P **P 04 28 59.4 +1.0**
baz=314,SNR=115
BHK Bhakra 62.70 287 *eP* **P 04 28 59.5 +0.4**
PUL Pulkovo 62.70 334 *eP* **P 04 28 56.9 -1.8**
PUL IAmb IAmb 04 29 04.4
comp=Z,142nm,0.7s
Y14A Wickenburg 62.71 69 *eP* **P 04 28 59.6 +0.4**
comp=Z,118nm,1.1s
SBUM Sibu 62.73 237 *eP* **P 04 29 00.1 +0.7**
comp=Z,180nm,1.6s
SBUM LR LR
comp=Z,2µm,20.0s
ISCO Idaho Springs 62.85 60 *eP* **P 04 29 00.8 +0.4**
comp=Z,1µm,1.8s
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 62.85 60 *eP* **P 04 29 00.8 +0.4**
ISCO pmax pmax
comp=Z,1µm,1.8s
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 62.85 60 P **P 04 29 01.7 +1.3**
baz=315,SNR=221
NIL Nilore 63.04 291 *eP* **P 04 29 01.9 +0.5**
comp=Z,1µm,1.4s
NIL LR LR
comp=Z,10µm,20.0s
NIL Nilore 63.04 291 *eP* **P 04 29 01.9 +0.5**
NIL pmax pmax
comp=Z,1µm,1.4s
NIL MLR MLR
comp=Z,10µm,20.0s
MVCO Mesa Verde 63.05 64 *eP* **P 04 29 02.0 +0.3**
comp=Z,908nm,1.9s
MVCO LR LR
comp=Z,2µm,18.0s
MVCO Mesa Verde 63.05 64 P **P 04 29 02.3 +0.7**
baz=315,SNR=99
113A Mohawk Valley, 63.07 71 *eP* **P 04 29 01.9 +0.4**
comp=Z,368nm,1.9s
SUSD Miller 63.08 52 P **P 04 29 01.4 -0.1**
baz=316,SNR=22
ANGG Ammassalik, Gr 63.24 8 *eP* **P 04 29 01.7 -0.4**
comp=Z,697nm,1.8s
X16A Lo Mia Camp, P 63.30 68 *eP* **P 04 29 04.2 +1.0**
comp=Z,112nm,1.0s
X16A LR LR
comp=Z,2µm,21.0s
SAUI Saumlaki 63.56 212 *eP* **P 04 29 05.5 +0.6**
comp=Z,1µm,1.2s
SAUI Saumlaki 63.56 212 P **P 04 29 05.2 +0.3**
S22A 4UR Ranch, Cre 63.62 62 *eP* **P 04 29 06.2 +0.7**
comp=Z,993nm,1.9s
S22A LR LR
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 63.62 62 P **P 04 29 07.0 +1.5**
baz=315,SNR=236
Q24A Divide 63.70 60 *eP* **P 04 29 06.9 +0.8**
comp=Z,86nm,1.1s
Q24A Divide 63.70 60 P **P 04 29 06.8 +0.8**
baz=315,SNR=14
MOS Moscow 63.76 328 *eP* **P 04 29 04.2 -1.5**
MOS *e* 04 29 21.8
MOS *e* 04 29 40.1
MOS *e* 04 31 24.7
MOS *eS* **S 04 37 37.6 -0.5**
MOS pmax pmax
comp=Z,430nm,1.6s
MOS pmax pmax
comp=N,219nm,1.5s
MOS pmax pmax
comp=E,125nm,1.2s
MOS smax smax
comp=N,3µm,5.2s
W18A Petrified Fore 63.80 66 *eP* **P 04 29 07.4 +0.8**
comp=N,153nm,1.2s
W18A LR LR
comp=Z,3µm,20.0s
W18A Petrified Fore 63.80 66 P **P 04 29 07.6 +1.0**
baz=315,SNR=21
OGNE Ogallala 63.98 57 *eP* **P 04 29 08.0 +0.4**
comp=Z,919nm,1.3s
OGNE LR LR
comp=Z,3µm,18.0s
OGNE Ogallala 63.98 57 P **P 04 29 08.4 +0.9**
baz=316,SNR=30
TBLU Trondheim 63.99 345 *eP* **P 04 29 07.0 -0.1**
TBLU *eS* **S 04 37 42.4 +1.6**
TBLU IVMs_BB IVMs_BB 05 04 34.6
comp=Z,3µm,14.4s
X18A Snowflake 64.09 67 *eP* **P 04 29 09.3 +0.8**
comp=Z,165nm,1.1s
X18A LR LR
comp=Z,3µm,20.0s
EYMN Ely 64.10 45 *eP* **P 04 29 08.1 0.0**
comp=Z,1µm,1.9s
EYMN LR LR
comp=Z,4µm,19.0s
EYMN Ely 64.10 45 P **P 04 29 08.2 +0.1**
baz=318,SNR=98
NDI New Delhi 64.13 284 *eP* **P 04 29 08.0 -0.6**
214A Organ Pipe Nat 64.21 71 P **P 04 29 09.8 +0.6**
baz=315,SNR=84
SDCO Great Sand Dun 64.36 61 *eP* **P 04 29 11.0 +0.6**
comp=Z,624nm,1.9s
SDCO LR LR
comp=Z,2µm,20.0s
SDCO Great Sand Dun 64.36 61 P **P 04 29 11.4 +1.0**
baz=316,SNR=146
SPSI Sidrap Palu 64.53 226 P **P 04 29 11.1 -0.1**
KSM Kuching 64.58 238 *eP* **P 04 29 12.5 +0.9**
comp=Z,246nm,1.5s
KSM LR LR
comp=Z,900nm,20.0s
KSM Kuching 64.58 238 P **P 04 29 13.2 +1.6**
OBN Obninsk 64.62 328 *eP* **P 04 29 11.2 -0.1**
comp=Z,356nm,1.3s
OBN LR LR
comp=Z,7µm,18.0s
OBN Obninsk 64.62 328 *dP* **P 04 29 10.7 -0.6**
OBN *i* S **S 04 37 45.0 -3.7**
OBN *i* SS **SS 04 41 55.0 -3.6**
OBN pmax pmax
comp=Z,145nm,0.9s
OBN MLR MLR
comp=Z,9µm,16.0s
BNSI Bone 64.76 225 P **P 04 29 13.3 +0.5**
ECSD EROS Data Cent 64.76 51 *eP* **P 04 29 12.1 -0.4**
comp=Z,209nm,1.1s
ECSD LR LR
comp=Z,7µm,19.0s
ECSD EROS Data Cent 64.76 51 P **P 04 29 12.5 0.0**
baz=317,SNR=142
BWNR Bhubaneshwar 64.76 272 *ex* **P 04 29 09.8 -3.0**
VSU Vasula 64.79 335 *deP* **P 04 29 12.5 +0.1**
VSU pmax pmax
comp=Z,355nm,1.8s
VSU MLR MLR
comp=Z,22µm,17.0s
VSU Vasula 64.79 335 *eP* **P 04 29 11.0 -1.4**
VSU IAmb IAmb 04 29 18.1
comp=Z,245nm,0.8s

KBL Kabul 64.89 294 *eP* **P 04 29 12.9 -0.9**
comp=Z,346nm,1.4s
KBL LR LR
comp=Z,9µm,19.0s
KBL Kabul 64.89 294 *eP* **P 04 29 12.9 -0.9**
KBL pmax pmax
comp=Z,346nm,1.4s
KBL MLR MLR
comp=Z,9µm,19.0s
BORG Borgarnes 64.92 1 *eP* **P 04 29 14.0 +0.8**
comp=Z,960nm,2.0s
BORG Borgarnes 64.92 1 *eP* **P 04 29 14.0 +0.8**
BORG pmax pmax
comp=Z,960nm,2.0s
KSCO Kaye Shedlock' 65.04 59 *eP* **P 04 29 15.2 +0.5**
comp=Z,1µm,1.8s
KSCO Kaye Shedlock' 65.04 59 P **P 04 29 15.1 +0.5**
baz=316,SNR=33
MOL Molde 65.05 346 *eP* **P 04 29 13.1 -0.9**
MOL IVMs_BB IVMs_BB 05 05 25.3
comp=Z,2µm,13.4s
E38A The Farm, Brul 65.07 46 *eP* **P 04 29 14.2 -0.3**
comp=Z,290nm,0.9s
E38A The Farm, Brul 65.07 46 P **P 04 29 14.3 -0.1**
baz=318,SNR=154
C40A Isle Royale Na 65.17 44 *eP* **P 04 29 14.7 -0.4**
comp=Z,98nm,0.9s
C40A LR LR
comp=Z,5µm,18.0s
C40A Isle Royale Na 65.17 44 P **P 04 29 14.6 -0.5**
baz=319,SNR=27
TUC Tucson 65.17 69 *eP* **P 04 29 16.0 +0.5**
comp=Z,97nm,1.1s
TUC LR LR
comp=Z,2µm,21.0s
TUC Tucson 65.17 69 *eP* **P 04 29 16.0 +0.5**
TUC pmax pmax
comp=Z,97nm,1.1s
TUC MLR MLR
comp=Z,2µm,21.0s
TUC Tucson 65.17 69 P **P 04 29 16.0 +0.5**
baz=316
F37A Hinrichs Farm, 65.22 47 P **P 04 29 15.5 0.0**
baz=318,SNR=69
DOMB Dombas 65.32 346 *eP* **P 04 29 15.7 -0.2**
DOMB IVmB_BB 04 29 17.6
comp=Z,1µm,2.7s
DOMB *eS* **S 04 37 58.8 +1.5**
DOMB IVMs_BB IVMs_BB 05 06 33.8
comp=Z,3µm,12.7s
F38A Pierce - Schro 65.40 47 P **P 04 29 17.1 +0.5**
baz=318,SNR=312
T25A Trinidad 65.40 61 *eP* **P 04 29 17.6 +0.5**
comp=Z,941nm,1.8s
T25A Trinidad 65.40 61 P **P 04 29 17.8 +0.7**
baz=316,SNR=133
KTGM Kuala Trenggan 65.46 247 P **P 04 29 19.8 +2.5**
SKLT Songkhla 65.47 250 P **P 04 29 19.2 +1.7**
comp=Z,96nm,1.7s,comp=Z,2µm
TRTT Trang 65.51 251 P **P 04 29 19.0 +1.3**
comp=Z,17nm,1.4s
AKN Aaknes 65.51 347 *eP* **P 04 29 17.6 +0.5**
AKN IVmB_BB 04 29 27.8
comp=Z,3µm,2.6s
AKN *eS* **S 04 38 02.0 +2.4**
AKN IVMs_BB IVMs_BB 05 05 54.3
comp=Z,3µm,14.1s
DGPR DIGLIPUR 65.55 261 *eP* **P 04 29 18.4 +0.4**
DGPR IAmb IAmb 04 29 20.4
comp=Z,111nm,1.8s
BGNE Belgrade 65.68 54 *eP* **P 04 29 18.6 +0.1**
comp=Z,480nm,1.0s
BGNE LR LR
comp=Z,5µm,20.0s
BGNE Belgrade 65.68 54 P **P 04 29 18.4 -0.1**
baz=317,SNR=19
E39A Mellen 65.69 46 P **P 04 29 18.3 -0.3**
baz=319,SNR=126
LAZ Ladron 65.81 65 *eP* **P 04 29 20.8 +1.1**
TASM ASL Pad, Albuq 65.82 64 P **P 04 29 20.7 +0.9**
baz=316,SNR=83
TASM ASL Pad, Albuq 65.82 64 P **P 04 29 20.6 +0.9**
baz=316,SNR=80
ANMO Albuquerque 65.82 64 *eP* **P 04 29 19.9 +0.1**
comp=Z,88nm,1.0s
ANMO Albuquerque 65.82 64 *eP* **P 04 29 19.9 +0.1**
ANMO pmax pmax
comp=Z,88nm,1.0s
ANMO Albuquerque 65.82 64 P **P 04 29 20.6 +0.8**
baz=316
ANMO Albuquerque 65.82 64 LR LR 04 56 50.8
comp=Z,929nm,18.4s,baz=320,slow=35
LPSR Galich'ya Gora 65.82 325 *eP* **P 04 29 18.4 -0.8**
LPSR *eS* **S 04 38 01.7 -1.9**
LPSR pmax pmax
comp=Z,190nm,0.8s
LPSR smax smax
comp=N,3µm,6.3s
LPSR MLR MLR
comp=Z,13µm,14.0s
F39A Loretta 65.88 46 P **P 04 29 19.9 +0.2**
baz=319,SNR=118
NB201 NORSAR Array S 65.88 344 *eP* **P 04 29 19.3 -0.2**
NB201 *eS* **S 04 38 05.0 +0.9**
VRH Novokhopyorsk 65.89 323 *eP* **P 04 29 18.6 -1.1**
VRH *eS* **S 04 38 02.7 -1.8**
VRH pmax pmax
comp=Z,160nm,0.8s
VRH smax smax
comp=N,3µm,5.6s
VRH MLR MLR
comp=Z,16µm,14.0s
NB2 NORSAR Subarra 65.91 344 P **P 04 29 19.2 -0.5**
comp=Z,726nm,3.3s,baz=23,slow=6.9
NB2 NORSAR Subarra 65.91 344 P **P 04 29 19.2 -0.5**
baz=23,slow=6.9
NOA NORSAR Array B 65.91 344 P **P 04 29 19.1 -0.5**
comp=Z,18nm,1.0s,baz=20,slow=6.6,SNR=63
NOA PKPPKP 04 57 46.0
comp=Z,6.0nm,1.1s,baz=164,slow=3.0,SNR=5.3
NOA LR LR 05 01 15.8
comp=Z,3µm,21.6s,baz=25,slow=39
E40A Wakefield 65.94 45 P **P 04 29 20.6 +0.5**
baz=319,SNR=176
G38A Ridgeland 66.00 47 P **P 04 29 20.3 -0.2**
baz=319,SNR=234
COEN Coen 66.06 198 *eP* **P 04 29 21.2 +0.1**
comp=Z,106nm,0.9s
COEN LR LR
comp=Z,3µm,18.0s
D41A Chassel 66.07 44 *eP* **P 04 29 21.0 +0.1**
comp=Z,2µm,1.7s
D41A Chassel 66.07 44 P **P 04 29 21.0 +0.1**
baz=320,SNR=79
LENM Lemitar 66.08 65 *eP* **P 04 29 21.8 +0.4**
NC602 NORSAR Array S 66.13 344 *eP* **P 04 29 22.5 +1.4**
NAO01 NORSAR Array S 66.14 344 *eP* **P 04 29 20.7 -0.5**
NAO01 IVmB_BB 04 29 23.0
comp=Z,2µm,2.6s
NAO01 *ePP* **PP 04 31 46.4 +0.1**
NAO01 *eS* **S 04 38 08.6 +1.2**
NAO01 IVMs_BB IVMs_BB 05 05 31.1
comp=Z,3µm,12.9s
H38A Maiden Rock 66.17 48 P **P 04 29 21.8 +0.2**
baz=319,SNR=100
LPM Los Pinos Moun 66.17 65 *eP* **P 04 29 22.6 +0.5**
Y22D IRIS PASSCAL I 66.18 65 P **P 04 29 23.5 +1.5**
baz=316
IVI Ivigtut 66.18 15 *eP* **P 04 29 21.6 +0.3**
comp=Z,132nm,0.8s
IVI LR LR
comp=Z,5µm,19.0s
G39A Holcombe 66.23 47 P **P 04 29 21.7 -0.3**
baz=319,SNR=103
F40A Park Falls 66.24 46 P **P 04 29 21.9 -0.2**
baz=319,SNR=78
PKDT Phuket 66.28 253 P **P 04 29 24.6 +1.9**
comp=Z,22nm,1.3s,comp=Z,3µm
BNM Barren Site 66.29 65 *eP* **P 04 29 23.7 +0.9**
E41A Kenton 66.35 45 P **P 04 29 22.7 0.0**
baz=320,SNR=86
JBP Jabalpur 66.36 278 *eP* **P 04 29 23.3 +0.2**
JBP IAmb IAmb 04 29 25.5
comp=Z,2µm,1.8s
JBP *ex* x 04 31 57.0
JBP AMS AMS 05 02 01.8
comp=Z,10µm,16.5s

VORR Voronezh 66.47 324 ⇑ *i*P P 04 29 21.0 -2.4
VORR pmax pmax
comp=Z,350nm,2.0s
COWI Conover 66.55 45 *e*P P 04 29 23.7 -0.4
comp=Z,566nm,1.6s
HYA Hoyanger 66.59 347 *e*P P 04 29 24.9 +0.9
HYA *e*S S 04 38 15.9 +3.2
HYA IVMsBB 05 07 35.2
comp=Z,3µm,15.0s
H39A Augusta 66.64 47 P P 04 29 24.5 -0.1
baz=319,SNR=73
NRS Narsarsuaq 66.64 13 *e*P P 04 29 24.0 -0.3
comp=Z,253nm,1.4s
NRS Narsarsuaq 66.64 13 *i* P P 04 29 24.1 -0.3
comp=Z,202nm,1.3s
comp=Z,8µm,20.0s
NRS Narsarsuaq 66.64 13 *e*P P 04 29 24.0 -0.3
NRS pmax pmax
comp=Z,253nm,1.4s
SLIT Slitere, Latvi 66.67 337 *e*P P 04 29 23.3 -1.3
SLIT IAmb IAmb 04 29 37.0
comp=Z,1µm,1.1s
G40A Rib Lake 66.69 46 *e*P P 04 29 24.7 -0.3
comp=Z,980nm,2.0s
G40A LR LR
comp=Z,3µm,20.0s
G40A Rib Lake 66.69 46 P P 04 29 24.7 -0.3
baz=319,SNR=69
SKAR Skarslia 66.73 345 *e*P P 04 29 24.8 -0.2
SKAR *e*S S 04 38 16.3 +1.8
SKAR IVMs_BB IVMs_BB 05 03 06.8
comp=Z,2µm,16.6s
319A Douglas 66.73 69 *e*P P 04 29 26.2 +0.7
comp=Z,239nm,1.0s
319A LR LR
comp=Z,2µm,21.0s
CBKS Cedar Bluff 66.74 57 *e*P P 04 29 25.2 -0.3
comp=Z,258nm,1.0s
CBKS LR LR
comp=Z,3µm,18.0s
CBKS Cedar Bluff 66.74 57 *e*P P 04 29 25.2 -0.3
CBKS pmax pmax
comp=Z,258nm,1.0s
CBKS MLR MLR
comp=Z,3µm,18.0s
CBKS Cedar Bluff 66.74 57 P P 04 29 25.1 -0.3
baz=317,SNR=23
121A Cookes Peak, D 66.78 67 P P 04 29 27.1 +1.1
baz=316,SNR=53
PBA Port Blair 66.83 260 *e*P P 04 29 26.6 +0.4
comp=Z,275nm,1.2s
PBA Port Blair 66.83 260 *e*P P 04 29 26.2 +0.1
F41A Three Lakes 66.84 45 *e*P P 04 29 25.7 -0.2
comp=Z,1µm,1.9s
F41A LR LR
comp=Z,4µm,19.0s
F41A Three Lakes 66.84 45 P P 04 29 25.9 0.0
baz=320,SNR=119
E42A Champion 66.84 44 P P 04 29 25.9 0.0
baz=320,SNR=84
VSR Storozhevoye 66.85 324 *e*P P 04 29 25.0 -0.8
VSR *e*S S 04 38 13.1 -3.0
VSR pmax pmax
comp=Z,170nm,0.8s
VSR smax smax
comp=N,5µm,9.8s
VSR MLR MLR
comp=Z,19µm,17.0s
SUE Sulen 66.90 347 *e*P P 04 29 26.5 +0.6
SUE *e*S S 04 38 19.2 +2.9
SUE IVMs_BB IVMs_BB 05 07 47.5
comp=Z,2µm,4.2s
KULM Kulim 66.95 249 *e*P P 04 29 27.1 +0.2
comp=Z,286nm,1.8s
KULM LR LR
comp=Z,3µm,18.0s
OSL Oslo 67.03 344 *e*P P 04 29 27.6 +0.9
OSL IVmB_BB 04 29 29.0
comp=Z,2µm,2.3s
H40A Chili 67.10 47 P P 04 29 27.5 0.0
baz=320,SNR=103
I39A Houston 67.14 48 *e*P P 04 29 27.4 -0.5
comp=Z,299nm,0.9s
I39A LR LR
comp=Z,4µm,18.0s
I39A Houston 67.14 48 P P 04 29 27.4 -0.5
baz=319,SNR=61
G41A Antigo 67.21 46 P P 04 29 28.1 -0.1
baz=320,SNR=37
F42A Maple Grove Fa 67.26 45 P P 04 29 28.5 0.0
baz=320,SNR=27
E43A Lone Tree Farm 67.29 44 *e*P P 04 29 28.4 -0.3
comp=Z,1µm,1.9s
E43A LR LR
comp=Z,5µm,18.0s
E43A Lone Tree Farm 67.29 44 P P 04 29 28.4 -0.3
baz=321,SNR=42
IPM Ipoh 67.38 248 *e*P P 04 29 29.8 +0.1
comp=Z,72nm,1.0s
IPM LR LR
comp=Z,3µm,18.0s
ASK Askoy 67.39 347 *e*P P 04 29 29.4 +0.3
ASK IVmB_BB 04 29 31.8
comp=Z,2µm,4.1s
ASK *e*S S 04 38 24.7 +2.4
ASK *e*SS SS 04 42 43.3 +1.9
HSIG 67.43 71 *e*P P 04 29 30.2 +0.3
comp=Z,157nm,1.3s
H41A Junction City 67.44 47 *e*P P 04 29 29.4 -0.3
comp=Z,1µm,1.9s
H41A LR LR
comp=Z,3µm,20.0s
H41A Junction City 67.44 47 P P 04 29 29.6 -0.2
baz=320,SNR=76
J39A Decorah 67.45 49 P P 04 29 29.2 -0.6
baz=319,SNR=118
ISAL Salakas 67.47 334 *e*P P 04 29 29.2 -0.5
ISAL IAmb IAmb 04 29 40.3
comp=Z,29nm,0.9s
BER Bergen 67.47 347 P P 04 29 30.8 +1.2
BER pmax pmax
comp=Z,35nm,1.3s
BER Bergen 67.47 347 *e*P P 04 29 30.1 +0.5
BER IVmB_BB 04 29 31.6
comp=Z,2µm,2.1s
BER *e*S S 04 38 26.4 +3.2
BER *e*SS SS 04 42 44.9 +2.3
BER IVMs_BB IVMs_BB 05 07 54.2
comp=Z,5µm,12.6s
KONO Kongsberg 67.49 344 *e*P P 04 29 29.4 -0.3
comp=Z,139nm,1.5s
KONO LR LR
comp=Z,4µm,22.0s
KONO Kongsberg 67.49 344 *e*P P 04 29 29.4 -0.3
KONO pmax pmax
comp=Z,139nm,1.5s
KONO MLR MLR
comp=Z,4µm,22.0s
KONO Kongsberg 67.49 344 *e*P P 04 29 29.9 +0.1
KONO *e*PP PP 04 31 58.1 +0.2
KONO *e*S S 04 38 26.2 +2.6
KONO IVMs_BB IVMs_BB 05 06 05.8
comp=Z,3µm,14.4s
IDID Didziasalis 67.51 333 *e*P P 04 29 29.6 -0.3
IDID IAmb IAmb 04 29 40.5
comp=Z,57nm,1.0s
G42A Mountain 67.53 45 *e*P P 04 29 30.1 -0.2
comp=Z,1µm,2.0s
G42A LR LR
comp=Z,5µm,18.0s
G42A Mountain 67.53 45 P P 04 29 30.1 -0.2
baz=320,SNR=42
I40A Norwalk 67.55 48 P P 04 29 30.3 -0.1
baz=320,SNR=124
E44A Grand Marais A 67.57 43 *e*P P 04 29 30.4 -0.1
comp=Z,451nm,0.8s
E44A LR LR
comp=Z,5µm,20.0s
E44A Grand Marais A 67.57 43 P P 04 29 30.6 +0.1
baz=321,SNR=16
MMRI Maumere 67.61 221 *e*P P 04 29 30.4 -0.7
comp=Z,732nm,1.7s
MMRI Maumere 67.61 221 P P 04 29 30.2 -0.8
IIGN Ignalina 67.63 334 *e*P P 04 29 30.5 -0.2
IIGN IAmb IAmb 04 29 41.3
comp=Z,60nm,0.7s
F43A Flat Rock, Esc 67.64 44 P P 04 29 30.9 0.0
baz=321,SNR=56
ODD1 Odda 67.73 346 *e*P P 04 29 32.0 +0.7
ODD1 IVmB_BB 04 29 42.5
comp=Z,3µm,5.5s
ODD1 *e*S S 04 38 28.1 +1.6
I41A Arkdale 67.77 47 *e*P P 04 29 31.5 -0.3
comp=Z,1µm,1.9s
I41A Arkdale 67.77 47 P P 04 29 31.6 -0.1
baz=320,SNR=75
SCHQ Schefferville 67.77 27 *e*P P 04 29 31.6 0.0
comp=Z,184nm,1.0s
SCHQ P'P' 04 57 51.5
SCHQ Schefferville 67.77 27 P P 04 29 31.6 0.0
comp=Z,92nm,0.7s,baz=354,slow=6.4,SNR=74
SCHQ PKPPKP 04 57 51.5
comp=Z,16nm,1.0s,baz=157,slow=3.3,SNR=7.2
SCHQ LR LR 05 04 07.8
comp=Z,2µm,18.3s,baz=344,slow=40
SCIA State Center 67.79 51 *e*P P 04 29 32.1 +0.1
comp=Z,707nm,0.8s
SCIA LR LR
comp=Z,5µm,20.0s
SCIA State Center 67.79 51 P P 04 29 32.2 +0.2
baz=319,SNR=136
SOEI Soe 67.80 219 *e*P P 04 29 31.6 -0.7
comp=Z,421nm,1.3s
SOEI Soe 67.80 219 P P 04 29 31.6 -0.7
K39A Oelwein 67.84 49 P P 04 29 31.5 -0.7
baz=319,SNR=79
G43A Wallace 67.85 45 *e*P P 04 29 32.1 -0.1
comp=Z,2µm,1.9s
G43A LR LR
comp=Z,4µm,18.0s
G43A Wallace 67.85 45 P P 04 29 32.1 -0.1
baz=321,SNR=80
F44A Big Bay de Noc 67.86 44 P P 04 29 32.1 -0.2
baz=321,SNR=50
NACGM Naroch 67.86 333 *e*P P 04 29 31.0 -1.1
NACGM PM 04 29 43.0
comp=Z,0.3nm,1.0s
NACGM *e*PP PP 04 32 02.0 +0.7
NACGM *e*PPP PPP 04 33 42.0
NACGM *e*S S 04 38 28.0 -0.1
NACGM *e*SS SS 04 42 45.0 -3.8
NACGM *e*SSS SSS 04 46 03.0
NACGM *e*LQ LQ 04 52 42.0
NACGM *e*LR LR 04 59 10.0
NACGM LRM MLR 05 03 31.0
comp=Z,25nm,17.0s
J40A Soldiers Grove 67.86 48 P P 04 29 31.8 -0.6
baz=320,SNR=54
SRIG Santa Rosalia 67.88 74 *e*P P 04 29 33.3 +0.6
comp=Z,402nm,1.9s
MICGM Minsk 67.89 332 ⇓ *e*P P 04 29 32.0 -0.3
MICGM *e*P P 04 29 32.0 -0.3
MICGM PM 04 29 33.0
comp=Z,0.7nm,1.4s
MICGM *e*PcP PcP 04 30 00.0 +1.4
MICGM *e*PP PP 04 32 00.0 -1.5
MICGM *e*PPP PPP 04 33 40.0
MICGM *e*S S 04 38 30.0 +1.6
MICGM *e*PS PnS 04 39 00.0 +6.7
MICGM *e*SS SS 04 43 06.0 +17
MICGM *e*LQ LQ 04 54 16.0
MICGM LQM 04 56 12.0
comp=N,6.6nm,26.0s
MICGM LQM 04 56 32.0
comp=E,9.8nm,28.0s
MICGM *e*LR LR 04 57 14.0
MICGM LRM MLR 05 01 56.0
comp=E,11nm,16.0s
MICGM LRM MLR 05 02 16.0
comp=Z,31nm,20.0s
MICGM LRM MLR 05 02 22.0
comp=Z,21nm,18.0s
MICGM LRM MLR 05 02 26.0
comp=N,12nm,16.0s
MNK Minsk 67.89 332 ⇓ *e*P P 04 29 32.0 -0.3
MNK *e* 04 30 00.0
MNK *e* 04 32 00.0
MNK *e* 04 33 40.0
MNK *e*S S 04 38 30.0 +1.6
MNK *e* 04 39 00.0
MNK MLR MLR
comp=E,11µm,16.0s
MNK MLR MLR
comp=Z,31µm,20.0s
MNK MLR MLR
comp=Z,21µm,16.0s
MNK MLR MLR
comp=N,12µm,16.0s
MYKOM Kota Tinggi 67.91 244 *e*P P 04 29 33.7 +0.7
comp=N,91nm,1.2s
MYKOM LR LR
comp=Z,2µm,18.0s
MYKOM Kota Tinggi 67.91 244 P P 04 29 34.5 +1.6
BHPL Bhopal 67.92 280 *e*P P 04 29 32.4 -0.7
BHPL IAmb IAmb 04 29 34.4
comp=Z,161nm,0.0s
FRIM Kepong 68.02 247 P P 04 29 35.0 +1.3
KGM Kluang 68.03 245 P P 04 29 35.5 +1.8
H42A Shiocton 68.04 46 *e*P P 04 29 33.2 -0.3
comp=Z,776nm,1.9s
H42A LR LR
comp=Z,4µm,19.0s
H42A Shiocton 68.04 46 P P 04 29 33.1 -0.3
baz=320,SNR=30
E45A Wooded Hills, 68.10 43 P P 04 29 33.4 -0.4
baz=322,SNR=27
MTN Manton Dam 68.16 211 *e*P P 04 29 34.4 0.0
comp=Z,458nm,1.1s
D46A Sault St. Mari 68.17 42 P P 04 29 33.3 -1.0
baz=322,SNR=85
KSU1 Kansas State U 68.17 55 *e*P P 04 29 32.9 -1.5
comp=Z,196nm,1.0s
KSU1 LR LR
comp=Z,4µm,20.0s
KSU1 Kansas State U 68.17 55 P P 04 29 33.3 -1.1
baz=318,SNR=41
PBUR Paburg 68.19 336 *e*P P 04 29 33.0 -1.2
PBUR IAmb IAmb 04 29 46.8
comp=Z,233nm,1.2s
K40A Colesburg 68.20 49 P P 04 29 34.0 -0.5
baz=320,SNR=36
BLS5 Blasjo 68.22 346 *e*P P 04 29 34.7 +0.4
BLS5 IAmb IAmb 04 29 44.3
comp=Z,254nm,2.0s
BLS5 *e*S S 04 38 36.6 +4.2
BLS5 *e*SS SS 04 43 01.0 +6.7
L39A Vinton 68.22 50 P P 04 29 34.4 -0.2
baz=319,SNR=121
J41A Loganville 68.23 48 P P 04 29 34.4 -0.3
baz=320,SNR=133
I42A Draeger Farm, 68.34 47 *e*P P 04 29 35.0 -0.3
comp=Z,1µm,2.0s
I42A Draeger Farm, 68.34 47 P P 04 29 35.1 -0.3
baz=320,SNR=76
ASHT Ashkhabad 68.35 304 P P 04 29 36.4 +0.9
H43A Windswept, Lux 68.42 46 *e*P P 04 29 35.7 -0.2
comp=Z,241nm,0.8s
H43A LR LR
comp=Z,4µm,18.0s
H43A Windswept, Lux 68.42 46 P P 04 29 35.6 -0.2
baz=321,SNR=43
NGP Nagpur 68.42 277 *e*P P 04 29 35.4 -0.8
D47A Chapleau 68.43 41 P P 04 29 34.9 -1.1
baz=322,SNR=48
JFWS Jewell Farm 68.46 48 *e*P P 04 29 35.4 -0.8
comp=Z,143nm,0.8s
JFWS LR LR
comp=Z,5µm,18.0s
JFWS Jewell Farm 68.46 48 *e*P P 04 29 35.4 -0.8
JFWS pmax pmax
comp=Z,143nm,0.8s
JFWS MLR MLR
comp=Z,5µm,18.0s
JFWS Jewell Farm 68.46 48 P P 04 29 35.4 -0.8
baz=320,SNR=55
E46A Sault Ste Mari 68.47 42 P P 04 29 35.2 -0.9
baz=322,SNR=35
F45A CMU Biological 68.48 43 P P 04 29 35.8 -0.4
baz=322,SNR=16
GEYT Alibeck 68.50 304 P P 04 29 37.3 +0.8
comp=Z,146nm,0.8s,baz=29,slow=3.4,SNR=143
GEYT PKP2bc 04 57 49.6
comp=Z,1.3nm,0.6s,baz=215,slow=4.8,SNR=4.0
GEYT LR LR 05 00 45.8
comp=Z,7µm,20.0s,baz=35,slow=37
GYA0B ALIBECK ARRAY 68.50 304 *e*P P 04 29 36.8 +0.2
GYA0B LR LR
comp=Z,6µm,20.0s
AMTX Amarillo 68.56 61 *e*P P 04 29 36.8 -0.2
comp=Z,660nm,1.6s
AMTX Amarillo 68.56 61 P P 04 29 37.3 +0.3
baz=318
MSTX Muleshoe 68.62 62 *e*P P 04 29 37.0 -0.4
comp=Z,458nm,1.4s
MSTX LR LR
comp=Z,3µm,18.0s
MSTX Muleshoe 68.62 62 P P 04 29 37.7 +0.2
baz=318,SNR=22
M39A Webster 68.63 50 P P 04 29 37.0 -0.3
baz=320,SNR=165
L40A Anamosa 68.65 49 *e*P P 04 29 36.6 -0.7
comp=Z,222nm,0.8s
L40A LR LR
comp=Z,5µm,20.0s
L40A Anamosa 68.65 49 P P 04 29 36.6 -0.7
baz=320,SNR=58
K41A Shullsburg 68.67 48 P P 04 29 36.9 -0.6
baz=320,SNR=73
J42A Columbus 68.68 47 P P 04 29 37.1 -0.4
baz=320,SNR=112
CPRX Cap Rock 68.68 64 *e*P P 04 29 38.5 +0.7
I43A Langenfeld Bro 68.70 46 P P 04 29 37.3 -0.3
baz=321,SNR=46
F46A Macinaw City C 68.74 43 P P 04 29 37.6 -0.2
baz=322,SNR=173
MNTX Cornudas Mount 68.79 66 *e*P P 04 29 38.8 +0.4
comp=Z,716nm,1.9s
MNTX Cornudas Mount 68.79 66 P P 04 29 39.1 +0.7
baz=317,SNR=118
E47A Iron Bridge 68.84 42 P P 04 29 37.5 -0.9
baz=322,SNR=43
D48A Paudash Townsh 68.88 40 P P 04 29 37.4 -1.3
baz=323,SNR=26
G45A Suttons Bay 68.92 44 P P 04 29 38.8 -0.1
baz=322,SNR=18
J43A Natural Harves 68.96 47 P P 04 29 38.7 -0.5
baz=321,SNR=12
D49A Beulah Townshi 68.98 40 P P 04 29 38.1 -1.2
baz=323,SNR=53
HOMB Homborsund 68.98 344 *e*P P 04 29 39.2 +0.1
HOMB *e*S S 04 38 43.6 +2.2
HOMB IVMs_BB IVMs_BB 05 06 51.3
comp=Z,3µm,14.3s
L41A Preston 68.99 49 P P 04 29 38.6 -0.8
baz=320,SNR=96
K42A Prairie Point, 68.99 48 P P 04 29 38.8 -0.7
baz=320,SNR=81
GDL2 Guadalupe Moun 69.01 65 *e*P P 04 29 40.7 +0.8
M40A Post Highland 69.01 50 P P 04 29 39.1 -0.5
baz=320,SNR=98
G46A Petoskey 69.05 43 P P 04 29 39.5 -0.3
baz=322,SNR=82
H45A Beulah 69.08 44 P P 04 29 39.7 -0.2
baz=322,SNR=23
SNART Snartemo 69.14 345 *e*P P 04 29 41.3 +1.3
SNART *e*S S 04 38 43.2 0.0
LHMI Lhok Sumawe 69.22 252 *e*P P 04 29 41.6 +0.4
comp=Z,1µm,1.8s
LHMI Lhok Sumawe 69.22 252 P P 04 29 43.4 +2.2
CLNB Carlsbad 69.24 64 *e*P P 04 29 41.4 +0.1
LSQQ Lebel-sur-Quev 69.25 36 P P 04 29 40.1 -0.9
baz=325
E48A Lockeyer 69.28 41 P P 04 29 40.1 -1.1
baz=323,SNR=36
N40A Mertquake, Sal 69.37 50 P P 04 29 41.6 -0.2
baz=320,SNR=100
L42A Oliver, Polo 69.44 48 *e*P P 04 29 41.6 -0.7
comp=Z,263nm,0.8s
L42A LR LR
comp=Z,4µm,20.0s
L42A Oliver, Polo 69.44 48 P P 04 29 41.5 -0.7
baz=320,SNR=37
I45A Fountain 69.45 45 P P 04 29 42.3 +0.1
baz=322,SNR=32
M41A Milan 69.50 49 P P 04 29 42.2 -0.5
baz=320,SNR=102
CHGQ Chibougamau 69.50 34 P P 04 29 41.5 -1.0
baz=326,SNR=28
H46A Fife Lake 69.51 44 P P 04 29 42.5 -0.2
baz=322,SNR=77
K43A Burlington 69.53 47 *e*P P 04 29 42.1 -0.6
comp=Z,313nm,0.9s
K43A Burlington 69.53 47 P P 04 29 42.1 -0.6
baz=321,SNR=35
GLMI Grayling 69.55 43 *e*P P 04 29 42.3 -0.6
comp=Z,426nm,0.9s
GLMI LR LR
comp=Z,5µm,19.0s
GLMI Grayling 69.55 43 P P 04 29 42.8 -0.1
baz=322,SNR=45
G47A Hillman 69.60 43 P P 04 29 42.7 -0.5
baz=322,SNR=28
F48A Evansville 69.61 42 P P 04 29 42.3 -0.9
baz=323,SNR=21
SUW Suwalki 69.65 335 *e*P P 04 29 42.8 -0.5
SUW *e*S S 04 38 51.9 +2.5
SUW LMZ LR 05 02 52.3
comp=Z,10µm,21.1s
SUW Suwalki 69.65 335 *e*P P 04 29 43.0 -0.3
comp=Z,204nm,1.1s
SUW LR LR
comp=Z,10µm,21.0s
SUW Suwalki 69.65 335 *e*P P 04 29 43.0 -0.3
SUW pmax pmax
comp=Z,204nm,1.1s
SUW MLR MLR
comp=Z,10µm,21.0s
CMBY CAMPBELL BAY 69.67 256 *e*P P 04 29 42.6 -1.4
L43A Garden Prairie 69.74 48 P P 04 29 43.4 -0.7
baz=321,SNR=27
M42A Sheffield 69.82 49 P P 04 29 44.0 -0.6
baz=321,SNR=23
VLDQ Val d'Or 69.85 37 *e*P P 04 29 42.7 -1.9
comp=Z,850nm,1.8s
J45A Montague 69.85 45 P P 04 29 44.5 -0.3
baz=322,SNR=26
N41A Harden Midland 69.86 50 *e*P P 04 29 44.6 -0.2
comp=Z,635nm,0.9s
N41A LR LR
comp=Z,5µm,21.0s
N41A Harden Midland 69.86 50 P P 04 29 44.7 -0.2
baz=320,SNR=52
I46A Reed City 69.88 45 P P 04 29 45.0 +0.1
baz=322,SNR=64
MSVF Nonsavu 69.88 162 *e*P P 04 29 47.5 +2.4
comp=Z,163nm,1.4s
MSVF LR LR
comp=Z,2µm,18.0s
MSVF Nonsavu 69.88 162 P P 04 29 46.7 +1.6
KLNR Kaliningrad 69.90 337 *i* P P 04 29 44.5 -0.3
KLNR pmax pmax
comp=Z,170nm,1.3s
H47A Mio 69.91 43 P P 04 29 44.9 -0.2
baz=322,SNR=22
F49A Sandfield 69.91 41 P P 04 29 44.1 -0.9
baz=323,SNR=25
E50A Wahnapitae 69.92 40 P P 04 29 43.9 -1.2
baz=324,SNR=31
MAK Makhachkala 69.92 314 *e*P P 04 29 41.4 -3.8
MAK *e* 04 32 14.7
MAK *e*S S 04 38 48.3 -4.6
MAK *e*SS SS 04 43 17.9 -3.4
MAK pmax pmax
comp=Z,147nm,1.2s
D51A Lot 18 Range I 69.93 39 P P 04 29 43.7 -1.4
baz=324,SNR=42
PSI Prapat 69.96 249 *e*P P 04 29 45.4 -0.5
comp=Z,94nm,1.3s
PSI LR LR
comp=Z,4µm,21.0s
PSI Prapat 69.96 249 *e*P P 04 29 45.4 -0.5
PSI pmax pmax
comp=Z,94nm,1.3s
PSI MLR MLR
comp=Z,4µm,21.0s
L44A Lake County Fo 70.13 47 P P 04 29 46.0 -0.5
baz=321,SNR=13
N42A Yates City 70.17 49 P P 04 29 46.4 -0.3
baz=321,SNR=69
H48A Harrisville 70.21 43 P P 04 29 46.6 -0.3

baz=323,SNR=21
M43A Waltham Townsh 70.21 48 P P 04 29 46.6 -0.4
baz=321,SNR=36
I47A Gladwin 70.23 44 P P 04 29 47.2 +0.1
baz=322,SNR=22
GOF Gofitskoye 70.24 318⇓ *i* P P 04 29 47.3 +0.2
GOF *e*S S 04 39 02.3 +5.6
GOF pmax pmax
comp=Z,430nm,0.9s
GOF smax smax
comp=E,370nm,1.6s
J46A Howard City 70.25 45 P P 04 29 47.3 +0.1
baz=322,SNR=55
WMOK Wichita Mounta 70.27 59 *e*P P 04 29 47.6 +0.2
comp=E,1μm,2.0s
WMOK Wichita Mounta 70.27 59 *e*P P 04 29 47.6 +0.2
WMOK pmax pmax
comp=Z,1μm,2.0s
WMOK Wichita Mounta 70.27 59 P P 04 29 47.7 +0.2
baz=319,SNR=115
O41A Passleys Farm, 70.30 50 P P 04 29 47.3 -0.2
baz=320,SNR=88
E51A G1948 Merrick 70.33 39 P P 04 29 46.3 -1.3
baz=324,SNR=64
D52A ZEK Kipawa Sen 70.41 38 P P 04 29 46.9 -1.1
baz=325,SNR=25
I48A Sherman Twp 70.45 43 P P 04 29 48.5 +0.1
baz=323,SNR=21
N43A Stutzman Famil 70.49 49 P P 04 29 48.3 -0.4
baz=321,SNR=40
GROC Groznyy 70.51 315 *e*P P 04 29 44.9 -3.9
GROC *e* 04 30 07.3
GROC *e* 04 32 25.2
GROC *e*S S 04 39 00.6 +0.8
GROC pmax pmax
comp=Z,162nm,1.1s
P41A Barry, Barry 70.55 51 P P 04 29 49.0 -0.1
baz=320,SNR=104
TOBO Tobermory, Bru 70.56 41 P P 04 29 48.0 -1.0
baz=324,SNR=15
MUD Monsted U'grnd 70.59 343 *i* P P 04 29 49.7 +0.7
comp=Z,10μm,14.0s
MUD Monsted U'grnd 70.59 343 *i* P P 04 29 49.7 +0.7
MUD MLR MLR
comp=Z,10μm,14.0s
D53A Lac Vacive, Po 70.60 38 P P 04 29 48.3 -0.9
baz=325
O42A Bath 70.63 50 P P 04 29 49.3 -0.3
baz=321,SNR=21
F51A Arnstein 70.65 40 P P 04 29 48.0 -1.6
baz=324,SNR=14
M44A Midewin, Midew 70.68 48 *e*P P 04 29 49.5 -0.4
comp=Z,1μm,1.7s
M44A LR LR
comp=Z,4μm,19.0s
M44A Midewin, Midew 70.68 48 P P 04 29 49.4 -0.4
baz=321,SNR=26
COP Copenhagen 70.69 341⇓ *i* P P 04 29 49.9 +0.3
comp=Z,6μm,15.0s
COP Copenhagen 70.69 341⇓ *i* P P 04 29 49.9 +0.3
COP MLR MLR
comp=Z,6μm,15.0s
BSD Bornholm Skovb 70.69 340⇓ *i* P P 04 29 49.2 -0.5
comp=Z,15μm,14.0s
BSD Bornholm Skovb 70.69 340⇓ *i* P P 04 29 49.2 -0.5
BSD MLR MLR
comp=Z,15μm,14.0s
J47A Sunmer 70.71 45 P P 04 29 50.3 +0.3
baz=322,SNR=100
BKNI Bangkinang 70.71 246 *e*P P 04 29 50.8 +0.5
comp=Z,570nm,1.2s
BKNI LR LR
comp=Z,3μm,19.0s
K46A Dorr 70.71 46 P P 04 29 49.7 -0.4
baz=322,SNR=54
HDIL Hopedale 70.73 49 *e*P P 04 29 49.4 -0.8
comp=Z,801nm,0.8s
HDIL LR LR
comp=Z,5μm,20.0s
HDIL Hopedale 70.73 49 P P 04 29 50.1 -0.1
baz=321,SNR=151
AKASG Malin Array Be 70.75 329 *i* P P 04 29 49.5 -0.6
AKASG pmax pmax
comp=Z,48nm,0.6s
AKASG Malin Array Be 70.75 329 P P 04 29 49.3 -0.8
comp=Z,48nm,0.6s,baz=31,slow=6.3,SNR=48
AKASG PKPPKP P'P'df 04 57 41.8 -12
comp=Z,2.3nm,0.6s,baz=218,slow=3.8,SNR=5.9
AKASG LR LR 05 04 43.7
comp=Z,7μm,19.1s,baz=15,slow=39
AKBB Malin Array Si 70.75 329 *e*P P 04 29 49.5 -0.6
AKBB LR LR
comp=Z,8μm,19.0s
AKBB Malin Array Si 70.75 329 *e*P P 04 29 49.5 -0.6
AKBB MLR MLR
comp=Z,8μm,19.0s
KIEV Kiev 70.76 329 *e*P P 04 29 49.5 -0.6
comp=Z,116nm,1.0s
KIEV LR LR
comp=Z,8μm,19.0s
KIEV Kiev 70.76 329⇑ *i* P P 04 29 50.0 -0.1
KIEV Kiev 70.76 329 *i* P P 04 29 49.0 -1.2
SNR=42
KIEV Kiev 70.76 329 *e*P P 04 29 49.5 -0.6
KIEV pmax pmax
comp=Z,116nm,1.0s
KIEV MLR MLR
comp=Z,8μm,19.0s
AK11 Malin Array Si 70.79 329 *e*P P 04 29 49.5 -0.8
E52A Mattawa 70.87 39 P P 04 29 49.5 -1.5
baz=325,SNR=23
O43A Sugar Creek Fa 70.93 49 P P 04 29 51.3 -0.1
baz=321,SNR=34
D54A Lac Fusel, La 70.94 37 P P 04 29 50.0 -1.4
baz=326,SNR=21
P42A Winchester 70.97 50 *e*P P 04 29 51.3 -0.4
comp=Z,2μm,1.9s
P42A LR LR
comp=Z,5μm,21.0s
P42A Winchester 70.97 50 P P 04 29 51.4 -0.2
baz=321,SNR=90
KLBO Killbear Provi 71.00 40 P P 04 29 50.9 -0.8
baz=324,SNR=52
TUL1 Leonard 71.00 56 *e*P P 04 29 51.6 -0.2
comp=Z,2μm,1.9s
TUL1 Leonard 71.00 56 P P 04 29 51.7 -0.2
baz=319,SNR=76
F52A Sundridge 71.00 40 P P 04 29 50.7 -1.1
baz=325,SNR=36
L46A Eue Claire 71.01 46 P P 04 29 51.5 -0.3
baz=322,SNR=24
Q41A Truxton 71.02 51 P P 04 29 51.9 0.0
baz=321,SNR=202
I49A Point Hope 71.03 43 P P 04 29 51.9 0.0
baz=323,SNR=34
M45A Boilermakers S 71.06 47 P P 04 29 51.4 -0.7
baz=322,SNR=7.7
K47A Vermontville 71.08 45 P P 04 29 52.0 -0.2
baz=322,SNR=71
N44A Piper City 71.10 48 P P 04 29 52.1 -0.3
baz=322,SNR=25
J48A Bridge Port 71.12 44 P P 04 29 52.4 -0.1
baz=323,SNR=28
E53A Dumoine, Ponti 71.19 38 P P 04 29 51.6 -1.3
baz=325,SNR=29
BMRO Meriville Lake 71.19 42 P P 04 29 52.4 -0.5
baz=324,SNR=21
BUKO Buck Lake 71.26 40 P P 04 29 52.2 -1.1
baz=325,SNR=29
E54A Lac Daplat, Po 71.33 38 P P 04 29 52.4 -1.3
baz=326,SNR=35
P43A Skaggs, Pawnee 71.33 50 P P 04 29 53.6 -0.2
baz=321,SNR=53
N45A Kentland 71.36 48 P P 04 29 53.7 -0.2
baz=322,SNR=27
J49A Marlette 71.36 43 P P 04 29 53.8 -0.1
baz=323,SNR=33
ZKTA Zakatala 71.37 314 P P 04 29 53.9 -0.2
K48A Perry 71.37 44 P P 04 29 54.2 +0.2
baz=323,SNR=31
ABTX Abilene, Hawle 71.37 61 *e*P P 04 29 54.6 +0.4
comp=Z,2μm,1.9s
ABTX LR LR
comp=Z,2μm,21.0s
ABTX Abilene, Hawle 71.37 61 P P 04 29 54.6 +0.4
baz=319,SNR=54
KBZ Khabaz 71.37 317 P P 04 29 54.7 +0.7
comp=Z,171nm,0.9s,baz=52,slow=4.5,SNR=73
KBZ LR LR 05 04 18.3
comp=Z,6μm,22.0s,baz=16,slow=38
BRCO Bruce Peninsul 71.38 42 P P 04 29 53.7 -0.4
baz=324,SNR=21
ALGO Algonquin Park 71.39 39 P P 04 29 52.6 -1.4
baz=325,SNR=22
Q42A Golden Eagle 71.40 51 P P 04 29 54.3 +0.1
baz=321,SNR=97
LPIG La Paz 71.42 75 LR LR 04 55 48.1
comp=Z,1μm,19.1s,baz=314,slow=31
SEKA Sheki 71.44 313 P P 04 29 54.3 -0.2
O44A Mansfield 71.44 49 P P 04 29 54.1 -0.4
baz=322,SNR=16
R41A Rosebud 71.45 52 P P 04 29 54.2 -0.3
baz=321,SNR=178
M46A Old House Fiel 71.46 47 *e*P P 04 29 54.2 -0.3
comp=Z,1μm,1.8s
M46A LR LR
comp=Z,3μm,18.0s
M46A Old House Fiel 71.46 47 P P 04 29 54.1 -0.4
baz=322,SNR=21
BASO Ashfield 71.47 42 P P 04 29 54.7 +0.1
baz=324,SNR=44
HYB Hyderabad 71.50 275 *i* P P 04 29 54.0 -1.1
comp=Z,170nm,1.0s
HYB *e*PcP **PcP 04 30 14.5 0.0**
HYB *e*S S 04 39 14.0 +2.1
HYB Hyderabad 71.50 275 *e*P P 04 29 54.8 -0.3
CTAO Charters Tower 71.51 194 *e*P P 04 29 54.6 -0.3
comp=Z,157nm,1.3s
CTAO LR LR
comp=Z,2μm,20.0s
CTAO Charters Tower 71.51 194 *e*P P 04 29 54.6 -0.3
CTAO pmax pmax
comp=Z,157nm,1.3s
CTAO MLR MLR
comp=Z,2μm,20.0s
TX31 Lajitas Ar. Si 71.52 66 *e*P P 04 29 54.5 -0.7
TXAR Lajitas Array 71.53 66 P P 04 29 55.6 +0.3
comp=Z,103nm,0.6s,baz=301,slow=4.5,SNR=1004
TXAR LR LR 05 00 10.8
comp=Z,980nm,19.3s,baz=0.0,slow=35
L47A Sherwood 71.54 46 P P 04 29 54.7 -0.4
baz=323,SNR=63
RGN Rugen 71.56 340 *e*P P 04 29 55.3 +0.4
comp=Z,192nm,1.1s
RGN LR LR
comp=Z,4μm,21.0s
BWLO Walkerton 71.61 42 P P 04 29 55.2 -0.3
baz=324,SNR=20
K49A Clarkson 71.68 44 P P 04 29 56.3 +0.4
baz=323,SNR=220
N46A Monticello 71.68 47 P P 04 29 55.2 -0.7
baz=322,SNR=14
ZEI Tsey 71.69 316 *e*P P 04 29 52.3 -3.9
ZEI *e*S S 04 39 13.4 -0.5
ZEI pmax pmax
comp=Z,91nm,0.9s
ZEI pmax pmax
comp=N,41nm,0.6s
ZEI pmax pmax
comp=E,151nm,0.9s
ZEI pmax pmax
comp=Z,991nm,9.1s
HHAR Hobbs 71.69 55 *e*P P 04 29 55.2 -0.8
comp=Z,206nm,0.8s
HHAR LR LR
comp=Z,6μm,18.0s
CCM Cathedral Cave 71.71 52 *e*P P 04 29 55.4 -0.7
comp=Z,238nm,0.9s
CCM LR LR
comp=Z,4μm,20.0s
CCM Cathedral Cave 71.71 52 *e*P P 04 29 55.4 -0.7
CCM pmax pmax
comp=Z,238nm,0.9s
CCM MLR MLR
comp=Z,4μm,20.0s
CCM Cathedral Cave 71.71 52 P P 04 29 55.7 -0.5
baz=321
H52A Wyevale 71.71 41 P P 04 29 55.1 -0.9
baz=325,SNR=52
SMRI Semarang 71.71 233 *e*P P 04 29 57.1 +0.7
comp=Z,242nm,1.1s
O45A Potomac 71.72 48 P P 04 29 56.1 -0.1
baz=322,SNR=55
R42A Luebbering 71.76 52 P P 04 29 56.2 -0.2
baz=321,SNR=146
SLM Saint Louis 71.76 51 *e*P P 04 29 56.4 0.0
comp=Z,2μm,1.9s
SLM LR LR
comp=Z,5μm,19.0s
SLM Saint Louis 71.76 51 *e*P P 04 29 56.4 0.0
SLM pmax pmax
comp=Z,2μm,1.9s
SLM MLR MLR
comp=Z,5μm,19.0s
Q43A New Douglas 71.79 50 P P 04 29 56.5 -0.1
baz=321,SNR=56
S41A Jillco Farms, 71.81 53 P P 04 29 56.1 -0.7
baz=321,SNR=190
M47A Cromwell 71.83 46 P P 04 29 56.4 -0.4
baz=322,SNR=39
MNGR Mingechevir, A 71.83 313 P P 04 29 57.1 +0.3
G53A Haliburton 71.84 40 P P 04 29 55.9 -0.9
baz=325,SNR=67
GKP Gorka Klasztor 71.86 338 *e*P P 04 29 57.2 +0.5
GKP *e*S S 04 39 18.1 +3.0
GKP LMZ LR 05 00 39.3
comp=Z,11μm,27.1s
GKP Gorka Klasztor 71.86 338 *e*P P 04 29 57.2 +0.5
GKP *e*S S 04 39 18.0 +3.0
P44A Sand Creek, Wi 71.90 49 P P 04 29 57.2 0.0
baz=322,SNR=95
L48A N Adams 71.91 45 P P 04 29 57.2 -0.1
baz=323,SNR=80
I51A Listowel 71.91 42 P P 04 29 57.1 -0.1
baz=324,SNR=42
SADO Sadowa 71.92 40 *e*P P 04 29 56.1 -1.2
comp=Z,532nm,2.0s
SFIN Lafayette 71.92 48 *e*P P 04 29 57.0 -0.4
comp=Z,233nm,1.1s
SFIN LR LR
comp=Z,4μm,18.0s
SFIN Lafayette 71.92 48 P P 04 29 56.9 -0.4
baz=322,SNR=25
PEMO Pembroke 71.93 38 P P 04 29 56.0 -1.3
baz=326,SNR=28
GSI Gunungsitoli 71.96 249 *e*P P 04 29 58.4 +0.5
comp=Z,121nm,0.9s
GSI LR LR
comp=Z,3μm,19.0s
AAM Ann Arbor 71.97 44 *e*P P 04 29 57.8 +0.2
comp=Z,267nm,0.8s
AAM LR LR
comp=Z,4μm,18.0s
AAM Ann Arbor 71.97 44 *e*P P 04 29 57.8 +0.2
AAM pmax pmax
comp=Z,267nm,0.8s
AAM MLR MLR
comp=Z,4μm,18.0s
AAM Ann Arbor 71.97 44 P P 04 29 57.7 0.0
baz=323,SNR=67
ONI Oni 72.04 316 *e*P P 04 29 58.4 +0.3
I52A Shelburne 72.06 41 P P 04 29 57.4 -0.7
baz=325,SNR=16
L49A Milan 72.08 45 P P 04 29 58.5 +0.2
baz=323,SNR=51
HPIG 72.13 69 *e*P P 04 29 59.1 0.0
comp=Z,113nm,1.1s
M48A Edgerton 72.15 46 *e*P P 04 29 58.5 -0.3
comp=Z,1μm,1.8s
M48A LR LR
comp=Z,4μm,18.0s
M48A Edgerton 72.15 46 P P 04 29 58.4 -0.3
baz=323,SNR=29
Q44A Meyer Farm, Va 72.15 50 *e*P P 04 29 58.5 -0.3
comp=Z,1μm,1.6s
Q44A LR LR
comp=Z,6μm,21.0s
Q44A Meyer Farm, Va 72.15 50 P P 04 29 58.5 -0.3
baz=322,SNR=57
S42A Caledonia 72.15 52 P P 04 29 58.3 -0.5
baz=321,SNR=207
MARNC Mare, Loyalty 72.15 172 PFAKE 04 30 10.0 +11
MARNC LR LR
comp=Z,5μm,20.0s
TBLG Delisi 72.15 315 *e*P P 04 29 59.5 +0.7
TBLG Delisi 72.15 315 *e*P P 04 29 59.1 +0.3
TBLG pmax pmax
comp=Z,980nm,1.9s
F55A Otter Lake 72.16 38 P P 04 29 57.4 -1.3
baz=326,SNR=22
N47A Urbana 72.18 47 P P 04 29 58.0 -0.9
baz=323,SNR=34
U40A Yellville 72.19 54 P P 04 29 58.4 -0.7
baz=320,SNR=224
LATQ La Tuque 72.20 35 P P 04 29 58.4 -0.5
baz=328,SNR=20
BANO Bancroft 72.20 39 P P 04 29 58.2 -0.8
baz=326,SNR=47
X37A Clayton 72.22 57 *e*P P 04 29 59.5 +0.2
comp=Z,147nm,1.2s
BEL Belsk 72.25 335 *e*P P 04 29 59.8 +0.7
BEL *e*S S 04 39 22.2 +2.6
BEL LMZ LR 05 04 52.4
comp=Z,13μm,20.6s
BEL Belsk 72.25 335 *e*P P 04 29 59.8 +0.7
BEL *e*S S 04 39 22.2 +2.6
BEL MLR MLR
comp=Z,13μm,20.6s
P45A Graceland, Par 72.28 49 *e*P P 04 29 59.4 -0.1
comp=Z,230nm,1.0s
P45A LR LR
comp=Z,5μm,19.0s
P45A Graceland, Par 72.28 49 P P 04 29 59.3 -0.2
baz=322,SNR=48
ELFO Elginfield 72.28 42 P P 04 29 59.2 -0.3
baz=324,SNR=37
GANJ Ganja 72.29 313 P P 04 29 59.9 +0.3
UGM Wanagama 72.41 232 *e*P P 04 29 59.7 -0.8
comp=Z,1μm,1.4s
O47A Sheridan 72.47 47 P P 04 29 59.6 -1.1
baz=322,SNR=30
P46A Rosedale 72.47 48 P P 04 30 00.4 -0.2
baz=322,SNR=21
ACTO Acton 72.48 41 P P 04 30 00.4 -0.2
baz=325,SNR=21
G55A Calabogie 72.49 38 P P 04 29 59.4 -1.3
baz=326,SNR=38
M49A Liberty Center 72.49 45 P P 04 30 00.5 -0.3
baz=323,SNR=62
I53A Kortright Cn E 72.50 41 P P 04 30 00.1 -0.6
baz=325,SNR=12
N48A Decatur 72.50 46 P P 04 30 00.2 -0.6
baz=323,SNR=131
TRQ Mont Tremblant 72.52 36 *e*P P 04 29 59.9 -1.0
PLVO Plevna 72.53 39 *e*P P 04 30 00.0 -0.8
comp=Z,104nm,1.1s
PLVO Plevna 72.53 39 P P 04 30 00.1 -0.8
baz=326,SNR=21
L50A Kingsville 72.56 44 P P 04 30 01.1 0.0
baz=324,SNR=112
Q45A Warren Harvey, 72.58 49 P P 04 30 01.2 -0.1
baz=322,SNR=125
K51A Iona Station 72.58 43 P P 04 30 01.4 +0.2
baz=324,SNR=29
W39A Magazine 72.60 56 *e*P P 04 30 01.0 -0.5
comp=Z,208nm,1.1s
W39A LR LR
comp=Z,5μm,19.0s
W39A Magazine 72.60 56 P P 04 30 01.1 -0.4
baz=320,SNR=52
PKRO Pickering 72.60 41 P P 04 30 00.8 -0.5
baz=325,SNR=60
J52A Paris 72.60 42 P P 04 30 01.0 -0.4
baz=325,SNR=25
DZM Mont Dzumac 72.62 174 *e*P P 04 30 02.0 +0.4
comp=Z,146nm,1.5s
DZM *e*S S 04 39 22.0 -2.4
comp=Z,10μm,27.5s
DZM Mont Dzumac 72.62 174 *e*LR LR 04 52 07.6
comp=Z,10μm,30.6s
DZM Mont Dzumac 72.62 174 *e*P P 04 30 01.9 +0.3
comp=Z,198nm,1.4s
DZM Mont Dzumac 72.62 174 LR LR 04 55 06.1
comp=Z,3μm,21.5s,baz=4.0,slow=30
R44A Waltonville 72.63 51 P P 04 30 01.3 -0.3
baz=322,SNR=106
LKRN Lenkeran, Azer 72.65 310 P P 04 30 02.5 +0.8
S43A Fulton Ridge, 72.67 52 P P 04 30 01.4 -0.5
baz=321,SNR=102
U41A Viola 72.68 54 P P 04 30 01.3 -0.7
baz=321,SNR=95
BHJ Bhuj 72.73 286 *e*P P 04 30 02.6 +0.2
OLIL Olney 72.73 50 *e*P P 04 30 02.0 -0.2
comp=Z,1μm,1.6s
OLIL LR LR
comp=Z,5μm,20.0s
DELO Deloro Mine 72.74 39 P P 04 30 01.3 -0.9
baz=326,SNR=24
BSEG Bad Segeberg 72.76 342 *e*P P 04 30 02.9 +0.9
comp=Z,282nm,1.8s,baz=20,slow=5.8
BSEG *e*PP PP 04 32 44.4 +1.0
ANN Anapa 72.77 321 *e*P P 04 30 01.9 -0.4
ANN *e* 04 30 11.9
ANN *e*S S 04 39 25.7 0.0
ANN pmax pmax
comp=Z,266nm,1.4s
TORO Toronto--Lesli 72.78 41 P P 04 30 01.8 -0.6
baz=325
ORHO Orleans, Herit 72.79 38 P P 04 30 00.8 -1.6
baz=327
ORIO Orleans, Innes 72.80 38 P P 04 30 01.1 -1.4
baz=327,SNR=22
DRWO Darlington Wes 72.82 40 P P 04 30 02.1 -0.5
baz=325,SNR=37
DRCO St. Marys Ceme 72.83 40 P P 04 30 02.2 -0.5
baz=325,SNR=30
N49A Columbus Grove 72.84 46 *e*P P 04 30 02.5 -0.3
comp=Z,1μm,1.8s
N49A LR LR
comp=Z,3μm,19.0s
N49A Columbus Grove 72.84 46 P P 04 30 02.5 -0.3
baz=323,SNR=44
SOC Sochi 72.84 319 *e*P P 04 30 01.4 -1.4
SOC *e*S S 04 39 25.5 -1.1
SOC *e*SS SS 04 44 10.5 +4.6
SOC pmax pmax
comp=Z,143nm,1.0s
ONTNC Ouen Toro 72.85 174 *e*P P 04 30 04.1 +1.2
comp=Z,104nm,1.1s
ONTNC LR LR
comp=Z,3μm,18.0s
Q46A CEJHS Indians, 72.86 49 P P 04 30 02.9 -0.1
baz=322,SNR=5.6
PLIO Pelee Island, 72.87 44 P P 04 30 02.7 -0.3
baz=324,SNR=74
K52A Tillsonburg 72.88 42 P P 04 30 02.9 -0.1
baz=325,SNR=29
JCT Junction City 72.89 63 *e*P P 04 30 03.3 -0.1
comp=Z,1μm,1.8s
JCT LR LR
comp=Z,2μm,19.0s
JCT Junction City 72.89 63 *e*P P 04 30 03.3 -0.1
JCT pmax pmax
comp=Z,1μm,1.8s
JCT MLR MLR
comp=Z,2μm,19.0s
JCT Junction City 72.89 63 P P 04 30 03.3 -0.1
baz=319,SNR=100
H55A Tweed 72.89 39 P P 04 30 02.3 -0.7
baz=326,SNR=23
ALFO Alfred 72.89 37 P P 04 30 01.8 -1.3
baz=327,SNR=22
WLVO Wesleyville 72.91 40 P P 04 30 02.9 -0.3
baz=326,SNR=26
O48A Farmland 72.92 47 P P 04 30 02.6 -0.8
baz=323,SNR=61
T43A Greenville 72.94 52 P P 04 30 03.1 -0.3
baz=321,SNR=84
I55A Frankford 72.97 40 P P 04 30 02.7 -0.8
baz=326,SNR=19
M50A Fremont 72.97 45 *e*P P 04 30 03.3 -0.4
comp=Z,118nm,0.8s
M50A LR LR
comp=Z,4μm,19.0s
M50A Fremont 72.97 45 P P 04 30 03.2 -0.4
baz=324,SNR=31
S44A Carbondale 72.98 51 P P 04 30 03.5 -0.2
baz=322,SNR=98
TYNO Tyneside 72.98 42 P P 04 30 03.2 -0.4
baz=325,SNR=18

SIUC	**Southern Illin**	**72.98**	**51**	*e*P		**P**	**04 30 03.6**	**-0.1**
	comp=Z,320nm,0.8s							
SIUC				LR		LR		
	comp=Z,5µm,18.0s							
R45A	**Skylar, Fairfi**	**72.99**	**50**	P		**P**	**04 30 03.6**	**-0.2**
	baz=322,SNR=48							
P47A	**Martinsville**	**73.01**	**48**	P		**P**	**04 30 03.3**	**-0.5**
	baz=323,SNR=106							
WHTX	**Lake Whitney,**	**73.06**	**60**	*e*P		**P**	**04 30 04.5**	**+0.2**
	comp=Z,664nm,1.5s							
WHTX				LR		LR		
	comp=Z,2µm,22.0s							
WHTX	**Lake Whitney,**	**73.06**	**60**	P		**P**	**04 30 04.3**	**0.0**
	baz=320,SNR=25							
PBMO	**Poplar Bluff**	**73.10**	**52**	*e*P		**P**	**04 30 04.1**	**-0.3**
	comp=Z,393nm,0.9s							
LVV	**L'vov**	**73.14**	**332**	*e*P		**P**	**04 30 04.3**	**-0.1**
LVV				*e*			04 30 26.0	
LVV				*e*			04 32 45.0	
LVV				*e*PPP		PPP	04 34 26.4	
LVV				*e*S		**S**	**04 39 29.1**	**-0.7**
LVV				*e*PS		**PnS**	**04 39 58.5**	**-5.0**
LVV				*e*SS		**SS**	**04 44 07.2**	**-2.8**
LVV				MLR		MLR		
	comp=E,8µm,17.0s							
LVV				MLR		MLR		
	comp=Z,8µm,17.0s							
LVV				MLR		MLR		
	comp=N,8µm,16.0s							
BLO	**Bloomington**	**73.14**	**48**	*e*P		**P**	**04 30 04.3**	**-0.3**
	comp=N,189nm,1.0s							
BLO	**Bloomington**	**73.14**	**48**	*e*P		**P**	**04 30 04.3**	**-0.3**
BLO				pmax		pmax		
	comp=Z,189nm,1.0s							
STCO	**Saint Catharin**	**73.18**	**41**	P		**P**	**04 30 04.5**	**-0.2**
	baz=325,SNR=12							
MIAR	**Mount Ida**	**73.21**	**56**	*e*P		**P**	**04 30 04.9**	**-0.2**
	comp=Z,2µm,2.0s							
MIAR				LR		LR		
	comp=Z,4µm,20.0s							
MIAR	**Mount Ida**	**73.21**	**56**	*e*P		**P**	**04 30 04.9**	**-0.2**
MIAR				pmax		pmax		
	comp=Z,2µm,2.0s							
MIAR				MLR		MLR		
	comp=Z,4µm,20.0s							
MIAR	**Mount Ida**	**73.21**	**56**	P		**P**	**04 30 05.0**	**-0.2**
	baz=320,SNR=103							
H56A	**Elgin**	**73.22**	**38**	P		**P**	**04 30 03.9**	**-1.1**
	baz=326,SNR=14							
PINNC	**Pines Island,**	**73.23**	**173**	*e*P		**P**	**04 30 06.2**	**+1.1**
	comp=Z,682nm,2.0s							
PINNC				LR		LR		
	comp=Z,5µm,21.0s							
WHAR	**Wooly Hollow**	**73.31**	**55**	*e*P		**P**	**04 30 05.0**	**-0.6**
	comp=Z,1µm,1.8s							
WHAR				LR		LR		
	comp=Z,5µm,18.0s							
S45A	**Carrier Mills**	**73.32**	**51**	P		**P**	**04 30 05.7**	**0.0**
	baz=322,SNR=71							
J54A	**Appleton**	**73.35**	**41**	P		**P**	**04 30 05.3**	**-0.5**
	baz=326,SNR=22							
O49A	**Covington**	**73.36**	**46**	*e*P		**P**	**04 30 05.5**	**-0.4**
	comp=Z,231nm,1.0s							
O49A				LR		LR		
	comp=Z,3µm,18.0s							
O49A	**Covington**	**73.36**	**46**	P		**P**	**04 30 05.5**	**-0.4**
	baz=323,SNR=65							
Q47A	**Bedord North L**	**73.37**	**48**	P		**P**	**04 30 05.8**	**-0.2**
	baz=323,SNR=133							
RUE	**Ruedersdorf**	**73.39**	**339**	*e*P		**P**	**04 30 06.5**	**+0.7**
	comp=Z,644nm,2.1s,baz=20,slow=5.8							
RUE	**Ruedersdorf**	**73.39**	**339**	*e*P		**P**	**04 30 05.6**	**-0.3**
RUE				IAmb		IAmb	04 30 07.7	
	comp=Z,173nm,1.4s							
M51A	**Elyria**	**73.41**	**44**	P		**P**	**04 30 05.8**	**-0.4**
	baz=324,SNR=33							
GNI	**Garni**	**73.42**	**314**	*e*P		**P**	**04 30 07.3**	**+0.8**
GNI	**Garni**	**73.42**	**314**	*e*P		**P**	**04 30 07.1**	**+0.6**
	comp=Z,900nm,1.8s							
GNI				LR		LR		
	comp=Z,8µm,21.0s							
GNI	**Garni**	**73.42**	**314**	*i* P		**P**	**04 30 07.5**	**+1.1**
	SNR=31							
GNI	**Garni**	**73.42**	**314**	P		**P**	**04 30 08.0**	**+1.6**
	SNR=27							
GNI				P		**P**	**04 30 08.0**	**+1.6**
	SNR=27							
W41B	**Gary Mavity, V**	**73.42**	**55**	*e*P		**P**	**04 30 05.8**	**-0.6**
	comp=Z,456nm,1.3s							
W41B				LR		LR		
	comp=Z,5µm,19.0s							
W41B	**Gary Mavity, V**	**73.42**	**55**	P		**P**	**04 30 05.9**	**-0.4**
	baz=321,SNR=81							
R46A	**Gibon Southern**	**73.42**	**50**	P		**P**	**04 30 06.2**	**-0.1**
	baz=322,SNR=39							
N50A	**Nevada**	**73.43**	**45**	P		**P**	**04 30 06.3**	**0.0**
	baz=324,SNR=77							
P48A	**Milroy**	**73.43**	**47**	P		**P**	**04 30 05.6**	**-0.8**
	baz=323,SNR=89							
MNAI	**Manna**	**73.45**	**241**	*e*P		**P**	**04 30 05.6**	**-1.1**
	comp=Z,303nm,1.2s							
MNAI				LR		LR		
	comp=Z,2µm,19.0s							
PECO	**Prince Edward**	**73.48**	**39**	P		**P**	**04 30 05.6**	**-1.0**
	baz=326,SNR=18							
ESK	**Eskdalemuir**	**73.49**	**350**	*e*P		**P**	**04 30 06.5**	**0.0**
	comp=Z,124nm,1.4s							
ESK	**Eskdalemuir**	**73.49**	**350**	*ce*P		**P**	**04 30 07.9**	**+1.5**
MEDO	**Medina**	**73.52**	**41**	P		**P**	**04 30 06.3**	**-0.5**
	baz=326,SNR=23							
PARMO	**Parma**	**73.53**	**52**	*e*P		**P**	**04 30 07.4**	**+0.4**
	comp=Z,2µm,0.8s							
PARMO				LR		LR		
	comp=Z,3µm,20.0s							
USIN	**University of**	**73.55**	**50**	*e*P		**P**	**04 30 07.2**	**+0.1**
	comp=Z,561nm,0.9s							
USIN				LR		LR		
	comp=Z,5µm,20.0s							
M52A	**Chesterland**	**73.60**	**43**	P		**P**	**04 30 07.5**	**+0.2**
	baz=324,SNR=147							
POO	**Poona**	**73.64**	**279**	*e*P		**P**	**04 30 06.3**	**-1.6**
X40A	**Basin Creek Fa**	**73.64**	**55**	*e*P		**P**	**04 30 07.2**	**-0.5**
	comp=Z,780nm,1.9s							
X40A				LR		LR		
	comp=Z,6µm,19.0s							
X40A	**Basin Creek Fa**	**73.64**	**55**	P		**P**	**04 30 07.2**	**-0.5**
	baz=321,SNR=76							
N51A	**Ashland**	**73.66**	**45**	*e*P		**P**	**04 30 07.4**	**-0.3**
	comp=Z,428nm,0.8s							
N51A				LR		LR		
	comp=Z,4µm,18.0s							
N51A	**Ashland**	**73.66**	**45**	P		**P**	**04 30 07.3**	**-0.4**
	baz=324,SNR=94							
MDRS	**Chennai**	**73.67**	**271**	*e*P		**P**	**04 30 08.3**	**+0.2**
UALR	**University of**	**73.68**	**55**	*e*P		**P**	**04 30 07.5**	**-0.3**
	comp=Z,124nm,1.3s							
UALR				LR		LR		
	comp=Z,6µm,19.0s							
U44A	**Portageville**	**73.69**	**52**	P		**P**	**04 30 08.2**	**+0.3**
	baz=322,SNR=35							
KWP	**Kalwaria Pacla**	**73.69**	**333**	*e*P		**P**	**04 30 08.0**	**+0.2**
KWP				*e*S		**S**	**04 39 37.0**	**+0.9**
KWP				LMZ		LR	05 03 04.4	
	comp=Z,17µm,25.4s							
KWP	**Kalwaria Pacla**	**73.69**	**333**	*e*P		**P**	**04 30 07.6**	**-0.1**
	comp=Z,18µm,1.9s							
KWP				LR		LR		
	comp=Z,120µm,21.0s							
KWP	**Kalwaria Pacla**	**73.69**	**333**	*e*P		**P**	**04 30 07.6**	**-0.1**
J55A	**Hilton**	**73.69**	**40**	P		**P**	**04 30 07.3**	**-0.5**
	baz=326,SNR=20							
P49A	**Miami Univ. Ec**	**73.70**	**47**	P		**P**	**04 30 07.3**	**-0.6**
	baz=323,SNR=72							
Q48A	**North Vernon**	**73.71**	**48**	P		**P**	**04 30 07.7**	**-0.3**
	baz=323,SNR=53							
O50A	**Cable**	**73.72**	**46**	P		**P**	**04 30 07.9**	**-0.2**
	baz=324,SNR=100							
ERPA	**Erie**	**73.73**	**42**	*e*P		**P**	**04 30 07.9**	**-0.1**
	comp=Z,393nm,0.8s							
ERPA				LR		LR		
	comp=Z,3µm,18.0s							
ERPA	**Erie**	**73.73**	**42**	P		**P**	**04 30 08.0**	**-0.1**
	baz=325,SNR=58							
S46A	**Don Dixon Farm**	**73.74**	**50**	P		**P**	**04 30 08.1**	**-0.1**
	baz=322,SNR=37							
L53A	**Girard**	**73.74**	**43**	P		**P**	**04 30 08.0**	**-0.2**
	baz=325,SNR=91							
PVMO	**Portageville**	**73.76**	**52**	*e*P		**P**	**04 30 09.2**	**+0.9**
	comp=Z,706nm,0.9s							
PVMO				LR		LR		
	comp=Z,4µm,21.0s							
KARS	**Kars**	**73.79**	**315**	*e*P		**P**	**04 30 09.2**	**+0.5**
	comp=Z,825nm,1.4s							
KARS				LR		LR		
	comp=Z,15µm,19.0s							
KARS	**Kars**	**73.79**	**315**	P		**P**	**04 30 10.4**	**+1.8**
T45A	**Paducah**	**73.81**	**51**	*e*P		**P**	**04 30 08.9**	**+0.3**
	comp=Z,476nm,0.8s							
T45A				LR		LR		
	comp=Z,5µm,19.0s							
T45A	**Paducah**	**73.81**	**51**	P		**P**	**04 30 08.8**	**+0.3**
	baz=322,SNR=24							
R47A	**Wooly Knot Far**	**73.83**	**49**	P		**P**	**04 30 08.7**	**0.0**
	baz=323,SNR=90							
NAX	**Nakhchivan**	**73.84**	**313**	P		**P**	**04 30 10.1**	**+1.2**
LONY	**Lake Ozonia**	**73.86**	**37**	*e*P		**P**	**04 30 07.7**	**-1.1**
	comp=Z,493nm,1.9s							
LONY	**Lake Ozonia**	**73.86**	**37**	P		**P**	**04 30 07.5**	**-1.3**
	baz=327,SNR=16							
WRAB	**Tennant Creek**	**73.90**	**205**	*e*P		**P**	**04 30 09.2**	**+0.1**
	comp=Z,632nm,1.2s							
WRAB	**Tennant Creek**	**73.90**	**205**	*ce*P		**P**	**04 30 09.1**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,607nm,1.2s							
WRAB				MLR		MLR		
	comp=Z,2µm,16.0s							
435B	**Jarrell**	**73.91**	**61**	*e*P		**P**	**04 30 09.4**	**+0.1**
	comp=Z,155nm,1.0s							
435B	**Jarrell**	**73.91**	**61**	P		**P**	**04 30 09.5**	**+0.2**
	baz=320,SNR=27							
WRA	**Warramunga Arr**	**73.91**	**205**	*i* P		**P**	**04 30 07.1**	**-2.1**
WRA				pmax		pmax		
	comp=Z,248nm,1.0s							
WRA	**Warramunga Arr**	**73.91**	**205**	P		**P**	**04 30 08.9**	**-0.4**
	comp=Z,248nm,1.0s,baz=20,slow=6.2,SNR=282							
WRA				LR		LR	05 03 41.6	
	comp=Z,1µm,19.0s,baz=45,slow=37							
SIM	**Simferopol'**	**73.94**	**323**	*d* P		**P**	**04 30 08.5**	**-0.7**
SIM				S		**S**	**04 39 40.0**	**+1.0**
SIM				pmax		pmax		
	comp=Z,280nm,2.0s							
ACSO	**Alum Creek Sta**	**73.94**	**45**	*e*P		**P**	**04 30 09.0**	**-0.3**
	comp=Z,1µm,1.8s							
ACSO				LR		LR		
	comp=Z,4µm,19.0s							
ACSO	**Alum Creek Sta**	**73.94**	**45**	P		**P**	**04 30 09.2**	**-0.1**
	baz=324,SNR=57							
HBAR	**Harrisburg**	**73.94**	**53**	*e*P		**P**	**04 30 09.8**	**+0.4**
	comp=Z,751nm,1.2s							
HBAR				LR		LR		
	comp=Z,4µm,18.0s							
GNAR	**Gosnell**	**73.95**	**53**	*e*P		**P**	**04 30 09.3**	**-0.1**
	comp=Z,2µm,1.7s							
GNAR				LR		LR		
	comp=Z,3µm,22.0s							
OJC	**Ojcow**	**73.98**	**335**	*e*P		**P**	**04 30 09.6**	**+0.2**
OJC				*e*S		**SKiKP**	**04 39 37.0**	**+1.9**
OJC				LMZ		LR	05 06 06.8	
	comp=Z,9µm,19.1s							
OJC	**Ojcow**	**73.98**	**335**	*e*P		**P**	**04 30 09.7**	**+0.3**
	comp=Z,626nm,2.0s							
OJC	**Ojcow**	**73.98**	**335**	*e*P		**P**	**04 30 09.6**	**+0.2**
OJC				*e*S		**SKiKP**	**04 39 37.0**	**+1.9**
OJC				MLR		MLR		
	comp=Z,9µm,19.1s							
M53A	**WI Miller and**	**73.98**	**43**	P		**P**	**04 30 09.7**	**+0.2**
	baz=325,SNR=232							
WCI	**Wyandotte Cave**	**74.00**	**49**	*e*P		**P**	**04 30 09.7**	**0.0**
	comp=Z,441nm,0.8s							
WCI				LR		LR		
	comp=Z,5µm,20.0s							
WCI	**Wyandotte Cave**	**74.00**	**49**	*e*P		**P**	**04 30 09.7**	**0.0**
WCI				pmax		pmax		
	comp=Z,441nm,0.8s							
WCI				MLR		MLR		
	comp=Z,5µm,20.0s							
WCI	**Wyandotte Cave**	**74.00**	**49**	P		**P**	**04 30 09.8**	**0.0**
	baz=323							
K55A	**Perry**	**74.03**	**41**	P		**P**	**04 30 09.4**	**-0.5**
	baz=326,SNR=77							
ALLY	**Alegheny Colle**	**74.04**	**43**	*e*P		**P**	**04 30 09.8**	**-0.1**
	comp=Z,3µm,2.0s							
Q49A	**Aurora**	**74.04**	**47**	P		**P**	**04 30 09.6**	**-0.4**
	baz=323,SNR=38							
N52A	**McGinn's Farm,**	**74.05**	**44**	P		**P**	**04 30 09.6**	**-0.4**
	baz=324,SNR=65							
FRNY	**Flat Rock**	**74.06**	**37**	*e*P		**P**	**04 30 08.6**	**-1.3**
	comp=Z,52nm,1.0s							
R48A	**Northridge Ran**	**74.06**	**48**	P		**P**	**04 30 10.3**	**+0.2**
	baz=323,SNR=118							
P50A	**Jamestown**	**74.07**	**46**	P		**P**	**04 30 09.8**	**-0.3**
	baz=324,SNR=76							
GLAT	**Glass**	**74.08**	**52**	*e*P		**P**	**04 30 10.2**	**+0.1**
	comp=Z,1µm,1.2s							
GLAT				LR		LR		
	comp=Z,4µm,20.0s							
RETH	**Rethem/Aller,**	**74.08**	**342**	*e*P		**P**	**04 30 10.4**	**+0.5**
	comp=Z,141nm,1.4s,baz=20,slow=5.8							
KIS	**Kishinev**	**74.09**	**328**	*i* P		**P**	**04 30 08.0**	**-2.1**
	comp=Z,500nm,2.0s							
KIS	**Kishinev**	**74.09**	**328**	*i* PcP		**PcP**	**04 30 26.0**	**+0.9**
KIS	**Kishinev**	**74.09**	**328**	*e*PP		PP	04 32 58.0	+3.1
KIS	**Kishinev**	**74.09**	**328**	*e*PPP		PPP	04 34 42.0	
KIS				*e*S		**S**	**04 39 38.0**	**-2.6**
	comp=Z,3µm,9.0s							
KIS	**Kishinev**	**74.09**	**328**	*j* P		**P**	**04 30 08.0**	**-2.1**
KIS				*i*			04 30 16.0	
KIS				*i*			04 30 26.0	
KIS				*e*			04 32 58.0	
KIS				*e*PPP		PPP	04 34 42.0	
KIS				*e*S		**S**	**04 39 38.0**	**-2.6**
KIS				*e*PS			04 40 02.0	
KIS				*e*			04 40 21.0	
KIS				pmax		pmax		
	comp=Z,500nm,2.0s							
KIS				pmax		pmax		
	comp=Z,2µm,9.0s							
KIS				smax		smax		
	comp=N,3µm,9.0s							
MMNY	**Mt. Morris Dam**	**74.10**	**41**	*e*P		**P**	**04 30 09.7**	**-0.5**
	comp=N,333nm,0.8s							
WLAR	**White Oak Lake**	**74.11**	**56**	*e*P		**P**	**04 30 10.5**	**+0.1**
	comp=N,323nm,1.0s							
WLAR				LR		LR		
	comp=Z,4µm,19.0s							
IDGL	**Inch Island, C**	**74.14**	**353**	*i* P		**P**	**04 30 10.7**	**+0.5**
MOQ	**Mont Orford**	**74.15**	**36**	*e*P		**P**	**04 30 10.2**	**-0.3**
T46A	**Princeton**	**74.16**	**51**	P		**P**	**04 30 11.1**	**+0.5**
	baz=322,SNR=262							
NRDL	**Niedersach Rie**	**74.16**	**342**	*e*P		**P**	**04 30 10.7**	**+0.5**
	comp=Z,168nm,1.8s,baz=20,slow=5.8							
SENK	**Senkaya-Erzuru**	**74.17**	**316**	*e*P		**P**	**04 30 11.9**	**+1.0**
O51A	**Pataskala**	**74.18**	**45**	P		**P**	**04 30 10.4**	**-0.4**
	baz=324,SNR=78							
S47A	**Hartford**	**74.22**	**50**	P		**P**	**04 30 10.9**	**-0.1**
	baz=323,SNR=108							
UTMT	**University of**	**74.23**	**52**	*e*P		**P**	**04 30 11.4**	**+0.3**
	comp=Z,539nm,1.0s							
KSP	**Ksiaz**	**74.32**	**337**	*e*P		**P**	**04 30 11.6**	**+0.2**
KSP				*e*S		**S**	**04 39 45.3**	**+2.2**
KSP				LMZ		LR	04 59 17.0	
	comp=Z,7µm,29.6s							
KSP	**Ksiaz**	**74.32**	**337**	*e*P		**P**	**04 30 11.6**	**+0.2**
KSP				*e*S		**S**	**04 39 45.3**	**+2.2**
HALT	**Halls**	**74.33**	**52**	*e*P		**P**	**04 30 12.0**	**+0.3**
	comp=Z,2µm,1.8s							
HALT				LR		LR		
	comp=Z,3µm,20.0s							
L55A	**Hinsdale**	**74.33**	**41**	P		**P**	**04 30 11.3**	**-0.3**
	baz=326,SNR=37							
IAS	**Iasi**	**74.34**	**329**	*i* P		**P**	**04 30 12.0**	**+0.5**
M54A	**Oil Creek Stat**	**74.36**	**42**	*e*P		**P**	**04 30 11.6**	**-0.3**
	comp=Z,350nm,0.9s							
M54A				LR		LR		
	comp=Z,4µm,18.0s							
M54A	**Oil Creek Stat**	**74.36**	**42**	P		**P**	**04 30 11.5**	**-0.3**
	baz=325,SNR=93							
ASSE	**Asse, Remlinge**	**74.39**	**341**	*e*P		**P**	**04 30 12.2**	**+0.5**
	comp=Z,234nm,1.8s,baz=20,slow=5.8							
ASSE				*e*PP		**PP**	**04 32 57.3**	**0.0**
N53A	**Lisbon**	**74.43**	**44**	P		**P**	**04 30 12.1**	**-0.1**
	baz=325,SNR=98							
R49A	**Shelbyville**	**74.48**	**48**	P		**P**	**04 30 12.7**	**+0.2**
	baz=323,SNR=55							
PQI	**Presque Isle**	**74.49**	**32**	*e*P		**P**	**04 30 12.0**	**-0.4**
	comp=Z,282nm,1.7s							
P51A	**Williamsport**	**74.51**	**46**	*e*P		**P**	**04 30 12.1**	**-0.6**
	comp=Z,118nm,0.8s							
P51A				LR		LR		
	comp=Z,3µm,19.0s							
P51A	**Williamsport**	**74.51**	**46**	P		**P**	**04 30 12.2**	**-0.5**
	baz=324,SNR=39							
WIT	**Witteveen**	**74.51**	**344**	P		**P**	**04 30 14.1**	**+1.7**
RAC	**Raciborz**	**74.53**	**336**	*e*P		**P**	**04 30 13.2**	**+0.6**
RAC				MLR		MLR		
	comp=Z,11µm,19.0s							
NCB	**Newcomb**	**74.54**	**38**	*e*P		**P**	**04 30 12.0**	**-0.8**
	comp=Z,108nm,1.1s							
O52A	**Adamsville**	**74.55**	**45**	*e*P		**P**	**04 30 12.6**	**-0.3**
	comp=Z,311nm,0.8s							
O52A				LR		LR		
	comp=Z,4µm,20.0s							
O52A	**Adamsville**	**74.55**	**45**	P		**P**	**04 30 12.6**	**-0.3**
	baz=324,SNR=105							
U46A	**Springville**	**74.56**	**51**	P		**P**	**04 30 13.2**	**+0.2**
	baz=322,SNR=32							
S48A	**Wiedeman Farm,**	**74.56**	**49**	P		**P**	**04 30 13.0**	**0.0**
	baz=323,SNR=119							
NIE	**Niedzica**	**74.57**	**334**	*e*P		**P**	**04 30 13.5**	**+0.6**
NIE				*e*S		**S**	**04 39 50.0**	**+4.0**
NIE				LMZ		LR	05 00 41.1	
	comp=Z,4µm,27.4s							
NIE	**Niedzica**	**74.57**	**334**	*e*P		**P**	**04 30 13.5**	**+0.6**
NIE				*e*S		**S**	**04 39 50.0**	**+4.0**
T47A	**Sharon Grove**	**74.59**	**50**	*e*P		**P**	**04 30 13.4**	**+0.3**
	comp=Z,2µm,1.8s							
T47A				LR		LR		
	comp=Z,5µm,20.0s							
T47A	**Sharon Grove**	**74.59**	**50**	P		**P**	**04 30 13.6**	**+0.5**
	baz=323,SNR=139							
Q50A	**Georgetown**	**74.60**	**47**	P		**P**	**04 30 13.2**	**+0.1**
	baz=324,SNR=79							
CLDR	**Caldiran**	**74.60**	**314**	*e*P		**P**	**04 30 14.5**	**+1.0**
BATG	**Bathurst New B**	**74.61**	**31**	*e*P		**P**	**04 30 13.3**	**+0.2**
	comp=Z,501nm,1.8s							
Z41A	**Richland Creek**	**74.61**	**56**	*e*P		**P**	**04 30 13.5**	**+0.2**
	comp=Z,228nm,1.2s							
Z41A				LR		LR		
	comp=Z,5µm,19.0s							
Z41A	**Richland Creek**	**74.61**	**56**	P		**P**	**04 30 13.5**	**+0.2**
	baz=321,SNR=23							
PRAR	**RASCA**	**74.63**	**330**	*j* P		**P**	**04 30 13.6**	**+0.4**
X43A	**Marvell**	**74.63**	**54**	*e*P		**P**	**04 30 13.6**	**+0.1**
	comp=Z,2µm,1.8s							
X43A				LR		LR		
	comp=Z,3µm,20.0s							
X43A	**Marvell**	**74.63**	**54**	P		**P**	**04 30 13.5**	**+0.1**
	baz=322,SNR=40							
CCAR	**Cane Creek**	**74.64**	**55**	*e*P		**P**	**04 30 13.7**	**+0.2**
	comp=Z,399nm,0.9s							
CCAR				LR		LR		
	comp=Z,6µm,19.0s							
MET	**Memphis--Engin**	**74.65**	**53**	*e*P		**P**	**04 30 14.0**	**+0.5**
	comp=Z,5µm,1.8s							
MET				LR		LR		
	comp=Z,3µm,18.0s							
CLL	**Collm**	**74.66**	**339**	*e*P		**P**	**04 30 13.3**	**0.0**
	comp=Z,110nm,1.2s							
CLL				LR		LR		
	comp=Z,8µm,22.0s							
CLL	**Collm**	**74.66**	**339**	*e*P		**P**	**04 30 13.3**	**0.0**
	comp=Z,140nm,1.3s,baz=20,slow=5.8							
CLL	**Collm**	**74.66**	**339**	*j* P		**P**	**04 30 12.9**	**-0.4**
	comp=Z,181nm,1.6s							
CLL				*e*			04 30 20.0	
CLL				*i*			04 30 22.6	
	comp=Z,140nm,1.3s							
CLL				*e*PP		**PP**	**04 32 59.0**	**-0.6**
CLL				*e*PPP		PPP	04 34 48.0	
CLL				*e*S		**S**	**04 39 51.0**	**+4.1**
CLL				*e*PPS		PPS	04 40 31.0	
CLL				*e*			04 40 48.0	
CLL				*e*SS		**SS**	**04 44 34.0**	**+0.9**
CLL				*e*SSS		SSS	04 48 12.0	
CLL	**Collm**	**74.66**	**339**	*j* P		**P**	**04 30 12.9**	**-0.4**
CLL				*i*			04 30 22.6	
CLL				*e*S		**S**	**04 39 51.0**	**+4.1**
CLL				pmax		pmax		
	comp=Z,181nm,1.6s							
CLL				MLR		MLR		
	comp=Z,8µm,22.3s							
N54A	**Moraine State**	**74.67**	**43**	*e*P		**P**	**04 30 13.6**	**-0.1**
	comp=Z,406nm,0.8s							
N54A				LR		LR		
	comp=Z,5µm,19.0s							
N54A	**Moraine State**	**74.67**	**43**	P		**P**	**04 30 13.5**	**-0.1**
	baz=325,SNR=135							
UPC	**Upice**	**74.70**	**337**	*e*P		**P**	**04 30 14.1**	**+0.5**
UPC				*e*PP		**PP**	**04 33 00.6**	**+0.6**
UPC				*ex*		x	04 34 49.1	
UPC				*e*S		**S**	**04 39 49.8**	**+2.4**
UPC				AMS		AMS	05 10 00.0	
	comp=Z,15µm,15.4s							
UPC	**Upice**	**74.70**	**337**	*e*P		**P**	**04 30 14.1**	**+0.5**
UPC				*e*			04 33 00.6	
UPC				*e*PPP		PPP	04 34 49.1	
UPC				*e*S		**S**	**04 39 47.3**	**-0.1**
UPC				*e*S		**S**	**04 39 49.8**	**+2.4**
UPC				MLR		MLR		
	comp=Z,15µm,15.4s							
BUR08	**Bucovina Ar. S**	**74.71**	**330**	*e*P		**P**	**04 30 13.8**	**0.0**
	comp=Z,106nm,1.1s							
UZH	**Uzhgorod**	**74.71**	**333**	*e*P		**P**	**04 30 12.6**	**-1.0**
UZH				*e*			04 30 27.3	
UZH				*e*			04 30 31.6	
UZH				*e*S		**S**	**04 39 43.1**	**-4.4**
UZH				*e*PS			04 40 33.4	
UZH				MLR		MLR		
	comp=N,1µm,16.0s							
UZH				MLR		MLR		
	comp=E,2µm,16.0s							
UZH				MLR		MLR		
	comp=Z,1µm,16.0s							
O53A	**New Philadelph**	**74.72**	**44**	P		**P**	**04 30 13.6**	**-0.3**
	baz=325,SNR=55							
CLZ	**Clausthal**	**74.72**	**341**	*e*P		**P**	**04 30 14.6**	**+0.8**
	comp=Z,220nm,1.6s,baz=20,slow=5.8							
CLZ				*e*PP		**PP**	**04 33 00.7**	**+0.5**
BURAR	**Bucovina Array**	**74.73**	**330**	*i* P		**P**	**04 30 14.3**	**+0.4**
BURAR	**Bucovina Array**	**74.73**	**330**	P		**P**	**04 30 14.3**	**+0.4**
Q51A	**Peebles**	**74.74**	**46**	*e*P		**P**	**04 30 13.8**	**-0.2**
	comp=Z,

baz=326,SNR=134
IBBN Ibbenburen 74.80 343 *e*P P 04 30 14.9 +0.8
comp=Z,188nm,1.4s,baz=20,slow=5.8
VT1 Waterbury 74.80 36 *e*P P 04 30 14.1 -0.2
comp=Z,110nm,1.1s
P52A Corning 74.81 45 P P 04 30 13.8 -0.6
baz=324,SNR=51
S49A Springfield 74.83 48 P P 04 30 14.6 +0.1
baz=323,SNR=151
T48A Bowling Green 74.84 49 P P 04 30 14.5 -0.1
baz=323,SNR=64
BRG Berggiesshubel 74.85 339⇑ *i*P P 04 30 14.4 0.0
comp=Z,102nm,1.6s
BRG PP PP 04 33 04.0 +2.7
BRG S S 04 39 54.0 +5.0
BRG SS SS 04 44 41.0 +5.0
comp=N,8µm,14.4s
comp=E,7µm,14.4s
comp=Z,15µm,14.4s
BRG Berggiesshubel 74.85 339 *e*P P 04 30 14.5 0.0
comp=Z,102nm,1.6s,baz=20,slow=5.8
BRG *e*PP PP 04 33 05.2 +3.9
BRG Berggiesshubel 74.85 339⇑ *i*P P 04 30 14.4 0.0
BRG 04 33 04.0
BRG S S 04 39 54.0 +5.0
BRG SS SS 04 44 41.0 +5.0
BRG pmax pmax
comp=Z,102nm,1.6s
BRG MLR MLR
comp=N,8µm,14.4s
BRG MLR MLR
comp=E,7µm,14.4s
BRG MLR MLR
comp=Z,15µm,14.4s
R50A Paris 74.89 47 P P 04 30 14.9 +0.1
baz=324,SNR=44
KRLC Kraliky 74.90 337 *e*P P 04 30 15.2 +0.4
KRLC AMS AMS 05 10 20.0
comp=Z,2µm,14.2s
KRLC Kraliky 74.90 337 *e*P P 04 30 15.2 +0.4
KRLC MLR MLR
comp=Z,2µm,14.2s
WVT Waverly 74.91 51 *e*P P 04 30 15.0 0.0
comp=Z,133nm,0.8s
WVT LR LR
comp=Z,4µm,18.0s
WVT Waverly 74.91 51 *e*P P 04 30 15.0 0.0
WVT pmax pmax
comp=Z,133nm,0.8s
WVT MLR MLR
comp=Z,4µm,18.0s
WVT Waverly 74.91 51 P P 04 30 15.1 0.0
baz=322
FITZ Fitzroy Crossi 74.92 214 *e*P P 04 30 15.5 +0.4
comp=Z,317nm,1.1s
FITZ Fitzroy Crossi 74.92 214 LR LR 04 58 04.2
comp=Z,525nm,20.9s,baz=21,slow=32
U47A Clarksville 74.93 51 P P 04 30 15.4 +0.3
baz=323,SNR=124
FBE Freiberg 74.94 339 *e*P P 04 30 15.5 +0.6
comp=Z,585nm,2.4s,baz=20,slow=5.8
MORC Moravsky Berou 74.98 336 *e*P P 04 30 15.4 +0.1
comp=Z,132nm,1.2s
MORC LR LR
comp=Z,9µm,18.0s
MORC Moravsky Berou 74.98 336⇑ *i*P P 04 30 16.3 +1.0
MORC Moravsky Berou 74.98 336 P P 04 30 15.8 +0.5
MORC Moravsky Berou 74.98 336⇓ *i*P P 04 30 15.9 +0.6
MORC *e*PP PP 04 33 06.5 +4.0
MORC *e*S S 04 39 54.9 +4.2
NEUB Neuenburg 75.02 340 *e*P P 04 30 15.8 +0.4
comp=Z,147nm,1.6s,baz=20,slow=5.8
NEUB *e*PP PP 04 33 05.4 +2.7
PVCC Panska Ves 75.03 338 *e*P P 04 30 15.9 +0.4
PVCC *e*x x 04 30 22.1
PVCC *e*PP PP 04 33 03.6 +0.9
PVCC *e*x x 04 34 52.8
PVCC *e*S S 04 39 53.0 +2.0
PVCC AMS AMS 05 10 00.0
comp=Z,18µm,14.6s
PVCC Panska Ves 75.03 338 *e*P P 04 30 15.9 +0.4
PVCC *e* 04 30 22.1
PVCC *e* 04 33 03.6
PVCC *e*PPP PPP 04 34 52.8
PVCC *e*S S 04 39 53.0 +2.0
PVCC MLR MLR
comp=Z,18µm,14.6s
V46A Holladay 75.03 51 P P 04 30 15.5 -0.2
baz=322,SNR=99
BIZ Bicaz 75.04 329⇑ *i*P P 04 30 15.3 -0.3
LANS Liptovska Anna 75.04 335 *e*P P 04 30 17.2 +1.6
LANS Liptovska Anna 75.04 335 *e*P P 04 30 17.2 +1.6
GTTG Gvttingen 75.09 341 *e*P P 04 30 16.6 +0.8
comp=Z,314nm,1.8s,baz=20,slow=5.8
GTTG *e*PP PP 04 33 06.6 +3.4
TRPA Tarpa 75.09 332⇑ *i*P P 04 30 16.9 +1.1
TRPA Tarpa 75.09 332⇓ *e*P P 04 30 15.0 -0.8
TRPA *e*PP PP 04 33 07.0 +3.7
TRPA *e*S S 04 39 59.1 +7.4
O54A Avella 75.14 44 P P 04 30 16.2 -0.2
baz=325,SNR=51
LBNH Lisbon 75.19 36 *e*P P 04 30 16.3 -0.2
comp=Z,140nm,1.2s
LBNH Lisbon 75.19 36 *e*P P 04 30 16.3 -0.2
LBNH pmax pmax
comp=Z,140nm,1.2s
LBNH Lisbon 75.19 36 P P 04 30 16.4 -0.1
baz=329,SNR=9.9
BMR Baia Mare 75.21 331⇑ *i*P P 04 30 17.5 +0.9
R51A Hillsboro 75.22 47 P P 04 30 17.1 +0.4
baz=324,SNR=100
MLAZ Malazgirt-MUS 75.23 315 *e*P P 04 30 18.2 +1.2
TESR Tescani 75.24 329⇑ *i*P P 04 30 16.9 +0.1
U48A Cassie Pea, Po 75.24 50 P P 04 30 17.0 0.0
baz=323,SNR=114
ACCN Adirondack Com 75.25 38 *e*P P 04 30 16.2 -0.6
comp=Z,126nm,0.9s
N55A Marion Center 75.25 42 P P 04 30 16.8 -0.2
baz=326,SNR=98
T49A Edmonton 75.26 49 *e*P P 04 30 17.0 0.0
comp=Z,1µm,1.8s
T49A LR LR
comp=Z,4µm,20.0s
T49A Edmonton 75.26 49 P P 04 30 17.2 +0.1
baz=323,SNR=102
P53A Whipple 75.26 45 *e*P P 04 30 16.6 -0.3
comp=Z,976nm,2.0s
P53A LR LR
comp=Z,4µm,19.0s
P53A Whipple 75.26 45 P P 04 30 16.8 -0.2
baz=325,SNR=36
PKME Peaks-Kenny Pk 75.27 34 *e*P P 04 30 16.6 -0.3
comp=Z,461nm,1.9s
PKME Peaks-Kenny Pk 75.27 34 P P 04 30 17.2 +0.3
baz=330,SNR=6.2
BAYT Aydıntepe-Bayb 75.28 317 *e*P P 04 30 17.9 +0.6
Q52A Bidwell 75.29 46 P P 04 30 16.7 -0.5
baz=324,SNR=46
WTSB Winterswijk 75.30 343 *i* P P 04 30 17.7 +0.7
comp=Z,420nm,1.8s
V47A Nunnelly 75.30 51 P P 04 30 17.2 -0.1
baz=323,SNR=79
BINY Binghamton 75.33 40 *e*P P 04 30 16.8 -0.6
comp=Z,996nm,2.0s
BINY Binghamton 75.33 40 P P 04 30 16.8 -0.6
baz=327,SNR=27
S50A Richmond 75.34 48 P P 04 30 17.4 -0.1
baz=324,SNR=62
DRLN Deer Lake 75.35 24 *e*P P 04 30 17.3 0.0
comp=Z,186nm,1.7s
OXF Oxford 75.39 53 *e*P P 04 30 17.6 -0.2
comp=Z,572nm,1.0s
OXF Oxford 75.39 53 *e*P P 04 30 17.6 -0.2
OXF pmax pmax
comp=Z,572nm,1.0s
OXF Oxford 75.39 53 P P 04 30 17.7 -0.2
baz=322
W46A Michie 75.42 52 P P 04 30 17.7 -0.3
baz=322,SNR=29
ARCR ARCALIA 75.47 331⇓ *i*P P 04 30 19.3 +1.2
HNH Hanover 75.51 36 *e*P P 04 30 18.3 0.0
comp=Z,108nm,1.1s
HKT Hockley 75.51 60 *e*P P 04 30 18.8 +0.3
comp=Z,440nm,1.8s
HKT LR LR
comp=Z,3µm,19.0s
HKT Hockley 75.51 60 *e*P P 04 30 18.8 +0.3
HKT pmax pmax
comp=Z,440nm,1.8s
HKT MLR MLR
comp=Z,3µm,19.0s
PRU Pruhonice 75.53 338 *e*P P 04 30 19.0 +0.6
PRU *ex* x 04 30 26.0
PRU *e*PP PP 04 33 10.5 +3.5
PRU *ex* x 04 34 57.3
PRU *e*S S 04 39 57.9 +1.2
PRU *e*SS SS 04 44 57.3 +11
PRU AMS AMS 05 10 20.0
comp=Z,20µm,15.2s
PRU Pruhonice 75.53 338 *e*P P 04 30 19.0 +0.6
PRU *e* 04 30 26.0
PRU *e* 04 33 10.5
PRU *e*PPP PPP 04 34 57.3
PRU *e*S S 04 39 57.9 +1.2
PRU MLR MLR
comp=Z,20µm,15.2s
GOPC GO Pecny, Ondr 75.55 338 *e*P P 04 30 19.0 +0.5
GOPC *e*PP PP 04 33 10.1 +2.9
GOPC *ex* x 04 34 56.6
GOPC *e*S S 04 39 56.8 0.0
GOPC AMS AMS 05 10 30.0
comp=Z,16µm,14.9s
GOPC GO Pecny, Ondr 75.55 338 *e*P P 04 30 19.0 +0.5
GOPC *e* 04 33 10.1
GOPC *e*PPP PPP 04 34 56.6
GOPC *e*S S 04 39 56.8 0.0
GOPC MLR MLR
comp=Z,16µm,14.9s
P54A Burton 75.57 44 P P 04 30 18.9 +0.1
baz=325,SNR=52
MOX Moxa 75.59 340 *e*P P 04 30 19.1 +0.4
comp=Z,137nm,1.7s,baz=20,slow=5.8
MOX *e*PP PP 04 33 10.4 +2.9
MOX *e*L L 05 07 40.4
comp=Z,5µm,19.5s
MOX Moxa 75.59 340 P P 04 30 19.3 +0.6
MOX pmax pmax
comp=Z,51nm,1.4s
O55A Ligonier 75.59 43 P P 04 30 18.6 -0.3
baz=326,SNR=53
U49A Red Boiling Sp 75.61 49 P P 04 30 19.0 0.0
baz=323,SNR=113
TANN Tannenbergstha 75.62 339 *e*P P 04 30 19.4 +0.5
comp=Z,318nm,1.9s,baz=20,slow=5.8
PLN Plauen 75.62 340 *e*P P 04 30 19.3 +0.4
comp=Z,143nm,1.7s,baz=20,slow=5.8
PLN *e*PP PP 04 33 10.9 +3.1
R52A Catlettsburg 75.62 46 P P 04 30 19.0 -0.1
baz=324,SNR=66
T50A Nancy 75.66 49 P P 04 30 19.4 0.0
baz=324,SNR=131
VRAC Vranov 75.66 336⇑ *i*P P 04 30 20.4 +1.3
VRAC Vranov 75.66 336 P P 04 30 19.9 +0.8
VRAC Vranov 75.66 336⇓ *i*P P 04 30 19.7 +0.6
VRAC *e*PP PP 04 33 12.1 +4.0
VRAC *e*S S 04 40 01.7 +3.6
TLCR 75.66 327⇑ *i*P P 04 30 19.5 +0.3
TLCR 75.66 327 P P 04 30 19.4 +0.3
AKDM Akdamar-Van 75.69 314 *e*P P 04 30 20.3 +0.6
GUNZ Gunzen 75.69 339 *e*P P 04 30 20.0 +0.6
comp=Z,201nm,1.7s,baz=20,slow=5.8
GUNZ *e*PP PP 04 33 11.2 +2.7
PLAL Pickwick Lake 75.69 52 *e*P P 04 30 19.0 -0.6
comp=Z,191nm,0.8s
PLAL LR LR
comp=Z,4µm,20.0s
Q53A Leroy 75.71 45 P P 04 30 19.6 0.0
baz=325,SNR=104
BUG Bochum--Univer 75.71 343 *e*P P 04 30 20.0 +0.7
comp=Z,262nm,1.7s,baz=20,slow=5.8
V48A Smith Brothers 75.72 51 *e*P P 04 30 19.6 -0.1
comp=Z,2µm,2.0s
V48A LR LR
comp=Z,4µm,19.0s
V48A Smith Brothers 75.72 51 P P 04 30 19.6 -0.1
baz=323,SNR=84
W47A Westpoint 75.72 51 P P 04 30 19.6 -0.1
baz=323,SNR=72
PETR Petresti 75.74 328⇑ *i*P P 04 30 20.6 +1.0
WVL Waterville 75.74 34 *e*P P 04 30 19.5 -0.2
comp=Z,883nm,1.9s
S51A Beattyville 75.75 47 *e*P P 04 30 19.7 -0.1
comp=Z,183nm,0.8s
S51A LR LR
comp=Z,4µm,18.0s
S51A Beattyville 75.75 47 P P 04 30 19.7 -0.1
baz=324,SNR=79
WERN Wernitzgruen 75.76 339 *e*P P 04 30 20.3 +0.6
comp=Z,112nm,1.5s,baz=20,slow=5.8
WERN *e*PP PP 04 33 12.7 +3.7
ODBI Odobesti 75.76 328⇓ *i*P P 04 30 20.6 +0.9
UBBA Unterbreizbach 75.77 341 *e*P P 04 30 20.3 +0.7
comp=Z,180nm,1.7s,baz=20,slow=5.8
UBBA *e*PP PP 04 33 13.9 +5.0
X46A Booneville 75.78 53 P P 04 30 19.8 -0.2
baz=322,SNR=49
VRI Vrincioaia 75.78 328⇓ *i*P P 04 30 20.4 +0.5
VRI Vrincioaia 75.78 328 P P 04 30 20.4 +0.5
JAVC Velka Javorina 75.79 336⇓ *i*P P 04 30 21.4 +1.4
JAVC *e*PP PP 04 33 14.4 +5.1
JAVC *e*S S 04 40 01.1 +1.4
NKC Novy Kostel 75.79 339 *e*P P 04 30 20.7 +0.8
NKC *e*PP PP 04 33 08.5 -0.7
NKC *e*S S 04 40 01.8 +2.2
NKC AMS AMS 05 10 10.0
comp=Z,10µm,15.2s
NKC Novy Kostel 75.79 339 *e*P P 04 30 20.7 +0.8
NKC *e* 04 33 08.5
NKC *e*S S 04 40 01.8 +2.2
NKC MLR MLR
comp=Z,10µm,15.2s
MCWV Mont Chateau 75.80 44 *e*P P 04 30 20.2 +0.1
comp=Z,874nm,1.9s
MCWV LR LR
comp=Z,2µm,18.0s
MCWV Mont Chateau 75.80 44 P P 04 30 20.2 +0.1
baz=326,SNR=51
TRY Troy 75.81 38 *e*P P 04 30 19.9 -0.1
comp=Z,72nm,0.9s
TRY LR LR
comp=Z,4µm,19.0s
VYHS Vyhne 75.81 335 *e*P P 04 30 20.4 +0.4
VYHS pmax pmax
comp=Z,93nm,1.8s
VYHS Vyhne 75.81 335 *e*P P 04 30 20.4 +0.4
VYHS *e*PP PP 04 33 10.0 +0.5
PLOR Plostina 75.82 329⇑ *i*P P 04 30 20.5 +0.4
PLOR Plostina 75.82 329 P P 04 30 20.5 +0.4
SSPA Standing Stone 75.84 42 *e*P P 04 30 20.1 -0.2
comp=Z,247nm,0.9s
SSPA LR LR
comp=Z,3µm,18.0s
SSPA Standing Stone 75.84 42 P P 04 30 20.1 -0.2
baz=326
DSB Dublin 75.85 352 *e*P P 04 30 20.5 +0.4
DSB Dublin 75.85 352 *e*P P 04 30 20.2 +0.1
comp=Z,830nm,2.0s
O56A Blue Knob Stat 75.86 42 *e*P P 04 30 20.2 -0.2
comp=Z,236nm,0.8s
O56A LR LR
comp=Z,4µm,21.0s
O56A Blue Knob Stat 75.86 42 P P 04 30 20.2 -0.2
baz=326,SNR=57
OZUR 75.89 329⇑ *i*P P 04 30 21.5 +1.0
CFR Carcaliu 75.91 327⇑ *i*P P 04 30 20.8 +0.2
CFR Carcaliu 75.91 327 P P 04 30 20.5 -0.1
CFR pmax pmax
comp=Z,117nm,2.2s
Q54A Coxs Mills 75.92 45 P P 04 30 20.8 0.0
baz=325,SNR=30
IGLA Glengowla, Co 75.92 354 *i* P P 04 30 20.8 +0.3
GOA Goa 75.93 277 *e*P P 04 30 20.1 -1.0
GOA IAmb IAmb 04 30 22.5
comp=Z,96nm,1.5s
KRUC Moravsky 75.94 336 P P 04 30 21.4 +0.7
KRUC pmax pmax
comp=Z,123nm,1.8s
KRUC Moravsky 75.94 336⇓ *i*P P 04 30 21.2 +0.5
KRUC *e*PP PP 04 33 14.8 +4.3
KRUC *e*S S 04 40 04.2 +3.1
P55A Reedsville 75.94 44 P P 04 30 21.2 +0.3
baz=326,SNR=98
GURO Guroymak-BITLI 75.94 315 *e*P P 04 30 21.9 +0.8
R53A Hurricane 75.95 46 P P 04 30 21.1 +0.1
baz=325,SNR=80
LTVH Ltavrtes, Hu 75.95 332⇓ *e*P P 04 30 21.0 +0.3
LTVH *e*S S 04 40 03.1 +1.8
TREC Trest 75.95 337 *e*P P 04 30 21.2 +0.4
TREC *ex* x 04 30 28.1
TREC *e*PP PP 04 33 14.2 +3.6
TREC AMS AMS 05 10 30.0
comp=Z,13µm,14.6s
TREC Trest 75.95 337 *e*P P 04 30 21.2 +0.4
TREC *e* 04 30 28.1
TREC *e* 04 33 14.2
TREC MLR MLR
comp=Z,13µm,14.6s
FFD Franklin Falls 75.95 36 *e*P P 04 30 21.1 +0.2
comp=Z,644nm,2.0s
S52A Salyersville 75.95 47 P P 04 30 21.1 +0.1
baz=324,SNR=83
KSPA Keystone Colle 75.96 40 *e*P P 04 30 20.4 -0.5
comp=Z,115nm,0.9s
SNOP Sinop 75.98 321 PFAKE 04 30 30.0 +8.9
SNOP LR LR
comp=Z,3µm,22.0s
CJR Cluj-Napoca 76.03 331⇑ *i*P P 04 30 22.3 +0.9
CJR Cluj-Napoca 76.03 331 P P 04 30 22.3 +0.9
PSZ Piszkesteto 76.04 334 *e*P P 04 30 21.6 +0.2
comp=Z,499nm,1.7s
PSZ LR LR
comp=Z,11µm,20.0s
PSZ Piszkesteto 76.04 334⇑ *i*P P 04 30 22.6 +1.2
PSZ Piszkesteto 76.04 334 *e*P P 04 30 21.7 +0.2
PSZ pmax pmax
comp=Z,499nm,1.7s
PSZ MLR MLR
comp=Z,11µm,20.0s
PSZ Piszkesteto 76.04 334⇓ *e*P P 04 30 21.1 -0.4
PSZ *e*PP PP 04 33 14.1 +2.6
PSZ *e*S S 04 40 05.0 +2.5
MANZ Manzenberg 76.10 339 *e*P P 04 30 22.1 +0.5
comp=Z,183nm,1.9s,baz=20,slow=5.8
ERZN Erzincan 76.12 317 *e*P P 04 30 22.9 +0.8
T51A Gray 76.12 48 P P 04 30 21.9 -0.1
baz=324,SNR=75
GRER 76.12 328⇑ *i*P P 04 30 22.5 +0.7
EIDS Eidsvold 76.13 189 *e*P P 04 30 22.6 +0.8
comp=Z,266nm,1.6s
EIDS LR LR
comp=Z,4µm,21.0s
DOPR Dopca 76.13 329⇑ *i*P P 04 30 22.6 +0.7
U50A Jamestown 76.14 49 P P 04 30 22.2 +0.1
baz=324,SNR=129
W48A Pulaski 76.14 51 P P 04 30 22.1 0.0
baz=323,SNR=167
V49A McMinnville 76.15 50 P P 04 30 21.9 -0.2
baz=323,SNR=62
SMOL Smolenice 76.17 336 *e*P P 04 30 23.5 +1.4
SMOL Smolenice 76.17 336 *e*P P 04 30 23.4 +1.4
X47A Russelville 76.17 52 P P 04 30 21.8 -0.5
baz=323,SNR=54
BNGB Bingl 76.19 316 *e*P P 04 30 22.8 +0.3
KVTX Kingsville 76.20 63 *e*P P 04 30 23.2 +0.7
comp=Z,1µm,1.6s
DRGR 76.24 331⇓ *i*P P 04 30 22.9 +0.3
GGN Saint George 76.24 32 *e*P P 04 30 22.8 +0.3
comp=Z,566nm,1.8s
Q55A Buckhannon 76.24 44 P P 04 30 22.9 +0.2
baz=326,SNR=45
LMN Caledonia Moun 76.27 31 *e*P P 04 30 22.6 -0.1
comp=Z,593nm,1.9s
CUKT Cukurca 76.28 313 *e*P P 04 30 23.3 +0.3
ROTZ Rotzenmuhle 76.28 339 *e*P P 04 30 23.1 +0.4
comp=Z,159nm,1.7s,baz=20,slow=5.8
ROTZ *e*PP PP 04 33 16.7 +3.3
MDB Medias 76.30 330⇑ *i*P P 04 30 24.5 +1.7
MODS Modra-Piesok 76.34 336 *e*P P 04 30 24.1 +1.1
MODS pmax pmax
comp=Z,147nm,1.6s
MODS Modra-Piesok 76.34 336 *e*P P 04 30 24.1 +1.1
MODS *e*PP PP 04 33 17.1 +3.2
MLR Muntele Rosu 76.37 329 *e*P P 04 30 23.4 0.0
comp=Z,176nm,1.1s
MLR LR LR
comp=Z,8µm,20.0s
MLR Muntele Rosu 76.37 329⇑ *i*P P 04 30 24.0 +0.6
EMMW East Machias 76.39 33 *e*P P 04 30 23.8 +0.5
comp=Z,543nm,1.8s
S53A Williamson 76.39 46 P P 04 30 23.3 -0.2
baz=325,SNR=41
HARR Harsova 76.40 327⇓ *i*P P 04 30 23.2 -0.2
HARR Harsova 76.40 327 P P 04 30 23.2 -0.2
KVT Kavak 76.43 320 *e*P P 04 30 23.7 0.0
TIRR Tirgusor 76.44 327 *e*P P 04 30 23.4 -0.2
comp=Z,75nm,0.9s
TIRR LR LR
comp=Z,100nm,19.0s
TIRR Tirgusor 76.44 327⇑ *i*P P 04 30 23.7 +0.1
TIRR Tirgusor 76.44 327 *e*P P 04 30 23.4 -0.2
TIRR pmax pmax
comp=Z,75nm,0.9s
TLB Topalu 76.46 327⇑ *i*P P 04 30 22.8 -0.9
TLB Topalu 76.46 327 P P 04 30 22.8 -0.9
T52A Hallie 76.46 47 P P 04 30 24.3 +0.4
baz=324,SNR=98
W49A Belvidere 76.49 51 P P 04 30 23.9 -0.1
baz=323,SNR=70
N59A State Game Lan 76.49 40 *e*P P 04 30 23.5 -0.5
comp=Z,168nm,0.9s
N59A State Game Lan 76.49 40 P P 04 30 23.6 -0.4
baz=327,SNR=45
ISR Istrita 76.50 328⇑ *i*P P 04 30 24.8 +0.8
ISR Istrita 76.50 328 P P 04 30 24.9 +0.9
R54A Victor 76.50 45 P P 04 30 24.1 0.0
baz=325,SNR=70
PGOR Pogoanele 76.54 328⇓ *i*P P 04 30 25.5 +1.4
ZST Bratislava 76.55 336 *e*P P 04 30 24.3 +0.1
ZST *e* 04 33 17.1
ZST Bratislava 76.55 336 *e*P P 04 30 24.3 +0.1
ZST *e*PP PP 04 33 17.1 +1.5
KHC Kasperske Hory 76.56 338 *e*P P 04 30 24.5 +0.2
comp=Z,38nm,1.1s
KHC LR LR
comp=Z,2µm,19.0s
KHC Kasperske Hory 76.56 338 *e*P P 04 30 25.2 +0.9
KHC *ex* x 04 30 33.5
KHC *e*PP PP 04 33 19.9 +4.1
KHC *ex* x 04 35 14.1
KHC *e*S S 04 40 08.0 -0.1
KHC *e*SS SS 04 45 07.5 +5.4
KHC AMS AMS 05 10 50.0
comp=Z,20µm,15.1s
KHC Kasperske Hory 76.56 338 *e*P P 04 30 24.5 +0.2
KHC pmax pmax
comp=Z,38nm,1.1s
KHC MLR MLR
comp=Z,2µm,19.0s
U51A La Follette 76.56 48 P P 04 30 24.4 -0.2
baz=324,SNR=63
GRA1 Grafenberg Arr 76.57 340 *e*P P 04 30 24.5 +0.2
comp=Z,216nm,1.4s
GRA1 LR LR
comp=Z,6µm,21.0s
GRF Grafenberg Arr 76.57 340 *e*P P 04 30 25.2 +0.9
comp=Z,286nm,1.6s,baz=20,slow=5.8
GRF *e*L L 05 07 37.8
comp=Z,5µm,21.8s
GRF Grafenberg Arr 76.57 340 *e*P P 04 30 24.5 +0.2
GRF pmax pmax
comp=Z,216nm,1.4s
GRF MLR MLR
comp=Z,6µm,21.0s
SWET Sewanee 76.57 50 *e*P P 04 30 24.1 -0.5
comp=Z,1µm,1.9s
SWET LR LR
comp=Z,4µm,20.0s
GRFO Grafenberg 76.57 340 *e*P P 04 30 24.5 +0.2
comp=Z,203nm,1.4s
GRFO LR LR
comp=Z,5µm,21.0s
GRFO Grafenberg 76.57 340 *e*P P 04 30 24.5 +0.2
GRFO pmax pmax
comp=Z,203nm,1.4s
GRFO MLR MLR
comp=Z,5µm,21.0s

SRO Srobarova 76.58 335 eP P 04 30 25.6 +1.3
SRO Srobarova 76.58 335 eP P 04 30 25.6 +1.3
HGN Heimansgroeve 76.61 344 i P P 04 30 25.0 +0.5
comp=Z,605nm,1.7s
HGN ePP PP 04 33 21.4 +5.4
HGN ePPP PPP 04 35 09.8
HGN eS S 04 40 13.5 +5.1
HGN eSS SS 04 44 59.0 -3.5
V50A Pikevile 76.61 50 P P 04 30 24.5 -0.3
baz=324,SNR=86
VBMS Vicksburg 76.62 55 eP P 04 30 25.3 +0.5
comp=Z,2µm,2.0s
VBMS LR LR
comp=Z,5µm,18.0s
VBMS Vicksburg 76.62 55 P P 04 30 25.5 +0.7
baz=322,SNR=22
BEBN Eben Emael 76.62 344 ⇓P P 04 30 24.9 +0.4
BEBN ⇑PcP sP 04 30 34.7 -0.2
X48A Hartselle 76.63 52 eP P 04 30 24.0 -0.9
comp=Z,149nm,1.1s
X48A LR LR
comp=Z,4µm,19.0s
X48A Hartselle 76.63 52 P P 04 30 24.2 -0.6
baz=323,SNR=50
TNS Taunus Mts 76.65 342 eP P 04 30 25.4 +0.6
comp=Z,145nm,1.6s,baz=20,slow=5.8
TNS ePP PP 04 33 19.5 +3.0
TZTN Tazewell 76.65 48 eP P 04 30 25.1 +0.1
comp=Z,265nm,1.0s
TZTN LR LR
comp=Z,4µm,19.0s
TZTN Tazewell 76.65 48 P P 04 30 25.3 +0.3
baz=324,SNR=54
PAGS Pennsylvania G 76.67 41 eP P 04 30 24.5 -0.5
comp=Z,151nm,0.9s
AMRR Amara 76.68 327⇑ iP P 04 30 26.0 +1.0
MFTR Murfatlar 76.68 327⇑ iP P 04 30 25.4 +0.4
BUD Budapest 76.68 334 P P 04 30 26.0 +1.1
BUD pmax pmax
comp=Z,159nm,1.9s
BUD Budapest 76.68 334⇓ eP P 04 30 25.1 +0.1
QUA2 Belchertown 76.70 37 eP P 04 30 25.1 0.0
comp=Z,90nm,1.1s
VOIR 76.71 329⇑ iP P 04 30 26.3 +1.0
VOIR 76.71 329 P P 04 30 25.7 +0.4
VOIR pmax pmax
comp=Z,79nm,1.5s
WET Wettzell 76.71 339 eP P 04 30 26.1 +0.9
comp=Z,93nm,1.1s,baz=20,slow=5.8
WET Wettzell 76.71 339 P P 04 30 25.9 +0.7
WET pmax pmax
comp=Z,66nm,1.3s
MEM Membach 76.74 343 P P 04 30 26.0 +0.8
MEM pmax pmax
comp=Z,151nm,0.9s
MEM Membach 76.74 343 ⇓P P 04 30 25.9 +0.6
comp=Z,106nm,1.5s
IWEX Carrickbyrne, 76.75 352 i P P 04 30 25.6 +0.4
T53A Wise 76.77 47 P P 04 30 26.0 +0.3
baz=325,SNR=93
GEC2 GERESS Array S 76.80 338 PFAKE 04 30 40.0 +14
GEC2 LR LR
comp=Z,6µm,20.0s
GEC2 GERESS Array S 76.80 338 eP P 04 30 26.0 +0.2
comp=Z,104nm,1.7s,baz=20,slow=5.8
GEC2 ePP PP 04 33 20.9 +3.1
GERES GERESS Array B 76.80 338 P P 04 30 25.6 -0.1
comp=Z,11nm,0.8s,baz=32,slow=5.2,SNR=23
GERES LR LR 05 08 54.9
comp=Z,6µm,18.9s,baz=24,slow=39
HRV Adam Dziewonsk 76.81 37 eP P 04 30 26.1 +0.4
comp=Z,630nm,1.8s
HRV Adam Dziewonsk 76.81 37 eP P 04 30 26.1 +0.4
HRV pmax pmax
comp=Z,630nm,1.8s
HRV Adam Dziewonsk 76.81 37 P P 04 30 25.6 -0.1
baz=329
R55A Marlinton 76.81 45 P P 04 30 26.1 +0.1
baz=326,SNR=61
ODNJ Ogdensburg 76.83 39 eP P 04 30 25.5 -0.3
comp=Z,137nm,1.2s
UCC Uccle 76.85 345 eP P 04 30 25.8 0.0
comp=Z,40nm,1.0s
UCC LR LR
comp=Z,7µm,20.0s
UCC Uccle 76.85 345 eP P 04 30 25.8 0.0
UCC pmax pmax
comp=Z,40nm,1.0s
UCC MLR MLR
comp=Z,7µm,20.0s
UCC Uccle 76.85 345 ⇓PcP P 04 30 26.0 +0.2
UCC ⇓PcP sP 04 30 35.1 -1.0
UCC ⇑PP PP 04 33 22.8 +4.8
U52A Thorn Hill 76.86 48 P P 04 30 26.4 +0.2
baz=324,SNR=104
TOKT Tokat 76.87 319 eP P 04 30 26.8 +0.6
V51A Loudon 76.87 49 eP P 04 30 26.1 0.0
comp=Z,1µm,1.9s
V51A LR LR
comp=Z,5µm,20.0s
V51A Loudon 76.87 49 P P 04 30 26.2 0.0
baz=324,SNR=66
W50A Signal Mountai 76.89 50 eP P 04 30 26.2 -0.2
comp=Z,239nm,1.0s
W50A LR LR
comp=Z,4µm,20.0s
W50A Signal Mountai 76.89 50 P P 04 30 26.2 -0.2
baz=324,SNR=60
MTUR Matau 76.89 329⇑ iP P 04 30 27.0 +0.7
MTUR Matau 76.89 329 P P 04 30 27.0 +0.7
ARR Arges 76.91 330⇑ iP P 04 30 27.7 +1.3
LUPA Lehigh Univers 76.92 40 eP P 04 30 26.0 -0.5
comp=Z,61nm,1.8s
LUPA LR LR
comp=Z,400nm,19.0s
X49A Woodville 76.94 51 P P 04 30 26.4 -0.2
baz=323,SNR=74
ICOR Ion Corvin 76.95 327⇓ iP P 04 30 27.2 +0.7
LEHL Lehliu 76.97 328⇑ iP P 04 30 27.3 +0.7
SULR 76.98 328⇓ iP P 04 30 27.0 +0.3
DEV Deva 76.99 331⇓ iP P 04 30 27.2 +0.5
DEV Deva 76.99 331 P P 04 30 27.2 +0.5
Y48A Jasper 77.00 52 P P 04 30 26.1 -0.8
baz=323,SNR=60
CSKK Cskako 77.00 335 eP P 04 30 27.1 +0.3
CSKK ⇑eS S 04 40 14.1 +1.2
CSKK Cskako 77.00 335 ePP PP 04 33 22.0 +2.6
WES Weston 77.00 37 eP P 04 30 26.7 -0.2
comp=Z,145nm,1.1s
WES Weston 77.00 37 eP P 04 30 26.7 -0.2
WES pmax pmax
comp=Z,145nm,1.1s
SVSK Karacayir 77.01 319 eP P 04 30 27.7 +0.8
MVL Millersville 77.02 41 eP P 04 30 26.7 -0.3
comp=Z,124nm,1.1s
SIRR Siria 77.03 332⇑ iP P 04 30 27.7 +0.8
BCLA Clavier 77.05 344 ⇓P P 04 30 27.4 +0.4
comp=Z,71nm,1.7s
BCLA ⇑PP PP 04 33 20.8 +1.1
S55A Lewisburg 77.06 45 P P 04 30 27.2 -0.2
baz=326,SNR=32
CPCT Cooper Cave 77.07 49 eP P 04 30 27.2 -0.1
comp=Z,202nm,1.0s
RASA Rasa 77.09 327⇑ iP P 04 30 27.1 -0.2
XMIS Christmas Isla 77.09 235 eP P 04 30 27.1 -0.5
comp=Z,161nm,1.1s
ZAIG Zacatecas 77.10 70 eP P 04 30 28.1 0.0
comp=Z,576nm,2.0s
ZAIG LR LR
comp=Z,2µm,19.0s
BCX Boston College 77.10 36 eP P 04 30 27.6 +0.2
comp=Z,714nm,2.0s
LOT Lotru 77.11 330⇓ iP P 04 30 27.8 +0.2
CONA Conrad Observa 77.12 336 eP P 04 30 28.8 +1.2
comp=Z,82nm,1.4s,SNR=28
SNF Seneffe 77.14 345 ⇑P P 04 30 27.6 +0.2
T54A Tazewell 77.15 46 P P 04 30 27.9 0.0
baz=325,SNR=104
SOP Sopron 77.17 336 P P 04 30 28.9 +1.2
SOP pmax pmax
comp=Z,91nm,2.1s
SOP Sopron 77.17 336⇓ eP P 04 30 27.0 -0.7
SOP ePP PP 04 33 23.1 +2.3
SOP eS S 04 40 14.1 -0.6
PAL Palisades 77.17 39 eP P 04 30 27.3 -0.5
comp=Z,1µm,2.0s
PAL Palisades 77.17 39 eP P 04 30 27.3 -0.5
PAL pmax pmax
comp=Z,1µm,2.0s
PAL Palisades 77.17 39 P P 04 30 27.2 -0.5
baz=328,SNR=23
BRNJ Basking Ridge 77.18 40 eP P 04 30 27.1 -0.7
comp=Z,135nm,1.1s
W51A Cleveland 77.19 50 P P 04 30 27.7 -0.3
baz=324,SNR=40
PSN Preselentsi 77.20 326 i P P 04 30 28.9 +1.0
V52A Sevierville 77.20 48 eP P 04 30 28.1 0.0
comp=Z,1µm,1.8s
V52A LR LR
comp=Z,4µm,20.0s
V52A Sevierville 77.20 48 P P 04 30 28.0 0.0
baz=324,SNR=74
AMBH Ambrzfalva 77.23 333⇓ eP P 04 30 28.1 +0.1
U53A Fall Branch 77.25 47 P P 04 30 28.5 +0.1
baz=325,SNR=95
TKL Tuckaleechee C 77.26 49 eP P 04 30 28.2 -0.2
comp=Z,806nm,1.7s
TKL Tuckaleechee C 77.26 49 eP P 04 30 28.2 -0.2
TKL pmax pmax
comp=Z,806nm,1.7s
TKL Tuckaleechee C 77.26 49 LR LR 05 05 09.8
comp=Z,5µm,20.1s,baz=329,slow=36
GOLR 77.27 329⇑ iP P 04 30 27.7 -0.6
YLE Yale 77.30 38 eP P 04 30 28.2 -0.3
comp=Z,150nm,1.3s
SDMD Soldier's Deli 77.31 42 eP P 04 30 28.4 -0.2
comp=Z,79nm,0.9s
LNIG Linares 77.31 66 eP P 04 30 28.2 -0.7
comp=Z,469nm,2.0s
LNIG LR LR
comp=Z,1µm,20.0s
X50B Fort Payne 77.31 51 P P 04 30 28.5 -0.3
baz=324,SNR=78
BRYW Bryant College 77.32 37 eP P 04 30 28.9 +0.3
comp=Z,105nm,0.9s
BRYW LR LR
comp=Z,4µm,22.0s
CPNY Central Park 77.33 39 eP P 04 30 28.4 -0.3
comp=Z,156nm,0.9s
Y49A Blount Mountai 77.42 52 eP P 04 30 28.8 -0.6
comp=Z,164nm,1.0s
Y49A LR LR
comp=Z,4µm,18.0s
Y49A Blount Mountai 77.42 52 P P 04 30 28.9 -0.4
baz=323,SNR=37
147A Livingston 77.42 54 eP P 04 30 29.6 +0.2
comp=Z,2µm,1.8s
147A LR LR
comp=Z,3µm,18.0s
147A Livingston 77.42 54 P P 04 30 29.6 +0.2
baz=323,SNR=56
PSUB Penn St. - Bra 77.46 41 eP P 04 30 28.8 -0.6
comp=Z,69nm,0.9s
PSUB LR LR
comp=Z,3µm,20.0s
VAL Valentia 77.46 354 i P P 04 30 29.9 +0.7
T55A Pulaski 77.47 46 P P 04 30 29.7 +0.1
baz=325,SNR=60
GZR Gura Zlata 77.47 331⇑ iP P 04 30 29.8 +0.3
U54A Nelsons Funny 77.48 47 P P 04 30 29.6 -0.1
baz=325,SNR=55
DOU Dourbes 77.49 344 P P 04 30 30.7 +1.3
DOU pmax pmax
comp=Z,91nm,2.2s
DOU Dourbes 77.49 344 ⇓P P 04 30 29.9 +0.5
DOU ⇑PcP sP 04 30 39.9 +0.2
DOU ⇓PP PP 04 33 28.5 +5.1
TIH Tihany 77.53 335⇓ eP P 04 30 29.0 -0.7
TIH ePP PP 04 33 28.1 +4.2
TIH eS S 04 40 17.0 -1.5
BLA Blacksburg 77.56 45 eP P 04 30 30.1 0.0
comp=Z,234nm,1.0s
BLA LR LR
comp=Z,3µm,19.0s
BLA Blacksburg 77.56 45 eP P 04 30 30.1 0.0
BLA pmax pmax
comp=Z,234nm,1.0s
BLA MLR MLR
comp=Z,3µm,19.0s
BLA Blacksburg 77.56 45 P P 04 30 29.9 -0.2
baz=326,SNR=45
AS01 Alice Springs 77.56 205 eP P 04 30 30.0 -0.1
AS31 Alice Springs 77.58 205 eP P 04 30 30.5 +0.4
comp=Z,44nm,1.1s
ASAR Alice Springs 77.58 205 P P 04 30 30.8 +0.6
comp=Z,112nm,0.9s,baz=13,slow=5.4,SNR=500
ASAR PKKPbc PKKPbc 04 49 31.0 -2.1
comp=Z,0.8nm,0.7s,baz=186,slow=2.2,SNR=7.2
ASAR PKPPKP 04 57 34.1
comp=Z,1.4nm,1.1s,baz=173,slow=3.7,SNR=4.6
ASAR LR LR 05 07 45.0
comp=Z,1µm,18.1s,baz=23,slow=38
BAIF Baives 77.59 344 eP P 04 30 29.9 -0.1
BAIF pmax pmax
comp=Z,70nm,1.3s
MOA Molln 77.59 337 epP P 04 30 30.6 +0.5
comp=Z,45nm,1.7s,SNR=17
X51A Calhoun 77.62 50 eP P 04 30 30.2 -0.2
comp=Z,203nm,1.1s
X51A LR LR
comp=Z,4µm,21.0s
X51A Calhoun 77.62 50 P P 04 30 30.2 -0.2
baz=324,SNR=33
WLF Walferdange 77.62 343 eP P 04 30 29.2 -1.0
comp=Z,1µm,1.8s
WLF LR LR
comp=Z,28µm,21.0s
WLF Walferdange 77.62 343 eP P 04 30 31.2 +1.0
comp=Z,914nm,2.5s,baz=20,slow=5.8
WLF Walferdange 77.62 343 eP P 04 30 29.2 -1.0
WLF pmax pmax
comp=Z,1µm,1.8s
WLF MLR MLR
comp=Z,28µm,21.0s
WLF Walferdange 77.62 343 ⇑P P 04 30 31.1 +0.9
WLF ⇑PcP sP 04 30 41.7 +1.1
comp=Z,126nm,2.4s
WLF ⇓PP PP 04 33 26.3 +1.8
BZS Buzias 77.63 332⇑ iP P 04 30 30.5 +0.2
BZS Buzias 77.63 332 P P 04 30 30.1 -0.2
BZS pmax pmax
comp=Z,94nm,2.3s
W52A Murphy 77.64 49 eP P 04 30 30.6 0.0
comp=Z,607nm,1.6s
W52A LR LR
comp=Z,5µm,21.0s
W52A Murphy 77.64 49 P P 04 30 30.6 0.0
baz=324,SNR=47
GBN Guysborough 77.70 29 eP P 04 30 30.6 0.0
comp=Z,327nm,1.7s
V53A Saluda 77.71 48 eP P 04 30 31.0 0.0
comp=Z,923nm,1.8s
V53A LR LR
comp=Z,3µm,19.0s
V53A Saluda 77.71 48 P P 04 30 31.1 0.0
baz=325,SNR=70
Y50A Piedmont 77.73 51 P P 04 30 30.7 -0.4
baz=324,SNR=21
HAL Halifax 77.74 30 eP P 04 30 31.1 +0.3
comp=Z,422nm,1.8s
HAL Halifax 77.74 30 eP P 04 30 31.2 +0.3
HAL pmax pmax
comp=Z,422nm,1.8s
CORM Corum 77.77 320 eP P 04 30 32.1 +0.7
PALK Pallekele 77.78 267 eP P 04 30 31.4 -0.2
comp=Z,189nm,1.4s
PALK LR LR
comp=Z,4µm,19.0s
PALK Pallekele 77.78 267 P P 04 30 31.9 +0.3
LRAL Lakeview Retre 77.78 52 eP P 04 30 30.7 -0.7
comp=Z,101nm,1.0s
LRAL LR LR
comp=Z,4µm,20.0s
LRAL Lakeview Retre 77.78 52 P P 04 30 30.6 -0.7
baz=323,SNR=30
ARSA Arzberg 77.83 336 epP P 04 30 32.2 +0.7
comp=Z,79nm,1.5s,SNR=28
U55A TA2, Sparta 77.85 46 P P 04 30 31.6 -0.2
baz=325,SNR=65
STU Stuttgart 77.88 341 eP P 04 30 31.4 -0.2
comp=Z,58nm,1.1s
STU LR LR
comp=Z,5µm,22.0s
STU Stuttgart 77.88 341 eP P 04 30 32.2 +0.6
comp=Z,103nm,1.4s,baz=20,slow=5.8
STU ePP PP 04 33 27.4 +0.7
STU Stuttgart 77.88 341 eP P 04 30 31.4 -0.2
STU pmax pmax
comp=Z,58nm,1.1s
STU MLR MLR
comp=Z,5µm,22.0s
T56A Rocky Mt 77.88 45 P P 04 30 31.5 -0.4
baz=326,SNR=22
Z49A Columbiana 77.89 52 P P 04 30 31.5 -0.5
baz=324,SNR=27
PRD Provadia 77.89 327 i P P 04 30 32.3 +0.5
DARE Darende-Malaty 77.93 318 eP P 04 30 33.2 +0.9
YOZ Yozgat 77.94 320 eP P 04 30 32.1 -0.3
W53A Cullowhee 77.95 49 P P 04 30 32.6 +0.2
baz=325,SNR=41
MORH Mrgy, Hungar 77.95 334⇓ iP P 04 30 31.6 -0.5
MORH Mrgy, Hungar 77.95 334 eP P 04 30 32.0 0.0
MORH ePP PP 04 33 30.0 +2.6
MORH eS S 04 40 28.0 +4.9
M65A Busby, Falmout 77.97 37 P P 04 30 31.3 -1.0
baz=330
SRE Strehaia 77.99 330⇑ iP P 04 30 32.8 +0.4
SRE Strehaia 77.99 330 P P 04 30 32.8 +0.4
FUR Furstenfeldbru 78.00 339 eP P 04 30 33.0 +0.7
comp=Z,204nm,1.7s,baz=20,slow=5.8
FUR Furstenfeldbru 78.00 339 P P 04 30 33.5 +1.1
FUR pmax pmax
comp=Z,68nm,1.2s
V54A Nebo 78.03 47 P P 04 30 32.8 +0.1
baz=325,SNR=52
HERR Herculane 78.04 331⇑ iP P 04 30 32.6 0.0
Y51A Rockmart 78.05 51 P P 04 30 32.5 -0.4
baz=324,SNR=52
X52A Dahlonega 78.06 49 P P 04 30 32.9 0.0
baz=324,SNR=49
R58B Mineral 78.07 43 eP P 04 30 32.9 +0.1
comp=Z,911nm,1.9s
R58B LR LR
comp=Z,5µm,19.0s
R58B Mineral 78.07 43 P P 04 30 32.9 +0.1
baz=327,SNR=46
CBN Corbin Frederi 78.08 43 eP P 04 30 33.1 +0.1
comp=Z,243nm,1.0s
CBN LR LR
comp=Z,3µm,18.0s
CBN Corbin Frederi 78.08 43 P P 04 30 33.0 0.0
baz=327,SNR=22
Z50A Ashland 78.15 52 eP P 04 30 33.1 -0.4
comp=Z,250nm,0.9s
Z50A LR LR
comp=Z,4µm,18.0s
Z50A Ashland 78.15 52 P P 04 30 33.0 -0.4
baz=324,SNR=65
VLAD Vladila 78.20 329⇓ iP P 04 30 34.2 +0.7
BG3 Lake Jocassee 78.20 48 eP P 04 30 34.0 +0.3
comp=Z,1µm,1.7s
BG3 LR LR
comp=Z,5µm,20.0s
BEHE Becsehely 78.23 335 eP P 04 30 34.4 +0.8
BEHE Becsehely 78.23 335 eS S 04 40 27.0 +0.9
BEHE Becsehely 78.23 335⇓ eP P 04 30 34.1 +0.5
BEHE ePP PP 04 33 32.0 +2.3
149A Jones 78.24 53 P P 04 30 33.7 -0.1
baz=323,SNR=50
T57A Hurt 78.26 45 P P 04 30 33.6 -0.4
baz=326,SNR=61
URFA Urfa 78.29 316 eP P 04 30 35.2 +1.0
V55A Taylorsville 78.31 47 P P 04 30 34.1 -0.2
baz=325,SNR=41
MDVR Moldovita 78.35 331⇑ iP P 04 30 34.5 +0.1
BNN Bunyan 78.39 319 eP P 04 30 34.5 -0.3
X53A Estanollee 78.42 49 P P 04 30 35.2 +0.3
baz=325,SNR=63
TAOE Nuku Hiva Isla 78.45 120 eP P 04 30 35.0 -0.3
comp=Z,243nm,1.3s
TAOE eS S 04 40 26.4 -3.0
comp=Z,5µm,33.3s
TAOE Nuku Hiva Isla 78.45 120 eLR LR 04 54 35.0
comp=Z,10µm,32.9s,baz=329
TAOE Nuku Hiva Isla 78.45 120 eP P 04 30 36.1 +0.8
comp=Z,119nm,1.2s
Z51A Franklin 78.47 51 P P 04 30 34.8 -0.3
baz=324,SNR=15
BFO Black Forest 78.47 341 eP P 04 30 34.9 -0.1
comp=Z,90nm,1.4s
BFO LR LR
comp=Z,6µm,21.0s
BFO Black Forest 78.47 341 eP P 04 30 35.5 +0.5
comp=Z,119nm,1.6s,baz=20,slow=5.8
BFO Black Forest 78.47 341 eP P 04 30 35.8 +0.8
W54A Cherokee Point 78.48 48 P P 04 30 35.2 0.0
baz=325,SNR=45
SOKA Soboth 78.49 336 i pP P 04 30 35.8 +0.6
comp=Z,120nm,1.5s,SNR=30
PERS Pernice 78.51 336 i P P 04 30 35.8 +0.5
PERS eS S 04 40 31.5 +2.2
KBA Koelnbreinsper 78.54 338 eP P 04 30 36.7 +1.2
comp=Z,82nm,0.9s,SNR=45
KBA Koelnbreinsper 78.54 338 P P 04 30 36.7 +1.2
KBA pmax pmax
comp=Z,238nm,1.1s
BR131 Keskin Array S 78.56 321 eP P 04 30 35.7 0.0
BR131 Keskin Array S 78.56 321 P P 04 30 35.8 0.0
SNR=13
BRTR Keskin Array B 78.56 321 P P 04 30 35.7 0.0
comp=Z,72nm,1.2s,baz=64,slow=2.9,SNR=42
BRTR LR LR 05 11 47.8
comp=Z,2µm,18.7s,baz=13,slow=41
249A Camden 78.57 53 P P 04 30 36.3 +0.6
baz=323,SNR=60
Y52A Lilburn 78.57 50 eP P 04 30 35.2 -0.5
comp=Z,154nm,1.0s
Y52A LR LR
comp=Z,4µm,22.0s
Y52A Lilburn 78.57 50 P P 04 30 35.8 +0.1
baz=324,SNR=44
CDF Champ du Feu 78.61 342 eP P 04 30 35.6 -0.2
CDF pmax pmax
comp=Z,142nm,1.3s
SHME Shamm 78.61 297 i P P 04 30 35.4 -0.7
SNR=30
150A Eclectic 78.62 52 P P 04 30 35.6 -0.4
baz=324,SNR=37
BEO Beograd 78.70 332 P P 04 30 36.3 +0.1
WATA Walderalm 78.71 339 epP P 04 30 37.3 +0.8
comp=Z,115nm,1.6s,SNR=34
UBR Ueberruh 78.72 340 eP P 04 30 37.1 +0.7
comp=Z,172nm,1.7s,baz=20,slow=5.8
RETA Reutte 78.75 339 epP P 04 30 37.3 +0.7
comp=Z,46nm,1.6s,SNR=11
LOD Lodumlu 78.77 321 eP P 04 30 37.2 +0.4
WTTA Wattenberg 78.77 339 i P P 04 30 37.9 +1.1
comp=Z,124nm,1.6s
OBKA Obir 78.77 337 epP P 04 30 37.3 +0.6
comp=Z,63nm,1.2s,SNR=9.3
ANTO Ankara 78.77 321 eP P 04 30 36.8 0.0
comp=Z,1µm,1.5s
ANTO Ankara 78.77 321 eP P 04 30 36.8 0.0
ANTO pmax pmax
comp=Z,1µm,1.5s
MOTA Moosalm 78.81 339 epP P 04 30 37.5 +0.5
comp=Z,120nm,1.3s,SNR=51
Y53A Monroe 78.81 50 P P 04 30 37.0 0.0
baz=325,SNR=48
ECH Echery 78.82 342 eP P 04 30 37.2 +0.3
comp=Z,94nm,1.2s
ECH LR LR
comp=Z,4µm,19.0s
ECH Echery 78.82 342 eP P 04 30 37.2 +0.3
ECH pmax pmax
comp=Z,94nm,1.2s
ECH MLR MLR
comp=Z,4µm,19.0s
X54A Belton 78.83 48 P P 04 30 37.4 +0.3
baz=325,SNR=47
KMSC Kings Mountain 78.83 47 eP P 04 30 37.0 -0.2
comp=Z,816nm,1.8s
KMSC LR LR
comp=Z,4µm,18.0s
KMSC Kings Mountain 78.83 47 P P 04 30 36.9 -0.2
baz=325,SNR=65
PAULI Pauline 78.87 48 eP P 04 30 37.1 -0.3
comp=Z,742nm,1.9s
PAULI LR LR
comp=Z,4µm,18.0s

MDUB **Mudurnu** 78.88 323 eP P 04 30 37.6 +0.2
MYKA **Terra Mystica** 78.88 337 i pP P 04 30 37.7 +0.4
comp=Z,56nm,1.4s,SNR=15
SQTA **Sankt Quirin** 78.91 339 epP P 04 30 38.6 +1.1
comp=Z,119nm,1.4s,SNR=27
V57A **Coltrane Farms** 78.94 46 P P 04 30 37.3 -0.4
baz=326,SNR=40
Z52A **Williamson** 78.94 51 P P 04 30 37.7 -0.1
baz=324,SNR=59
SLE **Schleitheim** 78.98 341 P P 04 30 38.5 +0.7
SLE pmax pmax
comp=Z,65nm,1.0s
250A **Grady** 79.00 53 eP P 04 30 38.1 0.0
comp=Z,2µm,1.8s
250A LR LR
comp=Z,2µm,19.0s
250A **Grady** 79.00 53 P P 04 30 38.1 0.0
baz=324,SNR=50
448A **Bay Minette** 79.02 54 P P 04 30 39.4 +1.2
baz=323,SNR=32
151A **Opelika** 79.03 52 P P 04 30 37.7 -0.5
baz=324,SNR=9.6
349A **Repton** 79.03 54 P P 04 30 39.1 +0.9
baz=323,SNR=21
ZAG **Zagreb** 79.03 335 P P 04 30 40.2 +2.2
ZAG pmax pmax
comp=Z,319nm,1.0s
ZAG **Zagreb** 79.03 335 eP P 04 30 38.6 +0.6
ABTA **Abfaltersbach** 79.05 338 epP P 04 30 38.6 +0.4
comp=Z,47nm,1.2s,SNR=15
KMRS **Kahramanmaras** 79.08 317 eP P 04 30 38.9 +0.4
MDH **Madha** 79.10 297 i P P 04 30 37.5 -1.3
SNR=18
MSFE **Esma-Masafi** 79.13 297 i P P 04 30 38.0 -1.0
SNR=7.7
DAVA **Damuels** 79.14 340 epP P 04 30 39.4 +0.6
comp=Z,38nm,1.4s,SNR=10
HODGE **Hodges** 79.14 48 eP P 04 30 38.9 +0.1
comp=Z,1µm,1.9s
HODGE LR LR
comp=Z,5µm,20.0s
YAYX **Yaylak** 79.16 320 eP P 04 30 38.9 -0.1
CRES **Cresnjev** 79.17 336 ǁ iP P 04 30 38.9 +0.1
MOF **Molkenrain** 79.17 342 P P 04 30 39.9 +1.0
HAU **Haudompre** 79.18 342 eP P 04 30 38.6 -0.3
HAU pmax pmax
comp=Z,94nm,1.2s
W56A **Indian Trail** 79.19 47 P P 04 30 38.8 -0.3
baz=326,SNR=19
FETA **Feichten** 79.20 339 epP P 04 30 40.1 +0.9
comp=Z,59nm,1.6s,SNR=16
LJU **Ljubljana** 79.21 336 ǁ iP P 04 30 39.0 0.0
152A **Waverly Hall** 79.22 51 eP P 04 30 38.8 -0.5
comp=Z,916nm,1.8s
152A LR LR
comp=Z,4µm,18.0s
152A **Waverly Hall** 79.22 51 P P 04 30 38.8 -0.5
baz=324,SNR=36
TRD **Trivandrum** 79.22 270 eP P 04 30 38.7 -0.8
TRD IAmb IAmb 04 30 40.5
comp=Z,51nm,0.0s
GAZ **Gaziantep** 79.22 317 eP P 04 30 40.0 +0.7
GOGA **Godfrey** 79.23 50 eP P 04 30 38.5 -0.8
comp=Z,465nm,1.9s
GOGA LR LR
comp=Z,4µm,22.0s
GOGA **Godfrey** 79.23 50 eP P 04 30 38.5 -0.8
GOGA pmax pmax
comp=Z,465nm,1.9s
GOGA MLR MLR
comp=Z,4µm,22.0s
GOGA **Godfrey** 79.23 50 P P 04 30 39.2 -0.1
baz=325,SNR=27
PHSR **Pinarhisar** 79.23 326 ⇑ iP P 04 30 38.1 -1.1
Y54A **Tignall** 79.24 49 P P 04 30 39.8 +0.4
baz=325,SNR=189
X55A **Gracelyn & Ava** 79.24 48 P P 04 30 39.4 0.0
baz=325,SNR=30
BRAL **Brewton** 79.25 54 eP P 04 30 40.1 +0.7
BRAL pmax pmax
comp=Z,502nm,1.1s
BRAL LR LR
comp=Z,3µm,18.0s
BRAL **Brewton** 79.25 54 P P 04 30 40.2 +0.7
baz=324,SNR=13
HINF **Hinteralfeld** 79.26 342 eP P 04 30 38.8 -0.5
HINF pmax pmax
comp=Z,148nm,1.8s
Z53A **Monticello** 79.28 50 P P 04 30 39.4 -0.2
baz=325,SNR=45
AUMIH **MIHALICIK** 79.29 322 eP P 04 30 39.6 -0.1
UMQ **Umm Al-Quwin** 79.29 297 i P P 04 30 39.9 +0.1
SNR=7.2
UMQ **Umm Al-Quwin** 79.29 297 P P 04 30 40.2 +0.5
SNR=5.7
UMQ P P 04 30 40.2 +0.5
SNR=5.7
251A **Midway** 79.34 52 P P 04 30 39.7 -0.2
baz=324,SNR=50
WSAR **Wadi Sarin** 79.35 294 P P 04 30 40.6 +0.5
SNR=20
VISS **Visnje** 79.35 336 i P P 04 30 39.3 -0.5
OZLJ **Ozalj** 79.36 336 P P 04 30 40.2 +0.4
KULU **Kulu** 79.40 321 eP P 04 30 40.6 +0.3
350A **Dozier** 79.41 53 P P 04 30 41.0 +0.7
baz=324,SNR=35
BIDO **Bidbid** 79.42 294 P P 04 30 40.5 -0.1
SNR=9.7
BIDO P P 04 30 40.5 -0.1
SNR=9.7
W57A **Gilead** 79.45 46 P P 04 30 40.2 -0.3
baz=326,SNR=33
DOB **Doboj** 79.46 334 eP P 04 30 39.4 -1.0
JAVS **Javornik** 79.47 337 i P P 04 30 40.9 +0.3
JAVS eS S 04 40 40.8 +1.2
YLV **Yalova** 79.49 324 ⇑ iP P 04 30 41.0 +0.3
449A **Pace** 79.49 54 P P 04 30 41.9 +1.1
baz=324,SNR=22
X56A **White Oak** 79.51 47 P P 04 30 40.5 -0.3
baz=326,SNR=40
CEY **Cerknica** 79.52 336 ǁ iP P 04 30 40.5 -0.3
BOJS **Bojanci** 79.52 336 i P P 04 30 40.9 +0.2
BOJS i PP PP 04 33 44.0 +3.5
BOJS e 04 37 09.4
BOJS eS S 04 40 40.8 +0.8
PMOR **Pomariorio Ree** 79.55 129 eP P 04 30 41.2 +0.1
comp=Z,328nm,1.4s
PMOR **Pomariorio Ree** 79.55 129 eT T 06 00 08.7
comp=Z,3.1nm,0.2s
KOZT **Kozan** 79.56 318 eP P 04 30 41.4 +0.3
HATD **Hatta, Dubai** 79.56 296 i P P 04 30 40.7 -0.6
SNR=19
PGB **Panagyurishte** 79.57 329 i P P 04 30 41.3 +0.2
Y55A **Saluda** 79.57 48 P P 04 30 41.4 +0.2
baz=325,SNR=43
JSC **Jenkinsville** 79.57 48 eP P 04 30 41.1 0.0
comp=Z,545nm,1.8s
JSC LR LR
comp=Z,4µm,20.0s
JSC **Jenkinsville** 79.57 48 eP P 04 30 41.2 0.0
JSC pmax pmax
comp=Z,545nm,1.8s
JSC MLR MLR
comp=Z,4µm,20.0s
FLN **La Foliniere** 79.58 347 eP P 04 30 40.7 -0.3
FLN pmax pmax
comp=Z,121nm,1.2s
AUSIV **SIVRIHISAR** 79.63 322 eP P 04 30 41.6 0.0
SVRH **Sivrihisar-ESK** 79.64 322 eP P 04 30 41.7 +0.1
153A **Fort Valley** 79.67 50 P P 04 30 41.7 -0.1
baz=325,SNR=34
Z54A **Sparta** 79.67 49 P P 04 30 42.0 +0.2
baz=325,SNR=36
FUORN **Ofenpass-Fuorn** 79.69 339 eP P 04 30 41.9 -0.1
comp=Z,296nm,1.6s
FUORN LR LR
comp=Z,6µm,22.0s
LDF **La Druitiere** 79.69 347 eP P 04 30 41.3 -0.3
LDF pmax pmax
comp=Z,187nm,1.7s
BLY **Banja Luka** 79.70 334 eP P 04 30 41.3 -0.4
comp=Z,27nm,0.8s
BLY LR LR
comp=Z,10µm,18.0s
BLY **Banja Luka** 79.70 334 eP P 04 30 40.7 -1.0
NAZ **Nazwa, Dubai** 79.70 297 i P P 04 30 40.9 -1.2
SNR=18
NAZ **Nazwa, Dubai** 79.70 297 P P 04 30 42.0 -0.1
SNR=22
NAZ P P 04 30 42.0 -0.1
SNR=22
LOMF **Lomont** 79.71 342 P P 04 30 43.2 +1.4
ASHO **Ashiyiah** 79.71 296 i P P 04 30 41.5 -0.7
SNR=19
TRI **Trieste** 79.71 337 PFAKE 04 30 50.0 +8.2
TRI LR LR
comp=Z,5µm,19.0s
JLN **Jalan Bani Buh** 79.73 292 P P 04 30 43.0 +0.8
SNR=17
V59A **Middlesex** 79.74 45 P P 04 30 42.1 +0.1
baz=327,SNR=62
252A **Lumpkin** 79.75 51 P P 04 30 42.1 -0.1
baz=324,SNR=21
450A **Crestview** 79.78 53 P P 04 30 43.4 +1.0
baz=324,SNR=11
RAR **Rarotonga** 79.78 142 eP P 04 30 42.9 +0.7
comp=Z,157nm,1.7s
RAR **Rarotonga** 79.78 142 eP P 04 30 42.9 +0.7
RAR pmax pmax
comp=Z,157nm,1.7s
RAR **Rarotonga** 79.78 142 LR LR 04 58 23.9
comp=Z,1µm,20.6s,baz=328,slow=30
PLD **Plovdiv** 79.79 328 P P 04 30 42.6 +0.4
HAPS **Han Pijesak,BI** 79.81 333 eP P 04 30 42.1 -0.4
VTS **Vitosha** 79.82 329 eP P 04 30 42.5 -0.1
comp=Z,131nm,1.2s
VTS LR LR
comp=Z,12µm,22.0s
VTS **Vitosha** 79.82 329 ⇑ iP P 04 30 43.1 +0.5
VTS **Vitosha** 79.82 329 P P 04 30 42.5 -0.1
VTS **Vitosha** 79.82 329 eP P 04 30 42.5 -0.1
VTS pmax pmax
comp=Z,131nm,1.2s
VTS MLR MLR
comp=Z,12µm,22.0s
VTS **Vitosha** 79.82 329 i P P 04 30 42.5 -0.1
SMDO **Samad** 79.82 294 P P 04 30 45.0 +2.1
SNR=7.1
CHBY **Cihanbeyli** 79.83 321 eP P 04 30 41.6 -1.1
HOQ **Hoqain** 79.85 295 P P 04 30 44.9 +2.0
SNR=7.8
SOHO **SOHO** 79.87 296 P P 04 30 41.9 -1.0
SNR=36
CLF **Chambon-Foret** 79.88 345 eP P 04 30 43.1 +0.5
comp=Z,765nm,1.8s
CLF LR LR
comp=Z,5µm,21.0s
VAH **Vaihoa** 79.89 129 eP P 04 30 42.9 0.0
comp=Z,182nm,1.2s
RIY **Rijeka** 79.89 336 eP P 04 30 42.5 -0.2
351A **Pinckard** 79.90 53 P P 04 30 43.5 +0.5
baz=324,SNR=32
SULT **Sultanhani-AKS** 79.91 320 eP P 04 30 43.0 -0.1
FAQ **Al Faqa, Dubai** 79.93 297 i P P 04 30 43.0 -0.3
SNR=16
FAQ **Al Faqa, Dubai** 79.93 297 P P 04 30 42.3 -1.0
SNR=14
KDZ **Kurdzhali** 79.95 327 i P P 04 30 47.7 +4.5
Y56A **Pelion** 79.95 48 P P 04 30 43.4 +0.1
baz=326,SNR=13
X57A **Johnson Farm,** 79.97 47 P P 04 30 43.4 0.0
baz=326,SNR=26
CEYT **Ceyhan** 79.99 318 eP P 04 30 44.3 +0.9
253A **Americus** 80.00 51 eP P 04 30 43.4 -0.1
comp=Z,916nm,1.5s
253A LR LR
comp=Z,4µm,18.0s
253A **Americus** 80.00 51 P P 04 30 43.4 -0.1
baz=325,SNR=14
GRR **Gorron** 80.00 347 eP P 04 30 43.2 -0.1
GRR pmax pmax
comp=Z,123nm,1.1s
Z55A **Blythe** 80.03 49 P P 04 30 44.2 +0.5
baz=325,SNR=19
TUE **Stuetta** 80.03 340 eP P 04 30 43.7 0.0
comp=Z,98nm,1.0s
TUE LR LR
comp=Z,4µm,18.0s
154A **Montrose** 80.05 50 eP P 04 30 44.3 +0.4
comp=Z,2µm,1.6s
154A LR LR
comp=Z,4µm,22.0s
154A **Montrose** 80.05 50 P P 04 30 44.0 +0.2
baz=325,SNR=26
KARA **Karaisali** 80.07 319 eP P 04 30 44.0 +0.1
352A **Blakely** 80.07 52 eP P 04 30 44.2 +0.3
comp=Z,359nm,1.1s
352A LR LR
comp=Z,3µm,18.0s
352A **Blakely** 80.07 52 P P 04 30 44.1 +0.1
baz=324,SNR=30
W59A **Clinton** 80.14 45 P P 04 30 44.5 +0.3
baz=327,SNR=18
RZN **Rozhen** 80.16 328 i P P 04 30 33.6 -11
ASUD **Al Ashush, Dub** 80.17 297 i P P 04 30 43.9 -0.7
SNR=10.0
ASUD **Al Ashush, Dub** 80.17 297 P P 04 30 44.1 -0.5
SNR=10
ASUD P P 04 30 44.1 -0.5
SNR=10
YURE **YUREGIR** 80.19 318 eP P 04 30 45.3 +0.7
Y57A **Sumter** 80.20 47 P P 04 30 44.5 -0.1
baz=326,SNR=14
X58A **Rowland** 80.24 46 P P 04 30 44.8 0.0
baz=326,SNR=34
MOIG **Morelia** 80.28 71 eP P 04 30 45.8 +0.2
comp=Z,831nm,2.0s
MOIG LR LR
comp=Z,2µm,19.0s
Z56A **Williston** 80.31 48 P P 04 30 45.5 +0.3
baz=326,SNR=34
JMDO **Jabal Madar** 80.32 293 P P 04 30 46.1 +0.6
SNR=6.7
CNNC **Cliffs of the** 80.33 45 eP P 04 30 45.6 +0.3
comp=Z,195nm,0.9s
CNNC LR LR
comp=Z,5µm,18.0s
CNNC **Cliffs of the** 80.33 45 P P 04 30 45.5 +0.3
baz=327,SNR=19
LOR **Lormes** 80.34 344 eP P 04 30 45.0 -0.2
LOR pmax pmax
comp=Z,121nm,1.2s
451A **Vernon** 80.36 53 eP P 04 30 46.2 +0.7
comp=Z,2µm,1.4s
451A LR LR
comp=Z,2µm,20.0s
451A **Vernon** 80.36 53 P P 04 30 46.6 +1.1
baz=324,SNR=9.9
RDO **Rodhopi** 80.36 327 P P 04 30 45.7 +0.4
RDO **Rodhopi** 80.36 327 P P 04 30 45.7 +0.4
155A **Kite** 80.36 50 P P 04 30 45.9 +0.5
baz=325,SNR=31
SGMF **Saint Gilles** 80.36 348 eP P 04 30 45.2 0.0
SGMF pmax pmax
comp=Z,56nm,0.8s
ROSF **Rostrenen** 80.37 349 eP P 04 30 45.4 +0.2
PLE **Pljevlja** 80.37 332 ǁ iP P 04 30 45.9 +0.4
LADK **Ladik-KONYA** 80.37 321 eP P 04 30 44.9 -0.7
ALNE **Al Ain** 80.38 296 i P P 04 30 44.8 -0.9
SNR=10
ALN **Alexandroupoli** 80.40 327 eP P 04 30 45.4 -0.1
comp=Z,96nm,1.4s
ALN LR LR
comp=Z,4µm,18.0s
ALN **Alexandroupoli** 80.40 327 P P 04 30 45.5 -0.1
ALN **Alexandroupoli** 80.40 327 eP P 04 30 45.4 -0.1
ALN pmax pmax
comp=Z,96nm,1.4s
ALN MLR MLR
comp=Z,4µm,18.0s
AJN **Ajban** 80.42 297 i P P 04 30 44.8 -1.1
SNR=9.4
AJN **Ajban** 80.42 297 P P 04 30 46.2 +0.3
SNR=8.5
452A **Marianna** 80.45 52 P P 04 30 46.6 +0.6
baz=324,SNR=11
V61A **Roper** 80.45 44 P P 04 30 46.0 +0.1
baz=328,SNR=13
NVLJ **Novalja** 80.50 336 P P 04 30 45.5 -0.5
254A **Abbeville** 80.51 50 P P 04 30 46.7 +0.4
baz=325,SNR=37
353A **Camilla** 80.53 51 P P 04 30 46.9 +0.5
baz=325,SNR=27
KKB **Krupnik** 80.54 329 i P P 04 30 46.8 +0.5
SENIN **Lac Senin/Sane** 80.56 341 eP P 04 30 47.2 +0.5
comp=Z,169nm,1.6s
SENIN LR LR
comp=Z,5µm,19.0s
CABF **La Chapelle** 80.56 342 eP P 04 30 46.7 +0.2
CABF pmax pmax
comp=Z,130nm,1.5s
X59A **McDuffie Farm,** 80.57 46 P P 04 30 46.4 -0.1
baz=327,SNR=27
W60A **Pink Hill** 80.57 45 P P 04 30 46.7 +0.2
baz=327,SNR=42
MMB **Musomiste** 80.58 328 i P P 04 30 44.7 -1.9
KONT **Konya--Tatoy** 80.59 321 eP P 04 30 46.5 -0.2
SSF **Saint Saulge** 80.61 344 eP P 04 30 46.5 -0.1
SSF pmax pmax
comp=Z,38nm,0.9s
MERS **Mersin** 80.63 319 eP P 04 30 46.5 -0.4
Y58A **Scranton** 80.63 47 P P 04 30 47.0 +0.1
baz=326,SNR=33
IVA **Berane** 80.64 332 ǁ iP P 04 30 47.1 +0.2
Z57A **Bowman** 80.65 48 P P 04 30 47.1 +0.1
baz=326,SNR=23
NVR **Nevrokopi** 80.75 328 P P 04 30 47.3 -0.2
NVR **Nevrokopi** 80.75 328 P P 04 30 47.3 -0.2
QUIF **Quistinic** 80.77 349 eP P 04 30 48.8 +1.4
QUIF pmax pmax
comp=Z,195nm,1.5s
KOME **Kolasin** 80.77 332 ǁ iP P 04 30 47.6 0.0
TIGA **Tifton** 80.77 51 eP P 04 30 47.7 0.0
comp=Z,577nm,1.0s
TIGA LR LR
comp=Z,4µm,19.0s
TIGA **Tifton** 80.77 51 P P 04 30 48.3 +0.6
baz=325,SNR=50
156A **Sylvania** 80.80 49 P P 04 30 48.8 +1.0
baz=326,SNR=23
X60A **Albert Glenn T** 80.84 45 P P 04 30 48.1 +0.1
baz=327,SNR=55
PVY **Plav** 80.87 331 ǁ iP P 04 30 48.1 -0.1
453A **Whigham** 80.88 52 eP P 04 30 48.9 +0.6
comp=Z,2µm,1.8s
453A LR LR
comp=Z,3µm,19.0s
453A **Whigham** 80.88 52 P P 04 30 49.3 +1.0
baz=325,SNR=21
AVF **Avril sur Loir** 80.89 344 eP P 04 30 48.1 0.0
AVF pmax pmax
comp=Z,109nm,1.1s
255A **Hazlehurst** 80.92 50 eP P 04 30 48.9 +0.4
comp=Z,3µm,1.9s
255A LR LR
comp=Z,5µm,21.0s
255A **Hazlehurst** 80.92 50 P P 04 30 49.2 +0.7
baz=325,SNR=27
PPT **Papeete** 80.95 132 eP P 04 30 49.5 +0.9
PPT **Papeete** 80.95 132 P P 04 30 49.7 +1.1
comp=Z,124nm,0.8s,baz=19,slow=3.9,SNR=14
PPT LR LR 04 59 06.2
comp=Z,3µm,21.9s,baz=294,slow=30
SMF **Signal de Mont** 80.95 344 eP P 04 30 48.5 +0.1
SMF pmax pmax
comp=Z,188nm,1.2s
NKY **Niksic** 80.96 332 ǁ iP P 04 30 47.9 -0.8
PPT2 **Papeete2** 80.97 132 eP P 04 30 48.9 +0.1
comp=Z,293nm,1.4s
PPT2 **Papeete2** 80.97 132 eS S 04 40 52.0 -3.7
comp=Z,7µm,30.0s
PPT2 **Papeete2** 80.97 132 eLR LR 04 55 37.4
comp=Z,12µm,25.5s,baz=323
552A **Lynn Haven** 80.97 53 P P 04 30 49.8 +1.0
baz=324,SNR=5.2
SKO **Skopje** 80.97 330 ǁ iP P 04 30 48.8 +0.1
STIP **Stip** 80.99 330 ǁ iP P 04 30 47.6 -1.1
BRY **Bratogost** 81.01 333 ǁ iP P 04 30 48.3 -0.7
BRY **Bratogost** 81.01 333 eP P 04 30 48.4 -0.6
NKME **Niksic** 81.01 332 ǁ iP P 04 30 48.1 -0.8
157A **Early Branch** 81.02 48 P P 04 30 49.7 +0.7
baz=326,SNR=15
PAE **Paea** 81.03 132 eP P 04 30 49.0 0.0
comp=Z,54nm,1.3s
Z58A **St. Stephen** 81.03 47 P P 04 30 49.3 +0.2
baz=324,SNR=16
SRS **Serrai** 81.04 328 P P 04 30 48.9 -0.1
SRS **Serrai** 81.04 328 P P 04 30 48.9 -0.1
SRS **Serrai** 81.04 328 P P 04 30 48.9 -0.1
TIAR **Tiarei** 81.05 132 eP P 04 30 49.1 -0.1
comp=Z,50nm,1.1s
NHSC **New Hope** 81.05 48 eP P 04 30 49.2 0.0
comp=Z,2µm,1.9s
NHSC LR LR
comp=Z,4µm,20.0s
NHSC **New Hope** 81.05 48 P P 04 30 49.6 +0.4
baz=326,SNR=20
ARMA **Armidale** 81.08 188 eP P 04 30 50.1 +0.9
comp=Z,184nm,1.3s
ARMA LR LR
comp=Z,2µm,19.0s
256A **Glennville** 81.16 49 P P 04 30 50.3 +0.6
baz=326,SNR=11
VAY **Valandovo** 81.20 329 i P P 04 30 49.0 -0.8
BGF **Bois d'Agland** 81.21 344 eP P 04 30 49.9 +0.1
BGF pmax pmax
comp=Z,79nm,1.3s
RGRS **Roger Stewart** 81.21 48 eP P 04 30 50.4 +0.4
comp=Z,2µm,0.6s
355A **Pearson** 81.21 51 P P 04 30 50.6 +0.5
baz=325,SNR=38
Y60A **Bolivia** 81.21 46 P P 04 30 50.1 +0.1
baz=327,SNR=39
CEME **Cevo** 81.23 332 ǁ iP P 04 30 49.5 -0.5
PDG **Podgorica** 81.23 332 ǁ iP P 04 30 49.7 -0.3
PDG **Podgorica** 81.23 332 ǁ iP P 04 30 49.5 -0.5
TTG **Podgorica** 81.23 332 ǁ iP P 04 30 49.5 -0.5
TTG **Podgorica** 81.23 332 eP P 04 30 49.4 -0.5
comp=Z,103nm,1.0s
TTG LR LR
comp=Z,10µm,18.0s
TTG **Podgorica** 81.23 332 eP P 04 30 49.4 -0.5
TTG pmax pmax
comp=Z,103nm,1.0s
TTG MLR MLR
comp=Z,10µm,18.0s
KNT **Kendrikon** 81.23 329 P P 04 30 50.0 0.0
KNT **Kendrikon** 81.23 329 P P 04 30 50.0 0.0
KNT **Kendrikon** 81.23 329 P P 04 30 50.0 0.0
TREB **Trebinje** 81.24 333 eP P 04 30 48.8 -1.2
STON **Ston** 81.28 333 eP P 04 30 52.0 +1.8
TVO **Taravao** 81.29 132 eP P 04 30 50.6 +0.1
comp=Z,26nm,0.8s
454A **Quitman** 81.34 51 P P 04 30 51.4 +0.7
baz=325,SNR=16
158A **Hollywood** 81.35 48 P P 04 30 51.3 +0.5
baz=326,SNR=5.9
Z59A **Georgetown, SC** 81.36 47 P P 04 30 51.1 +0.3
baz=326,SNR=7.7
553A **Crawfordville** 81.37 52 P P 04 30 51.9 +1.0
baz=325,SNR=6.5
SOH **Sokhos** 81.39 328 P P 04 30 50.6 -0.3
SOH pmax pmax
comp=Z,27nm,2.1s
ISP **Isparta** 81.43 322 eP P 04 30 50.0 -1.3
comp=Z,209nm,1.5s
ISP LR LR
comp=Z,5µm,19.0s
ISP **Isparta** 81.43 322 ǁ iP P 04 30 49.6 -1.7
ISP **Isparta** 81.43 322 eP P 04 30 50.0 -1.3
ISP pmax pmax
comp=Z,209nm,1.5s
ISP MLR MLR
comp=Z,5µm,19.0s
HCY **Herceg Novi** 81.44 332 ǁ iP P 04 30 51.0 -0.1
HCY **Herceg Novi** 81.44 332 eP P 04 30 47.2 -3.9
BUM **Brajici-Budva** 81.46 332 ǁ iP P 04 30 50.8 -0.5
MHTO **MHTO** 81.47 293 P P 04 30 52.0 +0.4
SNR=35
MHTO P P 04 30 52.0 +0.4
SNR=35
DRME **Dracevica, Mon** 81.48 332 ǁ iP P 04 30 51.3 0.0
DRME **Dracevica, Mon** 81.48 332 ǁ iP P 04 30 51.0 -0.3
LPL **La Plagne** 81.49 342 eP P 04 30 52.1 +0.5
LPL pmax pmax
comp=Z,466nm,2.3s
LPG **La Plagne** 81.50 341 eP P 04 30 52.3 +0.6
LPG pmax pmax
comp=Z,133nm,1.4s
KULA **Kula-Manisa** 81.55 324 P P 04 30 51.4 -0.4

KULA Kula-Manisa 81.55 324 P **P** 04 30 51.4 -0.4
PHP Peshkopia 81.55 331 P **P** 04 30 51.3 -0.5
PHP Peshkopia 81.55 331 P **P** 04 30 51.3 -0.5
PHP Peshkopia 81.55 331 P **P** 04 30 51.3 -0.5
TCF Toulx Ste Croi 81.58 345 *e*P **P** 04 30 52.0 +0.2
TCF pmax pmax
comp=Z,208nm,1.7s
KRUS Krusevo 81.58 330 *i* P **P** 04 30 51.0 -0.9
257A Skidaway Islan 81.58 49 PFAKE 04 31 00.0 +8.0
257A LR LR
comp=Z,4µm,19.0s
257A Skidaway Islan 81.58 49 P **P** 04 30 52.5 +0.6
baz=326
356A Blackshear 81.58 50 P **P** 04 30 52.6 +0.6
baz=326,SNR=16
MANT Manisa 81.60 324 *e*P **P** 04 30 52.1 -0.2
comp=Z,684nm,1.5s
MANT LR LR
comp=Z,20µm,19.0s
455A Stateville 81.62 51 P **P** 04 30 52.9 +0.7
baz=325,SNR=24
MFF Saint Martin d 81.64 346 *e*P **P** 04 30 52.5 +0.4
MFF pmax pmax
comp=Z,500nm,2.0s
ULC Ulcinj 81.66 332 ⇓ *i*P **P** 04 30 51.5 -0.8
PLG Polygyros 81.76 328 P **P** 04 30 52.3 -0.6
PLG Polygyros 81.76 328 P **P** 04 30 52.3 -0.6
PLG Polygyros 81.76 328 P **P** 04 30 52.3 -0.6
554A Perry 81.83 52 P **P** 04 30 54.1 +0.8
baz=325,SNR=10
LHI Lord Howe Isla 81.83 181 PFAKE 04 31 00.0 +7.1
LHI LR LR
comp=Z,2µm,19.0s
MNCI Minicoy 81.87 273 *e*P **P** 04 30 54.0 +0.3
comp=Z,414nm,1.5s
MNCI LR LR
comp=Z,3µm,19.0s
BIA Bitola 81.87 330 *e*P **P** 04 30 53.8 +0.3
MNCY Minicoy 81.90 273 *e*P **P** 04 30 53.5 -0.4
CFF Clermont-Ferra 81.93 344 P **P** 04 30 56.1 +2.5
BNI Bardonecchia 81.94 341 *e*P **P** 04 30 54.2 +0.4
comp=Z,334nm,2.0s
BNI LR LR
comp=Z,5µm,22.0s
BNI Bardonecchia 81.94 341 P **P** 04 30 56.2 +2.3
BNI pmax pmax
comp=Z,79nm,1.9s
OHR Ohrid 81.96 330 ⇓ *i*P **P** 04 30 53.2 -0.7
VLC Villacollemand 81.99 339 *e*P **P** 04 30 54.2 +0.2
comp=Z,262nm,1.4s
VLC LR LR
comp=Z,6µm,21.0s
TIR Tirane 82.03 331 *e*P **P** 04 30 53.9 -0.3
comp=Z,118nm,0.9s
TIR LR LR
comp=Z,8µm,19.0s
TIR Tirane 82.03 331 ⇑ *i*P **P** 04 30 54.4 +0.2
TIR Tirane 82.03 331 P **P** 04 30 54.9 +0.7
TIR pmax pmax
comp=Z,148nm,0.8s
FNA Florina 82.07 330 *e*P **P** 04 30 54.4 0.0
comp=Z,33nm,0.8s
FNA LR LR
comp=Z,7µm,19.0s
FNA Florina 82.07 330 P **P** 04 30 54.0 -0.5
FNA Florina 82.07 330 P **P** 04 30 54.5 0.0
FNA pmax pmax
comp=Z,70nm,1.6s
PAIG Paliouri 82.08 328 P **P** 04 30 53.6 -0.9
PAIG Paliouri 82.08 328 P **P** 04 30 53.6 -0.9
PAIG Paliouri 82.08 328 P **P** 04 30 53.6 -0.9
456A Hilliard 82.13 50 *e*P **P** 04 30 55.6 +0.7
comp=Z,290nm,0.9s
456A LR LR
comp=Z,4µm,20.0s
456A Hilliard 82.13 50 P **P** 04 30 55.8 +1.0
baz=326,SNR=5.9
SSB Saint Sauveur 82.14 343 *e*P **P** 04 30 55.0 +0.2
comp=Z,150nm,1.4s
SSB LR LR
comp=Z,4µm,22.0s
SSB Saint Sauveur 82.14 343 P **P** 04 30 56.0 +1.2
SSB pmax pmax
comp=Z,71nm,2.1s
555A McAlpin 82.15 51 *e*P **P** 04 30 55.3 +0.3
comp=Z,2µm,1.9s
555A LR LR
comp=Z,4µm,19.0s
555A McAlpin 82.15 51 P **P** 04 30 55.9 +0.8
baz=325,SNR=19
ORIF Oris-en-Rattie 82.23 342 *e*P **P** 04 30 56.2 +0.9
ORIF pmax pmax
comp=Z,317nm,1.7s
MBDF Montbardon 82.24 341 *e*P **P** 04 30 55.8 +0.4
MBDF pmax pmax
comp=Z,124nm,1.6s
LIT Litokhoron 82.32 329 *e*P **P** 04 30 54.9 -0.9
comp=Z,55nm,1.2s
LIT LR LR
comp=Z,5µm,20.0s
LIT Litokhoron 82.32 329 *e*P **P** 04 30 54.9 -0.9
LIT pmax pmax
comp=Z,55nm,1.2s
LIT MLR MLR
comp=Z,5µm,20.0s
457A Yulee 82.44 50 P **P** 04 30 57.7 +1.2
baz=326
655A Horseshoe Beac 82.51 52 P **P** 04 30 57.5 +0.6
baz=325
NEST Nestorio 82.51 330 P **P** 04 30 56.8 -0.1
VIVF Saint-Julien-l 82.53 343 *e*P **P** 04 30 57.3 +0.5
VIVF pmax pmax
comp=Z,240nm,1.8s
556A Lake Butler 82.53 51 P **P** 04 30 58.2 +1.2
baz=326,SNR=27
DQM DQM 82.54 292 P **P** 04 30 55.8 -1.4
SNR=8.1
DQM P **P** 04 30 55.8 -1.4
SNR=8.1
CHOS Chios island 82.62 325 P **P** 04 30 56.7 -0.8
CHOS Chios island 82.62 325 P **P** 04 30 56.7 -0.8
RJF Les Rejaudoux 82.65 345 *e*P **P** 04 30 57.8 +0.4
RJF pmax pmax
comp=Z,349nm,1.5s
PENT Pentalofos 82.68 330 P **P** 04 30 57.5 -0.3
XOR Xorichti 82.75 328 P **P** 04 30 56.3 -1.7
XOR Xorichti 82.75 328 P **P** 04 30 56.3 -1.7
CSS Mathiatis 82.75 319 *e*P **P** 04 30 58.1 0.0
comp=Z,854nm,1.9s
CSS LR LR
comp=Z,4µm,21.0s
CSS Mathiatis 82.75 319 P **P** 04 30 58.1 0.0
SAOF Saorge 82.78 340 *e*P **P** 04 30 59.9 +1.8
SAOF pmax pmax
comp=Z,55nm,1.1s
NEO Neokhori 82.79 328 P **P** 04 30 57.4 -0.9
NEO Neokhori 82.79 328 P **P** 04 30 57.4 -0.9
FYTO Fytoko, Volos 82.80 328 P **P** 04 30 57.6 -0.6
FYTO Fytoko, Volos 82.80 328 P **P** 04 30 57.6 -0.6
KPRO Kipourio 82.83 329 P **P** 04 30 58.4 -0.1
557A Orange Park 82.85 50 P **P** 04 30 59.8 +1.2
baz=326,SNR=30
YER Yerkesik 82.90 323 P **P** 04 30 58.9 0.0
YER Yerkesik 82.90 323 P **P** 04 30 58.9 0.0
YER Yerkesik 82.90 323 P **P** 04 30 58.9 0.0
SBF Sospel 82.92 341 *e*P **P** 04 31 01.0 +2.1
SBF pmax pmax
comp=Z,260nm,1.5s
CAF Calviac 82.92 345 *e*P **P** 04 30 59.6 +0.7
CAF pmax pmax
comp=Z,373nm,1.5s
AQU L'Aquila 82.94 336 *e*P **P** 04 30 59.3 +0.3
comp=Z,161nm,1.1s
AQU LR LR
comp=Z,9µm,19.0s
AQU L'Aquila 82.94 336 *e*P **P** 04 30 59.3 +0.3
AQU pmax pmax
comp=Z,161nm,1.1s
AQU MLR MLR
comp=Z,9µm,19.0s
AQU L'Aquila 82.94 336 *e*P **P** 04 30 59.5 +0.5
656A Willston 82.98 51 *e*P **P** 04 30 59.8 +0.4
comp=Z,2µm,1.8s
656A LR LR
comp=Z,4µm,18.0s

656A Willston 82.98 51 P **P** 04 31 00.5 +1.2
baz=326,SNR=17
LVIG Laguna Verde 83.09 67 *e*P **P** 04 31 00.2 +0.2
comp=Z,378nm,1.4s
LFF La Frestale 83.13 345 *e*P **P** 04 31 00.4 +0.5
LFF pmax pmax
comp=Z,282nm,1.3s
657A Interlachen 83.14 51 P **P** 04 31 01.2 +1.0
baz=326,SNR=12
BAI Bari 83.15 333 *e*P **P** 04 31 00.3 +0.3
JAN Janina 83.26 330 P **P** 04 31 01.1 +0.4
JAN Janina 83.26 330 P **P** 04 31 01.1 +0.4
FASA Fasano 83.28 333 *e*P **P** 04 31 02.6 +1.9
AGG Agios Georgios 83.35 328 *e*P **P** 04 30 59.8 -1.4
comp=Z,103nm,1.8s
AGG LR LR
comp=Z,4µm,20.0s
AGG Agios Georgios 83.35 328 *e*P **P** 04 30 59.8 -1.4
AGG pmax pmax
comp=Z,103nm,1.8s
AGG MLR MLR
comp=Z,4µm,20.0s
CGL1 Ceglie Messapi 83.39 332 *e*P **P** 04 31 00.8 -0.5
TLIG Tlapa 83.49 70 *e*P **P** 04 31 02.6 +0.4
comp=Z,421nm,1.8s
GIRL Giralia 83.50 222 *e*P **P** 04 31 02.7 +0.8
comp=Z,640nm,1.3s
MASS Massafra 83.51 333 *e*P **P** 04 31 01.3 -0.6
TAR1 Taranto 83.56 332 *e*P **P** 04 31 01.7 -0.5
757A Oxford 83.57 51 P **P** 04 31 03.4 +1.0
baz=326,SNR=9.2
658A Bunnell 83.57 50 *e*P **P** 04 31 02.8 +0.4
comp=Z,2µm,1.8s
658A LR LR
comp=Z,4µm,22.0s
658A Bunnell 83.57 50 P **P** 04 31 03.5 +1.1
baz=326,SNR=9.3
PTL Penteli 83.70 327 P **P** 04 31 01.5 -1.5
PTL Penteli 83.70 327 P **P** 04 31 01.5 -1.5
ARG Arkhangelos 83.76 323 P **P** 04 31 03.4 +0.1
ARG pmax pmax
comp=Z,195nm,1.8s
VILL Villia 83.79 327 P **P** 04 31 01.6 -1.9
STKA Stephens Creek 83.82 196 *e*P **P** 04 31 03.7 +0.4
STKA Stephens Creek 83.82 196 P **P** 04 31 03.6 +0.3
comp=Z,86nm,0.9s,baz=353,slow=6.1,SNR=85
PGF Pioggiola 83.83 339 *e*P **P** 04 31 04.4 +0.7
PGF pmax pmax
comp=Z,125nm,1.3s
ANX Ano Chora 83.87 328 P **P** 04 31 02.6 -1.3
758A Lake Helen 83.98 51 P **P** 04 31 05.8 +1.3
baz=326,SNR=6.5
SERG Sergoula 83.99 328 P **P** 04 31 03.3 -1.2
TRIZ Triconia 84.03 328 P **P** 04 31 02.8 -1.8
EFP Efpalio 84.03 328 P **P** 04 31 03.8 -0.8
857A Zephyrhills 84.04 52 P **P** 04 31 05.9 +1.1
baz=326,SNR=16
LAKA Lakka 84.17 328 P **P** 04 31 04.6 -0.8
LAKA Lakka 84.17 328 P **P** 04 31 04.6 -0.8
KLV Kalavryta, Ach 84.29 328 P **P** 04 31 05.0 -1.0
KLV Kalavryta, Ach 84.29 328 P **P** 04 31 05.0 -1.0
GUR Goura 84.33 328 P **P** 04 31 04.7 -1.6
GUR Goura 84.33 328 P **P** 04 31 04.7 -1.6
DID Didima 84.41 327 P **P** 04 31 04.0 -2.6
DID Didima 84.41 327 P **P** 04 31 04.0 -2.6
MTLF Montolieu 84.44 344 *e*P **P** 04 31 07.0 +0.4
MTLF pmax pmax
comp=Z,127nm,1.8s
RLS Riolos of Patr 84.51 328 P **P** 04 31 06.6 -0.4
RLS Riolos of Patr 84.51 328 P **P** 04 31 06.6 -0.4
858A St. Cloud 84.52 51 P **P** 04 31 08.2 +1.0
baz=326,SNR=17
DRO Drossia 84.52 328 P **P** 04 31 07.1 -0.1
957A Wimauma 84.53 52 *e*P **P** 04 31 08.5 +1.2
comp=Z,2µm,1.9s
957A LR LR
comp=Z,3µm,20.0s
957A Wimauma 84.53 52 P **P** 04 31 08.3 +1.0
baz=326
DWPF Disney Wildern 84.56 51 *e*P **P** 04 31 07.5 0.0
comp=Z,382nm,0.8s
DWPF LR LR
comp=Z,4µm,18.0s
DWPF Disney Wildern 84.56 51 P **P** 04 31 08.4 +0.9
baz=326
DWPF Disney Wildern 84.56 51 *e*P **P** 04 31 07.3 -0.2
SANT Santorini 84.63 325 PFAKE 04 31 20.0 +12
SANT LR LR
comp=Z,5µm,21.0s
VLS Valsamata 84.69 329 P **P** 04 31 07.0 -1.0
VLS Valsamata 84.69 329 P **P** 04 31 07.0 -1.0
VLS Valsamata 84.69 329 P **P** 04 31 07.0 -1.0
KARP Karpathos 84.72 323 *e*P **P** 04 31 07.7 -0.5
comp=Z,74nm,0.8s
KARP LR LR
comp=Z,4µm,18.0s
VLX Vlachokerasia 84.82 328 P **P** 04 31 06.8 -2.0
VLX Vlachokerasia 84.82 328 P **P** 04 31 06.8 -2.0
958A Wauchula 84.84 52 P **P** 04 31 09.7 +0.9
baz=326,SNR=21
859A Kempfer Cattle 84.87 51 P **P** 04 31 10.3 +1.3
baz=326,SNR=12
AMT Artemida-Makis 84.90 328 P **P** 04 31 08.4 -0.7
TIP Timpagrande 84.96 332 *e*P **P** 04 31 09.0 -0.5
comp=Z,274nm,1.5s
TIP LR LR
comp=Z,9µm,18.0s
TIP Timpagrande 84.96 332 ⇓ *i*P **P** 04 31 10.2 +0.8
TIP Timpagrande 84.96 332 P **P** 04 31 10.0 +0.6
EPF Esparros 85.05 345 *e*P **P** 04 31 09.3 -0.5
EPF pmax pmax
comp=Z,157nm,2.1s
ITM Ithomi 85.15 328 *e*P **P** 04 31 09.2 -1.1
comp=Z,142nm,1.4s
ITM LR LR
comp=Z,7µm,18.0s
ITM Ithomi 85.15 328 P **P** 04 31 09.1 -1.2
SJPF Ste Jean 85.22 346 *e*P **P** 04 31 11.3 +0.8
SJPF pmax pmax
comp=Z,23nm,0.8s
VLI Veliai 85.22 327 P **P** 04 31 08.1 -2.5
VLI Veliai 85.22 327 P **P** 04 31 08.1 -2.5
058A Arcadia 85.25 52 P **P** 04 31 11.7 +0.8
baz=326,SNR=21
959A Okeechobee 85.32 51 P **P** 04 31 12.6 +1.3
baz=326,SNR=22
ETSF Etsaut 85.33 346 *e*P **P** 04 31 11.8 +0.6
ETSF pmax pmax
comp=Z,62nm,1.1s
ZKR Zakros 85.46 324 P **P** 04 31 10.9 -1.0
ZKR Zakros 85.46 324 P **P** 04 31 10.9 -1.0
PYL PYLOS 85.47 328 P **P** 04 31 10.5 -1.4
PYL PYLOS 85.47 328 P **P** 04 31 10.5 -1.4
NPS Neapolis 85.56 324 P **P** 04 31 10.5 -1.9
NPS Neapolis 85.56 324 P **P** 04 31 10.5 -1.9
NPS Neapolis 85.56 324 P **P** 04 31 10.5 -1.9
KTHR Kythira 85.61 327 P **P** 04 31 11.4 -1.2
059A Moore Haven 85.65 52 *e*P **P** 04 31 13.3 +0.4
comp=Z,2µm,1.9s
059A LR LR
comp=Z,3µm,18.0s
059A Moore Haven 85.65 52 P **P** 04 31 14.0 +1.0
baz=326,SNR=12
LAST Lasithi 85.70 324 P **P** 04 31 11.6 -1.6
LAST Lasithi 85.70 324 P **P** 04 31 11.6 -1.6
BBOO Bookieboo 85.81 200 *e*P **P** 04 31 13.6 +0.2
comp=Z,478nm,1.2s
FORT Forrest 85.94 207 *e*P **P** 04 31 14.4 +0.4
comp=Z,476nm,0.9s
VAM Vamos 85.95 325 P **P** 04 31 12.7 -1.6
VAM Vamos 85.95 325 P **P** 04 31 12.7 -1.6
VAM Vamos 85.95 325 P **P** 04 31 12.7 -1.6
MYIG Mrida 85.95 62 *e*P **P** 04 31 15.2 +0.7
comp=Z,2µm,1.5s
IMMV Iera Moni Meta 85.98 326 P **P** 04 31 13.5 -0.9
060A Indiantown 85.98 51 *e*P **P** 04 31 15.5 +1.0
comp=Z,2µm,1.8s
060A LR LR
comp=Z,4µm,18.0s
060A Indiantown 85.98 51 P **P** 04 31 15.6 +1.0
baz=326
TBI Tubuai 86.01 135 *e*P **P** 04 31 14.3 -0.2
comp=Z,337nm,1.2s
TBI Tubuai 86.01 135 *e*S **S** 04 41 42.0 -4.2
comp=Z,4µm,30.2s

TBI Tubuai 86.01 135 *e*LR LR 04 57 42.0
comp=Z,9µm,34.2s,baz=326
TBI Tubuai 86.01 135 *e*T T 06 08 34.3
comp=Z,2.5nm,0.2s
059Z Ave Maria 86.02 52 P **P** 04 31 15.8 +1.0
baz=326,SNR=14
CEL Celeste 86.07 333 PFAKE 04 31 30.0 +15
CEL LR LR
comp=Z,6µm,20.0s
CAN Canberra 86.19 189 *e*P **P** 04 31 15.4 +0.3
comp=Z,225nm,1.8s
CAN Canberra 86.19 189 *e*P **P** 04 31 15.5 +0.3
CAN pmax pmax
comp=Z,225nm,1.8s
OUZ Omahuta 86.32 169 *e*P **P** 04 31 17.1 +1.4
comp=Z,71nm,1.1s
OUZ LR LR
comp=Z,4µm,22.0s
060Z West Palm Beac 86.41 52 P **P** 04 31 17.7 +1.0
baz=326,SNR=18
061Z Ochoppi 86.68 52 *e*P **P** 04 31 18.7 +0.6
comp=Z,516nm,1.4s
061Z LR LR
comp=Z,3µm,19.0s
061Z Ochoppi 86.68 52 P **P** 04 31 18.9 +0.9
baz=326,SNR=8.5
PGAV Gavieira, Arco 87.21 351 *e*P **P** 04 31 21.5 +1.0
comp=Z,175nm,1.4s
PGAV Gavieira, Arco 87.21 351 *e*PP PP 04 34 37.3 -6.2
PGAV *e*S **S** 04 41 57.9 -0.1
PGAV Gavieira, Arco 87.21 351 *e*LR LR 05 00 49.4
comp=Z,2µm,18.0s
PBRG Braganca 87.21 350 *e*P **P** 04 31 20.5 +0.1
comp=Z,127nm,1.6s
PBRG Braganca 87.21 350 *e*PP PP 04 34 42.7 -0.7
PBRG *e*S **S** 04 41 57.6 -0.4
TEIG Tepich 87.36 61 PFAKE 04 31 30.0 +8.6
TEIG LR LR
comp=Z,2µm,21.0s
MAHO Mahon 87.39 342 *i* P **P** 04 31 21.6 +0.4
MAHO *i* S **S** 04 41 53.0 -6.6
PCAB Cabril 87.44 351 *e*P **P** 04 31 21.9 +0.4
comp=Z,159nm,1.8s
CLTB Caltabellotta 87.46 334 PFAKE 04 31 30.0 +8.2
CLTB LR LR
comp=Z,10µm,21.0s
062Z Marathon 87.55 53 P **P** 04 31 22.8 +0.6
baz=326
POLO Lamas de Olo 87.75 351 *e*P **P** 04 31 23.4 +0.3
comp=Z,84nm,1.5s
PVRL Vila Real 87.84 351 *e*P **P** 04 31 24.3 +0.9
comp=Z,244nm,1.5s
MVO Moncorvo 87.88 350 *e*P **P** 04 31 23.9 +0.2
comp=Z,162nm,1.3s
MVO Moncorvo 87.88 350 *e*S **S** 04 41 59.8 -4.6
MVO Moncorvo 87.88 350 *e*LR LR 05 01 17.3
comp=Z,2µm,20.0s
PTO Porto 88.06 352 *e*P **P** 04 31 23.9 -0.5
comp=Z,186nm,1.6s
UCM Universidad Co 88.26 347 *e*P P 04 31 19.8 -5.6
UCM *i* S **SKKSac** 04 41 57.9 -4.6
CCIG Comitan 88.29 66 *e*P **P** 04 31 26.6 +0.5
comp=Z,141nm,1.6s
BBSR BB Station 88.30 37 *e*P **P** 04 31 25.7 0.0
comp=Z,414nm,1.8s
PVIS Viseu 88.41 351 *e*P **P** 04 31 26.3 +0.1
comp=Z,178nm,1.5s
MORW Morawa 88.47 218 *e*P **P** 04 31 26.1 -0.2
comp=Z,273nm,1.3s
MTE Manteigas 88.69 351 *e*P **P** 04 31 27.8 +0.3
comp=Z,160nm,1.9s
MTE Manteigas 88.69 351 *e*S **SKKSac** 04 42 06.5 +0.8
MTE Manteigas 88.69 351 *e*LR LR 05 01 42.3
comp=Z,2µm,16.0s
MTE Manteigas 88.69 351 *e*P **P** 04 31 27.6 +0.1
comp=Z,53nm,1.0s
MTE LR LR
comp=Z,2µm,20.0s
WDD Wied Dalam 88.72 333 PFAKE 04 31 40.0 +12
WDD LR LR
comp=Z,4µm,21.0s
TOO Toolangi 88.81 192 *e*P **P** 04 31 28.5 +0.8
comp=Z,442nm,1.7s
TOO Toolangi 88.81 192 *e*P **P** 04 31 28.5 +0.8
TOO pmax pmax
comp=Z,442nm,1.7s
COI Coimbra 88.96 351 *e*P **P** 04 31 28.7 0.0
comp=Z,142nm,1.8s
COI Coimbra 88.96 351 *e*PP PP 04 35 03.5 +6.1
COI *e*S **SKKSac** 04 42 05.0 -2.6
ESDC Sonseca Array 88.98 348 P **P** 04 31 28.4 -0.5
comp=Z,36nm,0.9s,baz=2.3,slow=4.1,SNR=108
ESDC PKKPbc **PKKPbc** 04 49 04.6 -0.5
comp=Z,1.2nm,0.7s,baz=205,slow=1.9,SNR=6.7
ESDC LR LR 05 18 11.9
comp=Z,2µm,18.2s,baz=35,slow=40
ESLA Sonseca Array 88.98 348 PFAKE 04 31 40.0 +11
ESLA LR LR
comp=Z,4µm,19.0s
PCAS Casmilo, Conde 89.12 351 *e*P **P** 04 31 29.6 +0.1
comp=Z,147nm,1.7s
PCAS Casmilo, Conde 89.12 351 *e*PP PP 04 35 06.7 +8.0
PCAS *e*S **SKKSac** 04 42 07.5 -1.4
PAB San Pablo 89.16 348 *e*P **P** 04 31 29.5 -0.2
comp=Z,175nm,1.8s
PAB LR LR
comp=Z,3µm,19.0s
PAB San Pablo 89.16 348 *e*P **P** 04 31 29.5 -0.2
PAB pmax pmax
comp=Z,175nm,1.8s
PAB MLR MLR
comp=Z,3µm,19.0s
PCBR Castelo Branco 89.23 351 *e*P **P** 04 31 30.1 +0.1
comp=Z,83nm,1.5s
MXZ Matakaoa Point 89.28 166 PFAKE 04 31 40.0 +10
MXZ LR LR
comp=Z,4µm,22.0s
PTOM Tomar 89.55 351 *e*P **P** 04 31 31.8 +0.3
comp=Z,77nm,2.1s
PMRV Marv??o 89.63 350 *e*P **P** 04 31 31.8 -0.1
comp=Z,84nm,1.7s
PMRV Marv??o 89.63 350 *e*PP PP 04 35 10.4 +7.6
PMRV *e*S **SKKSac** 04 42 07.7 -5.0
PMRV Marv??o 89.63 350 *e*LR LR 05 02 13.2
comp=Z,3µm,16.0s
HIZ Hauiti 89.73 169 *e*P **P** 04 31 33.1 +1.2
comp=Z,331nm,1.5s
HIZ LR LR
comp=Z,4µm,21.0s
URZ Urewera 89.78 167 *e*P **P** 04 31 30.8 -1.3
comp=Z,138nm,1.3s
URZ LR LR
comp=Z,2µm,20.0s
CAEH 'Ain El Ouahch 89.83 339 P **P** 04 31 29.6 -3.3
CMAH Djebel Manchou 89.84 338 P **P** 04 31 31.5 -1.5
ALMR Almeirim 90.02 351 *e*P **P** 04 31 34.2 +0.5
ALMR *e*PP **PP** 04 35 06.8 +0.9
ALMR *e*SKSac **SKSac** 04 42 04.8 +2.6
ALMR *e*SS **SS** 04 48 26.6 +5.5
ALMR AMS AMS 05 15 50.4
comp=N,3µm,20.3s
ALMR Almeirim 90.02 351 *e*P **P** 04 31 33.9 +0.2
comp=N,120nm,1.8s
ALMR Almeirim 90.02 351 *e*P **P** 04 31 34.2 +0.5
ALMR *e* 04 35 06.8
ALMR *e* 04 42 04.9
ALMR *e*SS SS 04 48 26.6 +5.5
PMTG Montargil 90.07 351 *e*P **P** 04 31 30.8 -3.1
comp=N,68nm,1.9s
PMTG Montargil 90.07 351 *e*PP PP 04 35 09.1 +2.8
PMTG *e*S **SKKSac** 04 42 12.6 -3.4
ABSA Djebel Ababsia 90.17 338 P **P** 04 31 31.1 -3.5
PESTR Estremoz 90.21 351 *e*P **P** 04 31 34.4 -0.2
comp=N,72nm,1.4s
PESTR Estremoz 90.21 351 *e*PP PP 04 35 14.1 +6.7
PESTR *e*S **SKKSac** 04 42 13.6 -3.5
PESTR Estremoz 90.21 351 *e*P **P** 04 31 34.5 -0.2
comp=N,26nm,1.2s
PESTR LR LR
comp=Z,2µm,20.0s
CKFL Kef-Lekhel 90.22 339 P **P** 04 31 33.8 -1.0
KEST Kesra 90.23 337 *e*P **P** 04 31 34.9 +0.1
KEST Kesra 90.23 337 P **P** 04 31 34.7 -0.1
comp=Z,32nm,1.0s,baz=309,slow=2.0,SNR=12
KEST LR LR 05 18 48.0
comp=Z,3µm,18.0s,baz=326,slow=40

DFRA	**Djebel Bou Aff**	**90.27**	**340**	P		**P**		**04 31 35.5**	**+0.4**
PMAFR	**Mafra**	**90.28**	**352**	*e*PP		PP		04 35 13.1	+5.1
PMAFR				*e*S		**SKKSac**		**04 42 10.8**	**-6.8**
CASM	**Ain Smara**	**90.41**	**339**	P		**P**		**04 31 33.9**	**-1.7**
PMST	**Lisbon--Monsan**	**90.49**	**352**	*e*P		**P**		**04 31 37.2**	**+1.3**
	comp=Z,144nm,1.2s								
LIS	**Lisbon**	**90.51**	**352**	*e*P		**P**		**04 31 36.4**	**+0.5**
LIS				*e*SKSac		**SKSac**		**04 42 07.9**	**+2.8**
LIS				AMS		AMS		05 15 28.7	
	comp=E,4μm,15.6s								
LIS	**Lisbon**	**90.51**	**352**	*e*P		**P**		**04 31 36.4**	**+0.5**
LIS				*e*				04 42 07.9	
BKZ	**Black Stump Fm**	**90.58**	**167**	*e*P		**P**		**04 31 35.1**	**-0.8**
	comp=E,131nm,1.3s								
BKZ				LR		LR			
	comp=Z,3μm,18.0s								
CART	**Cartagena**	**90.58**	**345**	PFAKE				04 31 50.0	+14
CART				LR		LR			
	comp=Z,2μm,20.0s								
CART	**Cartagena**	**90.58**	**345**	*i* P		**P**		**04 31 39.4**	**+3.0**
CART				*i* S		**SKKSac**		**04 42 14.5**	**-5.3**
CTEI	**Djebel Teioual**	**90.61**	**339**	P		**P**		**04 31 34.0**	**-2.7**
CKHR	**Kef el Ahmar**	**90.86**	**340**	P		**P**		**04 31 38.0**	**+0.2**
PBEJ	**Beja**	**91.07**	**351**	*e*P		**P**		**04 31 38.8**	**+0.2**
	comp=Z,72nm,1.5s								
MESJ	**Messejana**	**91.29**	**351**	*e*P		**P**		**04 31 40.2**	**+0.6**
MESJ				*e*PP		**PP**		**04 35 16.9**	**+1.0**
MESJ				*e*SKSac		**SKSac**		**04 42 12.3**	**+2.7**
MESJ				*e*SS		**SS**		**04 48 44.8**	**+5.4**
MESJ				AMS		AMS		05 23 01.6	
	comp=Z,3μm,13.4s								
MESJ	**Messejana**	**91.29**	**351**	*e*P		**P**		**04 31 40.2**	**+0.6**
MESJ				*e*				04 35 16.9	
MESJ				*e*				04 42 12.3	
MESJ				*e*SS		SS		04 48 44.8	+5.4
PCVE	**Castro Verde**	**91.48**	**351**	*e*P		**P**		**04 31 41.1**	**+0.6**
	comp=Z,144nm,1.8s								
PCVE	**Castro Verde**	**91.48**	**351**	*e*PP		PP		04 35 17.2	-0.2
PCVE				*e*S		**SKKSac**		**04 42 20.0**	**-6.5**
NWAO	**Narrogin (SRO)**	**91.48**	**215**	*e*P		**P**		**04 31 40.5**	**+0.2**
	comp=Z,128nm,1.1s								
NWAO	**Narrogin (SRO)**	**91.48**	**215**	*e*P		**P**		**04 31 40.5**	**+0.2**
NWAO				pmax		pmax			
	comp=Z,128nm,1.1s								
NWAO	**Narrogin (SRO)**	**91.48**	**215**	P		**P**		**04 31 40.5**	**+0.2**
	SNR=6.5								
NWAO				P		**P**		**04 31 40.5**	**+0.2**
	SNR=6.5								
PVAQ	**Vaqueiros**	**91.67**	**350**	*e*S		**SKKSac**		**04 42 21.8**	**-6.1**
PBDV	**Barranco-do-Ve**	**91.85**	**351**	*e*PP		PP		04 35 26.8	+6.4
PBDV				*e*S		**SKSac**		**04 42 20.7**	**+7.8**
MORF	**Marmelete**	**91.86**	**351**	*e*P		**P**		**04 31 43.0**	**+0.6**
MORF				*e*SKSac		**SKSac**		**04 42 15.5**	**+2.5**
MORF				*e*SS		**SS**		**04 48 53.3**	**+5.5**
MORF				AMS		AMS		05 23 44.5	
	comp=Z,3μm,15.5s								
MORF	**Marmelete**	**91.86**	**351**	*e*PP		PP		04 35 25.3	+4.8
MORF				*e*S		**SKSac**		**04 42 16.7**	**+3.7**
MORF	**Marmelete**	**91.86**	**351**	*e*P		**P**		**04 31 43.0**	**+0.6**
MORF				*e*				04 42 15.5	
MORF				*e*SS		SS		04 48 53.3	+5.5
EMAL	**Malaga-Limoner**	**91.91**	**348**	*i* P		**P**		**04 31 45.0**	**+2.5**
EMAL				*i* LR		LR		05 03 16.4	
FSCY	**Frank Sound, G**	**91.95**	**56**	*e*P		**P**		**04 31 43.1**	**+0.2**
	comp=Z,3μm,1.9s								
BFZ	**Birch Farm**	**92.04**	**168**	PFAKE				04 31 50.0	+7.4
BFZ				LR		LR			
	comp=Z,2μm,21.0s								
PFVI	**Vila Bisbo**	**92.05**	**351**	*e*PP		PP		04 35 26.9	+5.0
PFVI				*e*S		**SKKSac**		**04 42 26.8**	**-4.0**
SFS	**San Fernando**	**92.42**	**349**	PFAKE				04 32 00.0	+15
SFS				LR		LR			
	comp=Z,3μm,18.0s								
SFS	**San Fernando**	**92.42**	**349**	*i* P		**P**		**04 31 46.8**	**+2.0**
SFS				*i* LR		LR		05 03 10.1	
SNZO	**South Karori**	**92.47**	**169**	PFAKE				04 32 00.0	+15
SNZO				LR		LR			
	comp=Z,4μm,22.0s								
SNZO	**South Karori**	**92.47**	**169**	*e*P		**P**		**04 31 44.2**	**-0.3**
THZ	**Tophouse**	**92.71**	**171**	PFAKE				04 32 00.0	+14
THZ				LR		LR			
	comp=Z,2μm,19.0s								
TGUH	**Tegucigalpa,Un**	**92.87**	**64**	*e*P		**P**		**04 31 47.8**	**+0.6**
	comp=Z,1μm,2.0s								
TGUH				LR		LR			
	comp=Z,1μm,20.0s								
CEU	**Ceuta**	**92.88**	**348**	*i* P		**P**		**04 31 47.9**	**+0.9**
CEU				*i* S		**SKKSac**		**04 42 34.1**	**-2.8**
RKT	**Rikitea**	**92.96**	**123**	*e*P		**P**		**04 31 47.2**	**-0.1**
	comp=Z,53nm,1.2s								
RKT	**Rikitea**	**92.96**	**123**	*e*SKSac		**SKSac**		**04 42 17.0**	**-1.9**
	comp=Z,1μm,22.9s								
RKT				*e*SP		SP		04 44 01.4	-2.0
	comp=Z,3μm,24.5s								
RKT	**Rikitea**	**92.96**	**123**	*e*LR		LR		05 01 10.0	
	comp=Z,8μm,23.2s,baz=321								
MELI	**Melilla**	**93.13**	**346**	*i* P		**P**		**04 31 50.4**	**+2.2**
KHZ	**Kahutara**	**93.42**	**170**	PFAKE				04 32 00.0	+11
KHZ				LR		LR			
	comp=Z,3μm,22.0s								
OXZ	**Oxford**	**94.17**	**171**	PFAKE				04 32 00.0	+7.6
OXZ				LR		LR			
	comp=Z,2μm,21.0s								
FOZ	**Fox Glacier**	**94.18**	**173**	PFAKE				04 32 00.0	+7.6
FOZ				LR		LR			
	comp=Z,4μm,21.0s								
DAMY	**Dhamar**	**94.34**	**299**	PFAKE				04 32 10.0	+16
DAMY				LR		LR			
	comp=Z,6μm,19.0s								
RPZ	**Rata Peaks**	**94.47**	**172**	PFAKE				04 32 10.0	+16
RPZ				LR		LR			
	comp=Z,4μm,18.0s								
GTBY	**Guantanamo Bay**	**94.54**	**51**	PFAKE				04 32 10.0	+15
GTBY				LR		LR			
	comp=Z,3μm,22.0s								
MQZ	**McQueen's Vall**	**94.61**	**171**	PFAKE				04 32 10.0	+16
MQZ				LR		LR			
	comp=Z,2μm,18.0s								
MTDJ	**Mount Denham**	**94.75**	**54**	PFAKE				04 32 10.0	+14
MTDJ				LR		LR			
	comp=Z,1μm,19.0s								
RTC	**Rabat Centre**	**94.95**	**349**	PFAKE				04 32 10.0	+13
RTC				LR		LR			
	comp=Z,10μm,18.0s								
LBZ	**Lake Benmore**	**95.06**	**173**	PFAKE				04 32 10.0	+14
LBZ				LR		LR			
	comp=Z,4μm,21.0s								
GRTK	**Grand Turk**	**95.09**	**47**	PFAKE				04 32 10.0	+13
GRTK				LR		LR			
	comp=Z,3μm,20.0s								
IFR	**Ifrane**	**95.19**	**348**	*i* P		P		04 32 09.2	+11
IFR				*i* S		**SKKSac**		**04 42 48.1**	**-6.4**
WKZ	**Wanaka**	**95.41**	**174**	PFAKE				04 32 10.0	+12
WKZ				LR		LR			
	comp=Z,4μm,21.0s								
AVE	**Averroes**	**95.69**	**350**	*e*S		**SKKSac**		**04 42 50.5**	**-7.4**
ODZ	**Otahua Downs**	**95.75**	**173**	PFAKE				04 32 10.0	+10
ODZ				LR		LR			
	comp=Z,3μm,20.0s								
ESPN	**Las Esperanzas**	**96.07**	**63**	*e*P		**P**		**04 32 01.6**	**-0.2**
	comp=Z,322nm,1.9s								
ESPN				LR		LR			
	comp=Z,800nm,19.0s								
WHZ	**Wether Hill Ro**	**96.41**	**175**	PFAKE				04 32 10.0	+7.5
WHZ				LR		LR			
	comp=Z,4μm,22.0s								
PTCN	**Pitcairn Islan**	**97.15**	**121**	PFAKE				04 32 20.0	+13
PTCN				LR		LR			
	comp=Z,5μm,22.0s								
SDDR	**Presa de Saban**	**97.20**	**48**	*e*P		Pdif		04 32 07.8	+0.6
	comp=Z,35nm,1.0s								
SDDR				LR		LR			
	comp=Z,2μm,18.0s								
JTS	**JuntasAbangare**	**97.24**	**64**	*e*P		**P**		**04 32 06.6**	**-0.6**
	comp=Z,4.3nm,0.7s								
JTS				LR		LR			
	comp=Z,1μm,18.0s								
JTS	**JuntasAbangare**	**97.24**	**64**	*e*P		**P**		**04 32 06.6**	**-0.6**
JTS				pmax		pmax			
	comp=Z,4.0nm,0.7s								
JTS				MLR		MLR			
	comp=Z,1μm,18.0s								
ATD	**Arta Tunnel**	**97.69**	**299**	PFAKE				04 32 20.0	+11
ATD				LR		LR			
	comp=Z,3μm,19.0s								
SDD	**Santo Domingo**	**98.30**	**47**	PFAKE				04 32 20.0	+8.0
SDD				LR		LR			
	comp=Z,3μm,20.0s								
MPR	**Mayaguez**	**99.79**	**45**	PFAKE				04 32 30.0	+11
MPR				LR		LR			
	comp=Z,1μm,22.0s								
OBIP	**Obispado Ponce**	**100.18**	**45**	PFAKE				04 32 30.0	+10
OBIP				LR		LR			
	comp=Z,2μm,20.0s								
CBYP	**Canovanas**	**100.31**	**44**	PFAKE				04 32 30.0	+9.0
CBYP				LR		LR			
	comp=Z,2μm,20.0s								
SJG	**San Juan**	**100.32**	**44**	*e*Pdif		**Pdif**		**04 32 21.6**	**+0.6**
	comp=Z,14nm,0.9s								
SJG				LR		LR			
	comp=Z,1μm,20.0s								
SJG	**San Juan**	**100.32**	**44**	*e*P		**Pdif**		**04 32 21.6**	**+0.6**
SJG				pmax		pmax			
	comp=Z,14nm,0.9s								
SJG				MLR		MLR			
	comp=Z,1μm,20.0s								
ICMP	**Isla Caja de M**	**100.35**	**45**	PFAKE				04 32 30.0	+8.9
ICMP				LR		LR			
	comp=Z,2μm,22.0s								
MTP	**Monte Pirata**	**100.60**	**44**	*e*Pdif		**Pdif**		**04 32 22.3**	**+0.1**
SEUS	**St. Eustatius**	**102.25**	**42**	PFAKE				04 32 40.0	+10
SEUS				LR		LR			
	comp=Z,2μm,20.0s								
ANWB	**Willy Bob**	**102.60**	**41**	PFAKE				04 32 40.0	+8.9
ANWB				LR		LR			
	comp=Z,1μm,20.0s								
MSEY	**Mahe Island**	**102.94**	**279**	PFAKE				04 32 40.0	+7.3
MSEY				LR		LR			
	comp=Z,2μm,22.0s								
TAM	**Tamanrasset**	**103.53**	**336**	*e*Pdif		**Pdif**		**04 32 34.6**	**-0.8**
TAM				LR		LR			
	comp=Z,4μm,20.0s								
TAM	**Tamanrasset**	**103.53**	**336**	*e*P		**Pdif**		**04 32 34.6**	**-0.8**
TAM				MLR		MLR			
	comp=Z,4μm,20.0s								
FDF	**Fort de France**	**105.49**	**42**	PFAKE				04 37 10.0	+13
FDF				LR		LR			
	comp=Z,1μm,20.0s								
SVB	**Belmont**	**106.75**	**42**	PFAKE				04 37 10.0	+10
SVB				LR		LR			
	comp=Z,2μm,20.0s								
GRGR	**Grenville**	**107.59**	**43**	PFAKE				04 37 10.0	+8.7
GRGR				LR		LR			
	comp=Z,2μm,20.0s								
ROSC	**El Rosal**	**107.65**	**58**	PFAKE				04 37 10.0	+8.1
ROSC				LR		LR			
	comp=Z,200nm,21.0s								
KMBO	**Kilima Mbogo**	**111.19**	**296**	*e*P		**PKiKP**		**04 37 08.8**	**+0.4**
KMBO				LR		LR			
	comp=Z,2μm,20.0s								
KMBO	**Kilima Mbogo**	**111.19**	**296**	*e*PKiKP		**PKiKP**		**04 37 08.8**	**+0.4**
KMBO				MLR		MLR			
	comp=Z,2μm,20.0s								
TORD	**Torodi Ar. Bea**	**113.74**	**337**	Pdiff		**Pdif**		**04 33 20.4**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=4.8,slow=3.5,SNR=3.1								
TORD				PKiKP		**PKiKP**		**04 37 11.8**	**-1.2**
	comp=Z,4.1nm,0.7s,baz=16,slow=1.2,SNR=21								
TORD				PP		**PP**		**04 38 04.0**	**-0.7**
	comp=Z,13nm,1.1s,baz=9.8,slow=7.7,SNR=7.6								
TORD				PKKPbc		**PKKPbc**		**04 47 53.2**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=215,slow=2.3,SNR=9.3								
PTGA	**Pitinga**	**119.72**	**48**	PKP		**PKPdf**		**04 37 23.7**	**-0.8**
	comp=Z,4.2nm,0.6s,baz=331,slow=6.7,SNR=6.6								
PTGA				PP		**PP**		**04 38 40.2**	**-6.9**
	comp=Z,3.8nm,0.6s,baz=340,slow=9.8,SNR=5.5								
DBIC	**Dimbokro**	**121.46**	**343**	PKP		**PKPdf**		**04 37 27.7**	**-0.1**
	comp=Z,23nm,0.7s,baz=356,slow=2.3,SNR=50								
DBIC				PKKPbc		**PKKPbc**		**04 47 27.5**	**+1.4**
	comp=Z,5.4nm,0.8s,baz=153,slow=4.6,SNR=6.1								
DBIC	**Dimbokro**	**121.46**	**343**	*e*P		**PKPdf**		**04 37 26.9**	**-0.8**
TIC	**Toumodi**	**121.52**	**343**	*e*PKP1		**PKPdf**		**04 37 27.4**	**-0.5**
KIC	**Kosan Boka**	**121.74**	**342**	*e*PKP1		**PKPdf**		**04 37 27.1**	**-1.3**
	comp=Z,56nm,0.8s								
LIC	**Lamto**	**121.93**	**343**	*e*PKP1		**PKPdf**		**04 37 27.8**	**-0.9**
	comp=Z,176nm,1.3s								
CASY	**Casey**	**122.61**	**201**	*e*PKPdf		**PKPdf**		**04 37 27.9**	**-0.3**
LSZ	**Lusaka**	**127.83**	**295**	*e*PKPdf		**PKPdf**		**04 37 40.0**	**0.0**
LSZ	**Lusaka**	**127.83**	**295**	PKP		**PKPdf**		**04 37 40.3**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=49,slow=1.6,SNR=12								
VNDA	**Vanda**	**127.91**	**180**	PKIKP		**PKPdf**		**04 37 38.0**	**-0.2**
VNDA	**Vanda**	**127.91**	**180**	PKP		**PKPdf**		**04 37 38.0**	**-0.2**
	comp=Z,8.2nm,0.9s,baz=312,slow=3.9,SNR=38								
SBA	**Scott Base**	**128.31**	**178**	*e*PKPdf		**PKiKP**		**04 37 39.3**	**-0.3**
SBA	**Scott Base**	**128.31**	**178**	*e*PKiKP		**PKiKP**		**04 37 39.3**	**-0.3**
LPAZ	**La Paz**	**128.40**	**66**	PKP		**PKPdf**		**04 37 41.6**	**-0.1**
	comp=Z,8.5nm,0.9s,baz=1.8,slow=4.9,SNR=23								
MNMC	**Minye Minye**	**129.75**	**70**	*e*PKPdf		**PKPdf**		**04 37 44.0**	**+0.2**
PB11	**IPOC Station P**	**130.20**	**71**	*e*PKPdf		**PKPdf**		**04 37 43.8**	**-0.7**
PB01	**IPOC Station P**	**131.28**	**71**	*e*PKPdf		**PiKiP**		**04 37 47.0**	**-0.3**
MATP	**Matopo**	**131.68**	**290**	PKP		**PKPdf**		**04 37 46.8**	**-0.5**
	comp=Z,11nm,0.9s,baz=86,slow=0.2,SNR=12								
PB04	**IPOC Station P**	**131.85**	**73**	*e*PKPdf		**PKPdf**		**04 37 47.6**	**+0.1**
SIV	**San Ignacio**	**132.14**	**59**	PKhKP		PKPpre		04 37 34.4	
	comp=Z,2.8nm,0.6s,baz=322,slow=3.4,SNR=24								
SIV				PKP		**PKPdf**		**04 37 47.9**	**-0.2**
	comp=Z,29nm,1.2s,baz=336,slow=1.4,SNR=32								
SIV				PP		**PP**		**04 40 07.1**	**-2.9**
	comp=Z,13nm,0.8s,baz=329,slow=8.0,SNR=10								
LVC	**Limon Verde**	**132.81**	**72**	PKPpre	PKPpre			04 37 39.8	
LVC				*e*PKPdf		**PKPdf**		**04 37 49.6**	**0.0**
LVC	**Limon Verde**	**132.81**	**72**	PKIKP	PKPpre			04 37 39.8	
LVC				*e*				04 37 49.6	
LVC	**Limon Verde**	**132.81**	**72**	PKhKP	PKPpre			04 37 39.8	
	comp=Z,2.5nm,0.7s,baz=9.5,slow=6.1,SNR=2.2								
LVC				PKP		**PKiKP**		**04 37 50.3**	**-0.5**
	comp=Z,35nm,1.2s,baz=301,slow=2.6,SNR=8.0								
RCBR	**Riachuelo**	**133.32**	**22**	*e*PKPdf		**PKPdf**		**04 37 50.9**	**+0.4**
RCBR	**Riachuelo**	**133.32**	**22**	*e*P		**PKPdf**		**04 37 48.8**	**-1.6**
GO02	**Mina Guanaco**	**134.29**	**75**	*e*PKPdf		**PKPdf**		**04 37 52.1**	**-0.1**
PEXB	**Peixe**	**135.04**	**41**	*e*P		**PKPdf**		**04 37 52.7**	**-0.8**
LCO	**Las Campanas**	**136.34**	**80**	*e*PKPdf		**PKPdf**		**04 37 56.3**	**+0.4**
LCO	**Las Campanas**	**136.34**	**80**	*e*P		**PKPdf**		**04 37 55.8**	**-0.1**
LBTB	**Lobatse**	**136.89**	**289**	PKhKP	PKPpre			04 37 47.3	
	comp=Z,3.4nm,0.8s,baz=64,slow=6.0,SNR=4.8								
LBTB				PP		**PP**		**04 40 40.0**	**-0.4**
	comp=Z,12nm,1.1s,baz=39,slow=7.3,SNR=4.3								
TSUM	**Tsumeb**	**136.91**	**303**	*e*PKPpre	PKPpre			04 37 51.9	
TSUM	**Tsumeb**	**136.91**	**303**	PKhKP	PKPpre			04 37 49.3	
	comp=Z,6.4nm,0.8s,baz=358,slow=6.8,SNR=5.0								
GO04	**Tololo Observa**	**137.08**	**81**	*e*PKPdf		**PKPdf**		**04 37 57.2**	**0.0**
BDFB	**Brasilia**	**138.31**	**43**	PKhKP	PKPpre			04 37 50.5	
	comp=Z,6.8nm,0.8s,baz=12,slow=1.0,SNR=7.0								
BDFB				PKP		**PKPdf**		**04 37 59.4**	**-0.3**
	comp=Z,35nm,1.2s,baz=55,slow=2.6,SNR=12								
BDFB				PP		**PP**		**04 40 47.9**	**-0.9**
	comp=Z,8.7nm,1.0s,baz=342,slow=11,SNR=4.8								
AQDB	**Aquidauana**	**138.71**	**56**	*e*P		**PKPdf**		**04 37 59.0**	**-1.1**
ROC1	**El Roble**	**138.82**	**85**	*e*PKPdf		**PKPdf**		**04 38 01.1**	**+0.8**
PEL	**Peldehue**	**139.14**	**85**	*e*PKPdf		**PKPdf**		**04 38 01.0**	**+0.4**
JANB	**Januaria**	**139.33**	**38**	*e*P		**PKPdf**		**04 38 00.9**	**-0.6**
CFA	**Coronel Fontan**	**139.67**	**81**	PKhKP	PKPpre			04 37 52.5	
	baz=276,slow=2.9								
CFA				PKP		**PKPdf**		**04 38 01.4**	**-0.2**
	comp=Z,18nm,0.8s,baz=273,slow=3.6,SNR=3.4								
CFA				PP		**PP**		**04 40 57.2**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=333,slow=8.7,SNR=3.5								
BOSA	**Boshof**	**139.73**	**286**	PKPpre	PKPpre			04 37 53.0	
BOSA				*e*PKPdf		**PKPdf**		**04 38 02.3**	**+0.4**
BOSA	**Boshof**	**139.73**	**286**	PKHKP	PKPpre			04 37 53.0	
BOSA				*e*				04 38 02.3	
BOSA	**Boshof**	**139.73**	**286**	PKhKP	PKPpre			04 37 53.0	
	comp=Z,2.3nm,0.7s,baz=12,slow=4.8,SNR=4.6								
BOSA				PKP		**PKPdf**		**04 38 01.6**	**-0.4**
	comp=Z,8.8nm,1.1s,baz=90,slow=1.6,SNR=4.7								
QSPA	**South Pole Qui**	**140.40**	**180**	PKhKP	PKPpre			04 37 53.7	
	comp=Z,40nm,1.0s,baz=235,slow=0.4,SNR=92								
ITRB	**Iturama**	**140.78**	**49**	*e*P		**PKPdf**		**04 38 01.7**	**-2.3**
MCI9	**Montes Claros**	**140.98**	**38**	*e*P		**PKPdf**		**04 38 02.6**	**-1.8**
MCI6	**Montes Claros**	**141.08**	**39**	*e*P		**PKPdf**		**04 38 04.1**	**-0.6**
PMNB	**Patos De Minas**	**141.56**	**43**	*e*P		**PKPdf**		**04 38 05.1**	**-0.4**
TRCB	**Terra Rica**	**142.23**	**55**	*e*P		**PKPdf**		**04 38 05.8**	**-0.7**
CPUP	**Villa Florida**	**142.47**	**64**	PKhKP	PKPpre			04 38 02.1	
	comp=Z,11nm,0.7s,baz=318,slow=3.0,SNR=29								
CPUP	**Villa Florida**	**142.47**	**64**	*e*P		**PKPdf**		**04 38 06.5**	**-0.2**
GO06	**Curarrehue**	**142.59**	**93**	*e*PKPdf		**PKPdf**		**04 38 07.1**	**+0.4**
BB19B	**Bebedouro**	**142.82**	**48**	*e*P		**PKPdf**		**04 38 07.4**	**-0.2**
PLCA	**Paso Flores**	**143.82**	**94**	PKP	PKPbc			04 38 07.1	+0.5
	comp=Z,35nm,0.8s,baz=313,slow=3.7,SNR=90								
PLCA	**Paso Flores**	**143.82**	**94**	*e*P		PKPbc		04 38 07.3	+0.7
SJMB	**Sao Joao De Ma**	**143.85**	**36**	*e*P		PKPbc		04 38 08.0	+0.9
PTGB	**Pitanga**	**144.09**	**56**	*e*P		**PKPdf**		**04 38 08.9**	**-0.9**
FRTB	**Fartura**	**144.25**	**51**	*e*P		**PKPdf**		**04 38 09.8**	**-0.3**
RCLB	**Rio Claro- Sao**	**144.45**	**48**	*e*P		**PKPdf**		**04 38 09.8**	**-0.6**
BSCB	**Bom Sucesso**	**144.46**	**43**	*e*P		**PKPdf**		**04 38 10.4**	**-0.2**
SUR	**Sutherland**	**145.09**	**286**	*e*PKPbc		**PKPdf**		**04 38 11.3**	**-0.1**
SUR	**Sutherland**	**145.09**	**286**	PKPbc		**PKPbc**		**04 38 10.9**	**-0.1**
	comp=Z,77nm,1.0s,baz=43,slow=1.6,SNR=15								
SPB	**Sao Paulo**	**145.50**	**49**	*e*PKPdf		**PKPab**		**04 38 12.5**	**0.0**
SPB	**Sao Paulo**	**145.50**	**49**	*e*P		**PKPdf**		**04 38 10.7**	**-1.5**
ITAB	**Concordia**	**146.07**	**59**	*e*P		**PKPdf**		**04 38 12.4**	**-0.6**
ESAR	**Angra dos Reis**	**146.38**	**44**	*e*P		**PKPdf**		**04 38 13.2**	**-0.5**
SYO	**Syowa Base**	**146.76**	**214**	*i* PKPdf		**PKPdf**		**04 38 13.0**	**+0.2**
SYO	**Syowa Base**	**146.76**	**214**	*i* PKPbc		**PKPab**		**04 38 16.2**	**+0.2**
GO09	**Cerro Castillo**	**147.47**	**112**	*e*PKPbc		**PKPbc**		**04 38 17.4**	**+0.2**
CPSB	**Cacapava Do Su**	**147.78**	**64**	*e*P		**PKPdf**		**04 38 16.0**	**+0.2**
CNLB	**Canela**	**148.40**	**59**	*e*P		**PKPdf**		**04 38 16.7**	**-0.3**
PLTB	**Pedras Altas**	**148.69**	**66**	*e*P		**PKPdf**		**04 38 17.1**	**-0.2**
GO10	**Punta Arenas**	**148.81**	**115**	*e*PKPbc		**PKiKP**		**04 38 21.8**	**-0.3**
OGAUY	**Aigu**	**149.85**	**71**	*e*P		**PKPdf**		**04 38 18.3**	**-0.7**
PMSA	**Palmer Station**	**153.15**	**139**	*e*PKPbc		**PKiKP**		**04 38 30.6**	**0.0**
PMSA	**Palmer Station**	**153.15**	**139**	PKPbc		**PKPbc**		**04 38 30.3**	**-0.1**
	comp=Z,52nm,0.6s,baz=170,slow=2.0,SNR=7.9								
PMSA	**Palmer Station**	**153.15**	**139**	*e*P		**PKPdf**		**04 38 23.4**	**+0.4**
SNAA	**Sanae**	**157.57**	**194**	P		**PKPdf**		**04 38 28.3**	**-0.6**
SNAA	**Sanae**	**157.57**	**194**	P		**PKPab**		**04 38 59.7**	**-1.5**
SNAA	**Sanae**	**157.57**	**194**	*e*PKPdf		**PKPdf**		**04 38 27.7**	**-1.2**
SNAA				*e*PKPab		**PKPab**		**04 39 00.2**	**-0.9**
SNAA				PP		**PP**		**04 42 39.3**	**-1.6**
SNAA	**Sanae**	**157.57**	**194**	*e*PKIKP		**PKPdf**		**04 38 27.7**	**-1.2**
SNAA				*e*				04 39 00.3	
SNAA								04 42 39.3	
SNAA	**Sanae**	**157.57**	**194**	PKP		**PKPdf**		**04 38 28.0**	**-1.0**
	comp=Z,4.0nm,0.9s,baz=214,slow=4.1,SNR=5.7								
SNAA				PKPab		**PKPab**		**04 39 01.0**	**-0.2**
	comp=Z,44nm,1.1s,baz=147,slow=3.4,SNR=16								
SNAA				PP		**PP**		**04 42 39.3**	**-1.6**
	comp=Z,9.3nm,1.1s,baz=189,slow=7.3,SNR=5.2								
VNA3	**Neumayer Olymp**	**158.84**	**189**	P		**PKPdf**		**04 38 30.5**	**+0.1**
VNA3	**Neumayer Olymp**	**158.84**	**189**	P		**PKPab**		**04 39 05.3**	**-1.3**
VNA2	**Neumayer--Watz**	**158.88**	**191**	P		**PKPdf**		**04 38 31.4**	**+1.0**
	baz=306,slow=0.7								
VNA2	**Neumayer--Watz**	**158.88**	**191**	P		**PKPab**		**04 39 05.8**	**-1.0**
	baz=170,slow=3.4								
VNA1	**Neumayer--Stat**	**159.24**	**191**	P		**PKPdf**		**04 38 27.3**	**-3.

SPN	**Mys Shipunski**	**2.38**	**357**	*e*S		Sn	04 43 24.7	+0.2
KRMR	**Karymshinskiy**	**2.47**	**329**	*e*P		Pn	04 42 59.9	+2.5
KRMR				*e*S		Sn	04 43 29.3	+2.6
PET	**Petropavlovsk**	**2.50**	**338**	*e*S		Sn	04 43 28.7	+1.4
SKR	**Severo-Kuril's**	**2.60**	**271**	*e*P		Pn	04 43 01.2	+2.0
SKR				*e*S		Sn	04 43 30.5	+0.6
UGLR	**Uglovaya**	**2.63**	**342**	P		Pn	04 43 01.8	+2.1
SDLR	**Sedlovina**	**2.69**	**343**	*e*P		Pn	04 43 03.2	+2.8
SDLR				S		Sn	04 43 34.9	+2.9
SMAR	**Somma**	**2.69**	**342**	P		Pn	04 43 03.7	+3.2
AVH	**Avacha**	**2.70**	**341**	*e*P		Pn	04 43 03.9	+3.3
AVH				*e*S		Sn	04 43 35.3	+2.9
KRER	**Koryakskii**	**2.74**	**341**	*e*P		Pn	04 43 04.5	+3.3
KRER				*e*S		Sn	04 43 37.2	+3.8
KOK	**Koryaka**	**2.75**	**340**	*e*P		Pn	04 43 04.7	+3.4
KOK				S		Sn	04 43 37.2	+3.7
KRX	**Arik**	**2.81**	**341**	P		Pn	04 43 05.0	+2.9
KRX				S		Sn	04 43 37.5	+2.4
APC	**Apacha**	**2.91**	**320**	*e*P		Pn	04 43 07.3	+4.0
APC				*e*S		Sn	04 43 41.7	+4.6
MKZ	**Mys Kozlova**	**3.95**	**13**	*e*P		Pn	04 43 18.9	+1.5
MKZ				S		Sn	04 44 01.5	-0.9
KZV	**Kizimen**	**4.40**	**1**	*e*P		Pn	04 43 26.9	+3.3
KZV				*e*S		Sn	04 44 16.2	+2.6
TUMD	**Tumrok D**	**4.49**	**1**	P		Pn	04 43 28.1	+3.4
TUMD				S		Sn	04 44 16.9	+1.2
TUMR	**Tumrok**	**4.57**	**360**	*e*P		Pn	04 43 29.7	+3.8
KBTR	**Krutoberegovo**	**5.71**	**15**	*e*P		Pn	04 43 44.2	+2.9

*ISCJB **24** 04:52:31.4±0.4, 11°.41N±0°.02×73°.37W±0°.04, h57km±5km, mb4.0/25, Error ellipse: s-maj=6.0km s-min=3.8km az=176.3*

*IDC **24** 04:52:33.1±0.4, 11°.30N×73°.27W, h59km±3km, mb3.7/21, mb1 3.9/24, mb1mx3.7/48, mbtmp4.0/24, MS3.7/1, Ms1 3.7/1, ms1mx3.2/33, Error ellipse: s-maj=14.3km s-min=9.7km az=63.0*

*RSNC **24** 04:52:33.4±0.9, 11°.36N×73°.38W, h26km±8km, ML4.8, Mw4.6*

ISC 24 04:52:33.1±0.4, 11°.36N±0°.04×73°.42W±0°.04, h59km±4km, n71, σ2ş17/103, mb4.1/25, 3C-6D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SMRC	**Santa Marta, M**	**0.81**	**257**	⇓*i*P		**Pn**	**04 52 48.4**	**-0.3**
SMRC					*e*S	**Sn**	**04 53 00.5**	**+0.3**
SMRC					*i*		04 53 01.9	
	comp=N,17μm,0.3s							
CODC	**Agustn Codazz**	**1.41**	**181**	⇓*i*P		**Pn**	**04 52 56.1**	**-0.5**
CODC					*e*S	**Sn**	**04 53 13.8**	**-0.4**
CODC					*i*		04 53 14.2	
	comp=N,8μm,0.5s							
URIC	**Uribia, Colomb**	**1.44**	**76**	⇓*i*P		**Pn**	**04 52 56.4**	**-0.5**
URIC					*e*S	**Sn**	**04 53 14.2**	**-0.7**
SJCC	**San Jacinto, C**	**2.26**	**230**	⇑*i*P		**Pn**	**04 53 08.8**	**+0.6**
SJCC					*e*Pg		04 53 11.3	
SJCC					*e*S	**Sn**	**04 53 36.8**	**+1.9**
SJCC					*e*Sg		04 53 41.1	
SMLC	**San Martn de**	**2.62**	**194**	*e*P		**Pn**	**04 53 12.7**	**-0.4**
SMLC					*e*S	**Sn**	**04 53 42.9**	**-0.8**
SMLC					*i*		04 53 53.7	
	comp=Z,3μm,0.2s							
OCAC	**Ocana**	**3.10**	**178**	*e*P		**Pn**	**04 53 19.8**	**+0.1**
OCAC					*e*S	**Sn**	**04 53 57.7**	**+2.0**
PAMC	**Pamplona, Colo**	**4.05**	**170**	*e*P		**Pn**	**04 53 33.4**	**+0.3**
PAMC					*e*S	**Sn**	**04 54 18.8**	**-0.7**
PAMC					*i*		04 54 31.9	
	comp=N,2μm,0.4s							
ZARC	**Zaragoza, Cauc**	**4.09**	**200**	*e*P		**Pn**	**04 53 34.1**	**+0.9**
ZARC					*e*S	**Sn**	**04 54 21.1**	**+1.2**
ZARC					*i*		04 54 27.7	
	comp=N,3μm,0.5s							
ZARC					*i*		04 54 28.4	
	comp=Z,995nm,0.6s							
UREC	**San Jos de Ur**	**4.14**	**210**	*e*P		**Pn**	**04 53 35.2**	**+1.3**
UREC					*e*S	**Sn**	**04 54 22.8**	**+1.7**
UREC					*i*		04 54 26.6	
	comp=N,2μm,0.3s							
BRRC	**Barranca, Sant**	**4.23**	**184**	*i*			04 50 31.9	
BRRC				⇑*e*P		**Pn**	**04 53 35.1**	**0.0**
BRRC					*e*S	**Sn**	**04 54 22.9**	**-0.4**
BRRC					*i*		04 54 33.8	
	comp=E,2μm,0.3s							
BRRC					*i*		04 54 37.8	
	comp=Z,974nm,0.2s							
GIRC	**Giron, Santand**	**4.25**	**177**	*e*P		**Pn**	**04 53 36.2**	**+0.7**
GIRC					*e*S	**Sn**	**04 54 27.9**	**+3.8**
GIRC					*i*		04 54 34.1	
	comp=Z,861nm,0.4s							
BARC	**Barichara**	**4.74**	**177**	*e*P		**Pn**	**04 53 42.9**	**+0.7**
BARC					*e*S	**Sn**	**04 54 39.1**	**+3.1**
BARC					*i*		04 54 49.3	
	comp=Z,3μm,0.4s							
PTBC	**PUERTO BERRIO,**	**4.89**	**192**	*e*P		**Pn**	**04 53 44.7**	**+0.5**
PTBC					*e*S	**Sn**	**04 54 40.3**	**+0.7**
PTBC					*i*		04 54 57.3	
	comp=N,1μm,0.5s							
DBBC	**Dabeiba**	**5.12**	**213**	*e*P		**Pn**	**04 53 48.5**	**+1.2**
DBBC					*i*		04 55 13.1	
	comp=Z,331nm,0.5s							
TAMC	**Tame, Arauca**	**5.15**	**162**	*e*P		**Pn**	**04 53 48.1**	**+0.4**
TAMC					*e*S	**Sn**	**04 54 45.6**	**-0.3**
TAMC					*i*		04 54 51.3	
	comp=E,1μm,0.3s							
RUSC	**La Rusia**	**5.44**	**176**	*e*P		**Pn**	**04 53 52.4**	**+0.3**
RUSC					*e*S	**Sn**	**04 54 50.0**	**-3.6**
RUSC					*i*		04 55 12.2	
	comp=N,631nm,0.5s							
HELC	**Santa Helena**	**5.54**	**202**	*e*P		**Pn**	**04 53 55.5**	**+2.1**
HELC					*e*S	**Sn**	**04 55 00.0**	**+4.1**
HELC					*i*		04 55 23.2	
	comp=E,631nm,0.6s							
SOLC	**Bahia Solano**	**6.44**	**218**	*e*P		**Pn**	**04 54 07.2**	**+1.8**
SOLC					*e*S	**Sn**	**04 55 17.2**	**-0.4**
SOLC					*i*		04 55 22.5	
	comp=Z,59nm,0.3s							
SOLC					*i*		04 55 26.4	
	comp=E,164nm,0.4s							
ROSC	**El Rosal**	**6.53**	**188**	P		**Pn**	**04 54 08.2**	**+1.2**
	comp=E,37nm,0.3s,baz=334,slow=4.1,SNR=53							
ROSC					S	**Sn**	**04 55 26.1**	**+5.7**
	comp=E,44nm,0.3s,baz=120,slow=20,SNR=4.5							
BCIP	**Isla Barro Col**	**6.68**	**252**	*e*P		**Pn**	**04 54 07.5**	**-1.2**
BCIP					*e*S	**Sn**	**04 55 16.6**	**-6.9**
BCIP					*i*		04 55 22.5	
	comp=Z,181nm,0.3s							
CHIC	**Chingaza**	**6.69**	**183**	*e*P		**Pn**	**04 54 10.8**	**+1.6**
CHIC					*e*S	**Sn**	**04 55 27.5**	**+3.2**
CHIC					*i*		04 55 39.3	
	comp=N,448nm,0.7s							
CMJ	**Castle Mountai**	**7.32**	**337**	⇓*i*P		**Pn**	**04 54 17.3**	**-0.2**
HOJ	**Hope**	**7.35**	**334**	*i* P		**Pn**	**04 54 16.8**	**-1.1**
STH	**Stony Hill**	**7.44**	**334**	⇑*i*P		**Pn**	**04 54 17.8**	**-1.4**
MCJ	**Malvern**	**7.73**	**328**	⇓*i*P		**Pn**	**04 54 21.7**	**-1.4**
PRAC	**Prado**	**7.73**	**191**	*e*P		**Pn**	**04 54 25.7**	**+2.6**
PRAC					*e*S	**Sn**	**04 55 57.4**	**+8.1**
PRAC					*i*		04 56 24.8	
	comp=N,135nm,0.7s							
CVJ	**Coleyville**	**7.91**	**330**	⇓*i*P		**Pn**	**04 54 24.6**	**-0.9**
BBJ	**Bamboo Saint A**	**7.92**	**332**	*i* PA		**Pn**	**04 54 25.0**	**-0.6**
SJAC	**San Juan de Ar**	**8.05**	**184**	*e*P		**Pn**	**04 54 30.6**	**+3.1**
SJAC					*e*S	**Sn**	**04 56 01.5**	**+4.3**
SJAC					*i*		04 56 12.3	
	comp=Z,76nm,0.3s							
GUVC	**San Jose del G**	**8.79**	**175**	*e*P		**Pn**	**04 54 36.1**	**-1.4**
GUVC					*e*S	**Sn**	**04 56 10.7**	**-4.5**
SJG	**San Juan**	**9.72**	**45**	P		Pn	04 54 42.3	-8.0
	comp=Z,1.3nm,0.3s,baz=212,slow=13,SNR=4.7							
SJG					S	Sn	04 56 26.1	-12
	comp=Z,4.1nm,0.3s,baz=41,slow=23,SNR=6.8							
FLOC	**Florencia**	**9.96**	**193**	*e*P		**Pn**	**04 54 54.9**	**+1.2**
FLOC					*e*S	**Sn**	**04 56 50.6**	**+6.7**
JTS	**JuntasAbangare**	**11.38**	**266**	P		**Pn**	**04 55 09.6**	**-3.4**
	comp=Z,0.8nm,0.3s,baz=166,slow=23,SNR=5.2							
JTS					S	**Sn**	**04 57 14.2**	**-4.5**
	comp=Z,5.2nm,0.3s,baz=309,slow=18,SNR=10							
APG	**El Apazote**	**16.99**	**284**	P		**P**	**04 56 30.8**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=63,slow=9.0,SNR=3.2							
PTGA	**Pitinga**	**17.97**	**131**	P		**P**	**04 56 37.9**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=312,slow=17,SNR=8.5							
PTGA					LR	LR	05 04 13.6	
	comp=Z,250nm,20.3s,baz=78,slow=39							
ATAH	**Atahualpa**	**19.02**	**195**	P		**Pn**	**04 56 53.8**	**+1.7**
	comp=Z,3.5nm,0.3s,baz=9.7,slow=8.6,SNR=19							
MDP	**Montagnes des**	**21.47**	**105**	P		**P**	**04 57 14.6**	**-2.3**
	comp=Z,10nm,0.9s,baz=315,slow=11,SNR=2.9							
CMIG	**Matias Romero**	**21.57**	**288**	P		**P**	**04 57 22.2**	**+4.3**
	comp=Z,2.1nm,0.6s,baz=66,slow=10.0,SNR=3.7							
NNA	**Nana**	**23.44**	**188**	P		**P**	**04 57 38.7**	**+1.3**
	comp=Z,6.3nm,0.3s,baz=353,slow=12,SNR=5.7							
LPAZ	**La Paz**	**27.96**	**169**	P		**P**	**04 58 17.6**	**-1.4**
	comp=Z,1.4nm,0.4s,baz=309,slow=4.3,SNR=12							
SIV	**San Ignacio**	**29.79**	**156**	P		**P**	**04 58 31.4**	**-3.2**
	comp=Z,2.8nm,0.6s,baz=5.4,slow=11,SNR=11							
TXAR	**Lajitas Array**	**33.38**	**307**	P		**P**	**04 59 07.4**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=126,slow=8.6,SNR=7.6							
SADO	**Sadowa**	**33.66**	**353**	P		**P**	**04 59 08.2**	**0.0**
	comp=Z,3.1nm,0.6s,baz=277,slow=7.2,SNR=4.6							
BDFB	**Brasilia**	**36.77**	**136**	P		**P**	**04 59 33.0**	**-2.5**
	comp=Z,1.8nm,0.7s,baz=296,slow=14,SNR=3.7							
ANMO	**Albuquerque**	**38.10**	**313**	P		**P**	**04 59 48.2**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=114,slow=10.0,SNR=3.2							
ULM	**Lac du Bonnet**	**42.96**	**339**	P		**P**	**05 00 26.1**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=144,slow=13,SNR=3.4							
CFA	**Coronel Fontan**	**43.00**	**174**	P		**P**	**05 00 26.1**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=354,slow=5.2,SNR=11							
SCHQ	**Schefferville**	**43.68**	**6**	P		**P**	**05 00 32.7**	**+0.7**
	comp=Z,5.6nm,1.0s,baz=189,slow=10,SNR=4.1							
PDAR	**Pinedale Array**	**44.31**	**322**	P		**P**	**05 00 38.0**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=103,slow=7.5,SNR=5.4							
PDAR					pP	**pP**	**05 00 54.0**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=119,slow=11,SNR=5.3							
NVAR	**Mina Array Bea**	**48.18**	**312**	P		**P**	**05 01 08.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=118,slow=7.6,SNR=2.6							
NVAR					pP	**pP**	**05 01 25.5**	**+2.3**
	comp=Z,1.3nm,0.6s,baz=116,slow=7.1,SNR=7.9							
PLCA	**Paso Flores**	**51.89**	**177**	P		**P**	**05 01 34.8**	**-0.9**
	comp=Z,14nm,0.6s,baz=14,slow=8.7,SNR=112							
YKA	**Yellowknife Ar**	**58.94**	**339**	P		**P**	**05 02 25.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=128,slow=7.4,SNR=15							
YKA					pP	**pP**	**05 02 41.9**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=125,slow=7.2,SNR=12							
SUMG	**Summit**	**64.62**	**11**	*i* P		pP	05 03 20.3	0.0
DBIC	**Dimbokro**	**67.75**	**87**	P		**P**	**05 03 24.6**	**-0.6**
	comp=Z,2.1nm,0.5s,baz=292,slow=6.5,SNR=7.5							
INK	**Inuvik**	**68.69**	**340**	P		**P**	**05 03 30.8**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=99,slow=5.8,SNR=3.5							
INK					pP	**pP**	**05 03 46.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=100,slow=4.3,SNR=3.7							
ILAR	**Eielson Array**	**72.76**	**335**	P		**P**	**05 03 57.1**	**+2.2**
	comp=Z,0.2nm,0.7s,baz=108,slow=5.8,SNR=3.5							
ILAR					pP	**pP**	**05 04 11.4**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=112,slow=3.5,SNR=6.0							
TORD	**Torodi Ar. Bea**	**73.16**	**80**	P		**P**	**05 03 57.5**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=297,slow=6.8,SNR=13							
TORD					pP	**pP**	**05 04 14.3**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=297,slow=5.9,SNR=3.6							
NB2	**NORSAR Subarra**	**77.55**	**30**	P		**P**	**05 04 23.3**	**+0.7**
	comp=Z,11nm,1.2s,baz=272,slow=5.6							
NOA	**NORSAR Array B**	**77.55**	**30**	P		**P**	**05 04 22.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=304,slow=4.6,SNR=3.2							
NOA					pP	**pP**	**05 04 39.7**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=273,slow=5.7,SNR=6.9							
KHC	**Kasperske Hory**	**79.56**	**42**	*e*P		pP	05 04 51.1	+0.8
BRG	**Berggiesshubel**	**79.63**	**40**	*e*P		pP	05 04 51.3	+0.7
	comp=Z,9.4nm,1.4s							
GERES	**GERESS Array B**	**79.67**	**42**	P		**P**	**05 04 34.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=283,slow=10.0,SNR=2.4							
GERES					pP	**pP**	**05 04 51.4**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=282,slow=5.9,SNR=4.3							
PRU	**Pruhonice**	**80.10**	**41**	*e*P		pP	05 04 55.0	+1.9
UPC	**Upice**	**80.98**	**40**	*e*P		pP	05 04 58.1	+0.2
DPC	**Dobruska-Polom**	**81.20**	**40**	*e*P		pP	05 05 00.3	+1.2
FINES	**FINESS Array B**	**84.62**	**28**	P		**P**	**05 04 59.8**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=350,slow=10,SNR=3.6							
BRTR	**Keskin Array B**	**95.58**	**48**	P		**P**	**05 05 52.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=338,slow=3.8,SNR=2.7							
BRTR					pP	**pP**	**05 06 09.6**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=288,slow=4.2,SNR=7.2							
MKAR	**Makanchi Array**	**118.16**	**19**	PKP		**PKPdf**	**05 11 12.8**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=334,slow=4.2,SNR=4.5							
CMAR	**Chiang Mai Arr**	**149.43**	**14**	PKPbc		**PKPbc**	**05 12 16.8**	**+0.2**
	comp=Z,2.5nm,0.7s,baz=326,slow=3.1,SNR=15							
CMAR				PKPbc		**pPKPbc**	**05 12 33.5**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=332,slow=4.2,SNR=2.6							
ASAR	**Alice Springs**	**151.28**	**241**	PKP		**PKPdf**	**05 12 15.3**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=93,slow=1.7,SNR=10							
ASAR				PKPbc		**PKPbc**	**05 12 20.9**	**0.0**
	comp=Z,8.7nm,0.7s,baz=112,slow=2.5,SNR=67							
ASAR				pPKPbc		**pPKPbc**	**05 12 36.9**	**-1.4**
	comp=Z,2.4nm,0.6s,baz=111,slow=2.7,SNR=4.3							
WRA	**Warramunga Arr**	**151.98**	**249**	PKP		**PKPdf**	**05 12 16.6**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=74,slow=1.6,SNR=5.7							
WRA				PKPbc		**PKPbc**	**05 12 22.5**	**0.0**
	comp=Z,5.6nm,0.6s,baz=97,slow=2.6,SNR=76							
WRA				pPKPbc		**sPKPdf**	**05 12 39.4**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=100,slow=3.7,SNR=3.9							

*ISCJB **24** 05:06:40.9±0.9, 22°.67S±0°.05×68°.74W±0°.05, h131km±8km, Error ellipse: s-maj=8.3km s-min=7.5km az=19.4*

*SJA **24** 05:06:40.5±0.7, 22°.67S×68°.69W, h126km±4km, ML2.2, MW3.0*

*GUC **24** 05:06:41.7±0.5, 22°.66S×68°.84W, h128km±3km, ML3.5*

ISC 24 05:06:41.5±1.7, 22°.68S±0°.05×68°.73W±0°.05, h126km±12km, n21, σ0ş36/34, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.18**	**291**	*i* P		**Pn**	**05 06 58.6**	**-0.7**
LVC				*i* S		**Sn**	**05 07 12.1**	**-0.6**
PB06	**IPOC Station P**	**0.78**	**268**	*i* P		**Pn**	**05 07 02.1**	**-0.2**
PB06	**IPOC Station P**	**0.78**	**268**	⇑*i*P		**Pn**	**05 07 02.3**	**+0.1**
PB06				*i* S		**Sn**	**05 07 18.4**	**+0.4**
PB06				IAML			05 07 19.1	
	comp=N,1μm,0.1s							
PB15	**IPOC Station P**	**0.86**	**232**	*i* P		**Pn**	**05 07 03.3**	**+0.2**
PB15				*i* S		**Sn**	**05 07 19.8**	**+0.4**
PB15	**IPOC Station P**	**0.86**	**232**	*e*P		**Pn**	**05 07 03.4**	**+0.3**
PB15				*i* S		**Sn**	**05 07 19.7**	**+0.3**
PB09	**IPOC Station P**	**0.99**	**331**	*i* P		**Pn**	**05 07 04.0**	**-0.2**
PB09	**IPOC Station P**	**0.99**	**331**	⇑*i*P		**Pn**	**05 07 04.6**	**+0.4**
PB09				*i* S		**Sn**	**05 07 22.2**	**+0.7**
PB09				IAML			05 07 25.7	
	comp=N,795nm,0.5s							
PB03	**IPOC Station P**	**1.13**	**303**	*i* P		**Pn**	**05 07 05.5**	**-0.1**
PB03				*i* S		**Sn**	**05 07 24.2**	**+0.5**
PB03	**IPOC Station P**	**1.13**	**303**	⇑*i*P		**Pn**	**05 07 05.8**	**+0.2**
PB03				*i* S		**Sn**	**05 07 23.8**	**0.0**
PB03				IAML			05 07 25.5	
	comp=E,1μm,0.2s							
PB04	**IPOC Station P**	**1.35**	**284**	*i* P		**Pn**	**05 07 07.9**	**0.0**
PB04	**IPOC Station P**	**1.35**	**284**	⇑*i*P		**Pn**	**05 07 08.0**	**0.0**
PB04				*e*S		**Sn**	**05 07 27.8**	**-0.1**
PB04				IAML			05 07 30.5	
	comp=E,762nm,0.2s							
PB05	**IPOC Station P**	**1.37**	**262**	*i* P		**Pn**	**05 07 08.2**	**+0.1**
PB07	**IPOC Station P**	**1.43**	**311**	*i* P		**Pn**	**05 07 08.6**	**-0.1**
PB07	**IPOC Station P**	**1.43**	**311**	⇑*i*P		**Pn**	**05 07 09.0**	**+0.3**
PB07				*i* S		**Sn**	**05 07 29.4**	**0.0**
PB07				IAML			05 07 31.0	
	comp=E,1μm,0.2s							
PB02	**IPOC Station P**	**1.73**	**321**	*i* P		**Pn**	**05 07 12.1**	**-0.1**
PB02	**IPOC Station P**	**1.73**	**321**	⇑*i*P		**Pn**	**05 07 12.1**	**-0.1**
PB02				*i* S		**Sn**	**05 07 35.3**	**-0.2**
PB02				IAML			05 07 36.7	
	comp=E,678nm,0.3s							
PB01	**IPOC Station P**	**1.77**	**336**	⇑*i*P		**Pn**	**05 07 12.2**	**-0.4**
PB01				*i* S		**Sn**	**05 07 35.9**	**-0.5**
PB01				IAML			05 07 38.6	
	comp=E,606nm,0.2s							
PB10	**IPOC Station P**	**1.88**	**243**	*e*P		**Pn**	**05 07 13.8**	**0.0**
PB10				*i* S		**Sn**	**05 07 38.0**	**-0.5**
PB10				IAML			05 07 40.5	
	comp=N,254nm,0.5s							
YJA	**Yavi**	**3.02**	**81**	*i* P		**Pn**	**05 07 28.9**	**+0.2**
YJA				IAML			05 07 30.2	
	comp=Z,4.2nm,0.7s							
YJA				*i* S		**Sn**	**05 08 04.9**	**0.0**
HJA	**Humahuaca**	**3.11**	**100**	*i* P		**Pn**	**05 07 30.3**	**+0.5**
HJA				IAML			05 07 33.6	
	comp=Z,12nm,0.5s							
FSA	**Cafayete**	**4.24**	**144**	*i* P		**Pn**	**05 07 44.0**	**-0.6**
FSA				IAML			05 07 49.6	
	comp=Z,1.2nm,0.4s							

*IDC **24** 05:09:18.8±2.4, 50°.71N×160°.33E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/52, mbtmp3.4/5, ML2.3/1, Error ellipse: s-maj=56.3km s-min=25.8km az=22.0*

*KRSC **24** 05:09:20.6±10.0, 50°.77N×160°.24E, h86km±10km, ML4.0*

*ISCJB **24** 05:09:21.7±0.8, 50°.73N±0°.05×160°.29E±0°.07, h33km, mb3.3/4, Error ellipse: s-maj=7.0km s-min=6.6km az=153.0*

ISC 24 05:09:23.3±1.2, 50°.73N±0°.08×160°.31E±0°.07, h35km, n31, σ1ş17/36, mb3.4/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**309**	*e*P		**Pn**	**05 09 50.2**	**-1.1**
KDTR				*e*S		**Sn**	**05 10 11.8**	**-0.8**
RUS	**Russkaya**	**2.04**	**327**	*e*P		**Pn**	**05 09 53.8**	**-1.3**
RUS				*e*S		**Sn**	**05 10 18.3**	**-1.0**
MTVR	**Mutnovka**	**2.20**	**324**	*e*P		**Pn**	**05 09 56.5**	**-0.9**
MTVR				*e*S		**Sn**	**05 10 22.8**	**-0.7**
ASAK	**Asacha**	**2.24**	**319**	*e*P		**Pn**	**05 09 57.2**	**-0.7**
PAU	**Pauzhetka**	**2.33**	**290**	*e*S		**Sn**	**05 10 25.2**	**-1.1**
SPN	**Mys Shipunski**	**2.38**	**356**	*e*S		**Sn**	**05 10 25.2**	**-2.5**
KRMR	**Karymshinskiy**	**2.50**	**328**	*e*P		**Pn**	**05 10 00.7**	**-0.7**
KRMR				*e*S		**Sn**	**05 10 30.6**	**-0.1**
PET	**Petropavlovsk**	**2.52**	**337**	*e*S		**Sn**	**05 10 30.5**	**-0.5**
NLC	**Nalytchevo**	**2.52**	**347**	*e*S		**Sn**	**05 10 30.7**	**-0.4**
UGLR	**Uglovaya**	**2.65**	**340**	*e*P		**Pn**	**05 10 03.4**	**-0.1**
SKR	**Severo-Kuril's**	**2.66**	**271**	*e*P		**Pn**	**05 10 02.2**	**-1.4**
SKR				*e*S		**Sn**	**05 10 32.3**	**-2.3**
SDLR	**Sedlovina**	**2.70**	**342**	*e*P		**Pn**	**05 10 03.6**	**-0.7**
SMAR	**Somma**	**2.71**	**340**	*e*P		**Pn**	**05 10 04.1**	**-0.3**
AVH	**Avacha**	**2.72**	**340**	*e*P		**Pn**	**05 10 04.5**	**0.0**
AVH				*e*S		**Sn**	**05 10 37.1**	**+0.9**
KRER	**Koryakskii**	**2.75**	**340**	*e*P		**Pn**	**05 10 06.2**	**+1.1**
KOK	**Koryaka**	**2.77**	**339**	*e*P		**Pn**	**05 10 05.4**	**+0.2**
KRX	**Arik**	**2.83**	**339**	*e*P		**Pn**	**05 10 05.4**	**-0.6**
PETK	**Petropavlovsk-**	**2.88**	**327**	Pn		**Pn**	**05 10 06.4**	**-0.2**
	2.1nm,0.3s,baz=132,slow=18,SNR=21							
PETK					Sn	**Sn**	**05 10 41.0**	**+0.9**
	4.2nm,0.3s,baz=311,slow=27,SNR=13							
APC	**Apacha**	**2.94**	**320**	*e*P		**Pn**	**05 10 07.6**	**+0.2**
ALID	**Alaid**	**3.02**	**275**	*e*P		**Pn**	**05 10 08.5**	**-0.2**
MKZ	**Mys Kozlova**	**3.93**	**12**	*e*P		**Pn**	**05 10 19.3**	**-1.7**
MKZ				*e*S		**Sn**	**05 11 03.0**	**-2.9**
TUMD	**Tumrok D**	**4.49**	**1**	*e*S		**Sn**	**05 11 17.4**	**-2.2**
TUMR	**Tumrok**	**4.57**	**359**	*e*P		**Pn**	**05 10 30.2**	**+0.3**
KBTR	**Krutoberegovo**	**5.69**	**14**	*e*P		**Pn**	**05 10 44.7**	**-0.5**
TIXI	**Tiksi**	**25.30**	**337**	P		**P**	**05 14 47.4**	**+1.4**
	2.4nm,0.6s,baz=132,slow=9.9,SNR=9.4							
H11N2	**WAKE ISLAND Hy**	**31.37**	**168**	T		T	05 48 35.9	
	baz=352,slow=76,SNR=4.5							
H11N3	**WAKE ISLAND Hy**	**31.38**	**168**	T		T	05 48 35.3	
	baz=352,slow=76,SNR=3.9							
H11N1	**WAKE ISLAND Hy**	**31.38**	**168**	T		T	05

	0.3nm,0.3s,baz=152,slow=22,SNR=7.6							
WRA	**Warramunga Arr**	**11.04**	**340**	Pn		**Pn**	**05 17 36.8**	**-1.2**
	0.2nm,0.3s,baz=158,slow=12,SNR=8.6							
FITZ	**Fitzroy Crossi**	**16.86**	**314**	Pn		**Pn**	**05 18 55.0**	**-1.1**
	0.2nm,0.3s,baz=148,slow=9.1,SNR=3.8							

*IDC **24** 05:30:15.9±1.1, 7.°74N×77.°86W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/25, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=47.7km s-min=31.4km az=40.0*
*ISCJB **24** 05:30:17.7±1.4, 7.°93N±0.°04×77.°18W±0.°03, h15km±9km, mb3.5/2, Error ellipse: s-maj=6.5km s-min=5.3km az=26.7*
*RSNC **24** 05:30:18.4±1.1, 7.°90N×77.°19W, h4km±5km, ML3.4, Mw3.8*
ISC 24 05:30:16.4±2.1, 7.°76N±0.°04×77.°23W±0.°04, h12km±14km, n22, σ2°06/38, 2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DBBC	**Dabeiba**	**1.25**	**126**	*eP*			**Pb**	**05 30 39.9**	**-0.1**
DBBC				*eS*			**Sn**	**05 30 59.5**	**+2.9**
DBBC				*i*				05 31 06.8	
	comp=Z,517nm,0.6s								
SOLC	**Bahia Solano**	**1.54**	**187**	*eP*			**Pb**	**05 30 44.4**	**-0.4**
SOLC				*eS*			**Sg**	**05 31 09.5**	**+3.6**
SOLC				*i*				05 31 09.9	
	comp=E,959nm,0.4s								
UREC	**San Jos de Ur**	**1.68**	**90**	*eP*			**Pb**	**05 30 46.5**	**-0.8**
UREC				*eS*			**Sb**	**05 31 08.5**	**0.0**
UREC				*i*				05 31 11.0	
	comp=E,879nm,0.3s								
HELC	**Santa Helena**	**2.30**	**133**	*eP*			**Pb**	**05 30 56.3**	**-1.8**
HELC				*eS*			**Sb**	**05 31 27.9**	**+1.4**
HELC				*i*				05 31 30.7	
	comp=N,123nm,0.4s								
ZARC	**Zaragoza, Cauc**	**2.37**	**96**	*eP*			**Pn**	**05 30 56.5**	**+1.4**
ZARC				*eS*			**Sn**	**05 31 24.1**	**0.0**
ZARC				*i*				05 31 33.4	
	comp=N,179nm,0.5s								
BCIP	**Isla Barro Col**	**2.93**	**299**	*eP*			**Pn**	**05 31 03.4**	**+0.6**
BCIP				*eS*			**Sn**	**05 31 39.8**	**+1.9**
BCIP				*i*				05 32 08.7	
	comp=Z,66nm,0.8s								
SJCC	**San Jacinto, C**	**2.93**	**44**	*eP*			**Pn**	**05 31 03.4**	**+0.5**
SJCC				*eS*			**Sn**	**05 31 37.6**	**-0.5**
PTBC	**PUERTO BERRIO,**	**3.01**	**114**	⇓*iP*			**Pn**	**05 31 05.4**	**+1.5**
PTBC				*eS*			**Sn**	**05 31 41.9**	**+2.0**
PTBC				*i*				05 31 45.9	
	comp=N,116nm,0.5s								
BRRC	**Barranca, Sant**	**3.55**	**100**	⇓*iP*			**Pn**	**05 31 13.5**	**+2.2**
BRRC				*eS*			**Sn**	**05 31 55.2**	**+2.0**
BRRC				*i*				05 31 58.8	
	comp=N,134nm,0.4s								
YOTC	**Yotoco, Valle**	**3.86**	**167**	*eP*			**Pn**	**05 31 15.8**	**+0.1**
YOTC				*eS*			**Sn**	**05 31 58.6**	**-2.3**
YOTC				*i*				05 32 00.6	
	comp=E,32nm,0.7s								
OCAC	**Ocana**	**3.90**	**83**	*eP*			**Pn**	**05 31 18.2**	**+1.9**
OCAC				*eS*			**Sn**	**05 32 02.6**	**+0.4**
GIRC	**Giron, Santand**	**4.06**	**99**	*eP*			**Pn**	**05 31 20.7**	**+2.2**
GIRC				*eS*			**Sn**	**05 32 07.1**	**+1.0**
GIRC				*i*				05 32 10.0	
	comp=Z,44nm,0.4s								
ROSC	**El Rosal**	**4.10**	**135**	Pn			**Pb**	**05 31 25.8**	**-3.0**
	comp=Z,4.1nm,0.3s,baz=289,slow=14,SNR=5.6								
ROSC					Sn		**Sg**	**05 32 25.8**	**-2.4**
	comp=Z,3.1nm,0.3s,baz=17,slow=19,SNR=3.1								
BARC	**Barichara**	**4.18**	**106**	*eP*			**Pn**	**05 31 22.5**	**+2.3**
BARC				*eS*			**Sn**	**05 32 11.5**	**+2.3**
BARC				*i*				05 32 28.5	
	comp=Z,117nm,0.4s								
CODC	**Agustn Codazz**	**4.32**	**60**	*eP*			**Pn**	**05 31 23.5**	**+1.6**
CODC				*eS*			**Sn**	**05 32 10.7**	**-1.5**
CODC				*i*				05 32 14.2	
	comp=N,29nm,0.2s								
PAMC	**Pamplona, Colo**	**4.51**	**95**	*eP*			**Pn**	**05 31 27.6**	**+2.6**
PAMC				*eS*			**Sn**	**05 32 18.8**	**+1.2**
RUSC	**La Rusia**	**4.52**	**114**	*eP*			**Pn**	**05 31 27.5**	**+2.4**
RUSC				*eS*			**Sn**	**05 32 19.3**	**+1.5**
RUSC				*i*				05 32 40.3	
	comp=N,44nm,0.4s								
CHIC	**Chingaza**	**4.67**	**132**	*eP*			Pn	05 31 32.6	+5.5
CHIC				*eS*			**Sb**	**05 32 29.1**	**-5.7**
CHIC				*i*				05 32 34.0	
	comp=N,32nm,0.6s								
YKA	**Yellowknife Ar**	**61.02**	**341**	P			**P**	**05 40 29.6**	**+0.1**
	comp=N,0.2nm,0.5s,baz=130,slow=7.2,SNR=11								
TORD	**Torodi Ar. Bea**	**77.54**	**78**	P			P	05 42 18.1	+5.3
	comp=N,0.6nm,0.9s,baz=269,slow=5.8,SNR=2.8								
ASAR	**Alice Springs**	**146.23**	**239**	PKPbc			**PKPbc**	**05 49 57.0**	**-0.7**
	comp=N,0.5nm,0.5s,baz=118,slow=3.9,SNR=9.1								
WRA	**Warramunga Arr**	**147.12**	**245**	PKPbc			**PKPbc**	**05 49 59.3**	**-1.0**
	comp=N,0.2nm,0.6s,baz=103,slow=4.1,SNR=4.8								

KRSC 24 05:33:35.0±10.0, 50.°70N×160.°09E, h95km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KDTR	**Khodutka, Kamc**	**1.69**	**312**	*eP*			Pn	05 34 04.9	+1.7
KDTR				S			Sn	05 34 25.9	+1.2
RUS	**Russkaya**	**2.00**	**331**	*eP*			Pn	05 34 09.0	+1.7
RUS				S			Sn	05 34 32.6	+0.7
MTVR	**Mutnovka**	**2.15**	**327**	*eP*			Pn	05 34 11.3	+1.9
MTVR				*eS*			Sn	05 34 37.1	+1.4
ASAK	**Asacha**	**2.17**	**322**	*eP*			Pn	05 34 12.0	+2.3
ASAK				*eS*			Sn	05 34 38.5	+2.3
KRMR	**Karymshinskiy**	**2.46**	**331**	*eP*			Pn	05 34 15.8	+2.5
KRMR				*eS*			Sn	05 34 44.9	+2.2
SKR	**Severo-Kuril's**	**2.53**	**271**	P			Pn	05 34 15.9	+1.7
SKR				*eS*			Sn	05 34 45.7	+1.4
UGLR	**Uglovaya**	**2.64**	**343**	*eP*			Pn	05 34 18.8	+3.0
SDLR	**Sedlovina**	**2.69**	**344**	*eP*			Pn	05 34 18.7	+2.1
KOK	**Koryaka**	**2.75**	**342**	*eP*			Pn	05 34 20.4	+3.1
KOK				S			Sn	05 34 53.2	+3.3
APC	**Apacha**	**2.88**	**322**	P			Pn	05 34 22.7	+3.8
MKZ	**Mys Kozlova**	**3.99**	**14**	*eP*			Pn	05 34 34.4	+0.5
KZV	**Kizimen**	**4.43**	**2**	P			Pn	05 34 42.7	+2.8
TUMR	**Tumrok**	**4.59**	**0**	*eP*			Pn	05 34 45.4	+3.2
KBTR	**Krutoberegovo**	**5.76**	**15**	P			Pn	05 34 59.6	+1.8

*ISCJB **24** 05:49:26.8±0.5, 6.°83N±0.°03×73.°14W±0.°04, h155km±4km, mb3.4/4, Error ellipse: s-maj=6.0km s-min=4.5km az=176.6*
*IDC **24** 05:49:28.9±2.5, 6.°67N×73.°13W, h167km±21km, mb3.1/4, mb1 3.4/5, mb1mx3.1/28, mbtmp3.6/5, Error ellipse: s-maj=38.1km s-min=17.6km az=61.0*
*RSNC **24** 05:49:28.6±1.1, 6.°81N×73.°15W, h146km±4km, ML4.0, Mw4.0*
ISC 24 05:49:27.4±0.7, 6.°82N±0.°03×73.°13W±0.°04, h153km±5km, n29, σ0°85/49, mb3.5/4, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BARC	**Barichara**	**0.23**	**193**	⇓*iP*			**Pn**	**05 49 48.4**	**0.0**
BARC				*eS*			**Sn**	**05 50 03.2**	**-1.2**
BARC				*i*				05 50 04.0	
	comp=Z,3μm,0.3s								
GIRC	**Giron, Santand**	**0.26**	**346**	⇑*iP*			**Pn**	**05 49 48.5**	**+0.2**
GIRC				*eS*			**Sn**	**05 50 03.1**	**-1.2**
GIRC				*i*				05 50 05.1	
	comp=Z,659nm,0.3s								
BRRC	**Barranca, Sant**	**0.64**	**296**	*i* P			**Pn**	**05 49 50.4**	**+0.5**
BRRC				*eS*			**Sn**	**05 50 07.2**	**+0.2**
BRRC				*i*				05 50 11.4	
	comp=N,4μm,0.2s								
PAMC	**Pamplona, Colo**	**0.67**	**40**	⇑*iP*			**Pn**	**05 49 51.3**	**+0.7**
PAMC				*eS*			**Sn**	**05 50 08.2**	**0.0**
PAMC				*i*				05 50 09.4	
	comp=N,3μm,0.5s								
RUSC	**La Rusia**	**0.93**	**177**	*eP*			**Pn**	**05 49 52.4**	**0.0**
RUSC				*eS*			**Sn**	**05 50 10.7**	**-0.8**
RUSC				*i*				05 50 13.7	
	comp=E,830nm,0.5s								
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*eP*			**Pn**	**05 49 54.9**	**-0.7**
PTBC				*eS*			**Sn**	**05 50 15.8**	**-1.4**
PTBC				*i*				05 50 18.5	
	comp=N,2μm,0.3s								
TAMC	**Tame, Arauca**	**1.38**	**106**	*i* P			**Pn**	**05 49 56.8**	**+0.7**
TAMC				*eS*			**Sn**	**05 50 18.2**	**+0.2**
TAMC				*i*				05 50 22.5	
	comp=N,966nm,0.3s								

OCAC	**Ocana**	**1.42**	**352**	⇑*iP*			**Pn**	**05 49 56.8**	**+0.3**
OCAC				*eP*			**Pn**	**05 49 56.9**	**+0.4**
OCAC				*eS*			**Sn**	**05 50 18.6**	**-0.2**
OCAC				*i*				05 50 22.7	
	comp=E,5μm,0.2s								
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*			**Pn**	**05 50 01.3**	**+0.5**
ZARC				*eS*			**Sn**	**05 50 27.0**	**+0.4**
ZARC				*i*				05 50 33.9	
	comp=N,1μm,0.2s								
CHIC	**Chingaza**	**2.26**	**195**	*eP*			**Pn**	**05 50 06.7**	**+0.5**
CHIC				*eS*			**Sn**	**05 50 35.7**	**-0.3**
CHIC				*i*				05 50 41.9	
	comp=N,388nm,0.5s								
ROSC	**El Rosal**	**2.30**	**211**	P			**Pn**	**05 50 08.7**	**+2.1**
	comp=N,8.6nm,0.3s,baz=121,slow=23,SNR=74								
ROSC				S			**Sn**	**05 50 37.2**	**+0.4**
	comp=N,18nm,0.3s,baz=133,slow=18,SNR=8.5								
HELC	**Santa Helena**	**2.46**	**255**	*eP*			**Pn**	**05 50 08.8**	**+0.3**
HELC				*eS*			**Sn**	**05 50 40.7**	**+0.4**
HELC				*i*				05 50 52.9	
	comp=N,279nm,0.3s								
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*			**Pn**	**05 50 08.8**	**-0.5**
UREC				*eS*			**Sn**	**05 50 39.8**	**-1.9**
UREC				*i*				05 50 53.2	
	comp=N,908nm,0.3s								
VILC	**Villavicencio,**	**2.75**	**192**	*eP*			**Pn**	**05 50 12.7**	**+0.8**
VILC				*eS*			**Sn**	**05 50 46.3**	**0.0**
VILC				*i*				05 50 53.9	
	comp=N,704nm,0.6s								
DBBC	**Dabeiba**	**3.06**	**274**	*i* P			**Pn**	**05 50 16.4**	**+0.7**
DBBC				*eS*			**Sn**	**05 50 52.7**	**-0.5**
DBBC				*i*				05 51 00.1	
	comp=Z,272nm,0.6s								
CODC	**Agustn Codazz**	**3.11**	**354**	*eP*			**Pn**	**05 50 16.0**	**-0.2**
CODC				*eS*			**Sn**	**05 50 53.8**	**-0.3**
CODC				*i*				05 51 02.6	
	comp=N,109nm,0.4s								
PRAC	**Prado**	**3.55**	**210**	*eP*			**Pn**	**05 50 22.3**	**+0.4**
PRAC				*eS*			**Sn**	**05 51 04.3**	**0.0**
PRAC				*i*				05 51 09.6	
	comp=N,123nm,0.4s								
SJCC	**San Jacinto, C**	**3.67**	**327**	*eP*			**Pn**	**05 50 22.8**	**-0.7**
PLMC	**San Jos del P**	**3.67**	**239**	*eP*			**Pn**	**05 50 24.9**	**+1.4**
YOTC	**Yotoco, Valle**	**4.27**	**229**	*eP*			**Pn**	**05 50 31.5**	**+0.2**
GUVC	**San Jose del G**	**4.28**	**173**	*eP*			**Pn**	**05 50 31.4**	**-0.1**
GUVC				*eS*			**Sn**	**05 51 19.6**	**-1.7**
GUVC				*i*				05 51 23.1	
	comp=N,460nm,0.4s								
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*			**Pn**	**05 50 34.7**	**+1.1**
LPAZ	**La Paz**	**23.49**	**168**	P			**P**	**05 54 23.0**	**-1.1**
	comp=N,1.1nm,0.8s,baz=350,slow=12,SNR=4.3								
BDFB	**Brasilia**	**33.42**	**132**	P			**P**	**05 55 51.4**	**-0.5**
	comp=N,1.7nm,0.7s,baz=305,slow=8.2,SNR=4.7								
TXAR	**Lajitas Array**	**36.45**	**312**	P			**P**	**05 56 19.2**	**+1.4**
	comp=N,0.2nm,0.4s,baz=125,slow=9.3,SNR=6.2								
YKA	**Yellowknife Ar**	**63.26**	**340**	P			**P**	**05 59 39.9**	**+0.6**
	comp=N,0.4nm,0.6s,baz=133,slow=6.4,SNR=16								
YKA				pP			**pP**	**06 00 16.7**	**+1.0**
	comp=N,0.3nm,0.6s,baz=132,slow=6.8,SNR=4.9								
MKAR	**Makanchi Array**	**122.32**	**20**	PKP			**PKPdf**	**06 08 03.6**	**-1.0**
	comp=N,0.1nm,0.4s,baz=270,slow=1.0,SNR=3.3								
ASAR	**Alice Springs**	**149.10**	**234**	PKPbc			**PKPbc**	**06 08 57.8**	**-0.7**
	comp=N,1.0nm,0.5s,baz=119,slow=3.5,SNR=22								
WRA	**Warramunga Arr**	**150.33**	**241**	PKPbc			**PKPbc**	**06 09 00.9**	**-0.6**
	comp=N,1.0nm,0.4s,baz=106,slow=2.7,SNR=34								

*ISCJB **24** 05:51:14.3±0.5, 22.°82N±0.°02×121.°55E±0.°03, h15km±6km, Error ellipse: s-maj=4.4km s-min=3.5km az=27.4*
*TAP **24** 05:51:15.9, 22.°87N×121.°44E, h18km, ML3.2, B*
*JMA **24** 05:51:15.4±0.1, 22.°89N×121.°40E, h31km, M3.4*
ISC 24 05:51:15.1±1.0, 22.°84N±0.°03×121.°47E±0.°03, h24km±8km, n68, σ0°88/91, 8C-6D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CHKT	**Chengkung**	**0.28**	**339**	⇑*iP*			**Pb**	**05 51 21.6**	**-0.1**
	baz=347								
CHKT				S			**Sb**	**05 51 25.6**	**-0.6**
	baz=347								
TTN	**Taitung**	**0.31**	**254**	P			**Pb**	**05 51 22.6**	**+0.4**
	baz=246								
TTN				S			**Sb**	**05 51 27.9**	**+0.8**
	baz=246								
TWGBT	**Beinan**	**0.36**	**267**	⇓P			**Pb**	**05 51 23.0**	**-0.1**
	baz=261								
TWGBT				S			**Sb**	**05 51 28.2**	**-0.2**
	baz=261								
TWG	**Pinlang**	**0.37**	**267**	⇓*iP*			**Pb**	**05 51 23.0**	**-0.1**
	baz=261								
TWG				S			**Sb**	**05 51 28.5**	**-0.2**
	baz=261								
FULB	**Fuli**	**0.39**	**335**	⇑P			**Pb**	**05 51 23.3**	**-0.3**
	baz=346								
FULB				S			**Sb**	**05 51 28.7**	**-0.6**
	baz=346								
TWF1	**Yuli**	**0.54**	**342**	⇑*iP*			**Pb**	**05 51 25.7**	**-0.2**
	baz=352								
TWF1				*eS*			**Sb**	**05 51 32.5**	**-0.8**
	baz=352								
ECL	**Taimali**	**0.54**	**243**	⇑P			**Pb**	**05 51 26.1**	**+0.1**
	baz=238								
ELDTW	**Lidau**	**0.55**	**310**	⇑P			**Pb**	**05 51 25.6**	**-0.6**
	baz=309								
ELDTW				*eS*			**Sb**	**05 51 32.1**	**-1.5**
	baz=309								
YULB	**Yu-li**	**0.57**	**344**	⇑P			**Pb**	**05 51 26.3**	**-0.2**
	baz=352								
YULB				*eS*			**Sb**	**05 51 34.1**	**-0.2**
	baz=352								
HGSD	**Ruisui**	**0.65**	**356**	*eP*			**Pb**	**05 51 27.4**	**-0.5**
	baz=7.0								
EHY	**Hungye**	**0.68**	**348**	*eP*			**Pb**	**05 51 28.0**	**-0.4**
	baz=357								
TAW	**Tawu**	**0.72**	**228**	*eP*			**Pb**	**05 51 28.8**	**-0.1**
	baz=225								
STYT	**Tauyuan**	**0.73**	**296**	⇓*iP*			**Pb**	**05 51 28.9**	**-0.4**
	baz=303								
STYT				S			**Sn**	**05 51 38.7**	**-1.8**
	baz=303								
EAST	**Anshuo**	**0.74**	**232**	*eP*			**Pb**	**05 51 28.6**	**-0.7**
	baz=228								
SLGT	**Liugui**	**0.78**	**281**	*eP*			**Pn**	**05 51 30.0**	**-0.6**
	baz=273								
SSD	**Sandimen**	**0.78**	**263**	*eP*			**Pb**	**05 51 29.8**	**-0.3**
	baz=265								
SSD				*eS*			**Sb**	**05 51 38.4**	**-1.9**
	baz=265								
LAY	**Lan-yu**	**0.80**	**175**	*eP*			**Pb**	**05 51 30.2**	**-0.2**
	baz=163								
MASBT	**Mashibuluo**	**0.81**	**254**	⇓P			**Pb**	**05 51 30.5**	**0.0**
	baz=242								
MASBT				*eS*			**Sb**	**05 51 40.5**	**-0.5**
	baz=242								
EGFH	**Guangfu**	**0.83**	**357**	*eP*			**Pb**	**05 51 30.3**	**-0.5**
	baz=5.0								
SGST	**Jiashian**	**0.86**	**287**	*eP*			**Pn**	**05 51 31.2**	**-0.5**
	baz=290								
TPUB	**Ta-pu**	**0.90**	**301**	⇓P			**Pn**	**05 51 32.4**	**0.0**
	baz=305								
TPUB				S			**Sn**	**05 51 44.8**	**+0.1**
	baz=305								
SSPT	**Xinbi**	**0.91**	**247**	*eP*			**Pn**	**05 51 32.8**	**+0.4**
	baz=232								
SCZT	**Fangliau**	**0.92**	**240**	*eP*			**Pb**	**05 51 32.0**	**-0.3**
	baz=229								
CHN1	**Nanshi**	**0.94**	**292**	*eP*			**Pn**	**05 51 33.7**	**+0.9**
	baz=290								
CHN4	**Tsaushan**	**0.96**	**302**	⇓*iP*			**Pn**	**05 51 33.4**	**+0.3**
	baz=308								
CHN4				*eS*			**Sn**	**05 51 46.9**	**+0.9**
	baz=308								
VWDT	**VWDT**	**0.96**	**341**	⇑P			**Pb**	**05 51 32.7**	**-0.4**
	baz=354								
ESL	**Shilin**	**0.97**	**358**	*eP*			**Pb**	**05 51 31.9**	**-1.3**
	baz=8.0								
TWM1	**Shoushan**	**0.97**	**269**	*eP*			**Pn**	**05 51 35.3**	**+2.0**
	baz=262								
TWK	**Hsinying**	**1.00**	**295**	P			**Pn**	**05 51 34.2**	**+0.5**
	baz=294								
TWK				S			**Sn**	**05 51 48.7**	**+1.5**
	baz=294								
CHN5	**Tsauling**	**1.05**	**316**	P			**Pb**	**05 51 35.2**	**+0.5**
	baz=321								
CHN5				S			**Sn**	**05 51 49.0**	**+0.6**
	baz=321								
SSLB	**Suanglung**	**1.06**	**333**	*eP*			**Pn**	**05 51 34.1**	**-0.4**
	baz=345								
ENLB	**Shoufeng**	**1.06**	**6**	*eP*			**Pn**	**05 51 33.2**	**-1.4**
	baz=22								
TWKBT	**Hengchun**	**1.08**	**215**	*eP*			**Pn**	**05 51 34.2**	**-0.6**
	baz=213								
TWK1	**Hengchun**	**1.09**	**215**	*eP*			**Pn**	**05 51 34.3**	**-0.5**
	baz=213								
SMLT	**Sun Moon Lake**	**1.17**	**333**	*eP*			**Pb**	**05 51 36.6**	**-0.1**
	baz=333								
SMLT				S			**Sn**	**05 51 52.4**	**+1.1**
	baz=333								
CHY	**Chiayi**	**1.17**	**304**	*eP*			**Pb**	**05 51 37.1**	**+0.5**
	baz=304								
TYC	**Yuchr**	**1.20**	**332**	⇑P			**Pb**	**05 51 37.9**	**+0.7**
	baz=342								
TYC				S			**Sb**	**05 51 53.6**	**+1.3**
	baz=342								
TWD	**Chiawan**	**1.24**	**5**	*eP*			**Pn**	**05 51 36.0**	**-1.0**
	baz=19								
CHGB	**Renai**	**1.25**	**347**	*eP*			**Pn**	**05 51 37.1**	**-0.1**
WNT	**Mingjian**	**1.26**	**325**	*eP*			**Pb**	**05 51 39.0**	**+0.7**
	baz=325								
WHF	**Hehuan Shan**	**1.31**	**352**	*eP*			**Pn**	**05 51 37.9**	**-0.5**
	baz=5.0								
NACB	**Ninganchiao**	**1.33**	**5**	*eP*			**Pn**	**05 51 37.4**	**-0.8**
	baz=17								
ETLH	**Xiulin Townshi**	**1.36**	**0**	*eP*			**Pn**	**05 51 37.8**	**-0.9**
	baz=1.0								
TDCB	**Techi**	**1.44**	**348**	*eP*			**Pn**	**05 51 39.7**	**-0.1**
	baz=349								
WHP	**Taichung City**	**1.51**	**341**	*eP*			**Pb**	**05 51 43.7**	**+1.2**
	baz=354								
NNSB	**Datong**	**1.58**	**357**	*eP*			**Pn**	**05 51 41.5**	**-0.4**
	baz=11								
NNS	**Nan Shan**	**1.60**	**357**	*eP*			**Pb**	**05 51 43.5**	**-0.6**
	baz=11								
NANB	**Nanao**	**1.60**	**9**	*eP*			**Pn**	**05 51 41.7**	**-0.2**
	baz=23								
TWQ1	**Liyutan**	**1.63**	**337**	*eP*			**Pb**	**05 51 44.8**	**+0.2**
	baz=337								
TWQ1				*eS*			**Sb**	**05 52 06.0**	**+1.3**
	baz=337								
WDJ	**Dajia District**	**1.69**	**333**	*eP*			**Pb**	**05 51 45.9**	**+0.5**
	baz=334								
NSY	**Sanyi**	**1.70**	**338**	*eP*			**Pb**	**05 51 45.0**	**-0.8**
	baz=338								
WDGT	**Dungji**	**1.72**	**284**	*eP*			**Pn**	**05 51 44.2**	**+0.6**
	baz=284								
NDT	**Datong Townshi**	**1.75**	**1**	*eP*			**Pb**	**05 51 45.4**	**-1.3**
	baz=13								
TWC	**Suao**	**1.79**	**11**	*eP*			**Pn**	**05 51 45.3**	**+0.7**
	baz=11								
EOS1	**EOS1**	**1.80**	**19**	*eP*			**Pn**	**05 51 45.3**	**+0.6**
	baz=31								
YHNB	**Yeheng**	**1.82**	**357**	*eP*			**Pb**	**05 51 46.4**	**-1.5**
	baz=10.0								
NSK	**Sanguang**	**1.83**	**357**	*eP*			**Pn**	**05 51 46.4**	**+1.2**
	baz=9.0								
PHUB	**P'eng-hu**	**1.87**	**291**	*eP*			**Pb**	**05 51 46.9**	**-1.8**
	baz=291								
VCHM	**Qimei**	**1.92**	**281**	*eP*			**Pn**	**05 51 46.3**	**0.0**
	baz=281								
NWLT	**Wulai**	**1.93**	**1**	*eP*			**Pn**	**05 51 47.8**	**+1.3**
	baz=13								
YOJ	**Yonaguni jima**	**2.14**	**41**	*eS*			**Sn**	**05 52 15.9**	**+0.7**
TIPB	**Shuangxi**	**2.15**	**9**	*eP*			**Pn**	**05 51 50.9**	**+1.4**
	baz=358								
HATJ	**Hateruma jima**	**2.46**	**60**	S			**Sn**	**05 52 23.1**	**+0.1**
IRIF	**Iriomote-Funau**	**2.55**	**54**	P			**Pn**	**05 51 56.8**	**+1.8**
IRIF				*eS*			**Sn**	**05 52 25.6**	**+0.3**
JKRS	**Kuro-shima**	**2.71**	**59**	P			**Pn**	**05 51 59.3**	**+2.1**
JKRS				*eS*			**Sn**	**05 52 29.6**	**+0.4**
JIJ	**Ishigaki jima**	**2.88**	**58**	P			**Pn**	**05 52 01.0**	**+1.5**
JIJ				*eS*			**Sn**	**05 52 33.0**	**-0.4**
JISG	**Ishigakijimahi**	**3.13**	**56**	P			**Pn**	**05 52 03.6**	**+0.7**
JISG				*eS*			**Sn**	**05 52 38.1**	**-1.4**
JTJ	**Tarama**	**3.46**	**58**	P			**Pn**	**05 52 08.0**	**+0.5**
JTJ				*eS*			**Sn**	**05 52 46.8**	**-0.9**

NNC 24 06:10:06.8±2.9, 54.°06N×86.°37E, h0km, mb3.8, mpv2.7, 4C-3D, Error ellipse: s-maj=44.5km s-min=14.7km az=179.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ZAA0	**Zalesovo Array**	**0.92**	**264**	⇑P			Pg	06 10 24.3	-0.1
	0.4nm,0.5s								
ZAA0				⇑S			Sb	06 10 37.4	-1.0
	7.0nm,1.4s								
KURK	**Kurchatov**	**5.80**	**238**	⇓Pn			Pn	06 11 34.7	+0.6
	3.8nm,1.3s								
KURK				⇑Lg			Lg	06 13 12.3	
	4.9nm

SDLR	**Sedlovina**	**2.74**	**343**	*e*P	**Pn**	**06 19 42.4**	**-0.8**
SDLR	**Sedlovina**	**2.74**	**343**	PN	**Pn**	**06 19 42.4**	**-0.8**
SMAR	**Somma**	**2.74**	**342**	*e*P	**Pn**	**06 19 43.0**	**-0.3**
SMAR	**Somma**	**2.74**	**342**	PN	**Pn**	**06 19 43.0**	**-0.3**
AVH	**Avacha**	**2.75**	**341**	*e*P	**Pn**	**06 19 43.4**	**0.0**
AVH	**Avacha**	**2.75**	**341**	PN	**Pn**	**06 19 43.4**	**0.0**
KRER	**Koryakskii**	**2.79**	**341**	*e*P	**Pn**	**06 19 44.5**	**+0.5**
KRER	**Koryakskii**	**2.79**	**341**	PN	**Pn**	**06 19 44.5**	**+0.5**
KOK	**Koryaka**	**2.80**	**340**	*e*P	**Pn**	**06 19 43.7**	**-0.4**
KOK	**Koryaka**	**2.80**	**340**	PN	**Pn**	**06 19 43.7**	**-0.4**
KRX	**Arik**	**2.86**	**341**	*e*P	**Pn**	**06 19 44.5**	**-0.5**
KRX	**Arik**	**2.86**	**341**	PN	**Pn**	**06 19 44.5**	**-0.5**
PETK	**Petropavlovsk-**	**2.90**	**328**	Pn	**Pn**	**06 19 45.3**	**0.0**
	comp=E,4.3nm,0.3s,baz=116,slow=20,SNR=68						
PETK				Sn	**Sn**	**06 20 22.6**	**+3.7**
	comp=E,3.1nm,0.3s,baz=122,slow=20,SNR=4.9						
APC	**Apacha**	**2.95**	**321**	*e*P	**Pn**	**06 19 46.3**	**+0.2**
APC	**Apacha**	**2.95**	**321**	PN	**Pn**	**06 19 46.3**	**+0.2**
ALID	**Alaid**	**2.98**	**276**	*e*P	**Pn**	**06 19 45.9**	**-0.7**
ALID	**Alaid**	**2.98**	**276**	PN	**Pn**	**06 19 45.9**	**-0.7**
MKZ	**Mys Kozlova**	**3.99**	**13**	*e*P	**Pn**	**06 19 58.1**	**-2.2**
MKZ	**Mys Kozlova**	**3.99**	**13**	PN	**Pn**	**06 19 58.1**	**-2.2**
TUMD	**Tumrok D**	**4.54**	**1**	*e*P	**Pn**	**06 20 07.1**	**-0.8**
TUMD				*e*S	**Sn**	**06 20 57.5**	**-1.8**
TUMR	**Tumrok**	**4.62**	**359**	*e*P	**Pn**	**06 20 09.2**	**+0.2**
TUMR	**Tumrok**	**4.62**	**359**	PN	**Pn**	**06 20 07.1**	**-1.9**
TUMR				S	**Sn**	**06 20 57.5**	**-3.9**
KBTR	**Krutoberegovo**	**5.75**	**15**	*e*P	**Pn**	**06 20 23.6**	**-0.9**
KBTR	**Krutoberegovo**	**5.75**	**15**	PN	**Pn**	**06 20 23.6**	**-0.9**
BILL	**Bilibino**	**17.67**	**7**	*i* P	**P**	**06 23 06.7**	**+1.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI	**Tiksi**	**25.33**	**337**	P	**P**	**06 24 25.0**	**+0.2**
TIXI	**Tiksi**	**25.33**	**337**	P	**P**	**06 24 25.0**	**+0.2**
	comp=Z,3.5nm,0.6s,baz=128,slow=8.9,SNR=13						
ILAR	**Eielson Array**	**30.50**	**42**	P	**P**	**06 25 10.8**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=236,slow=7.7,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**31.33**	**168**	T	T	06 58 10.0	
	baz=352,slow=76,SNR=18						
H11N3	**WAKE ISLAND Hy**	**31.34**	**168**	T	T	06 58 13.5	
	baz=352,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**31.34**	**168**	T	T	06 58 10.7	
	baz=352,slow=76,SNR=23						
H11S1	**WAKE ISLAND Hy**	**32.51**	**169**	T	T	06 59 40.6	
	baz=352,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**32.52**	**169**	T	T	06 59 41.3	
	baz=352,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**32.52**	**169**	T	T	06 59 41.6	
	baz=352,slow=76,SNR=4.5						
INK	**Inuvik**	**35.76**	**36**	P	**P**	**06 25 58.5**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=269,slow=13,SNR=3.3						
YKA	**Yellowknife Ar**	**44.91**	**41**	P	**P**	**06 27 13.3**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=295,slow=7.8,SNR=6.4						
MKAR	**Makanchi Array**	**49.32**	**298**	P	**P**	**06 27 47.0**	**-0.1**
MKAR	**Makanchi Array**	**49.32**	**298**	P	**P**	**06 27 47.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=60,slow=6.9,SNR=9.0						
NVAR	**Mina Array Bea**	**56.52**	**69**	P	**P**	**06 28 40.7**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=318,slow=6.2,SNR=4.0						
PDAR	**Pinedale Array**	**58.65**	**60**	P	**P**	**06 28 56.6**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=278,slow=6.3,SNR=3.4						
TXAR	**Lajitas Array**	**71.52**	**66**	P	**P**	**06 30 19.5**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=292,slow=5.3,SNR=4.9						
WRA	**Warramunga Arr**	**73.92**	**205**	P	**P**	**06 30 32.7**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=20,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**77.59**	**205**	P	**P**	**06 30 54.0**	**0.0**
ASAR	**Alice Springs**	**77.59**	**205**	P	**P**	**06 30 54.0**	**0.0**
	comp=Z,0.6nm,0.7s,baz=14,slow=5.5,SNR=8.0						

*ISCJB **24** 06:28:26.7±1.0,8°.4N±0°.1×103°.3W±0°.2,h10km,mb3.6/7, Error ellipse: s-maj=27.6km s-min=14.1km az=148.1*
*IDC **24** 06:28:27.0±1.4,8°.38N×103°.35W,h0km,mb3.5/8, mb1 3.9/9,mb1mx3.7/24,mbtmp3.6/9,ML3.6/1,MS3.7/2, Ms1 3.7/2,ms1mx3.1/37,Error ellipse: s-maj=60.8km s-min=17.8km az=61.0*

ISC 24 06:28:28.7±1.1,8°.4N±0°.1×103°.3W±0°.2,h10km,n10, σ0s90/9,mb3.7/7,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**11.87**	**43**	LR		LR	06 34 57.5	
	comp=Z,318nm,20.1s,baz=182,slow=33							
APG	**El Apazote**	**14.13**	**61**	Pn		**Pn**	**06 31 48.9**	**-0.3**
	0.3nm,0.3s,baz=336,slow=4.6,SNR=6.4							
APG				LR		LR	06 36 05.1	
	comp=Z,318nm,20.5s,baz=216,slow=32							
TXAR	**Lajitas Array**	**20.82**	**359**	P		**P**	**06 33 12.4**	**+1.9**
	1.2nm,0.8s,baz=184,slow=11,SNR=9.2							
NVAR	**Mina Array Bea**	**32.82**	**338**	P		**P**	**06 35 02.2**	**-0.5**
	0.3nm,0.6s,baz=161,slow=9.3,SNR=2.8							
PDAR	**Pinedale Array**	**34.66**	**352**	P		**P**	**06 35 18.4**	**-0.3**
	0.4nm,0.6s,baz=160,slow=6.0,SNR=4.6							
LPAZ	**La Paz**	**42.55**	**129**	P		**P**	**06 36 26.0**	**+0.3**
	1.4nm,0.9s,baz=321,slow=13,SNR=3.8							
CFA	**Coronel Fontan**	**52.01**	**142**	P		**P**	**06 37 39.0**	**+0.4**
	2.0nm,0.8s,baz=288,slow=7.1,SNR=3.4							
YKA	**Yellowknife Ar**	**54.61**	**354**	P		**P**	**06 37 56.6**	**-0.6**
	0.1nm,0.6s,baz=164,slow=7.6,SNR=4.4							
CPUP	**Villa Florida**	**56.39**	**129**	P		**P**	**06 38 10.2**	**-0.4**
	1.3nm,0.9s,baz=345,slow=9.8,SNR=3.0							
ILAR	**Eielson Array**	**64.01**	**341**	P		**P**	**06 39 01.9**	**-0.2**
	0.5nm,1.0s,baz=150,slow=5.9,SNR=5.2							

*IDC **24** 06:41:36.0±1.3,8°.45N×102°.98W,h0km,mb3.5/6, mb1 4.0/7,mb1mx3.7/39,mbtmp3.6/7,ML3.2/1,MS3.7/9, Ms1 3.7/9,ms1mx3.5/28,Error ellipse: s-maj=49.4km s-min=25.4km az=65.0*
*ISCJB **24** 06:41:37.9±1.4,8°.6N±0°.2×102°.8W±0°.2,h19km,mb3.6/5, MS3.6/6,Error ellipse: s-maj=30.2km s-min=18.9km az=39.5*

ISC 24 06:41:39.4±1.3,8°.6N±0°.2×102°.8W±0°.2,h19km,n16, σ1s32/8,mb3.7/5,MS3.6/6,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**11.49**	**42**	LR		LR	06 47 55.8	
	comp=Z,686nm,20.9s,baz=188,slow=33							
APG	**El Apazote**	**13.69**	**61**	Pn		**Pn**	**06 44 52.6**	**-0.3**
	0.1nm,0.3s,baz=308,slow=19,SNR=2.2							
LPIG	**La Paz**	**104**	**336**	LR		LR	06 50 04.6	
	comp=Z,185nm,21.1s,baz=168,slow=30							
JTS	**JuntasAbangare**	**17.72**	**83**	LR		LR	06 50 38.6	
	comp=Z,257nm,20.4s,baz=190,slow=30							
TXAR	**Lajitas Array**	**20.69**	**358**	P		**P**	**06 46 19.2**	**+0.6**
	1.0nm,0.8s,baz=184,slow=12,SNR=8.2							
TXAR				LR		LR	06 53 13.1	
	comp=Z,170nm,19.2s,baz=0.0,slow=34							
PFO	**Pinyon Flats O**	**27.33**	**335**	LR		LR	06 56 27.2	
	comp=Z,186nm,18.6s,baz=136,slow=32							
ATAH	**Atahualpa**	**28.91**	**122**	LR		LR	06 56 33.0	
	comp=Z,185nm,21.2s,baz=254,slow=31							
NVAR	**Mina Array Bea**	**32.86**	**337**	P		**P**	**06 48 14.1**	**+1.7**
	0.4nm,0.7s,baz=169,slow=10,SNR=3.6							
NNA	**Nana**	**32.92**	**128**	LR		LR	06 58 13.9	
	comp=Z,110nm,21.7s,baz=347,slow=30							
PDAR	**Pinedale Array**	**34.59**	**351**	P		**P**	**06 48 27.7**	**+0.3**
	0.8nm,0.8s,baz=169,slow=8.9,SNR=4.7							
SJG	**San Juan**	**36.86**	**71**	LR		LR	07 02 46.3	
	comp=Z,57nm,18.2s,baz=256,slow=34							
LVC	**Limon Verde**	**45.41**	**134**	LR		LR	07 05 15.1	
	comp=Z,79nm,18.5s,baz=265,slow=31							
YKA	**Yellowknife Ar**	**54.52**	**353**	P		**P**	**06 51 05.3**	**-0.6**
	0.2nm,0.7s,baz=164,slow=7.9,SNR=5.0							
CPUP	**Villa Florida**	**56.15**	**130**	P		**P**	**06 51 19.2**	**+1.0**
	1.8nm,0.9s,baz=328,slow=12,SNR=3.7							
ILAR	**Eielson Array**	**64.02**	**341**	P		**P**	**06 52 10.7**	**-0.9**
	0.6nm,0.9s,baz=150,slow=5.9,SNR=8.2							
ASAR	**Alice Springs**	**123.81**	**247**	PKP		**PKPdf**	**07 00 35.3**	**-1.8**
	0.3nm,0.7s,baz=76,slow=2.9,SNR=3.1							

KRSC 24 06:42:18.3±10.0,50°.72N×160°.27E,h84km±10km,ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDTR	**Khodutka, Kamc**	**1.75**	**309**	*e*P		Pn	06 42 48.3	+1.4
KDTR				*e*S		Sn	06 43 10.0	+1.2
RUS	**Russkaya**	**2.03**	**328**	*e*P		Pn	06 42 51.9	+1.3
RUS				*e*S		Sn	06 43 16.5	+1.2
MTVR	**Mutnovka**	**2.19**	**324**	*e*P		Pn	06 42 54.6	+1.7
MTVR				*e*S		Sn	06 43 21.4	+2.1
ASAK	**Asacha**	**2.22**	**319**	*e*P		Pn	06 42 55.4	+2.1
PAU	**Pauzhetka**	**2.30**	**290**	*e*S		Sn	06 43 23.4	+1.6
SPN	**Mys Shipunski**	**2.38**	**356**	*e*S		Sn	06 43 24.0	+0.3
KRMR	**Karymshinskiy**	**2.49**	**329**	*e*P		Pn	06 42 59.0	+2.2
KRMR				*e*S		Sn	06 43 28.7	+2.4
PET	**Petropavlovsk**	**2.51**	**337**	*e*S		Sn	06 43 29.0	+2.3
NLC	**Nalytchevo**	**2.52**	**347**	*e*S		Sn	06 43 30.4	+3.5
SKR	**Severo-Kuril's**	**2.64**	**271**	*e*P		Pn	06 43 00.4	+1.7
SKR				*e*S		Sn	06 43 30.5	+0.7
UGLR	**Uglovaya**	**2.64**	**341**	*e*P		Pn	06 43 01.4	+2.5
SDLR	**Sedlovina**	**2.70**	**342**	*e*P		Pn	06 43 01.9	+2.3
SMAR	**Somma**	**2.70**	**341**	*e*P		Pn	06 43 02.8	+3.0
AVH	**Avacha**	**2.71**	**340**	*e*P		Pn	06 43 02.6	+2.8
KRER	**Koryakskii**	**2.75**	**341**	*e*P		Pn	06 43 03.8	+3.4
KRER				*e*S		Sn	06 43 37.0	+4.2
KOK	**Koryaka**	**2.76**	**339**	*e*P		Pn	06 43 03.5	+3.0
KRX	**Arik**	**2.82**	**340**	*e*P		Pn	06 43 04.2	+2.9
APC	**Apacha**	**2.93**	**320**	*e*P		Pn	06 43 06.7	+4.1
MKZ	**Mys Kozlova**	**3.94**	**13**	*e*P		Pn	06 43 17.4	+1.1
TUMD	**Tumrok D**	**4.49**	**1**	*e*P		Pn	06 43 26.2	+2.4
TUMR	**Tumrok**	**4.57**	**359**	*e*P		Pn	06 43 28.3	+3.3
KBTR	**Krutoberegovo**	**5.70**	**15**	*e*P		Pn	06 43 42.4	+2.1

*IGIL **24** 07:07:45.1,36°.75N×11°.35W,h31km,ML2.2*
*MDD **24** 07:07:45.2±1.7,36°.98N×11°.14W,h0km,mbLg2.3/21, Error ellipse: s-maj=14.1km s-min=10.2km az=72.0, PRXIMO*
*INMG **24** 07:07:46.2±1.5,36°.82N×11°.36W,h31km,ML2.2, Error ellipse: s-maj=8.5km s-min=4.5km az=86.0*
*CNRM **24** 07:07:46.2,36°.40N×11°.25W,h89km,ml3.7*

ISC 24 07:07:40.9±2.1,36°.79N±0°.05×11°.5W±0°.1,h35km,n58, σ2s12/89,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PFVI	**Vila Bisbo**	**2.17**	**80**	*e*Pn		**Pn**	**07 08 16.7**	**+2.1**
PFVI				*e*Sn		**Sn**	**07 08 39.7**	**-0.6**
PFVI				A		A	07 08 41.9	
	9.8nm,0.2s							
PFVI	**Vila Bisbo**	**2.17**	**80**	P		**Pn**	**07 08 16.7**	**+2.1**
	49nm,1.1s,SNR=8.4							
PFVI				S		**Sn**	**07 08 39.6**	**-0.7**
	17nm,0.1s,SNR=7.9							
MORF	**Marmelete**	**2.34**	**76**	*e*P		**Pn**	**07 08 18.8**	**+1.9**
MORF				*e*S		**Sn**	**07 08 43.4**	**-1.2**
MORF				AML		AML	07 08 46.7	
	comp=N,18nm,0.3s							
MORF	**Marmelete**	**2.34**	**76**	*e*Pn		**Pn**	**07 08 19.2**	**+2.2**
MORF				*e*Sn		**Sn**	**07 08 43.9**	**-0.6**
MORF				A		A	07 08 45.0	
	comp=N,9.9nm,0.6s							
MORF	**Marmelete**	**2.34**	**76**	P		**Pn**	**07 08 18.8**	**+1.9**
MORF				S		**Sn**	**07 08 43.4**	**-1.2**
	comp=N,18nm,0.3s							
PTEO	**Sao Teotonio**	**2.35**	**70**	*e*Sn		**Sn**	**07 08 44.9**	**+0.3**
PTEO				A		A	07 08 45.8	
	comp=N,12nm,0.7s							
PTEO	**Sao Teotonio**	**2.35**	**70**	S		**Sn**	**07 08 44.9**	**+0.3**
	comp=N,5.8nm,0.7s							
PMAFR	**Mafra**	**2.79**	**38**	*e*Sn		**Sn**	**07 08 54.9**	**-0.6**
PMAFR				A		A	07 08 56.0	
	comp=N,20nm,0.3s							
PMAFR	**Mafra**	**2.79**	**38**	P		**Pn**	**07 08 24.6**	**+1.5**
	comp=N,0.4nm,0.2s,SNR=7.9							
PMAFR				S		**Sn**	**07 08 55.1**	**-0.4**
	comp=N,23nm,0.1s,SNR=18							
MESJ	**Messejana**	**2.82**	**67**	*e*P		**Pn**	**07 08 25.5**	**+2.0**
MESJ				*e*S		**Sn**	**07 08 54.8**	**-1.5**
MESJ				AML		AML	07 08 59.0	
	comp=N,6.6nm,0.2s							
MESJ	**Messejana**	**2.82**	**67**	*e*Pn		**Pn**	**07 08 26.2**	**+2.7**
MESJ				*e*Sn		**Sn**	**07 08 56.0**	**-0.3**
MESJ				A		A	07 09 02.2	
	comp=N,3.3nm,0.2s							
MESJ	**Messejana**	**2.82**	**67**	P		**Pn**	**07 08 25.5**	**+2.0**
MESJ				S		**Sn**	**07 08 54.8**	**-1.5**
	comp=N,6.6nm,0.2s							
PCVE	**Castro Verde**	**2.89**	**72**	*e*Pn		**Pn**	**07 08 26.9**	**+2.4**
PCVE				*e*Sn		**Sn**	**07 08 56.7**	**-1.4**
PCVE				A		A	07 09 01.1	
	comp=N,3.0nm,0.3s							
PCVE	**Castro Verde**	**2.89**	**72**	P		**Pn**	**07 08 26.9**	**+2.4**
PCVE				S		**Sn**	**07 08 56.7**	**-1.4**
	comp=N,3.0nm,0.3s							
PBDV	**Barranco-do-Ve**	**2.90**	**80**	*e*Pn		**Pn**	**07 08 27.0**	**+2.4**
PBDV				*e*Sn		**Sn**	**07 08 58.1**	**-0.1**
PBDV				A		A	07 09 01.3	
	comp=N,2.3nm,0.1s							
PBDV	**Barranco-do-Ve**	**2.90**	**80**	P		**Pn**	**07 08 27.0**	**+2.4**
PBDV				S		**Sn**	**07 08 58.1**	**-0.1**
	comp=N,2.3nm,0.1s							
PVAQ	**Vaqueiros**	**3.09**	**77**	*e*Pn		**Pn**	**07 08 29.8**	**+2.6**
PVAQ				*e*Sn		**Sn**	**07 09 02.5**	**-0.4**
PVAQ	**Vaqueiros**	**3.09**	**77**	P		**Pn**	**07 08 29.8**	**+2.6**
PVAQ				S		**Sn**	**07 09 02.5**	**-0.4**
PBEJ	**Beja**	**3.15**	**66**	*e*Sn		**Sn**	**07 09 03.8**	**-0.6**
PBEJ				A		A	07 09 08.8	
	comp=N,3.8nm,0.1s							
PBEJ	**Beja**	**3.15**	**66**	S		**Sn**	**07 09 03.8**	**-0.6**
	comp=N,1.9nm,0.1s							
EGRO	**El Granado**	**3.30**	**76**	P		**Pn**	**07 08 32.2**	**+2.1**
	comp=N,14nm,0.9s							
EGRO				S		**Sn**	**07 09 06.8**	**-1.2**
	comp=N,2.3nm,0.1s,SNR=5.0							
ALMR	**Almeirim**	**3.31**	**44**	*e*S		**Sn**	**07 09 07.3**	**-1.0**
ALMR				AML		AML	07 09 10.5	
	comp=N,12nm,0.3s							
ALMR	**Almeirim**	**3.31**	**44**	*e*Sn		**Sn**	**07 09 07.3**	**-1.0**
ALMR				A		A	07 09 11.7	
	comp=N,11nm,0.5s							
ALMR	**Almeirim**	**3.31**	**44**	S		**Sn**	**07 09 07.3**	**-1.0**
	comp=N,5.9nm,0.3s							
PMTG	**Montargil**	**3.45**	**48**	*e*Pn		**Pn**	**07 08 35.6**	**+3.4**
PMTG				*e*Sn		**Sn**	**07 09 10.6**	**-1.2**
PMTG				A		A	07 09 14.1	
	comp=N,3.0nm,0.1s							
PMTG	**Montargil**	**3.45**	**48**	P		**Pn**	**07 08 35.6**	**+3.4**
PMTG				S		**Sn**	**07 09 10.6**	**-1.2**
	comp=N,3.0nm,0.1s							
PESTR	**Estremoz**	**3.73**	**55**	*e*Sn		**Sn**	**07 09 17.4**	**-1.4**
PESTR				A		A	07 09 21.8	
	comp=N,3.1nm,0.4s							
PTOM	**Tomar**	**3.73**	**40**	*e*Sn		**Sn**	**07 09 18.3**	**-0.4**
PTOM				A		A	07 09 23.6	
	comp=N,6.4nm,0.7s							
PTOM	**Tomar**	**3.73**	**40**	S		**Sn**	**07 09 18.3**	**-0.4**
	comp=N,3.2nm,0.7s							
EMIN	**Mina Concepcio**	**3.98**	**74**	P		**Pn**	**07 08 41.1**	**+1.8**
	comp=N,0.4nm,0.3s,SNR=7.9							
EMIN				S		**Sn**	**07 09 22.4**	**-2.4**
	comp=N,1.2nm,0.1s,SNR=7.5							
PCAS	**Casmilo, Conde**	**4.03**	**35**	*e*Sn		**Sn**	**07 09 25.3**	**-0.7**
PCAS				A		A	07 09 28.1	
	comp=N,4.0nm,0.5s							
PCAS	**Casmilo, Conde**	**4.03**	**35**	S		**Sn**	**07 09 25.3**	**-0.7**
	comp=N,4.0nm,0.5s							
EBAD	**Badajoz**	**4.07**	**60**	P		**Pn**	**07 08 42.7**	**+2.1**
	comp=N,3.2nm,0.9s,SNR=6.0							
EBAD				S		**Sn**	**07 09 25.8**	**-1.2**
	comp=N,4.3nm,0.2s,SNR=8.8							
PMRV	**Marv??o**	**4.18**	**50**	*e*Pn		**Pn**	**07 08 44.3**	**+2.1**
PMRV				*e*Sn		**Sn**	**07 09 27.7**	**-2.1**
PMRV				A		A	07 09 31.2	
	comp=N,3.2nm,0.9s							
PMRV	**Marv??o**	**4.18**	**50**	P		**Pn**	**07 08 44.3**	**+2.1**
PMRV				S		**Sn**	**07 09 27.7**	**-2.1**
	comp=N,3.2nm,0.9s							
PCBR	**Castelo Branco**	**4.40**	**45**	*e*Sn		**Sn**	**07 09 34.2**	**-0.9**
PCBR				A		A	07 09 36.5	
	comp=N,1.4nm,0.3s							
ESPR	**Espera**	**4.53**	**87**	P		**Pn**	**07 08 49.7**	**+2.6**
	comp=N,4.3nm,0.2s,SNR=13							
ESPR				S		**Sn**	**07 09 38.7**	**+0.2**
	comp=N,2.5nm,0.2s							
MTE	**Manteigas**	**4.76**	**40**	*e*Sn		**Sn**	**07 09 43.0**	**-1.1**
MTE	**Manteigas**	**4.76**	**40**	S		**Sn**	**07 09 43.0**	**-1.1**
PVIS	**Viseu**	**4.83**	**35**	*e*Sn		**Sn**	**07 09 44.5**	**-1.4**
PVIS				A		A	07 09 45.7	
	comp=N,3.4nm,0.4s							
PVIS	**Viseu**	**4.83**	**35**	S		**Sn**	**07 09 44.5**	**-1.4**
	comp=N,1.7nm,0.4s							
ECAB	**El Cabril**	**5.01**	**73**	P		**Pn**	**07 08 56.3**	**+2.6**
	comp=N,2.9nm,0.6s,SNR=5.9							
ECAB				S		**Sn**	**07 09 48.0**	**-2.4**
	comp=N,20nm,1.3s							
SRHM	**Skhour des Reh**	**5.23**	**144**	P		**Pn**	**07 08 58.1**	**+1.4**
SRHM				S		**Sn**	**07 09 55.0**	**-0.9**
PVRL	**Vila Real**	**5.37**	**32**	*e*Sn		**Sn**	**07 09 57.6**	**-1.5**
PVRL	**Vila Real**	**5.37**	**32**	S		**Sn**	**07 09 57.6**	**-1.5**
POLO	**Lamas de Olo**	**5.41**	**31**	*e*Sn		**Sn**	**07 09 57.4**	**-2.9**
POLO	**Lamas de Olo**	**5.41**	**31**	S		**Sn**	**07 09 57.4**	**-2.9**
MVO	**Moncorvo**	**5.59**	**37**	*e*Pn		**Pn**	**07 09 03.0**	**+1.4**
MVO				*e*Sn		**Sn**	**07 10 02.3**	**-2.4**
MVO				A		A	07 10 04.1	
	comp=N,3.0nm,0.2s							
MVO	**Moncorvo**	**5.59**	**37**	P		**Pn**	**07 09 02.9**	**+1.3**
	comp=N,0.5nm,0.2s,SNR=7.9							
MVO				S		**Sn**	**07 10 01.4**	**-3.2**
	comp=N,2.4nm,0.4s,SNR=5.6							
EADA	**Adamuz**	**5.68**	**74**	P		**Pn**	**07 09 04.9**	**+2.1**
	comp=N,0.2nm,0.3s,SNR=7.9							
EADA				S		**Sn**	**07 10 04.3**	**-2.5**
	comp=N,0.6nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.73**	**27**	S		**Sn**	**07 10 03.7**	**-4.5**
	comp=N,2.0nm,0.1s,SNR=7.9							
PBRG	**Braganca**	**6.22**	**35**	*e*Sn		**Sn**	**07 10 16.9**	**-3.3**
PBRG				A		A	07 10 19.4	
	comp=N,1.3nm,0.3s							
PBRG	**Braganca**	**6.22**	**35**	Sn		**Sn**	**07 10 16.9**	**-3.3**
	comp=N,0.6nm,0.3s							
PAB	**San Pablo**	**6.28**	**62**	P		**Pn**	**07 09 13.1**	**+2.0**
	comp=N,0.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**07 10 17.8**	**-3.7**
	comp=N,0.1nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**6.33**	**34**	S		**Sn**	**07 10 18.7**	**-4.3**
	comp=N,0.9nm,0.2s,SNR=7.9							
EAGO	**Agolada(Pontev**	**6.56**	**23**	S		**Sn**	**07 10 23.3**	**-5.1**
	comp=N,0.6nm,0.1s,SNR=7.9							
MD31	**MD31**	**6.79**	**123**	P		**Pn**	**07 09 17.8**	**-0.3**
MD31				S		**Sn**	**07 10 30.1**	**-4.0**
OUZM	**OUZ**	**7.07**	**145**	P		**Pn**	**07 09 21.7**	**-0.3**
OUZM				S		**Sn**	**07 10 36.5**	**-4.7**

*IDC **24** 07:12:56.2±1.2,6°.61S×148°.64E,h0km,mb4.2/7, mb1 4.3/9,mb1mx4.0/30,mbtmp4.1/9,ML3.7/1,MS3.4/4, Ms1 3.4/4,ms1mx3.1/28,Error ellipse: s-maj=36.5km s-min=20.7km az=112.0*
*ISCJB **24** 07:13:01.7±0.6,6°.62S±0°.08×148°.4E±0°.1,h46km, mb4.5/10,MS3.3/1, Error ellipse: s-maj=17.4km s-min=7.5km az=36.4*
*NEIC **24** 07:13:04.2±1.0,6°.69S×148°.35E,h56km±10km,mb4.3/4, Error ellipse: s-maj=16.2km s-min=6.8km az=126.0*

ISC 24 07:13:03.6±0.8,6°.60S±0°.1×148°.3E±0°.1,h46km,n24, σ1s64/26,mb4.1/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**2.99**	**201**	Pn		**Pn**	**07 13 48.0**	**-0.6**
	6.3nm,0.3s,baz=18,slow=11,SNR=26							
PMG				Sn		**Sn**	**07 14 27.1**	**+3.9**
	5.7nm,0.3s,baz=354,slow=7.1,SNR=3.1							
RABL	**Rabaul**	**4.57**	**59**	*e*Pn		**Pn**	**07 14 10.8**	**+0.5**
JAY	**Jayapura**	**8.55**	**298**	LR		LR	07 19 21.2	
	comp=Z,253nm,20.1s,baz=24,slow=43							
HNR	**Honiara**	**11.91**	**104**	LR		LR	07 19 20.9	
	comp=Z,170nm,18.6s,baz=315,slow=33							
WR1	**Warramunga Arr**	**18.93**	**224**	*e*P		**P**	**07 17 21.0**	**+0.1**
	15nm,1.2s							
WR1				*e*Sn		**Sn**	**07 20 50.1**	**-3.1**
WRA	**Warramunga Arr**	**18.93**	**224**	P		**P**	**07 17 21.0**	**

KIV0				*e*Sn	Sn	07 25 49.3	-1.5
ALER	**Alexandrovskoy**	**2.93**	**311**	*e*Pn	Pn	07 25 24.3	+1.0
ALER				*e*Sn	Sn	07 25 57.1	-0.5

DDA ***24*** *07:27:39.9, 38.02N×28.99E, h7km±3km, ML2.6*
ISK ***24*** *07:27:40.2, 37.99N×28.91E, h8km, ML2.1/8*
ISC 24 07:27:40.3±1.1, 38.02N±0.03×28.96E±0.04, h8km±12km, n15, σ078/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.28**	**168**	PG	**Pg**	**07 27 45.8**	**0.0**
DENT				SG	**Sg**	**07 27 49.9**	**+0.4**
KULA	**Kula-Manisa**	**0.54**	**335**	PG	**Pg**	**07 27 51.3**	**+0.4**
KULA				SG	**Sb**	**07 27 59.8**	**-0.4**
KHAL	**Karahalli**	**0.54**	**50**	*i* P	**Pg**	**07 27 50.3**	**-0.6**
KHAL				*i* S	**Sg**	**07 27 57.5**	**-0.6**
KHAL				IAML_P			
	comp=Z,968nm,0.1s						
TAVA	**DENIZLI_Tavas**	**0.56**	**184**	*i* P	**Pg**	**07 27 51.1**	**0.0**
TAVA				*i* S	**Sb**	**07 27 59.3**	**-1.3**
TAVA				IAML_P			
	comp=Z,847nm,0.2s						
MANT	**Manisa**	**0.56**	**326**	*i* P	**Pb**	**07 27 52.4**	**-0.3**
MANT				*i* S	**Sg**	**07 27 59.1**	**+0.4**
MANT				IAML_P			
	comp=Z,1μm,0.1s						
USAK	**Uak-Merkez**	**0.69**	**4**	*i* P	**Pg**	**07 27 54.2**	**+0.5**
USAK				IAML_P			
	comp=Z,1μm,0.1s						
AYDB	**Zeytinkoy-Aydi**	**0.85**	**265**	PG	**Pg**	**07 27 56.1**	**-0.5**
AYDN	**Tasoluk**	**0.93**	**247**	*i* P	**Pb**	**07 27 58.5**	**-0.2**
AYDN				IAML_P			
	comp=Z,515nm,0.1s						
KZIL	**AFYON_Kizioren**	**0.96**	**76**	*i* P	**Pb**	**07 27 59.4**	**0.0**
KZIL				IAML_P			
	comp=Z,289nm,0.2s						
SHAP	**Saphane-Kutahy**	**1.02**	**12**	PG	**Pn**	**07 28 00.9**	**-0.2**
YER	**Yerkesik**	**1.04**	**211**	PG	**Pg**	**07 27 59.5**	**-0.8**
GDZ	**Gediz**	**1.14**	**21**	*i* P	**Pg**	**07 28 02.2**	**-0.1**
TURN	**Turunc**	**1.18**	**194**	PN	**Pn**	**07 28 05.5**	**+2.3**
TVSB	**Tavsanli**	**1.48**	**15**	PN	**Pb**	**07 28 08.3**	**+0.2**
DAT	**Datca**	**1.70**	**221**	PN	**Pn**	**07 28 10.5**	**+0.1**

ISCJB ***24*** *07:28:36.0±0.9, 20.4S±0.2×177.7W±0.2, h500km, mb3.7/7, Error ellipse: s-maj=26.3km s-min=18.8km az=33.3*
IDC ***24*** *07:28:36.2±5.1, 20.25S×177.67W, h497km±54km, mb3.4/7, mb1 3.6/8, mb1mx3.3/32, mbtmp4.2/8, Error ellipse: s-maj=28.6km s-min=23.7km az=18.0*
ISC 24 07:28:36.2±0.8, 20.3S±0.2×177.7W±0.2, h500km, n14, σ1§30/15, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.47**	**193**	P	**P**	**07 32 19.3**	**-1.5**
	0.6nm,0.3s,baz=72,slow=16,SNR=5.4						
STKA	**Stephens Creek**	**38.17**	**244**	P	**P**	**07 35 13.0**	**+0.6**
	3.8nm,0.5s,baz=92,slow=10,SNR=12						
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**07 36 05.7**	**-0.1**
	13nm,0.6s,baz=99,slow=7.5,SNR=206						
ASAR				PcP	**pP**	**07 37 37.3**	**-0.3**
	0.8nm,0.5s,baz=110,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**	**07 36 06.0**	**-0.3**
	2.1nm,0.3s,baz=97,slow=7.7,SNR=116						
WRA				PcP	**PcP**	**07 37 37.0**	**-0.2**
	0.6nm,0.8s,baz=96,slow=3.3,SNR=3.2						
VNDA	**Vanda**	**58.15**	**185**	P	**P**	**07 37 42.3**	**+1.3**
	0.2nm,0.4s,baz=341,slow=8.3,SNR=4.8						
NVAR	**Mina Array Bea**	**80.66**	**43**	P	**P**	**07 39 58.2**	**+1.3**
	0.5nm,0.7s,baz=238,slow=7.5,SNR=4.3						
ILAR	**Eielson Array**	**88.04**	**13**	P	**P**	**07 40 32.0**	**-0.3**
	0.4nm,0.6s,baz=216,slow=6.5,SNR=8.2						
CMAR	**Chiang Mai Arr**	**90.34**	**289**	P	**P**	**07 40 46.0**	**+2.0**
	1.2nm,0.3s,baz=139,slow=2.8,SNR=5.6						
MKAR	**Makanchi Array**	**111.29**	**313**	PKiKP	**PKiKP**	**07 46 11.7**	**-1.2**
	0.3nm,0.6s,baz=90,slow=1.2,SNR=4.3						
KURBB	**Kurchatov Arra**	**114.11**	**317**	PKP	PKPdf	07 46 17.2	-0.9
	0.3nm,0.4s,baz=113,slow=2.0,SNR=4.6						
BVAR	**Borovoye Array**	**119.12**	**320**	PKP	**PKPdf**	**07 46 27.2**	**-0.5**
	0.5nm,0.4s,baz=174,slow=3.0,SNR=4.9						
AKASG	**Malin Array Be**	**142.98**	**331**	PKP	**PKPdf**	**07 47 09.6**	**-2.9**
	1.7nm,0.5s,baz=41,slow=4.3,SNR=4.4						
BRTR	**Keskin Array B**	**146.93**	**313**	PKPbc	**PKPbc**	**07 47 22.5**	**-0.1**
	1.0nm,0.7s,baz=133,slow=4.9,SNR=3.6						
GERES	**GERESS Array B**	**150.08**	**345**	PKPbc	**PKPbc**	**07 47 29.6**	**-0.5**
	1.2nm,0.8s,baz=352,slow=6.1,SNR=2.6						

ISCJB ***24*** *07:30:18.0±0.4, 13.52S±0.06×74.12W±0.07, h10km, mb4.5/40, MS3.2/5, Error ellipse: s-maj=11.9km s-min=5.8km az=139.3*
IDC ***24*** *07:30:18.8±0.7, 13.39S×74.14W, h0km, mb4.1/10, mb1 4.2/15, mb1mx4.1/34, mbtmp4.1/15, ML3.5/5, MS3.2/10, Ms1 3.2/10, ms1mx3.1/31, Error ellipse: s-maj=24.1km s-min=13.1km az=38.0*
NEIC ***24*** *07:30:24.2±0.7, 13.46S×74.03W, h38km±6km, mb4.5/34, Error ellipse: s-maj=12.1km s-min=5.3km az=46.0*
ISC 24 07:30:20.1±0.6, 13.58S±0.09×74.30W±0.09, h10km, n84, σ1§49/78, mb4.6/40, MS3.3/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.94**	**302**	Pn	**Pn**	**07 31 06.0**	**-1.0**
	2.3nm,0.3s,baz=135,slow=11,SNR=15						
NNA				Pg	**Pb**	**07 31 11.2**	**-1.5**
	38nm,0.3s,baz=135,slow=14,SNR=106						
NNA				Lg	Lg	07 31 51.6	
	45nm,0.3s,baz=231,slow=14,SNR=8.8						
NNA				LR	LR	07 32 30.1	
	comp=Z,580nm,21.3s,baz=99,slow=44						
LPAZ	**La Paz**	**6.54**	**115**	*e*Pn	**Pn**	**07 31 57.2**	**+0.2**
LPAZ	**La Paz**	**6.54**	**115**	Pn	**Pn**	**07 32 00.8**	**+3.8**
	1.4nm,0.3s,baz=302,slow=8.6,SNR=36						
LPAZ				LR	LR	07 33 58.2	
	comp=Z,57nm,19.7s,baz=340,slow=34						
MNMC	**Minye Minye**	**7.13**	**141**	*e*Pn	**Pn**	**07 32 04.1**	**-0.6**
ATAH	**Atahualpa**	**7.57**	**327**	Pn	**Pn**	**07 32 12.6**	**+1.7**
	1.2nm,0.3s,baz=159,slow=2.7,SNR=9.2						
ATAH				LR	LR	07 34 26.9	
	comp=Z,48nm,21.0s,baz=175,slow=33						
PB11	**IPOC Station P**	**7.58**	**145**	*e*Pn	**Pn**	**07 32 10.4**	**-0.5**
LVC	**Limon Verde**	**10.34**	**151**	*e*Pn	Pn	07 32 44.6	-4.2
LVC				Lg	Lg	07 35 48.7	
LVC	**Limon Verde**	**10.34**	**151**	Pn	**Pn**	**07 32 48.8**	**0.0**
	0.5nm,0.3s,baz=341,slow=9.6,SNR=6.4						
LVC				Lg	Lg	07 35 48.7	
	0.5nm,0.3s,baz=81,slow=18,SNR=7.4						
LVC				LR	LR	07 36 39.7	
	comp=Z,176nm,21.4s,baz=360,slow=36						
SIV	**San Ignacio**	**13.01**	**102**	Pn	**Pn**	**07 33 23.3**	**-1.9**
	0.4nm,0.3s,baz=291,slow=10,SNR=12						
SIV				Lg	Lg	07 37 06.5	
	0.2nm,0.3s,baz=248,slow=20,SNR=3.4						
OTAV	**Otavalo**	**14.33**	**343**	*e*Pn	**Pn**	**07 33 47.3**	**+3.6**
ROSC	**El Rosal**	**18.30**	**360**	*e*P	**Pn**	**07 34 35.5**	**+0.9**
	6.8nm,0.6s						
ROSC	**El Rosal**	**18.30**	**360**	P	**Pn**	**07 34 35.4**	**+0.8**
	0.6nm,0.3s,baz=194,slow=19,SNR=3.1						
ROSC				LR	LR	07 42 09.9	
	comp=Z,112nm,20.4s,baz=198,slow=39						
CFA	**Coronel Fontan**	**18.78**	**164**	P	**Pn**	**07 34 42.8**	**+2.7**
	0.2nm,0.3s,baz=326,slow=11,SNR=3.4						
PTGA	**Pitinga**	**19.09**	**49**	*e*P	**P**	**07 34 41.2**	**-1.8**
	15nm,1.2s						
PTGA	**Pitinga**	**19.09**	**49**	P	**P**	**07 34 41.4**	**-1.7**
	0.3nm,0.3s,baz=264,slow=23,SNR=7.6						
PTGA				Lg	Lg	07 40 17.2	
	baz=323,slow=20,SNR=3.5						
RUSC	**La Rusia**	**19.39**	**4**	*e*P	**P**	**07 34 48.2**	**+1.4**
RUSC	**La Rusia**	**19.39**	**4**	*e*P	**P**	**07 34 48.2**	**+1.4**
BARC	**Barichara**	**20.07**	**3**	*e*P	**P**	**07 34 54.2**	**+0.2**
BARC	**Barichara**	**20.07**	**3**	*e*P	**P**	**07 34 54.2**	**+0.2**
CPUP	**Villa Florida**	**20.35**	**131**	P	**P**	**07 34 55.3**	**-1.4**
	1.6nm,0.7s,baz=296,slow=9.0,SNR=4.9						
CPUP				LR	LR	07 44 18.6	
	comp=Z,165nm,18.6s,baz=329,slow=41						
DBBC	**Dabeiba**	**20.55**	**355**	*e*P	**P**	**07 35 00.2**	**+1.1**
DBBC	**Dabeiba**	**20.55**	**355**	*e*P	**P**	**07 35 00.2**	**+1.1**
GIRC	**Giron, Santand**	**20.56**	**3**	*e*P	**P**	**07 34 58.2**	**-1.0**
GIRC	**Giron, Santand**	**20.56**	**3**	*e*P	**P**	**07 34 58.2**	**-1.0**
PAMC	**Pamplona, Colo**	**20.85**	**4**	*e*P	**P**	**07 35 02.9**	**+0.2**
PAMC	**Pamplona, Colo**	**20.85**	**4**	*e*P	**P**	**07 35 02.9**	**+0.2**
ZARC	**Zaragoza, Cauc**	**20.95**	**358**	*e*P	**P**	**07 35 02.3**	**-1.0**
ZARC	**Zaragoza, Cauc**	**20.95**	**358**	*e*P	**P**	**07 35 02.3**	**-1.0**
SMLC	**San Martn de**	**22.24**	**1**	*e*P	**P**	**07 35 14.0**	**-3.2**
SMLC	**San Martn de**	**22.24**	**1**	*e*P	**P**	**07 35 14.0**	**-3.2**
BDFB	**Brasilia**	**25.51**	**98**	P	**P**	**07 35 47.8**	**-1.3**
	2.1nm,1.0s,baz=259,slow=10,SNR=3.2						
BDFB				LR	LR	07 46 26.8	
	comp=Z,91nm,18.4s,baz=128,slow=38						
JTS	**JuntasAbangare**	**25.97**	**335**	LR	LR	07 45 13.6	
	comp=Z,122nm,18.9s,baz=224,slow=35						
PLCA	**Paso Flores**	**27.25**	**174**	LR	LR	07 46 58.0	
	comp=Z,79nm,18.2s,baz=58,slow=36						
MDP	**Montagnes des**	**28.41**	**51**	LR	LR	07 48 54.3	
	comp=Z,20nm,18.7s,baz=207,slow=40						
TX31	**Lajitas Ar. Si**	**51.23**	**327**	*e*P	**P**	**07 39 24.2**	**0.0**
	2.3nm,0.6s						
TXAR	**Lajitas Array**	**51.23**	**327**	P	**P**	**07 39 24.4**	**+0.2**
	1.7nm,0.5s,baz=149,slow=8.9,SNR=8.3						
HHAR	**Hobbs**	**52.95**	**340**	*e*P	**P**	**07 39 36.0**	**-0.8**
	3.6nm,0.7s						
Q44A	**Meyer Farm, Va**	**53.99**	**346**	*e*P	**P**	**07 39 43.0**	**-1.4**
	31nm,0.8s						
P45A	**Graceland, Par**	**54.30**	**347**	*e*P	P	07 39 44.7	-1.9
	19nm,1.0s						
HDIL	**Hopedale**	**55.63**	**346**	*e*P	**P**	**07 39 55.4**	**-0.8**
	19nm,1.0s						
SDCO	**Great Sand Dun**	**58.86**	**331**	*e*P	**P**	**07 40 19.5**	**0.0**
	5.4nm,1.1s						
H42A	**Shiocton**	**59.25**	**348**	*e*P	**P**	**07 40 20.4**	**-1.3**
	18nm,0.8s						
Y14A	**Wickenburg**	**59.92**	**323**	*e*P	**P**	**07 40 27.7**	**+1.1**
	3.7nm,1.1s						
WUAZ	**Wupatki**	**60.14**	**325**	*e*P	**P**	**07 40 29.3**	**+1.1**
	5.5nm,1.0s						
SRU	**San Rafael Swe**	**62.38**	**329**	*e*P	**P**	**07 40 43.8**	**+0.5**
	3.7nm,1.0s						
CCUT	**Cedar City**	**62.71**	**326**	*e*P	**P**	**07 40 47.3**	**+1.6**
	2.9nm,1.0s						
P17A	**Butcher Ranch,**	**62.76**	**329**	*e*P	**P**	**07 40 46.5**	**+0.6**
	5.2nm,1.0s						
EYMN	**Ely**	**63.14**	**347**	*e*P	**P**	**07 40 46.5**	**-1.5**
PSUT	**Pine Spring**	**63.69**	**326**	*e*P	**P**	**07 40 53.6**	**+1.5**
	6.5nm,1.3s						
DUG	**Dugway, Tooele**	**64.36**	**328**	*e*P	**P**	**07 40 55.8**	**-0.5**
	5.8nm,0.9s						
R11A	**Troy Canyon, C**	**64.51**	**325**	*e*P	**P**	**07 40 57.3**	**-0.2**
	1.6nm,0.8s						
AGMN	**Agassiz Nation**	**64.52**	**344**	*e*P	**P**	**07 40 56.2**	**-0.9**
	9.9nm,0.8s						
PDAR	**Pinedale Array**	**64.73**	**332**	P	**P**	**07 40 58.6**	**-0.3**
	0.7nm,0.7s,baz=117,slow=8.6,SNR=4.9						
MDND	**Maddock**	**65.19**	**342**	*e*P	**P**	**07 41 01.4**	**-0.1**
	21nm,0.8s						
HVU	**Hansel Valley**	**65.51**	**329**	*e*P	**P**	**07 41 04.4**	**+0.5**
	3.4nm,0.9s						
OMMB	**Old Mammoth Mi**	**65.98**	**322**	*e*P	**P**	**07 41 08.4**	**+1.2**
	5.3nm,1.0s						
NV01	**Mina Array Sit**	**66.12**	**323**	*e*P	**P**	**07 41 08.1**	**+0.2**
NVAR	**Mina Array Bea**	**66.12**	**323**	P	**P**	**07 41 08.5**	**+0.6**
	0.9nm,0.8s,baz=158,slow=7.1,SNR=6.8						
IMW	**Indian Meadow**	**66.25**	**332**	*e*P	**P**	**07 41 09.0**	**+0.3**
	3.2nm,1.1s						
FLWY	**Flagg Ranch**	**66.28**	**332**	*e*P	**P**	**07 41 08.8**	**0.0**
	6.1nm,0.8s						
ULM	**Lac du Bonnet**	**66.32**	**345**	P	**P**	**07 41 07.3**	**-1.4**
	11nm,7s,baz=161,slow=5.6,SNR=21						
YHH	**Holmes Hill**	**66.90**	**333**	*e*P	**P**	**07 41 13.9**	**+1.0**
	2.5nm,0.8s						
PAHR	**Pah Rah Range**	**67.60**	**324**	*e*P	**P**	**07 41 18.8**	**+1.6**
	5.2nm,0.9s						
BOZ	**Bozeman (W)**	**67.87**	**333**	*e*P	**P**	**07 41 19.2**	**+0.4**
	3.5nm,1.4s						
SCHQ	**Schefferville**	**68.44**	**5**	P	P	07 41 20.0	-2.0
	6.4nm,0.9s,baz=201,slow=5.1,SNR=6.3						
ORV	**Oroville**	**68.73**	**323**	*e*P	**P**	**07 41 23.3**	**-0.9**
	7.4nm,1.0s						
MOD	**Modoc Plateau**	**69.58**	**325**	*e*P	**P**	**07 41 30.6**	**+1.0**
	4.5nm,0.8s						
I07A	**Izee**	**70.61**	**327**	*e*P	**P**	**07 41 37.1**	**+1.3**
	5.5nm,1.0s						
F10A	**Beach Ranch, E**	**70.77**	**330**	*e*P	**P**	**07 41 38.0**	**+1.2**
	2.5nm,0.8s						
PINE	**Pine Mountain**	**71.18**	**326**	*e*P	**P**	**07 41 40.8**	**+1.4**
	3.0nm,0.9s						
FCC	**Fort Churchill**	**73.88**	**349**	*e*P	**P**	**07 41 54.3**	**-0.5**
	9.9nm,1.2s						
TOA0	**Torodi Ar. Sit**	**79.83**	**74**	*e*P	P	07 42 26.7	-2.8
TORD	**Torodi Ar. Bea**	**79.83**	**74**	P	**P**	**07 42 28.1**	**-1.3**
	2.7nm,0.9s,baz=265,slow=5.0,SNR=9.7						
YKA	**Yellowknife Ar**	**82.09**	**342**	P	**P**	**07 42 39.5**	**-0.9**
	2.3nm,0.9s,baz=137,slow=5.6,SNR=37						
YKB5	**Yellowknife Ar**	**82.09**	**342**	*e*P	**P**	**07 42 39.3**	**-1.1**
YKW3	**Yellowknife Ar**	**82.15**	**342**	*e*P	**P**	**07 42 40.4**	**-0.3**
	9.1nm,1.5s						
ESDC	**Sonsa Array**	**84.02**	**47**	P	**P**	**07 42 51.3**	**+0.2**
	1.1nm,0.6s,baz=264,slow=5.4,SNR=9.0						
BVAR	**Borovoye Array**	**131.70**	**28**	PKP	**PKPdf**	**07 49 34.5**	**+1.2**
	0.7nm,0.8s,baz=241,slow=3.1,SNR=3.7						
WRA	**Warramunga Arr**	**136.37**	**221**	PKP	**PKPdf**	**07 49 43.8**	**+0.7**
	0.9nm,1.0s,baz=138,slow=1.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**136.49**	**18**	PKP	**PKPdf**	**07 49 42.3**	**+0.1**
	2.3nm,0.8s,baz=284,slow=2.2,SNR=10						
KURBB	**Kurchatov Arra**	**136.96**	**25**	PKP	**PKPdf**	**07 49 43.9**	**+0.7**
	0.3nm,0.3s,baz=308,slow=2.6,SNR=5.6						
SONM	**Songino Array**	**145.85**	**359**	PKPbc	**PKPdf**	**07 50 00.3**	**+0.9**
	4.6nm,0.8s,baz=332,slow=2.3,SNR=30						
KSRS	**Korea Array**	**149.06**	**324**	PKPbc	**PKPdf**	**07 50 09.3**	**+4.5**
	2.9nm,1.1s,baz=90,slow=1.2,SNR=4.6						
KSAR	**Wonju Array Be**	**149.09**	**324**	PKPbc	**PKPdf**	**07 50 09.3**	**+4.4**

RSNC 24 07:35:21.2±0.9, 11.27N×73.33W, h8km±5km, ML3.3, Mw3.5, 1D, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMRC	**Santa Marta, M**	**0.88**	**263**	*e*P	Pg	07 35 36.8	-1.4
SMRC				*e*S	Sg	07 35 48.8	-0.9
SMRC				*i*		07 35 49.8	
	comp=N,893nm,0.4s						
CODC	**Agustn Codazz**	**1.33**	**185**	⇓*i*P	Pn	07 35 44.4	-1.7
CODC				*e*S	Sb	07 36 02.2	-1.5
CODC				*i*		07 36 03.0	
	comp=N,151nm,0.2s						
URIC	**Uribia, Colomb**	**1.38**	**72**	*e*P	Pn	07 35 45.1	-1.8
URIC				*i*		07 36 16.6	
	comp=N,96nm,0.7s						
SJCC	**San Jacinto, C**	**2.27**	**233**	*e*P	Pn	07 35 57.3	-1.9
SJCC				*e*S	Sn	07 36 27.2	-0.3
SJCC				*i*		07 36 32.9	
	comp=N,271nm,0.3s						
SMLC	**San Martn de**	**2.56**	**197**	*e*P	Pn	07 36 01.0	-2.1
SMLC				*e*S	Sn	07 36 32.3	-2.1
SMLC				*i*		07 36 43.2	
	comp=N,222nm,0.1s						
OCAC	**Ocana**	**3.01**	**180**	*e*P	Pn	07 36 08.5	-1.0
OCAC				*e*S	Sn	07 36 44.8	-1.0
UREC	**San Jos de Ur**	**4.11**	**212**	*e*P	Pn	07 36 23.3	-1.2
UREC				*e*S	Sn	07 37 11.6	-1.3
UREC				*i*		07 37 14.5	
	comp=N,57nm,0.2s						
BRRC	**Barranca, Sant**	**4.15**	**185**	*e*P	Pn	07 36 23.3	-1.7
BRRC				*e*S	Sn	07 37 13.3	-0.5
BRRC				*i*		07 37 24.8	
	comp=N,61nm,0.3s						
GIRC	**Giron, Santand**	**4.17**	**178**	*e*P	Pn	07 36 25.2	-0.1
BARC	**Barichara**	**4.65**	**178**	*e*P	Pn	07 36 31.4	-0.7
BARC				*e*S	Sn	07 37 25.1	-1.3
BARC				*i*		07 37 32.8	
	comp=Z,82nm,0.4s						
PTBC	**PUERTO BERRIO,**	**4.83**	**193**	*e*P	Pn	07 36 33.1	-1.2
PTBC				*i*		07 37 45.9	
	comp=E,27nm,0.3s						
TAMC	**Tame, Arauca**	**5.04**	**162**	*e*P	Pn	07 36 37.1	-0.1

KRSC 24 07:41:46.1±10.0, 50.73N×160.32E, h66km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.77**	**308**	*e*P	Pn	07 42 16.5	+1.9
KDTR				*e*S	Sn	07 42 37.9	+1.7
RUS	**Russkaya**	**2.04**	**327**	*e*P	Pn	07 42 19.9	+1.7
RUS				*e*S	Sn	07 42 44.4	+1.7
MTVR	**Mutnovka**	**2.20**	**324**	*e*P	Pn	07 42 22.6	+2.0
MTVR				*e*S	Sn	07 42 49.0	+2.2
ASAK	**Asacha**	**2.24**	**319**	*e*P	Pn	07 42 23.2	+2.2
ASAK				*e*S	Sn	07 42 52.1	+4.5
PAU	**Pauzhetka**	**2.33**	**290**	*e*S	Sn	07 42 52.1	+2.4
SPN	**Mys Shipunski**	**2.38**	**356**	*e*S	Sn	07 42 51.5	+0.6
KRMR	**Karymshinskiy**	**2.50**	**328**	*e*P	Pn	07 42 26.8	+2.3
KRMR				*e*S	Sn	07 42 56.4	+2.5
NLC	**Nalytchevo**	**2.52**	**347**	*e*S	Sn	07 42 57.5	+3.3
PET	**Petropavlovsk**	**2.52**	**336**	*e*P	Pn	07 42 27.4	+2.7
PET				*e*S	Sn	07 42 56.7	+2.5
UGLR	**Uglovaya**	**2.65**	**340**	*e*P	Pn	07 42 29.4	+2.8
SKR	**Severo-Kuril's**	**2.67**	**271**	*e*P	Pn	07 42 28.4	+1.7
SKR				*e*S	Sn	07 42 58.3	+0.4
SDLR	**Sedlovina**	**2.70**	**341**	*e*P	Pn	07 42 29.8	+2.5
SMAR	**Somma**	**2.71**	**340**	*e*P	Pn	07 42 31.5	+4.1
AVH	**Avacha**	**2.72**	**340**	*e*P	Pn	07 42 31.0	+3.5
KRER	**Koryakskii**	**2.76**	**340**	*e*P	Pn	07 42 33.1	+5.0
KOK	**Koryaka**	**2.77**	**339**	*e*P	Pn	07 42 31.4	+3.2
KRX	**Arik**	**2.83**	**339**	*e*P	Pn	07 42 32.2	+3.2
APC	**Apacha**	**2.95**	**320**	*e*P	Pn	07 42 34.2	+3.7
APC				*e*S	Sn	07 43 10.9	+6.3
MKZ	**Mys Kozlova**	**3.93**	**12**	*e*P	Pn	07 42 45.4	+1.5
MKZ				*e*S	Sn	07 43 29.0	+0.3
TUMR	**Tumrok**	**4.56**	**359**	*e*P	Pn	07 42 56.4	+3.7

SOME ***24*** *07:47:29.1, 44.80N×82.27E, h20km*
NNC ***24*** *07:47:29.8±1.0, 44.73N×82.17E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=11.1km s-min=4.7km az=122.0*
ISC 24 07:47:26.9±2.6, 44.73N±0.06×82.35E±0.06, h4km±20km, n16, σ081/25, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.87**	**259**	P	**Pb**	**07 48 02.0**	**+0.2**
	1.0nm,0.3s						
DJR				S	**Sb**	**07 48 25.7**	**+0.2**
	2.0nm,0.3s						
DJR	**Jarkent**	**1.87**	**259**	*e*P	**Pb**	**07 48 02.7**	**+1.0**
	0.9nm,0.2s						
DJR				*e*S	**Sg**	**07 48 26.8**	**-0.2**
	2.0nm,0.3s						
KTMS	**Ketmen**	**1.93**	**229**	P	**Pb**	**07 48 03.2**	**+0.5**
	2.4nm,0.2s						
KTMS				S	**Sb**	**07 48 27.7**	**+0.5**
	14nm,0.5s						
KTMS	**Ketmen**	**1.93**	**229**	*e*P	**Pb**	**07 48 03.2**	**+0.5**
	2.4nm,0.2s						
KTMS				*e*S	**Sb**	**07 48 27.6**	**+0.5**
	14nm,0.5s						
MK31	**Makanchi Array**	**2.07**	**359**	⇓Pn	**Pb**	**07 48 06.3**	**+1.3**
	2.3nm,0.3s,baz=179,slow=16,SNR=90						
MK31				⇑Lg	Lg	07 48 33.6	
	1.9nm,0.4s,baz=182,slow=27,SNR=12						
MAKZ	**Makanchi**	**2.10**	**353**	⇑Pn	**Pb**	**07 48 06.5**	**+1.0**
	1.9nm,0.5s						
MAKZ				⇓Lg	Lg	07 48 34.0	
	3.4nm,0.3s						
KAPS	**Kapalarasan**	**2.19**	**286**	Pg	**Pb**	**07 48 07.6**	**+0.4**
	1.6nm,0.3s						
KAPS				Lg	Lg	07 48 35.7	
	5.6nm,0.3s						
KAPS	**Kapalarasan**	**2.19**	**286**	*e*P	**Pb**	**07 48 07.6**	**+0.4**
	1.6nm,0.3s						
KAPS				*e*S	**Sg**	**07 48 35.7**	**-1.7**
	5.6nm,0.3s						
PDGK	**Podgornoye**	**2.49**	**237**	Pg	**Pb**	**07 48 12.8**	**+0.5**
	1.1nm,0.4s						
PDGK				Lg	Lg	07 48 44.2	
	8.4nm,0.6s						
PDGK	**Podgornoye**	**2.49**	**237**	⇓Pg	**Pb**	**07 48 12.2**	**-0.1**
	1.7nm,0.6s						
PDGK				⇓Lg	Lg	07 48 43.8	
	7.8nm,0.7s						
SHLS	**Shalkode**	**2.61**	**234**	Pg	**Pn**	**07 48 10.6**	**+0.6**
	5.6nm,0.3s						
SHLS				Lg	Lg	07 48 41.6	
	24nm,0.7s						
SHLS	**Shalkode**	**2.61**	**234**	*e*P	**Pn**	**07 48 10.6**	**+0.6**
	5.6nm,0.3s						
SHLS				*e*S	**Sn**	**07 48 40.2**	**-2.0**
	24nm,0.7s						
UZB	**Uzynbulak**	**2.88**	**238**	Pg	**P

GZH				smax	smax				
	comp=E,55nm,0.8s								
GTA	**Gaotai**	**11.03**	**338**	P	**Pn**	**08**	**10**	**34.6**	**0.0**
GTA				pP		08	10	40.8	
GTA				sP		08	10	43.8	
GTA				pmax	pmax				
	comp=E,3.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**12.07**	**209**	LR	LR	08	16	26.1	
	comp=E,48nm,18.6s,baz=333,slow=42								
HHC	**Hu-ho-hao-te**	**12.77**	**23**	*eP*	**Pn**	**08**	**10**	**59.8**	**+1.4**
HHC				sP		08	11	06.3	
HHC				S	**Sn**	**08**	**13**	**27.4**	**+6.7**
HHC				SS	**SnSn**	**08**	**13**	**35.8**	**+2.7**
HHC				pmax	pmax				
	comp=E,23nm,1.0s								
HHC				LR	LR				
	comp=E,170nm,6.3s								
HHC				LR	LR				
	comp=E,150nm,8.8s								
HHC				LR	LR				
	comp=E,150nm,9.8s								
SONA0	**Songino Array**	**18.61**	**3**	*eP*	**Pn**	**08**	**12**	**14.3**	**-0.2**
SONM	**Songino Array**	**18.61**	**3**	P	**Pn**	**08**	**12**	**14.3**	**-0.2**
	comp=E,0.2nm,0.3s,baz=188,slow=9.4,SNR=7.6								
WMQ	**Urumqi**	**20.09**	**321**	*eP*	**P**	**08**	**12**	**30.8**	**+0.4**
KS15	**Wonju Array Si**	**20.76**	**61**	*eP*	**P**	**08**	**12**	**36.2**	**-1.5**
	comp=E,25nm,1.4s								
KSAR	**Wonju Array Be**	**20.76**	**61**	P	**P**	**08**	**12**	**37.0**	**-0.7**
KSRS	**Korea Array**	**20.79**	**61**	P	**P**	**08**	**12**	**37.0**	**-1.0**
	comp=E,2.0nm,0.8s,baz=256,slow=10,SNR=5.3								
MK01	**Makanchi Array**	**24.90**	**321**	*eP*	**P**	**08**	**13**	**20.1**	**+0.4**
IPM	**Ipoh**	**24.90**	**189**	*eP*	**P**	**08**	**13**	**21.1**	**+1.1**
	comp=E,7.1nm,0.8s								
MK31	**Makanchi Array**	**24.92**	**321**	*eP*	**P**	**08**	**13**	**20.4**	**+0.6**
	comp=E,1.9nm,0.8s								
MK32	**Makanchi Array**	**24.92**	**321**	*eP*	**P**	**08**	**13**	**20.8**	**+0.9**
MK32				*ePcP*	**PcP**	**08**	**16**	**57.0**	**+1.7**
MKAR	**Makanchi Array**	**24.92**	**321**	P	**P**	**08**	**13**	**20.8**	**+0.9**
	comp=E,1.6nm,0.5s,baz=121,slow=11,SNR=23								
MKAR				PcP	**PcP**	**08**	**16**	**57.0**	**+1.7**
	comp=E,0.3nm,0.8s,baz=105,slow=3.3,SNR=3.0								
MAKZ	**Makanchi**	**25.10**	**321**	*eP*	**P**	**08**	**13**	**22.2**	**+0.7**
	comp=E,3.2nm,1.0s								
KDJ	**Kajisay**	**25.89**	**307**	*eP*	**P**	**08**	**13**	**28.4**	**-0.5**
	comp=E,2.2nm,0.8s								
NRN	**Naryn**	**26.49**	**305**	*eP*	**P**	**08**	**13**	**34.0**	**-0.5**
	comp=E,1.6nm,0.6s								
NIL	**Nilore**	**27.39**	**287**	*eP*	**P**	**08**	**13**	**43.2**	**+0.8**
	comp=E,4.2nm,1.1s								
SBUM	**Sibu**	**27.50**	**164**	*eP*	**P**	**08**	**13**	**43.4**	**+0.1**
	comp=E,4.7nm,1.2s								
AAK	**Ala-Archa**	**27.93**	**307**	LR	LR	08	26	20.3	
	comp=E,34nm,18.7s,baz=349,slow=40								
ZAA0	**Zalesovo Array**	**28.75**	**335**	*eP*	**P**	**08**	**13**	**54.2**	**+0.1**
	comp=E,1.9nm,0.6s								
ZALV	**Zalesovo Beam**	**28.75**	**335**	*eP*	**P**	**08**	**13**	**54.0**	**-0.2**
ZALV	**Zalesovo Beam**	**28.75**	**335**	P	**P**	**08**	**13**	**54.4**	**+0.2**
	comp=E,1.7nm,0.7s,baz=134,slow=8.8,SNR=6.5								
ZAA1	**Zalesovo Array**	**28.75**	**335**	*eP*	**P**	**08**	**13**	**54.4**	**+0.2**
KURBB	**Kurchatov Arra**	**29.21**	**324**	P	**P**	**08**	**13**	**59.0**	**+0.7**
	comp=E,1.3nm,0.7s,baz=130,slow=8.9,SNR=16								
KURK	**Kurchatov**	**29.22**	**325**	*eP*	**P**	**08**	**13**	**58.7**	**+0.3**
	comp=E,1.3nm,0.6s								
GAR	**Garm**	**30.18**	**298**	*eP*	**P**	**08**	**14**	**08.2**	**+1.0**
	comp=E,5.2nm,1.0s								
KK31	**Karatay Array**	**30.87**	**306**	*eP*	**P**	**08**	**14**	**13.3**	**+0.1**
	comp=E,4.4nm,1.6s								
KKAR	**Karatay Array**	**30.87**	**306**	*eP*	**P**	**08**	**14**	**13.1**	**0.0**
	comp=E,4.4nm,1.6s								
MNAI	**Manna**	**33.45**	**184**	*eP*	**P**	**08**	**14**	**34.3**	**-1.6**
	comp=E,219nm,1.2s								
BVAR	**Borovoye Array**	**34.75**	**323**	P	**P**	**08**	**14**	**48.0**	**+1.1**
	comp=E,0.5nm,0.5s,baz=116,slow=6.9,SNR=3.9								
NRIK	**Noril'sk**	**41.40**	**351**	P	**P**	**08**	**15**	**43.4**	**+0.6**
	comp=E,3.6nm,0.5s,baz=142,slow=6.5,SNR=8.1								
TIXI	**Tiksi**	**44.44**	**11**	P	**P**	**08**	**16**	**06.0**	**-1.3**
	comp=E,1.0nm,0.6s,baz=222,slow=3.5,SNR=4.5								
SEY	**Seymchan**	**45.35**	**28**	P	**P**	**08**	**16**	**14.0**	**-0.7**
	comp=E,0.6nm,0.6s,baz=81,slow=22,SNR=4.4								
WR1	**Warramunga Arr**	**56.48**	**146**	*eP*	**P**	**08**	**17**	**39.1**	**+0.1**
	comp=E,4.4nm,1.0s								
WRA	**Warramunga Arr**	**56.48**	**146**	P	**P**	**08**	**17**	**39.1**	**+0.1**
	comp=E,1.3nm,0.9s,baz=339,slow=8.1,SNR=10								
AKASG	**Malin Array Be**	**59.24**	**314**	P	**P**	**08**	**17**	**58.0**	**-0.1**
	comp=E,1.1nm,0.7s,baz=67,slow=7.1,SNR=2.6								
AKBB	**Malin Array Si**	**59.24**	**314**	*eP*	**P**	**08**	**17**	**57.4**	**-0.7**
	comp=E,5.8nm,1.4s								
ARA0	**ARCESS Array S**	**59.29**	**336**	*eP*	**P**	**08**	**17**	**57.1**	**-1.0**
ARCES	**ARCESS Array B**	**59.29**	**336**	P	**P**	**08**	**17**	**57.1**	**-1.0**
	comp=E,2.6nm,0.7s,baz=77,slow=9.4,SNR=7.1								
AS31	**Alice Springs**	**59.48**	**149**	*eP*	**P**	**08**	**17**	**59.6**	**-0.5**
	comp=E,1.2nm,1.3s								
ASAR	**Alice Springs**	**59.48**	**149**	P	**P**	**08**	**18**	**01.2**	**+1.2**
	comp=E,0.7nm,0.7s,baz=332,slow=6.2,SNR=10.0								
FIA0	**FINESS Array S**	**59.56**	**327**	*eP*	**P**	**08**	**18**	**00.4**	**+0.3**
FINES	**FINESS Array B**	**59.56**	**327**	P	**P**	**08**	**18**	**00.4**	**+0.3**
	comp=E,2.0nm,0.7s,baz=86,slow=6.6,SNR=9.4								
NB2	**NORSAR Subarra**	**66.66**	**328**	P	**P**	**08**	**18**	**46.7**	**-0.6**
	comp=E,0.6nm,0.6s,baz=72,slow=6.5								
NB200	**NORSAR Array S**	**66.66**	**328**	*eP*	**P**	**08**	**18**	**47.1**	**-0.2**
NOA	**NORSAR Array B**	**66.66**	**328**	P	**P**	**08**	**18**	**47.1**	**-0.2**
	comp=E,0.8nm,0.7s,baz=77,slow=6.1,SNR=7.9								
GEC2	**GERESS Array S**	**69.42**	**315**	*eP*	**P**	**08**	**19**	**06.5**	**+1.5**
GERES	**GERESS Array B**	**69.42**	**315**	P	**P**	**08**	**19**	**06.5**	**+1.5**
	comp=E,0.9nm,0.7s,baz=57,slow=9.6,SNR=3.3								
STKA	**Stephens Creek**	**70.01**	**147**	*eP*	**P**	**08**	**19**	**08.7**	**+0.1**
	comp=E,1.4nm,1.0s								
STKA	**Stephens Creek**	**70.01**	**147**	P	**P**	**08**	**19**	**09.6**	**+1.0**
	comp=E,2.5nm,0.7s,baz=319,slow=20,SNR=3.9								
ILAR	**Eielson Array**	**71.19**	**25**	P	**P**	**08**	**19**	**14.1**	**-1.3**
	comp=E,0.4nm,0.8s,baz=308,slow=4.8,SNR=6.2								
ILB	**Eielson Array**	**71.19**	**25**	*eP*	**P**	**08**	**19**	**13.9**	**-1.5**
	comp=E,2.1nm,1.0s								
INK	**Inuvik**	**73.66**	**19**	*eP*	**P**	**08**	**19**	**29.6**	**-0.5**
	comp=E,1.4nm,0.8s								
INK	**Inuvik**	**73.66**	**19**	P	**P**	**08**	**19**	**29.9**	**-0.1**
	comp=E,1.0nm,0.8s,baz=328,slow=8.0,SNR=8.1								
YKA	**Yellowknife Ar**	**83.25**	**17**	P	**P**	**08**	**20**	**22.7**	**-0.3**
	comp=E,0.7nm,0.7s,baz=327,slow=5.1,SNR=23								
YKB5	**Yellowknife Ar**	**83.25**	**17**	*eP*	**P**	**08**	**20**	**22.8**	**-0.3**

IDC ***24*** *08:13:43.2±0.4,20.84S×173.46E, h0km, mb5.0/34, mb1 5.0/36, mb1mx5.0/45, mbtmp5.0/36, ML4.8/2, MS5.7/26, Ms1 5.7/26, ms1mx5.7/28, Error ellipse: s-maj=10.9km s-min=9.3km az=176.0*

BGR ***24*** *08:13:43.1±0.0,21.02S×173.74E, h10km*

ISCJB ***24*** *08:13:44.2±1.8,20.73S±0.03×173.38E±0.02, h12km±11km, mb5.2/82, MS5.8/147, Error ellipse: s-maj=4.5km s-min=3.3km az=178.6*

NEIC ***24*** *08:13:44.0±0.0,20.78S×173.51E, h25km, Moment Tension Solution. s50 Moment tensor: Scale 1018Nm; Mrr=0.18; Mθθ=1.28; Mϕϕ=1.46; Mrθ=-0.33; Mθϕ=-0.46; Mϕr=0.32; Best double couple: M0 1.50000×1018 NP1:ϕs126.00000°, δ89.00000°, λ-162.00000°. NP2:ϕs36.00000°, δ72.00000°, λ0.00000°. Principal axes: T 1.6100, Plg11.0000°, Azm259.0000°; N -0.1900, Plg72.0000°, Azm128.0000°; P -1.4200, Plg12.0000°, Azm352.0000°;*

MOS ***24*** *08:13:45.4±1.2,20.83S×173.36E, h19km, mb5.5/25, MS5.8/33 Error ellipse: s-maj=7.9km s-min=7.1km az=120.9*

BJI ***24*** *08:13:45.4,20.38S×173.25E, h10km, mb5.4/69, mB5.8/73, Ms5.8/83, Ms7 5.7/78*

NEIC ***24*** *08:13:45.1±0.1,20.76S×173.37E, h10km, mb5.8/6, MS5.9/81, MW6.0, MW6.1, Error ellipse: s-maj=3.3km s-min=2.5km az=140.0, Moment Tensor Solution. s41 Moment tensor: Scale 1018Nm; Mrr=0.07; Mθθ=1.00; Mϕϕ1.07; Mrθ0.21; Mθϕ=-0.11; Mϕr0.41; Best double couple: M0 1.10000×1018 NP1:ϕs42.00000°, δ88.00000°, λ23.00000°. NP2:ϕs311.00000°, δ67.00000°, λ177.00000°. Principal axes: T 1.2000, Plg18.0000°, Azm269.0000°; N -0.1300, Plg67.0000°, Azm48.0000°; P -1.0600, Plg14.0000°, Azm174.0000°;*

GCMT ***24*** *08:13:49.1±0.1,20.76S×173.45E, h14km, MW6.0/130, Moment Tensor Solution. s129,c288; s130,c479; Duration: 2≥6 Moment tensor: Scale 1018Nm; Mrr=0.11±.01; Mθθ-1.31±.01; Mϕϕ1.42±.01; Mrθ0.16±.02; Mθϕ-0.46±.01; Mϕr0.31±.02; Best double couple: M0 1.48200×1018 NP1:ϕs36.00000°, δ90.00000°, λ13.00000°. NP2:ϕs306.00000°, δ77.00000°, λ180.00000°.*

Principal axes: T 1.5440, Plg10.0000°, Azm261.0000°; N -0.1240, Plg77.0000°, Azm38.0000°; P -1.4190, Plg9.0000°, Azm170.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

ISC 24 08:13:45.2±0.5, 20.87S±0.04×173.45E±0.04, h12km±2km, h12km:pP-P, n996, σ1§59/972, mb5.2/85, MS5.8/159, 46C-39D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**5.10**	**262**	*e*Pn	**Pn**	**08 15 00.5**	**-0.9**
MSVF	**Nonsavu**	**5.35**	**55**‖	*e*P	**Pn**	**08 15 02.6**	**-2.3**
PINNC	**Pines Island,**	**5.85**	**252**	*e*Pn	**Pn**	**08 15 10.6**	**-1.2**
DZM	**Mont Dzumac**	**6.64**	**258**	*e*Pn	**Pn**	**08 15 23.4**	**+0.7**
	8μm,1.6s						
DZM	**Mont Dzumac**	**6.64**	**258**	*e*P	**Pn**	**08 15 22.5**	**-0.2**
DZM				Sn	**Sn**	**08 16 30.0**	**-8.4**
DZM	**Mont Dzumac**	**6.64**	**258**	Pn	**Pn**	**08 15 23.3**	**+0.7**
	6.1nm,0.3s,baz=88,slow=13,SNR=116						
DZM				Sn	**Sn**	**08 16 30.0**	**-8.4**
	baz=100,slow=18,SNR=0.8						
NFK	**Norfolk Island**	**9.55**	**210**	P	**Pn**	**08 16 04.3**	**+1.7**
	baz=9.8,SNR=15						
RAO	**Raoul Island**	**11.43**	**139**	Sn	Sn	08 18 49.1	+13
	27nm,0.3s,baz=270,slow=20,SNR=2.3						
RAO				LR	LR	08 20 02.0	
	comp=Z,42μm,19.8s,baz=336,slow=33						
OUZ	**Omahuta**	**14.30**	**180**	*e*Pn	**Pn**	**08 17 09.7**	**+2.2**
OUZ	**Omahuta**	**14.30**	**180**	P	**Pn**	**08 17 08.4**	**+0.9**
WCZ	**Waipu Caves**	**15.03**	**177**	P	**P**	**08 17 21.9**	**-1.0**
GRZ	**Great Barrier**	**15.42**	**174**	P	**P**	**08 17 31.7**	**+4.5**
NIUE	**Niue**	**15.73**	**86**	*e*Pn	**Pn**	**08 17 26.6**	**-0.1**
KUZ	**Kuaotunu**	**15.94**	**173**	P	**P**	**08 17 36.6**	**+3.6**
MKAZ	**Moumakai**	**16.24**	**175**	P	**P**	**08 17 38.1**	**+1.8**
LHI	**Lord Howe Isla**	**16.69**	**228**	P	**P**	**08 17 41.9**	**+0.6**
	baz=17,SNR=4.2						
LHI	**Lord Howe Isla**	**16.69**	**228**	*e*Pn	**Pn**	**08 17 38.0**	**-1.0**
TOZ	**Tahuroa Road**	**16.90**	**174**	P	**P**	**08 17 47.7**	**+4.2**
MXZ	**Matakaoa Point**	**17.16**	**167**	*e*Pn	**P**	**08 17 46.5**	**0.0**
HAZ	**Te Kaha**	**17.24**	**168**	P	**P**	**08 17 50.4**	**+3.1**
HNR	**Honiara**	**17.28**	**309**	*e*P	**Pn**	**08 17 45.0**	**-1.5**
HNR	**Honiara**	**17.28**	**309**	Pn	**Pn**	**08 17 46.2**	**-0.3**
	11nm,0.3s,baz=142,slow=9.9,SNR=25						
HNR				S	**Sn**	**08 20 55.7**	**-3.2**
	5.0nm,0.3s,baz=250,slow=12,SNR=1.7						
HNR				LR	LR	08 23 22.9	
	comp=Z,11μm,20.0s,baz=144,slow=34						
RUGZ	**Raukumara Rang**	**17.42**	**169**	P	**P**	**08 17 53.5**	**+4.0**
WMGZ	**Waiomatatini S**	**17.43**	**167**	P	**P**	**08 17 54.9**	**+5.4**
URZ	**Urewera**	**17.62**	**170**	*e*Pn	**P**	**08 17 52.6**	**+1.2**
URZ				S	**S**	**08 21 15.1**	**+0.8**
URZ	**Urewera**	**17.62**	**170**	P	**P**	**08 17 53.7**	**+2.2**
	1.0nm,0.3s,baz=356,slow=9.2,SNR=24						
URZ				S	**S**	**08 21 15.1**	**+0.8**
	0.1nm,0.3s,baz=153,slow=4.5,SNR=1.5						
URZ				LR	LR	08 23 03.9	
	comp=Z,62μm,21.4s,baz=12,slow=32						
URZ	**Urewera**	**17.62**	**170**	P	**P**	**08 17 55.9**	**+4.5**
HIZ	**Hauiti**	**17.62**	**176**	*e*Pn	**P**	**08 17 54.1**	**+2.5**
HIZ	**Hauiti**	**17.62**	**176**	P	**P**	**08 17 54.6**	**+3.0**
PUZ	**Puketiti**	**17.64**	**167**	P	**P**	**08 17 55.7**	**+3.9**
TWGZ	**Tauwhareparae**	**17.69**	**168**	P	**P**	**08 17 55.8**	**+3.4**
MWZ	**Matawai**	**17.76**	**169**	P	**P**	**08 17 56.1**	**+3.0**
MUGZ	**Murupara**	**17.78**	**171**	P	**P**	**08 17 57.6**	**+4.2**
RAGZ	**Rawiri**	**17.89**	**170**	P	**P**	**08 17 58.9**	**+4.2**
TKGZ	**Te Karaka**	**17.92**	**169**	P	P	08 18 04.3	+10
RIGZ	**Rimuhau**	**18.16**	**169**	P	**P**	**08 18 00.6**	**+3.0**
FWVZ	**Far West T-bar**	**18.41**	**175**	P	**Pn**	**08 18 05.6**	**+5.1**
BKZ	**Black Stump Fm**	**18.42**	**173**	*e*P	**Pn**	**08 18 03.8**	**+3.3**
PKVZ	**Pokaka**	**18.43**	**175**	P	**Pn**	**08 18 03.9**	**+3.3**
KWHZ	**Kaweka Forest**	**18.67**	**173**	P	**Pn**	**08 18 07.0**	**+3.5**
BHHZ	**Black Hill Sta**	**18.69**	**174**	P	**Pn**	**08 18 09.2**	**+5.4**
MCHZ	**McNeill Hill**	**18.72**	**172**	P	Pn	08 18 14.4	+10
TSZ	**Takapari Road**	**19.25**	**174**	P	**Pn**	**08 18 13.0**	**+2.6**
PXZ	**Pawanui**	**19.32**	**172**	P	**Pn**	**08 18 13.1**	**+1.8**
DVHZ	**Dannevirke**	**19.50**	**174**	P	**Pn**	**08 18 14.3**	**+0.8**
ANWZ	**Aniwa Road**	**19.70**	**173**	P	**Pn**	**08 18 17.8**	**+2.0**
PRWZ	**Pori Road**	**19.74**	**174**	P	**Pn**	**08 18 18.1**	**+1.8**
MRZ	**Mangatainoka R**	**19.81**	**175**	P	**Pn**	**08 18 17.3**	**+0.2**
DUWZ	**D'Urville Isla**	**19.87**	**179**	P	**Pn**	**08 18 20.1**	**+2.2**
BFZ	**Birch Farm**	**19.89**	**174**	*e*P	**Pn**	**08 18 18.2**	**+0.1**
BFZ	**Birch Farm**	**19.89**	**174**	P	**Pn**	**08 18 18.2**	**+0.1**
OGWZ	**Otaki Gorge**	**19.94**	**176**	P	**Pn**	**08 18 19.2**	**+0.5**
KIW	**Kapiti Island**	**19.97**	**177**	P	**Pn**	**08 18 19.7**	**+0.7**
HOWZ	**Holdsworth Sta**	**20.04**	**175**	P	Pn	08 18 19.6	-0.3
CAW	**Cannon Point**	**20.22**	**176**	P	Pn	08 18 23.2	+1.2
TCW	**Tory Channel**	**20.29**	**178**	P	Pn	08 18 23.4	+0.6
SNZO	**South Karori**	**20.40**	**177**	*e*P	**P**	**08 18 22.5**	**+0.5**
TUWZ	**Tuamarina**	**20.50**	**179**	P	Pn	08 18 25.9	+0.6
MSWZ	**Moikau Station**	**20.54**	**176**	P	Pn	08 18 25.5	-0.3
THZ	**Tophouse**	**20.83**	**181**	*e*P	Pn	08 18 29.6	+0.4
EIDS	**Eidsvold**	**21.05**	**253**	P	**P**	**08 18 30.8**	**+1.6**
	baz=21,SNR=32						
EIDS	**Eidsvold**	**21.05**	**253**	*e*P	**P**	**08 18 30.8**	**+1.6**
KHZ	**Kahutara**	**21.48**	**180**	*e*P	**P**	**08 18 34.3**	**+0.7**
ARMA	**Armidale**	**21.82**	**240**	P	**P**	**08 18 39.8**	**+2.3**
	baz=22,SNR=34						
ARMA	**Armidale**	**21.82**	**240**	*e*P	**P**	**08 18 38.2**	**+0.7**
LTZ	**Lake Taylor**	**21.87**	**182**	*e*P	**P**	**08 18 39.6**	**+1.7**
TARA	**Tarawa**	**22.09**	**359**	*e*P	**P**	**08 18 39.8**	**-0.6**
OXZ	**Oxford**	**22.42**	**183**	*e*P	**P**	**08 18 45.4**	**+1.6**
CRLZ	**Canterbury Las**	**22.65**	**182**	*e*P	**P**	**08 18 50.5**	**+4.3**
MQZ	**McQueen's Vall**	**22.78**	**181**	*e*P	**P**	**08 18 51.5**	**+4.0**
RPZ	**Rata Peaks**	**22.87**	**184**	*e*P	**P**	**08 18 49.6**	**+1.1**
RPZ				S	**S**	**08 22 59.9**	**+1.9**
RPZ	**Rata Peaks**	**22.87**	**184**	P	**P**	**08 18 50.1**	**+1.6**
	38nm,1.1s,baz=33,slow=9.3,SNR=5.5						
RPZ				S	**S**	**08 22 59.8**	**+1.9**
	5.3nm,0.7s,baz=48,slow=14,SNR=2.0						
RPZ				LR	LR	08 26 52.5	
	comp=Z,65μm,20.0s,baz=358,slow=34						
KNTN	**Kanton**	**23.07**	**41**	*e*P	**P**	**08 18 50.3**	**-0.5**
RMQ	**Roma**	**23.28**	**251**	P	**P**	**08 18 54.0**	**+1.0**
	baz=23,SNR=108						
MGCD	**Mangrove Creek**	**23.33**	**234**	P	**P**	**08 18 55.6**	**+2.2**
	baz=24,SNR=28						
LBZ	**Lake Benmore**	**23.61**	**186**	*e*P	**P**	**08 18 58.5**	**+2.5**
WKZ	**Wanaka**	**24.17**	**188**	*e*P	**P**	**08 19 02.5**	**+1.1**
ODZ	**Otahua Downs**	**24.22**	**185**	*e*P	**P**	**08 19 03.6**	**+1.9**
RAR	**Rarotonga**	**24.98**	**96**	*e*P	**P**	**08 19 08.2**	**-0.7**
RAR				S	**S**	**08 23 38.7**	**+6.0**
RAR	**Rarotonga**	**24.98**	**96**	P	**P**	**08 19 09.1**	**+0.2**
	117nm,1.2s,baz=234,slow=7.3,SNR=12						
RAR				S	**S**	**08 23 38.7**	**+6.0**
	3.2nm,0.4s,baz=329,slow=7.4,SNR=3.3						
RAR				LR	LR	08 26 46.0	
	comp=Z,17μm,21.3s,baz=260,slow=31						
WHZ	**Wether Hill Ro**	**25.36**	**189**	*e*P	**P**	**08 19 15.4**	**+3.3**
CTA	**Charters Tower**	**25.48**	**267**	P	**P**	**08 19 14.0**	**+0.5**
	39nm,0.8s,baz=93,slow=12,SNR=32						
CTA				S	**S**	**08 23 43.3**	**+2.5**
	8.2nm,1.2s,baz=229,slow=18,SNR=2.0						
CTA				LR	LR	08 28 56.8	
	comp=Z,44μm,18.6s,baz=96,slow=36						
CTAO	**Charters Tower**	**25.48**	**267**	*e*P	**P**	**08 19 13.1**	**-0.4**
CTAO				LR	LR		
	comp=Z,64μm,20.0s						
CTAO	**Charters Tower**	**25.48**	**267**	*e*P	**P**	**08 19 13.1**	**-0.4**
CTAO				MLR	MLR		
	comp=Z,64μm,20.0s						
CNB	**Canberra Magne**	**25.58**	**231**	P	**P**	**08 19 15.6**	**+1.3**
	baz=26,SNR=20						
YNG	**Young**	**25.84**	**234**	P	**P**	**08 19 18.3**	**+1.6**
	baz=26,SNR=21						
CAN	**Canberra**	**25.84**	**231**	*e*P	**P**	**08 19 16.8**	**+0.1**
CAN	**Canberra**	**25.84**	**231**	*e*P	**P**	**08 19 16.8**	**+0.1**
RABL	**Rabaul**	**26.52**	**306**	*e*P	**P**	**08 19 21.5**	**-1.4**
MILA	**Mila**	**26.57**	**227**	P	**P**	**08 19 25.6**	**+2.3**
	baz=27,SNR=11						
CMSA	**Cobar Meteorol**	**27.01**	**241**	P	**P**	**08 19 27.7**	**+0.5**
	baz=27,SNR=16						
MTSU	**Mount Surprise**	**27.58**	**271**	P	**P**	**08 19 32.7**	**+0.2**
	baz=28,SNR=44						
PMG	**Port Moresby**	**27.77**	**290**	*e*P	**P**	**08 19 33.6**	**-0.6**
PMG				S	**S**	**08 24 20.2**	**+3.3**
PMG	**Port Moresby**	**27.77**	**290***c*	*i*P	**P**	**08 19 33.9**	**-0.3**
PMG				pmax	pmax		
	comp=Z,183nm,1.1s						
PMG	**Port Moresby**	**27.77**	**290**	P	**P**	**08 19 34.3**	**+0.1**
	comp=Z,35nm,0.9s,baz=103,slow=7.5,SNR=12						
PMG				S	**S**	**08 24 20.2**	**+3.3**
	comp=Z,2.6nm,0.3s,baz=230,slow=7.9,SNR=2.3						
PMG				LR	LR	08 29 11.0	
	comp=Z,22μm,18.5s,baz=92,slow=33						
TOO	**Toolangi**	**29.38**	**229**	P	**P**	**08 19 49.8**	**+1.4**
	baz=30,SNR=7.8						
TOO	**Toolangi**	**29.38**	**229**	*e*P	**P**	**08 19 48.5**	**+0.2**
TOO	**Toolangi**	**29.38**	**229**	*e*P	**P**	**08 19 48.6**	**+0.2**
COEN	**Coen**	**29.66**	**278**	P	**P**	**08 19 52.3**	**+1.3**
	baz=30,SNR=6.8						
COEN	**Coen**	**29.66**	**278**	*e*P	**P**	**08 19 50.2**	**-0.8**
STKA	**Stephens Creek**	**30.47**	**242**	P	**P**	**08 19 59.3**	**+1.2**
	baz=31,SNR=9.4						
STKA	**Stephens Creek**	**30.47**	**242**	*e*P	**P**	**08 19 58.1**	**+0.1**
STKA				S	**S**	**08 24 56.6**	**-2.5**
STKA	**Stephens Creek**	**30.47**	**242**	P	**P**	**08 19 58.5**	**+0.5**
	comp=Z,21nm,1.0s,baz=73,slow=11,SNR=23						
STKA				S	**S**	**08 24 56.6**	**-2.5**
	comp=Z,3.4nm,1.0s,baz=318,slow=16,SNR=1.9						
STKA				LR	LR	08 31 05.4	
	comp=Z,20μm,20.3s,baz=71,slow=34						
TAU	**Tasmania Unive**	**31.01**	**219**	P	P	08 20 08.4	+5.8
TAU				LR	LR		
	comp=Z,11μm,20.0s						
TAU	**Tasmania Unive**	**31.01**	**219**	P	P	08 20 08.4	+5.8
TAU				MLR	MLR		
	comp=Z,11μm,20.0s						
MANU	**Manus Island**	**31.58**	**303**	*e*P	**P**	**08 20 06.6**	**-1.3**
QIS	**Mount Isa**	**31.63**	**264**	P	**P**	**08 20 08.6**	**+0.2**
	baz=32,SNR=10						
ARPS	**Mount Arapiles**	**31.73**	**233**	P	**P**	**08 20 10.3**	**+1.2**
	baz=32,SNR=8.0						
HTT	**Hallett**	**33.02**	**240**	P	**P**	**08 20 21.3**	**+0.8**
	baz=33,SNR=9.2						
TBI	**Tubuai**	**34.39**	**101**	*e*S	**S**	**08 25 56.9**	**-3.4**
	comp=Z,4μm,27.8s						
TBI				*e*LQ	LQ	08 28 08.2	
	comp=Z,33μm,28.8s						
TBI				*e*LR	LR	08 29 37.7	
	comp=Z,35μm,30.0s,baz=269						
PAE	**Paea**	**34.99**	**91**	*e*P	**P**	**08 20 36.8**	**-0.9**
	comp=Z,11nm,1.3s						
PPT2	**Papeete2**	**35.01**	**91**	*e*P	**P**	**08 20 37.5**	**-0.5**
	comp=Z,112nm,1.4s						
PPT2				*e*S	**S**	**08 26 05.0**	**-5.2**
	comp=Z,5μm,25.5s						
PPT2				*e*LQ	LQ	08 28 18.6	
	comp=Z,24μm,33.5s						
PPT2				*e*LR	LR	08 29 53.7	
	comp=Z,53μm,26.2s,baz=252						
PPT	**Papeete**	**35.02**	**91**	P	**P**	**08 20 37.9**	**-0.1**
	comp=Z,69nm,1.1s,baz=102,slow=10,SNR=5.0						
PPT				LR	LR	08 31 23.6	
	comp=Z,11μm,20.6s,baz=264,slow=30						
TIAR	**Tiarei**	**35.23**	**91**	*e*P	**P**	**08 20 39.2**	**-0.6**
	comp=Z,15nm,1.1s						
BBOO	**Buckleboo**	**35.25**	**242**	P	**P**	**08 20 40.1**	**+0.3**
	baz=35,SNR=18						
BBOO	**Buckleboo**	**35.25**	**242**	*e*P	**P**	**08 20 40.4**	**+0.6**
TVO	**Taravao**	**35.28**	**92**	*e*P	**P**	**08 20 39.6**	**-0

VNDA	**Vanda**	**56.98**	**183**	P	**P**	**08 23 31.3**	**+1.2**
	comp=Z,8.3nm,1.0s,baz=352,slow=7.0,SNR=16							
VNDA				LR	LR	08 43 50.5		
	comp=Z,14µm,21.6s,baz=16,slow=32							
SBA	**Scott Base**	**57.12**	**182**	*e*P	**P**	**08 23 31.4**	**+0.2**
SBA	**Scott Base**	**57.12**	**182**	*e*P	**P**	**08 23 31.4**	**+0.2**
BLJI	**Banyuglugur**	**59.15**	**273**	P	**P**	**08 23 46.5**	**+0.2**
RCP	**Roxas**	**59.35**	**298**⇑	*e*P	**P**	**08 23 47.4**	**-0.2**
TSM	**Tawau**	**59.95**	**288**	P	**P**	**08 23 53.3**	**+1.5**
CASY	**Casey**	**60.26**	**205**	*e*P	**P**	**08 23 53.0**	**-0.2**
CASY				LR	LR			
	comp=Z,644nm,20.0s							
TGY	**Tagaytay City**	**62.20**	**299**	P	**P**	**08 24 07.0**	**-0.1**
	comp=Z,119nm,0.4s,baz=300,slow=2.6,SNR=5.9							
KKM	**Kota Kinabalu**	**62.21**	**289**	P	**P**	**08 24 07.7**	**+0.4**
BTM	**Bintulu**	**63.77**	**285**	P	**P**	**08 24 19.1**	**+1.5**
SBUM	**Sibu**	**64.24**	**283**	P	**P**	**08 24 21.3**	**+0.6**
JOW	**Kunigami**	**64.53**	**315**	*e*P	**P**	**08 24 21.1**	**-1.2**
JOW	**Kunigami**	**64.53**	**315**	P	**P**	**08 24 23.1**	**+0.8**
	comp=Z,4.8nm,1.1s,baz=156,slow=13,SNR=4.4							
KSM	**Kuching**	**65.59**	**282**	P	**P**	**08 24 29.6**	**+0.1**
INU	**Inuyama**	**65.73**	**328**	*e*P	**P**	**08 24 29.3**	**-0.6**
MJAR	**Matsushiro Arr**	**66.10**	**329**	P	**P**	**08 24 32.1**	**-0.2**
	comp=Z,12nm,1.0s,baz=169,slow=6.7,SNR=24							
MJAR				LR	LR	08 48 40.8		
	comp=Z,4µm,21.9s,baz=145,slow=32							
MAJO	**Matsushiro**	**66.10**	**329**	*e*P	**P**	**08 24 31.5**	**-0.8**
MAJO				LR	LR			
	comp=Z,5µm,22.0s							
MAJO	**Matsushiro**	**66.10**	**329**	*e*P	**P**	**08 24 31.5**	**-0.8**
MAJO				MLR	MLR			
	comp=Z,5µm,22.0s							
MAT	**Matsushiro**	**66.10**	**329**	P	**P**	**08 24 31.6**	**-0.7**
MAT				S	**S**	**08 33 21.8**	**+1.2**
MJB9	**Matsu-Tunnel**	**66.11**	**329**	*e*P	**P**	**08 24 32.9**	**+0.5**
JNU	**Nakatsue**	**67.34**	**322**	*e*P	**P**	**08 24 40.4**	**+0.1**
JNU	**Nakatsue**	**67.34**	**322**	P	**P**	**08 24 40.2**	**-0.1**
	comp=Z,17nm,1.1s,baz=79,slow=5.1,SNR=6.0							
NACB	**Ninganchiao**	**67.46**	**309**	*e*P	**P**	**08 24 41.0**	**-0.2**
TPUB	**Ta-pu**	**67.65**	**308**	*e*P	**P**	**08 24 40.6**	**-1.9**
SSLB	**Suanglung**	**67.70**	**308**	*e*P	**P**	**08 24 40.8**	**-2.0**
YHNB	**Yeheng**	**67.92**	**309**	*e*P	**P**	**08 24 44.0**	**-0.2**
ERM	**Erimo**	**68.56**	**336**	PFAKE		08 25 00.0	+12
ERM				LR	LR			
	comp=Z,4µm,21.0s							
ERM	**Erimo**	**68.56**	**336**⇑	*e*P	**P**	**08 24 48.2**	**+0.5**
ERM				pmax	pmax			
	comp=Z,39nm,1.3s							
QSPA	**South Pole Qui**	**69.19**	**180**	*e*P	**P**	**08 24 52.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**69.36**	**339**	*e*P	P	08 24 46.6	-6.0
YUK				*e*		08 27 27.4		
YUK				*e*PPP	PPP	08 29 05.9		
YUK				*e*S	**S**	**08 33 59.5**	**+0.2**
YUK				*e*SS	**SS**	**08 38 30.9**	**+4.0**
YUK				pmax	pmax			
	comp=Z,133nm,1.3s							
YUK				pmax	pmax			
	comp=Z,173nm,3.0s							
KUR	**Kuril'sk**	**69.80**	**341**	*e*P	**P**	**08 24 57.1**	**+1.8**
KUR				*i* S	**S**	**08 34 12.6**	**+8.3**
KUR				pmax	pmax			
	comp=Z,164nm,1.8s							
KUR				pmax	pmax			
	comp=Z,2µm,5.9s							
KUR				MLR	MLR			
	comp=Z,1µm,16.0s							
KUR				MLR	MLR			
	comp=N,1µm,18.0s							
KUR				MLR	MLR			
	comp=E,324nm,15.0s							
QZH	**Quanzhou**	**70.12**	**308**⇑	*i*P	**P**	**08 24 57.4**	**-0.3**
QZH				S	**S**	**08 34 11.0**	**+2.1**
QZH				pmax	pmax			
	comp=E,770nm,4.1s							
QZH				LR	LR			
	comp=E,1µm,15.7s							
QZH				LR	LR			
	comp=E,2µm,21.8s							
QZH				LR	LR			
	comp=E,3µm,21.8s							
ASAJ	**Asahikawa**	**70.58**	**337**	P	**P**	**08 24 58.8**	**-1.4**
	comp=E,9.0nm,0.8s,baz=104,slow=8.3,SNR=3.2							
TJN	**Taejon**	**71.68**	**322**⇑	*e*P	**P**	**08 25 03.7**	**-3.3**
SSE	**Sheshan**	**72.00**	**314**	P	**P**	**08 25 10.0**	**+0.9**
SSE				S	**S**	**08 34 31.8**	**+1.2**
SSE				pmax	pmax			
	comp=E,24nm,0.7s							
SSE				pmax	pmax			
	comp=E,220nm,3.7s							
SSE				LR	LR			
	comp=E,610nm,17.3s							
SSE				LR	LR			
	comp=E,1µm,18.4s							
HKC	**Hong Kong Obse**	**72.01**	**303**	⇑P	**P**	**08 25 11.0**	**+1.7**
KSRS	**Korea Array**	**72.13**	**323**	P	**P**	**08 25 10.4**	**+0.8**
	comp=E,6.1nm,0.9s,baz=144,slow=5.9,SNR=13							
KSRS				LR	LR	08 53 36.3		
	comp=E,2µm,21.6s,baz=130,slow=33							
KSAR	**Wonju Array Be**	**72.14**	**323**	P	**P**	**08 25 10.4**	**+0.7**
KSAR	**Wonju Array Be**	**72.14**	**323**	P	**P**	**08 25 10.4**	**+0.7**
KS01	**Wonju Array Si**	**72.16**	**323**	*e*P	**P**	**08 25 09.3**	**-0.5**
SKR	**Severo-Kuril's**	**72.86**	**349**	*e*P	**P**	**08 25 16.6**	**+2.9**
SKR				*e*		08 28 01.2		
SKR				*e*S	**SKiKP**	**08 34 45.8**	**-1.4**
SKR				*e*		08 35 12.5		
SKR				MLR	MLR			
	comp=Z,3µm,17.0s							
SKR				MLR	MLR			
	comp=Z,4µm,15.0s							
ADK	**Adak**	**72.95**	**6**	PFAKE		08 25 30.0	+16
ADK				LR	LR			
	comp=Z,10µm,22.0s							
YSS	**Yuzh-Sakhalins**	**72.97**	**339**	*e*P	**P**	**08 25 13.9**	**-0.6**
YSS	**Yuzh-Sakhalins**	**72.97**	**339***c*	*e*P	**P**	**08 25 15.7**	**+1.2**
YSS				*e*		08 25 23.6		
YSS				*e*		08 27 54.7		
YSS				*e*PPP	PPP	08 29 35.8		
YSS				*e*S	**S**	**08 34 43.3**	**+2.3**
YSS				pmax	pmax			
	comp=Z,50nm,1.0s							
YSS				pmax	pmax			
	comp=Z,1µm,4.8s							
YSS				pmax	pmax			
	comp=N,400nm,5.0s							
YSS				pmax	pmax			
	comp=E,300nm,4.0s							
YSS				smax	smax			
	comp=N,1µm,10.6s							
YSS				smax	smax			
	comp=E,2µm,12.0s							
GZH	**Guangzhou**	**73.08**	**303**	P	**P**	**08 25 15.1**	**-0.5**
GZH				S	**S**	**08 34 44.4**	**+1.2**
GZH				ScS	**ScS**	**08 35 23.5**	**-0.5**
GZH				LR	LR			
	comp=E,2µm,20.4s							
GZH				LR	LR			
	comp=E,4µm,21.0s							
COCO	**West Island**	**73.39**	**263**	PFAKE		08 25 30.0	+12
COCO				LR	LR			
	comp=Z,14µm,21.0s							
QIZ	**Qiongzhong**	**73.83**	**298**	P	**P**	**08 25 20.1**	**-0.1**
QIZ				S	**S**	**08 34 52.9**	**+1.0**
QIZ				pmax	pmax			
	comp=Z,13nm,1.1s							
QIZ				pmax	pmax			
	comp=Z,460nm,3.9s							
QIZ				LR	LR			
	comp=Z,2µm,28.0s							
QIZ				LR	LR			
	comp=Z,1µm,19.0s							
QIZ				LR	LR			
	comp=Z,4µm,25.3s							
NJ2	**Nanjing**	**74.16**	**314**	*e*P	**P**	**08 25 22.0**	**+0.2**
NJ2				pP	**sP**	**08 25 26.8**	**+1.2**
NJ2				S	**S**	**08 34 56.6**	**+1.5**
NJ2				pmax	pmax			
	comp=Z,33nm,1.2s							
NJ2				pmax	pmax			
	comp=Z,710nm,5.9s							
NJ2				LR	LR			
	comp=Z,3µm,24.9s							
NJ2				LR	LR			
	comp=Z,3µm,15.4s							
NJ2				LR	LR			
	comp=Z,3µm,20.1s							
MSHR	**Mys Shultsa**	**74.21**	**329**⇑	*i*P	**P**	**08 25 22.1**	**+0.3**
VLA	**Vladivostok**	**74.27**	**330**⇓	*e*P	**P**	**08 25 22.0**	**-0.2**
VLA				pmax	pmax			
	comp=Z,13nm,0.9s							
PET	**Petropavlovsk**	**74.70**	**351**	*e*P	**P**	**08 25 25.7**	**+1.3**
PET				*e*S	**S**	**08 35 00.1**	**-0.1**
PET				*e*PS	**PnS**	**08 35 34.7**	**-0.4**
PET				pmax	pmax			
	comp=Z,69nm,1.7s							
PET				MLR	MLR			
	comp=Z,4µm,14.0s							
PET				MLR	MLR			
	comp=Z,4µm,20.0s							
PEA0B	**Petropavlovsk-**	**74.93**	**350**	*e*P	**P**	**08 25 27.2**	**+1.4**
PEA0B	**Petropavlovsk-**	**74.93**	**350**	*e*P	**P**	**08 25 27.2**	**+1.4**
PETK	**Petropavlovsk-**	**74.93**	**350**	*e*P	**P**	**08 25 26.1**	**+0.3**
PETK	**Petropavlovsk-**	**74.93**	**350**	P	**P**	**08 25 26.4**	**+0.6**
	comp=Z,32nm,1.1s,baz=128,slow=6.6,SNR=14							
PETK				LR	LR	08 53 30.2		
	comp=Z,7µm,20.2s,baz=150,slow=32							
USA0B	**Ussuriysk Arra**	**75.05**	**330**	*e*P	**P**	**08 25 27.5**	**+0.8**
USA0B	**Ussuriysk Arra**	**75.05**	**330**	*e*P	**P**	**08 25 27.5**	**+0.8**
USRK	**Ussuriysk Ar.**	**75.05**	**330**	P	**P**	**08 25 27.4**	**+0.7**
	comp=Z,11nm,0.9s,baz=147,slow=4.5,SNR=18							
USRK				LR	LR	08 54 21.8		
	comp=Z,4µm,20.6s,baz=134,slow=32							
MNSI	**Mandailing Nat**	**75.24**	**277**	P	**P**	**08 25 28.9**	**+0.4**
WHN	**Wuhan**	**76.40**	**310**	⇓P	**P**	**08 25 34.9**	**+0.2**
WHN				S	**S**	**08 35 22.1**	**+2.1**
WHN				LR	LR			
	comp=Z,3µm,16.0s							
WHN				LR	LR			
	comp=Z,6µm,19.5s							
WHN				LR	LR			
	comp=Z,10µm,21.4s							
TYV	**Tymovskoe**	**76.40**	**340**	*e*P	**P**	**08 25 35.0**	**+0.7**
TYV				*e*S	**S**	**08 35 23.8**	**+4.6**
TYV				pmax	pmax			
	comp=Z,20nm,1.1s							
TYV				pmax	pmax			
	comp=Z,600nm,5.5s							
TYV				smax	smax			
	comp=E,900nm,6.9s							
MDJ	**Mudanjiang**	**76.49**	**329**	P	**P**	**08 25 35.8**	**+0.9**
MDJ				pP	sP	08 25 38.6	-0.2
MDJ				sP	pwP	08 25 39.9	-2.0
MDJ				PcP	**PcP**	**08 25 46.8**	**+0.3**
MDJ				PP	**PP**	**08 28 27.8**	**+0.6**
MDJ				S	**S**	**08 35 23.3**	**+2.9**
MDJ				sS	sS	08 35 28.4	+3.3
MDJ				pmax	pmax			
	comp=E,30nm,1.2s							
MDJ				pmax	pmax			
	comp=E,800nm,4.0s							
MDJ				LR	LR			
	comp=E,3µm,25.5s							
MDJ				LR	LR			
	comp=E,4µm,24.3s							
MDJ				LR	LR			
	comp=E,4µm,20.7s							
MDJ	**Mudanjiang**	**76.49**	**329**	*e*P	**P**	**08 25 35.1**	**+0.1**
	comp=E,52nm,1.3s							
MDJ				LR	LR			
	comp=Z,3µm,21.0s							
PSI	**Prapat**	**76.59**	**278**	P	**P**	**08 25 34.4**	**-2.0**
	comp=Z,37nm,1.0s,baz=180,slow=4.3,SNR=25							
SKLT	**Songkhla**	**76.70**	**283**	P	**P**	**08 25 37.8**	**+1.0**
DL2	**Dalian**	**76.74**	**321**	P	P	08 25 30.8	-5.6
DL2				sP	pwP	08 25 45.3	+1.9
DL2				*e*S	S	08 35 13.4	-10
DL2				sS	pS	08 35 26.3	-0.7
DL2				pmax	pmax			
	comp=Z,88nm,1.4s							
DL2				pmax	pmax			
	comp=Z,950nm,3.7s							
DL2				LR	LR			
	comp=N,2µm,18.8s							
DL2				LR	LR			
	comp=E,1µm,23.9s							
DL2				LR	LR			
	comp=Z,3µm,29.1s							
PANO	**Nakornpanom**	**77.35**	**294**	P	**P**	**08 25 41.1**	**+0.7**
SNY	**Shenyang**	**77.58**	**324**	⇓P	**P**	**08 25 42.6**	**+1.5**
SNY				S	**S**	**08 35 36.0**	**+3.6**
SNY				pmax	pmax			
	comp=Z,33nm,2.0s							
SNY				pmax	pmax			
	comp=Z,670nm,4.5s							
SNY				LR	LR			
	comp=Z,3µm,18.6s							
SNY				LR	LR			
	comp=Z,2µm,20.6s							
SNY				LR	LR			
	comp=Z,5µm,24.0s							
TRTT	**Trang**	**77.81**	**283**	P	**P**	**08 25 43.7**	**+0.6**
SKNT	**Sakolnakorn**	**77.81**	**294**	P	**P**	**08 25 43.2**	**+0.2**
TIA	**Tai'an**	**77.82**	**316**	P	**P**	**08 25 42.6**	**0.0**
TIA				S	**S**	**08 35 37.3**	**+2.0**
TIA				pmax	pmax			
	comp=Z,22nm,1.2s							
TIA				pmax	pmax			
	comp=Z,240nm,5.1s							
TIA				LR	LR			
	comp=Z,920nm,26.0s							
TIA				LR	LR			
	comp=Z,990nm,24.0s							
TIA				LR	LR			
	comp=Z,2µm,22.6s							
CN2	**Changchun**	**77.95**	**327**	*e*P	**P**	**08 25 43.8**	**+0.6**
CN2				*e*pP	sP	08 25 48.3	+1.3
CN2				*e*S	**S**	**08 35 36.6**	**+0.2**
CN2				pmax	pmax			
	comp=Z,40nm,1.5s							
CN2				pmax	pmax			
	comp=Z,700nm,4.0s							
CN2				LR	LR			
	comp=Z,2µm,18.0s							
CN2				LR	LR			
	comp=Z,2µm,18.0s							
CN2				LR	LR			
	comp=Z,2µm,22.0s							
SRAK	**Srakaew**	**78.22**	**290**	P	**P**	**08 25 45.8**	**+0.5**
MAW	**Mawson**	**78.40**	**201**	LR	LR	08 56 23.5		
	comp=Z,2µm,20.1s,baz=100,slow=33							
GRNR	**Gornyy**	**78.44**	**337**	*e*P	**P**	**08 25 47.2**	**+1.5**
GRNR				pmax	pmax			
	comp=Z,26nm,1.0s							
KHON	**Khomkaen**	**78.53**	**292**	P	**P**	**08 25 48.8**	**+1.8**
NKL	**Nikolayevsk**	**79.00**	**341**	*e*P	**P**	**08 25 48.0**	**-0.7**
NKL				*e*S	**S**	**08 35 53.0**	**+5.9**
NKL				pmax	pmax			
	comp=Z,1µm,5.0s							
NKL				pmax	pmax			
	comp=Z,26nm,1.0s							
NKL				smax	smax			
	comp=E,3µm,11.0s							
NONG	**Nongkai**	**79.01**	**294**	P	**P**	**08 25 50.5**	**+0.9**
KLR	**Kul'dur**	**79.03**	**334***c*	*i*P	**P**	**08 25 49.4**	**+0.4**
KLR	**Kul'dur**	**79.03**	**334**	P	**P**	**08 25 49.8**	**+0.8**
	comp=E,4.8nm,0.8s,baz=112,slow=6.0,SNR=11							
PKDT	**Phuket**	**79.07**	**283**	P	P	08 25 58.8	+8.8
CHAI	**Chaiyaphum**	**79.07**	**292**	P	**P**	**08 25 51.2**	**+1.2**
ENH	**Enshi**	**79.78**	**308**	*e*P	**P**	**08 25 53.1**	**-0.5**
	comp=E,342nm,1.6s							
ENH				LR	LR			
	comp=Z,3µm,22.0s							
GYA	**Guiyang**	**80.01**	**303**⇑	*i*P	**P**	**08 25 54.3**	**-0.7**
GYA				PP	**PP**	**08 29 00.4**	**+3.2**
GYA				S	**S**	**08 35 59.3**	**-0.1**
GYA				SKS	**SKSac**	**08 36 09.0**	**-3.7**
GYA				pmax	pmax			
	comp=Z,30nm,0.3s							
GYA				pmax	pmax			
	comp=Z,320nm,6.6s							
GYA				LR	LR			
	comp=Z,1µm,16.7s							
GYA				LR	LR			
	comp=Z,2µm,20.0s							
GYA				LR	LR			
	comp=Z,3µm,21.2s							
PBKT	**Sadao Pong**	**80.24**	**292**	P	**P**	**08 25 57.5**	**+1.2**
BJT	**Baijiatuau**	**80.72**	**319**	*e*P	**P**	**08 25 59.1**	**+0.7**
	comp=Z,267nm,1.9s							
BJT				LR	LR			
	comp=Z,3µm,22.0s							
BJT	**Baijiatuau**	**80.72**	**319**	*e*P	**P**	**08 25 59.1**	**+0.7**
BJT				pmax	pmax			
	comp=Z,267nm,1.9s							
BJT				MLR	MLR			
	comp=Z,3µm,22.0s							
BJI	**Beijing**	**80.73**	**319**	P	**P**	**08 25 59.3**	**+0.9**
BJI				S	**S**	**08 36 10.5**	**+4.5**
BJI				pmax	pmax			
	comp=Z,42nm,2.1s							
BJI				LR	LR			
	comp=Z,1µm,21.6s							
BJI				LR	LR			
	comp=Z,2µm,21.6s							
BJI				LR	LR			
	comp=Z,2µm,23.0s							
SRDT	**SRDT**	**80.94**	**289**	P	**P**	**08 26 01.7**	**+1.6**
UTTA	**Uttaradit**	**81.10**	**293**	P	**P**	**08 26 02.6**	**+1.8**
UTHA	**Uthaitani**	**81.15**	**290**	P	**P**	**08 26 02.7**	**+1.5**
TIY	**Taiyuan**	**81.74**	**315**	*e*P	**P**	**08 26 05.8**	**+1.8**
TIY				S	**S**	**08 36 17.0**	**+0.1**
TIY				SKS	**SKSac**	**08 36 20.4**	**-3.6**
TIY				pmax	pmax			
	comp=Z,96nm,1.3s							
TIY				pmax	pmax			
	comp=Z,640nm,5.4s							
TIY				LR	LR			
	comp=Z,1µm,13.2s							
TIY				LR	LR			
	comp=Z,2µm,20.9s							
TIY				LR	LR			
	comp=Z,4µm,23.3s							
SUKH	**Sukhothai**	**81.78**	**292**	P	**P**	**08 26 07.1**	**+2.6**
UMPA	**Umpang Tak**	**81.92**	**291**	P	**P**	**08 26 07.5**	**+2.2**
XAN	**Xi'an**	**82.15**	**311**	P	**P**	**08 26 06.3**	**+0.1**
XAN				pP	PcP	08 26 11.5	-0.1
XAN				S	**S**	**08 36 24.6**	**+3.4**
XAN				pmax	pmax			
	comp=Z,20nm,1.0s							
XAN				pmax	pmax			
	comp=Z,720nm,4.4s							
XAN				LR	LR			
	comp=Z,1µm,19.0s							
XAN				LR	LR			
	comp=Z,1µm,17.9s							
XAN				LR	LR			
	comp=Z,3µm,26.0s							
XAN	**Xi'an**	**82.15**	**311**	*e*P	**P**	**08 26 06.1**	**-0.1**
	comp=Z,450nm,1.3s							
XAN	**Xi'an**	**82.15**	**311**	*e*P	**P**	**08 26 06.1**	**-0.1**
XAN				pmax	pmax			
	comp=Z,450nm,1.3s							
LAMP	**Lampang**	**82.22**	**293**	P	**P**	**08 26 08.5**	**+1.7**
KMI	**Kunming**	**82.50**	**300**	P	**P**	**08 26 08.6**	**+0.1**
KMI				pP	pwP	08 26 19.0	+3.6
KMI				S	**S**	**08 36 28.8**	**+3.2**
KMI				sS	ScS	08 36 39.1	-1.8
KMI				pmax	pmax			
	comp=Z,78nm,1.5s							
KMI				pmax	pmax			
	comp=Z,620nm,4.7s							
KMI				LR	LR			
	comp=Z,1µm,19.6s							
KMI				LR	LR			
	comp=Z,2µm,21.5s							
KMI				LR	LR			
	comp=Z,3µm,30.8s							
CM01	**Chiang Mai Arr**	**82.75**	**293**	*e*P	**P**	**08 26 09.7**	**+0.1**
CMBY	**CAMPBELL BAY**	**82.77**	**280**	*e*P	**P**	**08 26 06.2**	**-3.6**
CMBY				IAMs_20	IAMs_20	09 13 24.7		
	comp=Z,2µm,16.8s							
CMAR	**Chiang Mai Arr**	**82.78**	**293**	P	**P**	**08 26 10.8**	**+1.0**
	comp=Z,16nm,1.0s,baz=130,slow=3.9,SNR=51							
CMAR				LR	LR	09 01 01.1		
	comp=Z,468nm,21.1s,baz=145,slow=34							
CMMT	**Chiang Mai**	**82.93**	**293**	P	**P**	**08 26 11.4**	**+0.9**
CHTO	**Chiang Mai**	**82.93**	**293**	*e*P	**P**	**08 26 11.3**	**+0.8**
	comp=Z,100nm,1.4s							
CHTO				LR	LR			
	comp=Z,2µm,21.0s							
CHTO	**Chiang Mai**	**82.93**	**293**	*e*P	**P**	**08 26 11.3**	**+0.8**
CHTO				pmax	pmax			
	comp=Z,100nm,1.4s							
CHTO				MLR	MLR			
	comp=Z,2µm,21.0s							
KDAK	**Kodiak Island**	**83.31**	**18**	*e*P	**P**	**08 26 11.9**	**+0.4**
KDAK				LR	LR			
	comp=Z,2µm,20.0s							
KDAK	**Kodiak Island**	**83.31**	**18**	*e*P	**P**	**08 26 11.9**	**+0.4**
KDAK				MLR	MLR			
	comp=Z,2µm,20.0s							
KDAK	**Kodiak Island**	**83.31**	**18**	P	**P**	**08 26 11.3**	**-0.3**
	comp=Z,11nm,0.9s,baz=238,slow=9.5,SNR=3.5							
SNCC	**San Nicolas Is**	**83.53**	**51**	P	**P**	**08 26 13.3**	**0.0**
	baz=240							
SCZ2	**Santa Cruz Isl**	**83.82**	**50**	P	**P**	**08 26 13.3**	**-1.5**
	baz=240							
SBC	**Santa Barbara**	**83.99**	**50**	P	**P**	**08 26 14.8**	**-0.8**
	baz=240							
HHC	**Hu-ho-hao-te**	**84.06**	**318**	*e*P	**P**	**08 26 16.4**	**+0.4**
HHC				sP	pwP	08 26 27.9	+4.9
HHC				S	**S**	**08 36 41.8**	**+1.4**
HHC				sS	ScS	08 36 49.4	-3.4
HHC				pmax	pmax			
	comp=Z,49nm,0.9s							
HHC				pmax	pmax			
	comp=Z,660nm,4.0s							
HHC				LR	LR			
	comp=Z,2µm,22.5s							
HHC				LR	LR			
	comp=Z,2µm,22.3s							
HHC				LR	LR			
	comp=Z,5µm,22.1s							
SCI2	**San Clemente I**	**84.11**	**52**	P	**P**	**08 26 13.8**	**-2.5**
	baz=241							
PKM	**Mcpherson Peak**	**84.14**	**49**	P	**P**	**08 26 14.0**	**-2.6**
	baz=240							
SMMC	**Simmler**	**84.23**	**49**	P	**P**	**08 26 15.5**	**-1.4**
	baz=240							
ZEA	**Zeya**	**84.28**	**334**	*e*P	**P**	**08 26 17.0**	**+0.4**
ZEA				*e*S	**S**	**08 36 47.0**	**+5.1**
ZEA				*e*PS		08 37 36.0		
ZEA				pmax	pmax			
	comp=Z,80nm,1.8s							
ZEA				pmax	pmax			
	comp=Z,400nm,8.0s							
ZEA				pmax	pmax			
	comp=Z,800nm,9.0s							
ZEA				smax	smax			
	comp=E,2µm,14.0s							
BLG	**Laguna Peak, P**	**84.29**	**50**	P	**P**	**08 26 16.2**	**-1.0**
	baz=240							
KMRM	**Mail Ridge**	**84.31**	**43**	*e*P	**P**	**08 26 18.7**	**+1.5**
CD2	**Chengdu**	**84.38**	**306**⇑	P	**P**	**08 26 17.4**	**-0.4**
CD2				sP	pwP	08 26 24.0	-0.8
CD2				PP	**PP**	**08 29 37.1**	**+4.0**
CD2				S	**S**	**08 36 46.5**	**+2.5**
CD2				sS	ScS	08 36 55.0	-0.8
CD2				pmax	pmax			
	comp=E,50nm,0.7s							
CD2				pmax	pmax			
	comp=E,1µm,4.5s							
CD2				LR	LR			
	comp=E,5µm,23.5s							
CD2				LR	LR			
	comp=E,5µm,20.6s							
CD2				LR	LR			
	comp=E,6µm,21.6s							
CIS	**Catalina Islan**	**84.42**	**51**	P	**P**	**08 26 17.5**	**-0.3**
	baz=241							
HIA	**Hailar**	**84.55**	**328**	PFAKE		08 26 30.0	+12
HIA				LR	LR			
	comp=Z,2µm,20.0s							
HIA	**Hailar**	**84.55**	**328**⇓	*i*P	**P**	**08 26 17.9**	**-0.3**
HIA				pmax	pmax			
	comp=Z,9.0nm,1.2s							
OSI	**Osito Audit: C**	**84.79**	**50**	*e*P	**P**	**08 26 20.3**	**+0.6**
OSI	**Osito Audit: C**	**84.79**	**50**	P	**P**	**08 26 19.4**	**-0.3**
	baz=240							
O02D	**Mt. Diablo Mer**	**84.88**	**44**	P	**P**	**08 26 20.7**	**+0.6**
	baz=237,SNR=9.7							
DECC	**Green Verdugo**	**84.89**	**51**	P	**P**	**08 26 19.6**	**-0.7**
	baz=241							
BTO	**Baotou**	**84.90**	**317**	*e*P	**P**	**08 26 18.8**	**-1.5**
ARVC	**Arvin**	**84.96**	**50**	P	**P**	**08 26 20.0**	**-0.6**
	baz=240							
MWC	**Mount Wilson**	**85.07**	**51**	*e*P	**P**	**08 26 21.2**	**-0.2**

MWC Mount Wilson 85.07 51 eP P 08 26 21.2 -0.2
109C Camp Elliot, M 85.13 52 P P 08 26 20.3 -1.1
baz=242
CPE Camp Elliot 85.13 52 eP P 08 26 22.0 +0.6
VES Vestal, Richgr 85.14 49 P P 08 26 21.0 -0.3
baz=240,SNR=10
GAMB Gambell 85.16 7 eP P 08 26 21.3 +0.5
SEY Seymchan 85.17 350 ⇓iP P 08 26 20.4 -0.5
SEY Seymchan 85.17 350 P P 08 26 20.8 0.0
comp=Z,12nm,1.0s,baz=156,slow=5.5,SNR=19
VOG Valley Oaks Go 85.17 48 P P 08 26 21.0 -0.5
baz=240
WDC Whiskeytown Da 85.26 43 eP P 08 26 22.3 +0.4
WDC Whiskeytown Da 85.26 43 eP P 08 26 22.3 +0.4
CMB Columbia Colle 85.34 46 eP P 08 26 22.6 +0.1
CMB Columbia Colle 85.34 46 eP P 08 26 22.6 +0.1
BAR Barrett 85.35 53 eP P 08 26 22.6 0.0
N02D Trinity Center 85.36 43 P P 08 26 22.9 +0.4
baz=237,SNR=22
BFSC Mount Baldy Ra 85.37 51 P P 08 26 22.3 -0.5
baz=241,SNR=11
ORV Oroville 85.39 45 eP P 08 26 22.7 +0.1
ORV Oroville 85.39 45 eP P 08 26 22.7 +0.1
MURC Murrieta 85.40 52 P P 08 26 22.7 -0.1
baz=241
SVW2 Sparrevohn 85.41 15 eP P 08 26 21.4 -0.7
AFDM Forest Hills D 85.42 45 eP P 08 26 22.9 +0.1
EDW2 Edwards Air Fo 85.44 50 P P 08 26 22.8 -0.2
baz=241,SNR=17
L02E Cave Junction 85.44 42 P P 08 26 21.6 -1.2
baz=237
BRLK Bradley Lake 85.47 17 eP P 08 26 23.3 +0.8
ISA Isabella, Lake 85.48 49 eP P 08 26 22.7 -0.5
ISA Isabella, Lake 85.48 49 eP P 08 26 22.7 -0.5
ISA Isabella, Lake 85.48 49 P P 08 26 23.2 0.0
baz=240,SNR=20
M02C Callahan 85.50 43 P P 08 26 23.5 +0.4
baz=237,SNR=18
O03E Paynes Creek 85.58 44 P P 08 26 23.2 -0.4
baz=238,SNR=21
PBA Port Blair 85.60 284 eP P 08 26 22.4 -1.7
PBA IAmb IAmb 08 26 30.0
comp=Z,246nm,2.0s
PBA IAMs_20 IAMs_20 09 02 25.3
comp=Z,4µm,19.8s
MONP2 Monument Peak 85.64 53 P P 08 26 24.2 0.0
baz=242,SNR=7.8
K02D Willamette Mer 85.70 41 P P 08 26 23.5 -0.7
baz=237
IKP In-Ko-Pah, Jac 85.76 53 P P 08 26 24.7 0.0
baz=242,SNR=8.7
YBH Yreka Blue Hor 85.77 42 P P 08 26 25.1 +0.6
comp=Z,6.7nm,0.9s,baz=173,slow=4.8,SNR=9.5
J01E Myrtle Point 85.79 41 P P 08 26 24.0 -0.4
baz=236
BBRC Big Bear Solar 85.92 51 P P 08 26 25.1 -0.5
baz=242
PFO Pinyon Flats O 85.95 52 eP P 08 26 25.9 +0.3
PFO LR LR
comp=Z,6µm,21.0s
PFO Pinyon Flats O 85.95 52 eP P 08 26 25.9 +0.3
PFO MLR MLR
comp=Z,6µm,21.0s
PFO Pinyon Flats O 85.95 52 P P 08 26 24.9 -0.7
baz=242
PFO Pinyon Flats O 85.95 52 P P 08 26 25.4 -0.3
comp=Z,1.2nm,0.7s,baz=221,slow=6.7,SNR=5.1
XPFO Pion Flat 85.95 52 eP P 08 26 25.9 +0.3
LRMC Laurel Mtn Rad 85.95 50 P P 08 26 25.5 -0.1
baz=241
DGPR DIGLIPUR 86.00 286 eP P 08 26 24.7 -1.4
RUBR Rubicon Trail 86.02 46 eP P 08 26 29.5 +3.5
MDPB Devils Postpil 86.03 47 eP P 08 26 26.7 +0.5
HUMO Hull Mountain 86.09 42 eP P 08 26 26.7 +0.7
SWSC Sam W. Stewart 86.12 53 P P 08 26 26.0 -0.4
baz=242,SNR=9.2
CWC Cottonwood Cre 86.14 49 P P 08 26 26.1 -0.5
baz=241
RRX Edison Barstow 86.16 51 P P 08 26 26.0 -0.6
baz=242
WAKR Walker 86.23 46 eP P 08 26 27.6 +0.6
L04D Klamath Falls 86.29 42 P P 08 26 27.0 -0.2
baz=238,SNR=8.4
BEKR Beckworth 86.30 45 eP P 08 26 27.5 +0.2
TIN Tinemaha, Big 86.33 48 P P 08 26 27.4 0.0
baz=241
M04C Macdoel 86.35 43 P P 08 26 27.3 -0.1
baz=238,SNR=6.9
I02D Swisshome 86.37 40 P P 08 26 26.9 -0.4
baz=236
MPMC Manual Prospec 86.37 49 P P 08 26 27.5 -0.3
baz=241,SNR=11
DAC Darwin (Calif) 86.40 49 eP P 08 26 30.1 +2.2
PNTR Pine Nut 86.41 46 eP P 08 26 28.4 +0.4
I03D Drain, OR 86.44 40 P P 08 26 27.4 -0.2
baz=237,SNR=7.0
BELC Belle Mtn. Jos 86.47 52 P P 08 26 28.2 -0.1
baz=242,SNR=15
VCNR Virginia City 86.48 46 eP P 08 26 28.7 +0.4
GSC Goldstone, Bar 86.50 50 eP P 08 26 28.4 +0.1
GSC Goldstone, Bar 86.50 50 eP P 08 26 28.4 +0.1
GSC Goldstone, Bar 86.50 50 P P 08 26 27.9 -0.3
baz=242,SNR=13
YERR Yerington 86.60 46 eP P 08 26 29.1 +0.2
HEC Hector,Ludlow 86.61 51 P P 08 26 28.4 -0.5
baz=242,SNR=8.9
BC3 Big Chuckawall 86.71 52 P P 08 26 29.4 0.0
baz=242,SNR=16
LZH Lanzhou 86.78 310 eP P 08 26 30.8 +1.1
LZH pP sP 08 26 34.4 +0.8
LZH sP pwP 08 26 36.4 -0.3
LZH PP PP 08 29 54.1 +1.5
LZH S S 08 37 09.6 +2.0
LZH sS ScS 08 37 15.4 -0.1
LZH SS SS 08 42 48.0 -1.9
LZH pmax pmax
comp=Z,130nm,1.2s
LZH pmax pmax
comp=Z,1µm,4.8s
LZH LR LR
comp=Z,2µm,16.1s
LZH LR LR
comp=Z,2µm,15.8s
LZH LR LR
comp=Z,3µm,16.8s
K04D Chiloquin, OR 86.85 42 P P 08 26 29.5 -0.3
baz=238
PAHR Pah Rah Range 86.87 45 eP P 08 26 29.7 -0.4
GLA Glamis 86.90 53 eP P 08 26 31.7 +1.4
GLA Glamis 86.90 53 P P 08 26 30.5 +0.2
baz=243
RYN Ryan 86.91 47 eP P 08 26 26.2 -4.2
GRAC Grapevine Rang 86.91 49 P P 08 26 29.9 -0.3
baz=241
J04D Umpqua Nationa 86.95 41 P P 08 26 30.6 +0.1
baz=238,SNR=11
COR Corvallis 86.96 40 eP P 08 26 30.8 +0.6
COR Corvallis 86.96 40 eP P 08 26 30.8 +0.6
NVAR Mina Array Bea 86.96 47 P P 08 26 30.6 -0.1
comp=Z,8.4nm,1.1s,baz=228,slow=8.1,SNR=26
NVAR LR LR 08 57 38.4
comp=Z,7µm,20.4s,baz=244,slow=30
FURC Furnace Creek, 87.01 49 P P 08 26 30.5 -0.1
baz=242,SNR=8.1
NV11 Mina Array Sit 87.06 47 eP P 08 26 28.4 -2.7
I04A Tendick Farm, 87.07 41 P P 08 26 30.3 -0.5
baz=238,SNR=8.3
GMRC Granite Mounta 87.08 51 P P 08 26 31.0 -0.2
baz=242
SHOC Shoshone, Teco 87.16 50 P P 08 26 31.0 -0.5
baz=242,SNR=8.4
IRM Iron Mountain 87.17 52 P P 08 26 31.7 +0.2
baz=243,SNR=23
TUQ Turquoise Moun 87.19 50 P P 08 26 31.6 -0.2
baz=242,SNR=9.4
H04D Lebanon 87.26 40 P P 08 26 31.5 -0.1
baz=237,SNR=8.5
G03D McMinnville, O 87.32 39 P P 08 26 32.1 +0.1
baz=237
MOD Modoc Plateau 87.39 43 eP P 08 26 32.5 0.0
KVN Kaiserville 87.41 46 eP P 08 26 32.9 +0.1
K05A Summer Lake 87.44 42 eP P 08 26 33.5 +0.6
Y12C Blythe 87.44 52 eP P 08 26 33.4 +0.6
Y12C Blythe 87.44 52 P P 08 26 32.8 0.0
baz=243
J05D Fort Rock, OR 87.52 42 P P 08 26 33.2 0.0
baz=238,SNR=22
LDFC Landfair 87.62 51 eP P 08 26 34.4 +0.6
SNAA Sanae 87.67 181 P P 08 26 32.5 -0.9
SNAA Sanae 87.67 181 eP P 08 26 32.3 -1.1
SNAA Sanae 87.67 181 eP P 08 26 32.3 -1.1
TPNV Topopah Spring 87.67 49 eP P 08 26 34.4 +0.3
TPNV Topopah Spring 87.67 49 P P 08 26 33.7 -0.3
baz=242,SNR=18
GHO Glory Hole Cre 87.67 17 eP P 08 26 33.6 +0.3
H04A Detroit Lake 87.68 40 eP P 08 26 33.4 -0.4
NEE2 Needles Airpor 87.83 52 P P 08 26 34.7 +0.1
baz=243
214A Organ Pipe Nat 87.93 55 P P 08 26 34.9 -0.3
baz=244
F04D Rainier, OR 87.95 39 P P 08 26 35.0 +0.1
baz=237
PINE Pine Mountain 87.97 41 eP P 08 26 35.9 +0.6
PDMCI Parker Dam,Lak 87.97 52 P P 08 26 35.6 +0.3
baz=243
I05D Terrebonne, OR 88.01 41 P P 08 26 35.2 -0.1
baz=238,SNR=8.6
VNA3 Neumayer Olymp 88.11 179 P P 08 26 35.4 -0.1
HSIG 88.12 58 eP P 08 26 36.6 +0.4
NLWA Neilton Lookou 88.18 37 eP P 08 26 36.3 +0.3
SHPR Sheep Range 88.24 50 eP P 08 26 37.2 +0.5
VNA2 Neumayer--Watz 88.45 180 P P 08 26 35.4 -1.6
baz=169,slow=3.7
E04D Cinebar 88.47 38 P P 08 26 37.7 +0.4
baz=237
G05D Wamic, OR 88.50 40 P P 08 26 37.2 -0.4
baz=238
W13A Hualapai Mount 88.52 52 eP P 08 26 38.7 +0.5
D04E Lakebay 88.69 38 P P 08 26 39.0 +0.6
baz=237
D03D Eldon 88.70 37 P P 08 26 38.4 -0.1
baz=237
TRF Thorofare Moun 88.71 15 eP P 08 26 38.5 +0.2
VNA1 Neumayer--Stat 88.72 179 P P 08 26 35.7 -2.6
WVOR Wild Horse Val 88.72 43 eP P 08 26 39.2 +0.4
F05D White Salmon 88.75 39 P P 08 26 38.1 -0.6
baz=238
R11A Troy Canyon, C 88.80 48 eP P 08 26 38.8 -0.6
R11A Troy Canyon, C 88.80 48 P P 08 26 38.8 -0.6
baz=242,SNR=14
BILL Bilibino 88.81 357 eP P 08 26 38.2 -0.3
BILL LR LR
comp=Z,5µm,22.0s
BILL Bilibino 88.81 357 iP P 08 26 38.1 -0.3
BILL i 08 26 42.7
BILL iS SKSac 08 37 06.0 -1.3
BILL pmax pmax
comp=Z,9.0nm,1.3s
G06A Carlson Farm, 88.91 40 eP P 08 26 39.5 -0.1
I07A Izee 89.01 42 eP P 08 26 39.9 -0.3
LON Longmire 89.01 38 eP P 08 26 39.5 -0.5
LON Longmire 89.01 38 eP P 08 26 39.5 -0.5
RND Reindeer 89.04 16 eP P 08 26 38.1 -1.7
RND Reindeer 89.04 16 eP P 08 26 38.1 -1.7
PGC Sidney 89.11 36 eP P 08 26 40.6 +0.3
D05A Enumclaw 89.14 38 eP P 08 26 39.8 -0.8
J08A Circle Bar Ran 89.29 43 eP P 08 26 41.2 -0.3
A04D Lummi Island 89.56 36 P P 08 26 42.4 0.0
baz=237
PAX Paxson 89.60 17 eP P 08 26 41.6 -0.8
PAX Paxson 89.60 17 eP P 08 26 41.6 -0.8
TUC Tucson 89.64 55 eP P 08 26 43.0 -0.4
TUC Tucson 89.64 55 eP P 08 26 43.0 -0.4
TUC Tucson 89.64 55 P P 08 26 43.5 +0.2
baz=245
YAK Yakutsk 89.66 341 eP P 08 26 42.4 -0.1
YAK e*PP pwP 08 26 50.7 +1.1
YAK e 08 30 23.4
YAK eS SKSac 08 37 10.6 -1.9
YAK e*SS S 08 37 35.0 +1.6
YAK eSS SS 08 43 33.4 +3.0
YAK pmax pmax
comp=Z,67nm,1.3s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,27nm,1.5s
YAK pmax pmax
comp=Z,2µm,3.9s
YAK pmax pmax
comp=N,577nm,3.8s
YAK pmax pmax
comp=E,322nm,3.7s
YAK smax smax
comp=N,1µm,4.2s
YAK MLR MLR
comp=Z,14µm,21.0s
YAK MLR MLR
comp=N,5µm,21.0s
YAK MLR MLR
comp=E,8µm,21.0s
B05A Bryant 89.66 37 P P 08 26 43.0 +0.2
baz=238
F07A Phinny Hill Vi 89.67 40 eP P 08 26 43.4 +0.3
LCMT Little Creek M 89.84 50 eP P 08 26 44.8 +0.5
LTY Liberty 89.94 38 eP P 08 26 44.2 -0.2
G08A Pilot Rock 89.95 41 eP P 08 26 44.1 -0.5
CCUT Cedar City 90.00 50 eP P 08 26 45.5 +0.5
X16A Lo Mia Camp, P 90.03 53 eP P 08 26 46.0 +0.8
E07A Sunnyside 90.06 39 eP P 08 26 44.3 -0.5
MENT Mentasta 90.07 18 eP P 08 26 43.8 -0.8
IM3 Indian Mountai 90.08 13 eP P 08 26 44.8 +0.3
PSUT Pine Spring 90.09 48 eP P 08 26 45.9 +0.4
WRH Wood River Hil 90.11 16 eP P 08 26 42.8 -1.9
B06A Marblemount 90.14 37 eP P 08 26 45.1 0.0
KNAB Kanab 90.14 50 eP P 08 26 46.5 +0.7
ELK Elko 90.15 46 P P 08 26 45.6 -0.1
comp=E,9.7nm,1.0s,baz=249,slow=4.3,SNR=30
HAWA Hanford 90.16 40 eP P 08 26 45.8 +0.4
HAWA LR LR
comp=Z,4µm,20.0s
SZCU Shurtz Canyon 90.21 50 eP P 08 26 46.7 +0.7
CCB Clear Creek Bu 90.32 16 eP P 08 26 44.1 -1.6
HDA Harding Lake 90.35 16 eP P 08 26 44.7 -1.1
HDA Harding Lake 90.35 16 P P 08 26 43.9 -1.9
baz=217
RIDG Independ'e Rid 90.38 17 eP P 08 26 44.8 -1.2
MDM Murphy Dome 90.47 15 eP P 08 26 45.6 -0.7
TCOL CIGO, UAF Yank 90.49 15 P P 08 26 47.2 +0.8
baz=216
COLA College 90.50 15 eP P 08 26 46.1 -0.3
COLA LR LR
comp=Z,4µm,20.0s
E08A Dider Farm, El 90.50 40 eP P 08 26 47.0 +0.2
DOT Dot Lake 90.53 18 eP P 08 26 45.6 -1.1
WUAZ Wupatki 90.55 52 eP P 08 26 48.3 +0.6
WUAZ Wupatki 90.55 52 P P 08 26 47.7 0.0
baz=245
ULN Ulaanbaatar 90.56 322 eP P 08 26 47.2 -0.1
ULN Ulaanbaatar 90.56 322 ⇓iP P 08 26 47.1 -0.3
ULN pmax pmax
comp=Z,33nm,2.5s
IL1 Eielson Array 90.66 16 eP P 08 26 44.6 -2.6
ILAR Eielson Array 90.66 16 P P 08 26 45.1 -2.1
comp=Z,1.1nm,0.8s,baz=232,slow=4.1,SNR=14
ILAR LR LR 09 01 48.3
comp=Z,4µm,20.4s,baz=220,slow=32
ILB Eielson Array 90.66 16 eP P 08 26 45.3 -1.9
PKCU Pink Cliffs 90.70 50 eP P 08 26 49.9 +1.4
BMO Blue Mountains 90.75 42 eP P 08 26 47.4 -0.9
BMO LR LR
comp=Z,3µm,22.0s
BMO Blue Mountains 90.75 42 eP P 08 26 47.4 -0.9
BMO MLR MLR
comp=Z,3µm,22.0s
POKR Poker Plat Res 90.80 15 P P 08 26 48.0 +0.2
baz=216
SCRK Sand Creek 90.80 17 eP P 08 26 47.0 -1.1
D08A Wollman Farm, 90.86 39 eP P 08 26 48.8 +0.2
SONM Songino Array 90.92 322 P P 08 26 47.9 -1.1
comp=Z,5.3nm,1.0s,baz=138,slow=4.0,SNR=27
SONM LR LR 09 06 09.0
comp=Z,1µm,20.3s,baz=116,slow=35
LLLB Lillooet 91.03 35 eP P 08 26 49.4 0.0
MTPU Mount Pierson 91.05 50 eP P 08 26 51.5 +1.3
E09A Wood Farm, Sta 91.06 40 eP P 08 26 49.3 -0.2
TCRU Three Creeks R 91.11 49 eP P 08 26 51.4 +1.1
GTA Gaotai 91.14 312 ⇑P P 08 26 50.4 +0.2
GTA pP sP 08 26 54.6 +0.5
GTA sP pwP 08 26 57.8 +0.5
GTA S S 08 37 50.8 +2.4
GTA sS sS 08 37 59.8 +6.6
GTA SS SS 08 43 52.5 -0.7
GTA pmax pmax
comp=Z,26nm,1.0s
GTA pmax pmax
comp=Z,2µm,6.2s
GTA LR LR
comp=Z,650nm,21.3s
GTA LR LR
comp=Z,2µm,21.3s
GTA LR LR
comp=Z,3µm,21.3s
X18A Snowflake 91.19 53 eP P 08 26 51.3 +0.6
MSU Marysvale 91.26 49 eP P 08 26 52.0 +1.1
MSU Marysvale 91.26 49 eP P 08 26 52.0 +1.1
B08A Colville Reser 91.28 38 eP P 08 26 50.0 -0.6
F10A Beach Ranch, E 91.35 41 eP P 08 26 50.1 -0.8
DUG Dugway, Tooele 91.55 47 eP P 08 26 52.3 +0.1
DUG LR LR
comp=Z,6µm,20.0s
DUG Dugway, Tooele 91.55 47 eP P 08 26 52.3 +0.1
DUG MLR MLR
comp=Z,6µm,20.0s
DUG Dugway, Tooele 91.55 47 P P 08 26 51.6 -0.5
baz=244
W18A Petrified Fore 91.60 53 P P 08 26 52.1 -0.5
baz=246
PRP Porcupine Dome 91.60 16 eP P 08 26 51.5 -0.2
C09A Chrisman Ranch 91.61 39 eP P 08 26 52.0 -0.1
SHL Shillong 91.61 297 eP P 08 26 52.7 -0.1
SHL Shillong 91.61 297 eP P 08 26 50.0 -2.9
SHL IAmb IAmb 08 27 00.1
comp=Z,14µm,10.8s
DLBC Dease Lake 91.71 26 eP P 08 26 52.5 +0.1
DLBC Dease Lake 91.71 26 P P 08 26 52.8 +0.4
comp=Z,8.8nm,1.2s,baz=232,slow=19,SNR=4.1
BGU Big Grassy Mou 91.72 47 eP P 08 26 53.0 +0.1
NLU North Lily Min 91.95 48 eP P 08 26 54.5 +0.4
HLID Hailey 91.98 44 eP P 08 26 54.5 +0.3
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 91.98 44 P P 08 26 53.8 -0.3
baz=243
121A Cookes Peak, D 92.04 56 P P 08 26 54.1 -0.6
baz=247
Q16A Castle Valley 92.14 49 eP P 08 26 55.7 +0.7
DAWY Dawson 92.20 19 eP P 08 26 53.4 -1.1
EGAK Eagle 92.21 18 eP P 08 26 53.6 -0.8
EGAK LR LR
comp=Z,3µm,20.0s
HVU Hansel Valley 92.27 46 eP P 08 26 55.8 +0.3
TMUT Trail Mountain 92.28 49 eP P 08 26 56.5 +0.8
SPUT South Promonto 92.28 46 eP P 08 26 55.7 +0.2
MPU Maple Canyon 92.29 48 eP P 08 26 56.1 +0.5
CTU Camp Tracy 92.50 47 eP P 08 26 56.8 +0.2
NEW Newport 92.52 39 P P 08 26 55.6 -0.7
baz=241
NEW Newport 92.52 39 P P 08 26 55.7 -0.6
comp=Z,0.7nm,0.5s,baz=183,slow=5.7,SNR=3.6
BOD Bodaibo 92.57 333 eP P 08 26 53.0 -3.2
BOD pmax pmax
comp=Z,10.0nm,2.0s
ZAIG Zacatecas 92.62 67 eP P 08 26 58.6 +1.0
JLU Jordanelle 92.66 47 eP P 08 26 57.6 +0.2
P17A Butcher Ranch, 92.68 49 eP P 08 26 57.9 +0.5
SRU San Rafael Swe 92.68 49 eP P 08 26 57.8 +0.3
SRU San Rafael Swe 92.68 49 eP P 08 26 57.8 +0.3
TCUT Toone Canyon 92.91 47 eP P 08 26 59.0 +0.4
TOLK Toolik Lake Re 93.20 13 eP P 08 26 59.7 +0.7
TOLK Toolik Lake Re 93.20 13 P P 08 26 59.3 +0.3
baz=214
LAZ Ladron 93.27 54 eP P 08 27 00.8 +0.4
LENM Lemitar 93.30 55 eP P 08 27 00.4 -0.1
Y22D IRIS PASSCAL I 93.31 55 P P 08 26 59.8 -0.6
baz=247
MVCO Mesa Verde 93.36 51 eP P 08 27 00.6 -0.1
MVCO Mesa Verde 93.36 51 P P 08 27 00.3 -0.4
baz=246
MCMT McKenzie Canyo 93.56 43 eP P 08 27 01.4 0.0
BNM Barren Site 93.56 55 eP P 08 27 01.5 -0.2
MNTX Cornudas Mount 93.60 58 eP P 08 27 01.9 +0.3
MNTX LR LR
comp=Z,7µm,20.0s
MNTX Cornudas Mount 93.60 58 P P 08 27 00.8 -0.9
baz=248
MSO Missoula 93.76 41 P P 08 27 00.9 -1.2
baz=244
LSA Lhasa 93.76 300 P P 08 27 02.8 -0.2
LSA pmax pmax
comp=Z,7.0nm,0.7s
AHID Auburn Hatcher 93.82 46 eP P 08 27 02.7 +0.1
AHID ePP PP 08 30 46.5 -1.9
AHID LR LR
comp=Z,3µm,19.0s
DLMT Dillon 93.95 43 eP P 08 27 03.1 -0.1
ZAK Zakamensk 93.96 323 eP P 08 27 00.8 -2.1
ZAK pmax pmax
comp=Z,15nm,1.5s
TASM ASL Pad, Albuq 94.00 54 P P 08 27 02.7 -0.9
baz=248
TASM ASL Pad, Albuq 94.00 54 P P 08 27 02.6 -1.0
baz=248
ANMO Albuquerque 94.00 54 eP P 08 27 03.6 0.0
ANMO LR LR
comp=Z,7µm,20.0s
ANMO Albuquerque 94.00 54 P P 08 27 02.7 -0.9
baz=248
TX31 Lajitas Ar. Si 94.09 60 eP P 08 27 04.6 +0.5
TXAR Lajitas Array 94.09 60 P P 08 27 04.5 +0.4
comp=Z,1.2nm,0.7s,baz=224,slow=7.0,SNR=5.3
TXAR LR LR 09 02 20.7
comp=Z,6µm,18.8s,baz=0.0,slow=31
TPAW Teton Pass 94.22 45 eP P 08 27 04.6 +0.1
FXWY Fox Creek 94.23 45 eP P 08 27 04.5 0.0
REDW Red Top Meadow 94.23 45 eP P 08 27 04.5 -0.1
LRM Limekiln Ridge 94.24 42 eP P 08 27 10.0 +5.5
SNOW Snow King Moun 94.34 45 eP P 08 27 05.1 +0.1
TLY Talaya 94.37 324 eP P 08 27 03.2 -1.5
comp=Z,39nm,1.4s
TLY LR LR
comp=Z,2µm,22.0s
TLY Talaya 94.37 324 eP P 08 27 04.7 0.0
TLY pmax pmax
comp=Z,33nm,1.5s
TLY MLR MLR
comp=Z,4µm,20.0s
IMW Indian Meadow 94.40 45 eP P 08 27 04.8 -0.6
MOOW Moose Ponds 94.46 45 eP P 08 27 05.4 -0.2
LOHW Long Hollow 94.50 45 eP P 08 27 05.7 -0.1
FLWY Flagg Ranch 94.63 45 eP P 08 27 06.6 +0.3
EPYK Eagle Plains 94.64 18 eP P 08 27 04.1 -1.5
EPYK Eagle Plains 94.64 18 P P 08 27 05.5 -0.1
baz=226
PLCA Paso Flores 94.66 137 P P 08 27 08.2 +1.6
comp=Z,2.1nm,0.9s,baz=269,slow=7.7,SNR=3.2
PLCA LR LR 09 00 16.6
comp=Z,2µm,21.4s,baz=269,slow=30
BOZ Bozeman (W) 94.67 43 eP P 08 27 06.2 -0.2
BOZ LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 94.67 43 eP P 08 27 06.2 -0.2
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 94.67 43 P P 08 27 05.8 -0.6
baz=245
YMR Madison River 94.70 44 eP P 08 27 07.7 +1.0
O20A White River Ci 94.71 49 eP P 08 27 06.8 0.0
O20A White River Ci 94.71 49 P P 08 27 05.8 -1.0
baz=247
S22A 4UR Ranch, Cre 94.79 52 eP P 08 27 07.8 +0.4
S22A 4UR Ranch, Cre 94.79 52 P P 08 27 06.9 -0.4
baz=248
YHH Holmes Hill 94.83 44 eP P 08 27 09.2 +1.9
H17A Grant Village 94.84 44 eP P 08 27 08.6 +1.2
H17A Grant Village 94.84 44 P P 08 27 07.5 +0.2
baz=246
BW06 Boulder Array 94.85 46 eP P 08 27 06.0 -1.4
BW06 LR LR
comp=Z,5µm,21.0s
BW06 Boulder Array 94.85 46 P P 08 27 06.5 -0.9
baz=246
PD31 Pinedale Array 94.85 46 eP P 08 27 06.6 -0.8
PDAR Pinedale Array 94.85 46 eP P 08 27 05.5 -1.9

PDAR PP **PP** **08 30 51.1 -5.4**
PDAR Pinedale Array 94.85 46 P **P** **08 27 06.1 -1.3**
comp=Z,0.8nm,0.6s,baz=223,slow=3.7,SNR=12
PDAR PP **PP** **08 30 51.1 -5.4**
comp=Z,0.5nm,0.8s,baz=216,slow=7.3,SNR=3.7
PDAR LR LR 09 02 19.3
comp=Z,4μm,20.9s,baz=252,slow=31
EFI East Falkland 94.89 151 PFAKE 08 27 20.0 +13
EFI LR LR
comp=Z,5μm,19.0s
BWNR Bhubaneshwar 94.94 290 *ex* **P** **08 27 03.7 -4.3**
BWNR IAmb IAmb 08 27 07.2
comp=Z,40nm,1.5s
HRY Holter Researc 95.01 42 *eP* **P** **08 27 07.6 -0.3**
LKWY Lake 95.03 44 *eP* **P** **08 27 09.4 +1.2**
LKWY LR LR
comp=Z,7μm,19.0s
LKWY Lake 95.03 44 *eP* **P** **08 27 09.4 +1.2**
LKWY MLR MLR
comp=Z,7μm,19.0s
SMCO Snowmass 95.24 50 *eP* **P** **08 27 09.5 0.0**
SDCO Great Sand Dun 95.77 52 *eP* **P** **08 27 11.4 -0.4**
SDCO LR LR
comp=Z,5μm,20.0s
SDCO Great Sand Dun 95.77 52 P **P** **08 27 10.8 -1.0**
baz=248
RLMT Red Lodge 95.99 44 *eP* **P** **08 27 13.0 +0.4**
RLMT LR LR
comp=Z,4μm,21.0s
RLMT Red Lodge 95.99 44 P **P** **08 27 12.3 -0.3**
baz=247
BOK Bokaro 96.07 293 *eP* **P** **08 27 13.1 -0.1**
BOK IAmb IAmb 08 27 19.4
comp=Z,28nm,1.6s
BOK IAMs_20 IAMs_20 09 06 40.7
comp=Z,3μm,34.1s
T25A Trinidad 96.35 53 P **P** **08 27 13.3 -1.1**
baz=249
ISCO Idaho Springs 96.45 50 PFAKE 08 27 30.0 +15
ISCO LR LR
comp=Z,2μm,19.0s
ISCO Idaho Springs 96.45 50 P **P** **08 27 13.9 -0.9**
baz=248
MSTX Muleshoe 96.47 56 P **P** **08 27 14.1 -0.7**
baz=249
Q24A Divide 96.47 51 P **P** **08 27 14.4 -0.6**
baz=249
N23A Red Feather La 96.62 49 P **P** **08 27 15.1 -0.5**
baz=248
EGMT Eagleton 96.84 41 PFAKE 08 27 30.0 +14
EGMT LR LR
comp=Z,3μm,19.0s
EGMT Eagleton 96.84 41 P **P** **08 27 15.5 -0.6**
baz=247
INK Inuvik 96.87 17 P **P** **08 27 13.8 -1.9**
comp=Z,8.9nm,1.3s,baz=271,slow=6.0,SNR=6.6
TIXI Tiksi 97.18 347⇓ *eP* Pdif 08 27 17.8 +0.7
TIXI pmax pmax
comp=Z,9.0nm,2.1s
TIXI Tiksi 97.18 347 LR LR 09 08 36.1
comp=Z,4μm,19.5s,baz=102,slow=34
MDRS Chennai 97.50 281 *eP* **P** **08 27 17.7 -2.1**
MDRS IAmb IAmb 08 27 27.0
comp=Z,166nm,3.1s
MDRS IAMs_20 IAMs_20 09 02 57.4
comp=Z,8μm,36.2s
DGAR Diego Garcia 97.56 259 PFAKE 08 27 30.0 +10
DGAR LR LR
comp=Z,2μm,20.0s
AMTX Amarillo 97.63 56 P **P** **08 27 19.9 -0.2**
baz=250
JCT Junction City 97.64 60 PFAKE 08 27 30.0 +10
JCT LR LR
comp=Z,7μm,22.0s
LAO LASA Array 98.55 43 P **P** **08 27 23.2 -0.6**
baz=249
RSSD Black Hills 99.09 46 *eP* **Pdif** **08 27 26.3 -0.2**
RSSD Black Hills 99.09 46 *eP* **Pdif** **08 27 26.3 -0.2**
RSSD Black Hills 99.09 46 P **Pdif** **08 27 25.0 -1.5**
baz=250
YKA Yellowknife Ar 100.32 27 P **Pdif** **08 27 30.3 -0.9**
comp=Z,0.6nm,1.0s,baz=249,slow=4.7,SNR=4.9
YKA PP **PP** **08 31 37.7 0.0**
comp=Z,0.3nm,0.9s,baz=260,slow=7.8,SNR=3.3
CBKS Cedar Bluff 100.39 52 PFAKE 08 27 40.0 +7.7
CBKS LR LR
comp=Z,4μm,20.0s
DGMT Dagmar 100.46 42 PFAKE 08 27 40.0 +7.7
DGMT LR LR
comp=Z,2μm,19.0s
HOPE Hope Point 100.85 163 PFAKE 08 27 50.0 +16
HOPE LR LR
comp=Z,4μm,19.0s
WMQ Urumqi 101.20 313 *eP* **Pdif** **08 27 28.5 -7.3**
WMQ Urumqi 101.20 313 *eP* **Pdif** **08 27 36.8 +1.0**
WMQ pP sPdif 08 27 41.1 +1.4
WMQ PP **PP** **08 31 49.0 +3.9**
WMQ S **Sdif** **08 39 12.0 -3.1**
WMQ SS **SS** **08 46 15.1 -0.4**
WMQ pmax pmax
comp=Z,22nm,1.5s
WMQ pmax pmax
comp=Z,620nm,4.5s
WMQ LR LR
comp=Z,4μm,19.7s
WMQ LR LR
comp=Z,2μm,17.5s
WMQ LR LR
comp=Z,3μm,18.9s
MNCY Minicoy 102.59 274 *eP* **Pdif** **08 27 40.6 -2.0**
BHPL Bhopal 103.26 290 *eP* **Pdif** **08 27 41.6 -3.8**
BHPL IAmb IAmb 08 27 43.0
comp=Z,7.5nm,0.3s
BHPL IAMs_20 IAMs_20 09 36 12.2
comp=Z,1μm,9.4s
NNA Nana 103.62 109 PFAKE 08 28 00.0 +13
NNA LR LR
comp=Z,2μm,19.0s
FFC Flin Flon 103.72 36 PFAKE 08 28 00.0 +13
FFC LR LR
comp=Z,3μm,22.0s
ECSD EROS Data Cent 104.07 48 PFAKE 08 28 00.0 +12
ECSD LR LR
comp=Z,6μm,21.0s
GOA Goa 104.17 281 IAMs_20 IAMs_20 09 05 24.0
comp=Z,5μm,31.4s
JTS JuntasAbangare 104.35 84 PFAKE 08 28 00.0 +10
JTS LR LR
comp=Z,4μm,20.0s
DDI Dehra Dun 104.71 297 IAmb IAmb 08 27 09.7
comp=Z,51nm,0.3s
DDI *eP* **Pdif** **08 27 49.3 -2.4**
POO Poona 105.06 284 *eP* **Pdif** **08 27 50.6 -2.9**
POO IAMs_20 IAMs_20 09 07 25.9
comp=Z,4μm,23.4s
SMLA Simla 105.67 298 *eP* **Pdif** **08 27 55.4 -0.4**
SMLA IAmb IAmb 08 28 02.2
comp=Z,462nm,4.9s
SMLA IAMs_20 IAMs_20 09 14 31.3
comp=Z,3μm,20.7s
MKAR Makanchi Array 105.69 314 Pdiff **Pdif** **08 27 57.1 +1.5**
comp=Z,1.9nm,0.7s,baz=93,slow=6.1,SNR=21
MKAR PKIKP **PKiKP** **08 32 10.4 +1.8**
comp=Z,4.3nm,1.3s,baz=95,slow=3.9,SNR=3.5
MKAR PKKPab **PKKPab** **08 43 55.5 +7.4**
comp=Z,0.5nm,0.9s,baz=280,slow=4.2,SNR=3.7
AGMN Agassiz Nation 105.73 44 PFAKE 08 32 20.0 +11
AGMN LR LR
comp=Z,3μm,22.0s
DHRM DHARAMSHALA 106.66 299 *eP* **Pdif** **08 28 00.6 0.0**
DHRM IAmb IAmb 08 28 30.9
comp=Z,102nm,1.9s
DHRM IAMs_20 IAMs_20 09 12 42.8
comp=Z,2μm,21.7s
NRIK Noril'sk 107.90 338 PP **PP** **08 32 31.3 -2.7**
comp=Z,1.6nm,0.8s,baz=92,slow=10.0,SNR=3.7
BRAL Brewton 108.34 63 PFAKE 08 32 30.0 +16
BRAL LR LR
comp=Z,3μm,19.0s
JFWS Jewell Farm 108.40 50 PFAKE 08 32 30.0 +16
JFWS LR LR
comp=Z,5μm,19.0s
EYMN Ely 108.51 45 PFAKE 08 32 30.0 +16
EYMN LR LR
comp=Z,4μm,21.0s
HDIL Hopedale 108.62 53 PFAKE 08 32 30.0 +16
HDIL LR LR
comp=Z,5μm,19.0s
BCIP Isla Barro Col 108.76 87 PFAKE 08 32 30.0 +15
BCIP LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 108.87 318 PFAKE 08 32 30.0 +16
KURK LR LR
comp=Z,5μm,22.0s
COWI Conover 109.77 47 PFAKE 08 32 30.0 +14
COWI LR LR
comp=Z,4μm,19.0s
AAK Ala-Archa 110.27 309 PFAKE 08 32 30.0 +13
AAK LR LR
comp=Z,2μm,22.0s
GOGA Godfrey 111.79 61 PFAKE 08 32 30.0 +10
GOGA LR LR
comp=Z,7μm,20.0s
GLMI Grayling 112.73 49 PFAKE 08 32 30.0 +8.2
GLMI LR LR
comp=Z,8μm,20.0s
AAM Ann Arbor 113.09 52 PFAKE 08 32 30.0 +7.4
AAM LR LR
comp=Z,4μm,20.0s
ACSO Alum Creek Sta 113.31 54 PFAKE 08 32 30.0 +6.9
ACSO LR LR
comp=Z,8μm,19.0s
ABPO Ambohimpanom 114.09 237 PFAKE 08 32 40.0 +15
ABPO LR LR
comp=Z,3μm,21.0s
MSEY Mahe Island 114.11 255 PFAKE 08 32 40.0 +15
MSEY LR LR
comp=Z,10μm,20.0s
BRVK Borovoye 114.27 320 *e*PKPdf PKPdf 08 32 23.9 -0.6
BRVK LR LR
comp=Z,961nm,20.0s
BRVK Borovoye 114.27 320 *e*PKIKP PKPdf 08 32 23.9 -0.6
BRVK MLR MLR
comp=Z,961nm,20.0s
NHSC New Hope 114.44 62 PFAKE 08 32 40.0 +15
NHSC LR LR
comp=Z,5μm,20.0s
BLA Blacksburg 114.88 58 PFAKE 08 32 40.0 +14
BLA LR LR
comp=Z,6μm,21.0s
GTBY Guantanamo Bay 116.20 77 PFAKE 08 32 40.0 +11
GTBY LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 116.64 60 PFAKE 08 32 40.0 +10
CNNC LR LR
comp=Z,8μm,20.0s
CBN Corbin Frederi 117.39 57 PFAKE 08 32 40.0 +9.0
CBN LR LR
comp=Z,8μm,21.0s
BINY Binghamton 118.75 53 PFAKE 08 32 50.0 +16
BINY LR LR
comp=Z,7μm,21.0s
SVE Sverdlovsk 119.68 324 *i* PKIKP **PKPdf** **08 32 33.5 -1.3**
SVE pmax pmax
comp=Z,16nm,1.4s
SVE MLR MLR
comp=E,3μm,22.0s
SVE MLR MLR
comp=Z,3μm,21.0s
SVE MLR MLR
comp=N,1μm,20.0s
GRTK Grand Turk 120.19 77 PFAKE 08 32 50.0 +13
GRTK LR LR
comp=Z,2μm,21.0s
ARU Arti 120.88 324 *e*PKPdf **PKPdf** **08 32 36.0 -1.1**
ARU LR LR
comp=Z,2μm,20.0s
ARU Arti 120.88 324 *i* PKIKP **PKPdf** **08 32 36.3 -0.8**
ARU **PP** **08 34 04.3 -1.7**
ARU **SKSdf** **08 39 48.3 -0.5**
ARU SP SP 08 43 46.8 -8.5
ARU PS **PS** **08 43 59.7 +1.9**
ARU SS **SKKSdf** **08 50 32.0 +2.6**
ARU MLR MLR
comp=Z,3μm,21.0s
SUR Sutherland 120.93 207 PFAKE 08 32 50.0 +12
SUR LR LR
comp=Z,9μm,20.0s
KBS Kingsbay 121.26 356 PFAKE 08 32 50.0 +13
KBS LR LR
comp=Z,2μm,20.0s
GEYT Alibeck 122.23 302 PKP **PKPdf** **08 32 39.9 -0.5**
comp=Z,6.9nm,1.0s,baz=242,slow=6.2,SNR=6.1
BDFB Brasília 125.47 128 PKP **PKPdf** **08 32 46.0 -1.3**
comp=Z,2.3nm,0.9s,baz=164,slow=7.4,SNR=2.6
PRGR Permogore 125.81 332 *e*PKIKP **PKPdf** **08 32 42.5 -3.9**
PRGR pmax pmax
comp=Z,19nm,1.4s
LVZ Lovozero 126.45 342 PFAKE 08 33 00.0 +12
LVZ LR LR
comp=Z,1μm,20.0s
GRGR Grenville 126.66 90 PFAKE 08 33 00.0 +10
GRGR LR LR
comp=Z,1μm,20.0s
APA Apatity 127.03 342⇓ *i* PKHKP PKPpre 08 32 32.5
APA *i* 08 34 50.7
APA pmax pmax
comp=Z,9.0nm,0.9s
KEV Kevo 127.11 346 PFAKE 08 33 00.0 +11
KEV LR LR
comp=Z,6μm,20.0s
ARCES ARCESS Array B 127.61 346 PKP **PKPdf** **08 32 48.4 -1.3**
comp=Z,2.9nm,0.8s,baz=347,slow=1.6,SNR=7.3
ANWB Willy Bob 127.97 83 PFAKE 08 33 00.0 +7.6
ANWB LR LR
comp=Z,1μm,21.0s
KLMR Klimovskoe 128.79 333 *e*PKIKP **PKPdf** **08 32 49.4 -2.7**
KLMR pmax pmax
comp=Z,27nm,1.4s
KLMR Klimovskoe 128.79 333 *e*PKPdf **PKPdf** **08 32 49.4 -2.7**
KLMR AMP 08 33 04.6
comp=Z,27nm,1.4s
BBGH Gun Hill 128.91 90 PFAKE 08 33 10.0 +16
BBGH LR LR
comp=Z,3μm,21.0s
MAK Makhachkala 130.06 309 *i* P **Pdif** **08 29 38.1 -5.9**
MAK *e* 08 39 55.3
MAK PS PS 08 45 18.8 -0.2
MAK *e*SS SS 08 52 30.6 -2.6
MAK *e*SSS SSS 08 57 19.0
MAK pmax pmax
comp=Z,101nm,0.6s
VRH Novokhopyorsk 131.83 321 *e*PKIKP **PKPdf** **08 32 56.9 -1.3**
VRH pmax pmax
comp=Z,10.0nm,1.1s
VRH MLR MLR
comp=Z,3μm,23.0s
KMBO Kilima Mbogo 131.91 248 PKP **PKPdf** **08 32 59.6 -0.2**
comp=Z,0.8nm,0.3s,baz=47,slow=7.5,SNR=4.8
MOS Moscow 132.18 328 *e*PKIKP **PKiKP** **08 33 03.8 +4.0**
MOS pmax pmax
comp=Z,38nm,1.1s
MOS MLR MLR
comp=Z,2μm,21.0s
GNI Garni 132.51 306 PFAKE 08 33 10.0 +8.8
GNI LR LR
comp=Z,3μm,21.0s
GOF Gofitskoye 132.81 313 *e*PKIKP **PKiKP** **08 33 07.9 +6.5**
LPSR Galich'ya Gora 132.89 324 *e*PKIKP **PKPdf** **08 32 58.2 -1.9**
LPSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR MLR MLR
comp=Z,3μm,25.0s
OBN Obninsk 133.01 328 PFAKE 08 33 10.0 +8.6
OBN LR LR
comp=Z,2μm,22.0s
OBN Obninsk 133.01 328 *i* PKIKP **PKiKP** **08 33 01.4 0.0**
OBN *i* 08 33 07.5
OBN *e* 08 35 26.9
OBN pmax pmax
comp=Z,7.0nm,0.9s
VSR Storozhevoye 133.32 322 *e*PKIKP **PKPdf** **08 33 00.7 -0.3**
VSR pmax pmax
comp=Z,20nm,1.5s
NEY Neytrino 133.45 310⇑ *i* PKIKP **PKiKP** **08 33 02.6 -0.4**
FINES FINESS Array B 133.56 339 PKP **PKPdf** **08 33 00.7 -0.4**
comp=Z,2.0nm,1.0s,baz=0.0,slow=5.7,SNR=4.3
BORG Borgarnes 135.06 9 PFAKE 08 33 20.0 +15
BORG LR LR
comp=Z,1μm,19.0s
VSU Vasula 135.42 336⇑ *i* PKIKP **PKPdf** **08 33 04.7 0.0**
SOC Sochi 135.49 312 *i* PKIKP **PKPdf** **08 33 00.7 -4.6**
SOC MLR MLR
comp=Z,1μm,18.0s
ANN Anapa 136.70 314 *e*PKIKP **PKiKP** **08 33 08.7 -0.6**
ANN MLR MLR
comp=N,2μm,18.0s
ANN MLR MLR
comp=Z,1μm,18.0s
NACGM Naroch 137.77 332 *e*PKP **PKPdf** **08 33 09.0 -0.2**
NACGM *e*SKP 08 36 36.0
NACGM *e*SKS SKSdf 08 39 32.0 -48
NACGM *e*SKKS SKSac 08 41 22.0 +59
NACGM *e*SKSP 08 45 00.0
NACGM *e*SS SS 08 53 18.0 -47
NACGM *e*LQ LQ 09 19 52.0
NACGM *e*LR LR 09 26 28.0
NACGM LRM MLR 09 35 54.0
comp=Z,5.1nm,20.0s
NB2 NORSAR Subarra 137.97 347 PKPdf **PKPdf** **08 33 07.9 -1.6**
comp=Z,0.9nm,1.1s,baz=31,slow=1.9
NOA NORSAR Array B 137.97 347 PKP **PKiKP** **08 33 10.5 -1.0**
comp=Z,0.5nm,0.8s,baz=342,slow=3.8,SNR=3.2
SIM Simferopol' 138.86 315 *e*PKIKP PKPpre 08 33 06.2
SIM *i* 08 36 00.0
SIM pmax pmax
comp=Z,45nm,6.4s
AKASG Malin Array Be 139.10 325 PKP **PKPdf** **08 33 12.1 +0.4**
comp=Z,2.1nm,0.9s,baz=50,slow=3.5,SNR=6.3
KIEV Kiev 139.11 325 *e*PKPdf **PKPdf** **08 33 11.5 -0.3**
KIEV Kiev 139.11 325⇑ *i*P **PKPdf** **08 33 12.1 +0.3**
KIEV Kiev 139.11 325⇑ *i*PKIKP **PKPdf** **08 33 12.1 +0.3**
BRTR Keskin Array B 140.94 308 PKP **PKPdf** **08 33 16.0 +0.3**
comp=Z,3.1nm,1.0s,baz=57,slow=4.6,SNR=6.1
KIS Kishinev 141.28 321 *e*PKP PKiKP 08 33 28.0 +9.4
KIS Kishinev 141.28 321 *e*PP PP 08 36 38.0 +20
KIS *e*SKP **SKPab** **08 37 08.0 +1.6**
KIS Kishinev 141.28 321 *e*PKIKP PKiKP 08 33 28.0 +9.4
KIS *e*PPP PPP 08 40 16.0
KIS MLR MLR
comp=Z,2μm,24.0s
KIS MLR MLR
comp=N,2μm,16.0s
ANTO Ankara 141.52 308 PFAKE 08 33 30.0 +11
ANTO LR LR
comp=Z,1μm,21.0s
EIL Elat 141.63 292 P PKPpre 08 33 12.1
comp=Z,16nm,1.3s
LVV L'vov 142.31 327 *i* PKIKP **PKPdf** **08 33 15.6 -2.0**
TESR Tescani 142.81 321⇓ *i*P PKPpre 08 33 15.3
BIZ Bicaz 142.89 322⇓ *i*P PKPpre 08 33 15.4
GULT Gulveren 142.98 310 P PKPpre 08 33 14.3
BURAR Bucovina Array 143.01 324⇑ *i*P **PKPdf** **08 33 18.3 -0.8**
BURAR Bucovina Array 143.01 324⇑ *i*PKIKP **PKPdf** **08 33 18.3 -0.8**
VRI Vrincioaia 143.10 320⇓ *i*P **PKiKP** **08 33 23.8 +1.4**
VRI Vrincioaia 143.10 320⇓ *i*PKIKP **PKiKP** **08 33 23.8 +1.4**
PLOR Plostina 143.15 320⇑ *i*P **PKiKP** **08 33 23.6 +1.1**
PLOR Plostina 143.15 320⇑ *i*PKIKP **PKiKP** **08 33 23.6 +1.1**
CAVI Cavuskoy 143.54 310 P PKPbc 08 33 17.3 -0.1
ISR Istrita 143.60 319⇑ *i*P PKPbc 08 33 17.9 +0.4
ISR Istrita 143.60 319⇑ *i*PKIKP PKPbc 08 33 17.9 +0.4
MLR Muntele Rosu 143.76 320⇑ *i*P PKPbc 08 33 19.0 +0.9
MLR Muntele Rosu 143.76 320⇑ *i*PKIKP PKPbc 08 33 19.0 +0.9
ISK Istanbul-Kandi 143.78 312 P PKiKP 08 33 33.0 +9.1
ARCR ARCALIA 143.80 324⇓ *i*P PKPbc 08 33 18.4 +0.5
ISP Isparta 143.82 306⇑ *i*P PKPab 08 33 18.1 +0.3
ISP Isparta 143.82 306⇑ *i*PKIKP PKPab 08 33 18.1 +0.3
DOPR Dopca 143.84 321⇑ *i*P PKPbc 08 33 18.3 +0.2
SECR 143.93 320⇑ *i*P PKPbc 08 33 18.8 +0.4
UZH Uzhgorod 143.95 327 *i* PKIKP PKPbc 08 33 19.3 +1.0
UZH *i* 08 33 25.3
UZH *e* 08 36 34.0
UZH MLR MLR
comp=N,200nm,16.0s
UZH MLR MLR
comp=E,600nm,16.0s
UZH MLR MLR
comp=Z,300nm,16.0s
KZIL AFYON_Kizioren 143.98 307 *i* P PKPab 08 33 18.5 +0.2
KZIL IAML_P
comp=Z,55nm,0.2s
OJC Ojcow 144.07 331 *e*PKP **PKPab** **08 33 16.5 -1.7**
TVSB Tavsanli 144.08 309 P **PKPab** **08 33 18.6 -0.1**
ARMT Armutlu 144.11 311 P **PKPab** **08 33 18.3 -0.4**
TRPA Tarpa 144.14 326⇓ *i*P **PKPab** **08 33 17.9 -0.6**
TRPA Tarpa 144.14 326 *e*P **PKPdf** **08 33 20.1 -0.8**
KORT Korkueli 144.19 305 *i* P PKPbc 08 33 19.6 0.0
KORT IAML_P
comp=Z,232nm,0.1s
GDZ Gediz 144.19 309 *i* P PKPbc 08 33 19.5 -0.1
GDZ IAML_P
comp=Z,15nm,0.4s
MDB Medias 144.32 322⇑ *i*P **PKPdf** **08 33 21.4 +0.1**
MDB Medias 144.32 322⇑ *i*PKIKP **PKPdf** **08 33 21.4 +0.1**
VOIR 144.32 321⇑ *i*P **PKPdf** **08 33 21.5 +0.1**
VOIR 144.32 321⇑ *i*PKIKP **PKPdf** **08 33 21.5 +0.1**
AKUM Antalya-Kumluc 144.38 304 *i* P **PKPab** **08 33 19.8 0.0**
AKUM IAML_P
comp=Z,101nm,0.4s
KHAL Karahalli 144.43 307 *i* P PKPbc 08 33 20.8 +0.4
KHAL IAML_P
comp=Z,18nm,0.1s
CJR Cluj-Napoca 144.44 324⇑ *i*P PKPbc 08 33 20.5 +0.5
CJR Cluj-Napoca 144.44 324⇑ *i*PKIKP PKPbc 08 33 20.6 +0.6
BSEG Bad Segeberg 144.57 343 *e*PKPbc **PKPab** **08 33 19.4 -0.4**
baz=32,slow=2.8
KCTX Karacabey (Bur 144.58 311 P **PKPab** **08 33 20.2 -0.2**
PHSR Pinarhisar 144.60 314⇓ *i*P PKPbc 08 33 20.6 0.0
ARR Arges 144.61 321⇓ *i*P PKPbc 08 33 20.6 0.0
USAK Uak-Merkez 144.66 308 *i* P **PKPab** **08 33 20.4 -0.4**
USAK IAML_P
comp=Z,22nm,0.1s
CRLT Corlu 144.66 313 P **PKPab** **08 33 20.4 -0.3**
HUMR Humele 144.85 319⇑ *i*P **PKPab** **08 33 20.8 -0.5**
DRGR 144.88 324⇑ *i*P **PKPab** **08 33 21.2 -0.2**
DRGR 144.88 324⇑ *i*PKIKP **PKPab** **08 33 21.2 -0.2**
EDC Edincik 144.89 311 P **PKPab** **08 33 20.9 -0.7**
SZH Strazhica 144.90 317 *i* P **PKPab** **08 33 21.4 -0.1**
LTVH Ltavrtes, Hu 144.94 326 *e*P **PKPab** **08 33 21.0 -0.4**
MRMT Marmara Adasi 144.98 312 P **PKPab** **08 33 18.3 -3.6**
AKAS Kas 144.98 304 *i* P **PKPab** **08 33 22.1 0.0**
AKAS IAML_P
comp=Z,243nm,0.4s
LANS Liptovska Anna 144.98 330 *e*PKIKP **PKPdf** **08 33 22.8 +0.4**
LANS Liptovska Anna 144.98 330 *e*PKP **PKPdf** **08 33 22.8 +0.4**
KULA Kula-Manisa 144.99 308 P **PKPab** **08 33 21.6 -0.5**
KULA Kula-Manisa 144.99 308 P **PKPab** **08 33 21.8 -0.3**
KULA Kula-Manisa 144.99 308 P **PKPab** **08 33 21.8 -0.3**
LOT Lotru 145.07 322⇑ *i*P **PKPdf** **08 33 22.3 -0.3**
OKC Ostrava-Krasne 145.09 332 *e*PKP **PKPbc** **08 33 21.3 -0.6**
OKC *ex* **PKiKP** **08 33 28.6 +2.3**
OKC AMS AMS 09 34 50.0
comp=Z,3μm,23.4s
OKC Ostrava-Krasne 145.09 332 *e*PKIKP **PKPbc** **08 33 21.3 -0.6**
OKC *e* 08 33 28.6
OKC MLR MLR
comp=Z,3μm,23.4s
KSP Ksiaz 145.12 335 *e*PKP **PKPbc** **08 33 21.9 0.0**
KSP Ksiaz 145.12 335 *e*PKIKP **PKPbc** **08 33 21.9 0.0**
TAVA DENIZLI_Tavas 145.15 306 *i* P **PKPbc** **08 33 22.5 -0.2**
TAVA IAML_P
comp=Z,514nm,0.5s
BALB Balikesir 145.15 310 P **PKPbc** **08 33 20.4 -2.0**
RKY Sarkoy-Tekirda 145.23 312 P **PKPbc** **08 33 22.2 -0.6**
FETY Fethiye 145.27 305 *i* P **PKPbc** **08 33 22.8 -0.2**
FETY IAML_P
comp=Z,405nm,0.4s
KRBG Karabiga-Canak 145.27 312 P **PKPbc** **08 33 22.3 -0.5**
MORC Moravsky Berou 145.40 332⇓ *i*P **PKPbc** **08 33 22.7 -0.3**
MORC Moravsky Berou 145.40 332⇓ *i*PKIKP **PKPbc** **08 33 22.7 -0.3**
MORC Moravsky Berou 145.40 332 *e*PKP **PKPbc** **08 33 21.7 -1.3**
DPC Dobruska-Polom 145.48 334 *e*PKP **PKPdf** **08 33 23.0 -0.2**
DPC *ex* **PKiKP** **08 33 30.9 +3.7**
DPC AMS AMS 09 39 50.0
comp=Z,4μm,20.7s
DPC Dobruska-Polom 145.48 334 *e*PKIKP **PKPdf** **08 33 23.0 -0.2**
DPC *e* 08 33 30.9
DPC MLR MLR
comp=Z,4μm,20.7s
VLAD Vladila 145.49 319⇑ *i*P **PKPbc** **08 33 23.4 0.0**
UPC Upice 145.49 334 *e*PKP **PKPdf** **08 33 23.0 -0.2**
UPC AMS AMS 09 40 40.0
comp=Z,3μm,20.5s
UPC Upice 145.49 334 *e*PKIKP **PKPdf** **08 33 23.0 -0.2**

UPC				MLR	MLR		
	comp=Z,3μm,20.5s						
KRLC	**Kraliky**	**145.50 333**	*e*PKP	**PKPdf**	**08 33 22.9**	**-0.4**
KRLC			*ex*	**PKiKP**	**08 33 30.9**	**+3.7**
KRLC	**Kraliky**	**145.50 333**	*e*PKiKP	**PKPdf**	**08 33 22.9**	**-0.4**
KRLC			*e*	**PKiKP**	**08 33 30.9**	**+3.7**
ESK	**Eskdalemuir**	**145.51 357**	PFAKE		08 33 30.0	+3.0
ESK			LR	LR		
	comp=Z,2μm,22.0s						
DALY	**Dalyan (Mula)**	**145.54 305**	*i* P	**PKPdf**	**08 33 23.6**	**0.0**
DALY			IAML_P			
	comp=Z,672nm,0.5s						
TURN	**Turunc**	**145.57 305**	*i* P	**PKPab**	**08 33 24.8**	**+0.7**
TURN			IAML_P			
	comp=Z,109nm,0.1s						
PSZ	**Piszkesteto**	**145.62 328**	⇓*i*P	**PKPdf**	**08 33 23.4**	**-0.2**
PSZ	**Piszkesteto**	**145.62 328**	⇓PKiKP	**PKPdf**	**08 33 23.4**	**-0.2**
PSZ	**Piszkesteto**	**145.62 328**	*e*P	**PKPdf**	**08 33 22.1**	**-1.5**
LPK	**Lapseki**	**145.65 312**	P	**PKPdf**	**08 33 23.7**	**0.0**
GZR	**Gura Zlata**	**145.67 322**	⇓*i*P	**PKPdf**	**08 33 23.1**	**-0.6**
GZR	**Gura Zlata**	**145.67 322**	⇓PKiKP	**PKPdf**	**08 33 23.1**	**-0.6**
ERIK	**Erikli-Kesan**	**145.70 313**	P	**PKPdf**	**08 33 23.5**	**-0.3**
YER	**Yerkesik**	**145.73 306**	P	**PKPdf**	**08 33 23.5**	**-0.6**
YER	**Yerkesik**	**145.73 306**	P	**PKPdf**	**08 33 23.5**	**-0.6**
YER	**Yerkesik**	**145.73 306**	PKP2	**PKPdf**	**08 33 23.5**	**-0.6**
VYHS	**Vyhne**	**145.74 330**	*e*PKP2	**PKPdf**	**08 33 23.4**	**-0.3**
VYHS	**Vyhne**	**145.74 330**	*e*PKP	**PKPdf**	**08 33 23.4**	**-0.3**
AYDB	**Zeytinkoy-Aydi**	**145.76 307**	P	**PKPbc**	**08 33 24.4**	**-0.2**
SIRR	**Siria**	**145.77 324**	⇑*i*P	**PKPdf**	**08 33 22.7**	**-1.1**
GELI	**Tayfur-Gelibol**	**145.84 312**	P	**PKPdf**	**08 33 23.8**	**-0.3**
SRE	**Strehaia**	**145.84 321**	⇓*i*P	**PKiKP**	**08 33 28.3**	**+0.2**
SRE	**Strehaia**	**145.84 321**	⇓PKP2	**PKiKP**	**08 33 28.3**	**+0.2**
AYDN	**Tasoluk**	**145.86 307**	*i* P	**PKPdf**	**08 33 24.5**	**+0.2**
AYDN			IAML_P			
	comp=Z,10nm,0.2s						
NRDL	**Niedersach Rie**	**145.90 342**	*e*PKPbc	**PKPdf**	**08 33 23.8**	**+0.2**
	baz=32,slow=2.8						
ENEZ	**Enez**	**145.92 313**	P	**PKPdf**	**08 33 23.5**	**-0.7**
ALN	**Alexandroupoli**	**145.92 313**	P	**PKPab**	**08 33 25.3**	**0.0**
CLL	**Collm**	**145.98 338**	*e*PKPbc	**PKPdf**	**08 33 23.8**	**-0.1**
	baz=32,slow=2.8						
CLL	**Collm**	**145.98 338**	*e*PKPbc	**PKPdf**	**08 33 23.0**	**-0.9**
	comp=Z,22nm,1.1s						
CLL			*e*PKiKP	**pPKPdf**	**08 33 27.0**	**+0.1**
	comp=Z,25nm,1.0s						
CLL			*e*pPKiKP	**pPKiKP**	**08 33 31.0**	**0.0**
	comp=Z,59nm,1.1s						
CLL			*e*		08 33 35.0		
CLL			*e*		08 34 09.0		
CLL			*e*		08 34 42.0		
CLL			*e*SKPbc	**SKPbc**	**08 37 00.0**	**-3.9**
CLL			*e*		08 51 42.0		
CLL			*e*SS	**SS**	**08 55 42.0**	**+2.0**
CLL			*e*SSS	SSS	09 01 06.0		
CLL			LmV		09 40 00.0		
	comp=Z,2μm,21.6s						
CLL	**Collm**	**145.98 338**	*e*PKiKP	**PKPdf**	**08 33 23.0**	**-0.9**
CLL			*e*		08 33 27.0		
CLL			*e*		08 33 31.0		
CLL			pmax	pmax			
	comp=Z,22nm,1.1s						
CLL			MLR	MLR			
	comp=Z,2μm,21.6s						
BRG	**Berggiesshubel**	**146.00 337**	*e*P	**PKPdf**	**08 33 23.9**	**-0.1**
	comp=Z,64nm,1.3s						
BRG			SS	SS	08 55 37.0	-3.3	
	comp=N,3μm,24.4s						
	comp=E,1μm,18.0s						
	comp=Z,3μm,25.8s						
BRG	**Berggiesshubel**	**146.00 337**	*e*PKPbc	**PKPdf**	**08 33 23.6**	**-0.4**
	baz=32,slow=2.8						
BRG	**Berggiesshubel**	**146.00 337**	*e*PKP2	**PKPdf**	**08 33 23.9**	**-0.1**
BRG			SS	SS	08 55 37.0	-3.3	
BRG			pmax	pmax			
	comp=Z,64nm,1.3s						
BRG			MLR	MLR			
	comp=N,3μm,24.4s						
BRG			MLR	MLR			
	comp=E,1μm,18.0s						
BRG			MLR	MLR			
	comp=Z,3μm,25.8s						
KDZ	**Kurdzhali**	**146.00 315**	*i* P	**PKiKP**	**08 33 28.7**	**+0.2**
JAVC	**Velka Javorina**	**146.02 331**	*e*PKP	**PKPbc**	**08 33 24.7**	**-0.3**
PVCC	**Panska Ves**	**146.04 336**	*e*PKP	**PKPab**	**08 33 25.7**	**+0.2**
PVCC			AMS	AMS	09 31 20.0		
	comp=Z,4μm,25.5s						
PVCC	**Panska Ves**	**146.04 336**	*e*PKP2	**PKPab**	**08 33 25.7**	**+0.2**
PVCC			MLR	MLR			
	comp=Z,4μm,25.5s						
ASSE	**Asse, Remlinge**	**146.05 341**	*e*PKPbc	**PKPdf**	**08 33 24.3**	**+0.3**
	baz=32,slow=2.8						
RDO	**Rodhopi**	**146.16 314**	P	PKPpre	08 33 12.5		
VRAC	**Vranov**	**146.16 332**	⇓*i*P	**PKPab**	**08 33 25.7**	**-0.3**
VRAC	**Vranov**	**146.16 332**	⇓PKP2	**PKPab**	**08 33 25.7**	**-0.3**
VRAC	**Vranov**	**146.16 332**	*e*PKP	**PKPdf**	**08 33 24.6**	**+0.2**
FBE	**Freiberg**	**146.18 337**	*e*PKPbc	**PKPbc**	**08 33 25.0**	**-0.3**
	baz=32,slow=2.8						
EZN	**Ezine**	**146.18 311**	P	PKPpre	08 33 21.0		
EZN	**Ezine**	**146.18 311**	⇓*i*P	**PKPbc**	**08 33 25.4**	**-0.3**
EZN	**Ezine**	**146.18 311**	⇓PKP2	**PKPbc**	**08 33 25.4**	**-0.3**
BZS	**Buzias**	**146.19 323**	⇑*i*P	**PKPbc**	**08 33 25.1**	**-0.4**
BZS	**Buzias**	**146.19 323**	⇑PKP2	**PKPbc**	**08 33 25.1**	**-0.4**
NGRH	**Nagyer**	**146.21 325**	*e*P	PKPpre	08 33 10.1		
AMBH	**Ambrzfalva**	**146.22 325**	*e*P	**PKPab**	**08 33 27.0**	**+0.7**
BLCB	**Balcova**	**146.23 309**	P	**PKPdf**	**08 33 21.7**	**-3.1**
PLD	**Plovdiv**	**146.26 316**	P	**PKPab**	**08 33 27.6**	**+1.0**
PLD	**Plovdiv**	**146.26 316**	P	**PKPab**	**08 33 26.6**	**0.0**
GCAM	**G?zelcaml?**	**146.33 307**	P	**PKPdf**	**08 33 24.1**	**-0.9**
GCAM	**G?zelcaml?**	**146.33 307**	*i* P	**PKPbc**	**08 33 26.5**	**+0.3**
GCAM			IAML_P			
	comp=Z,133nm,0.2s						
BUD	**Budapest**	**146.35 328**	*e*P	**PKPdf**	**08 33 24.1**	**-0.6**
BOZC	**Bozcaada**	**146.37 312**	P	**PKPdf**	**08 33 21.3**	**-3.7**
DAT	**Datca**	**146.39 305**	*i* P	**PKPdf**	**08 33 25.1**	**-0.2**
DAT			IAML_P			
	comp=Z,328nm,1.1s						
KRUC	**Moravsky**	**146.43 332**	*e*PKP	**PKPdf**	**08 33 25.0**	**+0.2**
GOPC	**GO Pecny, Ondr**	**146.44 335**	*e*PKP	**PKPab**	**08 33 26.7**	**-0.4**
GOPC			*e*pPKP	sPKPab	08 33 32.5	+1.5	
GOPC			AMS	AMS	09 31 40.0		
	comp=Z,4μm,27.0s						
GOPC	**GO Pecny, Ondr**	**146.44 335**	*e*PKP2	**PKPab**	**08 33 26.7**	**-0.4**
GOPC			MLR	MLR			
	comp=Z,4μm,27.0s						
RZN	**Rozhen**	**146.45 315**	*i* P	**PKPdf**	**08 33 25.7**	**+0.4**
PRK	**Paraskevi**	**146.45 310**	P	**PKPdf**	**08 33 24.9**	**-0.2**
PRK	**Paraskevi**	**146.45 310**	P	**PKPdf**	**08 33 24.9**	**-0.2**
PRK	**Paraskevi**	**146.45 310**	PKP2	**PKPdf**	**08 33 24.9**	**-0.2**
PRU	**Pruhonice**	**146.48 335**	*e*PKP	**PKPbc**	**08 33 25.6**	**-0.6**
PRU			*ex*	**PKiKP**	**08 33 33.1**	**+3.9**
PRU			AMS	AMS	09 39 00.0		
	comp=Z,2μm,22.2s						
PRU	**Pruhonice**	**146.48 335**	*e*PKP2	**PKPbc**	**08 33 25.6**	**-0.6**
PRU			MLR	MLR			
	comp=Z,2μm,22.2s						
NEUB	**Neuenburg**	**146.49 339**	*e*PKPbc	**PKPbc**	**08 33 25.5**	**-0.7**
	baz=32,slow=2.8						
MODS	**Modra-Piesok**	**146.55 331**	*e*PKP2	**PKPbc**	**08 33 26.3**	**-0.2**
MODS	**Modra-Piesok**	**146.55 331**	*e*PKP	**PKPbc**	**08 33 26.3**	**-0.2**
URLA	**Izmir**	**146.56 309**	P	**PKPdf**	**08 33 25.0**	**-0.4**
TREC	**Trest**	**146.64 333**	AMS	AMS	09 40 20.0		
	comp=Z,4μm,21.9s						
MDVR	**Moldovita**	**146.64 322**	⇑*i*P	**PKPbc**	**08 33 26.6**	**-0.4**
IBBN	**Ibbenburen**	**146.72 344**	*e*PKPbc	**PKPbc**	**08 33 27.3**	**+0.5**
	baz=32,slow=2.8						
ZST	**Bratislava**	**146.76 331**	*e*PKP2	**PKPdf**	**08 33 26.0**	**+0.6**
ZST	**Bratislava**	**146.76 331**	*e*PKP	**PKPdf**	**08 33 26.0**	**+0.6**
SIGR	**SIGRI**	**146.76 311**	P	**PKPdf**	**08 33 25.3**	**-0.3**
GTTG	**Gvttingen**	**146.78 341**	*e*PKPbc	**PKPbc**	**08 33 26.4**	**-0.7**
	baz=32,slow=2.8						
KAVA	**Kavala**	**146.91 314**	P	**PKPbc**	**08 33 26.9**	**-0.9**
KAVA	**Kavala**	**146.91 314**	P	**PKPbc**	**08 33 26.9**	**-0.9**
TANN	**Tannenbergstha**	**146.92 338**	*e*PKPbc	**PKPbc**	**08 33 26.9**	**-0.7**
	baz=32,slow=2.8						
VTS	**Vitosha**	**146.94 318**	P	**PKPbc**	**08 33 27.3**	**-0.7**
VTS	**Vitosha**	**146.94 318**	⇓*i*P	**PKPbc**	**08 33 27.7**	**-0.3**
VTS	**Vitosha**	**146.94 318**	P	**PKPbc**	**08 33 27.3**	**-0.7**
VTS	**Vitosha**	**146.94 318**	⇓PKP2	**PKPbc**	**08 33 27.7**	**-0.3**
VTS	**Vitosha**	**146.94 318**	*i* P	**PKPbc**	**08 33 27.8**	**-0.3**
CHOS	**Chios island**	**146.94 309**	P	**PKPbc**	**08 33 27.2**	**-0.9**
CHOS	**Chios island**	**146.94 309**	P	**PKPdf**	**08 33 26.6**	**+0.5**
CHOS	**Chios island**	**146.94 309**	P	**PKPdf**	**08 33 26.6**	**+0.5**
GUNZ	**Gunzen**	**147.01 338**	*e*PKPbc	**PKPbc**	**08 33 27.4**	**-0.4**
	baz=32,slow=2.8						
MOX	**Moxa**	**147.02 339**	*e*PKPbc	**PKPbc**	**08 33 26.9**	**-0.9**
	baz=32,slow=2.8						
WERN	**Wernitzgruen**	**147.05 338**	*e*PKPbc	**PKPbc**	**08 33 27.5**	**-0.5**
	baz=32,slow=2.8						
NKC	**Novy Kostel**	**147.07 337**	*e*PKP	**PKPbc**	**08 33 28.2**	**+0.2**
NKC			*e*pPKP	**sPKPab**	**08 33 34.2**	**+0.8**
NKC			AMS	AMS	09 38 40.0		
	comp=Z,2μm,21.8s						
NKC	**Novy Kostel**	**147.07 337**	*e*PKP2	**PKPbc**	**08 33 28.2**	**+0.2**
NKC			MLR	MLR			
	comp=Z,2μm,21.8s						
KARP	**Karpathos**	**147.08 304**	P	**PKPbc**	**08 33 27.9**	**-0.6**
KARP	**Karpathos**	**147.08 304**	P	**PKPbc**	**08 33 27.9**	**-0.6**
MMB	**Musomiste**	**147.15 316**	*i* P	**PKPdf**	**08 33 27.0**	**+0.7**
NVR	**Nevrokopi**	**147.18 315**	P	**PKPbc**	**08 33 27.9**	**-0.7**
NVR	**Nevrokopi**	**147.18 315**	P	**PKPbc**	**08 33 27.9**	**-0.7**
TIH	**Tihany**	**147.31 328**	*e*P	**PKPab**	**08 33 30.1**	**-0.4**
SOP	**Sopron**	**147.38 331**	*e*P	**PKPdf**	**08 33 27.1**	**+0.6**
UBBA	**Unterbreizbach**	**147.40 340**	*e*PKPbc	**PKPbc**	**08 33 28.2**	**-0.5**
	baz=32,slow=2.8						
MANZ	**Manzenberg**	**147.40 337**	*e*PKPbc	**PKPbc**	**08 33 28.4**	**-0.5**
	baz=32,slow=2.8						
MORH	**Mrgy, Hungar**	**147.40 327**	*e*P	**PKPdf**	**08 33 25.0**	**-1.5**
SRS	**Serrai**	**147.47 315**	P	**PKPdf**	**08 33 27.5**	**+0.7**
SRS	**Serrai**	**147.47 315**	P	**PKPdf**	**08 33 27.5**	**+0.7**
SRS	**Serrai**	**147.47 315**	PKiKP	**PKPdf**	**08 33 27.5**	**+0.7**
CONA	**Conrad Observa**	**147.52 331**	*e*pPKPdf	**PKPbc**	**08 33 29.1**	**-0.2**
	comp=Z,60nm,1.2s,SNR=9.8						
KHC	**Kasperske Hory**	**147.55 335**	*e*PKP	**PKPbc**	**08 33 28.7**	**-0.6**
KHC			*ex*	**PKiKP**	**08 33 35.0**	**+3.5**
KHC			AMS	AMS	09 40 50.0		
	comp=Z,3μm,22.2s						
KHC	**Kasperske Hory**	**147.55 335**	*e*PKP2	**PKPbc**	**08 33 28.7**	**-0.6**
KHC			MLR	MLR			
	comp=Z,3μm,22.2s						
ROTZ	**Rotzenmuhle**	**147.55 337**	*e*PKPbc	**PKPbc**	**08 33 28.7**	**-0.5**
	baz=32,slow=2.8						
OUR	**Ouranopolis**	**147.58 314**	P	**PKPdf**	**08 33 26.2**	**-0.8**
BUG	**Bochum--Univer**	**147.63 344**	*e*PKPbc	**PKPbc**	**08 33 29.7**	**+0.3**
	baz=32,slow=2.8						
GEC2	**GERESS Array S**	**147.72 335**	*e*PKPbc	**PKPbc**	**08 33 29.4**	**-0.5**
	baz=32,slow=2.8						
GERES	**GERESS Array B**	**147.72 335**	PKPbc	**PKPbc**	**08 33 28.6**	**-1.3**
	comp=Z,7.5nm,0.9s,baz=48,slow=2.0,SNR=14						
WET	**Wettzell**	**147.81 336**	*e*PKPbc	**PKPbc**	**08 33 29.4**	**-0.7**
	baz=32,slow=2.8						
APE	**Apeiranthos**	**147.82 307**	⇑*i*P	**PKPdf**	**08 33 24.9**	**-2.7**
KNT	**Kendrikon**	**147.90 316**	P	PKPpre	08 33 23.5		
KNT	**Kendrikon**	**147.90 316**	P	**PKPdf**	**08 33 28.5**	**+1.0**
KNT	**Kendrikon**	**147.90 316**	P	**PKPdf**	**08 33 28.5**	**+1.0**
KNT	**Kendrikon**	**147.90 316**	PKiKP	**PKPdf**	**08 33 28.5**	**+1.0**
VAY	**Valandovo**	**148.03 316**	*i* P	**PKPdf**	**08 33 29.0**	**+1.3**
SANT	**Santorini**	**148.12 306**	⇓*i*P	**PKPdf**	**08 33 28.1**	**0.0**
BEHE	**Becsehely**	**148.16 329**	*e*P	**PKPdf**	**08 33 27.1**	**-0.7**
ARSA	**Arzberg**	**148.18 331**	*e*pPKPdf	**PKPbc**	**08 33 30.5**	**-0.6**
	comp=Z,24nm,1.2s						
MOA	**Molln**	**148.27 333**	*e*pPKPdf	**PKPbc**	**08 33 31.0**	**-0.3**
	comp=Z,22nm,1.2s						
TNS	**Taunus Mts**	**148.40 342**	*e*PKPbc	**PKPbc**	**08 33 30.9**	**-0.7**
	baz=32,slow=2.8						
SKO	**Skopje**	**148.41 318**	*i* P	**PKPbc**	**08 33 30.8**	**-1.1**
LAST	**Lasithi**	**148.50 304**	P	**PKPbc**	**08 33 31.9**	**-0.5**
LAST	**Lasithi**	**148.50 304**	P	**PKPbc**	**08 33 31.9**	**-0.5**
PTL	**Penteli**	**148.66 310**	P	**PKPdf**	**08 33 30.7**	**+1.8**
PTL	**Penteli**	**148.66 310**	P	**PKPdf**	**08 33 30.7**	**+1.8**
ATHU	**Athens Univers**	**148.75 310**	P	**PKPdf**	**08 33 30.9**	**+1.9**
ATHU	**Athens Univers**	**148.75 310**	P	**PKPdf**	**08 33 30.9**	**+1.9**
VLY	**Voula,Athens**	**148.79 309**	P	**PKPbc**	**08 33 31.3**	**-1.6**
VLY	**Voula,Athens**	**148.79 309**	P	**PKPbc**	**08 33 31.3**	**-1.6**
PERS	**Pernice**	**148.82 331**	*i* PKPdf	**PKPbc**	**08 33 31.7**	**-1.1**
SOKA	**Soboth**	**148.83 331**	*e*P	**PKPbc**	**08 33 32.4**	**-0.5**
	comp=Z,17nm,1.2s						
KRUS	**Krusevo**	**148.85 317**	*i* P	**PKPdf**	**08 33 30.9**	**+1.7**
IDI	**Anoyia**	**148.92 304**	P	**PKPdf**	**08 33 27.5**	**-2.0**
IDI	**Anoyia**	**148.92 304**	P	**PKPdf**	**08 33 27.5**	**-2.0**
ATAL	**Atalanti**	**148.98 311**	P	**PKPbc**	**08 33 31.5**	**-1.9**
ATAL	**Atalanti**	**148.98 311**	P	**PKPbc**	**08 33 31.5**	**-1.9**
VILL	**Villia**	**149.01 310**	P	**PKPdf**	**08 33 30.6**	**+1.1**
LKR	**Lokris**	**149.02 311**	P	**PKPdf**	**08 33 31.1**	**+1.7**
LKR	**Lokris**	**149.02 311**	P	**PKPdf**	**08 33 31.1**	**+1.7**
FNA	**Florina**	**149.08 316**	P	**PKPdf**	**08 33 29.0**	**-0.5**
FNA	**Florina**	**149.08 316**	P	**PKPbc**	**08 33 32.6**	**-1.1**
FNA	**Florina**	**149.08 316**	P	**PKPbc**	**08 33 32.6**	**-1.1**
BLY	**Banja Luka**	**149.15 326**	⇓*i*P	**PKPbc**	**08 33 32.7**	**-0.9**
OBKA	**Obir**	**149.18 331**	*e*P	**PKPbc**	**08 33 33.1**	**-0.7**
	comp=Z,48nm,1.5s						
PHP	**Peshkopia**	**149.19 318**	P	**PKPdf**	**08 33 30.8**	**+1.1**
PHP	**Peshkopia**	**149.19 318**	P	**PKPdf**	**08 33 30.8**	**+1.1**
PHP	**Peshkopia**	**149.19 318**	PKiKP	**PKPdf**	**08 33 30.8**	**+1.1**
AXAR	**Agios Charalam**	**149.21 312**	P	**PKiKP**	**08 33 35.0**	**-0.2**
AXAR	**Agios Charalam**	**149.21 312**	P	**PKiKP**	**08 33 35.0**	**-0.2**
FUR	**Furstenfeldbru**	**149.22 336**	*e*PKPbc	**PKPbc**	**08 33 33.1**	**-0.6**
	baz=32,slow=2.8						
KBA	**Koelnbreinsper**	**149.27 333**	*e*pPKPdf	**PKPdf**	**08 33 31.5**	**+1.7**
	comp=Z,41nm,1.5s						
OHR	**Ohrid**	**149.28 317**	*i* P	**PKPbc**	**08 33 33.0**	**-1.1**
AGG	**Agios Georgios**	**149.31 313**	P	**PKPbc**	**08 33 32.5**	**-1.8**
AGG	**Agios Georgios**	**149.31 313**	P	**PKPdf**	**08 33 32.0**	**+2.1**
AGG	**Agios Georgios**	**149.31 313**	P	**PKPdf**	**08 33 32.0**	**+2.1**
AGG	**Agios Georgios**	**149.31 313**	PKiKP	**PKPdf**	**08 33 32.0**	**+2.1**
LTK	**Loutraki**	**149.31 310**	P	**PKPbc**	**08 33 32.3**	**-2.0**
LTK	**Loutraki**	**149.31 310**	P	**PKPbc**	**08 33 32.3**	**-2.0**
DID	**Didima**	**149.34 309**	P	**PKPbc**	**08 33 32.4**	**-2.0**
DID	**Didima**	**149.34 309**	P	**PKPbc**	**08 33 32.4**	**-2.0**
VAM	**Vamos**	**149.41 305**	P	**PKPbc**	**08 33 34.1**	**-0.5**
VAM	**Vamos**	**149.41 305**	P	**PKPbc**	**08 33 34.1**	**-0.5**
VAM	**Vamos**	**149.41 305**	PKP2	**PKPbc**	**08 33 34.1**	**-0.5**
STU	**Stuttgart**	**149.44 339**	*e*PKPbc	**PKPbc**	**08 33 33.4**	**-0.8**
	baz=32,slow=2.8						
KRND	**KRANIDI**	**149.45 309**	P	**PKPbc**	**08 33 33.0**	**-1.6**
DSF	**Desfina**	**149.46 311**	P	**PKPbc**	**08 33 32.9**	**-1.8**
DSF	**Desfina**	**149.46 311**	P	**PKPbc**	**08 33 32.9**	**-1.8**
PDG	**Podgorica**	**149.48 321**	⇓*i*P	**PKPbc**	**08 33 33.5**	**-1.0**
MYKA	**Terra Mystica**	**149.49 332**	*e*PKPbc	**PKPbc**	**08 33 33.5**	**-0.9**
	comp=Z,14nm,1.1s						
WLF	**Walferdange**	**149.54 344**	*e*PKPbc	**PKPbc**	**08 33 34.1**	**-0.3**
	baz=32,slow=2.8						
IMMV	**Iera Moni Meta**	**149.56 305**	P	**PKPbc**	**08 33 34.1**	**-0.8**
VISS	**Visnje**	**149.57 330**	*i* PKPdf	**PKPbc**	**08 33 34.6**	**0.0**
BOJS	**Bojanci**	**149.59 329**	*i* PKPdf	**PKPbc**	**08 33 34.4**	**-0.3**
EVR	**Evrytania**	**149.72 313**	P	**PKPbc**	**08 33 33.8**	**-1.6**
EVR	**Evrytania**	**149.72 313**	P	**PKPbc**	**08 33 33.8**	**-1.6**
TIR	**Tirane**	**149.74 318**	⇓*i*P	**PKiKP**	**08 33 36.2**	**0.0**
TIR	**Tirane**	**149.74 318**	⇓PKP2	**PKiKP**	**08 33 36.2**	**0.0**
SERG	**Sergoula**	**149.78 312**	P	**PKPbc**	**08 33 34.2**	**-1.2**
WATA	**Walderalm**	**149.79 335**	*e*PKPbc	**PKPbc**	**08 33 34.5**	**-0.8**
	comp=Z,11nm,1.1s						
ANX	**Ano Chora**	**149.80 312**	P	**PKPbc**	**08 33 35.4**	**-0.2**
GUR	**Goura**	**149.80 311**	P	**PKPbc**	**08 33 33.9**	**-1.7**
GUR	**Goura**	**149.80 311**	P	**PKPbc**	**08 33 33.9**	**-1.7**
WTTA	**Wattenberg**	**149.82 335**	*i* PKPbc	**PKPbc**	**08 33 35.2**	**-0.3**
	comp=Z,27nm,1.1s						
JAVS	**Javornik**	**149.86 331**	*i* PKPdf	**PKPbc**	**08 33 33.4**	**-2.1**
VLI	**Veliai**	**149.88 308**	P	**PKPbc**	**08 33 33.5**	**-2.2**
VLI	**Veliai**	**149.88 308**	P	**PKPbc**	**08 33 33.5**	**-2.2**
ABTA	**Abfaltersbach**	**149.88 333**	*e*PKPbc	**PKPbc**	**08 33 34.5**	**-0.9**
	comp=Z,19nm,1.1s,SNR=12						
EFP	**Efpalio**	**149.88 312**	P	**PKPbc**	**08 33 34.9**	**-0.7**
KLV	**Kalavryta, Ach**	**149.89 311**	P	**PKPbc**	**08 33 33.9**	**-1.8**
KLV	**Kalavryta, Ach**	**149.89 311**	P	**PKPbc**	**08 33 33.9**	**-1.8**
LAKA	**Lakka**	**149.92 311**	P	**PKPbc**	**08 33 34.9**	**-0.9**
LAKA	**Lakka**	**149.92 311**	P	**PKPbc**	**08 33 34.9**	**-0.9**
MOTA	**Moosalm**	**149.96 336**	*e*PKPbc	**PKPbc**	**08 33 35.0**	**-0.7**
	comp=Z,20nm,1.1s,SNR=8.0						
RETA	**Reutte**	**149.97 336**	*i* PKPbc	**PKPbc**	**08 33 35.3**	**-0.4**
	comp=Z,10nm,1.1s						
VLX	**Vlachokerasia**	**150.01 310**	P	**PKPbc**	**08 33 35.1**	**-1.0**
VLX	**Vlachokerasia**	**150.01 310**	P	**PKPbc**	**08 33 35.1**	**-1.0**
SQTA	**Sankt Quirin**	**150.02 335**	*e*PKPbc	**PKPbc**	**08 33 35.4**	**-0.4**
	comp=Z,18nm,1.4s						
UBR	**Ueberuh**	**150.05 337**	*e*PKPbc	**PKPbc**	**08 33 34.9**	**-1.0**
	baz=32,slow=2.8						
PVO	**Paravola**	**150.06 312**	P	**PKPbc**	**08 33 35.6**	**-0.4**
BFO	**Black Forest**	**150.10 340**	*e*PKPbc	**PKPbc**	**08 33 35.5**	**-0.4**
BFO			*e*PKPab	**PKPab**	**08 33 42.4**	**+0.7**
BFO			LR	LR			
	comp=Z,130nm,22.0s						
BFO	**Black Forest**	**150.10 340**	*e*PKPbc	**PKPbc**	**08 33 34.8**	**-1.1**
	baz=32,slow=2.8						
BFO	**Black Forest**	**150.10 340**	*e*PKiKP	**PKPbc**	**08 33 35.5**	**-0.4**
BFO			*e*		08 33 42.4		
BFO			MLR	MLR			
	comp=Z,130nm,22.0s						
DRO	**Drossia**	**150.24 311**	P	**PKPbc**	**08 33 35.9**	**-0.6**
ASCN	**Ascension**	**150.37 164**	PFAKE		08 33 40.0	+1.7
ASCN			LR	LR			
	comp=Z,28μm,20.0s						
FETA	**Feichten**	**150.37 336**	*e*PKiKP	**PKPbc**	**08 33 36.6**	**-0.2**
	comp=Z,19nm,1.1s						
ITM	**Ithomi**	**150.42 310**	P	**PKPbc**	**08 33 35.4**	**-1.6**
ITM	**Ithomi**	**150.42 310**	P	**PKPbc**	**08 33 35.4**	**-1.6**
DAVA	**Damuels**	**150.47 337**	*e*PKPbc	**PKPbc**	**08 33 36.4**	**-0.6**
	comp=Z,21nm,1.4s,SNR=6.3						
LKD2	**Lefkada island**	**150.57 313**	P	**PKPbc**	**08 33 36.8**	**-0.5**
LKD2	**Lefkada island**	**150.57 313**	P	**PKPbc**	**08 33 36.8**	**-0.5**
TIP	**Timpagrande**	**152.93 318**	⇓*i*P	**PKPbc**	**08 33 42.4**	**-0.3**
CMLA	**Cha da Macela**	**156.47 40**	PFAKE		08 33 50.0	+10
CMLA			LR	LR			
	comp=Z,6μm,19.0s						
MAHO	**Mahon**	**158.90 336**	*e*PP	PP	08 37 48.6	-11	
MAHO			*i* SS	SS	08 58 09.8	+7.8	
UCM	**Universidad Co**	**160.42 352**	*e*P	**PKPab**	**08 34 28.9**	**+3.0**
UCM			*i* SS	SS	08 59 15.5	+58	
ESDC	**Sonseca Array**	**161.13 354**	PKPab	**PKPab**	**08 34 29.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=7,1,slow=5.7,SNR=6.1						
CART	**Cartagena**	**162.66 345**	*i* SS	SS	08 59 46.0	+65	
EMAL	**Malaga-Limoner**	**164.06 354**	*e*PKP	PKPab	08 34 23.8	-18	
EMAL			*i* SS	SS	09 00 04.7	+69	
CEU	**Ceuta**	**164.99 356**	*e*SS	SS	08 59 38.0	+33	
IFR	**Ifrane**	**167.34 355**	*e*PKP	PKPab	08 34 39.3	-17	
IFR			*i* SS	SS	09 00 16.7	+48	
AVE	**Averroes**	**167.60 3**	*e*PKP	PKPdf	08 34 00.7	+8.9	
AVE			*i* SS	SS	09 00 41.7	+70	
TORD	**Torodi Ar. Bea**	**169.00 227**	PKP	**PKPdf**	**08 33 51.6**	**-1.6**
	comp=Z,3.8nm,1.1s,baz=173,slow=2.2,SNR=8.8						
TORD			PKPab	**PKPab**	**08 35 04.2**	**0.0**
	comp=Z,6.8nm,1.0s,baz=101,slow=1.5,SNR=5.9						

*SJA **24** 08:24:47.8±0.6, 21°

CMB	**Columbia Colle**	**1.21**	**289**	*e*Pg	**Pb**	**08 29 29.8**	**-0.7**
CMB				*e*Sg	**Sb**	**08 29 45.8**	**-0.4**
YERR	**Yerington**	**1.36**	**350**	*e*Pn	**Pb**	**08 29 33.1**	**-0.1**
VOG	**Valley Oaks Go** baz=15	**1.37**	**195**	P	**Pn**	**08 29 32.7**	**0.0**
VOG	baz=15			S	**Sb**	**08 29 50.2**	**-0.7**
CWC	**Cottonwood Cre** baz=331	**1.39**	**150**	P	**Pn**	**08 29 33.0**	**-0.3**
CWC	baz=331			S	**Sb**	**08 29 50.8**	**-0.9**
GRAC	**Grapevine Rang** baz=298	**1.42**	**117**	P	**Pg**	**08 29 34.5**	**-0.1**
PNTR	**Pine Nut**	**1.53**	**341**	*e*Pn	**Pg**	**08 29 36.5**	**-0.3**
KVN	**Kaiserville**	**1.55**	**25**	*e*Pn	**Pb**	**08 29 36.5**	**-0.1**
RUBR	**Rubicon Trail**	**1.69**	**326**	*e*Pn	**Pb**	**08 29 39.3**	**+0.3**
VCNR	**Virginia City**	**1.74**	**342**	*e*Pn	**Pb**	**08 29 40.2**	**+0.5**
DAC	**Darwin (Calif)**	**1.74**	**141**	Pn	**Pn**	**08 29 38.0**	**-0.1**
VES	**Vestal, Richgr** baz=4.0	**1.81**	**184**	P	**Pb**	**08 29 40.1**	**-0.6**
VES	baz=4.0			S	**Sb**	**08 30 03.6**	**+0.1**
MPMC	**Manual Prospec** baz=324	**1.97**	**143**	Pb	**Pb**	**08 29 43.9**	**+0.3**
ISA	**Isabella, Lake**	**2.02**	**169**	*e*Pn	**Pb**	**08 29 44.0**	**-0.4**
ISA	**Isabella, Lake** baz=350	**2.02**	**169**	Pb	**Pb**	**08 29 44.0**	**-0.4**
ISA	baz=350			Sb	**Sb**	**08 30 10.4**	**+0.8**
AFDM	**Forest Hills D**	**2.06**	**310**	*e*Pn	**Pb**	**08 29 44.5**	**-0.6**
PAHR	**Pah Rah Range**	**2.08**	**351**	*e*Pn	**Pn**	**08 29 44.0**	**+1.2**
PAGB	**Antelope Grade**	**2.18**	**209**	*e*Pn	**Pn**	**08 29 44.5**	**+0.5**
SAO	**San Andreas Ge**	**2.18**	**247**	*e*Pn	**Pb**	**08 29 45.9**	**-1.3**
TPNV	**Topopah Spring**	**2.26**	**107**	*e*Pn	**Pn**	**08 29 45.3**	**+0.2**
TPNV	**Topopah Spring** baz=289	**2.26**	**107**	P	**Pn**	**08 29 45.4**	**+0.2**
LRMC	**Laurel Mtn Rad** baz=336	**2.39**	**154**	Sb	**Sb**	**08 30 21.8**	**+1.4**
SMMC	**Simmler** baz=20	**2.48**	**200**	P	**Pn**	**08 29 49.4**	**+1.3**
ARVC	**Arvin** baz=358	**2.52**	**178**	Pb	**Pb**	**08 29 51.8**	**-1.0**
ARVC	baz=358			Sb	**Sb**	**08 30 23.8**	**-0.1**
R11A	**Troy Canyon, C** baz=256	**2.75**	**74**	Pb	**Pb**	**08 29 57.1**	**+0.2**
R11A	baz=256			Sb	**Sg**	**08 30 34.4**	**-1.2**
PKM	**Mcpherson Peak** baz=14	**2.84**	**195**	P	**Pn**	**08 29 54.7**	**+1.5**
EDW2	**Edwards Air Fo** baz=345	**2.87**	**164**	P	**Pn**	**08 29 55.7**	**+2.2**
BMN	**Battle Mountai**	**3.09**	**25**	*e*Pn	**Pn**	**08 29 56.6**	**0.0**
SHPR	**Sheep Range**	**3.23**	**109**	*e*Pn	**Pn**	**08 29 58.7**	**+0.1**

KRSC 24 09:06:56.6±10.0, 50.74N×160.15E, h99km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.69**	**310**	*e*P	Pn	09 07 26.2	+1.1
KDTR				*e*S	Sn	09 07 47.3	+0.5
RUS	**Russkaya**	**1.98**	**330**	*e*P	Pn	09 07 29.7	+0.9
RUS				*e*S	Sn	09 07 54.5	+1.1
MTVR	**Mutnovka**	**2.14**	**326**	*e*P	Pn	09 07 32.4	+1.4
MTVR				*e*S	Sn	09 07 59.0	+1.7
ASAK	**Asacha**	**2.17**	**320**	*e*P	Pn	09 07 33.5	+2.2
ASAK				*e*S	Sn	09 08 00.7	+2.8
PAU	**Pauzhetka**	**2.23**	**290**	*e*S	Sn	09 08 00.0	+0.8
KRMR	**Karymshinskiy**	**2.44**	**330**	*e*P	Pn	09 07 36.8	+1.9
KRMR				*e*S	Sn	09 08 06.4	+2.2
PET	**Petropavlovsk**	**2.47**	**339**	*e*S	Sn	09 08 06.2	+1.3
NLC	**Nalytchevo**	**2.49**	**349**	*e*S	Sn	09 08 06.8	+1.6
SKR	**Severo-Kuril's**	**2.56**	**270**	*e*S	Sn	09 08 07.4	+0.3
UGLR	**Uglovaya**	**2.61**	**342**	*e*P	Pn	09 07 39.8	+2.6
SDLR	**Sedlovina**	**2.66**	**343**	*e*P	Pn	09 07 40.0	+2.1
SMAR	**Somma**	**2.66**	**342**	*e*P	Pn	09 07 41.5	+3.5
AVH	**Avacha**	**2.68**	**342**	*e*P	Pn	09 07 41.3	+3.2
KRER	**Koryakskii**	**2.71**	**342**	*e*P	Pn	09 07 42.2	+3.6
KOK	**Koryaka**	**2.72**	**340**	*e*P	Pn	09 07 42.1	+3.4
KRX	**Arik**	**2.78**	**341**	*e*P	Pn	09 07 41.8	+2.3
APC	**Apacha**	**2.87**	**321**	*e*S	Sn	09 08 19.6	+5.2
MKZ	**Mys Kozlova**	**3.94**	**13**	*e*P	Pn	09 07 55.7	+0.8
TUMD	**Tumrok D**	**4.48**	**2**	*e*S	Sn	09 08 54.0	+1.0
KBTR	**Krutoberegovo**	**5.71**	**15**	*e*P	Pn	09 08 20.7	+1.9

*ISCJB **24** 09:18:31.5±0.3, 51.55N±0.02×16.03E±0.02, h0km, mb3.1/1, Error ellipse: s-maj=2.3km s-min=2.0km az=28.7*
*LDG **24** 09:18:32.6±0.2, 51.58N×16.05E, h1km, Ml3.5/3, Error ellipse: s-maj=5.3km s-min=2.3km az=18.0, Suspected Mining induced.*
*IPEC **24** 09:18:33.0±0.2, 51.61N×16.13E, h0km, ML3.0/3, Error ellipse: s-maj=3.3km s-min=1.6km az=68.0*
*BGR **24** 09:18:33.5±0.5, 51.60N×16.04E, h1km, ML3.4/14, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0*
*IDC **24** 09:18:34.2±0.6, 51.55N×15.87E, h0km, mb3.0/1, mb1 3.4/9, mb1mx3.2/48, mbtmp3.2/9, ML2.9/7, MS4.0/1, Ms1 4.0/1, ms1mx3.1/25, Error ellipse: s-maj=12.9km s-min=6.0km az=102.0*
*UPP **24** 09:18:37.1±3.3, 51.76N×15.30E, h0km, ML2.2, Suspected explosion*

ISC 24 09:18:31.8±0.6, 51.62N±0.03×16.03E±0.02, h0km, n84, σ1s84/140, 3C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.80**	**168**	*e*Pg	**Pb**	**09 18 48.3**	**-0.1**
KSP				*i* Sg	**Sg**	**09 18 58.1**	**+0.8**
KSP	**Ksiaz**	**0.80**	**168**	*e*Pg	**Pb**	**09 18 48.4**	**-0.1**
KSP				*e*Sg	**Sg**	**09 18 58.2**	**+0.9**
UPC	**Upice**	**1.11**	**180**	*e*PG	**Pb**	**09 18 54.1**	**+0.2**
UPC				*e*SG	**Sg**	**09 19 07.7**	**+0.2**
	comp=Z,230nm,0.5s						
DPC	**Dobruska-Polom**	**1.29**	**171**	*e*PG	**Pb**	**09 18 57.1**	**+0.3**
DPC				*e*SG	**Sg**	**09 19 12.8**	**-0.2**
	comp=Z,195nm,0.5s						
DPC	**Dobruska-Polom**	**1.29**	**171**	*e*Pn	**Pb**	**09 18 57.1**	**+0.3**
DPC				*e*Sg	**Sg**	**09 19 13.1**	**0.0**
PVCC	**Panska Ves**	**1.43**	**221**	*e*PG	**Pb**	**09 19 00.0**	**+0.8**
PVCC				*e*SG	**Sb**	**09 19 18.3**	**+0.3**
	comp=Z,372nm,0.2s						
BRG	**Berggiesshubel**	**1.51**	**241**	PN	**Pb**	**09 19 00.9**	**+0.3**
BRG				PG	**Pg**	**09 19 02.3**	**+1.7**
BRG				SG	**Sn**	**09 19 21.9**	**+1.5**
	224nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**241**	*e*Pn	**Pb**	**09 19 00.7**	**+0.1**
BRG				*e*Sg	**Sn**	**09 19 21.8**	**+1.5**
KRLC	**Kraliky**	**1.62**	**162**	*e*PG	**Pb**	**09 19 02.6**	**+0.1**
KRLC				*e*SG	**Sn**	**09 19 22.8**	**-0.4**
	comp=Z,24nm,0.4s						
FBE	**Freiberg**	**1.82**	**248**	*e*Sg	**Sg**	**09 19 31.6**	**+1.5**
GOPC	**GO Pecny, Ondr**	**1.88**	**205**	*e*PN	**Pn**	**09 19 06.0**	**+0.8**
GOPC				*e*PG	**Pg**	**09 19 07.8**	**0.0**
GOPC				*e*SG	**Sg**	**09 19 32.1**	**0.0**
PRU	**Pruhonice**	**1.89**	**210**	*e*PN	**Pn**	**09 19 06.0**	**+0.8**
PRU				*e*PG	**Pb**	**09 19 07.8**	**+0.8**
PRU				*e*SG	**Sb**	**09 19 31.9**	**+0.8**
	comp=Z,84nm,0.4s						
CLL	**Collm**	**1.92**	**262**	*i*Pn	**Pn**	**09 19 06.7**	**+1.1**
CLL				*e*Pg	**Pg**	**09 19 09.0**	**+0.6**
CLL				*e*		09 19 29.0	
CLL				*e*Sg	**Sg**	**09 19 35.0**	**+1.7**
	comp=Z,66nm,0.3s						
CLL	**Collm**	**1.92**	**262**	*e*Pn	**Pn**	**09 19 06.7**	**+1.1**
CLL				*e*Sg	**Sg**	**09 19 35.2**	**+1.9**
MORC	**Moravsky Berou**	**2.08**	**152**	⇑*i*P	**Pn**	**09 19 08.6**	**+0.6**
MORC	**Moravsky Berou**	**2.08**	**152**	S	**Sn**	**09 19 26.2**	**-8.4**
MORC	**Moravsky Berou**	**2.08**	**152**	*e*PN	**Pn**	**09 19 08.8**	**+0.8**
MORC				*e*SG	**Sb**	**09 19 37.3**	**+0.4**
MORC	**Moravsky Berou** baz=334	**2.08**	**152**	*e*Pn	**Pn**	**09 19 08.8**	**+0.8**
MORC				*e*Sg	**Sb**	**09 19 37.2**	**+0.4**
	comp=Z,93nm,0.8s,baz=334						
MORC	**Moravsky Berou**	**2.08**	**152**	*e*Pn	**Pn**	**09 19 08.7**	**+0.8**
MORC				*e*Sg	**Sg**	**09 19 39.9**	**+1.3**
OKC	**Ostrava-Krasne**	**2.24**	**142**	*e*PG	**Pg**	**09 19 15.0**	**+0.4**
OKC				*e*SG	**Sb**	**09 19 42.2**	**+0.9**
	comp=Z,76nm,0.5s						
OKC	**Ostrava-Krasne**	**2.24**	**142**	*e*Pn	**Pn**	**09 19 10.8**	**+0.7**
OKC				*e*Sg	**Sg**	**09 19 43.4**	**-0.2**

CHZP	**Chorzow**	**2.30**	**124**	*e*Pg	**Pg**	**09 19 18.4**	**+2.6**
CHZP				*e*Sg	**Sg**	**09 19 47.7**	**+2.0**
VRAC	**Vranov**	**2.34**	**171**	⇓*i*P	**Pn**	**09 19 13.1**	**+1.6**
VRAC	**Vranov**	**2.34**	**171**	S	**Sn**	**09 19 36.8**	**-4.2**
VRAC	**Vranov**	**2.34**	**171**	*e*PN	**Pn**	**09 19 12.7**	**+1.2**
VRAC				*e*SG	**Sb**	**09 19 46.0**	**+1.6**
VRAC	**Vranov** baz=353	**2.34**	**171**	*e*Pn	**Pn**	**09 19 12.6**	**+1.1**
VRAC				*e*Sg	**Sb**	**09 19 45.9**	**+1.6**
	comp=Z,51nm,0.4s,baz=353						
VRAC	**Vranov**	**2.34**	**171**	Pn	**Pn**	**09 19 12.9**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=334,slow=13,SNR=23						
VRAC				Sn	**Sn**	**09 19 41.1**	**+0.1**
	comp=Z,3.1nm,0.3s,baz=273,slow=14,SNR=4.8						
VRAC				Lg	Lg	09 19 46.0	
	comp=Z,17nm,0.3s,baz=72,slow=19,SNR=17						
TREC	**Trest**	**2.35**	**189**	*e*SG	**Sb**	**09 19 46.4**	**+1.8**
TANN	**Tannenbergstha**	**2.55**	**243**	*e*Pn	**Pn**	**09 19 16.0**	**+1.5**
TANN				*e*Sg	**Sg**	**09 19 53.7**	**0.0**
KRUC	**Moravsky**	**2.57**	**175**	*e*PN	**Pn**	**09 19 15.8**	**+1.1**
KRUC				*e*SG	**Sg**	**09 19 53.2**	**-1.2**
KRUC	**Moravsky** baz=356	**2.57**	**175**	*e*Pn	**Pn**	**09 19 15.8**	**+1.1**
KRUC				*e*Sg	**Sb**	**09 19 53.1**	**+2.2**
	comp=Z,76nm,0.9s,baz=356						
NKC	**Novy Kostel**	**2.66**	**240**	*e*PN	**Pn**	**09 19 17.3**	**+1.5**
NKC				*e*PG	**Pg**	**09 19 23.8**	**+1.2**
NKC				*e*SG	**Sg**	**09 19 56.9**	**-0.1**
	comp=Z,105nm,0.3s						
OJC	**Ojcow**	**2.77**	**119**	*e*Pg	**Pg**	**09 19 26.5**	**+1.7**
OJC				*e*Sg	**Sg**	**09 20 01.9**	**+1.2**
KHC	**Kasperske Hory**	**2.94**	**213**	*e*PN	**Pn**	**09 19 20.7**	**+0.9**
KHC				*e*PG	**Pg**	**09 19 27.1**	**-1.0**
KHC				*e*SN	**Sn**	**09 19 55.7**	**-0.1**
KHC				*e*SG	**Sg**	**09 20 05.6**	**-0.7**
	comp=Z,46nm,0.4s						
MOX	**Moxa**	**2.94**	**252**	*e*Pn	**Pn**	**09 19 21.1**	**+1.3**
MOX				*e*Sg	**Sg**	**09 20 08.2**	**+1.9**
JAVC	**Velka Javorina**	**2.96**	**158**	*e*PN	**Pn**	**09 19 21.8**	**+1.8**
JAVC				*e*SG	**Sb**	**09 20 04.9**	**+2.8**
MANZ	**Manzenberg**	**2.98**	**238**	*e*Pn	**Pn**	**09 19 21.7**	**+1.4**
MANZ				*e*Sg	**Sg**	**09 20 08.8**	**+1.5**
ROTZ	**Rotzenmuhle**	**3.06**	**234**	*e*Pn	**Pn**	**09 19 22.6**	**+1.3**
ROTZ				*e*Sg	**Sg**	**09 20 09.9**	**+0.1**
GEC2	**GERESS Array S**	**3.15**	**209**	*e*Pn	**Pn**	**09 19 24.4**	**+1.7**
GERES	**GERESS Array B**	**3.15**	**209**	Pn	**Pn**	**09 19 24.5**	**+1.7**
	comp=Z,2.6nm,0.3s,baz=25,slow=13,SNR=31						
GERES				Pg	**Pb**	**09 19 29.8**	**+1.1**
	comp=Z,6.4nm,0.3s,baz=29,slow=17,SNR=37						
GERES				Sn	**Sn**	**09 19 59.0**	**-2.1**
	comp=Z,4.3nm,0.3s,baz=16,slow=25,SNR=5.5						
GERES				Lg	Lg	09 20 11.2	
	comp=Z,9.5nm,0.3s,baz=29,slow=28,SNR=9.9						
WET	**Wettzell**	**3.19**	**220**	*e*Pn	**Pn**	**09 19 24.7**	**+1.4**
WET				*e*Sg	**Sg**	**09 20 14.2**	**-0.1**
SMOL	**Smolenice**	**3.24**	**163**	*e*PG	**Pg**	**09 19 35.0**	**+1.2**
SMOL				*e*SG	**Sg**	**09 20 15.1**	**-0.7**
LANS	**Liptovska Anna**	**3.31**	**137**	*e*PG	**Pg**	**09 19 35.4**	**+0.2**
LANS				*e*SG	**Sg**	**09 20 17.3**	**-0.8**
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG	**Pg**	**09 19 37.0**	**+1.1**
MODS				*e*SG	**Sg**	**09 19 37.9**	**+0.4**
ZST	**Bratislava**	**3.50**	**168**	*e*SG	**Sg**	**09 20 24.1**	**0.0**
BSD	**Bornholm Skovb**	**3.56**	**350**	*i* P	Pn	**09 19 29.8**	**+1.6**
BSD				*i* S	**Sn**	**09 20 11.8**	**+0.8**
GRF	**Grafenberg Arr**	**3.62**	**240**	*e*Pn	**Pn**	**09 19 30.9**	**+1.9**
GRF				*e*Sg	**Sg**	**09 20 27.8**	**-0.1**
VYHS	**Vyhne**	**3.62**	**149**	*e*PN	**Pn**	**09 19 30.2**	**+1.2**
VYHS				*e*PG	**Pg**	**09 19 43.1**	**+2.1**
VYHS				*e*SG	**Sg**	**09 20 26.7**	**-1.2**
CONA	**Conrad Observa**	**3.70**	**182**	*e*Pn	**Pn**	**09 19 32.1**	**+1.9**
	comp=Z,1.3nm,0.3s						
CONA				Sg	**Sg**	**09 20 30.6**	**+0.1**
	comp=Z,22nm,0.4s						
MOA	**Molln**	**3.94**	**197**	*e*Pn	**Pn**	**09 19 35.1**	**+1.5**
	comp=Z,4.8nm,0.2s,SNR=19						
MOA				Sg	**Sg**	**09 20 38.9**	**+0.5**
	comp=Z,21nm,0.4s						
LUNU	**Lund**	**4.30**	**340**	P	**Pn**	**09 19 39.2**	**+0.8**
LUNU				S	**Sn**	**09 20 27.3**	**-1.9**
ARSA	**Arzberg**	**4.39**	**184**	*e*Pn	Pn	09 19 44.7	+5.1
	comp=Z,0.7nm,0.2s						
ARSA				Sg	**Sg**	**09 20 52.5**	**-0.1**
	comp=Z,21nm,0.5s						
PSZ	**Piszkesteto**	**4.47**	**144**	⇓*i*P	**Pn**	**09 19 40.3**	**-0.6**
KBA	**Koelnbreinsper**	**4.87**	**202**	*e*Pn	**Pn**	**09 19 48.2**	**+1.8**
	comp=Z,3.3nm,0.3s,SNR=6.3						
KBA				Sg	**Sg**	**09 21 09.3**	**+1.1**
	comp=Z,13nm,0.7s						
SOKA	**Soboth**	**4.99**	**188**	S	**Sg**	**09 21 08.4**	**-3.6**
	comp=Z,1.9nm,0.5s						
WATA	**Walderalm**	**5.18**	**216**	*e*Pn	**Pn**	**09 19 52.6**	**+2.0**
	comp=Z,1.6nm,0.2s,SNR=5.2						
MYKA	**Terra Mystica**	**5.24**	**198**	*e*Pn	**Pn**	**09 19 54.6**	**+3.3**
MOTA	**Moosalm**	**5.35**	**219**	*e*Pn	**Pn**	**09 19 54.3**	**+1.4**
	comp=Z,1.5nm,0.2s						
RETA	**Reute**	**5.37**	**222**	*i* Pn	**Pn**	**09 19 54.3**	**+1.1**
	comp=Z,0.7nm,0.2s						
ABTA	**Abfaltersbach**	**5.39**	**207**	*e*Pn	**Pn**	**09 19 56.0**	**+2.5**
	comp=Z,0.6nm,0.2s						
ABTA				Sg	**Sg**	**09 21 25.9**	**+0.9**
	comp=Z,10nm,0.7s						
SQTA	**Sankt Quirin**	**5.41**	**217**	*e*Pn	**Pn**	**09 19 56.6**	**+2.8**
	comp=Z,1.7nm,0.2s,SNR=4.9						
TRPA	**Tarpa**	**5.47**	**127**	⇑*i*P	**Pn**	**09 19 54.6**	**+0.2**
FETA	**Feichten**	**5.76**	**219**	Pn	**Pn**	**09 20 02.6**	**+4.0**
	comp=Z,0.4nm,0.2s						
ASPU	**Aespoe**	**5.82**	**3**	P	**Pn**	**09 20 01.5**	**+2.3**
EKSU	**Eksjoe**	**5.98**	**356**	P	**Pn**	**09 20 03.4**	**+2.0**
DAVOX	**Davos/Dischmat**	**6.30**	**222**	Pn	**Pn**	**09 20 08.9**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=350,slow=18,SNR=6.3						
DAVOX				Lg	Lg	09 21 46.2	
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.6						
BORU	**Boraas**	**6.32**	**344**	P	**Pn**	**09 20 07.8**	**+1.8**
CDF	**Champ du Feu**	**6.49**	**244**	*e*Pn	**Pn**	**09 20 06.8**	**-1.7**
CDF				*e*Sn	**Sn**	**09 21 17.0**	**-6.2**
	comp=Z,11nm,0.6s						
DRGR		**6.52**	**135**	⇓*i*P	**Pn**	**09 20 09.4**	**+0.4**
VIKU	**Vikbolandet**	**6.91**	**3**	P	**Pn**	**09 20 16.7**	**+2.6**
HINF	**Hinteralfeld**	**7.06**	**241**	*e*Pn	**Pn**	**09 20 14.5**	**-1.8**
HINF				*e*Sn	**Sn**	**09 21 30.5**	**-6.7**
	comp=Z,6.4nm,0.5s						
BURAR	**Bucovina Array**	**7.19**	**120**	⇓*i*P	**Pn**	**09 20 19.7**	**+1.5**
HAU	**Haudompre**	**7.23**	**244**	*e*Pn	**Pn**	**09 20 18.1**	**-0.5**
HAU				*e*Sn	Sn	09 21 32.4	-9.0
	comp=Z,12nm,0.6s						
GIVF	**Givet**	**7.25**	**262**	*e*Pn	**Pn**	**09 20 16.6**	**-2.3**
PAGF	**Fort de Pagny**	**7.30**	**249**	*e*Pn	**Pn**	**09 20 17.8**	**-1.8**
SFTF	**Sexfontaines**	**7.87**	**249**	*e*Pn	**Pn**	**09 20 25.6**	**-1.8**
AKASG	**Malin Array Be**	**8.35**	**91**	Pn	**Pn**	**09 20 33.9**	**-0.1**
	comp=Z,2.1nm,0.3s,baz=279,slow=12,SNR=7.8						
HFS	**Hagfors**	**8.63**	**352**	Pn	**Pn**	**09 20 38.6**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=169,slow=15,SNR=6.3						
NOA	**NORSAR Array B**	**9.81**	**346**	Pn	**Pn**	**09 20 53.2**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=128,slow=14,SNR=8.3						
FINES	**FINESS Array B**	**11.29**	**25**	Pn	**Pn**	**09 21 14.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=204,slow=12,SNR=16						
FINES				Sn	**Sn**	**09 23 16.5**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=219,slow=19,SNR=5.6						
EKA	**Eskdalemuir Ar**	**12.01**	**296**	Pn	**Pn**	**09 21 21.4**	**-2.6**
	baz=108,slow=14,SNR=2.5						
ARCES	**ARCESS Array B**	**18.52**	**11**	Pn	**P**	**09 22 48.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=7.5						
KVAR	**Kislovodsk Arr**	**19.41**	**103**	LR	LR	09 31 55.2	
	comp=Z,446nm,20.6s,baz=262,slow=41						
YKA	**Yellowknife Ar**	**59.73**	**336**	P	**P**	**09 28 40.2**	**+2.6**
	comp=Z,0.1nm,0.5s,baz=30,slow=6.7,SNR=5.3						

MEX 24 09:32:31.0±0.7, 18.62N×101.28W, h60km±22km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.95**	**111**	*e*P	Pn	09 32 47.4	-1.0
ARIG				*e*S	Sn	09 32 59.0	-2.2
ZIIG	**Zihuatanejo**	**1.02**	**190**	*e*P	Pn	09 32 47.3	-2.0
ZIIG				*e*S	Sn	09 33 01.5	-1.3
PLIG	**Platanillo**	**1.70**	**97**	*i* P	Pn	09 32 57.4	-1.2
PLIG				*i* S	Sn	09 33 17.5	-1.9
MEIG	**Mezcala**	**1.72**	**113**	*e*P	Pn	09 32 57.8	-1.0
MEIG				*i* S	Sn	09 33 17.4	-2.4
CAIG	**El Cayaco**	**1.83**	**148**	*e*P	Pn	09 32 58.7	-1.6
CAIG				*i* S	Sn	09 33 20.4	-2.0
YAIG	**Yautepec**	**2.11**	**83**	*i* P	Pn	09 33 03.7	-0.4
YAIG				*i* S	Sn	09 33 27.0	-2.3
TLIG	**Tlapa**	**2.79**	**112**	*i* P	Pn	09 33 12.3	-1.0
TLIG				*i* S	Sn	09 33 43.5	-2.3

KRSC 24 09:36:42.9±10.0, 50.66N×160.24E, h40km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.78**	**311**	*e*P	Pn	09 37 13.4	+2.3
KDTR				*e*S	Sn	09 37 34.7	+2.2
RUS	**Russkaya**	**2.08**	**329**	*e*P	Pn	09 37 17.3	+2.1
RUS				*e*S	Sn	09 37 41.7	+1.9
MTVR	**Mutnovka**	**2.23**	**326**	*e*P	Pn	09 37 20.0	+2.5
MTVR				*e*S	Sn	09 37 46.6	+2.8
ASAK	**Asacha**	**2.26**	**321**	*i* P	Pn	09 37 20.7	+2.9
ASAK				*e*S	Sn	09 37 47.7	+3.2
PAU	**Pauzhetka**	**2.31**	**292**	*e*S	Sn	09 37 49.3	+3.8
KRMR	**Karymshinskiy**	**2.54**	**330**	*e*P	Pn	09 37 24.2	+2.7
KRMR				*e*S	Sn	09 37 53.8	+2.6
UGLR	**Uglovaya**	**2.70**	**342**	*e*P	Pn	09 37 26.5	+2.6
SDLR	**Sedlovina**	**2.75**	**343**	*e*P	Pn	09 37 27.1	+2.5
AVH	**Avacha**	**2.77**	**341**	*e*P	Pn	09 37 28.4	+3.6
KOK	**Koryaka**	**2.82**	**340**	*e*P	Pn	09 37 29.2	+3.7
KOK				*e*S	Sn	09 38 03.0	+4.8
APC	**Apacha**	**2.97**	**321**	*i* P	Pn	09 37 31.4	+4.0
APC				*e*S	Sn	09 38 07.1	+5.4

*ISCJB **24** 09:46:17.9±0.7, 6.87N±0.03×73.16W±0.04, h151km±5km, mb2.8/1, Error ellipse: s-maj=6.5km s-min=5.5km az=8.4*
*RSNC **24** 09:46:19.2±1.2, 6.82N×73.15W, h145km±5km, ML3.2, Mw3.5*
*IDC **24** 09:46:20.9±6.9, 6.66N×75.76W, h133km±82km, mb2.6/1, mb1 2.9/2, mb1mx2.7/22, mbtmp3.1/2, Error ellipse: s-maj=176.8km s-min=36.4km az=81.0*

ISC 24 09:46:18.9±1.0, 6.85N±0.04×73.16W±0.05, h144km±6km, n19, σ0s87/35, 5C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.23**	**351**	⇑*i*P	**Pn**	**09 46 38.9**	**+0.1**
GIRC				*e*S	**Sn**	**09 46 54.3**	**+0.4**
GIRC				*i*		09 46 55.8	
	comp=Z,150nm,0.4s						
BARC	**Barichara**	**0.26**	**186**	*i* P	**Pn**	**09 46 38.8**	**-0.2**
BARC				*e*S	**Sn**	**09 46 53.4**	**-0.8**
BARC				*i*		09 46 55.1	
	comp=Z,332nm,0.5s						
BRRC	**Barranca, Sant**	**0.61**	**295**	⇑*i*P	**Pn**	**09 46 40.7**	**+0.5**
BRRC				*e*S	**Sn**	**09 46 57.5**	**+1.1**
BRRC				*i*		09 46 57.6	
	comp=N,757nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**43**	⇑*i*P	**Pn**	**09 46 41.6**	**+0.5**
PAMC				*e*S	**Sn**	**09 46 58.6**	**+0.6**
PAMC				*i*		09 46 59.5	
	comp=N,186nm,0.2s						
RUSC	**La Rusia**	**0.96**	**176**	*e*P	**Pn**	**09 46 42.7**	**-0.7**
RUSC				*e*S	**Sn**	**09 47 01.1**	**-0.9**
RUSC				*i*		09 47 02.6	
	comp=N,188nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.33**	**257**	*e*P	**Pn**	**09 46 45.6**	**-0.7**
PTBC				*e*S	**Sn**	**09 47 05.9**	**-1.3**
PTBC				*i*		09 47 08.7	
	comp=N,395nm,0.3s						
OCAC	**Ocana**	**1.39**	**353**	*e*P	**Pn**	**09 46 47.1**	**+0.1**
OCAC				*e*S	**Sn**	**09 47 08.7**	**+0.1**
OCAC				*i*		09 47 12.3	
	comp=N,931nm,0.4s						
TAMC	**Tame, Arauca**	**1.42**	**107**	⇑*i*P	**Pn**	**09 46 47.2**	**-0.1**
TAMC				*e*S	**Sn**	**09 47 08.6**	**-0.3**
TAMC				*i*		09 47 12.7	
	comp=N,200

	comp=E,26nm,0.3s								
KRUS				*e*Lg		Lg		09 58 18.1	
	comp=N,22nm,0.3s								
PDG	**Podgorica**	**0.95**	**312**	*e*Pg		**Pg**		**09 58 02.4**	**-1.6**
PDG				*e*Sg		**Sg**		**09 58 16.6**	**+0.3**
BEY	**Berane**	**1.10**	**348**	*e*Pg		Pg		09 58 02.5	-4.4
BIA	**Bitola**	**1.15**	**132**	*e*Sg		**Sg**		**09 58 23.7**	**+0.9**
BIA				*e*Lg		Lg		09 58 25.2	
	comp=Z,12nm,0.3s								
BIA				*e*Lg		Lg		09 58 25.4	
	comp=N,20nm,0.4s								
FNA	**Florina**	**1.35**	**139**	*i* Pg		**Pn**		**09 58 09.8**	**-1.7**
FNA				*i* Sg		**Sb**		**09 58 29.1**	**-0.3**
FNA	**Florina**	**1.35**	**139**	*i* PN		**Pn**		**09 58 10.1**	**-1.5**
FNA				*i* SN		**Sb**		**09 58 29.1**	**-0.3**
SJES	**Sjenica**	**1.47**	**353**	*e*Pg		**Pb**		**09 58 14.5**	**+0.6**
SJES				*e*Sg		**Sn**		**09 58 33.1**	**-0.1**
SELS	**Selova**	**1.57**	**25**	*e*Pg		**Pn**		**09 58 15.5**	**+0.8**
TREB	**Trebinje**	**1.65**	**304**	*e*Pg		**Pn**		**09 58 16.8**	**+1.1**
TREB				*e*Sg		**Sg**		**09 58 39.6**	**+0.6**
IVAS	**Ivanjica**	**1.78**	**359**	*e*Pg		**Pb**		**09 58 19.8**	**+0.7**
IVAS				*e*Sg		**Sg**		**09 58 44.3**	**+1.3**
BOSS	**Bosilegrad**	**1.83**	**67**	*e*Pg		**Pb**		**09 58 21.1**	**+1.1**
BOSS				*e*Sg		**Sg**		**09 58 45.0**	**+0.3**

IDC ***24*** *10:04:11.7±0.6,50.˙70N×160.˙09E,h0km,mb4.0/17, mb1 4.2/20,mb1mx4.0/53,mbtmp4.0/20,ML3.0/3,MS3.4/1, Ms1 3.4/1,ms1mx2.9/53,Error ellipse: s-maj=15.7km s-min=13.6km az=168.0*

ISCJB ***24*** *10:04:13.1±1.2,50.˙71N±0.˙03×160.˙15E±0.˙03,h19km±8km, mb4.2/82,MS3.2/1,Error ellipse: s-maj=4.5km s-min=3.6km az=1.6*

KRSC ***24*** *10:04:13.5±10.0,50.˙76N×160.˙20E,h81km±10km,ML4.5*

NEIC ***24*** *10:04:14.9±2.6,50.˙71N×160.˙08E,h18km±16km,mb4.3/62, Error ellipse: s-maj=7.1km s-min=3.6km az=166.0*

MOS ***24*** *10:04:16.7±0.9,50.˙82N×159.˙99E,h50km,mb4.4/23,Error ellipse: s-maj=8.4km s-min=4.0km az=94.2*

ISC 24 10:04:14.4±3.9,**50.˙73N**±0.˙05×**160.˙21E**±0.˙04,**h15**km±25km, **n207,**σ1°**23**/230,**mb4.3**/82,**11C-5D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.72**	**310**	*e*P		**Pn**	**10 04 42.8**	**-1.0**
KDTR				*e*S		**Sn**	**10 05 04.0**	**-1.4**
KDTR	**Khodutka, Kamc**	**1.72**	**310**	PN		**Pn**	**10 04 42.8**	**-1.0**
KDTR				S		**Sn**	**10 05 04.0**	**-1.4**
RUS	**Russkaya**	**2.01**	**329**	*e*P		**Pn**	**10 04 45.5**	**-2.2**
RUS				*e*S		**Sn**	**10 05 10.7**	**-1.8**
RUS	**Russkaya**	**2.01**	**329**	PN		**Pn**	**10 04 45.5**	**-2.2**
RUS				S		**Sn**	**10 05 10.7**	**-1.8**
MTVR	**Mutnovka**	**2.16**	**325**	*e*P		**Pn**	**10 04 49.1**	**-0.9**
MTVR				*e*S		**Sn**	**10 05 15.4**	**-1.1**
MTVR	**Mutnovka**	**2.16**	**325**	PN		**Pn**	**10 04 49.1**	**-0.9**
MTVR				S		**Sn**	**10 05 15.4**	**-1.1**
ASAK	**Asacha**	**2.19**	**320**	*e*P		**Pn**	**10 04 49.8**	**-0.6**
ASAK	**Asacha**	**2.19**	**320**	PN		**Pn**	**10 04 49.8**	**-0.6**
PAU	**Pauzhetka**	**2.27**	**290**	*e*P		**Pn**	**10 04 50.9**	**-0.4**
PAU				*e*S		**Sn**	**10 05 17.5**	**-1.4**
PAU	**Pauzhetka**	**2.27**	**290**	PN		**Pn**	**10 04 50.9**	**-0.4**
PAU				S		**Sn**	**10 05 17.5**	**-1.4**
SPN	**Mys Shipunski**	**2.37**	**357**	*e*P		**Pn**	**10 04 51.4**	**-1.3**
SPN				*e*S		**Sn**	**10 05 18.8**	**-2.7**
SPN	**Mys Shipunski**	**2.37**	**357**	PN		**Pn**	**10 04 51.4**	**-1.3**
SPN				S		**Sn**	**10 05 18.8**	**-2.7**
KRMR	**Karymshinskiy**	**2.47**	**329**	*e*P		**Pn**	**10 04 53.4**	**-0.6**
KRMR				*e*S		**Sn**	**10 05 23.2**	**-0.6**
KRMR	**Karymshinskiy**	**2.47**	**329**	PN		**Pn**	**10 04 53.4**	**-0.6**
KRMR				S		**Sn**	**10 05 23.2**	**-0.6**
PET	**Petropavlovsk**	**2.49**	**338**	*e*Pn		**Pn**	**10 04 53.5**	**-0.8**
PET				*e*Sn		**Sn**	**10 05 23.1**	**-1.3**
PET	**Petropavlovsk**	**2.49**	**338**	*e*P		**Pn**	**10 04 53.6**	**-0.8**
PET				*e*S		**Sn**	**10 05 23.0**	**-1.3**
PET	**Petropavlovsk**	**2.49**	**338**	*e*PN		**Pn**	**10 04 53.5**	**-0.8**
PET				*e*			10 05 23.1	
NLC	**Nalytchevo**	**2.50**	**348**	*e*P		**Pn**	**10 04 53.7**	**-0.8**
NLC				*e*S		**Sn**	**10 05 24.0**	**-0.6**
NLC	**Nalytchevo**	**2.50**	**348**	PN		**Pn**	**10 04 53.7**	**-0.8**
NLC				S		**Sn**	**10 05 24.0**	**-0.6**
SKR	**Severo-Kuril's**	**2.60**	**270**	*e*P		**Pn**	**10 04 54.6**	**-1.3**
SKR				*e*S		**Sn**	**10 05 23.9**	**-3.3**
SKR	**Severo-Kuril's**	**2.60**	**270**	*e*PN		**Pn**	**10 04 54.7**	**-1.2**
SKR				*e*S		**Sn**	**10 05 23.5**	**-3.7**
SKR					pmax	pmax		
	comp=Z,74nm,0.4s							
SKR					smax	smax		
	comp=N,371nm,0.3s							
SKR					smax	smax		
	comp=E,627nm,0.3s							
UGLR	**Uglovaya**	**2.62**	**341**	*e*P		**Pn**	**10 04 56.1**	**-0.2**
UGLR	**Uglovaya**	**2.62**	**341**	PN		**Pn**	**10 04 56.1**	**-0.2**
SDLR	**Sedlovina**	**2.68**	**343**	*e*P		**Pn**	**10 04 56.5**	**-0.6**
SDLR	**Sedlovina**	**2.68**	**343**	PN		**Pn**	**10 04 56.5**	**-0.6**
SMAR	**Somma**	**2.68**	**342**	*e*P		**Pn**	**10 04 57.1**	**-0.1**
SMAR	**Somma**	**2.68**	**342**	PN		**Pn**	**10 04 57.1**	**-0.1**
AVH	**Avacha**	**2.69**	**341**	*e*P		**Pn**	**10 04 57.4**	**+0.2**
AVH	**Avacha**	**2.69**	**341**	PN		**Pn**	**10 04 57.4**	**+0.2**
KRER	**Koryakskii**	**2.73**	**341**	*e*P		**Pn**	**10 04 58.7**	**+0.9**
KRER	**Koryakskii**	**2.73**	**341**	PN		**Pn**	**10 04 58.7**	**+0.9**
KOK	**Koryaka**	**2.74**	**340**	*e*P		**Pn**	**10 04 58.3**	**+0.4**
KOK	**Koryaka**	**2.74**	**340**	PN		**Pn**	**10 04 58.3**	**+0.4**
KRX	**Arik**	**2.80**	**340**	*e*P		**Pn**	**10 04 59.0**	**+0.2**
KRX	**Arik**	**2.80**	**340**	PN		**Pn**	**10 04 59.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.84**	**328**	*e*Pn		**Pn**	**10 04 59.3**	**+0.1**
PEA0B	**Petropavlovsk-**	**2.84**	**328**	*e*PN		**Pn**	**10 04 59.3**	**+0.1**
PETK	**Petropavlovsk-**	**2.84**	**328**	*e*Pn		**Pn**	**10 04 59.1**	**-0.1**
PETK				Sn		**Sn**	**10 05 33.9**	**+0.8**
PETK	**Petropavlovsk-**	**2.84**	**328**	Pn		**Pn**	**10 04 59.4**	**+0.2**
	comp=E,6.0nm,0.3s,baz=106,slow=14,SNR=81							
PETK				Sn		**Sn**	**10 05 33.9**	**+0.8**
	comp=E,8.4nm,0.3s,baz=124,slow=23,SNR=5.1							
PEA1	**Petropavlovsk-**	**2.85**	**328**	*e*Pn		**Pn**	**10 04 59.4**	**+0.1**
PEA1				*e*Sn		**Sn**	**10 05 33.9**	**+0.7**
APC	**Apacha**	**2.90**	**320**	*e*P		**Pn**	**10 05 00.9**	**+0.9**
APC				*e*S		**Sn**	**10 05 35.0**	**+0.5**
APC	**Apacha**	**2.90**	**320**	PN		**Pn**	**10 05 00.9**	**+0.9**
APC				S		**Sn**	**10 05 35.0**	**+0.5**
ALID	**Alaid**	**2.96**	**274**	*e*P		**Pn**	**10 05 00.7**	**-0.3**
ALID				*e*S		**Sn**	**10 05 35.0**	**-1.2**
ALID	**Alaid**	**2.96**	**274**	PN		**Pn**	**10 05 00.7**	**-0.3**
ALID				S		**Sn**	**10 05 35.0**	**-1.2**
MKZ	**Mys Kozlova**	**3.94**	**13**	*e*P		**Pn**	**10 05 12.5**	**-1.7**
MKZ	**Mys Kozlova**	**3.94**	**13**	PN		**Pn**	**10 05 12.5**	**-1.7**
KZV	**Kizimen**	**4.39**	**1**	*e*P		**Pn**	**10 05 20.6**	**0.0**
KZV				*e*S		**Sn**	**10 06 09.6**	**-1.8**
KZV	**Kizimen**	**4.39**	**1**	PN		**Pn**	**10 05 20.6**	**0.0**
KZV				S		**Sn**	**10 06 09.6**	**-1.8**
TUMD	**Tumrok D**	**4.48**	**1**	*e*P		**Pn**	**10 05 21.4**	**-0.3**
TUMD				*e*S		**Sn**	**10 06 10.3**	**-3.2**
TUMR	**Tumrok**	**4.56**	**360**	*e*P		**Pn**	**10 05 23.4**	**+0.5**
TUMR	**Tumrok**	**4.56**	**360**	PN		**Pn**	**10 05 21.4**	**-1.5**
KBTR	**Krutoberegovo**	**5.70**	**15**	*e*P		**Pn**	**10 05 37.6**	**-0.8**
KBTR	**Krutoberegovo**	**5.70**	**15**	PN		**Pn**	**10 05 37.6**	**-0.8**
KBG	**Krutoberegovo**	**5.73**	**14**	*e*P		**Pn**	**10 05 38.4**	**-0.4**
KBG	**Krutoberegovo**	**5.73**	**14**	PN		**Pn**	**10 05 38.4**	**-0.4**
SMY	**Shemya**	**8.85**	**72**	*e*Pn		**Pn**	**10 06 20.9**	**-0.7**
SMY				*e*Sn		**Sn**	**10 07 53.5**	**-7.4**
SMY	**Shemya**	**8.85**	**72**	*e*PN		**Pn**	**10 06 20.9**	**-0.7**
KUR	**Kuril'sk**	**9.93**	**241↑**	*e*PN		**Pn**	**10 06 36.5**	**0.0**
YUK	**Yuzh-Kuril'sk**	**11.80**	**241↑**	*e*PN		**Pn**	**10 07 02.3**	**+0.3**
YSS	**Yuzh-Sakhalins**	**12.10**	**259↑**	*e*PN		**Pn**	**10 07 04.2**	**-2.0**
SEY	**Seymchan**	**12.95**	**344↑**	*e*PN		**Pn**	**10 07 18.4**	**+0.8**
SEY	**Seymchan**	**12.95**	**344**	Pn		**Pn**	**10 07 19.6**	**+2.0**
	comp=E,0.1nm,0.3s,baz=180,slow=20,SNR=3.5							
ERM	**Erimo**	**14.62**	**240↓**	*e*P		**Pn**	**10 07 39.0**	**-1.6**
BILL	**Bilibino**	**17.62**	**8**	*e*Pn		**P**	**10 08 19.9**	**0.0**
	comp=E,5.8nm,0.9s							
BILL	**Bilibino**	**17.62**	**8**	*i* P		**P**	**10 08 19.8**	**-0.1**
BILL					pmax	pmax		
	comp=Z,11nm,1.3s							
KLR	**Kul'dur**	**18.32**	**276**	*i*P		**Pn**	**10 08 27.6**	**-0.2**
KLR	**Kul'dur**	**18.32**	**276**	P		**Pn**	**10 08 26.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=288,slow=20,SNR=4.0							
GAMB	**Gambell**	**19.81**	**38**	*e*P		**Pn**	**10 08 45.1**	**-0.5**
	comp=Z,5.5nm,0.8s							
YAK	**Yakutsk**	**20.12**	**316**	*e*P		**P**	**10 08 44.3**	**-3.0**
YAK					pmax	pmax		
	comp=Z,89nm,0.9s							
YAK					pmax	pmax		
	comp=E,11nm,0.8s							
YAK					pmax	pmax		
	comp=N,12nm,0.9s							
YAK					pmax	pmax		
	comp=Z,61nm,0.8s							
YAK					pmax	pmax		
	comp=N,7.0nm,0.8s							
VLA	**Vladivostok**	**20.70**	**259↑**	*e*P		**P**	**10 08 53.3**	**-0.5**
VLA					pmax	pmax		
	comp=Z,6.0nm,0.9s							
MAJO	**Matsushiro**	**21.21**	**236**	*e*P		**P**	**10 08 58.7**	**-0.7**
MAJO	**Matsushiro**	**21.21**	**236**	*e*P		**P**	**10 08 58.7**	**-0.7**
MJAR	**Matsushiro Arr**	**21.21**	**236**	P		**P**	**10 08 58.7**	**-0.7**
	comp=Z,2.3nm,1.0s,baz=56,slow=8.9,SNR=7.2							
MJAR					LR	LR	10 18 41.9	
	comp=Z,101nm,18.5s,baz=335,slow=41							
ANM	**Nome**	**22.66**	**39**	*e*P		**P**	**10 09 15.6**	**+0.9**
	comp=Z,24nm,0.9s							
ANM	**Nome**	**22.66**	**39**	*e*P		**P**	**10 09 15.6**	**+0.9**
ANM					pmax	pmax		
	comp=Z,24nm,0.9s							
RDOG	**Red Dog Mine**	**24.96**	**32**	*e*P		**P**	**10 09 38.4**	**+1.5**
	comp=Z,11nm,0.8s							
TIXI	**Tiksi**	**25.27**	**337**	*e*P		**P**	**10 09 39.0**	**-0.6**
	comp=Z,10nm,0.7s							
TIXI	**Tiksi**	**25.27**	**337↓**	*e*P		**P**	**10 09 39.6**	**0.0**
TIXI					pmax	pmax		
	comp=Z,11nm,0.7s							
TIXI	**Tiksi**	**25.27**	**337**	P		**P**	**10 09 39.5**	**-0.1**
	comp=Z,9.3nm,0.7s,baz=129,slow=9.5,SNR=30							
SVW2	**Sparrevohn**	**26.34**	**50**	*e*P		**P**	**10 09 51.2**	**+1.8**
	comp=Z,3.2nm,1.0s							
IM3	**Indian Mountai**	**27.75**	**39**	*e*P		**P**	**10 10 02.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**28.66**	**44**	*e*P		**P**	**10 10 12.0**	**+1.8**
	comp=Z,0.6nm,1.0s							
MLY	**Manley**	**28.85**	**42**	*e*P		**P**	**10 10 12.7**	**+0.9**
	comp=Z,1.8nm,0.8s							
TRF	**Thorofare Moun**	**28.93**	**45**	*e*P		**P**	**10 10 12.6**	**-0.1**
	comp=Z,3.1nm,1.1s							
BWN	**Brown**	**29.33**	**43**	*e*P		**P**	**10 10 17.3**	**+1.2**
	comp=Z,9.2nm,0.9s							
COLD	**Coldfoot**	**29.36**	**37**	*e*P		**P**	**10 10 19.2**	**+2.9**
PMR	**Palmer**	**29.45**	**49**	*e*P		**P**	**10 10 17.3**	**+0.2**
	comp=Z,2.7nm,1.1s							
PMR	**Palmer**	**29.45**	**49**	*e*P		**P**	**10 10 17.3**	**+0.2**
PMR					pmax	pmax		
	comp=Z,3.0nm,1.1s							
MCK	**McKinley**	**29.54**	**44**	*e*P		**P**	**10 10 17.8**	**-0.2**
	comp=Z,2.2nm,1.2s							
MCK	**McKinley**	**29.54**	**44**	*e*P		**P**	**10 10 17.8**	**-0.2**
MCK					pmax	pmax		
	comp=Z,2.0nm,1.2s							
GHO	**Glory Hole Cre**	**29.55**	**48**	*e*P		**P**	**10 10 18.7**	**+0.6**
RND	**Reindeer**	**29.57**	**45**	*e*P		**P**	**10 10 20.5**	**+2.2**
	comp=Z,2.1nm,0.8s							
KNK	**Knik Glacier**	**29.78**	**49**	*e*P		**P**	**10 10 19.9**	**-0.2**
	comp=Z,6.3nm,0.9s							
SML	**Sawmill**	**29.82**	**48**	*e*P		**P**	**10 10 19.9**	**-0.6**
	comp=Z,5.3nm,0.6s							
SML	**Sawmill**	**29.82**	**48**	*e*P		**P**	**10 10 19.9**	**-0.6**
SML					pmax	pmax		
	comp=Z,5.0nm,0.6s							
TOLK	**Toolik Lake Re**	**29.84**	**34**	*e*P		**P**	**10 10 20.7**	**+0.1**
	comp=Z,2.3nm,0.6s							
MDM	**Murphy Dome**	**29.91**	**42**	*e*P		**P**	**10 10 22.5**	**+1.3**
WRH	**Wood River Hil**	**29.94**	**43**	*e*P		**P**	**10 10 21.4**	**0.0**
	comp=Z,1.9nm,0.7s							
COLA	**College**	**30.06**	**42**	P		**P**	**10 10 22.3**	**-0.2**
COLA					pmax	pmax		
	comp=Z,8.0nm,1.1s							
SCM	**Sheep Creek Mo**	**30.30**	**48**	*e*P		**P**	**10 10 24.7**	**-0.1**
	comp=Z,3.9nm,1.0s							
SCM	**Sheep Creek Mo**	**30.30**	**48**	*e*P		**P**	**10 10 24.7**	**-0.1**
SCM					pmax	pmax		
	comp=Z,4.0nm,1.0s							
HDA	**Harding Lake**	**30.43**	**43**	*e*P		**P**	**10 10 25.8**	**-0.1**
	comp=Z,1.3nm,0.6s							
IL1	**Eielson Array**	**30.47**	**42**	*e*P		**P**	**10 10 25.6**	**-0.5**
ILAR	**Eielson Array**	**30.47**	**42**	P		**P**	**10 10 25.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=252,slow=7.8,SNR=16							
ILB	**Eielson Array**	**30.47**	**42**	*e*P		**P**	**10 10 25.8**	**-0.3**
	comp=Z,2.5nm,0.8s							
PRP	**Porcupine Dome**	**31.07**	**41**	*e*P		**P**	**10 10 32.4**	**+0.8**
	comp=Z,6.3nm,0.9s							
DIV	**Divide**	**31.10**	**49**	*e*P		**P**	**10 10 31.9**	**+0.1**
	comp=Z,12nm,1.2s							
EYAK	**Cordova Ski Ar**	**31.17**	**51**	*e*P		**P**	**10 10 31.5**	**-0.8**
	comp=Z,17nm,1.0s							
FYU	**Fort Yukon**	**31.23**	**39**	*e*P		**P**	**10 10 34.0**	**+1.2**
	comp=Z,15nm,0.7s							
RIDG	**Independ'e Rid**	**31.36**	**44**	*e*P		**P**	**10 10 33.5**	**-0.6**
	comp=Z,4.3nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**31.39**	**168**	T		T	10 43 31.8	
	baz=352,slow=76,SNR=26							
H11N3	**WAKE ISLAND Hy**	**31.40**	**168**	T		T	10 43 35.2	
	baz=352,slow=76,SNR=33							
H11N1	**WAKE ISLAND Hy**	**31.40**	**168**	T		T	10 43 34.2	
	baz=352,slow=76,SNR=30							
DOT	**Dot Lake**	**31.71**	**45**	*e*P		**P**	**10 10 36.2**	**-1.0**
	comp=Z,1.9nm,0.9s							
SCRK	**Sand Creek**	**31.73**	**44**	*e*P		**P**	**10 10 37.6**	**+0.2**
	comp=Z,1.6nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**32.56**	**169**	T		T	10 45 05.7	
	baz=352,slow=76,SNR=7.3							
H11S3	**WAKE ISLAND Hy**	**32.58**	**169**	T		T	10 45 04.6	
	baz=352,slow=76,SNR=18							
H11S2	**WAKE ISLAND Hy**	**32.58**	**169**	T		T	10 45 05.3	
	baz=352,slow=76,SNR=5.0							
EGAK	**Eagle**	**32.92**	**42**	*e*P		**P**	**10 10 47.3**	**-0.4**
	comp=Z,8.1nm,0.8s							
DAWY	**Dawson**	**33.75**	**43**	*e*P		**P**	**10 10 55.1**	**+0.2**
	comp=Z,3.6nm,0.9s							
EPYK	**Eagle Plains**	**34.65**	**39**	*e*P		**P**	**10 11 03.6**	**+0.9**
	comp=Z,14nm,1.0s							
TLY	**Talaya**	**34.70**	**294↑**	*e*P		**P**	**10 11 03.6**	**+0.3**
TLY					pmax	pmax		
	comp=Z,3.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**34.76**	**273**	*e*P		**P**	**10 11 05.0**	**+1.0**
HHC					pmax	pmax		
	comp=Z,8.0nm,1.0s							
HHC					pmax	pmax		
	comp=Z,140nm,5.5s							
HYT	**Haines Junctio**	**35.13**	**49**	*e*P		**P**	**10 11 07.9**	**+0.9**
	comp=Z,5.5nm,1.0s							
INK	**Inuvik**	**35.72**	**36**	*e*P		**P**	**10 11 12.5**	**+0.7**
	comp=Z,5.8nm,1.0s							
INK	**Inuvik**	**35.72**	**36**	*e*P		**P**	**10 11 12.5**	**+0.7**
INK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
INK	**Inuvik**	**35.72**	**36**	P		**P**	**10 11 12.5**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=281,slow=8.0,SNR=12							
WHY	**Whitehorse**	**36.42**	**49**	*e*P		**P**	**10 11 19.7**	**+1.7**
	comp=Z,0.9nm,1.0s							
SKAG	**Skagway**	**36.51**	**51**	*e*P		**P**	**10 11 20.5**	**+1.8**
	comp=Z,19nm,1.1s							
ZAA1	**Zalesovo Array**	**44.15**	**305**	*e*P		**P**	**10 12 21.1**	**-0.8**
ZALV	**Zalesovo Beam**	**44.15**	**305**	P		**P**	**10 12 21.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=32,slow=6.8,SNR=2.5							
YKA	**Yellowknife Ar**	**44.88**	**41**	P		**P**	**10 12 27.8**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=296,slow=8.0,SNR=30							
YKB5	**Yellowknife Ar**	**44.88**	**41**	*e*P		**P**	**10 12 27.8**	**+0.1**
RES	**Resolute Bay**	**45.50**	**21**	P		**P**	**10 12 32.7**	**+0.3**
RES					pmax	pmax		
	comp=Z,4.0nm,1.7s							
WMQ	**Urumqi**	**47.86**	**291**	*e*P		**P**	**10 12 53.6**	**+2.1**
WMQ					smax	smax		
	comp=N,3μm,0.3s							
WMQ					smax	smax		
	comp=E,3μm,0.3s							
KURK	**Kurchatov**	**49.07**	**304↑**	*e*P		**P**	**10 13 00.1**	**-0.5**
KURK					pmax	pmax		
	comp=Z,4.0nm,1.3s							
KURBB	**Kurchatov Arra**	**49.17**	**304**	P		**P**	**10 13 00.3**	**-1.0**
	comp=Z,1.7nm,0.5s,baz=63,slow=7.6,SNR=5.9							
MK31	**Makanchi Array**	**49.28**	**298**	*e*P		**P**	**10 13 02.7**	**+0.4**
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**49.28**	**298**	*e*P		**P**	**10 13 02.7**	**+0.4**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.6s							
MK32	**Makanchi Array**	**49.28**	**298**	*e*P		**P**	**10 13 01.5**	**-0.8**
MKAR	**Makanchi Array**	**49.28**	**298**	*c*eP		**P**	**10 13 05.5**	**+3.2**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**49.28**	**298**	P		**P**	**10 13 01.5**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=61,slow=7.5,SNR=9.9							
MK01	**Makanchi Array**	**49.29**	**298**	*e*P		**P**	**10 13 02.2**	**-0.2**
HUMO	**Hull Mountain**	**51.12**	**67**	*e*P		**P**	**10 13 16.9**	**+0.6**
	comp=Z,0.7nm,0.8s							
YBH	**Yreka Blue Hor**	**51.80**	**68**	*e*P		**P**	**10 13 23.3**	**+1.8**
	comp=Z,2.2nm,1.1s							
YBH	**Yreka Blue Hor**	**51.80**	**68**	*e*P		**P**	**10 13 23.3**	**+1.8**
YBH					pmax	pmax		
	comp=Z,2.0nm,1.1s							
BVAR	**Borovoye Array**	**51.94**	**310**	P		**P**	**10 13 21.7**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=52,slow=9.6,SNR=10.0							
BRVK	**Borovoye**	**51.97**	**310**	*c*eP		**P**	**10 13 21.6**	**-0.8**
BRVK					pmax	pmax		
	comp=Z,2.0nm,0.8s							
K05A	**Summer Lake**	**52.25**	**66**	*e*P		**P**	**10 13 26.1**	**+1.2**
	comp=Z,1.9nm,0.8s							
MOD	**Modoc Plateau**	**53.11**	**67**	*e*P		**P**	**10 13 32.3**	**+1.0**
	comp=Z,3.7nm,0.9s							
WVOR	**Wild Horse Val**	**53.74**	**65**	*e*P		**P**	**10 13 37.1**	**+1.2**
	comp=Z,3.7nm,0.9s							
WVOR	**Wild Horse Val**	**53.74**	**65**	*e*P		**P**	**10 13 37.1**	**+1.2**
WVOR					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BEKR	**Beckworth**	**54.36**	**69**	*e*P		**P**	**10 13 41.2**	**+0.8**
	comp=Z,2.5nm,0.8s							
HRY	**Holter Researc**	**54.84**	**57**	*e*P		**P**	**10 13 44.8**	**+1.0**
PAHR	**Pah Rah Range**	**55.04**	**68**	*e*P		**P**	**10 13 46.4**	**+1.0**
	comp=Z,1.6nm,0.9s							
VCNR	**Virginia City**	**55.15**	**69**	*e*P		**P**	**10 13 47.5**	**+1.3**
	comp=Z,3.4nm,0.8s							
FCC	**Fort Churchill**	**55.30**	**38**	*e*P		**P**	**10 13 47.1**	**+0.4**
FCC	**Fort Churchill**	**55.30**	**38**	*e*P		**P**	**10 13 47.1**	**+0.4**
PNTR	**Pine Nut**	**55.31**	**69**	*e*P		**P**	**10 13 48.7**	**+1.3**
	comp=Z,5.2nm,0.8s							
YERR	**Yerington**	**55.59**	**69**	*e*P		**P**	**10 13 50.2**	**+0.8**
	comp=Z,5.0nm,1.0s							
BOZ	**Bozeman (W)**	**55.66**	**58**	*e*P		**P**	**10 13 50.6**	**+0.9**
BOZ	**Bozeman (W)**	**55.66**	**58**	*e*P		**P**	**10 13 50.6**	**+0.9**
WAKR	**Walker**	**55.79**	**69**	*e*P		**P**	**10 13 52.4**	**+1.5**
	comp=Z,2.6nm,0.7s							
AAK	**Ala-Archa**	**56.21**	**298↓**	*e*P		**P**	**10 13 53.4**	**-0.4**
AAK					pmax	pmax		
	comp=Z,6.0nm,2.5s							
AAK	**Ala-Archa**	**56.21**	**298**	P		**P**	**10 13 53.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=157,slow=6.3,SNR=3.9							
KVN	**Kaiserville**	**56.22**	**68**	*e*P		**P**	**10 13 54.9**	**+1.0**
	comp=Z,2.9nm,0.8s							
KVN	**Kaiserville**	**56.22**	**68**	*e*P		**P**	**10 13 54.9**	**+1.0**
KVN					pmax	pmax		
	comp=Z,3.0nm,0.8s							
RYN	**Ryan**	**56.25**	**69**	*e*P		**P**	**10 13 54.9**	**+0.8**
	comp=Z,2.3nm,0.8s							
NV01	**Mina Array Sit**	**56.51**	**69**	*e*P		**P**	**10 13 56.1**	**+0.1**
NVAR	**Mina Array Bea**	**56.51**	**69**	P		**P**	**10 13 56.9**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=296,slow=7.1,SNR=19							
GCMT	**Greycliff**	**56.59**	**57**	*e*P		**P**	**10 13 57.8**	**+1.4**
NV11	**Mina Array Sit

	2.5nm,1.1s							
IL1	Eielson Array	84.76	11	eP		P	10 26 41.7	+1.2
IM3	Indian Mountai	84.77	8	eP		P	10 26 41.9	+1.4
ARA0	ARCESS Array S	126.70	352	ePKPdf		PKPdf	10 33 09.6	0.0
ARCES	ARCESS Array B	126.70	352	PKP		PKPdf	10 33 09.6	0.0
	1.7nm,0.8s,baz=328,slow=4.3,SNR=4.6							
FIA0	FINESS Array S	133.95	347	ePKPdf		PKPdf	10 33 24.0	+0.6
FINES	FINESS Array B	133.95	347	PKP		PKPdf	10 33 24.0	+0.6
	0.7nm,0.8s,baz=38,slow=7.0,SNR=3.9							
BR101	Keskin Array S	147.39	318	ePKPdf		PKPdf	10 33 48.0	-0.5
BR131	Keskin Array S	147.40	318	ePKPdf		PKPdf	10 33 49.0	+0.6
BRTR	Keskin Array B	147.40	318	PKPbc		PKPbc	10 33 48.0	-0.5
	1.3nm,0.8s,baz=104,slow=3.6,SNR=5.4							
MLR	Muntele Rosu	147.57	333	ePKPbc		PKPbc	10 33 50.9	-0.4
DAVOX	Davos/Dischmat	150.74	354	PKPbc		PKiKP	10 33 59.9	-0.1
	1.3nm,0.5s,baz=325,slow=6.4,SNR=5.4							
FUORN	Ofenpass-Fuorn	150.86	354	ePKPbc		PKiKP	10 34 00.3	+0.1
VTS	Vitosha	151.04	333	ePKPdf		PKPdf	10 33 54.8	+0.5
FNA	Florina	153.34	333	ePKPbc		PKPbc	10 34 04.0	-1.2
KARP	Karpathos	154.00	318	ePKPbc		PKPbc	10 34 05.7	-1.1
AGG	Agios Georgios	154.31	329	ePKPbc		PKPbc	10 34 05.4	-1.9

KRSC 24 10:24:55.8±10.0, **50.69N**×**160.13E**, **h87**km±10km, **ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.71	312	eP		Pn	10 25 25.4	+1.4
KDTR				S		Sn	10 25 47.0	+1.5
RUS	Russkaya	2.02	331	P		Pn	10 25 29.0	+0.9
RUS				S		Sn	10 25 53.6	+0.9
MTVR	Mutnovka	2.17	327	P		Pn	10 25 32.0	+1.8
MTVR				S		Sn	10 25 58.1	+1.6
ASAK	Asacha	2.19	322	eP		Pn	10 25 32.6	+2.1
ASAK				S		Sn	10 25 59.8	+2.7
PAU	Pauzhetka	2.23	292	P		Pn	10 25 33.0	+2.1
PAU				S		Sn	10 26 00.4	+2.6
KRMR	Karymshinskiy	2.48	331	P		Pn	10 25 36.2	+2.0
KRMR				S		Sn	10 26 05.8	+2.1
NLC	Nalytchevo	2.53	349	S		Sn	10 26 07.4	+2.4
SKR	Severo-Kuril's	2.55	271	P		Pn	10 25 36.6	+1.4
SKR				S		Sn	10 26 06.4	+1.0
UGLR	Uglovaya	2.65	343	P		Pn	10 25 39.1	+2.5
SDLR	Sedlovina	2.71	344	P		Pn	10 25 39.7	+2.3
SDLR				S		Sn	10 26 11.5	+2.2
SMAR	Somma	2.71	343	P		Pn	10 25 40.9	+3.4
AVH	Avacha	2.72	342	P		Pn	10 25 40.2	+2.7
KRER	Koryakskii	2.76	343	P		Pn	10 25 42.1	+4.0
KOK	Koryaka	2.77	341	P		Pn	10 25 41.7	+3.5
APC	Apacha	2.90	322	eP		Pn	10 25 43.1	+3.2
MKZ	Mys Kozlova	4.00	14	P		Pn	10 25 55.5	+0.9
TUMR	Tumrok	4.60	0	P		Pn	10 26 06.1	+3.1
KBTR	Krutoberegovo	5.76	15	P		Pn	10 26 20.5	+1.9

DDA ***24*** *10:27:19.3,36°.51N×30°.49E,h43km,ML3.0*
ISK ***24*** *10:27:19.4,36°.49N×30°.54E,h29km,ML2.7/16*

ISC 24 10:27:21.1±1.1, **36°.54N**±0°.04×**30°.53E**±0°.04, **h25**km±8km, **n37,σ1°.08/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEMT	Kemer-ANTALYA	0.07	22	PG		Pb	10 27 25.2	-0.4
AKUM	Antalya-Kumluc	0.26	214	i P		Pb	10 27 27.1	-0.5
AKUM				i S		Sn	10 27 34.7	+0.1
AKUM					IAML_P			
	comp=Z,6μm,0.2s							
KORT	Korkueli	0.48	343	PG		Pn	10 27 31.1	-1.4
KORT				SG		Sn	10 27 39.7	-0.4
KORT	Korkueli	0.48	343	i P		Pn	10 27 31.6	-0.9
KORT				i S		Sn	10 27 41.5	+1.4
KORT					IAML_P			
	comp=Z,2μm,0.1s							
ELL	Elmali	0.54	293	PG		Pb	10 27 31.7	-0.3
ELL				SG		Sn	10 27 40.7	-0.8
AKAS	Kas	0.80	248	PG		Pb	10 27 34.9	-1.6
AKAS				SG		Sb	10 27 46.4	-0.6
AKAS	Kas	0.80	248	i P		Pb	10 27 35.6	-0.9
AKAS				i S		Sn	10 27 48.4	+0.3
AKAS					IAML_P			
	comp=Z,3μm,0.2s							
FETY	Fethiye	1.16	275	PN		Pn	10 27 40.4	-1.4
FETY	Fethiye	1.16	275	i P		Pn	10 27 41.2	-0.5
FETY				i S		Sn	10 27 57.2	+0.4
FETY					IAML_P			
	comp=Z,897nm,0.1s							
BRDR	BURDUR-Merkez	1.21	342	i P		Pb	10 27 43.0	-0.3
ISP	Isparta	1.28	360	PN		Pn	10 27 42.7	-0.7
BAGO	Egridir - ISPA	1.46	8	i P		Pn	10 27 45.4	-0.5
DALY	Dalyan (Mula)	1.53	281	PN		Pn	10 27 45.7	-1.0
DALY	Dalyan (Mula)	1.53	281	i P		Pn	10 27 46.1	-0.6
DALY					IAML_P			
	comp=Z,234nm,0.1s							
TURN	Turunc	1.58	283	PN		Pb	10 27 50.4	+0.8
TURN	Turunc	1.58	283	i P		Pb	10 27 51.3	+1.7
TURN				i S		Sb	10 28 13.2	+4.1
TURN					IAML_P			
	comp=Z,600nm,0.1s							
TAVA	DENIZLI_Tavas	1.58	306	i P		Pn	10 27 47.6	0.0
TAVA				i S		Sb	10 28 09.4	0.0
TAVA					IAML_P			
	comp=Z,769nm,0.2s							
DENT	Denizli	1.70	316	PN		Pn	10 27 48.5	-0.6
KZIL	AFYON_Kizioren	1.74	350	i P		Pn	10 27 49.3	-0.5
KZIL					IAML_P			
	comp=Z,374nm,0.2s							
DOGA	KONYA_Doganhis	1.81	30	i P		Pb	10 27 51.2	-2.4
DOGA					IAML_P			
	comp=Z,1μm,0.3s							
YER	Yerkesik	1.89	289	PN		Pn	10 27 51.1	-0.7
ERMK	Ermenek	1.92	86	i P		Pn	10 27 53.7	+1.3
ERMK					IAML_P			
	comp=Z,830nm,0.1s							
ARG	Arkhangelos	1.96	261	PN		Pn	10 27 51.7	-1.0
KHAL	Karahalli	2.00	336	i P		Pn	10 27 53.1	-0.3
KHAL					IAML_P			
	comp=Z,401nm,0.1s							
SHUT	Suhut-Afyon	2.01	1	PN		Pn	10 27 52.9	-0.6
KONT	Konya--Tatoy	2.03	46	i P		Pn	10 27 54.1	+0.4
KONT					IAML_P			
	comp=Z,454nm,0.1s							
DATC	Datca-Mugla	2.31	276	PN		Pn	10 27 56.7	-0.8
KDHN	Kadinhani	2.34	32	i P		Pn	10 27 58.7	+0.6
KDHN					IAML_P			
	comp=Z,165nm,0.2s							
DAT	Datca	2.38	275	PN		Pn	10 27 57.8	-0.7
DAT	Datca	2.38	275	i P		Pn	10 27 58.5	0.0
DAT					IAML_P			
	comp=Z,79nm,0.1s							
KULA	Kula-Manisa	2.46	324	PN		Pn	10 27 59.2	-0.5
USAK	Uak-Merkez	2.48	332	i P		Pn	10 27 59.9	+0.1
USAK					IAML_P			
	comp=Z,548nm,0.1s							
MANT	Manisa	2.50	322	i P		Pn	10 28 00.1	-0.2
AYDB	Zeytinkoy-Aydi	2.53	304	PN		Pn	10 27 59.5	-1.1
BDRM	Kayabasi	2.53	283	i P		Pn	10 28 00.7	+0.2
BDRM					IAML_P			
	comp=Z,400nm,0.1s							
BODT	Bodrum	2.63	282	PN		Pn	10 28 01.3	-0.6
GDZ	Gediz	2.67	342	i P		Pn	10 28 02.2	-0.4
GDZ					IAML_P			
	comp=Z,532nm,0.2s							

IDC ***24*** *10:29:17.8±0.6,16°.23N×93°.05W,h168km±5km,mb3.6/9, mb1 3.8/11,mb1mx3.5/37,mbtmp4.1/11,Error ellipse: s-maj=21.0km s-min=6.1km az=35.0*
UCR ***24*** *10:29:18.5±0.9,16°.68N×92°.80W,h0km±96km,MD4.1, mb4.0(NEIC)*
ISCJB ***24*** *10:29:19.1±0.3,16°.24N±0°.04×92°.97W±0°.04,h182km±3km, mb4.0/67,Error ellipse: s-maj=7.7km s-min=4.6km az=41.6*
MEX ***24*** *10:29:19.3±0.6,16°.25N×93°.15W,h183km±6km,MD4.1*
NEIC ***24*** *10:29:19.3±0.0,16°.25N×93°.15W,h182km,mb4.0/80, MD4.1(MEX),After MEX.*

ISC 24 10:29:19.4±0.5, **16°.22N**±0°.05×**93°.07W**±0°.04, **h173**km±4km, **n171,σ1°.74/188, mb4.0/67, Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		0.53	196	eP		Pn	10 29 43.3	-0.3
PCIG					eS	Sn	10 30 01.6	-0.6
PCIG		0.53	196	eP		Pn	10 29 43.2	-0.3
PCIG					eS	Sn	10 30 01.4	-0.8
CCIG	Comitan	0.90	86	ePn		Pn	10 29 45.8	-0.1
CCIG					eS	Sn	10 29 59.8	-6.5
CCIG					eSn	Sn	10 30 07.5	+1.2
CCIG	Comitan	0.90	86	eP		Pn	10 29 45.8	-0.1
CCIG					i S	Sn	10 30 06.9	+0.6
THIG		1.52	149	eP		Pn	10 29 51.6	+0.7
THIG					eS	Sn	10 30 16.2	+0.8
THIG		1.52	149	eP		Pn	10 29 51.6	+0.7
THIG					eS	Sn	10 30 16.2	+0.8
CMIG	Matias Romero	1.94	297	eP		Pn	10 29 54.5	-0.9
CMIG					eS	Sn	10 30 21.1	-2.1
CMIG	Matias Romero	1.94	297	P		Pn	10 29 54.5	-0.9
	113nm,0.3s,baz=118,slow=8.3,SNR=952							
CMIG					S	Sn	10 30 21.1	-2.1
	133nm,0.3s,baz=336,slow=20,SNR=28							
FUG	Fuego 3	2.78	129	eP		Pn	10 30 06.8	+1.6
APG	El Apazote	2.79	115	P		Pn	10 30 04.5	-0.8
	17nm,0.3s,baz=219,slow=18,SNR=311							
APG					S	Sn	10 30 39.1	-2.0
	61nm,0.3s,baz=37,slow=16,SNR=27							
HUIG	Huatulco	2.96	262	i P		Pn	10 30 04.9	-2.3
HUIG					eS	Sn	10 30 40.6	-3.7
HUIG	Huatulco	2.96	262	i P		Pn	10 30 04.9	-2.3
HUIG					eS	Sn	10 30 41.3	-3.1
PCG	Pacaya	2.99	127	eP		Pn	10 30 09.2	+1.3
IXG	Ixpaco	3.24	128	eP		Pn	10 30 12.5	+1.6
MRL	Marmol	3.45	109	eP		Pn	10 30 13.3	-0.2
MRL					eS	Sn	10 30 55.6	0.0
LVIG	Laguna Verde	4.72	318	ePn		Pn	10 30 29.8	+0.2
LVIG					eSn	Sn	10 31 20.9	-3.7
TLIG	Tlapa	5.43	285	ePn		Pn	10 30 39.4	+0.4
TLIG					eSn	Sn	10 31 36.2	-5.2
TGUH	Tegucigalpa,Un	6.00	110	ePn		Pn	10 30 45.9	-0.4
MOIG	Morelia	8.46	295	ePn		Pn	10 31 21.5	+2.5
JTS	JuntasAbangare	9.86	126	ePn		Pn	10 31 37.0	-0.3
JTS	JuntasAbangare	9.86	126	P		Pn	10 31 36.1	-1.1
	1.4nm,0.3s,baz=18,slow=18,SNR=6.2							
JTS					S	Sn	10 33 18.7	-8.2
	0.8nm,0.3s,baz=351,slow=19,SNR=3.8							
LNIG	Linares	10.51	326	ePn		Pn	10 31 46.9	+1.2
ZAIG	Zacatecas	11.07	308	ePn		Pn	10 31 54.6	+1.3
833A	Chaparral WMA,	13.39	335	eP		P	10 32 29.1	+3.1
HKT	Hockley	13.90	350	eP		P	10 32 33.9	+2.3
BCIP	Isla Barro Col	14.69	117	ePn		P	10 32 41.7	+1.1
435B	Jarrell	15.07	345	ePn		Pn	10 32 45.1	+1.5
	11nm,0.5s							
JCT	Junction City	15.47	338	ePn		P	10 32 50.8	+1.6
	4.8nm,0.7s							
HPIG		15.83	314	eP		P	10 32 55.3	+1.9
	7.5nm,0.7s							
TXAR	Lajitas Array	16.29	325	P		P	10 33 00.9	+2.6
	0.4nm,0.3s,baz=151,slow=16,SNR=23							
TX31	Lajitas Ar. Si	16.29	325	eP		P	10 33 00.9	+2.5
	4.5nm,0.8s							
149A	Jones	17.27	18	P		P	10 33 09.6	+0.7
	baz=201							
ABTX	Abilene, Hawle	17.39	341	eP		P	10 33 11.4	+1.1
	10nm,0.8s							
ABTX	Abilene, Hawle	17.39	341	P		P	10 33 11.2	+1.0
	baz=159							
WLAR	White Oak Lake	17.39	360	eP		P	10 33 11.5	+1.2
	20nm,1.0s							
GTBY	Guantanamo Bay	17.47	75	eP		P	10 33 11.9	+0.6
	16nm,0.9s							
LRAL	Lakeview Retre	17.62	17	eP		Pn	10 33 15.4	+1.1
	1.0nm,0.8s							
Z50A	Ashland	18.15	20	eP		Pn	10 33 21.9	+1.3
	5.3nm,1.1s							
MIAR	Mount Ida	18.25	359	eP		P	10 33 19.8	+0.1
	12nm,0.8s							
MIAR	Mount Ida	18.25	359	P		P	10 33 19.7	+0.1
	baz=179,SNR=6.1							
X43A	Marvell	18.33	6	P		P	10 33 22.1	+1.6
	baz=187							
X37A	Clayton	18.41	354	eP		Pn	10 33 24.8	+1.3
	5.8nm,0.8s							
OXF	Oxford	18.51	10	eP		Pn	10 33 25.8	+1.1
	9.0nm,1.0s							
X46A	Booneville	18.70	12	P		P	10 33 25.6	+1.1
	baz=194							
X47A	Russelville	18.81	13	P		P	10 33 27.4	+1.6
	baz=196							
W41B	Gary Mavity, V	18.89	2	eP		Pn	10 33 29.6	+0.5
	3.9nm,1.1s							
W39A	Magazine	18.91	358	eP		P	10 33 29.0	+2.2
	5.4nm,1.1s							
GDL2	Guadlupe Moun	18.93	329	eP		P	10 33 29.0	+1.8
X48A	Hartselle	18.95	15	eP		Pn	10 33 29.9	0.0
	3.0nm,1.0s							
155A	Kite	18.95	29	P		P	10 33 28.6	+1.4
	baz=213							
WHAR	Wooly Hollow	19.00	2	eP		P	10 33 28.4	+0.6
	3.9nm,0.9s							
MNTX	Cornudas Mount	19.05	326	eP		P	10 33 29.7	+1.2
	4.9nm,0.6s							
MNTX	Coudas Mount	19.05	326	P		P	10 33 29.7	+1.2
	baz=141,SNR=11							
WMOK	Wichita Mounta	19.14	346	eP		P	10 33 24.3	-5.0
	3.4nm,0.8s							
MSTX	Muleshoe	19.72	335	eP		P	10 33 36.5	+0.9
	7.4nm,0.8s							
TUL1	Leonard	19.76	353	eP		P	10 33 36.8	+0.8
	7.4nm,0.8s							
TUL1	Leonard	19.76	353	P		P	10 33 37.8	+1.8
	baz=172							
HHAR	Hobbs	20.00	358	eP		P	10 33 40.2	+1.6
	5.9nm,0.9s							
U40A	Yellville	20.06	1	P		P	10 33 40.6	+1.4
	baz=181,SNR=5.5							
U41A	Viola	20.07	3	P		P	10 33 40.2	+0.9
	baz=183							
AMTX	Amarillo	20.12	339	eP		P	10 33 40.0	0.0
	18nm,0.7s							
AMTX	Amarillo	20.12	339	P		P	10 33 40.4	+0.3
	baz=156							
PBMO	Poplar Bluff	20.61	6	eP		P	10 33 43.9	-1.1
	5.5nm,0.9s							
OTAV	Otavalo	21.45	136	eP		P	10 33 56.1	+1.4
	9.6nm,1.1s							
BNM	Barren Site	21.62	328	eP		P	10 33 58.2	+2.1
SIUC	Southern Illin	21.68	8	eP		P	10 33 56.0	-0.4
	6.1nm,1.0s							
CCM	Cathedral Cave	21.81	4	eP		P	10 33 55.9	-1.8
	5.7nm,0.6s							
CCM	Cathedral Cave	21.81	4	P		P	10 33 56.2	-1.6
	baz=185							
LAZ	Ladron	22.08	328	eP		P	10 34 02.4	+1.7
ANMO	Albuquerque	22.17	330	eP		P	10 34 02.5	+0.9
	5.2nm,1.1s							
ANMO	Albuquerque	22.17	330	P		P	10 34 02.5	+0.9
	baz=144							
ANMO	Albuquerque	22.17	330	P		P	10 34 01.8	+0.2
	3.1nm,0.5s,baz=139,slow=12,SNR=18							
TASM	ASL Pad, Albuq	22.17	330	P		P	10 34 02.3	+0.7
	baz=144,SNR=8.7							
TASM	ASL Pad, Albuq	22.17	330	P		P	10 34 02.3	+0.7
	baz=144,SNR=8.9							
USIN	University of	22.18	11	eP		P	10 34 00.7	-0.7
	9.2nm,0.7s							
TUC	Tucson	22.69	318	P		P	10 34 07.6	+1.3
	baz=131							
Q41A	Truxton	22.71	4	P		P	10 34 04.5	-1.7
	baz=185							
KSU1	Kansas State U	23.01	353	P		P	10 34 07.7	-1.3
	baz=172							
T25A	Trinidad	23.13	336	eP		P	10 34 12.2	+1.8
	14nm,0.7s							
T25A	Trinidad	23.13	336	P		P	10 34 11.8	+1.4
	baz=152,SNR=16							
P42A	Winchester	23.40	5	eP		P	10 34 11.7	-0.8
	5.1nm,0.6s							
P42A	Winchester	23.40	5	P		P	10 34 11.2	-1.4
	baz=187							
P43A	Skaggs, Pawnee	23.54	7	P		P	10 34 12.1	-1.7
	baz=189							
SDCO	Great Sand Dun	24.09	335	eP		P	10 34 20.2	+1.0
	2.4nm,0.9s							
SDCO	Great Sand Dun	24.09	335	P		P	10 34 20.2	+1.0
	baz=150							
S22A	4UR Ranch, Cre	24.64	333	eP		P	10 34 25.9	+1.6
	3.2nm,0.8s							
S22A	4UR Ranch, Cre	24.64	333	P		P	10 34 25.2	+0.9
	baz=147,SNR=6.2							
MVCO	Mesa Verde	24.97	330	eP		P	10 34 28.9	+1.7
	13nm,0.7s							
MVCO	Mesa Verde	24.97	330	P		P	10 34 28.3	+1.1
	baz=143,SNR=14							
M40A	Post Highland	25.14	3	P		P	10 34 26.5	-1.8
	baz=184							
M39A	Webster	25.18	2	P		P	10 34 27.0	-1.7
	baz=182							
L40A	Anamosa	25.80	3	eP		P	10 34 32.9	-1.4
	10nm,0.5s							
L40A	Anamosa	25.80	3	P		P	10 34 32.7	-1.6
	baz=184							
U15A	North Rim	26.40	323	eP		P	10 34 42.2	+2.1
	0.7nm,0.8s							
K39A	Oelwein	26.42	2	P		P	10 34 37.8	-2.0
	baz=183							
BC3	Big Chuckawall	26.61	315	P		P	10 34 43.7	+1.8
	baz=125,SNR=5.3							
KNB	Kanab	27.11	324	eP		P	10 34 48.7	+2.4
	3.4nm,1.1s							
M52A	Chesterland	27.18	19	P		P	10 34 45.3	-1.4
	baz=205							
MTPU	Mount Pierson	27.49	326	eP		P	10 34 52.4	+2.5
	1.2nm,1.1s							
I39A	Houston	27.58	2	eP		P	10 34 50.0	-0.2
	5.3nm,0.6s							
I39A	Houston	27.58	2	P		P	10 34 48.9	-1.3
	baz=183							
ECSD	EROS Data Cent	27.59	354	eP		P	10 34 48.5	-1.9
	3.3nm,1.0s							
ECSD	EROS Data Cent	27.59	354	P		P	10 34 49.1	-1.2
	baz=173							
Q16A	Castle Valley	27.62	328	eP		P	10 34 53.0	+2.1
	3.3nm,1.2s							
MSU	Marysvale	27.84	327	eP		P	10 34 55.8	+3.0
TMUT	Trail Mountain	27.93	329	eP		P	10 34 56.8	+3.1
	3.7nm,1.2s							
H39A	Augusta	28.41	3	P		P	10 34 55.9	-1.7
	baz=184							
MPU	Maple Canyon	28.69	329	eP		P	10 35 01.9	+1.5
	3.3nm,0.9s							
G38A	Ridgeland	28.88	2	P		P	10 34 59.9	-1.8
	baz=183							
G39A	Holcombe	29.02	3	P		P	10 35 01.3	-1.7
	baz=184							
F38A	Pierce - Schro	29.67	2	P		P	10 35 06.7	-1.9
	baz=182							
PDAR	Pinedale Array	29.98	335	P		P	10 35 10.7	-1.1
	0.4nm,0.5s,baz=129,slow=11,SNR=5.4							
BGU	Big Grassy Mou	30.07	329	eP		P	10 35 14.0	+1.5
	3.3nm,0.9s							
HVU	Hansel Valley	30.60	330	eP		P	10 35 18.6	+1.5
	2.2nm,0.8s							
REDW	Red Top Meadow	31.01	334	eP		P	10 35 21.8	+1.0
	7.6nm,0.8s							
LOHW	Long Hollow	31.11	335	eP		P	10 35 22.2	+0.6
	4.1nm,0.8s							
TPAW	Teton Pass	31.15	334	eP		P	10 35 23.2	+1.1
	4.5nm,0.8s							
MOOW	Moose Ponds	31.28	335	eP		P	10 35 23.8	+0.6
	2.2nm,0.8s							
FXWY	Fox Creek	31.30	334	eP		P	10 35 24.5	+1.1
	1.9nm,0.9s							
NV01	Mina Array Sit	31.31	320	eP		P	10 35 25.8	+2.3
NVAR	Mina Array Bea	31.31	320	P		P	10 35 26.1	+2.6
	3.2nm,0.8s,baz=134,slow=8.8,SNR=22							
NVAR					pP	pP	10 36 01.3	+1.5
	1.1nm,0.7s,baz=130,slow=9.4,SNR=6.1							
IMW	Indian Meadow	31.48	335	eP		P	10 35 25.7	+0.7
	2.3nm,0.6s							
FLWY	Flagg Ranch	31.54	335	eP		P	10 35 26.5	+1.1
	2.6nm,0.7s							
KVN	Kaiserville	31.57	321	eP		P	10 35 28.8	+3.0
RLMT	Red Lodge	31.88	338	eP		P	10 35 28.9	+0.5
	1.0nm,0.8s							
MDND	Maddock	32.00	352	P		P	10 35 27.6	-1.6
	baz=168							
AGMN	Agassiz Nation	32.07	356	eP		P	10 35 30.1	+0.3
	1.0nm,0.6s							
YMR	Madison River	32.13	336	eP		P	10 35 32.3	+1.7
	5.7nm,1.0s							
YERR	Yerington	32.23	320	eP		P	10 35 33.8	+2.3
	2.1nm,0.9s							
HLID	Hailey	32.74	331	eP		P	10 35 37.4	+1.5
	1.0nm,0.6s							
PAHR	Pah Rah Range	32.76	321	eP		P	10 35 38.4	+2.4
	2.3nm,0.8s							
MCMT	McKenzie Canyo	33.03	334	eP		P	10 35 40.4	+1.9
BEKR	Beckworth	33.45	320	eP		P	10 35 44.6	+2.5
	3.2nm,1.0s							
ULM	Lac du Bonnet	34.02	357	P		P	10 35 43.9	-2.8
	1.2nm,0.4s,baz=174,slow=8.2,SNR=4.3							
EGMT	Eaglemon	34.56	340	P		P	10 35 51.6	+0.2
	baz=151							
J08A	Circle Bar Ran	34.63	327	eP		P	10 35 53.7	+1.6
	13nm,0.6s							
I07A	Izee	35.67	327	eP		P	10 36 02.3	+1.3
	1.9nm,0.8s							
F10A	Beach Ranch, E	35.88	331	eP		P	10 36 03.3	+0.6
	5.4nm,0.9s							
YBH	Yreka Blue Hor	35.99	321	eP		P	10 36 03.4	-0.4
HUMO	Hull Mountain	36.66	322	eP		P	10 36 10.5	+1.2
	3.3nm,1.1s							
H04A	Detroit Lake	37.51	325	eP		P	10 36 17.4	+0.9
	5.2nm,0.9s							
LPAZ	La Paz	40.60	142	eP		P	10 36 42.5	-0.6
	7.7nm,0.6s							
LPAZ	La Paz	40.60	142	P		P	10 36 41.9	-1.2
	6.9nm,0.6s,baz=332,slow=5.1,SNR=37							
FCC	Fort Churchill	42.48	359	eP		P	10 36 55.2	-1.9
	0.4nm,0.8s							
PB11	IPOC Station P	42.52	146	eP		P	10 36 58.6	+0.5
	8.6nm,1.0s							
GO01	Chusmiza	42.70	146	eP		P	10 37 01.4	+1.5
	1.0nm,0.6s							
YKA	Yellowknife Ar	48.64	347	P		P	10 37 44.0	-1.3
	1.6nm,0.7s,baz=152,slow=7.4,SNR=47							
YKA					pP	pP	10 38 23.7

IDC 24 10:43:53.2±52.0, 16°57S×175°09W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/46, mbtmp4.0/3, Error ellipse: s-maj=976.4km s-min=180.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.05**	**241**	P	P	10 51 47.4	+0.6
	1.2nm,0.5s,baz=105,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	10 52 34.0	-0.4
	0.4nm,0.5s,baz=96,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**48.21**	**253**	P	P	10 52 35.6	-0.4
	3.1nm,0.6s,baz=88,slow=8.1,SNR=91						

KRSC 24 10:47:23.0±10.0, 50°77N×160°25E, h81km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.72**	**308**	*e*P	Pn	10 47 52.3	+1.2
KDTR				*e*S	Sn	10 48 14.2	+1.8
RUS	**Russkaya**	**1.99**	**328**	*e*P	Pn	10 47 56.0	+1.3
RUS				*e*S	Sn	10 48 20.4	+1.6
MTVR	**Mutnovka**	**2.15**	**324**	*e*P	Pn	10 47 58.8	+1.9
MTVR				*e*S	Sn	10 48 25.1	+2.3
ASAK	**Asacha**	**2.18**	**319**	*e*P	Pn	10 47 59.4	+2.1
ASAK				*e*S	Sn	10 48 26.0	+2.4
PAU	**Pauzhetka**	**2.27**	**289**	*e*S	Sn	10 48 28.2	+2.5
SPN	**Mys Shipunski**	**2.34**	**357**	*e*S	Sn	10 48 27.7	+0.5
KRMR	**Karymshinskiy**	**2.45**	**328**	*e*P	Pn	10 48 03.0	+2.2
KRMR				*e*S	Sn	10 48 32.5	+2.7
PET	**Petropavlovsk**	**2.47**	**337**	*e*S	Sn	10 48 32.8	+2.6
NLC	**Nalytchevo**	**2.47**	**347**	*e*S	Sn	10 48 33.6	+3.2
UGLR	**Uglovaya**	**2.60**	**341**	*e*P	Pn	10 48 05.5	+2.5
SKR	**Severo-Kuril's**	**2.62**	**270**	*e*P	Pn	10 48 04.7	+1.5
SKR				*e*S	Sn	10 48 35.2	+1.1
SDLR	**Sedlovina**	**2.65**	**342**	*e*P	Pn	10 48 05.9	+2.2
SMAR	**Somma**	**2.65**	**341**	*e*P	Pn	10 48 05.7	+1.9
AVH	**Avacha**	**2.67**	**340**	*e*P	Pn	10 48 06.9	+3.0
KRER	**Koryakskii**	**2.70**	**341**	*e*P	Pn	10 48 07.6	+3.1
KOK	**Koryaka**	**2.72**	**339**	*e*P	Pn	10 48 08.1	+3.6
KRX	**Arik**	**2.78**	**340**	*e*P	Pn	10 48 08.6	+3.2
MKZ	**Mys Kozlova**	**3.90**	**13**	*e*P	Pn	10 48 21.4	+1.0
TUMR	**Tumrok**	**4.52**	**359**	*e*P	Pn	10 48 32.7	+3.7
KBTR	**Krutoberegovo**	**5.66**	**15**	*e*P	Pn	10 48 46.8	+2.4

IDC 24 10:51:32.9±2.8, 8°77S×118°94E, h113km±25km, mb3.8/9, mb1 3.8/11, mb1mx3.6/47, mbtmp4.2/11, Error ellipse: s-maj=45.1km s-min=15.8km az=64.0
ISCJB 24 10:51:34.9±0.3, 8°645S±0°04×119°288E±0°04, h150km, mb4.1/18, Error ellipse: s-maj=6.1km s-min=4.6km az=25.6
DJA 24 10:51:35.8±0.4, 9°S±5°×11°9E±°, h120km±7km, M4.4/12, mb4.7/3, mB5.3/2, MLv4.3/12, Mw(mB)4.7/2
NEIC 24 10:51:35.5±0.6, 8.55S×119.34E, h130km±6km, mb4.3/11, Error ellipse: s-maj=7.9km s-min=6.2km az=52.0

ISC 24 10:51:36.5±0.4, 8.77S±0.05×119.31E±0.05, h150km, n82, σ2s18/86, mb4.2/18, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**1.32**	**133**	P	**Pn**	**10 52 02.1**	**-2.1**
PLAI	**Plampang**	**1.52**	**268**	P	**Pn**	**10 52 03.8**	**-2.4**
BASI	**Baing, Sumba**	**1.91**	**139**	P	**Pn**	**10 52 09.4**	**-1.1**
EDFI	**Ende, Flores**	**2.35**	**90**	P	**Pn**	**10 52 14.4**	**-1.5**
BSSI	**Bau Bau, Buton**	**2.86**	**24**	P	**Pn**	**10 52 19.4**	**-2.7**
MMRI	**Maumere**	**2.90**	**88**	*e*Pn	**Pn**	**10 52 21.7**	**-0.9**
MMRI	**Maumere**	**2.90**	**88**	*e*P	**Pn**	**10 52 21.6**	**-0.9**
BKSI	**Bulukumba**	**3.52**	**13**	P	**Pn**	**10 52 28.5**	**-2.0**
SRBI	**Singaraja**	**4.11**	**279**	P	**Pn**	**10 52 36.5**	**-1.7**
BNSI	**Bone**	**4.41**	**10**	P	**Pn**	**10 52 43.0**	**+0.8**
BATI	**Baumata**	**4.53**	**109**	P	**Pn**	**10 52 43.3**	**-0.4**
BATI	**Baumata**	**4.53**	**109**	P	**Pn**	**10 52 43.6**	**0.0**
	44nm,0.3s,baz=272,slow=2.2,SNR=75						
BATI				S	**Sn**	**10 53 30.9**	**-5.0**
	42nm,0.3s,baz=148,slow=15,SNR=5.2						
SPSI	**Sidrap Palu**	**4.80**	**5**	P	Pn	10 52 54.8	+7.6
SOEI	**Soe**	**4.99**	**102**	*e*Pn	**Pn**	**10 52 49.6**	**-0.3**
SOEI				*e*Sn	**Sn**	**10 53 45.0**	**-2.2**
SOEI	**Soe**	**4.99**	**102**	P	**Pn**	**10 52 49.4**	**-0.5**
JAGI	**Jajag, Banyuwa**	**5.11**	**273**	*e*Pn	**Pn**	**10 52 48.1**	**-3.2**
JAGI				*e*Sn	**Sn**	**10 53 45.6**	**-4.2**
JAGI	**Jajag, Banyuwa**	**5.11**	**273**	P	**Pn**	**10 52 48.3**	**-3.1**
LUWI	**Luwuk**	**8.42**	**24**	*e*Pn	**Pn**	**10 53 31.6**	**-3.9**
UGM	**Wanagama**	**8.74**	**275**	*e*Pn	**Pn**	**10 53 40.7**	**+0.9**
UGM				*e*Sn	**Sn**	**10 55 13.3**	**-3.6**
SANI	**Sanana**	**9.42**	**45**	P	Pn	10 53 54.7	+5.8
FITZ	**Fitzroy Crossi**	**11.13**	**147**	*e*Pn	**Pn**	**10 54 10.6**	**-0.8**
FITZ				*e*Sn	**Sn**	**10 56 07.1**	**-7.3**
FITZ	**Fitzroy Crossi**	**11.13**	**147**	P	**Pn**	**10 54 10.5**	**-0.8**
	0.9nm,0.3s,baz=331,slow=7.0,SNR=23						
FITZ				S	Sn	10 56 05.8	-8.7
	1.3nm,0.3s,baz=195,slow=20,SNR=4.6						
XMIS	**Christmas Isla**	**13.57**	**262**	*e*P	**P**	**10 54 46.4**	**-0.6**
GIRL	**Giralia**	**14.63**	**199**	*e*Pn	**P**	**10 54 58.3**	**-0.3**
RKPI	**Ransiki, Papua**	**16.46**	**65**	P	**Pn**	**10 55 19.8**	**+0.8**
WC3	**Warramunga Arr**	**18.33**	**129**	*e*P	**P**	**10 55 39.9**	**+0.4**
AS31	**Alice Springs**	**20.36**	**138**	*e*P	**P**	**10 56 03.1**	**+1.7**
	1.3nm,0.8s						
ASAR	**Alice Springs**	**20.36**	**138**	P	**P**	**10 56 03.5**	**+2.0**
	2.8nm,0.7s,baz=313,slow=8.6,SNR=39						
ASAR				S	**S**	**10 59 33.9**	**-7.6**
	0.9nm,0.6s,baz=349,slow=29,SNR=5.1						
ASAR				ScP	**ScP**	**11 03 34.6**	**+3.7**
	1.2nm,0.7s,baz=332,slow=1.9,SNR=6.6						
AS01	**Alice Springs**	**20.39**	**138**	*e*P	Pn	10 56 04.0	-1.5
MORW	**Morawa**	**20.42**	**188**	*e*P	**P**	**10 56 04.0**	**+2.0**
	6.6nm,0.6s						
FORT	**Forrest**	**23.37**	**161**	*e*P	**P**	**10 56 34.2**	**+2.5**
	13nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.11**	**184**	*e*P	**P**	**10 56 41.3**	**+2.9**
	16nm,1.1s						
NWAO	**Narrogin (SRO)**	**24.11**	**184**	P	**P**	**10 56 40.8**	**+2.4**
	5.5nm,0.8s,baz=360,slow=7.0,SNR=5.0						
ANA2	**Anatahan**	**36.13**	**46**	*e*P	**P**	**10 58 23.6**	**-0.8**
	118nm,1.1s						
XAN	**Xi'an**	**43.70**	**347**	*e*P	**P**	**10 59 25.3**	**-1.4**
	7.5nm,0.4s						
KSAR	**Wonju Array Be**	**46.67**	**9**	P	**P**	**10 59 51.5**	**+1.6**
KSRS	**Korea Array**	**46.68**	**9**	P	**P**	**10 59 51.5**	**+1.5**
	0.9nm,0.6s,baz=201,slow=8.3,SNR=3.7						
SONA0	**Songino Array**	**57.51**	**350**	*e*P	**P**	**11 01 10.3**	**+0.3**
SONM	**Songino Array**	**57.51**	**350**	P	**P**	**11 01 10.3**	**+0.3**
	1.7nm,0.5s,baz=168,slow=7.6,SNR=18						
CASY	**Casey**	**57.74**	**184**	*e*P	**P**	**11 01 14.3**	**+3.0**
	6.0nm,1.0s						
MK01	**Makanchi Array**	**64.37**	**333**	*e*P	**P**	**11 01 56.1**	**-0.3**
MK31	**Makanchi Array**	**64.39**	**333**	*e*P	**P**	**11 01 56.6**	**+0.2**
	3.0nm,0.8s						
MK32	**Makanchi Array**	**64.39**	**333**	*e*P	**P**	**11 01 56.2**	**-0.3**
MKAR	**Makanchi Array**	**64.39**	**333**	P	**P**	**11 01 56.2**	**-0.3**
	4.1nm,0.7s,baz=139,slow=7.8,SNR=51						
MAKZ	**Makanchi**	**64.55**	**333**	*e*P	**P**	**11 01 57.1**	**-0.3**
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**68.90**	**334**	P	**P**	**11 02 24.3**	**-0.6**
	1.4nm,0.6s,baz=145,slow=5.7,SNR=16						
ZAA0	**Zalesovo Array**	**68.94**	**339**	*e*P	**P**	**11 02 24.2**	**-0.9**
	4.7nm,0.6s						
ZALV	**Zalesovo Beam**	**68.94**	**339**	*e*P	**P**	**11 02 24.2**	**-0.9**
ZALV	**Zalesovo Beam**	**68.94**	**339**	P	**P**	**11 02 23.8**	**-1.3**
	5.5nm,0.5s,baz=145,slow=4.9,SNR=27						
ZAA1	**Zalesovo Array**	**68.94**	**339**	*e*P	**P**	**11 02 23.8**	**-1.3**
VNDA	**Vanda**	**72.16**	**171**	*e*P	**P**	**11 02 48.3**	**+3.9**
VNDA	**Vanda**	**72.16**	**171**	P	**P**	**11 02 46.1**	**+1.8**
	0.6nm,0.8s,baz=350,slow=7.2,SNR=3.3						
SBA	**Scott Base**	**73.16**	**171**	*e*P	**P**	**11 02 54.7**	**+4.5**
BVAR	**Borovoye Array**	**74.24**	**332**	P	**P**	**11 02 56.8**	**0.0**
	0.5nm,0.4s,baz=140,slow=9.4,SNR=4.1						
ABKAR	**Akbulak array**	**77.55**	**325**	*e*P	**P**	**11 03 15.1**	**-0.6**
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**79.21**	**325**	P	**P**	**11 03 24.1**	**-0.8**
	1.1nm,0.6s,baz=108,slow=11,SNR=5.3						
QSPA	**South Pole Qui**	**81.22**	**180**	*e*P	**P**	**11 03 39.1**	**+3.6**
	3.5nm,1.1s						
YKA	**Yellowknife Ar**	**113.86**	**24**	PKP	**PKiKP**	**11 09 57.7**	**+0.7**
	0.2nm,0.5s,baz=306,slow=2.0,SNR=10						
YKB5	**Yellowknife Ar**	**113.86**	**24**	*e*PKiKP	**PKiKP**	**11 09 57.7**	**+0.6**
ESK	**Eskdalemuir**	**115.34**	**328**	*e*PKiKP	**PKPdf**	**11 10 00.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**118.72**	**280**	PKP	**PKiKP**	**11 10 09.0**	**+1.1**
	0.2nm,0.4s,baz=42,slow=1.2,SNR=3.7						
TOA1	**Torodi Ar. Sit**	**118.73**	**280**	*e*PKPdf	**PKiKP**	**11 10 09.0**	**+1.1**
FCC	**Fort Churchill**	**124.01**	**20**	*e*PKPdf	**PKiKP**	**11 10 17.3**	**+0.4**
FXWY	**Fox Creek**	**124.21**	**43**	*e*PKPdf	**PKiKP**	**11 10 19.9**	**+1.6**
PDAR	**Pinedale Array**	**125.54**	**43**	*e*PKPdf	**PKiKP**	**11 10 20.6**	**-0.2**
W18A	**Petrified Fore**	**128.16**	**52**	*e*PKPdf	**PKPdf**	**11 10 24.2**	**-1.4**
C40A	**Isle Royale Na**	**134.16**	**27**	*e*PKPdf	**PKiKP**	**11 10 38.4**	**+0.7**
LMN	**Caledonia Moun**	**142.88**	**5**	*e*PKPdf	**PKPdf**	**11 10 52.1**	**-0.3**
S51A	**Beattyville**	**144.58**	**32**	*e*PKPdf	**PKPdf**	**11 10 55.1**	**-0.5**
N59A	**State Game Lan**	**145.30**	**20**	*e*PKPbc	**PKPab**	**11 10 57.7**	**+0.6**
TZTN	**Tazewell**	**145.42**	**33**	*e*PKPbc	**PKiKP**	**11 10 58.9**	**-2.3**
V51A	**Loudon**	**145.51**	**35**	*e*PKPdf	**PKPab**	**11 10 58.6**	**+0.6**
ODNJ	**Ogdensburg**	**145.53**	**19**	*e*PKPdf	**PKPab**	**11 10 58.2**	**+0.3**
CPCT	**Cooper Cave**	**145.66**	**36**	*e*PKPdf	**PKPab**	**11 10 59.3**	**+0.7**
LRAL	**Lakeview Retre**	**145.74**	**41**	*e*PKPdf	**PKiKP**	**11 10 59.8**	**-2.0**
V52A	**Sevierville**	**145.90**	**34**	*e*PKPdf	**PKiKP**	**11 11 00.2**	**-1.9**
TKL	**Tuckaleechee C**	**145.94**	**35**	*e*PKPdf	**PKiKP**	**11 11 00.5**	**-1.7**
Z50A	**Ashland**	**146.29**	**40**	*e*PKPdf	**PKPab**	**11 11 01.2**	**+0.1**
V53A	**Saluda**	**146.46**	**34**	*e*PKPdf	**PKPab**	**11 11 01.7**	**-0.1**
352A	**Blakely**	**148.08**	**42**	*e*PKPbc	**PKPbc**	**11 11 04.7**	**-0.3**
CNNC	**Cliffs of the**	**149.31**	**28**	*e*PKPdf	**PKPbc**	**11 11 05.6**	**-2.4**
CSU	**Charleston Sou**	**149.97**	**34**	*e*PKPdf	**PKPdf**	**11 11 05.7**	**+1.0**

IDC 24 10:52:19.0±3.0, 7.00S×129.26E, h112km±40km, mb3.2/1, mb1 3.7/5, mb1mx3.3/46, mbtmp4.0/5, Error ellipse: s-maj=68.5km s-min=21.8km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.39**	**240**	S	Sn	10 55 13.6	+11
	7.6nm,0.3s,baz=135,slow=20,SNR=4.2						
SIJI	**Sorong**	**6.41**	**18**	P	Pn	10 53 51.1	+0.1
	2.9nm,0.3s,baz=139,slow=23,SNR=42						
SIJI				S	Sn	10 54 56.1	-6.8
	2.5nm,0.3s,baz=36,slow=23,SNR=9.6						
FITZ	**Fitzroy Crossi**	**11.58**	**197**	P	Pn	10 55 01.2	+0.4
	0.5nm,0.3s,baz=6.6,slow=14,SNR=2.4						
WRA	**Warramunga Arr**	**13.77**	**160**	P	Pn	10 55 27.7	-1.9
	0.6nm,0.3s,baz=341,slow=13,SNR=33						
WRA				S	Sn	10 57 51.6	-10
	1.2nm,0.3s,baz=325,slow=24,SNR=9.7						
ASAR	**Alice Springs**	**17.16**	**165**	P	Pn	10 56 13.1	+1.2
	0.7nm,0.3s,baz=340,slow=9.2,SNR=34						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	11 03 05.1	0.0
	0.4nm,0.6s,baz=137,slow=7.1,SNR=2.4						

ISCJB 24 11:30:48.0±0.6, 16°89N±0°05×147°6E±0°1, h41km, mb3.8/18, Error ellipse: s-maj=14.2km s-min=7.0km az=16.7
NEIC 24 11:30:48.9±1.2, 16°90N×147°70E, h38km±11km, mb4.1/6, Error ellipse: s-maj=12.7km s-min=8.7km az=71.0
IDC 24 11:30:53.8±3.5, 16°85N×147°20E, h69km±31km, mb3.3/12, mb1 3.5/13, mb1mx3.3/54, mbtmp3.6/13, ML4.1/1, Error ellipse: s-maj=30.4km s-min=16.2km az=95.0

ISC 24 11:30:50.4±0.8, 16.90N±0.08×147.5E±0.1, h41km, n31, σ1s16/31, mb4.0/18, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**1.64**	**263**	*e*Pn	**Pn**	**11 31 18.9**	**+2.1**
ANA2	**Anatahan**	**1.78**	**252**	*e*Pn	**Pn**	**11 31 19.7**	**+1.0**
GUMO	**Guam**	**4.14**	**218**	*e*Pn	**Pn**	**11 31 53.4**	**+2.2**
GUMO				*e*Sn	**Sn**	**11 32 38.0**	**-0.3**
GUMO	**Guam**	**4.14**	**218**	P	**Pn**	**11 31 51.4**	**+0.3**
	12nm,0.3s,baz=116,slow=5.1,SNR=7.0						
GUMO				S	**Sn**	**11 32 38.0**	**-0.3**
	12nm,0.3s,baz=12,slow=9.3,SNR=2.8						
PATS	**Pohnpei**	**14.56**	**132**	*e*Pn	Pn	11 34 08.9	-5.0
MJAR	**Matsushiro Arr**	**21.22**	**339**	P	**P**	**11 35 32.3**	**-0.4**
	1.6nm,0.6s,baz=170,slow=10.0,SNR=10						
MAJO	**Matsushiro**	**21.23**	**339**	*e*P	**P**	**11 35 32.3**	**-0.5**
MAT	**Matsushiro**	**21.23**	**339**	P	**P**	**11 35 33.0**	**+0.2**
MJB9	**Matsu-Tunnel**	**21.23**	**339**	*e*P	P	11 35 39.9	+7.0
	3.8nm,0.6s						
JNU	**Nakatsue**	**22.02**	**320**	*e*P	**P**	**11 35 40.2**	**-1.3**
	8.7nm,1.1s						
KLR	**Kul'dur**	**34.69**	**342**	P	**P**	**11 37 35.7**	**-0.4**
	1.1nm,0.6s,baz=153,slow=10,SNR=5.0						
WRAB	**Tennant Creek**	**38.80**	**200**	*e*P	**P**	**11 38 11.4**	**-0.1**
	4.3nm,1.1s						
WB2	**Warramunga Arr**	**38.81**	**200**	*e*P	**P**	**11 38 11.4**	**-0.1**
WR1	**Warramunga Arr**	**38.82**	**200**	*e*P	**P**	**11 38 10.2**	**-1.3**
	3.8nm,1.0s						
WRA	**Warramunga Arr**	**38.82**	**200**	P	**P**	**11 38 10.2**	**-1.3**
	0.4nm,0.6s,baz=29,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**42.44**	**199**	P	**P**	**11 38 40.9**	**-0.6**
	0.1nm,0.5s,baz=13,slow=7.5,SNR=5.4						
SONA0	**Songino Array**	**45.60**	**322**	*e*P	**P**	**11 39 05.8**	**-0.9**
SONM	**Songino Array**	**45.60**	**322**	P	**P**	**11 39 05.8**	**-0.9**
	0.4nm,0.7s,baz=135,slow=12,SNR=3.8						
CM01	**Chiang Mai Arr**	**46.15**	**280**	*e*P	**P**	**11 39 12.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**46.16**	**280**	P	**P**	**11 39 10.3**	**-1.0**
	1.2nm,0.9s,baz=71,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.47**	**323**	P	**P**	**11 40 55.5**	**-0.4**
	0.9nm,0.6s,baz=96,slow=6.0,SNR=3.9						
ZAA1	**Zalesovo Array**	**60.47**	**323**	*e*P	**P**	**11 40 55.5**	**-0.4**
MK32	**Makanchi Array**	**60.93**	**314**	*e*P	**P**	**11 40 58.7**	**-0.6**
MKAR	**Makanchi Array**	**60.93**	**314**	P	**P**	**11 40 58.7**	**-0.6**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=3.3						
KURK	**Kurchatov**	**63.74**	**319**	*e*P	**P**	**11 41 19.5**	**+1.6**
	1.4nm,0.9s						
ILAR	**Eielson Array**	**64.52**	**26**	P	**P**	**11 41 25.3**	**+2.5**
	0.5nm,0.8s,baz=254,slow=6.5,SNR=2.9						
BVAR	**Borovoye Array**	**68.94**	**321**	P	**P**	**11 41 51.5**	**+0.3**
	1.0nm,0.5s,baz=95,slow=8.8,SNR=6.0						
YKA	**Yellowknife Ar**	**78.78**	**28**	P	**P**	**11 42 49.6**	**+1.0**
	0.2nm,0.9s,baz=303,slow=5.8,SNR=4.0						
ORV	**Oroville**	**80.21**	**52**	*e*P	**P**	**11 42 56.1**	**-0.8**
	1.7nm,0.7s						
FIA0	**FINESS Array S**	**89.22**	**336**	*e*P	**P**	**11 43 40.2**	**-1.5**
FINES	**FINESS Array B**	**89.22**	**336**	P	**P**	**11 43 40.2**	**-1.5**
	1.2nm,0.7s,baz=94,slow=2.5,SNR=3.9						

ISCJB 24 11:39:06.3±1.1, 9°01S±0°09×124°31E±0°09, h100km, mb3.2/1, Error ellipse: s-maj=15.9km s-min=9.1km az=42.7
IDC 24 11:39:06.3±5.8, 8°86S×124°41E, h75km±68km, mb3.0/1, mb1 3.4/4, mb1mx3.1/36, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=63.3km s-min=30.7km az=26.0
DJA 24 11:39:11.4±1.2, 9°S±3°×12°4E±°, h32km±20km, M2.8/5, MLv2.8/5

ISC 24 11:39:07.1±1.3, 9.10S±0.10×124.4E±0.1, h100km, n9, σ2s94/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.67**	**192**	P	**Pn**	**11 39 27.1**	**+2.6**
BATI	**Baumata**	**1.33**	**214**	P	**Pn**	**11 39 32.9**	**+1.6**
BATI				S	**Sn**	**11 39 48.8**	**-0.8**
BATI	**Baumata**	**1.33**	**214**	P	**Pn**	**11 39 33.0**	**+1.7**
	30nm,0.3s,baz=54,slow=1.5,SNR=34						
BATI				S	**Sn**	**11 39 51.0**	**+1.3**
	29nm,0.3s,baz=69,slow=4.6,SNR=7.8						
MMRI	**Maumere**	**2.19**	**282**	P	**Pn**	**11 39 39.6**	**-2.6**
EDFI	**Ende, Flores**	**2.71**	**277**	P	**Pn**	**11 39 46.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**9.03**	**173**	P	**Pn**	**11 41 15.9**	**+1.3**
	0.3nm,0.3s,baz=349,slow=7.9,SNR=8.4						
FITZ				S	**Sn**	**11 42 51.8**	**-2.8**
	1.6nm,0.3s,baz=187,slow=16,SNR=16						
WRA	**Warramunga Arr**	**14.44**	**139**	P	**Pn**	**11 42 29.6**	**+2.8**
	0.2nm,0.3s,baz=316,slow=14,SNR=12						
WRA				S	**Sn**	**11 45 02.3**	**-3.7**
	0.4nm,0.3s,baz=302,slow=23,SNR=9.6						
ASAR	**Alice Springs**	**17.10**	**149**	P	**Pn**	**11 43 03.8**	**+3.7**
	0.1nm,0.3s,baz=319,slow=11,SNR=7.9						
ASAR				S	**Sn**	**11 46 05.7**	**-4.6**
	0.1nm,0.3s,baz=314,slow=20,SNR=8.0						
MKAR	**Makanchi Array**	**67.09**	**330**	P	**P**	**11 49 50.6**	**+0.7**
	0.3nm,0.7s,baz=142,slow=7.4,SNR=3.2						

KRSC 24 11:43:12.8±10.0, 51°23N×156°93E, h170km±10km, ML4.6, FELT [II-III] at Severo-Kurilsk.
IDC 24 11:43:15.6±0.7, 51°54N×156°69E, h157km±6km, mb3.8/28, mb1 3.9/33, mb1mx3.9/49, mbtmp4.2/33, Error ellipse: s-maj=11.2km s-min=8.1km az=142.0
ISCJB 24 11:43:15.6±0.2, 51°48N±0°03×156°72E±0°03, h173km±1km, mb4.3/177, Error ellipse: s-maj=5.0km s-min=2.7km az=156.4
MOS 24 11:43:15.4±1.0, 51°48N×156°68E, h169km, mb4.4/51, Error ellipse: s-maj=7.4km s-min=3.6km az=73.5
MOS Felt (II-III) at Severo-Kuril'sk.

BJI 24 11:43:15.3, 51°60N×156°70E, h175km, mb4.5/17, mB4.8/9
NEIC 24 11:43:16.6±0.4, 51°53N×156°62E, h162km±3km, mb4.4/135, Error ellipse: s-maj=5.1km s-min=2.4km az=163.0

ISC 24 11:43:16.1±0.5, 51°42N±0°06×156°86E±0°04, h165km±4km, h165km:pP-P, n682, σ1s18/713, mb4.4/177, 20C-11D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.06**	**330**	*e*P	Pn	11 43 37.2	-0.7
PAU	**Pauzhetka**	**0.06**	**330**	PN	Pn	11 43 37.2	-0.7
KDTR	**Khodutka, Kamc**	**0.86**	**62**	*e*P	**Pn**	**11 43 39.7**	**-1.4**
KDTR				*e*S	**Sn**	**11 43 57.1**	**-3.3**
KDTR	**Khodutka, Kamc**	**0.86**	**62**	PN	**Pn**	**11 43 39.7**	**-1.4**
SKR	**Severo-Kuril's**	**0.87**	**213**	*e*P	Pn	11 43 39.9	-1.3
SKR				*e*S	Sn	11 43 58.3	-2.2
SKR	**Severo-Kuril's**	**0.87**	**213**	*i*PN	Pn	11 43 40.0	-1.3
SKR				*e*S	Sn	11 43 58.3	-2.2
SKR				pmax	pmax		
	comp=Z,2μm,0.9s						
SKR				smax	smax		
	comp=N,13μm,0.8s						
SKR				smax	smax		
	comp=E,16μm,0.7s						
ALID	**Alaid**	**0.99**	**237**	*e*P	Pn	11 43 41.6	-0.7
ALID	**Alaid**	**0.99**	**237**	PN	Pn	11 43 41.6	-0.7
ASAK	**Asacha**	**1.16**	**33**	*e*P	**Pn**	**11 43 43.7**	**+0.1**
ASAK				*e*S	**Sn**	**11 44 05.2**	**+0.2**
ASAK	**Asacha**	**1.16**	**33**	PN	**Pn**	**11 43 43.7**	**+0.1**
ASAK				S	**Sn**	**11 44 05.2**	**+0.2**
MTVR	**Mutnovka**	**1.35**	**37**	*e*P	**Pn**	**11 43 45.4**	**0.0**
MTVR				*e*S	**Sn**	**11 44 08.5**	**+0.5**
MTVR	**Mutnovka**	**1.35**	**37**	PN	**Pn**	**11 43 45.4**	**0.0**
MTVR				S	**Sn**	**11 44 08.5**	**+0.5**
GRL	**Gorelyy**	**1.36**	**33**	*e*P	**Pn**	**11 43 45.9**	**+0.4**
GRL	**Gorelyy**	**1.36**	**33**	PN	**Pn**	**11 43 45.9**	**+0.4**
RUS	**Russkaya**	**1.44**	**45**	*e*P	**Pn**	**11 43 45.3**	**-0.8**
RUS				*e*S	**Sn**	**11 44 07.3**	**-2.1**
RUS	**Russkaya**	**1.44**	**45**	PN	**Pn**	**11 43 45.3**	**-0.8**
RUS				S	**Sn**	**11 44 07.3**	**-2.1**
APC	**Apacha**	**1.52**	**7**	*e*P	**Pn**	**11 43 47.3**	**+0.4**
APC				*e*S	**Sn**	**11 44 10.8**	**0.0**
APC	**Apacha**	**1.52**	**7**	PN	**Pn**	**11 43 47.3**	**+0.4**
APC				S	**Sn**	**11 44 10.8**	**0.0**
KRMR	**Karymshinskiy**	**1.62**	**29**	*e*P	**Pn**	**11 43 48.0**	**+0.1**
KRMR	**Karymshinskiy**	**1.62**	**29**	PN	**Pn**	**11 43 48.0**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.77**	**17**	*e*Pn	**Pn**	**11 43 49.9**	**+0.4**
PEA0B				*e*Sn	**Sn**	**11 44 17.5**	**+2.0**
PEA0B	**Petropavlovsk-**	**1.77**	**17**	*e*PN	**Pn**	**11 43 49.9**	**+0.4**
PEA0B				*e*		11 44 17.5	
PETK	**Petropavlovsk-**	**1.77**	**17**	*e*Pn	**Pn**	**11 43 49.8**	**+0.3**
PETK				S	**Sn**	**11 44 16.0**	**+0.5**
PETK	**Petropavlovsk-**	**1.77**	**17**	*e*PN	**Pn**	**11 43 49.8**	**+0.3**
PETK				S	**Sn**	**11 44 16.0**	**+0.5**
PETK	**Petropavlovsk-**	**1.77**	**17**	P	**Pn

KLR Kul'dur 16.16 272 ⇓ *i*P Pn 11 46 54.7 +0.9
KLR Kul'dur 16.16 272 P Pn 11 46 54.4 +0.6
comp=Z,0.4nm,0.3s,baz=66,slow=14,SNR=18
BILL Bilibino 17.30 12 *e*P Pn 11 47 06.7 -0.6
comp=Z,21nm,0.4s
BILL Bilibino 17.30 12 *e*P Pn 11 47 06.7 -0.6
BILL pmax pmax
comp=Z,21nm,0.4s
ZEA Zeya 18.08 289 *e*P P 11 47 14.8 -0.1
ZEA pmax pmax
comp=Z,17nm,1.0s
USA0B Ussuriysk Arra 18.14 256 *e*P P 11 47 15.5 -0.1
comp=Z,3.6nm,0.8s
USA0B Ussuriysk Arra 18.14 256 *e*P P 11 47 15.5 -0.1
USA0B pmax pmax
comp=Z,4.0nm,0.8s
USRK Ussuriysk Ar. 18.14 256 P P 11 47 15.0 -0.5
comp=Z,0.2nm,0.3s,baz=75,slow=11,SNR=2.9
YAK Yakutsk 18.15 316 *c i*P P 11 47 14.8 -0.7
YAK *e*S S 11 50 26.7 -7.8
YAK pmax pmax
comp=Z,449nm,0.8s
YAK pmax pmax
comp=E,192nm,1.0s
YAK pmax pmax
comp=N,53nm,0.8s
YAK smax smax
comp=E,348nm,3.8s
YAK smax smax
comp=N,1μm,5.2s
VLA Vladivostok 18.80 254 ⇑ *e*P P 11 47 23.6 +0.9
MJB9 Matsu-Tunnel 19.94 229 *e*P P 11 47 34.1 -1.1
comp=N,4.3nm,0.8s
MAJO Matsushiro 19.94 229 *e*P P 11 47 34.1 -1.1
comp=N,4.2nm,0.8s
MAJO Matsushiro 19.94 229 *e*P P 11 47 34.1 -1.1
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAT Matsushiro 19.94 229 P P 11 47 35.7 +0.5
MJAR Matsushiro Arr 19.94 229 P P 11 47 35.4 +0.2
comp=Z,0.1nm,0.3s,baz=16,slow=12,SNR=14
GAMB Gambell 20.63 41 *e*P P 11 47 42.7 +0.4
comp=Z,3.6nm,0.8s
HIA Hailar 23.62 279 *e*P P 11 48 11.3 -0.5
comp=Z,21nm,1.1s
HIA Hailar 23.62 279 *e*P P 11 48 11.4 -0.5
HIA pmax pmax
comp=Z,21nm,1.1s
TIXI Tiksi 23.84 338 *e*P P 11 48 12.9 -0.6
comp=Z,16nm,0.6s
TIXI Tiksi 23.84 338 *e*P P 11 48 12.9 -0.6
TIXI pmax pmax
comp=Z,16nm,0.6s
TIXI Tiksi 23.84 338 P P 11 48 12.7 -0.8
comp=Z,9.6nm,0.4s,baz=131,slow=10,SNR=61
KSRS Korea Array 24.73 247 P P 11 48 23.1 +1.1
comp=Z,1.1nm,0.8s,baz=47,slow=10.0,SNR=2.7
KSAR Wonju Array Be 24.77 247 P P 11 48 23.1 +0.8
KSAR Wonju Array Be 24.77 247 P P 11 48 23.1 +0.8
BOD Bodaibo 25.27 302 *e*P P 11 48 26.1 -0.6
BOD pmax pmax
comp=Z,4.0nm,1.0s
JNU Nakatsue 26.31 236 *e*P P 11 48 38.3 +2.0
comp=Z,9.3nm,1.0s
JNU Nakatsue 26.31 236 P P 11 48 37.4 +1.0
comp=Z,3.1nm,0.8s,baz=39,slow=14,SNR=3.1
SVW2 Sparrevohn 27.53 51 *e*P P 11 48 47.9 +1.0
comp=Z,3.9nm,1.0s
IM3 Indian Mountai 28.58 41 *e*P P 11 48 56.3 +0.2
PPLA Purkeypile 29.10 47 *e*P P 11 49 02.1 +1.1
comp=Z,7.3nm,1.2s
BPAW Bear Paw Mtn. 29.64 45 *e*P P 11 49 06.6 +1.1
comp=Z,9.5nm,1.1s
MLY Manley 29.76 43 *e*P P 11 49 07.9 +1.2
comp=Z,2.5nm,0.8s
BRLK Bradley Lake 29.95 53 *e*P P 11 49 09.1 +0.7
comp=Z,8.3nm,1.0s
TRF Thorofare Moun 29.95 46 *e*P P 11 49 09.1 +0.6
comp=Z,8.9nm,1.1s
TOLK Toolik Lake Re 30.49 36 P P 11 49 13.2 +0.1
baz=264
MDM Murphy Dome 30.83 43 *e*P P 11 49 16.5 +0.5
comp=Z,5.7nm,0.9s
WRH Wood River Hil 30.90 44 *e*P P 11 49 17.4 +0.9
comp=Z,10nm,1.0s
SML Sawmill 30.96 49 *e*P P 11 49 17.6 +0.4
comp=Z,18nm,0.9s
SML Sawmill 30.96 49 *e*P P 11 49 17.7 +0.4
SML pmax pmax
comp=Z,18nm,0.9s
TCOL CIGO, UAF Yank 30.98 43 P P 11 49 17.6 +0.3
baz=272
COLA College 30.99 43 P P 11 49 18.2 +0.9
COLA pmax pmax
comp=Z,16nm,0.9s
CCB Clear Creek Bu 31.01 43 *e*P P 11 49 18.3 +0.7
comp=Z,6.3nm,0.8s
POKR Poker Plat Res 31.16 42 P P 11 49 19.4 +0.5
baz=272
HDA Harding Lake 31.39 44 *e*P P 11 49 21.6 +0.7
comp=Z,7.6nm,0.6s
HDA Harding Lake 31.39 44 P P 11 49 21.2 +0.2
baz=273,SNR=6.7
IL1 Eielson Array 31.41 43 *e*P P 11 49 21.1 0.0
ILAR Eielson Array 31.41 43 P P 11 49 21.1 +0.1
comp=Z,4.2nm,0.7s,baz=260,slow=7.1,SNR=62
ILB Eielson Array 31.41 43 *e*P P 11 49 21.6 +0.5
comp=Z,5.2nm,0.7s
ULN Ulaanbaatar 31.94 284 ⇑ *e*P P 11 49 26.5 +0.4
ULN pmax pmax
comp=Z,1.0nm,0.9s
PRP Porcupine Dome 31.95 42 *e*P P 11 49 26.7 +0.7
comp=Z,12nm,0.8s
FYU Fort Yukon 32.04 40 *e*P P 11 49 27.9 +1.4
comp=Z,7.2nm,0.6s
SONA0 Songino Array 32.36 284 *e*P P 11 49 29.1 -0.6
SONA0 *e*PcP PcP 11 52 12.0 -1.2
SONM Songino Array 32.36 284 P P 11 49 29.1 -0.6
comp=Z,0.3nm,0.4s,baz=71,slow=6.2,SNR=2.9
SONM PcP PcP 11 52 12.0 -1.2
comp=Z,0.7nm,0.8s,baz=63,slow=3.9,SNR=3.9
RIDG Independ'e Rid 32.37 45 *e*P P 11 49 29.3 -0.2
comp=Z,5.5nm,0.8s
TLY Talaya 32.48 292 ⇑ *i*P P 11 49 30.9 +0.3
TLY pmax pmax
comp=Z,21nm,3.4s
H11N2 WAKE ISLAND Hy 32.60 162 T T 12 23 59.9
baz=348,slow=76,SNR=84
H11N3 WAKE ISLAND Hy 32.61 162 T T 12 23 40.8
baz=348,slow=76,SNR=88
H11N1 WAKE ISLAND Hy 32.61 162 T T 12 23 40.9
baz=348,slow=76,SNR=76
HHC Hu-ho-hao-te 32.63 269 *e*P P 11 49 32.9 +0.8
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,64nm,6.2s
SCRK Sand Creek 32.72 44 *e*P P 11 49 32.8 +0.2
comp=Z,10nm,1.1s
DOT Dot Lake 32.72 45 *e*P P 11 49 32.1 -0.5
comp=Z,5.2nm,0.7s
H11S1 WAKE ISLAND Hy 33.75 163 T T 12 25 08.0
baz=349,slow=76,SNR=401
H11S3 WAKE ISLAND Hy 33.76 163 T T 12 25 03.7
baz=349,slow=76,SNR=506
H11S2 WAKE ISLAND Hy 33.77 163 T T 12 25 09.4
baz=349,slow=76,SNR=294
EGAK Eagle 33.85 43 *e*P P 11 49 42.3 0.0
comp=Z,10nm,0.7s
EPYK Eagle Plains 35.46 40 *e*P P 11 49 57.5 +1.3
comp=Z,5.0nm,0.8s
EPYK Eagle Plains 35.46 40 P P 11 49 56.7 +0.5
baz=279
NRIK Noril'sk 36.15 326 P P 11 50 01.0 -0.9
NRIK Noril'sk 36.15 326 P P 11 50 01.0 -0.9
comp=Z,2.8nm,0.6s,baz=79,slow=12,SNR=4.4
INK Inuvik 36.41 36 *e*P P 11 50 05.2 +1.2
comp=Z,4.7nm,1.0s
INK Inuvik 36.41 36 *e*P P 11 50 05.2 +1.2
INK pmax pmax
comp=Z,5.0nm,1.0s
ZAA1 Zalesovo Array 42.01 303 *e*P P 11 50 49.8 -0.9
ZAA1 *ep*P *p*P 11 51 24.4 -2.1
ZAA0 Zalesovo Array 42.01 303 *e*P P 11 50 50.9 +0.2
comp=Z,1.8nm,0.6s
ZALV Zalesovo Beam 42.01 303 *e*P P 11 50 50.2 -0.4
ZALV *p*P *p*P 11 51 24.4 -2.1
comp=Z,10.0nm,0.7s
MSO Missoula 55.05 57 P P 11 52 31.2 +0.8
baz=310,SNR=5.3
GDXM Geysers 55.34 69 *e*P P 11 52 32.2 -0.4
comp=Z,26nm,0.3s
WVOR Wild Horse Val 55.35 64 *e*P P 11 52 34.5 +1.8
comp=Z,12nm,0.9s
WVOR Wild Horse Val 55.35 64 *e*P P 11 52 34.5 +1.8
WVOR pmax pmax
comp=Z,12nm,0.9s
CMMT Chiang Mai 55.59 257 P P 11 52 36.1 +1.6
CHTO Chiang Mai 55.60 257 *e*P P 11 52 35.1 +0.6
comp=Z,4.1nm,0.6s
CHTO Chiang Mai 55.60 257 *e*P P 11 52 35.1 +0.6
CHTO pmax pmax
comp=Z,4.0nm,0.6s
FFC Flin Flon 55.62 44 *e*P P 11 52 35.9 +1.7
comp=Z,3.6nm,0.8s
FFC Flin Flon 55.62 44 *c e*P P 11 52 35.7 +1.5
SUMG Summit 55.84 6 *e*P P 11 52 36.8 +0.8
comp=Z,7.8nm,0.8s
SUMG Summit 55.84 6 *i*P P 11 52 36.3 +0.3
comp=Z,21nm,0.8s
SUMG Summit 55.84 6 *i*P P 11 52 36.3 +0.3
SUMG pmax pmax
comp=Z,21nm,0.8s
CMAR Chiang Mai Arr 55.87 256 *i*P P 11 52 38.0 +1.5
CMAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 55.87 256 P P 11 52 37.0 +0.5
comp=Z,1.8nm,0.6s,baz=32,slow=6.6,SNR=13
KK31 Karatay Array 55.94 298 *e*P P 11 52 36.9 +0.2
comp=Z,2.2nm,0.8s
KK31 Karatay Array 55.94 298 *e*P P 11 52 36.9 +0.2
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 55.94 298 *e*P P 11 52 37.0 +0.4
comp=Z,2.2nm,0.8s
KKAR Karatay Array 55.94 298 *e*P P 11 52 37.1 +0.4
KKAR pmax pmax
comp=Z,2.0nm,0.8s
FCC Fort Churchill 56.02 36 *e*P P 11 52 37.6 +0.6
comp=Z,8.4nm,0.6s
FCC Fort Churchill 56.02 36 *e*P P 11 52 37.6 +0.6
FCC pmax pmax
comp=Z,8.0nm,0.6s
BEKR Beckworth 56.06 67 *e*P P 11 52 38.6 +0.8
comp=Z,5.4nm,0.8s
HRY Holter Researc 56.23 56 *e*P P 11 52 40.7 +1.8
MSF Maaselka 56.40 337 P P 11 52 38.1 -1.5
EGMT Eagleton 56.42 54 P P 11 52 41.0 +0.9
baz=312
PAHR Pah Rah Range 56.73 67 *e*P P 11 52 44.1 +1.6
comp=Z,3.8nm,0.6s
VCNR Virginia City 56.85 67 *e*P P 11 52 44.1 +0.6
comp=Z,6.8nm,0.7s
HLID Hailey 56.94 60 *e*P P 11 52 45.6 +1.6
comp=Z,2.1nm,1.0s
HLID Hailey 56.94 60 P P 11 52 44.7 +0.7
baz=312
PNTR Pine Nut 57.02 67 *e*P P 11 52 46.4 +1.7
comp=Z,9.8nm,0.8s
BOZ Bozeman (W) 57.07 57 *e*P P 11 52 46.0 +1.1
comp=Z,3.4nm,0.7s
BOZ Bozeman (W) 57.07 57 *e*P P 11 52 46.0 +1.1
BOZ pmax pmax
comp=Z,3.0nm,0.7s
BOZ Bozeman (W) 57.07 57 P P 11 52 46.0 +1.1
baz=312,SNR=6.3
CMB Columbia Colle 57.27 69 *e*P P 11 52 47.2 +1.0
comp=Z,5.5nm,1.1s
CMB Columbia Colle 57.27 69 *e*P P 11 52 47.2 +1.0
CMB pmax pmax
comp=Z,6.0nm,1.1s
YERR Yerington 57.29 67 *e*P P 11 52 48.4 +1.8
comp=Z,7.4nm,0.8s
ABKAR Akbulak array 57.34 309 *e*P P 11 52 46.1 -0.4
comp=Z,2.4nm,0.8s
KLMR Klimovskoe 57.38 329 *e*P P 11 52 44.4 -2.1
KLMR pmax pmax
comp=Z,5.0nm,0.9s
KLMR Klimovskoe 57.38 329 *e*P P 11 52 44.5 -2.1
KLMR AMP 11 52 46.0
comp=Z,5.0nm,0.9s
BMN Battle Mountai 57.48 65 *e*P P 11 52 49.6 +1.8
comp=Z,6.8nm,0.8s
BMN Battle Mountai 57.48 65 *e*P P 11 52 49.6 +1.8
BMN pmax pmax
comp=Z,7.0nm,0.8s
WAKR Walker 57.50 68 *e*P P 11 52 50.0 +1.9
comp=Z,8.9nm,0.7s
QLMT Earthquake Lak 57.69 57 *e*P P 11 52 51.4 +2.1
OUL Oulu 57.83 338 P P 11 52 47.7 -1.9
OUL pmax pmax
comp=Z,18nm,2.6s
KVN Kaiserville 57.90 66 *e*P P 11 52 52.3 +1.5
comp=Z,7.2nm,0.8s
KVN Kaiserville 57.90 66 *e*P P 11 52 52.3 +1.5
KVN pmax pmax
comp=Z,7.0nm,0.8s
RYN Ryan 57.95 67 *e*P P 11 52 52.6 +1.5
comp=Z,6.9nm,0.8s
YHH Holmes Hill 58.02 57 *e*P P 11 52 53.5 +1.8
comp=Z,4.2nm,0.7s
YMR Madison River 58.04 57 *e*P P 11 52 54.0 +2.3
comp=Z,5.5nm,0.7s
NV01 Mina Array Sit 58.21 67 *e*P P 11 52 54.6 +1.6
NVAR Mina Array Bea 58.21 67 P P 11 52 54.4 +1.5
comp=Z,7.3nm,0.7s,baz=297,slow=7.4,SNR=51
JOF Joensuu 58.22 334 P P 11 52 50.8 -1.6
JOF pmax pmax
comp=Z,14nm,2.2s
YFT Old Faithful 58.26 57 *e*P P 11 52 56.4 +3.1
comp=Z,6.0nm,0.7s
NV11 Mina Array Sit 58.29 67 *e*P P 11 52 55.3 +1.8
comp=Z,0.3nm,0.8s
MDPB Devils Postpil 58.30 68 *e*P P 11 52 55.4 +1.8
comp=Z,5.8nm,1.0s
OMMB Old Mammoth Mi 58.36 68 *e*P P 11 52 55.7 +1.6
comp=Z,4.3nm,1.0s
ELK Elko 58.38 63 *e*P P 11 52 56.0 +1.9
comp=Z,3.3nm,0.6s
ELK Elko 58.38 63 *e*P P 11 52 56.1 +1.9
ELK pmax pmax
comp=Z,3.0nm,0.6s
LKWY Lake 58.41 57 *e*P P 11 52 57.5 +3.2
comp=Z,5.2nm,0.8s
LKWY Lake 58.41 57 *e*P P 11 52 57.6 +3.2
LKWY pmax pmax
comp=Z,5.0nm,0.8s
H17A Grant Village 58.43 57 *e*P P 11 52 57.7 +3.2
comp=Z,7.6nm,1.0s
H17A Grant Village 58.43 57 P P 11 52 57.2 +2.7
baz=313,SNR=8.1
IMW Indian Meadow 58.58 58 *e*P P 11 52 57.6 +2.1
comp=Z,3.8nm,0.9s
RLMT Red Lodge 58.62 56 *e*P P 11 52 57.6 +1.8
comp=Z,9.7nm,1.0s
RLMT Red Lodge 58.62 56 P P 11 52 57.3 +1.6
baz=313,SNR=6.1
FXWY Fox Creek 58.71 58 *e*P P 11 52 58.5 +2.1
comp=Z,2.8nm,0.8s
MOOW Moose Ponds 58.78 58 *e*P P 11 52 58.9 +2.0
comp=Z,4.1nm,1.1s
TPAW Teton Pass 58.85 58 *e*P P 11 52 59.9 +2.5
comp=Z,4.4nm,0.7s
DGMT Dagmar 58.86 50 P P 11 52 58.1 +1.0
baz=314
LOHW Long Hollow 58.95 58 *e*P P 11 53 00.1 +2.1
comp=Z,3.0nm,0.8s
SNOW Snow King Moun 58.98 58 *e*P P 11 53 00.6 +2.4
comp=Z,4.1nm,0.8s
REDW Red Top Meadow 58.99 58 *e*P P 11 53 00.7 +2.4
comp=Z,8.2nm,1.1s
HVU Hansel Valley 59.03 61 *e*P P 11 53 00.4 +1.9
comp=Z,3.3nm,1.0s
HVU Hansel Valley 59.03 61 *e*P P 11 53 00.4 +1.9
HVU pmax pmax
comp=Z,3.0nm,1.0s
LAO LASA Array 59.10 53 *e*P P 11 53 00.5 +1.7
comp=Z,6.0nm,0.8s
LAO LASA Array 59.10 53 P P 11 52 59.9 +1.1
baz=314
CHGR Chuyangaron 59.69 295 *e*P P 11 53 03.2 +0.2
comp=Z,17nm,1.1s
CWC Cottonwood Cre 59.70 69 P P 11 53 04.3 +1.1
baz=314

ZALV Zalesovo Beam 42.01 303 P P 11 50 49.8 -0.9
comp=Z,1.2nm,0.4s,baz=54,slow=5.3,SNR=8.1
ZALV pP pP 11 51 24.4 -2.1
comp=Z,2.4nm,0.9s,baz=60,slow=8.5,SNR=2.0
NVS Novosibirsk 42.43 305 *e*P P 11 50 52.8 -1.2
NVS *e* 11 51 31.8
NVS pmax pmax
comp=Z,8.0nm,0.8s
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,6.0nm,0.8s
DGZ Jazzator, Alta 42.62 296 *d i*P P 11 50 56.4 +0.5
DGZ *i* *PP pP 11 51 35.4 +3.6
DGZ pmax pmax
comp=Z,3.0nm,0.9s
RES Resolute Bay 45.61 21 P P 11 51 19.8 +0.8
WMQ Urumqi 45.64 289 *e*P P 11 51 20.8 +1.0
WMQ pP pP 11 51 58.9 +2.8
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,320nm,4.5s
YKW3 Yellowknife Ar 45.70 40 *e*P P 11 51 20.9 +1.0
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 45.74 40 P P 11 51 21.0 +0.8
YKA 11 52 55.0
YKA Yellowknife Ar 45.74 40 P P 11 51 21.0 +0.8
comp=Z,2.1nm,0.5s,baz=296,slow=7.8,SNR=59
YKA PcP PcP 11 52 54.9 0.0
comp=Z,0.6nm,0.8s,baz=310,slow=3.5,SNR=5.6
YKB5 Yellowknife Ar 45.74 40 *e*P P 11 51 20.4 +0.2
KURK Kurchatov 46.92 302 *e*P P 11 51 29.1 -0.5
comp=Z,10nm,0.7s
KURK Kurchatov 46.92 302 *c i*P P 11 51 28.7 -0.9
KURK *i* *PP pP 11 52 06.3 +0.2
KURK pmax pmax
comp=Z,13nm,1.0s
MK31 Makanchi Array 47.08 295 *e*P P 11 51 30.3 -0.6
comp=Z,3.3nm,0.6s
MK31 Makanchi Array 47.08 295 *e*P P 11 51 30.3 -0.6
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK32 Makanchi Array 47.08 295 *e*P P 11 51 30.1 -0.8
MK32 *ep*P pP 11 52 05.0 -2.5
MKAR Makanchi Array 47.08 295 P P 11 51 30.1 -0.8
comp=Z,2.5nm,0.5s,baz=49,slow=6.4,SNR=33
MKAR pP pP 11 52 05.0 -2.5
comp=Z,2.1nm,0.8s,baz=64,slow=8.2,SNR=3.7
MK01 Makanchi Array 47.09 295 *e*P P 11 51 30.4 -0.6
MAKZ Makanchi 47.25 295 *e*P P 11 51 31.8 -0.4
comp=Z,4.4nm,0.9s
MAKZ Makanchi 47.25 295 *e*P P 11 51 31.8 -0.4
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
SPITS Spitsbergen Ar 48.45 350 P P 11 51 40.3 -0.7
SPITS pmax pmax
comp=Z,1.0nm,0.3s
LLLB Lillooet 48.58 57 *e*P P 11 51 43.9 +1.4
comp=Z,14nm,0.4s
D03D Eldon 49.71 61 P P 11 51 51.9 +0.9
baz=306
B05A Bryant 49.82 60 P P 11 51 52.6 +0.8
baz=306
BRVK Borovoye 49.89 308 *e*P P 11 51 51.6 -0.7
comp=Z,8.8nm,0.7s
BRVK Borovoye 49.89 308 *c i*P P 11 51 51.2 -1.1
BRVK *i* *PP pP 11 52 30.4 +1.1
BRVK *i* 11 54 53.4
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK pmax pmax
comp=Z,2.0nm,0.9s
BRVK pmax pmax
comp=Z,6.0nm,0.9s
PDGK Podgornoye 50.73 293 P P 11 52 00.0 +1.1
PDGK pmax pmax
comp=Z,4.0nm,1.1s
B08A Colville Reser 51.25 58 *e*P P 11 52 03.6 +1.1
comp=Z,4.8nm,0.8s
OTUK Ortayu 51.69 302 P P 11 52 05.4 -0.4
OTUK pmax pmax
comp=Z,8.0nm,0.6s
H04D Lebanon 51.72 64 P P 11 52 07.2 +1.1
baz=308
I03D Drain, OR 51.89 65 P P 11 52 08.6 +1.3
baz=309
J01E Myrtle Point 51.89 66 P P 11 52 08.8 +1.5
baz=309
DAG Danmarks Havn 52.05 359 ⇑ *i*P P 11 52 08.0 0.0
comp=Z,12nm,0.7s
DAG Danmarks Havn 52.05 359 ⇑ *i*P P 11 52 08.0 0.0
DAG pmax pmax
comp=Z,8.0nm,0.7s
G05D Wamic, OR 52.07 62 P P 11 52 09.5 +0.8
baz=308
SVE Sverdlovsk 52.12 316 ⇑ *e*P P 11 52 08.5 -0.3
SVE pmax pmax
comp=Z,14nm,0.9s
I04A Tendick Farm, 52.36 64 P P 11 52 11.9 +1.1
baz=309
F07A Phinny Hill Vi 52.43 61 *e*P P 11 52 12.9 +1.7
comp=Z,7.7nm,0.6s
NEW Newport 52.48 57 *e*P P 11 52 12.5 +0.8
comp=Z,5.5nm,1.0s
NEW Newport 52.48 57 *e*P P 11 52 12.5 +0.8
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 52.48 57 P P 11 52 12.1 +0.5
baz=308
KDJ Kajisay 52.80 293 *e*P P 11 52 15.4 +1.1
comp=Z,3.8nm,0.6s
KDJ Kajisay 52.80 293 *e*P P 11 52 15.4 +1.1
KDJ pmax pmax
comp=Z,4.0nm,0.6s
J04D Umpqua Nationa 52.88 65 P P 11 52 16.6 +1.7
baz=309,SNR=5.3
PINE Pine Mountain 53.19 64 *e*P P 11 52 18.8 +1.7
comp=Z,2.2nm,0.8s
ARU Arti 53.27 317 *e*P P 11 52 16.2 -1.0
comp=Z,13nm,0.7s
ARU Arti 53.27 317 *c i*P P 11 52 16.0 -1.2
ARU *PP pP 11 52 54.9 +0.2
ARU 11 54 14.0
ARU S S 11 59 34.4 -0.9
ARU SS SS 12 03 07.4 -9.1
ARU pmax pmax
comp=Z,15nm,0.8s
J05D Fort Rock, OR 53.34 64 P P 11 52 20.0 +1.8
baz=310,SNR=6.9
L04D Klamath Falls 53.41 66 P P 11 52 19.8 +1.1
baz=310
M02C Callahan 53.63 67 P P 11 52 22.1 +1.9
baz=310
M04C Macdoel 53.96 66 P P 11 52 23.9 +1.2
baz=310
N02D Trinity Center 53.98 67 P P 11 52 24.3 +1.5
baz=310
SKNT Sakolnakorn 53.99 251 P P 11 52 25.2 +2.2
comp=Z,4.3nm,0.8s
AAK Ala-Archa 54.01 295 *e*P P 11 52 23.1 0.0
comp=Z,2.8nm,0.6s
AAK Ala-Archa 54.01 295 ⇑ *i*P P 11 52 22.4 -0.7
AAK *i* *PP pP 11 53 01.8 +1.2
AAK pmax pmax
comp=Z,5.0nm,1.1s
ARA0 ARCESS Array S 54.24 341 *e*P P 11 52 22.6 -1.6
ARCES ARCESS Array B 54.24 341 P P 11 52 22.6 -1.6
comp=Z,1.2nm,0.5s,baz=44,slow=8.1,SNR=14
O02D Mt. Diablo Mer 54.45 68 P P 11 52 27.5 +1.3
baz=311
BMO Blue Mountains 54.52 61 *e*P P 11 52 28.2 +1.5
comp=Z,1.9nm,0.6s
BMO Blue Mountains 54.52 61 *e*P P 11 52 28.2 +1.5
BMO pmax pmax
comp=Z,2.0nm,0.6s
MOD Modoc Plateau 54.76 65 *e*P P 11 52 30.1 +1.7
comp=Z,11nm,0.6s
J08A Circle Bar Ran 54.84 63 *e*P P 11 52 30.7 +1.7
comp=Z,3.6nm,1.0s
O03E Paynes Creek 54.95 67 P P 11 52 30.8 +1.1
baz=311,SNR=5.1
SHL Shillong 54.98 268 *e*P P 11 52 32.1 +1.9
comp=Z,9.8nm,0.7s
SHL Shillong 54.98 268 *e*P P 11 52 32.2 +1.9
SHL pmax pmax

GRAC	Grapevine Rang	59.73	68	P		P		11 53 04.8	+1.5	
	baz=314									
SUF	Sumiainen	59.75	336	P		P		11 53 01.7	-1.2	
FRB	Frobisher Bay	59.81	21	P		P		11 53 02.4	-0.9	
FRB				pmax		pmax				
	comp=Z,12nm,2.3s									
R11A	Troy Canyon, C	59.82	65	*e*P		P		11 53 05.2	+1.2	
	comp=Z,3.9nm,0.8s									
R11A	Troy Canyon, C	59.82	65	P		P		11 53 05.0	+1.0	
	baz=314,SNR=9.6									
ISA	Isabella, Lake	60.01	69	P		P		11 53 05.2	0.0	
	baz=314									
BW06	Boulder Array	60.09	58	*e*P		P		11 53 07.1	+1.3	
	comp=Z,6.9nm,0.9s									
BW06	Boulder Array	60.09	58	P		P		11 53 06.9	+1.0	
	baz=314,SNR=9.2									
PD31	Pinedale Array	60.09	58	*e*P		P		11 53 07.4	+1.6	
	comp=Z,5.9nm,0.8s									
PDAR	Pinedale Array	60.09	58	*e*P		P		11 53 07.2	+1.4	
PDAR	Pinedale Array	60.09	58	P		P		11 53 07.0	+1.1	
	comp=Z,4.7nm,0.7s,baz=320,slow=2.4,SNR=50									
DUG	Dugway, Tooele	60.10	62	*e*P		P		11 53 07.8	+1.9	
	comp=Z,6.7nm,0.9s									
DUG	Dugway, Tooele	60.10	62	*e*P		P		11 53 07.8	+1.9	
DUG				pmax		pmax				
	comp=Z,7.0nm,0.9s									
DUG	Dugway, Tooele	60.10	62	P		P		11 53 07.1	+1.3	
	baz=314,SNR=8.5									
MPMC	Manual Prospec	60.31	68	P		P		11 53 08.2	+0.8	
	baz=314									
VAF	Ylistaro	60.32	338	P		P		11 53 05.9	-0.9	
VAF				pmax		pmax				
	comp=Z,6.0nm,2.4s									
CTU	Camp Tracy	60.34	61	*e*P		P		11 53 09.1	+1.6	
	comp=Z,3.7nm,0.9s									
FURC	Furnace Creek,	60.39	68	P		P		11 53 09.2	+1.6	
	baz=314,SNR=11									
TPNV	Topopah Spring	60.41	67	*e*P		P		11 53 09.3	+1.3	
	comp=Z,9.3nm,0.9s									
TPNV	Topopah Spring	60.41	67	P		P		11 53 09.2	+1.2	
	baz=314,SNR=10									
JLU	Jordanelle	60.57	61	*e*P		P		11 53 11.0	+1.8	
	comp=Z,1.6nm,0.8s									
OSI	Osito Audit: C	60.59	70	P		P		11 53 10.4	+1.3	
	baz=315									
LRMC	Laurel Mtn Rad	60.60	69	P		P		11 53 10.3	+1.0	
	baz=314									
PSUT	Pine Spring	60.67	64	*e*P		P		11 53 11.3	+1.5	
	comp=Z,4.9nm,1.1s									
NLU	North Lily Min	60.68	62	*e*P		P		11 53 11.6	+1.8	
	comp=Z,6.3nm,0.9s									
EDW2	Edwards Air Fo	60.83	70	P		P		11 53 11.7	+1.0	
	baz=315,SNR=5.8									
FIA0	FINESS Array S	60.84	335	*e*P		P		11 53 09.0	-1.3	
FIA0	FINESS Array S	60.84	335	*e*P		P		11 53 09.0	-1.3	
FINES	FINESS Array B	60.84	335	P		P		11 53 09.0	-1.3	
	comp=Z,2.4nm,0.5s,baz=40,slow=7.6,SNR=33									
MPU	Maple Canyon	60.88	62	*e*P		P		11 53 13.0	+1.8	
	comp=Z,5.8nm,0.8s									
SHOC	Shoshone, Teco	61.12	68	P		P		11 53 13.6	+0.9	
	baz=315									
GSC	Goldstone, Bar	61.23	69	*e*P		P		11 53 14.8	+1.3	
	comp=Z,5.1nm,0.8s									
GSC	Goldstone, Bar	61.23	69	P		P		11 53 14.5	+1.0	
	baz=315,SNR=5.5									
SHPR	Sheep Range	61.34	67	*e*P		P		11 53 16.1	+1.8	
	comp=Z,2.4nm,0.9s									
ULM	Lac du Bonnet	61.41	44	P		P		11 53 13.0	-1.4	
	comp=Z,1.6nm,0.5s,baz=327,slow=9.9,SNR=5.7									
BFSC	Mount Baldy Ra	61.48	70	P		P		11 53 16.2	+1.0	
	baz=315									
TMUT	Trail Mountain	61.62	62	*e*P		P		11 53 17.9	+1.6	
	comp=Z,7.7nm,0.7s									
MSU	Marysvale	61.63	63	*e*P		P		11 53 18.5	+2.2	
MSU	Marysvale	61.63	63	*e*P		P		11 53 18.5	+2.2	
CCUT	Cedar City	61.64	65	*e*P		P		11 53 18.1	+1.8	
	comp=Z,3.3nm,0.8s									
TUQ	Turquoise Moun	61.65	68	P		P		11 53 17.5	+1.1	
	baz=315,SNR=7.0									
P17A	Butcher Ranch,	61.75	61	*e*P		P		11 53 18.8	+1.8	
	comp=Z,7.4nm,1.2s									
SZCU	Shurtz Canyon	61.76	64	*e*P		P		11 53 18.7	+1.5	
	comp=Z,2.5nm,0.9s									
K22A	Casper	61.77	56	P		P		11 53 18.1	+1.1	
	baz=315									
HEC	Hector,Ludlow	61.84	69	P		P		11 53 18.8	+1.2	
	baz=315,SNR=9.6									
BBRC	Big Bear Solar	61.90	70	P		P		11 53 18.6	+0.5	
	baz=315									
Q16A	Castle Valley	61.90	62	*e*P		P		11 53 19.7	+1.6	
	comp=Z,3.9nm,0.8s									
MTPU	Mount Pierson	61.95	63	*e*P		P		11 53 20.7	+2.1	
	comp=Z,3.0nm,0.8s									
RSSD	Black Hills	62.00	54	*e*P		P		11 53 19.7	+1.1	
	comp=Z,7.4nm,0.8s									
RSSD	Black Hills	62.00	54	*e*P		P		11 53 19.7	+1.1	
RSSD				pmax		pmax				
	comp=Z,7.0nm,0.8s									
RSSD	Black Hills	62.00	54	P		P		11 53 18.9	+0.3	
	baz=316									
LCMT	Little Creek M	62.08	65	*e*P		P		11 53 21.1	+1.9	
	comp=Z,5.0nm,0.9s									
SRU	San Rafael Swe	62.12	62	*e*P		P		11 53 20.9	+1.4	
	comp=Z,13nm,0.8s									
SRU	San Rafael Swe	62.12	62	*e*P		P		11 53 20.9	+1.4	
SRU				pmax		pmax				
	comp=Z,13nm,0.8s									
MURC	Murrieta	62.20	70	P		P		11 53 20.8	+0.9	
	baz=315									
GMRC	Granite Mounta	62.26	68	P		P		11 53 21.5	+1.1	
	baz=315,SNR=6.6									
PKCU	Pink Cliffs	62.30	64	*e*P		P		11 53 21.9	+0.9	
	comp=Z,3.2nm,0.8s									
KNB	Kanab	62.32	65	*e*P		P		11 53 22.7	+1.9	
	comp=Z,5.0nm,0.9s									
KNB	Kanab	62.32	65	*e*P		P		11 53 22.7	+1.9	
KNB				pmax		pmax				
	comp=Z,5.0nm,0.9s									
BELC	Belle Mtn. Jos	62.62	69	P		P		11 53 23.3	+0.5	
	baz=316									
O20A	White River Ci	62.64	59	P		P		11 53 23.6	+0.6	
	baz=316									
109C	Camp Elliot, M	62.76	71	P		P		11 53 24.5	+1.0	
	baz=316									
AGMN	Agassiz Nation	62.86	46	P		P		11 53 23.7	-0.3	
	baz=318									
IRM	Iron Mountain	63.01	68	P		P		11 53 26.5	+1.2	
	baz=316,SNR=7.3									
U15A	North Rim	63.03	65	*e*P		P		11 53 27.6	+1.9	
	comp=Z,3.4nm,1.1s									
W13A	Hualapai Mount	63.07	67	*e*P		P		11 53 27.5	+1.7	
	comp=Z,3.2nm,0.9s									
MONP2	Monument Peak	63.16	70	P		P		11 53 27.1	+0.6	
	baz=316									
BC3	Big Chuckawall	63.18	69	P		P		11 53 27.0	+0.5	
	baz=316									
N23A	Red Feather La	63.32	57	*e*P		P		11 53 29.2	+1.7	
	comp=Z,5.5nm,0.7s									
N23A	Red Feather La	63.32	57	P		P		11 53 28.9	+1.3	
	baz=316									
PDMCI	Parker Dam,Lak	63.49	68	P		P		11 53 29.4	+1.1	
	baz=316									
IKP	In-Ko-Pah, Jac	63.52	70	P		P		11 53 29.6	+1.0	
	baz=316									
Y12C	Blythe	63.66	68	P		P		11 53 30.8	+1.3	
	baz=316									
GLA	Glamis	63.98	69	P		P		11 53 32.7	+1.1	
	baz=316									
SMCO	Snowmass	64.01	59	*e*P		P		11 53 33.5	+1.3	
	comp=Z,4.0nm,0.8s									
WUAZ	Wupatki	64.20	65	*e*P		P		11 53 35.2	+2.0	
	comp=Z,6.3nm,1.1s									
WUAZ	Wupatki	64.20	65	P		P		11 53 34.5	+1.2	
	baz=316									
ISCO	Idaho Springs	64.29	58	*e*P		P		11 53 35.6	+1.7	
	comp=Z,6.1nm,1.1s									
ISCO	Idaho Springs	64.29	58	P		P		11 53 35.6	+1.7	
ISCO	Idaho Springs	64.29	58	P		P		11 53 35.2	+1.3	
	baz=317,SNR=6.6									
Y14A	Wickenburg	64.41	67	*e*P		P		11 53 35.8	+1.3	
	comp=Z,5.0nm,0.9s									
NB2	NORSAR Subarra	64.56	342	P		P		11 53 34.1	-0.9	
	comp=Z,1.5nm,0.6s,baz=25,slow=6.5									
NB2	NORSAR Subarra	64.56	342	P		P		11 53 33.8	-1.2	
NB2				pmax		pmax				
	comp=Z,1.0nm,0.4s									
NB200	NORSAR Array S	64.56	342	*e*P		P		11 53 34.1	-0.9	
NOA	NORSAR Array B	64.56	342	P		P		11 53 34.1	-0.9	
	comp=Z,0.9nm,0.6s,baz=25,slow=6.4,SNR=12									
MVCO	Mesa Verde	64.60	62	*e*P		P		11 53 37.1	+1.3	
	comp=Z,4.6nm,0.8s									
MVCO	Mesa Verde	64.60	62	P		P		11 53 36.9	+1.1	
	baz=317,SNR=6.8									
NORES	NORESS Array B	64.78	342	P		P		11 53 35.6	-0.7	
X16A	Lo Mia Camp, P	64.96	66	*e*P		P		11 53 40.0	+1.9	
	comp=Z,4.7nm,0.9s									
EYMN	Ely	65.05	44	*e*P		P		11 53 38.7	+0.4	
	comp=Z,12nm,0.9s									
EYMN	Ely	65.05	44	P		P		11 53 38.6	+0.3	
	baz=320,SNR=7.5									
S22A	4UR Ranch, Cre	65.12	60	*e*P		P		11 53 41.2	+1.9	
	comp=Z,6.6nm,1.1s									
S22A	4UR Ranch, Cre	65.12	60	P		P		11 53 40.8	+1.4	
	baz=317,SNR=7.7									
OGNE	Ogallala	65.32	55	P		P		11 53 41.1	+0.8	
	baz=318									
X18A	Snowflake	65.72	65	*e*P		P		11 53 43.8	+0.7	
	comp=Z,6.5nm,1.0s									
SDCO	Great Sand Dun	65.84	59	*e*P		P		11 53 44.3	+0.4	
	comp=Z,1.6nm,0.9s									
SDCO	Great Sand Dun	65.84	59	P		P		11 53 45.0	+1.1	
	baz=317									
ECSD	EROS Data Cent	65.92	50	*e*P		P		11 53 44.4	+0.4	
	comp=Z,7.8nm,0.9s									
ECSD	EROS Data Cent	65.92	50	P		P		11 53 44.3	+0.3	
	baz=319,SNR=7.8									
214A	Organ Pipe Nat	65.95	69	P		P		11 53 45.3	+1.0	
	baz=317									
E38A	The Farm, Brul	66.05	45	*e*P		P		11 53 45.2	+0.4	
	comp=Z,9.5nm,0.8s									
E38A	The Farm, Brul	66.05	45	P		P		11 53 44.6	-0.2	
	baz=321									
GEYT	Alibeck	66.30	301	P		P		11 53 45.7	-0.8	
	comp=Z,1.3nm,0.4s,baz=34,slow=3.7,SNR=4.3									
F38A	Pierce - Schro	66.41	45	P		P		11 53 47.6	+0.6	
	baz=321,SNR=5.5									
E39A	Mellen	66.67	44	P		P		11 53 48.7	0.0	
	baz=321									
TUC	Tucson	66.86	67	*e*P		P		11 53 51.6	+1.4	
	comp=Z,0.7nm,0.8s									
TUC	Tucson	66.86	67	*e*P		P		11 53 51.6	+1.4	
TUC				pmax		pmax				
	comp=Z,1.0nm,0.8s									
TUC	Tucson	66.86	67	P		P		11 53 51.0	+0.7	
	baz=317									
F39A	Loretta	66.87	45	P		P		11 53 49.6	-0.3	
	baz=321									
T25A	Trinidad	66.88	59	P		P		11 53 50.8	+0.4	
	baz=318									
D41A	Chassel	66.99	42	P		P		11 53 50.4	-0.2	
	baz=322									
G38A	Ridgeland	67.03	46	P		P		11 53 50.4	-0.6	
	baz=322									
F40A	Park Falls	67.21	44	P		P		11 53 51.4	-0.8	
	baz=322									
H38A	Maiden Rock	67.22	46	P		P		11 53 52.1	-0.1	
	baz=321									
G39A	Holcombe	67.24	45	P		P		11 53 52.1	-0.3	
	baz=321									
E41A	Kenton	67.29	43	P		P		11 53 52.5	-0.1	
	baz=322									
TASM	ASL Pad, Albuq	67.38	62	P		P		11 53 54.9	+1.3	
	baz=318,SNR=5.6									
TASM	ASL Pad, Albuq	67.38	62	P		P		11 53 54.8	+1.3	
	baz=318,SNR=5.5									
ANMO	Albuquerque	67.38	62	*e*P		P		11 53 55.0	+1.4	
	comp=Z,5.5nm,1.1s									
ANMO	Albuquerque	67.38	62	*e*P		P		11 53 55.0	+1.4	
ANMO				pmax		pmax				
	comp=Z,6.0nm,1.1s									
ANMO	Albuquerque	67.38	62	P		P		11 53 54.4	+0.9	
	baz=318									
LAZ	Ladron	67.40	63	*e*P		P		11 53 55.9	+2.1	
G40A	Rib Lake	67.69	45	P		P		11 53 54.9	-0.2	
	baz=322									
E42A	Champion	67.76	43	P		P		11 53 55.5	0.0	
	baz=323									
F41A	Three Lakes	67.80	44	P		P		11 53 55.7	-0.1	
	baz=322									
SCHQ	Schefferville	68.04	26	*e*P		P		11 53 56.9	-0.3	
	comp=Z,5.4nm,1.1s									
SCHQ	Schefferville	68.04	26	P		P		11 53 55.8	-1.4	
	comp=Z,1.4nm,0.4s,baz=285,slow=12,SNR=3.6									
CBKS	Cedar Bluff	68.08	55	*e*P		P		11 53 57.3	-0.4	
	comp=Z,8.3nm,0.8s									
CBKS	Cedar Bluff	68.08	55	*e*P		P		11 53 57.3	-0.4	
CBKS				pmax		pmax				
	comp=Z,8.0nm,0.8s									
H40A	Chili	68.11	45	P		P		11 53 57.5	-0.3	
	baz=322									
I39A	Houston	68.20	46	P		P		11 53 58.2	-0.1	
	baz=322									
G42A	Mountain	68.48	44	P		P		11 53 60.0	-0.1	
	baz=323									
J39A	Decorah	68.52	47	P		P		11 54 00.3	0.0	
	baz=322									
G43A	Wallace	68.79	43	P		P		11 54 02.2	+0.3	
	baz=323									
J40A	Soldiers Grove	68.91	46	P		P		11 54 01.8	-0.9	
	baz=322									
SCIA	State Center	68.93	49	*e*P		P		11 54 03.9	+1.0	
	comp=Z,26nm,0.8s									
SCIA	State Center	68.93	49	P		P		11 54 03.4	+0.5	
	baz=321									
AKASG	Malin Array Be	68.99	327	*i* P		P		11 54 03.4	+0.4	
AKASG				pmax		pmax				
	comp=Z,1.0nm,0.3s									
AKASG	Malin Array Be	68.99	327	P		P		11 54 01.2	-1.8	
	comp=Z,0.9nm,0.3s,baz=32,slow=7.0,SNR=4.7									
D46A	Sault St. Mari	68.99	40	P		P		11 54 02.4	-0.8	
	baz=324									
AK11	Malin Array Si	69.02	327	*e*P		P		11 54 03.0	-0.2	
D47A	Chapleau	69.23	39	P		P		11 54 03.9	-0.8	
	baz=325									
K40A	Colesburg	69.28	47	P		P		11 54 04.5	-0.5	
	baz=322									
KBZ	Khabaz	69.35	315	P		P		11 54 04.8	-0.5	
	comp=Z,2.8nm,0.6s,baz=84,slow=5.6,SNR=6.6									
KSU1	Kansas State U	69.45	53	P		P		11 54 06.0	-0.1	
	baz=320									
JFWS	Jewell Farm	69.51	46	P		P		11 54 05.8	-0.7	
	baz=322									
F46A	Macinaw City C	69.60	41	P		P		11 54 06.7	-0.2	
	baz=324									
D48A	Paudash Townsh	69.64	38	P		P		11 54 06.3	-0.9	
	baz=326									
J42A	Columbus	69.70	45	P		P		11 54 07.3	-0.2	
	baz=323									
K41A	Shullsburg	69.73	46	P		P		11 54 07.5	-0.3	
	baz=322									
L40A	Anamosa	69.74	47	P		P		11 54 07.7	-0.2	
	baz=322									
M39A	Webster	69.75	48	P		P		11 54 08.2	+0.2	
	baz=322,SNR=5.7									
LSQQ	Lebel-sur-Quev	69.87	34	P		P		11 54 08.2	-0.3	
	baz=328									
G46A	Petoskey	69.93	41	P		P		11 54 08.7	-0.2	
	baz=324									
AMTX	Amarillo	70.03	59	P		P		11 54 09.6	-0.2	
	baz=320									
K42A	Prairie Point,	70.03	46	P		P		11 54 09.4	-0.2	
	baz=323									
CHGQ	Chibougamau	70.04	32	P		P		11 54 09.0	-0.6	
	baz=329									
M40A	Post Highland	70.12	48	P		P		11 54 10.1	0.0	
	baz=322									
MSTX	Muleshoe	70.13	60	P		P		11 54 10.8	+0.4	
	baz=319									
MNTX	Cornudas Mount	70.39	64	*e*P		P		11 54 13.4	+1.4	
	comp=Z,3.2nm,0.8s									
MNTX	Cornudas Mount	70.39	64	P		P		11 54 13.1	+1.1	
	baz=319,SNR=5.1									
H46A	Fife Lake	70.42	42	P		P		11 54 11.4	-0.6	
	baz=324									
N40A	Mertquake, Sal	70.50	48	P		P		11 54 12.4	0.0	
	baz=322									
L42A	Oliver, Polo	70.50	46	P		P		11 54 11.9	-0.5	
	baz=323									
M41A	Milan	70.59	47	P		P		11 54 12.9	-0.2	
	baz=322									
I46A	Reed City	70.80	43	P		P		11 54 13.9	-0.3	
	baz=324									
CLNB	Carlsbad	70.80	62	*e*P		P		11 54 12.8	-1.8	
J45A	Montague	70.80	44	P		P		11 54 14.6	+0.3	
	baz=324									
N41A	Harden Midland	70.97	48	P		P		11 54 15.6	+0.2	
	baz=322									
O41A	Passleys Farm,	71.43	48	P		P		11 54 18.2	+0.1	
	baz=323									
D54A	Lac Fusel, La	71.60	35	P		P		11 54 18.4	-0.6	
	baz=328									
K46A	Dorr	71.67	44	P		P		11 54 19.3	-0.2	
	baz=324									
WMOK	Wichita Mounta	71.68	57	P		P		11 54 20.1	+0.4	
	baz=321									
P41A	Barry, Barry	71.69	49	P		P		11 54 20.0	+0.3	
	baz=323,SNR=5.4									
M44A	Midewin, Midew	71.72	46	P		P		11 54 19.7	-0.1	
	baz=324									
F52A	Sundridge	71.75	38	P		P		11 54 19.3	-0.6	
	baz=327									
HDIL	Hopedale	71.82	47	P		P		11 54 20.4	0.0	
	baz=323									
E54A	Lac Daplat, Po	72.01	36	P		P		11 54 20.4	-1.0	
	baz=328									
K47A	Vermontville	72.02	43	P		P		11 54 21.2	-0.4	
	baz=325									
ALGO	Algonquin Park	72.09	37	P		P		11 54 21.4	-0.6	
	baz=328									
P42A	Winchester	72.10	48	P		P		11 54 21.9	-0.2	
	baz=323									
Q41A	Truxton	72.18	49	P		P		11 54 23.0	+0.4	
	baz=323,SNR=5.1									
K48A	Perry	72.29	42	P		P		11 54 23.2	0.0	
	baz=325									
EKA	Eskdalemuir Ar	72.33	348	P		P		11 54 23.2	+0.1	
	comp=Z,2.4nm,0.4s,baz=18,slow=5.3,SNR=18									
H52A	Wyevale	72.49	39	P		P		11 54 23.4	-1.0	
	baz=327									
Q42A	Golden Eagle	72.55	49	P		P		11 54 25.2	+0.5	
	baz=323									
G53A	Haliburton	72.58	38	P		P		11 54 24.5	-0.3	
	baz=328									
K49A	Clarkson	72.58	42	P		P		11 54 24.8	-0.1	
	baz=326									
PEMO	Pembroke	72.63	37	P		P		11 54 24.3	-0.8	
	baz=328									
R41A	Rosebud	72.63	50	P		P		11 54 25.2	-0.1	
	baz=323									
F55A	Otter Lake	72.83	36	P		P		11 54 25.8	-0.5	
	baz=329									
L48A	N Adams	72.86	43	P		P		11 54 26.9	+0.4	
	baz=325									
CCM	Cathedral Cave	72.89	50	P		P		11 54 26.6	-0.2	
	baz=323									
AAM	Ann Arbor	72.89	43	P		P		11 54 27.0	+0.3	
	baz=326									
Q43A	New Douglas	72.92	48	P		P		11 54 26.6	-0.3	
	baz=323									
R42A	Luebbering	72.92	50	P		P		11 54 27.2	+0.2	
	baz=323									
SFIN	Lafayette	72.96	46	P		P		11 54 27.0	-0.2	
	baz=324									
BURAR	Bucovina Array	72.98	328	⇑*i* P		P		11 54 26.4	-0.9	
BURAR	Bucovina Array	72.98	328	⇑P		P		11 54 26.4	-0.9	
P44A	Sand Creek, Wi	73.00	47	P		P		11 54 27.3	-0.1	
	baz=324									
L49A	Milan	73.00	43	P		P		11 54 27.5	+0.1	
	baz=326									
S41A	Jillco Farms,	73.02	51	P		P		11 54 27.5	-0.1	
	baz=323									
TX31	Lajitas Ar. Si	73.14	64	*e*P		P		11 54 29.9	+1.3	
TXAR	Lajitas Array	73.14	64	P		P		11 54 29.8	+1.2	
	comp=Z,3.4nm,0.5s,baz=294,slow=4.8,SNR=29									
CLL	Collm	73.17	337	⇓*i* P		P		11 54 27.7	-0.5	
	comp=Z,6.0nm,1.0s									
CLL	Collm	73.17	337	⇓*i* P		P		11 54 27.7	-0.5	
CLL				pmax		pmax				
	comp=Z,6.0nm,1.0s									
G55A	Calabogie	73.19	36	P		P		11 54 26.6	-1.8	
	baz=326									
I53A	Kortright Cn E	73.29	39	P		P		11 54 28.9	-0.1	
	baz=327									
S42A	Caledonia	73.33	50	P		P		11 54 29.2	-0.2	
	baz=323									
U40A	Yellville	73.45	52	P		P		11 54 29.9	-0.2	
	baz=322,SNR=5.5									
ORIO	Orleans, Innes	73.46	36	P		P		11 54 29.0	-1.0	
	baz=329									
L50A	Kingsville	73.46	42	P		P		11 54 30.1	+0.1	
	baz=326									
DELO	Deloro Mine	73.47	37	P		P		11 54 29.8	-0.3	
	baz=328									
N48A	Decatur	73.48	44	P		P		11 54 30.1	-0.1	
	baz=325									
P46A	Rosedale	73.52	46	P		P		11 54 30.3	-0.2	
	baz=324									
Q45A	Warren Harvey,	73.67	47	P		P		11 54 31.1	-0.2	
	baz=324									
WR1	Warramunga Arr	73.75	202	*e*P		P		11 54 31.8	-0.1	
	comp=Z,3.0nm,0.8s									
WR1				*e*pP		pP		11 55 09.2	-2.6	
WRA	Warramunga Arr	73.75	202	P		P		11 54 31.8	-0.1	
	comp=Z,2.1nm,0.7s,baz=17,slow=6.2,SNR=18									
WRA				pP		pP		11 55 09.2	-2.6	
	comp=Z,0.5nm,0.9s,baz=18,slow=6.2,SNR=1.8									
R44A	Waltonville	73.76	48	P		P		11 54 31.3	-0.5	
	baz=324									
S43A	Fulton Ridge,	73.83	50	P		P		11 54 32.6	+0.3	
	baz=323									
W39A	Magazine	73.90	54	P		P		11 54 32.7	0.0	
	baz=322									
U41A	Viola	73.92	52	P		P		11 54 32.0

WCI	**Wyandotte Cave** baz=325	**75.06**	**47**	P	**P**	**11 54 39.3**	**-0.1**
O51A	**Pataskala** baz=326	**75.12**	**43**	P	**P**	**11 54 39.2**	**-0.5**
L55A	**Hinsdale** baz=328	**75.13**	**39**	P	**P**	**11 54 39.1**	**-0.6**
M54A	**Oil Creek Stat** baz=328	**75.21**	**40**	P	**P**	**11 54 40.0**	**-0.2**
GERES	**GERESS Array B** comp=Z,0.6nm,0.5s,baz=70,slow=6.6,SNR=2.4	**75.27**	**336**	P	**P**	**11 54 39.9**	**-0.7**
T46A	**Princeton** baz=324	**75.29**	**48**	P	**P**	**11 54 41.2**	**+0.5**
S47A	**Hartford** baz=325	**75.31**	**47**	P	**P**	**11 54 40.6**	**-0.2**
N53A	**Lisbon** baz=327	**75.31**	**42**	P	**P**	**11 54 40.2**	**-0.7**
O52A	**Adamsville** baz=327	**75.47**	**43**	P	**P**	**11 54 41.6**	**-0.2**
P51A	**Williamsport** baz=326	**75.47**	**44**	P	**P**	**11 54 41.3**	**-0.4**
N54A	**Moraine State** baz=328	**75.53**	**41**	P	**P**	**11 54 42.0**	**-0.1**
Q50A	**Georgetown** baz=326	**75.60**	**45**	P	**P**	**11 54 42.5**	**0.0**
M55A	**Ridgway** baz=328	**75.60**	**40**	P	**P**	**11 54 42.3**	**-0.2**
O53A	**New Philadelph** baz=327	**75.62**	**42**	P	**P**	**11 54 42.4**	**-0.2**
S48A	**Wiedeman Farm,** baz=325	**75.64**	**47**	P	**P**	**11 54 42.7**	**0.0**
T47A	**Sharon Grove** baz=325	**75.70**	**48**	P	**P**	**11 54 43.4**	**+0.4**
Q51A	**Peebles** baz=326	**75.73**	**44**	P	**P**	**11 54 43.5**	**+0.3**
GZR	**Gura Zlata**	**75.74**	**329**	⇓*i*P	**P**	**11 54 42.7**	**-0.5**
GZR	**Gura Zlata**	**75.74**	**329**	⇓P	**P**	**11 54 42.7**	**-0.5**
P52A	**Corning** baz=327	**75.75**	**43**	P	**P**	**11 54 42.6**	**-0.7**
S49A	**Springfield** baz=326	**75.88**	**46**	P	**P**	**11 54 44.4**	**+0.3**
R50A	**Paris** baz=326	**75.91**	**45**	P	**P**	**11 54 44.8**	**+0.6**
BZS	**Buzias**	**75.92**	**329**	⇓*i*P	**P**	**11 54 41.5**	**-2.6**
BZS	**Buzias**	**75.92**	**329**	⇓P	**P**	**11 54 41.5**	**-2.6**
T48A	**Bowling Green** baz=325	**75.93**	**47**	P	**P**	**11 54 44.7**	**+0.3**
WVT	**Waverly** baz=325	**76.06**	**49**	P	**P**	**11 54 44.6**	**-0.5**
U47A	**Clarksville** baz=325	**76.06**	**48**	P	**P**	**11 54 44.9**	**-0.2**
BINY	**Binghamton** baz=329	**76.07**	**38**	P	**P**	**11 54 44.3**	**-0.8**
N55A	**Marion Center** baz=328	**76.09**	**40**	P	**P**	**11 54 44.8**	**-0.5**
NATX	**Nacogdoches** baz=323	**76.16**	**56**	P	**P**	**11 54 46.8**	**+1.1**
V46A	**Holladay** baz=325	**76.19**	**49**	P	**P**	**11 54 45.1**	**-0.7**
R51A	**Hillsboro** baz=326	**76.22**	**45**	P	**P**	**11 54 45.6**	**-0.4**
Q52A	**Bidwell** baz=327	**76.25**	**44**	P	**P**	**11 54 45.7**	**-0.4**
T49A	**Edmonton** baz=326	**76.33**	**47**	P	**P**	**11 54 46.6**	**0.0**
U48A	**Cassie Pea, Po** baz=325	**76.35**	**48**	P	**P**	**11 54 46.9**	**+0.1**
S50A	**Richmond** baz=326	**76.37**	**46**	P	**P**	**11 54 46.8**	**-0.1**
V47A	**Nunnelly** baz=325	**76.45**	**49**	P	**P**	**11 54 47.3**	**-0.1**
O55A	**Ligonier** baz=328	**76.45**	**41**	P	**P**	**11 54 46.7**	**-0.6**
P54A	**Burton** baz=328	**76.47**	**42**	P	**P**	**11 54 46.9**	**-0.6**
BR101	**Keskin Array S**	**76.60**	**318**	*e*P	**P**	**11 54 47.6**	**-0.7**
BRTR	**Keskin Array B**	**76.60**	**318**	*i*P	**P**	**11 54 49.9**	**+1.6**
BRTR	comp=Z,1.0nm,0.4s			pmax	pmax		
BRTR	**Keskin Array B** comp=Z,0.8nm,0.6s,baz=80,slow=3.5,SNR=4.4	**76.60**	**318**	P	**P**	**11 54 47.6**	**-0.7**
Q53A	**Leroy** baz=327	**76.65**	**43**	P	**P**	**11 54 48.4**	**0.0**
SSPA	**Standing Stone** baz=329	**76.66**	**40**	P	**P**	**11 54 48.0**	**-0.4**
U49A	**Red Boiling Sp** baz=325	**76.70**	**47**	P	**P**	**11 54 49.2**	**+0.5**
T50A	**Nancy** baz=326	**76.72**	**46**	P	**P**	**11 54 48.9**	**+0.1**
P55A	**Reedsville** baz=328	**76.82**	**42**	P	**P**	**11 54 49.2**	**-0.2**
Q54A	**Coxs Mills** baz=327	**76.84**	**43**	P	**P**	**11 54 49.8**	**+0.3**
V48A	**Smith Brothers** baz=325	**76.85**	**48**	P	**P**	**11 54 49.6**	**0.0**
W47A	**Westpoint** baz=325	**76.88**	**49**	P	**P**	**11 54 49.9**	**+0.2**
R53A	**Hurricane** baz=327	**76.91**	**44**	P	**P**	**11 54 50.0**	**+0.1**
S52A	**Salyersville** baz=326	**76.96**	**45**	P	**P**	**11 54 50.1**	**-0.1**
X46A	**Booneville** baz=324	**76.97**	**50**	P	**P**	**11 54 49.1**	**-1.1**
KBA	**Koelnbreinsper** comp=Z,13nm,0.9s	**76.99**	**335**	*e*P	**P**	**11 54 51.8**	**+1.4**
KBA	**Koelnbreinsper** comp=Z,10.0nm,0.8s	**76.99**	**335**	P	**P**	**11 54 51.2**	**+0.8**
KBA				pmax	pmax		
Q55A	**Buckhannon** baz=328	**77.15**	**42**	P	**P**	**11 54 50.9**	**-0.3**
T51A	**Gray** baz=326	**77.16**	**46**	P	**P**	**11 54 51.0**	**-0.3**
WATA	**Walderalm** comp=Z,4.7nm,1.0s	**77.20**	**337**	*e*P	**P**	**11 54 52.8**	**+1.3**
U50A	**Jamestown** baz=326	**77.21**	**47**	P	**P**	**11 54 51.9**	**+0.3**
N59A	**State Game Lan** baz=330	**77.25**	**38**	P	**P**	**11 54 51.2**	**-0.5**
W48A	**Pulaski** baz=325	**77.29**	**49**	P	**P**	**11 54 51.9**	**-0.2**
MOTA	**Moosalm** comp=Z,5.5nm,0.9s	**77.31**	**337**	*e*P	**P**	**11 54 53.0**	**+0.9**
X47A	**Russelville** baz=325	**77.35**	**50**	P	**P**	**11 54 51.8**	**-0.6**
S53A	**Williamson** baz=327	**77.38**	**44**	P	**P**	**11 54 52.6**	**+0.1**
SQTA	**Sankt Quirin** comp=Z,4.9nm,0.8s	**77.40**	**337**	P	**P**	**11 54 52.6**	**0.0**
AS31	**Alice Springs** comp=Z,0.6nm,0.6s	**77.44**	**201**	*e*P	**P**	**11 54 53.9**	**+1.1**
ASAR	**Alice Springs** comp=Z,1.6nm,0.7s,baz=15,slow=5.3,SNR=24	**77.44**	**201**	P	**P**	**11 54 53.8**	**+1.0**
ASAR	comp=Z,0.4nm,0.6s,baz=12,slow=5.1,SNR=2.2			pP	**pP**	**11 55 31.1**	**-1.9**
R54A	**Victor** baz=327	**77.45**	**43**	P	**P**	**11 54 52.2**	**-0.7**
T52A	**Hallie** baz=327	**77.47**	**45**	P	**P**	**11 54 53.2**	**+0.1**
U51A	**La Follette** baz=326	**77.62**	**46**	P	**P**	**11 54 54.0**	**+0.2**
W49A	**Belvidere** baz=325	**77.62**	**48**	P	**P**	**11 54 54.1**	**+0.3**
DAVA	**Damuels** comp=Z,11nm,1.1s	**77.66**	**338**	*e*P	**P**	**11 54 55.0**	**+0.9**
TZTN	**Tazewell** baz=326	**77.69**	**46**	P	**P**	**11 54 54.3**	**+0.1**
FETA	**Feichten** comp=Z,3.8nm,0.9s	**77.71**	**337**	*e*P	**P**	**11 54 54.5**	**+0.2**
V50A	**Pikeville** baz=326	**77.71**	**47**	P	**P**	**11 54 54.2**	**-0.1**
R55A	**Marlinton** baz=328	**77.73**	**42**	P	**P**	**11 54 54.3**	**-0.2**
T53A	**Wise** baz=327	**77.78**	**45**	P	**P**	**11 54 54.5**	**-0.3**
PAL	**Palisades** baz=330	**77.89**	**37**	P	**P**	**11 54 55.0**	**-0.3**
U52A	**Thorn Hill** baz=326	**77.90**	**46**	P	**P**	**11 54 55.0**	**-0.4**
V51A	**Loudon** baz=326	**77.94**	**47**	P	**P**	**11 54 55.1**	**-0.6**
W50A	**Signal Mountai** baz=326	**78.00**	**48**	P	**P**	**11 54 55.7**	**-0.2**
X49A	**Woodville** baz=326	**78.09**	**49**	P	**P**	**11 54 56.4**	**0.0**
T54A	**Tazewell** baz=327	**78.13**	**44**	P	**P**	**11 54 56.5**	**-0.3**
Y48A	**Jasper** baz=325	**78.17**	**50**	P	**P**	**11 54 56.1**	**-0.8**
V52A	**Sevierville**	**78.25**	**46**	P	**P**	**11 54 56.9**	**-0.5**
	baz=326						
U53A	**Fall Branch** baz=327	**78.27**	**45**	P	**P**	**11 54 57.3**	**-0.2**
T55A	**Pulaski** baz=328	**78.43**	**44**	P	**P**	**11 54 57.7**	**-0.6**
X50B	**Fort Payne** baz=326	**78.45**	**48**	P	**P**	**11 54 58.0**	**-0.4**
U54A	**Nelsons Funny** baz=327	**78.48**	**45**	P	**P**	**11 54 58.2**	**-0.5**
BLA	**Blacksburg** baz=328	**78.51**	**43**	P	**P**	**11 54 58.4**	**-0.4**
Y49A	**Blount Mountai** baz=326	**78.58**	**49**	P	**P**	**11 54 58.8**	**-0.4**
Y50A	**Piedmont** baz=326	**78.87**	**49**	P	**P**	**11 55 00.5**	**-0.3**
LRAL	**Lakeview Retre** baz=325	**78.97**	**50**	P	**P**	**11 55 00.9**	**-0.4**
W53A	**Cullowhee** baz=327	**79.00**	**46**	P	**P**	**11 55 01.2**	**-0.4**
Y51A	**Rockmart** baz=326	**79.18**	**48**	P	**P**	**11 55 02.4**	**-0.1**
Z50A	**Ashland** baz=326	**79.31**	**49**	P	**P**	**11 55 02.9**	**-0.3**
149A	**Jones** baz=326	**79.43**	**50**	P	**P**	**11 55 04.0**	**+0.1**
X53A	**Estanollee** baz=327	**79.50**	**47**	P	**P**	**11 55 04.2**	**0.0**
W54A	**Cherokee Point** baz=327	**79.52**	**46**	P	**P**	**11 55 04.2**	**0.0**
Y52A	**Lilburn** baz=326	**79.68**	**48**	P	**P**	**11 55 05.2**	**0.0**
249A	**Camden** baz=325	**79.78**	**51**	P	**P**	**11 55 05.9**	**+0.2**
150A	**Eclectic** baz=326	**79.79**	**50**	P	**P**	**11 55 05.7**	**-0.1**
KMSC	**Kings Mountain** baz=328	**79.85**	**45**	P	**P**	**11 55 05.6**	**-0.4**
X54A	**Belton** baz=327	**79.88**	**46**	P	**P**	**11 55 06.1**	**-0.1**
Z52A	**Williamson** baz=326	**80.07**	**48**	P	**P**	**11 55 07.3**	**+0.1**
TIR	**Tirane** comp=Z,36nm,1.1s	**80.31**	**329**	*e*P	**P**	**11 55 09.1**	**+0.7**
TIR	**Tirane** comp=Z,36nm,1.1s	**80.31**	**329**	*e*P pmax	**P** pmax	**11 55 09.1**	**+0.7**
Y54A	**Tignall** baz=327	**80.31**	**47**	P	**P**	**11 55 08.7**	**+0.1**
152A	**Waverly Hall** baz=326	**80.36**	**49**	P	**P**	**11 55 08.9**	**+0.1**
251A	**Midway** baz=326	**80.51**	**50**	P	**P**	**11 55 09.8**	**+0.2**
BNI	**Bardonecchia** comp=Z,7.7nm,1.1s	**80.51**	**339**	*e*P	**P**	**11 55 10.7**	**+1.1**
BNI	**Bardonecchia** comp=Z,8.0nm,1.1s	**80.51**	**339**	*e*P	**P**	**11 55 10.7**	**+1.1**
BNI				pmax	pmax		
X56A	**White Oak** baz=328	**80.53**	**45**	P	**P**	**11 55 09.8**	**+0.1**
Y55A	**Saluda** baz=328	**80.62**	**46**	P	**P**	**11 55 10.4**	**+0.2**
SSB	**Saint Sauveur** comp=Z,5.1nm,1.0s	**80.75**	**341**	*e*P	**P**	**11 55 11.7**	**+0.9**
SSB	**Saint Sauveur** comp=Z,5.0nm,1.0s	**80.75**	**341**	*e*P pmax	**P** pmax	**11 55 11.7**	**+0.9**
SSB							
353A	**Camilla** baz=327	**81.69**	**49**	P	**P**	**11 55 15.5**	**-0.3**
X60A	**Albert Glenn T** baz=329	**81.79**	**43**	P	**P**	**11 55 16.1**	**-0.2**
ES06	**SONSECA Array**	**87.74**	**345**	*e*P	**P**	**11 55 45.9**	**-0.2**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.6s,baz=358,slow=3.7,SNR=6.4	**87.75**	**345**	P	**P**	**11 55 45.0**	**-1.1**
KEST	**Kesra** comp=Z,8.4nm,1.1s	**88.65**	**334**	*e*P	**P**	**11 55 51.3**	**+0.9**
KEST	**Kesra** comp=Z,4.8nm,0.7s,baz=180,slow=2.5,SNR=5.4	**88.65**	**334**	P	**P**	**11 55 50.4**	**-0.1**
CPUP	**Villa Florida**	**143.98**	**59**	*e*PKPdf	PKPab	12 02 30.5	+1.2
CPUP	**Villa Florida** comp=Z,1.7nm,0.7s,baz=347,slow=5.8,SNR=5.0	**143.98**	**59**	PKP	PKPab	12 02 30.4	+1.0
GO06	**Curarrehue**	**144.74**	**90**	*e*PKPbc	PKPbc	12 02 32.0	0.0
PLCA	**Paso Flores**	**145.98**	**91**	*e*PKPdf	**PKPdf**	**12 02 36.4**	**+1.7**
PLCA	**Paso Flores** comp=Z,6.7nm,0.7s,baz=309,slow=4.2,SNR=18	**145.98**	**91**	PKPbc	**PKPdf**	**12 02 36.0**	**+1.3**
TRQA	**Tornquist**	**149.73**	**79**	*e*PKPbc	**PKPbc**	**12 02 46.1**	**+0.3**
TRQA	**Tornquist**	**149.73**	**79**	*e*PKP2	**PKPbc**	**12 02 46.1**	**+0.3**

JMA 24 11:49:19.9,37.52N×141.57E,h51km±1km,M3.5,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.57**	**255**	P	Pn	11 49 32.0	-0.1
JFK				S	Sn	11 49 40.5	-0.5
JMM	**Marumori**	**0.71**	**300**	P	Pn	11 49 33.9	+0.1
JMM				S	Sn	11 49 43.9	+0.1
ONAJ	**Iwakimizuishiy**	**0.74**	**236**	P	Pn	11 49 34.1	-0.2
ONAJ				S	Sn	11 49 44.1	-0.7
JIKH	**Ishinomakikobu**	**0.79**	**354**	P	Pn	11 49 34.9	0.0
JIKH				S	Sn	11 49 45.7	-0.1
JIO	**Ouri**	**0.95**	**349**	P	Pn	11 49 37.1	+0.1
JIO				S	Sn	11 49 49.2	-0.3
JFT	**Otama**	**0.98**	**270**	P	Pn	11 49 38.0	+0.6
JFT				S	Sn	11 49 51.2	+0.9
JOU	**Okura**	**1.11**	**320**	P	Pn	11 49 39.2	+0.1
JOU				*e*S	Sn	11 49 53.4	+0.1
JYS	**Shirataka**	**1.38**	**301**	P	Pn	11 49 43.3	+0.5
JYS				*e*S	Sn	11 50 00.9	+0.9
JMK	**Ichinoseki**	**1.46**	**349**	P	Pn	11 49 44.1	+0.3
JMK				S	Sn	11 50 02.1	+0.3
JFY	**Yanaizu**	**1.49**	**266**	P	Pn	11 49 44.7	+0.4
JFY				*e*S	Sn	11 50 03.2	+0.6
JYK	**Kaneyama**	**1.69**	**326**	P	Pn	11 49 47.7	+0.7
JYK				*e*S	Sn	11 50 08.3	+0.8
MAT	**Matsushiro**	**2.86**	**251**	P	Pn	11 50 04.5	+1.4
MAT				S	Sn	11 50 41.1	+4.8

IDC 24 12:00:31.3±31.0,21.17S×179.61E,h608km±286km, mb2.6/3,mb1 2.8/3,mb1mx2.6/36,mbtmp3.6/3,Error ellipse: s-maj=265.1km s-min=151.2km az=118.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.5s,baz=93,slow=8.1,SNR=12	**42.19**	**258**	P	P	12 07 31.9	-0.9
ASAR	0.2nm,0.5s,baz=109,slow=4.0,SNR=5.0			PcP	PcP	12 09 11.3	-1.2
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=94,slow=8.3,SNR=41	**42.29**	**263**	P	P	12 07 33.5	-0.1
FITZ	**Fitzroy Crossi** 1.0nm,0.7s,baz=84,slow=10,SNR=2.9	**50.72**	**264**	P	P	12 08 38.0	+1.0
HFS	**Hagfors** 1.6nm,0.9s,baz=22,slow=4.7,SNR=5.0	**139.81**	**349**	PKhKP	PKPpre	12 18 46.2	
AKASG	**Malin Array Be** 1.3nm,0.5s,baz=42,slow=4.0,SNR=6.1	**142.47**	**329**	PKP	PKPdf	12 18 55.8	0.0

KRSC 24 12:29:57.0±10.0,50.70N×160.12E,h88km±10km,ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.70**	**312**	*e*P	Pn	12 30 26.9	+1.8
KDTR				*e*S	Sn	12 30 48.2	+1.7
RUS	**Russkaya**	**2.00**	**331**	*e*P	Pn	12 30 30.5	+1.4
RUS				*e*S	Sn	12 30 54.5	+0.9
MTVR	**Mutnovka**	**2.15**	**327**	*e*P	Pn	12 30 33.1	+1.8
MTVR				*e*S	Sn	12 30 59.0	+1.6
ASAK	**Asacha**	**2.18**	**321**	*e*P	Pn	12 30 33.9	+2.3
ASAK				*e*S	Sn	12 31 01.0	+3.0
KRMR	**Karymshinskiy**	**2.46**	**331**	*e*P	Pn	12 30 37.3	+2.1
KRMR				*e*S	Sn	12 31 07.2	+2.7
SKR	**Severo-Kuril's**	**2.55**	**271**	*e*P	Pn	12 30 38.2	+1.9
SKR				*e*S	Sn	12 31 07.8	+1.3
UGLR	**Uglovaya**	**2.63**	**343**	P	Pn	12 30 40.2	+2.5
SDLR	**Sedlovina**	**2.69**	**344**	*e*P	Pn	12 30 40.8	+2.4
AVH	**Avacha**	**2.70**	**342**	*e*P	Pn	12 30 41.4	+2.8
KOK	**Koryaka**	**2.75**	**341**	*e*P	Pn	12 30 42.1	+2.9
APC	**Apacha**	**2.89**	**322**	*e*P	Pn	12 30 44.1	+3.2
MKZ	**Mys Kozlova**	**3.98**	**14**	*e*P	Pn	12 30 57.0	+1.3
TUMR	**Tumrok**	**4.59**	**0**	P	Pn	12 31 07.6	+3.6
KBTR	**Krutoberegovo**	**5.75**	**15**	*e*P	Pn	12 31 21.7	+2.0

*DDA **24** 12:35:08.8,37.77N×32.12E,h7km±1km,ML2.6*
*ISK **24** 12:35:08.8,37.80N×32.14E,h2km,ML2.4/8*
*ISCJB **24** 12:35:09.5±0.8,37.80N±0.05×32.10E±0.05,h5km±10km, Error ellipse: s-maj=9.0km s-min=5.3km az=33.4*
ISC 24 12:35:09.9±1.2,37.80N±0.05×32.10E±0.04,h7km±14km, n13,σ0.54/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.21**	**99**	*i*P	**Pg**	**12 35 13.8**	**-0.4**
KMER				*i*S	**Sg**	**12 35 16.5**	**-0.5**
KMER	comp=Z,4μm,0.1s			IAML_P			
KONT	**Konya--Tatoy**	**0.25**	**54**	PG	**Pg**	**12 35 14.4**	**-0.4**
KONT				SG	**Sg**	**12 35 18.6**	**+0.5**
KONT	**Konya--Tatoy**	**0.25**	**54**	*i*P	**Pg**	**12 35 14.9**	**+0.1**
KONT				*i*S	**Sg**	**12 35 19.2**	**+1.1**
LADK	**Ladik-KONYA**	**0.45**	**27**	PG	**Pg**	**12 35 18.3**	**-0.3**
LADK				SG	**Sg**	**12 35 25.3**	**+0.8**
DOGA	**KONYA_Doganhis**	**0.46**	**312**	*i*P	**Pg**	**12 35 18.8**	**0.0**
DOGA				*i*S	**Sg**	**12 35 25.1**	**+0.2**
DOGA	comp=Z,2μm,0.1s			IAML_P			
KDHN	**Kadinhani**	**0.72**	**1**	*i*P	**Pg**	**12 35 24.0**	**+0.3**
KDHN				*i*S	**Sg**	**12 35 32.1**	**-1.0**
CHBY	**Cihanbeyli**	**1.00**	**38**	PG	**Pg**	**12 35 28.5**	**-0.5**
BAGO	**Egridir - ISPA**	**1.06**	**281**	*i*P	**Pg**	**12 35 29.9**	**-0.3**
BAGO	comp=Z,305nm,0.2s			IAML_P			
KULU	**Kulu**	**1.43**	**29**	PN	**Pn**	**12 35 36.1**	**-0.3**
BERE	**Bereket-Mersin**	**1.70**	**148**	PN	**Pn**	**12 35 40.2**	**0.0**
TEKE	**Tekeli-Mersin**	**1.84**	**154**	PN	**Pn**	**12 35 42.2**	**+0.3**
KEBE	**Keben-Mersin**	**1.86**	**136**	PN	**Pn**	**12 35 42.5**	**+0.2**
IKL	**Isikli**	**2.01**	**140**	PN	**Pn**	**12 35 44.5**	**+0.3**

*ISCJB **24** 12:43:07.9±1.0,37.80N±0.05×32.15E±0.09,h13km±9km, Error ellipse: s-maj=14.2km s-min=6.1km az=149.0*
*ISK **24** 12:43:07.7,37.78N×32.20E,h8km,ML2.2/7*
*DDA **24** 12:43:07.1,37.79N×32.13E,h7km±1km,ML2.5*
ISC 24 12:43:07.3±1.1,37.77N±0.06×32.15E±0.04,h16km±9km, n12,σ0.50/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMER	**Konya-Meram**	**0.17**	**89**	*i*P	**Pg**	**12 43 11.7**	**0.0**
KMER				*i*S	**Sb**	**12 43 15.2**	**-0.2**
KMER	comp=Z,3μm,0.1s			IAML_P			
KONT	**Konya--Tatoy**	**0.24**	**43**	PG	**Pg**	**12 43 12.2**	**-0.6**
KONT				SG	**Sg**	**12 43 16.3**	**-0.2**
KONT	**Konya--Tatoy**	**0.24**	**43**	*i*P	**Pg**	**12 43 12.9**	**+0.1**
KONT				*i*S	**Sg**	**12 43 16.9**	**+0.3**
KONT	comp=Z,5μm,0.1s			IAML_P			
LADK	**Ladik-KONYA**	**0.46**	**21**	PG	**Pg**	**12 43 16.9**	**+0.2**
LADK				SG	**Sg**	**12 43 23.3**	**+0.3**
DOGA	**KONYA_Doganhis**	**0.51**	**312**	*i*P	**Pg**	**12 43 16.8**	**-0.7**
DOGA				*i*S	**Sg**	**12 43 24.9**	**+0.5**
DOGA	comp=Z,1μm,0.3s			IAML_P			
KDHN	**Kadinhani**	**0.75**	**358**	*i*P	**Pg**	**12 43 21.3**	**-0.7**
CHBY	**Cihanbeyli**	**1.00**	**35**	PG	**Pn**	**12 43 27.1**	**+0.4**
BAGO	**Egridir - ISPA**	**1.10**	**282**	*i*P	**Pn**	**12 43 28.8**	**+0.7**
BAGO	comp=Z,320nm,0.2s			IAML_P			
BERE	**Bereket-Mersin**	**1.66**	**148**	PN	**Pb**	**12 43 37.3**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.80**	**154**	PN	**Pb**	**12 43 39.8**	**+0.1**
KEBE	**Keben-Mersin**	**1.82**	**136**	PN	**Pb**	**12 43 39.7**	**-0.4**
IKL	**Isikli**	**1.96**	**141**	PN	**Pb**	**12 43 41.8**	**-0.7**

KRSC 24 12:47:31.4±10.0,50.73N×160.07E,h99km±10km,ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.65**	**312**	P	Pn	12 48 00.3	+0.9
KDTR				S	Sn	12 48 21.8	+1.1
RUS	**Russkaya**	**1.96**	**331**	*e*P	Pn	12 48 04.4	+1.1
RUS				S	Sn	12 48 28.6	+0.8
MTVR	**Mutnovka**	**2.11**	**327**	P	Pn	12 48 07.1	+1.6
MTVR				S	Sn	12 48 33.1	+1.6
ASAK	**Asacha**	**2.14**	**322**	P	Pn	12 48 07.7	+2.0
KRMR	**Karymshinskiy**	**2.42**	**331**	P	Pn	12 48 11.2	+1.9
KRMR				S	Sn	12 48 40.1	+1.6
SKR	**Severo-Kuril's**	**2.51**	**270**	*e*P	Pn	12 48 12.3	+1.8
SKR				S	Sn	12 48 41.9	+1.3
UGLR	**Uglovaya**	**2.60**	**343**	P	Pn	12 48 14.9	+3.1
SDLR	**Sedlovina**	**2.66**	**344**	P	Pn	12 48 14.0	+1.5
SMAR	**Somma**	**2.66**	**343**	P	Pn	12 48 16.4	+4.0
AVH	**Avacha**	**2.67**	**343**	P	Pn	12 48 15.4	+2.7
AVH				S	Sn	12 48 47.8	+3.4
KOK	**Koryaka**	**2.71**	**342**	P	Pn	12 48 16.6	+3.3
KZV	**Kizimen**	**4.39**	**2**	P	Pn	12 48 37.9	+2.0
KZV				S	Sn	12 49 26.1	+0.1
TUMR	**Tumrok**	**4.56**	**1**	*e*P	Pn	12 48 40.5	+2.4
KBTR	**Krutoberegovo**	**5.73**	**16**	P	Pn	12 48 54.6	+0.8

*JMA **24** 12:49:00.8±0.2,29.54N×138.90E,h499km±4km,M4.5*
*NIED **24** 12:49:00,29.50N×138.90E,h540km,Mw4.7 Best double couple: M0 1.36000×10^16 NP1:ϕ=107.00000°, δ=85.00000°,λ=3.00000°. NP2:ϕ=17.00000°,δ=87.00000°, λ=175.00000°.*
*ISCJB **24** 12:49:01.5±0.2,29.54N±0.02×138.67E±0.03, h481km±2km,mb4.0/103,Error ellipse: s-maj=4.4km s-min=3.4km az=7.1*
*MOS **24** 12:49:01.3±0.8,29.52N×138.53E,h480km,mb4.0/22, Error ellipse: s-maj=11.9km s-min=5.3km az=101.4*
*BJI **24** 12:49:01.6,29.46N×138.43E,h479km,mb4.8/26, mB4.7/13*
*IDC **24** 12:49:02.6±0.5,29.56N×138.64E,h484km±6km,mb3.4/28, mb1 3.5/35,mb1mx3.4/51,mbtmp4.3/35,Error ellipse: s-maj=10.9km s-min=6.3km az=88.0*
*NEIC **24** 12:49:03.1±0.3,29.56N×138.47E,h480km±4km,mb4.0/56, Error ellipse: s-maj=4.6km s-min=3.3km az=111.0*
ISC 24 12:49:02.7±0.4,29.58N±0.04×138.66E±0.05,h481km±4km, h482km:pP-P,n223,σ1.14/260,mb3.9/103,16C-2D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.62**	**15**	P	**P**	**12 50 16.7**	**+0.1**
JHCJ				S	**S**	**12 51 15.4**	**-1.5**
JHJ	**Hachijo jima 2** 115nm,0.3s,baz=82,slow=22,SNR=64	**3.66**	**15**	P	**P**	**12 50 17.4**	**+0.4**
JHJ	159nm,0.3s,baz=57,slow=22,SNR=14			S	**S**	**12 51 16.1**	**-1.5**
JHJ2	**Mitsune**	**3.66**	**15**	*e*P	**P**	**12 50 17.1**	**+0.2**
JHJ2				*e*S	**S**	**12 51 17.1**	**-0.4**
JHJ2	**Mitsune**	**3.66**	**15**	P	**P**	**12 50 17.1**	**+0.2**
JHJ2				S	**S**	**12 51 17.2**	**-0.3**
CBIJ	**Chichi jima**	**3.97**	**128**	P	**P**	**12 50 18.1**	**-1.6**
CBIJ				S	**S**	**12 51 18.3**	**-4.0**
JCJ	**Chichijima** 17nm,0.3s,baz=31,slow=23,SNR=36	**3.97**	**128**	P	**P**	**12 50 18.6**	**-1.1**
JCJ	430nm,0.3s,baz=285,slow=22,SNR=39			S	**S**	**12 51 18.3**	**-4.0**
JHHJ	**Haha-jima-NKT**	**4.28**	**133**	P	**P**	**12 50 20.5**	**-1.7**
JHHJ				*e*S	**S**	**12 51 22.8**	**-4.2**
TTO1	**TONANKAI O.B.S**	**4.34**	**339**	P	**P**	**12 50 24.6**	**+2.4**
JTNC	**Tanabenakahech**	**4.96**	**329**	P	**P**	**12 50 29.0**	**+0.8**
JTNC				S	**S**	**12 51 39.1**	**+1.1**
JIE	**Ise**	**5.08**	**341**	P	**P**	**12 50 30.1**	**+0.9**
JIE				S	**S**	**12 51 41.0**	**+1.0**
BSO1	**Boso 1**	**5.43**	**21**	P	**P**	**12 50 32.2**	**+0.3**
BSO1				S	**S**	**12 51 44.0**	**-1.0**
JOD2	**Odawara 2**	**5.68**	**4**	P	**P**	**12 50 34.6**	**-0.4**
JOD2				*e*S	**S**	**12 51 48.4**	**-2.1**
INU	**In

0.5nm,0.3s,baz=183,slow=12,SNR=4.2
MAJO Matsushiro 6.96 357 *e*P **P 12 50 47.0 -0.6**
MAJO Matsushiro 6.96 357 *e*P **P 12 50 47.0 -0.6**
MAT Matsushiro 6.96 357 P **P 12 50 46.8 -0.8**
MAT S **S 12 52 09.9 -3.9**
MJB9 Matsu-Tunnel 6.96 357 *e*P **P 12 50 47.1 -0.6**
JHS Saijyo 7.16 320 P **P 12 50 51.1 +1.4**
JHS S **S 12 52 18.4 +0.8**
JNU Nakatsue 7.53 300 *e*P **P 12 50 55.1 +1.4**
JNU Nakatsue 7.53 300 P **P 12 50 55.3 +1.6**
3.4nm,0.3s,baz=106,slow=4.3,SNR=37
JMZ Minamidaito 2 7.58 242 P **P 12 50 55.0 +0.7**
JOW Kunigami 9.56 256 P **P 12 51 16.2 +1.0**
JOW Kunigami 9.56 256 P **P 12 51 16.6 +1.4**
0.5nm,0.3s,baz=119,slow=14,SNR=16
JMK Ichinoseki 9.59 12 P **P 12 51 15.4 +0.2**
JMK S **S 12 53 01.8 -2.6**
JKE Kume jima 2 10.98 256 P **P 12 51 30.3 -0.1**
TJN Taejon 11.65 309*c i*P **P 12 51 36.7 -0.7**
KSRS Korea Array 11.91 314 P **P 12 51 40.0 -0.1**
4.4nm,0.3s,baz=129,slow=10,SNR=84
KS15 Wonju Array Si 11.92 314 *e*P **P 12 51 40.2 -0.2**
JOT Ohata 11.94 9 P **P 12 51 40.0 -0.4**
JOT S **S 12 53 47.8 -2.7**
KS01 Wonju Array Si 11.94 314 *e*P **P 12 51 39.7 -0.8**
JKB Kayabe 12.43 8 P **P 12 51 45.7 0.0**
JOSM Okushiri--Mats 12.50 3 P **P 12 51 47.3 +1.0**
ERM Erimo 12.93 15 *e*P **P 12 51 53.0 +2.0**
ERM Erimo 12.93 15 *e*P **P 12 51 53.0 +2.0**
MSHR Mys Shultsa 14.31 337*c i*P **P 12 52 05.5 -0.2**
SARN Sarigan 14.39 151 *e*P **P 12 52 08.4 +1.5**
VLA Vladivostok 14.57 340*c i*P **P 12 52 09.0 +0.7**
VLA pmax pmax
comp=Z,127nm,0.7s
ANA2 Anatahan 14.68 152 *e*P **P 12 52 11.3 +1.4**
ASAJ Asahikawa 14.85 11 P **P 12 52 11.5 +0.2**
comp=Z,1.0nm,0.3s,baz=219,slow=9.2,SNR=12
YUK Yuzh-Kuril'sk 15.53 20⇓ *e*P **P 12 52 20.5 +2.0**
USA0B Ussuriysk Arra 15.53 342 *e*P **P 12 52 18.7 +0.2**
comp=Z,27nm,0.8s
USA0B pmax pmax
comp=Z,27nm,0.8s
USRK Ussuriysk Ar. 15.53 342 P **P 12 52 18.6 +0.2**
comp=Z,3.7nm,0.3s,baz=169,slow=11,SNR=37
YHNB Yeheng 16.14 256 *e*P **P 12 52 22.6 -2.7**
comp=Z,22nm,0.4s
NACB Ninganchiao 16.14 255 *e*P **P 12 52 22.9 -2.3**
comp=Z,27nm,0.8s
MDJ Mudanjiang 16.64 337 *e*P **P 12 52 29.8 -0.5**
comp=Z,14nm,0.8s
YULB Yu-li 16.71 252 *e*P **P 12 52 28.9 -2.4**
comp=Z,22nm,0.7s
GUMO Guam 16.92 159 *e*P **P 12 52 34.5 +1.0**
comp=Z,823nm,1.1s
GUMO Guam 16.92 159 *e*P **P 12 52 34.5 +1.0**
GUMO pmax pmax
comp=Z,823nm,1.1s
GUMO Guam 16.92 159 P **P 12 52 33.6 +0.1**
comp=Z,26nm,0.3s,baz=170,slow=1.7,SNR=10
TWG Pinlang 17.15 251 *e*P **P 12 52 34.7 -1.1**
comp=Z,137nm,0.9s
KUR Kuril'sk 17.24 22⇑ *i*P **P 12 52 36.8 +0.5**
TPUB Ta-pu 17.30 253 *e*P **P 12 52 36.1 -1.2**
comp=Z,25nm,0.7s
YSS Yuzh-Sakhalins 17.64 9 *e*P **P 12 52 41.5 +1.2**
comp=Z,24nm,0.4s
YSS Yuzh-Sakhalins 17.64 9 *e*P **P 12 52 40.7 +0.5**
YSS *e*S **S 12 55 38.9 +0.5**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,200nm,3.8s
YSS MLR MLR
comp=Z,300nm,16.0s
CN2 Changchun 17.68 327 *e*P **P 12 52 40.6 -0.1**
CN2 *e*S **S 12 55 37.1 -2.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
KLR Kul'dur 20.32 347*c i*P **P 12 53 05.4 +0.5**
KLR Kul'dur 20.32 347 P **P 12 53 05.6 +0.7**
comp=Z,14nm,0.7s,baz=169,slow=7.6,SNR=47
TYV Tymovskoe 21.47 7 *e*P **P 12 53 16.6 +1.3**
TYV pmax pmax
comp=Z,15nm,1.0s
TGY Tagaytay City 22.48 231 P **P 12 53 24.8 -0.2**
comp=Z,134nm,0.3s,baz=254,slow=8.7,SNR=3.2
NKL Nikolayevsk 23.60 3 *e*P **P 12 53 35.2 +0.8**
HIA Hailar 24.37 329*c i*P **P 12 53 41.2 -0.3**
HIA pmax pmax
comp=Z,4.0nm,0.8s
HHC Hu-ho-hao-te 24.73 304 *e*P **P 12 53 43.5 -1.4**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,130nm,6.3s
ENH Enshi 25.26 279 *e*P **P 12 53 48.8 -0.8**
comp=Z,46nm,0.6s
ZEA Zeya 25.54 344 *e*P **P 12 53 51.8 +0.2**
ZEA pmax pmax
comp=Z,26nm,0.8s
XAN Xi'an 25.61 288 P **P 12 53 52.1 -0.6**
XAN pmax pmax
comp=Z,6.0nm,0.6s
PETK Petropavlovsk- 27.35 25 P **P 12 54 08.3 +0.7**
comp=Z,4.0nm,1.0s,baz=167,slow=1.5,SNR=4.1
GYA Guiyang 28.37 272⇓ *i*P **P 12 54 16.8 -0.3**
GYA sP sP 12 56 35.5 +1.2
GYA S **S 12 58 28.3 -1.2**
GYA pmax pmax
comp=Z,20nm,0.7s
LZH Lanzhou 29.85 292 *e*P **P 12 54 32.8 +2.8**
LZH pP pP 12 55 51.3 -0.2
LZH sP sP 12 56 47.6 +0.6
LZH pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 30.39 316 *e*P **P 12 54 34.4 -0.1**
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 30.39 316⇑ *e*P **P 12 54 34.5 +0.1**
ULN pmax pmax
comp=Z,16nm,1.9s
SONM Songino Array 30.77 315 P **P 12 54 37.5 -0.3**
comp=Z,1.5nm,0.7s,baz=126,slow=9.4,SNR=10
SONM pP **pP 12 56 02.2 +1.4**
comp=Z,0.8nm,0.7s,baz=114,slow=6.6,SNR=3.5
SIJI Sorong 31.09 194 P **P 12 54 40.6 -0.1**
comp=Z,7.9nm,0.5s,baz=349,slow=15,SNR=6.0
KKM Kota Kinabalu 31.56 226 *e*P **P 12 54 45.1 +0.2**
comp=Z,13nm,0.8s
JAY Jayapura 31.97 176 P **P 12 54 47.9 -0.5**
comp=Z,6.7nm,0.8s,baz=354,slow=3.9,SNR=4.1
MANU Manus Island 32.53 164 *e*P **P 12 54 53.6 +0.5**
comp=Z,14nm,0.7s
BOD Bodaibo 33.01 336 *e*P **P 12 54 55.7 -0.9**
BOD pmax pmax
comp=Z,5.0nm,1.1s
GTA Gaotai 33.26 298 *e*P P 12 54 54.1 -5.1
GTA pP pP 12 56 22.8 +0.7
PANO Nakornpanom 33.49 256 P **P 12 55 01.9 +0.7**
comp=Z,0.5nm,0.8s,comp=Z,24nm
ZAK Zakamensk 33.70 318 *e*P **P 12 55 00.7 -2.0**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
LUWI Luwuk 34.02 209 *e*P **P 12 55 04.3 -1.4**
comp=Z,19nm,0.9s
TLY Talaya 34.06 320*ce*P **P 12 55 05.8 +0.2**
TLY pmax pmax
comp=Z,9.0nm,0.8s
SKNT Sakolnakorn 34.10 256 P **P 12 55 06.5 +0.1**
comp=Z,15nm,1.1s,comp=Z,610nm
NONG Nongkai 34.32 259 P **P 12 55 08.4 +0.2**
comp=Z,0.9nm,1.0s
SEY Seymchan 34.53 11⇓ *e*P **P 12 55 09.4 +0.1**
KHON Khomkaen 35.38 256 P **P 12 55 17.5 +0.4**
comp=Z,14nm,0.7s
CHAI Chaiyaphum 36.29 256 P **P 12 55 24.2 -0.5**
comp=Z,27nm,0.7s,comp=Z,284nm
PBKT Sadao Pong 36.84 258 P **P 12 55 29.1 -0.1**
comp=Z,30nm,0.7s
SBUM Sibu 36.85 228 *e*P **P 12 55 29.5 +0.1**
comp=Z,12nm,0.9s
LAMP Lampang 37.14 262 P **P 12 55 32.1 +0.4**
comp=Z,4.9nm,0.8s

SRAK Srakaew 37.17 253 P **P 12 55 28.2 -3.8**
comp=Z,219nm,0.8s,comp=Z,2μm
CMMT Chiang Mai 37.61 263 P **P 12 55 35.1 -0.5**
comp=Z,24nm,0.8s
CHTO Chiang Mai 37.61 263 *e*P **P 12 55 35.2 -0.4**
comp=Z,16nm,0.8s
CHTO Chiang Mai 37.61 263 *e*P **P 12 55 35.2 -0.4**
CHTO pmax pmax
comp=Z,16nm,0.8s
CM31 Chiang Mai Arr 37.76 262 *e*P **P 12 55 37.0 +0.1**
comp=Z,7.6nm,0.6s
CMAR Chiang Mai Arr 37.76 262 P **P 12 55 36.6 -0.2**
comp=Z,3.3nm,0.7s,baz=80,slow=4.2,SNR=32
CM01 Chiang Mai Arr 37.76 262 *e*P **P 12 55 36.3 -0.6**
UTHA Uthaitani 38.61 258 P **P 12 55 44.0 +0.2**
comp=Z,8.7nm,0.7s,comp=Z,81nm
UMPA Umpang Tak 38.81 259 P **P 12 55 46.5 +1.1**
comp=Z,9.1nm,0.8s,comp=Z,737nm
KSM Kuching 38.84 229 *e*P **P 12 55 46.3 +0.7**
comp=Z,31nm,0.7s
SRDT SRDT 39.46 256 P **P 12 55 50.9 +0.2**
comp=Z,20nm,0.8s,comp=Z,3μm
SOEI Soe 41.49 202 *e*P **P 12 56 05.6 -1.4**
comp=Z,12nm,0.7s
BILL Bilibino 41.81 15 *e*P **P 12 56 09.7 +1.0**
comp=Z,8.7nm,1.0s
BILL Bilibino 41.81 15 *i*P **P 12 56 08.6 -0.1**
BILL *i* *PP **pP 12 57 37.0 -0.3**
BILL *i* 12 57 54.2
BILL pmax pmax
comp=Z,9.0nm,1.0s
BATI Baumata 42.11 202 P **P 12 56 11.8 -0.1**
comp=Z,12nm,0.4s,baz=336,slow=4.5,SNR=6.9
TIXI Tiksi 42.46 355 *e*P **P 12 56 13.7 -0.1**
comp=Z,4.2nm,0.7s
TIXI Tiksi 42.46 355⇑ *i*P **P 12 56 13.4 -0.4**
TIXI *i* *PP **pwP 12 57 45.8 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
TIXI Tiksi 42.46 355 P **P 12 56 13.6 -0.2**
comp=Z,4.8nm,0.7s,baz=142,slow=5.8,SNR=21
TRTT Trang 42.48 247 P **P 12 56 15.5 +0.7**
comp=Z,4.3nm,0.8s,comp=Z,249nm
WMQ Urumqi 42.61 304 *e*P **P 12 56 16.3 +0.7**
KULM Kulim 43.24 244 *e*P **P 12 56 20.5 -0.3**
comp=Z,16nm,0.7s
DGZ Jazzator, Alta 43.30 312*ce*P **P 12 56 21.0 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
IPM Ipoh 43.46 242 *e*P **P 12 56 21.9 -0.6**
comp=Z,14nm,0.7s
PKDT Phuket 43.54 249 P **P 12 56 23.8 +0.7**
comp=Z,8.3nm,0.7s
ZALV Zalesovo Beam 45.58 318 *e*P **P 12 56 38.1 -0.2**
ZALV Zalesovo Beam 45.58 318 *e*P **P 12 56 38.1 -0.2**
ZALV Zalesovo Beam 45.58 318 P **P 12 56 37.6 -0.7**
comp=Z,1.0nm,0.3s,baz=82,slow=8.1,SNR=5.1
ZALV PcP **PcP 12 58 06.1 -0.9**
comp=Z,0.9nm,0.4s,baz=97,slow=1.5,SNR=4.3
ZALV ScP **ScP 13 01 11.3 -2.2**
comp=Z,0.7nm,0.6s,baz=108,slow=4.7,SNR=3.1
RAMN Ramite 45.61 280 *e*P **P 12 56 39.2 -0.2**
JIRN Jiri 45.77 281 *e*P **P 12 56 41.0 +0.3**
comp=Z,55nm,0.7s
GUN Gumba 45.97 281 *e*P **P 12 56 42.4 +0.2**
comp=Z,53nm,0.9s
PKI Pulchoki 46.47 281 *e*P **P 12 56 45.5 -0.5**
PKIN Phulchoki 46.47 281 *e*P **P 12 56 45.4 -0.5**
MK01 Makanchi Array 46.49 308 *e*P **P 12 56 44.9 -0.7**
MK31 Makanchi Array 46.50 308 *e*P **P 12 56 45.2 -0.4**
comp=Z,0.8nm,0.8s
MK31 Makanchi Array 46.50 308 *e*P **P 12 56 45.2 -0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 46.50 308*ce*P **P 12 56 45.2 -0.4**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 46.50 308 P **P 12 56 44.3 -1.3**
comp=Z,0.9nm,0.7s,baz=92,slow=8.7,SNR=10
MKAR PcP **PcP 12 58 09.2 -1.2**
comp=Z,0.5nm,0.6s,baz=101,slow=2.5,SNR=5.3
MKAR ScP **ScP 13 01 16.3 -1.3**
comp=Z,0.6nm,0.7s,baz=87,slow=5.0,SNR=4.4
KKN Kakani 46.52 281 *e*P **P 12 56 46.0 -0.2**
comp=Z,17nm,0.7s
DMN Daman 46.71 281 *e*P **P 12 56 47.4 -0.4**
comp=Z,12nm,0.7s
MAKZ Makanchi 46.72 308 *e*P **P 12 56 47.5 +0.3**
comp=Z,1.2nm,0.6s
MAKZ Makanchi 46.72 308 *e*P **P 12 56 47.5 +0.3**
MAKZ pmax pmax
comp=Z,1.0nm,0.6s
DANN Dangsing 47.66 283 *e*P **P 12 56 55.2 +0.2**
comp=Z,43nm,0.8s
KOLN Koldanda 47.95 282 *e*P **P 12 56 56.9 -0.2**
comp=Z,29nm,0.8s
GSI Gunungsitoli 48.12 242 *e*P **P 12 56 57.4 -0.8**
comp=Z,53nm,1.1s
PYUN Puthan 48.38 283 *e*P **P 12 57 00.4 +0.1**
comp=Z,37nm,0.5s
PDGK Podgornoye 48.58 303 P **P 12 57 02.0 +0.6**
PDGK pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 49.03 313 *e*P **P 12 57 03.6 -0.8**
comp=Z,2.2nm,0.6s
KURK Kurchatov 49.03 313*c i*P **P 12 57 03.5 -0.9**
KURK *i* *PP **pwP 12 58 38.7 -2.6**
KURK pmax pmax
comp=Z,5.0nm,1.5s
FITZ Fitzroy Crossi 49.03 196 *e*P **P 12 57 05.0 +0.2**
comp=Z,5.2nm,1.1s
FITZ Fitzroy Crossi 49.03 196 P **P 12 57 03.9 -0.9**
comp=Z,1.8nm,0.6s,baz=28,slow=8.8,SNR=12
KURBB Kurchatov Arra 49.08 313 P **P 12 57 04.0 -0.8**
comp=Z,1.9nm,0.5s,baz=90,slow=8.2,SNR=17
KURBB pP **pP 12 58 37.7 +1.7**
comp=Z,0.5nm,0.5s,baz=94,slow=7.6,SNR=1.8
NRIK Noril'sk 49.21 339 P **P 12 57 05.5 0.0**
comp=Z,4.6nm,0.5s,baz=118,slow=9.1,SNR=7.1
WRAB Tennant Creek 49.40 185 *e*P **P 12 57 07.6 +0.1**
comp=Z,4.1nm,1.1s
WRAB Tennant Creek 49.40 185⇑ *e*P **P 12 57 07.2 -0.3**
WRAB *i* *PP **pP 12 58 38.6 -0.1**
WRAB pmax pmax
comp=Z,3.0nm,0.7s
WRA Warramunga Arr 49.41 185 P **P 12 57 07.1 -0.5**
comp=Z,3.1nm,0.6s,baz=0.8,slow=7.7,SNR=43
WRA pP **pP 12 58 39.3 +0.5**
comp=Z,2.8nm,0.8s,baz=5.0,slow=8.5,SNR=6.6
WRA S **S 13 03 37.8 -0.5**
comp=Z,0.3nm,0.6s,baz=357,slow=13,SNR=4.7
KSH Kashi 51.65 299 *e*P **P 12 57 24.0 -0.1**
SVW2 Sparrevohn 52.92 34 *e*P **P 12 57 34.5 +1.8**
comp=Z,4.4nm,1.1s
AS01 Alice Springs 53.13 185 *e*P **P 12 57 34.5 -0.1**
AS31 Alice Springs 53.13 185 *e*P **P 12 57 34.8 +0.1**
comp=Z,0.7nm,0.6s
ASAR Alice Springs 53.13 185 P **P 12 57 34.3 -0.4**
comp=Z,1.1nm,0.5s,baz=1.1,slow=6.1,SNR=64
BVAR Borovoye Array 54.11 316 P **P 12 57 40.6 -0.7**
comp=Z,1.7nm,0.4s,baz=92,slow=7.6,SNR=16
IM3 Indian Mountai 54.27 28 *e*P **P 12 57 43.4 +1.2**
PPLA Purkeypile 54.65 32 *e*P **P 12 57 47.6 +2.5**
CAST Castle Rocks 54.73 31 *e*P **P 12 57 47.8 +2.3**
comp=Z,2.6nm,0.8s
KK31 Karatay Array 55.12 304 *e*P **P 12 57 49.1 +0.5**
comp=Z,3.7nm,0.8s
KK31 Karatay Array 55.12 304 *e*P **P 12 57 49.1 +0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 55.12 304 *e*P **P 12 57 49.5 +0.9**
comp=Z,3.7nm,0.8s
KKAR Karatay Array 55.12 304 *e*P **P 12 57 49.5 +0.9**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
SUA Susitna One 55.27 33 *e*P **P 12 57 51.5 +2.1**
comp=Z,7.5nm,1.2s
MLY Manley 55.43 29 *e*P **P 12 57 52.3 +1.9**
comp=Z,1.8nm,1.2s
RC01 Rabbit Creek A 55.75 34 *e*P **P 12 57 53.5 +0.9**
comp=Z,4.4nm,1.1s
RND Reindeer 56.19 31 *e*P **P 12 57 56.5 +0.8**
comp=Z,3.7nm,0.9s
RND Reindeer 56.19 31 *e*P **P 12 57 56.5 +0.8**
RND pmax pmax
comp=Z,4.0nm,0.9s
KNK Knik Glacier 56.37 34 *e*P **P 12 57 58.2 +1.3**
comp=Z,5.9nm,1.2s
MDM Murphy Dome 56.49 29 *e*P **P 12 57 58.9 +1.1**
comp=Z,1.2nm,0.8s
SCM Sheep Creek Mo 56.90 33 *e*P **P 12 58 02.0 +1.3**
comp=Z,6.5nm,1.1s
SCM Sheep Creek Mo 56.90 33 *e*P **P 12 58 02.0 +1.3**
SCM pmax pmax
comp=Z,7.0nm,1.1s
CHGR Chuyangaron 57.02 299 *e*P **P 12 58 02.0 +0.1**
comp=Z,14nm,0.7s
HDA Harding Lake 57.03 30 *e*P **P 12 58 02.2 +0.7**
comp=Z,0.9nm,0.8s
IL1 Eielson Array 57.06 29 *e*P **P 12 58 01.8 +0.1**
ILAR Eielson Array 57.06 29 P **P 12 58 01.4 -0.3**
comp=Z,0.6nm,0.6s,baz=262,slow=4.5,SNR=15
ILAR pP **pP 12 59 37.2 +0.1**
comp=Z,0.6nm,0.9s,baz=268,slow=7.9,SNR=3.8
RIDG Independ'e Rid 57.98 31 *e*P **P 12 58 09.2 +1.2**
comp=Z,2.3nm,1.0s
DOT Dot Lake 58.33 31 *e*P **P 12 58 11.0 +0.6**
comp=Z,2.2nm,0.7s
SCRK Sand Creek 58.34 30 *e*P **P 12 58 11.5 +1.0**
comp=Z,2.0nm,0.9s
EGAK Eagle 59.51 29 *e*P **P 12 58 19.0 +0.7**
comp=Z,2.8nm,1.1s
DAWY Dawson 60.35 30 *e*P **P 12 58 25.2 +1.2**
comp=Z,0.4nm,0.6s
ARU Arti 60.56 321 *e*P **P 12 58 24.9 -0.4**
comp=Z,3.3nm,0.6s
ARU Arti 60.56 321*c i*P **P 12 58 24.6 -0.8**
ARU 12 59 04.1
ARU S **S 13 06 01.5 -1.7**
ARU pmax pmax
comp=Z,12nm,1.9s
FORT Forrest 60.87 190 *e*P **P 12 58 27.8 +0.1**
comp=Z,18nm,0.8s
ABKAR Akbulak array 61.14 313 *e*P **P 12 58 28.6 -0.7**
comp=Z,1.6nm,0.7s
EPYK Eagle Plains 61.16 27 *e*P **P 12 58 31.0 +1.8**
comp=Z,4.9nm,1.0s
STKA Stephens Creek 61.18 177 *e*P **P 12 58 30.4 +0.7**
comp=Z,1.1nm,1.1s
STKA Stephens Creek 61.18 177 *e*P **P 12 58 30.4 +0.7**
STKA pmax pmax
comp=Z,1.0nm,1.1s
STKA Stephens Creek 61.18 177 P **P 12 58 29.9 +0.2**
comp=Z,1.1nm,0.5s,baz=350,slow=7.8,SNR=4.8
INK Inuvik 62.08 25 *e*P **P 12 58 35.9 +0.7**
comp=Z,0.9nm,1.0s
INK Inuvik 62.08 25 *e*P **P 12 58 35.9 +0.7**
INK pmax pmax
comp=Z,1.0nm,1.0s
INK Inuvik 62.08 25 P **P 12 58 35.1 -0.1**
comp=Z,0.4nm,0.4s,baz=249,slow=6.2,SNR=4.9
AKTO Aktyubinsk 62.09 314 P **P 12 58 35.6 +0.1**
comp=Z,0.8nm,0.5s,baz=80,slow=17,SNR=4.1
MORW Morawa 62.19 202 *e*P **P 12 58 36.9 +0.5**
comp=Z,10nm,1.0s
NWAO Narrogin (SRO) 65.40 200 *e*P **P 12 58 56.7 -0.2**
comp=Z,8.8nm,1.1s
NWAO Narrogin (SRO) 65.40 200 *e*P **P 12 58 56.7 -0.2**
NWAO pmax pmax
comp=Z,9.0nm,1.1s
NWAO Narrogin (SRO) 65.40 200 P **P 12 58 56.2 -0.6**
comp=Z,7.9nm,0.6s,baz=44,slow=6.9,SNR=9.5
NIUE Niue 69.25 128 *e*P **P 12 59 24.0 +3.1**
comp=Z,86nm,1.0s
KEV Kevo 69.60 340 *e*P **P 12 59 21.9 -0.2**
comp=Z,4.6nm,0.9s
KEV Kevo 69.60 340 *e*P **P 12 59 22.0 -0.2**
KEV pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 70.17 340 *e*P **P 12 59 25.9 +0.3**
ARCES ARCESS Array B 70.17 340 *e*P **P 12 59 25.9 +0.3**
ARCES ARCESS Array B 70.17 340 P **P 12 59 25.7 +0.1**
comp=Z,1.2nm,0.4s,baz=72,slow=9.0,SNR=28
ARE0 ARCESS Array S 70.17 340 *e*P **P 12 59 25.8 +0.1**
RES Resolute Bay 70.37 13 *e*P **P 12 59 28.2 +1.5**
comp=Z,3.0nm,0.9s
RES Resolute Bay 70.37 13 *e*P **P 12 59 28.2 +1.5**
RES pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 71.43 28 P **P 12 59 33.4 +0.3**
comp=Z,0.6nm,0.7s,baz=298,slow=6.1,SNR=9.6
YKA pP **pP 13 01 16.5 +1.5**
comp=Z,0.5nm,1.0s,baz=290,slow=5.9,SNR=3.4
YKB5 Yellowknife Ar 71.43 28 *e*P **P 12 59 33.9 +0.7**
OBN Obninsk 72.71 324 *i*P **P 12 59 40.4 -0.4**
OBN pmax pmax
comp=Z,4.0nm,1.1s
KBZ Khabaz 74.04 311 P **P 12 59 48.9 +0.3**
comp=Z,2.9nm,0.8s,baz=323,slow=0.5,SNR=4.9
FIA1 FINESS Array S 74.34 333 *e*P **P 12 59 49.7 -0.3**
comp=Z,2.0nm,1.0s
FINES FINESS Array B 74.34 333 *i*P **P 12 59 49.2 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 74.34 333 P **P 12 59 49.3 -0.6**
comp=Z,0.7nm,0.3s,baz=74,slow=4.7,SNR=16
BKZ Black Stump Fm 76.94 151 *e*P **P 13 00 05.1 +0.3**
comp=Z,6.0nm,1.0s
NC405 NORSAR Array S 79.92 337 *e*P **P 13 00 19.8 -0.7**
comp=Z,2.5nm,0.4s
NB201 NORSAR Array S 80.11 337 *e*P **P 13 00 20.9 -0.6**
comp=Z,6.8nm,1.0s
NC204 NORSAR Array S 80.12 337 *e*P **P 13 00 21.3 -0.4**
NB2 NORSAR Subarra 80.14 337 P **P 13 00 20.4 -1.3**
comp=Z,4.4nm,0.4s,baz=45,slow=5.3
NOA NORSAR Array B 80.14 337 P **P 13 00 20.2 -1.5**
comp=Z,0.4nm,0.5s,baz=36,slow=5.3,SNR=7.8
NVAR Mina Array Bea 81.39 51 P **P 13 00 29.7 +0.8**
comp=Z,0.3nm,0.6s,baz=302,slow=5.2,SNR=3.1
NVAR pP **pP 13 02 13.9 +0.4**
comp=Z,0.5nm,0.7s,baz=282,slow=6.8,SNR=4.0
BRTR Keskin Array B 82.04 311*ce*P **P 13 00 31.8 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 82.04 311 P **P 13 00 31.9 -0.2**
comp=Z,2.3nm,0.7s,baz=101,slow=3.8,SNR=10
QSPA South Pole Qui 119.34 180 *e*PKPdf **PKiKP 13 06 56.1 +0.1**
TOA0 Torodi Ar. Sit 120.61 309 *e*PKPdf **PKPdf 13 06 59.6 -0.3**
TORD Torodi Ar. Bea 120.61 309 PKP **PKPdf 13 06 58.8 -1.1**
comp=Z,0.2nm,0.4s,baz=353,slow=3.4,SNR=4.4

IDC ***24*** *13:06:55.7±1.2,6.02N×76.96W,h0km,mb3.4/1,mb1 3.5/2, mb1mx3.2/22,mbtmp3.3/2,ML1.5/1,Error ellipse: s-maj=53.6km s-min=18.7km az=29.0*
RSNC ***24*** *13:07:01.6±1.3,6.12N×76.87W,h4km±7km,ML3.0*
ISC 24 13:06:57.8±1.6,**5.97N**±0.05×**76.93W**±0.04,**h6**km±11km, **n14**,σ1**s90**/21,**Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SOLC	**Bahia Solano**	**0.54**	**298**	*e*P		**Pb**	**13 07 11.1**	**+1.5**
SOLC				*e*S		**Sb**	**13 07 18.8**	**+1.1**
SOLC				*i*			13 07 20.2	
comp=N,18nm,0.1s								
DBBC	**Dabeiba**	**1.27**	**35**	*e*P		**Pg**	**13 07 21.1**	**-1.0**
HELC	**Santa Helena**	**1.41**	**81**	*e*P		**Pg**	**13 07 24.3**	**-0.6**
HELC				*e*S		**Sg**	**13 07 42.5**	**-0.8**
HELC				*i*			13 07 45.1	
comp=N,386nm,0.3s								
YOTC	**Yotoco, Valle**	**2.06**	**163**	*e*P		**Pn**	**13 07 33.3**	**+0.2**
YOTC				*e*S		**Sn**	**13 07 56.8**	**-2.3**
YOTC				*i*			13 08 00.7	
comp=N,68nm,0.3s								
NORC	**Norcasia**	**2.09**	**101**	*e*P		**Pb**	**13 07 36.1**	**-0.1**
NORC				*e*S		**Sn**	**13 08 01.3**	**+1.4**
NORC				*i*			13 08 03.5	
comp=N,249nm,0.5s								
UREC	**San Jos de Ur**	**2.25**	**38**	*e*P		**Pn**	**13 07 36.4**	**+0.7**
UREC				*e*S		**Sn**	**13 08 02.9**	**-0.9**
UREC				*i*			13 08 05.8	
comp=N,238nm,0.3s								
PTBC	**PUERTO BERRIO,**	**2.53**	**77**	*e*P		**Pn**	**13 07 41.6**	**+2.2**
PTBC				*e*S		**Sn**	**13 08 12.0**	**+1.4**
PTBC				*i*			13 08 16.9	
comp=N,123nm,0.5s								
ZARC	**Zaragoza, Cauc**	**2.56**	**54**	*e*P		**Pn**	**13 07 41.4**	**+1.5**
ZARC				*e*S		**Sn**	**13 08 10.5**	**-0.8**
ZARC				*i*			13 08 15.5	
comp=N,151nm,0.5s								
ROSC	**El Rosal**	**2.83**	**113**	Pn		**Pn**	**13 07 45.1**	**+1.2**
comp=N,1.5nm,0.3s,baz=127,slow=20,SNR=2.0								
ROSC				Lg		Lg	13 08 25.8	

comp=N,6.3nm,0.3s,baz=163,slow=19,SNR=2.9
PRAC Prado 3.03 138 *e*P **Pn 13 07 50.8 +4.5**
BARC Barichara 3.78 80 *e*P **Pn 13 08 00.0 +3.1**
YKA Yellowknife Ar 62.80 341 P **P 13 17 22.4 -1.6**
comp=N,0.2nm,0.6s,baz=132,slow=6.6,SNR=8.7
ASAR Alice Springs 145.52 236 PKPbc **PKPdf 13 26 36.1 -1.8**
comp=N,0.3nm,0.9s,baz=123,slow=3.8,SNR=5.3
WRA Warramunga Arr 146.60 243 PKPbc **PKPdf 13 26 39.0 -0.9**
comp=N,0.6nm,1.1s,baz=109,slow=2.6,SNR=3.0

*ISCJB **24** 13:14:02.0±1.3, 8°.19N×0°.07×82°.98W±0°.03, h6km±6km, mb3.6/5, Error ellipse: s-maj=11.2km s-min=4.7km az=12.5*
*UCR **24** 13:14:04.0±2.2, 8°.34N×82°.95W, h3km, MD4.3*
*IDC **24** 13:14:05.1±5.9, 8°.99N×82°.65W, h0km, mb3.7/5, mb1 4.1/7, mb1mx3.8/31, mbtmp3.8/7, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=136.8km s-min=37.4km az=9.0*

ISC 24 13:14:02.8±2.0, 8°.28N±0°.09×83°.00W±0°.04, h6km±11km, n38, σ1§37/42, mb3.8/5, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.39**	**310**	*e*P	**Pg**	**13 14 11.3**	**+0.9**
PTJ1				*e*S	**Sb**	**13 14 19.6**	**+1.2**
EDSV	**San Vito**	**0.53**	**3**	*e*P	**Pg**	**13 14 13.6**	**+0.5**
BRU2	**Volcan**	**0.59**	**31**	||*i*P	**Pg**	**13 14 14.4**	**+0.2**
BRU2				*e*S	**Sb**	**13 14 24.4**	**+0.1**
TBS2		**0.61**	**34**	||*e*P	**Pb**	**13 14 15.6**	**-0.3**
TBS2				*e*S	**Sb**	**13 14 25.0**	**+0.1**
EDPN	**Palmar Norte**	**0.81**	**326**	*e*P	**Pg**	**13 14 17.8**	**-0.7**
EDLM	**Las Mercedes**	**1.15**	**329**	*e*P	**Pb**	**13 14 23.6**	**-1.5**
LCR2	**La Lucha 2**	**1.76**	**326**	*e*P	**Pn**	**13 14 33.5**	**-0.5**
HDC	**Heredia**	**2.03**	**327**	*e*P	**Pb**	**13 14 39.4**	**-0.9**
HDC				*e*S	**Sb**	**13 15 06.9**	**+1.0**
SRA1	**San Ramn**	**2.31**	**321**	*e*P	**Pn**	**13 14 42.3**	**+0.7**
PNME	**Penonome**	**2.65**	**85**	*e*S	**Sn**	**13 15 19.4**	**+0.9**
FORC	**Fortuna**	**2.73**	**323**	*i*P	**Pb**	**13 14 50.0**	**-2.0**
AZU	**Azuero**	**2.74**	**100**	*e*P	**Pn**	**13 14 17.2**	**-0.1**
AZU				*e*S	**Sn**	**13 15 21.8**	**+1.0**
ARE1	**Arenal 1**	**2.75**	**322**	*e*P	**Pn**	**13 14 49.3**	**+1.8**
CEDE	**Laguna Cedeo**	**2.76**	**323**	*e*P	**Pn**	**13 14 49.7**	**+2.0**
JTS	**JuntasAbangare**	**2.78**	**316**	Pn	**Pn**	**13 14 48.7**	**+0.9**
	32nm,0.3s,baz=156,slow=22,SNR=85						
JTS				Sn	**Sn**	**13 15 21.9**	**+0.2**
	27nm,0.3s,baz=332,slow=22,SNR=7.5						
JTS	**JuntasAbangare**	**2.78**	**316**	*e*P	**Pn**	**13 14 48.7**	**+0.9**
JTS				*e*S	**Sn**	**13 15 22.6**	**+0.9**
AMAS	**Alto Masis**	**3.04**	**320**	*i*P	**Pn**	**13 14 54.0**	**+2.4**
ACAL	**Aguas Claras**	**3.08**	**319**	*i*P	**Pn**	**13 14 54.6**	**+2.5**
PLVR	**Palo Verde**	**3.10**	**312**	*e*P	**Pn**	**13 14 53.4**	**+1.0**
PTEN	**Parque Tenorio**	**3.11**	**321**	*i*P	**Pn**	**13 14 55.4**	**+2.9**
CUI	**Cuipilapa**	**3.18**	**318**	*i*P	**Pn**	**13 14 55.9**	**+2.4**
COLC	**Colonia**	**3.22**	**318**	*i*P	**Pn**	**13 14 55.4**	**+1.5**
BCIP	**Isla Barro Col**	**3.24**	**74**	*e*P	**Pn**	**13 14 54.0**	**-0.3**
GUAB	**Guayabo de Bag**	**3.26**	**318**	*i*P	**Pn**	**13 14 55.9**	**+1.3**
LIM1	**Limonal**	**3.27**	**317**	*i*P	**Pn**	**13 14 56.5**	**+1.7**
GPS2	**Hotel Rincn d**	**3.38**	**317**	*i*P	**Pn**	**13 14 58.1**	**+1.9**
NY14	**Universidad de**	**3.43**	**313**	*i*P	**Pn**	**13 14 58.0**	**+1.1**
BUEV	**Buena Vista**	**3.45**	**317**	*i*P	**Pn**	**13 14 58.4**	**+1.2**
UPA	**Univ. de Panam**	**3.49**	**78**	*e*P	**Pn**	**13 14 58.7**	**+1.0**
APG	**El Apazote**	**9.90**	**313**	Pn	**Pn**	**13 16 25.3**	**-0.7**
	1.0nm,0.3s,baz=88,slow=3.6,SNR=2.4						
PTGA	**Pitinga**	**24.64**	**110**	LR	LR	13 29 18.6	
	comp=Z,41nm,21.6s,baz=50,slow=37						
MDP	**Montagnes des**	**30.31**	**94**	LR	LR	13 32 22.0	
	comp=Z,43nm,19.6s,baz=163,slow=36						
PDAR	**Pinedale Array**	**41.52**	**330**	P	**P**	**13 21 50.5**	**-0.7**
	0.3nm,0.6s,baz=134,slow=7.6,SNR=2.7						
ULM	**Lac du Bonnet**	**43.19**	**348**	P	**P**	**13 22 02.8**	**-1.6**
	3.3nm,0.7s,baz=155,slow=6.4,SNR=8.4						
NVAR	**Mina Array Bea**	**43.70**	**319**	P	**P**	**13 22 10.7**	**+1.6**
	0.4nm,0.6s,baz=124,slow=5.6,SNR=3.6						
YKA	**Yellowknife Ar**	**58.79**	**343**	P	**P**	**13 24 01.0**	**-0.7**
	0.9nm,0.7s,baz=138,slow=7.0,SNR=25						
ILAR	**Eielson Array**	**71.58**	**336**	P	**P**	**13 25 24.6**	**-0.1**
	0.5nm,0.7s,baz=102,slow=4.2,SNR=10						
ARCES	**ARCESS Array B**	**88.65**	**19**	LR	LR	14 04 48.8	
	comp=Z,334nm,20.3s,baz=190,slow=35						

IDC 24 13:37:08.6±4.2, 5°.43S×153°.69E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=117.4km s-min=36.1km az=111.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.71**	**231**	P	P	13 42 23.6	+1.2
	0.2nm,0.3s,baz=57,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.30**	**224**	P	P	13 42 45.1	-1.1
	0.3nm,0.9s,baz=59,slow=9.6,SNR=4.3						
FITZ	**Fitzroy Crossi**	**30.15**	**243**	P	P	13 43 21.1	+0.6
	3.4nm,1.2s,baz=68,slow=5.4						
MKAR	**Makanchi Array**	**81.38**	**319**	P	P	13 49 26.9	-0.5
	0.3nm,0.6s,baz=95,slow=4.8,SNR=5.5						

*NEIC **24** 13:48:52.2±0.0, 17°.17N×96°.87W, h72km, MD4.0(MEX), After MEX.*

MEX 24 13:48:51.8±0.8, 17°.16N×96°.88W, h76km±7km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.16**	**122**	*e*P	Pn	13 49 01.6	-1.6
VHO				*e*S	Sn	13 49 09.7	-1.9
VHO	**Vista Hermosa**	**0.16**	**122**	*e*P	Pn	13 49 01.6	-1.6
VHO				*e*S	Sn	13 49 09.6	-2.0
PNIG	**Pinotepa**	**1.42**	**238**	*e*P	Pn	13 49 13.7	-2.2
PNIG				*e*S	Sn	13 49 32.6	-1.5
PNIG	**Pinotepa**	**1.42**	**238**	*e*P	Pn	13 49 13.6	-2.3
PNIG				*e*S	Sn	13 49 32.4	-1.8
HUIG	**Huatulco**	**1.57**	**152**	*e*P	Pn	13 49 16.6	-1.2
HUIG				*e*S	Sn	13 49 35.2	-2.4
HUIG	**Huatulco**	**1.57**	**152**	*e*P	Pn	13 49 16.6	-1.2
HUIG				*e*S	Sn	13 49 35.2	-2.4
TLIG	**Tlapa**	**1.66**	**284**	*e*P	Pn	13 49 28.3	+9.1
TLIG				*e*S	Sn	13 49 36.1	-3.8
TLIG	**Tlapa**	**1.66**	**284**	*i*P	Pn	13 49 17.9	-1.4
TLIG				*i*S	Sn	13 49 38.2	-1.7

*MAN **24** 14:24:41.0, 4°.80N×125°.84E, h131km, MS3.3*
*ISCJB **24** 14:24:43.6±0.7, 5°.0N±0°.1×125°.82E±0°.08, h131km±14km, mb3.3/2, Error ellipse: s-maj=19.3km s-min=11.9km az=27.7*
*IDC **24** 14:25:04.2±1.4, 1°.01N×125°.23E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.2/47, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=60.6km s-min=23.6km az=58.0*

ISC 24 14:24:44.5±1.1, 5°.1N±0°.1×125°.82E±0°.09, h130km±13km, n13, σ1§07/20, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.06**	**354**	*e*P	**Pn**	**14 25 07.7**	**-0.3**
DDMP				*e*S	**Sn**	**14 25 24.4**	**-1.4**
GSPH	**General Santos**	**1.35**	**320**	*e*P	**Pn**	**14 25 11.3**	**+0.3**
GSPH				*e*S	**Sn**	**14 25 31.3**	**0.0**
SKMP	**Bagumbayan, Su**	**1.94**	**319**	*e*P	**Pn**	**14 25 18.1**	**+0.4**
SKMP				*e*S	**Sn**	**14 25 43.1**	**0.0**
MATI	**Mati**	**1.94**	**13**	*e*P	**Pn**	**14 25 18.0**	**+0.3**
MATI				*e*S	**Sn**	**14 25 41.8**	**-1.4**
DMPH	**Davao City--Mi**	**2.05**	**351**	||*e*P	**Pn**	**14 25 19.3**	**+0.3**
DMPH				*e*S	**Sn**	**14 25 46.1**	**+0.5**
KCP	**Kidapawan**	**2.08**	**340**	||*i*P	**Pn**	**14 25 19.8**	**+0.3**
KCP				*i*S	**Sn**	**14 25 49.3**	**+2.9**
CTBH	**Cotabato--PC H**	**2.67**	**324**	||*i*P	**Pn**	**14 25 26.8**	**0.0**
PAGZ	**Pagadian**	**3.69**	**319**	*e*P	**Pn**	**14 25 40.4**	**+0.2**
IPIL	**Ipil**	**4.22**	**310**	*e*P	**Pn**	**14 25 47.5**	**+0.3**
IPIL				*e*S	**Sn**	**14 26 33.9**	**-2.0**
SIJI	**Sorong**	**8.01**	**137**	Pn	**Pn**	**14 26 38.2**	**+0.1**
	1.0nm,0.3s,baz=223,slow=21,SNR=5.4						
WRA	**Warramunga Arr**	**26.21**	**162**	P	**P**	**14 30 07.7**	**+0.4**
	0.2nm,0.3s,baz=334,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**29.61**	**165**	P	**P**	**14 30 38.1**	**+0.6**
	0.3nm,0.5s,baz=342,slow=7.5,SNR=16						
MKAR	**Makanchi Array**	**55.96**	**325**	P	**PcP**	**14 35 05.5**	**-0.7**
	0.2nm,0.4s,baz=119,slow=6.3,SNR=2.7						

*IDC **24** 14:26:29.9±0.8, 33°.35N×95°.29E, h0km, mb3.8/10, mb1 3.9/14, mb1mx3.8/53, mbtmp3.8/14, ML3.6/3, MS3.1/11, Ms1 3.1/11, ms1mx2.9/48, Error ellipse: s-maj=28.8km s-min=15.9km az=59.0*
*ISCJB **24** 14:26:32.6±0.4, 33°.32N±0°.04×95°.23E±0°.06, h33km, mb4.0/17, MS3.1/8, Error ellipse: s-maj=7.0km s-min=5.3km az=10.9*
*NEIC **24** 14:26:33.1±1.7, 33°.40N×95°.38E, h22km±13km, mb4.1/10, Error ellipse: s-maj=7.0km s-min=5.1km az=66.0*

ISC 24 14:26:34.4±0.6, 33°.39N±0°.07×95°.35E±0°.07, h35km, n57, σ1§34/51, mb3.9/17, MS3.0/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.14**	**225**	*e*Pn	**Pn**	**14 27 51.9**	**+2.6**
SHL	**Shillong**	**8.36**	**202**	*e*Pn	**Pn**	**14 28 31.7**	**-1.6**
TAPN	**Taplejung**	**8.93**	**230**	*e*P	**Pn**	**14 28 41.0**	**-0.2**
	6.6nm,0.4s						
ODAN	**Odare**	**9.48**	**229**	*e*P	**Pn**	**14 28 48.0**	**-0.6**
	14nm,0.4s						
GUN	**Gumba**	**9.81**	**239**	*e*P	**Pn**	**14 28 52.6**	**-0.8**
	28nm,0.7s						
RAMN	**Ramite**	**9.92**	**232**	*e*P	**Pn**	**14 28 53.7**	**-1.1**
	16nm,0.7s						
KKN	**Kakani**	**10.32**	**240**	*e*P	**Pn**	**14 28 59.1**	**-1.0**
	16nm,0.4s						
PKIN	**Phulchoki**	**10.36**	**239**	*e*P	**Pn**	**14 28 59.7**	**-1.0**
	25nm,0.5s						
DMN	**Daman**	**10.55**	**240**	*e*P	**Pn**	**14 29 02.2**	**-1.1**
	18nm,0.5s						
DANN	**Dangsing**	**11.15**	**246**	*e*P	**Pn**	**14 29 11.2**	**-0.5**
	38nm,0.5s						
XAN	**Xi'an**	**11.32**	**83**	*e*Pn	**Pn**	**14 29 11.8**	**-1.9**
PYUN	**Piuthan**	**11.87**	**247**	*e*P	**Pn**	**14 29 19.9**	**-1.4**
	25nm,0.7s						
WMQ	**Urumqi**	**12.01**	**332**	*e*Pn	**Pn**	**14 29 23.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**15.21**	**167**	Pn	**Pn**	**14 30 06.0**	**-0.6**
	0.1nm,0.3s,baz=339,slow=9.9,SNR=4.0						
CMAR				LR	LR	14 37 05.4	
	comp=Z,16nm,20.5s,baz=355,slow=42						
CM01	**Chiang Mai Ar**	**15.25**	**167**	*e*Pn	**Pn**	**14 30 07.7**	**+0.5**
MK01	**Makanchi Array**	**16.66**	**327**	*e*Pn	**Pn**	**14 30 24.9**	**-0.1**
SONA0	**Songino Array**	**16.66**	**27**	*e*Pn	**Pn**	**14 30 25.7**	**+0.4**
SONM	**Songino Array**	**16.66**	**27**	Pn	**Pn**	**14 30 25.7**	**+0.4**
	baz=216,slow=13,SNR=10						
MK31	**Makanchi Array**	**16.68**	**327**	*e*Pn	**Pn**	**14 30 25.5**	**+0.2**
	1.0nm,0.8s						
MK32	**Makanchi Array**	**16.68**	**327**	*e*Pn	**Pn**	**14 30 23.8**	**-1.5**
MKAR	**Makanchi Array**	**16.68**	**327**	Pn	**Pn**	**14 30 23.8**	**-1.5**
	0.1nm,0.3s,baz=140,slow=14,SNR=10						
MKAR				LR	LR	14 37 31.1	
	comp=Z,48nm,20.9s,baz=138,slow=40						
KDJ	**Kajisay**	**16.79**	**307**	*e*Pn	**Pn**	**14 30 27.1**	**+0.2**
	3.7nm,1.0s						
NIL	**Nilore**	**18.43**	**277**	*e*P	**Pn**	**14 30 46.8**	**-0.3**
	11nm,0.8s						
AAK	**Ala-Archa**	**18.82**	**305**	P	**Pn**	**14 30 52.6**	**+0.8**
	0.2nm,0.3s,baz=153,slow=8.2,SNR=7.1						
AAK				LR	LR	14 39 20.5	
	comp=Z,79nm,20.8s,baz=104,slow=41						
GAR	**Garm**	**20.94**	**293**	*e*P	**P**	**14 31 14.6**	**+0.3**
	21nm,1.2s						
KURBB	**Kurchatov Arra**	**21.20**	**329**	P	**P**	**14 31 17.6**	**+0.8**
	4.0nm,0.7s,baz=138,slow=11,SNR=22						
KURK	**Kurchatov**	**21.23**	**330**	*e*P	**P**	**14 31 17.4**	**+0.4**
	3.9nm,0.8s						
KK31	**Karatay Array**	**21.72**	**304**	*e*P	**P**	**14 31 18.0**	**-4.5**
	6.3nm,1.2s						
KKAR	**Karatay Array**	**21.72**	**304**	*e*P	**P**	**14 31 18.2**	**-4.3**
	6.3nm,1.2s						
CHGR	**Chuyangaron**	**21.80**	**291**	*e*P	**P**	**14 31 23.8**	**+0.4**
	18nm,1.0s						
KBL	**Kabul**	**21.84**	**280**	*e*P	**P**	**14 31 24.7**	**+0.7**
	29nm,0.9s						
ZALV	**Zalesovo Beam**	**21.88**	**343**	*e*P	**P**	**14 31 25.3**	**+1.3**
ZALV	**Zalesovo Beam**	**21.88**	**343**	P	**P**	**14 31 25.9**	**+1.9**
	1.4nm,0.7s,baz=152,slow=8.5,SNR=6.9						
ZALV				LR	LR	14 40 35.8	
	comp=Z,26nm,21.6s,baz=70,slow=39						
ZAA1	**Zalesovo Array**	**21.88**	**343**	*e*P	**P**	**14 31 25.9**	**+1.9**
BVAR	**Borovoye Array**	**26.54**	**325**	LR	LR	14 43 24.7	
	comp=Z,35nm,19.0s,baz=128,slow=38						
PALK	**Pallekele**	**29.32**	**211**	LR	LR	14 44 53.7	
	comp=Z,30nm,18.6s,baz=118,slow=38						
JNU	**Nakatsue**	**29.62**	**81**	LR	LR	14 46 11.3	
	comp=Z,30nm,20.2s,baz=343,slow=40						
GNI	**Garni**	**40.65**	**295**	LR	LR	14 54 52.7	
	comp=Z,43nm,18.9s,baz=262,slow=42						
TIXI	**Tiksi**	**42.23**	**15**	P	**P**	**14 34 24.0**	**+0.3**
	0.7nm,0.3s,baz=327,slow=0.7,SNR=7.3						
BR101	**Keskin Array S**	**49.12**	**296**	*e*P	**P**	**14 35 19.2**	**+0.5**
BRTR	**Keskin Array B**	**49.12**	**296**	P	**P**	**14 35 19.2**	**+0.5**
	2.3nm,1.0s,baz=78,slow=7.7,SNR=4.8						
NB2	**NORSAR Subarra**	**58.66**	**325**	P	**P**	**14 36 28.5**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=76,slow=6.9						
NB200	**NORSAR Array S**	**58.66**	**325**	*e*P	**P**	**14 36 27.6**	**-0.4**
NOA	**NORSAR Array B**	**58.66**	**325**	P	**P**	**14 36 27.6**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=77,slow=7.0,SNR=3.8						
NOA				LR	LR	15 03 14.9	
	comp=Z,14nm,20.2s,baz=65,slow=38						
DAVOX	**Davos/Dischmat**	**63.69**	**310**	LR	LR	15 07 51.1	
	comp=Z,55nm,18.6s,baz=260,slow=39						
WR1	**Warramunga Arr**	**64.78**	**139**	*e*P	**P**	**14 37 10.8**	**+1.2**
	comp=Z,36nm,1.9s						
WRA	**Warramunga Arr**	**64.78**	**139**	P	**P**	**14 37 10.8**	**+1.2**
	comp=Z,1.7nm,0.9s,baz=321,slow=8.7,SNR=12						
AS31	**Alice Springs**	**67.58**	**142**	*e*P	**P**	**14 37 27.9**	**+0.3**
	comp=Z,1.0nm,1.1s						
ASAR	**Alice Springs**	**67.58**	**142**	P	**P**	**14 37 28.9**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=324,slow=6.4,SNR=21						
AS01	**Alice Springs**	**67.61**	**142**	*e*P	**P**	**14 37 28.4**	**+0.7**
ILAR	**Eielson Array**	**70.86**	**24**	P	**P**	**14 37 48.4**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=305,slow=5.7,SNR=7.3						
ILB	**Eielson Array**	**70.86**	**24**	*e*P	**P**	**14 37 47.6**	**+0.3**
	comp=Z,8.8nm,1.7s						
YKA	**Yellowknife Ar**	**81.46**	**14**	P	**P**	**14 38 48.5**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=324,slow=4.9,SNR=9.8						
YKB5	**Yellowknife Ar**	**81.46**	**14**	*e*P	**P**	**14 38 47.5**	**0.0**
TOA1	**Torodi Ar. Sit**	**85.88**	**283**	*e*P	**P**	**14 39 10.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**85.89**	**283**	P	**P**	**14 39 10.5**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=76,slow=6.1,SNR=3.2						
DZM	**Mont Dzumac**	**87.31**	**119**	LR	LR	15 14 41.5	
	comp=Z,20nm,21.6s,baz=10,slow=33						

SJA 24 14:41:11.7±0.5, 31°.44S×68°.73W, h104km±3km, ML2.6, MW3.6, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJA	**San Juan**	**0.17**	**122**	*i*P	Pn	14 41 26.9	+0.6
SJA				IAML		14 41 40.7	
	comp=Z,139nm,0.2s						
RTLL	**Cerro Villicun**	**0.25**	**64**	*i*P	Pn	14 41 26.9	+0.4
RTLL				*i*S	Sn	14 41 38.5	+0.8
RTCV	**Cerro Valdivia**	**0.46**	**159**	*i*P	Pn	14 41 28.1	+0.5
AMOG	**MOGNA**	**0.54**	**23**	*i*P	Pn	14 41 29.0	+0.8
RTLS	**Leoncito**	**0.60**	**233**	*i*P	Pn	14 41 30.1	+1.1
RTLS				IAML		14 41 30.4	
	comp=Z,181nm,0.2s						
RTLS				*i*S	Sn	14 41 44.0	+2.1
ACCO	**Cerro Coronel**	**0.89**	**341**	*i*P	Pn	14 41 32.9	+1.2
AUSP	**Uspallata**	**0.96**	**215**	*i*P	Pn	14 41 33.4	+1.1
AUSP				*i*S	Sn	14 41 49.3	+1.5
ASAL	**Salagasta**	**1.15**	**184**	*i*P	Pn	14 41 35.2	+1.0
ASAL				*i*S	Sn	14 41 52.6	+1.5
ACDV	**Cuesta del Vie**	**1.30**	**345**	*i*P	Pn	14 41 37.2	+1.2
AROD	**Rodeo**	**1.42**	**333**	*i*P	Pn	14 41 38.9	+1.4

KRSC 24 14:44:27.1±10.0, 50°.73N×160°.19E, h98km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.71**	**310**	*e*P	Pn	14 44 57.4	+1.6
KDTR				*e*S	Sn	14 45 18.8	+1.1
RUS	**Russkaya**	**2.00**	**329**	*e*P	Pn	14 45 01.0	+1.4
RUS				*e*S	Sn	14 45 25.4	+1.0
MTVR	**Mutnovka**	**2.16**	**325**	*e*P	Pn	14 45 03.7	+2.0
MTVR				*e*S	Sn	14 45 30.3	+2.1
ASAK	**Asacha**	**2.19**	**320**	*e*P	Pn	14 45 04.3	+2.2
ASAK				*e*S	Sn	14 45 31.7	+2.8
PAU	**Pauzhetka**	**2.26**	**291**	*e*S	Sn	14 45 32.7	+2.5
KRMR	**Karymshinskiy**	**2.47**	**330**	*e*P	Pn	14 45 07.8	+2.2
KRMR				*e*S	Sn	14 45 37.1	+1.9
SKR	**Severo-Kuril's**	**2.59**	**271**	*e*P	Pn	14 45 09.5	+2.3
SKR				*e*S	Sn	14 45 39.0	+0.9
SDLR	**Sedlovina**	**2.68**	**343**	*e*P	Pn	14 45 10.6	+2.0
AVH	**Avacha**	**2.70**	**341**	P	Pn	14 45 12.0	+3.2
KOK	**Koryaka**	**2.74**	**340**	*e*P	Pn	14 45 12.5	+3.1
APC	**Apacha**	**2.90**	**321**	P	Pn	14 45 14.0	+2.7
MKZ	**Mys Kozlova**	**3.95**	**13**	*e*P	Pn	14 45 26.3	+0.9
KZV	**Kizimen**	**4.40**	**1**	*e*P	Pn	14 45 34.7	+3.1
KBTR	**Krutoberegovo**	**5.71**	**15**	P	Pn	14 45 51.6	+2.3

IDC 24 15:03:09.8±3.0, 14°.97S×173°.75W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/39, mbtmp3.7/4, Error ellipse: s-maj=168.1km s-min=25.5km az=146.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**38.42**	**329**	T	T	15 51 18.6	
	baz=146,slow=76,SNR=9.1						
H11S3	**WAKE ISLAND Hy**	**38.43**	**329**	T	T	15 51 19.6	
	baz=146,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**38.44**	**329**	T	T	15 51 24.8	
	baz=146,slow=76,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**39.37**	**331**	T	T	15 52 27.1	
	baz=147,slow=76,SNR=3.0						
H11N1	**WAKE ISLAND Hy**	**39.38**	**331**	T	T	15 52 29.6	
	baz=147,slow=76,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**39.39**	**331**	T	T	15 52 32.1	
	baz=147,slow=76,SNR=3.5						
WRA	**Warramunga Arr**	**49.62**	**256**	P	P	15 12 03.4	-0.1
	0.6nm,0.5s,baz=89,slow=6.9,SNR=20						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	15 12 05.4	-0.4
	2.0nm,0.5s,baz=86,slow=8.3,SNR=65						
NVAR	**Mina Array Bea**	**74.23**	**42**	P	P	15 14 49.1	+0.1
	0.4nm,0.7s,baz=221,slow=6.8,SNR=3.5						
ILAR	**Eielson Array**	**82.09**	**11**	P	P	15 15 31.4	-0.3
	0.2nm,0.7s,baz=220,slow=8.0,SNR=5.9						
BRTR	**Keskin Array B**	**145.61**	**321**	PKPbc	PKPbc	15 22 50.8	-0.1
	0.9nm,0.8s,baz=66,slow=3.9,SNR=3.8						

KRSC 24 15:10:15.1±10.0, 50°.66N×160°.15E, h87km±10km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.74**	**312**	*e*P	Pn	15 10 44.9	+1.2
KDTR				*e*S	Sn	15 11 06.8	+1.4
RUS	**Russkaya**	**2.05**	**331**	*e*P	Pn	15 10 48.9	+1.1
RUS				*e*S	Sn	15 11 13.5	+0.8
MTVR	**Mutnovka**	**2.20**	**327**	*e*P	Pn	15 10 51.4	+1.5
MTVR				*e*S	Sn	15 11 18.8	+2.3
ASAK	**Asacha**	**2.23**	**322**	*e*P	Pn	15 10 52.3	+2.1
PAU	**Pauzhetka**	**2.26**	**292**	*e*P	Pn	15 10 52.9	+2.4
PAU				*e*S	Sn	15 11 20.6	+3.0
KRMR	**Karymshinskiy**	**2.51**	**331**	*e*P	Pn	15 10 55.9	+2.0
SKR	**Severo-Kuril's**	**2.57**	**272**	*e*P	Pn	15 10 56.0	+1.4
SKR				*e*S	Sn	15 11 25.8	+0.8
UGLR	**Uglovaya**	**2.68**	**343**	*e*P	Pn	15 10 58.4	+2.1
SDLR	**Sedlovina**	**2.74**	**344**	*e*P	Pn	15 10 59.2	+2.1
SMAR	**Somma**	**2.74**	**343**	*e*P	Pn	15 11 00.1	+2.9
AVH	**Avacha**	**2.75**	**342**	*e*P	Pn	15 10 59.5	+2.3
KRER	**Koryakskii**	**2.79**	**342**	*e*P	Pn	15 11 01.1	+3.3
KOK	**Koryaka**	**2.80**	**341**	*e*P	Pn	15 11 02.6	+2.6
KRX	**Arik**	**2.86**	**342**	*e*P	Pn	15 11 02.0	+3.3
APC	**Apacha**	**2.93**	**322**	*e*P	Pn	15 11 03.3	+3.8
MKZ	**Mys Kozlova**	**4.02**	**13**	*e*P	Pn	15 11 15.3	+1.1
KZV	**Kizimen**	**4.46**	**1**	*e*P	Pn	15 11 23.5	+3.1
TUMD	**Tumrok D**	**4.55**	**2**	*e*P	Pn	15 11 23.8	+2.3
TUMR	**Tumrok**	**4.63**	**360**	*e*P	Pn

comp=Z,76nm,18.8s,baz=107,slow=36
APC Apacha 2.98 321 *e*P **Pn 15 40 05.8 +0.3**
APC *e*S **Sn 15 40 42.1 +2.1**
MKZ Mys Kozlova 4.04 13 *e*P **Pn 15 40 16.9 -3.1**
KZV Kizimen 4.49 0 *e*P **Pn 15 40 25.7 -0.7**
TUMR Tumrok 4.66 359 *e*P **Pn 15 40 28.2 -0.5**
KBTR Krutoberegovo 5.80 14 *e*P **Pn 15 40 42.6 -1.6**
MJAR Matsushiro Arr 21.17 237 P **P 15 44 05.4 +2.5**
0.9nm,0.7s,baz=24,slow=12,SNR=4.1
TIXI Tiksi 25.37 337 P **P 15 44 44.0 -0.1**
2.4nm,0.8s,baz=130,slow=9.7,SNR=11
ILAR Eielson Array 30.54 42 P **P 15 45 29.6 -0.8**
0.1nm,0.4s,baz=255,slow=8.3,SNR=9.1
H11N2 WAKE ISLAND Hy 31.29 168 T T 16 18 29.2
baz=355
H11N3 WAKE ISLAND Hy 31.30 168 T T 16 18 30.9
baz=355,slow=74,SNR=3.9
H11N1 WAKE ISLAND Hy 31.30 168 T T 16 18 30.6
baz=355,slow=74,SNR=4.1
YKA Yellowknife Ar 44.95 41 P **P 15 47 32.5 +0.7**
0.4nm,0.8s,baz=300,slow=7.9,SNR=4.8
MKAR Makanchi Array 49.33 298 P **P 15 48 06.8 +0.5**
0.2nm,0.4s,baz=64,slow=6.3,SNR=5.7
PDAR Pinedale Array 58.68 60 P **P 15 49 15.6 +0.9**
0.4nm,0.7s,baz=8.5,slow=3.0,SNR=4.2
TXAR Lajitas Array 71.54 66 P **P 15 50 37.9 -0.4**
0.4nm,0.5s,baz=267,slow=5.0,SNR=3.7

ISCJB ***24*** *15:44:56.7±0.5,2˚.81S±0˚.07×139˚.02E±0˚.04, h37km, mb3.7/8, MS3.3/7, Error ellipse: s-maj=9.8km s-min=5.0km az=177.1*
DJA ***24*** *15:44:57.3±0.3,3˚S±10˚×13˚9E±˚, h10km, M4.4/5, mb4.6/5, mB4.5/1, MLv4.3/4, Mw(mB)3.6/1*
IDC ***24*** *15:44:59.1±1.7,2˚.78S×139˚.13E, h55km±18km, mb3.5/9, mb1 3.8/11, mb1mx3.7/31, mbtmp3.9/11, ML4.4/3, MS3.3/9, Ms1 3.3/9, ms1mx3.1/20, Error ellipse: s-maj=13.6km s-min=10.8km az=109.0*
ISC 24 15:44:57.8±0.6, 2˚.83S±0˚.07×139˚.05E±0˚.05, h37km, n22, σ2s25/26, mb3.7/8, MS3.4/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.14**	**78**	P		**Pn**		**15 45 18.1**	**+0.9**
GENI				S		**Sn**		**15 45 33.7**	**+2.2**
JAY	**Jayapura**	**1.68**	**79**	P		**Pn**		**15 45 26.0**	**+1.4**
JAY	**Jayapura**	**1.68**	**79**	P		**Pn**		**15 45 24.8**	**+0.1**
	11nm,0.3s,baz=261,slow=9.3,SNR=50								
JAY				S		**Sn**		**15 45 44.6**	**-0.3**
	49nm,0.3s,baz=99,slow=19,SNR=12								
JAY				LR		LR		15 46 26.9	
	comp=Z,336nm,20.9s,baz=332,slow=55								
SRPI	**Serui, Papua**	**2.97**	**289**	P		**Pn**		**15 45 43.8**	**+1.4**
SRPI				S		**Sn**		**15 46 16.8**	**0.0**
SIJI	**Sorong**	**8.02**	**284**	P		**Pn**		**15 46 54.5**	**+2.6**
	5.6nm,0.3s,baz=343,slow=21,SNR=22								
SIJI				S		**Sn**		**15 48 19.7**	**-1.7**
	1.9nm,0.3s,baz=287,slow=17,SNR=4.3								
SIJI				LR		LR		15 50 57.8	
	comp=Z,111nm,18.3s,baz=94,slow=44								
SANI	**Sanana**	**13.08**	**273**	P		**Pn**		**15 48 02.3**	**+1.2**
	44nm,0.7s								
SOEI	**Soe**	**16.22**	**244**	P		**Pn**		**15 48 45.1**	**+1.9**
	44nm,0.8s								
BBSI	**Bau Bau**	**16.65**	**260**	P		**P**		**15 48 53.0**	**+2.4**
	2.8nm,0.9s								
BATI	**Baumata**	**16.95**	**244**	P		**P**		**15 48 56.4**	**+2.5**
BATI	**Baumata**	**16.95**	**244**	P		**Pn**		**15 48 54.3**	**+2.0**
	5.9nm,0.3s,baz=246,slow=1.1,SNR=13								
GUMO	**Guam**	**17.30**	**19**	LR		LR		15 54 22.4	
	comp=Z,93nm,19.4s,baz=100,slow=33								
WRA	**Warramunga Arr**	**17.63**	**195**	P		**Pn**		**15 49 00.8**	**+0.2**
	0.6nm,0.3s,baz=15,slow=12,SNR=34								
FITZ	**Fitzroy Crossi**	**20.08**	**220**	P		**P**		**15 49 28.4**	**+0.1**
	2.7nm,0.6s,baz=40,slow=11,SNR=12								
FITZ				S		**S**		**15 53 04.0**	**-8.1**
	2.4nm,0.5s,baz=195,slow=14,SNR=3.6								
FITZ				LR		LR		15 57 48.1	
	comp=Z,110nm,19.6s,baz=40,slow=38								
ASAR	**Alice Springs**	**21.31**	**193**	P		**P**		**15 49 41.8**	**+0.2**
	1.3nm,0.4s,baz=12,slow=11,SNR=36								
ASAR				S		**S**		**15 53 36.1**	**-0.3**
	1.1nm,0.9s,baz=13,slow=29,SNR=3.2								
ASAR				LR		LR		15 58 33.8	
	comp=Z,152nm,20.5s,baz=22,slow=38								
STKA	**Stephens Creek**	**29.00**	**176**	P		**P**		**15 50 55.0**	**+0.8**
	2.3nm,1.0s,baz=343,slow=17,SNR=2.5								
STKA				LR		LR		16 03 47.8	
	comp=Z,129nm,18.8s,baz=24,slow=39								
MJAR	**Matsushiro Arr**	**39.17**	**359**	P		**P**		**15 52 20.5**	**-1.7**
	0.5nm,0.6s,baz=176,slow=7.9,SNR=3.2								
MJAR				LR		LR		16 06 23.0	
	comp=Z,29nm,21.0s,baz=55,slow=33								
KSRS	**Korea Array**	**41.39**	**347**	LR		LR		16 08 46.3	
	comp=Z,13nm,19.4s,baz=162,slow=34								
CMAR	**Chiang Mai Arr**	**44.79**	**300**	P		**P**		**15 53 08.7**	**+0.3**
	0.6nm,1.0s,baz=134,slow=6.1,SNR=4.1								
KLR	**Kul'dur**	**52.23**	**354**	P		**P**		**15 54 05.2**	**+0.1**
	0.9nm,0.6s,baz=171,slow=7.4,SNR=8.3								
SONM	**Songino Array**	**57.97**	**335**	P		**P**		**15 54 44.9**	**-1.9**
	0.2nm,0.4s,baz=134,slow=6.1,SNR=2.8								
SONM				LR		LR		16 20 29.4	
	comp=Z,27nm,19.2s,baz=325,slow=37								
VNDA	**Vanda**	**75.64**	**175**	P		**P**		**15 56 39.2**	**+0.6**
	1.6nm,0.7s,baz=327,slow=6.9,SNR=16								
VNDA				LR		LR		16 32 17.7	
	comp=Z,36nm,18.3s,baz=238,slow=38								
ILAR	**Eielson Array**	**85.79**	**24**	P		**P**		**15 57 31.3**	**-1.8**
	0.7nm,0.7s,baz=262,slow=4.9,SNR=16								

GII ***24*** *15:47:05.3±0.0,37˚.76N×16˚.50E, h30km, mb4.6/1, MD4.5/1*
IDC ***24*** *15:47:17.9±0.5,37˚.83N×16˚.38E, h0km, mb4.1/22, mb1 4.2/33, mb1mx4.1/58, mbtmp4.1/33, ML4.3/10, MS3.6/13, Ms1 3.6/13, ms1mx3.3/42, Error ellipse: s-maj=12.5km s-min=10.3km az=125.0*
LDG ***24*** *15:47:20.5±0.2,37˚.70N×16˚.63E, h30km, Ml3.3/5, Error ellipse: s-maj=4.9km s-min=2.5km az=150.0*
BJI ***24*** *15:47:20.2,37˚.80N×16˚.50E, h26km, mb4.5/22, mB4.8/11, Ms4.1/3, Ms7 3.8/2*
ISCJB ***24*** *15:47:21.7±0.2,37˚.86N±0˚.01×16˚.57E±0˚.01, h34km±2km, mb4.3/52, MS3.7/15, Error ellipse: s-maj=2.5km s-min=1.9km az=3.5*
MOS ***24*** *15:47:21.5±0.9,37˚.94N×16˚.60E, h24km, mb4.5/22, Error ellipse: s-maj=5.3km s-min=2.7km az=67.9*
ROM ***24*** *15:47:21.9±0.1,37˚.708N±0˚.004×16˚.471E±0˚.007, h38km, ML4.3/90*
PDG ***24*** *15:47:21.4±1.5,37˚.79N×16˚.54E, h30km±2km, MD4.9/4, ML4.8/12, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0*
MED_RC ***24*** *15:47:22.0±0.6,37˚.63N×16˚.53E, h25km±1km, MW4.6/10, Moment Tensor Solution. Mantle waves: s10,c12; Duration: 1ŝ0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.25±.12; $M_{t\theta}$0.51±.09; $M_{\phi\phi}$-0.26±.09; $M_{r\theta}$-0.06±.09; $M_{\theta\phi}$-0.78±.05; $M_{r\phi}$0.04±.09; Best double couple: M◎0.87000×10^{16} NP1:ϕs347.00000°,δ88.00000°, λ3.00000°. NP2:ϕs257.00000°,δ87.00000°,λ178.00000°. Principal axes: T 1.0000, Plg3.0000°, Azm212.0000°; N -0.2500, Plg87.0000°, Azm23.0000°; P -0.7400, Plg0.0000°, Azm122.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
NEIC ***24*** *15:47:22.5±0.9,37˚.80N×16˚.47E, h31km±7km, mb4.5/18 Error ellipse: s-maj=4.0km s-min=3.3km az=189.0*
HLW ***24*** *15:47:25.2,38˚.18N×17˚.94E, h10km±30km, Md5.6*
ISC 24 15:47:23.1±1.2, 37˚.87N±0˚.04×16˚.46E±0˚.03, h32km±8km, n578, σ2s14/572, mb4.3/52, MS3.7/15, 34C-37D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MPAZ	**Palizzi**	**0.37**	**283**	*i* P		**Pn**		**15 47 32.2**	**-0.1**
MPAZ				S		**Sn**		**15 47 39.0**	**+0.6**
MPAZ				AML		AML			
	comp=E,78000μm,0.8s								
MPAZ				AML		AML			
	comp=N,82850μm,1.4s								
MPAZ				AML		AML			
	comp=E,78000μm,0.8s								
MPAZ				AML		AML			
	comp=N,82850μm,1.4s								
SOI	**Samo**	**0.38**	**302**	P		**Pn**		**15 47 32.6**	**+0.2**
SOI	**Samo**	**0.38**	**302**	P		**Pn**		**15 47 32.6**	**+0.2**
SOI				S		**Sn**		**15 47 40.4**	**+1.8**
SOI				AML		AML			
	comp=E,39750μm,1.2s								
SOI				AML		AML			
	comp=N,40350μm,0.3s								
SOI				AML		AML			
	comp=E,39750μm,1.2s								
SOI				AML		AML			
	comp=N,40350μm,0.3s								
SOI				AML		AML			
	comp=E,39750μm,1.2s								
SOI				AML		AML			
	comp=N,40400μm,0.3s								
SOI				AML		AML			
	comp=E,39750μm,1.2s								
SOI				AML		AML			
	comp=N,40400μm,0.3s								
PLAC	**Placanica**	**0.58**	**358**	*e*P		**Pn**		**15 47 36.3**	**+1.2**
PLAC				AML		AML			
	comp=E,13600μm,1.2s								
PLAC				AML		AML			
	comp=N,14450μm,0.5s								
PLAC				AML		AML			
	comp=E,13600μm,1.2s								
PLAC				AML		AML			
	comp=N,14450μm,0.5s								
PLAC				AML		AML			
	comp=E,13600μm,1.2s								
PLAC				AML		AML			
	comp=N,14450μm,0.5s								
CEL	**Celeste**	**0.59**	**311**	*e*Pn		**Pn**		**15 47 35.9**	**+0.6**
CEL	**Celeste**	**0.59**	**311**	*i* P		**Pn**		**15 47 35.8**	**+0.5**
CEL				S		**Sn**		**15 47 46.2**	**+2.3**
CEL				AML		AML			
	comp=E,17550μm,0.7s								
CEL				AML		AML			
	comp=N,15300μm,1.1s								
CEL				AML		AML			
	comp=E,20750μm,0.7s								
CEL				AML		AML			
	comp=N,18500μm,1.2s								
CEL				AML		AML			
	comp=E,17550μm,0.7s								
CEL				AML		AML			
	comp=N,15300μm,1.1s								
CEL				AML		AML			
	comp=E,20750μm,0.7s								
CEL				AML		AML			
	comp=N,18500μm,1.2s								
CEL				AML		AML			
	comp=E,20750μm,0.7s								
CEL				AML		AML			
	comp=E,17550μm,0.7s								
CEL				AML		AML			
	comp=N,18500μm,1.2s								
CEL				AML		AML			
	comp=N,15300μm,1.1s								
MTTG	**Motta San Giov**	**0.62**	**282**	P		**Pn**		**15 47 35.7**	**0.0**
MTTG				S		**Sn**		**15 47 44.8**	**+0.2**
MTTG				AML		AML			
	comp=E,40850μm,0.9s								
MTTG				AML		AML			
	comp=N,41300μm,0.6s								
MTTG				AML		AML			
	comp=E,40850μm,0.9s								
MTTG				AML		AML			
	comp=N,41300μm,0.6s								
MTTG				AML		AML			
	comp=E,40850μm,0.9s								
MSCL	**Scilla**	**0.64**	**304**	*i* P		**Pn**		**15 47 36.5**	**+0.5**
MSCL				S		**Sn**		**15 47 47.0**	**+1.9**
MSCL				AML		AML			
	comp=E,45350μm,1.0s								
MSCL				AML		AML			
	comp=N,53400μm,1.6s								
MSCL				AML		AML			
	comp=E,45350μm,1.0s								
MSCL				AML		AML			
	comp=N,53400μm,1.6s								
MSCL				AML		AML			
	comp=N,53400μm,1.6s								
MSCL				AML		AML			
	comp=E,45350μm,1.0s								
MSRU	**Castanea**	**0.85**	**298**	*e*P		**Pb**		**15 47 39.3**	**-0.1**
MSRU				AML		AML			
	comp=E,15200μm,1.4s								
MSRU				AML		AML			
	comp=N,13750μm,0.3s								
MSRU				AML		AML			
	comp=E,15200μm,1.4s								
MSRU				AML		AML			
	comp=N,13750μm,0.3s								
MSRU				AML		AML			
	comp=E,15200μm,1.4s								
MSRU				AML		AML			
	comp=N,13750μm,0.3s								
JOPP	**Joppolo**	**0.86**	**328**	P		**Pb**		**15 47 39.9**	**+0.2**
JOPP				S		**Sb**		**15 47 52.6**	**+1.7**
JOPP				AML		AML			
	comp=E,6545μm,0.6s								
JOPP				AML		AML			
	comp=N,11790μm,0.6s								
JOPP				AML		AML			
	comp=E,6545μm,0.6s								
JOPP				AML		AML			
	comp=N,11790μm,0.6s								
JOPP				AML		AML			
	comp=E,6545μm,0.6s								
MPNC	**Port Mandanici**	**0.92**	**288**	*i* P		**Pb**		**15 47 40.3**	**-0.3**
MPNC				AML		AML			
	comp=E,39750μm,0.8s								
MPNC				AML		AML			
	comp=N,33700μm,0.8s								
MPNC				AML		AML			
	comp=E,39750μm,0.8s								
MPNC				AML		AML			
	comp=N,33700μm,0.8s								
MPNC				AML		AML			
	comp=E,39750μm,0.8s								
MPNC				AML		AML			
	comp=N,33700μm,0.8s								
GRI	**Girifalco**	**0.95**	**358**	P		**Pn**		**15 47 41.1**	**+0.8**
GRI	**Girifalco**	**0.95**	**358**	P		**Pb**		**15 47 41.4**	**+0.2**
GRI				AML		AML			
	comp=E,8385μm,0.8s								
GRI				AML		AML			
	comp=N,10490μm,0.4s								
GRI				AML		AML			
	comp=E,8385μm,0.8s								
GRI				AML		AML			
	comp=N,10485μm,0.4s								
GRI				AML		AML			
	comp=N,10485μm,0.4s								
GRI				AML		AML			
	comp=E,8385μm,0.8s								
MCSR	**Castroreale**	**0.98**	**282**	P		**Pb**		**15 47 41.2**	**-0.4**
MCSR				AML		AML			
	comp=E,28900μm,0.3s								
MCSR				AML		AML			
	comp=N,38300μm,0.3s								
MCSR				AML		AML			
	comp=E,28900μm,0.3s								
MCSR				AML		AML			
	comp=N,38300μm,0.3s								
MCSR				AML		AML			
	comp=E,28900μm,0.3s								
MCSR				AML		AML			
	comp=N,38300μm,0.3s								
MILZ	**Milazzo**	**1.05**	**293**	P		**Pn**		**15 47 41.9**	**+0.3**
MILZ				AML		AML			
	comp=E,31400μm,1.1s								
MILZ				AML		AML			
	comp=N,26000μm,0.8s								
MILZ				AML		AML			
	comp=E,31400μm,1.1s								
MILZ				AML		AML			
	comp=N,26000μm,0.8s								
MILZ				AML		AML			
	comp=E,31400μm,1.1s								
MILZ				AML		AML			
	comp=N,26000μm,0.8s								
NOV	**Novara**	**1.06**	**279**	P		**Pb**		**15 47 42.1**	**-0.8**
NOV				AML		AML			
	comp=E,14050μm,0.9s								
NOV				AML		AML			
	comp=N,13350μm,1.2s								
NOV				AML		AML			
	comp=E,14050μm,0.9s								
NOV				AML		AML			
	comp=N,13350μm,1.2s								
NOV				AML		AML			
	comp=E,14050μm,0.9s								
NOV				AML		AML			
	comp=N,13350μm,1.2s								
AGST	**Augusta-Monte**	**1.16**	**238**	*e*P		**Pn**		**15 47 40.5**	**-2.5**
AGST				AML		AML			
	comp=E,56250μm,0.2s								
AGST				AML		AML			
	comp=N,56300μm,0.7s								
AGST				AML		AML			
	comp=E,56250μm,0.2s								
AGST				AML		AML			
	comp=N,56300μm,0.7s								
AGST				AML		AML			
	comp=E,56250μm,0.2s								
AGST				AML		AML			
	comp=N,56300μm,0.7s								
SERS	**Sersale**	**1.18**	**9**	P		**Pn**		**15 47 44.7**	**+1.2**
SERS				AML		AML			
	comp=E,2715μm,1.0s								
SERS				AML		AML			
	comp=N,3185μm,1.5s								
SERS				AML		AML			
	comp=E,3205μm,1.5s								
SERS				AML		AML			
	comp=N,2690μm,1.0s								
SERS				AML		AML			
	comp=E,2715μm,1.0s								
SERS				AML		AML			
	comp=N,3185μm,1.5s								
SERS				AML		AML			
	comp=E,3205μm,1.5s								
SERS				AML		AML			
	comp=N,2690μm,1.0s								
SERS				AML		AML			
	comp=E,3205μm,1.5s								
SERS				AML		AML			
	comp=N,3185μm,1.5s								
SERS				AML		AML			
	comp=E,2715μm,1.0s								
SERS				AML		AML			
	comp=N,2690μm,1.0s								
ESLN	**Serra La Nave**	**1.19**	**262**	P		**Pn**		**15 47 42.2**	**-1.5**
ESLN				AML		AML			
	comp=E,9850μm,0.2s								
ESLN				AML		AML			
	comp=N,8555μm,0.9s								
ESLN				AML		AML			
	comp=E,9850μm,0.2s								
ESLN				AML		AML			
	comp=N,8555μm,0.9s								
ESLN				AML		AML			
	comp=E,9850μm,0.2s								
ESLN				AML		AML			
	comp=N,8555μm,0.9s								
HAGA	**Augusta**	**1.19**	**241**	P		**Pn**		**15 47 41.1**	**-2.4**
HAGA				AML		AML			
	comp=E,51650μm,0.2s								
HAGA				AML		AML			
	comp=N,39350μm,0.7s								
HAGA				AML		AML			
	comp=E,51650μm,0.2s								
HAGA				AML		AML			
	comp=N,39350μm,0.7s								
HAGA				AML		AML			
	comp=N,39350μm,0.7s								
HAGA				AML		AML			
	comp=E,51650μm,0.2s								
MUCR	**Ucria**	**1.27**	**278**	P		**Pn**		**15 47 44.9**	**+0.2**
MUCR				AML		AML			
	comp=E,8155μm,0.7s								
MUCR				AML		AML			
	comp=N,14250μm,0.6s								
MUCR				AML		AML			
	comp=N,14250μm,0.6s								
MUCR				AML		AML			
	comp=E,8155μm,0.7s								
VPL	**Vulcano Piano**	**1.27**	**294**	*e*P		**Pn**		**15 47 44.5**	**-0.1**
VPL				AML		AML			
	comp=E,32150μm,0.3s								
VPL				AML		AML			
	comp=N,34900μm,0.6s								
VPL				AML		AML			
	comp=E,32150μm,0.3s								
VPL				AML		AML			
	comp=N,34900μm,0.6s								
VPL				AML		AML			
	comp=E,32150μm,0.3s								
VPL				AML		AML			
	comp=N,34900μm,0.6s								
HCRL	**Carlentini**	**1.28**	**243**	*e*P		**Pn**		**15 47 42.6**	**-2.2**
HCRL				S		**Sn**		**15 47 57.3**	**-3.5**
HCRL				AML		AML			
	comp=E,41400μm,1.2s								
HCRL				AML		AML			
	comp=N,38650μm,0.2s								
HCRL				AML		AML			
	comp=E,41400μm,1.2s								
HCRL				AML		AML			
	comp=N,38650μm,0.2s								
HCRL				AML		AML			
	comp=N,38650μm,0.2s								
HCRL				AML		AML			
	comp=E,41400μm,1.2s								
SSY	**Sortino**	**1.32**	**237**	P		**Pn**		**15 47 42.8**	**-2.6**
SSY				S		**Sn**		**15 47 57.6**	**-4.2**
SSY				AML		AML			
	comp=E,29400μm,0.5s								
SSY				AML		AML			
	comp=N,59400μm,0.3s								
SSY				AML		AML			
	comp=E,29400μm,0.5s								
SSY				AML		AML			
	comp=N,59400μm,0.3s								
SSY				AML		AML			
	comp=N,59400μm,0.3s								
SSY				AML		AML			
	comp=E,29400μm,0.5s								
TIP	**Timpagrande**	**1.32**	**10**	*e*Pn		**Pn**		**15 47 46.3**	**+0.9**
TIP	**Timpagrande**	**1.32**	**10**	‖ *i* P		**Pn**		**15 47 46.5**	**+1.1**
TIP				S		Sn		15 47 51.8	-10
TIP	**Timpagrande**	**1.32**	**10**	P		**Pn**		**15 47 46.6**	**+1.1**
TIP	**Timpagrande**	**1.32**	**10**	P		**Pn**		**15 47 46.4**	**+0.9**
HLNI	**Lentini**	**1.37**	**248**	P		**Pn**		**15 47 43.8**	**-2.2**
HLNI				AML		AML			
	comp=E,23000μm,0.2s								
HLNI				AML		AML			
	comp=N,20500μm,0.2s								
HLNI				AML		AML			
	comp=E,23000μm,0.2s								
HLNI				AML		AML			
	comp=N,20500μm,0.2s								
MNO	**Monte Soro**	**1.40**	**273**	P		**Pn**		**15 47 47.0**	**+0.5**
MNO	**Monte Soro**	**1.40**	**273**	P		**Pn**		**15 47 47.1**	**+0.5**
MNO				AML		AML			
	comp=E,27400μm,0.8s								
MNO				AML		AML			
	comp=N,22800μm,0.8s								
MNO				AML		AML			
	comp=E,27400μm,0.8s								
MNO				AML		AML			
	comp=N,22750μm,0.8s								
MNO				AML		AML			
	comp=E,27400μm,0.8s								
MNO				AML		AML			
	comp=N,22750μm,0.8s								
HAVL	**Avola**	**1.40**	**230**	P		**Pn**		**15 47 43.9**	**-2.6**
HAVL				AML		AML			

HAVL AML AML
comp=E,44950µm,1.0s
HAVL AML AML
comp=N,58250µm,0.3s
HAVL AML AML
comp=N,58250µm,0.3s
HAVL AML AML
comp=E,44950µm,1.0s
ECNV Catenanuova 1.41 259 P **Pn 15 47 46.3 -0.3**
ECNV AML AML
comp=E,36900µm,0.5s
ECNV AML AML
comp=N,43150µm,0.5s
ECNV AML AML
comp=E,36900µm,0.5s
ECNV AML AML
comp=N,43150µm,0.5s
MEU Monte Lauro 1.44 238 P **Pn 15 47 45.6 -1.5**
MEU S **Sn 15 48 02.5 -2.4**
MEU AML AML
comp=E,97400µm,1.2s
MEU AML AML
MEU AML AML
comp=E,97400µm,1.2s
MEU AML AML
MEU AML AML
MEU AML AML
comp=E,97400µm,1.2s
MSFR San Fratello 1.49 277 *e*P **Pn 15 47 48.3 +0.7**
MSFR AML AML
comp=E,4670µm,0.6s
MSFR AML AML
comp=N,6680µm,0.6s
MSFR AML AML
comp=N,6680µm,0.6s
MSFR AML AML
comp=E,4670µm,0.6s
GALF Gagliano Caste 1.51 264 P **Pn 15 47 48.1 +0.1**
GALF AML AML
comp=E,11000µm,0.6s
GALF AML AML
comp=N,9165µm,0.5s
GALF AML AML
comp=E,11000µm,0.6s
GALF AML AML
comp=N,9165µm,0.5s
CELI Celico 1.53 1 P **Pn 15 47 50.0 +1.7**
HVZN Vizzini 1.55 244 P **Pn 15 47 46.6 -1.9**
HVZN AML AML
HVZN AML AML
HVZN AML AML
HVZN AML AML
HVZN AML AML
HVZN AML AML
CAGR Agira 1.57 261 P **Pn 15 47 49.3 +0.5**
CAGR AML AML
comp=E,15400µm,0.6s
CAGR AML AML
comp=N,17650µm,0.6s
CAGR AML AML
comp=E,15400µm,0.6s
CAGR AML AML
comp=N,17650µm,0.6s
CAGR AML AML
comp=E,15400µm,0.6s
CAGR AML AML
comp=N,17650µm,0.6s
HMDC Modica 1.62 236 P **Pn 15 47 47.3 -2.2**
HMDC AML AML
comp=E,27200µm,0.5s
HMDC AML AML
comp=N,31050µm,0.7s
HMDC AML AML
comp=E,27200µm,0.5s
HMDC AML AML
comp=N,31050µm,0.7s
PIPA Pietrapaola 1.63 10 P **Pn 15 47 51.2 +1.5**
PIPA AML AML
comp=E,3520µm,0.5s
PIPA AML AML
comp=N,2345µm,1.2s
PIPA AML AML
comp=E,3560µm,0.5s
PIPA AML AML
comp=N,2330µm,0.7s
PIPA AML AML
comp=E,3560µm,0.5s
PIPA AML AML
comp=E,3520µm,0.5s
PIPA AML AML
comp=N,2345µm,1.2s
PIPA AML AML
comp=N,2330µm,0.7s
IFIL Filicudi I Eol 1.64 295 AML AML
comp=E,25500µm,0.8s
IFIL AML AML
comp=E,25500µm,0.8s
IFIL AML AML
comp=N,11600µm,0.3s
IFIL AML AML
comp=N,11600µm,0.3s
VAE Valguarnera 1.67 257 Pn **Pn 15 47 49.5 -0.8**
comp=N,39nm,0.3s,baz=116,slow=1.3,SNR=60
VAE Sn **Sn 15 48 09.7 -1.0**
comp=N,160nm,0.3s,baz=356,slow=9.3,SNR=13
CET2 Cetraro 1.70 347 AML AML
comp=E,7730µm,0.4s
CET2 AML AML
comp=E,7730µm,0.4s
CET2 AML AML
comp=N,12600µm,0.7s
CET2 AML AML
comp=N,12600µm,0.7s
IACL Alicudi 1.79 292 AML AML
comp=E,4550µm,1.4s
IACL AML AML
comp=N,4755µm,1.3s
IACL AML AML
comp=E,4550µm,1.4s
IACL AML AML
comp=N,4755µm,1.3s
RAFF Raffo Rosso 1.79 249 P **Pn 15 47 50.6 -1.2**
RAFF AML AML
comp=E,15000µm,0.5s
RAFF AML AML
comp=N,12850µm,0.3s
RAFF AML AML
comp=E,15000µm,0.5s
RAFF AML AML
comp=N,12850µm,0.3s
PETRA Petralia Sopra 1.86 270 AML AML
comp=E,5230µm,0.6s
PETRA AML AML
comp=E,5230µm,0.6s
PETRA AML AML
comp=N,3935µm,1.6s
PETRA AML AML
comp=N,3935µm,1.6s
T0702 Acquaformosa (1.87 351 AML AML
comp=E,1764µm,1.4s
T0702 AML AML
comp=N,1295µm,0.5s
T0702 AML AML
comp=N,1295µm,0.5s
T0702 AML AML
comp=E,1764µm,1.4s
SALB San Lorenzo Be 2.00 357 P **Pn 15 47 56.3 +1.5**
SALB AML AML
comp=E,1560µm,0.3s
SALB AML AML
comp=N,1385µm,1.4s
SALB AML AML
comp=E,1645µm,0.4s
SALB AML AML
comp=N,1440µm,1.5s
SALB AML AML
comp=N,1385µm,1.4s
SALB AML AML
comp=N,1440µm,1.5s
SALB AML AML
comp=E,1645µm,0.4s
SALB AML AML
comp=E,1560µm,0.3s
ALJA Alia 2.15 268 AML AML
comp=N,2245µm,0.8s
ALJA AML AML
comp=E,2150µm,1.5s
ALJA AML AML
comp=E,2150µm,1.5s
ALJA AML AML
comp=N,2245µm,0.8s
CUC Castrocucco 2.18 347 P **Pn 15 47 57.3 +0.1**
CUC AML AML
comp=E,1825µm,0.6s
CUC AML AML
comp=N,1130µm,0.4s
CUC AML AML
comp=E,2235µm,0.6s
CUC AML AML
comp=N,1380µm,0.4s
CUC AML AML
comp=N,1130µm,0.4s
CUC AML AML
comp=E,2235µm,0.6s
CUC AML AML
comp=E,1825µm,0.6s
CUC AML AML
comp=N,1380µm,0.4s
ORI Oriolo Calabro 2.19 360 P **Pn 15 47 59.6 +2.3**
ORI Oriolo Calabro 2.19 360 AML AML
comp=N,4720µm,0.5s
ORI AML AML
comp=E,4855µm,0.4s
ORI AML AML
comp=N,4720µm,0.5s
ORI AML AML
comp=E,4855µm,0.4s
FAVR Favara 2.30 256 AML AML
comp=N,3725µm,0.6s
FAVR AML AML
comp=E,4010µm,0.7s
FAVR AML AML
comp=N,3725µm,0.6s
FAVR AML AML
comp=E,4010µm,0.7s
SOLUN Solunto 2.32 276 AML AML
comp=E,556µm,0.6s
SOLUN AML AML
comp=E,556µm,0.6s
SOLUN AML AML
comp=N,570µm,0.8s
SOLUN AML AML
comp=N,570µm,0.8s
SIRI Monte Sirino - 2.35 349 AML AML
comp=N,1795µm,0.5s
SIRI AML AML
comp=E,2260µm,0.3s
SIRI AML AML
comp=N,1780µm,0.5s
SIRI AML AML
comp=E,2310µm,0.3s
SIRI AML AML
comp=E,2310µm,0.3s
SIRI AML AML
comp=E,2260µm,0.3s
SIRI AML AML
comp=N,1795µm,0.5s
SIRI AML AML
comp=N,1780µm,0.5s
MGR Morigerati 2.37 343 P **Pn 15 48 00.3 +0.6**
MGR AML AML
comp=E,1475µm,1.6s
MGR AML AML
comp=N,1490µm,1.4s
MGR AML AML
comp=E,1475µm,1.6s
MGR AML AML
comp=N,1490µm,1.4s
CRAC Craco 2.49 360 AML AML
comp=E,3625µm,0.5s
CRAC AML AML
comp=N,2190µm,0.6s
CRAC AML AML
comp=N,2190µm,0.6s
CRAC AML AML
comp=E,3625µm,0.5s
CORL Corleone 2.50 271 AML AML
comp=N,2600µm,0.5s
CORL AML AML
comp=E,3240µm,1.6s
CORL AML AML
comp=N,2600µm,0.5s
CORL AML AML
comp=E,3240µm,1.6s
WDD Wied Dalam 2.56 218 *e*Pn **Pn 15 48 00.6 -1.7**
WDD Wied Dalam 2.56 218 P **Pn 15 48 00.4 -1.9**
WDD AML AML
comp=E,6300µm,0.4s
WDD AML AML
comp=N,4665µm,0.3s
WDD AML AML
comp=E,6300µm,0.4s
WDD AML AML
comp=N,4665µm,0.3s
CLTB Caltabellotta 2.59 264 *e*Pn **Pn 15 48 03.2 +0.3**
SLCN Sala Consilina 2.59 346 AML AML
comp=E,3390µm,0.4s
SLCN AML AML
comp=E,3355µm,0.4s
SLCN AML AML
comp=N,2285µm,0.5s
SLCN AML AML
comp=N,2390µm,0.9s
SLCN AML AML
comp=N,2390µm,0.9s
SLCN AML AML
comp=E,3355µm,0.4s
SLCN AML AML
comp=E,3390µm,0.4s
SLCN AML AML
comp=N,2285µm,0.5s
CMPR Campora 2.60 340 AML AML
comp=E,1108µm,0.3s
CMPR AML AML
comp=E,1108µm,0.3s
CMPR AML AML
comp=N,785µm,0.7s
CMPR AML AML
comp=N,785µm,0.7s
SCTE Santa Cesarea 2.70 35 P **Pn 15 48 04.2 0.0**
SCTE AML AML
comp=E,1265µm,0.1s
SCTE AML AML
comp=N,1100µm,0.2s
SCTE AML AML
comp=E,1265µm,0.1s
SCTE AML AML
comp=N,1100µm,0.2s
USI Ustica 2.71 289 AML AML
comp=N,1620µm,0.9s
USI AML AML
comp=E,1285µm,0.7s
USI AML AML
comp=N,1620µm,0.9s
USI AML AML
comp=E,1285µm,0.7s
TAR1 Taranto 2.73 13⇑*i*Pn **Pn 15 48 04.5 -0.1**
TAR1 Sn **Sn 15 48 35.6 -0.9**
MIGL Miglionico 2.73 360 AML AML
comp=E,5145µm,0.9s
MIGL AML AML
comp=N,4550µm,0.5s
MIGL AML AML
comp=N,4550µm,0.5s
MIGL AML AML
comp=E,5145µm,0.9s
LTRZ Laterza 2.74 6 P **Pn 15 48 05.0 +0.1**
LTRZ AML AML
comp=E,3475µm,0.7s
LTRZ AML AML
comp=N,3495µm,0.5s
LTRZ AML AML
comp=N,3495µm,0.5s
LTRZ AML AML
comp=E,3475µm,0.7s
MATE Matera 2.78 4⇓*i*P **Pn 15 48 05.5 +0.1**
MATE Matera 2.78 4 S **Sn 15 48 34.4 -3.4**
MATE Matera 2.78 4 AML AML
comp=E,2090µm,1.1s
MATE AML AML
comp=N,2485µm,0.3s
MATE AML AML
comp=E,2090µm,1.1s
MATE AML AML
comp=N,2485µm,0.3s
MASS Massafra 2.81 11⇑*i*Pn **Pn 15 48 05.7 -0.1**
MASS Sn **Sn 15 48 38.0 -0.5**
PZUN Potenza 2.81 350 AML AML
comp=E,1190µm,0.4s
PZUN AML AML
comp=E,1190µm,0.4s
PZUN AML AML
comp=N,1570µm,0.3s
PZUN AML AML
comp=N,1570µm,0.3s
CGL1 Ceglie Messapi 2.89 16⇑*i*Pn **Pn 15 48 06.8 -0.1**
CGL1 Sn **Sn 15 48 39.4 -1.1**
MESG Mesagne 2.92 21 P **Pn 15 48 07.1 -0.2**
MESG AML AML
comp=E,3475µm,1.4s
MESG AML AML
comp=N,4945µm,0.4s
MESG AML AML
comp=E,3475µm,1.4s
MESG AML AML
comp=N,4945µm,0.4s
ACER Acerenza 2.94 352 AML AML
comp=E,2750µm,1.3s
ACER AML AML
comp=E,2750µm,1.3s
ACER AML AML
comp=N,2220µm,0.4s
ACER AML AML
comp=E,2855µm,1.3s
ACER AML AML
comp=N,2305µm,0.4s
ACER AML AML
comp=E,2855µm,1.3s
ACER AML AML
comp=N,2305µm,0.4s
ACER AML AML
comp=N,2220µm,0.4s
NOCI Noci 2.95 9 P **Pn 15 48 07.3 -0.4**
NOCI AML AML
comp=E,4280µm,0.5s
NOCI AML AML
comp=N,4980µm,0.1s
NOCI AML AML
comp=N,4980µm,0.1s
NOCI AML AML
comp=E,4280µm,0.5s
SG1 Sgolgore (BA) 2.97 3⇓*i*Pn **Pn 15 48 08.2 +0.2**
SG1 Sn **Sn 15 48 42.9 +0.4**
MRLC Muro Lucano 2.98 346 AML AML
comp=E,814µm,1.3s
MRLC AML AML
comp=N,986µm,1.1s
MRLC AML AML
comp=E,854µm,1.3s
MRLC AML AML
comp=N,1069µm,1.1s
MRLC AML AML
comp=N,1069µm,1.1s
MRLC AML AML
comp=E,854µm,1.3s
MRLC AML AML
comp=N,986µm,1.1s
MRLC AML AML
comp=E,814µm,1.3s
FASA Fasano 3.02 13⇑*i*Pn **Pn 15 48 08.4 -0.3**
FASA Sn **Sn 15 48 42.7 -1.0**
AMUR Altamura 3.03 2 P **Pn 15 48 09.2 +0.3**
AMUR AML AML
comp=E,3220µm,0.7s
AMUR AML AML
comp=N,3285µm,1.3s
AMUR AML AML
comp=E,3220µm,0.7s
AMUR AML AML
comp=N,3285µm,1.3s
PALZ Palazzo San Ge 3.09 353 AML AML
comp=N,1465µm,1.5s
PALZ AML AML
comp=E,1450µm,1.4s
PALZ AML AML
comp=N,1465µm,1.5s
PALZ AML AML
comp=E,1450µm,1.4s
VULT Monte Vulture 3.15 348 AML AML
comp=E,1085µm,0.2s
VULT AML AML
comp=E,1085µm,0.2s
VULT AML AML
comp=N,1500µm,1.5s
VULT AML AML
comp=N,1500µm,1.5s
KEK Kerkira 3.19 54 P **Pn 15 48 10.1 -0.9**
KEK Kerkira 3.19 54 P **Pn 15 48 09.9 -1.1**
KEK AML AML
comp=E,628µm,0.4s
KEK AML AML
comp=N,490µm,0.5s
KEK AML AML
comp=N,490µm,0.5s
KEK AML AML
comp=E,628µm,0.4s
MRVN Minervino Murg 3.19 356 AML AML
comp=N,1575µm,0.2s
MRVN AML AML
comp=E,1290µm,0.5s
MRVN AML AML
comp=N,1575µm,0.2s
MRVN AML AML
comp=E,1290µm,0.5s
SNAL S. Angelo Dei 3.20 343 AML AML
comp=E,1005µm,0.8s
SNAL AML AML
comp=E,1005µm,0.8s
SNAL AML AML
comp=N,986µm,1.4s
SNAL AML AML
comp=N,986µm,1.4s
BAI Bari 3.25 6⇓*i*Pn **Pn 15 48 11.6 -0.2**
BAI Sn **Sn 15 48 45.7 -3.6**
VLS Valsamata 3.27 83 P **Pn 15 48 11.4 -0.8**
VLS Valsamata 3.27 83 P **Pn 15 48 11.3 -0.8**
VLS AML AML
comp=E,1280µm,0.4s
VLS AML AML
comp=N,1190µm,0.8s
VLS AML AML
comp=N,1190µm,0.8s
VLS AML AML
comp=E,1280µm,0.4s
CAFE Carife 3.29 344 AML AML
comp=E,852µm,1.5s
CAFE AML AML
comp=E,880µm,0.5s
CAFE AML AML
comp=N,684µm,0.7s
CAFE AML AML
comp=E,852µm,1.5s
CAFE AML AML
comp=N,804µm,0.7s
CAFE AML AML
comp=E,880µm,0.5s
CAFE AML AML
comp=N,804µm,0.7s
CAFE AML AML
comp=N,684µm,0.7s
SGTA Sant Agata di 3.37 346 AML AML
comp=E,608µm,0.4s
SGTA AML AML
comp=E,674µm,1.0s
SGTA AML AML
comp=N,555µm,1.3s
SGTA AML AML
comp=N,493µm,1.3s
SGTA AML AML
comp=N,493µm,1.3s
SGTA AML AML
comp=N,555µm,1.3s
SGTA AML AML
comp=E,674µm,1.0s
SGTA AML AML
comp=E,608µm,0.4s
SRN Sarande 3.41 53 P **Pn 15 48 13.2 -0.9**
SRN Sarande 3.41 53 AML AML
comp=N,1355µm,0.5s
SRN AML AML
comp=E,1140µm,0.4s
SRN AML AML
comp=N,1355µm,0.5s

SRN					AML	AML				
	comp=E,1140µm,0.4s									
LKD2	**Lefkada island**	**3.42**	**73**		P	**Pn**	**15 48 14.0**	**-0.3**		
PAOL	**Paolisi**	**3.48**	**336**		AML	AML				
	comp=N,405µm,0.4s									
PAOL					AML	AML				
	comp=E,1010µm,0.4s									
PAOL					AML	AML				
	comp=N,1025µm,0.4s									
PAOL					AML	AML				
	comp=E,311µm,1.6s									
PAOL					AML	AML				
	comp=N,405µm,0.4s									
PAOL					AML	AML				
	comp=E,311µm,1.6s									
PAOL					AML	AML				
	comp=N,1025µm,0.4s									
PAOL					AML	AML				
	comp=E,1010µm,0.4s									
VLO	**Vlora**	**3.50**	**41**		P	**Pn**	**15 48 15.6**	**+0.3**		
VLO	**Vlora**	**3.50**	**41**		P	**Pn**	**15 48 15.6**	**+0.3**		
VLO	**Vlora**	**3.50**	**41**		AML	AML				
	comp=N,5355µm,0.3s									
VLO					AML	AML				
	comp=E,3610µm,1.5s									
VLO					AML	AML				
	comp=N,5355µm,0.3s									
VLO					AML	AML				
	comp=E,3610µm,1.5s									
PSB1	**Pescosannita**	**3.58**	**340**		AML	AML				
	comp=N,378µm,0.7s									
PSB1					AML	AML				
	comp=E,414µm,1.6s									
PSB1					AML	AML				
	comp=N,378µm,0.7s									
PSB1					AML	AML				
	comp=E,414µm,1.6s									
TPE	**Tepelena**	**3.67**	**48**		P	**Pn**	**15 48 17.1**	**-0.5**		
PTMD	**Pantelleria Cu**	**3.72**	**254**		AML	AML				
	comp=E,730µm,1.6s									
PTMD					AML	AML				
	comp=N,1420µm,0.5s									
PTMD					AML	AML				
	comp=E,730µm,1.6s									
PTMD					AML	AML				
	comp=N,1420µm,0.5s									
PTRJ	**Pietraroja**	**3.79**	**337**		AML	AML				
	comp=N,942µm,0.5s									
PTRJ					AML	AML				
	comp=E,656µm,0.5s									
PTRJ					AML	AML				
	comp=N,942µm,0.5s									
PTRJ					AML	AML				
	comp=E,656µm,0.5s									
MSAG	**Monte S. Angel**	**3.86**	**354**		AML	AML				
	comp=E,1012µm,0.6s									
MSAG					AML	AML				
	comp=E,1012µm,0.6s									
MSAG					AML	AML				
	comp=N,2325µm,0.5s									
MSAG					AML	AML				
	comp=E,1063µm,0.6s									
MSAG					AML	AML				
	comp=N,2400µm,0.5s									
MSAG					AML	AML				
	comp=E,1063µm,0.6s									
MSAG					AML	AML				
	comp=N,2400µm,0.5s									
MSAG					AML	AML				
	comp=N,2325µm,0.5s									
JAN	**Janina**	**3.87**	**61**		P	**Pn**	**15 48 20.3**	**-0.1**		
JAN	**Janina**	**3.87**	**61**		P	**Pn**	**15 48 20.3**	**-0.1**		
RLS	**Riolos of Patr**	**3.96**	**86**		P	**Pn**	**15 48 17.5**	**-4.1**		
MELA	**Melanico ??? S**	**3.96**	**345**		AML	AML				
	comp=E,865µm,0.5s									
MELA					AML	AML				
	comp=N,1067µm,0.5s									
MELA					AML	AML				
	comp=N,1067µm,0.5s									
MELA					AML	AML				
	comp=E,865µm,0.5s									
PVO	**Paravola**	**4.06**	**78**		P	**Pn**	**15 48 23.8**	**+0.9**		
DRO	**Drossia**	**4.15**	**87**		P	Pn	15 48 19.1	-5.2		
CERA	**Filignano**	**4.17**	**334**		AML	AML				
	comp=E,188µm,1.0s									
CERA					AML	AML				
	comp=N,219µm,1.1s									
CERA					AML	AML				
	comp=E,188µm,1.0s									
CERA					AML	AML				
	comp=N,219µm,1.1s									
PYL	**PYLOS**	**4.32**	**101**		P	**Pn**	**15 48 25.9**	**-0.6**		
PENT	**Pentalofos**	**4.32**	**56**		P	**Pn**	**15 48 28.2**	**+1.6**		
EFP	**Efpalio**	**4.33**	**81**		P	**Pn**	**15 48 28.3**	**+1.6**		
EVR	**Evrytania**	**4.33**	**74**		P	**Pn**	**15 48 28.1**	**+1.3**		
KPRO	**Kipourio**	**4.35**	**60**		P	**Pn**	**15 48 29.0**	**+1.9**		
TIR	**Tirane**	**4.35**	**36**		ePn	**Pn**	**15 48 26.8**	**-0.2**		
TIR	**Tirane**	**4.35**	**36**	1⇑	iP	**Pn**	**15 48 27.3**	**+0.2**		
TIR	**Tirane**	**4.35**	**36**		S	**Sn**	**15 49 10.8**	**-5.8**		
TIR	**Tirane**	**4.35**	**36**		P	**Pn**	**15 48 27.2**	**+0.2**		
TIR	**Tirane**	**4.35**	**36**		eP	**Pn**	**15 48 26.8**	**-0.2**		
TIR	**Tirane**	**4.35**	**36**		AML	AML				
	comp=E,1495µm,0.5s									
TIR					AML	AML				
	comp=E,1495µm,0.5s									
TIR					AML	AML				
	comp=N,1380µm,1.1s									
TIR					AML	AML				
	comp=N,1380µm,1.1s									
ANX	**Ano Chora**	**4.36**	**79**		P	**Pn**	**15 48 28.0**	**+0.8**		
LAKA	**Lakka**	**4.37**	**83**		P	**Pn**	**15 48 25.0**	**-2.3**		
NEST	**Nestorio**	**4.38**	**53**		P	**Pn**	**15 48 29.3**	**+1.9**		
ITM	**Ithomi**	**4.40**	**97**		eP	**Pn**	**15 48 28.2**	**+0.5**		
ITM	**Ithomi**	**4.40**	**97**		ePn	**Pn**	**15 48 27.4**	**-0.3**		
ITM	**Ithomi**	**4.40**	**97**		P	**Pn**	**15 48 27.7**	**0.0**		
ITM	**Ithomi**	**4.40**	**97**		AML	AML				
	comp=E,152µm,0.6s									
ITM					AML	AML				
	comp=N,166µm,0.4s									
ITM					AML	AML				
	comp=E,152µm,0.6s									
ITM					AML	AML				
	comp=N,166µm,0.4s									
SERG	**Sergoula**	**4.44**	**81**		P	**Pn**	**15 48 27.5**	**-0.8**		
TRIZ	**Trizonia**	**4.45**	**82**		P	**Pn**	**15 48 26.9**	**-1.5**		
ALIK	**Aliki, Aigiali**	**4.48**	**83**		P	**Pn**	**15 48 26.9**	**-1.8**		
KLV	**Kalavryta, Ach**	**4.50**	**86**		P	**Pn**	**15 48 25.0**	**-4.1**		
KLV	**Kalavryta, Ach**	**4.50**	**86**		AML	AML				
	comp=N,634µm,0.8s									
KLV					AML	AML				
	comp=E,518µm,1.0s									
KLV					AML	AML				
	comp=N,634µm,0.8s									
KLV					AML	AML				
	comp=E,518µm,1.0s									
INTR	**Introdacqua**	**4.58**	**335**		AML	AML				
	comp=E,231µm,0.9s									
INTR					AML	AML				
	comp=E,93050µm,1.4s									
INTR					AML	AML				
INTR					AML	AML				
	comp=N,332µm,0.9s									
INTR					AML	AML				
	comp=N,332µm,0.9s									
INTR					AML	AML				
	comp=E,231µm,0.9s									
INTR					AML	AML				
INTR					AML	AML				
	comp=E,93050µm,1.4s									
ULC	**Ulcinj**	**4.61**	**27**	1⇓	iPn	**Pn**	**15 48 29.2**	**-1.4**		
ULC					iSn	**Sn**	**15 49 19.3**	**-3.7**		
ULC	**Ulcinj**	**4.61**	**27**		P	**Pn**	**15 48 29.7**	**-0.9**		
GUR	**Goura**	**4.65**	**87**		P	**Pn**	**15 48 27.5**	**-3.7**		
OHR	**Ohrid**	**4.66**	**45**		iPn	**Pn**	**15 48 31.4**	**+0.2**		
OHR					iSn	**Sn**	**15 49 24.2**	**-0.1**		
THL	**Klokotos Trika**	**4.66**	**67**		P	**Pn**	**15 48 31.2**	**0.0**		
VLX	**Vlachokerasia**	**4.72**	**94**		P	**Pn**	**15 48 32.7**	**+0.5**		
AGG	**Agios Georgios**	**4.75**	**74**		eP	**Pn**	**15 48 33.8**	**+1.3**		
AGG	**Agios Georgios**	**4.75**	**74**		ePn	**Pn**	**15 48 33.4**	**+0.9**		
AGG	**Agios Georgios**	**4.75**	**74**		P	**Pn**	**15 48 33.9**	**+1.4**		
AGG	**Agios Georgios**	**4.75**	**74**		P	**Pn**	**15 48 33.9**	**+1.4**		
DRME	**Dracevica, Mon**	**4.79**	**25**	1⇑	iPn	**Pn**	**15 48 31.9**	**-1.1**		
DRME					iSn	**Sn**	**15 49 24.1**	**-3.3**		
DRME	**Dracevica, Mon**	**4.79**	**25**		ePn	**Pn**	**15 48 31.8**	**-1.2**		
FNA	**Florina**	**4.79**	**51**		eP	**Pn**	**15 48 33.8**	**+0.7**		
FNA	**Florina**	**4.79**	**51**		ePn	**Pn**	**15 48 33.0**	**-0.1**		
FNA	**Florina**	**4.79**	**51**		P	**Pn**	**15 48 33.2**	**+0.1**		
FNA	**Florina**	**4.79**	**51**		P	**Pn**	**15 48 33.0**	**-0.1**		
KZN	**Kozani**	**4.79**	**58**		P	**Pn**	**15 48 33.7**	**+0.6**		
KZN	**Kozani**	**4.79**	**58**		P	**Pn**	**15 48 33.7**	**+0.6**		
BUM	**Brajici-Budva**	**4.80**	**22**	1⇓	iPn	**Pn**	**15 48 32.3**	**-0.9**		
BUM					iSn	**Sn**	**15 49 23.7**	**-4.0**		
DSF	**Desfina**	**4.81**	**82**		P	**Pn**	**15 48 32.7**	**-0.7**		
HCY	**Herceg Novi**	**4.83**	**18**	1⇑	iPn	**Pn**	**15 48 32.5**	**-1.1**		
HCY					iSn	**Sn**	**15 49 24.2**	**-4.1**		
HCY	**Herceg Novi**	**4.83**	**18**		P	**Pn**	**15 48 32.7**	**-0.8**		
HCY	**Herceg Novi**	**4.83**	**18**		ePn	**Pn**	**15 48 32.4**	**-1.1**		
PHP	**Peshkopia**	**4.89**	**38**		P	**Pn**	**15 48 35.3**	**+0.9**		
BIA	**Bitola**	**4.90**	**49**		iPn	**Pn**	**15 48 36.5**	**+1.9**		
AXAR	**Agios Charalam**	**4.96**	**78**		P	**Pn**	**15 48 38.6**	**+3.3**		
PDG	**Podgorica**	**5.03**	**24**	1⇑	iP	**Pn**	**15 48 35.7**	**-0.6**		
PDG	**Podgorica**	**5.03**	**24**		S	**Sn**	**15 49 27.2**	**-6.1**		
PDG	**Podgorica**	**5.03**	**24**		ePn	**Pn**	**15 48 35.6**	**-0.7**		
TTG	**Podgorica**	**5.03**	**24**	1⇑	iPn	**Pn**	**15 48 35.9**	**-0.4**		
TTG					iSn	**Sn**	**15 49 30.8**	**-2.5**		
TTG	**Podgorica**	**5.03**	**24**		ePn	**Pn**	**15 48 35.6**	**-0.7**		
TTG	**Podgorica**	**5.03**	**24**		eP	**Pn**	**15 48 35.6**	**-0.7**		
CEME	**Cevo**	**5.03**	**21**	1⇑	iPn	**Pn**	**15 48 35.4**	**-1.0**		
CEME					iSn	**Sn**	**15 49 29.1**	**-4.4**		
TREB	**Trebinje**	**5.05**	**16**		ePn	**Pn**	**15 48 35.3**	**-1.3**		
AQU	**L'Aquila**	**5.05**	**333**		ePn	**Pn**	**15 48 37.7**	**+1.0**		
AQU	**L'Aquila**	**5.05**	**333**		eP	**Pn**	**15 48 37.7**	**+1.0**		
STON	**Ston**	**5.08**	**10**		ePn	**Pn**	**15 48 36.0**	**-1.0**		
STON					Sn	**Sn**	**15 49 30.0**	**-4.5**		
STON	**Ston**	**5.08**	**10**		ePn	**Pn**	**15 48 36.1**	**-0.9**		
KRUS	**Krusevo**	**5.08**	**45**		iPn	**Pn**	**15 48 36.9**	**-0.2**		
LIT	**Litokhoron**	**5.20**	**63**		ePn	**Pn**	**15 48 38.8**	**+0.2**		
LIT	**Litokhoron**	**5.20**	**63**		P	**Pn**	**15 48 39.2**	**+0.6**		
LIT	**Litokhoron**	**5.20**	**63**		eP	**Pn**	**15 48 38.8**	**+0.2**		
LKR	**Lokris**	**5.20**	**79**		P	**Pn**	**15 48 38.4**	**-0.3**		
ATAL	**Atalanti**	**5.23**	**79**		P	**Pn**	**15 48 39.5**	**+0.5**		
NKME	**Niksic**	**5.25**	**20**	1⇓	iPn	**Pn**	**15 48 38.7**	**-0.6**		
NKME					iSn	**Sn**	**15 49 34.3**	**-4.4**		
BRY	**Bratogost**	**5.27**	**17**	1⇓	iPn	**Pn**	**15 48 38.9**	**-0.8**		
BRY					iSn	**Sn**	**15 49 36.0**	**-3.4**		
BRY	**Bratogost**	**5.27**	**17**		P	**Pn**	**15 48 39.2**	**-0.5**		
BRY	**Bratogost**	**5.27**	**17**		ePn	**Pn**	**15 48 38.6**	**-1.1**		
VLI	**Veliai**	**5.29**	**101**		P	**Pn**	**15 48 40.7**	**+0.8**		
FYTO	**Fytoko, Volos**	**5.30**	**71**		P	**Pn**	**15 48 40.1**	**+0.1**		
NKY	**Niksic**	**5.30**	**21**	1⇓	iPn	**Pn**	**15 48 39.7**	**-0.4**		
NKY					iSn	**Sn**	**15 49 36.7**	**-3.4**		
NKY	**Niksic**	**5.30**	**21**		P	**Pn**	**15 48 40.1**	**0.0**		
DID	**Didima**	**5.39**	**92**		P	**Pn**	**15 48 40.7**	**-0.6**		
SMIA	**Simia**	**5.40**	**77**		P	**Pn**	**15 48 41.8**	**+0.4**		
VILL	**Villia**	**5.42**	**85**		P	**Pn**	**15 48 42.2**	**+0.5**		
PVY	**Plav**	**5.42**	**28**	1⇑	iPn	**Pn**	**15 48 42.6**	**+0.8**		
PVY					iSn	**Sn**	**15 49 40.7**	**-2.4**		
KTHR	**Kythira**	**5.47**	**105**		P	**Pn**	**15 48 42.4**	**0.0**		
XOR	**Xorichti**	**5.48**	**72**		P	**Pn**	**15 48 41.9**	**-0.6**		
NEO	**Neokhori**	**5.49**	**73**		P	**Pn**	**15 48 42.4**	**-0.2**		
KOME	**Kolasin**	**5.49**	**24**	1⇓	iPn	**Pn**	**15 48 43.3**	**+0.6**		
KOME					eSn	**Sn**	**15 49 45.0**	**+0.2**		
KYTH	**Kithira**	**5.50**	**105**		P	**Pn**	**15 48 42.9**	**0.0**		
SKO	**Skopje**	**5.60**	**42**		iPn	**Pn**	**15 48 44.4**	**+0.2**		
SKO	**Skopje**	**5.60**	**42**		P	**Pn**	**15 48 44.5**	**+0.3**		
IVA	**Berane**	**5.64**	**27**	1⇓	iPn	**Pn**	**15 48 46.1**	**+1.3**		
IVA					iSn	**Sn**	**15 49 48.0**	**-0.4**		
UPM	**Unac-Piva**	**5.64**	**18**		ePn	**Pn**	**15 48 45.2**	**+0.3**		
UPM					eSn	**Sn**	**15 49 48.6**	**0.0**		
VLY	**Voula,Athens**	**5.80**	**88**		P	**Pn**	**15 48 46.2**	**-0.7**		
HORT	**Hortiatis**	**5.83**	**60**		eP	**Pn**	**15 48 46.6**	**-0.7**		
STIP	**Stip**	**5.83**	**47**		iPn	**Pn**	**15 48 49.3**	**+2.0**		
VAY	**Valandovo**	**5.84**	**52**		iPn	**Pn**	**15 48 47.6**	**+0.1**		
VAY					iSn	**Sn**	**15 49 50.8**	**-2.5**		
VAY	**Valandovo**	**5.84**	**52**		P	**Pn**	**15 48 47.7**	**+0.3**		
PTL	**Penteli**	**5.85**	**86**		P	**Pn**	**15 48 47.8**	**+0.1**		
PLE	**Pljevlja**	**5.89**	**21**	1⇓	iPn	**Pn**	**15 48 49.5**	**+1.2**		
PLE					iSn	**Sn**	**15 49 53.9**	**-0.7**		
PLE	**Pljevlja**	**5.89**	**21**		P	**Pn**	**15 48 49.4**	**+1.2**		
AOS	**Alonnisos**	**5.96**	**75**		eP	**Pn**	**15 48 49.3**	**+0.2**		
KNT	**Kendrikon**	**5.96**	**55**		eP	**Pn**	**15 48 50.4**	**+1.3**		
KNT	**Kendrikon**	**5.96**	**55**		P	**Pn**	**15 48 48.3**	**-0.8**		
KNT	**Kendrikon**	**5.96**	**55**		P	**Pn**	**15 48 50.0**	**+0.9**		
KNT					pmax	pmax				
	comp=Z,17nm,0.7s									
PLG	**Polygyros**	**5.98**	**63**		P	**Pn**	**15 48 48.5**	**-0.9**		
PLG	**Polygyros**	**5.98**	**63**		P	**Pn**	**15 48 48.5**	**-0.9**		
PAIG	**Paliouri**	**5.99**	**68**		P	**Pn**	**15 48 48.5**	**-1.0**		
PAIG	**Paliouri**	**5.99**	**68**		P	**Pn**	**15 48 48.5**	**-1.0**		
KEST	**Kesra**	**6.10**	**252**		ePn	**Pn**	**15 48 51.0**	**0.0**		
KEST					Sn	**Sn**	**15 49 57.2**	**-2.5**		
KEST	**Kesra**	**6.10**	**252**		Pn	**Pn**	**15 48 50.4**	**-0.6**		
	comp=Z,4.4nm,0.3s,baz=32,slow=4.8,SNR=39									
KEST					Sn	**Sn**	**15 49 57.2**	**-2.5**		
	comp=Z,2.6nm,0.3s,baz=36,slow=19,SNR=4.0									
SOH	**Sokhos**	**6.10**	**59**		P	**Pn**	**15 48 53.0**	**+1.9**		
SOH	**Sokhos**	**6.10**	**59**		P	**Pn**	**15 48 51.8**	**+0.7**		
SOH					pmax	pmax				
	comp=Z,27nm,0.7s									
OUR	**Ouranopolis**	**6.34**	**65**		eP	**Pn**	**15 48 53.5**	**-0.8**		
SRS	**Serrai**	**6.40**	**57**		P	**Pn**	**15 48 55.8**	**+0.7**		
SRS					pmax	pmax				
	comp=Z,13nm,0.7s									
HAPS	**Han Pijesak,Bl**	**6.49**	**16**		ePn	**Pn**	**15 48 55.5**	**-0.9**		
IMMV	**Iera Moni Meta**	**6.50**	**109**		eP	**Pn**	**15 48 55.4**	**-1.2**		
NVLJ	**Novalja**	**6.79**	**350**		ePn	**Pn**	**15 49 00.8**	**+0.4**		
GVD	**Gavdhos**	**6.86**	**114**		eP	**Pn**	**15 49 00.1**	**-1.3**		
BLY	**Banja Luka**	**6.89**	**4**		ePn	**Pn**	**15 49 02.6**	**+0.8**		
BLY	**Banja Luka**	**6.89**	**4**	1⇓	iP	**Pn**	**15 49 02.6**	**+0.8**		
BLY	**Banja Luka**	**6.89**	**4**		eP	**Pn**	**15 49 02.5**	**+0.6**		
DOB	**Doboj**	**6.96**	**10**		ePn	**Pn**	**15 49 02.7**	**-0.1**		
VTS	**Vitosha**	**7.02**	**45**		ePn	**Pn**	**15 49 02.7**	**-1.0**		
VTS	**Vitosha**	**7.02**	**45**	1⇓	iP	**Pn**	**15 49 02.8**	**-1.0**		
VTS	**Vitosha**	**7.02**	**45**		S	**Sn**	**15 50 17.5**	**-5.0**		
VTS	**Vitosha**	**7.02**	**45**		eP	**Pn**	**15 49 02.7**	**-1.0**		
BLJ	**Bijeljina**	**7.22**	**16**		ePn	**Pn**	**15 49 03.9**	**-2.4**		
IDI	**Anoyia**	**7.25**	**103**		Pn	**Pn**	**15 49 05.1**	**-1.8**		
	comp=Z,2.5nm,0.3s,baz=329,slow=13,SNR=39									
IDI					Sn	**Sn**	**15 50 21.4**	**-6.8**		
	comp=Z,14nm,0.3s,baz=91,slow=19,SNR=20									
APE	**Apeiranthos**	**7.26**	**94**		eP	**Pn**	**15 49 05.6**	**-1.4**		
APE	**Apeiranthos**	**7.26**	**94**	1⇓	iP	**Pn**	**15 49 05.6**	**-1.4**		
APE	**Apeiranthos**	**7.26**	**94**		ceP	**Pn**	**15 49 06.4**	**-0.6**		
SANT	**Santorini**	**7.34**	**99**		eP	**Pn**	**15 49 06.8**	**-1.3**		
SANT	**Santorini**	**7.34**	**99**		ePn	**Pn**	**15 49 07.2**	**-0.9**		
SANT	**Santorini**	**7.34**	**99**	1⇓	iP	**Pn**	**15 49 07.4**	**-0.7**		
PGF	**Pioggiola**	**7.38**	**312**		eSn	**Sn**	**15 50 27.4**	**-3.8**		
	comp=Z,1.1nm,0.2s									
SIGR	**SIGRI**	**7.48**	**77**		eP	**Pn**	**15 49 09.0**	**-1.0**		
BEO	**Beograd**	**7.56**	**22**		P	**Pn**	**15 49 09.9**	**-1.1**		
CHOS	**Chios island**	**7.58**	**83**		eP	**Pn**	**15 49 11.1**	**-0.3**		
RIY	**Rijeka**	**7.59**	**349**		ePn	**Pn**	**15 49 13.4**	**+1.9**		
PLD	**Plovdiv**	**7.61**	**54**		eP	**Pn**	**15 49 12.9**	**+1.2**		
PLD	**Plovdiv**	**7.61**	**54**		P	**Pn**	**15 49 13.3**	**+1.6**		
BOJS	**Bojanci**	**7.68**	**354**		iPn	**Pn**	**15 49 14.2**	**+1.6**		
BOJS					iSn	**Sn**	**15 50 35.9**	**-2.5**		
BOZC	**Bozcaada**	**7.74**	**72**		eP	**Pn**	**15 49 13.1**	**-0.4**		
BOZC	**Bozcaada**	**7.74**	**72**		iP	**Pn**	**15 49 14.3**	**+0.9**		
BOZC					IAML_P					
	comp=Z,792nm,0.3s									
RDO	**Rodhopi**	**7.74**	**62**		eP	**Pn**	**15 49 12.7**	**-0.8**		
OZLJ	**Ozalj**	**7.77**	**355**		iPn	**Pn**	**15 49 15.1**	**+1.2**		
ZEY	**zmir**	**7.93**	**84**		iP	**Pn**	**15 49 16.6**	**+0.5**		
ZEY					IAML_P					
	comp=Z,1µm,0.3s									
MDVR	**Moldovita**	**7.95**	**28**	1⇑	iP	**Pn**	**15 49 15.4**	**-1.0**		
MDVR	**Moldovita**	**7.95**	**28**		S	**Sn**	**15 50 39.1**	**-6.2**		
ZAG	**Zagreb**	**7.96**	**358**		ePn	**Pn**	**15 49 17.0**	**+0.6**		
CRES	**Cresnjev**	**7.98**	**355**		iPn	**Pn**	**15 49 17.7**	**+0.9**		
CRES					iSn	**Sn**	**15 50 42.4**	**-3.6**		
CRES	**Cresnjev**	**7.98**	**355**		ePn	**Pn**	**15 49 17.3**	**+0.5**		
URLA	**Izmir**	**8.00**	**83**		eP	**Pn**	**15 49 18.2**	**+1.0**		
URLA	**Izmir**	**8.00**	**83**		iP	**Pn**	**15 49 18.0**	**+0.9**		
URLA					IAML_P					
	comp=Z,900nm,0.3s									
CEY	**Cerknica**	**8.01**	**350**		ePn	**Pn**	**15 49 17.8**	**+0.6**		
ALN	**Alexandroupoli**	**8.01**	**65**		eP	**Pn**	**15 49 15.9**	**-1.3**		
ALN	**Alexandroupoli**	**8.01**	**65**		ePn	**Pn**	**15 49 16.5**	**-0.7**		
ALN	**Alexandroupoli**	**8.01**	**65**		eP	**Pn**	**15 49 15.5**	**-0.7**		
VISS	**Visnje**	**8.02**	**352**		iPn	**Pn**	**15 49 18.6**	**+1.3**		
VISS					iSn	**Sn**	**15 50 43.8**	**-3.0**		
ENEZ	**Enez**	**8.04**	**66**		eP	**Pn**	**15 49 16.8**	**-0.8**		
BAYC	**CANAKKALE_Bayr**	**8.09**	**74**		iP	**Pn**	**15 49 19.0**	**+0.6**		
BAYC					IAML_P					
	comp=Z,1µm,0.4s									
AYVA	**Ayvalik**	**8.14**	**77**		iP	**Pn**	**15 49 20.4**	**+1.4**		
AYVA					IAML_P					
	comp=Z,481nm,0.3s									
GELI	**Tayfur-Gelibol**	**8.18**	**69**		eP	**Pn**	**15 49 23.1**	**+3.6**		
JAVS	**Javornik**	**8.21**	**348**		iPn	**Pn**	**15 49 21.0**	**+0.9**		
ERIK	**Erikli-Kesan**	**8.28**	**67**		eP	**Pn**	**15 49 21.1**	**+0.2**		
LJU	**Ljubljana**	**8.29**	**351**		ePn	**Pn**	**15 49 22.2**	**+1.1**		
HERR	**Herculane**	**8.31**	**31**	1⇓	iP	**Pn**	**15 49 20.2**	**-1.1**		
HERR	**Herculane**	**8.31**	**31**		S	**Sn**	**15 50 47.4**	**-6.5**		
ZKR	**Zakros**	**8.32**	**106**		eP	**Pn**	**15 49 22.3**	**+0.7**		
LPK	**Lapseki**	**8.38**	**69**		eP	**Pn**	**15 49 24.3**	**+1.9**		
ZEDA	**zmir-Bergama**	**8.40**	**79**		iP	**Pn**	**15 49 23.6**	**+1.0**		
ZEDA					IAML_P					
	comp=Z,109nm,0.2s									
KESN	**Edirne-Kesan**	**8.45**	**66**		iP	**Pn**	**15 49 24.2**	**+0.6**		
KESN					IAML_P					
	comp=Z,178nm,0.4s									
MORH	**Mrgy, Hungar**	**8.49**	**10**		ePn	**Pn**	**15 49 22.2**	**-1.6**		
MORH	**Mrgy, Hungar**	**8.49**	**10**	1⇑	ePn	**Pn**	**15 49 22.1**	**-1.7**		
MORH					Sn	**Sn**	**15 50 51.0**	**-7.4**		
GCAM	**G?zelcaml?**	**8.53**	**88**		iP	**Pn**	**15 49 25.7**	**+1.3**		
GCAM					IAML_P					
	comp=Z,1µm,0.4s									
BEHE	**Becsehely**	**8.60**	**1**		ePn	**Pn**	**15 49 25.5**	**+0.3**		
BEHE	**Becsehely**	**8.60**	**1**		Sn	**Sn**	**15 50 57.1**	**-3.9**		
BEHE	**Becsehely**	**8.60**	**1**	1⇓	ePn	**Pn**	**15 49 25.0**	**-0.2**		
BZS	**Buzias**	**8.64**	**25**	1⇓	iP	**Pn**	**15 49 24.7**	**-1.2**		
BZS	**Buzias**	**8.64**	**25**		S	**Sn**	**15 50 54.7**	**-7.4**		
BZS	**Buzias**	**8.64**	**25**		P	**Pn**	**15 49 24.9**	**-1.0**		
BZS					pmax	pmax				
	comp=Z,30nm,0.5s									
BODT	**Bodrum**	**8.66**	**92**		eP	**Pn**	**15 49 24.1**	**-2.1**		
OBKA	**Obir**	**8.75**	**351**		ePn	**Pn**	**15 49 28.6**	**+1.3**		
	comp=Z,9.4nm,0.2s,SNR=21									
OBKA					eSn	**Sn**	**15 51 00.8**	**-4.0**		
	comp=Z,21nm,0.6s									
PERS	**Pernice**	**8.81**	**354**		iPn	**Pn**	**15 49 29.1**	**+0.8**		
SOKA	**Soboth**	**8.86**	**354**		ePn	**Pn**	**15 49 29.3**	**+0.3**		
	comp=Z,7.3nm,0.3s,SNR=17									
SOKA					eSn	**Sn**	**15 51 05.3**	**-2.3**		
	comp=Z,1.2nm,0.3s									
GZR	**Gura Zlata**	**8.88**	**30**	1⇓	iP	**Pn**	**15 49 28.9**	**-0.2**		
GZR	**Gura Zlata**	**8.88**	**30**		S	**Sn**	**15 51 00.8**	**-7.2**		
GZR	**Gura Zlata**	**8.88**	**30**		P	**Pn**	**15 49 28.9**	**-0.2**		
KARP	**Karpathos**	**8.90**	**102**		eP	**Pn**	**15 49 29.5**	**0.0**		
KARP	**Karpathos**	**8.90**	**102**		ePn	**Pn**	**15 49 28.2**	**-1.3**		
BALY	**Balya**	**8.91**	**74**		iP	**Pn**	**15 49 31.0**	**+1.4**		
BALY					IAML_P					
	comp=Z,930nm,0.5s									
DAT	**Datca**	**8.93**	**94**		eP	**

SENIN	Lac Senin/Sane	10.87	324	*e*Pn		Pn	15 49 58.9	+2.3			
TLB	Topalu	10.99	49⇑	*i*P		Pn	15 49 57.9	-0.2			
TLB	Topalu	10.99	49	P		Pn	15 49 57.9	-0.2			
PLOR	Plostina	11.00	40⇑	*i*P		Pn	15 49 58.6	+0.3			
PLOR	Plostina	11.00	40	P		Pn	15 49 58.5	+0.3			
JAVC	Velka Javorina	11.02	4	*e*PN		Pn	15 49 59.5	+1.1			
JAVC				*e*SN		Sn	15 51 55.9	-4.6			
VRI	Vrincioaia	11.05	41⇓	*i*P		Pn	15 49 58.4	-0.5			
VRI	Vrincioaia	11.05	41	P		Pn	15 49 58.4	-0.5			
BORA	Eskisehir	11.09	75	*e*P		Pn	15 49 57.9	-1.6			
ISP	Isparta	11.12	86	*e*Pn		Pn	15 50 00.4	+0.4			
ISP	Isparta	11.12	86⇓	*i*P		Pn	15 50 00.5	+0.5			
GEA0	GERESS Array S	11.14	351	*e*Pn		Pn	15 50 00.4	+0.2			
TIRR	Tirgusor	11.15	50	*e*Pn		Pn	15 49 59.5	-0.7			
TIRR	Tirgusor	11.15	50	*e*P		Pn	15 49 59.5	-0.7			
GEC2	GERESS Array S	11.15	351	*e*Pn		Pn	15 50 00.8	+0.5			
GEC2	GERESS Array S	11.15	351	*e*P		Pn	15 50 00.8	+0.5			
GERES	GERESS Array B	11.15	351	Pn		Pn	15 50 00.2	-0.1			
	comp=Z,1.1nm,0.3s,baz=174,slow=14,SNR=11										
GERES				Sn		Sn	15 51 56.4	-7.3			
	comp=Z,1.0nm,0.3s,baz=157,slow=22,SNR=5.4										
GERES				LR		LR	15 55 52.3				
	comp=Z,152nm,19.0s,baz=188,slow=46										
TRPA	Tarpa	11.17	21⇓	*i*P		Pn	15 49 59.0	-1.4			
TRPA	Tarpa	11.17	21	*e*Pn		Pn	15 49 59.0	-1.4			
TRPA				Sn		Sn	15 51 58.0	-6.1			
KRUC	Moravsky	11.19	360	P		Pn	15 50 02.6	+1.9			
KRUC	Moravsky	11.19	360	*e*PN		Pn	15 50 01.0	+0.3			
KRUC				*e*SN		Sn	15 51 57.7	-6.8			
CFR	Carcaliu	11.39	46⇓	*i*P		Pn	15 50 03.2	-0.2			
CFR	Carcaliu	11.39	46	P		Pn	15 50 03.2	-0.2			
SWA2		11.41	136	P		Pn	15 50 01.9	-2.0			
	baz=142										
SWA2				S		Sn	15 51 56.2	-14			
	baz=142										
VRAC	Vranov	11.43	0⇑	*i*P		Pn	15 50 04.2	+0.1			
VRAC	Vranov	11.43	0	*e*PN		Pn	15 50 04.5	+0.4			
VRAC				*e*SN		Sn	15 52 03.1	-7.5			
VRAC	Vranov	11.43	0	Pn		Pn	15 50 04.1	+0.1			
	comp=Z,0.5nm,0.3s,baz=194,slow=16,SNR=3.5										
VRAC				Sn		Sn	15 52 04.3	-6.2			
	comp=Z,0.9nm,0.3s,baz=173,slow=11,SNR=4.7										
KHC	Kasperske Hory	11.45	350	*e*Pn		Pn	15 50 04.5	+0.2			
KHC	Kasperske Hory	11.45	350	*e*PN		Pn	15 50 05.0	+0.7			
KHC				*ex*		x	15 50 13.6				
KHC				*e*SN		Sn	15 52 03.7	-7.2			
KHC	Kasperske Hory	11.45	350	*e*P		Pn	15 50 05.0	+0.7			
KHC				*e*			15 52 03.7				
BIZ	Bicaz	11.52	35⇓	*i*P		Pn	15 50 04.9	-0.4			
UZH	Uzhgorod	11.56	20	*e*P		Pn	15 50 06.9	+1.1			
BURAR	Bucovina Array	11.66	31⇓	*i*P		Pn	15 50 07.7	+0.4			
BURAR	Bucovina Array	11.66	31	P		Pn	15 50 07.7	+0.4			
BUR08	Bucovina Ar. S	11.68	30	*e*Pn		Pn	15 50 08.3	+0.8			
NIE	Niedzica	11.87	12	*e*Pn		Pn	15 50 12.6	+2.5			
NIE	Niedzica	11.87	12	*e*P		Pn	15 50 12.6	+2.5			
MORC	Moravsky Berou	11.93	3	*e*Pn		Pn	15 50 11.4	+0.6			
MORC	Moravsky Berou	11.93	3⇓	*i*P		Pn	15 50 11.5	+0.6			
MORC	Moravsky Berou	11.93	3	*e*P		Pn	15 50 11.4	+0.6			
MORC	Moravsky Berou	11.93	3	*e*PN		Pn	15 50 11.4	+0.6			
MORC	Moravsky Berou	11.93	3	*e*SN		Sn	15 52 14.9	-7.8			
OKC	Ostrava-Krasne	12.02	5	*e*SN		Sn	15 52 16.4	-8.6			
HINF	Hinteralfeld	12.17	328	*e*P		Pn	15 50 18.4	+4.2			
GRA1	Grafenberg Arr	12.40	344	*e*Pn		Pn	15 50 18.5	+1.2			
GRF	Grafenberg Arr	12.40	344	*e*P		Pn	15 50 18.5	+1.2			
DPC	Dobruska-Polom	12.47	360	*e*PN		Pn	15 50 19.9	+1.6			
DPC				*e*SN		Sn	15 52 27.7	-8.4			
DPC	Dobruska-Polom	12.47	360	*e*P		Pn	15 50 19.9	+1.6			
CDF	Champ du Feu	12.48	331	*e*P		Pn	15 50 22.8	+4.4			
HAU	Haudompre	12.54	327	*e*P		Pn	15 50 22.4	+3.2			
OJC	Ojcow	12.57	10	*e*Pn		Pn	15 50 20.6	+1.0			
OJC	Ojcow	12.57	10	*e*P		Pn	15 50 20.6	+1.0			
KWP	Kalwaria Pacla	12.59	19	*e*Pn		Pn	15 50 21.7	+1.9			
KWP	Kalwaria Pacla	12.59	19	*e*P		Pn	15 50 21.7	+1.9			
SMF	Signal de Mont	12.80	317	*e*P		Pn	15 50 27.4	+4.6			
BRG	Berggiesshubel	13.12	353	*e*P		P	15 50 39.4	+2.6			
	comp=Z,6.5nm,1.2s										
BRG				*e*			15 50 56.5				
	comp=Z,6.1nm,1.1s										
BRG	Berggiesshubel	13.12	353	*e*P		P	15 50 39.4	+2.6			
BRG				pmax		pmax					
	comp=Z,7.0nm,1.2s										
AVF	Avril sur Loir	13.15	317	*e*P		Pn	15 50 31.9	+4.3			
LOR	Lormes	13.19	319	*e*Pn		Pn	15 50 27.1	-1.0			
PAGF	Fort de Pagny	13.22	327	*e*P		Pn	15 50 32.6	+4.1			
SSF	Saint Saulge	13.24	318	*e*Pn		Pn	15 50 27.5	-1.3			
RJF	Les Rejaudoux	13.41	308	*e*P		Pn	15 50 34.0	+2.9			
RJF				*e*Sn		Sn	15 52 51.0	-8.0			
	comp=Z,2.0nm,0.4s										
MEZF	Maizieres J'vi	13.48	326	*e*P		Pn	15 50 36.0	+4.0			
TCF	Toulx Ste Croi	13.50	313	*e*P		Pn	15 50 36.7	+4.3			
BRTR	Keskin Array B	13.53	77	*i*P		Pn	15 50 35.7	+2.8			
BRTR				pmax		pmax					
	comp=Z,1.0nm,0.7s										
BRTR	Keskin Array B	13.53	77	Pn		Pn	15 50 33.8	+0.9			
	comp=Z,0.2nm,0.3s,baz=261,slow=13,SNR=6.1										
BRTR				LR		LR	15 55 43.6				
	comp=Z,63nm,20.6s,baz=262,slow=37										
CLL	Collm	13.65	351	*e*P		Pn	15 50 36.0	+1.6			
CLL				*ep*P		P	15 50 41.0	-1.8			
CLL				*es*P			15 50 46.0				
CLL				LmV			15 57 00.0				
	comp=Z,100nm,20.9s										
CSS	Mathiatis	13.89	97	*e*Pn		Pn	15 50 34.6	-3.2			
CSS	Mathiatis	13.89	97	Sn		Sn	15 52 53.1	-18			
HNAT	Natroun	14.35	121	P		Pn	15 50 39.8	-4.2			
	baz=125										
SJPF	Ste Jean	14.43	297	*e*Pn		Pn	15 50 42.6	-2.5			
SJPF	Ste Jean	14.43	297	*e*P		Pn	15 50 48.0	+2.9			
SJPF	Ste Jean	14.43	297	*e*P		P	15 50 53.1	+1.6			
SJPF				pmax		pmax					
	comp=Z,23nm,1.1s										
HFRF	Wahat Farafira	14.62	134	P		Pn	15 50 44.2	-3.5			
	baz=138										
MFF	Saint Martin d	15.06	311	*e*P		P	15 50 57.1	-1.3			
GLL	Jalalah	15.13	119	P		Pn	15 50 50.1	-4.5			
	baz=123										
AK11	Malin Array Si	15.68	31	*e*Pn		Pn	15 51 01.5	0.0			
KIEV	Kiev	15.71	31	*e*Pn		Pn	15 51 02.1	+0.3			
	comp=Z,25nm,0.9s										
AKASG	Malin Array Be	15.72	31	Pn		Pn	15 51 02.0	0.0			
	comp=Z,2.9nm,0.3s,baz=222,slow=10,SNR=36										
AKBB	Malin Array Si	15.72	31	*e*Pn		Pn	15 51 01.5	-0.5			
	comp=Z,24nm,0.8s										
AKBB	Malin Array Si	15.72	31	*e*P		Pn	15 51 01.5	-0.5			
AKBB				pmax		pmax					
	comp=Z,24nm,0.8s										
RSH		15.81	111	P		Pn	15 50 58.8	-4.6			
	baz=114										
ESDC	Sonseca Array	16.03	283	Pn		Pn	15 51 06.0	-0.2			
	comp=Z,0.2nm,0.3s,baz=86,slow=11,SNR=3.7										
LDF	La Druitiere	16.11	317	*e*P		P	15 51 10.4	+0.3			
LDF	La Druitiere	16.11	317	*e*P		P	15 51 10.4	+0.3			
LDF				pmax		pmax					
	comp=Z,20nm,1.0s										
MMA0B	Mount Meron ar	16.17	102	Sn		Sn	15 53 48.2	-18			
MMAI	Mount Meron Ar	16.17	102	Pn		Pn	15 51 03.5	-4.5			
	comp=Z,2.7nm,0.3s,baz=309,slow=14,SNR=10										
MMAI				Sn		Sn	15 53 49.8	-17			
	comp=Z,2.8nm,0.3s,baz=292,slow=13,SNR=4.5										
SLTI	Sal'it	16.21	105	Sn		Sn	15 53 48.9	-18			
GEM	Giv'at Ha'Em	16.30	101	Sn		Sn	15 53 51.5	-18			
NATI	Neve Ativ	16.34	101	Sn		Sn	15 53 51.5	-19			
KZIT	Kziot	16.34	110	Sn		Sn	15 53 51.0	-19			
GRR	Gorron	16.40	315	*e*P		P	15 51 13.7	+0.4			
GRR	Gorron	16.40	315	*e*P		P	15 51 13.4	+0.1			
GRR				pmax		pmax					
	comp=Z,34nm,0.9s										
FLN	La Foliniere	16.41	317	*e*P		P	15 51 13.6	+0.3			
MMLI	Mount Malkishu	16.42	104	Sn		Sn	15 53 54.0	-18			
AMAZ	Amatzia	16.43	107	Sn		Sn	15 53 54.1	-19			
HMDT	Nahal Hemdat	16.58	104	Sn		Sn	15 53 58.0	-18			
YTIR	Yattir	16.66	107	Sn		Sn	15 53 59.3	-19			
DSI	Dead Sea	16.77	106	Sn		Sn	15 54 02.5	-18			
SUW	Suwalki	16.79	14	*e*P		P	15 51 18.3	+0.8			
SUW	Suwalki	16.79	14	*e*Pn		P	15 51 18.3	+0.8			
	comp=Z,68nm,1.0s										
SUW	Suwalki	16.79	14	*e*P		P	15 51 18.3	+0.8			
SUW				pmax		pmax					
	comp=Z,68nm,1.0s										
RGN	Rugen	16.82	354	*e*Pn		P	15 51 17.3	-0.5			
	comp=Z,152nm,1.1s										
MZDA	Masada	16.87	107	Sn		Sn	15 54 04.5	-19			
KLNR	Kaliningrad	16.93	8⇑	*e*P		Pn	15 51 17.1	-0.2			
KRMI	Paran Flat	16.99	112	Sn		Sn	15 54 06.6	-20			
LISJ	El Lisan	17.00	107	P		Pn	15 51 16.2	-2.1			
	comp=Z,20nm,1.5s										
GHAJ	Ghor Haditha	17.03	107	P		Pn	15 51 17.4	-1.4			
	comp=Z,36nm,1.2s										
GHAJ	Ghor Haditha	17.03	107	Sn		Sn	15 54 08.0	-19			
PRNI	Paran	17.07	111	Sn		Sn	15 54 09.5	-19			
WALJ	Wala	17.10	106	P		Pn	15 51 17.4	-2.2			
	comp=Z,30nm,0.9s										
ZFRI	Zfri	17.10	110	Sn		Sn	15 54 09.9	-19			
HRFI	Mount Harif	17.26	111	Sn		Sn	15 54 14.2	-19			
SGMF	Saint Gilles	17.30	313	*e*P		P	15 51 22.8	-0.4			
SGMF	Saint Gilles	17.30	313	*e*P		P	15 51 24.5	+1.3			
SGMF				pmax		pmax					
	comp=Z,21nm,0.9s										
MBRI	Mt Berech	17.30	112	Sn		Sn	15 54 14.8	-19			
EIL	Elat	17.39	113	Sn		Sn	15 54 16.4	-20			
EIL				Sn		Sn	15 54 17.2	-19			
EIL	Elat	17.39	113	P		Pn	15 51 21.3	-2.1			
	comp=Z,2.1nm,0.3s,baz=237,slow=1.5,SNR=23										
QUIF	Quistinic	17.49	311	*e*P		P	15 51 25.7	+0.4			
QUIF	Quistinic	17.49	311	*e*P		P	15 51 27.1	+1.8			
QUIF				pmax		pmax					
	comp=Z,106nm,1.9s										
ASF	Jabal al Asfar	17.67	103	P		P	15 51 27.7	+0.2			
	comp=Z,8.6nm,1.0s										
ASF	Jabal al Asfar	17.67	103	P		Pn	15 51 25.3	-1.5			
	comp=Z,0.5nm,0.3s,baz=349,slow=20,SNR=4.4										
ROSF	Rostrenen	17.75	312	*e*P		P	15 51 31.0	+2.8			
ROSF	Rostrenen	17.75	312	*e*P		P	15 51 29.9	+1.7			
ROSF				pmax		pmax					
	comp=Z,89nm,1.6s										
NEY	Neytrino	20.62	67⇑	*e*P		P	15 51 59.9	0.0			
SHA1	Shidzhatmaz	20.63	65	*e*P		P	15 52 00.6	+0.6			
KBZ	Khabaz	20.80	65	P		P	15 52 01.4	-0.2			
	comp=Z,5.1nm,0.8s,baz=269,slow=8.6,SNR=7.8										
VSR	Storozhevoye	20.86	43	*e*P		P	15 52 01.8	-0.4			
VSR				pmax		pmax					
	comp=Z,20nm,1.0s										
PYA1	Pyatigorsk	20.99	64⇑	*e*P		P	15 52 04.1	+0.4			
GOF	Gofitskoye	21.11	62	*e*P		P	15 52 05.3	+0.4			
GOF				pmax		pmax					
	comp=Z,50nm,1.4s										
LPSR	Galich'ya Gora	21.49	40	*e*P		P	15 52 08.5	-0.3			
LPSR				pmax		pmax					
	comp=Z,40nm,1.0s										
VSU	Vasula	21.66	15	*d*/*i*P		P	15 52 11.2	+0.5			
VSU				pmax		pmax					
	comp=Z,51nm,0.6s										
EKA	Eskdalemuir Ar	21.93	329	P		P	15 52 12.8	-0.7			
	comp=Z,2.3nm,0.6s,baz=146,slow=11,SNR=9.2										
OBN	Obninsk	21.98	32	*i* P		P	15 52 13.1	-1.0			
OBN				*i*			15 52 24.7				
OBN				pmax		pmax					
	comp=Z,13nm,1.0s										
OBN				MLR		MLR					
	comp=Z,113nm,18.0s										
OBN	Obninsk	21.98	32	P		P	15 52 13.1	-1.0			
	comp=Z,2.8nm,0.4s,baz=41,slow=21,SNR=4.2										
NORES	NORESS Array B	23.09	354	P		P	15 52 26.1	+0.2			
NB2	NORSAR Subarra	23.42	354	P		P	15 52 28.1	-1.1			
	comp=Z,0.4nm,0.4s,baz=170,slow=9.3										
NB2	NORSAR Subarra	23.42	354	P		P	15 52 28.5	-0.7			
NOA	NORSAR Array B	23.42	354	P		P	15 52 28.1	-1.1			
	comp=Z,0.5nm,0.5s,baz=163,slow=9.6,SNR=8.1										
NOA				LR		LR	16 03 15.7				
	comp=Z,84nm,21.1s,baz=175,slow=41										
FINES	FINESS Array B	24.35	11	P		P	15 52 37.7	-0.1			
	comp=Z,4.0nm,0.4s,baz=188,slow=9.2,SNR=106										
FINES				LR		LR	16 03 56.1				
	comp=Z,95nm,19.4s,baz=218,slow=41										
FIA1	FINESS Array S	24.35	11	*e*P		P	15 52 37.6	-0.1			
	comp=Z,35nm,1.5s										
KLMR	Klimovskoe	27.18	25	*e*P		P	15 53 03.2	-0.2			
KLMR				pmax		pmax					
	comp=Z,16nm,1.5s										
KLMR	Klimovskoe	27.18	25	*e*P		P	15 53 03.2	-0.2			
KLMR				AMP			15 53 04.3				
	comp=Z,16nm,1.4s										
TOA0	Torodi Ar. Sit	27.92	212	*e*P		P	15 53 08.9	-1.5			
TORD	Torodi Ar. Bea	27.92	212	P		P	15 53 09.0	-1.4			
	comp=Z,0.8nm,0.5s,baz=17,slow=10,SNR=14										
TORD				LR		LR	16 05 47.1				
	comp=Z,187nm,19.1s,baz=330,slow=40										
KIRV	Kirov	29.71	35	P		P	15 53 25.5	-0.3			
	comp=Z,11nm,0.5s,baz=111,slow=7.5,SNR=5.8										
APA	Apatity	31.23	12⇑	*i*P		P	15 53 36.6	-2.7			
APA				pmax		pmax					
	comp=Z,6.0nm,1.1s										
APA				MLR		MLR					
	comp=Z,600nm,10.0s										
ARCES	ARCESS Array B	32.10	6	P		P	15 53 46.5	-0.3			
	comp=Z,1.8nm,0.6s,baz=186,slow=8.5,SNR=16										
GEYT	Alibeck	32.67	77	LR		LR	16 09 00.8				
	comp=Z,27nm,19.1s,baz=215,slow=40										
ABKAR	Akbulak array	33.06	56	*e*P		P	15 53 56.0	+0.4			
	comp=Z,7.7nm,1.8s										
ARU	Arti	33.43	43	*c* *i*P		P	15 53 59.2	+0.5			
ARU							15 55 10.6				
ARU				S		S	15 59 23.1	+5.3			
ARU				SS		SnSn	16 01 24.1	+3.4			
ARU				pmax		pmax					
	comp=Z,4.0nm,0.9s										
SVE	Sverdlovsk	34.65	42	*e*P		P	15 54 10.3	+1.1			
DBIC	Dimbokro	36.60	217	P		P	15 54 25.2	-1.1			
	comp=Z,3.5nm,0.8s,baz=346,slow=4.2,SNR=3.9										
DBIC				LR		LR	16 11 45.2				
	comp=Z,126nm,18.2s,baz=22,slow=40										
BRVK	Borovoye	39.70	50	*e*P		P	15 54 53.3	+1.1			
	comp=Z,5.5nm,0.9s										
BRVK	Borovoye	39.70	50	*e*P		P	15 54 53.3	+1.1			
BRVK				pmax		pmax					
	comp=Z,6.0nm,0.9s										
KK31	Karatay Array	40.84	65	*e*P		P	15 55 02.2	+0.4			
	comp=Z,3.4nm,0.7s										
KK31	Karatay Array	40.84	65	*e*P		P	15 55 02.2	+0.4			
KK31				pmax		pmax					
	comp=Z,3.0nm,0.7s										
KKAR	Karatay Array	40.84	65	*e*P		P	15 55 02.2	+0.4			
	comp=Z,3.4nm,0.7s										
KKAR	Karatay Array	40.84	65	*e*P		P	15 55 02.2	+0.4			
KKAR				pmax		pmax					
	comp=Z,3.0nm,0.7s										
CHGR	Chuyangaron	40.90	72	*e*P		P	15 55 03.0	+0.6			
BTK	Batken	41.77	69	*e*P		P	15 55 10.0	+0.5			
	comp=Z,3.6nm,0.8s										
BTK	Batken	41.77	69	*e*P		P	15 55 10.0	+0.5			
BTK				pmax		pmax					
	comp=Z,4.0nm,0.8s										
KMBO	Kilima Mbogo	43.30	149	*e*P		P	15 55 23.5	+1.2			
	comp=Z,2.6nm,0.8s										
KMBO	Kilima Mbogo	43.30	149	P		P	15 55 23.0	+0.7			
KMBO	Kilima Mbogo	43.30	149	P		P	15 55 23.0	+0.7			
	comp=Z,2.5nm,0.8s,baz=357,slow=8.4,SNR=9.7										
AAK	Ala-Archa	43.80	65⇑	*e*P		P	15 55 24.8	-1.2			
AAK				pmax		pmax					
	comp=Z,8.0nm,4.0s										
KURK	Kurchatov	45.02	53	*e*P		P	15 55 35.9	+0.5			
	comp=Z,4.0nm,1.0s										
KURK	Kurchatov	45.02	53	*i*P		P	15 55 36.1	+0.7			
KURK				pmax		pmax					
	comp=Z,3.0nm,0.9s										
NIL	Nilore	45.67	77	*e*P		P	15 55 41.8	+0.9			
	comp=Z,18nm,1.6s										
NIL	Nilore	45.67	77	*e*P		P	15 55 41.8	+0.9			
NIL				pmax		pmax					
	comp=Z,18nm,1.6s										
NVS	Novosibirsk	47.22	46	*e*P		P	15 55 53.6	+0.9			
NVS				*e*			15 56 07.3				
NVS				pmax		pmax					
	comp=Z,8.0nm,1.1s										
MK31	Makanchi Array	48.18	57	*e*P		P	15 56 00.8	+0.5			
	comp=Z,2.7nm,0.8s										
MK31	Makanchi Array	48.18	57	*e*P		P	15 56 00.8	+0.5			
MK31				pmax		pmax					
	comp=Z,3.0nm,0.8s										
MKAR	Makanchi Array	48.18	57	P		P	15 56 00.8	+0.5			
	comp=Z,3.2nm,0.5s,baz=280,slow=6.8,SNR=49										
MKAR				LR		LR	16 20 12.5				
	comp=Z,58nm,19.1s,baz=304,slow=41										
MK01	Makanchi Array	48.19	57	*e*P		P	15 56 00.5	+0.1			
ZAA0	Zalesovo Array	48.27	47	*e*P		P	15 56 01.2	+0.4			
	comp=Z,6.5nm,0.6s										
ZALV	Zalesovo Beam	48.27	47	*e*P		P	15 56 01.1	+0.2			
ZALV	Zalesovo Beam	48.27	47	P		P	15 56 01.6	+0.7			
	comp=Z,5.9nm,0.4s,baz=281,slow=8.7,SNR=27										
ZALV				LR		LR	16 20 34.4				
	comp=Z,74nm,18.6s,baz=228,slow=41										
NRIK	Noril'sk	48.51	27	P		P	15 56 03.6	+1.2			
	comp=Z,1.5nm,0.4s,baz=255,slow=5.1,SNR=4.0										
NRIK				LR		LR	16 20 38.5				
	comp=Z,95nm,19.2s,baz=247,slow=41										
DGZ	Jazzator, Alta	50.77	52	*d*P		P	15 56 21.0	+0.9			
DGZ				pmax		pmax					
	comp=Z,2.0nm,0.6s										
WMQ	Urumqi	52.69	60	*e*P		P	15 56 36.5	+2.0			
WMQ				LR		LR					
	comp=Z,93nm,20.7s										
WMQ				LR		LR					
	comp=Z,62nm,22.3s										
MSEY	Mahe Island	55.71	131	*i* P		P	15 56 59.5	+2.8			
TLY	Talaya	59.83	46	*e*P		P	15 57 40.6	+15			
TLY				pmax		pmax					
	comp=Z,16nm,1.4s										
TLY				MLR		MLR					
	comp=Z,235nm,17.0s										
TIXI	Tiksi	61.03	20⇓	*e*P		P	15 57 34.4	+1.4			
TIXI				pmax		pmax					
	comp=Z,1.0nm,0.6s										
TIXI	Tiksi	61.03	20	P		P	15 57 34.2	+1.2			
	baz=279,slow=19										
GTA	Gaotai	62.77	60	P		P	15 57 46.3	+0.8			
GTA				pP		pP	15 57 54.1	-0.7			
GTA				sP		sP	15 57 58.4	0.0			
GTA				pmax		pmax					
	comp=Z,3.0nm,1.1s										
SONM	Songino Array	63.10	49	P		P	15 57 47.8	+0.3			
	comp=Z,1.6nm,0.7s,baz=284,slow=7.7,SNR=17										
ULN	Ulaanbaatar	63.48	49⇓	*e*P		P	15 57 50.9	+0.8			
ULN				pmax		pmax					
	comp=Z,2.0nm,1.0s										
LZH	Lanzhou	67.18	61	*e*P		P	15 58 15.8	+1.6			
LZH				pP		pP	15 58 23.9	+0.2			
LZH				sP		sP	15 58 27.5	+0.3			
LZH				pmax		pmax					
	comp=Z,23nm,1.1s										
HHC	Hu-ho-hao-te	69.82	54	*e*P		P	15 58 31.3	+0.7			
HHC				pmax		pmax					
	comp=Z,24nm,0.9s										
HHC				pmax		pmax					
	comp=Z,78nm,5.1s										
BILL	Bilibino	71.99	11⇑	*i*P		P	15 58 43.9	+0.8			
BILL				pmax		pmax					
	comp=Z,3.0nm,1.0s										
YKA	Yellowknife Ar	72.54	338	P		P	15 58 45.7	-0.7			
	comp=Z,0.3nm,0.3s,baz=38,slow=5.6,SNR=12										
CMAR	Chiang Mai Arr	73.10	80	P		P	15 58 51.0	+0.5			

ABVI				eS	Sn	16 04 02.2	+0.6
ABV	**Anegada**	0.94	74⇓	eP	Pn	16 03 47.1	+0.4
ABV	**Anegada**	0.94	74	eS	Sn	16 04 02.2	+0.6
ABV	**Anegada**	0.94	74⇓	eP	Pn	16 03 47.1	+0.4
ABV				eS	Sn	16 04 02.2	+0.6
EMPR	**Esperanza - Ma**	1.18	270⇑	eP	Pn	16 03 49.1	-0.2
EMPR	**Esperanza - Ma**	1.18	270	eS	Sn	16 04 05.8	-0.6
EMPR	**Esperanza - Ma**	1.18	270⇑	eP	Pn	16 03 49.1	-0.2
EMPR				eS	Sn	16 04 05.8	-0.6
CELP	**Cerrillos**	1.29	252⇑	eP	Pn	16 03 50.2	-0.4
CELP				eS	Sn	16 04 07.8	-0.9
CELP	**Cerrillos**	1.29	252⇑	eP	Pn	16 03 50.2	-0.4
CELP				eS	Sn	16 04 07.8	-0.9
CELP	**Cerrillos**	1.29	252⇑	eP	Pn	16 03 50.2	-0.4
CELP				eS	Sn	16 04 07.8	-0.9
ICMP	**Isla Caja de M**	1.32	244⇑	eP	Pn	16 03 51.3	+0.3
ICMP	**Isla Caja de M**	1.32	244	eS	Sn	16 04 11.1	+1.9
ICMP	**Isla Caja de M**	1.32	244⇑	eP	Pn	16 03 51.3	+0.3
ICMP				eS	Sn	16 04 11.1	+1.9
OBIP	**Obispado Ponce**	1.33	251⇑	eP	Pn	16 03 49.7	-1.4
OBIP	**Obispado Ponce**	1.33	251	eS	Sn	16 04 08.2	-1.2
OBIP	**Obispado Ponce**	1.33	251⇑	eP	Pn	16 03 49.7	-1.4
OBIP				eS	Sn	16 04 08.2	-1.2
OBIP	**Obispado Ponce**	1.33	251⇑	eP	Pn	16 03 49.7	-1.4
OBIP				eS	Sn	16 04 08.2	-1.2
AOPR	**Arecibo Observ**	1.40	265⇑	eP	Pn	16 03 51.4	-0.6
AOPR				eS	Sn	16 04 10.3	-0.7
AOPR	**Arecibo Observ**	1.40	265⇑	eP	Pn	16 03 51.4	-0.6
AOPR				eS	Sn	16 04 10.3	-0.7
AOPR	**Arecibo Observ**	1.40	265⇑	eP	Pn	16 03 51.4	-0.6
AOPR				eS	Sn	16 04 10.3	-0.7
GBPR	**Guanica, Bosqu**	1.59	252⇑	eP	Pn	16 03 54.8	+0.5
GBPR	**Guanica, Bosqu**	1.59	252⇑	eP	Pn	16 03 54.8	+0.5
GBPR	**Guanica, Bosqu**	1.59	252⇑	eP	Pn	16 03 54.8	+0.5
AGPR	**Aguadilla, PR**	1.73	270⇑	eP	Pn	16 03 55.4	-0.6
AGPR	**Aguadilla, PR**	1.73	270	eS	Sn	16 04 16.7	-1.6
AGPR	**Aguadilla, PR**	1.73	270⇑	eP	Pn	16 03 55.4	-0.6
AGPR				eS	Sn	16 04 16.7	-1.6
AGPR	**Aguadilla, PR**	1.73	270⇑	eP	Pn	16 03 55.4	-0.6
AGPR				eS	Sn	16 04 16.7	-1.6
LSP	**Las Mesas**	1.73	260⇓	eP	Pn	16 03 55.8	-0.3
LSP	**Las Mesas**	1.73	260	eS	Sn	16 04 18.5	+0.1
LSP	**Las Mesas**	1.73	260⇓	eP	Pn	16 03 55.8	-0.3
LSP				eS	Sn	16 04 18.5	+0.1
LSP	**Las Mesas**	1.73	260⇓	eP	Pn	16 03 55.8	-0.3
LSP				eS	Sn	16 04 18.5	+0.1
MPR	**Mayaguez**	1.78	262⇑	eP	Pn	16 03 56.3	-0.3
MPR	**Mayaguez**	1.78	262⇑	eP	Pn	16 03 56.4	-0.3
MPR				eS	Sn	16 04 17.9	-1.5
MPR	**Mayaguez**	1.78	262	eS	Sn	16 04 18.6	-0.7
MPR	**Mayaguez**	1.78	262⇑	eP	Pn	16 03 56.3	-0.3
MPR				eS	Sn	16 04 17.9	-1.5
MPR				eS		16 04 18.6	
MPR	**Mayaguez**	1.78	262⇑	eP	Pn	16 03 56.3	-0.3
MPR				eS	Sn	16 04 17.9	-1.5
CRPR	**Cabo Rojo, PR**	1.79	255⇑	eP	Pn	16 03 56.9	+0.1
CRPR	**Cabo Rojo, PR**	1.79	255	eS	Sn	16 04 19.7	0.0
CRPR	**Cabo Rojo, PR**	1.79	255⇑	eP	Pn	16 03 56.9	+0.1
CRPR				eS	Sn	16 04 19.7	0.0
CRPR	**Cabo Rojo, PR**	1.79	255⇑	eP	Pn	16 03 56.9	+0.1
CRPR				eS	Sn	16 04 19.7	0.0
IDE	**Isla Desecheo**	2.08	268⇓	eP	Pn	16 03 59.8	-0.6
IDE	**Isla Desecheo**	2.08	268	eS	Sn	16 04 25.2	-1.0
IDE	**Isla Desecheo**	2.08	268⇓	eP	Pn	16 03 59.8	-0.6
IDE				eS	Sn	16 04 25.2	-1.0
IDE	**Isla Desecheo**	2.08	268⇓	eP	Pn	16 03 59.8	-0.6
IDE				eS	Sn	16 04 25.2	-1.0
SMRT	**St. Maarten**	2.14	101⇑	eP	Pn	16 04 00.8	-0.5
SMRT	**St. Maarten**	2.14	101	eS	Sn	16 04 25.9	-1.8
SMRT	**St. Maarten**	2.14	101	eP	Pn	16 04 01.0	-0.3
SMRT				eS	Sn	16 04 25.9	-1.8
SMRT	**St. Maarten**	2.14	101	eP	Pn	16 04 01.0	-0.3
SMRT				eS	Sn	16 04 26.0	-1.8
SEUS	**St. Eustatius**	2.40	114	eS	Sn	16 04 33.5	-0.2
SEUS	**St. Eustatius**	2.40	114⇓	eP	Pn	16 04 04.8	+0.2
SEUS	**St. Eustatius**	2.40	114⇓	eP	Pn	16 04 04.8	+0.2
SEUS				eS	Sn	16 04 33.5	-0.2
SEUS	**St. Eustatius**	2.40	114	eP	Pn	16 04 04.1	-0.5
SEUS				eS	Sn	16 04 33.1	-0.6
NEV	**Hard Times**	2.91	117	eP	Pn	16 04 11.3	-0.1
NEV				eS	Sn	16 04 47.0	+1.2
NEV	**Hard Times**	2.91	117	eP	Pn	16 04 11.3	-0.1
NEV				eS	Sn	16 04 47.0	+1.2
PCDR	**Punta Cana, DR**	2.94	271⇓	eP	Pn	16 04 11.8	+0.1
PCDR	**Punta Cana, DR**	2.94	271	eS	Sn	16 04 45.2	-1.2
PCDR	**Punta Cana, DR**	2.94	271⇓	eP	Pn	16 04 11.8	+0.1
PCDR				eS	Sn	16 04 45.2	-1.2
PCDR	**Punta Cana, DR**	2.94	271⇓	eP	Pn	16 04 11.8	+0.1
PCDR				eS	Sn	16 04 45.2	-1.2
ANWB	**Willy Bob**	3.42	103	ePn	Pn	16 04 17.7	-0.6
ANWB				eS	Sn	16 04 55.4	-2.6
ANWB	**Willy Bob**	3.42	103	eP	Pn	16 04 17.1	-1.1
ANWB				eS	Sn	16 04 55.4	-2.6
MLYT	**Lee's Yard**	3.43	120	eP	Pn	16 04 18.7	+0.3
MLYT				eS	Sn	16 04 57.6	-0.6
BPA	**Boggy Peak**	3.56	113	eP	Pn	16 04 19.5	-0.7
BPA				eS	Sn	16 04 59.2	-2.2
BPA	**Boggy Peak**	3.56	113	eP	Pn	16 04 19.5	-0.7
BPA				eS	Sn	16 04 59.2	-2.2
DR12	**Loma Pena Alta**	3.90	275⇑	eP	Pn	16 04 23.9	-0.8
DR12	**Loma Pena Alta**	3.90	275⇑	eP	Pn	16 04 23.9	-0.8
TBG	**Guadaloupe-3**	4.35	126	eP	Pn	16 04 31.2	+0.5
H05N1	**Guadeloupe/Mar**	4.57	117	P	Pn	16 04 31.6	-2.2
H05N1				S	Sn	16 05 23.5	-2.3
	SNR=34						
MDPV	**Dominica, Penn**	4.66	127	eP	Pn	16 04 35.8	+0.8
MDPO	**Dominica; Chan**	4.67	128	eP	Pn	16 04 35.0	-0.1
MDPO	**Dominica; Chan**	4.67	128	eS	Sn	16 05 28.3	+0.2
BBL	**Barber's Block**	4.68	128	eP	Pn	16 04 35.5	+0.2
BBL	**Barber's Block**	4.68	128	eP	Pn	16 04 35.5	+0.2
DWS	**Wesley**	4.78	127	eP	Pn	16 04 37.0	+0.5
DWS				eS	Sn	16 05 31.1	+0.4
DWS	**Wesley**	4.78	127	eP	Pn	16 04 37.0	+0.5
DWS	**Wesley**	4.78	127	eS	Sn	16 05 29.1	-1.7
MDN	**Morne-Daniel**	4.87	130	eP	Pn	16 04 38.0	+0.1
MDN	**Morne-Daniel**	4.87	130	eP	Pn	16 04 38.0	+0.1
DPMT	**Pointe Michel**	4.92	130	eP	Pn	16 04 39.4	+0.9
DPMT	**Pointe Michel**	4.92	130	eP	Pn	16 04 39.4	+0.9
DBCT	**Belle View Cho**	4.94	130	eP	Pn	16 04 39.9	+1.1
DBCT	**Belle View Cho**	4.94	130	eP	Pn	16 04 39.9	+1.1
DSHT	**Scott's Head**	4.96	130	eP	Pn	16 04 39.5	+0.6
DSHT	**Scott's Head**	4.96	130	eP	Pn	16 04 39.5	+0.6
DLPL	**La Plaine**	4.97	128	eP	Pn	16 04 39.5	+0.3
DLPL	**La Plaine**	4.97	128	eP	Pn	16 04 39.5	+0.3
DSTT	**Stowe**	4.99	130	eP	Pn	16 04 40.8	+1.5
DSTT	**Stowe**	4.99	130	eP	Pn	16 04 40.8	+1.5
FDF	**Fort de France**	5.44	133	eP	Pn	16 04 44.8	-0.7
FDF	**Fort de France**	5.44	133	eP	Pn	16 04 44.8	-0.7
SDDR	**Presa de Saban**	5.71	276	eP	Pn	16 04 49.8	+0.5
	20nm,0.8s						
SDDR				eS	Sn	16 05 52.7	-0.8
SDDR	**Presa de Saban**	5.71	276	eP	Pn	16 04 49.8	+0.5
H05S1	**Guadeloupe/Mar**	5.87	133	P	Pn	16 04 51.1	-0.3
H05S1				S	Sn	16 05 56.0	-1.3
	SNR=11						
GRTK	**Grand Turk**	6.27	300	ePn	Pn	16 04 54.1	-2.7
	72nm,0.4s						
SVV	**Soufriere Volc**	6.45	142	eP	Pn	16 05 00.2	+0.9
SVV	**Soufriere Volc**	6.45	142	eP	Pn	16 05 00.7	+1.4
SSV	**Crater Summit**	6.46	142	eP	Pn	16 05 00.2	+0.7
SSV	**Crater Summit**	6.46	142	eP	Pn	16 05 00.2	+0.7
SVB	**Belmont**	6.47	143	eP	Pn	16 05 00.1	+0.6
SVB	**Belmont**	6.47	143	eP	Pn	16 05 00.1	+0.6
SVCV	**St. Vincent, C**	6.53	142	eP	Pn	16 05 01.9	+1.6
FCV	**Fort Charlotte**	6.56	143	eP	Pn	16 05 01.4	+0.6
FCV	**Fort Charlotte**	6.56	143	eP	Pn	16 05 01.4	+0.6
BBGH	**Gun Hill**	7.65	133	eP	Pn	16 05 15.9	+0.4
BBGH	**Gun Hill**	7.65	133	eP	Pn	16 05 15.9	+0.4
SJCC	**San Jacinto, C**	12.83	230	eP	Pn	16 06 25.3	-0.2
SJCC	**San Jacinto, C**	12.83	230	eP	Pn	16 06 25.3	-0.2
SMLC	**San Martn de**	12.85	223	eP	P	16 06 30.7	-1.9
SMLC	**San Martn de**	12.85	223	eP	P	16 06 30.7	-1.9
BARC	**Barichara**	14.10	214	eP	Pn	16 06 42.6	+0.4
BARC	**Barichara**	14.10	214	eP	Pn	16 06 42.6	+0.4
ZARC	**Zaragoza, Cauc**	14.35	222	eP	Pn	16 06 46.7	+1.4
ZARC	**Zaragoza, Cauc**	14.35	222	eP	Pn	16 06 46.7	+1.4
RUSC	**La Rusia**	14.64	212	eP	Pn	16 06 50.0	+0.6
RUSC	**La Rusia**	14.64	212	eP	Pn	16 06 50.0	+0.6
PTBC	**PUERTO BERRIO,**	14.85	218	eP	Pn	16 06 52.6	+0.9
PTBC	**PUERTO BERRIO,**	14.85	218	eP	Pn	16 06 52.6	+0.9

DBBC	**Dabeiba**	15.58	224	eP	P	16 07 04.7	+1.6
DBBC	**Dabeiba**	15.58	224	eP	P	16 07 04.7	+1.6
NORC	**Norcasia**	15.88	217	eP	Pn	16 07 04.7	0.0
NORC	**Norcasia**	15.88	217	eP	Pn	16 07 04.7	0.0
CHIC	**Chingaza**	16.05	212⇑	eP	Pn	16 07 06.0	-1.1
CHIC	**Chingaza**	16.05	212⇑	eP	Pn	16 07 06.0	-1.1
ROSC	**El Rosal**	16.17	214	P	Pn	16 07 08.8	+0.2
	2.9nm,0.3s,baz=11,slow=7.5,SNR=8.4						
MDP	**Montagnes des**	18.14	136	P	P	16 07 30.5	-0.7
	0.7nm,0.3s,baz=328,slow=8.6,SNR=5.4						
PTGA	**Pitinga**	19.79	164	P	P	16 07 48.3	-0.9
	0.1nm,0.3s,baz=302,slow=19,SNR=2.9						
JTS	**JuntasAbangare**	20.70	250	P	P	16 08 00.4	+1.4
	1.5nm,0.3s,baz=160,slow=19,SNR=3.6						
APG	**El Apazote**	24.35	266	P	P	16 08 36.7	+1.1
	5.4nm,0.7s,baz=261,slow=3.9,SNR=6.9						
LPAZ	**La Paz**	34.66	185	P	P	16 10 06.0	-1.4
	0.9nm,0.6s,baz=20,slow=8.9,SNR=5.0						
TXAR	**Lajitas Array**	36.57	294	P	P	16 10 23.1	0.0
	0.6nm,0.6s,baz=116,slow=11,SNR=4.6						
TXAR				pP	pP	16 10 48.1	+2.3
	0.6nm,0.6s,baz=121,slow=12,SNR=4.3						
CPUP	**Villa Florida**	45.20	170	P	P	16 11 31.1	-2.7
	2.3nm,0.8s,baz=347,slow=9.0,SNR=5.8						
NVAR	**Mina Array Bea**	49.95	305	P	P	16 12 11.8	+1.0
	0.8nm,0.9s,baz=110,slow=5.2,SNR=3.5						
YKA	**Yellowknife Ar**	55.51	335	P	P	16 12 50.4	-0.6
	0.1nm,0.4s,baz=110,slow=7.4,SNR=3.9						
YKA				pP	pP	16 13 15.0	+0.4
	0.2nm,0.5s,baz=110,slow=7.5,SNR=3.6						
ESDC	**Sonseca Array**	56.51	54	P	P	16 12 59.0	+0.3
	0.1nm,0.3s,baz=265,slow=7.8,SNR=8.3						
DBIC	**Dimbokro**	59.90	93	P	P	16 13 22.6	+0.1
	4.1nm,0.7s,baz=289,slow=7.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	64.36	84	P	P	16 13 51.3	-1.0
	1.3nm,0.6s,baz=278,slow=6.3,SNR=9.3						
NOA	**NORSAR Array B**	67.48	31	P	P	16 14 12.9	+1.2
	0.4nm,0.7s,baz=267,slow=6.7,SNR=2.4						
ILAR	**Eielson Array**	69.88	333	P	P	16 14 29.4	+2.9
	0.4nm,0.9s,baz=102,slow=5.2,SNR=4.6						
FINES	**FINESS Array B**	74.61	30	P	P	16 14 54.5	-0.1
	1.0nm,0.6s,baz=222,slow=2.6,SNR=7.3						

KRNET ***24*** *16:13:39.0±0.1,39.78N×71.66E,mb3.3*
SOME ***24*** *16:13:40.8,39.90N×71.77E,h0km*
NNC ***24*** *16:13:45.7±1.5,40.15N×71.78E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=11.4km s-min=4.8km az=9.0

ISC 24 16:13:33.2±2.2,39.60N±0.09×71.77E±0.03,h3km±13km,
n30,σ1s17/51,18C-3D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	0.87	302⇑	*i*P	**Pn**	**16 13 52.4**	**0.0**
	baz=94						
BTK				⇑*i*S	**Sb**	16 14 02.4	-0.6
	baz=94						
ARSB	**Arslanbob**	1.96	28⇑	*i*P	**Pg**	16 14 13.3	+2.5
	baz=33						
ARSB				⇑*i*S	**Sg**	16 14 37.6	+1.5
	baz=33						
ARK	**Arkit**	2.20	4⇑	*i*P	**Pg**	16 14 15.2	-0.3
	baz=7.0						
ARK				⇑*i*S	**Sb**	16 14 42.6	+1.1
	baz=7.0						
TAS	**Tashkent**	2.57	313⇑	*i*P	**Pb**	16 14 21.0	+1.1
	baz=11						
TAS				⇑*i*S	**Sb**	16 14 51.0	-0.9
	baz=11						
IUG	**Iuzhnay**	2.87	333	*e*P	**Pg**	16 14 28.4	+0.2
	49nm,0.3s						
IUG				*e*S	**Sg**	16 15 02.8	-2.7
	95nm,0.5s						
ARLS	**Aral**	2.98	40⇑	*i*P	**Pb**	16 14 28.3	+1.3
	baz=43						
ARLS				⇑*i*S	**Sb**	16 15 04.5	+0.6
	baz=43						
CHM	**Chimkent**	3.18	330	*e*P	**Pg**	16 14 35.4	+1.3
	74nm,0.2s						
CHM				*e*S	**Sg**	16 15 15.2	-0.1
	239nm,0.5s						
KK31	**Karatay Array**	3.63	345	⇑Pn	**Pb**	16 14 36.4	-1.6
	0.4nm,0.3s,baz=160,slow=12,SNR=55						
KK31				⇓Pg	**Pg**	16 14 42.0	-0.8
	1.8nm,0.3s,baz=156,slow=15,SNR=26						
KK31				⇑Sn	**Sn**	16 15 14.3	+0.7
	4.2nm,0.3s						
KK31				⇑Lg	Lg	16 15 25.7	
	12nm,0.4s,baz=161,slow=29,SNR=12						
NRN	**Naryn**	3.71	59⇑	*i*P	**Pb**	16 14 39.0	-0.6
	baz=62						
NRN				⇑*i*S	**Sb**	16 15 22.6	-2.4
	baz=62						
BRLS	**Borolday**	3.73	338	*e*P	**Pb**	16 14 41.5	+1.8
	0.5nm,0.2s						
BRLS				*e*S	**Sb**	16 15 25.2	-0.1
	3.4nm,0.4s						
KST	**Kastek**	4.67	41	Pg	**Pg**	16 15 04.1	+1.3
	7.2nm,0.7s						
KST				Lg	Lg	16 16 04.3	
	8.6nm,0.6s						
KST	**Kastek**	4.67	41	*e*P	**Pg**	16 15 04.1	+1.3
	7.2nm,0.7s						
KST				⇑*i*S	**Sg**	16 16 04.3	+1.0
	8.6nm,0.6s						
DGS	**Degeres**	4.72	38	Pg	**Pg**	16 15 04.3	+0.5
	9.0nm,0.7s						
DGS				Lg	Lg	16 16 04.5	
	12nm,0.7s						
DGS	**Degeres**	4.72	38	*e*P	**Pg**	16 15 04.3	+0.5
	9.0nm,0.7s						
DGS				*e*S	**Sg**	16 16 04.5	-0.4
	12nm,0.7s						
MTBS	**Maitube**	4.97	43	Pg	**Pg**	16 15 08.7	+0.1
	2.3nm,0.1s						
MTBS				Lg	Lg	16 16 12.2	
	7.7nm,0.3s						
MTBS	**Maitube**	4.97	43	*e*P	**Pg**	16 15 08.7	+0.1
	2.3nm,0.1s						
MTBS				⇓*i*S	**Sg**	16 16 12.2	-0.8
	7.7nm,0.3s						
TNSS	**Tian-Shan**	5.20	47	Pg	**Pg**	16 15 13.8	+1.1
	6.0nm,0.7s						
TNSS				Lg	Lg	16 16 20.8	
	8.6nm,0.5s						
TNSS	**Tian-Shan**	5.20	47	*e*P	**Pg**	16 15 13.8	+1.1
	6.0nm,0.7s						
TNSS				⇑*i*S	**Sg**	16 16 20.8	+0.7
	8.6nm,0.5s						
MDOK	**Medeo**	5.33	46	Pg	**Pg**	16 15 14.9	-0.5
	3.6nm,0.7s						
MDOK				Lg	Lg	16 16 23.8	
	5.6nm,1.1s						
MDOK	**Medeo**	5.33	46	*e*P	**Pg**	16 15 14.9	-0.5
	3.6nm,0.7s						
MDOK				*e*S	**Sg**	16 16 23.8	-0.7
	5.6nm,1.1s						
KOTS	**Kotyrbulak**	5.42	46	Pg	**Pg**	16 15 17.8	+0.9
	4.2nm,0.9s						
KOTS				Lg	Lg	16 16 27.0	
	11nm,0.5s						
KOTS	**Kotyrbulak**	5.42	46	*e*P	**Pg**	16 15 17.8	+0.9
	4.2nm,0.9s						
KOTS				*e*S	**Sg**	16 16 26.9	-0.2
	11nm,0.5s						
KUU	**Kurty**	5.49	37	Pg	**Pg**	16 15 17.1	-1.2
	1.4nm,0.5s						
KUU				Lg	Lg	16 16 26.6	
	5.7nm,0.7s						
KUU	**Kurty**	5.49	37⇓	*i*P	**Pg**	16 15 17.1	-1.2
	1.4nm,0.5s						
KUU				⇑*i*S	**Sg**	16 16 26.6	-2.8
	5.7nm,0.7s						
KTBS	**Karatobe**	5.52	40	Pg	**Pg**	16 15 18.3	-0.6
	1.2nm,0.5s						
KTBS				Lg	Lg	16 16 28.2	
	7.7nm,0.5s						
KTBS	**Karatobe**	5.52	40	*e*P	**Pg**	16 15 18.3	-0.6
	1.2nm,0.5s						
KTBS				*e*S	**Sg**	16 16 28.2	-2.1
	7.7nm,0.5s						
SATY	**Saty**	6.08	53	Pg	**Pg**	16 15 29.4	-0.2
	3.7nm,0.5s						
SATY				Lg	Lg	16 16 49.1	
	4.8nm,0.5s						
SATY	**Saty**	6.08	53	*e*P	**Pg**	16 15 29.4	-0.2
	3.7nm,0.5s						
SATY				*e*S	**Sg**	16 16 47.5	-0.8
	4.8nm,0.5s						
MNBS	**Baschi**	6.67	46	Pg	**Pg**	16 15 41.1	0.0
	0.9nm,0.6s						
MNBS				Lg	Lg	16 17 07.3	
	3.4nm,0.8s						
MNBS	**Baschi**	6.67	46	*e*P	**Pg**	16 15 41.1	0.0
	0.9nm,0.6s						
MNBS				*e*S	**Sg**	16 17 07.3	-0.2
	3.4nm,0.8s						

IDC ***24*** *16:23:41.8±0.5,0.72N×25.90W,h0km,mb4.4/23,*
mb1 4.5/23,mb1mx4.4/41,mbtmp4.4/23,MS4.0/29,
Ms1 4.0/29,ms1mx4.0/33,Error ellipse: s-maj=17.1km
s-min=11.9km az=144.0
ISCJB ***24*** *16:23:42.3±0.3,0.66N±0.06×25.80W±0.05,h14km,*
mb4.7/45,MS4.1/30,Error ellipse: s-maj=9.4km
s-min=6.3km az=153.5
BJI ***24*** *16:23:42.2,0.60N×25.90W,h10km,Ms5.3/1,Ms7 5.0/1*
NEIC ***24*** *16:23:43.2±0.2,0.66N×25.88W,h10km,mb4.9/24,Error*
ellipse: s-maj=6.5km s-min=4.5km az=150.0
GCMT ***24*** *16:23:48.2±0.2,0.98N±0.01×25.88W±0.01,h21km±1km,*
MW5.1/100,Moment Tensor Solution. s44,c54;
s100,c141; Duration: 0 Moment tensor: Scale 10^16Nm;
Mrr-0.11±.16; Mθθ0.71±.15; Mϕϕ-0.60±.14; Mrθ0.35±.24;
Mθϕ-4.96±.14; Mϕr-0.64±.23; Best double couple:
M05.05400×10^16 NP1:ϕs176.00000°,δ87.00000°,
λ7.00000°. NP2:ϕs86.00000°,δ83.00000°,λ177.00000°.
Principal axes: T 5.1480, Plg7.0000°, Azm41.0000°; N
-0.1870, Plg82.0000°, Azm200.0000°; P -4.9600,
Plg3.0000°, Azm311.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function

ISC 24 16:23:43.8±0.4,0.62N±0.09×25.89W±0.07,h14km,n118,
σ0s81/99,mb4.8/45,MS4.1/30,11C-13D,Central
Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	11.87	237	*e*Pn	**Pn**	**16 26 30.8**	**-2.1**
H10N3	**ASCENSION HYDR**	14.12	127	T	T	16 41 40.4	
	baz=306,slow=74,SNR=338						
H10N2	**ASCENSION HYDR**	14.13	127	T	T	16 41 41.8	
	baz=306,slow=74,SNR=321						
H10N1	**ASCENSION HYDR**	14.14	127	T	T	16 41 32.8	
	baz=306,slow=74,SNR=339						
ASCN	**Ascension**	14.29	127	*e*Pn	**Pn**	**16 27 04.8**	**-1.1**
H10S3	**ASCENSION HYDR**	14.68	131	T	T	16 42 08.2	
	baz=310,slow=74,SNR=62						
H10S1	**ASCENSION HYDR**	14.68	131	T	T	16 42 08.4	
	baz=310,slow=74,SNR=87						
H10S2	**ASCENSION HYDR**	14.69	131	T	T	16 42 09.4	
	baz=310,slow=74,SNR=102						
LIC	**Lamto**	21.55	75	*e*P	**P**	**16 28 32.9**	**-0.1**
	192nm,1.1s						
TIC	**Toumodi**	21.66	73	*e*P	**P**	**16 28 33.8**	**-0.4**
DBIC	**Dimbokro**	21.82	74	*e*P	**P**	**16 28 35.6**	**-0.4**
	71nm,1.1s						
DBIC	**Dimbokro**	21.82	74	P	**P**	**16 28 35.9**	**-0.1**
	47nm,1.0s,baz=237,slow=13,SNR=29						
DBIC				LR	LR	16 35 08.2	
	comp=Z,360nm,19.2s,baz=234,slow=32						
KIC	**Kosan Boka**	21.86	74	*e*P	**P**	**16 28 36.3**	**0.0**
	136nm,1.1s						
BDFB	**Brasilia**	27.18	233	*e*P	**P**	**16 29 27.6**	**+0.3**
	27nm,1.4s						
BDFB	**Brasilia**	27.18	233	P	**P**	**16 29 27.8**	**+0.5**
	4.1nm,0.7s,baz=45,slow=9.3,SNR=7.7						
BDFB				LR	LR	16 39 06.4	
	comp=Z,1μm,20.0s,baz=86,slow=34						
TOA0	**Torodi Ar. Sit**	30.03	64	*e*P	**P**	**16 29 52.1**	**-0.6**
TORD

MLR	Muntele Rosu	63.75	38	*e*P		P		16 34 15.2	-0.3
	22nm,1.3s								
MLR	Muntele Rosu	63.75	38	⇓*i*P		P		16 34 15.2	-0.3
OZUR		63.95	37	⇑*i*P		P		16 34 17.2	+0.5
BORG	Borgarnes	64.07	2	LR	LR	LR		16 54 30.4	
	comp=Z,105nm,21.9s,baz=180,slow=29								
ICOR	Ion Corvin	64.28	40	⇓*i*P		P		16 34 19.0	+0.2
PLOR	Plostina	64.36	38	⇓*i*P		P		16 34 19.0	-0.4
BURAR	Bucovina Array	64.36	36	⇓*i*P		P		16 34 20.5	+1.1
BUR08	Bucovina Ar. S	64.37	36	*e*P		P		16 34 19.6	+0.1
	11nm,1.5s								
VRI	Vrincioaia	64.41	38	⇑*i*P		P		16 34 19.7	0.0
BIZ	Bicaz	64.55	37	⇓*i*P		P		16 34 21.1	+0.5
TLB	Topalu	64.65	40	⇓*i*P		P		16 34 21.3	+0.1
TESR	Tescani	64.67	37	⇓*i*P		P		16 34 21.1	-0.2
CFR	Carcaliu	64.97	39	⇓*i*P		P		16 34 22.6	-0.7
BR131	Keskin Array S	66.55	46	*e*P		P		16 34 33.7	-0.1
	12nm,1.0s								
BRTR	Keskin Array B	66.55	46	P		P		16 34 34.0	+0.1
	8.0nm,0.8s,baz=231,slow=6.0,SNR=33								
BRTR				LR		LR		17 04 51.5	
	comp=Z,128nm,19.7s,baz=248,slow=37								
NB2	NORSAR Subarra	66.58	19	P		P		16 34 33.3	-0.1
	comp=Z,0.8nm,0.8s,baz=221,slow=6.5								
NOA	NORSAR Array B	66.58	19	P		P		16 34 32.8	-0.6
	comp=Z,2.2nm,0.9s,baz=222,slow=6.3,SNR=7.4								
NOA				LR		LR		17 00 25.2	
	comp=Z,61nm,19.7s,baz=205,slow=33								
HFS	Hagfors	66.74	20	LR		LR		16 59 37.7	
	comp=Z,87nm,21.2s,baz=237,slow=32								
AK11	Malin Array Si	68.12	34	*e*P		P		16 34 42.4	-0.9
KIEV	Kiev	68.15	34	*e*P		P		16 34 43.1	-0.4
	comp=Z,24nm,0.8s								
KIEV	Kiev	68.15	34	⇓*i*P		P		16 34 43.2	-0.3
AKASG	Malin Array Be	68.16	34	P		P		16 34 43.4	-0.2
	comp=Z,21nm,0.7s,baz=239,slow=6.5,SNR=23								
AKASG				LR		LR		17 05 33.2	
	comp=Z,60nm,18.6s,baz=205,slow=37								
AKBB	Malin Array Si	68.16	34	*e*P		P		16 34 43.1	-0.5
	comp=Z,24nm,0.8s								
FINES	FINESS Array B	72.22	23	P		P		16 35 09.0	+0.8
	comp=Z,5.5nm,0.9s,baz=197,slow=5.8,SNR=15								
FINES				LR		LR		17 05 22.2	
	comp=Z,93nm,19.6s,baz=232,slow=35								
FIA1	FINESS Array S	72.22	23	*e*P		P		16 35 08.5	+0.3
KBZ	Khabaz	74.36	45	P		P		16 35 22.4	+1.2
	comp=Z,9.0nm,0.9s,baz=286,slow=5.9,SNR=8.1								
KBZ				LR		LR		17 10 15.7	
	comp=Z,68nm,20.3s,baz=243,slow=38								
ULM	Lac du Bonnet	76.83	322	LR		LR		17 03 01.4	
	comp=Z,132nm,20.5s,baz=113,slow=31								
TXAR	Lajitas Array	79.05	300	P		P		16 35 48.0	-0.1
	comp=Z,1.2nm,0.8s,baz=127,slow=8.3,SNR=7.1								
TXAR				LR		LR		17 06 42.9	
	comp=Z,52nm,21.9s,baz=0.0,slow=33								
TX31	Lajitas Ar. Si	79.05	300	*e*P		P		16 35 48.2	0.0
SPITS	Spitsbergen Ar	80.62	8	LR		LR		17 05 19.6	
	comp=Z,69nm,19.1s,baz=225,slow=31								
SDCO	Great Sand Dun	81.41	308	*e*P		P		16 36 01.6	+0.6
	comp=Z,4.1nm,1.0s								
RES	Resolute Bay	83.94	346	P		P		16 36 13.3	+0.2
	comp=Z,1.2nm,0.9s,baz=54,slow=8.7,SNR=4.2								
RPN	Rapa Nui	84.44	243	P		P		16 36 16.6	+0.1
	comp=Z,30nm,0.8s,baz=117,slow=9.0,SNR=3.1								
GEYT	Alibeck	84.89	52	LR		LR		17 16 56.4	
	comp=Z,49nm,19.9s,baz=45,slow=38								
PDAR	Pinedale Array	84.93	313	P		P		16 36 18.4	-0.6
	comp=Z,0.6nm,0.9s,baz=74,slow=6.3,SNR=3.7								
PDAR				LR		LR		17 07 56.0	
	comp=Z,193nm,20.9s,baz=116,slow=31								
LOHW	Long Hollow	85.74	314	*e*P		P		16 36 23.1	+0.1
	comp=Z,20nm,1.7s								
MOOW	Moose Ponds	85.85	314	*e*P		P		16 36 23.9	+0.3
	comp=Z,9.4nm,1.5s								
YHH	Holmes Hill	85.98	315	*e*P		P		16 36 24.9	+0.5
	comp=Z,23nm,1.8s								
TPAW	Teton Pass	85.99	313	*e*P		P		16 36 24.5	+0.2
	comp=Z,5.7nm,1.0s								
YMR	Madison River	86.06	315	*e*P		P		16 36 25.6	+1.0
	comp=Z,22nm,1.6s								
ARU	Arti	86.41	34	*e*P		P		16 36 26.2	+0.4
	comp=Z,7.4nm,0.9s								
NLU	North Lily Min	86.68	310	*e*P		P		16 36 28.1	+0.4
	comp=Z,7.8nm,1.3s								
MTPU	Mount Pierson	86.70	308	*e*P		P		16 36 28.1	0.0
	comp=Z,8.1nm,1.2s								
ABKAR	Akbulak array	86.81	41	*e*P		P		16 36 28.6	+0.7
	comp=Z,2.6nm,0.8s								
YKA	Yellowknife Ar	88.86	332	P		P		16 36 36.9	-0.5
	comp=Z,0.3nm,0.8s,baz=92,slow=5.1,SNR=6.8								
YKA				LR		LR		17 11 43.8	
	comp=Z,12nm,20.9s,baz=92,slow=32								
NVAR	Mina Array Bea	91.52	308	LR		LR		17 11 52.1	
	comp=Z,72nm,20.7s,baz=178,slow=32								
NRIK	Noril'sk	97.54	19	LR		LR		17 22 41.8	
	comp=Z,67nm,18.4s,baz=206,slow=36								
LZH	Lanzhou	120.76	46	*e*PKP		PKPdf		16 42 32.3	-4.0
LZH				LR		LR			
	comp=Z,200nm,13.8s								
LZH				LR		LR			
	comp=Z,200nm,14.6s								
LZH				LR		LR			
	comp=Z,260nm,15.2s								
PPT2	Papeete2	122.16	250	*e*LR		LR		17 20 16.0	
	comp=Z,122nm,24.5s								
CD2	Chengdu	122.88	52	PKP		PKPdf		16 42 39.0	-1.4
HHC	Hu-ho-hao-te	123.50	38	*e*PKP		PKiKP		16 42 41.3	-0.3
ASAR	Alice Springs	149.84	141	PKPbc		PKPbc		16 43 34.9	+0.4
	comp=Z,1.7nm,0.9s,baz=214,slow=1.9,SNR=19								
AS01	Alice Springs	149.88	141	*e*PKPbc		PKPbc		16 43 34.4	-0.2

*ISCJB **24** 16:35:07.6±0.9,21°.99S±0°.04×68°.80W±0°.07, h106km±10km, Error ellipse: s-maj=11.4km s-min=6.3km az=173.3*

*GUC **24** 16:35:07.0±0.6,22°.00S×68°.74W,h100km±3km, ML2.7*

*SJA **24** 16:35:07.2±0.6,22°.07S×68°.89W,h105km±4km, ML2.8, MW3.3*

ISC 24 16:35:09.1±1.6,**21°.99S**±0°.04×**68°.82W**±0°.06,**h94**km±11km, **n19**,σ0**.86**/33,**5C-3D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB09	IPOC Station P	0.44	296	*i* P		Pn	16 35 23.7	-0.3
PB09				*i* S		Sn	16 35 36.4	+1.3
PB09	IPOC Station P	0.44	296	⇑*i*P		Pn	16 35 23.7	-0.3
PB09				*i* S		Sn	16 35 36.1	+1.0
LVC	Limon Verde	0.62	188	*i* P		Pn	16 35 24.5	-1.2
LVC				*i* S		Sn	16 35 38.2	+0.1
LVC	Limon Verde	0.62	188	*e*P		Pn	16 35 24.3	-1.4
LVC				*e*S		Sn	16 35 37.4	-0.7
PB03	IPOC Station P	0.87	266	⇑*i*P		Pn	16 35 27.3	-0.5
PB03				*i* S		Sn	16 35 42.9	+1.1
PB03				IAML			16 35 43.9	
	comp=E,174nm,0.2s							
PB06	IPOC Station P	0.99	224	*i* P		Pn	16 35 28.0	-1.1
PB06	IPOC Station P	0.99	224	⇑*i*P		Pn	16 35 28.6	-0.5
PB06				*i* S		Sn	16 35 45.3	+1.0
PB06				IAML			16 35 46.6	
	comp=N,195nm,0.2s							
PB07	IPOC Station P	1.02	285	*i* P		Pn	16 35 28.9	-0.6
PB07	IPOC Station P	1.02	285	⇑*i*P		Pn	16 35 29.2	-0.4
PB07				*i* S		Sn	16 35 46.0	+1.1
PB07				IAML			16 35 46.5	
	comp=N,379nm,0.2s							
PB01	IPOC Station P	1.13	327	*e*P		Pn	16 35 29.9	-0.8
PB01				*i* S		Sn	16 35 47.4	+0.5
PB02	IPOC Station P	1.20	304	*i* P		Pn	16 35 31.2	-0.3
PB02				*i* S		Sn	16 35 48.9	+0.5
PB02	IPOC Station P	1.20	304	⇑*i*P		Pn	16 35 30.9	-0.6
PB02				*i* S		Sn	16 35 49.1	+0.6
PB02				IAML			16 35 49.5	
	comp=N,198nm,0.2s							
PB04	IPOC Station P	1.28	254	⇓*i*P		Pn	16 35 32.1	-0.4
PB04				*i* S		Sn	16 35 51.3	+1.2
PB04				IAML			16 35 58.2	
	comp=N,144nm,0.2s							
PB15	IPOC Station P	1.35	206	*e*P		Pn	16 35 32.6	-0.8
PB15				*i* S		Sn	16 35 52.2	+0.5
PB05	IPOC Station P	1.54	236	*e*P		Pn	16 35 35.1	-0.5
PB05				*i* S		Sn	16 35 56.5	+0.7
PB05				IAML			16 36 01.0	
	comp=N,59nm,0.2s							
PB08	IPOC Station P	1.87	350	⇓*i*P		Pn	16 35 39.8	-0.3
GO01	Chusmiza	2.34	351	*e*P		Pn	16 35 45.8	-0.6
PB11	IPOC Station P	2.35	340	⇓*i*P		Pn	16 35 44.7	-1.5
PB11				*i* S		Sn	16 36 14.3	-0.4
HJA	Humahuaca	3.38	112	*i* P		Pn	16 36 01.0	+0.9
HJA				IAML			16 36 58.1	
	comp=Z,17nm,0.2s							

TAP 24 16:52:00.8,24°.38N×121°.47E,h7km±1km**,ML0.9,B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNSB	Datong	0.10	301	*i* P		Pg	16 52 03.5	+0.5
	baz=301							
NNSB				*i* S		Sg	16 52 04.9	+0.3
	baz=301							
NNS	Nan Shan	0.11	304	P		Pg	16 52 03.6	+0.3
	baz=305							
NNS				S		Sg	16 52 05.3	+0.3
	baz=305							
ETLH	Xiulin Townshi	0.17	177	*e*P		Pg	16 52 05.4	+1.1
	baz=184							
ETLH				*e*S		Sg	16 52 07.8	+1.1
	baz=184							
NDT	Datong Townshi	0.23	10	*e*P		Pg	16 52 05.7	+0.4
	baz=8.0							
ENA	Nanau	0.25	79	*e*P		Pg	16 52 06.3	+0.6
	baz=79							
NANB	Nanao	0.26	79	*e*P		Pg	16 52 06.2	+0.3
	baz=78							
ENTT	Nioudou	0.27	18	*e*P		Pg	16 52 06.7	+0.5
	baz=12							
YHNB	Yeheng	0.30	343	*e*P		Pb	16 52 07.7	-0.9
	baz=343							
CHGB	Renai	0.42	221	*e*P		Pg	16 52 09.3	+0.3
	baz=222							

KRSC 24 17:03:49.9±10.0,**50°.63N×160°.34E,h61**km±10km,**ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.85	311	*e*P		Pn	17 04 21.5	+2.3
KDTR				*e*S		Sn	17 04 43.8	+2.3
RUS	Russkaya	2.14	329	*e*P		Pn	17 04 25.1	+1.9
RUS				*e*S		Sn	17 04 50.0	+1.5
MTVR	Mutnovka	2.29	325	*e*P		Pn	17 04 27.8	+2.4
MTVR				*e*S		Sn	17 04 54.6	+2.0
PAU	Pauzhetka	2.38	292	*e*S		Sn	17 04 56.5	+2.1
KRMR	Karymshinskiy	2.60	329	*e*P		Pn	17 04 32.1	+2.7
KRMR				*e*S		Sn	17 05 02.4	+2.6
PET	Petropavlovsk	2.62	337	*e*S		Sn	17 05 02.7	+2.4
NLC	Nalytchevo	2.62	347	*e*S		Sn	17 05 03.0	+2.7
SKR	Severo-Kuril's	2.69	273	*e*P		Pn	17 04 33.0	+2.4
SKR				*e*S		Sn	17 05 02.8	+0.9
UGLR	Uglovaya	2.75	341	*e*P		Pn	17 04 35.0	+3.4
SDLR	Sedlovina	2.80	342	*e*P		Pn	17 04 35.3	+2.9
AVH	Avacha	2.82	340	*e*P		Pn	17 04 36.1	+3.5
AVH				*e*S		Sn	17 05 09.3	+3.9
KRER	Koryakskii	2.86	341	*e*P		Pn	17 04 36.2	+3.1
KOK	Koryaka	2.87	339	*e*P		Pn	17 04 37.1	+3.9
KRX	Arik	2.93	340	*e*P		Pn	17 04 37.7	+3.6
APC	Apacha	3.03	321	*e*P		Pn	17 04 39.7	+4.4
APC				*e*S		Sn	17 05 16.0	+5.6
MKZ	Mys Kozlova	4.03	12	*e*P		Pn	17 04 51.0	+2.1
KZV	Kizimen	4.50	360	*e*P		Pn	17 04 59.2	+3.7
TUMD	Tumrok D	4.58	0	*e*P		Pn	17 04 59.6	+3.0
TUMR	Tumrok	4.67	359	*e*P		Pn	17 05 01.9	+4.1
KBTR	Krutoberegovo	5.79	14	*e*P		Pn	17 05 15.9	+2.9

*IDC **24** 17:05:51.6±1.7,40°.54S×91°.93W,h0km,mb3.9/7, mb1 4.2/7,mb1mx4.0/28,mbtmp3.9/7,MS3.7/7,Ms1 3.7/7, ms1mx3.4/26,Error ellipse: s-maj=41.0km s-min=27.9km az=33.0*

*ISCJB **24** 17:05:52.3±1.2,40°.6S±0°.2×91°.9W±0°.2,h15km,mb3.9/7, MS3.6/6,Error ellipse: s-maj=30.1km s-min=20.7km az=136.9*

ISC 24 17:05:53.9±1.6,**40°.6S**±0°.2×**91°.9W**±0°.2,**h15**km,**n11**, σ1**810/7**,**mb3.9/7**,**MS3.5/6**,**West Chile Rise**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPN	Rapa Nui	19.67	308	LR		LR	17 15 44.6	
	comp=Z,151nm,22.0s,baz=96,slow=30							
CFA	Coronel Fontan	21.09	72	P		P	17 10 39.0	+1.1
	1.3nm,0.5s,baz=237,slow=17,SNR=4.2							
CFA				LR		LR	17 16 44.0	
	comp=Z,258nm,21.7s,baz=258,slow=31							
USHA	Ushuaia	21.15	140	P		P	17 10 38.3	+0.1
	5.8nm,0.9s,baz=307,slow=5.1,SNR=2.6							
USHA				LR		LR	17 17 07.9	
	comp=Z,186nm,19.1s,baz=294,slow=32							
PMSA	Palmer Station	29.08	156	LR		LR	17 20 31.0	
	comp=Z,80nm,22.0s,baz=328,slow=30							
LPAZ	La Paz	31.81	47	P		P	17 12 19.1	+0.4
	1.1nm,0.7s,baz=216,slow=8.7,SNR=2.6							
LPAZ				LR		LR	17 21 56.3	
	comp=Z,132nm,21.6s,baz=156,slow=30							
CPUP	Villa Florida	31.96	74	LR		LR	17 23 41.3	
	comp=Z,89nm,20.4s,baz=233,slow=34							
SIV	San Ignacio	36.27	57	P		P	17 12 55.1	-1.7
	5.9nm,0.9s,baz=201,slow=1.1,SNR=17							
MDP	Montagnes des	58.00	48	LR		LR	17 37 50.3	
	comp=Z,286nm,21.0s,baz=360,slow=33							
TXAR	Lajitas Array	70.41	349	P		P	17 17 07.1	-0.2
	0.4nm,0.5s,baz=170,slow=8.4,SNR=4.7							
NVAR	Mina Array Bea	82.25	339	P		P	17 18 15.2	+0.6
	0.4nm,0.7s,baz=174,slow=2.7,SNR=3.9							
PDAR	Pinedale Array	84.48	347	P		P	17 18 25.8	-0.2
	1.1nm,0.7s,baz=157,slow=5.5,SNR=10							

IDC 24 17:17:03.3±6.9,**18°.89S×177°.97W,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.5/43,mbtmp3.4/3,Error ellipse: s-maj=298.5km s-min=36.0km az=144.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	44.87	260	P		P	17 25 19.9	0.0
	0.2nm,0.3s,baz=96,slow=7.4,SNR=14							
ASAR	Alice Springs	44.93	255	P		P	17 25 20.1	-0.3
	0.4nm,0.7s,baz=90,slow=8.7,SNR=12							
ILAR	Eielson Array	86.75	13	P		P	17 29 48.8	0.0
	0.2nm,0.8s,baz=193,slow=3.6,SNR=2.8							

*NCEDC **24** 17:25:40.9,40°.61N×124°.97W,h14km,MW4.3(BRK)*

*NEIC **24** 17:25:40.9±0.0,40°.61N×124°.97W,h14km,MW4.3(BRK), After NCEDC.*

NEIC Felt [II] at Eureka. Also felt at Arcata, Carlotta and Ferndale.

*IDC **24** 17:25:41.0±0.7,40°.69N×124°.73W,h0km,mb3.8/12, mb1 4.1/17,mb1mx3.9/50,mbtmp3.8/17,ML3.7/5,MS3.2/11, Ms1 3.2/11,ms1mx3.1/33,Error ellipse: s-maj=11.3km s-min=9.1km az=14.0*

*ISCJB **24** 17:25:42.4±0.7,40°.67N±0°.02×124°.73W±0°.04,h22km±5km, mb3.9/13,MS3.3/6,Error ellipse: s-maj=5.2km s-min=3.0km az=164.2*

*ANF **24** 17:25:42.3±0.7,40°.77N×124°.55W,ML3.6/15,Error ellipse: s-maj=8.9km s-min=3.5km az=74.0*

ISC 24 17:25:43.3±1.9,**40°.70N**±0°.04×**124°.72W**±0°.06, **h15**km±11km,**n146**,σ1**934**/157,**mb3.9**/13,**MS3.5**/6,**Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCC	Jacoby Creek,	0.54	77	*e*Pg		Pb	17 25 54.6	+0.1
JCC				*e*Sg		Sn	17 26 04.6	-0.7
KHMM	Horse Mountain	0.77	77	*e*Pg		Pg	17 25 58.5	+0.1
KMRM	Mail Ridge	0.91	121	*e*Pg		Pb	17 25 59.7	-1.1
KRMB	Red Mountain	1.03	37	*e*Pg		Pb	17 26 01.3	-1.6
KRMB				*e*Sg		Sb	17 26 15.5	-0.8
KCPM	Cahto Peak	1.34	139	*e*Pn		Pn	17 26 04.8	-2.7
N02D	Trinity Center	1.56	79	P		Pn	17 26 09.3	-1.3
	baz=259,SNR=1000							
O02D	Mt. Diablo Mer	1.56	109	P		Pn	17 26 09.2	-1.5
	baz=287,SNR=293							
O02D				S		Sn	17 26 29.5	-1.3
	baz=287							
M02C	Callahan	1.57	63	P		Pn	17 26 09.5	-1.3
	baz=244,SNR=892							
M02C				S		Sn	17 26 29.6	-1.4
	baz=244							
WDC	Whiskeytown Da	1.66	93	*e*Pn		Pn	17 26 10.8	-1.2
L02E	Cave Junction	1.68	30	P		Pn	17 26 10.4	-1.9
	baz=212,SNR=81							
L02E				S		Sn	17 26 32.2	-1.4
	baz=212							
YBH	Yreka Blue Hor	1.83	55	*e*Pn		Pn	17 26 13.5	-0.9
YBH				*e*Sn		Sn	17 26 37.8	+0.4
YBH	Yreka Blue Hor	1.83	55	Pn		Pn	17 26 13.9	-0.5
	26nm,0.3s,baz=248,slow=14,SNR=485							
YBH				Lg		Lg	17 26 38.3	
	49nm,0.3s,baz=94,slow=22,SNR=11							
YBH				LR		LR	17 26 40.1	
	comp=Z,119nm,20.0s,baz=218,slow=32							
HOPS	Hopland Field	2.12	143	*e*Pn		Pn	17 26 15.4	-2.9
K02D	Willamette Mer	2.15	21	P		Pn	17 26 16.9	-1.8
	baz=204,SNR=18							
K02D				S		Sn	17 26 42.6	-2.5
	baz=204							
KEBM	Edson Butte	2.19	7	*e*Pn		Pn	17 26 18.2	-1.1
O03E	Paynes Creek	2.26	99	P		Pn	17 26 18.8	-1.5
	baz=279,SNR=922							
O03E				S		Sn	17 26 46.7	-1.3
	baz=279							
HUMO	Hull Mountain	2.32	34	*e*Pn		Pn	17 26 19.8	-1.3
HUMO				*e*Sn		Sn	17 26 48.7	-0.6
L04D	Klamath Falls	2.37	49	P		Pn	17 26 22.1	+0.3
	baz=231,SNR=544							
L04D				Sb		Sb	17 26 53.8	-1.1
	baz=231							
GDXM	Geysers	2.40	141	*e*Pn		Pn	17 26 20.7	-1.5
M04C	Macdoel	2.43	63	P		Pn	17 26 22.5	-0.1
	baz=244,SNR=126							
J01E	Myrtle Point	2.53	13	P		Pn	17 26 23.4	-0.4
	baz=196,SNR=8.0							
J01E				S		Sn	17 26 53.4	-1.0
	baz=196							
ORV	Oroville	2.72	114	*e*Pn		Pn	17 26 24.4	-2.1
ORV				*e*Sn		Sn	17 26 58.5	-0.7
MCCM	Marconi Confer	2.92	150	*e*Pn		Pn	17 26 26.2	-3.0
K04D	Chiloquin, OR	2.94	48	P		Pn	17 26 29.4	-0.2
	baz=230							
I03D	Drain, OR	3.17	18	P		Pn	17 26 32.9	+0.3
	baz=201,SNR=60							
I03D				S		Sn	17 27 08.5	-1.6
	baz=201							
J04D	Umpqua Nationa	3.20	37	P		Pn	17 26 33.2	-0.1
	baz=219							
AFDM	Forest Hills D	3.38	120	*e*Pn		Pn	17 26 33.7	-1.8
AFDM				*e*Sn		Sn	17 27 14.7	-0.7
BEKR	Beckworth	3.44	103	*e*Pn		Pn	17 26 35.9	-0.7
BEKR				*e*Sn		Sn	17 27 18.3	+1.1
I02D	Swisshome	3.47	10	P		Pn	17 26 36.5	-0.2
	baz=193							
I02D				S		Sn	17 27 15.2	-2.3
	baz=193							
K05A	Summer Lake	3.51	54	*e*Pn		Pn	17 26 37.7	+0.2
I04A	Tendick Farm,	3.54	28	P		Pn	17 26 38.5	+0.8
	baz=211							
I04A				S		Sn	17 27 18.2	-1.1
	baz=211							
MOD	Modoc Plateau	3.54	69	*e*Pn		Pn	17 26 36.9	-1.0
J05D	Fort Rock, OR	3.67	44	P		Pn	17 26 39.6	0.0
	baz=227							
RUBR	Rubicon Trail	3.88	114	*e*Pn		Pn	17 26 42.8	+0.1
RUBR				*e*Sn		Sn	17 27 29.9	+1.9
COR	Corvallis	4.02	15	*e*Pn		Pn	17 26 45.6	+1.3
VCNR	Virginia City	4.14	108	*e*Pn		Pn	17 26 46.2	0.0
VCNR				*e*Sn		Sn	17 27 33.9	-0.5
PINE	Pine Mountain	4.17	41	*e*Pn		Pn	17 26 47.7	+1.1
PAHR	Pah Rah Range	4.21	102	*e*Pn		Pn	17 26 46.2	-0.9
PNTR	Pine Nut	4.25	111	*e*Pn		Pn	17 26 48.0	+0.2
CMB	Columbia Colle	4.29	127	*e*Pn		Pn	17 26 47.2	-0.8
H04A	Detroit Lake	4.40	24	*e*Pn		Pn	17 26 50.6	+1.0
H04A				*e*Sn		Sn	17 27 41.9	+1.3
YERR	Yerington	4.55	110	*e*Pn		Pn	17 26 51.6	-0.3
WAKR	Walker	4.63	117	*e*Pn		Pn	17 26 53.0	0.0
SAO	San Andreas Ge	4.69	146	*e*Pn		Pn	17 26 51.1	-2.5
WVOR	Wild Horse Val	4.88	67	*e*Pn		Pn	17 26 55.0	-1.3
I07A	Izee	5.13	47	*e*Pn		Pn	17 27 00.7	+0.9
RYN	Ryan	5.21	111	*e*Pn		Pn	17 27 00.7	-0.2
MDPB	Devils Postpil	5.35	123	*e*Pn		Pn	17 27 03.1	+0.3
KVN	Kaiserville	5.35	106	*e*Pn		Pn	17 27 02.4	-0.5
J08A	Circle Bar Ran	5.36	58	*e*Pn		Pn	17 27 02.5	-0.3
J08A				*e*Sn		Sn	17 28 05.8	+1.5
NV01	Mina Array Sit	5.45	112	*e*Pn		Pn	17 27 04.0	-0.3
NVAR	Mina Array Bea	5.45	112	Pn		Pn	17 27 04.6	+0.3
	2.9nm,0.3s,baz=291,slow=14,SNR=141							
NVAR				Lg		Lg	17 28 34.2	
	baz=294,slow=26,SNR=1.6							
NVAR				LR		LR	17 29 38.7	
	comp=Z,185nm,18.8s,baz=214,slow=43							
NV11	Mina Array Sit	5.56	112	*e*Pn		Pn	17 27 05.0	-0.7
BMN	Battle Mountai	5.72	90	*e*Pn		Pn	17 27 07.2	-0.6
G08A	Pilot Rock	6.24	41	*e*Pn		Pn	17 27 17.6	+2.6
VES	Vestal, Richgr	6.57	136	P		Pn	17 27 19.3	-0.1
	baz=318

ANMO	**Albuquerque**	**15.53**	**106**	*e*Pn		**Pn**	17 29 23.2	**+1.3**
ANMO	**Albuquerque**	**15.53**	**106**	P		**Pn**	17 29 21.6	**-0.3**
	baz=297							
ANMO	**Albuquerque**	**15.53**	**106**	Pn		**Pn**	17 29 22.4	**+0.5**
	0.1nm,0.3s,baz=310,slow=12,SNR=3.4							
T25A	**Trinidad**	**16.20**	**96**	*e*Pn		**P**	17 29 32.9	**-0.9**
T25A	**Trinidad**	**16.20**	**96**	P		**Pn**	17 29 30.4	**-0.1**
	baz=289							
CBKS	**Cedar Bluff**	**19.29**	**87**	*e*P		**P**	17 30 07.0	**-0.5**
CBKS	**Cedar Bluff**	**19.29**	**87**	P		**P**	17 30 06.0	**-1.6**
	baz=283							
MDND	**Maddock**	**19.30**	**60**	*e*P		**P**	17 30 06.6	**-1.0**
TX31	**Lajitas Ar. Si**	**20.58**	**117**	*e*P		Pn	17 30 23.4	-0.7
TXAR	**Lajitas Array**	**20.58**	**117**	P		**P**	17 30 22.3	**+0.5**
	2.0nm,0.7s,baz=298,slow=9.1,SNR=24							
TXAR				LR		LR	17 37 42.3	
	comp=Z,85nm,20.9s,baz=0.0,slow=35							
FFC	**Flin Flon**	**20.63**	**40**	*e*P		**P**	17 30 22.2	**+0.2**
ECSD	**EROS Data Cent**	**21.00**	**72**	P		**P**	17 30 24.0	**-2.1**
	baz=271							
WMOK	**Wichita Mounta**	**21.33**	**98**	P		**P**	17 30 28.7	**-1.0**
	baz=294							
KSU1	**Kansas State U**	**21.59**	**85**	P		**P**	17 30 31.7	**-0.8**
	baz=283							
ULM	**Lac du Bonnet**	**22.25**	**55**	*e*P		**P**	17 30 37.7	**-1.7**
ULM	**Lac du Bonnet**	**22.25**	**55**	P		**P**	17 30 36.5	**-2.9**
	13nm,0.9s,baz=258,slow=9.5,SNR=19							
ULM				LR		LR	17 39 38.1	
	comp=Z,121nm,18.1s,baz=127,slow=38							
YKA	**Yellowknife Ar**	**22.66**	**12**	P		**P**	17 30 43.6	**0.0**
	1.1nm,0.8s,baz=200,slow=10.0,SNR=14							
YKA				LR		LR	17 40 04.9	
	comp=Z,13nm,21.5s,baz=198,slow=38							
I39A	**Houston**	**24.67**	**72**	P		**P**	17 31 03.5	**0.0**
	baz=274							
K40A	**Colesburg**	**25.06**	**74**	P		**P**	17 31 06.7	**-0.3**
	baz=277							
E39A	**Mellen**	**25.28**	**66**	P		**P**	17 31 08.4	**-0.6**
	baz=269							
J40A	**Soldiers Grove**	**25.28**	**73**	P		**P**	17 31 09.1	**+0.1**
	baz=276							
I40A	**Norwalk**	**25.32**	**71**	P		**P**	17 31 09.6	**+0.2**
	baz=275							
K41A	**Shullsburg**	**25.69**	**74**	P		**P**	17 31 12.0	**-0.6**
	baz=277							
ILAR	**Eielson Array**	**27.30**	**339**	P		**P**	17 31 27.9	**+0.9**
	0.6nm,0.7s,baz=152,slow=8.3,SNR=4.6							
ILAR				PcP		**PcP**	17 34 46.2	**+0.1**
	0.6nm,0.8s,baz=176,slow=2.8,SNR=5.9							
INK	**Inuvik**	**28.07**	**353**	P		**P**	17 31 35.4	**+1.6**
	0.3nm,0.3s,baz=169,slow=5.2,SNR=2.1							
TKL	**Tuckaleechee C**	**32.37**	**86**	P		**P**	17 32 12.5	**+0.3**
	8.8nm,1.1s,baz=232,slow=8.7,SNR=2.9							
TIXI	**Tiksi**	**56.77**	**339**	P		**P**	17 35 25.6	**-0.6**
	1.3nm,0.4s,baz=81,slow=8.0,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**61.19**	**272**	T		T	18 42 24.2	
	baz=53,slow=75,SNR=38							
H11N2	**WAKE ISLAND Hy**	**61.19**	**272**	T		T	18 42 24.5	
	baz=53,slow=75,SNR=62							
H11N1	**WAKE ISLAND Hy**	**61.21**	**272**	T		T	18 42 25.5	
	baz=53,slow=75,SNR=55							
H11S1	**WAKE ISLAND Hy**	**62.06**	**271**	T		T	18 43 30.4	
	baz=54,slow=75,SNR=17							
H11S2	**WAKE ISLAND Hy**	**62.07**	**271**	T		T	18 43 28.5	
	baz=54,slow=75,SNR=24							
H11S3	**WAKE ISLAND Hy**	**62.08**	**271**	T		T	18 43 31.1	
	baz=54,slow=75,SNR=17							
NB2	**NORSAR Subarra**	**72.45**	**21**	P		**P**	17 37 08.9	**+0.1**
	comp=Z,2.3nm,0.9s,baz=310,slow=7.4							
NOA	**NORSAR Array B**	**72.45**	**21**	P		**P**	17 37 08.8	**0.0**
	comp=Z,1.4nm,0.9s,baz=327,slow=5.9,SNR=4.6							
NOA				LR		LR	18 08 43.0	
	comp=Z,28nm,18.5s,baz=290,slow=36							
FIA0	**FINESS Array S**	**75.48**	**14**	*e*P		**P**	17 37 26.7	**+0.3**
FINES	**FINESS Array B**	**75.48**	**14**	P		**P**	17 37 26.7	**+0.3**
	comp=Z,1.9nm,1.0s,baz=347,slow=4.1,SNR=4.9							
SONA0	**Songino Array**	**80.88**	**328**	*e*P		**P**	17 37 57.3	**+0.5**
SONM	**Songino Array**	**80.88**	**328**	P		**P**	17 37 57.3	**+0.5**
	comp=Z,0.4nm,0.7s,baz=44,slow=3.5,SNR=3.6							
ZAA1	**Zalesovo Array**	**82.36**	**343**	*e*P		**P**	17 38 04.7	**+0.5**
ZALV	**Zalesovo Beam**	**82.36**	**343**	P		**P**	17 38 04.7	**+0.4**
	comp=Z,0.6nm,0.6s,baz=27,slow=3.6,SNR=4.8							
GERES	**GERESS Array B**	**83.57**	**26**	LR		LR	18 20 06.1	
	comp=Z,34nm,18.3s,baz=75,slow=39							
HHC	**Hu-ho-hao-te**	**84.08**	**321**	*e*P		**P**	17 38 12.5	**-1.1**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,170nm,5.7s							
AKASG	**Malin Array Be**	**86.16**	**16**	P		**P**	17 38 23.0	**-0.6**
	comp=Z,0.1nm,0.2s,baz=343,slow=4.1,SNR=2.2							
MK32	**Makanchi Array**	**89.62**	**342**	*e*P		**P**	17 38 40.6	**+0.2**
MKAR	**Makanchi Array**	**89.62**	**342**	P		**P**	17 38 40.6	**+0.2**
	comp=Z,0.4nm,0.9s,baz=14,slow=5.4,SNR=3.5							
WMQ	**Urumqi**	**90.94**	**337**	*e*P		**P**	17 38 47.3	**+0.7**
TGY	**Tagaytay City**	**98.44**	**297**	LR		LR	18 16 57.6	
	comp=Z,20nm,20.0s,baz=141,slow=39							
BOSA	**Boshof**	**152.66**	**73**	PKPbc		**PKPbc**	17 45 39.0	**-0.6**
	comp=Z,1.0nm,0.6s,baz=264,slow=2.2,SNR=3.2							

*IDC **24** 17:26:28.7±0.7,50.61N×160.29E,h0km,mb3.7/12, mb1 3.9/16,mb1mx3.7/46,mbtmp3.7/16,ML2.9/4,Error ellipse: s-maj=17.0km s-min=14.6km az=136.0*
*KRSC **24** 17:26:30.6±10.0,50.70N×160.18E,h99km±10km,ML4.0*
*ISCJB **24** 17:26:31.7±0.5,50.65N±0.04×160.22E±0.06,h33km, mb3.7/12,Error ellipse: s-maj=5.9km s-min=5.2km az=160.6*
*MOS **24** 17:26:33.6±1.3,50.76N×160.13E,h92km,mb4.1/1,Error ellipse: s-maj=13.3km s-min=4.9km az=100.9*

ISC 24 17:26:33.8±0.7,50.65N±0.06×160.24E±0.06,h35km,n60, σ1§24/72,mb3.9/12,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.79**	**311**	*e*P		**Pn**	17 27 01.2	**-0.9**
KDTR				*e*S		**Sn**	17 27 22.2	**-1.4**
KDTR	**Khodutka, Kamc**	**1.79**	**311**	PN		**Pn**	17 27 01.2	**-0.9**
KDTR				S		**Sn**	17 27 22.2	**-1.4**
RUS	**Russkaya**	**2.09**	**330**	*e*P		**Pn**	17 27 04.2	**-2.0**
RUS	**Russkaya**	**2.09**	**330**	PN		**Pn**	17 27 04.2	**-2.0**
MTVR	**Mutnovka**	**2.24**	**326**	*e*P		**Pn**	17 27 07.0	**-1.5**
MTVR				*e*S		**Sn**	17 27 33.6	**-1.4**
MTVR	**Mutnovka**	**2.24**	**326**	PN		**Pn**	17 27 07.0	**-1.5**
MTVR				S		**Sn**	17 27 33.6	**-1.4**
ASAK	**Asacha**	**2.27**	**321**	*e*P		**Pn**	17 27 07.8	**-1.0**
ASAK	**Asacha**	**2.27**	**321**	PN		**Pn**	17 27 07.8	**-1.0**
PAU	**Pauzhetka**	**2.31**	**292**	*e*P		**Pn**	17 27 09.1	**-0.2**
PAU	**Pauzhetka**	**2.31**	**292**	PN		**Pn**	17 27 09.1	**-0.2**
KRMR	**Karymshinskiy**	**2.55**	**330**	*e*P		**Pn**	17 27 11.1	**-1.5**
KRMR				*e*S		**Sn**	17 27 42.3	**0.0**
KRMR	**Karymshinskiy**	**2.55**	**330**	PN		**Pn**	17 27 11.1	**-1.5**
KRMR				S		**Sn**	17 27 42.3	**0.0**
PET	**Petropavlovsk**	**2.58**	**338**	*e*S		**Sn**	17 27 42.0	**-1.0**
PET	**Petropavlovsk**	**2.58**	**338**	*e*PN		**Pn**	17 27 11.9	**-1.0**
PET				*e*S		**Sn**	17 27 41.9	**-1.0**
PET				smax		smax		
	comp=N,123nm,0.7s							
PET				smax		smax		
	comp=E,67nm,0.7s							
NLC	**Nalytchevo**	**2.59**	**348**	*e*P		**Pn**	17 27 12.4	**-0.7**
NLC				*e*S		**Sn**	17 27 42.0	**-1.3**
NLC	**Nalytchevo**	**2.59**	**348**	PN		**Pn**	17 27 12.4	**-0.7**
NLC				S		**Sn**	17 27 42.0	**-1.3**
SKR	**Severo-Kuril's**	**2.62**	**272**	*e*P		**Pn**	17 27 11.7	**-1.8**
SKR				*e*S		**Sn**	17 27 41.6	**-2.5**
SKR	**Severo-Kuril's**	**2.62**	**272**	*e*PN		**Pn**	17 27 11.8	**-1.8**
SKR				*i* S		**Sn**	17 27 41.6	**-2.5**
SKR				pmax		pmax		
	comp=Z,85nm,0.5s							
SKR				smax		smax		
	comp=N,289nm,0.7s							
SKR				smax		smax		
	comp=E,522nm,0.7s							
UGLR	**Uglovaya**	**2.71**	**342**	*e*P		**Pn**	17 27 14.6	**-0.3**
UGLR	**Uglovaya**	**2.71**	**342**	PN		**Pn**	17 27 14.6	**-0.3**
SDLR	**Sedlovina**	**2.77**	**343**	*e*P		**Pn**	17 27 14.7	**-1.0**
SDLR	**Sedlovina**	**2.77**	**343**	PN		**Pn**	17 27 14.7	**-1.0**
SMAR	**Somma**	**2.77**	**342**	*e*P		**Pn**	17 27 15.5	**-0.3**
SMAR	**Somma**	**2.77**	**342**	PN		**Pn**	17 27 15.5	**-0.3**
AVH	**Avacha**	**2.78**	**341**	*e*P		**Pn**	17 27 15.2	**-0.6**
AVH	**Avacha**	**2.78**	**341**	PN		**Pn**	17 27 15.2	**-0.6**
KRER	**Koryakskii**	**2.82**	**341**	*e*P		**Pn**	17 27 16.4	**0.0**
KRER	**Koryakskii**	**2.82**	**341**	PN		**Pn**	17 27 16.4	**0.0**
KOK	**Koryaka**	**2.83**	**340**	*e*P		**Pn**	17 27 15.8	**-0.7**
KOK	**Koryaka**	**2.83**	**340**	PN		**Pn**	17 27 15.8	**-0.7**
KRX	**Arik**	**2.89**	**341**	*e*P		**Pn**	17 27 16.7	**-0.7**
KRX	**Arik**	**2.89**	**341**	PN		**Pn**	17 27 16.7	**-0.7**
PETK	**Petropavlovsk-**	**2.92**	**328**	Pn		**Pn**	17 27 17.3	**-0.5**
	comp=E,3.1nm,0.3s,baz=119,slow=18,SNR=61							
PETK				Sn		**Sn**	17 27 53.0	**+1.3**
	comp=E,2.2nm,0.3s,baz=133,slow=17,SNR=3.8							
APC	**Apacha**	**2.98**	**321**	*e*P		**Pn**	17 27 18.7	**+0.3**
APC	**Apacha**	**2.98**	**321**	PN		**Pn**	17 27 18.7	**+0.3**
MKZ	**Mys Kozlova**	**4.02**	**12**	*e*P		**Pn**	17 27 30.4	**-2.3**
MKZ	**Mys Kozlova**	**4.02**	**12**	PN		**Pn**	17 27 30.4	**-2.3**
TUMD	**Tumrok D**	**4.56**	**1**	*e*P		**Pn**	17 27 39.1	**-1.2**
TUMD				*e*S		**Sn**	17 28 29.0	**-3.0**
TUMR	**Tumrok**	**4.64**	**359**	PN		**Pn**	17 27 39.1	**-2.4**
KBTR	**Krutoberegovo**	**5.78**	**14**	*e*P		**Pn**	17 27 54.9	**-2.0**
KBTR	**Krutoberegovo**	**5.78**	**14**	PN		**Pn**	17 27 54.9	**-2.0**
SEY	**Seymchan**	**13.03**	**344**	Pn		**Pn**	17 29 36.5	**+0.4**
	comp=E,0.0nm,0.3s,baz=83,slow=21,SNR=3.5							
ASAJ	**Asahikawa**	**13.61**	**248**	Pn		**Pn**	17 29 43.5	**-0.6**
	comp=E,0.1nm,0.3s,baz=122,slow=13,SNR=3.1							
BILL	**Bilibino**	**17.70**	**7**	*i* P		**P**	17 30 38.3	**+0.6**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.4s							
KLR	**Kul'dur**	**18.35**	**277**	P		**Pn**	17 30 45.3	**0.0**
	comp=Z,0.1nm,0.3s,baz=1.6,slow=19,SNR=2.5							
MJAR	**Matsushiro Arr**	**21.18**	**237**	P		**P**	17 31 17.2	**+1.2**
	comp=Z,1.3nm,0.8s,baz=33,slow=8.6,SNR=5.7							
TIXI	**Tiksi**	**25.36**	**337**	P		**P**	17 31 58.2	**+1.1**
	comp=Z,4.0nm,0.7s,baz=128,slow=9.8,SNR=19							
ILAR	**Eielson Array**	**30.52**	**42**	P		**P**	17 32 42.8	**-0.4**
	comp=Z,0.4nm,0.8s,baz=254,slow=8.1,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**31.30**	**168**	T		T	18 06 41.1	
	baz=352,slow=76,SNR=5.1							
H11N3	**WAKE ISLAND Hy**	**31.31**	**168**	T		T	18 06 43.3	
	baz=352,slow=76,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**31.32**	**168**	T		T	18 06 43.4	
	baz=352,slow=76,SNR=3.7							
INK	**Inuvik**	**35.78**	**36**	P		**P**	17 33 28.8	**-0.2**
	comp=Z,0.9nm,0.5s,baz=259,slow=7.6,SNR=3.7							
YKA	**Yellowknife Ar**	**44.93**	**41**	P		**P**	17 34 45.4	**+0.8**
	comp=Z,1.0nm,0.8s,baz=296,slow=8.0,SNR=8.0							
MKAR	**Makanchi Array**	**49.34**	**298**	P		**P**	17 35 19.8	**+0.5**
	comp=Z,0.3nm,0.5s,baz=59,slow=6.8,SNR=6.5							
MKAR				PcP		**PcP**	17 36 41.2	**-0.2**
	comp=Z,0.1nm,0.5s,baz=56,slow=3.6,SNR=2.4							
NVAR	**Mina Array Bea**	**56.52**	**69**	P		**P**	17 36 13.5	**+0.9**
	comp=Z,0.7nm,0.7s,baz=298,slow=7.3,SNR=5.6							
NVAR				PcP		**PcP**	17 37 08.2	**-0.8**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.9,SNR=2.9							
PDAR	**Pinedale Array**	**58.66**	**60**	P		**P**	17 36 28.3	**+0.7**
	comp=Z,0.9nm,0.9s,baz=305,slow=5.2,SNR=6.7							
AKASG	**Malin Array Be**	**70.76**	**329**	P		**P**	17 37 47.3	**+1.3**
	comp=Z,0.4nm,0.4s,baz=37,slow=6.4,SNR=3.0							
TXAR	**Lajitas Array**	**71.53**	**66**	P		**P**	17 37 51.5	**+0.3**
	comp=Z,0.6nm,0.5s,baz=306,slow=5.3,SNR=8.7							
WRA	**Warramunga Arr**	**73.90**	**205**	P		**P**	17 38 04.5	**-0.5**
	comp=Z,1.5nm,0.8s,baz=24,slow=6.2,SNR=12							
ASAR	**Alice Springs**	**77.56**	**205**	P		**P**	17 38 26.1	**+0.2**
	comp=Z,1.0nm,0.7s,baz=17,slow=5.3,SNR=28							

KRSC 24 17:27:25.1±10.0,50.78N×160.20E,h97km±10km,ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.69**	**309**	*e*P		**Pn**	17 27 55.0	**+1.5**
KDTR				*e*S		Sn	17 28 16.5	**+1.4**
RUS	**Russkaya**	**1.96**	**328**	*e*P		Pn	17 27 58.4	**+1.3**
RUS				*e*S		Sn	17 28 22.9	**+1.5**
MTVR	**Mutnovka**	**2.12**	**325**	*e*S		Sn	17 28 27.4	**+2.1**
ASAK	**Asacha**	**2.15**	**319**	*e*P		Pn	17 28 02.6	**+2.9**
PAU	**Pauzhetka**	**2.24**	**289**	*e*S		Sn	17 28 30.0	**+2.1**
SPN	**Mys Shipunski**	**2.33**	**357**	*e*S		Sn	17 28 30.7	**+0.7**
KRMR	**Karymshinskiy**	**2.42**	**329**	*e*S		Sn	17 28 35.2	**+3.0**
NLC	**Nalytchevo**	**2.46**	**348**	*e*S		Sn	17 28 36.3	**+3.4**
SKR	**Severo-Kuril's**	**2.59**	**270**	*e*S		Sn	17 28 37.2	**+1.0**
KZV	**Kizimen**	**4.35**	**1**	*e*P		Pn	17 28 31.8	**+2.8**
TUMD	**Tumrok D**	**4.44**	**2**	*e*S		Sn	17 29 21.7	**+1.1**
TUMR	**Tumrok**	**4.52**	**360**	*e*P		Pn	17 28 34.9	**+3.6**
KBTR	**Krutoberegovo**	**5.66**	**15**	*e*P		Pn	17 28 48.7	**+2.0**

*IDC **24** 17:28:17.9±0.4, 12.02N×60.07W,h0km,mb4.5/31, mb1 4.6/34,mb1mx4.6/39,mbtmp4.5/34,ML5.0/2,MS3.6/12, Ms1 3.6/12,ms1mx3.3/33,Error ellipse: s-maj=12.4km s-min=9.9km az=103.0*
*TRN **24** 17:28:22.6, 12.08N×60.23W,h9km,MD4.7*
TRN Felt Grenada MMI III, IV, St. Vincent III.
*ISCJB **24** 17:28:24.8±0.3, 12.01N±0.02×60.20W±0.03, h65km±3km, mb4.6/71, Error ellipse: s-maj=4.8km s-min=3.3km az=175.1*
*MOS **24** 17:28:24.5±1.2, 11.99N×60.17W, h56km, mb5.1/14, Error ellipse: s-maj=9.0km s-min=6.6km az=75.5*
*NEIC **24** 17:28:25.4±0.4, 11.96N×60.16W, h58km±3km, mb4.8/35, MD4.8(TRN), Error ellipse: s-maj=5.5km s-min=3.7km az=94.0*
NEIC Felt at Grenville, Grenada.

ISC 24 17:28:26.0±0.8,12.01N±0.03×60.21W±0.03,h62km±7km, n275,σ1§41/313,mb4.7/71,10C-6D,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOSP	**Speyside**	**0.78**	**204**	*e*P		**Pn**	17 28 39.5	**-1.8**
TOSP				*e*S		**Sn**	17 28 57.3	**+4.8**
TOSP	**Speyside**	**0.78**	**204**	*e*P		**Pn**	17 28 39.5	**-1.8**
TOSP				*e*S		**Sn**	17 28 57.3	**+4.8**
BBGH	**Gun Hill**	**1.29**	**29**	*e*Pn		**Pn**	17 28 48.0	**-0.1**
BBGH				*e*S		**Sn**	17 29 05.2	**+0.7**
BBGH	**Gun Hill**	**1.29**	**29**	*e*P		**Pn**	17 28 48.4	**+0.3**
BBGH				*e*S		**Sn**	17 29 05.2	**+0.7**
BBSP	**Saint Philip**	**1.31**	**34**	*e*P		**Pn**	17 28 49.0	**+0.7**
BBSP				*e*S		**Sn**	17 29 06.4	**+1.5**
BBSP	**Saint Philip**	**1.31**	**34**	*e*P		**Pn**	17 28 49.0	**+0.7**
BBSP				*e*S		**Sn**	17 29 06.4	**+1.5**
GRSS	**Sisters**	**1.40**	**282**	*e*P		**Pn**	17 28 49.7	**+0.2**
GRSS	**Sisters**	**1.40**	**282**	*e*P		**Pn**	17 28 49.2	**-0.2**
GRHS	**Sauteurs**	**1.42**	**279**	*e*P		**Pn**	17 28 49.6	**0.0**
GRHS				*e*S		**Sn**	17 29 09.5	**+2.1**
GRHS	**Sauteurs**	**1.42**	**279**	*e*P		**Pn**	17 28 49.6	**0.0**
GRHS				*e*S		**Sn**	17 29 09.5	**+2.1**
GRGR	**Grenville**	**1.42**	**275**	*e*Pn		**Pn**	17 28 48.9	**-0.8**
GRGR				*e*S		**Sn**	17 29 09.5	**+2.1**
GRGR	**Grenville**	**1.42**	**275**	*e*P		**Pn**	17 28 48.8	**-0.8**
GRGR				*e*S		**Sn**	17 29 09.5	**+2.1**
FCV	**Fort Charlotte**	**1.52**	**319**	*e*P		**Pn**	17 28 51.1	**+0.1**
FCV	**Fort Charlotte**	**1.52**	**319**	*e*P		**Pn**	17 28 51.1	**+0.1**
SVCV	**St. Vincent, C**	**1.55**	**324**	*e*P		**Pn**	17 28 50.8	**-0.7**
SVCV				*e*S		**Sn**	17 29 10.8	**+0.1**
SVB	**Belmont**	**1.61**	**321**	*e*Pn		**Pn**	17 28 51.7	**-0.6**
SVB				*e*S		**Sn**	17 29 13.8	**+1.6**
SVB	**Belmont**	**1.61**	**321**	*e*P		**Pn**	17 28 51.4	**-0.9**
SVB				*e*S		**Sn**	17 29 13.8	**+1.6**
SSV	**Crater Summit**	**1.62**	**324**	*e*P		**Pn**	17 28 52.5	**0.0**
SSV	**Crater Summit**	**1.62**	**324**	*e*P		**Pn**	17 28 52.5	**0.0**
SVV	**Soufriere Volc**	**1.63**	**323**	*e*P		**Pn**	17 28 52.7	**+0.2**
SVV				*e*S		**Sn**	17 29 13.5	**+1.0**
SVV	**Soufriere Volc**	**1.63**	**323**	*e*P		**Pn**	17 28 52.7	**+0.2**
SVV				*e*S		**Sn**	17 29 13.5	**+1.0**
SFAN	**Fancy Village**	**1.66**	**326**	*e*P		**Pn**	17 28 52.8	**-0.1**
SFAN	**Fancy Village**	**1.66**	**326**	*e*P		**Pn**	17 28 52.8	**-0.1**
TBH	**Brigand Hill**	**1.73**	**209**	*e*P		**Pn**	17 28 53.5	**-0.5**
TBH	**Brigand Hill**	**1.73**	**209**	*e*P		**Pn**	17 28 53.5	**-0.5**
TBH	**Brigand Hill**	**1.73**	**209**	*e*P		**Pn**	17 28 53.5	**-0.5**
TRN	**Trinidad (W)**	**1.79**	**221**	*e*P		**Pn**	17 28 54.5	**-0.2**
TRN	**Trinidad (W)**	**1.79**	**221**	*e*P		**Pn**	17 28 54.5	**-0.2**
TRN	**Trinidad (W)**	**1.79**	**221**	*e*P		**Pn**	17 28 54.5	**-0.2**
MCLT	**Moule a Chique**	**1.83**	**337**	*e*P		**Pn**	17 28 55.0	**-0.3**
MCLT				*e*S		**Sn**	17 29 17.4	**-0.1**
MCLT	**Moule a Chique**	**1.83**	**337**	*e*P		**Pn**	17 28 55.0	**-0.3**
MCLT				*e*S		**Sn**	17 29 17.4	**-0.1**
SLB	**Belfond**	**1.98**	**336**	*i* P		**Pn**	17 28 57.5	**+0.2**
SLB				*e*S		**Sn**	17 29 21.7	**+0.6**
SLB	**Belfond**	**1.98**	**336**	*i* P		**Pn**	17 28 57.5	**+0.2**
SLB				*e*S		**Sn**	17 29 21.7	**+0.6**
TPP	**Pointe-a-Pierr**	**2.08**	**216**	*e*P		**Pn**	17 28 59.3	**+0.7**
TPP				e			17 29 40.1	
TPP	**Pointe-a-Pierr**	**2.08**	**216**	*e*P		**Pn**	17 28 59.3	**+0.7**
TPP	**Pointe-a-Pierr**	**2.08**	**216**	*e*P		**Pn**	17 28 59.3	**+0.7**
SLW	**Petit Monier**	**2.12**	**340**	*e*P		**Pn**	17 28 58.0	**-1.2**
H05S1	**Guadeloupe/Mar**	**2.48**	**346**	Pn		**Pn**	17 29 02.3	**-1.7**
H05S1				Sn		**Sn**	17 29 30.5	**-2.7**
	SNR=4274							
MVM	**Montagne Vaucl**	**2.62**	**345**	*e*P		**Pn**	17 29 04.9	**-1.1**
BIM	**Bigot**	**2.63**	**341**	*e*P		**Pn**	17 29 05.5	**-0.6**
TRMF	**Trois Ilets**	**2.64**	**342**	*e*P		**Pn**	17 29 05.7	**-0.6**
LPMF	**Morne Lapointe**	**2.65**	**344**	*e*P		**Pn**	17 29 06.2	**-0.3**
ZAM	**Aeronautique**	**2.67**	**343**	*e*P		**Pn**	17 29 06.0	**-0.7**
ILAM	**Ilet Lapin Mar**	**2.82**	**347**	*e*P		**Pn**	17 29 07.9	**-0.8**
FDF	**Fort de France**	**2.86**	**341**	*e*Pn		**Pn**	17 29 09.3	**0.0**
FDF				*e*S		**Sn**	17 29 43.0	**+0.5**
FDF	**Fort de France**	**2.86**	**341**	*e*P		**Pn**	17 29 09.7	**+0.4**
FDF				*e*S		**Sn**	17 29 43.0	**+0.5**
FDF	**Fort de France**	**2.86**	**341**	*e*P		**Pn**	17 29 09.3	**0.0**
FDF				*e*S		**Sn**	17 29 43.0	**+0.5**
PML	**Morne Lenard**	**2.91**	**341**	*e*P		**Pn**	17 29 09.9	**-0.1**
GBMF	**Grand Be**	**2.92**	**342**	*e*P		**Pn**	17 29 10.0	**-0.2**
BAMF	**Morne Balai**	**2.93**	**342**	*e*P		**Pn**	17 29 10.2	**-0.2**
CXM	**Morne La Croix**	**2.94**	**342**	*e*P		**Pn**	17 29 10.5	**+0.1**
PCM	**Pelee Case Pet**	**2.95**	**341**	*e*P		**Pn**	17 29 10.3	**-0.3**
DSTT	**Stowe**	**3.39**	**342**	*e*P		**Pn**	17 29 17.2	**+0.7**
DSTT	**Stowe**	**3.39**	**342**	*e*P		**Pn**	17 29 17.2	**+0.7**
DBCT	**Belle View Cho**	**3.42**	**341**	*e*P		**Pn**	17 29 18.2	**+1.2**
DBCT				*e*S		**Sn**	17 29 56.9	**+0.5**
DBCT	**Belle View Cho**	**3.42**	**341**	*e*P		**Pn**	17 29 18.2	**+1.2**
DBCT				*e*S		**Sn**	17 29 56.9	**+0.5**
DPMT	**Pointe Michel**	**3.42**	**341**	*e*P		**Pn**	17 29 17.6	**+0.6**
DPMT	**Pointe Michel**	**3.42**	**341**	*e*P		**Pn**	17 29 17.6	**+0.6**
DLPL	**La Plaine**	**3.45**	**343**	*e*P		**Pn**	17 29 17.5	**+0.1**
DLPL				*e*S		**Sn**	17 29 58.3	**+1.2**
DLPL	**La Plaine**	**3.45**	**343**	*e*P		**Pn**	17 29 17.5	**+0.1**
DLPL				*e*S		**Sn**	17 29 58.3	**+1.2**
MDN	**Morne-Daniel**	**3.48**	**341**	*e*P		**Pn**	17 29 18.6	**+0.8**
MDN				*e*S		**Sn**	17 29 58.9	**+1.1**
MDN	**Morne-Daniel**	**3.48**	**341**	*e*P		**Pn**	17 29 18.6	**+0.8**
MDN				*e*S		**Sn**	17 29 58.9	**+1.1**
**DW

PB01	IPOC Station P	34.09	196	*e*P		P	17 35 01.5	-3.4	
	18nm,0.9s								
BB19B	Bebedouro	34.82	161	*e*P		P	17 35 11.3	+0.1	
LVC	Limon Verde	35.45	194	*e*P		P	17 35 15.0	-1.9	
	7.3nm,0.6s								
LVC	Limon Verde	35.45	194	P		P	17 35 16.1	-0.8	
	6.9nm,0.6s,baz=36,slow=8.7,SNR=9.5								
LVC	Limon Verde	35.45	194	*e*P		P	17 35 16.3	-0.7	
SJMB	Sao Joao De Ma	35.83	148	*e*P		P	17 35 19.8	0.0	
BSCB	Bom Sucesso	36.14	155	*e*P		P	17 35 21.4	-1.2	
SIUC	Southern Illin	36.44	320	*e*P		P	17 35 24.6	-0.3	
	31nm,1.3s								
FRTB	Fartura	36.65	163	*e*P		P	17 35 26.7	-0.2	
W41B	Gary Mavity, V	37.06	314	*e*P		P	17 35 31.0	+0.8	
	17nm,0.9s								
WHAR	Wooly Hollow	37.15	314	*e*P		P	17 35 30.8	-0.2	
	25nm,1.2s								
PTGB	Pitanga	37.36	168	*e*P		P	17 35 33.0	+0.1	
CCM	Cathedral Cave	37.93	319	*e*P		P	17 35 36.8	-0.8	
	8.1nm,0.9s								
CCM				*e*PcP		PcP	17 37 54.8	+2.3	
CPUP	Villa Florida	38.21	176	*e*P		P	17 35 36.4	-3.6	
	11nm,1.4s								
CPUP	Villa Florida	38.21	176	P		P	17 35 38.8	-1.2	
	4.4nm,0.9s,baz=351,slow=8.6,SNR=10.0								
CPUP				LR		LR	17 53 12.3		
	comp=Z,66nm,18.2s,baz=10,slow=39								
CPUP	Villa Florida	38.21	176	*e*P		P	17 35 38.9	-1.2	
ITAB	Concordia	39.79	169	*e*P		P	17 35 52.9	-0.2	
LCO	Las Campanas	42.02	194	*e*P		P	17 36 08.9	-2.8	
	21nm,1.0s								
LCO	Las Campanas	42.02	194	*e*P		P	17 36 09.0	-2.8	
LCO				pmax		pmax			
	comp=Z,21nm,1.0s								
LCO	Las Campanas	42.02	194	*e*P		P	17 36 11.2	-0.6	
C40A	Isle Royale Na	43.20	332	*e*P		P	17 36 20.6	-0.2	
	comp=Z,27nm,0.8s								
TXAR	Lajitas Array	43.87	300	P		P	17 36 25.9	-0.8	
	comp=Z,0.7nm,0.5s,baz=113,slow=8.8,SNR=16								
TXAR				PcP		PcP	17 38 14.5	+2.3	
	comp=Z,1.5nm,0.6s,baz=116,slow=5.3,SNR=9.0								
TX31	Lajitas Ar. Si	43.87	300	*e*P		P	17 36 26.1	-0.6	
	comp=Z,9.4nm,1.4s								
PLTB	Pedras Altas	43.98	172	*e*P		P	17 36 26.7	-0.6	
CFA	Coronel Fontan	44.04	190	P		P	17 36 26.9	-1.0	
	comp=Z,9.2nm,0.8s,baz=1.2,slow=8.6,SNR=23								
ECSD	EROS Data Cent	44.50	322	*e*P		P	17 36 31.4	-0.1	
	comp=Z,14nm,1.4s								
MNTX	Cornudas Mount	45.89	303	*e*P		P	17 36 42.4	-0.3	
	comp=Z,5.8nm,0.8s								
AGMN	Agassiz Nation	46.78	328	*e*P		P	17 36 49.3	0.0	
	comp=Z,8.6nm,0.9s								
ANMO	Albuquerque	47.65	307	*e*P		P	17 36 58.9	+2.4	
SDCO	Great Sand Dun	47.80	310	*e*P		P	17 36 57.7	-0.2	
	comp=Z,4.9nm,1.0s								
ULM	Lac du Bonnet	48.02	330	*e*P		P	17 36 58.5	-0.4	
	comp=Z,14nm,0.9s								
ULM	Lac du Bonnet	48.02	330	*e*P		P	17 36 58.5	-0.4	
ULM				pmax		pmax			
	comp=Z,14nm,0.9s								
ULM	Lac du Bonnet	48.02	330	P		P	17 36 58.5	-0.4	
	comp=Z,7.1nm,0.4s,baz=131,slow=8.3,SNR=25								
ISCO	Idaho Springs	48.62	313	P		P	17 37 06.3	+2.2	
H10N3	ASCENSION HYDR	49.54	111	T		T	18 30 16.9		
	baz=293,slow=75,SNR=14								
H10N2	ASCENSION HYDR	49.55	111	T		T	18 30 16.6		
	baz=293,slow=75,SNR=15								
H10N1	ASCENSION HYDR	49.56	111	T		T	18 30 18.5		
	baz=293,slow=75,SNR=13								
H10S3	ASCENSION HYDR	49.84	113	T		T	18 30 35.2		
	baz=294,slow=75,SNR=10								
H10S1	ASCENSION HYDR	49.84	113	T		T	18 30 35.2		
	baz=294,slow=75,SNR=13								
H10S2	ASCENSION HYDR	49.85	113	T		T	18 30 35.2		
	baz=294,slow=75,SNR=6.9								
TUC	Tucson	50.50	302	P		P	17 37 20.8	+2.6	
TUC				pmax		pmax			
	comp=Z,4.0nm,0.9s								
FRB	Frobisher Bay	52.00	355	P		P	17 37 32.8	+4.1	
FRB				pmax		pmax			
	comp=Z,26nm,0.9s								
PD31	Pinedale Array	52.47	315	*e*P		P	17 37 33.4	+0.5	
	comp=Z,12nm,1.1s								
PDAR	Pinedale Array	52.47	315	*e*P		P	17 37 32.6	-0.4	
PDAR	Pinedale Array	52.47	315	P		P	17 37 33.3	+0.3	
	comp=Z,5.4nm,0.7s,baz=118,slow=9.6,SNR=28								
PDAR				LR		LR	18 02 06.3		
	comp=Z,53nm,19.0s,baz=100,slow=39								
RLMT	Red Lodge	53.13	318	*e*P		P	17 37 38.5	+0.6	
	comp=Z,24nm,1.4s								
TCUT	Toone Canyon	53.23	313	*e*P		P	17 37 39.7	+1.1	
	comp=Z,12nm,0.7s								
PLCA	Paso Flores	53.34	190	*e*P		P	17 37 39.1	0.0	
	comp=Z,14nm,0.8s								
PLCA	Paso Flores	53.34	190	*e*P		P	17 37 39.1	0.0	
PLCA				pmax		pmax			
	comp=Z,14nm,0.8s								
PLCA	Paso Flores	53.34	190	P		P	17 37 39.1	0.0	
	comp=Z,12nm,0.8s,baz=31,slow=7.9,SNR=22								
PLCA	Paso Flores	53.34	190	*e*P		P	17 37 39.3	+0.1	
LOHW	Long Hollow	53.48	316	*e*P		P	17 37 40.9	+0.5	
	comp=Z,18nm,1.4s								
REDW	Red Top Meadow	53.56	315	*e*P		P	17 37 41.8	+0.8	
	comp=Z,51nm,1.6s								
TPAW	Teton Pass	53.67	316	*e*P		P	17 37 41.6	-0.3	
	comp=Z,13nm,1.2s								
FFC	Flin Flon	53.72	331	*e*P		P	17 37 41.9	+0.2	
	comp=Z,5.6nm,1.0s								
FFC	Flin Flon	53.72	331	*ce*P		P	17 37 44.0	+2.3	
FXWY	Fox Creek	53.77	316	*e*P		P	17 37 43.7	+1.2	
	comp=Z,7.7nm,1.1s								
DUG	Dugway, Tooele	53.98	311	*e*P		P	17 37 44.4	+0.4	
	comp=Z,4.8nm,0.6s								
DUG	Dugway, Tooele	53.98	311	*e*P		P	17 37 44.4	+0.4	
DUG				pmax		pmax			
	comp=Z,5.0nm,0.6s								
BGU	Big Grassy Mou	54.34	312	*e*P		P	17 37 46.3	-0.4	
	comp=Z,8.6nm,0.7s								
HVU	Hansel Valley	54.41	313	*e*P		P	17 37 46.5	-0.6	
	comp=Z,7.6nm,0.9s								
HVU	Hansel Valley	54.41	313	*e*P		P	17 37 46.5	-0.6	
HVU				pmax		pmax			
	comp=Z,8.0nm,0.9s								
DBIC	Dimbokro	54.80	90	P		P	17 37 49.7	-0.4	
	comp=Z,2.1nm,0.5s,baz=264,slow=7.6,SNR=5.2								
ESDC	Sonseca Array	56.56	50	P		P	17 38 02.5	0.0	
	comp=Z,3.4nm,0.7s,baz=266,slow=7.4,SNR=19								
NVAR	Mina Array Bea	57.72	308	P		P	17 38 11.3	+0.5	
	comp=Z,1.3nm,0.8s,baz=105,slow=6.9,SNR=5.1								
NVAR				LR		LR	18 06 36.9		
	comp=Z,77nm,18.1s,baz=286,slow=40								
NEW	Newport	59.29	319	*e*P		P	17 38 22.0	+0.6	
	comp=Z,14nm,1.5s								
NEW	Newport	59.29	319	*e*P		P	17 38 22.0	+0.6	
NEW				pmax		pmax			
	comp=Z,14nm,1.5s								
TOA0	Torodi Ar. Sit	60.29	82	*e*P		P	17 38 28.1	-0.7	
TORD	Torodi Ar. Bea	60.29	82	P		P	17 38 27.1	-1.7	
	comp=Z,5.2nm,0.7s,baz=299,slow=7.1,SNR=31								
TORD				PcP		PcP	17 39 14.1	+0.5	
	comp=Z,0.5nm,0.5s,baz=287,slow=4.9,SNR=2.4								
LLLB	Lillooet	62.92	321	*e*P		P	17 38 46.9	+0.9	
YKA	Yellowknife Ar	63.41	335	P		P	17 38 49.0	+0.1	
YKA	Yellowknife Ar	63.41	335	P		P	17 38 49.0	+0.1	
	comp=Z,2.3nm,0.6s,baz=108,slow=7.2,SNR=22								
YKB5	Yellowknife Ar	63.41	335	*e*P		P	17 38 48.3	-0.6	
KEST	Kesra	66.53	56	P		P	17 39 08.2	-1.6	
	comp=Z,6.3nm,0.8s,baz=254,slow=7.4,SNR=4.5								
KHC	Kasperske Hory	70.41	42	*e*P		P	17 39 34.2	+0.5	
KHC	Kasperske Hory	70.41	42	*e*P		P	17 39 34.2	+0.5	
GERES	GERESS Array B	70.47	42	P		P	17 39 34.5	+0.4	
	comp=Z,2.3nm,0.5s,baz=262,slow=2.7,SNR=7.8								
NB2	NORSAR Subarra	70.59	29	P		P	17 39 36.0	+1.4	
	comp=Z,3.7nm,0.8s,baz=259,slow=6.5								
NOA	NORSAR Array B	70.59	29	P		P	17 39 36.0	+1.4	
NOA	NORSAR Array B	70.59	29	P		P	17 39 36.0	+1.4	
	comp=Z,2.7nm,0.8s,baz=262,slow=6.2,SNR=15								
PRU	Pruhonice	71.09	41	*e*P		P	17 39 38.8	+1.0	
PRU	Pruhonice	71.09	41	*e*P		P	17 39 38.8	+1.0	
TREC	Trest	71.67	42	*e*P		P	17 39 42.2	+0.9	
TREC	Trest	71.67	42	*e*P		P	17 39 42.2	+0.9	
UPC	Upice	72.07	41	*e*P		P	17 39 44.7	+1.1	
UPC	Upice	72.07	41	*e*P		P	17 39 44.7	+1.1	
DPC	Dobruska-Polom	72.26	41	*e*P		P	17 39 46.0	+1.2	
DPC	Dobruska-Polom	72.26	41	*e*P		P	17 39 46.0	+1.2	
VRAC	Vranov	72.39	42	⇓*i*P		P	17 39 46.2	+0.6	
VRAC	Vranov	72.39	42	⇓P		P	17 39 46.2	+0.6	
ZST	Bratislava	72.70	43	*e*P		P	17 39 51.5	+4.1	
ZST	Bratislava	72.70	43	*e*P		P	17 39 51.5	+4.1	
INK	Inuvik	72.76	338	*e*P		P	17 39 48.1	+0.7	
	comp=Z,16nm,1.3s								
INK	Inuvik	72.76	338	*e*P		P	17 39 48.1	+0.7	
INK				pmax		pmax			
	comp=Z,16nm,1.3s								
VYHS	Vyhne	73.86	43	*e*P		P	17 39 54.8	+0.5	
VYHS	Vyhne	73.86	43	*e*P		P	17 39 54.8	+0.5	
DAWY	Dawson	74.55	333	*e*P		P	17 39 58.2	+0.1	
	comp=Z,16nm,1.3s								
EGAK	Eagle	75.36	334	*e*P		P	17 40 03.6	+1.0	
	comp=Z,44nm,2.0s								
TRPA	Tarpa	76.33	43	⇓*i*P		P	17 40 09.6	+1.1	
ARCES	ARCESS Array B	77.33	21	P		P	17 40 14.2	+0.5	
	comp=Z,7.4nm,0.9s,baz=246,slow=5.0,SNR=6.9								
FINES	FINESS Array B	77.77	29	P		P	17 40 16.9	+0.6	
	comp=Z,3.8nm,0.7s,baz=259,slow=3.9,SNR=13								
FIA1	FINESS Array S	77.77	29	*e*P		P	17 40 15.9	-0.4	
ILAR	Eielson Array	77.81	334	P		P	17 40 16.9	+0.4	
	comp=Z,0.3nm,0.7s,baz=88,slow=4.4,SNR=5.8								
BUR08	Bucovina Ar. S	78.15	44	*e*P		P	17 40 20.6	+1.7	
	comp=Z,8.8nm,1.3s								
BURAR	Bucovina Array	78.17	44	⇓*i*P		P	17 40 20.6	+1.6	
BURAR	Bucovina Array	78.17	44	⇓P		P	17 40 20.6	+1.6	
VSU	Vasula	78.27	32	⇓*e*P		P	17 40 20.2	+1.1	
MLR	Muntele Rosu	78.86	46	⇑*i*P		P	17 40 24.1	+1.2	
MLR	Muntele Rosu	78.86	46	⇑P		P	17 40 24.1	+1.2	
TRF	Thorofare Moun	79.39	333	*e*P		P	17 40 27.0	+1.5	
	comp=Z,12nm,1.2s								
AKASG	Malin Array Be	80.46	40	P		P	17 40 29.4	-1.8	
	comp=Z,0.3nm,0.4s,baz=260,slow=4.7,SNR=4.0								
OBN	Obninsk	84.09	35	*c i*P		P	17 40 50.5	+0.4	
OBN				*e*			17 41 13.3		
OBN				pmax		pmax			
	comp=Z,14nm,0.8s								
KLMR	Klimovskoe	84.30	29	*e*P		P	17 40 51.1	+0.1	
KLMR				pmax		pmax			
	comp=Z,16nm,1.1s								
KLMR	Klimovskoe	84.30	29	*e*P		P	17 40 51.1	+0.1	
KLMR				AMP			17 40 52.8		
	comp=Z,16nm,1.1s								
BRTR	Keskin Array B	85.36	51	P		P	17 40 57.8	+0.8	
	comp=Z,1.2nm,0.8s,baz=275,slow=4.4,SNR=5.6								
LPSR	Galich'ya Gora	86.04	37	*e*P		P	17 41 00.1	+0.2	
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VSR	Storozhevoye	86.53	38	*d i*P		P	17 41 02.5	+0.2	
VSR				pmax		pmax			
	comp=Z,20nm,0.6s								
PRGR	Permogore	86.89	27	*e*P		P	17 41 04.2	+0.3	
PRGR				pmax		pmax			
	comp=Z,24nm,0.9s								
ANN	Anapa	86.99	45	*e*P		P	17 41 06.7	+2.0	
ANN				pmax		pmax			
	comp=Z,226nm,1.1s								
VRH	Novokhopyorsk	88.08	38	*e*P		P	17 41 10.3	+0.5	
VRH				pmax		pmax			
	comp=Z,20nm,1.8s								
KBZ	Khabaz	91.06	45	P		P	17 41 22.4	-1.5	
	comp=Z,1.5nm,0.9s,baz=192,slow=8.6,SNR=2.4								
SNAA	Sanae	91.67	165	⇑*e*P		P	17 41 24.9	-1.2	
BOSA	Boshof	91.75	119	P		P	17 41 28.2	+0.7	
	comp=Z,2.6nm,0.7s,baz=296,slow=3.5,SNR=6.1								
BILL	Bilibino	93.55	344	*i* P		P	17 41 35.3	+0.4	
BILL				pmax		pmax			
	comp=Z,2.0nm,1.2s								
ARU	Arti	95.15	29	⇑*e*P		P	17 41 43.7	+1.2	
ARU				pmax		pmax			
	comp=Z,1.0nm,0.9s								
NRIK	Noril'sk	95.76	11	LR		LR	18 24 06.3		
	comp=Z,26nm,21.9s,baz=38,slow=35								
TIXI	Tiksi	96.31	357	⇑*e*P		P	17 41 47.0	-0.4	
TIXI				pmax		pmax			
	comp=Z,1.0nm,1.1s								
KMBO	Kilima Mbogo	97.53	90	P		P	17 41 53.1	-1.4	
	comp=Z,0.6nm,0.5s,baz=203,slow=20,SNR=2.6								
MKAR	Makanchi Array	112.52	27	PKIKP		PKiKP	17 46 56.0	+0.5	
MKAR	Makanchi Array	112.52	27	PKiKP		PKiKP	17 46 56.0	+0.5	
	comp=Z,0.1nm,0.4s,baz=342,slow=3.8,SNR=2.6								
MKAR				PKKPbc		PKKPbc	17 57 42.9	-3.4	
	comp=Z,0.5nm,0.7s,baz=111,slow=3.2,SNR=5.9								
WMQ	Urumqi	117.21	26	*e*PKP		PKPdf	17 47 04.4	-0.3	
WMQ				LR		LR			
	comp=Z,93nm,17.1s								
SONM	Songino Array	119.24	10	PKP		PKiKP	17 47 09.0	+0.5	
	comp=Z,0.5nm,0.9s,baz=330,slow=5.0,SNR=3.2								
HHC	Hu-ho-hao-te	126.86	8	*e*PKP		PKPdf	17 47 22.8	-0.5	
MJAR	Matsushiro Arr	128.68	341	PKP		PKiKP	17 47 27.8	+0.4	
	comp=Z,0.8nm,0.6s,baz=102,slow=3.0,SNR=4.4								
LZH	Lanzhou	129.85	17	*e*PKP		PKiKP	17 47 30.8	+0.8	
LZH				sPKP			17 47 46.1		
LZH				LR		LR			
	comp=Z,170nm,15.2s								
LZH				LR		LR			
	comp=Z,210nm,14.0s								
LZH				LR		LR			
	comp=Z,220nm,15.8s								
CD2	Chengdu	134.63	19	PKP		PKPdf	17 47 36.0	-2.3	
NJ2	Nanjing	136.18	1	*e*PKP		PKPdf	17 47 41.0	0.0	
CMAR	Chiang Mai Arr	143.40	35	PKhKP		PKPpre	17 47 52.9		
	comp=Z,1.6nm,0.7s,baz=314,slow=3.8,SNR=14								
STKA	Stephens Creek	151.82	222	PKPbc		PKiKP	17 48 16.1	+1.3	
	comp=Z,6.6nm,0.6s,baz=83,slow=2.1,SNR=15								
ASAR	Alice Springs	162.27	227	PKP		PKPdf	17 48 22.6	+1.1	
	comp=Z,2.4nm,0.8s,baz=91,slow=1.1,SNR=35								
ASAR				PKPab		PKPab	17 49 09.0	+0.2	
	comp=Z,1.2nm,0.7s,baz=121,slow=4.0,SNR=9.7								
WRA	Warramunga Arr	163.95	239	PKP		PKPdf	17 48 23.6	+0.4	
	comp=Z,3.2nm,0.9s,baz=85,slow=0.4,SNR=22								
WRA				PKPab		PKPab	17 49 16.5	+0.3	
	comp=Z,1.3nm,0.7s,baz=110,slow=4.0,SNR=9.2								

*ISCJB **24** 18:10:52.0±0.6, 35.84N±0.04×139.53E±0.07, h99km±4km, mb3.7/5, Error ellipse: s-maj=10.0km s-min=5.5km az=160.9*
*JMA **24** 18:10:53.5±0.1, 35.85N×139.58E, h89km±1km, M3.3 Broadband fault plane solution: P waves. NP1: ϕs290.00000°, δ77.00000°, λ85.00000°. NP2: ϕs131.00000°, δ14.00000°, λ111.00000°. Principal axes: T Plg58.0000°, Azm193.0000°; N Plg5.0000°, Azm291.0000°; P Plg32.0000°, Azm24.0000°;*
JMA Felt I J1.
*IDC **24** 18:10:55.9±1.0, 35.34N×138.21E, h81km±15km, mb3.4/5, mb1 3.6/6, mb1mx3.2/51, mbtmp3.8/6 Error ellipse: s-maj=37.3km s-min=7.1km az=70.0*
ISC 24 18:10:53.1±0.9, 35.85N±0.04×139.52E±0.07, h94km±6km, n19, σ0°63/30, mb3.8/5, 4C-2D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHU	Hanno	0.20	271	⇑P		Pn		18 11 06.9	+0.4
JHU				S		Sn		18 11 16.6	+0.1
TOK	Tokyo	0.25	130	P		Pn		18 11 07.2	+0.6
JRY	Ryogami san	0.53	289	⇑P		Pn		18 11 09.1	+0.6
JRY				*e*S		Sn		18 11 20.6	+0.6
JAG	Ashikaga	0.58	355	⇑P		Pn		18 11 08.8	-0.1
JAG				S		Sn		18 11 20.1	-0.5
JOD2	Odawara 2	0.68	211	⇓P		Pn		18 11 09.4	-0.4
JOD2				S		Sn		18 11 21.2	-1.1
JYN	Shimob	0.87	247	⇓P		Pn		18 11 11.8	+0.1
JYN				S		Sn		18 11 25.8	+0.2
JKT	Katashina	0.94	347	⇑P		Pn		18 11 12.6	+0.1
JKT				*e*S		Sn		18 11 26.6	-0.5
JFNN	Fujinakano	0.94	226	P		Pn		18 11 12.8	+0.4
JFNN				S		Sn		18 11 27.3	+0.4
JIM2	Oshima 3	1.13	184	P		Pn		18 11 14.1	-0.5
JIM2				S		Sn		18 11 29.3	-1.4
MJAR	Matsushiro Arr	1.27	303	P		Pn		18 11 15.9	-0.3
	1.9nm,0.3s,baz=103,slow=15,SNR=119								
MJAR				S		Sn		18 11 33.6	0.0
	3.3nm,0.3s,baz=222,slow=52,SNR=19								
MAT	Matsushiro	1.27	303	P		Pn		18 11 16.2	0.0
MAT				*e*S		Sn		18 11 32.2	-1.4
MAT	Matsushiro	1.27	303	P		Pn		18 11 16.4	+0.2
BSO1	Boso 1	1.69	135	S		Sn		18 11 41.7	-0.3
JHJ	Hachijo jima 2	2.73	175	P		Pn		18 11 36.0	+0.9
	274nm,0.3s,baz=108,slow=21,SNR=108								
JHJ				S		Sn		18 12 07.2	-0.2
	52nm,0.3s,baz=307,slow=23,SNR=7.9								
PETK	Petropavlovsk-	21.48	31	P		P		18 15 48.8	+15
	16nm,1.2s,baz=263,slow=12,SNR=3.7								
MKAR	Makanchi Array	43.47	303	P		P		18 18 47.5	+0.7
	0.1nm,0.5s,baz=77,slow=8.2,SNR=2.4								
KURBB	Kurchatov Arra	45.54	309	P		P		18 19 02.8	-0.3
	0.6nm,0.6s,baz=83,slow=7.6,SNR=7.5								
WRA	Warramunga Arr	55.70	186	P		P		18 20 19.1	-0.7
	0.9nm,0.3s,baz=0.6,slow=7.7,SNR=38								
WRA				PcP		PcP		18 21 18.8	+0.7
	0.2nm,0.4s,baz=358,slow=3.9,SNR=3.2								
ASAR	Alice Springs	59.43	186	P		P		18 20 45.8	-0.1
	0.4nm,0.5s,baz=12,slow=9.0,SNR=11								

*IDC **24** 18:17:41.5±1.7, 12.16N×89.01W, h0km, mb3.4/6, mb1 3.8/9, mb1mx3.6/37, mbtmp3.5/9, ML3.4/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/21, Error ellipse: s-maj=63.5km s-min=19.9km az=41.0*
*ISCJB **24** 18:17:43.9±1.1, 12.0N±0.2×89.2W±0.1, h41km, mb3.5/6, MS2.8/2, Error ellipse: s-maj=28.1km s-min=6.3km az=38.0*
ISC 24 18:17:46.5±1.2, 12.1N±0.2×89.1W±0.2, h41km, n12, σ1°37/14, mb3.5/6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APG	El Apazote	3.21	335	Pn		Pn		18 18 32.8	-1.9
	2.5nm,0.3s,baz=122,slow=8.2,SNR=16								
APG				Sn		Sn		18 19 12.8	+1.1
	2.1nm,0.3s,baz=324,slow=10,SNR=8.4								
APG				LR		LR		18 19 18.5	
	comp=Z,47nm,21.6s,baz=108,slow=31								
JTS	JuntasAbangare	4.42	113	Pn		Pn		18 18 51.0	-0.2
	3.5nm,0.3s,baz=37,slow=17,SNR=9.1								
JTS				Sn		Sn		18 19 42.0	+0.4
	3.5nm,0.3s,baz=294,slow=18,SNR=3.4								
CMIG	Matias Romero	7.51	312	Pn		Pn		18 19 31.4	-2.2
	0.6nm,0.3s,baz=119,slow=10,SNR=4.8								
CMIG				Sn		Sn		18 20 59.0	+1.6
	0.2nm,0.3s,baz=98,slow=17,SNR=1.9								
TXAR	Lajitas Array	21.89	324	P		P		18 22 35.7	-0.5
	0.4nm,0.5s,baz=146,slow=12,SNR=6.0								
LPIG	La Paz	23.41	304	LR		LR		18 31 27.9	
	comp=Z,70nm,19.7s,baz=276,slow=35								
ANMO	Albuquerque	27.70	328	LR		LR		18 36 55.2	
	comp=Z,11nm,21.1s,baz=262,slow=42								
PDAR	Pinedale Array	35.37	334	P		P		18 24 40.3	+1.8
	0.2nm,0.5s,baz=134,slow=12,SNR=2.3								
NVAR	Mina Array Bea	36.95	320	P		P		18 24 53.7	+1.6
	0.1nm,0.3s,baz=142,slow=9.1,SNR=3.0								
NVAR				PcP		PcP		18 27 13.9	+1.1
	0.2nm,0.4s,baz=163,slow=3.5,SNR=2.8								
ULM	Lac du Bonnet	38.47	353	P		P		18 25 03.9	-0.5
	1.2nm,0.5s,baz=165,slow=3.4,SNR=3.5								
YKA	Yellowknife Ar	53.56	346	P		P		18 27 03.5	+0.5
	0.6nm,0.9s,baz=145,slow=7.5,SNR=7.2								
ILAR	Eielson Array	65.72	337	P		P		18 28 25.9	-0.9
	0.8nm,1.1s,baz=139,slow=7.0,SNR=4.2								
CMAR	Chiang Mai Arr	148.64	345	PKPbc		PKPbc		18 37 30.0	-0.2
	0.5nm,1.0s,baz=341,slow=1.9,SNR=5.9								

*ISCJB **24** 18:21:59.5±1.2, 18.6S±0.5×178.0W±0.3, h557km, mb3.4/8, Error ellipse: s-maj=69.1km s-min=12.9km az=151.3*
*IDC **24** 18:21:59.8±3.0, 18.54S×178.00W, h552km±31km, mb3.0/8, mb1 3.3/8, mb1mx3.0/27, mbtmp3.9/8, Error ellipse: s-maj=63.7km s-min=11.6km az=150.0*
ISC 24 18:22:00.1±1.2, 18.6S±0.4×178.0W±0.3, h557km, n31, σ1°04/34, mb3.5/8, 3C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.69	242	P		P		18 28 36.4	-0.4
	1.6nm,0.9s,baz=76,slow=12,SNR=3.6								
STKA				S		S		18 33 57.1	+2.9
	0.9nm,0.6s,baz=322,sl

MELI S Sg 19 01 30.6 -0.2
829nm,0.1s,SNR=7.9
MELI Melilla 0.69 119 ⇓*i*P Pg 19 01 21.9 0.0
MELI *i* S Sg 19 01 30.7 -0.2
AKLM AKL 1.13 188 P Pb 19 01 30.8 +0.6
AKLM S Sb 19 01 45.7 +0.7
ELGU Los Guajares, 1.24 2 P Pg 19 01 31.2 -1.2
4.1nm,0.1s,SNR=7.9
ELGU S Sg 19 01 47.5 -1.0
109nm,0.2s,SNR=7.9
EMIJ Mijas 1.29 317 P Pn 19 01 32.0 -0.8
19nm,0.1s,SNR=43
EMIJ S Sg 19 01 48.2 -2.0
191nm,0.1s,SNR=11
TAF Taforalt 1.31 128 P Pg 19 01 31.6 -2.2
TAF S Sg 19 01 48.8 -2.0
CEUT Ceuta 1.37 281 P Pn 19 01 33.1 -0.8
CEUT S Sb 19 01 50.6 -1.4
SMIR Smir Dam 1.40 273 P Pn 19 01 32.6 -1.6
SMIR S Sb 19 01 53.9 +1.2
CEU Ceuta 1.41 281 ⇓*i*P Pn 19 01 32.3 -2.0
CEU *e*S Sb 19 01 49.5 -3.6
EBER Berja 1.41 26 P Pn 19 01 33.4 -1.3
18nm,0.4s,SNR=7.9
EBER S Sb 19 01 50.8 -2.6
128nm,0.4s,SNR=7.9
ECEU Ceuta 1.42 281 P Pn 19 01 33.7 -0.8
17nm,0.1s,SNR=5.5
ECEU S Sb 19 01 50.6 -2.6
41nm,0.1s,SNR=5.6
CHEFC Chefchaouen 1.46 250 P Pn 19 01 35.3 +0.2
CHEFC S Sg 19 01 58.4 +2.7
EGOR Sierra Gorda, 1.52 347 P Pn 19 01 36.0 -0.1
4.9nm,0.2s,SNR=7.9
EGOR S Sn 19 01 57.2 +1.2
63nm,0.3s,SNR=7.9
EQUE Quentar 1.58 7 P Pn 19 01 38.3 +1.4
12nm,0.3s,SNR=14
EQUE S Sn 19 01 57.8 +0.3
32nm,0.4s,SNR=10
EJIF Jimena Fronter 1.67 300 P Pn 19 01 38.2 +0.2
2.9nm,0.2s,SNR=7.9
EJIF S Sn 19 02 01.2 +1.7
SNR=7.9
ENIJ Nijar 1.79 41 P Pn 19 01 38.2 -1.4
3.3nm,0.2s,SNR=7.9
ENIJ S Sn 19 02 03.4 +1.1
120nm,0.5s,SNR=7.9
ALJ Aljibe 1.84 300 *e*P Pb 19 01 44.0 +1.6
LIJA Lijar 1.90 313 *e*P Pn 19 01 44.0 +2.9
LIJA *e*S Sb 19 02 09.0 +1.9
GORA Gorafe 1.91 15 P Pn 19 01 42.3 +0.9
14nm,0.3s,SNR=7.9
GORA S Sn 19 02 06.9 +1.3
115nm,0.5s,SNR=7.9
SICH Sidi Chahed 2.04 222 P Pb 19 01 45.8 0.0
SICH S Sn 19 02 09.3 +0.8
ESPR Espera 2.16 306 P Pn 19 01 46.2 +1.5
4.2nm,0.2s,SNR=7.9
ESPR S Sn 19 02 10.7 -0.7
24nm,0.3s,SNR=7.9
LCRM LCR 2.17 207 P Pb 19 01 49.0 +0.9
LCRM S Sb 19 02 15.4 +0.2
EQES Quesada 2.22 12 P Pn 19 01 47.7 +2.1
12nm,0.1s,SNR=89
EQES S Sn 19 02 15.2 +1.9
51nm,0.2s,SNR=7.7
IFR Ifrane 2.43 210 ⇓*i*P Pn 19 01 49.0 +0.5
IFR *e*S Sn 19 02 18.3 -0.1
HORN Hornachuelos 2.56 330 P Pn 19 01 51.0 +0.9
EADA Adamuz 2.64 344 P Pn 19 01 52.7 +1.4
0.8nm,0.1s,SNR=32
EADA S Sn 19 02 24.6 +1.2
10.0nm,0.2s,SNR=4.9
SESP Santiago Espad 2.64 20 P Pn 19 01 53.8 +2.3
12nm,0.2s,SNR=7.9
SESP S Sn 19 02 24.7 +1.0
21nm,0.2s,SNR=7.9
SESP Santiago Espad 2.64 20 P Pn 19 01 54.1 +2.5
SESP S Sn 19 02 24.8 +1.0
ECAB El Cabril 2.82 331 P Pn 19 01 55.2 +1.4
0.6nm,0.1s,SNR=7.9
ECAB S Sn 19 02 27.5 -0.3
8.4nm,0.2s,SNR=7.9
MD31 MD31 2.90 198 P Pn 19 01 55.7 +0.7
MD31 S Sn 19 02 32.7 +2.8
MDT Midelt 2.91 196 Pn Pn 19 01 55.2 +0.1
0.9nm,0.3s,baz=30,slow=13,SNR=27
MDT Sn Sn 19 02 32.0 +1.8
3.3nm,0.3s,baz=234,slow=13,SNR=4.0
MDT Lg Lg 19 02 40.8
6.2nm,0.3s,baz=280,slow=18,SNR=7.1
MDT Midelt 2.91 196 P Pn 19 01 55.7 +0.5
MDT S Sn 19 02 32.2 +1.9
EMUR La Murta 2.95 41 P Pn 19 01 56.0 +0.5
2.6nm,0.3s,SNR=7.2
EMUR S Sn 19 02 27.8 -3.2
7.8nm,0.3s,SNR=4.9
EMIN Mina Concepcio 3.22 312 P Pn 19 01 59.9 +0.6
4.1nm,0.1s,SNR=64
EMIN S Sn 19 02 36.8 -1.0
6.7nm,0.2s
ZHG ZHG 3.28 229 P Pn 19 02 02.4 +2.3
ZHG S Sn 19 02 41.9 +2.6
ETOB Tobarra 3.45 29 P Pn 19 02 04.4 +1.8
4.2nm,0.1s,SNR=38
ETOB S Sn 19 02 43.7 +0.1
6.3nm,0.3s
EGRO El Granado 3.61 303 P Pn 19 02 05.1 +0.5
13nm,0.3s,SNR=30
EGRO S Sn 19 02 45.8 -1.5
9.0nm,0.2s,SNR=4.7
PBAR Barrancos 3.71 314 *e*Sn Sn 19 02 49.0 -0.7
PBAR Barrancos 3.71 314 S Sn 19 02 49.0 -0.7
PVAQ Vaqueiros 3.71 300 *e*Pn Pn 19 02 06.8 +0.8
PVAQ *e*Sn Sn 19 02 48.8 -1.0
PVAQ Vaqueiros 3.71 300 P Pn 19 02 06.8 +0.8
PVAQ S Sn 19 02 48.8 -1.0
PBDV Barranco-do-Ve 3.80 296 *e*Pn Pn 19 02 07.7 +0.5
PBDV *e*Sn Sn 19 02 51.4 -0.5
PBDV A A 19 03 00.0
15nm,0.4s
PBDV Barranco-do-Ve 3.80 296 P Pn 19 02 07.7 +0.5
PBDV S Sn 19 02 51.4 -0.5
15nm,0.4s
AVE Averroes 3.87 234 *e*P Pb 19 02 14.1 -2.9
AVE *e*S Sn 19 02 54.0 +0.2
PAB San Pablo 3.95 352 P Pn 19 02 10.8 +1.5
2.1nm,0.1s,SNR=7.9
PAB S Sn 19 02 55.4 -0.3
5.0nm,0.4s,SNR=7.9
PCVE Castro Verde 4.04 301 *e*Pn Pn 19 02 11.2 +0.6
PCVE *e*Sn Sn 19 02 56.9 -1.1
PCVE A A 19 03 00.4
18nm,0.4s
PCVE Castro Verde 4.04 301 P Pn 19 02 11.2 +0.6
PCVE S Sn 19 02 56.9 -1.1
18nm,0.4s
ESDC Sonseca Array 4.04 357 P Pn 19 02 12.2 +1.6
2.2nm,0.3s,baz=178,slow=12,SNR=50
ESDC S Sn 19 02 57.6 -0.5
0.9nm,0.2s,baz=176,slow=21,SNR=7.8
ESDC Sonseca Array 4.04 357 Pn Pn 19 02 11.4 +0.8
3.6nm,0.3s,baz=180,slow=12,SNR=55
ESDC Sn Sn 19 02 59.6 +1.5
3.0nm,0.3s,baz=176,slow=21,SNR=10
ESDC Lg Lg 19 03 14.3
7.4nm,0.3s,baz=181,slow=28,SNR=10
EBAD Badajoz 4.11 320 P Pn 19 02 12.7 +1.3
4.1nm,0.3s,SNR=45
EBAD S Sn 19 02 59.1 -0.4
11nm,0.2s,SNR=7.6
PBEJ Beja 4.13 307 *e*Pn Pn 19 02 14.3 +2.5
PBEJ *e*Sn Sn 19 03 00.3 +0.1
PBEJ A A 19 03 03.1
12nm,0.4s
PBEJ Beja 4.13 307 P Pn 19 02 14.3 +2.5
PBEJ S Sn 19 03 00.3 +0.1
5.9nm,0.4s
MESJ Messejana 4.27 302 *e*P Pn 19 02 14.2 +0.5
MESJ *e*S Sn 19 03 01.4 -2.2
MESJ AML AML 19 03 06.7
comp=N,20nm,0.3s
MESJ Messejana 4.27 302 ⇑*e*Pn Pn 19 02 14.4 +0.7
MESJ *e*Sn Sn 19 03 03.0 -0.6
MESJ A A 19 03 12.2
comp=N,11nm,0.4s
MESJ Messejana 4.27 302 P Pn 19 02 14.4 +0.7
MESJ S Sn 19 03 03.0 -0.6
comp=N,11nm,0.4s
MORF Marmelete 4.35 294 *e*P Pn 19 02 15.1 +0.2
MORF Marmelete 4.35 294 *e*Pn Pn 19 02 15.3 +0.4
MORF *e*Sn Sn 19 03 05.9 +0.2
MORF A A 19 03 07.8
comp=N,13nm,0.5s
MORF Marmelete 4.35 294 P Pn 19 02 15.3 +0.4
MORF S Sn 19 03 05.9 +0.2
comp=N,13nm,0.5s
PFVI Vila Bisbo 4.42 291 *e*Pn Pn 19 02 17.4 +1.6
PFVI *e*Sn Sn 19 03 06.0 -1.4
PFVI Vila Bisbo 4.42 291 P Pn 19 02 16.7 +0.9
comp=N,2.5nm,0.1s,SNR=7.9
PFVI S Sn 19 03 05.9 -1.5
comp=N,5.5nm,0.2s,SNR=7.9
PTEO Sao Teotonio 4.50 297 *e*Pn Pn 19 02 18.8 +2.0
PTEO *e*Sn Sn 19 03 09.1 0.0
PTEO A A 19 03 18.6
comp=N,22nm,0.7s
PTEO Sao Teotonio 4.50 297 P Pn 19 02 18.8 +2.0
PTEO S Sn 19 03 09.1 0.0
comp=N,11nm,0.7s
ECHE Chera 4.50 28 P Pn 19 02 18.2 +1.4
comp=N,1.7nm,0.3s,SNR=7.9
PESTR Estremoz 4.50 317 *e*Pn Pn 19 02 18.1 +1.3
PESTR *e*Sn Sn 19 03 08.7 -0.5
PESTR A A 19 03 38.8
comp=N,21nm,0.6s
PESTR Estremoz 4.50 317 P Pn 19 02 18.2 +1.3
PESTR S Sn 19 03 13.0 +3.8
UCM Universidad Co 4.68 4 *e*P Pn 19 02 20.6 +1.2
UCM *e*S Sn 19 03 12.9 -0.9
PMRV Marv??o 4.81 323 *e*Pn Pn 19 02 22.3 +1.2
PMRV *e*Sn Sn 19 03 16.6 -0.3
PMRV A A 19 03 18.5
comp=N,12nm,0.6s
PMRV Marv??o 4.81 323 P Pn 19 02 22.3 +1.2
PMRV S Sn 19 03 16.6 -0.3
comp=N,12nm,0.6s
PMTG Montargil 5.00 315 *e*Pn Pn 19 02 24.9 +1.2
PMTG *e*Sn Sn 19 03 20.4 -1.1
PMTG A A 19 03 23.7
comp=N,7.9nm,0.6s
PMTG Montargil 5.00 315 P Pn 19 02 24.9 +1.2
PMTG S Sn 19 03 20.4 -1.1
comp=N,7.9nm,0.6s
GUD Guadarrama 5.02 356 P Pn 19 02 25.4 +1.3
comp=N,1.0nm,0.2s,SNR=7.3
GUD S Sn 19 03 20.9 -1.4
comp=N,1.7nm,0.3s,SNR=6.2
PCBR Castelo Branco 5.17 325 *e*Pn Pn 19 02 28.1 +2.0
PCBR *e*Sn Sn 19 03 24.5 -1.4
PCBR Castelo Branco 5.17 325 P Pn 19 02 28.1 +2.0
PCBR S Sn 19 03 24.5 -1.4
EIBI Ibiza 5.24 48 P Pn 19 02 26.9 -0.2
comp=N,2.1nm,0.1s,SNR=12
EIBI S Sn 19 03 22.1 -5.4
comp=N,4.6nm,0.3s
ETOR Torete 5.33 13 P Pn 19 02 29.5 +1.1
comp=N,0.3nm,0.2s,SNR=7.9
ETOR S Sn 19 03 27.7 -2.3
comp=N,1.2nm,0.3s,SNR=7.9
EMOS Mosqueruela 5.36 27 P Pn 19 02 30.6 +1.7
comp=N,1.2nm,0.4s,SNR=7.9
OUZM OUZ 5.37 210 P Pn 19 02 31.8 +2.8
OUZM S Sn 19 03 36.7 +5.8
PTOM Tomar 5.48 318 *e*Pn Pn 19 02 31.6 +1.3
PTOM *e*Sn Sn 19 03 31.8 -1.6
PTOM A A 19 03 37.7
comp=N,16nm,0.5s
PTOM Tomar 5.48 318 P Pn 19 02 31.6 +1.3
PTOM S Sn 19 03 31.8 -1.6
comp=N,8.1nm,0.5s
PMAFR Mafra 5.57 308 *e*Pn Pn 19 02 32.9 +1.3
PMAFR *e*Sn Sn 19 03 35.1 -0.6
PMAFR A A 19 03 35.1
comp=N,26nm,0.7s
PMAFR Mafra 5.57 308 P Pn 19 02 32.0 +0.4
comp=N,7.0nm,0.2s,SNR=7.9
PMAFR S Sn 19 03 34.2 -1.5
comp=N,17nm,0.4s,SNR=7.9
MTE Manteigas 5.66 328 *e*Pn Pn 19 02 35.0 +2.1
MTE *e*Sn Sn 19 03 36.3 -1.7
MTE A A 19 03 39.6
comp=N,18nm,0.6s
MTE Manteigas 5.66 328 P Pn 19 02 35.0 +2.1
MTE S Sn 19 03 36.3 -1.7
comp=N,8.9nm,0.6s
PCAS Casmilo, Conde 5.84 321 *e*Pn Pn 19 02 37.1 +1.8
PCAS *e*Sn Sn 19 03 40.1 -2.2
PCAS A A 19 04 15.9
comp=N,9.9nm,0.7s
PCAS Casmilo, Conde 5.84 321 P Pn 19 02 37.1 +1.8
PCAS S Sn 19 03 40.1 -2.2
comp=N,9.9nm,0.7s
COI Coimbra 5.91 322 *e*Sn Sn 19 03 43.0 -1.0
COI Coimbra 5.91 322 S Sn 19 03 43.0 -1.0
PVIS Viseu 6.07 328 *e*Pn Pn 19 02 40.3 +1.8
PVIS *e*Sn Sn 19 03 47.6 -0.5
PVIS A A 19 03 49.9
comp=N,10nm,0.5s
PVIS Viseu 6.07 328 P Pn 19 02 40.3 +1.8
PVIS S Sn 19 03 47.6 -0.5
comp=N,5.1nm,0.5s
MVO Moncorvo 6.12 335 *e*Pn Pn 19 02 41.0 +1.8
MVO *e*Sn Sn 19 03 48.7 -0.7
MVO A A 19 04 31.9
comp=N,18nm,0.5s
MVO Moncorvo 6.12 335 P Pn 19 02 41.2 +2.0
comp=N,13nm,0.3s,SNR=18
MVO S Sn 19 03 46.5 -2.9
comp=N,4.5nm,0.3s
PVRL Vila Real 6.47 332 *e*Pn Pn 19 02 45.6 +1.6
PVRL *e*Sn Sn 19 03 54.1 -3.8
PVRL A A 19 03 57.9
comp=N,21nm,0.5s
PVRL Vila Real 6.47 332 P Pn 19 02 45.6 +1.6
PVRL S Sn 19 03 54.1 -3.8
comp=N,10nm,0.5s
POLO Lamas de Olo 6.58 332 *e*Pn Pn 19 02 47.4 +1.8
POLO *e*Sn Sn 19 03 57.8 -3.0
POLO A A 19 04 03.4
comp=N,5.3nm,0.5s
POLO Lamas de Olo 6.58 332 P Pn 19 02 47.4 +1.8
POLO S Sn 19 03 57.8 -3.0
comp=N,5.3nm,0.5s
ETOS Mallorca 6.59 49 P Pn 19 02 45.3 -0.3
comp=N,0.8nm,0.2s,SNR=7.9
ETOS S Sn 19 03 56.8 -4.1
comp=N,2.5nm,0.5s,SNR=7.9
PBRG Braganca 6.62 340 *e*Pn Pn 19 02 48.4 +2.4
PBRG *e*Sn Sn 19 04 01.4 -0.1
PBRG Braganca 6.62 340 P Pn 19 02 48.4 +2.4
PTO Porto 6.73 326 *e*Pn Pn 19 02 48.8 +1.4
PTO Porto 6.73 326 P Pn 19 02 48.8 +1.4
ECAL Calabor 6.74 340 P Pn 19 02 49.4 +1.6
comp=N,1.4nm,0.2s,SNR=7.9
ECAL S Sn 19 04 02.3 -2.3
comp=N,6.4nm,0.5s,SNR=7.9
PCAB Cabril 6.96 332 *e*Pn Pn 19 02 52.6 +1.9
PCAB *e*Sn Sn 19 04 08.3 -1.7
PCAB A A 19 04 16.6
comp=N,6.8nm,0.8s
PCAB Cabril 6.96 332 P Pn 19 02 52.6 +1.9
PCAB S Sn 19 04 08.3 -1.7
comp=N,3.4nm,0.8s
ELOB Lobios 7.11 332 P Pn 19 02 54.6 +1.8
comp=N,1.2nm,0.2s,SNR=7.9
ELOB S Sn 19 04 09.6 -4.1
comp=N,4.2nm,0.4s,SNR=7.9
PGAV Gavieira, Arco 7.27 332 *e*Pn Pn 19 02 56.7 +1.6
PGAV *e*Sn Sn 19 04 15.7 -2.0
PGAV Gavieira, Arco 7.27 332 P Pn 19 02 56.7 +1.6
PGAV S Sn 19 04 15.7 -2.0
IELO Elcoad 7.45 14 P Pn 19 02 59.0 +1.6
comp=N,0.8nm,0.3s,SNR=7.9
IELO S Sn 19 04 19.4 -2.5
comp=N,1.1nm,0.1s,SNR=7.9
ELAN Lanestosa 7.59 1 P Pn 19 03 01.6 +2.2
comp=N,0.4nm,0.2s,SNR=6.0
ELAN S Sn 19 04 22.3 -3.3
comp=N,0.6nm,0.3s
EARI Arriondas 7.75 352 P Pn 19 03 03.0 +1.5
comp=N,0.1nm,0.1s,SNR=5.6
EARI S Sn 19 04 27.1 -2.4
comp=N,1.7nm,0.5s
EALK Alkurruntz 7.76 12 P Pn 19 03 03.7 +2.0
comp=N,0.7nm,0.3s,SNR=8.3
EALK S Sn 19 04 27.6 -2.2
comp=N,2.3nm,0.4s
ATE Arette 7.79 16 P Pn 19 03 03.8 +1.7
comp=N,0.4nm,0.3s,SNR=7.9
EAGO Agolada(Pontev 7.94 336 P Pn 19 03 06.0 +1.8
comp=N,0.3nm,0.1s,SNR=7.9
EAGO S Sn 19 04 31.2 -2.8
comp=N,1.7nm,0.3s,SNR=7.9
EPON Pontenova 8.14 342 P Pn 19 03 09.1 +2.2
comp=N,1.1nm,0.3s,SNR=7.9
EPON S Sn 19 04 36.2 -2.8
comp=N,1.7nm,0.3s,SNR=7.9
TORD Torodi Ar. Bea 22.90 166 P P 19 06 13.1 +0.4
comp=N,0.4nm,0.7s,baz=357,slow=8.7,SNR=2.4
MKAR Makanchi Array 62.56 51 P P 19 11 32.7 0.0
comp=N,0.5nm,0.8s,baz=294,slow=5.2,SNR=4.8
YKA Yellowknife Ar 67.76 332 P P 19 12 06.8 +0.7
comp=N,0.4nm,0.6s,baz=57,slow=6.6,SNR=5.8

ISCJB ***24*** *19:07:06.2±0.3, 1°.49S±0°.04×77°.39W±0°.04, h181km, mb3.6/10, Error ellipse: s-maj=6.1km s-min=5.3km az=8.8*
IDC ***24*** *19:07:06.8±2.2, 1°.47S×77°.55W, h198km±24km, mb3.3/10, mb1 3.4/13, mb1mx3.2/49, mbtmp3.9/13, Error ellipse: s-maj=20.4km s-min=11.8km az=40.0*
IGQ ***24*** *19:07:07.5±1.0, 2°.5S×5°×7°.8W±1°.0, h183km, MLv3.8*
ISC 24 19:07:05.3±0.6, 1°.51S±0°.05×77°.60W±0°.06, h181km, n64, σ1ş79/67, mb3.6/10, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYO	**Puyo, Santa Ro**	**0.42**	**272**	P	Pn	**19 07 32.8**	**+2.8**
ARDO	**Archidona, Ten**	**0.55**	**338**	P	Pn	**19 07 32.6**	**+2.1**
ARDO				S	Sn	**19 07 52.7**	**+2.6**
BULB	**Ulba Tungurahu**	**0.81**	**275**	P	Pn	**19 07 34.6**	**+2.3**
BULB				S	Sn	**19 07 56.1**	**+3.1**
BRUN	**Tungurahua Vol**	**0.82**	**276**	P	Pn	**19 07 34.8**	**+2.5**
RUNS	**Runtun**	**0.83**	**276**	P	Pn	**19 07 34.8**	**+2.4**
BPAT	**Tungurahua Vol**	**0.83**	**270**	P	Pn	**19 07 35.0**	**+2.4**
PAT1	**Patacocha**	**0.84**	**270**	P	Pn	**19 07 35.0**	**+2.5**
RETU	**Refugio**	**0.85**	**274**	P	Pn	**19 07 35.1**	**+2.4**
ARRY	**Arrayan**	**0.86**	**270**	P	Pn	**19 07 34.7**	**+2.2**
POND	**Pondoa**	**0.86**	**276**	P	Pn	**19 07 34.9**	**+2.4**
JUI6	**Juive**	**0.87**	**275**	P	Pn	**19 07 34.8**	**+2.2**
BMAS	**Trigal station**	**0.88**	**270**	P	Pn	**19 07 35.2**	**+2.4**
BBIL	**Ulba Tungurahu**	**0.89**	**274**	P	Pn	**19 07 35.1**	**+2.3**
BIL2	**Estacion Bilba**	**0.90**	**273**	P	Pn	**19 07 34.8**	**+2.0**
PIS1	**Pisayambo**	**0.90**	**300**	P	Pn	**19 07 35.6**	**+2.5**
PISA	**Pisayambo**	**0.90**	**300**	P	Pn	**19 07 35.5**	**+2.5**
IGUA	**Igualata**	**1.04**	**271**	P	Pn	**19 07 36.2**	**+2.2**
BTAM	**Cotopaxi Volca**	**1.15**	**316**	P	Pn	**19 07 37.0**	**+2.1**
ANTS	**Antisana-Sarah**	**1.16**	**330**	P	Pn	**19 07 37.0**	**+2.0**
BMOR	**Cotopaxi Volca**	**1.16**	**312**	P	Pn	**19 07 37.2**	**+2.2**
VC1	**Cotopaxi 1**	**1.18**	**317**	P	Pn	**19 07 37.3**	**+2.2**
ANTI	**Antisana**	**1.19**	**332**	P	Pn	**19 07 37.3**	**+2.0**
BNAS	**Cotopaxi Volca**	**1.21**	**313**	P	Pn	**19 07 37.8**	**+2.5**
PAST	**Pastocalle**	**1.32**	**308**	P	Pn	**19 07 38.5**	**+2.3**
ILLI	**Illinizas Sur**	**1.38**	**305**	P	Pn	**19 07 38.5**	**+1.8**
REVS	**Reventador Sur**	**1.39**	**359**	P	Pn	**19 07 38.5**	**+1.9**
NINA	**Atacazo Ninahu**	**1.51**	**317**	P	Pn	**19 07 39.7**	**+1.7**
CAYA	**Cayambe**	**1.62**	**346**	P	Pn	**19 07 41.0**	**+1.9**
CASC	**Dorado de Casc**	**1.66**	**9**	P	Pn	**19 07 40.7**	**+1.6**
GGPC	**Guagua Pichinc**	**1.66**	**323**	P	Pn	**19 07 40.8**	**+1.3**
YANA	**Yana**	**1.69**	**325**	P	Pn	**19 07 41.0**	**+1.3**
COHC	**Cochancay**	**1.91**	**240**	P	Pn	**19 07 42.3**	**+0.8**
OTAV	**Otavalo**	**1.93**	**334**	*e*P	Pn	**19 07 44.5**	**+2.2**
OTAV	**Otavalo**	**1.93**	**334**	P	Pn	**19 07 43.0**	**+0.7**
CUIC	**Cuicocha-Domo**	**1.96**	**337**	P	Pn	**19 07 43.7**	**+1.2**
MILO	**Milagro-Astudi**	**2.10**	**249**	P	Pn	**19 07 42.9**	**-0.6**
MAG1	**Magdalena**	**2.60**	**303**	P	Pn	**19 07 49.2**	**-0.1**
GCUF	**Volcan Galeras**	**2.73**	**5**	*e*P	Pn	**19 07 51.2**	**-0.1**
MORR	**Playas El Morr**	**2.96**	**248**	P	Pn	**19 07 53.0**	**-0.5**
PTLC	**Puerto Leguiza**	**3.26**	**59**	*e*P	Pn	**19 07 57.5**	**+0.2**
SALI	**Salinas**	**3.46**	**259**	P	Pn	**19 07 58.4**	**-1.2**
FLOC	**Florencia**	**3.64**	**32**	*e*P	Pn	**19 08 03.1**	**+1.2**
MCRA	**Macar, Loja**	**3.69**	**220**	P	Pn	**19 08 00.9**	**-1.7**
SOTA	**Rioblanco**	**3.75**	**15**	*e*P	Pn	**19 08 05.1**	**+1.3**
PCON	**Cinco Dias**	**4.00**	**18**	*e*P	Pn	**19 08 08.4**	**+1.4**
GRGC	**Isla de Gorgon**	**4.52**	**353**	*e*P	Pn	**19 08 13.1**	**0.0**
MALC	**Bahia Malaga**	**5.49**	**3**	*e*P	Pn	**19 08 25.0**	**-0.7**
YOTC	**Yotoco, Valle**	**5.60**	**13**	*e*P	Pn	**19 08 26.4**	**-0.8**
ATAH	**Atahualpa**	**5.64**	**188**	P	Pn	**19 08 30.2**	**+2.1**
	2.0nm,0.3s,baz=14,slow=7.9,SNR=11						
ATAH				S	Sn	**19 09 35.5**	**+2.2**
	5.9nm,0.3s,baz=158,slow=19,SNR=17						
LPAZ	**La Paz**	**17.40**	**148**	P	Pn	**19 10 58.3**	**+0.3**
	1.0nm,0.3s,baz=331,slow=8.3,SNR=4.9						
PTGA	**Pitinga**	**17.65**	**88**	P	Pn	**19 11 00.1**	**-0.3**
	1.4nm,0.3s,baz=272,slow=14,SNR=13						
SIV	**San Ignacio**	**21.74**	**132**	P	P	**19 11 42.9**	**+0.3**
	2.0nm,0.5s,baz=322,slow=8.2,SNR=8.4						
CMIG	**Matias Romero**	**25.14**	**318**	P	P	**19 12 14.4**	**+0.4**
	0.9nm,0.4s,baz=75,slow=17,SNR=2.3						
MDP	**Montagnes des**	**25.78**	**75**	P	P	**19 12 19.0**	**-0.8**
	11nm,0.9s,baz=261,slow=10,SNR=6.1						
BDFB	**Brasilia**	**32.38**	**117**	P	P	**19 13 18.9**	**+0.7**
	2.5nm,0.4s,baz=300,slow=13,SNR=5.1						
TXAR	**Lajitas Array**	**39.52**	**323**	P	P	**19 14 18.3**	**-0.5**
	0.2nm,0.4s,baz=134,slow=6.5,SNR=3.3						
PLCA	**Paso Flores**	**39.56**	**172**	P	P	**19 14 19.7**	**+0.8**
	1.7nm,0.9s,baz=12,slow=7.2,SNR=3.7						
ANMO	**Albuquerque**	**45.23**	**326**	P	P	**19 15 05.4**	**+0.6**
	0.9nm,0.6s,baz=132,slow=9.4,SNR=3.9						
NVAR	**Mina Array Bea**	**54.62**	**321**	P	P	**19 16 15.9**	**+0.3**
	0.2nm,0.5s,baz=134,slow=7.6,SNR=2.7						
YKA	**Yellowknife Ar**	**69.67**	**343**	P	P	**19 17 53.0**	**-1.9**
	0.2nm,0.5s,baz=138,slow=5.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**79.92**	**76**	P	P	**19 18 52.7**	**-2.1**
	0.6nm,0.6s,baz=280,slow=5.6,SNR=10						
ASAR	**Alice Springs**	**140.45**	**229**	PKhKP	PKPpre	19 26 04.5	
	0.2nm,0.5s,baz=118,slow=3.8,SNR=3.6						
ASAR				PKP	**PKPdf**	**19 26 12.2**	**-1.6**
	0.3nm,0.6s,baz=117,slow=2.2,SNR=3.2						
WRA	**Warramunga Arr**	**142.11**	**234**	PKhKP	PKPpre	19 26 11.6	
	0.5nm,0.4s,baz=116,slow=2.9,SNR=6.6						
WRA				PKP	**PKPdf**	**19 26 16.3**	**-0.6**
	0.2nm,0.5s,baz=117,slow=2.2,SNR=4.6						
FITZ	**Fitzroy Crossi**	**149.95**	**229**	PKPbc	**PKPbc**	**19 26 34.5**	**-0.8**
	1.0nm,0.5s,baz=360,slow=2.7,SNR=6.4						

KRSC 24 19:20:46.1±10.0, 50°.69N×160°.25E, h97km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.77**	**310**	*e*P	Pn	19 21 16.9	+1.4
KDTR				*e*S	Sn	19 21 38.6	+0.8
RUS	**Russkaya**	**2.06**	**329**	*e*P	Pn	19 21 20.6	+1.4
RUS				*e*S	Sn	19 21 45.3	+0.8
MTVR	**Mutnovka**	**2.21**	**325**	*i* P	Pn	19 21 23.3	+1.9
MTVR				*e*S	Sn	19 21 49.5	+1.1
ASAK	**Asacha**	**2.24**	**320**	*e*P	Pn	19 21 24.0	+2.3
ASAK				*e*S	Sn	19 21 51.1	+2.1
PAU	**Pauzhetka**	**2.30**	**291**	S	Sn	19 21 51.4	+1.1
KRMR	**Karymshinskiy**	**2.52**	**329**	*e*P	Pn	19 21 27.5	+2.3
KRMR				*e*S	Sn	19 21 57.2	+1.9
SKR	**Severo-Kuril's**	**2.63**	**271**	*e*S	Sn	19 21 59.3	+1.4
UGLR	**Uglovaya**	**2.67**	**341**	*e*P	Pn	19 21 30.1	+2.6
SDLR	**Sedlovina**	**2.73**	**343**	*e*P	Pn	19 21 30.2	+2.0
AVH	**Avacha**	**2.74**	**341**	*e*P	Pn	19 21 31.4	+3.0
AVH				*e*S	Sn	19 22 04.2	+3.3
KOK	**Koryaka**	**2.79**	**340**	*e*P	Pn	19 21 32.0	+3.0
MKZ	**Mys Kozlova**	**3.98**	**13**	P	Pn	19 21 45.8	+1.0
KZV	**Kizimen**	**4.43**	**0**	P	Pn	19 21 54.1	+3.0
TUMD	**Tumrok D**	**4.52**	**1**	*e*P	Pn	19 21 54.8	+2.6
TUMR	**Tumrok**	**4.60**	**359**	*e*P	Pn	19 21 56.7	+3.3
KBTR	**Krutoberegovo**	**5.74**	**15**	P	Pn	19 22 10.1	+1.4

IDC ***24*** *19:27:29.4±0.6, 21°.51S×170°.22E, h75km±4km, mb4.9/28, mb1 4.9/31, mb1mx4.8/42, mbtmp5.2/31, MS3.9/21, Ms1 3.9/21, ms1mx3.8/25, Error ellipse: s-maj=12.3km s-min=9.5km az=156.0*
ISCJB ***24*** *19:27:29.6±0.9, 21°.47S±0°.04×170°.15E±0°.05, h85km±7km,*

mb5.2/116,Error ellipse: s-maj=7.6km s-min=5.7km az=146.3

BGR ***24*** *19:27:30.9±0.0,22°.00S×171°.32E,h33km*

NEIC ***24*** *19:27:32.5±0.8,21°.47S×170°.08E,h99km±7km,mb5.1/24, Error ellipse: s-maj=8.1km s-min=6.0km az=54.0*

NEIC Felt at Noumea, New Caledonia.

GCMT ***24*** *19:27:32.5±0.2,21°.54S±0°.01×170°.05E±0°.01,h92km±1km, MW5.3/89,Moment Tensor Solution. s77,c106; s89,c152; Duration: 1s1 Moment tensor: Scale 10¹⁷Nm; Mrr0.11±.02; Mθθ0.05±.02; Mϕϕ-0.15±.02; Mrθ0.40±.01; Mθϕ0.93±.02; Mrϕ0.15±.01; Best double couple: M₀1.03700×10¹⁷ NP1:ϕs95.00000°,δ80.00000°, λ23.00000°. NP2:ϕs1.00000°,δ67.00000°,λ169.00000°. Principal axes: T 1.0560, Plg23.0000°, Azm320.0000°; N -0.0390, Plg65.0000°, Azm118.0000°; P -1.0170, Plg8.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***24*** *19:27:32.4,20°.94S×170°.26E,h98km,mb5.3/58,mB5.2/31*

MOS ***24*** *19:27:33.9±1.1,21°.41S×170°.00E,h119km,mb5.2/16, Error ellipse: s-maj=10.7km s-min=7.7km az=130.7*

ISC 24 19:27:31.5±0.4,21°49S±0°.05×170°11E±0°.05,h91km±3km, h90km:pP-P,n476,σ1§25/468,mb5.2/116**,62C-33D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.94**	**270**	*e*Pn		**Pn**	**Pn**	**19 28 02.5**	**-0.4**
PINNC	**Pines Island,**	**2.71**	**245**	*e*Pn		**Pn**	**Pn**	**19 28 12.3**	**-0.8**
DZM	**Mont Dzumac** 10μm,0.7s	**3.46**	**260**	*e*Pn		**Pn**	**Pn**	**19 28 23.5**	**+0.2**
DZM	17μm,0.4s			*e*Sn		**Sn**	**Sn**	**19 29 02.9**	**-0.4**
DZM	**Mont Dzumac** 368nm,0.3s,baz=39,slow=22,SNR=1318	**3.46**	**260**	P		**Pn**	**Pn**	**19 28 23.3**	**0.0**
DZM	1μm,0.3s,baz=30,slow=20,SNR=23			S		**Sn**	**Sn**	**19 29 02.3**	**-1.0**
DZM	comp=Z,2μm,21.3s,baz=42,slow=37			LR		LR	LR	19 29 39.7	
ONTNC	**Ouen Toro**	**3.49**	**256**	*e*Pn		**Pn**	**Pn**	**19 28 23.5**	**-0.1**
NFK	**Norfolk Island** baz=7.8,SNR=101	**7.77**	**194**	P		**Pn**	**Pn**	**19 29 20.9**	**-0.9**
MSVF	**Nonsavu**	**8.36**	**65**	*e*Pn		**Pn**	**Pn**	**19 29 33.8**	**+3.8**
MSVF	**Nonsavu**	**8.36**	**65**	*e*P		**Pn**	**Pn**	**19 29 33.8**	**+3.8**
OUZ	**Omahuta**	**14.02**	**168**	*e*Pn		**Pn**	**Pn**	**19 30 48.1**	**+2.2**
LHI	**Lord Howe Isla** baz=14,SNR=5.4	**14.05**	**222**	*e*Pn		**Pn**	**Pn**	**19 30 46.6**	**+0.3**
LHI	**Lord Howe Isla**	**14.05**	**222**	*e*Pn		**Pn**	**Pn**	**19 30 46.6**	**+0.3**
HNR	**Honiara**	**15.47**	**319**	*e*P		**Pn**	**Pn**	**19 31 05.0**	**+0.3**
HNR	**Honiara** 1μm,1.0s	**15.47**	**319**	*e*Pn		**Pn**	**Pn**	**19 31 05.3**	**+0.6**
HNR	**Honiara** comp=Z,1μm,1.0s	**15.47**	**319**	*e*P	pmax	**Pn**	**Pn**	**19 31 05.3**	**+0.6**
HNR	**Honiara** comp=Z,28nm,0.3s,baz=148,slow=0.4,SNR=17	**15.47**	**319**	P		**Pn**	**Pn**	**19 31 05.2**	**+0.5**
HNR	comp=Z,467nm,20.4s,baz=112,slow=34			LR		LR	LR	19 36 15.4	
HIZ	**Hauiti** comp=Z,155nm,1.3s	**17.45**	**168**	*e*P		**Pn**	**Pn**	**19 31 30.5**	**+1.5**
URZ	**Urewera** comp=Z,109nm,1.2s	**17.77**	**162**	*e*P		**Pn**	**Pn**	**19 31 35.2**	**+2.4**
URZ	**Urewera** comp=Z,0.5nm,0.3s,baz=349,slow=5.2,SNR=2.5	**17.77**	**162**	P		**P**	**P**	**19 31 30.7**	**-1.7**
URZ	comp=Z,578nm,18.4s,baz=350,slow=32			LR		LR	LR	19 37 03.8	
EIDS	**Eidsvold** baz=18,SNR=15	**17.88**	**254**	P		**Pn**	**Pn**	**19 31 35.0**	**+0.6**
EIDS	**Eidsvold** comp=Z,144nm,1.0s	**17.88**	**254**	*e*P		**Pn**	**Pn**	**19 31 37.0**	**+2.6**
BKZ	**Black Stump Fm** comp=Z,177nm,1.2s	**18.45**	**164**	*e*P		**Pn**	**Pn**	**19 31 41.5**	**+0.4**
ARMA	**Armidale** baz=19,SNR=40	**18.83**	**238**	P		**Pn**	**Pn**	**19 31 45.1**	**-0.6**
ARMA	**Armidale** comp=Z,167nm,1.0s	**18.83**	**238**	*e*P		**Pn**	**Pn**	**19 31 47.5**	**+1.7**
NIUE	**Niue** baz=19,SNR=6.1	**18.88**	**86**	P		**P**	**P**	**19 31 44.8**	**+0.1**
BFZ	**Birch Farm** comp=Z,46nm,0.9s	**19.83**	**166**	*e*P		**P**	**P**	**19 31 54.3**	**-0.6**
RMQ	**Roma** baz=20,SNR=78	**20.13**	**252**	P		**P**	**P**	**19 31 59.4**	**+1.1**
THZ	**Tophouse** comp=Z,80nm,0.9s	**20.35**	**174**	*e*P		**P**	**P**	**19 32 01.6**	**+1.0**
MGCD	**Mangrove Creek** baz=20,SNR=11	**20.48**	**231**	P		**P**	**P**	**19 32 02.3**	**+0.2**
KHZ	**Kahutara** comp=Z,56nm,1.0s	**21.06**	**173**	*e*P		**P**	**P**	**19 32 06.9**	**-1.3**
RPZ	**Rata Peaks** comp=Z,54nm,1.2s,baz=30,slow=11,SNR=5.0	**22.18**	**178**	P		**P**	**P**	**19 32 19.7**	**-0.4**
CTA	**Charters Tower** comp=Z,42nm,0.9s,baz=91,slow=12,SNR=38	**22.34**	**269**	P		**P**	**P**	**19 32 22.6**	**+0.6**
CTAO	**Charters Tower** comp=Z,79nm,1.1s	**22.34**	**269**	*e*P		**P**	**P**	**19 32 23.3**	**+1.2**
CTAO	**Charters Tower** comp=Z,79nm,1.1s	**22.34**	**269**	*e*P		**P**	**P**	**19 32 23.3**	**+1.2**
CTAO	comp=Z,58nm,1.1s				pmax	pmax	pmax		
CNB	**Canberra Magne** baz=23,SNR=34	**22.80**	**228**	P		**P**	**P**	**19 32 28.2**	**+1.4**
LBZ	**Lake Benmore** comp=Z,60nm,1.3s	**22.83**	**180**	*e*P		**P**	**P**	**19 32 28.3**	**+1.4**
YNG	**Young** baz=23,SNR=11	**22.99**	**232**	P		**P**	**P**	**19 32 29.2**	**+0.6**
MILA	**Mila** baz=24,SNR=8.1	**23.89**	**225**	P		**P**	**P**	**19 32 38.0**	**+1.1**
CMSA	**Cobar Meteorol** baz=24,SNR=165	**23.98**	**240**	P		**P**	**P**	**19 32 38.6**	**+1.0**
RABL	**Rabaul** comp=Z,159nm,0.8s	**24.48**	**312**	*e*P		**P**	**P**	**19 32 42.5**	**+0.3**
MTSU	**Mount Surprise** baz=24,SNR=271	**24.49**	**273**	P		**P**	**P**	**19 32 44.2**	**+1.8**
PMG	**Port Moresby** comp=Z,239nm,0.8s	**25.13**	**295**	*e*P		**P**	**P**	**19 32 49.2**	**+1.0**
PMG	**Port Moresby** comp=Z,1μm,0.8s	**25.13**	**295**	*c i*P	pmax	**P**	**P**	**19 32 48.9**	**+0.7**
PMG	**Port Moresby** comp=Z,225nm,0.8s,baz=95,slow=5.0,SNR=95	**25.13**	**295**	P		**P**	**P**	**19 32 49.0**	**+0.8**
TOO	**Toolangi** baz=27,SNR=9.5	**26.64**	**228**	P		**P**	**P**	**19 33 02.7**	**+1.0**
TOO	**Toolangi** comp=Z,58nm,1.1s	**26.64**	**228**	*e*P		**P**	**P**	**19 33 03.1**	**+1.4**
TOO	**Toolangi** comp=Z,58nm,1.1s	**26.64**	**228**	*e*P		**P**	**P**	**19 33 03.1**	**+1.4**
TOO	comp=Z,58nm,1.1s				pmax	pmax	pmax		
COEN	**Coen** baz=27,SNR=17	**26.70**	**282**	P		**P**	**P**	**19 33 04.3**	**+1.9**
COEN	**Coen** comp=Z,70nm,0.8s	**26.70**	**282**	*e*P		**P**	**P**	**19 33 04.3**	**+1.9**
STKA	**Stephens Creek** baz=27,SNR=32	**27.42**	**242**	P		**P**	**P**	**19 33 10.0**	**+1.2**
STKA	**Stephens Creek** comp=Z,8.2nm,1.0s	**27.42**	**242**	*e*P		**P**	**P**	**19 33 09.9**	**+1.2**
STKA	**Stephens Creek** comp=Z,8.0nm,1.0s	**27.42**	**242**	*e*P		**P**	**P**	**19 33 09.9**	**+1.2**
STKA	comp=Z,8.0nm,1.0s				pmax	pmax	pmax		
STKA	**Stephens Creek** comp=Z,24nm,0.9s,baz=81,slow=13,SNR=37	**27.42**	**242**	P		**P**	**P**	**19 33 09.2**	**+0.5**
STKA	comp=Z,16nm,0.8s,baz=104,slow=12,SNR=4.3			sP		**pwP**	**pwP**	**19 33 35.1**	**+1.3**
STKA	comp=Z,4.6nm,1.1s,baz=73,slow=11,SNR=3.4			ScP		**ScP**	**ScP**	**19 39 59.6**	**+1.7**
STKA	comp=Z,425nm,18.3s,baz=63,slow=36			LR		LR	LR	19 43 45.7	
MOO	**Moorlands** baz=28,SNR=9.3	**28.38**	**217**	P		**P**	**P**	**19 33 18.3**	**+1.2**
QIS	**Mount Isa** baz=28,SNR=8.4	**28.47**	**266**	P		**P**	**P**	**19 33 18.7**	**+0.5**
ARPS	**Mount Arapiles** baz=29,SNR=6.3	**28.87**	**232**	P		**P**	**P**	**19 33 22.8**	**+1.2**
MANU	**Manus Island** comp=Z,36nm,0.8s	**29.40**	**308**	*e*P		**P**	**P**	**19 33 26.7**	**+0.3**
HTT	**Hallett** baz=30,SNR=16	**30.01**	**240**	P		**P**	**P**	**19 33 32.5**	**+0.8**
BBOO	**Buckleboo** baz=32,SNR=15	**32.20**	**242**	P		**P**	**P**	**19 33 51.4**	**+0.4**
AS01	**Alice Springs**	**33.41**	**259**	*e*P		**P**	**P**	**19 34 01.4**	**-0.3**
WRAB	**Tennant Creek** comp=Z,45nm,1.0s	**33.44**	**266**	*e*P		**P**	**P**	**19 34 01.5**	**-0.5**
WRAB	**Tennant Creek** comp=Z,52nm,1.2s	**33.44**	**266**	*c i*P	pmax	**P**	**P**	**19 34 01.4**	**-0.6**
AS31	**Alice Springs** comp=Z,9.5nm,0.7s	**33.45**	**259**	*e*P		**P**	**P**	**19 34 02.0**	**0.0**
ASAR	**Alice Springs** comp=Z,20nm,0.7s,baz=82,slow=9.1,SNR=351	**33.45**	**259**	P		**P**	**P**	**19 34 02.0**	**0.0**
ASAR	comp=Z,14nm,0.8s,baz=86,slow=8.9,SNR=3.4			pP		**pP**	**pP**	**19 34 20.0**	**-1.5**
ASAR	comp=Z,2.0nm,0.8s,baz=93,slow=2.8,SNR=5.5			PcP		**PcP**	**PcP**	**19 36 41.3**	**-0.1**
ASAR	comp=Z,0.9nm,0.9s,baz=92,slow=4.6,SNR=4.3			ScP		**ScP**	**ScP**	**19 40 19.9**	**+2.1**
ASAR	comp=Z,215nm,20.9s,baz=100,slow=34			LR		LR	LR	19 46 27.2	
WRA	**Warramunga Arr**	**33.45**	**266**	P		**P**	**P**	**19 34 01.0**	**-1.1**
WRA	**Warramunga Arr** comp=Z,29nm,0.8s,baz=101,slow=8.5,SNR=148	**33.45**	**266**	P		**P**	**P**	**19 34 00.9**	**-1.1**
WRA	comp=Z,6.2nm,0.8s,baz=93,slow=9.3,SNR=2.3			pP		**pP**	**pP**	**19 34 22.0**	**+0.3**
WRA	comp=Z,15nm,1.0s,baz=102,slow=9.7,SNR=4.0			sP		**sP**	**sP**	**19 34 30.0**	**-1.8**
WRA	comp=Z,4.3nm,0.9s,baz=98,slow=2.7,SNR=3.9			PcP		**PcP**	**PcP**	**19 36 41.3**	**-0.1**
WRA	comp=Z,2.0nm,1.1s,baz=100,slow=14,SNR=3.7			S		**S**	**S**	**19 39 13.3**	**-3.9**
WRA	comp=Z,370nm,19.6s,baz=70,slow=35			LR		LR	LR	19 46 55.7	
JAY	**Jayapura** comp=Z,2μm,0.9s,comp=Z,15μm	**34.27**	**299**	P		**P**	**P**	**19 34 09.7**	**+0.5**
JAY	**Jayapura** comp=Z,213nm,0.8s,baz=126,slow=3.8,SNR=67	**34.27**	**299**	P		**P**	**P**	**19 34 09.1**	**-0.1**
GENI	**Geruyem** comp=Z,233nm,1.5s,comp=Z,3μm	**34.66**	**299**	P		**P**	**P**	**19 34 13.7**	**+1.2**
KDU	**Kakadu** baz=37,SNR=24	**36.95**	**277**	P		**P**	**P**	**19 34 32.3**	**+0.2**
TBI	**Tubuai** comp=Z,959nm,31.8s	**37.34**	**101**	*e*LQ		LQ	LQ	19 43 02.9	
TBI	comp=Z,499nm,30.0s			*e*LR		LR	LR	19 44 46.4	
PPT2	**Papeete2** comp=Z,1μm,28.2s	**38.12**	**91**	*e*LQ		LQ	LQ	19 43 23.4	
PPT2	comp=Z,646nm,32.2s			*e*LR		LR	LR	19 45 06.4	
MTN	**Manton Dam** baz=38,SNR=66	**38.14**	**277**	P		**P**	**P**	**19 34 42.1**	**0.0**
SRPI	**Serui, Papua** comp=Z,138nm,1.0s,comp=Z,2μm	**38.31**	**296**	P		**P**	**P**	**19 34 44.6**	**+1.0**
WRKA	**Warakurna** baz=38,SNR=29	**38.47**	**256**	P		**P**	**P**	**19 34 45.1**	**+0.2**
KNRA	**Kununurra** baz=40,SNR=32	**39.53**	**271**	P		**P**	**P**	**19 34 53.8**	**0.0**
SAUI	**Saumlaki**	**39.74**	**284**	P		**P**	**P**	**19 34 56.7**	**+1.2**
RKPI	**Ransiki, Papua**	**40.24**	**295**	P		**P**	**P**	**19 35 00.3**	**+0.7**
FAKI	**Fak Fak** comp=Z,193nm,1.0s,comp=Z,2μm	**41.17**	**291**	P		**P**	**P**	**19 35 07.5**	**+0.2**
FITZ	**Fitzroy Crossi** baz=42,SNR=224	**41.88**	**267**	P		**P**	**P**	**19 35 13.9**	**+0.8**
FITZ	**Fitzroy Crossi** comp=Z,130nm,0.8s	**41.88**	**267**	*e*P		**P**	**P**	**19 35 14.2**	**+1.1**
FITZ	**Fitzroy Crossi** comp=Z,133nm,0.7s,baz=113,slow=7.4,SNR=412	**41.88**	**267**	P		**P**	**P**	**19 35 13.9**	**+0.8**
BNDI	**Bandanaira**	**42.47**	**288**	P		**P**	**P**	**19 35 17.7**	**-0.2**
GUMO	**Guam** comp=Z,59nm,0.5s,baz=173,slow=23,SNR=5.6	**42.77**	**322**	P		**P**	**P**	**19 35 20.4**	**+0.2**
GUMO	comp=Z,140nm,20.2s,baz=128,slow=34			LR		LR	LR	19 51 26.8	
SIJI	**Sorong** comp=Z,72nm,0.7s,baz=103,slow=6.7,SNR=82	**43.05**	**293**	P		**P**	**P**	**19 35 22.9**	**+0.3**
SIJI	comp=Z,257nm,21.6s,baz=104,slow=36			LR		LR	LR	19 53 04.0	
SWI	**Sorong**	**43.06**	**293**	P		**P**	**P**	**19 35 23.1**	**+0.4**
SOEI	**Soe** comp=Z,64nm,1.0s	**45.51**	**278**	*e*P		**P**	**P**	**19 35 43.6**	**+1.2**
SOEI	**Soe** comp=Z,67nm,1.0s	**45.51**	**278**	P		**P**	**P**	**19 35 43.8**	**+1.4**
BATI	**Baumata** comp=Z,50nm,1.0s,comp=Z,477nm	**45.91**	**277**	P		**P**	**P**	**19 35 47.0**	**+1.5**
BATI	**Baumata** comp=Z,66nm,0.7s,baz=160,slow=2.0,SNR=55	**45.91**	**277**	P		**P**	**P**	**19 35 46.9**	**+1.5**
MEEK	**Meekatharra** baz=47,SNR=13	**47.05**	**253**	P		**P**	**P**	**19 35 54.2**	**0.0**
SANI	**Sanana** comp=Z,239nm,1.1s,comp=Z,2μm	**47.07**	**288**	P		**P**	**P**	**19 35 55.0**	**+0.5**
TNTI	**Ternate** comp=Z,62nm,1.3s	**47.23**	**292**	*e*P		**P**	**P**	**19 35 55.6**	**-0.1**
TNTI	**Ternate**	**47.23**	**292**	P		**P**	**P**	**19 35 56.6**	**+0.9**
KLBR	**Kellerberrin** baz=48,SNR=19	**47.52**	**246**	P		**P**	**P**	**19 35 57.7**	**-0.2**
MMRI	**Maumere** comp=Z,120nm,0.9s,comp=Z,1μm	**47.78**	**278**	P		**P**	**P**	**19 36 00.2**	**+0.3**
NWAO	**Narrogin (SRO)** baz=48,SNR=14	**47.95**	**245**	P		**P**	**P**	**19 36 01.8**	**+0.7**
NWAO	**Narrogin (SRO)** comp=Z,39nm,0.8s	**47.95**	**245**	*e*P		**P**	**P**	**19 36 01.3**	**+0.2**
NWAO					pP	**pP**	**pP**	**19 36 20.0**	**-1.7**
NWAO	**Narrogin (SRO)**	**47.95**	**245**	*e*P		**P**	**P**	**19 36 01.3**	**+0.2**
NWAO	comp=Z,39nm,0.8s				pmax	pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,34nm,0.9s,baz=97,slow=7.0,SNR=21	**47.95**	**245**	P		**P**	**P**	**19 36 00.8**	**-0.2**
NWAO	comp=Z,14nm,0.7s,baz=116,slow=2.8,SNR=2.9			pP		**pP**	**pP**	**19 36 20.0**	**-1.7**
EDFI	**Ende, Flores** comp=Z,17nm,0.8s,comp=Z,2μm	**48.24**	**278**	P		**P**	**P**	**19 36 03.6**	**-0.1**
BLDU	**Ballidu** baz=48,SNR=15	**48.45**	**248**	P		**P**	**P**	**19 36 04.7**	**-0.3**
BBSI	**Bau Bau** comp=Z,7.3nm,1.3s,comp=Z,471nm	**48.67**	**282**	P		**P**	**P**	**19 36 08.4**	**+1.6**
MORW	**Morawa** baz=49,SNR=4.3	**49.12**	**250**	P		**P**	**P**	**19 36 11.0**	**+0.9**
MORW	**Morawa** comp=Z,31nm,1.0s	**49.12**	**250**	*e*P		**P**	**P**	**19 36 09.1**	**-1.0**
WSI	**Waingapu**	**49.21**	**276**	P		**P**	**P**	**19 36 11.7**	**+0.8**
KMSI	**Cibinong** comp=Z,92nm,0.7s,comp=Z,1μm	**50.08**	**290**	P		**P**	**P**	**19 36 18.5**	**+1.0**
SGSI	**Sangihe**	**50.30**	**294**	P		**P**	**P**	**19 36 20.2**	**+1.0**
BSSI	**Bau Bau, Buton**	**50.31**	**280**	P		**P**	**P**	**19 36 20.3**	**+1.0**
LUWI	**Luwuk** comp=Z,180nm,1.2s,comp=Z,2μm	**50.39**	**287**	P		**P**	**P**	**19 36 21.3**	**+1.4**
BKSI	**Bulukumba** comp=Z,45nm,0.9s,comp=Z,380nm	**50.97**	**281**	P		**P**	**P**	**19 36 24.5**	**+0.3**
BNSI	**Bone**	**51.35**	**282**	P		**P**	**P**	**19 36 28.0**	**+0.9**
APSI	**Ampana**	**51.45**	**287**	P		**P**	**P**	**19 36 29.1**	**+1.3**
MRSI	**Marisa**	**51.82**	**289**	P		**P**	**P**	**19 36 30.3**	**-0.3**
SPSI	**Sidrap Palu** comp=Z,19nm,0.8s	**51.83**	**282**	P		**P**	**P**	**19 36 30.7**	**0.0**
PLAI	**Plampang**	**51.83**	**276**	P		**P**	**P**	**19 36 31.1**	**+0.4**
DAV	**Davao City (W)** comp=Z,58nm,19.6s,baz=162,slow=36	**52.09**	**298**	LR		LR	LR	19 59 14.1	
KCP	**Kidapawan**	**52.46**	**298**	*i*P		**P**	**P**	**19 36 35.4**	**0.0**
CTBH	**Cotabato--PC H**	**53.28**	**297**	*i*P		**P**	**P**	**19 36 42.1**	**+0.8**
MPSI	**Mapaga** comp=Z,47nm,1.3s,comp=Z,509nm	**53.57**	**287**	P		**P**	**P**	**19 36 43.9**	**+0.4**
CGP	**Cagayan de Oro**	**53.59**	**299**	*e*P		**P**	**P**	**19 36 43.9**	**+0.3**
SRBI	**Singaraja** comp=Z,34nm,1.3s	**54.47**	**275**	P		**P**	**P**	**19 36 50.9**	**+0.9**
JAGI	**Jajag, Banyuwa**	**55.32**	**275**	*e*P		**P**	**P**	**19 36 55.8**	**-0.5**
JAGI	**Jajag, Banyuwa** comp=Z,70nm,1.2s	**55.32**	**275**	P		**P**	**P**	**19 36 56.4**	**+0.2**
KMMI	**Kalianget** comp=Z,31nm,1.0s	**55.99**	**276**	P		**P**	**P**	**19 37 03.4**	**+2.4**
BLJI	**Banyuglugur** comp=Z,20nm,0.6s	**56.09**	**275**	P		**P**	**P**	**19 37 02.7**	**+1.0**
VNDA	**Vanda** comp=Z,2.8nm,0.8s,baz=1.8,slow=7.0,SNR=12	**56.22**	**182**	P		**P**	**P**	**19 37 00.5**	**-1.2**
VNDA	comp=Z,177nm,19.9s,baz=12,slow=32			LR		LR	LR	19 57 38.7	
SBA	**Scott Base**	**56.43**	**181**	*e*P		**P**	**P**	**19 37 04.0**	**+0.8**
SBA	**Scott Base**	**56.43**	**181**	*e*P		**P**	**P**	**19 37 04.0**	**+0.8**
RCP	**Roxas**	**56.93**	**301**	*i*P		**P**	**P**	**19 37 08.9**	**+1.3**
TSM	**Tawau**	**57.20**	**290**	P		**P**	**P**	**19 37 10.9**	**+1.3**
PCJI	**Pacitan**	**58.18**	**274**	P		**P**	**P**	**19 37 17.5**	**+1.1**
NGJI	**Ngawi**	**58.20**	**275**	P		**P**	**P**	19 37 29.8	+13
SDKM	**Sandakan**	**58.45**	**291**	P		**P**	**P**	**19 37 18.5**	**+0.1**
KDM	**Kudat**	**59.38**	**292**	P		**P**	**P**	**19 37 25.8**	**+1.1**
KKM	**Kota Kinabalu**	**59.49**	**291**	P		**P**	**P**	**19 37 27.4**	**+1.7**
TGY	**Tagaytay City** comp=Z,149nm,0.3s,baz=222,slow=1.4,SNR=10	**59.83**	**302**	P		**P**	**P**	**19 37 27.6**	**-0.3**
TGY	comp=Z,26nm,19.0s,baz=144,slow=34			LR		LR	LR	20 01 29.6	
KPJI	**Karang Pucung** comp=Z,51nm,0.8s	**60.56**	**274**	P		**P**	**P**	**19 37 34.1**	**+1.2**
BTM	**Bintulu**	**60.93**	**287**	P		**P**	**P**	**19 37 35.8**	**+0.5**
SBUM	**Sibu**	**61.37**	**285**	P		**P**	**P**	**19 37 40.0**	**+1.7**
CISI	**Cisompet, Garu**	**61.52**	**273**	*e*P		**P**	**P**	**19 37 39.5**	**+0.1**
CISI	**Cisompet, Garu** comp=Z,96nm,1.0s	**61.52**	**273**	P		**P**	**P**	**19 37 40.7**	**+1.3**
KSM	**Kuching**	**62.68**	**283**	P		**P**	**P**	**19 37 48.5**	**+1.4**
CBJI	**Citeko** comp=Z,148nm,0.9s	**62.81**	**274**	P		**P**	**P**	**19 37 47.3**	**-0.7**
BLSI	**Bandar Lampung**	**64.68**	**274**	P		**P**	**P**	**19 38 00.0**	**-0.3**
PPBI	**Pangkal Pinang** comp=Z,97nm,0.8s	**65.04**	**278**	P		**P**	**P**	**19 38 03.2**	**+0.6**
MJAR	**Matsushiro Arr** comp=Z,27nm,1.1s,comp=Z,356nm	**65.11**	**332**	P		**P**	**P**	**19 38 01.8**	**-0.8**
MJAR	comp=Z,26nm,0.9s,baz=170,slow=7.4,SNR=59			LR		LR	LR	20 04 47.5	
MAJO	**Matsushiro**	**65.12**	**332**	*e*P		**P**	**P**	**19 38 02.6**	**0.0**
MAJO	**Matsushiro**	**65.12**	**332**	*e*P		**P**	**P**	**19 38 02.6**	**0.0**
MAT	**Matsushiro**	**65.12**	**332**	P		**P**	**P**	**19 38 02.3**	**-0.3**
MAT				*e*S		**S**	**S**	**19 46 37.0**	**-1.3**
KASI	**Kota Agung** comp=Z,110nm,1.0s	**65.32**	**274**	P		**P**	**P**	**19 38 04.0**	**-0.4**
LWLI	**Liwa** comp=Z,29nm,0.8s	**65.91**	**274**	P		**P**	**P**	**19 38 08.4**	**0.0**
JNU	**Nakatsue** comp=Z,46nm,0.9s,baz=123,slow=4.8,SNR=18	**65.97**	**324**	P		**P**	**P**	**19 38 07.7**	**-0.5**
MDSI	**Maura Dua** comp=Z,45nm,0.9s,comp=Z,545nm	**65.99**	**275**	P		**P**	**P**	**19 38 07.7**	**-1.0**
TPRI	**Tanjung Pinang**	**67.72**	**280**	P		**P**	**P**	**19 38 21.0**	**+1.3**
ERM	**Erimo**	**67.93**	**339**	*i*P		**P**	**P**	**19 38 21.1**	**+0.7**
ERM	comp=Z,19nm,1.0s				pmax	pmax	pmax		
MYKOM	**Kota Tinggi**	**68.69**	**281**	P		**P**	**P**	**19 38 27.2**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**68.89**	**341**	*e*P		**P**	**P**	**19 38 27.0**	**+0.7**
KGM	**Kluang**	**69.27**	**281**	P		**P**	**P**	**19 38 30.9**	**+1.5**
KRJI	**Kerinci** comp=Z,38nm,1.0s	**69.39**	**276**	P		**P**	**P**	**19 38 31.2**	**+1.0**
KUR	**Kuril'sk**	**69.43**	**343**	*i*P		**P**	**P**	**19 38 30.2**	**+0.6**
ASAJ	**Asahikawa** comp=Z,15nm,0.7s,baz=216,slow=4.6,SNR=24	**69.99**	**339**	P		**P**	**P**	**19 38 33.9**	**+0.8**
TJN	**Taejon**	**70.31**	**324**	*e*P		**P**	**P**	**19 38 35.9**	**+0.6**
PDSI	**Padang** comp=Z,20nm,0.7s	**70.76**	**277**	P		**P**	**P**	**19 38 38.8**	**+0.3**
KTGM	**Kuala Trenggan**	**70.79**	**284**	P		**P**	**P**	**19 38 40.1**	**+1.4**
KSRS	**Korea Array** comp=Z,18nm,0.8s,baz=142,slow=6.1,SNR=39	**70.82**	**326**	P		**P**	**P**	**19 38 39.8**	**+0.6**
KSRS	comp=Z,50nm,19.0s,baz=128,slow=35			LR		LR	LR	20 09 02.0	
KSAR	**Wonju Array Be**	**70.83**	**326**	P		**P**	**P**	**19 38 38.9**	**+0.5**
KSAR	**Wonju Array Be**	**70.83**	**326**	P		**P**	**P**	**19 38 38.9**	**+0.5**
FRIM	**Kepong**	**71.30**	**281**	P		**P**	**P**	**19 38 42.2**	**+0.5**
SISI	**Saibi** comp=Z,31nm,1.2s	**71.87**	**276**	P		**P**	**P**	**19 38 46.5**	**+1.3**
MNSI	**Mandailing Nat** comp=Z,73nm,0.9s,comp=Z,585nm	**72.22**	**278**	P		**P**	**P**	**19 38 46.6**	**-0.7**
IPM	**Ipoh**	**72.35**	**282**	P		**P**	**P**	**19 38 49.1**	**+1.0**
NJ2	**Nanjing**	**72.39**	**316**	*i*P		**P**	**P**	**19 38 48.4**	**+0.6**
NJ2					sP	**sP**	**sP**	**19 39 21.0**	**+0.9**
NJ2	comp=Z,20nm,0.6s				pmax	pmax	pmax		
RPN	**Rapa Nui** comp=Z,152nm,20.6s,baz=15,slow=29	**72.46**	**113**	LR		LR	LR	20 02 17.0	
YSS	**Yuzh-Sakhalins**	**72.47**	**341**	*e*P		**P**	**P**	**19 38 47.9**	**0.0**
YSS					eS	**S**	**S**	**19 48 06.6**	**+2.0**
YSS	comp=Z,20nm,1.1s				pmax	pmax	pmax		
YSS	comp=N,10.0nm,0.7s				pmax	pmax	pmax		
YSS	comp=Z,200nm,5.4s				pmax	pmax	pmax		
KULM	**Kulim**	**73.02**	**283**	P		**P**	**P**	**19 38 52.4**	**+0.3**
MSHR	**Mys Shultsa**	**73.18**	**331**	*i*P		**P**	**P**	**19 38 53.4**	**+1.1**
VLA	**Vladivostok**	**73.28**	**332**	*i*P		**P**	**P**	**19 38 53.9**	**+1.0**
VLA	comp=Z,34nm,1.0s				pmax	pmax	pmax		
PSI	**Prapat** comp=Z,26nm,0.8s,baz=180,slow=4.3,SNR=32	**73.60**	**280**	P		**P**	**P**	**19 38 54.7**	**-0.9**
SKLT	**Songkhla** comp=Z,69nm,0.9s,comp=Z,648nm	**73.82**	**285**	P		**P**	**P**	**19 38 57.9**	**+1.2**
USRK	**Ussuriysk Ar.**	**74.10**	**333**	P		**P**	**P**	**19 38 58.0**	**+0.3**
USRK	**Ussuriysk Ar.** comp=Z,16nm,0.9s,baz=144,slow=4.6,SNR=20	**74.10**	**333**	P		**P**	**P**	**19 38 58.0**	**+0.3**
USRK	comp=Z,39nm,20.3s,baz=141,slow=33			LR		LR	LR	20 08 40.3	
GSI	**Gunungsitoli** comp=Z,107nm,1.0s,comp=Z,989nm	**74.27**	**278**	P		**P**	**P**	**19 39 00.1**	**+0.8**
WHN	**Wuhan** comp=Z,96nm,1.2s	**74.46**	**312**	P		**P**	**P**	**19 39 00.8**	**+0.7**
WHN	comp=Z,19nm,1.0s,comp=Z,220nm				pmax	pmax	pmax		
TRTT	**Trang** comp=Z,39nm,0.9s,comp=Z,343nm	**74.94**	**285**	P		**P**	**P**	**19 39 04.1**	**+0.9**
KCSI	**Kotacane, Aceh** comp=Z,140nm,0.8s,comp=Z,2μm	**74.94**	**280**	P		**P**	**P**	**19 39 02.6**	**-0.7**
PETK	**Petropavlovsk-** comp=Z,28nm,1.0s,baz=161,slow=6.3,SNR=10	**75.06**	**352**	P		**P**	**P**	**19 39 03.0**	**0.0**
PETK	comp=Z,40nm,19.0s,baz=168,slow=32			LR		LR	LR	20 07 58.7	
SKNT	**Sakolnakorn** comp=Z,48nm,0.9s,comp=Z,2μm	**75.23**	**295**	P		**P**	**P**	**19 39 05.7**	**+0.9**
DL2	**Dalian** comp=Z,130nm,0.9s	**75.30**	**323**	P		**P**	**P**	**

CMMT Chiang Mai 80.32 295 P **P** **19 39 34.6 +1.5**
comp=Z,55nm,1.2s,comp=Z,713nm
CD2 Chengdu 82.25 307 P **P** **19 39 44.3 +1.2**
CD2 pmax pmax
comp=Z,60nm,0.5s
HHC Hu-ho-hao-te 82.45 319 *e*P **P** **19 39 45.0 +1.0**
HHC sP sP 19 40 23.8 +7.4
HHC S **S** **19 49 55.0 +1.8**
HHC sS sS 19 50 39.8 +6.9
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,180nm,7.6s
SYO Syowa Base 83.01 196⇓ *e*P **P** **19 39 46.8 +0.5**
SYO Syowa Base 83.01 196⇑ *e*PcP **PcP** **19 39 50.4 -0.4**
ZEA Zeya 83.54 336 *e*P **P** **19 39 49.4 +0.3**
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=Z,43nm,1.2s
LZH Lanzhou 84.83 312 *e*P **P** **19 39 58.0 +1.7**
LZH pP pwP 19 40 23.5 +0.7
LZH sP sP 19 40 32.5 +3.6
LZH PP **PP** **19 43 15.0 +0.8**
LZH S **S** **19 50 11.3 -6.2**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.6s
LZH LR LR
comp=Z,210nm,13.6s
LZH LR LR
comp=Z,320nm,14.3s
LZH LR LR
comp=Z,350nm,15.7s
SEY Seymchan 85.30 352⇑ *e*P **P** **19 39 57.2 -0.6**
SEY *i* *PP **pwP** **19 40 23.6 -0.4**
SNAA Sanae 86.96 182 P **P** **19 40 05.2 -1.0**
VNA3 Neumayer Olymp 87.52 180 P **P** **19 40 07.8 -1.0**
VNA2 Neumayer--Watz 87.82 181 P **P** **19 40 09.4 -0.8**
baz=190,slow=3.9
SHL Shillong 89.12 298 *i* P **P** **19 40 20.0 +2.6**
ULN Ulaanbaatar 89.15 323 *c i*P **P** **19 40 17.3 +0.4**
ULN pmax pmax
comp=Z,30nm,1.2s
YAK Yakutsk 89.25 342 *e*P **P** **19 40 15.1 -1.7**
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=N,16nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.9s
GTA Gaotai 89.26 313 ⇑P **P** **19 40 18.4 +0.8**
GTA pP pwP 19 40 45.3 +1.0
GTA sP sP 19 40 54.6 +4.3
GTA pmax pmax
comp=E,20nm,1.1s
GTA pmax pmax
comp=E,85nm,5.1s
GTA LR LR
comp=E,120nm,21.9s
GTA LR LR
comp=E,340nm,20.6s
GTA LR LR
comp=E,90nm,19.0s
BILL Bilibino 89.31 359 *c i*P **P** **19 40 16.5 -0.5**
BILL pmax pmax
comp=Z,26nm,1.1s
SONM Songino Array 89.50 323 P **P** **19 40 18.6 +0.1**
comp=Z,17nm,0.9s,baz=143,slow=5.5,SNR=96
SONM LR LR 20 20 39.7
comp=Z,35nm,19.4s,baz=114,slow=36
NVAR Mina Array Bea 89.68 48 P **P** **19 40 19.4 -0.3**
comp=Z,1.5nm,0.7s,baz=223,slow=8.0,SNR=11
NVAR sP **pwP** **19 40 47.2 +0.9**
comp=Z,5.5nm,0.9s,baz=229,slow=7.5,SNR=9.7
NVAR LR LR 20 12 03.9
comp=Z,98nm,21.7s,baz=221,slow=30
BOD Bodaibo 91.70 334 *e*P **P** **19 40 27.3 -1.0**
BOD pmax pmax
comp=Z,10.0nm,1.1s
PALK Pallekele 92.08 277 P **P** **19 40 31.4 +0.2**
comp=Z,7.8nm,0.9s,baz=116,slow=9.8,SNR=4.7
ILAR Eielson Array 92.13 17 P **P** **19 40 28.1 -2.0**
comp=Z,1.4nm,0.8s,baz=238,slow=4.8,SNR=12
ILAR pP **pP** **19 40 49.6 -4.1**
comp=Z,1.0nm,0.7s,baz=235,slow=4.7,SNR=3.9
ILAR LR LR 20 23 06.5
comp=Z,50nm,18.2s,baz=212,slow=36
ZAK Zakamensk 92.59 324 *e*P **P** **19 40 31.1 -1.7**
ZAK pmax pmax
comp=Z,13nm,1.3s
TLY Talaya 93.07 325 *c i*P **P** **19 40 34.6 -0.2**
TLY pmax pmax
comp=Z,23nm,0.9s
TAPN Taplejung 93.26 298 *e*P **P** **19 40 36.7 0.0**
comp=Z,25nm,0.8s
ODAN Odare 93.34 297 *e*P **P** **19 40 37.4 +0.4**
comp=Z,51nm,0.9s
RAMN Ramite 94.03 297 *e*P **P** **19 40 40.3 +0.1**
comp=Z,9.7nm,0.6s
JIRN Jiri 94.63 298 *e*P **P** **19 40 43.2 +0.1**
comp=Z,34nm,0.8s
GUN Gumba 94.98 298 *e*P **P** **19 40 44.7 +0.1**
comp=Z,17nm,0.8s
PKI Pulchoki 95.24 297 *e*P **P** **19 40 45.8 0.0**
comp=Z,49nm,1.1s
PKIN Phulchoki 95.25 297 *e*P **P** **19 40 45.8 0.0**
comp=Z,27nm,0.9s
KKN Kakani 95.43 298 *e*P **P** **19 40 46.7 +0.2**
comp=Z,27nm,0.7s
DMN Daman 95.51 297 *e*P **P** **19 40 47.3 +0.4**
comp=Z,47nm,0.8s
PLCA Paso Flores 96.32 138 P **P** **19 40 50.4 +0.2**
comp=Z,1.9nm,1.0s,baz=239,slow=19,SNR=2.5
PLCA LR LR 20 15 18.6
comp=Z,30nm,20.0s,baz=164,slow=30
DANN Dangsing 96.88 298 *e*P **P** **19 40 52.6 -0.6**
comp=Z,22nm,0.9s
TIXI Tiksi 97.10 348⇑ *e*P Pdif 19 40 54.9 +2.1
TIXI pmax pmax
comp=Z,7.0nm,3.0s
TIXI Tiksi 97.10 348 P **P** **19 40 51.0 -1.8**
comp=Z,0.9nm,0.7s,baz=132,slow=3.1,SNR=2.6
TXAR Lajitas Array 97.12 61 LR LR 20 16 13.0
comp=Z,92nm,21.3s,baz=0.0,slow=30
PYUN Piuthan 97.43 297 *e*P **P** **19 40 54.8 -0.8**
comp=Z,20nm,0.9s
HYB Hyderabad 97.62 286 *i* P Pdif 19 40 57.0 +0.5
WMQ Urumqi 99.34 313 *e*P **Pdif** **19 41 04.3 +0.7**
WMQ pP pwP 19 41 29.6 -0.8
WMQ pmax pmax
comp=Z,21nm,0.7s
WMQ pmax pmax
comp=Z,120nm,5.9s
WMQ LR LR
comp=Z,120nm,27.1s
WMQ LR LR
comp=Z,180nm,27.7s
WMQ LR LR
comp=Z,200nm,27.3s
DGZ Jazzator, Alta 101.53 319 *d i*P **Pdif** **19 41 13.3 0.0**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 102.28 27 P **Pdif** **19 41 15.0 -1.1**
comp=Z,0.4nm,0.8s,baz=256,slow=4.6,SNR=8.1
MKAR Makanchi Array 103.91 315 Pdiff **Pdif** **19 41 23.5 -0.2**
comp=Z,1.5nm,0.7s,baz=101,slow=6.0,SNR=15
MKAR PP **PKiKP** **19 45 40.0 -0.9**
comp=Z,3.6nm,1.0s,baz=97,slow=10,SNR=11
ZALV Zalesovo Beam 104.39 323 Pdiff **Pdif** **19 41 24.9 -0.8**
comp=Z,1.3nm,0.8s,baz=121,slow=6.7,SNR=4.9
KURK Kurchatov 107.25 318 P **Pdif** **19 41 37.5 -1.0**
KURK 19 46 03.2
KURBB Kurchatov Arra 107.29 318 Pdiff **Pdif** **19 41 37.5 -1.1**
comp=Z,0.5nm,0.8s,baz=108,slow=4.0,SNR=4.2
KURBB PP **PP** **19 46 03.2 -3.8**
comp=Z,3.5nm,1.1s,baz=100,slow=7.5,SNR=8.2
ARU Arti 119.53 324 *i* PKIKP **PKPdf** **19 46 09.2 -1.0**
ARU 19 47 31.1
ARU 19 53 11.7
AKTO Aktyubinsk 120.27 317 PKP **PKPdf** **19 46 10.9 -0.9**
comp=Z,1.4nm,0.6s,baz=263,slow=2.0,SNR=5.3
PRGR Permogore 124.88 331 *e*PKIKP **PKPdf** **19 46 18.3 -2.0**
PRGR pmax pmax
comp=Z,4.0nm,0.8s

ARCES ARCESS Array B 127.44 345 PKP **PKPdf** **19 46 24.1 -0.9**
comp=Z,3.4nm,0.7s,baz=11,slow=1.8,SNR=13
KLMR Klimovskoe 127.90 332 *e*PKIKP **PKPdf** **19 46 22.3 -3.8**
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 127.90 332 *e*PKPdf **PKPdf** **19 46 22.4 -3.7**
KLMR AMP 19 46 27.3
comp=Z,13nm,1.0s
OBN Obninsk 131.81 326 *i* PKIKP **PKiKP** **19 46 34.4 -0.3**
OBN pmax pmax
comp=Z,6.0nm,1.3s
FINES FINESS Array B 132.97 337 PKhKP PKPpre 19 46 24.9
comp=Z,0.6nm,0.8s,baz=204,slow=33,SNR=3.6
FINES PKP **PKPdf** **19 46 33.9 -1.8**
comp=Z,1.7nm,0.9s,baz=96,slow=2.8,SNR=5.3
FINES SKPbc **SKPab** **19 49 56.3 -0.7**
comp=Z,12nm,1.0s,baz=73,slow=4.7,SNR=17
AKASG Malin Array Be 137.78 323 PKhKP PKPpre 19 46 32.1
comp=Z,0.8nm,0.7s,baz=48,slow=3.1,SNR=2.8
AKASG PKP **PKPdf** **19 46 44.8 -0.2**
comp=Z,1.4nm,0.6s,baz=66,slow=1.6,SNR=6.9
AKASG SKPbc **SKPbc** **19 50 11.2 +0.5**
comp=Z,2.1nm,0.7s,baz=44,slow=3.4,SNR=5.0
KIEV Kiev 137.79 323⇑ *i*P **PKiKP** **19 46 46.5 -0.5**
KIEV Kiev 137.79 323 ⇑PKIKP **PKiKP** **19 46 46.5 -0.5**
NB2 NORSAR Subarra 137.82 345 PKPdf **PKPdf** **19 46 41.3 -3.6**
comp=Z,1.0nm,0.9s,baz=27,slow=1.8
NOA NORSAR Array B 137.82 345 PKhKP PKPpre 19 46 31.7
comp=Z,0.6nm,0.9s,baz=34,slow=8.0,SNR=2.5
NOA PKP **PKPdf** **19 46 44.7 -0.1**
comp=Z,0.7nm,0.7s,baz=28,slow=1.9,SNR=5.4
NOA SKPbc **SKPbc** **19 50 09.3 -1.3**
comp=Z,2.4nm,1.0s,baz=16,slow=4.2,SNR=4.9
NOA SKPab **SKPab** **19 50 17.2 -1.2**
comp=Z,1.5nm,1.0s,baz=28,slow=2.9,SNR=4.9
BRTR Keskin Array B 138.82 306 *i* PKIKP **PKiKP** **19 46 52.2 +2.5**
BRTR Keskin Array B 138.82 306 PKhKP PKPpre 19 46 37.3
comp=Z,0.9nm,0.8s,baz=74,slow=4.4,SNR=4.5
BRTR PKP **PKiKP** **19 46 48.7 -1.0**
comp=Z,0.8nm,0.8s,baz=134,slow=1.9,SNR=3.5
BIZ Bicaz 141.41 320⇓ *i*P **PKPdf** **19 46 47.0 -4.8**
VRI Vrincioaia 141.52 318⇓ *i*P **PKPdf** **19 46 52.5 +0.5**
VRI Vrincioaia 141.52 318 ⇓PKIKP **PKPdf** **19 46 52.5 +0.5**
PLOR Plostina 141.58 318⇓ *i*P **PKPdf** **19 46 47.8 -4.4**
PLOR Plostina 141.58 318 ⇓PKIKP **PKPdf** **19 46 47.8 -4.4**
BURAR Bucovina Array 141.60 321⇑ *i*P **PKPdf** **19 46 49.2 -3.0**
BURAR Bucovina Array 141.60 321 ⇑PKIKP **PKPdf** **19 46 49.2 -3.0**
MLR Muntele Rosu 142.18 318⇓ *i*P **PKPdf** **19 46 48.8 -4.6**
MLR Muntele Rosu 142.18 318 ⇓PKIKP **PKPdf** **19 46 48.8 -4.6**
DOPR Dopca 142.31 319⇓ *i*P **PKPdf** **19 46 49.0 -4.4**
VOIR 142.77 318⇓ *i*P **PKPdf** **19 46 52.4 -1.9**
VOIR 142.77 318 ⇓PKIKP **PKPdf** **19 46 52.4 -1.9**
TRPA Tarpa 142.85 324⇑ *i*P **PKPdf** **19 46 50.6 -3.7**
CJR Cluj-Napoca 143.01 321⇑ *i*P PKPbc 19 46 52.4 +0.7
CJR Cluj-Napoca 143.01 321 ⇑PKIKP PKPbc 19 46 52.4 +0.7
ARR Arges 143.06 318⇑ *i*P PKPbc 19 46 51.9 0.0
HUMR Humele 143.23 317⇓ *i*P PKPab 19 46 51.6 +0.6
TURN Turunc 143.34 303 *i* P PKPbc 19 46 53.1 +0.3
DRGR 143.49 322⇓ *i*P PKPbc 19 46 52.8 -0.3
DRGR 143.49 322 ⇓PKIKP PKPbc 19 46 52.8 -0.3
LOT Lotru 143.55 319⇓ *i*P PKPbc 19 46 53.2 -0.2
KESN Edirne-Kesan 143.59 310 *i* P PKPbc 19 46 53.7 -0.2
LTVH Ltavrtes, Hu 143.62 323 ⇓*e*PKPdf **PKiKP** **19 47 01.0 +2.0**
AYDN Tasoluk 143.69 305 *i* P PKPbc 19 46 54.1 +0.2
DEV Deva 143.85 320⇓ *i*P PKPbc 19 46 54.0 -0.1
DEV Deva 143.85 320 ⇓PKIKP PKPbc 19 46 54.0 -0.1
ZEDA zmir-Bergama 143.92 307 *i* P PKPbc 19 46 54.2 -0.3
BAYC CANAKKALE_Bayr 144.06 309 *i* P PKPbc 19 46 54.9 0.0
OKC Ostrava-Krasne 144.08 329 *e*PKP PKPbc 19 46 55.0 +0.4
OKC Ostrava-Krasne 144.08 329 *e*PKIKP PKPbc 19 46 55.0 +0.4
BSEG Bad Segeberg 144.15 340 *e*PKPbc PKPbc 19 46 54.6 -0.1
comp=Z,35nm,35s=2.8
GCAM G?zelcaml? 144.18 305 *i* P PKPbc 19 46 55.5 +0.2
GZR Gura Zlata 144.18 319⇑ *i*P PKPbc 19 46 55.1 -0.1
BDRM Kayabasi 144.19 304 *i* P PKPbc 19 46 55.7 +0.3
EZN Ezine 144.19 309⇓ *i*P **PKPab** **19 46 55.0 +0.2**
EZN Ezine 144.19 309 ⇓PKIKP **PKPab** **19 46 55.0 +0.2**
KSP Ksiaz 144.25 331 *e*PKP PKPbc 19 46 55.6 +0.5
KSP Ksiaz 144.25 331 *e*PKIKP PKPbc 19 46 55.6 +0.5
RDO Rodhopi 144.28 311 P **PKPab** **19 46 54.9 -0.2**
SIRR Siria 144.38 321⇓ *i*P PKPbc 19 46 56.1 +0.4
BOZC Bozcaada 144.38 309 *i* P **PKPab** **19 46 55.1 -0.5**
MORC Moravsky Berou 144.41 329⇓ *i*P PKPbc 19 46 55.8 +0.1
MORC Moravsky Berou 144.41 329 ⇓PKIKP PKPbc 19 46 55.8 +0.1
MORC Moravsky Berou 144.41 329 *e*PKP **PKPab** **19 46 55.5 +0.1**
PSZ Piszkesteto 144.41 325⇓ *i*P PKPbc 19 46 55.9 +0.1
PSZ Piszkesteto 144.41 325 ⇓PKIKP PKPbc 19 46 55.9 +0.1
PSZ Piszkesteto 144.41 325 ⇓*e*PKPdf **PKPab** **19 46 55.1 -0.4**
PRK Paraskevi 144.43 308 P **PKPdf** **19 46 56.8 -0.5**
URLA Izmir 144.47 306 *i* P **PKPab** **19 46 55.9 0.0**
PLD Plovdiv 144.47 313 *e*P PKPbc 19 46 56.2 +0.1
SMG Samos 144.47 305 P **PKPab** **19 46 55.6 -0.4**
SMTH Samothraki Isl 144.54 310 P **PKPab** **19 46 55.2 -1.0**
KRLC Kraliky 144.56 330 *e*PKP PKPbc 19 46 56.5 +0.3
KRLC *ep*PKP pPKPdf 19 47 22.3 +0.6
KRLC *ex* x 19 47 29.6
KRLC Kraliky 144.56 330 *e*PKIKP PKPbc 19 46 56.5 +0.3
KRLC *e* 19 47 29.6
ZEY zmir 144.57 306 *i* P PKPbc 19 46 56.8 +0.3
DPC Dobruska-Polom 144.58 331 *e*PKP PKPbc 19 46 56.5 +0.3
DPC *ep*PKP pPKPdf 19 47 22.7 +1.0
DPC Dobruska-Polom 144.58 331 *e*PKIKP PKPbc 19 46 56.5 +0.3
VYHS Vyhne 144.61 326 *e*PKIKP PKPbc 19 46 56.7 +0.4
VYHS Vyhne 144.61 326 *e*PKP PKPbc 19 46 56.7 +0.4
UPC Upice 144.61 331 *e*PKP PKPbc 19 46 56.4 +0.1
UPC *ep*PKP pPKPdf 19 47 22.7 +1.0
UPC Upice 144.61 331 *e*PKIKP PKPbc 19 46 56.4 +0.1
RZN Rozhen 144.63 313 *e*P PKPbc 19 46 56.9 0.0
PGB Panagyurishte 144.64 314 *e*P PKPbc 19 46 56.9 +0.2
PUNG Punghina 144.64 318⇑ *i*P PKPbc 19 46 56.7 +0.2
HERR Herculane 144.66 319⇑ *i*P **PKPab** **19 46 56.5 0.0**
BZS Buzias 144.76 321⇑ *i*P **PKPab** **19 46 56.7 -0.1**
BZS Buzias 144.76 321 ⇑PKIKP **PKPab** **19 46 56.7 -0.1**
KARP Karpathos 144.78 302 P PKPbc 19 46 57.5 +0.2
NGRH Nagyer 144.86 322 *e*PKPdf **PKiKP** **19 47 00.0 -1.6**
AMBH Ambrzfalva 144.87 322 *e*PKPdf **PKPab** **19 46 57.1 -0.1**
JAVC Velka Javorina 144.96 328 *e*PKP **PKPdf** **19 46 58.5 +0.5**
KAVA Kavala 145.05 312 P **PKPbc** **19 46 57.7 -0.2**
BUD Budapest 145.14 325 *e*PKPdf **PKPbc** **19 46 58.0 0.0**
MDVR Moldovita 145.14 319⇓ *i*P **PKPbc** **19 46 57.7 -0.5**
BANR Banloc 145.17 321⇑ *i*P **PKPdf** **19 46 58.7 +0.3**
VRAC Vranov 145.18 329⇑ *i*P **PKPab** **19 46 58.3 0.0**
VRAC Vranov 145.18 329 ⇑PKIKP **PKPab** **19 46 58.3 0.0**
VRAC Vranov 145.18 329 *e*PKP **PKPdf** **19 46 58.4 +0.1**
VTS Vitosha 145.23 315⇑ *i*P **PKPab** **19 46 59.0 +0.1**
VTS Vitosha 145.23 315 P **PKPab** **19 46 59.0 +0.1**
VTS Vitosha 145.23 315 ⇑PKIKP **PKPab** **19 46 59.0 +0.1**
VTS Vitosha 145.23 315 *e*P **PKPab** **19 46 59.0 +0.1**
PVCC Panska Ves 145.23 332 *e*PKP **PKPab** **19 46 58.7 +0.3**
PVCC Panska Ves 145.23 332 *e*PKIKP **PKPab** **19 46 58.7 +0.3**
BRG Berggiesshubel 145.24 333 *i* PKP **PKPab** **19 46 58.4 +0.1**
comp=Z,88nm,0.8s
BRG *e*PKS **PKSdf** **19 50 31.3 -2.4**
comp=Z,7.6nm,1.1s
BRG Berggiesshubel 145.24 333 *e*PKPbc **PKPab** **19 46 58.5 +0.1**
baz=35,slow=2.8
BRG Berggiesshubel 145.24 333 *i* PKIKP **PKPab** **19 46 58.4 +0.1**
BRG pmax pmax
comp=Z,88nm,0.8s
BRG pmax pmax
comp=Z,8.0nm,1.1s
CLL Collm 145.29 335 *e*PKPbc **PKPdf** **19 46 58.5 +0.1**
baz=35,slow=2.8
CLL Collm 145.29 335⇑ *i*PKPbc **PKPbc** **19 46 58.3 -0.1**
comp=Z,104nm,1.0s
CLL *ep*PKPdf **pPKPdf** **19 47 25.0 +2.2**
CLL *e*SKPdf **SKPdf** **19 50 24.0 -0.6**
CLL *e*(SKPbc) 19 50 32.0
CLL Collm 145.29 335⇑ *i*PKIKP **PKPbc** **19 46 58.3 -0.1**
CLL pmax pmax
comp=Z,104nm,1.0s
MMB Musomiste 145.35 313 *e*P **PKPdf** **19 46 58.9 0.0**
NVR Nevrokopi 145.36 313 P **PKPdf** **19 46 58.4 -0.5**
NRDL Niedersach Rie 145.42 338 *e*PKPbc **PKPab** **19 46 58.9 0.0**
baz=35,slow=2.8
KRUC Moravsky 145.44 329 *e*PKP **PKPab** **19 46 59.2 0.0**
FBE Freiberg 145.45 334 *e*PKPbc **PKPab** **19 46 59.5 +0.3**
baz=35,slow=2.8
ASSE Asse, Remlinge 145.52 338 *e*PKPbc **PKPab** **19 46 59.3 0.0**
baz=35,slow=2.8
GOPC GO Pecny, Ondr 145.59 331 *e*PKP **PKPab** **19 46 59.6 -0.2**
GOPC *ep*PKP pPKPbc 19 47 24.7 +1.1
GOPC *ex* x 19 47 33.1
GOPC GO Pecny, Ondr 145.59 331 *e*PKP2 **PKPab** **19 46 59.6 -0.2**
CSKK Cskako 145.62 325 *e*PKPdf **PKPdf** **19 46 59.0 -0.1**
PRU Pruhonice 145.64 332 *e*PKP **PKPbc** **19 46 59.7 +0.2**
PRU *ep*PKP pPKPbc 19 47 25.2 +1.5
PRU *ex* x 19 47 33.3
PRU Pruhonice 145.64 332 *e*PKP2 **PKPbc** **19 46 59.7 +0.2**
SRS Serrai 145.64 312 P **PKPdf** **19 46 58.9 -0.5**
APE Apeiranthos 145.66 305⇑ *i*P **PKPdf** **19 46 58.6 -1.0**
APE Apeiranthos 145.66 305 ⇑PKIKP **PKPdf** **19 46 58.6 -1.0**
KKB Krupnik 145.66 314 *e*P **PKPbc** **19 46 59.8 -0.1**
ZST Bratislava 145.68 327 *e*PKP2 **PKPdf** **19 46 59.4 +0.2**
ZST Bratislava 145.68 327 *e*PKP **PKPdf** **19 46 59.4 +0.2**
TREC Trest 145.71 330 *e*PKP **PKPbc** **19 47 00.0 +0.2**
TREC *ep*PKP pPKPab 19 47 26.0 +2.0
TREC Trest 145.71 330 *e*PKP2 **PKPbc** **19 47 00.0 +0.2**
ESK Eskdalemuir 145.85 353 *ce*PKP2 **PKPbc** **19 47 00.0 0.0**
NEUB Neuenburg 145.85 336 *e*PKPbc **PKPbc** **19 47 00.5 -0.2**
baz=35,slow=2.8
CLZ Clausthal 145.86 337 *e*PKPbc **PKPab** **19 47 00.7 -0.1**
baz=35,slow=2.8
KNT Kendrikon 146.09 313 P **PKPdf** **19 47 00.4 +0.2**
TIH Tihany 146.11 325 *e*PKPdf **PKPdf** **19 47 00.1 +0.1**
MORH Mrgy, Hungar 146.12 323⇑ *i*P **PKPbc** **19 47 01.1 0.0**
MORH Mrgy, Hungar 146.12 323⇑ *i*P **PKPdf** **19 47 00.1 +0.1**
TANN Tannenbergstha 146.20 334 *e*PKPbc **PKPbc** **19 47 01.6 +0.3**
baz=35,slow=2.8
LAST Lasithi 146.21 301 P **PKPbc** **19 47 02.0 +0.2**
GTTG Gyttingen 146.25 338 *e*PKPbc **PKPab** **19 47 01.9 -0.3**
baz=35,slow=2.8
GUNZ Gunzen 146.29 334 *e*PKPbc **PKPab** **19 47 02.1 -0.4**
baz=35,slow=2.8
SOP Sopron 146.30 327⇑ *e*PKPdf **PKPbc** **19 47 01.1 -0.5**
WERN Wernitzgruen 146.33 334 *e*PKPbc **PKPab** **19 47 02.2 -0.4**
baz=35,slow=2.8
IBBN Ibbenburen 146.35 340 *e*PKPbc **PKPbc** **19 47 01.7 +0.2**
baz=35,slow=2.8
NKC Novy Kostel 146.35 334 *e*PKP **PKPbc** **19 47 02.0 +0.3**
NKC *ep*PKP pPKPab 19 47 28.3 +1.9
NKC *ex* x 19 47 33.5
NKC Novy Kostel 146.35 334 *e*PKP2 **PKPbc** **19 47 02.0 +0.3**
MOX Moxa 146.36 335 *e*PKPbc **PKPbc** **19 47 01.8 +0.1**
baz=35,slow=2.8
CONA Conrad Observa 146.48 328 *e*PKPab **PKPbc** **19 47 02.7 +0.5**
comp=Z,50nm,1.0s,SNR=16
PTL Penteli 146.60 307 P **PKPbc** **19 47 02.1 -0.7**
MANZ Manzenberg 146.68 334 *e*PKPbc **PKPbc** **19 47 03.0 +0.3**
baz=35,slow=2.8
ATHU Athens Univers 146.69 307 P **PKPbc** **19 47 02.2 -0.9**
KHC Kasperske Hory 146.70 332 *e*PKP **PKPbc** **19 47 03.0 +0.2**
KHC *ep*PKP pPKPab 19 47 27.6 -0.2
KHC *ex* x 19 47 38.2
KHC Kasperske Hory 146.70 332 *e*PKP2 **PKPbc** **19 47 03.0 +0.2**
ROTZ Rotzenmuhle 146.81 334 *e*PKPbc **PKPbc** **19 47 03.4 +0.4**
baz=35,slow=2.8
LIT Litokhoron 146.82 311 P **PKPdf** **19 47 02.4 +1.0**
UBBA Unterbreizbach 146.83 337 *e*PKPbc **PKPbc** **19 47 03.1 +0.2**
baz=35,slow=2.8
GEC2 GERESS Array S 146.85 331 *e*PKPbc **PKPbc** **19 47 03.5 +0.2**
baz=35,slow=2.8
GERES GERESS Array B 146.85 331 PKPbc **PKPbc** **19 47 03.3 0.0**
comp=Z,42nm,0.7s,baz=35,slow=3.3,SNR=94
WTSB Winterswijk 146.94 341 *ep*PKPbc **PKPbc** **19 47 02.6 -0.6**
comp=Z,162nm,1.5s
BEHE Becsehely 146.98 325⇑ *i*P **PKPbc** **19 47 03.6 0.0**
WET Wettzell 146.99 332 *e*PKPbc **PKPbc** **19 47 03.9 +0.4**
baz=35,slow=2.8
ARSA Arzberg 147.11 327 *e*PKPbc **PKPbc** **19 47 03.8 -0.2**
comp=Z,13nm,0.9s
HAPS Han Pijesak,Bl 147.18 320 *e*P **PKPbc** **19 47 03.5 -0.9**
DID Didima 147.25 307 P **PKPbc** **19 47 03.2 +0.9**
GRF Grafenberg Arr 147.27 334 *e*PKPbc **PKPbc** **19 47 04.7 +0.4**
baz=35,slow=2.8
FNA Florina 147.30 313 P **PKPbc** **19 47 03.7 -1.0**
MOA Molln 147.31 329 *e*PKPbc **PKPbc** **19 47 04.4 -0.1**
comp=Z,7.9nm,0.6s
DSF Desfina 147.46 308 P **PKPbc** **19 47 04.1 -1.1**
PHP Peshkopia 147.50 315 P **PKPbc** **19 47 04.9 -0.4**
PERS Pernice 147.73 327 *i* PKPdf **PKPbc** **19 47 05.1 -0.6**
SOKA Soboth 147.74 327 *e*PKPbc **PKPbc** **19 47 05.4 -0.4**
comp=Z,13nm,0.7s,SNR=6.8
GUR Goura 147.77 308 P **PKPbc** **19 47 05.6 -0.6**
SERG Sergoula 147.80 309 P **PKPbc** **19 47 05.4 -0.7**
BLY Banja Luka 147.83 322⇓ *i*P **PKPbc** **19 47 06.0 +0.1**
BLY Banja Luka 147.83 322⇑ *i*P **PKPbc** **19 47 06.1 +0.1**
ANX Ano Chora 147.83 309 P **PKPbc** **19 47 06.4 +0.1**
KLV Kalavryta, Ach 147.87 308 P **PKPbc** **19 47 06.0 -0.4**
TNS Taunus Mts 147.89 338 *e*PKPbc **PKPbc** **19 47 06.2 +0.2**
baz=35,slow=2.8
PDG Podgorica 147.89 317⇑ *i*P **PKPbc** **19 47 05.3 -0.9**
PDG Podgorica 147.89 317⇑ *i*P **PKPbc** **19 47 05.7 -0.5**
LAKA Lakka 147.92 308 P **PKPbc** **19 47 06.4 -0.1**
TIR Tirane 148.04 315⇑ *i*P **PKPbc** **19 47 06.4 -0.2**
TIR Tirane 148.04 315 ⇑PKP2 **PKPbc** **19 47 06.4 -0.2**
DRME Dracevica, Mon 148.06 317 *e*P **PKPbc** **19 47 06.3 -0.4**
CRES Cresnjev 148.09 326⇑ *i*P **PKPbc** **19 47 06.5 -0.1**
OBKA Obir 148.10 327 *e*PKPbc **PKPbc** **19 47 06.2 -0.6**
comp=Z,16nm,1.1s
HGN Heimansgroeve 148.25 341 *ep*PKPbc **PKPbc** **19 47 06.6 -0.3**
comp=Z,44nm,1.1s
KBA Koelnbreinsper 148.29 329 *i* PKPbc **PKPbc** **19 47 06.4 -0.9**
comp=Z,27nm,0.9s,SNR=7.5
HCY Herceg Novi 148.36 318 *e*P **PKPbc** **19 47 05.9 -1.5**
MEM Membach 148.37 341⇑ PKP **PKPbc** **19 47 06.9 -0.3**
MEM ⇑pPKP **pPKPab** **19 47 35.3 +1.1**
BOJS Bojanci 148.41 325 *i* PKPdf **PKPbc** **19 47 07.6 +0.1**
LJU Ljubljana 148.43 327⇑ *i*P **PKPbc** **19 47 07.4 -0.1**
VISS Visnje 148.43 326 *i* PKPdf **PKPbc** **19 47 07.5 0.0**
MYKA Terra Mystica 148.47 328 *e*PKPbc **PKPbc** **19 47 06.7 -1.0**
comp=Z,27nm,0.8s,SNR=6.2
STON Ston 148.62 319 *e*P **PKPdf** **19 47 05.3 +1.1**
CEY Cerknica 148.69 326⇑ *i*P **PKPbc** **19 47 07.8 -0.4**
BCLA Clavier 148.75 341⇑ PKPbc **PKPbc** **19 47 07.7 -0.5**
BCLA ⇑PKPab **PKPab** **19 47 12.1 0.0**
BCLA ⇑pPKP **pPKPab** **19 47 35.4 -0.3**
JAVS Javornik 148.77 327 *i* PKPdf **PKPbc** **19 47 07.8 -0.7**
STU Stuttgart 148.80 335 *e*PKPbc **PKPbc** **19 47 08.6 +0.2**
baz=35,slow=2.8
WATA Walderalm 148.93 331 *e*PKPbc **PKPbc** **19 47 08.3 -0.6**
comp=Z,14nm,0.9s,SNR=9.5
ABTA Abfaltersbach 148.93 329 *i* PKPbc **PKPbc** **19 47 07.9 -0.9**
comp=Z,33nm,0.8s,SNR=7.5
WTTA Wattenberg 148.95 331 *i* PKPbc **PKPbc** **19 47 08.7 -0.3**
comp=Z,45nm,1.0s
MOTA Moosalm 149.13 332 *i* PKPbc **PKPbc** **19 47 08.9 -0.5**
comp=Z,27nm,0.8s,SNR=30
WLF Walferdange 149.14 340 *e*PKPbc **PKiKP** **19 47 10.0 -0.4**
baz=35,slow=2.8
WLF Walferdange 149.14 340⇓PKP **PKPbc** **19 47 09.6 +0.4**
RETA Reutte 149.17 332 *i* PKPbc **PKPbc** **19 47 09.0 -0.4**
comp=Z,24nm,1.0s,SNR=6.1
SQTA Sankt Quirin 149.18 331 *e*PKPbc **PKPbc** **19 47 09.2 -0.3**
comp=Z,48nm,0.8s,SNR=14
DOU Dourbes 149.25 342⇑ PKPbc **PKPbc** **19 47 09.2 -0.2**
DOU ⇑PKPab **PKPab** **19 47 13.0 -1.1**
UBR Ueberruh 149.30 333 *e*PKPbc **PKPbc** **19 47 09.5 -0.2**
baz=35,slow=2.8
BFO Black Forest 149.50 336 *e*PKPbc **PKPbc** **19 47 09.8 -0.3**
baz=35,slow=2.8
BFO Black Forest 149.50 336 *i* PKP2 **PKPbc** **19 47 10.0 -0.1**
FETA Feichten 149.54 332 *i* PKPbc **PKPbc** **19 47 10.2 -0.3**
comp=Z,45nm,0.9s,SNR=14
DAVA Damuels 149.71 333 *e*PKPbc **PKPbc** **19 47 10.6 -0.3**
comp=Z,35nm,1.1s,SNR=7.0
TIP Timpagrande 151.18 314⇓ *i*P **PKPdf** **19 47 06.2 -2.4**
AQU L'Aquila 151.47 322 *e*P **PKPbc** **19 47 14.3 -0.8**
KEST Kesra 158.00 314 PKPab **PKPab** **19 47 52.6 +0.8**
comp=Z,6.1nm,0.9s,baz=261,slow=7.1,SNR=3.6
ESDC Sonseca Array 161.18 346 PKP **PKPdf** **19 47 19.4 -2.1**
comp=Z,0.1nm,0.4s,baz=284,slow=19,SNR=2.5
ESDC PKPab **PKPab** **19 48 04.7 -0.6**
comp=Z,1.1nm,0.7s,baz=7.4,slow=3.5,SNR=7.0
DBIC Dimbokro 164.48 199 PKPab **PKPab** **19 48 20.1 -0.2**
comp=Z,3.5nm,0.8s,baz=155,slow=5.0,SNR=4.7
TORD Torodi Ar. Bea 166.18 235 PKP **PKPdf** **19 47 25.8 -1.0**
comp=Z,0.7nm,1.0s,baz=239,slow=0.8,SNR=3.3
TORD pPKP **pPKPdf** **19 47 49.3 -1.9**
comp=Z,1.1nm,0.9s,baz=332,slow=1.8,SN

*ISCJB **24** 19:29:19.5±0.7, 44.°00N±0.°07×105.°22W±0.°07, h0km, Error ellipse: s-maj=9.6km s-min=6.8km az=179.2*
*IDC **24** 19:29:20.5±1.8, 43.°88N×105.°46W, h0km, mb1 3.4/3, mb1mx3.2/48, mbtmp3.1/3, ML2.3/2, Error ellipse: s-maj=51.9km s-min=10.0km az=149.0*
*NEIC **24** 19:29:21.0±0.7, 43.°97N×105.°21W, h0km, ML2.7(AEIC), Error ellipse: s-maj=11.5km s-min=8.4km az=174.0, Suspected Mining explosion.*
NEIC 43 km [27 miles] SSE of Gillette.

ISC 24 19:29:20.6±1.0, 43.°96N±0.°07×105.°21W±0.°05, h0km, n12, σ1°37/14, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.86**	**79**	*e*Pg	**Pb**	**19 29 39.1**	**+0.6**
RSSD				*e*Sg	**Sn**	**19 29 53.7**	**+0.2**
LAO	**LASA Array**	**2.82**	**346**	Pn	**Pn**	**19 30 04.5**	**-2.5**
RLMT	**Red Lodge**	**3.13**	**293**	*e*Pn	**Pn**	**19 30 12.1**	**+0.7**
RLMT				*e*Sn	**Sn**	**19 30 46.9**	**-2.5**
PDAR	**Pinedale Array**	**3.39**	**251**	Pn	**Pn**	**19 30 15.2**	**+0.2**
	5.1nm,0.3s,baz=73,slow=16,SNR=31						
PDAR				Lg	Lg	19 30 59.5	
	3.1nm,0.3s,baz=72,slow=31,SNR=6.5						
BW06	**Boulder Array**	**3.39**	**251**	Pn	**Pn**	**19 30 15.1**	**+0.1**
BW06				*e*Sn	**Sn**	**19 30 56.9**	**+1.0**
LKWY	**Lake**	**3.78**	**281**	Pn	**Pn**	**19 30 20.7**	**+0.3**
OGNE	**Ogallala**	**3.82**	**141**	*e*Pn	**Pn**	**19 30 20.8**	**+0.1**
ISCO	**Idaho Springs**	**4.17**	**184**	Pn	**Pn**	**19 30 24.9**	**-0.8**
BOZ	**Bozeman (W)**	**4.86**	**292**	*e*Pn	**Pn**	**19 30 37.1**	**+2.1**
I10CA	**LAC DU BONNET**	**8.84**	**42**	*i*		20 26 10.0	
	baz=221,slow=320,SNR=0.8						
ULM	**Lac du Bonnet**	**8.95**	**42**	Pn	**Pn**	**19 31 30.9**	**0.0**
	0.3nm,0.3s,baz=236,slow=12,SNR=3.8						
ULM				Lg	Lg	19 34 02.5	
	0.1nm,0.3s,baz=147,slow=18,SNR=2.9						
NVAR	**Mina Array Bea**	**11.30**	**245**	Pn	**Pn**	**19 32 04.6**	**+1.1**
	0.1nm,0.3s,baz=69,slow=13,SNR=2.7						

ROM 24 19:45:04.9±0.2, 43.°507N±0.°004×12.°368E±0.°004, h8km±1km, Md1.3/5, ML0.9/1, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.06**	**156**	P	Pg	19 45 06.9	+0.1
ATPI				S	Sg	19 45 08.3	+0.2
ATPI				END			
ATPI				END			
ATPI				END			
ATPI				END			
ATPC	**Poggio Castell**	**0.07**	**112**	P	Pg	19 45 07.0	+0.1
ATPC				S	Sg	19 45 08.7	+0.4
ATPC				END			
ATPC				END			
ATPC				END			
ATPC				END			
BADI	**Badiali**	**0.09**	**272**	P	Pg	19 45 07.5	+0.3
BADI				S	Sg	19 45 09.4	+0.6
BADI				AML	AML		
	comp=E,110μm,1.6s						
BADI				AML	AML		
	comp=N,110μm,0.3s						
BADI				AML	AML		
	comp=N,110μm,0.3s						
BADI				AML	AML		
	comp=E,110μm,1.6s						
BADI				END			
BADI				END			
BADI				END			
BADI				END			
PIEI	**Pieia**	**0.12**	**76**	P	Pg	19 45 08.1	+0.3
PIEI				S	Sg	19 45 10.8	+1.1
PIEI				END			
PIEI				END			
ATVO	**AVT- Monte Val**	**0.13**	**167**	P	Pg	19 45 08.4	+0.7
ATVO				S	Sg	19 45 10.6	+0.9
ATVO				END			
ATVO				END			
ATVO				END			
ATVO				END			
NARO	**Abbazia di Nar**	**0.19**	**56**	P	Pg	19 45 09.1	+0.4
NARO				S	Sg	19 45 12.6	+1.3

*IDC **24** 19:46:04.1±1.2, 21.°30N×145.°10E, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.5/45, mbtmp3.6/8, ML3.2/1, Error ellipse: s-maj=45.6km s-min=20.9km az=84.0*
*ISCJB **24** 19:46:07.3±1.0, 21.°3N±0.°1×145.°1E±0.°3, h33km, mb3.3/7, Error ellipse: s-maj=34.9km s-min=15.7km az=168.3*

ISC 24 19:46:09.4±1.2, 21.°3N±0.°2×145.°1E±0.°3, h35km, n14, σ0°50/8, mb3.3/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**17.24**	**316**	P	**Pn**	**19 50 07.9**	**+0.4**
	0.1nm,0.3s,baz=191,slow=5.2,SNR=3.5						
H11N1	**WAKE ISLAND Hy 20.52**		**90**	T	T	20 13 05.6	
	baz=277,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy 20.52**		**90**	T	T	20 13 03.4	
	baz=277,slow=75,SNR=9.6						
H11S3	**WAKE ISLAND Hy 20.53**		**94**	T	T	20 13 05.2	
	baz=281,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy 20.54**		**90**	T	T	20 13 05.9	
	baz=277,slow=75,SNR=8.3						
H11S1	**WAKE ISLAND Hy 20.54**		**94**	T	T	20 13 05.3	
	baz=281,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy 20.55**		**94**	T	T	20 13 02.9	
	baz=281,slow=75,SNR=21						
KLR	**Kul'dur**	**29.83**	**342**	P	**P**	**19 52 12.7**	**-0.5**
	0.8nm,0.6s,baz=155,slow=8.4,SNR=4.3						
SONM	**Songino Array**	**40.77**	**320**	P	**P**	**19 53 47.7**	**+0.5**
	0.1nm,0.5s,baz=127,slow=7.8,SNR=1.8						
WRA	**Warramunga Arr**	**42.29**	**195**	P	**P**	**19 53 59.6**	**-0.1**
	0.3nm,0.5s,baz=16,slow=8.8,SNR=4.8						
ASAR	**Alice Springs**	**45.98**	**194**	P	**P**	**19 54 29.5**	**+0.2**
	0.2nm,0.6s,baz=16,slow=8.5,SNR=6.9						
MKAR	**Makanchi Array**	**56.26**	**313**	P	**P**	**19 55 45.6**	**-0.7**
	0.2nm,0.7s,baz=97,slow=10,SNR=2.7						
YKA	**Yellowknife Ar**	**76.00**	**28**	P	**P**	**19 57 52.9**	**+0.2**
	0.1nm,0.3s,baz=289,slow=3.8,SNR=5.6						
FINES	**FINESS Array B**	**84.30**	**335**	P	**P**	**19 58 37.5**	**+0.1**
	0.8nm,0.8s,baz=36,slow=7.3,SNR=3.1						

*CNRM **24** 19:55:01.9, 36.°58N×13.°27W, h23km*
*IGIL **24** 19:55:06.5, 37.°20N×13.°14W, h2km, ML2.7*
*MDD **24** 19:55:06.1±1.5, 36.°97N×13.°11W, h0km, mb4.3/12, Error ellipse: s-maj=14.1km s-min=11.1km az=42.0, PRXIMO*
*INMG **24** 19:55:08.0±1.3, 36.°79N×13.°46W, h10km, ML2.7, Error ellipse: s-maj=6.0km s-min=5.1km az=55.0*

ISC 24 19:55:03.8±3.0, 36.°90N±0.°07×13.°1W±0.°2, h10km, n79, σ2°25/137, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.42**	**85**	*e*Pn	**Pn**	**19 55 59.4**	**+2.2**
PFVI				*e*Sn	**Sn**	**19 56 37.8**	**0.0**
PFVI				A	A	19 56 54.3	
	12nm,0.5s						
PFVI	**Vila Bisbo**	**3.42**	**85**	P	**Pn**	**19 55 59.4**	**+2.2**
	4.5nm,0.1s,SNR=8.1						
PFVI				S	**Sn**	**19 56 38.2**	**+0.4**
	50nm,0.1s,SNR=7.4						
PFVI	**Vila Bisbo**	**3.42**	**85**	P	**Pn**	**19 55 57.7**	**+0.5**
PFVI				S	**Sn**	**19 56 39.3**	**+1.5**
PTEO	**Sao Teotonio**	**3.54**	**78**	*e*Pn	**Pn**	**19 56 01.3**	**+2.4**
PTEO				*e*Sn	**Sn**	**19 56 41.3**	**+0.5**
PTEO				A	A	19 56 43.7	
	13nm,0.3s						
PTEO	**Sao Teotonio**	**3.54**	**78**	Pn	**Pn**	**19 56 01.3**	**+2.4**
PTEO				Sn	**Sn**	**19 56 41.3**	**+0.5**
	6.7nm,0.3s						
MORF	**Marmelete**	**3.57**	**82**	*e*P	**Pn**	**19 56 01.5**	**+2.1**
MORF				*e*S	**Sn**	**19 56 41.3**	**-0.3**
MORF				AML	AML	19 56 44.2	
	comp=N,26nm,0.3s						
MORF	**Marmelete**	**3.57**	**82**	*e*Pn	**Pn**	**19 56 01.4**	**+2.1**
MORF				*e*Sn	**Sn**	**19 56 41.3**	**-0.3**
MORF				A	A	19 56 44.0	
	comp=N,17nm,0.2s						
MORF	**Marmelete**	**3.57**	**82**	P	**Pn**	**19 56 01.5**	**+2.1**
MORF				S	**Sn**	**19 56 41.3**	**-0.3**
	comp=N,26nm,0.3s						

PMAFR	**Mafra**	**3.64**	**55**	*e*Pn	**Pn**	**19 56 03.0**	**+2.7**
PMAFR				*e*Sn	**Sn**	**19 56 44.5**	**+1.2**
PMAFR				A	A	19 56 46.7	
	comp=N,24nm,0.2s						
PMAFR	**Mafra**	**3.64**	**55**	P	**Pn**	**19 56 02.9**	**+2.6**
	comp=N,4.2nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**19 56 42.8**	**-0.5**
	comp=N,36nm,0.3s,SNR=6.9						
MESJ	**Messejana**	**3.99**	**75**	*e*P	**Pn**	**19 56 06.5**	**+1.4**
MESJ				*e*S	**Sn**	**19 56 50.3**	**-1.6**
MESJ				AML	AML	19 56 55.8	
	comp=N,15nm,0.1s						
MESJ	**Messejana**	**3.99**	**75**	*e*Pn	**Pn**	**19 56 07.3**	**+2.3**
MESJ				*e*Sn	**Sn**	**19 56 51.5**	**-0.4**
MESJ				A	A	19 56 58.1	
	comp=N,7.9nm,0.2s						
MESJ	**Messejana**	**3.99**	**75**	P	**Pn**	**19 56 06.5**	**+1.4**
MESJ				S	**Sn**	**19 56 50.3**	**-1.6**
	comp=N,15nm,0.1s						
PCVE	**Castro Verde**	**4.09**	**78**	*e*Pn	**Pn**	**19 56 09.0**	**+2.5**
PCVE				*e*Sn	**Sn**	**19 56 54.3**	**-0.2**
PCVE				A	A	19 56 59.0	
	comp=N,6.6nm,0.4s						
PCVE	**Castro Verde**	**4.09**	**78**	P	**Pn**	**19 56 09.0**	**+2.5**
PCVE				S	**Sn**	**19 56 54.3**	**-0.2**
	comp=N,6.6nm,0.4s						
PBDV	**Barranco-do-Ve**	**4.14**	**84**	*e*Pn	**Pn**	**19 56 09.8**	**+2.7**
PBDV				*e*Sn	**Sn**	**19 56 56.0**	**+0.4**
PBDV				A	A	19 57 01.7	
	comp=N,6.9nm,0.3s						
PBDV	**Barranco-do-Ve**	**4.14**	**84**	P	**Pn**	**19 56 09.8**	**+2.7**
PBDV				S	**Sn**	**19 56 56.0**	**+0.4**
	comp=N,6.9nm,0.3s						
ALMR	**Almeirim**	**4.21**	**56**	*e*Pn	**Pn**	**19 56 10.7**	**+2.6**
ALMR				*e*Sn	**Sn**	**19 56 57.3**	**-0.1**
ALMR				A	A	19 57 02.7	
	comp=N,21nm,0.5s						
ALMR	**Almeirim**	**4.21**	**56**	P	**Pn**	**19 56 10.7**	**+2.6**
ALMR				S	**Sn**	**19 56 57.3**	**-0.1**
	comp=N,11nm,0.5s						
PBEJ	**Beja**	**4.31**	**73**	*e*Sn	**Sn**	**19 56 59.6**	**0.0**
PBEJ				A	A	19 57 05.1	
	comp=N,6.6nm,0.2s						
PBEJ	**Beja**	**4.31**	**73**	S	**Sn**	**19 56 59.6**	**0.0**
	comp=N,3.3nm,0.2s						
PVAQ	**Vaqueiros**	**4.32**	**82**	*e*Pn	**Pn**	**19 56 12.4**	**+2.8**
PVAQ				*e*Sn	**Sn**	**19 56 59.4**	**-0.6**
PVAQ	**Vaqueiros**	**4.32**	**82**	P	**Pn**	**19 56 12.4**	**+2.8**
PVAQ				S	**Sn**	**19 56 59.4**	**-0.6**
PMTG	**Montargil**	**4.41**	**59**	*e*Pn	**Pn**	**19 56 13.0**	**+2.2**
PMTG				*e*Sn	**Sn**	**19 57 02.0**	**-0.2**
PMTG				A	A	19 57 06.0	
	comp=N,5.1nm,0.2s						
PMTG	**Montargil**	**4.41**	**59**	P	**Pn**	**19 56 13.0**	**+2.2**
PMTG				S	**Sn**	**19 57 02.0**	**-0.2**
	comp=N,5.1nm,0.2s						
EGRO	**El Granado**	**4.52**	**80**	P	**Pn**	**19 56 14.9**	**+2.6**
	comp=N,1.3nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**19 57 04.9**	**-0.1**
	comp=N,4.6nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.57**	**52**	*e*Pn	**Pn**	**19 56 16.1**	**+3.1**
PTOM				*e*Sn	**Sn**	**19 57 07.1**	**+0.9**
PTOM				A	A	19 57 10.0	
	comp=N,11nm,0.4s						
PTOM	**Tomar**	**4.57**	**52**	P	**Pn**	**19 56 16.1**	**+3.1**
PTOM				S	**Sn**	**19 57 07.1**	**+0.9**
	comp=N,5.7nm,0.4s						
PESTR	**Estremoz**	**4.77**	**64**	*e*Pn	**Pn**	**19 56 17.7**	**+1.9**
PESTR				*e*Sn	**Sn**	**19 57 10.6**	**-0.6**
PESTR				A	A	19 57 13.8	
	comp=N,4.5nm,0.6s						
PESTR	**Estremoz**	**4.77**	**64**	P	**Pn**	**19 56 17.4**	**+1.5**
PESTR				S	**Sn**	**19 57 12.9**	**+1.7**
PCAS	**Casmilo, Conde**	**4.78**	**48**	*e*Pn	**Pn**	**19 56 18.0**	**+2.1**
PCAS				*e*Sn	**Sn**	**19 57 12.0**	**+0.6**
PCAS				A	A	19 57 15.4	
	comp=N,3.5nm,0.1s						
PCAS	**Casmilo, Conde**	**4.78**	**48**	P	**Pn**	**19 56 18.0**	**+2.1**
PCAS				S	**Sn**	**19 57 12.0**	**+0.6**
	comp=N,3.5nm,0.1s						
PBAR	**Barrancos**	**4.97**	**73**	*e*Sn	**Sn**	**19 57 15.7**	**-0.4**
PBAR	**Barrancos**	**4.97**	**73**	S	**Sn**	**19 57 15.7**	**-0.4**
PMRV	**Marv??o**	**5.15**	**59**	*e*Pn	**Pn**	**19 56 23.0**	**+2.0**
PMRV				*e*Sn	**Sn**	**19 57 19.6**	**-0.9**
PMRV				A	A	19 57 23.6	
	comp=N,5.9nm,0.2s						
PMRV	**Marv??o**	**5.15**	**59**	P	**Pn**	**19 56 23.0**	**+2.0**
PMRV				S	**Sn**	**19 57 19.6**	**-0.9**
	comp=N,5.9nm,0.2s						
EBAD	**Badajoz**	**5.16**	**67**	P	**Pn**	**19 56 22.6**	**+1.6**
	comp=N,1.3nm,0.1s,SNR=7.2						
EBAD				S	**Sn**	**19 57 18.8**	**-1.7**
	comp=N,5.3nm,0.1s,SNR=7.3						
EMIN	**Mina Concepcio**	**5.19**	**79**	P	**Pn**	**19 56 23.6**	**+2.2**
	comp=N,0.5nm,0.1s,SNR=6.7						
EMIN				S	**Sn**	**19 57 21.0**	**-0.4**
	comp=N,4.9nm,0.2s,SNR=12						
PMAR	**Madeira**	**5.22**	**218**	P	Pn	19 56 13.5	-8.6
PMAR				S	Sn	19 57 12.5	-10
PMOZ	**Porto Moniz, M**	**5.29**	**221**	P	Pn	19 56 13.9	-9.1
PCBR	**Castelo Branco**	**5.30**	**55**	*e*Pn	**Pn**	**19 56 25.6**	**+2.6**
PCBR	**Castelo Branco**	**5.30**	**55**	P	**Pn**	**19 56 25.6**	**+2.6**
PVIS	**Viseu**	**5.56**	**45**	*e*Pn	**Pn**	**19 56 28.1**	**+1.4**
PVIS				*e*Sn	**Sn**	**19 57 29.8**	**-0.9**
PVIS				A	A	19 57 36.1	
	comp=N,5.5nm,0.3s						
PVIS	**Viseu**	**5.56**	**45**	P	**Pn**	**19 56 28.1**	**+1.4**
PVIS				S	**Sn**	**19 57 29.8**	**-0.9**
	comp=N,2.8nm,0.3s						
MTE	**Manteigas**	**5.57**	**50**	*e*Sn	**Sn**	**19 57 30.4**	**-0.5**
MTE				A	A	19 57 35.0	
	comp=N,5.0nm,0.4s						
MTE	**Manteigas**	**5.57**	**50**	S	**Sn**	**19 57 30.4**	**-0.5**
	comp=N,2.5nm,0.4s						
ESPR	**Espera**	**5.80**	**88**	P	**Pn**	**19 56 32.7**	**+2.8**
	comp=N,2.1nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**19 57 36.9**	**+0.4**
	comp=N,6.3nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**6.04**	**42**	*e*Pn	**Pn**	**19 56 34.5**	**+1.2**
PVRL				*e*Sn	**Sn**	**19 57 41.8**	**-0.7**
PVRL	**Vila Real**	**6.04**	**42**	P	**Pn**	**19 56 34.5**	**+1.2**
PVRL				S	**Sn**	**19 57 41.8**	**-0.7**
POLO	**Lamas de Olo**	**6.07**	**41**	*e*Pn	**Pn**	**19 56 35.1**	**+1.4**
POLO				*e*Sn	**Sn**	**19 57 41.5**	**-1.8**
POLO				A	A	19 57 47.7	
	comp=N,1.3nm,0.6s						
POLO	**Lamas de Olo**	**6.07**	**41**	P	**Pn**	**19 56 35.1**	**+1.4**
POLO				S	**Sn**	**19 57 41.5**	**-1.8**
	comp=N,1.3nm,0.6s						
PCAB	**Cabril**	**6.20**	**38**	*e*Pn	**Pn**	**19 56 37.0**	**+1.6**
PCAB				*e*Sn	**Sn**	**19 57 44.5**	**-1.9**
PCAB				A	A	19 57 58.0	
	comp=N,4.2nm,0.3s						
PCAB	**Cabril**	**6.20**	**38**	P	**Pn**	**19 56 37.0**	**+1.6**
PCAB				S	**Sn**	**19 57 44.5**	**-1.9**
	comp=N,2.1nm,0.3s						
ECAB	**El Cabril**	**6.21**	**77**	P	**Pn**	**19 56 38.1**	**+2.5**
	comp=N,0.4nm,0.1s,SNR=7.9						
ECAB				S	**Sn**	**19 57 45.2**	**-1.5**
	comp=N,3.4nm,0.2s,SNR=5.6						
RSA	**Sarsar**	**6.24**	**107**	P	Pn	19 56 31.6	-4.3
RSA				S	**Sn**	**19 57 44.5**	**-2.8**
EZAM	**Zamans**	**6.24**	**32**	P	**Pn**	**19 56 35.8**	**-0.2**
	comp=N,1.8nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**19 57 42.2**	**-5.2**
	comp=N,2.7nm,0.2s,SNR=7.9						
PGAV	**Gavieira, Arco**	**6.28**	**35**	*e*Pn	**Pn**	**19 56 38.5**	**+1.9**
PGAV				*e*Sn	**Sn**	**19 57 47.0**	**-1.5**
PGAV				A	A	19 57 51.4	
	comp=N,3.2nm,0.2s						
PGAV	**Gavieira, Arco**	**6.28**	**35**	P	**Pn**	**19 56 38.5**	**+1.9**
PGAV				S	**Sn**	**19 57 47.0**	**-1.5**
	comp=N,3.2nm,0.2s						
ELOB	**Lobios**	**6.30**	**37**	P	**Pn**	**19 56 38.1**	**+1.2**
	comp=N,1.8nm,0.2s,SNR=5.7						
ELOB				S	**Sn**	**19 57 44.9**	**-4.1**
	comp=N,2.6nm,0.1s,SNR=7.9						
ZHG	**ZHG**	**6.31**	**121**	P	Pn	19 56 32.4	-4.6
ZHG				S	**Sn**	**19 57 44.3**	**-4.8**
MVO	**Moncorvo**	**6.35**	**46**	*e*Pn	**Pn**	**19 56 38.9**	**+1.3**
MVO				*e*Sn	**Sn**	**19 57 47.5**	**-2.7**
MVO				A	A	19 57 54.4	
	comp=N,3.7nm,0.3s						
MVO	**Moncorvo**	**6.35**	**46**	P	**Pn**	**19 56 39.3**	**+1.8**
	comp=N,3.8nm,0.2s,SNR=9.1						
MVO				S	**Sn**	**19 57 47.2**	**-3.0**
	comp=N,3.9nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**6.81**	**26**	P	**Pn**	**19 56 44.3**	**+0.4**
	comp=N,3.2nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**19 57 55.5**	**-6.0**
	comp=N,3.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.88**	**77**	P	**Pn**	**19 56 47.1**	**+2.3**
	comp=N,0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**19 58 01.0**	**-2.2**
	comp=N,1.9nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.94**	**43**	*e*Pn	**Pn**	**19 56 47.2**	**+1.6**
PBRG				*e*Sn	**Sn**	**19 58 03.3**	**-1.3**
PBRG				A	A	19 58 08.4	
	comp=N,1.7nm,0.4s						
PBRG	**Braganca**	**6.94**	**43**	P	**Pn**	**19 56 47.2**	**+1.6**
PBRG				Sn	**Sn**	**19 58 03.3**	**-1.3**
	comp=N,0.9nm,0.4s						
ECAL	**Calabor**	**7.03**	**42**	P	**Pn**	**19 56 48.1**	**+1.2**
	comp=N,5.7nm,0.2s,SNR=7.9						
EAGO	**Agolada(Pontev**	**7.04**	**32**	P	**Pn**	**19 56 47.9**	**+1.0**
	comp=N,3.5nm,0.2s,SNR=7.9						
EAGO				S	**Sn**	**19 58 01.2**	**-5.7**
	comp=N,2.2nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**7.15**	**141**	P	Pn	19 56 41.3	-7.5
OUK				S	**Sn**	**19 58 04.7**	**-5.5**
PAB	**San Pablo**	**7.37**	**66**	P	**Pn**	**19 56 53.6**	**+2.1**
	comp=N,1.1nm,0.4s,SNR=7.9						
PAB				S	**Sn**	**19 58 11.5**	**-3.8**
	comp=N,0.9nm,0.2s,SNR=7.9						
TTIG	**Tnine Tigouga,**	**7.43**	**147**	P	Pn	19 56 47.4	-5.0
TTIG				S	Sn	19 58 06.1	-11
ESDC	**Sonseca Array**	**7.69**	**66**	P	**Pn**	**19 56 58.0**	**+2.1**
	comp=N,1.8nm,0.2s,baz=258,slow=13,SNR=9.1						
ESDC				S	**Sn**	**19 58 19.2**	**-4.0**
	comp=N,1.2nm,0.2s,baz=256,slow=23,SNR=17						
EPON	**Pontenova**	**7.87**	**34**	P	**Pn**	**19 56 59.1**	**+0.8**
	comp=N,0.9nm,0.1s,SNR=9.6						
EPON				S	**Sn**	**19 58 20.0**	**-7.3**
	comp=N,2.6nm,0.5s,SNR=7.9						
MD31	**MD31**	**7.94**	**118**	P	**Pn**	**19 56 58.2**	**-1.2**
MD31				S	**Sn**	**19 58 25.8**	**-3.6**
OUZM	**OUZ**	**7.96**	**137**	P	Pn	19 56 53.2	-6.5
OUZM				S	**Sn**	**19 58 25.1**	**-4.9**
EQES	**Quesada**	**8.03**	**81**	S	**Sn**	**19 58 29.8**	**-1.8**
	comp=N,2.0nm,0.3s,SNR=7.9						
MDT	**Midelt**	**8.08**	**118**	P	**Pn**	**19 56 58.6**	**-2.7**
MDT				S	**Sn**	**19 58 28.9**	**-3.8**
EARI	**Arriondas**	**8.79**	**41**	P	**Pn**	**19 57 13.1**	**+2.2**
	comp=N,0.8nm,0.3s,SNR=7.9						
ETOR	**Torete**	**9.45**	**62**	P	**Pn**	**19 57 21.9**	**+1.8**
	comp=N,0.5nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**19 59 02.0**	**-4.4**
	comp=N,1.9nm,0.6s,SNR=7.9						

KRSC 24 19:55:15.9±10.0, 50.°69N×160.°34E, h48km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.81**	**309**	*e*P	Pn	19 55 47.0	+2.4
KDTR				*e*S	Sn	19 56 07.8	+1.4
RUS	**Russkaya**	**2.09**	**328**	*e*P	Pn	19 55 50.6	+2.2
RUS				*e*S	Sn	19 56 14.7	+1.5
MTVR	**Mutnovka**	**2.25**	**324**	*e*P	Pn	19 55 53.3	+2.6
MTVR				*e*S	Sn	19 56 19.8	+2.5
ASAK	**Asacha**	**2.28**	**319**	*e*P	Pn	19 55 54.2	+3.0
ASAK				*e*S	Sn	19 56 21.9	+3.8
PAU	**Pauzhetka**	**2.36**	**291**	*e*S	Sn	19 56 21.8	+2.0
KRMR	**Karymshinskiy**	**2.55**	**328**	*e*P	Pn	19 55 57.6	+2.9
KRMR				*e*S	Sn	19 56 27.1	+2.6
NLC	**Nalytchevo**	**2.56**	**346**	*e*P	Pn	19 55 59.3	+4.4
SKR	**Severo-Kuril's**	**2.69**	**272**	*e*P	Pn	19 55 59.0	+2.4
SKR				*e*S	Sn	19 56 28.6	+0.8
UGLR	**Uglovaya**	**2.70**	**340**	*e*P	Pn	19 56 00.7	+3.9
SDLR	**Sedlovina**	**2.75**	**341**	*e*P	Pn	19 56 00.7	+3.1
SDLR				*e*S	Sn	19 56 32.2	+2.6
SMAR	**Somma**	**2.75**	**340**	*e*P	Pn	19 56 03.2	+5.5
AVH	**Avacha**	**2.77**	**340**	*e*P	Pn	19 56 01.9	+4.1
KRER	**Koryakskii**	**2.80**	**340**	*e*S	Sn	19 56 35.9	+4.9
KOK	**Koryaka**	**2.82**	**339**	*e*P	Pn	19 56 02.4	+3.9
KOK				*e*S	Sn	19 56 35.4	+4.2
APC	**Apacha**	**2.99**	**320**	*e*S	Sn	19 56 40.8	+5.5
ALID	**Alaid**	**3.05**	**275**	*e*P	Pn	19 56 06.5	+4.8
MKZ	**Mys Kozlova**	**3.97**	**12**	*e*P	Pn	19 56 16.4	+2.2
TUMR	**Tumrok**	**4.61**	**359**	*e*P	Pn	19 56 27.2	+4.1
KBTR	**Krutoberegovo**	**5.73**	**14**	*e*P	Pn	19 56 41.3	+3.0

IDC 24 19:55:20.1±48.0, 22.°15S×172.°48W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/25, mbtmp4.0/3, Error ellipse: s-maj=927.4km s-min=179.2km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.79**	**247**	P	P	20 03 09.5	-2.0
	0.7nm,0.4s,baz=73,slow=7.8,SNR=4.9						
ASAR	**Alice Springs**	**49.17**	**257**	P	P	20 04 10.3	+0.1
	0.5nm,0.3s,baz=91,slow=6.7,SNR=31						
WRA	**Warramunga Arr**	**49.48**	**262**	P	P	20 04 13.5	+1.0
	1.0nm,0.3s,baz=98,slow=6.9,SNR=91						

MEX 24 20:13:27.3±0.7, 15.°59N×93.°36W, h102km±7km, MD3.9, Near coast of Chiapas

| Code | Station Name | Δ

mb1 4.1/12,mb1mx3.9/44,mbtmp3.9/12,Error ellipse: s-maj=26.6km s-min=18.8km az=52.0

ISC 24 20:27:15.3±0.7,28°5S±0.2,-62°6E±0.2,h10km,n14, σ0§88/14,mb4.0/12,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**36.42 314**		P	**P**	**20 34 22.0**	**+1.5**
	0.6nm,0.3s,baz=81,slow=10,SNR=4.1						
CMAR	**Chiang Mai Arr**	**58.46 41**		P	**P**	**20 37 12.6**	**+1.0**
	1.8nm,0.8s,baz=232,slow=7.4,SNR=17						
QSPA	**South Pole Qui**	**61.64 180**		P	**P**	**20 37 33.7**	**+0.7**
	1.4nm,1.0s,baz=288,slow=4.6,SNR=3.9						
ASAR	**Alice Springs**	**63.41 104**		P	**P**	**20 37 45.3**	**-0.1**
	1.1nm,0.7s,baz=248,slow=6.1,SNR=14						
VNDA	**Vanda**	**64.37 166**		P	**P**	**20 37 50.9**	**+0.1**
	1.1nm,0.9s,baz=267,slow=9.9,SNR=5.1						
WRA	**Warramunga Arr**	**65.17 100**		P	**P**	**20 37 56.6**	**-0.4**
	1.5nm,0.8s,baz=247,slow=5.4,SNR=8.3						
TORD	**Torodi Ar. Bea**	**71.94 296**		P	**P**	**20 38 38.5**	**-0.7**
	0.9nm,0.8s,baz=104,slow=5.7,SNR=6.1						
BRTR	**Keskin Array B**	**73.04 337**		P	**P**	**20 38 45.3**	**-0.1**
	0.9nm,0.8s,baz=141,slow=4.7,SNR=6.0						
MKAR	**Makanchi Array**	**77.05 14**		P	**P**	**20 39 08.2**	**-0.1**
	0.5nm,0.8s,baz=221,slow=4.8,SNR=5.2						
AKASG	**Malin Array Be**	**84.20 339**		P	**P**	**20 39 45.8**	**-0.7**
	0.3nm,0.4s,baz=149,slow=4.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**84.35 13**		P	**P**	**20 39 47.1**	**-0.1**
	1.4nm,0.7s,baz=204,slow=3.3,SNR=7.6						
SONM	**Songino Array**	**85.60 28**		P	**P**	**20 39 53.7**	**0.0**
	1.2nm,0.8s,baz=214,slow=5.0,SNR=11						
YKA	**Yellowknife Ar**	**145.97 358**		PKPbc	**PKPdf**	**20 46 53.7**	**0.0**
	0.7nm,0.5s,baz=349,slow=3.4,SNR=24						
ULM	**Lac du Bonnet**	**152.81 329**		PKPbc	**PKPbc**	**20 47 10.3**	**-1.9**
	1.0nm,0.5s,baz=327,slow=2.4,SNR=3.2						

IDC 24 20:28:02.0±1.7,27°61S×176°28W,h0km,mb3.6/2, mb1 4.0/3,mb1mx3.6/32,mbtmp3.8/3,ML4.3/1,MS3.5/2, Ms1 3.5/2,ms1mx2.9/28,Error ellipse: s-maj=48.4km s-min=31.4km az=132.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.18 221**		Pn	Pb	20 28 41.2	-1.1
	94nm,0.3s,baz=107,slow=13,SNR=5.1						
RAO				Sn	Sn	20 29 07.0	-0.2
	256nm,0.3s,baz=238,slow=23,SNR=9.1						
RAR	**Rarotonga**	**16.32 71**		LR	LR	20 36 46.8	
	comp=Z,63nm,21.2s,baz=218,slow=32						
CTA	**Charters Tower**	**34.97 274**		LR	LR	20 48 53.0	
	comp=Z,210nm,18.5s,baz=234,slow=36						
ASAR	**Alice Springs**	**44.85 263**		P	P	20 36 18.1	-0.2
	0.5nm,0.7s,baz=102,slow=7.3,SNR=6.8						
WRA	**Warramunga Arr**	**45.59 269**		P	P	20 36 23.5	-0.7
	0.5nm,0.4s,baz=108,slow=7.7,SNR=20						
FINES	**FINESS Array B**	**143.00 342**		PKP	PKPbc	20 47 34.6	+0.8
	1.0nm,0.8s,baz=46,slow=6.0,SNR=4.8						
AKASG	**Malin Array Be**	**149.90 327**		PKPbc	PKiKP	20 47 54.6	-0.3
	1.2nm,0.6s,baz=45,slow=3.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**165.48 172**		PKPab	PKPab	20 49 06.0	-1.2
	0.9nm,1.0s,baz=204,slow=3.2,SNR=4.0						

IDC 24 20:33:57.1±0.8,15°62S×167°59E,h0km,mb4.2/13, mb1 4.3/14,mb1mx4.1/38,mbtmp4.1/14,ML5.4/2,MS3.3/3, Ms1 3.3/3,ms1mx3.0/34,Error ellipse: s-maj=26.2km s-min=21.2km az=106.0

ISCJB 24 20:34:09.3±0.6,16°10S±0°06×167°5E±0°1,h124km, mb3.9/13,Error ellipse: s-maj=18.8km s-min=8.5km az=1.9

ISC 24 20:34:11.0±0.6,16°12S±0°08×167°6E±0°2,h124km,n24, σ1§43/24,mb3.9/13,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.03 190**		Pn	**Pn**	**20 35 35.9**	**-2.1**
	9.8nm,0.3s,baz=77,slow=23,SNR=57						
DZM				Sn	**Sn**	**20 36 45.5**	**-0.2**
	6.4nm,0.3s,baz=347,slow=22,SNR=6.7						
DZM				LR	LR	20 37 41.9	
	comp=Z,230nm,18.3s,baz=84,slow=34						
HNR	**Honiara**	**10.00 311**		LR	LR	20 39 55.9	
	comp=Z,120nm,19.9s,baz=159,slow=37						
RAO	**Raoul Island**	**18.66 137**		P	**Pn**	**20 38 22.3**	**+1.1**
	96nm,0.3s,baz=45,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**31.83 258**		P	**P**	**20 40 23.4**	**-0.9**
	0.6nm,0.5s,baz=80,slow=6.0,SNR=17						
ASAR	**Alice Springs**	**32.51 251**		P	**P**	**20 40 30.4**	**+0.1**
	5.8nm,0.8s,baz=76,slow=9.0,SNR=63						
ASAR				PcP	**PcP**	**20 43 18.7**	**+4.4**
	0.4nm,0.7s,baz=109,slow=2.5,SNR=3.8						
GUMO	**Guam**	**37.10 321**		LR	LR	20 54 54.2	
	comp=Z,73nm,18.4s,baz=70,slow=34						
MJAR	**Matsushiro Arr**	**59.28 333**		P	**P**	**20 43 57.7**	**-2.0**
	1.0nm,0.5s,baz=176,slow=7.7,SNR=4.1						
USRK	**Ussuriysk Ar.**	**68.26 333**		P	**P**	**20 44 58.1**	**-0.3**
	1.4nm,0.7s,baz=178,slow=4.3,SNR=3.3						
KLR	**Kul'dur**	**72.40 336**		P	**P**	**20 45 23.3**	**-0.1**
	0.3nm,0.3s,baz=61,slow=3.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**75.81 294**		P	**P**	**20 45 45.5**	**+1.5**
	0.6nm,0.6s,baz=129,slow=4.9,SNR=6.0						
SEY	**Seymchan**	**79.69 353**		P	**P**	**20 46 04.0**	**-0.4**
	1.0nm,0.6s,baz=178,slow=5.3,SNR=4.5						
SONM	**Songino Array**	**83.80 324**		P	**P**	**20 46 27.1**	**+0.5**
	2.4nm,1.0s,baz=148,slow=8.5,SNR=14						
ILAR	**Eielson Array**	**87.74 18**		P	**P**	**20 46 44.0**	**-1.4**
	0.6nm,0.6s,baz=237,slow=5.0,SNR=13						
TIXI	**Tiksi**	**91.39 349**		P	**P**	**20 47 01.2**	**-1.1**
	0.4nm,0.5s,baz=116,slow=19,SNR=5.8						
MKAR	**Makanchi Array**	**98.43 316**		P	**P**	**20 47 35.5**	**+0.3**
	0.4nm,0.7s,baz=83,slow=7.5,SNR=4.4						
YKA	**Yellowknife Ar**	**98.62 27**		P	**P**	**20 47 34.2**	**-1.3**
	0.3nm,0.8s,baz=255,slow=4.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**98.70 324**		P	**P**	**20 47 35.9**	**-0.1**
	0.7nm,0.5s,baz=114,slow=3.6,SNR=4.8						
ARCES	**ARCESS Array B**	**121.67 345**		PKP	**PKiKP**	**20 52 50.4**	**+0.7**
	2.9nm,0.5s,baz=83,slow=2.1,SNR=32						
FINES	**FINESS Array B**	**127.12 338**		PKP	**PKiKP**	**20 53 01.3**	**+0.6**
	0.7nm,0.5s,baz=21,slow=2.3,SNR=14						
NB2	**NORSAR Subarra**	**132.04 345**		PKPdf	**PKPdf**	**20 53 10.9**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**132.04 345**		PKP	**PKiKP**	**20 53 11.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=32,slow=2.0,SNR=6.1						
AKASG	**Malin Array Be**	**132.06 325**		PKP	**PKiKP**	**20 53 11.4**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=46,slow=2.8,SNR=4.2						
KEST	**Kesra**	**152.48 319**		PKPbc	**PKiKP**	**20 53 54.5**	**+1.1**
	comp=Z,14nm,1.2s,baz=158,slow=3.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**166.05 260**		PKP	**PKPdf**	**20 54 03.6**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=178,slow=2.8,SNR=3.0						

IDC 24 20:34:20.5±3.1,31°81S×177°79W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.6/33,mbtmp3.7/3,ML3.0/1,Error ellipse: s-maj=71.4km s-min=36.5km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.67 212**		Pn	Pn	20 36 13.0	-0.5
	0.2nm,0.3s,baz=180,slow=20,SNR=2.8						
URZ				Sn	Sn	20 37 42.3	+1.3
	1.4nm,0.3s,baz=76,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**43.23 268**		P	P	20 42 23.5	-0.3
	0.2nm,0.4s,baz=105,slow=7.5,SNR=3.2						
WRA	**Warramunga Arr**	**44.35 273**		P	P	20 42 32.9	+0.1
	0.5nm,0.3s,baz=111,slow=8.1,SNR=23						
FINES	**FINESS Array B**	**146.53 339**		PKPbc	PKPdf	20 54 02.3	+0.7
	0.8nm,0.5s,baz=29,slow=3.2,SNR=6.5						

MOS 24 20:43:50.6±1.0,44°12N×147°18E,h145km,mb4.3/1,Error ellipse: s-maj=23.2km s-min=15.7km az=85.6

ISCJB 24 20:43:51.4±0.8,44°13N±0°07×147°0E±0°1,h135km±4km, Error ellipse: s-maj=15.9km s-min=6.3km az=135.8

SKHL 24 20:43:52.4±0.3,44°16N×146°95E,h139km±3km,mb4.2/4, msh5.2/4

JMA 24 20:43:54.8±0.3,44°11N×146°85E,h121km±3km,M3.2

ISC 24 20:43:52.1±1.0,44°12N±0°07×147°04E±0°07,h133km±6km, n37,σ1§00/52,7C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.29 211**		*i* P	**Pn**	**20 44 11.0**	**+0.5**
SHO				AMB	AMB	20 44 11.0	
	181nm,0.2s						
SHO				AMB	AMB	20 44 11.0	
	90nm,0.2s						
SHO				AMB	AMB	20 44 11.0	
	58nm,0.2s						
SHO				*i* S	**Sn**	**20 44 24.0**	**-0.5**
SHO				A	A	20 44 24.0	
	447nm,0.3s						
SHO				A	A	20 44 24.0	
	381nm,0.3s						
SHO	**Shikotan**	**0.29 211**	*c*	*i* PN	**Pn**	**20 44 11.1**	**+0.5**
SHO				*i* S	**Sn**	**20 44 24.0**	**-0.5**
SHO				pmax	pmax		
	comp=N,181nm,0.2s						
SHO				pmax	pmax		
	comp=E,90nm,0.2s						
SHO				pmax	pmax		
	comp=Z,580nm,0.2s						
SHO				smax	smax		
	comp=N,4μm,0.2s						
SHO				smax	smax		
	comp=E,4μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**0.85 265**	*i*	P	**Pn**	**20 44 14.0**	**+0.1**
YUK				AMB	AMB	20 44 14.0	
	comp=E,174nm,0.3s						
YUK				AMB	AMB	20 44 14.0	
	comp=E,71nm,0.3s						
YUK				AMB	AMB	20 44 14.0	
	comp=E,47nm,0.3s						
YUK				*i* S	**Sn**	**20 44 30.0**	**-0.5**
YUK				A	A	20 44 30.0	
	comp=E,2μm,0.5s						
YUK				A	A	20 44 30.0	
	comp=E,321nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**0.85 265**	*c*	*i* PN	**Pn**	**20 44 14.5**	**+0.6**
YUK				*i* S	**Sn**	**20 44 30.0**	**-0.5**
YUK				pmax	pmax		
	comp=N,174nm,0.3s						
YUK				pmax	pmax		
	comp=Z,474nm,0.3s						
YUK				pmax	pmax		
	comp=E,71nm,0.2s						
YUK				smax	smax		
	comp=E,321nm,0.4s						
YUK				smax	smax		
	comp=N,2μm,0.5s						
GRPR	**Tuman**	**0.92 262**		*i* P	**Pn**	**20 44 15.0**	**+0.5**
GRPR				AMB	AMB	20 44 15.0	
	comp=N,46nm,0.2s						
GRPR				AMB	AMB	20 44 15.0	
	comp=N,65nm,0.2s						
GRPR				AMB	AMB	20 44 15.0	
	comp=N,37nm,0.2s						
GRPR				*i* S	**Sn**	**20 44 31.0**	**-0.5**
GRPR				A	A	20 44 31.0	
	comp=N,2μm,0.5s						
GRPR				A	A	20 44 31.0	
	comp=N,253nm,0.5s						
GRPR	**Tuman**	**0.92 262**		*i* PN	**Pn**	**20 44 15.1**	**+0.5**
GRPR				*i* S	**Sn**	**20 44 31.3**	**-0.2**
GRPR				pmax	pmax		
	comp=Z,367nm,0.3s						
GRPR				pmax	pmax		
	comp=N,46nm,0.2s						
GRPR				pmax	pmax		
	comp=E,65nm,0.1s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
GRPR				smax	smax		
	comp=N,2μm,0.5s						
NEM2	**Nemuro 2**	**1.21 232**		P	**Pn**	**20 44 17.8**	**+0.6**
NEM2				*e*S	**Sn**	**20 44 35.5**	**-0.8**
KUR	**Kuril'sk**	**1.26 28**		*i* P	**Pn**	**20 44 18.2**	**+0.5**
KUR				AMB	AMB	20 44 18.4	
	comp=N,21nm,0.2s						
KUR				AMB	AMB	20 44 18.4	
	comp=N,157nm,0.2s						
KUR				*i* S	**Sn**	**20 44 37.8**	**+0.5**
KUR				A	A	20 44 38.5	
	comp=N,102nm,0.4s						
KUR				A	A	20 44 38.5	
	comp=N,64nm,0.4s						
KUR	**Kuril'sk**	**1.26 28**	*c*	*i* PN	**Pn**	**20 44 18.3**	**+0.5**
KUR				*i* S	**Sn**	**20 44 36.9**	**-0.4**
KUR				pmax	pmax		
	comp=E,21nm,0.2s						
KUR				pmax	pmax		
	comp=Z,157nm,0.2s						
KUR				smax	smax		
	comp=E,64nm,0.5s						
KUR				smax	smax		
	comp=N,102nm,0.3s						
JRA	**Rausu**	**1.39 263**		P	**Pn**	**20 44 19.7**	**+0.5**
JRA				*e*S	**Sn**	**20 44 39.1**	**-0.7**
JKHN	**Kushirohamanak**	**1.71 233**		P	**Pn**	**20 44 23.7**	**+0.9**
JKHN				*e*S	**Sn**	**20 44 45.7**	**-0.5**
JNK	**Nakash**	**1.76 253**		P	**Pn**	**20 44 24.2**	**+0.8**
JAK	**Akkeshi**	**2.04 237**		P	**Pn**	**20 44 27.5**	**+0.8**
JAK				*e*S	**Sn**	**20 44 52.2**	**-0.9**
JTKR	**Abashiri--Toko**	**2.26 267**		P	**Pn**	**20 44 29.9**	**+0.5**
JAR	**Ashorobuto**	**2.51 252**		P	**Pn**	**20 44 33.9**	**+1.4**
JOB	**Onbets**	**2.63 243**		P	**Pn**	**20 44 35.4**	**+1.4**
JOB				*e*S	**Sn**	**20 45 06.0**	**-0.3**
JMP	**Maruseppu**	**2.65 269**		P	**Pn**	**20 44 34.9**	**+0.5**
JCH	**Churui**	**3.07 242**		P	**Pn**	**20 44 40.6**	**+0.8**
JCH				*e*S	**Sn**	**20 45 14.9**	**-1.6**
JKK2	**Kamakawa 2**	**3.10 267**		P	**Pn**	**20 44 41.2**	**+1.0**
ASAJ	**Asahikawa**	**3.20 271**		P	**Pn**	**20 44 42.4**	**+1.0**
JSE	**Soyaes**	**3.29 286**		P	**Pn**	**20 44 42.8**	**+0.3**
ERM	**Erimo**	**3.54 235**		*e*P	**Pn**	**20 44 48.1**	**+2.3**
ERM	**Erimo**	**3.54 235**	‖	*e*PN	**Pn**	**20 44 48.1**	**+2.3**
JNBK	**Urakawa-nobuka**	**3.63 241**		P	**Pn**	**20 44 47.3**	**+0.2**
JWK2	**Keihoku**	**3.85 290**		P	**Pn**	**20 44 51.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**4.13 315**		*e*P	**Pn**	**20 44 54.3**	**+0.7**
YSS	**Yuzh-Sakhalins**	**4.13 315**	‖	*e*PN	**Pn**	**20 44 54.4**	**+0.8**
SEY	**Seymchan**	**19.10 7**		*e*P	**P**	**20 48 03.8**	**-0.4**
SEY	**Seymchan**	**19.10 7**	‖	*e*P	**P**	**20 48 03.8**	**-0.4**
BILL	**Bilibino**	**26.02 16**		*e*P	**P**	**20 49 10.8**	**-1.6**
BILL	**Bilibino**	**26.02 16**		*i* P	**P**	**20 49 10.8**	**-1.6**
TIK	**Tiksi**	**28.96 348**		*e*P	**P**	**20 49 39.8**	**+1.3**
TIXI	**Tiksi**	**28.98 348**	‖	*e*P	**P**	**20 49 39.8**	**+1.2**
TIXI				*i* *PP	**pP**	**20 50 07.6**	**+1.0**
KURK	**Kurchatov**	**45.26 304**		*e*P	**P**	**20 51 55.6**	**-0.3**
KURK	**Kurchatov**	**45.26 304**	‖	*e*P	**P**	**20 51 55.6**	**-0.3**
AAK	**Ala-Archa**	**51.12 295**		*e*P	**P**	**20 52 39.7**	**-1.6**
AAK	**Ala-Archa**	**51.12 295**	‖	*e*P	**P**	**20 52 39.7**	**-1.6**

IDC 24 20:50:30.3±3.8,7°08S×148°64E,h0km,mb3.3/1, mb1 3.6/2,mb1mx3.2/32,mbtmp3.3/2,ML3.0/1,Error ellipse: s-maj=145.6km s-min=46.4km az=117.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.87 226**		P	P	20 54 51.9	-0.4
	0.1nm,0.3s,baz=52,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**21.73 219**		P	P	20 55 23.5	+0.1
	0.8nm,0.6s,baz=52,slow=9.4,SNR=12						
TORD	**Torodi Ar. Bea**	**146.93 283**		PKPbc	PKPbc	21 10 15.2	-0.7
	0.4nm,0.8s,baz=69,slow=3.0,SNR=3.0						

ISCJB 24 20:53:20.5±1.3,20°4S±0°2×177°5W±0°2,h550km,mb3.8/8, Error ellipse: s-maj=28.3km s-min=20.6km az=20.8

IDC 24 20:53:21.6±5.4,20°50S×177°51W,h551km±59km,mb3.3/8, mb1 3.5/10,mb1mx3.2/28,mbtmp4.3/10,Error ellipse: s-maj=35.8km s-min=29.8km az=60.0

ISC 24 20:53:21.6±1.3,20°5S±0°2×177°5W±0°2,h550km,n13, σ0§77/12,mb4.1/8,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.04 261**		P	**P**	**20 56 32.3**	**+0.7**
	0.5nm,0.3s,baz=90,slow=16,SNR=4.0						
URZ	**Urewera**	**18.31 194**		P	**P**	**20 57 02.1**	**+0.1**
	1.1nm,0.3s,baz=299,slow=10,SNR=5.1						
CTA	**Charters Tower**	**33.94 264**		P	**P**	**20 59 19.6**	**-0.2**
	2.3nm,0.4s,baz=99,slow=8.1						
STKA	**Stephens Creek**	**38.20 244**		P	**P**	**20 59 54.0**	**-0.7**
	2.8nm,0.7s,baz=76,slow=12,SNR=4.5						
JAY	**Jayapura**	**44.47 288**		P	**P**	**21 00 44.4**	**-0.3**
	4.2nm,0.5s,baz=180,slow=15,SNR=3.7						
ASAR	**Alice Springs**	**44.96 257**		P	**P**	**21 00 48.2**	**0.0**
	8.3nm,0.5s,baz=96,slow=7.6,SNR=162						
WRA	**Warramunga Arr**	**45.05 262**		P	**P**	**21 00 48.4**	**-0.6**
	2.1nm,0.3s,baz=96,slow=7.3,SNR=182						
MJAR	**Matsushiro Arr**	**70.47 323**		P	**P**	**21 03 40.6**	**-0.5**
	0.3nm,0.4s,baz=157,slow=5.8,SNR=4.1						
ILAR	**Eielson Array**	**88.21 13**		P	**P**	**21 05 13.3**	**-0.5**
	0.2nm,0.4s,baz=224,slow=4.9,SNR=3.7						
CMAR	**Chiang Mai Arr**	**90.54 289**		P	**P**	**21 05 27.5**	**+1.8**
	0.5nm,0.8s,baz=128,slow=2.8,SNR=4.7						
ARCES	**ARCESS Array B**	**129.00 350**		PKP	**PKiKP**	**21 11 27.3**	**+0.1**
	3.4nm,0.8s,baz=38,slow=6.0,SNR=2.9						
AKASG	**Malin Array Be**	**143.22 331**		PKP	PKPab	21 11 50.7	-0.4
	0.4nm,0.4s,baz=44,slow=4.2,SNR=3.0						
BRTR	**Keskin Array B**	**147.17 313**		PKPbc	**PKPbc**	**21 12 04.0**	**+0.4**
	0.6nm,0.5s,baz=140,slow=4.8,SNR=4.8						

NEIC 24 20:56:37.3±0.0,16°82N×101°12W,h65km,MD4.1(MEX), After MEX.

MEX 24 20:56:39.4±0.7,17°05N×100°93W,h5km,MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.63 90**		*e*P	Pg	20 56 46.8	-4.7
CAIG				*e*S	Sg	20 56 54.3	-5.4
CAIG	**El Cayaco**	**0.63 90**		*e*P	Pg	20 56 46.8	-4.7
CAIG				*i* S	Sg	20 56 56.1	-3.6
ZIIG	**Zihuatanejo**	**0.76 317**		*e*P	Pg	20 56 52.3	-1.6
ZIIG				*e*S	Sg	20 57 03.9	+0.1
ZIIG	**Zihuatanejo**	**0.76 317**		*e*P	Pg	20 56 52.3	-1.6
ZIIG				*i* S	Sg	20 57 03.7	-0.1
ARIG	**Puente Sto Nin**	**1.34 24**		*e*P	Pn	20 57 00.2	-4.7
ARIG				*e*S	Sg	20 57 18.1	-4.6
ARIG	**Puente Sto Nin**	**1.34 24**		*e*P	Pn	20 57 00.3	-4.6
ARIG				*e*S	Sg	20 57 18.1	-4.5
MEIG	**Mezcala**	**1.52 55**		*e*P	Pn	20 57 02.7	-4.7
MEIG				*e*S	Sn	20 57 22.5	-5.2
MEIG	**Mezcala**	**1.52 55**		*i* P	Pn	20 57 03.2	-4.2
MEIG				*e*S	Sn	20 57 22.2	-5.4
PLIG	**Platanillo**	**1.91 45**		*e*P	Pn	20 57 09.9	-2.7
PLIG				*e*S	Sn	20 57 35.6	-1.5
PLIG	**Platanillo**	**1.91 45**		*e*P	Pn	20 57 09.9	-2.7
PLIG				*i* S	Sn	20 57 32.1	-5.0
TLIG	**Tlapa**	**2.31 77**		*e*P	Pn	20 57 15.3	-3.0
TLIG				*e*S	Sn	20 57 44.2	-3.0
TLIG	**Tlapa**	**2.31 77**		*e*P	Pn	20 57 15.3	-3.0
TLIG				*e*S	Sn	20 57 43.6	-3.6
YAIG	**Yautepec**	**2.53 44**		*e*P	Pn	20 57 19.1	-2.2
YAIG				*e*S	Sn	20 57 51.6	-1.0
YAIG	**Yautepec**	**2.53 44**		*e*P	Pn	20 57 19.1	-2.2
YAIG				*i* S	Sn	20 57 48.9	-3.6
PPM	**Popocatepetl**	**2.97 47**		*e*P	Pn	20 57 25.7	-2.0
PPM				*e*S	Sn	20 58 03.0	-0.9
PPM	**Popocatepetl**	**2.97 47**		*e*P	Pn	20 57 25.7	-2.0
PPM				*i* S	Sn	20 58 00.5	-3.5

IDC 24 21:00:06.3±0.4,12°30S×166°20E,h0km,mb4.7/24, mb1 4.8/27,mb1mx4.6/40,mbtmp4.7/27,ML2.5/1,MS4.7/12, Ms1 4.7/12,ms1mx4.3/45,Error ellipse: s-maj=17.3km s-min=13.2km az=104.0

ISCJB 24 21:00:06.2±1.3,12°31S±0°03×166°13E±0°04,h8km±8km, mb5.0/112,MS4.9/37,Error ellipse: s-maj=6.9km s-min=5.1km az=167.4

BJI 24 21:00:12.9,11°89S×166°09E,h46km,mb5.0/60,mB5.4/52, Ms5.1/54,Ms7 4.8/50

GCMT 24 21:00:12.2±0.2,12°33S±0°01×165°94E±0°01,h14km, MW5.2/90,Moment Tensor Solution. s88,c133; s90,c152; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr0.68±.02; Mθθ-0.05±.01; Mϕϕ-0.62±.01; Mrθ0.37±.03; Mθϕ0.21±.01; Mϕr-0.54±.03; Best double couple: M₀0.95300×10¹⁷ NP1:ϕs151.00000°,δ67.00000°, λ81.00000°. NP2:ϕs353.00000°,δ24.00000°,λ110.00000°. Principal axes: T 0.9580, Plg67.0000°, Azm44.0000°; N -0.0100, Plg8.0000°, Azm154.0000°; P -0.9480, Plg22.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 24 21:00:12.2±2.1,12°32S×166°18E,h38km±1km,mb5.1/69 Error ellipse: s-maj=16.2km s-min=13.1km az=73.0

MOS 24 21:00:13.2±1.2,12°21S×165°83E,h46km,mb5.4/36, MS5.0/9,Error ellipse: s-maj=11.9km s-min=8.3km az=125.1

ISC 24 21:00:10.9±0.6,12°36S±0°04×166°13E±0°05,h27km±3km, h27km:pP-P,n388,σ1§64/422,mb5.1/112,MS4.9/37, 23C-12D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.74 295**		*e*P	**Pn**	**21 01 46.0**	**-2.1**
HNR				*e*S	**Sn**	**21 02 57.0**	**-7.1**
HNR	**Honiara**	**6.74 295**		*e*Pn	**Pn**	**21 01 47.6**	**-0.5**
HNR				*e*Sn	**Sn**	**21 03 00.2**	**-3.8**
HNR	**Honiara**	**6.74 295**		*e*P	**Pn**	**21 01 47.6**	**-0.5**
HNR				*e*		21 03 00.2	
HNR	**Honiara**	**6.74 295**		Pn	**Pn**	**21 01 47.2**	**-0.9**
	43nm,0.3s,baz=156,slow=4.6,SNR=30						
HNR				Sn	**Sn**	**21 03 00.2**	**-3.8**
	6.2nm,0.3s,baz=128,slow=19,SNR=2.9						
HNR				LR	LR	21 04 43.8	
	comp=Z,6μm,19.8s,baz=128,slow=41						
DZM	**Mont Dzumac**	**9.66 178**		*e*Pn	**Pn**	**21 02 29.7**	**+1.3**
	121nm,0.7s						
DZM				*e*LR	LR	21 04 42.0	
	comp=Z,4μm,24.4s						
DZM	**Mont Dzumac**	**9.66 178**		*e*Pn	**Pn**	**21 02 29.6**	**+1.3**
DZM				*e*Sn	**Sn**	**21 04 14.6**	**-1.5**
DZM	**Mont Dzumac**	**9.66 178**		Pn	**Pn**	**21 02 29.2**	**+0.9**
	3.4nm,0.3s,baz=348,slow=6.0,SNR=17						

BFZ	**Birch Farm**	**29.58**	**164**	*e*P		**P**	**21 06 11.9**	**-1.8**
	comp=Z,25nm,0.9s							
STKA	**Stephens Creek**	**29.77**	**225**	P		**P**	**21 06 16.0**	**+0.5**
	baz=30,SNR=22							
STKA	**Stephens Creek**	**29.77**	**225**	*e*P		**P**	**21 06 16.0**	**+0.5**
	comp=Z,4.5nm,0.9s							
STKA	**Stephens Creek**	**29.77**	**225**	*e*P		**P**	**21 06 16.0**	**+0.5**
STKA					pmax	pmax		
	comp=Z,5.0nm,0.9s							
STKA	**Stephens Creek**	**29.77**	**225**	P		**P**	**21 06 15.1**	**-0.4**
	comp=Z,14nm,0.6s,baz=41,slow=9.3,SNR=23							
STKA					LR	LR	21 18 17.2	
	comp=Z,4μm,18.2s,baz=62,slow=36							
KHZ	**Kahutara**	**30.63**	**169**	*e*P		**P**	**21 06 22.6**	**-0.3**
	comp=Z,19nm,0.9s							
TOO	**Toolangi**	**31.16**	**213**	P		**P**	**21 06 29.7**	**+2.0**
	baz=31,SNR=6.9							
TOO	**Toolangi**	**31.16**	**213**	*e*P		**P**	**21 06 29.7**	**+2.0**
	comp=Z,17nm,1.0s							
TOO	**Toolangi**	**31.16**	**213**	P		**P**	**21 06 29.7**	**+2.0**
TOO					pmax	pmax		
	comp=Z,17nm,1.0s							
FOZ	**Fox Glacier**	**31.22**	**175**	*e*P		**P**	**21 06 29.9**	**+1.9**
	comp=Z,112nm,1.1s							
WRAB	**Tennant Creek**	**31.40**	**252**	*e*P		**P**	**21 06 29.2**	**-0.8**
	comp=Z,24nm,1.1s							
WRAB	**Tennant Creek**	**31.40**	**252**	*e*P		**P**	**21 06 29.2**	**-0.8**
WRAB					pmax	pmax		
	comp=Z,24nm,1.1s							
WR1	**Warramunga Arr**	**31.41**	**252**	*e*P		**P**	**21 06 28.5**	**-1.6**
	comp=Z,21nm,1.0s							
WR1				*e*PcP		**PcP**	**21 09 23.2**	**-0.3**
WRA	**Warramunga Arr**	**31.41**	**252**	P		**P**	**21 06 28.5**	**-1.6**
	comp=Z,12nm,0.9s,baz=84,slow=8.8,SNR=51							
WRA				PcP		**PcP**	**21 09 23.2**	**-0.3**
	comp=Z,6.3nm,1.1s,baz=91,slow=2.8,SNR=7.2							
RPZ	**Rata Peaks**	**31.53**	**173**	*e*P		**P**	**21 06 30.9**	**+0.1**
RPZ				*e*P		**pP**	**21 06 31.6**	**-5.4**
RPZ	**Rata Peaks**	**31.53**	**173**	P		**P**	**21 06 30.9**	**+0.1**
	comp=Z,21nm,0.7s,baz=97,slow=3.3,SNR=7.4							
LBZ	**Lake Benmore**	**32.10**	**175**	*e*P		**P**	**21 06 38.6**	**+2.7**
	comp=Z,65nm,1.4s							
WKZ	**Wanaka**	**32.45**	**176**	*e*P		**P**	**21 06 37.0**	**-1.9**
	comp=Z,49nm,1.0s							
HTT	**Hallett**	**32.51**	**225**	P		**P**	**21 06 40.0**	**+0.4**
	baz=32,SNR=15							
AS01	**Alice Springs**	**32.52**	**245**	*e*P		**P**	**21 06 36.1**	**-3.7**
AS01				*e*PcP		**PcP**	**21 09 25.5**	**-0.9**
AS31	**Alice Springs**	**32.56**	**245**	*e*P		**P**	**21 06 38.4**	**-1.8**
	comp=Z,3.9nm,0.8s							
AS31				*e*PcP		**PcP**	**21 09 26.1**	**-0.5**
ASAR	**Alice Springs**	**32.57**	**245**	P		**P**	**21 06 38.6**	**-1.7**
	comp=Z,10.0nm,0.7s,baz=72,slow=9.4,SNR=78							
ASAR				PcP		**PcP**	**21 09 26.1**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=75,slow=2.7,SNR=11							
ASAR					LR	LR	21 19 40.1	
	comp=Z,2μm,18.2s,baz=50,slow=36							
ODZ	**Otahua Downs**	**32.80**	**174**	*e*P		**P**	**21 06 42.0**	**+0.1**
	comp=Z,46nm,1.3s							
KDU	**Kakadu**	**32.85**	**266**	P		**P**	**21 06 41.3**	**-1.4**
	baz=33,SNR=4.8							
GUMO	**Guam**	**33.30**	**320**		LR	LR	21 20 44.2	
	comp=Z,1μm,18.2s,baz=159,slow=37							
RAR	**Rarotonga**	**33.74**	**110**		LR	LR	21 18 57.0	
	comp=Z,442nm,18.0s,baz=268,slow=34							
BBOO	**Buckleboo**	**34.23**	**229**	P		**P**	**21 06 54.3**	**-0.3**
	baz=34,SNR=12							
BBOO	**Buckleboo**	**34.23**	**229**	*e*P		**P**	**21 06 55.0**	**+0.4**
	comp=Z,42nm,1.1s							
KNRA	**Kununurra**	**36.38**	**260**	P		**P**	**21 07 12.5**	**-0.7**
	baz=36,SNR=4.6							
BNDI	**Bandanaira**	**36.63**	**279**	P		**P**	**21 07 13.9**	**-1.6**
WRKA	**Warakurna**	**37.86**	**245**	P		**P**	**21 07 24.1**	**-1.7**
	baz=38,SNR=36							
FITZ	**Fitzroy Crossi**	**39.42**	**257**	P		**P**	**21 07 39.0**	**+0.1**
	baz=39,SNR=7.4							
FITZ	**Fitzroy Crossi**	**39.42**	**257**	*e*P		**P**	**21 07 39.1**	**+0.1**
	comp=Z,48nm,1.4s							
FORT	**Forrest**	**39.62**	**236**	*e*P		**P**	**21 07 40.4**	**-0.1**
	comp=Z,40nm,0.8s							
SANI	**Sanana**	**41.06**	**281**	P		**P**	**21 07 50.5**	**-2.1**
SOEI	**Soe**	**41.14**	**269**	P		**P**	**21 07 53.2**	**-0.2**
BATI	**Baumata**	**41.67**	**268**	P		**P**	**21 07 58.0**	**+0.3**
	comp=Z,14nm,1.2s							
PPT	**Papeete**	**43.03**	**103**		LR	LR	21 24 33.3	
	comp=Z,1μm,18.7s,baz=263,slow=34							
PPT2	**Papeete2**	**43.03**	**103**	*e*S		**S**	**21 14 36.2**	**+3.0**
	comp=Z,604nm,26.5s							
PPT2				*e*LQ		LQ	21 18 16.6	
	comp=Z,3μm,26.0s							
PPT2				*e*LR		LR	21 20 05.7	
	comp=Z,2μm,27.2s,baz=272							
MNI	**Manado**	**43.23**	**286**	P		**P**	**21 08 13.6**	**+3.3**
MNI					pmax	pmax		
	comp=Z,66nm,0.8s							
MMRI	**Maumere**	**43.28**	**270**	*e*P		**P**	**21 08 09.9**	**-0.9**
	comp=Z,75nm,1.4s							
MMRI	**Maumere**	**43.28**	**270**	P		**P**	**21 08 09.6**	**-1.2**
SGSI	**Sangihe**	**43.38**	**289**	P		P	21 08 19.8	+8.2
TBI	**Tubuai**	**43.50**	**111**	*e*LQ		LQ	21 18 26.4	
	comp=Z,1μm,27.8s							
TBI				*e*LR		LR	21 20 19.6	
	comp=Z,584nm,25.2s							
BBSI	**Bau Bau**	**43.53**	**275**	P		**P**	**21 08 13.5**	**+0.8**
KMSI	**Cibinong**	**43.76**	**284**	P		**P**	**21 08 19.0**	**+4.4**
EDFI	**Ende, Flores**	**43.80**	**270**	P		**P**	**21 08 13.2**	**-1.9**
	comp=Z,9.2nm,1.1s,comp=Z,4μm							
LUWI	**Luwuk**	**44.43**	**281**	*e*P		**P**	**21 08 20.9**	**+1.0**
	comp=Z,68nm,1.2s							
LUWI	**Luwuk**	**44.43**	**281**	P		**P**	**21 08 19.4**	**-0.6**
KMBL	**Kambalda**	**44.86**	**238**	P		**P**	**21 08 23.3**	**+0.1**
	baz=45,SNR=8.5							
KCP	**Kidapawan**	**45.11**	**293**	⇑*e*P		**P**	**21 08 25.1**	**-0.3**
BSSI	**Bau Bau, Buton**	**45.42**	**274**	P		**P**	**21 08 27.9**	**0.0**
	comp=Z,30nm,1.3s							
APSI	**Ampana**	**45.54**	**281**	P		**P**	**21 08 27.9**	**-0.9**
BNSI	**Bone**	**46.16**	**276**	P		**P**	**21 08 33.1**	**-0.6**
MEEK	**Meekatharra**	**46.73**	**245**	P		**P**	**21 08 37.6**	**-0.5**
	baz=47,SNR=6.5							
MPSI	**Mapaga**	**47.58**	**282**	P		**P**	**21 08 44.3**	**-0.5**
	comp=Z,17nm,0.9s,comp=Z,482nm							
PLAI	**Plampang**	**47.61**	**269**	P		**P**	**21 08 43.3**	**-1.8**
KLBR	**Kellerberrin**	**48.34**	**239**	P		**P**	**21 08 50.6**	**+0.1**
	baz=48,SNR=6.1							
NWAO	**Narrogin (SRO)**	**49.06**	**237**	P		**P**	**21 08 56.2**	**+0.2**
	baz=49,SNR=5.5							
NWAO	**Narrogin (SRO)**	**49.06**	**237**	*e*P		**P**	**21 08 56.4**	**+0.4**
	comp=Z,40nm,1.0s							
NWAO	**Narrogin (SRO)**	**49.06**	**237**	*e*P		**P**	**21 08 56.4**	**+0.4**
NWAO					pmax	pmax		
	comp=Z,40nm,1.0s							
MORW	**Morawa**	**49.34**	**242**	P		**P**	**21 08 58.1**	**-0.1**
	baz=49,SNR=3.7							
MORW	**Morawa**	**49.34**	**242**	*e*P		**P**	**21 08 58.3**	**+0.1**
	comp=Z,37nm,1.1s							
MUN	**Mundaring**	**49.71**	**238**	P		**P**	**21 09 01.7**	**+0.7**
	baz=50,SNR=4.8							
TAOE	**Nuku Hiva Isla**	**52.85**	**92**	*e*S		**S**	**21 16 53.7**	**+1.2**
	comp=Z,579nm,27.1s							
TAOE				*e*LR		LR	21 24 38.9	
	comp=Z,1μm,22.1s,baz=265							
KKM	**Kota Kinabalu**	**52.88**	**287**	*e*P		**P**	**21 09 25.2**	**+0.1**
	comp=Z,64nm,1.1s							
KKM	**Kota Kinabalu**	**52.88**	**287**	P		**P**	**21 09 25.8**	**+0.7**
INU	**Inuyama**	**54.88**	**331**	*e*P		**P**	**21 09 40.1**	**+0.9**
	comp=Z,34nm,1.4s							
MJAR	**Matsushiro Arr**	**55.31**	**333**	P		**P**	**21 09 40.4**	**-1.9**
	comp=Z,14nm,0.9s,baz=170,slow=8.7,SNR=35							
MAJO	**Matsushiro**	**55.31**	**333**	*e*P		**P**	**21 09 40.7**	**-1.6**
	comp=Z,24nm,1.0s							
MAJO	**Matsushiro**	**55.31**	**333**	*e*P		**P**	**21 09 40.7**	**-1.6**
MAJO					pmax	pmax		
	comp=Z,24nm,1.0s							
MAT	**Matsushiro**	**55.31**	**333**	P		**P**	**21 09 40.1**	**-2.2**
MAT				S		**S**	**21 17 23.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**55.31**	**333**	*e*P		**P**	**21 09 41.1**	**-1.3**
	comp=Z,24nm,1.0s							
SBUM	**Sibu**	**55.53**	**282**	P		**P**	**21 09 48.6**	**+4.3**
KSM	**Kuching**	**57.09**	**280**	*e*P		**P**	**21 09 55.3**	**-0.2**
	comp=Z,16nm,1.1s							
KSM	**Kuching**	**57.09**	**280**	P		**P**	**21 09 56.3**	**+0.8**
QZH	**Quanzhou**	**59.36**	**309**	*e*P		**P**	**21 10 12.5**	**+1.4**
QZH				S		**S**	**21 18 17.5**	**-1.0**
QZH					LR	LR		
	comp=Z,470nm,15.6s							
QZH					LR	LR		
	comp=Z,770nm,17.1s							
QZH					LR	LR		
	comp=Z,780nm,17.5s							
ASAJ	**Asahikawa**	**60.15**	**341**	P		**P**	**21 10 15.7**	**-0.5**
	comp=Z,10nm,0.8s,baz=221,slow=6.1,SNR=11							
SSE	**Sheshan**	**61.06**	**316**	P		**P**	**21 10 24.9**	**+2.3**
SSE				S		**S**	**21 18 42.1**	**+2.1**
SSE					pmax	pmax		
	comp=Z,28nm,0.7s							
SSE					pmax	pmax		
	comp=Z,160nm,3.5s							
SSE					LR	LR		
	comp=Z,290nm,20.8s							
SSE					LR	LR		
	comp=Z,400nm,18.4s							
KSRS	**Korea Array**	**61.17**	**326**	P		**P**	**21 10 23.3**	**+0.1**
	comp=Z,5.4nm,0.8s,baz=142,slow=7.1,SNR=9.8							
KS15	**Wonju Array Si**	**61.18**	**326**	*e*P		**P**	**21 10 23.3**	**0.0**
	comp=Z,23nm,1.1s							
KS01	**Wonju Array Si**	**61.20**	**326**	*e*P		**P**	**21 10 22.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**62.65**	**342**	*ce*P		**P**	**21 10 31.2**	**-1.8**
YSS				*e*			21 10 39.7	
YSS				*e*			21 12 50.3	
YSS				*e*S		**S**	**21 18 58.0**	**-1.5**
YSS				*e*SS		**SS**	**21 23 06.0**	**+1.3**
YSS					pmax	pmax		
	comp=Z,20nm,1.2s							
YSS					pmax	pmax		
	comp=Z,300nm,5.4s							
YSS					MLR	MLR		
	comp=Z,600nm,16.0s							
YSS					MLR	MLR		
	comp=N,500nm,15.0s							
YSS					MLR	MLR		
	comp=E,300nm,14.0s							
TEY	**Ternei**	**63.08**	**337**	⇓*e*P		**P**	**21 10 35.5**	**-0.3**
TEY					pmax	pmax		
	comp=Z,20nm,0.9s							
NJ2	**Nanjing**	**63.22**	**316**	⇑P		**P**	**21 10 38.3**	**+1.2**
NJ2				pP		**sP**	**21 10 49.0**	**+2.5**
NJ2				sP		**pwP**	**21 10 54.0**	**+1.8**
NJ2				S		S	**21 19 06.8**	**-0.5**
NJ2					pmax	pmax		
	comp=Z,22nm,1.0s							
NJ2					LR	LR		
	comp=Z,460nm,17.3s							
NJ2					LR	LR		
	comp=Z,520nm,14.9s							
NJ2					LR	LR		
	comp=Z,540nm,18.2s							
MYKOM	**Kota Tinggi**	**63.41**	**278**	P		**P**	**21 10 40.8**	**+2.0**
QIZ	**Qiongzhong**	**63.63**	**299**	P		**P**	**21 10 40.4**	**+0.3**
QIZ				S		**S**	**21 19 12.9**	**-0.1**
KGM	**Kluang**	**63.98**	**278**	P		**P**	**21 10 47.3**	**+4.8**
USA0B	**Ussuriysk Arra**	**64.29**	**333**	*e*P		**P**	**21 10 44.2**	**+0.4**
	comp=Z,57nm,1.1s							
USA0B	**Ussuriysk Arra**	**64.29**	**333**	*e*P		**P**	**21 10 44.3**	**+0.4**
USA0B					pmax	pmax		
	comp=Z,57nm,1.1s							
USRK	**Ussuriysk Ar.**	**64.29**	**333**	P		**P**	**21 10 44.0**	**+0.1**
	comp=Z,35nm,1.0s,baz=138,slow=6.7,SNR=32							
KTGM	**Kuala Trenggan**	**65.03**	**282**	P		**P**	**21 10 53.7**	**+4.3**
VNDA	**Vanda**	**65.19**	**181**	*e*P		**P**	**21 10 49.6**	**+0.3**
	comp=Z,30nm,1.4s							
VNDA	**Vanda**	**65.19**	**181**	*e*P		**P**	**21 10 49.6**	**+0.3**
VNDA					pmax	pmax		
	comp=Z,30nm,1.4s							
VNDA	**Vanda**	**65.19**	**181**	P		**P**	**21 10 49.7**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=2.4,slow=8.0,SNR=16							
PET	**Petropavlovsk**	**65.44**	**355**	*e*P		**P**	**21 10 52.7**	**+1.5**
PET				*e*S		**S**	**21 19 34.6**	**+0.7**
PET					smax	smax		
	comp=E,44nm,0.4s							
PET					smax	smax		
	comp=N,68nm,0.5s							
SBA	**Scott Base**	**65.49**	**180**	*e*P		**P**	**21 10 52.9**	**+1.6**
	comp=N,30nm,1.0s							
SBA	**Scott Base**	**65.49**	**180**	*e*P		**P**	**21 10 52.9**	**+1.6**
SBA					pmax	pmax		
	comp=Z,30nm,1.0s							
MDJ	**Mudanjiang**	**65.68**	**332**	*e*P		**P**	**21 10 53.2**	**+0.2**
	comp=Z,24nm,0.8s							
DL2	**Dalian**	**65.75**	**323**	P		**P**	**21 10 51.8**	**-1.7**
DL2				*e*S		**S**	**21 19 30.6**	**-7.7**
DL2					pmax	pmax		
	comp=Z,37nm,1.5s							
DL2					pmax	pmax		
	comp=Z,220nm,4.4s							
DL2					LR	LR		
	comp=Z,400nm,12.7s							
DL2					LR	LR		
	comp=Z,390nm,14.0s							
DL2					LR	LR		
	comp=Z,440nm,16.7s							
TYV	**Tymovskoe**	**66.21**	**344**	*e*P		**P**	**21 10 57.3**	**+1.1**
TYV				*e*S		**S**	**21 19 48.9**	**+5.5**
TYV					pmax	pmax		
	comp=Z,300nm,6.0s							
TYV					pmax	pmax		
	comp=Z,7.0nm,1.1s							
TYV					smax	smax		
	comp=E,400nm,7.0s							
IPM	**Ipoh**	**66.82**	**280**	*e*P		**P**	**21 11 01.6**	**+0.6**
	comp=E,36nm,1.1s							
IPM	**Ipoh**	**66.82**	**280**	P		**P**	**21 11 01.8**	**+0.8**
TIA	**Tai'an**	**66.84**	**318**	P		**P**	**21 11 01.5**	**+0.9**
TIA					pmax	pmax		
	comp=E,5.0nm,1.8s							
TIA					LR	LR		
	comp=E,240nm,15.9s							
TIA					LR	LR		
	comp=E,260nm,16.1s							
TIA					LR	LR		
	comp=E,240nm,20.6s							
CN2	**Changchun**	**67.06**	**329**	*e*P		**P**	**21 11 01.8**	**0.0**
CN2				*e*S		**S**	**21 19 52.5**	**-1.5**
CN2					pmax	pmax		
	comp=E,40nm,0.8s							
CN2					pmax	pmax		
	comp=E,200nm,5.0s							
CN2					LR	LR		
	comp=E,390nm,16.0s							
CN2					LR	LR		
	comp=E,350nm,16.0s							
CN2					LR	LR		
	comp=E,580nm,16.0s							
KULM	**Kulim**	**67.40**	**281**	*e*P		**P**	**21 11 08.0**	**+3.4**
	comp=E,25nm,1.3s							
KULM	**Kulim**	**67.40**	**281**	P		**P**	**21 11 08.2**	**+3.6**
SKNT	**Sakolnakorn**	**67.97**	**294**	P		**P**	**21 11 08.7**	**+0.6**
	comp=E,14nm,1.1s							
KLR	**Kul'dur**	**68.41**	**337**	*ce*P		**P**	**21 11 09.9**	**-0.3**
KLR	**Kul'dur**	**68.41**	**337**	P		**P**	**21 11 10.1**	**-0.1**
	comp=E,16nm,0.8s,baz=146,slow=2.2,SNR=6.9							
PSI	**Prapat**	**68.42**	**278**	*e*P		**P**	**21 11 10.6**	**-0.6**
	comp=E,19nm,1.1s							
PSI	**Prapat**	**68.42**	**278**	*e*P		**P**	**21 11 10.6**	**-0.6**
PSI					pmax	pmax		
	comp=Z,19nm,1.1s							
NKL	**Nikolayevsk**	**68.80**	**344**	*e*P		**P**	**21 11 11.0**	**-1.5**
NKL					pmax	pmax		
	comp=Z,23nm,0.9s							
TRTT	**Trang**	**69.02**	**283**	P		**P**	**21 11 18.7**	**+4.0**
	comp=Z,6.4nm,1.2s							
ENH	**Enshi**	**69.02**	**309**	*e*P		**P**	**21 11 13.8**	**-0.7**
	comp=Z,26nm,0.9s							
GSI	**Gunungsitoli**	**69.37**	**276**	*e*P		**P**	**21 11 20.3**	**+3.3**
	comp=Z,20nm,1.0s							
GYA	**Guiyang**	**69.47**	**304**	⇑*i*P		**P**	**21 11 21.3**	**+3.8**
GYA				pP		pwP	21 11 33.0	+0.6
GYA				PP		**PP**	**21 13 56.3**	**+4.9**
GYA				S		**S**	**21 20 24.8**	**+1.1**
GYA				sS		sS	21 20 44.8	+10
GYA				SKS		**SKSac**	**21 21 12.0**	**-4.6**
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
GYA					pmax	pmax		
	comp=Z,180nm,6.6s							
GYA					LR	LR		
	comp=Z,260nm,14.4s							
GYA					LR	LR		
	comp=Z,380nm,18.9s							
GYA					LR	LR		
	comp=Z,510nm,16.4s							
TIY	**Taiyuan**	**70.78**	**317**	*e*P		**P**	**21 11 26.5**	**+1.3**
TIY					pmax	pmax		
	comp=Z,17nm,0.6s							
TIY					pmax	pmax		
	comp=Z,160nm,6.2s							
TIY					LR	LR		
	comp=Z,360nm,14.8s							
TIY					LR	LR		
	comp=Z,360nm,14.8s							
TIY					LR	LR		
	comp=Z,390nm,17.6s							
XAN	**Xi'an**	**71.28**	**313**	P		**P**	**21 11 28.9**	**+0.6**
XAN				PP		**PP**	**21 14 07.4**	**+0.6**
XAN				S		**S**	**21 20 44.4**	**-0.1**
XAN					pmax	pmax		
	comp=Z,8.0nm,0.8s							
XAN					pmax	pmax		
	comp=Z,280nm,4.8s							
XAN					LR	LR		
	comp=Z,300nm,20.8s							
XAN					LR	LR		
	comp=Z,470nm,17.7s							
XAN					LR	LR		
	comp=Z,750nm,18.2s							
KMI	**Kunming**	**72.13**	**302**	P		**P**	**21 11 35.8**	**+2.0**
KMI				pP		pwP	21 11 49.3	+0.6
KMI				sP		PcP	21 11 54.3	+2.2
KMI				PP		**PP**	**21 14 18.5**	**+4.1**
KMI				S		**S**	**21 20 55.3**	**+0.4**
KMI					pmax	pmax		
	comp=Z,13nm,0.6s							
KMI					pmax	pmax		
	comp=Z,230nm,3.9s							
KMI					LR	LR		
	comp=Z,340nm,18.2s							
KMI					LR	LR		
	comp=Z,440nm,18.2s							
KMI					LR	LR		
	comp=Z,650nm,21.5s							
CM01	**Chiang Mai Arr**	**72.96**	**294**	*e*P		**P**	**21 11 38.4**	**-0.2**
CM31	**Chiang Mai Arr**	**72.98**	**294**	*e*P		**P**	**21 11 39.5**	**+0.8**
	comp=Z,27nm,1.1s							
CMAR	**Chiang Mai Arr**	**72.98**	**294**	P		**P**	**21 11 39.4**	**+0.7**
	comp=Z,9.9nm,0.9s,baz=127,slow=4.7,SNR=29							
HHC	**Hu-ho-hao-te**	**73.08**	**320**	*e*P		**P**	**21 11 41.3**	**+2.3**
HHC				pP		pwP	21 11 52.8	-1.5
HHC				sP		PcP	21 11 59.6	+4.0
HHC				sS		sS	21 21 21.4	+6.1
HHC					pmax	pmax		
	comp=Z,10.0nm,0.9s							
HHC					pmax	pmax		
	comp=Z,280nm,7.3s							
HHC					LR	LR		
	comp=Z,350nm,17.6s							
HHC					LR	LR		
	comp=Z,440nm,17.5s							
HHC					LR	LR		
	comp=Z,660nm,19.5s							
CHTO	**Chiang Mai**	**73.10**	**294**	*e*P		**P**	**21 11 40.8**	**+1.3**
	comp=Z,20nm,1.1s							
CHTO	**Chiang Mai**	**73.10**	**294**	*e*P		**P**	**21 11 40.8**	**+1.3**
CHTO					pmax	pmax		
	comp=Z,20nm,1.1s							
HIA	**Hailar**	**73.69**	**330**	*e*P		**P**	**21 11 41.8**	**-0.5**
	comp=Z,31nm,1.1s							
HIA	**Hailar**	**73.69**	**330**	*e*P		**P**	**21 11 41.8**	**-0.5**
HIA					pmax	pmax		
	comp=Z,31nm,1.1s							
ZEA	**Zeya**	**73.69**	**337**	*e*P		**P**	**21 11 42.0**	**-0.2**
ZEA				*e*S		**S**	**21 21 17.0**	**+5.9**
ZEA					pmax	pmax		
	comp=Z,400nm,6.0s							
ZEA					pmax	pmax		
	comp=N,35nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,100nm,1.4s							
ZEA					smax	smax		
	comp=N,400nm,12.0s							
ZEA					MLR	MLR		
	comp=Z,400nm,16.0s							
ZEA					MLR	MLR		
	comp=N,500nm,16.0s							
CD2	**Chengdu**	**73.70**	**307**	*e*P		**P**	**21 11 43.0**	**+0.2**
CD2					pmax	pmax		
	comp=N,40nm,0.5s							
CD2					pmax	pmax		
	comp=N,480nm,5.5s							
BTO	**Baotou**	**73.92**	**319**	*e*P		**P**	**21 11 41.4**	**-2.6**
SEY	**Seymchan**	**75.82**	**354**	⇓*e*P		**P**	**21 11 53.5**	**-0.7**
LZH	**Lanzhou**	**75.92**	**312**	*e*P		**P**	**21 11 58.4**	**+2.7**
LZH				pP		PcP	21 12 09.6	+1.6
LZH				sP		pwP	21 12 14.9	+4.0
LZH				S		**S**	**21 21 37.0**	**-0.1**
LZH				sS		sS	21 21 48.9	+1.3
LZH					pmax	pmax		
	comp=N,29nm,1.0s							
LZH					pmax	pmax		
	comp=N,170nm,5.4s							
LZH					LR	LR		
	comp=N,630nm,14.3s							
LZH					LR	LR		
	comp=N,620nm,14.7s							
LZH					LR	LR		
	comp=N,680nm,15.7s							
QSPA	**South Pole Qui**	**77.65**	**180**	*e*P		**P**	**21 12 04.6**	**-0.3**
	comp=N,64nm,0.9s							
GAMB	**Gambell**	**77.79**	**10**	*e*P		**P**	**21 12 04.7**	**-0.7**
YAK	**Yakutsk**	**79.46**	**343**	*e*P		**P**	**21 12 14.6**	**0.0**
YAK					pmax	pmax		
	comp=Z,181nm,0.9s							
YAK					pmax	pmax		
	comp=N,59nm,1.0s							
YAK					pmax	pmax		
	comp=E,36nm,1.0s							
YAK					MLR	MLR		
	comp=Z,3μm,16.0s							
YAK					MLR	MLR		
	comp=N,2μm,16.0s							
YAK					MLR	MLR		
	comp=E,2μm,17.0s							
ULN	**Ulaanbaatar**	**79.58**	**324**	*e*P		**P**	**21 12 15.8**	**0.0**
	comp=E,20nm,0.9s							
ULN	**Ulaanbaatar**	**79.58**	**324**	*c i*P		**P**	**21 12 15.4**	**-0.4**
ULN					pmax	pmax		
	comp=Z,59nm,2.5s							
SONA0	**Songino Array**	**79.94**	**324**	*e*P		**P**	**21 12 18.0**	**+0.2**
SONM	**Songino Array**	**79.94**	**324**	P		**P**	**21 12 18.0**	**+0.2**
	comp=Z,5.7nm,0.9s,baz=149,slow=5.2,SNR=25							
BILL	**Bilibino**	**80.19**	**0**	*e*P		**P**	**21 12 17.8**	**-0.6**
	comp=Z,18nm,1.2s							
BILL	**Bilibino**	**80.19**	**0**	*i* P		**P**	**21 12 18.3**	**-0.1**
BILL				*i*			21 15 21.1	
BILL					pmax	pmax		
	comp=Z,5.0nm,0.8s							
GTA	**Gaotai**	**80.24**	**314**	⇑P		**P**	**21 12 19.8**	**+0.3**
GTA				pP		sP	21 12 31.8	+2.8
G

TLY	**Talaya**	**83.42**	**326**	*e*P		**P**	**21 12 35.3**	**-0.6**
	comp=Z,18nm,1.0s								
TLY	**Talaya**	**83.42**	**326**	*c i*P		**P**	**21 12 35.2**	**-0.6**
TLY					pmax	pmax			
	comp=Z,29nm,0.9s								
IM3	**Indian Mountai**	**83.58**	**15**	*e*P		**P**	**21 12 37.4**	**+1.1**
HDA	**Harding Lake**	**84.36**	**19**	*e*P		**P**	**21 12 38.3**	**-2.0**
	comp=Z,12nm,1.1s								
YBH	**Yreka Blue Hor**	**84.54**	**45**	P		**P**	**21 12 39.8**	**-2.1**
	comp=Z,1.7nm,0.8s,baz=243,slow=10,SNR=3.8								
ILAR	**Eielson Array**	**84.63**	**18**	P		**P**	**21 12 39.3**	**-2.4**
	comp=Z,2.5nm,0.9s,baz=224,slow=6.1,SNR=17								
ILAR					LR	LR	21 53 31.6		
	comp=Z,208nm,18.0s,baz=234,slow=38								
ILB	**Eielson Array**	**84.63**	**18**	*e*P		**P**	**21 12 39.5**	**-2.2**
	comp=Z,11nm,1.3s								
DOT	**Dot Lake**	**84.78**	**20**	*e*P		**P**	**21 12 41.1**	**-1.4**
	comp=Z,8.3nm,1.1s								
MOY	**Mondy**	**84.87**	**325**	*e*P		**P**	**21 12 42.9**	**-0.5**
MOY					pmax	pmax			
	comp=Z,47nm,2.4s								
SCRK	**Sand Creek**	**85.02**	**20**	*e*P		**P**	**21 12 43.9**	**+0.1**
	comp=Z,6.7nm,1.0s								
TAPN	**Taplejung**	**85.57**	**299**	*e*P		**P**	**21 12 48.2**	**+0.5**
ODAN	**Odare**	**85.71**	**299**	*e*P		**P**	**21 12 47.2**	**-1.1**
EGAK	**Eagle**	**86.48**	**20**	*e*P		**P**	**21 12 49.4**	**-1.5**
	comp=Z,8.0nm,1.0s								
NV01	**Mina Array Sit**	**86.58**	**50**	*e*P		**P**	**21 12 51.7**	**-0.6**
NVAR	**Mina Array Bea**	**86.58**	**50**	P		**P**	**21 12 51.7**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=240,slow=11,SNR=2.9								
PALK	**Pallekele**	**87.11**	**278**	*e*P		**P**	**21 12 57.0**	**+1.8**
	comp=Z,26nm,1.1s								
GUN	**Gumba**	**87.29**	**299**	*e*P		**P**	**21 12 55.7**	**-0.4**
	comp=Z,38nm,1.0s								
DLBC	**Dease Lake**	**87.38**	**28**	LR		LR	21 43 22.9		
	comp=Z,224nm,21.9s,baz=254,slow=30								
TIXI	**Tiksi**	**87.45**	**349**	*e*P		**P**	**21 12 54.0**	**-1.5**
	comp=Z,12nm,1.2s								
TIXI				*e*P		**P**	**21 12 54.8**	**-0.6**
TIXI	**Tiksi**	**87.45**	**349**	*e*P		**P**	**21 12 54.7**	**-0.7**
TIXI					pmax	pmax			
	comp=Z,13nm,1.7s								
TIXI	**Tiksi**	**87.45**	**349**	P		**P**	**21 12 54.8**	**-0.6**
	comp=Z,3.3nm,0.9s,baz=142,slow=3.9,SNR=9.1								
PKI	**Pulchoki**	**87.60**	**299**	*e*P		**P**	**21 12 56.5**	**-1.1**
	comp=Z,54nm,1.2s								
PKIN	**Phulchoki**	**87.61**	**299**	*e*P		**P**	**21 12 56.6**	**-1.0**
	comp=Z,46nm,1.2s								
KKN	**Kakani**	**87.77**	**299**	*e*P		**P**	**21 12 57.8**	**-0.5**
	comp=Z,49nm,1.1s								
DMN	**Daman**	**87.87**	**299**	*e*P		**P**	**21 12 58.2**	**-0.6**
	comp=Z,117nm,1.2s								
KOLN	**Koldanda**	**89.20**	**299**	*e*P		**P**	**21 13 03.5**	**-1.6**
	comp=Z,54nm,1.2s								
DANN	**Dangsing**	**89.21**	**299**	*e*P		**P**	**21 13 03.8**	**-1.4**
	comp=Z,41nm,1.0s								
PYUN	**Piuthan**	**89.81**	**299**	*e*P		**P**	**21 13 06.3**	**-1.6**
	comp=Z,58nm,1.0s								
WMQ	**Urumqi**	**90.29**	**315**	P		**P**	**21 13 10.3**	**+0.7**
WMQ				pP		sP	21 13 22.3	+3.2
WMQ				sP		pwP	21 13 30.3	+7.3
WMQ				SKS		**SKSac**	**21 23 36.4**	**-2.8**
WMQ				S		**S**	**21 23 59.1**	**-3.2**
WMQ					pmax	pmax			
	comp=Z,42nm,1.5s								
WMQ					pmax	pmax			
	comp=Z,490nm,5.1s								
WMQ					LR	LR			
	comp=Z,670nm,17.7s								
WMQ					LR	LR			
	comp=Z,670nm,17.5s								
WMQ					LR	LR			
	comp=Z,550nm,19.1s								
NEW	**Newport**	**90.49**	**41**	LR		LR	21 46 12.6		
	comp=Z,303nm,19.9s,baz=222,slow=31								
SYO	**Syowa Base**	**90.64**	**197**	*e*P		**P**	**21 13 10.4**	**-0.3**
HYB	**Hyderabad**	**91.37**	**287**	*i* P		**P**	**21 13 18.0**	**+2.8**
DGZ	**Jazzator, Alta**	**92.15**	**320**	*d i*P		**P**	**21 13 17.4**	**-0.8**
DGZ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
PD31	**Pinedale Array**	**94.16**	**47**	*e*P		**P**	**21 13 27.5**	**-0.3**
	comp=Z,2.2nm,1.4s								
PDAR	**Pinedale Array**	**94.16**	**47**	P		**P**	**21 13 27.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=181,slow=3.6,SNR=2.9								
MK01	**Makanchi Array**	**94.72**	**317**	*e*P		**P**	**21 13 28.5**	**-1.5**
MK31	**Makanchi Array**	**94.73**	**317**	*e*P		**P**	**21 13 29.3**	**-0.7**
	comp=Z,18nm,1.2s								
MK32	**Makanchi Array**	**94.73**	**317**	*e*P		**P**	**21 13 29.4**	**-0.7**
MKAR	**Makanchi Array**	**94.73**	**317**	P		**P**	**21 13 29.4**	**-0.7**
	comp=Z,13nm,0.8s,baz=95,slow=6.3,SNR=69								
ZAA0	**Zalesovo Array**	**94.84**	**324**	*e*P		**P**	**21 13 28.9**	**-1.4**
	comp=Z,21nm,1.3s								
ZALV	**Zalesovo Beam**	**94.84**	**324**	*e*P		**P**	**21 13 28.4**	**-1.9**
ZALV	**Zalesovo Beam**	**94.84**	**324**	*e*P		**P**	**21 13 28.4**	**-1.9**
ZALV	**Zalesovo Beam**	**94.84**	**324**	P		**P**	**21 13 28.8**	**-1.4**
	comp=Z,8.8nm,0.9s,baz=108,slow=4.8,SNR=32								
ZAA1	**Zalesovo Array**	**94.84**	**324**	*e*P		**P**	**21 13 28.8**	**-1.4**
RLMT	**Red Lodge**	**94.88**	**45**	*e*S		**S**	**21 24 40.6**	**-3.0**
SNAA	**Sanae**	**95.83**	**183**	P		**P**	**21 13 33.1**	**-1.6**
SNAA	**Sanae**	**95.83**	**183**	*e*P		**P**	**21 13 33.6**	**-1.1**
	comp=Z,22nm,1.2s								
SNAA	**Sanae**	**95.83**	**183**	*e*P		**P**	**21 13 33.9**	**-0.8**
NVS	**Novosibirsk**	**95.95**	**325**	*e*P		**P**	**21 13 34.3**	**-1.0**
NVS					pmax	pmax			
	comp=Z,42nm,2.4s								
NVS					pmax	pmax			
	comp=E,12nm,1.7s								
YKA	**Yellowknife Ar**	**95.96**	**27**	P		**P**	**21 13 34.2**	**-1.0**
	comp=E,0.2nm,0.5s,baz=258,slow=4.7,SNR=9.0								
YKA					LR	LR	21 49 12.9		
	comp=E,27nm,22.0s,baz=272,slow=31								
YKB5	**Yellowknife Ar**	**95.96**	**27**	*e*P		**P**	**21 13 34.2**	**-1.0**
VNA3	**Neumayer Olymp**	**96.55**	**181**	P		**P**	**21 13 36.0**	**-1.8**
VNA2	**Neumayer--Watz**	**96.80**	**182**	P		**P**	**21 13 37.9**	**-1.1**
	baz=164,slow=4.9								
KDJ	**Kajisay**	**97.41**	**311**	*e*P		Pdif	21 13 43.7	+1.1
	comp=E,7.0nm,1.4s								
KDJ	**Kajisay**	**97.41**	**311**	*e*P		Pdif	21 13 43.7	+1.1
KDJ					pmax	pmax			
	comp=Z,7.0nm,1.4s								
NRIK	**Noril'sk**	**97.48**	**339**	P		**P**	**21 13 41.2**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=90,slow=5.3,SNR=4.9								
KSH	**Kashi**	**97.87**	**309**	P		Pdif	21 13 51.6	+7.0
KSH				pP		pwP	21 14 01.8	+3.8
KSH				PP		PP	21 17 53.6	+10
KSH	**Kashi**	**97.87**	**309**	SKS		**SKSac**	**21 24 25.9**	**+5.1**
KSH	**Kashi**	**97.87**	**309**	S		**S**	**21 25 12.8**	**+3.4**
KSH	**Kashi**	**97.87**	**309**	sS		sS	21 25 34.3	+14
KSH					pmax	pmax			
	comp=Z,10.0nm,1.1s								
KSH					pmax	pmax			
	comp=Z,200nm,5.5s								
KSH					LR	LR			
	comp=N,75nm,11.5s								
KSH					LR	LR			
	comp=E,150nm,13.7s								
KSH					LR	LR			
	comp=Z,300nm,20.1s								
KURK	**Kurchatov**	**97.89**	**320**	*e*P		Pdif	21 13 44.6	+0.4
KURK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
KURBB	**Kurchatov Arra**	**97.93**	**320**	P		**P**	**21 13 43.5**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=102,slow=3.3,SNR=9.1								
AAK	**Ala-Archa**	**99.45**	**312**	*e*P		**Pdif**	**21 13 51.5**	**-0.1**
AAK					pmax	pmax			
	comp=Z,1.0nm,1.0s								
AAK	**Ala-Archa**	**99.45**	**312**	P		**Pdif**	**21 13 50.6**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=225,slow=7.1,SNR=3.4								
BVAR	**Borovoye Array**	**103.21**	**322**	Pdiff		**Pdif**	**21 14 07.0**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=90,slow=7.4,SNR=10								
BVAR				PKiKP		**PKiKP**	**21 18 26.3**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=93,slow=3.0,SNR=3.7								
BRVK	**Borovoye**	**103.28**	**322**	*e*Pdif		**Pdif**	**21 14 07.9**	**-0.3**
BRVK	**Borovoye**	**103.28**	**322**	*e*P		**Pdif**	**21 14 07.9**	**-0.3**
AKTO	**Aktyubinsk**	**110.97**	**319**	*e*PKiKP		**PKiKP**	**21 18 41.0**	**-0.8**
AKTO	**Aktyubinsk**	**110.97**	**319**	PKiKP		**PKiKP**	**21 18 41.0**	**-0.8**
	comp=Z,1.8nm,0.8s,baz=33,slow=1.1,SNR=6.6								
PRGR	**Permogore**	**115.07**	**333**	*e*PKiKP		**PKiKP**	**21 18 47.7**	**-1.5**
PRGR					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ARA0	**ARCESS Array S**	**117.70**	**345**	*e*PKPdf		**PKPdf**	**21 18 52.4**	**-1.8**
ARCES	**ARCESS Array B**	**117.70**	**345**	PKP		**PKPdf**	**21 18 52.3**	**-1.8**
	comp=Z,5.0nm,0.6s,baz=55,slow=1.7,SNR=18								
KLMR	**Klimovskoe**	**118.08**	**334**	*e*PKiKP		**PKPdf**	**21 18 53.2**	**-1.8**
KLMR					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KLMR	**Klimovskoe**	**118.08**	**334**	*e*PKPdf		**PKPdf**	**21 18 53.3**	**-1.8**
KLMR					AMP		21 18 58.5		
	comp=Z,6.0nm,0.9s								
VRH	**Novokhopyorsk**	**120.85**	**323**	*e*PKiKP		**PKPdf**	**21 18 59.2**	**-1.5**
VRH					pmax	pmax			
	comp=Z,20nm,0.8s								
GNI	**Garni**	**121.78**	**310**	PKP		**PKPdf**	**21 19 02.6**	**-0.4**
	comp=Z,9.9nm,0.9s,baz=18,slow=20,SNR=3.3								
LPSR	**Galich'ya Gora**	**121.93**	**325**	*e*PKiKP		**PKPdf**	**21 19 01.6**	**-1.1**
LPSR					pmax	pmax			
	comp=Z,10.0nm,1.0s								
OBN	**Obninsk**	**122.12**	**328**	*i* PKiKP		**PKPdf**	**21 19 01.9**	**-1.1**
OBN					pmax	pmax			
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**	**122.33**	**314**	PKP		**PKPdf**	**21 19 03.7**	**0.0**
	comp=Z,3.0nm,0.8s,baz=189,slow=2.2,SNR=4.3								
VSR	**Storozhevoye**	**122.34**	**324**	*e*PKiKP		**PKPdf**	**21 19 02.1**	**-1.4**
VSR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
FIA1	**FINESS Array S**	**123.13**	**338**	*e*PKPdf		**PKPdf**	**21 19 03.4**	**-1.3**
FIA0	**FINESS Array S**	**123.13**	**338**	*e*PKPdf		**PKPdf**	**21 19 03.8**	**-1.0**
FIA0	**FINESS Array S**	**123.13**	**338**	*e*PKiKP		**PKPdf**	**21 19 03.8**	**-1.0**
FINES	**FINESS Array B**	**123.13**	**338**	PKP		**PKPdf**	**21 19 03.8**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=81,slow=6.0,SNR=14								
BOSA	**Boshof**	**124.41**	**222**	PKP		**PKPdf**	**21 19 06.7**	**-1.8**
	comp=Z,3.6nm,0.9s,baz=190,slow=5.9,SNR=5.1								
VSU	**Vasula**	**124.81**	**335**	*i* PKiKP		**PKPdf**	**21 19 08.3**	**+0.3**
BANI	**BANI**	**125.38**	**76**	*e*PKPdf		**PKiKP**	**21 19 12.0**	**+1.1**
KMBO	**Kilima Mbogo**	**127.52**	**259**	PKP		**PKiKP**	**21 19 15.6**	**+0.1**
	comp=Z,3.0nm,0.9s,baz=54,slow=5.8,SNR=6.2								
NC303	**NORSAR Array S**	**127.87**	**345**	*e*PKPdf		**PKPdf**	**21 19 14.0**	**+0.1**
NB2	**NORSAR Subarra**	**128.06**	**345**	PKPdf		**PKPdf**	**21 19 13.6**	**-0.7**
	comp=Z,3.7nm,1.0s,baz=31,slow=1.9								
NB200	**NORSAR Array S**	**128.06**	**345**	*e*PKPdf		**PKPdf**	**21 19 13.9**	**-0.4**
NOA	**NORSAR Array B**	**128.06**	**345**	PKP		**PKPdf**	**21 19 13.9**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=33,slow=2.0,SNR=11								
HFS	**Hagfors**	**128.15**	**343**	PKP		**PKPdf**	**21 19 13.7**	**-0.8**
	comp=Z,3.8nm,0.8s,baz=176,slow=4.3,SNR=5.4								
AKASG	**Malin Array Be**	**128.16**	**326**	PKP		**PKPdf**	**21 19 13.9**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=61,slow=2.3,SNR=9.1								
AKBB	**Malin Array Si**	**128.16**	**326**	*e*PKPdf		**PKPdf**	**21 19 14.3**	**-0.4**
AKBB	**Malin Array Si**	**128.16**	**326**	*e*PKiKP		**PKPdf**	**21 19 14.3**	**-0.4**
KIEV	**Kiev**	**128.18**	**326**	*e*PKPdf		**PKPdf**	**21 19 13.2**	**-1.5**
KIEV	**Kiev**	**128.18**	**326**	PKiKP		**PKPdf**	**21 19 14.1**	**-0.6**
AK11	**Malin Array Si**	**128.21**	**326**	*e*PKPdf		**PKPdf**	**21 19 13.7**	**-1.1**
ASF	**Jabal al Asfar**	**129.56**	**302**	PKP		**PKPdf**	**21 19 17.4**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=175,slow=4.8,SNR=4.1								
BR101	**Keskin Array S**	**130.12**	**312**	*e*PKPdf		**PKPdf**	**21 19 18.1**	**-1.0**
BR101				*e*SKPdf		**SKPbc**	**21 22 43.6**	**+3.3**
BR131	**Keskin Array S**	**130.12**	**312**	*e*PKPdf		**PKPdf**	**21 19 18.5**	**-0.6**
BRTR	**Keskin Array B**	**130.12**	**312**	PKP		**PKPdf**	**21 19 18.1**	**-1.0**
	comp=Z,3.3nm,0.9s,baz=119,slow=2.8,SNR=12								
BRTR					SKPbc	**SKPbc**	**21 22 43.6**	**+3.3**
	comp=Z,2.0nm,1.0s,baz=116,slow=5.0,SNR=6.1								
MMAI	**Mount Meron Ar**	**130.62**	**303**	PKP		**PKiKP**	**21 19 21.4**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=76,slow=11,SNR=5.4								
TLCR		**131.18**	**320**	PKiKP		**PKPdf**	**21 19 20.6**	**0.0**
CFR	**Carcaliu**	**131.60**	**321**	PKiKP		**PKPdf**	**21 19 20.6**	**-0.8**
EIL	**Elat**	**131.66**	**299**	PKP		**PKiKP**	**21 19 22.8**	**-0.3**
	comp=Z,4.9nm,0.8s,baz=280,slow=1.6,SNR=4.1								
TIRR	**Tirgusor**	**131.77**	**320**	PKiKP		**PKPdf**	**21 19 21.5**	**-0.3**
TLB	**Topalu**	**131.94**	**320**	PKiKP		**PKPdf**	**21 19 21.9**	**-0.2**
HARR	**Harsova**	**131.96**	**320**	PKiKP		**PKiKP**	**21 19 22.8**	**-0.4**
BUR08	**Bucovina Ar. S**	**132.04**	**325**	*e*PKPdf		**PKiKP**	**21 19 23.3**	**-0.1**
BURAR	**Bucovina Array**	**132.05**	**325**	PKiKP		**PKiKP**	**21 19 23.3**	**-0.1**
PLOR	**Plostina**	**132.17**	**322**	PKiKP		**PKPdf**	**21 19 21.8**	**-0.8**
KWP	**Kalwaria Pacla**	**132.21**	**328**	*e*PKPdf		**PKPdf**	**21 19 22.8**	**+0.3**
KWP	**Kalwaria Pacla**	**132.21**	**328**	*e*PKiKP		**PKPdf**	**21 19 22.8**	**+0.3**
MLR	**Muntele Rosu**	**132.78**	**322**	PKP		**PKPdf**	**21 19 23.9**	**0.0**
	comp=Z,3.2nm,0.9s,baz=160,slow=17								
OJC	**Ojcow**	**133.27**	**331**	*e*PKPdf		**PKPdf**	**21 19 24.2**	**-0.3**
OJC	**Ojcow**	**133.27**	**331**	*e*PKPdf		**PKPdf**	**21 19 24.1**	**-0.3**
OJC	**Ojcow**	**133.27**	**331**	*e*PKiKP		**PKPdf**	**21 19 24.2**	**-0.3**
VOIR		**133.34**	**323**	PKiKP		**PKiKP**	**21 19 27.2**	**+1.1**
CJR	**Cluj-Napoca**	**133.47**	**325**	PKiKP		**PKPdf**	**21 19 25.6**	**+0.6**
NIE	**Niedzica**	**133.56**	**330**	*e*PKP		**PKPdf**	**21 19 25.8**	**+0.7**
NIE	**Niedzica**	**133.56**	**330**	*e*PKiKP		**PKPdf**	**21 19 25.8**	**+0.7**
DRGR		**133.92**	**325**	PKiKP		**PKPdf**	**21 19 25.5**	**-0.4**
OKC	**Ostrava-Krasne**	**134.31**	**331**	*e*PKPdf		**PKPdf**	**21 19 26.5**	**+0.1**
OKC					AMS	AMS	22 28 40.0		
OKC	**Ostrava-Krasne**	**134.31**	**331**	*e*PKiKP		**PKPdf**	**21 19 26.5**	**+0.1**
DEV	**Deva**	**134.34**	**324**	PKiKP		**PKiKP**	**21 19 27.5**	**-0.5**
MORC	**Moravsky Berou**	**134.63**	**332**	*e*PKPdf		**PKiKP**	**21 19 28.0**	**-0.5**
MORC	**Moravsky Berou**	**134.63**	**332**	*e*PKiKP		**PKiKP**	**21 19 28.0**	**-0.5**
MORC	**Moravsky Berou**	**134.63**	**332**	*e*PKP		**PKiKP**	**21 19 28.1**	**-0.5**
GZR	**Gura Zlata**	**134.70**	**324**	PKiKP		**PKPdf**	**21 19 25.8**	**-1.6**
PSZ	**Piszkesteto**	**134.73**	**328**	*e*PKPdf		**PKiKP**	**21 19 28.5**	**-0.3**
PSZ	**Piszkesteto**	**134.73**	**328**	*e*PKiKP		**PKiKP**	**21 19 28.5**	**-0.3**
DPC	**Dobruska-Polom**	**134.78**	**333**	*e*PKPdf		**PKiKP**	**21 19 28.4**	**-0.4**
DPC					AMS	AMS	22 33 30.0		
	comp=Z,400nm,19.7s								
DPC	**Dobruska-Polom**	**134.78**	**333**	*e*PKiKP		**PKiKP**	**21 19 28.4**	**-0.4**
DPC					MLR	MLR			
	comp=Z,400nm,19.7s								
UPC	**Upice**	**134.80**	**333**	*e*PKPdf		**PKiKP**	**21 19 28.3**	**-0.5**
UPC				*ex*		x	21 19 50.1		
UPC				*e*SKP			21 23 00.5		
UPC				AMS		AMS	22 35 30.0		
	comp=Z,400nm,18.9s								
UPC	**Upice**	**134.80**	**333**	*e*PKiKP		**PKiKP**	**21 19 28.3**	**-0.5**
UPC				MLR		MLR			
	comp=Z,400nm,18.9s								
VYHS	**Vyhne**	**134.89**	**330**	*e*PKiKP		**PKPdf**	**21 19 26.0**	**-1.6**
VYHS	**Vyhne**	**134.89**	**330**	*e*PKP		**PKPdf**	**21 19 26.0**	**-1.6**
JAVC	**Velka Javorina**	**135.21**	**331**	*e*PKP		**PKiKP**	**21 19 29.2**	**-0.5**
BZS	**Buzias**	**135.23**	**325**	PKiKP		**PKPdf**	**21 19 27.0**	**-1.3**
PVCC	**Panska Ves**	**135.41**	**334**	*e*PKPdf		**PKiKP**	**21 19 30.5**	**+0.5**
PVCC					AMS	AMS	22 34 00.0		
	comp=Z,300nm,17.0s								
PVCC	**Panska Ves**	**135.41**	**334**	*e*PKiKP		**PKiKP**	**21 19 30.5**	**+0.5**
PVCC					MLR	MLR			
	comp=Z,300nm,17.0s								
BRG	**Berggiesshubel**	**135.41**	**335**	*e*PKP		**PKPdf**	**21 19 24.4**	**-4.0**
	comp=Z,23nm,2.0s								
BRG				*e*			21 19 39.6		
	comp=Z,8.8nm,1.5s								
BRG				*e*PKS		**PKSdf**	**21 23 01.5**	**-3.0**
	comp=Z,5.2nm,1.2s								
	comp=N,342nm,18.1s								
	comp=E,367nm,21.8s								
	comp=Z,497nm,22.3s								
BRG	**Berggiesshubel**	**135.41**	**335**	*e*PKiKP		**PKPdf**	**21 19 24.4**	**-4.0**
BRG				*e*			21 19 39.6		
BRG					pmax	pmax			
	comp=Z,23nm,2.0s								
BRG					pmax	pmax			
	comp=Z,5.0nm,1.2s								
BRG					MLR	MLR			
	comp=N,342nm,18.1s								
BRG					MLR	MLR			
	comp=E,367nm,21.8s								
BRG					MLR	MLR			
	comp=Z,497nm,22.3s								
CLL	**Collm**	**135.46**	**336**	*i* PKiKP		**PKiKP**	**21 19 30.1**	**+0.1**
	comp=Z,6.0nm,0.9s								
CLL				*i* (pPKPdf)			21 19 36.0		
CLL				LmV			22 35 00.0		
	comp=N,300nm,20.1s								
CLL				LmV			22 35 00.0		
	comp=E,300nm,20.9s								
CLL				LmV			22 35 00.0		
	comp=Z,500nm,19.6s								
CLL	**Collm**	**135.46**	**336**	*i* PKiKP		**PKiKP**	**21 19 30.1**	**+0.1**
CLL					pmax	pmax			
	comp=Z,6.0nm,0.9s								
CLL					MLR	MLR			
	comp=Z,500nm,19.6s								
KRUC	**Moravsky**	**135.67**	**332**	*e*PKP		**PKPdf**	**21 19 28.9**	**-0.1**
GOPC	**GO Pecny, Ondr**	**135.77**	**334**	AMS		AMS	22 24 40.0		
	comp=Z,500nm,20.4s								
PRU	**Pruhonice**	**135.82**	**334**	*e*PKPdf		**PKiKP**	**21 19 30.5**	**-0.3**
PRU				*ex*		x	21 19 39.7		
PRU				*ex*		x	21 20 10.6		
PRU				AMS		AMS	22 25 10.0		
	comp=Z,500nm,19.5s								
PRU	**Pruhonice**	**135.82**	**334**	*e*PKiKP		**PKiKP**	**21 19 30.5**	**-0.3**
PRU				*e*			21 19 39.7		
PRU					MLR	MLR			
	comp=Z,500nm,19.5s								
TREC	**Trest**	**135.92**	**333**	AMS		AMS	22 26 20.0		
	comp=Z,400nm,18.5s								
VTS	**Vitosha**	**135.95**	**320**	PKiKP		**PKPdf**	**21 19 29.0**	**-0.9**
EKA	**Eskdalemuir Ar**	**136.32**	**351**	PKP		**PKiKP**	**21 19 31.4**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=234,slow=2.4,SNR=3.1								
CONA	**Conrad Observa**	**136.72**	**331**	PKiKP		**PKPdf**	**21 19 31.6**	**+0.5**
	comp=Z,6.0nm,1.1s								
KHC	**Kasperske Hory**	**136.88**	**334**	*e*PKPdf		**PKiKP**	**21 19 33.0**	**-0.1**
KHC				*ep*PKP		**sPKPdf**	**21 19 44.2**	**+3.5**
KHC				*ex*		x	21 20 18.5		
KHC				*e*SKP			21 23 07.0		
KHC				AMS		AMS	22 25 40.0		
	comp=Z,500nm,15.5s								
KHC	**Kasperske Hory**	**136.88**	**334**	*e*PKiKP		**PKiKP**	**21 19 33.0**	**-0.1**
KHC				*e*			21 19 44.2		
KHC				MLR		MLR			
	comp=Z,500nm,15.5s								
GEC2	**GERESS Array S**	**137.04**	**333**	*e*PKPdf		**PKPdf**	**21 19 31.7**	**0.0**
GEC2	**GERESS Array S**	**137.04**	**333**	*e*PKiKP		**PKPdf**	**21 19 31.7**	**0.0**
GERES	**GERESS Array B**	**137.04**	**333**	PKP		**PKPdf**	**21 19 31.7**	**0.0**
	comp=Z,2.6nm,0.7s,baz=131,slow=3.0,SNR=4.3								
MOA	**Molln**	**137.53**	**332**	PKPdf		**PKPdf**	**21 19 30.9**	**-1.6**
	comp=Z,3.0nm,0.7s								
FNA	**Florina**	**138.11**	**319**	*e*PKPdf		**PKPdf**	**21 19 33.0**	**-0.8**
FNA	**Florina**	**138.11**	**319**	*e*PKiKP		**PKPdf**	**21 19 33.0**	**-0.8**
IDI	**Anoyia**	**138.22**	**310**	PKP		**PKPdf**	**21 19 34.2**	**0.0**
	comp=Z,14nm,0.9s,baz=61,slow=21,SNR=6.1								
MEM	**Membach**	**138.54**	**341**	PKiKP		**PKiKP**	**21 19 35.6**	**-0.8**
MYKA	**Terra Mystica**	**138.71**	**331**	PKiKP		**PKiKP**	**21 19 36.4**	**-0.6**
	comp=Z,7.3nm,1.1s								
WATA	**Walderalm**	**139.12**	**333**	*e*PKiKP		**PKPdf**	**21 19 35.7**	**+0.1**
	comp=Z,7.5nm,1.2s								
ABTA	**Abfaltersbach**	**139.15**	**332**	PKiKP		**PKPdf**	**21 19 36.0**	**+0.4**
	comp=Z,4.4nm,0.8s								
WLF	**Walferdange**	**139.31**	**340**	PKiKP		**PKiKP**	**21 19 39.1**	**+1.2**
MOTA	**Moosalm**	**139.32**	**334**	*e*PKPdf		**PKPdf**	**21 19 34.5**	**-1.4**
	comp=Z,3.6nm,0.7s								
SQTA	**Sankt Quirin**	**139.37**	**334**	PKPdf		**PKPdf**	**21 19 34.7**	**-1.3**
	comp=Z,4.1nm,0.8s								
FETA	**Feichten**	**139.73**	**334**	PKiKP		**PKPdf**	**21 19 36.7**	**-0.1**
	comp=Z,7.8nm,1.0s								
FUORN	**Ofenpass-Fuorn**	**140.24**	**334**	*e*PKPpre		PKPpre	21 19 33.0		
DAVOX	**Davos/

LCRM	**LCR**	**2.22 208**	P		**Pb**	**21 10 19.7**	**-0.7**
LCRM			S		**Sb**	**21 10 47.7**	**+0.1**
SESP	**Santiago Espad**	**2.60 19**	P		**Pb**	**21 10 25.3**	**-1.7**
	1.8nm,0.2s,SNR=4.0						
SESP			S		**Sn**	**21 10 52.9**	**-0.4**
	5.3nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**2.62 343**	P		**Pn**	**21 10 23.9**	**+1.6**
	0.6nm,0.2s,SNR=11						
EADA			S		**Sb**	**21 11 00.3**	**+1.2**
	8.8nm,0.2s						
ECAB	**El Cabril**	**2.81 330**	P		**Pn**	**21 10 27.1**	**+2.2**
	0.5nm,0.3s,SNR=6.7						
ECAB			S		**Sn**	**21 10 59.8**	**+1.4**
	2.6nm,0.2s,SNR=6.3						
EMUR	**La Murta**	**2.90 40**	P		**Pb**	**21 10 30.6**	**-1.3**
	0.5nm,0.2s,SNR=4.0						
EMUR			S		**Sn**	**21 10 59.6**	**-0.8**
	2.5nm,0.3s,SNR=7.9						
MD31	**MD31**	**2.94 199**	P		**Pn**	**21 10 27.8**	**+1.1**
MD31			S		**Sn**	**21 11 02.9**	**+1.3**
MDT	**Midelt**	**2.95 196**	P		**Pn**	**21 10 27.0**	**+0.2**
MDT			S		**Sn**	**21 11 04.4**	**+2.6**
EMIN	**Mina Concepcio**	**3.23 312**	P		**Pn**	**21 10 31.2**	**+0.6**
	1.2nm,0.2s,SNR=12						
EMIN			S		**Sn**	**21 11 07.8**	**-0.9**
	1.6nm,0.2s						
ZHG	**ZHG**	**3.33 229**	P		**Pn**	**21 10 34.2**	**+2.2**
ETOB	**Tobarra**	**3.41 28**	P		**Pn**	**21 10 35.4**	**+2.3**
	1.6nm,0.2s,SNR=7.2						
ETOB			S		**Sn**	**21 11 15.8**	**+2.7**
	1.2nm,0.3s						
EGRO	**El Granado**	**3.63 302**	P		**Pn**	**21 10 36.2**	**+0.1**
	3.9nm,0.3s,SNR=7.9						
EGRO			S		**Sn**	**21 11 17.8**	**-0.7**
	4.7nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**3.73 299**	*e*Pn		**Pn**	**21 10 38.8**	**+1.3**
PVAQ			*e*Sn		**Sn**	**21 11 20.5**	**-0.5**
PVAQ	**Vaqueiros**	**3.73 299**	P		**Pn**	**21 10 38.8**	**+1.3**
PVAQ			S		**Sn**	**21 11 20.5**	**-0.5**
PBDV	**Barranco-do-Ve**	**3.82 296**	*e*Pn		**Pn**	**21 10 38.8**	**+0.1**
PBDV			*e*Sn		**Sn**	**21 11 22.2**	**-1.0**
PBDV			A		A	21 11 27.6	
	4.4nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.82 296**	P		**Pn**	**21 10 38.8**	**+0.1**
PBDV			S		**Sn**	**21 11 22.2**	**-1.0**
	4.4nm,0.5s						
PAB	**San Pablo**	**3.92 352**	P		**Pn**	**21 10 41.9**	**+1.7**
	0.6nm,0.2s,SNR=7.9						
PAB			S		**Sn**	**21 11 27.5**	**+1.7**
	0.4nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.02 356**	P		**Pn**	**21 10 43.3**	**+1.8**
	1.3nm,0.1s,baz=175,slow=12,SNR=6.2						
ESDC			S		**Sn**	**21 11 29.3**	**+1.2**
	0.3nm,0.3s,baz=175,slow=21,SNR=4.5						
PCVE	**Castro Verde**	**4.07 300**	*e*Pn		**Pn**	**21 10 42.3**	**+0.2**
PCVE			*e*Sn		**Sn**	**21 11 30.6**	**+1.4**
PCVE			A		A	21 11 39.3	
	3.4nm,0.4s						
PCVE	**Castro Verde**	**4.07 300**	Pn		**Pn**	**21 10 42.3**	**+0.2**
EBAD	**Badajoz**	**4.11 320**	P		**Pn**	**21 10 43.5**	**+0.8**
	1.2nm,0.2s,SNR=13						
EBAD			S		**Sn**	**21 11 30.4**	**+0.1**
	3.1nm,0.2s,SNR=6.5						
MESJ	**Messejana**	**4.29 302**	*e*P		**Pn**	**21 10 45.7**	**+0.5**
MESJ	**Messejana**	**4.29 302**	*e*Pn		**Pn**	**21 10 45.9**	**+0.8**
MESJ			*e*Sn		**Sn**	**21 11 34.4**	**-0.3**
MESJ			A		A	21 11 37.7	
	3.8nm,0.9s						
MESJ	**Messejana**	**4.29 302**	P		**Pn**	**21 10 45.7**	**+0.5**
MESJ			Sn		**Sn**	**21 11 34.4**	**-0.3**
	3.8nm,0.9s						
MORF	**Marmelete**	**4.38 294**	*e*P		**Pn**	**21 10 46.6**	**+0.2**
PESTR	**Estremoz**	**4.51 316**	*e*Pn		**Pn**	**21 10 49.3**	**+1.2**
PESTR			*e*Sn		**Sn**	**21 11 39.5**	**-0.6**
PESTR			A		A	21 11 41.0	
	3.2nm,0.7s						
PMRV	**Marv??o**	**4.81 323**	*e*Pn		**Pn**	**21 10 54.0**	**+1.6**
PMRV			*e*Sn		**Sn**	**21 11 47.9**	**+0.3**
PMRV	**Marv??o**	**4.81 323**	Pn		**Pn**	**21 10 54.0**	**+1.6**
PMRV			Sn		**Sn**	**21 11 47.9**	**+0.3**
PMTG	**Montargil**	**5.01 314**	*e*Pn		**Pn**	**21 10 55.6**	**+0.6**
PMTG			*e*Sn		**Sn**	**21 11 52.3**	**-0.1**
PMTG	**Montargil**	**5.01 314**	Pn		**Pn**	**21 10 55.6**	**+0.6**
PMTG			Sn		**Sn**	**21 11 52.3**	**-0.1**
MVO	**Moncorvo**	**6.12 335**	P		**Pn**	**21 11 12.3**	**+2.0**
	1.4nm,0.2s,SNR=7.9						
MVO			S		**Sn**	**21 12 17.9**	**-1.9**
	0.9nm,0.2s,SNR=7.9						

UCR 24 21:13:07.3±2.3, 8°32'N×82°90'W, h14km±6km, MD4.3, 2D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTJ1	**Puerto Jimnez**	**0.45**	**298**	*e*P	Pg	21 13 15.4	-0.9
PTJ1				*e*S	Sb	21 13 23.9	+0.3
BRU2	**Volcan**	**0.51**	**24**	*e*P	Pg	21 13 17.5	0.0
BRU2				*e*S	Sb	21 13 26.0	+0.4
TBS2		**0.53**	**27**	*e*P	Pb	21 13 18.7	+0.2
TBS2				*e*S	Sb	21 13 26.5	+0.5
LCR2	**La Lucha 2**	**1.78**	**322**	*e*P	Pn	21 13 37.0	-0.9
CVTR	**Volcan Turrial**	**1.89**	**333**	*e*P	Pn	21 13 38.3	-1.2
HDC	**Heredia**	**2.06**	**324**	*e*P	Pn	21 13 41.8	+0.2
HDC				*e*S	Sn	21 14 06.7	-0.3
AZU	**Azuero**	**2.65**	**101**	*e*P	Pn	21 13 50.0	+0.3
AZU				*e*S	Sn	21 14 21.3	-0.4
ARE1	**Arenal 1**	**2.78**	**320**	*e*P	Pn	21 13 53.3	+1.8
CEDE	**Laguna Cedeo**	**2.79**	**321**	*e*P	Pn	21 13 53.6	+2.0
JTS	**JuntasAbangare**	**2.82**	**314**	*e*P	Pn	21 13 51.2	-0.7
JTS				*e*S	Sn	21 14 27.1	+1.3
BCIP	**Isla Barro Col**	**3.14**	**74**	*e*S	Sb	21 14 44.0	+2.8

NIED ***24*** *21:13:00, 38°.40N×144°.30E, h5km, Mw3.6 Best double couple: M₀2.92000×10¹⁴ NP1:φ₉12.00000°, δ41.00000°, λ-94.00000°. NP2:φ₉198.00000°, δ49.00000°, λ-86.00000°.*

IDC ***24*** *21:13:08.7±1.4, 38°.28N×144°.66E, h0km, mb3.7/11, mb1 3.8/15, mb1mx3.6/77, mbtmp3.8/15, ML3.5/4, Error ellipse: s-maj=31.9km s-min=17.7km az=150.0*

ISCJB ***24*** *21:13:12.2±0.6, 38°.48N±0°.04×144°.32E±0°.05, h29km, mb3.6/11, Error ellipse: s-maj=5.9km s-min=4.5km az=37.8*

JMA ***24*** *21:13:12.9±0.1, 38°.40N×144°.28E, h42km, M3.9*

ISC 24 21:13:13.5±0.9, 38°.39N±0°.05×144°.37E±0°.08, h29km, n38, σ2s34/53, mb3.7/11, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**2.22**	**289**	P	**Pn**	**21 13 47.6**	**-0.8**
JIKH	**Ishinomakikobu**	**2.29**	**269**	P	**Pn**	**21 13 48.1**	**-1.1**
JIKH				S	**Sn**	**21 14 14.0**	**-2.4**
JKMT	**Kesennumamotoy**	**2.31**	**281**	P	**Pn**	**21 13 48.6**	**-0.9**
JKMT				S	**Sn**	**21 14 15.0**	**-2.0**
MIYJ	**Miyakonagasawa**	**2.32**	**302**	P	**Pn**	**21 13 48.6**	**-1.0**
MIYJ				*e*S	**Sn**	**21 14 15.2**	**-2.0**
JMK	**Ichinoseki**	**2.53**	**284**	P	**Pn**	**21 13 52.1**	**-0.5**
JMK				S	**Sn**	**21 14 21.5**	**-0.9**
JOM	**Ohasama**	**2.63**	**295**	P	**Pn**	**21 13 53.6**	**-0.4**
JOM				S	**Sn**	**21 14 24.2**	**-0.8**
JANG	**Nango**	**2.97**	**313**	P	**Pn**	**21 13 57.7**	**-1.0**
JANG				S	**Sn**	**21 14 31.7**	**-1.6**
JYK	**Kaneyama**	**3.19**	**281**	P	**Pn**	**21 14 01.4**	**-0.2**
JFT	**Otama**	**3.31**	**256**	P	**Pn**	**21 14 03.3**	**0.0**
JFT				S	**Sn**	**21 14 40.6**	**-1.0**
JOT	**Ohata**	**3.94**	**321**	P	**Pn**	**21 14 11.5**	**-0.4**
JOT				*e*S	**Sn**	**21 14 55.2**	**-1.8**
JCH	**Churui**	**4.29**	**350**	P	**Pn**	**21 14 15.9**	**-0.9**
JCH				*e*S	**Sn**	**21 15 02.1**	**-3.7**
JKB	**Kayabe**	**4.33**	**325**	P	**Pn**	**21 14 17.7**	**+0.4**
JKB				*e*S	**Sn**	**21 15 03.8**	**-3.0**
BSO1	**Boso 1**	**4.62**	**217**	P	**Pn**	**21 14 20.8**	**0.0**
JRY	**Ryogami san**	**4.97**	**243**	P	**Pn**	**21 14 25.0**	**-1.1**
JRY				*e*S	**Sn**	**21 15 19.1**	**-3.5**
NEM2	**Nemuro 2**	**5.08**	**11**	P	**Pn**	**21 14 24.5**	**-3.1**
NEM2				*e*S	**Sn**	**21 15 19.4**	**-5.8**
MJAR	**Matsushiro Arr**	**5.24**	**251**	Pn	**Pn**	**21 14 30.2**	**+0.4**
	0.6nm,0.3s,baz=68,slow=8.0,SNR=27						
MJAR				Sn	**Sn**	**21 15 29.8**	**+0.6**
	0.1nm,0.3s,baz=253,slow=41,SNR=2.6						
MAT	**Matsushiro**	**5.24**	**251**	P	**Pn**	**21 14 30.4**	**+0.6**
MAT				*e*S	**Sn**	**21 15 24.8**	**-4.5**
JOSM	**Okushiri--Mats**	**5.26**	**316**	P	**Pn**	**21 14 30.8**	**+0.7**
JOD2	**Odawara 2**	**5.26**	**235**	*e*S	**Sn**	**21 15 24.6**	**-5.2**
JTKR	**Abashiri--Toko**	**5.59**	**357**	P	**Pn**	**21 14 33.2**	**-1.4**
JTKR				*e*S	**Sn**	**21 15 33.7**	**-4.1**
JHR	**Hokuryu**	**5.71**	**340**	P	**Pn**	**21 14 37.1**	**+0.8**
JHR				*e*S	**Sn**	**21 15 39.8**	**-1.0**
ASAJ	**Asahikawa**	**5.88**	**347**	Pn	**Pn**	**21 14 38.5**	**-0.1**
	2.6nm,0.3s,baz=210,slow=11,SNR=33						
ASAJ				Sn	**Sn**	**21 15 42.5**	**-2.4**
	0.6nm,0.3s,baz=78,slow=20,SNR=2.6						
JHJ	**Hachijo jima 2**	**6.45**	**217**	Pn	**Pn**	**21 14 44.4**	**-2.0**
	7.7nm,0.3s,baz=73,slow=19,SNR=4.5						
JHJ				Sn	**Sn**	**21 15 51.5**	**-7.5**
	7.0nm,0.3s,baz=107,slow=19,SNR=3.4						
USRK	**Ussuriysk Ar.**	**10.97**	**306**	Pn	**Pn**	**21 15 50.6**	**+2.2**
	0.4nm,0.3s,baz=109,slow=14,SNR=6.5						
SEY	**Seymchan**	**25.05**	**9**	P	**P**	**21 18 36.9**	**+2.0**
	3.2nm,0.7s,baz=200,slow=6.9,SNR=12						
H11N2	**WAKE ISLAND Hy**	**26.96**	**127**	T	T	21 46 42.0	
	baz=324						
H11N1	**WAKE ISLAND Hy**	**26.97**	**127**	T	T	21 46 46.9	
	baz=324						
H11N3	**WAKE ISLAND Hy**	**26.98**	**127**	T	T	21 46 40.8	
	baz=324						
SONM	**Songino Array**	**29.03**	**301**	P	**P**	**21 19 13.1**	**+2.1**
	0.5nm,0.7s,baz=89,slow=8.6,SNR=4.7						
CMAR	**Chiang Mai Arr**	**44.10**	**256**	P	**P**	**21 21 21.0**	**+1.7**
	0.3nm,0.4s,baz=50,slow=7.4,SNR=2.7						
MKAR	**Makanchi Array**	**45.40**	**302**	P	**P**	**21 21 30.6**	**+1.3**
	0.7nm,0.7s,baz=82,slow=9.3,SNR=7.3						
KURBB	**Kurchatov Arra**	**47.03**	**307**	P	**P**	**21 21 43.2**	**+1.1**
	1.3nm,0.6s,baz=82,slow=8.2,SNR=6.9						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**21 21 39.8**	**-2.5**
	0.3nm,0.8s,baz=263,slow=7.2,SNR=2.8						
BVAR	**Borovoye Array**	**51.41**	**312**	P	**P**	**21 22 17.0**	**+1.5**
	0.4nm,0.4s,baz=63,slow=8.5,SNR=4.8						
AKTO	**Aktyubinsk**	**59.51**	**312**	P	**P**	**21 23 14.9**	**+1.1**
	1.5nm,0.7s,baz=58,slow=7.7,SNR=6.6						
YKA	**Yellowknife Ar**	**61.45**	**31**	P	**P**	**21 23 25.9**	**-0.9**
	0.1nm,0.7s,baz=303,slow=6.8,SNR=3.5						
FINES	**FINESS Array B**	**68.69**	**333**	P	**P**	**21 24 13.6**	**-0.2**
	1.6nm,1.0s,baz=68,slow=7.8,SNR=3.3						
PDAR	**Pinedale Array**	**75.04**	**47**	P	**P**	**21 24 53.5**	**+0.9**
	0.3nm,0.6s,baz=249,slow=2.5,SNR=3.6						

IDC ***24*** *21:14:11.8±1.4, 19°.90N×147°.80E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.4/68, mbtmp3.5/7, ML4.5/1, Error ellipse: s-maj=43.1km s-min=23.8km az=91.0*

ISCJB ***24*** *21:14:15.3±1.3, 19°.79N±0°.08×147°.5E±0°.3, h33km, mb3.5/7, Error ellipse: s-maj=39.3km s-min=9.7km az=10.2*

ISC 24 21:14:17.3±1.4, 19°.8N±0°.1×147°.6E±0°.3, h35km, n8, σ0s76/9, mb3.4/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**6.75**	**204**	Pn	**Pn**	**21 15 54.8**	**+0.8**
	8.1nm,0.3s,baz=202,slow=19,SNR=3.2						
GUMO				Sn	**Sn**	**21 17 08.5**	**-1.1**
	3.5nm,0.3s,baz=180,slow=20,SNR=2.8						
WRA	**Warramunga Arr**	**41.62**	**199**	P	**P**	**21 22 02.3**	**0.0**
	0.3nm,0.5s,baz=26,slow=8.1,SNR=5.5						
SONM	**Songino Array**	**43.44**	**320**	P	**P**	**21 22 16.1**	**-0.8**
	0.4nm,0.7s,baz=100,slow=7.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**58.25**	**322**	P	**P**	**21 24 08.3**	**+0.2**
	0.5nm,0.6s,baz=79,slow=9.0,SNR=3.2						
MKAR	**Makanchi Array**	**59.01**	**313**	P	**P**	**21 24 14.2**	**+0.6**
	0.2nm,0.7s,baz=90,slow=8.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**61.72**	**317**	P	**P**	**21 24 32.4**	**+0.4**
	0.6nm,0.6s,baz=95,slow=7.6,SNR=5.3						
BVAR	**Borovoye Array**	**66.78**	**320**	P	**P**	**21 25 05.5**	**+0.4**
	0.5nm,0.5s,baz=94,slow=7.4,SNR=4.8						
YKA	**Yellowknife Ar**	**76.13**	**28**	P	**P**	**21 26 00.9**	**-0.4**
	0.2nm,0.8s,baz=284,slow=5.4,SNR=3.0						

IDC 24 21:19:02.8±2.0, 6°15S×149°62E, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.3/43, mbtmp3.4/4, Error ellipse: s-maj=107.3km s-min=27.3km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.21**	**226**	P	P	21 23 38.8	-0.7
	0.5nm,0.3s,baz=51,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**23.07**	**219**	P	P	21 24 10.1	0.0
	0.5nm,0.6s,baz=52,slow=9.8,SNR=6.9						
FITZ	**Fitzroy Crossi**	**26.24**	**241**	P	P	21 24 40.3	+0.5
	0.8nm,0.6s,baz=48,slow=9.4,SNR=4.1						
ILAR	**Eielson Array**	**84.60**	**23**	P	P	21 31 37.7	-0.1
	0.3nm,0.3s,baz=242,slow=3.8,SNR=7.8						

ISCJB ***24*** *21:19:31.0±0.3, 6°.88S±0°.03×148°.48E±0°.04, h10km, mb4.7/61, MS4.7/25, Error ellipse: s-maj=5.8km s-min=4.2km az=13.3*

IDC ***24*** *21:19:30.4±0.6, 6°.84S×148°.65E, h0km, mb4.1/17, mb1 4.3/22, mb1mx4.2/46, mbtmp4.1/22, ML4.2/4, MS4.8/20, Ms1 4.8/20, ms1mx4.5/36, Error ellipse: s-maj=17.4km s-min=10.6km az=102.0*

NEIC ***24*** *21:19:34.2±0.8, 6°.86S×148°.49E, h22km±5km, mb4.9/40, Error ellipse: s-maj=6.8km s-min=6.2km az=95.0*

GCMT ***24*** *21:19:35.2±0.2, 6°.81S±0°.02×148°.68E±0°.01, h12km, MW5.1/88, Moment Tensor Solution. s47,c55; s88,c137; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.55±.14; Mθθ1.77±.12; Mϕϕ-6.32±.11; Mrθ-1.01±.47; Mrϕ1.74±.11; Mθϕ2.12±.34; Best double couple: M₀6.11100×10¹⁶ NP1:φ339.00000°, δ57.00000°, λ78.00000°. NP2: φ181.00000°, δ35.00000°, λ108.00000°. Principal axes: T 5.0980, Plg75.0000°, Azm214.0000°; N 2.0270, Plg10.0000°, Azm346.0000°; P -7.1250, Plg11.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***24*** *21:19:36.8±1.9, 7°S±10°×14°9E±1°3, h55km±13km, M5.0/22, mB5.5/12, mb4.9/22, MLv5.1/1, Mw(mB)5.0/12*

BJI ***24*** *21:19:43.3, 7°.41S×147°.78E, h82km, mb4.7/28, mB5.1/27, Ms4.9/24, Ms7 4.7/25*

ISC 24 21:19:32.7±0.4, 6°.86S±0°.04×148°.48E±0°.05, h10km, n160, σ1s89/153, mb4.8/61, MS4.8/25, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.85**	**207**	*e*Pn	**Pn**	**21 20 20.8**	**+2.5**
PMG				*e*Sn	**Sn**	**21 20 49.9**	**-2.8**
PMG				*e*Sg	**Sb**	**21 21 01.1**	**+2.4**
PMG	**Port Moresby**	**2.85**	**207**	Pn	**Pn**	**21 20 20.6**	**+2.3**
	47nm,0.3s,baz=348,slow=5.6,SNR=71						
PMG				Sn	**Sb**	**21 21 01.1**	**+2.4**
	73nm,0.3s,baz=1.6,slow=15,SNR=4.4						
RABL	**Rabaul**	**4.52**	**54**	*e*Pn	**Pn**	**21 20 42.1**	**+0.8**
RABL				*e*Sn	Sn	21 21 24.3	-10
COEN	**Coen**	**8.77**	**216**	P	**Pn**	**21 21 40.9**	**+1.1**
	baz=8.8,SNR=4.8						
JAY	**Jayapura**	**8.87**	**299**	Pn	**Pn**	**21 21 42.3**	**+1.1**
	0.6nm,0.3s,baz=9.9,slow=14,SNR=2.3						
GENI	**Genyem**	**9.31**	**297**	P	Pn	21 21 58.7	+12
HNR	**Honiara**	**11.63**	**103**	Pn	**Pn**	**21 22 18.9**	**0.0**
	10nm,0.3s,baz=226,slow=8.2,SNR=2.0						
HNR				LR	LR	21 25 42.5	
	comp=Z,5μm,21.6s,baz=272,slow=32						
MTSU	**Mount Surprise**	**11.92**	**200**	P	**Pn**	**21 22 25.8**	**+2.9**
	baz=12,SNR=24						
CTA	**Charters Tower**	**13.33**	**189**	Pn	**Pn**	**21 22 43.5**	**+1.3**
	0.5nm,0.3s,baz=21,slow=17,SNR=4.2						
CTA				LR	LR	21 28 04.9	
	comp=Z,6μm,18.4s,baz=9.5,slow=38						
QIS	**Mount Isa**	**16.11**	**211**	P	**Pn**	**21 23 20.9**	**+1.5**
	baz=16,SNR=16						
FAKI	**Fak Fak**	**16.64**	**283**	*e*Pn	**Pn**	**21 23 25.3**	**-0.9**
	84nm,1.5s						
KDU	**Kakadu**	**16.80**	**249**	P	**Pn**	**21 23 28.8**	**+0.5**
	baz=17,SNR=6.3						
SAUI	**Saumlaki**	**17.08**	**265**	*e*Pn	**Pn**	**21 23 32.3**	**+0.6**
	112nm,1.3s						
SIJI	**Sorong**	**18.17**	**288**	P	**Pn**	**21 23 47.0**	**+1.6**
	0.4nm,0.3s,baz=74,slow=5.0,SNR=4.0						
SIJI				LR	LR	21 32 40.9	
	comp=Z,5μm,19.0s,baz=94,slow=43						
EIDS	**Eidsvold**	**18.57**	**173**	P	**P**	**21 23 50.5**	**+0.5**
	baz=19,SNR=6.6						
EIDS	**Eidsvold**	**18.57**	**173**	*e*P	**P**	**21 23 50.4**	**+0.5**
	14nm,0.9s						
WRAB	**Tennant Creek**	**18.90**	**225**	*e*P	**P**	**21 23 53.9**	**+0.3**
	22nm,0.7s						
WR1	**Warramunga Arr**	**18.91**	**225**	*e*P	**P**	**21 23 54.1**	**+0.4**
	77nm,1.4s						
WR1				*e*Sn	**Sn**	**21 27 21.3**	**-4.9**
WRA	**Warramunga Arr**	**18.91**	**225**	P	**P**	**21 23 54.2**	**+0.4**
	2.5nm,0.3s,baz=52,slow=11,SNR=38						
WRA				S	**Sn**	**21 27 21.3**	**-4.9**
	baz=40,slow=24,SNR=2.3						
WRA				LR	LR	21 32 11.8	
	comp=Z,4μm,18.4s,baz=50,slow=40						
RMQ	**Roma**	**19.52**	**179**	P	**P**	**21 24 01.9**	**+1.5**
	baz=20,SNR=16						
KNRA	**Kununurra**	**21.21**	**244**	P	**P**	**21 24 18.5**	**-0.3**
	baz=21,SNR=12						
AS01	**Alice Springs**	**21.77**	**218**	*e*P	**P**	**21 24 24.1**	**-0.8**
AS31	**Alice Springs**	**21.80**	**218**	*e*P	**P**	**21 24 25.5**	**+0.3**
	17nm,0.6s						
AS31				*e*S	**S**	**21 28 30.1**	**+3.7**
ASAR	**Alice Springs**	**21.80**	**218**	P	**P**	**21 24 25.7**	**+0.5**
	26nm,0.6s,baz=50,slow=9.7,SNR=297						
ASAR				S	**S**	**21 28 30.1**	**+3.6**
	17nm,1.1s,baz=39,slow=22,SNR=4.9						
TNTI	**Ternate**	**22.39**	**289**	*e*P	**P**	**21 24 31.5**	**-0.1**
	25nm,1.2s						
SANI	**Sanana**	**22.92**	**281**	P	**P**	**21 24 36.8**	**-0.4**
	83nm,1.1s,1μm						
DZM	**Mont Dzumac**	**23.00**	**133**	*e*LR	LR	21 30 32.7	
	comp=Z,5μm,22.2s						
DZM	**Mont Dzumac**	**23.00**	**133**	*e*P	**P**	**21 24 33.0**	**-5.1**
	9.8nm,0.9s						
DZM	**Mont Dzumac**	**23.00**	**133**	P	**P**	**21 24 37.8**	**-0.2**
	3.7nm,0.7s,baz=342,slow=20,SNR=4.0						
DZM				LR	LR	21 32 22.3	
	comp=Z,5μm,19.4s,baz=326,slow=34						
ARMA	**Armidale**	**23.62**	**173**	P	**P**	**21 24 45.6**	**+1.4**
	baz=24,SNR=5.1						
ARMA	**Armidale**	**23.62**	**173**	*e*P	**P**	**21 24 45.1**	**+0.9**
	25nm,1.1s						
SOEI	**Soe**	**24.13**	**261**	*e*P	**P**	**21 24 49.7**	**+0.5**
	48nm,0.8s						
SOEI	**Soe**	**24.13**	**261**	P	**P**	**21 24 48.2**	**-1.0**
CMSA	**Cobar Meteorol**	**24.69**	**186**	P	**P**	**21 24 54.2**	**+0.2**
	baz=25,SNR=8.3						
BATI	**Baumata**	**24.77**	**261**	P	**P**	**21 24 55.6**	**+0.7**
	45nm,0.8s,1μm						
BATI	**Baumata**	**24.77**	**261**	P	**P**	**21 24 55.8**	**+0.9**
	46nm,0.6s,baz=162,slow=2.1,SNR=19						
BATI				LR	LR	21 36 22.6	
	comp=Z,4μm,21.7s,baz=106,slow=41						
FITZ	**Fitzroy Crossi**	**24.91**	**241**	P	**P**	**21 24 55.6**	**-0.6**
	baz=25,SNR=62						
FITZ	**Fitzroy Crossi**	**24.91**	**241**	*e*P	**P**	**21 24 55.5**	**-0.6**
	77nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.91**	**241**	P	**P**	**21 24 55.9**	**-0.2**
	33nm,0.5s,baz=51,slow=11,SNR=103						
FITZ				LR	LR	21 35 42.7	
	comp=Z,3μm,18.6s,baz=68,slow=39						
STKA	**Stephens Creek**	**25.71**	**194**	P	**P**	**21 25 02.7**	**-0.5**
	baz=26,SNR=12						
STKA	**Stephens Creek**	**25.71**	**194**	*e*P	**P**	**21 25 02.7**	**-0.5**
	4.0nm,1.1s						
STKA	**Stephens Creek**	**25.71**	**194**	P	**P**	**21 25 02.5**	**-0.7**
	10nm,0.8s,baz=5.4,slow=9.1,SNR=17						
STKA				LR	LR	21 36 08.2	
	comp=Z,3μm,18.1s,baz=9.7,slow=39						
BBSI	**Bau Bau**	**25.80**	**272**	P	**P**	**21 25 10.1**	**+5.8**
MMRI	**Maumere**	**26.06**	**264**	*e*P	**P**	**21 25 05.4**	**-1.3**
	84nm,0.8s						
MMRI	**Maumere**	**26.06**	**264**	P	**P**	**21 25 05.7**	**-1.0**
	114nm,0.7s,2μm						
LUWI	**Luwuk**	**26.28**	**282**	*e*P	**P**	**21 25 08.2**	**-0.4**
	113nm,0.9s						
LUWI	**Luwuk**	**26.28**	**282**	P	**P**	**21 25 08.0**	**-0.6**
	145nm,1.1s,3μm						
WRKA	**Warakurna**	**26.45**	**225**	P	**P**	**21 25 09.5**	**-0.7**
	baz=26,SNR=56						
EDFI	**Ende, Flores**	**26.61**	**264**	P	**P**	**21 25 09.3**	**-2.4**
	34nm,0.9s,12μm						
APSI	**Ampana**	**27.41**	**281**	P	**P**	**21 25 17.7**	**-1.1**
MRSI	**Marisa**	**27.47**	**284**	P	P	21 25 27.6	+8.3
BSSI	**Bau Bau, Buton**	**27.82**	**270**	P	**P**	**21 25 21.9**	**-0.6**
HTT	**Hallett**	**27.89**	**197**	P	**P**	**21 25 22.7**	**-0.3**
	baz=28,SNR=7.3						
WSI	**Waingapu**	**28.03**	**262**	P	**P**	**21 25 23.8**	**-0.5**
BKSI	**Bulukumba**	**28.24**

KULM	**Kulim**	**49.24**	**283**	*e*P	**P**	**21**	**28**	**22.7 +0.8**
	13nm,0.8s							
PSI	**Prapat**	**50.39**	**279**	*e*P	**P**	**21**	**28**	**30.4 -0.5**
	29nm,1.4s							
TRTT	**Trang**	**50.80**	**286**	P	**P**	**21**	**28**	**36.1 +2.3**
	6.0nm,1.3s							
ASAJ	**Asahikawa**	**51.02**	**355**	P	**P**	**21**	**28**	**35.2 +0.3**
	6.6nm,1.1s,baz=311,slow=19,SNR=2.5							
GSI	**Gunungsitoli**	**51.44**	**277**	*e*P	**P**	**21**	**28**	**38.0 -0.7**
	23nm,0.9s							
PKDT	**Phuket**	**52.11**	**285**	P	**P**	**21**	**28**	**46.2 +2.6**
	16nm,1.0s							
GYA	**Guiyang**	**52.35**	**311**	*e*P	**P**	**21**	**28**	**49.0 +3.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**52.96**	**345**	P	**P**	**21**	**28**	**49.3 -0.1**
	1.6nm,0.7s,baz=173,slow=6.6,SNR=3.7							
USRK				LR	LR	21	47	01.0
	comp=Z,318nm,21.7s,baz=144,slow=31							
CN2	**Changchun**	**54.56**	**340**	*e*P	P	21	29	10.1 +9.0
KMI	**Kunming**	**54.69**	**307**	P	**P**	**21**	**29**	**05.5 +2.8**
KMI				pmax	pmax			
	comp=Z,13nm,0.5s							
KMI				pmax	pmax			
	comp=Z,110nm,4.1s							
CM01	**Chiang Mai Arr**	**54.92**	**298**	*e*P	P	21	29	00.6 -3.6
CM31	**Chiang Mai Arr**	**54.95**	**298**	*e*P	P	21	29	01.0 -3.4
	9.1nm,0.3s							
CMAR	**Chiang Mai Arr**	**54.95**	**298**	P	**P**	**21**	**29**	**05.4 +1.0**
	0.7nm,0.3s,baz=125,slow=5.8,SNR=4.3							
CMAR				LR	LR	21	51	18.8
	comp=Z,300nm,21.4s,baz=128,slow=35							
CD2	**Chengdu**	**56.93**	**314**	P	**P**	**21**	**29**	**20.6 +2.2**
CD2				S	**S**	**21**	**37**	**08.9 -3.8**
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
CD2				pmax	pmax			
	comp=Z,220nm,6.3s							
CD2				LR	LR			
	comp=N,1μm,12.8s							
CD2				LR	LR			
	comp=E,1μm,12.2s							
CD2				LR	LR			
	comp=Z,2μm,16.1s							
KLR	**Kul'dur**	**57.74**	**347**	P	**P**	**21**	**29**	**23.8 0.0**
	0.7nm,0.7s,baz=168,slow=6.5,SNR=4.6							
HHC	**Hu-ho-hao-te**	**58.34**	**328**	*e*P	P	21	29	33.6 +5.4
HHC				pP	pwP	21	29	54.6 +20
HHC				sP	PcP	21	30	09.6 -10
HHC				S	**S**	**21**	**37**	**30.9 -0.1**
HHC				sS	sS	21	38	10.1 +35
HHC				ScS	ScS	21	39	07.3 -11
HHC				pmax	pmax			
	comp=Z,8.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,97nm,4.0s							
HHC				LR	LR			
	comp=N,470nm,17.6s							
HHC				LR	LR			
	comp=E,620nm,16.7s							
HHC				LR	LR			
	comp=Z,930nm,17.7s							
LZH	**Lanzhou**	**59.82**	**319**	*e*P	P	21	29	45.4 +6.7
LZH				pP	pwP	21	30	05.3 +20
LZH				sP	PcP	21	30	14.3 -11
LZH				pmax	pmax			
	comp=Z,26nm,1.0s							
LZH				pmax	pmax			
	comp=Z,130nm,4.3s							
LZH				LR	LR			
	comp=N,450nm,13.6s							
LZH				LR	LR			
	comp=E,500nm,14.6s							
LZH				LR	LR			
	comp=Z,560nm,17.4s							
PETK	**Petropavlovsk-**	**60.25**	**6**	LR	LR	21	52	07.6
	comp=Z,561nm,21.5s,baz=180,slow=32							
PPT	**Papeete**	**61.24**	**106**	LR	LR	21	50	20.8
	comp=Z,382nm,21.9s,baz=256,slow=30							
PPT2	**Papeete2**	**61.24**	**106**	*e*S	**S**	**21**	**38**	**11.5 +2.4**
	1μm,27.5s							
PPT2				*e*LQ	LQ	21	45	35.0
	1μm,30.8s							
PPT2				*e*LR	LR	21	48	14.4
	comp=Z,917nm,24.0s							
TBI	**Tubuai**	**61.68**	**113**	*e*S	**S**	**21**	**38**	**16.6 +2.2**
	764nm,26.0s							
TBI	**Tubuai**	**61.68**	**113**	*e*LR	LR	21	48	30.1
	comp=Z,576nm,34.0s							
GTA	**Gaotai**	**64.34**	**320**	P	P	21	30	15.5 +6.5
GTA				pP	PcP	21	30	36.0 -7.5
GTA				sP	pwP	21	30	44.5 +29
GTA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,110nm,5.7s							
GTA				LR	LR			
	comp=N,290nm,14.9s							
GTA				LR	LR			
	comp=E,340nm,17.5s							
GTA				LR	LR			
	comp=Z,370nm,17.8s							
ULN	**Ulaanbaatar**	**65.57**	**331**	*e*P	**P**	**21**	**30**	**18.5 +1.6**
	4.9nm,1.3s							
SONA0	**Songino Array**	**65.87**	**330**	*e*P	**P**	**21**	**30**	**18.9 +0.1**
SONM	**Songino Array**	**65.87**	**330**	P	**P**	**21**	**30**	**18.9 +0.1**
	1.1nm,1.0s,baz=166,slow=3.7,SNR=5.7							
SONM				LR	LR	21	59	20.1
	comp=Z,595nm,18.8s,baz=124,slow=36							
LSA	**Lhasa**	**65.93**	**307**	*e*P	**P**	**21**	**30**	**20.7 +0.8**
	6.0nm,1.1s							
SEY	**Seymchan**	**69.65**	**2**	LR	LR	21	56	27.0
	comp=Z,245nm,21.2s,baz=152,slow=32							
VNDA	**Vanda**	**70.98**	**177**	*e*P	**P**	**21**	**30**	**50.2 +0.2**
	5.8nm,1.1s							
VNDA	**Vanda**	**70.98**	**177**	P	**P**	**21**	**30**	**49.6 -0.5**
	0.9nm,0.7s,baz=321,slow=5.9,SNR=6.1							
VNDA				LR	LR	21	58	22.9
	comp=Z,382nm,19.3s,baz=3.0,slow=33							
HYB	**Hyderabad**	**73.14**	**290**	*i* P	**P**	**21**	**31**	**02.0 -2.2**
WMQ	**Urumqi**	**74.40**	**319**	*e*P	**P**	**21**	**31**	**14.1 +3.0**
WMQ				LR	LR			
	comp=N,700nm,19.5s							
WMQ				LR	LR			
	comp=E,610nm,17.7s							
WMQ				LR	LR			
	comp=Z,730nm,16.5s							
MK01	**Makanchi Array**	**79.08**	**320**	*e*P	**P**	**21**	**31**	**38.1 +0.7**
MK31	**Makanchi Array**	**79.09**	**320**	*e*P	**P**	**21**	**31**	**39.9 +2.4**
	5.7nm,1.4s							
MK32	**Makanchi Array**	**79.09**	**320**	*e*P	**P**	**21**	**31**	**37.2 -0.3**
MKAR	**Makanchi Array**	**79.09**	**320**	P	**P**	**21**	**31**	**37.2 -0.3**
	0.6nm,0.6s,baz=99,slow=7.5,SNR=5.5							
PRZ	**Przheval'sk**	**80.19**	**315**	*e*P	**P**	**21**	**31**	**47.4 +3.6**
	19nm,1.5s							
ZALV	**Zalesovo Beam**	**80.52**	**328**	*e*P	**P**	**21**	**31**	**46.0 +1.0**
ZALV	**Zalesovo Beam**	**80.52**	**328**	P	**P**	**21**	**31**	**45.3 +0.3**
	1.2nm,0.7s,baz=95,slow=7.2,SNR=4.5							
ZALV				LR	LR	22	07	31.1
	comp=Z,475nm,20.8s,baz=71,slow=36							
ZAA1	**Zalesovo Array**	**80.52**	**328**	*e*P	**P**	**21**	**31**	**45.3 +0.2**
KDJ	**Kajisay**	**80.94**	**314**	*e*P	**P**	**21**	**31**	**48.2 +0.4**
	9.5nm,1.4s							
KSH	**Kashi**	**81.05**	**312**	P	P	21	31	54.9 +6.5
KSH				S	**S**	**21**	**41**	**55.6 -2.5**
KSH				SS	**SS**	**21**	**47**	**14.8 +1.9**
KSH				pmax	pmax			
	comp=Z,240nm,5.4s							
KSH				LR	LR			
	comp=N,63nm,11.4s							
KSH				LR	LR			
	comp=E,93nm,9.8s							
KSH				LR	LR			
	comp=Z,220nm,14.0s							
NIL	**Nilore**	**81.62**	**305**	*e*P	**P**	**21**	**31**	**50.6 -0.8**
AAK	**Ala-Archa**	**82.99**	**314**	P	**P**	**21**	**31**	**58.0 -0.5**
	0.4nm,0.4s,baz=111,slow=5.7,SNR=2.6							
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**21**	**31**	**57.1 -1.6**
	2.5nm,0.9s,baz=317,slow=0.9,SNR=7.2							
ILAR	**Eielson Array**	**85.69**	**23**	P	**P**	**21**	**32**	**08.7 -2.8**
	0.5nm,0.7s,baz=248,slow=4.8,SNR=4.2							
ILB	**Eielson Array**	**85.69**	**23**	*e*P	**P**	**21**	**32**	**08.7 -2.8**
	5.2nm,1.0s							
CHGR	**Chuyangaron**	**85.97**	**310**	*e*P	**P**	**21**	**32**	**14.4 +0.8**
	17nm,1.1s							
NRIK	**Noril'sk**	**86.54**	**342**	LR	LR	22	12	54.2
	comp=Z,417nm,18.1s,baz=121,slow=37							
BEKR	**Beckworth**	**95.23**	**51**	*e*P	**P**	**21**	**32**	**54.0 -3.2**
	5.5nm,0.7s							
NV01	**Mina Array Sit**	**96.73**	**52**	*e*P	**P**	**21**	**33**	**03.3 -0.8**
NVAR	**Mina Array Bea**	**96.73**	**52**	P	**P**	**21**	**33**	**03.3 -0.8**
	0.5nm,0.5s,baz=243,slow=5.9,SNR=3.9							
NVAR				LR	LR	22	13	03.8
	comp=Z,550nm,18.7s,baz=280,slow=33							
YKA	**Yellowknife Ar**	**99.24**	**28**	LR	LR	22	11	36.0
	comp=Z,21nm,21.8s,baz=280,slow=32							
VYHS	**Vyhne**	**120.67**	**323**	*e*PKP	**PKPdf**	**21**	**38**	**25.9 +0.8**
BRG	**Berggiesshubel**	**122.21**	**328**	*e*PKP	**PKiKP**	**21**	**38**	**35.6 +7.5**
	19nm,1.7s							
CLL	**Collm**	**122.46**	**329**	*e*PKPdf	**PKPdf**	**21**	**38**	**30.0 +1.6**
KHC	**Kasperske Hory**	**123.36**	**326**	*e*PKPdf	**PKPdf**	**21**	**38**	**30.7 +0.4**
KHC				*ex*	x	21	38	53.4
NKC	**Novy Kostel**	**123.36**	**328**	*e*PKPdf	**PKPdf**	**21**	**38**	**26.5 -3.7**
NKC				*ex*	x	21	38	30.2
GEC2	**GERESS Array S**	**123.44**	**326**	*e*PKPdf	**PKPdf**	**21**	**38**	**28.9 -1.6**
GERES	**GERESS Array B**	**123.44**	**326**	PKP	**PKPdf**	**21**	**38**	**28.9 -1.6**
	1.3nm,0.7s,baz=151,slow=2.2,SNR=2.7							
LPAZ	**La Paz**	**137.08**	**123**	PKP	**PKPdf**	**21**	**38**	**58.6 +0.7**
	0.9nm,0.7s,baz=198,slow=3.2,SNR=2.9							
CPUP	**Villa Florida**	**138.58**	**144**	PKP	**PKPdf**	**21**	**38**	**59.9 +0.2**
	0.9nm,0.6s,baz=164,slow=7.4,SNR=2.0							
TOA0	**Torodi Ar. Sit**	**146.73**	**283**	*e*PKPdf	**PKPdf**	**21**	**39**	**13.5 -0.8**
TOA0				*e*PKPdf	**PKPbc**	**21**	**39**	**14.8 -1.2**
TORD	**Torodi Ar. Bea**	**146.73**	**283**	PKPbc	**PKPdf**	**21**	**39**	**13.4 -0.9**
	12nm,0.9s,baz=57,slow=1.9,SNR=34							
TOA1	**Torodi Ar. Sit**	**146.73**	**283**	*e*PKPdf	**PKPdf**	**21**	**39**	**13.4 -0.9**
PTGA	**Pitinga**	**150.63**	**104**	*e*PKPbc	**PKPbc**	**21**	**39**	**26.1 -0.2**
BDFB	**Brasilia**	**152.31**	**144**	PKPbc	**PKPbc**	**21**	**39**	**28.6 -1.5**
	4.1nm,0.8s,baz=222,slow=5.3,SNR=5.5							
DBIC	**Dimbokro**	**153.53**	**271**	PKPbc	**PKPbc**	**21**	**39**	**31.4 -1.4**
	4.1nm,0.9s,baz=90,slow=7.1,SNR=2.8							

*ISCJB **24** 21:20:06.8±0.6, 50.64N±0.04×160.12E±0.08, h10km, mb3.6/9, Error ellipse: s-maj=7.3km s-min=5.7km az=155.8*
*IDC **24** 21:20:06.9±1.0, 50.59N×160.08E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.5/54, mbtmp3.6/10, ML2.7/1, Error ellipse: s-maj=25.5km s-min=21.5km az=20.0*
*KRSC **24** 21:20:07.9±10.0, 50.65N×160.13E, h93km±10km, ML3.9*
ISC 24 21:20:08.8±0.9, 50.77N±0.06×159.99E±0.06, h10km, n34, σ1s50/44, mb3.8/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.58**	**312**	*e*P	**Pb**	**21 20 37.6**	**-0.5**
KDTR				*e*S	**Sb**	**21 20 58.9**	**+0.7**
RUS	**Russkaya**	**1.90**	**332**	*e*P	**Pb**	**21 20 41.7**	**-1.8**
RUS				*e*S	**Sb**	**21 21 06.7**	**-0.5**
MTVR	**Mutnovka**	**2.05**	**327**	*e*P	**Pb**	**21 20 44.4**	**-1.7**
MTVR				*e*S	**Sb**	**21 21 11.0**	**-0.7**
ASAK	**Asacha**	**2.07**	**322**	*e*P	**Pb**	**21 20 45.0**	**-1.5**
ASAK				*e*S	**Sb**	**21 21 12.3**	**0.0**
KRMR	**Karymshinskiy**	**2.36**	**331**	*e*P	**Pn**	**21 20 48.7**	**+1.2**
KRMR				*e*S	**Sb**	**21 21 18.9**	**-1.6**
DALK	**Dalny**	**2.39**	**342**	*e*P	**Pn**	**21 20 48.8**	**+0.9**
DALK				*e*S	**Sn**	**21 21 18.5**	**+1.3**
NLC	**Nalytchevo**	**2.43**	**351**	*e*S	**Sn**	**21 21 20.3**	**+2.0**
SKR	**Severo-Kuril's**	**2.46**	**269**	*e*P	**Pn**	**21 20 49.1**	**+0.2**
SKR				*e*S	**Sn**	**21 21 18.1**	**-0.9**
UGLR	**Uglovaya**	**2.54**	**344**	*e*P	**Pn**	**21 20 51.5**	**+1.3**
SDLR	**Sedlovina**	**2.60**	**345**	*e*P	**Pn**	**21 20 51.9**	**+1.0**
SMAR	**Somma**	**2.60**	**344**	*e*P	**Pb**	**21 20 54.6**	**-0.9**
AVH	**Avacha**	**2.61**	**343**	*e*P	**Pb**	**21 20 53.4**	**-2.3**
AVH				*e*S	**Sb**	**21 21 28.6**	**+0.8**
KRER	**Koryakskii**	**2.65**	**344**	*e*P	**Pb**	**21 20 53.8**	**-2.6**
KRER				*e*S	**Sb**	**21 21 28.1**	**-0.9**
KOK	**Koryaka**	**2.66**	**342**	*e*P	**Pb**	**21 20 53.4**	**-3.1**
KRX	**Arik**	**2.72**	**343**	*e*P	**Pb**	**21 20 54.9**	**-2.6**
PETK	**Petropavlovsk-**	**2.73**	**330**	Pn	**Pb**	**21 20 54.6**	**-3.1**
	4.8nm,0.3s,baz=136,slow=17,SNR=54						
PETK				Sn	**Sb**	**21 21 30.5**	**-0.8**
	3.8nm,0.3s,baz=83,slow=20,SNR=6.7						
APC	**Apacha**	**2.78**	**322**	*e*P	**Pb**	**21 20 56.0**	**-2.5**
APC				*e*S	**Sb**	**21 21 30.4**	**-2.1**
MKZ	**Mys Kozlova**	**3.94**	**15**	*e*P	**Pn**	**21 21 08.3**	**-0.8**
KZV	**Kizimen**	**4.35**	**2**	*e*P	**Pn**	**21 21 16.4**	**+1.4**
KZV				*e*S	**Sn**	**21 22 06.5**	**+0.7**
TUMD	**Tumrok D**	**4.45**	**3**	*e*P	**Pn**	**21 21 17.0**	**+0.8**
TUMD				*e*S	**Sn**	**21 21 37.1**	**-0.8**
TUMR	**Tumrok**	**4.52**	**1**	*e*P	**Pn**	**21 21 19.2**	**+1.9**
KBTR	**Krutoberegovo**	**5.70**	**16**	*e*P	**Pn**	**21 21 33.4**	**0.0**
H11N2	**WAKE ISLAND Hy**	**31.46**	**167**	T	T	21 59 24.5	
	baz=352,slow=76,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**31.47**	**167**	T	T	21 59 25.6	
	baz=352,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**31.47**	**167**	T	T	21 59 24.5	
	baz=352,slow=76,SNR=6.4						
SONM	**Songino Array**	**34.43**	**286**	P	**P**	**21 26 57.3**	**+1.0**
	0.1nm,0.5s,baz=100,slow=3.2,SNR=2.5						
YKA	**Yellowknife Ar**	**44.94**	**41**	P	**P**	**21 28 23.2**	**-0.1**
	0.1nm,0.7s,baz=296,slow=8.1,SNR=3.6						
KURBB	**Kurchatov Arra**	**49.03**	**303**	P	**P**	**21 28 55.3**	**-0.2**
	0.5nm,0.5s,baz=62,slow=7.5,SNR=3.5						
MKAR	**Makanchi Array**	**49.13**	**297**	P	**P**	**21 28 57.0**	**+0.6**
	0.5nm,0.5s,baz=59,slow=6.7,SNR=17						
BVAR	**Borovoye Array**	**51.80**	**310**	P	**P**	**21 29 16.7**	**+0.3**
	0.7nm,0.5s,baz=59,slow=5.8,SNR=6.1						
ARCES	**ARCESS Array B**	**55.48**	**342**	P	**P**	**21 29 43.8**	**+0.7**
	2.6nm,0.8s,baz=354,slow=5.4,SNR=2.3						
FINES	**FINESS Array B**	**62.23**	**337**	P	**P**	**21 30 32.5**	**+2.5**
	1.0nm,0.8s,baz=23,slow=7.8,SNR=2.4						
TXAR	**Lajitas Array**	**71.62**	**66**	P	**P**	**21 31 30.5**	**0.0**
	0.2nm,0.5s,baz=287,slow=3.4,SNR=3.2						
ASAR	**Alice Springs**	**77.61**	**204**	P	**P**	**21 32 04.0**	**-1.0**
	0.6nm,1.0s,baz=26,slow=2.6,SNR=2.3						

KRSC 24 21:27:40.8±10.0, 50.77N×160.27E, h50km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.73**	**308**	*e*P	Pn	21 28 09.2	+0.9
KDTR				*e*S	Sn	21 28 30.6	+1.5
RUS	**Russkaya**	**1.99**	**327**	*i* P	Pn	21 28 13.0	+1.1
RUS				*e*S	Sn	21 28 37.7	+2.0
MTVR	**Mutnovka**	**2.15**	**324**	*e*P	Pn	21 28 15.9	+1.6
MTVR				*e*S	Sn	21 28 42.6	+2.8
ASAK	**Asacha**	**2.19**	**318**	*e*P	Pn	21 28 16.3	+1.6
DALK	**Dalny**	**2.45**	**338**	*e*P	Pn	21 28 21.4	+3.2
DALK				*e*S	Sn	21 28 51.2	+4.3
KRMR	**Karymshinskiy**	**2.45**	**328**	*e*P	Pn	21 28 19.9	+1.6
KRMR				*e*S	Sn	21 28 50.3	+3.3
UGLR	**Uglovaya**	**2.60**	**340**	P	Pn	21 28 25.0	+4.6
SDLR	**Sedlovina**	**2.66**	**342**	P	Pn	21 28 23.5	+2.4
SMAR	**Somma**	**2.66**	**341**	P	Pn	21 28 25.9	+4.6
AVH	**Avacha**	**2.67**	**340**	*i* P	Pn	21 28 26.6	+5.3
KRER	**Koryakskii**	**2.71**	**340**	*e*P	Pn	21 28 25.9	+4.0
KOK	**Koryaka**	**2.72**	**339**	*e*P	Pn	21 28 27.0	+5.0
APC	**Apacha**	**2.90**	**319**	P	Pn	21 28 27.3	+3.0
MKZ	**Mys Kozlova**	**3.90**	**13**	*e*P	Pn	21 28 39.8	+1.8
KZV	**Kizimen**	**4.35**	**0**	*e*P	Pn	21 28 47.9	+3.5

KRSC 24 21:43:43.3±10.0, 50.88N×160.53E, h50km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.00**	**322**	*e*P	Pn	21 44 15.7	+1.1
RUS				*e*S	Sn	21 44 40.1	+1.7
MTVR	**Mutnovka**	**2.17**	**319**	*e*P	Pn	21 44 18.2	+1.1
MTVR				*e*S	Sn	21 44 44.4	+1.5
ASAK	**Asacha**	**2.23**	**314**	*e*P	Pn	21 44 19.1	+1.3
NLC	**Nalytchevo**	**2.41**	**343**	*e*S	Sn	21 44 52.9	+4.4
DALK	**Dalny**	**2.42**	**334**	*e*P	Pn	21 44 23.1	+2.8
DALK				*e*S	Sn	21 44 51.4	+2.7
UGLR	**Uglovaya**	**2.56**	**336**	*e*P	Pn	21 44 26.1	+3.7
SDLR	**Sedlovina**	**2.61**	**338**	*e*P	Pn	21 44 25.7	+2.6
SDLR				*e*S	Sn	21 44 58.5	+4.9
SMAR	**Somma**	**2.62**	**337**	*e*P	Pn	21 44 28.8	+5.6
AVH	**Avacha**	**2.64**	**336**	*e*P	Pn	21 44 27.0	+3.6
AVH				*e*S	Sn	21 44 59.5	+5.4
KOK	**Koryaka**	**2.69**	**335**	*e*P	Pn	21 44 27.4	+3.3
APC	**Apacha**	**2.93**	**316**	*e*P	Pn	21 44 30.4	+3.1
APC				*e*S	Sn	21 45 05.8	+4.7
MKZ	**Mys Kozlova**	**3.76**	**11**	*e*P	Pn	21 44 41.9	+3.3
MKZ				*e*S	Sn	21 45 24.7	+3.2
KZV	**Kizimen**	**4.25**	**358**	*e*P	Pn	21 44 49.6	+4.1
KZV				*e*S	Sn	21 45 37.7	+3.9
TUMD	**Tumrok D**	**4.34**	**359**	*e*P	Pn	21 44 50.3	+3.7
TUMD				*e*S	Sn	21 45 39.3	+3.5
TUMR	**Tumrok**	**4.42**	**357**	*e*P	Pn	21 44 52.0	+4.2
KBTR	**Krutoberegovo**	**5.51**	**13**	P	Pn	21 45 06.4	+3.7

DDA 24 21:45:02.5, 37.10N×28.72E, h7km±3km, ML2.0, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.24**	**202**	*i* P	Pg	21 45 13.8	+6.5
TURN				IAML_P			
	comp=Z,242nm,0.1s						
DALY	**Dalyan (Mula)**	**0.29**	**190**	*i* P	Pg	21 45 08.5	+0.3
TAVA	**DENIZLI_Tavas**	**0.40**	**23**	*i* P	Pg	21 45 11.1	+0.8
TAVA				IAML_P			
	comp=Z,583nm,0.1s						
AYDN	**Tasoluk**	**0.87**	**310**	*i* P	Pg	21 45 19.4	+0.2
AYDN				IAML_P			
	comp=Z,255nm,0.2s						

IDC 24 21:50:27.8±7.7, 18.64N×144.30E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/53, mbtmp3.6/4, Error ellipse: s-maj=300.9km s-min=24.6km az=78.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.56**	**195**	P	P	21 58 01.3	+0.4
	0.2nm,0.3s,baz=15,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**43.25**	**194**	P	P	21 58 30.2	-1.0
	0.3nm,0.4s,baz=13,slow=7.5,SNR=4.7						
MKAR	**Makanchi Array**	**57.55**	**314**	P	P	22 00 20.3	+1.0
	0.2nm,0.6s,baz=93,slow=7.3,SNR=3.3						
KURBB	**Kurchatov Arra**	**60.48**	**318**	P	P	22 00 38.6	-0.9
	0.6nm,0.4s,baz=97,slow=7.3,SNR=3.7						

*IDC **24** 21:52:35.6±5.2, 36.37N×68.91E, h0km, mb4.0/2, mb1 3.8/6, mb1mx3.4/57, mbtmp3.7/6, ML3.1/3, Error ellipse: s-maj=85.5km s-min=31.1km az=154.0*
ISC 24 21:52:40.2±3.8, 36.3N±0.3×69.0E±0.1, h43km, n7, σ2s51/8, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.58**	**32**	Pn	**Pn**	**21 54 29.9**	**+1.6**
	0.8nm,0.3s,baz=211,slow=4.2,SNR=7.9						
AAK				Sn	**Sn**	**21 55 54.3**	**+1.4**
	0.3nm,0.3s,baz=327,slow=20,SNR=7.0						
GEYT	**Alibeck**	**8.86**	**284**	Sn	**Sn**	**21 56 25.4**	**+1.2**
	0.5nm,0.3s,baz=140,slow=36,SNR=4.3						
MKAR	**Makanchi Array**	**14.39**	**39**	Pn	**Pn**	**21 56 01.3**	**+0.2**
	0.0nm,0.3s,baz=229,slow=14,SNR=2.5						
KURBB	**Kurchatov Arra**	**15.84**	**23**	Pn	**Pn**	**21 56 16.6**	**-3.4**
	0.1nm,0.3s,baz=213,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**16.71**	**3**	Pn	**Pn**	**21 56 27.4**	**-3.7**
	baz=168,slow=6.9,SNR=2.2						
ZALV	**Zalesovo Beam**	**20.75**	**27**	P	**P**	**21 57 16.8**	**-0.3**
	3.2nm,0.5s,baz=224,slow=12,SNR=17						
ARCES	**ARCESS Array B**	**40.70**	**338**	P	**P**	**22 00 16.4**	**+0.3**
	3.9nm,1.1s,baz=118,slow=11,SNR=2.6						

*ISCJB **24** 21:58:04.3±0.3, 27.77N±0.04×138.99E±0.06, h526km, mb3.6/24, Error ellipse: s-maj=7.2km s-min=5.2km az=167.4*
*JMA **24** 21:58:04.1±0.1, 27.81N×139.30E, h559km, M4.5*
*IDC **24** 21:58:06.1±0.8, 27.83N×139.00E, h543km±9km, mb3.2/24, mb1 3.4/31, mb1mx3.3/57, mbtmp4.2/31, Error ellipse: s-maj=12.1km s-min=8.2km az=79.0*
ISC 24 21:58:04.8±0.5, 27.83N±0.06×139.04E±0.08, h526km, n53, σ1s49/73, mb3.6/24, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.89**	**104**	P	**P**	**21 59 18.1**	**+1.0**
CBIJ				*e*S	**S**	**22 00 16.2**	**+0.2**
JCJ	**Chichijima**	**2.89**	**104**	P	**P**	**21 59 18.7**	**+1.5**
	120nm,0.3s,baz=75,slow=2.7,SNR=73						
JCJ				S	**S**	**22 00 14.9**	**-1.1**
	347nm,0.3s,baz=271,slow=22,SNR=30						
JHHJ	**Haha-jima-NKT**	**3.04**	**112**	P	**P**	**21 59 19.7**	**+1.6**
JHHJ				*e*S	**S**	**22 00 18.7**	**+0.9**
JHJ2	**Mitsune**	**5.31**	**7**	P	**P**	**21 59 37.6**	**+1.8**
JHJ2				*e*S	**S**	**22 00 51.2**	**+0.9**
JHJ	**Hachijo jima 2**	**5.31**	**7**	P	**P**	**21 59 38.0**	**+2.1**
	30nm,0.3s,baz=90,slow=22,SNR=14						
JHJ				S	**S**	**22 00 50.7**	**+0.3**
	43nm,0.3s,baz=64,slow=21,SNR=

BVAR			PcP	**PcP**	**22 07 41.8**	**-0.5**
	1.1nm,0.5s,baz=112,slow=4.0,SNR=4.7						
ILAR	**Eielson Array**	**58.42 29**	P	**P**	**22 07 09.6**	**+0.2**
	0.4nm,0.9s,baz=284,slow=7.3,SNR=4.2						
STKA	**Stephens Creek**	**59.42 177**	P	**P**	**22 07 16.6**	**0.0**
	0.6nm,0.3s,baz=305,slow=0.8,SNR=4.0						
INK	**Inuvik**	**63.53 25**	P	**P**	**22 07 42.8**	**-0.1**
	0.6nm,0.3s,baz=308,slow=5.7,SNR=5.4						
ARCES	**ARCESS Array B**	**71.92 340**	P	**P**	**22 08 34.3**	**0.0**
	5.8nm,0.9s,baz=54,slow=6.5,SNR=12						
YKA	**Yellowknife Ar**	**72.81 28**	P	**P**	**22 08 39.1**	**-0.3**
	1.0nm,0.5s,baz=298,slow=5.9,SNR=23						
KBZ	**Khabaz**	**75.45 312**	P	**P**	**22 08 54.6**	**-0.1**
	3.3nm,0.9s,baz=95,slow=3.1,SNR=5.8						
FINES	**FINESS Array B**	**76.04 333**	P	**P**	**22 08 57.0**	**-0.7**
	3.8nm,0.5s,baz=74,slow=4.7,SNR=44						
AKASG	**Malin Array Be**	**80.36 323**	P	**P**	**22 09 20.2**	**-0.9**
	0.4nm,0.4s,baz=48,slow=5.2,SNR=2.8						
NB2	**NORSAR Subarra**	**81.88 337**	P	**P**	**22 09 27.2**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**81.88 337**	P	**P**	**22 09 27.5**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=47,slow=4.8,SNR=10						
NVAR	**Mina Array Bea**	**82.24 51**	P	**P**	**22 09 31.9**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=278,slow=5.8,SNR=4.8						
BRTR	**Keskin Array B**	**83.44 312**	P	**P**	**22 09 36.4**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=90,slow=3.2,SNR=6.1						
TXAR	**Lajitas Array**	**97.37 51**	P	**P**	**22 10 42.4**	**+0.3**
	comp=Z,0.4nm,0.9s,baz=236,slow=0.9,SNR=3.9						
TORD	**Torodi Ar. Bea**	**121.97 309**	PKP	**PKPdf**	**22 15 58.1**	**-2.0**
	comp=Z,0.6nm,0.6s,baz=0.9,slow=2.2,SNR=8.7						
LPAZ	**La Paz**	**152.39 71**	PKPbc	**PKPbc**	**22 17 02.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=18,slow=3.2,SNR=4.2						
PLCA	**Paso Flores**	**152.51 126**	PKPbc	**PKPbc**	**22 17 01.5**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=305,slow=3.4,SNR=6.1						

DDA ***24*** *22:36:14.6,37.°65N×36.°18E, h7km±3km, ML2.5*
ISK ***24*** *22:36:14.3,37.°52N×36.°14E, h8km, ML1.7/7*

ISC 24 22:36:14.6±1.1,37.°57N±0.°04×36.°14E±0.°03, h11km±10km, n16,σ0°64/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.16**	**85**	*i* P		**Pg**	**22 36 18.8**	**+0.4**
ANDN				IAML_P				
	comp=Z,12μm,0.2s							
KOZT	**Kozan**	**0.26**	**251**	PG		**Pg**	**22 36 19.9**	**-0.2**
KOZT				SG		**Sg**	**22 36 23.9**	**+0.2**
SAIM	**ADANA**	**0.41**	**354**	*i* P		**Pg**	**22 36 22.1**	**-0.8**
SAIM				IAML_P				
	comp=Z,2μm,0.1s							
KMRS	**Kahramanmaras**	**0.61**	**96**	PG		**Pg**	**22 36 26.2**	**-0.2**
KMRS				SG		**Sb**	**22 36 35.2**	**-0.6**
CEYT	**Ceyhan**	**0.64**	**210**	PG		**Pg**	**22 36 26.2**	**-0.8**
HCB	**Kahramanmara**	**0.65**	**110**	*i* P		**Pb**	**22 36 27.5**	**-0.5**
HCB				IAML_P				
	comp=Z,1μm,0.1s							
YAHY	**KAYSERI_Yahyal**	**0.81**	**311**	*i* P		**Pg**	**22 36 30.1**	**-0.2**
YAHY				IAML_P				
	comp=Z,195nm,0.1s							
KARA	**Karaisali**	**0.92**	**251**	PG		**Pg**	**22 36 32.2**	**-0.1**
GAZ	**Gaziantep**	**0.94**	**114**	PG		**Pg**	**22 36 32.6**	**-0.1**
KUZU	**Kuzuini**	**1.09**	**136**	*i* P		**Pn**	**22 36 37.3**	**+1.5**
KUZU				IAML_P				
	comp=Z,615nm,0.2s							
GZT	**Gaziantep**	**1.15**	**100**	*i* P		**Pg**	**22 36 36.4**	**-0.4**
BNN	**Bunyan**	**1.30**	**350**	PN		**Pg**	**22 36 40.1**	**+0.4**
DARE	**Darende-Malaty**	**1.46**	**46**	PN		**Pg**	**22 36 42.1**	**-0.6**
AKCD	**Akcadag**	**1.58**	**62**	*i* P		**Pb**	**22 36 43.4**	**-0.6**
CUALT	**Altinyayla-SIV**	**1.77**	**16**	*i* P		**Pg**	**22 36 48.5**	**-0.1**
KEBE	**Keben-Mersin**	**2.24**	**241**	PN		**Pn**	**22 36 52.3**	**+0.6**

IDC ***24*** *22:45:03.1±1.8, 6.°64S×148.°39E, h0km, mb4.2/3, mb1 4.2/5, mb1mx3.8/28, mbtmp4.1/5, ML3.9/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/34, Error ellipse: s-maj=47.3km s-min=18.1km az=126.0*

ISC 24 22:45:06.5±2.0, 6.°5S±0.°2×148.°6E±0.°3, h46km, n13, σ1°17/9, mb4.1/3, MS3.7/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.19**	**207**	Pn		**Pn**	**22 45 53.9**	**-0.3**
	6.7nm,0.3s,baz=6.9,slow=6.0,SNR=13							
PMG				Sn		**Sn**	**22 46 31.2**	**+0.2**
	28nm,0.3s,baz=28,slow=17,SNR=12							
PMG				LR		LR	22 47 15.5	
	comp=Z,1μm,19.4s,baz=180,slow=44							
HNR	**Honiara**	**11.58**	**105**	LR		LR	22 51 31.5	
	comp=Z,219nm,19.8s,baz=295,slow=33							
WRA	**Warramunga Arr**	**19.23**	**225**	P		**P**	**22 49 26.4**	**-0.6**
	0.4nm,0.3s,baz=50,slow=11,SNR=23							
WRA				S		**Sn**	**22 53 01.8**	**-1.3**
	baz=49,slow=22,SNR=6.7							
WRA				LR		LR	22 56 38.7	
	comp=Z,112nm,18.7s,baz=70,slow=37							
ASAR	**Alice Springs**	**22.13**	**218**	P		**P**	**22 49 57.8**	**-0.7**
	4.3nm,0.6s,baz=51,slow=9.5,SNR=46							
ASAR				S		**S**	**22 54 02.2**	**+2.3**
	1.7nm,0.8s,baz=29,slow=23,SNR=5.0							
ASAR				LR		LR	22 59 51.8	
	comp=Z,182nm,18.1s,baz=52,slow=41							
DZM	**Mont Dzumac**	**23.12**	**134**	LR		LR	22 58 33.7	
	comp=Z,414nm,18.5s,baz=10.0,slow=35							
BATI	**Baumata**	**24.95**	**260**	LR		LR	23 01 54.8	
	comp=Z,373nm,21.6s,baz=84,slow=41							
FITZ	**Fitzroy Crossi**	**25.18**	**241**	P		**P**	**22 50 28.4**	**+0.5**
	9.3nm,0.6s,baz=50,slow=10,SNR=29							
FITZ				LR		LR	23 01 16.0	
	comp=Z,240nm,19.7s,baz=72,slow=39							
STKA	**Stephens Creek**	**26.04**	**194**	P		**P**	**22 50 35.5**	**-0.1**
	2.7nm,0.7s,baz=19,slow=12,SNR=4.4							
STKA				LR		LR	23 01 36.4	
	comp=Z,162nm,18.2s,baz=13,slow=38							
JNU	**Nakatsue**	**42.90**	**338**	LR		LR	23 07 09.1	
	comp=Z,92nm,20.7s,baz=170,slow=31							
KSRS	**Korea Array**	**47.85**	**338**	LR		LR	23 12 18.5	
	comp=Z,52nm,19.9s,baz=143,slow=34							
ASAJ	**Asahikawa**	**50.72**	**354**	LR		LR	23 13 51.5	
	comp=Z,36nm,21.8s,baz=234,slow=34							
SONM	**Songino Array**	**65.67**	**330**	LR		LR	23 25 13.3	
	comp=Z,70nm,19.3s,baz=122,slow=37							
TORD	**Torodi Ar. Bea**	**146.78**	**284**	PKPbc		**PKiKP**	**23 04 47.5**	**+0.1**
	1.6nm,0.7s,baz=62,slow=3.1,SNR=12							

NIED ***24*** *23:05:00, 32.°50N×132.°10E, h32km, Mw3.9 Best double couple: M0 7.78000×10^14 NP1:φs29.00000°, δ18.00000°, λ-68.00000°. NP2:φs186.00000°, δ74.00000°, λ-97.00000°.*
ISCJB ***24*** *23:05:27.0±0.5, 32.°53N±0.°05×132.°13E±0.°05, h40km±6km, mb3.6/7, MS3.2/1, Error ellipse: s-maj=9.2km s-min=4.6km az=143.1*
IDC ***24*** *23:05:27.8±0.7, 32.°60N×132.°04E, h35km±5km, mb3.4/7, mb1 3.6/8, mb1mx3.4/32, mbtmp3.6/8, ML2.2/1, MS3.1/2, Ms1 3.2/2, ms1mx2.6/30, Error ellipse: s-maj=19.2km s-min=11.1km az=43.0*
JMA ***24*** *23:05:27.5, 32.°54N×132.°12E, h31km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs342.00000°, δ81.00000°, λ98.00000°. NP2: φs118.00000°, δ12.00000°, λ46.00000°. Principal axes: T Plg53.0000°, Azm262.0000°; N Plg8.0000°, Azm161.0000°; P Plg36.0000°, Azm65.0000°;*
JMA Felt I J1.

ISC 24 23:05:27.7±0.7, 32.°54N±0.°05×132.°12E±0.°04, h33km±3km, n24,σ0°92/35, mb3.7/8, 1C-9D, Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.32**	**324**	⇓P		**Pb**	**23 05 35.1**	**-0.5**
JSKE				S		**Sb**	**23 05 40.4**	**-0.6**
JHHC	**Hyugahichiya**	**0.42**	**257**	⇓P		**Pb**	**23 05 36.3**	**-0.8**
JHHC				S		**Sb**	**23 05 42.7**	**-0.8**
JKIT	**Kitakata**	**0.57**	**278**	⇓P		**Pb**	**23 05 38.8**	**-0.6**
JKIT				S		**Sn**	**23 05 47.2**	**-0.5**
JTSN	**Tsuno**	**0.60**	**241**	⇓P		**Pb**	**23 05 39.2**	**-0.7**
JTSN				S		**Sb**	**23 05 47.7**	**-0.5**
JUS	**Usuki**	**0.61**	**329**	⇓P		**Pn**	**23 05 39.6**	**-0.4**
JUS				S		**Sn**	**23 05 48.2**	**-0.5**
JTO	**Tosashimizu**	**0.66**	**61**	⇓P		**Pn**	**23 05 40.3**	**-0.3**
JTO				S		**Sb**	**23 05 49.6**	**-0.1**
UWA2	**Uwa jima 2**	**0.79**	**32**	⇓P		**Pn**	**23 05 42.1**	**-0.5**
JNA	**Nagahama**	**1.06**	**16**	⇓P		**Pn**	**23 05 46.0**	**-0.2**
JNA				*e*S		**Sn**	**23 05 59.4**	**-0.4**
JTZ	**Takazaki**	**1.08**	**234**	⇑P		**Pn**	**23 05 46.7**	**+0.2**
JTZ				*e*S		**Sb**	**23 06 01.1**	**-0.7**
JKU	**Kubokawa**	**1.10**	**46**	⇓P		**Pn**	**23 05 46.5**	**-0.3**
JKU				*e*S		**Sn**	**23 06 00.6**	**-0.3**
JNU	**Nakatsue**	**1.20**	**299**	Pg		**Pb**	**23 05 49.1**	**-0.7**
	133nm,0.3s,baz=157,slow=7.7,SNR=2293							
JNU				Lg		Lg	23 06 04.3	
	178nm,0.3s,baz=197,slow=19,SNR=25							
KSRS	**Korea Array**	**5.99**	**326**	Pn		**Pn**	**23 06 56.4**	**+2.4**
	0.5nm,0.3s,baz=146,slow=14,SNR=5.0							
MJAR	**Matsushiro Ar.**	**6.41**	**50**	Pn		**Pn**	**23 06 59.6**	**-0.2**
	0.1nm,0.3s,baz=244,slow=15,SNR=3.0							
USRK	**Ussuriysk Ar.**	**11.64**	**360**	LR		LR	23 12 21.6	
	comp=Z,44nm,19.3s,baz=176,slow=36							
KLR	**Kul'dur**	**16.67**	**359**	Pn		**P**	**23 09 22.4**	**+1.6**
	0.1nm,0.3s,baz=154,slow=7.3,SNR=5.2							
SONM	**Songino Array**	**24.73**	**316**	P		**P**	**23 10 46.8**	**+0.7**
	0.4nm,0.7s,baz=120,slow=9.4,SNR=3.6							
CMAR	**Chiang Mai Arr**	**32.91**	**253**	LR		LR	23 26 17.7	
	comp=Z,55nm,20.2s,baz=164,slow=38							
MKAR	**Makanchi Array**	**40.24**	**306**	P		**P**	**23 12 59.7**	**-1.5**
	0.1nm,0.4s,baz=91,slow=11,SNR=2.8							
MKAR				pP		**pP**	**23 13 10.1**	**-0.9**
	0.3nm,0.6s,baz=90,slow=11,SNR=4.0							
MKAR				sP		**sP**	**23 13 14.5**	**0.0**
	0.3nm,0.6s,baz=99,slow=10,SNR=4.4							
WRA	**Warramunga Arr**	**52.23**	**177**	P		**P**	**23 14 34.9**	**-0.7**
	1.1nm,0.8s,baz=354,slow=8.0,SNR=9.6							
WRA				pP		**pP**	**23 14 46.1**	**+1.0**
	1.0nm,0.9s,baz=350,slow=7.7,SNR=5.1							
ASAR	**Alice Springs**	**55.92**	**178**	P		**P**	**23 15 03.1**	**+0.7**
	0.6nm,0.7s,baz=7.2,slow=6.9,SNR=6.5							
ASAR				pP		**pP**	**23 15 13.6**	**+1.3**
	0.6nm,0.7s,baz=12,slow=7.9,SNR=4.1							
STKA	**Stephens Creek**	**64.69**	**171**	P		**P**	**23 16 03.0**	**+0.6**
	0.8nm,0.4s,baz=331,slow=9.0,SNR=3.8							
YKA	**Yellowknife Ar**	**71.39**	**27**	P		**P**	**23 16 42.5**	**-1.5**
	0.4nm,0.9s,baz=298,slow=5.7,SNR=7.2							
YKA				pP		**pP**	**23 16 55.0**	**+0.9**
	0.3nm,0.7s,baz=305,slow=6.0,SNR=3.7							
BRTR	**Keskin Array B**	**75.83**	**308**	pP		pP	23 17 20.5	-0.6
	0.6nm,0.8s,baz=107,slow=6.3,SNR=2.9							
NVAR	**Mina Array Bea**	**83.74**	**48**	P		**P**	**23 17 55.2**	**+1.4**
	0.6nm,0.6s,baz=307,slow=5.3,SNR=3.8							

IDC ***24*** *23:09:49.3±1.3, 32.°14N×138.°92E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.4/30, mbtmp3.5/4, ML2.0/1, Error ellipse: s-maj=31.5km s-min=22.2km az=105.0*
ISCJB ***24*** *23:09:54.9±0.9, 32.°90N±0.°05×140.°6E±0.°1, h111km±5km, Error ellipse: s-maj=15.7km s-min=7.3km az=20.1*
JMA ***24*** *23:09:55.9±0.1, 32.°91N×140.°67E, h99km±3km, M3.5*

ISC 24 23:09:55.7±1.3, 32.°89N±0.°06×140.°63E±0.°10, h105km±8km, n19,σ0°67/25, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.72**	**288**	P		**Pn**	**23 10 13.9**	**+0.2**
JHJ2				S		**Sn**	**23 10 27.1**	**-0.2**
JHCJ	**Hachijojimakas**	**0.73**	**285**	P		**Pn**	**23 10 13.8**	**0.0**
JHCJ				S		**Sn**	**23 10 27.3**	**-0.1**
JHJ	**Hachijo jima 2**	**0.75**	**288**	Pn		**Pn**	**23 10 14.0**	**0.0**
	479nm,0.3s,baz=157,slow=22,SNR=344							
JHJ				Sn		**Sn**	**23 10 27.4**	**-0.4**
	278nm,0.3s,baz=72,slow=22,SNR=17							
JAOM	**Aogashimamukai**	**0.85**	**240**	P		**Pn**	**23 10 15.2**	**+0.3**
JAOM				S		**Sn**	**23 10 29.6**	**+0.2**
JMKN	**Mikurajimanish**	**1.33**	**319**	P		**Pn**	**23 10 20.3**	**+0.1**
JMKN				S		**Sn**	**23 10 38.1**	**-0.6**
BSO1	**Boso 1**	**1.79**	**9**	P		**Pn**	**23 10 25.5**	**+0.3**
BSO1				S		**Sn**	**23 10 48.6**	**+0.9**
BSO2	**Boso 2**	**1.86**	**3**	S		**Sn**	**23 10 49.9**	**0.0**
BSO3	**Boso 3**	**1.91**	**357**	P		**Pn**	**23 10 27.3**	**+0.2**
BSO3				S		**Sn**	**23 10 51.9**	**+0.8**
JIM2	**Oshima 2**	**2.08**	**332**	P		**Pn**	**23 10 29.7**	**+0.2**
JIM2				*e*S		**Sn**	**23 10 54.5**	**-0.9**
TK02	**Tokai 2**	**2.63**	**295**	P		**Pn**	**23 10 37.7**	**+1.3**
JOD2	**Odawara 2**	**2.70**	**332**	P		**Pn**	**23 10 38.0**	**+0.5**
JOD2				S		**Sn**	**23 11 08.5**	**-1.2**
TK04	**Tokai 4**	**2.74**	**304**	P		**Pn**	**23 10 39.3**	**+1.3**
MJAR	**Matsushiro Arr**	**4.16**	**332**	Pn		**Pn**	**23 10 56.5**	**-0.5**
	0.1nm,0.3s,baz=173,slow=21,SNR=3.2							
H11N2	**WAKE ISLAND Hy**	**26.86**	**113**	T		T	23 44 26.2	
	baz=305,slow=75,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**26.86**	**113**	T		T	23 44 31.2	
	baz=305,slow=75,SNR=7.1							
H11N3	**WAKE ISLAND Hy**	**26.87**	**113**	T		T	23 44 33.5	
	baz=305,slow=75,SNR=6.7							
SONM	**Songino Array**	**29.77**	**310**	P		**P**	**23 15 53.1**	**+0.7**
	0.3nm,0.6s,baz=107,slow=9.3,SNR=3.8							
MKAR	**Makanchi Array**	**45.89**	**305**	P		**P**	**23 18 07.1**	**-0.4**
	0.5nm,0.5s,baz=89,slow=9.8,SNR=8.6							
WRA	**Warramunga Arr**	**52.87**	**187**	P		**P**	**23 19 00.2**	**-0.6**
	0.7nm,0.4s,baz=4.9,slow=7.6,SNR=27							

ISCJB ***24*** *23:13:19.5±0.6, 28.°45S±0.°04×69.°35W±0.°06, h125km±7km, mb3.7/1, Error ellipse: s-maj=8.1km s-min=5.9km az=3.8*
SJA ***24*** *23:13:19.8±0.5, 28.°45S×69.°36W, h116km±5km, ML3.5, MW3.8*
GUC ***24*** *23:13:20.0±0.7, 28.°49S×69.°37W, h108km±5km, ML3.9*
IDC ***24*** *23:13:20.0±1.7, 28.°42S×69.°09W, h93km±14km, mb3.5/1, mb1 3.4/4, mb1mx3.2/22, mbtmp3.7/4, Error ellipse: s-maj=39.7km s-min=11.1km az=88.0*

ISC 24 23:13:20.4±0.8, 28.°44S±0.°04×69.°34W±0.°04, h114km±7km, n24,σ1°13/34, 3C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.04**	**107**	*i* P		**Pn**	**23 13 43.2**	**+0.6**
VCA				*i* S		**Sn**	**23 14 00.0**	**+0.8**
VCA	**Vinchina**	**1.04**	**107**	*e*P		**Pn**	**23 13 43.1**	**+0.6**
VCA				*i* S		**Sn**	**23 13 59.7**	**+0.5**
VCA				IAML			23 14 02.7	
	comp=N,2μm,0.3s							
GO03	**Copiap**	**1.16**	**317**	*i* P		**Pn**	**23 13 44.0**	**+0.3**
GO03	**Copiap**	**1.16**	**317**	*e*P		**Pn**	**23 13 44.0**	**+0.3**
GO03				*i* S		**Sn**	**23 14 01.6**	**+0.4**
GO03				IAML			23 14 02.6	
	comp=N,2μm,0.6s							
LCO	**Las Campanas**	**1.32**	**244**	*i* P		**Pn**	**23 13 46.0**	**+0.3**
LCO				*i* S		**Sn**	**23 14 05.0**	**+0.2**
LCO	**Las Campanas**	**1.32**	**244**	⇑*i* P		**Pn**	**23 13 46.0**	**+0.3**
LCO				*i* S		**Sn**	**23 14 04.8**	**0.0**
AROD	**Rodeo**	**1.72**	**184**	*i* P		**Pn**	**23 13 51.5**	**+1.0**
ACDV	**Cuesta del Vie**	**1.73**	**174**	*i* P		**Pn**	**23 13 51.3**	**+0.8**
GO04	**Tololo Observa**	**2.14**	**216**	⇑*i* P		**Pn**	**23 13 55.7**	**0.0**
GO04				*i* S		**Sn**	**23 14 22.7**	**+0.1**
GO04				IAML			23 14 27.2	
	comp=N,3μm,0.3s							
ACCO	**Cerro Coronel**	**2.15**	**174**	*i* P		**Pn**	**23 13 57.0**	**+1.2**
ACLC	**CERRO LA CRUZ**	**2.31**	**116**	*i* P		**Pn**	**23 13 58.2**	**+0.5**
CMCH	**Combarbala**	**3.08**	**208**	*e*P		**Pn**	**23 14 07.5**	**-0.2**
CMCH				*e*S		**Sn**	**23 14 43.1**	**-1.0**
GO02	**Mina Guanaco**	**3.27**	**356**	⇑*i* P		**Pn**	**23 14 11.8**	**+1.3**
CFA	**Coronel Fontan**	**3.29**	**163**	P		**Pn**	**23 14 10.8**	**+0.3**
	comp=N,9.3nm,0.3s,baz=6.7,slow=15,SNR=92							
CFA				S		**Sn**	**23 14 47.1**	**-2.0**
	comp=N,37nm,0.3s,baz=253,slow=18,SNR=26							
RTLS	**Leoncito**	**3.34**	**179**	*i* P		**Pn**	**23 14 12.1**	**+0.7**
RTLS				*i* S		**Sn**	**23 14 51.4**	**+0.7**
RTLS				IAML			23 14 53.7	
	comp=Z,89nm,0.5s							
RTCV	**Cerro Valdivia**	**3.48**	**169**	*i* P		**Pn**	**23 14 13.5**	**+0.5**
ROCH	**El Roble**	**4.74**	**197**	*e*P		**Pn**	**23 14 28.1**	**-1.9**
LVC	**Limon Verde**	**5.82**	**4**	P		**Pn**	**23 14 44.7**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=166,slow=6.2,SNR=11							
LVC				S		**Sn**	**23 15 47.6**	**-2.8**
	comp=Z,1.9nm,0.3s,baz=226,slow=8.7,SNR=3.9							
CPUP	**Villa Florida**	**10.88**	**82**	P		**Pn**	**23 15 50.4**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=240,slow=15,SNR=2.6							
TORD	**Torodi Ar. Bea**	**80.11**	**69**	P		**P**	**23 25 18.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=290,slow=6.0,SNR=9.0							
ASAR	**Alice Springs**	**123.56**	**206**	PKP		**PKPdf**	**23 32 05.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=65,slow=1.5,SNR=4.2							
WRA	**Warramunga Arr**	**126.73**	**208**	PKP		**PKiKP**	**23 32 13.1**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=157,slow=1.7,SNR=11							
ZALV	**Zalesovo Beam**	**148.28**	**29**	PKPbc		**PKiKP**	**23 32 55.4**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=307,slow=5.0,SNR=7.5							
MKAR	**Makanchi Array**	**151.24**	**43**	PKPbc		**PKiKP**	**23 33 02.6**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=338,slow=2.4,SNR=16							

MEX 24 23:19:58.0±0.5, 16.°23N×98.°25W, h16km±999km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.36**	**347**	*e*P		Pn	23 20 18.6	-3.9
TLIG				*e*S		Sn	23 20 35.3	-5.0
VHO	**Vista Hermosa**	**1.67**	**60**	*e*P		Pn	23 20 23.9	-3.0
VHO				*i* S		Sn	23 20 43.4	-4.7
CAIG	**El Cayaco**	**2.10**	**293**	*i* P		Pn	23 20 29.7	-2.8
CAIG				*e*S		Sn	23 20 53.2	-5.1

NDI ***24*** *23:34:49.4±1.2, 24.°19N×68.°40E, h10km, ML3.9*
IDC ***24*** *23:34:49.1±1.2, 24.°18N×68.°45E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.7/57, mbtmp3.9/10, ML3.7/2, MS3.8/3, Ms1 3.8/3, ms1mx2.8/63, Error ellipse: s-maj=33.4km s-min=23.9km az=85.0*
ISCJB ***24*** *23:34:55.4±0.7, 24.°49N±0.°04×69.°00E±0.°06, h33km, mb3.8/9, Error ellipse: s-maj=8.2km s-min=5.8km az=179.8*

ISC 24 23:34:55.8±1.0, 24.°32N±0.°07×68.°85E±0.°10, h35km, n35, σ2°25/35, mb3.9/9, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**1.29**	**145**	*e*P		Pn	**23 35 16.8**	**-0.6**
BHJ				*e*S		**Sn**	**23 35 35.9**	**+2.5**
BHJ				IAML			23 35 43.3	
	comp=E,3μm,0.1s							
POO	**Poona**	**7.41**	**140**	*e*S		**Sn**	**23 38 00.2**	**-4.2**
BHPL	**Bhopal**	**7.93**	**96**	*e*P		Pn	**23 36 49.3**	**+0.7**
BHPL				*e*S		**Sn**	**23 38 18.1**	**+1.0**
NDI	**New Delhi**	**8.66**	**58**	*e*S		**Sn**	**23 38 36.0**	**+0.9**
THW	**Thamme Wali**	**8.82**	**16**	P		Pn	**23 37 00.9**	**+0.1**
THW	**Thamme Wali**	**8.82**	**16**	P		Pn	**23 37 00.7**	**-0.1**
WSAR	**Wadi Sarin**	**9.42**	**266**	Pn		Pn	23 37 01.6	-7.5
	comp=E,0.7nm,0.3s,baz=116,slow=6.4,SNR=11							
CEP	**Cherat**	**9.84**	**15**	P		**Pn**	**23 37 11.1**	**-3.8**
CEP	**Cherat**	**9.84**	**15**	P		**Pn**	**23 37 14.4**	**-0.5**
SMLA	**Simla**	**10.01**	**46**	*e*P		**Pn**	**23 37 18.3**	**+1.2**
SMLA				*e*S		**Sn**	**23 39 05.5**	**-2.6**
SMLA				IAML			23 40 40.7	
	comp=E,47nm,0.2s							
SMLA				IAML			23 40 42.1	
	comp=N,22nm,0.3s							
CHCP	**Chirah Chowk**	**10.07**	**22**	P		**Pn**	**23 37 17.5**	**-0.4**
CHCP	**Chirah Chowk**	**10.07**	**22**	P		**Pn**	**23 37 17.6**	**-0.4**
DDI	**Dehra Dun**	**10.13**	**52**	*e*P		**Pn**	**23 37 19.6**	**+0.8**
DDI				*e*S		**Sn**	**23 39 08.8**	**-2.6**
DHRM	**DHARAMSHALA**	**10.27**	**38**	*e*P		**Pn**	**23 37 21.5**	**+0.6**
DHRM				*e*S		**Sn**	**23 39 12.2**	**-2.6**
DHRM				IAML			23 39 22.2	
	comp=N,32nm,0.4s							
DHRM				IAML			23 39 22.8	
	comp=E,32nm,0.3s							
HYB	**Hyderabad**	**11.38**	**125**	*e*P		Pn	23 37 41.0	+5.1
PYUN	**Piuthan**	**13.24**	**70**	*e*P		**Pn**	**23 37 59.9**	**-1.6**
PYUN				*e*S		**Sn**	**23 40 34.4**	**+6.8**
DANN	**Dangsing**	**13.96**	**70**	*e*P		Pn	23 38 06.3	-5.1
	comp=E,8.8nm,0.7s							
DMN	**Daman**	**14.98**	**74**	*e*P		**Pn**	**23 38 24.6**	**-0.7**
	comp=E,9.7nm,0.7s							
KKN	**Kakani**	**15.16**	**73**	*e*P		**Pn**	**23 38 25.0**	**-2.6**
PKIN	**Phulchoki**	**15.23**	**74**	*e*P		**Pn**	**23 38 27.0**	**-1.6**
	comp=E,6.5nm,0.5s							
GUN	**Gumba**	**15.71**	**73**	*e*P		**Pn**	**23 38 30.3**	**-4.5**
	comp=E,28nm,0.9s							
RAMN	**Ramite**	**16.22**	**77**	*

	comp=N,62nm,18.4s,baz=121,slow=42							
ATD	**Arta Tunnel**	**27.67**	**247**	LR	LR	23 58 10.5		
	comp=N,53nm,21.9s,baz=9.0,slow=33							
BVAR	**Borovoye Array**	**28.66**	**2**	P	**P**	**23 48 57.0**	**+2.1**	
	comp=N,0.6nm,0.7s,baz=178,slow=13,SNR=2.4							
BVAR				LR	LR	00 02 24.5		
	comp=N,185nm,18.4s,baz=222,slow=40							
CMAR	**Chiang Mai Arr**	**28.69**	**96**	LR	LR	00 01 17.8		
	comp=N,20nm,19.2s,baz=155,slow=38							
ZALV	**Zalesovo Beam**	**31.92**	**18**	P	**P**	**23 49 24.6**	**+0.8**	
	comp=N,0.5nm,0.5s,baz=227,slow=12,SNR=3.5							
ZALV				LR	LR	00 02 43.8		
	comp=N,62nm,20.1s,baz=248,slow=37							
BRTR	**Keskin Array B**	**33.22**	**306**	P	**P**	**23 49 34.5**	**-1.0**	
	comp=N,0.7nm,1.0s,baz=122,slow=7.6,SNR=3.2							
PSI	**Prapat**	**36.16**	**122**	LR	LR	00 06 39.7		
	comp=N,70nm,18.1s,baz=101,slow=39							
SONM	**Songimo Array**	**37.86**	**42**	P	**P**	**23 50 17.6**	**+2.3**	
	comp=N,1.1nm,0.5s,baz=246,slow=7.4,SNR=7.6							
FINES	**FINESS Array B**	**47.00**	**334**	LR	LR	00 14 59.0		
	comp=N,64nm,20.0s,baz=116,slow=41							
NOA	**NORSAR Array B**	**53.37**	**329**	LR	LR	00 20 34.4		
	comp=N,49nm,18.3s,baz=100,slow=42							
KLR	**Kul'dur**	**54.48**	**46**	P	**P**	**23 52 25.9**	**+0.2**	
	comp=N,1.5nm,0.7s,baz=297,slow=8.2,SNR=5.7							
TIXI	**Tiksi**	**57.80**	**19**	LR	LR	00 22 47.1		
	comp=N,122nm,21.9s,baz=94,slow=41							
TORD	**Torodi Ar. Bea**	**63.94**	**273**	P	**P**	**23 53 30.0**	**-1.7**	
	comp=N,1.3nm,0.9s,baz=72,slow=7.2,SNR=7.9							
SEY	**Seymchan**	**65.74**	**30**	P	**P**	**23 53 43.6**	**+0.9**	
	comp=N,0.9nm,0.2s,baz=276,slow=9.6,SNR=4.5							
ASAR	**Alice Springs**	**79.19**	**122**	P	**P**	**23 55 03.0**	**-0.4**	
	comp=N,1.2nm,0.8s,baz=306,slow=5.5,SNR=7.3							
INK	**Inuvik**	**86.17**	**8**	P	**P**	**23 55 39.0**	**+0.1**	
	comp=N,2.9nm,1.1s,baz=349,slow=3.8,SNR=5.2							

*IDC **24** 23:43:50.2±0.8, 37°.13N×143°.92E, h0km, mb4.1/18, mb1 4.2/22, mb1mx4.1/56, mbtmp4.1/22, ML3.6/4, MS3.2/9, Ms1 3.3/9, ms1mx2.9/53, Error ellipse: s-maj=19.6km s-min=14.3km az=97.0*

*MOS **24** 23:43:52.8±1.7, 37°.38N×144°.05E, h28km, mb4.7/4, Error ellipse: s-maj=10.7km s-min=6.7km az=102.4*

*BJI **24** 23:43:53.4, 37°.68N×144°.10E, h29km, mb4.3/15, mB4.6/8, Ms4.3/3, Ms7 4.0/3*

*ISCJB **24** 23:43:55.9±0.5, 37°.54N±0°.05×143°.71E±0°.06, h33km, mb4.3/31, MS3.7/6, Error ellipse: s-maj=8.7km s-min=4.3km az=138.2*

*NEIC **24** 23:43:56.0±1.2, 37°.29N×143°.97E, h35km±9km, mb4.4/5, Error ellipse: s-maj=13.7km s-min=8.4km az=114.0*

ISC 24 23:43:56.0±0.7, 37°.42N±0°.07×143°.94E±0°.07, h35km, n82, σ1§74/85, mb4.2/31, MS3.8/6, 2C, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERM	**Erimo**	**4.63**	**353**	*e*Pn		**Pn**	**23 45 03.4**	**0.0**
ERM				*e*Sn		**Sn**	**23 45 55.3**	**-0.5**
ERM	**Erimo**	**4.63**	**353**	*e*P		**Pn**	**23 45 03.4**	**0.0**
ERM				*e*			23 45 55.3	
MJAR	**Matsushiro Arr**	**4.67**	**261**	Pn		**Pn**	**23 45 03.1**	**-1.0**
	1.7nm,0.3s,baz=48,slow=29,SNR=51							
MJAR				Sn		**Sn**	**23 45 54.3**	**-2.8**
	0.7nm,0.3s,baz=127,slow=7.9,SNR=4.1							
MJAR				LR		LR	23 47 07.8	
	comp=Z,194nm,18.4s,baz=80,slow=43							
MAJO	**Matsushiro**	**4.67**	**261**	*e*Pn		**Pn**	**23 45 03.5**	**-0.6**
MAJO				*e*Sn		**Sn**	**23 45 55.2**	**-1.9**
MAT	**Matsushiro**	**4.67**	**261**	P		**Pn**	**23 45 03.3**	**-0.8**
MAT				S		**Sn**	**23 45 53.9**	**-3.2**
MJB9	**Matsu-Tunnel**	**4.67**	**261**	*e*Pn		**Pn**	**23 45 03.5**	**-0.6**
MJB9				*e*Sn		**Sn**	**23 45 55.4**	**-1.8**
JHJ2	**Mitsune**	**5.46**	**219**	*e*Pn		**Pn**	**23 45 16.8**	**+1.9**
JHJ	**Hachijo jima 2**	**5.48**	**220**	Pn		Pn	23 45 10.0	-5.1
	15nm,0.3s,baz=327,slow=23,SNR=5.1							
JHJ				Sn		Sn	23 46 06.5	-10
	54nm,0.3s,baz=73,slow=23,SNR=7.8							
INU	**Inuyama**	**5.96**	**252**	*e*Pn		**Pn**	**23 45 22.1**	**+0.4**
GRPR	**Tuman**	**6.71**	**11**	*e*P		**Pn**	**23 45 30.5**	**-1.5**
GRPR				*e*S		**Sn**	**23 46 42.3**	**-4.9**
GRPR				pmax	pmax			
	comp=N,29nm,0.2s							
GRPR				pmax	pmax			
	comp=E,48nm,0.2s							
GRPR				pmax	pmax			
	comp=Z,82nm,0.2s							
ASAJ	**Asahikawa**	**6.76**	**352**	Pn		**Pn**	**23 45 33.5**	**+0.7**
	comp=Z,2.0nm,0.3s,baz=219,slow=18,SNR=11							
ASAJ				Sn		**Sn**	**23 46 47.8**	**-0.7**
	comp=Z,1.6nm,0.3s,baz=119,slow=19,SNR=3.2							
ASAJ				LR		LR	23 48 22.1	
	comp=Z,51nm,19.1s,baz=120,slow=39							
YUK	**Yuzh-Kuril'sk**	**6.76**	**12**	*e*P		**Pn**	**23 45 31.1**	**-1.7**
YUK				*e*S		**Sn**	**23 46 43.9**	**-4.6**
YUK				pmax	pmax			
	comp=Z,116nm,0.2s							
YUK				pmax	pmax			
	comp=N,23nm,0.1s							
YUK				pmax	pmax			
	comp=E,38nm,0.1s							
SHO	**Shikotan**	**6.80**	**18**	*e*P		**Pn**	**23 45 31.4**	**-1.9**
SHO				*e*S		**Sn**	**23 46 44.5**	**-5.0**
SHO				pmax	pmax			
	comp=Z,38nm,0.3s							
SHO				pmax	pmax			
	comp=E,18nm,0.2s							
SHO				pmax	pmax			
	comp=N,27nm,0.2s							
KUR	**Kuril'sk**	**8.34**	**19**	P		**Pn**	**23 45 51.8**	**-2.6**
KUR				*e*S		**Sn**	**23 47 21.9**	**-5.4**
JCJ	**Chichijima**	**10.40**	**189**	Sn		Sn	23 47 57.8	-20
	comp=N,5.7nm,0.3s,baz=282,slow=20,SNR=3.0							
USRK	**Ussuriysk Ar.**	**11.30**	**311**	Pn		**Pn**	**23 46 34.5**	**-0.5**
	comp=N,0.6nm,0.3s,baz=110,slow=14,SNR=8.9							
USRK				LR		LR	23 50 49.5	
	comp=N,105nm,19.8s,baz=192,slow=36							
USA0B	**Ussuriysk Arra**	**11.30**	**311**	*e*Pn		**Pn**	**23 46 35.1**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.30**	**311**	*e*P		**Pn**	**23 46 35.1**	**+0.2**
JNU	**Nakatsue**	**11.50**	**252**	LR		LR	23 51 44.9	
	comp=N,68nm,18.5s,baz=58,slow=42							
KSRS	**Korea Array**	**12.73**	**275**	Pn		**Pn**	**23 46 56.9**	**+2.4**
	comp=N,0.3nm,0.3s,baz=86,slow=14,SNR=5.5							
KSRS				LR		LR	23 51 49.6	
	comp=N,80nm,18.5s,baz=103,slow=38							
KSAR	**Wonju Array Be**	**12.77**	**275**	Pn		**Pn**	**23 46 56.9**	**+1.9**
KSAR	**Wonju Array Be**	**12.77**	**275**	P		**Pn**	**23 46 56.9**	**+1.9**
KLR	**Kul'dur**	**14.74**	**327**	Pn		**P**	**23 47 26.1**	**-1.4**
	comp=N,0.2nm,0.3s,baz=139,slow=10,SNR=20							
HHC	**Hu-ho-hao-te**	**25.27**	**288**	*e*P		**P**	**23 49 19.5**	**+0.5**
HHC				pmax	pmax			
	comp=N,8.0nm,1.0s							
HHC				pmax	pmax			
	comp=N,160nm,6.7s							
SEY	**Seymchan**	**26.06**	**9**	P		**P**	**23 49 28.4**	**+2.5**
	comp=N,1.1nm,0.3s,baz=200,slow=8.4,SNR=7.8							
H11N2	**WAKE ISLAND Hy**	**26.66**	**125**	T		T	00 17 10.6	
	baz=316,slow=75,SNR=33							
H11N1	**WAKE ISLAND Hy**	**26.67**	**125**	T		T	00 17 11.3	
	baz=316,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**26.68**	**125**	T		T	00 17 15.9	
	baz=316,slow=75,SNR=21							
H11S1	**WAKE ISLAND Hy**	**27.43**	**127**	T		T	00 18 10.6	
	baz=318,slow=76,SNR=11							
H11S3	**WAKE ISLAND Hy**	**27.43**	**127**	T		T	00 18 10.8	
	baz=318,slow=76,SNR=8.3							
H11S2	**WAKE ISLAND Hy**	**27.45**	**127**	T		T	00 18 11.8	
	baz=318,slow=76,SNR=6.5							
SONM	**Songino Array**	**29.26**	**303**	P		**P**	**23 49 56.5**	**+1.7**
	comp=N,1.9nm,0.9s,baz=104,slow=9.1,SNR=11							
LZH	**Lanzhou**	**31.99**	**280**	*e*P		**P**	**23 50 21.3**	**+2.2**
LZH				pP		sP	23 50 31.4	+1.2
LZH				sP		pwP	23 50 35.4	-1.2
LZH				pmax	pmax			
	comp=N,21nm,1.0s							
GTA	**Gaotai**	**34.38**	**287**	*e*P		**P**	**23 50 41.3**	**+1.5**
GTA				pP		sP	23 50 51.8	+0.8
GTA				sP		pwP	23 50 55.4	-2.0
GTA				pmax	pmax			
	comp=N,3.0nm,1.0s							
GTA				pmax	pmax			
	comp=N,33nm,4.0s							
GTA				LR	LR			
	comp=N,180nm,14.9s							
GTA				LR	LR			
	comp=N,170nm,18.4s							
GTA				LR	LR			
	comp=N,170nm,14.0s							
WMQ	**Urumqi**	**42.46**	**297**	*e*P		**P**	**23 51 48.9**	**+1.3**
WMQ				LR	LR			
	comp=N,490nm,13.5s							
WMQ				LR	LR			
	comp=N,560nm,14.7s							
WMQ				LR	LR			
	comp=N,160nm,17.3s							
ZALV	**Zalesovo Beam**	**43.15**	**312**	P		**P**	**23 51 52.7**	**-0.2**
ZALV				*e*PcP		**PcP**	**23 53 41.9**	**-0.1**
ZALV	**Zalesovo Beam**	**43.15**	**312**	P		**P**	**23 51 52.7**	**-0.2**
ZALV				*e*			23 53 41.9	
ZALV	**Zalesovo Beam**	**43.15**	**312**	P		**P**	**23 51 52.7**	**-0.2**
	comp=N,0.7nm,0.4s,baz=96,slow=9.1,SNR=5.8							
ZALV				PcP		**PcP**	**23 53 42.2**	**+0.2**
	comp=N,2.2nm,0.6s,baz=87,slow=3.8,SNR=9.3							
CMAR	**Chiang Mai Arr**	**43.55**	**257**	P		**P**	**23 51 54.6**	**-1.9**
	comp=N,1.4nm,0.3s,baz=42,slow=6.9,SNR=7.2							
CMAR				LR		LR	00 12 04.6	
	comp=N,16nm,18.5s,baz=160,slow=39							
CM01	**Chiang Mai Arr**	**43.56**	**257**	*e*P		**P**	**23 51 57.2**	**+0.6**
CM01				*e*S		**S**	**23 58 21.7**	**-1.9**
MK01	**Makanchi Array**	**45.62**	**302**	*e*P		**P**	**23 52 13.4**	**+0.6**
MK31	**Makanchi Array**	**45.62**	**302**	*e*P		**P**	**23 52 13.8**	**+0.9**
	comp=N,2.2nm,0.8s							
MK31	**Makanchi Array**	**45.62**	**302**	*e*P		**P**	**23 52 13.8**	**+0.9**
MK31				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MKAR	**Makanchi Array**	**45.62**	**302**	P		**P**	**23 52 13.8**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=86,slow=9.6,SNR=19							
KURK	**Kurchatov**	**47.28**	**308**	*e*P		**P**	**23 52 26.2**	**+0.4**
	comp=Z,4.6nm,1.0s							
KURK	**Kurchatov**	**47.28**	**308**	P		**P**	**23 52 27.0**	**+1.3**
KURBB	**Kurchatov Arra**	**47.35**	**308**	P		**P**	**23 52 27.0**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=82,slow=8.0,SNR=15							
ILAR	**Eielson Array**	**48.09**	**33**	P		**P**	**23 52 32.9**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=265,slow=6.1,SNR=6.7							
BVAR	**Borovoye Array**	**51.80**	**313**	P		**P**	**23 53 01.2**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=72,slow=11,SNR=8.2							
BVAR				PcP		**PcP**	**23 54 13.6**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=54,slow=3.8,SNR=4.8							
AAK	**Ala-Archa**	**52.07**	**299**	P		**P**	**23 53 02.0**	**-0.6**
AAK	**Ala-Archa**	**52.07**	**299**	P		**P**	**23 53 02.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=122,slow=9.5,SNR=3.2							
AAK				LR		LR	00 15 48.0	
	comp=Z,33nm,18.8s,baz=147,slow=37							
INK	**Inuvik**	**53.12**	**27**	P		**P**	**23 53 11.4**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=299,slow=6.9,SNR=6.5							
WRA	**Warramunga Arr**	**57.77**	**191**	P		**P**	**23 53 40.6**	**-3.1**
	comp=Z,4.1nm,0.6s,baz=11,slow=7.2,SNR=52							
FITZ	**Fitzroy Crossi**	**57.85**	**201**	P		**P**	**23 53 42.5**	**-1.7**
	comp=Z,1.4nm,1.0s,baz=45,slow=7.1,SNR=3.0							
ABKAR	**Akbulak array**	**59.22**	**311**	*e*P		**P**	**23 53 54.3**	**+0.7**
	comp=Z,2.2nm,0.8s							
AKTO	**Aktyubinsk**	**59.91**	**313**	P		**P**	**23 53 59.0**	**+0.7**
AKTO	**Aktyubinsk**	**59.91**	**313**	P		**P**	**23 53 59.0**	**+0.7**
	comp=Z,1.4nm,0.7s,baz=73,slow=14,SNR=5.2							
ASAR	**Alice Springs**	**61.49**	**190**	P		**P**	**23 54 06.7**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=13,slow=7.1,SNR=22							
PGC	**Sidney**	**64.60**	**47**	*e*P		**P**	**23 54 29.6**	**-0.1**
FINES	**FINESS Array B**	**69.40**	**333**	P		**P**	**23 55 00.3**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=60,slow=8.2,SNR=6.8							
KBZ	**Khabaz**	**72.17**	**312**	P		**P**	**23 55 18.4**	**+1.3**
	comp=Z,3.3nm,0.9s,baz=107,slow=5.4,SNR=3.9							
NV01	**Mina Array Sit**	**73.13**	**54**	*e*P		**P**	**23 55 24.1**	**+0.9**
NVAR	**Mina Array Bea**	**73.13**	**54**	LR		LR	00 26 36.3	
	comp=Z,37nm,18.7s,baz=264,slow=35							
NOA	**NORSAR Array B**	**74.59**	**338**	P		**P**	**23 55 29.6**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=38,slow=5.7,SNR=3.5							
AKASG	**Malin Array Be**	**75.21**	**323**	P		**P**	**23 55 35.3**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=43,slow=5.6,SNR=3.2							
KWP	**Kalwaria Pacla**	**78.97**	**325**	*e*P		**P**	**23 55 56.9**	**+0.9**
	comp=Z,433nm,1.9s							
KWP	**Kalwaria Pacla**	**78.97**	**325**	*e*P		**P**	**23 55 56.9**	**+0.9**
BUR08	**Bucovina Ar. S**	**79.23**	**323**	*e*P		**P**	**23 55 58.4**	**+0.9**
	comp=Z,26nm,2.0s							
OJC	**Ojcow**	**79.82**	**327**	*e*P		**P**	**23 56 02.3**	**+1.7**
	comp=Z,6.7nm,0.9s							
OJC	**Ojcow**	**79.82**	**327**	*e*P		**P**	**23 56 02.3**	**+1.7**
OJC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NRS	**Narsarsuaq**	**81.47**	**5**	*e*P		**P**	**23 56 10.6**	**+1.4**
	comp=Z,109nm,1.5s							
NRS	**Narsarsuaq**	**81.47**	**5**	*e*P		**P**	**23 56 10.6**	**+1.4**
BRG	**Berggiesshubel**	**81.72**	**331**	*e*P		**P**	**23 56 10.1**	**-0.7**
	comp=Z,4.2nm,1.2s							
BRG	**Berggiesshubel**	**81.72**	**331**	*e*P		**P**	**23 56 10.1**	**-0.7**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.2s							
CLL	**Collm**	**81.74**	**331**	*i*P		**P**	**23 56 11.8**	**+0.9**
	comp=Z,8.0nm,0.9s							
CLL	**Collm**	**81.74**	**331**	*i*P		**P**	**23 56 11.8**	**+0.9**
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PRU	**Pruhonice**	**82.18**	**330**	*e*P		**P**	**23 56 14.7**	**+1.5**
PRU	**Pruhonice**	**82.18**	**330**	*e*P		**P**	**23 56 14.7**	**+1.5**
KHC	**Kasperske Hory**	**83.25**	**330**	*e*P		**P**	**23 56 20.1**	**+1.3**
KHC	**Kasperske Hory**	**83.25**	**330**	*e*P		**P**	**23 56 20.1**	**+1.3**
GERES	**GERESS Array B**	**83.42**	**329**	P		**P**	**23 56 20.8**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=90,slow=3.9,SNR=1.9							
TXAR	**Lajitas Array**	**88.28**	**54**	LR		LR	00 32 06.2	
	comp=Z,53nm,19.2s,baz=0.0,slow=33							

*IDC **24** 23:50:35.6±1.0, 3°.49S×140°.04E, h0km, mb3.7/5, mb1 4.2/8, mb1mx3.8/35, mbtmp4.0/8, ML4.3/2, Error ellipse: s-maj=28.8km s-min=11.2km az=118.0*

*DJA **24** 23:50:38.9±0.7, 4°.5S±3°×14°.1E±°, h10km, M4.2/4, mb4.6/4, MLv4.0/2*

*ISCJB **24** 23:50:39.9±0.5, 3°.61S±0°.04×140°.32E±0°.08, h39km, mb3.6/4, Error ellipse: s-maj=11.9km s-min=5.5km az=11.2*

*NEIC **24** 23:50:41.1±1.2, 3°.46S×140°.28E, h43km±15km, mb4.2/6, Error ellipse: s-maj=14.6km s-min=10.2km az=106.0*

ISC 24 23:50:40.6±0.7, 3°.56S±0°.06×140°.5E±0°.1, h39km, n26, σ1§63/25, mb3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GENI	**Genyem**	**1.02**	**340**	P		**Pn**	**23 50 59.1**	**+0.7**
GENI				S		**Sn**	**23 51 13.8**	**+2.3**
JAY	**Jayapura**	**1.05**	**10**	P		**Pn**	**23 50 58.6**	**-0.3**
JAY				S		**Sn**	**23 51 13.9**	**+1.6**
JAY	**Jayapura**	**1.05**	**10**	Pg		**Pn**	**23 50 58.5**	**-0.3**
	39nm,0.3s,baz=212,slow=12,SNR=147							
JAY				Lg		Lg	23 51 14.7	
	96nm,0.3s,baz=164,slow=18,SNR=13							
JAY				LR		LR	23 51 26.9	
	comp=Z,224nm,21.8s,baz=29,slow=44							
PMG	**Port Moresby**	**8.79**	**132**	Pn		Pn	23 52 50.5	+5.3
	1.8nm,0.3s,baz=306,slow=7.5,SNR=4.2							
BNDI	**Bandanaira**	**10.63**	**264**	P		Pn	23 53 04.8	-5.7
MTN	**Manton Dam**	**13.09**	**225**	*e*Pn		**Pn**	**23 53 42.1**	**-2.0**
SOEI	**Soe**	**17.27**	**248**	*e*Pn		**Pn**	**23 54 38.8**	**-0.3**
	37nm,0.7s							
SOEI	**Soe**	**17.27**	**248**	P		**Pn**	**23 54 39.1**	**0.0**
WRAB	**Tennant Creek**	**17.36**	**200**	*e*Pn		**Pn**	**23 54 39.9**	**-0.1**
	14nm,0.7s							
CTA	**Charters Tower**	**17.36**	**162**	P		**P**	**23 54 44.2**	**+3.1**
	0.3nm,0.3s,baz=336,slow=12,SNR=3.9							
WR1	**Warramunga Arr**	**17.37**	**200**	*e*Pn		**Pn**	**23 54 38.5**	**-1.7**
	19nm,0.7s							
WRA	**Warramunga Arr**	**17.37**	**200**	P		**Pn**	**23 54 38.5**	**-1.7**
	1.7nm,0.3s,baz=23,slow=12,SNR=41							
BATI	**Baumata**	**17.98**	**248**	P		**P**	**23 54 50.7**	**+2.7**
	12nm,0.7s							
BATI	**Baumata**	**17.98**	**248**	P		**Pn**	**23 54 48.2**	**+0.4**
	4.1nm,0.3s,baz=53,slow=6.1,SNR=7.3							
BNSI	**Bone**	**20.38**	**267**	P		Pn	23 55 17.4	+0.9
FITZ	**Fitzroy Crossi**	**20.52**	**224**	*e*P		**P**	**23 55 15.7**	**-0.1**
	8.5nm,1.1s							
FITZ	**Fitzroy Crossi**	**20.52**	**224**	P		**P**	**23 55 13.6**	**-2.1**
	3.4nm,0.7s,baz=38,slow=9.8,SNR=8.9							
AS01	**Alice Springs**	**20.98**	**197**	*e*P		**P**	**23 55 20.8**	**+0.2**
AS31	**Alice Springs**	**20.99**	**197**	*e*P		**P**	**23 55 21.8**	**+1.0**
	4.1nm,0.8s							
ASAR	**Alice Springs**	**20.99**	**197**	P		**P**	**23 55 20.8**	**0.0**
	12nm,0.8s,baz=27,slow=8.9,SNR=62							
EIDS	**Eidsvold**	**23.95**	**156**	*e*P		**P**	**23 55 53.4**	**+2.1**
	5.8nm,0.8s							
KS01	**Wonju Array Si**	**42.48**	**345**	*e*P		**P**	**23 58 28.5**	**-3.5**
MK32	**Makanchi Array**	**71.56**	**322**	*e*P		**P**	**00 01 57.4**	**-0.4**
MKAR	**Makanchi Array**	**71.56**	**322**	P		**P**	**00 01 57.4**	**-0.4**
	0.4nm,0.9s,baz=125,slow=6.1,SNR=4.1							
VNDA	**Vanda**	**74.79**	**175**	P		**P**	**00 02 16.6**	**+0.3**
	0.6nm,0.7s,baz=325,slow=5.5,SNR=4.2							
ILAR	**Eielson Array**	**85.85**	**24**	P		**P**	**00 03 16.1**	**+0.2**
	0.2nm,0.6s,baz=258,slow=4.5,SNR=4.4							

*NEIC **24** 23:52:53.0±2.3, 7°.34S×148°.37E, h89km±20km, mb4.2/5, Error ellipse: s-maj=24.7km s-min=15.6km az=116.0*

*IDC **24** 23:52:52.1±3.8, 7°.35S×148°.48E, h88km±33km, mb3.9/8, mb1 4.0/10, mb1mx3.7/45, mbtmp4.2/10, MS3.7/7, Ms1 3.7/7, ms1mx3.2/37, Error ellipse: s-maj=40.5km s-min=24.8km az=110.0*

*ISCJB **24** 23:52:53.3±0.8, 7°.37S±0°.09×148°.3E±0°.2, h100km, mb4.0/11, Error ellipse: s-maj=23.8km s-min=10.2km az=20.7*

ISC 24 23:52:54.0±0.9, 7°.4S±0°.1×148°.4E±0°.2, h100km, n25, σ1§02/22, mb4.0/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**9.22**	**107**	P		**Pn**	**23 53 29.7**	**-1.1**
	9.1nm,0.3s,baz=9.7,slow=9.2,SNR=30							
PMG				S		Sn	23 54 09.5	+11
	7.5nm,0.3s,baz=353,slow=7.0,SNR=4.7							
WR1	**Warramunga Arr**	**18.44**	**226**	*e*P		**Pn**	**23 57 02.8**	**-0.4**
	7.4nm,0.8s							
WR1				*e*ScP		ScP	00 05 11.1	+16
WRA	**Warramunga Arr**	**18.44**	**226**	P		**Pn**	**23 57 02.8**	**-0.4**
	0.5nm,0.3s,baz=50,slow=11,SNR=11							
WRA				LR		LR	00 05 11.1	
	comp=Z,79nm,20.4s,baz=345,slow=40							
AS01	**Alice Springs**	**21.27**	**219**	*e*P		**P**	**23 57 32.9**	**+0.4**
AS31	**Alice Springs**	**21.30**	**219**	*e*P		**P**	**23 57 34.0**	**+1.1**
	4.9nm,0.7s							
ASAR	**Alice Springs**	**21.30**	**219**	P		**P**	**23 57 34.2**	**+1.3**
	11nm,0.6s,baz=52,slow=9.6,SNR=47							
SOEI	**Soe**	**23.92**	**263**	*e*P		**P**	**23 57 59.0**	**-0.2**
	35nm,0.9s							
FITZ	**Fitzroy Crossi**	**24.54**	**242**	*e*P		**P**	**23 58 04.4**	**-0.2**
	29nm,0.8s							
FITZ	**Fitzroy Crossi**	**24.54**	**242**	P		**P**	**23 58 04.5**	**0.0**
	30nm,0.8s,baz=89,slow=7.4,SNR=35							
FITZ				LR		LR	00 09 19.3	
	comp=Z,87nm,20.9s,baz=51,slow=40							
BATI	**Baumata**	**24.55**	**262**	P		**P**	**23 58 03.6**	**-1.1**
	15nm,0.5s,baz=110,slow=5.2,SNR=6.2							
STKA	**Stephens Creek**	**25.16**	**194**	*e*P		**P**	**23 58 10.8**	**+0.8**
	1.5nm,0.9s							
STKA	**Stephens Creek**	**25.16**	**194**	P		**P**	**23 58 10.8**	**+0.8**
	4.4nm,0.8s,baz=0.4,slow=10,SNR=5.2							
KLR	**Kul'dur**	**58.23**	**347**	LR		LR	00 26 15.6	
	comp=Z,112nm,18.1s,baz=71,slow=34							
SONA0	**Songino Array**	**66.27**	**331**	*e*P		**P**	**00 03 32.3**	**+0.6**
SONM	**Songino Array**	**66.27**	**331**	P		**P**	**00 03 32.3**	**+0.6**
	0.3nm,0.4s,baz=147,slow=7.1,SNR=4.0							
SONM				LR		LR	00 35 01.8	
	comp=Z,82nm,18.2s,baz=56,slow=38							
MK32	**Makanchi Array**	**79.42**	**320**	*e*P		**P**	**00 04 50.7**	**+1.3**
MKAR	**Makanchi Array**	**79.42**	**320**	P		**P**	**00 04 50.7**	**+1.3**
	0.5nm,0.7s,baz=99,slow=6.5,SNR=6.4							
MKAR				LR		LR	00 43 24.6	
	comp=Z,36nm,18.1s,baz=30,slow=38							
KDAK	**Kodiak Island**	**80.50**	**28**	LR		LR	00 36 33.2	
	comp=Z,46nm,21.5s,baz=293,slow=33							
ZALV	**Zalesovo Beam**	**80.90**	**328**	P		**P**	**00 04 57.0**	**0.0**
	0.4nm,0.5s,baz=118,slow=5.2,SNR=2.8							
ZAA1	**Zalesovo Array**	**80.90**	**328**	*e*P		**P**	**00 04 57.0**	**0.0**
ILAR	**Eielson Array**	**86.23**	**23**	P		**P**	**00 05 21.6**	**-2.6**
	0.6nm,0.9s,baz

CRIN	**San Cristobal**	1.14	53	*e*P		Pn	00 00 24.4	-0.6
CRIN				*e*S		Sn	00 00 39.6	-0.1
CNCH	**Conchagua**	1.27	7	*e*P		Pn	00 00 25.6	-1.2
CNCH				*e*S		Sn	00 00 44.3	+1.5
CNCH				IAML			00 00 49.4	
	comp=Z,3μm,0.4s							
LCND	**La Caada**	1.29	4	*e*P		Pn	00 00 25.7	-1.4
LCND				*e*S		Sn	00 00 44.2	+0.9
LCND				IAML			00 00 51.4	
	comp=Z,849nm,0.3s							
CNGN	**Cerro Negro**	1.34	69	*e*P		Pn	00 00 26.6	-1.2
LCY	**Lacayo**	1.44	348	*e*P		Pn	00 00 27.6	-1.5
VSM	**San Miguel**	1.44	349	*e*P		Pn	00 00 27.9	-1.4
BLLM	**Bellamira**	1.44	350	*e*P		Pn	00 00 27.5	-1.7
MOMN	**Momotombo**	1.46	74	*e*P		Pn	00 00 28.2	-1.3
MOMN				*e*S		Sn	00 00 48.9	+1.4
TECA	**Tecapa**	1.56	341	*e*P		Pn	00 00 29.1	-1.7
UESV	**Ojushtada**	1.57	330	*e*S		Sn	00 00 54.9	+4.7
UESV				IAML			00 01 00.5	
	comp=Z,511nm,0.4s							
APYN	**Apoyeque**	1.61	82	*e*P		Pn	00 00 30.5	-0.9
APYN				*e*S		Sn	00 00 51.6	+0.5
MGAN	**Managua**	1.70	85	*e*P		Pn	00 00 31.8	-0.8
CAHU	**Cacacuatique**	1.76	353	*e*P		Pn	00 00 32.9	-0.8
LFRS	**El Faro**	1.92	327	*e*P		Pn	00 00 33.5	-2.2
LFRS				*e*S		Sn	00 00 58.6	-0.2
PAVA	**Las Pavas**	1.93	331	*e*P		Pn	00 00 34.3	-1.6
PAVA				IAML			00 01 03.9	
	comp=Z,506nm,0.4s							
LBRS	**Las Brisas**	2.00	329	*e*P		Pn	00 00 35.3	-1.5
VICT	**Victoria**	2.04	342	*e*P		Pn	00 00 36.7	-0.7
VICT				*e*S		Sn	00 01 02.0	+0.3
LFU	**La Fuente**	2.05	328	*e*P		Pn	00 00 35.8	-1.7
UDBS	**Soyapango**	2.05	326	*e*S		Sn	00 00 60.0	-2.0
BOQS	**Boqueron**	2.13	324	*e*P		Pn	00 00 35.9	-2.8
TGUH	**Tegucigalpa,Un**	2.15	19	*e*Pn		Pn	00 00 38.5	-0.2
TGUH	**Tegucigalpa,Un**	2.15	19	*e*P		Pn	00 00 38.3	-0.4
MATN	**Matagalpa**	2.21	65	*e*P		Pn	00 00 38.7	-0.9
CONN	**Concepcion**	2.35	101	*e*P		Pn	00 00 39.9	-1.6
CONN				*e*S		Sn	00 01 07.4	-1.8
CEVE	**Cerro Verde**	2.41	319	*e*P		Pn	00 00 40.5	-2.1
CEVE				IAML			00 01 15.8	
	comp=Z,554nm,0.3s							
SBLS	**San Blas**	2.42	319	*e*P		Pn	00 00 40.4	-2.3
RTR	**El Retiro**	2.48	319	*e*P		Pn	00 00 41.7	-1.8
ACON	**Acoyapa**	2.75	91	*e*P		Pn	00 00 45.5	-1.5
JTS	**JuntasAbangare**	3.43	120	*e*Pn		Pn	00 00 57.8	+1.5
JTS				S		Sn	00 01 34.7	-1.0
JTS	**JuntasAbangare**	3.43	120	P		Pn	00 00 56.7	+0.4
	comp=Z,1.7nm,0.3s,baz=1.7,slow=23,SNR=7.2							
JTS				S		Sn	00 01 34.7	-1.0
	comp=Z,5.8nm,0.3s,baz=335,slow=23,SNR=4.6							
ESPN	**Las Esperanzas**	3.60	87	*e*Pn		Pn	00 00 58.6	-0.1
APG	**El Apazote**	3.83	321	P		Pn	00 01 03.2	+1.1
	comp=Z,0.6nm,0.3s,baz=162,slow=6.4,SNR=2.5							
APG				LR		LR	00 01 58.7	
	comp=Z,55nm,19.3s,baz=172,slow=29							
CMIG	**Matias Romero**	8.38	308	P		Pn	00 02 04.5	+0.4
	comp=Z,0.5nm,0.3s,baz=155,slow=11,SNR=6.1							
LVIG	**Laguna Verde**	11.16	314	*e*Pn		Pn	00 02 44.5	+2.3
833A	**Chaparral WMA,**	19.42	328	*e*P		Pn	00 04 28.7	-0.3
	comp=Z,400nm,0.8s							
ATAH	**Atahualpa**	21.28	153	LR		LR	00 11 03.0	
	comp=Z,80nm,19.9s,baz=349,slow=31							
JCT	**Junction City**	21.39	331	*e*P		P	00 04 49.5	+0.7
	comp=Z,8.7nm,0.6s							
GOGA	**Godfrey**	21.70	10	*e*P		P	00 04 52.5	+0.6
	comp=Z,50nm,1.7s							
TXAR	**Lajitas Array**	22.59	322	P		P	00 05 02.9	+1.2
	comp=Z,2.8nm,0.6s,baz=137,slow=11,SNR=26							
TX31	**Lajitas Ar. Si**	22.59	322	*e*P		P	00 05 03.0	+1.3
MIAR	**Mount Ida**	23.00	348	*e*P		P	00 05 05.6	-0.2
	comp=Z,18nm,0.9s							
TKL	**Tuckaleechee C**	23.85	8	P		P	00 05 14.7	+0.9
	comp=Z,7.5nm,0.9s,baz=184,slow=12,SNR=4.2							
WMOK	**Wichita Mounta**	24.66	338	*e*P		P	00 05 21.4	+0.1
	comp=Z,4.4nm,0.8s							
MSTX	**Muleshoe**	25.69	331	*e*P		P	00 05 31.2	+0.5
	comp=Z,13nm,0.7s							
AMTX	**Amarillo**	25.95	334	*e*P		P	00 05 32.0	-1.0
	comp=Z,20nm,1.4s							
CCM	**Cathedral Cave**	26.10	354	*e*P		P	00 05 33.4	-0.8
	comp=Z,27nm,1.8s							
NNA	**Nana**	26.28	155	LR		LR	00 15 13.3	
	comp=Z,58nm,20.4s,baz=312,slow=34							
T25A	**Trinidad**	29.05	332	*e*P		P	00 06 01.6	+0.7
	comp=Z,28nm,2.0s							
Q24A	**Divide**	30.88	333	*e*P		P	00 06 14.1	-3.1
	comp=Z,9.1nm,0.8s							
I42A	**Draeger Farm,**	31.77	359	*e*P		P	00 06 23.6	-1.0
	comp=Z,35nm,1.3s							
PDAR	**Pinedale Array**	35.91	333	P		P	00 07 02.5	+1.6
	comp=Z,0.3nm,0.7s,baz=140,slow=7.1,SNR=3.2							
AGMN	**Agassiz Nation**	36.77	351	*e*P		P	00 07 07.0	-0.8
	comp=Z,19nm,1.4s							
REDW	**Red Top Meadow**	36.97	332	*e*P		P	00 07 11.4	+1.5
	comp=Z,8.9nm,1.4s							
ULM	**Lac du Bonnet**	38.67	352	P		P	00 07 22.0	-1.8
	comp=Z,4.7nm,0.6s,baz=169,slow=9.5,SNR=12							
DGMT	**Dagmar**	38.78	343	*e*P		P	00 07 25.6	+0.7
	comp=Z,10nm,0.7s							
SAO	**San Andreas Ge**	38.86	315	*e*P		P	00 07 26.5	+0.8
	comp=Z,11nm,0.9s							
LMN	**Caledonia Moun**	39.06	26	*e*P		P	00 07 25.7	-1.4
	comp=Z,104nm,2.0s							
SCHQ	**Schefferville**	45.84	17	P		P	00 08 20.8	-1.3
	comp=Z,3.7nm,0.6s,baz=215,slow=5.6,SNR=8.2							
YKA	**Yellowknife Ar**	53.90	345	P		P	00 09 22.7	-0.4
	comp=Z,0.8nm,0.7s,baz=132,slow=8.8,SNR=3.7							
PUH	**Pauahi**	64.81	286	*e*P		P	00 10 39.0	-0.4
	comp=Z,354nm,2.0s							
SDPT	**Sand Point**	70.26	325	*e*P		P	00 11 12.8	-0.1
	comp=Z,549nm,1.9s							
CN2	**Changchun**	116.65	333	*e*PKP		PKiKP	00 18 46.1	+2.1
WMQ	**Urumqi**	124.30	4	*e*PKP		PKiKP	00 19 00.4	+1.3
WMQ				LR		LR		
	comp=Z,48nm,19.3s							
WMQ				LR		LR		
	comp=Z,47nm,19.3s							
WMQ				LR		LR		
	comp=Z,45nm,15.5s							
HHC	**Hu-ho-hao-te**	124.38	342	*e*PKP		PKiKP	00 18 59.4	0.0
NJ2	**Nanjing**	129.21	330	*e*PKP		PKiKP	00 19 09.4	+0.3

IDC ***25*** *00:02:05.7±0.5,51˚.65N×169˚.08W,h0km,mb4.7/42, mb1 4.8/42,mb1mx4.7/62,mbtmp4.7/42,MS3.8/17, Ms1 3.8/17,ms1mx3.5/47,Error ellipse: s-maj=15.7km s-min=9.0km az=178.0*

GCMT ***25*** *00:02:08.8±0.3,51˚.58N±0˚.02×169˚.09W±0˚.06,h20km±1km, MW4.9/71,Moment Tensor Solution. s22,c24; s71,c97; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.21±.24; Mθθ2.58±.15; Mϕϕ0.62±.13; Mrθ-0.64±.23; Mϕθ0.62±.07; Mϕr0.72±.28; Best double couple: M₀3.11200×10¹⁶ NP1:ϕ₁87.00000°,δ50.00000°,λ-74.00000°. NP2: ϕ₂242.00000°,δ42.00000°,λ-109.00000°. Principal axes: T 2.7920, Plg4.0000°, Azm165.0000°; N 0.6380, Plg12.0000°, Azm256.0000°; P -3.4320, Plg77.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***25*** *00:02:09.8,51˚.89N×169˚.03W,h50km,mb4.8/54, mB5.0/36,Ms4.6/23,Ms7 4.3/24*

MOS ***25*** *00:02:09.8±1.0,51˚.71N×169˚.00W,h33km,mb5.2/125, Error ellipse: s-maj=6.6km s-min=4.0km az=93.2*

BGR ***25*** *00:02:10.9±0.0,52˚.30N×168˚.78W,h10km,mb4.8*

NEIC ***25*** *00:02:11.8±0.1,51˚.81N×168˚.99W,h35km,mb4.9/297, Error ellipse: s-maj=3.3km s-min=2.2km az=188.0*

ISCJB ***25*** *00:02:11.6±0.7,51˚.83N±0˚.03×168˚.79W±0˚.03,h50km±5km, mb4.9/382,MS3.9/28,Error ellipse: s-maj=5.2km s-min=2.3km az=15.6*

ISC 25 00:02:12.9±0.4,51˚.80N±0˚.06×168˚.92W±0˚.04,h48km±3km, h48km:pP-P,n1195,σ1ˆ33/1209,mb5.0/397,MS4.0/28, 37C-22D,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	1.18	2	*e*Pn	Pn	00 02 30.5	-2.4
UNV	**Unalaska Valle**	2.52	35	*e*Pn	Pn	00 02 49.8	-1.5
AKUT	**Akutan**	3.02	38	*e*Pn	Pn	00 02 57.0	-1.0
GSTR	**Great Sitkin T**	4.43	277	*e*Pn	Pn	00 03 15.2	-2.2
FALS	**False Pass**	4.50	45	*e*Pn	Pn	00 03 17.9	-0.4
KIWB	**Kanaga Island**	5.11	274	*e*Pn	Pn	00 03 23.9	-2.8
SPIA	**Saint Paul Isl**	5.44	352	*e*Pn	Pn	00 03 31.3	0.0
SDPT	**Sand Point**	6.16	51	*e*Pn	Pn	00 03 40.2	-0.9
CHGN	**Chignik**	7.65	50	*e*Pn	Pn	00 04 00.8	-0.7
SII	**Sitkinak Islan**	9.86	55	*e*Pn	Pn	00 04 31.5	-0.4
KDAK	**Kodiak Island**	11.16	51	*e*Pn	Pn	00 04 48.1	-1.4
KDAK				Sn	Sn	00 06 44.1	-8.5
KDAK	**Kodiak Island**	11.16	51	*i* P	Pn	00 04 47.1	-2.4
KDAK	**Kodiak Island**	11.16	51	Pn	Pn	00 04 46.2	-3.3
	5.0nm,0.3s,baz=190,slow=4.0,SNR=32						
KDAK				Sn	Sn	00 06 44.1	-8.5
	baz=302,slow=16,SNR=2.7						
SVW2	**Sparrevohn**	11.86	33	*e*Pn	Pn	00 05 00.7	+1.6
GAMB	**Gambell**	12.10	354	*e*Pn	Pn	00 05 02.7	+0.4
SEW	**Seward**	13.67	45	*e*Pn	Pn	00 05 21.9	-1.8
SUA	**Susitna One**	13.87	39	*e*Pn	Pn	00 05 25.2	-1.4
RC01	**Rabbit Creek A**	14.06	41	*e*Pn	Pn	00 05 28.7	-0.3
PPLA	**Purkeypile**	14.27	32	*e*Pn	Pn	00 05 33.8	+1.9
PMR	**Palmer**	14.58	40	*e*Pn	Pn	00 05 36.1	+0.2
PMR	**Palmer**	14.58	40	*e*P	Pn	00 05 36.1	+0.2
KNK	**Knik Glacier**	14.75	41	*e*Pn	Pn	00 05 36.0	-2.3
GHO	**Glory Hole Cre**	14.76	40	*e*Pn	Pn	00 05 38.7	+0.3
GHO				*e*S	S	00 08 34.7	-2.3
SML	**Sawmill**	15.01	40	*e*Pn	Pn	00 05 41.3	-0.4
	30nm,0.7s						
SML	**Sawmill**	15.01	40	*e*P	Pn	00 05 41.3	-0.4
SML				pmax	pmax		
	comp=Z,30nm,0.7s						
TRF	**Thorofare Moun**	15.28	33	*e*Pn	P	00 05 47.3	-2.0
	comp=Z,25nm,1.0s						
SCM	**Sheep Creek Mo**	15.43	41	*e*Pn	Pn	00 05 44.5	-2.7
	comp=Z,74nm,0.9s						
SCM	**Sheep Creek Mo**	15.43	41	*e*P	Pn	00 05 44.5	-2.7
SCM				pmax	pmax		
	comp=Z,75nm,0.9s						
BPAW	**Bear Paw Mtn.**	15.49	30	*e*Pn	Pn	00 05 48.1	+0.2
	comp=Z,64nm,1.0s						
EYAK	**Cordova Ski Ar**	15.52	47	*e*Pn	Pn	00 05 48.1	-0.1
	comp=Z,62nm,0.8s						
RND	**Reindeer**	15.75	35	*e*Pn	Pn	00 05 50.5	-0.7
	comp=Z,21nm,0.8s						
RND	**Reindeer**	15.75	35	*e*P	Pn	00 05 50.5	-0.7
RND				pmax	pmax		
	comp=Z,21nm,0.8s						
DIV	**Divide**	15.75	45	*e*Pn	Pn	00 05 49.9	-1.4
	comp=Z,48nm,0.8s						
KLU	**Klutina**	15.85	43	*e*Pn	Pn	00 05 49.1	-3.4
	comp=Z,57nm,0.8s						
KLU				*e*S	S	00 08 57.1	-2.3
MCK	**McKinley**	15.92	34	*e*Pn	Pn	00 05 53.6	+0.2
	comp=Z,24nm,1.0s						
MCK	**McKinley**	15.92	34	*e*P	Pn	00 05 53.6	+0.2
MCK				pmax	pmax		
	comp=Z,24nm,1.0s						
BWN	**Browne**	16.03	32	*e*Pn	P	00 05 56.3	-1.2
	comp=Z,58nm,0.9s						
DHY	**Denali Highway**	16.09	37	*e*Pn	Pn	00 05 56.6	+1.0
	comp=Z,20nm,0.8s						
HMT	**Hamilton**	16.12	48	*e*Pn	Pn	00 05 55.9	0.0
	comp=Z,162nm,1.0s						
IM3	**Indian Mountai**	16.16	23	*e*Pn	Pn	00 05 57.1	+0.7
MLY	**Manley**	16.23	28	*e*Pn	P	00 05 59.1	-0.6
	comp=Z,127nm,1.0s						
HARP	**HAARP**	16.61	41	*e*Pn	Pn	00 06 01.3	-0.7
	comp=Z,73nm,0.9s						
WRH	**Wood River Hil**	16.68	32	*e*Pn	Pn	00 06 01.3	-1.6
	comp=Z,27nm,0.8s						
PAX	**Paxson**	16.76	39	*e*Pn	Pn	00 06 04.0	0.0
	comp=Z,16nm,0.8s						
PAX				*e*Sn	Sn	00 09 12.1	+3.1
PAX	**Paxson**	16.76	39	*e*P	Pn	00 06 04.0	0.0
PAX				*e*		00 09 12.1	
PAX				pmax	pmax		
	comp=Z,16nm,0.8s						
CCB	**Clear Creek Bu**	16.89	32	*e*Pn	Pn	00 06 02.9	-2.6
	comp=Z,16nm,0.8s						
MDM	**Murphy Dome**	16.95	31	*e*Pn	Pn	00 06 05.3	-1.1
	comp=Z,36nm,1.2s						
TCOL	**CIGO, UAF Yank**	17.02	32	P	Pn	00 06 04.3	-2.8
	baz=230,SNR=11						
COLA	**College**	17.02	32	*e*Pn	Pn	00 06 06.2	-0.9
	comp=Z,45nm,0.9s						
COLA	**College**	17.02	32	*e*P	Pn	00 06 06.2	-0.9
COLA				pmax	pmax		
	comp=Z,45nm,0.9s						
HDA	**Harding Lake**	17.03	34	*e*Pn	Pn	00 06 05.1	-2.1
	comp=Z,20nm,0.7s						
HDA	**Harding Lake**	17.03	34	P	Pn	00 06 06.1	-1.2
	baz=233						
BALM	**Baldy**	17.25	47	*e*Pn	Pn	00 06 09.4	-0.7
	comp=Z,52nm,0.8s						
IL1	**Eielson Array**	17.27	33	*e*Pn	Pn	00 06 07.7	-2.5
ILAR	**Eielson Array**	17.27	33	P	Pn	00 06 07.5	-2.8
	comp=Z,0.4nm,0.3s,baz=240,slow=10.0,SNR=44						
ILAR				S	Sn	00 09 20.1	-1.2
	baz=229,slow=21,SNR=3.6						
ILAR				LR	LR	00 13 53.5	
	comp=Z,295nm,19.4s,baz=248,slow=40						
ILB	**Eielson Array**	17.27	33	*e*Pn	Pn	00 06 07.9	-2.4
	comp=Z,16nm,0.8s						
POKR	**Poker Plat Res**	17.31	31	P	Pn	00 06 08.4	-2.4
	baz=230,SNR=18						
RIDG	**Independ'e Rid**	17.41	37	*e*Pn	Pn	00 06 11.6	-0.4
	comp=Z,48nm,1.0s						
MENT	**Mentasta**	17.44	41	*e*Pn	P	00 06 13.1	0.0
	comp=Z,34nm,0.8s						
DOT	**Dot Lake**	17.66	38	*e*Pn	Pn	00 06 14.5	-0.5
	comp=Z,26nm,1.0s						
SCRK	**Sand Creek**	17.86	37	*e*Pn	Pn	00 06 16.5	-1.1
	comp=Z,21nm,0.7s						
COLD	**Coldfoot**	18.02	24	*e*P	Pn	00 06 20.7	+1.3
	comp=Z,25nm,1.0s						
PRP	**Porcupine Dome**	18.19	32	*e*P	P	00 06 19.7	-1.7
	comp=Z,16nm,0.8s						
FYU	**Fort Yukon**	18.94	30	*e*P	Pn	00 06 31.3	+0.8
	comp=Z,38nm,0.8s						
TOLK	**Toolik Lake Re**	19.27	22	*e*P	P	00 06 33.5	+0.3
	comp=Z,33nm,0.8s						
TOLK	**Toolik Lake Re**	19.27	22	P	P	00 06 31.9	-1.3
	baz=219,SNR=23						
EGAK	**Eagle**	19.32	37	*e*P	Pn	00 06 34.8	-0.3
	comp=Z,36nm,0.8s						
HYT	**Haines Junctio**	19.45	50	*e*P	Pn	00 06 38.7	+1.9
	comp=Z,158nm,0.6s						
DAWY	**Dawson**	19.68	40	*e*P	P	00 06 38.3	+0.6
	comp=Z,40nm,0.9s						
PET	**Petropavlovsk**	19.73	286	*e*P	P	00 06 35.6	-2.6
PET				pmax	pmax		
	comp=Z,24nm,1.4s						
BILL	**Bilibino**	20.23	333	*e*P	P	00 06 43.2	-0.4
	comp=Z,48nm,1.3s						
BILL	**Bilibino**	20.23	333	*d* iP	P	00 06 43.6	0.0
BILL				*e*		00 06 57.4	
BILL				PPP	PPP	00 07 08.0	
BILL				*e*SSS	SSS	00 10 59.8	
BILL				pmax	pmax		
	comp=Z,16nm,1.2s						
BILL				MLR	MLR		
	comp=Z,383nm,18.0s						
SKAG	**Skagway**	20.27	55	*e*P	Pn	00 06 45.5	-0.8
	comp=Z,65nm,1.0s						
PEA0B	**Petropavlovsk-**	20.29	287	*e*P	P	00 06 44.2	-0.1
	comp=Z,122nm,1.4s						
PEA0B	**Petropavlovsk-**	20.29	287	*e*P	P	00 06 44.2	-0.1
PEA0B				pmax	pmax		
	comp=Z,122nm,1.4s						
PETK	**Petropavlovsk-**	20.29	287	*e*P	P	00 06 44.5	+0.3
PETK	**Petropavlovsk-**	20.29	287	*e*P	P	00 06 44.5	+0.3
PETK	**Petropavlovsk-**	20.29	287	P	P	00 06 42.0	-2.2
	comp=Z,22nm,0.8s,baz=88,slow=13,SNR=19						
BESE	**Bessie Mountai**	20.42	57	*e*P	P	00 06 46.2	+0.4
	comp=Z,68nm,1.2s						
JIS	**Juneau Island**	20.65	58	*e*P	P	00 06 49.1	+1.0
	comp=Z,196nm,1.6s						
WHY	**Whitehorse**	20.67	51	*e*P	P	00 06 49.0	+0.4
	comp=Z,55nm,0.8s						
CRAG	**Craig**	21.39	66	*e*P	P	00 06 55.6	-0.4
	comp=Z,121nm,1.2s						
EPYK	**Eagle Plains**	21.70	36	*e*P	P	00 06 58.0	-1.4
	comp=Z,201nm,0.8s						
EPYK	**Eagle Plains**	21.70	36	P	P	00 06 57.7	-1.7
	baz=244,SNR=159						
WRAK	**Wrangell Islan**	21.75	63	*e*P	P	00 07 00.6	+0.7
	comp=Z,69nm,1.3s						
DIB	**Dawson Inlet,**	22.08	72	*e*P	P	00 07 05.1	+1.6
	comp=Z,112nm,1.3s						
DLBC	**Dease Lake**	22.95	58	*e*P	P	00 07 13.4	+0.7
	comp=Z,64nm,1.4s						
DLBC	**Dease Lake**	22.95	58	P	P	00 07 13.9	+1.2
	comp=Z,23nm,1.1s,baz=266,slow=9.2,SNR=13						
SEY	**Seymchan**	23.26	314	*i*P	P	00 07 14.1	-1.6
SEY	**Seymchan**	23.26	314	P	P	00 07 14.3	-1.4
	comp=Z,5.6nm,0.8s,baz=98,slow=11,SNR=22						
INK	**Inuvik**	23.68	32	*e*P	P	00 07 18.1	-1.5
	comp=Z,40nm,0.6s						
INK	**Inuvik**	23.68	32	P	P	00 07 18.8	-0.8
	comp=Z,42nm,0.7s,baz=226,slow=11,SNR=72						
MA2	**Magadan**	23.69	305	*e*P	P	00 07 20.7	+0.9
	comp=Z,15nm,0.8s						
MA2	**Magadan**	23.69	305	*i*P	P	00 07 20.8	+0.9
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MA2	**Magadan**	23.69	305	P	P	00 07 19.5	-0.4
	comp=Z,5.0nm,0.5s,baz=85,slow=10,SNR=6.2						
MA2				LR	LR	00 15 49.7	
	comp=Z,117nm,21.9s,baz=74,slow=35						
BBB	**Bella Bella**	24.90	73	*e*P	P	00 07 31.3	+0.4
	comp=Z,247nm,1.8s						
BBB	**Bella Bella**	24.90	73	LR	LR	00 16 11.4	
	comp=Z,190nm,18.0s,baz=270,slow=34						
LLLB	**Lillooet**	29.10	73	*e*P	P	00 08 09.9	+1.2
	comp=Z,17nm,1.0s						
D03D	**Eldon**	29.58	80	P	P	00 08 12.8	-0.2
	baz=296						
B05A	**Bryant**	29.88	78	P	P	00 08 14.7	-0.9
	baz=295,SNR=7.3						
NKL	**Nikolayevsk**	30.22	293	*e*P	P	00 08 20.0	+1.5
E04D	**Cinebar**	30.34	81	P	P	00 08 20.2	+0.6
	baz=297						
YKW3	**Yellowknife Ar**	30.40	48	*e*P	P	00 08 20.7	+0.7
	comp=Z,8.1nm,0.8s						
D05A	**Emumolaw**	30.41	80	*e*P	P	00 08 21.0	+0.8
	comp=Z,60nm,1.5s						
YKA	**Yellowknife Ar**	30.41	48	P	P	00 08 20.7	+0.6
	comp=Z,2.6nm,0.7s,baz=276,slow=9.7,SNR=48						
YKB5	**Yellowknife Ar**	30.41	48	*e*P	P	00 08 19.7	-0.4
G03D	**McMinnville, O**	30.54	84	P	P	00 08 22.3	+0.8
	baz=299						
LON	**Longmire**	30.71	81	*e*P	P	00 08 23.3	+0.2
	comp=Z,28nm,2.0s						
LON	**Longmire**	30.71	81	*e*P	P	00 08 23.3	+0.2
LON				pmax	pmax		
	comp=Z,28nm,2.0s						
I02D	**Swisshome**	30.73	86	P	P	00 08 24.4	+1.3
	baz=301						
COR	**Corvallis**	30.83	85	*e*P	P	00 08 24.9	+0.9
	comp=Z,33nm,0.9s						
COR	**Corvallis**	30.83	85	*e*P	P	00 08 24.9	+0.9
COR				pmax	pmax		
	comp=Z,33nm,0.9s						
KEBM	**Edson Butte**	31.08	89	*e*P	P	00 08 28.4	+2.1
J01E	**Myrtle Point**	31.17	88	P	P	00 08 27.0	0.0
	baz=302						
H04D	**Lebanon**	31.21	85	P	P	00 08 26.9	-0.5
	baz=300,SNR=5.1						
I03D	**Drain, OR**	31.25	87	P	P	00 08 28.3	+0.6
	baz=301,SNR=8.1						
YSS	**Yuzh-Sakhalins**	31.36	281	*e*P	P	00 08 32.9	+4.2
YSS				*e*		00 08 44.9	
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,15.0s						
YSS				MLR	MLR		
	comp=N,200nm,16.0s						
H04A	**Detroit Lake**	31.47	84	*e*P	P	00 08 31.4	+1.7
	comp=N,27nm,1.0s						
B08A	**Colville Reser**	31.51	76	*e*P	P	00 08 31.1	+1.0
	comp=N,30nm,1.1s						
HON	**Honolulu**	31.59	160	*e*P	P	00 08 31.2	+0.4
	comp=N,135nm,1.0s						
HON	**Honolulu**	31.59	160	*e*P	P	00 08 31.2	+0.4
HON				pmax	pmax		
	comp=Z,135nm,1.0s						
K02D	**Willamette Mer**	31.59	89	P	P	00 08 31.2	+0.5
	baz=303,SNR=14						
G05D	**Wamic, OR**	31.73	83	P	P	00 08 32.7	+0.7
	baz=299						
I04A	**Tendick Farm,**	31.78	86	P	P	00 08 32.5	0.0
	baz=301,SNR=17						
L02E	**Grove Junction**	31.92	89	P	P	00 08 33.9	+0.3
	baz=304,SNR=12						
E07A	**Sunnyside**	32.00	80	*e*P	P	00 08 36.0	+1.7
	comp=Z,16nm,1.3s						
HUMO	**Hull Mountain**	32.07	88	*e*P	P	00 08 37.1	+2.1
	comp=Z,19nm,1.1s						
KRMB	**Red Mountain**	32.08	91	*e*P	P	00 08 37.8	+2.6
G06A	**Carlson Farm,**	32.15	82	*e*P	P	00 08 37.8	+2.1
	comp=Z

baz=306,SNR=14
O03E **Paynes Creek** 34.09 91 P P 00 08 53.3 +0.6
baz=306,SNR=20
MOD **Modoc Plateau** 34.11 87 eP P 00 08 53.7 +0.8
comp=Z,19nm,1.0s
GDXM **Geysers** 34.36 94 eP P 00 08 56.2 +1.2
comp=Z,26nm,1.2s
BMO **Blue Mountains** 34.39 81 eP P 00 08 56.5 +1.2
comp=Z,20nm,1.5s
BMO **Blue Mountains** 34.39 81 eP P 00 08 56.5 +1.2
BMO pmax pmax
comp=Z,20nm,1.5s
J08A **Circle Bar Ran** 34.45 84 eP P 00 08 56.8 +1.0
comp=Z,18nm,1.1s
ORV **Oroville** 34.72 92 eP P 00 08 58.5 +0.5
comp=Z,8.3nm,1.0s
ORV **Oroville** 34.72 92 eP P 00 08 58.5 +0.5
ORV pmax pmax
comp=Z,8.0nm,1.0s
MCCM **Marconi Confer** 34.72 95 eP P 00 08 59.1 +1.2
comp=Z,274nm,1.9s
WVOR **Wild Horse Val** 34.85 85 eP P 00 09 00.8 +1.5
comp=Z,19nm,1.1s
WVOR **Wild Horse Val** 34.85 85 eP P 00 09 00.8 +1.5
WVOR pmax pmax
comp=Z,19nm,1.1s
BEKR **Beckworth** 35.24 90 eP P 00 09 03.7 +1.0
comp=Z,13nm,1.2s
AFDM **Forest Hills D** 35.41 92 eP P 00 09 05.2 +1.3
comp=Z,16nm,1.5s
MSO **Missoula** 35.46 76 eP P 00 09 05.2 +0.8
comp=Z,34nm,1.3s
MSO **Missoula** 35.46 76 P P 00 09 04.8 +0.3
baz=299,SNR=14
PAHR **Pah Rah Range** 35.94 90 eP P 00 09 09.8 +1.1
comp=Z,27nm,1.2s
VCNR **Virginia City** 36.02 91 eP P 00 09 10.8 +1.4
comp=Z,19nm,0.9s
TEY **Ternei** 36.04 281 eP P 00 09 07.7 -1.6
TEY pmax pmax
comp=Z,20nm,1.0s
PNTR **Pine Nut** 36.17 91 eP P 00 09 12.5 +1.7
comp=Z,24nm,0.8s
CMB **Columbia Colle** 36.33 93 eP P 00 09 13.3 +1.4
comp=Z,9.2nm,1.0s
YERR **Yerington** 36.46 91 eP P 00 09 14.6 +1.5
comp=Z,15nm,0.9s
SAO **San Andreas Ge** 36.47 95 eP P 00 09 13.2 +0.1
comp=Z,15nm,1.0s
SAO **San Andreas Ge** 36.47 95 eP P 00 09 13.2 +0.1
SAO pmax pmax
comp=Z,15nm,1.0s
WAKR **Walker** 36.63 91 eP P 00 09 15.6 +0.9
comp=Z,14nm,1.0s
RES **Resolute Bay** 36.77 25 eP P 00 09 15.4 +0.2
comp=Z,11nm,0.8s
RES **Resolute Bay** 36.77 25 P P 00 09 14.8 -0.3
comp=Z,6.8nm,0.8s,baz=300,slow=6.7,SNR=26
HRY **Holter Researc** 36.78 75 eP P 00 09 16.5 +0.7
HLID **Hailey** 36.84 81 eP P 00 09 17.3 +0.9
comp=Z,11nm,1.2s
HLID **Hailey** 36.84 81 P P 00 09 16.8 +0.5
baz=303,SNR=12
LRM **Limekiln Ridge** 36.85 76 eP P 00 09 12.9 -3.6
KLR **Kul'dur** 36.91 290 eP P 00 09 14.1 -2.6
KLR **Kul'dur** 36.91 290 P P 00 09 14.9 -1.8
comp=Z,2.7nm,0.5s,baz=55,slow=5.6,SNR=14
DLMT **Dillon** 37.00 77 eP P 00 09 18.3 +0.6
comp=Z,14nm,1.1s
MCMT **McKenzie Canyo** 37.12 78 eP P 00 09 19.3 +0.5
RYN **Ryan** 37.12 91 eP P 00 09 19.8 +1.0
comp=Z,15nm,1.3s
KVN **Kaiserville** 37.13 90 eP P 00 09 20.1 +1.2
comp=Z,15nm,1.3s
KVN **Kaiserville** 37.13 90 eP P 00 09 20.1 +1.2
KVN pmax pmax
comp=Z,15nm,1.3s
H11N2 **WAKE ISLAND Hy** 37.19 220 T T 00 48 45.3
baz=25,slow=76,SNR=24
H11N3 **WAKE ISLAND Hy** 37.19 220 T T 00 48 39.6
baz=25,slow=76,SNR=22
H11N1 **WAKE ISLAND Hy** 37.20 220 T T 00 48 37.1
baz=25,slow=76,SNR=24
NV01 **Mina Array Sit** 37.38 91 eP P 00 09 21.8 +0.7
NVAR **Mina Array Bea** 37.38 91 P P 00 09 21.7 +0.6
comp=Z,6.6nm,1.0s,baz=292,slow=7.9,SNR=24
EGMT **Eagleton** 37.38 72 eP P 00 09 21.1 +0.3
comp=Z,36nm,0.9s
EGMT **Eagleton** 37.38 72 P P 00 09 20.2 -0.6
baz=299,SNR=17
MDPB **Devils Postpil** 37.39 92 eP P 00 09 22.9 +1.8
comp=Z,18nm,0.9s
OMMB **Old Mammoth Mi** 37.45 92 eP P 00 09 23.6 +1.8
comp=Z,18nm,1.0s
BOZ **Bozeman (W)** 37.46 76 eP P 00 09 21.9 +0.3
comp=Z,20nm,1.1s
BOZ **Bozeman (W)** 37.46 76 eP P 00 09 21.9 +0.3
BOZ pmax pmax
comp=Z,20nm,1.1s
BOZ **Bozeman (W)** 37.46 76 P P 00 09 21.9 +0.3
baz=301,SNR=19
NV11 **Mina Array Sit** 37.47 90 eP P 00 09 23.1 +1.4
comp=Z,1.4nm,1.4s
ZEA **Zeya** 37.51 299 eP P 00 09 21.2 -0.5
ZEA pmax pmax
comp=Z,17nm,1.0s
ZEA MLR MLR
comp=Z,300nm,16.0s
MLAC **Mammoth, Mammo** 37.54 92 P P 00 09 23.3 +0.8
baz=309
PAGB **Antelope Grade** 37.87 96 eP P 00 09 26.6 +1.6
comp=Z,30nm,1.2s
ELK **Elko** 37.90 85 eP P 00 09 26.6 +1.2
comp=Z,9.1nm,1.1s
ELK **Elko** 37.90 85 eP P 00 09 26.6 +1.2
ELK pmax pmax
comp=Z,9.0nm,1.1s
QLMT **Earthquake Lak** 37.98 77 eP P 00 09 26.9 +0.8
VOG **Valley Oaks Go** 38.03 94 P P 00 09 26.1 -0.2
baz=310
YHB **Horse Butte** 38.16 77 eP P 00 09 28.4 +0.8
comp=Z,20nm,1.1s
SMMC **Simmler** 38.30 96 P P 00 09 29.9 +1.2
baz=311
YMR **Madison River** 38.35 77 eP P 00 09 30.2 +1.1
comp=Z,27nm,1.1s
YHH **Holmes Hill** 38.35 77 eP P 00 09 30.1 +0.8
comp=Z,32nm,1.1s
H11S1 **WAKE ISLAND Hy** 38.37 219 T T 00 50 03.4
baz=25
H11S2 **WAKE ISLAND Hy** 38.38 219 T T 00 50 13.9
baz=25
H11S3 **WAKE ISLAND Hy** 38.39 219 T T 00 50 08.7
baz=25
YNR **Norris Junctio** 38.50 77 eP P 00 09 31.6 +1.2
comp=Z,38nm,1.1s
VES **Vestal, Richgr** 38.52 94 P P 00 09 30.9 +0.5
baz=310
YFT **Old Faithful** 38.54 77 eP P 00 09 32.9 +2.1
comp=Z,18nm,1.5s
GCMT **Greycliff** 38.54 75 eP P 00 09 31.8 +1.1
YPP **Pitchstone Pla** 38.66 78 eP P 00 09 33.0 +1.1
comp=Z,7.6nm,1.0s
PKM **Mcpherson Peak** 38.69 96 P P 00 09 32.6 +0.5
baz=312
H17A **Grant Village** 38.73 77 eP P 00 09 34.2 +1.8
comp=Z,30nm,1.1s
H17A **Grant Village** 38.73 77 P P 00 09 33.1 +0.8
baz=302,SNR=23
LKWY **Lake** 38.74 77 eP P 00 09 34.6 +2.1
comp=Z,17nm,0.8s
CWC **Cottonwood Cre** 38.76 93 P P 00 09 33.1 +0.5
baz=310
IMW **Indian Meadow** 38.78 78 eP P 00 09 34.1 +1.3
comp=Z,17nm,1.0s
FFC **Flin Flon** 38.78 58 eP P 00 09 33.0 +0.7
comp=Z,13nm,0.9s
FFC **Flin Flon** 38.78 58 eP P 00 09 33.0 +0.7
FFC pmax pmax
comp=Z,13nm,0.9s
FLWY **Flagg Ranch** 38.82 78 eP P 00 09 34.6 +1.5
comp=Z,21nm,1.2s
HVU **Hansel Valley** 38.83 82 eP P 00 09 33.9 +0.8
comp=Z,6.4nm,0.9s
HVU **Hansel Valley** 38.83 82 eP P 00 09 33.9 +0.8
HVU pmax pmax
comp=Z,6.0nm,0.9s
FXWY **Fox Creek** 38.86 79 eP P 00 09 34.3 +0.8
comp=Z,11nm,1.4s
MOOW **Moose Ponds** 38.98 78 eP P 00 09 35.5 +1.1
comp=Z,5.7nm,1.1s
TPAW **Teton Pass** 38.99 79 eP P 00 09 36.0 +1.4
comp=Z,25nm,1.3s
ISA **Isabella, Lake** 39.02 94 eP P 00 09 35.4 +0.7
comp=Z,14nm,1.0s
ISA **Isabella, Lake** 39.02 94 P P 00 09 34.8 +0.1
baz=311
R11A **Troy Canyon, C** 39.12 89 eP P 00 09 36.3 +0.7
comp=Z,12nm,1.2s
R11A **Troy Canyon, C** 39.12 89 P P 00 09 36.0 +0.4
baz=308,SNR=16
REDW **Red Top Meadow** 39.12 79 eP P 00 09 36.5 +0.8
comp=Z,34nm,1.3s
SNOW **Snow King Moun** 39.13 79 eP P 00 09 37.3 +1.6
comp=Z,18nm,1.1s
RLMT **Red Lodge** 39.13 75 eP P 00 09 36.5 +0.8
comp=Z,34nm,1.0s
RLMT **Red Lodge** 39.13 75 P P 00 09 36.1 +0.4
baz=302,SNR=29
LOHW **Long Hollow** 39.14 78 eP P 00 09 37.0 +1.2
comp=Z,9.9nm,1.1s
BGU **Big Grassy Mou** 39.16 83 eP P 00 09 37.0 +1.0
comp=Z,14nm,1.3s
DAC **Darwin (Calif)** 39.17 93 eP P 00 09 38.2 +2.1
comp=Z,17nm,1.4s
USA0B **Ussuriysk Arra** 39.29 283 eP P 00 09 36.2 -0.5
comp=Z,12nm,1.2s
USA0B **Ussuriysk Arra** 39.29 283 eP P 00 09 36.2 -0.5
USA0B pmax pmax
comp=Z,12nm,1.2s
USRK **Ussuriysk Ar.** 39.29 283 P P 00 09 34.9 -1.8
comp=Z,7.5nm,0.9s,baz=64,slow=8.7,SNR=8.2
USRK PcP PcP 00 11 44.2 -0.4
comp=Z,3.8nm,0.9s,baz=103,slow=6.5,SNR=4.1
SPUT **South Promonto** 39.30 83 eP P 00 09 38.2 +1.2
comp=Z,8.1nm,1.2s
AHID **Auburn Hatcher** 39.30 80 eP P 00 09 38.3 +1.2
comp=Z,13nm,0.6s
MPMC **Manual Prospec** 39.37 93 P P 00 09 38.0 +0.2
baz=310
FURC **Furnace Creek,** 39.50 92 P P 00 09 39.5 +0.9
baz=310
TPNV **Topopah Spring** 39.57 91 eP P 00 09 40.5 +1.1
comp=Z,11nm,0.9s
TPNV **Topopah Spring** 39.57 91 eP P 00 09 40.5 +1.1
TPNV pmax pmax
comp=Z,11nm,0.9s
TPNV **Topopah Spring** 39.57 91 P P 00 09 39.9 +0.5
baz=309,SNR=9.7
LRMC **Laurel Mtn Rad** 39.63 94 P P 00 09 39.9 +0.1
baz=311
BLG **Laguna Peak, P** 39.67 97 P P 00 09 40.2 +0.1
baz=312
DUG **Dugway, Tooele** 39.72 84 eP P 00 09 41.6 +1.0
comp=Z,23nm,1.3s
DUG **Dugway, Tooele** 39.72 84 eP P 00 09 41.6 +1.0
DUG pmax pmax
comp=Z,23nm,1.3s
DUG **Dugway, Tooele** 39.72 84 P P 00 09 40.6 0.0
baz=306,SNR=17
EDW2 **Edwards Air Fo** 39.82 95 P P 00 09 40.5 -0.9
baz=311
MJAR **Matsushiro Arr** 39.96 269 PcP PcP 00 11 46.0 -0.9
comp=Z,3.5nm,0.9s,baz=196,slow=0.2,SNR=6.9
MJAR LR LR 00 25 56.7
comp=Z,114nm,20.8s,baz=65,slow=36
SNCC **San Nicolas Is** 39.97 98 P P 00 09 41.6 -0.9
baz=313
TCUT **Toone Canyon** 40.05 82 eP P 00 09 44.6 +1.2
comp=Z,24nm,1.2s
PSUT **Pine Spring** 40.08 87 eP P 00 09 44.5 +0.9
comp=Z,9.1nm,1.1s
CTU **Camp Tracy** 40.09 83 eP P 00 09 44.9 +1.3
comp=Z,14nm,1.3s
LAO **LASA Array** 40.13 72 eP P 00 09 44.8 +1.1
comp=Z,14nm,1.0s
LAO **LASA Array** 40.13 72 P P 00 09 44.0 +0.2
baz=301
MWC **Mount Wilson** 40.22 96 eP P 00 09 45.7 +0.9
comp=Z,24nm,1.3s
MWC **Mount Wilson** 40.22 96 eP P 00 09 45.7 +0.9
MWC pmax pmax
comp=Z,24nm,1.3s
SHOC **Shoshone, Teco** 40.23 92 P P 00 09 45.5 +0.8
baz=310
BW06 **Boulder Array** 40.24 79 eP P 00 09 45.7 +0.8
comp=Z,31nm,1.0s
BW06 **Boulder Array** 40.24 79 P P 00 09 44.4 -0.6
baz=304,SNR=17
PD31 **Pindale Array** 40.24 79 eP P 00 09 45.2 +0.2
comp=Z,28nm,1.0s
PDAR **Pinedale Array** 40.24 79 eP P 00 09 45.1 +0.2
PDAR **Pinedale Array** 40.24 79 P P 00 09 45.2 +0.2
comp=Z,21nm,0.9s,baz=306,slow=5.3,SNR=92
GSC **Goldstone, Bar** 40.28 93 eP P 00 09 46.2 +1.0
comp=Z,16nm,1.0s
GSC **Goldstone, Bar** 40.28 93 eP P 00 09 46.2 +1.0
GSC pmax pmax
comp=Z,16nm,1.0s
GSC **Goldstone, Bar** 40.28 93 P P 00 09 45.1 -0.1
baz=311,SNR=10.0
NLU **North Lily Min** 40.32 84 eP P 00 09 46.5 +0.9
comp=Z,15nm,1.2s
JLU **Jordanelle** 40.33 83 eP P 00 09 46.6 +0.9
comp=Z,16nm,1.2s
DGMT **Dagmar** 40.40 68 eP P 00 09 46.8 +0.8
comp=Z,43nm,1.2s
DGMT **Dagmar** 40.40 68 P P 00 09 45.5 -0.5
baz=300,SNR=5.7
BFSC **Mount Baldy Ra** 40.45 95 P P 00 09 46.8 +0.1
baz=312,SNR=7.3
SHPR **Sheep Range** 40.53 90 eP P 00 09 48.4 +1.0
comp=Z,18nm,1.7s
MPU **Maple Canyon** 40.56 84 eP P 00 09 48.7 +1.1
comp=Z,8.8nm,1.1s
TUQ **Turquoise Moun** 40.74 92 P P 00 09 49.0 -0.1
baz=311
HEC **Hector,Ludlow** 40.88 93 P P 00 09 50.3 +0.1
baz=311
TCRU **Three Creeks R** 40.90 86 eP P 00 09 51.8 +1.3
comp=Z,18nm,1.3s
TCRU eS S 00 16 00.8 +2.1
CCUT **Cedar City** 40.99 88 eP P 00 09 52.4 +1.2
comp=Z,15nm,1.3s
FCC **Fort Churchill** 41.09 50 eP P 00 09 52.3 +0.9
comp=Z,40nm,0.9s
FCC **Fort Churchill** 41.09 50 eP P 00 09 52.3 +0.9
FCC pmax pmax
comp=Z,40nm,0.9s
MSU **Marysvale** 41.13 86 eP P 00 09 53.7 +1.4
MSU **Marysvale** 41.13 86 eP P 00 09 53.7 +1.4
SZCU **Shurtz Canyon** 41.13 88 eP P 00 09 53.4 +1.1
comp=Z,9.9nm,1.2s
MURC **Murrieta** 41.17 96 P P 00 09 52.5 +0.1
baz=312
TMUT **Trail Mountain** 41.25 84 eP P 00 09 53.8 +0.3
comp=Z,35nm,1.4s
GMRC **Granite Mounta** 41.33 93 P P 00 09 53.9 0.0
baz=311,SNR=6.8
LCMT **Little Creek M** 41.40 88 eP P 00 09 55.0 +0.5
comp=Z,20nm,1.2s
MTPU **Mount Pierson** 41.41 86 eP P 00 09 56.2 +1.4
comp=Z,14nm,1.2s
P17A **Butcher Ranch,** 41.44 84 eP P 00 09 55.9 +1.1
comp=Z,24nm,1.3s
LDFC **Landfair** 41.48 92 eP P 00 09 55.3 +0.2
comp=Z,46nm,1.4s
Q16A **Castle Valley** 41.50 85 eP P 00 09 56.6 +1.3
comp=Z,27nm,1.1s
PFO **Pinyon Flats O** 41.62 95 eP P 00 09 57.0 +0.8
comp=Z,9.5nm,1.0s
PFO **Pinyon Flats O** 41.62 95 eP P 00 09 57.0 +0.8
PFO pmax pmax
comp=Z,9.0nm,1.0s
PFO **Pinyon Flats O** 41.62 95 P P 00 09 55.8 -0.4
baz=312
PFO **Pinyon Flats O** 41.62 95 P P 00 09 56.1 -0.1
comp=Z,3.7nm,0.9s,baz=327,slow=5.0,SNR=5.8
XPFO **Pion Flat** 41.62 95 eP P 00 09 57.0 +0.7
comp=Z,10nm,1.0s
BELC **Belle Mtn. Jos** 41.64 94 P P 00 09 56.0 -0.4
baz=312,SNR=5.6
KNB **Kanab** 41.66 88 eP P 00 09 58.1 +1.5
comp=Z,27nm,1.4s
KNB **Kanab** 41.66 88 eP P 00 09 58.1 +1.5
KNB pmax pmax
comp=Z,27nm,1.4s
109C **Camp Elliot, M** 41.70 96 P P 00 09 56.7 -0.1
baz=313
CPE **Camp Elliot** 41.70 96 eP P 00 09 57.5 +0.8
comp=Z,29nm,1.3s
PKCU **Pink Cliffs** 41.71 87 eP P 00 09 59.1 +2.0
comp=Z,27nm,1.5s
SRU **San Rafael Swe** 41.79 84 eP P 00 09 58.8 +1.1
comp=Z,18nm,1.0s
SRU **San Rafael Swe** 41.79 84 eP P 00 09 58.8 +1.1
SRU pmax pmax
comp=Z,18nm,1.0s
IRM **Iron Mountain** 42.07 93 P P 00 10 00.1 +0.3
baz=312
BAR **Barrett** 42.11 96 eP P 00 10 01.1 +0.9
comp=Z,15nm,1.2s
MONP2 **Monument Peak** 42.12 96 P P 00 10 00.7 +0.2
baz=313,SNR=5.1
K22A **Casper** 42.15 77 eP P 00 10 00.4 -0.1
comp=Z,27nm,1.1s
K22A **Casper** 42.15 77 P P 00 09 59.6 -0.9
baz=305,SNR=7.4
BC3 **Big Chuckawall** 42.21 94 P P 00 10 01.0 0.0
baz=312
W13A **Hualapai Mount** 42.23 91 eP P 00 10 01.6 +0.2
comp=Z,14nm,1.4s
RWWY **Rawlins** 42.29 79 eP P 00 10 01.8 +0.1
comp=Z,18nm,1.1s
U15A **North Rim** 42.36 88 eP P 00 10 03.7 +1.2
comp=Z,23nm,1.1s
IKP **In-Ko-Pah, Jac** 42.48 96 P P 00 10 03.0 -0.2
baz=313
TULEG **Thule** 42.56 20 eP P 00 10 04.4 +1.1
comp=Z,17nm,0.7s
BOD **Bodaibo** 42.57 310 eP P 00 10 01.2 -2.3
BOD e 00 10 13.6
BOD eS S 00 16 18.4 -3.9
BOD pmax pmax
comp=Z,17nm,1.4s
O20A **White River Ci** 42.58 81 eP P 00 10 04.6 +0.5
comp=Z,50nm,1.0s
O20A **White River Ci** 42.58 81 P P 00 10 04.0 -0.1
baz=307,SNR=22
PDMCI **Parker Dam,Lak** 42.59 92 P P 00 10 03.7 -0.3
baz=312
Y12C **Blythe** 42.72 93 eP P 00 10 05.7 +0.7
comp=Z,24nm,1.3s
Y12C **Blythe** 42.72 93 P P 00 10 05.3 +0.2
baz=312,SNR=5.4
RSSD **Black Hills** 42.81 74 eP P 00 10 06.1 +0.2
comp=Z,28nm,1.5s
RSSD **Black Hills** 42.81 74 eP P 00 10 06.1 +0.2
RSSD pmax pmax
comp=Z,28nm,1.5s
RSSD **Black Hills** 42.81 74 P P 00 10 05.2 -0.8
baz=304
GLA **Glamis** 43.00 94 eP P 00 10 08.3 +0.9
comp=Z,14nm,1.1s
GLA **Glamis** 43.00 94 eP P 00 10 08.3 +0.9
GLA pmax pmax
comp=Z,14nm,1.1s
GLA **Glamis** 43.00 94 P P 00 10 07.3 -0.1
baz=313
MDND **Maddock** 43.36 67 P P 00 10 08.8 -1.3
baz=302
CN2 **Changchun** 43.44 286 eP P 00 10 09.8 -0.9
CN2 epP pP 00 10 22.6 +0.3
CN2 eS S 00 16 34.8 -0.6
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 LR LR
comp=Z,180nm,20.0s
CN2 LR LR
comp=Z,170nm,20.0s
CN2 LR LR
comp=Z,210nm,20.0s
WUAZ **Wupatki** 43.52 89 eP P 00 10 12.8 +1.1
comp=Z,18nm,1.0s
WUAZ **Wupatki** 43.52 89 P P 00 10 12.2 +0.5
baz=311,SNR=8.5
N23A **Red Feather La** 43.53 79 eP P 00 10 12.6 +0.7
comp=Z,32nm,1.1s
N23A **Red Feather La** 43.53 79 P P 00 10 11.3 -0.6
baz=307,SNR=18
Y14A **Wickenburg** 43.54 92 eP P 00 10 12.3 +0.6
comp=Z,8.3nm,1.2s
PHWY **Pilot Hill** 43.58 78 eP P 00 10 11.7 -0.6
comp=Z,16nm,1.4s
HIA **Hailar** 43.75 296 eP P 00 10 13.0 -0.2
comp=Z,10nm,0.5s
HIA **Hailar** 43.75 296 ci P 00 10 12.9 -0.2
HIA pmax pmax
comp=Z,11nm,0.6s
113A **Mohawk Valley,** 43.85 94 eP P 00 10 14.4 +0.3
comp=Z,9.1nm,1.2s
SMCO **Snowmass** 43.93 81 eP P 00 10 15.4 +0.1
comp=Z,4.9nm,0.9s
ULM **Lac du Bonnet** 44.17 62 eP P 00 10 16.4 -0.2
comp=Z,22nm,1.0s
ULM **Lac du Bonnet** 44.17 62 eP P 00 10 16.4 -0.2
ULM pmax pmax
comp=Z,22nm,1.0s
ULM **Lac du Bonnet** 44.17 62 P P 00 10 16.3 -0.2
comp=Z,16nm,0.9s,baz=301,slow=8.9,SNR=23
X16A **Lo Mia Camp, P** 44.19 90 eP P 00 10 18.4 +1.3
comp=Z,12nm,1.1s
MVCO **Mesa Verde** 44.22 85 eP P 00 10 17.7 +0.3
comp=Z,33nm,1.5s
MVCO **Mesa Verde** 44.22 85 P P 00 10 17.0 -0.3
baz=309,SNR=6.5
ISCO **Idaho Springs** 44.39 80 eP P 00 10 19.4 +0.6
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 44.39 80 eP P 00 10 19.4 +0.6
ISCO pmax pmax
comp=Z,13nm,1.4s
ISCO **Idaho Springs** 44.39 80 P P 00 10 19.2 +0.4
baz=308,SNR=6.5
W18A **Petrified Fore** 44.79 88 eP P 00 10 22.9 +0.9
comp=Z,22nm,1.1s
W18A **Petrified Fore** 44.79 88 P P 00 10 22.6 +0.7
baz=311,SNR=7.7
S22A **4UR Ranch, Cre** 44.91 83 eP P 00 10 24.1 +1.1
comp=Z,33nm,1.4s
S22A **4UR Ranch, Cre** 44.91 83 P P 00 10 23.4 +0.5
baz=309,SNR=12
214A **Organ Pipe Nat** 44.99 94 P P 00 10 23.1 -0.3
baz=313
X18A **Snowflake** 45.05 89 eP P 00 10 25.1 +1.1
comp=Z,15nm,1.4s
Q24A **Divide** 45.18 80 eP P 00 10 25.5 +0.4
comp=Z,9.2nm,1.0s
AGMN **Agassiz Nation** 45.23 64 eP P 00 10 24.5 -0.5
comp=Z,32nm,1.0s
AGMN **Agassiz Nation** 45.23 64 P P 00 10 24.3 -0.7
baz=303,SNR=13
SUSD **Miller** 45.63 70 P P 00 10 27.5 -0.7
baz=305
SDCO **Great Sand Dun** 45.73 82 eP P 00 10 29.9 +0.4
comp=Z,19nm,1.1s
SDCO **Great Sand Dun** 45.73 82 P P 00 10 29.4 0.0
baz=309,SNR=14
KSRS **Korea Array** 45.75 278 P P 00 10 29.3 +0.1
comp=Z,1.6nm,0.6s,baz=61,slow=8.2,SNR=5.9
KSRS LR LR 00 29 28.4
comp=Z,72nm,20.2s,baz=59,slow=36
KS01 **Wonju Array Si** 45.75 278 eP P 00 10 29.1 -0.1
KSAR **Wonju Array Be** 45.78 278 P P 00 10 29.3 -0.2
KSAR **Wonju Array Be** 45.78 278 P P 00 10 29.3 -0.2
OGNE **Ogallala** 45.87 76 P P 00 10 30.3 +0.1
baz=307
TUC **Tucson** 46.01 92 eP P 00 10 32.2 +0.8
comp=Z,12nm,1.2s
TUC **Tucson** 46.01 92 eP P 00 10 32.2 +0.8
TUC pmax pmax
comp=Z,12nm,1.2s
TUC **Tucson** 46.01 92 P P 00 10 31.5 +0.1
baz=313
KSCO **Kaye Shedlock'** 46.69 79 eP P 00 10 37.8 +1.0
comp=Z,34nm,1.0s
KSCO **Kaye Shedlock'** 46.69 79 P P 00 10 37.3 +0.5
baz=309,SNR=5.4
TJN **Taejon** 46.78 277 eP P 00 10 38.1 +0.8
T25A **Trinidad** 46.78 82 eP P 00 10 38.1 +0.5
comp=Z,61nm,1.1s
T25A **Trinidad** 46.78 82 P P 00 10 37.2 -0.5
baz=310,SNR=26

LAZ **Ladron** 46.87 87 *e*P P 00 10 39.3 +1.0
LAZ *ep*P **sP** 00 10 52.8 -1.4
TASM ASL Pad, Albuq 46.94 86 P P 00 10 39.0 +0.2
baz=311,SNR=17
TASM ASL Pad, Albuq 46.94 86 P P 00 10 38.8 -0.1
baz=311,SNR=16
ANMO Albuquerque 46.94 86 *e*P P 00 10 39.4 +0.5
comp=Z,17nm,1.2s
ANMO Albuquerque 46.94 86 *e*P P 00 10 39.4 +0.5
ANMO pmax pmax
comp=Z,17nm,1.2s
ANMO Albuquerque 46.94 86 P P 00 10 38.8 -0.1
baz=311
NRIK Noril'sk 47.06 332 P P 00 10 39.2 +0.1
comp=Z,2.8nm,0.5s,baz=85,slow=13,SNR=7.8
NRIK LR LR 00 32 57.2
comp=Z,107nm,20.0s,baz=80,slow=39
LENM Lemitar 47.13 87 *e*P P 00 10 41.5 +1.2
BNM Barren Site 47.36 87 *e*P P 00 10 42.7 +0.5
ECSD EROS Data Cent 47.41 70 *e*P P 00 10 41.2 -1.0
comp=Z,19nm,1.0s
ECSD EROS Data Cent 47.41 70 P P 00 10 40.9 -1.3
baz=307,SNR=7.0
121A Cookes Peak, D 47.72 89 P P 00 10 44.4 -0.5
baz=313,SNR=7.4
EYMN Ely 47.84 62 *e*P P 00 10 45.2 -0.2
comp=Z,32nm,1.1s
EYMN Ely 47.84 62 P P 00 10 44.8 -0.7
baz=305,SNR=7.7
BGNE Belgrade 47.91 73 *e*P P 00 10 46.7 +0.6
comp=Z,57nm,0.9s
BGNE Belgrade 47.91 73 P P 00 10 44.8 -1.3
baz=308
F37A Hinrichs Farm, 48.51 65 P P 00 10 49.6 -1.1
baz=306,SNR=5.5
CBKS Cedar Bluff 48.57 77 *e*P P 00 10 51.9 +0.6
comp=Z,43nm,1.0s
CBKS *ep*P **pP** 00 11 04.8 +2.2
CBKS Cedar Bluff 48.57 77 *e*P P 00 10 51.9 +0.6
CBKS *e**PP **pP** 00 11 04.8 +2.2
CBKS pmax pmax
comp=Z,43nm,1.0s
CBKS Cedar Bluff 48.57 77 P P 00 10 51.1 -0.1
baz=309
E38A The Farm, Brul 48.59 64 *e*P P 00 10 50.8 -0.5
comp=Z,30nm,1.0s
E38A The Farm, Brul 48.59 64 P P 00 10 51.0 -0.3
baz=306,SNR=6.9
F38A Pierce - Schro 48.80 65 P P 00 10 52.5 -0.3
baz=307,SNR=9.7
C40A Isle Royale Na 49.14 61 *e*P P 00 10 55.0 -0.4
comp=Z,16nm,0.9s
C40A Isle Royale Na 49.14 61 P P 00 10 54.6 -0.9
baz=306
G38A Ridgeland 49.28 65 P P 00 10 55.7 -0.9
baz=307,SNR=6.1
FRB Frobisher Bay 49.28 35 P P 00 10 58.2 +1.9
FRB pmax pmax
comp=Z,23nm,1.1s
E39A Mellen 49.28 63 P P 00 10 55.5 -1.1
baz=307
H38A Maiden Rock 49.34 66 P P 00 10 56.4 -0.6
baz=307,SNR=8.9
F39A Loretta 49.36 64 P P 00 10 56.1 -1.0
baz=307
KBS Kingsbay 49.53 360 *e*P P 00 10 58.6 +0.6
comp=Z,187nm,1.9s
KBS Kingsbay 49.53 360 *e*P P 00 10 58.6 +0.6
KBS pmax pmax
comp=Z,187nm,1.9s
G39A Holcombe 49.60 65 P P 00 10 58.1 -0.9
baz=307,SNR=8.0
E40A Wakefield 49.61 63 P P 00 10 58.7 -0.3
baz=307,SNR=7.7
MNTX Cornudas Mount 49.78 88 *e*P P 00 11 00.9 +0.4
comp=Z,14nm,0.9s
MNTX Cornudas Mount 49.78 88 P P 00 11 00.8 +0.2
baz=313,SNR=18
F40A Park Falls 49.80 64 P P 00 10 59.4 -1.1
baz=307
MSTX Muleshoe 49.86 84 *e*P P 00 11 01.4 +0.2
comp=Z,51nm,1.1s
MSTX Muleshoe 49.86 84 P P 00 11 00.7 -0.5
baz=312,SNR=20
H39A Augusta 49.90 66 P P 00 11 00.4 -0.9
baz=308
AMTX Amarillo 49.93 82 *e*P P 00 11 02.0 +0.3
comp=Z,38nm,1.2s
AMTX Amarillo 49.93 82 P P 00 11 00.9 -0.8
baz=312
D41A Chassel 49.97 62 P P 00 11 01.2 -0.5
baz=307
GDL2 Guadalupe Moun 50.07 87 *e*P P 00 11 03.5 +0.7
E41A Kenton 50.11 63 P P 00 11 01.9 -1.0
baz=307
G40A Rib Lake 50.15 64 *e*P P 00 11 02.7 -0.5
comp=Z,26nm,1.3s
G40A Rib Lake 50.15 64 P P 00 11 02.2 -1.0
baz=308,SNR=5.4
COWI Conover 50.24 63 *e*P P 00 11 03.8 0.0
comp=Z,18nm,1.0s
SPA0 Spitsbergen Ar 50.25 359 *e*P P 00 11 04.7 +1.2
comp=Z,102nm,1.5s
SPITS Spitsbergen Ar 50.25 359 P P 00 11 03.6 +0.1
comp=Z,2.6nm,0.4s,baz=34,slow=6.3,SNR=23
I39A Houston 50.27 67 *e*P P 00 11 03.5 -0.6
comp=Z,46nm,1.1s
I39A Houston 50.27 67 P P 00 11 03.0 -1.1
baz=308,SNR=5.6
KSU1 Kansas State U 50.27 75 *e*P P 00 11 03.7 -0.5
comp=Z,19nm,1.1s
KSU1 Kansas State U 50.27 75 P P 00 11 02.8 -1.3
baz=310
DAG Danmarks Havn 50.31 9 *i*P P 00 11 03.9 0.0
comp=Z,19nm,0.7s
DAG *i* 00 11 16.2
DAG Danmarks Havn 50.31 9 *i*P P 00 11 03.9 0.0
DAG *i* 00 11 16.2
DAG pmax pmax
comp=Z,13nm,0.7s
H40A Chili 50.44 65 P P 00 11 04.1 -1.2
baz=308
F41A Three Lakes 50.48 63 *e*P P 00 11 05.4 -0.3
comp=Z,21nm,0.8s
F41A Three Lakes 50.48 63 P P 00 11 04.8 -0.8
baz=308
J39A Decorah 50.49 67 P P 00 11 04.4 -1.3
baz=308,SNR=6.4
E42A Champion 50.71 62 P P 00 11 07.2 -0.2
baz=308
G41A Antigo 50.76 64 P P 00 11 06.3 -1.5
baz=308
I40A Norwalk 50.76 66 P P 00 11 07.2 -0.6
baz=308
K39A Oelwein 50.77 68 P P 00 11 06.9 -1.0
baz=309
H41A Junction City 50.86 65 *e*P P 00 11 07.5 -1.0
comp=Z,18nm,0.9s
H41A Junction City 50.86 65 P P 00 11 08.2 -0.3
baz=308
TLY Talaya 50.90 307 *e*P P 00 11 10.1 +1.3
comp=Z,18nm,0.8s
TLY Talaya 50.90 307 *e*P P 00 11 09.8 +1.1
TLY pmax pmax
comp=Z,34nm,0.8s
TLY MLR MLR
comp=Z,216nm,19.0s
J40A Soldiers Grove 51.00 67 P P 00 11 08.8 -0.7
baz=309
F42A Maple Grove Fa 51.00 63 P P 00 11 09.0 -0.6
baz=308
ILULI Ilulissat 51.04 24 *e*P P 00 11 11.1 +1.6
comp=Z,46nm,1.2s
ILULI Ilulissat 51.04 24 *e*P P 00 11 11.1 +1.6
ILULI pmax pmax
comp=Z,46nm,1.2s
L39A Vinton 51.07 69 P P 00 11 09.2 -0.9
baz=309
I41A Arkdale 51.08 65 P P 00 11 09.2 -1.0
baz=308,SNR=5.1
G42A Mountain 51.16 63 *e*P P 00 11 09.9 -0.8
comp=Z,59nm,1.5s
G42A Mountain 51.16 63 P P 00 11 10.3 -0.4
baz=308
K40A Colesburg 51.21 68 P P 00 11 10.0 -1.2
baz=309
SUMG Summit 51.24 17 *e*P P 00 11 12.8 +1.3
comp=Z,37nm,1.0s
SUMG Summit 51.24 17 *i*P P 00 11 13.5 +2.0
comp=Z,87nm,1.0s
SUMG *i* 00 11 25.7
SUMG Summit 51.24 17 *i*P P 00 11 13.5 +2.0
SUMG *i* 00 11 25.7
SUMG pmax pmax
comp=Z,87nm,1.0s
E43A Lone Tree Farm 51.25 62 *e*P P 00 11 10.6 -0.8
comp=Z,25nm,1.0s
E43A Lone Tree Farm 51.25 62 P P 00 11 09.9 -1.5
baz=308
M39A Webster 51.38 69 P P 00 11 11.3 -1.2
baz=309,SNR=9.8
J41A Loganville 51.43 66 P P 00 11 11.4 -1.4
baz=309
ULN Ulaanbaatar 51.46 301 *e*P P 00 11 12.9 -0.3
comp=Z,10nm,0.8s
ULN Ulaanbaatar 51.46 301 *c i*P P 00 11 13.1 -0.1
ULN pmax pmax
comp=Z,11nm,0.9s
F43A Flat Rock, Esc 51.49 62 P P 00 11 12.1 -1.1
baz=308
H42A Shiocton 51.55 64 P P 00 11 12.4 -1.3
baz=309
G43A Wallace 51.56 63 P P 00 11 12.7 -1.0
baz=308
L40A Anamosa 51.56 68 *e*P P 00 11 13.6 -0.2
comp=Z,40nm,1.1s
L40A Anamosa 51.56 68 P P 00 11 12.4 -1.4
baz=309
JFWS Jewell Farm 51.58 67 *e*P P 00 11 13.3 -0.7
comp=Z,21nm,1.0s
JFWS Jewell Farm 51.58 67 *e*P P 00 11 13.3 -0.7
JFWS pmax pmax
comp=Z,21nm,1.0s
JFWS Jewell Farm 51.58 67 P P 00 11 12.8 -1.2
baz=309
I42A Draeger Farm, 51.73 65 *e*P P 00 11 14.8 -0.2
comp=Z,23nm,1.0s
I42A Draeger Farm, 51.73 65 P P 00 11 13.6 -1.4
baz=309
K41A Shullsburg 51.74 67 P P 00 11 13.7 -1.4
baz=309
WMOK Wichita Mounta 51.80 80 *e*P P 00 11 15.2 -0.5
comp=Z,22nm,0.9s
WMOK Wichita Mounta 51.80 80 *e*P P 00 11 15.2 -0.5
WMOK pmax pmax
comp=Z,22nm,0.9s
WMOK Wichita Mounta 51.80 80 P P 00 11 15.4 -0.4
baz=312,SNR=20
F44A Big Bay de Noc 51.81 62 P P 00 11 14.3 -1.2
baz=309
M40A Post Highland 51.81 69 P P 00 11 13.9 -1.7
baz=310
SONM Songino Array 51.83 301 P P 00 11 16.3 +0.4
comp=Z,5.6nm,1.0s,baz=58,slow=7.0,SNR=25
ZAK Zakamensk 51.87 306 *e*P P 00 11 16.0 -0.1
ZAK pmax pmax
comp=Z,7.0nm,1.3s
J42A Columbus 51.97 66 P P 00 11 15.3 -1.6
baz=309
L41A Preston 51.97 68 P P 00 11 15.3 -1.5
baz=310
H43A Windswept, Lux 52.00 64 *e*P P 00 11 15.3 -1.7
comp=Z,44nm,0.9s
H43A Windswept, Lux 52.00 64 P P 00 11 15.5 -1.6
baz=309
N40A Mertquake, Sal 52.10 70 P P 00 11 16.8 -1.0
baz=310
K42A Prairie Point, 52.18 66 P P 00 11 16.6 -1.8
baz=310
MOY Mondy 52.22 308 *e*P P 00 11 21.3 +2.6
MOY pmax pmax
comp=Z,16nm,1.6s
E45A Wooded Hills, 52.25 61 P P 00 11 18.3 -0.6
baz=309
J43A Natural Harves 52.33 65 P P 00 11 17.8 -1.7
baz=309
M41A Milan 52.39 69 P P 00 11 18.8 -1.2
baz=310,SNR=5.1
TX31 Lajitas Ar. Si 52.48 89 *e*P P 00 11 20.8 -0.1
TXAR Lajitas Array 52.48 89 P P 00 11 20.8 -0.1
comp=Z,18nm,0.9s,baz=297,slow=5.5,SNR=96
D46A Sault St. Mari 52.52 59 P P 00 11 20.1 -0.8
baz=309
N41A Hart Midland 52.64 69 P P 00 11 20.4 -1.4
baz=310
ABTX Abilene, Hawle 52.70 83 *e*P P 00 11 22.6 +0.2
comp=Z,55nm,1.3s
ABTX Abilene, Hawle 52.70 83 P P 00 11 22.1 -0.3
baz=313,SNR=12
E46A Sault Ste Mari 52.71 60 P P 00 11 21.6 -0.7
baz=309,SNR=6.3
SFJD Kangerlussuaq 52.77 26 *i*P P 00 11 26.6 +4.2
SFJD *i* 00 11 37.4
SFJD Kangerlussuaq 52.77 26 *e*P P 00 11 26.6 +4.2
SFJD *i* 00 11 37.4
F46A Macinaw City C 52.84 61 P P 00 11 22.8 -0.4
baz=309,SNR=5.2
TUL1 Leonard 52.84 77 *e*P P 00 11 23.2 -0.2
comp=Z,26nm,1.0s
TUL1 Leonard 52.84 77 P P 00 11 22.3 -1.1
baz=312
H45A Beulah 52.86 63 P P 00 11 22.9 -0.5
baz=310
D47A Chapleau 52.92 59 P P 00 11 22.6 -1.2
baz=309
O41A Passleys Farm, 53.00 70 P P 00 11 23.0 -1.5
baz=311,SNR=6.4
N42A Yates City 53.03 69 P P 00 11 23.2 -1.5
baz=310
G46A Petoskey 53.07 61 P P 00 11 23.6 -1.4
baz=310
TIA Tai'an 53.14 284 P P 00 11 25.0 -0.6
TIA pmax pmax
comp=Z,5.0nm,1.0s
P41A Barry, Barry 53.19 70 P P 00 11 24.7 -1.1
baz=311
E47A Iron Bridge 53.21 59 P P 00 11 25.1 -0.8
baz=310
H46A Fife Lake 53.38 62 P P 00 11 26.3 -0.9
baz=310
HHC Hu-ho-hao-te 53.38 292 *e*P P 00 11 28.3 +0.8
HHC pP pP 00 11 38.4 -0.9
HHC sP pwP 00 11 48.1 +2.8
HHC S S 00 18 50.9 -5.0
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,93nm,4.1s
HHC LR LR
comp=Z,170nm,18.2s
HHC LR LR
comp=Z,110nm,13.5s
HHC LR LR
comp=Z,230nm,13.5s
J45A Montague 53.43 64 P P 00 11 26.4 -1.2
baz=310
N43A Stutzman Famil 53.46 68 P P 00 11 26.5 -1.4
baz=311
GLMI Grayling 53.52 62 P P 00 11 27.3 -0.9
baz=310
D48A Paudash Townsh 53.53 58 P P 00 11 26.9 -1.4
baz=310
Q41A Truxton 53.56 71 P P 00 11 27.1 -1.5
baz=311
HDIL Hopedale 53.64 69 P P 00 11 27.9 -1.3
baz=311
P42A Winchester 53.66 70 P P 00 11 28.0 -1.4
baz=311
G47A Hillman 53.71 61 P P 00 11 28.3 -1.4
baz=310
HHAR Hobbs 53.71 76 *e*P P 00 11 28.6 -1.1
comp=Z,14nm,1.0s
E48A Lockeyer 53.78 59 P P 00 11 29.2 -0.9
baz=310
H47A Mio 53.89 62 P P 00 11 29.8 -1.1
baz=310
R41A Rosebud 53.90 72 P P 00 11 28.6 -2.5
baz=312,SNR=6.6
F48A Evansville 53.96 60 P P 00 11 30.2 -1.3
baz=310
X37A Clayton 53.98 78 *e*P P 00 11 31.5 -0.3
comp=Z,25nm,0.9s
Q42A Golden Eagle 53.99 71 P P 00 11 30.4 -1.4
baz=311,SNR=6.0
JCT Junction City 54.08 85 *e*P P 00 11 32.0 -0.5
comp=Z,53nm,1.4s
JCT Junction City 54.08 85 P P 00 11 31.4 -1.2
baz=314,SNR=9.3
I47A Gladwin 54.10 62 P P 00 11 32.1 -0.3
baz=310
P43A Skaggs, Pawnee 54.11 70 P P 00 11 31.3 -1.3
baz=311
CCM Cathedral Cave 54.14 72 *e*P P 00 11 31.2 -1.7
comp=Z,12nm,0.8s
CCM Cathedral Cave 54.14 72 *e*P P 00 11 31.2 -1.7
CCM pmax pmax
comp=Z,12nm,0.8s
CCM Cathedral Cave 54.14 72 P P 00 11 31.2 -1.7
baz=312
S41A Jillco Farms, 54.16 73 P P 00 11 30.8 -2.2
baz=312,SNR=7.0
K46A Dorr 54.25 64 P P 00 11 31.8 -1.8
baz=311
R42A Luebbering 54.26 72 P P 00 11 32.5 -1.2
baz=312
M45A Boilermakers S 54.27 67 P P 00 11 31.9 -1.9
baz=311
F49A Sandfield 54.31 59 P P 00 11 32.9 -1.0
baz=310
U40A Yellville 54.31 75 P P 00 11 32.3 -1.9
baz=312,SNR=5.6
I48A Sherman Twp 54.43 62 P P 00 11 34.0 -0.9
baz=311
J47A Sunmer 54.43 63 P P 00 11 33.2 -1.7
baz=311
BTO Baotou 54.43 292 *e*P P 00 11 34.1 -1.0
Q43A New Douglas 54.46 70 P P 00 11 34.2 -1.0
baz=312
WHTX Lake Whitney, 54.48 82 *e*P P 00 11 35.5 +0.1
comp=Z,72nm,1.0s
WHTX Lake Whitney, 54.48 82 P P 00 11 34.6 -0.8
baz=314,SNR=5.2
W39A Magazine 54.53 76 *e*P P 00 11 35.1 -0.6
comp=Z,46nm,1.4s
W39A Magazine 54.53 76 P P 00 11 34.9 -0.8
baz=313,SNR=6.4
E50A Wahnapitae 54.57 58 P P 00 11 34.7 -1.2
baz=310
S42A Caledonia 54.60 72 P P 00 11 34.0 -2.2
baz=312,SNR=5.2
K47A Vermontville 54.70 64 P P 00 11 36.1 -0.8
baz=311
P44A Sand Creek, Wi 54.74 69 P P 00 11 36.4 -0.8
baz=312
LSQQ Lebel-sur-Quev 54.79 54 P P 00 11 36.1 -1.3
baz=311
D51A Lot 18 Range I 54.85 57 P P 00 11 37.0 -1.0
baz=311,SNR=7.0
U41A Viola 54.88 74 P P 00 11 36.1 -2.1
baz=312
Q44A Meyer Farm, Va 54.89 70 P P 00 11 37.6 -0.7
baz=312
NJ2 Nanjing 54.91 279 *e*P P 00 11 39.0 +0.5
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
TOBO Tobermory, Bru 54.94 60 P P 00 11 37.3 -1.3
baz=311
SFIN Lafayette 55.02 67 *e*P P 00 11 40.3 +1.1
comp=Z,63nm,1.5s
SFIN Lafayette 55.02 67 P P 00 11 37.6 -1.6
baz=312
L47A Sherwood 55.04 65 P P 00 11 37.9 -1.4
baz=311
MIAR Mount Ida 55.10 77 *e*P P 00 11 39.2 -0.7
comp=Z,36nm,1.1s
MIAR Mount Ida 55.10 77 *e*P P 00 11 39.2 -0.7
MIAR pmax pmax
comp=Z,36nm,1.1s
MIAR Mount Ida 55.10 77 P P 00 11 38.9 -0.9
baz=313,SNR=12
K48A Perry 55.10 63 P P 00 11 39.0 -0.8
baz=311
S43A Fulton Ridge, 55.15 72 P P 00 11 38.4 -1.8
baz=312,SNR=7.4
E51A G1948 Merrick 55.16 57 P P 00 11 39.4 -0.7
baz=311,SNR=7.6
VLDQ Val d'Or 55.17 55 *e*P P 00 11 38.5 -1.7
comp=Z,16nm,1.1s
435B Jarrell 55.24 83 *e*P P 00 11 41.3 +0.4
comp=Z,41nm,1.3s
435B Jarrell 55.24 83 P P 00 11 40.2 -0.7
baz=314
J49A Marlette 55.28 62 P P 00 11 39.9 -1.1
baz=311
R44A Waltonville 55.29 71 P P 00 11 40.0 -1.1
baz=312
F51A Arnstein 55.33 58 P P 00 11 39.7 -1.6
baz=311
T43A Greenville 55.35 72 P P 00 11 39.5 -2.1
baz=312,SNR=6.8
Q45A Warren Harvey, 55.39 69 P P 00 11 41.0 -0.9
baz=312
D52A ZEK Kipawa Sen 55.43 56 P P 00 11 40.8 -1.2
baz=311
P46A Rosedale 55.46 68 P P 00 11 41.3 -1.1
baz=312
K49A Clarkson 55.48 63 P P 00 11 41.6 -0.9
baz=311
N47A Urbana 55.49 66 P P 00 11 41.0 -1.5
baz=312
L48A N Adams 55.50 64 P P 00 11 40.9 -1.7
baz=312
CHGQ Chibougamau 55.52 51 P P 00 11 41.6 -1.0
baz=311
OLIL Olney 55.53 69 *e*P P 00 11 42.2 -0.7
comp=Z,36nm,1.0s
KLBO Killbear Provi 55.55 59 P P 00 11 42.7 -0.2
baz=311
X40A Basin Creek Fa 55.59 76 *e*P P 00 11 43.2 -0.2
comp=Z,19nm,1.1s
X40A Basin Creek Fa 55.59 76 P P 00 11 42.4 -0.9
baz=313,SNR=6.7
BRCO Bruce Peninsul 55.62 60 P P 00 11 43.3 -0.2
baz=311
M48A Edgerton 55.64 65 *e*P P 00 11 42.9 -0.8
M48A *ep*P **pP** 00 11 56.2 +0.9
M48A Edgerton 55.64 65 P P 00 11 42.6 -1.1
baz=312
BASO Ashfield 55.66 61 P P 00 11 42.8 -0.9
baz=311
SCHQ Schefferville 55.66 43 *e*P P 00 11 44.5 +0.9
comp=Z,26nm,0.9s
SCHQ Schefferville 55.66 43 P P 00 11 44.1 +0.5
comp=Z,22nm,0.9s,baz=316,slow=7.6,SNR=14
SCO Scoresbysund 55.72 13 *e*P P 00 11 44.8 +1.0
comp=Z,54nm,1.8s
SCO Scoresbysund 55.72 13 *i*P P 00 11 44.3 +0.5
comp=Z,7.1nm,0.7s
SCO Scoresbysund 55.72 13 *e*P P 00 11 44.8 +1.0
SCO pmax pmax
comp=Z,54nm,1.8s
R45A Skylar, Fairfi 55.72 70 P P 00 11 43.5 -0.8
baz=312
F52A Sundridge 55.73 58 P P 00 11 43.7 -0.5
baz=311
E52A Mattawa 55.76 57 P P 00 11 43.6 -0.8
baz=311
833A Chaparral WMA, 55.84 86 *e*P P 00 11 45.5 +0.2
comp=Z,33nm,1.1s
833A Chaparral WMA, 55.84 86 P P 00 11 44.7 -0.6
baz=316,SNR=6.2
N48A Decatur 55.88 66 P P 00 11 43.8 -1.5
baz=312
BUKO Buck Lake 55.92 58 P P 00 11 46.0 +0.4
baz=312
S45A Carrier Mills 55.96 71 P P 00 11 44.6 -1.3
baz=312
WLAR White Oak Lake 55.97 77 *e*P P 00 11 46.1 0.0
comp=Z,56nm,0.8s
M49A Liberty Center 56.06 64 P P 00 11 45.6 -1.1
baz=312
P47A Martinsville 56.09 68 P P 00 11 45.3 -1.6
baz=312
I51A Listowel 56.14 61 P P 00 11 47.0 -0.3
baz=312
H52A Wyevale 56.19 59 P P 00 11 46.6 -0.9
baz=312
E53A Dumoine, Ponti 56.21 56 P P 00 11 46.3 -1.3
baz=312,SNR=12
D54A Lac Fusel, La 56.21 55 P P 00 11 46.7 -1.0
baz=312
O48A Farmland 56.21 66 P P 00 11 46.1 -1.7
baz=312

R46A	Gibon Southern	56.23	70	P		P	00 11 46.1	-1.8
	baz=312							
ALGO	Algonquin Park	56.29	57	P		P	00 11 47.0	-1.2
	baz=312,SNR=7.5							
USIN	University of	56.30	70	*eP*		P	00 11 47.7	-0.8
	comp=Z,43nm,0.9s							
NATX	Nacogdoches	56.35	80	P		P	00 11 48.9	+0.1
	baz=314							
Q47A	Bedord North L	56.37	68	P		P	00 11 48.1	-0.8
	baz=312							
T45A	Paducah	56.37	71	P		P	00 11 47.9	-1.0
	baz=313							
ELFO	Elginfield	56.39	61	P		P	00 11 48.5	-0.5
	baz=312							
E54A	Lac Daplat, Po	56.42	56	P		P	00 11 48.3	-0.9
	baz=312,SNR=7.6							
I52A	Shelburne	56.42	60	P		P	00 11 49.1	-0.2
	baz=312							
G53A	Haliburton	56.54	58	P		P	00 11 47.6	-2.4
	baz=312							
P48A	Milroy	56.59	67	P		P	00 11 49.3	-1.2
	baz=312							
K51A	Iona Station	56.60	62	P		P	00 11 49.2	-1.2
	baz=312							
M50A	Fremont	56.63	64	P		P	00 11 49.1	-1.7
	baz=312							
O49A	Covington	56.72	66	P		P	00 11 50.0	-1.4
	baz=312							
R47A	Wooly Knot Far	56.74	69	P		P	00 11 50.5	-1.0
	baz=313							
X43A	Marvell	56.74	75	P		P	00 11 50.4	-1.1
	baz=314							
Q48A	North Vernon	56.77	68	P		P	00 11 50.7	-1.1
	baz=313							
T46A	Princeton	56.79	71	P		P	00 11 50.8	-1.1
	baz=313							
J52A	Paris	56.81	61	P		P	00 11 51.1	-0.9
	baz=312							
PEMO	Pembroke	56.89	57	P		P	00 11 52.4	-0.2
	baz=312,SNR=5.7							
HKT	Hockley	56.90	82	*eP*		P	00 11 53.2	+0.5
	comp=Z,46nm,1.5s							
HKT	Hockley	56.90	82	P		P	00 11 51.7	-1.0
WCI	Wyandotte Cave	56.92	69	*eP*		P	00 11 52.0	-0.8
	comp=Z,14nm,0.8s							
WCI	Wyandotte Cave	56.92	69	*eP*		P	00 11 52.0	-0.8
WCI				pmax		pmax		
	comp=Z,14nm,0.8s							
WCI	Wyandotte Cave	56.92	69	P		P	00 11 51.4	-1.4
	baz=313							
P49A	Miami Univ. Ec	56.95	67	P		P	00 11 51.9	-1.1
	baz=313							
BANO	Bancroft	56.98	58	P		P	00 11 52.8	-0.4
	baz=312,SNR=5.8							
N50A	Nevada	57.00	65	P		P	00 11 52.7	-0.7
	baz=312							
S47A	Hartford	57.01	70	P		P	00 11 52.8	-0.7
	baz=313							
PKRO	Pickering	57.08	59	P		P	00 11 53.2	-0.7
	baz=312							
U46A	Springville	57.09	72	P		P	00 11 52.8	-1.2
	baz=313							
O50A	Cable	57.15	65	P		P	00 11 52.8	-1.7
	baz=313							
Q49A	Aurora	57.20	67	P		P	00 11 53.8	-1.0
	baz=313							
TYNO	Tyneside	57.24	61	P		P	00 11 53.7	-1.3
	baz=312							
F55A	Otter Lake	57.25	56	P		P	00 11 54.5	-0.5
	baz=313							
T47A	Sharon Grove	57.29	70	*eP*		P	00 11 54.8	-0.7
T47A				*ep*P		pP	00 12 07.9	+0.7
T47A	Sharon Grove	57.29	70	P		P	00 11 54.4	-1.0
	baz=313							
DRWO	Darlington Wes	57.33	59	P		P	00 11 55.0	-0.6
	baz=313							
DRCO	St. Marys Ceme	57.34	59	P		P	00 11 55.2	-0.5
	baz=313							
PLVO	Plevna	57.41	57	*eP*		P	00 11 56.5	+0.3
	comp=Z,27nm,1.0s							
PLVO	Plevna	57.41	57	P		P	00 11 56.1	-0.1
	baz=313,SNR=6.4							
P50A	Jamestown	57.42	66	P		P	00 11 55.2	-1.1
	baz=313,SNR=5.7							
S48A	Wiedeman Farm,	57.45	69	P		P	00 11 55.2	-1.4
	baz=313							
G55A	Calabogie	57.45	57	P		P	00 11 56.0	-0.5
	baz=313,SNR=8.8							
WVT	Waverly	57.45	72	*eP*		P	00 11 56.0	-0.6
	comp=Z,37nm,1.3s							
WVT	Waverly	57.45	72	*eP*		P	00 11 56.0	-0.6
WVT				pmax		pmax		
	comp=Z,37nm,1.3s							
WVT	Waverly	57.45	72	P		P	00 11 56.1	-0.6
	baz=313							
ACSO	Alum Creek Sta	57.46	65	P		P	00 11 55.9	-0.6
	baz=313							
WLVO	Wesleyville	57.47	59	P		P	00 11 55.9	-0.7
	baz=313							
DELO	Deloro Mine	57.48	58	P		P	00 11 56.0	-0.7
	baz=313							
V46A	Holladay	57.51	72	P		P	00 11 55.9	-1.1
	baz=314							
U47A	Clarksville	57.56	71	P		P	00 11 56.9	-0.4
	baz=313							
T48A	Bowling Green	57.62	70	P		P	00 11 57.0	-0.8
	baz=313							
OXF	Oxford	57.63	74	*eP*		P	00 11 57.7	-0.1
	comp=Z,73nm,0.9s							
OXF	Oxford	57.63	74	*eP*		P	00 11 57.7	-0.1
OXF				pmax		pmax		
	comp=Z,73nm,0.9s							
OXF	Oxford	57.63	74	P		P	00 11 57.5	-0.4
	baz=314							
I55A	Frankford	57.65	58	P		P	00 11 57.5	-0.4
	baz=313							
H55A	Tweed	57.69	58	P		P	00 11 57.0	-1.2
	baz=313							
O51A	Pataskala	57.73	65	P		P	00 11 56.6	-1.9
	baz=313							
J54A	Appleton	57.78	60	P		P	00 11 57.4	-1.4
	baz=313							
N52A	McGinn's Farm,	57.79	64	P		P	00 11 57.8	-1.1
	baz=313							
L53A	Girard	57.80	62	P		P	00 11 57.0	-1.9
	baz=313							
S49A	Springfield	57.80	69	P		P	00 11 57.0	-2.1
	baz=313							
W46A	Michie	57.81	73	P		P	00 11 58.0	-1.2
	baz=314							
Q50A	Georgetown	57.83	67	P		P	00 11 58.1	-1.2
	baz=313							
V47A	Nunnelly	57.84	72	P		P	00 11 58.1	-1.2
	baz=314							
TRQ	Mont Tremblant	57.91	55	*eP*		P	00 11 59.1	-0.6
M53A	WI Miller and	57.92	62	P		P	00 11 58.2	-1.6
	baz=313							
P51A	Williamsport	57.92	66	P		P	00 11 58.4	-1.4
	baz=313							
ORIO	Orleans, Innes	57.94	56	P		P	00 11 57.5	-2.4
	baz=313							
U48A	Cassie Pea, Po	57.95	70	P		P	00 11 58.6	-1.5
	baz=314							
MEDO	Medina	57.95	60	P		P	00 11 59.0	-1.0
	baz=313							
LATQ	La Tuque	58.00	53	P		P	00 11 59.3	-1.0
	baz=313							
R50A	Paris	58.02	67	P		P	00 11 58.7	-1.9
	baz=313							
ZAA0	Zalesovo Array	58.03	318	*eP*		P	00 12 02.4	+2.0
	comp=Z,4,3nm,0.8s							
ZALV	Zalesovo Beam	58.03	318	*eP*		P	00 12 03.0	+2.6
ZALV	Zalesovo Beam	58.03	318	*eP*		P	00 12 03.0	+2.6
ZALV	Zalesovo Beam	58.03	318	P		P	00 12 01.0	+0.6
	comp=Z,1.1nm,0.5s,baz=46,slow=6.4,SNR=7.1							
ZALV				LR		LR	00 37 35.4	
	comp=Z,83nm,21.1s,baz=70,slow=37							
NVS	Novosibirsk	58.04	320	*eP*		P	00 12 01.6	+1.2
ALLY	Alegheny Colle	58.07	62	*eP*		P	00 12 00.8	-0.1
	comp=Z,61nm,1.0s							
Q51A	Peebles	58.07	66	*eP*		P	00 12 00.5	-0.5
	comp=Z,32nm,1.1s							
Q51A	Peebles	58.07	66	P		P	00 11 59.4	-1.5
	baz=313							
X46A	Booneville	58.09	73	P		P	00 11 59.9	-1.2
	baz=314							
T49A	Edmonton	58.13	69	P		P	00 11 59.6	-1.7
	baz=314							
H56A	Elgin	58.14	57	P		P	00 12 00.7	-0.6
	baz=313,SNR=6.9							
ALFO	Alfred	58.14	55	P		P	00 12 00.0	-1.3
	baz=313							
O52A	Adamsville	58.18	64	*eP*		P	00 12 00.8	-0.8
	comp=Z,38nm,1.1s							
O52A	Adamsville	58.18	64	P		P	00 12 00.1	-1.6
	baz=313							
W47A	Westpoint	58.20	72	P		P	00 12 00.7	-1.1
	baz=314							
PECO	Prince Edward	58.21	58	P		P	00 12 00.6	-1.1
	baz=313							
J55A	Hilton	58.23	59	P		P	00 12 00.4	-1.5
	baz=313							
N53A	Lisbon	58.26	63	P		P	00 12 00.3	-1.9
	baz=313							
V48A	Smith Brothers	58.31	71	*eP*		P	00 12 02.3	-0.3
	comp=Z,36nm,1.1s							
V48A	Smith Brothers	58.31	71	P		P	00 12 01.8	-0.9
	baz=314							
P52A	Corning	58.34	65	P		P	00 12 01.4	-1.4
	baz=313							
S50A	Richmond	58.39	68	P		P	00 12 01.7	-1.5
	baz=314							
U49A	Red Boiling Sp	58.39	70	P		P	00 12 02.2	-1.0
	baz=314							
M54A	Oil Creek Stat	58.43	62	*eP*		P	00 12 03.8	+0.4
	comp=Z,106nm,1.8s							
M54A	Oil Creek Stat	58.43	62	P		P	00 12 02.8	-0.6
	baz=313							
R51A	Hillsboro	58.43	67	P		P	00 12 02.3	-1.2
	baz=314,SNR=7.3							
O53A	New Philadelph	58.44	64	P		P	00 12 02.7	-0.8
	baz=313							
K55A	Perry	58.46	60	P		P	00 12 03.2	-0.4
	baz=313							
ARCES	ARCESS Array B	58.52	354	*eP*		P	00 12 04.5	+0.9
ARCES	ARCESS Array B	58.52	354	*eP*		P	00 12 04.5	+0.9
ARCES	ARCESS Array B	58.52	354	P		P	00 12 02.4	-1.2
	comp=Z,6.0nm,0.7s,baz=19,slow=9.0,SNR=10							
ARCES				LR		LR	00 37 31.4	
	comp=Z,202nm,21.5s,baz=310,slow=36							
X47A	Russelville	58.55	73	P		P	00 12 02.4	-1.9
	baz=314							
VBMS	Vicksburg	58.55	77	P		P	00 12 03.4	-1.0
	baz=315							
T50A	Nancy	58.59	69	P		P	00 12 03.1	-1.5
	baz=314							
N54A	Moraine State	58.62	62	*eP*		P	00 12 04.1	-0.7
	comp=Z,23nm,1.0s							
N54A	Moraine State	58.62	62	P		P	00 12 03.3	-1.5
	baz=314							
L55A	Hinsdale	58.63	61	P		P	00 12 04.5	-0.3
	baz=314							
W48A	Pulaski	58.66	72	P		P	00 12 03.9	-1.2
	baz=314,SNR=5.2							
Q52A	Bidwell	58.73	66	P		P	00 12 03.9	-1.5
	baz=314							
V49A	McMinnville	58.84	71	P		P	00 12 05.2	-1.1
	baz=314							
P53A	Whipple	58.86	65	P		P	00 12 05.1	-1.3
	baz=314							
S51A	Beattyville	58.88	68	P		P	00 12 04.7	-1.9
	baz=314							
R52A	Catlettsburg	58.94	66	P		P	00 12 05.8	-1.2
	baz=314							
O54A	Avella	58.95	63	P		P	00 12 05.9	-1.1
	baz=314							
M55A	Ridgway	58.95	61	P		P	00 12 05.9	-1.1
	baz=314,SNR=7.4							
LONY	Lake Ozonia	58.99	56	P		P	00 12 05.7	-1.6
	baz=314							
U50A	Jamestown	59.01	69	P		P	00 12 06.5	-0.9
	baz=314							
W49A	Belvidere	59.07	71	P		P	00 12 06.1	-1.8
	baz=314							
X48A	Hartselle	59.08	72	P		P	00 12 06.4	-1.5
	baz=314							
T51A	Gray	59.14	68	P		P	00 12 07.0	-1.4
	baz=314							
S52A	Salyersville	59.15	67	P		P	00 12 07.5	-1.0
	baz=314							
Q53A	Leroy	59.22	65	P		P	00 12 07.7	-1.2
	baz=314							
P54A	Burton	59.29	64	P		P	00 12 08.1	-1.3
	baz=314							
N55A	Marion Center	59.30	62	P		P	00 12 08.1	-1.4
	baz=314							
LVZ	Lovozero	59.33	350	*eP*		P	00 12 09.7	+0.4
	comp=Z,37nm,0.9s							
LVZ	Lovozero	59.33	350	*eP*		P	00 12 10.2	+1.0
LVZ				pmax		pmax		
	comp=Z,27nm,0.8s							
R53A	Hurricane	59.34	66	P		P	00 12 08.1	-1.6
	baz=314							
V50A	Pikevile	59.37	70	P		P	00 12 08.2	-1.8
	baz=314							
Y48A	Jasper	59.38	73	P		P	00 12 08.3	-1.7
	baz=315							
X49A	Woodville	59.46	72	P		P	00 12 09.2	-1.4
	baz=314							
U51A	La Follette	59.51	69	P		P	00 12 09.2	-1.7
	baz=314							
Q54A	Coxs Mills	59.52	65	P		P	00 12 09.4	-1.5
	baz=314							
O55A	Ligonier	59.52	63	P		P	00 12 09.1	-1.9
	baz=314							
XAN	Xi'an	59.53	287	P		P	00 12 10.3	-0.8
XAN				pP		pP	00 12 20.4	-2.8
XAN				sP		sP	00 12 24.0	-4.1
XAN				pmax		pmax		
	comp=Z,9.0nm,1.0s							
XAN				pmax		pmax		
	comp=Z,100nm,7.1s							
XAN				LR		LR		
	comp=Z,150nm,19.5s							
XAN				LR		LR		
	comp=Z,140nm,19.5s							
XAN	Xi'an	59.53	287	*eP*		P	00 12 10.4	-0.8
	comp=Z,41nm,0.8s							
XAN	Xi'an	59.53	287	*eP*		P	00 12 10.4	-0.8
XAN				pmax		pmax		
	comp=Z,41nm,0.8s							
W50A	Signal Mountai	59.58	71	*eP*		P	00 12 10.9	-0.5
	comp=Z,31nm,1.1s							
W50A	Signal Mountai	59.58	71	P		P	00 12 09.9	-1.5
	baz=314							
147A	Livingston	59.59	75	*eP*		P	00 12 11.4	-0.1
	comp=Z,72nm,1.3s							
147A	Livingston	59.59	75	P		P	00 12 09.9	-1.6
	baz=315							
MCWV	Mont Chateau	59.60	63	*eP*		P	00 12 11.3	-0.2
	comp=Z,14nm,1.0s							
MCWV	Mont Chateau	59.60	63	P		P	00 12 09.3	-2.2
	baz=314							
NCB	Newcomb	59.63	57	*eP*		P	00 12 12.5	+0.8
	comp=Z,19nm,1.1s							
TZTN	Tazewell	59.66	68	P		P	00 12 10.1	-2.0
	baz=314							
S53A	Williamson	59.69	67	P		P	00 12 10.8	-1.5
	baz=314							
MOQ	Mont Orford	59.70	54	*eP*		P	00 12 11.8	-0.4
P55A	Reedsville	59.72	64	P		P	00 12 11.4	-0.9
	baz=314							
Y49A	Blount Mountai	59.87	73	P		P	00 12 12.2	-1.2
	baz=315							
U52A	Thorn Hill	59.88	68	P		P	00 12 11.7	-1.8
	baz=314							
O56A	Kue Knob Stat	59.89	62	*eP*		P	00 12 13.0	-0.6
	comp=Z,22nm,0.9s							
O56A	Blue Knob Stat	59.89	62	P		P	00 12 12.0	-1.5
	baz=314							
X50B	Fort Payne	59.89	72	P		P	00 12 12.2	-1.5
	baz=315							
W51A	Cleveland	59.93	70	P		P	00 12 12.1	-1.7
	baz=315							
Q55A	Buckhannon	59.93	64	P		P	00 12 12.3	-1.6
	baz=314							
DGZ	Jazzator, Alta	59.94	313	*c i*P		P	00 12 14.6	+0.7
DGZ				pmax		pmax		
	comp=Z,4,0nm,0.9s							
BINY	Binghamton	59.94	59	*eP*		P	00 12 14.0	+0.2
	comp=Z,29nm,1.0s							
BINY	Binghamton	59.94	59	P		P	00 12 13.3	-0.5
	baz=314,SNR=5.9							
T53A	Wise	59.94	67	P		P	00 12 12.4	-1.6
	baz=314							
R54A	Victor	59.99	65	P		P	00 12 13.1	-1.1
	baz=314							
SSPA	Standing Stone	60.00	61	*eP*		P	00 12 13.8	-0.4
	comp=Z,24nm,0.9s							
SSPA	Standing Stone	60.00	61	P		P	00 12 13.1	-1.1
	baz=314							
LRAL	Lakeview Retre	60.09	74	P		P	00 12 13.5	-1.5
	baz=315							
Y50A	Piedmont	60.24	72	P		P	00 12 14.2	-1.8
	baz=315							
Z49A	Columbiana	60.26	73	P		P	00 12 15.2	-0.9
	baz=315							
X51A	Calhoun	60.28	71	P		P	00 12 15.4	-0.9
	baz=315							
U53A	Fall Branch	60.35	68	P		P	00 12 15.9	-0.9
	baz=315							
R55A	Marlinton	60.41	65	P		P	00 12 16.4	-0.7
	baz=315							
T54A	Tazewell	60.44	67	P		P	00 12 16.2	-1.1
	baz=315							
149A	Jones	60.52	74	P		P	00 12 16.4	-1.5
	baz=315							
S55A	Lewisburg	60.55	65	P		P	00 12 17.2	-0.9
	baz=315							
Z50A	Ashland	60.58	73	*eP*		P	00 12 16.9	-1.4
	comp=Z,32nm,0.9s							
Z50A	Ashland	60.58	73	P		P	00 12 16.9	-1.4
	baz=315,SNR=5.3							
LBNH	Lisbon	60.62	55	P		P	00 12 17.2	-1.2
	baz=315							
Y51A	Rockmart	60.63	72	P		P	00 12 16.5	-2.1
	baz=315							
U54A	Nelsons Funny	60.68	67	P		P	00 12 17.5	-1.5
	baz=315							
V53A	Saluda	60.70	69	P		P	00 12 16.6	-2.6
	baz=315							
249A	Camden	60.77	75	P		P	00 12 18.0	-1.6
	baz=315							
X52A	Dahlonega	60.82	70	P		P	00 12 18.7	-1.3
	baz=315							
W53A	Cullowhee	60.85	69	P		P	00 12 18.8	-1.5
	baz=315							
N59A	State Game Lan	60.95	60	*eP*		P	00 12 21.4	+0.6
	comp=Z,15nm,0.9s							
N59A	State Game Lan	60.95	60	P		P	00 12 19.8	-1.0
	baz=315							
150A	Eclectic	60.98	73	P		P	00 12 18.0	-3.0
	baz=315							
GTA	Gaotai	60.99	298	⇑P		P	00 12 21.1	-0.1
GTA				pP		pP	00 12 33.8	+0.6
GTA				sP		pwP	00 12 39.4	+0.2
GTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,84nm,5.7s							
GTA				LR		LR		
	comp=Z,140nm,20.9s							
GTA				LR		LR		
	comp=Z,270nm,20.3s							
GTA				LR		LR		
	comp=Z,200nm,20.0s							
BLA	Blacksburg	60.99	66	*eP*		P	00 12 20.9	-0.2
	comp=Z,34nm,0.9s							
BLA	Blacksburg	60.99	66	*eP*		P	00 12 20.9	-0.2
BLA				pmax		pmax		
	comp=Z,34nm,0.9s							
BLA	Blacksburg	60.99	66	P		P	00 12 20.0	-1.1
	baz=315							
LZH	Lanzhou	61.06	292	*eP*		P	00 12 22.4	+0.7
LZH				pP		pP	00 12 35.5	+1.7
LZH				sP		pwP	00 12 41.4	+1.7
LZH				SS		SS	00 24 30.1	-6.6
LZH				pmax		pmax		
	comp=Z,56nm,1.1s							
LZH				pmax		pmax		
	comp=Z,190nm,4.9s							
LZH				LR		LR		
	comp=Z,210nm,17.9s							
LZH				LR		LR		
	comp=Z,220nm,16.0s							
LZH				LR		LR		
	comp=Z,250nm,17.8s							
U55A	TA2, Sparta	61.13	67	P		P	00 12 20.4	-1.7
	baz=315							
349A	Repton	61.17	75	P		P	00 12 20.1	-2.2
	baz=316							
Y52A	Lilburn	61.25	71	P		P	00 12 20.3	-2.6
	baz=315							
250A	Grady	61.28	74	*eP*		P	00 12 21.8	-1.2
	comp=Z,42nm,1.0s							
250A	Grady	61.28	74	P		P	00 12 20.3	-2.7
	baz=316							
T56A	Rocky Mt	61.34	66	P		P	00 12 20.1	-3.4
	baz=315							
LUPA	Lehigh Univers	61.39	60	*eP*		P	00 12 24.1	+0.4
LUPA				*ep*P		pP	00 12 36.9	+1.5
SDMD	Soldier's Deli	61.43	62	*eP*		P	00 12 24.2	+0.2
	comp=Z,12nm,1.0s							
ODNJ	Ogdensburg	61.46	59	*eP*		P	00 12 24.4	+0.2
	comp=Z,12nm,0.9s							
Z52A	Williamson	61.51	72	P		P	00 12 22.7	-2.0
	baz=316							
Y53A	Monroe	61.53	71	P		P	00 12 23.2	-1.5
	baz=315							
152A	Waverly Hall	61.71	72	P		P	00 12 23.7	-2.2
	baz=316							
251A	Midway	61.71	73	P		P	00 12 24.7	-1.3
	baz=316							
PAL	Palisades	61.88	59	P		P	00 12 25.4	-1.6
	baz=316							
R58B	Mineral	61.88	64	P		P	00 12 26.2	-0.8
	baz=315							
GOGA	Godfrey	61.92	71	P		P	00 12 25.4	-2.0
	baz=316							
KMSC	Kings Mountain	61.93	68	P		P	00 12 25.7	-1.7
	baz=316							
Z53A	Monticello	61.95	71	P		P	00 12 25.8	-1.7
	baz=316							
CBN	Corbin Frederi	61.99	63	P		P	00 12 25.9	-1.9
	baz=316							
HRV	Adam Dziewonsk	62.04	56	P		P	00 12 25.6	-2.4
	baz=316							
Y54A	Tignall	62.05	70	P		P	00 12 26.1	-2.1
	baz=316							
351A	Pinckard	62.17	74	P		P	00 12 28.3	-0.8
	baz=316							
252A	Lumpkin	62.17	73	P		P	00 12 27.1	-1.9
	baz=316							
153A	Fort Valley	62.24	72	P		P	00 12 28.3	-1.3
	baz=316							
W56A	Indian Trail	62.37	68	P		P	00 12 28.7	-1.6
	baz=316							
Z54A	Sparta	62.41	71	P		P	00 12 29.2	-1.4
	baz=316							
352A	Blakely	62.43	73	P		P	00 12 29.6	-1.2
	baz=316							
TMCR	Tamitsa	62.48	347	*eP*		P	00 12 31.2	+0.6
TMCR				pmax		pmax		
	comp=Z,20nm,0.9s							
Y55A	Saluda	62.48	69	P		P	00 12 29.7	-1.4
	baz=316							
X56A	White Oak	62.56	68	P		P	00 12 30.3	-1.3
	baz=316							
W57A	Gilead	62.69	67	P		P	00 12 30.5	-2.0
	baz=316							
KURK	Kurchatov	62.98	319	*eP*		P	00 12 34.8	+0.6
	comp=Z,19nm,0.8s							
KURK	Kurchatov	62.98	319	*c i*P		P	00 12 34.0	-0.2
KURK				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KURBB	Kurchatov Arra	63.09	319	P		P	00 12 34.5	-0.3
	comp=Z,11nm,0.8s,baz=46,slow=7.3,SNR=26							
Z57A	Bowman	63.61	69	P		P	00 12 37.8	-0.8
	baz=316							
PRGR	Permogore	63.61	342	*eP*		P	00 12 36.6	-1.5
PRGR				*e**SP		pP	00 12 50.3	+0.1
PRGR				pmax		pmax		
	comp=Z,16nm,0.8s							
Y58A	Scranton	63.77	68	P		P	00 12 37.5	-2.1
	baz=316							
WMQ	Urumqi	64.10	308	*eP*		P	00 12 42.5	+0.7
WMQ				pP		sP	00 12 58.3	-0.3
WMQ				PcP		PcP	00 13 15.9	-0.7
WMQ				pmax		pmax		
	comp=Z,40nm,1.3s							
WMQ				LR		LR		
	comp=Z,230nm,20.9s							
WMQ				LR		LR		
	comp=Z,210nm,21.7s							

WMQ LR LR
comp=Z,150nm,24.9s
WMQ Urumqi 64.10 308 *eP* **P 00 12 43.2 +1.4**
comp=Z,13nm,0.8s
SVE Sverdlovsk 64.32 332⇓ *eP* **P 00 12 43.7 +0.8**
SVE pmax pmax
comp=Z,20nm,1.5s
BVA0 Borovoye Array 64.33 325 P **P 00 12 42.2 -0.8**
BVA0 pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 64.34 325 *eP* **P 00 12 43.8 +0.7**
comp=Z,42nm,1.7s
BRVK Borovoye 64.34 325*c i*P **P 00 12 43.6 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 64.40 314 *eP* **P 00 12 43.2 -0.4**
comp=Z,5.7nm,0.8s
MK31 Makanchi Array 64.40 314 *i* P **P 00 12 43.2 -0.4**
MK31 pmax pmax
comp=Z,5.0nm,0.7s
MKAR Makanchi Array 64.40 314 P **P 00 12 43.7 0.0**
comp=Z,6.9nm,0.8s,baz=50,slow=5.5,SNR=26
MK01 Makanchi Array 64.41 314 *eP* **P 00 12 43.2 -0.5**
MAKZ Makanchi 64.53 314 *eP* **P 00 12 41.2 -3.3**
comp=Z,6.3nm,0.8s
MAKZ Makanchi 64.53 314 *eP* **P 00 12 41.2 -3.3**
MAKZ pmax pmax
comp=Z,6.0nm,0.8s
456A Hilliard 64.70 72 P **P 00 12 44.0 -1.8**
baz=317
CD2 Chengdu 64.81 288 *eP* **P 00 12 46.0 -0.6**
CD2 pmax pmax
comp=Z,20nm,0.4s
ARU Arti 65.25 333 *eP* **P 00 12 49.0 0.0**
comp=Z,12nm,0.7s
ARU Arti 65.25 333*c i*P **P 00 12 49.4 +0.4**
ARU *PP **pP** 00 12 59.2 -1.9
ARU 00 13 20.6
ARU S **S 00 21 34.2 +5.8**
ARU SS **SS 00 25 46.9 +6.2**
ARU pmax pmax
comp=Z,14nm,0.8s
TAOE Nuku Hiva Isla 65.29 148 *e*LR LR 00 31 30.2
comp=Z,234nm,24.9s
KLMR Klimovskoe 65.41 345 *eP* **P 00 12 48.0 -1.8**
KLMR pmax pmax
comp=Z,22nm,1.8s
KLMR Klimovskoe 65.41 345 *eP* **P 00 12 48.1 -1.8**
KLMR AMP 00 12 52.5
comp=Z,22nm,1.8s
GYA Guiyang 66.33 283 *eP* **P 00 12 57.5 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.0s
FIA1 FINESS Array S 66.47 352 *eP* **P 00 12 57.5 +0.8**
FINES FINESS Array B 66.47 352 P **P 00 12 57.7 +1.0**
comp=Z,14nm,0.8s,baz=22,slow=6.8,SNR=21
FINES LR LR 00 42 37.9
comp=Z,54nm,21.7s,baz=12,slow=36
NC204 NORSAR Array S 67.27 0 *eP* **P 00 13 03.1 +1.2**
comp=Z,22nm,1.3s
NC303 NORSAR Array S 67.33 360 *eP* **P 00 13 03.5 +1.3**
comp=Z,24nm,1.4s
NC405 NORSAR Array S 67.44 360 *eP* **P 00 13 04.2 +1.3**
comp=Z,95nm,1.9s
OTUK Ortayu 67.46 321 P **P 00 13 02.8 -0.5**
OTUK pmax pmax
comp=Z,8.0nm,0.7s
NB201 NORSAR Array S 67.50 360 *eP* **P 00 13 04.7 +1.4**
comp=Z,79nm,1.9s
NB2 NORSAR Subarra 67.51 360 P **P 00 13 04.2 +0.8**
comp=Z,8nm,0.8s,baz=1.2,slow=6.2
NB2 NORSAR Subarra 67.51 360 P **P 00 13 05.0 +1.6**
NB2 pmax pmax
comp=Z,3.0nm,0.8s
NOA NORSAR Array B 67.51 360 P **P 00 13 04.1 +0.7**
comp=Z,3.7nm,0.8s,baz=0.2,slow=6.3,SNR=20
NOA LR LR 00 44 21.5
comp=Z,36nm,18.1s,baz=0.0,slow=38
NBO00 NORSAR Array S 67.52 0 *eP* **P 00 13 04.5 +1.1**
comp=Z,53nm,1.8s
NC602 NORSAR Array S 67.82 360 *eP* **P 00 13 06.0 +0.7**
comp=Z,53nm,1.8s
NORES NORESS Array B 67.82 360 P **P 00 13 08.7 +3.4**
NORES pmax pmax
comp=Z,4.0nm,0.7s
PDGK Podgornoye 68.33 313 P **P 00 13 08.4 -0.6**
PDGK pmax pmax
comp=Z,16nm,0.9s
JAY Jayapura 68.81 236 LR LR 00 39 41.3
comp=Z,79nm,19.5s,baz=356,slow=33
KONO Kongsberg 68.90 1 *eP* **P 00 13 13.6 +1.6**
comp=Z,58nm,1.9s
KONO Kongsberg 68.90 1 *eP* **P 00 13 13.6 +1.6**
KONO pmax pmax
comp=Z,58nm,1.9s
VSU Vasula 69.36 351*deP* **P 00 13 16.3 +1.4**
VSU pmax pmax
comp=Z,53nm,0.9s
VSU Vasula 69.36 351 *eP* **P 00 13 15.8 +1.0**
VSU IAmb IAmb 00 13 30.0
comp=Z,74nm,0.7s
PRZ Przheval'sk 69.49 313 *eP* **P 00 13 17.6 +1.4**
comp=Z,45nm,1.8s
PRZ Przheval'sk 69.49 313 *eP* **P 00 13 17.7 +1.4**
PRZ pmax pmax
comp=Z,45nm,1.8s
KMI Kunming 69.68 285 P **P 00 13 18.3 +0.6**
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,110nm,4.3s
KDJ Kajisay 70.32 314 *eP* **P 00 13 22.7 +1.3**
comp=Z,7.4nm,0.6s
KDJ Kajisay 70.32 314 *eP* **P 00 13 22.7 +1.3**
KDJ pmax pmax
comp=Z,7.0nm,0.6s
SLIT Slitere, Latvi 70.55 354 *eP* P 00 13 11.7 -10
SLIT IAmb IAmb 00 13 23.5
comp=Z,229nm,1.1s
NIUE Niue 70.58 181 *eP* **P 00 13 22.0 -0.7**
comp=Z,342nm,1.4s
AB31 Akbulak array 71.06 329 *i* P **P 00 13 25.9 +0.4**
AB31 pmax pmax
comp=Z,9.0nm,0.7s
ABKAR Akbulak array 71.06 329 *eP* **P 00 13 25.7 +0.2**
comp=Z,14nm,0.8s
AAK Ala-Archa 71.10 316 *eP* **P 00 13 26.7 +0.6**
comp=Z,11nm,0.8s
AAK Ala-Archa 71.10 316*d i*P **P 00 13 26.4 +0.4**
AAK pmax pmax
comp=Z,12nm,1.0s
AAK Ala-Archa 71.10 316 P **P 00 13 26.6 +0.6**
comp=Z,8.4nm,0.9s,baz=93,slow=1.6,SNR=35
PPT Papeete 71.11 160 LR LR 00 36 05.8
comp=Z,118nm,21.0s,baz=19,slow=29
PPT2 Papeete2 71.13 160 *e*LR LR 00 34 11.3
comp=Z,389nm,30.5s,baz=350
OBN Obninsk 71.37 345 P pP 00 13 39.9 +0.5
comp=Z,25nm,0.6s
OBN Obninsk 71.37 345 *ep*P pP 00 13 39.9 +0.5
OBN Obninsk 71.37 345⇑ *eP* **P 00 13 27.4 +0.2**
OBN *e* 00 13 39.4
OBN *e* 00 13 50.9
OBN pmax pmax
comp=Z,10.0nm,0.9s
OBN MLR MLR
comp=Z,77nm,20.0s
NRN Naryn 71.41 314 *eP* **P 00 13 28.4 +0.3**
comp=Z,9.4nm,1.0s
NRN Naryn 71.41 314 *eP* **P 00 13 28.4 +0.3**
NRN pmax pmax
comp=Z,9.0nm,1.0s
PMG Port Moresby 71.69 226⇑ *eP* **P 00 13 30.7 +1.1**
PMG pmax pmax
comp=Z,48nm,1.0s
KK31 Karatay Array 72.40 319 *eP* **P 00 13 33.9 +0.2**
comp=Z,11nm,0.9s
KK31 Karatay Array 72.40 319 *eP* **P 00 13 33.9 +0.2**
KK31 pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 72.40 319 *eP* **P 00 13 33.9 +0.2**
comp=Z,11nm,0.9s
KKAR Karatay Array 72.40 319 *eP* **P 00 13 33.9 +0.2**
KKAR pmax pmax
comp=Z,11nm,0.9s
IDID Didziasalis 72.46 351 *eP* P 00 13 23.6 -10

IDID IAmb IAmb 00 13 38.3
comp=Z,8.8nm,0.9s
IIGN Ignalina 72.48 351 *eP* P 00 13 23.2 -11
IIGN IAmb IAmb 00 13 38.5
comp=Z,9.0nm,0.8s
SIJI Sorong 72.52 245 P **P 00 13 33.0 -1.7**
comp=Z,8.9nm,0.4s,baz=31,slow=5.9,SNR=7.5
EKA Eskdalemuir Ar 72.58 8 P **P 00 13 35.2 +0.7**
EKA pmax pmax
comp=Z,1.0nm,0.4s
ARSB Arslanbob 72.82 316 *eP* **P 00 13 37.2 +0.8**
comp=Z,11nm,0.9s
NACGM Naroch 72.86 351 *e* **P 00 13 35.0 -1.1**
LSA Lhasa 72.95 296 *eP* **P 00 13 38.6 +0.9**
comp=Z,25nm,1.0s
LSA Lhasa 72.95 296 *eP* **P 00 13 38.6 +0.9**
LSA pmax pmax
comp=Z,25nm,1.0s
KSH Kashi 72.97 313 P **P 00 13 41.0 +3.8**
KSH PcP **pwP 00 13 55.8 0.0**
KSH S **SKiKP 00 23 05.9 +0.5**
KSH pmax pmax
comp=Z,37nm,0.7s
KSH LR LR
comp=Z,200nm,13.8s
LPSR Galich'ya Gora 73.37 343 *eP* **P 00 13 39.1 0.0**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
SUW Suwalki 74.07 353 *eP* **P 00 13 43.7 +0.4**
SUW Suwalki 74.07 353 *eP* **P 00 13 43.8 +0.5**
comp=Z,48nm,0.9s
SUW Suwalki 74.07 353 *eP* **P 00 13 43.8 +0.5**
SUW pmax pmax
comp=Z,48nm,0.9s
VRH Novokhopyorsk 74.15 341 *eP* **P 00 13 43.6 -0.1**
VRH pmax pmax
comp=Z,10.0nm,0.9s
PANO Nakornpanom 74.56 278 P **P 00 13 47.6 +1.0**
VSR Storozhevoye 74.64 342 *eP* **P 00 13 46.1 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
NONG Nongkai 74.76 280 P **P 00 13 47.8 0.0**
BTK Batken 74.80 317 *eP* **P 00 13 48.3 +0.4**
comp=Z,21nm,1.0s
BTK Batken 74.80 317 *eP* **P 00 13 48.3 +0.4**
BTK pmax pmax
comp=Z,21nm,1.0s
SKNT Sakolnakorn 75.08 278 P **P 00 13 49.5 -0.2**
SHL Shillong 75.71 293 *eP* **P 00 13 52.8 -0.7**
comp=Z,16nm,1.0s
SHL Shillong 75.71 293 *eP* **P 00 13 52.8 -0.7**
SHL pmax pmax
comp=Z,17nm,1.0s
GAR Garm 75.89 316 *eP* **P 00 13 54.6 +0.5**
GAR Garm 75.89 316 *eP* **P 00 13 54.7 +0.5**
NRDL Niedersach Rie 76.08 1 *eP* **P 00 13 56.2 +1.5**
comp=Z,12nm,1.1s,baz=360,slow=5.6
KHON Khomkaen 76.27 279 P **P 00 13 58.9 +2.4**
BEL Belsk 76.41 354 *eP* **P 00 13 58.2 +1.4**
BEL Belsk 76.41 354 *eP* **P 00 13 58.2 +1.4**
UTTA Uttaradit 76.58 282 P **P 00 13 58.2 0.0**
DZM Mont Dzumac 76.66 203 LR LR 00 39 23.2
comp=Z,63nm,21.3s,baz=50,slow=29
CHGR Chuyangaron 76.67 317 *eP* **P 00 13 59.0 +0.4**
comp=Z,80nm,0.7s
TAPN Taejung 76.67 297 *eP* **P 00 13 59.2 +0.2**
comp=Z,31nm,0.8s
AKASG Malin Array Be 76.72 348 P **P 00 13 58.5 0.0**
comp=Z,14nm,0.9s,baz=16,slow=5.8,SNR=18
AKASG LR LR 00 52 17.2
comp=Z,41nm,19.3s,baz=20,slow=39
AKBB Malin Array Si 76.72 348 *eP* **P 00 13 58.6 +0.1**
comp=Z,14nm,0.8s
AKBB Malin Array Si 76.72 348 *eP* **P 00 13 58.6 +0.1**
AKBB pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 76.73 348 *eP* **P 00 13 58.6 0.0**
comp=Z,14nm,0.7s
KIEV Kiev 76.73 348 *eP* **P 00 13 58.6 0.0**
KIEV pmax pmax
comp=Z,14nm,0.7s
CLZ Clausthal 76.73 0 *eP* **P 00 14 00.5 +1.8**
comp=Z,8.6nm,0.9s,baz=360,slow=5.6
CMMT Chiang Mai 76.74 283 P **P 00 13 59.8 +0.6**
CHTO Chiang Mai 76.74 283 *eP* **P 00 13 58.7 -0.4**
comp=Z,2.3nm,0.4s
TBI Tubuai 76.75 162 *e*LR LR 00 36 47.5
comp=Z,284nm,37.0s
AK11 Malin Array Si 76.75 348 *eP* **P 00 13 58.3 -0.4**
CMAR Chiang Mai Arr 77.02 283 P **P 00 14 00.2 -0.4**
comp=Z,4.7nm,0.6s,baz=27,slow=6.4,SNR=23
CMAR LR LR 00 49 13.4
comp=Z,28nm,20.7s,baz=84,slow=37
GTTG Gyttingen 77.03 1 *eP* **P 00 14 02.0 +1.8**
comp=Z,19nm,0.9s,baz=360,slow=5.6
CM01 Chiang Mai Arr 77.03 283 *eP* **P 00 14 00.2 -0.6**
BUG Bochum--Univer 77.08 2 *eP* **P 00 14 02.0 +1.5**
comp=Z,7.6nm,0.9s,baz=360,slow=5.6
PBKT Sadao Pong 77.23 280 P **P 00 14 01.7 -0.2**
ODAN Odare 77.23 297 *eP* **P 00 14 01.9 -0.2**
GUN Gumba 77.24 299 *eP* **P 00 14 02.2 -0.1**
CLL Collm 77.25 359 *eP* **P 00 14 01.9 +0.5**
comp=Z,17nm,1.3s
CLL Collm 77.25 359 *eP* **P 00 14 02.0 +0.5**
comp=Z,20nm,1.4s
CLL *i* sP **sP 00 14 16.5 -2.3**
CLL *eP**P* **PP 00 16 55.0 -0.1**
CLL Collm 77.25 359 *eP* **P 00 14 02.0 +0.5**
CLL pmax pmax
comp=Z,17nm,1.3s
JIRN Jiri 77.27 298 *eP* **P 00 14 02.4 -0.1**
LUWI Luwuk 77.56 252 *eP* **P 00 14 02.4 -1.3**
comp=Z,26nm,0.7s
RAMN Ramite 77.60 298 *eP* **P 00 14 03.8 -0.4**
KSP Ksiaz 77.64 357 *eP* **P 00 14 04.4 +0.7**
KSP Ksiaz 77.64 357 *eP* **P 00 14 04.4 +0.7**
KKN Kakani 77.66 299 *eP* **P 00 14 04.2 -0.3**
BRG Berggiesshubel 77.67 358 *eP* **P 00 14 05.1 +1.2**
comp=Z,22nm,1.3s
BRG *e* 00 14 18.4
comp=Z,15nm,1.3s
BRG Berggiesshubel 77.67 358 *eP* **P 00 14 05.1 +1.2**
comp=Z,14nm,1.2s,baz=360,slow=5.6
BRG Berggiesshubel 77.67 358 *eP* **P 00 14 05.1 +1.2**
BRG *e* 00 14 18.5
BRG pmax pmax
comp=Z,22nm,1.3s
BRG pmax pmax
comp=Z,15nm,1.3s
BEBN Eben Emael 77.68 4 ⇑P **P 00 14 07.0 +3.2**
BEBN ⇑sP **sP 00 14 20.8 -0.2**
PKI Pulchoki 77.76 299 *eP* **P 00 14 04.7 -0.5**
comp=Z,37nm,1.1s
PKIN Phulchoki 77.76 299 *eP* **P 00 14 04.6 -0.5**
comp=Z,60nm,1.5s
MEM Membach 77.88 3 ⇑P **P 00 14 05.2 +0.2**
DMN Daman 77.90 299 *eP* **P 00 14 05.8 0.0**
comp=Z,62nm,1.3s
MOX Moxa 77.93 360 *eP* **P 00 14 06.7 +1.4**
comp=Z,6.6nm,0.9s,baz=360,slow=5.6
UPC Upice 77.98 357 *eP* **P 00 14 06.9 +1.3**
UPC Upice 77.98 357 *eP* **P 00 14 06.9 +1.3**
PVCC Panska Ves 78.00 358 *eP* **P 00 14 07.4 +1.7**
PVCC Panska Ves 78.00 358 *eP* **P 00 14 07.4 +1.7**
DANN Dangsing 78.03 301 *eP* **P 00 14 06.6 0.0**
comp=Z,39nm,0.9s
BCLA Clavier 78.04 4 ⇑P **P 00 14 07.2 +1.3**
BCLA ⇑sP **sP 00 14 23.8 +0.8**
OJC Ojcow 78.09 354 *eP* **P 00 14 06.1 -0.1**
OJC Ojcow 78.09 354 *eP* **P 00 14 07.6 +1.4**
comp=Z,18nm,1.2s
OJC Ojcow 78.09 354 *eP* **P 00 14 07.6 +1.4**
OJC pmax pmax
comp=Z,18nm,1.2s
DPC Dobruska-Polom 78.13 357 *eP* **P 00 14 08.2 +1.7**
DPC *ep*P **pP 00 14 21.2 +2.3**
DPC Dobruska-Polom 78.13 357 *eP* **P 00 14 08.2 +1.7**
DPC *e* 00 14 21.2
LVV L'vov 78.16 351 *eP* **P 00 14 07.2 +0.6**
WERN Wernitzgruen 78.28 359 *eP* **P 00 14 09.1 +1.8**
comp=Z,4.5nm,0.8s,baz=360,slow=5.6
DOU Dourbes 78.33 4 ⇓P **P 00 14 08.3 +0.8**
GIVF Givet 78.33 4 *eP* **P 00 14 08.2 +0.7**
GIVF pmax pmax
comp=Z,25nm,1.2s

NKC Novy Kostel 78.34 359 *eP* **P 00 14 09.3 +1.7**
NKC *ep*P **pP 00 14 22.2 +2.2**
NKC Novy Kostel 78.34 359 *eP* **P 00 14 09.3 +1.7**
NKC *e* 00 14 22.2
BAIF Baives 78.35 5 *eP* **P 00 14 08.3 +0.7**
BAIF pmax pmax
comp=Z,382nm,3.5s
KRLC Kraliky 78.39 356 *eP* **P 00 14 09.3 +1.4**
KRLC *ep*P **pP 00 14 21.1 +0.8**
KRLC Kraliky 78.39 356 *eP* **P 00 14 09.3 +1.4**
KRLC *e* 00 14 21.1
KWP Kalwaria Pacla 78.46 352 *eP* **P 00 14 08.4 +0.1**
KWP Kalwaria Pacla 78.46 352 *eP* **P 00 14 09.6 +1.3**
comp=Z,223nm,0.9s
KWP Kalwaria Pacla 78.46 352 *eP* **P 00 14 09.6 +1.3**
KWP pmax pmax
comp=Z,223nm,0.9s
SRAK Srakaew 78.54 278 P **P 00 14 07.4 -1.8**
PRU Pruhonice 78.55 358 *eP* **P 00 14 10.1 +1.4**
PRU *ep*P **pP 00 14 23.1 +2.0**
PRU Pruhonice 78.55 358 *eP* **P 00 14 10.1 +1.4**
PRU *e* 00 14 23.1
OKC Ostrava-Krasne 78.56 355 *eP* **P 00 14 10.4 +1.6**
OKC Ostrava-Krasne 78.56 355 *eP* **P 00 14 10.4 +1.6**
KOLN Koldanda 78.58 300 *eP* **P 00 14 09.3 -0.2**
comp=Z,43nm,1.2s
MANZ Manzenberg 78.59 359 *eP* **P 00 14 10.4 +1.5**
comp=Z,7.7nm,1.2s,baz=360,slow=5.6
GOPC GO Pecny, Ondr 78.61 358 *eP* **P 00 14 10.6 +1.5**
GOPC GO Pecny, Ondr 78.61 358 *eP* **P 00 14 10.6 +1.5**
PYUN Piuthan 78.64 301 *eP* **P 00 14 09.7 -0.2**
comp=Z,46nm,1.2s
MORC Moravsky Berou 78.65 356 *eP* **P 00 14 10.5 +1.1**
comp=Z,15nm,1.1s
MORC Moravsky Berou 78.65 356⇓ *iP* **P 00 14 10.9 +1.5**
MORC Moravsky Berou 78.65 356 ⇓P **P 00 14 10.9 +1.5**
MORC Moravsky Berou 78.65 356 *eP* **P 00 14 10.5 +1.1**
ROTZ Rotzenmuhle 78.81 359 *eP* **P 00 14 11.8 +1.7**
comp=Z,18nm,1.4s,baz=360,slow=5.6
NIE Niedzica 78.85 354 *eP* **P 00 14 10.0 -0.5**
NIE Niedzica 78.85 354 *eP* **P 00 14 10.0 -0.5**
GRA1 Grafenberg Arr 78.89 360 *eP* **P 00 14 11.6 +1.0**
comp=Z,16nm,0.8s
GRF Grafenberg Arr 78.89 360 *eP* **P 00 14 11.6 +1.0**
GRF pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 78.89 360 *eP* **P 00 14 12.0 +1.4**
comp=Z,16nm,0.9s
GRFO Grafenberg 78.89 360 *eP* **P 00 14 12.0 +1.4**
GRFO pmax pmax
comp=Z,16nm,0.9s
UTHA Uthaitani 78.94 281 P **P 00 14 12.8 +1.4**
UTHA Uthaitani 78.94 281 P **P 00 14 12.8 +1.4**
NIL Nilore 79.02 311 *eP* **P 00 14 12.5 +0.9**
comp=Z,20nm,0.8s
NIL Nilore 79.02 311 *eP* **P 00 14 12.5 +0.9**
NIL pmax pmax
comp=Z,20nm,0.8s
VRAC Vranov 79.16 356⇓ *iP* **P 00 14 13.4 +1.3**
VRAC Vranov 79.16 356 ⇓P **P 00 14 13.4 +1.3**
VRAC Vranov 79.16 356 *eP* **P 00 14 13.3 +1.2**
TREC Trest 79.21 357 *eP* **P 00 14 13.7 +1.3**
TREC Trest 79.21 357 *eP* **P 00 14 13.7 +1.3**
KRUC Moravsky 79.41 356 *eP* **P 00 14 14.5 +1.0**
WET Wettzell 79.42 359 *eP* **P 00 14 15.3 +1.7**
comp=Z,6.6nm,1.1s,baz=360,slow=5.6
KHC Kasperske Hory 79.42 358 *eP* **P 00 14 15.5 +1.9**
comp=Z,5.5nm,1.1s
KHC Kasperske Hory 79.42 358 *eP* **P 00 14 15.3 +1.7**
KHC *ep*P **pP 00 14 28.4 +2.3**
KHC Kasperske Hory 79.42 358 *eP* **P 00 14 15.5 +1.9**
KHC pmax pmax
comp=Z,6.0nm,1.1s
UZH Uzhgorod 79.49 352 *eP* **P 00 14 14.1 +0.2**
UZH *e* 00 14 21.4
UZH *e* 00 14 29.8
LDF La Druitiere 79.53 8 *eP* **P 00 14 14.3 +0.2**
LDF pmax pmax
comp=Z,208nm,2.4s
JAVC Velka Javorina 79.56 356 *eP* **P 00 14 16.5 +2.1**
GOF Gofitskoye 79.66 338⇑ *iP* **P 00 14 16.3 +1.4**
GOF pmax pmax
comp=Z,80nm,1.0s
GEC2 GERESS Array S 79.71 358 *eP* **P 00 14 16.7 +1.5**
comp=Z,18nm,1.3s
GEC2 GERESS Array S 79.71 358 *eP* **P 00 14 16.6 +1.5**
comp=Z,5.5nm,0.9s,baz=360,slow=5.6
GEC2 GERESS Array S 79.71 358 *eP* **P 00 14 16.7 +1.5**
GEC2 pmax pmax
comp=Z,18nm,1.3s
GERES GERESS Array B 79.71 358 P **P 00 14 16.7 +1.5**
comp=Z,4.2nm,0.8s,baz=27,slow=3.3,SNR=7.8
GEA0 GERESS Array S 79.72 358 *eP* **P 00 14 16.1 +0.8**
VYHS Vyhne 79.86 355 *eP* **P 00 14 17.4 +1.4**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 79.86 355 *eP* **P 00 14 17.4 +1.4**
TRPA Tarpa 79.97 352⇓ *iP* **P 00 14 17.4 +0.9**
TRPA Tarpa 79.97 352⇓ *eP* **P 00 14 17.1 +0.6**
SRDT SRDT 80.07 280 P **P 00 14 18.7 +1.2**
SRDT SRDT 80.07 280 P **P 00 14 18.7 +1.2**
CDF Champ du Feu 80.11 3 *eP* **P 00 14 18.1 +0.7**
CDF pmax pmax
comp=Z,12nm,1.1s
KBL Kabul 80.18 315 *eP* **P 00 14 17.9 -0.3**
comp=Z,13nm,0.8s
KBL Kabul 80.18 315 *eP* **P 00 14 17.9 -0.3**
KBL pmax pmax
comp=Z,13nm,0.8s
BUR08 Bucovina Ar. S 80.20 350 *eP* **P 00 14 18.8 +0.9**
comp=Z,6.9nm,1.0s
BFO Black Forest 80.22 2 *eP* **P 00 14 18.9 +1.0**
comp=Z,21nm,1.3s
BFO Black Forest 80.22 2 *eP* **P 00 14 19.3 +1.4**
comp=Z,9.2nm,1.0s,baz=360,slow=5.6
BFO Black Forest 80.22 2*ceP* **P 00 14 19.4 +1.5**
BURAR Bucovina Array 80.22 350⇑ *iP* **P 00 14 18.9 +0.9**
BURAR Bucovina Array 80.22 350 ⇑P **P 00 14 18.9 +0.9**
ZST Bratislava 80.25 356 *eP* **P 00 14 19.3 +1.3**
ZST Bratislava 80.25 356 *eP* **P 00 14 19.3 +1.3**
CLF Chambon-Foret 80.27 6 *eP* **P 00 14 20.0 +2.0**
comp=Z,37nm,1.0s
ECH Echery 80.31 3 *eP* **P 00 14 19.4 +1.0**
comp=Z,19nm,1.0s
ECH Echery 80.31 3 *eP* **P 00 14 19.4 +1.0**
ECH pmax pmax
comp=Z,19nm,1.0s
PSZ Piszkesteto 80.37 354 *eP* **P 00 14 20.5 +1.7**
comp=Z,19nm,1.2s
PSZ Piszkesteto 80.37 354⇓ *iP* **P 00 14 20.4 +1.6**
PSZ Piszkesteto 80.37 354 *eP* **P 00 14 20.5 +1.7**
PSZ pmax pmax
comp=Z,19nm,1.2s
PSZ Piszkesteto 80.37 354 *eP* **P 00 14 20.0 +1.2**
HAU Haudompre 80.49 3 *eP* **P 00 14 20.0 +0.6**
HAU pmax pmax
comp=Z,10.0nm,0.8s
CONA Conrad Observa 80.57 357 *ep*P **P 00 14 21.7 +1.9**
comp=Z,14nm,0.9s
MOA Molln 80.69 358 *ep*P **P 00 14 24.0 +3.6**
comp=Z,2.8nm,0.9s
HINF Hinteralfeld 80.70 3 *eP* **P 00 14 21.0 +0.5**
HINF pmax pmax
comp=Z,13nm,1.0s
SOP Sopron 80.78 356 *eP* **P 00 14 23.0 +2.1**
BIZ Bicaz 80.80 350⇑ *iP* **P 00 14 22.1 +1.1**
PHET Kaeng Krachan 80.87 279 P **P 00 14 24.6 +2.8**
PHET Kaeng Krachan 80.87 279 P **P 00 14 24.6 +2.8**
comp=Z,5.0nm,1.1s,comp=Z,0.0nm
KBZ Khabaz 80.94 337 P **P 00 14 23.1 +1.3**
comp=Z,6.5nm,0.8s,baz=42,slow=3.6,SNR=9.1
NCK Nalchik 80.99 337⇑ *eP* **P 00 14 23.8 +1.7**
NCK pmax pmax
comp=Z,37nm,1.0s
CSKK Cskako 81.02 355⇑ *eP* **P 00 14 23.1 +0.9**
RETA Reutte 81.09 0 *epP* **P 00 14 24.2 +1.6**
comp=Z,8.3nm,0.9s
LOR Lormes 81.12 5 *eP* **P 00 14 23.3 +0.6**
LOR pmax pmax
comp=Z,16nm,1.0s
MOTA Moosalm 81.23 360 *epP* **P 00 14 25.1 +1.6**
comp=Z,11nm,0.8s,SNR=10
WATA Walderalm 81.24 360 *epP* **P 00 14 25.6 +2.1**
comp=Z,7.5nm,0.7s,SNR=5.4

ARSA Arzberg 81.25 357 *ep*P P 00 14 25.6 +2.2
comp=Z,10nm,0.9s

DRGR 81.28 352⇑*i*P P 00 14 24.2 +0.5
DRGR 81.28 352 ⇑P P 00 14 24.2 +0.5
SSF Saint Saulge 81.30 5 *e*P P 00 14 24.4 +0.7
SSF pmax pmax
comp=Z,20nm,1.0s

SQTA Sankt Quirin 81.36 360 *ep*P P 00 14 26.1 +2.0
comp=Z,19nm,0.9s,SNR=9.4

KBA Koelnbreinsper 81.48 358 *ep*P P 00 14 27.2 +2.4
comp=Z,28nm,0.9s,SNR=12

KBA Koelnbreinsper 81.48 358 P P 00 14 28.6 +2.0
MFF Saint Martin d 81.50 8 *e*P P 00 14 25.5 +0.8
MFF pmax pmax
comp=Z,30nm,1.1s

FETA Feichten 81.56 0 *ep*P P 00 14 27.3 +2.0
comp=Z,15nm,1.0s,SNR=8.3

AVF Avril sur Loir 81.56 5 *e*P P 00 14 25.6 +0.6
AVF pmax pmax
comp=Z,20nm,1.0s

SIM Simferopol' 81.60 344 *e*P P 00 14 25.9 +0.6
SIM pmax pmax
comp=Z,18nm,0.9s

GEYT Alibeck 81.65 324 P P 00 14 26.8 +1.0
comp=Z,10nm,1.0s,baz=328,slow=5.3,SNR=12

GYA0B ALIBECK ARRAY 81.65 324 *e*P P 00 14 26.7 +1.0
comp=Z,12nm,1.0s

SMF Signal de Mont 81.74 5 *e*P P 00 14 26.6 +0.6
SMF pmax pmax
comp=Z,23nm,0.9s

BGF Bois d'Agland 81.77 6 *e*P P 00 14 29.0 +2.9
BGF pmax pmax
comp=Z,98nm,2.2s

ABTA Abfaltersbach 81.82 359 *ep*P P 00 14 28.3 +1.8
comp=Z,25nm,1.2s,SNR=5.2

SOKA Soboth 81.84 357 *ep*P P 00 14 28.6 +2.0
comp=Z,14nm,0.9s

CABF La Chapelle 81.88 3 *e*P P 00 14 28.9 +2.1
CABF pmax pmax
comp=Z,31nm,1.1s

ZKTA Zakatala 81.95 334 P P 00 14 28.7 +1.5
FUORN Ofenpass-Fuorn 81.96 1 *e*P P 00 14 29.6 +2.2
comp=Z,32nm,1.3s

TCF Toulx Ste Croi 81.99 6 *e*P P 00 14 27.8 +0.4
TCF pmax pmax
comp=Z,10.0nm,0.9s

OBKA Obir 82.03 358 *ep*P P 00 14 30.3 +2.7
comp=Z,17nm,0.8s

TUE Stuetta 82.10 1 *e*P P 00 14 29.9 +1.7
comp=Z,15nm,1.0s

SEKA Sheki 82.19 333 P P 00 14 29.9 +1.4
MLR Muntele Rosu 82.24 350 *e*P P 00 14 30.6 +1.8
comp=Z,15nm,1.4s

MLR Muntele Rosu 82.24 350⇓*i*P P 00 14 30.5 +1.7
MLR Muntele Rosu 82.24 350 *e*P P 00 14 30.6 +1.8
MLR pmax pmax
comp=Z,15nm,1.4s

CFR Carcaliu 82.29 348⇑*i*P P 00 14 29.5 +0.7
CFR Carcaliu 82.29 348 ⇑P P 00 14 29.5 +0.7
TBLG Delisi 82.36 335 *e*P P 00 14 31.3 +1.9
comp=Z,36nm,1.3s

TBLG *ep*P **pP** 00 14 43.5 +1.6
TBLG Delisi 82.36 335 *e*P P 00 14 31.3 +1.9
TBLG *e**PP **pP** 00 14 43.6 +1.6
TBLG pmax pmax
comp=Z,36nm,1.3s

VOIR 82.40 350⇓*i*P P 00 14 30.7 +1.1
VOIR 82.40 350 ⇓P P 00 14 30.7 +1.1
ARR Arges 82.51 350⇑*i*P P 00 14 30.6 +0.5
BZS Buzias 82.54 353⇓*i*P P 00 14 30.1 -0.1
BZS Buzias 82.54 353 ⇓P P 00 14 30.1 -0.1
MNGR Mingechevir, A 82.62 333 P P 00 14 32.3 +1.6
GZR Gura Zlata 82.66 352⇑*i*P P 00 14 31.7 +0.8
GZR Gura Zlata 82.66 352 ⇑P P 00 14 31.7 +0.8
GANJ Ganja 82.95 334 P P 00 14 34.0 +1.5
LPG La Plagne 83.01 3 *e*P P 00 14 33.7 +0.7
LPG pmax pmax
comp=Z,17nm,1.4s

SSB Saint Sauveur 83.14 5 *e*P P 00 14 35.3 +1.9
comp=Z,28nm,1.5s

SSB Saint Sauveur 83.14 5 *e*P P 00 14 35.3 +1.9
SSB pmax pmax
comp=Z,28nm,1.5s

LFF La Frestale 83.23 7 *e*P P 00 14 34.6 +0.9
LFF pmax pmax
comp=Z,36nm,1.3s

CAF Calviac 83.34 6 *e*P P 00 14 35.2 +0.8
CAF pmax pmax
comp=Z,22nm,1.3s

MDVR Moldovita 83.36 352⇓*i*P P 00 14 28.7 -5.8
BNI Bardonecchia 83.45 3 *e*P P 00 14 37.9 +2.8
comp=Z,40nm,1.2s

BNI Bardonecchia 83.45 3 *e*P P 00 14 37.9 +2.8
BNI pmax pmax
comp=Z,40nm,1.2s

ORIF Oris-en-Rattie 83.56 4 *e*P P 00 14 40.1 +4.5
ORIF pmax pmax
comp=Z,16nm,1.2s

VIVF Saint-Julien-l 83.56 5 *e*P P 00 14 36.7 +1.1
VIVF pmax pmax
comp=Z,22nm,1.5s

MBDF Montbardon 83.78 3 *e*P P 00 14 38.5 +1.7
MBDF pmax pmax
comp=Z,20nm,1.0s

GNI Garni 83.84 335 LR LR 00 59 45.1
comp=Z,54nm,18.4s,baz=271,slow=41

LKRN Lenkeran, Azer 84.04 331 P P 00 14 39.4 +1.4
NAX Nakhchivan 84.55 334 P P 00 14 42.4 +1.7
SBF Sospel 84.66 3 *e*P P 00 14 45.0 +3.8
SBF pmax pmax
comp=Z,46nm,1.1s

TRTT Trang 84.76 276 P P 00 14 43.6 +1.6
MTLF Montolieu 84.93 6 *e*P P 00 14 43.3 +0.8
MTLF pmax pmax
comp=Z,64nm,2.0s

EPF Esparros 85.09 8 *e*P P 00 14 43.3 0.0
EPF pmax pmax
comp=Z,7.0nm,0.9s

VTS Vitosha 85.37 351 *e*P P 00 14 44.7 -0.1
comp=Z,15nm,1.6s

VTS Vitosha 85.37 351⇓*i*P P 00 14 44.3 -0.6
VTS Vitosha 85.37 351 *e*P P 00 14 44.7 -0.1
VTS pmax pmax
comp=Z,15nm,1.6s

VTS Vitosha 85.37 351 *e*P P 00 14 43.5 -1.4
KDZ Kurdzhali 86.10 349 *e*P P 00 14 52.0 +3.7
RZN Rozhen 86.14 350 *e*P P 00 14 49.7 +1.0
SKO Skopje 86.17 352 *i*P P 00 14 50.0 +1.3
AQU L'Aquila 86.20 358 *e*P P 00 14 49.8 +0.9
comp=Z,132nm,1.8s

AQU L'Aquila 86.20 358 *e*P P 00 14 49.8 +0.9
AQU pmax pmax
comp=Z,132nm,1.8s

MMB Musomiste 86.34 351 *e*P P 00 14 50.1 +0.6
STIP Stip 86.38 352 *i*P P 00 14 49.6 -0.1
YLV Yalova 86.64 346⇑*i*P P 00 14 50.8 -0.3
YLV Yalova 86.64 346 ⇑P P 00 14 50.8 -0.3
VAY Valandovo 86.72 351 *i*P P 00 14 47.2 -4.1
BR131 Keskin Array S 86.75 343 *e*P P 00 14 53.3 +1.6
comp=Z,17nm,1.8s

BRTR Keskin Array B 86.75 343 P P 00 14 52.4 +0.6
comp=Z,2.1nm,0.7s,baz=41,slow=2.8,SNR=9.6

ALN Alexandroupoli 86.77 349 *e*P P 00 14 53.6 +2.0
comp=Z,9.5nm,1.0s

ALN Alexandroupoli 86.77 349 *e*P P 00 14 53.6 +2.0
ALN pmax pmax
comp=Z,10.0nm,1.0s

KRUS Krusevo 86.79 352 *i*P P 00 14 50.7 -1.1
WRAB Tennant Creek 86.86 232 *e*P P 00 14 51.3 -0.9
comp=Z,14nm,1.3s

WRAB Tennant Creek 86.86 232⇓*e*P P 00 14 51.0 -1.1
WRAB pmax pmax
comp=Z,6.0nm,0.9s

WB2 Warramunga Arr 86.86 232 *e*P P 00 14 51.6 -0.5
WRA Warramunga Arr 86.87 232 P P 00 14 50.1 -2.0
comp=Z,4.2nm,0.8s,baz=38,slow=5.8,SNR=13

ES06 SONSECA Array 87.96 12 *e*P P 00 14 57.9 +0.5
ESDC Sonseca Array 87.96 12 P P 00 14 58.5 +1.0
comp=Z,4.6nm,0.9s,baz=348,slow=4.9,SNR=17

AGG Agios Georgios 89.02 351 *ep*P pP 00 15 14.9 -0.2
ISP Isparta 89.14 345⇑*e*P P 00 15 03.5 +0.4
ISP pmax pmax
comp=Z,13nm,2.5s

PSI Prapat 89.16 273 *e*P P 00 15 03.1 -0.4
comp=Z,21nm,0.9s

PSI Prapat 89.16 273 *e*P P 00 15 03.1 -0.4
PSI pmax pmax
comp=Z,21nm,0.9s

PSI Prapat 89.16 273 P P 00 15 02.5 -1.0
comp=Z,18nm,1.1s,baz=358,slow=2.3,SNR=19

HYB Hyderabad 89.65 298 *i*P P 00 15 04.0 -1.7
HYB *e* 00 15 18.0
FITZ Fitzroy Crossi 89.80 240 *e*P P 00 15 06.1 0.0
comp=Z,7.7nm,0.9s

FITZ Fitzroy Crossi 89.80 240 P P 00 15 04.8 -1.3
comp=Z,6.7nm,1.0s,baz=50,slow=5.3,SNR=6.6

OTAV Otavalo 90.11 89 *e*P P 00 15 08.5 +0.2
comp=Z,3.3nm,1.0s

OTAV Otavalo 90.11 89⇑*e*P P 00 15 09.1 +0.8
OTAV pmax pmax
comp=Z,3.0nm,1.3s

AS01 Alice Springs 90.22 230 *e*P P 00 15 06.7 -1.3
AS31 Alice Springs 90.24 230 *e*P P 00 15 07.3 -0.8
comp=Z,5.2nm,0.8s

ASAR Alice Springs 90.24 230 P P 00 15 07.0 -1.1
ASAR Alice Springs 90.24 230 P P 00 15 07.0 -1.1
comp=Z,6.9nm,0.7s,baz=32,slow=4.7,SNR=31

LBTB Lobatse 151.05 332 *e*PKPbc **PKiKP** 00 22 00.7 -0.2
LBTB *ep*PKPab **pPKPbc** 00 22 13.9 +0.6
LBTB Lobatse 151.05 332 *e*PKIKP **PKiKP** 00 22 00.7 -0.2

WEL 25 00:12:44.2±1.7,35°S±10°×17°9E±1°5,h12km,ML4.2/19, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.04**	**196**	P	Pn	Pn	00 13 33.5	+1.4
MXZ				S	Sn	Sn	00 14 09.1	+0.7
WMGZ	**Waiomatatini S**	**3.27**	**193**	P	Pn	Pn	00 13 37.0	+1.8
HAZ	**Te Kaha**	**3.37**	**202**	P	Pn	Pn	00 13 38.6	+2.0
HAZ				S	Sn	Sn	00 14 17.7	+1.3
PKGZ	**Pakihiroa**	**3.41**	**198**	P	Pn	Pn	00 13 38.1	+0.9
PUZ	**Puketiti**	**3.54**	**194**	P	Pn	Pn	00 13 39.4	+0.4
RUGZ	**Raukumara Rang**	**3.59**	**202**	P	Pn	Pn	00 13 40.2	+0.5
KUZ	**Kuaotunu**	**3.64**	**234**	P	Pn	Pn	00 13 41.1	+0.7
TWGZ	**Tauwhareparae**	**3.71**	**197**	P	Pn	Pn	00 13 41.7	+0.4
OPRZ	**Ohinepanea**	**3.93**	**215**	P	Pn	Pn	00 13 44.8	+0.5
CNGZ	**Carnagh Statio**	**3.95**	**193**	P	Pn	Pn	00 13 44.7	+0.1
MWZ	**Matawai**	**3.98**	**201**	P	Pn	Pn	00 13 44.8	-0.2
TKGZ	**Te Karaka**	**3.99**	**198**	P	Pn	Pn	00 13 44.5	-0.6
URZ	**Urewera**	**4.05**	**206**	P	Pn	Pn	00 13 45.6	-0.3
WIAZ	**Waiheke Island**	**4.07**	**237**	P	Pn	Pn	00 13 46.7	+0.6
RAGZ	**Rawiri**	**4.16**	**202**	P	Pn	Pn	00 13 47.3	-0.3
WCZ	**Waipu Caves**	**4.32**	**251**	P	Pn	Pn	00 13 49.3	-0.3
MUGZ	**Murupara**	**4.37**	**208**	P	Pn	Pn	00 13 50.2	-0.1
RTZ	**Ruatahuna**	**4.41**	**205**	P	Pn	Pn	00 13 49.4	-1.6
SNGZ	**Shannon Statio**	**4.45**	**201**	P	Pn	Pn	00 13 50.6	-0.8
RAHZ	**Arahi**	**4.65**	**203**	P	Pn	Pn	00 13 52.6	-1.6
MHGZ	**Mahia Peninsul**	**4.66**	**194**	P	Pn	Pn	00 13 52.8	-1.5
MTHZ	**Maungataniwha**	**4.67**	**205**	P	Pn	Pn	00 13 53.3	-1.2
NMHZ	**Naumai**	**4.90**	**204**	P	Pn	Pn	00 13 55.6	-2.1
BKZ	**Black Stump Fm**	**5.07**	**206**	P	Pn	Pn	00 13 58.6	-1.5
HIZ	**Hauiti**	**5.31**	**222**	P	Pn	Pn	00 14 04.2	+1.0
BHHZ	**Black Hill Sta**	**5.52**	**208**	P	Pn	Pn	00 14 03.3	-2.9
KAHZ	**Kahuranaki**	**5.52**	**209**	P	Pn	Pn	00 14 02.9	-3.3
FWVZ	**Far West T-bar**	**5.53**	**212**	P	Pn	Pn	00 14 04.4	-2.1
KRHZ	**Kereru**	**5.54**	**205**	P	Pn	Pn	00 14 02.8	-3.7

IDC 25 00:22:20.4±3.4,6°92S×148°13E,h0km,mb3.2/1, mb1 3.4/3,mb1mx3.2/34,mbtmp3.2/3,ML3.1/1,Error ellipse: s-maj=112.1km s-min=33.4km az=106.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.65**	**201**	Pn	Pn	Pn	00 23 05.8	+1.4
	2.5nm,0.3s,baz=35,slow=9.9,SNR=4.0							
PMG				Sn	Sn	Sn	00 23 39.8	-2.2
	1.7nm,0.3s,baz=311,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**18.62**	**225**	P	P	P	00 26 38.9	-0.8
	0.1nm,0.3s,baz=52,slow=11,SNR=4.4							
ASAR	**Alice Springs**	**21.55**	**218**	P	P	P	00 27 10.2	-1.3
	0.7nm,0.6s,baz=49,slow=9.7,SNR=11							
TORD	**Torodi Ar. Bea**	**146.40**	**283**	PKPbc	PKPbc	PKPbc	00 42 04.1	-0.3
	0.8nm,1.2s,baz=29,slow=3.3,SNR=3.0							

IDC 25 00:37:20.7±3.1,6°85S×148°52E,h0km,mb4.0/2, mb1 4.0/4,mb1mx3.6/39,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=86.8km s-min=32.9km az=111.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**208**	Pn	Pn	Pn	00 38 09.1	+1.2
	6.8nm,0.3s,baz=302,slow=2.6,SNR=8.3							
PMG				Sn	Sn	Sn	00 38 45.2	+1.9
	5.8nm,0.3s,baz=11,slow=17,SNR=3.5							
WRA	**Warramunga Arr**	**18.95**	**225**	P	P	P	00 41 43.0	-0.6
	0.2nm,0.3s,baz=51,slow=11,SNR=13							
ASAR	**Alice Springs**	**21.84**	**218**	P	P	P	00 42 14.6	-0.5
	2.7nm,0.6s,baz=53,slow=9.3,SNR=30							
FITZ	**Fitzroy Crossi**	**24.95**	**241**	P	P	P	00 42 45.8	-0.2
	2.4nm,0.4s,baz=64,slow=6.4,SNR=28							
TORD	**Torodi Ar. Bea**	**146.76**	**283**	PKPbc	PKPbc	PKPbc	00 57 05.3	-0.5
	0.2nm,0.4s,baz=53,slow=4.4,SNR=8.7							

*ISCJB **25** 00:41:19.3±0.4,51°01N±0°03×129°83W±0°05,h10km, mb3.4/1,Error ellipse: s-maj=6.2km s-min=2.7km az=137.2*
*IDC **25** 00:41:21.6±1.5,50°96N×129°43W,h0km,mb3.6/1, mb1 3.7/6,mb1mx3.4/40,mbtmp3.6/6,ML3.2/5,Error ellipse: s-maj=22.1km s-min=11.3km az=79.0*
*PGC **25** 00:41:21.0±4.1,50°93N×129°88W,h10km,ML3.4/29, MLSn3.4/30,Mw4.0,175km west of Pt. Hardy, Bc Vancouver Island, Canada Region*

ISC 25 00:41:20.4±0.9,50°93N±0°05×129°89W±0°04,h10km,n61, σ2s53/84,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.15**	**104**	P	**Pb**	**Pb**	**00 41 41.0**	**-1.5**
HOLB				S	**Sb**	**Sb**	**00 41 54.7**	**-2.7**
BPBC	**Brooks Peninsu**	**1.56**	**119**	Pn	**Pn**	**Pn**	**00 41 46.2**	**-2.0**
BPBC				Sn	**Sn**	**Sn**	**00 42 07.3**	**-1.2**
PHC	**Port Hardy**	**1.57**	**97**	Pn	**Pn**	**Pn**	**00 41 45.6**	**-2.7**
PHC				Sn	**Sn**	**Sn**	**00 42 04.7**	**-4.1**
HG4B	**Hotspring**	**1.59**	**330**	Pn	**Pn**	**Pn**	**00 41 46.9**	**-1.7**
HG4B				Sn	**Sn**	**Sn**	**00 42 06.5**	**-2.7**
PACB	**Port Alice, BC**	**1.60**	**107**	Pn	**Pn**	**Pn**	**00 41 47.3**	**-1.5**
PACB				Sn	**Sn**	**Sn**	**00 42 08.5**	**-1.0**
BBB	**Bella Bella**	**1.67**	**41**	Pn	**Pn**	**Pn**	**00 41 48.5**	**-1.2**
BBB				Sn	**Sn**	**Sn**	**00 42 07.5**	**-3.7**
BBB	**Bella Bella**	**1.67**	**41**	Pn	**Pn**	**Pn**	**00 41 48.5**	**-1.2**
	18nm,0.3s,baz=216,slow=14,SNR=198							
BBB				Sn	**Sn**	**Sn**	**00 42 07.8**	**-3.4**
	21nm,0.3s,baz=188,slow=9.1,SNR=11							
MAYB	**Maynard**	**1.81**	**106**	Pn	**Pn**	**Pn**	**00 41 50.6**	**-1.2**
TLCB	**Telegraph Cove**	**1.98**	**100**	Pn	**Pn**	**Pn**	**00 41 53.2**	**-0.7**
TLCB				Sn	**Sn**	**Sn**	**00 42 17.2**	**-1.5**
BNB	**Barry Inlet**	**2.01**	**326**	Pn	**Pn**	**Pn**	**00 41 53.7**	**-0.8**
BNB				Sn	**Sn**	**Sn**	**00 42 16.6**	**-3.1**
EDB	**Eliza Dome**	**2.06**	**120**	Pn	**Pn**	**Pn**	**00 41 54.0**	**-1.1**
WOSB	**Woss**	**2.25**	**109**	Pn	**Pn**	**Pn**	**00 41 56.9**	**-0.9**
WOSB				Sg	**Sb**	**Sb**	**00 42 29.2**	**+0.1**
BCBC	**Bella Coola**	**2.43**	**52**	Pn	**Pn**	**Pn**	**00 42 00.7**	**+0.6**
BCBC				Sn	**Sn**	**Sn**	**00 42 28.6**	**-1.2**
NCRB	**Newcastle Ridg**	**2.50**	**101**	Pn	**Pn**	**Pn**	**00 42 00.3**	**-0.9**
NCRB				Sn	**Sn**	**Sn**	**00 42 31.6**	**-0.2**
MOBC	**Moresby Island**	**2.56**	**331**	Pn	**Pn**	**Pn**	**00 42 02.7**	**+0.7**
GDR	**Gold River**	**2.73**	**114**	Pn	**Pn**	**Pn**	**00 42 03.1**	**-1.1**
GDR				Sg	**Sb**	**Sb**	**00 42 43.1**	**+0.5**
DIB	**Dawson Inlet,**	**2.78**	**326**	Pn	**Pn**	**Pn**	**00 42 03.4**	**-1.5**
H02S1	**DAWSON INLET T**	**2.78**	**326**	Pn	**Pn**	**Pn**	**00 42 03.4**	**-1.5**
H02S1				Sn	**Sn**	**Sn**	**00 42 37.6**	**-0.9**
CBB	**Campbell River**	**3.03**	**106**	Pn	**Pn**	**Pn**	**00 42 07.1**	**-1.3**
CBB				Sn	**Sn**	**Sn**	**00 42 46.1**	**+1.5**
BTB	**Buttle Lake**	**3.17**	**116**	Pn	**Pn**	**Pn**	**00 42 09.4**	**-1.0**
BTB				Sn	**Sn**	**Sb**	**00 42 53.5**	**-2.0**
RUBB	**Prince Rupert**	**3.41**	**356**	Pn	**Pn**	**Pn**	**00 42 13.7**	**+0.1**
RUBB				Sn	**Sn**	**Sn**	**00 42 52.6**	**-1.4**
B927	**Port Alberni**	**3.69**	**116**	Pn	**Pn**	**Pn**	**00 42 20.9**	**+3.5**
B927				Sn	**Sn**	**Sb**	**00 43 08.2**	**-2.2**
TXB	**Texada**	**3.71**	**107**	Pn	**Pn**	**Pn**	**00 42 17.1**	**-0.6**
MGB	**Mount Grey**	**3.87**	**118**	Pn		**Pn**	**00 42 18.9**	**-1.2**
MGB				Sn		**Sb**	**00 43 18.3**	**+2.5**
SHB	**Sechelt**	**4.08**	**107**	Pn		**Pn**	**00 42 22.8**	**-0.1**
SHB				Sg		**Sb**	**00 43 23.8**	**+2.0**
NLLB	**Nanaimo Lost L**	**4.17**	**112**	Pn		**Pn**	**00 42 25.2**	**+1.2**
PFB	**Port Renfrew**	**4.25**	**122**	Pn		**Pn**	**00 42 25.1**	**-0.1**
PFB				Sg		**Sg**	**00 43 34.7**	**-2.1**
WPB	**Watts Point**	**4.47**	**104**	Pn		**Pn**	**00 42 28.9**	**+0.8**
BPCB	**Bare Point**	**4.47**	**114**	Sg		**Sb**	**00 43 37.3**	**+4.5**
BIB	**Bowen Island**	**4.50**	**107**	Pn		**Pn**	**00 42 27.8**	**-0.8**
BIB				Sg		**Sb**	**00 43 35.9**	**+2.2**
WSLR	**Whistler**	**4.52**	**98**	Pn		**Pn**	**00 42 28.6**	**-0.3**
LZB	**Mount Lazard**	**4.56**	**118**	Pn		**Pn**	**00 42 30.5**	**+0.9**
LZB				Sg		**Sb**	**00 43 37.7**	**+2.1**
GOBB	**Galiano Island**	**4.57**	**113**	Pn		**Pn**	**00 42 30.8**	**+1.2**
GOBB				Sg		**Sb**	**00 43 39.3**	**+3.5**
B010	**North Saanich**	**4.75**	**116**	Sg		**Sb**	**00 43 44.7**	**+3.7**
PGC	**Sidney**	**4.75**	**116**	Sg		**Sb**	**00 43 44.0**	**+3.0**
B011	**North Saanich**	**4.76**	**116**	Sg		**Sb**	**00 43 44.1**	**+3.1**
SNB	**Saturna Island**	**4.85**	**114**	Sg		**Sg**	**00 43 50.7**	**-5.4**
FSB	**Fort Saint Jam**	**4.90**	**41**	Pn		**Pn**	**00 42 34.7**	**+0.5**
LLLB	**Lillooet**	**5.09**	**91**	Pn		**Pn**	**00 42 36.5**	**-0.3**
LLLB				Sg		**Sb**	**00 43 55.8**	**+5.0**
MCW	**Mount Constitu**	**5.09**	**114**	Pn		**Pn**	**00 42 38.7**	**+1.9**
MCW				Sg		**Sg**	**00 43 58.1**	**-5.8**
MBW	**Mount Baker**	**5.60**	**109**	Pn		**Pn**	**00 42 45.1**	**+1.3**
JCW	**Jim Creek**	**5.86**	**115**	Pn		**Pn**	**00 42 48.9**	**+1.6**
LON	**Longmire**	**6.78**	**125**	Pn		**Pn**	**00 43 01.8**	**+1.9**
PNT	**Penticton**	**6.80**	**100**	Sg		**Sb**	**00 44 48.6**	**+8.7**
BMBC	**Bull Mountain**	**6.90**	**39**	Pn		**Pn**	**00 43 03.2**	**+1.5**
BMBC				Sn		**Sn**	**00 44 19.7**	**-0.5**
LTY	**Liberty**	**7.08**	**118**	Pn		**Pn**	**00 43 05.9**	**+1.7**
B08A	**Colville Reser**	**7.32**	**107**	Pn		**Pn**	**00 43 08.7**	**+1.3**
B08A				Sg		**Sb**	**00 45 02.9**	**+8.1**
DLBC	**Dease Lake**	**7.52**	**359**	Pn		**Pn**	**00 43 12.9**	**+2.7**
DLBC				Sn		**Sn**	**00 44 34.2**	**-1.2**
DLBC	**Dease Lake**	**7.52**	**359**	Pn		**Pn**	**00 43 12.0**	**+1.9**
	0.1nm,0.3s,baz=179,slow=14,SNR=4.8							
DLBC				Sn		**Sn**	**00 44 34.6**	**-0.8**
	0.2nm,0.3s,baz=193,slow=19,SNR=3.0							
DLBC				Lg		Lg	00 45 14.4	
	baz=270,slow=20,SNR=2.8							
NEW	**Newport**	**8.71**	**103**	Lg		Lg	00 45 42.7	
	0.0nm,0.3s,baz=360,slow=19,SNR=3.0							
YKA	**Yellowknife Ar**	**14.25**	**30**	Pn		**Pn**	**00 44 39.2**	**-2.8**
	0.1nm,0.3s,baz=219,slow=12,SNR=5.8							
YKA				Sn		Sn	00 47 08.9	-11
	0.1nm,0.3s,baz=224,slow=22,SNR=9.4							
NVAR	**Mina Array Bea**	**14.95**	**142**	Pn		**Pn**	**00 44 54.6**	**+2.7**
	0.0nm,0.3s,baz=318,slow=12,SNR=6.9							
PDAR	**Pinedale Array**	**16.09**	**113**	Pn		**Pn**	**00 45 06.9**	**+0.1**
	0.1nm,0.3s,baz=306,slow=9.7,SNR=2.9							
ILAR	**Eielson Array**	**16.47**	**334**	Pn		**P**	**00 45 17.1**	**+3.0**
	0.0nm,0.3s,baz=136,slow=14,SNR=3.0							
TXAR	**Lajitas Array**	**29.18**	**128**	P		**P**	**00 47 23.2**	**+1.2**
	0.6nm,0.7s,baz=330,slow=7.2,SNR=4.2							
H11N2	**WAKE ISLAND Hy**	**58.10**	**262**	T		T	01 54 27.9	
	baz=41,slow=76,SNR=100							
H11N3	**WAKE ISLAND Hy**	**58.10**	**262**	T		T	01 54 27.8	
	baz=41,slow=76,SNR=80							
H11N1	**WAKE ISLAND Hy**	**58.11**	**262**	T		T	01 54 30.2	
	baz=41,slow=76,SNR=82							
H11S1	**WAKE ISLAND Hy**	**59.13**	**261**	T		T	01 55 43.9	
	baz=40,slow=75,SNR=9.1							
H11S2	**WAKE ISLAND Hy**	**59.14**	**261**	T		T	01 55 44.2	
	baz=40,slow=75,SNR=10.0							
H11S3	**WAKE ISLAND Hy**	**59.15**	**261**	T		T	01 55 44.3	
	baz=40,slow=75,SNR=12							

KRSC 25 00:57:30.8±10.0,50°69N×160°18E,h66km±10km,ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.73**	**311**	*e*P		Pn	00 58 00.7	+2.0
KDTR				*e*S		Sn	00 58 22.1	+2.3
RUS	**Russkaya**	**2.03**	**330**	*e*P		Pn	00 58 04.0	+1.3
RUS				*e*S		Sn	00 58 29.2	+2.2
PAU	**Pauzhetka**	**2.26**	**291**	*e*S		Sn	00 58 36.3	+3.7
KRMR	**Karymshinskiy**	**2.49**	**330**	*e*P		Pn	00 58 11.1	+2.1
KRMR				*e*S		Sn	00 58 40.9	+2.6
DALK	**Dalny**	**2.51**	**340**	*e*P		Pn	00 58 11.4	+2.3
SKR	**Severo-Kuril's**	**2.58**	**271**	*e*S		Sn	00 58 42.6	+2.2
UGLR	**Uglovaya**	**2.66**	**342**	*e*P		Pn	00 58 13.5	+2.2
SDLR	**Sedlovina**	**2.71**	**343**	*e*P		Pn	00 58 13.8	+1.7
SMAR	**Somma**	**2.72**	**342**	*e*P		Pn	00 58 16.2	+4.0
AVH	**Avacha**	**2.73**	**341**	*e*P		Pn	00 58 15.1	+2.8
KRER	**Koryakskii**	**2.77**	**342**	*e*P		Pn	00 58 17.2	+4.4
KOK	**Koryaka**	**2.78**	**340**	*e*P		Pn	00 58 15.6	+2.7
KZV	**Kizimen**	**4.43**	**1**	*e*P		Pn	00 58 38.0	+2.4
TUMR	**Tumrok**	**4.60**	**360**	*e*P		Pn	00 58 40.5	+2.7

*IDC **25** 00:59:10.6±1.0,39°90N×77°33E,h0km,mb3.4/4, mb1 3.5/8,mb1mx3.3/48,mbtmp3.3/8,ML2.9/4,Error ellipse: s-maj=23.2km s-min=18.7km az=78.0*
*SOME **25** 00:59:13.4,40°08N×77°55E,h25km*
*KRNET **25** 00:59:13.6±0.1,40°08N×77°29E,mb3.8*
*NNC **25** 00:59:16.3±1.1,40°30N×77°44E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=7.4km s-min=6.0km az=177.0*

ISC 25 00:59:15.5±1.0,40°01N±0°06×77°43E±0°04,h28km,n59, σ1s80/78,mb3.4/5,17C-15D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.79**	**323**	⇓*i*P		**Pn**	**00 59 44.5**	**-0.4**
	baz=24							
NRN				⇓*i*S		**Sn**	**01 00 07.0**	**+0.1**
	baz=24							
KDJ	**Kajisay**	**2.13**	**355**	⇓*i*P		**Pn**	**00 59 50.4**	**+1.0**
	baz=58							
KDJ				⇓*i*S		**Sb**	**01 00 17.4**	**-2.2**
	baz=58							
PRZ	**Przheval'sk**	**2.58**	**16**	⇑*i*P		**Pn**	**00 59 57.1**	**+1.5**
	baz=19							
PRZ				⇑*i*S		**Sb**	**01 00 29.3**	**-3.2**
	baz=19							
**BOO

	363nm,0.5s							
AAA	**Alma-Ata**	**3.22**	**353**	*e*P	**Pb**	**01 00 10.5**	**-1.5**
	136nm,0.4s							
AAA				*e*S	**Sb**	**01 00 51.6**	**+0.7**
	363nm,0.5s							
KNDC	**Almaty**	**3.23**	**354**	⇑Pg	**Pb**	**01 00 09.7**	**-2.4**
KNDC				⇑Lg	Lg	01 00 46.5		
KST	**Kastek**	**3.23**	**340**	Pg	**Pb**	**01 00 10.2**	**-2.0**
	22nm,0.5s							
KST				Lg	Lg	01 00 51.3		
	94nm,0.9s							
KST	**Kastek**	**3.23**	**340**	⇑*i*P	**Pb**	**01 00 10.2**	**-2.0**
	20nm,0.2s							
KST				*e*S	**Sb**	**01 00 51.4**	**+0.3**
	60nm,0.4s							
KOTS	**Kotyrbulak**	**3.23**	**356**	Pg	**Pb**	**01 00 10.0**	**-2.3**
	87nm,0.3s							
KOTS				Lg	Lg	01 00 50.8		
	514nm,0.5s							
KOTS	**Kotyrbulak**	**3.23**	**356**	*e*P	**Pb**	**01 00 10.0**	**-2.3**
	87nm,0.3s							
KOTS				*e*S	**Sb**	**01 00 50.8**	**-0.5**
	514nm,0.5s							
UZB	**Uzynbulak**	**3.35**	**20**	Pg	**Pb**	**01 00 12.0**	**-2.4**
	18nm,0.7s							
UZB				Lg	Lg	01 00 54.6		
	50nm,0.3s							
UZB	**Uzynbulak**	**3.35**	**20**	*e*P	**Pb**	**01 00 12.0**	**-2.4**
	10.0nm,0.5s							
UZB				*e*S	**Sb**	**01 00 54.6**	**-0.2**
	50nm,0.3s							
AAK	**Ala-Archa**	**3.43**	**321**	Pn	**Pn**	**01 00 09.8**	**+2.5**
	4.0nm,0.3s,baz=139,slow=8.7,SNR=21							
AAK				Lg	Lg	01 00 56.3		
	6.3nm,0.3s,baz=2.3,slow=19,SNR=15							
DGS	**Degeres**	**3.46**	**339**	Pg	**Pb**	**01 00 14.2**	**-1.9**
	36nm,0.6s							
DGS				Lg	Lg	01 00 58.4		
	117nm,0.8s							
DGS	**Degeres**	**3.46**	**339**	*e*P	**Pb**	**01 00 14.2**	**-1.9**
	36nm,0.6s							
DGS				*e*S	**Sb**	**01 00 58.5**	**+0.6**
	117nm,0.8s							
KURS	**Kuram**	**3.52**	**9**	Pg	**Pb**	**01 00 14.6**	**-2.5**
	29nm,0.5s							
KURS				Lg	Lg	01 00 59.1		
	40nm,0.7s							
KURS	**Kuram**	**3.52**	**9**	*e*P	**Pb**	**01 00 14.7**	**-2.5**
	29nm,0.5s							
KURS				*e*S	**Sb**	**01 00 59.1**	**-0.3**
	70nm,0.8s							
PDGK	**Podgornoye**	**3.66**	**24**	⇑Pn	**Pn**	**01 00 12.1**	**+1.7**
	3.2nm,0.5s							
PDGK				⇑Pg	**Pb**	**01 00 18.9**	**-0.6**
	26nm,0.7s							
PDGK				⇑Lg	Lg	01 01 02.1		
	102nm,0.6s							
PDGK	**Podgornoye**	**3.66**	**24**	⇑*i*P	**Pn**	**01 00 12.3**	**+1.9**
	baz=26							
PDGK				⇑*i*S	**Sn**	**01 00 55.3**	**+2.7**
	baz=26							
KTBS	**Karatobe**	**3.74**	**352**	Pg	**Pb**	**01 00 18.6**	**-2.3**
	19nm,0.3s							
KTBS				Lg	Lg	01 01 05.7		
	118nm,0.5s							
KTBS	**Karatobe**	**3.74**	**352**	*e*P	**Pb**	**01 00 18.6**	**-2.3**
	19nm,0.3s							
KTBS				*e*S	**Sb**	**01 01 05.7**	**-0.2**
	118nm,0.5s							
KUU	**Kurty**	**3.97**	**348**	Pg	**Pb**	**01 00 22.8**	**-2.0**
	7.5nm,0.3s							
KUU				Lg	Lg	01 01 13.3		
	66nm,0.5s							
KTMS	**Ketmen**	**4.07**	**32**	Pg	**Pb**	**01 00 24.0**	**-2.5**
	25nm,0.2s							
KTMS				Lg	Lg	01 01 15.3		
	47nm,0.6s							
KTMS	**Ketmen**	**4.07**	**32**	*e*P	**Pb**	**01 00 24.0**	**-2.5**
	25nm,0.2s							
KTMS				*e*S	**Sb**	**01 01 15.3**	**-0.1**
	47nm,0.6s							
MRKS	**Merke**	**4.18**	**312**	Pg	**Pb**	**01 00 27.7**	**-0.7**
	11nm,0.7s							
MRKS				Lg	Lg	01 01 21.4		
	20nm,0.7s							
MRKS	**Merke**	**4.18**	**312**	*e*P	**Pb**	**01 00 27.7**	**-0.7**
	11nm,0.7s							
MRKS				⇓*i*S	**Sb**	**01 01 21.4**	**+2.9**
	20nm,0.7s							
ARXS	**Arharly**	**4.21**	**4**	Pg	**Pb**	**01 00 27.4**	**-1.5**
	19nm,0.6s							
ARXS				Lg	Lg	01 01 21.0		
	75nm,0.5s							
ARXS	**Arharly**	**4.21**	**4**	*e*P	**Pb**	**01 00 27.4**	**-1.5**
	19nm,0.6s							
ARXS				*e*S	**Sb**	**01 01 21.1**	**+1.7**
	75nm,0.5s							
DJR	**Jarkent**	**4.66**	**21**	Pg	**Pb**	**01 00 35.5**	**-1.0**
	9.0nm,0.3s							
DJR				Lg	Lg	01 01 35.0		
	15nm,0.6s							
DJR	**Jarkent**	**4.66**	**21**	*e*P	**Pb**	**01 00 35.5**	**-1.0**
	3.4nm,0.6s							
DJR				*e*S	**Sb**	**01 01 35.0**	**+2.7**
	16nm,0.4s							
TDK	**Taldyqorghan**	**5.04**	**8**	Pg	**Pb**	**01 00 42.1**	**-0.9**
	53nm,0.6s							
TDK				Lg	Lg	01 01 46.2		
	62nm,0.6s							
TDK	**Taldyqorghan**	**5.04**	**8**	*e*P	**Pb**	**01 00 42.1**	**-0.9**
	53nm,0.6s							
TDK				*e*S	**Sb**	**01 01 46.2**	**+3.1**
	62nm,0.6s							
KAPS	**Kapalarasan**	**5.46**	**14**	Pg	**Pb**	**01 00 52.3**	**+2.1**
	5.4nm,0.4s							
KAPS				Lg	Lg	01 02 03.6		
	13nm,0.7s							
KAPS	**Kapalarasan**	**5.46**	**14**	*e*P	**Pb**	**01 00 52.3**	**+2.1**
	5.4nm,0.4s							
KAPS				*e*S	Sb	01 02 03.6	+8.4	
	13nm,0.7s							
KK31	**Karatay Array**	**6.04**	**303**	Pg	Pb	01 01 06.8	+6.8	
	2.4nm,0.8s,baz=122,slow=15,SNR=8.4							
KK31				⇑Lg	Lg	01 02 24.6		
	4.0nm,0.7s,baz=121,slow=28,SNR=6.2							
MAKZ	**Makanchi**	**7.56**	**24**	⇓Lg	Lg	01 03 07.5		
	2.5nm,0.7s							
MK31	**Makanchi Array**	**7.65**	**26**	⇑Pn	**Pn**	**01 01 07.7**	**+2.6**
	0.2nm,0.3s,baz=202,slow=11,SNR=5.6							
MK31				⇑Sn	**Sn**	**01 02 31.8**	**+1.1**
	0.7nm,0.5s,baz=207,slow=23,SNR=4.7							
MK31				⇓Lg	Lg	01 03 08.1		
	1.6nm,0.6s,baz=213,slow=15,SNR=3.6							
MKAR	**Makanchi Array**	**7.65**	**26**	Pn	**Pn**	**01 01 05.2**	**+0.2**
	0.2nm,0.3s,baz=207,slow=15,SNR=9.9							
MKAR				Lg	Lg	01 03 10.1		
	0.3nm,0.3s,baz=209,slow=26,SNR=3.8							
OTUK	**Ortayu**	**9.01**	**338**	⇓Lg	Lg	01 03 51.3		
	16nm,1.1s							
KURBB	**Kurchatov Arra**	**10.64**	**4**	Pn	**Pn**	**01 01 44.7**	**-1.3**
	0.1nm,0.3s,baz=193,slow=12,SNR=5.7							
KURBB				Lg	Lg	01 04 43.6		
	0.0nm,0.3s,baz=187,slow=29,SNR=5.6							
KURK	**Kurchatov**	**10.74**	**4**	⇑Lg	Lg	01 04 47.3		
	12nm,1.1s							
BVAR	**Borovoye Array**	**13.88**	**342**	Lg	Lg	01 06 25.1		
	0.1nm,0.3s,baz=154,slow=31,SNR=3.8							
ZALV	**Zalesovo Beam**	**14.81**	**17**	Pn	**Pn**	**01 02 42.5**	**-0.4**
	0.1nm,0.3s,baz=198,slow=14,SNR=4.5							
SONM	**Songino Array**	**22.18**	**60**	P	**P**	**01 04 10.8**	**+1.4**
	0.3nm,0.7s,baz=261,slow=9.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**70.79**	**271**	P	**P**	**01 10 28.1**	**-1.6**
	0.4nm,0.4s,baz=44,slow=5.7,SNR=10							
YKA	**Yellowknife Ar**	**77.39**	**6**	P	**P**	**01 11 07.3**	**-0.1**
	0.2nm,0.6s,baz=344,slow=5.4,SNR=6.2							
WRA	**Warramunga Arr**	**79.78**	**127**	P	**P**	**01 11 20.3**	**-0.9**
	0.4nm,0.9s,baz=316,slow=7.2,SNR=4.1							
ASAR	**Alice Springs**	**82.33**	**130**	P	**P**	**01 11 35.0**	**+0.2**
	5.3nm,0.3s,baz=320,slow=7.5,SNR=11							

DJA 25 01:06:14.6±0.2,2°S±2°×12°1E±°,h10km,M3.7/11, MLv3.7/11,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APSI	**Ampana**	**1.49**	**20**	P	Pn	01 06 40.6	-0.8
APSI				S	Sb	01 07 01.3	-0.1

LUWI	**Luwuk**	**2.07**	**52**	P	Pn	01 06 47.6	-1.8	
LUWI				S	Sn	01 07 16.3	+1.1	
SPSI	**Sidrap Palu**	**2.13**	**220**	P	Pn	01 06 49.4	-0.9	
SPSI				S	Sn	01 07 17.2	+0.4	
KDI	**Kendari**	**2.20**	**138**	P	Pb	01 06 53.0	-1.5	
KDI				S	Sg	01 07 28.3	+3.0	
BNSI	**Bone**	**2.31**	**207**	P	Pn	01 06 51.9	-0.8	
MRSI	**Marisa**	**2.89**	**16**	P	Pn	01 06 59.5	-1.2	
MRSI				S	Sn	01 07 35.9	+0.3	
MPSI	**Mapaga**	**2.92**	**335**	P	Pn	01 07 01.2	+0.1	
MPSI				S	Sn	01 07 37.4	+1.2	
BKSI	**Bulukumba**	**3.15**	**199**	P	Pn	01 07 04.9	+0.6	
BSSI	**Bau Bau, Buton**	**3.85**	**190**	P	Pn	01 07 14.2	+0.2	

ISCJB ***25*** *01:06:26.6±0.3, 49°.45N±0°.03×20°.05E±0°.02, h0km, Error ellipse: s-maj=3.8km s-min=1.6km az=20.6*
IPEC ***25*** *01:06:27.4±0.1, 49°.49N×20°.25E, h2km, ML2.7/6, Error ellipse: s-maj=1.0km s-min=0.8km az=32.0*
VIE ***25*** *01:06:27.5±1.3, 49°.42N×20°.31E, h8km, mb2.8/2, ml2.7/4, Error ellipse: s-maj=10.5km s-min=9.3km az=81.0*
BGR ***25*** *01:06:27.6±0.3, 49°.48N×20°.18E, h1km, ML3.3/13, Error ellipse: s-maj=7.8km s-min=3.3km az=23.0*
SIGU ***25*** *01:06:31.6±0.2, 49°.N±3°×2°.0E±°, h10km, mb2.4/4*
PRU ***25*** *01:06:32.0±0.0, 49°.60N×19°.95E, h17km*
ISC 25 01:06:26.7±0.7, 49°.52N±0°.03×20°.21E±0°.02, h0km, n69, σ1s31/115, 7C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIE	**Niedzica**	**0.12**	**150**	*i* Pg	**Pg**	**01 06 29.2**	**+0.3**
NIE				*e*Sg	**Sg**	**01 06 30.9**	**+0.4**
NIE	**Niedzica**	**0.12**	**150**	*e*Pg	**Pg**	**01 06 29.3**	**+0.3**
NIE				*e*Sg	**Sg**	**01 06 30.8**	**+0.4**
OJC	**Ojcow**	**0.75**	**339**	*e*Pg	**Pb**	**01 06 43.0**	**+0.5**
OJC				*e*Sg	**Sb**	**01 06 54.2**	**+0.9**
OJC	**Ojcow**	**0.75**	**339**	*e*Pg	**Pb**	**01 06 42.8**	**+0.2**
OJC				*e*Sg	**Sb**	**01 06 54.3**	**+0.9**
CHZP	**Chorzow**	**1.10**	**315**	*e*Pg	**Pn**	**01 06 49.7**	**+0.4**
CHZP				*e*Sg	**Sn**	**01 07 06.0**	**+0.7**
VYHS	**Vyhne**	**1.37**	**222**	*e*PG	**Pg**	**01 06 52.6**	**-0.3**
VYHS				*e*SG	**Sn**	**01 07 12.9**	**+1.0**
VYHS				*e*LG	Lg	01 07 16.4		
OKC	**Ostrava-Krasne**	**1.38**	**284**	*e*PG	**Pb**	**01 06 54.0**	**+0.8**
OKC				*e*SG	**Sg**	**01 07 10.8**	**0.0**
	comp=Z,77nm,0.4s							
OKC	**Ostrava-Krasne**	**1.38**	**284**	*e*Pg	**Pb**	**01 06 53.8**	**+0.6**
OKC				*e*Sg	**Sn**	**01 07 12.9**	**+0.9**
PSZ	**Piszkesteto**	**1.62**	**188**	⇑*i*P	**Pn**	**01 06 55.8**	**-0.7**
PSZ	**Piszkesteto**	**1.62**	**188**	S	**Sn**	**01 07 15.5**	**-2.6**
PSZ	**Piszkesteto**	**1.62**	**188**	*e*Pg	**Pb**	**01 06 57.1**	**-0.3**
PSZ				*e*Sg	**Sn**	**01 07 18.1**	**0.0**
UZH	**Uzhgorod**	**1.64**	**122**	⇓*i*Pn	**Pg**	**01 06 58.1**	**+0.1**
UZH				*i* Sn	**Sg**	**01 07 19.7**	**+0.6**
MORC	**Moravsky Berou**	**1.75**	**279**	⇓*i*P	**Pg**	**01 07 00.0**	**-0.2**
MORC	**Moravsky Berou**	**1.75**	**279**	S	**Sg**	**01 07 23.6**	**+0.7**
MORC	**Moravsky Berou**	**1.75**	**279**	*e*PN	**Pb**	**01 06 59.5**	**-0.2**
MORC				*e*SG	**Sg**	**01 07 23.5**	**+0.7**
MORC	**Moravsky Berou**	**1.75**	**279**	*e*Pn	**Pb**	**01 06 59.4**	**-0.2**
	baz=98							
MORC				*e*Sg	**Sg**	**01 07 23.4**	**+0.5**
	115nm,0.5s,baz=98							
MORC	**Moravsky Berou**	**1.75**	**279**	*e*Pg	**Pg**	**01 07 00.2**	**0.0**
MORC				*e*Sg	**Sg**	**01 07 23.7**	**+0.8**
JAVC	**Velka Javorina**	**1.79**	**249**	*e*PN	**Pb**	**01 06 59.8**	**-0.6**
JAVC				*e*SG	**Sg**	**01 07 24.3**	**+0.1**
JAVC	**Velka Javorina**	**1.79**	**249**	*e*Pn	**Pb**	**01 06 59.8**	**-0.6**
	baz=69							
JAVC				*e*Sg	**Sg**	**01 07 24.3**	**+0.1**
	33nm,0.7s,baz=69							
ANAC	**Anensky vrch**	**1.92**	**288**	*e*Pn	**Pb**	**01 07 01.7**	**-0.8**
	baz=106							
ANAC				*e*Sg	**Sg**	**01 07 28.4**	**+0.2**
	34nm,0.3s,baz=106							
MUKU	**Mukachevo**	**1.95**	**122**	⇑*i*Pn	**Pg**	**01 07 03.9**	**-0.1**
BERU	**Beregovo**	**2.06**	**128**	*e*Pn	**Pb**	**01 07 05.0**	**+0.1**
BERU				*i* Sn	**Sb**	**01 07 30.2**	**-0.9**
TRPA	**Tarpa**	**2.08**	**131**	⇑*i*P	**Pn**	**01 07 02.1**	**-0.6**
TRPA	**Tarpa**	**2.08**	**131**	S	**Sn**	**01 07 28.7**	**-0.5**
TRPA	**Tarpa**	**2.08**	**131**	*e*Pn	**Pn**	**01 07 02.1**	**-0.6**
TRPA				*e*Sg	**Pg**	**01 07 06.1**	**-0.4**
TRPA				*e*Sg	**Sg**	**01 07 34.0**	**+0.7**
LIPC	**Lipinka**	**2.08**	**280**	*e*Pn	**Pn**	**01 07 04.0**	**+1.2**
	baz=98							
LIPC				*e*Sg	**Sg**	**01 07 33.7**	**+0.3**
	58nm,0.4s,baz=98							
SHIU	**Shidnytsya**	**2.08**	**97**	*i* Pn	**Pb**	**01 07 04.9**	**-0.4**
SHIU				*i* Sn	**Sg**	**01 07 33.6**	**+0.1**
BRIU	**Brid**	**2.20**	**122**	*e*Pn	**Pb**	**01 07 08.5**	**+0.5**
BRIU				Pm		01 07 12.7		
BRIU				*i* Sn	**Sb**	**01 07 34.3**	**-0.8**
BRIU				Sm		01 08 01.4		
KRLC	**Kraliky**	**2.29**	**285**	*e*PN	**Pn**	**01 07 06.7**	**+1.0**
KRLC				*e*PG	**Pg**	**01 07 10.6**	**+0.1**
KRLC				*e*SG	**Sb**	**01 07 38.7**	**+1.0**
	comp=Z,7.3nm,0.6s							
TRSU	**Trosnyk**	**2.31**	**127**	*e*Pn	**Pb**	**01 07 09.1**	**-0.1**
TRSU				*i* Sn	**Sn**	**01 07 36.3**	**+1.3**
KORU	**Korolevo**	**2.37**	**124**	*e*Pn	**Pb**	**01 07 10.0**	**-0.1**
KORU				Pm		01 07 16.8		
KORU				*i* Sn	**Sn**	**01 07 38.0**	**+1.6**
KORU				Sm		01 07 57.2		
VRAC	**Vranov**	**2.37**	**266**	⇓*i*P	**Pb**	**01 07 09.3**	**-0.9**
VRAC	**Vranov**	**2.37**	**266**	S	**Sn**	**01 07 35.8**	**-0.8**
VRAC	**Vranov**	**2.37**	**266**	*e*PN	**Pn**	**01 07 07.9**	**+1.1**
VRAC				*e*SG	**Sg**	**01 07 42.6**	**-0.2**
VRAC	**Vranov**	**2.37**	**266**	*e*Pn	**Pn**	**01 07 07.8**	**+1.0**
	baz=84							
VRAC				*e*Sg	**Sg**	**01 07 42.5**	**-0.2**
	44nm,0.9s,baz=84							
MEZ	**Mezhgor'ye**	**2.40**	**114**	*e*Pn	**Pb**	**01 07 10.9**	**+0.2**
MEZ				Pm		01 07 13.0		
MEZ				*e*Sn	**Sb**	**01 07 39.9**	**-0.9**
MEZ				Sm		01 07 53.9		
MORS	**Morshin**	**2.44**	**98**	*e*Pn	**Pb**	**01 07 11.2**	**-0.2**
MORS				*i* Sn	**Sb**	**01 07 42.9**	**+0.9**
KRUC	**Moravsky**	**2.54**	**261**	*e*PN	**Pn**	**01 07 09.9**	**+0.8**
KRUC				*e*SG	**Sg**	**01 07 47.7**	**-0.5**
KRUC	**Moravsky**	**2.54**	**261**	*e*Pn	**Pn**	**01 07 09.8**	**+0.7**
	baz=79							
KRUC				*e*Sg	**Sg**	**01 07 47.6**	**-0.6**
	26nm,0.6s,baz=79							
DPC	**Dobruska-Polom**	**2.64**	**290**	*e*PG	**Pb**	**01 07 15.5**	**+0.6**
DPC				*e*SG	**Sg**	**01 07 50.5**	**-1.1**
	comp=Z,25nm,0.6s							
DPC	**Dobruska-Polom**	**2.64**	**290**	*e*Pg	**Pb**	**01 07 15.3**	**+0.4**
DPC				*e*Sg	**Sb**	**01 07 49.6**	**+1.7**
KSP	**Ksiaz**	**2.84**	**299**	*e*Pg	**Pg**	**01 07 20.5**	**-0.6**
KSP				*e*Sg	**Sg**	**01 07 56.3**	**-1.6**
KSP	**Ksiaz**	**2.84**	**299**	*e*Pg	**Pg**	**01 07 20.6**	**-0.5**
KSP				*e*Sg	**Sg**	**01 07 56.7**	**-1.3**
BMR	**Baia Mare**	**2.86**	**129**	⇑*i*P	**Pn**	**01 07 14.2**	**+0.7**
UPC	**Upice**	**2.88**	**292**	*e*PG	**Pb**	**01 07 20.1**	**+1.2**
UPC				*e*SG	**Sg**	**01 07 57.6**	**-1.6**
	comp=Z,37nm,0.9s							
TREC	**Trest**	**3.09**	**268**	*e*SG	**Sg**	**01 08 04.1**	**-1.8**
	comp=Z,35nm,0.9s							
NSLU	**Nyzhne Selyshc**	**3.10**	**114**	*e*Pn	**Pn**	**01 07 12.3**	**-4.5**
NSLU				Pm		01 07 18.4		
NSLU				*i* Sn	Sn	01 07 42.3	-12	
NSLU				Sm		01 08 13.4		
DRGR		**3.21**	**148**	⇑*i*P	**Pn**	**01 07 18.2**	**-0.1**
CONA	**Conrad Observa**	**3.29**	**243**	*e*Pn	**Pn**	**01 07 19.8**	**+0.3**
	0.7nm,0.4s							
CONA				Sn	**Sn**	**01 08 00.7**	**+1.4**
	4.1nm,0.4s							
GOPC	**GO Pecny, Ondr**	**3.54**	**278**	*e*PG	**Pg**	**01 07 32.6**	**-1.9**
GOPC				*e*SG	**Sg**	**01 08 18.9**	**-1.4**
	comp=Z,33nm,0.8s							
PRU	**Pruhonice**	**3.70**	**279**	*e*PG	**Pg**	**01 07 35.3**	**-2.3**
PRU				*e*SG	**Sg**	**01 08 23.5**	**-2.1**
	comp=Z,21nm,0.9s							
PVCC	**Panska Ves**	**3.77**	**288**	*e*SG	**Sg**	**01 08 26.2**	**-1.6**
	comp=Z,41nm,1.1s							
BURAR	**Bucovina Array**	**3.83**	**118**	⇓*i*P	**Pn**	**01 07 27.2**	**+0.2**
BRG	**Berggiesshubel**	**4.25**	**291**	PG	**Pg**	**01 07 47.4**	**-0.6**
BRG				SG	**Sg**	**01 08 40.5**	**-2.5**
	12nm,0.7s							
BRG	**Berggiesshubel**	**4.25**	**291**	*e*Pg	**Pg**	**01 07 47.4**	**-0.6**
BRG				*e*Sg	**Sg**	**01 08 40.2**	**-2.8**
MOA	**Molln**	**4.28**	**249**	*e*Sn	**Sn**	**01 08 26.3**	**+2.7**
	0.4nm,0.3s							
MOA				Sg	**Sg**	**01 08 50.3**	**+6.3**
	2.4nm,0.4s							
KHC	**Kasperske Hory**	**4.36**	**267**	*e*PN	**Pn**	**01 07 34.3**	**+0.2**
KHC				*e*PG	**Pg**	**01 07 47.7**	**-2.4**
KHC				*e*SG	**Sg**	**01 08 44.5**	**-2.0**
	comp=Z,9.9nm,0.5s							
GZR	**Gura Zlata**	**4.48**	**156**	⇑*i*P	**Pn**	**01 07 35.6**	**-0.3**
BIZ	**Bicaz**	**4.71**	**121**	⇓*i*P	**Pn**	**01 07 40.4**	**+1.4**
WET	**Wettzell**	**4.81**	**268**	*e*Sg	**Sg**	**01 08 58.8**	**-2.3**
CLL	**Collm**	**4.94**	**294**	*e*Pg	**Pg**	**01 08 02.0**	**+0.7**
CLL				*e*Sg	**Sg**	**01 09 05.0**	**-0.3**
	comp=Z,10.0nm,0.8s							
CLL	**Collm**	**4.94**	**294**	*e*Sg	**Sg**	**01 09 03.7**	**-1.6**
NKC	**Novy Kostel**	**5.07**	**281**	*e*SG	**Sg**	**01 09 06.5**	**-2.9**
	comp=Z,8.8nm,0.5s							
NKC	**Novy Kostel**	**5.07**	**281**	*e*Sg	**Sg**	**01 09 07.9**	**-1.5**
TANN	**Tannenbergstha**	**5.08**	**283**	*e*Sg	**Sg**	**01 09 09.1**	**-0.7**
WERN	**Wernitzgruen**	**5.12**	**282**	*e*Sg	**Sg**	**01 09 09.4**	**-1.6**
VOIR		**5.24**	**139**	⇑*i*P	**Pn**	**01 07 46.3**	**0.0**
PLN	**Plauen**	**5.28**	**284**	*e*Sg	**Sg**	**01 09 14.1**	**-2.1**
MOX	**Moxa**	**5.64**	**285**	*e*Sg	**Sg**	**01 09 27.7**	**-0.2**

IDC ***25*** *01:15:55.9±2.5, 62°.34N×149°.13W, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.2/47, mbtmp3.0/3, ML2.5/2, Error ellipse: s-maj=34.5km s-min=17.7km az=79.0*
NEIC ***25*** *01:16:00.6±0.0, 62°.63N×148°.55W, h6km, ML3.3(AEIC), After AEIC.*
ISC 25 01:15:58.8±1.4, 62°.57N±0°.03×148°.69W±0°.03, h6km±12km, n48, σ1s41/55, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.78**	**168**	*e*Pg	**Pn**	**01 16 16.5**	**+0.1**
SML				*e*Sn	**Sb**	**01 16 25.2**	**-0.4**
GHO	**Glory Hole Cre**	**0.81**	**188**	*e*Pg	**Pn**	**01 16 16.9**	**+0.2**
GHO				*e*Sg	**Sn**	**01 16 27.7**	**-1.4**
RND	**Reindeer**	**0.85**	**355**	*e*Pg	**Pg**	**01 16 15.1**	**0.0**
RND				*e*Pn	Pn	01 16 24.5	+7.1
SCM	**Sheep Creek Mo**	**0.97**	**139**	*e*Pg	**Pn**	**01 16 18.9**	**-0.2**
PMR	**Palmer**	**1.00**	**192**	*e*Pg	**Pn**	**01 16 20.4**	**+1.0**
TRF	**Thorofare Moun**	**1.15**	**321**	*e*Pg	**Pn**	**01 16 21.9**	**+0.4**
TRF				*e*Sg	**Sg**	**01 16 35.0**	**-0.7**
KNK	**Knik Glacier**	**1.16**	**175**	*e*Pg	**Pn**	**01 16 23.0**	**+1.3**
KNK				*e*Sg	**Sn**	**01 16 38.0**	**+0.2**
MCK	**McKinley**	**1.18**	**355**	*e*Pg	**Pg**	**01 16 21.2**	**-0.1**
SUA	**Susitna One**	**1.47**	**222**	*e*Pn	**Pb**	**01 16 28.2**	**+1.6**
PAX	**Paxson**	**1.53**	**73**	*e*Pn	**Pn**	**01 16 26.0**	**-0.8**
RC01	**Rabbit Creek A**	**1.56**	**199**	*e*Pn	**Pg**	**01 16 29.9**	**+1.2**
PPLA	**Purkeypile**	**1.65**	**283**	*e*Pn	**Pg**	**01 16 32.0**	**+1.7**
HARP	**HAARP**	**1.65**	**94**	*e*Pn	**Pb**	**01 16 29.3**	**-0.3**
HARP				*e*Sn	**Sn**	**01 16 48.2**	**-1.5**
BWN	**Browne**	**1.65**	**348**	*e*Pn	**Pn**	**01 16 28.8**	**+0.5**
KLU	**Klutina**	**1.69**	**128**	*e*Pn	**Pb**	**01 16 30.0**	**-0.3**
CAST	**Castle Rocks**	**1.77**	**300**	*e*Pn	**Pg**	**01 16 32.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**1.86**	**327**	*e*Pn	**Pn**	**01 16 32.0**	**+0.9**
WRH	**Wood River Hil**	**1.93**	**8**	*e*Pn	**Pn**	**01 16 32.3**	**+0.2**
DIV	**Divide**	**2.00**	**135**	*e*Pn	**Pb**	**01 16 34.3**	**-1.3**
HDA	**Harding Lake**	**2.01**	**22**	*e*Pn	**Pn**	**01 16 32.4**	**-0.8**
RIDG	**Independ'e Rid**	**2.11**	**54**	*e*Pn	**Pb**	**01 16 36.3**	**-1.1**
CCB	**Clear Creek Bu**	**2.12**	**10**	*e*Pn	**Pn**	**01 16 34.7**	**-0.1**
MENT	**Mentasta**	**2.32**	**79**	*e*Pn	**Pn**	**01 16 39.3**	**+1.8**
COLA	**College**	**2.35**	**9**	*e*Pn	**Pn**	**01 16 38.1**	**+0.3**
ILAR	**Eielson Array**	**2.35**	**19**	Pn	**Pn**	**01 16 37.0**	**-1.0**
	1.6nm,0.3s,baz=202,slow=13,SNR=75							
ILAR				Sn	**Sn**	**01 17 09.8**	**+2.7**
	54nm,0.3s,baz=201,slow=28,SNR=43							
ILB	**Eielson Array**	**2.35**	**19**	*e*Pn	**Pn**	**01 16 37.9**	**-0.1**
ILB				*e*Sn	**Sn**	**01 17 09.8**	**+2.7**
IL1	**Eielson Array**	**2.35**	**19**	*e*Pn	**Pn**	**01 16 39.3**	**+1.4**
DOT	**Dot Lake**	**2.37**	**61**	*e*Pn	**Pn**	**01 16 39.5**	**+1.3**
MDM	**Murphy Dome**	**2.41**	**5**	*e*Pn	**Pn**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**287**	LR	LR	01 52 03.0	
	comp=Z,120nm,21.4s,baz=128,slow=39						
DZM	**Mont Dzumac**	**11.17**	**172**	Pn	**Pn**	**01 51 31.4**	**0.0**
	0.7nm,0.3s,baz=142,slow=19,SNR=7.0						
CTA	**Charters Tower**	**20.04**	**241**	P	**P**	**01 53 23.6**	**-0.7**
	1.1nm,0.3s,baz=303,slow=8.5,SNR=2.1						
STKA	**Stephens Creek**	**29.89**	**222**	P	**P**	**01 54 58.6**	**0.0**
	1.5nm,0.7s,baz=148,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**30.66**	**249**	P	**P**	**01 55 06.4**	**+0.8**
	0.8nm,0.8s,baz=80,slow=9.7,SNR=3.1						
ASAR	**Alice Springs**	**32.02**	**243**	P	**P**	**01 55 17.8**	**+0.2**
	1.2nm,0.8s,baz=67,slow=9.4,SNR=9.2						
SONM	**Songino Array**	**78.05**	**324**	P	**P**	**02 00 49.2**	**-0.3**
	0.4nm,1.0s,baz=124,slow=7.7,SNR=2.2						
ILAR	**Eielson Array**	**83.71**	**19**	P	**P**	**02 01 19.1**	**-0.1**
	0.5nm,0.8s,baz=216,slow=6.6,SNR=4.8						
MKAR	**Makanchi Array**	**92.82**	**317**	P	**P**	**02 02 03.5**	**+0.2**
	0.2nm,0.6s,baz=79,slow=7.6,SNR=2.2						

*IDC **25** 02:17:48.7±0.6,51.61N×177.35W,h0km,mb4.1/15,*
mb1 4.3/17,mb1mx4.0/52,mbtmp4.1/17,ML3.9/2,MS3.0/9,
Ms1 3.1/9,ms1mx2.8/40,Error ellipse: s-maj=22.7km
s-min=12.6km az=168.0
*ISCJB **25** 02:17:54.1±0.3,51.57N±0.05×177.34W±0.06,h45km,*
mb4.2/51,MS3.1/7,Error ellipse: s-maj=8.1km
s-min=4.4km az=155.2
*AEIC **25** 02:17:56.4±0.0,51.47N×177.10W,h38km*
*NEIC **25** 02:17:56.8±0.8,51.58N×177.34W,h56km±6km,mb4.1/49,*
ML4.3(AEIC),Error ellipse: s-maj=9.7km s-min=5.4km
az=168.0

ISC 25 02:17:55.7±0.5, 51°59N±0.10×177°28W±0.06, h45km, n107, σ1$42/107, mb4.3/51, MS3.0/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.28**	**17**	*e*Pn	**Pn**	**02 18 05.8**	**+1.6**
KIWB				*e*Sn	**Sn**	**02 18 11.9**	**+1.8**
GSTR	**Great Sitkin T**	**0.91**	**56**	*e*Pn	**Pn**	**02 18 12.9**	**+0.7**
GSTR				*e*Sn	**Sn**	**02 18 23.8**	**-0.5**
NIKH	**Nikolski High**	**5.36**	**72**	*e*Pn	**Pn**	**02 19 14.3**	**+1.2**
NIKH				*e*Sn	**Sn**	**02 20 16.4**	**+2.9**
UNV	**Unalaska Valle**	**6.93**	**67**	*e*Pn	**Pn**	**02 19 35.9**	**+1.4**
SPIA	**Saint Paul Isl**	**6.94**	**34**	*e*Pn	**Pn**	**02 19 38.3**	**+3.6**
SPIA				*e*Sn	**Sn**	**02 20 53.7**	**+1.4**
GAMB	**Gambell**	**12.57**	**11**	*e*Pn	Pn	02 20 56.4	+4.7
PETK	**Petropavlovsk-**	**15.34**	**286**	LR	LR	02 27 08.9	
	comp=Z,57nm,20.4s,baz=93,slow=37						
KDAK	**Kodiak Island**	**15.52**	**57**	*e*Pn	**Pn**	**02 21 30.2**	**-0.9**
	11nm,0.7s						
KDAK				Sn	**Sn**	**02 24 18.4**	**-3.2**
KDAK	**Kodiak Island**	**15.52**	**57**	Pn	**Pn**	**02 21 28.6**	**-2.5**
	0.8nm,0.3s,baz=168,slow=2.3,SNR=15						
KDAK				Sn	**Sn**	**02 24 18.4**	**-3.2**
	0.2nm,0.3s,baz=155,slow=17,SNR=2.2						
KDAK				LR	LR	02 27 32.6	
	comp=Z,122nm,20.5s,baz=144,slow=38						
RSO	**Redoubt South**	**16.25**	**47**	*e*Pn	**Pn**	**02 21 41.1**	**+0.4**
SUA	**Susitna One**	**17.53**	**45**	*e*Pn	**P**	**02 21 58.9**	**+1.6**
PPLA	**Purkeypile**	**17.54**	**40**	*e*Pn	**P**	**02 21 59.0**	**+1.6**
	2.5nm,0.8s						
SEW	**Seward**	**17.68**	**50**	*e*Pn	**Pn**	**02 21 56.5**	**-1.8**
	6.4nm,0.8s						
CAST	**Castle Rocks**	**17.84**	**39**	*e*Pn	**P**	**02 22 02.0**	**+1.4**
	3.3nm,0.8s						
RC01	**Rabbit Creek A**	**17.85**	**47**	*e*Pn	**P**	**02 22 01.5**	**+0.8**
GHO	**Glory Hole Cre**	**18.45**	**46**	*e*P	**Pn**	**02 22 08.7**	**+0.8**
	7.4nm,1.0s						
KNK	**Knik Glacier**	**18.54**	**47**	*e*P	**Pn**	**02 22 08.9**	**0.0**
TRF	**Thorofare Moun**	**18.56**	**40**	*e*P	**P**	**02 22 09.0**	**+0.3**
	8.6nm,1.0s						
BPAW	**Bear Paw Mtn.**	**18.60**	**38**	*e*P	**Pn**	**02 22 10.8**	**+1.2**
	6.0nm,1.2s						
IM3	**Indian Mountai**	**18.70**	**31**	*e*P	**Pn**	**02 22 12.3**	**+1.6**
SML	**Sawmill**	**18.73**	**46**	*e*P	**Pn**	**02 22 12.9**	**+1.7**
	6.3nm,1.0s						
RND	**Reindeer**	**19.12**	**41**	*e*P	**P**	**02 22 14.8**	**+0.2**
	5.1nm,0.9s						
MLY	**Manley**	**19.17**	**35**	*e*P	**Pn**	**02 22 16.5**	**+0.1**
	5.3nm,1.0s						
SCM	**Sheep Creek Mo**	**19.19**	**46**	*e*P	**Pn**	**02 22 16.7**	**0.0**
MCK	**McKinley**	**19.23**	**40**	*e*P	**Pn**	**02 22 16.5**	**-0.5**
	2.7nm,0.8s						
MA2	**Magadan**	**19.58**	**307**	LR	LR	02 29 17.0	
	comp=Z,35nm,21.1s,baz=98,slow=35						
KLU	**Klutina**	**19.73**	**48**	*e*P	**Pn**	**02 22 23.0**	**-0.1**
	7.6nm,1.2s						
SEY	**Seymchan**	**19.73**	**317**	P	**P**	**02 22 20.9**	**-0.3**
	0.2nm,0.3s,baz=122,slow=10,SNR=7.0						
WRH	**Wood River Hil**	**19.89**	**38**	*e*P	**P**	**02 22 20.9**	**-2.0**
MDM	**Murphy Dome**	**20.06**	**37**	*e*P	**P**	**02 22 23.8**	**-1.1**
	4.0nm,1.2s						
CCB	**Clear Creek Bu**	**20.08**	**38**	*e*P	**P**	**02 22 23.7**	**-1.3**
COLA	**College**	**20.16**	**37**	*e*P	Pn	02 22 30.0	+2.0
	9.5nm,1.1s						
PAX	**Paxson**	**20.38**	**44**	*e*P	**P**	**02 22 29.3**	**+0.9**
	6.2nm,1.0s						
ILAR	**Eielson Array**	**20.49**	**38**	PcP	**PcP**	**02 26 37.8**	**-1.6**
	0.3nm,0.5s,baz=290,slow=3.6,SNR=3.8						
ILB	**Eielson Array**	**20.49**	**38**	*e*P	**P**	**02 22 24.9**	**-4.6**
	1.0nm,0.4s						
DOT	**Dot Lake**	**21.20**	**43**	*e*P	**P**	**02 22 37.6**	**+0.4**
	7.1nm,1.0s						
SCRK	**Sand Creek**	**21.34**	**42**	*e*P	**P**	**02 22 40.5**	**+1.7**
	6.0nm,0.5s						
TOLK	**Toolik Lake Re**	**21.64**	**28**	*e*P	**P**	**02 22 43.0**	**+1.1**
	2.7nm,0.9s						
EGAK	**Eagle**	**22.77**	**41**	*e*P	**P**	**02 22 53.2**	**-0.6**
	2.7nm,0.8s						
DAWY	**Dawson**	**23.30**	**43**	*e*P	**P**	**02 23 03.9**	**+4.5**
	3.8nm,0.8s						
INK	**Inuvik**	**26.74**	**35**	*e*P	**P**	**02 23 31.0**	**+0.4**
INK				PcP	**PcP**	**02 26 51.8**	**-0.7**
INK	**Inuvik**	**26.74**	**35**	P	**P**	**02 23 29.4**	**-1.2**
	0.5nm,0.3s,baz=255,slow=7.0,SNR=6.0						
INK				PcP	**PcP**	**02 26 51.8**	**-0.7**
	2.6nm,0.9s,baz=322,slow=1.9,SNR=7.9						
INK				LR	LR	02 35 05.7	
	comp=Z,64nm,18.3s,baz=294,slow=39						
KLR	**Kul'dur**	**32.03**	**286**	P	**P**	**02 24 16.8**	**-0.9**
	1.3nm,0.7s,baz=89,slow=9.6,SNR=6.4						
KLR				LR	LR	02 36 32.9	
	comp=Z,36nm,20.8s,baz=86,slow=35						
H11N2	**WAKE ISLAND Hy**	**34.14**	**207**	T	T	03 00 51.2	
	baz=18,slow=76,SNR=2248						
H11N3	**WAKE ISLAND Hy**	**34.15**	**207**	T	T	03 00 56.9	
	baz=18,slow=76,SNR=3078						
H11N1	**WAKE ISLAND Hy**	**34.16**	**207**	T	T	03 00 50.7	
	baz=18,slow=76,SNR=1186						
USRK	**Ussuriysk Ar.**	**34.21**	**278**	P	**P**	**02 24 35.1**	**-1.6**
	2.7nm,0.5s,baz=69,slow=8.2,SNR=5.1						
YKA	**Yellowknife Ar**	**34.40**	**47**	P	**P**	**02 24 36.3**	**-1.8**
	0.8nm,0.8s,baz=281,slow=8.1,SNR=12						
YKA				PcP	**PcP**	**02 27 12.5**	**-0.2**
	1.7nm,0.7s,baz=284,slow=2.8,SNR=22						
MJAR	**Matsushiro Arr**	**34.75**	**262**	PcP	**PcP**	**02 27 15.2**	**+1.0**
	1.2nm,0.4s,baz=11,slow=0.7,SNR=3.0						
MJAR				LR	LR	02 38 04.0	
	comp=Z,18nm,20.6s,baz=130,slow=35						
MJB9	**Matsu-Tunnel**	**34.75**	**262**	*e*P	**P**	**02 24 43.1**	**+1.6**
	22nm,0.7s						
MAJO	**Matsushiro**	**34.75**	**262**	*e*P	**P**	**02 24 43.1**	**+1.5**
	21nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**35.35**	**207**	T	T	03 02 32.3	
	baz=17,slow=76,SNR=323						
H11S2	**WAKE ISLAND Hy**	**35.37**	**207**	T	T	03 02 33.3	
	baz=17,slow=76,SNR=181						
H11S3	**WAKE ISLAND Hy**	**35.37**	**207**	T	T	03 02 33.3	
	baz=17,slow=76,SNR=167						
B08A	**Colville Reser**	**36.57**	**72**	*e*P	**P**	**02 24 57.3**	**+0.3**
	10nm,1.1s						
NEW	**Newport**	**37.92**	**71**	*e*P	**P**	**02 25 08.7**	**+0.2**
	8.1nm,1.0s						
CN2	**Changchun**	**38.44**	**282**	*e*P	P	02 25 18.1	+5.3
I07A	**Izee**	**38.60**	**78**	*e*P	**P**	**02 25 14.7**	**+0.4**
	4.3nm,1.0s						
WVOR	**Wild Horse Val**	**40.03**	**79**	*e*P	**P**	**02 25 26.5**	**+0.3**
PNTR	**Pine Nut**	**41.38**	**84**	*e*P	**P**	**02 25 39.5**	**+2.0**
	6.9nm,0.7s						
PNTR				*e*S	**S**	**02 31 51.3**	**+2.1**
YERR	**Yerington**	**41.67**	**84**	*e*P	**P**	**02 25 39.3**	**-0.6**
	2.7nm,0.9s						
HLID	**Hailey**	**41.97**	**75**	*e*P	**P**	**02 25 42.9**	**+0.7**
	3.0nm,1.0s						
MCMT	**McKenzie Canyo**	**42.21**	**73**	*e*P	**P**	**02 25 44.5**	**+0.2**
BOZ	**Bozeman (W)**	**42.52**	**71**	*e*P	**P**	**02 25 46.8**	**+0.1**
	5.4nm,0.8s						
NV01	**Mina Array Sit**	**42.59**	**84**	*e*P	**P**	**02 25 46.8**	**-0.6**
NVAR	**Mina Array Bea**	**42.59**	**84**	P	**P**	**02 25 47.8**	**+0.4**
	1.6nm,0.9s,baz=288,slow=9.2,SNR=9.3						
NVAR				PcP	**PcP**	**02 27 38.9**	**-0.1**
	0.8nm,0.8s,baz=267,slow=3.0,SNR=4.5						
YHB	**Horse Butte**	**43.24**	**72**	*e*P	**P**	**02 25 52.8**	**+0.2**
	9.2nm,1.1s						
YMR	**Madison River**	**43.42**	**72**	*e*P	**P**	**02 25 54.4**	**+0.4**
	7.4nm,1.1s						
YHH	**Holmes Hill**	**43.42**	**72**	*e*P	**P**	**02 25 54.5**	**+0.3**
	6.9nm,0.9s						
YNR	**Norris Junctio**	**43.56**	**72**	*e*P	**P**	**02 25 56.7**	**+1.4**
	7.1nm,1.0s						
H17A	**Grant Village**	**43.80**	**72**	*e*P	**P**	**02 25 57.1**	**-0.1**
	8.1nm,1.1s						
LKWY	**Lake**	**43.81**	**72**	*e*P	**P**	**02 25 58.4**	**+1.1**
	3.9nm,0.8s						
IMW	**Indian Meadow**	**43.87**	**73**	*e*P	**P**	**02 25 58.4**	**+0.7**
	3.0nm,1.1s						
FLWY	**Flagg Ranch**	**43.91**	**72**	*e*P	**P**	**02 25 59.0**	**+1.0**
	4.3nm,1.0s						
RLMT	**Red Lodge**	**44.17**	**70**	*e*P	**P**	**02 26 00.6**	**+0.5**
	7.8nm,0.9s						
DUG	**Dugway, Tooele**	**44.90**	**78**	*e*P	**P**	**02 26 05.0**	**-0.8**
	6.6nm,1.1s						
BW06	**Boulder Array**	**45.34**	**73**	*e*P	**P**	**02 26 09.3**	**-0.1**
	5.3nm,1.0s						
PD31	**Pinedale Array**	**45.34**	**73**	*e*P	**P**	**02 26 09.7**	**+0.3**
	4.9nm,1.0s						
PDAR	**Pinedale Array**	**45.34**	**73**	*e*P	**P**	**02 26 09.6**	**+0.1**
PDAR	**Pinedale Array**	**45.34**	**73**	P	**P**	**02 26 09.1**	**-0.4**
	2.4nm,0.6s,baz=308,slow=4.4,SNR=21						
PDAR				LR	LR	02 46 14.4	
	comp=Z,13nm,18.1s,baz=344,slow=38						
JLU	**Jordanelle**	**45.48**	**77**	*e*P	**P**	**02 26 10.9**	**+0.3**
	2.0nm,0.9s						
GSC	**Goldstone, Bar**	**45.49**	**86**	*e*P	**P**	**02 26 09.8**	**-0.7**
	3.3nm,0.8s						
TMUT	**Trail Mountain**	**46.43**	**78**	*e*P	**P**	**02 26 16.6**	**-1.5**
	3.2nm,0.8s						
SRU	**San Rafael Swe**	**46.96**	**78**	*e*P	**P**	**02 26 22.0**	**-0.2**
	3.8nm,0.8s						
SONM	**Songino Array**	**47.40**	**297**	P	**P**	**02 26 25.2**	**-0.2**
	0.9nm,0.7s,baz=61,slow=6.8,SNR=7.2						
SONM				PcP	**PcP**	**02 27 54.5**	**-0.8**
	1.7nm,0.8s,baz=68,slow=1.1,SNR=8.8						
U15A	**North Rim**	**47.56**	**82**	*e*P	**P**	**02 26 27.7**	**+0.7**
	4.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.54**	**287**	*e*P	**P**	**02 26 36.4**	**+2.2**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,77nm,5.6s						
SPITS	**Spitsbergen Ar**	**50.23**	**356**	P	**P**	**02 26 45.7**	**-0.8**
	comp=Z,10nm,1.0s,baz=3.1,slow=10,SNR=4.8						
T25A	**Trinidad**	**51.93**	**76**	*e*P	**P**	**02 26 59.4**	**-0.7**
	comp=Z,6.8nm,1.0s						
XAN	**Xi'an**	**54.55**	**282**	P	**P**	**02 27 19.3**	**+0.2**
XAN				pP	pP	02 27 26.9	-4.8
XAN				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ZALV	**Zalesovo Beam**	**54.57**	**314**	LR	LR	02 51 55.9	
	comp=Z,22nm,18.1s,baz=70,slow=38						
MNTX	**Cornudas Mount**	**54.98**	**82**	*e*P	**P**	**02 27 22.8**	**+0.5**
	comp=Z,2.6nm,1.0s						
TX31	**Lajitas Ar. Si**	**57.69**	**82**	*e*P	**P**	**02 27 41.6**	**-0.1**
TXAR	**Lajitas Array**	**57.69**	**82**	P	**P**	**02 27 41.1**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=310,slow=5.8,SNR=13						
WMQ	**Urumqi**	**60.02**	**304**	*e*P	**P**	**02 28 01.8**	**+4.2**
WMQ				LR	LR		
	comp=N,83nm,18.1s						
WMQ				LR	LR		
	comp=E,63nm,25.1s						
WMQ				LR	LR		
	comp=Z,46nm,18.1s						
MIAR	**Mount Ida**	**60.16**	**71**	*e*P	**P**	**02 27 58.0**	**-0.6**
	comp=Z,13nm,1.1s						
MKAR	**Makanchi Array**	**60.64**	**309**	P	**P**	**02 27 59.8**	**-2.0**
	comp=Z,0.2nm,0.4s,baz=54,slow=4.7,SNR=5.4						
NOA	**NORSAR Array B**	**67.51**	**356**	LR	LR	03 02 31.6	
	comp=Z,5.9nm,18.3s,baz=355,slow=40						
CMAR	**Chiang Mai Arr**	**71.93**	**277**	P	**P**	**02 29 13.8**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=23,slow=7.2,SNR=5.5						
WRA	**Warramunga Arr**	**82.83**	**225**	P	**P**	**02 30 14.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=34,slow=6.0,SNR=11						
PSI	**Prapat**	**83.95**	**267**	*e*P	**P**	**02 30 21.8**	**+0.5**
	comp=Z,7.1nm,0.9s						
BRTR	**Keskin Array B**	**85.14**	**337**	P	**P**	**02 30 25.8**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=20,slow=2.0,SNR=4.5						
AS01	**Alice Springs**	**86.27**	**224**	*e*P	**P**	**02 30 32.8**	**+0.4**
ASAR	**Alice Springs**	**86.29**	**224**	P	**P**	**02 30 32.7**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=31,slow=4.8,SNR=16						
STKA	**Stephens Creek**	**90.62**	**214**	P	**P**	**02 30 52.7**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=44,slow=3.7,SNR=6.0						
TORD	**Torodi Ar. Bea**	**115.53**	**1**	PKP	**PKiKP**	**02 36 30.9**	**-2.0**
	comp=Z,0.4nm,0.4s,baz=355,slow=2.6,SNR=12						
BOSA	**Boshof**	**151.51**	**315**	PKPbc	**PKPbc**	**02 37 43.1**	**-1.5**
	comp=Z,5.4nm,0.6s,baz=14,slow=2.3,SNR=17						
BOSA				PKPab	**PKPab**	**02 37 54.0**	**+0.9**
	comp=Z,3.8nm,0.7s,baz=108,slow=0.8,SNR=6.0						

JMA 25 02:24:00.7±0.1, 36°98N×141°46E, h76km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.54**	**283**	P	Pn	02 24 14.6	+0.1
ONAJ				S	Sn	02 24 24.4	-0.3
JFK	**Kawauchi**	**0.61**	**310**	P	Pn	02 24 15.1	0.0
JFK				S	Sn	02 24 25.4	-0.4
JFFD	**Fukushimafurud**	**0.73**	**279**	P	Pn	02 24 16.6	+0.2
JFFD				*e*S	Sn	02 24 28.0	0.0
JHO	**Hitachi**	**0.81**	**243**	P	Pn	02 24 17.2	0.0
JHO				S	Sn	02 24 29.0	-0.5
JMM	**Marumori**	**1.03**	**329**	P	Pn	02 24 20.1	+0.2
JMM				S	Sn	02 24 34.1	-0.1
JFT	**Otama**	**1.04**	**301**	P	Pn	02 24 20.9	+0.8
JFT				S	Sn	02 24 35.4	+0.8
JFY	**Yanaizu**	**1.47**	**287**	P	Pn	02 24 26.1	+0.7
JFY				S	Sn	02 24 45.2	+1.1
JIO	**Ouri**	**1.47**	**357**	P	Pn	02 24 25.2	-0.3
JIO				S	Sn	02 24 43.0	-1.2
JOU	**Okura**	**1.52**	**336**	P	Pn	02 24 26.8	+0.6
JOU				*e*S	Sn	02 24 46.0	+0.6
JYS	**Shirataka**	**1.66**	**319**	P	Pn	02 24 28.5	+0.5
JYS				S	Sn	02 24 49.7	+1.0
JAG	**Ashikaga**	**1.71**	**252**	P	Pn	02 24 29.1	+0.5
JAG				S	Sn	02 24 50.1	+0.4
JKT	**Katashina**	**1.79**	**264**	P	Pn	02 24 30.8	+1.1
JKT				S	Sn	02 24 53.0	+1.3
JNS	**Sasagawa**	**1.90**	**297**	P	Pn	02 24 31.4	+0.3
JNS				*e*S	Sn	02 24 54.2	-0.1
JMK	**Ichinoseki**	**1.98**	**355**	P	Pn	02 24 31.9	-0.3
JMK				*e*S	Sn	02 24 54.7	-1.4
MAT	**Matsushiro**	**2.65**	**261**	P	Pn	02 24 42.9	+1.7
MAT				S	Sn	02 25 15.6	+3.2

*ISK **25** 02:51:51.6,37.37N×38.60E,h10km,ML1.9/4*
*DDA **25** 02:51:52.2,37.35N×38.58E,h7km±3km,ML2.7*

ISC 25 02:51:52.3±1.0, 37°35N±0.05×38°59E±0.03, h10km±10km, n14, σ0$71/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.21**	**64**	PG	**Pg**	**02 51 56.3**	**-0.4**
URFA				SG	**Sg**	**02 51 59.4**	**-0.3**
SANL	**SANLIURFA_Merk**	**0.37**	**119**	*i* P	**Pb**	**02 52 00.6**	**-0.3**
SANL				*i* S	**Sb**	**02 52 05.9**	**-0.8**
SANL				IAML_P			
	comp=Z,3μm,0.1s						
SURC	**SANLIURFA_SURC**	**0.47**	**178**	*i* P	**Pb**	**02 52 02.7**	**0.0**
SURC				IAML_P			
	comp=Z,584nm,0.1s						
GZT	**Gaziantep**	**0.82**	**271**	*i* P	**Pb**	**02 52 08.9**	**+0.2**
AKCD	**Akcadag**	**1.08**	**331**	*i* P	**Pn**	**02 52 13.4**	**-0.2**
AKCD				IAML_P			
	comp=Z,591nm,0.1s						
GAZ	**Gaziantep**	**1.11**	**261**	PN	**Pn**	**02 52 13.7**	**-0.3**
ELZG	**Elazig**	**1.19**	**15**	*i* P	**Pn**	**02 52 15.4**	**+0.3**
HCB	**Kahramanmara**	**1.34**	**270**	*i* P	**Pb**	**02 52 17.1**	**-0.4**
HCB				IAML_P			
	comp=Z,304nm,0.1s						
KUZU	**Kuzuini**	**1.34**	**245**	*i* P	**Pg**	**02 52 17.9**	**-0.1**
KUZU				*i* S	**Sg**	**02 52 37.1**	**+1.7**
DIYA	**Diyarbakir**	**1.34**	**64**	*i* P	**Pg**	**02 52 18.7**	**+0.6**
DIYA				*i* S	**Sg**	**02 52 37.0**	**+1.4**
DIYA				IAML_P			
	comp=Z,486nm,0.2s						
KMRS	**Kahramanmaras**	**1.35**	**277**	PN	**Pn**	**02 52 16.3**	**-1.0**
KMRS				SN	**Sg**	**02 52 35.8**	**-0.1**
DARE	**Darende-Malaty**	**1.50**	**325**	PN	**Pn**	**02 52 19.0**	**-0.4**
DARE				SN	**Sb**	**02 52 39.1**	**-0.3**
ANDN	**Andirin**	**1.80**	**278**	*i* P	**Pn**	**02 52 23.6**	**+0.1**
KOZT	**Kozan**	**2.20**	**274**	PN	**Pn**	**02 52 29.5**	**+0.6**

*IDC **25** 02:52:26.0±1.8,12.41N×87.56W,h0km,mb3.3/2,*
mb1 3.6/5,mb1mx3.4/35,mbtmp3.3/5,ML1.4/2,MS3.4/10,
Ms1 3.4/10,ms1mx3.2/19,Error ellipse: s-maj=94.5km
s-min=13.5km az=42.0
*ISCJB **25** 02:52:28.1±0.5,12.83N±0.04×86.98W±0.03,h9km±4km,*
mb3.3/2,MS3.3/8,Error ellipse: s-maj=7.4km s-min=2.6km
az=39.8
*UCR **25** 02:52:28.6±1.6,12.77N×87.04W,h6km±3km,MD4.4,*
ML4.2,mb3.8(NEIC)
*SNET **25** 02:52:28.0±0.0,12.74N×87.07W,h3km*
*NEIC **25** 02:52:29.3±1.1,12.71N×87.31W,h55km±21km,mb3.8/1,*
MD3.9(SNET),Error ellipse: s-maj=22.9km s-min=9.5km
az=53.0
NEIC Felt at Chinandega. Felt [I] at La Union, El Salvador.

ISC 25 02:52:27.8±0.9, 12°81N±0.04×87°02W±0.03, h10km±7km, n66, σ1$44/67, MS3.4/8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.12**	**194**	*e*P	**Pg**	**02 52 30.8**	**+0.1**
CRIN				*e*S	**Sg**	**02 52 33.1**	**+0.4**
TELN	**Telica**	**0.28**	**138**	*e*P	**Pg**	**02 52 34.3**	**+0.9**
TEL3	**Telica 3**	**0.29**	**144**	*e*P	**Pg**	**02 52 34.5**	**+0.8**
CNGN	**Cerro Negro**	**0.44**	**135**	*e*P	**Pg**	**02 52 37.3**	**+0.8**
CSGN	**Cosiguina Volc**	**0.55**	**287**	*e*Pn	**Pb**	**02 52 39.9**	**+0.3**
CSGN	**Cosiguina Volc**	**0.55**	**287**	*e*P	**Pb**	**02 52 39.7**	**+0.1**
CSGN				*e*S	**Sb**	**02 52 48.0**	**+0.4**
CSGN				IAML		02 52 50.1	
	comp=N,95μm,0.4s						
MOMN	**Momotombo**	**0.62**	**130**	*e*P	**Pg**	**02 52 40.5**	**+0.7**
BRAN	**Las Pilas**	**0.66**	**98**	*e*P	**Pn**	**02 52 46.4**	**+3.2**
CNCH	**Conchagua**	**0.92**	**300**	*e*P	**Pb**	**02 52 45.7**	**-0.2**
CNCH				*e*S	**Sb**	**02 52 59.4**	**+1.3**
CNCH				IAML		02 53 03.5	
	comp=Z,12μm,0.6s						
XAVN	**Gruta Xavier**	**0.95**	**134**	*e*P	**Pg**	**02 52 46.6**	**+0.5**
LCND	**La Caada**	**0.98**	**300**	*e*P	**Pb**	**02 52 46.7**	**-0.2**
LCND				*e*S	**Sb**	**02 53 00.7**	**+0.8**
LCND				IAML		02 53 05.2	
	comp=Z,4μm,0.6s						
MGAN	**Managua**	**1.00**	**131**	*e*P	**Pg**	**02 52 47.6**	**+0.5**
MATN	**Matagalpa**	**1.07**	**84**	*e*P	**Pg**	**02 52 48.7**	**+0.2**
MATN				IAML		02 53 07.5	
	comp=N,26μm,0.2s						
MASN	**Masaya**	**1.18**	**134**	*e*P	**Pg**	**02 52 50.5**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.26**	**349**	*e*Pn	**Pg**	**02 52 52.3**	**+0.3**
TGUH				*e*Sn	**Sg**	**02 53 09.2**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.26**	**349**	*e*P	**Pg**	**02 52 52.1**	**+0.1**
BLLM	**Bellamira**	**1.34**	**298**	*e*P	**Pb**	**02 52 53.0**	**-0.1**
VSM	**San Miguel**	**1.37**	**297**	*e*P	**Pb**	**02 52 53.6**	**0.0**
LCY	**Lacayo**	**1.38**	**296**	*e*P	**Pg**	**02 52 53.5**	**-0.9**
CAHU	**Cacacuatique**	**1.50**	**310**	*e*P	**Pn**	**02 52 55.5**	**+0.6**
CAHU				*e*S	**Sn**	**02 53 17.3**	**+2.6**
TECA	**Tecapa**	**1.59**	**295**	*e*P	**Pb**	**02 52 57.1**	**-0.4**
CONN	**Concepcion**	**1.84**	**132**	*e*P	**Pn**	**02 53 00.2**	**+0.7**
VICT	**Victoria**	**1.94**	**306**	*e*S	**Sg**	**02 53 29.1**	**-1.3**
ACON	**Acoyapa**	**1.99**	**115**	*e*P	**Pn**	**02 53 01.3**	**-0.2**
PAVA	**Las Pavas**	**2.07**	**296**	*e*P	**Pb**	**02 53 04.3**	**-1.3**
LFRS	**El Faro**	**2.15**	**292**	*e

IDC ***25*** *03:07:01.4±0.9,50˚.54N×160˚.23E,h0km,mb3.5/9, mb1 3.7/11,mb1mx3.5/37,mbtmp3.5/11,ML2.8/2,MS2.2/1, Ms1 2.2/1,ms1mx2.0/38,Error ellipse: s-maj=21.4km s-min=18.8km az=148.0*

KRSC ***25*** *03:07:02.6±10.0,50˚.69N×160˚.35E,h47km±10km,ML3.9*

ISCJB ***25*** *03:07:04.6±0.6,50˚.66N±0˚.05×160˚.27E±0˚.08,h33km, mb3.5/9,Error ellipse: s-maj=8.3km s-min=5.8km az=139.5*

ISC 25 03:07:06.8±0.8,**50˚.68N**±0˚.08×**160˚.23E**±0˚.07,**h35**km,**n34,** σ1§**12**/38,**mb3.6**/9,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.76**	**311**	*eP*	**Pn**		**Pn**	**03 07 33.2**	**-1.5**
KDTR				*eS*	**Sn**		**Sn**	**03 07 55.2**	**-0.7**
RUS	**Russkaya**	**2.06**	**329**	*eP*	**Pn**		**Pn**	**03 07 37.2**	**-1.6**
RUS				*eS*	**Sn**		**Sn**	**03 08 02.5**	**-0.7**
MTVR	**Mutnovka**	**2.21**	**326**	*eP*	**Pn**		**Pn**	**03 07 39.8**	**-1.3**
MTVR				*eS*	**Sn**		**Sn**	**03 08 07.0**	**-0.2**
ASAK	**Asacha**	**2.24**	**320**	*eP*	**Pn**		**Pn**	**03 07 40.4**	**-1.0**
PAU	**Pauzhetka**	**2.29**	**291**	*eP*	**Pn**		**Pn**	**03 07 41.2**	**-0.9**
SPN	**Mys Shipunski**	**2.43**	**357**	*eP*	**Pn**		**Pn**	**03 07 42.9**	**-1.0**
SPN				*eS*	**Sn**		**Sn**	**03 08 10.8**	**-1.5**
KRMR	**Karymshinskiy**	**2.52**	**330**	*eP*	**Pn**		**Pn**	**03 07 44.1**	**-1.0**
KRMR				*eS*	**Sn**		**Sn**	**03 08 14.5**	**0.0**
DALK	**Dalny**	**2.53**	**339**	*eP*	**Pn**		**Pn**	**03 07 43.9**	**-1.3**
PET	**Petropavlovsk**	**2.54**	**338**	*eP*	**Pn**		**Pn**	**03 07 44.2**	**-1.3**
UGLR	**Uglovaya**	**2.68**	**342**	*eP*	**Pn**		**Pn**	**03 07 47.6**	**+0.2**
SDLR	**Sedlovina**	**2.73**	**343**	*eP*	**Pn**		**Pn**	**03 07 47.1**	**-1.1**
SMAR	**Somma**	**2.73**	**342**	*eP*	**Pn**		**Pn**	**03 07 46.9**	**-1.4**
AVH	**Avacha**	**2.75**	**341**	*eP*	**Pn**		**Pn**	**03 07 48.3**	**-0.1**
KRER	**Koryakskii**	**2.78**	**341**	*eP*	**Pn**		**Pn**	**03 07 49.4**	**+0.4**
KOK	**Koryaka**	**2.80**	**340**	*eP*	**Pn**		**Pn**	**03 07 48.5**	**-0.5**
KRX	**Arik**	**2.86**	**341**	*eP*	**Pn**		**Pn**	**03 07 50.5**	**+0.6**
PETK	**Petropavlovsk-** 3.1nm,0.3s,baz=149,slow=17,SNR=39	**2.89**	**328**	Pn	**Pn**		**Pn**	**03 07 50.0**	**-0.3**
PETK	1.9nm,0.3s,baz=135,slow=16,SNR=4.3				Sn		**Sn**	**03 08 27.6**	**+3.8**
PETK	comp=Z,38nm,18.3s,baz=132,slow=58				LR		LR	03 09 54.6	
APC	**Apacha**	**2.95**	**321**	*eP*	**Pn**		**Pn**	**03 07 51.0**	**0.0**
APC				*eS*	**Sn**		**Sn**	**03 08 26.4**	**+1.3**
ALID	**Alaid**	**2.98**	**275**	*eP*	**Pn**		**Pn**	**03 07 51.4**	**-0.2**
TUMD	**Tumrok D**	**4.53**	**1**	*eP*	**Pn**		**Pn**	**03 08 12.0**	**-0.8**
KBTR	**Krutoberegovo**	**5.75**	**15**	*eP*	**Pn**		**Pn**	**03 08 28.5**	**-1.0**
KLR	**Kul'dur** 0.1nm,0.3s,baz=73,slow=19,SNR=2.6	**18.34**	**277**	P	**Pn**		**Pn**	**03 11 17.0**	**-1.1**
TIXI	**Tiksi** 3.2nm,0.5s,baz=123,slow=8.7,SNR=12	**25.33**	**337**	P	**P**		**P**	**03 12 30.6**	**+0.8**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=253,slow=8.0,SNR=5.1	**30.50**	**42**	P	**P**		**P**	**03 13 16.2**	**+0.2**
H11N2	**WAKE ISLAND Hy** baz=352	**31.33**	**168**	T	T		T	03 46 14.3	
H11N3	**WAKE ISLAND Hy** baz=352	**31.35**	**168**	T	T		T	03 46 16.9	
H11N1	**WAKE ISLAND Hy** baz=352	**31.35**	**168**	T	T		T	03 46 17.8	
INK	**Inuvik** 0.7nm,1.0s,baz=273,slow=4.1,SNR=2.6	**35.76**	**36**	P	**P**		**P**	**03 14 02.4**	**+0.6**
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=293,slow=7.9,SNR=2.7	**44.91**	**41**	P	**P**		**P**	**03 15 17.7**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=56,slow=6.1,SNR=6.5	**49.31**	**298**	P	**P**		**P**	**03 15 52.6**	**+0.5**
NVAR	**Mina Array Bea** 0.2nm,0.5s,baz=292,slow=7.4,SNR=2.7	**56.52**	**69**	P	**P**		**P**	**03 16 46.5**	**+1.0**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=297,slow=5.5,SNR=4.6	**71.52**	**66**	P	**P**		**P**	**03 18 24.0**	**-0.1**
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=25,slow=6.3,SNR=5.4	**73.93**	**205**	P	**P**		**P**	**03 18 36.7**	**-1.4**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=17,slow=5.3,SNR=5.1	**77.59**	**205**	P	**P**		**P**	**03 18 59.0**	**0.0**

DJA 25 03:48:15.4±0.5,**1˚N**±3˚×**12˚2E**±˚,**h68**km±6km,**M3.5**/6, **MLv3.5/6,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.36**	**249**	P	P		Pn	03 48 27.4	+0.6
MRSI				S	Sn		Sn	03 48 37.8	+2.6
APSI	**Ampana**	**1.64**	**203**	P	P		Pn	03 48 41.9	-0.3
APSI				S	Sn		Sn	03 49 03.9	+1.5
KMSI	**Cibinong**	**1.70**	**91**	P	P		Pn	03 48 42.8	-0.2
LUWI	**Luwuk**	**1.71**	**163**	P	P		Pn	03 48 43.1	-0.1
MPSI	**Mapaga**	**2.40**	**264**	P	P		Pn	03 48 52.2	-0.2

MEX 25 03:57:22.2±0.6,**14˚.57N×93˚.54W,h36**km±62km,**MD4.1, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PCIG		**1.17**	**15**	*eP*	Pn		Pn	03 57 40.7	-1.3
PCIG				*i* S	Sn		Sn	03 57 54.2	-2.6
THIG		**1.28**	**75**	*eP*	Pn		Pn	03 57 41.6	-1.9
THIG				*eS*	Sn		Sn	03 57 57.2	-2.2
CCIG	**Comitan**	**2.17**	**38**	*i* P	Pn		Pn	03 57 54.8	-1.3
CCIG				*i* S	Sn		Sn	03 58 19.6	-2.2

ISCJB ***25*** *03:59:51.1±0.6,17˚.71S±0˚.03×178˚.43W±0˚.02, h533km±7km,mb4.8/290,Error ellipse: s-maj=4.8km s-min=3.1km az=163.0*

MOS ***25*** *03:59:51.8±1.1,17˚.56S×178˚.45W,h534km,mb5.1/32, Error ellipse: s-maj=7.8km s-min=6.9km az=112.6*

IDC ***25*** *03:59:51.9±0.8,17˚.62S×178˚.37W,h531km±8km,mb4.6/33, mb1 4.6/36,mb1mx4.6/41,mbtmp5.5/36,Error ellipse: s-maj=8.8km s-min=8.0km az=6.0*

BGR ***25*** *03:59:51.7±0.0,18˚.45S×178˚.05W,h550km*

BJI ***25*** *03:59:51.9,17˚.38S×178˚.13W,h542km,mb5.1/57, mB5.0/33*

NEIC ***25*** *03:59:53.4±2.0,17˚.70S×178˚.44W,h551km±4km, mb4.8/257,Error ellipse: s-maj=12.1km s-min=10.9km az=156.0*

GCMT ***25*** *03:59:55.4±0.4,17˚.61S±0˚.04×178˚.67W±0˚.03, h554km±2km,MW5.4/61,Moment Tensor Solution. s61,c75; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr-0.47±.04; Mθθ-0.02±.07; Mϕϕ0.48±.06; Mrθ-0.47±.07; Mθϕ-0.02±.06; Mϕr-1.22±.06; Best double couple: Mo1.39200×10¹⁷ NP1◊s19.00000°,δ81.00000°, λ-83.00000°. NP2◊s161.00000°,δ12.00000°, λ-128.00000°. Principal axes: T 1.3670, Plg35.0000°, Azm103.0000°; N 0.0500, Plg7.0000°, Azm198.0000°; P -1.4170, Plg54.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 25 03:59:53.2±0.3,**17˚.69S**±0˚.04×**178˚.42W**±0˚.04, **h550**km±3km,**h551**km;**pP-P,n1058,**σ1§**10**/1182,**mb4.9**/290, **58C-80D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue** baz=8.0	**8.18**	**101**	P	**P**		**P**	**04 01 51.6**	**-1.1**
NIUE				S	**S**		**S**	**04 03 29.1**	**-1.5**
NIUE	**Niue** baz=8.0	**8.18**	**101**	*eP*	**P**		**P**	**04 01 52.3**	**-0.4**
NIUE				*eS*	**S**		**S**	**04 03 35.4**	**+4.7**
RAO	**Raoul Island**	**11.52**	**178**	*eP*	**P**		**P**	**04 02 25.2**	**-1.4**
RAO				*eS*	**S**		**S**	**04 04 31.6**	**-1.2**
RAO	**Raoul Island**	**11.52**	**178**	*eP*	**P**		**P**	**04 02 25.2**	**-1.4**
RAO				*eS*	**S**		**S**	**04 04 31.6**	**-1.2**
RAO	**Raoul Island** 137nm,0.3s,baz=81,slow=20,SNR=2.9	**11.52**	**178**	P	**P**		**P**	**04 02 24.8**	**-1.7**
RAO	55nm,0.3s,baz=75,slow=23,SNR=1.8			S	**S**		**S**	**04 04 31.6**	**-1.2**
GLKZ	**Green Lake**	**11.53**	**178**	P	**P**		**P**	**04 02 24.2**	**-2.5**
GLKZ				S	**S**		**S**	**04 04 36.3**	**+3.3**
MARNC	**Mare, Loyalty**	**13.32**	**251**	*eP*	**P**		**P**	**04 02 44.7**	**-0.6**
MARNC				*eS*	**S**		**S**	**04 05 03.2**	**-3.9**
PINNC	**Pines Island,**	**14.15**	**247**	*eP*	**P**		**P**	**04 02 53.7**	**-0.2**
DZM	**Mont Dzumac** 169nm,1.2s	**14.89**	**251**	*eP*	**P**		**P**	**04 03 01.0**	**-0.6**
DZM	**Mont Dzumac**	**14.89**	**251**	*eP*	**P**		**P**	**04 03 00.8**	**-0.9**
DZM				*eS*	**S**		**S**	**04 05 32.2**	**-4.7**
DZM	**Mont Dzumac** 2.7nm,0.3s,baz=71,slow=20,SNR=22	**14.89**	**251**	P	**P**		**P**	**04 03 01.1**	**-0.6**
DZM	0.2nm,0.3s,baz=203,slow=16,SNR=1.6			S	**S**		**S**	**04 05 35.3**	**-1.6**
KNTN	**Kanton**	**16.22**	**25**	*eP*	**P**		**P**	**04 03 13.5**	**-1.4**
RAR	**Rarotonga** 184nm,0.9s	**17.92**	**104**	*eP*	**P**		**P**	**04 03 30.3**	**-0.1**
RAR	**Rarotonga**	**17.92**	**104**	*eP*	**P**		**P**	**04 03 30.3**	**-0.1**
RAR	comp=Z,183nm,0.9s				pmax		pmax		
RAR	**Rarotonga** comp=Z,5.6nm,0.3s,baz=246,slow=6.2,SNR=21	**17.92**	**104**	P	**P**		**P**	**04 03 30.1**	**-0.3**
OUZ	**Omahuta** comp=Z,24nm,0.6s	**18.85**	**201**	*eP*	**P**		**P**	**04 03 41.5**	**+2.8**
OUZ	**Omahuta**	**18.85**	**201**	P	**P**		**P**	**04 03 41.5**	**+2.8**
GRZ	**Great Barrier**	**19.26**	**195**	P	**P**		**P**	**04 03 43.6**	**+1.2**
WCZ	**Waipu Caves**	**19.27**	**198**	P	**P**		**P**	**04 03 45.0**	**+2.5**
KUZ	**Kuaotunu**	**19.67**	**194**	P	**P**		**P**	**04 03 47.9**	**+1.8**
WIAZ	**Waiheke Island**	**19.86**	**195**	P	**P**		**P**	**04 03 49.3**	**+1.4**
MXZ	**Matakaoa Point**	**20.00**	**188**	P	**P**		**P**	**04 03 45.7**	**-3.4**
WTAZ	**Waiatarua**	**20.14**	**197**	P	**P**		**P**	**04 03 52.0**	**+1.6**
MKAZ	**Moumakai**	**20.15**	**195**	P	**P**		**P**	**04 03 51.7**	**+1.2**
WMGZ	**Waiomatatini S**	**20.24**	**187**	P	**P**		**P**	**04 03 50.8**	**-0.5**
HAZ	**Te Kaha**	**20.27**	**189**	P	**P**		**P**	**04 03 50.4**	**-1.0**
PKGZ	**Pakihiroa**	**20.35**	**188**	P	**P**		**P**	**04 03 54.5**	**+2.1**
RUGZ	**Raukumara Rang**	**20.48**	**189**	P	**P**		**P**	**04 03 52.5**	**-1.1**
TWGZ	**Tauwhareparae**	**20.65**	**188**	P	**P**		**P**	**04 03 55.0**	**-0.1**
TARA	**Tarawa** comp=Z,1μm,1.4s	**20.76**	**335**	*eP*	**P**		**P**	**04 03 55.9**	**-0.4**
URZ	**Urewera**	**20.86**	**190**	*eP*	**P**		**P**	**04 03 54.6**	**-2.3**
URZ	**Urewera** comp=Z,11nm,0.3s,baz=286,slow=2.8,SNR=29	**20.86**	**190**	P	**P**		**P**	**04 03 54.0**	**-2.8**
URZ	comp=Z,12nm,0.8s,baz=192,slow=22,SNR=5.9				ScS		ScS	04 14 10.7	+0.5
URZ	**Urewera**	**20.86**	**190**	P	**P**		**P**	**04 03 54.4**	**-2.5**
MWZ	**Matawai**	**20.87**	**189**	P	**P**		**P**	**04 03 55.8**	**-1.2**
RAGZ	**Rawiri**	**21.04**	**189**	P	**P**		**P**	**04 03 58.4**	**-0.3**
RIGZ	**Rimuhau**	**21.20**	**188**	P	**P**		**P**	**04 03 59.4**	**-0.6**
SNGZ	**Shannon Statio**	**21.34**	**189**	P	**P**		**P**	**04 03 60.0**	**-1.2**
MTHZ	**Maungataniwha**	**21.48**	**190**	P	**P**		**P**	**04 04 01.9**	**-0.6**
RAHZ	**Arahi**	**21.51**	**190**	P	**P**		**P**	**04 04 01.9**	**-0.9**
KNZ	**Kokohu**	**21.52**	**188**	P	**P**		**P**	**04 04 01.8**	**-1.0**
NMHZ	**Naumai**	**21.73**	**190**	P	**P**		**P**	**04 04 04.5**	**-0.3**
BKZ	**Black Stump Fm** comp=Z,16nm,1.2s	**21.85**	**191**	*eP*	**P**		**P**	**04 04 03.5**	**-2.4**
BKZ	**Black Stump Fm**	**21.85**	**191**	P	**P**		**P**	**04 04 03.4**	**-2.4**
TWVZ	**Taurewa**	**21.96**	**193**	P	**P**		**P**	**04 04 05.9**	**-1.0**
NGZ	**Ngauruhoe**	**22.03**	**192**	P	**P**		**P**	**04 04 06.5**	**-1.0**
KWHZ	**Kaweka Forest**	**22.11**	**191**	P	**P**		**P**	**04 04 06.1**	**-2.1**
FWVZ	**Far West T-bar**	**22.12**	**193**	P	**P**		**P**	**04 04 08.2**	**-0.3**
BHHZ	**Black Hill Sta**	**22.24**	**191**	P	**P**		**P**	**04 04 06.8**	**-2.6**
KRHZ	**Kereru**	**22.34**	**191**	P	**P**		**P**	**04 04 08.8**	**-1.3**
KAHZ	**Kahuranaki**	**22.40**	**190**	P	**P**		**P**	**04 04 09.1**	**-1.7**
HNR	**Honiara** comp=Z,44nm,0.4s,baz=187,slow=9.1,SNR=1.3	**22.56**	**289**	P	**P**		**P**	**04 04 11.5**	**-1.0**
TSZ	**Takapari Road**	**22.81**	**191**	P	**P**		**P**	**04 04 13.4**	**-1.0**
BFZ	**Birch Farm** comp=Z,35nm,1.0s	**23.37**	**190**	*eP*	**P**		**P**	**04 04 16.2**	**-3.1**
SNZO	**South Karori** comp=Z,211nm,1.6s	**24.27**	**193**	*eP*	**P**		**P**	**04 04 27.1**	**-0.2**
THZ	**Tophouse** comp=Z,33nm,1.3s	**25.11**	**195**	*eP*	**P**		**P**	**04 04 33.1**	**-1.7**
KHZ	**Kahutara** comp=Z,24nm,0.9s	**25.58**	**194**	*eP*	**P**		**P**	**04 04 37.5**	**-1.3**
LTZ	**Lake Taylor** comp=Z,35nm,1.1s	**26.23**	**196**	*eP*	**P**		**P**	**04 04 43.2**	**-1.5**
OXZ	**Oxford** comp=Z,44nm,0.4s	**26.80**	**196**	*eP*	**P**		**P**	**04 04 47.7**	**-1.9**
MQZ	**McQueen's Vall** comp=Z,102nm,1.7s	**27.01**	**194**	*eP*	**P**		**P**	**04 04 50.3**	**-1.1**
RPZ	**Rata Peaks** comp=Z,43nm,1.2s	**27.43**	**197**	*eP*	**P**		**P**	**04 04 54.6**	**-0.5**
RPZ	**Rata Peaks** comp=Z,12nm,0.4s,baz=241,slow=0.4,SNR=7.9	**27.43**	**197**	P	**P**		**P**	**04 04 54.6**	**-0.5**
PAE	**Paea** comp=Z,32nm,0.7s	**27.46**	**94⇑**	*iP*	**P**		**P**	**04 04 55.4**	**-0.4**
PPT2	**Papeete2** comp=Z,188nm,0.8s	**27.47**	**94⇑**	*iP*	**P**		**P**	**04 04 55.8**	**-0.1**
PPT2	comp=Z,72nm,1.3s				*e*ScP		**ScP**	**04 10 44.5**	**-0.6**
PPT	**Papeete** comp=Z,264nm,0.7s,baz=83,slow=3.6,SNR=44	**27.47**	**94**	P	**P**		**P**	**04 04 55.8**	**-0.1**
FOZ	**Fox Glacier** comp=Z,150nm,1.3s	**27.62**	**199**	*eP*	**P**		**P**	**04 04 56.1**	**-0.6**
TBI	**Tubuai** comp=Z,330nm,0.8s	**27.67**	**107⇑**	*iP*	**P**		**P**	**04 04 58.0**	**+0.5**
TIAR	**Tiarei** comp=Z,73nm,0.8s	**27.69**	**94⇑**	*iP*	**P**		**P**	**04 04 57.7**	**-0.1**
TVO	**Taravao** comp=Z,62nm,0.8s	**27.77**	**95⇑**	*iP*	**P**		**P**	**04 04 58.3**	**-0.2**
LBZ	**Lake Benmore** comp=Z,57nm,1.3s	**28.29**	**197**	*eP*	**P**		**P**	**04 05 00.5**	**-2.1**
ODZ	**Otahua Downs** comp=Z,73nm,1.8s	**28.77**	**196**	*eP*	**P**		**P**	**04 05 05.4**	**-1.3**
WKZ	**Wanaka** comp=Z,117nm,1.4s	**29.03**	**199**	*eP*	**P**		**P**	**04 05 07.9**	**-1.2**
EIDS	**Eidsvold** baz=30,SNR=10	**29.34**	**250**	P	**P**		**P**	**04 05 11.8**	**-0.2**
EIDS	**Eidsvold** comp=Z,31nm,0.9s	**29.34**	**250**	*eP*	**P**		**P**	**04 05 12.0**	**0.0**
PMOR	**Pomiorio Ree** comp=Z,525nm,1.2s	**29.39**	**89⇑**	*iP*	**P**		**P**	**04 05 12.5**	**-0.1**
VAH	**Vaihoa** comp=Z,190nm,0.8s	**29.61**	**90⇑**	*iP*	**P**		**P**	**04 05 13.9**	**-0.6**
KWAJ	**Kwajalein Atol** comp=Z,590nm,0.8s	**29.73**	**331**	*eP*	**P**		**P**	**04 05 15.3**	**-0.1**
KWAJ	**Kwajalein Atol**	**29.73**	**331**	*eP*	**P**		**P**	**04 05 15.3**	**-0.1**
MLZ	**Mavora Lakes** comp=Z,33nm,0.7s	**29.80**	**199**	*eP*	**P**		**P**	**04 05 15.4**	**-0.3**
ARMA	**Armidale** baz=32,SNR=55	**30.04**	**239**	P	**P**		**P**	**04 05 19.4**	**+1.2**
ARMA	**Armidale** comp=Z,110nm,1.6s	**30.04**	**239**	*eP*	**P**		**P**	**04 05 18.6**	**+0.4**
WHZ	**Wether Hill Ro** comp=Z,35nm,0.8s	**30.32**	**199**	*eP*	**P**		**P**	**04 05 20.4**	**+0.2**
MGCD	**Mangrove Creek** baz=32,SNR=26	**31.41**	**235**	P	**P**		**P**	**04 05 31.1**	**+1.3**
RMQ	**Roma** baz=32,SNR=13	**31.58**	**248**	P	**P**		**P**	**04 05 32.3**	**+1.0**
RABL	**Rabaul** comp=Z,134nm,0.8s	**31.78**	**292**	*eP*	**P**		**P**	**04 05 32.5**	**-0.7**
CTA	**Charters Tower** comp=Z,11nm,0.3s,baz=80,slow=9.9,SNR=23	**33.48**	**260**	P	**P**		**P**	**04 05 47.6**	**+0.1**
CTA	comp=Z,13nm,0.7s,baz=87,slow=4.5,SNR=6.0				PcP		**PcP**	**04 08 13.1**	**+0.7**
CTA	comp=Z,21nm,0.9s,baz=46,slow=3.0,SNR=10				ScP		**ScP**	**04 11 06.9**	**+1.9**
CTAO	**Charters Tower** comp=Z,45nm,1.0s	**33.48**	**260**	*eP*	**P**		**P**	**04 05 47.6**	**+0.1**
CTAO					*e*PcP		**PcP**	**04 08 13.3**	**+0.9**
CTAO	**Charters Tower**	**33.48**	**260**	*eP*	**P**		**P**	**04 05 47.6**	**+0.1**
CTAO					*e*			04 08 13.3	
CTAO	comp=Z,45nm,1.0s				pmax		pmax		
CNB	**Canberra Magne** baz=34,SNR=69	**33.55**	**232**	P	**P**		**P**	**04 05 49.1**	**+1.1**
YNG	**Young** baz=34,SNR=5.5	**33.91**	**234**	P	**P**		**P**	**04 05 52.4**	**+1.5**
MILA	**Mila** baz=35,SNR=4.7	**34.42**	**229**	P	**P**		**P**	**04 05 56.0**	**+0.8**
PMG	**Port Moresby** comp=Z,320nm,0.9s	**34.42**	**279**	*eP*	**P**		**P**	**04 05 56.9**	**+1.5**
PMG	**Port Moresby**	**34.42**	**279**	*d iP*	**P**		**P**	**04 05 56.4**	**+1.0**
PMG	comp=Z,1μm,0.9s				pmax		pmax		
PMG	**Port Moresby** comp=Z,253nm,0.9s,baz=83,slow=6.0,SNR=51	**34.42**	**279**	P	**P**		**P**	**04 05 55.7**	**+0.3**
CMSA	**Cobar Meteorol** baz=36,SNR=85	**35.25**	**240**	P	**P**		**P**	**04 06 02.7**	**+0.6**
MTSU	**Mount Surprise** baz=36,SNR=31	**35.43**	**263**	P	**P**		**P**	**04 06 04.0**	**+0.2**
MANU	**Manus Island** comp=Z,346nm,0.9s	**37.02**	**291**	*eP*	**P**		**P**	**04 06 18.2**	**+1.3**
COEN	**Coen** baz=37,SNR=21	**37.10**	**270**	P	**P**		**P**	**04 06 18.6**	**+1.0**
COEN	**Coen** comp=Z,93nm,0.9s	**37.10**	**270**	*eP*	**P**		**P**	**04 06 18.6**	**+1.0**
TOO	**Toolangi** baz=38,SNR=34	**37.30**	**231**	P	**P**		**P**	**04 06 20.0**	**+1.0**
TOO	**Toolangi** comp=Z,136nm,1.2s	**37.30**	**231**	*eP*	**P**		**P**	**04 06 20.0**	**+1.0**
TOO	**Toolangi**	**37.30**	**231**	*eP*	**P**		**P**	**04 06 20.0**	**+1.0**
TOO	comp=Z,137nm,1.2s				pmax		pmax		
TAOE	**Nuku Hiva Isla** comp=Z,226nm,0.9s	**38.20**	**82**	*eP*	**P**		**P**	**04 06 27.1**	**+0.4**
MOO	**Moorlands** baz=39,SNR=4.1	**38.24**	**222**	P	**P**		**P**	**04 06 27.6**	**+1.1**
STKA	**Stephens Creek** baz=39,SNR=129	**38.73**	**241**	P	**P**		**P**	**04 06 31.7**	**+1.1**
STKA	**Stephens Creek** comp=Z,22nm,1.0s	**38.73**	**241**	*eP*	**P**		**P**	**04 06 31.3**	**+0.6**
STKA					*e*PcP		**PcP**	**04 08 29.5**	**+1.3**
STKA	**Stephens Creek** comp=Z,57nm,0.7s,baz=87,slow=10,SNR=123	**38.73**	**241**	P	**P**		**P**	**04 06 31.6**	**+0.9**
STKA	comp=Z,13nm,0.8s,baz=80,slow=3.8,SNR=4.6				PcP		**PcP**	**04 08 29.5**	**+1.3**
STKA	comp=Z,5.8nm,0.8s,baz=49,slow=3.4,SNR=6.4				ScP		**ScP**	**04 11 26.3**	**+1.9**
STKA	comp=Z,2.9nm,1.1s,baz=345,slow=21,SNR=1.3				S		**S**	**04 11 48.1**	**-0.6**
QIS	**Mount Isa** baz=40,SNR=8.5	**39.69**	**259**	P	**P**		**P**	**04 06 38.5**	**-0.1**
ARPS	**Mount Arapiles** baz=40,SNR=10	**39.77**	**233**	P	**P**		**P**	**04 06 39.6**	**+0.6**
H11N3	**WAKE ISLAND Hy** baz=175,slow=11,SNR=5.6	**39.87**	**338**	P	**P**		**P**	**04 06 38.9**	**-0.7**
H11N1	**WAKE ISLAND Hy** baz=175,slow=11,SNR=6.3	**39.88**	**338**	P	**P**		**P**	**04 06 39.1**	**-0.6**
H11N2	**WAKE ISLAND Hy** baz=175,slow=11,SNR=4.1	**39.89**	**338**	P	**P**		**P**	**04 06 39.8**	**0.0**
RKT	**Rikitea** comp=Z,207nm,1.1s	**40.96**	**105⇑**	*iP*	**P**		**P**	**04 06 48.8**	**+0.2**
HTT	**Hallett** baz=42,SNR=133	**41.25**	**239**	P	**P**		**P**	**04 06 51.7**	**+0.8**
JAY	**Jayapura** comp=Z,2μm,0.9s,comp=Z,17μm	**42.84**	**286**	P	**P**		**P**	**04 07 03.6**	**0.0**
JAY	**Jayapura** comp=Z,192nm,0.8s,baz=124,slow=2.7,SNR=53	**42.84**	**286**	P	**P**		**P**	**04 07 04.7**	**+1.0**
JAY	comp=Z,11nm,0.6s,baz=26,slow=20,SNR=2.9				S		**S**	**04 12 52.8**	**+4.0**
GENI	**Genyem** comp=Z,578nm,1.1s,comp=Z,6μm	**43.30**	**286**	P	**P**		**P**	**04 07 06.9**	**-0.3**
BBOO	**Buckleboo** baz=44,SNR=106	**43.51**	**241**	P	**P**		**P**	**04 07 09.0**	**+0.5**
BBOO	**Buckleboo** comp=Z,110nm,1.0s	**43.51**	**241**	*eP*	**P**		**P**	**04 07 09.1**	**+0.5**
WRAB	**Tennant Creek** comp=Z,44nm,0.8s	**44.66**	**259**	*eP*	**P**		**P**	**04 07 17.2**	**-0.4**
WRAB					*e*PcP		**PcP**	**04 08 47.9**	**-0.5**
WRAB	**Tennant Creek**	**44.66**	**259**	*d iP*	**P**		**P**	**04 07 16.8**	**-0.8**
WRAB	comp=Z,105nm,1.3s				pmax		pmax		
WR1	**Warramunga Arr** comp=Z,60nm,0.8s	**44.66**	**259**	*eP*	**P**		**P**	**04 07 16.8**	**-0.8**
WR1					*e*PcP		**PcP**	**04 08 48.8**	**+0.4**
WR1					*e*ScP		**ScP**	**04 11 50.5**	**+2.1**
WR1					*e*S		**S**	**04 13 11.8**	**-2.6**
WR1					*e*ScS		**ScS**	**04 16 14.3**	**-0.4**
WRA	**Warramunga Arr** comp=Z,20nm,0.4s,baz=95,slow=7.7,SNR=282	**44.66**	**259**	P	**P**		**P**	**04 07 16.8**	**-0.8**
WRA					PcP		**PcP**	**04 08 48.8**	**+0.4**
WRA	comp=Z,22nm,0.8s,baz=88,slow=3.8,SNR=14				ScP		**ScP**	**04 11 50.5**	**+2.1**
WRA	comp=Z,12nm,1.0s,baz=85,slow=4.4,SNR=14				S		**S**	**04 13 11.8**	**-2.6**
WRA	comp=Z,2.6nm,0.9s,baz=96,slow=13,SNR=4.8				ScS		**ScS**	**04 16 14.3**	**-0.4**
AS01	**Alice Springs** comp=Z,2.8nm,1.1s,baz=97,slow=6.9,SNR=5.2	**44.80**	**254**	*eP*	**P**		**P**	**04 07 17.7**	**-1.0**
AS01					*e*PcP		**PcP**	**04 08 49.3**	**+0.4**
AS31	**Alice Springs** comp=Z,55nm,0.8s	**44.84**	**254**	*eP*	**P**		**P**	**04 07 19.2**	**+0.3**
AS31					*e*PcP		**PcP**	**04 08 49.1**	**+0.2**
ASAR	**Alice Springs** comp=Z,95nm,0.3s,baz=89,slow=8.0,SNR=1290	**44.84**	**254**	P	**P**		**P**	**04 07 19.2**	**+0.2**
ASAR					PcP		**PcP**	**04 08 49.1**	**+0.1**
ASAR	comp=Z,24nm,0.8s,baz=98,slow=3.8,SNR=13				ScP		**ScP**	**04 11 51.8**	**+2.6**
ASAR	comp=Z,3.4nm,0.7s,baz=105,slow=4.0,SNR=6.1				S		**S**	**04 13 15.4**	**-1.5**
ASAR	comp=Z,9.3nm,1.0s,baz=87,slow=15,SNR=21				ScS		**ScS**	**04 16 17.4**	**+1.5**
KDU	**Kakadu** baz=48,SNR=4.9	**47.55**	**269**	P	**P**		**P**	**04 07 39.6**	**0.0**
GUMO	**Guam**	**47.74**	**308**	*eP*	**P**		**P**	**04 07 41.8**	**+0.9**
GUMO	**Guam**	**47.74**	**308**	*eP*	**P**		**P**	**04 07 41.8**	**+0.9**
GUMO	**Guam** comp=Z,391nm,0.6s,baz=163,slow

comp=Z,47nm,0.8s,baz=309,slow=10.0,SNR=2.8
JHJ Hachijo jima 2 64.40 322 P P 04 09 35.7 +0.1
comp=Z,150nm,0.4s,baz=42,slow=21,SNR=7.1
JAGI Jajag, Banyuwa 66.04 268 *eP* **P 04 09 45.3 -1.0**
comp=Z,182nm,0.8s
CASY Casey 66.33 205 *eP* **P 04 09 47.7 +0.6**
comp=Z,34nm,1.0s
INU Inuyama 67.59 322 *eP* **P 04 09 55.4 0.0**
comp=Z,63nm,1.2s
SDKM Sandakan 67.63 284 P P **04 09 57.4 +1.2**
MJAR Matsushiro Arr 67.73 323 P P **04 09 55.8 -0.4**
comp=Z,52nm,0.8s,baz=166,slow=6.2,SNR=87
MAJO Matsushiro 67.73 323 *eP* **P 04 09 56.1 -0.2**
comp=Z,70nm,0.9s
MAJO Matsushiro 67.73 323 *eP* **P 04 09 56.1 -0.2**
MAJO pmax pmax
comp=Z,70nm,0.9s
MAT Matsushiro 67.73 323 P P **04 09 56.0 -0.3**
MJB9 Matsu-Tunnel 67.74 323 *eP* **P 04 09 56.2 -0.1**
comp=Z,71nm,0.9s
KDM Kudat 68.44 285 P P **04 10 02.0 +1.1**
KKM Kota Kinabalu 68.68 284 *eP* **P 04 10 03.1 +0.5**
comp=Z,78nm,0.8s
KKM Kota Kinabalu 68.68 284 P P **04 10 03.4 +0.8**
ERM Erimo 69.20 330 *eP* **P 04 10 07.4 +2.4**
comp=Z,33nm,0.9s
ERM Erimo 69.20 330 *d iP* **P 04 10 05.0 0.0**
ERM pmax pmax
comp=Z,32nm,1.0s
KUR Kuril'sk 69.72 335 *d iP* **P 04 10 08.4 +0.4**
SMRI Semarang 69.96 269 *eP* **P 04 10 10.7 +0.4**
comp=Z,198nm,0.9s
JNU Nakatsue 69.98 316 *eP* **P 04 10 10.1 +0.2**
comp=Z,54nm,1.0s
JNU Nakatsue 69.98 316 P P **04 10 09.8 -0.2**
comp=Z,40nm,0.9s,baz=97,slow=5.1,SNR=12
BTM Bintulu 70.61 280 P P **04 10 15.5 +1.5**
NIKH Nikolski High 70.86 6 *eP* **P 04 10 14.0 -0.6**
comp=Z,158nm,1.1s
ASAJ Asahikawa 71.09 331 P P **04 10 17.4 +1.3**
comp=Z,76nm,0.7s,baz=216,slow=7.0,SNR=57
SBUM Sibu 71.17 279 *eP* **P 04 10 18.2 +0.9**
comp=Z,45nm,0.8s
SBUM Sibu 71.17 279 P P **04 10 18.5 +1.2**
TWG Pinlang 71.55 302 *eP* **P 04 10 18.1 -1.2**
comp=Z,142nm,0.6s
YULB Yu-li 71.65 303 *eP* **P 04 10 19.1 -0.8**
comp=Z,28nm,0.8s
SKR Severo-Kuril's 71.67 343 *iP* **P 04 10 19.1 -0.2**
NACB Ninganchiao 71.79 304 *eP* **P 04 10 20.5 -0.2**
comp=Z,136nm,1.1s
UNV Unalaska Valle 71.98 7 *eP* **P 04 10 20.1 -1.0**
comp=Z,55nm,1.0s
SSLB Suanglung 72.11 303 *eP* **P 04 10 21.3 -1.3**
comp=Z,44nm,0.6s
TPUB Ta-pu 72.14 302 *eP* **P 04 10 21.6 -1.1**
comp=Z,140nm,0.7s
YHNB Yeheng 72.21 304 *eP* **P 04 10 23.4 +0.2**
comp=Z,87nm,0.9s
CISI Cisompet, Garu 72.33 268 *eP* **P 04 10 22.2 -1.9**
comp=Z,136nm,0.6s
QSPA South Pole Qui 72.36 180 *eP* **P 04 10 24.1 +0.7**
comp=Z,26nm,1.1s
KSM Kuching 72.65 277 *eP* **P 04 10 26.7 +0.8**
comp=Z,246nm,0.9s
KSM Kuching 72.65 277 P P **04 10 27.2 +1.3**
PET Petropavlovsk 73.17 346 *eP* **P 04 10 27.3 -0.6**
PET pmax pmax
comp=Z,46nm,1.4s
YSS Yuzh-Sakhalins 73.22 333 *eP* **P 04 10 29.2 +0.9**
comp=Z,68nm,0.9s
YSS Yuzh-Sakhalins 73.22 333 *κ iP* **P 04 10 29.3 +0.9**
YSS pmax pmax
comp=Z,50nm,0.7s
YSS pmax pmax
comp=Z,200nm,4.4s
PEA0B Petropavlovsk- 73.47 345 *eP* **P 04 10 29.8 +0.1**
comp=Z,71nm,0.8s
PEA0B Petropavlovsk- 73.47 345 *eP* **P 04 10 29.8 +0.1**
PEA0B pmax pmax
comp=Z,71nm,0.8s
PETK Petropavlovsk- 73.47 345 P P **04 10 29.6 -0.1**
comp=Z,53nm,0.7s,baz=142,slow=9.5,SNR=52
PETK ScS **ScS 04 19 44.2 -2.7**
comp=Z,5.9nm,0.9s,baz=163,slow=7.5,SNR=3.5
PEA1 Petropavlovsk- 73.48 345 *eP* **P 04 10 29.6 -0.2**
TJN Taejon 74.25 317 *‖ eP* **P 04 10 34.5 0.0**
KSRS Korea Array 74.54 318 P P **04 10 36.9 +0.9**
comp=Z,18nm,0.7s,baz=130,slow=6.4,SNR=42
KS15 Wonju Array Si 74.56 318 *eP* **P 04 10 37.6 +1.4**
comp=Z,151nm,1.9s
QZH Quanzhou 74.56 303 *⇓ iP* **P 04 10 37.3 +0.8**
QZH pmax pmax
comp=Z,76nm,0.6s
KS01 Wonju Array Si 74.57 318 *eP* **P 04 10 36.5 +0.2**
TEY Ternei 74.63 329 *⇓ eP* **P 04 10 37.1 +0.7**
TEY pmax pmax
comp=Z,10.0nm,1.7s
SPIA Saint Paul Isl 74.90 5 *eP* **P 04 10 37.5 -0.1**
comp=Z,130nm,1.0s
VLA Vladivostok 75.78 325 *⇑ eP* **P 04 10 44.2 +1.4**
VLA pmax pmax
comp=Z,45nm,1.0s
MSHR Mys Shultsa 75.83 324 *⇓ eP* **P 04 10 41.9 -1.2**
SAO San Andreas Ge 76.27 44 P P **04 10 47.4 +1.6**
TYV Tymovskoe 76.33 336 *eP* **P 04 10 46.1 +0.4**
TYV pmax pmax
comp=Z,86nm,1.1s
BLG Laguna Peak, P 76.43 47 P P **04 10 47.2 +0.4**
baz=237
USA0B Ussuriysk Arra 76.44 326 *eP* **P 04 10 48.0 +1.5**
comp=Z,152nm,1.8s
USA0B Ussuriysk Arra 76.44 326 *eP* **P 04 10 48.0 +1.5**
USA0B pmax pmax
comp=Z,152nm,1.8s
USRK Ussuriysk Ar. 76.44 326 P P **04 10 46.8 +0.4**
comp=Z,12nm,0.6s,baz=116,slow=4.4,SNR=24
SMMC Simmler 76.44 46 P P **04 10 47.3 +0.5**
baz=237
CIS Catalina Islan 76.51 48 P P **04 10 47.5 +0.3**
baz=238
ARVC Arvin 77.14 46 P P **04 10 51.0 +0.5**
baz=237
109C Camp Elliot, M 77.19 49 P P **04 10 50.9 +0.1**
baz=239
MWC Mount Wilson 77.20 48 *eP* **P 04 10 50.1 -1.0**
comp=Z,10nm,0.8s
MWC Mount Wilson 77.20 48 *eP* **P 04 10 50.1 -1.0**
MWC pmax pmax
comp=Z,10.0nm,0.8s
VES Vestal, Richgr 77.35 46 P P **04 10 51.9 +0.2**
baz=237,SNR=6.1
BAR Barrett 77.39 50 *eP* **P 04 10 53.2 +1.2**
comp=Z,9.0nm,1.0s
MURC Murrieta 77.49 49 P P **04 10 52.9 +0.3**
baz=239
BFSC Mount Baldy Ra 77.49 48 P P **04 10 52.8 +0.1**
baz=238,SNR=5.4
EDW2 Edwards Air Fo 77.59 47 P P **04 10 53.7 +0.6**
baz=238,SNR=8.6
ISA Isabella, Lake 77.67 46 *eP* **P 04 10 53.9 +0.4**
comp=Z,14nm,0.9s
ISA Isabella, Lake 77.67 46 P P **04 10 53.9 +0.4**
ISA Isabella, Lake 77.67 46 P P **04 10 54.2 +0.6**
baz=238,SNR=10
MONP2 Monument Peak 77.68 49 P P **04 10 54.6 +0.8**
baz=239,SNR=14
CMB Columbia Colle 77.69 43 *eP* **P 04 10 53.5 0.0**
comp=Z,9.4nm,1.0s
CMB Columbia Colle 77.69 43 *eP* **P 04 10 53.5 0.0**
CMB pmax pmax
comp=Z,9.0nm,1.0s
IKP In-Ko-Pah, Jac 77.79 50 P P **04 10 55.1 +0.9**
baz=240,SNR=11
NJ2 Nanjing 77.80 309 *eP* **P 04 10 54.9 +0.7**
NJ2 pmax pmax
comp=Z,50nm,0.8s
AFDM Forest Hills D 77.82 42 *eP* **P 04 10 55.3 +1.1**
comp=Z,6.5nm,1.0s
ORV Oroville 77.83 42 *eP* **P 04 10 54.5 +0.3**
comp=Z,6.5nm,1.2s
ORV Oroville 77.83 42 *eP* **P 04 10 54.5 +0.3**
ORV pmax pmax
comp=Z,7.0nm,1.2s
MNAI Manna 77.86 269 *eP* **P 04 10 54.0 -1.0**
comp=Z,383nm,1.1s
N02D Trinity Center 77.92 40 P P **04 10 55.4 +0.7**
baz=234
MDJ Mudanjiang 78.01 325 P P **04 10 56.4 +1.4**
MDJ pmax pmax
comp=Z,140nm,0.9s
MDJ Mudanjiang 78.01 325 *eP* **P 04 10 56.3 +1.3**
comp=Z,98nm,0.8s
PFO Pinyon Flats O 78.02 49 *eP* **P 04 10 55.0 -0.5**
comp=Z,4.7nm,1.0s
PFO Pinyon Flats O 78.02 49 *eP* **P 04 10 55.0 -0.5**
PFO pmax pmax
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 78.02 49 P P **04 10 55.8 +0.3**
baz=239
XPFO Pion Flat 78.02 49 *eP* **P 04 10 54.8 -0.7**
comp=Z,4.9nm,1.0s
M02C Callahan 78.07 39 P P **04 10 56.0 +0.4**
baz=233
LRMC Laurel Mtn Rad 78.12 47 P P **04 10 56.2 +0.1**
baz=238
SWSC Sam W. Stewart 78.16 50 P P **04 10 57.0 +0.9**
baz=240,SNR=6.8
SRIG Santa Rosalia 78.19 56 *eP* **P 04 10 57.1 +0.7**
comp=Z,30nm,1.0s
KDAK Kodiak Island 78.20 14 *i* P P **04 10 55.4 -0.3**
MDPB Devils Postpil 78.33 44 *eP* **P 04 10 58.2 +0.9**
comp=Z,14nm,0.9s
CWC Cottonwood Cre 78.36 46 P P **04 10 57.6 +0.3**
baz=238
YBH Yreka Blue Hor 78.36 39 *eP* **P 04 10 58.3 +1.2**
comp=Z,4.8nm,0.9s
YBH Yreka Blue Hor 78.36 39 *eP* **P 04 10 58.3 +1.2**
YBH pmax pmax
comp=Z,5.0nm,0.9s
OMMB Old Mammoth Mi 78.37 44 *eP* **P 04 10 56.9 -0.6**
comp=Z,8.8nm,1.1s
K02D Willamette Mer 78.37 38 P P **04 10 57.9 +0.8**
baz=239
BELC Belle Mtn. Jos 78.55 49 P P **04 10 59.0 +0.7**
baz=239,SNR=7.9
MPMC Manual Prospec 78.56 46 P P **04 10 59.0 +0.6**
baz=238,SNR=9.9
WAKR Walker 78.57 43 *eP* **P 04 10 57.3 -1.1**
comp=Z,12nm,1.0s
TIN Tinemaha, Big 78.58 45 P P **04 10 59.3 +0.8**
baz=237
GSC Goldstone, Bar 78.64 47 *eP* **P 04 10 59.1 +0.4**
comp=Z,10.0nm,1.3s
GSC Goldstone, Bar 78.64 47 *eP* **P 04 10 59.1 +0.4**
GSC pmax pmax
comp=Z,10.0nm,1.3s
GSC Goldstone, Bar 78.64 47 P P **04 10 57.7 -1.0**
baz=239
HEC Hector,Ludlow 78.73 48 P P **04 10 58.9 -0.3**
baz=239
BEKR Beckworth 78.74 42 *eP* **P 04 11 00.0 +0.7**
comp=Z,6.8nm,1.2s
HUMO Hull Mountain 78.74 38 *eP* **P 04 11 00.1 +1.1**
comp=Z,5.5nm,1.0s
BC3 Big Chuckawall 78.77 49 P P **04 10 59.1 -0.4**
baz=240
PNTR Pine Nut 78.79 43 *eP* **P 04 10 59.1 -0.5**
comp=Z,13nm,0.7s
GRNR Gornyy 78.85 333 *eP* **P 04 11 01.8 +2.4**
GRNR pmax pmax
comp=Z,25nm,1.0s
MYKOM Kota Tinggi 78.87 275 *eP* **P 04 11 00.5 +0.1**
comp=Z,57nm,1.0s
MYKOM Kota Tinggi 78.87 275 P P **04 11 01.4 +1.1**
VCNR Virginia City 78.87 43 *eP* **P 04 11 00.5 +0.5**
comp=Z,4.7nm,0.8s
NKL Nikolayevsk 78.88 336 *i* P P **04 10 59.0 -0.4**
NKL pmax pmax
comp=Z,40nm,0.8s
L04D Klamath Falls 78.89 39 P P **04 11 00.3 +0.3**
baz=234
M04C Macdoel 78.92 39 P P **04 11 00.6 +0.5**
baz=234
GLA Glamis 78.92 50 *eP* **P 04 11 01.0 +0.8**
comp=Z,19nm,1.0s
GLA Glamis 78.92 50 *eP* **P 04 11 01.0 +0.8**
GLA pmax pmax
comp=Z,19nm,1.0s
GLA Glamis 78.92 50 P P **04 11 01.3 +1.1**
baz=240,SNR=5.4
YERR Yerington 78.96 43 *eP* **P 04 11 01.4 +0.9**
comp=Z,11nm,0.9s
GRAC Grapevine Rang 79.14 46 P P **04 11 01.9 +0.6**
baz=238,SNR=8.4
I03D Drain, OR 79.17 37 P P **04 11 02.0 +0.8**
baz=233
GMRC Granite Mounta 79.18 48 P P **04 11 02.0 +0.3**
baz=240,SNR=5.4
FURC Furnace Creek, 79.20 46 P P **04 11 01.8 +0.3**
baz=238
RYN Ryan 79.24 44 *eP* **P 04 11 01.5 -0.4**
comp=Z,5.3nm,0.9s
IRM Iron Mountain 79.24 49 P P **04 11 02.4 +0.6**
baz=240,SNR=8.2
PAHR Pah Rah Range 79.27 42 *eP* **P 04 11 02.9 +0.8**
comp=Z,5.4nm,1.1s
NV01 Mina Array Sit 79.27 44 *eP* **P 04 11 02.6 +0.4**
NVAR Mina Array Bea 79.27 44 P P **04 11 02.2 0.0**
comp=Z,8.0nm,0.8s,baz=226,slow=7.3,SNR=41
NVAR pP **pP 04 12 59.6 +1.1**
comp=Z,2.8nm,1.1s,baz=224,slow=7.3,SNR=2.5
SHOC Shoshone, Teco 79.32 47 P P **04 11 02.6 +0.4**
baz=239
TUQ Turquoise Moun 79.33 47 P P **04 11 02.9 +0.4**
baz=239,SNR=5.7
QIZ Qiongzhong 79.36 294 *eP* **P 04 11 03.8 +1.0**
comp=Z,89nm,1.7s
NV11 Mina Array Sit 79.37 44 *eP* **P 04 11 03.2 +0.6**
comp=Z,0.7nm,1.0s
DL2 Dalian 79.43 317 P P **04 11 03.3 +0.6**
DL2 pmax pmax
comp=Z,53nm,0.9s
KGM Kluang 79.44 276 P P **04 11 04.7 +1.3**
Y12C Blythe 79.48 50 *eP* **P 04 11 04.2 +1.1**
comp=Z,7.2nm,0.8s
Y12C Blythe 79.48 50 P P **04 11 03.9 +0.8**
baz=240
J04D Umpqua Nationa 79.61 38 P P **04 11 04.5 +0.6**
baz=234
LDFC Landfair 79.72 48 *eP* **P 04 11 05.9 +1.4**
comp=Z,35nm,1.1s
KVN Kaiserville 79.74 43 *eP* **P 04 11 05.4 +0.8**
comp=Z,6.3nm,0.8s
KVN Kaiserville 79.74 43 *eP* **P 04 11 05.4 +0.8**
KVN pmax pmax
comp=Z,6.0nm,0.8s
I04A Tendick Farm, 79.77 38 P P **04 11 04.4 -0.1**
baz=233
SNY Shenyang 79.82 320 *⇓ P* **P 04 11 05.0 +0.3**
CN2 Changchun 79.85 322 *⇓ iP* **P 04 11 05.4 +0.6**
CN2 epP pP 04 12 57.8 -3.4
CN2 pmax pmax
comp=Z,90nm,1.2s
TPNV Topopah Spring 79.88 46 *eP* **P 04 11 06.0 +0.7**
comp=Z,6.9nm,1.0s
TPNV Topopah Spring 79.88 46 P P **04 11 06.0 +0.7**
baz=239,SNR=6.2
214A Organ Pipe Nat 79.89 52 P P **04 11 06.2 +0.9**
baz=242,SNR=9.1
KLR Mdur 79.92 329 P P **04 11 05.8 +0.7**
comp=Z,17nm,1.0s,baz=111,slow=4.1,SNR=49
MOD Modoc Plateau 79.92 40 *eP* **P 04 11 06.1 +0.6**
comp=Z,6.8nm,0.9s
H04D Lebanon 80.01 37 P P **04 11 06.0 +0.4**
baz=233
PDMCI Parker Dam,Lak 80.03 49 P P **04 11 06.1 +0.1**
baz=241
K05A Summer Lake 80.04 39 *eP* **P 04 11 07.2 +1.1**
comp=Z,8.3nm,0.9s
J05D Fort Rock, OR 80.16 39 P P **04 11 07.5 +0.9**
baz=234
BRLK Bradley Lake 80.37 14 *eP* **P 04 11 06.8 -0.4**
comp=Z,43nm,0.8s
SHPR Sheep Range 80.40 47 *eP* **P 04 11 09.3 +1.2**
comp=Z,6.1nm,1.0s
H04A Detroit Lake 80.43 37 *eP* **P 04 11 07.9 +0.1**
comp=Z,14nm,1.3s
WHN Wuhan 80.47 306 *⇑ P* **P 04 11 09.5 +1.2**
RSO Redoubt South 80.60 13 *eP* **P 04 11 07.5 -1.0**
W13A Hualapai Mount 80.61 49 *eP* **P 04 11 09.6 +0.3**
comp=Z,5.0nm,1.1s
PINE Pine Mountain 80.63 38 *eP* **P 04 11 10.3 +1.1**
comp=Z,16nm,1.1s
SVW2 Sparrevohn 80.63 11 *eP* **P 04 11 08.0 -0.5**
comp=Z,23nm,1.2s
Y14A Wickenburg 80.68 50 *eP* **P 04 11 08.6 -0.9**
comp=Z,6.3nm,0.9s
I05D Terrebonne, OR 80.71 38 P P **04 11 10.2 +0.8**
baz=234
MA2 Magadan 80.99 345 *eP* **P 04 11 09.0 -1.3**
comp=Z,34nm,0.9s
MA2 Magadan 80.99 345 *d iP* **P 04 11 09.4 -0.9**
MA2 pmax pmax
comp=Z,34nm,0.8s
MA2 Magadan 80.99 345 P P **04 11 09.5 -0.8**
comp=Z,25nm,0.7s,baz=142,slow=4.5,SNR=31
R11A Troy Canyon, C 81.05 45 *eP* **P 04 11 12.0 +0.6**
comp=Z,3.8nm,1.1s
R11A Troy Canyon, C 81.05 45 P P **04 11 11.6 +0.2**
baz=239
BMN Battle Mountai 81.06 43 *eP* **P 04 11 12.2 +0.8**
BMN Battle Mountai 81.06 43 *eP* **P 04 11 12.2 +0.8**
WVOR Wild Horse Val 81.25 40 *eP* **P 04 11 12.4 +0.1**
comp=Z,8.4nm,0.9s
WVOR Wild Horse Val 81.25 40 *eP* **P 04 11 12.4 +0.1**
WVOR pmax pmax
comp=Z,8.0nm,0.9s
G05D Wamic, OR 81.25 37 P P **04 11 12.8 +0.7**
baz=234
E04D Cinebar 81.33 35 P P **04 11 13.4 +1.0**
baz=233
GAMB Gambell 81.37 3 *eP* **P 04 11 12.7 +0.5**
comp=Z,28nm,0.7s
F05D White Salmon 81.55 36 P P **04 11 14.1 +0.5**
baz=234
TUC Tucson 81.57 52 *eP* **P 04 11 14.8 +0.7**
comp=Z,16nm,0.9s
TUC Tucson 81.57 52 *eP* **P 04 11 14.8 +0.7**
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 81.57 52 P P **04 11 15.4 +1.3**
baz=243
D04E Lakebay 81.60 35 P P **04 11 14.6 +0.8**
baz=233
G06A Carlson Farm, 81.64 37 *eP* **P 04 11 12.6 -1.5**
comp=Z,3.2nm,0.8s
D03D Eldon 81.64 34 P P **04 11 14.6 +0.6**
baz=232
I07A Izee 81.64 39 *eP* **P 04 11 14.8 +0.6**
comp=Z,7.1nm,0.9s
RC01 Rabbit Creek A 81.81 14 *eP* **P 04 11 14.0 -0.5**
comp=Z,31nm,1.0s
J08A Circle Bar Ran 81.86 40 *eP* **P 04 11 16.0 +0.6**
comp=Z,7.4nm,0.8s
SUA Susitna One 81.93 13 *eP* **P 04 11 14.5 -0.7**
comp=Z,42nm,0.6s
LCMT Little Creek M 81.99 47 *eP* **P 04 11 16.7 +0.5**
comp=Z,9.7nm,1.0s
D05A Enumclaw 82.03 35 *eP* **P 04 11 16.0 0.0**
D05A *epP* **pwP 04 13 17.2 +1.3**
X16A Lo Mia Camp, P 82.05 50 *eP* **P 04 11 18.2 +1.6**
comp=Z,15nm,0.9s
X16A *epP* **pwP 04 13 18.2 +1.7**
CCUT Cedar City 82.17 47 *eP* **P 04 11 18.0 +0.8**
comp=Z,11nm,1.1s
CCUT *epP* **pP 04 13 15.3 +0.7**
KNB Kanab 82.29 47 *eP* **P 04 11 18.2 +0.4**
comp=Z,13nm,1.0s
319A Douglas 82.30 54 *eP* **P 04 11 19.6 +1.7**
comp=Z,27nm,0.9s
PSUT Pine Spring 82.31 46 *eP* **P 04 11 18.8 +0.9**
comp=Z,10nm,1.3s
U15A North Rim 82.38 48 *eP* **P 04 11 19.4 +1.1**
comp=Z,28nm,1.0s
U15A *epP* **pwP 04 13 19.5 +0.7**
SZCU Shurtz Canyon 82.38 47 *eP* **P 04 11 19.5 +1.2**
comp=Z,10nm,1.1s
IPM Ipoh 82.39 277 *eP* **P 04 11 19.3 +0.7**
comp=Z,109nm,0.8s
IPM Ipoh 82.39 277 P P **04 11 19.8 +1.2**
KNK Knik Glacier 82.39 14 *eP* **P 04 11 17.0 -0.5**
comp=Z,38nm,0.8s
PMR Palmer 82.40 14 *eP* **P 04 11 16.8 -0.6**
comp=Z,62nm,1.4s
PMR Palmer 82.40 14 *eP* **P 04 11 16.8 -0.6**
PMR pmax pmax
comp=Z,62nm,1.4s
F07A Phinny Hill Vi 82.43 37 *eP* **P 04 11 18.9 +0.9**
comp=Z,5.6nm,0.8s
ELK Elko 82.50 43 *eP* **P 04 11 19.3 +0.4**
comp=Z,4.8nm,0.9s
A04D Lummi Island 82.57 33 P P **04 11 18.6 0.0**
baz=232
GHO Glory Hole Cre 82.60 14 *eP* **P 04 11 18.1 -0.5**
comp=Z,64nm,0.7s
WUAZ Wupatki 82.61 49 *eP* **P 04 11 20.2 +0.8**
comp=Z,19nm,1.0s
WUAZ Wupatki 82.61 49 P P **04 11 20.4 +0.9**
baz=242
B05A Bryant 82.62 34 P P **04 11 19.3 +0.5**
baz=233
G08A Pilot Rock 82.64 38 *eP* **P 04 11 19.9 +0.7**
comp=Z,8.8nm,1.2s
G08A *epP* **pwP 04 13 19.5 -0.2**
SML Sawmill 82.77 14 *eP* **P 04 11 19.0 -0.4**
comp=Z,27nm,1.1s
SML Sawmill 82.77 14 *eP* **P 04 11 19.0 -0.4**
SML pmax pmax
comp=Z,27nm,1.1s
DIV Divide 82.79 15 *eP* **P 04 11 19.4 -0.2**
comp=Z,38nm,0.7s
LTY Liberty 82.80 35 *eP* **P 04 11 20.1 +0.1**
comp=Z,5.4nm,1.1s
E07A Sunnyside 82.85 36 *eP* **P 04 11 19.6 -0.5**
comp=Z,11nm,1.0s
E07A *epP* **pwP 04 13 22.3 +1.7**
PKCU Pink Cliffs 82.85 47 *eP* **P 04 11 22.8 +2.0**
comp=Z,27nm,1.1s
PPLA Purkeypile 82.92 12 *eP* **P 04 11 18.6 -1.7**
comp=Z,76nm,2.0s
HAWA Hanford 82.94 37 *eP* **P 04 11 21.3 +0.7**
comp=Z,8.2nm,0.9s
HAWA *epP* **pwP 04 13 21.5 +0.4**
HAWA *ePP* **PP 04 14 39.0 -2.6**
KULM Kulim 83.00 278 *eP* **P 04 11 22.0 +0.4**
comp=Z,52nm,1.0s
KULM *ePP* **PP 04 14 39.6 -3.1**
KULM Kulim 83.00 278 P P **04 11 22.8 +1.2**
SCM Sheep Creek Mo 83.02 14 *eP* **P 04 11 20.5 -0.3**
comp=Z,74nm,0.8s
SCM Sheep Creek Mo 83.02 14 *eP* **P 04 11 20.5 -0.3**
SCM pmax pmax
comp=Z,74nm,0.8s
KLU Klutina 83.07 15 *eP* **P 04 11 20.7 -0.2**
comp=Z,25nm,1.0s
X18A Snowflake 83.20 51 *eP* **P 04 11 21.1 -1.3**
comp=Z,8.5nm,0.9s
MTPU Mount Pierson 83.22 47 *eP* **P 04 11 21.8 -0.9**
comp=Z,9.6nm,1.0s
TGL Tana Glacier 83.25 17 *eP* **P 04 11 21.0 -0.9**
comp=Z,36nm,1.0s
E08A Dider Farm, El 83.26 37 *eP* **P 04 11 22.8 +0.6**
comp=Z,5.5nm,0.8s
E08A *epP* **pwP 04 13 22.5 -0.3**
PANO Nakornpanom 83.28 290 P P **04 11 23.7 +0.8**
comp=Z,2.6nm,1.2s
TCRU Three Creeks R 83.31 46 *eP* **P 04 11 23.0 0.0**
comp=Z,6.5nm,0.4s
HPIG 83.32 59 *eP* **P 04 11 23.0 -0.2**
comp=Z,14nm,1.1s
BMO Blue Mountains 83.38 39 *eP* **P 04 11 23.0 0.0**
comp=Z,3.0nm,0.8s
BMO Blue Mountains 83.38 39 *eP* **P 04 11 23.0 0.0**
BMO pmax pmax
comp=Z,3.0nm,0.8s
MSU Marysvale 83.45 46 *eP* **P 04 11 24.1 +0.5**
MSU Marysvale 83.45 46 *eP* **P 04 11 24.2 +0.5**
SEY Seymchan 83.57 347 *d iP* **P 04 11 23.0 -0.3**
SEY Seymchan 83.57 347 P P **04 11 22.9 -0.4**
comp=Z,65nm,0.6s,baz=148,slow=5.4,SNR=304
SKLT Songkhla 83.62 280 P P **04 11 26.2 +1.5**
comp=Z,149nm,0.8s,comp=Z,1µm
BJT Baijiatuau 83.62 315 *eP* **P 04 11 24.9 +0.8**
comp=Z,63nm,0.9s
BJT Baijiatuau 83.62 315 *eP* **P 04 11 24.9 +0.8**
BJT pmax pmax
comp=Z,63nm,0.9s
BJI Beijing 83.63 315 P P **04 11 25.0 +0.9**
BJI pmax pmax
comp=Z,49nm,0.9s

D08A	**Wollman Farm,**	**83.66**	**36**	*e*P		**P**	04 11 24.8	+0.7	
	comp=Z,10.0nm,0.9s								
SKNT	**Sakolnakorn**	**83.79**	**290**	P		**P**	04 11 26.1	+0.6	
	comp=Z,58nm,1.1s,comp=Z,900nm								
TRF	**Thorofare Moun**	**83.80**	**12**	*e*P		**P**	04 11 23.6	-1.1	
	comp=Z,69nm,0.7s								
DUG	**Dugway, Tooele**	**83.83**	**45**	P		**P**	04 11 26.0	+0.6	
	baz=241								
PSI	**Prapat**	**83.86**	**275**	*e*P		**P**	04 11 25.5	-0.6	
	comp=Z,107nm,0.9s								
PSI				*e*PP		**PP**	04 14 49.2	-0.6	
PSI	**Prapat**	**83.86**	**275**	P		**P**	04 11 25.7	-0.4	
	comp=Z,83nm,0.8s,baz=179,slow=3.5,SNR=72								
PSI				PP		**PP**	04 14 50.6	+0.8	
	comp=Z,4.6nm,0.7s,baz=180,slow=4.3,SNR=5.6								
121A	**Cookes Peak, D**	**83.95**	**53**	P		**P**	04 11 26.0	-0.1	
	baz=245								
F10A	**Beach Ranch, E**	**84.03**	**38**	*e*P		**P**	04 11 26.4	+0.2	
	comp=Z,7.6nm,0.9s								
HARP	**HAARP**	**84.04**	**15**	*e*P		**P**	04 11 25.8	+0.1	
	comp=Z,45nm,0.8s								
RND	**Reindeer**	**84.06**	**13**	*e*P		**P**	04 11 25.3	-0.6	
	comp=Z,70nm,0.6s								
RND	**Reindeer**	**84.06**	**13**	*e*P		**P**	04 11 25.3	-0.6	
RND				pmax		pmax			
	comp=Z,70nm,0.6s								
ENH	**Enshi**	**84.15**	**304**	*e*P		**P**	04 11 28.1	+1.1	
	comp=Z,147nm,0.9s								
B08A	**Colville Reser**	**84.17**	**35**	*e*P		**P**	04 11 26.6	-0.1	
	comp=Z,7.4nm,0.9s								
B08A				*e*pP		**pP**	04 13 25.9	+1.1	
BPAW	**Bear Paw Mtn.**	**84.25**	**12**	*e*P		**P**	04 11 25.2	-1.5	
	comp=Z,50nm,1.7s								
ZAIG	**Zacatecas**	**84.33**	**64**	*e*P		**P**	04 11 29.3	+1.0	
	comp=Z,19nm,1.0s								
C09A	**Chrisman Ranch**	**84.44**	**36**	*e*P		**P**	04 11 26.5	-1.5	
	comp=Z,5.7nm,0.5s								
C09A				*e*pP		**pW**	04 13 27.9	-1.3	
PAX	**Paxson**	**84.44**	**14**	*e*P		**P**	04 11 26.4	-1.4	
	comp=Z,14nm,0.8s								
PAX	**Paxson**	**84.44**	**14**	*e*P		**P**	04 11 26.4	-1.4	
PAX				pmax		pmax			
	comp=Z,14nm,0.8s								
HLID	**Hailey**	**84.47**	**41**	*e*P		**P**	04 11 29.6	+1.1	
	comp=Z,4.4nm,0.9s								
HLID	**Hailey**	**84.47**	**41**	P		**P**	04 11 30.0	+1.6	
	baz=239								
TMUT	**Trail Mountain**	**84.49**	**46**	*e*P		**P**	04 11 30.2	+1.4	
	comp=Z,8.0nm,1.1s								
SKAG	**Skagway**	**84.50**	**21**	*e*P		**P**	04 11 29.1	+1.1	
	comp=Z,13nm,0.9s								
SRAK	**Srakaew**	**84.53**	**286**	P		**P**	04 11 28.0	-1.1	
	comp=Z,137nm,1.3s,comp=Z,1µm								
MPU	**Maple Canyon**	**84.54**	**45**	*e*P		**P**	04 11 28.8	-0.1	
MPU				*e*pP		**pW**	04 13 30.6	+0.8	
KHON	**Khomkaen**	**84.61**	**289**	P		**P**	04 11 30.9	+1.4	
	comp=Z,28nm,1.1s								
BWN	**Browne**	**84.61**	**12**	*e*P		**P**	04 11 27.6	-0.8	
	comp=Z,82nm,1.2s								
HVU	**Hansel Valley**	**84.63**	**43**	*e*P		**P**	04 11 29.5	+0.2	
	comp=Z,12nm,1.6s								
HVU	**Hansel Valley**	**84.63**	**43**	*e*P		**P**	04 11 29.5	+0.2	
HVU				pmax		pmax			
	comp=Z,12nm,1.6s								
GSI	**Gunungsitoli**	**84.69**	**273**	*e*P		**P**	04 11 31.3	+1.3	
	comp=Z,162nm,0.8s								
TRTT	**Trang**	**84.71**	**280**	P		**P**	04 11 31.6	+1.6	
	comp=Z,64nm,0.9s,comp=Z,537nm								
MENT	**Mentasta**	**84.84**	**15**	*e*P		**P**	04 11 29.3	-0.3	
	comp=Z,17nm,0.6s								
HYT	**Haines Junctio**	**84.86**	**19**	*e*P		**P**	04 11 30.1	+0.2	
	comp=Z,12nm,0.9s								
SRU	**San Rafael Swe**	**84.87**	**46**	*e*P		**P**	04 11 30.2	-0.4	
SRU				*e*pP		**pW**	04 13 30.9	-0.6	
SRU	**San Rafael Swe**	**84.87**	**46**	*e*P		**P**	04 11 30.2	-0.4	
SRU				*e**PP		**pW**	04 13 30.9	-0.6	
P17A	**Butcher Ranch,**	**84.89**	**46**	*e*P		**P**	04 11 30.8	+0.1	
P17A				*e*pP		**pW**	04 13 32.6	+0.9	
NONG	**Nongkai**	**84.91**	**291**	P		**P**	04 11 31.8	+0.9	
	comp=Z,1.7nm,1.1s								
GYA	**Guiyang**	**84.93**	**300**	⇓*iP*		**P**	04 11 31.8	+0.8	
GYA				pP		pP	04 13 30.9	+0.8	
GYA				sP		sP	04 14 26.5	+0.5	
GYA				PP		**PP**	04 15 01.0	+2.9	
GYA				SKS		**SKSac**	04 21 05.3	+1.8	
GYA				S		**S**	04 21 14.4	-0.1	
GYA				sS		sS	04 24 44.0	-1.2	
GYA				SS		**SS**	04 27 07.6	+3.4	
GYA				pmax		pmax			
	comp=Z,40nm,1.0s								
GYA				pmax		pmax			
	comp=Z,100nm,5.9s								
JLU	**Jordanelle**	**84.94**	**45**	*e*P		**P**	04 11 31.0	+0.1	
JLU				*e*pP		**pW**	04 13 32.5	+0.4	
ZEA	**Zeya**	**85.00**	**331**	*e*P		**P**	04 11 31.4	+0.9	
ZEA				pmax		pmax			
	comp=N,42nm,0.8s								
ZEA				pmax		pmax			
	comp=E,21nm,0.8s								
ZEA				pmax		pmax			
	comp=Z,93nm,1.0s								
WRH	**Wood River Hil**	**85.16**	**13**	*e*P		**P**	04 11 30.0	-1.1	
	comp=Z,80nm,1.4s								
TCUT	**Toone Canyon**	**85.21**	**44**	*e*P		**P**	04 11 33.5	+1.3	
TCUT				*e*pP		**pW**	04 13 34.0	+0.5	
TCUT				*e*PP		**PP**	04 14 57.9	-2.4	
CHAI	**Chaiyaphum**	**85.22**	**288**	P		**P**	04 11 33.2	+0.7	
	comp=Z,14nm,0.8s,comp=Z,152nm								
PATY	**Pattaya**	**85.25**	**285**	P		**P**	04 11 35.0	+2.4	
	comp=Z,30nm,0.8s								
RIDG	**Independ'e Rid**	**85.25**	**14**	*e*P		**P**	04 11 31.2	-0.5	
	comp=Z,34nm,1.0s								
NEW	**Newport**	**85.34**	**36**	*e*P		**P**	04 11 32.4	-0.1	
	comp=Z,3.2nm,0.6s								
NEW	**Newport**	**85.34**	**36**	P		**P**	04 11 31.8	-0.7	
	baz=237								
HDA	**Harding Lake**	**85.35**	**13**	*e*P		**P**	04 11 31.3	-0.7	
	comp=Z,27nm,0.8s								
HDA	**Harding Lake**	**85.35**	**13**	P		**P**	04 11 31.4	-0.6	
	baz=210								
DOT	**Dot Lake**	**85.36**	**15**	*e*P		**P**	04 11 31.7	-0.4	
	comp=Z,26nm,0.8s								
CCB	**Clear Creek Bu**	**85.38**	**13**	*e*P		**P**	04 11 30.4	-1.7	
	comp=Z,32nm,1.0s								
MVCO	**Mesa Verde**	**85.44**	**49**	P		**P**	04 11 35.3	+1.9	
	baz=244								
MNTX	**Cornudas Mount**	**85.46**	**55**	P		**P**	04 11 34.2	+0.9	
	baz=246								
IM3	**Indian Mountai**	**85.47**	**10**	*e*P		**P**	04 11 32.0	-0.5	
WHY	**Whitehorse**	**85.56**	**20**	*e*P		**P**	04 11 33.8	+0.6	
	comp=Z,12nm,0.8s								
MDM	**Murphy Dome**	**85.56**	**12**	*e*P		**P**	04 11 31.9	-1.2	
	comp=Z,26nm,1.0s								
TCOL	**CIGO, UAF Yank**	**85.56**	**13**	P		**P**	04 11 31.7	-1.3	
	baz=209								
COLA	**College**	**85.57**	**13**	*e*P		**P**	04 11 32.0	-1.0	
	comp=Z,70nm,1.3s								
COLA	**College**	**85.57**	**13**	*e*P		**P**	04 11 32.0	-1.0	
COLA				pmax		pmax			
	comp=Z,70nm,1.3s								
DLBC	**Dease Lake**	**85.64**	**23**	*e*P		**P**	04 11 33.0	-0.6	
	comp=Z,7.8nm,0.8s								
SCRK	**Sand Creek**	**85.66**	**14**	*e*P		**P**	04 11 33.7	0.0	
	comp=Z,12nm,0.8s								
IL1	**Eielson Array**	**85.68**	**13**	*e*P		**P**	04 11 31.6	-2.0	
IL1				*e*pP		**pW**	04 13 34.1	-0.9	
ILAR	**Eielson Array**	**85.68**	**13**	P		**P**	04 11 32.4	-1.2	
	comp=Z,9.5nm,0.5s,baz=222,slow=5.2,SNR=232								
ILAR				pP		**pP**	04 13 29.7	-2.7	
	comp=Z,1.5nm,1.0s,baz=226,slow=4.5,SNR=1.2								
ILAR				ScS		**S**	04 21 16.9	-2.9	
	comp=Z,0.8nm,0.8s,baz=210,slow=7.0,SNR=7.2								
ILB	**Eielson Array**	**85.68**	**13**	*e*P		**P**	04 11 32.3	-1.3	
	comp=Z,17nm,0.6s								
ILB				*e*pP		**pW**	04 13 33.7	-1.2	
POKR	**Poker Flat Res**	**85.87**	**13**	P		**P**	04 11 32.8	-1.7	
	baz=210								
TX31	**Lajitas Ar. Si**	**85.89**	**58**	*e*P		**P**	04 11 36.9	+1.3	
TXAR	**Lajitas Array**	**85.89**	**58**	P		**P**	04 11 36.8	+1.3	
	comp=Z,14nm,0.8s,baz=224,slow=5.2,SNR=66								
TXAR				pP		**pP**	04 13 35.3	+1.3	
	comp=Z,3.4nm,1.3s,baz=233,slow=8.9,SNR=1.2								
TASM	**ASL Pad, Albuq**	**85.97**	**52**	P		**P**	04 11 35.2	-0.7	
	baz=245								
TASM	**ASL Pad, Albuq**	**85.97**	**52**	P		**P**	04 11 36.1	+0.2	
	baz=245								
ANMO	**Albuquerque**	**85.97**	**52**	*e*P		**P**	04 11 36.6	+0.7	
	comp=Z,9.9nm,1.2s								
ANMO				*e*pP		**pW**	04 13 38.0	-0.4	
ANMO	**Albuquerque**	**85.97**	**52**	P		**P**	04 11 36.1	+0.2	
	baz=245								
PKDT	**Phuket**	**86.00**	**280**	P		**P**	04 11 38.2	+1.9	
MCMT	**McKenzie Canyo**	**86.08**	**40**	*e*P		**P**	04 11 37.2	+0.9	
MCMT				*e*pP		**pW**	04 13 38.1	+0.7	
XAN	**Xi'an**	**86.13**	**307**	P		**P**	04 11 37.4	+0.9	
XAN				pmax		pmax			
	comp=Z,110nm,1.1s								
XAN				pmax		pmax			
	comp=Z,270nm,3.5s								
XAN	**Xi'an**	**86.13**	**307**	*e*P		**P**	04 11 37.6	+1.1	
	comp=Z,111nm,1.0s								
HIA	**Hailar**	**86.19**	**325**	*e*P		**P**	04 11 37.3	+0.9	
	comp=Z,50nm,1.4s								
HIA	**Hailar**	**86.19**	**325**	*d iP*		**P**	04 11 36.7	+0.3	
HIA				pmax		pmax			
	comp=Z,22nm,1.2s								
BILL	**Bilibino**	**86.22**	**354**	*e*P		**P**	04 11 34.6	-1.5	
	comp=Z,36nm,1.0s								
BILL	**Bilibino**	**86.22**	**354**	*d iP*		**P**	04 11 35.9	-0.2	
BILL							04 15 09.0		
BILL				S		**S**	04 21 24.0	-0.9	
BILL				pmax		pmax			
	comp=Z,40nm,1.0s								
PHET	**Kaeng Krachan**	**86.39**	**285**	P		**P**	04 11 40.1	+2.0	
	comp=Z,58nm,0.8s,comp=Z,435nm								
DLMT	**Dillon**	**86.50**	**40**	*e*P		**P**	04 11 39.0	+0.9	
	comp=Z,5.5nm,1.0s								
DLMT				*e*pP		**pP**	04 13 37.4	+0.3	
PRP	**Porcupine Dome**	**86.62**	**13**	*e*P		**P**	04 11 37.2	-1.0	
	comp=Z,8.8nm,0.7s								
TPAW	**Teton Pass**	**86.63**	**42**	*e*P		**P**	04 11 39.3	+0.3	
TPAW				*e*pP		**pW**	04 13 40.7	-0.2	
REDW	**Red Top Meadow**	**86.64**	**42**	*e*P		**P**	04 11 39.7	+0.8	
REDW				*e*pP		**pW**	04 13 41.0	+0.1	
FXWY	**Fox Creek**	**86.65**	**42**	*e*P		**P**	04 11 40.3	+1.3	
FXWY				*e*pP		**pW**	04 13 40.8	-0.2	
SNOW	**Snow King Moun**	**86.75**	**42**	*e*P		**P**	04 11 39.4	-0.1	
	comp=Z,10.0nm,1.0s								
SNOW				*e*pP		**pW**	04 13 41.4	-0.1	
IMW	**Indian Meadow**	**86.83**	**42**	*e*P		**P**	04 11 40.9	+1.0	
	comp=Z,7.8nm,1.0s								
IMW				*e*pP		**pW**	04 13 41.9	+0.1	
S22A	**4UR Ranch, Cre**	**86.87**	**49**	*e*P		**P**	04 11 41.1	+0.8	
	comp=Z,9.5nm,1.2s								
S22A				*e*pP		**pP**	04 13 37.1	-2.4	
S22A	**4UR Ranch, Cre**	**86.87**	**49**	P		**P**	04 11 40.1	-0.2	
	baz=245								
MOOW	**Moose Ponds**	**86.89**	**42**	*e*P		**P**	04 11 40.7	+0.6	
MOOW				*e*pP		**pW**	04 13 41.6	-0.4	
O20A	**White River Ci**	**86.91**	**46**	*e*P		**P**	04 11 39.9	-0.3	
	comp=Z,34nm,1.8s								
O20A	**White River Ci**	**86.91**	**46**	P		**P**	04 11 40.5	+0.2	
	baz=244								
LOHW	**Long Hollow**	**86.91**	**42**	*e*P		**P**	04 11 40.4	+0.2	
LOHW				*e*pP		**pW**	04 13 42.5	+0.2	
EGAK	**Eagle**	**87.01**	**15**	*e*P		**P**	04 11 39.5	-0.3	
	comp=Z,57nm,1.5s								
FLWY	**Flagg Ranch**	**87.07**	**42**	*e*P		**P**	04 11 42.2	+1.3	
FLWY				*e*pP		**pW**	04 13 43.2	+0.3	
YHB	**Horse Butte**	**87.07**	**41**	*e*P		**P**	04 11 42.1	+1.1	
YHB				*e*pP		**pW**	04 13 44.2	+1.5	
HHC	**Hu-ho-hao-te**	**87.12**	**314**	*e*P		**P**	04 11 41.9	+0.8	
HHC				pP		pP	04 13 40.3	-0.4	
HHC				SKS		**SKSac**	04 21 18.6	+2.4	
HHC				S		**ScS**	04 21 40.3	+0.8	
HHC				pmax		pmax			
	comp=Z,51nm,1.2s								
HHC				pmax		pmax			
	comp=Z,120nm,5.5s								
UTTA	**Uttaradit**	**87.13**	**290**	P		**P**	04 11 43.3	+1.8	
	comp=Z,7.9nm,0.9s,comp=Z,76nm								
YMR	**Madison River**	**87.18**	**41**	*e*P		**P**	04 11 43.0	+1.5	
YMR				*e*pP		**pW**	04 13 44.7	+1.4	
BW06	**Boulder Array**	**87.20**	**43**	*e*P		**P**	04 11 40.4	-1.3	
	comp=Z,9.6nm,1.4s								
BW06	**Boulder Array**	**87.20**	**43**	P		**P**	04 11 41.7	+0.1	
	baz=243								
PD31	**Pinedale Array**	**87.20**	**43**	*e*P		**P**	04 11 41.8	+0.1	
	comp=Z,8.4nm,1.4s								
PD31				*e*pP		**pP**	04 13 41.3	+0.5	
PD31				*e*PP		**PP**	04 15 14.8	-1.2	
PDAR	**Pinedale Array**	**87.20**	**43**	*e*P		**P**	04 11 41.3	-0.3	
PDAR				*e*pP		**pP**	04 13 42.0	+1.2	
PDAR	**Pinedale Array**	**87.20**	**43**	P		**P**	04 11 41.8	+0.1	
	comp=Z,2.3nm,0.7s,baz=195,slow=2.8,SNR=23								
PDAR				pP		**pP**	04 13 41.3	+0.5	
	comp=Z,2.3nm,1.0s,baz=224,slow=5.0,SNR=6.4								
PDAR				PP		**PP**	04 15 14.8	-1.2	
	comp=Z,1.5nm,1.0s,baz=231,slow=7.1,SNR=5.1								
PDAR				PKKP		**PKKPdf**	04 29 27.2	+2.6	
	comp=Z,0.3nm,0.5s,baz=90,slow=4.6,SNR=4.5								
COLD	**Coldfoot**	**87.20**	**11**	*e*P		**P**	04 11 40.8	0.0	
	comp=Z,9.7nm,1.0s								
BOZ	**Bozeman (W)**	**87.21**	**40**	*e*P		**P**	04 11 42.6	+1.1	
BOZ				*e*pP		**pW**	04 13 43.2	-0.6	
BOZ	**Bozeman (W)**	**87.21**	**40**	*e*P		**P**	04 11 42.6	+1.1	
BOZ				*e**PP		**pW**	04 13 43.3	-0.6	
BOZ	**Bozeman (W)**	**87.21**	**40**	P		**P**	04 11 42.9	+1.5	
	baz=241								
H17A	**Grant Village**	**87.30**	**42**	*e*P		**P**	04 11 43.6	+1.5	
	comp=Z,3.9nm,0.8s								
H17A	**Grant Village**	**87.30**	**42**	P		**P**	04 11 44.0	+1.9	
	baz=242								
YHH	**Holmes Hill**	**87.31**	**41**	*e*P		**P**	04 11 42.9	+0.8	
YHH				*e*pP		**pW**	04 13 44.4	+0.5	
SRDT	**SRDT**	**87.32**	**286**	P		**P**	04 11 44.3	+1.9	
	comp=Z,60nm,1.1s,comp=Z,5µm								
SMCO	**Snowmass**	**87.38**	**48**	*e*P		**P**	04 11 43.3	+0.6	
	comp=Z,7.7nm,1.1s								
UTHA	**Uthaitani**	**87.41**	**287**	P		**P**	04 11 44.5	+1.6	
	comp=Z,16nm,0.9s,comp=Z,152nm								
LKWY	**Lake**	**87.49**	**42**	*e*P		**P**	04 11 45.4	+2.5	
LKWY				*e*pP		**pP**	04 13 42.2	-0.2	
LKWY	**Lake**	**87.49**	**42**	*e*P		**P**	04 11 45.4	+2.5	
LKWY				*e**PP		**pP**	04 13 42.2	-0.2	
FYU	**Fort Yukon**	**87.58**	**13**	*e*P		**P**	04 11 41.5	-1.0	
	comp=Z,13nm,1.0s								
KMI	**Kunming**	**87.73**	**297**	P		**P**	04 11 45.6	+1.1	
KMI				pmax		pmax			
	comp=Z,48nm,1.1s								
KMI				pmax		pmax			
	comp=Z,210nm,4.1s								
LNIG	**Linares**	**87.74**	**63**	*e*P		**P**	04 11 44.7	+0.4	
	comp=Z,28nm,1.0s								
SDCO	**Great Sand Dun**	**87.83**	**49**	*e*P		**P**	04 11 45.1	+0.3	
	comp=Z,5.4nm,1.3s								
SDCO	**Great Sand Dun**	**87.83**	**49**	P		**P**	04 11 44.5	-0.2	
	baz=246								
SUKH	**Sukhothai**	**87.87**	**289**	P		**P**	04 11 46.9	+1.9	
	comp=Z,12nm,0.7s								
UMPA	**Umpang Tak**	**88.16**	**288**	P		**P**	04 11 48.5	+2.1	
	comp=Z,13nm,1.0s								
MSTX	**Muleshoe**	**88.37**	**54**	*e*P		**P**	04 11 47.6	+0.5	
	comp=Z,9.9nm,0.8s								
MSTX	**Muleshoe**	**88.37**	**54**	P		**P**	04 11 47.3	+0.2	
	baz=247								
T25A	**Trinidad**	**88.38**	**50**	P		**P**	04 11 47.1	-0.2	
	baz=246								
RLMT	**Red Lodge**	**88.46**	**41**	P		**P**	04 11 48.8	+1.4	
	baz=243								
TOLK	**Toolik Lake Re**	**88.58**	**10**	*e*P		**P**	04 11 46.9	-0.3	
	comp=Z,11nm,0.9s								
TOLK	**Toolik Lake Re**	**88.58**	**10**	P		**P**	04 11 46.7	-0.5	
	baz=207								
Q24A	**Divide**	**88.58**	**48**	P		**P**	04 11 47.5	-0.8	
	baz=246								
ISCO	**Idaho Springs**	**88.59**	**47**	P		**P**	04 11 47.6	-0.7	
	baz=246								
CM31	**Chiang Mai Arr**	**88.81**	**290**	*e*P		**P**	04 11 50.6	+1.2	
	comp=Z,48nm,1.0s								
CMAR	**Chiang Mai Arr**	**88.81**	**290**	P		**P**	04 11 50.6	+1.2	
	comp=Z,27nm,0.9s,baz=109,slow=2.9,SNR=62								
CMAR				pP		**pP**	04 13 46.8	-2.4	
	comp=Z,1.6nm,0.3s,baz=117,slow=3.4,SNR=2.2								
CMAR				PP		**PP**	04 15 30.9	+2.1	
	comp=Z,1.0nm,0.3s,baz=120,slow=4.2,SNR=4.1								
N23A	**Red Feather La**	**88.82**	**46**	*e*P		**P**	04 11 50.1	+0.8	
	comp=Z,6.5nm,1.0s								
N23A	**Red Feather La**	**88.82**	**46**	P		**P**	04 11 49.3	+0.1	
	baz=245								
CMMT	**Chiang Mai**	**88.92**	**290**	P		**P**	04 11 50.9	+1.0	
	comp=Z,52nm,1.2s,comp=Z,558nm								
CHTO	**Chiang Mai**	**88.92**	**290**	*e*P		**P**	04 11 51.1	+1.2	
	comp=Z,37nm,0.9s								
CHTO	**Chiang Mai**	**88.92**	**290**	*e*P		**P**	04 11 51.1	+1.2	
CHTO				pmax		pmax			
	comp=Z,37nm,0.9s								
CD2	**Chengdu**	**88.95**	**303**	P		**P**	04 11 50.8	+1.0	
CD2				pmax		pmax			
	comp=Z,40nm,0.5s								
SYO	**Syowa Base**	**89.36**	**193**	⇓*iP*		**P**	04 11 49.4	-1.5	
SYO	**Syowa Base**	**89.36**	**193**	⇓*iPcP*		**P**	04 11 50.2	-0.7	
EPYK	**Eagle Plains**	**89.40**	**16**	*e*P		**P**	04 11 50.7	-0.4	
	comp=Z,15nm,0.9s								
EPYK	**Eagle Plains**	**89.40**	**16**	P		**P**	04 11 50.6	-0.4	
	baz=219								
JCT	**Junction City**	**89.42**	**58**	*e*P		**P**	04 11 51.4	-0.6	
	comp=Z,8.8nm,0.8s								
JCT	**Junction City**	**89.42**	**58**	*e*P		**P**	04 11 51.4	-0.6	
JCT				pmax		pmax			
	comp=Z,9.0nm,0.8s								
JCT	**Junction City**	**89.42**	**58**	P		**P**	04 11 51.6	-0.4	
	baz=249								
AMTX	**Amarillo**	**89.55**	**53**	*e*P		**P**	04 11 52.0	-0.6	
	comp=Z,11nm,1.0s								
AMTX	**Amarillo**	**89.55**	**53**	P		**P**	04 11 52.3	-0.3	
	baz=248								
ABTX	**Abilene, Hawle**	**90.31**	**56**	*e*P		**P**	04 11 56.4	+0.3	
	comp=Z,27nm,1.1s								
ABTX	**Abilene, Hawle**	**90.31**	**56**	P		**P**	04 11 56.3	+0.3	
	baz=249								
LZH	**Lanzhou**	**90.76**	**308**	*e*P		**P**	04 11 59.8	+1.6	
LZH				pP		pP	04 13 59.5	+0.5	
LZH				sP		sP	04 14 52.6	-1.7	
LZH				PP		**PP**	04 15 44.4	+0.4	
LZH				pmax		pmax			
	comp=Z,62nm,1.1s								
LZH				pmax		pmax			
	comp=Z,210nm,4.9s								
SNAA	**Sanae**	**90.81**	**179**	P		**P**	04 11 57.5	-0.2	
SNAA	**Sanae**	**90.81**	**179**	*e*P		**P**	04 11 57.6	-0.2	
	comp=Z,14nm,1.2s								
SNAA	**Sanae**	**90.81**	**179**	*e*P		**P**	04 11 57.6	-0.1	
SNAA				pmax		pmax			
	comp=Z,15nm,1.2s								
VNA3	**Neumayer Olymp**	**90.95**	**176**	P		**P**	04 11 57.7	-0.6	
LAO	**LASA Array**	**91.06**	**41**	*e*P		**P**	04 12 00.1	+0.9	
	comp=Z,15nm,1.3s								
LAO	**LASA Array**	**91.06**	**41**	P		**P**	04 11 59.7	+0.5	
	baz=245								
GO06	**Curarrehue**	**91.32**	**132**	*e*P		**P**	04 12 02.0	+1.2	
	comp=Z,15nm,1.0s								
435B	**Jarrell**	**91.32**	**58**	P		**P**	04 12 00.7	0.0	
	baz=250								
VNA2	**Neumayer--Watz**	**91.39**	**177**	P		**P**	04 12 00.9	+0.6	
	baz=185,slow=3.1								
RSSD	**Black Hills**	**91.42**	**44**	*e*P		**P**	04 12 01.5	+0.4	
	comp=Z,4.7nm,0.8s								
RSSD	**Black Hills**	**91.42**	**44**	*e*P		**P**	04 12 01.5	+0.4	
RSSD				pmax		pmax			
	comp=Z,5.0nm,0.8s								
RSSD	**Black Hills**	**91.42**	**44**	P		**P**	04 12 01.9	+0.7	
	baz=247								
PLCA	**Paso Flores**	**91.48**	**134**	P		**P**	04 12 02.1	+0.7	
	comp=Z,6.3nm,0.9s,baz=266,slow=5.2,SNR=8.9								
OGNE	**Ogallala**	**91.56**	**47**	P		**P**	04 12 02.3	+0.6	
	baz=248								
VNA1	**Neumayer--Stat**	**91.62**	**177**	P		**P**	04 12 01.3	-0.1	
INK	**Inuvik**	**91.68**	**15**	P		**P**	04 12 00.5	-0.9	
	comp=Z,17nm,1.0s,baz=208,slow=4.9,SNR=52								
WMOK	**Wichita Mounta**	**91.72**	**54**	P		**P**	04 12 02.2	-0.3	
	baz=250								
WHTX	**Lake Whitney,**	**91.83**	**57**	P		**P**	04 12 03.1	0.0	
	baz=250								
ULN	**Ulaanbaatar**	**92.99**	**319**	*e*P		**P**	04 12 08.2	+0.1	

KSH PP **PP** **04 18 34.8 +6.9**
KSH SS SS 04 33 35.8 +5.4
KSH AMB AMB
comp=Z,60nm,4.8s
TKM2 Tokmak 2 113.44 310 P **PKiKP** **04 17 28.3 -1.0**
SNR=11
KZA Kyzart 113.66 309 P **PKiKP** **04 17 30.1 +0.1**
SNR=6.4
UCH Uchtor 114.21 309 P PKPdf 04 17 31.0 -0.1
SNR=11
AAK Ala-Archa 114.24 309*d i* PKIKP PKPdf 04 17 29.9 -0.9
AAK Ala-Archa 114.24 309 PKP PKPdf 04 17 30.3 -0.5
comp=Z,3.8nm,0.7s,baz=151,slow=3.5,SNR=9.1
USP Ospenovka 114.26 310 P PKPdf 04 17 30.0 -0.6
SNR=6.0
EKS2 Erkin-Say 114.77 309 P PKPdf 04 17 31.6 -0.1
SNR=5.2
AML Almayashu 114.82 309 P PKPdf 04 17 31.8 -0.5
SNR=11
BVAR Borovoye Array 116.68 321 PKP **PKPdf** **04 17 34.4 -0.5**
comp=Z,9.3nm,0.7s,baz=90,slow=1.5,SNR=40
BVAR PP **PP** **04 18 54.0 +0.9**
comp=Z,2.2nm,0.8s,baz=79,slow=7.7,SNR=4.4
BRVK Borovoye 116.74 321 *e*PKPdf **PKPdf** **04 17 34.2 -0.8**
BRVK *e*PP **PP** **04 18 49.5 -3.9**
BRVK Borovoye 116.74 321*d i* PKIKP **PKPdf** **04 17 34.0 -1.0**
PTGA Pitinga 116.76 100 PKKPbc PKKPbc 04 28 05.5 +1.4
comp=Z,2.5nm,0.5s,baz=59,slow=4.2,SNR=6.0
KK31 Karatay Array 117.18 310 *e*PKPdf **PKPdf** **04 17 35.5 -0.7**
KK31 Karatay Array 117.18 310 *e*PKIKP **PKPdf** **04 17 35.5 -0.7**
KKAR Karatay Array 117.18 310 *e*PKPdf **PKPdf** **04 17 35.5 -0.7**
KKAR Karatay Array 117.18 310 *e*PKIKP **PKPdf** **04 17 35.5 -0.7**
GAR Garm 117.31 305 *e*PKPdf **PKPdf** **04 17 36.7 -0.1**
GAR *e*PP **PP** **04 18 54.5 -3.6**
GAR Garm 117.31 305 *e*PKIKP **PKPdf** **04 17 36.7 -0.1**
GAR *e* 04 18 54.5
KBL Kabul 118.17 300 *e*PKPdf **PKiKP** **04 17 38.7 0.0**
KBL *e*PP **PP** **04 18 58.4 -5.8**
KBL Kabul 118.17 300 *e*PKIKP **PKiKP** **04 17 38.7 0.0**
CHGR Chuyangaron 118.21 305 *e*PKPdf **PKPdf** **04 17 38.4 -0.1**
BDFB Brasilia 120.95 121 PKP **PKiKP** **04 17 45.7 +1.1**
comp=Z,1.6nm,0.7s,baz=180,slow=4.0,SNR=2.2
BDFB PKKPbc **PKKPbc** **04 27 49.7 0.0**
comp=Z,4.8nm,0.8s,baz=90,slow=4.0,SNR=8.0
SVE Sverdlovsk 121.46 326 *e*PKIKP **PKPdf** **04 17 43.7 -0.3**
SVE pmax pmax
comp=Z,22nm,1.0s
MSEY Mahe Island 122.38 252 *e*PKPdf **PKPdf** **04 17 45.9 -1.2**
MSEY Mahe Island 122.38 252 *i* PKIKP **PKiKP** **04 17 47.4 0.0**
ARU Arti 122.67 326 *e*PKPdf **PKPdf** **04 17 45.8 -0.6**
ARU *e*PP **PP** **04 19 29.4 -3.9**
ARU Arti 122.67 326 *i* PKIKP **PKPdf** **04 17 45.7 -0.6**
ARU 04 24 05.1
ABKAR Akbulak array 123.77 318 *e*PKPdf **PKPdf** **04 17 48.3 -0.4**
ABKAR *e*PP **PP** **04 19 37.9 -3.0**
SCO Scoresbysund 125.33 9 *e*PKPdf **PKPdf** **04 17 50.5 -0.5**
SCO Scoresbysund 125.33 9 *e*PKIKP **PKPdf** **04 17 50.5 -0.5**
ARA0 ARCESS Array S 126.10 350 *e*PKPdf **PKPdf** **04 17 52.0 -0.6**
ARCES ARCESS Array B 126.10 350 PKP **PKPdf** **04 17 52.0 -0.6**
ARCES ARCESS Array B 126.10 350 PKP **PKPdf** **04 17 52.0 -0.6**
comp=Z,11nm,0.8s,baz=18,slow=1.2,SNR=24
PRGR Permogore 126.34 336 *e*PKIKP **PKPdf** **04 17 50.9 -2.3**
PRGR pmax pmax
comp=Z,9.0nm,0.6s
GEYT Alibeck 126.91 304 PKP **PKiKP** **04 17 55.4 -0.3**
comp=Z,16nm,0.8s,baz=264,slow=1.5,SNR=18
GEYT PP **PP** **04 20 04.0 +2.0**
comp=Z,1.7nm,0.4s,baz=97,slow=6.3,SNR=4.0
GYA0B ALIBECK ARRAY 126.91 304 *e*PKPdf **PKiKP** **04 17 55.5 -0.2**
BOSA Boshof 128.59 207 PKP **PKiKP** **04 17 59.5 0.0**
comp=Z,6.3nm,0.9s,baz=20,slow=2.6,SNR=6.0
KLMR Klimovskoe 129.16 337 *e*PKIKP **PKPdf** **04 17 53.7 -4.9**
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 129.16 337 *e*PKPdf **PKPdf** **04 17 53.7 -4.9**
KLMR AMP 04 17 59.4
comp=Z,18nm,1.4s
KLMR *e*PP **pPKPdf** **04 20 08.5 +1.3**
KLMR *e*SKP 04 20 30.3
FIA0 FINESS Array S 132.98 344 *e*PKPpre PKPpre 04 17 50.5
FIA0 *e*PKPdf **PKPdf** **04 18 05.2 -0.6**
FIA0 *e*PP **SKPbc** **04 20 43.5 +1.2**
FIA0 FINESS Array S 132.98 344 *e*PKHKP PKPpre 04 17 50.5
FIA0 *e* 04 18 05.2
FIA0 *e* 04 20 43.5
FINES FINESS Array B 132.98 344 PKhKP PKPpre 04 17 50.5
comp=Z,0.6nm,0.5s,baz=50,slow=2.4,SNR=5.5
FINES PKP **PKPdf** **04 18 05.2 -0.6**
comp=Z,4.1nm,0.6s,baz=55,slow=3.2,SNR=14
FINES SKPbc **SKPbc** **04 20 43.5 +1.2**
comp=Z,13nm,0.8s,baz=64,slow=4.4,SNR=18
MATP Matopo 133.82 216 PKP **PKPdf** **04 18 08.5 -0.4**
comp=Z,5.4nm,0.7s,baz=184,slow=2.4,SNR=11
VRH Novokhopyorsk 133.89 326 *e*PKIKP **PKPdf** **04 18 05.8 -2.0**
VRH *e* 04 20 45.4
VRH pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 134.10 333↑ *i* PKIKP **PKPdf** **04 18 07.9 -0.2**
OBN *i* 04 20 47.9
OBN pmax pmax
comp=Z,7.0nm,0.5s
LPSR Galich'ya Gora 134.56 329 *e*PKIKP **PKPdf** **04 18 08.7 -0.3**
LPSR *e* 04 20 47.6
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 135.23 327 *e*PKIKP **PKPdf** **04 18 09.2 -1.1**
VSR *e* 04 20 49.4
VSR pmax pmax
comp=Z,10.0nm,1.0s
NC303 NORSAR Array S 135.96 353 *e*PKPpre PKPpre 04 18 00.3
NC303 *e*PKPdf **PKPdf** **04 18 10.8 -0.6**
NB2 NORSAR Subarra 136.16 353 PKP PKPpre 04 18 00.1
comp=Z,3.0nm,0.8s,baz=17,slow=2.6
NB200 NORSAR Array S 136.16 353 *e*PKPpre PKPpre 04 18 00.3
NB200 *e*PKPdf **PKPdf** **04 18 11.8 0.0**
NB200 *e*SKPbc **SKPbc** **04 20 53.1 +0.6**
NOA NORSAR Array B 136.16 353 PKHKP PKPpre 04 18 00.3
comp=Z,1.5nm,0.8s,baz=21,slow=3.9,SNR=9.5
NOA PKP **PKPdf** **04 18 11.8 0.0**
comp=Z,1.6nm,0.6s,baz=8.9,slow=3.2,SNR=16
NOA SKPbc **SKPbc** **04 20 53.1 +0.6**
comp=Z,5.4nm,1.0s,baz=16,slow=4.6,SNR=12
KBZ Khabaz 136.65 316 PKP **PKPdf** **04 18 13.7 +0.5**
comp=Z,5.0nm,0.9s,baz=66,slow=3.9,SNR=6.7
KBZ SKPbc **SKPbc** **04 20 55.0 +0.7**
comp=Z,5.0nm,1.0s,baz=70,slow=4.5,SNR=4.0
IDID Didziasalis 137.83 339 *e*P PKPdf 04 18 04.8 -10
ISAL Salakas 137.83 339 *e*P PKPdf 04 18 06.5 -8.5
IIGN Ignalina 137.97 339 *e*P PKPdf 04 18 07.0 -8.3
LSZ Lusaka 138.03 220 *e*PKPpre PKPpre 04 18 08.5
LSZ *e*PKPdf **PKPdf** **04 18 17.3 +0.5**
LSZ *e*PKiKP **PKiKP** **04 18 17.4 -1.6**
LSZ *e*SKPbc **SKiKP** **04 21 01.4 -1.7**
LSZ Lusaka 138.03 220 *e*PKHKP PKPpre 04 18 08.5
LSZ *e* 04 18 17.3
LSZ Lusaka 138.03 220 PKhKP PKPpre 04 18 08.5
comp=Z,1.1nm,0.5s,baz=180,slow=1.0,SNR=2.4
LSZ PKP **PKPdf** **04 18 17.0 +0.2**
comp=Z,5.8nm,0.8s,baz=129,slow=2.0,SNR=9.2
LSZ SKPbc **SKiKP** **04 21 01.4 -1.7**
comp=Z,3.1nm,0.7s,baz=101,slow=2.2,SNR=6.2
SUW Suwalki 140.08 340 *e*PKPpre PKPpre 04 18 10.8
TSUM Tsumeb 140.11 204 *e*PKPpre PKPpre 04 18 10.3
TSUM *e*PKPdf **PKPdf** **04 18 17.8 -2.6**
KMBO Kilima Mbogo 140.21 246 *e*PKPpre PKPpre 04 18 10.3
KMBO Kilima Mbogo 140.21 246 PKhKP PKPpre 04 18 15.9
comp=Z,2.5nm,0.7s,baz=127,slow=20,SNR=8.1
KMBO PKP **PKPdf** **04 18 20.5 -0.4**
comp=Z,7.1nm,0.9s,baz=39,slow=1.7,SNR=6.1
KMBO SKPbc **SKiKP** **04 21 06.7 -1.1**
comp=Z,3.0nm,0.9s,baz=45,slow=6.1,SNR=5.4
AKASG Malin Array Be 140.37 332 PKhKP PKPpre 04 18 12.6
comp=Z,3.7nm,0.4s,baz=43,slow=4.1,SNR=16
AKASG SKPbc **SKPbc** **04 21 04.9 +0.5**
comp=Z,2.1nm,0.6s,baz=35,slow=2.8,SNR=6.4
AKBB Malin Array Si 140.37 332 *e*PKPpre PKPpre 04 18 12.7
AKBB Malin Array Si 140.37 332 *e*PKHKP PKPpre 04 18 12.7
KIEV Kiev 140.38 332 *e*PKPpre PKPpre 04 18 12.6
KIEV Kiev 140.38 332↑ *i*P **PKPdf** **04 18 12.6 -7.2**
KIEV Kiev 140.38 332 *e*PKHKP PKPpre 04 18 12.6
AK11 Malin Array Si 140.41 332 *e*PKPpre PKPpre 04 18 12.0
SNOP Sinop 142.46 317 *e*PKPdf **PKPdf** **04 18 21.7 -2.1**
DIKM Dikmen 142.61 317↑ *i*P **PKPdf** **04 18 22.4 -1.7**
BEL Belsk 142.70 340 *e*PKP **PKPdf** **04 18 21.7 -2.2**
BEL Belsk 142.70 340 *e*PKIKP **PKPdf** **04 18 21.7 -2.2**
BSEG Bad Segeberg 143.20 351 *e*PKPbc PKPbc 04 18 22.8 -0.2
baz=15,slow=2.9
LVV L'vov 143.21 336 *e*PKHKP PKPab 04 18 22.4 -0.4
BZK Bozkurt 143.26 318↓ *i*P PKPbc 04 18 24.2 +0.6
IAS Iasi 143.65 330↑ *i*P PKPab 04 18 24.5 0.0
IAS Iasi 143.65 330↑↑ PKIKP PKPab 04 18 24.5 0.0
KWP Kalwaria Pacla 143.87 337 *e*PKP PKPbc 04 18 25.2 0.0
KWP Kalwaria Pacla 143.87 337 *e*PKPbc PKPbc 04 18 25.1 -0.2
KWP Kalwaria Pacla 143.87 337 *e*PKIKP PKPab 04 18 25.3 0.0
RUE Ruedersdorf 143.99 347 *e*PKPbc PKPbc 04 18 25.5 0.0
baz=15,slow=2.9
WME Myrndd Eilian 144.07 6 *e*P PKPbc 04 18 24.9 -0.8
PRAR RÁSCA 144.15 331↑ *i*P PKPbc 04 18 26.0 -0.2
WLF1 Llynfaes 144.17 6 *e*P PKPbc 04 18 25.5 -0.5
YAHY KAYSERI_Yahyal 144.17 311 *i* P **PKPdf** **04 18 28.0 +0.9**
YRC Rhoscolyn 144.19 6 *e*P PKPbc 04 18 25.3 -0.8
AVNS Nevsehir-Avano 144.23 313 *i* P **PKPab** **04 18 27.5 +0.3**
BIR Birlad 144.27 329↑ *i*P **PKPab** **04 18 27.5 +0.6**
BIR Birlad 144.27 329↑↑ PKIKP **PKPab** **04 18 27.5 +0.6**
LBWR Ladybower, Pea 144.27 3 *e*P PKPbc 04 18 25.9 -0.5
YLL Llanberis 144.34 6 *e*P PKPbc 04 18 25.9 -0.7
AKO Adana 144.38 310 *i* P **PKPab** **04 18 28.3 +0.6**
TLCR 144.39 326↓ *i*P **PKPab** **04 18 27.4 0.0**
TLCR 144.39 326↓↓ PKIKP **PKPab** **04 18 27.4 0.0**
BUR08 Bucovina Ar. S 144.41 332 *e*PKPbc **PKPab** **04 18 27.6 0.0**
OJC Ojcow 144.41 340 *e*PKP PKPbc 04 18 26.8 -0.1
OJC Ojcow 144.41 340 *e*PKPbc PKPbc 04 18 26.8 -0.1
OJC Ojcow 144.41 340 *e*PKIKP PKPbc 04 18 26.8 -0.1
BURAR Bucovina Array 144.42 332↑ *i*P **PKPab** **04 18 27.5 -0.1**
BURAR Bucovina Array 144.42 332↑↑ PKIKP **PKPab** **04 18 27.5 -0.1**
YURE YUREGIR 144.50 309 *i* P **PKPab** **04 18 28.8 +0.6**
RETH Rethem/Aller, 144.50 352 *e*PKPbc PKPbc 04 18 27.1 +0.1
baz=15,slow=2.9
BIZ Bicaz 144.52 331↓↓ *i*P **PKPab** **04 18 28.0 +0.1**
TESR Tescani 144.57 330↓↓ *i*P PKPbc 04 18 27.6 +0.1
BR101 Keskin Array S 144.63 315 *e*PKPdf PKPbc 04 18 28.0 -0.1
BR131 Keskin Array S 144.63 315 *e*PKPdf **PKPdf** **04 18 27.3 -0.6**
BRTR Keskin Array B 144.63 315 PKP PKPbc 04 18 28.0 -0.1
comp=Z,49nm,0.8s,baz=138,slow=4.0,SNR=266
NRDL Niedersach Rie 144.63 351 *e*PKPbc PKPbc 04 18 27.4 0.0
baz=15,slow=2.9
FOEL Foel Wylfa 144.68 5 *e*P **PKPdf** **04 18 27.3 0.0**
LLW Llanuwychllyn 144.68 6 *e*P **PKPdf** **04 18 27.0 -0.3**
CFR Carcaliu 144.75 327↑ *i*P PKPbc 04 18 28.3 +0.2
CFR Carcaliu 144.75 327↑↑ PKIKP PKPbc 04 18 28.3 +0.2
PETR Petresti 144.84 328↓ *i*P **PKPab** **04 18 30.3 +1.2**
UZH Uzhgorod 144.84 336*i e*PKIKP **PKPdf** **04 18 26.6 -1.1**
ASSE Asse, Remlinge 144.90 350 *e*PKPbc PKPbc 04 18 28.3 +0.1
baz=15,slow=2.9
KSP Ksiaz 144.90 344 *e*PKP PKPbc 04 18 28.3 -0.1
KSP Ksiaz 144.90 344 *e*PKIKP PKPbc 04 18 28.3 -0.1
ODBI Odobesti 144.90 328↓ *i*P **PKPab** **04 18 29.8 +0.4**
NIE Niedzica 144.93 339 *e*PKP **PKPab** **04 18 29.0 -0.4**
NIE Niedzica 144.93 339 *e*PKIKP **PKPab** **04 18 29.0 -0.4**
GULE Gulek 144.94 311 *i* P **PKPab** **04 18 29.8 -0.3**
CWF Charnwood Fore 144.96 3 *e*P **PKPdf** **04 18 27.6 -0.2**
CMDR Camlidere-ANKA 145.01 317 *i* P **PKPbc** **04 18 29.3 +0.1**
PLOR Plostina 145.04 329↓↓ *i*P **PKPbc** **04 18 28.9 -0.1**
PLOR Plostina 145.04 329↓↓ PKIKP **PKPbc** **04 18 28.9 -0.1**
AKSY AKSARAY - Alti 145.05 313 *i* P **PKPbc** **04 18 29.6 +0.2**
HLM1 Long Mynd 145.07 5 *e*P **PKPdf** **04 18 28.3 +0.3**
TIRR Tirgusor 145.09 326 *e*PKPdf **PKPbc** **04 18 29.4 +0.3**
TIRR Tirgusor 145.09 326↑↑ *i*P **PKPbc** **04 18 29.1 0.0**
TIRR Tirgusor 145.09 326↑↑ PKIKP **PKPbc** **04 18 29.2 +0.1**
BCAM Yenicaga 145.11 318 *i* P **PKPdf** **04 18 28.2 -0.4**
IBBN Ibbenburen 145.12 353 *e*PKPbc **PKPbc** **04 18 29.2 +0.2**
baz=15,slow=2.9
BMR Baia Mare 145.12 334↓↓ *i*P **PKPbc** **04 18 29.5 +0.4**
BMR Baia Mare 145.12 334↓↓ PKIKP **PKPbc** **04 18 29.5 +0.4**
ANTO Ankara 145.12 316 *e*PKPdf **PKPdf** **04 18 28.7 +0.1**
ANTO Ankara 145.12 316 *e*PKIKP **PKPdf** **04 18 28.7 +0.1**
BR231 Keskin MP Arra 145.15 316 *e*PKPdf **PKPdf** **04 18 28.8 +0.1**
TRPA Tarpa 145.15 335↓↓ *i*P **PKPbc** **04 18 29.3 +0.1**
HWQ Hawqa 145.18 305 *e*P **PKPbc** **04 18 29.9 0.0**
HARR Harsova 145.19 326↓↓ *i*P **PKPab** **04 18 30.0 -0.5**
HARR Harsova 145.19 326↓↓ PKP2 **PKPab** **04 18 30.0 -0.5**
TLB Topalu 145.20 326↓↓ *i*P **PKPbc** **04 18 29.7 +0.3**
TLB Topalu 145.20 326↓↓ PKIKP **PKPbc** **04 18 29.7 +0.3**
ARCR ARCALIA 145.21 332↑↑ *i*P **PKPab** **04 18 30.0 -0.5**
GRER 145.21 328↓↓ *i*P **PKiKP** **04 18 37.8 +5.2**
CLZ Clausthal 145.22 350 *e*PKPbc **PKPbc** **04 18 29.7 +0.4**
baz=15,slow=2.9
CLL Collm 145.25 347 *e*PKPdf **PKPbc** **04 18 29.6 +0.1**
CLL Collm 145.25 347 *e*PKPbc **PKPbc** **04 18 29.5 +0.1**
baz=15,slow=2.9
CLL Collm 145.25 347↓↓ *i*PKPbc **PKPbc** **04 18 29.5 +0.1**
comp=Z,97nm,0.7s
CLL *i* PKPab **PKPab** **04 18 30.4 -0.1**
CLL Collm 145.25 347↓↓ *i*PKIKP **PKPbc** **04 18 29.5 +0.1**
CLL *i* 04 18 30.4
CLL pmax pmax
comp=Z,97nm,0.7s
MFTR Murfatlar 145.27 325↑↑ *i*P **PKPab** **04 18 30.3 -0.5**
OKC Ostrava-Krasne 145.27 341 *e*PKP **PKPbc** **04 18 29.5 0.0**
OKC *ex* x 04 18 44.3
OKC Ostrava-Krasne 145.27 341 *e*PKIKP **PKPbc** **04 18 29.5 0.0**
UPC Upice 145.28 344 *e*PKP **PKPbc** **04 18 29.9 +0.4**
UPC Upice 145.28 344 *e*PKP2 **PKPbc** **04 18 29.9 +0.4**
DPC Dobruska-Polom 145.34 343 *e*PKP **PKPbc** **04 18 30.2 +0.4**
DPC Dobruska-Polom 145.34 343 *e*PKP2 **PKPbc** **04 18 30.2 +0.4**
KKUL Konya-Kulu 145.38 315 *i* P **PKPbc** **04 18 29.9 -0.5**
YIGI Dzce 145.42 318 *i* P **PKPbc** **04 18 30.2 -0.1**
RSBS Rosebush, Pemb 145.45 7 *e*P **PKPdf** **04 18 29.1 +0.4**
KIBS BOLU 145.46 317 *i* P **PKPdf** **04 18 29.5 +0.3**
BRG Berggiesshubel 145.46 346 *e*PKP **PKPdf** **04 18 29.1 +0.4**
comp=Z,53nm,0.8s
BRG *i* 04 18 37.2
comp=Z,12nm,0.7s
BRG Berggiesshubel 145.46 346 *e*PKPbc **PKPbc** **04 18 30.2 +0.2**
baz=15,slow=2.9
BRG Berggiesshubel 145.46 346 *e*PKIKP **PKPdf** **04 18 29.1 +0.4**
BRG pmax pmax
comp=Z,53nm,0.8s
KRLC Kraliky 145.46 343 *e*PKP **PKPbc** **04 18 30.4 +0.3**
KRLC Kraliky 145.46 343 *e*PKP2 **PKPbc** **04 18 30.4 +0.3**
MORC Moravsky Berou 145.51 342 *e*PKPdf **PKPbc** **04 18 30.1 -0.1**
MORC Moravsky Berou 145.51 342↑↑ *i*P **PKPbc** **04 18 30.2 -0.1**
MORC Moravsky Berou 145.51 342↑↑ PKIKP **PKPbc** **04 18 30.2 -0.1**
MORC Moravsky Berou 145.51 342 *e*PKP **PKPbc** **04 18 30.4 +0.1**
PGOR Pogoanele 145.53 327↑↑ *i*P **PKPab** **04 18 32.1 +0.3**
BHL Bhannes 145.54 305 *e*P **PKPbc** **04 18 31.1 +0.2**
FBE Freiberg 145.54 347 *e*PKPbc **PKPbc** **04 18 30.9 +0.6**
baz=15,slow=2.9
WTSB Winterswijk 145.56 354 *e*PKP **PKPbc** **04 18 30.1 -0.1**
AMRR Amara 145.56 327↑↑ *i*P **PKPdf** **04 18 28.6 -0.4**
AMRR Amara 145.56 327 *e*PKIKP **PKPbc** **04 18 30.2 -0.3**
DOPR Dopca 145.57 330↑↑ *i*P **PKPbc** **04 18 31.2 +0.7**
GTTG Gyttingen 145.57 351 *e*PKPbc **PKPbc** **04 18 30.6 +0.3**
baz=15,slow=2.9
MCH1 Michaelchurch 145.58 5 *e*P **PKPbc** **04 18 29.9 -0.5**
NEUB Neuenburg 145.59 349 *e*PKPbc **PKPbc** **04 18 30.6 +0.2**
baz=15,slow=2.9
ISR Istrita 145.61 328↑↑ *i*P **PKPbc** **04 18 31.4 +0.7**
ISR Istrita 145.61 328↑↑ PKP2 **PKPbc** **04 18 31.4 +0.7**
QRWL Qaraoun 145.63 304 *e*P **PKPbc** **04 18 31.7 +0.5**
PVCC Panska Ves 145.63 345 *e*PKP **PKPbc** **04 18 31.1 +0.6**
PVCC Panska Ves 145.63 345 *e*PKP2 **PKPbc** **04 18 31.1 +0.6**
ICOR Ion Corvin 145.64 326↓↓ *i*P **PKPbc** **04 18 31.4 +0.7**
SHBL Chebaa 145.65 304 *e*P **PKPbc** **04 18 31.9 +0.5**
MLR Muntele Rosu 145.65 329 *e*PKPdf **PKPdf** **04 18 29.8 +0.4**
MLR Muntele Rosu 145.65 329↑↑ *i*P **PKPbc** **04 18 31.0 +0.1**
MLR Muntele Rosu 145.65 329 *e*PKIKP **PKPdf** **04 18 29.8 +0.4**
DQRL Deir Qamar 145.67 304 *e*P **PKPbc** **04 18 31.8 +0.5**
KIZK Mersin 145.73 310 *i* P **PKPbc** **04 18 31.2 0.0**
MONM Monmouth 145.75 5 *e*P **PKPbc** **04 18 30.4 -0.4**
CJR Cluj-Napoca 145.82 333↑↑ *i*P **PKPbc** **04 18 31.6 +0.3**
CJR Cluj-Napoca 145.82 333↑↑ PKP2 **PKPbc** **04 18 31.6 +0.3**
STRD Stroud 145.86 4 *e*P **PKPbc** **04 18 30.6 -0.5**
SECR 145.91 328↑↑ *i*P **PKPbc** **04 18 31.8 +0.3**
AUMIH MIHALICIK 145.99 317 *i* P **PKPdf** **04 18 30.1 -0.1**
LTVH Ltavrtes, Hu 146.01 335↓↓ *e*PKiKP **PKPbc** **04 18 32.0 +0.3**
MBAR Mbarara 146.03 241 PKPbc **PKPbc** **04 18 33.2 +0.2**
comp=Z,50nm,0.8s,baz=135,slow=10,SNR=15
EREN Erenkoy 146.09 308 *i* P **PKPbc** **04 18 32.8 +0.5**
VOIR 146.12 330↓↓ *i*P **PKPbc** **04 18 31.6 -0.6**
VOIR 146.12 330↓↓ PKIKP **PKPbc** **04 18 31.6 -0.6**
PRU Pruhonice 146.14 345 *e*PKP **PKPbc** **04 18 32.3 +0.3**
PRU *ex* x 04 18 34.3
PRU Pruhonice 146.14 345 *e*PKP2 **PKPbc** **04 18 32.3 +0.3**
DRGR 146.15 334↓↓ *i*P **PKPbc** **04 18 32.2 0.0**
DRGR 146.15 334↓↓ PKP2 **PKPbc** **04 18 32.2 0.0**
GOPC GO Pecny, Ondr 146.15 345 *e*PKP **PKPbc** **04 18 32.3 +0.3**
GOPC GO Pecny, Ondr 146.15 345 *e*PKP2 **PKPbc** **04 18 32.3 +0.3**
SWN1 Swindon 146.15 4 *e*P **PKPbc** **04 18 31.8 -0.2**
MOX Moxa 146.16 349 *e*PKPbc **PKPbc** **04 18 32.1 0.0**
baz=15,slow=2.9
BATH Bath 146.18 4 *e*P **PKPdf** **04 18 29.4 -0.5**
VRAC Vranov 146.21 342↑↑ *i*P **PKPbc** **04 18 32.3 +0.1**
VRAC Vranov 146.21 342↑↑ PKP2 **PKPbc** **04 18 32.3 +0.1**
VRAC Vranov 146.21 342 *e*PKP **PKPbc** **04 18 32.3 +0.1**
PLN Plauen 146.21 348 *e*PKPbc **PKPbc** **04 18 32.4 +0.2**
baz=15,slow=2.9
TANN Tannenbergstha 146.21 347 *e*PKPbc **PKPbc** **04 18 32.5 +0.2**
baz=15,slow=2.9
VYHS Vyhne 146.22 339 *e*PKP2 **PKPbc** **04 18 32.4 +0.1**
VYHS Vyhne 146.22 339 *e*PKP **PKPbc** **04 18 32.4 +0.1**
KDHN Kadinhani 146.25 314 *i* P **PKPdf** **04 18 30.8 +0.2**
JAVC Velka Javorina 146.28 341 *e*PKP **PKPab** **04 18 33.7 -1.1**
GUNZ Gunzen 146.29 348 *e*PKPbc **PKPbc** **04 18 32.8 +0.3**
baz=15,slow=2.9
PSZ Piszkesteto 146.34 338 *e*PKPbc **PKPbc** **04 18 32.9 +0.2**
PSZ Piszkesteto 146.34 338↓↓ *i*P **PKPbc** **04 18 32.8 +0.1**
PSZ Piszkesteto 146.34 338↓↓ PKP2 **PKPbc** **04 18 32.8 +0.2**
PSZ Piszkesteto 146.34 338↓↓ PKIKP **PKPbc** **04 18 32.0 -0.6**
KONT Konya--Tatoy 146.36 313 *i* P **PKPbc** **04 18 32.6 -0.4**
ARR Arges 146.37 330↓↓ *i*P **PKPbc** **04 18 33.6 +0.7**
WOL Wolverton 146.38 3 *e*P **PKPbc** **04 18 32.1 -0.5**
NKC Novy Kostel 146.39 347 *e*PKP **PKPbc** **04 18 32.9 +0.2**
NKC Novy Kostel 146.39 347 *e*PKP2 **PKPbc** **04 18 32.9 +0.2**
PHNC Paralimni 146.40 307 P **PKPbc** **04 18 33.3 +0.1**
GEYV SAKARYA_Geyvel 146.41 319 *i* P **PKPbc** **04 18 33.5 +0.5**
KMER Konya-Meram 146.44 313 *i* P **PKPbc** **04 18 33.2 -0.1**
KRUC Moravsky 146.48 342 *e*PKP **PKPbc** **04 18 33.1 +0.1**
TREC Trest 146.53 343 *e*PKP **PKPbc** **04 18 33.2 +0.1**
TREC *ex* x 04 18 35.7
TREC Trest 146.53 343 *e*PKP2 **PKPbc** **04 18 33.2 +0.1**
ERMK Ermenek 146.56 311 *i* P **PKPbc** **04 18 34.8 +1.0**
BORA Eskisehir 146.65 317 *i* P **PKPbc** **04 18 33.9 +0.1**
MANZ Manzenberg 146.69 348 *e*PKPbc **PKPbc** **04 18 33.8 +0.3**
baz=15,slow=2.9
DOGA KONYA_Doganhis 146.76 314 *i* P **PKPbc** **04 18 35.0 +0.7**
DEV Deva 146.77 332↓↓ *i*P **PKPbc** **04 18 34.2 +0.4**
DEV Deva 146.77 332↓↓ PKP2 **PKPbc** **04 18 34.2 +0.4**
BEBN Eben Emael 146.81 355↑↑ PKP **PKPbc** **04 18 33.8 +0.1**
HUMR Humele 146.81 329↓↓ *i*P **PKPbc** **04 18 33.3 -0.7**
HGN Heimansgroeve 146.82 355 *e*PKP **PKPbc** **04 18 33.5 -0.2**
UCC Uccle 146.90 357 *e*PKPbc **PKPbc** **04 18 34.0 0.0**
UCC Uccle 146.90 357↓↓ PKP **PKPbc** **04 18 33.9 -0.1**
AUBOZ BOZOYUK 146.90 318 *i* P **PKPbc** **04 18 34.3 -0.2**
AUKIR Kırka- Seyitga 146.92 317 *i* P **PKPbc** **04 18 34.8 +0.2**
BOLV Bolvadin 146.94 315 *i* P **PKPbc** **04 18 34.7 0.0**
CSS Mathiatis 146.94 308 *e*PKPbc **PKPbc** **04 18 34.7 0.0**
CSS *e*PKPab **PKPab** **04 18 38.7 +0.8**
CSS Mathiatis 146.94 308 P **PKPdf** **04 18 32.7 +1.0**
YLV Yalova 146.95 319↓↓ *i*P **PKPbc** **04 18 34.1 -0.5**
YLV Yalova 146.95 319↓↓ PKIKP **PKPbc** **04 18 34.1 -0.5**
MAMC Mammari 146.95 308 P **PKPbc** **04 18 34.5 -0.2**
MEM Membach 146.97 355↓↓ PKP **PKPbc** **04 18 34.1 -0.1**
SIRR Iria 147.00 334↑↑ *i*P **PKPbc** **04 18 34.7 +0.2**
BUD Budapest 147.02 338↓↓ *e*PKiKP **PKPbc** **04 18 34.1 -0.3**
ZST Bratislava 147.04 341 *e*PKIKP **PKPbc** **04 18 33.9 -0.6**
ZST Bratislava 147.04 341 *e*PKP **PKPbc** **04 18 33.9 -0.6**
TNS Taunus Mts 147.08 352 *e*PKPbc **PKPbc** **04 18 34.8 +0.2**
baz=15,slow=2.9
GRA1 Grafenberg Arr 147.15 348 *e*PKPbc **PKPbc** **04 18 34.8 +0.1**
GRFO Grafenberg 147.15 348 *e*PKPbc **PKPbc** **04 18 35.3 +0.6**
KHC Kasperske Hory 147.17 345 *e*PKPbc **PKPbc** **04 18 35.2 +0.4**
KHC *e*PKPab **PKPab** **04 18 39.1 +0.8**
KHC Kasperske Hory 147.17 345 *e*PKP **PKPbc** **04 18 35.0 +0.2**
KHC *ex* x 04 18 38.6
KHC Kasperske Hory 147.17 345 *e*PKP2 **PKPbc** **04 18 35.0 +0.2**
GZR Gura Zlata 147.21 332↓↓ *i*P **PKPbc** **04 18 34.9 -0.2**
GZR Gura Zlata 147.21 332↓↓ PKHKP **PKPbc** **04 18 34.9 -0.2**
LEF Lefka 147.21 308↑↑ *i*P **PKPbc** **04 18 35.0 -0.3**
BCLA Clavier 147.22 356↓↓ PKP **PKPbc** **04 18 34.5 -0.3**
NGRH Nagyer 147.30 335 *e*PKPbc **PKiKP** **04 18 36.0 -0.8**
AMBH Ambrzfalva 147.32 335↓↓ *e*PKiKP **PKPbc** **04 18 36.0 +0.8**
AFYO Afyonkarahisar 147.34 316 *i* P **PKPbc** **04 18 36.2 +0.5**
SZAC Souni 147.37 308 P **PKPbc** **04 18 36.0 +0.2**
CSKK Cskako 147.39 339↓↓ *e*PKiKP **PKPbc** **04 18 35.0 -0.4**
GEC2 GERESS Array S 147.40 345 *e*PKPbc **PKPbc** **04 18 35.7 +0.1**
GEC2 GERESS Array S 147.40 345 *e*PKPbc **PKPbc** **04 18 35.6 +0.1**
baz=15,slow=2.9
GERES GERESS Array B 147.40 345 PKPbc **PKPbc** **04 18 35.6 +0.1**
comp=Z,35nm,0.7s,baz=26,slow=3.4,SNR=67
GEA0 GERESS Array S 147.41 345 *e*PKPdf **PKPdf** **04 18 31.8 -0.4**
GEA0 *e*PKPbc **PKPbc** **04 18 35.5 0.0**
GEA0 *e*PKPab **PKPab** **04 18 39.2 +0.1**
PHSR Pinarhisar 147.41 322↑↑ *i*P **PKPab** **04 18 40.8 +1.3**
ALFC Alefka 147.42 308 P **PKPbc** **04 18 35.4 -0.5**
BAGO Egridir - ISPA 147.42 314 *i* P **PKPbc** **04 18 36.3 +0.3**
VLAD Vladila 147.48 329↑↑ *i*P **PKPbc** **04 18 36.4 +0.7**
**BZS Buzias 147.

ECH	**Echery**	**149.22 353**	*e*PKPdf	**PKPdf**	**04 18 34.5**	**-0.5**
ECH			*e*PKPbc	**PKPbc**	**04 18 39.7**	**-0.3**
ECH			*e*PKPab	**PKPab**	**04 18 45.5**	**-1.2**
ECH	**Echery**	**149.22 353**	*e*PKIKP	**PKPdf**	**04 18 34.5**	**-0.5**
ECH			*e*		04 18 45.5	
EZN	**Ezine**	**149.25 321** ⇓	*i*P	**PKPbc**	**04 18 39.9**	**-0.4**
EZN	**Ezine**	**149.25 321** ⇓	PKHKP	**PKPbc**	**04 18 39.9**	**-0.4**
FETY	**Fethiye**	**149.28 313**	P	**PKPbc**	**04 18 40.2**	**-0.3**
FETY	**Fethiye**	**149.28 313**	*i* P	**PKPbc**	**04 18 39.9**	**-0.6**
UBR	**Ueberruh**	**149.29 349**	*e*PKPbc	**PKPbc**	**04 18 40.1**	**-0.2**
	baz=15,slow=2.9					
SMTH	**Samothraki Isl**	**149.31 323**	P	**PKPbc**	**04 18 39.0**	**-1.4**
WATA	**Walderalm**	**149.32 347**	*e*PKPbc	**PKPbc**	**04 18 40.0**	**-0.4**
	comp=Z,21nm,0.5s,SNR=12					
ZEDA	**zmir-Bergama**	**149.32 319**	*i* P	**PKPbc**	**04 18 40.7**	**+0.3**
OBKA	**Obir**	**149.32 342**	*e*PKPbc	**PKPbc**	**04 18 39.4**	**-1.0**
	comp=Z,8.6nm,0.7s					
RETA	**Reutte**	**149.34 348**	*e*PKPbc	**PKPbc**	**04 18 40.3**	**-0.1**
	comp=Z,34nm,1.1s,SNR=8.0					
WTTA	**Wattenberg**	**149.37 347**	*i* PKiKP	**PKPbc**	**04 18 40.6**	**0.0**
	comp=Z,41nm,0.5s					
MOTA	**Moosalm**	**149.41 347**	*i* PKPbc	**PKPbc**	**04 18 40.3**	**-0.3**
	comp=Z,32nm,0.9s,SNR=17					
MYKA	**Terra Mystica**	**149.47 344**	*i* PKPbc	**PKPbc**	**04 18 39.9**	**-0.8**
	comp=Z,21nm,0.5s					
TURN	**Turunc**	**149.48 314**	*i* P	**PKiKP**	**04 18 42.7**	**+1.0**
SQTA	**Sankt Quirin**	**149.50 347**	*i* PKPbc	**PKPbc**	**04 18 40.7**	**-0.1**
	comp=Z,27nm,0.6s,SNR=11					
KAVA	**Kavala**	**149.54 324**	P	**PKPbc**	**04 18 39.9**	**-1.0**
AYDN	**Tasoluk**	**149.55 316**	*i* P	**PKiKP**	**04 18 41.7**	**-0.2**
MMB	**Musomiste**	**149.55 326**	*e*P	**PKPbc**	**04 18 40.4**	**-0.6**
YER	**Yerkesik**	**149.56 315**	P	**PKPbc**	**04 18 40.3**	**-0.9**
PRK	**Paraskevi**	**149.65 320**	P	**PKiKP**	**04 18 41.7**	**-0.2**
NVR	**Nevrokopi**	**149.65 326**	P	**PKPbc**	**04 18 40.7**	**-0.5**
ABTA	**Abfaltersbach**	**149.65 345**	*i* PKPbc	**PKPbc**	**04 18 40.4**	**-0.7**
	comp=Z,56nm,0.6s,SNR=12					
CRES	**Cresnjev**	**149.66 341** ⇓	*i*P	**PKPbc**	**04 18 40.4**	**-0.7**
DOB	**Doboj**	**149.69 336**	*e*P	**PKPab**	**04 18 47.7**	**-1.0**
KKB	**Krupnik**	**149.69 327**	*e*P	**PKPbc**	**04 18 40.9**	**-0.4**
DAVA	**Damuels**	**149.71 349**	*i* PKiKP	**PKPbc**	**04 18 41.3**	**-0.1**
	comp=Z,40nm,0.8s,SNR=9.2					
CLF	**Chambon-Foret**	**149.74 359**	*e*PKPdf	**PKPdf**	**04 18 33.4**	**-2.4**
CLF			*e*PKPbc	**PKPbc**	**04 18 41.3**	**+0.1**
CLF			*e*PKPab	**PKPab**	**04 18 48.7**	**-0.1**
LJU	**Ljubljana**	**149.75 342** ⇓	*i*P	**PKPbc**	**04 18 40.9**	**-0.4**
FETA	**Feichten**	**149.80 348**	*i* PKiKP	**PKPbc**	**04 18 41.6**	**0.0**
	comp=Z,17nm,0.7s,SNR=8.2					
CRNS	**Crni Vrh**	**149.80 342**	*i* PKPbc	**PKPbc**	**04 18 40.9**	**-0.5**
HAPS	**Han Pijesak,BI**	**149.89 335** ⇑	*i*P	**PKPbc**	**04 18 41.1**	**-0.7**
GCAM	**G?zelcaml?**	**149.95 317**	*i* P	**PKPbc**	**04 18 42.1**	**+0.1**
SRS	**Serrai**	**149.96 326**	P	**PKPbc**	**04 18 39.6**	**-2.4**
BOJS	**Bojanci**	**150.02 341**	*i* PKPbc	**PKPbc**	**04 18 42.1**	**+0.2**
BOJS			*i* PKPab	**PKPab**	**04 18 50.0**	**-0.1**
BLY	**Banja Luka**	**150.02 337**	*e*PKPbc	**PKPbc**	**04 18 41.9**	**-0.1**
BLY	**Banja Luka**	**150.02 337** ⇑	*i*P	**PKPbc**	**04 18 41.9**	**0.0**
BLY	**Banja Luka**	**150.02 337**	*e*P	**PKPbc**	**04 18 41.9**	**0.0**
CEY	**Cerknica**	**150.06 342** ⇓	*i*P	**PKPbc**	**04 18 41.8**	**-0.3**
GBRS	**Gornja Briga**	**150.13 341**	*i* PKPbc	**PKPbc**	**04 18 42.2**	**-0.1**
GBRS			*i* PKPab	**PKPab**	**04 18 50.6**	**0.0**
BDRM	**Kayabasi**	**150.16 315**	*i* P	**PKPbc**	**04 18 42.6**	**0.0**
DAVOX	**Davos/Dischmat**	**150.19 348**	PKPbc	**PKiKP**	**04 18 42.9**	**-0.2**
	comp=Z,78nm,0.7s,baz=353,slow=8.1,SNR=20					
DAT	**Datca**	**150.26 315**	*i* P	**PKPbc**	**04 18 42.8**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**150.27 348**	*e*PKPdf	**PKPdf**	**04 18 37.2**	**+0.2**
FUORN			*e*PKPbc	**PKiKP**	**04 18 43.1**	**-0.3**
STIP	**Stip**	**150.28 328**	*i* P	**PKPbc**	**04 18 41.4**	**-1.3**
SOH	**Sokhos**	**150.29 325**	P	**PKPbc**	**04 18 41.3**	**-1.5**
VAY	**Valandovo**	**150.35 327**	*i* P	**PKPbc**	**04 18 42.1**	**-0.7**
SKO	**Skopje**	**150.44 329**	*i* P	**PKPbc**	**04 18 43.0**	**0.0**
TUE	**Stuetta**	**150.59 349**	*e*PKPdf	**PKPdf**	**04 18 35.8**	**-1.7**
TUE			*e*PKPbc	**PKPbc**	**04 18 43.6**	**+0.1**
TUE			*e*PKPab	**PKPab**	**04 18 52.6**	**-0.1**
KRUS	**Krusevo**	**150.99 329**	*i* P	**PKPbc**	**04 18 43.9**	**-0.5**
SENIN	**Lac Senin/Sane**	**151.02 352**	*e*PKPbc	**PKiKP**	**04 18 44.8**	**-0.1**
PDG	**Podgorica**	**151.11 332** ⇑	*i*P	**PKPbc**	**04 18 43.9**	**-0.6**
PDG	**Podgorica**	**151.11 332**	*e*P	**PKPbc**	**04 18 44.0**	**-0.6**
TTG	**Podgorica**	**151.11 332**	*e*PKPbc	**PKPbc**	**04 18 44.2**	**-0.3**
PHP	**Peshkopia**	**151.15 330**	P	**PKPbc**	**04 18 44.1**	**-0.6**
TREB	**Trebinje**	**151.27 334**	*e*P	**PKPbc**	**04 18 44.0**	**-0.9**
LIT	**Litokhoron**	**151.27 325**	*e*PKPbc	**PKPbc**	**04 18 44.2**	**-0.8**
DRME	**Dracevica, Mon**	**151.33 332**	*e*P	**PKPbc**	**04 18 44.4**	**-0.7**
FNA	**Florina**	**151.36 328**	*e*PKPbc	**PKPbc**	**04 18 44.6**	**-0.7**
FNA			*e*PKPab	**PKPab**	**04 18 55.8**	**-0.2**
FNA	**Florina**	**151.36 328**	P	**PKPbc**	**04 18 44.5**	**-0.7**
STON	**Ston**	**151.41 335**	*e*P	**PKPbc**	**04 18 44.3**	**-0.8**
FYTO	**Fytoko, Volos**	**151.50 324**	P	**PKPab**	**04 18 56.5**	**0.0**
SMIA	**Simia**	**151.71 323**	P	**PKPbc**	**04 18 45.2**	**-0.8**
PTL	**Penteli**	**151.86 321**	P	**PKPbc**	**04 18 44.8**	**-1.6**
THL	**Klokotos Trika**	**151.91 325**	P	**PKPbc**	**04 18 45.1**	**-1.3**
ATAL	**Atalanti**	**151.94 323**	P	**PKPbc**	**04 18 45.4**	**-1.1**
ATHU	**Athens Univers**	**151.97 321**	P	**PKPbc**	**04 18 45.7**	**-0.9**
KPRO	**Kipourio**	**151.98 326**	P	**PKPbc**	**04 18 46.4**	**-0.3**
AGG	**Agios Georgios**	**152.11 324**	*e*PKPbc	**PKPbc**	**04 18 46.0**	**-1.0**
VILL	**Villia**	**152.12 321**	P	**PKPbc**	**04 18 45.4**	**-1.6**
MEV	**Metsovon**	**152.17 326**	P	**PKiKP**	**04 18 47.7**	**+0.3**
SSB	**Saint Sauveur**	**152.38 355**	*e*PKPdf	**PKPdf**	**04 18 39.8**	**-0.2**
SSB			*e*PKPbc	**PKiKP**	**04 18 47.6**	**+0.1**
SSB			*e*PKPab	**PKPab**	**04 19 00.1**	**0.0**
SSB	**Saint Sauveur**	**152.38 355**	*e*PKIKP	**PKPdf**	**04 18 39.8**	**-0.2**
SSB			*e*		04 19 00.1	
BNI	**Bardonecchia**	**152.39 352**	*e*PKPbc	**PKPbc**	**04 18 46.9**	**-0.6**
BNI			*e*PKPab	**PKPab**	**04 18 59.8**	**-0.5**
BNI	**Bardonecchia**	**152.39 352**	*e*PKIKP	**PKPbc**	**04 18 46.9**	**-0.6**
BNI			*e*		04 18 59.8	
DSF	**Desfina**	**152.42 323**	P	**PKPbc**	**04 18 45.7**	**-1.9**
LTK	**Loutraki**	**152.42 322**	P	**PKPbc**	**04 18 46.1**	**-1.5**
LAST	**Lasithi**	**152.54 314**	P	**PKPbc**	**04 18 47.5**	**-0.6**
DID	**Didima**	**152.59 320**	P	**PKPbc**	**04 18 46.8**	**-1.2**
ANX	**Ano Chora**	**152.64 324**	P	**PKiKP**	**04 18 48.8**	**+0.5**
SERG	**Sergoula**	**152.69 323**	P	**PKPbc**	**04 18 47.8**	**-0.4**
GUR	**Goura**	**152.84 322**	P	**PKPbc**	**04 18 48.0**	**-0.7**
LAKA	**Lakka**	**152.85 323**	P	**PKPbc**	**04 18 48.2**	**-0.4**
KLV	**Kalavryta, Ach**	**152.88 323**	P	**PKPbc**	**04 18 47.3**	**-1.4**
TRIP	**Tripoli**	**153.16 322**	P	**PKPab**	**04 19 04.0**	**+0.3**
ITM	**Ithomi**	**153.59 321**	*e*PKPbc	**PKPbc**	**04 18 48.9**	**-1.3**
ITM			*e*PKPab	**PKPab**	**04 19 04.9**	**-0.6**
PBRG	**Braganca**	**154.93 15**	*e*PKPab	**PKPab**	**04 19 11.0**	**-0.1**
POLO	**Lamas de Olo**	**155.06 17**	*e*PKPab	**PKPab**	**04 19 11.8**	**+0.1**
PVRL	**Vila Real**	**155.18 17**	*e*PKPab	**PKPab**	**04 19 12.3**	**+0.1**
MVO	**Moncorvo**	**155.46 16**	*e*PKPab	**PKPab**	**04 19 13.7**	**+0.3**
PCAS	**Casmilo, Conde**	**156.07 19**	*e*PKPab	**PKPab**	**04 19 16.0**	**0.0**
PTOM	**Tomar**	**156.49 20**	*e*PKPab	**PKPab**	**04 19 17.6**	**-0.2**
PCBR	**Castelo Branco**	**156.57 18**	*e*PKPab	**PKPab**	**04 19 17.9**	**-0.3**
PMAFR	**Mafra**	**156.79 22**	*e*PKPab	**PKPab**	**04 19 19.3**	**+0.1**
PMTG	**Montargil**	**157.05 20**	*e*PKPab	**PKPab**	**04 19 19.7**	**-0.6**
PESTR	**Estremoz**	**157.44 19**	*e*PKPab	**PKPab**	**04 19 20.6**	**-1.4**
ES06	**SONSECA Array**	**157.57 11**	*e*PKPdf	**PKPdf**	**04 18 47.3**	**+0.2**
ES06			*e*PKPab	**PKPab**	**04 19 22.1**	**-0.5**
ESDC	**Sonseca Array**	**157.57 11**	PKP	**PKPdf**	**04 18 47.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=346,slow=3.8,SNR=4.7					
ESDC			PKPab	**PKPab**	**04 19 21.9**	**-0.7**
	comp=Z,3.7nm,0.8s,baz=347,slow=3.7,SNR=13					
ESDC			PP	**PP**	**04 23 08.5**	**+5.3**
	comp=Z,0.2nm,0.4s,baz=351,slow=3.8,SNR=4.3					
PCVE	**Castro Verde**	**158.41 21**	*e*PKPab	**PKPab**	**04 19 26.3**	**+0.1**
PFVI	**Vila Bisbo**	**158.57 23**	*e*PKPab	**PKPab**	**04 19 26.3**	**-0.6**
KEST	**Kesra**	**160.76 341**	PKPab	**PKPab**	**04 19 36.0**	**-0.6**
	comp=Z,11nm,0.8s,baz=246,slow=0.6,SNR=10					
MDT	**Midelt**	**163.94 19**	PKP	**PKPdf**	**04 18 54.8**	**+0.6**
	comp=Z,4.3nm,0.8s,baz=47,slow=3.3,SNR=7.5					
MDT			PKPab	**PKPab**	**04 19 51.2**	**+0.5**
	comp=Z,7.2nm,0.9s,baz=349,slow=5.1,SNR=9.3					
DBIC	**Dimbokro**	**167.37 149**	PKP	**PKPdf**	**04 18 56.3**	**-0.9**
	comp=Z,6.9nm,1.1s,baz=122,slow=4.2,SNR=4.5					
TAM	**Tamanrasset**	**173.72 325**	*e*PKPdf	**PKPdf**	**04 19 01.5**	**+0.9**
TAM			*e*PKPab	**PKPab**	**04 20 34.8**	**+0.4**
TAM	**Tamanrasset**	**173.72 325**	*e*PKIKP	**PKPdf**	**04 19 01.5**	**+0.9**
TAM			*e*		04 20 34.8	
TOA0	**Torodi Ar. Sit**	**175.48 181**	*e*PKPdf	**PKPdf**	**04 19 00.1**	**-1.0**
TOA0			*e*PP	**PP**	**04 24 31.0**	**-2.5**
TORD	**Torodi Ar. Bea**	**175.48 181**	PKP	**PKPdf**	**04 18 60.0**	**-1.2**
	comp=Z,4.6nm,0.9s,baz=342,slow=2.7,SNR=23					
TORD			PKPab	**PKPab**	**04 20 43.2**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=183,slow=4.2,SNR=5.0					
TORD			PP	**PP**	**04 24 36.7**	**+3.1**
	comp=Z,1.5nm,1.2s,baz=204,slow=3.3,SNR=3.8					
TOA1	**Torodi Ar. Sit**	**175.48 181**	*e*PKPdf	**PKPdf**	**04 18 60.0**	**-1.2**
TOA1			*e*PKPab	**PKPab**	**04 20 43.2**	**+1.2**
TOA1			*e*PP	**PP**	**04 24 36.7**	**+3.1**

*NEIC **25** 04:10:56.9±0.0, 15°.94N×98°.45W, h10km, MD4.0(MEX), After MEX.*

MEX 25 04:10:56.4±0.4, 15°.95N×98°.46W, h5km±3km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**36**	*e*P	Pg	04 11 06.5	-0.4
PNIG	**Pinotepa**	**0.55**	**36**	*e*P	Pg	04 11 06.5	-0.4
PNIG				*e*S	Sg	04 11 14.7	+0.6
TLIG	**Tlapa**	**1.61**	**356**	*e*P	Pn	04 11 21.5	-4.2
TLIG				*e*S	Sn	04 11 40.2	-6.7
TLIG	**Tlapa**	**1.61**	**356**	*e*P	Pn	04 11 21.5	-4.2
TLIG				*i* S	Sn	04 11 41.6	-5.3
CAIG	**El Cayaco**	**2.05**	**303**	*i* P	Pn	04 11 29.2	-2.4
CAIG				*i* S	Sn	04 11 52.5	-5.1
MEIG	**Mezcala**	**2.26**	**331**	*e*P	Pn	04 11 31.2	-3.3
MEIG				*e*S	Sn	04 11 58.6	-4.3
MEIG	**Mezcala**	**2.26**	**331**	*e*P	Pn	04 11 31.2	-3.3
MEIG				*e*S	Sn	04 11 58.6	-4.3
PLIG	**Platanillo**	**2.63**	**338**	*e*Pn	Pn	04 11 36.6	-3.0
PLIG	**Platanillo**	**2.63**	**338**	*e*P	Pn	04 11 36.6	-3.0
PLIG				*e*S	Sn	04 12 08.0	-4.0
ARIG	**Puente Sto Nin**	**2.94**	**322**	*e*P	Pn	04 11 40.9	-3.0
ARIG				*e*S	Sn	04 12 16.1	-3.6
ARIG	**Puente Sto Nin**	**2.94**	**322**	*e*P	Pn	04 11 40.9	-3.0
ARIG				*e*S	Sn	04 12 16.1	-3.6
ZIIG	**Zihuatanejo**	**3.32**	**300**	*e*Pn	Pn	04 11 46.5	-2.5
ZIIG	**Zihuatanejo**	**3.32**	**300**	*e*P	Pn	04 11 46.5	-2.5
ZIIG				*e*S	Sn	04 12 25.7	-3.2
UNM	**Universidad Na**	**3.43**	**349**	*e*Pn	Pn	04 11 49.6	-1.3
UNM				*e*Sg	Sg	04 12 46.6	-0.2
MOIG	**Morelia**	**4.53**	**325**	*e*Pn	Pn	04 12 05.6	-0.3
MOIG				*e*Sg	Sb	04 13 11.2	-0.4
CCIG	**Comitan**	**6.09**	**86**	*e*Pn	Pn	04 12 29.4	+2.2

*ISK **25** 04:23:08.5, 38°.46N×43°.66E, h10km, ML1.9/6*
*ISCJB **25** 04:23:09.3±0.7, 38°.47N±0°.05×43°.62E±0°.06, h13km, Error ellipse: s-maj=7.0km s-min=6.2km az=135.2*
*DDA **25** 04:23:09.0, 38°.44N×43°.62E, h7km±1km, ML2.5*
ISC 25 04:23:09.1±1.1, 38°.47N±0°.04×43°.62E±0°.05, h13km, n12, σ0°49/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.18**	**291**	*i* P	**Pg**	**04 23 13.6**	**+0.1**
TVAN				IAML_P			
	comp=Z,3μm,0.1s						
VANB	**Van**	**0.22**	**306**	PG	**Pg**	**04 23 13.2**	**-0.8**
VANB				SG	**Sg**	**04 23 16.7**	**-0.7**
GEVA	**Gevas**	**0.46**	**251**	*i* P	**Pg**	**04 23 18.5**	**+0.1**
GEVA				IAML_P			
	comp=Z,839nm,0.1s						
BASK	**Baskale_VAN**	**0.51**	**143**	*i* P	**Pb**	**04 23 19.6**	**-0.5**
AKDM	**Akdamar-Van**	**0.52**	**255**	PG	**Pg**	**04 23 19.5**	**+0.1**
AKDM				SG	**Sb**	**04 23 28.0**	**+0.3**
VMUR	**Van-Muradiye**	**0.53**	**356**	*i* P	**Pb**	**04 23 21.0**	**+0.6**
CLDR	**Caldiran**	**0.72**	**19**	PG	**Pg**	**04 23 22.9**	**-0.2**
CLDR	**Caldiran**	**0.72**	**19**	*i* P	**Pg**	**04 23 23.5**	**+0.3**
CLDR				IAML_P			
	comp=Z,626nm,0.2s						
TUTA	**Tutak**	**1.13**	**326**	*i* P	**Pb**	**04 23 30.1**	**-0.5**
TUTA				IAML_P			
	comp=Z,889nm,0.1s						
AGRB	**Hanur-Agry**	**1.21**	**336**	PN	**Pn**	**04 23 32.2**	**+0.2**
CUKT	**Cukurca**	**1.22**	**180**	PN	**Pb**	**04 23 32.1**	**0.0**
GURO	**Guroymak-BITLI**	**1.25**	**274**	PN	**Pn**	**04 23 32.9**	**+0.5**

UCR 25 04:23:17.8±1.8, 12°.03N×86°.85W, h67km±9km, MD4.2, ML3.6, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMN	**Momotombo**	**0.49**	**38**	*e*P	Pn	04 23 30.1	-0.2
MOMN				*e*S	Sn	04 23 39.5	+0.1
CNGN	**Cerro Negro**	**0.49**	**17**	*e*P	Pn	04 23 30.2	-0.2
CNGN				*e*S	Sn	04 23 40.1	+0.5
APYN	**Apoyeque**	**0.53**	**67**	*e*P	Pn	04 23 30.9	+0.2
APYN				*e*S	Sn	04 23 41.4	+1.2
CRUN	**El Crucero**	**0.54**	**94**	*e*P	Pn	04 23 31.2	+0.3
MGAN	**Managua**	**0.60**	**78**	*e*P	Pn	04 23 31.4	0.0
MGAN				*e*S	Sn	04 23 42.3	+0.9
CRIN	**San Cristobal**	**0.70**	**344**	*e*P	Pn	04 23 32.8	+0.2
CRIN				*e*S	Sn	04 23 44.5	+1.0
BRAN	**Las Pilas**	**0.85**	**35**	*e*P	Pn	04 23 31.2	-3.0
BRAN				*e*S	Sn	04 23 41.4	-5.0
CSGN	**Cosiguina Volc**	**1.17**	**324**	*e*P	Pn	04 23 39.5	+1.1
CSGN				*e*S	Sn	04 23 54.8	+1.0
MATN	**Matagalpa**	**1.27**	**45**	*e*P	Pn	04 23 39.8	0.0
MATN				*e*S	Sn	04 23 56.6	+0.3
CONN	**Concepcion**	**1.28**	**111**	*e*P	Pn	04 23 39.7	-0.2
CNCH	**Conchagua**	**1.57**	**322**	*e*P	Pn	04 23 43.8	+0.1
CNCH				IAML		04 24 06.8	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**1.63**	**322**	*e*P	Pn	04 23 44.4	0.0
LCND				IAML		04 24 09.7	
	comp=Z,695nm,0.4s						
ACON	**Acoyapa**	**1.64**	**92**	*e*P	Pn	04 23 44.1	-0.4
NY14	**Universidad de**	**1.88**	**137**	*i* P	Pn	04 23 49.5	+1.7
NY14				*i* S	Sn	04 24 10.4	-0.2
LIM1	**Limonal**	**2.05**	**130**	*i* P	Pn	04 23 50.6	+0.5
TGUH	**Tegucigalpa,Un**	**2.06**	**349**	*i* P	Pn	04 23 50.8	+0.6
MESS	**Mesas**	**2.06**	**128**	*i* P	Pn	04 23 50.4	+0.1
COLC	**Colonia**	**2.10**	**130**	*i* P	Pn	04 23 50.9	0.0
CUI	**Cuipilapa**	**2.14**	**129**	*i* P	Pn	04 23 52.0	+0.6
CUI				*i* S	Sn	04 24 16.3	-0.7
TECA	**Tecapa**	**2.17**	**312**	*e*P	Pn	04 23 52.5	+0.5
AMAS	**Alto Masis**	**2.30**	**127**	*i* P	Pn	04 23 54.0	+0.5
ESPN	**Las Esperanzas**	**2.50**	**86**	*e*P	Pn	04 23 56.7	+0.5
LFRS	**El Faro**	**2.68**	**307**	*e*P	Pn	04 23 58.7	-0.1
SBLS	**San Blas**	**3.25**	**304**	*e*P	Pn	04 24 07.7	+1.0

KRSC 25 04:32:08.2±10.0, 50°.70N×160°.04E, h86km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.66**	**313**	*e*P	Pn	04 32 36.9	+1.0
KDTR				*e*S	Sn	04 32 58.7	+1.9
RUS	**Russkaya**	**1.98**	**332**	*e*P	Pn	04 32 41.2	+1.2
RUS				*e*S	Sn	04 33 05.9	+1.6
MTVR	**Mutnovka**	**2.13**	**328**	*e*P	Pn	04 32 43.7	+1.5
MTVR				*e*S	Sn	04 33 10.2	+2.1
ASAK	**Asacha**	**2.15**	**322**	*e*P	Pn	04 32 44.7	+2.3
PAU	**Pauzhetka**	**2.18**	**292**	*e*P	Pn	04 32 44.6	+2.0
PAU				*e*S	Sn	04 33 11.8	+2.9
SPN	**Mys Shipunski**	**2.41**	**360**	*e*S	Sn	04 33 15.9	+1.6
KRMR	**Karymshinskiy**	**2.45**	**332**	*e*P	Pn	04 32 48.1	+1.9
KRMR				*e*S	Sn	04 33 18.0	+2.7
SKR	**Severo-Kuril's**	**2.50**	**271**	*e*P	Pn	04 32 48.2	+1.4
SKR				*e*S	Sn	04 33 17.7	+1.2
NLC	**Nalytchevo**	**2.52**	**350**	*e*S	Sn	04 33 20.0	+3.1
UGLR	**Uglovaya**	**2.63**	**344**	*e*P	Pn	04 32 51.0	+2.3
SDLR	**Sedlovina**	**2.68**	**345**	*e*P	Pn	04 32 51.3	+1.8
SMAR	**Somma**	**2.68**	**344**	*e*P	Pn	04 32 52.1	+2.5
AVH	**Avacha**	**2.70**	**343**	*e*P	Pn	04 32 51.9	+2.3
KRER	**Koryakskii**	**2.73**	**343**	*e*P	Pn	04 32 53.4	+3.2
KOK	**Koryaka**	**2.74**	**342**	*e*P	Pn	04 32 52.8	+2.5
KRX	**Arik**	**2.80**	**343**	*e*P	Pn	04 32 53.8	+2.7
ALID	**Alaid**	**2.86**	**275**	*e*P	Pn	04 32 54.4	+2.6
APC	**Apacha**	**2.86**	**322**	*e*P	Pn	04 32 55.1	+3.4
KZV	**Kizimen**	**4.43**	**2**	*e*P	Pn	04 33 15.8	+2.7
TUMD	**Tumrok D**	**4.52**	**3**	*e*S	Sn	04 34 06.7	+1.2
TUMR	**Tumrok**	**4.60**	**1**	*e*P	Pn	04 33 18.5	+3.2
KBTR	**Krutoberegovo**	**5.77**	**16**	*e*P	Pn	04 33 33.0	+1.9

*ISCJB **25** 04:35:17.2±0.2, 17°.89S±0°.04×178°.58W±0°.05, h579km, mb4.2/105, Error ellipse: s-maj=7.0km s-min=3.7km az=35.6*
*NEIC **25** 04:35:19.6±1.6, 17°.99S×178°.56W, h599km±9km, mb4.2/100, Error ellipse: s-maj=21.9km s-min=14.8km az=152.0*
*IDC **25** 04:35:21.3±3.3, 17°.50S×178°.78W, h610km±41km, mb3.6/11, mb1 3.9/12, mb1mx3.7/27, mbtmp4.5/12, Error ellipse: s-maj=26.0km s-min=16.8km az=156.0*
ISC 25 04:35:18.1±0.4, 17°.81S±0°.08×178°.63W±0°.07, h579km,

n168, σ19°/19/170, mb4.2/105, 7C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**8.35**	**100**	*e*P	**P**	**04 37 20.3**	**+0.2**
NIUE				*e*S	**S**	**04 39 06.3**	**+6.1**
RAO	**Raoul Island**	**11.41**	**177**	*e*P	**P**	**04 37 48.3**	**-2.3**
GLKZ	**Green Lake**	**11.42**	**177**	P	**P**	**04 37 48.5**	**-2.2**
MARNC	**Mare, Loyalty**	**13.09**	**252**	*e*P	**P**	**04 38 09.2**	**+1.3**
PINNC	**Pines Island,**	**13.92**	**248**	*e*P	**P**	**04 38 18.3**	**+2.0**
DZM	**Mont Dzumac**	**14.66**	**251**	*e*P	**P**	**04 38 26.2**	**+2.5**
DZM	**Mont Dzumac**	**14.66**	**251**	P	**P**	**04 38 25.4**	**+1.7**
	1.4nm,0.3s,baz=88,slow=15,SNR=9.3						
DZM				S	**S**	**04 40 56.1**	**+0.1**
	0.2nm,0.3s,baz=299,slow=17,SNR=1.5						
ONTNC	**Ouen Toro**	**14.71**	**250**	*e*P	**P**	**04 38 24.1**	**0.0**
KNTN	**Kanton**	**16.41**	**25**	*e*P	**P**	**04 38 39.1**	**-1.1**
	128nm,0.8s						
OUZ	**Omahuta**	**18.67**	**200**	*e*P	**P**	**04 39 02.9**	**+2.4**
	33nm,0.7s						
OUZ	**Omahuta**	**18.67**	**200**	P	**P**	**04 39 02.7**	**+2.1**
GRZ	**Great Barrier**	**19.10**	**195**	P	**P**	**04 39 05.6**	**+1.1**
WCZ	**Waipu Caves**	**19.10**	**198**	P	**P**	**04 39 06.7**	**+2.2**
KUZ	**Kuaotunu**	**19.51**	**194**	P	**P**	**04 39 09.4**	**+1.2**
WIAZ	**Waiheke Island**	**19.70**	**195**	P	**P**	**04 39 11.0**	**+1.2**
MXZ	**Matakaoa Point**	**19.86**	**187**	*e*P	**P**	**04 39 10.8**	**-0.6**
	30nm,0.7s						
MXZ	**Matakaoa Point**	**19.86**	**187**	P	**P**	**04 39 10.7**	**-0.6**
WTAZ	**Waiatarua**	**19.97**	**196**	P	**P**	**04 39 13.8**	**+1.4**
MKAZ	**Moumakai**	**19.99**	**195**	P	**P**	**04 39 13.4**	**+1.0**
WMGZ	**Waiomatatini S**	**20.10**	**187**	P	**P**	**04 39 13.1**	**-0.5**
HAZ	**Te Kaha**	**20.12**	**188**	P	**P**	**04 39 12.1**	**-1.6**
RUGZ	**Raukumara Rang**	**20.34**	**188**	P	**P**	**04 39 14.5**	**-1.3**
PUZ	**Puketiti**	**20.37**	**187**	P	**P**	**04 39 15.3**	**-0.6**
TWGZ	**Tauwhareparae**	**20.51**	**188**	P	**P**	**04 39 17.2**	**0.0**
URZ	**Urewera**	**20.71**	**190**	*e*P	**P**	**04 39 17.5**	**-1.5**
	25nm,0.8s						
URZ	**Urewera**	**20.71**	**190**	P	**P**	**04 39 16.3**	**-2.7**
**MWZ

	9.8nm,1.0s									
IPM	**Ipoh**	**82.20**	**277**	*e*P		**P**		**04 46 40.8**	**+0.8**
	13nm,0.7s									
LCMT	**Little Creek M**	**82.22**	**47**	*e*P		**P**		**04 46 40.1**	**+0.5**
	4.3nm,0.8s									
X16A	**Lo Mia Camp, P**	**82.28**	**50**	*e*P		**P**		**04 46 40.9**	**+0.8**
	6.6nm,0.9s									
KNB	**Kanab**	**82.51**	**47**	*e*P		**P**		**04 46 42.1**	**+0.9**
	5.8nm,0.9s									
319A	**Douglas**	**82.53**	**54**	*e*P		**P**		**04 46 41.4**	**0.0**
	8.9nm,0.9s									
PSUT	**Pine Spring**	**82.54**	**46**	*e*P		**P**		**04 46 40.9**	**-0.5**
	5.2nm,0.7s									
U15A	**North Rim**	**82.61**	**48**	*e*P		**P**		**04 46 42.0**	**+0.2**
SZCU	**Shurtz Canyon**	**82.61**	**47**	*e*P		**P**		**04 46 40.7**	**-1.0**
	3.1nm,0.9s									
ELK	**Elko**	**82.73**	**43**	*e*P		**P**		**04 46 41.6**	**-0.7**
	4.3nm,0.9s									
WUAZ	**Wupatki**	**82.84**	**49**	*e*P		**P**		**04 46 42.1**	**-0.8**
	9.2nm,1.1s									
G08A	**Pilot Rock**	**82.86**	**38**	*e*P		**P**		**04 46 41.4**	**-1.3**
	5.7nm,0.9s									
E07A	**Sunnyside**	**83.06**	**36**	*e*P		**P**		**04 46 42.0**	**-1.6**
	7.8nm,1.0s									
PKCU	**Pink Cliffs**	**83.08**	**47**	*e*P		**P**		**04 46 44.9**	**+0.7**
	13nm,1.0s									
HAWA	**Hanford**	**83.15**	**37**	*e*P		**P**		**04 46 42.4**	**-1.5**
	7.5nm,0.8s									
X18A	**Snowflake**	**83.43**	**51**	*e*P		**P**		**04 46 45.9**	**0.0**
	3.7nm,0.9s									
SKLT	**Songkhla**	**83.44**	**280**	P		**P**		**04 46 48.3**	**+2.2**
MTPU	**Mount Pierson**	**83.45**	**47**	*e*P		**P**		**04 46 44.7**	**-1.4**
	4.6nm,0.9s									
E08A	**Dider Farm, El**	**83.48**	**37**	*e*P		**P**		**04 46 45.4**	**-0.1**
	4.1nm,0.7s									
BMO	**Blue Mountains**	**83.60**	**39**	*e*P		**P**		**04 46 45.0**	**-1.3**
	2.8nm,1.0s									
SKNT	**Sakolnakorn**	**83.64**	**290**	P		**P**		**04 46 48.6**	**+1.6**
PSI	**Prapat**	**83.67**	**275**	*e*P		**P**		**04 46 45.7**	**-1.7**
	13nm,0.8s									
D08A	**Wollman Farm,**	**83.87**	**36**	*e*P		**P**		**04 46 47.7**	**+0.2**
	7.8nm,0.9s									
TRF	**Thorofare Moun**	**83.96**	**12**	*e*P		**P**		**04 46 46.9**	**-0.9**
	7.6nm,0.8s									
ENH	**Enshi**	**84.04**	**304**	*e*P		**P**		**04 46 50.4**	**+1.6**
	18nm,0.9s									
F10A	**Beach Ranch, E**	**84.25**	**38**	*e*P		**P**		**04 46 49.4**	**-0.1**
	13nm,1.0s									
SRAK	**Srakaew**	**84.37**	**287**	P		**P**		**04 46 50.7**	**+0.1**
B08A	**Colville Reser**	**84.38**	**35**	*e*P		**P**		**04 46 49.4**	**-0.6**
	4.5nm,0.8s									
TRTT	**Trang**	**84.53**	**280**	P		**P**		**04 46 53.4**	**+1.9**
HLID	**Hailey**	**84.69**	**41**	*e*P		**P**		**04 46 52.2**	**+0.3**
	4.2nm,0.8s									
TMUT	**Trail Mountain**	**84.72**	**46**	*e*P		**P**		**04 46 51.2**	**-1.0**
	3.0nm,0.8s									
SRU	**San Rafael Swe**	**85.10**	**46**	*e*P		**P**		**04 46 54.2**	**+0.3**
	3.7nm,0.8s									
KRAB	**Krabi**	**85.11**	**280**	P		P		04 46 46.7	-7.6
	1µm,0.7s,108µm									
TCUT	**Toone Canyon**	**85.44**	**44**	*e*P		**P**		**04 46 55.1**	**-0.4**
	6.6nm,0.7s									
IL1	**Eielson Array**	**85.84**	**13**	*e*P		**P**		**04 46 55.2**	**-1.4**
ILAR	**Eielson Array**	**85.84**	**13**	P		**P**		**04 46 55.4**	**-1.3**
	1.5nm,0.8s,baz=225,slow=5.1,SNR=16									
XAN	**Xi'an**	**86.03**	**307**	P		**P**		**04 46 59.8**	**+1.5**
XAN				pmax	pmax					
	comp=Z,12nm,1.0s									
XAN	**Xi'an**	**86.03**	**307**	*e*P		**P**		**04 47 00.1**	**+1.7**
	comp=Z,14nm,1.0s									
TX31	**Lajitas Ar. Si**	**86.12**	**58**	*e*P		**P**		**04 46 59.8**	**+0.9**
TXAR	**Lajitas Array**	**86.12**	**58**	P		**P**		**04 46 59.6**	**+0.7**
	comp=Z,4.7nm,0.8s,baz=224,slow=5.2,SNR=24									
ANMO	**Albuquerque**	**86.20**	**52**	*e*P		**P**		**04 46 59.4**	**+0.1**
	comp=Z,2.5nm,1.1s									
MCMT	**McKenzie Canyo**	**86.30**	**41**	*e*P		**P**		**04 47 00.2**	**+0.6**
TPAW	**Teton Pass**	**86.85**	**42**	*e*P		**P**		**04 47 02.9**	**+0.6**
	comp=Z,5.8nm,1.1s									
REDW	**Red Top Meadow**	**86.86**	**43**	*e*P		**P**		**04 47 02.1**	**-0.2**
	comp=Z,9.5nm,1.1s									
FXWY	**Fox Creek**	**86.87**	**42**	*e*P		**P**		**04 47 01.3**	**-1.0**
	comp=Z,2.2nm,0.8s									
SNOW	**Snow King Moun**	**86.97**	**42**	*e*P		**P**		**04 47 02.5**	**-0.3**
	comp=Z,8.8nm,1.0s									
IMW	**Indian Meadow**	**87.05**	**42**	*e*P		**P**		**04 47 03.6**	**+0.4**
	comp=Z,6.5nm,0.9s									
HHC	**Hu-ho-hao-te**	**87.06**	**315**	*e*P		**P**		**04 47 03.6**	**+0.5**
HHC				pmax	pmax					
	comp=Z,5.0nm,0.9s									
HHC				pmax	pmax					
	comp=Z,59nm,5.5s									
LOHW	**Long Hollow**	**87.13**	**42**	*e*P		**P**		**04 47 03.9**	**+0.4**
	comp=Z,2.1nm,0.7s									
FLWY	**Flagg Ranch**	**87.29**	**42**	*e*P		**P**		**04 47 04.7**	**+0.5**
YHB	**Horse Butte**	**87.29**	**41**	*e*P		**P**		**04 47 03.5**	**-0.8**
	comp=Z,6.6nm,0.9s									
YMR	**Madison River**	**87.40**	**41**	*e*P		**P**		**04 47 06.0**	**+1.2**
BW06	**Boulder Array**	**87.42**	**44**	*e*P		**P**		**04 47 04.8**	**-0.1**
	comp=Z,3.0nm,0.8s									
PD31	**Pinedale Array**	**87.42**	**44**	*e*P		**P**		**04 47 04.8**	**-0.2**
	comp=Z,2.7nm,0.8s									
PDAR	**Pinedale Array**	**87.42**	**44**	*e*P		**P**		**04 47 03.6**	**-1.3**
PDAR	**Pinedale Array**	**87.42**	**44**	P		**P**		**04 47 04.5**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=222,slow=3.3,SNR=27									
BOZ	**Bozeman (W)**	**87.43**	**40**	*e*P		**P**		**04 47 05.1**	**+0.4**
	comp=Z,0.3nm,0.8s									
H17A	**Grant Village**	**87.52**	**42**	*e*P		**P**		**04 47 06.7**	**+1.3**
	comp=Z,3.7nm,0.8s									
YHH	**Holmes Hill**	**87.53**	**41**	*e*P		**P**		**04 47 05.1**	**-0.3**
	comp=Z,3.0nm,1.0s									
LKWY	**Lake**	**87.71**	**42**	*e*P		**P**		**04 47 05.9**	**-0.3**
	comp=Z,2.7nm,0.8s									
CMAR	**Chiang Mai Arr**	**88.66**	**290**	P		**P**		**04 47 11.2**	**+0.3**
	comp=Z,1.6nm,0.4s,baz=110,slow=3.5,SNR=14									
SYO	**Syowa Base**	**89.20**	**193**⇑	*e*P		P		04 47 21.8	+9.4
SONM	**Songino Array**	**93.34**	**319**	P		**P**		**04 47 30.0**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=132,slow=4.3,SNR=3.3									
YKA	**Yellowknife Ar**	**94.33**	**25**	P		**P**		**04 47 35.0**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=238,slow=4.4,SNR=9.1									
YKB5	**Yellowknife Ar**	**94.33**	**25**	*e*P		**P**		**04 47 35.1**	**-0.8**
TLCR		**144.37**	**326**⇑	*i*P		PKPbc		04 53 48.8	-0.2
BUR08	**Bucovina Ar. S**	**144.41**	**332**	*e*PKPdf		**PKPdf**		**04 53 48.4**	**-0.8**
BURAR	**Bucovina Array**	**144.43**	**332**⇑	*i*P		**PKPab**		**04 53 50.4**	**+0.6**
BIZ	**Bicaz**	**144.52**	**330**⇑	*i*P		**PKPab**		**04 53 50.0**	**0.0**
BR131	**Keskin Array S**	**144.56**	**315**	*e*PKPdf		**PKPdf**		**04 53 48.6**	**-1.1**
BRTR	**Keskin Array B**	**144.56**	**315**	PKP		**PKPdf**		**04 53 49.0**	**-0.7**
	comp=Z,4.0nm,0.9s,baz=116,slow=3.7,SNR=19									
TRPA	**Tarpa**	**145.17**	**335**⇑	*i*P		**PKPbc**		**04 53 51.2**	**-0.1**
CLL	**Collm**	**145.32**	**347**	*e*PKPbc		**PKPab**		**04 53 52.0**	**-0.9**
DOPR	**Dopca**	**145.57**	**330**⇑	*i*P		**PKPab**		**04 53 53.3**	**-0.9**
DRGR		**146.16**	**333**⇓	*i*P		**PKPbc**		**04 53 54.1**	**-0.2**
VYHS	**Vyhne**	**146.25**	**339**	*e*PKP		**PKPbc**		**04 53 54.6**	**+0.2**
ARR	**Arges**	**146.37**	**330**⇑	*i*P		**PKPbc**		**04 53 54.9**	**0.0**
GERES	**GERESS Array B**	**147.46**	**345**	PKPbc		**PKPbc**		**04 53 56.1**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=16,slow=5.1,SNR=3.1									

*ISCJB **25** 04:36:01.3±0.3, 18°.55N±0°.03×69°.01W±0°.03, h117km±3km, mb3.6/15, Error ellipse: s-maj=5.7km s-min=4.0km az=179.6*
*NEIC **25** 04:36:02.0±0.3, 18°.46N×69°.00W, h112km±4km, mb4.1/6, MD4.0(RSPR), Error ellipse: s-maj=8.5km s-min=4.2km az=194.0*
NEIC Felt at San Pedro de Macoris and Santo Domingo.
*IDC **25** 04:36:01.9±1.7, 18°.51N×68°.95W, h114km±18km, mb3.4/10, mb1 3.6/12, mb1mx3.4/45, mbtmp3.8/12, MS2.3/1, Ms1 2.3/1, ms1mx2.2/17, Error ellipse: s-maj=18.6km s-min=14.4km az=40.0*
*RSPR **25** 04:36:02.7, 18°.29N×69°.07W, h100km±1km, MD4.0/18*

ISC 25 04:36:01.8±0.6, 18°.47N±0°.05×69°.08W±0°.05, h110km±6km, n114, σ1§26/132, mb3.7/15, 23C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.43**	**318**	⇑*i*P		**Pn**	**04 36 18.6**	**+0.3**
DR12	**Loma Pena Alta**	**0.43**	**318**	*e*Pn		**Pn**	**04 36 18.6**	**+0.3**
PCDR	**Punta Cana, DR**	**0.66**	**86**	*e*P		**Pn**	**04 36 19.4**	**-0.4**
PCDR	**Punta Cana, DR**	**0.66**	**86**	⇑*e*P		**Pn**	**04 36 19.6**	**-0.2**
PCDR	**Punta Cana, DR**	**0.66**	**86**	*e*S		**Sn**	**04 36 32.8**	**-0.5**
PCDR	**Punta Cana, DR**	**0.66**	**86**	*e*Pn		**Pn**	**04 36 19.4**	**-0.4**
PCDR				*e*Sn		**Sn**	**04 36 32.8**	**-0.5**
SDD	**Santo Domingo**	**0.80**	**270**	*e*Pn		**Pn**	**04 36 21.9**	**+1.0**
BANI	**BANI**	**1.22**	**267**	*e*Pn		**Pn**	**04 36 27.4**	**+1.9**
AGP	**Aguadilla**	**1.84**	**92**	*e*Pn		**Pn**	**04 36 33.2**	**+0.5**
AGP				*e*Sn		**Sn**	**04 36 57.0**	**+0.6**
MPR	**Mayaguez**	**1.86**	**98**⇑	*e*P		**Pn**	**04 36 33.2**	**+0.3**
MPR	**Mayaguez**	**1.86**	**98**	*e*Pn		**Pn**	**04 36 33.0**	**0.0**
AGPR	**Aguadilla, PR**	**1.86**	**90**⇑	*e*P		**Pn**	**04 36 33.2**	**+0.1**
AGPR	**Aguadilla, PR**	**1.86**	**90**	*e*S		**Sn**	**04 36 57.0**	**+0.1**
AGPR	**Aguadilla, PR**	**1.86**	**90**⇑	*e*P		**Pn**	**04 36 33.2**	**+0.1**
AGPR				*e*S		**Sn**	**04 36 57.0**	**+0.1**
LSP	**Las Mesas**	**1.91**	**98**⇑	*e*P		**Pn**	**04 36 34.1**	**+0.4**
LSP	**Las Mesas**	**1.91**	**98**	*e*S		**Sn**	**04 36 57.3**	**-0.8**
LSP	**Las Mesas**	**1.91**	**98**	*e*Pn		**Pn**	**04 36 34.1**	**+0.4**
LSP				*e*Sn		**Sn**	**04 36 57.3**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.92**	**103**⇑	*e*P		**Pn**	**04 36 33.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.92**	**103**	*e*Pn		**Pn**	**04 36 33.4**	**-0.4**
GBPR	**Guanica, Bosqu**	**2.14**	**103**⇑	*e*P		**Pn**	**04 36 36.5**	**-0.1**
GBPR	**Guanica, Bosqu**	**2.14**	**103**	*e*S		**Sn**	**04 37 02.7**	**-0.6**
GBPR	**Guanica, Bosqu**	**2.14**	**103**⇑	*e*P		**Pn**	**04 36 36.5**	**-0.1**
GBPR				*e*S		**Sn**	**04 37 02.7**	**-0.6**
SDDR	**Presa de Saban**	**2.16**	**284**⇑	*e*P		**Pn**	**04 36 39.0**	**+2.1**
SDDR	**Presa de Saban**	**2.16**	**284**	*e*Pn		**Pn**	**04 36 39.5**	**+2.6**
AOPR	**Arecibo Observ**	**2.21**	**93**⇑	*e*P		**Pn**	**04 36 38.0**	**+0.5**
AOPR	**Arecibo Observ**	**2.21**	**93**⇑	*e*P		**Pn**	**04 36 38.0**	**+0.5**
OBIP	**Obispado Ponce**	**2.38**	**100**⇑	*e*P		**Pn**	**04 36 39.3**	**-0.4**
OBIP	**Obispado Ponce**	**2.38**	**100**	*e*S		**Sn**	**04 37 08.2**	**-0.6**
OBIP	**Obispado Ponce**	**2.38**	**100**	*e*Pn		**Pn**	**04 36 38.4**	**-1.3**
OBIP				*e*Sn		**Sn**	**04 37 08.2**	**-0.6**
CELP	**Cerrillos**	**2.40**	**99**⇑	*e*P		**Pn**	**04 36 39.9**	**-0.1**
CELP				*e*S		**Sn**	**04 37 08.8**	**-0.5**
CELP	**Cerrillos**	**2.40**	**99**	*e*Pn		**Pn**	**04 36 39.9**	**-0.1**
CELP				*e*Sn		**Sn**	**04 37 08.8**	**-0.5**
EMPR	**Esperanza - Ma**	**2.42**	**89**⇑	*e*P		**Pn**	**04 36 40.9**	**+0.7**
EMPR	**Esperanza - Ma**	**2.42**	**89**	*e*Pn		**Pn**	**04 36 40.9**	**-0.1**
ICMP	**Isla Caja de M**	**2.49**	**103**⇑	*e*P		**Pn**	**04 36 40.8**	**-0.3**
ICMP	**Isla Caja de M**	**2.49**	**103**	*e*S		**Sn**	**04 37 10.9**	**-0.3**
ICMP	**Isla Caja de M**	**2.49**	**103**	*e*Pn		**Pn**	**04 36 40.1**	**-0.9**
ICMP				*e*Sn		**Sn**	**04 37 10.9**	**-0.3**
SJG	**San Juan**	**2.80**	**97**⇓	*e*P		**Pn**	**04 36 45.0**	**-0.2**
SJG	**San Juan**	**2.80**	**97**	*e*S		**Sn**	**04 37 18.2**	**-0.4**
SJG	**San Juan**	**2.80**	**97**	*e*Pn		**Pn**	**04 36 44.7**	**-0.4**
SJG				*e*Sn		**Sn**	**04 37 18.2**	**-0.4**
SJG	**San Juan**	**2.80**	**97**	P		**Pn**	**04 36 44.4**	**-0.7**
	30nm,0.3s,baz=306,slow=8.3,SNR=61							
SJG				S		**Sn**	**04 37 16.9**	**-1.6**
	96nm,0.3s,baz=323,slow=23,SNR=36							
SJG				LR		LR	04 37 34.0	
	comp=Z,62nm,21.7s,baz=211,slow=34							
CBYP	**Canovanas**	**3.06**	**93**⇑	*e*P		**Pn**	**04 36 48.4**	**-0.3**
CBYP	**Canovanas**	**3.06**	**93**⇑	*e*P		**Pn**	**04 36 49.2**	**+0.5**
CBYP	**Canovanas**	**3.06**	**93**	*e*S		**Sn**	**04 37 25.0**	**+0.2**
CBYP	**Canovanas**	**3.06**	**93**	*e*Pn		**Pn**	**04 36 49.2**	**+0.5**
CBYP				*e*Sn		**Sn**	**04 37 25.0**	**+0.2**
HUMP	**Col San Antoni**	**3.08**	**96**⇑	*e*P		**Pn**	**04 36 49.0**	**+0.1**
HUMP	**Col San Antoni**	**3.08**	**96**	*e*S		**Sn**	**04 37 25.2**	**+0.1**
HUMP	**Col San Antoni**	**3.08**	**96**⇑	*e*P		**Pn**	**04 36 48.9**	**0.0**
HUMP	**Col San Antoni**	**3.08**	**96**	*e*Pn		**Pn**	**04 36 47.5**	**-1.4**
HUMP				*e*S		**Sn**	**04 37 25.2**	**+0.1**
LGNH	**Logne**	**3.35**	**271**	*e*Pn		**Pn**	**04 36 54.2**	**+1.8**
MTP	**Monte Pirata**	**3.37**	**96**⇑	*e*P		**Pn**	**04 36 53.1**	**+0.4**
MTP	**Monte Pirata**	**3.37**	**96**	*e*S		**Sn**	**04 37 32.7**	**+0.7**
MTP	**Monte Pirata**	**3.37**	**96**	*e*Pn		**Pn**	**04 36 53.1**	**+0.4**
MTP				*e*Sn		**Sn**	**04 37 32.7**	**+0.7**
GRTK	**Grand Turk**	**3.59**	**328**	*e*Pn		**Pn**	**04 36 53.7**	**-2.0**
CUPR	**Culebra, Puert**	**3.60**	**92**⇑	*e*P		**Pn**	**04 36 56.5**	**-0.6**
CUPR	**Culebra, Puert**	**3.60**	**92**	*e*Pn		**Pn**	**04 36 52.6**	**-3.3**
STVI	**Saint Thomas**	**3.92**	**91**⇑	*e*P		**Pn**	**04 37 01.0**	**+1.0**
STVI	**Saint Thomas**	**3.92**	**91**	*e*Pn		**Pn**	**04 37 01.0**	**+1.0**
CDVI	**St. Croix**	**4.16**	**99**⇑	*e*P		**Pn**	**04 37 03.8**	**+0.5**
CDVI	**St. Croix**	**4.16**	**99**	*e*Pn		**Pn**	**04 37 03.8**	**+0.5**
ABVI	**Anegada Island**	**4.51**	**86**	*e*Pn		**Pn**	**04 37 05.5**	**-2.5**
SMRT	**St. Maarten**	**5.72**	**93**	*e*Pn		**Pn**	**04 37 21.9**	**-2.4**
GTBY	**Guantanamo Bay**	**5.88**	**285**	*e*Pn		**Pn**	**04 37 25.5**	**-1.1**
ANWB	**Willy Bob**	**6.98**	**95**	*e*Pn		**Pn**	**04 37 39.6**	**-1.8**
URIC	**Uribia, Colomb**	**7.29**	**203**	*e*P		**Pn**	**04 37 46.1**	**+0.4**
URIC	**Uribia, Colomb**	**7.29**	**203**	*e*P		**Pn**	**04 37 46.1**	**+0.4**
MTDJ	**Mount Denham**	**8.04**	**270**	*e*Pn		**Pn**	**04 37 57.4**	**+1.5**
FDF	**Fort de France**	**8.46**	**115**	*e*Pn		**Pn**	**04 38 01.1**	**-0.5**
SMRC	**Santa Marta, M**	**8.80**	**215**	*e*P		**Pn**	**04 38 03.9**	**-2.3**
SMRC	**Santa Marta, M**	**8.80**	**215**	*e*P		**Pn**	**04 38 03.9**	**-2.3**
SVB	**Belmont**	**9.13**	**123**	*e*Pn		**Pn**	**04 38 09.5**	**-1.2**
SVB	**Belmont**	**9.13**	**123**	*e*		**Pn**	**04 38 09.4**	**-1.2**
CODC	**Agustn Codazz**	**9.48**	**207**	*e*P		**Pn**	**04 38 15.7**	**+0.3**
CODC	**Agustn Codazz**	**9.48**	**207**	*e*P		**Pn**	**04 38 15.7**	**+0.3**
GRGR	**Grenville**	**9.53**	**130**	*e*Pn		**Pn**	**04 38 13.9**	**-2.3**
TRN	**Trinidad (W)**	**10.75**	**135**	*e*		**Pn**	**04 38 34.6**	**+2.0**
SMLC	**San Martn de**	**10.76**	**207**	*e*P		**Pn**	**04 38 33.7**	**+0.9**
SMLC	**San Martn de**	**10.76**	**207**	*e*P		**Pn**	**04 38 33.7**	**+0.9**
OCAC	**Ocana**	**10.97**	**203**	*e*P		**Pn**	**04 38 36.0**	**+0.3**
OCAC	**Ocana**	**10.97**	**203**	*e*P		**Pn**	**04 38 36.0**	**+0.3**
PAMC	**Pamplona, Colo**	**11.61**	**198**	*e*P		**Pn**	**04 38 46.5**	**+1.9**
PAMC	**Pamplona, Colo**	**11.61**	**198**	*e*P		**Pn**	**04 38 46.5**	**+1.9**
TAMC	**Tame, Arauca**	**12.25**	**193**	*e*P		**Pn**	**04 38 55.6**	**+3.0**
TAMC	**Tame, Arauca**	**12.25**	**193**	*e*P		**Pn**	**04 38 55.6**	**+3.0**
PTBC	**PUERTO BERRIO,**	**12.96**	**205**	*e*P		**Pn**	**04 39 03.6**	**+1.6**
PTBC	**PUERTO BERRIO,**	**12.96**	**205**	*e*P		**Pn**	**04 39 03.6**	**+1.6**
RUSC	**La Rusia**	**13.10**	**198**	*e*P		**Pn**	**04 39 06.6**	**+2.4**
RUSC	**La Rusia**	**13.10**	**198**	*e*P		**Pn**	**04 39 06.6**	**+2.4**
HELC	**Santa Helena**	**13.73**	**208**	*e*P		**P**	**04 39 15.3**	**-1.9**
HELC	**Santa Helena**	**13.73**	**208**	*e*P		**P**	**04 39 15.3**	**-1.9**
BCIP	**Isla Barro Col**	**13.95**	**230**	*e*Pn		**Pn**	**04 39 14.6**	**-0.2**
NORC	**Norcasia**	**14.02**	**205**	*e*P		**P**	**04 39 18.6**	**-1.4**
NORC	**Norcasia**	**14.02**	**205**	*e*P		**P**	**04 39 18.6**	**-1.4**
BBSR	**BB Station**	**14.40**	**15**	*e*Pn		**P**	**04 39 26.8**	**+2.7**
ROSC	**El Rosal**	**14.48**	**201**	P		**Pn**	**04 39 23.1**	**+1.1**
	0.2nm,0.3s,baz=17,slow=12,SNR=2.6							
ROSC				S		**Sn**	**04 42 04.5**	**+2.4**
	0.4nm,0.3s,baz=114,slow=24,SNR=1.3							
CHIC	**Chingaza**	**14.49**	**199**	*e*P		**P**	**04 39 25.5**	**-0.2**
CHIC	**Chingaza**	**14.49**	**199**	*e*P		**P**	**04 39 25.5**	**-0.2**
JSC	**Jenkinsville**	**19.14**	**328**	*e*P		**P**	**04 40 17.2**	**+0.9**
	4.6nm,0.5s							
HODGE	**Hodges**	**19.62**	**326**	*e*P		**P**	**04 40 22.7**	**+1.2**
	10nm,1.1s							
PTGA	**Pitinga**	**21.07**	**154**	P		**P**	**04 40 37.7**	**+0.3**
	2.6nm,0.6s,baz=336,slow=10.0,SNR=5.5							
TKL	**Tuckaleechee C**	**21.51**	**326**	P		**P**	**04 40 40.5**	**-1.4**
	1.4nm,0.5s,baz=166,slow=12,SNR=4.1							
TKL				S		**S**	**04 44 30.9**	**-3.1**
	2.2nm,0.7s,baz=275,slow=19,SNR=1.6							
HRV	**Adam Dziewonsk**	**24.06**	**355**	*e*P		**P**	**04 41 08.5**	**+1.7**
	4.7nm,1.1s							
ACSO	**Alum Creek Sta**	**24.78**	**334**	*e*P		**P**	**04 41 13.6**	**+0.2**
	8.3nm,1.0s							
CCM	**Cathedral Cave**	**27.48**	**320**	*e*P		**P**	**04 41 37.7**	**0.0**
	1.6nm,0.8s							
LMN	**Caledonia Moun**	**27.54**	**6**	*e*P		**P**	**04 41 39.6**	**+1.5**
TXAR	**Lajitas Array**	**33.31**	**295**	P		**P**	**04 42 30.3**	**+1.0**
	0.3nm,0.4s,baz=128,slow=7.2,SNR=5.5							
SCHQ	**Schefferville**	**36.34**	**2**	P		**P**	**04 42 54.4**	**-0.5**
	1.9nm,0.6s,baz=198,slow=8.6,SNR=7.9							
PDAR	**Pinedale Array**	**41.87**	**314**	P		**P**	**04 43 41.3**	**-0.2**
	0.1nm,0.5s,baz=118,slow=9.3,SNR=2.4							
PSUT	**Pine Spring**	**43.64**	**307**	*e*P		**P**	**04 43 57.2**	**+1.5**
	3.3nm,0.8s							
CPUP	**Villa Florida**	**45.97**	**165**	P		**P**	**04 44 12.3**	**-1.7**
	1.0nm,0.6s,baz=348,slow=8.3,SNR=3.3							
NV11	**Mina Array Sit**	**46.91**	**306**	*e*P		**P**	**04 44 23.7**	**+2.1**
	0.2nm,0.8s							
NVAR	**Mina Array Bea**	**47.02**	**306**	P		**P**	**04 44 23.8**	**+1.3**
	0.9nm,0.8s,baz=97,slow=7.7,SNR=6.5							
NVAR				pP		**pP**	**04 44 49.6**	**+1.4**
	0.8nm,0.7s,baz=90,slow=6.7,SNR=4.1							
YKA	**Yellowknife Ar**	**54.02**	**336**	P		**P**	**04 45 13.5**	**-0.8**
	0.7nm,0.7s,baz=112,slow=7.4,SNR=19							
YKA				pP		**pP**	**04 45 40.0**	**-0.7**
	0.5nm,0.7s,baz=114,slow=7.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**67.93**	**83**	P		**P**	**04 46 48.3**	**-1.0**
	0.6nm,0.6s,baz=282,slow=6.0,SNR=8.8							
FINES	**FINESS Array B**	**76.40**	**29**	P		**P**	**04 47 38.5**	**-0.4**
	0.8nm,0.7s,baz=240,slow=1.5,SNR=3.6							

MEX 25 05:01:41.5±0.7, 16°.48N×93°.67W, h144km±9km, MD4.1, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.88**	**151**	*e*P		Pn	05 02 03.3	-1.4
PCIG				*e*S		Sn	05 02 20.2	-2.2
CCIG	**Comitan**	**1.48**	**97**	*e*P		Pn	05 02 09.1	-1.5
CCIG				*e*S		Sn	05 02 31.1	-1.7
THIG		**2.07**	**139**	*e*P		Pn	05 02 17.0	0.0
THIG				*i* S		Sn	05 02 42.8	-1.5

*ISCJB **25** 05:19:19.1±0.9, 24°.05S±0°.05×67°.00W±0°.07, h195km±13km, Error ellipse: s-maj=12.2km s-min=4.6km az=143.6*
*SJA **25** 05:19:19.0±1.0, 24°.09S×67°.20W, h184km±27km, ML2.4, MW2.6*
*GUC **25** 05:19:20.2±0.5, 23°.97S×67°.53W, h238km±6km, ML3.5*

ISC 25 05:19:18.0±2.0, 24°.04S±0°.06×66°.97W±0°.08, h213km±21km, n18, σ1§31/33, 3C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FSA	**Cafayete**	**2.25**	**157**	*e*P		**Pn**	**05 20 00.7**	**+0.4**
FSA				IAML			05 20 01.1	
	comp=Z,4.5nm,0.6s							
FSA				*e*S		**S**	**05 20 31.4**	**-1.6**
LVC	**Limon Verde**	**2.28**	**308**	*e*P		**Pn**	**05 20 02.0**	**+1.2**
LVC				*e*S		**S**	**05 20 34.3**	**+0.6**
PB15	**IPOC Station P**	**2.44**	**289**⇑	*i*P		**Pn**	**05 20 03.6**	**+1.4**
PB15				*e*S		**S**	**05 20 36.2**	**-0.2**
GO02	**Mina Guanaco**	**2.64**	**244**	*e*P		**Pn**	**05 20 05.8**	**+1.3**
GO02	

baz=211
YHNB Yeheng 0.73 334 ⇓P Pn 05 21 47.5 -0.5
baz=336
YHNB S Sn 05 21 56.8 -1.4
baz=336
SSLB Suanglung 0.74 253 ⇓P Pn 05 21 47.2 -0.8
baz=256
SSLB S Sn 05 21 56.8 -1.5
baz=256
NSK Sanguang 0.75 334 ⇓*i*P Pn 05 21 47.6 -0.7
baz=336
NSK S Sn 05 21 56.9 -1.6
baz=336
ILA Ilan 0.76 2 *e*P Pn 05 21 48.7 +0.4
baz=356
TWF1 Yuli 0.76 211 ⇓P Pn 05 21 46.7 -1.6
baz=219
TWF1 *e*S Sn 05 21 56.8 -1.9
baz=219
WHP Taichung City 0.76 291 P Pn 05 21 48.2 -0.2
baz=292
WHP *e*S Sn 05 21 58.4 -0.5
baz=292
SMLT Sun Moon Lake 0.76 261 ⇓*i*P Pn 05 21 47.9 -0.6
baz=258
SMLT S Sn 05 21 58.0 -1.0
baz=258
NWLT Wulai 0.80 345 P Pn 05 21 48.3 -0.5
baz=347
NWLT *e*S Sn 05 21 58.5 -1.1
baz=347
TYC Yuchr 0.80 263 P Pn 05 21 48.3 -0.6
baz=262
TYC S Sn 05 21 58.4 -1.2
baz=262
NTC Toucheng 0.85 6 *e*P Pn 05 21 50.2 +0.6
baz=356
NTC *e*S Sn 05 22 01.2 +0.3
baz=356
WHYT Xinyi Township 0.85 249 *e*P Pn 05 21 49.6 -0.1
baz=248
WHYT *e*S Sn 05 22 01.5 +0.4
baz=248
EGS 0.86 13 *e*P Pn 05 21 50.3 +0.6
baz=16
FULB Fuli 0.89 206 P Pn 05 21 49.6 -0.6
baz=214
FULB *e*S Sn 05 22 03.2 +1.2
baz=214
WJS Zhushan 0.93 259 *e*P Pn 05 21 51.4 +0.8
baz=258
WJS *e*S Sn 05 22 04.6 +1.7
baz=258
TWQ1 Liyutan 0.93 292 P Pn 05 21 51.1 +0.4
baz=292
TWQ1 *e*S Sn 05 22 03.5 +0.5
baz=292
WLTB Daxi 0.95 333 *e*P Pn 05 21 51.1 +0.2
baz=336
WLTB *e*S Sn 05 22 04.2 +0.9
baz=336
CHKT Chengkung 0.96 200 *e*P Pn 05 21 50.7 -0.3
baz=187
WNT Mingjian 0.96 263 *e*P Pn 05 21 51.5 +0.5
baz=262
WNT *e*S Sn 05 22 04.7 +1.1
baz=262
TCU Taichung 0.97 279 *e*P Pn 05 21 52.0 +0.9
baz=278
TCU *e*S Sn 05 22 05.7 +1.8
baz=278
TIPB Shuangxi 0.97 5 P Pn 05 21 52.1 +0.9
baz=357
TIPB S Sn 05 22 04.7 +0.8
baz=357
NSY Sanyi 0.97 295 *e*P Pn 05 21 51.8 +0.6
baz=296
NSY *e*S Sn 05 22 05.0 +1.1
baz=296
NHDH Xindian Distri 0.97 349 P Pn 05 21 51.6 +0.4
baz=343
NHDH S Sn 05 22 03.9 0.0
baz=343
TWA Mucha 0.98 353 *e*P Pn 05 21 51.4 0.0
baz=347
TWA S Sn 05 22 03.9 -0.3
baz=347
TATO Taipei 0.99 348 *e*P Pn 05 21 51.5 +0.1
baz=349
TATO S Sn 05 22 04.4 0.0
baz=349
NMLH Miaoli 1.00 302 *e*P Pn 05 21 52.4 +0.7
baz=302
NMLH *e*S Sn 05 22 06.0 +1.3
baz=302
TWB1 Santiao Chiao 1.03 13 *e*P Pn 05 21 52.7 +0.7
baz=26
TWB1 *e*S Sn 05 22 06.7 +1.3
baz=26
PTSB Yuanli 1.03 296 *e*P Pn 05 21 52.1 +0.1
baz=296
PTSB *e*S Sn 05 22 06.1 +0.7
baz=296
SBCB Hsinchu 1.03 320 *e*P Pn 05 21 52.7 +0.6
baz=337
ELDTW Lidau 1.04 219 *e*P Pn 05 21 51.0 -1.2
baz=218
ELDTW *e*S Sn 05 22 04.7 -1.1
baz=218
CHN5 Tsauling 1.04 247 *e*P Pn 05 21 52.6 +0.3
baz=236
CHN5 *e*S Sn 05 22 07.3 +1.5
baz=236
WDJ Dajia District 1.05 289 P Pn 05 21 52.6 +0.4
baz=289
WDJ *e*S Sn 05 22 07.1 +1.3
baz=289
HSN Hsinchu 1.05 319 *e*P Pn 05 21 52.8 +0.5
baz=323
HSN *e*S Sn 05 22 07.3 +1.4
baz=323
NWF Wu-fen Shan 1.06 3 *e*P Pn 05 21 53.0 +0.4
baz=353
NWF *e*S Sn 05 22 07.3 +1.0
baz=353
WFSB Wu-fen Shan 1.06 3 *e*P Pn 05 21 52.9 +0.4
baz=353
WFSB *e*S Sn 05 22 07.2 +1.0
baz=353
WCHH Zhanghua 1.07 274 *e*P Pn 05 21 53.2 +0.7
baz=273
WCHH *e*S Sn 05 22 08.0 +1.7
baz=273
NCUH Zhongli 1.08 333 *e*P Pn 05 21 52.6 -0.1
baz=334
NCUH *e*S Sn 05 22 07.8 +1.2
baz=334
WGK Gukeng 1.11 254 *e*P Pn 05 21 53.6 +0.5
baz=252
TWS1 Kuangyinshan 1.13 346 *e*P Pn 05 21 53.4 0.0
baz=356
TWS1 S Sn 05 22 08.8 +1.0
baz=356
WDLH Douliu 1.13 254 *e*P Pn 05 21 54.0 +0.6
baz=253
YM01 YM01 1.15 353 *e*P Pn 05 21 53.2 -0.5
baz=345
YM01 *e*S Sn 05 22 07.9 -0.4
baz=345
YM04 YM04 1.16 352 *e*P Pn 05 21 53.6 -0.2
baz=353
YM04 *e*S Sn 05 22 08.4 -0.1
baz=353
YM05 YM05 1.16 353 P Pn 05 21 53.5 -0.4
baz=346
YM05 *e*S Sn 05 22 08.5 -0.3
baz=346
YM11 YM11 1.16 353 *e*P Pn 05 21 53.6 -0.3
baz=355
NTST Danshui 1.18 348 *e*P Pn 05 21 54.1 0.0
baz=349
NTST *e*S Sn 05 22 09.9 +0.8
baz=349
STYT Tauyuan 1.22 227 *e*P Pn 05 21 55.0 +0.3
baz=226
STYT *e*S Sn 05 22 10.8 +0.7
baz=226
CHN4 Tsaushan 1.22 238 *e*P Pn 05 21 55.5 +0.8
baz=228
CHN4 *e*S Sn 05 22 12.3 +2.1
baz=228
TPUB Ta-pu 1.22 235 P Pn 05 21 55.4 +0.7
baz=229
TPUB *e*S Sn 05 22 11.3 +1.1
baz=229
CHN2 Minshiung 1.24 248 *e*P Pn 05 21 55.3 +0.4
baz=247
CHN2 *e*S Sn 05 22 13.1 +2.6
baz=247
RLNB Erlin 1.25 265 *e*P Pn 05 21 56.0 +1.0
baz=275
RLNB *e*S Sn 05 22 12.8 +1.9
baz=275
YOJ Yonaguni jima 1.26 69 *e*P Pn 05 21 54.8 -0.4
baz=69
YOJ Yonaguni jima 1.26 69 P Pn 05 21 55.1 -0.1
WTP Ta-pu 1.27 234 P Pn 05 21 56.0 +0.7
baz=233
WTP *e*S Sn 05 22 12.6 +1.2
baz=233
TWY Chenhua 1.27 355 *e*P Pn 05 21 54.0 -1.3
baz=344
CHY Chiayi 1.29 247 *e*P Pn 05 21 57.1 +1.5
baz=246
TWG Pinlang 1.32 207 *e*P Pn 05 21 54.5 -1.6
baz=207
TWG *e*S Sn 05 22 10.2 -2.4
baz=207
TWGBT Beinan 1.32 207 *e*P Pn 05 21 55.0 -1.1
baz=207
TWGBT *e*S Sn 05 22 10.7 -1.9
baz=207
WTCT Ta-ch'eng 1.33 264 *e*P Pn 05 21 56.0 -0.1
baz=274
WTCT *e*S Sn 05 22 14.5 +1.8
baz=274
TWK Hsinying 1.35 237 P Pn 05 21 57.2 +0.7
baz=227
TWK *e*S Sn 05 22 15.2 +1.8
baz=227
CHN1 Nanshi 1.37 234 *e*P Pn 05 21 57.4 +0.7
baz=233
CHN1 *e*S Sn 05 22 15.3 +1.6
baz=233
SNST Tainan City 1.37 235 *e*P Pn 05 21 57.2 +0.5
baz=234
SGST Jiashian 1.39 229 *e*P Pn 05 21 58.1 +1.1
baz=219
SGST *e*S Sn 05 22 16.7 +2.3
baz=219
WLGB Puzi 1.41 248 *e*P Pn 05 21 56.8 -0.4
baz=247
SLGT Liugui 1.41 225 *e*P Pn 05 21 58.7 +1.4
baz=225
SLGT *e*S Sn 05 22 17.1 +2.2
baz=225
WSF Szhu 1.42 255 *e*P Pn 05 21 58.1 +0.7
baz=255
WSF *e*S Sn 05 22 17.4 +2.4
baz=255
CHN8 Yiju 1.53 245 *e*P Pn 05 21 59.9 +1.0
baz=245
CHN8 *e*S Sn 05 22 20.0 +2.2
baz=245
ECL Taimali 1.57 207 *e*P Pn 05 21 59.9 +0.4
baz=198
SSD Sandimen 1.60 219 *e*P Pn 05 22 00.7 +0.8
baz=218
MASBT Mashibuluo 1.71 216 *e*P Pn 05 22 02.1 +0.7
baz=218
MASBT *e*S Sn 05 22 24.3 +2.1
baz=218
EAST Anshuo 1.80 207 *e*P Pn 05 22 04.3 +1.6
baz=199
IRIF Iriomote-Funau 1.86 79 P Pn 05 22 03.6 +0.1
HATJ Hateruma jima 1.90 88 P Pn 05 22 04.4 +0.4
SCZT Fangliau 1.92 212 *e*P Pn 05 22 05.5 +1.3
baz=212
PHUB P'eng-hu 2.03 257 P Pn 05 22 05.1 -0.7
baz=256
PHUB *e*S Sn 05 22 29.4 -0.7
baz=256
WDGT Dungji 2.03 249 *e*P Pn 05 22 05.3 -0.5
baz=248
PNG Penghu 2.03 258 *e*P Pn 05 22 05.6 -0.3
baz=257
WLCH Liuqiu 2.06 217 *e*P Pn 05 22 09.6 +3.4
baz=217
JKRS Kuro-shima 2.10 83 P Pn 05 22 07.7 +1.0
JKRS S Sn 05 22 32.9 +1.1
JIJ Ishigaki jima 2.24 80 P Pn 05 22 08.7 +0.1
JIJ *e*S Sn 05 22 35.1 -0.1
VCHM Qimei 2.25 250 *e*P Pn 05 22 08.7 -0.1
baz=239
VCHM *e*S Sn 05 22 34.9 -0.6
baz=239
VWUC VWUC 2.29 296 *e*P Pn 05 22 08.1 -1.3
baz=295
JISG Ishigakijimahi 2.43 76 P Pn 05 22 11.1 -0.2
JISG *e*S Sn 05 22 38.8 -1.2
MATB Ma-tsu 2.68 323 *e*P Pn 05 22 14.2 -0.5
baz=322
JTJ Tarama 2.79 76 P Pn 05 22 16.7 +0.5
JTJ *e*S Sn 05 22 49.4 +0.6
KNM Kinmen 3.03 278 *e*P Pn 05 22 20.1 +0.5
baz=276
KNMB Chin-men Tao 3.08 279 *e*P Pn 05 22 19.3 -0.9
baz=277

BJI ***25*** *05:25:28.0, 16°.59S×171°.80W, h6km, mb5.1/30, mB5.4/19, Ms5.2/8, Ms7 4.9/6*
IDC ***25*** *05:25:28.5±0.4, 16°.51S×171°.99W, h0km, mb4.8/28, mb1 5.0/28, mb1mx4.9/36, mbtmp4.8/28, MS4.0/22, Ms1 4.0/22, ms1mx3.9/35, Error ellipse: s-maj=16.8km s-min=11.9km az=152.0*
NEIC ***25*** *05:25:29.8±0.1, 16°.63S×171°.94W, h10km, mb5.2/213, Error ellipse: s-maj=5.1km s-min=2.7km az=136.0*
ISCJB ***25*** *05:25:32.3±0.1, 16°.59S±0°.04×172°.02W±0°.03, h37km, mb5.1/242, MS4.0/20, Error ellipse: s-maj=6.5km s-min=3.0km az=139.8*
BGR ***25*** *05:25:32.9±0.0, 17°.23S×173°.40W, h35km±4km*
GCMT ***25*** *05:25:33.8±0.2, 16°.44S±0°.02×171°.67W±0°.01, h16km±1km, MW5.0/77, Moment Tensor Solution. s35,c42; s77,c108; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.34±.22; Mθθ-1.94±.18; Mφφ4.28±.16; Mrθ0.90±.50; Mθφ2.35±.12; Mφr0.72±.37; Best double couple: M₀4.21000×10¹⁶ NP1:φs235.00000°, δ69.00000°, λ-35.00000°. NP2: φs339.00000°, δ58.00000°, λ-156.00000°. Principal axes: T 5.1930, Plg7.0000°, Azm289.0000°; N -1.9650, Plg50.0000°, Azm28.0000°; P -3.2280, Plg39.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***25*** *05:25:35.7±1.3, 16°.40S×172°.04W, h56km, mb5.4/39 Error ellipse: s-maj=11.6km s-min=8.1km az=57.0*

ISC 25 05:25:31.8±0.6, **16°.72S**±0°.05×**171°.83W**±0°.05, **h25**km±3km, **h25**km**:pP-P, n644**, σ0**993**/658, **mb5.2**/242, **MS4.0**/20, **18C-10D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**2.97**	**143**	P	**Pn**	**05 26 15.5**	**-1.9**
	baz=2.8,SNR=111						
NIUE				S	**Sn**	**05 26 48.8**	**-3.3**
	baz=2.8						
NIUE	**Niue**	**2.97**	**143**	*e*Pn	**Pn**	**05 26 15.5**	**-1.9**
NIUE				*e*Sn	**Sn**	**05 26 49.5**	**-2.7**
RAR	**Rarotonga**	**12.25**	**113**	*e*Pn	**Pn**	**05 28 21.7**	**-3.1**
RAR				*e*Sn	Sn	05 30 30.4	-10
RAR	**Rarotonga**	**12.25**	**113**	Pn	**Pn**	**05 28 21.6**	**-3.1**
	2.7nm,0.3s,baz=274,slow=5.4,SNR=5.9						
RAR				Sn	Sn	05 30 29.0	-12
	1.9nm,0.3s,baz=128,slow=19,SNR=3.1						
RAR				LR	LR	05 32 00.1	
	comp=Z,958nm,20.6s,baz=263,slow=31						
MARNC	**Mare, Loyalty**	**19.61**	**253**	*e*P	**P**	**05 29 56.0**	**-2.4**
	254nm,0.9s						
PINNC	**Pines Island,**	**20.37**	**250**	*e*P	**P**	**05 30 07.5**	**+0.8**
	127nm,1.3s						
DZM	**Mont Dzumac**	**21.16**	**252**	*e*LQ	LQ	05 34 39.0	
	5μm,26.5s						
DZM				*e*LR	LR	05 35 32.0	
	comp=Z,2μm,26.6s						
DZM	**Mont Dzumac**	**21.16**	**252**	*e*P	**P**	**05 30 14.3**	**-1.2**
	26nm,0.7s						
DZM	**Mont Dzumac**	**21.16**	**252**	P	**P**	**05 30 14.1**	**-1.4**
	16nm,0.9s,baz=86,slow=18,SNR=4.5						
DZM				LR	LR	05 37 11.3	
	comp=Z,1μm,18.6s,baz=80,slow=33						
ONTNC	**Ouen Toro**	**21.20**	**251**	*e*P	**P**	**05 30 15.3**	**-0.4**
	48nm,0.8s						
PPT2	**Papeete2**	**21.28**	**96**	*e*LQ	LQ	05 34 24.4	
	1μm,25.8s						
PPT2				*e*LR	LR	05 35 13.0	
	comp=Z,2μm,26.8s,baz=261						
PPT	**Papeete**	**21.28**	**96**	LR	LR	05 36 06.9	
	comp=Z,447nm,20.9s,baz=257,slow=30						
TBI	**Tubuai**	**22.01**	**111**	*e*LQ	LQ	05 34 43.8	
	725nm,28.2s						
TBI				*e*LR	LR	05 35 41.5	
	comp=Z,2μm,27.5s,baz=289						
TBI	**Tubuai**	**22.01**	**111**	*e*T	T	05 52 49.0	
	3.9nm,0.3s						
OUZ	**Omahuta**	**22.56**	**212**	*e*P	**P**	**05 30 30.6**	**+0.4**
	127nm,1.1s						
PMOR	**Pomariorio Ree**	**23.09**	**89**	*e*P	**P**	**05 30 37.6**	**+1.7**
	160nm,1.3s						
XMAS	**Kiritimati**	**23.43**	**39**	*e*P	**P**	**05 30 38.1**	**-1.2**
	276nm,1.0s						
URZ	**Urewera**	**23.56**	**202**	*e*P	**P**	**05 30 41.3**	**+0.9**
URZ				*e*S	**S**	**05 34 55.5**	**+2.5**
URZ	**Urewera**	**23.56**	**202**	P	**P**	**05 30 40.9**	**+0.6**
	60nm,0.7s,baz=87,slow=1.2,SNR=19						
URZ				S	**S**	**05 34 55.5**	**+2.5**
	3.5nm,0.6s,baz=279,slow=19,SNR=3.7						
URZ				LR	LR	05 42 00.1	
	comp=Z,361nm,18.2s,baz=26,slow=42						
BKZ	**Black Stump Fm**	**24.59**	**202**	*e*P	**P**	**05 30 50.9**	**+0.9**
	25nm,0.9s						
HIZ	**Hauiti**	**24.66**	**206**	*e*P	**P**	**05 30 51.2**	**+0.6**
	76nm,0.8s						
BFZ	**Birch Farm**	**26.02**	**201**	*e*P	**P**	**05 31 04.8**	**+1.9**
	60nm,1.1s						
THZ	**Tophouse**	**28.20**	**205**	*e*P	**P**	**05 31 23.6**	**+1.0**
	35nm,1.0s						
HNR	**Honiara**	**28.40**	**281**	*e*P	**P**	**05 31 22.2**	**-2.4**
	51nm,0.5s						
HNR	**Honiara**	**28.40**	**281**	*e*P	**P**	**05 31 22.2**	**-2.4**
HNR				pmax	pmax		
	comp=Z,51nm,0.5s						
HNR	**Honiara**	**28.40**	**281**	P	**P**	**05 31 22.2**	**-2.4**
	comp=Z,27nm,0.3s,baz=108,slow=20,SNR=2.6						
LTZ	**Lake Taylor**	**29.31**	**204**	*e*P	**P**	**05 31 32.5**	**+0.1**
	comp=Z,54nm,0.6s						
OXZ	**Oxford**	**29.86**	**204**	*e*P	**P**	**05 31 38.0**	**+0.7**
	comp=Z,56nm,0.8s						
MQZ	**McQueen's Vall**	**29.95**	**203**	*e*P	**P**	**05 31 38.4**	**+0.4**
	comp=Z,107nm,1.6s						
RPZ	**Rata Peaks**	**30.58**	**205**	*e*P	**P**	**05 31 44.6**	**+1.0**
	comp=Z,27nm,0.7s						
LBZ	**Lake Benmore**	**31.49**	**205**	*e*P	**P**	**05 31 51.8**	**+0.2**
	comp=Z,73nm,1.7s						
TAOE	**Nuku Hiva Isla**	**31.83**	**80**	*e*S	**S**	**05 37 05.8**	**+1.3**
	comp=Z,74nm,25.0s						
TAOE				*e*LR	LR	05 39 59.4	
	comp=Z,971nm,27.8s						
ODZ	**Otahua Downs**	**31.85**	**204**	*e*P	**P**	**05 31 56.3**	**+1.5**
	comp=Z,30nm,1.3s						
MLZ	**Mavora Lakes**	**33.14**	**206**	*e*P	**P**	**05 32 07.0**	**+0.9**
	comp=Z,56nm,1.2s						
WHZ	**Wether Hill Ro**	**33.63**	**206**	*e*P	**P**	**05 32 11.6**	**+1.2**
	comp=Z,65nm,1.2s						
RKT	**Rikitea**	**35.17**	**106**	*e*T	T	06 09 28.8	
	comp=Z,2.6nm,0.3s						
EIDS	**Eidsvold**	**35.57**	**250**	*e*P	**P**	**05 32 25.0**	**-2.5**
	comp=Z,14nm,1.4s						
ARMA	**Armidale**	**35.99**	**241**	P	**P**	**05 32 30.7**	**-0.4**
	baz=36,SNR=13						
ARMA	**Armidale**	**35.99**	**241**	*e*P	**P**	**05 32 30.3**	**-0.8**
	comp=Z,19nm,0.8s						
CNB	**Canberra Magne**	**39.18**	**234**	P	**P**	**05 32 58.5**	**+0.5**
	baz=39,SNR=15						
H11S2	**WAKE ISLAND Hy**	**40.87**	**328**	T	T	06 16 32.3	
	baz=148,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**40.88**	**328**	T	T	06 16 35.1	
	baz=148,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**40.88**	**328**	T	T	06 16 26.1	
	baz=148,slow=76,SNR=14						
CMSA	**Cobar Meteorol**	**41.21**	**241**	P	**P**	**05 33 14.1**	**-0.7**
	baz=41,SNR=33						
H11N3	**WAKE ISLAND Hy**	**41.80**	**329**	T	T	06 16 55.6	
	baz=142						
H11N1	**WAKE ISLAND Hy**	**41.81**	**329**	T	T	06 17 03.5	
	baz=142						
H11N2	**WAKE ISLAND Hy**	**41.82**	**329**	T	T	06 17 26.4	
	baz=142						
TOO	**Toolangi**	**42.83**	**232**	P	**P**	**05 33 28.6**	**+0.7**
	baz=43,SNR=12						
TOO	**Toolangi**	**42.83**	**232**	*e*P	**P**	**05 33 28.7**	**+0.7**
	comp=Z,40nm,0.9s						
TOO	**Toolangi**	**42.83**	**232**	*e*P	**P**	**05 33 28.7**	**+0.7**
TOO				pmax	pmax		
	comp=Z,40nm,0.9s						
COEN	**Coen**	**43.41**	**267**	P	**P**	**05 33 34.0**	**+1.1**
	baz=44,SNR=4.5						
COEN	**Coen**	**43.41**	**267**	*e*P	**P**	**05 33 33.7**	**+0.8**
	comp=Z,19nm,0.9s						
STKA	**Stephens Creek**	**44.71**	**241**	P	**P**	**05 33 43.5**	**+0.3**
	baz=45,SNR=44						
STKA	**Stephens Creek**	**44.71**	**241**	*e*P	**P**	**05 33 43.2**	**+0.1**
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**44.71**	**241**	*e*P	**P**	**05 33 43.2**	**+0.1**
STKA				pmax	pmax		
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**44.71**	**241**	P	**P**	**05 33 43.2**	**+0.1**
	comp=Z,50nm,0.9s,baz=77,slow=7.7,SNR=54						
STKA				LR	LR	05 51 00.1	
	comp=Z,245nm,18.9s,baz=61,slow=34						
ARPS	**Mount Arapiles**	**45.44**	**235**	P	**P**	**05 33 49.6**	**+0.7**
	baz=46,SNR=13						
HTT	**Hallett**	**47.17**	**240**	P	**P**	**05 34 02.6**	**+0.1**
	baz=47,SNR=9.1						
JAY	**Jayapura**	**48.72**	**282**	P	**P**	**05 34 15.2**	**+0.3**
	comp=Z,24nm,0.9s,baz=206,slow=6.0,SNR=4.4						
BBOO	**Buckleboo**	**49.48**	**241**	P	**P**	**05 34 20.6**	**+0.2**
	baz=50,SNR=25						
BBOO	**Buckleboo**	**49.48**	**241**	*e*P	**P**	**05 34 20.8**	**+0.5**
	comp=Z,61nm,0.8s						
WB2	**Warramunga Arr**	**51.01**	**258**	*e*P	**P**	**05 34 32.2**	**0.0**
WR1	**Warramunga Arr**	**51.02**	**258**	*e*P	**P**	**05 34 30.6**	**-1.6**
	comp=Z,27nm,0.6s						
WR1				*e*PcP	**PcP**	**05 35 48.7**	**+0.6**
WRA	**Warramunga Arr**	**51.02**	**258**	P	**P**	**05 34 30.6**	**-1.7**
	comp=Z,17nm,0.8s,baz=94,slow=7.9,SNR=142						
WRA				PcP	**PcP**	**05 35 48.7**	**+0.5**
	comp=Z,5.0nm,1.0s,baz=92,slow=3.6,SNR=3.2						
WRA				LR	LR	05 55 42.0	
	comp=Z,573nm,18.1s,baz=85,slow=36						
AS01	**Alice Springs**	**51.11**	**253**	*e*P	**P**	**05 34 31.5**	**-1.4**
AS31	**Alice Springs**	**51.15**	**253**	*e*P	**P**	**05 34 31.5**	**-1.7**
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**51.15**	**253**	P	**P**	**05 34 32.4**	**-0.8**
	comp=Z,64nm,0.9s,baz=87,slow=8.1,SNR=156						
ASAR				S	**S**	**05 41 46.6**	**-3.6**
	comp=Z,0.5nm,0.6s,baz=93,slow=15,SNR=4.5						
ASAR				LR	LR	05 54 27.9	
	comp=Z,199nm,20.9s,baz=88,slow=34						
KDU	**Kakadu**	**53.88**	**266**	P	**P**	**05 34 53.4**	**-0.1**
	baz=54,SNR=3.0						
MTN	**Manton Dam**	**55.13**	**266**	*e*P	**P**	**05 35 01.9**	**-0.7**
	comp=Z,14nm,0.8s						
WRKA	**Warakurna**	**56.18**	**251**	P	**P**	**05 35 10.0**	**0.0**
	baz=56,SNR=47						
FORT	**Forrest**	**56.18**	**244**	P	**P**	**05 35 10.1**	**+0.2**
	baz=56,SNR=6.8						
FORT	**Forrest**	**56.18**	**244**	*e*P	**P**	**05 35 10.3**	**+0.4**
	comp=Z,71nm,1.0s						
KNRA	**Kununurra**	**56.87**	**262**	P	**P**	**05 35 15.1**	**+0.1**
	baz=57,SNR=5.6						
FITZ	**Fitzroy Crossi**	**59.42**	**259**	P	**P**	**05 35 33.2**	**+0.3**
	baz=60,SNR=6.1						
FITZ	**Fitzroy Crossi**	**59.42**	**259**	*e*P	**P**	**05 35 33.4**	**+0.6**
	comp=Z,27nm,1.5s						
KMBL	**Kambalda**	**61.46**	**243**	P	**P**	**05 35 46.9**	**+0.3**
	baz=62,SNR=5.0						
SBA	**Scott Base**	**62.07**	**185**	*e*P	**P**	**05 35 51.7**	**+1.8**
	comp=Z,28nm,0.8s						
SBA	**Scott Base**	**62.07**	**185**	*e*P	**P**	**05 35 51.7**	**+1.8**
SBA				pmax	pmax		

comp=Z,28nm,0.8s
VNDA Vanda 62.23 186 *eP* **P 05 35 52.3 +1.3**
comp=Z,18nm,1.0s
VNDA Vanda 62.23 186 P **P 05 35 53.9 +2.8**
comp=Z,13nm,0.9s,baz=4.8,slow=6.4,SNR=44
SOEI Soe 62.38 268 *eP* **P 05 35 51.9 -1.3**
comp=Z,119nm,0.9s
MEEK Meekatharra 64.72 248 P **P 05 36 08.7 +0.4**
baz=65,SNR=5.2
KLBR Kellerberrin 64.97 243 P **P 05 36 10.7 +0.8**
baz=65,SNR=13
BLDU Ballidu 65.95 244 P **P 05 36 17.0 +0.7**
baz=66,SNR=4.9
MORW Morawa 66.70 245 *eP* **P 05 36 20.9 -0.2**
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 70.91 319 P **P 05 36 46.0 -1.1**
MJAR Matsushiro Arr 70.91 319 P **P 05 36 46.0 -1.1**
comp=Z,2.9nm,0.7s,baz=174,slow=4.5,SNR=4.3
MJAR LR LR 06 07 41.3
comp=Z,19nm,18.0s,baz=120,slow=36
MAJO Matsushiro 70.91 319 *eP* **P 05 36 46.0 -1.1**
MAJO Matsushiro 70.91 319 *eP* **P 05 36 46.0 -1.1**
HOPS Hopland Field 71.75 38 *eP* **P 05 36 51.1 -1.0**
comp=Z,94nm,1.6s
GDXM Geysers 71.80 38 *eP* **P 05 36 48.7 -3.8**
comp=Z,24nm,0.3s
109C Camp Elliot, M 71.87 46 P **P 05 36 53.2 +0.3**
baz=235
MWC Mount Wilson 71.99 45 *eP* **P 05 36 55.0 +1.2**
comp=Z,21nm,1.3s
MWC Mount Wilson 71.99 45 *eP* **P 05 36 55.0 +1.2**
MWC pmax pmax
comp=Z,21nm,1.3s
ARVC Arvin 72.00 43 P **P 05 36 54.4 +0.7**
baz=234
BAR Barrett 72.06 47 *eP* **P 05 36 55.3 +1.2**
comp=Z,24nm,1.4s
KMRM Mail Ridge 72.19 37 *eP* **P 05 36 56.0 +1.2**
comp=Z,102nm,1.2s
MURC Murrieta 72.21 46 P **P 05 36 54.8 -0.2**
baz=235
VES Vestal, Richgr 72.26 43 P **P 05 36 55.0 -0.1**
baz=233,SNR=6.8
BFSC Mount Baldy Ra 72.27 45 P **P 05 36 55.1 -0.3**
baz=235
MONP2 Monument Peak 72.35 47 P **P 05 36 56.5 +0.5**
baz=236,SNR=5.5
VOG Valley Oaks Go 72.36 42 P **P 05 36 55.9 +0.2**
baz=233
JAGI Jajag, Banyuwa 72.37 266 *eP* **P 05 36 56.5 +0.1**
comp=Z,35nm,0.8s
EDW2 Edwards Air Fo 72.41 44 P **P 05 36 56.9 +0.7**
baz=234,SNR=6.1
IKP In-Ko-Pah, Jac 72.43 47 P **P 05 36 56.9 +0.5**
baz=236
ISA Isabella, Lake 72.55 43 *eP* **P 05 36 57.9 +0.9**
comp=Z,63nm,1.6s
ISA Isabella, Lake 72.55 43 *eP* **P 05 36 57.9 +0.9**
ISA pmax pmax
comp=Z,63nm,1.6s
ISA Isabella, Lake 72.55 43 P **P 05 36 57.6 +0.5**
baz=234,SNR=6.3
O02D Mt. Diablo Mer 72.69 37 P **P 05 36 58.6 +0.8**
baz=229,SNR=5.3
PFO Pinyon Flats O 72.73 46 *eP* **P 05 36 59.1 +0.9**
comp=Z,19nm,1.2s
PFO Pinyon Flats O 72.73 46 P **P 05 36 58.0 -0.2**
baz=236
CMB Columbia Colle 72.77 40 *eP* **P 05 36 58.9 +0.7**
comp=Z,27nm,1.3s
CMB Columbia Colle 72.77 40 *eP* **P 05 36 58.9 +0.7**
CMB pmax pmax
comp=Z,27nm,1.3s
BBRC Big Bear Solar 72.78 45 P **P 05 36 59.1 +0.5**
baz=235
SWSC Sam W. Stewart 72.81 47 P **P 05 36 58.4 -0.2**
baz=236,SNR=6.5
LRMC Laurel Mtn Rad 72.97 44 P **P 05 36 59.7 +0.1**
baz=234
AFDM Forest Hills D 72.98 39 *eP* **P 05 36 59.3 -0.2**
comp=Z,39nm,1.6s
ORV Oroville 73.05 38 *eP* **P 05 37 00.6 +0.8**
comp=Z,34nm,1.4s
ORV Oroville 73.05 38 *eP* **P 05 37 00.6 +0.8**
ORV pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 73.09 37 *eP* **P 05 37 01.0 +1.0**
comp=Z,46nm,1.4s
WDC Whiskeytown Da 73.09 37 *eP* **P 05 37 01.0 +1.0**
WDC pmax pmax
comp=Z,46nm,1.4s
N02D Trinity Center 73.25 37 P **P 05 37 01.4 +0.3**
baz=229
BELC Belle Mtn. Jos 73.26 46 P **P 05 37 01.6 +0.2**
baz=236,SNR=6.2
CWC Cottonwood Cre 73.27 43 P **P 05 37 01.6 +0.2**
baz=234
QSPA South Pole Qui 73.34 180 *eP* **P 05 37 03.3 +2.0**
comp=Z,50nm,1.1s
O03E Paynes Creek 73.34 38 P **P 05 37 01.4 -0.2**
baz=230
MDPB Devils Postpil 73.34 41 *eP* **P 05 37 02.6 +0.7**
comp=Z,28nm,1.2s
OMMB Old Mammoth Mi 73.38 41 *eP* **P 05 37 03.1 +0.9**
comp=Z,30nm,1.3s
MPMC Manual Prospec 73.43 43 P **P 05 37 02.3 -0.1**
baz=234,SNR=29
M02C Callahan 73.44 36 P **P 05 37 02.4 +0.2**
baz=229
BC3 Big Chuckawall 73.45 46 P **P 05 37 02.1 -0.3**
baz=236,SNR=15
GSC Goldstone, Bar 73.45 44 *eP* **P 05 37 03.1 +0.7**
comp=Z,26nm,1.3s
GSC Goldstone, Bar 73.45 44 P **P 05 37 02.4 0.0**
baz=235,SNR=5.4
DAC Darwin (Calif) 73.49 43 *eP* **P 05 37 05.5 +2.8**
comp=Z,29nm,1.5s
MLAC Mammoth, Mammo 73.49 41 P **P 05 37 02.8 0.0**
baz=233
HEC Hector,Ludlow 73.50 45 P **P 05 37 02.7 0.0**
baz=236,SNR=11
L02E Cave Junction 73.53 35 P **P 05 37 03.1 +0.5**
baz=226
TIN Tinemaha, Big 73.54 42 P **P 05 37 03.4 +0.5**
baz=234
GLA Glamis 73.55 47 *eP* **P 05 37 02.7 -0.3**
comp=Z,34nm,1.1s
GLA Glamis 73.55 47 *eP* **P 05 37 02.7 -0.3**
GLA pmax pmax
comp=Z,34nm,1.1s
GLA Glamis 73.55 47 P **P 05 37 02.5 -0.5**
baz=237,SNR=5.1
SPIA Saint Paul Isl 73.62 1 *eP* **P 05 37 02.4 -0.3**
comp=Z,98nm,1.1s
WAKR Walker 73.65 40 *eP* **P 05 37 04.2 +0.6**
comp=Z,58nm,1.5s
YBH Yreka Blue Hor 73.75 36 *eP* **P 05 37 03.7 -0.3**
comp=Z,32nm,1.3s
YBH Yreka Blue Hor 73.75 36 *eP* **P 05 37 03.7 -0.3**
YBH pmax pmax
comp=Z,32nm,1.3s
K02D Willamette Mer 73.86 35 P **P 05 37 04.8 +0.2**
baz=228
PNTR Pine Nut 73.90 40 *eP* **P 05 37 05.9 +0.8**
comp=Z,42nm,1.2s
BEKR Beckworth 73.92 39 *eP* **P 05 37 05.6 +0.4**
comp=Z,44nm,1.5s
GMRC Granite Mounta 73.93 45 P **P 05 37 05.3 0.0**
baz=236,SNR=13
IRM Iron Mountain 73.94 46 P **P 05 37 05.8 +0.6**
baz=236,SNR=21
VCNR Virginia City 74.00 40 *eP* **P 05 37 06.5 +0.8**
comp=Z,29nm,1.3s
J01E Myrtle Point 74.02 34 P **P 05 37 05.7 +0.2**
baz=228
GRAC Grapevine Rang 74.06 43 P **P 05 37 06.0 +0.1**
baz=234,SNR=22
YERR Yerington 74.06 40 *eP* **P 05 37 06.7 +0.7**
comp=Z,37nm,1.4s
FURC Furnace Creek, 74.08 43 P **P 05 37 06.0 +0.1**
baz=235
TUQ Turquoise Moun 74.12 45 P **P 05 37 06.4 0.0**
baz=236
Y12C Blythe 74.15 47 *eP* **P 05 37 07.4 +1.0**
comp=Z,26nm,1.1s
Y12C Blythe 74.15 47 P **P 05 37 06.2 -0.2**
baz=237,SNR=9.8
113A Mohawk Valley, 74.15 48 *eP* **P 05 37 07.4 +1.0**
comp=Z,40nm,1.3s
HUMO Hull Mountain 74.19 35 *eP* **P 05 37 07.5 +1.0**
comp=Z,51nm,1.5s
M04C Macdoel 74.28 37 P **P 05 37 07.3 +0.2**
baz=230
RYN Ryan 74.29 41 *eP* **P 05 37 08.0 +0.7**
comp=Z,44nm,1.4s
L04D Klamath Falls 74.30 36 P **P 05 37 07.0 -0.2**
baz=229
NV01 Mina Array Sit 74.31 41 *eP* **P 05 37 07.6 +0.1**
NVAR Mina Array Bea 74.31 41 P **P 05 37 07.9 +0.4**
comp=Z,10nm,0.9s,baz=228,slow=9.6,SNR=32
NVAR PP PP 05 39 55.3 +1.4
comp=Z,1.5nm,1.1s,baz=230,slow=12,SNR=3.6
NVAR LR LR 06 04 27.4
comp=Z,200nm,18.4s,baz=214,slow=32
PETK Petropavlovsk- 74.34 341 P **P 05 37 06.5 -0.6**
comp=Z,6.7nm,0.8s,baz=116,slow=6.8,SNR=5.2
PETK LR LR 06 10 06.6
comp=Z,38nm,18.8s,baz=143,slow=36
PEA1 Petropavlovsk- 74.35 341 *eP* **P 05 37 06.5 -0.7**
NV11 Mina Array Sit 74.40 41 *eP* **P 05 37 07.7 -0.2**
comp=Z,4.5nm,1.4s
214A Organ Pipe Nat 74.41 49 P **P 05 37 07.5 -0.5**
baz=238,SNR=21
PAHR Pah Rah Range 74.41 39 *eP* **P 05 37 08.9 +0.9**
comp=Z,38nm,1.4s
LDFC Landfair 74.47 45 *eP* **P 05 37 09.4 +1.0**
comp=Z,109nm,1.6s
KKM Kota Kinabalu 74.61 281 *eP* **P 05 37 10.2 +0.6**
comp=Z,64nm,1.6s
I03D Drain, OR 74.70 34 P **P 05 37 09.9 +0.6**
baz=228
I02D Swisshome 74.70 34 P **P 05 37 09.9 +0.5**
baz=228
PDMCI Parker Dam,Lak 74.71 46 P **P 05 37 10.0 +0.3**
baz=237
TPNV Topopah Spring 74.76 43 *eP* **P 05 37 08.8 -1.3**
comp=Z,21nm,1.2s
TPNV Topopah Spring 74.76 43 *eP* **P 05 37 08.8 -1.3**
TPNV pmax pmax
comp=Z,21nm,1.2s
TPNV Topopah Spring 74.76 43 P **P 05 37 10.4 +0.3**
baz=235,SNR=14
KVN Kaiserville 74.81 41 *eP* **P 05 37 11.4 +1.0**
comp=Z,32nm,1.3s
KVN Kaiserville 74.81 41 *eP* **P 05 37 11.4 +1.0**
KVN pmax pmax
comp=Z,32nm,1.3s
K04D Chiloquin, OR 74.87 36 P **P 05 37 10.9 +0.3**
baz=230
J04D Umpqua Nationa 75.07 35 P **P 05 37 12.1 +0.3**
baz=229
SHPR Sheep Range 75.23 44 *eP* **P 05 37 13.7 +0.8**
comp=Z,35nm,1.3s
MOD Modoc Plateau 75.23 37 *eP* **P 05 37 12.7 0.0**
comp=Z,40nm,1.4s
I04A Tendick Farm, 75.27 35 P **P 05 37 12.5 -0.2**
baz=229
Y14A Wickenburg 75.31 47 *eP* **P 05 37 13.5 +0.2**
comp=Z,38nm,1.2s
W13A Hualapai Mount 75.32 46 *eP* **P 05 37 14.5 +1.0**
comp=Z,29nm,1.5s
YSS Yuzh-Sakhalins 75.37 330 *eP* **P 05 37 13.2 +0.1**
YSS *e* 05 37 25.2
YSS pmax pmax
comp=Z,20nm,0.8s
K05A Summer Lake 75.42 36 *eP* **P 05 37 14.0 +0.2**
comp=Z,123nm,1.6s
H04D Lebanon 75.58 34 P **P 05 37 14.9 +0.5**
baz=228
J05D Fort Rock, OR 75.59 36 P **P 05 37 15.2 +0.5**
baz=230
G03D McMinnville, O 75.76 33 P **P 05 37 15.8 +0.4**
baz=228
H04A Detroit Lake 75.98 34 *eP* **P 05 37 15.0 -1.8**
comp=Z,40nm,1.3s
R11A Troy Canyon, C 75.99 42 *eP* **P 05 37 17.9 +0.7**
comp=Z,29nm,1.4s
R11A Troy Canyon, C 75.99 42 P **P 05 37 17.2 +0.1**
baz=235,SNR=22
TUC Tucson 76.07 50 *eP* **P 05 37 18.8 +1.2**
comp=Z,50nm,1.3s
TUC Tucson 76.07 50 *eP* **P 05 37 18.8 +1.2**
TUC pmax pmax
comp=Z,50nm,1.3s
TUC Tucson 76.07 50 P **P 05 37 17.8 +0.2**
baz=240
PINE Pine Mountain 76.08 35 *eP* **P 05 37 18.3 +0.7**
comp=Z,39nm,1.1s
I05D Terrebonne, OR 76.21 35 P **P 05 37 19.0 +0.9**
baz=230
WVOR Wild Horse Val 76.53 38 *eP* **P 05 37 20.4 +0.3**
comp=Z,42nm,1.4s
WVOR Wild Horse Val 76.53 38 *eP* **P 05 37 20.4 +0.3**
WVOR pmax pmax
comp=Z,42nm,1.4s
X16A Lo Mia Camp, P 76.67 48 *eP* **P 05 37 22.2 +1.1**
comp=Z,40nm,1.1s
319A Douglas 76.72 51 *eP* **P 05 37 23.0 +1.7**
comp=Z,58nm,1.4s
LCMT Little Creek M 76.79 45 *eP* **P 05 37 22.4 +0.7**
comp=Z,27nm,1.4s
G05D Wanic, OR 76.81 34 P **P 05 37 22.2 +0.7**
baz=230
NLWA Neilton Lookou 76.92 31 *eP* **P 05 37 23.2 +1.1**
comp=Z,33nm,1.4s
CCUT Cedar City 77.01 44 *eP* **P 05 37 24.7 +1.7**
comp=Z,44nm,1.6s
E04D Cinebar 77.02 32 P **P 05 37 22.9 +0.4**
baz=228
I07A Izee 77.06 36 *eP* **P 05 37 24.0 +1.0**
comp=Z,16nm,1.1s
KNB Kanab 77.08 45 *eP* **P 05 37 25.0 +1.6**
comp=Z,85nm,1.6s
KNB Kanab 77.08 45 *eP* **P 05 37 25.0 +1.6**
KNB pmax pmax
comp=Z,85nm,1.6s
U15A North Rim 77.13 45 *eP* **P 05 37 25.4 +1.6**
comp=Z,39nm,1.3s
F05D White Salmon 77.15 33 P **P 05 37 23.3 0.0**
baz=229
G06A Carlson Farm, 77.17 34 *eP* **P 05 37 22.8 -0.7**
comp=Z,37nm,1.6s
J08A Circle Bar Ran 77.20 37 *eP* **P 05 37 24.1 +0.4**
comp=Z,40nm,1.3s
SZCU Shurtz Canyon 77.22 44 *eP* **P 05 37 25.6 +1.4**
comp=Z,59nm,1.6s
PSUT Pine Spring 77.22 43 *eP* **P 05 37 25.3 +1.1**
comp=Z,22nm,1.2s
WUAZ Wupatki 77.28 47 *eP* **P 05 37 26.0 +1.5**
comp=Z,38nm,1.3s
WUAZ Wupatki 77.28 47 P **P 05 37 25.1 +0.6**
baz=239
D04E Lakebay 77.33 32 P **P 05 37 24.9 +0.7**
baz=228
D03D Eldon 77.41 31 P **P 05 37 25.7 +1.0**
baz=228
HPIG 77.47 57 *eP* **P 05 37 24.1 -1.8**
comp=Z,22nm,1.4s
LON Longmire 77.54 33 *eP* **P 05 37 25.4 -0.1**
comp=Z,11nm,1.3s
LON Longmire 77.54 33 *eP* **P 05 37 25.4 -0.1**
LON pmax pmax
comp=Z,11nm,1.3s
ELK Elko 77.58 40 *eP* **P 05 37 26.6 +0.4**
comp=Z,24nm,1.2s
ELK Elko 77.58 40 *eP* **P 05 37 26.6 +0.4**
ELK pmax pmax
comp=Z,24nm,1.2s
ELK Elko 77.58 40 P **P 05 37 26.6 +0.4**
comp=Z,11nm,1.0s,baz=264,slow=5.1,SNR=23
PKCU Pink Cliffs 77.65 45 *eP* **P 05 37 26.4 -0.3**
comp=Z,122nm,1.7s
D05A Enumclaw 77.73 32 *eP* **P 05 37 27.7 +1.2**
comp=Z,57nm,1.3s
X18A Snowflake 77.78 48 *eP* **P 05 37 27.2 -0.2**
comp=Z,38nm,1.3s
MTPU Mount Pierson 78.06 44 *eP* **P 05 37 30.5 +1.4**
comp=Z,62nm,1.5s
G08A Pilot Rock 78.12 35 *eP* **P 05 37 29.8 +0.9**
comp=Z,35nm,1.3s
KSRS Korea Array 78.15 315 P **P 05 37 30.1 +1.0**
comp=Z,8.0nm,1.0s,baz=129,slow=5.7,SNR=12
KSRS LR LR 06 06 58.6
comp=Z,29nm,19.9s,baz=118,slow=32
KS15 Wonju Array Si 78.17 315 *eP* **P 05 37 29.6 +0.5**
comp=Z,41nm,1.4s
KS01 Wonju Array Si 78.18 315 *eP* **P 05 37 29.1 -0.2**
TCRU Three Creeks R 78.19 44 *eP* **P 05 37 31.0 +1.4**
comp=Z,26nm,1.1s
MSU Marysvale 78.31 44 *eP* **P 05 37 31.5 +1.2**
MSU Marysvale 78.31 44 *eP* **P 05 37 31.5 +1.2**
121A Cookes Peak, D 78.39 51 P **P 05 37 31.6 +0.8**
baz=242
B05A Bryant 78.39 31 P **P 05 37 30.5 +0.3**
baz=228
A04D Lummi Island 78.40 31 P **P 05 37 31.0 +0.8**
baz=228
RSO Redoubt South 78.44 10 *eP* **P 05 37 29.3 -1.1**
E07A Sunnyside 78.44 34 *eP* **P 05 37 30.6 +0.1**
comp=Z,21nm,1.1s
LTY Liberty 78.46 33 *eP* **P 05 37 30.8 +0.2**
comp=Z,9.5nm,1.1s
HAWA Hanford 78.50 34 *eP* **P 05 37 31.6 +0.7**
comp=Z,32nm,1.5s
BMO Blue Mountains 78.78 36 *eP* **P 05 37 33.0 +0.5**
comp=Z,20nm,1.2s
KSM Kuching 78.81 275 *eP* **P 05 37 34.0 +0.8**
comp=Z,48nm,1.1s
DUG Dugway, Tooele 78.81 42 *eP* **P 05 37 33.0 +0.1**
comp=Z,24nm,1.1s
DUG Dugway, Tooele 78.81 42 *eP* **P 05 37 33.0 +0.1**
DUG pmax pmax
comp=Z,24nm,1.1s
DUG Dugway, Tooele 78.81 42 P **P 05 37 33.1 +0.2**
baz=237
E08A Dider Farm, El 78.82 34 *eP* **P 05 37 32.3 -0.3**
comp=Z,24nm,1.4s
BGU Big Grassy Mou 79.07 41 *eP* **P 05 37 35.0 +0.7**
comp=Z,20nm,1.4s
NLU North Lily Min 79.15 43 *eP* **P 05 37 35.8 +1.0**
comp=Z,9.3nm,1.0s
Q16A Castle Valley 79.19 44 *eP* **P 05 37 36.7 +1.6**
comp=Z,19nm,1.1s
D08A Wollman Farm, 79.25 34 *eP* **P 05 37 35.3 +0.4**
comp=Z,23nm,1.2s
E09A Wood Farm, Sta 79.33 34 *eP* **P 05 37 35.4 0.0**
comp=Z,26nm,1.3s
USRK Ussuriysk Ar. 79.34 323 P **P 05 37 35.3 -0.1**
comp=Z,4.0nm,0.8s,baz=104,slow=8.0,SNR=6.4
USRK LR LR 06 07 22.1
comp=Z,40nm,21.7s,baz=118,slow=32
TMUT Trail Mountain 79.37 43 *eP* **P 05 37 37.8 +1.6**
comp=Z,34nm,1.0s
MPU Maple Canyon 79.47 43 *eP* **P 05 37 37.5 +0.9**
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 79.53 11 *eP* **P 05 37 35.6 -0.6**
comp=Z,31nm,1.0s
SPUT South Promonto 79.65 41 *eP* **P 05 37 37.9 +0.5**
comp=Z,43nm,1.4s
HLID Hailey 79.70 39 *eP* **P 05 37 38.0 +0.4**
comp=Z,24nm,1.0s
HLID Hailey 79.70 39 P **P 05 37 38.1 +0.4**
baz=235
HVU Hansel Valley 79.70 41 *eP* **P 05 37 38.4 +0.7**
comp=Z,22nm,1.2s
HVU Hansel Valley 79.70 41 *eP* **P 05 37 38.4 +0.7**
HVU pmax pmax
comp=Z,22nm,1.2s
SUA Susitna One 79.71 10 *eP* **P 05 37 36.5 -0.7**
comp=Z,29nm,0.9s
SRU San Rafael Swe 79.73 44 *eP* **P 05 37 38.8 +0.9**
comp=Z,39nm,1.4s
LAZ Ladron 79.75 49 *eP* **P 05 37 39.7 +1.5**
Y22D IRIS PASSCAL I 79.75 50 P **P 05 37 38.9 +0.8**
baz=242
LENM Lemitar 79.76 50 *eP* **P 05 37 39.2 +1.0**
CTU Camp Tracy 79.76 42 *eP* **P 05 37 38.8 +0.7**
comp=Z,25nm,1.1s
P17A Butcher Ranch, 79.77 44 *eP* **P 05 37 39.5 +1.3**
comp=Z,38nm,1.2s
MNTX Cornudas Mount 79.81 53 *eP* **P 05 37 39.7 +1.3**
comp=Z,37nm,1.5s
MNTX Cornudas Mount 79.81 53 P **P 05 37 38.2 -0.2**
baz=243,SNR=11
B08A Colville Reser 79.86 33 *eP* **P 05 37 38.0 -0.2**
comp=Z,22nm,1.3s
JLU Jordanelle 79.90 42 *eP* **P 05 37 39.6 +0.7**
comp=Z,15nm,1.0s
BNM Barren Site 80.00 50 *eP* **P 05 37 41.0 +1.4**
C09A Chrisman Ranch 80.06 33 *eP* **P 05 37 39.6 +0.3**
comp=Z,18nm,1.1s
LLLB Lilloet 80.06 30 *eP* **P 05 37 39.6 +0.3**
comp=Z,40nm,1.5s
KNK Knik Glacier 80.07 11 *eP* **P 05 37 38.6 -0.5**
comp=Z,36nm,0.9s
LPM Los Pinos Moun 80.08 50 *eP* **P 05 37 44.2 +4.2**
TX31 Lajitas Ar. Si 80.10 55 *eP* **P 05 37 41.1 +1.0**
TXAR Lajitas Array 80.10 55 P **P 05 37 41.2 +1.2**
comp=Z,5.1nm,1.1s,baz=206,slow=8.2,SNR=14
TXAR LR LR 06 06 32.6
comp=Z,69nm,19.3s,baz=0.0,slow=31
PMR Palmer 80.11 11 *eP* **P 05 37 38.7 -0.5**
comp=Z,51nm,1.2s
PMR Palmer 80.11 11 *eP* **P 05 37 38.7 -0.5**
PMR pmax pmax
comp=Z,51nm,1.2s
MVCO Mesa Verde 80.14 46 *eP* **P 05 37 39.7 -0.6**
comp=Z,12nm,1.1s
MVCO Mesa Verde 80.14 46 P **P 05 37 40.6 +0.3**
baz=240
TCUT Toone Canyon 80.20 42 *eP* **P 05 37 41.0 +0.4**
comp=Z,78nm,1.0s
GAMB Gambell 80.23 0 *eP* **P 05 37 40.1 +0.3**
comp=Z,32nm,1.7s
GHO Glory Hole Cre 80.32 11 *eP* **P 05 37 40.1 -0.3**
comp=Z,50nm,0.9s
DIV Divide 80.34 12 *eP* **P 05 37 40.2 -0.4**
comp=Z,62nm,0.9s
SML Sawmill 80.46 11 *eP* **P 05 37 40.5 -0.7**
comp=Z,89nm,1.6s
SML Sawmill 80.46 11 *eP* **P 05 37 40.5 -0.7**
SML pmax pmax
comp=Z,89nm,1.6s
TASM ASL Pad, Albuq 80.50 49 P **P 05 37 41.7 -0.6**
baz=242,SNR=33
TASM ASL Pad, Albuq 80.50 49 P **P 05 37 41.9 -0.3**
baz=242
ANMO Albuquerque 80.50 49 *eP* **P 05 37 41.6 -0.7**
comp=Z,23nm,1.1s
ANMO Albuquerque 80.50 49 P **P 05 37 41.4 -0.9**
baz=242
ANMO Albuquerque 80.50 49 P **P 05 37 43.2 +0.9**
comp=Z,14nm,1.0s,baz=227,slow=6.5,SNR=29
KLU Klutina 80.64 12 *eP* **P 05 37 41.3 -0.9**
comp=Z,36nm,1.0s
TGL Tana Glacier 80.65 14 *eP* **P 05 37 41.5 -0.8**
comp=Z,29nm,1.0s
SCM Sheep Creek Mo 80.67 12 *eP* **P 05 37 42.4 0.0**
comp=Z,44nm,0.9s
SCM Sheep Creek Mo 80.67 12 *eP* **P 05 37 42.4 0.0**
SCM pmax pmax
comp=Z,44nm,0.9s
NKL Nikolayevsk 80.69 333 *eP* **P 05 37 40.5 -2.0**
NKL pmax pmax
comp=Z,19nm,1.0s
GDL2 Guadalupe Moun 80.81 52 *eP* **P 05 37 45.3 +1.4**
NEW Newport 80.95 34 *eP* **P 05 37 44.0 -0.1**
comp=Z,17nm,1.5s
NEW Newport 80.95 34 *eP* **P 05 37 44.0 -0.1**
NEW pmax pmax
comp=Z,17nm,1.5s
NEW Newport 80.95 34 P **P 05 37 44.2 0.0**
baz=232
AHID Auburn Hatcher 81.28 41 *eP* **P 05 37 46.6 +0.3**
comp=Z,21nm,1.1s
MCMT McKenzie Canyo 81.34 38 *eP* **P 05 37 47.2 +0.6**
SKAG Skagway 81.51 18 *eP* **P 05 37 47.8 +1.0**
comp=Z,20nm,1.0s
S22A 4UR Ranch, Cre 81.56 47 *eP* **P 05 37 49.1 +1.2**
comp=Z,28nm,1.1s
S22A 4UR Ranch, Cre 81.56 47 P **P 05 37 49.2 +1.2**
baz=241,SNR=24
HARP HAARP 81.62 12 *eP* **P 05 37 47.5 +0.1**
comp=Z,102nm,1.4s
TRF Thorofare Moun 81.65 10 *eP* **P 05 37 46.9 -0.8**
comp=Z,31nm,1.0s
TPAW Teton Pass 81.76 40 *eP* **P 05 37 49.6 +0.7**
comp=Z,25nm,1.1s
O20A White River Ci 81.76 44 P **P 05 37 48.6 -0.3**
baz=240
MSO Missoula 81.84 36 P **P 05 37 48.9 -0.1**
baz=235
SNOW Snow King Moun 81.86 40 *eP* **P 05 37 48.4 -0.9**

comp=Z,23nm,1.3s
IMW Indian Meadow 81.98 40 *e*P **P 05 37 49.8 -0.2**
comp=Z,25nm,1.1s
MOOW Moose Ponds 82.02 40 *e*P **P 05 37 50.5 +0.3**
comp=Z,22nm,1.4s
HYT Haines Junctio 82.03 16 *e*P **P 05 37 50.2 +0.5**
comp=Z,35nm,1.2s
LOHW Long Hollow 82.04 40 *e*P **P 05 37 50.2 0.0**
comp=Z,23nm,1.3s
PAX Paxson 82.07 12 *e*P **P 05 37 48.3 -1.5**
PAX Paxson 82.07 12 *e*P **P 05 37 48.3 -1.5**
PAX pmax pmax
comp=Z,20nm,1.1s
LRM Limekiln Ridge 82.13 37 *e*P **P 05 37 51.0 +0.3**
SMCO Snowmass 82.15 45 *e*P **P 05 37 51.8 +0.7**
comp=Z,51nm,1.6s
BPAW Bear Paw Mtn. 82.15 9 *e*P **P 05 37 49.6 -0.5**
comp=Z,10nm,1.2s
NJ2 Nanjing 82.16 307 *e*P **P 05 37 49.8 -1.0**
NJ2 pmax pmax
comp=Z,13nm,0.9s
FLWY Flagg Ranch 82.23 40 *e*P **P 05 37 51.4 +0.2**
comp=Z,45nm,1.1s
BW06 Boulder Array 82.25 41 *e*P **P 05 37 51.0 -0.4**
comp=Z,22nm,1.4s
BW06 Boulder Array 82.25 41 P **P 05 37 51.0 -0.4**
baz=239,SNR=12
PD31 Pinedale Array 82.25 41 *e*P **P 05 37 51.4 0.0**
comp=Z,20nm,1.4s
PDAR Pinedale Array 82.25 41 *e*P **P 05 37 51.5 0.0**
PDAR Pinedale Array 82.25 41 P **P 05 37 51.4 0.0**
comp=Z,5.6nm,1.0s,baz=205,slow=3.1,SNR=26
PDAR PP **PP 05 41 00.8 +0.5**
comp=Z,0.1nm,0.5s,baz=244,slow=6.4,SNR=4.0
PDAR LR LR 06 10 08.1
comp=Z,139nm,18.7s,baz=268,slow=33
YHB Horse Butte 82.28 39 *e*P **P 05 37 52.1 +0.6**
comp=Z,32nm,1.1s
DLBC Dease Lake 82.38 21 *e*P **P 05 37 51.5 0.0**
comp=Z,19nm,1.1s
YMR Madison River 82.38 39 *e*P **P 05 37 52.0 0.0**
comp=Z,44nm,1.3s
MENT Mentasta 82.39 13 *e*P **P 05 37 51.0 -0.4**
comp=Z,24nm,1.0s
KLR Kul'dur 82.44 327 P **P 05 37 51.0 -0.9**
comp=Z,3.6nm,1.1s,baz=104,slow=9.3,SNR=7.9
KLR LR LR 06 08 14.6
comp=Z,36nm,21.9s,baz=118,slow=31
BWN Browne 82.46 10 *e*P **P 05 37 51.0 -0.7**
comp=Z,52nm,1.1s
H17A Grant Village 82.47 39 *e*P **P 05 37 54.1 +1.5**
comp=Z,15nm,1.0s
H17A Grant Village 82.47 39 P **P 05 37 52.1 -0.5**
baz=238,SNR=10
BOZ Bozeman (W) 82.48 38 *e*P **P 05 37 53.3 +0.8**
comp=Z,21nm,1.1s
BOZ Bozeman (W) 82.48 38 *e*P **P 05 37 53.3 +0.8**
BOZ pmax pmax
comp=Z,21nm,1.1s
BOZ Bozeman (W) 82.48 38 P **P 05 37 52.5 +0.1**
baz=237,SNR=19
SDCO Great Sand Dun 82.49 47 *e*P **P 05 37 53.8 +1.0**
comp=Z,26nm,1.5s
SDCO Great Sand Dun 82.49 47 P **P 05 37 52.4 -0.4**
baz=242,SNR=10
YHH Holmes Hill 82.51 39 *e*P **P 05 37 53.8 +1.0**
comp=Z,23nm,1.2s
YNR Norris Junctio 82.58 39 *e*P **P 05 37 54.1 +1.1**
comp=Z,40nm,1.4s
WHY Whitehorse 82.62 17 *e*P **P 05 37 51.8 -0.9**
comp=Z,7.8nm,1.0s
LKWY Lake 82.67 39 *e*P **P 05 37 55.5 +1.9**
comp=Z,26nm,1.1s
LKWY Lake 82.67 39 *e*P **P 05 37 55.5 +1.9**
LKWY pmax pmax
comp=Z,26nm,1.1s
MSTX Muleshoe 82.78 51 *e*P **P 05 37 54.9 +0.7**
comp=Z,31nm,1.0s
MSTX Muleshoe 82.78 51 P **P 05 37 53.9 -0.3**
baz=244
RIDG Independ'e Rid 82.89 12 *e*P **P 05 37 53.5 -0.5**
comp=Z,42nm,1.2s
CMIG Matias Romero 82.91 70 P **P 05 37 56.6 +1.6**
comp=Z,5.3nm,1.0s,baz=230,slow=13,SNR=4.5
DOT Dot Lake 82.96 12 *e*P **P 05 37 53.7 -0.7**
comp=Z,30nm,1.1s
WRH Wood River Hil 82.96 10 *e*P **P 05 37 53.8 -0.5**
comp=Z,71nm,1.1s
HRY Holter Researc 82.98 37 *e*P **P 05 37 55.1 +0.2**
T25A Trinidad 82.98 48 *e*P **P 05 37 56.2 +0.9**
comp=Z,18nm,1.2s
T25A Trinidad 82.98 48 P **P 05 37 55.8 +0.4**
baz=243
CN2 Changchun 83.06 320 *e*P **P 05 37 55.4 +0.2**
CN2 *e*pP PcP 05 38 00.5 +0.6
CN2 *e*S **S 05 48 13.8 +0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
HDA Harding Lake 83.10 11 *e*P **P 05 37 54.5 -0.5**
comp=Z,23nm,1.0s
HDA Harding Lake 83.10 11 P **P 05 37 55.6 +0.6**
baz=204
833A Chaparral WMA, 83.11 58 *e*P **P 05 37 56.3 +0.4**
comp=Z,18nm,1.0s
833A Chaparral WMA, 83.11 58 P **P 05 37 55.6 -0.2**
baz=247
CCB Clear Creek Bu 83.17 10 *e*P **P 05 37 54.6 -0.8**
comp=Z,45nm,1.1s
RWWY Rawlins 83.21 43 *e*P **P 05 37 56.8 +0.3**
comp=Z,46nm,1.3s
SCRK Sand Creek 83.27 12 *e*P **P 05 37 55.8 -0.3**
comp=Z,16nm,1.0s
Q24A Divide 83.30 46 *e*P **P 05 37 56.6 -0.5**
comp=Z,35nm,1.2s
Q24A Divide 83.30 46 P **P 05 37 56.8 -0.2**
baz=242
ISCO Idaho Springs 83.37 45 *e*P **P 05 37 58.0 +0.6**
comp=Z,25nm,1.4s
ISCO Idaho Springs 83.37 45 *e*P **P 05 37 58.0 +0.6**
ISCO pmax pmax
comp=Z,25nm,1.4s
ISCO Idaho Springs 83.37 45 P **P 05 37 57.2 -0.2**
baz=242,SNR=8.3
TCOL CIGO, UAF Yank 83.37 10 P **P 05 37 55.8 -0.6**
baz=203
COLA College 83.38 10 *e*P **P 05 37 55.5 -0.8**
comp=Z,60nm,1.0s
COLA College 83.38 10 *e*P **P 05 37 55.5 -0.8**
COLA pmax pmax
comp=Z,60nm,1.0s
MDM Murphy Dome 83.39 10 *e*P **P 05 37 55.7 -0.8**
comp=Z,70nm,1.3s
IL1 Eielson Array 83.45 10 *e*P **P 05 37 55.5 -1.3**
ILAR Eielson Array 83.45 10 P **P 05 37 55.8 -0.9**
comp=Z,3.5nm,0.7s,baz=223,slow=6.0,SNR=23
ILAR LR LR 06 08 45.1
comp=Z,106nm,19.9s,baz=178,slow=31
ILB Eielson Array 83.45 10 *e*P **P 05 37 55.9 -0.9**
comp=Z,22nm,1.2s
IM3 Indian Mountai 83.57 7 *e*P **P 05 37 56.4 -0.9**
JCT Junction City 83.63 56 *e*P **P 05 37 59.0 +0.4**
comp=Z,9.1nm,0.9s
JCT Junction City 83.63 56 *e*P **P 05 37 59.0 +0.4**
JCT pmax pmax
comp=Z,9.0nm,0.9s
JCT Junction City 83.63 56 P **P 05 37 58.4 -0.1**
baz=246
RLMT Red Lodge 83.64 39 *e*P **P 05 37 59.2 +0.7**
comp=Z,29nm,1.1s
RLMT Red Lodge 83.64 39 P **P 05 37 58.7 +0.1**
baz=239,SNR=18
N23A Red Feather La 83.66 44 *e*P **P 05 37 59.6 +0.8**
comp=Z,33nm,1.3s
N23A Red Feather La 83.66 44 P **P 05 37 58.3 -0.5**
baz=242,SNR=5.3
POKR Poker Flat Res 83.67 10 P **P 05 37 57.4 -0.6**
baz=204
GCMT Greycliff 83.75 38 *e*P **P 05 37 59.7 +0.7**
AMTX Amarillo 83.99 51 *e*P **P 05 38 00.9 +0.5**
comp=Z,26nm,1.0s
AMTX Amarillo 83.99 51 P **P 05 38 00.3 -0.1**
baz=245
K22A Casper 84.12 42 *e*P **P 05 38 01.4 +0.5**
comp=Z,43nm,1.5s
K22A Casper 84.12 42 P **P 05 38 00.5 -0.5**
baz=241
PHWY Pilot Hill 84.18 44 *e*P **P 05 38 01.6 +0.2**
comp=Z,24nm,1.4s
DAWY Dawson 84.32 14 *e*P **P 05 38 01.5 +0.1**
comp=Z,34nm,1.0s
PRP Porcupine Dome 84.37 11 *e*P **P 05 38 01.4 -0.2**
comp=Z,57nm,1.3s
EGAK Eagle 84.56 13 *e*P **P 05 38 02.5 0.0**
comp=Z,21nm,1.1s
ABTX Abilene, Hawle 84.61 54 *e*P **P 05 38 04.2 +0.7**
comp=Z,36nm,0.9s
ABTX Abilene, Hawle 84.61 54 P **P 05 38 04.0 +0.5**
baz=246
EGMT Eagleton 84.87 37 *e*P **P 05 38 05.0 +0.5**
comp=Z,15nm,1.0s
EGMT Eagleton 84.87 37 P **P 05 38 04.7 +0.1**
baz=238
BILL Bilibino 86.01 352 *e*P **P 05 38 09.0 -0.6**
comp=Z,18nm,1.1s
BILL Bilibino 86.01 352 *d*P **P 05 38 08.6 -1.0**
BILL *i* 05 38 23.5
BILL PS 05 49 36.0
BILL PPS PPS 05 50 05.0
BILL SS SS 05 54 09.0 -11
BILL pmax pmax
comp=Z,20nm,1.2s
WHTX Lake Whitney, 86.07 55 *e*P **P 05 38 11.2 +0.5**
comp=Z,32nm,1.4s
WHTX Lake Whitney, 86.07 55 P **P 05 38 10.9 +0.1**
baz=248
WMOK Wichita Mounta 86.11 52 P **P 05 38 11.0 +0.1**
baz=247
APG El Apazote 86.25 73 P **P 05 38 13.9 +1.7**
comp=Z,8.9nm,1.0s,baz=251,slow=12,SNR=7.1
LAO LASA Array 86.27 39 *e*P **P 05 38 12.2 +0.7**
comp=Z,24nm,1.4s
LAO LASA Array 86.27 39 P **P 05 38 12.0 +0.5**
baz=241
RSSD Black Hills 86.42 42 *e*P **P 05 38 11.2 -1.3**
comp=Z,12nm,1.1s
RSSD Black Hills 86.42 42 *e*P **P 05 38 11.2 -1.3**
RSSD pmax pmax
comp=Z,11nm,1.1s
RSSD Black Hills 86.42 42 P **P 05 38 11.8 -0.7**
baz=243
HKT Hockley 86.60 58 *e*P **P 05 38 12.8 -0.5**
comp=Z,24nm,1.5s
HKT Hockley 86.60 58 *e*P **P 05 38 12.8 -0.5**
HKT pmax pmax
comp=Z,24nm,1.5s
TOLK Toolik Lake Re 86.62 8 *e*P **P 05 38 12.7 0.0**
comp=Z,26nm,1.4s
TOLK Toolik Lake Re 86.62 8 P **P 05 38 12.7 0.0**
baz=201
EPYK Eagle Plains 86.88 13 *e*P **P 05 38 13.9 -0.2**
comp=Z,33nm,1.3s
EPYK Eagle Plains 86.88 13 P **P 05 38 13.4 -0.6**
baz=214
GO06 Currerehue 87.23 130 *e*P **P 05 38 16.8 +0.2**
comp=Z,13nm,1.2s
BJI Beijing 87.46 313 P **P 05 38 17.1 -0.3**
BJI pmax pmax
comp=Z,12nm,1.2s
PLCA Paso Flores 87.52 132 *e*P **P 05 38 18.1 +0.2**
comp=Z,7.4nm,1.0s
PLCA Paso Flores 87.52 132 P **P 05 38 20.0 +2.1**
comp=Z,3.1nm,0.9s,baz=258,slow=4.0,SNR=6.9
DGMT Dagmar 88.32 38 *e*P **P 05 38 21.7 +0.4**
comp=Z,8.6nm,0.8s
DGMT Dagmar 88.32 38 P **P 05 38 21.1 -0.3**
baz=242
INK Inuvik 89.19 13 P **P 05 38 24.2 -0.6**
comp=Z,7.2nm,0.9s,baz=194,slow=1.6
JTS JuntasAbangare 89.97 79 *e*P **P 05 38 32.4 +2.6**
comp=Z,31nm,1.1s
JTS JuntasAbangare 89.97 79 P **P 05 38 32.1 +2.3**
comp=Z,19nm,1.0s,baz=317,slow=2.1,SNR=12
GYA Guiyang 89.99 298 *e*P **P 05 38 31.3 +1.5**
GYA PP **PP 05 42 05.4 +2.2**
GYA SKS **SKSac 05 48 59.5 -0.1**
GYA S **S 05 49 21.0 -0.6**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.7s
PEL Peldehue 89.99 125 P **P 05 38 33.5 +3.8**
PEL pmax pmax
comp=Z,30nm,1.1s
PSI Prapat 90.07 273 *e*P **P 05 38 29.6 -0.9**
comp=Z,33nm,1.1s
PSI Prapat 90.07 273 *e*P **P 05 38 29.6 -0.9**
PSI pmax pmax
comp=Z,33nm,1.1s
XAN Xi'an 90.62 305 P **P 05 38 32.8 +0.3**
XAN pP pwP 05 38 44.6 -1.9
XAN pmax pmax
comp=Z,9.0nm,1.8s
XAN pmax pmax
comp=Z,100nm,4.3s
YKA Yellowknife Ar 90.71 23 P **P 05 38 31.7 -0.3**
comp=Z,5.4nm,0.9s,baz=235,slow=4.3,SNR=63
YKA LR LR 06 11 17.7
comp=Z,11nm,19.4s,baz=244,slow=30
YKB5 Yellowknife Ar 90.71 23 *e*P **P 05 38 30.9 -1.1**
YKW3 Yellowknife Ar 90.74 23 *e*P **P 05 38 32.3 0.0**
comp=Z,8.2nm,1.0s
HHC Hu-ho-hao-te 91.02 312 *e*P **P 05 38 34.4 +0.1**
HHC S **S 05 49 30.3 -0.2**
HHC sS pS 05 49 38.5 +0.4
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,93nm,5.4s
ECSD EROS Data Cent 91.13 45 P **P 05 38 35.3 +0.8**
baz=248
VNA3 Neumayer Olymp 91.41 174 P **P 05 38 37.2 +1.7**
SNAA Sanae 91.52 177 P **P 05 38 37.8 +1.7**
SNAA Sanae 91.52 177 *e*P **P 05 38 36.0 0.0**
comp=Z,14nm,1.1s
SNAA Sanae 91.52 177 *e*P **P 05 38 36.0 0.0**
SNAA pmax pmax
comp=Z,14nm,1.1s
SYO Syowa Base 91.61 191⇑ *e*P **P 05 38 35.6 -0.7**
SYO Syowa Base 91.61 191⇓ *e*pP **P 05 38 38.2 +1.9**
VNA2 Neumayer--Watz 91.92 175 P **P 05 38 40.0 +2.2**
VNA1 Neumayer--Stat 92.11 175 P **P 05 38 40.8 +2.1**
FFC Flin Flon 92.37 33 *e*P **P 05 38 39.5 -0.4**
comp=Z,7.2nm,1.2s
FFC Flin Flon 92.37 33 *e*P **P 05 38 39.6 -0.4**
FFC pmax pmax
comp=Z,7.0nm,1.2s
S41A Jillco Farms, 92.44 52 P **P 05 38 41.2 +0.5**
baz=251
R41A Rosebud 92.94 51 P **P 05 38 43.0 -0.1**
baz=251
KMI Kunming 92.95 295 P **P 05 38 43.8 +0.1**
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.4s
S42A Caledonia 93.21 52 P **P 05 38 44.0 -0.3**
baz=252
T43A Greenville 93.38 52 P **P 05 38 44.9 -0.2**
baz=252
CD2 Chengdu 93.78 301 *e*P **P 05 38 46.6 -0.6**
CD2 pmax pmax
comp=Z,30nm,0.4s
ULM Lac du Bonnet 94.01 39 P **P 05 38 46.2 -1.4**
comp=Z,2.0nm,0.8s,baz=224,slow=5.3,SNR=4.2
ULM LR LR 06 17 12.4
comp=Z,253nm,18.1s,baz=269,slow=33
CMAR Chiang Mai Arr 94.45 288 P **P 05 38 51.8 +1.4**
comp=Z,0.7nm,0.3s,baz=91,slow=2.7,SNR=8.7
F38A Pierce - Schro 95.06 44 P **P 05 38 52.7 +0.1**
baz=251
LZH Lanzhou 95.21 306 *e*P **P 05 38 52.9 -0.9**
LZH pP pP 05 38 58.1 -1.8
LZH sP sP 05 39 01.3 -0.8
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.9s
PB11 IPOC Station P 95.41 112 *e*P **P 05 38 54.3 -0.7**
comp=Z,20nm,1.1s
SONA0 Songino Array 96.83 318 *e*P **P 05 38 59.9 -0.9**
SONA0 *e*PP **PP 05 43 00.8 +4.5**
SONM Songino Array 96.83 318 P **P 05 38 59.9 -0.9**
comp=Z,0.8nm,1.0s,baz=90,slow=4.4,SNR=4.8
SONM PP **PP 05 43 00.8 +4.5**
comp=Z,0.7nm,1.0s,baz=100,slow=8.3,SNR=3.7
SONM LR LR 06 16 22.3
comp=Z,50nm,21.9s,baz=134,slow=32
LPAZ La Paz 97.95 110 LR LR 06 13 20.7
comp=Z,87nm,21.0s,baz=214,slow=29
ROSC El Rosal 98.56 88 LR LR 06 13 17.2
comp=Z,51nm,21.9s,baz=249,slow=29
ZAA1 Zalesovo Array 111.18 322 *e*PKiKP **PKiKP 05 44 02.7 -0.5**
ZALV Zalesovo Beam 111.18 322 PKiKP **PKiKP 05 44 02.7 -0.5**
comp=Z,1.0nm,0.5s,baz=128,slow=0.9,SNR=6.2
MK32 Makanchi Array 112.82 314 *e*PKiKP **PKiKP 05 44 06.1 -0.5**
MKAR Makanchi Array 112.82 314 PKiKP **PKiKP 05 44 06.1 -0.5**
comp=Z,2.6nm,0.7s,baz=52,slow=0.9,SNR=16
KURK Kurchatov 115.12 319 PKIKP **PKiKP 05 44 10.1 -0.7**
KURK 05 45 10.2
KURBB Kurchatov Arra 115.18 318 PKP **PKiKP 05 44 10.1 -0.9**
comp=Z,3.5nm,0.8s,baz=94,slow=1.9,SNR=28
KURBB PP **PP 05 45 10.2 -1.1**
comp=Z,0.7nm,0.9s,baz=83,slow=6.1,SNR=4.4
NRN Naryn 117.41 308 *e*PKPdf **PKiKP 05 44 16.4 +0.5**
NRN Naryn 117.41 308 *e*PKIKP **PKiKP 05 44 16.5 +0.5**
KSH Kashi 117.46 306 *e*PKP **PKiKP 05 44 16.9 +1.0**
AAK Ala-Archa 118.48 310 PKP **PKPdf 05 44 17.7 -0.1**
comp=Z,2.0nm,0.8s,baz=26,slow=4.2,SNR=5.3
BVAR Borovoye Array 119.84 322 PKP **PKPdf 05 44 19.4 -0.4**
comp=Z,3.4nm,0.6s,baz=117,slow=1.7,SNR=19
KK31 Karatay Array 121.36 311 *e*PKPdf **PKPdf 05 44 21.7 -1.4**
KK31 Karatay Array 121.36 311 *e*PKIKP **PKPdf 05 44 21.7 -1.4**
KKAR Karatay Array 121.36 311 *e*PKPdf **PKiKP 05 44 23.1 -0.1**
KKAR Karatay Array 121.36 311 *e*PKIKP **PKiKP 05 44 23.2 -0.1**
GAR Garm 121.87 306 *e*PKPdf **PKiKP 05 44 24.9 +0.4**
GAR Garm 121.87 306 *e*PKIKP **PKiKP 05 44 24.9 +0.4**
CHGR Chuyangaron 122.80 305 *e*PKPdf **PKiKP 05 44 26.5 +0.2**
KBL Kabul 123.12 301 *e*PKPdf **PKiKP 05 44 27.6 +0.4**
KBL Kabul 123.12 301 *e*PKIKP **PKiKP 05 44 27.6 +0.4**
ARU Arti 125.25 328 *e*PKPdf **PKPdf 05 44 29.4 -0.6**
ARU Arti 125.25 328 PKIKP **PKPdf 05 44 29.5 -0.6**
ARA0 ARCESS Array S 126.11 353 *e*PKPdf **PKiKP 05 44 31.8 -0.1**
ARCES ARCESS Array B 126.11 353 PKP **PKiKP 05 44 31.8 -0.1**
comp=Z,2.8nm,0.7s,baz=40,slow=2.1,SNR=6.1
ABKAR Akbulak array 127.19 320 *e*PKPdf **PKiKP 05 44 34.5 -0.1**
AKTO Aktyubinsk 127.94 322 PKP **PKPdf 05 44 35.3 -0.2**
comp=Z,1.2nm,0.5s,baz=75,slow=2.0,SNR=6.4
GEYT Jelbeck 131.50 306 PKP **PKiKP 05 44 43.7 +0.1**
comp=Z,4.5nm,0.7s,baz=105,slow=4.0,SNR=7.3
BOSA Boshof 132.00 200 PKP **PKiKP 05 44 45.7 +0.6**
comp=Z,4.1nm,1.0s,baz=183,slow=6.4,SNR=3.7
FIA0 FINESS Array S 133.54 348 *e*PKPdf **PKPdf 05 44 45.8 +0.1**
FIA0 FINESS Array S 133.54 348 *e*PKIKP **PKPdf 05 44 45.8 +0.1**
FINES FINESS Array B 133.54 348 PKP **PKPdf 05 44 45.8 +0.1**
comp=Z,2.1nm,0.7s,baz=32,slow=4.7,SNR=7.8
NB200 NORSAR Array S 135.68 358 *e*PKPdf **PKPdf 05 44 49.7 -0.1**
NOA NORSAR Array B 135.68 358 PKP **PKPdf 05 44 49.7 -0.1**
comp=Z,0.9nm,0.9s,baz=13,slow=4.1,SNR=3.6
OBN Obninsk 135.91 337 *i*PKIKP **PKPdf 05 44 50.1 -0.2**
OBN pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 142.12 338 PKhKP PKPpre 05 44 56.1
comp=Z,1.8nm,0.6s,baz=38,slow=3.2,SNR=7.1
AKBB Malin Array Si 142.12 338 *e*PKPdf **PKPdf 05 45 02.0 +0.2**
AKBB Malin Array Si 142.12 338 *e*PKIKP **PKPdf 05 45 02.0 +0.2**
AK11 Malin Array Si 142.16 338 *e*PKPdf **PKPdf 05 45 01.3 -0.5**
TSUM Tsumeb 143.13 195 *e*PKPdf PKPbc 05 45 03.0 +1.5
LVV L'vov 144.57 342 *e*PKIKP **PKPab 05 45 04.6 0.0**
ASSE Asse, Remlinge 144.61 357 *e*PKPbc **PKPdf 05 45 05.7 -0.4**
baz=6.8,slow=3.0
CLZ Clausthal 144.91 358 *e*PKPbc PKPbc 05 45 06.1 +0.2
baz=6.8,slow=3.0
KWP Kalwaria Pacla 145.12 343 *e*PKP **PKPbc 05 45 06.5 -0.1**
KWP Kalwaria Pacla 145.12 343 *e*PKPbc **PKPbc 05 45 06.5 -0.1**
KWP Kalwaria Pacla 145.12 343 *e*PKIKP **PKPbc 05 45 06.5 -0.1**
GTTG Gvttingen 145.22 358 *e*PKPbc **PKPdf 05 45 07.4 +0.1**
baz=6.8,slow=3.0
CLL Collm 145.27 355 *e*PKPbc **PKPbc 05 45 06.6 -0.4**
CLL Collm 145.27 355 *e*PKPbc **PKPbc 05 45 06.6 -0.4**
baz=6.8,slow=3.0
CLL Collm 145.27 355⇑ *i*PKPdf **PKPbc 05 45 06.6 -0.4**
comp=Z,15nm,1.0s
CLL LmV 06 54 00.0
comp=Z,100nm,18.8s
CLL Collm 145.27 355 *e*PKIKP **PKPbc 05 45 06.6 -0.4**
OJC Ojcow 145.29 347 *e*PKP **PKPbc 05 45 06.9 -0.2**
OJC Ojcow 145.29 347 *e*PKPbc **PKPbc 05 45 06.9 -0.2**
OJC Ojcow 145.29 347 *e*PKIKP **PKPbc 05 45 06.9 -0.2**
KSP Ksiaz 145.34 351 *e*PKP **PKPbc 05 45 06.4 -0.9**
KSP Ksiaz 145.34 351 *e*PKIKP **PKPbc 05 45 06.4 -0.9**
BRG Berggiesshubel 145.61 354 *e*PKP **PKPbc 05 45 08.0 -0.1**
comp=Z,14nm,1.3s
BRG Berggiesshubel 145.61 354 *e*PKPbc **PKPbc 05 45 08.1 0.0**
baz=6.8,slow=3.0
BRG *ep*PKPbc sPKPab 05 45 18.5 +1.8
BRG Berggiesshubel 145.61 354 *e*PKIKP **PKPbc 05 45 08.0 -0.1**
BRG pmax pmax
comp=Z,14nm,1.3s
FBE Freiberg 145.62 354 *e*PKPbc **PKPab 05 45 08.4 0.0**
baz=6.8,slow=3.0
UPC Upice 145.70 351 *e*PKP **PKPab 05 45 08.8 0.0**
UPC Upice 145.70 351 *e*PKIKP **PKPab 05 45 08.8 0.0**
SNOP Sinop 145.75 323 *e*PKPdf **PKPab 05 45 09.8 +0.6**
DPC Dobruska-Polom 145.81 351 *e*PKP **PKPab 05 45 09.3 0.0**
DPC ex x 05 45 17.4
DPC Dobruska-Polom 145.81 351 *e*PKIKP **PKPab 05 45 09.3 0.0**
UCC Uccle 145.86 4⇑ PKP **PKPbc 05 45 08.9 +0.1**
PVCC Panska Ves 145.88 353 *e*PKP **PKPab 05 45 09.3 -0.1**
PVCC Panska Ves 145.88 353 *e*PKP2 **PKPbc 05 45 09.3 -0.1**
NIE Niedzica 145.93 346 *e*PKP **PKPbc 05 45 09.4 +0.2**
NIE Niedzica 145.93 346 *e*PKP2 **PKPbc 05 45 09.4 +0.2**
BEBN Eben Emael 145.94 3⇑ PKP **PKPbc 05 45 09.3 +0.2**
UBBA Unterbreizbach 145.95 358 *e*PKPbc **PKPbc 05 45 09.2 +0.1**
baz=6.8,slow=3.0
OKC Ostrava-Krasne 145.99 348 *e*PKP **PKPab 05 45 09.6 -0.3**
OKC ex x 05 45 17.7
OKC Ostrava-Krasne 145.99 348 *e*PKP2 **PKPab 05 45 09.6 -0.3**
KRLC Kraliky 146.00 350 *e*PKP **PKPbc 05 45 09.4 -0.1**
KRLC Kraliky 146.00 350 *e*PKP2 **PKPbc 05 45 09.4 -0.1**
MOX Moxa 146.04 356 *e*PKPbc **PKPbc 05 45 09.6 +0.1**
baz=6.8,slow=3.0
MOX *ep*PKPbc sPKPab 05 45 20.3 +1.9
BUR08 Bucovina Ar. S 146.12 339 *e*PKPdf **PKPab 05 45 10.2 -0.3**
BURAR Bucovina Array 146.13 339⇑ PKP2 **PKPab 05 45 10.5 -0.1**
UZH Uzhgorod 146.14 343⇑ *e*PKHKP PKPpre 05 45 04.3
UZH *i* 05 45 10.2
MEM Membach 146.14 2⇑ PKP **PKPdf 05 45 08.3 -0.5**
MORC Moravsky Berou 146.16 349 *e*PKPdf **PKPbc 05 45 10.0 0.0**
MORC Moravsky Berou 146.16 349 *e*PKP2 **PKPbc 05 45 10.0 0.0**
MORC Moravsky Berou 146.16 349 *e*PKP **PKPbc 05 45 10.2 +0.3**
TANN Tannenbergstha 146.21 355 *e*PKPbc **PKPab 05 45 10.4 -0.3**
baz=6.8,slow=3.0
GUNZ Gunzen 146.27 355 *e*PKPbc **PKPab 05 45 10.7 -0.2**
baz=6.8,slow=3.0
GUNZ *ep*PKPbc sPKPab 05 45 21.1 +1.7
KMBO Kilima Mbogo 146.27 241 *e*PKPdf **PKPab 05 45 12.8 +0.4**
KMBO Kilima Mbogo 146.27 241 *e*PKP2 **PKPab 05 45 12.8 +0.4**
KMBO Kilima Mbogo 146.27 241 PKPbc **PKPab 05 45 12.9 +0.6**
comp=Z,18nm,1.0s,baz=39,slow=2.2,SNR=32
BCLA Clavier 146.30 3⇓ PKP **PKPbc 05 45 10.0 -0.2**
WERN Wernitzgruen 146.34 355 *e*PKPbc **PKPab 05 45 11.0 -0.3**
baz=6.8,slow=3.0
WERN *ep*PKPbc sPKPab 05 45 21.6 +2.0
NKC Novy Kostel 146.39 355 *e*PKP **PKPab 05 45 11.0 -0.4**
NKC Novy Kostel 146.39 355 *e*PKP2 **PKPab 05 45 11.0 -0.4**
PRU Pruhonice 146.41 353 *e*PKP **PKPbc 05 45 10.7 +0.1**
PRU ex x 05 45 18.9
PRU Pruhonice 146.41 353 *e*PKP2 **PKPbc 05 45 10.7 +0.1**
GOPC GO Pecny, Ondr 146.45 352 *e*PKP **PKPbc 05 45 11.1 +0.3**
GOPC ex x 05 45 19.1
GOPC GO Pecny, Ondr 146.45 352 *e*PKP2 **PKPbc 05 45 11.1 +0.3**
DOU Dourbes 146.58 4⇓ PKP **PKPbc 05 45 10.8 -0.3**
MANZ Manzenberg 146.66 355 *e*PKPbc **PKPbc 05 45 10.6 -0.8**
baz=6.8,slow=3.0
MANZ *ep*PKPbc sPKPab 05 45 22.2 +1.4
TLCR 146.75 333⇑ PKP2 **PKPbc 05 45 11.7 0.0**
VRAC Vranov 146.78 350 *e*PKP **PKPbc 05 45 12.2 +0.5**
ROTZ Rotzenmuhle 146.87 355 *e*PKPbc **PKPab 05 45 12.6 -0.7**
baz=6.8,slow=3.0
GRF Grafenberg Arr 147.01 356 *ep*PKPbc pPKPbc 05 45 22.8 +4.0
JAVC Velka Javorina 147.02 348 *e*PKP **PKPab 05 45 14.0 +0.1**
CFR Carcaliu 147.04 334 ⇓PKP2 **PKPdf 05 45 11.3 +0.8**
KRUC Moravsky 147.05 350 *e*PKP **PKPbc 05 45 12.8 +0.3**
WLF Walferdange 147.09 2 *e*PKPbc **PKPab 05 45 13.7 -0.4**
baz=6.8,slow=3.0
WLF *ep*PKPbc **sPKPab 05 45 23.9 +1.3**

PLOR	Plostina	147.10	336	⇑PKP2	PKPbc	05 45 12.4	-0.4		
VYHS	Vyhne	147.12	347	*e*PKP2	PKPbc	05 45 13.3	+0.6		
VYHS	Vyhne	147.12	347	*e*PKP	PKPbc	05 45 13.3	+0.6		
KHC	Kasperske Hory	147.37	353	*e*PKPbc	PKPbc	05 45 13.5	0.0		
KHC	Kasperske Hory	147.37	353	*e*PKP	PKPbc	05 45 12.5	-0.9		
KHC				*ep*PKP	PKPab	05 45 14.0	-1.3		
KHC				*ex*	x	05 45 21.3			
KHC	Kasperske Hory	147.37	353	*e*PKP2	PKPbc	05 45 13.5	0.0		
PSZ	Piszkesteto	147.42	345	*e*PKPbc	PKPbc	05 45 13.9	+0.2		
PSZ	Piszkesteto	147.42	345	*e*PKP2	PKPbc	05 45 13.9	+0.2		
WET	Wettzell	147.43	354	*e*PKPbc	PKPbc	05 45 13.9	+0.4		
	baz=6.8,slow=3.0								
WET				*ep*PKPbc	sPKPab	05 45 23.6	-0.2		
CJR	Cluj-Napoca	147.46	340	⇑PKP2	PKPbc	05 45 14.6	+0.8		
HARR	Harsova	147.52	333	⇑PKP2	PKPbc	05 45 14.4	+0.5		
TLB	Topalu	147.56	333	⇑PKP2	PKPbc	05 45 14.6	+0.6		
GEC2	GERESS Array S	147.64	353	*e*PKPbc	PKPbc	05 45 14.3	0.0		
GEC2	GERESS Array S	147.64	353	*e*PKPbc	PKPbc	05 45 14.7	+0.5		
	baz=6.8,slow=3.0								
GEC2				*ep*PKPbc	sPKPab	05 45 24.0	-0.8		
GERES	GERESS Array B	147.64	353	PKPbc	PKPbc	05 45 14.2	0.0		
	comp=Z,8.4nm,1.0s,baz=4.1,slow=1.9,SNR=12								
GEA0	GERESS Array S	147.65	353	*e*PKPdf	PKPdf	05 45 11.5	-0.1		
GEA0				*e*PKPbc	PKPbc	05 45 14.2	-0.1		
DRGR		147.67	341	⇑PKP2	PKPdf	05 45 12.9	+1.3		
MLR	Muntele Rosu	147.68	336	*e*PKPbc	PKPbc	05 45 14.2	-0.3		
MLR	Muntele Rosu	147.68	336	⇓PKP2	PKPbc	05 45 14.6	+0.1		
ISR	Istrita	147.75	335	⇓PKP2	PKPbc	05 45 14.8	+0.2		
ZST	Bratislava	147.76	349	*e*PKP2	PKPbc	05 45 15.0	+0.5		
ZST	Bratislava	147.76	349	*e*PKP	PKPbc	05 45 15.0	+0.5		
VOIR		148.06	337	⇑PKP2	PKPbc	05 45 16.1	+0.6		
BR101	Keskin Array S	148.12	321	*e*PKPbc	PKPbc	05 45 15.8	-0.1		
BR131	Keskin Array S	148.12	321	*e*PKPbc	PKPbc	05 45 15.8	-0.1		
BR131				*e*PKPab	pPKPdf	05 45 19.7	+0.8		
BRTR	Keskin Array B	148.12	321	PKPbc	PKPbc	05 45 15.8	-0.1		
	comp=Z,22nm,0.8s,baz=133,slow=2.0,SNR=91								
CONA	Conrad Observa	148.24	350	*e*PKiKP	PKiKP	05 45 16.9	-0.7		
	comp=Z,27nm,1.1s,SNR=7.7								
CLF	Chambon-Foret	148.40	8	*e*PKPbc	PKPbc	05 45 16.5	+0.4		
BFO	Black Forest	148.47	360	*e*PKPbc	PKPbc	05 45 16.4	0.0		
BFO	Black Forest	148.47	360	*e*PKPbc	PKPbc	05 45 16.9	+0.5		
	baz=6.8,slow=3.0								
BFO	Black Forest	148.47	360	*e*PKP2	PKPbc	05 45 16.4	0.0		
ANTO	Ankara	148.53	322	*e*PKPbc	PKiKP	05 45 17.8	-0.6		
MOA	Molln	148.55	352	*e*P	PKPbc	05 45 17.3	+0.7		
	comp=Z,13nm,1.1s,SNR=5.8								
ECH	Echery	148.57	1	*e*PKPbc	PKPbc	05 45 16.7	0.0		
ECH	Echery	148.57	1	*e*PKP2	PKPbc	05 45 16.7	0.0		
GZR	Gura Zlata	148.90	340	⇑PKiKP	PKPbc	05 45 17.1	-0.5		
ARSA	Arzberg	148.95	350	*e*PKiKP	PKPbc	05 45 18.3	+0.6		
	comp=Z,11nm,1.1s								
BZS	Buzias	149.06	341	⇑PKP2	PKPbc	05 45 18.1	+0.2		
RETA	Reutte	149.24	357	*e*PKiKP	PKiKP	05 45 19.2	-0.4		
	comp=Z,19nm,1.2s								
WATA	Walderalm	149.34	355	*e*PKiKP	PKPbc	05 45 19.2	+0.4		
	comp=Z,7.5nm,0.9s								
MOTA	Moosalm	149.36	356	*e*PKiKP	PKPbc	05 45 19.0	+0.2		
	comp=Z,19nm,1.2s								
WTTA	Wattenberg	149.40	355	*e*PKiKP	PKiKP	05 45 19.7	-0.4		
	comp=Z,13nm,0.7s								
KBA	Koelnbreinsper	149.42	353	*ep*PKPbc	PKiKP	05 45 20.9	+0.7		
	comp=Z,20nm,1.2s								
SQTA	Sankt Quirin	149.48	356	*e*PKiKP	PKiKP	05 45 19.7	-0.5		
	comp=Z,17nm,1.1s								
DAVA	Damuels	149.48	358	*e*PKiKP	PKiKP	05 45 19.9	-0.4		
	comp=Z,21nm,1.1s,SNR=5.4								
SOKA	Soboth	149.58	351	*e*PKiKP	PKPbc	05 45 19.4	+0.1		
	comp=Z,14nm,1.0s								
FETA	Feichten	149.71	357	*e*PKiKP	PKiKP	05 45 20.6	-0.2		
	comp=Z,25nm,1.1s,SNR=6.4								
OBKA	Obir	149.82	351	*e*PKPbc	PKPbc	05 45 19.4	-0.5		
	comp=Z,25nm,1.5s								
MYKA	Terra Mystica	149.83	352	*e*PKPbc	PKPbc	05 45 19.9	0.0		
	comp=Z,6.0nm,0.7s								
ABTA	Abfaltersbach	149.84	354	*e*PKiKP	PKPbc	05 45 20.0	+0.1		
	comp=Z,25nm,1.0s,SNR=5.1								
YLV	Yalova	149.97	327	⇓PKP2	PKPbc	05 45 19.3	-1.2		
FUORN	Ofenpass-Fuorn	150.13	357	*e*PKPbc	PKPbc	05 45 21.1	+0.2		
TUE	Stuetta	150.31	358	*e*PKPbc	PKPbc	05 45 21.1	-0.2		
TUE				*e*PKPab	sPKPdf	05 45 25.4	+0.7		
CSS	Mathiatis	151.10	314	*e*PKPbc	PKPbc	05 45 23.3	+0.1		
VTS	Vitosha	151.15	337	*e*PKPbc	PKPbc	05 45 23.3	0.0		
VTS	Vitosha	151.15	337	⇓PKiKP	PKPbc	05 45 22.0	-1.3		
ISP	Isparta	151.21	321	*e*PKPbc	PKPbc	05 45 23.6	0.0		
ISP				*e*PKPab	pPKPbc	05 45 29.6	-0.2		
ISP	Isparta	151.21	321	*e*PKIKP	PKPbc	05 45 23.6	0.0		
ISP				*e*		05 45 29.6			
SSB	Saint Sauveur	151.36	5	*e*PKPbc	PKiKP	05 45 24.4	+0.3		
SSB	Saint Sauveur	151.36	5	*e*PKIKP	PKiKP	05 45 24.4	+0.3		
BNI	Bardonecchia	151.72	2	*e*PKPbc	PKiKP	05 45 25.6	+0.7		
BNI	Bardonecchia	151.72	2	*e*PKIKP	PKiKP	05 45 25.6	+0.7		
MANT	Manisa	151.89	325	*e*PKPbc	PKiKP	05 45 25.8	+0.2		
EZN	Ezine	152.08	329	⇓PKIKP	PKPbc	05 45 24.3	-1.0		
FNA	Florina	153.43	337	*e*PKPbc	PKPbc	05 45 28.0	-0.4		
FNA				*e*PKPab	PKPab	05 45 38.7	-1.8		
FNA	Florina	153.43	337	*e*PKIKP	PKPbc	05 45 28.0	-0.4		
FNA				*e*		05 45 38.7			
ESDC	Sonseca Array	154.80	22	PKPbc	PKPbc	05 45 30.5	-0.9		
	comp=Z,0.1nm,0.3s,baz=309,slow=3.3,SNR=4.6								
ESDC				PKPab	PKPab	05 45 46.1	-0.2		
	comp=Z,2.1nm,0.8s,baz=316,slow=3.2,SNR=8.1								
ES06	SONSECA Array	154.80	22	*e*PKPdf	PKPdf	05 45 21.7	-1.0		
ES06				*e*PKPbc	sPKPdf	05 45 31.8	+0.5		
ES06				*e*PKPab	PKPab	05 45 46.5	+0.2		
DBIC	Dimbokro	163.81	127	*e*PKPab	PKPab	05 46 27.8	+1.7		
DBIC	Dimbokro	163.81	127	PKPab	PKPab	05 46 27.7	+1.6		
	comp=Z,3.1nm,0.8s,baz=215,slow=4.8,SNR=11								
TOA0	Torodi Ar. Sit	172.81	119	*e*PKPdf	PKPdf	05 45 38.4	-1.4		
TOA0				*e*PKPbc	PKPab	05 47 05.7	-0.2		
TOA0				*e*PKPab	PKPab	05 47 06.8	+0.8		
TOA1	Torodi Ar. Sit	172.81	119	*e*PKPdf	PKPdf	05 45 38.1	-1.6		
TOA1				*e*PKPab	PKPab	05 47 05.8	-0.1		
TORD	Torodi Ar. Bea	172.81	119	PKP	PKPdf	05 45 38.2	-1.6		
	comp=Z,2.2nm,1.0s,baz=256,slow=0.8,SNR=11								
TORD				PKPab	PKPab	05 47 05.8	-0.1		
	comp=Z,9.0nm,1.1s,baz=286,slow=4.9,SNR=21								

ISCJB ***25*** *05:28:16.9±1.4,33.11S±0.06×70.61W±0.06,h98km±9km, Error ellipse: s-maj=10.7km s-min=7.9km az=36.0*
SJA ***25*** *05:28:16.5±0.7,33.09S×70.58W,h93km±5km,ML2.4, MW3.2*
GUC ***25*** *05:28:17.3±0.6,33.01S×70.47W,h81km±4km,ML3.1*
ISC 25 05:28:17.9±2.4,33.10S±0.08×70.60W±0.07,h89km±15km, n12,σ0.55/23,1C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEL	Peldehue	0.08	238	*e*P		Pn		05 28 29.6	-1.0
PEL				*e*S		Sn		05 28 40.5	+0.5
PEL	Peldehue	0.08	238	*e*P		Pn		05 28 30.0	-0.6
PEL				*e*S		Sn		05 28 39.8	-0.3
PEL				IAML				05 28 41.0	
	comp=E,2μm,0.4s								
CLCH	Cerro Calan	0.30	170	*e*P		Pn		05 28 31.1	-0.3
CLCH				*i* S		Sn		05 28 41.9	+0.5
CLCH				IAML				05 28 43.6	
	comp=E,896nm,0.4s								
FCH	Farellones	0.35	131	⇓*i*P		Pn		05 28 31.3	-0.6
FCH				*i* S		Sn		05 28 42.0	-0.3
FCH				IAML				05 28 45.7	
	comp=N,2μm,0.2s								
ROCH	El Roble	0.37	290	⇑*i*P		Pn		05 28 32.0	+0.1
ROCH				*i* S		Sn		05 28 43.2	+0.9
ROCH				IAML				05 28 45.2	
	comp=N,2μm,0.4s								
ROC1	El Roble	0.37	289	*e*P		Pn		05 28 32.0	+0.1
ROC1				*e*S		Sn		05 28 43.2	+0.8
LMEL	Las Melosas	0.82	156	*e*P		Pn		05 28 35.4	-0.3
LMEL				*i* S		Sn		05 28 49.9	+0.9
LMEL				IAML				05 28 52.6	
	comp=N,932nm,0.1s								
AUSP	Uspallata	1.35	50	*e*P		Pn		05 28 42.3	+0.3
AUSP				*e*S		Sn		05 29 00.9	+0.8
ARCO	CERRO ARCO	1.43	80	*e*P		Pn		05 28 42.8	0.0
ARCO				*e*S		Sn		05 29 01.8	0.0
ARCO				IAML				05 29 03.7	
	comp=Z,44nm,0.5s								
AAGR	Agrelo	1.49	90	*e*P		Pn		05 28 43.5	-0.1
AAGR				*e*S		Sn		05 29 03.1	+0.1
CMCH	Combarbala	1.95	350	*e*P		Pn		05 28 49.2	-0.4
CMCH				*i* S		Sn		05 29 13.3	-0.3
AMOG	MOGNA	2.80	40	*e*P		Pn		05 29 00.3	-0.5

BJI ***25*** *05:55:05.0,59.60S×26.40W,h10km,mB5.4/3,Ms4.8/1*
ISCJB ***25*** *05:55:09.6±0.3,59.57S±0.05×26.31W±0.09,h61km, mb5.0/40, Error ellipse: s-maj=8.1km s-min=5.3km az=136.2*
IDC ***25*** *05:55:12.5±1.3,59.59S×26.54W,h71km±10km,mb4.5/16, mb1 4.5/16,mb1mx4.4/25,mbtmp4.8/16,MS3.7/8, Ms1 3.6/8,ms1mx3.5/21,Error ellipse: s-maj=14.4km s-min=12.4km az=37.0*
NEIC ***25*** *05:55:13.5±1.6,59.62S×26.37W,h82km±13km,mb5.1/30, Error ellipse: s-maj=10.5km s-min=6.5km az=204.0*
ISC 25 05:55:11.1±0.3,59.57S±0.08×26.44W±0.08,h61km,n233, σ1§14/250,**mb5.1**/38,**1D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	13.41	153	P		Pn		05 58 17.5	-0.7
VNA3	Neumayer Olymp	13.56	157	P		Pn		05 58 18.9	-1.3
VNA2	Neumayer--Watz	13.81	153	P		Pn		05 58 22.1	-1.5
	baz=303,slow=15								
VNA2	Neumayer--Watz	13.81	153	S		Sn		06 00 41.5	-14
	baz=313,slow=16								
SNAA	Sanae	15.40	152	P		Pn		05 58 44.2	-0.2
SNAA	Sanae	15.40	152	PKiKP		PKiKP		06 11 34.6	-3.4
SNAA				S		Sn		06 01 20.3	-13
SNAA	Sanae	15.40	152	*e*Pn		Pn		05 58 44.0	-0.3
	236nm,0.5s								
SNAA	Sanae	15.40	152	P		Pn		05 58 44.0	-0.3
	64nm,0.3s,baz=317,slow=13,SNR=942								
SNAA				S		Sn		06 01 16.4	-17
	1.9nm,0.3s,baz=52,slow=19,SNR=2.7								
SNAA				LR		LR		06 03 03.7	
	comp=Z,416nm,21.8s,baz=302,slow=31								
PMSA	Palmer Station	18.10	237	P		Pn		05 59 20.2	+2.4
	1.4nm,0.3s,baz=96,slow=8.9,SNR=4.4								
PMSA				LR		LR		06 05 54.1	
	comp=Z,239nm,18.5s,baz=130,slow=36								
PMSA	Palmer Station	18.10	237	*e*P		Pn		05 59 19.4	+1.6
USHA	Ushuaia	22.93	263	P		P		06 00 10.5	+0.8
	22nm,0.9s,baz=97,slow=9.8,SNR=6.1								
USHA				LR		LR		06 07 16.9	
	comp=Z,129nm,20.9s,baz=146,slow=32								
SYO	Syowa Base	28.67	137	⇓*e*X		P		06 00 55.4	-6.2
QSPA	South Pole Qui	30.67	180	P		P		06 01 20.6	+1.0
	7.1nm,0.5s,baz=220,slow=1.7,SNR=73								
TRQA	Tornquist	31.20	298	*e*P		P		06 01 25.8	+1.5
	18nm,0.6s								
GO07	Milladeo Hill,	32.93	279	*e*P		P		06 01 38.2	-1.2
	62nm,1.4s								
PLCA	Paso Flores	33.15	285	*e*P		P		06 01 41.7	+0.3
	8.7nm,0.7s								
PLCA	Paso Flores	33.15	285	P		P		06 01 41.5	+0.1
	6.9nm,0.7s,baz=170,slow=7.4,SNR=30								
PLCA	Paso Flores	33.15	285	*e*P		P		06 01 42.0	+0.6
PLTB	Pedras Altas	33.21	315	*e*P		P		06 01 43.1	+1.1
CPSB	Cacapava Do Su	34.38	316	*e*P		P		06 01 53.4	+1.3
GO06	Curarrehue	34.48	285	*e*P		P		06 01 53.0	-0.1
	6.0nm,0.5s								
CNLB	Canela	34.50	320	*e*P		P		06 01 53.7	+0.5
ITAB	Concordia	36.84	320	*e*P		P		06 02 14.6	+1.4
MRA	San Martin	37.58	299	*e*P		P		06 02 20.1	+0.5
TCA	Tanti	38.00	301	*e*P		P		06 02 24.5	+1.4
AAGR	Agrelo	38.44	294	*e*P		P		06 02 27.8	+1.0
ASAL	Salsigasta	38.85	295	*e*P		P		06 02 30.8	+0.6
PTGB	Pitanga	39.16	321	*e*P		P		06 02 33.6	+0.8
PEL	Peldehue	39.25	292	*e*P		P		06 02 34.9	+1.3
	47nm,0.8s								
PEL	Peldehue	39.25	292	*e*P		P		06 02 34.9	+1.3
RTCV	Cerro Valdivia	39.32	296	*e*P		P		06 02 34.5	+0.4
AUSP	Uspallata	39.41	295	*e*P		P		06 02 36.1	+1.0
CPUP	Villa Florida	39.49	314	*e*P		P		06 02 35.6	+0.2
	9.5nm,0.8s								
CPUP	Villa Florida	39.49	314	P		P		06 02 35.2	-0.2
	7.2nm,0.5s,baz=155,slow=6.3,SNR=36								
CPUP				ScP		ScP		06 08 24.4	-0.6
	2.1nm,0.9s,baz=146,slow=3.6,SNR=3.7								
CPUP	Villa Florida	39.49	314	*e*P		P		06 02 35.9	+0.5
ROC1	El Roble	39.55	292	*e*P		P		06 02 37.7	+1.5
	22nm,0.5s								
APLL	PUNTA DE LOS L	39.66	299	*e*P		P		06 02 37.1	+0.2
FRTB	Fartura	39.70	326	*e*P		P		06 02 37.4	+0.1
RTLS	Leoncito	39.73	295	*e*P		P		06 02 39.0	+1.3
RTLL	Cerro Villicun	39.74	296	*e*P		P		06 02 38.1	+0.5
AMOG	MOGNA	40.08	297	*e*P		P		06 02 41.8	+1.4
ACCO	Cerro Coronel	40.64	296	*e*P		P		06 02 46.6	+1.3
ACLC	CERRO LA CRUZ	40.68	300	*e*P		P		06 02 46.5	+1.0
BSCB	Bom Sucesso	40.70	333	*e*P		P		06 02 46.1	+0.5
CYA	Choya	41.02	302	*e*P		P		06 02 47.6	-0.6
TRCB	Terra Rica	41.14	322	*e*P		P		06 02 49.6	+0.4
AROD	Rodeo	41.18	296	*e*P		P		06 02 51.3	+1.5
AGUA	GUANDACOL	41.31	298	*e*P		P		06 02 52.2	+1.6
SUR	Sutherland	41.31	70	P		P		06 02 52.4	+1.7
	12nm,1.1s,baz=190,slow=6.1,SNR=3.8								
BB19B	Bebedouro	41.57	328	*e*P		P		06 02 53.1	+0.4
GO04	Tololo Observa	41.79	295	*e*P		P		06 02 55.4	+0.8
	35nm,1.1s								
GO04	Tololo Observa	41.79	295	*e*P		P		06 02 55.9	+1.3
VCA	Vinchina	41.83	299	*e*P		P		06 02 56.5	+1.7
VCA				*e*P		P		06 02 56.6	+1.7
SJMB	Sao Joao De Ma	42.19	339	*e*P		P		06 02 58.1	+0.4
LCO	Las Campanas	42.72	296	*e*P		P		06 03 03.3	+1.0
	29nm,1.3s								
LCO	Las Campanas	42.72	296	*e*P		P		06 03 03.6	+1.3
LCO	Las Campanas	42.72	296	*e*P		P		06 03 03.4	+1.0
VNDA	Vanda	43.07	183	P		P		06 03 04.2	0.0
	2.4nm,0.4s,baz=180,slow=5.1,SNR=21								
VNDA				PcP		PcP		06 04 54.3	+1.3
	1.1nm,0.6s,baz=190,slow=4.7,SNR=4.9								
VNDA				LR		LR		06 19 46.0	
	comp=Z,74nm,19.9s,baz=219,slow=34								
ITRB	Iturama	43.37	326	*e*P		P		06 03 07.4	+0.1
PMNB	Patos De Minas	43.46	332	*e*P		P		06 03 09.0	+0.8
AQDB	Aquidauana	44.30	319	*e*P		P		06 03 14.4	-0.3
MCI6	Montes Claros	44.56	336	*e*P		P		06 03 17.1	+0.2
MCI9	Montes Claros	44.67	336	*e*P		P		06 03 18.2	+0.4
MCI8	Montes Claros	44.71	336	*e*P		P		06 03 18.3	+0.2
GO02	Mina Guanaco	45.53	300	*e*P		P		06 03 25.9	+1.0
	36nm,1.0s								
JANB	Januaria	46.35	336	*e*P		P		06 03 31.6	+0.6
BOSA	Boshof	46.57	72	*e*P		P		06 03 33.3	+0.6
	33nm,1.5s								
BOSA	Boshof	46.57	72	P		P		06 03 33.3	+0.6
	6.4nm,0.7s,baz=202,slow=5.9,SNR=10								
BOSA				LR		LR		06 19 38.8	
	comp=Z,57nm,19.3s,baz=207,slow=32								
BOSA	Boshof	46.57	72	*e*P		P		06 03 33.1	+0.3
BDFB	Brasilia	46.63	331	*e*P		P		06 03 33.9	+0.6
BDFB	Brasilia	46.63	331	P		P		06 03 33.7	+0.4
	14nm,0.4s,baz=153,slow=7.1,SNR=49								
PB10	IPOC Station P	47.39	300	*e*P		P		06 03 36.4	-2.7
	33nm,1.0s								
LVC	Limon Verde	47.47	302	*e*P		P		06 03 41.3	+1.3
	24nm,0.8s								
LVC	Limon Verde	47.47	302	*e*P		P		06 03 41.5	+1.4
PB04	IPOC Station P	48.25	301	*e*P		P		06 03 46.2	+0.3
	53nm,0.7s								
PB01	IPOC Station P	49.10	302	*e*P		P		06 03 53.2	+0.9
	54nm,0.6s								
LBTB	Lobatse	49.76	70	*e*P		P		06 03 57.5	+0.2
	9.7nm,0.8s								
LBTB	Lobatse	49.76	70	P		P		06 03 58.1	+0.8
	7.6nm,0.7s,baz=212,slow=7.8,SNR=13								
PEXB	Peixe	50.10	332	*e*P		P		06 04 00.6	+0.7
GO01	Chusmiza	50.19	304	*e*P		P		06 04 02.1	+1.0
	36nm,0.6s								
PB11	IPOC Station P	50.30	303	*e*P		P		06 04 02.2	+0.6
	20nm,0.7s								
MNMC	Minye Minye	50.84	303	*e*P		P		06 04 06.8	+1.0
	92nm,0.5s								
H10S2	ASCENSION HYDR	51.28	15	T		T		06 58 50.4	
	baz=188,slow=74,SNR=12								
H10S3	ASCENSION HYDR	51.29	15	T		T		06 58 52.7	
	baz=188,slow=74,SNR=13								
H10S1	ASCENSION HYDR	51.30	15	T		T		06 58 52.2	
	baz=188,slow=74,SNR=14								
LPAZ	La Paz	52.77	307	*e*P		P		06 04 21.5	+0.9
	15nm,0.4s								
LPAZ	La Paz	52.77	307	P		P		06 04 21.4	+0.8
	12nm,0.4s,baz=120,slow=4.6,SNR=135								
LPAZ	La Paz	52.77	307	*e*P		P		06 04 21.3	+0.8
LSZ	Lusaka	59.35	66	*e*P		P		06 05 08.0	+1.1
	10nm,0.7s								
NNA	Nana	60.32	300	*e*P		P		06 05 14.0	+0.4
	21nm,0.6s								

PTGA	Pitinga	64.20	322	*e*P		P		06 05 38.2	-1.1
	5.8nm,0.6s								
LIC	Lamto	67.76	23	*e*P		P		06 06 03.1	+0.9
	70nm,0.7s								
KIC	Kosan Boka	67.95	23	*e*P		P		06 06 04.1	+0.7
	26nm,0.7s								
TIC	Toumodi	68.17	23	*e*P		P		06 06 05.6	+0.8
DBIC	Dimbokro	68.23	23	*e*P		P		06 06 06.0	+1.0
	12nm,0.6s								
DBIC	Dimbokro	68.23	23	P		P		06 06 06.0	+1.0
	11nm,0.6s,baz=170,slow=6.9,SNR=29								
DBIC	Dimbokro	68.23	23	*e*P		P		06 06 06.1	+1.0
OTAV	Otavalo	71.95	304	*e*P		P		06 06 29.2	+0.7
	7.1nm,0.9s								
OTAV	Otavalo	71.95	304	*e*P		P		06 06 28.6	+0.1
OTAV	Otavalo	71.95	304	*e*P		P		06 06 28.6	+0.1
OTAV	Otavalo	71.95	304	*e*P		P		06 06 29.4	+0.9
FLOC	Florencia	72.01	307	*e*P		P		06 06 27.4	-1.0
FLOC	Florencia	72.01	307	*e*P		P		06 06 27.4	-1.0
SOTA	Rioblanco	72.90	307	*e*P		P		06 06 34.8	+0.6
SOTA	Rioblanco	72.90	307	*e*P		P		06 06 34.8	+0.6
VILC	Villavicencio,	73.54	310	*e*P		P		06 06 36.7	-0.7
VILC	Villavicencio,	73.54	310	*e*P		P		06 06 36.7	-0.7
PRAC	Prado	73.64	309	*e*P		P		06 06 37.3	-0.7
PRAC	Prado	73.64	309	*e*P		P		06 06 37.3	-0.7
CHIC	Chingaza	74.03	310	*e*P		P		06 06 39.8	-0.9
CHIC	Chingaza	74.03	310	*e*P		P		06 06 39.8	-0.9
ROSC	El Rosal	74.45	310	*e*P		P		06 06 43.3	+0.2
	8.8nm,0.7s								
ROSC	El Rosal	74.45	310	*e*P		P		06 06 43.4	+0.2
ROSC	El Rosal	74.45	310	*e*P		P		06 06 43.4	+0.2
ROSC	El Rosal	74.45	310	P		P		06 06 43.3	+0.2
	12nm,0.8s,baz=175,slow=7.2,SNR=16								
ROSC				LR		LR		06 40 28.9	
	comp=Z,38nm,20.6s,baz=243,slow=36								
YOTC	Yotoco, Valle	74.47	308	*e*P		P		06 06 40.7	-2.2
YOTC	Yotoco, Valle	74.47	308	*e*P		P		06 06 40.7	-2.2
RUSC	La Rusia	74.94	311	*e*P		P		06 06 44.5	-1.5
RUSC	La Rusia	74.94	311	*e*P		P		06 06 44.5	-1.5
NORC	Norcasia	75.32	310	*e*P		P		06 06 45.3	-2.4
NORC	Norcasia	75.32	310	*e*P		P		06 06 45.3	-2.4
BARC	Barichara	75.61	312	*e*P		P		06 06 45.8	-3.8
BARC	Barichara	75.61	312	*e*P		P		06 06 45.8	-3.8
TOA0	Torodi Ar. Sit	75.95	28	*e*P		P		06 06 50.8	-0.4
TORD	Torodi Ar. Bea	75.95	28	P		P		06 06 50.7	-0.5

KURBB	**Kurchatov Arra**	**138.36**	**68**	PKhKP	PKPpre	06 14 18.8			
	comp=Z,0.3nm,0.3s,baz=259,slow=2.8,SNR=6.7								
KURBB				PKP	**PKPdf**	**06 14 28.4**	**+0.2**		
	comp=Z,0.8nm,0.5s,baz=235,slow=2.9,SNR=6.5								
KURBB				SKPbc	**SKPbc**	**06 17 55.4**	**-1.6**		
	comp=Z,0.2nm,0.5s,baz=243,slow=3.2,SNR=3.1								
TULEG	**Thule**	**138.47**	**346**	*e*PKPdf	**PKPdf**	**06 14 28.4**	**+0.7**		
YKA	**Yellowknife Ar**	**139.00**	**315**	PKhKP	PKPpre	06 14 17.2			
	comp=Z,0.2nm,0.4s,baz=138,slow=2.2,SNR=9.0								
YKA				PKP	**PKPdf**	**06 14 28.5**	**-0.6**		
	comp=Z,2.2nm,0.4s,baz=134,slow=2.2,SNR=54								
YKA				PP	**PP**	**06 17 20.4**	**-2.8**		
	comp=Z,0.7nm,0.8s,baz=132,slow=6.0,SNR=11								
YKA				SKPbc	**SKPbc**	**06 17 57.1**	**-1.3**		
	comp=Z,1.1nm,0.7s,baz=124,slow=2.3,SNR=11								
YKA				PKKP	**PKKPdf**	**06 23 56.5**	**-0.8**		
	comp=Z,0.1nm,0.6s,baz=330,slow=2.2,SNR=4.0								
YKB5	**Yellowknife Ar**	**139.00**	**315**	*e*PKPdf	**PKPdf**	**06 14 28.5**	**-0.5**		
YKW3	**Yellowknife Ar**	**139.05**	**315**	*e*PKPdf	**PKPdf**	**06 14 29.2**	**+0.1**		
RES	**Resolute Bay**	**141.27**	**337**	*e*PKPdf	**PKiKP**	**06 14 35.5**	**-0.1**		
ZAA0	**Zalesovo Array**	**143.46**	**68**	*e*PKPpre	PKPpre	06 14 34.4			
ZALV	**Zalesovo Beam**	**143.46**	**68**	PKhKP	PKPpre	06 14 34.2			
	comp=Z,5.4nm,0.6s,baz=240,slow=3.8,SNR=19								
ZAA1	**Zalesovo Array**	**143.46**	**68**	*e*PKPpre	PKPpre	06 14 34.2			
NJ2	**Nanjing**	**144.09**	**124**	*e*PKP	**PKPdf**	**06 14 40.1**	**+1.0**		
HHC	**Hu-ho-hao-te**	**147.98**	**107**	*e*PKPbc	**PKPbc**	**06 14 49.3**	**+0.5**		
INK	**Inuvik**	**148.72**	**317**	PKPbc	**PKPbc**	**06 14 48.9**	**-0.8**		
	comp=Z,12nm,0.8s,baz=74,slow=2.0,SNR=56								
EPYK	**Eagle Plains**	**149.18**	**312**	*e*PKPdf	**PKPbc**	**06 14 50.3**	**-0.7**		
DAWY	**Dawson**	**149.35**	**307**	*e*PKPbc	**PKPbc**	**06 14 50.9**	**-0.6**		
DAWY				*e*PKPab	**PKPab**	**06 14 56.3**	**-0.2**		
JNU	**Nakatsue**	**149.57**	**140**	PKPbc	**PKPbc**	**06 14 52.8**	**-0.2**		
	comp=Z,7.7nm,0.9s,baz=160,slow=12,SNR=2.6								
EGAK	**Eagle**	**150.33**	**308**	*e*PKPbc	**PKPbc**	**06 14 53.0**	**-0.8**		
SONA0	**Songino Array**	**150.37**	**92**	*e*PKPbc	**PKPbc**	**06 14 54.7**	**+0.2**		
SONM	**Songino Array**	**150.37**	**92**	PKPbc	**PKPbc**	**06 14 54.7**	**+0.2**		
	comp=Z,11nm,0.6s,baz=247,slow=2.4,SNR=4.4								
MENT	**Mentasta**	**150.71**	**304**	*e*PKPbc	**PKPbc**	**06 14 55.1**	**+0.3**		
MENT				*e*PKPab	**pPKPdf**	**06 15 05.1**	**-1.2**		
KLU	**Klutina**	**151.09**	**300**	*e*PKPbc	**PKiKP**	**06 14 56.4**	**+0.1**		
KLU				*e*PKPab	**PKPab**	**06 15 03.7**	**0.0**		
DOT	**Dot Lake**	**151.11**	**305**	*e*PKPbc	**PKPbc**	**06 14 55.9**	**+0.2**		
SCRK	**Sand Creek**	**151.20**	**306**	*e*PKPbc	**PKPbc**	**06 14 56.1**	**+0.2**		
NRIK	**Noril'sk**	**151.42**	**43**	PKPbc	**PKPbc**	**06 14 55.8**	**-0.3**		
	comp=Z,1.9nm,0.4s,baz=245,slow=2.4,SNR=3.6								
PAX	**Paxson**	**151.46**	**303**	*e*PKPbc	**PKPbc**	**06 14 56.0**	**-0.6**		
PAX				*e*PKPab	**PKPab**	**06 15 05.0**	**-0.3**		
RIDG	**Independ'e Rid**	**151.47**	**305**	*e*PKPbc	**PKiKP**	**06 14 56.8**	**-0.2**		
SML	**Sawmill**	**152.28**	**300**	*e*PKPbc	**PKPbc**	**06 14 58.2**	**-0.2**		
PRP	**Porcupine Dome**	**152.32**	**308**	*e*PKPbc	**PKPbc**	**06 14 58.0**	**-0.5**		
KSRS	**Korea Array**	**152.43**	**132**	PKPbc	**PKPbc**	**06 14 59.8**	**+0.1**		
	comp=Z,1.8nm,0.6s,baz=199,slow=2.3,SNR=5.0								
HDA	**Harding Lake**	**152.57**	**306**	*e*PKPbc	**PKPbc**	**06 14 58.7**	**-0.2**		
IL1	**Eielson Array**	**152.65**	**306**	*e*PKPbc	**PKPbc**	**06 14 58.7**	**-0.4**		
ILAR	**Eielson Array**	**152.65**	**306**	PKPbc	**PKPbc**	**06 14 58.5**	**-0.6**		
	comp=Z,4.3nm,0.4s,baz=145,slow=2.3,SNR=99								
ILB	**Eielson Array**	**152.65**	**306**	*e*PKPbc	**PKPbc**	**06 14 58.4**	**-0.7**		
CCB	**Clear Creek Bu**	**152.99**	**306**	*e*PKPbc	**PKPbc**	**06 14 59.2**	**-0.6**		
CCB				*e*PKPab	**PKPab**	**06 15 10.9**	**-0.7**		
WRH	**Wood River Hil**	**153.06**	**305**	*e*PKPbc	**PKPbc**	**06 14 59.5**	**-0.4**		
SUA	**Susitna One**	**153.22**	**298**	*e*PKPbc	**PKiKP**	**06 15 01.0**	**+0.3**		
SUA				*e*PKPab	**PKPab**	**06 15 14.6**	**+1.8**		
MDM	**Murphy Dome**	**153.25**	**306**	*e*PKPbc	**PKPbc**	**06 14 59.6**	**-0.9**		
MDM				*e*PKPab	**PKPab**	**06 15 12.1**	**-0.6**		
BWN	**Browne**	**153.54**	**304**	*e*PKPdf	**PKPdf**	**06 14 51.1**	**-2.2**		
BWN				*e*PKPbc	**PKiKP**	**06 15 01.2**	**0.0**		
BWN				*e*PKPab	**PKPab**	**06 15 15.1**	**+1.2**		
BPAW	**Bear Paw Mtn.**	**154.16**	**304**	*e*PKPbc	**PKPbc**	**06 15 02.0**	**-0.4**		
BPAW				*e*PKPab	**PKPab**	**06 15 16.4**	**-0.2**		
TOLK	**Toolik Lake Re**	**154.53**	**314**	*e*PKPbc	**PKPbc**	**06 15 03.1**	**0.0**		
IM3	**Indian Mountai**	**155.73**	**308**	*e*PKPdif	PKPdf	06 15 06.0	+10		
IM3				*e*PKPab	**PKPab**	**06 15 23.1**	**-0.1**		
CN2	**Changchun**	**156.75**	**120**	*e*PKP	**PKPdf**	**06 14 56.8**	**-1.5**		
TIXI	**Tiksi**	**164.35**	**29**	PKPab	**PKPab**	**06 16 01.8**	**+1.2**		
	comp=Z,2.0nm,0.4s,baz=28,slow=3.2,SNR=8.1								

INMG ***25*** *05:57:21.6±0.7, 27.81N×18.30W, h10km, ML3.2, Error ellipse: s-maj=4.7km s-min=3.9km az=37.0*
CNRM ***25*** *05:57:26.3, 28.31N×17.68W, h20km*
ISC 25 05:57:25.4±3.8, 28.3N±0.2×17.6W±0.2, h10km, n14, σ1s76/22, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FUL	**Funchal**	**4.41**	**7**	*e*P		**Pn**	**05 58 32.8**	**+0.4**
FUL				*e*S		**Sn**	**05 59 25.3**	**+1.5**
FUL				A		A	05 59 29.3	
	35nm,0.2s							
PMAR	**Madeira**	**4.48**	**7**	*e*P		**Pn**	**05 58 32.6**	**-1.0**
PMAR				*e*S		**Sn**	**05 59 26.1**	**+0.2**
PMAR				A		A	05 59 32.2	
	37nm,0.2s							
PMAR	**Madeira**	**4.48**	**7**	P		**Pn**	**05 58 32.9**	**-0.6**
PMAR				S		**Sn**	**05 59 25.9**	**0.0**
PMOZ	**Porto Moniz, M**	**4.56**	**4**	*e*P		**Pn**	**05 58 33.9**	**-0.6**
PMOZ				*e*S		**Sn**	**05 59 27.9**	**+0.3**
PMOZ				A		A	05 59 34.9	
	53nm,0.5s							
PMOZ	**Porto Moniz, M**	**4.56**	**4**	P		**Pn**	**05 58 33.7**	**-0.8**
PMOZ				S		**Sn**	**05 59 27.0**	**-0.6**
PMPS	**Porto Santo**	**4.89**	**12**	*e*P		**Pn**	**05 58 39.4**	**+0.3**
PMPS				*e*S		**Sn**	**05 59 36.9**	**+1.1**
PMPS				A		A	05 59 38.9	
	18nm,0.3s							
TTIG	**Tnine Tigouga,**	**8.28**	**72**	P		**Pn**	**05 59 25.5**	**-0.3**
TTIG				S		**Sn**	**06 01 01.0**	**+1.5**
SRHM	**Skhour des Reh**	**9.35**	**61**	P		**Pn**	**05 59 36.2**	**-4.1**
SRHM				S		**Sn**	**06 01 21.7**	**-3.8**
OUZM	**OUZ**	**9.78**	**72**	P		**Pn**	**05 59 44.4**	**-1.8**
OUZM				S		**Sn**	**06 01 34.3**	**-1.8**
PSMN	**Pico do Norte,**	**10.76**	**326**	*e*T		T	06 10 54.8	
PSMA	**Santa Maria**	**10.78**	**326**	*e*T		T	06 10 53.5	
BART	**Pico Bartolome**	**11.42**	**328**	*e*T		T	06 11 04.9	
MD31	**MD31**	**11.96**	**64**	P		**Pn**	**06 00 18.0**	**+2.0**
MD31				S		**Sn**	**06 02 30.5**	**+1.0**
MDT	**Midelt**	**12.06**	**65**	P		**Pn**	**06 00 19.5**	**+2.1**
MDT				S		**Sn**	**06 02 33.5**	**+1.4**

IDC ***25*** *05:57:41.7±1.4, 16.29S×165.93E, h0km, mb4.0/6, mb1 4.4/8, mb1mx4.0/36, mbtmp4.3/8, ML5.1/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=36.4km s-min=27.9km az=117.0*
ISCJB ***25*** *05:57:44.8±0.6, 16.40S±0.06×165.9E±0.1, h33km, mb3.9/10, MS3.5/1, Error ellipse: s-maj=15.6km s-min=6.2km az=157.3*
NEIC ***25*** *05:57:44.1±3.5, 16.31S×165.98E, h17km±22km, mb4.1/4, Error ellipse: s-maj=12.9km s-min=7.0km az=56.0*
ISC 25 05:57:46.3±0.8, 16.33S±0.09×166.0E±0.2, h35km, n22, σ0s87/23, mb4.0/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MARNC	**Mare, Loyalty**	**5.49**	**159**	*e*Pn		**Pn**	**05 59 04.5**	**-1.1**
DZM	**Mont Dzumac**	**5.73**	**175**	Pn		**Pn**	**05 59 09.2**	**+0.1**
	25nm,0.3s,baz=62,slow=17,SNR=173							
DZM				Sn		**Sn**	**06 00 12.9**	**-0.7**
	11nm,0.3s,baz=311,slow=19,SNR=7.7							
DZM				LR		LR	06 01 07.4	
	comp=Z,218nm,20.9s,baz=37,slow=36							
ONTNC	**Ouen Toro**	**5.96**	**176**	*e*Pn		**Pn**	**05 59 12.9**	**+0.8**
PINNC	**Pines Island,**	**6.40**	**168**	*e*Pn		**Pn**	**05 59 18.7**	**+0.5**
HNR	**Honiara**	**9.02**	**319**	*e*P		**Pn**	**05 59 52.0**	**-2.1**
HNR	**Honiara**	**9.02**	**319**	Pn		**Pn**	**05 59 52.9**	**-1.2**
	35nm,0.3s,baz=57,slow=0.3,SNR=15							
HNR				Sn		**Sn**	**06 01 34.3**	**-0.2**
	3.7nm,0.3s,baz=204,slow=20,SNR=1.9							
HNR				LR		LR	06 02 52.6	
	comp=Z,145nm,18.7s,baz=66,slow=35							
URZ	**Urewera**	**23.95**	**158**	*e*P		**P**	**06 02 57.2**	**0.0**
	3.0nm,0.8s							
BKZ	**Black Stump Fm**	**24.55**	**160**	*e*P		**P**	**06 03 02.3**	**-0.5**
	8.5nm,1.1s							
KHZ	**Kahutara**	**26.80**	**167**	*e*P		**P**	**06 03 21.8**	**-1.3**
RPZ	**Rata Peaks**	**27.64**	**172**	LR		LR	06 13 19.1	
	comp=Z,111nm,18.0s,baz=360,slow=34							
WR1	**Warramunga Arr**	**30.23**	**258**	*e*P		**P**	**06 03 54.3**	**+0.3**
	3.8nm,1.1s							
WRA	**Warramunga Arr**	**30.23**	**258**	P		**P**	**06 03 54.3**	**+0.2**
	1.2nm,0.8s,baz=86,slow=8.8,SNR=4.6							
AS01	**Alice Springs**	**30.90**	**251**	*e*P		**P**	**06 04 00.7**	**+0.8**
ASAR	**Alice Springs**	**30.94**	**251**	P		**P**	**06 04 00.3**	**+0.1**
	4.5nm,0.9s,baz=74,slow=9.6,SNR=22							
FITZ	**Fitzroy Crossi**	**38.50**	**261**	*e*P		**P**	**06 05 05.7**	**+0.1**
	3.2nm,1.1s							
MAJO	**Matsushiro**	**58.76**	**334**	*e*P		**P**	**06 07 41.3**	**+0.3**
SONA0	**Songino Array**	**83.04**	**324**	*e*P		**P**	**06 10 09.1**	**+0.8**
SONM	**Songino Array**	**83.04**	**324**	P		**P**	**06 10 09.1**	**+0.8**
	1.7nm,1.0s,baz=122,slow=6.5,SNR=4.2							
ILAR	**Eielson Array**	**88.44**	**18**	P		**P**	**06 10 34.6**	**+0.2**
	0.5nm,0.7s,baz=234,slow=5.5,SNR=6.5							
MK32	**Makanchi Array**	**97.48**	**316**	*e*P		**P**	**06 11 17.5**	**+0.8**
MKAR	**Makanchi Array**	**97.48**	**316**	P		**P**	**06 11 17.5**	**+0.8**
	0.2nm,0.5s,baz=96,slow=4.3,SNR=2.7							
YKA	**Yellowknife Ar**	**99.55**	**28**	P		**Pdif**	**06 11 26.3**	**+0.8**
	0.2nm,0.7s,baz=254,slow=4.4,SNR=4.3							

IDC 25 06:09:60.0±1.0, 43.76N×103.72E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.4/40, mbtmp3.5/7, ML3.4/2, MS2.6/1, Ms1 2.6/1, ms1mx2.3/39, Error ellipse: s-maj=28.4km s-min=18.6km az=92.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SONM	**Songino Array**	**4.48**	**24**	Pn		Pn	06 11 10.8	+1.5
	3.9nm,0.3s,baz=200,slow=15,SNR=73							
SONM				Sn		Sn	06 11 59.0	-3.1
	9.9nm,0.3s,baz=209,slow=23,SNR=5.5							
SONM				Lg		Lg	06 12 22.6	
	46nm,0.3s,baz=215,slow=30,SNR=20							
MKAR	**Makanchi Array**	**15.38**	**289**	Pn		Pn	06 13 37.9	-0.4
	0.1nm,0.3s,baz=92,slow=14,SNR=3.7							
MKAR				Lg		Lg	06 18 02.8	
	0.1nm,0.3s,baz=95,slow=27,SNR=3.8							
KSRS	**Korea Array**	**19.39**	**101**	LR		LR	06 22 49.2	
	comp=Z,17nm,20.3s,baz=315,slow=40							
BVAR	**Borovoye Array**	**23.80**	**305**	P		P	06 15 14.7	+0.4
	1.4nm,0.5s,baz=112,slow=9.4,SNR=10							
ILAR	**Eielson Array**	**58.69**	**28**	P		P	06 19 58.4	-0.4
	0.1nm,0.5s,baz=295,slow=5.2,SNR=2.8							
WRA	**Warramunga Arr**	**69.34**	**149**	P		P	06 21 09.8	+0.5
	0.3nm,0.7s,baz=341,slow=7.5,SNR=3.6							
YKA	**Yellowknife Ar**	**69.72**	**18**	P		P	06 21 10.7	-0.4
	0.4nm,0.6s,baz=332,slow=5.9,SNR=9.3							
ASAR	**Alice Springs**	**72.60**	**151**	P		P	06 21 28.9	-0.2
	0.5nm,0.8s,baz=339,slow=7.0,SNR=3.1							

DDA ***25*** *06:13:32.9, 38.70N×43.17E, h5km±2km, ML3.7*
ISK ***25*** *06:13:32.7, 38.69N×43.18E, h5km, ML3.5/14*
TEH ***25*** *06:13:33.5, 38.70N×43.20E, h8km, ML3.5*
AZER ***25*** *06:13:33.4±2.1, 38.73N×42.85E, h10km, ml3.2/7, Error ellipse: s-maj=31.5km s-min=17.4km az=140.0*
ISC 25 06:13:33.5±1.0, 38.74N±0.02×43.17E±0.02, h19km±3km, n75, σ0s91/85, 4C-5D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VANB	**Van**	**0.22**	**130**		PG	**Pg**	**06 13 39.3**	**+0.3**
VANB					SG	**Sg**	**06 13 43.6**	**+0.8**
VANB	**Van**	**0.22**	**130**	*e*Pg		**Pg**	**06 13 39.3**	**+0.3**
TVAN	**Van**	**0.28**	**139**	*i*P		**Pg**	**06 13 39.4**	**-0.6**
TVAN				*i*S		**Sg**	**06 13 44.1**	**-0.3**
TVAN	**Van**	**0.28**	**139**	*e*Pg		**Pg**	**06 13 39.1**	**-0.9**
ADCV	**BITLIS_Adilcev**	**0.36**	**281**	*i*P		Pn	**06 13 42.8**	**-1.1**
ADCV	**BITLIS_Adilcev**	**0.36**	**281**	*e*Pg		**Pg**	**06 13 41.8**	**+0.4**
VMUR	**Van-Muradiye**	**0.40**	**51**	*i*P		**Pb**	**06 13 43.1**	**+0.9**
VMUR	**Van-Muradiye**	**0.40**	**51**	*e*Pg		**Pb**	**06 13 42.5**	**+0.3**
GEVA	**Gevas**	**0.43**	**192**	*i*P		**Pg**	**06 13 42.0**	**-0.6**
GEVA					IAML_P			
	comp=Z,127μm,0.3s							
GEVA	**Gevas**	**0.43**	**192**	*e*Pg		**Pg**	**06 13 41.4**	**-1.2**
MLAZ	**Malazgirt-MUS**	**0.63**	**310**	PG		**Pn**	**06 13 46.9**	**-0.7**
CLDR	**Caldiran**	**0.71**	**55**	PG		**Pg**	**06 13 47.5**	**-0.1**
CLDR				SG		**Sn**	**06 13 59.1**	**-0.2**
CLDR	**Caldiran**	**0.71**	**55**	*i*P		**Pg**	**06 13 47.8**	**+0.2**
CLDR					IAML_P			
	comp=Z,10μm,0.1s							
CLDR	**Caldiran**	**0.71**	**55**	*e*Pg		**Pg**	**06 13 47.5**	**-0.1**
TUTA	**Tutak**	**0.72**	**337**	*i*P		**Pn**	**06 13 48.4**	**-0.5**
TUTA					IAML_P			
	comp=Z,85μm,0.2s							
TUTA	**Tutak**	**0.72**	**337**	*e*Pg		**Pn**	**06 13 48.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.85**	**351**	PG		**Pn**	**06 13 50.5**	**-0.1**
AGRB	**Hanur-Agry**	**0.85**	**351**	*e*Pg		**Pn**	**06 13 50.5**	**-0.1**
BLIS	**Bitlis-Merkez**	**0.89**	**249**	*i*P		**Pg**	**06 13 50.6**	**-0.3**
BLIS				*i*S		**Sn**	**06 14 03.0**	**-0.6**
BLIS					IAML_P			
	comp=Z,31μm,0.2s							
DYDN	**Diyadin**	**0.90**	**26**	*i*P		**Pg**	**06 13 51.0**	**-0.1**
DYDN					IAML_P			
	comp=Z,4μm,0.3s							
DYDN	**Diyadin**	**0.90**	**26**	*e*Pg		**Pg**	**06 13 51.0**	**-0.1**
GURO	**Guroymak-BITLI**	**0.91**	**258**	PG		**Pg**	**06 13 51.0**	**-0.3**
GURO	**Guroymak-BITLI**	**0.91**	**258**	*e*Pg		**Pb**	**06 13 50.7**	**-0.1**
BASK	**Baskale_VAN**	**0.95**	**136**	*i*P		**Pb**	**06 13 51.4**	**0.0**
BASK					IAML_P			
	comp=Z,15μm,0.2s							
BASK	**Baskale_VAN**	**0.95**	**136**	*e*Pg		**Pb**	**06 13 50.7**	**-0.8**
SRTM	**Siirt_Merkez**	**1.23**	**233**	*i*P		**Pg**	**06 13 57.0**	**-0.4**
SRTM					IAML_P			
	comp=Z,7μm,0.3s							
SRTM	**Siirt_Merkez**	**1.23**	**233**	*e*Pg		**Pg**	**06 13 57.0**	**-0.4**
MUSM	**Mu-Merkez**	**1.30**	**270**	*i*P		**Pg**	**06 13 57.2**	**-0.2**
MUSM				*i*S		**Sg**	**06 14 17.2**	**+1.6**
MUSM					IAML_P			
	comp=Z,5μm,0.2s							
IGDI	**IGDIR**	**1.33**	**32**	*i*P		**Pg**	**06 14 00.3**	**+1.0**
IGDI					IAML_P			
	comp=Z,3μm,0.3s							
IGDI	**IGDIR**	**1.33**	**32**	*e*Pg		**Pg**	**06 13 59.6**	**+0.3**
SIRN	**Sırnak**	**1.38**	**206**	*i*P		**Pg**	**06 14 00.7**	**+0.5**
SIRN					IAML_P			
	comp=Z,19μm,0.4s							
SIRN	**Sırnak**	**1.38**	**206**	*e*Pg		**Pg**	**06 14 00.3**	**+0.2**
YOVA	**Hakkari_Yksek**	**1.45**	**142**	*i*P		**Pb**	**06 13 59.3**	**-0.8**
YOVA					IAML_P			
	comp=Z,3μm,0.3s							
YOVA	**Hakkari_Yksek**	**1.45**	**142**	*e*Pg		**Pn**	**06 13 59.1**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.49**	**33**	PN		**Pg**	**06 14 03.0**	**+0.6**
TASB	**TASBURUN-IGDIR**	**1.49**	**33**	*e*Pn		**Pg**	**06 14 02.7**	**+0.3**
CUKT	**Cukurca**	**1.53**	**167**	PN		**Pb**	**06 14 01.4**	**+0.1**
CUKT	**Cukurca**	**1.53**	**167**	*i*P		**Pb**	**06 14 01.9**	**+0.5**
CUKT					IAML_P			
	comp=Z,7μm,0.4s							
CUKT	**Cukurca**	**1.53**	**167**	*e*Pn		**Pb**	**06 14 01.4**	**+0.1**
KOPR	**Koprukoy-ERZUR**	**1.61**	**321**	PN		**Pg**	**06 14 04.2**	**-0.5**
HOMI	**Horasan**	**1.63**	**323**	*i*P		**Pg**	**06 14 05.1**	**0.0**
HOMI					IAML_P			
	comp=Z,3μm,0.2s							
HOMI	**Horasan**	**1.63**	**323**	*e*Pn		**Pg**	**06 14 05.0**	**0.0**
HYR	**Heyderabad**	**1.63**	**53**	⇑P		**Pg**	**06 14 04.4**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.66**	**250**	PN		**Pb**	**06 14 03.8**	**+0.3**
SVAN	**Silvan-Diyarba**	**1.66**	**250**	*i*P		**Pg**	**06 14 05.8**	**+0.3**
SVAN				*i*S		**Sg**	**06 14 28.8**	**+1.8**
SVAN					IAML_P			
	comp=Z,8μm,0.3s							
SVAN	**Silvan-Diyarba**	**1.66**	**250**	*e*Pn		**Pg**	**06 14 04.8**	**-0.6**
DIGO	**Kars**	**1.68**	**5**	*i*P		**Pg**	**06 14 06.3**	**+0.3**
DIGO					IAML_P			
	comp=Z,7μm,0.2s							
DIGO	**Kars**	**1.68**	**5**	*e*Pn		**Pg**	**06 14 06.1**	**+0.1**
BTMN	**Batman**	**1.72**	**241**	*i*P		**Pb**	**06 14 05.1**	**+0.6**
BTMN				*i*S		**Sg**	**06 14 30.1**	**+1.1**
BTMN					IAML_P			
	comp=Z,3μm,0.4s							
BTMN	**Batman**	**1.72**	**241**	*e*Pn		**Pb**	**06 14 05.0**	**+0.5**
GNI	**Garni**	**1.86**	**40**	PN		**Pg**	**06 14 08.1**	**-1.3**
GNI	**Garni**	**1.86**	**40**	*e*Pn		**Pg**	**06 14 08.4**	**-1.0**
NAX	**Nakhchivan**	**1.86**	**76**	P		**Pg**	**06 14 09.0**	**-0.4**
	SNR=21							
NAX				⇓S		**Sg**	**06 14 36.1**	**+2.5**
KARS	**Kars**	**1.89**	**358**	PN		**Pb**	**06 14 08.1**	**+0.6**
KARS	**Kars**	**1.89**	**358**	*e*Pn		**Pg**	**06 14 08.6**	**-1.3**
SENK	**Senkaya-Erzuru**	**1.93**	**341**	PN		**Pb**	**06 14 08.7**	**+0.5**
SENK	**Senkaya-Erzuru**	**1.93**	**341**	*e*Pn		**Pg**	**06 14 09.3**	**-1.3**
BNGB	**Bingl**	**1.96**	**278**	PN		**Pb**	**06 14 08.8**	**+0.1**
SBZ	**Shahbuz**	**1.97**	**70**	⇓P		**Pg**	**06 14 10.1**	**-1.3**
SBZ				⇓S		**Sg**	**06 14 38.6**	**+1.6**
EAK	**Akyaka**	**1.97**	**10**	*i*P		**Pg**	**06 14 13.3**	**+1.8**
EAK					IAML_P			
	comp=Z,7μm,0.4s							
EAK	**Akyaka**	**1.97**	**10**	*e*Pn		**Pg**	**06 14 12.6**	**+1.1**
IMRD	**Marand**	**1.98**	**90**		IAMB	IAmb	06 14 18.8	
	comp=Z,4μm,0.7s							
IMRD					*e*Pn	**Pb**	**06 14 08.8**	**-0.3**
BINT	**Bingol**	**2.10**	**275**		*e*Pn	**Pn**	**06 14 08.7**	**+0.9**
ORD	**Ordubad**	**2.21**	**84**		⇑P	**Pb**	**06 14 13.5**	**+0.6**
DDEM	**Demirkent**	**2.41**	**333**		*i*P	**Pg**	**06 14 19.9**	**+0.1**
DDEM					IAML_P			
	comp=Z,2μm,0.3s							
IAZR	**Azarshahr**	**2.45**	**115**		*e*Pn	**Pb**	**06 14 16.0**	**-1.2**
IAZR					IAMB	IAmb	06 14 32.6	
	comp=Z,2μm,0.4s							
DAGI	**Agillar**	**2.53**	**338**		*i*P	**Pg**	**06 14 21.9**	**-0.1**
DAGI					IAML_P			
	comp=Z,1μm,0.4s							
DBAD	**Bademkaya**	**2.54**	**334**		*i*P	**Pg**	**06 14 21.9**	**-0.5**
DBAD					IAML_P			
	comp=Z,2μm,0.4s							
BAYB	**BAYBURT**	**2.72**	**305**		*i*P	**Pg**	**06 14 26.4**	**+0.8**
BAYB					IAML_P			
	comp=Z,823nm,0.7s							
GDB	**GEDABAY**	**2.81**	**44**		⇑P	**Pb**	**06 14 21.1**	**-2.1**
	SNR=5.9							
GDB					⇓S	**Sb**	**06 14 57.4**	**+0.2**
ERZN	**Erzincan**	**2.81**	**289**		PN	**Pb**	**06 14 21.3**	**-1.9**
BAYT	**Aydıntepe-Bayb**	**2.87**	**306**		PN	**Pb**	**06 14 21.9**	**-2.3**
QZX	**Qazax, Azerbai**	**2.87**	**35**		⇓P	**Pb**	**06 14 22.5**	**-1.6**
	SNR=3.9							
BCA	**Borcka**	**2.95**	**337**		PN	**Pb**	**06 14 23.3**	**-2.2**
GANJ	**Ganja**	**3.09**	**51**		⇑P	**Pb**	**06 14 27.3**	**-0.6**
	SNR=9.2							

IDC 25 06:17:48.7±13.0, 16.62S×69.24W, h170km±23km, mb3.0/2, mb1 3.2/2, mb1mx2.8/26, mbtmp3.5/2, Error ellipse: s-maj=440.4km s-min=48.7km az=23.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LPAZ	**La Paz**	**1.12**	**73**	P		Pn	06 18 17.0	-0.1
	2.5nm,0.3s,baz=255,slow=2.6,SNR=95							
TORD	**Torodi Ar. Bea**	**76.07**	**72**	P		P	06 29 18.1	+0.1
	3.9nm,0.5s,baz=256,slow=5.8,SNR=7.1							
YKA	**Yellowknife Ar**	**86.51**	**341**	P		P	06 30 11.9	0.0
	0.1nm,0.6s,baz=132,slow=4.7,SNR=4.1							

ISCJB ***25*** *06:27:33.2±

LOHW	**Long Hollow** 3.3nm,1.0s	**31.12 337**	*e*P	**P**	**06 33 47.1**	**+1.1**
TPAW	**Teton Pass** 3.0nm,1.1s	**31.15 336**	*e*P	**P**	**06 33 48.6**	**+2.4**
MOOW	**Moose Ponds** 0.7nm,0.7s	**31.29 336**	*e*P	**P**	**06 33 48.7**	**+1.3**
RLMT	**Red Lodge** 0.9nm,1.0s	**31.95 340**	*e*P	**P**	**06 33 54.6**	**+1.4**
AGMN	**Agassiz Nation** 6.3nm,0.6s	**32.49 358**	*e*P	**P**	**06 33 55.6**	**-1.9**
ULM	**Lac du Bonnet** 4.0nm,0.5s,baz=174,slow=11,SNR=10	**34.44 358**	P	**P**	**06 34 11.8**	**-2.7**
LPAZ	**La Paz** 1.1nm,0.3s,baz=334,slow=7.6,SNR=10	**40.88 140**	P	**P**	**06 35 13.0**	**+3.1**
YKA	**Yellowknife Ar** 2.0nm,0.6s,baz=153,slow=7.3,SNR=68	**48.87 348**	P	**P**	**06 36 11.2**	**-0.8**
YKA	0.5nm,0.5s,baz=153,slow=7.4,SNR=4.1		pP	**pP**	**06 36 30.5**	**-0.9**
ILAR	**Eielson Array** 0.5nm,0.7s,baz=123,slow=5.1,SNR=6.4	**60.43 337**	P	**P**	**06 37 35.3**	**-0.4**
ILAR	0.4nm,0.6s,baz=151,slow=4.2,SNR=4.1		pP	**pP**	**06 37 55.8**	**+0.2**
NOA	**NORSAR Array B** 0.9nm,0.9s,baz=289,slow=5.3,SNR=2.8	**83.59 28**	P	**P**	**06 39 53.2**	**-0.9**
ARCES	**ARCESS Array B** 3.2nm,0.9s,baz=297,slow=4.1,SNR=8.9	**85.12 18**	P	**P**	**06 40 01.2**	**-0.4**
TIXI	**Tiksi** comp=Z,12nm,18.5s,baz=49,slow=40	**88.12 348**	LR	LR	07 25 24.9	

ISCJB ***25*** *06:34:15.8±0.4,59.°73S×0.°07×26.°3W×0.°1,h100km, mb4.4/24,Error ellipse: s-maj=12.6km s-min=7.0km az=42.9*

IDC ***25*** *06:34:15.8±2.0,59.°48S×26.°46W,h77km±16km,mb4.1/13, mb1 4.1/13,mb1mx4.0/22,mbtmp4.4/13,MS3.4/3, Ms1 3.4/3,ms1mx3.0/23,Error ellipse: s-maj=16.9km s-min=14.4km az=20.0*

NEIC ***25*** *06:34:18.0±2.1,59.°60S×26.°38W,h102km±18km,mb4.6/18, Error ellipse: s-maj=13.4km s-min=7.7km az=206.0*

ISC 25 06:34:17.4±0.5,59.°65S±0.°09×26.°38W±0.°10,h100km,n61, σ1°16/61,mb4.5/24,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
VNA1	**Neumayer--Stat**	**13.32**	**153**	P			**Pn**	**06 37 20.0**	**-2.1**
VNA1				S			Sn	06 39 36.9	-11
VNA3	**Neumayer Olymp**	**13.47**	**156**	P			**Pn**	**06 37 21.2**	**-2.9**
VNA3				S			Sn	06 39 38.0	-14
VNA2	**Neumayer--Watz** baz=306,slow=16	**13.72**	**153**	P			**Pn**	**06 37 24.4**	**-2.9**
VNA2	baz=266,slow=13			S			Sn	06 39 43.7	-14
SNAA	**Sanae**	**15.31**	**151**	P			**Pn**	**06 37 46.6**	**-1.0**
SNAA				S			Sn	06 40 22.3	-14
SNAA	**Sanae** 85nm,0.6s	**15.31**	**151**	*e*Pn			**Pn**	**06 37 46.4**	**-1.2**
SNAA	**Sanae** 27nm,0.3s,baz=308,slow=14,SNR=436	**15.31**	**151**	P			**Pn**	**06 37 46.4**	**-1.2**
SNAA	1.4nm,0.3s,baz=324,slow=19,SNR=4.0			S			Sn	06 40 22.7	-14
PMSA	**Palmer Station** comp=Z,63nm,19.7s,baz=118,slow=34	**18.08**	**238**	LR			LR	06 44 40.0	
EFI	**East Falkland** 8.7nm,0.7s	**19.41**	**280**	*e*P			**Pn**	**06 38 37.7**	**+0.2**
USHA	**Ushuaia** 11nm,0.9s,baz=124,slow=15,SNR=2.7	**22.96**	**264**	P			**P**	**06 39 13.5**	**+0.6**
QSPA	**South Pole Qui** 4.1nm,1.1s	**30.59**	**180**	*e*P			**P**	**06 40 23.2**	**+1.8**
QSPA	**South Pole Qui** 3.2nm,0.5s,baz=162,slow=0.3,SNR=37	**30.59**	**180**	P			**P**	**06 40 23.4**	**+2.0**
TRQA	**Tornquist** 8.0nm,0.8s	**31.27**	**298**	*e*P			**P**	**06 40 28.1**	**+0.6**
PLCA	**Paso Flores** 0.5nm,0.7s	**33.20**	**285**	*e*P			**P**	**06 40 44.3**	**-0.1**
PLCA	**Paso Flores** 1.0nm,0.8s,baz=176,slow=7.4,SNR=6.1	**33.20**	**285**	P			**P**	**06 40 43.8**	**-0.6**
CFA	**Coronel Fontan** 3.2nm,0.5s,baz=167,slow=7.4,SNR=12	**39.47**	**296**	P			**P**	**06 41 37.4**	**-0.3**
CPUP	**Villa Florida** 2.9nm,1.0s	**39.57**	**314**	*e*P			**P**	**06 41 38.1**	**-0.5**
CPUP	**Villa Florida** 1.2nm,0.5s,baz=151,slow=5.2,SNR=8.0	**39.57**	**314**	P			**P**	**06 41 38.5**	**-0.1**
SUR	**Sutherland** 9.8nm,1.0s	**41.31**	**70**	*e*P			**P**	**06 41 55.3**	**+2.2**
GO04	**Tololo Observa** 7.8nm,0.9s	**41.85**	**295**	*e*P			**P**	**06 41 57.2**	**-0.4**
LCO	**Las Campanas** 9.2nm,1.1s	**42.79**	**296**	*e*P			**P**	**06 42 05.7**	**+0.5**
VNDA	**Vanda** 1.2nm,0.6s,baz=198,slow=7.4,SNR=8.9	**42.98**	**183**	P			**P**	**06 42 08.5**	**+2.6**
VNDA	1.2nm,0.8s,baz=181,slow=1.9,SNR=3.8			pP			**pP**	**06 42 27.4**	**-0.9**
GO02	**Mina Guanaco** 10nm,1.0s	**45.60**	**300**	*e*P			**P**	**06 42 26.1**	**-1.6**
BOSA	**Boshof** 3.1nm,0.8s,baz=188,slow=5.5,SNR=3.2	**46.56**	**72**	P			**P**	**06 42 36.0**	**+0.9**
BDFB	**Brasilia** 3.4nm,0.4s,baz=149,slow=7.6,SNR=13	**46.72**	**331**	P			**P**	**06 42 35.5**	**-0.8**
BDFB	comp=Z,32nm,19.2s,baz=152,slow=34			LR			LR	07 00 13.2	
LVC	**Limon Verde** 4.7nm,0.8s	**47.54**	**302**	*e*P			**P**	**06 42 43.8**	**+0.8**
PB04	**IPOC Station P** 26nm,1.0s	**48.32**	**301**	*e*P			**P**	**06 42 49.6**	**+0.9**
PB01	**IPOC Station P** 11nm,0.5s	**49.17**	**302**	*e*P			**P**	**06 42 55.9**	**+0.8**
LBTB	**Lobatse** 2.3nm,0.8s	**49.75**	**69**	*e*P			**P**	**06 43 00.6**	**+1.1**
LBTB	**Lobatse** 2.2nm,0.7s,baz=216,slow=8.7,SNR=3.2	**49.75**	**69**	P			**P**	**06 43 00.4**	**+0.8**
GO01	**Chusmiza** 7.7nm,0.5s	**50.27**	**304**	*e*P			**P**	**06 43 04.6**	**+0.7**
PB11	**IPOC Station P** 8.1nm,0.8s	**50.38**	**303**	*e*P			**P**	**06 43 03.6**	**-0.8**
MNMC	**Minye Minye** 20nm,0.5s	**50.91**	**303**	*e*P			**P**	**06 43 09.5**	**+0.9**
LPAZ	**La Paz** 3.6nm,0.4s	**52.85**	**307**	*e*P			**P**	**06 43 23.8**	**+0.5**
LPAZ	**La Paz** 3.0nm,0.4s,baz=119,slow=4.6,SNR=36	**52.85**	**307**	P			**P**	**06 43 23.8**	**+0.5**
DBIC	**Dimbokro** 2.9nm,1.0s	**68.30**	**23**	*e*P			**P**	**06 45 07.7**	**+0.2**
DBIC	**Dimbokro** 2.8nm,0.6s,baz=164,slow=7.4,SNR=8.1	**68.30**	**23**	P			**P**	**06 45 07.8**	**+0.4**
ROSC	**El Rosal** 1.9nm,0.5s,baz=133,slow=19,SNR=4.2	**74.53**	**310**	P			**P**	**06 45 45.4**	**-0.1**
TORD	**Torodi Ar. Bea** 13nm,0.6s,baz=196,slow=5.6,SNR=96	**76.01**	**28**	P			**P**	**06 45 53.2**	**-0.2**
TOA1	**Torodi Ar. Sit**	**76.02**	**28**	*e*P			**P**	**06 45 53.2**	**-0.2**
URZ	**Urewera** comp=Z,60nm,18.9s,baz=232,slow=33	**80.52**	**199**	LR			LR	07 18 57.6	
PFO	**Pinyon Flats O** 6.1nm,0.4s,baz=113,slow=5.6,SNR=14	**118.38**	**288**	PKP			**PKiKP**	**06 52 52.5**	**-0.1**
SCHQ	**Schefferville** 1.1nm,0.4s,baz=180,slow=2.0,SNR=4.4	**118.63**	**335**	PKP			**PKiKP**	**06 52 52.2**	**0.0**
NB200	**NORSAR Array S**	**123.83**	**21**	*e*PKPdf			**PKiKP**	**06 53 03.2**	**+0.9**
NOA	**NORSAR Array B** 0.6nm,0.8s,baz=180,slow=1.3,SNR=3.0	**123.83**	**21**	PKP			**PKiKP**	**06 53 03.2**	**+0.9**
FIA0	**FINESS Array S**	**127.36**	**29**	*e*PKPdf			**PKiKP**	**06 53 09.4**	**+0.2**
FINES	**FINESS Array B** 0.6nm,0.4s,baz=142,slow=3.4,SNR=9.4	**127.36**	**29**	PKP			**PKiKP**	**06 53 09.4**	**+0.2**
ARA0	**ARCESS Array S**	**134.12**	**23**	*e*PKPdf			**PKiKP**	**06 53 21.9**	**-0.7**
ARA0				*e*SKPbc			**SKPab**	**06 56 42.9**	**-1.4**
ARCES	**ARCESS Array B** 2.3nm,0.8s,baz=218,slow=2.7,SNR=9.7	**134.12**	**23**	PKP			**PKiKP**	**06 53 21.9**	**-0.7**
ARCES	3.1nm,0.9s,baz=242,slow=1.9,SNR=2.8			SKPbc			**SKPab**	**06 56 42.9**	**-1.4**
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=132,slow=1.9,SNR=2.5	**139.09**	**315**	PKhKP			PKPpre	06 53 20.1	
YKA	0.4nm,0.4s,baz=133,slow=2.2,SNR=20			PKP			**PKiKP**	**06 53 30.7**	**-2.2**
YKA	0.4nm,0.7s,baz=125,slow=2.4,SNR=3.5			pPKP			pPKPdf	06 53 52.7	-4.6
YKA	0.1nm,0.5s,baz=130,slow=2.3,SNR=6.4			SKPbc			**SKiKP**	**06 56 59.3**	**-0.1**
YKB5	**Yellowknife Ar**	**139.09**	**315**	*e*PKPdf			**PKiKP**	**06 53 30.9**	**-2.0**
ZALV	**Zalesovo Beam** 1.1nm,0.6s,baz=266,slow=4.5,SNR=4.5	**143.46**	**68**	PKhKP			PKPpre	06 53 36.6	
ZAA1	**Zalesovo Array**	**143.46**	**68**	*e*PKPpre			PKPpre	06 53 36.6	
INK	**Inuvik**	**148.80**	**317**	*e*PKPbc			**PKiKP**	**06 53 50.7**	**-1.9**
SONA0	**Songino Array**	**150.33**	**92**	*e*PKPbc			**PKiKP**	**06 53 56.9**	**+0.2**
SONM	**Songino Array** 2.3nm,0.6s,baz=215,slow=3.3,SNR=17	**150.33**	**92**	PKPbc			**PKiKP**	**06 53 56.9**	**+0.2**
DOT	**Dot Lake**	**151.19**	**305**	*e*PKPbc			**PKiKP**	**06 53 57.9**	**0.0**
KDAK	**Kodiak Island**	**152.64**	**290**	*e*PKPbc			**PKiKP**	**06 54 01.5**	**+0.6**
KDAK	**Kodiak Island** 9.9nm,1.1s,baz=140,slow=3.6,SNR=4.0	**152.64**	**290**	PKPbc			**PKiKP**	**06 54 01.1**	**+0.2**
IL1	**Eielson Array**	**152.73**	**306**	*e*PKPbc			**PKiKP**	**06 54 00.7**	**-0.2**
ILAR	**Eielson Array** 0.8nm,0.4s,baz=143,slow=2.4,SNR=14	**152.73**	**306**	PKPbc			**PKiKP**	**06 54 00.7**	**-0.3**
ILB	**Eielson Array**	**152.73**	**306**	*e*PKPbc			**PKiKP**	**06 54 01.1**	**+0.2**

ISK ***25*** *06:57:06.4,42.°36N×40.°91E,h11km,ML3.0/3*
TIF ***25*** *06:57:07.2,42.°36N×40.°97E,h27km±2km*
ISCJB ***25*** *06:57:08.9±0.8,42.°35N±0.°03×40.°97E±0.°04,h18km±9km, Error ellipse: s-maj=5.8km s-min=4.4km az=145.2*
NORS ***25*** *06:57:08.3±0.0,42.°53N×41.°04E,h4km,MPVA3.8*
MOS ***25*** *06:57:08.6±0.0,42.°52N×41.°08E,h5km,MPVA3.9*

ISC 25 06:57:05.5±1.4,42.°39N±0.°04×41.°02E±0.°03,h0km±12km, n21,σ0°81/42,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BATM	**Batumi**	**0.94**	**147**	PG			**Pn**	**06 57 25.6**	**-0.3**
BATM				SG			**Sn**	**06 57 39.5**	**-0.5**
BATM	**Batumi**	**0.94**	**147**	P			**Pn**	**06 57 25.9**	**+0.1**
BATM				S			**Sn**	**06 57 39.3**	**-0.7**
DOMR	**Dombai**	**1.00**	**26**	*i* Pg			**Pg**	**06 57 23.8**	**-1.0**
DOMR				*i* Sg			**Sg**	**06 57 36.2**	**-1.5**
BCA	**Borcka**	**1.05**	**154**	PG			**Pn**	**06 57 27.0**	**-0.5**
BCA				SG			**Sn**	**06 57 41.4**	**-1.4**
CHOM	**Cayeli-Rize**	**1.31**	**188**	PN			**Pb**	**06 57 31.0**	**+0.1**
CHOM				SN			**Sn**	**06 57 48.0**	**-1.2**
RPOR	**Krasnaya Polya**	**1.42**	**337**	*i* Pg			**Pg**	**06 57 33.6**	**+1.0**
RPOR				*i* Sg			**Sn**	**06 57 52.5**	**+0.6**
NEY	**Neytrino**	**1.52**	**55**	*e*Pg			**Pg**	**06 57 35.2**	**+0.5**
NEY				*e*Sg			**Sg**	**06 57 55.3**	**+0.9**
SOC	**Sochi**	**1.52**	**322**	*i* Pg			**Pg**	**06 57 35.8**	**+1.1**
SOC				*e*Sg			**Sg**	**06 57 56.0**	**+1.4**
SHA1	**Shidzhatmaz**	**1.80**	**41**	*i* Pg			**Pb**	**06 57 39.7**	**+0.1**
SHA1				*i* Pg			**Pg**	**06 57 40.4**	**+0.3**
SHA1				*i* Sg			**Sb**	**06 58 02.6**	**-0.2**
SHA1				*i* Sg			**Sg**	**06 58 03.3**	**-0.1**
ONI	**Oni**	**1.81**	**83**	PN			**Pb**	**06 57 38.9**	**-0.7**
ONI				SN			**Sb**	**06 58 03.8**	**+1.0**
ONI	**Oni**	**1.81**	**83**	P			**Pb**	**06 57 39.6**	**0.0**
ONI				S			**Sb**	**06 58 03.6**	**+0.8**
ONI	**Oni**	**1.81**	**83**	*e*Pg			**Pb**	**06 57 39.6**	**0.0**
ONI				*e*Sg			**Sb**	**06 58 03.6**	**+0.8**
LZRR	**Lazarevskoye**	**1.95**	**323**	*i* Pg			**Pg**	**06 57 41.8**	**-1.1**
LZRR				*e*Sg			**Sg**	**06 58 07.3**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.96**	**74**	*e*Pg			**Pb**	**06 57 42.4**	**+0.3**
DIGR				*e*Sg			**Sb**	**06 58 07.8**	**+0.6**
KIV0	**Kislovodsk Arr**	**1.99**	**38**	*i* Pg			**Pg**	**06 57 43.5**	**-0.1**
KIV0				*e*Sg			**Sb**	**06 58 07.1**	**-0.9**
BEYR	**Belyy Ugol+**	**2.09**	**39**	*i* Pg			**Pg**	**06 57 45.1**	**-0.4**
BEYR				*e*Sg			**Sb**	**06 58 10.2**	**-0.6**
ZEI	**Tsey**	**2.17**	**79**	*e*Pg			**Pb**	**06 57 45.9**	**+0.2**
ZEI				*e*Sg			**Sb**	**06 58 14.4**	**+1.2**
PYA1	**Pyatigorsk**	**2.26**	**42**	*e*Pg			**Pb**	**06 57 45.9**	**-1.2**
LACR	**Lac**	**2.46**	**79**	*e*Pn			**Pb**	**06 57 50.8**	**+0.1**
LACR				*e*Sn			**Sn**	**06 58 18.7**	**+0.9**
KOPR	**Koprukoy-ERZUR**	**2.48**	**165**	PN			**Pn**	**06 57 48.1**	**+0.8**
ALER	**Alexandrovskoy**	**2.74**	**30**	*e*Pn			**Pg**	**06 57 57.8**	**-0.3**
ALER				*e*Sn			**Sb**	**06 58 30.4**	**+0.9**

IDC ***25*** *06:59:18.0±2.7,39.°26N×143.°58E,h0km,mb3.4/3, mb1 3.5/4,mb1mx3.2/44,mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=70.7km s-min=31.1km az=69.0*
ISCJB ***25*** *06:59:20.0±1.4,39.°30N±0.°04×143.°02E±0.°07,h3km±8km, mb3.4/3,Error ellipse: s-maj=8.7km s-min=6.5km az=6.7*
JMA ***25*** *06:59:20.8±0.1,39.°29N×143.°07E,h20km±2km,M3.6*

ISC 25 06:59:21.8±2.9,39.°31N±0.°04×142.°93E±0.°09,h12km±14km, n21,σ0°94/32,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MIYJ	**Miyakonagasawa**	**0.90**	**287**	P			**Pb**	**06 59 39.3**	**0.0**
MIYJ				S			**Sn**	**06 59 52.8**	**-0.4**
OFUJ	**Ofunato**	**1.01**	**257**	P			**Pb**	**06 59 40.9**	**-0.3**
OFUJ				*e*S			**Sg**	**06 59 55.0**	**+0.7**
JTH	**Tanohata**	**1.03**	**308**	P			**Pb**	**06 59 41.3**	**-0.3**
JTH				*e*S			**Sn**	**06 59 56.0**	**-0.6**
JKMT	**Kesennumamotoy**	**1.24**	**247**	P			**Pn**	**06 59 44.5**	**-0.4**
JKMT				S			**Sb**	**07 00 01.0**	**-0.1**
JOM	**Ohasama**	**1.28**	**278**	P			**Pn**	**06 59 45.5**	**0.0**
JOM				S			**Sg**	**07 00 03.4**	**+0.4**
JMK	**Ichinoseki**	**1.38**	**255**	P			**Pn**	**06 59 46.8**	**0.0**
JMK				*e*S			**Sg**	**07 00 05.8**	**-0.3**
JKZ	**Kuzumaki**	**1.41**	**299**	P			**Pb**	**06 59 47.3**	**0.0**
JKZ				*e*S			**Sb**	**07 00 06.4**	**+0.5**
JIO	**Ouri**	**1.50**	**236**	P			**Pn**	**06 59 48.1**	**-0.5**
JIO				*e*S			**Sn**	**07 00 07.5**	**-0.6**
JANG	**Nango**	**1.52**	**315**	P			**Pn**	**06 59 48.3**	**-0.5**
JANG				S			**Sn**	**07 00 08.8**	**+0.2**
JRG	**Rokugo**	**1.78**	**273**	P			**Pb**	**06 59 53.9**	**-0.5**
JRG				*e*S			**Sg**	**07 00 18.5**	**-0.6**
JAH	**Hinai**	**1.97**	**297**	P			**Pb**	**06 59 56.6**	**-1.1**
JAH				*e*S			**Sb**	**07 00 22.5**	**+0.3**
JOU	**Okura**	**2.01**	**243**	P			**Pn**	**06 59 56.2**	**+0.7**
JOU				S			**Sb**	**07 00 22.7**	**-0.5**
JYK	**Kaneyama**	**2.04**	**260**	P			**Pb**	**06 59 57.5**	**-1.3**
JYK				*e*S			**Sb**	**07 00 24.6**	**+0.5**
JTM	**Tenmabayashi**	**2.05**	**316**	P			**Pn**	**06 59 57.0**	**+0.9**
JTM				S			**Sb**	**07 00 24.0**	**-0.5**
MJAR	**Matsushiro Arr** 0.2nm,0.3s,baz=42,slow=9.2,SNR=5.8	**4.64**	**235**	Pn			**Pn**	**07 00 34.8**	**+3.0**
H11N2	**WAKE ISLAND Hy** baz=319	**28.41**	**126**	T			T	07 34 53.2	
H11N1	**WAKE ISLAND Hy** baz=319	**28.42**	**126**	T			T	07 34 53.5	
H11N3	**WAKE ISLAND Hy** baz=319	**28.43**	**126**	T			T	07 34 51.8	
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=88,slow=7.5,SNR=2.4	**43.96**	**300**	P			**P**	**07 07 30.0**	**+1.3**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=80,slow=8.6,SNR=6.1	**45.58**	**306**	P			**P**	**07 07 43.1**	**+1.7**
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=6.2,slow=6.9,SNR=3.3	**59.49**	**189**	P			**P**	**07 09 23.0**	**-1.8**

IDC 25 07:06:14.9±3.4,13.°13S×167.°72E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/33,mbtmp3.7/5,MS3.0/2,Ms1 2.9/2, ms1mx2.6/27,Error ellipse: s-maj=159.2km s-min=28.5km az=143.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DZM	**Mont Dzumac** comp=Z,42nm,18.2s,baz=168,slow=30	**8.98**	**188**	LR			LR	07 10 40.4	
STKA	**Stephens Creek** comp=Z,46nm,18.6s,baz=193,slow=33	**30.37**	**228**	LR			LR	07 23 00.5	
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=85,slow=9.4,SNR=3.1	**32.67**	**254**	P			P	07 12 48.3	-0.8
ASAR	**Alice Springs** 0.8nm,0.7s,baz=72,slow=9.5,SNR=8.1	**33.67**	**247**	P			P	07 12 58.2	+0.4
ILAR	**Eielson Array** 0.3nm,0.7s,baz=239,slow=6.7,SNR=5.0	**84.88**	**18**	P			P	07 18 50.9	-0.4
YKA	**Yellowknife Ar** 0.1nm,0.7s,baz=256,slow=4.9,SNR=3.1	**95.93**	**27**	P			P	07 19 43.1	-0.3
MKAR	**Makanchi Array** 0.8nm,0.8s,baz=87,slow=6.4,SNR=4.8	**96.35**	**316**	P			P	07 19 46.5	+0.8

ROM ***25*** *07:20:55.6±0.5,41.°85N×0.°01×20.°37E±0.°04,h10km, ML4.3/31,Mw3.9*
IDC ***25*** *07:20:56.0±0.8,41.°79N×20.°02E,h0km,mb3.8/10, mb1 4.0/14,mb1mx3.8/36,mbtmp3.9/14,ML3.9/4,MS3.2/13, Ms1 3.2/13,ms1mx3.0/51,Error ellipse: s-maj=14.1km s-min=13.0km az=119.0*
SAR ***25*** *07:20:57.3±0.7,41.°73N×20.°17E,h4km±2km,ML4.5/1*
NEIC ***25*** *07:20:57.9±0.0,41.°84N×20.°15E,h11km,mb4.0/11, MD4.3(TIR),After TIR.*
TIR ***25*** *07:20:57.9,41.°83N×20.°15E,h13km,Md4.3/7*
MED_RC ***25*** *07:20:58.0±0.8,41.°84N×20.°07E,h28km±3km,MW4.3/6, Moment Tensor Solution.Mantle waves: s6,c6; Duration: 1st0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.25±1.58; $M_{\theta\theta}$-2.21±2.37; $M_{\phi\phi}$3.46±1.08; $M_{r\theta}$1.38±.88; $M_{r\phi}$1.45±1.07; $M_{\theta\phi}$-0.12±.45; Best double couple: M_o3.62000×10^{15} NP1:ϕ_s234.00000°,δ70.00000°,λ-26.00000°. NP2: ϕ_s333.00000°,δ66.00000°,λ-158.00000°. Principal axes: T 3.8200, Plg2.0000°, Azm284.0000°; N -0.3900, Plg58.0000°, Azm18.0000°; P -3.4200, Plg2.0000°, Azm193.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
SKO ***25*** *07:20:59.0,41.°84N×20.°07E,h13km,M3.7,ML4.1*
PDG ***25*** *07:20:58.2±0.2,41.°84N×20.°11E,h16km,MD4.2/9, ML4.3/9, Error ellipse: s-maj=0.4km s-min=0.4km az=0.0*
PRU ***25*** *07:20:59.7±0.0,41.°64N×20.°19E,h14km,M4.0*
THE ***25*** *07:20:59.2,41.°80N×20.°11E,h8km,ML3.8/6,Error ellipse: s-maj=0.7km s-min=0.3km az=336.0*
BEO ***25*** *07:20:59.0±0.3,41.°82N×20.°19E,h6km±3km,ML3.7/15*
LDG ***25*** *07:21:00.5±0.4,41.°86N×20.°08E,h10km,Ml4.2/12,Error ellipse: s-maj=8.1km s-min=3.9km az=84.0*

ISC 25 07:20:58.7±0.8,41.°83N±0.°01×20.°10E±0.°02,h19km±3km, n370,σ2°22/489,mb3.9/11,36C-15D,Albania

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PHP	**Peshkopia**	**0.30**	**119**	P			**Pg**	**07 21 04.7**	**-0.5**
PHP				S			**Sg**	**07 21 08.8**	**-0.9**
PHP	**Peshkopia**	**0.30**	**119**	*i* PG			**Pg**	**07 21 03.6**	**-1.7**
PHP				*i* SG			**Sg**	**07 21 08.2**	**-1.5**
TIR	**Tirane**	**0.51**	**200**	*e*Pg			**Pg**	**07 21 08.6**	**-0.4**
TIR				*e*Sg			**Sb**	**07 21 16.9**	**+0.8**
TIR	**Tirane**	**0.51**	**200**	*e*Pg			**Pg**	**07 21 08.5**	**-0.5**
TIR				*e*Pn			**Sb**	**07 21 17.0**	**+0.8**
TIR	**Tirane**	**0.51**	**200**	⇓*i*P			**Pb**	**07 21 09.2**	**+0.2**
TIR	**Tirane**	**0.51**	**200**	S			**Sb**	**07 21 17.1**	**+1.0**
TIR	**Tirane**	**0.51**	**200**	P			**Pg**	**07 21 08.5**	**-0.4**
TIR				S			**Sg**	**07 21 15.6**	**-0.3**
TIR	**Tirane**	**0.51**	**200**	*i* Pg			**Pg**	**07 21 08.6**	**-0.4**
TIR	**Tirane**	**0.51**	**200**	P			**Pg**	**07 21 08.6**	**-0.4**
TIR				S			**Sb**	**07 21 16.9**	**+0.8**
TIR	**Tirane**	**0.51**	**200**	*i* PG			**Pg**	**07 21 08.6**	**-0.4**
TIR				*i* SG			**Sb**	**07 21 17.3**	**+1.2**
BCI	**Bajram Curri**	**0.54**	**358**	*i* PG			**Pg**	**07 21 08.9**	**-0.5**
BCI				*i* SG			**Sb**	**07 21 17.0**	**+0.1**
ULC	**Ulcinj**	**0.65**	**282**	⇑*i*Pg			**Pg**	**07 21 10.7**	**-0.8**
ULC				*i* Sg			**Sb**	**07 21 21.2**	**+1.2**
ULC	**Ulcinj**	**0.65**	**282**	⇑*i*Pg			**Pg**	**07 21 10.8**	**-0.7**
DRME	**Dracevica, Mon**	**0.77**	**298**	⇑*i*Pg			**Pg**	**07 21 12.6**	**-1.1**
DRME				*i* Sg			**Sb**	**07 21 24.9**	**+1.4**
DRME	**Dracevica, Mon**	**0.77**	**298**	⇑*i*Pg			**Pg**	**07 21 12.5**	**-1.1**
DRME				*e*Sg			**Sb**	**07 21 24.9**	**+1.4**
PVY	**Plav**	**0.77**	**353**	⇓*i*Pg			**Pg**	**07 21 13.1**	**-0.7**
PVY				*i* Sg			**Sb**	**07 21 24.9**	**+1.2**
PDG	**Podgorica**	**0.87**	**314**	*e*Pg			**Pg**	**07 21 14.4**	**-1.2**
PDG				*e*Sg			**Sn**	**07 21 29.3**	**+1.3**
PDG	**Podgorica**	**0.87**	**314**	⇑*i*P			**Pg**	**07 21 14.4**	**-1.2**
PDG	**Podgorica**	**0.87**	**314**	S			**Sn**	**07 21 28.6**	**+0.6**
PDG	**Podgorica**	**0.87**	**314**	⇑*i*Pg			**Pg**	**07 21 14.2**	**-1.3**
PDG				*e*Sg			**Sn**	**07 21 28.0**	**+0.1**
PDG	**Podgorica**	**0.87**	**314**	P			**Pg**	**07 21 14.6**	**-1.0**
PDG				S			**Sn**	**07 21 28.5**	**+0.5**
TTG	**Podgorica**	**0.87**	**314**	⇑*i*Pg			**Pg**	**07 21 14.3**	**-1.3**
TTG				*i* Sg			**Sn**	**07 21 28.1**	**+0.1**
TTG	**Podgorica**	**0.87**	**314**	*e*Pn			**Pg**	**07 21 14.2**	**-1.3**
TTG				*e*Sn			**Sg**	**07 21 25.5**	**-1.5**
OHR	**Ohrid**	**0.89**	**143**	*i* Pg			**Pg**	**07 21 14.9**	**-1.1**
OHR				*i* Sg			**Sn**	**07 21 29.0**	**+0.3**
OHR	comp=N,4μm,0.4s			*e*Lg			Lg	07 21 31.1	
OHR	comp=E,4μm,0.5s			*e*Lg			Lg	07 21 31.5	
KRUS	**Krusevo**	**0.98**	**118**	⇑*i*Pg			**Pb**	**07 21 16.0**	**-1.1**
KRUS				*i* Sg			**Sn**	**07 21 31.4**	**+0.4**
BUM	**Brajici-Budva**	**1.01**	**298**	⇑*i*Pg			**Pb**	**07 21 17.2**	**-0.4**
BUM				*i* Sg			**Sn**	**07 21 32.9**	**+1.2**
SKO	**Skopje**	**1.01**	**82**	*i* Pg			**Pb**	**07 21 17.1**	**-0.6**
SKO				*i* Sg			**Sn**	**07 21 31.9**	**+0.2**
BEY	**Berane**	**1.05**	**352**	*i* Pg			**Pb**	**07 21 17.9**	**-0.5**
**IVA

VTS	Vitosha	2.46	70	S	Sn	07 22 09.0	+1.4
VTS	Vitosha	2.46	70	P	Pn	07 21 38.5	+0.5
VTS	Vitosha	2.46	70	*i* Pn	Pn	07 21 39.2	+1.2
THE	Thessaloniki	2.47	118	P	Pn	07 21 38.9	+1.0
THE	Thessaloniki	2.47	118	*i* Pn	Pn	07 21 38.9	+1.0
TAR1	Taranto	2.49	239	*e*Pn	Pg	07 21 45.2	-1.2
TAR1				Sn	Sg	07 22 17.6	-1.1
LIT	Litokhoron	2.50	133	*e*Pn	Pn	07 21 40.4	+2.0
LIT				*e*Sn	Sn	07 22 08.8	+0.3
LIT	Litokhoron	2.50	133	P	Pn	07 21 39.6	+1.2
LIT	Litokhoron	2.50	133	*i* Pn	Pn	07 21 40.0	+1.6
BAI	Bari	2.52	254	⇓*i* Pn	Pn	07 21 38.8	+0.2
BAI				Sn	Sn	07 22 08.1	-0.7
MASS	Massafra	2.53	243	⇓*i* Pn	Pn	07 21 38.9	+0.2
ZAGS	Zajecar	2.53	38	*e*Pn	Pn	07 21 40.8	+2.1
ZAGS				*e*Sn	Sn	07 22 10.8	+1.8
SVIS	Svilajnac	2.57	18	*e*Pn	Pn	07 21 41.1	+1.8
SVIS				*e*Sn	Sn	07 22 12.4	+2.4
HORT	Hortiatis	2.58	118	P	Pn	07 21 40.4	+0.9
SOH	Sokhos	2.65	111	*i* Pn	Pn	07 21 41.9	+1.4
THL	Klokotos Trika	2.69	147	P	Pn	07 21 42.9	+1.9
SRS	Serrai	2.72	104	P	Pn	07 21 42.5	+1.1
SRS	Serrai	2.72	104	*i* Pn	Pn	07 21 42.7	+1.3
MMB	Musomiste	2.73	94	*i* Pn	Pn	07 21 43.7	+2.1
TEKS	Tekeris	2.75	352	*e*Pn	Pn	07 21 43.9	+2.1
TEKS				*e*Sn	Sb	07 22 18.5	-2.1
SG1	Sgolgore (BA)	2.76	250	⇑*i* Pn	Pn	07 21 41.8	-0.1
SG1				Sn	Sn	07 22 14.3	-0.4
AMUR	Altamura	2.78	252	AML	AML		
	comp=E,1615µm,0.5s						
AMUR				AML	AML		
	comp=N,1190µm,0.5s						
AMUR				AML	AML		
	comp=N,1190µm,0.5s						
AMUR				AML	AML		
	comp=E,1615µm,0.5s						
MATE	Matera	2.81	246	⇑*i* P	Pn	07 21 42.7	+0.1
KUBS	Kucevo	2.83	24	*e*Pn	Pn	07 21 44.9	+2.0
NVR	Nevrokopi	2.87	98	P	Pn	07 21 44.8	+1.4
PLG	Polygyros	2.92	119	P	Pn	07 21 45.2	+1.0
BEO	Beograd	2.99	5	*e*Pn	Pn	07 21 46.7	+1.6
BEO				*e*Sn	Sn	07 22 23.0	+2.6
MRVN	Minervino Murg	3.03	257	P	Pn	07 21 46.0	+0.4
MRVN				AML	AML		
	comp=E,662µm,0.5s						
MRVN				AML	AML		
	comp=N,541µm,1.4s						
MRVN				AML	AML		
	comp=N,541µm,1.4s						
MRVN				AML	AML		
	comp=E,662µm,0.5s						
MSAG	Monte S. Angel	3.13	269	P	Pn	07 21 47.5	+0.4
MSAG				AML	AML		
	comp=E,886µm,0.5s						
MSAG				AML	AML		
	comp=N,1920µm,0.6s						
MSAG				AML	AML		
	comp=E,938µm,0.7s						
MSAG				AML	AML		
	comp=N,1910µm,0.7s						
MSAG				AML	AML		
	comp=N,1920µm,0.6s						
MSAG				AML	AML		
	comp=N,1910µm,0.7s						
MSAG				AML	AML		
	comp=E,938µm,0.7s						
MSAG				AML	AML		
	comp=E,886µm,0.5s						
MDVR	Moldovita	3.18	21	⇑*i* P	Pn	07 21 49.6	+1.9
PALZ	Palazzo San Ge	3.23	255	P	Pn	07 21 49.2	+0.7
PALZ				AML	AML		
	comp=E,2425µm,1.0s						
PALZ				AML	AML		
	comp=N,2515µm,0.7s						
PALZ				AML	AML		
	comp=E,2425µm,1.0s						
PALZ				AML	AML		
	comp=N,2515µm,0.7s						
DOB	Doboj	3.25	334	*e*Pn	Pn	07 21 49.9	+1.3
SGRT	San Giovanni R	3.25	270	P	Pn	07 21 49.1	+0.3
SGRT				AML	AML		
	comp=E,988µm,0.5s						
SGRT				AML	AML		
	comp=N,804µm,0.5s						
SGRT				AML	AML		
	comp=E,988µm,0.5s						
SGRT				AML	AML		
	comp=N,804µm,0.5s						
AGG	Agios Georgios	3.28	148	*e*Pn	Pn	07 21 51.8	+2.6
AGG	Agios Georgios	3.28	148	P	Pn	07 21 50.3	+1.2
ACER	Acerenza	3.30	253	P	Pn	07 21 50.5	+1.1
ACER				AML	AML		
	comp=E,1815µm,0.5s						
ACER				AML	AML		
	comp=N,1820µm,0.6s						
ACER				AML	AML		
	comp=E,1850µm,0.5s						
ACER				AML	AML		
	comp=N,1880µm,0.6s						
ACER				AML	AML		
	comp=N,1880µm,0.6s						
ACER				AML	AML		
	comp=N,1820µm,0.6s						
ACER				AML	AML		
	comp=E,1850µm,0.5s						
ACER				AML	AML		
	comp=E,1815µm,0.5s						
PAIG	Paliouri	3.32	124	P	Pn	07 21 50.6	+1.0
FRGS	Fruska Gora	3.33	357	*e*Pn	Pn	07 21 51.2	+1.4
FRGS				*e*Sn	Sn	07 22 31.1	+2.2
PVO	Paravola	3.39	161	P	Pn	07 21 52.1	+1.5
XOR	Xorichti	3.41	135	P	Pn	07 21 51.8	+0.9
KAVA	Kavala	3.43	103	P	Pn	07 21 52.3	+1.2
SALB	San Lorenzo Be	3.45	237	P	Pn	07 21 51.6	+0.1
SALB				AML	AML		
	comp=E,658µm,1.0s						
SALB				AML	AML		
	comp=N,592µm,0.5s						
SALB				AML	AML		
	comp=E,690µm,1.1s						
SALB				AML	AML		
	comp=N,610µm,0.5s						
SALB				AML	AML		
	comp=E,658µm,1.0s						
SALB				AML	AML		
	comp=N,610µm,0.5s						
SALB				AML	AML		
	comp=N,592µm,0.5s						
SALB				AML	AML		
	comp=E,690µm,1.1s						
HERR	Herculane	3.49	28	⇓*i* P	Pn	07 21 53.9	+2.0
HERR	Herculane	3.49	28	S	Sn	07 22 35.0	+2.3
ANX	Ano Chora	3.52	156	P	Pn	07 21 55.5	+3.0
MCEL	Monticello	3.58	247	P	Pn	07 21 54.9	+1.6
MCEL				AML	AML		
	comp=E,728µm,0.8s						
MCEL				AML	AML		
	comp=N,516µm,0.6s						
MCEL				AML	AML		
	comp=E,716µm,0.8s						
MCEL				AML	AML		
	comp=N,526µm,0.6s						
MCEL				AML	AML		
	comp=E,728µm,0.8s						
MCEL				AML	AML		
	comp=N,516µm,0.6s						
MCEL				AML	AML		
	comp=N,526µm,0.6s						
MCEL				AML	AML		
	comp=E,716µm,0.8s						
BLY	Banja Luka	3.61	325	*e*Pn	Pn	07 21 56.3	+2.8
BLY	Banja Luka	3.61	325	⇑*i* P	Pn	07 21 56.2	+2.6
BLY	Banja Luka	3.61	325	⇑*i* Pn	Pn	07 21 56.1	+2.5
BLY				*e*Sn	Sn	07 22 39.0	+3.3
SRE	Strehaia	3.63	38	⇑*i* P	Pn	07 21 56.1	+2.2
SLCN	Sala Consilina	3.67	248	P	Pn	07 21 55.9	+1.5
SLCN				AML	AML		
	comp=E,1078µm,0.5s						
SLCN				AML	AML		
	comp=N,648µm,0.5s						
SLCN				AML	AML		
	comp=E,1078µm,0.5s						
SLCN				AML	AML		
	comp=N,648µm,0.5s						
TIP	Timpagrande	3.67	225	*e*Pn	Pn	07 21 57.5	+3.0
TIP	Timpagrande	3.67	225	⇑*i* P	Pn	07 21 55.0	+0.5
T0702	Acquaformosa (	3.70	237	P	Pn	07 21 56.7	+1.8
MELA	Melanico ??? S	3.72	270	P	Pn	07 21 55.9	+0.9
MELA				AML	AML		
	comp=E,1460µm,0.5s						
MELA				AML	AML		
	comp=N,1430µm,0.7s						
MELA				AML	AML		
	comp=E,1525µm,0.5s						
MELA				AML	AML		
	comp=N,1410µm,0.7s						
MELA				AML	AML		
	comp=N,1430µm,0.7s						
MELA				AML	AML		
	comp=E,1460µm,0.5s						
MELA				AML	AML		
	comp=E,1525µm,0.5s						
MELA				AML	AML		
	comp=N,1410µm,0.7s						
MGR	Morigerati	3.83	245	P	Pn	07 21 58.2	+1.6
MGR				AML	AML		
	comp=E,550µm,0.8s						
MGR				AML	AML		
	comp=N,465µm,0.8s						
MGR				AML	AML		
	comp=E,550µm,0.8s						
MGR				AML	AML		
	comp=N,465µm,0.8s						
CIGN	Sant'Elia a Pi	3.89	269	P	Pn	07 21 58.7	+1.3
CIGN				AML	AML		
	comp=E,370µm,1.5s						
CIGN				AML	AML		
	comp=N,392µm,1.6s						
CIGN				AML	AML		
	comp=E,370µm,1.5s						
CIGN				AML	AML		
	comp=N,392µm,1.6s						
MRB1	Monte Rocchett	3.91	261	P	Pn	07 21 59.4	+1.6
MRB1				AML	AML		
	comp=E,788µm,1.6s						
MRB1				AML	AML		
	comp=N,880µm,0.7s						
MRB1				AML	AML		
	comp=E,769µm,0.5s						
MRB1				AML	AML		
	comp=N,922µm,0.4s						
MRB1				AML	AML		
	comp=N,880µm,0.7s						
MRB1				AML	AML		
	comp=E,788µm,1.6s						
MRB1				AML	AML		
	comp=E,769µm,0.5s						
MRB1				AML	AML		
	comp=N,922µm,0.4s						
BZS	Buzias	3.94	16	*e*Pn	Pn	07 21 59.1	+0.9
BZS	Buzias	3.94	16	⇑*i* P	Pn	07 21 59.7	+1.5
BZS	Buzias	3.94	16	S	Sn	07 22 46.0	+2.1
PSB1	Pescosannita	4.01	263	P	Pn	07 22 00.2	+1.0
PSB1				AML	AML		
	comp=E,384µm,1.4s						
PSB1				AML	AML		
	comp=N,341µm,0.7s						
PSB1				AML	AML		
	comp=E,384µm,1.4s						
PSB1				AML	AML		
	comp=N,341µm,0.7s						
GZR	Gura Zlata	4.06	28	⇓*i* P	Pn	07 22 02.0	+2.2
GZR	Gura Zlata	4.06	28	S	Sn	07 22 47.9	+1.0
BSSO	Busso	4.13	268	P	Pn	07 22 02.2	+1.4
BSSO				AML	AML		
	comp=E,481µm,1.4s						
BSSO				AML	AML		
	comp=N,420µm,1.5s						
BSSO				AML	AML		
	comp=E,172µm,1.4s						
BSSO				AML	AML		
	comp=N,172µm,1.5s						
BSSO				AML	AML		
	comp=N,420µm,1.5s						
BSSO				AML	AML		
	comp=N,172µm,1.5s						
BSSO				AML	AML		
	comp=E,172µm,1.4s						
BSSO				AML	AML		
	comp=E,481µm,1.4s						
RDO	Rodhopi	4.14	98	P	Pn	07 22 02.3	+1.4
UDBI	Udbina	4.16	312	*e*Pn	Pn	07 22 04.5	+3.3
PTRJ	Pietraroja	4.20	265	P	Pn	07 22 02.7	+0.9
PTRJ				AML	AML		
	comp=E,1340µm,0.3s						
PTRJ				AML	AML		
	comp=N,1605µm,0.6s						
PTRJ				AML	AML		
	comp=E,1340µm,0.3s						
PTRJ				AML	AML		
	comp=N,1605µm,0.6s						
PAOL	Paolisi	4.23	261	P	Pn	07 22 03.7	+1.5
PAOL				AML	AML		
	comp=E,464µm,0.4s						
PAOL				AML	AML		
	comp=N,492µm,0.4s						
PAOL				AML	AML		
	comp=E,436µm,0.4s						
PAOL				AML	AML		
	comp=N,477µm,1.2s						
PAOL				AML	AML		
	comp=E,436µm,0.4s						
PAOL				AML	AML		
	comp=E,464µm,0.4s						
PAOL				AML	AML		
	comp=N,492µm,0.4s						
PAOL				AML	AML		
	comp=N,477µm,1.2s						
CAFR	Castel Frentan	4.30	277	P	Pn	07 22 04.8	+1.7
CAFR				AML	AML		
	comp=E,1390µm,0.7s						
CAFR				AML	AML		
	comp=N,1670µm,1.2s						
CAFR				AML	AML		
	comp=E,1390µm,0.7s						
CAFR				AML	AML		
	comp=N,1670µm,1.2s						
SGG	Gregorio Mates	4.31	266	P	Pn	07 22 04.9	+1.6
SGG				AML	AML		
	comp=E,654µm,0.5s						
SGG				AML	AML		
	comp=N,748µm,1.6s						
SGG				AML	AML		
	comp=E,654µm,0.5s						
SGG				AML	AML		
	comp=N,748µm,1.6s						
MIDA	Miranda	4.38	269	P	Pn	07 22 05.3	+1.1
MIDA				AML	AML		
	comp=E,485µm,0.9s						
MIDA				AML	AML		
	comp=N,530µm,0.4s						
MIDA				AML	AML		
	comp=N,530µm,0.4s						
MIDA				AML	AML		
	comp=E,485µm,0.9s						
RNI2	Rionero Sannit	4.45	270	P	Pn	07 22 06.9	+1.7
RNI2				AML	AML		
	comp=E,499µm,1.1s						
RNI2				AML	AML		
	comp=N,457µm,0.7s						
RNI2				AML	AML		
	comp=E,484µm,0.4s						
RNI2				AML	AML		
	comp=N,464µm,0.7s						
RNI2				AML	AML		
	comp=N,457µm,0.7s						
RNI2				AML	AML		
	comp=E,499µm,1.1s						
RNI2				AML	AML		
	comp=E,484µm,0.4s						
RNI2				AML	AML		
	comp=N,464µm,0.7s						
LOT	Lotru	4.49	35	⇑*i* P	Pn	07 22 06.9	+1.1
LOT	Lotru	4.49	35	S	Sn	07 22 58.0	+0.4
MORH	Mrgy, Hungar	4.51	347	⇑*i* Pn	Pn	07 22 07.6	+1.7
MORH	Mrgy, Hungar	4.51	347	*e*Pn	Pn	07 22 07.1	+1.2
MORH				Sn	Sn	07 22 59.1	+1.3
AMBH	Ambrzfalva	4.54	6	*e*Pn	Pn	07 22 09.1	+2.7
AMBH				Sn	Sn	07 23 00.1	+1.4
CERA	Filignano	4.55	269	P	Pn	07 22 08.8	+2.2
CERA				AML	AML		
	comp=E,918µm,0.9s						
CERA				AML	AML		
	comp=N,902µm,0.7s						
CERA				AML	AML		
	comp=E,920µm,0.9s						
CERA				AML	AML		
	comp=N,932µm,0.7s						
CERA				AML	AML		
	comp=N,932µm,0.7s						
CERA				AML	AML		
	comp=N,902µm,0.7s						
CERA				AML	AML		
	comp=E,918µm,0.9s						
CERA				AML	AML		
	comp=E,920µm,0.9s						
ALN	Alexandroupoli	4.57	100	*e*Pn	Pn	07 22 08.3	+1.5
SIRR	Siria	4.58	14	⇑*i* P	Pn	07 22 08.4	+1.5
INTR	Introdacqua	4.62	274	P	Pn	07 22 08.9	+1.3
INTR				AML	AML		
	comp=E,68700µm,1.1s						
INTR				AML	AML		
	comp=N,94550µm,1.4s						
INTR				AML	AML		
	comp=E,769µm,0.4s						
INTR				AML	AML		
	comp=N,969µm,0.5s						
INTR				AML	AML		
	comp=N,969µm,0.5s						
INTR				AML	AML		
	comp=E,769µm,0.4s						
INTR				AML	AML		
	comp=E,68700µm,1.1s						
INTR				AML	AML		
	comp=N,94550µm,1.4s						
VCEL	Villa Celiera	4.69	279	P	Pn	07 22 10.1	+1.6
VCEL				AML	AML		
	comp=E,818µm,0.5s						
VCEL				AML	AML		
	comp=N,570µm,0.6s						
VCEL				AML	AML		
	comp=E,818µm,0.5s						
VCEL				AML	AML		
	comp=N,570µm,0.6s						
NVLJ	Novalja	4.70	307	*e*Pn	Pn	07 22 09.6	+1.2
NVLJ				Sn	Sn	07 23 04.3	+1.9
POFI	Posta Fibreno	4.78	271	P	Pn	07 22 11.0	+1.3
POFI				AML	AML		
	comp=E,441µm,0.8s						
POFI				AML	AML		
	comp=N,190µm,1.6s						
POFI				AML	AML		
	comp=N,190µm,1.6s						
POFI				AML	AML		
	comp=E,441µm,0.8s						
ARR	Arges	4.83	41	⇓*i* P	Pn	07 22 12.6	+2.1
VVLD	Villa Vallelon	4.83	273	P	Pn	07 22 11.8	+1.3
VVLD				AML	AML		
	comp=E,322µm,1.0s						
VVLD				AML	AML		
	comp=N,428µm,0.7s						
VVLD				AML	AML		
	comp=E,322µm,1.0s						
VVLD				AML	AML		
	comp=N,428µm,0.7s						
ITM	Ithomi	4.86	162	*e*Pn	Pn	07 22 12.2	+1.4
FAGN	Fagnano	4.87	277	P	Pn	07 22 12.9	+2.0
FAGN				AML	AML		
	comp=E,1645µm,0.8s						
FAGN				AML	AML		
	comp=N,1055µm,1.4s						
FAGN				AML	AML		
	comp=E,1645µm,0.8s						
FAGN				AML	AML		
	comp=N,1055µm,1.4s						
CADA	Capodarco di F	4.88	288	P	Pb	07 22 22.2	-1.2
TERO	Teramo	4.88	281	P	Pn	07 22 12.3	+1.2
TERO				AML	AML		
	comp=E,162µm,1.6s						
TERO				AML	AML		
	comp=N,218µm,0.4s						
TERO				AML	AML		
	comp=N,218µm,0.4s						
TERO				AML	AML		
	comp=E,162µm,1.6s						
PTQR	Pietraquaria	5.00	274	P	Pn	07 22 16.3	+3.5
PTQR				AML	AML		
	comp=E,204µm,1.5s						
PTQR				AML	AML		
	comp=N,182µm,0.6s						
PTQR				AML	AML		
	comp=N,182µm,0.6s						
PTQR				AML	AML		
	comp=E,204µm,1.5s						
AQU	L'Aquila	5.01	278	*e*Pn	Pn	07 22 15.4	+2.5
AQU				*e*Sn	Sn	07 23 10.0	-0.2
AQU	L'Aquila	5.01	278	*e*Pn	Pn	07 22 13.8	+0.9
AQU				*e*Sn	Sn	07 23 10.6	+0.4
CAMP	Campotosto	5.02	280	P	Pn	07 22 14.5	+1.4
CAMP				AML	AML		
	comp=E,346µm,0.6s						
CAMP				AML	AML		
	comp=N,414µm,0.4s						
CAMP				AML	AML		
	comp=N,414µm,0.4s						
CAMP				AML	AML		
	comp=E,346µm,0.6s						
OZLJ	Ozalj	5.05	320	*i* Pn	Pn	07 22 15.2	+1.8
SMA1	SAN MARTINO	5.08	281	P	Pn	07 22 15.7	+1.8
SMA1				AML	AML		
	comp=E,838µm,0.6s						
SMA1				AML	AML		
	comp=N,800µm,0.4s						
SMA1				AML	AML		
	comp=E,838µm,0.6s						
SMA1				AML	AML		
	comp=N,800µm,0.4s						
VOIR		5.09	43	⇓*i* P	Pn	07 22 16.1	+2.1
FIAM	Fiamignano	5.21	277	P	Pn	07 22 17.7	+2.0
CRES	Cresnjev	5.22	322	*e*Pn	Pn	07 22 17.6	+1.9
CRES				*e*Sn	Sn	07 23 17.2	+1.9
BEHE	Becsehely	5.22	334	⇑*i* Pn	Pn	07 22 17.4	+1.7
BEHE				*e*Sn	Sn	07 23 17.2	+1.9
BEHE	Becsehely	5.22	334	*e*Pn	Pn	07 22 17.1	+1.4
BEHE				Sn	Sn	07 23 22.1	+6.8
CSP1	Cessapalombo	5.25	286	P	Pn	07 22 17.0	+0.8
NRCA	Norcia	5.27	283	P	Pn	07 22 17.9	+1.4
NRCA				AML	AML		
	comp=E,542µm,0.8s						
NRCA				AML	AML		
	comp=N,515µm,1.6s						
NRCA				AML	AML		
	comp=E,542µm,0.8s						
NRCA				AML	AML		
	comp=N,515µm,1.6s						
DRGR		5.30	20	⇑*i* P	Pn	07 22 18.4	+1.5
DRGR		5.30	20	S	Sn	07 23 16.6	-0.9
TIH	Tihany	5.31	343	*e*Pn	Pn	07 22 18.1	+1.2
TIH				Sn	Sn	07 23 20.0	+2.5
CING	Cingoli	5.32	289	P	Pn	07 22 18.3	+1.1
CING				AML	AML		
	comp=E,390µm,0.5s						
CING				AML	AML		
	comp=N,370µm,0.5s						
CING				AML	AML		
	comp=E,390µm,0.5s						
CING				AML	AML		
	comp=N,370µm,0.5s						
FDMO	Fiordimonte	5.32	285	P	Pn	07 22 18.8	+1.6
FDMO				AML	AML		
	comp=E,338µm,1.2s						
FDMO				AML	AML		
	comp=N,222µm,0.9s						
FDMO				AML	AML		
	comp=N,222µm,0.9s						
FDMO				AML	AML		
	comp=E,338µm,1.2s						
RIY	Rijeka	5.37	312	*e*Pn	Pn	07 22 19.2	+1.5
RIY				*e*Sn	Sn	07 23 20.9	+1.9
EL6	Elcito	5.38	289	P	Pn	07 22 19.0	+1.0
CESI	CESI - Serrava	5.45	285	P	Pn	07 22 21.4	+2.5
SNTG	Esanatoglia	5.47	287	P	Pn	07 22 20.1	+0.9
CJR	Cluj-Napoca	5.49	26	⇑*i* P	Pn	07 22 20.6	+1.1
ARRO	Arrone	5.50	280	P	Pn	07 22 21.4	+1.9
ARVD	Arcevia	5.53	290	P	Pn	07 22 21.6	+1.6
MLR	Muntele Rosu	5.60	47	*e*Pn	Pn	07 22 21.8	+0.7
MLR				*e*Sn	Sn	07 23 26.5	+1.5
MLR	Muntele Rosu	5.60	47	⇑*i* P	Pn	07 22 23.6	+2.5

MLR Muntele Rosu 5.60 47 Pn Pn 07 22 24.6 +3.5
comp=E,1.9nm,0.3s,baz=165,slow=19,SNR=8.5
MLR Sn Sn 07 23 28.4 +3.4
comp=E,1.9nm,0.3s,baz=123,slow=20,SNR=3.5
MLR LR LR 07 25 11.0
comp=E,112nm,21.4s,baz=270,slow=45
DOPR Dopca 5.63 41⇓*iP* Pn 07 22 23.5 +2.1
ASSB Assisi San Ben 5.63 285 P Pn 07 22 22.6 +1.2
CEY Cerknica 5.67 316 *e*Pn Pn 07 22 23.6 +1.8
CEY *e*Sn Sn 07 23 27.4 +1.0
CSKK Cskako 5.69 347 *e*Pn Pn 07 22 22.0 -0.1
CSKK Sn Sn 07 23 29.0 +2.2
FRON Frontone 5.69 290 P Pn 07 22 22.8 +0.7
BUD Budapest 5.70 353 *e*Pn Pn 07 22 24.1 +1.8
BUD Sn Sn 07 23 29.1 +1.8
VNDS Vrh nad Dolski 5.78 319 *e*Pn Pn 07 22 25.3 +1.9
NARO Abbazia di Nar 5.81 290 P Pn 07 22 25.2 +1.4
LJU Ljubljana 5.82 318 *e*Pn Pn 07 22 25.1 +1.1
LJU *e*Sn Sn 07 23 31.0 +0.8
ATPC Poggio Castell 5.87 289 P Pn 07 22 25.8 +1.2
ATPI Pietralunga - 5.90 288 P Pn 07 22 26.7 +1.6
GALF Gagliano Caste 5.92 228 P Pb 07 22 36.5 -4.7
ATVA AVT- Monte Val 5.95 287 P Pn 07 22 28.0 +2.3
PERS Pernice 5.99 325 *i* Pn Pn 07 22 28.2 +1.8
MGAB Montegabbione 6.01 283 P Pn 07 22 27.9 +1.2
BADI Badiali 6.03 289 P Pn 07 22 28.6 +1.9
SOKA Soboth 6.06 325 *i* Pn Pn 07 22 29.4 +2.1
comp=E,20nm,0.3s,SNR=7.0
SOKA Sn Sn 07 23 37.7 +1.6
comp=E,20nm,0.7s
PSZ Piszkesteto 6.09 359 *e*Pn Pn 07 22 29.6 +1.9
PSZ *e*Sn Sn 07 23 36.0 -0.9
PSZ Piszkesteto 6.09 359⇑*iP* Pn 07 22 29.5 +1.8
PSZ Piszkesteto 6.09 359 S Sn 07 23 37.3 +0.4
PSZ Piszkesteto 6.09 359 *e*Pn Pn 07 22 28.1 +0.4
PSZ Sn Sn 07 23 41.0 +4.1
OBKA Obir 6.15 321 *e*Pn Pn 07 22 30.6 +2.1
comp=E,24nm,0.6s
ARSA Arzberg 6.33 330 *e*Pn Pn 07 22 33.0 +2.1
comp=E,18nm,0.3s,SNR=5.3
ARSA Sn Sn 07 23 45.6 +2.9
comp=E,10nm,0.4s
SOP Sopron 6.37 338 *e*Pn Pn 07 22 33.0 +1.6
SOP Sn Sn 07 23 52.0 +8.4
TLB Topalu 6.43 62⇓*iP* Pn 07 22 34.2 +1.9
TRPA Tarpa 6.53 15⇑*iP* Pn 07 22 35.8 +2.1
TRPA Tarpa 6.53 15 *e*Pn Pn 07 22 36.1 +2.3
TRPA Sn Sn 07 23 48.1 +0.4
TIRR Tirgusor 6.63 64 *e*Pn Pn 07 22 37.5 +2.5
MYKA Terra Mystica 6.67 318 *e*Pn Pn 07 22 37.2 +1.5
comp=E,20nm,0.4s
MYKA Sn Sn 07 23 53.8 +2.6
comp=E,11nm,0.6s
ZST Bratislava 6.71 343 *e*PN Pn 07 22 38.3 +2.2
ZST *e*SN Sn 07 23 50.9 -1.1
VYHS Vyhne 6.72 353 *e*PN Pn 07 22 38.6 +2.2
VYHS *e*SN Sn 07 23 50.2 -2.2
VYHS *e*LG Lg 07 23 58.4
CFR Carcaliu 6.74 58⇓*iP* Pn 07 22 37.8 +1.3
CONA Conrad Observa 6.80 335 *e*Pn Pn 07 22 39.9 +2.5
comp=E,2.9nm,0.3s
CONA Sn Sn 07 23 56.5 +2.2
comp=E,21nm,1.1s
BURAR Bucovina Array 6.84 30⇑*iP* Pn 07 22 39.0 +1.0
BUR08 Bucovina Ar. S 6.85 30 *e*Pn Pn 07 22 38.3 +0.1
SANT Santorini 6.86 141 *e*Pn Pn 07 22 36.6 -1.8
KBA Koelnbreinsper 7.13 320 *e*Pn Pn 07 22 44.2 +2.1
comp=E,20nm,0.4s,SNR=14
TLCR 7.17 59⇑*iP* Pn 07 22 44.0 +1.5
JAVC Velka Javorina 7.23 347 *e*PN Pn 07 22 46.8 +3.4
JAVC *e*SN Sn 07 24 06.6 +1.6
MOA Molln 7.30 327 *i* Pn Pn 07 22 47.4 +3.0
comp=E,7.9nm,0.4s,SNR=5.6
MOA Sn Sn 07 24 10.0 +3.3
comp=E,12nm,0.3s
ABTA Abfaltersbach 7.33 315 *e*Pn Pn 07 22 46.1 +1.4
comp=E,23nm,0.5s,SNR=6.0
IDI Anoyia 7.53 149 Pn Pn 07 22 47.4 -0.2
comp=E,1.5nm,0.3s,baz=45,slow=4.1,SNR=5.9
IDI Sn Sn 07 24 15.6 +3.1
comp=E,1.5nm,0.3s,baz=280,slow=20,SNR=3.4
IDI LR LR 07 26 15.1
comp=E,145nm,19.0s,baz=268,slow=42
NIE Niedzica 7.59 1 *e*Pn Pn 07 22 52.2 +4.0
NIE *e*Sn Sn 07 24 17.4 +3.6
KRUC Moravsky 7.68 341 *e*PN Pn 07 22 52.4 +2.9
KRUC *e* 07 22 59.3
KRUC Moravsky 7.68 341 *e*SN Sn 07 24 17.7 +1.7
VRAC Vranov 7.87 343 *e*PN Pn 07 22 54.2 +2.1
VRAC *e* 07 23 01.9
VRAC Vranov 7.87 343 *e*SN Sn 07 24 21.9 +1.3
VRAC Vranov 7.87 343 LR LR 07 26 11.5
comp=E,153nm,20.2s,baz=166,slow=40
KWP Kalwaria Pacla 8.01 12 *e*Pn Pn 07 22 53.4 -0.6
WTTA Wattenberg 8.12 315 *e*Pn Pn 07 22 58.2 +2.5
comp=E,16nm,0.3s
WTTA Sn Sn 07 24 28.8 +1.7
comp=E,25nm,0.5s
TREC Trest 8.13 338 AMS AMS 07 26 30.0
comp=E,500nm,14.6s
MORC Moravsky Berou 8.14 348 *e*Pn Pn 07 22 55.4 -0.5
MORC Moravsky Berou 8.14 348⇑*iP* Pn 07 22 59.1 +3.2
MORC Moravsky Berou 8.14 348 *e*PN Pn 07 22 59.2 +3.3
MORC *e*SN Sn 07 24 28.0 +0.6
WATA Walderalm 8.20 315 *e*Pn Pn 07 22 59.2 +2.5
comp=E,24nm,0.4s,SNR=12
PGF Pioggiola 8.27 279 *e*Pn Pn 07 22 58.3 +0.6
PGF Pioggiola 8.27 279 *e*Pn Pn 07 22 58.3 +0.6
SQTA Sankt Quirin 8.32 313 *e*Pn Pn 07 23 00.7 +2.3
comp=E,30nm,0.4s,SNR=11
SQTA Sn Sn 07 24 34.3 +2.4
comp=E,13nm,0.4s
GEA0 GERESS Array S 8.33 329 *e*Pn Pn 07 22 57.7 -0.7
GEC2 GERESS Array S 8.33 329 *e*Pn Pn 07 22 58.5 0.0
GERES GERESS Array B 8.33 329 Pn Pn 07 23 00.4 +1.9
comp=E,1.3nm,0.3s,baz=158,slow=14,SNR=13
GERES LR LR 07 26 43.2
comp=E,208nm,20.8s,baz=112,slow=42
OJC Ojcow 8.39 359 *e*Pn Pn 07 23 03.5 +4.3
OJC *e*Sn Sn 07 24 36.1 +2.7
OJC Ojcow 8.39 359 *e*Pn Pn 07 23 01.1 +1.8
MOTA Moosalm 8.46 314 *e*Pn Pn 07 23 02.4 +2.1
comp=E,6.1nm,0.3s,SNR=17
FETA Feichten 8.47 311 *e*Pn Pn 07 23 02.0 +1.5
comp=E,19nm,0.8s
FETA *e*Sn Sn 07 24 36.9 +1.3
comp=E,6.9nm,0.5s
FUORN Ofenpass-Fuorn 8.53 307 *e*Pn Pn 07 23 02.9 +1.5
KRLC Kraliky 8.56 346 *e*PN Pn 07 23 05.1 +3.5
KRLC *e*SN Sn 07 24 39.6 +1.9
KHC Kasperske Hory 8.61 330 *e*Pn Pn 07 23 04.4 +2.0
KHC Kasperske Hory 8.61 330 *e*PN Pn 07 23 05.0 +2.7
KHC *e*SN Sn 07 24 39.8 +0.9
KHC AMS AMS 07 26 40.0
comp=E,500nm,13.9s
RETA Reutte 8.73 314 *e*Pn Pn 07 23 06.3 +2.4
comp=E,5.5nm,0.4s
RETA *e*Sn Sn 07 24 45.0 +3.2
comp=E,10.0nm,0.3s
DAVOX Davos/Dischmat 8.84 307 Pn Pn 07 23 08.0 +2.5
comp=E,2.2nm,0.3s,baz=161,slow=23,SNR=14
DAVOX LR LR 07 27 11.1
comp=E,90nm,20.5s,baz=88,slow=42
GOPC GO Pecny, Ondr 8.89 337 AMS AMS 07 26 50.0
comp=E,400nm,10.9s
DPC Dobruska-Polom 8.91 344 *e*PN Pn 07 23 10.1 +3.7
DPC *e*SN Sn 07 24 47.2 +0.9
DPC AMS AMS 07 27 00.0
comp=E,400nm,12.1s
TUE Stuetta 9.01 305 *e*Pn Pn 07 23 09.8 +1.9
PRU Pruhonice 9.03 337 AMS AMS 07 26 50.0
comp=E,400nm,11.9s
DAVA Damuels 9.10 310 *e*Pn Pn 07 23 10.4 +1.3
comp=E,4.6nm,0.3s
DAVA Sn Sn 07 24 53.5 +2.4
comp=E,21nm,0.5s
UPC Upice 9.13 343 *e*PN Pn 07 23 13.1 +3.8
PVCC Panska Ves 9.50 338 AMS AMS 07 27 10.0
comp=E,400nm,13.1s
SBF Sospel 9.52 287 *e*Pn Pn 07 23 11.2 -3.6
SBF *e*Sn Sn 07 24 55.6 -5.6
SBF Sospel 9.52 287 *e*Pn Pn 07 23 11.2 -3.6
SBF *e*Sn Sn 07 24 55.6 -5.6
FRF La Foret Royal 10.05 284 *e*Pn Pn 07 23 22.6 +0.6

FRF La Foret Royal 10.05 284 *e*Pn Pn 07 23 22.6 +0.6
LMR La Mourre 10.13 283 *e*Pn Pn 07 23 19.9 -3.2
LMR La Mourre 10.13 283 *e*Pn Pn 07 23 19.9 -3.2
MBDF Montbardon 10.14 291 *e*Pn Pn 07 23 21.7 -1.6
MBDF *e*Sn Sn 07 25 10.1 -6.5
comp=E,14nm,0.6s
MBDF Montbardon 10.14 291 *e*Pn Pn 07 23 21.7 -1.6
MBDF *e*Sn Sn 07 25 10.1 -6.5
SENIN Lac Senin/Sane 10.26 301 *e*Pn Pn 07 23 25.5 +0.5
SENIN *e*Sn Sn 07 25 17.3 -2.2
BNI Bardonecchia 10.28 293 *e*Pn Pn 07 23 24.4 -0.8
LPG La Plagne 10.34 295 *e*Pn Pn 07 23 26.3 +0.1
LPG *e*Sn Sn 07 25 15.1 -6.6
comp=E,21nm,0.6s
LPG La Plagne 10.34 295 *e*Pn Pn 07 23 26.3 +0.1
LPG *e*Sn Sn 07 25 15.1 -6.6
LPL La Plagne 10.36 295 *e*Pn Pn 07 23 24.4 -2.0
LPL *e*Sn Sn 07 25 12.7 -9.3
comp=E,15nm,0.4s
LPL La Plagne 10.36 295 *e*Pn Pn 07 23 24.4 -2.0
LPL *e*Sn Sn 07 25 12.7 -9.3
BFO Black Forest 10.55 312 *e*Pn Pn 07 23 28.6 -0.3
ORIF Oris-en-Rattie 10.80 291 *e*Pn Pn 07 23 32.7 +0.4
ORIF *e*Sn Sn 07 25 26.1 -6.6
comp=E,9.8nm,0.6s
ORIF Oris-en-Rattie 10.80 291 *e*Pn Pn 07 23 32.7 +0.4
ORIF *e*Sn Sn 07 25 26.1 -6.6
SMRF Simiane la Rot 10.87 286 *e*Pn Pn 07 23 33.6 +0.4
SMRF Simiane la Rot 10.87 286 *e*Pn Pn 07 23 33.6 +0.4
CABF La Chapelle 11.13 300 *e*Pn Pn 07 23 36.0 -0.8
CABF *e*Sn Sn 07 25 33.9 -6.8
comp=E,4.6nm,0.5s
CABF La Chapelle 11.13 300 *e*Pn Pn 07 23 36.0 -0.8
CABF *e*Sn Sn 07 25 33.9 -6.8
HINF Hinteralfeld 11.14 307 *e*Pn Pn 07 23 37.1 +0.2
HINF Hinteralfeld 11.14 307 *e*Pn Pn 07 23 37.1 +0.2
ECH Echery 11.15 309 *e*Pn Pn 07 23 37.0 -0.1
ECH *e*Sn Sn 07 25 37.9 -3.3
CDF Champ du Feu 11.19 310 *e*Pn Pn 07 23 37.2 -0.4
CDF Champ du Feu 11.19 310 *e*Pn Pn 07 23 37.2 -0.4
HAU Haudompre 11.53 307 *e*Pn Pn 07 23 42.7 +0.5
HAU *e*Sn Sn 07 25 43.1 -7.3
comp=E,9.2nm,0.4s
HAU Haudompre 11.53 307 *e*Pn Pn 07 23 42.7 +0.5
HAU *e*Sn Sn 07 25 43.1 -7.3
VIVF Saint-Julien-l 11.63 290 *e*Pn Pn 07 23 43.2 -0.4
VIVF Saint-Julien-l 11.63 290 *e*Pn Pn 07 23 43.2 -0.4
SSB Saint Sauveur 11.80 292 *e*Pn Pn 07 23 45.2 -0.8
LASF Ste Croix 12.11 286 *e*Pn Pn 07 23 50.6 +0.4
LASF Ste Croix 12.11 286 *e*Pn Pn 07 23 50.6 +0.4
SFTF Sexfontaines 12.40 306 *e*Pn Pn 07 23 54.4 +0.2
SFTF *e*Sn Sn 07 26 04.7 -7.1
comp=E,3.6nm,0.1s
SFTF Sexfontaines 12.40 306 *e*Pn Pn 07 23 54.4 +0.2
SFTF *e*Sn Sn 07 26 04.7 -7.1
SMF Signal de Mont 12.61 298 *e*Pn Pn 07 23 55.1 -1.8
SMF *e*Sn Sn 07 26 08.6 -8.1
comp=E,4.0nm,0.3s
SMF Signal de Mont 12.61 298 *e*Pn Pn 07 23 55.1 -1.8
SMF *e*Sn Sn 07 26 08.6 -8.1
LOR Lormes 12.79 301 *e*Sn Sn 07 26 13.5 -7.7
comp=E,9.2nm,0.4s
SSF Saint Saulge 12.95 299 *e*Pn Pn 07 24 00.4 -1.2
SSF *e*Sn Sn 07 26 17.5 -7.6
comp=E,4.7nm,0.4s
SSF Saint Saulge 12.95 299 *e*Pn Pn 07 24 00.4 -1.2
SSF *e*Sn Sn 07 26 17.5 -7.6
AVF Avril sur Loir 12.97 298 *e*Pn Pn 07 24 00.2 -1.7
AVF Avril sur Loir 12.97 298 *e*Pn Pn 07 24 00.2 -1.7
BGF Bois d'Agland 13.24 297 *e*Pn Pn 07 24 04.5 -1.1
BGF *e*Sn Sn 07 26 24.5 -7.8
comp=E,9.7nm,0.4s
BGF Bois d'Agland 13.24 297 *e*Pn Pn 07 24 04.5 -1.1
BGF *e*Sn Sn 07 26 24.5 -7.8
MTLF Montolieu 13.26 283 *e*Pn Pn 07 24 06.1 +0.2
MTLF Montolieu 13.26 283 *e*Pn Pn 07 24 06.1 +0.2
HYF Humbligny 13.57 300 *e*Pn Pn 07 24 10.3 +0.2
HYF Humbligny 13.57 300 *e*Pn Pn 07 24 10.3 +0.2
TCF Toulx Ste Croi 13.61 295 *e*Pn Pn 07 24 10.7 +0.1
TCF *e*Sn Sn 07 26 33.1 -8.1
comp=E,2.2nm,0.3s
TCF Toulx Ste Croi 13.61 295 *e*Pn Pn 07 24 10.7 +0.1
TCF *e*Sn Sn 07 26 33.1 -8.1
EPF Esparros 14.64 281 *e*Pn Pn 07 24 25.0 +0.2
EPF Esparros 14.64 281 *e*Pn Pn 07 24 25.0 +0.2
MMAI Mount Meron Ar 14.99 121 LR LR 07 31 20.3
comp=E,81nm,18.2s,baz=320,slow=42
GRR Gorron 16.15 301 *e*Pn Pn 07 24 45.6 +1.1
GRR Gorron 16.15 301 *e*Pn Pn 07 24 45.6 +1.1
QUIF Quistinic 17.54 298 *e*Pn P 07 25 04.0 +1.0
QUIF Quistinic 17.54 298 *e*Pn P 07 25 04.0 +1.0
ROSF Rostrenen 17.70 299 *e*Pn P 07 25 05.6 +0.8
ROSF Rostrenen 17.70 299 *e*Pn P 07 25 05.6 +0.8
HFS Hagfors 18.75 350 P P 07 25 16.1 -0.1
comp=E,0.5nm,0.3s,baz=165,slow=12,SNR=10.0
HFS LR LR 07 32 28.2
comp=E,65nm,19.1s,baz=196,slow=37
NC602 NORSAR Array S 19.64 347 *e*P P 07 25 25.8 -0.1
comp=E,4.9nm,0.7s
NAO01 NORSAR Array S 19.85 347 *e*P P 07 25 26.3 -2.0
comp=E,4.5nm,0.8s
NC405 NORSAR Array S 19.97 348 *e*P P 07 25 29.7 +0.1
comp=E,7.4nm,0.7s
FIA0 FINESS Array S 19.97 8 *e*P P 07 25 29.4 -0.2
FINES FINESS Array B 19.97 8 P P 07 25 29.4 -0.2
comp=E,0.1nm,0.3s,baz=182,slow=9.2,SNR=7.7
FINES LR LR 07 33 37.5
comp=E,77nm,18.5s,baz=209,slow=38
FIA1 FINESS Array S 19.97 8 *e*P P 07 25 30.3 +0.7
NB201 NORSAR Array S 19.98 347 *e*P P 07 25 29.8 +0.1
comp=E,5.8nm,1.1s
NB2 NORSAR Subarra 19.98 347 P P 07 25 29.6 -0.2
comp=E,2.7nm,0.7s,baz=155,slow=11
NB200 NORSAR Array S 19.98 347 *e*P P 07 25 29.2 -0.5
NOA NORSAR Array B 19.98 347 P P 07 25 29.2 -0.5
comp=Z,1.1nm,0.7s,baz=164,slow=11,SNR=13
NOA LR LR 07 33 47.6
comp=Z,34nm,20.8s,baz=170,slow=39
NBO00 NORSAR Array S 20.05 347 *e*P P 07 25 29.4 -1.0
comp=E,6.7nm,0.9s
NC303 NORSAR Array S 20.13 348 *e*P P 07 25 31.6 +0.3
comp=E,4.6nm,0.6s
NC204 NORSAR Array S 20.28 347 *e*P P 07 25 33.4 +0.4
comp=E,9.7nm,0.9s
EKA Eskdalemuir Ar 20.34 320 P P 07 25 33.5 -0.2
comp=E,1.4nm,0.4s,baz=115,slow=8.7,SNR=13
AKTO Aktyubinsk 27.40 59 LR LR 07 38 29.1
comp=E,19nm,18.2s,baz=219,slow=38
ARA0 ARCESS Array S 27.91 4 *e*P P 07 26 46.7 -0.5
ARCES ARCESS Array B 27.91 4 P P 07 26 46.7 -0.5
comp=Z,2.7nm,0.9s,baz=178,slow=9.2,SNR=4.8
ABKAR Akbulak array 28.61 61 *e*P P 07 26 54.3 +0.7
comp=E,1.0nm,0.6s
TOA1 Tondi Ar. Sit 32.76 215 *e*P P 07 27 30.9 +0.4
TORD Torodi Ar. Bea 32.76 215 P P 07 27 30.9 +0.4
comp=Z,1.4nm,1.0s,baz=27,slow=9.7,SNR=6.2
BRVK Borovoye 35.06 54 *e*P P 07 27 51.3 +1.2
comp=Z,4.3nm,0.6s
ZAA0 Zalesovo Array 43.57 51 *e*P P 07 29 01.7 +0.5
comp=Z,2.6nm,0.6s
ZAA1 Zalesovo Array 43.57 51 *e*P P 07 29 01.5 +0.4
ZALV Zalesovo Beam 43.57 51 *e*P P 07 29 01.8 +0.7
ZALV Zalesovo Beam 43.57 51 P P 07 29 01.5 +0.4
comp=Z,2.8nm,0.7s,baz=286,slow=8.9,SNR=8.9
ZALV LR LR 07 48 54.5
comp=Z,28nm,18.0s,baz=248,slow=38
MK31 Makanchi Array 43.76 61 *e*P P 07 29 03.5 +0.7
comp=Z,0.9nm,0.8s
MK32 Makanchi Array 43.76 61 *e*P P 07 29 03.5 +0.7
MKAR Makanchi Array 43.76 61 P P 07 29 03.5 +0.7
comp=Z,1.2nm,0.6s,baz=282,slow=7.1,SNR=12
MK01 Makanchi Array 43.77 62 *e*P P 07 29 03.5 +0.6
SONA0 Songino Array 58.43 52 *e*P P 07 30 53.9 +0.8
SONM Songino Array 58.43 52 P P 07 30 53.9 +0.8
comp=Z,0.4nm,0.4s,baz=294,slow=11,SNR=3.3
LBTB Lobatse 66.70 175 LR LR 08 02 58.7
comp=Z,39nm,18.2s,baz=126,slow=38
YKA Yellowknife Ar 69.85 339 P P 07 32 07.6 -0.1
comp=Z,0.2nm,0.7s,baz=38,slow=5.6,SNR=6.5
BOSA Boshof 70.25 175 P P 07 32 11.2 +0.6
comp=Z,1.9nm,0.7s,baz=354,slow=8.8,SNR=3.7
NVAR Mina Array Bea 91.58 329 LR LR 08 16 06.3
comp=Z,51nm,18.8s,baz=320,slow=36
ASAR Alice Springs 122.81 94 PKP PKPdf 07 39 52.4 -1.1

comp=Z,0.4nm,0.7s,baz=315,slow=1.3,SNR=7.4

MEX 25 07:33:00.3±0.8, 19°07N×98°80W, h8km±12km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMVM	**AMECAMECA**	**0.07**	**8**	*eP*		Pg	07 33 01.3	-1.2
AMVM				*eS*		Sg	07 33 03.5	-0.6
PPM	**Popocatepetl**	**0.16**	**90**	*eP*		Pg	07 33 04.0	+0.1
PPM				*i* S		Sg	07 33 05.0	-1.4
YAIG	**Yautepec**	**0.33**	**232**	*eP*		Pg	07 33 06.1	-0.7
YAIG				*eS*		Sg	07 33 11.2	+0.1

IDC ***25*** *07:36:19.9±5.4, 38°21N×75°13E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/35, mbtmp3.4/3, ML3.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.4/44, Error ellipse: s-maj=117.8km s-min=47.8km az=154.0*
SOME ***25*** *07:36:20.9, 39°25N×75°52E, h0km*
KRNET ***25*** *07:36:26.6±0.1, 39°14N×74°49E, mb3.7*
NNC ***25*** *07:36:30.2±2.3, 39°44N×74°43E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=17.5km s-min=10.4km az=173.0*

ISC 25 07:36:29.7±1.4, 39°28N±0°08×74°50E±0°04, h10km, n49, σ2s28/66, 23C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**2.35**	**331**⇑	*eP*		**Pn**	**07 37 10.1**	**+1.6**
	baz=33							
ARSB			⇑	*iS*		**Sb**	**07 37 42.0**	**+0.7**
	baz=33							
NRN	**Naryn**	**2.44**	**28**⇑	*iP*		**Pn**	**07 37 10.8**	**+0.9**
	baz=26							
NRN			⇑	*iS*		**Sb**	**07 37 43.5**	**-0.5**
	baz=26							
ARLS	**Aral**	**2.58**	**357**⇓	*iP*		**Pn**	**07 37 13.5**	**+1.8**
	baz=57							
ARLS			⇓	*iS*		**Sb**	**07 37 48.0**	**-0.1**
	baz=57							
KZA	**Kyzart**	**2.85**	**11**	P		**Pn**	**07 37 17.4**	**+1.7**
	SNR=8.0							
KZA	**Kyzart**	**2.85**	**11**⇓	*iP*		**Pn**	**07 37 17.1**	**+1.4**
	baz=11							
KZA			⇓	*iS*		**Sb**	**07 37 54.7**	**-1.4**
	baz=11							
AML	**Almayashu**	**2.91**	**348**	P		**Pn**	**07 37 18.4**	**+1.9**
	SNR=22							
UCH	**Uchtor**	**2.94**	**0**	P		**Pn**	**07 37 18.9**	**+1.9**
	SNR=30							
UCH	**Uchtor**	**2.94**	**0**⇑	*iP*		**Pn**	**07 37 18.4**	**+1.4**
	baz=0.0							
UCH			⇑	*iS*		**Sb**	**07 37 56.4**	**-2.4**
	baz=0.0							
BTK	**Batken**	**2.95**	**286**⇑	*iP*		**Pn**	**07 37 17.1**	**+0.4**
	baz=89							
BTK			⇑	*iS*		**Sn**	**07 37 54.0**	**+1.9**
	baz=89							
ARK	**Arkit**	**3.17**	**323**⇑	*iP*		**Pn**	**07 37 20.9**	**+1.1**
	baz=25							
ARK			⇑	*iS*		**Sn**	**07 38 00.0**	**+2.2**
	baz=25							
ULHL	**Ulahol**	**3.24**	**23**	P		**Pb**	**07 37 27.8**	**+0.3**
	SNR=9.7							
ULHL	**Ulahol**	**3.24**	**23**⇑	*iP*		**Pn**	**07 37 22.4**	**+1.5**
	baz=23							
ULHL			⇑	*iS*		**Sb**	**07 38 03.5**	**-3.7**
	baz=23							
AAK	**Ala-Archa**	**3.35**	**360**	P		**Pb**	**07 37 26.1**	**-3.3**
	SNR=12							
AAK	**Ala-Archa**	**3.35**	**360**	⇑Pg		**Pb**	**07 37 27.4**	**-1.9**
	9.8nm,0.6s							
AAK				⇓Lg		Lg	07 38 10.4	
	81nm,1.3s							
BOOM	**Boomskoye usch**	**3.39**	**18**⇑	*iP*		**Pn**	**07 37 24.6**	**+1.8**
	baz=18							
BOOM			⇑	*iS*		**Sn**	**07 38 06.6**	**+3.5**
	baz=18							
EKS2	**Erkin-Say**	**3.42**	**351**	P		**Pn**	**07 37 26.6**	**+3.3**
	SNR=7.2							
EKS2	**Erkin-Say**	**3.42**	**351**⇓	*iP*		**Pn**	**07 37 24.9**	**+1.7**
	baz=51							
EKS2			⇓	*iS*		**Sn**	**07 38 07.1**	**+3.2**
	baz=51							
KDJ	**Kajisay**	**3.50**	**35**⇑	*eP*		**Pb**	**07 37 25.8**	**+1.4**
	baz=34							
KDJ			⇑	*iS*		**Sn**	**07 38 09.0**	**+3.1**
	baz=34							
TARG	**Taragay, Kyrgy**	**3.51**	**45**⇓	*iP*		**Pn**	**07 37 26.0**	**+1.3**
	baz=43							
TARG			⇓	*iS*		**Sn**	**07 38 08.9**	**+2.4**
	baz=43							
MRKS	**Merke**	**3.59**	**345**	Pg		**Pn**	**07 37 28.2**	**+2.6**
	36nm,0.2s							
MRKS				Lg		Lg	07 38 14.0	
	12nm,0.6s							
MRKS	**Merke**	**3.59**	**345**	*eP*		**Pb**	**07 37 33.1**	**-0.3**
	36nm,0.4s							
MRKS				*eS*		**Sg**	**07 38 24.8**	**-0.3**
	12nm,0.5s							
TKM2	**Tokmak 2**	**3.73**	**12**	P		**Pb**	**07 37 32.0**	**-3.8**
	SNR=9.6							
TKM2	**Tokmak 2**	**3.73**	**12**	⇓Pn		**Pn**	**07 37 28.3**	**+0.7**
	5.3nm,0.3s							
TKM2				⇓Lg		Lg	07 38 22.0	
	16nm,0.6s							
TKM2	**Tokmak 2**	**3.73**	**12**⇓	*iP*		**Pn**	**07 37 29.6**	**+2.0**
	baz=12							
TKM2			⇓	*iS*		**Sn**	**07 38 15.2**	**+3.5**
	baz=12							
KST	**Kastek**	**3.92**	**16**	Pg		**Pb**	**07 37 38.6**	**-0.4**
	16nm,0.4s							
KST				Lg		Lg	07 38 31.7	
	30nm,0.3s							
KST	**Kastek**	**3.92**	**16**	*eP*		**Pn**	**07 37 32.2**	**+2.1**
	15nm,0.5s							
KST				*eS*		**Sb**	**07 38 23.6**	**-2.8**
	24nm,0.4s							
DGS	**Degeres**	**4.07**	**13**	Pg		**Pb**	**07 37 40.8**	**-0.8**
	25nm,0.7s							
DGS				Lg		Lg	07 38 35.3	
	38nm,0.8s							
MTBS	**Maitube**	**4.11**	**20**	Pg		**Pb**	**07 37 42.8**	**+0.5**
	14nm,0.4s							
MTBS				Lg		Lg	07 38 38.6	
	23nm,0.5s							
TNSS	**Tian-Shan**	**4.18**	**25**	Pg		**Pb**	**07 37 45.0**	**+1.4**
	18nm,0.4s							
TNSS				Lg		Lg	07 38 42.9	
	36nm,0.6s							
MDOK	**Medeo**	**4.33**	**26**	⇑Pg		**Pb**	**07 37 47.0**	**+1.0**
MDOK				⇑Lg		Lg	07 38 41.0	
MDOK	**Medeo**	**4.33**	**26**	Pg		**Pb**	**07 37 47.4**	**+1.5**
	15nm,0.5s							
MDOK				Lg		Lg	07 38 46.2	
	20nm,0.7s							
KOTS	**Kotyrbulak**	**4.41**	**26**	Pg		**Pb**	**07 37 47.7**	**+0.3**
	14nm,0.2s							
KOTS				Lg		Lg	07 38 47.2	
	28nm,0.7s							
IUG	**Iuzhnay**	**4.44**	**312**	Pg		**Pn**	**07 37 41.9**	**+4.7**
	50nm,0.8s							
IUG				Lg		Lg	07 38 37.2	
	17nm,0.5s							
KTBS	**Karatobe**	**4.72**	**20**	Pg		**Pb**	**07 37 52.9**	**+0.3**
	13nm,0.4s							
KTBS				Lg		Lg	07 38 56.0	
	24nm,0.6s							
SATY	**Saty**	**4.79**	**37**	Pg		**Pb**	**07 37 55.5**	**+1.8**
	24nm,0.7s							
SATY				Lg		Lg	07 39 00.4	
	25nm,0.7s							
KUU	**Kurty**	**4.81**	**16**	Pg		**Pb**	**07 37 56.0**	**+1.9**
	9.4nm,0.5s							
KUU				Lg		Lg	07 39 01.2	
	24nm,0.8s							
KK31	**Karatay Array**	**4.86**	**323**	Pn		**Pn**	**07 37 44.2**	**+1.2**
	1.3nm,0.3s,baz=132,slow=13,SNR=17							
KK31				⇓Pg		**Pg**	**07 37 59.5**	**-3.3**
	4.2nm,0.6s,baz=164,slow=15,SNR=4.2							
KK31				⇓Sn		**Sn**	**07 38 43.0**	**+3.7**
	5.7nm,0.6s							
KK31				⇓Lg		Lg	07 39 02.1	
	5.1nm,0.6s							
KURS	**Kuram**	**5.03**	**32**	Pg		**Pb**	**07 37 59.4**	**+1.5**
	9.8nm,0.5s							

KURS					Lg	Lg	07 39 07.6				
	12nm,0.8s										
ARXS	**Arharly**	**5.52**	**26**		Pg	**Pb**	**07 38 08.8**	**+2.6**			
	7.7nm,0.7s										
ARXS					Lg	Lg	07 39 23.7				
	12nm,0.6s										
PDGK	**Podgornoye**	**5.52**	**41**	⇑	Pn	**Pn**	**07 37 52.4**	**+0.3**			
	4.3nm,0.7s										
PDGK				⇑	Pg	**Pb**	**07 38 08.0**	**+1.7**			
	14nm,0.6s										
PDGK				⇑	Lg	Lg	07 39 20.6				
	27nm,1.1s										
MNBS	**Baschi**	**5.61**	**30**		Pg	**Pb**	**07 38 11.6**	**+3.8**			
	5.1nm,0.5s										
MNBS					Lg	Lg	07 39 28.3				
	13nm,0.6s										
BTLS	**Baital**	**5.77**	**357**		Pg	**Pb**	**07 38 12.9**	**+2.6**			
	2.3nm,0.4s										
BTLS					Lg	Lg	07 39 30.4				
	5.8nm,0.8s										
KTMS	**Ketmen**	**6.06**	**45**		Pg	**Pg**	**07 38 20.9**	**-4.8**			
	4.3nm,0.2s										
KTMS					Lg	Lg	07 39 44.5				
	6.1nm,0.6s										
DJR	**Jarkent**	**6.41**	**36**		Pg	**Pb**	**07 38 25.8**	**+4.4**			
	2.3nm,0.5s										
DJR					Lg	Lg	07 39 52.2				
	2.0nm,0.8s										
MK31	**Makanchi Array**	**9.43**	**35**	⇑	Pn	**Pn**	**07 38 46.3**	**+0.8**			
	0.7nm,0.6s,baz=212,slow=13,SNR=6.1										
MK31				⇓	Pg		07 39 18.5				
	1.0nm,0.8s,baz=212,slow=13,SNR=6.1										
MKAR	**Makanchi Array**	**9.43**	**35**		Pn	**Pn**	**07 38 47.0**	**+1.4**			
	0.1nm,0.3s,baz=216,slow=14,SNR=7.0										
FINES	**FINESS Array B**	**36.82**	**323**		P	**P**	**07 43 39.0**	**+1.4**			
	0.7nm,0.6s,baz=98,slow=10.0,SNR=3.4										
DAV	**Davao City (W)**	**55.87**	**111**		LR	LR	08 12 05.4				
	comp=Z,63nm,19.1s,baz=354,slow=39										
YKA	**Yellowknife Ar**	**78.31**	**4**		P	**P**	**07 48 26.9**	**-2.6**			
	0.2nm,0.5s,baz=350,slow=5.6,SNR=9.1										

BEO ***25*** *07:39:59.4±0.6, 41°.68N×20°.19E, h24km±6km, ML2.0/4*
ISCJB ***25*** *07:40:01.3±0.4, 41°.84N±0°.03×20°.12E±0°.05, h7km±8km, Error ellipse: s-maj=7.1km s-min=3.0km az=137.9*
TIR ***25*** *07:40:01.6, 41°.81N×20°.11E, h24km, Md2.9/4*
SKO ***25*** *07:40:02.0, 41°.90N×20°.11E, h0km, M1.7, ML2.2*

ISC 25 07:40:02.0±1.0, **41°.85N**±0°.03×**20°.12E**±0°.03, **h17**km±9km, **n18,** σ1**9**00/29, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.29**	**125**	*i* Pg	**Pg**	**07 40 07.9**	**-0.5**
PHP				*i* Sg	**Sb**	**07 40 13.0**	**-0.3**
BCI	**Bajram Curri**	**0.52**	**355**	*i* Pg	**Pg**	**07 40 12.7**	**+0.3**
BCI				*i* Sg	**Sb**	**07 40 21.3**	**+1.4**
TIR	**Tirane**	**0.54**	**201**	*e*Sg	Pg	07 40 07.7	-5.1
TIR	**Tirane**	**0.54**	**201**	*e*Pg	**Pn**	**07 40 16.8**	**+1.9**
TIR	**Tirane**	**0.54**	**201**	*i* Pg	**Pn**	**07 40 14.5**	**-0.5**
TIR				*i* Sg	**Sg**	**07 40 19.9**	**-0.1**
ULC	**Ulcinj**	**0.67**	**280**	*i* Pg	**Pg**	**07 40 14.2**	**-1.0**
PDG	**Podgorica**	**0.87**	**312**	*e*Pg	**Pb**	**07 40 17.7**	**-0.9**
PDG				*e*Sg	**Sn**	**07 40 32.1**	**+0.5**
OHR	**Ohrid**	**0.90**	**145**	*i* Pg	**Pb**	**07 40 18.5**	**-0.6**
OHR				*i* Sg	**Sg**	**07 40 31.8**	**+0.5**
OHR				*e*Lg	Lg	07 40 32.4	
	comp=N,37nm,0.3s						
OHR				*e*Lg	Lg	07 40 32.9	
	comp=E,50nm,0.5s						
KRUS	**Krusevo**	**0.97**	**119**	*i* Pg	**Pb**	**07 40 19.3**	**-1.1**
KRUS				*i* Sg	**Sn**	**07 40 34.1**	**-0.3**
KRUS				*e*Lg	Lg	07 40 34.6	
	comp=N,7.9nm,0.2s						
KRUS				*e*Lg	Lg	07 40 35.7	
	comp=E,14nm,0.3s						
BEY	**Berane**	**1.03**	**351**	*e*Pg	**Pb**	**07 40 19.4**	**-2.1**
BIA	**Bitola**	**1.23**	**132**	*e*Pg	**Pb**	**07 40 25.0**	**+0.3**
BIA				*i* Sg	**Sg**	**07 40 42.9**	**+1.1**
BIA				*e*Lg	Lg	07 40 43.2	
	comp=N,9.9nm,0.4s						
BIA				*e*Lg	Lg	07 40 44.6	
	comp=E,13nm,0.2s						
SJES	**Sjenica**	**1.41**	**356**	*e*Pg	**Pb**	**07 40 28.3**	**+0.3**
SJES				*e*Sg	**Sg**	**07 40 49.9**	**+2.2**
FNA	**Florina**	**1.42**	**138**	*i* Pg	**Pb**	**07 40 28.1**	**-0.1**
FNA				*i* Sg	**Sg**	**07 40 48.2**	**+0.2**
FNA	**Florina**	**1.42**	**138**	*i* PN	**Pn**	**07 40 27.8**	**+0.7**
FNA				*i* SN	**Sg**	**07 40 47.8**	**-0.3**
TREB	**Trebinje**	**1.57**	**304**	*e*Pg	**Pb**	**07 40 30.7**	**0.0**
TREB				*e*Sg	**Sg**	**07 40 54.0**	**+1.1**
IVAS	**Ivanjica**	**1.72**	**1**	*e*Sn	**Sn**	**07 40 29.9**	**-1.4**
IVAS	**Ivanjica**	**1.72**	**1**	*e*Pn	**Sb**	**07 40 54.1**	**-0.6**
VAY	**Valandovo**	**1.91**	**105**	*e*Pg	**Pb**	**07 40 36.5**	**+0.1**
VAY				*i* Sg	**Sg**	**07 41 03.8**	**+0.3**
VAY				*e*Lg	Lg	07 41 04.4	
	comp=E,11nm,0.6s						
VAY				*e*Lg	Lg	07 41 05.5	
	comp=N,10.0nm,0.7s						

ISCJB ***25*** *07:40:38.2±0.7, 10°.80S±0°.04×113°.90E±0°.03, h49km±6km, mb4.5/23, MS3.4/7, Error ellipse: s-maj=7.8km s-min=4.8km az=29.0*
NEIC ***25*** *07:40:38.7±0.5, 10°.86S×113°.89E, mb4.5/11, Error ellipse: s-maj=12.4km s-min=7.4km az=218.0*
DJA ***25*** *07:40:39.4±0.6, 11°.S±3°.×11°.4E±°, h19km±5km, M4.7/19, mb5.0/7, mB5.1/4, MLv4.7/19, Mw(mB)4.5/4*
IDC ***25*** *07:40:39.9±0.8, 10°.68S×114°.03E, h40km±5km, mb4.2/10, mb1 4.5/11, mb1mx4.1/30, mbtmp4.5/11, ML5.0/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/40, Error ellipse: s-maj=33.7km s-min=13.5km az=55.0*

ISC 25 07:40:39.8±0.7, **10°.82S**±0°.07×**113°.91E**±0°.05, **h45**km±5km, **h46**km:**pP-P, n84,** σ1**9**43/91, **mb4.6**/28, **MS3.4**/7, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**2.34**	**6**	*e*Pn	**Pn**	**07 41 14.1**	**-1.7**
JAGI	**Jajag, Banyuwa**	**2.34**	**6**	P	**Pn**	**07 41 14.2**	**-1.7**
JAGI				S	**Sn**	**07 41 43.0**	**-0.5**
DNP	**Denpasar**	**2.48**	**31**	P	**Pn**	**07 41 16.9**	**-0.9**
DNP				S	**Sn**	**07 41 46.9**	**0.0**
GMJI	**Gumukmas**	**2.57**	**350**	P	**Pn**	**07 41 17.5**	**-1.5**
GMJI				S	**Sn**	**07 41 48.4**	**-0.6**
SRBI	**Singaraja**	**3.00**	**26**	P	**Pn**	**07 41 25.1**	**+0.1**
SRBI				S	**Sn**	**07 42 00.4**	**+0.7**
BLJI	**Banyuglugur**	**3.07**	**354**	P	**Pn**	**07 41 25.6**	**-0.2**
BLJI				S	**Sn**	**07 42 01.3**	**0.0**
PWJI	**Pagerwojo**	**3.47**	**323**	P	**Pn**	**07 41 28.7**	**-2.6**
PWJI				S	**Sn**	**07 42 08.3**	**-2.8**
KMMI	**Kalianget**	**3.74**	**1**	P	**Pn**	**07 41 35.6**	**+0.5**
PCJI	**Pacitan**	**3.75**	**314**	P	**Pn**	**07 41 33.7**	**-1.4**
GRJI	**Gresik**	**4.12**	**340**	P	**Pn**	**07 41 40.0**	**-0.4**
NGJI	**Ngawi**	**4.19**	**325**	P	**Pn**	**07 41 41.9**	**+0.6**
PLAI	**Plampang**	**4.30**	**63**	P	**Pn**	**07 41 41.9**	**-0.8**
UGM	**Wanagama**	**4.41**	**311**	*e*Pn	**Pn**	**07 41 42.3**	**-2.1**
UGM				*e*Sn	**Sn**	**07 42 30.2**	**-4.3**
UGM	**Wanagama**	**4.41**	**311**	P	**Pn**	**07 41 44.5**	**+0.2**
TBJI	**Tambak Boyo**	**4.46**	**333**	P	**Pn**	**07 41 44.9**	**-0.1**
YOGI	**Yogyakarta**	**4.65**	**310**	P	**Pn**	**07 41 48.2**	**+0.7**
SMRI	**Semarang**	**5.07**	**317**	*e*Pn	**Pn**	**07 41 53.2**	**-0.2**
SMRI	**Semarang**	**5.07**	**317**	P	**Pn**	**07 41 53.6**	**+0.2**
BASI	**Baing, Sumba**	**6.59**	**85**	P	**Pn**	**07 42 15.8**	**+1.6**
CISI	**Cisompet, Garu**	**6.83**	**298**	*e*Pn	**Pn**	**07 42 20.2**	**+2.6**
CISI				*e*Sn	**Sn**	**07 43 32.0**	**-2.1**
CISI	**Cisompet, Garu**	**6.83**	**298**	P	**Pn**	**07 42 18.2**	**+0.6**
EDFI	**Ende, Flores**	**7.94**	**76**	P	**Pn**	**07 42 33.7**	**+0.8**
	24nm,0.6s,1μm0.2nm						
BSSI	**Bau Bau, Buton**	**8.00**	**55**	P	**Pn**	**07 42 34.0**	**+0.5**
XMIS	**Christmas Isla**	**8.12**	**272**	*e*Pn	Pn	07 42 31.0	-4.2
BKSI	**Bulukumba**	**8.23**	**49**	P	**Pn**	**07 42 36.3**	**-0.4**
	28nm,0.5s,299nm						
BNSI	**Bone**	**8.85**	**44**	P	**Pn**	**07 42 46.1**	**+0.8**
BATI	**Baumata**	**9.62**	**87**	P	**Pn**	**07 42 55.1**	**-0.7**
	13nm,0.3s,baz=81,slow=1.3,SNR=8.4						
BATI				S	**Sn**	**07 44 36.4**	**-6.2**
	18nm,0.3s,baz=21,slow=24,SNR=11						
SOEI	**Soe**	**10.25**	**85**	*e*Pn	**Pn**	**07 43 02.5**	**-2.0**
GIRL	**Giralia**	**11.77**	**179**	*e*Pn	Pn	07 43 20.6	-4.5
MNAI	**Manna**	**12.60**	**300**	*e*Pn	**Pn**	**07 43 39.4**	**+2.8**
LUWI	**Luwuk**	**13.11**	**43**	*e*Pn	**Pn**	**07 43 42.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**13.47**	**124**	*e*Pn	Pn	07 43 44.4	-4.0
FITZ				*e*Sn	Sn	07 46 04.0	-13
FITZ	**Fitzroy Crossi**	**13.47**	**124**	P	Pn	07 43 44.1	-4.3
	1.4nm,0.3s,baz=310,slow=8.9,SNR=38						
FITZ				S	Sn	07 46 04.6	-12
	0.5nm,0.3s,baz=187,slow=24,SNR=4.1						
FAKI	**Fak Fak**	**19.82**	**68**	*e*P	**P**	**07 45 06.0**	**-0.9**
	14nm,1.0s						
WRA	**Warramunga Arr**	**21.67**	**117**	P	**P**	**07 45 26.7**	**-0.2**
	17nm,0.6s,baz=290,slow=12,SNR=142						
WRA				LR	LR	07 53 27.7	
	comp=Z,52nm,21.1s,baz=110,slow=36						
WR1	**Warramunga Arr**	**21.67**	**117**	*e*P	**P**	**07 45 26.7**	**-0.2**
	23nm,0.6s						
WRAB	**Tennant Creek**	**21.68**	**117**	*e*P	**P**	**07 45 27.2**	**+0.3**
	24nm,0.6s						
WB2	**Warramunga Arr**	**21.68**	**117**	*e*P	**P**	**07 45 26.7**	**-0.3**
AS31	**Alice Springs**	**22.94**	**126**	*e*P	**P**	**07 45 40.6**	**+0.2**
	3.3nm,0.6s						
ASAR	**Alice Springs**	**22.94**	**126**	P	**P**	**07 45 40.6**	**+0.2**
	7.5nm,0.6s,baz=302,slow=8.8,SNR=113						
ASAR				LR	LR	07 55 09.9	
	comp=Z,50nm,20.4s,baz=284,slow=38						
AS01	**Alice Springs**	**22.98**	**126**	*e*P	**P**	**07 45 40.8**	**0.0**
TRTT	**Trang**	**23.31**	**322**	P	**P**	**07 45 45.0**	**+0.9**
	3.9nm,0.9s						
FORT	**Forrest**	**23.82**	**149**	*e*P	**P**	**07 45 48.9**	**+0.1**
	49nm,0.6s						
KRAB	**Krabi**	**23.92**	**322**	P	**P**	07 45 58.6	+8.8
KRAB				P	sP	07 46 05.7	+0.4
CHAI	**Chaiyaphum**	**29.05**	**336**	P	**P**	**07 46 38.6**	**+2.6**
	3.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.62**	**333**	P	**P**	**07 47 08.0**	**+0.5**
	3.8nm,0.5s,baz=167,slow=9.2,SNR=13						
CMAR				LR	LR	08 02 40.3	
	comp=Z,42nm,18.9s,baz=176,slow=41						
STKA	**Stephens Creek**	**33.06**	**134**	*e*P	**P**	**07 47 12.0**	**+0.8**
	2.1nm,1.0s						
STKA	**Stephens Creek**	**33.06**	**134**	P	**P**	**07 47 11.8**	**+0.5**
	4.4nm,0.5s,baz=316,slow=9.1,SNR=18						
STKA				LR	LR	08 00 54.6	
	comp=Z,108nm,21.4s,baz=226,slow=37						
H08S2	**Diego Garcia H**	**40.98**	**271**	T	T	08 31 37.9	
	baz=96,slow=74,SNR=17						
H08S3	**Diego Garcia H**	**40.99**	**271**	T	T	08 31 55.9	
	baz=96,slow=74,SNR=26						
H08S1	**Diego Garcia H**	**40.99**	**271**	T	T	08 31 52.7	
	baz=96,slow=74,SNR=9.1						
XAN	**Xi'an**	**44.86**	**354**	P	P	07 49 00.8	+11
XAN				pP	sP	07 49 08.5	+2.7
XAN				sP	pwP	07 49 12.3	+6.2
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TAPN	**Taplejung**	**45.66**	**327**	*e*P	**P**	**07 48 56.1**	**-0.5**
	comp=Z,15nm,0.8s						
JIRN	**Jiri**	**46.74**	**325**	*e*P	**P**	**07 49 04.4**	**-0.8**
	comp=Z,57nm,0.8s						
GUN	**Gumba**	**47.10**	**325**	*e*P	**P**	**07 49 07.8**	**-0.2**
	comp=Z,13nm,0.4s						
DMN	**Daman**	**47.31**	**324**	*e*P	**P**	**07 49 08.9**	**-0.6**
KOLN	**Koldanda**	**48.30**	**323**	*e*P	**P**	**07 49 16.4**	**-0.8**
	comp=Z,8.7nm,0.5s						
DANN	**Dangsing**	**48.64**	**324**	*e*P	**P**	**07 49 19.2**	**-0.7**
	comp=Z,16nm,0.7s						
PYUN	**Piuthan**	**48.91**	**323**	*e*P	**P**	**07 49 21.1**	**-0.7**
KSRS	**Korea Array**	**49.78**	**15**	P	**P**	**07 49 27.5**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=200,slow=6.7,SNR=5.6						
HHC	**Hu-ho-hao-te**	**51.45**	**358**	*e*P	**P**	**07 49 43.5**	**+2.8**
HHC				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
MAJO	**Matsushiro**	**52.37**	**25**	*e*P	**P**	**07 49 45.8**	**-1.7**
MJAR	**Matsushiro Arr**	**52.37**	**25**	P	**P**	**07 49 45.8**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=192,slow=9.6,SNR=4.2						
CN2	**Changchun**	**55.36**	**10**	*e*P	**P**	**07 50 12.0**	**+2.8**
USA0B	**Ussuriysk Arra**	**57.17**	**15**	*e*P	**P**	**07 50 21.8**	**-0.3**
	comp=Z,8.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**57.17**	**15**	P	**P**	**07 50 21.3**	**-0.8**
	comp=Z,6.1nm,0.6s,baz=196,slow=8.0,SNR=12						
SONA0	**Songino Array**	**58.77**	**354**	*e*P	**P**	**07 50 33.2**	**-0.2**
SONM	**Songino Array**	**58.77**	**354**	P	**P**	**07 50 33.2**	**-0.2**
	comp=Z,3.9nm,0.5s,baz=175,slow=8.2,SNR=19						
RPZ	**Rata Peaks**	**59.01**	**135**	LR	LR	08 15 34.0	
	comp=Z,105nm,19.2s,baz=280,slow=36						
WMQ	**Urumqi**	**59.38**	**338**	*e*P	**P**	**07 50 39.3**	**+1.7**
WMQ				pP	pwP	07 50 52.0	-1.7
WMQ				LR	LR		
	comp=N,46nm,22.7s						
WMQ				LR	LR		
	comp=E,160nm,24.7s						
WMQ				LR	LR		
	comp=Z,39nm,17.5s						
MK01	**Makanchi Array**	**63.91**	**336**	*e*P	**P**	**07 51 07.7**	**-0.4**
MK31	**Makanchi Array**	**63.94**	**336**	*e*P	**P**	**07 51 06.5**	**-1.8**
	comp=Z,2.0nm,1.0s						
MK32	**Makanchi Array**	**63.94**	**336**	*e*P	**P**	**07 51 08.1**	**-0.2**
MK32				*e*pP	**pP**	**07 51 20.1**	**0.0**
MK32				*e*sP	**sP**	**07 51 26.4**	**+1.4**
MKAR	**Makanchi Array**	**63.94**	**336**	P	**P**	**07 51 08.1**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=146,slow=7.1,SNR=23						
MKAR				pP	**pP**	**07 51 20.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=147,slow=7.3,SNR=7.4						
MKAR				sP	**sP**	**07 51 26.4**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=148,slow=7.7,SNR=6.5						
KURK	**Kurchatov**	**68.54**	**337**	*e*P	**P**	**07 51 37.7**	**+0.1**
	comp=Z,4.0nm,0.6s						
ZAA0	**Zalesovo Array**	**69.08**	**342**	*e*P	**P**	**07 51 40.5**	**-0.4**
	comp=Z,3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**69.08**	**342**	P	**P**	**07 51 40.3**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=162,slow=4.7,SNR=17						
ZALV				pP	**pP**	**07 51 52.5**	**-0.3**
	comp=Z,3.7nm,0.6s,baz=164,slow=4.4,SNR=9.6						
ZAA1	**Zalesovo Array**	**69.08**	**342**	*e*P	**P**	**07 51 40.3**	**-0.6**
ZAA1				*e*pP	**pP**	**07 51 52.5**	**-0.3**
PETK	**Petropavlovsk-**	**73.81**	**26**	LR	LR	08 26 58.0	
	comp=Z,18nm,19.4s,baz=96,slow=38						
ABKAR	**Akbulak array**	**76.24**	**327**	*e*P	**P**	**07 52 22.9**	**-0.7**
	comp=Z,7.2nm,0.6s						
YKA	**Yellowknife Ar**	**117.86**	**23**	PKP	**PKiKP**	**07 59 21.8**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=315,slow=2.2,SNR=5.5						
YKA				pPKP	**pPKPdf**	**07 59 34.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=309,slow=1.9,SNR=8.2						
YKB5	**Yellowknife Ar**	**117.86**	**23**	*e*PKPdf	**PKiKP**	**07 59 21.7**	**+0.7**
LPAZ	**La Paz**	**152.99**	**176**	*e*PKPbc	**PKiKP**	**08 00 35.7**	**+1.4**
LPAZ				*e*PKPab	**PKPab**	**08 00 46.9**	**+1.7**
LPAZ	**La Paz**	**152.99**	**176**	PKPbc	**PKiKP**	**08 00 35.9**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=142,slow=1.7,SNR=4.5						
LPAZ				pPKPbc	**PKPab**	**08 00 46.7**	**+1.5**
	comp=Z,2.0nm,0.6s,baz=125,slow=2.6,SNR=7.0						

IDC ***25*** *07:54:15.9±1.5, 5°.94S×151°.77E, h0km, mb4.2/7, mb1 4.4/7, mb1mx3.9/41, mbtmp4.2/7, MS3.2/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=65.4km s-min=20.4km az=126.0*
ISCJB ***25*** *07:54:21.2±0.5, 6°.02S±0°.07×151°.67E±0°.08, h41km, mb4.1/10, MS3.2/1, Error ellipse: s-maj=14.5km s-min=6.1km az=38.4*
NEIC ***25*** *07:54:23.4±0.8, 5°.93S×151°.65E, h50km±8km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=6.4km az=133.0*

ISC 25 07:54:22.8±0.7, **5°.96S**±0°.09×**151°.6E**±0°.1, **h41**km, **n27,** σ1**9**03/28, **mb4.0**/10, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.83**	**16**	*e*Pn	**Pn**	**07 54 52.1**	**+0.2**
RABL				*e*Sn	**Sn**	**07 55 16.4**	**+2.6**
PMG	**Port Moresby**	**5.61**	**232**	*e*Pn	**Pn**	**07 55 44.6**	**+0.9**
PMG				*e*Sn	**Sn**	**07 56 48.0**	**+1.1**
PMG	**Port Moresby**	**5.61**	**232**	Sn	**Sn**	**07 56 48.0**	**+1.1**
	5.7nm,0.3s,baz=204,slow=19,SNR=6.1						
HNR	**Honiara**	**8.92**	**113**	*e*Pn	**Pn**	**07 56 29.8**	**+0.6**
HNR	**Honiara**	**8.92**	**113**	LR	LR	08 00 08.2	
	comp=Z,80nm,18.2s,baz=300,slow=40						
MTN	**Manton Dam**	**21.35**	**250**	*e*P	**P**	**07 59 06.7**	**0.0**
	28nm,1.5s						
DZM	**Mont Dzumac**	**21.48**	**140**	LR	LR	08 06 10.1	
	comp=Z,109nm,20.5s,baz=243,slow=33						
WB2	**Warramunga Arr**	**21.81**	**229**	*e*P	**P**	**07 59 13.0**	**+1.4**
WR1	**Warramunga Arr**	**21.82**	**229**	*e*P	**P**	**07 59 10.9**	**-0.8**
	9.7nm,1.4s						
WRA	**Warramunga Arr**	**21.82**	**229**	P	**P**	**07 59 10.9**	**-0.8**
	2.2nm,0.6s,baz=54,slow=10,SNR=19						
AS01	**Alice Springs**	**24.49**	**222**	*e*P	**P**	**07 59 39.4**	**+1.0**
AS31	**Alice Springs**	**24.52**	**222**	*e*P	**P**	**07 59 38.7**	**+0.1**
	1.2nm,0.6s						
ASAR	**Alice Springs**	**24.52**	**222**	P	**P**	**07 59 39.0**	**+0.4**
	1.3nm,0.7s,baz=53,slow=8.6,SNR=17						
FITZ	**Fitzroy Crossi**	**28.10**	**242**	*e*P	**P**	**08 00 10.5**	**-0.5**
	6.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**28.10**	**242**	P	**P**	**08 00 10.4**	**-0.5**
	5.0nm,0.6s,baz=69,slow=7.8,SNR=24						
SONA0	**Songino Array**	**66.70**	**329**	*e*P	**P**	**08 05 09.7**	**0.0**
SONM	**Songino Array**	**66.70**	**329**	P	**P**	**08 05 09.7**	**0.0**
	0.6nm,0.4s,baz=145,slow=6.0,SNR=2.9						
UNV	**Unalaska Valle**	**69.15**	**25**	*e*P	**P**	**08 05 24.5**	**-0.3**
IM3	**Indian Mountai**	**81.86**	**20**	*e*P	**P**	**08 06 37.4**	**0.0**
IL1	**Eielson Array**	**83.66**	**22**	*e*P	**P**	**08 06 45.5**	**-1.3**
ILAR	**Eielson Array**	**83.66**	**22**	P	**P**	**08 06 45.5**	**-1.4**
	3.0nm,0.7s,baz=247,slow=5.4,SNR=53						
ILAR				pP	**pwP**	**08 07 03.5**	**-0.3**
	0.9nm,0.7s,baz=248,slow=5.7,SNR=4.7						
ILB	**Eielson Array**	**83.66**	**22**	*e*P	**P**	**08 06 45.6**	**-1.2**
	4.7nm,0.8s						
NRIK	**Noril'sk**	**86.69**	**341**	P	**P**	**08 07 01.2**	**-0.7**
	2.1nm,0.7s,baz=126,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**96.98**	**28**	P	**P**	**08 07 49.5**	**-0.4**
	0.4nm,0.7s,baz=272,slow=4.8,SNR=13						
YKB5	**Yellowknife Ar**	**96.98**	**28**	*e*P	**P**	**08 07 51.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**149.54**	**286**	PKPbc	**PKPbc**	**08 14 07.4**	**-1.4**
	1.2nm,0.6s,baz=91,slow=4.5,SNR=9.6						
TOA1	**Torodi Ar. Sit**	**149.54**	**286**	*e*PKPbc	**PKPbc**	**08 14 07.4**	**-1.4**

IDC 25 08:00:00.9±40.0, **15°.02S**×**171°.18W, h0km, mb4.6**/3, **mb1 4.8**/3, **mb1mx3.8**/40, **mbtmp4.6**/3, **Error ellipse: s-maj=796.7km s-min=170.0km az=79.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**46.08**	**240**	P	P	08 08 27.2	+0.4
	2.2nm,0.4s,baz=86,slow=12,SNR=11						
WRA	**Warramunga Arr**	**52.01**	**256**	P	P	08 09 12.1	-0.5
	1.8nm,0.4s,baz=95,slow=7.0,SNR=66						
ASAR	**Alice Springs**	**52.26**	**252**	P	P	08 09 14.3	-0.1
	16nm,0.5s,baz=89,slow=8.0,SNR=324						

ISK ***25*** *08:01:34.9, 37°.39N×36°.30E, h14km, ML2.0/5*
DDA ***25*** *08:01:35.7, 37°.34N×36°.28E, h7km±5km, ML2.8*

ISC 25 08:01:35.6±1.1, **37°.36N**±0°.05×**36°.27E**±0°.03, **h14**km±9km, **n12,** σ0**8**86/19, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.23**	**15**	*i* P	**Pg**	**08 01 40.5**	**-0.2**
ANDN				*i* S	**Sg**	**08 01 45.3**	**+1.1**
ANDN				IAML_P			
	comp=Z,2μm,0.2s						
KOZT	**Kozan**	**0.37**	**289**	PG	**Pg**	**08 01 43.2**	**0.0**
KOZT				SG	**Sb**	**08 01 49.2**	**-0.5**
HCB	**Kahramanmara**	**0.51**	**91**	*i* P	**Pg**	**08 01 44.7**	**-1.0**
HCB				*i* S	**Sb**	**08 01 54.6**	**+0.9**
HCB				IAML_P			
	comp=Z,3μm,0.1s						
KMRS	**Kahramanmaras**	**0.52**	**74**	PG	**Pg**	**08 01 45.2**	**-0.8**
KMRS				SG	**Sg**	**08 01 52.6**	**-0.4**
CEYT	**Ceyhan**	**0.54**	**230**	PG	**Pb**	**08 01 46.6**	**-0.3**
SAIM	**ADANA**	**0.63**	**347**	*i* P	**Pn**	**08 01 49.5**	**-0.9**
GAZ	**Gaziantep**	**0.78**	**104**	PG	**Pg**	**08 01 50.3**	**-0.4**
KUZU	**Kuzuini**	**0.87**	**132**	*i* P	**Pn**	**08 01 53.0**	**-0.5**
KUZU				*i* S	**Sn**	**08 02 06.1**	**0.0**
GZT	**Gaziantep**	**1.03**	**90**	*i* P	**Pn**	**08 01 56.5**	**+0.7**
GZT				*i* S	**Sn

VANB				SG	Sg	08 13 55.2	+1.7
TVAN	**Van**	**0.26**	**138**	*i* P	Pb	08 13 51.2	-1.3
TVAN				*i* S	Sg	08 13 55.3	+0.2
TVAN				IAML_P			
	comp=Z,17μm,0.1s						
ERCV	**ERCIS-VAN**	**0.32**	**22**	PG	Pg	08 13 51.1	-1.3
ADCV	**BITLIS_Adilcev**	**0.37**	**283**	*i* P	Pb	08 13 53.8	-0.5
ADCV				*i* S	Sb	08 14 00.6	+0.5
ADCV				IAML_P			
	comp=Z,2μm,0.1s						
VMUR	**Van-Muradiye**	**0.40**	**48**	*i* P	Pg	08 13 53.3	-0.6
VMUR				*i* S	Sb	08 14 01.8	+0.7
VMUR				IAML_P			
	comp=Z,4μm,0.1s						
GEVA	**Gevas**	**0.42**	**194**	*i* P	Pg	08 13 53.5	-0.7
GEVA				*i* S	Sb	08 14 00.5	-1.1
GEVA				IAML_P			
	comp=Z,6μm,0.2s						
AKDM	**Akdamar-Van**	**0.43**	**202**	PG	Pg	08 13 53.0	-1.3
MLAZ	**Malazgirt-MUS**	**0.65**	**310**	PG	Pg	08 13 57.7	-0.8
CLDR	**Caldiran**	**0.71**	**53**	PG	Pg	08 13 59.1	-0.5
CLDR				SG	Sb	08 14 10.1	+0.2
CLDR	**Caldiran**	**0.71**	**53**	*i* P	Pn	08 14 01.0	-0.7
CLDR				*i* S	Sb	08 14 09.9	+0.1
CLDR				IAML_P			
	comp=Z,1μm,0.1s						
TUTA	**Tutak**	**0.74**	**337**	*i* P	Pb	08 14 00.3	-0.3
TUTA				*i* S	Sb	08 14 11.2	+0.4
AGRB	**Hanur-Agry**	**0.86**	**350**	PG	Pg	08 14 01.9	-0.6
AGRB				SG	Sb	08 14 14.2	-0.2
BLIS	**Bitlis-Merkez**	**0.89**	**250**	*i* P	Pb	08 14 02.7	-0.5
BLIS				*i* S	Sb	08 14 15.4	+0.2
BLIS				IAML_P			
	comp=Z,4μm,0.2s						
GURO	**Guroymak-BITLI**	**0.92**	**260**	PG	Pg	08 14 02.4	-1.2
SRTM	**Siirt_Merkez**	**1.23**	**234**	*i* P	Pn	08 14 09.3	+0.5
SRTM				*i* S	Sn	08 14 27.8	+2.4
SRTM				IAML_P			
	comp=Z,816nm,0.2s						
MUSM	**Mu-Merkez**	**1.31**	**271**	*i* P	Pb	08 14 09.9	-0.4
MUSM				*i* S	Sn	08 14 28.4	+1.1
MUSM				IAML_P			
	comp=Z,470nm,0.2s						

IDC ***25*** *08:13:44.1±2.7,21.˚95N×121.˚05E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/33,mbtmp3.6/4,MS2.4/1,Ms1 2.4/1, ms1mx2.2/46,Error ellipse: s-maj=250.4km s-min=23.0km az=63.0*

TAP ***25*** *08:13:48.0,21.˚82N×120.˚55E,h45km,ML3.7,C*

ISCJB ***25*** *08:13:49.0±0.5,21.˚84N±0.˚03×120.˚61E±0.˚03,h49km±3km, mb3.5/4,Error ellipse: s-maj=5.2km s-min=4.4km az=169.9*

JMA ***25*** *08:13:51.0±0.2,21.˚90N×120.˚70E,h65km±3km,M3.7*

ISC 25 08:13:49.1±1.2,21.˚79N±0.˚05×120.˚51E±0.˚04,h35km±2km, n66,σ0.98/113,mb3.6/4,3C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun**	**0.30**	**45**	P	**Pn**	**08 13 56.8**	**-0.3**
	baz=54						
HEN				S	**Sn**	**08 14 03.3**	**+0.3**
	baz=54						
TWK1	**Hengchun**	**0.31**	**61**	⇑P	**Pn**	**08 13 56.8**	**-0.5**
	baz=65						
TWK1				S	**Sn**	**08 14 03.1**	**-0.1**
	baz=65						
TWKBT	**Hengchun**	**0.32**	**62**	⇑P	**Pn**	**08 13 56.7**	**-0.5**
	baz=64						
TWKBT				S	**Sn**	**08 14 02.9**	**-0.4**
	baz=64						
TSEB	**Hengchuen, Pin**	**0.38**	**74**	⇑P	**Pn**	**08 13 57.2**	**-0.7**
	baz=74						
TSEB				S	**Sn**	**08 14 04.1**	**-0.1**
	baz=74						
SCZT	**Fangliau**	**0.58**	**10**	P	**Pn**	**08 14 00.5**	**-0.5**
	baz=8.0						
SCZT				*e*S	**Sn**	**08 14 08.8**	**-0.6**
	baz=8.0						
EAST	**Anshuo**	**0.66**	**28**	*e*P	**Pn**	**08 14 01.7**	**-0.4**
	baz=27						
EAST				*e*S	**Sn**	**08 14 10.8**	**-0.5**
	baz=27						
TAW	**Tawu**	**0.66**	**32**	*e*P	**Pn**	**08 14 01.6**	**-0.4**
	baz=32						
TAW				*e*S	**Sn**	**08 14 10.5**	**-0.7**
	baz=32						
SSPT	**Xinbi**	**0.69**	**4**	*e*P	**Pn**	**08 14 02.2**	**-0.2**
	baz=2.0						
MASBT	**Mashibuluo**	**0.82**	**8**	*e*P	**Pn**	**08 14 03.7**	**-0.5**
	baz=6.0						
MASBT				*e*S	**Sn**	**08 14 14.5**	**-0.7**
	baz=6.0						
ECL	**Taimali**	**0.90**	**27**	*e*P	**Pn**	**08 14 04.9**	**-0.4**
	baz=27						
ECL				*e*S	**Sn**	**08 14 15.7**	**-1.3**
	baz=27						
SGLT	**Jiouru**	**0.93**	**359**	*e*P	**Pn**	**08 14 05.8**	**+0.1**
	baz=347						
SSD	**Sandimen**	**0.95**	**7**	P	**Pn**	**08 14 05.5**	**-0.5**
	baz=6.0						
SSD				*e*S	**Sn**	**08 14 17.4**	**-1.0**
	baz=6.0						
LAY	**Lan-yu**	**0.99**	**76**	*e*P	**Pn**	**08 14 05.1**	**-1.5**
	baz=66						
LAY				*e*S	**Sn**	**08 14 17.4**	**-2.0**
	baz=66						
TWM1	**Shoushan**	**1.03**	**355**	*e*P	**Pn**	**08 14 07.2**	**+0.1**
	baz=354						
TWM1				*e*S	**Sn**	**08 14 19.8**	**-0.5**
	baz=354						
TWG	**Pinlang**	**1.15**	**27**	*e*P	**Pn**	**08 14 08.1**	**-0.5**
	baz=36						
TWG				*e*S	**Sn**	**08 14 22.3**	**-0.9**
	baz=36						
TWGBT	**Beinan**	**1.15**	**27**	*e*P	**Pn**	**08 14 08.1**	**-0.5**
	baz=36						
TWGBT				*e*S	**Sn**	**08 14 22.5**	**-0.7**
	baz=36						
SLGT	**Liugui**	**1.20**	**6**	*e*P	**Pn**	**08 14 09.3**	**-0.2**
	baz=5.0						
SGST	**Jiashian**	**1.28**	**3**	*e*P	**Pn**	**08 14 10.5**	**0.0**
	baz=2.0						
STYT	**Tauyuan**	**1.38**	**9**	*e*P	**Pn**	**08 14 11.9**	**-0.1**
	baz=359						
STYT				*e*S	**Sn**	**08 14 28.5**	**-0.6**
	baz=359						
WTP	**Ta-pu**	**1.45**	**4**	*e*P	**Pn**	**08 14 12.5**	**-0.4**
	baz=3.0						
WTP				*e*S	**Sn**	**08 14 29.6**	**-1.1**
	baz=3.0						
ELDTW	**Lidau**	**1.47**	**18**	*e*P	**Pn**	**08 14 13.2**	**+0.1**
	baz=7.0						
ELDTW				*e*S	**Sn**	**08 14 30.1**	**-1.1**
	baz=7.0						
TWK	**Hsinying**	**1.47**	**359**	*e*P	**Pn**	**08 14 13.0**	**-0.1**
	baz=359						
TWK				*e*S	**Sn**	**08 14 30.4**	**-0.8**
	baz=359						
TPUB	**Ta-pu**	**1.50**	**4**	*e*P	**Pn**	**08 14 12.2**	**-1.4**
	baz=3.0						
TPUB				*e*S	**Sn**	**08 14 30.4**	**-1.6**
	baz=3.0						
CHN4	**Tsaushan**	**1.55**	**3**	*e*P	**Pn**	**08 14 13.5**	**-0.7**
	baz=2.0						
CHN4				*e*S	**Sn**	**08 14 32.3**	**-0.9**
	baz=2.0						
FULB	**Fuli**	**1.57**	**27**	*e*P	**Pn**	**08 14 14.4**	**-0.2**
	baz=36						
FULB				*e*S	**Sn**	**08 14 34.1**	**+0.3**
	baz=36						
TWF1	**Yuli**	**1.71**	**25**	*e*P	**Pn**	**08 14 16.5**	**0.0**
	baz=13						
TWF1				*e*S	**Sn**	**08 14 36.3**	**-0.8**
	baz=13						
VCHM	**Qimei**	**1.73**	**325**	*e*P	**Pn**	**08 14 15.3**	**-1.4**
	baz=335						
YULB	**Yu-li**	**1.75**	**24**	*e*P	**Pn**	**08 14 16.8**	**-0.1**
	baz=37						
YULB				*e*S	**Sn**	**08 14 37.0**	**-1.1**
	baz=37						
CHN5	**Tsauling**	**1.80**	**5**	P	**Pn**	**08 14 17.4**	**-0.4**
	baz=353						
CHN5				*e*S	**Sn**	**08 14 38.4**	**-1.1**
	baz=353						
WSF	**Szhu**	**1.85**	**352**	*e*P	**Pn**	**08 14 17.1**	**-1.3**
	baz=351						
WSF				*e*S	**Sn**	**08 14 38.9**	**-1.8**
	baz=351						
EHY	**Hungye**	**1.86**	**24**	*e*P	**Pn**	**08 14 18.5**	**0.0**
	baz=35						
EHY				*e*S	**Sn**	**08 14 39.9**	**-1.0**
	baz=35						
WDLH	**Douliu**	**1.89**	**1**	*e*P	**Pn**	**08 14 18.4**	**-0.5**
HGSD	**Ruisui**	**1.89**	**26**	*e*P	**Pn**	**08 14 19.5**	**+0.6**
	baz=14						
HGSD				*e*S	**Sn**	**08 14 41.8**	**+0.4**
	baz=14						
PHUB	**P'eng-hu**	**1.92**	**333**	*e*P	**Pn**	**08 14 17.9**	**-1.4**
	baz=332						
PHUB				*e*S	**Sn**	**08 14 39.2**	**-3.1**
	baz=332						
SSLB	**Suanglung**	**2.03**	**12**	*e*P	**Pn**	**08 14 20.2**	**-0.6**
	baz=11						
SSLB				*e*S	**Sn**	**08 14 44.0**	**-0.9**
	baz=11						
VWDT	**VWDT**	**2.04**	**16**	*e*P	**Pn**	**08 14 21.3**	**+0.4**
	baz=5.0						
VWDT				*e*S	**Sn**	**08 14 45.4**	**+0.3**
	baz=5.0						
SMLT	**Sun Moon Lake**	**2.11**	**10**	*e*P	**Pn**	**08 14 22.1**	**0.0**
	baz=358						
SMLT				*e*S	**Sn**	**08 14 46.7**	**-0.4**
	baz=358						
TYC	**Yuchr**	**2.12**	**9**	*e*P	**Pn**	**08 14 22.0**	**-0.1**
	baz=357						
TYC				*e*S	**Sn**	**08 14 46.5**	**-0.8**
	baz=357						
ESL	**Shilin**	**2.18**	**23**	*e*P	**Pn**	**08 14 22.4**	**-0.6**
	baz=34						
ESL				*e*S	**Sn**	**08 14 47.1**	**-1.7**
	baz=34						
CHGB	**Renai**	**2.34**	**15**	*e*P	**Pn**	**08 14 25.6**	**+0.3**
	baz=6.0						
CHGB				*e*S	**Sn**	**08 14 52.1**	**-0.7**
	baz=6.0						
WHF	**Hehuan Shan**	**2.44**	**16**	*e*P	**Pn**	**08 14 27.2**	**+0.3**
	baz=16						
WHF				*e*S	**Sn**	**08 14 55.3**	**-0.4**
	baz=16						
WHP	**Taichung City**	**2.50**	**9**	*e*P	**Pn**	**08 14 27.6**	**+0.2**
	baz=9.0						
WHP				*e*S	**Sn**	**08 14 56.9**	**+0.1**
	baz=9.0						
TDCB	**Techi**	**2.52**	**14**	*e*P	**Pn**	**08 14 27.8**	**+0.1**
	baz=4.0						
TDCB				*e*S	**Sn**	**08 14 57.1**	**-0.1**
	baz=4.0						
TWT	**Tachien**	**2.52**	**14**	*e*P	**Pn**	**08 14 27.9**	**+0.2**
	baz=3.0						
TWQ1	**Liyutan**	**2.55**	**5**	*e*P	**Pn**	**08 14 28.8**	**+0.8**
	baz=5.0						
TWQ1				*e*S	**Sn**	**08 14 57.4**	**-0.5**
	baz=5.0						
ETLH	**Xiulin Townshi**	**2.56**	**20**	*e*P	**Pn**	**08 14 28.4**	**+0.1**
	baz=33						
NACB	**Ninganchiao**	**2.57**	**23**	*e*P	**Pn**	**08 14 27.8**	**-0.5**
	baz=22						
NACB				*e*S	**Sn**	**08 14 56.0**	**-2.3**
	baz=22						
NNSB	**Datong**	**2.74**	**17**	*e*P	**Pn**	**08 14 31.7**	**+1.0**
	baz=17						
NNSB				*e*S	**Sn**	**08 15 01.5**	**-1.2**
	baz=17						
NNS	**Nan Shan**	**2.75**	**17**	*e*P	**Pn**	**08 14 31.7**	**+0.9**
	baz=17						
NNS				*e*S	**Sn**	**08 15 00.9**	**-2.0**
	baz=17						
NDT	**Datong Townshi**	**2.94**	**18**	*e*P	**Pn**	**08 14 34.2**	**+0.8**
	baz=8.0						
YHNB	**Yeheng**	**2.97**	**15**	*e*P	**Pn**	**08 14 34.2**	**+0.4**
	baz=15						
YHNB				*e*S	**Sn**	**08 15 07.2**	**-1.1**
	baz=15						
NWLT	**Wulai**	**3.11**	**17**	*e*P	**Pn**	**08 14 36.1**	**+0.4**
	baz=6.0						
EOS1	**EOS1**	**3.12**	**28**	*e*P	**Pn**	**08 14 37.4**	**+1.6**
	baz=37						
EOS1				*e*S	**Sn**	**08 15 10.8**	**-0.9**
	baz=37						
KNMB	**Chin-men Tao**	**3.30**	**324**	*e*P	**Pn**	**08 14 37.9**	**-0.4**
	baz=324						
TIPB	**Shuangxi**	**3.39**	**21**	*e*P	**Pn**	**08 14 39.8**	**+0.3**
	baz=30						
TIPB				*e*S	**Sn**	**08 15 17.9**	**-0.6**
	baz=30						
HATJ	**Hateruma jima**	**3.78**	**53**	S	**Sn**	**08 15 25.8**	**-2.3**
IRIF	**Iriomote-Funau**	**3.90**	**49**	P	**Pn**	**08 14 46.9**	**+0.4**
IRIF				S	**Sn**	**08 15 28.8**	**-2.2**
JKRS	**Kuro-shima**	**4.04**	**52**	P	**Pn**	**08 14 49.5**	**+1.1**
JKRS				*e*S	**Sn**	**08 15 33.4**	**-1.1**
JIJ	**Ishigaki jima**	**4.21**	**52**	P	**Pn**	**08 14 51.0**	**+0.2**
JIJ				S	**Sn**	**08 15 35.8**	**-2.9**
JISG	**Ishigakijimahi**	**4.46**	**51**	P	**Pn**	**08 14 54.3**	**0.0**
JISG				*e*S	**Sn**	**08 15 43.3**	**-1.7**
JTJ	**Tarama**	**4.78**	**53**	*e*S	**Sn**	**08 15 51.6**	**-1.3**
KSRS	**Korea Array**	**16.87**	**21**	LR	LR	08 25 22.2	
	comp=Z,14nm,19.0s,baz=145,slow=42						
MKAR	**Makanchi Array**	**39.66**	**318**	P	**P**	**08 21 19.6**	**+1.9**
	0.2nm,0.5s,baz=120,slow=8.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**41.94**	**329**	P	**P**	**08 21 37.3**	**+1.1**
	1.1nm,0.5s,baz=114,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**43.63**	**161**	P	**P**	**08 21 49.9**	**-0.4**
	1.3nm,0.8s,baz=343,slow=8.9,SNR=5.0						
ASAR	**Alice Springs**	**47.03**	**163**	P	**P**	**08 22 17.9**	**+0.6**
	0.4nm,0.7s,baz=342,slow=6.3,SNR=6.8						

IDC 25 08:25:12.4±2.0,11.˚25N×140.˚87E,h0km,mb3.5/5, mb1 3.9/5,mb1mx3.5/44,mbtmp3.5/5,Error ellipse: s-maj=184.6km s-min=22.4km az=109.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.65**	**192**	P	P	08 31 37.6	+0.1
	0.5nm,0.6s,baz=14,slow=9.7,SNR=10.0						
ASAR	**Alice Springs**	**35.36**	**191**	P	P	08 32 09.6	-0.2
	0.4nm,0.5s,baz=16,slow=12,SNR=11						
ILAR	**Eielson Array**	**72.34**	**25**	P	P	08 36 39.5	-0.3
	0.2nm,0.7s,baz=254,slow=6.6,SNR=4.1						
YKA	**Yellowknife Ar**	**86.71**	**27**	P	P	08 37 58.5	+0.5
	0.2nm,0.5s,baz=289,slow=4.7,SNR=5.5						
NVAR	**Mina Array Bea**	**91.42**	**51**	P	P	08 38 21.1	-0.1
	0.3nm,0.6s,baz=289,slow=5.6,SNR=3.6						
LPAZ	**La Paz**	**151.41**	**103**	PKPbc	PKPbc	08 45 09.8	-0.2
	1.5nm,0.6s,baz=281,slow=4.0,SNR=9.5						

BJI ***25*** *08:30:01.6,3.˚00N×125.˚60E,h141km,mb4.7/36,mB4.8/27*

ISCJB ***25*** *08:30:02.4±0.3,3.˚10N±0.˚02×125.˚80E±0.˚02,h153km±2km, mb4.7/125,Error ellipse: s-maj=3.9km s-min=2.7km az=162.0*

MOS ***25*** *08:30:02.4±0.9,3.˚11N×125.˚60E,h155km,mb4.7/35,Error ellipse: s-maj=12.9km s-min=6.3km az=118.5*

IDC ***25*** *08:30:02.3±0.8,3.˚01N×125.˚55E,h136km±6km,mb4.3/33, mb1 4.4/34,mb1mx4.3/50,mbtmp4.7/34,MS3.2/6, Ms1 3.2/6,ms1mx2.8/58,Error ellipse: s-maj=15.2km s-min=7.3km az=68.0*

NEIC ***25*** *08:30:02.8±0.6,3.˚06N×125.˚69E,h140km±6km,mb5.0/57, Error ellipse: s-maj=5.7km s-min=3.8km az=54.0*

DJA ***25*** *08:30:03.0±0.3,3˚N±3˚×12˚6E±˚,h129km±2km,M4.9/43, mb5.2/43,mB5.3/28,MLv5.1/14,Mw(mB)4.8/28*

MAN ***25*** *08:30:03.8,3.˚14N×125.˚33E,h180km,MS4.5*

KLM ***25*** *08:30:04.5,2.˚96N×125.˚85E,h134km,mb5.0*

ISC 25 08:30:03.4±0.4,3.˚05N±0.˚03×125.˚78E±0.˚04,h148km±3km, h148km:pP-P,n313,σ1.55/348,mb4.8/125,13C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.68**	**339**	P	**Pn**	**08 30 24.1**	**-1.5**
SGSI				S	**Sn**	**08 30 40.1**	**-2.4**
MNI	**Manado**	**1.85**	**210**	P	**Pn**	**08 30 35.8**	**-0.9**
TNTI	**Ternate**	**2.76**	**145**	*e*Pn	**Pn**	**08 30 46.5**	**-1.2**
TNTI				*e*Sn	**Sn**	**08 31 20.8**	**-1.2**
TNTI	**Ternate**	**2.76**	**145**	P	**Pn**	**08 30 46.7**	**-1.0**
TNTI				S	**Sn**	**08 31 19.0**	**-3.0**
DDMP	**Don Marcelino,**	**3.04**	**359**	*e*P	**Pn**	**08 30 51.1**	**-0.1**
DDMP				*e*S	**Sn**	**08 31 24.9**	**-3.3**
KMSI	**Cibinong**	**3.04**	**216**	P	**Pn**	**08 30 51.2**	**0.0**
GSPH	**General Santos**	**3.13**	**345**	*e*P	**Pn**	**08 30 53.0**	**+0.4**
GSPH				*e*S	**Sn**	**08 31 30.7**	**+0.2**
SKMP	**Bagumbayan, Su**	**3.66**	**340**	*e*P	**Pn**	**08 30 59.1**	**-0.1**
SKMP				*e*S	**Sn**	**08 31 40.4**	**-2.1**
MATI	**Mati**	**3.90**	**7**	*e*P	**Pn**	**08 31 04.2**	**+1.8**
KCP	**Kidapawan**	**3.99**	**350**	*e*P	**Pn**	**08 31 03.1**	**-0.5**
KCP				*i* S	**Sn**	**08 31 54.7**	**+4.2**
DAV	**Davao City (W)**	**4.00**	**357**	*e*Pn	**Pn**	**08 31 00.3**	**-3.3**
DAV				*e*Sn	**Sn**	**08 31 49.7**	**-0.8**
DAV	**Davao City (W)**	**4.00**	**357**	S	**Sn**	**08 31 53.7**	**+3.2**
	179nm,0.3s,baz=304,slow=20,SNR=6.1						
DMPH	**Davao City--Mi**	**4.02**	**356**	*e*P		08 31 32.4	+29
DMPH				*e*S	**Sn**	**08 31 53.6**	**+2.7**
CTBH	**Cotabato--PC H**	**4.42**	**340**	*e*P	**Pn**	**08 31 08.8**	**-0.3**
MRSI	**Marisa**	**4.61**	**236**	P	**Pn**	**08 31 11.9**	**+0.3**
BUKP	**Musuan**	**4.85**	**352**	*e*P	**Pn**	**08 31 15.2**	**+0.3**
BUKP				*e*S	**Sn**	**08 32 10.3**	**-0.4**
LUWI	**Luwuk**	**5.05**	**217**	*e*Pn	**Pn**	**08 31 17.3**	**-0.3**
LUWI				*e*Sn	**Sn**	**08 32 20.5**	**+5.2**
LUWI	**Luwuk**	**5.05**	**217**	P	**Pn**	**08 31 19.1**	**+1.6**
SANI	**Sanana**	**5.07**	**178**	P	**Pn**	**08 31 14.5**	**-3.2**
	1μm,0.6s,31μm7.2nm						
CGP	**Cagayan de Oro**	**5.48**	**349**	*e*P	**Pn**	**08 31 22.0**	**-1.2**
APSI	**Ampana**	**5.70**	**226**	P	**Pn**	**08 31 26.7**	**+0.6**
	442nm,0.7s,3μm1.3nm						
MPSI	**Mapaga**	**6.46**	**245**	P	**Pn**	**08 31 36.5**	**+0.2**
	90nm,0.9s,0.3nm						
SWI	**Sorong**	**6.72**	**125**	P	**Pn**	**08 31 38.4**	**-1.3**
SWI				S	**Sn**	**08 32 54.3**	**-0.9**
SIJI	**Sorong**	**6.73**	**125**	LR	LR	08 34 35.4	
	comp=Z,316nm,18.6s,baz=240,slow=40						
KDI	**Kendari**	**7.64**	**204**	P	**Pn**	**08 31 49.5**	**-2.6**
	129nm,0.7s,2μm						
TSM	**Tawau**	**7.98**	**279**	P	**Pn**	**08 31 57.4**	**+0.8**
FAKI	**Fak Fak**	**8.78**	**132**	*e*Pn	**Pn**	**08 32 07.3**	**+0.1**
FAKI				*e*Sn	**Sn**	**08 33 44.8**	**0.0**
FAKI	**Fak Fak**	**8.78**	**132**	P	**Pn**	**08 32 07.0**	**-0.2**
	141nm,1.1s,1μm0.6nm						
SDKM	**Sandakan**	**8.93**	**287**	P	**Pn**	**08 32 10.7**	**+1.3**
SPSI	**Sidrap Palu**	**9.20**	**221**	P	**Pn**	**08 32 12.4**	**-0.4**
	59nm,0.6s,575nm						
SMKI	**Samarinda**	**9.24**	**248**	P	**Pn**	**08 32 15.3**	**+1.9**
BNSI	**Bone**	**9.32**	**217**	P	**Pn**	**08 32 14.5**	**0.0**
	69nm,0.7s,887nm						
PALU	**Palau**	**9.66**	**63**	P	**Pn**	**08 32 18.1**	**-0.9**
	baz=9.7,SNR=7.9						
KDM	**Kudat**	**9.70**	**294**	P	Pn	08 32 24.4	+4.8
KKM	**Kota Kinabalu**	**9.98**	**288**	*e*Pn	**Pn**	**08 32 23.2**	**-0.2**
KKM	**Kota Kinabalu**	**9.98**	**288**	P	**Pn**	**08 32 26.1**	**+2.7**
BKSI	**Bulukumba**	**10.05**	**214**	P	**Pn**	**08 32 23.7**	**-0.5**
	20nm,0.9s,252nm						
BSSI	**Bau Bau, Buton**	**10.54**	**210**	P	**Pn**	**08 32 31.7**	**+0.9**
	71nm,0.7s,752nm						
MTKI	**Muara Teweh, K**	**11.57**	**250**	P	**Pn**	**08 32 47.0**	**+2.7**
	198nm,0.9s						
MMRI	**Maumere**	**12.13**	**197**	P	P	08 33 05.2	+7.2
SAUI	**Saumlaki**	**12.27**	**153**	*e*Pn	**Pn**	**08 32 52.9**	**-0.4**
EDFI	**Ende, Flores**	**12.41**	**199**	P	**Pn**	**08 32 54.4**	**-0.8**
	74nm,0.8s,790nm						
BTM	**Bintulu**	**12.67**	**271**	P	**Pn**	**08 33 00.1**	**+1.5**
SOEI	**Soe**	**12.81**	**187**	*e*Pn	**Pn**	**08 33 01.0**	**+0.6**
SOEI	**Soe**	**12.81**	**187**	P	P	08 33 14.7	+9.1
BATI	**Baumata**	**13.33**	**189**	P	**Pn**	**08 33 09.1**	**+2.0**
BATI	**Baumata**	**13.33**	**189**	P	**Pn**	**08 33 08.6**	**+1.6**
	13nm,0.3s,baz=309,slow=1.6,SNR=5.3						
BATI				S	**S**	**08 35 46.6**	**-0.5**
	2.9nm,0.3s,baz=47,slow=17,SNR=8.2						
SBUM	**Sibu**	**13.55**	**268**	*e*Pn	**Pn**	**08 33 10.7**	**+0.8**
SBUM	**Sibu**	**13.55**	**268**	P	**Pn**	**08 33 11.6**	**+1.7**
BASI	**Baing, Sumba**	**14.16**	**201**	P	**P**	**08 33 19.6**	**-0.9**
	236nm,0.9s,3μm						
PLAI	**Plampang**	**14.24**	**214**	P	**Pn**	**08 33 18.7**	**+0.2**
	422nm,0.8s,3μm						
SRBI	**Singaraja**	**15.27**	**224**	P	**P**	**08 33 32.4**	**-0.5**
	200nm,0.6s,2μm						
GENI	**Genyem**	**15.44**	**111**	P	**Pn**	**08 33 33.5**	**0.0**
KMMI	**Kalianget**	**15.48**	**230**	P	**P**	**08 33 36.3**	**+1.2**
	85nm,0.7s,854nm						
KSM	**Kuching**	**15.53**	**265**	*e*Pn	**Pn**	**08 33 33.8**	**-0.9**
	90nm,0.7s						
KSM	**Kuching**	**15.53**	**265**	P	**P**	**08 33 36.9**	**+1.1**
JAY	**Jayapura**	**15.91**	**110**	*e*P	**P**	**08 33 41.0**	**+0.9**
JAY	**Jayapura**	**15.91**	**110**	P	**P**	**08 33 41.8**	**+1.7**
	450nm,1.0s						
JAY	**Jayapura**	**15.91**	**110**	P	**P**	**08 33 41.0**	**+0.9**
	2.9nm,0.3s,baz=298,slow=3.9,SNR=9.9						
BLJI	**Banyuglugur**	**16.21**	**229**	P	**P**	**08 33 46.4**	**+3.2**
JAGI	**Jajag, Banyuwa**	**16.29**	**225**	*e*Pn	**Pn**	**08 33 42.1**	**-1.8**
	99nm,0.6s						
JAGI	**Jajag, Banyuwa**	**16.29**	**225**	P	**P**	**08 33 45.1**	**+1.0**
	160nm,0.6s,3μm						
MTN	**Manton Dam**	**16.66**	**161**	P	**P**	**08 33 45.7**	**-2.5**
	baz=17,SNR=8.9						
MTN	**Manton Dam**	**16.66**	**161**	*e*Pn	**P**	**08 33 45.9**	**-2.3**
	52nm,0.4s						
GMJI	**Gumukmas**	**16.66**	**227**	P	**Pn**	**08 33 50.0**	**+1.5**
	124nm,0.8s						
KDU	**Kakadu**	**16.99**	**157**	P	**P**	**08 33 49.6**	**-2.3**
	baz=17,SNR=38						
NGJI	**Ngawi**	**17.64**	**234**	P	**P**	**08 33 58.6**	**-0.4**
PWJI	**Pagerwojo**	**17.75**	**232**	P	**Pn**	**08 34 01.3**	**-0.2**
PCJI	**Pacitan**	**18.35**	**232**	P	**Pn**	**08 34 07.7**	**-0.9**
	168nm,0.9s						
UGM	**Wanagama**	**18.71**	**234**	*e*P	**P**	**08 34 09.6**	**-1.2**
	224nm,1.5s						
KNRA	**Kununurra**	**18.84**	**171**	P	**P**	**08 34 12.1**	**+0.1**
	baz=19,SNR=55						
TPI	**Tanjungpandan**	**19.01**	**253**	P	**Pn**	**08 34 15.6**	**-0.7**
	70nm,1.2s,7μm						
PPBI	**Pangkal Pinang**	**20.30**	**255**	P	Pn	08 34 30.5	-1.1
YULB	**Yu-li**	**20.68**	**348

WRA Warramunga Arr 24.35 160 P **P 08 35 07.5 -0.3**
comp=Z,109nm,0.7s,baz=340,slow=10,SNR=232
WRA S **S 08 39 12.7 -3.8**
comp=Z,5.0nm,0.8s,baz=341,slow=16,SNR=6.7
WRA ScP **ScP 08 42 09.5 +0.9**
comp=Z,4.1nm,0.8s,baz=343,slow=3.2,SNR=11
PMG Port Moresby 24.64 120 *e*P **P 08 35 11.4 +0.9**
comp=Z,29nm,0.7s
PMG Port Moresby 24.64 120 *e*P **P 08 35 11.4 +0.9**
PMG pmax pmax
comp=Z,29nm,0.7s
PMG Port Moresby 24.64 120 P **P 08 35 11.6 +1.2**
comp=Z,19nm,0.6s,baz=80,slow=5.5,SNR=9.0
SKNT Sakolnakorn 25.49 304 P **P 08 35 18.6 +0.4**
comp=Z,2.8nm,1.7s,comp=Z,2µm
SRAK Srakaew 25.84 296 P **P 08 35 17.6 -3.7**
comp=Z,60nm,0.9s,comp=Z,627nm
TRTT Trang 26.39 281 P **P 08 35 27.6 +1.3**
comp=Z,4.9nm,0.5s
CHAI Chaiyaphum 26.67 300 P **P 08 35 29.1 +0.3**
comp=Z,14nm,0.6s,comp=Z,162nm
NONG Nongkai 26.73 306 P **P 08 35 30.1 +0.8**
comp=Z,0.4nm,0.8s,comp=Z,46nm
PSI Prapat 26.82 270 *e*P **P 08 35 27.7 -2.6**
comp=Z,9.4nm,0.7s
PSI Prapat 26.82 270 *e*P **P 08 35 27.7 -2.6**
PSI pmax pmax
comp=Z,9.0nm,0.7s
QIS Mount Isa 27.10 151 P **P 08 35 33.0 +0.5**
baz=27,SNR=58
PHET Kaeng Krachan 27.65 292 P **P 08 35 39.5 +1.9**
comp=Z,6.5nm,0.9s,comp=Z,115nm
AS31 Alice Springs 27.71 164 *e*P **P 08 35 38.2 +0.2**
comp=Z,15nm,0.4s
ASAR Alice Springs 27.71 164 P **P 08 35 38.1 +0.1**
comp=Z,15nm,0.5s,baz=345,slow=8.4,SNR=347
ASAR S **S 08 40 08.8 -0.7**
comp=Z,2.4nm,0.9s,baz=341,slow=20,SNR=4.9
ASAR ScP **ScP 08 42 19.0 +0.6**
comp=Z,1.7nm,0.6s,baz=344,slow=2.8,SNR=7.1
AS01 Alice Springs 27.72 164 *e*P **P 08 35 38.3 +0.2**
PBKT Sadao Pong 27.84 301 P **P 08 35 41.1 +1.9**
comp=Z,14nm,0.6s
MTSU Mount Surprise 27.87 140 P **P 08 35 40.6 +1.1**
baz=28,SNR=19
GIRL Giralia 27.91 203 *e*P **P 08 35 38.9 -0.9**
comp=Z,73nm,1.1s
WRKA Warakurna 28.02 175 P **P 08 35 40.9 +0.1**
baz=28,SNR=38
GSI Gunungsitoli 28.23 267 *e*P **P 08 35 41.9 -0.9**
comp=Z,26nm,0.6s
UTTA Uttaradit 28.72 302 P **P 08 35 47.8 +0.8**
comp=Z,3.9nm,0.8s
UTHA Uthaitani 28.75 297 P **P 08 35 48.3 +1.0**
comp=Z,7.9nm,0.5s,comp=Z,116nm
NANT Nan 29.10 304 P **P 08 35 52.1 +1.7**
comp=Z,4.8nm,0.6s,comp=Z,132nm
SUKH Sukhothai 29.39 301 P **P 08 35 54.3 +1.4**
comp=Z,5.3nm,0.6s
NJ2 Nanjing 29.58 348 *e*P **P 08 35 54.8 +0.4**
NJ2 pmax pmax
comp=Z,17nm,0.5s
GYA Guiyang 29.63 324 P **P 08 35 57.3 +2.2**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CMAR Chiang Mai Arr 30.41 302 P **P 08 36 02.0 +0.1**
comp=Z,6.1nm,0.9s,baz=119,slow=7.2,SNR=25
CMAR pP **pP 08 36 33.9 +1.9**
comp=Z,1.9nm,0.6s,baz=108,slow=7.1,SNR=2.1
CMAR ScP **ScP 08 42 27.8 +0.7**
comp=Z,1.8nm,0.9s,baz=130,slow=1.9,SNR=8.1
CMAR LR LR 08 49 46.9
comp=Z,28nm,18.4s,baz=132,slow=39
CTA Charters Tower 30.54 140 P **P 08 36 04.5 +1.4**
comp=Z,14nm,0.8s,baz=324,slow=12,SNR=14
CTAO Charters Tower 30.54 140 *e*P **P 08 36 04.2 +1.1**
comp=Z,16nm,0.8s
CTAO Charters Tower 30.54 140 *e*P **P 08 36 04.2 +1.1**
CTAO pmax pmax
comp=Z,16nm,0.8s
CMMT Chiang Mai 30.57 303 P **P 08 36 03.4 0.0**
comp=Z,15nm,0.9s,comp=Z,370nm
CHTO Chiang Mai 30.57 303 *e*P **P 08 36 03.2 -0.2**
comp=Z,14nm,1.0s
CHTO Chiang Mai 30.57 303 *e*P **P 08 36 03.2 -0.2**
CHTO pmax pmax
comp=Z,14nm,1.0s
KMI Kunming 31.20 317 P **P 08 36 11.3 +2.2**
KMI pmax pmax
comp=Z,25nm,0.6s
KMI pmax pmax
comp=Z,92nm,4.2s
MORW Morawa 33.27 196 *e*P **P 08 36 25.6 -1.2**
comp=Z,9.9nm,0.8s
FORT Forrest 33.71 176 P **P 08 36 30.7 +0.1**
baz=34,SNR=33
FORT Forrest 33.71 176 *e*P **P 08 36 29.2 -1.4**
comp=Z,45nm,0.6s
KSRS Korea Array 34.30 3 P **P 08 36 37.0 +1.4**
comp=Z,3.2nm,0.6s,baz=177,slow=10.0,SNR=13
KMBL Kambalda 34.42 186 del **P 08 36 36.9 +0.1**
baz=35,SNR=5.4
CD2 Chengdu 34.65 325 *e*P **P 08 36 38.8 0.0**
CD2 pmax pmax
comp=Z,20nm,0.4s
MAJO Matsushiro 35.25 17 *e*P **P 08 36 43.7 -0.2**
MAJO Matsushiro 35.25 17 *i*P **P 08 36 42.3 -1.5**
MAJO pmax pmax
comp=Z,7.0nm,0.9s
MAT Matsushiro 35.25 17 P **P 08 36 43.8 0.0**
MJAR Matsushiro Arr 35.25 17 P **P 08 36 43.7 -0.1**
comp=Z,4.7nm,0.6s,baz=206,slow=9.8,SNR=14
MJAR pP **pP 08 37 13.2 -1.7**
comp=Z,3.7nm,0.7s,baz=192,slow=11,SNR=4.0
MJAR LR LR 08 51 01.8
comp=Z,24nm,21.6s,baz=215,slow=36
RMQ Roma 36.82 144 P **P 08 36 57.8 +0.4**
baz=37,SNR=7.0
BBOO Buckleboo 36.97 166 P **P 08 36 58.8 +0.3**
baz=37,SNR=38
BBOO Buckleboo 36.97 166 *e*P **P 08 36 58.8 +0.3**
comp=Z,21nm,0.6s
EIDS Eidsvold 37.42 140 P **P 08 37 02.6 +0.3**
baz=38,SNR=35
EIDS Eidsvold 37.42 140 *e*P **P 08 37 02.7 +0.3**
comp=Z,64nm,0.9s
STKA Stephens Creek 37.85 158 P **P 08 37 06.8 +0.9**
baz=38,SNR=97
STKA Stephens Creek 37.85 158 *e*P **P 08 37 06.8 +0.9**
comp=Z,17nm,1.0s
STKA Stephens Creek 37.85 158 *e*P **P 08 37 06.8 +0.9**
STKA pmax pmax
comp=Z,17nm,1.0s
STKA Stephens Creek 37.85 158 P **P 08 37 06.8 +0.9**
comp=Z,34nm,0.5s,baz=330,slow=8.7,SNR=126
HTT Hallett 38.35 162 P **P 08 37 11.2 +1.1**
baz=38,SNR=29
RKGY Rocky Gully 38.36 192 P **P 08 37 11.4 +1.3**
baz=38
LZH Lanzhou 38.62 331 *e*P **P 08 37 12.8 +0.3**
LZH pP pP 08 37 43.3 -0.7
LZH sP sP 08 37 57.3 -3.2
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.3s
SHL Shillong 39.52 308 *e*P **P 08 37 20.0 -0.2**
HHC Hu-ho-hao-te 39.76 343 *e*P **P 08 37 23.8 +2.0**
HHC pP pP 08 37 56.0 +1.9
HHC S **S 08 43 21.3 +6.5**
HHC pmax pmax
comp=Z,96nm,4.4s
CN2 Changchun 40.58 360 *e*P **P 08 37 31.3 +2.9**
USRK Ussuriysk Ar. 41.35 7 P **P 08 37 35.6 +0.9**
comp=Z,4.7nm,0.7s,baz=193,slow=8.9,SNR=9.1
USRK pP **pP 08 38 05.8 -1.4**
comp=Z,6.3nm,0.8s,baz=200,slow=8.1,SNR=5.5
ARMA Armidale 41.44 145 P **P 08 37 37.7 +1.9**
baz=42,SNR=4.5
ARMA Armidale 41.44 145 *e*P **P 08 37 37.6 +1.9**
comp=Z,50nm,0.9s
MDJ Mudanjiang 41.53 4 P **P 08 37 37.8 +1.6**
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ pmax pmax
comp=Z,71nm,4.3s
LSA Lhasa 42.18 313 *e*P **P 08 37 43.6 +1.3**
comp=Z,15nm,0.7s
LSA Lhasa 42.18 313 *e*P **P 08 37 43.6 +1.3**
LSA pmax pmax
comp=Z,15nm,0.7s
ARPS Mount Arapiles 42.35 161 P **P 08 37 44.3 +1.4**
baz=42,SNR=30
YNG Young 42.82 152 P **P 08 37 48.5 +1.7**
baz=43,SNR=16
H11S3 WAKE ISLAND Hy 42.88 66 T T 09 24 45.4
baz=253,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 42.89 66 T T 09 24 59.1
baz=253,slow=75,SNR=4.2
H11S2 WAKE ISLAND Hy 42.89 66 T T 09 25 17.0
baz=253,slow=75,SNR=4.7
GTA Gaotai 43.20 330 ⇓P **P 08 37 50.0 +0.1**
GTA pP pwP 08 38 27.5 +1.9
GTA ScP **ScP 08 43 17.3 +3.0**
GTA pmax pmax
comp=Z,8.0nm,1.0s
MGCD Mangrove Creek 43.29 148 P **P 08 37 52.8 +2.2**
baz=43,SNR=6.7
ASAJ Asahikawa 43.52 18 P **P 08 37 53.9 +1.6**
comp=Z,17nm,0.5s,baz=230,slow=9.5,SNR=28
ODAN Odare 43.70 307 *e*P **P 08 37 53.9 -0.3**
comp=Z,56nm,0.8s
CNB Canberra Magne 44.11 152 P **P 08 37 59.1 +1.9**
baz=44,SNR=35
TOO Toolangi 44.37 157 P **P 08 38 01.3 +2.2**
baz=44,SNR=13
TOO Toolangi 44.37 157 *e*P **P 08 38 01.4 +2.3**
comp=Z,34nm,1.1s
TOO Toolangi 44.37 157 *e*P **P 08 38 01.4 +2.3**
TOO pmax pmax
comp=Z,34nm,1.1s
JIRN Jiri 45.01 307 *e*P **P 08 38 04.3 -0.5**
comp=Z,125nm,0.8s
GUN Gumba 45.36 307 *e*P **P 08 38 06.9 -0.7**
comp=Z,155nm,0.7s
MILA Mila 45.44 154 P **P 08 38 09.7 +2.0**
baz=46,SNR=6.2
PKI Pulchoki 45.59 306 *e*P **P 08 38 08.3 -1.1**
comp=Z,35nm,0.7s
PKIN Phulchoki 45.61 306 *e*P **P 08 38 08.4 -1.0**
comp=Z,25nm,0.6s
KKN Kakani 45.79 307 *e*P **P 08 38 10.4 -0.4**
DMN Daman 45.85 306 *e*P **P 08 38 10.6 -0.7**
comp=Z,52nm,0.8s
YSS Yuzh-Sakhalins 46.15 16 *e*P **P 08 38 14.0 +1.0**
comp=Z,16nm,0.5s
YSS Yuzh-Sakhalins 46.15 16 *e*P **P 08 38 13.9 +1.0**
YSS pmax pmax
comp=Z,10.0nm,0.9s
KLR Kul'dur 46.30 5 *i*P **P 08 38 14.2 +0.1**
KLR Kul'dur 46.30 5 P **P 08 38 14.7 +0.6**
comp=Z,3.6nm,0.6s,baz=198,slow=4.9,SNR=16
KLR pP **pP 08 38 45.6 -1.6**
comp=Z,5.4nm,0.9s,baz=231,slow=3.7,SNR=5.5
DZM Mont Dzumac 46.93 124 *e*P **P 08 38 19.3 -0.3**
comp=Z,30nm,1.0s
DZM Mont Dzumac 46.93 124 P **P 08 38 21.4 +1.8**
comp=Z,17nm,0.8s,baz=190,slow=21,SNR=6.4
KOLN Koldanda 47.14 306 *e*P **P 08 38 20.8 -0.5**
comp=Z,166nm,0.6s
DANN Dangsing 47.24 307 *e*P **P 08 38 21.4 -0.8**
comp=Z,177nm,0.6s
ULN Ulaanbaatar 47.48 343*ce*P **P 08 38 22.2 -1.3**
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONA0 Songino Array 47.65 342 *e*P **P 08 38 24.4 -0.4**
SONM Songino Array 47.65 342 P **P 08 38 24.3 -0.4**
comp=Z,2.5nm,0.9s,baz=160,slow=7.1,SNR=8.7
PYUN Piuthan 47.76 306 *e*P **P 08 38 25.9 -0.2**
comp=Z,129nm,0.6s
HYB Hyderabad 48.45 291 *i*P **P 08 38 28.0 -3.4**
HYB e pP **pP 08 39 04.0 +0.5**
NKL Nikolayevsk 51.44 11 *e*P **P 08 38 52.8 -0.4**
NKL pmax pmax
comp=Z,12nm,0.7s
TLY Talaya 51.88 343 *i*P **P 08 38 55.0 -1.6**
TLY pmax pmax
comp=Z,7.0nm,0.8s
WMQ Urumqi 52.74 326 *e*P **P 08 39 03.8 +0.7**
WMQ sP sP 08 39 53.5 +1.1
WMQ PcP **PcP 08 40 12.3 +1.5**
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ pmax pmax
comp=Z,230nm,5.9s
WMQ LR LR
comp=Z,81nm,20.9s
WMQ LR LR
comp=Z,120nm,22.3s
WMQ LR LR
comp=Z,49nm,20.9s
BOD Bodaibo 55.40 352 *e*P **P 08 39 21.8 -0.3**
BOD pmax pmax
comp=Z,4.0nm,1.0s
PEA0B Petropavlovsk- 56.42 22 *e*P **P 08 39 31.4 +2.1**
comp=Z,45nm,1.4s
PEA0B Petropavlovsk- 56.42 22 *e*P **P 08 39 31.5 +2.1**
PEA0B pmax pmax
comp=Z,45nm,1.4s
PETK Petropavlovsk- 56.42 22 *e*P **P 08 39 31.4 +2.0**
PETK Petropavlovsk- 56.42 22 *e*P **P 08 39 31.4 +2.0**
PETK Petropavlovsk- 56.42 22 P **P 08 39 31.0 +1.7**
comp=Z,3.8nm,0.6s,baz=160,slow=4.7,SNR=8.0
PEA1 Petropavlovsk- 56.42 22 *e*P **P 08 39 31.1 +1.6**
DGZ Jazzator, Alta 56.72 331 *i*P **P 08 39 29.9 -1.9**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
MK01 Makanchi Array 57.56 326 *e*P **P 08 39 37.2 -0.4**
MK31 Makanchi Array 57.58 326 *e*P **P 08 39 37.2 -0.5**
comp=Z,3.4nm,0.5s
MK31 Makanchi Array 57.58 326 *e*P **P 08 39 37.2 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK32 Makanchi Array 57.58 326 *e*P **P 08 39 37.1 -0.6**
MK32 *e*PcP **PcP 08 40 29.9 +0.5**
MK32 *e*ScP **ScP 08 44 15.0 -0.5**
MKAR Makanchi Array 57.58 326 P **P 08 39 37.1 -0.6**
comp=Z,5.2nm,0.4s,baz=122,slow=7.9,SNR=26
MKAR PcP **PcP 08 40 29.9 +0.5**
comp=Z,5.4nm,0.7s,baz=127,slow=5.8,SNR=11
MKAR ScP **ScP 08 44 15.0 -0.5**
comp=Z,1.0nm,0.7s,baz=134,slow=3.8,SNR=4.3
MAKZ Makanchi 57.76 326 *e*P **P 08 39 38.5 -0.5**
comp=Z,4.9nm,0.5s
MAKZ Makanchi 57.76 326 *e*P **P 08 39 38.5 -0.5**
MAKZ pmax pmax
comp=Z,5.0nm,0.5s
KSH Kashi 57.86 316 P **P 08 39 41.0 +1.1**
KSH sP sP 08 40 29.0 -0.1
KSH S **S 08 47 24.5 -3.7**
KSH SS **SS 08 51 21.0 -0.5**
KSH pmax pmax
comp=Z,5.0nm,0.6s
KSH pmax pmax
comp=Z,120nm,4.6s
KSH LR LR
comp=Z,240nm,10.9s
KSH LR LR
comp=Z,200nm,13.1s
KDJ Kajisay 58.23 319 *e*P **P 08 39 43.5 +1.1**
comp=Z,6.9nm,0.6s
KDJ Kajisay 58.23 319 *e*P **P 08 39 43.6 +1.1**
KDJ pmax pmax
comp=Z,7.0nm,0.6s
NRN Naryn 58.69 318 *e*P **P 08 39 46.2 +0.3**
comp=Z,3.8nm,0.5s
NRN Naryn 58.69 318 *e*P **P 08 39 46.2 +0.3**
NRN pmax pmax
comp=Z,4.0nm,0.5s
OUZ Omahuta 58.76 135 *e*P **P 08 39 48.4 +2.3**
comp=Z,23nm,1.3s
MA2 Magadan 59.60 14 *e*P **P 08 39 53.1 +1.7**
comp=Z,15nm,0.7s
MA2 Magadan 59.60 14*ce*P **P 08 39 51.4 0.0**
MA2 pmax pmax
comp=Z,14nm,0.9s
MA2 Magadan 59.60 14 P **P 08 39 53.1 +1.7**
comp=Z,17nm,0.7s,baz=201,slow=6.2,SNR=15
AAK Ala-Archa 60.23 318 *e*P **P 08 39 56.3 0.0**
AAK Ala-Archa 60.23 318 P **P 08 39 56.2 -0.1**
comp=Z,1.6nm,0.5s,baz=172,slow=7.6,SNR=5.9
ZAA0 Zalesovo Array 60.77 334 *e*P **P 08 39 59.2 -0.3**
comp=Z,2.5nm,0.6s
ZALV Zalesovo Beam 60.77 334 *e*P **P 08 39 58.4 -1.1**
ZALV Zalesovo Beam 60.77 334 *i*P **P 08 39 58.0 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 60.77 334 P **P 08 39 57.9 -1.5**
comp=Z,2.1nm,0.4s,baz=139,slow=5.4,SNR=7.2
ZAA1 Zalesovo Array 60.77 334 *e*P **P 08 39 57.9 -1.6**
MLZ Mavora Lakes 61.13 147 *e*P **P 08 40 02.9 +0.8**
comp=Z,60nm,1.5s
KBL Kabul 61.18 308 *e*P **P 08 40 02.6 -0.3**
comp=Z,14nm,0.6s
KBL Kabul 61.18 308 *e*P **P 08 40 02.6 -0.3**
KBL pmax pmax
comp=Z,14nm,0.6s
WKZ Wanaka 61.28 146 *e*P **P 08 40 03.5 +0.3**
comp=Z,64nm,1.4s
WHZ Wether Hill Ro 61.37 148 *e*P **P 08 40 04.1 +0.4**
comp=Z,45nm,1.4s
LBZ Lake Benmore 61.66 145 *e*P **P 08 40 07.1 +1.4**
comp=Z,54nm,0.9s
GAR Garm 61.69 313 *e*P **P 08 40 05.4 -0.7**
comp=Z,20nm,0.6s
GAR Garm 61.69 313 *e*P **P 08 40 05.4 -0.7**
GAR pmax pmax
comp=Z,20nm,0.6s
BTK Batken 61.71 314 *e*P **P 08 40 05.5 -0.7**
comp=Z,8.0nm,0.7s
BTK Batken 61.71 314 *e*P **P 08 40 05.5 -0.7**
BTK pmax pmax
comp=Z,8.0nm,0.7s
THZ Tophouse 61.76 142 *e*P **P 08 40 07.4 +1.0**
comp=Z,20nm,0.7s
RPZ Rata Peaks 61.76 144 *e*P **P 08 40 06.0 -0.4**
comp=Z,29nm,1.0s
KURK Kurchatov 61.81 328 *e*P **P 08 40 05.5 -0.9**
comp=Z,23nm,0.5s
KURK Kurchatov 61.81 328 *e*P **P 08 40 05.6 -0.9**
KURK pmax pmax
comp=Z,23nm,0.5s
NVS Novosibirsk 62.05 334 *e*P **P 08 40 05.3 -2.7**
NVS *e* 08 40 44.1
SNZO South Karori 62.65 140 *e*P **P 08 40 12.5 +0.3**
comp=Z,35nm,1.0s
MQZ McQueen's Vall 62.70 143 *e*P **P 08 40 14.2 +1.6**
comp=Z,73nm,1.4s
URZ Urewera 62.70 136 P **P 08 40 13.0 +0.3**
comp=Z,12nm,0.6s,baz=336,slow=4.8,SNR=11
BKZ Black Stump Fm 62.72 137 *e*P **P 08 40 13.7 +0.8**
comp=Z,24nm,0.8s
SEY Seynchan 62.91 13*ce*P **P 08 40 13.5 -0.1**
KK31 Karatay Array 63.08 318 *e*P **P 08 40 14.3 -0.8**
comp=Z,6.3nm,1.0s
KK31 Karatay Array 63.08 318 *e*P **P 08 40 14.4 -0.8**
KK31 pmax pmax
comp=Z,6.0nm,1.0s
KKAR Karatay Array 63.08 318 *e*P **P 08 40 14.4 -0.8**
comp=Z,6.3nm,1.0s
KKAR Karatay Array 63.08 318 *e*P **P 08 40 14.4 -0.8**
KKAR pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 67.44 327 *e*P **P 08 40 42.6 -0.5**
comp=Z,7.0nm,0.8s
BRVK Borovoye 67.44 327 *e*P **P 08 40 42.6 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 68.53 1 P **P 08 40 49.5 +0.1**
comp=Z,3.1nm,0.4s,baz=184,slow=5.2,SNR=8.0
BILL Bilibino 70.45 15⇑*e*P **P 08 41 01.6 +0.3**
BILL *e**PP **pP 08 41 36.1 -0.7**
BILL *e**SP **sP 08 41 56.4 +4.1**
BILL *e* 08 50 48.7
BILL pmax pmax
comp=Z,1.0nm,1.0s
GEYT Alibeck 70.58 309 P **P 08 41 01.9 -0.9**
comp=Z,2.9nm,0.7s,baz=123,slow=5.5,SNR=4.2
GEYT PcP **PcP 08 41 23.4 +0.3**
comp=Z,5.2nm,0.8s,baz=90,slow=3.0,SNR=5.4
NRIK Noril'sk 70.86 347 P **P 08 41 04.2 +0.4**
comp=Z,9.0nm,0.6s,baz=130,slow=7.4,SNR=13
NRIK LR LR 09 15 13.2
comp=Z,28nm,18.2s,baz=84,slow=38
ABKAR Akbulak array 72.08 321 *e*P **P 08 41 10.3 -1.2**
comp=Z,4.9nm,0.7s
AKTO Aktyubinsk 73.60 322 P **P 08 41 19.5 -1.0**
comp=Z,8.3nm,0.7s,baz=105,slow=8.3,SNR=36
SVE Sverdlovsk 74.04 329 *e*P **P 08 41 22.1 -0.8**
ARU Arti 75.00 328*d* *i*P **P 08 41 27.0 -1.4**
ARU *PP **pP 08 42 04.3 -0.3**
ARU 08 44 12.2
ARU S **S 08 50 53.8 -0.2**
ARU SS **SS 08 55 37.2 -8.6**
ARU pmax pmax
comp=Z,8.0nm,0.6s
KIRV Kirov 80.31 329 P **P 08 41 57.3 -0.4**
comp=Z,12nm,0.5s,baz=96,slow=3.4,SNR=4.0
PRGR Permogore 82.65 332 *e*P **P 08 42 08.6 -1.4**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
KBZ Khabaz 82.75 314 P **P 08 42 10.6 -0.3**
comp=Z,3.1nm,0.9s,baz=128,slow=10,SNR=4.3
VNDA Vanda 82.88 173 P **P 08 42 11.6 +0.7**
comp=Z,2.0nm,0.4s,baz=319,slow=6.4,SNR=19
IM3 Indian Mountai 83.35 24 *e*P **P 08 42 15.5 +1.9**
VRH Novokhopyorsk 83.91 321 *e*P **P 08 42 14.2 -2.5**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 85.51 321 *e*P **P 08 42 23.0 -1.7**
VSR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 85.53 331 *e*P **P 08 42 22.3 -2.3**
KLMR pmax pmax
comp=Z,12nm,0.6s
KLMR Klimovskoe 85.53 331 *e*PKPdf **P 08 42 22.3 -2.3**
KLMR AMP 08 42 24.8
comp=Z,12nm,0.6s
LPSR Galich'ya Gora 85.68 322 *e*P **P 08 42 24.0 -1.5**
LPSR pmax pmax
comp=Z,10.0nm,1.1s
ILAR Eielson Array 86.12 25 P **P 08 42 26.6 -0.9**
comp=Z,0.5nm,0.6s,baz=239,slow=5.4,SNR=16
TMCR Tamitsa 86.29 334 *e*P **P 08 42 27.4 -0.9**
TMCR pmax pmax
comp=Z,16nm,0.8s
OBN Obninsk 87.07 325⇓*e*P **P 08 42 30.6 -1.6**
OBN *e* 08 43 25.9
OBN pmax pmax
comp=Z,13nm,0.8s
BR101 Keskin Array S 89.72 310 *e*P **P 08 42 43.7 -1.6**
BRTR Keskin Array B 89.72 310 *i*P **P 08 42 43.9 -1.4**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BRTR Keskin Array B 89.72 310 P **P 08 42 43.7 -1.6**
comp=Z,2.8nm,0.8s,baz=134,slow=5.3,SNR=14
ARA0 ARCESS Array S 90.75 340 *e*P **P 08 42 49.3 0.0**
ARCES ARCESS Array B 90.75 340 P **P 08 42 49.3 0.0**
comp=Z,5.0nm,0.8s,baz=80,slow=6.7,SNR=6.0
SYO Syowa Base 91.45 201⇑*e*PcP **PcP 08 42 54.4 +1.1**
AKASG Malin Array Be 91.82 321 P **P 08 42 53.1 -1.5**
comp=Z,2.0nm,0.6s,baz=68,slow=5.0,SNR=8.0
KIEV Kiev 91.83 321⇑*i*P **P 08 42 51.7 -2.9**
KIEV Kiev 91.83 321 *i*P **P 08 42 52.6 -2.0**
KIEV pmax pmax
comp=Z,4.0nm,1.0s
FIA1 FINESS Array S 91.98 332 *e*P **P 08 42 54.5 -0.6**
FIA0 FINESS Array S 91.98 332 *e*P **P 08 42 54.3 -0.8**
FIA0 FINESS Array S 91.98 332 *e*P **P 08 42 54.3 -0.8**
FINES FINESS Array B 91.98 332 P **P 08 42 54.3 -0.8**
comp=Z,7.3nm,0.6s,baz=61,slow=5.4,SNR=31
VSU Vasula 92.15 329*ce*P **P 08 42 54.2 -1.8**
VSU pmax pmax
comp=Z,19nm,0.8s
QSPA South Pole Qui 92.96 180 P **P 08 43 00.6 +0.9**
comp=Z,0.9nm,0.7s,baz=48,slow=1.4,SNR=6.0
TESR Tescani 94.08 317⇑*i*P **P 08 43 03.3 -1.9**
MLR Muntele Rosu 94.73 316⇑*i*P **P 08 43 08.1 -0.2**
BURAR Bucovina Array 94.87 318⇑*i*P **P 08 43 08.4 -0.5**
BUR08 Bucovina Ar. S 94.88 318 *e*P **P 08 43 08.5 -0.4**
comp=Z,6.6nm,0.8s
DOPR Dopca 95.03 316⇑*i*P P 08 43 15.7 +6.1
KWP Kalwaria Pacla 96.12 320 *e*P **P 08 43 13.3 -1.1**
comp=Z,62nm,0.7s
KWP Kalwaria Pacla 96.12 320 *e*P **P 08 43 13.3 -1.1**
KWP pmax pmax
comp=Z,62nm,0.7s
UZH Uzhgorod 96.60 320 *e*P **P 08 43 16.8 +0.2**
DRGR 96.70 318⇑*i*P **P 08 43 16.3 -0.9**

NB2	**NORSAR Subarra**	**98.97**	**333**	P		**P**	**08 43 25.8**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=68,slow=4.6							
NB2	**NORSAR Subarra**	**98.97**	**333**	P		**P**	**08 43 25.4**	**-1.6**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NB200	**NORSAR Array S**	**98.97**	**333**	*e*P		**P**	**08 43 25.9**	**-1.1**
NOA	**NORSAR Array B**	**98.97**	**333**	P		**P**	**08 43 25.9**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=69,slow=4.5,SNR=7.7							
NOA				LR	LR		09 31 13.3	
	comp=Z,5.0nm,18.1s,baz=0.0,slow=37							
YKA	**Yellowknife Ar**	**100.51**	**24**	P		**Pdif**	**08 43 34.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=301,slow=4.5,SNR=7.4							
YKA				pP		**pPdif**	**08 44 09.7**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=295,slow=4.7,SNR=3.4							
YKA				PKKPbc		**PKKPbc**	**08 59 47.8**	**-3.3**
	comp=Z,0.1nm,0.6s,baz=120,slow=3.6,SNR=4.9							
NVAR	**Mina Array Bea**	**108.07**	**48**	PKiKP		**PKiKP**	**08 48 16.1**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=264,slow=1.3,SNR=3.8							
NVAR				PKKPab		**PKKPdf**	**08 59 40.9**	**-0.4**
	comp=Z,0.7nm,0.7s,baz=113,slow=4.8,SNR=6.2							
PDAR	**Pinedale Array**	**112.49**	**41**	PKiKP		**PKiKP**	**08 48 23.8**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=95,slow=1.8,SNR=3.5							
PDAR				PKKPab		**PKKPab**	**08 59 20.1**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=124,slow=6.3,SNR=4.4							
TORD	**Torodi Ar. Bea**	**122.22**	**288**	PKP		**PKPdf**	**08 48 41.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=58,slow=2.1,SNR=4.0							
TOA1	**Torodi Ar. Sit**	**122.22**	**288**	*e*PKPdf		**PKPdf**	**08 48 41.4**	**-0.4**
TXAR	**Lajitas Array**	**122.77**	**52**	PKP		**PKiKP**	**08 48 44.0**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=310,slow=1.1,SNR=9.4							
TXAR				PKKPab		**PKKPbc**	**08 58 36.3**	**-0.3**
	comp=Z,0.1nm,0.5s,baz=115,slow=4.5,SNR=4.5							
ROC1	**El Roble**	**146.33**	**154**	*e*PKPdf		**PKPab**	**08 49 29.2**	**+0.5**

TAP 25 08:34:25.9,23°24N×120°71E,h7km±1km,ML0.9,D,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.09**	**153**	P	Pg	08 34 28.9	+0.8
	baz=149						
WTP	**Ta-pu**	**0.09**	**271**	P	Pg	08 34 28.5	+0.4
	baz=269						
WTP				*e*S	Sg	08 34 30.6	+0.9
	baz=269						
TPUB	**Ta-pu**	**0.10**	**306**	*e*P	Pg	08 34 28.8	+0.7
	25nm,0.9s						
TPUB	**Ta-pu**	**0.10**	**306**	*i* P	Pg	08 34 28.7	+0.5
	baz=305						
TPUB				S	Sg	08 34 30.7	+1.0
	baz=305						
CHN4	**Tsaushan**	**0.15**	**314**	*e*P	Pg	08 34 30.0	+0.9
	baz=314						
CHN4				*e*S	Sg	08 34 33.5	+2.2
	baz=314						
CHN1	**Nanshi**	**0.18**	**251**	*e*S	Sg	08 34 33.7	+1.6
	baz=250						
TWK	**Hsinying**	**0.21**	**276**	P	Pg	08 34 30.7	+0.6
	baz=275						
TWK				S	Sg	08 34 34.7	+1.7
	baz=275						

KRSC 25 08:52:58.9±10.0,50°73N×160°16E,h82km±10km,ML3.7,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.70**	**310**	*e*P	Pn	08 53 28.2	+1.5
KDTR				*e*S	Sn	08 53 50.1	+2.2
RUS	**Russkaya**	**1.99**	**330**	*e*P	Pn	08 53 32.0	+1.4
RUS				*e*S	Sn	08 53 56.9	+2.1
MTVR	**Mutnovka**	**2.14**	**326**	*e*P	Pn	08 53 34.7	+1.9
MTVR				*e*S	Sn	08 54 00.8	+2.1
ASAK	**Asacha**	**2.17**	**320**	*e*P	Pn	08 53 35.4	+2.3
PAU	**Pauzhetka**	**2.24**	**291**	*e*P	Pn	08 53 36.3	+2.4
PAU				*e*S	Sn	08 54 03.3	+2.6
SPN	**Mys Shipunski**	**2.37**	**358**	*e*P	Pn	08 53 36.9	+1.2
SPN				*e*S	Sn	08 54 04.5	+0.6
KRMR	**Karymshinskiy**	**2.45**	**330**	*e*P	Pn	08 53 39.1	+2.4
DALK	**Dalny**	**2.46**	**340**	*e*P	Pn	08 53 39.2	+2.3
PET	**Petropavlovsk**	**2.48**	**338**	*e*S	Sn	08 54 09.3	+2.8
SKR	**Severo-Kuril's**	**2.57**	**270**	*e*P	Pn	08 53 39.6	+1.3
SKR				*e*S	Sn	08 54 09.1	+0.4
UGLR	**Uglovaya**	**2.62**	**342**	*e*P	Pn	08 53 41.7	+2.6
SDLR	**Sedlovina**	**2.67**	**343**	*e*P	Pn	08 53 42.1	+2.3
SMAR	**Somma**	**2.67**	**342**	*e*P	Pn	08 53 43.0	+3.1
AVH	**Avacha**	**2.69**	**341**	*e*P	Pn	08 53 42.7	+2.7
KRER	**Koryakskii**	**2.72**	**342**	*e*P	Pn	08 53 43.6	+3.0
KOK	**Koryaka**	**2.73**	**340**	*e*P	Pn	08 53 43.5	+2.9
KRX	**Arik**	**2.79**	**341**	*e*P	Pn	08 53 43.6	+2.1
APC	**Apacha**	**2.88**	**321**	*e*P	Pn	08 53 45.7	+3.2
ALID	**Alaid**	**2.93**	**274**	*e*P	Pn	08 53 45.3	+2.0
MKZ	**Mys Kozlova**	**3.95**	**13**	*e*P	Pn	08 53 58.4	+1.4
KZV	**Kizimen**	**4.39**	**1**	*e*P	Pn	08 54 06.6	+3.4
TUMD	**Tumrok D**	**4.48**	**2**	*e*P	Pn	08 54 06.9	+2.6
TUMR	**Tumrok**	**4.56**	**360**	*e*P	Pn	08 54 09.1	+3.7
KBTR	**Krutoberegovo**	**5.71**	**15**	*e*P	Pn	08 54 23.1	+2.1

KRSC 25 09:07:54.1±10.0,50°63N×160°05E,h92km±10km,ML3.5,
East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.72**	**314**	P	Pn	09 08 24.0	+1.4
KDTR				S	Sn	09 08 45.7	+1.4
RUS	**Russkaya**	**2.05**	**333**	P	Pn	09 08 28.2	+1.3
RUS				S	Sn	09 08 53.1	+1.1
MTVR	**Mutnovka**	**2.19**	**329**	P	Pn	09 08 30.7	+1.7
MTVR				S	Sn	09 08 57.7	+2.0
SKR	**Severo-Kuril's**	**2.51**	**273**	S	Sn	09 09 03.9	+1.1
KRMR	**Karymshinskiy**	**2.51**	**332**	P	Pn	09 08 35.1	+2.1
KRMR				S	Sn	09 09 05.9	+3.0
PET	**Petropavlovsk**	**2.55**	**341**	P	Pn	09 08 35.7	+2.1
PET				S	Sn	09 09 05.8	+1.9
UGLR	**Uglovaya**	**2.69**	**344**	P	Pn	09 08 38.0	+2.4
SMAR	**Somma**	**2.75**	**344**	P	Pn	09 08 39.7	+3.3
SDLR	**Sedlovina**	**2.75**	**345**	P	Pn	09 08 38.6	+2.2
AVH	**Avacha**	**2.76**	**343**	P	Pn	09 08 38.9	+2.4
KRER	**Koryakskii**	**2.80**	**344**	P	Pn	09 08 40.3	+3.2
KOK	**Koryaka**	**2.81**	**342**	P	Pn	09 08 39.8	+2.7
ALID	**Alaid**	**2.87**	**277**	P	Pn	09 08 41.0	+3.0
APC	**Apacha**	**2.92**	**323**	P	Pn	09 08 42.5	+4.0
MKZ	**Mys Kozlova**	**4.07**	**14**	P	Pn	09 08 54.6	+0.7
KZV	**Kizimen**	**4.50**	**2**	P	Pn	09 09 03.1	+3.2
KZV				S	Sn	09 09 53.5	+2.5
TUMR	**Tumrok**	**4.66**	**1**	P	Pn	09 09 05.0	+2.8
KBTR	**Krutoberegovo**	**5.83**	**15**	P	Pn	09 09 19.4	+1.5

*IDC **25** 09:09:11.7±1.1,6°81S×148°49E,h0km,mb4.4/5,*
mb1 4.6/6,mb1mx3.9/46,mbtmp4.3/6,ML4.3/1,MS3.8/11,
Ms1 3.8/11,ms1mx3.6/24,Error ellipse: s-maj=53.5km
s-min=15.7km az=119.0
*NEIC **25** 09:09:15.6±3.6,6°69S×148°36E,h21km±27km,mb4.2/6,*
Error ellipse: s-maj=29.6km s-min=9.2km az=137.0
*ISCJB **25** 09:09:16.3±0.7,6°6S±0°1×148°3E±0°1,h47km,mb4.3/7,*
MS3.6/8,Error ellipse: s-maj=22.3km s-min=8.2km
az=36.3

ISC 25 09:09:17.7±0.8,6°6S±0°1×148°4E±0°2,h47km,n28,
σ0s98/20,mb4.2/7,MS3.6/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.02**	**204**	*e*Pn	**Pn**	**09 10 02.4**	**-0.7**
PMG				*e*Sn	**Sn**	**09 10 38.6**	**+0.5**
PMG	**Port Moresby**	**3.02**	**204**	Pg	**Pn**	**09 10 04.2**	**+1.1**
	15nm,0.3s,baz=344,slow=6.2,SNR=14						
PMG				Lg	Lg	09 10 42.3	
	35nm,0.3s,baz=36,slow=13,SNR=13						
RABL	**Rabaul**	**4.47**	**58**	*e*Pn	**Pn**	**09 10 22.3**	**-0.7**
COEN	**Coen**	**8.91**	**215**	*e*Pn	**Pn**	**09 11 23.8**	**-0.2**
HNR	**Honiara**	**11.79**	**104**	LR	LR	09 15 23.5	
	comp=Z,310nm,21.2s,baz=286,slow=32						
SIJI	**Sorong**	**18.00**	**288**	LR	LR	09 22 19.4	
	comp=Z,607nm,19.6s,baz=100,slow=43						
MTN	**Manton Dam**	**18.09**	**249**	*e*Pn	**P**	**09 13 24.8**	**-0.8**
	5.5nm,0.7s						
WR1	**Warramunga Arr**	**19.01**	**224**	*e*P	**P**	**09 13 35.1**	**-0.6**
	9.1nm,0.8s						
WRA	**Warramunga Arr**	**19.01**	**224**	P	**P**	**09 13 35.1**	**-0.6**
	1.1nm,0.3s,baz=51,slow=12,SNR=30						
WRA				LR	LR	09 21 42.0	
	comp=Z,384nm,18.4s,baz=45,slow=40						
AS01	**Alice Springs**	**21.90**	**218**	*e*P	**P**	**09 14 06.0**	**-1.0**
AS31	**Alice Springs**	**21.93**	**218**	*e*P	**P**	**09 14 06.7**	**-0.7**
	8.6nm,0.9s						
ASAR	**Alice Springs**	**21.93**	**218**	P	**P**	**09 14 06.6**	**-0.8**
	12nm,0.5s,baz=55,slow=9.4,SNR=81						
ASAR				LR	LR	09 22 48.6	
	comp=Z,155nm,18.2s,baz=46,slow=37						
DZM	**Mont Dzumac**	**23.24**	**133**	LR	LR	09 21 46.4	
	comp=Z,267nm,21.4s,baz=24,slow=33						
BATI	**Baumata**	**24.71**	**260**	LR	LR	09 27 23.1	
	comp=Z,338nm,18.7s,baz=106,slow=44						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	*e*P	**P**	**09 14 37.2**	**+0.4**
	24nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.94**	**241**	P	**P**	**09 14 37.1**	**+0.3**
	24nm,0.7s,baz=71,slow=8.7,SNR=53						
STKA	**Stephens Creek**	**25.92**	**193**	*e*P	**P**	**09 14 44.5**	**-1.0**
	2.1nm,1.0s						
STKA	**Stephens Creek**	**25.92**	**193**	P	**P**	**09 14 44.5**	**-1.0**
	5.4nm,0.8s,baz=18,slow=11,SNR=14						
STKA				LR	LR	09 25 40.5	
	comp=Z,271nm,19.0s,baz=18,slow=38						
DAV	**Davao City (W)**	**26.50**	**300**	LR	LR	09 27 33.9	
	comp=Z,98nm,18.0s,baz=128,slow=41						
RPZ	**Rata Peaks**	**41.97**	**155**	LR	LR	09 31 56.7	
	comp=Z,167nm,20.5s,baz=328,slow=33						
RAR	**Rarotonga**	**52.13**	**112**	LR	LR	09 36 50.6	
	comp=Z,32nm,18.8s,baz=272,slow=32						
CMAR	**Chiang Mai Arr**	**54.75**	**298**	LR	LR	09 45 57.9	
	comp=Z,34nm,18.4s,baz=144,slow=40						
BMRM	**Bremner River**	**84.88**	**27**	*e*P	P	09 21 51.6	+4.2
	10nm,0.9s						
ILAR	**Eielson Array**	**85.51**	**23**	P	**P**	**09 21 50.6**	**+0.2**
	0.7nm,0.8s,baz=250,slow=5.4,SNR=7.1						
NV01	**Mina Array Sit**	**96.66**	**52**	*e*P	**P**	**09 22 45.5**	**+2.0**
NVAR	**Mina Array Bea**	**96.66**	**52**	P	**P**	**09 22 45.5**	**+2.0**
	0.4nm,0.7s,baz=243,slow=5.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.57**	**284**	PKPbc	**PKPab**	**09 28 56.1**	**-0.1**
	4.7nm,0.8s,baz=30,slow=2.6,SNR=23						
TOA1	**Torodi Ar. Sit**	**146.57**	**284**	*e*PKPdf	**PKPab**	**09 28 56.1**	**-0.1**

*IDC **25** 09:12:17.4±1.1,36°60N×21°47E,h0km,mb3.8/10,*
mb1 3.9/12,mb1mx3.6/53,mbtmp3.8/12,ML3.5/2,MS3.2/6,
Ms1 3.3/6,ms1mx2.7/50,Error ellipse: s-maj=24.4km
s-min=20.1km az=28.0
*ISCJB **25** 09:12:19.2±1.2,36°37N±0°04×21°27E±0°06,h18km±8km,*
mb3.8/10,MS3.8/2,Error ellipse: s-maj=8.8km
s-min=5.6km az=141.0
*ATH **25** 09:12:22.5,36°53N×21°56E,h29km±1km,ML3.5/8,Error*
ellipse: s-maj=5.5km s-min=1.6km az=52.0
*THE **25** 09:12:22.0,36°48N×21°49E,h5km±1km,ML3.5/8,Error*
ellipse: s-maj=2.3km s-min=1.0km az=56.0

ISC 25 09:12:20.8±1.4,36°47N±0°05×21°36E±0°06,h28km±10km,
n82,σ1s45/90,mb3.8/10,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MES2	**Methoni**	**0.45**	**38**	P	**Pb**	**09 12 29.9**	**-0.5**
MES2				S	**Sb**	**09 12 36.4**	**-0.4**
MES2				AML	AML	09 12 40.9	
	comp=N,28085μm,0.8s						
MES2				AML	AML	09 12 41.6	
	comp=E,25861μm,0.5s						
PYL	**PYLOS**	**0.53**	**36**	P	**Pb**	**09 12 30.9**	**-0.7**
PYL				S	**Sb**	**09 12 37.3**	**-1.6**
PYL	**PYLOS**	**0.53**	**36**	P	**Pb**	**09 12 31.2**	**-0.4**
PYL				S	**Sb**	**09 12 38.9**	**0.0**
PYL				AML	AML	09 12 44.7	
	comp=E,12363μm,0.4s						
PYL				AML	AML	09 12 45.1	
	comp=N,9047μm,0.7s						
MES3	**Kyparissia**	**0.82**	**18**	P	**Pb**	**09 12 36.8**	**+0.3**
ITM	**Ithomi**	**0.84**	**32**	P	**Pb**	**09 12 36.4**	**-0.5**
ITM				S	**Sn**	**09 12 48.8**	**+0.4**
ITM	**Ithomi**	**0.84**	**32**	P	**Pb**	**09 12 36.4**	**-0.5**
ITM				AML	AML	09 12 53.2	
	comp=N,6860μm,0.7s						
ITM				AML	AML	09 12 59.1	
	comp=E,7683μm,0.7s						
AMT	**Artemida-Makis**	**1.10**	**15**	P	**Pn**	**09 12 41.4**	**+0.9**
AMT				S	**Sb**	**09 12 58.4**	**+3.2**
AMT	**Artemida-Makis**	**1.10**	**15**	P	**Pn**	**09 12 41.3**	**+0.9**
AMT				AML	AML	09 13 06.5	
	comp=E,5881μm,0.7s						
AMT				AML	AML	09 13 08.3	
	comp=N,8965μm,0.7s						
VLX	**Vlachokerasia**	**1.22**	**42**	P	**Pb**	**09 12 43.3**	**0.0**
VLX				S	**Sb**	**09 13 00.4**	**+1.8**
VLX	**Vlachokerasia**	**1.22**	**42**	P	**Pb**	**09 12 43.5**	**+0.3**
VLX				AML	AML	09 13 13.8	
	comp=N,6137μm,0.6s						
VLX				AML	AML	09 13 13.8	
	comp=E,4351μm,0.6s						
TRIP	**Tripoli**	**1.28**	**34**	P	**Pb**	**09 12 45.4**	**+1.0**
TRIP				S	**Sb**	**09 13 03.0**	**+2.5**
TRIP	**Tripoli**	**1.28**	**34**	P	**Pb**	**09 12 45.1**	**+0.7**
TRIP				AML	AML	09 13 11.2	
	comp=E,4036μm,0.7s						
TRIP				AML	AML	09 13 12.7	
	comp=N,2923μm,0.7s						
VLI	**Veliai**	**1.29**	**78**	P	**Pb**	**09 12 44.9**	**+0.4**
VLI				S	**Sb**	**09 13 01.5**	**+0.8**
VLI	**Veliai**	**1.29**	**78**	P	**Pb**	**09 12 44.9**	**+0.4**
MNVA	**Monemvasia**	**1.37**	**80**	P	**Pb**	**09 12 45.5**	**-0.2**
KYTH	**Kithira**	**1.38**	**98**	P	**Pb**	**09 12 46.4**	**+0.5**
KYTH	**Kithira**	**1.38**	**98**	P	**Pb**	**09 12 46.3**	**+0.4**
KYTH				AML	AML	09 13 14.7	
	comp=N,4590μm,0.6s						
KYTH				AML	AML	09 13 19.7	
	comp=E,2655μm,0.7s						
DRO	**Drossia**	**1.51**	**11**	P	**Pb**	**09 12 49.2**	**+1.1**
DRO				S	**Sb**	**09 13 08.2**	**+1.3**
DRO	**Drossia**	**1.51**	**11**	P	**Pb**	**09 12 49.2**	**+1.1**
DRO				AML	AML	09 13 24.0	
	comp=E,5565μm,0.5s						
DRO				AML	AML	09 13 26.9	
	comp=N,4180μm,0.7s						
RLS	**Riolos of Patr**	**1.59**	**3**	P	**Pb**	**09 12 49.6**	**+0.1**
RLS	**Riolos of Patr**	**1.59**	**3**	P	**Pn**	**09 12 48.9**	**+1.8**
GUR	**Goura**	**1.66**	**28**	P	**Pb**	**09 12 50.3**	**-0.5**
GUR	**Goura**	**1.66**	**28**	P	**Pb**	**09 12 50.3**	**-0.5**
ANKY	**Antikythira Is**	**1.68**	**110**	P	**Pb**	**09 12 50.2**	**-0.9**
ANKY				S	**Sb**	**09 13 11.9**	**+0.1**
ANKY	**Antikythira Is**	**1.68**	**110**	P	**Pb**	**09 12 50.3**	**-0.9**
KLV	**Kalavryta, Ach**	**1.69**	**22**	P	**Pb**	**09 12 50.6**	**-0.8**
KLV	**Kalavryta, Ach**	**1.69**	**22**	P	**Pn**	**09 12 50.5**	**+1.8**
KRND	**KRANIDI**	**1.70**	**57**	P	**Pn**	**09 12 49.8**	**+1.1**
KRND	**KRANIDI**	**1.70**	**57**	P	**Pn**	**09 12 49.8**	**+1.1**
EPID	**Epidavros**	**1.81**	**50**	P	**Pn**	**09 12 51.8**	**+1.6**
DID	**Didima**	**1.83**	**55**	P	**Pn**	**09 12 51.5**	**+1.1**
DID	**Didima**	**1.83**	**55**	P	**Pn**	**09 12 51.4**	**+0.9**
TRAZ	**Trapeza**	**1.83**	**22**	P	**Pb**	**09 12 53.4**	**-0.2**
LAKA	**Lakka**	**1.84**	**15**	P	**Pb**	**09 12 53.0**	**-0.8**
LAKA	**Lakka**	**1.84**	**15**	P	**Pb**	**09 12 53.0**	**-0.8**
LTK	**Loutraki**	**2.01**	**39**	P	**Pn**	**09 12 54.2**	**+1.2**
LTK	**Loutraki**	**2.01**	**39**	P	**Pn**	**09 12 54.0**	**+1.0**
SERG	**Sergoula**	**2.02**	**16**	P	**Pb**	**09 12 57.1**	**+0.2**
SERG	**Sergoula**	**2.02**	**16**	P	**Pb**	**09 12 56.4**	**-0.5**
PVO	**Paravola**	**2.15**	**3**	P	**Pb**	**09 12 57.8**	**-1.2**
DSF	**Desfina**	**2.15**	**25**	P	**Pn**	**09 12 56.2**	**+1.3**
DSF	**Desfina**	**2.15**	**25**	P	**Pn**	**09 12 56.3**	**+1.4**
ANX	**Ano Chora**	**2.17**	**12**	P	**Pb**	**09 12 58.4**	**-1.0**
ANX				S	**Sb**	**09 13 25.5**	**-0.4**
ANX	**Ano Chora**	**2.17**	**12**	P	**Pb**	**09 12 58.4**	**-1.0**
PROD	**Prodromos**	**2.17**	**34**	P	**Pn**	**09 12 55.9**	**+0.8**
EVGI	**Lefkada island**	**2.22**	**346**	P	**Pb**	**09 12 59.4**	**-0.9**
VIL2	**Platees**	**2.31**	**41**	P	**Pn**	**09 12 57.8**	**+0.7**
IMMV	**Iera Moni Meta**	**2.35**	**115**	P	**Pn**	**09 12 58.8**	**+1.2**
IMMV	**Iera Moni Meta**	**2.35**	**115**	P	**Pn**	**09 12 58.9**	**+1.3**
LKD2	**Lefkada island**	**2.38**	**347**	P	**Pn**	**09 13 00.9**	**+2.9**
VLY	**Voula,Athens**	**2.39**	**54**	P	**Pn**	**09 12 58.8**	**+0.7**
ATHU	**Athens Univers**	**2.45**	**52**	P	**Pn**	**09 12 59.3**	**+0.4**
EVR	**Evrytania**	**2.47**	**8**	P	**Pn**	**09 13 03.3**	**-1.3**
LKR	**Lokris**	**2.54**	**30**	P	**Pn**	**09 13 01.6**	**+1.4**
PTL	**Penteli**	**2.55**	**51**	P	**Pn**	**09 13 00.6**	**+0.3**
PTL	**Penteli**	**2.55**	**51**	P	**Pn**	**09 13 00.7**	**+0.4**
ATAL	**Atalanti**	**2.58**	**30**	P	**Pn**	**09 13 02.4**	**+1.6**
DION	**Dionisos Attik**	**2.61**	**51**	P	**Pn**	**09 13 01.5**	**+0.3**
AGG	**Agios Georgios**	**2.66**	**16**	P	**Pn**	**09 13 04.4**	**+2.5**
IDI	**Anoyia**	**3.10**	**111**	Pn	**Pn**	**09 13 09.2**	**+1.2**
	comp=N,3.3nm,0.3s,baz=313,slow=18,SNR=12						
THL	**Klokotos Trika**	**3.13**	**9**	P	**Pn**	**09 13 10.3**	**+1.9**
XOR	**Xorichti**	**3.24**	**26**	P	**Pn**	**09 13 11.6**	**+1.8**
KPRO	**Kipourio**	**3.48**	**0**	P	**Pn**	**09 13 16.1**	**+2.9**
NEST	**Nestorio**	**3.95**	**357**	P	**Pn**	**09 13 23.0**	**+3.3**
STON	**Ston**	**6.99**	**337**	*i* Pn	**Pn**	**09 13 59.7**	**-1.6**
STON				Sn	**Sn**	**09 15 12.7**	**-7.1**
UDBI	**Udbina**	**9.11**	**334**	*e*Pn	**Pn**	**09 14 31.4**	**+1.0**
MLR	**Muntele Rosu**	**9.66**	**20**	LR	LR	09 19 20.1	
	comp=N,86nm,18.1s,baz=138,slow=44						
EIL	**Elat**	**13.26**	**117**	Pn	**Pn**	**09 15 25.9**	**-1.3**
	comp=N,0.5nm,0.3s,baz=284,slow=3.1,SNR=7.4						
VRAC	**Vranov**	**13.30**	**346**	LR	LR	09 22 20.5	
	comp=N,64nm,19.9s,baz=152,slow=46						
HFS	**Hagfors**	**24.19**	**351**	P	**P**	**09 17 33.7**	**-1.0**
	comp=N,1.2nm,0.4s,baz=155,slow=11,SNR=9.8						
HFS				LR	LR	09 28 09.6	
	comp=N,42nm,18.4s,baz=243,slow=40						
FINES	**FINESS Array B**	**25.18**	**5**	P	**P**	**09 17 43.0**	**-0.5**
	comp=N,0.7nm,0.4s,baz=176,slow=11,SNR=8.7						
FINES				LR	LR	09 29 42.2	
	comp=N,26nm,18.4s,baz=206,slow=42						
EKA	**Eskdalemuir Ar**	**25.21**	**326**	P	**P**	**09 17 44.5**	**+0.5**
	comp=N,0.5nm,0.4s,baz=120,slow=7.8,SNR=3.6						
NB2	**NORSAR Subarra**	**25.42**	**348**	P	**P**	**09 17 45.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.42**	**348**	P	**P**	**09 17 45.4**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=157,slow=9.0,SNR=7.9						
TORD	**Torodi Ar. Bea**	**29.17**	**222**	P	**P**	**09 18 21.1**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=22,slow=9.8,SNR=4.7						
BVAR	**Borovoye Array**	**37.73**	**48**	P	**P**	**09 19 34.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=266,slow=5.1,SNR=6.8						
MKAR	**Makanchi Array**	**45.65**	**57**	P	**P**	**09 20 37.4**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=270,slow=7.8,SNR=8.2						
ZALV	**Zalesovo Beam**	**46.35**	**47**	P	**P**	**09 20 42.6**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=270,slow=9.8,SNR=4.8						
SCHQ	**Schefferville**	**60.17**	**318**	P	**P**	**09 22 27.0**	**+1.1**
	comp=Z,3.4nm,0.9s,baz=72,slow=13,SNR=3.7						
YKA	**Yellowknife Ar**	**75.22**	**341**	P	**P**	**09 24 01.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=34,slow=5.4,SNR=14						
PDAR	**Pinedale Array**	**89.34**	**326**	LR	LR	10 05 05.2	
	comp=Z,38nm,20.9s,baz=296,slow=36						
TXAR	**Lajitas Array**	**96.64**	**314**	LR	LR	10 06 27.3	
	comp=Z,38nm,21.3s,baz=0.0,slow=34						

IDC 25 09:12:47.3±0.9,47°30N×152°89E,h0km,mb3.6/7,
mb1 3.8/7,mb1mx3.4/71,mbtmp3.6/7,Error ellipse:
s-maj=41.8km s-min=21.7km az=110.0,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**29.78**	**153**	T	T	09 50 44.6	
	baz=341,slow=76,SNR=183						
H11N1	**WAKE ISLAND Hy**	**29.80**	**153**	T	T	09 50 45.1	
	baz=341,slow=76,SNR=218						
H11N3	**WAKE ISLAND Hy**	**29.80**	**153**	T	T	09 50 48.0	
	baz=341,slow=76,SNR=121						
H11S1	**WAKE ISLAND Hy**	**30.87**	**154**	T	T	09 52 06.6	
	baz=342,slow=76,SNR=277						
H11S3	**WAKE ISLAND Hy**	**30.88**	**154**	T	T	09 52 12.0	
	baz=342,slow=76,SNR=213						
H11S2	**WAKE ISLAND Hy**	**30.89**	**154**	T	T	09 52 12.7	
	baz=342,slow=76,SNR=217						
INK	**Inuvik**	**41.27**	**33**	P	P	09 20 34.4	+0.8
	0.3nm,0.5s,baz=283,slow=4.5,SNR=4.5						
YKA	**Yellowknife Ar**	**50.59**	**37**	P	P	09 21 47.4	+0.3
	0.4nm,0.7s,baz=296,slow=7.2,SNR=7.5						
FINES	**FINESS Array B**	**63.48**	**335**	P	P	09 23 18.2	-0.3
	1.1nm,0.8s,baz=2.9,slow=8.4,SNR=5.0						
HFS	**Hagfors**	**67.89**	**339**	P	P	09 23 46.8	-0.2
	0.8nm,0.4s,baz=45,slow=2.3,SNR=6.0						
WRA	**Warramunga Arr**	**68.98**	**199**	P	P	09 23 54.2	-0.1
	0.3nm,0.9s,baz=23,slow=6.7,SNR=2.8			

RUS				*e*S		**Sn**	**10 25 04.1**	**-1.5**
RUS	**Russkaya**	**2.02**	**328**	*e*P		**Pn**	**10 24 39.8**	**-0.5**
RUS				*e*S		**Sn**	**10 25 04.1**	**-1.5**
RUS	**Russkaya**	**2.02**	**328**	PN		**Pn**	**10 24 39.8**	**-0.5**
RUS				S		**Sn**	**10 25 04.1**	**-1.5**
MTVR	**Mutnovka**	**2.18**	**324**	*e*P		**Pn**	**10 24 42.6**	**0.0**
MTVR				*e*S		**Sn**	**10 25 08.8**	**-0.9**
MTVR	**Mutnovka**	**2.18**	**324**	*e*P		**Pn**	**10 24 42.6**	**0.0**
MTVR				*e*S		**Sn**	**10 25 08.9**	**-0.8**
MTVR	**Mutnovka**	**2.18**	**324**	PN		**Pn**	**10 24 42.6**	**0.0**
MTVR				S		**Sn**	**10 25 08.8**	**-0.9**
ASAK	**Asacha**	**2.21**	**319**	*e*P		**Pn**	**10 24 43.3**	**+0.3**
ASAK	**Asacha**	**2.21**	**319**	*e*S		**Sb**	**10 25 11.7**	**-2.1**
ASAK	**Asacha**	**2.21**	**319**	PN		**Pn**	**10 24 43.3**	**+0.3**
PAU	**Pauzhetka**	**2.29**	**290**	*e*P		**Pn**	**10 24 43.8**	**-0.3**
PAU				*e*S		**Sn**	**10 25 11.1**	**-1.2**
PAU	**Pauzhetka**	**2.29**	**290**	*e*P		**Pb**	**10 24 44.9**	**-2.8**
PAU				*e*S		**Sn**	**10 25 11.6**	**-0.7**
PAU	**Pauzhetka**	**2.29**	**290**	*e*PN		**Pb**	**10 24 44.5**	**-3.2**
PAU				*e*S		**Sn**	**10 25 10.1**	**-2.2**
PAU				pmax		pmax		
	comp=Z,50nm,0.4s							
PAU				smax		smax		
	comp=N,200nm,0.4s							
SPN	**Mys Shipunski**	**2.37**	**357**	*e*P		**Pn**	**10 24 44.4**	**-0.7**
SPN				*e*S		**Sn**	**10 25 11.8**	**-2.5**
SPN	**Mys Shipunski**	**2.37**	**357**	*e*P		**Pn**	**10 24 44.5**	**-0.7**
SPN				*e*S		**Sn**	**10 25 12.1**	**-2.2**
SPN	**Mys Shipunski**	**2.37**	**357**	PN		**Pn**	**10 24 44.5**	**-0.7**
SPN				S		**Sn**	**10 25 12.1**	**-2.2**
KRMR	**Karymshinskiy**	**2.48**	**329**	*e*P		**Pn**	**10 24 46.8**	**+0.2**
KRMR				*e*S		**Sn**	**10 25 16.2**	**-0.7**
KRMR	**Karymshinskiy**	**2.48**	**329**	*e*P		**Pn**	**10 24 46.8**	**+0.2**
KRMR				*e*S		**Sn**	**10 25 16.3**	**-0.7**
KRMR	**Karymshinskiy**	**2.48**	**329**	PN		**Pn**	**10 24 46.8**	**+0.2**
KRMR				S		**Sn**	**10 25 16.3**	**-0.7**
DALK	**Dalny**	**2.48**	**339**	*e*P		**Pn**	**10 24 46.9**	**+0.2**
DALK				*e*S		**Sn**	**10 25 15.9**	**-1.1**
DALK	**Dalny**	**2.48**	**339**	*e*P		**Pn**	**10 24 46.8**	**+0.1**
DALK				*e*S		**Sn**	**10 25 15.3**	**-1.7**
DALK	**Dalny**	**2.48**	**339**	PN		**Pn**	**10 24 46.8**	**+0.1**
DALK				S		**Sn**	**10 25 15.3**	**-1.7**
PET	**Petropavlovsk**	**2.50**	**337**	*e*P		**Pn**	**10 24 47.5**	**+0.6**
PET				*e*S		**Sn**	**10 25 16.8**	**-0.7**
PET	**Petropavlovsk**	**2.50**	**337**	*e*P		**Pn**	**10 24 47.4**	**+0.6**
PET				*e*S		**Sn**	**10 25 16.7**	**-0.7**
PET	**Petropavlovsk**	**2.50**	**337**	*e*PN		**Pn**	**10 24 47.3**	**+0.4**
PET				*e*S		**Sn**	**10 25 15.9**	**-1.5**
PET				smax		smax		
	comp=N,183nm,0.6s							
PET				smax		smax		
	comp=E,110nm,0.6s							
NLC	**Nalytchevo**	**2.51**	**347**	*e*P		**Pn**	**10 24 47.2**	**+0.2**
NLC	**Nalytchevo**	**2.51**	**347**	*e*P		**Pb**	**10 24 49.3**	**-2.0**
NLC				*e*S		**Sn**	**10 25 17.0**	**-0.5**
NLC	**Nalytchevo**	**2.51**	**347**	PN		**Pn**	**10 24 47.2**	**+0.2**
SKR	**Severo-Kuril's**	**2.63**	**271**	*e*P		**Pn**	**10 24 48.4**	**-0.3**
SKR				*e*S		**Sn**	**10 25 18.1**	**-2.6**
SKR	**Severo-Kuril's**	**2.63**	**271**	*e*P		**Pn**	**10 24 48.5**	**-0.3**
SKR				*e*S		**Sn**	**10 25 18.2**	**-2.5**
SKR	**Severo-Kuril's**	**2.63**	**271**	*e*PN		**Pn**	**10 24 49.1**	**+0.4**
SKR				*e*S		**Sn**	**10 25 18.1**	**-2.6**
SKR				pmax		pmax		
	comp=Z,66nm,0.4s							
SKR				smax		smax		
	comp=E,343nm,0.4s							
SKR				smax		smax		
	comp=N,258nm,0.3s							
UGLR	**Uglovaya**	**2.63**	**341**	*e*P		**Pn**	**10 24 49.6**	**+0.8**
UGLR	**Uglovaya**	**2.63**	**341**	*e*P		**Pn**	**10 24 49.6**	**+0.8**
UGLR	**Uglovaya**	**2.63**	**341**	PN		**Pn**	**10 24 49.6**	**+0.8**
SDLR	**Sedlovina**	**2.69**	**342**	*e*P		**Pn**	**10 24 49.8**	**+0.2**
SDLR	**Sedlovina**	**2.69**	**342**	*e*P		**Pn**	**10 24 49.8**	**+0.2**
SDLR	**Sedlovina**	**2.69**	**342**	PN		**Pn**	**10 24 49.8**	**+0.2**
SMAR	**Somma**	**2.69**	**341**	*e*P		**Pn**	**10 24 50.7**	**+1.0**
SMAR	**Somma**	**2.69**	**341**	*e*P		**Pb**	**10 24 52.7**	**-1.8**
SMAR	**Somma**	**2.69**	**341**	PN		**Pn**	**10 24 50.7**	**+1.0**
AVH	**Avacha**	**2.71**	**340**	*e*P		**Pn**	**10 24 50.9**	**+1.1**
AVH	**Avacha**	**2.71**	**340**	*e*P		**Pn**	**10 24 50.9**	**+1.1**
AVH				*e*S		**Sn**	**10 25 23.6**	**+1.0**
AVH	**Avacha**	**2.71**	**340**	PN		**Pn**	**10 24 50.9**	**+1.1**
AVH				S		**Sn**	**10 25 23.6**	**+1.0**
KRER	**Koryakskii**	**2.74**	**341**	*e*P		**Pb**	**10 24 52.9**	**-2.5**
KRER				*e*S		**Sn**	**10 25 26.0**	**+2.4**
KRER	**Koryakskii**	**2.74**	**341**	*e*P		**Pb**	**10 24 52.9**	**-2.5**
KRER				*e*S		**Sn**	**10 25 25.2**	**+1.6**
KRER	**Koryakskii**	**2.74**	**341**	PN		**Pb**	**10 24 52.9**	**-2.5**
KRER				S		**Sn**	**10 25 25.2**	**+1.6**
KOK	**Koryaka**	**2.75**	**339**	*e*P		**Pn**	**10 24 52.0**	**+1.6**
KOK	**Koryaka**	**2.75**	**339**	*e*P		**Pn**	**10 24 52.1**	**+1.6**
KOK				*e*S		**Sn**	**10 25 25.3**	**+1.5**
KOK	**Koryaka**	**2.75**	**339**	PN		**Pn**	**10 24 52.0**	**+1.6**
KRX	**Arik**	**2.81**	**340**	*e*P		**Pn**	**10 24 52.0**	**+0.6**
KRX	**Arik**	**2.81**	**340**	*e*P		**Pn**	**10 24 51.9**	**+0.6**
KRX				*e*S		**Sn**	**10 25 23.6**	**-1.7**
KRX	**Arik**	**2.81**	**340**	PN		**Pn**	**10 24 51.9**	**+0.6**
KRX				S		**Sn**	**10 25 23.6**	**-1.7**
PETK	**Petropavlovsk-**	**2.86**	**327**	Pn		**Pn**	**10 24 52.8**	**+0.9**
	comp=N,6.2nm,0.3s,baz=115,slow=18,SNR=137							
PETK				Sn		**Sn**	**10 25 27.6**	**+1.4**
	comp=N,7.5nm,0.3s,baz=103,slow=18,SNR=9.4							
APC	**Apacha**	**2.92**	**320**	*e*P		**Pn**	**10 24 54.3**	**+1.7**
APC				*e*S		**Sn**	**10 25 29.0**	**+1.3**
APC	**Apacha**	**2.92**	**320**	*e*P		**Pn**	**10 24 54.4**	**+1.8**
APC				*e*S		**Sn**	**10 25 30.2**	**+2.5**
APC	**Apacha**	**2.92**	**320**	PN		**Pn**	**10 24 54.3**	**+1.7**
APC				S		**Sn**	**10 25 29.0**	**+1.3**
ALID	**Alaid**	**2.99**	**274**	*e*P		**Pn**	**10 24 54.1**	**+0.3**
ALID	**Alaid**	**2.99**	**274**	*e*P		**Pn**	**10 24 54.2**	**+0.4**
ALID	**Alaid**	**2.99**	**274**	PN		**Pn**	**10 24 54.1**	**+0.3**
MKZ	**Mys Kozlova**	**3.93**	**13**	*e*P		**Pn**	**10 25 05.5**	**-1.0**
MKZ				*e*S		**Sn**	**10 25 48.3**	**-4.4**
MKZ	**Mys Kozlova**	**3.93**	**13**	*e*P		**Pn**	**10 25 05.5**	**-1.0**
MKZ				*e*S		**Sn**	**10 25 48.3**	**-4.4**
MKZ	**Mys Kozlova**	**3.93**	**13**	PN		**Pn**	**10 25 05.5**	**-1.0**
MKZ				S		**Sn**	**10 25 48.3**	**-4.4**
KZV	**Kizimen**	**4.39**	**0**	*e*P		**Pn**	**10 25 13.8**	**+0.8**
KZV	**Kizimen**	**4.39**	**0**	PN		**Pn**	**10 25 13.8**	**+0.8**
TUMD	**Tumrok D**	**4.48**	**1**	*e*P		**Pn**	**10 25 14.4**	**+0.3**
TUMD				*e*S		**Sn**	**10 26 03.6**	**-2.6**
TUMR	**Tumrok**	**4.56**	**359**	*e*P		**Pn**	**10 25 16.4**	**+1.1**
TUMR	**Tumrok**	**4.56**	**359**	*e*P		**Pn**	**10 25 16.4**	**+1.1**
TUMR	**Tumrok**	**4.56**	**359**	PN		**Pn**	**10 25 14.4**	**-0.9**
KBTR	**Krutoberegovo**	**5.69**	**15**	*e*P		**Pn**	**10 25 30.8**	**+0.1**
KBTR	**Krutoberegovo**	**5.69**	**15**	PN		**Pn**	**10 25 30.8**	**+0.1**
BILL	**Bilibino**	**17.61**	**7⇓**	*e*P		**P**	**10 28 17.8**	**+5.4**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**25.29**	**337**	P		**P**	**10 29 33.3**	**+1.1**
	comp=Z,4.7nm,0.6s,baz=125,slow=9.6,SNR=22							
ILAR	**Eielson Array**	**30.45**	**42**	P		**P**	**10 30 18.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=253,slow=8.9,SNR=8.3							
H11N2	**WAKE ISLAND Hy**	**31.38**	**168**	T		T	11 03 29.4	
	baz=352,slow=76,SNR=4.0							
H11N3	**WAKE ISLAND Hy**	**31.39**	**168**	T		T	11 03 29.9	
	baz=352,slow=76,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**31.40**	**168**	T		T	11 03 29.6	
	baz=352,slow=76,SNR=4.2							
INK	**Inuvik**	**35.70**	**36**	P		**P**	**10 31 05.0**	**+0.7**
INK	**Inuvik**	**35.70**	**36**	P		**P**	**10 31 05.0**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=249,slow=4.0,SNR=4.9							
YKA	**Yellowknife Ar**	**44.86**	**41**	P		**P**	**10 32 20.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=297,slow=7.8,SNR=8.9							
MKAR	**Makanchi Array**	**49.31**	**298**	P		**P**	**10 32 54.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=51,slow=6.5,SNR=6.6							
NVAR	**Mina Array Bea**	**56.48**	**69**	P		**P**	**10 33 49.8**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=300,slow=8.0,SNR=7.0							
PDAR	**Pinedale Array**	**58.61**	**60**	P		**P**	**10 34 04.0**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=294,slow=2.9,SNR=6.6							
TXAR	**Lajitas Array**	**71.48**	**66**	P		**P**	**10 35 27.6**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=295,slow=4.8,SNR=16							
WRA	**Warramunga Arr**	**73.99**	**205**	P		**P**	**10 35 41.1**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=16,slow=6.0,SNR=5.4							
ASAR	**Alice Springs**	**77.65**	**205**	P		**P**	**10 36 03.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=17,slow=5.0,SNR=8.2							

*ISK **25** 10:30:53.0,37°.22N×38°.62E,h12km,ML2.5/5*
*ISCJB **25** 10:30:54.8±0.7,37°.27N±0°.04×38°.54E±0°.04,h5km±8km, Error ellipse: s-maj=7.6km s-min=5.1km az=152.0*
*DDA **25** 10:30:54.4,37°.32N×38°.56E,h7km±2km,ML2.8*

ISC 25 10:30:54.3±1.1,37°.28N±0°.04×38°.58E±0°.03,h10km±10km, n17,σ0°.48/23,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.25**	**50**	PG	**Pg**	**10 30 59.1**	**-0.3**
URFA				SG	**Sg**	**10 31 03.4**	**+0.5**
ATAB	**Bozova**	**0.29**	**310**	*i* P	**Pg**	**10 31 00.4**	**+0.2**
ATAB				IAML_P			
	comp=Z,20μm,0.2s						
SANL	**SANLIURFA_Merk**	**0.34**	**108**	*i* P	**Pb**	**10 31 02.1**	**-0.4**
SANL				*i* S	**Sb**	**10 31 08.6**	**+0.6**
SANL				IAML_P			
	comp=Z,11μm,0.2s						
SURC	**SANLIURFA_SURC**	**0.40**	**176**	*i* P	**Pb**	**10 31 03.7**	**+0.2**
SURC				IAML_P			
	comp=Z,1μm,0.2s						
GZT	**Gaziantep**	**0.81**	**276**	*i* P	**Pb**	**10 31 10.8**	**+0.2**
GAZ	**Gaziantep**	**1.10**	**265**	PN	**Pn**	**10 31 15.2**	**-0.5**
GAZ				SN	**Sn**	**10 31 31.1**	**+0.1**
AKCD	**Akcadag**	**1.14**	**333**	*i* P	**Pn**	**10 31 16.8**	**+0.4**
ELZG	**Elazig**	**1.26**	**15**	*i* P	**Pg**	**10 31 18.2**	**-0.3**
ELZG				*i* S	**Sn**	**10 31 35.9**	**+0.8**
HCB	**Kahramanmara**	**1.33**	**273**	*i* P	**Pg**	**10 31 19.7**	**-0.2**
HCB				*i* S	**Sb**	**10 31 36.3**	**-0.2**
HCB				IAML_P			
	comp=Z,586nm,0.3s						
KMRS	**Kahramanmaras**	**1.36**	**280**	PN	**Pn**	**10 31 18.8**	**-0.5**
DIYA	**Diyarbakir**	**1.38**	**62**	*i* P	**Pg**	**10 31 20.2**	**-0.6**
ELBS	**KAHRAMANMARAS**	**1.55**	**313**	*i* P	**Pg**	**10 31 23.8**	**-0.2**
ELBS				IAML_P			
	comp=Z,348nm,0.2s						
DARE	**Darende-Malaty**	**1.55**	**326**	PN	**Pb**	**10 31 22.3**	**-0.8**
HEKM	**Malatya_Hekimh**	**1.67**	**343**	*i* P	**Pb**	**10 31 24.7**	**-0.5**
HEKM				*i* S	**Sg**	**10 31 48.5**	**+0.6**
HEKM				IAML_P			
	comp=Z,690nm,0.2s						
ANDN	**Andirin**	**1.80**	**280**	*i* P	**Pg**	**10 31 28.5**	**-0.3**
ANDN				IAML_P			
	comp=Z,462nm,0.3s						
KEMA	**Kemaliye**	**1.98**	**358**	*i* P	**Pb**	**10 31 30.4**	**-0.1**
KEMA				IAML_P			
	comp=Z,583nm,0.2s						
KOZT	**Kozan**	**2.20**	**276**	PN	**Pn**	**10 31 30.9**	**0.0**

*ISCJB **25** 10:31:34.0±0.8,17°.88N±0°.06×101°.64W±0°.04,h29km±7km, mb3.3/3,Error ellipse: s-maj=10.5km s-min=5.1km az=20.3*
*MEX **25** 10:31:35.2±0.6,17°.90N×101°.65W,h6km±6km,MD4.2*
*NEIC **25** 10:31:37.6±0.0,17°.91N×101°.62W,h22km,MD4.1(MEX), After MEX.*
*IDC **25** 10:31:42.4±5.5,18°.14N×101°.08W,h123km±48km,mb3.0/3, mb1 3.3/5,mb1mx3.1/35,mbtmp3.3/5,MS2.8/2,Ms1 2.8/2, ms1mx2.6/12,Error ellipse: s-maj=68.6km s-min=22.5km az=46.0*

ISC 25 10:31:31.9±1.4,17°.93N±0°.04×101°.61W±0°.03, h10km±10km,n29,σ2°.05/45,mb3.5/3,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.35**	**157**	*e*P	**Pb**	**10 31 40.9**	**+0.7**
ZIIG				*e*Pg	**Pn**	**10 31 47.6**	**+4.6**
ZIIG	**Zihuatanejo**	**0.35**	**157**	*e*P	**Pb**	**10 31 40.9**	**+0.7**
ZIIG				*i* S	**Sb**	**10 31 47.1**	**+1.4**
ARIG	**Puente Sto Nin**	**1.25**	**74**	*e*P	**Pg**	**10 31 55.4**	**-0.5**
ARIG				*e*S	**Sg**	**10 32 12.3**	**+0.1**
ARIG	**Puente Sto Nin**	**1.25**	**74**	*e*P	**Pg**	**10 31 55.6**	**-0.3**
ARIG				*e*S	**Sg**	**10 32 12.3**	**+0.1**
CAIG	**El Cayaco**	**1.55**	**124**	*e*Pn	**Pn**	**10 32 00.1**	**+0.5**
CAIG				*e*Sn	**Sb**	**10 32 21.1**	**+0.7**
CAIG	**El Cayaco**	**1.55**	**124**	*i* P	**Pn**	**10 32 00.4**	**+0.8**
CAIG				*i* S	**Sn**	**10 32 18.6**	**-1.2**
MMIG	**Aquila**	**1.69**	**282**	*e*Pn	**Pb**	**10 32 03.2**	**+0.1**
MMIG				*e*Sn	**Sn**	**10 32 23.4**	**+0.2**
MMIG	**Aquila**	**1.69**	**282**	*e*P	**Pn**	**10 32 01.9**	**+0.5**
MMIG				*i* S	**Sn**	**10 32 21.9**	**-1.2**
MOIG	**Morelia**	**1.79**	**13**	*e*Pn	**Pn**	**10 32 03.4**	**+0.4**
MEIG	**Mezcala**	**1.89**	**90**	*e*Pn	**Pb**	**10 32 06.5**	**-0.1**
MEIG				*e*Sn	**Sb**	**10 32 32.0**	**+1.7**
MEIG	**Mezcala**	**1.89**	**90**	*e*P	**Pn**	**10 32 05.4**	**+1.1**
MEIG				*i* S	**Sn**	**10 32 28.9**	**+0.6**
PLIG	**Platanillo**	**2.06**	**77**	*e*Pn	**Pn**	**10 32 08.1**	**+1.5**
PLIG				*e*Pg	Pg	10 32 18.6	+7.2
PLIG	**Platanillo**	**2.06**	**77**	*e*P	**Pn**	**10 32 08.1**	**+1.5**
PLIG				*i* S	**Sn**	**10 32 33.2**	**+0.9**
YAIG	**Yautepec**	**2.58**	**69**	*e*Pn	**Pn**	**10 32 15.1**	**+1.2**
YAIG				*e*Sn	**Sn**	**10 32 49.2**	**+3.7**
YAIG	**Yautepec**	**2.58**	**69**	*e*P	**Pn**	**10 32 15.1**	**+1.2**
YAIG				*i* S	**Sn**	**10 32 47.1**	**+1.6**
UNM	**Universidad Na**	**2.69**	**58**	*e*Pn	**Pb**	**10 32 20.2**	**-0.2**
TLIG	**Tlapa**	**2.92**	**97**	*e*Pn	**Pb**	**10 32 22.3**	**-1.9**
TLIG				*e*Sn	**Sn**	**10 32 54.9**	**+1.1**
TLIG	**Tlapa**	**2.92**	**97**	*i* P	**Pn**	**10 32 20.2**	**+1.6**
TLIG				*i* S	**Sn**	**10 32 54.9**	**+1.1**
PNIG	**Pinotepa**	**3.66**	**114**	*e*Pn	**Pb**	**10 32 34.7**	**-2.1**
PNIG				*e*Sn	**Sn**	**10 33 12.4**	**+0.5**
PNIG	**Pinotepa**	**3.66**	**114**	*i* P	**Pn**	**10 32 30.3**	**+1.7**
PNIG				*e*S	**Sn**	**10 33 12.6**	**+0.7**
ZAIG	**Zacatecas**	**4.90**	**350**	*e*Pn	**Pn**	**10 32 48.6**	**+2.8**
ZAIG				*e*Sn	**Sn**	**10 33 50.4**	**+7.6**
CMIG	**Matias Romero**	**6.47**	**96**	P	**Pn**	**10 33 07.9**	**+0.6**
	0.8nm,0.3s,baz=289,slow=10,SNR=11						
CMIG				S	**Sn**	**10 34 17.6**	**-3.5**
	1.1nm,0.3s,baz=84,slow=18,SNR=2.5						
LNIG	**Linares**	**7.22**	**16**	*e*Pn	**Pn**	**10 33 19.5**	**+2.0**
TXAR	**Lajitas Array**	**11.51**	**351**	P	Pn	10 34 22.5	+6.1
	0.0nm,0.3s,baz=168,slow=14,SNR=2.8						
TXAR				LR	LR	10 39 17.1	
	comp=Z,44nm,20.8s,baz=0.0,slow=40						
JTS	**JuntasAbangare**	**17.84**	**113**	LR	LR	10 41 30.6	
	comp=Z,37nm,18.2s,baz=60,slow=34						
NVAR	**Mina Array Bea**	**25.09**	**328**	P	**P**	**10 36 56.5**	**-0.5**
	1.1nm,0.8s,baz=141,slow=10,SNR=10						
YKA	**Yellowknife Ar**	**45.44**	**352**	P	P	10 39 46.7	-3.9
	0.2nm,0.8s,baz=162,slow=7.2,SNR=3.7						
ILAR	**Eielson Array**	**55.70**	**338**	P	**P**	**10 41 06.4**	**-1.8**
	0.5nm,1.0s,baz=141,slow=5.8,SNR=4.2						
WRA	**Warramunga Arr**	**127.25**	**258**	PKP	**PKPdf**	**10 50 34.0**	**-3.5**
	0.2nm,0.8s,baz=57,slow=1.8,SNR=3.4						

*IDC **25** 10:31:47.9±3.6, 10°.98N×126°.61E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/44,mbtmp3.5/3,Error ellipse: s-maj=274.8km s-min=25.2km az=66.0*
*MAN **25** 10:31:51.0,11°.13N×126°.57E,h8km,MS2.6*

ISC 25 10:31:49.1±1.4,11°.12N±0°.09×126°.68E±0°.09,h10km,n9, σ1°.17/13,mb3.4/3,2C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.30**	**292**	*e*P	**Pn**	**10 32 13.5**	**+0.1**
BESP				*e*S	**Sn**	**10 32 30.9**	**0.0**
PLP	**Palo**	**1.67**	**272⇑**	*i*P	**Pn**	**10 32 17.6**	**-0.7**
PLP				*i* S	**Sn**	**10 32 38.5**	**-1.3**
MSLP	**Maasin**	**2.04**	**241**	*e*P	**Pn**	**10 32 25.0**	**+1.5**
CNP	**Catarman**	**2.41**	**305**	*e*P	**Pn**	**10 32 29.6**	**+1.0**
CNP				*e*S	**Sn**	**10 32 56.7**	**-1.4**
LLP	**Lapu-Lapu**	**2.78**	**254**	*e*P	**Pg**	**10 32 42.1**	**-0.4**
LLP				*e*S	**Sb**	**10 33 13.6**	**+0.5**
RCP	**Roxas**	**3.88**	**277⇑**	*e*P	**Pn**	**10 32 50.7**	**+1.9**
WRA	**Warramunga Arr**	**31.78**	**166**	P	**P**	**10 38 12.9**	**-0.9**
	0.3nm,0.6s,baz=346,slow=9.7,SNR=4.7						
ASAR	**Alice Springs**	**35.29**	**168**	P	**P**	**10 38 43.6**	**-0.8**
	0.2nm,0.4s,baz=355,slow=6.9,SNR=8.5						
MKAR	**Makanchi Array**	**51.60**	**322**	P	**P**	**10 40 56.5**	**+0.8**
	1.1nm,0.7s,baz=107,slow=8.9,SNR=12						

*ISCJB **25** 10:41:01.8±0.9,2°.66S±0°.07×76°.40W±0°.07,h150km, mb3.2/4,Error ellipse: s-maj=10.5km s-min=10.0km az=40.5*
*IGQ **25** 10:41:04.0±0.8,3°.5S×7°.6W±1°.0,h7km,MLv4.0*
*IDC **25** 10:41:16.4±7.9,2°.71S×76°.51W,h279km±80km,mb2.8/4, mb1 3.1/5,mb1mx3.0/25,mbtmp3.5/5,Error ellipse: s-maj=61.6km s-min=29.4km az=49.0*

ISC 25 10:41:03.1±0.9,2°.56S±0°.07×76°.48W±0°.09,h150km,n46, σ1°.32/49,mb3.3/4,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYO	**Puyo, Santa Ro**	**1.87**	**305**	P	**Pn**	**10 41 37.3**	**+0.3**
ARDO	**Archidona, Ten**	**2.04**	**320**	P	**Pn**	**10 41 38.3**	**-0.5**
ARDO				S	**Sn**	**10 42 03.7**	**-2.6**
BPAT	**Tungurahua Vol**	**2.22**	**298**	P	**Pn**	**10 41 41.8**	**+0.5**
PAT1	**Patacocha**	**2.22**	**298**	P	**Pn**	**10 41 41.4**	**0.0**
BULB	**Ulba Tungurahu**	**2.23**	**300**	P	**Pn**	**10 41 41.4**	**0.0**
BULB				S	**Sn**	**10 42 11.0**	**+0.3**
ARRY	**Arrayan**	**2.23**	**298**	P	**Pn**	**10 41 41.8**	**+0.4**
BRUN	**Tungurahua Vol**	**2.24**	**300**	P	**Pn**	**10 41 42.1**	**+0.6**
BRUN				S	**Sn**	**10 42 11.4**	**+0.6**
RUN5	**Runtun**	**2.25**	**300**	P	**Pn**	**10 41 42.0**	**+0.4**
RETU	**Refugio**	**2.25**	**299**	P	**Pn**	**10 41 42.0**	**+0.2**
BMAS	**Trigal station**	**2.26**	**298**	P	**Pn**	**10 41 42.2**	**+0.5**
POND	**Pondoa**	**2.27**	**300**	P	**Pn**	**10 41 42.4**	**+0.5**
JUI6	**Juive**	**2.29**	**300**	P	**Pn**	**10 41 42.3**	**+0.3**
BBIL	**Ulba Tungurahu**	**2.29**	**299**	P	**Pn**	**10 41 42.7**	**+0.6**
BIL2	**Estacion Bilba**	**2.30**	**299**	P	**Pn**	**10 41 42.0**	**-0.2**
PISA	**Pisayambo**	**2.42**	**308**	P	**Pn**	**10 41 44.4**	**+0.6**
PIS1	**Pisayambo**	**2.42**	**308**	P	**Pn**	**10 41 44.3**	**+0.5**
ANTS	**Antisana-Sarah**	**2.66**	**320**	P	**Pn**	**10 41 46.7**	**-0.1**
ANTM	**Antisana-La Mi**	**2.66**	**319**	P	**Pn**	**10 41 46.8**	**0.0**
BTAM	**Cotopaxi Volca**	**2.68**	**314**	P	**Pn**	**10 41 47.9**	**+0.8**
BMOR	**Cotopaxi Volca**	**2.69**	**313**	P	**Pn**	**10 41 48.2**	**+1.1**
ANTI	**Antisana**	**2.69**	**321**	P	**Pn**	**10 41 47.1**	**-0.1**
BVC2	**Cotopaxi Volca**	**2.70**	**314**	P	**Pn**	**10 41 48.4**	**+1.0**
ANTG	**Antisana-Guama**	**2.71**	**319**	P	**Pn**	**10 41 47.7**	**+0.3**
VC1	**Cotopaxi 1**	**2.71**	**315**	P	**Pn**	**10 41 48.5**	**+1.1**
BREF	**Cotopaxi Volca**	**2.72**	**314**	P	**Pn**	**10 41 48.9**	**+1.3**
BNAS	**Cotopaxi Volca**	**2.74**	**313**	P	**Pn**	**10 41 49.1**	**+1.3**
COHC	**Cochancay**	**2.77**	**272**	P	**Pn**	**10 41 48.6**	**+1.0**
PITA	**Cotopaxi Volc**	**2.79**	**316**	P	**Pn**	**10 41 49.4**	**+1.1**
CASC	**Dorado de Casc**	**2.81**	**342**	P	**Pn**	**10 41 47.0**	**-1.3**
ILLI	**Illinizas Sur**	**2.90**	**309**	P	**Pn**	**10 41 51.1**	**+1.4**
NINA	**Atacazo Ninahu**	**3.04**	**315**	P	**Pn**	**10 41 52.0**	**+0.5**
MILO	**Milagro-Astudi**	**3.09**	**275**	P	**Pn**	**10 41 51.9**	**+0.3**
GONZ	**Gonzanam**	**3.35**	**240**	P	**Pn**	**10 41 56.2**	**+0.9**
OTAV	**Otavalo**	**3.41**	**325**	P	**Pn**	**10 41 57.9**	**+1.8**
URCU	**Urcuqui**	**3.47**	**329**	P	**Pn**	**10 41 58.0**	**+1.1**
TULM	**Tulcn-Chalpat**	**3.51**	**338**	P	**Pn**	**10 41 57.2**	**-0.3**
MORR	**Playas El Morr**	**3.85**	**269**	P	**Pn**	**10 42 01.0**	**-0.5**
MCRA	**Macar, Loja**	**3.91**	**243**	P	**Pn**	**10 42 00.1**	**-2.1**
SALI	**Salinas**	**4.52**	**275**	P	**Pn**	**10 42 10.2**	**-0.1**
LPAZ	**La Paz**	**15.92**	**149**	P	**P**	**10 44 43.9**	**+3.6**
	0.1nm,0.3s,baz=342,slow=9.6,SNR=5.0						
NVAR	**Mina Array Bea**	**56.

comp=Z,6.5nm,0.6s,baz=264,slow=3.3,SNR=12

BKZ	**Black Stump Fm**	**22.47**	**201**	*e*P		**P**	**11 27 15.9**	**+0.5**
	12nm,1.0s							
HIZ	**Hauiti**	**22.51**	**205**	*e*P		**P**	**11 27 17.3**	**+1.5**
	41nm,0.6s							
KHZ	**Kahutara**	**26.39**	**203**	*e*P		**P**	**11 27 53.3**	**+1.1**
	21nm,1.2s							
FOZ	**Fox Glacier**	**28.79**	**206**	*e*P		**P**	**11 28 14.8**	**+1.0**
	36nm,1.2s							
BBOO	**Buckleboo**	**47.51**	**242**	*e*P		**P**	**11 30 50.4**	**-0.8**
	8.2nm,1.1s							
AS01	**Alice Springs**	**49.39**	**254**	*e*P		**P**	**11 31 04.7**	**-1.1**
WB2	**Warramunga Arr**	**49.41**	**259**	*e*P		**P**	**11 31 04.3**	**-1.7**
WR1	**Warramunga Arr**	**49.42**	**259**	*e*P		**P**	**11 31 04.1**	**-1.9**
	4.1nm,1.1s							
WRA	**Warramunga Arr**	**49.42**	**259**	P		**P**	**11 31 04.1**	**-1.9**
	0.8nm,0.6s,baz=97,slow=8.3,SNR=22							
AS31	**Alice Springs**	**49.43**	**254**	*e*P		**P**	**11 31 05.6**	**-0.5**
	0.6nm,0.8s							
ASAR	**Alice Springs**	**49.43**	**254**	P		**P**	**11 31 04.8**	**-1.3**
	0.7nm,0.5s,baz=89,slow=7.7,SNR=28							
IL1	**Eielson Array**	**85.42**	**11**	*e*P		**P**	**11 34 53.6**	**+1.1**
ILAR	**Eielson Array**	**85.42**	**11**	P		**P**	**11 34 55.0**	**+2.4**
	0.3nm,0.6s,baz=215,slow=5.2,SNR=13							
IM3	**Indian Mountai**	**85.49**	**8**	*e*P		**P**	**11 34 54.8**	**+1.9**

NEIC ***25*** *11:24:15.6±0.0, 17°.26N×100°.62W, h41km, MD4.1(MEX), After MEX.*

MEX 25 11:24:15.5±0.7, 17°.30N×100°.62W, h9km±7km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.42**	**126**	*e*Pn	Pg	11 24 23.3	-0.5
CAIG				*e*Sn	Sg	11 24 30.1	+0.7
CAIG	**El Cayaco**	**0.42**	**126**	*e*P	Pg	11 24 23.3	-0.5
CAIG				*e*S	Sg	11 24 30.1	+0.7
ZIIG	**Zihuatanejo**	**0.86**	**291**	*e*Pn	Pg	11 24 29.8	-2.3
ZIIG				*e*Sn	Sg	11 24 41.5	-1.7
ZIIG	**Zihuatanejo**	**0.86**	**291**	*e*P	Pg	11 24 29.8	-2.3
ZIIG				*i* S	Sg	11 24 41.5	-1.7
ARIG	**Puente Sto Nin**	**1.01**	**15**	*e*P	Pg	11 24 31.8	-3.1
ARIG				*e*S	Sg	11 24 45.1	-2.9
ARIG	**Puente Sto Nin**	**1.01**	**15**	*e*P	Pg	11 24 31.8	-3.1
ARIG				*e*S	Sg	11 24 45.1	-2.9
MEIG	**Mezcala**	**1.14**	**57**	*e*Pn	Pb	11 24 33.5	-3.9
MEIG				*e*Sn	Sg	11 24 48.6	-3.7
MEIG	**Mezcala**	**1.14**	**57**	*e*P	Pb	11 24 33.5	-3.9
MEIG				*e*S	Sg	11 24 48.6	-3.7
PLIG	**Platanillo**	**1.52**	**44**	*e*Pn	Pn	11 24 39.2	-3.7
PLIG				*e*Sn	Sn	11 25 01.1	-1.9
PLIG	**Platanillo**	**1.52**	**44**	*e*P	Pn	11 24 39.4	-3.6
PLIG				*i* S	Sn	11 24 58.8	-4.2
TLIG	**Tlapa**	**1.98**	**82**	*e*Pn	Pn	11 24 46.3	-3.0
TLIG	**Tlapa**	**1.98**	**82**	*e*P	Pn	11 24 46.0	-3.3
TLIG				*e*S	Sn	11 25 10.5	-3.8
YAIG	**Yautepec**	**2.15**	**43**	*e*Pn	Pn	11 24 47.2	-4.4
YAIG				*e*Sn	Sn	11 25 15.4	-3.0
YAIG	**Yautepec**	**2.15**	**43**	*e*P	Pn	11 24 47.5	-4.1
YAIG				*i* S	Sn	11 25 13.9	-4.5
MOIG	**Morelia**	**2.42**	**347**	*e*Pn	Pn	11 24 54.4	-1.1
UNM	**Universidad Na**	**2.44**	**34**	*e*Pn	Pn	11 24 55.2	-0.5
PNIG	**Pinotepa**	**2.56**	**110**	*e*Pn	Pn	11 24 53.1	-4.0
PNIG				*e*Sn	Sn	11 25 25.8	-2.6
PNIG	**Pinotepa**	**2.56**	**110**	*e*P	Pn	11 24 53.2	-3.9
PNIG				*e*S	Sn	11 25 24.1	-4.2
MMIG	**Aquila**	**2.77**	**291**	*i* P	Pn	11 24 56.5	-3.6
MMIG				*i* S	Sn	11 25 29.3	-4.4

WEL 25 11:30:52.2±1.4, 34°S±9'×18°0E±1°8, h33km, ML4.0/14, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.48**	**197**	P	Pn	11 31 45.3	+1.2
MXZ				S	Sn	11 32 24.6	+0.5
WMGZ	**Waiomatatini S**	**3.70**	**195**	P	Pn	11 31 48.5	+1.5
HAZ	**Te Kaha**	**3.81**	**202**	P	Pn	11 31 49.2	+0.7
HAZ				S	Sn	11 32 33.9	+1.7
PKGZ	**Pakihiroa**	**3.85**	**198**	P	Pn	11 31 50.1	+1.0
GRZ	**Great Barrier**	**3.95**	**238**	P	Pn	11 31 50.0	-0.5
PUZ	**Puketiti**	**3.98**	**196**	P	Pn	11 31 51.1	+0.2
PUZ				S	Sn	11 32 36.0	-0.4
RUGZ	**Raukumara Rang**	**4.03**	**202**	P	Pn	11 31 51.8	+0.1
TWGZ	**Tauwhareparae**	**4.14**	**198**	P	Pn	11 31 53.7	+0.5
TWGZ				S	Sn	11 32 41.6	+1.1
OPRZ	**Ohinepanea**	**4.37**	**214**	P	Pn	11 31 56.4	+0.1
CNGZ	**Carnagh Statio**	**4.38**	**195**	P	Pn	11 31 56.5	+0.1
MWZ	**Matawai**	**4.42**	**202**	P	Pn	11 31 56.3	-0.7
TKGZ	**Te Karaka**	**4.42**	**198**	P	Pn	11 31 56.2	-0.8
URZ	**Urewera**	**4.49**	**206**	P	Pn	11 31 57.0	-0.9
RAGZ	**Rawiri**	**4.60**	**202**	P	Pn	11 32 00.0	+0.5
RIGZ	**Rimuhau**	**4.70**	**198**	P	Pn	11 31 59.9	-1.0
TOZ	**Tahuroa Road**	**4.82**	**223**	P	Pn	11 32 03.5	+1.0
PRGZ	**Paritu Road**	**4.88**	**196**	P	Pn	11 32 02.0	-1.3
RAHZ	**Arahi**	**5.09**	**203**	P	Pn	11 32 04.8	-1.4

ISCJB ***25*** *11:32:35.9±1.4, 36°.84N±0°.07×28°.08E±0°.07, h79km±11km, Error ellipse: s-maj=11.2km s-min=9.9km az=6.5*
ISK ***25*** *11:32:36.5, 36°.76N×28°.06E, h73km±1km, ML2.3/7*
DDA ***25*** *11:32:41.2, 37°.11N×28°.31E, h7km±3km, ML2.5*

ISC 25 11:32:35.9±2.3, 36°.83N±0°.06×28°.10E±0°.06, h80km±15km, n12, σ1§26/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.34**	**26**	PG	**Pn**	**11 32 49.5**	**+1.0**
YER				SG	**Sn**	**11 32 58.6**	**+0.8**
TURN	**Turunc**	**0.41**	**83**	PG	**Pn**	**11 32 47.8**	**-1.1**
TURN				SG	**Sn**	**11 32 55.9**	**-2.5**
TURN	**Turunc**	**0.41**	**83**	*i* P	**Pn**	**11 32 48.9**	**0.0**
TURN				*i* S	**Sn**	**11 32 56.2**	**-2.2**
TURN				IAML_P			
	comp=Z,3µm,0.1s						
DAT	**Datca**	**0.43**	**257**	PG	**Pn**	**11 32 49.1**	**-0.1**
DAT				SG	**Sn**	**11 32 58.6**	**-0.4**
DALY	**Dalyan (Mula)**	**0.45**	**91**	PG	**Pn**	**11 32 50.0**	**+0.9**
DALY				SG	**Sn**	**11 33 00.0**	**+1.1**
DALY	**Dalyan (Mula)**	**0.45**	**91**	*i* P	**Pn**	**11 32 50.8**	**+1.7**
DALY				*i* S	**Sn**	**11 33 00.1**	**+1.1**
DALY				IAML_P			
	comp=Z,807nm,0.1s						
ARG	**Arkhangelos**	**0.61**	**178**	PG	**Pn**	**11 32 50.5**	**-0.2**
FETY	**Fethiye**	**0.81**	**103**	PG	**Pn**	**11 32 53.7**	**+0.9**
FETY	**Fethiye**	**0.81**	**103**	*i* P	**Pn**	**11 32 51.8**	**-1.0**
FETY				*i* S	**Sn**	**11 33 06.4**	**+1.0**
AYDN	**Tasoluk**	**0.85**	**348**	*i* P	**Pn**	**11 32 54.2**	**+0.9**
AYDN				*i* S	**Sn**	**11 33 05.1**	**-1.1**
AYDN				IAML_P			
	comp=Z,497nm,0.1s						
TAVA	**DENIZLI_Tavas**	**0.91**	**45**	*i* P	**Pn**	**11 32 53.3**	**-0.7**
KARP	**Karpathos**	**1.48**	**211**	PN	**Pn**	**11 33 01.4**	**+0.3**

BJI ***25*** *11:54:46.4, 12°.13S×117°.74E, h5km, mb5.0/60, mB5.0/34, Ms4.7/33, Ms7 4.4/26*
IDC ***25*** *11:54:54.5±0.4, 11°.24S×117°.28E, h0km, mb4.7/21, mb1 4.7/24, mb1mx4.6/38, mbtmp4.7/24, ML4.7/3, MS3.9/20, Ms1 3.9/20, ms1mx3.7/45, Error ellipse: s-maj=17.6km s-min=11.9km az=60.0*
ISCJB ***25*** *11:54:55.9±0.2, 11°.47S±0°.02×117°.25E±0°.02, h26km, mb5.0/111, MS4.1/28, Error ellipse: s-maj=3.9km s-min=2.9km az=38.3*
NEIC ***25*** *11:54:55.5±0.1, 11°.46S×117°.19E, h10km, mb5.1/63, Error ellipse: s-maj=3.9km s-min=2.6km az=222.0*
MOS ***25*** *11:54:57.9±1.1, 11°.22S×117°.32E, h33km, mb5.2/52, Error ellipse: s-maj=9.8km s-min=5.4km az=111.8*
DJA ***25*** *11:54:57.1±0.2, 12°S±2°×11°7E±°, h10km, M5.1/36, mb5.3/36, mB5.5/24, MLv5.7/25, Mw(mB)5.0/24, Mwp6.6/1*
GCMT ***25*** *11:55:00.5±0.3, 11°.36S±0°.02×117°.43E±0°.03, h31km, MW5.0/59, Moment Tensor Solution. s35,c44; s59,c80; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.54±.18; $M_{\theta\theta}$3.10±.11; $M_{\phi\phi}$-0.56±.14; $M_{r\theta}$-1.24±.14; $M_{\theta\phi}$-0.64±.10; $M_{\phi r}$-1.19±.20; Best double couple: M_o3.39900×10^{16} NP1:ϕ_s75.00000°, δ60.00000°, λ-120.00000°. NP2: ϕ_s304.00000°, δ41.00000°, λ-49.00000°. Principal axes:*

T 3.4010, Plg11.0000°, Azm186.0000°; N -0.0040, Plg26.0000°, Azm91.0000°; P -3.3980, Plg62.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 25 11:54:58.0±0.2, 11°.49S±0°.04×117°.14E±0°.04, h26km, n786, σ1§25/731, mb5.1/111, MS4.1/30, 9C-5D, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.72**	**13**	P	**Pn**	**11 55 40.1**	**+0.1**
DNP	**Denpasar**	**3.38**	**326**	P	**Pn**	**11 55 51.0**	**+1.9**
DNP	**Denpasar**	**3.38**	**326**	P	**Pn**	**11 55 50.8**	**+1.7**
WSI	**Waingapu**	**3.59**	**60**	P	**Pb**	**11 56 01.0**	**+0.2**
BASI	**Baing, Sumba**	**3.61**	**70**	P	**Pb**	**11 56 01.0**	**0.0**
SRBI	**Singaraja**	**3.88**	**331**	P	**Pn**	**11 55 58.0**	**+2.1**
JAGI	**Jajag, Banyuwa**	**4.20**	**315**	*e*Pn	**Pn**	**11 56 00.3**	**-0.1**
JAGI				*e*Sn	**Sn**	**11 56 47.7**	**-0.9**
JAGI	**Jajag, Banyuwa**	**4.20**	**315**	P	**Pn**	**11 56 00.0**	**-0.4**
GMJI	**Gumukmas**	**4.84**	**311**	P	**Pn**	**11 56 10.0**	**+0.8**
BLJI	**Banyuglugur**	**5.10**	**316**	P	**Pn**	**11 56 14.3**	**+1.5**
EDFI	**Ende, Flores**	**5.24**	**59**	P	**Pn**	**11 56 14.7**	**-0.1**
	101nm,0.4s,10µm2.0nm						
KMMI	**Kalianget**	**5.41**	**324**	P	**Pn**	**11 56 20.3**	**+3.3**
	183nm,0.6s,3µm2.3nm						
MMRI	**Maumere**	**5.76**	**61**	*e*Pn	**Pn**	**11 56 20.4**	**-1.5**
MMRI				*e*Sn	**Sn**	**11 57 25.2**	**-2.1**
MMRI	**Maumere**	**5.76**	**61**	P	**Pn**	**11 56 20.8**	**-1.1**
	259nm,0.6s,5µm2.9nm						
BSSI	**Bau Bau, Buton**	**6.26**	**32**	P	**Pn**	**11 56 29.0**	**+0.3**
	1µm,1.2s,13µm7.3nm						
PWJI	**Pagerwojo**	**6.29**	**303**	P	**Pn**	**11 56 31.7**	**+2.6**
	227nm,0.5s,4µm3.0nm						
GRJI	**Gresik**	**6.47**	**314**	P	**Pn**	**11 56 35.7**	**+4.2**
	138nm,0.7s,2µm1.5nm						
BATI	**Baumata**	**6.53**	**79**	P	**Pn**	**11 56 32.9**	**+0.4**
	69nm,0.5s,1µm0.6nm						
BATI	**Baumata**	**6.53**	**79**	Pn	**Pn**	**11 56 31.1**	**-1.4**
	19nm,0.3s,baz=262,slow=1.0,SNR=14						
BATI					Sn	**11 57 41.9**	**-4.4**
	41nm,0.3s,baz=211,slow=23,SNR=10						
PCJI	**Pacitan**	**6.72**	**299**	P	**Pn**	**11 56 37.2**	**+2.1**
	570nm,0.9s,6µm3.8nm						
BKSI	**Bulukumba**	**6.80**	**26**	P	**Pn**	**11 56 37.2**	**+1.1**
	701nm,0.5s,10µm3.2nm						
NGJI	**Ngawi**	**6.94**	**306**	P	**Pn**	**11 56 42.5**	**+4.5**
	212nm,0.8s,1.9nm						
SOEI	**Soe**	**7.21**	**77**	*e*Pn	**Pn**	**11 56 41.1**	**-0.8**
SOEI				*e*Sn	**Sn**	**11 57 57.4**	**-5.8**
SOEI	**Soe**	**7.21**	**77**	P	**Pn**	**11 56 43.8**	**+1.9**
	208nm,0.7s,2µm1.6nm						
UGM	**Wanagama**	**7.43**	**298**	*e*Pn	**Pn**	**11 56 45.4**	**+0.7**
UGM				*e*Sn	**Sn**	**11 58 02.7**	**-5.6**
UGM	**Wanagama**	**7.43**	**298**	P	**Pn**	**11 56 48.2**	**+3.4**
	422nm,1.0s,3.6nm						
BNSI	**Bone**	**7.63**	**23**	P	**Pn**	**11 56 50.8**	**+3.3**
	156nm,0.6s,3µm						
SPSI	**Sidrap Palu**	**7.92**	**19**	P	**Pn**	**11 56 53.4**	**+1.9**
	48nm,0.6s,858nm0.3nm						
SMRI	**Semarang**	**7.95**	**303**	*e*Pn	**Pn**	**11 56 52.0**	**+0.1**
SMRI				*e*Sn	**Sn**	**11 58 15.0**	**-6.0**
SMRI	**Semarang**	**7.95**	**303**	P	Pb	11 57 04.2	-11
BBSI	**Bau Bau**	**8.02**	**42**	P	Pb	11 57 05.3	-11
KDI	**Kendari**	**9.24**	**36**	P	**Pn**	**11 57 11.0**	**+1.3**
	99nm,1.2s						
CISI	**Cisompet, Garu**	**9.99**	**292**	*e*Pn	**Pn**	**11 57 19.3**	**-0.7**
CISI				*e*Sn	**Sn**	**11 59 06.3**	**-5.1**
CISI	**Cisompet, Garu**	**9.99**	**292**	P	**Pn**	**11 57 22.2**	**+2.2**
	215nm,0.6s,4µm						
FITZ	**Fitzroy Crossi**	**10.52**	**130**	P	**Pn**	**11 57 24.4**	**-2.8**
	baz=10,SNR=124						
FITZ	**Fitzroy Crossi**	**10.52**	**130**	*e*Pn	**Pn**	**11 57 25.2**	**-2.0**
FITZ				*e*Sn	Sn	11 59 13.6	-11
FITZ	**Fitzroy Crossi**	**10.52**	**130**	Pn	**Pn**	**11 57 24.6**	**-2.6**
	4.3nm,0.3s,baz=327,slow=9.6,SNR=83						
FITZ					Sn	11 59 12.8	-11
	15nm,0.3s,baz=179,slow=16,SNR=10.0						
FITZ					LR	12 01 23.5	
	comp=Z,1µm,21.4s,baz=304,slow=37						
MTKI	**Muara Teweh, K**	**10.71**	**348**	P	**Pn**	**11 57 33.7**	**+3.9**
	351nm,0.5s						
XMIS	**Christmas Isla**	**11.32**	**274**	*e*Pn	**Pn**	**11 57 37.6**	**-0.6**
CBJI	**Citeko**	**11.34**	**295**	P	**Pn**	**11 57 41.6**	**+3.2**
	158nm,0.7s						
APSI	**Ampana**	**11.42**	**23**	P	**Pn**	**11 57 43.1**	**+3.6**
	45nm,1.3s,758nm						
GIRL	**Giralia**	**11.43**	**194**	P	**Pn**	**11 57 38.8**	**-0.9**
	baz=12,SNR=39						
GIRL	**Giralia**	**11.43**	**194**	*e*Pn	**Pn**	**11 57 38.8**	**-0.9**
LUWI	**Luwuk**	**11.79**	**29**	*e*Pn	**Pn**	**11 57 43.3**	**-1.3**
LUWI	**Luwuk**	**11.79**	**29**	P	Pn	11 57 55.8	+11
KNRA	**Kununurra**	**12.04**	**112**	P	**Pn**	**11 57 45.9**	**-2.1**
	baz=12,SNR=11						
MPSI	**Mapaga**	**12.06**	**13**	P	**Pn**	**11 57 52.7**	**+4.4**
	26nm,1.3s,445nm						
MRSI	**Marisa**	**12.81**	**22**	P	**Pn**	**11 58 01.2**	**+2.7**
	24nm,0.9s						
SANI	**Sanana**	**12.85**	**44**	P	**Pn**	**11 58 00.6**	**+1.6**
	28nm,1.3s,544nm						
MTN	**Manton Dam**	**13.75**	**97**	P	**Pn**	**11 58 09.3**	**-2.0**
	baz=14,SNR=8.1						
MTN	**Manton Dam**	**13.75**	**97**	*e*Pn	**Pn**	**11 58 09.4**	**-1.9**
SAUI	**Saumlaki**	**14.38**	**77**	P	**P**	**11 58 29.1**	**+2.4**
BNDI	**Bandanaira**	**14.40**	**62**	P	P	11 58 34.4	+7.4
KSM	**Kuching**	**14.56**	**332**	*e*Pn	**Pn**	**11 58 22.9**	**+0.5**
KSM	**Kuching**	**14.56**	**332**	P	**Pn**	**11 58 24.1**	**+1.7**
MDSI	**Maura Dua**	**14.59**	**297**	P	**Pn**	**11 58 24.4**	**+1.5**
	29nm,1.0s						
SBUM	**Sibu**	**14.69**	**340**	*e*Pn	**Pn**	**11 58 25.1**	**+1.0**
SBUM	**Sibu**	**14.69**	**340**	P	**P**	**11 58 31.2**	**+1.1**
KDU	**Kakadu**	**15.04**	**96**	P	**Pn**	**11 58 28.1**	**-0.8**
	baz=15,SNR=11						
MEEK	**Meekatharra**	**15.13**	**175**	P	**Pn**	**11 58 27.4**	**-2.7**
	baz=15,SNR=118						
BTM	**Bintulu**	**15.14**	**344**	P	**P**	**11 58 37.9**	**+2.7**
LHSI	**Lahat**	**15.48**	**298**	P	**P**	**11 58 41.2**	**+2.2**
	295nm,0.9s,2µm						
TNTI	**Ternate**	**15.86**	**41**	*e*Pn	**Pn**	**11 58 38.9**	**-0.7**
	114nm,1.1s						
TNTI	**Ternate**	**15.86**	**41**	P	**P**	**11 58 47.6**	**+4.4**
SDKM	**Sandakan**	**17.02**	**0**	P	**P**	**11 58 57.5**	**+1.5**
WRKA	**Warakurna**	**17.13**	**143**	P	**Pn**	**11 58 52.9**	**-2.8**
	baz=17,SNR=150						
FAKI	**Fak Fak**	**17.23**	**62**	*e*Pn	**Pn**	**11 58 54.6**	**-2.4**
	93nm,1.0s						
FAKI	**Fak Fak**	**17.23**	**62**	P	**P**	**11 59 02.6**	**+4.3**
	96nm,1.2s,973nm						
KKM	**Kota Kinabalu**	**17.44**	**357**	*e*Pn	**Pn**	**11 58 58.5**	**-1.2**
	105nm,1.3s						
MORW	**Morawa**	**17.52**	**183**	P	**Pn**	**11 58 58.2**	**-2.3**
	baz=18,SNR=79						
MORW	**Morawa**	**17.52**	**183**	*e*Pn	**Pn**	**11 58 58.3**	**-2.3**
	106nm,0.6s						
SWI	**Sorong**	**17.55**	**54**	P	**Pn**	**11 58 57.9**	**-3.0**
SWI				pmax	pmax		
	comp=Z,227nm,1.1s						
SWI	**Sorong**	**17.55**	**54**	P	**P**	**11 59 03.2**	**+1.3**
	comp=Z,227nm,1.1s,comp=Z,2µm						
SIJI	**Sorong**	**17.55**	**54**	P	**Pn**	**11 58 57.2**	**-3.7**
	comp=Z,3.9nm,0.3s,baz=229,slow=5.6,SNR=8.7						
SIJI				S	**Sn**	**12 02 16.9**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=191,slow=20,SNR=14						
SIJI				LR	LR	12 06 06.2	
	comp=Z,689nm,20.6s,baz=295,slow=39						
KRJI	**Kerinci**	**18.14**	**300**	P	**Pn**	**11 59 07.9**	**-0.4**
	comp=Z,349nm,0.8s						
KDM	**Kudat**	**18.29**	**359**	P	**Pn**	**11 59 13.7**	**+3.7**
WRA	**Warramunga Arr**	**18.55**	**119**	P	**P**	**11 59 12.0**	**-1.0**
WRA	**Warramunga Arr**	**18.55**	**119**	P	**P**	**11 59 12.0**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=287,slow=14,SNR=119						
WRA				S	Sn	12 02 21.6	-19
	comp=Z,2.1nm,0.3s,baz=286,slow=20,SNR=7.7						
WRA				LR	LR	12 06 49.3	
	comp=Z,785nm,18.5s,baz=295,slow=38						
WR1	**Warramunga Arr**	**18.56**	**119**	*e*P	**P**	**11 59 12.0**	**-1.0**
	comp=Z,31nm,1.1s						
MYKOM	**Kota Tinggi**	**18.67**	**314**	*e*P	**P**	**11 59 14.1**	**-0.2**
	comp=Z,24nm,0.7s						
MYKOM	**Kota Tinggi**	**18.67**	**314**	P	**Pn**	**11 59 17.0**	**+2.3**
BLDU	**Ballidu**	**19.04**	**181**	P	**P**	**11 59 18.4**	**+0.2**
	baz=19,SNR=83						
KGM	**Kluang**	**19.20**	**313**	P	**Pn**	**11 59 23.1**	**+1.9**
RKPI	**Ransiki, Papua**	**19.60**	**61**	P	**Pn**	**11 59 32.4**	**+6.5**
PDSI	**Padang**	**19.61**	**301**	P	**Pn**	**11 59 25.5**	**-0.5**
	comp=Z,38nm,0.7s						
BKNI	**Bangkinang**	**19.84**	**305**	*e*P	**P**	**11 59 27.8**	**+0.8**
	comp=Z,133nm,1.1s						
BKNI	**Bangkinang**	**19.84**	**305**	P	**Pn**	**11 59 31.9**	**+3.2**
	comp=Z,126nm,1.2s,comp=Z,2µm						
KLBR	**Kellerberrin**	**20.02**	**178**	P	**P**	**11 59 29.7**	**+0.8**
	baz=20,SNR=78						
ASAR	**Alice Springs**	**20.02**	**129**	P	**P**	**11 59 29.8**	**+0.7**
	comp=Z,9.3nm,0.9s,baz=302,slow=9.9,SNR=84						
ASAR				S	S	12 02 59.5	-14
	comp=Z,17nm,0.8s,baz=301,slow=22,SNR=9.7						
ASAR				LR	LR	12 06 57.8	
	comp=Z,486nm,21.3s,baz=303,slow=36						
AS31	**Alice Springs**	**20.03**	**129**	*e*P	**P**	**11 59 28.9**	**-0.2**
	comp=Z,6.8nm,0.6s						
AS01	**Alice Springs**	**20.06**	**129**	*e*P	**P**	**11 59 28.9**	**-0.5**
DAV	**Davao City (W)**	**20.26**	**25**	LR	LR	12 08 10.8	
	comp=Z,187nm,19.9s,baz=204,slow=40						
KMBL	**Kambalda**	**20.26**	**168**	P	Pn	11 59 32.8	-0.8
	baz=20,SNR=30						
MUN	**Mundaring**	**20.41**	**182**	P	Pn	11 59 35.7	+0.4
	baz=20,SNR=38						
SISI	**Saibi**	**20.56**	**298**	P	Pn	11 59 39.0	+1.8
	comp=Z,46nm,0.9s						
MNSI	**Mandailing Nat**	**21.29**	**304**	P	P	11 59 50.5	+7.7
NWAO	**Narrogin (SRO)**	**21.34**	**180**	P	**P**	**11 59 44.4**	**+1.2**
	baz=21,SNR=21						
NWAO	**Narrogin (SRO)**	**21.34**	**180**	*e*P	**P**	**11 59 43.7**	**+0.6**
	comp=Z,116nm,0.6s						
NWAO	**Narrogin (SRO)**	**21.34**	**180**	P	**P**	**11 59 44.4**	**+1.2**
	comp=Z,47nm,0.6s,baz=4.7,slow=12,SNR=46						
NWAO				S	S	12 03 27.2	-12
	comp=Z,208nm,0.7s,baz=260,slow=17,SNR=11						
NWAO				LR	LR	12 08 07.7	
	comp=Z,834nm,21.2s,baz=1.0,slow=37						
FORT	**Forrest**	**21.70**	**154**	P	**P**	**11 59 48.1**	**+1.0**
	baz=22,SNR=12						
FORT	**Forrest**	**21.70**	**154**	*e*P	**P**	**11 59 47.2**	**+0.1**
	comp=Z,156nm,1.0s						
IPM	**Ipoh**	**22.55**	**314**	*e*P	**P**	**11 59 56.8**	**+0.4**
	comp=Z,45nm,0.7s						
PSI	**Prapat**	**23.02**	**307**	*e*P	**P**	**12 00 01.5**	**+0.2**
	comp=Z,87nm,1.0s						
PSI	**Prapat**	**23.02**	**307**	*e*P	**P**	**12 00 01.5**	**+0.2**
PSI				pmax	pmax		
	comp=Z,87nm,1.0s						
QIS	**Mount Isa**	**23.38**	**116**	P	**P**	**12 00 06.0**	**+1.2**
	baz=23,SNR=10.0						
KULM	**Kulim**	**23.39**	**315**	*e*P	**P**	**12 00 04.9**	**0.0**
	comp=Z,104nm,1.3s						
H01W3	**Cape Leeuwin H**	**23.45**	**186**	P	P	12 00 19.4	+14
	baz=14,slow=12,SNR=4.9						
H01W1	**Cape Leeuwin H**	**23.46**	**186**	P	P	12 00 19.4	+14
	baz=14,slow=12,SNR=6.4						
H01W2	**Cape Leeuwin H**	**23.46**	**186**	P	P	12 00 19.4	+14
	baz=14,slow=12,SNR=7.1						
SKLT	**Songkhla**	**24.77**	**318**	P	**P**	**12 00 20.2**	**+2.4**
	comp=Z,79nm,0.9s,comp=Z,813nm						
TGY	**Tagaytay City**	**25.70**	**9**	LR	LR	12 13 05.6	
	comp=Z,104nm,18.1s,baz=176,slow=43						
TRTT	**Trang**	**25.88**	**317**	P	**P**	**12 00 28.5**	**+0.6**
	comp=Z,24nm,0.8s,comp=Z,266nm						
LHMI	**Lhok Sumawe**	**26.07**	**309**	*e*P	**P**	**12 00 29.5**	**0.0**
	comp=Z,286nm,0.9s						
PKDT	**Phuket**	**26.84**	**315**	P	P	12 00 44.8	+8.2
MTSU	**Mount Surprise**	**27.07**	**107**	P	**P**	**12 00 41.4**	**+2.7**
	baz=27,SNR=4.3						
BBOO	**Buckleboo**	**27.43**	**144**	P	**P**	**12 00 42.5**	**+0.8**
	baz=28,SNR=6.5						
BBOO	**Buckleboo**	**27.43**	**144**	*e*P	**P**	**12 00 42.1**	**+0.4**
	comp=Z,23nm,1.0s						
PATY	**Pattaya**	**29.14**	**326**	P	P	12 01 07.6	+11
CTA	**Charters Tower**	**29.25**	**111**	P	**P**	**12 00 59.4**	**+1.2**
	comp=Z,2.3nm,0.6s,baz=286,slow=7.4,SNR=2.8						
CTAO	**Charters Tower**	**

H08S3 Diego Garcia H 44.17 271 T T 12 50 25.6
baz=96,slow=75,SNR=7.0
H08S1 Diego Garcia H 44.18 271 T T 12 50 34.9
baz=96,slow=75,SNR=17
SHL Shillong 44.29 327 *e*P **P** **12 03 05.7 -0.3**
comp=Z,86nm,1.0s
SHL Shillong 44.29 327 *e*P **P** **12 03 05.7 -0.3**
SHL pmax pmax
comp=Z,86nm,1.0s
SHL Shillong 44.29 327 *i* P **P** **12 03 06.0 0.0**
XAN Xi'an 45.95 350 P **P** **12 03 17.0 -1.8**
XAN pP sP 12 03 27.0 -0.1
XAN pmax pmax
comp=Z,11nm,1.1s
XAN LR LR
comp=Z,220nm,20.6s
XAN LR LR
comp=Z,190nm,20.6s
XAN Xi'an 45.95 350 *e*P **P** **12 03 17.5 -1.3**
comp=Z,9.4nm,0.9s
XAN Xi'an 45.95 350 *e*P **P** **12 03 17.5 -1.3**
XAN pmax pmax
comp=Z,9.0nm,0.9s
TIA Tai'an 47.44 360 P **P** **12 03 28.5 -2.0**
TIA pmax pmax
comp=Z,6.0nm,0.9s
HYB Hyderabad 47.73 306 *i* P **P** **12 03 32.0 -1.1**
HYB *e* 12 03 43.5
HYB *e* 12 03 48.5
ODAN Odare 47.83 323 *e*P **P** **12 03 34.2 +0.3**
comp=Z,183nm,0.9s
LSA Lhasa 48.01 329 *e*P **P** **12 03 36.2 +0.7**
comp=Z,32nm,0.7s
LSA Lhasa 48.01 329 *e*P **P** **12 03 36.2 +0.7**
LSA pmax pmax
comp=Z,32nm,0.7s
TAPN Taplejung 48.02 324 *e*P **P** **12 03 35.7 +0.3**
comp=Z,268nm,1.1s
MNCI Minicoy 48.04 292 *e*P **P** **12 03 36.2 +0.7**
comp=Z,96nm,1.0s
DZM Mont Dzumac 48.18 109 *e*LR LR 12 17 20.6
comp=Z,234nm,28.2s
RAMN Ramite 48.36 323 *e*P **P** **12 03 38.6 +0.5**
comp=Z,174nm,1.1s
LZH Lanzhou 48.95 346 *e*P **P** **12 03 42.3 -0.1**
LZH pP pP 12 03 48.0 -0.3
LZH sP sP 12 03 51.5 +0.9
LZH PP **PP** **12 05 33.5 -2.6**
LZH S S 12 10 55.3 +10
LZH sS sS 12 11 05.3 +10
LZH SS **SS** **12 14 16.8 +0.3**
LZH pmax pmax
comp=Z,44nm,1.0s
LZH pmax pmax
comp=Z,300nm,4.3s
LZH LR LR
comp=Z,400nm,14.1s
LZH LR LR
comp=Z,430nm,14.3s
LZH LR LR
comp=Z,550nm,15.8s
JIRN Jiri 49.13 323 *e*P **P** **12 03 44.5 +0.4**
comp=Z,289nm,0.8s
GUN Gumba 49.50 323 *e*P **P** **12 03 47.2 +0.3**
comp=Z,214nm,0.8s
PKI Pulchoki 49.53 322 *e*P **P** **12 03 46.9 -0.3**
comp=Z,94nm,1.0s
PKIN Phulchoki 49.55 322 *e*P **P** **12 03 46.9 -0.3**
comp=Z,77nm,1.0s
KS15 Wonju Array Si 49.71 11 *e*P **P** **12 03 47.4 -0.5**
comp=Z,33nm,1.4s
KSRS Korea Array 49.73 11 P **P** **12 03 44.5 -3.5**
comp=Z,11nm,1.1s,baz=189,slow=6.8,SNR=8.1
KSRS LR LR 12 24 35.9
comp=Z,65nm,21.4s,baz=185,slow=36
KS01 Wonju Array Si 49.74 11 *e*P **P** **12 03 47.7 -0.4**
DMN Daman 49.74 322 *e*P **P** **12 03 48.7 0.0**
comp=Z,158nm,0.9s
KKN Kakani 49.77 322 *e*P **P** **12 03 48.9 +0.1**
comp=Z,105nm,1.0s
KOLN Koldanda 50.78 321 *e*P **P** **12 03 56.4 -0.1**
DANN Dangsing 51.10 321 *e*P **P** **12 03 58.9 -0.1**
comp=Z,192nm,0.8s
BJT Baijiatuau 51.25 359 *e*P **P** **12 03 58.5 -1.0**
comp=Z,39nm,1.1s
BJT Baijiatuau 51.25 359 *e*P **P** **12 03 58.5 -1.0**
BJT pmax pmax
comp=Z,39nm,1.1s
BJI Beijing 51.27 359 P **P** **12 03 58.0 -1.6**
BJI pmax pmax
comp=Z,23nm,1.2s
PYUN Piuthan 51.40 321 *e*P **P** **12 04 01.0 -0.1**
MAJO Matsushiro 51.73 22 *e*P **P** **12 04 00.3 -2.9**
MAJO Matsushiro 51.73 22 *i* P **P** **12 04 02.0 -1.2**
MAJO pmax pmax
comp=Z,9.0nm,1.1s
MAT Matsushiro 51.73 22 P **P** **12 04 00.5 -2.7**
MJAR Matsushiro Arr 51.73 22 P **P** **12 04 00.3 -2.9**
comp=Z,9.2nm,1.0s,baz=200,slow=8.7,SNR=11
MJAR PcP **PcP** **12 05 17.5 +1.1**
comp=Z,5.4nm,1.0s,baz=189,slow=4.1,SNR=4.7
MJAR LR LR 12 24 18.2
comp=Z,75nm,21.9s,baz=205,slow=34
BTO Baotou 52.25 353 *e*P **P** **12 04 06.3 -0.8**
HHC Hu-ho-hao-te 52.33 355 *e*P **P** **12 04 07.0 -0.7**
HHC sP sP 12 04 16.5 +0.6
HHC S **S** **12 11 35.0 +3.3**
HHC pmax pmax
comp=Z,14nm,1.2s
HHC pmax pmax
comp=Z,72nm,5.4s
HHC LR LR
comp=Z,120nm,12.6s
HHC LR LR
comp=Z,200nm,15.9s
HHC LR LR
comp=Z,300nm,15.2s
GTA Gaotai 53.14 343 ⇓P **P** **12 04 14.0 +0.2**
GTA pP sP 12 04 23.3 +1.2
GTA PcP **PcP** **12 05 23.5 +1.7**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,120nm,5.4s
GTA LR LR
comp=Z,83nm,18.1s
GTA LR LR
comp=Z,160nm,18.4s
SNY Shenyang 53.38 6 ⇑P **P** **12 04 14.0 -1.2**
NDI New Delhi 55.53 317 *e*P **P** **12 04 30.0 -1.2**
CN2 Changchun 55.54 7 *e*P **P** **12 04 29.0 -1.9**
CN2 *e*pP pP 12 04 34.0 -3.0
CN2 *e*S **S** **12 12 12.5 -2.3**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
MDJ Mudanjiang 56.97 11 P **P** **12 04 40.5 -0.6**
MDJ S **S** **12 12 39.3 +5.5**
MDJ pmax pmax
comp=Z,66nm,2.3s
MDJ LR LR
comp=Z,380nm,13.4s
MDJ LR LR
comp=Z,160nm,10.0s
MDJ LR LR
comp=Z,270nm,8.2s
MDJ Mudanjiang 56.97 11 *e*P **P** **12 04 40.5 -0.6**
comp=Z,30nm,0.9s
USA0B Ussuriysk Arra 57.04 13 *e*P **P** **12 04 40.8 -0.8**
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 57.04 13 *e*P **P** **12 04 40.8 -0.8**
USA0B pmax pmax
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 57.04 13 P **P** **12 04 39.4 -2.2**
comp=Z,2.7nm,0.5s,baz=177,slow=6.4,SNR=10
USRK LR LR 12 30 52.0
comp=Z,54nm,19.1s,baz=173,slow=38
ULN Ulaanbaatar 59.77 352 *e*P **P** **12 05 00.1 -0.7**
comp=Z,14nm,1.0s
ULN Ulaanbaatar 59.77 352 *d i*P **P** **12 04 59.6 -1.2**
ULN pmax pmax
comp=Z,19nm,1.3s
SONA0 Songino Array 59.83 352 *e*P **P** **12 04 59.9 -1.3**
SONM Songino Array 59.83 352 P **P** **12 04 59.9 -1.3**
comp=Z,16nm,0.9s,baz=170,slow=7.7,SNR=79
HIA Hailar 60.53 2 *i* P **P** **12 05 04.8 -1.1**
HIA pmax pmax
comp=Z,9.0nm,1.0s
WMQ Urumqi 61.23 336 P **P** **12 05 11.5 +0.7**
WMQ pP pP 12 05 17.5 +0.6
WMQ S **S** **12 13 25.8 -3.4**
WMQ sS sS 12 13 40.3 +1.1
WMQ pmax pmax
comp=Z,64nm,1.1s
WMQ pmax pmax
comp=Z,440nm,3.7s
WMQ LR LR
comp=Z,240nm,26.7s
WMQ LR LR
comp=Z,230nm,29.9s
WMQ LR LR
comp=Z,220nm,25.5s
WMQ Urumqi 61.23 336 *e*P **P** **12 05 10.9 +0.1**
comp=Z,33nm,0.9s
NIL Nilore 61.30 319 *e*P **P** **12 05 10.7 -0.8**
comp=Z,18nm,0.9s
NIL Nilore 61.30 319 *e*P **P** **12 05 10.7 -0.8**
NIL pmax pmax
comp=Z,18nm,0.9s
KLR Kul'dur 61.81 11 *i* P **P** **12 05 11.8 -2.7**
YSS Yuzh-Sakhalins 62.53 20 *i* P **P** **12 05 18.1 -1.2**
YSS pmax pmax
comp=Z,11nm,1.1s
ZAK Zakamensk 62.79 350 *e*P **P** **12 05 19.8 -1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
KSH Kashi 63.55 325 P **P** **12 05 26.5 0.0**
KSH pP pP 12 05 30.8 -1.8
KSH sP sP 12 05 33.0 -2.2
KSH S **S** **12 13 56.5 -2.2**
KSH ScS **SKSac** **12 15 11.5 -6.9**
KSH pmax pmax
comp=Z,8.0nm,0.5s
KSH LR LR
comp=Z,200nm,9.3s
KSH LR LR
comp=Z,310nm,10.0s
KSH LR LR
comp=Z,720nm,14.9s
TLY Talaya 63.99 351 *e*P **P** **12 05 29.2 +0.2**
TLY pmax pmax
comp=Z,42nm,1.6s
TLY MLR MLR
comp=Z,334nm,17.0s
PRZ Przheval'sk 64.38 329 *e*P **P** **12 05 32.5 +0.6**
comp=Z,49nm,1.3s
PRZ Przheval'sk 64.38 329 *e*P **P** **12 05 32.5 +0.6**
PRZ pmax pmax
comp=Z,49nm,1.3s
MOY Mondy 64.43 349 *e*P **P** **12 05 31.3 -0.7**
MOY pmax pmax
comp=Z,27nm,1.9s
PDGK Podgornoye 64.47 330 P **P** **12 05 31.3 -1.1**
PDGK pmax pmax
comp=Z,34nm,1.1s
KBL Kabul 64.61 317 *e*P **P** **12 05 33.2 -0.5**
comp=Z,30nm,0.8s
KBL Kabul 64.61 317 *e*P **P** **12 05 33.2 -0.5**
KBL pmax pmax
comp=Z,30nm,0.8s
KDJ Kajisay 64.75 328 *e*P **P** **12 05 34.8 +0.5**
comp=Z,16nm,0.9s
KDJ Kajisay 64.75 328 *e*P **P** **12 05 34.8 +0.5**
KDJ pmax pmax
comp=Z,16nm,0.9s
NRN Naryn 64.87 327 *e*P **P** **12 05 35.0 -0.4**
comp=Z,14nm,1.1s
NRN Naryn 64.87 327 *e*P **P** **12 05 35.0 -0.4**
NRN pmax pmax
comp=Z,14nm,1.1s
ZEA Zeya 65.54 7 *e*P **P** **12 05 38.6 -0.4**
ZEA pmax pmax
comp=N,24nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
BOOM Boomskoye usch 65.65 328 P **P** **12 05 40.7 +0.5**
BOOM pmax pmax
comp=Z,33nm,1.2s
KZA Kyzart 65.72 327 P **P** **12 05 41.4 +0.4**
SNR=16
MK01 Makanchi Array 65.84 335 *e*P **P** **12 05 40.8 -0.4**
MK31 Makanchi Array 65.86 335 *e*P **P** **12 05 41.0 -0.3**
comp=Z,25nm,1.1s
MK31 Makanchi Array 65.86 335 *e*P **P** **12 05 41.0 -0.3**
MK31 pmax pmax
comp=Z,25nm,1.1s
MK32 Makanchi Array 65.86 335 *e*P **P** **12 05 40.9 -0.4**
MKAR Makanchi Array 65.86 335 P **P** **12 05 40.9 -0.4**
comp=Z,8.2nm,0.4s,baz=150,slow=6.8,SNR=173
TYV Tymovskoe 65.95 17 *e*P **P** **12 05 39.9 -1.8**
TYV pmax pmax
comp=Z,7.0nm,1.6s
MAKZ Makanchi 66.01 334 *e*P **P** **12 05 41.9 -0.3**
comp=Z,19nm,1.1s
MAKZ Makanchi 66.01 334 *e*P **P** **12 05 41.9 -0.3**
MAKZ pmax pmax
comp=Z,19nm,1.1s
TKM2 Tokmak 2 66.13 328 P **P** **12 05 43.4 +0.1**
SNR=13
TKM2 Tokmak 2 66.13 328 *i* P **P** **12 05 42.9 -0.4**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
UCH Uchtor 66.22 327 P **P** **12 05 44.6 +0.4**
SNR=8.8
DGZ Jazzator, Alta 66.28 339 *d i*P **P** **12 05 44.2 +0.1**
DGZ pmax pmax
comp=Z,22nm,1.1s
KBK Karagaybulak 66.29 327 P **P** **12 05 45.4 +1.0**
SNR=10
MAW Mawson 66.29 200 LR LR 12 34 06.0
comp=Z,76nm,18.7s,baz=13,slow=35
ARSB Arslanbob 66.45 325 *e*P **P** **12 05 45.5 +0.2**
comp=Z,48nm,0.9s
GAR Garm 66.51 322 *e*P **P** **12 05 45.5 -0.2**
comp=Z,109nm,1.0s
GAR Garm 66.51 322 *e*P **P** **12 05 45.6 -0.2**
GAR pmax pmax
comp=Z,109nm,1.0s
AAK Ala-Archa 66.52 327 P **P** **12 05 46.7 +0.9**
SNR=15
AAK Ala-Archa 66.52 327 *e*P **P** **12 05 46.1 +0.3**
comp=Z,21nm,1.0s
AAK Ala-Archa 66.52 327 *i* P **P** **12 05 45.5 -0.3**
AAK pmax pmax
comp=Z,17nm,0.9s
AML Almayashu 66.60 326 P **P** **12 05 47.0 +0.4**
SNR=15
WSAR Wadi Sarin 66.84 301 LR LR 12 36 15.9
comp=Z,150nm,18.9s,baz=150,slow=37
EKS2 Erkin-Say 66.92 327 P **P** **12 05 48.9 +0.7**
SNR=14
USP Ospenovka 66.95 327 P **P** **12 05 47.9 -0.5**
SNR=8.6
CHGR Chuyangaron 67.01 321 *e*P **P** **12 05 48.3 -0.6**
comp=Z,52nm,1.0s
NKL Nikolayevsk 67.46 15 *e*P **P** **12 05 50.7 -0.6**
NKL pmax pmax
comp=Z,21nm,1.0s
KK31 Karatay Array 69.00 325 *e*P **P** **12 06 01.1 -0.2**
comp=Z,5.6nm,0.9s
KK31 Karatay Array 69.00 325 *e*P **P** **12 06 01.1 -0.2**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 69.00 325 *e*P **P** **12 06 01.2 -0.1**
comp=Z,5.6nm,0.9s
KKAR Karatay Array 69.00 325 *e*P **P** **12 06 01.2 -0.1**
KKAR pmax pmax
comp=Z,6.0nm,0.9s
BOD Bodaibo 69.11 358 *e*P **P** **12 06 00.2 -1.3**
BOD pmax pmax
comp=Z,18nm,1.5s
VNDA Vanda 69.84 171 *e*P **P** **12 06 07.0 +1.1**
VNDA Vanda 69.84 171 P **P** **12 06 08.0 +2.1**
VNDA Vanda 69.84 171 P **P** **12 06 08.0 +2.1**
comp=Z,1.8nm,1.0s,baz=319,slow=5.4,SNR=3.7
VNDA LR LR 12 34 49.7
comp=Z,163nm,20.0s,baz=320,slow=34
KURK Kurchatov 70.44 335 *e*P **P** **12 06 09.8 -0.1**
comp=Z,41nm,1.3s
KURK Kurchatov 70.44 335 *e*P **P** **12 06 09.8 -0.1**
KURK pmax pmax
comp=Z,41nm,1.3s
ZAA0 Zalesovo Array 70.73 340 *e*P **P** **12 06 10.5 -1.1**
comp=Z,22nm,0.9s
ZALV Zalesovo Beam 70.73 340 *e*P **P** **12 06 10.3 -1.3**
ZALV Zalesovo Beam 70.73 340 *e*P **P** **12 06 10.3 -1.3**
ZALV Zalesovo Beam 70.73 340 P **P** **12 06 10.1 -1.5**
comp=Z,7.5nm,0.3s,baz=139,slow=4.3,SNR=34
ZAA1 Zalesovo Array 70.73 340 *e*P **P** **12 06 10.1 -1.5**
OTUK Ortayu 71.47 330 P **P** **12 06 15.4 -0.9**
OTUK pmax pmax
comp=Z,14nm,1.2s
NVS Novosibirsk 71.99 340 ⇑*i*P **P** **12 06 18.1 -1.1**
NVS pmax pmax
comp=E,9.0nm,1.2s
NVS pmax pmax
comp=Z,16nm,1.2s
PEA0B Petropavlovsk- 73.08 24 *e*P **P** **12 06 26.1 +0.4**
comp=Z,74nm,1.1s
PEA0B Petropavlovsk- 73.08 24 *e*P **P** **12 06 26.1 +0.4**
PEA0B pmax pmax
comp=Z,75nm,1.1s
PETK Petropavlovsk- 73.08 24 *e*P **P** **12 06 25.9 +0.2**
PETK Petropavlovsk- 73.08 24 *e*P **P** **12 06 25.9 +0.2**
PETK Petropavlovsk- 73.08 24 P **P** **12 06 26.1 +0.4**
comp=Z,44nm,0.9s,baz=213,slow=4.0,SNR=43
PETK LR LR 12 38 14.1
comp=Z,29nm,20.5s,baz=230,slow=36
PEA1 Petropavlovsk- 73.08 24 *e*P **P** **12 06 26.1 +0.3**
PET Petropavlovsk 73.40 25 *e*P **P** **12 06 27.6 0.0**
comp=Z,54nm,1.1s
PET Petropavlovsk 73.40 25 *e*P **P** **12 06 28.3 +0.7**
PET pmax pmax
comp=Z,51nm,1.0s
GEYT Alibeck 73.87 315 P **P** **12 06 31.5 +0.7**
comp=Z,6.9nm,0.8s,baz=98,slow=6.1,SNR=8.8
GYA0B ALIBECK ARRAY 73.87 315 *e*P **P** **12 06 30.1 -0.7**
comp=Z,13nm,0.9s
YAK Yakutsk 73.94 6 *e*P **P** **12 06 29.8 -0.8**
YAK pmax pmax
comp=Z,100nm,1.0s
YAK pmax pmax
comp=N,52nm,1.0s
SYO Syowa Base 74.89 201 ⇓*e*P **P** **12 06 35.6 -0.5**
BVA0 Borovoye Array 75.64 333 P **P** **12 06 39.1 -1.5**
BVA0 pmax pmax
comp=Z,20nm,1.1s
BRVK Borovoye 75.71 333 *e*P **P** **12 06 40.9 -0.1**
comp=Z,20nm,1.2s
BRVK Borovoye 75.71 333 *e*P **P** **12 06 40.9 -0.1**
BRVK pmax pmax
comp=Z,20nm,1.2s
MA2 Magadan 75.82 17 *e*P **P** **12 06 41.1 -0.3**
comp=Z,33nm,1.4s
MA2 Magadan 75.82 17 *ce*P **P** **12 06 41.9 +0.4**
MA2 pmax pmax
comp=Z,26nm,1.7s
QSPA South Pole Qui 78.52 180 *e*P **P** **12 06 57.9 +1.0**
comp=Z,19nm,1.1s
QSPA South Pole Qui 78.52 180 P **P** **12 06 58.2 +1.3**
comp=Z,6.3nm,1.1s,baz=333,slow=2.2,SNR=6.8
AB31 Akbulak array 78.55 326 *i* P **P** **12 06 56.8 -0.3**
AB31 pmax pmax
comp=Z,17nm,1.0s
ABKAR Akbulak array 78.55 326 *e*P **P** **12 06 56.9 -0.2**
comp=Z,42nm,1.3s
SEY Seymchan 79.03 16 *ce*P **P** **12 06 59.3 -0.1**
RAR Rarotonga 79.56 110 LR LR 12 40 32.6
comp=Z,71nm,19.1s,baz=265,slow=34
KMBO Kilima Mbogo 79.87 271 *e*P **P** **12 07 05.0 -0.4**
comp=Z,10nm,1.0s
KMBO Kilima Mbogo 79.87 271 P **P** **12 07 07.5 +2.1**
comp=Z,1.5nm,0.3s,baz=41,slow=8.0,SNR=8.1
AKTO Aktyubinsk 80.24 326 P **P** **12 07 06.0 -0.3**
AKTO pmax pmax
comp=Z,16nm,1.1s
SVE Sverdlovsk 82.41 332 *e*P **P** 12 07 33.3 +16
SVE pmax pmax
comp=Z,27nm,1.4s
ARU Arti 83.14 331 *e*P **P** **12 07 20.8 -0.6**
comp=Z,25nm,1.2s
ARU Arti 83.14 331 *c i*P **P** **12 07 19.9 -1.5**
ARU 12 10 28.2
ARU S **S** **12 17 38.8 -0.8**
ARU pmax pmax
comp=Z,15nm,1.3s
NRIK Noril'sk 83.25 350 P **P** **12 07 21.6 -0.1**
comp=Z,4.7nm,0.7s,baz=127,slow=5.2,SNR=11
TIXI Tiksi 83.32 4 *e*P **P** **12 07 21.1 -0.9**
comp=Z,22nm,1.2s
TIXI Tiksi 83.32 4 *ce*P **P** **12 07 21.0 -1.0**
TIXI pmax pmax
comp=Z,30nm,1.7s
TIXI Tiksi 83.32 4 LR LR 12 47 07.5
comp=Z,71nm,20.6s,baz=207,slow=38
LSZ Lusaka 86.04 255 *e*P **P** **12 07 36.8 -0.4**
comp=Z,16nm,1.3s
LSZ Lusaka 86.04 255 *e*P **P** **12 07 36.8 -0.4**
LSZ pmax pmax
comp=Z,16nm,1.3s
BOSA Boshof 86.22 242 LR LR 12 41 24.3
comp=Z,47nm,18.2s,baz=40,slow=32
LBTB Lobatse 86.60 245 P **P** **12 07 41.3 +1.5**
LBTB pmax pmax
comp=Z,15nm,1.8s
BILL Bilibino 86.68 17 *e*P **P** **12 07 39.5 +0.5**
comp=Z,5.9nm,1.2s
BILL Bilibino 86.68 17 ⇑*e*P **P** **12 07 38.5 -0.5**
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,127nm,19.0s
KBZ Khabaz 86.75 316 P **P** **12 07 41.2 +1.4**
comp=Z,3.8nm,0.8s,baz=222,slow=2.9,SNR=5.9
ASF Jabal al Asfar 87.94 303 P **P** **12 07 48.7 +2.7**
SNAA Sanae 88.12 196 *e*P **P** **12 07 47.6 +1.5**
comp=Z,15nm,1.0s
SNAA Sanae 88.12 196 *e*P **P** **12 07 47.6 +1.5**
SNAA pmax pmax
comp=Z,15nm,1.0s
SWQJ Swaqa 88.39 302 P **P** **12 07 51.6 +3.4**
HSNJ Maan 88.46 301 P **P** **12 07 51.1 +2.5**
HSUJ Al Zarqa 88.50 303 P **P** **12 07 51.1 +2.5**
JDRJ Daraweish 88.59 302 P **P** **12 07 50.9 +1.7**
WALJ Wala 88.68 302 P **P** **12 07 51.4 +2.0**
GHAJ Ghor Haditha 88.82 302 P **P** **12 07 52.3 +2.3**
AQBJ Aqaba 88.87 300 P **P** **12 07 52.5 +2.1**
LISJ El Lisan 88.87 302 P **P** 12 07 55.4 +5.2
EIL Elat 88.94 300 P **P** **12 07 53.1 +2.4**
SHMJ Saham 89.00 304 P **P** **12 07 51.1 +0.2**
PPT2 Papeete2 89.66 108 *e*LR LR 12 36 40.1
comp=Z,128nm,24.8s
PPT Papeete 89.67 108 LR LR 12 42 19.5
comp=Z,63nm,21.9s,baz=241,slow=32
GAMB Gambell 92.10 25 *e*P **P** **12 08 04.4 -0.1**
comp=Z,12nm,1.1s
BR101 Keskin Array S 92.31 310 *e*P **P** **12 08 06.8 +0.4**
BR131 Keskin Array S 92.31 310 *e*P **P** **12 08 06.5 +0.2**
comp=Z,7.2nm,1.0s
BRTR Keskin Array B 92.31 310 P **P** **12 08 06.8 +0.4**
comp=Z,4.7nm,0.9s,baz=126,slow=6.3,SNR=17
KLMR Klimovskoe 94.00 331 *e*P **P** **12 08 09.8 -3.6**
KLMR pmax pmax
comp=Z,22nm,1.7s
KLMR Klimovskoe 94.00 331 *e*P **P** **12 08 09.8 -3.6**
KLMR AMP 12 08 16.5
comp=Z,22nm,1.7s
OBN Obninsk 94.00 325 ⇑*e*P **P** **12 08 14.7 +1.2**
OBN 12 11 59.0
OBN pmax pmax
comp=Z,5.0nm,0.9s
OBN MLR MLR
comp=Z,61nm,19.0s
AKASG Malin Array Be 97.47 320 P **P** **12 08 28.1 -1.4**
comp=Z,0.2nm,0.3s,baz=80,slow=4.9,SNR=4.9
AKBB Malin Array Si 97.47 320 *e*P **P** **12 08 28.1 -1.4**
comp=Z,3.5nm,1.0s
AKBB Malin Array Si 97.47 320 *e*P **P** **12 08 28.1 -1.4**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
APA Apatity 98.14 337 ⇓*i*P Pdif 12 08 37.3 +5.1
APA pmax pmax
comp=Z,6.0nm,1.1s
APA MLR MLR
comp=Z,600nm,16.0s
IM3 Indian Mountai 100.04 25 *e*Pdif **Pdif** **12 08 40.5 -0.1**
FIA0 FINESS Array S 100.50 331 *e*Pdif **Pdif** **12 08 40.8 -2.0**
FIA0 FINESS Array S 100.50 331 *e*P **Pdif** **12 08 40.8 -2.0**
FINES FINESS Array B 100.50 331 *i* P **Pdif** **12 08 41.9 -0.9**

FINES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
FINES	FINESS Array B	100.50	331	P		Pdif	12 08	40.8	-2.0
	comp=Z,2.4nm,0.9s,baz=66,slow=3.5,SNR=4.5								
TOA0	Torodi Ar. Sit	117.06	279	*e*PKPdf		PKPdf	12 13	41.1	-0.5
TORD	Torodi Ar. Bea	117.06	279	PKP		PKPdf	12 13	41.3	-0.3
	comp=Z,0.9nm,0.9s,baz=99,slow=2.2,SNR=4.2								
TOA1	Torodi Ar. Sit	117.07	279	*e*PKPdf		PKPdf	12 13	41.3	-0.3
YKA	Yellowknife Ar	117.20	24	PKP		PKiKP	12 13	40.6	+0.1
	comp=Z,0.7nm,0.6s,baz=303,slow=2.0,SNR=18								
YKB5	Yellowknife Ar	117.20	24	*e*PKPdf		PKiKP	12 13	40.5	0.0
K02D	Willamette Mer	119.09	47	P		PKPdf	12 13	44.5	-0.4
	baz=282								
HUMO	Hull Mountain	119.62	47	*e*PKPdf		PKPdf	12 13	45.5	-0.3
M02C	Callahan	119.95	49	P		PKiKP	12 13	46.8	+0.2
	baz=282								
N02D	Trinity Center	120.14	49	P		PKiKP	12 13	47.4	+0.4
	baz=282								
L04D	Klamath Falls	120.18	48	P		PKiKP	12 13	47.2	0.0
	baz=282								
J05D	Fort Rock, OR	120.70	46	P		PKiKP	12 13	48.7	+0.6
	baz=284								
K05A	Summer Lake	121.08	47	*e*PKPdf		PKPdf	12 13	48.5	-0.4
MOD	Modoc Plateau	121.70	48	*e*PKPdf		PKPdf	12 13	48.9	-1.1
NEW	Newport	121.99	40	P		PKiKP	12 13	50.8	+0.4
	baz=290								
DBIC	Dimbokro	122.60	271	*e*PKPdf		PKPdf	12 13	52.2	-0.1
DBIC	Dimbokro	122.60	271	PKP		PKiKP	12 13	52.6	+0.1
	comp=Z,3.3nm,0.8s,baz=174,slow=3.9,SNR=3.9								
J08A	Circle Bar Ran	122.63	46	*e*PKPdf		PKPdf	12 13	50.5	-1.2
WVOR	Wild Horse Val	122.76	47	*e*PKPdf		PKiKP	12 13	52.6	+0.4
WVOR	Wild Horse Val	122.76	47	*e*PKIKP		PKiKP	12 13	52.6	+0.4
PAHR	Pah Rah Range	122.89	50	*e*PKPdf		PKPdf	12 13	52.3	0.0
RYN	Ryan	123.79	51	*e*PKPdf		PKiKP	12 13	55.2	+0.8
NV01	Mina Array Sit	124.00	51	*e*PKPdf		PKiKP	12 13	54.9	0.0
NVAR	Mina Array Bea	124.00	51	PKP		PKiKP	12 13	56.0	+1.1
	comp=Z,1.9nm,0.9s,baz=268,slow=2.3,SNR=12								
KVN	Kaiserville	124.01	51	*e*PKPdf		PKPdf	12 13	54.1	-0.5
KVN	Kaiserville	124.01	51	*e*PKIKP		PKPdf	12 13	54.1	-0.5
NV11	Mina Array Sit	124.11	51	*e*PKPdf		PKPdf	12 13	54.2	-0.5
ISA	Isabella, Lake	124.45	55	P		PKPdf	12 13	55.5	+0.1
	baz=281								
MSO	Missoula	124.52	40	*e*PKPdf		PKPdf	12 13	54.8	-0.5
MSO	Missoula	124.52	40	P		PKiKP	12 13	55.4	-0.1
	baz=292								
CWC	Cottonwood Cre	124.61	54	P		PKPdf	12 13	55.8	0.0
	baz=282								
SCI2	San Clemente I	124.87	58	P		PKiKP	12 13	56.9	+0.4
	baz=279								
CIS	Catalina Islan	124.91	57	P		PKiKP	12 13	56.5	-0.1
	baz=280								
EDW2	Edwards Air Fo	124.98	55	P		PKiKP	12 13	56.9	+0.1
	baz=281								
GRAC	Grapevine Rang	125.05	53	P		PKiKP	12 13	57.2	+0.4
	baz=283								
LRMC	Laurel Mtn Rad	125.12	55	P		PKiKP	12 13	57.4	+0.3
	baz=282								
MPMC	Manual Prospec	125.15	54	P		PKiKP	12 13	57.5	+0.3
	baz=282								
BFSC	Mount Baldy Ra	125.38	56	P		PKiKP	12 13	57.5	-0.1
	baz=281								
HLID	Hailey	125.38	44	*e*PKPdf		PKPdf	12 13	55.7	-1.4
HLID	Hailey	125.38	44	P		PKiKP	12 13	58.1	+0.6
	baz=290								
FURC	Furnace Creek,	125.56	53	P		PKiKP	12 13	57.9	+0.2
	baz=283								
ELK	Elko	125.68	48	*e*PKPdf		PKPdf	12 13	56.3	-1.5
ELK	Elko	125.68	48	*e*PKIKP		PKPdf	12 13	56.3	-1.5
GSC	Goldstone, Bar	125.86	55	P		PKiKP	12 13	58.8	+0.3
	baz=282								
TPNV	Topopah Spring	125.93	53	P		PKiKP	12 13	59.1	+0.4
	baz=284								
DLMT	Dillon	125.94	42	*e*PKPdf		PKPdf	12 13	57.6	-0.4
BBRC	Big Bear Solar	125.97	56	P		PKiKP	12 13	59.2	+0.3
	baz=281								
MCMT	McKenzie Canyo	125.98	42	*e*PKPdf		PKiKP	12 13	58.8	+0.1
R11A	Troy Canyon, C	126.09	51	*e*PKPdf		PKiKP	12 13	59.2	+0.2
R11A	Troy Canyon, C	126.09	51	P		PKiKP	12 13	59.4	+0.4
	baz=285								
SHOC	Shoshone, Teco	126.15	54	P		PKiKP	12 13	59.9	+0.9
	baz=283								
HEC	Hector,Ludlow	126.33	55	P		PKiKP	12 14	00.1	+0.7
	baz=282								
BOZ	Bozeman (W)	126.48	41	*e*PKPdf		PKPdf	12 13	58.3	-0.8
BOZ	Bozeman (W)	126.48	41	*e*PKIKP		PKPdf	12 13	58.3	-0.8
BOZ	Bozeman (W)	126.48	41	P		PKiKP	12 14	00.2	+0.7
	baz=294								
EGMT	Eagleton	126.61	38	*e*PKPdf		PKPdf	12 13	58.3	-0.8
EGMT	Eagleton	126.61	38	P		PKiKP	12 13	59.8	+0.2
	baz=297								
MONP2	Monument Peak	126.64	58	P		PKPdf	12 14	00.0	+0.2
	baz=281								
BELC	Belle Mtn. Jos	126.78	56	P		PKPdf	12 14	00.1	+0.1
	baz=282								
SHPR	Sheep Range	126.88	53	*e*PKPdf		PKPdf	12 13	59.6	-0.6
GMRC	Granite Mounta	126.88	55	P		PKiKP	12 14	00.7	+0.1
	baz=283								
IKP	In-Ko-Pah, Jac	126.94	58	P		PKiKP	12 14	00.6	-0.1
	baz=281								
BC3	Big Chuckawall	127.29	56	P		PKiKP	12 14	01.3	-0.2
	baz=282								
YHH	Holmes Hill	127.31	42	*e*PKPdf		PKiKP	12 14	01.4	-0.1
IRM	Iron Mountain	127.43	56	P		PKiKP	12 14	01.5	-0.1
	baz=282								
IMW	Indian Meadow	127.60	43	*e*PKPdf		PKPdf	12 14	00.9	-0.5
DUG	Dugway, Tooele	127.61	48	*e*PKPdf		PKPdf	12 14	01.6	+0.3
DUG	Dugway, Tooele	127.61	48	*e*PKIKP		PKPdf	12 14	01.7	+0.3
DUG	Dugway, Tooele	127.61	48	P		PKiKP	12 14	02.2	+0.2
	baz=289								
FXWY	Fox Creek	127.64	43	*e*PKPdf		PKiKP	12 14	02.3	+0.2
TPAW	Teton Pass	127.75	43	*e*PKPdf		PKiKP	12 14	02.3	0.0
MOOW	Moose Ponds	127.79	43	*e*PKPdf		PKiKP	12 14	02.5	+0.3
REDW	Red Top Meadow	127.87	43	*e*PKPdf		PKiKP	12 14	02.6	+0.1
SNOW	Snow King Moun	127.89	43	*e*PKPdf		PKiKP	12 14	02.4	-0.1
LOHW	Long Hollow	127.94	43	*e*PKPdf		PKiKP	12 14	02.8	+0.2
CCUT	Cedar City	128.00	51	*e*PKPdf		PKiKP	12 14	03.1	+0.2
RLMT	Red Lodge	128.19	41	P		PKiKP	12 14	02.9	-0.1
	baz=296								
SZCU	Shurtz Canyon	128.19	51	*e*PKPdf		PKPdf	12 14	02.8	+0.1
W13A	Hualapai Mount	128.23	54	*e*PKPdf		PKPdf	12 14	02.8	0.0
LCMT	Little Creek M	128.24	52	*e*PKPdf		PKiKP	12 14	03.4	+0.1
BW06	Boulder Array	128.97	44	P		PKiKP	12 14	04.5	-0.2
	baz=294								
PD31	Pinedale Array	128.97	44	*e*PKPdf		PKPdf	12 14	04.2	+0.2
PDAR	Pinedale Array	128.97	44	*e*PKPdf		PKPdf	12 14	04.1	+0.1
PDAR	Pinedale Array	128.97	44	PKP		PKiKP	12 14	05.3	+0.5
	comp=Z,0.3nm,0.4s,baz=164,slow=1.6,SNR=6.5								
Q16A	Castle Valley	129.23	49	*e*PKPdf		PKPdf	12 14	04.3	-0.3
LAO	LASA Array	129.35	38	*e*PKPdf		PKPdf	12 14	04.5	+0.1
LAO	LASA Array	129.35	38	P		PKiKP	12 14	05.6	+0.4
	baz=300								
SRU	San Rafael Swe	129.64	48	*e*PKPdf		PKiKP	12 14	06.3	+0.2
SRU	San Rafael Swe	129.64	48	*e*PKIKP		PKiKP	12 14	06.3	+0.2
214A	Organ Pipe Nat	129.82	58	P		PKiKP	12 14	06.4	-0.1
	baz=282								
WUAZ	Wupatki	130.10	53	*e*PKPdf		PKiKP	12 14	06.8	-0.3
WUAZ	Wupatki	130.10	53	P		PKiKP	12 14	07.2	+0.1
	baz=286								
O20A	White River Ci	130.91	46	P		PKiKP	12 14	09.1	+0.4
	baz=293								
K22A	Casper	131.05	42	P		PKiKP	12 14	09.1	+0.3
	baz=296								
TUC	Tucson	131.41	57	P		PKiKP	12 14	09.9	+0.2
	baz=284								
W18A	Petrified Fore	131.50	53	P		PKiKP	12 14	10.4	+0.5
	baz=287								
MVCO	Mesa Verde	131.78	50	P		PKiKP	12 14	10.7	+0.2
	baz=290								
ULM	Lac du Bonnet	132.80	28	PKP		PKPdf	12 14	09.9	-0.8
	comp=Z,1.6nm,0.8s,baz=254,slow=7.4,SNR=3.8								
S22A	4UR Ranch, Cre	132.83	49	*e*PKPdf		PKPdf	12 14	11.7	+0.1
S22A	4UR Ranch, Cre	132.83	49	P		PKiKP	12 14	13.1	+0.4
	baz=292								
319A	Douglas	132.88	58	*e*PKPdf		PKiKP	12 14	12.4	-0.4
121A	Cookes Peak, D	133.80	56	P		PKiKP	12 14	14.2	-0.5
	baz=286								
SDCO	Great Sand Dun	133.81	48	P		PKiKP	12 14	14.7	0.0
	baz=293								
TASM	ASL Pad, Albuq	134.11	52	P		PKiKP	12 14	14.8	-0.4
	baz=290								
TASM	ASL Pad, Albuq	134.11	52	P		PKPdf	12 14	14.4	+0.4
	baz=290								
ANMO	Albuquerque	134.11	52	*i* PKIKP		PKPdf	12 14	14.0	+0.1
MNTX	Cornudas Mount	136.00	56	*e*PKPdf		PKPdf	12 14	17.8	+0.5
MNTX	Cornudas Mount	136.00	56	P		PKiKP	12 14	18.2	-0.7
	baz=288								
ECSD	EROS Data Cent	136.64	36	P		PKPdf	12 14	19.0	+0.9
	baz=308								
MSTX	Muleshoe	137.30	52	P		PKiKP	12 14	21.4	-0.3
	baz=292								
C40A	Isle Royale Na	137.53	26	P		PKiKP	12 14	21.2	-0.4
	baz=320								
TXAR	Lajitas Array	138.10	59	PKP		PKPdf	12 14	21.4	0.0
	comp=Z,0.9nm,0.9s,baz=229,slow=0.8,SNR=3.5								
G43A	Wallace	140.22	28	P		PKiKP	12 14	26.4	-0.7
	baz=320								
D46A	Sault St. Mari	140.43	23	P		PKiKP	12 14	26.6	-0.9
	baz=326								
E46A	Sault Ste Mari	140.76	24	P		PKiKP	12 14	27.2	-1.0
	baz=326								
JCT	Junction City	140.92	55	*e*PKPdf		PKPdf	12 14	26.6	+0.2
JCT	Junction City	140.92	55	*e*PKIKP		PKPdf	12 14	26.6	+0.2
JCT	Junction City	140.92	55	P		PKPdf	12 14	23.4	-3.0
	baz=291								
D52A	ZEK Kipawa Sen	142.26	17	P		PKPdf	12 14	29.6	+1.3
	baz=335								
E51A	G1948 Merrick	142.33	19	P		PKiKP	12 14	30.1	-1.4
	baz=333								
M43A	Waltham Townsh	142.41	33	P		PKPdf	12 14	29.6	+1.0
	baz=315								
L44A	Lake County Fo	142.41	31	P		PKPdf	12 14	29.8	+1.2
	baz=317								
P42A	Winchester	142.90	36	P		PKPdf	12 14	26.5	-3.1
	baz=312								
R41A	Rosebud	143.11	39	P		PKPbc	12 14	26.6	-0.3
	baz=309,SNR=5.4								
ALGO	Algonquin Park	143.29	18	P		PKPbc	12 14	27.2	0.0
	baz=335								
N44A	Piper City	143.30	33	P		PKPbc	12 14	27.1	-0.3
	baz=316								
S41A	Jilco Farms,	143.32	40	P		PKPbc	12 14	27.2	-0.3
	baz=308								
U40A	Yellville	143.33	43	P		PKPbc	12 14	27.6	0.0
	baz=305								
P43A	Skaggs, Pawnee	143.34	35	P		PKPbc	12 14	27.6	+0.1
	baz=313								
W39A	Magazine	143.34	45	P		PKPbc	12 14	27.6	0.0
	baz=303								
CCM	Cathedral Cave	143.35	39	*e*PKPdf		PKPbc	12 14	28.4	+0.9
CCM	Cathedral Cave	143.35	39	*e*PKIKP		PKPbc	12 14	28.4	+0.9
CCM	Cathedral Cave	143.35	39	P		PKPbc	12 14	28.0	+0.4
	baz=309								
K47A	Vermontville	143.44	28	P		PKPbc	12 14	27.8	+0.1
	baz=322								
R42A	Luebbering	143.48	38	P		PKPbc	12 14	27.5	-0.4
	baz=310,SNR=5.7								
N45A	Kentland	143.59	32	P		PKPbc	12 14	28.2	0.0
	baz=316								
BASO	Ashfield	143.76	23	P		PKPbc	12 14	28.7	+0.2
	baz=328								
PEMO	Pembroke	143.78	17	P		PKPbc	12 14	29.2	+0.7
	baz=336								
S42A	Caledonia	143.80	39	P		PKPbc	12 14	29.2	+0.3
	baz=309,SNR=10								
MIAR	Mount Ida	143.84	46	*e*PKPdf		PKPbc	12 14	30.1	+1.0
MIAR	Mount Ida	143.84	46	*e*PKIKP		PKPbc	12 14	30.1	+1.0
MIAR	Mount Ida	143.84	46	P		PKPbc	12 14	29.4	+0.3
	baz=302								
BWLO	Walkerton	143.87	23	P		PKPbc	12 14	29.6	+0.8
	baz=329								
L47A	Sherwood	143.89	29	P		PKPbc	12 14	28.9	-0.1
	baz=321								
U41A	Viola	143.95	42	P		PKPbc	12 14	29.6	+0.2
	baz=306,SNR=8.1								
P44A	Sand Creek, Wi	143.96	35	P		PKPbc	12 14	29.4	+0.1
	baz=314								
Q44A	Meyer Farm, Va	144.12	36	*e*PKPdf		PKPbc	12 14	30.6	+0.8
Q44A	Meyer Farm, Va	144.12	36	P		PKPbc	12 14	30.0	+0.2
	baz=313,SNR=5.9								
SFIN	Lafayette	144.15	32	P		PKPbc	12 14	30.1	+0.3
	baz=317								
BANO	Bancroft	144.18	18	P		PKPdf	12 14	30.8	-0.9
	baz=334								
L48A	N Adams	144.28	28	P		PKPbc	12 14	30.9	+0.7
	baz=322								
HKT	Hockley	144.29	54	*e*PKPdf		PKPdf	12 14	32.0	-0.2
HKT	Hockley	144.29	54	*e*PKIKP		PKPdf	12 14	32.0	-0.2
WHAR	Wooly Hollow	144.31	44	*e*PKPdf		PKPbc	12 14	31.0	+0.4
G55A	Calabogie	144.32	17	P		PKPdf	12 14	31.4	-0.5
	baz=336								
S43A	Fuller Ridge,	144.37	39	P		PKPbc	12 14	31.1	+0.4
	baz=310								
X40A	Basin Creek Fa	144.38	45	P		PKPbc	12 14	31.2	+0.4
	baz=303								
P45A	Graceland, Par	144.41	34	*e*PKPdf		PKPbc	12 14	31.2	+0.5
P45A	Graceland, Par	144.41	34	P		PKPbc	12 14	31.0	+0.3
	baz=315								
W41B	Gary Mavity, V	144.41	44	*e*PKPdf		PKPbc	12 14	31.3	+0.5
W41B	Gary Mavity, V	144.41	44	P		PKPbc	12 14	31.4	+0.6
	baz=304								
PLVO	Plevna	144.41	17	P		PKPdf	12 14	31.6	-0.5
	baz=336								
NATX	Nacogdoches	144.42	50	*e*PKPdf		PKPdf	12 14	32.8	+0.3
NATX	Nacogdoches	144.42	50	P		PKPdf	12 14	32.8	+0.3
	baz=298								
L49A	Milan	144.45	27	P		PKPdf	12 14	31.5	-0.7
	baz=323								
ALFO	Alfred	144.46	15	P		PKPdf	12 14	31.4	-0.7
	baz=339								
ORIO	Orleans, Innes	144.47	15	P		PKPbc	12 14	31.1	+0.4
	baz=338								
N47A	Urbana	144.49	30	P		PKPbc	12 14	31.2	+0.2
	baz=319								
M48A	Edgerton	144.50	29	P		PKPbc	12 14	31.3	+0.4
	baz=321								
R44A	Waltonville	144.53	37	P		PKPbc	12 14	31.4	+0.3
	baz=312								
T43A	Greenville	144.55	39	P		PKPbc	12 14	31.4	+0.2
	baz=309,SNR=12								
UALR	University of	144.56	44	*e*PKPdf		PKPdf	12 14	32.2	-0.5
ELFO	Elginfield	144.59	24	P		PKPdf	12 14	32.2	-0.2
	baz=328								
WLAR	White Oak Lake	144.61	46	*e*PKPdf		PKPdf	12 14	33.2	+0.5
Q45A	Warren Harvey,	144.62	35	P		PKPbc	12 14	32.0	+0.6
	baz=314,SNR=13								
P46A	Rosedale	144.64	33	P		PKPbc	12 14	31.6	+0.2
	baz=316,SNR=6.0								
PBMO	Poplar Bluff	144.65	40	*e*PKPdf		PKPbc	12 14	31.6	+0.1
PQI	Presque Isle	144.66	6	*e*PKPdf		PKPbc	12 14	31.9	+0.6
ACTO	Acton	144.70	22	P		PKPab	12 14	30.9	-0.5
	baz=330								
DELO	Deloro Mine	144.72	18	P		PKPbc	12 14	31.7	+0.2
	baz=334								
O47A	Sheridan	144.73	32	P		PKPab	12 14	31.5	-0.1
	baz=318								
PKRO	Pickering	144.74	20	P		PKPab	12 14	31.2	-0.3
	baz=332								
OLIL	Olney	144.76	35	*e*PKPdf		PKPbc	12 14	32.0	+0.2
S44A	Carbondale	144.79	38	P		PKPab	12 14	31.0	-0.9
	baz=311,SNR=6.6								
SIUC	Southern Illin	144.80	38	*e*PKPdf		PKPbc	12 14	32.4	+0.5
H55A	Tweed	144.83	18	P		PKPab	12 14	31.6	-0.2
	baz=335								
N48A	Decatur	144.84	30	P		PKPab	12 14	31.9	-0.1
	baz=320								
M49A	Liberty Center	144.86	28	P		PKPab	12 14	31.8	-0.2
	baz=322								
J52A	Paris	144.87	23	P		PKPbc	12 14	32.2	+0.1
	baz=329								
K51A	Iona Station	144.90	24	P		PKPdf	12 14	32.7	-0.4
	baz=327								
L50A	Kingsville	144.92	26	P		PKPdf	12 14	32.7	-0.3
	baz=324								
DRWO	Darlington Wes	144.94	20	P		PKPdf	12 14	33.0	0.0
	baz=332								
TLIG	Tlapa	144.95	76	*e*PKPdf		PKPdf	12 14	34.1	+0.2
R45A	Skylar, Fairfi	144.96	36	P		PKPbc	12 14	32.6	+0.1
	baz=313,SNR=11								
I55A	Frankford	144.97	19	P		PKPbc	12 14	32.5	+0.2
	baz=334								
Q46A	CEJHS Indians,	144.98	34	P		PKPbc	12 14	32.8	+0.3
	baz=315								
WLVO	Wesleyville	145.01	20	P		PKPdf	12 14	33.2	+0.1
	baz=333								
Z41A	Richland Creek	145.06	47	*e*PKPbc		PKPdf	12 14	33.8	+0.3
Z41A	Richland Creek	145.06	47	P		PKPdf	12 14	33.4	-0.2
	baz=301,SNR=6.6								
H56A	Elgin	145.06	17	P		PKPdf	12 14	33.1	-0.1
	baz=337,SNR=5.9								
PARMO	Parma	145.14	40	*e*PKPbc		PKPdf	12 14	33.8	+0.2
K52A	Tillsonburg	145.17	23	P		PKPbc	12 14	33.0	-0.1
	baz=328,SNR=6.5								
N49A	Columbus Grove	145.19	29	*e*PKPbc		PKPdf	12 14	33.8	+0.2
N49A	Columbus Grove	145.19	29	P		PKPdf	12 14	33.6	0.0
	baz=321								
S45A	Carrier Mills	145.20	37	P		PKPdf	12 14	33.6	-0.1
	baz=312								
TYNO	Tyneside	145.22	22	P		PKPdf	12 14	33.6	0.0
	baz=330,SNR=5.7								
O48A	Farmland	145.23	31	P		PKPab	12 14	33.4	0.0
	baz=319,SNR=14								
P47A	Martinsville	145.23	33	P		PKPdf	12 14	33.6	0.0
	baz=317,SNR=8.8								
HBAR	Harrisburg	145.25	42	*e*PKPbc		PKPdf	12 14	34.7	+0.9
M50A	Fremont	145.34	27	P		PKPdf	12 14	33.9	+0.1
	baz=324								
MOQ	Mont Orford	145.35	12	*e*PKPbc		PKPdf	12 14	34.8	+1.0
STCO	Saint Catharin	145.37	21	P		PKPab	12 14	34.0	+0.2
	baz=331								
PECO	Prince Edward	145.44	18	P		PKPab	12 14	34.4	+0.4
	baz=325,SNR=6.2								
R46A	Gibon Southern	145.46	35	P		PKPab	12 14	34.6	+0.3
	baz=314,SNR=6.2								
LONY	Lake Ozonia	145.48	15	*e*PKPbc		PKPab	12 14	34.7	+0.5
LONY	Lake Ozonia	145.48	15	P		PKPab	12 14	34.4	+0.2
	baz=339,SNR=9.4								
J54A	Appleton	145.50	21	P		PKPab	12 14	34.3	+0.1
	baz=332								
FRNY	Flat Rock	145.52	14	*e*PKPdf		PKPab	12 14	34.5	+0.2
USIN	University of	145.54	36	*e*PKPdf		PKPab	12 14	35.3	+0.7
Q47A	Bedord North L	145.55	33	P		PKPab	12 14	34.6	-0.1
	baz=316,SNR=6.9								
LVC	Limon Verde	145.60	170	*e*PKPdf		PKPdf	12 14	35.4	+0.1
LVC	Limon Verde	145.60	170	*e*PKP2		PKPdf	12 14	35.4	+0.1
MEDO	Medina	145.66	20	P		PKPab	12 14	35.1	+0.2
	baz=332,SNR=6.1								
O49A	Covington	145.69	30	*e*PKPdf		PKPdf	12 14	34.0	-0.5
O49A	Covington	145.69	30	P		PKPab	12 14	35.2	+0.1
	baz=320,SNR=6.1								
P48A	Milroy	145.69	32	P		PKPab	12 14	35.0	-0.1
	baz=318,SNR=5.6								
S46A	Don Dixon Farm	145.70	36	P		PKPab	12 14	35.3	+0.1
	baz=313,SNR=10								
X43A	Marvell	145.70	44	P		PKPab	12 14	36.0	+0.7
	baz=305								
LMN	Caledonia Moun	145.71	2	*e*PKPdf		PKPbc	12 14	34.7	0.0
M51A	Elyria	145.77	26	P		PKPab	12 14	35.5	+0.1
	baz=325								
J55A	Hilton	145.78	20	P		PKPab	12 14	35.6	+0.3
	baz=333								
N50A	Nevada	145.79	28	P		PKPab	12 14	35.9	+0.4
	baz=323,SNR=6.7								
PKME	Peaks-Kenny Pk	145.89	8	*e*PKPdf		PKPbc	12 14	35.0	-0.2
PKME	Peaks-Kenny Pk	145.89	8	P		PKPab	12 14	36.1	+0.5
	baz=349,SNR=6.9								
Q48A	North Vernon	145.92	33	P		PKPab	12 14	36.1	+0.1
	baz=317								
R47A	Wooly Knot Far	145.95	34	P		PKPbc	12 14	35.6	-0.1
	baz=315,SNR=5.9								
M52A	Chesterland	145.95	25	P		PKPbc	12 14	35.7	+0.2
	baz=326								
P49A	Miami Univ. Ec	146.00	31	P		PKPbc	12 14	35.9	+0.1
	baz=319								
ERPA	Erie	146.01	23	P		PKPab	12 14	36.0	-0.2
	baz=329								
N51A	Ashland	146.03	27	P		PKPbc	12 14	35.9

BINY	Binghamton	147.33	18	P	PKPbc	12 14 40.1	+0.6
	baz=336,SNR=7.7						
T49A	Edmonton	147.35	35	ePKPbc	PKPbc	12 14 40.3	+0.5
T49A	Edmonton	147.35	35	P	PKPbc	12 14 39.9	+0.1
	baz=316,SNR=12						
W47A	Westpoint	147.39	39	P	PKPbc	12 14 40.0	+0.1
	baz=310,SNR=18						
TRY	Troy	147.48	15	ePKPdf	PKPdf	12 14 37.1	-0.3
TRY				ePKPbc	PKPab	12 14 41.2	-0.7
O54A	Avella	147.49	25	P	PKPbc	12 14 40.4	+0.3
	baz=327						
R51A	Hillsboro	147.51	31	P	PKPbc	12 14 39.8	-0.4
	baz=320						
V48A	Smith Brothers	147.54	38	ePKPbc	PKPbc	12 14 40.5	+0.2
V48A	Smith Brothers	147.54	38	P	PKPbc	12 14 40.3	0.0
	baz=312,SNR=8.8						
N55A	Marion Center	147.55	23	P	PKPbc	12 14 40.5	+0.3
	baz=330						
S50A	Richmond	147.55	33	P	PKPbc	12 14 40.5	+0.2
	baz=318						
P53A	Whipple	147.63	27	ePKPbc	PKPbc	12 14 40.9	+0.4
P53A	Whipple	147.63	27	P	PKPbc	12 14 40.6	+0.2
	baz=324,SNR=6.3						
U49A	Red Boiling Sp	147.63	36	P	PKPbc	12 14 40.8	+0.2
	baz=315,SNR=15						
Q52A	Bidwell	147.64	29	P	PKPbc	12 14 40.4	-0.1
	baz=323,SNR=6.0						
X47A	Russelville	147.69	41	P	PKPbc	12 14 40.7	-0.1
	baz=309						
T50A	Nancy	147.80	34	P	PKPbc	12 14 41.0	+0.1
	baz=317,SNR=8.6						
W48A	Pulaski	147.87	39	P	PKPbc	12 14 41.3	0.0
	baz=311,SNR=12						
O55A	Ligonier	147.91	24	P	PKPbc	12 14 41.1	-0.1
	baz=328						
P54A	Burton	147.93	26	P	PKPbc	12 14 41.8	+0.5
	baz=326,SNR=5.9						
R52A	Catlettsburg	147.95	30	P	PKPbc	12 14 41.7	+0.4
	baz=321						
KSPA	Keystone Colle	147.98	18	ePKPbc	PKPbc	12 14 41.9	+0.6
S51A	Beattyville	148.00	32	ePKPbc	PKPbc	12 14 41.6	+0.1
S51A	Beattyville	148.00	32	P	PKPbc	12 14 41.6	+0.1
	baz=319						
Q53A	Leroy	148.07	28	P	PKPbc	12 14 42.0	+0.4
	baz=324						
V49A	McMinnville	148.07	37	P	PKPbc	12 14 42.2	+0.4
	baz=314						
SSPA	Standing Stone	148.09	22	ePKPbc	PKPbc	12 14 42.0	+0.3
SSPA	Standing Stone	148.09	22	P	PKPbc	12 14 42.2	+0.5
	baz=331						
O56A	Blue Knob Stat	148.15	23	ePKPbc	PKPbc	12 14 42.2	+0.3
O56A	Blue Knob Stat	148.15	23	P	PKPbc	12 14 42.4	+0.5
	baz=330						
MCWV	Mont Chateau	148.16	25	ePKPbc	PKPbc	12 14 42.5	+0.6
MCWV	Mont Chateau	148.16	25	P	PKPbc	12 14 42.3	+0.4
	baz=327						
HRV	Adam Dziewonsk	148.18	12	ePKPbc	PKPbc	12 14 42.6	+0.8
HRV	Adam Dziewonsk	148.18	12	ePKP2	PKPbc	12 14 42.6	+0.8
HRV	Adam Dziewonsk	148.18	12	P	PKPbc	12 14 42.7	+0.8
	baz=344						
U50A	Jamestown	148.23	35	P	PKPbc	12 14 42.7	+0.5
	baz=316,SNR=15						
PB11	IPOC Station P	148.24	168	ePKPbc	PKPbc	12 14 43.1	+0.3
S52A	Salyersville	148.24	31	P	PKPbc	12 14 42.3	+0.2
	baz=320						
X48A	Hartselle	148.25	40	ePKPdf	PKPbc	12 14 42.4	+0.1
X48A	Hartselle	148.25	40	P	PKPbc	12 14 41.9	-0.4
	baz=310						
Q54A	Coxs Mills	148.29	27	P	PKPbc	12 14 42.6	+0.4
	baz=325,SNR=5.3						
P55A	Reedsville	148.29	25	P	PKPbc	12 14 42.8	+0.6
	baz=327						
R53A	Hurricane	148.29	29	P	PKPbc	12 14 42.6	+0.3
	baz=322						
W49A	Belvidere	148.30	38	P	PKPbc	12 14 42.5	+0.2
	baz=312,SNR=9.9						
T51A	Gray	148.32	33	P	PKPbc	12 14 42.6	+0.2
	baz=318						
SWET	Sewanee	148.43	38	ePKPbc	PKPbc	12 14 42.9	+0.1
Y48A	Jasper	148.52	41	P	PKPbc	12 14 42.7	-0.3
	baz=310						
147A	Livingston	148.55	44	P	PKPbc	12 14 43.1	0.0
	baz=306						
N59A	State Game Lan	148.56	19	ePKPbc	PKPbc	12 14 43.5	+0.6
N59A	State Game Lan	148.56	19	P	PKPbc	12 14 43.1	+0.2
	baz=335,SNR=6.4						
Q55A	Buckhannon	148.61	26	P	PKPbc	12 14 43.0	-0.1
	baz=326						
V50A	Pikeville	148.61	36	P	PKPbc	12 14 43.4	+0.2
	baz=315						
X49A	Woodville	148.66	39	P	PKPbc	12 14 43.3	-0.1
	baz=312,SNR=6.6						
U51A	La Follette	148.72	34	P	PKPbc	12 14 43.4	-0.1
	baz=317						
S53A	Williamson	148.72	30	P	PKPbc	12 14 43.2	-0.2
	baz=322						
T52A	Hallie	148.72	32	P	PKPbc	12 14 43.7	+0.2
	baz=320						
ODNJ	Ogdensburg	148.76	17	ePKPbc	PKPbc	12 14 43.9	+0.6
W50A	Signal Mountai	148.81	37	ePKPbc	PKPbc	12 14 44.1	+0.3
W50A	Signal Mountai	148.81	37	P	PKPbc	12 14 44.1	+0.3
	baz=314,SNR=6.7						
TZTN	Tazewell	148.85	33	ePKPbc	PKPbc	12 14 44.2	+0.4
TZTN	Tazewell	148.85	33	P	PKPbc	12 14 43.9	+0.1
	baz=318						
PAGS	Pennsylvania G	148.86	21	ePKPbc	PKPbc	12 14 44.2	+0.6
R54A	Victor	148.87	28	P	PKPbc	12 14 44.1	+0.3
	baz=324						
V51A	Loudon	148.94	35	P	PKPbc	12 14 44.4	+0.4
	baz=316						
PAL	Palisades	149.03	16	P	PKPbc	12 14 44.5	+0.4
	baz=339						
Y49A	Blount Mountai	149.04	40	P	PKPbc	12 14 44.4	+0.1
	baz=310						
T53A	Wise	149.05	32	P	PKPbc	12 14 44.4	+0.1
	baz=320						
U52A	Thorn Hill	149.06	33	P	PKPbc	12 14 44.0	-0.3
	baz=318						
CPCT	Cooper Cave	149.10	36	ePKPbc	PKPbc	12 14 44.1	-0.3
X50B	Fort Payne	149.11	39	P	PKPbc	12 14 44.2	-0.3
	baz=312,SNR=6.5						
W51A	Cleveland	149.16	37	P	PKPbc	12 14 44.8	+0.3
	baz=315						
LRAL	Lakeview Retre	149.18	42	ePKPbc	PKPbc	12 14 44.5	-0.1
LRAL	Lakeview Retre	149.18	42	P	PKPbc	12 14 44.8	+0.1
	baz=309						
R55A	Marlinton	149.18	27	P	PKPbc	12 14 44.8	+0.2
	baz=326						
MVL	Millersville	149.19	20	ePKPbc	PKPbc	12 14 45.0	+0.5
BDFB	Brasilia	149.30	209	PKPbc	PKiKP	12 14 47.1	+0.4
	comp=Z,2.4nm,0.4s,baz=189,slow=5.8,SNR=4.3						
V52A	Sevierville	149.34	34	ePKPbc	PKPbc	12 14 45.2	+0.2
V52A	Sevierville	149.34	34	P	PKiKP	12 14 45.8	-0.4
	baz=317,SNR=6.3						
TKL	Tuckaleechee C	149.37	35	ePKPbc	PKPbc	12 14 45.3	+0.2
TKL	Tuckaleechee C	149.37	35	ePKP2	PKPbc	12 14 45.3	+0.2
Z49A	Columbiana	149.38	41	P	PKPbc	12 14 45.2	0.0
	baz=310						
S55A	Lewisburg	149.42	28	P	PKPbc	12 14 45.1	-0.1
	baz=324						
Y50A	Piedmont	149.44	39	P	PKPbc	12 14 45.3	0.0
	baz=312						
T54A	Tazewell	149.47	30	P	PKPbc	12 14 45.6	+0.1
	baz=322,SNR=5.1						
U53A	Fall Branch	149.50	32	P	PKPbc	12 14 45.7	+0.3
	baz=319						
X51A	Calhoun	149.52	38	P	PKPbc	12 14 45.4	-0.1
	baz=314						
PSUB	Penn St. - Bra	149.56	19	ePKPbc	PKiKP	12 14 46.0	-0.5
W52A	Murphy	149.69	36	ePKPbc	PKPbc	12 14 46.4	+0.4
W52A	Murphy	149.69	36	P	PKPbc	12 14 45.9	-0.1
	baz=316						
Z50A	Ashland	149.74	41	P	PKPbc	12 14 46.0	-0.1
	baz=310						
249A	Camden	149.74	44	P	PKPbc	12 14 46.5	+0.4
	baz=307						
U54A	Nelsons Funny	149.77	31	P	PKPbc	12 14 46.3	+0.1
	baz=321						
T55A	Pulaski	149.82	29	P	PKiKP	12 14 47.0	-0.2
	baz=323						
Y51A	Rockmart	149.85	39	P	PKPbc	12 14 46.8	+0.5
	baz=313						
V53A	Saluda	149.90	34	ePKPbc	PKiKP	12 14 47.2	-0.2
V53A	Saluda	149.90	34	P	PKiKP	12 14 47.2	-0.2
	baz=318,SNR=6.1						
BLA	Blacksburg	149.91	29	P	PKiKP	12 14 47.4	0.0
	baz=324						
X52A	Dahlonega	150.06	36	P	PKPbc	12 14 47.2	+0.3
	baz=315						
349A	Repton	150.06	45	P	PKiKP	12 14 47.9	+0.1
	baz=306						
W53A	Cullowhee	150.07	35	P	PKiKP	12 14 47.8	-0.1
	baz=317,SNR=5.8						
150A	Eclectic	150.09	42	P	PKiKP	12 14 47.6	-0.2
	baz=310						
Z51A	Franklin	150.17	40	P	PKiKP	12 14 47.6	-0.4
	baz=312						
U55A	TA2, Sparta	150.18	30	P	PKPbc	12 14 47.4	+0.2
	baz=322						
T56A	Rocky Mt	150.24	28	P	PKiKP	12 14 47.7	-0.4
	baz=324						
V54A	Nebo	150.28	32	P	PKPbc	12 14 47.7	+0.4
	baz=320						
250A	Grady	150.32	43	P	PKPbc	12 14 47.6	+0.1
	baz=308						
449A	Pace	150.39	46	P	PKiKP	12 14 48.2	-0.3
	baz=305						
R58B	Mineral	150.40	24	P	PKPbc	12 14 47.4	-0.1
	baz=329						
X53A	Estanollee	150.47	36	P	PKiKP	12 14 48.8	+0.3
	baz=316						
Y52A	Lilburn	150.48	38	ePKPbc	PKiKP	12 14 48.3	-0.3
Y52A	Lilburn	150.48	38	P	PKiKP	12 14 48.4	-0.2
	baz=314						
151A	Opelika	150.59	41	P	PKiKP	12 14 48.7	-0.1
	baz=310						
T57A	Hurt	150.63	27	P	PKiKP	12 14 48.9	+0.2
	baz=326						
W54A	Cherokee Point	150.67	34	P	PKiKP	12 14 48.8	-0.2
	baz=319						
Z52A	Williamson	150.72	39	P	PKiKP	12 14 49.0	-0.1
	baz=313						
Y53A	Monroe	150.77	37	P	PKiKP	12 14 49.3	+0.1
	baz=315						
251A	Midway	150.81	42	P	PKiKP	12 14 49.3	0.0
	baz=310						
152A	Waverly Hall	150.88	40	ePKPbc	PKPbc	12 14 48.8	0.0
152A				ePKPab	sPKPbc	12 14 57.2	-0.4
152A	Waverly Hall	150.88	40	P	PKiKP	12 14 49.3	-0.2
	baz=312						
X54A	Belton	150.97	35	P	PKiKP	12 14 50.1	+0.5
	baz=318						
KMSC	Kings Mountain	151.09	32	P	PKiKP	12 14 50.2	+0.4
	baz=320						
GOGA	Godfrey	151.15	38	ePKPbc	PKPbc	12 14 48.9	-0.5
GOGA	Godfrey	151.15	38	ePKIKP	PKPbc	12 14 48.9	-0.5
GOGA	Godfrey	151.15	38	P	PKiKP	12 14 50.5	+0.5
	baz=314						
Z53A	Monticello	151.18	38	P	PKiKP	12 14 50.5	+0.5
	baz=314						
V57A	Coltrane Farms	151.29	29	P	PKiKP	12 14 50.2	0.0
	baz=324						
Y54A	Tignall	151.29	36	P	PKiKP	12 14 50.5	+0.3
	baz=316						
252A	Lumpkin	151.31	41	P	PKiKP	12 14 50.6	+0.2
	baz=311						
X55A	Gracelyn & Ava	151.43	34	P	PKiKP	12 14 51.0	+0.5
	baz=319						
W56A	Indian Trail	151.48	32	P	PKiKP	12 14 50.7	+0.1
	baz=321						
352A	Blakely	151.52	42	P	PKPbc	12 14 50.6	+0.2
	baz=310						
Z54A	Sparta	151.65	37	P	PKiKP	12 14 51.1	+0.1
	baz=315						
253A	Americus	151.66	40	P	PKiKP	12 14 51.1	+0.1
	baz=312						
Y55A	Saluda	151.71	35	P	PKiKP	12 14 51.3	+0.2
	baz=318						
X56A	White Oak	151.74	33	P	PKiKP	12 14 51.5	+0.3
	baz=320						
W57A	Gilead	151.76	31	P	PKiKP	12 14 51.6	+0.4
	baz=322						
LPAZ	La Paz	151.91	169	ePKPbc	PKiKP	12 14 52.8	0.0
LPAZ				ePKPab	sPKPbc	12 15 01.6	+0.1
LPAZ	La Paz	151.91	169	ePKIKP	PKiKP	12 14 52.8	0.0
LPAZ				e		12 15 01.6	
LPAZ	La Paz	151.91	169	PKPbc	PKiKP	12 14 54.0	+1.3
	comp=Z,4.1nm,0.8s,baz=136,slow=3.4,SNR=13						
V59A	Middlesex	152.10	27	P	PKiKP	12 14 52.1	+0.3
	baz=326						
155A	Kite	152.30	38	P	PKiKP	12 14 53.3	+1.0
	baz=315						
TIGA	Tifton	152.41	41	P	PKiKP	12 14 53.7	+1.1
	baz=312						
X58A	Rowland	152.56	31	P	PKiKP	12 14 53.9	+1.1
	baz=323						
OTAV	Otavalo	160.90	125	ePKPdf	PKPdf	12 14 58.8	+1.2
OTAV	Otavalo	160.90	125	ePKIKP	PKPdf	12 14 58.8	+1.2

IDC 25 12:14:33.5±2.1, 4°58S×151°93E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/32, mbtmp3.1/3, Error ellipse: s-maj=144.0km s-min=28.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.74	224	Sn	Sn	12 17 32.8	+1.5
	0.4nm,0.3s,baz=162,slow=20,SNR=2.4						
WRA	Warramunga Arr	22.95	227	P	P	12 19 39.8	+0.1
	0.2nm,0.5s,baz=53,slow=10,SNR=3.5						
ASAR	Alice Springs	25.73	221	P	P	12 20 05.8	-0.1
	0.1nm,0.5s,baz=54,slow=9.1,SNR=4.5						
ILAR	Eielson Array	82.29	22	P	P	12 26 56.7	0.0
	0.4nm,0.7s,baz=243,slow=5.2,SNR=5.1						

ISCJB 25 12:24:37.3±0.4, 33°.25N±0°.05×95°.32E±0°.06, h10km, mb3.8/9, Error ellipse: s-maj=8.7km s-min=5.8km az=141.5
BJI 25 12:24:37.3, 33°.29N×95°.25E, h5km, mb3.9/5, ML3.6/2, Ms3.5/5, Ms7 3.4/2
IDC 25 12:24:38.1±0.9, 33°.37N×95°.52E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.7/54, mbtmp3.8/12, ML3.6/3, Error ellipse: s-maj=34.7km s-min=16.6km az=62.0

ISC 25 12:24:39.5±0.7, 33°27N±0°.08×95°33E±0°.07, h10km, n23, σ1§21/25, mb3.8/9, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	Lanzhou	7.56	66	ePn	Pn	12 26 31.3	+1.4
JIRN	Jiri	9.66	237	eP	Pn	12 26 59.5	+0.6
GUN	Gumba	9.73	239	eP	Pn	12 27 00.6	+0.7
PKI	Pulchoki	10.27	239	eP	Pn	12 27 07.0	-0.2
PKIN	Phulchoki	10.28	239	eP	Pn	12 27 07.0	-0.3
	26nm,0.7s						
KMI	Kunming	10.38	140	P	Pn	12 27 07.8	-0.9
DANN	Dangsing	11.08	247	eP	Pn	12 27 19.6	+1.3
	38nm,0.7s						
KOLN	Koldanda	11.50	245	eP	Pn	12 27 23.8	-0.1
	11nm,0.6s						
PYUN	Piuthan	11.80	247	eP	Pn	12 27 27.6	-0.5
	28nm,0.7s						
WMQ	Urumqi	12.10	333	eP	Pn	12 27 34.0	+2.0
WMQ				LR	LR		
	comp=N,120nm,21.3s						
WMQ				LR	LR		
	comp=E,200nm,15.9s						
WMQ				LR	LR		
	comp=Z,200nm,20.5s						
HHC	Hu-ho-hao-te	15.00	55	eP	P	12 28 15.5	-1.6
HHC				sP		12 28 25.0	
HHC				S	Sn	12 30 57.8	0.0
HHC				SS	S	12 31 18.8	+3.2
HHC				LR	LR		
	comp=N,150nm,7.0s						
CMAR	Chiang Mai Arr	15.10	167	Pn	Pn	12 28 14.5	+1.5
	0.2nm,0.3s,baz=352,slow=11,SNR=3.0						
MKAR	Makanchi Array	16.76	328	Pn	Pn	12 28 33.1	-1.2
	0.1nm,0.3s,baz=140,slow=14,SNR=6.3						
SONM	Songino Array	16.78	27	Pn	Pn	12 28 33.7	-0.9
	0.2nm,0.3s,baz=211,slow=14,SNR=14						
KURBB	Kurchatov Arra	21.28	330	P	P	12 29 25.4	-0.6
	2.6nm,0.7s,baz=138,slow=11,SNR=26						
ZALV	Zalesovo Beam	21.98	343	P	P	12 29 33.8	+0.4
	1.1nm,0.5s,baz=163,slow=10,SNR=5.8						
BVAR	Borovoye Array	26.62	325	P	P	12 30 19.0	+1.1
	0.7nm,0.6s,baz=131,slow=8.1,SNR=3.6						
TIXI	Tiksi	42.35	15	P	P	12 32 31.9	-1.4
	1.4nm,0.3s,baz=286,slow=7.6,SNR=5.7						
BRTR	Keskin Array B	49.15	296	P	P	12 33 27.8	+0.1
	1.1nm,1.0s,baz=59,slow=6.9,SNR=4.8						
WRA	Warramunga Arr	64.71	139	P	P	12 35 17.9	0.0
	1.9nm,1.0s,baz=329,slow=7.6,SNR=8.3						
ASAR	Alice Springs	67.51	142	P	P	12 35 36.3	+0.4
	1.0nm,0.8s,baz=335,slow=6.3,SNR=9.3						
ILAR	Eielson Array	70.98	24	P	P	12 35 55.8	-1.1
	1.3nm,1.0s,baz=305,slow=5.6,SNR=8.3						
YKA	Yellowknife Ar	81.58	14	P	P	12 36 56.4	-0.7
	0.9nm,1.0s,baz=337,slow=5.3,SNR=8.6						

IDC 25 12:24:56.6±6.6, 30°.14S×177°.65W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/28, mbtmp3.4/2, Error ellipse: s-maj=271.6km s-min=55.2km az=155.0
WEL 25 12:25:42.7±1.0, 30°.5S±12°×17°.9W±3°.0, h271km±12km

ISC 25 12:25:39.8±1.3, 30°.2S±0°.1×178°.5W±0°.3, h300km, n33, σ1§82/35, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.09	28	P	Pn	12 26 21.1	+0.5
GLKZ				S	S	12 26 53.0	-0.1
RIZ	Raoul Island	1.10	27	P	Pn	12 26 19.6	-1.2
MXZ	Matakaoa Point	7.78	199	P	Pn	12 27 33.9	+3.3
WMGZ	Waiomatatini S	7.99	198	P	Pn	12 27 37.6	+4.4
HAZ	Te Kaha	8.12	201	P	Pn	12 27 34.1	-0.6
HAZ				S	S	12 29 09.7	+1.8
PKGZ	Pakihiroa	8.15	199	P	Pn	12 27 38.8	+3.6
PUZ	Puketiti	8.27	198	P	Pn	12 27 37.4	+0.7
PUZ				S	S	12 29 09.2	-2.3
WCZ	Waipu Caves	8.27	225	P	Pn	12 27 38.2	+1.6
RUGZ	Raukumara Rang	8.34	201	P	Pn	12 27 38.6	+0.9
TWGZ	Tauwhareparae	8.45	199	P	Pn	12 27 42.1	+3.3
TWGZ				S	S	12 29 14.0	-1.5
MWZ	Matawai	8.73	201	P	Pn	12 27 40.7	-1.5
MWZ				S	S	12 29 20.0	-1.8
TKGZ	Te Karaka	8.73	199	P	Pn	12 27 40.0	-2.2
URZ	Urewera	8.80	203	P	Pn	12 27 43.5	+0.5
MUGZ	Murupara	9.11	204	P	Pn	12 27 47.0	+0.1
RTZ	Ruatahuna	9.16	203	P	Pn	12 27 48.5	+0.9
SNGZ	Shannon Statio	9.20	201	P	Pn	12 27 48.7	+0.7
MHGZ	Mahia Peninsul	9.38	197	P	Pn	12 27 52.5	+2.3
MTHZ	Maungataniwha	9.42	203	P	Pn	12 27 52.2	+1.5
KUTZ	Kaahu Road	9.48	208	P	Pn	12 27 54.3	+2.8
NMHZ	Naumai	9.65	202	P	Pn	12 27 55.0	+1.4
HATZ	Hinemaiaia	9.72	206	P	Pn	12 27 54.8	+0.4
ARHZ	Aropaoanui	9.74	201	P	Pn	12 27 55.5	+0.8
BKZ	Black Stump Fm	9.82	203	P	Pn	12 27 55.2	-0.5
MCHZ	McNeill Hill	10.01	202	P	Pn	12 27 59.3	+1.4
KWHZ	Kaweka Forest	10.08	203	P	Pn	12 27 58.5	-0.3
FWVZ	Far West T-bar	10.25	207	P	Pn	12 28 00.8	-0.2
BHHZ	Black Hill Sta	10.26	204	P	Pn	12 28 00.2	-0.8
KAHZ	Kahuranaki	10.27	200	P	Pn	12 28 01.8	+0.7
KRHZ	Kereru	10.29	203	P	Pn	12 28 00.7	-0.8
TSZ	Takapari Road	10.80	203	P	Pn	12 28 06.7	-1.0
ASAR	Alice Springs	42.68	267	P	P	12 33 01.1	-6.9
	0.3nm,1.0s,baz=103,slow=6.0,SNR=4.3						
WRA	Warramunga Arr	43.66	272	P	P	12 33 08.8	-7.0
	0.7nm,0.5s,baz=110,slow=7.4,SNR=15						
FINES	FINESS Array B	144.83	340	PKPbc	PKPdf	12 44 34.3	-6.1
	1.3nm,0.4s,baz=49,slow=4.2,SNR=11						

ISCJB 25 12:28:49.1±0.2, 33°.29N±0°.02×95°.28E±0°.02, h10km, mb4.4/59, MS3.7/25, Error ellipse: s-maj=3.1km s-min=3.0km az=1.6
IDC 25 12:28:49.5±0.6, 33°.33N×95°.37E, h0km, mb4.1/24, mb1 4.2/27, mb1mx4.1/52, mbtmp4.1/27, ML3.9/3, MS3.8/27, Ms1 3.8/27, ms1mx3.7/41, Error ellipse: s-maj=15.8km s-min=12.4km az=48.0
NDI 25 12:28:49.7±3.2, 33°.35N×95°.38E, h10km, mb4.6, mb4.6(NEIC)
NEIC 25 12:28:50.9±0.1, 33°.31N×95°.32E, h10km, mb4.6/38, Error ellipse: s-maj=3.3km s-min=2.7km az=60.0
MOS 25 12:28:50.8±1.0, 33°.32N×95°.33E, h22km, mb4.7/18, Error ellipse: s-maj=7.8km s-min=4.2km az=117.5
BJI 25 12:28:52.0, 33°.26N×95°.29E, h20km, mb4.3/26, mB4.7/12, Ms4.4/35, Ms7 4.3/29

ISC 25 12:28:51.4±0.3, 33°30N±0°.04×95°23E±0°.04, h10km, n213, σ1§70/216, mb4.5/61, MS3.8/25, 11C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	5.00	225	ePn	Pn	12 30 07.1	+0.2
LSA	Lhasa	5.00	225	eP	Pn	12 30 07.1	+0.2
GTA	Gaotai	7.13	30	ePn	Pn	12 30 36.8	+0.9
GTA				Sn	Sn	12 31 59.0	+2.0
GTA				LR	LR		
	comp=N,1μm,8.6s						
GTA				LR	LR		
	comp=E,1μm,9.1s						
GTA				LR	LR		
	comp=Z,2μm,8.9s						
CD2	Chengdu	7.62	106	ePn	Pn	12 30 44.0	+1.5
CD2				Sn	Sn	12 32 10.8	+2.0
CD2				LR	LR		
	comp=N,5μm,5.5s						
CD2				LR	LR		
	comp=Z,4μm,7.1s						
LZH	Lanzhou	7.62	66	ePn	Pn	12 30 45.3	+2.7
LZH				Sn	Sn	12 32 15.5	+6.4
LZH				LR	LR		
	comp=N,4μm,9.8s						
LZH				LR	LR		
	comp=E,3μm,9.8s						
LZH				LR	LR		
	comp=Z,4μm,10.8s						
SHL	Shillong	8.24	202	ePn	Pn	12 30 51.4	+0.3
SHL				eSn	Sn	12 32 23.9	-0.5
SHL	Shillong	8.24	202	eP	Pn	12 30 51.4	+0.3
SHL				e		12 32 23.9	
SHL	Shillong	8.24	202	eP	Pn	12 30 48.5	-2.6
SHL				eS	Sn	12 32 18.9	-5.6
JIRN	Jiri	9.61	237	eP	Pn	12 31 11.4	+1.2
	32nm,0.5s						
GUN	Gumba	9.68	239	eP	Pn	12 31 12.2	+1.1
	101nm,0.7s						
RAMN	Ramite	9.79	232	eP	Pn	12 31 12.4	-0.1
	28nm,0.4s						
KKN	Kakani	10.18	240	eP	Pn	12 31 18.3	+0.4
	50nm,0.4s						
PKI	Pulchoki	10.22	239	eP	Pn	12 31 18.9	+0.5
	88nm,0.5s						
PKIN	Phulchoki	10.22	239	eP	Pn	12 31 19.0	+0.6
	73nm,0.6s						
DMN	Daman	10.41	240	eP	Pn	12 31 21.4	+0.4
	54nm,0.5s						
KMI	Kunming	10.45	139	P	Pn	12 31 23.0	+1.4
KMI				pP		12 31 25.0	
KMI				S	Sn

comp=Z,90nm,5.0s
GYA LR LR
comp=N,780nm,7.9s
GYA LR LR
comp=E,700nm,7.4s
GYA LR LR
comp=Z,720nm,9.8s
WMQ Urumqi 12.04 333 P **Pn 12 31 44.5 +1.4**
WMQ sP 12 31 54.3
WMQ LR LR
comp=N,990nm,26.1s
WMQ LR LR
comp=E,940nm,17.3s
WMQ LR LR
comp=Z,1μm,22.1s
WMQ Urumqi 12.04 333 *e*Pn **Pn 12 31 42.7 -0.4**
WMQ Urumqi 12.04 333 *e*P **Pn 12 31 42.7 -0.4**
ENH Enshi 12.50 100 *e*Pn **Pn 12 31 48.7 -0.6**
BOK Bokaro 12.53 223 *e*P **Pn 12 31 49.5 -0.3**
CHTO Chiang Mai 14.80 166 *e*Pn **Pn 12 32 20.5 -0.4**
CHTO Chiang Mai 14.80 166 *e*P **Pn 12 32 20.5 -0.4**
DDI Dehra Dun 14.90 263 *e*P **Pn 12 32 23.4 +1.1**
HHC Hu-ho-hao-te 15.04 55 *e*P **Pn 12 32 22.0 -2.1**
HHC sP P 12 32 31.8 +2.3
HHC PP **PnPn 12 32 36.5 +4.4**
HHC S **Sn 12 35 09.0 -1.8**
HHC sS S 12 35 18.5 -10
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.4s
HHC LR LR
comp=N,460nm,5.7s
HHC LR LR
comp=Z,1μm,10.7s
CM31 Chiang Mai Arr 15.15 166 *e*Pn **Pn 12 32 25.3 -0.2**
6.5nm,1.1s
CMAR Chiang Mai Arr 15.15 166 Pn **Pn 12 32 26.6 +1.1**
0.2nm,0.3s,baz=343,slow=11,SNR=9.1
CMAR LR LR 12 38 59.3
comp=Z,364nm,18.1s,baz=346,slow=40
CM01 Chiang Mai Arr 15.19 166 *e*Pn **Pn 12 32 25.6 -0.5**
LAMP Lampang 15.23 164 P **P 12 32 31.2 -0.4**
3.6nm,1.2s
SMLA Simla 15.45 267 *e*P **Pn 12 32 28.4 -1.0**
SMLA IAmb IAmb 12 32 35.7
comp=Z,8.7nm,0.7s
SHLS Shalkode 15.80 313 *e*P **Pn 12 32 29.5 -4.5**
SHLS pmax pmax
comp=Z,74nm,1.5s
SHLS MLR MLR
comp=Z,127nm,10.0s
SHLS Shalkode 15.80 313 *e*P **Pn 12 32 29.5 -4.5**
comp=Z,74nm,1.4s
SHLS eLR LR 12 39 37.1
comp=Z,127nm,10.0s
PDGK Podgornoye 15.88 314 P **Pn 12 32 33.2 -1.9**
PDGK pmax pmax
comp=Z,7.0nm,0.9s
DHRM DHARAMSHALA 15.96 271 *e*P **Pn 12 32 37.3 +1.0**
DHRM IAmb IAmb 12 32 40.6
comp=Z,12nm,0.7s
UZB Uzynbulak 16.07 312 *e*P **Pn 12 32 36.0 -1.5**
UZB pmax pmax
comp=Z,30nm,1.1s
UZB MLR MLR
comp=Z,146nm,15.0s
UZB Uzynbulak 16.07 312 *e*P **Pn 12 32 36.0 -1.5**
comp=Z,30nm,1.1s
UZB eLR LR 12 38 51.8
ZSN Zaisan 16.17 334 *e*P **P 12 32 41.1 -0.7**
ZSN pmax pmax
comp=Z,27nm,1.1s
ZSN MLR MLR
comp=Z,96nm,15.0s
ZSN Zaisan 16.17 334 *e*P **P 12 32 41.1 -0.7**
comp=Z,27nm,1.1s
ZSN eLR LR 12 38 23.8
comp=Z,96nm,15.1s
SATY Saty 16.41 311 *e*P **Pn 12 32 40.9 -0.9**
SATY pmax pmax
comp=Z,107nm,0.8s
SATY Saty 16.41 311 *e*P **Pn 12 32 40.9 -0.9**
comp=Z,107nm,0.8s
KPKS Kokpek 16.45 313*c i*P **Pn 12 32 41.4 -0.9**
KPKS pmax pmax
comp=Z,56nm,1.0s
KPKS MLR MLR
comp=Z,195nm,14.0s
KPKS Kokpek 16.45 313⇑ *i*P **Pn 12 32 41.4 -0.9**
comp=Z,56nm,1.1s
KPKS eLR LR 12 38 49.2
comp=Z,195nm,14.4s
WHN Wuhan 16.46 94 ⇓P **P 12 32 49.0 +3.8**
WHN S **Sn 12 35 49.0 +3.8**
WHN LR LR
comp=N,3μm,15.7s
WHN LR LR
comp=E,2μm,12.6s
WHN LR LR
comp=Z,1μm,10.0s
MK01 Makanchi Array 16.68 328 *e*Pn **Pn 12 32 45.2 +0.1**
MK31 Makanchi Array 16.70 328 *e*Pn **Pn 12 32 44.7 -0.7**
comp=Z,3.4nm,0.8s
MK31 Makanchi Array 16.70 328 *e*P **Pn 12 32 44.7 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK32 Makanchi Array 16.70 328 *e*Pn **Pn 12 32 44.4 -1.0**
MKAR Makanchi Array 16.70 328 Pn **Pn 12 32 44.4 -1.0**
comp=Z,0.4nm,0.3s,baz=138,slow=14,SNR=22
MKAR LR LR 12 39 49.7
comp=Z,453nm,21.9s,baz=136,slow=40
NONG Nongkai 16.75 153 P **P 12 32 50.9 +2.4**
comp=Z,0.2nm,2.0s
KDJ Kajisay 16.76 307 *e*Pn **Pn 12 32 47.0 +0.6**
comp=Z,7.1nm,0.8s
KDJ Kajisay 16.76 307 P **Pn 12 32 47.0 +0.6**
KDJ pmax pmax
comp=Z,7.0nm,0.8s
SONA0 Songino Array 16.79 27 *e*Pn **Pn 12 32 45.6 -1.0**
SONM Songino Array 16.79 27 Pn **Pn 12 32 45.6 -1.0**
comp=Z,0.3nm,0.3s,baz=213,slow=13,SNR=34
SONM LR LR 12 39 54.0
comp=Z,270nm,18.9s,baz=210,slow=40
MAKZ Makanchi 16.85 327 *e*Pn **Pn 12 32 46.5 -0.7**
comp=Z,11nm,1.4s
MAKZ Makanchi 16.85 327 *e*P **Pn 12 32 46.6 -0.7**
MAKZ pmax pmax
comp=Z,11nm,1.4s
ULN Ulaanbaatar 17.07 28 *e*Pn **Pn 12 32 48.6 -1.6**
comp=Z,16nm,1.2s
ULN Ulaanbaatar 17.07 28 *i*P **Pn 12 32 48.1 -2.1**
NRN Naryn 17.29 304 *e*Pn **Pn 12 32 53.2 +0.1**
comp=Z,8.2nm,1.3s
NRN Naryn 17.29 304 *e*P **Pn 12 32 53.3 +0.1**
NRN pmax pmax
comp=Z,8.0nm,1.3s
MDOK Medeo 17.32 310 *e*P **Pn 12 32 53.7 +0.4**
MDOK pmax pmax
comp=Z,21nm,0.8s
MDOK MLR MLR
comp=Z,363nm,18.0s
MDOK Medeo 17.32 310 *e*P **Pn 12 32 53.8 +0.4**
comp=Z,21nm,0.8s
MDOK *e*S **S 12 36 15.7 +0.7**
comp=Z,194nm,5.4s
MDOK eLR LR 12 39 33.1
comp=Z,364nm,17.9s
UMPA Umpang Tak 17.33 168 P **P 12 33 00.6 +5.7**
comp=Z,4.9nm,1.4s
DGZ Jazzator, Alta 17.38 343 *i*P **P 12 32 55.4 0.0**
TDK Taldyqorghan 17.48 317 eLR LR 12 39 20.8
comp=Z,303nm,19.9s
BOOM Boomskoye usch 17.75 307 P **P 12 33 00.0 +0.5**
BOOM pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 18.07 17 *e*P **P 12 33 02.3 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.7s
KUU Kurty 18.12 311 *e*P **P 12 33 04.0 +0.5**
KUU pmax pmax
comp=Z,15nm,0.7s
KUU MLR MLR
comp=Z,83nm,17.0s
KUU Kurty 18.12 311 *e*P **P 12 33 04.0 +0.5**
comp=Z,15nm,0.7s
KUU *e*S **S 12 36 40.2 +9.0**
comp=Z,263nm,5.9s
KUU *e*LR LR 12 40 30.1
comp=Z,83nm,17.2s
TKM2 Tokmak 2 18.16 308 *i*P **P 12 33 05.7 +1.6**
TKM2 pmax pmax
comp=Z,14nm,1.3s
NIL Nilore 18.34 277 *e*Pn **P 12 33 05.5 -0.5**
comp=Z,66nm,1.3s
NIL Nilore 18.34 277 *e*P **P 12 33 05.5 -0.5**
NIL pmax pmax
comp=Z,66nm,1.3s
BHPL Bhopal 18.59 242 *e*P **P 12 33 07.1 -1.7**
BHPL IAmb IAmb 12 33 07.6
comp=Z,24nm,1.0s
AAK Ala-Archa 18.78 306 *e*P **Pn 12 33 11.4 0.0**
comp=Z,8.8nm,0.8s
AAK Ala-Archa 18.78 306*ce*P **Pn 12 33 13.1 +1.7**
AAK pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 19.36 16 *i*P **P 12 33 16.5 -0.6**
TLY pmax pmax
comp=Z,4.0nm,0.9s
ARSB Arslanbob 19.39 301 *e*P **Pn 12 33 18.3 -0.4**
comp=Z,28nm,1.6s
NJ2 Nanjing 19.92 87 *e*P **P 12 33 21.0 -2.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,590nm,11.8s
NJ2 LR LR
comp=Z,790nm,11.2s
BTLS Baital 20.12 312 *e*P **P 12 33 25.3 0.0**
BTLS pmax pmax
comp=Z,143nm,0.9s
BTLS MLR MLR
comp=Z,35nm,7.0s
BTLS Baital 20.12 312 *e*P **P 12 33 25.4 0.0**
comp=Z,143nm,0.9s
BTLS eLR LR 12 41 22.1
comp=Z,35nm,7.2s
DGPR DIGLIPUR 20.14 187 *e*P **P 12 33 25.4 -0.3**
DGPR IAmb IAmb 12 33 32.9
comp=Z,152nm,1.7s
SRAK Srakaew 20.18 161 P Pn 12 33 37.1 +9.1
GAR Garm 20.88 293 *e*P **P 12 33 34.2 +0.5**
comp=Z,26nm,0.7s
GAR Garm 20.88 293 *e*P **P 12 33 34.3 +0.5**
GAR pmax pmax
comp=Z,26nm,0.7s
KURBB Kurchatov Arra 21.22 330 P **P 12 33 36.9 -0.3**
comp=Z,16nm,0.7s,baz=137,slow=11,SNR=96
KURK Kurchatov 21.25 330 *e*P **P 12 33 37.7 +0.2**
comp=Z,15nm,0.8s
KURK Kurchatov 21.25 330 *e*P **P 12 33 37.7 +0.2**
KURK pmax pmax
comp=Z,15nm,0.8s
PBA Port Blair 21.66 187 *e*P P 12 33 41.4 -0.8
comp=Z,73nm,1.2s
PBA Port Blair 21.66 187 *e*P P 12 33 41.2 -1.0
PBA IAmb IAmb 12 33 56.9
comp=Z,98nm,0.2s
KK31 Karatay Array 21.68 304 *e*P **P 12 33 43.2 +0.9**
comp=Z,12nm,0.9s
KK31 Karatay Array 21.68 304 *i*P **P 12 33 43.4 +1.1**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KKAR Karatay Array 21.68 304 *e*P **P 12 33 43.5 +1.2**
comp=Z,12nm,0.9s
KKAR Karatay Array 21.68 304 *e*P **P 12 33 43.5 +1.2**
KKAR pmax pmax
comp=Z,12nm,0.9s
CHGR Chuyangaron 21.73 292 *e*P **P 12 33 43.7 +0.8**
comp=Z,36nm,0.7s
KBL Kabul 21.75 281 *e*P **P 12 33 44.2 +0.9**
comp=Z,98nm,0.8s
KBL Kabul 21.75 281 *e*P **P 12 33 44.2 +0.9**
KBL pmax pmax
comp=Z,98nm,0.8s
HYB Hyderabad 21.80 228 *i*P **P 12 33 46.0 +2.3**
HYB Hyderabad 21.80 228 *e*P **P 12 33 44.1 +0.4**
HYB IAmb IAmb 12 33 48.6
comp=Z,32nm,1.5s
ZAA0 Zalesovo Array 21.93 343 *e*P **P 12 33 44.5 -0.2**
comp=Z,8.3nm,0.9s
ZALV Zalesovo Beam 21.93 343 *e*P **P 12 33 44.7 0.0**
ZALV Zalesovo Beam 21.93 343 P **P 12 33 45.2 +0.5**
comp=Z,6.6nm,0.8s,baz=158,slow=13,SNR=22
ZALV LR LR 12 42 52.9
comp=Z,322nm,20.8s,baz=250,slow=38
ZAA1 Zalesovo Array 21.93 343 *e*P **P 12 33 45.2 +0.4**
OTUK Ortayu 22.76 318 P **P 12 33 54.2 +0.4**
OTUK pmax pmax
comp=Z,12nm,1.0s
NVS Novosibirsk 23.13 342 *e*P **P 12 33 57.8 +0.3**
BRZS Berezniki 23.56 322 *e*P **P 12 34 03.1 +1.2**
BRZS MLR MLR
comp=Z,120nm,11.0s
BRZS Berezniki 23.56 322 *e*P **P 12 34 03.2 +1.2**
BRZS eLR LR 12 44 00.7
comp=Z,120nm,10.8s
POO Poona 24.14 238 *e*P **P 12 34 07.0 -0.8**
POO IAmb IAmb 12 34 09.9
comp=Z,97nm,1.9s
HIA Hailar 24.21 42 *e*P **P 12 34 06.5 -1.6**
comp=Z,13nm,1.2s
HIA Hailar 24.21 42 *e*P **P 12 34 06.5 -1.6**
HIA pmax pmax
comp=Z,13nm,1.2s
TRTT Trang 25.67 170 P **P 12 34 25.4 +3.9**
comp=Z,3.8nm,1.0s
CN2 Changchun 25.72 57 *e*P **P 12 34 21.3 -0.5**
BVAR Borovoye Array 26.55 325 P **P 12 34 29.7 +0.5**
comp=Z,2.8nm,0.7s,baz=135,slow=9.6,SNR=13
BVAR LR LR 12 46 27.2
comp=Z,111nm,21.6s,baz=108,slow=40
BRVK Borovoye 26.62 325 *e*P **P 12 34 29.7 -0.1**
comp=Z,3.8nm,0.6s
BRVK Borovoye 26.62 325 *e*P **P 12 34 29.7 -0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.6s
KSRS Korea Array 26.90 72 P **P 12 34 31.3 -1.2**
comp=Z,1.0nm,0.6s,baz=267,slow=10,SNR=3.0
KSRS LR LR 12 45 30.5
comp=Z,89nm,19.6s,baz=276,slow=37
BOD Bodaibo 27.63 22 *e*P **P 12 34 37.7 -1.2**
MDJ Mudanjiang 28.81 57 P **P 12 34 47.3 -2.2**
MDJ pmax pmax
comp=Z,8.0nm,1.2s
MDJ pmax pmax
comp=Z,170nm,3.4s
PALK Pallekele 29.19 211 LR LR 12 46 42.0
comp=Z,110nm,21.0s,baz=294,slow=37
TGY Tagaytay City 30.18 123 LR LR 12 47 05.1
comp=Z,127nm,18.6s,baz=160,slow=36
GEYT Alibeck 30.39 289 LR LR 12 49 30.1
comp=Z,199nm,19.1s,baz=60,slow=41
KLR Kul'dur 31.36 49*ce*P **P 12 35 08.6 -3.5**
KLR Kul'dur 31.36 49 P **P 12 35 10.4 -1.7**
comp=Z,1.4nm,0.8s,baz=270,slow=7.6,SNR=5.7
KLR LR LR 12 49 08.2
comp=Z,89nm,19.5s,baz=249,slow=39
AKTO Aktyubinsk 32.16 313 P **P 12 35 19.2 +0.2**
comp=Z,1.3nm,0.8s,baz=82,slow=7.1,SNR=4.3
AKTO LR LR 12 49 18.8
comp=Z,223nm,19.8s,baz=114,slow=38
SVE Sverdlovsk 33.34 325 *e*P **P 12 35 30.6 +1.3**
SVE pmax pmax
comp=Z,14nm,1.0s
ARU Arti 34.15 324 *e*P **P 12 35 36.4 0.0**
comp=Z,10nm,0.9s
ARU Arti 34.15 324*c i*P **P 12 35 37.4 +1.0**
ARU 12 36 50.4
ARU S **S 12 41 07.8 +5.4**
ARU SS **SnSn 12 43 16.5 +6.4**
ARU pmax pmax
comp=Z,12nm,1.0s
MJAR Matsushiro Arr 35.17 72 LR LR 12 49 45.9
comp=Z,52nm,18.6s,baz=250,slow=36
NRIK Noril'sk 36.35 355 P **P 12 35 54.8 -0.4**
comp=Z,1.5nm,0.3s,baz=156,slow=9.3,SNR=3.7
NKL Nikolayevsk 37.81 44 *e*P **P 12 36 06.5 -1.2**
NKL pmax pmax
comp=Z,9.0nm,1.0s
ASAJ Asahikawa 38.03 59 P **P 12 36 08.6 -1.2**
comp=Z,3.0nm,0.8s,baz=261,slow=19,SNR=3.8
GNI Garni 40.59 295 LR LR 12 56 25.6
comp=Z,36nm,18.0s,baz=80,slow=41
NCK Nalchik 41.15 300*ce*P **P 12 36 35.9 +0.1**
NCK pmax pmax
comp=Z,13nm,0.5s
KBZ Khabaz 41.64 300 LR LR 12 57 01.3
comp=Z,200nm,20.5s,baz=81,slow=41
TIXI Tiksi 42.34 15 *e*P **P 12 36 44.1 -1.0**
TIXI Tiksi 42.34 15 *i*P **P 12 36 42.4 -2.7**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
TIXI Tiksi 42.34 15 P **P 12 36 43.9 -1.2**
comp=Z,2.3nm,0.6s,baz=195,slow=3.5,SNR=8.1
KLMR Klimovskoe 44.97 325 *e*P **P 12 37 05.2 -1.2**
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 44.97 325 *e*P **P 12 37 05.3 -1.2**
KLMR AMP 12 37 08.0
comp=Z,11nm,0.9s
OBN Obninsk 45.77 317⇑ *e*P **P 12 37 13.0 +0.2**
OBN *e**PP **P 12 37 15.0 +2.2**
OBN 12 38 51.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,89nm,16.0s
SEY Seymchan 46.07 32 *i*P **P 12 37 14.6 -0.5**
SEY Seymchan 46.07 32 P **P 12 37 14.0 -1.2**
comp=Z,1.3nm,0.9s,baz=259,slow=23,SNR=6.4
SEY PcP **PcP 12 38 50.7 -0.6**
comp=Z,1.5nm,0.8s,baz=211,slow=0.3,SNR=4.2
PETK Petropavlovsk- 47.98 46 LR LR 12 58 27.8
comp=Z,77nm,18.8s,baz=292,slow=37
BR101 Keskin Array S 49.07 296 *e*P **P 12 37 39.3 +0.3**
BR131 Keskin Array S 49.07 296 *e*P **P 12 37 37.8 -1.1**
comp=Z,8.2nm,1.2s
BRTR Keskin Array B 49.07 296 P **P 12 37 39.3 +0.3**
comp=Z,3.3nm,0.9s,baz=102,slow=6.9,SNR=12
BRTR LR LR 13 01 32.8
comp=Z,44nm,18.5s,baz=70,slow=40
ANTO Ankara 49.67 296 *e*P **P 12 37 43.6 +0.1**
comp=Z,21nm,1.1s
ANTO Ankara 49.67 296 *e*P **P 12 37 43.6 +0.1**
ANTO pmax pmax
comp=Z,21nm,1.1s
AKASG Malin Array Be 50.34 311 P **P 12 37 48.3 0.0**
comp=Z,0.2nm,0.3s,baz=76,slow=6.5,SNR=5.5
AKASG LR LR 13 03 20.8
comp=Z,91nm,18.6s,baz=75,slow=41
KIEV Kiev 50.35 311 *i*P **P 12 37 47.4 -0.9**
KIEV pmax pmax
comp=Z,3.0nm,1.1s
AK11 Malin Array Si 50.38 311 *e*P **P 12 37 48.2 -0.4**
FIA1 FINESS Array S 51.51 325 *e*P **P 12 37 56.8 -0.1**
FIA0 FINESS Array S 51.51 325 *e*P **P 12 37 56.8 -0.1**
FIA0 FINESS Array S 51.51 325 *e*P **P 12 37 56.8 -0.1**
FINES FINESS Array B 51.51 325 *i*P **P 12 37 59.4 +2.5**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 51.51 325 P **P 12 37 56.8 -0.1**
comp=Z,1.8nm,0.9s,baz=95,slow=6.1,SNR=5.8
FINES LR LR 13 01 43.7
comp=Z,165nm,18.8s,baz=58,slow=38
ARA0 ARCESS Array S 52.15 335 *e*P **P 12 38 01.2 -0.4**
ARCES ARCESS Array B 52.15 335 P **P 12 38 01.2 -0.4**
comp=Z,6.0nm,1.0s,baz=56,slow=9.0,SNR=7.9
BILL Bilibino 52.51 27 *e*P **P 12 38 03.7 -0.6**
comp=Z,11nm,1.4s
BILL Bilibino 52.51 27⇑ *i*P **P 12 38 03.9 -0.3**
BILL *e**SP **pP 12 38 08.7 -0.3**
BILL *e* 12 38 12.7
BILL eSS **SS 12 49 03.4 -4.6**
BILL SSS SSS 12 50 50.0
BILL pmax pmax
comp=Z,5.0nm,1.3s
MLR Muntele Rosu 53.36 305 *e*P **P 12 38 10.4 -0.7**
comp=Z,17nm,1.4s
MLR Muntele Rosu 53.36 305 *e*P **P 12 38 10.4 -0.7**
MLR pmax pmax
comp=Z,17nm,1.4s
KLNR Kaliningrad 55.23 317 *i*P **P 12 38 25.5 +1.2**
KLNR pmax pmax
comp=Z,30nm,0.9s
DRGR 55.26 307 P **P 12 38 27.4 +2.6**
VYHS Vyhne 57.38 310 *e*P **P 12 38 38.7 -1.1**
VYHS Vyhne 57.38 310 *e*P **P 12 38 38.7 -1.1**
NB2 NORSAR Subarra 58.68 325 P **P 12 38 48.0 -0.8**
comp=Z,0.7nm,0.6s,baz=76,slow=6.9
NB200 NORSAR Array S 58.68 325 *e*P **P 12 38 48.3 -0.4**
NOA NORSAR Array B 58.68 325 P **P 12 38 48.3 -0.4**
comp=Z,1.6nm,0.7s,baz=76,slow=6.9,SNR=6.2
NOA LR LR 13 06 06.7
comp=Z,110nm,19.2s,baz=85,slow=38
NC204 NORSAR Array S 58.84 326 *e*P **P 12 38 49.6 -0.3**
comp=Z,30nm,1.5s
GERES GERESS Array B 60.55 311 P **P 12 39 02.3 +0.4**
comp=Z,1.4nm,0.7s,baz=53,slow=15,SNR=5.1
GERES LR LR 13 09 19.4
comp=Z,96nm,18.2s,baz=109,slow=40
GEA0 GERESS Array S 60.55 311 *e*P **P 12 39 01.1 -0.9**
KMBO Kilima Mbogo 64.32 250 *e*P **P 12 39 27.6 -0.2**
comp=Z,2.8nm,0.9s
KMBO Kilima Mbogo 64.32 250*ce*P **P 12 39 28.8 +1.0**
KMBO Kilima Mbogo 64.32 250 P **P 12 39 28.4 +0.6**
comp=Z,1.3nm,0.4s,baz=54,slow=9.0,SNR=4.0
WR1 Warramunga Arr 64.78 139 *e*P **P 12 39 29.7 -0.6**
comp=Z,5.2nm,0.8s
WRA Warramunga Arr 64.78 139 P **P 12 39 29.7 -0.6**
comp=Z,4.7nm,0.9s,baz=341,slow=6.0,SNR=29
AS31 Alice Springs 67.58 142 *e*P **P 12 39 47.6 -0.6**
comp=Z,1.0nm,0.6s
ASAR Alice Springs 67.58 142 P **P 12 39 48.1 -0.1**
comp=Z,4.5nm,0.9s,baz=326,slow=6.5,SNR=38
AS01 Alice Springs 67.60 142 *e*P **P 12 39 47.6 -0.8**
TOLK Toolik Lake Re 67.80 21 *e*P **P 12 39 48.2 -1.0**
comp=Z,7.1nm,0.9s
IM3 Indian Mountai 67.94 24 *e*P **P 12 39 49.6 -0.3**
KEST Kesra 68.50 299 LR LR 13 15 47.4
comp=Z,63nm,20.4s,baz=232,slow=41
BPAW Bear Paw Mtn. 69.97 25 *e*P **P 12 40 02.7 0.0**
comp=Z,9.3nm,1.2s
PPLA Purkeypile 70.22 27 *e*P **P 12 40 04.3 0.0**
comp=Z,14nm,1.1s
COLA College 70.59 24 *i*P **P 12 40 05.5 -0.9**
COLA pmax pmax
comp=Z,7.0nm,1.0s
PRP Porcupine Dome 70.96 23 *e*P **P 12 40 08.4 -0.5**
comp=Z,12nm,1.4s
IL1 Eielson Array 70.98 24 *e*P **P 12 40 07.3 -1.5**
ILAR Eielson Array 70.98 24 P **P 12 40 07.7 -1.2**
comp=Z,2.4nm,0.9s,baz=288,slow=5.3,SNR=25
ILAR LR LR 13 14 04.3
comp=Z,56nm,18.6s,baz=270,slow=38
ILB Eielson Array 70.98 24 *e*P **P 12 40 07.5 -1.3**
comp=Z,5.5nm,1.0s
RIDG Independ'e Rid 72.33 24 *e*P **P 12 40 16.1 -0.9**
comp=Z,17nm,1.2s
INK Inuvik 72.42 17 *e*P **P 12 40 17.1 -0.3**
comp=Z,9.9nm,1.6s
INK Inuvik 72.42 17 *e*P **P 12 40 17.1 -0.3**
INK pmax pmax
comp=Z,10.0nm,1.6s
INK Inuvik 72.42 17 P **P 12 40 16.6 -0.8**
comp=Z,1.5nm,0.9s,baz=333,slow=7.0,SNR=6.1
SCRK Sand Creek 72.46 23 *e*P **P 12 40 17.2 -0.7**
comp=Z,7.6nm,0.9s
EGAK Eagle 72.84 22 *e*P **P 12 40 19.2 -0.7**
comp=Z,9.2nm,1.1s
STKA Stephens Creek 78.20 141 *e*P **P 12 40 50.3 -0.7**
comp=Z,2.2nm,1.4s
STKA Stephens Creek 78.20 141 *e*P **P 12 40 50.3 -0.7**
STKA pmax pmax
comp=Z,2.0nm,1.4s
STKA Stephens Creek 78.20 141 P **P 12 40 49.9 -1.1**
comp=Z,2.5nm,0.9s,baz=318,slow=5.3,SNR=5.1
YKW3 Yellowknife Ar 81.50 13 *e*P **P 12 41 07.8 -0.8**
comp=Z,7.1nm,1.3s
YKA Yellowknife Ar 81.57 14 P **P 12 41 08.0 -0.9**
comp=Z,1.9nm,0.9s,baz=335,slow=4.8,SNR=26
YKB5 Yellowknife Ar 81.57 14 *e*P **P 12 41 07.7 -1.2**
TOA0 Torodi Ar. Sit 85.80 283 *e*P **P 12 41 29.9 -1.7**
TOA1 Torodi Ar. Sit 85.80 283 *e*P **P 12 41 30.7 -0.8**
TORD Torodi Ar. Bea 85.80 283 P **P 12 41 30.7 -0.8**
comp=Z,1.2nm,0.9s,baz=28,slow=6.7,SNR=7.1
TORD LR LR 13 24 35.1

comp=Z,83nm,18.7s,baz=330,slow=39
SCHQ Schefferville 90.88 350 LR LR 13 25 28.6
comp=Z,79nm,20.4s,baz=312,slow=37
DBIC Dimbokro 94.74 281 LR LR 13 29 48.0
comp=Z,48nm,20.7s,baz=41,slow=39
ULM Lac du Bonnet 96.24 7 LR LR 13 30 01.8
comp=Z,53nm,18.5s,baz=328,slow=38
OTAV Otavalo 146.12 349 *c* PKP2 **PKiKP 12 48 34.8 -1.5**
OTAV pmax pmax
comp=Z,11nm,2.5s

IDC 25 12:34:35.5±1.5, 26°13S×177°30W, h0km, mb3.7/3, mb1 4.2/4, mb1mx3.8/23, mbtmp3.9/4, ML4.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/31, Error ellipse: s-maj=46.1km s-min=32.4km az=138.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.16**	**190**	Pn	Pn	12 35 26.4	0.0
	103nm,0.3s,baz=49,slow=19,SNR=2.5						
URZ	**Urewera**	**12.98**	**200**	LR	LR	12 42 04.9	
	comp=Z,151nm,18.9s,baz=22,slow=35						
RPZ	**Rata Peaks**	**19.94**	**205**	LR	LR	12 45 39.3	
	comp=Z,78nm,19.6s,baz=324,slow=33						
ASAR	**Alice Springs**	**44.13**	**262**	P	P	12 42 45.8	-0.2
	0.9nm,0.8s,baz=94,slow=7.9,SNR=9.2						
WRA	**Warramunga Arr**	**44.73**	**267**	P	P	12 42 50.8	0.0
	1.1nm,0.7s,baz=108,slow=7.6,SNR=6.9						
NVAR	**Mina Array Bea**	**84.69**	**43**	P	P	12 47 11.6	+0.1
	0.3nm,0.6s,baz=225,slow=8.9,SNR=3.9						
AKASG	**Malin Array Be**	**148.16**	**327**	PKPbc	PKPbc	12 54 22.4	-0.7
	0.6nm,0.5s,baz=39,slow=2.4,SNR=5.4						

*SGS **25** 12:40:41,28.88N×32.34E, h19km, Ml3.0*
*GII **25** 12:40:42.4±0.0,29.09N×32.36E, h30km±2km, MD3.5/3*
ISC 25 12:40:39.3±3.1, 29°02N±0.07°×32°4E±0.2, h10km, n22, σ0s74/32, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAQS	**Haql**	**2.23**	**89**	P	**Pn**	**12 41 17.1**	**+0.7**
HAQS				S	**Sn**	**12 41 44.2**	**+0.1**
RSHS		**2.25**	**108**	P	**Pn**	**12 41 16.6**	**0.0**
RSHS				S	**Sn**	**12 41 43.7**	**-0.7**
KRMI	**Paran Flat**	**2.32**	**61**	Pn	**Pn**	**12 41 18.2**	**+0.5**
EIL	**Elat**	**2.34**	**73**	Pn	**Pn**	**12 41 18.1**	**+0.2**
EIL				Sn	**Sn**	**12 41 47.0**	**+0.2**
MBRI	**Mt Berech**	**2.35**	**70**	Pn	**Pn**	**12 41 18.6**	**+0.5**
HQLS		**2.37**	**83**	P	**Pn**	**12 41 19.2**	**+0.9**
HRFI	**Mount Harif**	**2.53**	**66**	Pn	**Pn**	**12 41 20.6**	**0.0**
HRFI				Sn	**Sn**	**12 41 50.7**	**-0.8**
KZIT	**Kziot**	**2.57**	**43**	Pn	**Pn**	**12 41 21.4**	**+0.3**
KZIT				Sn	**Sn**	**12 41 51.2**	**-1.2**
PRNI	**Paran**	**2.65**	**59**	Pn	**Pn**	**12 41 22.7**	**+0.6**
PRNI				Sn	**Sn**	**12 41 54.3**	**0.0**
KRABS	**KRABS**	**2.70**	**109**	P	**Pn**	**12 41 22.7**	**-0.1**
JLOS		**2.75**	**95**	P	**Pn**	**12 41 24.2**	**+0.5**
JLOS				S	**Sn**	**12 41 56.9**	**-0.2**
ZFRI	**Zfri**	**2.88**	**57**	Pn	**Pn**	**12 41 26.1**	**+0.8**
WTBKS	**WTBKS**	**3.25**	**106**	P	**Pn**	**12 41 31.2**	**+0.6**
WTBKS				S	**Sn**	**12 42 08.5**	**-0.9**
YTIR	**Yattir**	**3.33**	**45**	Pn	**Pn**	**12 41 32.3**	**+0.7**
GHAJ	**Ghor Haditha**	**3.58**	**50**	Pn	**Pn**	**12 41 35.6**	**+0.7**
DSI	**Dead Sea**	**3.63**	**45**	Pn	**Pn**	**12 41 37.3**	**+1.6**
DSI				Sn	**Sn**	**12 42 17.7**	**-1.0**
SLTI	**Sal'it**	**3.95**	**35**	Pn	**Pn**	**12 41 40.7**	**+0.7**
HMDT	**Nahal Hemdat**	**4.21**	**39**	Pn	**Pn**	**12 41 44.1**	**+0.4**
HMDT				Sn	**Sn**	**12 42 31.7**	**-1.2**
WJHS		**4.23**	**122**	P	**Pn**	**12 41 44.3**	**+0.4**
OFRI	**`Ofer**	**4.23**	**31**	Pn	**Pn**	**12 41 43.4**	**-0.6**
MMLI	**Mount Malkishu**	**4.30**	**37**	Pn	**Pn**	**12 41 45.4**	**+0.5**
KSDI	**Kefar Szold**	**5.02**	**33**	Pn	**Pn**	**12 41 55.8**	**+1.0**

WEL 25 12:47:42.8, 45°S±3°×166°E±°, h40km±9km, ML3.6/13, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**0.69**	**99**	P	Pn	12 47 56.5	+0.4
MLZ				S	Sn	12 48 06.9	+1.3
MSZ	**Milford Sound**	**0.81**	**43**	P	Pn	12 47 57.3	-0.3
MSZ				S	Sn	12 48 08.8	+0.5
WHZ	**Wether Hill Ro**	**0.84**	**139**	P	Pn	12 47 59.3	+1.1
WHZ				S	Sn	12 48 11.7	+2.3
PYZ	**Puysegur Point**	**0.96**	**200**	P	Pn	12 48 00.3	+0.5
WKZ	**Wanaka**	**1.39**	**72**	P	Pn	12 48 07.2	+1.5
EAZ	**Earnscleugh**	**1.52**	**90**	P	Pn	12 48 09.1	+1.6
JCZ	**Jackson Bay**	**1.67**	**45**	P	Pn	12 48 09.8	+0.3
TUZ	**Tuapeka**	**1.87**	**113**	P	Pn	12 48 13.7	+1.5
TUZ				S	Sn	12 48 35.7	+1.0
SYZ	**Scrubby Hill**	**1.88**	**133**	P	Pn	12 48 13.8	+1.4
SYZ				S	Sn	12 48 36.8	+1.9
LBZ	**Lake Benmore**	**2.33**	**69**	P	Pn	12 48 18.6	+0.1
ODZ	**Otahua Downs**	**2.48**	**86**	P	Pn	12 48 20.9	+0.3
FOZ	**Fox Glacier**	**2.58**	**49**	P	Pn	12 48 21.2	-0.7
RPZ	**Rata Peaks**	**3.19**	**62**	P	Pn	12 48 29.7	-0.7
INZ	**Inchbonnie**	**4.00**	**52**	P	Pn	12 48 41.1	-0.5
LTZ	**Lake Taylor**	**4.45**	**58**	P	Pn	12 48 46.3	-1.3
DSZ	**Denniston Nort**	**4.88**	**46**	P	Pn	12 48 52.3	-1.3
THZ	**Tophouse**	**5.45**	**52**	P	Pn	12 49 01.7	+0.2
QRZ	**Quartz Range**	**5.93**	**43**	P	Pn	12 49 07.9	-0.1

*ISK **25** 12:53:26.8, 40.56N×35.80E, h6km, ML3.4/20*
*DDA **25** 12:53:26.6, 40.57N×35.79E, h19km±1km, ML3.5*
ISC 25 12:53:27.8±1.1, 40°56N±0.02°×35°80E±0.02, h6km±10km, n42, σ0s88/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAVZ	**Havza**	**0.52**	**353**	*i* P	**Pg**	**12 53 37.9**	**+0.1**
HAVZ				*i* S	**Sg**	**12 53 45.6**	**+1.0**
KVT	**Kavak**	**0.56**	**20**	PG	**Pg**	**12 53 38.0**	**-0.5**
KVT				SG	**Sg**	**12 53 45.4**	**-0.4**
TOKA	**Tokat**	**0.57**	**114**	*i* P	**Pg**	**12 53 38.9**	**+0.1**
TOKA				*i* S	**Sb**	**12 53 47.0**	**-1.6**
TOKA				IAML_P			
	comp=Z,32μm,0.2s						
TOKT	**Tokat**	**0.61**	**112**	PG	**Pg**	**12 53 39.5**	**-0.1**
TOKT				SG	**Sb**	**12 53 48.4**	**-1.5**
COAL	**Corum-Alaca**	**0.69**	**244**	*i* P	**Pg**	**12 53 39.6**	**-1.5**
COAL				*i* S	**Sb**	**12 53 51.9**	**-0.4**
ERBA	**Erbaa**	**0.74**	**80**	*i* P	**Pg**	**12 53 41.3**	**-0.7**
ERBA				*i* S	**Sg**	**12 53 51.8**	**+0.3**
ERBA				IAML_P			
	comp=Z,9μm,0.1s						
SAMS	**Samsun-Alacam**	**0.85**	**20**	*i* P	**Pg**	**12 53 44.4**	**+0.2**
SAMS				*i* S	**Sb**	**12 53 56.9**	**+0.1**
CORM	**Corum**	**0.97**	**247**	PG	**Pg**	**12 53 45.6**	**-0.8**
CORM				SG	**Sg**	**12 53 59.9**	**+0.8**
YOZ	**Yozgat**	**0.99**	**202**	PG	**Pg**	**12 53 45.7**	**-1.1**
YOZ				SG	**Sg**	**12 53 59.8**	**+0.2**
SVSK	**Karacayir**	**1.12**	**125**	PN	**Pg**	**12 53 48.3**	**-0.9**
KAGI	**orum-Kargı**	**1.16**	**300**	*i* P	**Pg**	**12 53 49.0**	**-1.1**
KAGI				IAML_P			
	comp=Z,1μm,0.2s						
DIKM	**Dikmen**	**1.17**	**340**	PN	**Pg**	**12 53 49.5**	**-0.7**
RSDY	**Resadiye-TOKAT**	**1.18**	**97**	PN	**Pg**	**12 53 49.9**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.19**	**163**	*i* P	**Pb**	**12 53 50.9**	**+0.1**
CUSAR				*i* S	**Sn**	**12 54 07.2**	**-0.4**
SCER	**sogukcermik**	**1.23**	**124**	*i* P	**Pn**	**12 53 51.6**	**-0.1**
SCER				*i* S	**Sn**	**12 54 08.9**	**+0.2**
SIRC	**Yozgat**	**1.32**	**203**	*i* P	**Pn**	**12 53 51.6**	**-1.3**
SIRC				*i* S	**Sb**	**12 54 10.4**	**+0.1**
CDAG	**Cicekdag**	**1.44**	**230**	*i* P	**Pn**	**12 53 53.3**	**-1.3**
CDAG				*i* S	**Sg**	**12 54 16.1**	**+2.1**
CDAG				IAML_P			
	comp=Z,6μm,0.3s						
CUALT	**Altinyayla-SIV**	**1.48**	**150**	*i* P	**Pg**	**12 53 55.9**	**-0.2**
CUALT				*i* S	**Sg**	**12 54 18.8**	**+3.5**
SINO	**SINOP_Merkez**	**1.53**	**343**	*i* P	**Pn**	**12 53 55.7**	**0.0**
SINO				*i* S	**Sn**	**12 54 16.4**	**+0.5**
SNOP	**Sinop**	**1.53**	**343**	PN	**Pn**	**12 53 55.1**	**-0.6**
DELI	**KIRIKKALE**	**1.54**	**249**	*i* P	**Pn**	**12 53 55.7**	**-0.3**
DELI				*i* S	**Sn**	**12 54 16.1**	**-0.3**
DELI				IAML_P			
	comp=Z,6μm,0.3s						
ORDU	**Ordu-Boztepe**	**1.62**	**74**	*i* P	**Pn**	**12 53 56.4**	**-0.6**
ORDU				*i* S	**Sg**	**12 54 19.5**	**-0.4**
ORDU				IAML_P			
	comp=Z,1μm,0.2s						
CUZAR	**Zara_SIVAS**	**1.65**	**113**	*i* P	**Pb**	**12 53 58.3**	**-0.4**
CUZAR				*i* S	**Sg**	**12 54 22.1**	**+1.3**
GUNE	**Kayseri**	**1.66**	**185**	*i* P	**Pb**	**12 53 59.1**	**+0.2**
GUNE				*i* S	**Sg**	**12 54 22.9**	**+1.8**
ILGA	**Ilgaz**	**1.66**	**288**	*i* P	**Pn**	**12 53 57.6**	**-0.1**
ILGA				*i* S	**Sb**	**12 54 20.7**	**+0.6**
ILGA				IAML_P			
	comp=Z,4μm,0.2s						
BNN	**Bunyan**	**1.70**	**179**	PN	**Pn**	**12 53 58.1**	**-0.1**
CUKAN	**kangal_SIVAS**	**1.78**	**134**	*i* P	**Pb**	**12 54 00.8**	**-0.2**
CUKAN				*i* S	**Sg**	**12 54 25.2**	**+0.2**
ELDT	**Eldivan**	**1.81**	**269**	*i* P	**Pn**	**12 54 00.0**	**+0.3**
ELDT				*i* S	**Sn**	**12 54 24.5**	**+1.4**
ELDT				IAML_P			
	comp=Z,4μm,0.2s						
SUSE	**Susehri**	**1.87**	**100**	*i* P	**Pn**	**12 54 00.8**	**+0.3**
SUSE				*i* S	**Sg**	**12 54 27.2**	**-0.6**
SUSE				IAML_P			
	comp=Z,902nm,0.3s						
AVNS	**Nevsehir-Avano**	**1.90**	**203**	*i* P	**Pn**	**12 54 01.7**	**+0.9**
AVNS				*i* S	**Sg**	**12 54 29.1**	**+0.3**
BZK	**Bozkurt**	**1.95**	**317**	PN	**Pn**	**12 54 02.0**	**+0.6**
KIRS	**Kırehir-Merke**	**2.03**	**226**	*i* P	**Pn**	**12 54 03.1**	**+0.5**
KIRS				*i* S	**Sg**	**12 54 32.7**	**-0.4**
KIRS				IAML_P			
	comp=Z,3μm,0.3s						
YAYX	**Yaylak**	**2.23**	**224**	PN	**Pn**	**12 54 05.8**	**+0.4**
SERE	**Sereflikochisa**	**2.36**	**228**	PN	**Pn**	**12 54 07.9**	**+0.7**
DARE	**Darende-Malaty**	**2.37**	**146**	PN	**Pn**	**12 54 07.9**	**+0.5**
LOD	**Lodumlu**	**2.42**	**255**	PN	**Pn**	**12 54 08.2**	**+0.2**
KULU	**Kulu**	**2.63**	**236**	PN	**Pn**	**12 54 10.8**	**-0.2**
KURC	**Kurucasile-Bar**	**2.64**	**300**	PN	**Pn**	**12 54 11.2**	**+0.2**
SULT	**Sultanhani-AKS**	**2.95**	**218**	PN	**Pn**	**12 54 15.5**	**+0.2**
CHBY	**Cihanbeyli**	**2.99**	**230**	PN	**Pn**	**12 54 15.2**	**-0.7**
ERZN	**Erzincan**	**3.16**	**107**	PN	**Pn**	**12 54 18.9**	**+0.7**
BAYT	**Aydıntepe-Bayb**	**3.31**	**91**	PN	**Pn**	**12 54 21.2**	**+0.8**

*NNC **25** 13:10:04.8±1.2, 50.80N×73.67E, h4km±6km, mb4.0, mpv3.9, Error ellipse: s-maj=8.7km s-min=5.0km az=145.0, Suspected Mining explosion.*
*IDC **25** 13:10:06.6±1.3, 50.97N×73.70E, h0km, mb3.3/1, mb1 3.1/5, mb1mx3.0/45, mbtmp2.9/5, ML2.5/4, Error ellipse: s-maj=28.0km s-min=8.6km az=31.0*
ISC 25 13:10:03.3±0.9, 50°65N±0.05°×73°70E±0.05, h0km, n35, σ2s95/33, 9C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**2.57**	**201**	⇑Pn	**Pb**	**13 10 50.1**	**-0.1**
	6.3nm,0.5s						
OTUK				⇓Lg	Lg	13 11 32.6	
	43nm,1.0s						
KURBB	**Kurchatov Arra**	**3.07**	**89**	⇑Pn	**Pn**	**13 10 53.5**	**+0.4**
	6.0nm,0.7s						
KURBB				⇑Pg	**Pg**	**13 11 02.7**	**+0.5**
	5.4nm,0.5s						
KURBB				⇓Lg	Lg	13 11 43.7	
	112nm,0.7s						
KURBB	**Kurchatov Arra**	**3.07**	**89**	Pn	**Pb**	**13 10 56.2**	**-2.5**
	0.3nm,0.3s,baz=278,slow=14,SNR=21						
KURBB				Lg	Lg	13 11 41.6	
	0.7nm,0.3s,baz=278,slow=31,SNR=6.9						
BVAR	**Borovoye Array**	**3.14**	**320**	Pn	**Pn**	**13 10 54.6**	**+0.6**
	1.1nm,0.3s,baz=142,slow=15,SNR=15						
BVAR				Pg	**Pb**	**13 10 58.3**	**-1.6**
	1.2nm,0.3s,baz=127,slow=16,SNR=17						
BVAR				Lg	Lg	13 11 37.5	
	3.5nm,0.3s,baz=135,slow=26,SNR=13						
TDK	**Taldyqorghan**	**6.48**	**149**	Pg	**Pg**	**13 12 03.7**	**-3.6**
	41nm,0.1s						
TDK				Lg	Lg	13 13 33.8	
	90nm,0.6s						
KAPS	**Kapalarasan**	**6.57**	**143**	Pg	**Pg**	**13 12 05.5**	**-3.7**
	1.5nm,0.3s						
KAPS				Lg	Lg	13 13 37.0	
	19nm,0.7s						
MAKZ	**Makanchi**	**6.69**	**122**	⇓Sn	**Sn**	**13 13 03.0**	**+3.4**
	1.9nm,0.6s						
MAKZ				⇑Lg	Lg	13 13 42.8	
	18nm,0.8s						
MK31	**Makanchi Array**	**6.87**	**121**	⇓Pn	**Pn**	**13 11 47.7**	**+2.5**
	1.6nm,0.9s,baz=290,slow=25,SNR=3.9						
MK31				⇓Pg	**Pg**	**13 12 11.4**	**-3.3**
	0.6nm,0.5s,baz=304,slow=14,SNR=5.8						
MK31				⇑Sn	**Sn**	**13 13 07.2**	**+3.2**
	1.1nm,0.5s,baz=297,slow=19,SNR=4.0						
MK31				Lg	Lg	13 13 46.9	
	15nm,0.8s,baz=318,slow=22,SNR=7.7						
MKAR	**Makanchi Array**	**6.87**	**121**	Pn	Pn	13 11 50.1	+4.9
	0.1nm,0.3s,baz=302,slow=10.0,SNR=4.9						
MKAR				Lg	Lg	13 13 44.3	
	0.7nm,0.3s,baz=317,slow=23,SNR=10						
KUU	**Kurty**	**6.99**	**164**	Pg	**Pg**	**13 12 14.9**	**-2.3**
	1.6nm,0.1s						
KUU				Lg	Lg	13 13 53.1	
	16nm,0.5s						
ARXS	**Arharly**	**7.02**	**155**	Pg	**Pg**	**13 12 13.3**	**-4.4**
	1.1nm,0.3s						
ARXS				Lg	Lg	13 13 50.8	
	25nm,0.7s						
KTBS	**Karatobe**	**7.23**	**163**	Pg	**Pg**	**13 12 18.9**	**-2.9**
	1.2nm,0.5s						
KTBS				Lg	Lg	13 14 00.4	
	35nm,0.5s						
MNBS	**Baschi**	**7.31**	**152**	Pg	**Pg**	**13 12 20.9**	**-2.3**
	1.8nm,0.4s						
MNBS				Lg	Lg	13 14 03.4	
	16nm,0.5s						
DGS	**Degeres**	**7.54**	**168**	Pg	Pg	13 12 22.0	-5.8
	645nm,1.0s						
DGS				Lg	Lg	13 14 05.8	
	22nm,0.4s						
DJR	**Jarkent**	**7.54**	**145**	Pg	**Pg**	**13 12 23.3**	**-4.5**
	1.2nm,0.5s						
DJR				Lg	Lg	13 14 07.3	
	9.5nm,0.5s						
I46RU	**ZALESOVO INFRA**	**7.57**	**60**	*i*		13 52 40.0	
	baz=244,slow=332,SNR=3.8						
ZALV	**Zalesovo Beam**	**7.57**	**60**	Pn	**Pn**	**13 11 56.9**	**+2.0**
	0.3nm,0.3s,baz=248,slow=14,SNR=4.2						
ZALV				Sn	**Sn**	**13 13 22.6**	**+1.3**
	0.1nm,0.3s,baz=250,slow=26,SNR=3.3						
ZALV				Lg	Lg	13 14 02.4	
	0.1nm,0.3s,baz=229,slow=30,SNR=2.5						
MTBS	**Maitube**	**7.75**	**165**	Pg	**Pg**	**13 12 27.8**	**-3.9**
	5.0nm,0.2s						
MTBS				Lg	Lg	13 14 14.7	
	10nm,0.5s						
KOTS	**Kotyrbulak**	**7.78**	**161**	Pg	**Pg**	**13 12 28.2**	**-4.0**
	3.2nm,0.7s						
KOTS				Lg	Lg	13 14 16.0	
	17nm,0.8s						
KURS	**Kuram**	**7.79**	**155**	Pg	**Pg**	**13 12 31.7**	**-0.6**
	2.2nm,0.6s						
KURS				Lg	Lg	13 14 21.8	
	14nm,0.7s						
MDOK	**Medeo**	**7.83**	**162**	Pg	**Pg**	**13 12 29.8**	**-3.5**
	2.2nm,0.3s						
MDOK				Lg	Lg	13 14 18.5	
	15nm,0.8s						
TKM2	**Tokmak 2**	**7.84**	**170**	⇑Lg	Lg	13 14 20.0	
	32nm,0.9s						
KK31	**Karatay Array**	**7.86**	**197**	⇑Lg	Lg	13 14 21.4	
	7.1nm,0.7s,baz=18,slow=28,SNR=7.1						
MRKS	**Merke**	**7.92**	**183**	Pg	**Pg**	**13 12 33.7**	**-1.1**
	1.6nm,0.3s						
MRKS				Lg	Lg	13 14 24.5	
	5.4nm,0.5s						
TNSS	**Tian-Shan**	**7.93**	**162**	Pg	**Pg**	**13 12 31.5**	**-3.7**
	2.6nm,0.4s						
TNSS				Lg	Lg	13 14 20.8	
	12nm,0.8s						
ZSN	**Zaisan**	**8.00**	**109**	Pg	Pb	13 12 28.2	+5.5
	0.8nm,0.3s						
ZSN				Lg	Lg	13 14 15.7	
	4.5nm,0.8s						
AAK	**Ala-Archa**	**8.03**	**176**	⇑Lg	Lg	13 14 28.5	
	18nm,0.8s						
SATY	**Saty**	**8.25**	**155**	Pg	**Pg**	**13 12 39.4**	**-1.7**
	2.6nm,0.1s						
SATY				Lg	Lg	13 14 34.7	
	9.7nm,0.4s						
PDGK	**Podgornoye**	**8.32**	**149**	Pg	**Pg**	**13 12 40.8**	**-1.8**
	0.6nm,0.5s						
PDGK				Lg	Lg	13 14 37.4	
	4.5nm,0.9s						
PDGK	**Podgornoye**	**8.32**	**149**	⇓Sn	**Sn**	**13 13 45.2**	**+5.2**
	2.5nm,0.8s						
PDGK				⇑Lg	Lg	13 14 34.7	
	14nm,0.9s						
UZB	**Uzynbulak**	**8.34**	**152**	Pg	**Pg**	**13 12 42.5**	**-0.5**
	0.8nm,0.0s						
UZB				Lg	Lg	13 14 40.0	
	6.7nm,0.6s						
SHLS	**Shalkode**	**8.47**	**150**	Pg	**Pg**	**13 12 45.3**	**-0.1**
	5.5nm,0.1s						
SHLS				Lg	Lg	13 14 44.8	
	40nm,0.5s						
KTMS	**Ketmen**	**8.51**	**145**	Pg	**Pg**	**13 12 41.7**	**-4.6**
	0.9nm,0.2s						
KTMS				Lg	Lg	13 14 38.9	
	5.1nm,0.5s						
IUG	**Iuzhnay**	**8.87**	**198**	Pg	**Pg**	**13 12 50.7**	**-2.4**
	7.3nm,0.2s						
IUG				Lg	Lg	13 14 54.5	
	11nm,0.8s						
ILAR	**Eielson Array**	**60.69**	**19**	P	**P**	**13 20 15.2**	**-0.5**
	0.2nm,0.5s,baz=326,slow=5.6,SNR=4.8						

*NNC **25** 13:17:58.7±0.4, 50.01N×78.74E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=6.8km s-min=2.2km az=78.0, Suspected Mining explosion.*
*IDC **25** 13:18:00.4±0.9, 50.05N×78.73E, h0km, mb1 2.5/3, mb1mx2.5/35, mbtmp2.5/3, ML2.2/2, Error ellipse: s-maj=10.5km s-min=6.4km az=58.0*
ISC 25 13:17:54.6±0.9, 49°99N±0.04°×77°78E±0.05, h0km, n19, σ0s71/32, 21C-9D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.76**	**38**	⇑P	**Pb**	**13 18 10.4**	**-0.3**
KUR07				⇑S	**Sg**	**13 18 18.8**	**-0.1**
KUR06	**Kurchatov Arra**	**0.78**	**38**	⇑P	**Pb**	**13 18 10.8**	**-0.2**
KUR06				⇑S	**Sg**	**13 18 19.3**	**-0.2**
KUR17	**Kurchatov Arra**	**0.78**	**34**	⇑P	**Pb**	**13 18 11.2**	**+0.2**
KUR17				⇓S	**Sg**	**13 18 20.2**	**+0.6**
KUR16	**Kurchatov Arra**	**0.79**	**36**	⇑P	**Pb**	**13 18 11.0**	**-0.2**
KUR16				⇑S	**Sg**	**13 18 19.7**	**-0.1**
KURBB	**Kurchatov Arra**	**0.80**	**37**	⇑P	**Pb**	**13 18 10.8**	**-0.5**
	36nm,0.8s						
KURBB				⇑S	**Sg**	**13 18 20.1**	**0.0**
	98nm,0.6s						
KURBB	**Kurchatov Arra**	**0.80**	**37**	Pg	**Pb**	**13 18 11.1**	**-0.2**
	0.9nm,0.3s,baz=167,slow=18,SNR=94						
KURBB				Lg	Lg	13 18 20.2	
	1.9nm,0.3s,baz=172,slow=31,SNR=37						
KUR15	**Kurchatov Arra**	**0.81**	**38**	⇓P	**Pb**	**13 18 10.6**	**-0.8**
KUR15				⇓S	**Sg**	**13 18 19.8**	**-0.6**
KUR05	**Kurchatov Arra**	**0.81**	**37**	⇑P	**Pb**	**13 18 11.3**	**-0.3**
KUR05				⇑S	**Sg**	**13 18 20.4**	**-0.3**
KUR14	**Kurchatov Arra**	**0.81**	**40**	⇑P	**Pg**	**13 18 10.6**	**+0.5**
KUR14				⇓S	**Sg**	**13 18 19.2**	**-1.5**
KUR04	**Kurchatov Arra**	**0.83**	**36**	⇑P	**Pb**	**13 18 11.7**	**-0.2**
KUR04				⇑S	**Sg**	**13 18 21.0**	**-0.3**
KURK	**Kurchatov**	**0.90**	**36**	⇑P	**Pg**	**13 18 12.1**	**+0.3**
	15nm,0.8s						
KURK				⇓S	**Sg**	**13 18 22.3**	**-1.3**
	32nm,0.5s						
OTUK	**Ortayu**	**3.98**	**246**	⇓Pn	**Pg**	**13 19 10.4**	**-0.3**
	0.4nm,0.3s						
OTUK				⇓Pg	Pb	13 19 20.4	+15
	1.2nm,0.7s						
OTUK				⇑Lg	Lg	13 20 21.4	
	4.8nm,0.7s						
MAKZ	**Makanchi**	**4.24**	**137**	⇑Pg	**Pb**	**13 19 09.8**	**-0.1**
	2.6nm,0.9s						
MAKZ				⇓Lg	Lg	13 20 00.5	
	5.8nm,0.6s						
MK31	**Makanchi Array**	**4.39**	**135**	⇑Pn	**Pn**	**13 19 03.3**	**+0.9**
	baz=278,slow=7.2,SNR=29						
MK31				⇑Pg	**Pb**	**13 19 11.5**	**-1.1**
	0.8nm,0.5s,baz=322,slow=13,SNR=6.9						
MK31				⇑Lg	Lg	13 20 02.2	
	5.9nm,0.7s,baz=330,slow=27,SNR=13						
MKAR	**Makanchi Array**	**4.39**	**135**	Pn	**Pn**	**13 19 03.3**	**+0.8**
	0.1nm,0.3s,baz=321,slow=10,SNR=30						
MKAR				Pg	**Pb**	**13 19 11.1**	**-1.5**
	0.4nm,0.3s,baz=319,slow=15,SNR=10.0						
MKAR				Sn	**Sn**	**13 19 54.1**	**-0.2**
	0.3nm,0.3s,baz=331,slow=22,SNR=5.5						
MKAR				Lg	Lg	13 20 03.7	
	1.0nm,0.3s,baz=327,slow=22,SNR=14						
BVA0	**Borovoye Array**	**5.52**	**306**	⇓Sn	**Sb**	**13 20 39.5**	**+1.0**
	2.0nm,0.7s,baz=113,slow=23,SNR=9.6						
BVA0				⇑Lg	Lg	13 21 12.0	
	3.6nm,0.8s						
BVAR	**Borovoye Array**	**5.52**	**306**	Pn	**Pb**	**13 19 30.3**	**-1.5**
	baz=118,slow=16,SNR=2.4						
BVAR				Sn	**Sn**	**13 20 38.6**	**+0.1**
	0.4nm,0.3s,baz=114,slow=23,SNR=12						
BVAR				Lg	Lg	13 21 10.2	
	0.2nm,0.3s,baz=119,slow=27,SNR=3.7						
I46RU	**ZALESOVO INFRA**	**5.88**	**45**	*i*		13 49 08.2	
	baz=225,slow=348,SNR=1.3						
ZALV	**Zalesovo Beam**	**5.88**	**45**

RPZ	**Rata Peaks**	**3.68**	**76**	P	Pn	13 57 50.9	0.0

*IDC **25** 14:02:04.0±2.5, 50.86N×161.18E, h0km, mb3.5/3, mb1 3.4/4, mb1mx3.1/47, mbtmp3.4/4, ML2.1/1, Error ellipse: s-maj=77.0km s-min=28.1km az=71.0*
*KRSC **25** 14:02:10.2±10.0, 50.74N×160.02E, h92km±10km, ML3.7*
ISC 25 14:02:07.7±3.7, 50.80N±0.09×160.10E±0.08, h5km±21km, n20, σ1§17/25, mb3.5/3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.62**	**309**	*e*P		**Pg**	**14 02 38.3**	**+0.2**
KDTR				*e*S		**Sg**	**14 02 59.5**	**-0.3**
RUS	**Russkaya**	**1.91**	**329**	*e*P		**Pb**	**14 02 42.6**	**-0.4**
RUS				*e*S		**Sb**	**14 03 06.8**	**-0.3**
MTVR	**Mutnovka**	**2.06**	**325**	*e*P		**Pb**	**14 02 45.4**	**-0.3**
MTVR				*e*S		**Sb**	**14 03 11.8**	**+0.1**
ASAK	**Asacha**	**2.10**	**320**	*e*P		**Pb**	**14 02 46.5**	**+0.3**
PAU	**Pauzhetka**	**2.18**	**289**	*e*P		**Pb**	**14 02 47.8**	**+0.3**
KRMR	**Karymshinskiy**	**2.37**	**330**	*e*P		**Pb**	**14 02 49.7**	**-1.2**
DALK	**Dalny**	**2.38**	**340**	*e*P		**Pb**	**14 02 49.8**	**-1.3**
SKR	**Severo-Kuril's**	**2.53**	**269**	*e*P		**Pn**	**14 02 49.7**	**+0.3**
SKR				*e*S		**Sn**	**14 03 19.2**	**-1.4**
UGLR	**Uglovaya**	**2.54**	**342**	*e*P		**Pb**	**14 02 52.5**	**-1.3**
SDLR	**Sedlovina**	**2.59**	**344**	*e*P		**Pb**	**14 02 53.3**	**-1.4**
SMAR	**Somma**	**2.59**	**342**	*e*P		**Pb**	**14 02 54.0**	**-0.8**
AVH	**Avacha**	**2.61**	**342**	*e*P		**Pb**	**14 02 54.4**	**-0.5**
KOK	**Koryaka**	**2.65**	**341**	*e*P		**Pb**	**14 02 54.3**	**-1.4**
PETK	**Petropavlovsk-** 1.2nm,0.3s,baz=131,slow=18,SNR=28	**2.75**	**328**	Pn		**Pb**	**14 02 55.5**	**-1.8**
PETK	0.6nm,0.3s,baz=159,slow=18,SNR=3.2					**Sb**	**14 03 32.1**	**+0.9**
ALID	**Alaid**	**2.89**	**273**	*e*P		**Pn**	**14 02 55.9**	**+1.5**
MKZ	**Mys Kozlova**	**3.89**	**14**	*e*P		**Pn**	**14 03 09.2**	**+1.2**
TUMD	**Tumrok D**	**4.41**	**2**	*e*P		**Pn**	**14 03 17.9**	**+2.6**
TIXI	**Tiksi** 1.6nm,0.6s,baz=124,slow=8.1,SNR=9.5	**25.18**	**337**	P		**P**	**14 07 32.7**	**-0.9**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=61,slow=6.8,SNR=5.0	**49.19**	**297**	P		**P**	**14 10 57.4**	**+1.0**
ASAR	**Alice Springs** 0.3nm,0.9s,baz=12,slow=5.3,SNR=4.4	**77.67**	**204**	P		**P**	**14 14 04.2**	**-0.8**

RSNC 25 14:05:11.3±1.1, 7.16N×76.10W, h0km±4km, ML3.1, Mw3.5, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.18**	**217**	⇑*i*P		Pg	14 05 15.3	+0.6
DBBC				*e*S		Sg	14 05 19.1	+2.0
DBBC	comp=Z,2μm,0.4s			*i*			14 05 20.9	
UREC	**San Jos de Ur**	**0.81**	**44**	*e*P		Pg	14 05 25.9	-1.1
UREC				*e*S		Sg	14 05 38.2	+0.7
UREC	comp=N,745nm,0.3s			*i*			14 05 40.0	
HELC	**Santa Helena**	**1.12**	**149**	⇓*i*P		Pg	14 05 30.4	-2.4
HELC	comp=N,145nm,0.4s			*i*			14 05 46.7	
ZARC	**Zaragoza, Cauc**	**1.28**	**75**	*e*P		Pg	14 05 33.7	-2.2
ZARC				*e*S		Sg	14 05 50.6	-1.8
ZARC	comp=N,355nm,0.6s			*i*			14 05 51.9	
SOLC	**Bahia Solano**	**1.59**	**234**	*e*P		Pn	14 05 39.2	-1.6
SOLC				*e*S		Sn	14 06 01.2	-0.9
PTBC	**PUERTO BERRIO,**	**1.75**	**111**	*e*P		Pn	14 05 41.1	-1.8
PTBC				*e*S		Sn	14 06 04.3	-1.6
PTBC	comp=E,232nm,0.3s			*i*			14 06 05.8	
BRRC	**Barranca, Sant**	**2.37**	**91**	*e*P		Pn	14 05 50.9	-0.7
BRRC				*e*S		Sn	14 06 21.5	+0.2
BRRC	comp=N,105nm,0.6s			*i*			14 06 30.9	
GIRC	**Giron, Santand**	**2.89**	**91**	*e*P		Pn	14 05 57.2	-1.5
BARC	**Barichara**	**2.95**	**101**	*e*P		Pn	14 05 59.3	-0.4
BARC				*e*S		Sn	14 06 35.5	-0.6
BARC	comp=Z,102nm,0.6s			*i*			14 06 42.8	
PAMC	**Pamplona, Colo**	**3.38**	**87**	*e*P		Pn	14 06 05.3	-0.6
PAMC				*e*S		Sn	14 06 46.7	-0.2
PAMC	comp=E,49nm,0.6s			*i*			14 07 01.1	

KRSC 25 14:08:47.1±10.0, 55.11N×160.24E, h4km±10km, ML3.5, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**0.03**	**76**	*e*P		Pg	14 08 48.6	+0.5
TUMD	**Tumrok D**	**0.13**	**42**	*e*P		Pg	14 08 50.2	+0.4
TUMD				*e*S		Sg	14 08 52.7	+1.2
TUMR	**Tumrok**	**0.19**	**343**	*e*P		Pg	14 08 51.6	+0.8
TUMR				*e*S		Sg	14 08 55.0	+1.7
ZLN	**Zelenaya**	**0.97**	**19**	P		Pb	14 09 06.4	-0.1
KOZ	**Kozyrevsk**	**0.98**	**348**	P		Pb	14 09 06.7	0.0
MKZ	**Mys Kozlova**	**1.02**	**122**	*e*P		Pg	14 09 06.9	+0.2
MKZ				*e*S		Sb	14 09 22.0	+0.9
CIRR	**Tsirk**	**1.05**	**16**	P		Pb	14 09 08.2	+0.2
ESO	**Esso**	**1.20**	**314**	*e*P		Pg	14 09 09.0	-1.2
ESO				*e*S		Sg	14 09 25.9	+0.2
KLY	**Klyuchi**	**1.23**	**11**	P		Pn	14 09 11.7	+0.6
SRDR	**Sredinnyy**	**1.25**	**346**	P		Pb	14 09 11.4	+0.1
BDR	**Baidarnaya**	**1.56**	**20**	P		Pb	14 09 16.7	0.0
SMKR	**Semkarok**	**1.63**	**25**	P		Pg	14 09 18.4	0.0
SRKR	**Sorokina**	**1.64**	**18**	P		Pb	14 09 17.8	-0.1
KBTR	**Krutoberegovo**	**1.83**	**52**	P		Pn	14 09 19.8	+0.4
SDLR	**Sedlovina**	**2.00**	**204**	P		Pn	14 09 22.9	+1.1
SPN	**Mys Shipunski**	**2.02**	**184**	P		Pn	14 09 22.0	+0.1
SMAR	**Somma**	**2.03**	**205**	P		Pb	14 09 23.9	-0.8
AVH	**Avacha**	**2.05**	**206**	P		Pb	14 09 24.3	-0.6
KOK	**Koryaka**	**2.05**	**208**	P		Pb	14 09 24.1	-0.8
UGLR	**Uglovaya**	**2.08**	**204**	P		Pb	14 09 24.4	-1.0

*ISCJB **25** 14:24:31.7±1.1, 10.9S±0.1×164.7E±0.1, h29km, mb3.5/4, Error ellipse: s-maj=21.6km s-min=11.3km az=32.8*
*IDC **25** 14:24:36.8±3.8, 10.94S×164.63E, h60km±32km, mb3.3/4, mb1 3.6/6, mb1mx3.3/30, mbtmp3.8/6, ML4.2/2, MS2.5/1, Ms1 2.5/1, ms1mx2.4/7, Error ellipse: s-maj=34.3km s-min=23.0km az=43.0*
ISC 25 14:24:33.5±1.3, 10.8S±0.2×164.8E±0.1, h29km, n12, σ1§43/7, mb3.3/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 18nm,0.3s,baz=148,slow=6.6,SNR=8.2	**4.95**	**286**	P		**Pn**	**14 25 47.1**	**+1.1**
HNR	11nm,0.3s,baz=208,slow=15,SNR=2.8			S		**Sn**	**14 26 42.8**	**+0.5**
HNR	comp=Z,55nm,21.2s,baz=155,slow=30				LR	LR	14 27 04.6	
DZM	**Mont Dzumac** 1.0nm,0.3s,baz=336,slow=20,SNR=9.3	**11.30**	**172**	P		**Pn**	**14 27 14.2**	**+1.0**
H11S2	**WAKE ISLAND Hy 29.19** baz=184,slow=76,SNR=23	**4**		T		T	15 01 04.9	
H11S3	**WAKE ISLAND Hy 29.19** baz=184,slow=76,SNR=22	**4**		T		T	15 01 04.7	
H11S1	**WAKE ISLAND Hy 29.20** baz=184,slow=76,SNR=29	**4**		T		T	15 01 05.6	
H11N1	**WAKE ISLAND Hy 30.41** baz=184,slow=76,SNR=12	**4**		T		T	15 02 36.0	
H11N3	**WAKE ISLAND Hy 30.42** baz=184,slow=76,SNR=11	**4**		T		T	15 02 37.1	
H11N2	**WAKE ISLAND Hy 30.43** baz=184,slow=76,SNR=15	**4**		T		T	15 02 36.9	
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=78,slow=8.9,SNR=4.6	**30.67**	**249**	P		**P**	**14 30 44.3**	**-1.6**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=63,slow=10,SNR=6.8	**32.05**	**242**	P		**P**	**14 30 56.3**	**-1.7**
ILAR	**Eielson Array** 0.2nm,0.7s,baz=232,slow=4.0,SNR=4.3	**83.61**	**19**	P		**P**	**14 36 59.0**	**+0.2**
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=100,slow=6.0,SNR=7.7	**92.71**	**317**	P		**P**	**14 37 42.6**	**-0.4**

*NNC **25** 14:48:59.9±0.5, 43.36N×78.81E, h6km±3km, mb2.8, mpv2.5, Error ellipse: s-maj=3.8km s-min=2.0km az=7.0*
*KRNET **25** 14:48:59.1±0.1, 42.81N×79.32E, h22km, mb1.8*
*ISCJB **25** 14:49:00.5±0.5, 43.39N±0.03×78.81E±0.03, h9km±4km, Error ellipse: s-maj=5.2km s-min=4.2km az=172.9*

*SOME **25** 14:49:00.4, 43.33N×78.78E, h20km*
ISC 25 14:48:59.2±0.9, 43.34N±0.03×78.78E±0.02, h16km±8km, n20, σ1§38/40, 11C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KPKS	**Kokpek** 96nm,0.0s	**0.14**	**331**	*e*P		**Pg**	**14 49 03.5**	**+0.2**
KPKS	206nm,0.1s			*e*S		**Sg**	**14 49 05.9**	**0.0**
UZB	**Uzynbulak** 3.0nm,0.1s	**0.27**	**138**	P		**Pb**	**14 49 06.8**	**+1.1**
UZB	24nm,0.1s			S		**Sb**	**14 49 11.4**	**+1.3**
UZB	**Uzynbulak** 3.0nm,0.1s	**0.27**	**138**	*e*P		**Pb**	**14 49 06.8**	**+1.1**
UZB	24nm,0.1s			*e*S		**Sb**	**14 49 11.4**	**+1.3**
SATY	**Saty** 2.3nm,0.1s	**0.39**	**224**	P		**Pb**	**14 49 09.1**	**+1.2**
SATY	42nm,0.2s			S		**Sb**	**14 49 15.3**	**+1.6**
SATY	**Saty** 2.3nm,0.1s	**0.39**	**224**	*e*P		**Pb**	**14 49 09.1**	**+1.2**
SATY	42nm,0.2s			*e*S		**Sb**	**14 49 15.3**	**+1.6**
PDGK	**Podgornoye** 0.3nm,0.1s	**0.52**	**91**	P		**Pb**	**14 49 10.3**	**+0.2**
PDGK	1.6nm,0.1s			S		**Sb**	**14 49 17.5**	**+0.1**
PDGK	**Podgornoye** 1.3nm,1.0s	**0.52**	**91**	⇓P		**Pg**	**14 49 10.0**	**+0.4**
PDGK	0.4nm,0.2s			⇑S		**Sb**	**14 49 17.4**	**0.0**
PDGK	**Podgornoye** baz=13	**0.52**	**91**	⇑*e*P		**Pg**	**14 49 09.7**	**+0.1**
PDGK	baz=13			⇑*i*S		**Sb**	**14 49 17.5**	**+0.1**
MNBS	**Baschi** 2.2nm,0.1s	**0.79**	**340**	P		**Pg**	**14 49 13.6**	**-1.0**
MNBS	3.5nm,0.1s			S		**Sg**	**14 49 23.0**	**-2.0**
MNBS	**Baschi** 2.2nm,0.1s	**0.79**	**340**	*e*P		**Pg**	**14 49 13.6**	**-1.0**
MNBS	3.5nm,0.1s			*e*S		**Sg**	**14 49 23.0**	**-2.0**
PRZ	**Przheval'sk** baz=44	**0.90**	**198**	⇑*i*P		**Pb**	**14 49 13.2**	**-3.4**
PRZ	baz=44			⇑*i*S		**Sb**	**14 49 23.6**	**-4.9**
KTMS	**Ketmen** 0.3nm,0.1s	**1.15**	**84**	P		**Pb**	**14 49 21.1**	**+0.2**
KTMS	1.4nm,0.2s			S		**Sb**	**14 49 35.9**	**+0.2**
KTMS	**Ketmen** 0.3nm,0.1s	**1.15**	**84**	*e*P		**Pb**	**14 49 21.1**	**+0.2**
KTMS	1.4nm,0.2s			*e*S		**Sb**	**14 49 35.9**	**+0.2**
KOTS	**Kotyrbulak** 1.9nm,0.4s	**1.22**	**265**	P		**Pg**	**14 49 22.9**	**0.0**
KOTS	3.3nm,0.3s			S		**Sg**	**14 49 39.2**	**+0.4**
KOTS	**Kotyrbulak** 1.0nm,0.3s	**1.22**	**265**	*e*P		**Pg**	**14 49 22.9**	**0.0**
KOTS	2.5nm,0.3s			*e*S		**Sg**	**14 49 39.2**	**+0.4**
KDJ	**Kajisay** baz=47	**1.69**	**225**	⇑*i*P		**Pb**	**14 49 30.1**	**0.0**
KDJ	baz=47			⇑*i*S		**Sb**	**14 49 52.6**	**+1.4**
KAPS	**Kapalarasan** 0.4nm,0.1s	**1.99**	**12**	P		**Pb**	**14 49 35.5**	**+0.5**
KAPS	0.8nm,0.2s			S		**Sb**	**14 50 00.7**	**+1.1**
KAPS	**Kapalarasan** 0.4nm,0.1s	**1.99**	**12**	*e*P		**Pb**	**14 49 35.5**	**+0.5**
KAPS	0.8nm,0.2s			*e*S		**Sb**	**14 50 00.7**	**+1.1**
ULHL	**Ulahol** baz=57	**2.17**	**240**	⇑*i*P		**Pb**	**14 49 38.7**	**+0.5**
ULHL	baz=57			⇑*i*S		**Sg**	**14 50 07.7**	**-1.2**
BOOM	**Boomskoye usch** baz=64	**2.25**	**249**	⇑*i*P		**Pb**	**14 49 40.9**	**+1.3**
BOOM	baz=64			⇑*i*S		**Sg**	**14 50 11.6**	**-0.1**

*DJA **25** 14:56:29.4±3.1, 8.5S±58.11×7.7E±., h333km±33km, M2.7/6, MLv2.7/6*
*ISCJB **25** 14:56:31.0±0.9, 7.7S±0.2×116.5E±0.1, h300km, mb3.1/3, Error ellipse: s-maj=24.4km s-min=15.9km az=10.0*
*IDC **25** 14:56:55.2±7.7, 7.42S×117.50E, h599km±117km, mb2.4/3, mb1 2.7/5, mb1mx2.5/29, mbtmp3.5/5, Error ellipse: s-maj=81.8km s-min=30.5km az=72.0*
ISC 25 14:56:31.7±1.1, 7.7S±0.2×116.5E±0.1, h300km, n8, σ0§97/7, mb3.1/3, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SRBI	**Singaraja**	**1.31**	**254**	P		**Pn**	**14 57 14.6**	**+0.9**
PLAI	**Plampang**	**1.69**	**131**	P		**Pn**	**14 57 15.6**	**-0.5**
JAGI	**Jajag, Banyuwa**	**2.43**	**252**	P		**Pn**	**14 57 21.9**	**-0.2**
FITZ	**Fitzroy Crossi** 0.0nm,0.3s,baz=346,slow=8.3,SNR=2.5	**13.64**	**140**	P		P	14 59 46.4	+13
FITZ	0.1nm,0.3s,baz=348,slow=23,SNR=2.1			S		S	15 02 11.5	+7.0
SIJI	**Sorong** 0.6nm,0.3s,baz=240,slow=20,SNR=5.0	**16.22**	**66**	P		**Pn**	**15 00 05.6**	**+1.1**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=310,slow=9.3,SNR=18	**21.15**	**127**	P		**P**	**15 00 53.8**	**-0.2**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=314,slow=8.7,SNR=18	**23.04**	**135**	P		**P**	**15 01 11.9**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=146,slow=8.0,SNR=4.8	**62.20**	**334**	P		**P**	**15 06 20.9**	**-1.0**

KRSC 25 14:58:39.8±10.0, 50.75N×160.19E, h93km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.70**	**310**	*e*P		Pn	14 59 09.5	+1.3
KDTR				*e*S		Sn	14 59 31.3	+1.5
RUS	**Russkaya**	**1.99**	**329**	*e*P		Pn	14 59 13.1	+1.2
RUS				*e*S		Sn	14 59 37.5	+1.2
MTVR	**Mutnovka**	**2.14**	**325**	*e*P		Pn	14 59 15.6	+1.5
MTVR				*e*S		Sn	14 59 41.8	+1.5
ASAK	**Asacha**	**2.18**	**320**	*e*P		Pn	14 59 16.6	+2.2
PAU	**Pauzhetka**	**2.25**	**290**	*e*S		Sn	14 59 45.0	+2.5
KRMR	**Karymshinskiy**	**2.45**	**329**	*e*P		Pn	14 59 20.2	+2.3
KRMR				*e*S		Sn	14 59 50.3	+3.1
DALK	**Dalny**	**2.46**	**339**	*e*P		Pn	14 59 20.2	+2.2
DALK				*e*S		Sn	14 59 49.7	+2.3
SKR	**Severo-Kuril's**	**2.59**	**270**	*e*P		Pn	14 59 21.2	+1.4
SKR				*e*S		Sn	14 59 51.3	+0.7
UGLR	**Uglovaya**	**2.61**	**342**	*e*P		Pn	14 59 22.8	+2.6
SDLR	**Sedlovina**	**2.66**	**343**	*e*P		Pn	14 59 23.1	+2.2
AVH	**Avacha**	**2.68**	**341**	*e*P		Pn	14 59 24.0	+2.9
KOK	**Koryaka**	**2.73**	**340**	*e*P		Pn	14 59 25.0	+3.3
ALID	**Alaid**	**2.95**	**274**	*e*P		Pn	14 59 27.6	+2.9
MKZ	**Mys Kozlova**	**3.93**	**13**	*e*P		Pn	14 59 38.9	+1.1
TUMR	**Tumrok**	**4.55**	**360**	*e*P		Pn	14 59 49.7	+3.4
KBTR	**Krutoberegovo**	**5.69**	**15**	*e*P		Pn	15 00 03.7	+2.0

*IDC **25** 15:03:09.5±1.2, 3.33S×128.89E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.7/34, mbtmp3.9/6, ML3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/27, Error ellipse: s-maj=36.4km s-min=20.9km az=89.0*
*DJA **25** 15:03:13.1±1.2, 3.5S±8.12×12.9E±., h13km±13km, M3.7/6, MLv3.7/6*
*NEIC **25** 15:03:17.7±0.8, 3.43S×128.95E, h69km±9km, mb4.0/6, Error ellipse: s-maj=10.6km s-min=6.7km az=65.0*
ISC 25 15:03:13.1±0.7, 3.12S±0.06×129.04E±0.06, h33km, n26, σ1§67/28, mb4.1/4, Seram

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.64**	**148**	P		**Pb**	**15 03 42.6**	**-0.1**
SIJI	**Sorong** 14nm,0.3s,baz=257,slow=10,SNR=59	**3.15**	**45**	Pn		**Pn**	**15 04 04.2**	**+3.6**
SIJI	7.2nm,0.3s,baz=39,slow=17,SNR=11			Sn		**Sn**	**15 04 46.0**	**-0.5**
FAKI	**Fak Fak**	**3.21**	**86**	*e*Pn		**Pb**	**15 04 07.3**	**-2.2**
SANI	**Sanana**	**3.23**	**289**	P		**Pn**	**15 04 00.5**	**-1.1**
SAUI	**Saumlaki**	**5.33**	**155**	*e*Pn		**Pn**	**15 04 31.6**	**+1.2**
SOEI	**Soe**	**8.12**	**216**	*e*Pn		**Pn**	**15 05 09.2**	**+0.3**
MMRI	**Maumere**	**8.71**	**231**	*e*Pn		**Pn**	**15 05 17.8**	**+1.0**
MTN	**Manton Dam**	**9.88**	**168**	*e*Pn		**Pn**	**15 05 33.8**	**+0.9**
DAV	**Davao City (W)**	**10.70**	**341**	*e*Pn		Pn	15 05 51.9	+7.7
FITZ	**Fitzroy Crossi**	**15.25**	**192**	*e*Pn		**Pn**	**15 06 44.2**	**-1.9**
FITZ				*e*P		**P**	**15 06 50.0**	**-0.7**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=24,slow=14,SNR=3.7	**15.25**	**192**	Pn		**Pn**	**15 06 44.0**	**-2.2**
FITZ	comp=Z,49nm,18.2s,baz=7.0,slow=37				LR	LR	15 12 30.1	
KKM	**Kota Kinabalu** 16nm,1.1s	**15.72**	**305**	*e*Pn		**P**	**15 06 57.6**	**+1.6**
WR1	**Warramunga Arr** 18nm,1.5s	**17.50**	**163**	*e*Pn		**Pn**	**15 07 12.2**	**-2.6**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=345,slow=12,SNR=23	**17.50**	**163**	P		**Pn**	**15 07 12.2**	**-2.6**
KSM	**Kuching** 6.8nm,1.1s	**19.27**	**283**	*e*P		**Pn**	**15 07 35.0**	**-1.4**
AS31	**Alice Springs** 2.8nm,0.6s	**20.96**	**167**	*e*P		**P**	**15 07 53.2**	**-0.3**
ASAR	**Alice Springs** 5.5nm,0.5s,baz=348,slow=11,SNR=74	**20.96**	**167**	P		**P**	**15 07 53.2**	**-0.3**
ASAR	0.2nm,0.4s,baz=8.0,slow=1.7,SNR=5.1			PcP		**PcP**	**15 12 00.9**	**+0.4**
AS01	**Alice Springs**	**20.97**	**167**	*e*P		**P**	**15 07 53.0**	**-0.6**
STKA	**Stephens Creek** 4.7nm,1.9s	**30.95**	**159**	*e*P		**P**	**15 09 27.2**	**0.0**
STKA	**Stephens Creek** 0.7nm,0.4s,baz=330,slow=12,SNR=3.3	**30.95**	**159**	P		**P**	**15 09 27.1**	**-0.1**
DGAR	**Diego Garcia** 80nm,0.8s	**56.48**	**263**	*e*P		**P**	**15 12 52.8**	**+0.3**
MK01	**Makanchi Array**	**64.47**	**326**	*e*P		**P**	**15 13 48.5**	**+2.0**
MK32	**Makanchi Array**	**64.48**	**326**	*e*P		**P**	**15 13 48.7**	**+2.1**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=122,slow=7.2,SNR=8.4	**64.48**	**326**	P		**P**	**15 13 48.7**	**+2.1**
KURK	**Kurchatov** 2.3nm,0.9s	**68.73**	**328**	*e*P		**P**	**15 14 14.8**	**+1.2**

IDC 25 15:03:36.3±37.0, 16.70S×173.43E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/26, mbtmp4.0/4, Error ellipse: s-maj=656.6km s-min=132.9km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.2nm,0.8s,baz=78,slow=9.3,SNR=3.1	**32.57**	**236**	P		P	15 10 09.4	-0.1
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=88,slow=8.4,SNR=4.6	**37.20**	**259**	P		P	15 10 48.7	-0.9
ASAR	**Alice Springs** 3.5nm,0.4s,baz=83,slow=8.5,SNR=75	**37.65**	**253**	P		P	15 10 52.8	-0.6
FITZ	**Fitzroy Crossi** 2.0nm,0.8s,baz=73,slow=7.4,SNR=3.7	**45.53**	**261**	P		P	15 11 59.7	+1.6

*IDC **25** 15:13:15.1±2.9, 11.19S×165.00E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/36, mbtmp3.8/6, ML4.1/2, MS3.0/4, Ms1 3.0/4, ms1mx2.7/30, Error ellipse: s-maj=53.9km s-min=32.1km az=57.0*
*ISCJB **25** 15:13:18.0±1.8, 11.4S±0.2×165.0E±0.2, h31km, mb3.6/4, MS3.1/3, Error ellipse: s-maj=33.8km s-min=11.0km az=43.3*
ISC 25 15:13:19.4±2.1, 11.2S±0.2×165.1E±0.2, h31km, n12, σ0§79/7, mb3.7/4, MS3.0/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara** 16nm,0.3s,baz=173,slow=8.6,SNR=5.2	**5.33**	**289**	Pn		**Pn**	**15 14 36.6**	**-0.4**
HNR	9.7nm,0.3s,baz=60,slow=19,SNR=4.4			Sn		**Sn**	**15 15 37.9**	**+0.5**
HNR	comp=Z,93nm,20.9s,baz=206,slow=38				LR	LR	15 16 37.8	
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=311,slow=17,SNR=8.9	**10.86**	**173**	Pn		**Pn**	**15 15 52.8**	**-0.1**
JAY	**Jayapura** comp=Z,28nm,20.1s,baz=162,slow=35	**25.66**	**288**	LR		LR	15 28 02.3	
H11S2	**WAKE ISLAND Hy 29.58** baz=184,slow=76,SNR=4.1	**3**		T		T	15 50 33.9	
H11S3	**WAKE ISLAND Hy 29.59** baz=184,slow=76,SNR=5.4	**3**		T		T	15 50 33.1	
H11S1	**WAKE ISLAND Hy 29.60** baz=184,slow=76,SNR=4.9	**3**		T		T	15 50 31.0	
STKA	**Stephens Creek** 1.1nm,0.7s,baz=98,slow=14,SNR=3.2	**29.84**	**223**	P		**P**	**15 19 25.0**	**+1.0**
WRA	**Warramunga Arr** 0.7nm,0.7s,baz=80,slow=9.1,SNR=5.2	**30.78**	**250**	P		**P**	**15 19 32.0**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=64,slow=10,SNR=9.5	**32.10**	**243**	P		**P**	**15 19 43.2**	**-0.9**
FITZ	**Fitzroy Crossi** comp=Z,23nm,18.6s,baz=76,slow=34	**38.67**	**255**	LR		LR	15 35 20.7	
NWAO	**Narrogin (SRO)** comp=Z,43nm,20.9s,baz=55,slow=37	**48.79**	**236**	LR		LR	15 43 09.5	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=119,slow=5.1,SNR=3.7	**93.20**	**317**	P		**P**	**15 26 31.1**	**+0.2**

*IDC **25** 15:20:45.8±1.3, 14.95N×123.55E, h0km, mb3.3/5, mb1 3.5/5, mb1mx3.3/37, mbtmp3.3/5, ML4.8/1, Error ellipse: s-maj=31.1km s-min=20.8km az=57.0*
*ISCJB **25** 15:20:51.1±0.5, 15.06N±0.03×123.36E±0.05, h54km±9km, mb3.3/5, Error ellipse: s-maj=7.9km s-min=4.2km az=156.7*
*MAN **25** 15:20:51.5, 15.05N×123.38E, h33km, MS3.1*
ISC 25 15:20:52.0±1.2, 15.06N±0.03×123.37E±0.05, h43km±16km, n29, σ1§48/35, mb3.4/5, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**1.42**	**257**	*e*P		**Pn**	**15 21 15.1**	**-0.2**
POLP				*e*S		**Sn**	**15 21 32.6**	**-0.1**
GQP	**Guinayangan**	**1.45**	**218**	⇓*e*P		**Pn**	**15 21 16.2**	**+0.5**
GQP				*e*S		**Sn**	**15 21 34.0**	**+0.5**
PVCP	**Virac**	**1.64**	**152**	*e*P		**Pn**	**15 21 18.1**	**-0.3**
PVCP				*e*S		**Sn**	**15 21 37.5**	**-0.7**
AUQP	**San Andres**	**1.85**	**201**	*e*P		Pn	15 21 31.1	+10
BOAC	**Boac**	**2.17**	**223**	*e*P		**Pn**	**15 21 26.4**	**+0.8**
BOAC				*e*S		**Sn**	**15 21 48.6**	**-2.7**
PALP	**Palanan**	**2.19**	**336**	*e*P		**Pn**	**15 21 26.4**	**+0.5**
PALP				*e*S		**Sn**	**15 21 50.1**	**-1.7**
CAUP	**Cauayan**	**2.39**	**322**	*e*P		**Pn**	**15 21 29.7**	**+1.0**
CAUP				*e*S		**Sn**	**15 21 57.8**	**+1.0**
TGY	**Tagaytay City** 163nm,0.3s,baz=74,slow=2.9,SNR=6.4	**2.54**	**248**	Pn		**

H11N3	**WAKE ISLAND Hy**	**41.73**	**77**	T	T	16 13 01.2
	baz=266					
MKAR	**Makanchi Array**	**46.53**	**322**	P	**P**	**15 29 15.3 +0.1**
	0.3nm,0.8s,baz=119,slow=6.3,SNR=3.0					

IDC ***25*** *15:23:02.0±1.7, 4°.18N×126°.57E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.3/36, mbtmp3.5/5, ML3.2/1, MS3.2/1, Ms1 3.2/1, ms1mx2.2/25, Error ellipse: s-maj=77.7km s-min=24.3km az=64.0*

ISC 25 15:23:10.6±1.1, 4°.3N±0°.2×127°.0E±0°.3, h81km, n9, σ2§62/8, mb3.5/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.20**	**324**	*e*P	**Pn**	**15 23 41.8**	**-3.4**
KCP	**Kidapawan**	**3.29**	**325**‖	*e*P	**Pn**	**15 24 02.1**	**+2.1**
SKMP	**Bagumbayan, Su**	**3.29**	**312**	*e*P	**Pn**	**15 23 59.1**	**-0.9**
SIJI	**Sorong**	**6.68**	**140**	Pn	**Pn**	**15 24 42.5**	**-3.6**
	0.5nm,0.3s,baz=116,slow=24,SNR=3.1						
TGY	**Tagaytay City**	**11.43**	**329**	LR	LR	15 31 00.7	
	comp=Z,122nm,21.6s,baz=306,slow=42						
FITZ	**Fitzroy Crossi**	**22.30**	**183**	P	**P**	**15 28 01.4**	**-0.2**
	1.3nm,0.8s,baz=17,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**25.15**	**164**	P	**P**	**15 28 27.7**	**-0.7**
	0.3nm,0.9s,baz=335,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**38.57**	**160**	P	**P**	**15 30 27.5**	**+1.8**
	1.0nm,0.6s,baz=336,slow=10.0,SNR=2.8						
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**15 32 50.3**	**+0.7**
	0.3nm,0.5s,baz=113,slow=8.2,SNR=5.5						

MEX 25 15:24:01.1±0.4, 15°.45N×96°.41W, h17km±50km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.43**	**43**	*e*P	Pg	15 24 08.7	-1.2
HUIG				*e*S	Sg	15 24 13.8	-2.0

ISCJB ***25*** *15:35:49.2±0.3, 6°.54S±0°.03×129°.82E±0°.05, h146km, mb4.0/9, Error ellipse: s-maj=6.7km s-min=4.5km az=169.7*
IDC ***25*** *15:35:51.0±2.5, 6°.58S×129°.78E, h146km±26km, mb3.8/9, mb1 3.9/12, mb1mx3.7/29, mbtmp4.3/12, Error ellipse: s-maj=27.6km s-min=13.4km az=75.0*
BJI ***25*** *15:35:51.9, 6°.49S×129°.96E, h177km, mb4.4/11, mB4.7/7*
NEIC ***25*** *15:35:52.4±0.6, 6°.52S×129°.79E, h159km±8km, mb4.4/3, Error ellipse: s-maj=8.8km s-min=7.4km az=68.0*
DJA ***25*** *15:35:52.0±0.6, 7°.S±4°×13°.0E±°, h208km±10km, M4.5/6, mb4.1/4, mB5.0/3, MLv4.6/6, Mw(mB)4.3/3*

ISC 25 15:35:50.7±0.5, 6°.61S±0°.05×129°.78E±0°.06, h146km, n48, σ2§36/52, mb4.0/9, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.04**	**132**	*e*Pn	**Pn**	**15 36 29.7**	**+3.6**
SAUI				*e*Sn	**Sn**	**15 36 53.5**	**+0.3**
SAUI	**Saumlaki**	**2.04**	**132**	P	**Pn**	**15 36 29.9**	**+3.8**
SAUI				S	**Sn**	**15 36 58.7**	**+5.5**
BNDI	**Bandanaira**	**2.07**	**4**	P	Pn	15 36 31.5	+5.0
FAKI	**Fak Fak**	**4.41**	**34**	*e*Pn	**Pn**	**15 36 56.5**	**+0.1**
FAKI	**Fak Fak**	**4.41**	**34**	P	**Pn**	**15 36 56.5**	**+0.1**
SIJI	**Sorong**	**5.89**	**15**	P	**Pn**	**15 37 16.1**	**+0.2**
	28nm,0.3s,baz=209,slow=10,SNR=106						
SIJI				S	**Sn**	**15 38 18.7**	**-3.9**
	11nm,0.3s,baz=253,slow=21,SNR=10						
SANI	**Sanana**	**5.89**	**320**	P	Pn	15 37 22.1	+6.1
SOEI	**Soe**	**6.29**	**240**	*e*Pn	**Pn**	**15 37 25.6**	**+4.2**
SOEI	**Soe**	**6.29**	**240**	P	**Pn**	**15 37 25.8**	**+4.4**
MTN	**Manton Dam**	**6.34**	**168**	*e*Pn	**Pn**	**15 37 23.4**	**+1.4**
BATI	**Baumata**	**7.03**	**239**	P	**Pn**	**15 37 34.7**	**+3.5**
	19nm,0.3s,baz=81,slow=4.9,SNR=21						
BATI				S	**Sn**	**15 38 50.8**	**+0.9**
	25nm,0.3s,baz=13,slow=21,SNR=12						
TNTI	**Ternate**	**7.71**	**342**	*e*Pn	**Pn**	**15 37 40.2**	**-0.2**
MMRI	**Maumere**	**7.74**	**254**	*e*Pn	**Pn**	**15 37 43.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**12.12**	**199**	*e*Pn	**Pn**	**15 38 37.9**	**-0.7**
FITZ				S	**Sn**	**15 40 45.6**	**-7.0**
FITZ	**Fitzroy Crossi**	**12.12**	**199**	P	**Pn**	**15 38 38.4**	**-0.3**
	2.8nm,0.3s,baz=33,slow=12,SNR=70						
FITZ				S	**Sn**	**15 40 45.6**	**-7.0**
	2.6nm,0.3s,baz=177,slow=14,SNR=9.3						
GSPH	**General Santos**	**13.50**	**339**	*e*P	P	15 39 07.7	+6.9
WRA	**Warramunga Arr**	**13.98**	**162**	P	**Pn**	**15 39 00.3**	**-2.3**
	0.9nm,0.3s,baz=346,slow=13,SNR=53						
WRA				S	Sn	15 41 25.6	-12
	3.3nm,0.3s,baz=336,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.98**	**162**	*e*Pn	**Pn**	**15 39 00.5**	**-2.2**
COEN	**Coen**	**15.06**	**120**	*e*Pn	**Pn**	**15 39 14.2**	**-2.1**
	60nm,1.8s						
JAGI	**Jajag, Banyuwa**	**15.60**	**262**	*e*Pn	**Pn**	**15 39 23.0**	**+0.1**
	20nm,1.1s						
AS31	**Alice Springs**	**17.42**	**167**	*e*P	**Pn**	**15 39 45.2**	**+0.2**
	6.2nm,0.5s						
ASAR	**Alice Springs**	**17.42**	**167**	P	**Pn**	**15 39 45.1**	**+0.2**
	2.1nm,0.3s,baz=338,slow=9.3,SNR=167						
ASAR				S	**S**	**15 42 53.8**	**-4.3**
	0.7nm,0.3s,baz=356,slow=28,SNR=6.6						
AS01	**Alice Springs**	**17.43**	**167**	*e*P	**Pn**	**15 39 45.3**	**+0.2**
PMG	**Port Moresby**	**17.43**	**100**	P	**Pn**	**15 39 47.8**	**+2.6**
	0.1nm,0.3s,baz=318,slow=14,SNR=2.4						
CTA	**Charters Tower**	**20.86**	**132**	P	**P**	**15 40 22.4**	**+1.0**
	5.0nm,0.8s,baz=302,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**27.46**	**158**	P	**P**	**15 41 23.5**	**+0.3**
	2.9nm,0.3s,baz=340,slow=8.5,SNR=27						
CMAR	**Chiang Mai Arr**	**39.31**	**310**	P	**P**	**15 43 06.1**	**+0.3**
	0.6nm,0.4s,baz=141,slow=7.5,SNR=8.4						
MJAR	**Matsushiro Arr**	**43.64**	**10**	P	**P**	**15 43 39.7**	**-1.1**
	1.7nm,0.7s,baz=190,slow=10,SNR=4.0						
HHC	**Hu-ho-hao-te**	**50.10**	**342**	*e*P	**P**	**15 44 31.0**	**-0.1**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,120nm,5.5s						
CN2	**Changchun**	**50.32**	**356**	*e*P	**P**	**15 44 32.5**	**0.0**
USRK	**Ussuriysk Ar.**	**50.61**	**2**	P	**P**	**15 44 34.6**	**-0.1**
	1.4nm,0.5s,baz=194,slow=6.6,SNR=4.4						
ODAN	**Odare**	**52.83**	**311**	*e*P	**P**	**15 44 52.0**	**+0.2**
TAPN	**Taplejung**	**52.86**	**312**	*e*P	**P**	**15 44 52.2**	**+0.1**
	8.5nm,0.3s						
RAMN	**Ramite**	**53.48**	**311**	*e*P	**P**	**15 44 57.1**	**+0.6**
JIRN	**Jiri**	**54.16**	**311**	*e*P	**P**	**15 45 01.3**	**-0.3**
	6.2nm,0.3s						
GUN	**Gumba**	**54.53**	**311**	*e*P	**P**	**15 45 04.1**	**-0.1**
	10nm,0.4s						
PKI	**Pulchoki**	**54.70**	**310**	*e*P	**P**	**15 45 05.2**	**-0.3**
	4.5nm,0.5s						
PKIN	**Phulchoki**	**54.72**	**310**	*e*P	**P**	**15 45 05.3**	**-0.2**
KKN	**Kakani**	**54.91**	**311**	*e*P	**P**	**15 45 06.8**	**-0.1**
	5.4nm,0.4s						
DMN	**Daman**	**54.95**	**310**	*e*P	**P**	**15 45 07.1**	**-0.1**
	3.9nm,0.4s						
KOLN	**Koldanda**	**56.18**	**310**	*e*P	**P**	**15 45 16.0**	**+0.1**
	3.1nm,0.3s						
PYUN	**Piuthan**	**56.81**	**310**	*e*P	**P**	**15 45 20.7**	**+0.3**
	4.4nm,0.4s						
SONM	**Songino Array**	**58.00**	**342**	P	**P**	**15 45 28.6**	**+0.3**
	0.5nm,0.4s,baz=160,slow=9.1,SNR=3.3						
WMQ	**Urumqi**	**62.95**	**327**	*e*P	**P**	**15 46 01.5**	**-0.3**
WMQ				pP	pwP	15 46 43.0	+2.0
WMQ				LR	LR		
	comp=N,200nm,5.1s						
WMQ				LR	LR		
	comp=E,230nm,5.5s						
PETK	**Petropavlovsk-**	**64.02**	**18**	P	**P**	**15 46 08.9**	**+0.3**
	1.9nm,0.8s,baz=134,slow=2.4,SNR=4.2						
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**15 46 33.4**	**+0.6**
	7.5nm,0.4s,baz=114,slow=8.4,SNR=158						
ZALV	**Zalesovo Beam**	**71.13**	**334**	P	**P**	**15 46 52.6**	**-0.6**
	1.3nm,0.6s,baz=130,slow=6.1,SNR=5.9						
SYO	**Syowa Base**	**83.95**	**201**⇑	*e*P	**P**	**15 48 05.2**	**+1.1**

DJA 25 15:45:00.7±0.4, 2°.N±3°×99°.9E±°, h10km, M3.7/7, MLv3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.68**	**251**	P	Pn	15 45 28.2	-1.9
TSI	**Tuntungan**	**1.73**	**340**	P	Pg	15 45 39.0	+5.0
PBSI	**Pulau Batu**	**2.10**	**205**	P	Pn	15 45 35.8	-0.1
KCSI	**Kotacane, Aceh**	**2.16**	**320**	P	Pb	15 45 39.7	-0.2
TPTI		**2.42**	**305**	P	Pb	15 45 45.6	+1.3
BKNI	**Bangkinang**	**2.42**	**129**	P	Pn	15 45 40.3	-0.1
SNSI	**Sinabang, Aceh**	**2.88**	**281**	P	Pg	15 45 59.9	+3.9
PDSI	**Padang**	**3.04**	**155**	P	Pn	15 45 48.5	-0.5
SISI	**Saibi**	**3.17**	**181**	P	Pn	15 45 51.9	+1.3
KRJI	**Kerinci**	**4.55**	**150**	P	Pb	15 46 21.4	+0.6
TPRI	**Tanjung Pinang**	**5.45**	**100**	P	Pg	15 46 41.1	-4.0

ISCJB ***25*** *15:53:17.5±0.5, 38°.66N±0°.04×43°.20E±0°.05, h30km±5km, Error ellipse: s-maj=6.7km s-min=5.4km az=37.5*
DDA ***25*** *15:53:17.4, 38°.70N×43°.14E, h7km±1km, ML2.7*
ISK ***25*** *15:53:17.0, 38°.71N×43°.15E, h5km, ML2.1/5*

ISC 25 15:53:18.0±1.1, 38°.70N±0°.03×43°.17E±0°.03, h18km±3km, n10, σ0§55/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**121**	PG	**Pb**	**15 53 22.9**	**+0.2**
VANB				SG	**Sg**	**15 53 27.5**	**+1.1**
TVAN	**Van**	**0.25**	**132**	*i* P	**Pb**	**15 53 23.8**	**0.0**
TVAN				*i* S	**Sg**	**15 53 28.0**	**+0.2**
TVAN				IAML_P			
	comp=Z,6μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.37**	**288**	*i* P	**Pg**	**15 53 26.3**	**+0.5**
ADCV				IAML_P			
	comp=Z,606nm,0.1s						
GEVA	**Gevas**	**0.39**	**193**	*i* P	**Pg**	**15 53 26.3**	**+0.1**
GEVA				IAML_P			
	comp=Z,2μm,0.2s						
AKDM	**Akdamar-Van**	**0.40**	**203**	PG	**Pg**	**15 53 25.5**	**-0.8**
AKDM				SG	**Sg**	**15 53 31.6**	**-0.3**
VMUR	**Van-Muradiye**	**0.43**	**46**	*i* P	**Pg**	**15 53 26.4**	**-0.5**
VMUR				*i* S	**Sb**	**15 53 33.5**	**+0.2**
VMUR				IAML_P			
	comp=Z,822nm,0.1s						
CLDR	**Caldiran**	**0.73**	**52**	PG	**Pb**	**15 53 31.7**	**-0.6**
CLDR				SG	**Sb**	**15 53 42.3**	**+0.2**
TUTA	**Tutak**	**0.76**	**338**	*i* P	**Pb**	**15 53 32.9**	**0.0**
TUTA				*i* S	**Sb**	**15 53 43.5**	**+0.6**
TUTA				IAML_P			
	comp=Z,2μm,0.2s						
AGRB	**Hanur-Agry**	**0.89**	**351**	PG	**Pb**	**15 53 34.3**	**-0.7**
AGRB				SG	**Sb**	**15 53 46.8**	**+0.2**
GURO	**Guroymak-BITLI**	**0.91**	**261**	PG	**Pb**	**15 53 34.7**	**-0.5**
GURO				SG	**Sb**	**15 53 47.3**	**+0.3**

MAN 25 15:57:09.4, 18°.47N×120°.64E, h3km, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.82**	**175**	*e*P	Pg	15 57 24.8	-0.3
ABRA				*e*S	Sb	15 57 37.2	-0.5
APYP	**Conner**	**0.83**	**137**	*e*P	Pg	15 57 25.8	+0.5
APYP				*e*S	Sn	15 57 39.7	-1.0
SGCP	**Mt. Cagua**	**1.35**	**99**	*e*P	Pn	15 57 34.4	-0.7
SGCP				*e*S	Sn	15 57 53.9	+0.3
CVP	**Callao Caves**	**1.36**	**124**‖	*i*P	Pn	15 57 34.2	-1.0
CVP				*i* S	Sn	15 57 54.2	+0.5
CAUP	**Cauayan**	**1.89**	**143**	*e*P	Pb	15 57 44.0	-0.5
CAUP				*e*S	Sg	15 58 11.7	+1.6
BOLP	**Bolinao**	**2.19**	**199**	*e*P	Pn	15 57 47.1	+0.4
PALP	**Palanan**	**2.20**	**129**	*e*P	Pb	15 57 48.6	-1.2
PALP				*e*S	Sg	15 58 20.1	0.0
SMPP	**San Manuel, Pa**	**2.31**	**179**	*e*P	Pn	15 57 46.5	-1.8
SMPP				*e*S	Sn	15 58 16.3	-0.9
SCZP	**Santa Cruz**	**2.77**	**195**	*e*P	Pn	15 57 55.1	+0.5

IDC ***25*** *15:57:48.2±2.8, 27°.11N×56°.27E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/33, mbtmp3.5/4, Error ellipse: s-maj=63.0km s-min=30.9km az=155.0*
TEH ***25*** *15:57:50.4, 27°.34N×56°.15E, h6km, ML3.4*
ISCJB ***25*** *15:57:52.5±0.4, 27°.35N±0°.03×56°.17E±0°.06, h10km, mb3.3/4, Error ellipse: s-maj=8.3km s-min=3.7km az=176.0*
DSN ***25*** *15:57:53.0±1.3, 27°.36N×56°.39E, h15km, ML3.1/9, Error ellipse: s-maj=38.6km s-min=12.3km az=99.0*
OMAN ***25*** *15:57:54.2±1.2, 27°.33N×56°.34E, h13km±41km, ml3.2/8, Error ellipse: s-maj=73.0km s-min=7.0km az=353.0*
THR ***25*** *15:57:58.3, 27°.61N×56°.88E, h14km, ML3.1*

ISC 25 15:57:51.3±0.7, 27°.35N±0°.02×56°.11E±0°.05, h10km, n46, σ1§90/47, mb3.3/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.07**	**45**	*e*Pg	**Pg**	**15 57 52.8**	**-1.0**
GENO				IAMB	IAmb	15 57 55.3	
	comp=Z,0.0nm,0.1s						
NIAN	**Nian**	**0.68**	**72**	IAMB	IAmb	15 58 20.8	
	comp=N,0.0nm,0.2s						
NIAN				*e*Pg	**Pb**	**15 58 04.0**	**-1.2**
SHME	**Shamm**	**1.29**	**179**	*e*P	**Pg**	**15 58 16.9**	**+0.7**
	SNR=43						
SHME				S	**Sg**	**15 58 35.3**	**+2.3**
SHME	**Shamm**	**1.29**	**179**	*e*Pn	**Pg**	**15 58 17.0**	**+0.8**
MSFE	**Esma-Masafi**	**1.98**	**179**	*e*P	**Pb**	**15 58 27.0**	**-0.5**
	SNR=14						
MSFE	**Esma-Masafi**	**1.98**	**179**	*e*Pn	**Pb**	**15 58 27.2**	**-0.3**
MDH	**Madha**	**2.05**	**175**	P	**Pb**	**15 58 27.8**	**-0.8**
MDH	**Madha**	**2.05**	**175**	P	**Pb**	**15 58 26.7**	**-2.0**
MDH				S	**Sb**	**15 58 52.3**	**-1.9**
MDH	**Madha**	**2.05**	**175**	*e*Pn	**Pb**	**15 58 26.4**	**-2.2**
NGRK	**Negar Kerman**	**2.35**	**13**	*e*Pn	**Pb**	**15 58 32.9**	**-1.1**
NGRK				IAMB	IAmb	15 58 37.4	
	comp=Z,0.0nm,0.2s						
NAZ	**Nazwa, Dubai**	**2.38**	**190**	P	**Pb**	**15 58 32.1**	**-2.2**
NAZ	**Nazwa, Dubai**	**2.38**	**190**	P	**Pb**	**15 58 33.8**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.38**	**190**	*e*Pn	**Pb**	**15 58 33.5**	**-0.9**
HATD	**Hatta, Dubai**	**2.51**	**180**	P	**Pn**	**15 58 32.6**	**+0.3**
HATD	**Hatta, Dubai**	**2.51**	**180**	P	**Pb**	**15 58 34.8**	**-1.7**
HATD	**Hatta, Dubai**	**2.51**	**180**	*e*Pn	**Pb**	**15 58 36.1**	**-0.4**
FAQ	**Al Faqa, Dubai**	**2.63**	**190**	*e*P	**Pb**	**15 58 36.5**	**-2.1**
	SNR=9.9						
FAQ	**Al Faqa, Dubai**	**2.63**	**190**	P	**Pb**	**15 58 36.7**	**-1.9**
	SNR=10						
FAQ	**Al Faqa, Dubai**	**2.63**	**190**	*e*Pn	**Pb**	**15 58 36.8**	**-1.8**
ASHO	**Ashiyiah**	**2.65**	**181**	*e*P	**Pb**	**15 58 36.7**	**-2.3**
	SNR=20						
ASHO	**Ashiyiah**	**2.65**	**181**	P	**Pb**	**15 58 36.6**	**-2.4**
	SNR=20						
ASHO	**Ashiyiah**	**2.65**	**181**	*e*Pn	**Pb**	**15 58 36.4**	**-2.6**
KRBR	**Kerman**	**2.69**	**12**	*e*AML	AML	15 59 18.5	
	comp=E,89nm,0.4s						
KRBR				*e*AML	AML	15 59 23.2	
	comp=N,74nm,0.6s						
KRBR	**Kerman**	**2.69**	**12**	*e*Pn	**Pb**	**15 58 38.9**	**-0.8**
KRBR				*e*Sg	**Sb**	**15 59 13.0**	**+0.1**
TVBK	**TV Kerman**	**2.69**	**12**	*e*Pn	**Pb**	**15 58 37.4**	**-2.4**
TVBK				IAMB	IAmb	15 58 43.0	
	comp=Z,0.0nm,0.2s						
CHMN	**Cheshme madani**	**2.80**	**26**	*e*Pn	**Pb**	**15 58 39.3**	**-2.4**
CHMN				IAMB	IAmb	15 58 44.2	
	comp=Z,0.0nm,0.2s						
ASUD	**Al Ashush, Dub**	**2.80**	**195**	*e*P	**Pb**	**15 58 39.3**	**-2.2**
	SNR=23						
ASUD	**Al Ashush, Dub**	**2.80**	**195**	P	**Pb**	**15 58 39.4**	**-2.1**
	SNR=23						
ASUD	**Al Ashush, Dub**	**2.80**	**195**	*e*Pn	**Pb**	**15 58 39.4**	**-2.1**
GHIR	**Ghir-Karzin**	**2.92**	**289**	*e*AML	AML	15 59 38.6	
	comp=N,36nm,0.6s						
GHIR				*e*AML	AML	15 59 54.0	
	comp=E,46nm,0.4s						
GHIR	**Ghir-Karzin**	**2.92**	**289**	*e*Pn	Pg	15 58 54.6	+7.2
GHIR				*e*Sg	Sg	15 59 47.4	+22
KHGB	**Koh Gabri**	**3.03**	**6**	*e*Pn	**Pb**	**15 58 42.7**	**-2.9**
KHGB				IAMB	IAmb	15 59 31.9	
	comp=Z,0.0nm,0.3s						
ALNE	**Al Ain**	**3.29**	**186**	P	**Pn**	**15 58 44.6**	**+1.6**
ALNE	**Al Ain**	**3.29**	**186**	*e*Pn	**Pn**	**15 58 44.2**	**+1.2**
ISRV	**Sarvestan**	**3.33**	**308**	*e*Pn	**Pb**	**15 58 47.2**	**-3.5**
ISRV				IAMB	IAmb	15 59 54.5	
	comp=Z,557nm,0.5s						
IMEH	**Mehriz**	**4.24**	**342**	*e*Pn	**Pn**	**15 58 59.4**	**+3.2**
IMEH				IAMB	IAmb	15 59 03.1	
	comp=Z,367nm,0.4s						
CHBR	**Chabahar**	**4.29**	**113**	*e*Pn	**Pn**	**15 58 58.4**	**+1.8**
IKAZ	**Kazeroun**	**4.47**	**304**	*e*Pn	**Pn**	**15 59 02.0**	**+2.5**
IKAZ				IAMB	IAmb	15 59 59.5	
	comp=Z,708nm,0.3s						
WSAR	**Wadi Sarin**	**4.68**	**150**	P	**Pn**	**15 59 03.3**	**+1.2**
WSAR				S	**Sn**	**15 59 54.9**	**-1.6**
ISAD	**Sadrabad**	**5.02**	**336**	*e*Pn	**Pn**	**15 59 10.5**	**+3.6**
ISAD				IAMB	IAmb	15 59 14.2	
	comp=Z,363nm,0.3s						
IRAM	**Ramesheh**	**5.51**	**325**	*e*Pn	**Pn**	**15 59 16.0**	**+2.4**
IRAM				IAMB	IAmb	16 00 24.8	
	comp=Z,217nm,0.3s						
IZEF	**Zefreh**	**6.43**	**330**	*e*Pn	**Pn**	**15 59 27.9**	**+1.6**
IZEF				IAMB	IAmb	15 59 33.8	
	comp=Z,126nm,0.3s						
BRTR	**Keskin Array B**	**22.37**	**309**	P	**P**	**16 02 51.2**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=128,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**28.30**	**40**	P	**P**	**16 03 44.4**	**-0.6**
	comp=Z,0.1nm,0.4s,baz=228,slow=9.2,SNR=3.2						
FINES	**FINESS Array B**	**39.58**	**338**	P	**P**	**16 05 22.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=148,slow=8.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**52.59**	**266**	P	**P**	**16 07 04.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=60,slow=8.0,SNR=8.1						

NEIC 25 15:59:28.5±0.0, 51°.66N×178°.38W, h78km, mb3.8/2, ML3.8(AEIC), After AEIC., Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.79**	**76**	*e*Pn	Pn	15 59 45.3	+0.4
KIWB				*e*Sn	Sn	15 59 58.5	+1.3
GSTR	**Great Sitkin T**	**1.50**	**72**	*e*Pn	Pn	15 59 54.1	+0.3
GSTR				*e*Sn	Sn	16 00 13.2	+0.3
UNV	**Unalaska Valle**	**7.54**	**68**	*e*Pn	Pn	16 01 14.8	-0.6
SDPT	**Sand Point**	**11.28**	**64**	*e*Pn	Pn	16 02 04.8	-1.6
CHGN	**Chignik**	**12.62**	**61**	*e*Pn	Pn	16 02 22.6	-2.1
PETK	**Petropavlovsk-**	**14.66**	**285**	*e*Pn	Pn	16 02 51.4	-0.2
KDAK	**Kodiak Island**	**16.05**	**57**	*e*Pn	Pn	16 03 08.0	-1.2
	181nm,1.8s						
BILL	**Bilibino**	**18.05**	**341**	*e*P	P	16 03 29.2	-3.8
	11nm,1.9s						
SEW	**Seward**	**18.16**	**51**	*e*P	P	16 03 30.9	-3.4
	176nm,1.7s						
CAST	**Castle Rocks**	**18.21**	**40**	*e*P	P	16 03 31.3	-3.6
	17nm,2.0s						

IDC ***25*** *16:06:48.9±0.9, 11°.58S×165°.58E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/33, mbtmp4.1/13, ML4.4/2, MS3.3/3, Ms1 3.2/3, ms1mx2.8/33, Error ellipse: s-maj=25.4km s-min=19.7km az=97.0*
ISCJB ***25*** *16:06:50.8±0.5, 11°.69S±0°.06×165°.48E±0°.08, h24km, mb4.2/18, MS3.2/3, Error ellipse: s-maj=11.5km s-min=8.6km az=168.8*
NEIC ***25*** *16:06:50.5±0.4, 11°.60S×165°.58E, h10km, mb4.7/9, Error ellipse: s-maj=10.7km s-min=8.1km az=99.0*

ISC 25 16:06:52.6±0.7, 11°.64S±0°.07×165°.45E±0°.10, h24km, n36, σ1§31/37, mb4.3/18, MS3.2/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.84**	**292**	*e*P	**Pn**	**16 08 18.0**	**+0.3**
HNR				*e*S	**Sn**	**16 09 19.0**	**-4.9**
HNR	**Honiara**	**5.84**	**292**	Pn	**Pn**	**16 08 19.4**	**+1.7**
	22nm,0.3s,baz=143,slow=6.3,SNR=16						
HNR				S	**Sn**	**16 09 24.0**	**+0.1**
	16nm,0.3s,baz=205,slow=23,SNR=8.4						
DZM	**Mont Dzumac**	**10.42**	**175**	*e*Pn	**Pn**	**16 09 20.7**	**+0.1**
	3.6nm,0.2s						
DZM				*e*LR	LR	16 11 54.7	
	comp=Z,91nm,21.1s						
DZM	**Mont Dzumac**	**10.42**	**175**	*e*Pn	**Pn**	**16 09 20.9**	**+0.3**
DZM				Sn	**Sn**	**16 11 14.7**	**-2.0**
DZM	**Mont Dzumac**	**10.42**	**175**	Pn	**Pn**	**16 09 20.5**	**-0.1**
	1.5nm,0.3s,baz=298,slow=16,SNR=38						
DZM				Sn	**Sn**	**16 11 14.7**	**-2.0**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=2.4						
RABL	**Rabaul**	**15.09**	**298**	*e*Pn	**P**	**16 10 29.1**	**-0.3**
	13nm,0.4s						
PATS	**Pohnpei**	**19.68**	**339**	*e*P	**Pn**	**16 11 21.6**	**0.0**
	247nm,1.3s						
JAY	**Jayapura**	**26.15**	**288**	LR	LR	16 23 10.4	
	comp=Z,47nm,20.6s,baz=187,slow=37						
URZ	**Urewera**	**28.48**	**161**	P	**P**	**16 12 46.4**	**+0.5**
	3.1nm,0.5s,baz=336,slow=10,SNR=2.9						
STKA	**Stephens Creek**	**29.81**	**224**	P	**P**	**16 12 59.5**	**+1.6**
	1.3nm,0.8s,baz=14,slow=7.4,SNR=3.3						
STKA				LR	LR	16 23 38.5	
	comp=Z,53nm,19.5s,baz=31,slow=34						
WR1	**Warramunga Arr**	**31.01**	**251**	*e*P	**P**	**16 13 09.2**	**+0.6**
	8.6nm,1.3s						
WRA	**Warramunga Arr**	**31.01**	**251**	P	**P**	**16 13 09.2**	**+0.6**
	2.1nm,1.0s,baz=77,slow=9.1

ARSB				⇑*i*S		**Sg**	**16 18 29.7**	**+0.9**
	baz=90								
AML	**Almayashu**	**1.56**	**329**	P		**Pg**	**16 18 11.7**	**0.0**
	SNR=34								
AML	**Almayashu**	**1.56**	**329**	⇓*i*P		**Pg**	**16 18 11.6**	**-0.1**
	baz=28								
AML				⇓*i*S		**Sg**	**16 18 32.2**	**+0.1**
	baz=28								
ULHL	**Ulahol**	**1.81**	**37**	P		**Pg**	**16 18 16.5**	**+0.1**
	SNR=39								
ULHL	**Ulahol**	**1.81**	**37**	⇑*i*P		**Pb**	**16 18 15.1**	**+0.8**
	baz=37								
ULHL				⇑*i*S		**Sb**	**16 18 38.3**	**+1.6**
	baz=37								
AAK	**Ala-Archa**	**1.85**	**353**	P		**Pg**	**16 18 17.1**	**-0.1**
	SNR=28								
AAK	**Ala-Archa**	**1.85**	**353**	⇑P		**Pg**	**16 18 17.2**	**+0.1**
	16nm,0.8s								
AAK				⇑S		**Sg**	**16 18 41.4**	**+0.2**
	30nm,0.7s								
AAK	**Ala-Archa**	**1.85**	**353**	⇑*i*P		**Pb**	**16 18 16.0**	**+1.1**
	baz=53								
AAK				⇑*i*S		**Sg**	**16 18 40.1**	**-1.1**
	baz=53								
KBK	**Karagaybulak**	**1.86**	**4**	P		**Pg**	**16 18 17.3**	**0.0**
	SNR=20								
KBK	**Karagaybulak**	**1.86**	**4**	⇓*i*P		**Pb**	**16 18 16.2**	**+1.1**
	baz=3.0								
KBK				⇓*i*S		**Sg**	**16 18 40.6**	**-0.9**
	baz=3.0								
BOOM	**Boomskoye usch**	**1.90**	**27**	⇓*i*P		**Pb**	**16 18 16.8**	**+1.1**
	baz=27								
BOOM				⇓*i*S		**Sg**	**16 18 41.4**	**-1.4**
	baz=27								
EKS2	**Erkin-Say**	**2.00**	**338**	P		**Pg**	**16 18 20.6**	**+0.4**
	SNR=16								
EKS2	**Erkin-Say**	**2.00**	**338**	⇓*i*P		**Pb**	**16 18 18.2**	**+0.7**
	baz=38								
EKS2				⇓*i*S		**Sg**	**16 18 44.0**	**-2.2**
	baz=38								
CHMS	**Chumysh**	**2.19**	**359**	P		**Pg**	**16 18 24.1**	**+0.4**
	SNR=9.7								
CHMS	**Chumysh**	**2.19**	**359**	⇑*i*P		**Pb**	**16 18 20.9**	**+0.2**
	baz=59								
CHMS				⇑*i*S		**Sb**	**16 18 48.3**	**+0.7**
	baz=59								
TKM2	**Tokmak 2**	**2.20**	**16**	P		**Pg**	**16 18 23.6**	**-0.3**
	SNR=39								
TKM2	**Tokmak 2**	**2.20**	**16**	⇑Pn		**Pg**	**16 18 23.5**	**-0.5**
	6.2nm,0.3s								
TKM2				⇑Sn		**Sg**	**16 18 53.2**	**+0.7**
	37nm,0.7s								
TKM2	**Tokmak 2**	**2.20**	**16**	⇑*e*P		**Pb**	**16 18 21.2**	**+0.2**
	baz=16								
TKM2				⇑*i*S		**Sb**	**16 18 48.7**	**+0.7**
	baz=16								
KDJ	**Kajisay**	**2.24**	**53**	⇑*i*P		**Pb**	**16 18 21.4**	**-0.1**
	baz=54								
KDJ				⇑*i*S		**Sb**	**16 18 49.5**	**+0.6**
	baz=54								
MRKS	**Merke**	**2.26**	**330**	Pg		**Pg**	**16 18 24.7**	**-0.4**
	35nm,0.3s								
MRKS				Lg		Lg	16 18 55.1		
	35nm,0.4s								
MRKS	**Merke**	**2.26**	**330**	*e*P		**Pg**	**16 18 24.7**	**-0.4**
	35nm,0.3s								
MRKS				*e*S		**Sg**	**16 18 55.1**	**+0.6**
	35nm,0.4s								
ARK	**Arkit**	**2.35**	**296**	⇑*i*P		**Pb**	**16 18 23.2**	**-0.2**
	baz=95								
ARK				⇑*i*S		**Sb**	**16 18 52.5**	**+0.5**
	baz=95								
KST	**Kastek**	**2.41**	**21**	Pg		**Pg**	**16 18 27.7**	**-0.1**
	23nm,0.3s								
KST				Lg		Lg	16 18 59.8		
	51nm,0.5s								
KST	**Kastek**	**2.41**	**21**	*e*P		**Pg**	**16 18 27.7**	**-0.1**
	23nm,0.3s								
KST				*e*S		**Sg**	**16 18 59.8**	**+0.7**
	51nm,0.5s								
USP	**Ospenovka**	**2.47**	**355**	P		**Pg**	**16 18 28.2**	**-0.8**
	SNR=17								
USP	**Ospenovka**	**2.47**	**355**	⇑*i*P		**Pb**	**16 18 24.8**	**-0.7**
	baz=55								
USP				⇑*i*S		**Sb**	**16 18 54.7**	**-0.9**
	baz=55								
DGS	**Degeres**	**2.55**	**16**	Pg		**Pg**	**16 18 30.1**	**-0.3**
	34nm,0.4s								
DGS				Lg		Lg	16 19 04.3		
	36nm,0.5s								
DGS	**Degeres**	**2.55**	**16**	*e*P		**Pg**	**16 18 30.1**	**-0.3**
	34nm,0.4s								
DGS				*e*S		**Sg**	**16 19 04.3**	**+0.7**
	36nm,0.5s								
MTBS	**Maitube**	**2.63**	**27**	Pg		**Pg**	**16 18 31.0**	**-1.0**
	4.2nm,0.2s								
MTBS				Lg		Lg	16 19 06.1		
	37nm,0.2s								
MTBS	**Maitube**	**2.63**	**27**	*e*P		**Pg**	**16 18 31.0**	**-1.0**
	4.2nm,0.2s								
MTBS				*e*S		**Sg**	**16 19 05.7**	**-0.5**
	37nm,0.2s								
TNSS	**Tian-Shan**	**2.75**	**35**	Pg		**Pg**	**16 18 34.1**	**-0.4**
	9.6nm,0.2s								
TNSS				Lg		Lg	16 19 10.7		
	18nm,0.3s								
TNSS	**Tian-Shan**	**2.75**	**35**	*e*P		**Pg**	**16 18 34.1**	**-0.4**
	9.6nm,0.2s								
TNSS				*e*S		**Sg**	**16 19 10.7**	**+0.4**
	18nm,0.3s								
MDOK	**Medeo**	**2.90**	**35**	⇑Pg		**Pg**	**16 18 37.7**	**+0.5**
MDOK				⇑Lg		Lg	16 19 16.1		
MDOK	**Medeo**	**2.90**	**35**	Pg		**Pg**	**16 18 36.5**	**-0.7**
	8.0nm,0.5s								
MDOK				Lg		Lg	16 19 15.3		
	18nm,0.5s								
MDOK	**Medeo**	**2.90**	**35**	*e*P		**Pg**	**16 18 36.5**	**-0.7**
	8.0nm,0.5s								
MDOK				*e*S		**Sg**	**16 19 15.3**	**+0.4**
	18nm,0.5s								
KNDC	**Almaty**	**2.91**	**33**	⇑Lg		Lg	16 19 17.4		
KOTS	**Kotyrbulak**	**2.99**	**35**	Pg		**Pg**	**16 18 37.8**	**-1.1**
	8.9nm,0.4s								
KOTS				Lg		Lg	16 19 17.5		
	24nm,0.5s								
KOTS	**Kotyrbulak**	**2.99**	**35**	*e*P		**Pg**	**16 18 37.8**	**-1.1**
	8.9nm,0.4s								
KOTS				*e*S		**Sg**	**16 19 17.4**	**-0.1**
	24nm,0.5s								
KTBS	**Karatobe**	**3.23**	**25**	Pg		**Pg**	**16 18 41.8**	**-1.7**
	4.8nm,0.2s								
KTBS				Lg		Lg	16 19 24.3		
	37nm,0.3s								
KTBS	**Karatobe**	**3.23**	**25**	*e*P		**Pg**	**16 18 41.8**	**-1.7**
	4.8nm,0.2s								
KTBS				*e*S		**Sg**	**16 19 24.3**	**-1.1**
	37nm,0.3s								
KUU	**Kurty**	**3.30**	**20**	Pg		**Pg**	**16 18 42.8**	**-2.0**
	4.3nm,0.4s								
KUU				Lg		Lg	16 19 25.8		
	22nm,0.5s								
KUU	**Kurty**	**3.30**	**20**	*e*P		**Pg**	**16 18 42.8**	**-2.0**
	4.3nm,0.4s								
KUU				*e*S		**Sg**	**16 19 25.8**	**-1.7**
	22nm,0.5s								
SATY	**Saty**	**3.52**	**49**	Pg		**Pg**	**16 18 48.7**	**-0.3**
	4.0nm,0.2s								
SATY				Lg		Lg	16 19 36.1		
	21nm,0.3s								
SATY	**Saty**	**3.52**	**49**	*e*P		**Pg**	**16 18 48.7**	**-0.3**
	4.0nm,0.2s								
SATY				*e*S		**Sg**	**16 19 36.1**	**+1.5**
	21nm,0.3s								
IUG	**Iuzhnay**	**3.81**	**292**	Pg		**Pg**	**16 18 54.2**	**-0.4**
	6.5nm,0.3s								
IUG				Lg		Lg	16 19 45.7		
	17nm,0.5s								
IUG	**Iuzhnay**	**3.81**	**292**	*e*P		**Pg**	**16 18 54.2**	**-0.4**
	6.5nm,0.3s								
IUG				*e*S		**Sg**	**16 19 45.7**	**+1.6**
	17nm,0.5s								
KK31	**Karatay Array**	**3.93**	**307**	⇑Pg		**Pg**	**16 18 55.2**	**-1.7**
	0.9nm,0.5s,baz=125,slow=15,SNR=11								
KK31				⇑Lg		Lg	16 19 46.3		
	4.2nm,0.5s,baz=133,slow=29,SNR=9.4								
ARXS	**Arharly**	**4.08**	**32**	Pg		**Pg**	**16 18 57.0**	**-2.8**
	1.6nm,0.3s								
ARXS				Lg		Lg	16 19 50.8		
	15nm,0.4s								
ARXS	**Arharly**	**4.08**	**32**	*e*P		**Pg**	**16 18 57.0**	**-2.8**
	1.6nm,0.3s								
ARXS				*e*S		**Sg**	**16 19 50.3**	**-2.4**
	15nm,0.4s								
MNBS	**Baschi**	**4.23**	**38**	Pg		**Pg**	**16 19 01.6**	**-1.0**
	3.0nm,0.6s								
MNBS				Lg		Lg	16 19 57.8		
	6.2nm,0.3s								
MNBS	**Baschi**	**4.23**	**38**	*e*P		**Pg**	**16 19 01.6**	**-1.0**
	3.0nm,0.6s								
MNBS				*e*S		**Sg**	**16 19 57.8**	**+0.4**
	6.2nm,0.3s								
BTLS	**Baital**	**4.27**	**353**	Pg		**Pb**	**16 18 59.5**	**+3.5**
	0.8nm,0.1s								
BTLS				Lg		Lg	16 19 54.5		
	4.7nm,0.5s								
BTLS	**Baital**	**4.27**	**353**	*e*P		**Pb**	**16 18 59.5**	**+3.5**
	0.8nm,0.1s								
BTLS				*e*S		**Sg**	**16 19 54.5**	**-4.2**
	4.7nm,0.5s								
BRLS	**Boroldday**	**4.31**	**303**	Pg		**Pg**	**16 19 01.6**	**-2.5**
	0.5nm,0.1s								
BRLS				Lg		Lg	16 19 58.1		
	1.3nm,0.5s								
BRLS	**Boroldday**	**4.31**	**303**	*e*P		**Pg**	**16 19 01.6**	**-2.5**
	0.5nm,0.1s								
BRLS				*e*S		**Sg**	**16 19 58.1**	**-1.9**
	1.3nm,0.5s								
PDGK	**Podgornoye**	**4.32**	**53**	Pg		**Pg**	**16 19 03.3**	**-1.0**
	1.6nm,0.6s								
PDGK				Lg		Lg	16 20 01.0		
	4.5nm,0.9s								
PDGK	**Podgornoye**	**4.32**	**53**	⇑Pg		**Pg**	**16 19 03.9**	**-0.4**
	3.1nm,0.7s								
PDGK				⇓Lg		Lg	16 20 02.4		
	11nm,0.8s								
DJR	**Jarkent**	**5.11**	**45**	Pg		**Pg**	**16 19 16.8**	**-2.6**
	0.3nm,0.1s								
DJR				Lg		Lg	16 20 24.3		
	1.3nm,0.4s								
DJR	**Jarkent**	**5.11**	**45**	*e*P		**Pg**	**16 19 16.8**	**-2.6**
	0.3nm,0.1s								
DJR				*e*S		**Sg**	**16 20 24.3**	**-1.2**
	1.3nm,0.4s								
KAPS	**Kapalarasan**	**5.59**	**35**	Pg		**Pg**	**16 19 27.2**	**-1.5**
	1.0nm,0.6s								
KAPS				Lg		Lg	16 20 41.8		
	3.4nm,0.5s								
KAPS	**Kapalarasan**	**5.59**	**35**	*e*P		**Pg**	**16 19 27.2**	**-1.5**
	1.0nm,0.6s								
KAPS				*e*S		**Sg**	**16 20 41.8**	**+0.7**
	3.4nm,0.5s								

ISCJB ***25*** *16:18:10.9±0.2,22.°16S±0.°02×68.°36W±0.°03,h107km±2km, mb4.6/71, Error ellipse: s-maj=4.3km s-min=3.3km az=147.1*

VAO ***25*** *16:18:11.7±0.5,22.°07S×68.°41W,h104km, mb5.1*

IDC ***25*** *16:18:11.6±0.5,22.°06S×68.°34W,h98km±4km, mb4.3/15, mb1 4.4/20, mb1mx4.3/35, mbtmp4.7/20, MS3.6/6, Ms1 3.6/6, ms1mx3.1/32, Error ellipse: s-maj=12.2km s-min=9.6km az=108.0*

SJA ***25*** *16:18:12.3±0.8,22.°13S×68.°59W,h116km±4km, ML4.1, MW3.9*

GUC ***25*** *16:18:12.6±0.7,22.°12S×68.°64W,h119km±5km, ML4.8*

NEIC ***25*** *16:18:13.0±0.2,22.°23S×68.°40W, mb4.6/63, ML4.8(GUC), Error ellipse: s-maj=6.4km s-min=3.9km az=75.0*

NEIC Felt [II] at Alto Hospicio and Iquique.

BJI ***25*** *16:18:13.6,22.°20S×68.°40W,h100km, mB5.2/2*

GCMT ***25*** *16:18:18.0±0.4,22.°28S±0.°03×68.°43W±0.°03,h138km±4km, MW5.0/66, Moment Tensor Solution. s18,c20; s66,c85; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.53±.14; $M_{\theta\theta}$=1.95±.18; $M_{\phi\phi}$=3.48±.18; $M_{r\theta}$=1.72±.09; $M_{r\phi}$=-0.26±.19; $M_{\theta\phi}$=0.15±.13; Best double couple: M_0=3.49000×10^16 NP1:ϕs=214.00000°,δ63.00000°,λ-33.00000°. NP2: ϕs=320.00000°,δ61.00000°,λ-149.00000°. Principal axes: T 3.4940, Plg1.0000°, Azm268.0000°; N -0.0080, Plg49.0000°, Azm359.0000°; P -3.4850, Plg41.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 16:18:12.2±0.4, 22.°15S±0.°03×68.°45W±0.°04, h108km±3km, h109km; pP-P, n336, ₀1°41/393, mb4.6/71, 15C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.63**	**223**	*e*Pn		**Pn**	**16 18 31.1**	**+0.8**
LVC				*e*Sn		**Sn**	**16 18 44.6**	**+0.8**
LVC	**Limon Verde**	**0.63**	**223**	*e*P		**Pn**	**16 18 31.4**	**+1.1**
LVC				IAML			16 18 31.6	
	comp=Z,5μm,0.1s							
LVC				*e*S		**Sn**	**16 18 45.2**	**+1.4**
LVC	**Limon Verde**	**0.63**	**223**	⇓*i*P		**Pn**	**16 18 31.0**	**+0.8**
LVC	**Limon Verde**	**0.63**	**223**	P		**Pn**	**16 18 31.3**	**+1.1**
	comp=Z,2μm,0.3s,baz=356,slow=4.2							
LVC				S		**Sn**	**16 18 43.9**	**+0.1**
	comp=Z,1μm,0.3s,baz=210,slow=20,SNR=135							
LVC				LR		LR	16 19 02.5	
	comp=Z,1μm,21.1s,baz=7.0,slow=67							
LVC	**Limon Verde**	**0.63**	**223**	*e*P		**Pn**	**16 18 31.1**	**+0.8**
PB09	**IPOC Station P**	**0.82**	**295**	*e*P		**Pn**	**16 18 32.4**	**+0.8**
PB09				*e*S		**Sn**	**16 18 46.6**	**+0.4**
PB09	**IPOC Station P**	**0.82**	**295**	⇑*i*P		**Pn**	**16 18 32.3**	**+0.7**
PB09				*i* S		**Sn**	**16 18 46.9**	**+0.7**
PB09				IAML			16 18 50.9	
	comp=E,19μm,0.6s							
PB06	**IPOC Station P**	**1.18**	**242**	*e*P		**Pn**	**16 18 36.0**	**+0.7**
PB06	**IPOC Station P**	**1.18**	**242**	⇑*i*P		**Pn**	**16 18 35.8**	**+0.5**
PB06				*i* S		**Sn**	**16 18 53.3**	**+0.5**
PB06				IAML			16 18 54.7	
	comp=E,22μm,0.4s							
PB03	**IPOC Station P**	**1.21**	**275**	*e*P		**Pn**	**16 18 35.9**	**+0.1**
PB03				*e*S		**Sn**	**16 18 53.3**	**-0.3**
PB03	**IPOC Station P**	**1.21**	**275**	⇑*i*P		**Pn**	**16 18 35.7**	**-0.1**
PB03				*i* S		**Sn**	**16 18 53.2**	**-0.3**
PB03				IAML			16 18 55.9	
	comp=E,15μm,0.7s							
PB07	**IPOC Station P**	**1.40**	**287**	*e*P		**Pn**	**16 18 38.0**	**+0.1**
PB07				*e*S		**Sn**	**16 18 56.8**	**-0.6**
PB07	**IPOC Station P**	**1.40**	**287**	⇑*i*P		**Pn**	**16 18 37.9**	**0.0**
PB07				*i* S		**Sn**	**16 18 56.9**	**-0.5**
PB07				IAML			16 18 58.7	
	comp=E,20μm,0.7s							
PB15	**IPOC Station P**	**1.42**	**222**	*e*P		**Pn**	**16 18 39.1**	**+1.0**
PB15				*e*S		**Sn**	**16 18 58.4**	**+0.6**
PB15	**IPOC Station P**	**1.42**	**222**	⇑*i*P		**Pn**	**16 18 39.1**	**+1.0**
PB15				*i* S		**Sn**	**16 18 58.9**	**+1.1**
PB01	**IPOC Station P**	**1.47**	**319**	*e*Pn		**Pn**	**16 18 38.9**	**+0.3**
PB01				*e*Sn		**Sn**	**16 18 57.7**	**-0.9**
PB01	**IPOC Station P**	**1.47**	**319**	⇓*i*P		**Pn**	**16 18 38.5**	**-0.1**
PB01				*i* S		**Sn**	**16 18 58.2**	**-0.4**
PB01				IAML			16 19 01.5	
	comp=E,21μm,0.5s							
PB02	**IPOC Station P**	**1.58**	**301**	*e*P		**Pn**	**16 18 39.9**	**-0.1**
PB02	**IPOC Station P**	**1.58**	**301**	⇑*i*P		**Pn**	**16 18 39.8**	**-0.1**
PB02				*i* S		**Sn**	**16 18 60.0**	**-1.1**
PB02				IAML			16 19 04.4	
	comp=E,26μm,0.5s							
PB04	**IPOC Station P**	**1.59**	**263**	*e*Pn		**Pn**	**16 18 39.8**	**-0.3**
PB04	**IPOC Station P**	**1.59**	**263**	*e*P		**Pn**	**16 18 40.0**	**-0.1**
PB04	**IPOC Station P**	**1.59**	**263**	⇑*i*P		**Pn**	**16 18 39.8**	**-0.3**
PB04				*i* S		**Sn**	**16 19 00.6**	**-0.8**
PB04				IAML			16 19 04.2	
	comp=E,16μm,0.7s							
PB05	**IPOC Station P**	**1.77**	**246**	*e*P		**Pn**	**16 18 42.2**	**-0.1**
PB05	**IPOC Station P**	**1.77**	**246**	⇑*i*P		**Pn**	**16 18 41.9**	**-0.3**
PB05				*i* S		**Sn**	**16 19 04.2**	**-1.0**
PB05				IAML			16 19 13.1	
	comp=E,7μm,0.6s							
PB08	**IPOC Station P**	**2.10**	**342**	*e*P		**Pn**	**16 18 48.3**	**+1.5**
PB08	**IPOC Station P**	**2.10**	**342**	⇑*i*P		**Pn**	**16 18 48.2**	**+1.3**
PB08				*i* S		**Sn**	**16 19 14.4**	**+1.2**
PB08				IAML			16 19 19.7	
	comp=E,12μm,0.5s							
PB10	**IPOC Station P**	**2.37**	**235**	*e*Pn		**Pn**	**16 18 49.9**	**0.0**
PB10	**IPOC Station P**	**2.37**	**235**	*e*P		**Pn**	**16 18 49.9**	**0.0**
PB10	**IPOC Station P**	**2.37**	**235**	⇑*i*P		**Pn**	**16 18 49.1**	**-0.8**
PB10				*i* S		**Sn**	**16 19 17.4**	**-1.3**
GO01	**Chusmiza**	**2.56**	**344**	⇓*i*P		**Pn**	**16 18 53.8**	**+0.8**
GO01				*i* S		**Sn**	**16 19 25.1**	**+1.0**
PB11	**IPOC Station P**	**2.63**	**334**	*e*Pn		**Pn**	**16 18 53.0**	**-0.5**
PB11	**IPOC Station P**	**2.63**	**334**	*e*P		**Pn**	**16 18 53.4**	**-0.1**
PB11	**IPOC Station P**	**2.63**	**334**	⇑*i*P		**Pn**	**16 18 52.9**	**-0.5**
PB11				*i* S		**Sn**	**16 19 23.7**	**-1.4**
YJA	**Yavi**	**2.72**	**91**	*e*P		Pn	16 18 58.8	+3.9
YJA				IAML			16 18 59.9	
	comp=Z,911nm,0.6s							
PSGC	**Pisagua**	**2.98**	**328**	⇑*i*P		**Pn**	**16 18 56.4**	**-1.7**
PSGC				*i* S		**Sn**	**16 19 31.1**	**-2.3**
HJA	**Humahuaca**	**3.00**	**111**	*e*P		**Pn**	**16 19 02.4**	**+3.9**
HJA				IAML			16 19 03.9	
	comp=Z,859nm,0.5s							
PB14	**IPOC Station P**	**3.05**	**216**	*e*P		**Pn**	**16 19 00.3**	**+1.2**
GO02	**Mina Guanaco**	**3.18**	**199**	*e*Pn		**Pn**	**16 19 00.8**	**+0.1**
GO02	**Mina Guanaco**	**3.18**	**199**	⇓*i*P		**Pn**	**16 19 00.9**	**+0.1**
MNMC	**Minye Minye**	**3.19**	**340**	*e*Pn		**Pn**	**16 19 00.8**	**-0.2**
MNMC	**Minye Minye**	**3.19**	**340**	⇑*i*P		**Pn**	**16 19 00.8**	**-0.2**
MNMC				*i* S		**Sn**	**16 19 38.5**	**-0.1**
MNMCX	**Minye Minye**	**3.19**	**340**	*e*P		**Pn**	**16 19 01.4**	**+0.4**
SLA	**San Lorenzo**	**3.72**	**134**	IAML			16 19 15.2	
	comp=Z,352nm,0.6s							
FSA	**Cafayete**	**4.54**	**151**	IAML			16 19 24.1	
	comp=Z,45nm,0.6s							
AHML	**Horco Molle**	**5.42**	**149**	IAML			16 19 34.1	
	comp=Z,98nm,0.6s							
GO03	**Copiap**	**5.66**	**196**	*e*Pn		**Pn**	**16 19 31.6**	**-2.3**
LPAZ	**La Paz**	**5.84**	**3**	*e*Pn		**Pn**	**16 19 38.6**	**+1.6**
LPAZ	**La Paz**	**5.84**	**3**	*e*P		**Pn**	**16 19 38.1**	**+1.1**
LPAZ	**La Paz**	**5.84**	**3**	P		**Pn**	**16 19 37.9**	**+0.9**
	comp=Z,18nm,0.3s,baz=165,slow=4.0,SNR=227							
LPAZ				LR		LR	16 22 44.1	
	comp=Z,526nm,19.1s,baz=206,slow=47							
LCO	**Las Campanas**	**7.13**	**196**	*e*Pn		Pn	16 19 49.5	-4.6
GO04	**Tololo Observa**	**8.26**	**194**	*e*Pn		Pn	16 20 04.9	-4.6
SIV	**San Ignacio**	**9.28**	**50**	P		**Pn**	**16 20 20.3**	**-2.9**
	comp=Z,19nm,0.3s,baz=254,slow=12,SNR=476							
SIV				S		Sn	16 21 51.7	-14
	comp=Z,3.8nm,0.3s,baz=255,slow=16,SNR=2.4							
CFA	**Coronel Fontan**	**9.42**	**179**	P		**Pn**	**16 20 22.2**	**-2.8**
	comp=Z,11nm,0.3s,baz=357,slow=13,SNR=125							
CFA				S		**Sn**	**16 22 01.5**	**-7.6**
	comp=Z,2.9nm,0.3s,baz=287,slow=14,SNR=2.5							
CPUP	**Villa Florida**	**10.96**	**115**	*e*Pn		**Pn**	**16 20 43.1**	**-2.8**
CPUP	**Villa Florida**	**10.96**	**115**	P		**Pn**	**16 20 44.1**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=301,slow=12,SNR=25							
CPUP				LR		LR	16 25 54.4	
	comp=Z,220nm,19.2s,baz=282,slow=42							
CPUP	**Villa Florida**	**10.96**	**115**	*e*P		**Pn**	**16 20 45.5**	**-0.4**
ROC1	**El Roble**	**11.02**	**191**	*e*Pn		**Pn**	**16 20 44.5**	**-2.3**
PEL	**Peldehue**	**11.13**	**190**	*e*Pn		**Pn**	**16 20 46.9**	**-1.2**
AQDB	**Aquidauana**	**12.00**	**84**	*e*P		**Pn**	**16 20 57.6**	**-2.1**
NNA	**Nana**	**12.90**	**320**	P		**Pn**	**16 21 12.1**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=16,slow=22,SNR=2.6							
NNA				S		**Sn**	**16 23 30.5**	**-3.2**
	comp=Z,1.4nm,0.3s,baz=232,slow=19,SNR=3.0							
TRCB	**Terra Rica**	**14.63**	**96**	*e*P		**Pn**	**16 21 33.8**	**-0.3**
PTGB	**Itanga**	**15.25**	**103**	*e*P		**Pn**	**16 21 41.6**	**-0.3**
ITAB	**Concordia**	**15.67**	**112**	*e*P		**Pn**	**16 21 47.1**	**+0.2**
CPSB	**Cacapava Do Su**	**15.76**	**125**	*e*P		**Pn**	**16 21 47.1**	**-1.0**
PLTB	**Pedras Altas**	**16.32**	**129**	*e*P		**Pn**	**16 21 54.2**	**-0.8**
ITRB	**Iturama**	**17.07**	**85**	*e*P		**Pn**	**16 22 03.2**	**-1.1**
CNLB	**Canela**	**17.38**	**118**	*e*P		**Pn**	**16 22 07.4**	**-0.6**
FRTB	**Fartura**	**17.46**	**98**	*e*P		**Pn**	**16 22 09.3**	**+0.2**
GO06	**Curarrehue**	**17.57**	**188**	*e*P		**P**	**16 22 08.3**	**-1.5**
	comp=Z,86nm,0.8s							
ATAH	**Atahualpa**	**17.74**	**326**	P		**P**	**16 22 12.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=183,slow=17,SNR=2.3							
BB19B	**Bebedouro**	**18.56**	**90**	*e*P		**P**	**16 22 20.8**	**+0.1**
PLCA	**Paso Flores**	**18.61**	**185**	*e*P		**P**	**16 22 20.9**	**-0.3**
	comp=Z,70nm,0.8s							
PLCA				PcP		**PcP**	**16 26 46.5**	**+0.9**
PLCA	**Paso Flores**	**18.61**	**185**	P		**P**	**16 22 21.4**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=31,slow=13,SNR=72							
PLCA				PcP		**PcP**	**16 26 46.5**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=7.5,slow=0.5,SNR=4.1							
PLCA				LR		LR	16 30 30.5	
	comp=Z,252nm,18.4s,baz=20,slow=40							
PLCA	**Paso Flores**	**18.61**	**185**	*e*P		**P**	**16 22 21.4**	**+0.2**
RCLB	**Rio Claro- Sao**	**19.36**	**95**	*e*P		**P**	**16 22 28.9**	**-0.6**
SPB	**Sao Paulo**	**19.42**	**98**	*e*P		**P**	**16 22 28.4**	**-1.6**
	comp=Z,57nm,1.0s							
SPB	**Sao Paulo**	**19.42**	**98**	*e*P		**P**	**16 22 30.1**	**0.0**
BDFB	**Brasilia**	**20.38**	**75**	*e*P		**P**	**16 22 38.9**	**-1.7**
	comp=Z,68nm,1.4s							
BDFB	**Brasilia**	**20.38**	**75**	P		**P**	**16 22 39.6**	**-1.0**
	comp=Z,16nm,0.4s,baz=234,slow=10,SNR=32

comp=Z,26nm,0.6s,baz=277,slow=8.2,SNR=83
S48A Wiedeman Farm, 61.75 344 P **P** **16 28 18.5 -0.7**
baz=162
W39A Magazine 61.89 337 P **P** **16 28 20.2 +0.1**
baz=153
ABTX Abilene, Hawle 62.09 330 *e*P **P** **16 28 21.9 +0.3**
ABTX *e*pP **pP** **16 28 48.7 -0.6**
Q52A Bidwell 62.15 348 P **P** **16 28 21.6 -0.3**
baz=166
U41A Viola 62.27 339 P **P** **16 28 22.2 -0.5**
baz=155
T43A Greenville 62.41 340 P **P** **16 28 22.6 -1.0**
baz=157
O55A Ligonier 62.85 351 P **P** **16 28 26.3 -0.3**
baz=169
S42A Caledonia 63.20 340 P **P** **16 28 27.9 -1.0**
baz=157
O53A New Philadelph 63.21 349 P **P** **16 28 27.9 -0.9**
baz=167
S41A Jillco Farms, 63.34 339 P **P** **16 28 28.9 -0.9**
baz=156
Q45A Warren Harvey, 63.47 343 P **P** **16 28 29.2 -1.4**
baz=160
ACSO Alum Creek Sta 63.52 348 *e*pP pP 16 28 59.0 -0.1
ACSO Alum Creek Sta 63.52 348 P **P** **16 28 29.7 -1.2**
baz=165
CCM Cathedral Cave 63.60 340 P **P** **16 28 30.2 -1.3**
baz=156
R42A Luebbering 63.67 340 P **P** **16 28 30.9 -1.0**
baz=157
R41A Rosebud 63.87 340 P **P** **16 28 32.5 -0.8**
baz=156
P45A Graceland, Par 63.95 343 *e*pP pP 16 29 02.0 +0.4
MNTX Cornudas Mount 64.17 325 *e*pP pP 16 29 03.5 +0.3
MNTX Cornudas Mount 64.17 325 P **P** **16 28 35.2 -0.2**
baz=142
Q41A Truxton 64.42 340 P **P** **16 28 35.8 -1.0**
baz=157
MSTX Muleshoe 64.67 329 *e*P **P** **16 28 37.7 -1.0**
MSTX *e*pP **pP** **16 29 07.3 +0.7**
319A Douglas 66.06 322 *e*P **P** **16 28 49.0 +1.3**
comp=Z,14nm,0.8s
BNM Barren Site 66.74 326 *e*P **P** **16 28 51.7 -0.5**
BNM *e*pP **PcP** **16 29 21.3 +1.0**
K43A Burlington 67.09 344 P **P** **16 28 57.0 +3.2**
baz=160
PKME Peaks-Kenny Pk 67.09 359 P **P** **16 28 57.0 +3.2**
baz=179
ANMO Albuquerque 67.27 327 *e*P **P** **16 28 56.7 +1.2**
comp=Z,6.6nm,0.8s
ANMO Albuquerque 67.27 327 P **P** **16 28 56.7 +1.2**
baz=142
TASM ASL Pad, Albuq 67.28 327 P **P** **16 28 56.7 +1.2**
baz=142
TASM ASL Pad, Albuq 67.28 327 P **P** **16 28 57.0 +1.5**
baz=142
TUC Tucson 67.61 322 P **P** **16 28 59.2 +1.6**
baz=138
T25A Trinidad 68.02 330 P **P** **16 29 01.5 +1.3**
baz=144
LIC Lamto 68.16 73 *e*P **P** **16 29 00.8 -0.5**
comp=Z,23nm,0.7s
TIC Toumodi 68.36 73 *e*P **P** **16 29 02.2 -0.3**
KIC Kosan Boka 68.47 73 *e*P **P** **16 29 03.1 -0.1**
comp=Z,14nm,0.4s
DBIC Dimbokro 68.51 73 *e*P **P** **16 29 03.1 -0.3**
comp=Z,21nm,0.9s
DBIC Dimbokro 68.51 73 P **P** **16 29 03.2 -0.2**
comp=Z,10nm,0.5s,baz=221,slow=7.0,SNR=21
DBIC LR LR 16 59 21.6
comp=Z,32nm,18.8s,baz=222,slow=36
DBIC Dimbokro 68.51 73 *e*P **P** **16 29 03.2 -0.2**
214A Organ Pipe Nat 68.53 320 P **P** **16 29 05.2 +2.0**
baz=136
E54A Lac Daplat, Po 68.72 354 P **P** **16 29 04.4 +0.5**
baz=171
I39A Houston 69.01 342 P **P** **16 29 06.7 +0.8**
baz=157
SDCO Great Sand Dun 69.02 329 *e*P **P** **16 29 07.6 +1.1**
comp=Z,17nm,1.3s
SDCO Great Sand Dun 69.02 329 P **P** **16 29 07.3 +0.9**
baz=143,SNR=12
D52A ZEK Kipawa Sen 69.39 353 P **P** **16 29 09.0 +0.8**
baz=170
X16A Lo Mia Camp, P 69.53 323 *e*P **P** **16 29 10.0 +0.5**
comp=Z,7.1nm,1.0s
S22A 4UR Ranch, Cre 69.66 328 *e*P **P** **16 29 10.6 +0.2**
comp=Z,4.8nm,1.1s
S22A 4UR Ranch, Cre 69.66 328 P **P** **16 29 11.2 +0.8**
baz=142
Q24A Divide 69.83 330 P **P** **16 29 12.7 +1.2**
baz=144
Y14A Wickenburg 70.07 322 *e*P **P** **16 29 12.7 0.0**
comp=Z,9.3nm,1.3s
MVCO Mesa Verde 70.07 327 *e*P **P** **16 29 13.6 +0.7**
comp=Z,9.5nm,0.8s
MVCO Mesa Verde 70.07 327 P **P** **16 29 13.9 +1.1**
baz=141,SNR=7.7
WUAZ Wupatki 70.31 324 *e*P **P** **16 29 15.4 +1.1**
WUAZ *e*pP **pP** **16 29 44.6 +2.0**
WUAZ Wupatki 70.31 324 P **P** **16 29 16.2 +1.9**
baz=138
F40A Park Falls 70.55 344 P **P** **16 29 18.1 +2.8**
baz=159
ISCO Idaho Springs 70.72 330 *e*P **P** **16 29 17.7 +0.8**
comp=Z,5.2nm,0.8s
ISCO *e*pP **pP** **16 29 45.9 +0.7**
ISCO Idaho Springs 70.72 330 P **P** **16 29 17.8 +1.0**
baz=144,SNR=5.4
Y12C Blythe 70.82 321 *e*P **P** **16 29 18.9 +1.7**
Y12C *e*pP **pP** **16 29 47.2 +1.5**
Y12C Blythe 70.82 321 P **P** **16 29 18.5 +1.3**
baz=135
SMCO Snowmass 70.86 329 *e*P **P** **16 29 18.9 +1.1**
comp=Z,7.1nm,0.9s
LSQQ Lebel-sur-Quev 71.29 354 P **P** **16 29 20.0 +0.3**
baz=172
BC3 Big Chuckawall 71.30 320 P **P** **16 29 22.0 +1.7**
baz=134,SNR=8.9
MONP2 Monument Peak 71.36 319 P **P** **16 29 22.0 +1.2**
baz=134
BAR Barrett 71.37 318 *e*P **P** **16 29 22.0 +1.5**
BAR *e*pP **pP** **16 29 51.6 +2.5**
IRM Iron Mountain 71.47 320 P **P** **16 29 22.4 +1.3**
baz=135,SNR=8.8
U15A North Rim 71.48 324 *e*P **P** **16 29 23.2 +1.7**
comp=Z,8.1nm,0.9s
U15A *e*pP **pP** **16 29 52.1 +2.2**
N23A Red Feather La 71.75 331 *e*P **P** **16 29 23.5 +0.5**
comp=Z,6.0nm,0.8s
N23A Red Feather La 71.75 331 P **P** **16 29 24.8 +1.8**
baz=144
KNB Kanab 72.20 324 *e*P **P** **16 29 26.5 +0.9**
KNB *e*pP **pP** **16 29 56.9 +2.8**
GMRC Granite Mounta 72.21 321 P **P** **16 29 27.4 +1.7**
baz=134,SNR=11
O20A White River Ci 72.22 329 *e*P **P** **16 29 26.1 +0.5**
comp=Z,12nm,0.8s
O20A White River Ci 72.22 329 P **P** **16 29 27.5 +1.9**
baz=142
LCMT Little Creek M 72.43 324 *e*P **P** **16 29 28.2 +1.2**
comp=Z,7.0nm,1.2s
SRU San Rafael Swe 72.55 327 *e*P **P** **16 29 28.8 +1.1**
comp=Z,10nm,0.8s
SRU *e*pP **pP** **16 29 58.2 +2.0**
MTPU Mount Pierson 72.61 325 *e*P **P** **16 29 29.9 +1.6**
comp=Z,4.6nm,0.8s
MTPU *e*pP **pP** **16 29 58.3 +1.6**
HEC Hector,Ludlow 72.64 320 P **P** **16 29 30.1 +1.9**
baz=134,SNR=5.7
CCUT Cedar City 72.88 324 *e*P **P** **16 29 31.8 +2.0**
comp=Z,9.5nm,0.9s
CCUT *e*pP **pP** **16 30 01.0 +2.8**
P17A Butcher Ranch, 72.93 327 *e*P **P** **16 29 31.4 +1.4**
comp=Z,9.5nm,0.9s
MSU Marysvale 72.96 325 *e*P **P** **16 29 31.9 +1.8**
MSU *e*pP **pP** **16 30 00.8 +2.1**
RWWY Rawlins 72.96 331 *e*P **P** **16 29 31.3 +1.1**
comp=Z,43nm,2.0s
TMUT Trail Mountain 73.04 327 *e*P **P** **16 29 32.2 +1.5**
comp=Z,21nm,1.9s
SHPR Sheep Range 73.13 322 *e*P **P** **16 29 32.6 +1.5**
comp=Z,13nm,1.5s
K22A Casper 73.42 332 P **P** **16 29 34.2 +1.5**
baz=144
RSSD Black Hills 73.56 334 *e*P **P** **16 29 34.4 +0.8**
comp=Z,4.3nm,0.9s
RSSD Black Hills 73.56 334 P **P** **16 29 34.7 +1.1**
baz=146
EDW2 Edwards Air Fo 73.67 319 P **P** **16 29 35.8 +1.6**
baz=133
PSUT Pine Spring 73.86 324 *e*P **P** **16 29 36.8 +1.3**
comp=Z,6.6nm,0.9s
NLU North Lily Min 73.97 327 *e*P **P** **16 29 37.6 +1.5**
NLU *e*pP **pP** **16 30 06.7 +2.1**
TPNV Topopah Spring 74.07 322 *e*P **P** **16 29 38.4 +1.8**
TPNV *e*pP **pP** **16 30 07.5 +2.3**
TPNV Topopah Spring 74.07 322 P **P** **16 29 37.8 +1.1**
baz=135
MPMC Manual Prospec 74.17 321 P **P** **16 29 38.8 +1.5**
baz=133
DAC Darwin (Calif) 74.38 321 *e*P **P** **16 29 38.4 -0.1**
DAC *e*pP **pP** **16 30 10.2 +3.2**
ISA Isabella, Lake 74.49 320 *e*P **P** **16 29 40.6 +1.7**
ISA *e*pP **pP** **16 30 10.2 +2.7**
ISA Isabella, Lake 74.49 320 P **P** **16 29 40.5 +1.5**
baz=133
DUG Dugway, Tooele 74.53 326 *e*P **P** **16 29 40.4 +1.1**
DUG *e*pP **pP** **16 30 09.6 +1.7**
DUG Dugway, Tooele 74.53 326 P **P** **16 29 41.3 +2.1**
baz=138
R11A Troy Canyon, C 74.68 323 *e*P **P** **16 29 41.9 +1.8**
R11A *e*pP **pP** **16 30 10.3 +1.6**
R11A Troy Canyon, C 74.68 323 P **P** **16 29 42.0 +1.8**
baz=135,SNR=6.1
CWC Cottonwood Cre 74.78 320 P **P** **16 29 42.1 +1.3**
baz=133
BW06 Boulder Array 74.88 330 *e*P **P** **16 29 41.3 0.0**
comp=Z,6.8nm,1.4s
BW06 Boulder Array 74.88 330 P **P** **16 29 42.5 +1.2**
baz=141
PD31 Pinedale Array 74.88 330 *e*P **P** **16 29 41.4 +0.1**
comp=Z,5.4nm,1.3s
PDAR Pinedale Array 74.88 330 *e*P **P** **16 29 41.9 +0.6**
PDAR *e*pP **pP** **16 30 11.2 +1.3**
PDAR Pinedale Array 74.88 330 P **P** **16 29 41.6 +0.3**
comp=Z,1.0nm,0.6s,baz=134,slow=7.0,SNR=12
PDAR *e*pP **pP** **16 30 08.3 -1.7**
comp=Z,0.8nm,0.6s,baz=117,slow=9.8,SNR=2.8
VES Vestal, Richgr 74.98 319 P **P** **16 29 42.9 +1.3**
baz=132
MDND Maddock 75.09 339 *e*P **P** **16 29 42.7 +0.7**
comp=Z,22nm,0.8s
MDND Maddock 75.09 339 P **P** **16 29 43.4 +1.3**
baz=150
SMMC Simmler 75.18 319 P **P** **16 29 45.1 +2.2**
baz=132
AHID Auburn Hatcher 75.61 329 *e*P **P** **16 29 46.1 +0.7**
comp=Z,10nm,0.8s
HVU Hansel Valley 75.69 327 *e*P **P** **16 29 46.6 +0.7**
HVU *e*pP **pP** **16 30 15.7 +1.1**
SYO Syowa Base 75.75 159⇑*i*P **P** **16 29 44.0 -1.6**
SYO Syowa Base 75.75 159⇑*i*PcP **PcP** **16 29 55.6 -2.2**
REDW Red Top Meadow 75.95 330 *e*P **P** **16 29 48.2 +0.9**
comp=Z,12nm,1.3s
ULM Lac du Bonnet 76.06 342 P **P** **16 29 47.2 -0.4**
comp=Z,2.8nm,0.5s,baz=153,slow=9.3,SNR=6.2
TPAW Teton Pass 76.09 330 *e*P **P** **16 29 49.4 +1.2**
comp=Z,4.6nm,0.8s
OMMB Old Mammoth Mi 76.12 321 *e*P **P** **16 29 50.0 +1.4**
comp=Z,7.7nm,1.0s
NV11 Mina Array Sit 76.18 322 *e*P **P** **16 29 48.5 -0.2**
comp=Z,0.3nm,1.1s
MOOW Moose Ponds 76.19 330 *e*P **P** **16 29 49.5 +0.8**
comp=Z,3.2nm,0.9s
ELK Elko 76.20 325 *e*P **P** **16 29 49.5 +0.6**
comp=Z,3.8nm,1.0s
FXWY Fox Creek 76.24 330 *e*P **P** **16 29 49.9 +0.9**
FXWY *e*pP **pP** **16 30 18.7 +0.9**
NV01 Mina Array Sit 76.27 322 *e*P **P** **16 29 49.5 +0.2**
NVAR Mina Array Bea 76.27 322 P **P** **16 29 50.5 +1.2**
comp=Z,1.4nm,0.7s,baz=158,slow=5.8,SNR=12
VNDA Vanda 76.29 190 *e*P **P** **16 29 50.5 +1.9**
comp=Z,8.7nm,1.0s
VNDA Vanda 76.29 190 P **P** **16 29 50.5 +1.9**
comp=Z,5.8nm,0.9s,baz=140,slow=4.1,SNR=18
IMW Indian Meadow 76.40 330 *e*P **P** **16 29 50.9 +0.9**
comp=Z,4.4nm,0.8s
IMW *e*pP **pP** **16 30 20.5 +1.8**
FLWY Flagg Ranch 76.43 330 *e*P **P** **16 29 51.6 +1.6**
comp=Z,9.9nm,0.8s
LAO LASA Array 76.55 334 P **P** **16 29 51.6 +1.1**
baz=144
KVN Kaiserville 76.58 322 *e*P **P** **16 29 52.0 +1.0**
comp=Z,8.9nm,0.3s
RLMT Red Lodge 76.59 332 *e*P **P** **16 29 51.9 +1.0**
comp=Z,30nm,1.8s
RLMT Red Lodge 76.59 332 P **P** **16 29 52.4 +1.5**
baz=142
H17A Grant Village 76.61 330 P **P** **16 29 52.8 +1.6**
baz=140
YHH Holmes Hill 77.04 330 *e*P **P** **16 29 55.2 +1.7**
comp=Z,11nm,1.1s
YHB Horse Butte 77.17 330 *e*P **P** **16 29 56.0 +1.7**
comp=Z,6.9nm,1.0s
TOA0 Torodi Ar. Sit 77.17 70 *e*P **P** **16 29 54.3 -0.3**
TORD Torodi Ar. Bea 77.17 70 P **P** **16 29 53.7 -0.9**
comp=Z,12nm,0.4s,baz=264,slow=6.0,SNR=47
DGMT Dagmar 77.23 337 P **P** **16 29 55.3 +1.1**
baz=146
PNTR Pine Nut 77.46 322 *e*P **P** **16 29 56.4 +0.5**
comp=Z,8.2nm,1.0s
PAHR Pah Rah Range 77.75 322 *e*P **P** **16 29 58.8 +1.3**
comp=Z,8.8nm,0.9s
HLID Hailey 77.82 328 *e*P **P** **16 29 59.4 +1.6**
comp=Z,7.1nm,0.8s
HLID *e*pP **pP** **16 30 28.4 +1.8**
HLID Hailey 77.82 328 P **P** **16 29 60.0 +2.2**
baz=137
MCMT McKenzie Canyo 78.00 329 *e*P **P** **16 30 00.4 +1.5**
MCMT *e*pP **pP** **16 30 28.2 +0.6**
BEKR Beckworth 78.41 322 *e*P **P** **16 30 02.5 +1.3**
BEKR *e*pP **pP** **16 30 31.6 +1.5**
ORV Oroville 78.87 321 *e*P **P** **16 30 04.8 +1.4**
ORV *e*pP **pP** **16 30 33.6 +1.3**
EGMT Eagleton 79.07 333 P **P** **16 30 05.2 +0.8**
baz=142
TSUM Tsumeb 79.44 106 *e*P **P** **16 30 08.6 +1.3**
comp=Z,12nm,0.8s
O03E Paynes Creek 79.53 321 P **P** **16 30 07.6 +0.4**
baz=131
MOD Modoc Plateau 79.74 323 *e*P **P** **16 30 09.4 +1.1**
comp=Z,8.8nm,1.2s
O02D Mt. Diablo Mer 80.03 321 P **P** **16 30 10.6 +0.7**
baz=130
BMO Blue Mountains 80.19 327 *e*P **P** **16 30 11.7 +1.1**
comp=Z,7.3nm,1.1s
N02D Trinity Center 80.49 321 P **P** **16 30 13.2 +0.9**
baz=130
M04C Macdoel 80.52 323 P **P** **16 30 13.6 +1.1**
baz=131
K05A Summer Lake 80.62 324 *e*P **P** **16 30 14.7 +1.6**
comp=Z,11nm,0.9s
I07A Izee 80.79 325 *e*P **P** **16 30 15.4 +1.6**
comp=Z,3.7nm,0.9s
I07A *e*pP **pP** **16 30 44.1 +1.3**
F10A Beach Ranch, E 80.94 328 *e*P **P** **16 30 15.9 +1.3**
comp=Z,8.4nm,0.8s
J05D Fort Rock, OR 81.18 324 P **P** **16 30 17.5 +1.5**
baz=132
PINE Pine Mountain 81.36 324 *e*P **P** **16 30 18.2 +1.2**
comp=Z,11nm,1.0s
J04D Umpqua Nationa 81.63 323 P **P** **16 30 19.8 +1.3**
baz=131
L02E Cave Junction 81.77 322 P **P** **16 30 20.1 +1.2**
baz=130
I05D Terrebonne, OR 81.94 325 P **P** **16 30 21.3 +1.4**
baz=132
K02D Willamette Mer 82.15 322 P **P** **16 30 22.0 +1.0**
baz=130
I04A Tendick Farm, 82.16 324 P **P** **16 30 21.5 +0.5**
baz=131
J01E Myrtle Point 82.59 323 P **P** **16 30 24.6 +1.5**
baz=130
I03D Drain, OR 82.61 323 P **P** **16 30 24.7 +1.5**
baz=130
C09A Chrisman Ranch 82.74 329 *e*P **P** **16 30 24.7 +0.8**
C09A *e*pP **pP** **16 30 54.1 +1.2**
BOSA Boshof 82.77 118 P **P** **16 30 24.8 +0.1**
comp=Z,11nm,1.0s,baz=235,slow=4.7,SNR=9.8
BOSA Boshof 82.77 118 *e*P **P** **16 30 25.2 +0.4**
I02D Swisshome 83.15 323 P **P** **16 30 27.5 +1.5**
baz=130
FCC Fort Churchill 83.36 347 *e*P **P** **16 30 26.8 +0.1**
comp=Z,6.9nm,0.9s
LBTB Lobatse 84.36 115 *e*P **P** **16 30 33.7 +0.7**
comp=Z,14nm,0.9s
B05A Bryant 84.93 327 P **P** **16 30 35.5 +0.5**
baz=132
D03D Eldon 84.96 326 P **P** **16 30 35.0 -0.1**
baz=131
ESDC Sonseca Array 86.00 44 P **P** **16 30 41.3 +0.8**
comp=Z,0.3nm,0.3s,baz=217,slow=3.2,SNR=4.1
ESDC pP **pP** **16 31 05.7 -4.5**
comp=Z,0.2nm,0.4s,baz=224,slow=7.2,SNR=1.7
ES06 SONSECA Array 86.00 44 *e*P **P** **16 30 40.9 +0.3**
CASY Casey 91.84 180 *e*P **P** **16 31 09.4 +1.7**
comp=Z,29nm,0.9s
YKA Yellowknife Ar 91.94 340 P **P** **16 31 08.2 +0.2**
comp=Z,3.5nm,0.8s,baz=133,slow=4.5,SNR=67
YKA pP **pP** **16 31 32.5 -4.9**
comp=Z,0.7nm,0.7s,baz=129,slow=4.5,SNR=2.5
YKB5 Yellowknife Ar 91.94 340 *e*P **P** **16 31 07.8 -0.2**
YKB5 *e*pP **pP** **16 31 38.0 +0.5**
YKW3 Yellowknife Ar 91.99 340 *e*P **P** **16 31 08.3 +0.1**
comp=Z,7.2nm,1.0s
LPH Laupahoehoe 94.65 290 *e*P **P** **16 31 20.8 -0.7**
KBZ Khabaz 120.19 51 PKP **PKPdf** **16 36 48.4 -2.0**
comp=Z,2.2nm,0.9s,baz=242,slow=4.7,SNR=4.2
TIXI Tiksi 129.49 353 *e*PKPdf **PKPdf** **16 37 07.2 -0.1**
AS01 Alice Springs 129.51 207 *e*PKPdf **PKPdf** **16 37 09.3 +0.2**
AS31 Alice Springs 129.53 207 *e*PKPdf **PKPdf** **16 37 09.4 +0.3**
ASAR Alice Springs 129.53 207 PKP **PKPdf** **16 37 09.4 +0.3**
comp=Z,6.9nm,0.8s,baz=150,slow=2.2,SNR=41
ABKAR Akbulak array 131.33 43 *e*PKPdf **PKiKP** **16 37 12.4 -0.1**
WRA Warramunga Arr 132.61 210 PKP **PKPdf** **16 37 15.5 +0.5**
comp=Z,4.7nm,0.8s,baz=160,slow=1.7,SNR=35
PETK Petropavlovsk- 133.34 323 PKP **PKiKP** **16 37 16.4 -0.1**
comp=Z,1.6nm,0.8s,baz=187,slow=3.2,SNR=4.8
ZAA0 Zalesovo Array 142.35 26 *e*PKPdf **PKPdf** **16 37 32.2 +0.5**
ZALV Zalesovo Beam 142.35 26 *e*PKPpre PKPpre **16 37 27.2**
ZALV *e*PKPdf **PKPdf** **16 37 32.4 +0.7**
ZALV Zalesovo Beam 142.35 26 PKhKP PKPpre **16 37 28.5**
comp=Z,3.3nm,0.6s,baz=309,slow=5.2,SNR=4.6
ZALV PKP **PKPdf** **16 37 32.8 +1.1**
comp=Z,7.5nm,0.7s,baz=290,slow=3.1,SNR=18
NRN Naryn 144.52 49 *e*PKPdf **PKPdf** **16 37 36.5 +0.1**
YSS Yuzh-Sakhalins 144.72 322 *e*PKPbc PKPbc **16 37 35.8 +0.5**
KDJ Kajisay 145.06 47 *e*PKPbc **PKPdf** **16 37 38.6 +1.5**
KSH Kashi 145.17 52 PKPbc **PKPdf** **16 37 38.0 +0.6**
KSH sPKP **16 38 16.3**
KSH PP **PP** **16 40 59.8 +2.5**
KSH AMB AMB
comp=Z,75nm,4.3s
MAKZ Makanchi 145.72 37 *e*PKPdf **PKPbc** **16 37 38.5 0.0**
BATI Baumata 145.72 202 PKPbc **PKPab** **16 37 40.9 +1.1**
comp=Z,14nm,0.6s,baz=147,slow=6.0,SNR=7.9
PRZ Przheval'sk 145.73 46 *e*PKPdf **PKPab** **16 37 40.2 +0.8**
MK31 Makanchi Array 145.90 37 *e*PKPdf **PKPbc** **16 37 39.1 +0.1**
MKAR Makanchi Array 145.90 37 PKPbc **PKPbc** **16 37 39.2 +0.1**
comp=Z,6.5nm,0.7s,baz=325,slow=2.3,SNR=77
MK01 Makanchi Array 145.92 37 *e*PKPdf **PKPbc** **16 37 39.0 -0.1**
SOEI Soe 145.93 203 *e*PKPdf **PKPab** **16 37 41.1 +0.3**
ASAJ Asahikawa 146.32 318 PKPbc **PKPbc** **16 37 40.5 +0.2**
comp=Z,15nm,0.8s,baz=277,slow=4.9,SNR=14
MMRI Maumere 147.66 200 *e*PKPbc **PKPbc** **16 37 45.0 0.0**
JAGI Jajag, Banyuwa 149.46 185 *e*PKPbc **PKPbc** **16 37 49.7 +0.1**
SIJI Sorong 150.11 223 PKPbc **PKiKP** **16 37 52.4 +0.3**
comp=Z,24nm,0.7s,baz=40,slow=3.5,SNR=25
CISI Cisompet, Garu 150.25 173 *e*PKPbc **PKPbc** **16 37 52.1 +0.5**
WMQ Urumqi 150.73 37 *e*PKPbc **PKPdf** **16 37 46.0 -0.3**
WMQ LR LR
comp=Z,65nm,17.3s
WMQ LR LR
comp=Z,30nm,21.7s
WMQ LR LR
comp=Z,42nm,18.1s
USRK Ussuriysk Ar. 152.28 327 PKPbc **PKPbc** **16 37 55.8 +0.5**
comp=Z,3.4nm,0.6s,baz=61,slow=0.8,SNR=7.2
MJAR Matsushiro Arr 152.81 308 PKPbc **PKPbc** **16 37 56.6 -0.2**
comp=Z,2.7nm,0.5s,baz=122,slow=0.2,SNR=8.7
SONM Songino Array 154.04 8 PKP **PKPdf** **16 37 51.9 +0.8**
comp=Z,2.0nm,0.7s,baz=32,slow=1.3,SNR=5.7
SONM PKPbc **PKiKP** **16 37 59.9 +0.6**
comp=Z,2.2nm,0.8s,baz=303,slow=2.0,SNR=4.5
KSRS Korea Array 159.21 321 PKP **PKPdf** **16 37 57.5 -0.4**
comp=Z,2.4nm,1.0s,baz=101,slow=1.4,SNR=6.7
KS01 Wonju Array Si 159.24 321 *e*PKPdf **PKPdf** **16 37 58.4 +0.5**
KSAR Wonju Array Be 159.24 321 PKP **PKPdf** **16 37 57.5 -0.4**
GTA Gaotai 160.09 28 *e*PKP **PKPdf** **16 38 00.3 +1.2**
HHC Hu-ho-hao-te 161.36 360 *e*PKP **PKPdf** **16 38 01.5 +1.2**
CMAR Chiang Mai Arr 167.61 105 PKP **PKPdf** **16 38 07.0 +0.6**
comp=Z,0.5nm,0.5s,baz=291,slow=1.7,SNR=6.6
CMAR PKPab **PKPab** **16 39 13.3 +0.2**
comp=Z,0.5nm,0.3s,baz=260,slow=4.4,SNR=4.3
CM01 Chiang Mai Arr 167.62 105 *e*PKPdf **PKPdf** **16 38 06.7 +0.3**
NJ2 Nanjing 168.19 328 *e*PKP **PKPdf** **16 38 06.0 -0.3**

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*ISCJB **25** 16:21:21.1±0.3, 24°.43N±0°.02×122°.00E±0°.02, h0km±3km,*
Error ellipse: s-maj=2.8km s-min=2.3km az=138.5
*JMA **25** 16:21:21.5±0.1, 24°.43N×121°.96E, h13km, M2.4*
*TAP **25** 16:21:21.6, 24°.46N×121°.95E, h12km, ML2.9, B*
ISC 25 16:21:21.2±0.9, **24°.43N**±0°.02×**121°.98E**±0°.02, **h14**km±6km,
n83, σ**8°52**/117, **10C-9D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.17**	**49**	⇓P		**Pg**	**16 21 26.0**	**+0.7**
	baz=53							
EOS1				S		**Sb**	**16 21 29.7**	**+0.2**
	baz=53							
TWC	**Suao**	**0.21**	**325**	⇑*i*P		**Pg**	**16 21 25.8**	**-0.2**
	baz=338							
TWC				S		**Sg**	**16 21 28.2**	**-0.9**
	baz=338							
ENA	**Nanau**	**0.22**	**268**	⇓*i*P		**Pg**	**16 21 26.0**	**-0.1**
	baz=268							
ENA				*i* S		**Sg**	**16 21 28.9**	**-0.6**
	baz=268							
ILA	**Ilan**	**0.39**	**327**	⇑*i*P		**Pg**	**16 21 29.5**	**+0.4**
	baz=329							
ILA				*e*S		**Sg**	**16 21 34.8**	**+0.3**
	baz=329							
TWE	**Neicheng**	**0.41**	**315**	⇑*i*P		**Pg**	**16 21 29.4**	**+0.1**
	baz=320							
TWE				S		**Sg**	**16 21 34.0**	**-0.9**
	baz=320							
ENTT	**Nioudou**	**0.43**	**298**	⇑*i*P		**Pg**	**16 21 30.0**	**+0.1**
	baz=298							
ENTT				S		**Sg**	**16 21 35.4**	**-0.3**
	baz=298							
NACB	**Ninganchiao**	**0.44**	**234**	⇓P		**Pg**	**16 21 30.0**	**0.0**
	baz=230							
NACB				S		**Sg**	**16 21 36.2**	**+0.3**
	baz=230							
NTC	**Toucheng**	**0.44**	**341**	*e*P		**Pg**	**16 21 30.0**	**0.0**
	baz=353							
NDT	**Datong Townshi**	**0.46**	**291**	P		**Pg**	**16 21 30.6**	**+0.2**
	baz=290							
NDT				S		**Sg**	**16 21 36.2**	**-0.4**
	baz=290							
TWD	**Chiawan**	**0.50**	**225**	⇓P		**Pg**	**16 21 31.2**	**+0.1**
	baz=221							
TWD				*e*S		**Sg**	**16 21 38.3**	**+0.5**
	baz=221							
ETLH	**Xiulin Townshi**	**0.51**	**244**	P		**Pg**	**16 21 31.2**	**-0.1**
	baz=240							
ETLH				*e*S		**Sb**	**16 21 38.9**	**-0.4**
	baz=240							
NNSB	**Datong**	**0.55**	**269**	⇓P		**Pg**	**16 21 32.1**	**+0.1**
	baz=267							
NNSB				S		**Sg**	**16 21 38.8**	**-0.6**
	baz=267							
TIPB	**Shuangxi**	**0.55**	**345**	⇑P		**Pg**	**16 21 32.2**	**+0.1**
	baz=353							
TIPB				S		**Sg**	**16 21 39.8**	**+0.3**
	baz=353							
NWLT	**Wulai**	**0.56**	**308**	*e*P		**Pg**	**16 21 32.4**	**+0.2**
	baz=300							
NWLT				*e*S		**Sg**	**16 21 39.3**	**-0.2**
	baz=300							
NNS	**Nan Shan**	**0.56**	**271**	⇓*i*P		**Pg**	**16 21 32.2**	**0.0**
	baz=268							
NNS				S		**Sg**	**16 21 39.2**	**-0.5**
	baz=268							
TWB1	**Santiao Chiao**	**0.57**	**0**	*e*P		**Pg**	**16 21 32.6**	**+0.1**
	baz=355							
TWB1				*e*S		**Sg**	**16 21 39.8**	**-0.3**

	baz=355								
HWA	**Hwalien**	**0.57**	**217**	*e*P		**Pb**	**16 21 33.3**	**+0.3**
	baz=221								
YHNB	**Yeheng**	**0.60**	**293**	⇑P		**Pb**	**16 21 33.4**	**-0.2**
	baz=297								
YHNB				S		**Sg**	**16 21 40.2**	**-0.9**
	baz=297								
NSK	**Sanguang**	**0.62**	**293**	⇑*i*P		**Pb**	**16 21 33.5**	**-0.3**
	baz=297								
NSK				S		**Sg**	**16 21 40.8**	**-0.8**
	baz=297								
TWA	**Mucha**	**0.65**	**326**	P		**Pb**	**16 21 34.4**	**0.0**
	baz=327								
TWA				*e*S		**Sg**	**16 21 42.5**	**-0.2**
	baz=327								
NWF	**Wu-fen Shan**	**0.66**	**344**	P		**Pb**	**16 21 34.8**	**+0.2**
	baz=333								
NWF				*e*S		**Sb**	**16 21 43.6**	**-0.1**
	baz=333								
WFSB	**Wu-fen Shan**	**0.66**	**344**	*e*P		**Pb**	**16 21 34.8**	**+0.3**
	baz=333								
WFSB				*e*S		**Sb**	**16 21 43.8**	**+0.2**
	baz=333								
NHDH	**Xindian Distri**	**0.67**	**322**	*e*P		**Pb**	**16 21 35.1**	**+0.4**
	baz=310								
NHDH				*e*S		**Sb**	**16 21 43.4**	**-0.5**
	baz=310								
TATO	**Taipei**	**0.70**	**320**	⇑P		**Pb**	**16 21 35.5**	**+0.2**
	baz=309								
TATO				S		**Sb**	**16 21 44.2**	**-0.6**
	baz=309								
WHF	**Hehuan Shan**	**0.72**	**246**	⇓*i*P		**Pg**	**16 21 35.3**	**0.0**
	baz=244								
WHF				S		**Sb**	**16 21 45.1**	**-0.5**
	baz=244								
TAP	**Taipei**	**0.74**	**324**	*e*P		**Pb**	**16 21 36.3**	**+0.4**
	baz=325								
TWT	**Tachien**	**0.76**	**256**	*e*P		**Pb**	**16 21 36.6**	**+0.3**
	baz=248								
TDCB	**Techi**	**0.77**	**257**	*e*P		**Pb**	**16 21 36.9**	**+0.3**
	baz=255								
TDCB				*e*S		**Sg**	**16 21 46.1**	**-0.4**
	baz=255								
WLTB	**Daxi**	**0.79**	**302**	*e*P		**Pn**	**16 21 37.5**	**-0.4**
	baz=290								
ESL	**Shilin**	**0.80**	**219**	P		**Pg**	**16 21 36.4**	**-0.3**
	baz=224								
YM01	**YM01**	**0.80**	**332**	*e*P		**Pb**	**16 21 37.7**	**+0.7**
	baz=332								
YM01				*e*S		**Sb**	**16 21 48.0**	**+0.3**
	baz=332								
YM11	**YM11**	**0.82**	**333**	⇑P		**Pb**	**16 21 37.9**	**+0.6**
	baz=333								
YM05	**YM05**	**0.82**	**332**	P		**Pb**	**16 21 37.9**	**+0.6**
	baz=342								
YM04	**YM04**	**0.82**	**330**	*e*P		**Pb**	**16 21 38.0**	**+0.6**
	baz=331								
CHGB	**Renai**	**0.83**	**243**	⇓P		**Pg**	**16 21 37.4**	**+0.1**
	baz=252								
CHGB				*e*S		**Sb**	**16 21 48.4**	**-0.2**
	baz=252								
TWS1	**Kuangyinshan**	**0.84**	**322**	⇑*e*P		**Pn**	**16 21 38.7**	**+0.1**
	baz=322								
ANP	**Anpu**	**0.86**	**331**	P		**Pb**	**16 21 38.6**	**+0.6**
	baz=331								
NTST	**Danshui**	**0.87**	**326**	*e*P		**Pn**	**16 21 39.5**	**+0.4**
	baz=326								
JYNG	**Yonagunijimaku**	**0.88**	**89**	P		**Pg**	**16 21 38.5**	**+0.3**
JYNG				S		**Sg**	**16 21 49.8**	**+0.1**
OWD	**Renai**	**0.88**	**237**	*e*P		**Pg**	**16 21 38.2**	**0.0**
	baz=230								
NCU	**National Centr**	**0.90**	**307**	*e*P		**Pn**	**16 21 40.4**	**+0.9**
	baz=310								
NCUH	**Zhongli**	**0.90**	**306**	*e*P		**Pn**	**16 21 40.3**	**+0.8**
	baz=295								
TWY	**Chenhua**	**0.91**	**337**	*e*P		**Pn**	**16 21 39.5**	**0.0**
	baz=338								
TWY				*e*S		**Sn**	**16 21 52.1**	**-0.3**
	baz=338								
EGFH	**Guangfu**	**0.92**	**214**	*e*P		**Pb**	**16 21 39.6**	**+0.8**
	baz=225								
YOJ	**Yonaguni jima**	**0.94**	**88**	P		**Pb**	**16 21 39.1**	**-0.1**
	baz=89								
YOJ	**Yonaguni jima**	**0.94**	**88**	P		**Pb**	**16 21 39.3**	**+0.1**
YOJ				*e*S		**Sg**	**16 21 51.8**	**+0.2**
WHP	**Taichung City**	**0.96**	**261**	*e*P		**Pn**	**16 21 40.2**	**-0.1**
	baz=259								
WHP				*e*S		**Sb**	**16 21 52.1**	**-0.1**
	baz=259								
SBCB	**Hsinchu**	**0.98**	**292**	*e*P		**Pn**	**16 21 41.6**	**+1.2**
	baz=290								
HSN	**Hsinchu**	**0.99**	**292**	*e*P		**Pn**	**16 21 41.4**	**+0.7**
	baz=287								
VWDT	**VWDT**	**1.03**	**229**	*e*P		**Pg**	**16 21 41.1**	**+0.1**
	baz=235								
HGSD	**Ruisui**	**1.07**	**209**	*e*P		**Pg**	**16 21 42.1**	**+0.3**
	baz=208								
NMLH	**Miaoli**	**1.09**	**276**	*e*P		**Pn**	**16 21 43.6**	**+1.5**
	baz=274								
EHY	**Hungye**	**1.10**	**213**	*e*P		**Pb**	**16 21 42.3**	**+0.2**
	baz=224								
TWQ1	**Liyutan**	**1.11**	**266**	*e*P		**Pn**	**16 21 43.4**	**+1.1**
	baz=264								
SMLT	**Sun Moon Lake**	**1.13**	**241**	*e*P		**Pg**	**16 21 43.0**	**0.0**
	baz=240								
SSLB	**Suanglung**	**1.14**	**236**	⇓P		**Pn**	**16 21 43.0**	**+0.2**
	baz=243								
SSLB				*e*S		**Sb**	**16 21 57.5**	**+0.1**
	baz=243								
TYC	**Yuchr**	**1.16**	**243**	P		**Pn**	**16 21 43.1**	**+0.2**
	baz=242								
YULB	**Yu-li**	**1.21**	**211**	*e*P		**Pb**	**16 21 44.4**	**+0.5**
	baz=222								
TWF1	**Yuli**	**1.25**	**210**	*e*P		**Pn**	**16 21 44.6**	**+0.4**
	baz=225								
WHYT	**Xinyi Township**	**1.27**	**235**	*e*P		**Pg**	**16 21 45.5**	**-0.1**
	baz=234								
WJS	**Zhushan**	**1.30**	**242**	*e*P		**Pg**	**16 21 47.0**	**+0.8**
	baz=234								
WNT	**Mingjian**	**1.31**	**245**	*e*P		**Pg**	**16 21 47.5**	**+1.1**
	baz=238								
FULB	**Fuli**	**1.38**	**207**	*e*P		**Pn**	**16 21 46.8**	**+0.7**
	baz=225								
CHN5	**Tsauling**	**1.46**	**235**	P		**Pg**	**16 21 49.9**	**+0.7**
	baz=235								
WGK	**Gukeng**	**1.50**	**240**	*e*P		**Pg**	**16 21 51.2**	**+1.2**
	baz=240								
WDLH	**Douliu**	**1.52**	**241**	*e*P		**Pg**	**16 21 51.4**	**+1.0**
	baz=241								
ELDTW	**Lidau**	**1.52**	**216**	*e*P		**Pn**	**16 21 49.1**	**+0.9**
	baz=203								
RLNB	**Erlin**	**1.58**	**250**	*e*P		**Pg**	**16 21 51.1**	**-0.4**
	baz=263								
IRIF	**Iriomote-Funau**	**1.59**	**93**	P		**Pn**	**16 21 48.7**	**-0.3**
CHN4	**Tsaushan**	**1.67**	**230**	*e*P		**Pg**	**16 21 53.2**	**0.0**
	baz=231								
TPUB	**Ta-pu**	**1.68**	**228**	*e*P		**Pg**	**16 21 53.0**	**-0.4**
	baz=229								
STYT	**Tauyuan**	**1.69**	**222**	*e*P		**Pb**	**16 21 52.9**	**+0.7**
	baz=222								
WTP	**Ta-pu**	**1.72**	**227**	*e*P		**Pg**	**16 21 54.0**	**-0.3**
	baz=227								
TWK	**Hsinying**	**1.80**	**230**	*e*P		**Pg**	**16 21 55.4**	**-0.4**
	baz=231								
CHN1	**Nanshi**	**1.82**	**227**	*e*P		**Pg**	**16 21 55.5**	**-0.8**
	baz=229								
JKRS	**Kuro-shima**	**1.86**	**96**	P		**Pn**	**16 21 53.0**	**+0.4**
JKRS				*e*S		**Sn**	**16 22 15.5**	**-0.4**
SGST	**Jiashian**	**1.86**	**224**	*e*P		**Pb**	**16 21 55.2**	**+0.2**
	baz=225								
SLGT	**Liugui**	**1.89**	**221**	*e*P		**Pg**	**16 21 57.2**	**-0.3**
	baz=222								
JIJ	**Ishigaki jima**	**1.97**	**92**	P		**Pn**	**16 21 53.8**	**-0.3**
JIJ				*e*S		**Sn**	**16 22 17.4**	**-1.3**
SSD	**Sandimen**	**2.09**	**217**	*e*P		**Pb**	**16 21 59.8**	**+1.0**
	baz=229								
JISG	**Ishigakijimahi**	**2.12**	**85**	P		**Pn**	**16 21 56.0**	**-0.3**
JISG				*e*S		**Sn**	**16 22 22.1**	**-0.4**
MASBT	**Mashibuluo**	**2.20**	**215**	*e*P		**Pb**	**16 22 01.3**	**+0.6**
	baz=217								
EAST	**Anshuo**	**2.29**	**207**	*e*P		**Pb**	**16 22 01.5**	**-0.9**
	baz=198								

*ISCJB **25** 16:26:52.7±1.2, 13°.46S±0°.08×166°.7E±0°.1, h33km, mb3.9/5, MS3.8/3, Error ellipse: s-maj=19.9km s-min=8.1km az=153.7*

*IDC **25** 16:26:55.4±3.5, 13°.59S×166°.78E, h46km±31km, mb3.7/6, mb1 4.0/8, mb1mx3.7/40, mbtmp4.1/8, ML4.5/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=35.9km s-min=27.8km az=106.0*

ISC 25 16:26:54.5±1.4, 13.4S±0°.1×166.8E±0°.2, h35km, n12, σ1°73/10, mb4.0/5, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.79**	**300**	P	**Pn**	**16 28 47.3**	**+1.8**
	20nm,0.3s,baz=151,slow=3.9,SNR=13						
HNR				S	**Sn**	**16 30 12.0**	**-0.5**
	3.6nm,0.3s,baz=139,slow=20,SNR=3.3						
HNR				LR	LR	16 31 46.0	
	comp=Z,80nm,21.9s,baz=172,slow=37						
DZM	**Mont Dzumac**	**8.60**	**182**	*e*Pn	**Pn**	**16 28 56.4**	**-0.3**
	8.5nm,0.3s						
DZM				*e*LR	LR	16 30 54.6	
	comp=Z,195nm,24.4s						
DZM	**Mont Dzumac**	**8.60**	**182**	P	**Pn**	**16 28 55.1**	**-1.6**
	1.9nm,0.3s,baz=5.2,slow=22,SNR=16						
DZM				S	**Sn**	**16 30 35.2**	**+2.7**
	0.4nm,0.3s,baz=107,slow=19,SNR=2.8						
DZM				LR	LR	16 31 53.9	
	comp=Z,134nm,21.8s,baz=32,slow=35						
CTA	**Charters Tower**	**20.73**	**249**	P	Pn	16 31 32.7	-2.0
	3.9nm,0.7s,baz=98,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**29.50**	**227**	P	**P**	**16 32 55.3**	**-0.3**
	1.4nm,0.5s,baz=58,slow=9.3,SNR=9.6						
STKA				LR	LR	16 43 43.5	
	comp=Z,84nm,18.1s,baz=28,slow=34						
RPZ	**Rata Peaks**	**30.40**	**174**	LR	LR	16 45 02.4	
	comp=Z,58nm,19.6s,baz=20,slow=36						
WRA	**Warramunga Arr**	**31.71**	**254**	P	**P**	**16 33 13.5**	**-1.8**
	1.1nm,0.6s,baz=85,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**32.72**	**247**	P	**P**	**16 33 22.2**	**-1.9**
	1.1nm,0.5s,baz=74,slow=9.5,SNR=45						
PPT2	**Papeete2**	**42.19**	**101**	*e*LR	LR	16 47 10.5	
	comp=Z,92nm,26.8s						
PETK	**Petropavlovsk-**	**66.72**	**354**	LR	LR	17 00 57.0	
	comp=Z,381nm,19.7s,baz=100,slow=30						
CMAR	**Chiang Mai Arr**	**73.99**	**294**	P	**P**	**16 38 28.1**	**+1.0**
	1.2nm,0.7s,baz=129,slow=3.8,SNR=8.3						
ILAR	**Eielson Array**	**85.44**	**18**	P	**P**	**16 39 28.0**	**-0.1**
	0.2nm,0.5s,baz=242,slow=4.6,SNR=5.0						
ILAR				pP	sP	16 39 52.2	+9.3
	0.6nm,0.6s,baz=244,slow=5.4,SNR=5.0						

*IDC **25** 16:39:06.3±1.9, 14°.62N×93°.75W, h0km, mb3.8/6, mb1 4.1/10, mb1mx3.8/38, mbtmp3.8/10, ML3.5/4, MS3.1/5, Ms1 3.1/5, ms1mx2.7/39, Error ellipse: s-maj=60.1km s-min=17.5km az=39.0*

*NEIC **25** 16:39:07.1±0.0, 14°.27N×93°.86W, h28km, mb4.7/10, MD4.1(MEX), After MEX.*

*MEX **25** 16:39:07.0±0.4, 14°.27N×93°.88W, h54km±45km, MD3.8*

ISC 25 16:39:09.1±3.2, 14.5S±0°.09×93.8W±0°.08, h26km±21km, n39, σ1°08/40, mb4.5/11, MS3.0/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.32**	**28**	*i* P	**Pn**	**16 39 30.9**	**-1.0**
PCIG				*e*S	**Sb**	**16 39 48.9**	**-1.0**
PCIG		**1.32**	**28**	*i* P	**Pn**	**16 39 30.9**	**-1.0**
PCIG				*i* S	**Sb**	**16 39 49.3**	**-0.6**
CCIG	**Comitan**	**2.41**	**44**	*e*Pn	**Pn**	**16 39 47.2**	**+0.1**
CCIG				*e*S	**Sn**	**16 40 15.6**	**-0.3**
CCIG	**Comitan**	**2.41**	**44**	*i* P	**Pn**	**16 39 45.9**	**-1.3**
CCIG				*e*S	**Sn**	**16 40 15.6**	**-0.3**
CMIG	**Matias Romero**	**2.73**	**339**	Pn	**Pn**	**16 39 50.7**	**-0.5**
	4.8nm,0.3s,baz=155,slow=11,SNR=26						
CMIG				LR	LR	16 40 13.4	
	comp=Z,105nm,20.6s,baz=184,slow=25						
CMIG				Sn	**Sn**	**16 40 23.7**	**+0.3**
	25nm,0.3s,baz=111,slow=12,SNR=9.5						
APG	**El Apazote**	**3.33**	**81**	Pn	**Pn**	**16 39 58.1**	**-1.7**
	3.4nm,0.3s,baz=283,slow=9.5,SNR=19						
JTS	**JuntasAbangare**	**9.68**	**115**	Pn	**Pn**	**16 41 27.0**	**+0.2**
	0.4nm,0.3s,baz=258,slow=20,SNR=2.4						
WBCY	**West Bay, Gran**	**12.87**	**66**	*e*Pn	**Pn**	**16 42 11.8**	**+1.4**
JCT	**Junction City**	**16.79**	**342**	*e*Pn	**P**	**16 43 04.7**	**+0.1**
	15nm,1.2s						
957A	**Wimauma**	**16.97**	**38**	*e*P	**P**	**16 43 08.0**	**+1.4**
	293nm,1.4s						
TX31	**Lajitas Ar. Si**	**17.29**	**330**	*e*Pn	**P**	**16 43 11.0**	**+0.8**
TXAR	**Lajitas Array**	**17.29**	**330**	P	**P**	**16 43 10.0**	**-0.3**
	0.1nm,0.3s,baz=141,slow=11,SNR=5.8						
GTBY	**Guantanamo Bay**	**18.70**	**71**	*e*P	**Pn**	**16 43 26.6**	**+0.5**
	65nm,1.3s						
ABTX	**Abilene, Hawle**	**18.76**	**345**	*e*P	**Pn**	**16 43 27.6**	**+0.7**
	41nm,1.9s						
WLAR	**White Oak Lake**	**19.08**	**2**	*e*P	**Pn**	**16 43 31.8**	**+1.1**
ROSC	**El Rosal**	**21.52**	**115**	P	**P**	**16 43 57.2**	**+0.4**
	2.3nm,0.3s,baz=348,slow=20,SNR=3.4						
HHAR	**Hobbs**	**21.66**	**360**	*e*P	**P**	**16 43 59.1**	**+1.3**
	12nm,0.6s						
TKL	**Tuckaleechee C**	**22.91**	**22**	LR	LR	16 54 09.9	
	comp=Z,73nm,18.2s,baz=167,slow=40						
T25A	**Trinidad**	**24.39**	**339**	*e*P	**P**	**16 44 27.1**	**+1.4**
	5.8nm,0.8s						
ATAH	**Atahualpa**	**26.44**	**144**	LR	LR	16 52 55.9	
	comp=Z,29nm,20.5s,baz=172,slow=31						
SJG	**San Juan**	**26.83**	**79**	LR	LR	16 54 31.2	
	comp=Z,29nm,18.2s,baz=132,slow=35						
PDAR	**Pinedale Array**	**31.21**	**337**	P	**P**	**16 45 28.1**	**+1.4**
	0.5nm,0.9s,baz=129,slow=8.3,SNR=3.3						
NV01	**Mina Array Sit**	**32.13**	**322**	*e*P	**P**	**16 45 34.7**	**-0.1**
NVAR	**Mina Array Bea**	**32.13**	**322**	P	**P**	**16 45 37.1**	**+2.3**
	1.4nm,0.8s,baz=145,slow=9.2,SNR=8.7						
REDW	**Red Top Meadow**	**32.21**	**336**	*e*P	**P**	**16 45 35.5**	**0.0**
	23nm,1.9s						
BOZ	**Bozeman (W)**	**34.40**	**338**	*e*PcP	**PcP**	**16 48 28.1**	**-1.7**
H04A	**Detroit Lake**	**38.47**	**327**	*e*PcP	**PcP**	**16 48 40.1**	**-1.8**
NEW	**Newport**	**38.74**	**335**	LR	LR	17 05 03.2	
	comp=Z,84nm,20.6s,baz=267,slow=40						
YKA	**Yellowknife Ar**	**50.11**	**348**	P	**P**	**16 48 02.1**	**+0.3**
	1.6nm,0.7s,baz=154,slow=7.2,SNR=27						
YKB5	**Yellowknife Ar**	**50.11**	**348**	*e*P	**P**	**16 48 00.8**	**-1.0**
CRAG	**Craig**	**50.80**	**332**	*e*P	**P**	**16 48 05.6**	**-1.6**
	126nm,1.7s						
DAWY	**Dawson**	**58.51**	**338**	*e*P	**P**	**16 49 02.9**	**-0.1**
	5.4nm,1.0s						
IL1	**Eielson Array**	**61.64**	**337**	*e*P	**P**	**16 49 23.2**	**-1.2**
ILAR	**Eielson Array**	**61.64**	**337**	P	**P**	**16 49 25.1**	**+0.7**
	0.9nm,0.9s,baz=151,slow=5.5,SNR=8.7						
ILB	**Eielson Array**	**61.64**	**337**	*e*P	**P**	**16 49 23.0**	**-1.5**
	27nm,1.8s						
NB2	**NORSAR Subarra**	**84.54**	**28**	P	**P**	**16 51 40.4**	**+0.5**
	comp=Z,13nm,1.7s,baz=294,slow=5.1						
NB200	**NORSAR Array S**	**84.54**	**28**	*e*P	**P**	**16 51 40.6**	**+0.8**
NOA	**NORSAR Array B**	**84.54**	**28**	P	**P**	**16 51 40.6**	**+0.8**
	comp=Z,1.3nm,0.9s,baz=296,slow=5.1,SNR=5.5						
CMAR	**Chiang Mai Arr**	**144.87**	**339**	PKP	**PKPab**	**16 58 43.3**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=339,slow=3.3,SNR=10.0						

*NNC **25** 16:44:18.7±4.3, 35°.76N×69°.62E, h113km±112km, mb3.5, mpv4.1, Error ellipse: s-maj=39.8km s-min=32.2km az=120.0*

ISC 25 16:44:17.6±3.8, 35.7N±0°.2×69.7E±0°.2, h100km, n13, σ0°58/16, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**7.18**	**25**	P	**Pn**	**16 46 00.7**	**+0.5**
	SNR=45						
KK31	**Karatay Array**	**7.45**	**5**	P	**Pn**	**16 46 03.9**	**+0.2**
	1.6nm,0.3s,baz=198,slow=16,SNR=56						
KK31				S	**Sn**	**16 47 26.2**	**-0.3**
	2.9nm,0.4s,baz=195,slow=23,SNR=8.1						
UCH	**Uchtor**	**7.56**	**29**	P	**Pn**	**16 46 05.8**	**+0.3**
	SNR=24						
EKS2	**Erkin-Say**	**7.68**	**23**	P	**Pn**	**16 46 08.4**	**+1.5**
	SNR=16						
KZA	**Kyzart**	**7.75**	**33**	P	**Pn**	**16 46 07.8**	**-0.1**
	SNR=14						
AAK	**Ala-Archa**	**7.91**	**27**	P	**Pn**	**16 46 10.1**	**+0.1**
	SNR=29						
AAK	**Ala-Archa**	**7.91**	**27**	⇑P	**Pn**	**16 46 10.1**	**+0.1**
	7.5nm,0.4s						
AAK				⇓S	**Sn**	**16 47 38.1**	**+0.2**
	17nm,0.8s						
KBK	**Karagaybulak**	**8.10**	**29**	P	**Pn**	**16 46 12.9**	**+0.4**
	SNR=12						
CHMS	**Chumysh**	**8.32**	**27**	P	**Pn**	**16 46 16.0**	**+0.6**
	SNR=6.3						
USP	**Ospenovka**	**8.46**	**25**	P	**Pn**	**16 46 17.9**	**+0.6**
	SNR=10						
TKM2	**Tokmak 2**	**8.58**	**31**	P	**Pn**	**16 46 19.1**	**-0.1**
	SNR=14						
TKM2	**Tokmak 2**	**8.58**	**31**	⇑P	**Pn**	**16 46 18.9**	**-0.3**
	6.3nm,0.8s						
TKM2				⇓S	**Sn**	**16 47 53.7**	**-0.6**
	3.8nm,0.7s						
AB31	**Akbulak array**	**15.33**	**335**	P	**Pn**	**16 47 47.9**	**-0.5**
	1.0nm,0.4s,baz=155,slow=13,SNR=51						

PGC 25 16:54:30.3±1.4, 52.54N×132.01W, h11km, ML3.7/18, ML3.7/18, 80km Ssw of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.16**	**75**	P	Pg	16 54 33.6	-0.3
BNB				S	Sg	16 54 35.3	-1.1
HG3B	**Hotspring**	**0.35**	**83**	P	Pg	16 54 36.8	-0.3
HG3B				S	Sg	16 54 41.2	-0.6
HG1B	**Mitchell Dam**	**0.41**	**349**	P	Pg	16 54 37.9	-0.4
HG1B				S	Sg	16 54 42.7	-1.1
HG4B	**Hotspring**	**0.55**	**116**	P	Pg	16 54 40.8	-0.2
HG4B				S	Sg	16 54 48.1	-0.2
MOBC	**Moresby Island**	**0.61**	**2**	P	Pg	16 54 41.4	-0.8
MOBC				S	Sg	16 54 49.1	-1.1
DIB	**Dawson Inlet,**	**0.73**	**337**	P	Pg	16 54 43.7	-0.7
DIB				S	Sg	16 54 52.8	-1.1
MASB	**Masset**	**1.48**	**360**	Pn	Pn	16 54 56.8	-0.1
NDB	**Naden**	**1.53**	**339**	Pn	Pn	16 54 56.7	-0.9
NDB				Sg	Sn	16 55 16.5	-1.1
RUBB	**Prince Rupert**	**2.08**	**30**	Pn	Pn	16 55 03.9	-1.2
RUBB				Sg	Sn	16 55 31.9	+1.0
BBB	**Bella Bella**	**2.41**	**97**	Pn	Pn	16 55 08.6	-1.1
BBB				Sg	Sb	16 55 42.4	-1.0
HOLB	**Holberg**	**3.07**	**127**	Pn	Pn	16 55 17.2	-1.6
PHC	**Port Hardy**	**3.39**	**121**	Pn	Pn	16 55 19.5	-3.6
PHC				Sn	Sn	16 55 59.7	-3.5
PHC				Sg	Sb	16 56 13.7	+2.3
PACB	**Port Alice, BC**	**3.52**	**125**	Pn	Pn	16 55 24.1	-0.7
MAYB	**Maynard**	**3.70**	**123**	Pn	Pn	16 55 26.0	-1.5
TLCB	**Telegraph Cove**	**3.79**	**120**	Pn	Pn	16 55 26.5	-2.1
WOSB	**Woss**	**4.16**	**123**	Pn	Pn	16 55 33.8	+0.1
NCRB	**Newcastle Ridg**	**4.29**	**117**	Pn	Pn	16 55 35.5	-0.1
GDR	**Gold River**	**4.66**	**124**	Pn	Pn	16 55 40.3	-0.2
CBB	**Campbell River**	**4.86**	**118**	Pn	Pn	16 55 44.6	+1.3
CBB				Sg	Sg	16 57 00.5	-5.8
FSB	**Fort Saint Jam**	**4.98**	**64**	Pg	Pb	16 55 59.5	+2.1
FSB				Sg	Sb	16 57 03.5	+6.2
BTB	**Buttle Lake**	**5.12**	**124**	Pn	Pn	16 55 47.2	+0.2
TXB	**Texada**	**5.55**	**118**	Pn	Pn	16 55 50.9	-1.9
MGB	**Mount Grey**	**5.83**	**124**	Pn	Pn	16 55 57.3	+0.5
MGB				Sg	Sg	16 57 35.2	-2.3
SHB	**Sechelt**	**5.91**	**117**	Pn	Pn	16 55 57.0	-0.8
SHB				Sg	Sb	16 57 31.3	+7.2
DLBC	**Dease Lake**	**6.02**	**10**	Pn	Pn	16 56 01.7	+2.4
DLBC				Sg	Sb	16 57 34.9	+7.6
BESE	**Bessie Mountai**	**6.27**	**346**	Sg	Sg	16 57 44.8	-6.6
GOBB	**Galiano Island**	**6.48**	**120**	Sg	Sg	16 57 54.8	-3.2
LZB	**Mount Lazard**	**6.52**	**124**	Sg	Sg	16 57 55.9	-3.7
LLLB	**Lillooet**	**6.60**	**103**	Sg	Sg	16 57 60.0	-2.0
BMBC	**Bull Mountain**	**6.76**	**55**	Sg	Sg	16 57 59.3	-8.0
FNBB	**Fort Nelson**	**8.14**	**35**	Sg	Sg	16 58 48.6	-2.7
WHY	**Whitehorse**	**8.30**	**350**	Pn	Pn	16 56 31.9	+1.4
PNT	**Penticton**	**8.46**	**107**	Sg	Sg	16 58 57.0	-4.7

*DDA **25** 16:57:42.8, 38°.46N×43°.34E, h7km±1km, ML3.3*

*ISK **25** 16:57:42.1, 38°.47N×43°.28E, h6km, ML3.2/8*

ISC 25 16:57:42.8±1.0, 38.49N±0°.03×43.34E±0°.03, h6km±6km, n17, σ1°28/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.07**	**51**	*i* P	**Pg**	**16 57 45.1**	**+0.4**
TVAN				*i* S	**Sg**	**16 57 47.1**	**+1.1**
VANB	**Van**	**0.12**	**20**	PG	**Pg**	**16 57 44.8**	**-0.5**
VANB				SG	**Sg**	**16 57 46.6**	**-0.4**
GEVA	**Gevas**	**0.28**	**232**	*i* P	**Pg**	**16 57 48.6**	**+0.3**
GEVA				IAML_P			
	comp=Z,28µm,0.2s						
AKDM	**Akdamar-Van**	**0.32**	**241**	PG	**Pg**	**16 57 49.1**	**0.0**
AKDM				SG	**Sg**	**16 57 53.6**	**+0.2**
VMUR	**Van-Muradiye**	**0.53**	**20**	*i* P	**Pb**	**16 57 54.2**	**-0.5**
VMUR				*i* S	**Sn**	**16 58 04.6**	**-2.0**
VMUR				IAML_P			
	comp=Z,2µm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.58**	**304**	*i* P	**Pb**	**16 57 55.2**	**-0.3**
ADCV				*i* S	**Sb**	**16 58 04.4**	**+0.4**
ADCV				IAML_P			
	comp=Z,3µm,0.1s						
BASK	**Baskale_VAN**	**0.68**	**129**	*i* P	**Pb**	**16 57 56.7**	**-0.4**
BASK				*i* S	**Sn**

KRMR S Sn 16 59 36.5 -0.6
DALK Dalny 2.51 339 eP Pn 16 59 06.0 -0.6
DALK eS Sn 16 59 36.3 -0.9
DALK Dalny 2.51 339 PN Pn 16 59 06.0 -0.6
DALK S Sn 16 59 36.3 -0.9
PET Petropavlovsk 2.53 337 ePn Pn 16 59 06.0 -0.9
PET eSn Sn 16 59 35.5 -2.1
PET Petropavlovsk 2.53 337 eP Pn 16 59 06.5 -0.4
PET eS Sn 16 59 36.1 -1.5
PET Petropavlovsk 2.53 337⇑ *i*PN Pn 16 59 06.2 -0.7
PET eS Sn 16 59 35.7 -1.9
PET pmax pmax
comp=Z,199nm,0.5s
PET smax smax
comp=N,805nm,0.5s
PET smax smax
comp=E,708nm,0.6s
PET MLR MLR
comp=Z,700nm,15.0s
PET MLR MLR
comp=Z,1μm,13.0s
NLC Nalytchevo 2.53 347 eP Pn 16 59 06.5 -0.4
NLC eS Sn 16 59 36.3 -1.4
NLC Nalytchevo 2.53 347 PN Pn 16 59 06.5 -0.4
NLC S Sn 16 59 36.3 -1.4
SKR Severo-Kuril's 2.64 271 eP Pn 16 59 07.3 -1.2
SKR eS Sn 16 59 36.9 -3.5
SKR Severo-Kuril's 2.64 271 ePN Pn 16 59 07.6 -0.9
SKR eS Sn 16 59 37.4 -3.0
SKR pmax pmax
comp=Z,181nm,0.3s
SKR smax smax
comp=N,2μm,0.7s
SKR smax smax
comp=E,2μm,0.8s
UGLR Uglovaya 2.66 341 eP Pn 16 59 08.7 -0.1
UGLR Uglovaya 2.66 341 PN Pn 16 59 08.7 -0.1
SDLR Sedlovina 2.71 342 eP Pn 16 59 09.0 -0.6
SDLR Sedlovina 2.71 342 PN Pn 16 59 09.0 -0.6
SMAR Somma 2.71 341 eP Pn 16 59 09.7 0.0
SMAR Somma 2.71 341 PN Pn 16 59 09.7 0.0
AVH Avacha 2.73 340 eP Pn 16 59 10.2 +0.4
AVH Avacha 2.73 340 PN Pn 16 59 10.2 +0.4
KRER Koryakskii 2.77 341 eP Pn 16 59 10.8 +0.4
KRER Koryakskii 2.77 341 PN Pn 16 59 10.8 +0.4
KOK Koryaka 2.78 339 eP Pn 16 59 10.8 +0.4
KOK Koryaka 2.78 339 PN Pn 16 59 10.8 +0.4
KRX Arik 2.84 340 eP Pn 16 59 11.6 +0.3
KRX Arik 2.84 340 PN Pn 16 59 11.6 +0.3
PEA0B Petropavlovsk- 2.88 327 ePn Pn 16 59 11.9 +0.1
PEA0B Petropavlovsk- 2.88 327 ePN Pn 16 59 11.9 +0.1
PETK Petropavlovsk- 2.88 327 ePn Pn 16 59 11.6 -0.2
PETK Sn Sn 16 59 47.2 +0.8
PETK Petropavlovsk- 2.88 327 ePN Pn 16 59 11.6 -0.2
PETK 16 59 47.3
PETK Petropavlovsk- 2.88 327 Pn Pn 16 59 12.3 +0.5
comp=E,42nm,0.3s,baz=126,slow=18,SNR=275
PETK Sn Sn 16 59 47.2 +0.8
comp=E,22nm,0.3s,baz=93,slow=19,SNR=4.6
APC Apacha 2.94 320 eP Pn 16 59 12.6 0.0
APC Apacha 2.94 320 PN Pn 16 59 12.6 0.0
ALID Alaid 3.00 275 eP Pn 16 59 13.4 -0.2
ALID eS Sn 16 59 48.0 -1.5
ALID Alaid 3.00 275 PN Pn 16 59 13.4 -0.2
ALID S Sn 16 59 48.0 -1.5
MKZ Mys Kozlova 3.96 12 eP Pn 16 59 25.1 -1.4
MKZ eS Sn 17 00 09.1 -3.7
MKZ Mys Kozlova 3.96 12 PN Pn 16 59 25.1 -1.4
TUMD Tumrok D 4.50 1 eP Pn 16 59 33.9 -0.2
TUMD eS Sn 17 00 24.3 -2.1
TUMR Tumrok 4.58 359 PN Pn 16 59 33.9 -1.4
KBTR Krutoberegovo 5.71 14 eP Pn 16 59 50.6 -0.1
KBTR Krutoberegovo 5.71 14 PN Pn 16 59 50.6 -0.1
SMKR Semkarok 5.93 6 eP Pn 16 59 54.2 +0.5
SMKR Semkarok 5.93 6 PN Pn 16 59 54.2 +0.5
SRKR Sorokina 5.98 5 eP Pn 16 59 55.5 +1.1
SRKR Sorokina 5.98 5 PN Pn 16 59 55.5 +1.1
SMY Shemya 8.82 71 ePn Pn 17 00 31.8 -1.5
SMY Shemya 8.82 71 ePN Pn 17 00 31.8 -1.5
KUR Kuril'sk 9.96 241 ePN Pn 17 00 47.7 -1.1
MA2 Magadan 10.41 332 ePn Pn 17 00 55.0 +0.1
MA2 Magadan 10.41 332 *i* PN Pn 17 00 54.2 -0.8
MA2 Magadan 10.41 332 Pn Pn 17 00 55.2 +0.2
comp=E,0.5nm,0.3s,baz=122,slow=8.6,SNR=9.9
MA2 LR LR 17 05 22.1
comp=E,124nm,20.1s,baz=136,slow=40
SHO Shikotan 11.40 238 PN Pn 17 01 03.1 -5.5
YSS Yuzh-Sakhalins 12.14 259 ePn Pn 17 01 16.2 -2.4
YSS Yuzh-Sakhalins 12.14 259 ePN Pn 17 01 22.0 +3.4
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,100nm,16.0s
YSS MLR MLR
comp=N,100nm,14.0s
YSS MLR MLR
comp=E,100nm,13.0s
KMSK Kamenskaya 12.22 13 eP Pn 17 01 18.9 -0.9
KMSK Kamenskaya 12.22 13 PN Pn 17 01 18.9 -0.9
NKL Nikolayevsk 12.34 289 ePN Pn 17 01 23.2 +1.9
NKL MLR MLR
comp=Z,600nm,14.0s
SEY Seymchan 12.98 344 *ce*PN Pn 17 01 29.5 -0.6
SEY Seymchan 12.98 344 Pn Pn 17 01 31.3 +1.2
comp=Z,0.2nm,0.3s,baz=149,slow=14,SNR=24
ASAJ Asahikawa 13.65 248 Pn Pn 17 01 38.5 -0.8
comp=Z,0.2nm,0.3s,baz=219,slow=2.0,SNR=3.7
GRNR Gornyy 15.09 279 eP P 17 02 05.4 +1.2
BILL Bilibino 17.63 7 ePn Pn 17 02 31.2 -0.1
comp=Z,11nm,0.9s
BILL Bilibino 17.63 7 eP Pn 17 02 31.2 -0.1
BILL pmax pmax
comp=Z,11nm,0.9s
KLR Kul'dur 18.36 276 P P 17 02 40.8 +0.4
comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=12
KLR LR LR 17 10 04.5
comp=Z,37nm,19.4s,baz=78,slow=38
GAMB Gambell 19.81 38 eP Pn 17 02 57.4 -0.2
comp=Z,35nm,1.9s
YAK Yakutsk 20.16 316 eP P 17 02 57.8 -2.1
YAK eS S 17 06 41.0 -4.9
YAK eSS SnSn 17 07 25.7 +23
YAK pmax pmax
comp=Z,180nm,0.6s
YAK pmax pmax
comp=N,19nm,0.8s
YAK pmax pmax
comp=E,45nm,0.8s
YAK smax smax
comp=N,194nm,2.0s
YAK smax smax
comp=E,202nm,2.1s
ZEA Zeya 20.35 291 eP P 17 03 00.5 -1.6
ZEA pmax pmax
comp=Z,10.0nm,0.8s
VLA Vladivostok 20.73 260 *i* P P 17 03 06.3 0.0
VLA pmax pmax
comp=Z,13nm,1.5s
MJAR Matsushiro Arr 21.23 237 P P 17 03 10.7 -1.1
comp=Z,4.6nm,0.8s,baz=33,slow=8.3,SNR=10
MJB9 Matsu-Tunnel 21.23 237 eP P 17 03 14.2 +2.5
comp=Z,17nm,0.9s
MAJO Matsushiro 21.23 237 eP P 17 03 14.2 +2.4
comp=Z,17nm,0.9s
MAJO Matsushiro 21.23 237 *i* P P 17 03 12.3 +0.5
MAJO pmax pmax
comp=Z,11nm,0.9s
MAT Matsushiro 21.23 237 P P 17 03 11.0 -0.8
TIXI Tiksi 25.31 337 eP P 17 03 52.3 +0.3
comp=Z,42nm,0.6s
TIXI Tiksi 25.31 337⇑ eP P 17 03 52.4 +0.3
TIXI pmax pmax
comp=Z,34nm,0.6s
TIXI Tiksi 25.31 337 P P 17 03 52.4 +0.3
comp=Z,40nm,0.6s,baz=127,slow=9.8,SNR=112
HIA Hailar 25.88 283 eP P 17 03 56.5 -1.0
comp=Z,6.0nm,0.6s
HIA Hailar 25.88 283 eP P 17 03 56.5 -1.0
HIA pmax pmax
comp=Z,6.0nm,0.6s
KSRS Korea Array 26.51 253 P P 17 04 02.2 -1.0
comp=Z,1.8nm,1.0s,baz=32,slow=12,SNR=2.9
KSRS LR LR 17 14 36.1
comp=Z,18nm,18.8s,baz=65,slow=37
KSAR Wonju Array Be 26.54 253 P P 17 04 02.2 -1.3
KSAR Wonju Array Be 26.54 253 P P 17 04 02.2 -1.3
BOD Bodaibo 27.47 303 eP P 17 04 09.6 -2.1
BOD pmax pmax
comp=Z,7.0nm,1.6s
IM3 Indian Mountai 27.74 39 eP P 17 04 14.2 +0.1
KDAK Kodiak Island 27.94 57 LR LR 17 15 26.0
comp=Z,74nm,21.3s,baz=34,slow=36
TOLK Toolik Lake Re 29.84 34 eP P 17 04 33.2 +0.4
comp=Z,5.0nm,0.9s
COLA College 30.05 42 *i* P P 17 04 34.9 +0.3
COLA pmax pmax
comp=Z,4.0nm,1.1s
IL1 Eielson Array 30.46 42 eP P 17 04 37.8 -0.4
ILAR Eielson Array 30.46 42 P P 17 04 38.0 -0.3
ILAR Eielson Array 30.46 42 P P 17 04 38.0 -0.3
comp=Z,1.5nm,0.6s,baz=249,slow=7.6,SNR=32
ILB Eielson Array 30.46 42 eP P 17 04 37.7 -0.5
comp=Z,15nm,1.7s
FYU Fort Yukon 31.23 39 eP P 17 04 46.1 +1.1
comp=Z,14nm,0.8s
H11N2 WAKE ISLAND Hy 31.35 168 T T 17 37 42.4
baz=352,slow=76,SNR=5.9
H11N3 WAKE ISLAND Hy 31.37 168 T T 17 37 38.8
baz=352,slow=76,SNR=6.0
H11N1 WAKE ISLAND Hy 31.37 168 T T 17 37 42.9
baz=352,slow=76,SNR=5.8
EGAK Eagle 32.92 42 eP P 17 04 59.2 -0.6
comp=Z,6.1nm,0.8s
ULN Ulaanbaatar 34.21 286 *ce*P P 17 05 11.6 +0.2
ULN pmax pmax
comp=Z,2.0nm,1.7s
SONM Songino Array 34.62 287 LR LR 17 20 24.2
comp=Z,78nm,18.6s,baz=8.0,slow=38
EPYK Eagle Plains 34.65 39 eP P 17 05 15.6 +0.8
comp=Z,10nm,0.8s
HHC Hu-ho-hao-te 34.80 273 eP P 17 05 16.5 0.0
HHC S S 17 10 46.8 -0.1
HHC sS sS 17 10 54.3 +4.8
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.9s
HHC LR LR
comp=Z,170nm,12.7s
HHC LR LR
comp=Z,110nm,11.2s
HHC LR LR
comp=Z,150nm,12.3s
HYT Haines Junctio 35.11 49 eP P 17 05 20.1 +1.1
comp=Z,11nm,0.8s
NJ2 Nanjing 35.66 255 eP P 17 05 23.8 -0.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
INK Inuvik 35.72 36 eP P 17 05 24.3 +0.3
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 35.72 36 P P 17 05 24.4 +0.4
comp=Z,3.9nm,0.8s,baz=273,slow=9.5,SNR=17
GTA Gaotai 43.04 279 eP P 17 06 26.5 +0.9
GTA pP pwP 17 06 31.3 -3.8
GTA sP sP 17 06 34.0 +6.0
GTA pmax pmax
comp=Z,2.0nm,1.3s
ZALV Zalesovo Beam 44.20 305 *i* P P 17 06 33.0 -1.5
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 44.20 305 P P 17 06 32.1 -2.4
comp=Z,0.7nm,0.4s,baz=64,slow=8.1,SNR=3.8
ZALV LR LR 17 25 36.5
comp=Z,30nm,21.2s,baz=70,slow=37
NVS Novosibirsk 44.59 307 eP P 17 06 37.4 -0.3
YKW3 Yellowknife Ar 44.84 41 eP P 17 06 40.2 +0.7
comp=Z,3.4nm,0.9s
DGZ Jazzator, Alta 44.86 298 *i* P P 17 06 39.1 -1.0
DGZ pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 44.87 41 P P 17 06 40.5 +0.8
comp=Z,2.9nm,0.8s,baz=296,slow=8.0,SNR=40
YKB5 Yellowknife Ar 44.87 41 eP P 17 06 39.1 -0.6
RES Resolute Bay 45.50 21 P P 17 06 45.2 +0.5
comp=Z,1.1nm,0.7s,baz=306,slow=7.9,SNR=6.8
WMQ Urumqi 47.91 291 eP P 17 07 03.8 -0.2
WMQ pP pwP 17 07 11.3 -2.3
WMQ LR LR
comp=Z,88nm,15.7s
WMQ LR LR
comp=Z,75nm,18.7s
WMQ LR LR
comp=Z,92nm,19.5s
MK31 Makanchi Array 49.33 298 eP P 17 07 14.1 -0.7
comp=Z,3.3nm,0.5s
MK31 Makanchi Array 49.33 298 eP P 17 07 14.1 -0.7
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 49.33 298 P P 17 07 14.5 -0.3
comp=Z,3.2nm,0.5s,baz=56,slow=6.6,SNR=60
MKAR LR LR 17 28 41.0
comp=Z,53nm,18.6s,baz=22,slow=37
MK01 Makanchi Array 49.33 298 eP P 17 07 14.2 -0.6
MAKZ Makanchi 49.49 298 eP P 17 07 15.6 -0.5
comp=Z,2.9nm,0.6s
MAKZ Makanchi 49.49 298 eP P 17 07 15.6 -0.5
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
LTY Liberty 49.66 61 eP P 17 07 16.8 -0.6
comp=Z,9.3nm,1.3s
YBH Yreka Blue Hor 51.77 68 eP P 17 07 34.8 +1.3
comp=Z,4.9nm,1.0s
YBH Yreka Blue Hor 51.77 68 P P 17 07 34.3 +0.8
baz=260,slow=3.7
BRVK Borovoye 52.02 310 eP P 17 07 34.0 -1.0
comp=Z,6.5nm,0.6s
BRVK Borovoye 52.02 310 eP P 17 07 34.0 -1.0
BRVK pmax pmax
comp=Z,7.0nm,0.6s
K05A Summer Lake 52.23 66 eP P 17 07 38.2 +1.3
comp=Z,20nm,1.8s
DAG Danmarks Havn 52.79 360 *i* P P 17 07 46.1 +5.7
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 52.79 360 *i* P P 17 07 46.1 +5.7
DAG pmax pmax
comp=Z,1.0nm,0.7s
MOD Modoc Plateau 53.08 67 eP P 17 07 44.1 +0.9
comp=Z,8.2nm,1.0s
WVOR Wild Horse Val 53.72 65 eP P 17 07 48.6 +0.7
comp=Z,6.2nm,0.9s
WVOR Wild Horse Val 53.72 65 eP P 17 07 48.6 +0.7
WVOR pmax pmax
comp=Z,6.0nm,0.9s
OTUK Ortayu 53.89 304 P P 17 07 49.6 +0.7
OTUK pmax pmax
comp=Z,5.0nm,0.6s
BEKR Beckworth 54.33 69 eP P 17 07 53.0 +0.6
comp=Z,3.7nm,0.7s
PAHR Pah Rah Range 55.01 68 eP P 17 07 57.8 +0.5
comp=Z,5.8nm,0.9s
KDJ Kajisay 55.06 296 eP P 17 07 59.0 +1.2
comp=Z,4.3nm,0.8s
ARU Arti 55.24 319 eP P 17 07 57.9 -0.7
comp=Z,5.2nm,0.6s
ARU Arti 55.24 319 *c* iP P 17 07 58.4 -0.2
ARU 17 08 57.9
ARU 17 10 00.2
ARU S S 17 15 45.7 +4.1
ARU pmax pmax
comp=Z,4.0nm,0.6s
PNTR Pine Nut 55.28 69 eP P 17 08 00.1 +0.7
comp=Z,9.3nm,0.9s
HLID Hailey 55.40 62 eP P 17 08 00.7 +0.5
comp=Z,12nm,1.8s
HLID *ePcP* **PcP** 17 09 00.7 +0.3
YERR Yerington 55.56 69 eP P 17 08 02.3 +0.9
comp=Z,4.7nm,0.7s
ARCES ARCESS Array B 55.59 342 P P 17 08 00.8 -0.2
comp=Z,3.5nm,0.9s,baz=29,slow=7.6,SNR=2.8
BOZ Bozeman (W) 55.64 58 eP P 17 08 02.0 +0.2
comp=Z,5.6nm,0.6s
BOZ Bozeman (W) 55.64 58 eP P 17 08 02.0 +0.2
BOZ pmax pmax
comp=Z,6.0nm,0.6s
WAKR Walker 55.76 69 eP P 17 08 03.6 +0.8
comp=Z,5.2nm,0.6s
KVN Kaiserville 56.19 68 eP P 17 08 06.8 +0.9
comp=Z,4.7nm,0.8s
KVN Kaiserville 56.19 68 eP P 17 08 06.8 +0.9
KVN pmax pmax
comp=Z,5.0nm,0.8s
RYN Ryan 56.22 69 eP P 17 08 06.8 +0.7
comp=Z,3.3nm,0.9s
SUMG Summit 56.32 7 *i* P P 17 08 14.9 +8.4
comp=Z,14nm,0.7s
SUMG Summit 56.32 7 *i* P P 17 08 14.9 +8.4
SUMG pmax pmax
comp=Z,14nm,0.7s
YHB Horse Butte 56.41 59 eP P 17 08 08.0 +0.5
comp=Z,5.5nm,0.9s
NV01 Mina Array Sit 56.48 69 eP P 17 08 08.5 +0.5
NVAR Mina Array Bea 56.48 69 P P 17 08 08.8 +0.8
comp=Z,4.0nm,0.7s,baz=293,slow=7.5,SNR=26
NV11 Mina Array Sit 56.57 69 eP P 17 08 09.2 +0.7
comp=Z,0.4nm,1.1s
YHH Holmes Hill 56.58 59 eP P 17 08 09.1 +0.4
comp=Z,3.0nm,0.7s
ELK Elko 56.75 65 eP P 17 08 10.7 +0.8
comp=Z,3.6nm,1.0s
ELK Elko 56.75 65 eP P 17 08 10.7 +0.8
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 56.75 65 P P 17 08 10.7 +0.8
comp=Z,2.4nm,0.8s,baz=322,slow=8.7,SNR=12
ELK LR LR 17 32 41.9
comp=Z,33nm,18.5s,baz=319,slow=36
YFT Old Faithful 56.80 59 eP P 17 08 11.8 +1.6
comp=Z,5.5nm,0.8s
H17A Grant Village 56.98 59 eP P 17 08 13.6 +2.0
comp=Z,12nm,0.4s
IMW Indian Meadow 57.11 59 eP P 17 08 13.8 +1.3
comp=Z,4.6nm,0.8s
FLWY Flagg Ranch 57.12 59 eP P 17 08 13.9 +1.4
comp=Z,6.0nm,0.8s
FXWY Fox Creek 57.23 60 eP P 17 08 14.3 +1.0
comp=Z,5.5nm,0.9s
MOOW Moose Ponds 57.31 59 eP P 17 08 15.1 +1.3
comp=Z,10.0nm,2.0s
KSH Kashi 57.45 294 P P 17 08 20.5 +5.8
KSH S S 17 16 16.5 +4.9
KSH pmax pmax
comp=Z,14nm,0.6s
KSH pmax pmax
comp=Z,170nm,3.8s
REDW Red Top Meadow 57.51 60 eP P 17 08 16.6 +1.4
comp=Z,36nm,2.0s
CMAR Chiang Mai Arr 57.83 260 P P 17 08 18.5 +1.0
comp=Z,0.3nm,0.6s,baz=23,slow=7.2,SNR=3.4
CMAR LR LR 17 34 00.0
comp=Z,28nm,18.0s,baz=202,slow=37
R11A Troy Canyon, C 58.13 67 eP P 17 08 20.0 +0.4
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 58.51 64 eP P 17 08 23.1 +0.9
comp=Z,2.3nm,0.7s
DUG Dugway, Tooele 58.51 64 eP P 17 08 23.1 +0.9
DUG pmax pmax
comp=Z,2.0nm,0.7s
BW06 Boulder Array 58.61 60 eP P 17 08 23.5 +0.5
comp=Z,5.5nm,0.9s
PD31 Pinedale Array 58.61 60 eP P 17 08 23.5 +0.5
comp=Z,5.0nm,0.9s
PDAR Pinedale Array 58.61 60 eP P 17 08 23.4 +0.4
PDAR Pinedale Array 58.61 60 P P 17 08 23.6 +0.7
comp=Z,4.1nm,0.8s,baz=306,slow=3.2,SNR=37
TPNV Topopah Spring 58.68 69 eP P 17 08 24.1 +0.7
comp=Z,3.7nm,0.8s
TPNV Topopah Spring 58.68 69 eP P 17 08 24.1 +0.7
TPNV pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 59.08 331 eP P 17 08 23.5 -2.1
KLMR pmax pmax
comp=Z,18nm,1.6s
KLMR Klimovskoe 59.08 331 eP P 17 08 23.5 -2.1
KLMR AMP 17 08 29.7
comp=Z,18nm,1.6s
NLU North Lily Min 59.09 64 eP P 17 08 27.1 +0.8
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 59.44 312 eP P 17 08 28.7 +0.4
comp=Z,10nm,1.6s
CCUT Cedar City 59.97 66 eP P 17 08 33.1 +0.7
comp=Z,3.4nm,0.9s
BTK Batken 60.04 298 eP P 17 08 32.9 +0.2
comp=Z,10nm,1.1s
BTK Batken 60.04 298 eP P 17 08 32.9 +0.2
BTK pmax pmax
comp=Z,10.0nm,1.1s
MTPU Mount Pierson 60.32 65 eP P 17 08 36.0 +1.0
comp=Z,7.7nm,0.3s
ULM Lac du Bonnet 60.39 46 P P 17 08 35.0 +0.2
comp=Z,2.8nm,0.8s,baz=333,slow=8.5,SNR=5.4
LCMT Little Creek M 60.41 67 eP P 17 08 36.2 +0.9
comp=Z,4.1nm,0.8s
SRU San Rafael Swe 60.54 63 eP P 17 08 36.6 +0.3
comp=Z,5.8nm,0.8s
SRU San Rafael Swe 60.54 63 eP P 17 08 36.6 +0.3
SRU pmax pmax
comp=Z,6.0nm,0.8s
KNB Kanab 60.65 66 eP P 17 08 38.1 +1.1
comp=Z,3.8nm,0.9s
KNB Kanab 60.65 66 eP P 17 08 38.1 +1.1
KNB pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 60.66 55 eP P 17 08 37.5 +0.5
comp=Z,6.2nm,0.6s
RSSD Black Hills 60.66 55 eP P 17 08 37.5 +0.5
RSSD pmax pmax
comp=Z,6.0nm,0.6s
PMG Port Moresby 60.94 195 *ce*P P 17 08 40.5 +1.6
PMG pmax pmax
comp=Z,69nm,1.3s
GAR Garm 61.04 297 eP P 17 08 39.4 -0.2
comp=Z,29nm,1.3s
GAR Garm 61.04 297 eP P 17 08 39.4 -0.2
GAR pmax pmax
comp=Z,29nm,1.3s
CHGR Chuyangaron 61.94 297 eP P 17 08 45.4 -0.2
comp=Z,27nm,1.2s
FINES FINESS Array B 62.36 337 P P 17 08 48.8 +0.9
comp=Z,1.6nm,0.7s,baz=28,slow=8.6,SNR=5.5
FINES LR LR 17 39 43.8
comp=Z,62nm,19.2s,baz=9.5,slow=40
SMCO Snowmass 62.49 61 eP P 17 08 50.1 +0.4
comp=Z,9.9nm,1.5s
ISCO Idaho Springs 62.81 60 eP P 17 08 52.4 +0.7
comp=Z,3.7nm,0.8s
ISCO Idaho Springs 62.81 60 eP P 17 08 52.4 +0.7
ISCO pmax pmax
comp=Z,4.0nm,0.8s
X16A Lo Mia Camp, P 63.26 68 eP P 17 08 55.4 +0.8
comp=Z,2.2nm,0.8s
S22A 4UR Ranch, Cre 63.58 62 eP P 17 08 57.6 +0.8
comp=Z,3.9nm,1.0s
OBN Obninsk 64.59 328⇑ eP P 17 09 00.9 -1.9
OBN *PP **pwP** 17 09 14.0 +1.6
OBN 17 09 37.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,38nm,14.0s
VSU Vasula 64.76 335 *i* P P 17 09 03.5 -0.3
VSU pmax pmax
comp=Z,19nm,1.1s
ANMO Albuquerque 65.77 64 P P 17 09 11.6 +0.5
comp=Z,0.7nm,0.2s,baz=82,slow=14,SNR=3.1
NB2 NORSAR Subarra 65.87 344 P P 17 09 14.9 +3.9
comp=Z,2.2nm,0.8s,baz=22,slow=6.9
NOA NORSAR Array B 65.87 344 P P 17 09 10.7 -0.3
comp=Z,0.8nm,0.7s,baz=22,slow=6.6,SNR=2.9
NOA LR LR 17 40 45.2
comp=Z,13nm,20.7s,baz=10.0,slow=39
VSR Storozhevoye 66.83 324 *i* P P 17 09 16.1 -1.2
VSR pmax pmax
comp=Z,12nm,0.8s
GEYT Alibeck 68.49 304 P P 17 09 28.0 -0.1
comp=Z,2.4nm,0.7s,baz=69,slow=4.9,SNR=5.3
AKASG Malin Array Be 70.72 329 P P 17 09 40.7 -0.8
comp=Z,1.9nm,0.6s,baz=31,slow=6.3,SNR=7.9
AKASG LR LR 17 43 57.6
comp=Z,34nm,18.1s,baz=5.0,slow=39
KIEV Kiev 70.73 329 *i* P P 17 09 39.9 -1.7
KIEV pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 71.35 317 P P 17 09 46.0 +0.5
comp=Z,2.7nm,0.8s,baz=133,slow=4.7,SNR=7.3
TX31 Lajitas Ar. Si 71.48 66 eP P 17 09 46.4 -0.3
TXAR Lajitas Array 71.48 66 P P 17 09 46.8 +0.1

comp=Z,2.9nm,0.5s,baz=301,slow=5.0,SNR=40
CCM Cathedral Cave 71.66 52 *e*P **P 17 09 46.7 -0.7**
CCM Cathedral Cave 71.66 52 *e*P **P 17 09 46.7 -0.7**
WB2 Warramunga Arr 73.96 205 *e*P **P 17 09 59.0 -2.1**
WRA Warramunga Arr 73.97 205 P **P 17 09 59.9 -1.3**
comp=Z,7.3nm,0.7s,baz=18,slow=6.1,SNR=57
CLL Collm 74.63 339 *e*P **P 17 10 06.0 +1.3**
CLL Collm 74.63 339 *e*P **P 17 10 06.0 +1.3**
FITZ Fitzroy Crossi 74.97 214 *e*P **P 17 10 06.6 -0.4**
GERES GERESS Array B 76.77 338 LR LR 17 48 34.5
comp=Z,27nm,19.3s,baz=112,slow=39
AS01 Alice Springs 77.62 205 *e*P **P 17 10 21.2 -0.8**
AS31 Alice Springs 77.63 205 *e*P **P 17 10 21.4 -0.7**
comp=Z,1.4nm,0.6s
ASAR Alice Springs 77.63 205 P **P 17 10 21.6 -0.5**
comp=Z,4.4nm,0.7s,baz=14,slow=5.3,SNR=99
BRTR Keskin Array B 78.54 321 P **P 17 10 27.8 +0.6**
comp=Z,0.4nm,0.6s,baz=346,slow=2.2,SNR=2.6
PPT Papeete 80.96 132 LR LR 17 36 10.7
comp=Z,30nm,21.6s,baz=319,slow=28
STKA Stephens Creek 83.87 196 *e*P **P 17 10 54.4 -0.8**
comp=Z,1.6nm,1.0s
STKA Stephens Creek 83.87 196 *e*P **P 17 10 54.4 -0.8**
STKA pmax pmax
comp=Z,2.0nm,1.0s
STKA Stephens Creek 83.87 196 P **P 17 10 54.4 -0.8**
comp=Z,3.6nm,0.8s,baz=15,slow=3.9,SNR=7.3
ESDC Sonseca Array 88.94 348 P **P 17 11 20.0 -0.4**
comp=Z,0.3nm,0.4s,baz=1.6,slow=4.1,SNR=3.5

*DDA **25** 16:59:58.1,38˚.48N×43˚.27E, h7km±7km, ML2.7*
*ISK **25** 16:59:58.7,38˚.50N×43˚.32E, h5km±1km, ML2.9/5*
ISC 25 16:59:58.5±1.5, 38˚.54N±0˚.03×43˚.33E±0˚.03, h1km±13km, n14, σ1s98/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.08**	**39**	PG	**Pg**	**17 00 00.1**	**+0.1**
AKDM	**Akdamar-Van**	**0.34**	**233**	PG	**Pb**	**17 00 06.3**	**-1.2**
AKDM				SG	**Sb**	**17 00 11.9**	**-1.5**
VMUR	**Van-Muradiye**	**0.49**	**23**	*i* P	**Pg**	**17 00 09.3**	**+1.3**
VMUR				IAML_P			
	comp=Z,346nm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.55**	**300**	*i* P	**Pb**	**17 00 09.8**	**-1.1**
ADCV				*i* S	**Sn**	**17 00 22.7**	**-0.7**
ADCV				IAML_P			
	comp=Z,386nm,0.2s						
BASK	**Baskale_VAN**	**0.72**	**132**	*i* P	**Pg**	**17 00 11.6**	**-0.7**
BASK				*i* S	**Sn**	**17 00 26.8**	**-1.0**
BASK				IAML_P			
	comp=Z,1μm,0.2s						
CLDR	**Caldiran**	**0.76**	**37**	PG	**Pn**	**17 00 15.4**	**-1.2**
CLDR	**Caldiran**	**0.76**	**37**	*i* P	**Pb**	**17 00 14.7**	**0.0**
CLDR				*i* S	**Sn**	**17 00 30.8**	**+2.0**
MLAZ	**Malazgirt-MUS**	**0.86**	**315**	PG	**Pn**	**17 00 17.1**	**-0.7**
TUTA	**Tutak**	**0.95**	**335**	*i* P	**Pb**	**17 00 17.6**	**-0.4**
TUTA				IAML_P			
	comp=Z,753nm,0.1s						
BLIS	**Bitlis-Merkez**	**0.96**	**263**	*i* P	**Pg**	**17 00 15.8**	**-1.1**
BLIS				IAML_P			
	comp=Z,756nm,0.3s						
GURO	**Guroymak-BITLI**	**1.01**	**271**	PG	**Pn**	**17 00 19.2**	**-0.8**
GURO				SG	**Sn**	**17 00 33.6**	**-1.4**
AGRB	**Hanur-Agry**	**1.07**	**346**	PN	**Pn**	**17 00 21.3**	**+0.5**
YOVA	**Hakkari_Yksek**	**1.21**	**141**	*i* P	**Pg**	**17 00 23.0**	**+1.3**
YOVA				*i* S	**Sn**	**17 00 41.8**	**+1.9**
YOVA				IAML_P			
	comp=Z,2μm,0.2s						
SRTM	**Siirt_Merkez**	**1.23**	**244**	*i* P	**Pg**	**17 00 25.3**	**+3.2**
SRTM				*i* S	**Sn**	**17 00 46.0**	**+5.7**

*ISK **25** 17:02:17.9,42˚.07N×26˚.33E, h6km, ML3.1/17*
*SOF **25** 17:02:19.8,42˚.09N×26˚.31E, h6km, MD2.9*
ISC 25 17:02:19.2±1.0, 42˚.01N±0˚.02×26˚.41E±0˚.02, h14km±9km, n85, σ1s34/92, 10C-7D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDRB	**Edirne**	**0.30**	**123**	PG	**Pb**	**17 02 26.2**	**-0.2**
JMB	**Yambol**	**0.47**	**16**	PG	**Pg**	**17 02 28.5**	**-0.2**
JMB				SG	**Sg**	**17 02 35.0**	**0.0**
JMB	**Yambol**	**0.47**	**16**	*i* P	**Pg**	**17 02 28.4**	**-0.2**
JMB	**Yambol**	**0.47**	**16**	*i* P	**Pg**	**17 02 28.4**	**-0.2**
DIM	**Dimitrovgrad**	**0.65**	**274**	*i* P	**Pg**	**17 02 30.9**	**-1.1**
DIM	**Dimitrovgrad**	**0.65**	**274**	*i* P	**Pg**	**17 02 30.9**	**-1.1**
KDZ	**Kurdzhali**	**0.82**	**244**	P	**Pn**	**17 02 36.7**	**+0.3**
KDZ	**Kurdzhali**	**0.82**	**244**	P	**Pn**	**17 02 36.7**	**+0.3**
PHSR	**Pinarhisar**	**0.92**	**114**	⇑*i* P	**Pn**	**17 02 37.3**	**-0.4**
PHSR				S	**Sn**	**17 02 49.9**	**-0.8**
RDO	**Rodhopi**	**1.08**	**217**	PN	**Pg**	**17 02 40.3**	**+0.2**
RDO				SN	**Sn**	**17 02 55.6**	**+0.9**
ALN	**Alexandroupoli**	**1.15**	**194**	PN	**Pg**	**17 02 41.8**	**+0.5**
ALN				SN	**Sn**	**17 02 59.8**	**+3.5**
PLD	**Plovdiv**	**1.27**	**275**	PN	**Pg**	**17 02 42.3**	**-0.3**
PLD	**Plovdiv**	**1.27**	**275**	*i* P	**Pn**	**17 02 42.3**	**-0.3**
PLD	**Plovdiv**	**1.27**	**275**	*i* P	**Pn**	**17 02 42.3**	**-0.3**
ENEZ	**Enez**	**1.29**	**189**	PN	**Pg**	**17 02 44.6**	**+0.6**
ENEZ				SN	**Sg**	**17 03 04.2**	**+3.5**
ROIA	**ROIAK**	**1.30**	**33**	*i* P	**Pg**	**17 02 43.9**	**-0.3**
ROIA	**ROIAK**	**1.30**	**33**	*i* P	**Pg**	**17 02 43.9**	**-0.3**
RZN	**Rozhen**	**1.30**	**256**	P	**Pn**	**17 02 43.0**	**-0.2**
RZN	**Rozhen**	**1.30**	**256**	P	**Pn**	**17 02 43.0**	**-0.2**
SZH	**Strazhica**	**1.30**	**345**	P	**Pn**	**17 02 43.3**	**+0.3**
SZH	**Strazhica**	**1.30**	**345**	P	**Pn**	**17 02 43.3**	**+0.3**
ERIK	**Erikli-Kesan**	**1.34**	**177**	PN	**Pg**	**17 02 45.2**	**+0.2**
PRD	**Provadia**	**1.40**	**31**	*i* P	**Pb**	**17 02 44.9**	**-0.2**
PRD	**Provadia**	**1.40**	**31**	*i* P	**Pb**	**17 02 44.9**	**-0.2**
PVL	**Pavlikeni**	**1.44**	**327**	P	**Pn**	**17 02 45.0**	**+0.1**
PVL	**Pavlikeni**	**1.44**	**327**	P	**Pn**	**17 02 45.0**	**+0.1**
SLVT	**Silivri**	**1.56**	**119**	PN	**Pg**	**17 02 48.9**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.61**	**178**	PN	**Pb**	**17 02 48.9**	**+0.2**
LPK	**Lapseki**	**1.66**	**171**	PN	**Pg**	**17 02 50.3**	**+0.8**
MRMT	**Marmara Adasi**	**1.67**	**147**	PN	**Pb**	**17 02 50.1**	**+0.4**
KRBG	**Karabiga-Canak**	**1.75**	**157**	PN	**Pb**	**17 02 51.2**	**+0.1**
CTKS	**Kestanelik-??a**	**1.75**	**115**	PN	**Pb**	**17 02 51.7**	**+0.5**
ZIMR		**1.81**	**335**	⇑*i* P	**Pb**	**17 02 52.9**	**+0.7**
ZIMR		**1.81**	**335**	S	**Sg**	**17 03 17.8**	**+0.2**
BGKT	**Bogazkoy**	**1.96**	**114**	PN	**Pb**	**17 02 54.6**	**-0.1**
MMB	**Musomiste**	**2.05**	**259**	*i* P	**Pb**	**17 02 57.0**	**+0.8**
MMB	**Musomiste**	**2.05**	**259**	*i* P	**Pb**	**17 02 57.0**	**+0.8**
KLYT	**Kilyos**	**2.12**	**110**	PN	**Pb**	**17 02 56.9**	**-0.4**
KLYT	**Kilyos**	**2.12**	**110**	⇓*i* P	**Pn**	**17 02 54.7**	**+0.6**
KLYT	**Kilyos**	**2.12**	**110**	S	**Sb**	**17 03 23.4**	**0.0**
PSN	**Preselentsi**	**2.12**	**37**	PN	**Pn**	**17 02 54.6**	**+0.4**
PSN	**Preselentsi**	**2.12**	**37**	P	**Pn**	**17 02 54.8**	**+0.6**
PSN	**Preselentsi**	**2.12**	**37**	P	**Pn**	**17 02 54.8**	**+0.6**
EZN	**Ezine**	**2.18**	**182**	PN	**Pb**	**17 02 57.2**	**-1.3**
EZN	**Ezine**	**2.18**	**182**	⇑*i* P	**Pb**	**17 02 52.6**	**-2.5**
EZN	**Ezine**	**2.18**	**182**	S	**Sn**	**17 03 19.9**	**-2.0**
ISK	**Istanbul-Kandi**	**2.20**	**114**	PN	**Pb**	**17 02 58.4**	**-0.4**
KAVV	**Kandilli-Istan**	**2.21**	**115**	PN	**Pb**	**17 02 58.3**	**-0.6**
SGRR	**Singureni**	**2.23**	**352**	S	**Sg**	**17 03 30.3**	**-0.7**
RASA	**Rasa**	**2.27**	**14**	⇑*i* P	**Pb**	**17 03 00.5**	**+0.6**
RASA	**Rasa**	**2.27**	**14**	S	**Sg**	**17 03 32.2**	**0.0**
KCTX	**Karacabey (Bur**	**2.28**	**139**	PN	**Pb**	**17 02 59.4**	**-0.8**
ICOR	**Ion Corvin**	**2.34**	**25**	⇓*i* P	**Pb**	**17 03 00.3**	**-0.9**
ICOR	**Ion Corvin**	**2.34**	**25**	S	**Sg**	**17 03 33.0**	**-1.4**
BUY	**Buyukada**	**2.34**	**119**	PN	**Pb**	**17 02 59.9**	**-1.3**
ARMT	**Armutlu**	**2.35**	**127**	PN	**Pb**	**17 02 59.9**	**-1.4**
VTS	**Vitosha**	**2.44**	**285**	⇑*i* P	**Pn**	**17 02 59.7**	**+1.0**
VTS	**Vitosha**	**2.44**	**285**	S	**Sn**	**17 03 29.7**	**+1.2**
VTS	**Vitosha**	**2.44**	**285**	*i* P	**Pn**	**17 02 59.8**	**+1.0**
VTS	**Vitosha**	**2.44**	**285**	*i* P	**Pn**	**17 02 59.8**	**+1.0**
VLAD	**Vladila**	**2.47**	**324**	S	**Sb**	**17 03 33.8**	**+0.1**
KKB	**Krupnik**	**2.48**	**268**	*e*P	**Pb**	**17 03 02.5**	**-1.1**
KKB	**Krupnik**	**2.48**	**268**	*e*P	**Pb**	**17 03 02.5**	**-1.1**
SILT	**Sile**	**2.58**	**108**	S	**Sb**	**17 03 35.0**	**-1.6**
AMRR	**Amara**	**2.69**	**14**	⇑*i* P	**Pb**	**17 03 05.7**	**-1.3**
AMRR	**Amara**	**2.69**	**14**	S	**Sb**	**17 03 41.3**	**+1.5**
HUMR	**Humele**	**2.72**	**338**	⇑*i* P	**Pn**	**17 03 04.5**	**+2.0**
HUMR	**Humele**	**2.72**	**338**	S	**Sb**	**17 03 39.8**	**-1.1**
TLB	**Topalu**	**2.84**	**24**	⇑*i* P	**Pn**	**17 03 06.1**	**+2.0**
TLB	**Topalu**	**2.84**	**24**	S	**Sb**	**17 03 45.5**	**+1.3**
TIRR	**Tirgusor**	**2.85**	**30**	⇑*i* P	**Pn**	**17 03 06.4**	**+2.1**
TIRR	**Tirgusor**	**2.85**	**30**	S	**Sb**	**17 03 45.9**	**+1.3**
VAY	**Valandovo**	**2.96**	**258**	*e*Pn	**Pb**	**17 03 10.4**	**-1.2**
VAY				*i* Sn	**Sb**	**17 03 50.0**	**+2.4**
STIP	**Stip**	**3.17**	**266**	*e*Pn	**Pn**	**17 03 08.2**	**-0.4**
STIP				*e*Sn	**Sn**	**17 03 43.2**	**-3.0**
CFR	**Carcaliu**	**3.41**	**21**	S	**Sb**	**17 04 00.9**	**+0.3**
MLR	**Muntele Rosu**	**3.50**	**355**	⇑*i* P	**Pn**	**17 03 15.6**	**+2.3**
MLR	**Muntele Rosu**	**3.50**	**355**	S	**Sb**	**17 04 02.4**	**-0.9**
VOIR		**3.56**	**344**	⇓*i* P	**Pn**	**17 03 16.2**	**+2.0**
VOIR		**3.56**	**344**	S	**Sb**	**17 04 02.2**	**-3.0**
TLCR		**3.62**	**28**	⇓*i* P	**Pn**	**17 03 17.4**	**+2.5**
TLCR		**3.62**	**28**	S	**Sb**	**17 04 04.3**	**-2.5**
PLOR	**Plostina**	**3.84**	**3**	⇓*i* P	**Pn**	**17 03 20.8**	**+2.8**
VRI	**Vrincioaia**	**3.86**	**3**	⇓*i* P	**Pn**	**17 03 22.2**	**+4.0**
BZS	**Buzias**	**5.00**	**318**	⇓*i* P	**Pn**	**17 03 33.8**	**0.0**
BZS	**Buzias**	**5.00**	**318**	S	**Sn**	**17 04 30.5**	**-0.9**

MEX 25 17:06:49.8±0.6, 16˚.88N×95˚.26W, h113km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.42**	**60**	*e*P	Pn	17 07 05.6	-0.9
CMIG				*e*S	Sn	17 07 16.6	-2.4
HUIG	**Huatulco**	**1.37**	**216**	*e*P	Pn	17 07 13.7	-1.5
HUIG				*e*S	Sn	17 07 33.3	-1.3
VHO	**Vista Hermosa**	**1.42**	**278**	*e*P	Pn	17 07 15.0	-1.1
VHO				*e*S	Sn	17 07 34.6	-1.4

*ISCJB **25** 17:12:57.7±1.6,27˚.3S±0˚.3×67˚.1E±0˚.2, h10km, mb3.6/8, Error ellipse: s-maj=54.1km s-min=21.3km az=27.8*
*IDC **25** 17:12:57.8±1.6,27˚.26S×67˚.05E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/33, mbtmp3.7/8, Error ellipse: s-maj=58.4km s-min=22.8km az=30.0*
ISC 25 17:12:59.2±1.8, 27˚.3S±0˚.4×67˚.0E±0˚.2, h10km, n9, σ0s59/9, mb3.8/8, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**38.63**	**307**	P	**P**	**17 20 22.8**	**-0.6**
	0.6nm,0.4s,baz=110,slow=16,SNR=2.7						
CMAR	**Chiang Mai Arr**	**55.03**	**38**	P	**P**	**17 22 31.1**	**-0.1**
	0.7nm,0.8s,baz=230,slow=6.6,SNR=6.5						
ASAR	**Alice Springs**	**59.84**	**103**	P	**P**	**17 23 05.3**	**0.0**
	0.7nm,0.8s,baz=253,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**61.48**	**99**	P	**P**	**17 23 16.6**	**+0.1**
	0.8nm,0.8s,baz=248,slow=6.1,SNR=5.1						
BRTR	**Keskin Array B**	**73.59**	**334**	P	**P**	**17 24 33.4**	**+0.7**
	0.8nm,0.7s,baz=323,slow=1.9,SNR=4.0						
MKAR	**Makanchi Array**	**75.04**	**11**	P	**P**	**17 24 40.1**	**-0.7**
	0.1nm,0.4s,baz=181,slow=5.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**82.38**	**11**	P	**P**	**17 25 21.0**	**0.0**
	0.9nm,0.6s,baz=186,slow=4.9,SNR=5.4						
AKASG	**Malin Array Be**	**84.56**	**337**	P	**P**	**17 25 32.9**	**+0.7**
	0.1nm,0.4s,baz=168,slow=4.7,SNR=2.8						
YKA	**Yellowknife Ar**	**144.81**	**1**	PKP	**PKPdf**	**17 32 35.2**	**-0.5**
	0.1nm,0.6s,baz=342,slow=3.4,SNR=7.2						

*ISCJB **25** 17:14:53.7±0.6, 50˚.72N±0˚.04×160˚.28E±0˚.07, h10km, mb3.6/9, Error ellipse: s-maj=6.5km s-min=4.9km az=150.9*
*IDC **25** 17:14:53.4±0.8, 50˚.66N×160˚.22E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.6/48, mbtmp3.6/11, ML2.7/2, Error ellipse: s-maj=21.4km s-min=18.6km az=170.0*
*KRSC **25** 17:14:55.1±10.0, 50˚.72N×160˚.22E, h80km±10km, ML3.9*
ISC 25 17:14:54.8±0.8, 50˚.70N±0˚.06×160˚.22E±0˚.06, h10km, n35, σ1s21/48, mb3.8/9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.75**	**310**	*e*P	**Pn**	**17 15 24.8**	**-0.3**
KDTR				*e*S	**Sn**	**17 15 46.0**	**-1.5**
RUS	**Russkaya**	**2.04**	**329**	*e*P	**Pn**	**17 15 28.3**	**-0.8**
RUS				*e*S	**Sn**	**17 15 52.8**	**-1.9**
MTVR	**Mutnovka**	**2.20**	**325**	*e*P	**Pn**	**17 15 31.1**	**-0.3**
MTVR				*e*S	**Sn**	**17 15 57.3**	**-1.4**
ASAK	**Asacha**	**2.23**	**320**	*e*P	**Pn**	**17 15 31.9**	**+0.1**
ASAK				*e*S	**Sn**	**17 15 57.7**	**-1.7**
PAU	**Pauzhetka**	**2.29**	**291**	*e*P	**Pn**	**17 15 33.5**	**+1.0**
SPN	**Mys Shipunski**	**2.41**	**357**	*e*S	**Sn**	**17 16 00.8**	**-3.0**
KRMR	**Karymshinskiy**	**2.50**	**330**	*e*P	**Pn**	**17 15 35.5**	**0.0**
KRMR				*e*S	**Sn**	**17 16 05.1**	**-0.9**
DALK	**Dalny**	**2.51**	**339**	*e*P	**Pn**	**17 15 35.3**	**-0.3**
NLC	**Nalytchevo**	**2.54**	**348**	*e*S	**Sn**	**17 16 05.7**	**-1.2**
SKR	**Severo-Kuril's**	**2.61**	**271**	*e*P	**Pn**	**17 15 36.4**	**-0.6**
SKR				*e*S	**Sn**	**17 16 05.9**	**-2.8**
UGLR	**Uglovaya**	**2.66**	**342**	*e*P	**Pn**	**17 15 38.6**	**+0.8**
SDLR	**Sedlovina**	**2.72**	**343**	*e*P	**Pn**	**17 15 38.5**	**-0.1**
SDLR				*e*S	**Sn**	**17 16 10.4**	**-1.1**
SMAR	**Somma**	**2.72**	**342**	*e*P	**Pn**	**17 15 41.3**	**+2.6**
AVH	**Avacha**	**2.73**	**341**	*e*P	**Pn**	**17 15 39.9**	**+1.2**
AVH				*e*S	**Sn**	**17 16 12.7**	**+0.8**
KRER	**Koryakskii**	**2.77**	**341**	*e*P	**Pn**	**17 15 40.5**	**+1.2**
KRER				*e*S	**Sn**	**17 16 13.5**	**+0.6**
KOK	**Koryaka**	**2.78**	**340**	*e*P	**Pn**	**17 15 40.1**	**+0.7**
KRX	**Arik**	**2.84**	**341**	*e*P	**Pn**	**17 15 41.2**	**+0.9**
PETK	**Petropavlovsk-**	**2.88**	**328**	Pn	**Pn**	**17 15 41.3**	**+0.6**
	2.2nm,0.3s,baz=131,slow=18,SNR=33						
PETK				Sn	**Sn**	**17 16 15.7**	**+0.4**
	3.4nm,0.3s,baz=125,slow=24,SNR=13						
APC	**Apacha**	**2.93**	**321**	*e*P	**Pn**	**17 15 43.1**	**+1.7**
APC				*e*S	**Sn**	**17 16 18.1**	**+1.5**
ALID	**Alaid**	**2.97**	**275**	*e*P	**Pn**	**17 15 42.3**	**+0.2**
MKZ	**Mys Kozlova**	**3.98**	**13**	*e*P	**Pn**	**17 15 54.5**	**-1.2**
KZV	**Kizimen**	**4.43**	**1**	*e*P	**Pn**	**17 16 02.5**	**+0.4**
KZV				*e*S	**Sn**	**17 16 52.4**	**-1.3**
TUMD	**Tumrok D**	**4.52**	**1**	*e*P	**Pn**	**17 16 03.1**	**-0.1**
TUMD				*e*S	**Sn**	**17 16 52.8**	**-3.0**
TUMR	**Tumrok**	**4.60**	**359**	*e*P	**Pn**	**17 16 05.3**	**+0.9**
KBTR	**Krutoberegovo**	**5.74**	**15**	*e*P	**Pn**	**17 16 19.8**	**-0.1**
KLR	**Kul'dur**	**18.33**	**276**	P	**Pn**	**17 19 08.3**	**-0.7**
	0.1nm,0.3s,baz=61,slow=10,SNR=2.8						
TIXI	**Tiksi**	**25.31**	**337**	P	**P**	**17 20 21.4**	**+0.3**
	3.4nm,0.6s,baz=125,slow=12,SNR=17						
ILAR	**Eielson Array**	**30.50**	**42**	P	**P**	**17 21 07.3**	**-0.2**
	0.3nm,0.9s,baz=255,slow=7.9,SNR=4.2						
YKA	**Yellowknife Ar**	**44.90**	**41**	P	**P**	**17 23 09.3**	**+0.3**
	0.5nm,0.8s,baz=295,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**49.30**	**298**	P	**P**	**17 23 44.3**	**+0.6**
	0.3nm,0.5s,baz=58,slow=7.6,SNR=9.0						
YBH	**Yreka Blue Hor**	**51.81**	**68**	P	**P**	**17 24 03.1**	**+0.4**
	1.0nm,0.8s,baz=168,slow=9.3,SNR=2.8						
PDAR	**Pinedale Array**	**58.65**	**60**	P	**P**	**17 24 52.5**	**+0.3**
	0.2nm,0.3s,baz=339,slow=4.8,SNR=2.6						
TXAR	**Lajitas Array**	**71.52**	**66**	P	**P**	**17 26 16.3**	**+0.4**
	0.6nm,0.7s,baz=283,slow=4.2,SNR=6.1						
WRA	**Warramunga Arr**	**73.94**	**205**	P	**P**	**17 26 29.4**	**-0.6**
	0.9nm,0.8s,baz=35,slow=8.0,SNR=4.7						
ASAR	**Alice Springs**	**77.60**	**205**	P	**P**	**17 26 51.5**	**+0.5**
	0.8nm,0.9s,baz=18,slow=5.1,SNR=5.6						

MEX 25 17:15:16.3±0.5, 18˚.07N×101˚.64W, h8km±16km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.49**	**160**	*e*P	Pg	17 15 25.2	-0.5
ZIIG				*e*S	Sg	17 15 32.6	+0.5
ARIG	**Puente Sto Nin**	**1.25**	**80**	*e*P	Pn	17 15 36.1	-4.0
ARIG				*i* S	Sb	17 15 51.7	-4.7
CAIG	**El Cayaco**	**1.66**	**128**	*e*P	Pn	17 15 42.1	-3.6
CAIG				*e*S	Sn	17 16 02.1	-5.0
MEIG	**Mezcala**	**1.93**	**94**	*i* P	Pn	17 15 45.9	-3.6
MEIG				*i* S	Sn	17 16 09.6	-4.4
PLIG	**Platanillo**	**2.06**	**81**	*e*P	Pn	17 15 48.5	-2.7
PLIG				*e*S	Sn	17 16 12.7	-4.5
TLIG	**Tlapa**	**2.97**	**99**	*i* P	Pn	17 16 03.1	-0.8
TLIG				*i* S	Sn	17 16 35.6	-4.2

DJA 25 17:21:41.8±0.7, 2˚.N±4˚.×9˚.9E±˚, h27km±7km, M3.9/6, MLv3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.12**	**172**	P	Pn	17 22 01.6	-0.1
GSI	**Gunungsitoli**	**1.94**	**252**	P	Pn	17 22 12.4	-0.6
GSI				S	Sn	17 22 37.3	+0.8
PBSI	**Pulau Batu**	**2.26**	**210**	P	Pn	17 22 17.3	-0.1
PBSI				S	Sn	17 22 44.4	0.0
TPTI		**2.61**	**301**	P	Pb	17 22 25.8	-2.1

*ISCJB **25** 17:33:17.5±0.6, 50˚.63N±0˚.04×160˚.14E±0˚.06, h10km, mb3.5/6, MS2.7/1, Error ellipse: s-maj=5.8km s-min=5.7km az=153.1*
*IDC **25** 17:33:17.2±0.9, 50˚.54N×160˚.09E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.4/57, mbtmp3.5/7, ML2.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/47, Error ellipse: s-maj=27.4km s-min=22.0km az=98.0*
*KRSC **25** 17:33:17.8±10.0, 50˚.61N×160˚.24E, h65km±10km, ML3.9*
ISC 25 17:33:18.8±1.0, 50˚.64N±0˚.07×160˚.14E±0˚.07, h10km, n31, σ0s88/42, mb3.6/6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.75**	**313**	*e*P	**Pn**	**17 33 48.6**	**-0.5**
KDTR				*e*S	**Sn**	**17 34 10.3**	**-1.1**
RUS	**Russkaya**	**2.07**	**331**	*e*P	**Pn**	**17 33 52.7**	**-0.8**
RUS				*e*S	**Sn**	**17 34 18.2**	**-1.1**
MTVR	**Mutnovka**	**2.22**	**327**	*e*P	**Pn**	**17 33 55.3**	**-0.4**
MTVR				*e*S	**Sn**	**17 34 23.2**	**0.0**
ASAK	**Asacha**	**2.24**	**322**	*e*P	**Pn**	**17 33 55.9**	**-0.1**
ASAK				*e*S	**Sn**	**17 34 23.7**	**0.0**
PAU	**Pauzhetka**	**2.26**	**293**	*e*P	**Pn**	**17 33 56.6**	**+0.5**
PAU				*e*S	**Sn**	**17 34 23.5**	**-0.5**
SPN	**Mys Shipunski**	**2.47**	**358**	*e*P	**Pn**	**17 33 57.9**	**-1.1**
SPN				*e*S	**Sn**	**17 34 26.6**	**-2.6**
KRMR	**Karymshinskiy**	**2.53**	**331**	*e*P	**Pn**	**17 33 59.6**	**-0.2**
KRMR				*e*S	**Sn**	**17 34 29.8**	**-0.8**
DALK	**Dalny**	**2.55**	**341**	*e*P	**Pn**	**17 33 59.7**	**-0.4**
DALK				*e*S	**Sn**	**17 34 29.7**	**-1.4**
SKR	**Severo-Kuril's**	**2.56**	**273**	*e*P	**Pn**	**17 33 59.9**	**-0.3**
SKR				*e*S	**Sn**	**17 34 29.1**	**-2.3**
PET	**Petropavlovsk**	**2.56**	**340**	*e*P	**Pn**	**17 34 00.1**	**-0.2**
NLC	**Nalytchevo**	**2.59**	**349**	*e*S	**Sn**	**17 34 33.3**	**+1.2**
UGLR	**Uglovaya**	**2.70**	**343**	*e*P	**Pn**	**17 34 02.3**	**-0.1**
SDLR	**Sedlovina**	**2.76**	**344**	*e*P	**Pn**	**17 34 03.0**	**-0.1**
SMAR	**Somma**	**2.76**	**343**	*e*P	**Pn**	**17 34 03.9**	**+0.7**
AVH	**Avacha**	**2.77**	**342**	*e*P	**Pn**	**17 34 03.5**	**+0.2**
KRER	**Koryakskii**	**2.81**	**343**	*e*P	**Pn**	**17 34 04.9**	**+1.0**
KOK	**Koryaka**	**2.82**	**341**	*e*P	**Pn**	**17 34 04.1**	**+0.2**
KRX	**Arik**	**2.88**	**342**	*e*P	**Pn**	**17 34 04.7**	**-0.1**
PETK	**Petropavlovsk-**	**2.90**	**330**	Pn	**Pn**	**17 34 05.7**	**+0.7**
	2.5nm,0.3s,baz=135,slow=17,SNR=79						
PETK				Sn	**Sn**	**17 34 39.4**	**-0.5**
	2.1nm,0.3s,baz=76,slow=26,SNR=5.5						
ALID	**Alaid**	**2.92**	**276**	*e*P	**Pn**	**17 34 05.8**	**+0.4**
ALID				*e*S	**Sn**	**17 34 39.8**	**-0.8**
APC	**Apacha**	**2.95**	**322**	*e*P	**Pn**	**17 34 06.3**	**+1.2**
APC				*e*S	**Sn**	**17 34 41.3**	**+0.4**
MKZ	**Mys Kozlova**	**4.05**	**13**	*e*P	Pn	17 34 19.2	-1.5
TUMD	**Tumrok D**	**4.58**	**2**	*e*P	**Pn**	**17 34 27.8**	**-0.2**
TUMR	**Tumrok**	**4.66**	**0**	*e*P	**Pn**	**17 34 30.0**	**+0.8**
KBTR	**Krutoberegovo**	**5.81**	**15**	*e*P	**Pn**	**17 34 44.1**	**-0.8**
TIXI	**Tiksi**	**25.35**	**337**	P	**P**	**17 38 45.7**	**+0.3**
	2.3nm,0.6s,baz=122,slow=11,SNR

MZDA	**Masada**	**7.44**	**121**	Pn	**Pn**	**17 55 57.9**	**+1.2**
PRNI	**Paran**	**7.80**	**128**	Pn	**Pn**	**17 56 03.0**	**+1.4**
MBRI	**Mt Berech**	**8.12**	**131**	Pn	**Pn**	**17 56 07.0**	**+0.9**
MBRI				Sn	**Sn**	**17 57 36.7**	**-0.7**
EIL	**Elat**	**8.23**	**132**	Pn	**Pn**	**17 56 08.8**	**+1.2**
EIL				Sn	**Sn**	**17 57 38.2**	**-1.8**

IDC 25 18:20:40.5±3.1, 2.85N×95.94E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/44, mbtmp3.5/6, Error ellipse: s-maj=132.1km s-min=20.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**25.61**	**246**	T	T	18 52 20.8	
	baz=66,slow=76,SNR=90						
H08S3	**Diego Garcia H**	**25.61**	**246**	T	T	18 52 20.9	
	baz=66,slow=76,SNR=72						
H08S1	**Diego Garcia H**	**25.63**	**246**	T	T	18 52 22.1	
	baz=66,slow=76,SNR=39						
H01W3	**Cape Leeuwin H**	**41.24**	**157**	T	T	19 12 03.4	
	baz=332,slow=76,SNR=9.8						
H01W2	**Cape Leeuwin H**	**41.26**	**157**	T	T	19 12 04.7	
	baz=332,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**41.26**	**157**	T	T	19 12 04.7	
	baz=332,slow=76,SNR=8.0						
WRA	**Warramunga Arr**	**43.98**	**123**	P	P	18 28 49.7	-0.2
	0.2nm,0.4s,baz=300,slow=9.3,SNR=3.9						
MKAR	**Makanchi Array**	**45.35**	**347**	P	P	18 29 00.3	-0.2
	0.9nm,0.5s,baz=155,slow=9.2,SNR=19						
ASAR	**Alice Springs**	**45.39**	**128**	P	P	18 29 01.2	0.0
	0.2nm,0.6s,baz=304,slow=8.0,SNR=3.7						
SONM	**Songino Array**	**45.71**	**10**	P	P	18 29 03.5	0.0
	0.8nm,0.7s,baz=180,slow=5.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**49.82**	**346**	P	P	18 29 35.0	-0.2
	0.4nm,0.6s,baz=160,slow=7.0,SNR=8.1						
ZALV	**Zalesovo Beam**	**51.75**	**352**	P	P	18 29 49.6	0.0
	0.5nm,0.4s,baz=152,slow=6.5,SNR=3.6						

MEX 25 18:25:40.7±0.5, 17.23N×99.91W, h48km±8km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.39**	**242**	*e*P	Pn	18 25 48.8	-1.7
CAIG				*e*S	Sn	18 25 55.9	-1.6
MEIG	**Mezcala**	**0.74**	**22**	*e*P	Pn	18 25 53.0	-2.0
MEIG				*e*S	Sn	18 26 03.3	-2.2
ARIG	**Puente Sto Nin**	**1.12**	**338**	*e*P	Pn	18 25 58.6	-1.5
ARIG				*e*S	Sn	18 26 12.5	-2.0
PLIG	**Platanillo**	**1.22**	**19**	*e*P	Pn	18 25 59.8	-1.6
PLIG				*e*S	Sn	18 26 14.9	-2.0
TLIG	**Tlapa**	**1.33**	**75**	*i* P	Pn	18 26 01.7	-1.3
TLIG				*i* S	Sn	18 26 17.5	-2.1

*IDC **25** 18:33:15.1±1.7, 5.62S×123.60E, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/48, mbtmp3.7/3, ML3.2/1, Error ellipse: s-maj=213.0km s-min=27.7km az=59.0*
*ISCJB **25** 18:33:16.8±0.9, 6.08S±0.08×122.15E±0.1, h10km, mb3.7/1, Error ellipse: s-maj=16.1km s-min=10.9km az=166.5*
*DJA **25** 18:33:19.1±0.3, 6.3S×12.2E±, h10km, M3.5/8, MLv3.5/8*
ISC 25 18:33:18.0±1.0, 6.14S±0.07×122.43E±0.08, h10km, n10, σ1§75/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBSI	**Bau Bau**	**0.66**	**12**	P	**Pb**	**18 33 29.7**	**-2.0**
BSSI	**Bau Bau, Buton**	**1.93**	**270**	P	**Pn**	**18 33 51.5**	**+0.6**
KDI	**Kendari**	**2.17**	**5**	P	**Pg**	**18 34 02.3**	**+2.5**
BKSI	**Bulukumba**	**2.44**	**289**	P	**Pn**	**18 33 58.0**	**+0.1**
EDFI	**Ende, Flores**	**2.70**	**196**	P	**Pn**	**18 34 02.3**	**+0.7**
BNSI	**Bone**	**2.89**	**307**	P	**Pb**	**18 34 09.1**	**-0.6**
SOEI	**Soe**	**4.03**	**153**	P	**Pn**	**18 34 21.4**	**+1.4**
WRA	**Warramunga Arr**	**17.95**	**141**	P	Pn	18 37 21.4	-6.5
	0.1nm,0.3s,baz=317,slow=13,SNR=19						
ASAR	**Alice Springs**	**20.63**	**149**	P	**P**	**18 37 55.8**	**-2.1**
	1.2nm,0.9s,baz=327,slow=12,SNR=10						
MKAR	**Makanchi Array**	**63.57**	**330**	P	**P**	**18 43 48.4**	**-0.5**
	0.5nm,0.6s,baz=128,slow=7.9,SNR=5.1						

*IDC **25** 18:33:28.8±1.2, 13.74N×121.08E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.3/49, mbtmp3.5/6, Error ellipse: s-maj=140.0km s-min=18.8km az=66.0*
*ISCJB **25** 18:33:44.7±0.6, 13.64N±0.06×120.71E±0.08, h150km, mb3.3/6, Error ellipse: s-maj=11.2km s-min=8.3km az=179.9*
*MAN **25** 18:33:47.3, 13.69N×120.61E, h116km, MS2.4*
ISC 25 18:33:45.6±0.9, 13.62N±0.07×120.75E±0.10, h150km, n12, σ1§00/16, mb3.4/6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.23**	**121**	*e*P	**Pn**	**18 34 05.2**	**-0.9**
PGP				*e*S	**Sn**	**18 34 19.4**	**-2.2**
BOAC	**Boac**	**1.08**	**99**	*e*P	**Pn**	**18 34 12.1**	**+1.0**
BOAC				*e*S	**Sn**	**18 34 31.1**	**+0.6**
SJMP	**San Jose**	**1.21**	**162**	*e*P	**Pn**	**18 34 12.8**	**+0.4**
SJMP				*e*S	**Sn**	**18 34 32.2**	**-0.5**
POLP	**Polillo Island**	**1.59**	**46**	*e*P	**Pn**	**18 34 17.0**	**+0.8**
BUSP	**Coron**	**1.70**	**198**	*e*P	**Pn**	**18 34 17.7**	**+0.3**
BUSP				*e*S	**Sn**	**18 34 41.3**	**-0.3**
ENPP	**El Nido**	**2.73**	**208**	*e*P	**Pn**	**18 34 31.0**	**+1.4**
WRA	**Warramunga Arr**	**35.94**	**158**	P	**P**	**18 40 30.5**	**-1.4**
	0.2nm,0.6s,baz=341,slow=9.1,SNR=2.5						
SONM	**Songino Array**	**36.14**	**344**	P	**P**	**18 40 33.7**	**+0.2**
	0.4nm,0.5s,baz=159,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**39.23**	**161**	P	**P**	**18 40 59.9**	**+0.3**
	0.2nm,0.7s,baz=334,slow=7.5,SNR=4.4						
MKAR	**Makanchi Array**	**46.12**	**324**	P	**P**	**18 41 55.6**	**+0.7**
	0.2nm,0.3s,baz=113,slow=8.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**49.15**	**333**	P	**P**	**18 42 17.7**	**-0.3**
	0.6nm,0.4s,baz=116,slow=6.0,SNR=4.5						
KURBB	**Kurchatov Arra**	**50.28**	**326**	P	**P**	**18 42 27.1**	**+0.4**
	0.5nm,0.3s,baz=131,slow=7.6,SNR=7.1						

*IDC **25** 18:34:46.5±0.8, 30.27N×67.38E, h0km, mb3.7/17, mb1 3.9/18, mb1mx3.7/52, mbtmp3.7/18, ML3.6/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/45, Error ellipse: s-maj=19.3km s-min=16.6km az=46.0*
*ISCJB **25** 18:34:48.0±0.5, 30.37N±0.05×67.75E±0.04, h14km, mb3.6/16, MS3.0/3, Error ellipse: s-maj=7.5km s-min=4.8km az=26.8*
ISC 25 18:34:48.9±0.6, 30.34N±0.07×67.58E±0.06, h14km, n41, σ1§70/47, mb3.6/16, MS3.0/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BHJ	**Bhuj**	**7.29**	**165**	*e*P	**Pn**	**18 36 37.2**	**+2.2**
BHJ				*e*S	**Sn**	**18 37 57.5**	**-0.1**
BHJ				IAML		18 38 06.9	
	comp=E,52nm,0.6s						
BHJ				IAML		18 38 08.9	
	comp=N,34nm,0.3s						
KHET	**Khetri**	**7.54**	**105**	*e*P	**Pn**	**18 36 39.6**	**+1.2**
KHET				*e*S	**Sn**	**18 38 02.8**	**-0.9**
KHET				IAML		18 38 04.5	
	comp=N,21nm,0.6s						
KHET				IAML		18 38 04.8	
	comp=E,17nm,0.7s						
DHRM	**DHARAMSHALA**	**7.71**	**73**	*e*P	**Pn**	**18 36 38.4**	**-2.5**
DHRM				*e*S	**Sn**	**18 38 05.6**	**-2.5**
DHRM				IAML		18 38 31.9	
	comp=E,47nm,1.2s						
DHRM				IAML		18 38 32.5	
KUDL	**Kundal**	**8.09**	**103**	*e*P	**Pn**	**18 36 48.2**	**+2.3**
KUDL				*e*S	**Sn**	**18 38 14.7**	**-2.5**
SMLA	**Simla**	**8.29**	**82**	*e*P	**Pn**	**18 36 51.0**	**+2.3**
SMLA				*e*S	**Sn**	**18 38 21.2**	**-1.0**
SMLA				IAML		18 38 25.6	
	comp=E,55nm,0.3s						
SMLA				IAML		18 38 26.6	
	comp=N,56nm,0.4s						
SONA	**Sohna**	**8.56**	**102**	*e*S	**Sn**	**18 38 25.3**	**-3.4**
DDI	**Dehra Dun**	**9.06**	**87**	*e*S	**Sn**	**18 38 39.7**	**-1.4**
JOSI	**Joshimath**	**10.35**	**86**	*e*P	**Pn**	**18 37 18.7**	**+1.7**
JOSI				*e*S	**Sn**	**18 39 08.9**	**-4.1**
WSAR	**Wadi Sarin**	**10.66**	**231**	Pn	**Pn**	**18 37 18.9**	**-2.4**
	comp=N,0.4nm,0.3s,baz=95,slow=8.3,SNR=9.3						
WSAR				Sn	Sn	18 39 05.3	-15
	comp=N,0.3nm,0.3s,baz=124,slow=18,SNR=2.8						
BHPL	**Bhopal**	**11.28**	**126**	*e*P	**Pn**	**18 37 31.4**	**+1.7**
BHPL				*e*S	**Sn**	**18 39 32.2**	**-3.4**
PYUN	**Piuthan**	**13.65**	**96**	*e*P	**Pn**	**18 38 01.0**	**-1.2**
	comp=N,22nm,0.6s						
KOLN	**Koldanda**	**14.25**	**96**	*e*P	**Pn**	**18 38 09.4**	**-1.1**
	comp=N,11nm,0.4s						
DANN	**Dangsing**	**14.26**	**94**	*e*P	**Pn**	**18 38 09.1**	**-1.5**
	comp=N,33nm,0.6s						
DMN	**Daman**	**15.58**	**96**	*e*P	**Pn**	**18 38 27.2**	**-1.2**
KKN	**Kakani**	**15.69**	**95**	*e*P	**Pn**	**18 38 28.2**	**-1.6**
	comp=N,9.6nm,0.6s						
PKIN	**Phulchoki**	**15.84**	**96**	*e*P	**Pn**	**18 38 30.4**	**-1.4**
	comp=N,4.5nm,0.3s						
PKI	**Pulchoki**	**15.85**	**96**	*e*P	**Pn**	**18 38 31.0**	**-1.0**
	comp=N,7.5nm,0.4s						
GUN	**Gumba**	**16.18**	**94**	*e*P	**Pn**	**18 38 34.4**	**-1.8**
	comp=N,41nm,0.6s						
JIRN	**Jiri**	**16.50**	**95**	*e*P	**Pn**	**18 38 39.1**	**-1.3**
	comp=N,30nm,0.5s						
RAMN	**Ramite**	**17.04**	**97**	*e*P	**Pn**	**18 38 47.6**	**+0.6**
	comp=N,20nm,0.6s						
ODAN	**Odare**	**17.74**	**96**	*e*P	**P**	**18 38 58.1**	**+1.5**
	comp=N,24nm,0.8s						
TAPN	**Taplejung**	**17.89**	**95**	*e*P	**P**	**18 38 59.9**	**+1.6**
	comp=N,14nm,0.7s						
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**18 39 21.1**	**0.0**
	comp=N,1.1nm,0.5s,baz=207,slow=10,SNR=31						
AKTO	**Aktyubinsk**	**21.32**	**343**	P	**P**	**18 39 35.4**	**+0.2**
	comp=N,2.1nm,0.7s,baz=168,slow=11,SNR=8.6						
KURBB	**Kurchatov Arra**	**21.86**	**19**	P	**P**	**18 39 40.9**	**-0.1**
	comp=N,1.2nm,0.7s,baz=210,slow=9.2,SNR=11						
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**18 39 51.3**	**+0.6**
	comp=N,0.6nm,0.4s,baz=175,slow=8.5,SNR=8.5						
BVAR				LR	LR	18 50 04.8	
	comp=N,64nm,21.9s,baz=206,slow=40						
KBZ	**Khabaz**	**23.70**	**311**	P	**P**	**18 40 01.0**	**+0.8**
	comp=N,1.4nm,0.8s,baz=130,slow=6.8,SNR=4.3						
PALK	**Pallekele**	**26.04**	**149**	LR	LR	18 52 22.5	
	comp=N,54nm,18.6s,baz=116,slow=40						
ZALV	**Zalesovo Beam**	**26.69**	**23**	P	**P**	**18 40 28.8**	**+1.4**
	comp=N,1.7nm,0.4s,baz=222,slow=12,SNR=12						
EIL	**Elat**	**28.21**	**277**	LR	LR	18 53 02.5	
	comp=N,31nm,19.8s,baz=66,slow=39						
CMAR	**Chiang Mai Arr**	**30.81**	**105**	P	**P**	**18 41 05.8**	**+1.4**
	comp=N,0.3nm,0.6s,baz=308,slow=10,SNR=4.2						
CMAR				PcP	**PcP**	**18 44 02.7**	**+1.1**
	comp=N,0.3nm,0.5s,baz=290,slow=5.2,SNR=4.4						
AKASG	**Malin Array Be**	**35.02**	**317**	P	**P**	**18 41 40.0**	**-0.8**
	comp=N,0.1nm,0.3s,baz=99,slow=7.4,SNR=4.3						
FINES	**FINESS Array B**	**41.25**	**331**	P	**P**	**18 42 32.9**	**-0.3**
	comp=N,0.4nm,0.4s,baz=117,slow=6.6,SNR=3.7						
ARCES	**ARCESS Array B**	**45.88**	**341**	P	**P**	**18 43 10.3**	**-0.2**
	comp=N,0.9nm,0.5s,baz=129,slow=8.0,SNR=15						
KLR	**Kul'dur**	**51.22**	**49**	P	**P**	**18 43 52.5**	**+0.7**
	comp=N,0.4nm,0.4s,baz=257,slow=11,SNR=4.2						
TORD	**Torodi Ar. Bea**	**62.76**	**270**	P	**P**	**18 45 11.6**	**-2.5**
	comp=N,1.5nm,0.7s,baz=47,slow=7.2,SNR=13						
INK	**Inuvik**	**80.41**	**8**	P	**P**	**18 47 00.3**	**+0.8**
	comp=N,1.7nm,0.8s,baz=353,slow=6.8,SNR=5.4						
WRA	**Warramunga Arr**	**81.34**	**119**	P	**P**	**18 47 05.9**	**+0.5**
	comp=N,0.4nm,0.8s,baz=321,slow=4.9,SNR=5.5						
ILAR	**Eielson Array**	**81.46**	**14**	P	**P**	**18 47 05.2**	**0.0**
	comp=N,0.2nm,0.5s,baz=313,slow=4.8,SNR=4.5						
ASAR	**Alice Springs**	**83.24**	**122**	P	**P**	**18 47 16.0**	**+0.8**
	comp=N,0.6nm,0.7s,baz=311,slow=5.0,SNR=14						
YKA	**Yellowknife Ar**	**87.48**	**1**	P	**P**	**18 47 36.2**	**+0.5**
	comp=N,0.6nm,0.6s,baz=349,slow=4.8,SNR=14						

IDC 25 18:41:05.6±341.0, 38.10N×118.09W, h0km, Error ellipse: s-maj=154.3km s-min=105.5km az=159.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.38**	**333**	*i*		18 38 03.2	
	4.2nm,0.3s,baz=215,slow=9.8,SNR=54						
I57US	**PINON FLAT INF**	**4.67**	**163**	*i*		19 11 50.0	
	baz=342,slow=309,SNR=0.5						
I56US	**NEWPORT INFRASTI**	**0.19**	**4**	*i*		19 43 10.0	
	baz=184,slow=368,SNR=0.5						
I10CA	**LAC DU BONNET**	**19.84**	**45**	*i*		20 45 40.0	
	baz=236,slow=325,SNR=0.6						

KRSC 25 18:42:41.3±10.0, 50.73N×160.22E, h99km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.72**	**310**	*e*P	Pn	18 43 11.4	+1.2
KDTR				*e*S	Sn	18 43 33.7	+1.5
RUS	**Russkaya**	**2.01**	**329**	*e*P	Pn	18 43 15.4	+1.5
RUS				*e*S	Sn	18 43 40.6	+1.9
MTVR	**Mutnovka**	**2.16**	**325**	*e*P	Pn	18 43 17.9	+1.8
MTVR				*e*S	Sn	18 43 44.6	+2.0
ASAK	**Asacha**	**2.20**	**320**	*e*P	Pn	18 43 18.6	+2.2
PAU	**Pauzhetka**	**2.27**	**290**	*e*S	Sn	18 43 46.9	+2.1
SPN	**Mys Shipunski**	**2.37**	**357**	*e*S	Sn	18 43 47.8	+0.6
KRMR	**Karymshinskiy**	**2.47**	**329**	*e*P	Pn	18 43 21.7	+1.8
KRMR				*e*S	Sn	18 43 52.1	+2.6
DALK	**Dalny**	**2.47**	**339**	*e*P	Pn	18 43 21.7	+1.7
DALK				*e*S	Sn	18 43 52.6	+3.0
SKR	**Severo-Kuril's**	**2.61**	**270**	*e*P	Pn	18 43 23.2	+1.5
SKR				*e*S	Sn	18 43 53.0	+0.2
UGLR	**Uglovaya**	**2.62**	**341**	*e*P	Pn	18 43 24.5	+2.4
SDLR	**Sedlovina**	**2.68**	**343**	*e*P	Pn	18 43 25.4	+2.6
SMAR	**Somma**	**2.68**	**341**	*e*P	Pn	18 43 26.4	+3.5
AVH	**Avacha**	**2.70**	**341**	*e*P	Pn	18 43 25.8	+2.8
KRER	**Koryakskii**	**2.73**	**341**	*e*P	Pn	18 43 26.7	+3.1
KOK	**Koryaka**	**2.74**	**340**	*e*P	Pn	18 43 26.5	+2.9
KRX	**Arik**	**2.80**	**340**	*e*P	Pn	18 43 27.8	+3.3
APC	**Apacha**	**2.90**	**320**	*e*P	Pn	18 43 28.8	+3.2
ALID	**Alaid**	**2.96**	**274**	*e*P	Pn	18 43 28.8	+2.2
MKZ	**Mys Kozlova**	**3.94**	**13**	*e*P	Pn	18 43 41.1	+1.6
MKZ				*e*S	Sn	18 44 23.9	-0.7
TUMD	**Tumrok D**	**4.48**	**1**	*e*P	Pn	18 43 48.0	+1.1
TUMD				*e*S	Sn	18 44 38.7	+0.9
TUMR	**Tumrok**	**4.56**	**359**	*e*P	Pn	18 43 51.8	+3.8

*TEH **25** 18:45:40.8, 38.48N×43.32E, h8km, ML3.7*
*ISK **25** 18:45:40.2, 38.45N×43.32E, h6km, ML3.6/6*
*DDA **25** 18:45:40.8, 38.46N×43.35E, h7km±2km, ML3.7*
*NSSP **25** 18:45:40.4, 38.43N×43.38E, h7km, Ms3.2*
ISC 25 18:45:40.8±1.0, 38.46N±0.02×43.34E±0.02, h6km±8km, n54, σ0§80/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVAN	**Van**	**0.08**	**39**	*i* P	**Pg**	**18 45 43.5**	**+0.5**
TVAN	**Van**	**0.08**	**39**	*e*Pg	**Pg**	**18 45 43.2**	**+0.3**
VANB	**Van**	**0.14**	**16**	PG	**Pg**	**18 45 43.0**	**-0.7**
VANB				SG	**Sg**	**18 45 43.8**	**-1.9**
VANB	**Van**	**0.14**	**16**	*e*Pg	**Pg**	**18 45 43.1**	**-0.7**
GEVA	**Gevas**	**0.27**	**236**	*i* P	**Pg**	**18 45 46.7**	**+0.5**
GEVA				IAML_P			
	comp=Z,113µm,0.2s						
GEVA	**Gevas**	**0.27**	**236**	*e*Pg	**Pg**	**18 45 46.3**	**+0.2**
AKDM	**Akdamar-Van**	**0.31**	**245**	PG	**Pg**	**18 45 47.3**	**+0.3**
VMUR	**Van-Muradiye**	**0.56**	**19**	*i* P	**Pb**	**18 45 52.9**	**-0.2**
VMUR				IAML_P			
	comp=Z,4µm,0.1s						
VMUR	**Van-Muradiye**	**0.56**	**19**	*e*Pg	**Pg**	**18 45 52.4**	**+0.8**
ADCV	**BITLIS_Adilcev**	**0.59**	**306**	*i* P	**Pb**	**18 45 53.4**	**-0.3**
ADCV				*i* S	**Sb**	**18 46 02.6**	**+0.2**
ADCV				IAML_P			
	comp=Z,6µm,0.3s						
ADCV	**BITLIS_Adilcev**	**0.59**	**306**	*e*Pg	**Pg**	**18 45 52.6**	**+0.3**
BASK	**Baskale_VAN**	**0.67**	**128**	*i* P	**Pb**	**18 45 54.5**	**-0.4**
BASK				*i* S	**Sn**	**18 46 06.9**	**-0.9**
BASK				IAML_P			
	comp=Z,38µm,0.2s						
BASK	**Baskale_VAN**	**0.67**	**128**	*e*Pg	**Pg**	**18 45 53.7**	**+0.1**
CLDR	**Caldiran**	**0.81**	**33**	PG	**Pg**	**18 45 57.0**	**+0.5**
CLDR				SG	**Sn**	**18 46 10.6**	**-1.0**
CLDR	**Caldiran**	**0.81**	**33**	*i* P	**Pb**	**18 45 57.8**	**+0.3**
CLDR				IAML_P			
	comp=Z,11µm,0.1s						
CLDR	**Caldiran**	**0.81**	**33**	*e*Pg	**Pg**	**18 45 57.0**	**+0.5**
MLAZ	**Malazgirt-MUS**	**0.92**	**318**	PG	**Pg**	**18 45 58.7**	**+0.3**
BLIS	**Bitlis-Merkez**	**0.96**	**267**	*i* P	**Pg**	**18 45 58.4**	**-0.9**
BLIS				IAML_P			
	comp=Z,13µm,0.2s						
TUTA	**Tutak**	**1.02**	**337**	*i* P	**Pg**	**18 46 00.7**	**+0.2**
TUTA				IAML_P			
	comp=Z,13µm,0.2s						
TUTA	**Tutak**	**1.02**	**337**	*e*Pg	**Pg**	**18 45 59.8**	**-0.7**
GURO	**Guroymak-BITLI**	**1.03**	**275**	*e*Pg	**Pg**	**18 45 59.6**	**-1.0**
AGRB	**Hanur-Agry**	**1.14**	**346**	PN	**Pb**	**18 46 03.3**	**+0.2**
AGRB	**Hanur-Agry**	**1.14**	**346**	*e*Pg	**Pg**	**18 46 03.0**	**+0.2**
YOVA	**Hakkari_Yksek**	**1.15**	**139**	*i* P	**Pg**	**18 46 02.8**	**-0.2**
YOVA				IAML_P			
	comp=Z,7µm,0.2s						
YOVA	**Hakkari_Yksek**	**1.15**	**139**	*e*Pg	**Pg**	**18 46 02.3**	**-0.6**
SIRN	**Sirnak**	**1.21**	**217**	*i* P	**Pn**	**18 46 04.2**	**-0.1**
SIRN				IAML_P			
	comp=Z,4µm,0.4s						
SIRN	**Sirnak**	**1.21**	**217**	*e*Pg	**Pb**	**18 46 04.1**	**-0.1**
SRTM	**Siirt_Merkez**	**1.21**	**248**	*i* P	**Pn**	**18 46 04.8**	**+0.4**
SRTM				IAML_P			
	comp=Z,4µm,0.2s						
SRTM	**Siirt_Merkez**	**1.21**	**248**	*e*Pg	**Pg**	**18 46 03.9**	**-0.2**
CUKT	**Cukurca**	**1.23**	**170**	PN	**Pn**	**18 46 04.5**	**-0.2**
CUKT	**Cukurca**	**1.23**	**170**	*e*Pg	**Pn**	**18 46 06.8**	**+2.1**
MUSM	**Mu-Merkez**	**1.46**	**281**	*i* P	**Pn**	**18 46 07.1**	**-0.7**
MUSM				IAML_P			
	comp=Z,3µm,0.3s						
TASB	**TASBURUN-IGDIR**	**1.67**	**24**	PN	**Pb**	**18 46 12.2**	**+0.2**
TASB	**TASBURUN-IGDIR**	**1.67**	**24**	*e*Pn	**Pg**	**18 46 12.8**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.71**	**260**	PN	**Pn**	**18 46 11.9**	**+0.7**
SVAN	**Silvan-Diyarba**	**1.71**	**260**	*e*Pn	**Pb**	**18 46 12.8**	**+0.1**
BTMN	**Batman**	**1.73**	**251**	*i* P	**Pb**	**18 46 13.4**	**+0.4**
BTMN				*i* S	**Sg**	**18 46 38.7**	**+2.3**
BTMN				IAML_P			
	comp=Z,3µm,0.5s						
BTMN	**Batman**	**1.73**	**251**	*e*Pn	**Pb**	**18 46 13.2**	**+0.2**
IMRD	**Marand**	**1.87**	**82**	*e*Pn	**Pb**	**18 46 15.0**	**-0.5**
IMRD				IAMB	IAmb	18 46 26.6	
	comp=Z,7µm,0.4s						
KOPR	**Koprukoy-ERZUR**	**1.91**	**323**	PN	**Pb**	**18 46 15.9**	**-0.3**
GNI	**Garni**	**2.00**	**32**	PN	**Pb**	**18 46 17.5**	**-0.3**
GNI	**Garni**	**2.00**	**32**	*i* P	**Pb**	**18 46 18.4**	**+0.6**
GNI				*i* S	**Sg**	**18 46 46.5**	**+1.2**
GNI	**Garni**	**2.00**	**32**	*e*Pn	**Pb**	**18 46 17.1**	**-0.7**
BNGB	**Bingl**	**2.15**	**285**	PN	**Pb**	**18 46 18.9**	**-1.3**
KARS	**Kars**	**2.17**	**355**	*e*Pn	**Pb**	**18 46 19.3**	**-1.3**
ITBZ	**Tabriz**	**2.22**	**95**	*e*Pn	**Pb**	**18 46 21.3**	**-0.1**
ITBZ				IAMB	IAmb	18 46 26.3	
	comp=Z,683nm,0.3s						
IAZR	**Azarshahr**	**2.23**	**110**	IAMB	IAmb	18 46 28.2	
	comp=N,5µm,0.4s						
SENK	**Senkaya-Erzuru**	**2.23**	**340**	PN	**Pn**	**18 46 20.0**	**+1.4**
SENK	**Senkaya-Erzuru**	**2.23**	**340**	*e*Pn	**Pn**	**18 46 19.9**	**+1.4**
BINT	**Bingol**	**2.27**	**281**	*e*Pn	**Pn**	**18 46 18.7**	**-0.3**
MAHB	**Mahabad**	**2.53**	**131**	*e*Pn	**Pb**	**18 46 26.4**	**-0.3**
MAHB				IAMB	IAmb	18 47 07.5	
	comp=Z,0.0nm,0.7s						
IBST	**Bostanabad**	**2.91**	**104**	*e*Pn	**Pb**	**18 46 31.9**	**-1.3**
IBST				IAMB	IAmb	18 46 39.0	
	comp=Z,375nm,0.4s						
LANS	**Liptovska Anna**	**20.19**	**310**	*e*P	**P**	**18 50 15.9**	**-0.2**
VYHS	**Vyhne**	**20.33**	**307**	*e*P	Pn	18 50 19.0	-0.6

*ISCJB **25** 19:21:51.4±0.8, 10.91S±0.08×164.68E±0.09, h29km, mb3.6/7, MS3.2/3, Error ellipse: s-maj=14.8km s-min=8.3km az=145.6*
*IDC **25** 19:21:56.5±3.5, 10.91S×164.56E, h56km±29km, mb3.4/7, mb1 3.7/9, mb1mx3.5/34, mbtmp3.8/9, ML4.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/19, Error ellipse: s-maj=29.9km s-min=18.1km az=52.0*
ISC 25 19:21:53.6±0.9, 10.78S±0.10×164.7E±0.1, h29km, n19, σ1§58/14, mb3.5/7, MS3.3/3, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.89**	**285**	*e*P	**Pn**	**19 23 06.0**	**+0.8**
HNR				*e*S	**Sn**	**19 24 02.0**	**+1.1**
HNR	**Honiara**	**4.89**	**285**	P	**Pn**	**19 23 07.0**	**+1.8**
	40nm,0.3s,baz=358,slow=5.5,SNR=16						
HNR				S	**Sn**	**19 24 00.1**	**-0.8**
	20nm,0.3s,baz=69,slow=14,SNR=2.3						
HNR				LR	L

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time	Res
BRRC	Barranca, Sant	0.59	146	⇓iP	Pg	19 47 23.6	-0.2
BRRC				eS	Sg	19 47 32.5	+0.8
BRRC				i		19 47 33.9	
	comp=E,1μm,0.3s						
ZARC	Zaragoza, Cauc	0.82	262	⇓iP	Pg	19 47 26.5	-1.5
ZARC				eS	Sg	19 47 37.7	-1.0
ZARC				i		19 47 40.3	
	comp=N,3μm,0.2s						
OCAC	Ocana	0.95	49	eP	Pg	19 47 29.2	-1.5
OCAC				eS	Sg	19 47 42.1	-1.0
OCAC				i		19 47 42.9	
	comp=N,922nm,0.6s						
GIRC	Giron, Santand	0.99	122	⇓iP	Pg	19 47 30.6	-0.9
GIRC				eS	Sg	19 47 42.4	-1.9
GIRC				i		19 47 45.6	
	comp=Z,974nm,0.4s						
PTBC	PUERTO BERRIO,	1.14	201	⇑iP	Pb	19 47 31.7	-2.4
PTBC				eS	Sg	19 47 46.8	-2.1
PTBC				i		19 47 48.5	
	comp=N,935nm,0.2s						
BARC	Barichara	1.32	140	eP	Pn	19 47 35.5	-1.6
BARC				eS	Sb	19 47 53.3	-1.2
BARC				i		19 47 54.0	
	comp=Z,1μm,0.2s						
PAMC	Pamplona, Colo	1.36	101	⇓iP	Pn	19 47 36.7	-1.2
PAMC				eS	Sb	19 47 54.8	-1.1
PAMC				i		19 47 55.7	
	comp=N,2μm,0.4s						
UREC	San Jos de Ur	1.48	276	eP	Pn	19 47 37.7	-1.5
UREC				eS	Sn	19 47 57.9	-0.8
UREC				i		19 47 59.9	
	comp=N,610nm,0.2s						
RUSC	La Rusia	1.95	151	eP	Pn	19 47 44.7	-1.4
RUSC				eS	Sn	19 48 09.6	-1.3
RUSC				i		19 48 10.2	
	comp=E,267nm,0.3s						
HELC	Santa Helena	2.04	226	eP	Pn	19 47 47.1	0.0
HELC				eS	Sn	19 48 12.2	-0.6
HELC				i		19 48 14.9	
	comp=N,169nm,0.4s						
DBBC	Dabeiba	2.23	255	eP	Pn	19 47 49.7	+0.2
DBBC				i		19 48 23.3	
	comp=Z,167nm,0.4s						

*IDC **25** 20:02:40.2±0.4, 55.°90N×155.°73W, h0km, mb4.6/36, mb1 4.7/40, mb1mx4.6/60, mbtmp4.6/40, ML4.4/4, MS3.9/29, Ms1 3.9/29, ms1mx3.8/49, Error ellipse: s-maj=12.6km s-min=9.1km az=2.0*

*BJI **25** 20:02:41.2, 55.°93N×155.°16W, h30km, mb4.7/43, mB5.0/35, Ms4.7/23, Ms7 4.4/23*

*NEIC **25** 20:02:42.6±0.2, 56.°00N×155.°73W, h10km, mb4.7/138, ML4.6(AEIC), Error ellipse: s-maj=3.2km s-min=2.7km az=199.0*

*MOS **25** 20:02:42.4±0.8, 56.°08N×155.°70W, h19km, mb5.1/68, MS4.1/7, Error ellipse: s-maj=8.5km s-min=4.1km az=89.9*

*ISCJB **25** 20:02:44.2±0.5, 56.°07N±0.°02×155.°47W±0.°03, h33km±3km, mb4.7/239, MS4.1/37, Error ellipse: s-maj=4.3km s-min=2.3km az=23.8*

*AEIC **25** 20:02:47.2±0.0, 55.°90N×155.°52W, h5km*

*BGR **25** 20:02:49.8±0.0, 56.°39N×156.°42W, h34km±1km, mb4.7*

ISC 25 20:02:44.4±0.6, **56.°06N**±0.°06×**155.°61W**±0.°04, **h24**km±3km, **h24km:pP-P, n902,** σ1.22/928, **mb4.8**/249, **MS4.0**/38, **12C-32D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	Sitkinak Islan	0.94	57	ePn	Pn	20 03 02.5	+0.4
CHGN	Chignik	1.59	280	ePn	Pn	20 03 11.8	+0.8
KDAK	Kodiak Island	2.40	42	Pn	Pn	20 03 22.6	+0.5
	38nm,0.3s,baz=231,slow=5.2,SNR=368						
KDAK				Sn	Sn	20 03 50.2	-0.5
	143nm,0.3s,baz=252,slow=5.4,SNR=7.4						
KDAK				Lg	Lg	20 04 08.3	
	72nm,0.3s,baz=316,slow=21,SNR=2.7						
SDPT	Sand Point	2.85	258	ePn	Pn	20 03 28.5	+0.3
BRLK	Bradley Lake	4.49	32	ePn	Pn	20 03 51.4	+0.5
FALS	False Pass	4.61	258	ePn	Pn	20 03 52.5	+0.1
RSO	Redoubt South	4.67	18	ePn	Pn	20 03 56.0	+2.5
SVW2	Sparrevohn	5.06	0	ePn	Pn	20 04 00.7	+2.0
SEW	Seward	5.21	36	ePn	Pn	20 04 00.3	-0.4
RC01	Rabbit Creek A	5.91	29	ePn	Pn	20 04 11.1	+0.8
SUA	Susitna One	5.98	23	ePn	Pn	20 04 13.2	+1.8
AKUT	Akutan	6.15	256	ePn	Pn	20 04 13.5	0.0
PMR	Palmer	6.49	28	ePn	Pn	20 04 18.4	+0.2
PMR	Palmer	6.49	28	eP	Pn	20 04 18.4	+0.2
KNK	Knik Glacier	6.53	32	ePn	Pn	20 04 21.3	+2.4
UNV	Unalaska Valle	6.66	255	ePn	Pn	20 04 19.8	-0.8
GHO	Glory Hole Cre	6.69	28	ePn	Pn	20 04 21.7	+0.5
EYAK	Cordova Ski Ar	6.87	45	ePn	Pn	20 04 23.3	-0.2
SML	Sawmill	6.88	30	ePn	Pn	20 04 26.0	+2.3
SML	Sawmill	6.88	30	eP	Pn	20 04 26.0	+2.3
PPLA	Purkeypile	7.08	13	ePn	Pn	20 04 29.4	+2.9
SCM	Sheep Creek Mo	7.20	33	ePn	Pn	20 04 28.9	+0.8
SCM	Sheep Creek Mo	7.20	33	eP	Pn	20 04 28.9	+0.8
DIV	Divide	7.23	41	ePn	Pn	20 04 28.5	0.0
HMT	Hamilton	7.37	50	ePn	Pn	20 04 30.8	+0.4
KLU	Klutina	7.41	39	ePn	Pn	20 04 31.2	+0.1
CAST	Castle Rocks	7.60	12	ePn	Pn	20 04 33.5	0.0
TRF	Thorofare Moun	7.89	18	ePn	Pn	20 04 39.4	+1.8
RND	Reindeer	8.12	22	ePn	Pn	20 04 41.6	+0.9
RND	Reindeer	8.12	22	eP	Pn	20 04 41.6	+0.9
SPIA	Saint Paul Isl	8.16	284	ePn	Pn	20 04 43.5	+2.4
HARP	HAARP	8.31	36	ePn	Pn	20 04 45.6	+2.3
BPAW	Bear Paw Mtn.	8.39	14	ePn	Pn	20 04 45.3	+1.0
MCK	McKinley	8.39	21	ePn	Pn	20 04 44.8	+0.4
MCK	McKinley	8.39	21	eP	Pn	20 04 44.8	+0.4
BALM	Baldy	8.54	49	ePn	Pn	20 04 45.1	-1.3
BALM				eSn	Sn	20 06 19.1	-2.9
BALM	Baldy	8.54	49	eP	Pn	20 04 45.1	-1.3
BALM				e		20 06 19.1	
PAX	Paxson	8.63	32	ePn	Pn	20 04 48.9	+1.2
PAX	Paxson	8.63	32	eP	Pn	20 04 48.9	+1.2
BWN	Browne	8.70	18	ePn	Pn	20 04 49.8	+1.3
MENT	Mentasta	9.16	36	ePn	Pn	20 04 58.4	+3.5
WRH	Wood River Hil	9.22	21	ePn	Pn	20 04 55.5	-0.2
MLY	Manley	9.31	13	ePn	Pn	20 04 58.5	+1.4
RIDG	Independ'e Rid	9.40	31	ePn	Pn	20 05 00.5	+2.3
HDA	Harding Lake	9.41	24	ePn	Pn	20 04 58.3	0.0
HDA	Harding Lake	9.41	24	P	Pn	20 04 58.5	+0.2
	baz=211,SNR=23						
CCB	Clear Creek Bu	9.44	21	ePn	Pn	20 04 58.2	-0.5
DOT	Dot Lake	9.56	33	ePn	Pn	20 05 04.1	+3.7
TCOL	CIGO, UAF Yank	9.63	20	P	Pn	20 05 01.8	+0.5
	baz=207						
COLA	College	9.63	20	ePn	Pn	20 05 00.6	-0.7
COLA	College	9.63	20	iP	Pn	20 05 00.7	-0.6
MDM	Murphy Dome	9.63	19	ePn	Pn	20 05 01.3	-0.1
IL1	Eielson Array	9.74	23	ePn	Pn	20 05 02.2	-0.5
ILAR	Eielson Array	9.74	23	Pn	Pn	20 04 59.4	-3.4
	2.9nm,0.3s,baz=214,slow=14,SNR=77						
ILAR				Sn	Sn	20 06 44.7	-6.5
	2.1nm,0.3s,baz=200,slow=21,SNR=3.9						
ILAR				LR	LR	20 09 27.2	
	comp=Z,1μm,18.5s,baz=226,slow=41						
ILB	Eielson Array	9.74	23	ePn	Pn	20 05 02.1	-0.6
ANM	Nome	9.80	335	ePn	Pn	20 05 07.2	+3.6
ANM	Nome	9.80	335	eP	Pn	20 05 07.2	+3.6
SCRK	Sand Creek	9.83	31	ePn	Pn	20 05 06.2	+2.1
POKR	Poker Plat Res	9.93	20	P	Pn	20 05 05.3	-0.1
	baz=208,SNR=6.2						
IM3	Indian Mountai	10.00	4	ePn	Pn	20 05 07.9	+1.5
HYT	Haines Junctio	10.61	56	ePn	Pn	20 05 18.4	+3.6
PRP	Porcupine Dome	10.68	23	ePn	Pn	20 05 16.9	+1.1
GAMB	Gambell	11.16	320	ePn	Pn	20 05 24.8	+2.7
EGAK	Eagle	11.26	33	ePn	Pn	20 05 25.2	+1.6
SKAG	Skagway	11.34	64	ePn	Pn	20 05 26.1	+1.4
DAWY	Dawson	11.37	39	ePn	Pn	20 05 27.6	+2.4
COLD	Coldfoot	11.49	11	ePn	Pn	20 05 30.4	+3.6
FYU	Fort Yukon	11.64	21	ePn	Pn	20 05 29.0	+0.3
JIS	Juneau Island	11.72	70	ePn	Pn	20 05 32.1	+2.2
WHY	Whitehorse	11.80	58	ePn	Pn	20 05 31.6	+0.5
TOLK	Toolik Lake Re	12.93	10	ePn	Pn	20 05 49.4	+3.0
TOLK	Toolik Lake Re	12.93	10	P	Pn	20 05 46.3	-0.1
	baz=196						
EPYK	Eagle Plains	13.70	33	ePn	Pn	20 05 59.0	+2.1
EPYK	Eagle Plains	13.70	33	P	Pn	20 05 58.6	+1.7
	baz=230,SNR=7.1						
DLBC	Dease Lake	14.02	70	Pn	Pn	20 06 02.9	+1.5
	0.7nm,0.3s,baz=234,slow=6.3,SNR=7.4						
DLBC				LR	LR	20 11 15.9	
	comp=Z,592nm,18.5s,baz=271,slow=36						
INK	Inuvik	15.90	31	Pn	Pn	20 06 28.0	+1.8
	3.1nm,0.3s,baz=230,slow=11,SNR=36						
INK				LR	LR	20 13 30.5	
	comp=Z,595nm,18.7s,baz=210,slow=40						
BBB	Bella Bella	16.52	92	LR	LR	20 11 32.4	
	comp=Z,429nm,18.2s,baz=316,slow=32						
LLLB	Lillooet	20.72	91	eP	Pn	20 07 26.1	+0.8
	18nm,1.1s						
BILL	Bilibino	21.09	320	eP	P	20 07 26.3	-0.3
	18nm,0.7s						
BILL	Bilibino	21.09	320	c iP	P	20 07 26.6	0.0
BILL				e*SP	pP	20 07 30.0	-3.2
BILL				ePPP	PPP	20 07 55.1	
BILL				eS	S	20 11 10.6	-9.2
BILL				pmax	pmax		
	comp=Z,12nm,0.7s						
BILL				MLR	MLR		
	comp=Z,849nm,17.0s						
A04D	Lummi Island	21.22	96	P	P	20 07 29.0	+0.9
	baz=303						
NLWA	Neilton Lookou	21.32	101	eP	P	20 07 31.6	+2.3
	comp=Z,23nm,1.0s						
YKW3	Yellowknife Ar	21.59	56	eP	P	20 07 32.5	+0.4
	comp=Z,13nm,0.7s						
YKA	Yellowknife Ar	21.60	56	P	P	20 07 32.5	+0.4
	comp=Z,9.3nm,0.6s,baz=276,slow=10,SNR=195						
YKA				PcP	PcP	20 11 31.6	-1.3
	comp=Z,0.9nm,0.6s,baz=262,slow=3.1,SNR=5.0						
YKA				LR	LR	20 16 55.1	
	comp=Z,42nm,18.2s,baz=266,slow=39						
YKB5	Yellowknife Ar	21.60	56	eP	P	20 07 30.2	-1.9
D03D	Eldon	21.67	99	P	P	20 07 34.7	+1.7
	baz=305,SNR=5.3						
B05A	Bryant	21.81	97	P	P	20 07 35.9	+1.5
	baz=303						
D04E	Lakebay	22.05	100	P	P	20 07 39.0	+1.9
	baz=306						
D05A	Enumclaw	22.48	99	eP	P	20 07 43.4	+1.7
D05A				epP	pP	20 07 45.8	-2.6
E04D	Cinebar	22.53	101	P	P	20 07 43.5	+1.2
	baz=307,SNR=5.1						
LON	Longmire	22.84	100	eP	P	20 07 48.0	+2.5
	comp=Z,6.3nm,0.9s						
LON	Longmire	22.84	100	eP	P	20 07 48.0	+2.5
LON				pmax	pmax		
	comp=Z,6.0nm,0.9s						
B08A	Colville Reser	23.30	94	eP	P	20 07 51.8	+1.6
	comp=Z,4.4nm,0.8s						
I02D	Swisshome	23.40	107	P	P	20 07 52.1	+1.0
	baz=312						
F05D	White Salmon	23.55	101	P	P	20 07 52.4	-0.3
	baz=308						
H04D	Lebanon	23.72	105	P	P	20 07 53.9	-0.4
	baz=311						
H04A	Detroit Lake	23.91	104	eP	P	20 07 57.9	+1.7
	comp=Z,9.9nm,0.9s						
I03D	Drain, OR	23.94	107	P	P	20 07 56.4	+0.1
	baz=312						
J01E	Myrtle Point	23.99	109	P	P	20 07 56.5	-0.4
	baz=314						
G05D	Wamic, OR	24.03	102	P	P	20 07 56.3	-0.9
	baz=309						
C09A	Chrisman Ranch	24.20	94	eP	P	20 08 00.1	+1.3
	comp=Z,6.6nm,0.9s						
HAWA	Hanford	24.31	98	eP	P	20 08 01.4	+1.6
	comp=Z,8.8nm,0.8s						
I04A	Tendick Farm,	24.38	106	P	P	20 08 00.4	-0.1
	baz=312						
G06A	Carlson Farm,	24.41	101	eP	P	20 07 58.5	-2.3
	comp=Z,2.0nm,1.0s						
K02D	Willamette Mer	24.46	110	P	P	20 08 00.9	-0.4
	baz=314						
E08A	Dider Farm, El	24.51	97	eP	P	20 08 03.0	+1.3
	comp=Z,7.2nm,1.0s						
E08A				ePcP	PcP	20 11 40.0	+0.7
NEW	Newport	24.59	92	P	P	20 08 02.7	+0.4
	baz=303,SNR=18						
NEW	Newport	24.59	92	P	P	20 08 03.2	+0.8
	comp=Z,14nm,0.8s,baz=306,slow=7.9,SNR=32						
I05D	Terrebonne, OR	24.60	104	P	P	20 08 02.0	-0.5
	baz=311						
L02E	Cave Junction	24.87	110	P	P	20 08 06.1	+1.2
	baz=315						
HUMO	Hull Mountain	24.89	109	eP	P	20 08 06.7	+1.5
	comp=Z,5.8nm,0.8s						
HUMO				ePcP	PcP	20 11 40.9	+0.6
J04D	Umpqua Nationa	24.91	107	P	P	20 08 04.4	-1.1
	baz=313,SNR=8.5						
E09A	Wood Farm, Sta	25.01	97	eP	P	20 08 07.0	+0.9
	comp=Z,12nm,0.9s						
PINE	Pine Mountain	25.17	104	eP	P	20 08 10.2	+2.3
	comp=Z,8.9nm,1.0s						
PINE				ePcP	PcP	20 11 42.0	+0.9
G08A	Pilot Rock	25.30	100	eP	P	20 08 10.1	+1.2
	comp=Z,3.1nm,0.9s						
G08A				ePcP	PcP	20 11 43.2	+1.9
J05D	Fort Rock, OR	25.35	106	P	P	20 08 08.7	-0.7
	baz=312,SNR=10						
L04D	Klamath Falls	25.51	109	P	P	20 08 10.0	-0.9
	baz=314						
K04D	Chiloquin, OR	25.52	107	P	P	20 08 10.7	-0.3
	baz=313						
YBH	Yreka Blue Hor	25.64	110	P	P	20 08 12.8	+0.8
	comp=Z,1.3nm,0.6s,baz=298,slow=3.3,SNR=3.8						
YBH				PcP	PcP	20 11 40.6	-1.5
	comp=Z,0.6nm,0.5s,baz=350,slow=2.8,SNR=4.1						
KHMM	Horse Mountain	25.72	113	ePcP	PcP	20 11 42.9	+0.6
I07A	Izee	25.77	102	eP	P	20 08 14.3	+1.1
	comp=Z,11nm,1.0s						
M02C	Callahan	25.80	111	P	P	20 08 13.6	+0.1
	baz=316						
F10A	Beach Ranch, E	25.84	97	eP	P	20 08 15.0	+1.1
	comp=Z,7.1nm,0.9s						
F10A				ePcP	PcP	20 11 42.5	+0.1
K05A	Summer Lake	25.91	106	eP	P	20 08 16.8	+2.2
	comp=Z,11nm,1.0s						
M04C	Macdoel	26.06	109	P	P	20 08 15.7	-0.2
	baz=315						
N02D	Trinity Center	26.18	111	P	P	20 08 17.0	+0.1
	baz=316						
PET	Petropavlovsk	26.33	283	eP	P	20 08 18.5	+0.5
PET				eS	S	20 12 45.6	-3.7
PET				pmax	pmax		
	comp=Z,50nm,1.3s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
BMO	Blue Mountains	26.49	99	eP	P	20 08 21.6	+1.9
	comp=Z,4.6nm,0.8s						
SEY	Seymchan	26.61	306	P	P	20 08 20.1	-0.3
	comp=Z,14nm,0.6s,baz=94,slow=8.9,SNR=80						
SEY				PcP	PcP	20 11 43.3	-0.5
	comp=Z,4.1nm,0.8s,baz=75,slow=4.5,SNR=4.4						
O02D	Mt. Diablo Mer	26.72	113	P	P	20 08 21.3	-0.5
	baz=317						
J08A	Circle Bar Ran	26.81	103	eP	P	20 08 22.0	-0.6
	comp=Z,6.7nm,0.6s						
PEA0B	Petropavlovsk-	26.82	283	eP	P	20 08 22.7	+0.2
	comp=Z,16nm,0.7s						
PEA0B	Petropavlovsk-	26.82	283	eP	P	20 08 22.7	+0.2
PEA0B				pmax	pmax		
	comp=Z,16nm,0.7s						
PETK	Petropavlovsk-	26.82	283	P	P	20 08 22.3	-0.1
	comp=Z,9.9nm,0.6s,baz=76,slow=13,SNR=22						
PETK				LR	LR	20 18 39.0	
	comp=Z,173nm,21.7s,baz=82,slow=36						
O03E	Paynes Creek	27.15	111	P	P	20 08 25.0	-0.6
	baz=317						
WVOR	Wild Horse Val	27.34	104	eP	P	20 08 28.9	+1.6
	comp=Z,6.3nm,1.0s						
WVOR	Wild Horse Val	27.34	104	eP	P	20 08 28.9	+1.6
WVOR				pmax	pmax		
	comp=Z,6.0nm,1.0s						
MA2	Magadan	28.13	300	P	P	20 08 34.6	+0.5
	comp=Z,9.2nm,0.8s,baz=50,slow=10,SNR=5.6						
MA2				PcP	PcP	20 11 46.7	-0.8
	comp=Z,1.6nm,0.3s,baz=74,slow=2.4,SNR=3.7						
MA2				LR	LR	20 21 02.1	
	comp=Z,280nm,19.5s,baz=109,slow=39						
HRY	Holter Researc	28.43	91	eP	P	20 08 38.2	+1.1
EGMT	Eagleton	28.85	87	eP	P	20 08 41.1	+0.3
	comp=Z,17nm,0.8s						
EGMT	Eagleton	28.85	87	P	P	20 08 39.9	-0.8
	baz=303,SNR=13						
PAHR	Pah Rah Range	28.85	109	eP	P	20 08 42.2	+1.3
	comp=Z,4.1nm,1.0s						
HLID	Hailey	28.91	98	eP	P	20 08 42.8	+1.4
	comp=Z,1.8nm,0.9s						
HLID				ePcP	PcP	20 11 50.6	+0.6
HLID	Hailey	28.91	98	P	P	20 08 40.7	-0.7
	baz=310						
MCMT	McKenzie Canyo	28.99	95	eP	P	20 08 43.1	+0.9
PNTR	Pine Nut	29.19	110	eP	P	20 08 45.6	+1.6
	comp=Z,6.7nm,0.8s						
PNTR				ePcP	PcP	20 11 51.2	+0.4
BOZ	Bozeman (W)	29.20	92	P	P	20 08 43.5	-0.5
	baz=307						
RES	Resolute Bay	29.42	28	P	P	20 08 45.5	0.0
	comp=Z,3.0nm,0.6s,baz=253,slow=10,SNR=11						
YERR	Yerington	29.45	110	eP	P	20 08 47.8	+1.5
	comp=Z,4.3nm,0.9s						
WAKR	Walker	29.70	111	eP	P	20 08 50.2	+1.7
	comp=Z,2.2nm,1.0s						
FFC	Flin Flon	29.85	70	eP	P	20 08 50.0	+0.5
	comp=Z,5.5nm,0.8s						
FFC	Flin Flon	29.85	70	eP	P	20 08 50.0	+0.5
FFC				pmax	pmax		
	comp=Z,6.0nm,0.8s						
YHB	Horse Butte	29.96	93	eP	P	20 08 52.3	+1.5
	comp=Z,5.9nm,1.0s						
KVN	Kaiserville	30.01	109	eP	P	20 08 52.6	+1.4
	comp=Z,1.8nm,0.8s						
KVN				ePcP	PcP	20 11 53.0	+0.1
KVN	Kaiserville	30.01	109	eP	P	20 08 52.6	+1.4
KVN				e		20 11 53.0	
KVN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YHH	Holmes Hill	30.13	93	eP	P	20 08 53.5	+1.1
	comp=Z,8.8nm,0.8s						
YNR	Norris Junctio	30.27	93	eP	P	20 08 55.7	+2.2
	comp=Z,7.1nm,1.0s						
ELK	Elko	30.35	103	eP	P	20 08 55.9	+1.7
	comp=Z,3.2nm,1.0s						
ELK	Elko	30.35	103	eP	P	20 08 55.9	+1.7
ELK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ELK	Elko	30.35	103	LR	LR	20 19 35.8	
	comp=Z,248nm,18.3s,baz=303,slow=33						
YFT	Old Faithful	30.35	93	eP	P	20 08 57.2	+3.0
	comp=Z,5.3nm,0.8s						
YFT				ePcP	PcP	20 11 56.2	+2.5
NV01	Mina Array Sit	30.36	110	eP	P	20 08 55.2	+0.9
NV01				ePcP	PcP	20 11 53.6	-0.2
NVAR	Mina Array Bea	30.36	110	P	P	20 08 55.4	+1.0
	comp=Z,2.7nm,0.7s,baz=306,slow=8.2,SNR=22						
NVAR				PcP	PcP	20 11 53.5	-0.3
	comp=Z,3.3nm,0.7s,baz=302,slow=2.6,SNR=12						
NVAR				LR	LR	20 19 05.0	
	comp=Z,375nm,19.2s,baz=356,slow=32						
NV11	Mina Array Sit	30.43	109	eP	P	20 08 56.4	+1.5
	comp=Z,0.2nm,0.8s						
LKWY	Lake	30.52	93	eP	P	20 08 58.5	+2.7
	comp=Z,6.0nm,0.8s						
LKWY	Lake	30.52	93	eP	P	20 08 58.5	+2.7
LKWY				pmax	pmax		
	comp=Z,6.0nm,0.8s						
H17A	Grant Village	30.53	93	eP	P	20 08 58.4	+2.5
	comp=Z,7.3nm,0.9s						
H17A	Grant Village	30.53	93	P	P	20 08 57.1	+1.2
	baz=309,SNR=5.8						
OMMB	Old Mammoth Mi	30.60	112	eP	P	20 08 58.4	+1.8
	comp=Z,4.4nm,1.0s						
IMW	Indian Meadow	30.64	94	eP	P	20 08 58.4	+1.5
	comp=Z,5.0nm,1.1s						
FLWY	Flagg Ranch	30.65	94	eP	P	20 08 59.0	+2.1
	comp=Z,6.1nm,0.9s						
FXWY	Fox Creek	30.75	95	ePcP	PcP	20 11 55.1	+0.3
RLMT	Red Lodge	30.81	91	eP	P	20 09 00.0	+1.7
	comp=Z,6.0nm,1.0s						
RLMT	Red Lodge	30.81	91	P	P	20 08 58.2	-0.1
	baz=308						
HVU	Hansel Valley	31.00	99	eP	P	20 09 02.0	+2.1
	comp=Z,2.6nm,0.8s						
HVU	Hansel Valley	31.00	99	eP	P	20 09 02.0	+2.1
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LOHW	Long Hollow	31.01	94	eP	P	20 09 01.5	+1.5
	comp=Z,2.2nm,1.0s						
REDW	Red Top Meadow	31.03	95	ePcP	PcP	20 11 53.0	-2.6
LAO	LASA Array	31.59	86	eP	P	20 09 06.8	+1.9
	comp=Z,18nm,0.8s						
LAO	LASA Array	31.59	86	P	P	20 09 05.0	+0.1
	baz=306						
DGMT	Dagmar	31.71	82	P	P	20 09 05.7	-0.2
	baz=303						
R11A	Troy Canyon, C	31.86	107	eP	P	20 09 08.4	+0.8
	comp=Z,2.6nm,0.8s						
R11A				ePcP	PcP	20 11 58.1	+0.4
R11A	Troy Canyon, C	31.86	107	P	P	20 09 08.2	+0.7
	baz=317,SNR=8.6						
CWC	Cottonwood Cre	31.97	112	P	P	20 09 08.0	-0.5
	baz=320						
BW06	Boulder Array	32.13	95	eP	P	20 09 10.9	+0.9
BW06	Boulder Array	32.13	95	P	P	20 09 10.2	+0.2
	baz=311,SNR=5.9						
PD31	Pinedale Array	32.14	95	eP	P	20 09 10.9	+0.9
	comp=Z,2.6nm,0.8s						
PDAR	Pinedale Array	32.14	95	P	P	20 09 10.6	+0.6
	comp=Z,1.7nm,0.5s,baz=326,slow=4.1,SNR=27						
PDAR				PcP	PcP	20 11 57.2	-1.4
	comp=Z,0.7nm,0.8s,baz=0.0,slow=0.3,SNR=4.2						
TCUT	Toone Canyon	32.20	99	ePcP	PcP	20 12 00.2	+1.5
FCC	Fort Churchill	32.23	59	eP	P	20 09 10.6	+0.3
	comp=Z,9.4nm,0.7s						
FCC	Fort Churchill	32.23	59	eP	P	20 09 10.6	+0.3
FCC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
PKM	Mcpherson Peak	32.28	116	P	P	20 09 10.8	-0.5
	baz=322						
ISA	Isabella, Lake	32.36	113	P	P	20 09 11.8	0.0
	baz=321						
TPNV	Topopah Spring	32.55	109	eP	P	20 09 14.7	+1.2
	comp=Z,5.9nm,0.8s						
TPNV	Topopah Spring	32.55	109	eP	P	20 09 14.7	+1.2
TPNV				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TPNV	Topopah Spring	32.55	109	P	P	20 09 14.4	+0.9
	baz=319,SNR=6.0						
MPMC	Manual Prospec	32.57	112	P	P	20 09 14.5	+0.7
	baz=320,SNR=5.3						
NLU	North Lily Min	32.63	101	ePcP	PcP	20 12 00.4	+0.5
LRMC	Laurel Mtn Rad	32.91	113	P	P	20 09 16.8	+0.1
	baz=321						
GSC	Goldstone, Bar	33.50	112	P	P	20 09 21.9	+0.1
	baz=320						
MSU	Marysvale	33.59	103	ePcP	PcP	20 12 03.6	+1.0
SNCC	San Nicolas Is	33.73	117	P	P	20 09 24.2	+0.5
	baz=324						
BFSC	Mount Baldy Ra	33.89	114	P	P	20 09 25.5	+0.3
	baz=322						
K22A	Casper	33.91	92	P	P	20 09 25.0	-0.4
	baz=310						
TIXI	Tiksi	33.94	327	c eP	P	20 09 25.0	-0.1
TIXI				pmax	pmax		
	comp=Z,28nm,0.6s						
TIXI	Tiksi	33.94	327	P	P	20 09 25.5	+0.4
	comp=Z,31nm,0.6s,baz=93,slow=12,SNR=119						
SRU	San Rafael Swe	34.08	101	eP	P	20 09 28.6	+1.7
	comp=Z,7.7nm,0.8s						
SRU	San Rafael Swe	34.08	101	eP	P	20 09 28.6	+1.7
SRU				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LCMT	Little Creek M	34.11	106	eP	P	20 09 28.8	+1.7
	comp=Z,3.3nm,0.9s						
LCMT				ePcP	PcP	20 12 04.7	+0.7
HEC	Hector,Ludlow	34.11	112	P	P	20 09 27.3	+0.2
	baz=321						
RWWY	Rawlins	34.16	94	eP	P	20 09 28.6	+1.0
	comp=Z,14nm,0.9s						
RSSD	Black Hills	34.37	88	eP	P	20 09 30.4	+1.0
	comp=Z,27nm,0.8s						
RSSD	Black Hills	34.37	88	eP	P	20 09 30.4	+1.0
RSSD				pmax	pmax		
	comp=Z,27nm,0.8s						
RSSD	Black Hills	34.37	88	P	P	20 09 29.9	+0.5
	baz=309						
GMRC	Granite Mounta	34.50	111	P	P	20 09 30.9	+0.4
	baz=320						
MDND	Maddock	34.60	80	eP	P	20 09 32.5	+1.4
	comp=Z,45nm,0.8s						
MDND	Maddock	34.60	80	P	P	20 09 31.8	+0.6

baz=305,SNR=6.1
O20A White River Ci 34.63 97 eP P 20 09 32.9 +1.1
comp=Z,10nm,0.8s
O20A White River Ci 34.63 97 P P 20 09 32.3 +0.6
baz=313,SNR=7.6
PFO Pinyon Flats O 35.00 113 P P 20 09 34.5 -0.3
baz=322
PFO Pinyon Flats O 35.00 113 LR LR 20 21 48.0
comp=Z,298nm,19.0s,baz=308,slow=33
U15A North Rim 35.05 106 eP P 20 09 36.9 +1.4
comp=Z,5.1nm,1.1s
U15A ePcP PcP 20 12 07.7 +0.8
W13A Hualapai Mount 35.20 109 eP P 20 09 38.0 +1.4
comp=Z,3.5nm,0.9s
W13A ePcP PcP 20 12 07.7 +0.4
IRM Iron Mountain 35.25 111 P P 20 09 37.7 +0.8
baz=321,SNR=7.0
ULM Lac du Bonnet 35.29 74 P P 20 09 37.6 +0.6
comp=Z,13nm,0.7s,baz=304,slow=8.1,SNR=28
ULM PcP PcP 20 12 05.6 -1.4
comp=Z,2.1nm,0.7s,baz=74,slow=1.6,SNR=3.3
ULM LR LR 20 23 42.7
comp=Z,296nm,20.7s,baz=303,slow=36
N23A Red Feather La 35.40 94 P P 20 09 38.9 +0.5
baz=312
BC3 Big Chuckawall 35.48 112 P P 20 09 39.1 +0.2
baz=321
MONP2 Monument Peak 35.58 114 P P 20 09 40.0 +0.1
baz=322
PDMCI Parker Dam,Lak 35.67 110 P P 20 09 40.7 +0.3
baz=320
NKL Nikolayevsk 35.86 293 eP P 20 09 41.4 -0.4
NKL pmax pmax
comp=Z,25nm,1.0s
Y12C Blythe 35.89 111 eP P 20 09 43.8 +1.4
comp=Z,6.5nm,0.8s
Y12C Blythe 35.89 111 P P 20 09 42.7 +0.4
baz=321
TYV Tymovskoe 36.03 288 eP P 20 09 52.7 +9.4
TYV pmax pmax
comp=Z,19nm,0.7s
WUAZ Wupatki 36.23 106 eP P 20 09 47.0 +1.6
comp=Z,3.8nm,0.8s
WUAZ Wupatki 36.23 106 P P 20 09 46.0 +0.6
baz=318
GLA Glamis 36.28 112 P P 20 09 46.4 +0.7
baz=322
AGMN Agassiz Nation 36.39 76 eP P 20 09 46.0 -0.5
comp=Z,22nm,0.8s
AGMN Agassiz Nation 36.39 76 P P 20 09 46.4 -0.1
baz=305,SNR=13
MVCO Mesa Verde 36.55 101 P P 20 09 48.2 0.0
baz=316
YAK Yakutsk 36.89 311 eP P 20 09 50.3 -0.2
YAK e*PP pP 20 09 57.6 -0.2
YAK e 20 12 10.7
YAK eS S 20 15 29.6 -3.8
YAK eSSS SSS 20 18 32.1
YAK pmax pmax
comp=Z,128nm,0.6s
YAK pmax pmax
comp=N,21nm,0.7s
YAK pmax pmax
comp=E,26nm,0.7s
YAK pmax pmax
comp=Z,242nm,3.2s
YAK pmax pmax
comp=N,231nm,3.2s
YAK pmax pmax
comp=E,347nm,3.5s
YAK smax smax
comp=E,273nm,2.9s
YAK smax smax
comp=N,366nm,2.6s
YAK MLR MLR
comp=Z,2µm,17.0s
YAK MLR MLR
comp=N,725nm,17.0s
YAK MLR MLR
comp=E,2µm,16.0s
X16A Lo Mia Camp, P 37.02 107 eP P 20 09 54.1 +1.9
comp=E,6.1nm,0.9s
W18A Petrified Fore 37.41 104 P P 20 09 55.4 -0.1
baz=318
OGNE Ogallala 37.55 91 eP P 20 09 57.7 +1.1
comp=E,20nm,0.6s
OGNE Ogallala 37.55 91 P P 20 09 57.4 +0.8
baz=312
SDCO Great Sand Dun 37.83 97 P P 20 09 59.3 +0.2
baz=315
214A Organ Pipe Nat 38.19 111 P P 20 10 02.8 +0.9
baz=322,SNR=5.8
YSS Yuzh-Sakhalins 38.22 283 eP P 20 10 06.7 +4.7
YSS e 20 10 11.4
YSS eS S 20 15 53.8 -0.2
YSS MLR MLR
comp=Z,200nm,16.0s
ECSD EROS Data Cent 38.76 83 eP P 20 10 06.3 -0.2
comp=Z,5.4nm,0.8s
ECSD EROS Data Cent 38.76 83 P P 20 10 06.1 -0.5
baz=310
T25A Trinidad 38.87 97 P P 20 10 07.8 0.0
baz=316
EYMN Ely 38.97 74 eP P 20 10 08.7 +0.4
comp=Z,61nm,0.6s
EYMN Ely 38.97 74 P P 20 10 08.4 +0.2
baz=307,SNR=17
TUC Tucson 38.99 108 P P 20 10 10.7 +2.0
TUC pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 38.99 108 P P 20 10 09.4 +0.7
baz=321
ANMO Albuquerque 39.33 101 i P P 20 10 12.8 +1.1
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 39.33 101 PcP PcP 20 12 19.8 0.0
comp=Z,3.4nm,0.7s,baz=307,slow=4.1,SNR=6.7
ANMO LR LR 20 25 02.0
comp=Z,95nm,18.1s,baz=282,slow=34
F37A Hinrichs Farm, 39.71 78 P P 20 10 14.2 -0.2
baz=309,SNR=5.3
E38A The Farm, Brul 39.75 76 eP P 20 10 14.7 -0.1
comp=Z,40nm,0.7s
E38A The Farm, Brul 39.75 76 P P 20 10 14.5 -0.3
baz=308,SNR=11
SPMN Marine on St. 39.92 78 eP P 20 10 16.8 +0.5
comp=Z,13nm,0.6s
SPMN Marine on St. 39.92 78 P P 20 10 16.4 +0.1
baz=309
F38A Pierce - Schro 39.97 77 P P 20 10 17.2 +0.5
baz=308,SNR=24
ASAJ Asahikawa 40.07 280 P P 20 10 18.0 +0.5
comp=Z,10nm,0.9s,baz=180,slow=4.3,SNR=4.8
C40A Isle Royale Na 40.25 73 eP P 20 10 19.5 +0.6
comp=Z,30nm,0.6s
C40A Isle Royale Na 40.25 73 P P 20 10 18.9 0.0
baz=307
121A Cookes Peak, D 40.43 105 P P 20 10 20.9 +0.2
baz=320
E39A Mellen 40.43 75 P P 20 10 20.3 -0.2
baz=308
G38A Ridgeland 40.48 78 P P 20 10 20.5 -0.4
baz=309,SNR=8.4
F39A Loretta 40.52 76 P P 20 10 21.0 -0.2
baz=309
H38A Maiden Rock 40.56 79 P P 20 10 21.2 -0.4
baz=310
E40A Wakefield 40.75 75 P P 20 10 23.2 +0.2
baz=308
G39A Holcombe 40.78 77 P P 20 10 23.2 -0.2
baz=309,SNR=13
F40A Park Falls 40.95 76 P P 20 10 24.8 0.0
baz=309,SNR=14
FRB Frobisher Bay 41.04 43 P P 20 10 26.4 +1.2
FRB pmax pmax
comp=Z,41nm,0.6s
D41A Chassel 41.08 73 P P 20 10 26.2 +0.4
baz=308
H39A Augusta 41.10 78 P P 20 10 25.6 -0.5
baz=310
E41A Kenton 41.24 74 P P 20 10 27.0 -0.1
baz=309,SNR=5.1
G40A Rib Lake 41.32 77 eP P 20 10 27.9 +0.1
comp=Z,22nm,0.7s
G40A Rib Lake 41.32 77 P P 20 10 27.7 -0.1
baz=309,SNR=6.1
COWI Conover 41.37 75 eP P 20 10 28.5 +0.2
comp=Z,16nm,0.6s

I39A Houston 41.50 79 eP P 20 10 29.4 +0.1
comp=Z,38nm,0.6s
I39A Houston 41.50 79 P P 20 10 28.7 -0.6
baz=310,SNR=8.2
F41A Three Lakes 41.62 75 eP P 20 10 30.4 +0.2
comp=Z,15nm,0.6s
F41A Three Lakes 41.62 75 P P 20 10 30.0 -0.2
baz=309
H40A Chili 41.63 77 P P 20 10 30.0 -0.4
baz=310
J39A Decorah 41.74 80 P P 20 10 30.8 -0.4
baz=311,SNR=5.3
E42A Champion 41.83 74 P P 20 10 31.7 -0.2
baz=309,SNR=5.2
I40A Norwalk 41.98 78 P P 20 10 33.1 -0.1
baz=311,SNR=6.0
H41A Junction City 42.04 77 P P 20 10 33.5 -0.1
baz=310
K39A Oelwein 42.05 81 P P 20 10 32.8 -1.0
baz=311,SNR=7.0
MSTX Muleshoe 42.09 99 eP P 20 10 35.4 +1.0
comp=Z,7.8nm,0.5s
F42A Maple Grove Fa 42.13 75 P P 20 10 34.8 +0.3
baz=310
J40A Soldiers Grove 42.23 79 P P 20 10 34.5 -0.7
baz=311
ZEA Zeya 42.26 301 eP P 20 10 35.6 +0.2
ZEA pmax pmax
comp=Z,28nm,1.4s
ZEA MLR MLR
comp=Z,200nm,14.0s
I41A Arkdale 42.28 78 eP P 20 10 35.9 +0.2
comp=Z,45nm,0.7s
I41A Arkdale 42.28 78 P P 20 10 35.6 0.0
baz=311,SNR=8.5
G42A Mountain 42.30 75 P P 20 10 35.7 -0.1
baz=310
E43A Lone Tree Farm 42.35 73 eP P 20 10 37.0 +0.8
comp=Z,58nm,0.7s
E43A Lone Tree Farm 42.35 73 P P 20 10 36.3 +0.1
baz=309,SNR=7.6
MNTX Cornudas Mount 42.37 104 eP P 20 10 37.6 +1.1
comp=Z,7.8nm,1.1s
MNTX Cornudas Mount 42.37 104 P P 20 10 37.4 +0.9
baz=320,SNR=6.1
L39A Vinton 42.38 81 P P 20 10 35.5 -1.0
baz=312
F43A Flat Rock, Esc 42.61 74 P P 20 10 38.4 +0.2
baz=310
J41A Loganville 42.65 79 P P 20 10 37.8 -0.9
baz=311,SNR=6.3
G43A Wallace 42.70 75 P P 20 10 38.8 -0.2
baz=310
KLR Kul'dur 42.71 293 c iP P 20 10 39.7 +0.7
KLR Kul'dur 42.71 293 P P 20 10 37.9 -1.1
comp=Z,12nm,0.8s,baz=61,slow=9.2,SNR=50
M39A Webster 42.71 82 P P 20 10 38.9 -0.3
baz=312
H42A Shiocton 42.72 76 P P 20 10 38.8 -0.4
baz=310
E44A Grand Marais A 42.77 72 P P 20 10 40.0 +0.4
baz=309
JFWS Jewell Farm 42.82 79 eP P 20 10 39.6 -0.4
comp=Z,19nm,0.8s
JFWS Jewell Farm 42.82 79 eP P 20 10 39.6 -0.4
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS Jewell Farm 42.82 79 P P 20 10 39.4 -0.7
baz=311
L40A Anamosa 42.85 81 eP P 20 10 39.9 -0.4
comp=Z,17nm,0.8s
L40A Anamosa 42.85 81 P P 20 10 39.8 -0.4
baz=312
I42A Draeger Farm, 42.91 77 eP P 20 10 40.9 +0.1
comp=Z,30nm,0.6s
I42A Draeger Farm, 42.91 77 P P 20 10 40.4 -0.4
baz=311
F44A Big Bay de Noc 42.92 73 P P 20 10 40.4 -0.4
baz=310
K41A Shullsburg 42.99 80 P P 20 10 40.8 -0.6
baz=312,SNR=8.5
M40A Post Highland 43.13 82 P P 20 10 42.2 -0.4
baz=312
H43A Windswept, Lux 43.16 76 P P 20 10 41.4 -1.3
baz=311
J42A Columbus 43.17 78 P P 20 10 42.8 -0.1
baz=311
L41A Preston 43.24 80 P P 20 10 42.9 -0.5
baz=312
I43A Langenfeld Bro 43.34 77 P P 20 10 43.7 -0.5
baz=311
E45A Wooded Hills, 43.34 72 P P 20 10 44.4 +0.2
baz=310
K42A Prairie Point, 43.41 79 P P 20 10 44.2 -0.6
baz=312
N40A Mertquake, Sal 43.44 82 P P 20 10 44.5 -0.6
baz=313
J43A Natural Harves 43.52 77 P P 20 10 44.8 -0.9
baz=311
F45A CMU Biological 43.59 73 P P 20 10 45.7 -0.5
baz=310
D46A Sault St. Mari 43.61 71 P P 20 10 45.7 -0.6
baz=310,SNR=5.6
WMOK Wichita Mounta 43.75 95 eP P 20 10 48.5 +0.9
WMOK Wichita Mounta 43.75 95 eP P 20 10 48.5 +0.9
WMOK Wichita Mounta 43.75 95 P P 20 10 47.9 +0.3
baz=317,SNR=6.1
E46A Sault Ste Mari 43.80 71 P P 20 10 48.0 +0.1
baz=310,SNR=9.2
F46A Macinaw City C 43.94 72 P P 20 10 49.0 0.0
baz=310
N41A Harden Midland 43.97 82 eP P 20 10 48.5 -0.8
comp=Z,19nm,0.7s
N41A Harden Midland 43.97 82 P P 20 10 48.2 -1.1
baz=313
D47A Chapleau 43.99 70 P P 20 10 49.3 -0.1
baz=310,SNR=6.3
K43A Burlington 44.01 78 P P 20 10 48.9 -0.8
baz=312
G46A Petoskey 44.18 73 P P 20 10 50.9 0.0
baz=311,SNR=7.3
I45A Fountain 44.28 75 P P 20 10 51.1 -0.7
baz=311
E47A Iron Bridge 44.29 71 P P 20 10 51.1 -0.7
baz=310
N42A Yates City 44.34 81 P P 20 10 51.4 -0.9
baz=313
O41A Passleys Farm, 44.36 83 P P 20 10 51.4 -1.0
baz=314
H46A Fife Lake 44.50 74 P P 20 10 53.1 -0.4
baz=311
M43A Waltham Townsh 44.52 80 P P 20 10 52.9 -0.8
baz=313
SUMG Summit 44.58 22 eP P 20 10 55.3 +1.1
comp=Z,14nm,0.9s
SUMG Summit 44.58 22 ⇓ iP P 20 10 55.4 +1.1
comp=Z,29nm,0.8s
SUMG i 20 11 00.3
SUMG Summit 44.58 22 ⇓ iP P 20 10 55.4 +1.1
SUMG i 20 11 00.3
SUMG pmax pmax
comp=Z,29nm,0.8s
D48A Paudash Townsh 44.60 69 P P 20 10 54.1 -0.2
baz=310,SNR=5.9
DAG Danmarks Havn 44.67 13 i P P 20 10 55.2 +0.7
comp=Z,15nm,0.5s
DAG i 20 11 05.1
DAG Danmarks Havn 44.67 13 i P P 20 10 55.2 +0.7
DAG i 20 11 05.1
DAG pmax pmax
comp=Z,10.0nm,0.5s
I46A Reed City 44.77 75 P P 20 10 55.1 -0.5
baz=312
D49A Beulah Townshi 44.77 69 P P 20 10 55.1 -0.5
baz=310,SNR=5.3
ABTX Abilene, Hawle 44.83 97 P P 20 10 56.3 0.0
baz=319
E48A Lockeyer 44.86 70 P P 20 10 55.8 -0.6
baz=310
HDIL Hopedale 44.94 81 eP P 20 10 56.8 -0.3
comp=Z,46nm,0.8s
HDIL Hopedale 44.94 81 P P 20 10 56.4 -0.6
baz=313
Q41A Truxton 44.97 84 P P 20 10 56.4 -0.9
baz=314
H47A Mio 45.00 73 P P 20 10 57.4 -0.2
baz=311
O43A Sugar Creek Fa 45.11 81 P P 20 10 57.1 -1.4
baz=314
TX31 Lajitas Ar. Si 45.13 104 eP P 20 10 59.4 +0.6
TXAR Lajitas Array 45.13 104 P P 20 10 59.0 +0.1
comp=Z,5.6nm,0.7s,baz=311,slow=5.6,SNR=45
TXAR PcP PcP 20 12 38.0 -1.0
comp=Z,3.1nm,0.8s,baz=193,slow=1.4,SNR=7.3
TXAR LR LR 20 28 57.2
comp=Z,263nm,18.2s,baz=0.0,slow=35
I47A Gladwin 45.22 74 P P 20 10 56.8 -2.4
baz=312
R41A Rosebud 45.34 85 P P 20 10 59.1 -1.3
baz=315
F49A Sandfield 45.39 71 P P 20 10 58.8 -1.8
baz=311
H48A Harrisville 45.41 73 P P 20 10 59.6 -1.2
baz=311
N44A Piper City 45.41 80 P P 20 10 59.9 -0.9
baz=313
K46A Dorr 45.42 76 P P 20 10 59.8 -1.1
baz=312
J47A Sunmer 45.57 75 P P 20 11 01.6 -0.4
baz=312
CCM Cathedral Cave 45.59 85 P P 20 11 01.0 -1.2
baz=315
S41A Jillco Farms, 45.64 86 P P 20 11 01.6 -1.1
baz=315
E50A Wahnapitae 45.64 69 P P 20 11 02.1 -0.5
baz=311
X37A Clayton 45.77 92 eP P 20 11 04.4 +0.7
comp=Z,13nm,0.6s
BOD Bodaibo 45.79 312 eP P 20 11 02.9 -0.7
BOD eS S 20 17 42.1 -3.4
BOD pmax pmax
comp=Z,17nm,0.8s
USRK Ussuriysk Ar. 45.81 287 P P 20 11 03.2 -0.7
comp=Z,1.2nm,0.6s,baz=46,slow=2.9,SNR=4.2
USRK LR LR 20 30 04.0
comp=Z,144nm,21.5s,baz=52,slow=36
H11N2 WAKE ISLAND Hy 45.81 233 T T 21 00 20.5
baz=29,slow=76,SNR=29
H11N3 WAKE ISLAND Hy 45.81 233 T T 21 00 20.9
baz=29,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 45.83 233 T T 21 00 24.0
baz=29,slow=76,SNR=20
Q43A New Douglas 45.83 83 P P 20 11 03.2 -1.0
baz=314
LPIG La Paz 45.83 115 LR LR 20 27 08.6
comp=Z,97nm,19.3s,baz=6.0,slow=32
K47A Vermontville 45.86 76 P P 20 11 03.4 -1.0
baz=312
LSQQ Lebel-sur-Quev 45.87 64 P P 20 11 03.6 -0.8
baz=310
U40A Yellville 45.90 88 P P 20 11 03.6 -1.1
baz=316
D51A Lot 18 Range I 45.92 67 P P 20 11 04.4 -0.3
baz=311,SNR=5.1
SPA0 Spitsbergen Ar 45.93 2 eP P 20 11 05.5 +1.0
SPITS Spitsbergen Ar 45.93 2 P P 20 11 05.4 +0.9
SPITS pmax pmax
comp=Z,4.0nm,0.2s
HPIG 45.95 108 eP P 20 11 06.2 +0.8
comp=Z,6.8nm,0.8s
M46A Old House Fiel 45.98 78 P P 20 11 04.5 -0.8
baz=313
O45A Potomac 46.02 80 P P 20 11 04.8 -0.8
baz=314
TOBO Tobermory, Bru 46.02 71 P P 20 11 05.4 -0.2
baz=312
P44A Sand Creek, Wi 46.06 82 P P 20 11 05.5 -0.5
baz=314
W39A Magazine 46.21 90 P P 20 11 06.5 -0.7
baz=317
L47A Sherwood 46.22 77 P P 20 11 06.6 -0.6
baz=313
E51A G1948 Merrick 46.22 68 P P 20 11 06.4 -0.8
baz=311,SNR=6.9
VLDQ Val d'Or 46.24 65 eP P 20 11 05.8 -1.5
comp=Z,14nm,0.8s
K48A Perry 46.25 75 P P 20 11 06.7 -0.7
baz=313
SFIN Lafayette 46.27 80 P P 20 11 07.3 -0.3
baz=314
JCT Junction City 46.37 99 eP P 20 11 08.9 +0.3
comp=Z,21nm,0.8s
JCT Junction City 46.37 99 eP P 20 11 08.9 +0.3
JCT pmax pmax
comp=Z,21nm,0.8s
JCT Junction City 46.37 99 P P 20 11 08.5 -0.1
baz=320,SNR=7.8
F51A Arnstein 46.40 69 P P 20 11 07.5 -1.0
baz=311
J49A Marlette 46.40 74 P P 20 11 08.0 -0.6
baz=312
M47A Cromwell 46.41 78 P P 20 11 08.0 -0.7
baz=313
D52A ZEK Kipawa Sen 46.49 67 P P 20 11 08.3 -1.0
baz=311
P45A Graceland, Par 46.51 81 eP P 20 11 09.4 -0.1
comp=Z,27nm,0.8s
P45A Graceland, Par 46.51 81 P P 20 11 08.6 -0.8
baz=314
S43A Fulton Ridge, 46.59 85 P P 20 11 09.2 -0.9
baz=315,SNR=8.2
VLA Vladivostok 46.59 286 i P P 20 11 11.3 +1.3
VLA pmax pmax
comp=Z,7.0nm,0.9s
BMRO Meriville Lake 46.60 71 P P 20 11 09.7 -0.5
baz=312
CHGQ Chibougamau 46.62 62 P P 20 11 09.1 -1.1
baz=310,SNR=7.3
K49A Clarkson 46.62 75 P P 20 11 09.5 -0.8
baz=313
KLBO Killbear Provi 46.62 70 P P 20 11 09.4 -0.9
baz=312
L48A N Adams 46.66 76 P P 20 11 10.0 -0.6
baz=313
R44A Waltonville 46.66 83 P P 20 11 10.2 -0.5
baz=315
N47A Urbana 46.70 78 P P 20 11 09.7 -1.2
baz=314
BRCO Bruce Peninsul 46.72 72 P P 20 11 10.6 -0.5
baz=312
Q45A Warren Harvey, 46.72 82 P P 20 11 10.4 -0.7
baz=315
P46A Rosedale 46.74 80 P P 20 11 10.1 -1.2
baz=314
F52A Sundridge 46.80 69 P P 20 11 11.1 -0.6
baz=312
MIAR Mount Ida 46.80 90 P P 20 11 11.6 -0.3
baz=317
T43A Greenville 46.81 85 P P 20 11 10.9 -1.0
baz=316
M48A Edgerton 46.82 77 eP P 20 11 11.2 -0.6
comp=Z,31nm,0.8s
M48A Edgerton 46.82 77 P P 20 11 11.1 -0.8
baz=313
E52A Mattawa 46.82 68 P P 20 11 11.0 -0.8
baz=312
NRIK Noril'sk 46.84 334 P P 20 11 12.1 +0.4
comp=Z,13nm,0.5s,baz=55,slow=6.3,SNR=36
NRIK LR LR 20 35 41.9
comp=Z,175nm,18.4s,baz=44,slow=42
O47A Sheridan 46.88 79 P P 20 11 11.3 -1.0
baz=314
L49A Milan 46.91 76 P P 20 11 12.2 -0.3
baz=313
S44A Carbondale 46.96 84 P P 20 11 12.1 -0.9
baz=315
BWLO Walkerton 46.96 72 P P 20 11 12.4 -0.6
baz=312
H11S1 WAKE ISLAND Hy 46.97 233 T T 21 01 55.2
baz=28,slow=76,SNR=78
H11S2 WAKE ISLAND Hy 46.98 233 T T 21 01 53.1
baz=28,slow=76,SNR=23
H11S3 WAKE ISLAND Hy 46.98 233 T T 21 01 52.7
baz=28,slow=76,SNR=42
SCHQ Schefferville 46.99 52 P P 20 11 12.5 -0.6
comp=Z,9.6nm,0.7s,baz=313,slow=7.6,SNR=8.2
SCHQ LR LR 20 32 07.7
comp=Z,117nm,18.5s,baz=319,slow=38
BUKO Buck Lake 46.99 69 P P 20 11 12.5 -0.8
baz=312
R45A Skylar, Fairfi 47.08 83 P P 20 11 13.3 -0.6
baz=315
N48A Decatur 47.08 78 P P 20 11 12.8 -1.2
baz=314,SNR=5.6
HSPB Hornsund (broa 47.09 3 eP P 20 11 14.6 +1.1
M49A Liberty Center 47.23 76 P P 20 11 14.7 -0.4

baz=314
I51A **Listowel** 47.23 72 P P 20 11 15.0 -0.1
baz=313
X40A **Basin Creek Fa** 47.26 90 P P 20 11 14.8 -0.6
baz=317
H52A **Wyevale** 47.27 70 P P 20 11 14.8 -0.6
baz=312
E53A **Dumoine, Ponti** 47.27 67 P P 20 11 14.9 -0.5
baz=312,SNR=6.6
D54A **Lac Fusel, La** 47.28 66 P P 20 11 14.2 -1.2
baz=312
S45A **Carrier Mills** 47.34 83 P P 20 11 15.8 -0.2
baz=315
MSHR **Mys Shultsa** 47.35 286 *i* P P 20 11 17.7 +1.7
P47A **Martinsville** 47.35 80 P P 20 11 15.1 -0.9
baz=314,SNR=5.5
ALGO **Algonquin Park** 47.36 68 P P 20 11 15.3 -0.8
baz=312
435B **Jarrell** 47.37 97 P P 20 11 16.6 +0.3
baz=320
O48A **Farmland** 47.43 78 P P 20 11 15.3 -1.3
baz=314
BLO **Bloomington** 47.43 80 *e*P P 20 11 16.5 -0.2
comp=Z,27nm,1.0s
BLO **Bloomington** 47.43 80 *e*P P 20 11 16.5 -0.2
BLO pmax pmax
comp=Z,27nm,1.0s
E54A **Lac Daplat, Po** 47.48 67 P P 20 11 16.2 -0.8
baz=312,SNR=8.3
N49A **Columbus Grove** 47.50 77 *e*P P 20 11 16.8 -0.4
comp=Z,42nm,0.9s
N49A **Columbus Grove** 47.50 77 P P 20 11 16.4 -0.8
baz=314,SNR=5.8
R46A **Gibon Southern** 47.56 82 P P 20 11 16.7 -1.0
baz=315
G53A **Haliburton** 47.61 69 P P 20 11 17.6 -0.4
baz=312,SNR=5.4
Q47A **Bedord North L** 47.65 81 P P 20 11 17.6 -0.8
baz=315,SNR=8.0
MAJO **Matsushiro** 47.69 275 *i* P P 20 11 18.3 -0.4
MAJO pmax pmax
comp=Z,7.0nm,1.1s
MAT **Matsushiro** 47.69 275 P P 20 11 20.2 +1.5
MJAR **Matsushiro Arr** 47.69 275 P P 20 11 16.9 -1.9
comp=Z,1.3nm,0.6s,baz=42,slow=5.4,SNR=4.7
MJAR LR LR 20 31 40.0
comp=Z,65nm,20.9s,baz=55,slow=36
HOPEN **Hopen** 47.70 360 *e*P P 20 11 19.8 +1.5
S46A **Don Dixon Farm** 47.82 83 P P 20 11 19.2 -0.5
baz=316
P48A **Milroy** 47.83 79 P P 20 11 18.4 -1.4
baz=315
ACTO **Acton** 47.88 71 P P 20 11 19.9 -0.2
baz=313
J52A **Paris** 47.91 72 P P 20 11 20.0 -0.4
baz=313
O49A **Covington** 47.92 78 P P 20 11 19.4 -1.2
baz=314
PEMO **Pembroke** 47.96 68 P P 20 11 19.9 -0.8
baz=312
Q48A **North Vernon** 48.04 80 P P 20 11 20.4 -1.0
baz=315
BANO **Bancroft** 48.05 69 P P 20 11 20.5 -0.9
baz=313
R47A **Wooly Knot Far** 48.05 81 P P 20 11 20.7 -0.7
baz=315
N50A **Nevada** 48.17 76 P P 20 11 21.9 -0.5
baz=314
P49A **Miami Univ. Ec** 48.17 79 P P 20 11 21.0 -1.4
baz=315
T46A **Princeton** 48.18 83 P P 20 11 21.7 -0.8
baz=316
TYNO **Tyneside** 48.33 72 P P 20 11 22.1 -1.6
baz=313
O50A **Cable** 48.35 77 P P 20 11 22.6 -1.2
baz=314
S47A **Hartford** 48.35 82 P P 20 11 23.4 -0.5
baz=316
DRWO **Darlington Wes** 48.41 70 P P 20 11 24.2 0.0
baz=313
DRCO **St. Marys Ceme** 48.42 70 P P 20 11 23.9 -0.4
baz=313
Q49A **Aurora** 48.45 79 P P 20 11 23.9 -0.7
baz=315
PLVO **Plevna** 48.48 68 P P 20 11 24.0 -0.8
baz=313
U46A **Springville** 48.51 84 P P 20 11 24.7 -0.3
baz=316
G55A **Calabogie** 48.52 68 P P 20 11 24.4 -0.6
baz=313
WLVO **Wesleyville** 48.55 70 P P 20 11 24.5 -0.7
baz=313
DELO **Deloro Mine** 48.55 69 P P 20 11 24.2 -1.0
baz=313
P50A **Jamestown** 48.62 78 P P 20 11 24.9 -1.0
baz=315,SNR=5.5
ACSO **Alum Creek Sta** 48.63 77 P P 20 11 24.7 -1.3
baz=315
T47A **Sharon Grove** 48.66 83 *e*P P 20 11 25.8 -0.4
comp=Z,21nm,1.1s
T47A **Sharon Grove** 48.66 83 P P 20 11 25.2 -1.0
baz=316
I55A **Frankford** 48.72 69 P P 20 11 24.8 -1.7
baz=313
H55A **Tweed** 48.76 69 P P 20 11 25.5 -1.3
baz=313
S48A **Wiedeman Farm,** 48.76 81 P P 20 11 26.0 -1.0
baz=316
J54A **Appleton** 48.86 71 P P 20 11 26.8 -0.9
baz=314
WVT **Waverly** 48.87 84 *e*P P 20 11 27.8 0.0
comp=Z,12nm,0.6s
WVT **Waverly** 48.87 84 *e*P P 20 11 27.8 0.0
WVT pmax pmax
comp=Z,12nm,0.6s
WVT **Waverly** 48.87 84 P P 20 11 27.1 -0.7
baz=316
O51A **Pataskala** 48.90 77 P P 20 11 27.0 -1.1
baz=315
L53A **Girard** 48.91 73 P P 20 11 26.3 -1.8
baz=314
N52A **McGinn's Farm,** 48.93 75 P P 20 11 26.4 -1.9
baz=314
ERPA **Erie** 48.94 73 P P 20 11 27.3 -1.0
baz=314
U47A **Clarksville** 48.95 84 P P 20 11 27.2 -1.3
baz=316
V46A **Holladay** 48.95 85 P P 20 11 27.9 -0.5
baz=317,SNR=9.8
T48A **Bowling Green** 48.97 82 P P 20 11 28.4 -0.2
baz=316
TRQ **Mont Tremblant** 48.98 65 *e*P P 20 11 28.1 -0.5
HKT **Hockley** 48.98 96 *e*P P 20 11 30.0 +1.4
comp=Z,7.8nm,1.0s
HKT **Hockley** 48.98 96 *e*P P 20 11 30.0 +1.4
HKT pmax pmax
comp=Z,8.0nm,1.0s
ORHO **Orleans, Herit** 48.99 67 P P 20 11 27.9 -0.7
baz=313
MEDO **Medina** 49.04 71 P P 20 11 26.9 -2.1
baz=314
M53A **WI Miller and** 49.04 74 P P 20 11 27.7 -1.5
baz=314
Q50A **Georgetown** 49.07 79 P P 20 11 27.9 -1.4
baz=315
LATQ **La Tuque** 49.08 63 P P 20 11 28.4 -0.9
baz=313,SNR=7.1
S49A **Springfield** 49.10 81 P P 20 11 28.7 -0.8
baz=316
P51A **Williamsport** 49.12 78 P P 20 11 28.5 -1.2
baz=315
OXF **Oxford** 49.17 87 P P 20 11 29.0 -1.1
baz=317
H56A **Elgin** 49.21 68 P P 20 11 30.0 -0.3
baz=313,SNR=5.1
ALFO **Alfred** 49.21 66 P P 20 11 29.3 -1.0
baz=313
V47A **Nunnelly** 49.26 84 P P 20 11 30.2 -0.6
baz=317
R50A **Paris** 49.27 80 P P 20 11 29.8 -1.1
baz=316
PECO **Prince Edward** 49.28 69 P P 20 11 29.5 -1.4
baz=314
Q51A **Peebles** 49.28 78 *e*P P 20 11 30.6 -0.4
comp=Z,41nm,0.8s
Q51A **Peebles** 49.28 78 P P 20 11 30.5 -0.5
baz=315,SNR=7.0
W46A **Michie** 49.29 86 P P 20 11 30.5 -0.6
baz=317
J55A **Hilton** 49.30 70 P P 20 11 30.6 -0.5
baz=314
U48A **Cassie Pea, Po** 49.32 83 P P 20 11 30.9 -0.4
baz=316
O52A **Adamsville** 49.34 76 P P 20 11 30.5 -0.9
baz=315
N53A **Lisbon** 49.40 75 P P 20 11 29.9 -1.9
baz=315
T49A **Edmonton** 49.45 82 P P 20 11 31.6 -0.7
baz=316
SCO **Scoresbysund** 49.49 19 *e*P P 20 11 32.9 +0.7
comp=Z,1.9nm,0.7s
SCO **Scoresbysund** 49.49 19 *i* P P 20 11 32.8 +0.7
SCO *i* 20 11 43.3
SCO **Scoresbysund** 49.49 19 *i* P P 20 11 32.8 +0.7
SCO *i* 20 11 43.3
P52A **Corning** 49.52 77 P P 20 11 31.9 -0.9
baz=315
M54A **Oil Creek Stat** 49.54 73 P P 20 11 31.3 -1.6
baz=314
K55A **Perry** 49.54 71 P P 20 11 32.0 -1.0
baz=314
CN2 **Changchun** 49.55 291 *e*P P 20 11 37.0 +4.1
PLAL **Pickwick Lake** 49.57 85 *e*P P 20 11 32.1 -1.1
comp=Z,21nm,0.5s
O53A **New Philadelph** 49.59 76 P P 20 11 32.1 -1.2
baz=315,SNR=7.8
X46A **Boonville** 49.60 86 P P 20 11 32.7 -0.7
baz=317,SNR=5.2
W47A **Westpoint** 49.64 85 P P 20 11 33.2 -0.5
baz=317,SNR=8.7
S50A **Richmond** 49.66 80 P P 20 11 32.8 -1.1
baz=316
R51A **Hillsboro** 49.67 79 P P 20 11 33.5 -0.4
baz=316,SNR=19
V48A **Smith Brothers** 49.72 84 *e*P P 20 11 34.0 -0.4
comp=Z,5.7nm,0.4s
V48A **Smith Brothers** 49.72 84 P P 20 11 33.2 -1.1
baz=317
L55A **Hinsdale** 49.73 72 P P 20 11 33.7 -0.7
baz=314
U49A **Red Boiling Sp** 49.74 82 P P 20 11 32.8 -1.6
baz=316
N54A **Moraine State** 49.75 74 P P 20 11 33.7 -0.8
baz=315
T50A **Nancy** 49.89 81 P P 20 11 34.7 -0.9
baz=316
Q52A **Bidwell** 49.92 77 P P 20 11 34.4 -1.4
baz=315
P53A **Whipple** 50.03 76 P P 20 11 35.8 -0.9
baz=315
X47A **Russelville** 50.03 86 P P 20 11 35.7 -1.0
baz=317
M55A **Ridgway** 50.05 73 P P 20 11 36.4 -0.4
baz=315,SNR=5.5
LONY **Lake Ozonia** 50.06 67 P P 20 11 34.9 -1.9
baz=314
O54A **Avella** 50.09 75 P P 20 11 35.8 -1.3
baz=315
W48A **Pulaski** 50.09 84 P P 20 11 35.8 -1.3
baz=317
V49A **McMinnville** 50.21 83 P P 20 11 37.0 -1.1
baz=317
Q53A **Leroy** 50.40 77 P P 20 11 38.1 -1.3
baz=316
N55A **Marion Center** 50.41 73 P P 20 11 38.4 -1.2
baz=315
FRNY **Flat Rock** 50.42 66 *e*P P 20 11 38.8 -0.8
comp=Z,15nm,0.6s
T51A **Gray** 50.43 80 P P 20 11 38.6 -1.1
baz=316
P54A **Burton** 50.44 76 P P 20 11 38.2 -1.6
baz=315
W49A **Belvidere** 50.48 84 P P 20 11 39.2 -0.9
baz=317
X48A **Hartselle** 50.53 85 P P 20 11 36.9 -3.6
baz=318
R53A **Hurricane** 50.55 78 P P 20 11 39.5 -1.1
baz=316
O55A **Ligonier** 50.65 74 P P 20 11 39.6 -1.8
baz=315
Q54A **Coxs Mills** 50.69 76 P P 20 11 39.9 -1.7
baz=316
NCB **Newcomb** 50.70 67 *e*P P 20 11 41.6 0.0
comp=Z,11nm,0.8s
V50A **Pikevile** 50.73 83 P P 20 11 40.0 -1.9
baz=317
MCWV **Mont Chateau** 50.75 75 P P 20 11 40.7 -1.4
baz=316
MOQ **Mont Orford** 50.77 65 *e*P P 20 11 42.3 0.0
U51A **La Follette** 50.81 81 P P 20 11 41.4 -1.2
baz=317
T52A **Hallie** 50.86 80 P P 20 11 41.3 -1.6
baz=316
Y48A **Jasper** 50.86 86 P P 20 11 41.0 -2.0
baz=318
P55A **Reedsville** 50.86 75 P P 20 11 41.9 -1.1
baz=316
X49A **Woodville** 50.89 84 P P 20 11 41.9 -1.3
baz=318
LNIG **Linares** 50.92 104 *e*P P 20 11 42.7 -0.8
comp=Z,7.5nm,0.9s
W50A **Signal Mountai** 50.95 83 P P 20 11 42.8 -1.0
baz=317
O56A **Blue Knob Stat** 51.00 74 P P 20 11 43.0 -1.1
baz=315
BINY **Binghamton** 51.01 70 P P 20 11 43.3 -0.8
baz=315
Q55A **Buckhannon** 51.09 76 P P 20 11 42.7 -2.1
baz=316
SSPA **Standing Stone** 51.11 73 P P 20 11 43.8 -1.0
baz=315
147A **Livingston** 51.16 88 P P 20 11 44.0 -1.3
baz=318
R54A **Victor** 51.18 77 P P 20 11 43.6 -1.7
baz=316
T53A **Wise** 51.20 79 P P 20 11 44.3 -1.3
baz=316
W51A **Cleveland** 51.29 83 P P 20 11 44.8 -1.4
baz=317
X50B **Fort Payne** 51.31 84 P P 20 11 45.0 -1.4
baz=318
Y49A **Blount Mountai** 51.33 85 P P 20 11 45.3 -1.3
baz=318
V52A **Sevierville** 51.44 81 P P 20 11 46.4 -0.9
baz=317
TKL **Tuckaleechee C** 51.47 82 LR LR 20 33 39.5
comp=Z,315nm,18.2s,baz=318,slow=36
R55A **Marlinton** 51.58 77 P P 20 11 47.7 -0.7
baz=316
LRAL **Lakeview Retre** 51.61 86 P P 20 11 47.4 -1.2
baz=318
U53A **Fall Branch** 51.62 80 P P 20 11 47.5 -1.2
baz=317
T54A **Tazewell** 51.67 79 P P 20 11 48.5 -0.6
baz=317
X51A **Calhoun** 51.67 83 P P 20 11 48.0 -1.1
baz=318
Y50A **Piedmont** 51.68 85 P P 20 11 48.0 -1.1
baz=318
LBNH **Lisbon** 51.69 66 P P 20 11 48.2 -0.9
baz=315
S55A **Lewisburg** 51.74 77 P P 20 11 48.7 -0.9
baz=316
Z49A **Columbiana** 51.75 86 P P 20 11 47.7 -1.9
baz=318
W52A **Murphy** 51.80 82 P P 20 11 48.4 -1.7
baz=317
U54A **Nelsons Funny** 51.92 79 P P 20 11 48.9 -2.1
baz=317
V53A **Saluda** 52.00 81 P P 20 11 50.6 -0.9
baz=317
N59A **State Game Lan** 52.04 71 P P 20 11 50.6 -1.2
baz=316
Z50A **Ashland** 52.05 85 P P 20 11 50.6 -1.3
baz=318
Y51A **Rockmart** 52.05 84 P P 20 11 50.7 -1.2
baz=318
149A **Jones** 52.05 86 P P 20 11 51.0 -0.9
baz=318
T55A **Pulaski** 52.06 78 P P 20 11 50.5 -1.5
baz=317
X52A **Dahlonega** 52.18 83 P P 20 11 51.8 -1.1
baz=318
BLA **Blacksburg** 52.19 78 P P 20 11 51.8 -1.2
baz=317
PKME **Peaks-Kenny Pk** 52.30 63 P P 20 11 52.6 -1.0
baz=315
249A **Camden** 52.33 87 P P 20 11 53.4 -0.5
baz=319
U55A **TA2, Sparta** 52.36 79 P P 20 11 53.2 -1.1
baz=317
V54A **Nebo** 52.40 80 P P 20 11 54.0 -0.5
baz=317
BATG **Bathurst New B** 52.46 59 *e*P P 20 11 54.9 +0.1
comp=Z,42nm,0.7s
150A **Eclectic** 52.47 86 P P 20 11 53.1 -1.9
baz=318
T56A **Rocky Mt** 52.54 78 P P 20 11 53.7 -1.8
baz=317
X53A **Estanollee** 52.58 82 P P 20 11 54.4 -1.4
baz=318
KS01 **Wonju Array Si** 52.72 284 *e*P P 20 11 56.7 -0.1
KSRS **Korea Array** 52.72 283 P P 20 11 56.5 -0.2
comp=Z,5.7nm,0.7s,baz=46,slow=6.7,SNR=19
KSRS LR LR 20 35 46.1
comp=Z,41nm,19.6s,baz=41,slow=38
V55A **Taylorsville** 52.75 79 P P 20 11 55.5 -1.6
baz=317
KSAR **Wonju Array Be** 52.75 284 P P 20 11 56.5 -0.4
KSAR **Wonju Array Be** 52.75 284 P P 20 11 56.6 -0.4
250A **Grady** 52.80 87 P P 20 11 56.1 -1.4
baz=319
Y53A **Monroe** 52.91 83 P P 20 11 56.8 -1.4
baz=318
151A **Opelika** 52.92 85 P P 20 11 56.7 -1.7
baz=319
Z52A **Williamson** 52.94 84 P P 20 11 57.2 -1.2
baz=318
PAL **Palisades** 52.96 70 P P 20 11 56.9 -1.6
baz=316
R58B **Mineral** 53.03 75 P P 20 11 58.5 -0.6
baz=317
X54A **Belton** 53.06 81 P P 20 11 57.9 -1.5
baz=318
251A **Midway** 53.20 86 P P 20 11 59.9 -0.6
baz=319
Z53A **Monticello** 53.34 83 P P 20 12 00.2 -1.2
baz=318
Y54A **Tignall** 53.40 82 P P 20 12 00.8 -1.1
baz=318
X55A **Gracelyn & Ava** 53.53 81 P P 20 12 01.4 -1.4
baz=318
HAMF **Hammerfest** 53.60 0 *e*P P 20 12 02.0 -0.8
EMMW **East Machias** 53.60 62 *e*P P 20 12 02.8 -0.4
comp=Z,19nm,0.7s
252A **Lumpkin** 53.65 85 P P 20 12 02.1 -1.7
baz=319
Z54A **Sparta** 53.78 83 P P 20 12 03.2 -1.4
baz=318
LMN **Caledonia Moun** 54.08 60 *e*P P 20 12 06.1 -0.6
comp=Z,26nm,0.8s
TLY **Talaya** 54.36 311 *e*P P 20 12 08.8 +0.1
TLY pmax pmax
comp=Z,33nm,0.9s
TLY MLR MLR
comp=Z,421nm,16.0s
V59A **Middlesex** 54.45 77 P P 20 12 08.1 -1.4
baz=318
155A **Kite** 54.45 83 P P 20 12 08.3 -1.2
baz=319
254A **Abbeville** 54.49 84 P P 20 12 08.3 -1.6
baz=319
ARCES **ARCESS Array B** 54.71 360 P P 20 12 10.7 -0.2
comp=Z,3.8nm,0.5s,baz=20,slow=7.8,SNR=53
ARCES PcP PcP 20 13 13.7 +0.4
comp=Z,8.5nm,0.8s,baz=4.3,slow=4.9,SNR=4.5
ARE0 **ARCESS Array S** 54.71 360 *e*P P 20 12 11.6 +0.6
553A **Crawfordville** 55.18 87 P P 20 12 14.0 -0.9
baz=320
KTK1 **Kautokeino** 55.24 1 *e*P P 20 12 15.6 +0.8
MOY **Mondy** 55.48 313 *e*P P 20 12 18.3 +1.4
MOY pmax pmax
comp=Z,16nm,2.3s
ULN **Ulaanbaatar** 55.68 306 *e*P P 20 12 19.4 +0.9
comp=Z,2.1nm,0.8s
ULN **Ulaanbaatar** 55.68 306 *e*P P 20 12 19.4 +0.9
ULN pmax pmax
comp=Z,2.0nm,0.8s
GBN **Guysborough** 55.99 58 *e*P P 20 12 20.7 +0.3
comp=Z,14nm,0.8s
SONM **Songino Array** 56.00 306 P P 20 12 22.4 +1.7
comp=Z,5.0nm,0.6s,baz=47,slow=5.9,SNR=15
SONM PcP PcP 20 13 19.3 +0.4
comp=Z,5.9nm,0.6s,baz=87,slow=1.6,SNR=5.1
SONM LR LR 20 38 26.1
comp=Z,411nm,19.4s,baz=102,slow=38
STEI **Steigen** 56.14 4 *e*P P 20 12 22.0 +0.8
HHC **Hu-ho-hao-te** 58.78 298 *e*P P 20 12 42.0 +1.6
HHC sP sP 20 12 55.8 +5.0
HHC S S 20 20 45.5 +1.6
HHC sS sS 20 20 56.0 -0.3
HHC ScS ScS 20 22 28.5 0.0
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,78nm,5.0s
HHC LR LR
comp=Z,160nm,14.1s
HHC LR LR
comp=Z,280nm,15.7s
OUL **Oulu** 59.18 359 *e*P P 20 12 44.5 +1.9
OUL pmax pmax
comp=Z,37nm,0.9s
NSS **Namsos** 59.37 6 *e*P P 20 12 45.2 +1.3
NVS **Novosibirsk** 59.51 325 *e*P P 20 12 42.7 -2.3
NVS *e* 20 13 40.1
TMCR **Tamitsa** 59.65 353 *e*P P 20 12 46.0 +0.1
TMCR pmax pmax
comp=Z,20nm,0.6s
ZAA0 **Zalesovo Array** 59.73 323 *e*P P 20 12 47.5 +0.9
comp=Z,4.7nm,0.9s
ZALV **Zalesovo Beam** 59.73 323 P P 20 12 46.5 -0.1
comp=Z,3.4nm,0.7s,baz=42,slow=6.8,SNR=13
ZALV LR LR 20 41 43.8
comp=Z,308nm,18.3s,baz=70,slow=39
JOF **Joensuu** 61.24 356 P P 20 12 58.5 +1.8
JOF pmax pmax
comp=Z,22nm,0.8s
AKN **Aaknes** 61.32 9 *e*P P 20 12 58.7 +1.4
PRGR **Permogore** 61.47 349 *e*P P 20 12 56.8 -1.5
PRGR pmax pmax
comp=Z,15nm,0.7s
NJ2 **Nanjing** 61.69 286 *e*P P 20 13 00.5 +0.3
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
DGZ **Jazzator, Alta** 62.33 319 *d* *i*P P 20 13 05.4 +0.9
DGZ pmax pmax
comp=Z,1.0nm,0.9s
NC204 **NORSAR Array S** 62.52 7 *e*P P 20 13 06.5 +1.0
comp=Z,11nm,0.6s
NC303 **NORSAR Array S** 62.61 7 *e*P P 20 13 07.2 +1.2
comp=Z,9.6nm,0.8s
NC405 **NORSAR Array S** 62.75 7 *e*P P 20 13 08.0 +1.0
comp=Z,18nm,1.0s
NBO00 **NORSAR Array S** 62.76 7 *e*P P 20 13 07.3 +0.3
comp=Z,10nm,1.0s
NB201 **NORSAR Array S** 62.78 7 *e*P P 20 13 08.4 +1.2
comp=Z,6.9nm,0.7s
NB2 **NORSAR Subarra** 62.78 7 P P 20 13 07.7 +0.5
comp=Z,9.5nm,0.7s,baz=352,slow=6.9
NB2 **NORSAR Subarra** 62.78 7 P P 20 13 07.7 +0.5
baz=352,slow=6.9
NOA **NORSAR Array B** 62.78 7 P P 20 13 08.0 +0.8
comp=Z,6.8nm,0.6s,baz=352,slow=6.7,SNR=50
NOA LR LR 20 43 07.4
comp=Z,19nm,18.2s,baz=330,slow=39
ASK **Askoy** 62.81 11 *e*P P 20 13 08.7 +1.4
KLMR **Klimovskoe** 62.82 352 *e*P P 20 13 06.8 -0.6
KLMR pmax pmax
comp=Z,25nm,1.1s
KLMR **Klimovskoe** 62.82 352 *e*P P 20 13 06.9 -0.5
KLMR AMP 20 13 20.6
comp=Z,25nm,1.1s
FIA1 **FINESS Array S** 62.83 359 *e*P P 20 13 07.8 +0.4
FINES **FINESS Array B** 62.83 359 P P 20 13 08.0 +0.6
comp=Z,13nm,0.9s,baz=10,slow=7.8,SNR=31
FINES LR LR 20 42 40.1
comp=Z,62nm,18.3s,baz=22,slow=38
SKAR **Skarslia** 62.91 9 *e*P P 20 13 08.9 +0.8
BER **Bergen** 62.93 10 *e*P P 20 13 09.3 +1.3
NAO01 **NORSAR Array S** 62.95 7 *e*P P 20 13 09.7 +1.4
comp=Z,8.0nm,0.8s
NC602 **NORSAR Array S** 63.11 7 *e*P P 20 13 10.2 +0.9

NC602 **NORSAR Array S** 63.11 7 *e*P P 20 13 10.0 +0.7
comp=Z,5.0nm,1.1s
NORES **NORESS Array B** 63.11 7 P P 20 13 12.2 +2.9
ODD1 **Odda** 63.52 10 *e*P P 20 13 13.3 +1.3
SVE **Sverdlovsk** 63.72 339⇓*e*P P 20 13 14.2 +0.8
SVE pmax pmax
comp=Z,23nm,1.3s
BLS5 **Blasjo** 63.98 10 *e*P P 20 13 16.3 +1.2
KONO **Kongsberg** 64.04 8 *e*P P 20 13 16.7 +1.2
comp=Z,11nm,0.7s
KONO **Kongsberg** 64.04 8*ce*P P 20 13 16.7 +1.2
KONO pmax pmax
comp=Z,41nm,1.7s
KURK **Kurchatov** 64.50 325 *e*P P 20 13 19.5 +0.9
comp=Z,5.8nm,0.8s
ARU **Arti** 64.50 340 *e*P P 20 13 17.9 -0.7
comp=Z,10.0nm,0.7s
ARU **Arti** 64.50 340*c i*P P 20 13 18.7 +0.2
ARU 20 13 53.6
ARU 20 15 38.3
ARU S S 20 21 58.2 +2.5
ARU SS SS 20 26 02.2 -2.8
ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU MLR MLR
comp=Z,144nm,20.0s
BRVK **Borovoye** 64.89 331 *e*P P 20 13 21.8 +0.6
comp=Z,12nm,1.0s
BRVK **Borovoye** 64.89 331*d i*P P 20 13 21.5 +0.4
BRVK pmax pmax
comp=Z,6.0nm,0.8s
SNART **Snartemo** 65.12 10 *e*P P 20 13 24.4 +1.9
XAN **Xi'an** 65.37 295 P P 20 13 24.5 -0.1
XAN pP sP 20 13 33.5 -1.6
XAN sP pP 20 13 37.5 +5.3
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN pmax pmax
comp=Z,82nm,4.5s
XAN LR LR
comp=Z,240nm,13.0s
XAN LR LR
comp=Z,160nm,22.1s
GTA **Gaotai** 65.54 305 P P 20 13 25.8 +0.1
GTA pP sP 20 13 35.0 -1.2
GTA sP pP 20 13 39.3 +5.9
GTA S S 20 22 08.3 -1.0
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA pmax pmax
comp=Z,83nm,5.1s
GTA LR LR
comp=Z,190nm,19.0s
GTA LR LR
comp=Z,260nm,17.8s
VSU **Vasula** 65.82 359*ce*P P 20 13 28.0 +1.0
VSU pmax pmax
comp=Z,77nm,1.7s
VSU **Vasula** 65.82 359 *e*P P 20 13 27.8 +0.8
VSU IAmb IAmb 20 13 28.8
comp=Z,60nm,0.8s
LZH **Lanzhou** 66.28 300 *e*P P 20 13 24.3 -6.3
LZH pP pP 20 13 35.0 -3.2
LZH sP sP 20 13 40.0 -1.1
LZH pmax pmax
comp=Z,20nm,1.0s
MK31 **Makanchi Array** 66.63 321 *e*P P 20 13 32.8 +0.3
comp=Z,1.6nm,0.9s
MK31 **Makanchi Array** 66.63 321 *e*P P 20 13 32.8 +0.3
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR **Makanchi Array** 66.63 321 P P 20 13 32.5 0.0
comp=Z,1.9nm,0.6s,baz=43,slow=6.9,SNR=21
MKAR LR LR 20 45 29.8
comp=Z,335nm,18.6s,baz=28,slow=38
MK01 **Makanchi Array** 66.65 321 *e*P P 20 13 32.4 -0.2
EKA **Eskdalemuir Ar** 66.72 17 P P 20 13 33.4 +0.5
EKA pmax pmax
comp=Z,4.0nm,0.4s
MAKZ **Makanchi** 66.73 321 *e*P P 20 13 32.9 -0.2
comp=Z,1.9nm,0.6s
MAKZ **Makanchi** 66.73 321 *e*P P 20 13 32.9 -0.2
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
WMQ **Urumqi** 67.12 315 *e*P P 20 13 38.8 +3.1
WMQ pP sP 20 13 49.0 +2.8
WMQ sP PcP 20 13 54.3 -9.5
WMQ LR LR
comp=Z,380nm,22.1s
WMQ LR LR
comp=Z,200nm,22.1s
WMQ LR LR
comp=Z,570nm,19.3s
MOS **Moscow** 68.05 352 *e*P P 20 13 50.6 +9.4
OBN **Obninsk** 68.75 353*c i*P P 20 13 46.0 +0.4
OBN *e* 20 13 51.6
OBN *e* 20 13 56.0
OBN SS SS 20 27 14.0 +3.3
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,49nm,16.0s
BSD **Bornholm Skovb** 68.92 6 *i* P P 20 13 47.4 +0.7
BSD **Bornholm Skovb** 68.92 6 *i* P P 20 13 47.4 +0.7
IIGN **Ignalina** 68.94 359 *e*P P 20 13 47.6 +0.8
IIGN IAmb IAmb 20 13 48.5
comp=Z,7.5nm,0.6s
IDID **Didziasalis** 68.97 359 *e*P P 20 13 47.7 +0.7
IDID IAmb IAmb 20 13 48.6
comp=Z,8.9nm,0.9s
KLNR **Kaliningrad** 69.65 3 *i* P P 20 13 51.7 +0.5
KLNR pmax pmax
comp=Z,30nm,0.9s
MICGM **Minsk** 69.77 358 *e* P 20 13 59.0 +7.0
MNK **Minsk** 69.77 358 *e*P P 20 13 54.0 +2.0
CD2 **Chengdu** 70.48 296 *e*P P 20 13 56.5 -0.3
ABKAR **Akbulak array** 70.95 336 *e*P P 20 13 59.8 +0.5
comp=Z,8.4nm,0.8s
LPSR **Galich'ya Gora** 71.05 351 *e*P P 20 14 00.0 +0.2
LPSR pmax pmax
comp=Z,20nm,0.6s
PMOR **Pomariorio Ree** 71.08 172 *e*T T 21 31 11.2
comp=Z,341nm,0.3s
NRDL **Niedersach Rie** 71.17 9 *e*P P 20 14 01.9 +1.5
comp=Z,6.7nm,0.8s,baz=353,slow=5.9
SDDR **Presa de Saban** 71.32 84 *e*P P 20 14 01.8 -0.3
comp=Z,13nm,0.7s
VAH **Vaihoa** 71.33 172 *e*T T 21 31 33.4
comp=Z,11nm,0.3s
CLZ **Clausthal** 71.84 9 *e*P P 20 14 06.5 +1.8
comp=Z,6.4nm,0.8s,baz=353,slow=5.9
BUG **Bochum--Univer** 71.93 11 *e*P P 20 14 06.4 +1.2
comp=Z,9.1nm,0.7s,baz=353,slow=5.9
BUG *ep*P sP 20 14 16.1 +0.3
GTTG **Gyttingen** 72.10 9 *e*P P 20 14 07.8 +1.6
comp=Z,12nm,0.7s,baz=353,slow=5.9
GTTG *ep*P sP 20 14 17.3 +0.6
VRH **Novokhopyorsk** 72.15 349 *e*P P 20 14 05.4 -1.0
VRH pmax pmax
comp=Z,8.0nm,0.5s
TKM2 **Tokmak 2** 72.33 323 P P 20 14 09.1 +1.1
SNR=5.3
VSR **Storozhevoye** 72.39 350 *e*P P 20 14 07.7 -0.2
VSR pmax pmax
comp=Z,10.0nm,0.4s
KDJ **Kajisay** 72.49 322 *e*P P 20 14 11.0 +2.1
comp=Z,2.2nm,0.8s
KDJ **Kajisay** 72.49 322 *e*P P 20 14 11.0 +2.1
KDJ pmax pmax
comp=Z,2.0nm,0.8s
CHMS **Chumysh** 72.55 324 P P 20 14 10.4 +1.4
SNR=6.2
CLL **Collm** 72.59 7 *e*P P 20 14 09.9 +0.8
comp=Z,4.0nm,0.7s,baz=353,slow=5.9
CLL **Collm** 72.59 7 *e*P P 20 14 09.0 -0.1
CLL *e* 20 14 20.0
CLL **Collm** 72.59 7 *e*P P 20 14 09.0 -0.1
CLL *e**PP sP 20 14 20.0 +0.4
MEM **Membach** 72.61 12 ⇑P P 20 14 10.3 +1.0
MEM ⇑pP sP 20 14 20.0 +0.2
KBK **Karagaybulak** 72.78 323 P P 20 14 12.0 +1.4
SNR=6.4
BAIF **Baives** 72.93 13 *e*P P 20 14 11.6 +0.5
BAIF pmax pmax
comp=Z,4.0nm,0.4s

AAK **Ala-Archa** 72.95 324 P P 20 14 12.8 +1.2
SNR=6.8
AAK **Ala-Archa** 72.95 324 *e*P P 20 14 12.4 +0.8
comp=Z,6.5nm,0.9s
AAK **Ala-Archa** 72.95 324 *e*P P 20 14 12.4 +0.8
AAK pmax pmax
comp=Z,7.0nm,0.9s
FBE **Freiberg** 73.00 7 *e*P P 20 14 12.9 +1.4
comp=Z,7.2nm,0.9s,baz=353,slow=5.9
BRG **Berggiesshubel** 73.09 7 *e*P P 20 14 12.3 +0.3
comp=Z,11nm,1.2s
BRG *e* 20 14 22.9
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 73.09 7 *e*P P 20 14 13.2 +1.1
comp=Z,3.9nm,0.9s,baz=353,slow=5.9
BRG *ep*P sP 20 14 22.9 +0.3
BRG **Berggiesshubel** 73.09 7 *e*P P 20 14 12.3 +0.3
BRG *e* 20 14 22.9
BRG pmax pmax
comp=Z,11nm,1.2s
BRG pmax pmax
comp=Z,14nm,1.1s
MOX **Moxa** 73.14 8 *e*P P 20 14 13.6 +1.2
comp=Z,8.0nm,0.6s,baz=353,slow=5.9
MOX *ep*P sP 20 14 23.5 +0.5
TNS **Taunus Mts** 73.26 11 *e*P P 20 14 14.3 +1.1
comp=Z,5.9nm,0.7s,baz=353,slow=5.9
TANN **Tannenbergstha** 73.43 8 *e*P P 20 14 15.4 +1.2
comp=Z,3.2nm,0.8s,baz=353,slow=5.9
PVCC **Panska Ves** 73.47 7 *e*P P 20 14 15.4 +1.1
PVCC **Panska Ves** 73.47 7 *e*P P 20 14 15.4 +1.1
GUNZ **Gunzen** 73.47 8 *e*P P 20 14 15.6 +1.2
comp=Z,2.4nm,0.8s,baz=353,slow=5.9
GUNZ *ep*P sP 20 14 25.7 +0.8
PPT **Papeete** 73.51 174 LR LR 20 39 43.5
comp=Z,75nm,19.1s,baz=9.0,slow=30
NRN **Naryn** 73.52 322 *e*P P 20 14 16.6 +1.5
comp=Z,3.2nm,0.8s
TIAR **Tiarei** 73.52 174 *e*T T 21 34 18.6
comp=Z,13nm,0.2s
PPT2 **Papeete2** 73.53 174 *e*LR LR 20 36 44.6
comp=Z,66nm,21.8s
PPT2 **Papeete2** 73.53 174 *e*T T 21 34 19.8
comp=Z,24nm,0.3s
AKASG **Malin Array Be** 73.53 357 P P 20 14 14.7 0.0
comp=Z,9.1nm,0.6s,baz=7.7,slow=6.0,SNR=32
AKBB **Malin Array Si** 73.53 357 *e*P P 20 14 14.5 -0.2
comp=Z,12nm,0.6s
AKBB **Malin Array Si** 73.53 357 *e*P P 20 14 14.5 -0.2
AKBB pmax pmax
comp=Z,12nm,0.6s
KIEV **Kiev** 73.54 357 *e*P P 20 14 14.5 -0.2
comp=Z,12nm,0.5s
KIEV **Kiev** 73.54 357⇓*i*P P 20 14 15.0 +0.3
KIEV **Kiev** 73.54 357*d i*P P 20 14 14.4 -0.3
KIEV pmax pmax
comp=Z,7.0nm,0.8s
WERN **Wernitzgruen** 73.55 8 *e*P P 20 14 16.2 +1.4
comp=Z,4.4nm,0.6s,baz=353,slow=5.9
WERN *ep*P sP 20 14 26.3 +0.9
WLF **Walferdange** 73.56 12 ⇑P P 20 14 14.3 -0.6
AK11 **Malin Array Si** 73.56 357 *e*P P 20 14 14.8 -0.1
UPC **Upice** 73.58 6 *e*P P 20 14 16.2 +1.2
UPC **Upice** 73.58 6 *e*P P 20 14 16.2 +1.2
PAE **Paea** 73.60 174 *e*T T 21 34 23.0
comp=Z,5.2nm,0.3s
SGMF **Saint Gilles** 73.64 18 *e*P P 20 14 15.6 +0.2
SGMF pmax pmax
comp=Z,60nm,1.5s
AML **Almayashu** 73.67 324 P P 20 14 17.8 +1.6
SNR=8.6
LDF **La Druitiere** 73.73 17 *e*P P 20 14 16.1 +0.2
LDF pmax pmax
comp=Z,30nm,1.3s
TVO **Taravao** 73.74 174 *e*T T 21 34 36.1
comp=Z,4.2nm,0.3s
DPC **Dobruska-Polom** 73.75 5 *e*P P 20 14 17.2 +1.1
DPC **Dobruska-Polom** 73.75 5 *e*P P 20 14 17.2 +1.1
KK31 **Karatay Array** 73.81 327 *e*P P 20 14 17.4 +1.0
comp=Z,6.1nm,0.9s
KK31 **Karatay Array** 73.81 327 *e*P P 20 14 17.5 +1.0
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR **Karatay Array** 73.81 327 *e*P P 20 14 17.4 +1.0
comp=Z,6.1nm,0.9s
KKAR **Karatay Array** 73.81 327 *e*P P 20 14 17.5 +1.0
KKAR pmax pmax
comp=Z,6.0nm,0.9s
MANZ **Manzenberg** 73.83 8 *e*P P 20 14 17.5 +1.0
comp=Z,4.0nm,1.1s,baz=353,slow=5.9
MANZ *ep*P sP 20 14 27.2 +0.1
PRU **Pruhonice** 74.01 7 *e*P P 20 14 18.6 +1.1
PRU **Pruhonice** 74.01 7 *e*P P 20 14 18.6 +1.1
KRLC **Kraliky** 74.05 5 *e*P P 20 14 19.1 +1.3
KRLC **Kraliky** 74.05 5 *e*P P 20 14 19.1 +1.3
GRF **Grafenberg Arr** 74.05 9 *e*P P 20 14 19.1 +1.4
comp=Z,5.8nm,0.7s,baz=353,slow=5.9
ROTZ **Rotzenmuhle** 74.06 8 *e*P P 20 14 19.1 +1.3
comp=Z,3.3nm,0.8s,baz=353,slow=5.9
ROTZ *ep*P sP 20 14 28.8 +0.4
OKC **Ostrava-Krasne** 74.35 4 *e*P P 20 14 20.6 +1.1
OKC **Ostrava-Krasne** 74.35 4 *e*P P 20 14 20.6 +1.1
MORC **Moravsky Berou** 74.38 5⇓*i*P P 20 14 20.6 +0.8
MORC **Moravsky Berou** 74.38 5 ⇓P P 20 14 20.6 +0.8
MORC **Moravsky Berou** 74.38 5 *e*P P 20 14 20.4 +0.6
LVV **L'vov** 74.49 0 *e*P P 20 14 24.5 +4.2
ARSB **Arslanbob** 74.63 324 *e*P P 20 14 23.7 +2.2
comp=Z,8.6nm,1.1s
KWP **Kalwaria Pacla** 74.67 1 *e*P P 20 14 22.2 +0.8
comp=Z,70nm,0.9s
KWP **Kalwaria Pacla** 74.67 1 *e*P P 20 14 22.2 +0.8
KWP pmax pmax
comp=Z,70nm,0.9s
KHC **Kasperske Hory** 74.79 7 *e*P P 20 14 23.4 +1.3
comp=Z,2.5nm,0.7s
KHC **Kasperske Hory** 74.79 7 *e*P P 20 14 22.6 +0.4
KHC *ex* x 20 14 33.0
KHC **Kasperske Hory** 74.79 7 *e*P P 20 14 23.4 +1.3
KHC pmax pmax
comp=Z,3.0nm,0.7s
VRAC **Vranov** 74.80 5⇓*i*P P 20 14 23.1 +0.9
VRAC **Vranov** 74.80 5 ⇓P P 20 14 23.1 +0.9
VRAC **Vranov** 74.80 5 *e*P P 20 14 23.1 +0.9
KRUC **Moravsky** 75.04 5 *e*P P 20 14 24.1 +0.6
GEC2 **GERESS Array S** 75.09 7 *e*P P 20 14 24.9 +1.0
comp=Z,3.7nm,0.8s,baz=353,slow=5.9
GEC2 *ep*P sP 20 14 34.9 +0.4
GERES **GERESS Array B** 75.09 7 P P 20 14 24.8 +0.8
comp=Z,3.4nm,0.6s,baz=0.4,slow=6.1,SNR=10
GEA0 **GERESS Array S** 75.10 7 *e*P P 20 14 24.7 +0.7
GEA0 *ep*P sP 20 14 35.0 +0.5
ECH **Echery** 75.10 12 *e*P P 20 14 24.4 +0.5
comp=Z,5.6nm,0.9s
ECH **Echery** 75.10 12 *e*P P 20 14 24.4 +0.5
ECH pmax pmax
comp=Z,6.0nm,0.9s
HAU **Haudompre** 75.21 12 *e*P P 20 14 24.8 +0.2
HAU pmax pmax
comp=Z,7.0nm,0.8s
KSH **Kashi** 75.23 321 P P 20 14 29.0 +4.1
KSH pP PcP 20 14 39.0 +0.7
KSH S S 20 24 05.0 +2.7
KSH pmax pmax
comp=Z,5.0nm,0.5s
KSH pmax pmax
comp=Z,110nm,5.7s
KSH LR LR
comp=Z,130nm,11.4s
KSH LR LR
comp=Z,600nm,15.3s
JAVC **Velka Javorina** 75.30 5 *e*P P 20 14 26.9 +1.8
MFF **Saint Martin d** 75.66 17 *e*P P 20 14 27.3 +0.2
MFF pmax pmax
comp=Z,38nm,1.4s
UZH **Uzhgorod** 75.67 1⇑*i*P P 20 14 27.9 +0.8
UZH *i* 20 14 32.3
UZH *i* 20 14 36.6
VYHS **Vyhne** 75.72 4 *e*P P 20 14 28.2 +0.8
VYHS pmax pmax
comp=Z,9.0nm,1.4s
VYHS **Vyhne** 75.72 4 *e*P P 20 14 28.2 +0.8
SSF **Saint Saulge** 75.77 15 *e*P P 20 14 28.0 +0.3
SSF pmax pmax
comp=Z,24nm,1.3s
MODS **Modra-Piesok** 75.77 5 *e*P P 20 14 28.4 +0.7

MODS pmax pmax
comp=Z,7.0nm,0.8s
MODS **Modra-Piesok** 75.77 5 *e*P P 20 14 28.4 +0.7
UBR **Ueberruh** 75.94 10 *e*P P 20 14 29.9 +1.1
comp=Z,5.5nm,0.9s,baz=353,slow=5.9
UBR *ep*P sP 20 14 39.5 +0.1
AVF **Avril sur Loir** 76.01 15 *e*P P 20 14 29.3 +0.2
AVF pmax pmax
comp=Z,3.0nm,0.5s
CONA **Conrad Observa** 76.14 6 *ep*P P 20 14 31.1 +1.2
comp=Z,4.1nm,0.8s,SNR=6.2
TRPA **Tarpa** 76.17 1⇓*i*P P 20 14 31.2 +1.2
SMF **Signal de Mont** 76.22 14 *e*P P 20 14 31.7 +1.4
SMF pmax pmax
comp=Z,41nm,2.0s
PSZ **Piszkesteto** 76.33 3⇓*i*P P 20 14 32.3 +1.3
PSZ **Piszkesteto** 76.33 3 ⇓P P 20 14 32.3 +1.3
TCF **Toulx Ste Croi** 76.33 16 *e*P P 20 14 31.0 0.0
TCF pmax pmax
comp=Z,30nm,1.5s
MOTA **Moosalm** 76.37 9 *ep*P P 20 14 32.4 +1.1
comp=Z,2.2nm,0.7s
WATA **Walderalm** 76.42 9 *ep*P P 20 14 32.7 +1.1
comp=Z,3.3nm,0.5s
BTK **Batken** 76.47 325 *e*P P 20 14 32.8 +0.8
comp=Z,4.5nm,0.9s
BTK **Batken** 76.47 325 *e*P P 20 14 32.8 +0.8
BTK pmax pmax
comp=Z,5.0nm,0.9s
SQTA **Sankt Quirin** 76.50 9 *ep*P P 20 14 33.2 +1.1
comp=Z,2.9nm,0.5s
CABF **La Chapelle** 76.55 13 *e*P P 20 14 33.2 +0.9
CABF pmax pmax
comp=Z,29nm,1.4s
FETA **Feichten** 76.66 10 *ep*P P 20 14 34.3 +1.3
comp=Z,6.4nm,0.7s
BUR08 **Bucovina Ar. S** 76.67 359 *e*P P 20 14 34.1 +1.1
comp=Z,3.0nm,0.6s
BURAR **Bucovina Array** 76.70 359⇓*i*P P 20 14 33.8 +0.7
BURAR **Bucovina Array** 76.70 359 ⇓P P 20 14 33.8 +0.7
KBA **Koelnbreinsper** 76.82 8 *ep*P P 20 14 35.2 +1.3
comp=Z,1nm,1.3s
RJF **Les Rejaudoux** 77.19 16 *e*P P 20 14 35.7 -0.1
RJF pmax pmax
comp=Z,11nm,1.1s
MYKA **Terra Mystica** 77.29 8 *ep*P P 20 14 37.5 +1.1
comp=Z,9.2nm,1.1s
SOKA **Soboth** 77.33 7 *ep*P P 20 14 38.1 +1.4
comp=Z,3.7nm,0.6s,SNR=4.2
BIZ **Bicaz** 77.37 359⇓*i*P P 20 14 37.9 +1.1
LFF **La Frestale** 77.42 17 *e*P P 20 14 37.6 +0.5
LFF pmax pmax
comp=Z,7.0nm,0.5s
OBKA **Obir** 77.47 7 *ep*P P 20 14 38.6 +1.1
comp=Z,30nm,0.9s,SNR=10
LSA **Lhasa** 77.56 305 *e*P P 20 14 38.7 0.0
comp=Z,17nm,0.9s
LSA **Lhasa** 77.56 305 *e*P P 20 14 38.7 0.0
LSA pmax pmax
comp=Z,17nm,0.9s
CAF **Calviac** 77.64 16 *e*P P 20 14 38.5 +0.1
CAF pmax pmax
comp=Z,17nm,1.3s
LPG **La Plagne** 77.73 13 *e*P P 20 14 42.5 +3.3
LPG pmax pmax
comp=Z,15nm,1.4s
LEOM **Leova** 77.79 357⇓*i*P P 20 14 39.6 +0.5
LEOM **Leova** 77.79 357 ⇓P P 20 14 39.6 +0.5
GOF **Gofitskoye** 78.04 347 *e*P P 20 14 41.4 +0.9
GOF pmax pmax
comp=Z,20nm,0.6s
ORIF **Oris-en-Rattie** 78.19 13 *e*P P 20 14 41.9 +0.4
ORIF pmax pmax
comp=Z,18nm,1.4s
VRI **Vrincioaia** 78.43 358⇓*i*P P 20 14 43.4 +0.7
VRI **Vrincioaia** 78.43 358 ⇓P P 20 14 43.4 +0.7
PLOR **Plostina** 78.45 358⇓*i*P P 20 14 42.8 0.0
PLOR **Plostina** 78.45 358 ⇓P P 20 14 42.8 0.0
BZS **Buzias** 78.67 2⇓*i*P P 20 14 44.8 +0.8
BZS **Buzias** 78.67 2 ⇓P P 20 14 44.8 +0.8
MLR **Muntele Rosu** 78.82 359⇓*i*P P 20 14 45.2 +0.2
MLR **Muntele Rosu** 78.82 359 ⇓P P 20 14 45.2 +0.2
GZR **Gura Zlata** 78.91 1⇓*i*P P 20 14 46.5 +1.0
GZR **Gura Zlata** 78.91 1 ⇓P P 20 14 46.5 +1.0
ARR **Arges** 78.95 360⇓*i*P P 20 14 46.6 +1.0
CFR **Carcaliu** 79.09 357⇓*i*P P 20 14 46.3 0.0
CFR **Carcaliu** 79.09 357 ⇓P P 20 14 46.3 0.0
MTLF **Montolieu** 79.21 16 *e*P P 20 14 47.6 +0.5
MTLF pmax pmax
comp=Z,44nm,2.1s
TBI **Tubuai** 79.26 174 *e*T T 21 41 29.0
comp=Z,28nm,0.3s
KBZ **Khabaz** 79.36 346 P P 20 14 48.1 +0.3
comp=Z,4.0nm,1.0s,baz=318,slow=2.5,SNR=6.8
KBZ LR LR 20 57 03.3
comp=Z,42nm,18.4s,baz=345,slow=41
NCK **Nalchik** 79.50 346 *i* P P 20 14 50.0 +1.4
NCK pmax pmax
comp=Z,11nm,1.1s
CRAR **CRAIOVA** 79.99 0⇑*i*P P 20 14 44.8 -6.4
RKT **Rikitea** 80.79 161 *e*T T 21 43 24.8
comp=Z,35nm,0.3s
TAPN **Taplejung** 81.13 306 *e*P P 20 14 58.3 +0.3
SIJI **Sorong** 81.36 255 P P 20 14 58.4 -0.6
comp=Z,11nm,0.9s,baz=34,slow=0.7,SNR=4.8
GUN **Gumba** 81.46 308 *e*P P 20 15 00.2 +0.4
comp=Z,12nm,0.6s
JIRN **Jiri** 81.54 308 *e*P P 20 15 00.9 +0.6
ESDC **Sonseca Array** 81.64 22 P P 20 15 01.2 +1.0
comp=Z,3.2nm,0.5s,baz=341,slow=4.9,SNR=22
ES06 **SONSECA Array** 81.64 22 *e*P P 20 15 01.1 +0.9
ODAN **Odare** 81.69 306 *e*P P 20 15 01.4 +0.5
KKN **Kakani** 81.83 309 *e*P P 20 15 01.9 +0.3
PKI **Pulchoki** 81.96 308 *e*P P 20 15 02.5 0.0
PKIN **Phulchoki** 81.96 308 *e*P P 20 15 02.4 0.0
RAMN **Ramite** 81.97 307 *e*P P 20 15 02.6 +0.2
comp=Z,18nm,0.5s
DANN **Dangsing** 82.00 310 *e*P P 20 15 03.4 +0.8
comp=Z,69nm,0.8s
DMN **Daman** 82.06 309 *e*P P 20 15 03.3 +0.4
comp=Z,6.8nm,0.3s
GEYT **Alibeck** 82.08 334 P P 20 15 02.1 -0.4
comp=Z,2.1nm,0.6s,baz=331,slow=5.8,SNR=7.7
GEYT LR LR 20 59 08.3
comp=Z,129nm,18.5s,baz=15,slow=41
GYA0B **ALIBECK ARRAY** 82.08 334 *e*P P 20 15 03.9 +1.3
comp=Z,4.1nm,0.9s
PYUN **Piuthan** 82.55 310 *e*P P 20 15 05.7 +0.3
KOLN **Koldanda** 82.58 310 *e*P P 20 15 05.7 +0.2
CMMT **Chiang Mai** 82.89 293 P P 20 15 07.9 +0.9
CHTO **Chiang Mai** 82.89 293 *e*P P 20 15 06.1 -0.9
comp=Z,8.6nm,1.4s
CHTO **Chiang Mai** 82.89 293 *e*P P 20 15 06.1 -0.9
CHTO pmax pmax
comp=Z,9.0nm,1.4s
CM31 **Chiang Mai Arr** 83.19 293 *e*P P 20 15 08.4 -0.1
comp=Z,11nm,0.7s
CMAR **Chiang Mai Arr** 83.19 293 P P 20 15 08.3 -0.2
comp=Z,7.0nm,0.7s,baz=13,slow=5.5,SNR=68
CMAR LR LR 20 56 32.4
comp=Z,46nm,18.0s,baz=355,slow=39
CM01 **Chiang Mai Arr** 83.21 293 *e*P P 20 15 08.3 -0.3
PBKT **Sadao Pong** 83.70 290 P P 20 15 11.8 +0.7
DZM **Mont Dzumac** 84.20 215 *e*LR LR 20 41 43.0
comp=Z,82nm,23.9s
DZM **Mont Dzumac** 84.20 215 P P 20 15 12.8 -0.7
comp=Z,16nm,1.0s,baz=184,slow=23,SNR=3.2
BR131 **Keskin Array S** 84.26 353 *e*P P 20 15 14.8 +0.9
comp=Z,6.1nm,0.9s
BRTR **Keskin Array B** 84.26 353 P P 20 15 15.0 +1.1
comp=Z,5.8nm,1.0s,baz=36,slow=2.4,SNR=16
SRAK **Srakaew** 85.26 288 P P 20 15 18.4 -0.6
PTGA **Pitinga** 93.76 86 *e*P P 20 15 58.0 -1.2
comp=Z,6.1nm,0.9s
WRA **Warramunga Arr** 95.78 243 P P 20 16 05.7 -2.6
comp=Z,0.7nm,0.9s,baz=37,slow=5.7,SNR=5.5
ASAR **Alice Springs** 99.13 241 P Pdif 20 16 22.2 -1.2
comp=Z,0.3nm,0.6s,baz=188,slow=26,SNR=4.2
TORD **Torodi Ar. Bea** 108.48 23 PKKPbc PKKPbc 20 32 16.4 -1.9
comp=Z,0.7nm,0.8s,baz=172,slow=1.1,SNR=6.5
PLCA **Paso Flores** 120.09 119 PKP PKPdf 20 21 30.3 -2.0
comp=Z,2.5nm,0.7s,baz=302,slow=3.4,SNR=9.8
KMBO **Kilima Mbogo** 124.26 344 PKP PKPdf 20 21 40.9 -0.5
comp=Z,1.8nm,0.6s,baz=13,slow=7.8,SNR=6.4
QSPA **South Pole Qui** 145.84 180 PKPbc PKPdf 20 22 18.6 -0.7

comp=Z,32nm,0.9s,baz=31,slow=0.8,SNR=89
BOSA Boshof 152.57 358 PKPbc **PKPbc 20 22 37.5 -0.9**
comp=Z,4.4nm,0.8s,baz=321,slow=4.3,SNR=5.1
BOSA PKPab **PKPab 20 22 49.7 +0.8**
comp=Z,9.0nm,0.7s,baz=4.1,slow=3.0,SNR=11

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*IDC **25** 20:11:40.0±1.1,2˙.41N×126˚.51E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/50, mbtmp3.6/5, Error ellipse: s-maj=64.7km s-min=20.7km az=76.0*
*ISCJB **25** 20:11:46.0±0.9,2˙.44N±0˙.07×126˚.84E±0˙.09, h55km, mb3.5/4, Error ellipse: s-maj=14.8km s-min=8.0km az=147.0*
*DJA **25** 20:11:47.0±0.6,2˚N±4˚×12˚7E±˚, h10km, M3.9/9, mb4.1/3, mB4.2/1, MLv3.8/9, Mw(mB)3.3/1*
ISC 25 20:11:47.3±1.0, 2˚47N±0˙.08×126˚9E±0˙.1, h55km, n12, σ1§48/13, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.75**	**164**	P		**Pn**	**20 12 15.9**	**+0.6**
SGSI	**Sangihe**	**1.81**	**312**	P		**Pn**	**20 12 16.9**	**+0.8**
SGSI				S		**Sn**	**20 12 36.2**	**-1.8**
KMSI	**Cibinong**	**3.45**	**237**	P		**Pn**	**20 12 39.5**	**+0.9**
SANI	**Sanana**	**4.57**	**191**	P		**Pn**	**20 12 53.0**	**-0.9**
MRSI	**Marisa** 19nm,0.5s,241nm	**5.32**	**248**	P		**Pn**	**20 13 03.0**	**-1.1**
APSI	**Ampana** 21nm,0.6s	**6.21**	**237**	P		**Pn**	**20 13 19.6**	**+3.2**
MPSI	**Mapaga**	**7.29**	**253**	P		**Pn**	**20 13 31.6**	**+0.4**
FITZ	**Fitzroy Crossi** 1.3nm,0.7s,baz=0.6,slow=12,SNR=6.5	**20.47**	**183**	P		**P**	**20 16 20.4**	**-0.1**
WRA	**Warramunga Arr** 1.9nm,0.4s,baz=337,slow=10,SNR=29	**23.44**	**162**	P		**P**	**20 16 51.1**	**-0.8**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=345,slow=7.0,SNR=7.6	**26.86**	**166**	P		**P**	**20 17 22.6**	**-0.4**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=120,slow=7.9,SNR=11	**58.67**	**326**	P		**P**	**20 21 38.2**	**-0.9**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=247,slow=5.0,SNR=3.2	**86.17**	**25**	P		**P**	**20 24 24.0**	**+1.6**

IDC 25 20:15:44.8±6.2, 32˚06S×178˚42W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/42, mbtmp3.5/2, Error ellipse: s-maj=270.4km s-min=56.6km az=159.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.3nm,0.5s,baz=116,slow=7.9,SNR=3.2	**42.69**	**269**	P		P	20 23 43.7	+0.1
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=111,slow=8.1,SNR=6.6	**43.83**	**274**	P		P	20 23 52.5	-0.4
FINES	**FINESS Array B** 1.3nm,0.9s,baz=15,slow=5.8,SNR=3.0	**146.57**	**339**	PKPbc		PKPdf	20 35 26.7	+0.7

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*IDC **25** 20:16:46.9±1.1,8˚.20S×119˚.40E, h0km, mb4.3/4, mb1 4.2/8, mb1mx3.8/51, mbtmp4.1/8, ML3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/34, Error ellipse: s-maj=53.8km s-min=17.0km az=53.0*
*DJA **25** 20:16:50.4±0.3,8˚S±2˚×12˚0E±˚, h10km, M4.4/6, MLv4.4/6*
*ISCJB **25** 20:16:51.0±0.4,7˚.84S±0˚.04×120˚.07E±0˚.06, h35km, mb4.5/9, Error ellipse: s-maj=8.5km s-min=5.4km az=157.6*
*NEIC **25** 20:16:51.6±1.6,7˚.82S×120˚.08E, h24km±13km, mb4.3/9, Error ellipse: s-maj=8.7km s-min=4.4km az=55.0*
ISC 25 20:16:52.6±0.7, 7˚79S±0˙.05×120˚11E±0˙.07, h35km, n34, σ1§08/33, mb4.4/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BSSI	**Bau Bau, Buton**	**1.68**	**13**	P		**Pn**	**20 17 19.2**	**-0.4**
BSSI				S		**Sn**	**20 17 41.0**	**+1.1**
EDFI	**Ende, Flores**	**1.83**	**121**	P		**Pn**	**20 17 23.3**	**+1.5**
WSI	**Waingapu**	**1.88**	**174**	P		**Pn**	**20 17 23.8**	**+1.6**
MMRI	**Maumere**	**2.27**	**112**	*e*Pn		**Pn**	**20 17 28.9**	**+1.2**
MMRI	**Maumere**	**2.27**	**112**	P		**Pn**	**20 17 29.0**	**+1.3**
BKSI	**Bulukumba**	**2.45**	**0**	P		**Pn**	**20 17 30.7**	**+0.5**
PLAI	**Plampang**	**2.53**	**246**	P		**Pn**	**20 17 31.1**	**-0.1**
KAPI	**Kappang**	**2.78**	**353**	*e*Pn		**Pn**	**20 17 35.7**	**+1.0**
BATI	**Baumata** 3.4nm,0.3s,baz=292,slow=7.2,SNR=5.7	**4.25**	**125**	Pn		Pn	20 18 00.1	+5.1
BATI				LR		LR	20 20 07.7	
	comp=Z,258nm,18.1s,baz=327,slow=43							
SOEI	**Soe**	**4.55**	**116**	*e*Pn		Pn	20 18 03.7	+4.5
JAGI	**Jajag, Banyuwa**	**5.94**	**263**	*e*Pn		**Pn**	**20 18 17.6**	**-0.5**
LUWI	**Luwuk**	**7.21**	**22**	*e*Pn		**Pn**	**20 18 35.6**	**-0.1**
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=333,slow=13,SNR=8.9	**11.57**	**153**	Pn		**Pn**	**20 19 34.9**	**-0.6**
FITZ				Sn		**Sn**	**20 21 39.8**	**-3.7**
	0.3nm,0.3s,baz=194,slow=18,SNR=6.0							
MTN	**Manton Dam**	**11.95**	**116**	*e*Pn		**Pn**	**20 19 40.1**	**-0.5**
SIJI	**Sorong** 0.4nm,0.3s,baz=163,slow=19,SNR=3.0	**13.07**	**59**	Pn		**P**	**20 20 04.9**	**-0.9**
WR1	**Warramunga Arr** 11nm,1.3s	**18.33**	**133**	*e*P		**Pn**	**20 21 04.2**	**-0.1**
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=308,slow=12,SNR=20	**18.33**	**133**	P		**Pn**	**20 21 04.2**	**-0.1**
AS31	**Alice Springs** 1.7nm,0.6s	**20.60**	**142**	P		Pn	20 21 29.3	-2.0
ASAR	**Alice Springs** 3.4nm,0.5s,baz=315,slow=10.0,SNR=42	**20.60**	**142**	P		**P**	**20 21 28.9**	**0.0**
ASAR				PcP		**PcP**	**20 25 37.9**	**-1.2**
	0.3nm,0.4s,baz=319,slow=2.1,SNR=4.3							
AS01	**Alice Springs**	**20.63**	**141**	*e*P		Pn	20 21 29.8	-1.8
COEN	**Coen** 24nm,1.4s	**23.45**	**107**	*e*P		**P**	**20 21 59.7**	**+0.5**
BBOO	**Buckleboo** 78nm,1.8s	**28.96**	**151**	*e*P		**P**	**20 22 49.3**	**+0.4**
STKA	**Stephens Creek** 8.8nm,2.0s	**31.22**	**143**	*e*P		**P**	**20 23 10.1**	**+1.2**
STKA	**Stephens Creek** 2.6nm,0.5s,baz=327,slow=9.4,SNR=13	**31.22**	**143**	P		**P**	**20 23 09.3**	**+0.4**
MK01	**Makanchi Array**	**63.88**	**332**	*e*P		**P**	**20 27 22.9**	**+1.1**
MK31	**Makanchi Array** 1.5nm,0.7s	**63.90**	**332**	*e*P		**P**	**20 27 23.1**	**+1.2**
MK32	**Makanchi Array**	**63.90**	**332**	*e*P		**P**	**20 27 22.4**	**+0.5**
MKAR	**Makanchi Array** 2.2nm,0.6s,baz=140,slow=7.6,SNR=34	**63.90**	**332**	P		**P**	**20 27 22.4**	**+0.5**
ZAA0	**Zalesovo Array** 3.0nm,0.6s	**68.32**	**338**	*e*P		**P**	**20 27 50.9**	**+0.8**
ZALV	**Zalesovo Beam**	**68.32**	**338**	*e*P		**P**	**20 27 50.6**	**+0.5**
ZALV	**Zalesovo Beam** 4.2nm,0.5s,baz=145,slow=5.2,SNR=16	**68.32**	**338**	P		**P**	**20 27 50.1**	**+0.1**
ZAA1	**Zalesovo Array**	**68.32**	**338**	*e*P		**P**	**20 27 50.1**	**0.0**
KURK	**Kurchatov** 2.4nm,1.0s	**68.41**	**333**	*e*P		**P**	**20 27 51.7**	**+1.0**
ABKAR	**Akbulak array** 5.8nm,1.7s	**77.22**	**324**	*e*P		**P**	**20 28 43.0**	**0.0**

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*SAR **25** 20:23:58.5±0.6, 44˚.22N×15˚.47E, h6km±3km, ML2.6/8*
*VIE **25** 20:24:00.1±0.8, 44˚.40N×15˚.94E, h6km, mb2.4/2, ml2.1/6, Error ellipse: s-maj=10.9km s-min=5.3km az=89.0*
ISC 25 20:23:56.2±1.5, 44˚12N±0˚.05×15˚45E±0˚.05, h6km±10km, n17, σ1§15/30, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UDBI	**Udbina**	**0.47**	**29**	*e*Pg		**Pg**	**20 24 05.4**	**+0.2**
UDBI				Sg		**Sg**	**20 24 11.7**	**+0.4**
NVLJ	**Novalja**	**0.61**	**317**	*e*Pg		**Pg**	**20 24 08.2**	**+0.4**
NVLJ				Sg		**Sb**	**20 24 17.1**	**-1.0**
RIY	**Rijeka**	**1.39**	**331**	*e*Pg		**Pn**	**20 24 22.3**	**+0.2**
RIY				*e*Sg		**Sg**	**20 24 40.1**	**-0.7**
BLY	**Banja Luka**	**1.39**	**63**	*e*Pg		**Pn**	**20 24 22.2**	**+0.1**
BLY				*e*Sg		**Sg**	**20 24 40.5**	**-0.4**
OZLJ	**Ozalj**	**1.50**	**0**	*e*Pg		**Pb**	**20 24 24.6**	**+0.2**
OZLJ				Sg		**Sn**	**20 24 41.9**	**-1.4**
CRES	**Cresnjev**	**1.71**	**0**	*e*Pn		**Pn**	**20 24 27.1**	**+0.6**
CRES				*e*Sn		**Sn**	**20 24 48.6**	**0.0**
CEY	**Cerknica**	**1.77**	**336**	*e*Pn		**Pn**	**20 24 28.2**	**+0.8**
CEY				*e*Sn		**Sn**	**20 24 50.6**	**+0.3**
LJU	**Ljubljana**	**2.03**	**342**	*e*Sn		**Sn**	**20 24 57.5**	**+0.8**
STON	**Ston**	**2.06**	**127**	*e*Pn		**Pb**	**20 24 34.0**	**+0.1**
STON				*e*Sn		**Sb**	**20 25 00.5**	**+0.8**
OBKA	**Obir** 0.7nm,0.2s	**2.47**	**345**	Pn		**Pn**	**20 24 38.3**	**+1.2**
OBKA				Sn		**Sn**	**20 25 09.8**	**+2.1**
	2.5nm,0.3s							
TREB	**Trebinje**	**2.54**	**123**	*e*Pn		**Pb**	**20 24 41.0**	**-1.1**
TREB				*e*Sn		**Sb**	**20 25 12.6**	**-0.9**
BRY	**Bratogost**	**2.56**	**117**	*e*Pn		**Pb**	**20 24 41.7**	**-0.8**
SOKA	**Soboth** 2.1nm,0.3s	**2.58**	**354**	Pn		**Pn**	**20 24 39.8**	**+1.3**
SOKA				Sn		**Sn**	**20 25 10.9**	**+0.7**
	0.2nm,0.1s							
MYKA	**Terra Mystica** 1.3nm,0.3s	**2.81**	**334**	Sn		**Sb**	**20 25 20.7**	**-0.9**
ABTA	**Abfaltersbach** 3.2nm,0.6s	**3.34**	**323**	*e*Sn		**Sb**	**20 25 33.5**	**-3.4**
CONA	**Conrad Observa** 0.3nm,0.1s	**3.82**	**4**	*e*Pn		**Pn**	**20 24 56.3**	**+0.7**
CONA				Sn		**Sn**	**20 25 39.9**	**-1.0**
	0.7nm,0.3s							
MOA	**Molln** 0.1nm,0.1s	**3.82**	**348**	*e*Pn		**Pn**	**20 24 57.2**	**+1.6**
MOA				*e*Sn		**Sn**	**20 25 41.6**	**+0.8**
	0.6nm,0.2s							

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*ISCJB **25** 20:31:29.7±0.8,31˚.24S±0˙.04×69˚.46W±0˙.06, h126km±8km, Error ellipse: s-maj=8.6km s-min=5.3km az=28.8*
*GUC **25** 20:31:29.7±0.5,31˚.29S×69˚.79W, h153km±4km, ML3.3*
*SJA **25** 20:31:30.8±0.4,31˚.23S×69˚.33W, h112km±2km, ML3.2, MW4.3*
ISC 25 20:31:30.2±1.7, 31˚24S±0˙.04×69˚46W±0˙.05, h123km±12km, n24, σ0§54/27, 3C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.58**	**166**	*e*P		**Pn**	**20 31 49.7**	**+0.3**
RTLS				*e*S		**Sn**	**20 32 03.9**	**+0.1**
RTLS				IAML			20 32 04.6	
	comp=Z,695nm,0.2s							
ACCO	**Cerro Coronel**	**0.73**	**27**	*e*P		**Pn**	**20 31 50.9**	**+0.4**
ACCO				*e*S		**Sn**	**20 32 05.5**	**-0.3**
ZON	**Zonda** comp=Z,237nm,0.2s	**0.73**	**115**	IAML			20 32 06.7	
SJA	**San Juan** comp=Z,293nm,0.2s	**0.82**	**111**	IAML			20 31 51.5	
RTLL	**Cerro Villicun** comp=Z,462nm,0.3s	**0.84**	**96**	IAML			20 32 08.3	
RTLL	**Cerro Villicun**	**0.84**	**96**	↑*i*P		**Pn**	**20 31 51.1**	**0.0**
RTLL				*i* S		**Sn**	**20 32 06.8**	**-0.1**
AMOG	**MOGNA**	**0.88**	**70**	*e*P		**Pn**	**20 31 50.6**	**-0.8**
RTCV	**Cerro Valdivia**	**1.00**	**129**	*e*P		**Pn**	**20 31 52.6**	**0.0**
AROD	**Rodeo**	**1.07**	**359**	*e*P		**Pn**	**20 31 54.6**	**+1.1**
CFA	**Coronel Fontan**	**1.10**	**110**	*e*P		**Pn**	**20 31 53.0**	**-0.5**
CMCH	**Combarbala**	**1.33**	**272**	*e*P		**Pn**	**20 31 55.7**	**-0.3**
CMCH				*i* S		**Sn**	**20 32 15.3**	**-0.2**
ASAL	**Salagasta**	**1.45**	**159**	*e*P		**Pn**	**20 31 57.9**	**+0.5**
ARCO	**CERRO ARCO**	**1.66**	**165**	*e*P		**Pn**	**20 32 00.4**	**+0.6**
ARCO				*e*S		**Sn**	**20 32 22.6**	**+0.1**
ARCO				IAML			20 32 25.1	
	comp=Z,166nm,0.2s							
AGUA	**GUANDACOL**	**1.93**	**26**	*e*P		**Pn**	**20 32 03.5**	**+0.4**
AGUA				*e*S		**Sn**	**20 32 27.5**	**-0.7**
PEL	**Peldehue**	**2.17**	**208**	↑*i*P		**Pn**	**20 32 05.2**	**-0.8**
PEL				*e*S		**Sn**	**20 32 32.5**	**-0.9**
PEL				IAML			20 32 34.2	
	comp=N,168nm,0.3s							
ACAN	**Cantantal**	**2.19**	**119**	*e*P		**Pn**	**20 32 06.0**	**-0.2**
FCH	**Farellones**	**2.20**	**199**	↑*i*P		**Pn**	**20 32 06.9**	**+0.3**
FCH				*i* S		**Sn**	**20 32 35.6**	**+1.1**
FCH				IAML			20 32 40.5	
	comp=E,150nm,0.3s							
CLCH	**Cerro Calan**	**2.34**	**203**	*e*P		**Pn**	**20 32 07.9**	**-0.2**
CLCH				IAML			20 32 42.1	
	comp=E,233nm,0.5s							
APLL	**PUNTA DE LOS L**	**2.66**	**72**	*e*P		**Pn**	**20 32 12.2**	**0.0**
APLL				IAML			20 32 44.8	
	comp=Z,76nm,0.2s							
LMEL	**Las Melosas**	**2.68**	**193**	*e*S		**Sn**	**20 32 45.1**	**-0.1**
LMEL				IAML			20 32 52.9	
	comp=N,123nm,0.1s							
ACLC	**CERRO LA CRUZ**	**2.82**	**51**	*e*P		**Pn**	**20 32 14.6**	**+0.2**
MRA	**San Martin**	**3.39**	**111**	*e*P		**Pn**	**20 32 22.2**	**+0.4**
MRA				IAML			20 33 02.0	
	comp=Z,49nm,0.1s							
TCA	**Tanti** comp=Z,32nm,0.7s	**4.16**	**93**	IAML			20 33 34.3	
CYA	**Choya** comp=Z,58nm,0.2s	**4.22**	**50**	IAML			20 32 32.4	

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*BJI **25** 20:55:13.5, 35˚.92N×24˚.01E, h79km, mb4.8/40, mB4.9/23, Ms4.8/5, Ms7 4.6/2*
*PDG **25** 20:55:16.1±0.4, 35˚.71N×23˚.81E, h4km±1km, ML4.6/12, Error ellipse: s-maj=10.7km s-min=5.1km az=90.0*
*ISCJB **25** 20:55:16.5±0.1, 35˚.56N±0˙.01×24˚.72E±0˙.01, h84km±1km, mb4.5/93, Error ellipse: s-maj=2.3km s-min=1.6km az=23.6*
*ATH **25** 20:55:17.6, 35˚.64N×24˚.71E, h73km±2km, ML4.4/38, Error ellipse: s-maj=2.1km s-min=0.6km az=166.0*
*ISK **25** 20:55:17.9, 35˚.69N×24˚.76E, h28km, ML4.5/20*
*HLW **25** 20:55:17.1, 35˚.43N×24˚.99E, h20km±25km, Md4.4, Ml4.6*
*IDC **25** 20:55:17.2±0.7, 35˚.73N×24˚.72E, h70km±7km, mb4.2/29, mb1 4.2/38, mb1mx4.1/57, mbtmp4.5/38, MS3.0/12, Ms1 3.0/12, ms1mx2.8/46, Error ellipse: s-maj=11.7km s-min=9.3km az=164.0*
*MOS **25** 20:55:18.0±1.2, 35˚.69N×24˚.74E, h59km, mb4.6/45, Error ellipse: s-maj=4.6km s-min=2.5km az=99.7*
*DDA **25** 20:55:18.8, 35˚.94N×25˚.08E, h6km±4km, ML4.5*
*NEIC **25** 20:55:19.8±0.0, 35˚.65N×24˚.71E, h59km, mb4.6/52, ML4.4(ISK), ML4.5(THE), After THE.*
NEIC Felt at Agia Varvara, Chania, Gazi, Irakleio, Kolympari and Rethymno.
*MED_RC **25** 20:55:19.0±0.8, 35˚.65N×24˚.71E, h59km, MW4.4/7, Moment Tensor Solution.Mantle waves: s7,c9; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_r=3.69±.40; $M_{\theta\theta}$-3.53±.47; $M_{\phi\phi}$-0.16±.46; $M_{r\theta}$0.92±.29; $M_{\theta\phi}$-2.16±.38; $M_{\phi r}$-0.50±.25; Best double couple: M_o4.30000×10^{15} NP1:ϕ_s79.00000°, δ51.00000°, λ110.00000°. NP2: ϕ_s229.00000°, δ43.00000°, λ67.00000°. Principal axes: T 3.9700, Plg74.0000°, Azm50.0000°; N 0.6700, Plg15.0000°, Azm246.0000°; P -4.6300, Plg4.0000°, Azm155.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*THE **25** 20:55:19.6, 35˚.65N×24˚.71E, h60km±1km, ML4.5/14 Error ellipse: s-maj=1.6km s-min=0.4km az=181.0*
*GII **25** 20:55:21.2±0.0, 35˚.17N×25˚.54E, h8km, mb4.5/5, MD4.5/5*
*NIC **25** 20:55:24.5±0.3, 35˚.51N×25˚.63E, h55km, mb4.9, ML4.5*
*TIR **25** 20:55:39.7, 35˚.65N×24˚.71E, h7km, Md4.5/5*
ISC 25 20:55:16.5±0.5, 35˚59N±0˙.03×24˚71E±0˙.03, h70km±4km, n681, σ2§54/831, mb4.7/93, 53C-21D, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PRNS	**Prines Rethymn**	**0.28**	**217**	P		**Pn**	**20 55 29.9**	**+2.4**
IDI	**Anoyia**	**0.34**	**154**	*e*Pn		**Pn**	**20 55 29.7**	**+1.7**
IDI	**Anoyia**	**0.34**	**154**	P		**Pn**	**20 55 29.7**	**+1.7**
IDI				S		**Sn**	**20 55 38.3**	**+1.8**
IDI	**Anoyia** 2µm,0.3s,baz=318,slow=7.4,SNR=4693	**0.34**	**154**	P		**Pn**	**20 55 30.3**	**+2.2**
IDI				S		**Sn**	**20 55 38.1**	**+1.7**
	5µm,0.3s,baz=316,slow=19,SNR=81							
IDI	**Anoyia**	**0.34**	**154**	P		**Pn**	**20 55 29.8**	**+1.8**
IDI				S		**Sn**	**20 55 38.2**	**+1.8**
IDI				AML	AML		20 55 38.4	
	comp=E,69605µm,0.3s							
IDI				AML	AML		20 55 38.6	
	comp=N,63266µm,0.1s							
IACM	**Heraklion**	**0.41**	**134**	P		**Pn**	**20 55 30.6**	**+2.1**
IACM	**Heraklion**	**0.41**	**134**	P		**Pn**	**20 55 30.4**	**+1.9**
IACM				S		**Sn**	**20 55 39.5**	**+2.2**
VAM	**Vamos**	**0.45**	**246**	*e*Pn		**Pn**	**20 55 31.4**	**+2.5**
VAM	**Vamos**	**0.45**	**246**	P		**Pn**	**20 55 30.9**	**+2.0**
VAM				S		**Sn**	**20 55 39.8**	**+1.8**
VAM	**Vamos**	**0.45**	**246**	*e*P		**Pn**	**20 55 31.4**	**+2.5**
VAM	**Vamos**	**0.45**	**246**	P		**Pn**	**20 55 31.4**	**+2.5**
VAM				S		**Sn**	**20 55 40.6**	**+2.6**
VAM				AML	AML		20 55 42.0	
	comp=E,37482µm,0.2s							
VAM				AML	AML		20 55 44.6	
	comp=N,73956µm,0.4s							
TMBK	**Timbaki Herakl**	**0.52**	**175**	P		**Pn**	**20 55 32.3**	**+2.8**
CHAN	**Chania**	**0.55**	**263**	P		**Pn**	**20 55 32.0**	**+2.3**
SIVA	**Sivas**	**0.58**	**172**	*e*Pn		**Pn**	**20 55 33.1**	**+3.0**
SIVA	**Sivas**	**0.58**	**172**	P		**Pn**	**20 55 32.6**	**+2.5**
SIVA				S		**Sn**	**20 55 42.7**	**+2.6**
SIVA	**Sivas**	**0.58**	**172**	P		**Pn**	**20 55 33.5**	**+3.4**
SIVA				S		**Sn**	**20 55 44.1**	**+4.0**
SIVA				AML	AML		20 55 50.1	
SIVA				AML	AML		20 55 50.3	
IMMV	**Iera Moni Meta**	**0.61**	**258**	PG		**Pn**	**20 55 32.9**	**+2.5**
IMMV				SG		**Sn**	**20 55 42.2**	**+1.6**
IMMV	**Iera Moni Meta**	**0.61**	**258**	P		**Pn**	**20 55 32.5**	**+2.1**
IMMV				S		**Sn**	**20 55 42.5**	**+1.9**
IMMV	**Iera Moni Meta**	**0.61**	**258**	P		**Pn**	**20 55 33.5**	**+3.2**
IMMV				S		**Sn**	**20 55 43.4**	**+2.8**
IMMV				AML	AML		20 55 44.6	
	comp=N,56229µm,0.3s							
IMMV				AML	AML		20 55 46.3	
	comp=E,63504µm,0.3s							
LAST	**Lasithi**	**0.76**	**124**	*e*Pn		**Pn**	**20 55 34.9**	**+2.7**
LAST	**Lasithi**	**0.76**	**124**	P		**Pn**	**20 55 34.6**	**+2.4**
LAST				S		**Sn**	**20 55 46.2**	**+2.4**
LAST	**Lasithi**	**0.76**	**124**	P		**Pn**	**20 55 34.9**	**+2.7**
LAST				S		**Sn**	**20 55 46.1**	**+2.3**
LAST				AML	AML		20 55 47.3	
LAST				AML	AML		20 55 47.5	
NPS	**Neapolis**	**0.81**	**114**	*e*Pn		**Pn**	**20 55 34.8**	**+2.2**
NPS	**Neapolis**	**0.81**	**114**	P		**Pn**	**20 55 34.6**	**+1.9**
NPS				S		**Sn**	**20 55 46.9**	**+2.3**
NPS	**Neapolis**	**0.81**	**114**	*e*P		**Pn**	**20 55 34.8**	**+2.2**
NPS	**Neapolis**	**0.81**	**114**	P		**Pn**	**20 55 34.9**	**+2.2**
NPS				S		**Sn**	**20 55 46.9**	**+2.3**
NPS				AML	AML		20 55 47.9	
	comp=E,38919µm,0.4s							
NPS				AML	AML		20 55 49.4	
	comp=N,37980µm,0.4s							
GVD	**Gavdhos**	**0.91**	**214**	PG		**Pn**	**20 55 36.8**	**+3.0**
GVD	**Gavdhos**	**0.91**	**214**	*e*Pn		**Pn**	**20 55 36.8**	**+3.0**
GVD	**Gavdhos**	**0.91**	**214**	P		**Pn**	**20 55 36.7**	**+3.0**
GVD				S		**Sn**	**20 55 50.0**	**+3.3**
GVD	**Gavdhos**	**0.91**	**214**	P		**Pn**	**20 55 36.9**	**+3.0**
GVD				S		**Sn**	**20 55 50.9**	**+4.3**
GVD				AML	AML		20 55 52.6	
	comp=N,43612µm,0.5s							
GVD				AML	AML		20 55 53.7	
	comp=E,50283µm,0.3s							
THT1	**Athinios (Pele**	**0.98**	**36**	P		**Pn**	**20 55 36.6**	**+1.8**
THT1				S		**Sn**	**20 55 49.8**	**+1.4**
SANT	**Santorini**	**0.99**	**38**	*e*Pn		**Pn**	**20 55 36.5**	**+1.6**
SANT				S		**Sn**	**20 55 49.7**	**+1.2**
SANT	**Santorini**	**0.99**	**38**	P		**Pn**	**20 55 36.7**	**+1.8**
SANT				S		**Sn**	**20 55 49.8**	**+1.2**
SANT	**Santorini**	**0.99**	**38**	P		**Pn**	**20 55 36.6**	**+1.8**
SANT				S		**Sn**	**20 55 49.8**	**+1.3**
SANT				AML	AML		20 55 52.3	
	comp=N,15450µm,0.2s							
SANT				AML	AML		20 55 52.5	
	comp=E,78779µm,0.3s							
SAP3	**Santorini-Thir**	**0.99**	**31**	P		**Pn**	**20 55 36.6**	**+1.8**
SAP3	**Santorini-Thir**	**0.99**	**31**	P		**Pn**	**20 55 36.9**	**+2.1**
SAP3				S		**Sn**	**20 55 50.2**	**+1.7**
SAP2K	**Karterados**	**1.01**	**36**	P		**Pn**	**20 55 37.2**	**+2.1**
SAP2K	**Karterados**	**1.01**	**36**	P		**Pn**	**20 55 37.3**	**+2.1**
SAP2K				S		**Sn**	**20 55 51.3**	**+2.3**
SFIR	**Foira Santorin**	**1.01**	**35**	P		**Pn**	**20 55 37.2**	**+2.0**
THT2	**Imerovigli**	**1.02**	**34**	P		**Pn**	**20 55 37.2**	**+1.9**
SAP4	**Santorini-Oia**	**1.03**	**31**	P		**Pn**	**20 55 37.3**	**+2.0**
SAP4	**Santorini-Oia**	**1.03**	**31**	P		**Pn**	**20 55 37.4**	**+2.1**
SAP4				S		**Sn**	**20 55 51.2**	**+1.8**
CMBO	**Columbo, Santo**	**1.04**	**33**	P		**Pn**	**20 55 37.5**	**+2.0**
CMBO				S		**Sn**	**20 55 51.2**	**+1.5**
CMBO	**Columbo, Santo**	**1.04**	**33**	P		**Pn**	**20 55 37.8**	**+2.2**
CMBO				S		**Sn**	**20 55 51.8**	**+2.1**
CMBO				AML	AML		20 55 52.5	
	comp=N,88703µm,0.2s							
CMBO				AML	AML		20 55 52.9	
MHLO	**Agia Marina, M**	**1.12**	**347**	P		**Pn**	**20 55 38.4**	**+1.9**
MHLO	**Agia Marina, M**	**1.12**	**347**	P		**Pn**	**20 55 38.4**	**+1.9**
MHLO				S		**Sn**	**20 55 53.0**	**+1.5**
MHLO				AML	AML		20 55 55.3	
	comp=N,97554µm,0.3s							
MHLO				AML	AML		20 55 55.9	
ANAF	**Anafi Island**	**1.15**	**48**	P		**Pn**	**20 55 38.9**	**+2.0**
ANAF				S		**Sn**	**20 55 52.9**	**+0.7**
ANAF	**Anafi Island**	**1.15**	**48**	P		**Pn**	**20 55 38.9**	**+2.0**
ANAF				S		**Sn**	**20 55 53.2**	**+1.0**
ANAF				AML	AML		20 55 53.7	
	comp=E,99524µm,0.3s							
ANAF				AML	AML		20 55 53.9	
MHLA	**Plaka, Milos I**	**1.17**	**349**	P		**Pn**	**20 55 39.1**	**+1.9**
MHLA				AML	AML		20 55 59.4	
	comp=N,23052µm,0.4s							
MHLA				AML	AML		20 56 00.3	
	comp=E,16755µm,0.3s							
ANKY	**Antikythira Is**	**1.18**	**284**	*e*Pn		**Pn**	**20 55 39.4**	**+2.2**
ANKY	**Antikythira Is**	**1.18**	**284**	P		**Pn**	**20 55 39.4**	**+2.2**
ANKY				S		**Sn**	**20 55 54.8**	**+2.1**
ANKY	**Antikythira Is**	**1.18**	**284**	P		**Pn**	**20 55 39.5**	**+2.2**
ANKY				S		**Sn**	**20 55 54.8**	**+2.1**
ANKY				AML	AML		20 55 55.4	
	comp=E,18668µm,0.5s							
ANKY				AML	AML

KARP	Karpathos	2.00	91	ePn	Pn	20 55 49.7 +1.5	LAKA	Lakka	3.43	321	P	Pn	20 56 09.5 +2.0	ULC			eSn	Sn	20 58 24.8 -5.7
KARP	Karpathos	2.00	91	P	Pn	20 55 49.9 +1.8	AYDB	Zeytinkoy-Aydi	3.47	46	PN	Pn	20 56 10.9 +2.7	BR231	Keskin MP Arra	7.67	54	ePn	Pn	20 57 09.4 +3.8
KARP				S	Sn	20 56 13.4 +1.1	TRIZ	Trizonia	3.48	323	P	Pn	20 56 10.2 +2.0	ANTO	Ankara	7.70	54	ePn	Pn	20 57 09.4 +3.5
KARP				AML	AML	20 56 15.3	SMIA	Simia	3.49	340	P	Pn	20 56 10.9 +2.6	SZH	Strazhica	7.72	7	i P	Pn	20 57 08.7 +2.6
	comp=E,8542µm,0.5s						SERG	Sergoula	3.53	324	P	Pn	20 56 10.7 +1.8	HMYD	Mayadein	7.73	137	P	Pn	20 57 06.2 -0.2
KARP				AML	AML	20 56 17.3	RLS	Riolos of Patr	3.58	314	P	Pn	20 56 12.7 +3.1		baz=137					
	comp=N,8785µm,0.2s						EFP	Efpalio	3.61	322	P	Pn	20 56 12.1 +2.1	HNAT	Natroun	7.75	138	P	Pn	20 57 05.6 -1.0
YDRA	Hydra	2.02	331	P	Pn	20 55 50.1 +1.8	AOS	Alonnisos	3.63	350	PN	Pn	20 56 12.4 +2.1		baz=139					
YDRA				S	Sn	20 56 13.6 +1.0	AOS	Alonnisos	3.63	350	P	Pn	20 56 12.6 +2.3	KDZE	Karadeniz Ereo	7.78	41⇓	iP	Pn	20 57 09.6 +2.7
YDRA				AML	AML	20 56 15.9	VTN	Vitineika	3.66	310	P	Pn	20 56 13.0 +2.4	FASA	Fasano	7.79	314	ePn	Pn	20 57 06.5 -0.6
	comp=N,5790µm,0.2s						FETY	Fethiye	3.69	72	PN	Pn	20 56 13.6 +2.5	FASA				Sn	Sn	20 58 26.2 -7.5
YDRA				AML	AML	20 56 16.3	FETY	Fethiye	3.69	72	P	Pn	20 56 13.6 +2.5	MASS	Massafra	7.80	312	ePn	Pn	20 57 06.4 -0.8
	comp=E,9325µm,0.4s						FETY	Fethiye	3.69	72⇑	iPn	Pn	20 56 14.3 +3.2	MASS				Sn	Sn	20 58 25.9 -8.1
KRND	KRANIDI	2.18	325	P	Pn	20 55 52.5 +2.0	FETY				iS	Sn	20 56 52.9 -0.5	DRME	Dracevica, Mon	7.87	328⇑	iPn	Pn	20 57 06.8 -1.3
KRND	KRANIDI	2.18	325	P	Pn	20 55 52.6 +2.0	FETY				IAML_P			DRME				eSn	Sn	20 58 30.0 -5.6
KRND				S	Sn	20 56 18.8 +2.2		comp=Z,10µm,0.2s						DRME	Dracevica, Mon	7.87	328	ePn	Pn	20 57 06.5 -1.6
NISR	Nisiros	2.21	62	P	Pn	20 55 52.9 +2.0	SKIA	Skiathos	3.70	345	P	Pn	20 56 13.6 +2.4	PVY	Plav	7.91	334⇑	iPn	Pn	20 57 08.3 -0.5
NISR				S	Sn	20 56 18.0 +0.8	SKIA				S	Sn	20 56 54.6 +1.0	PVY				eSn	Sn	20 58 31.9 -4.8
DID	Didima	2.25	329	ePn	Pn	20 55 53.3 +1.8	SKIA				AML	AML	20 56 55.5	HLW	Helwan	7.99	134	P	Pn	20 57 08.4 -1.5
DID	Didima	2.25	329	P	Pn	20 55 53.3 +1.8		comp=N,1210µm,0.8s							baz=134					
DID	Didima	2.25	329	P	Pn	20 55 53.2 +1.7	SKIA				AML	AML	20 56 59.6	HLW				S	Sn	20 58 30.7 -8.1
DID				S	Sn	20 56 19.4 +1.2		comp=E,1827µm,0.5s							baz=134					
VLY	Voula,Athens	2.37	342	ePn	Pn	20 55 55.2 +2.1	SIGR	SIGRI	3.73	14	PN	Pn	20 56 12.9 +1.4	PDG	Podgorica	8.04	330⇓	iP	Pn	20 57 08.6 -1.8
VLY	Voula,Athens	2.37	342	P	Pn	20 55 55.2 +2.1	ANX	Ano Chora	3.73	324	P	Pn	20 56 13.5 +1.8	PDG	Podgorica	8.04	330	ePn	Pn	20 57 08.3 -2.1
VLY	Voula,Athens	2.37	342	P	Pn	20 55 55.2 +2.1	PRK	Paraskevi	3.85	18	P	Pn	20 56 15.8 +2.6	TTG	Podgorica	8.04	330⇑	iPn	Pn	20 57 08.4 -2.0
VLY				S	Sn	20 56 23.5 +2.3	TAVA	DENIZLI_Tavas	3.87	60⇑	iP	Pn	20 56 17.4 +3.8	TTG				eSn	Sn	20 58 34.9 -4.8
EPID	Epidavros	2.39	328	P	Pn	20 55 55.6 +2.2	TAVA				iS	Sn	20 57 01.9 +4.1	TTG	Podgorica	8.04	330	ePn	Pn	20 57 08.7 -1.8
ATHU	Athens Univers	2.48	343	P	Pn	20 55 56.9 +2.3	TAVA				IAML_P			TTG	Podgorica	8.04	330	eP	Pn	20 57 08.7 -1.8
ATHU				S	Sn	20 56 24.9 +1.0		comp=Z,3µm,0.5s						MATE	Matera	8.08	311⇑	iP	Pn	20 57 09.9 -1.1
ATHU				AML	AML	20 56 25.6	NEO	Neokhori	3.89	343	P	Pn	20 56 16.0 +2.2	MATE	Matera	8.08	311	S	Sn	20 58 32.0 -8.7
	comp=E,926µm,0.6s						AGG	Agios Georgios	3.91	332	PN	Pn	20 56 17.1 +3.0	BUM	Brajici-Budva	8.08	328⇑	iPn	Pn	20 57 08.6 -2.5
ATHU				AML	AML	20 56 26.0	AGG	Agios Georgios	3.91	332	ePn	Pn	20 56 16.3 +2.1	BUM				eSn	Sn	20 58 34.3 -6.7
	comp=N,1700µm,0.9s						AGG	Agios Georgios	3.91	332	P	Pn	20 56 16.4 +2.3	IVA	Berane	8.17	334⇑	iPn	Pn	20 57 11.6 -0.8
ATH	Athens Observa	2.50	342	P	Pn	20 55 57.0 +2.1	AGG	Agios Georgios	3.91	332	eP	Pn	20 56 16.3 +2.1	IVA				eSn	Sn	20 58 38.6 -4.6
ATH	Athens Observa	2.50	342	P	Pn	20 55 57.5 +2.6	AGG	Agios Georgios	3.91	332	P	Pn	20 56 16.5 +2.3	BR101	Keskin Array S	8.20	57	ePn	Pn	20 57 13.8 +1.0
ATH				S	Sn	20 56 25.4 +1.0	PVO	Paravola	3.95	321	P	Pn	20 56 18.2 +3.6	BR101				eSn	Sn	20 58 42.5 -1.4
ATH	Athens Observa	2.50	342	P	Pn	20 55 57.3 +2.4	KSL	Kastellorizon	4.00	81	P	Pn	20 56 17.4 +2.1	BR101				e		21 01 26.1
ATH				S	Sn	20 56 25.4 +1.0	KSL				AML	AML	20 57 03.5	BR131	Keskin Array S	8.20	57	ePn	Pn	20 57 15.7 +2.9
ATH				AML	AML	20 56 26.3		comp=E,2013µm,0.3s						BRTR	Keskin Array B	8.20	57	P	Pn	20 57 13.8 +1.0
	comp=E,3553µm,0.4s						KSL				AML	AML	20 57 05.8		comp=Z,2.1nm,0.3s,baz=220,slow=15,SNR=82					
ATH				AML	AML	20 56 32.4		comp=N,1504µm,0.6s						BRTR				S	Sn	20 58 42.5 -1.4
	comp=N,2560µm,0.5s						AKAS	Kas	4.03	79	i P	Pn	20 56 18.5 +2.8		comp=Z,0.7nm,0.3s,baz=220,slow=23,SNR=4.6					
PTL	Penteli	2.54	345	P	Pn	20 55 57.8 +2.3	AKAS				iS	Sn	20 57 01.8 +0.1	BRTR				LR	LR	21 01 26.1
PTL				S	Sn	20 56 26.7 +1.2	AKAS				IAML_P				comp=Z,48nm,18.1s,baz=244,slow=46					
PTL				AML	AML	20 56 27.0		comp=Z,11µm,0.3s						SG1	Sgolgore (BA)	8.21	312⇑	iPn	Pn	20 57 11.9 -0.9
	comp=N,9118µm,0.5s						EVR	Evrytania	4.04	326	P	Pn	20 56 18.2 +2.2	SG1				Sn	Sn	20 58 33.8 -10
PTL				AML	AML	20 56 27.2	FYTO	Fytoko, Volos	4.06	340	P	Pn	20 56 18.3 +2.2	KOT	Kottamia	8.24	131	P	Pn	20 57 11.5 -1.7
	comp=E,6636µm,0.7s						SLUM	Salum	4.11	174	P	Pn	20 56 17.5 +0.7		baz=131					
DION	Dionisos Attik	2.56	346	P	Pn	20 55 58.2 +2.5		baz=177						BAI	Bari	8.25	314⇑	iPn	Pn	20 57 12.6 -0.8
BODT	Bodrum	2.56	54	PN	Pn	20 55 57.7 +2.0	SLUM				S	Sn	20 56 59.3 -4.4	BAI				Sn	Sn	20 58 39.2 -5.8
BODT				SN	Sn	20 56 26.2 +0.3		baz=177						CEME	Cevo	8.27	329⇑	iPn	Pn	20 57 11.3 -2.4
VLX	Vlachokerasia	2.58	314	P	Pn	20 55 58.4 +2.3	AKHS	Akhisar	4.11	36	i P	Pn	20 56 20.5 +3.7	CEME				eSn	Sn	20 58 40.5 -5.1
DAT	Datca	2.58	63	PN	Pn	20 55 58.1 +2.0	AKHS				i S	Sn	20 57 05.6 +1.9	KOME	Kolasin	8.29	333⇑	iPn	Pn	20 57 12.5 -1.1
DAT				SN	Sn	20 56 26.9 +0.4	MANT	Manisa	4.23	46	ePn	Pn	20 56 21.8 +3.2	KOME				eSn	Sn	20 58 41.1 -5.0
DAT	Datca	2.58	63⇑	iP	Pn	20 55 58.4 +2.2	LIA	Limnos Island	4.32	5	P	Pn	20 56 21.2 +1.6	HSAF	As Saff	8.29	134	P	Pn	20 57 12.8 -1.3
DAT				i S	Sn	20 56 27.1 +0.5	ELL	Elmali	4.36	73	PN	Pn	20 56 23.4 +3.0		baz=134					
DAT				IAML_P			MGNA	Meganis	4.38	316	P	Pn	20 56 23.6 +3.3	HCY	Herceg Novi	8.38	327⇓	iPn	Pn	20 57 13.5 -1.6
	comp=Z,4µm,0.2s						PAIG	Paliouri	4.40	350	P	Pn	20 56 23.3 +2.5	HCY				eSn	Sn	20 58 41.6 -6.5
BDRM	Kayabasi	2.65	56⇑	iP	Pn	20 55 59.9 +2.9	EZN	Ezine	4.42	16⇑	iP	Pn	20 56 22.7 +1.7	HCY	Herceg Novi	8.38	327	ePn	Pn	20 57 12.2 -2.9
BDRM				i S	Sn	20 56 28.6 +0.5	EZN	Ezine	4.42	16	P	Pn	20 56 22.7 +1.7	HHAG	Hagoai	8.38	130	P	Pn	20 57 13.6 -1.7
SMG	Samos	2.72	38	P	Pn	20 55 60.0 +2.1	THL	Klokotos Trika	4.51	332	P	Pn	20 56 23.8 +1.6		baz=130					
SMG				S	Sn	20 56 31.4 +1.7	LKD2	Lefkada island	4.54	316	i PN	Pn	20 56 23.4 +0.7	GLL	Jalalah	8.41	133	P	Pn	20 57 13.7 -2.0
SMG				AML	AML	20 56 32.7	LKD2				i SN	Sn	20 57 05.7 -8.6		baz=134					
	comp=E,5263µm,0.5s						AKUM	Antalya-Kumluc	4.63	79	i P	Pn	20 56 26.1 +2.3	NKME	Niksic	8.44	330⇓	iPn	Pn	20 57 14.1 -1.9
SMG				AML	AML	20 56 32.8	AKUM				i S	Sn	20 57 15.5 -0.8	NKME				eSn	Sn	20 58 43.7 -6.0
	comp=N,6056µm,0.5s						MATC	Matruh	4.73	153	P	Pn	20 56 25.4 +0.1	NKY	Niksic	8.46	330⇑	iPn	Pn	20 57 15.2 -1.2
MES2	Methoni	2.72	298	P	Pn	20 55 59.2 +1.3		baz=154						NKY				eSn	Sn	20 58 45.0 -5.3
PYL	PYLOS	2.73	299	P	Pn	20 55 59.3 +1.4	MATC				AMP		20 57 00.0	VAE	Valguarnera	8.50	286	P	Pn	20 57 17.9 +1.1
ITM	Ithomi	2.75	306	PN	Pn	20 56 00.7 +2.4		baz=154							comp=Z,3.9nm,0.3s,baz=143,slow=14,SNR=9.2					
ITM	Ithomi	2.75	306	ePn	Pn	20 56 00.3 +2.1	KORT	Korkueli	4.77	71	PN	Pn	20 56 28.9 +3.0	VAE				S	Sn	20 58 43.5 -7.6
ITM	Ithomi	2.75	306	P	Pn	20 56 00.7 +2.4	KORT	Korkueli	4.77	71	i P	Pn	20 56 29.7 +3.7		comp=Z,8.7nm,0.3s,baz=194,slow=19,SNR=7.0					
ITM				S	Sn	20 56 30.9 +0.6	KORT				i S	Sn	20 57 20.1 +0.1	TREB	Trebinje	8.66	327	ePn	Pn	20 57 16.2 -2.7
ITM				AML	AML	20 56 39.4	BRDR	BURDUR-Merkez	4.79	62	i P	Pn	20 56 29.3 +3.2	BRY	Bratogost	8.72	329⇑	iPn	Pn	20 57 18.2 -1.8
	comp=N,1561µm,0.4s						BRDR				i S	Sn	20 57 22.1 +1.7	BRY				eSn	Sn	20 58 50.3 -6.5
ITM				AML	AML	20 56 39.5	BRDR				IAML_P			BRY	Bratogost	8.72	329	ePn	Pn	20 57 17.8 -2.2
	comp=E,2043µm,0.5s							comp=Z,5µm,0.3s						PLE	Pljevlja	8.75	334⇑	iPn	Pn	20 57 18.7 -1.6
TRIP	Tripoli	2.75	315	P	Pn	20 56 00.7 +2.3	LIT	Litokhoron	4.83	339	ePn	Pn	20 56 28.6 +2.0	PLE				eSn	Sn	20 58 52.5 -4.9
TRIP				AML	AML	20 56 40.2	LIT	Litokhoron	4.83	339	eP	Pn	20 56 28.7 +2.0	NBNS	Bani Suef	8.91	139	P	Pn	20 57 21.8 -0.7
	comp=E,3080µm,0.5s						JAN	Janina	5.08	324	P	Pn	20 56 32.0 +1.9		baz=140					
TRIP				AML	AML	20 56 45.2	ISP	Isparta	5.17	63	ePn	Pn	20 56 33.9 +2.5	ILGA	Ilgaz	8.93	50	ePn	Pn	20 57 26.9 +4.0
	comp=N,2483µm,0.6s						ISP	Isparta	5.17	63⇑	iP	Pn	20 56 33.4 +2.0	HFRF	Wahat Farafira	8.96	159	P	Pn	20 57 22.4 -0.7
LOUT	Loutraki	2.77	330	P	Pn	20 56 00.6 +2.1	ISP	Isparta	5.17	63	eP	Pn	20 56 33.9 +2.5		baz=160					
LOUT				S	Sn	20 56 33.1 +2.3	ISP	Isparta	5.17	63	Pn	Pn	20 56 32.5 +1.1	HFRF				S	Sn	20 58 54.5 -8.0
LTK	Loutraki	2.80	331	P	Pn	20 56 01.1 +2.1	THE	Thessaloniki	5.22	345	P	Pn	20 56 33.8 +1.9		baz=160					
LTK	Loutraki	2.80	331	P	Pn	20 56 01.1 +2.1	THE				pmax	pmax		HNTI	Hanita	9.01	103	Pn	Pn	20 57 21.4 -2.4
ARG	Arkhangelos	2.84	76	PN	Pn	20 56 01.9 +2.4		comp=Z,86nm,0.5s						HNTI				Sn	Sn	20 58 55.1 -8.6
ARG	Arkhangelos	2.84	76	P	Pn	20 56 02.1 +2.6	KZN	Kozani	5.25	335	P	Pn	20 56 34.2 +1.8	OFRI	`Ofer	9.02	106	Pn	Pn	20 57 21.3 -2.7
ARG	Arkhangelos	2.84	76	P	Pn	20 56 02.2 +2.6	IGT	Igoumenitsa	5.25	320	P	Pn	20 56 32.8 +0.5	OFRI				Sn	Sn	20 58 55.3 -8.7
ARG				S	Sn	20 56 33.8 +1.1	IGT	Igoumenitsa	5.25	320	i PN	Pn	20 56 31.3 -1.1	STON	Ston	9.07	325	ePn	Pn	20 57 21.3 -3.3
ARG				AML	AML	20 56 36.6	IGT				i SN	Sn	20 57 22.0 -10	STON				Sn	Sn	20 58 54.6 -10
	comp=E,6040µm,0.3s						SOH	Sokhos	5.33	349	P	Pn	20 56 36.5 +3.0	STON	Ston	9.07	325	ePn	Pn	20 57 21.6 -1.6
ARG				AML	AML	20 56 40.1	SOH				pmax	pmax		SRE	Strehaia	9.13	353⇑	iPn	Pn	20 57 27.7 +2.3
	comp=N,3702µm,0.4s							comp=Z,45nm,0.6s						SRE	Strehaia	9.13	353	P	Pn	20 57 27.7 +2.3
VIL2	Platees	2.86	337	P	Pn	20 56 01.3 +1.5	ALN	Alexandroupoli	5.40	11	ePn	Pn	20 56 35.9 +1.5	BLGI	Bet Lehem HaGe	9.14	105	Pn	Pn	20 57 23.4 -2.2
VIL2				S	Sn	20 56 32.4 -0.6	ALN	Alexandroupoli	5.40	11	eP	Pn	20 56 35.9 +1.5	DQRL	Deir Qamar	9.15	99	eP	Pn	20 57 23.5 -2.2
VIL2				AML	AML	20 56 36.0	ALN	Alexandroupoli	5.40	11	P	Pn	20 56 36.0 +1.5	BHL	Bhannes	9.16	97	eP	Pn	20 57 23.5 -2.5
	comp=E,3218µm,0.7s						RDO	Rodhopi	5.58	6	P	Pn	20 56 39.0 +2.2	MMA0B	Mount Meron ar	9.21	103	Pn	Pn	20 57 24.4 -2.2
VIL2				AML	AML	20 56 41.0	SRS	Serrai	5.59	351	P	Pn	20 56 39.2 +2.2	MMA0B				Sn	Sn	20 59 00.6 -8.1
	comp=N,3315µm,0.7s						SRS				pmax	pmax		MMAI	Mount Meron Ar	9.21	103	P	Pn	20 57 24.8 -1.8
EREA	Eretria	2.89	348	P	Pn	20 56 02.8 +2.6		comp=Z,51nm,0.7s							comp=Z,19nm,0.3s,baz=304,slow=13,SNR=76					
GCAM	G?zelcaml?	2.92	43	PN	Pn	20 56 02.9 +2.3	SRN	Sarande	5.68	320	i PN	Pn	20 56 39.8 +1.6	MMAI				S	Sn	20 59 01.4 -7.3
GCAM	G?zelcaml?	2.92	43	i P	Pn	20 56 03.8 +3.2	SRN				i SN	Sn	20 57 30.2 -12		comp=Z,56nm,0.3s,baz=298,slow=32,SNR=14					
GCAM				i S	Sn	20 56 36.6 +2.0	KNT	Kendrikon	5.74	346	P	Pn	20 56 42.0 +2.9	SLTI	Sal'it	9.21	108	Pn	Pn	20 57 24.2 -2.4
MES3	Kyparissia	2.95	305	P	Pn	20 56 03.0 +1.9	KNT				pmax	pmax		SLTI				Sn	Sn	20 58 59.5 -9.2
MES3				S	Sn	20 56 36.1 +0.8		comp=Z,83nm,0.6s						QRWL	Qaraoun	9.28	100	eP	Pn	20 57 25.5 -2.3
CHOS	Chios island	2.99	21	PN	Pn	20 56 03.8 +2.2	FNA	Florina	5.81	334	ePn	Pn	20 56 40.4 +0.3	TIRR	Tirgusor	9.30	17	P	Pn	20 57 29.9 +2.3
CHOS	Chios island	2.99	21	P	Pn	20 56 03.5 +1.9	FNA	Florina	5.81	334	eP	Pn	20 56 40.4 +0.3	HWQ	Hawqa	9.32	95	eP	Pn	20 57 26.1 -2.0
ZEY	zmir	3.01	28	i P	Pn	20 56 03.6 +1.9	FNA	Florina	5.81	334	i PN	Pn	20 56 40.8 +0.8	TLB	Topalu	9.34	15⇑	iP	Pn	20 57 30.0 +1.8
ZEY				i S	Sn	20 56 36.9 +0.3	FNA				i SN	Sn	20 57 35.7 -10	TLB	Topalu	9.34	15	P	Pn	20 57 30.0 +1.8
GUR	Goura	3.01	322	P	Pn	20 56 04.0 +2.0	VAY	Valandovo	5.96	344	ePn	Pn	20 56 42.4 +0.4	GEM	Giv'at Ha'Em	9.36	102	Pn	Pn	20 57 26.6 -2.0
GUR	Goura	3.01	322	P	Pn	20 56 03.9 +2.0	VAY	Valandovo	5.96	344	P	Pn	20 56 46.8 +4.7	GEM				Sn	Sn	20 59 03.8 -8.4
PROD	Prodromos	3.03	332	P	Pn	20 56 03.9 +1.8	BIA	Bitola	6.04	335	ePn	Pn	20 56 44.9 +1.7	KSDI	Kefar Szold	9.36	102	Pn	Pn	20 57 26.0 -2.6
PROD				S	Sn	20 56 39.0 +1.8	BIA				eSn	Sn	20 57 50.2 -0.7	KSDI				Sn	Sn	20 59 03.9 -8.3
AMT	Artemida-Makis	3.10	310	P	Pn	20 56 05.3 +2.4	MMB	Musomiste	6.04	353	i P	Pn	20 56 45.4 +2.3	KZIT	Kziot	9.36	117	Pn	Pn	20 57 25.5 -3.1
AMT				AML	AML	20 56 46.4	RZN	Rozhen	6.09	0	i P	Pn	20 56 46.5 +2.5	KZIT				Sn	Sn	20 59 02.9 -9.4
	comp=E,3291µm,0.4s						YLV	Yalova	6.18	35⇑	iP	Pn	20 56 48.1 +3.0	NATI	Neve Ativ	9.40	101	Pn	Pn	20 57 26.8 -2.3
AMT				AML	AML	20 56 47.2	YLV	Yalova	6.18	35	P	Pn	20 56 48.1 +3.0	NATI				Sn	Sn	20 59 04.6 -8.6
	comp=N,4552µm,1.0s						PPCY	Paphos	6.29	94	P	Pn	20 56 45.5 -1.1	RCY	Rachaya	9.41	100	eP	Pn	20 57 27.3 -2.2
URLA	Izmir	3.15	28	PN	Pn	20 56 05.3 +1.6		baz=278						AMAZ	Amatzia	9.43	113	Pn	Pn	20 57 26.4 -3.1
URLA	Izmir	3.15	28	i P	Pn	20 56 05.4 +1.6	OHR	Ohrid	6.31	332	ePn	Pn	20 56 47.9 +1.1	AMAZ				Sn	Sn	20 59 05.2 -8.8
URLA				i S	Sn	20 56 42.6 +2.5	OHR				eSn	Sn	20 57 51.6 -5.9	MMLI	Mount Malkishu	9.43	106	Pn	Pn	20 57 27.3 -2.3
URLA				IAML_P			SWA2		6.36	174	P	Pn	20 56 47.5 -0.1	MMLI				Sn	Sn	20 59 05.5 -8.8
	comp=Z,13µm,0.4s							baz=176						HERR	Herculane	9.44	350⇑	iP	Pn	20 57 32.2 +2.6
KLV	Kalavryta, Ach	3.19	321	P	Pn	20 56 06.4 +2.0	KRUS	Krusevo	6.37	336	ePn	Pn	20 56 46.2 -1.5	HAPS	Han Pijesak,BI	9.57	334	ePn	Pn	20 57 27.7 -3.7
KLV				S	Sn	20 56 43.7 +2.4	KRUS				eSn	Sn	20 57 53.3 -5.8	HMDT	Nahal Hemdat	9.59	107	Pn	Pn	20 57 29.2 -2.4
KLV				AML	AML	20 56 45.4	KKB	Krupnik	6.39	349	P	Pn	20 56 49.9 +1.9	HMDT				Sn	Sn	20 59 09.0 -8.7
	comp=E,1627µm,0.6s						STIP	Stip	6.40	343	i Pn	Pn	20 56 49.4 +1.3	YTIR	Yattir	9.66	113	Pn	Pn	20 57 29.7 -3.1
KLV				AML	AML	20 56 48.0	PHSR	Pinarhisar	6.42	19⇑	iP	Pn	20 56 50.2 +1.9	YTIR				Sn	Sn	20 59 10.4 -9.3
	comp=N,1427µm,0.8s						ALFC	Alefka	6.46	92	P	Pn	20 56 48.0 -1.0	DSI	Dead Sea	9.76	111	Pn	Pn	20 57 32.0 -2.1
MRKA	Markates	3.23	344	P	Pn	20 56 07.2 +2.3		baz=275						DSI				Sn	Sn	20 59 13.4 -8.7
MRKA				AML	AML	20 56 44.2	ALFC				S	Sn	20 57 53.5 -7.8	ARR	Arges	9.77	360⇑	iP	Pn	20 57 36.9 +2.8
	comp=N,2344µm,0.7s						DIM	Dimitrovgrad	6.48	5	i P	Pn	20 56 51.8 +2.6	VOIR		9.84	1⇑	iP	Pn	20 57 37.7 +2.6
MRKA				AML	AML	20 56 48.9	PLD	Plovdiv	6.50	360	P	Pn	20 56 52.5 +3.1	VOIR		9.84	1	P	Pn	20 57 38.3 +3.2
	comp=E,2171µm,0.8s						PLD	Plovdiv	6.50	360	i P	Pn	20 56 52.6 +3.1	VOIR				pmax	pmax	
YER	Yerkesik	3.27	61	PN	Pn	20 56 08.7 +3.3	HBRG	Burj al `Arab	6.60	138	P	Pn	20 56 50.7 -0.1		comp=Z,10.0nm,0.9s					
AYDN	Tasoluk	3.28	50	i P	Pn	20 56 08.6 +3.0		baz=138						LOT	Lotru	9.87	356⇓	iP	Pn	20 57 38.6 +3.0
AYDN				IAML_P			LEF	Lefka	6.70	92⇑	iP	Pn	20 56 50.5 -1.7	MZDA	Masada	9.87	113	Pn	Pn	20 57 33.3 -2.2
	comp=Z,8µm,0.3s						SZAC	Souni	6.75	95	P	Pn	20 56 51.6 -1.3	MZDA				Sn	Sn	20 59 15.2 -9.4
SKY	Skiros Island	3.28	358	P	Pn	20 56 07.8 +2.3		baz=279						GZR	Gura Zlata	9.90	352⇑	iP	Pn	20 57 29.4 -6.5
DSF	Desfina	3.31	329	P	Pn	20 56 07.6 +1.6	SZAC				S	Sn	20 58 01.1 -7.2	CFR	Carcaliu	9.93	14⇓	iP	Pn	20 57 38.4 +2.2
DSF	Desfina	3.31	329	P	Pn	20 56 07.5 +1.6	SKO	Skopje	6.86	339	ePn	Pn	20 56 51.7 -2.7	CFR	Carcaliu	9.93	14	P	Pn	20 57 38.3 +2.1
LKR	Lokris	3.34	336	P	Pn	20 56 08.7 +2.4	SKO				i Sn	Sn	20 57 54.6 -16	MLR	Muntele Rosu	9.93	5⇓	iP	Pn	20 57 38.7 +2.3
BLCB	Balcova	3.36	33	PN	Pn	20 56 08.4 +1.9	TIR	Tirane	6.89	328	ePn	Pn	20 56 55.0 +0.3	MLR	Muntele Rosu	9.93	5	P	Pn	20 57 38.7 +0.6
DRO	Drossia	3.37	315	P	Pn	20 56 09.6 +3.0	TIR	Tirane	6.89	328⇑	iPn	Pn	20 56 55.1 +0.3		comp=Z,3.2nm,0.3s,baz=162,slow=5.3,SNR=27					
DRO				AML	AML	20 56 54.1	TIR	Tirane	6.89	328	eP	Pn	20 56 55.0 +0.3	MLR				LR	LR	21 02 08.6
	comp=E,7556µm,0.6s						PHP	Peshkopia	6.94	333	i PN	Pn	20 56 53.1 -2.4		comp=Z,89nm,19.4s,baz=219,slow=42					
DRO				AML	AML	20 56 56.7	PHP				i SN	Sn	20 57 56.1 -17	LISJ	El Lisan	9.99	113	P	Pn	20 57 35.2 -2.0
	comp=N,5583µm,0.6s						MAMC	Mammari	6.96	91	P	Pn	20 56 55.5 -0.3		comp=Z,74nm,0.6s					
ATAL	Atalanti	3.38	337	P	Pn	20 56 08.9 +2.1		baz=275						GHAJ	Ghor Haditha	10.03	112	P	Pn	20 57 36.7 -1.0
ATAL				S	Sn	20 56 47.4 +1.7	CSS	Mathiatis	7.08	93	ePn	Pn	20 56 56.1 -1.3		comp=Z,148nm,0.4s					
ATAL				AML	AML	20 56 53.2	CSS	Mathiatis	7.08	93	P	Pn	20 56 56.4 -1.0	GHAJ	Ghor Haditha	10.03	112	Pn	Pn	20 57 35.5

comp=Z,17nm,1.7s
HRFI Mount Harif 10.30 120 Pn Pn 20 57 39.5 -2.0
HRFI Sn Sn 20 59 26.0 -9.3
PLOR Plostina 10.35 8⇑iP Pn 20 57 45.4 +3.3
PLOR Plostina 10.35 8 P Pn 20 57 45.3 +3.2
MBRI Mt Berech 10.36 121 Pn Pn 20 57 39.7 -2.6
MBRI Sn Sn 20 59 27.3 -9.5
DEV Deva 10.37 353⇑iP Pn 20 57 44.3 +2.0
DEV Deva 10.37 353 P Pn 20 57 44.2 +2.0
VRI Vrincioaia 10.38 8⇑iP Pn 20 57 45.6 +3.2
VRI Vrincioaia 10.38 8 P Pn 20 57 45.6 +3.2
DOPR Dopca 10.38 3⇑iP Pn 20 57 44.6 +2.2
JDRJ Daraweish 10.38 115 P Pn 20 57 41.3 -1.4
comp=Z,136nm,0.4s
DOB Doboj 10.43 333 *e*Pn Pn 20 57 37.0 -6.1
EIL Elat 10.46 122 P Pn 20 57 42.5 -1.1
comp=Z,102nm,0.7s
EIL Elat 10.46 122 Pn Pn **20 57 41.0 -2.6**
EIL Sn Sn 20 59 29.4 -10
EIL Elat 10.46 122 P Pn 20 57 41.4 -2.2
comp=Z,18nm,0.3s,baz=252,slow=2.3,SNR=338
EIL S **Sn 20 59 30.6 -8.5**
comp=Z,23nm,0.3s,baz=87,slow=21,SNR=9.1
AQBJ Aqaba 10.49 121 P Pn 20 57 43.5 -0.5
comp=Z,317nm,0.7s
HBST Basata 10.59 124 P Pn 20 57 43.4 -1.9
baz=124
HSNJ Maan 10.65 117 P Pn 20 57 45.3 -1.0
comp=Z,263nm,0.7s
ASF Jabal al Asfar 10.69 105 P Pn 20 57 45.3 -1.5
comp=Z,12nm,0.8s
ASF Jabal al Asfar 10.69 105 P Pn 20 57 45.3 -1.5
comp=Z,1.7nm,0.3s,baz=224,slow=5.4,SNR=17
ASF S **Sn 20 59 37.6 -7.3**
comp=Z,2.9nm,0.3s,baz=231,slow=21,SNR=3.8
BLY Banja Luka 10.80 330 *e*Pn **Pn 20 57 45.6 -2.5**
BLY Banja Luka 10.80 330⇓iP Pn 20 57 45.5 -2.6
BLY Banja Luka 10.80 330 *e*Pn **Pn 20 57 43.9 -4.2**
HDK1 Dakhla 10.80 157 P Pn 20 57 47.3 -1.0
baz=157
SIRR Siria 10.91 349⇑iP Pn 20 57 50.6 +1.0
TESR Tescani 11.01 7⇑iP Pn 20 57 53.9 +2.9
AQU L'Aquila 11.09 311 *e*Pn **Pn 20 57 54.8 +2.7**
AQU L'Aquila 11.09 311 *e*P **Pn 20 57 54.8 +2.7**
AQU L'Aquila 11.09 311 *e*Pn **Pn 20 57 52.7 +0.6**
UDBI Udbina 11.24 325 *e*Pn **Pn 20 57 52.0 -2.3**
DRGR 11.29 353⇓iP Pn 20 57 56.4 +1.5
DRGR 11.29 353 P Pn 20 57 55.7 +0.8
DRGR pmax pmax
comp=Z,19nm,0.8s
BIZ Bicaz 11.38 5⇓iP Pn 20 57 59.6 +3.5
MORH Mrgy, Hungar 11.56 339 *e*Pn **Pn 20 57 56.0 -2.4**
MORH Mrgy, Hungar 11.56 339 *e*Pn **Pn 20 57 56.1 -2.4**
MORH Sn Sn 20 59 56.0 -10
NVLJ Novalja 11.70 323 *e*Pn **Pn 20 57 57.6 -2.7**
SIM Simferopol' 11.78 35 P Pn 20 58 04.5 +3.0
SIM pmax pmax
comp=Z,8.0nm,0.7s
PRAR RASCA 11.81 5⇑iP Pn 20 58 05.0 +3.0
BURAR Bucovina Array 12.02 2⇑iP Pn 20 58 08.1 +3.3
BURAR Bucovina Array 12.02 2 P Pn 20 58 08.1 +3.3
BUR08 Bucovina Ar. S 12.05 2 *e*Pn **Pn 20 58 09.7 +4.5**
CRES Cresnjev 12.39 328 *e*Pn **Pn 20 58 06.1 -3.7**
BEHE Becsehely 12.40 334 *e*Pn **Pn 20 58 05.5 -4.4**
RIY Rijeka 12.44 324 *e*Pn **Pn 20 58 07.5 -3.0**
KEST Kesra 12.50 275 P Pn 20 58 12.0 +0.5
comp=Z,0.2nm,0.3s,baz=35,slow=19,SNR=7.1
KEST S **Sn 21 00 24.7 -4.2**
comp=Z,0.8nm,0.3s,baz=10,slow=18,SNR=6.8
CEY Cerknica 12.78 326 *e*Pn **Pn 20 58 11.8 -3.4**
LJU Ljubljana 12.97 327 *e*Pn **Pn 20 58 14.0 -3.6**
SOKA Soboth 13.25 330 *e*Pn **Pn 20 58 18.6 -2.9**
comp=Z,3.8nm,0.4s
SOKA Sn Sn 21 00 37.0 -10
comp=Z,2.6nm,0.7s
OBKA Obir 13.32 328 *e*Pn **Pn 20 58 20.6 -1.8**
comp=Z,3.3nm,0.2s
OBKA *e*Sn **Sn 21 00 41.1 -7.5**
comp=Z,3.1nm,0.3s
ANN Anapa 13.37 43 *e*P **P 20 58 31.1 +1.0**
ARSA Arzberg 13.52 332 *e*Pn **Pn 20 58 23.6 -1.4**
comp=Z,2.5nm,0.5s
VYHS Vyhne 13.60 343 *e*P **P 20 58 31.5 -1.2**
VYHS Vyhne 13.60 343 *e*PN **P 20 58 31.5 -1.2**
MYKA Terra Mystica 13.81 326 *e*Pn **Pn 20 58 27.6 -1.3**
comp=Z,1.2nm,0.4s
MODS Modra-Piesok 13.91 339 *e*P **P 20 58 35.7 -0.4**
MODS Modra-Piesok 13.91 339 *e*P **P 20 58 35.7 -0.4**
CONA Conrad Observa 13.97 335 *e*Pn **Pn 20 58 32.2 +1.1**
comp=Z,0.5nm,0.3s
ABTA Abfaltersbach 14.42 324 *e*Pn **Pn 20 58 34.6 -2.3**
comp=Z,6.3nm,0.5s,SNR=6.5
ABTA Sn **Sn 21 01 07.0 -8.5**
comp=Z,9.8nm,0.6s
BCA Borcka 14.47 61⇑iP Pn 20 58 39.4 +1.9
MOA Molln 14.50 331 *e*Pn **Pn 20 58 38.3 +0.4**
comp=Z,3.6nm,0.5s
MOA *e*Sn **Sn 21 01 10.6 -6.7**
comp=Z,3.0nm,0.5s
KRUC Moravsky 14.78 338 *e*PN **P 20 58 45.9 +0.1**
KRUC *e* 20 58 51.6
VRAC Vranov 14.94 339 *e*PN **P 20 58 48.0 +0.4**
VRAC *e* 20 58 53.6
VRAC Vranov 14.94 339 P Pn 20 58 44.7 +1.1
comp=Z,0.6nm,0.3s,baz=134,slow=8.9,SNR=7.5
VRAC LR LR 21 05 08.8
comp=Z,57nm,18.7s,baz=158,slow=40
OKC Ostrava-Krasne 15.02 343 *e*P **P 20 58 48.9 +0.5**
OKC *ex* x 20 58 53.0
OKC Ostrava-Krasne 15.02 343 *e*P **P 20 58 48.9 +0.5**
MORC Moravsky Berou 15.11 342 *e*Pn **Pn 20 58 47.0 +1.2**
comp=Z,3.8nm,0.6s
MORC Moravsky Berou 15.11 342⇓iP P 20 58 48.3 -1.2
MORC Moravsky Berou 15.11 342 *e*P **Pn 20 58 47.0 +1.2**
MORC pmax pmax
comp=Z,4.0nm,0.6s
WTTA Wattenberg 15.21 324 *e*Pn **Pn 20 58 47.2 0.0**
comp=Z,4.6nm,0.4s
WTTA Sn **Sn 21 01 27.7 -7.0**
comp=Z,5.7nm,0.6s
WATA Walderalm 15.29 324 *e*Pn **Pn 20 58 48.3 +0.1**
comp=Z,6.4nm,0.4s,SNR=6.8
KARS Kars 15.30 65 *e*Pn **P 20 58 50.6 -1.2**
comp=Z,152nm,0.8s
KARS Kars 15.30 65 P P 20 58 51.4 -0.4
KARS pmax pmax
comp=Z,152nm,0.8s
SQTA Sankt Quirin 15.38 323 *e*Pn **Pn 20 58 49.0 -0.4**
comp=Z,3.4nm,0.3s,SNR=5.6
SQTA Sn **Sn 21 01 31.3 -7.6**
comp=Z,3.5nm,0.4s
AK11 Malin Array Si 15.42 11 *e*Pn **P 20 58 52.0 -0.8**
KIEV Kiev 15.44 11 *e*Pn **P 20 58 51.8 -1.2**
comp=Z,22nm,0.8s
KIEV Kiev 15.44 11 *i*P **Pn 20 58 49.3 -0.7**
KIEV pmax pmax
comp=Z,20nm,0.9s
AKBB Malin Array Si 15.45 11 *e*Pn **P 20 58 51.8 -1.4**
comp=Z,24nm,0.8s
AKASG Malin Array Be 15.45 11 P Pn 20 58 50.0 -0.1
comp=Z,11nm,0.3s,baz=199,slow=10,SNR=46
AKASG S **Sn 21 01 41.9 +1.6**
comp=Z,0.2nm,0.3s,baz=196,slow=20,SNR=6.3
AKASG PcP **PcP 21 03 50.3 +1.2**
comp=Z,0.5nm,0.3s,baz=228,slow=0.8,SNR=5.2
FUORN Ofenpass-Fuorn 15.46 320 *e*Pn **Pn 20 58 51.1 +0.6**
comp=Z,36nm,0.7s
FETA Feichten 15.49 322 Pn Pn 20 58 51.0 +0.3
comp=Z,19nm,1.0s
FETA *e*Sn **Sn 21 01 36.8 -4.6**
comp=Z,3.4nm,0.7s
GEA0 GERESS Array S 15.52 332 *e*Pn **Pn 20 58 52.4 +1.3**
MOTA Moosalm 15.52 323 *e*Pn **Pn 20 58 50.2 -1.0**
comp=Z,0.8nm,0.2s
GEC2 GERESS Array S 15.53 332 *e*Pn **Pn 20 58 52.6 +1.4**
comp=Z,14nm,0.6s
GEC2 GERESS Array S 15.53 332 *e*P **Pn 20 58 52.6 +1.4**
GEC2 pmax pmax
comp=Z,14nm,0.6s
GERES GERESS Array B 15.53 332 P Pn 20 58 51.3 +0.1
comp=Z,2.7nm,0.3s,baz=143,slow=13,SNR=26
GERES LR LR 21 06 33.3
comp=Z,68nm,18.5s,baz=96,slow=44
SBF Sospel 15.63 307 *e*P **P 20 58 55.4 +0.1**
SBF pmax pmax
comp=Z,86nm,1.5s
DAVOX Davos/Dischmat 15.77 320 P Pn 20 58 55.3 +1.0
comp=Z,2.6nm,0.3s,baz=163,slow=10,SNR=23
DAVOX S **Sn 21 01 42.4 -5.9**
DAVOX LR LR 21 06 29.4
comp=Z,38nm,18.3s,baz=94,slow=43
KHC Kasperske Hory 15.81 332 *e*Pn **Pn 20 58 55.0 +0.3**
comp=Z,4.6nm,0.7s
KHC Kasperske Hory 15.81 332 *e*P **P 20 58 58.3 +1.1**
KHC *ex* x 20 59 00.8
KHC Kasperske Hory 15.81 332 *e*P **P 20 58 58.3 +1.1**
TUE Stuetta 15.86 318 *e*Pn **Pn 20 58 54.9 -0.7**
comp=Z,15nm,0.7s
NEY Neytrino 15.86 56 *i*P **P 20 58 57.1 -0.9**
NEY pmax pmax
comp=Z,5.0nm,0.9s
DPC Dobruska-Polom 15.96 340 *e*P **P 20 58 59.6 +0.7**
DPC *ex* x 20 59 04.6
DPC Dobruska-Polom 15.96 340 *e*P **P 20 58 59.6 +0.7**
FRF La Foret Royal 16.02 305 *e*P **P 20 59 00.4 +0.9**
FRF pmax pmax
comp=Z,78nm,2.0s
LMR La Mourre 16.02 304 *e*P **P 20 59 00.7 +1.2**
LMR pmax pmax
comp=Z,94nm,2.1s
GOPC GO Pecny, Ondr 16.04 336 *e*P **P 20 59 00.5 +0.8**
GOPC GO Pecny, Ondr 16.04 336 *e*P **P 20 59 00.5 +0.8**
DAVA Damuels 16.09 321 *e*Pn **P 20 59 00.3 -0.3**
comp=Z,7.6nm,0.5s
DAVA Sn **Sn 21 01 51.4 -4.7**
comp=Z,6.3nm,0.5s
ONI Oni 16.13 59 P P 20 59 07.1 +6.3
ONI S P 20 59 08.7 +7.8
ONI Oni 16.13 59 P P 20 59 07.1 +6.3
KVAR Kislovodsk Arr 16.13 53 P P 20 59 02.0 +1.1
baz=270,slow=20,SNR=15
KBZ Khabaz 16.17 54 P P 20 59 02.5 +1.3
comp=Z,2.1nm,0.3s,baz=225,slow=8.9,SNR=40
PRU Pruhonice 16.18 336 *e*P **P 20 59 04.0 +2.7**
PRU *ex* x 20 59 11.4
PRU Pruhonice 16.18 336 *e*P **P 20 59 04.0 +2.7**
UPC Upice 16.19 340 *e*P **P 20 59 02.7 +1.3**
UPC Upice 16.19 340 *e*P **P 20 59 02.7 +1.3**
MBDF Montbardon 16.44 309 *e*P **P 20 59 04.2 -0.2**
MBDF pmax pmax
comp=Z,8.0nm,0.7s
GNI Garni 16.45 68 P Pn 20 59 03.6 +0.7
comp=Z,1.6nm,0.3s,baz=303,slow=3.5,SNR=18
GNI LR LR 21 06 42.8
comp=Z,72nm,21.2s,baz=289,slow=42
ZEI Tsey 16.51 58 *e*P **P 20 59 05.9 +0.7**
ZEI pmax pmax
comp=Z,12nm,0.5s
NCK Nalchik 16.55 56 *i*P **P 20 59 05.1 -0.3**
NCK pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 16.65 310 P P 20 59 08.1 +1.4
BNI pmax pmax
comp=Z,4.0nm,0.7s
TBLG Delisi 16.79 63 P P 20 59 11.9 +3.8
TBLG pmax pmax
comp=Z,15nm,0.7s
LPG La Plagne 16.82 311 *e*P **P 20 59 10.8 +2.1**
LPG pmax pmax
comp=Z,7.0nm,0.7s
LPL La Plagne 16.84 312 *e*P **P 20 59 10.9 +2.0**
LPL pmax pmax
comp=Z,3.0nm,0.3s
SENIN Lac Senin/Sane 16.95 315 *e*Pn **P 20 59 10.0 -0.1**
comp=Z,9.7nm,0.6s
ORIF Oris-en-Rattie 17.09 309 *e*P **P 20 59 12.6 +1.1**
ORIF pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 17.14 336 *e*P **P 20 59 14.4 +2.5**
comp=Z,6.8nm,0.9s
BRG Berggiesshubel 17.14 336 *e*P **P 20 59 14.4 +2.5**
BRG pmax pmax
comp=Z,7.0nm,0.9s
GRA1 Grafenberg Arr 17.19 329 *e*Pn **P 20 59 13.9 +1.5**
comp=Z,16nm,0.7s
GRF Grafenberg Arr 17.19 329 *e*P **P 20 59 14.0 +1.5**
GRF pmax pmax
comp=Z,16nm,0.7s
GRFO Grafenberg 17.19 329 *e*Pn **P 20 59 13.5 +1.0**
comp=Z,14nm,0.8s
GRFO Grafenberg 17.19 329 *e*P **P 20 59 13.5 +1.0**
GRFO pmax pmax
comp=Z,14nm,0.8s
BFO Black Forest 17.57 321 *e*Pn **P 20 59 17.8 +1.2**
comp=Z,5.7nm,0.8s
BFO Black Forest 17.57 321 *e*P **P 20 59 17.8 +1.2**
BFO pmax pmax
comp=Z,6.0nm,0.8s
MOX Moxa 17.78 332 P **Pn 20 59 19.8 +0.7**
MOX pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 17.82 335 *e*Pn **Pn 20 59 20.5 +1.0**
comp=Z,5.8nm,0.9s
CLL Collm 17.82 335 *e*P **Pn 20 59 21.0 +1.5**
comp=Z,6.0nm,1.0s
CLL *e*(sPP) 20 59 55.0
CLL Collm 17.82 335 *e*P **Pn 20 59 21.0 +1.5**
CLL pmax pmax
comp=Z,6.0nm,1.0s
VIVF Saint-Julien-l 17.84 307 *e*P **Pn 20 59 20.3 +0.4**
VIVF pmax pmax
comp=Z,18nm,1.5s
HINF Hinteralfeld 18.03 318 *e*P **P 20 59 22.1 +0.4**
HINF pmax pmax
comp=Z,5.0nm,0.4s
ECH Echery 18.10 320 *e*P **Pn 20 59 23.3 +0.3**
comp=Z,4.9nm,0.7s
ECH Echery 18.10 320 *e*P **Pn 20 59 23.3 +0.3**
ECH pmax pmax
comp=Z,5.0nm,0.7s
CDF Champ du Feu 18.16 320 *e*P **Pn 20 59 24.8 +1.0**
CDF pmax pmax
comp=Z,7.0nm,0.7s
HAU Haudompre 18.41 318 *e*P **Pn 20 59 26.8 0.0**
HAU pmax pmax
comp=Z,11nm,0.6s
SUW Suwalki 18.45 357 *e*P **P 20 59 25.2 -1.0**
SUW Suwalki 18.45 357 *e*P **P 20 59 25.2 -1.0**
comp=Z,27nm,0.6s
SUW Suwalki 18.45 357 *e*P **P 20 59 25.2 -1.0**
VSR Storozhevoye 18.77 29 *e*P **P 20 59 30.2 +0.5**
VSR *e*S **S 21 02 57.7 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=E,80nm,3.1s
SMF Signal de Mont 19.15 312 *e*P **P 20 59 34.1 +0.1**
SMF pmax pmax
comp=Z,4.0nm,0.5s
LOR Lormes 19.44 313 *e*P **P 20 59 38.0 +0.8**
LOR pmax pmax
comp=Z,6.0nm,0.5s
AVF Avril sur Loir 19.52 312 *e*P **P 20 59 39.0 +1.0**
AVF pmax pmax
comp=Z,5.0nm,0.7s
WLF Walferdange 19.52 322⇑P Pn 20 59 40.9 +0.9
SSF Saint Saulge 19.55 312 *e*P **P 20 59 39.1 +0.8**
SSF pmax pmax
comp=Z,8.0nm,0.5s
CAF Calviac 19.58 305 *e*P **Pn 20 59 41.1 +0.4**
CAF pmax pmax
comp=Z,23nm,1.5s
BGF Bois d'Agland 19.72 310 *e*P **P 20 59 41.2 +1.0**
BGF pmax pmax
comp=Z,11nm,0.8s
LPSR Galich'ya Gora 19.77 26 *e*P **P 20 59 40.0 -0.7**
LPSR *e*S **S 21 03 13.4 -6.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR smax smax
comp=N,60nm,2.0s
IDID Didziasalis 19.77 3 *e*P **P 20 59 39.5 -1.2**
IDID IAmb IAmb 20 59 41.0
comp=Z,3.9nm,0.6s
IIGN Ignalina 19.79 3 *e*P **P 20 59 39.8 -1.0**
IIGN IAmb IAmb 20 59 41.2
comp=Z,9.8nm,0.7s
VRH Novokhopyorsk 19.83 33 *e*P **P 20 59 41.0 -0.3**
VRH *e*S **S 21 03 23.0 +2.3**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH smax smax
comp=N,310nm,3.7s
ISAL Salakas 20.00 2 *e*P **P 20 59 42.1 -1.1**
ISAL IAmb IAmb 20 59 43.5
comp=Z,8.4nm,0.7s
TCF Toulx Ste Croi 20.01 309 *e*P Pn 20 59 46.5 +0.8
TCF pmax pmax
comp=Z,45nm,1.8s
RJF Les Rejaudoux 20.08 306 *e*P Pn 20 59 45.6 -0.9
RJF pmax pmax
comp=Z,31nm,1.7s
MEM Membach 20.20 324 *e*P Pn 20 59 47.2 -0.7
MEM pmax pmax
comp=Z,18nm,0.8s
MEM Membach 20.20 324⇑P P 20 59 46.6 +1.2
comp=Z,8.4nm,0.6s
EPF Esparros 20.22 299 *e*P Pn 20 59 50.3 +2.1
EPF pmax pmax
comp=Z,4.0nm,0.7s
BCLA Clavier 20.43 322⇑P P 20 59 49.1 +1.3
GIVF Givet 20.47 321 *e*P **P 20 59 49.1 +0.8**
GIVF pmax pmax
comp=Z,13nm,0.6s
LFF La Frestale 20.47 304 *e*P **P 20 59 49.4 +1.1**
LFF pmax pmax
comp=Z,8.0nm,0.8s
PBUR Paburg 20.52 356 *e*P **P 20 59 47.5 -1.2**
PBUR IAmb IAmb 20 59 48.9
comp=Z,28nm,0.8s
DOU Dourbes 20.59 321 P P 20 59 50.3 +0.8
DOU pmax pmax
comp=Z,32nm,1.1s
DOU Dourbes 20.59 321⇓P P 20 59 50.7 +1.2
comp=Z,16nm,0.8s
DOU ⇓pP **sP 21 00 10.7 -1.8**
CLF Chambon-Foret 20.75 314 *e*P Pn 20 59 53.4 -0.9
comp=Z,22nm,0.8s
BAIF Baives 20.76 320 *e*P **P 20 59 51.9 +0.5**
BAIF pmax pmax
comp=Z,28nm,0.5s
SNF Seneffe 20.99 322⇑P P 20 59 55.3 +1.4
UCC Uccle 21.13 322 P P 20 59 56.8 +1.5
UCC pmax pmax
comp=Z,32nm,0.7s
UCC Uccle 21.13 322⇑P P 20 59 56.9 +1.5
OBN Obninsk 21.17 19⇓eP P 20 59 54.5 -1.2
OBN PPP PPP 21 00 23.0
OBN *e* 21 04 13.0
OBN pmax pmax
comp=Z,12nm,0.7s
OBN Obninsk 21.17 19 P P 20 59 56.9 +1.2
comp=Z,5.4nm,0.5s,baz=226,slow=22,SNR=8.8
SJPF Ste Jean 21.36 298 *e*P **P 21 00 00.5 +2.6**
SJPF pmax pmax
comp=Z,8.0nm,0.7s
MFF Saint Martin d 21.63 308 *e*P **P 21 00 01.7 +1.0**
MFF pmax pmax
comp=Z,48nm,1.3s
MOS Moscow 22.01 20 *e*P **P 21 00 03.7 -1.0**
MOS *e*S **S 21 03 57.1 -6.2**
LDF La Druitiere 22.43 313 *e*P **P 21 00 08.8 -0.5**
LDF pmax pmax
comp=Z,13nm,0.8s
FLN La Foliniere 22.71 313 *e*P **P 21 00 11.9 -0.4**
FLN pmax pmax
comp=Z,33nm,1.0s
GRR Gorron 22.78 312 *e*P **P 21 00 12.6 -0.4**
GRR pmax pmax
comp=Z,40nm,1.3s
VSU Vasula 22.92 3*ce*P **P 21 00 12.6 -1.7**
VSU pmax pmax
comp=Z,13nm,0.5s
VSU Vasula 22.92 3 *e*P **P 21 00 12.6 -1.7**
VSU IAmb IAmb 21 00 14.1
comp=Z,17nm,0.8s
ES06 SONSECA Array 23.01 289 *e*P **P 21 00 16.1 +0.6**
ESDC Sonseca Array 23.02 289 P P 21 00 16.2 +0.5
comp=Z,2.8nm,0.5s,baz=78,slow=9.4,SNR=19
GUD Guadarrama 23.21 291 P P 21 00 22.5 +5.0
GUD pmax pmax
comp=Z,33nm,1.2s
QUIF Quistinic 24.02 309 *e*P **P 21 00 25.7 +1.1**
QUIF pmax pmax
comp=Z,82nm,1.5s
MDT Midelt 24.36 272 P P 21 00 29.8 +1.8
comp=Z,2.2nm,0.6s,baz=91,slow=9.9,SNR=6.5
MDT LR LR 21 11 48.8
comp=Z,26nm,18.9s,baz=110,slow=41
HFS Hagfors 25.57 347 P P 21 00 37.5 -1.1
comp=Z,3.4nm,0.5s,baz=148,slow=12,SNR=23
HFS PcP **PcP 21 04 08.6 +0.7**
comp=Z,1.8nm,0.7s,baz=138,slow=2.7,SNR=3.4
HFS LR LR 21 11 45.8
comp=Z,25nm,19.6s,baz=86,slow=39
FIA0 FINESS Array S 25.89 2 *e*P **P 21 00 40.4 -1.0**
FIA0 *e*PcP **PcP 21 04 09.5 +1.0**
FIA0 *e*ScP **ScP 21 07 40.4 -1.5**
FIA0 *e* 21 12 13.8
FIA0 FINESS Array S 25.89 2 *e*P **P 21 00 40.4 -1.0**
FIA0 *e* 21 04 09.5
FINES FINESS Array B 25.89 2 P P 21 00 40.4 -1.0
comp=Z,4.7nm,0.4s,baz=164,slow=10,SNR=64
FINES PcP **PcP 21 04 09.5 +1.0**
comp=Z,2.9nm,0.4s,baz=155,slow=2.7,SNR=16
FINES ScP **ScP 21 07 40.4 -1.5**
comp=Z,0.4nm,0.5s,baz=113,slow=2.5,SNR=5.3
FINES LR LR 21 12 13.8
comp=Z,58nm,19.3s,baz=191,slow=40
FIA1 FINESS Array S 25.89 2 *e*P **P 21 00 40.2 -1.3**
KONO Kongsberg 26.01 342 *e*P **P 21 00 42.3 -0.3**
comp=Z,7.1nm,1.1s
KONO Kongsberg 26.01 342 *e*P **P 21 00 42.3 -0.3**
KONO pmax pmax
comp=Z,7.0nm,1.1s
NC602 NORSAR Array S 26.54 345 *e*P **P 21 00 47.2 -0.2**
GEYT Alibeck 26.79 75 P **P 21 00 50.1 +0.2**
comp=Z,4.3nm,0.3s,baz=279,slow=8.5,SNR=15
GYA0B ALIBECK ARRAY 26.79 75 *e*P **P 21 00 50.4 +0.5**
comp=Z,7.5nm,0.9s
NC405 NORSAR Array S 26.86 346 *e*P **P 21 00 49.6 -0.6**
comp=Z,4.1nm,0.9s
NB201 NORSAR Array S 26.88 346 *e*P **P 21 00 49.1 -1.4**
NB2 NORSAR Subarra 26.89 345 P **P 21 00 49.4 -1.1**
comp=Z,0.5nm,0.4s,baz=161,slow=10
NB200 NORSAR Array S 26.89 345 *e*P **P 21 00 49.5 -1.0**
NB200 *e*PcP **PcP 21 04 11.6 +0.7**
NB200 *e*ScS ScS 21 11 33.5 -2.0
NOA NORSAR Array B 26.89 345 P **P 21 00 49.5 -1.0**
comp=Z,0.3nm,0.4s,baz=233,slow=20,SNR=17
NOA PcP **PcP 21 04 11.6 +0.7**
comp=Z,0.4nm,0.6s,baz=128,slow=3.1,SNR=3.7
NOA LR LR 21 11 33.5
comp=Z,22nm,21.7s,baz=180,slow=36
NBO00 NORSAR Array S 26.97 345 *e*P **P 21 00 50.3 -1.0**
comp=Z,6.7nm,1.1s
KLMR Klimovskoe 27.00 16 *e*P **P 21 00 48.5 -2.9**
KLMR pmax pmax
comp=Z,4.0nm,0.6s
KLMR Klimovskoe 27.00 16 *e*P **P 21 00 48.6 -2.9**
KLMR AMP 21 00 51.9
comp=Z,4.0nm,0.6s
NC303 NORSAR Array S 27.03 346 *e*P **P 21 00 51.6 -0.1**
NC204 NORSAR Array S 27.20 345 *e*P **P 21 00 52.3 -1.0**
comp=Z,0.9nm,1.0s
EKA Eskdalemuir Ar 27.48 325 P **P 21 00 56.3 +0.5**
comp=Z,2.9nm,0.4s,baz=126,slow=10,SNR=31
ESK Eskdalemuir 27.49 325 *e*P **P 21 00 56.6 +0.7**
comp=Z,12nm,0.9s
ESK Eskdalemuir 27.49 325 *e*P **P 21 00 56.6 +0.7**
ESK pmax pmax
comp=Z,12nm,0.9s
AKTO Aktyubinsk 28.23 48 P **P 21 01 02.7 +0.1**
comp=Z,11nm,0.6s,baz=257,slow=8.6,SNR=58
AKTO LR LR 21 13 59.3
comp=Z,30nm,19.9s,baz=242,slow=40
ABKAR Akbulak array 29.09 51 *e*P **P 21 01 10.5 +0.3**
comp=Z,11nm,0.6s
PRGR Permogore 29.23 20⇓iP P 21 01 10.2 -1.1
PRGR pmax pmax
comp=Z,12nm,0.6s
TMCR Tamitsa 29.73 12 *e*P **P 21 01 13.4 -2.3**
TMCR pmax pmax
comp=Z,11nm,1.4s
TOA1 Torodi Ar. Sit 30.49 229 *e*P **P 21 01 24.8 +1.9**
TOA0 Torodi Ar. Sit 30.49 229 *e*P **P 21 01 24.9 +2.0**

TORD	**Torodi Ar. Bea**	**30.49**	**229**	P		**P**		**21 01 24.8**	**+1.9**
	comp=Z,1.5nm,0.5s,baz=36,slow=8.2,SNR=21								
ARU	**Arti**	**30.93**	**37**	*eP*		**P**		**21 01 25.9**	**-0.5**
	comp=Z,13nm,0.7s								
ARU	**Arti**	**30.93**	**37**	*d iP*		**P**		**21 01 25.1**	**-1.3**
ARU								21 04 20.8	
ARU				S		**S**		**21 06 31.5**	**+6.0**
ARU				SS		**SnSn**		**21 08 13.1**	**+1.4**
ARU				pmax	pmax				
	comp=Z,13nm,0.7s								
ARA0	**ARCESS Array S**	**34.00**	**1**	*eP*		**P**		**21 01 51.0**	**-2.1**
ARA0				*e*	PcP	**PcP**		**21 04 30.3**	**+0.9**
ARCES	**ARCESS Array B**	**34.00**	**1**	*eP*		**P**		**21 01 51.7**	**-1.4**
ARCES				PcP		**PcP**		**21 04 30.3**	**+0.9**
ARCES	**ARCESS Array B**	**34.00**	**1**	*eP*		**P**		**21 01 51.7**	**-1.4**
ARCES								21 04 30.3	
ARCES	**ARCESS Array B**	**34.00**	**1**	P		**P**		**21 01 51.0**	**-2.1**
	comp=Z,5.7nm,0.5s,baz=170,slow=9.3,SNR=51								
ARCES				PcP		**PcP**		**21 04 30.3**	**+0.9**
	comp=Z,2.2nm,0.4s,baz=181,slow=2.3,SNR=10								
CHGR	**Chuyangaron**	**35.32**	**72**	*eP*		**P**		**21 02 06.5**	**+1.5**
	comp=Z,48nm,0.7s								
KK31	**Karatay Array**	**35.84**	**64**	*eP*		**P**		**21 02 10.4**	**+1.1**
	comp=Z,6.1nm,0.6s								
KK31	**Karatay Array**	**35.84**	**64**	*eP*		**P**		**21 02 10.4**	**+1.1**
KK31				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KKAR	**Karatay Array**	**35.84**	**64**	*eP*		**P**		**21 02 10.4**	**+1.1**
	comp=Z,6.1nm,0.6s								
KKAR	**Karatay Array**	**35.84**	**64**	*eP*		**P**		**21 02 10.4**	**+1.1**
KKAR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
GAR	**Garm**	**36.16**	**71**	*eP*		**P**		**21 02 14.1**	**+1.9**
	comp=Z,17nm,0.6s								
BRVK	**Borovoye**	**36.26**	**47**	*eP*		**P**		**21 02 13.2**	**+0.5**
	comp=Z,7.6nm,0.6s								
BRVK	**Borovoye**	**36.26**	**47**	*c iP*		**P**		**21 02 13.3**	**+0.6**
BRVK				pmax	pmax				
	comp=Z,7.0nm,0.8s								
BVAR	**Borovoye Array**	**36.32**	**47**	P		**P**		**21 02 14.1**	**+0.9**
	comp=Z,4.8nm,0.7s,baz=277,slow=7.0,SNR=25								
OTUK	**Ortayu**	**37.05**	**55**	P		**P**		**21 02 20.5**	**+1.0**
OTUK				pmax	pmax				
	comp=Z,14nm,1.2s								
ARSB	**Arslanbob**	**37.84**	**66**	*eP*		**P**		**21 02 28.2**	**+1.7**
	comp=Z,16nm,0.8s								
AML	**Almayashu**	**38.27**	**65**	P		**P**		**21 02 32.0**	**+1.7**
	SNR=5.0								
USP	**Ospenovka**	**38.73**	**63**	P		**P**		**21 02 35.1**	**+1.3**
	SNR=6.1								
AAK	**Ala-Archa**	**38.80**	**64**	P		**P**		**21 02 36.4**	**+1.9**
	SNR=13								
AAK	**Ala-Archa**	**38.80**	**64**	*eP*		**P**		**21 02 36.1**	**+1.6**
	comp=Z,11nm,1.0s								
AAK	**Ala-Archa**	**38.80**	**64**	*eP*		**P**		**21 02 36.1**	**+1.6**
AAK				pmax	pmax				
	comp=Z,11nm,1.0s								
UCH	**Uchtor**	**38.86**	**65**	P		**P**		**21 02 37.0**	**+1.6**
	SNR=5.8								
CHMS	**Chumysh**	**38.95**	**63**	P		**P**		**21 02 37.2**	**+1.6**
	SNR=5.2								
KBK	**Karagaybulak**	**39.13**	**64**	P		**P**		**21 02 39.3**	**+2.0**
	SNR=6.2								
KZA	**Kyzart**	**39.42**	**65**	P		**P**		**21 02 41.9**	**+1.9**
	SNR=14								
DBIC	**Dimbokro**	**39.55**	**230**	*eP*		**P**		**21 02 43.5**	**+2.8**
	comp=Z,6.5nm,1.1s								
DBIC	**Dimbokro**	**39.55**	**230**	P		**P**		**21 02 43.6**	**+2.8**
	comp=Z,1.5nm,0.4s,baz=17,slow=9.4,SNR=6.9								
TKM2	**Tokmak 2**	**39.57**	**63**	P		**P**		**21 02 42.3**	**+1.3**
	SNR=7.6								
NIL	**Nilore**	**39.68**	**78**	*eP*		**P**		**21 02 43.8**	**+2.0**
	comp=Z,15nm,0.4s								
NIL	**Nilore**	**39.68**	**78**	*eP*		**P**		**21 02 43.8**	**+2.0**
NIL				pmax	pmax				
	comp=Z,15nm,0.4s								
NRN	**Naryn**	**40.07**	**66**	*eP*		**P**		**21 02 46.8**	**+1.5**
	comp=Z,18nm,1.0s								
NRN	**Naryn**	**40.07**	**66**	*eP*		**P**		**21 02 46.8**	**+1.5**
NRN				pmax	pmax				
	comp=Z,18nm,1.0s								
ULHL	**Ulahol**	**40.13**	**64**	P		**P**		**21 02 47.6**	**+2.0**
	SNR=20								
KSH	**Kashi**	**40.39**	**69**	P		**P**		**21 02 47.8**	**+0.1**
KSH				pP		pP		21 03 02.5	-2.1
KSH				PcP		**PcP**		**21 04 51.0**	**+1.4**
KSH				S		**S**		**21 08 45.5**	**-5.3**
KSH				pmax	pmax				
	comp=Z,7.0nm,0.5s								
KSH				pmax	pmax				
	comp=Z,200nm,5.8s								
KDJ	**Kajisay**	**40.84**	**64**	*eP*		**P**		**21 02 54.2**	**+2.7**
	comp=Z,9.1nm,0.8s								
KDJ	**Kajisay**	**40.84**	**64**	*eP*		**P**		**21 02 54.2**	**+2.7**
KDJ				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KURBB	**Kurchatov Arra**	**41.14**	**51**	P		**P**		**21 02 54.1**	**+0.5**
	comp=Z,12nm,0.6s,baz=274,slow=8.6,SNR=156								
KURBB				PcP		**PcP**		**21 04 52.3**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=270,slow=4.2,SNR=5.3								
KURK	**Kurchatov**	**41.20**	**51**	*eP*		**P**		**21 02 54.3**	**+0.3**
	comp=Z,9.2nm,0.6s								
KURK	**Kurchatov**	**41.20**	**51**	*ceP*		**P**		**21 02 53.5**	**-0.5**
KURK				pmax	pmax				
	comp=Z,22nm,1.7s								
PRZ	**Przheval'sk**	**41.68**	**64**	*eP*		**P**		**21 03 00.5**	**+2.2**
	comp=Z,9.1nm,1.1s								
PRZ	**Przheval'sk**	**41.68**	**64**	*eP*		**P**		**21 03 00.5**	**+2.2**
PRZ				pmax	pmax				
	comp=Z,9.0nm,1.1s								
PDGK	**Podgornoye**	**42.34**	**62**	P		**P**		**21 03 04.5**	**+0.9**
PDGK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
SCO	**Scoresbysund**	**42.80**	**339**	*eP*		**P**		**21 03 08.3**	**+1.6**
	comp=Z,4.9nm,0.7s								
SCO	**Scoresbysund**	**42.80**	**339**	*i* P		**P**		**21 03 08.5**	**+1.7**
	comp=Z,4.9nm,0.6s								
SCO	**Scoresbysund**	**42.80**	**339**	*i* P		**P**		**21 03 08.5**	**+1.7**
SCO				pmax	pmax				
	comp=Z,5.0nm,0.6s								
SPA0	**Spitsbergen Ar**	**42.84**	**357**	*eP*		**P**		**21 03 06.9**	**-0.2**
	comp=Z,25nm,1.2s								
SPITS	**Spitsbergen Ar**	**42.84**	**357**	P		**P**		**21 03 06.1**	**-0.9**
	comp=Z,4.9nm,0.9s,baz=146,slon=12,SNR=16								
SPITS				PcP		**PcP**		**21 04 56.9**	**0.0**
	comp=Z,1.9nm,0.4s,baz=119,slow=6.8,SNR=9.3								
MAKZ	**Makanchi**	**43.63**	**57**	*eP*		**P**		**21 03 14.6**	**+0.7**
	comp=Z,5.7nm,0.4s								
MAKZ	**Makanchi**	**43.63**	**57**	*eP*		**P**		**21 03 14.6**	**+0.7**
MAKZ				pmax	pmax				
	comp=Z,6.0nm,0.4s								
MK31	**Makanchi Array**	**43.85**	**57**	*eP*		**P**		**21 03 16.4**	**+0.8**
	comp=Z,10nm,0.8s								
MK31	**Makanchi Array**	**43.85**	**57**	*eP*		**P**		**21 03 16.4**	**+0.8**
MK31				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MK32	**Makanchi Array**	**43.85**	**57**	*eP*		**P**		**21 03 16.5**	**+0.8**
MK32				*e*PP		**PcP**		**21 05 00.0**	**-0.8**
MK32				*e*ScP		**ScP**		**21 08 45.6**	**-0.7**
MKAR	**Makanchi Array**	**43.85**	**57**	P		**P**		**21 03 16.5**	**+0.9**
	comp=Z,9.3nm,0.3s,baz=266,slow=8.3,SNR=555								
MKAR				PcP		**PcP**		**21 05 00.0**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=247,slow=1.5,SNR=4.1								
MKAR				ScP		**ScP**		**21 08 45.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=346,slow=5.1,SNR=2.4								
MK01	**Makanchi Array**	**43.86**	**57**	*eP*		**P**		**21 03 16.4**	**+0.7**
NVS	**Novosibirsk**	**44.05**	**45**	*eP*		**P**		**21 03 18.3**	**+1.3**
NVS				*e*				21 03 39.3	
NVS				pmax	pmax				
	comp=Z,26nm,0.8s								
NVS				pmax	pmax				
	comp=E,10.0nm,0.8s								
ZAA0	**Zalesovo Array**	**44.97**	**46**	*eP*		**P**		**21 03 24.4**	**-0.1**
	comp=E,18nm,0.4s								
ZAA1	**Zalesovo Array**	**44.97**	**46**	*eP*		**P**		**21 03 24.4**	**0.0**
ZALV	**Zalesovo Beam**	**44.97**	**46**	*eP*		**P**		**21 03 24.2**	**-0.2**
ZALV	**Zalesovo Beam**	**44.97**	**46**	P		**P**		**21 03 24.4**	**0.0**
	comp=E,18nm,0.4s,baz=267,slow=8.5,SNR=78								
DAG	**Danmarks Havn**	**45.55**	**347**	*i* P		**P**		**21 03 28.2**	**-0.5**
DAG	**Danmarks Havn**	**45.55**	**347**	*i* P		**P**		**21 03 28.2**	**-0.5**
DGZ	**Jazzator, Alta**	**46.91**	**52**	*c iP*		**P**		**21 03 40.5**	**+0.6**
DGZ				pmax	pmax				
	comp=Z,3.0nm,0.7s								
NRIK	**Noril'sk**	**47.65**	**25**	P		**P**		**21 03 45.9**	**+0.7**
	comp=Z,10nm,0.5s,baz=235,slow=5.7,SNR=12								
WMQ	**Urumqi**	**48.11**	**60**	*eP*		**P**		**21 03 51.0**	**+1.8**
WMQ				pP		sP		21 04 12.0	-2.1
WMQ				sP		pwP		21 04 23.3	+15
WMQ				pmax	pmax				
	comp=Z,33nm,0.8s								
WMQ				pmax	pmax				
	comp=Z,190nm,3.9s								
SUMG	**Summit**	**48.44**	**339**	*eP*		**P**		**21 03 52.6**	**+0.9**
	comp=Z,4.9nm,0.7s								
SUMG	**Summit**	**48.44**	**339**	*i* P		**P**		**21 03 52.9**	**+1.1**
SUMG	**Summit**	**48.44**	**339**	*i* P		**P**		**21 03 52.9**	**+1.1**
PYUN	**Piuthan**	**49.46**	**81**	*eP*		**P**		**21 04 01.2**	**+1.3**
	comp=Z,33nm,0.6s								
DANN	**Dangsing**	**49.98**	**81**	*eP*		**P**		**21 04 05.5**	**+1.5**
	comp=Z,57nm,0.5s								
KOLN	**Koldanda**	**50.08**	**82**	*eP*		**P**		**21 04 05.7**	**+1.0**
	comp=Z,8.0nm,0.5s								
DMN	**Daman**	**51.36**	**81**	*eP*		**P**		**21 04 15.5**	**+1.1**
	comp=Z,28nm,0.8s								
KKN	**Kakani**	**51.43**	**81**	*eP*		**P**		**21 04 15.6**	**+0.8**
	comp=Z,14nm,0.6s								
PKIN	**Phulchoki**	**51.61**	**81**	*eP*		**P**		**21 04 17.0**	**+0.8**
	comp=Z,16nm,0.8s								
PKI	**Pulchoki**	**51.62**	**81**	*eP*		**P**		**21 04 17.0**	**+0.6**
	comp=Z,26nm,0.8s								
GUN	**Gumba**	**51.86**	**80**	*eP*		**P**		**21 04 19.0**	**+0.8**
JIRN	**Jiri**	**52.21**	**80**	*eP*		**P**		**21 04 21.7**	**+0.8**
	comp=Z,14nm,0.5s								
RAMN	**Ramite**	**52.85**	**81**	*eP*		**P**		**21 04 25.7**	**+0.3**
MOY	**Mondy**	**54.99**	**48**	*eP*		**P**		**21 04 41.7**	**+1.2**
LSA	**Lhasa**	**55.32**	**76**	*eP*		**P**		**21 04 44.9**	**+1.3**
	comp=Z,9.1nm,0.6s								
LSA	**Lhasa**	**55.32**	**76**	*eP*		**P**		**21 04 44.9**	**+1.3**
LSA				pmax	pmax				
	comp=Z,9.0nm,0.6s								
TULEG	**Thule**	**56.53**	**344**	*eP*		**P**		**21 04 51.4**	**+0.4**
	comp=Z,11nm,1.0s								
TLY	**Talaya**	**56.58**	**47**	*i* P		**P**		**21 04 53.0**	**+1.3**
TLY				pmax	pmax				
	comp=Z,9.0nm,0.9s								
ZAK	**Zakamensk**	**56.74**	**49**	*eP*		**P**		**21 04 53.2**	**+0.2**
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.0s								
SHL	**Shillong**	**57.71**	**80**	P		**P**		**21 05 00.7**	**+0.4**
SHL				pmax	pmax				
	comp=Z,8.0nm,0.7s								
GTA	**Gaotai**	**58.09**	**62**	⇑P		**P**		**21 05 03.8**	**+1.1**
GTA				pP		sP		21 05 27.8	-0.5
GTA				sP		PcP		21 05 38.5	-15
GTA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
SONA0	**Songino Array**	**59.50**	**51**	*eP*		**P**		**21 05 12.5**	**+0.1**
SONM	**Songino Array**	**59.50**	**51**	P		**P**		**21 05 12.5**	**+0.1**
	comp=Z,2.5nm,0.4s,baz=291,slow=7.0,SNR=11								
ULN	**Ulaanbaatar**	**59.90**	**50**	*eP*		**P**		**21 05 15.6**	**+0.4**
	comp=Z,4.4nm,0.8s								
ULN	**Ulaanbaatar**	**59.90**	**50**	*ceP*		**P**		**21 05 15.1**	**-0.1**
ULN				pmax	pmax				
	comp=Z,5.0nm,0.8s								
BOD	**Bodaibo**	**60.34**	**38**	*eP*		**P**		**21 05 16.6**	**-1.2**
BOD				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TIXI	**Tiksi**	**60.89**	**21**	*eP*		**P**		**21 05 20.9**	**-0.4**
	comp=Z,2.4nm,0.8s								
TIXI	**Tiksi**	**60.89**	**21**	*ceP*		**P**		**21 05 21.1**	**-0.2**
TIXI				pmax	pmax				
	comp=Z,7.0nm,1.7s								
LZH	**Lanzhou**	**62.34**	**64**	*eP*		**P**		**21 05 33.5**	**+1.6**
LZH				pP		pP		21 05 53.5	+3.6
LZH				sP		sP		21 06 00.5	+2.9
LZH				pmax	pmax				
	comp=Z,26nm,1.1s								
SCHQ	**Schefferville**	**62.62**	**319**	P		**P**		**21 05 33.2**	**0.0**
	comp=Z,3.0nm,0.4s,baz=76,slow=6.4,SNR=6.5								
RES	**Resolute Bay**	**63.16**	**345**	P		**P**		**21 05 37.5**	**+1.1**
RES				pmax	pmax				
	comp=Z,5.0nm,2.0s								
HHC	**Hu-ho-hao-te**	**65.70**	**56**	*eP*		**P**		**21 05 53.3**	**-0.5**
HHC				pP		pP		21 06 10.0	-1.7
HHC				sP		PcP		21 06 22.3	-2.3
HHC				S		**S**		**21 14 35.5**	**+1.0**
HHC				SS		**SS**		**21 18 47.5**	**-1.8**
HHC				pmax	pmax				
	comp=Z,12nm,1.1s								
HHC				pmax	pmax				
	comp=Z,160nm,5.8s								
CMAR	**Chiang Mai Arr**	**66.89**	**83**	P		**P**		**21 06 02.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=300,slow=7.8,SNR=19								
CM01	**Chiang Mai Arr**	**66.92**	**83**	*eP*		**P**		**21 06 00.8**	**-0.9**
XAN	**Xi'an**	**66.98**	**64**	P		**P**		**21 06 02.8**	**+0.9**
XAN				pmax	pmax				
	comp=Z,8.0nm,0.6s								
XAN	**Xi'an**	**66.98**	**64**	*eP*		**P**		**21 06 02.2**	**+0.3**
	comp=Z,6.5nm,0.6s								
XAN	**Xi'an**	**66.98**	**64**	*eP*		**P**		**21 06 02.2**	**+0.3**
XAN				pmax	pmax				
	comp=Z,6.0nm,0.6s								
ENH	**Enshi**	**69.22**	**67**	*eP*		**P**		**21 06 16.2**	**+0.2**
	comp=Z,5.3nm,0.8s								
BILL	**Bilibino**	**72.74**	**14**	*i* P		**P**		**21 06 36.7**	**+0.1**
BILL								21 06 52.0	
BILL				*e*				21 07 00.2	
BILL				*e*SSS		SSS		21 23 45.2	
BILL				pmax	pmax				
	comp=Z,2.0nm,1.1s								
SEY	**Seymchan**	**73.30**	**22**	*ceP*		**P**		**21 06 39.6**	**-0.4**
KLR	**Kul'dur**	**73.68**	**41**	*i* P		**P**		**21 06 41.6**	**-0.9**
INK	**Inuvik**	**75.14**	**352**	P		**P**		**21 06 49.3**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=338,slow=5.9,SNR=6.7								
NJ2	**Nanjing**	**75.17**	**61**	*eP*		**P**		**21 06 52.8**	**+1.4**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
MA2	**Magadan**	**75.25**	**25**	*i* P		**P**		**21 06 51.5**	**+0.1**
MA2				pmax	pmax				
	comp=Z,7.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**76.80**	**45**	P		**P**		**21 07 00.0**	**-0.5**
	comp=Z,6.0nm,0.8s,baz=297,slow=4.3,SNR=15								
YKA	**Yellowknife Ar**	**76.92**	**342**	P		**P**		**21 07 01.2**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=30,slow=5.5,SNR=33								
YKB5	**Yellowknife Ar**	**76.92**	**342**	*eP*		**P**		**21 07 01.0**	**+0.2**
KS01	**Wonju Array Si**	**78.28**	**52**	*eP*		**P**		**21 07 09.5**	**+0.7**
KS15	**Wonju Array Si**	**78.29**	**52**	*eP*		**P**		**21 07 09.9**	**+1.0**
	comp=Z,5.3nm,0.6s								
KSAR	**Wonju Array Be**	**78.29**	**52**	P		**P**		**21 07 09.8**	**+0.8**
KSAR	**Wonju Array Be**	**78.29**	**52**	P		**P**		**21 07 09.8**	**+0.8**
KSRS	**Korea Array**	**78.31**	**52**	P		**P**		**21 07 09.8**	**+0.7**
	comp=Z,7.0nm,0.8s,baz=308,slow=4.7,SNR=23								
KSRS				LR		LR		21 47 11.7	
	comp=Z,19nm,18.6s,baz=193,slow=40								
IM3	**Indian Mountai**	**78.74**	**359**	*eP*		**P**		**21 07 12.1**	**+1.2**
FFC	**Flin Flon**	**79.08**	**332**	*eP*		**P**		**21 07 13.8**	**+0.9**
	comp=Z,2.9nm,0.6s								
FFC	**Flin Flon**	**79.08**	**332**	*eP*		**P**		**21 07 13.8**	**+0.9**
FFC				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ULM	**Lac du Bonnet**	**79.74**	**326**	P		**P**		**21 07 17.3**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=51,slow=3.7,SNR=2.9								
ILAR	**Eielson Array**	**79.75**	**356**	P		**P**		**21 07 16.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=336,slow=3.3,SNR=8.6								
WRH	**Wood River Hil**	**80.11**	**357**	*eP*		**P**		**21 07 18.8**	**+0.5**
	comp=Z,14nm,1.2s								
MAJO	**Matsushiro**	**85.31**	**48**	*eP*		**P**		**21 07 45.5**	**-0.4**
MAJO	**Matsushiro**	**85.31**	**48**	*eP*		**P**		**21 07 45.5**	**-0.4**
MJAR	**Matsushiro Arr**	**85.31**	**48**	P		**P**		**21 07 45.5**	**-0.4**
	comp=Z,5.2nm,0.9s,baz=296,slow=5.6,SNR=9.6								
NEW	**Newport**	**89.83**	**336**	*eP*		**P**		**21 08 08.7**	**+1.3**
	comp=Z,4.2nm,0.8s								
NEW	**Newport**	**89.83**	**336**	*eP*		**P**		**21 08 08.7**	**+1.3**
NEW				pmax	pmax				
	comp=Z,4.0nm,0.8s								
PDAR	**Pinedale Array**	**91.54**	**328**	P		**P**		**21 08 14.9**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=72,slow=4.8,SNR=4.8								
WR1	**Warramunga Arr**	**117.00**	**96**	*e*PKPdf		**PKiKP**		**21 13 54.0**	**+0.3**
WRA	**Warramunga Arr**	**117.00**	**96**	PKIKP		**PKiKP**		**21 13 54.0**	**+0.3**
WRA	**Warramunga Arr**	**117.00**	**96**	PKP		**PKiKP**		**21 13 54.0**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=326,slow=1.8,SNR=4.6								
ASAR	**Alice Springs**	**118.49**	**100**	PKP		**PKiKP**		**21 13 57.2**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=306,slow=1.2,SNR=20								

*SJA **25** 20:55:23.8±0.5,20°.53S×69°.10W,h117km±3km, ML2.6, MW3.3*
*ISCJB **25** 20:55:24.3±0.3,20°.30S±0°.03×68°.93W±0°.06, h129km±5km, mb4.0/4, Error ellipse: s-maj=9.6km s-min=4.8km az=172.3*

*GUC **25** 20:55:24.8±0.6,20°.29S×68°.93W,h115km±3km, ML4.1*
*VAO **25** 20:55:25.1±0.6,20°.41S×69°.26W,h154km±5km, mb4.2*
*IDC **25** 20:55:26.5±1.6,20°.32S×68°.58W,h127km±15km, mb3.7/6, mb1 3.8/10,mb1mx3.5/39,mbtmp4.1/10, Error ellipse: s-maj=27.1km s-min=16.8km az=104.0*

ISC 25 20:55:24.7±0.7, 20°.32S±0°.03×68°.94W±0°.07, h119km±6km, n56, σ1§59/69, mb4.0/4, 11C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.27**	**311**	*eP*			**Pn**	**20 55 42.0**	**0.0**
PB08				*e*S			**Sn**	**20 55 55.1**	**+0.2**
PB08	**IPOC Station P**	**0.27**	**311**	⇑*iP*			**Pn**	**20 55 42.3**	**+0.3**
PB08				*i* S			**Sn**	**20 55 54.9**	**-0.1**
PB11	**IPOC Station P**	**0.87**	**309**	*eP*			**Pn**	**20 55 46.0**	**+0.3**
PB11				*e*S			**Sn**	**20 56 02.2**	**+0.7**
PB11	**IPOC Station P**	**0.87**	**309**	⇑*iP*			**Pn**	**20 55 46.3**	**+0.6**
PB11				*i* S			**Sn**	**20 56 02.1**	**+0.6**
PB01	**IPOC Station P**	**0.89**	**215**	*eP*			**Pn**	**20 55 46.2**	**+0.4**
PB01				*e*S			**Sn**	**20 56 02.5**	**+0.8**
PB01	**IPOC Station P**	**0.89**	**215**	⇑*iP*			**Pn**	**20 55 46.4**	**+0.6**
PB01				*i* S			**Sn**	**20 56 02.2**	**+0.6**
PB01				IAML				20 56 03.1	
	comp=N,11μm,0.2s								
PSGC	**Pisagua**	**1.32**	**303**	⇑*iP*			**Pn**	**20 55 50.8**	**+0.6**
PSGC				*i* S			**Sn**	**20 56 09.8**	**+0.2**
PSGCX	**Pisagua**	**1.32**	**303**	*eP*			**Pn**	**20 55 50.2**	**0.0**
MNMC	**Minye Minye**	**1.33**	**332**	⇑*iP*			**Pn**	**20 55 51.9**	**+1.4**
MNMC				*i* S			**Sn**	**20 56 11.6**	**+1.6**
MNMC				IAML				20 56 12.8	
	comp=N,21μm,0.6s								
MNMCX	**Minye Minye**	**1.33**	**332**	*eP*			**Pn**	**20 55 52.0**	**+1.5**
PB02	**IPOC Station P**	**1.34**	**222**	⇑*iP*			**Pn**	**20 55 51.4**	**+1.0**
PB02				*i* S			**Sn**	**20 56 10.9**	**+1.0**
PB02				IAML				20 56 14.1	
	comp=E,6μm,0.2s								
PB09	**IPOC Station P**	**1.50**	**191**	*eP*			**Pn**	**20 55 53.5**	**+1.1**
PB09				*e*S			**Sn**	**20 56 14.8**	**+1.5**
PB09				IAML				20 56 15.8	
	comp=N,1μm,0.3s								
PB07	**IPOC Station P**	**1.66**	**212**	⇑*iP*			**Pn**	**20 55 54.9**	**+0.7**
PB07				*i* S			**Sn**	**20 56 17.1**	**+0.5**
PB07				IAML				20 56 17.6	
	comp=N,2μm,0.5s								
PB03	**IPOC Station P**	**1.88**	**204**	⇓*iP*			**Pn**	**20 55 57.7**	**+0.8**
PB03				IAML				20 56 22.7	
	comp=E,1μm,0.2s								
PB12	**IPOC Station P**	**2.14**	**322**	*eP*			**Pn**	**20 56 00.9**	**+0.8**
PB12	**IPOC Station P**	**2.14**	**322**	⇑*iP*			**Pn**	**20 56 00.4**	**+0.3**
PB12				*i* S			**Sn**	**20 56 26.9**	**-0.2**
LVC	**Limon Verde**	**2.28**	**179**	P			**Pn**	**20 56 03.7**	**+1.6**
	comp=E,12nm,0.3s,baz=31,slow=11,SNR=84								
LVC				S			**Sn**	**20 56 31.2**	**+0.5**
	comp=E,31nm,0.3s,baz=321,slow=6.5,SNR=5.2								
LVC	**Limon Verde**	**2.28**	**179**	*eP*			**Pn**	**20 56 03.4**	**+1.3**
LVC				*e*S			**Sn**	**20 56 32.2**	**+1.5**
PB04	**IPOC Station P**	**2.30**	**209**	⇑*iP*			**Pn**	**20 56 03.4**	**+1.2**
PB04				IAML				20 56 39.6	
	comp=N,823nm,0.4s								
PB06	**IPOC Station P**	**2.45**	**194**	⇑*iP*			**Pn**	**20 56 05.3**	**+1.3**
PB06				IAML				20 56 37.7	
	comp=N,706nm,0.6s								
PB05	**IPOC Station P**	**2.78**	**205**	⇓*iP*			**Pn**	**20 56 08.9**	**+0.6**
PB15	**IPOC Station P**	**2.92**	**190**	⇑*iP*			**Pn**	**20 56 11.5**	**+1.3**
YJA	**Yavi**	**3.69**	**121**	IAML				20 56 27.9	
	comp=Z,9

ISC 25 21:16:42.4±0.9, 23°6S±0°2×179°8W±0°2, h532km, n12, σ0s89/10, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.86	190	P	P	21 19 50.8	+0.3
	1.4nm,0.3s,baz=315,slow=1.4,SNR=4.2						
RPZ	Rata Peaks	21.44	198	P	P	21 20 50.6	-1.6
	6.3nm,0.7s,baz=100,slow=11,SNR=3.5						
CTA	Charters Tower	31.66	270	P	P	21 22 22.9	+0.6
	7.6nm,0.3s,baz=94,slow=10,SNR=15						
STKA	Stephens Creek	35.01	248	P	P	21 22 51.1	+0.7
	2.1nm,0.4s,baz=78,slow=14,SNR=9.9						
ASAR	Alice Springs	42.27	260	P	P	21 23 49.1	-0.3
	2.6nm,0.5s,baz=99,slow=7.0,SNR=34						
WRA	Warramunga Arr	42.62	266	P	P	21 23 51.6	-0.6
	3.1nm,0.5s,baz=91,slow=8.5,SNR=101						
TXAR	Lajitas Array	90.11	58	P	P	21 28 46.7	+0.7
	0.5nm,0.7s,baz=231,slow=6.7,SNR=5.4						
ILAR	Eielson Array	91.69	13	P	P	21 28 52.1	-0.3
	0.1nm,0.5s,baz=224,slow=5.0,SNR=3.1						
PDAR	Pinedale Array	92.34	4	P	P	21 28 56.3	+0.1
	0.6nm,0.8s,baz=151,slow=3.4,SNR=3.5						
NB2	NORSAR Subarra	141.81	351	PKP	PKPpre	21 35 07.7	
	comp=Z,0.1nm,0.5s,baz=16,slow=3.2						
NOA	NORSAR Array B	141.81	351	PKhKP	PKPpre	21 35 07.5	
	comp=Z,0.5nm,0.7s,baz=13,slow=2.4,SNR=3.9						
AKASG	Malin Array Be	144.81	328	PKPbc	PKPdf	21 35 17.4	-1.1
	comp=Z,1.3nm,0.6s,baz=47,slow=4.0,SNR=6.3						

IDC 25 21:20:12.0±10.0, 11°79S×166°67E, h284km±114km, mb3.4/5, mb1 3.6/6, mb1mx3.2/37, mbtmp3.9/6, Error ellipse: s-maj=105.2km s-min=25.9km az=159.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.01	289	S	S	21 23 11.8	-3.4
	34nm,0.3s,baz=230,slow=23,SNR=9.7						
DZM	Mont Dzumac	10.22	181	P	Pn	21 22 33.7	+0.5
	0.6nm,0.3s,baz=296,slow=20,SNR=6.4						
WRA	Warramunga Arr	32.09	251	P	P	21 26 13.3	-0.1
	0.6nm,0.6s,baz=85,slow=9.3,SNR=5.9						
ASAR	Alice Springs	33.28	245	P	P	21 26 23.1	-0.5
	0.8nm,0.6s,baz=68,slow=10,SNR=9.2						
ILAR	Eielson Array	83.93	18	P	P	21 32 09.9	-0.1
	1.3nm,0.6s,baz=239,slow=5.0,SNR=20						
MKAR	Makanchi Array	94.68	317	P	P	21 33 02.1	+0.9
	0.4nm,0.6s,baz=99,slow=7.1,SNR=5.6						
YKA	Yellowknife Ar	95.22	27	P	P	21 33 02.1	-1.1
	0.2nm,0.5s,baz=257,slow=4.4,SNR=3.6						
ARCES	ARCESS Array B	117.28	346	PKP	PKiKP	21 38 23.5	+0.3
	2.4nm,0.9s,baz=66,slow=2.3,SNR=3.4						

IDC 25 21:22:11.5±3.9, 19°11S×176°91W, h0km, mb4.2/6, mb1 4.4/6, mb1mx3.9/36, mbtmp4.2/6, Error ellipse: s-maj=152.7km s-min=35.6km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	34.67	262	P	P	21 29 04.0	+0.9
	2.5nm,0.5s,baz=119,slow=10,SNR=5.5						
STKA	Stephens Creek	39.32	243	P	P	21 29 43.0	+0.4
	0.9nm,0.3s,baz=84,slow=9.2,SNR=4.6						
WRA	Warramunga Arr	45.82	260	P	P	21 30 35.0	-0.7
	0.8nm,0.3s,baz=97,slow=7.2,SNR=47						
ASAR	Alice Springs	45.85	255	P	P	21 30 35.5	-0.2
	12nm,0.6s,baz=91,slow=8.4,SNR=216						
FITZ	Fitzroy Crossi	54.24	261	P	P	21 31 39.0	-0.6
	2.2nm,0.5s,baz=114,slow=3.5,SNR=13						
ILAR	Eielson Array	86.74	12	P	P	21 34 57.0	+0.1
	0.1nm,0.4s,baz=224,slow=5.3,SNR=4.2						

KRSC 25 21:27:41.8±10.0, 50°74N×160°12E, h86km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.67	311	P	Pn	21 28 11.1	+1.6
KDTR				S	Sn	21 28 32.0	+1.5
RUS	Russkaya	1.97	330	P	Pn	21 28 14.6	+1.2
RUS				S	Sn	21 28 39.3	+1.8
MTVR	Mutnovka	2.12	326	P	Pn	21 28 17.2	+1.6
MTVR				S	Sn	21 28 43.2	+1.8
KRMR	Karymshinskiy	2.43	330	P	Pn	21 28 21.6	+2.1
KRMR				S	Sn	21 28 51.4	+3.0
DALK	Dalny	2.44	340	P	Pn	21 28 21.5	+1.8
DALK				S	Sn	21 28 50.3	+1.5
NLC	Nalytchevo	2.48	349	S	Sn	21 28 51.9	+2.3
SKR	Severo-Kuril's	2.55	270	S	Sn	21 28 52.7	+1.5
AVH	Avacha	2.67	342	P	Pn	21 28 25.8	+3.0
AVH				S	Sn	21 28 57.9	+3.6
KRER	Koryakskii	2.70	342	P	Pn	21 28 26.1	+2.7
KRER				S	Sn	21 28 58.6	+3.3
APC	Apacha	2.86	321	P	Pn	21 28 28.8	+3.6
APC				S	Sn	21 29 02.3	+3.6
KZV	Kizimen	4.38	1	P	Pn	21 28 48.8	+2.8
KZV				S	Sn	21 29 37.6	+1.8
TUMD	Tumrok D	4.47	2	P	Pn	21 28 50.7	+3.6
TUMD				S	Sn	21 29 39.4	+1.5
TUMR	Tumrok	4.55	0	P	Pn	21 28 51.3	+3.0
KBTR	Krutoberegovo	5.71	15	P	Pn	21 29 05.9	+2.0

IDC 25 21:30:10.7±1.5, 5°76S×123°44E, h0km, mb3.5/2, mb1 3.9/4, mb1mx3.6/33, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=99.5km s-min=23.4km az=65.0
ISCJB 25 21:30:13.9±0.8, 6°06S±0°06×122°63E±0°06, h33km, mb3.9/1, Error ellipse: s-maj=11.5km s-min=6.3km az=44.5
DJA 25 21:30:13.4±0.4, 6°S±3°×12°3E±°, h10km, M3.6/9, MLv3.6/9

ISC 25 21:30:14.8±1.1, 6°05S±0°06×122°63E±0°07, h35km, n13, σ1s92/15, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSI	Bau Bau	0.57	354	P	Pn	21 30 25.0	-1.4
BSSI	Bau Bau, Buton	2.13	268	P	Pn	21 30 46.9	-1.1
BSSI				S	Sn	21 31 13.6	+0.3
MMRI	Maumere	2.59	189	P	Pn	21 30 55.1	+0.8
BKSI	Bulukumba	2.60	286	P	Pn	21 30 53.9	-0.5
BKSI				S	Sn	21 31 25.3	+0.4
EDFI	Ende, Flores	2.84	199	P	Pn	21 30 55.8	-2.0
BNSI	Bone	3.01	303	P	Pn	21 31 00.1	+0.1
SPSI	Sidrap Palu	3.53	306	P	Pn	21 31 09.9	+2.7
SOEI	Soe	4.02	156	P	Pn	21 31 14.7	+0.7
BATI	Baumata	4.25	166	P	Pn	21 31 19.0	+1.9
BATI	Baumata	4.25	166	Pn	Pn	21 31 19.3	+2.2
	4.3nm,0.3s,baz=59,slow=2.5,SNR=16						
WRA	Warramunga Arr	17.89	142	P	Pn	21 34 17.2	-3.9
	0.1nm,0.3s,baz=317,slow=13,SNR=14						
ASAR	Alice Springs	20.60	149	P	P	21 34 50.5	-0.5
	1.0nm,0.8s,baz=322,slow=11,SNR=6.9						
MKAR	Makanchi Array	63.60	330	P	P	21 40 44.3	+2.1
	0.8nm,0.6s,baz=135,slow=7.6,SNR=12						

IDC 25 21:30:53.2±11.0, 7°46S×129°77E, h184km±113km, mb3.2/1, mb1 2.9/5, mb1mx2.8/31, mbtmp3.5/5, Error ellipse: s-maj=125.0km s-min=28.9km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Baumata	6.62	245	P	Pn	21 32 28.8	+0.4
	1.1nm,0.3s,baz=180,slow=2.0,SNR=4.0						
FITZ	Fitzroy Crossi	11.31	200	P	Pn	21 33 29.6	-0.1
	0.2nm,0.3s,baz=25,slow=11,SNR=9.3						
FITZ				S	Sn	21 35 32.4	-3.1
	0.2nm,0.3s,baz=148,slow=19,SNR=4.3						
WRA	Warramunga Arr	13.18	161	P	Pn	21 33 52.0	-1.5
	0.2nm,0.3s,baz=329,slow=13,SNR=8.8						
WRA				S	Sn	21 36 15.6	-4.6
	0.3nm,0.3s,baz=344,slow=21,SNR=7.6						
ASAR	Alice Springs	16.59	167	P	Pn	21 34 36.3	+0.8
	0.1nm,0.3s,baz=349,slow=9.4,SNR=4.0						
MKAR	Makanchi Array	68.48	327	P	P	21 41 35.5	0.0
	0.3nm,0.3s,baz=119,slow=7.0,SNR=7.1						

IDC 25 22:02:33.2±1.2, 36°76S×73°47W, h0km, mb3.8/5, mb1 4.1/7, mb1mx3.9/33, mbtmp3.9/7, ML4.1/2, MS3.5/4, Ms1 3.5/4, ms1mx3.1/26, Error ellipse: s-maj=33.6km s-min=19.4km az=74.0
GUC 25 22:02:34.8±0.6, 36°78S×73°82W, h36km±5km, ML4.4
NEIC 25 22:02:34.0±0.0, 36°78S×73°82W, h36km, mb4.4/6, ML4.4(GUC), After GUC.
NEIC Felt [III] at Concepcion, San Pedro de la Paz and Talcahuano; [II] at Angol, Chillan, Chillan Viejo and Los Angeles.
ISCJB 25 22:02:36.6±0.4, 36°73S±0°03×73°47W±0°07, h33km, mb4.1/8, MS3.5/2, Error ellipse: s-maj=8.7km s-min=4.4km az=174.0

ISC 25 22:02:37.4±0.6, 36°85S±0°05×73°68W±0°08, h35km, n44, σ2s18/47, mb4.1/9, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGCH	Angol	1.24	141	eP	Pn	22 02 57.8	-0.4
AGCH				i S	Sn	22 03 14.9	+1.1
CCHI	Chillan	1.31	80	eP	Pn	22 02 58.1	-1.2
CCHI				i S	Sn	22 03 16.6	+1.0
CCHI				IAML		22 03 22.9	
	comp=N,14μm,0.4s						
TMU	Temuco	2.07	156	eP	Pn	22 03 09.8	+0.1
TMU				i S	Sn	22 03 35.3	+1.1
GO06	Curarrehue	3.24	148	ePn	Pn	22 03 26.4	+0.6
GO06				eSn	Sn	22 03 57.8	-5.4
GO06	Curarrehue	3.24	148	i P	Pn	22 03 26.5	+0.6
GO06				IAML		22 04 22.3	
	comp=E,352nm,0.7s						
LMEL	Las Melosas	4.13	45	i P	Pn	22 03 37.1	-1.1
CLCH	Cerro Calan	4.30	38	eP	Pn	22 03 38.6	-1.8
PEL	Peldehue	4.44	35	ePn	Pn	22 03 40.3	-2.0
PEL				eSn	Sn	22 04 20.9	-12
ROC1	El Roble	4.44	30	eP	Pn	22 03 39.9	-2.6
PLCA	Paso Flores	4.58	149	eP	Pn	22 03 44.9	+0.6
PLCA	Paso Flores	4.58	149	Pn	Pn	22 03 45.4	+1.0
	comp=E,2.7nm,0.3s,baz=347,slow=11,SNR=51						
PLCA				Lg	Lg	22 04 58.9	
	comp=E,9.5nm,0.3s,baz=261,slow=21,SNR=4.1						
GO07	Milladeo Hill,	6.26	180	ePn	Pn	22 04 06.7	-0.5
GO07				eSn	Sn	22 05 08.9	-8.5
CFA	Coronel Fontan	6.90	42	Pn	Pn	22 04 13.9	-2.3
	comp=E,2.0nm,0.3s,baz=215,slow=11,SNR=9.0						
CFA				Sn	Sn	22 05 30.4	-3.2
	baz=223,slow=19,SNR=1.7						
LCO	Las Campanas	8.21	19	ePn	Pn	22 04 32.8	-1.5
TRQA	Tornquist	9.38	101	ePn	Pn	22 04 51.0	+0.8
GO03	Copiap	9.68	19	ePn	Pn	22 04 50.5	-3.8
GO02	Mina Guanaco	12.16	18	ePn	Pn	22 05 23.1	-5.4
LVC	Limon Verde	14.78	18	LR	LR	22 11 58.1	
	comp=E,141nm,19.5s,baz=198,slow=39						
PB11	IPOC Station P	17.39	13	ePn	Pn	22 06 36.5	-0.9
	comp=E,14nm,1.0s						
USHA	Ushuaia	18.34	170	LR	LR	22 14 53.0	
	comp=E,161nm,19.3s,baz=353,slow=40						
LPAZ	La Paz	21.06	15	P	P	22 07 19.9	+0.7
	comp=E,2.4nm,0.7s,baz=154,slow=5.8,SNR=9.4						
SIV	San Ignacio	23.60	32	P	P	22 07 43.9	-1.2
	comp=E,1.6nm,0.7s,baz=229,slow=10,SNR=7.5						
SIV				LR	LR	22 18 49.5	
	comp=E,147nm,19.6s,baz=256,slow=42						
NNA	Nana	24.92	353	eP	P	22 07 58.8	+1.5
	comp=E,6.8nm,0.6s						
SPB	Sao Paulo	26.15	67	eP	P	22 08 08.3	-0.1
	comp=E,8.0nm,0.8s						
BDFB	Brasilia	31.07	54	LR	LR	22 22 32.1	
	comp=E,110nm,19.6s,baz=292,slow=39						
QSPA	South Pole Qui	53.39	180	eP	P	22 11 55.7	+2.3
	comp=E,7.7nm,0.9s						
TXAR	Lajitas Array	71.60	333	P	P	22 13 56.9	+1.7
	comp=E,0.8nm,0.7s,baz=149,slow=9.4,SNR=6.5						
PLM	Palomar	80.63	325	eP	P	22 14 50.7	+4.0
RVR	Riverside	81.40	325	eP	P	22 14 53.4	+2.9
PSRC	Puddingstone R	81.68	324	eP	P	22 14 53.1	+1.1
SBI	Santa Barbara	81.76	323	eP	P	22 14 52.4	0.0
ECSD	EROS Data Cent	82.87	343	eP	P	22 14 59.0	+1.1
	comp=E,6.8nm,1.0s						
MLAC	Mammoth, Mammo	85.06	326	eP	P	22 15 07.7	-1.9
PD31	Pinedale Array	85.72	334	eP	P	22 15 13.0	+0.3
	comp=E,0.5nm,0.9s						
PDAR	Pinedale Array	85.72	334	P	P	22 15 13.0	+0.3
	comp=E,0.5nm,0.9s,baz=133,slow=7.5,SNR=3.6						
TORD	Torodi Ar. Bea	86.43	71	P	P	22 15 16.1	-0.4
	comp=E,1.4nm,1.1s,baz=298,slow=3.2,SNR=5.3						
TOA1	Torodi Ar. Sit	86.43	71	eP	P	22 15 16.1	-0.4
DPW	Davenport	93.23	332	eP	P	22 15 46.8	-1.1
GLK	Glacier Lake	93.52	329	eP	P	22 15 51.1	+1.8
GDR	Gold River	97.88	329	eP	Pdif	22 16 14.6	+5.7
ZAA1	Zalesovo Array	157.34	34	ePKPab	PKPab	22 23 01.1	+0.7
ZALV	Zalesovo Beam	157.34	34	PKPab	PKPab	22 23 01.1	+0.7
	comp=E,0.5nm,0.5s,baz=310,slow=5.4,SNR=3.1						
MK32	Makanchi Array	159.59	53	ePKPdf	PKPdf	22 22 32.6	+0.6
MK32				ePKPab	PKPab	22 23 09.8	-0.8
MKAR	Makanchi Array	159.59	53	PKP	PKPdf	22 22 32.6	+0.6
	comp=E,0.5nm,0.9s,baz=299,slow=1.5,SNR=4.4						
MKAR				PKPab	PKPab	22 23 09.8	-0.8
	comp=E,1.5nm,0.9s,baz=270,slow=3.6,SNR=10						

ISCJB 25 22:08:10.8±0.3, 36°01N±0°04×11°58E±0°04, h10km, mb3.9/12, MS3.0/5, Error ellipse: s-maj=5.4km s-min=4.6km az=154.0
IDC 25 22:08:11.7±1.0, 35°99N×11°45E, h0km, mb3.7/7, mb1 3.8/12, mb1mx3.6/61, mbtmp3.7/12, ML3.3/5, MS3.0/9, Ms1 3.0/9, ms1mx2.7/62, Error ellipse: s-maj=23.9km s-min=15.3km az=153.0
TUN 25 22:08:11.7, 36°00N×11°50E, h10km, MD4.0
NEIC 25 22:08:11.5±0.7, 36°03N×11°55E, h10km, mb4.1/8, Error ellipse: s-maj=16.9km s-min=9.9km az=148.0
LDG 25 22:08:11.7±0.2, 35°70N×11°74E, h10km, Ml3.1/5, Error ellipse: s-maj=5.5km s-min=4.8km az=167.0

ISC 25 22:08:12.1±0.6, 35°95N±0°06×11°53E±0°05, h10km, n65, σ1s57/57, mb3.9/12, MS2.9/5, Tunisia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTHT	Jabal bu Thady	1.30	232	i P	Pn	22 08 35.4	-0.9
TROT	Trozza	1.62	257	i P	Pn	22 08 40.2	-0.6
KEST	Kesra	1.79	264	ePn	Pn	22 08 43.9	+0.8
KEST				eSn	Sn	22 08 57.9	-8.0
KEST	Kesra	1.79	264	Pn	Pn	22 08 44.0	+0.8
	5.7nm,0.3s,baz=49,slow=11,SNR=81						
KEST				Sn	Sn	22 09 06.9	+1.0
	33nm,0.3s,baz=70,slow=19,SNR=12						
KEST				LR	LR	22 09 19.6	
	comp=Z,151nm,18.1s,baz=348,slow=39						
KRIT	Krib	2.02	282	i P	Pn	22 08 47.1	+0.8
CLTB	Caltabellotta	2.12	39	ePn	Pn	22 08 45.3	-2.4
CLTB				eSn	Sn	22 09 00.4	-14
THTN	Thala	2.34	261	i P	Pn	22 08 52.8	+2.0
WDD	Wied Dalam	2.43	92	ePn	Pn	22 08 49.5	-2.4
WDD				eSn	Sn	22 09 08.9	-13
SYA	Sidi Yaiche	2.53	242	i P	Pn	22 08 53.2	-0.1
BERT	Berda	2.68	231	i P	Pn	22 08 55.0	-0.3
VAE	Valguarnera	2.77	56	Pn	Pn	22 08 57.4	+0.7
	12nm,0.3s,baz=0.9,slow=1.5,SNR=28						
OAR	Oum El Arais	2.93	242	i P	Pn	22 08 53.1	-5.6
TIP	Timpagrande	5.26	51	ePn	Pn	22 09 30.1	-0.8
PGF	Pioggiola	6.88	344	ePn	Pn	22 09 54.8	+1.7
PGF				eSn	Sn	22 11 10.6	-0.8
	4.2nm,0.3s						
LMR	La Mourre	8.33	334	ePn	Pn	22 10 14.6	+1.7
LMR				eSn	Sn	22 11 45.7	-1.3
	0.9nm,0.3s						
FRF	La Foret Royal	8.48	335	ePn	Pn	22 10 16.0	+1.0
FRF	La Foret Royal	8.48	335	eP	Pn	22 10 21.7	+6.7
SBF	Sospel	8.51	340	ePn	Pn	22 10 16.7	+1.3
AGG	Agios Georgios	9.12	67	ePn	Pn	22 10 22.3	-1.5
SMRF	Simiane la Rot	9.23	332	ePn	Pn	22 10 26.4	+1.2
SMRF	Simiane la Rot	9.23	332	eP	Pn	22 10 32.5	+7.3
SMRF				eSn	Sn	22 12 07.0	-2.1
	0.5nm,0.3s						
MBDF	Montbardon	9.49	339	ePn	Pn	22 10 30.1	+1.2
MBDF	Montbardon	9.49	339	eP	Pn	22 10 35.8	+6.9
ORIF	Oris-en-Rattie	9.94	336	ePn	Pn	22 10 36.6	+1.6
ORIF	Oris-en-Rattie	9.94	336	eP	Pn	22 10 42.7	+7.7
LASF	Ste Croix	10.02	326	ePn	Pn	22 10 36.7	+0.6
LASF				eSn	Sn	22 12 26.4	-2.2
	0.3nm,0.2s						
LPG	La Plagne	10.20	341	eP	Pn	22 10 45.5	+6.7
LPL	La Plagne	10.22	341	ePn	Pn	22 10 40.4	+1.3
LPL	La Plagne	10.22	341	eP	Pn	22 10 46.1	+7.0
MTLF	Montolieu	10.29	319	ePn	Pn	22 10 41.2	+1.4
MTLF				eSn	Sn	22 12 32.6	-2.6
	0.8nm,0.4s						
DAVOX	Davos/Dischmat	10.89	354	Pn	Pn	22 10 48.9	+0.7
	0.1nm,0.3s,baz=336,slow=20,SNR=2.5						
DAVOX				LR	LR	22 15 04.0	
	comp=Z,101nm,21.8s,baz=172,slow=38						
EPF	Esparros	11.16	313	ePn	Pn	22 10 52.6	+0.8
CAF	Calviac	11.50	324	ePn	Pn	22 10 57.1	+0.7
RJF	Les Rejaudoux	12.04	324	ePn	Pn	22 11 05.0	+1.3
RJF	Les Rejaudoux	12.04	324	eP	Pn	22 11 10.4	+6.7
LFF	La Frestale	12.16	321	ePn	Pn	22 11 06.7	+1.3
ESDC	Sonseca Array	12.80	292	LR	LR	22 16 06.0	
	comp=Z,55nm,20.8s,baz=325,slow=37						
GERES	GERESS Array B	12.99	6	LR	LR	22 16 18.9	
	comp=Z,25nm,19.1s,baz=142,slow=38						
MDT	Midelt	13.69	261	Pn	Pn	22 11 24.3	-2.1
	0.2nm,0.3s,baz=257,slow=10,SNR=3.7						
VRAC	Vranov	13.86	14	LR	LR	22 17 18.2	
	comp=Z,55nm,19.4s,baz=229,slow=40						
TAM	Tamanrasset	14.11	203	ePn	Pn	22 11 32.2	-0.1
CLL	Collm	15.39	3	ePP	P	22 11 58.0	+4.1
	comp=Z,7.0nm,1.1s						
BRTR	Keskin Array B	17.86	71	P	P	22 12 23.9	+2.5
	comp=Z,0.1nm,0.3s,baz=254,slow=11,SNR=16						
BR131	Keskin Array S	17.86	71	ePn	Pn	22 12 19.8	-1.0
	comp=Z,3.9nm,0.8s						
ILGA	Ilgaz	18.08	67	ePn	Pn	22 12 20.6	-3.0
	comp=Z,20nm,1.2s						
AKASG	Malin Array Be	19.50	35	P	P	22 12 39.5	+0.3
	comp=Z,0.7nm,0.3s,baz=228,slow=9.6,SNR=4.4						
EIL	Elat	20.64	101	P	Pn	22 12 53.9	-0.2
	comp=Z,3.7nm,0.8s,baz=286,slow=10,SNR=3.6						
ASF	Jabal al Asfar	21.33	93	LR	LR	22 24 10.2	
	comp=Z,76nm,20.8s,baz=214,slow=45						
DSB	Dublin	21.38	330	eP	P	22 12 56.1	-3.5
	comp=Z,14nm,0.9s						
HFS	Hagfors	24.24	3	P	P	22 13 29.9	+0.9
	comp=Z,2.1nm,0.7s,baz=201,slow=7.9,SNR=4.8						
HFS				LR	LR	22 22 33.0	
	comp=Z,36nm,19.8s,baz=262,slow=36						
TOA0	Torodi Ar. Sit	24.37	204	eP	P	22 13 30.2	-0.3
TORD	Torodi Ar. Bea	24.37	204	P	P	22 13 31.4	+1.0
	comp=Z,0.8nm,0.9s,baz=30,slow=10,SNR=5.4						
NB2	NORSAR Subarra	25.11	360	P	P	22 13 36.8	0.0
	comp=Z,4.6nm,1.4s,baz=179,slow=9.3						
NOA	NORSAR Array B	25.11	360	P	P	22 13 36.9	0.0
	comp=Z,2.2nm,0.9s,baz=181,slow=9.5,SNR=7.3						
NOA				LR	LR	22 23 51.9	
	comp=Z,22nm,18.7s,baz=190,slow=38						
NC405	NORSAR Array S	25.18	0	eP	P	22 13 35.2	-2.3
	comp=Z,11nm,1.0s						
FINES	FINESS Array B	27.13	15	P	P	22 13 56.0	+0.9
	comp=Z,3.6nm,0.7s,baz=177,slow=7.3,SNR=13						
FINES				LR	LR	22 24 10.2	
	comp=Z,19nm,18.8s,baz=218,slow=35						
ABKAR	Akbulak array	37.40	54	eP	P	22 15 26.0	+0.9
	comp=Z,1.0nm,0.9s						
BRVK	Borovoye	43.94	48	eP	P	22 16 19.8	+0.8
	comp=Z,3.4nm,0.8s						
KURK	Kurchatov	49.31	51	eP	P	22 17 01.8	+0.7
	comp=Z,3.7nm,1.0s						
MK31	Makanchi Array	52.53	55	eP	P	22 17 26.2	+0.8
	comp=Z,0.9nm,0.8s						
MKAR	Makanchi Array	52.53	55	P	P	22 17 26.2	+0.7
	comp=Z,1.0nm,0.7s,baz=280,slow=6.0,SNR=16						
MK01	Makanchi Array	52.54	55	eP	P	22 17 24.5	-1.1
WMQ	Urumqi	57.06	57	eP	P	22 18 00.5	+2.0
WMQ				pP	sP	22 18 05.3	+2.5
BOSA	Boshof	65.51	167	LR	LR	22 48 41.5	
	comp=Z,48nm,20.7s,baz=210,slow=37						
YKA	Yellowknife Ar	72.81	337	P	P	22 19 41.9	+1.4
	comp=Z,0.3nm,0.6s,baz=43,slow=5.9,SNR=5.8						

UCR 25 23:02:10.8±1.7, 14°36N×90°58W, h196km±5km, MD5.4, ML4.8, mb6.2(NEIC)
SNET 25 23:02:11.0±0.0, 14°60N×90°43W, h200km
NEIC 25 23:02:12.8±0.1, 14°49N×90°46W, h189km, mb6.2/297, ME5.8, MW6.2, MW6.2, MD6.2(MEX), MD6.2(SNET), Error ellipse: s-maj=2.8km s-min=2.1km az=212.0, Moment Tensor Solution. s38 Moment tensor: Scale 10¹⁸Nm; Mrr1.10; Mθθ-1.24; Mφφ0.14; Mrθ1.55; Mrφ0.30; Mθφ-1.88; Best double couple: M₀2.70000×10¹⁸ NP1:φ₀135.00000°, δ79.00000°, λ106.00000°. NP2:φ₀260.00000°, δ19.00000°, λ36.00000°. Principal axes: T 2.8500, Plg54.0000°, Azm63.0000°; N -0.2700, Plg15.0000°, Azm312.0000°; P -2.5800, Plg32.0000°, Azm212.0000°; Broadband fault plane solution: P waves. NP1:φ₀306.00000°, δ16.00000°, λ72.00000°. NP2:φ₀145.00000°, δ75.00000°, λ95.00000°. Principal axes: T Plg60.0000°, Azm62.0000°; N Plg0.0000°, Azm0.0000°; P Plg30.0000°, Azm231.0000°; Apparent Stress 0.34 MPa. Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.
NEIC Felt [III] at Antigua Guatemala and Guatemala. Also felt at Cahabon, Quetzaltenango and San Pablo La Laguna. Felt [I] at Ahuachapan, El Salvador. Felt at San Cristobal de Las Casas, Tapachula and Tuxtla Gutierrez, Mexico.
ISCJB 25 23:02:12.6±0.1, 14°52N±0°01×90°44W±0°01, h204km±1km, mb5.6/592 Error ellipse: s-maj=2.4km s-min=1.6km az=141.1
*IDC 25 23:02:12.8±0.2, 14°69N×90°28W, h188km±1km, mb5.1/44, mb1 5.2/46, mb1mx5.2/47, mbtmp5.6/46, MS5.1/19, Ms

SNET eS Sn 23 03 10.3 -1.4
LLGN La Laguna 1.54 106 eP Pn 23 02 45.4 -0.7
UDBS Soyapango 1.54 124 eP Pn 23 02 45.4 -0.8
LFU La Fuente 1.56 122 eP Pn 23 02 45.5 -0.9
LBRS Las Brisas 1.63 121 eP Pn 23 02 46.0 -1.0
LFRS El Faro 1.68 125 eP Pn 23 02 46.1 -1.3
PAVA Las Pavas 1.73 120 eP Pn 23 02 47.1 -0.9
THIG 1.76 281 eP Pn 23 02 46.1 -2.0
VICT Victoria 1.89 109 eP Pn 23 02 48.6 -1.0
TECA Tecapa 2.21 119 eP Pn 23 02 52.1 -0.8
CCIG Comitan 2.32 317 ePn Pn 23 02 54.1 -0.2
CCIG eS Sn 23 03 24.5 -2.3
CAHU Cacacuatique 2.34 110 eP Pn 23 02 54.0 -0.6
LCV Lacayo 2.42 118 eP Pn 23 02 55.0 -0.3
LCND La Caada 2.82 117 eP Pn 23 02 59.3 -0.4
PCIG 2.87 293 eP Pn 23 02 58.8 -1.5
PCIG eS Sn 23 03 33.4 -4.2
CNCH Conchagua 2.88 117|| eP Pn 23 03 00.1 -0.5
TGUH Tegucigalpa,Un 3.15 99 ePn Pn 23 03 03.9 +0.3
TGUH Tegucigalpa,Un 3.15 99 eP Pn 23 03 03.8 +0.1
CSGN Cosiguina Volc 3.26 119 ePn Pn 23 03 05.9 +0.8
CSGN eSn Sn 23 03 47.1 +1.0
CSGN Cosiguina Volc 3.26 119 eP Pn 23 03 05.0 -0.1
CRIN San Cristobal 3.83 119 eP Pn 23 03 12.8 +0.8
CNGN Cerro Negro 4.22 119 eP Pn 23 03 17.3 +0.3
MOMN Momotombo 4.40 119 eP Pn 23 03 20.2 +0.9
COPN Copaltepe 4.48 122 eP Pn 23 03 19.9 -0.2
APYN Apoyeque 4.65 120 eP Pn 23 03 22.6 +0.2
MATN Matagalpa 4.72 110 eP Pn 23 03 23.2 -0.1
MGAN Managua 4.78 120 eP Pn 23 03 24.5 +0.5
CMIG Matias Romero 4.92 301 i S Sn 23 04 18.9 -4.5
CMIG Matias Romero 4.92 301 i P Pn 23 03 23.5 -2.2
568nm,0.3s,baz=114,slow=11,SNR=647
CMIG S Sn 23 04 15.7 -7.6
1µm,0.3s,baz=118,slow=11,SNR=5.6
CMIG ScP ScP 23 13 35.1 +1.5
0.4nm,0.3s,baz=129,slow=2.1,SNR=6.0
HUIG Huatulco 5.56 283 i P Pn 23 03 30.9 -3.2
HUIG Huatulco 5.56 283 i P Pn 23 03 30.9 -3.2
ACON Acoyapa 5.78 116 eP Pn 23 03 37.3 +0.4
GB1A Borinquen Arri 6.21 127 eP Pn 23 03 42.4 -0.3
BUEV Buena Vista 6.22 127 eP Pn 23 03 43.2 +0.5
GPS2 Hotel Rincn d 6.29 127 eP Pn 23 03 43.4 -0.2
MYIG Mrida 6.37 6 ePn Pn 23 03 45.1 +0.6
MYIG Mrida 6.37 6 eP Pn 23 03 45.5 +1.0
MESS Mesas 6.42 126 eP Pn 23 03 44.6 -0.7
ESPN Las Esperanzas 6.46 111 ePn Pn 23 03 46.2 +0.4
ESPN Las Esperanzas 6.46 111 eP Pn 23 03 46.0 +0.2
VHO Vista Hermosa 6.51 293 eP Pn 23 03 46.0 -0.5
VHO eS Sn 23 04 52.0 -8.8
VHO Vista Hermosa 6.51 293 eP Pn 23 03 45.6 -0.9
VHO i S Sn 23 04 55.5 -5.4
JTS JuntasAbangare 6.88 128 ePn Pn 23 03 51.2 -0.1
JTS eSn Sn 23 05 06.0 -3.5
JTS JuntasAbangare 6.88 128 c iP Pn 23 03 49.1 -2.2
JTS JuntasAbangare 6.88 128 P Pn 23 03 51.1 -0.1
209nm,0.3s,baz=28,slow=7.3,SNR=165
JTS S Sn 23 05 04.4 -5.1
62nm,0.3s,baz=345,slow=20,SNR=2.3
JTS JuntasAbangare 6.88 128 eP Pn 23 03 51.2 -0.1
JTS AMP 23 03 53.2
comp=Z,893nm,0.4s
CEDE Laguna Cedeo 6.96 125 eP Pn 23 03 52.6 +0.3
ARE1 Arenal 1 6.96 125 eP Pn 23 03 53.1 +0.8
SRA1 San Ramn 7.37 127 eP Pn 23 03 58.5 +0.7
LVIG Laguna Verde 7.63 313 ePn Pn 23 03 59.6 -1.4
LVIG eSn Sn 23 05 18.9 -8.3
HDC Heredia 7.71 126 ePn Pn 23 04 02.6 +0.4
HDC eSn Sn 23 05 29.8 +0.5
HDC Heredia 7.71 126↑ iP Pn 23 04 02.9 +0.7
HDC AMP 23 04 05.0
comp=Z,704nm,0.4s
TRT1 Tortuguero 7.71 120↑ eP Pn 23 04 02.1 0.0
SJS Escuela Geolog 7.79 126 eP Pn 23 04 06.0 +2.7
LCR2 La Lucha 2 7.95 127 eP Pn 23 04 05.0 -0.5
TLIG Tlapa 8.32 292 ePn Pn 23 04 09.8 -0.3
TLIG eSn Sn 23 05 36.3 -7.3
EDDO Dominical 8.37 129 eP Pn 23 04 12.0 +1.3
EDLM Las Mercedes 8.56 127 eP Pn 23 04 14.4 +1.1
EDPN Palmar Norte 8.86 128 eP Pn 23 04 18.5 +1.4
EDBA Buenos Aires 8.87 127 eP Pn 23 04 18.5 +1.1
PTJ1 Puerto Jimnez 9.25 130 eP Pn 23 04 24.9 +2.7
EDSV San Vito 9.32 127 eP Pn 23 04 24.9 +1.6
BRU2 Volcan 9.55 126 i P Pn 23 04 26.6 +0.3
baz=289,slow=3.7
UNM Universidad Na 9.56 301 ePn Pn 23 04 27.8 +1.3
UNM Universidad Na 9.56 301 eP Pn 23 04 27.8 +1.3
ICCO Coco Island 9.60 159 eP Pn 23 04 27.2 -0.5
WBCY West Bay, Gran 9.90 60 ePn Pn 23 04 32.2 +1.5
DVD David 9.96 127↑ eP Pn 23 04 32.1 +0.7
FSCY Frank Sound, G 10.05 61 ePn Pn 23 04 33.7 +1.1
MOIG Morelia 11.42 298 ePn Pn 23 04 52.8 +2.3
PINA Piqa, Costa Ab 11.48 116 eP Pn 23 04 53.6 +2.5
PNME Penonome 11.65 120 eP Pn 23 04 53.8 +0.6
BCIP Isla Barro Col 11.72 116 ePn Pn 23 04 53.8 -0.4
BCIP Isla Barro Col 11.72 116 eP Pn 23 04 52.9 -1.3
BCIP Isla Barro Col 11.72 116 eP Pn 23 04 53.8 -0.4
BCIP Isla Barro Col 11.72 116 eP Pn 23 04 52.9 -1.3
ZANG Zanguenga, Cho 11.80 117|| iP Pn 23 04 55.9 +0.7
AZU Azuero 12.07 123 i P Pn 23 04 58.9 +0.3
baz=306,slow=9.3
MBJ Montego Bay 12.68 71↑ iP P 23 05 13.4 +3.3
CVJ Coleyville 12.93 72|| iP P 23 05 16.9 +3.8
MTDJ Mount Denham 12.93 72 ePn Pn 23 05 11.0 +1.5
BBJ Bamboo Saint A 13.22 72↑ iP P 23 05 15.2 -1.0
LNIG Linares 13.29 322 ePn P 23 05 16.4 -0.5
062Z Marathon 13.43 40 P P 23 05 17.0 -1.4
baz=223,SNR=36
STH Stony Hill 13.57 73↑ iP P 23 05 19.5 -0.6
HOJ Hope 13.61 74|| iP P 23 05 20.7 +0.2
YHJ Yallahs 13.82 74↑ iP P 23 05 25.3 +2.4
ZAIG Zacatecas 14.04 307 ePn P 23 05 26.4 +0.9
061Z Ochoppi 14.36 37 ePn P 23 05 29.0 +0.3
061Z Ochoppi 14.36 37 P P 23 05 29.0 +0.3
baz=220,SNR=62
061Z S S 23 08 12.0 +4.3
baz=220
059Z Ave Maria 14.42 34 P P 23 05 30.1 +0.7
baz=217,SNR=182
KVTX Kingsville 14.62 333 ePn P 23 05 34.3 +2.7
KVTX eS Sn 23 08 16.9 +3.0
058A Arcadia 14.81 32 P P 23 05 34.8 +1.1
baz=214,SNR=65
060Z West Palm Beac 14.97 37 P P 23 05 37.0 +1.5
baz=220,SNR=39
059A Moore Haven 15.08 34 ePn P 23 05 38.9 +2.1
comp=Z,7µm,1.1s
059A Moore Haven 15.08 34 P P 23 05 37.7 +0.9
baz=217,SNR=114
957A Wimauma 15.11 29 ePn P 23 05 38.6 +1.6
comp=Z,3µm,0.9s
957A Wimauma 15.11 29 P P 23 05 38.6 +1.6
baz=212,SNR=22
PAYG Puerto Ayora 15.17 179 ePn P 23 05 40.0 +2.2
comp=Z,1µm,0.9s
958A Wauchula 15.27 31 P P 23 05 40.9 +2.1
baz=214,SNR=119
060A Indiantown 15.57 36 ePn P 23 05 44.6 +2.5
comp=Z,4µm,0.9s
060A Indiantown 15.57 36 P P 23 05 43.9 +1.8
baz=219,SNR=83
GTBY Guantanamo Bay 15.60 68 ePn P 23 05 45.2 +2.7
comp=Z,5µm,1.1s
857A Zephyrhills 15.62 28 P P 23 05 44.5 +1.9
baz=211,SNR=35
SJCC San Jacinto, C 15.66 106 eP P 23 05 44.9 +1.6
SJCC San Jacinto, C 15.66 106 eP P 23 05 44.9 +1.6
959A Okeechobee 15.67 33 P P 23 05 44.9 +1.7
baz=216,SNR=34
DWPF Disney Wildern 15.86 31 eP Pn 23 05 47.5 +2.0
comp=Z,1µm,0.8s
DWPF Disney Wildern 15.86 31 P Pn 23 05 47.8 +2.3
baz=214
DWPF Disney Wildern 15.86 31 eP Pn 23 05 47.7 +2.3
DWPF eS S 23 08 38.8 -2.7
DBBC Dabeiba 15.90 117 eP Pn 23 05 47.5 +1.3
DBBC Dabeiba 15.90 117 eP Pn 23 05 47.5 +1.3
833A Chaparral WMA, 15.98 330 eP Pn 23 05 48.5 +1.6
comp=Z,2µm,1.3s
833A Chaparral WMA, 15.98 330 P Pn 23 05 48.3 +1.4
baz=147,SNR=105
858A St. Cloud 15.98 31 P Pn 23 05 49.5 +2.6
baz=214,SNR=68

HKT Hockley 16.07 343 eP Pn 23 05 49.2 +1.4
comp=Z,2µm,1.8s
HKT eS S 23 08 44.3 -1.5
HKT Hockley 16.07 343 eP Pn 23 05 49.2 +1.4
HKT eS S 23 08 44.3 -1.5
HKT pmax pmax
comp=Z,2µm,1.8s
859A Kempfer Cattle 16.09 32 P Pn 23 05 50.7 +2.5
baz=215,SNR=85
UREC San Jos de Ur 16.15 113 eP P 23 05 48.9 +0.2
UREC San Jos de Ur 16.15 113 eP P 23 05 48.9 +0.2
552A Lynn Haven 16.19 16 P Pn 23 05 52.8 +3.4
baz=198,SNR=24
757A Oxford 16.27 27 P Pn 23 05 52.5 +2.1
baz=210,SNR=53
655A Horseshoe Beac 16.28 23 P Pn 23 05 52.4 +1.9
baz=205,SNR=29
449A Pace 16.37 10 P Pn 23 05 54.6 +3.0
baz=191,SNR=27
656A Willston 16.44 25 eP Pn 23 05 55.1 +2.7
comp=Z,3µm,1.1s
656A Willston 16.44 25 P Pn 23 05 55.2 +2.7
baz=208,SNR=87
448A Bay Minette 16.44 8 P Pn 23 05 55.7 +3.3
baz=189,SNR=24
553A Crawfordville 16.49 19 P Pn 23 05 56.2 +3.2
baz=201,SNR=42
450A Crestview 16.53 12 P Pn 23 05 56.7 +3.2
baz=193,SNR=29
451A Vernon 16.53 14 eP Pn 23 05 56.7 +3.2
comp=Z,2µm,1.1s
451A Vernon 16.53 14 P Pn 23 05 56.4 +2.9
baz=196,SNR=34
554A Perry 16.64 21 P Pn 23 05 57.4 +2.6
baz=203,SNR=8.5
758A Lake Helen 16.68 29 P Pn 23 05 57.7 +2.4
baz=213,SNR=48
GRGC Isla de Gorgon 16.73 132 eP Pn 23 05 57.5 +1.4
GRGC Isla de Gorgon 16.73 132 eP Pn 23 05 57.5 +1.4
BRAL Brewton 16.80 10 eP Pn 23 06 00.0 +3.4
comp=Z,5µm,1.7s
BRAL Brewton 16.80 10 P Pn 23 05 59.1 +2.4
baz=191,SNR=15
ZARC Zaragoza, Cauc 16.87 113 eP P 23 05 56.5 0.0
ZARC Zaragoza, Cauc 16.87 113 eP P 23 05 56.5 0.0
452A Marianna 16.90 16 P Pn 23 06 00.6 +2.8
baz=198,SNR=75
657A Interlachen 16.91 27 P Pn 23 05 59.7 +1.7
baz=210,SNR=34
555A McAlpin 16.94 23 eP Pn 23 06 01.0 +2.6
555A McAlpin 16.94 23 P Pn 23 06 00.7 +2.4
baz=206,SNR=21
349A Repton 16.95 10 P Pn 23 06 00.7 +2.2
baz=191,SNR=62
658A Bunnell 17.04 28 eP Pn 23 06 01.2 +1.6
comp=Z,952nm,0.8s
658A Bunnell 17.04 28 P Pn 23 06 01.1 +1.5
baz=212,SNR=17
556A Lake Butler 17.05 25 P Pn 23 06 01.2 +1.6
baz=207,SNR=45
SMLC San Martn de 17.06 108 eP P 23 05 58.9 +0.2
SMLC San Martn de 17.06 108 eP P 23 05 58.9 +0.2
453A Whigham 17.15 18 eP Pn 23 06 03.3 +2.5
comp=Z,2µm,0.9s
453A Whigham 17.15 18 P Pn 23 06 03.4 +2.5
baz=200,SNR=86
350A Dozier 17.18 12 P Pn 23 06 03.2 +2.0
baz=194,SNR=107
351A Pinckard 17.20 14 P Pn 23 06 03.4 +2.0
baz=196,SNR=136
454A Quitman 17.24 20 P Pn 23 06 03.9 +2.0
baz=203,SNR=78
CODC Agustn Codazz 17.27 104 eP P 23 05 59.5 -1.5
CODC Agustn Codazz 17.27 104 eP P 23 05 59.5 -1.5
557A Orange Park 17.34 26 P Pn 23 06 04.8 +1.7
baz=209,SNR=29
435B Jarrell 17.39 339 eP Pn 23 06 03.8 +0.1
comp=Z,1µm,0.8s
435B Jarrell 17.39 339 P Pn 23 06 03.8 +0.1
baz=157,SNR=177
YOTC Yotoco, Valle 17.47 126 eP Pn 23 06 04.8 0.0
YOTC Yotoco, Valle 17.47 126 eP Pn 23 06 04.8 0.0
455A Stateville 17.47 22 P Pn 23 06 05.9 +1.2
baz=204,SNR=32
NATX Nacogdoches 17.51 348 eP Pn 23 06 05.8 +0.6
comp=Z,6µm,1.4s
NATX Nacogdoches 17.51 348 P Pn 23 06 05.8 +0.6
baz=166,SNR=140
VBMS Vicksburg 17.55 360 eP Pn 23 06 07.3 +1.7
comp=Z,2µm,0.8s
VBMS Vicksburg 17.55 360 P Pn 23 06 06.9 +1.4
baz=180,SNR=51
352A Blakely 17.56 16 eP Pn 23 06 07.7 +1.9
comp=Z,5µm,1.0s
352A Blakely 17.56 16 P Pn 23 06 07.4 +1.7
baz=198,SNR=232
LGNH Logne 17.57 75 eP Pn 23 06 07.8 +1.8
comp=Z,1µm,0.9s
249A Camden 17.57 9 P Pn 23 06 07.5 +1.6
baz=191,SNR=167
JAKH Jacmel 17.61 76 eP Pn 23 06 08.5 +2.1
comp=Z,1µm,1.3s
353A Camilla 17.64 18 P Pn 23 06 08.0 +1.4
baz=200,SNR=145
PTBC PUERTO BERRIO, 17.65 115 eP P 23 06 04.5 -0.7
PTBC PUERTO BERRIO, 17.65 115 eP P 23 06 04.5 -0.7
250A Grady 17.73 12 eP Pn 23 06 09.0 +1.3
comp=Z,2µm,1.0s
250A Grady 17.73 12 P Pn 23 06 09.0 +1.3
baz=193,SNR=100
456A Hilliard 17.84 24 eP Pn 23 06 10.5 +1.5
comp=Z,1µm,0.8s
456A Hilliard 17.84 24 P Pn 23 06 09.9 +0.9
baz=207,SNR=16
TIGA Tifton 17.92 19 eP Pn 23 06 11.0 +1.1
comp=Z,3µm,1.4s
TIGA Tifton 17.92 19 P Pn 23 06 10.8 +0.9
baz=202,SNR=70
ANIL Santa Ana 17.92 123|| eP Pn 23 06 16.7 +6.3
ANIL Santa Ana 17.92 123|| eP Pn 23 06 16.7 +6.3
457A Yulee 17.94 26 P Pn 23 06 10.9 +0.8
baz=209
JCT Junction City 17.99 333 eP Pn 23 06 10.4 -0.5
comp=Z,886nm,1.2s
JCT Junction City 17.99 333 eP Pn 23 06 10.4 -0.5
JCT pmax pmax
comp=Z,886nm,1.2s
JCT Junction City 17.99 333 P Pn 23 06 10.2 -0.6
baz=150,SNR=180
251A Midway 18.03 14 P Pn 23 06 12.3 +1.1
baz=196,SNR=366
BRRC Barranca, Sant 18.06 113 eP P 23 06 09.4 -0.1
BRRC Barranca, Sant 18.06 113 eP P 23 06 09.4 -0.1
355A Pearson 18.08 21 P Pn 23 06 12.0 +0.2
baz=204,SNR=13
252A Lumpkin 18.10 16 P Pn 23 06 13.0 +1.0
baz=198,SNR=320
147A Livingston 18.11 6 eP Pn 23 06 13.8 +1.6
comp=Z,5µm,0.9s
147A Livingston 18.11 6 P Pn 23 06 13.6 +1.4
baz=187,SNR=433
URIC Uribia, Colomb 18.23 97 eP P 23 06 12.1 +0.7
URIC Uribia, Colomb 18.23 97 eP P 23 06 12.1 +0.7
149A Jones 18.24 10 P Pn 23 06 15.0 +1.4
baz=191,SNR=83
356A Blackshear 18.33 23 P Pn 23 06 14.8 +0.1
baz=206,SNR=34
253A Americus 18.33 17 eP Pn 23 06 15.2 +0.4
comp=Z,2µm,1.1s
253A Americus 18.33 17 P Pn 23 06 15.5 +0.8
baz=200,SNR=56
150A Eclectic 18.39 12 P Pn 23 06 16.4 +1.0
baz=194,SNR=1000
SOTA Rioblanco 18.46 131 eP Pn 23 06 16.2 -0.7
SOTA Rioblanco 18.46 131 eP Pn 23 06 16.2 -0.7
WHTX Lake Whitney, 18.46 341 eP Pn 23 06 15.3 -0.9
comp=Z,2µm,0.6s
WHTX Lake Whitney, 18.46 341 P Pn 23 06 15.2 -1.1
baz=158,SNR=273
151A Opelika 18.46 14 P Pn 23 06 17.1 +0.8
baz=196,SNR=1000
254A Abbeville 18.48 20 P Pn 23 06 16.7 +0.2
baz=202,SNR=85
GCUF Volcan Galeras 18.57 134 eP Pn 23 06 17.4 -0.8
GCUF Volcan Galeras 18.57 134 eP Pn 23 06 17.4 -0.8
OTAV Otavalo 18.57 139 eP Pn 23 06 17.9 -0.3
comp=Z,503nm,0.9s

OTAV eScP ScP 23 13 55.8 +2.0
OTAV Otavalo 18.57 139 eP Pn 23 06 17.9 -0.3
OTAV pmax pmax
comp=Z,503nm,0.9s
OTAV Otavalo 18.57 139 eP Pn 23 06 17.8 -0.3
CRUC La Cruz 18.60 133 eP Pn 23 06 18.7 +0.3
CRUC La Cruz 18.60 133 eP Pn 23 06 18.7 +0.3
ROSC El Rosal 18.62 120 eP Pn 23 06 17.8 -1.0
comp=Z,506nm,0.9s
ROSC eS S 23 09 38.6 +0.1
ROSC eScP ScP 23 13 56.2 +2.3
ROSC El Rosal 18.62 120 P Pn 23 06 17.6 -1.1
comp=Z,9.4nm,0.3s,baz=11,slow=3.3,SNR=75
ROSC S S 23 09 38.6 +0.1
comp=Z,1.8nm,0.3s,baz=163,slow=20,SNR=2.2
ROSC ScP ScP 23 13 55.3 +1.5
comp=Z,0.9nm,0.3s,baz=173,slow=8.1,SNR=9.4
LRAL Lakeview Retre 18.63 9 eP Pn 23 06 19.1 +0.8
comp=Z,1µm,0.9s
LRAL Lakeview Retre 18.63 9 P Pn 23 06 19.1 +0.8
baz=190,SNR=388
357A Townsend 18.67 25 P Pn 23 06 18.5 -0.2
baz=208,SNR=10
Z41A Richland Creek 18.70 354 eP Pn 23 06 19.0 -0.1
comp=Z,2µm,1.3s
Z41A eS S 23 09 44.1 +5.0
Z41A Richland Creek 18.70 354 P Pn 23 06 18.6 -0.4
baz=173,SNR=110
255A Hazlehurst 18.74 22 eP Pn 23 06 19.5 -0.1
comp=Z,721nm,0.8s
255A Hazlehurst 18.74 22 P Pn 23 06 19.5 -0.1
baz=204,SNR=29
152A Waverly Hall 18.75 15 eP Pn 23 06 19.9 +0.3
comp=Z,3µm,1.0s
152A eScP ScP 23 13 53.5 +0.2
152A Waverly Hall 18.75 15 P Pn 23 06 19.6 0.0
baz=197,SNR=466
HPIG 18.75 313 eP Pn 23 06 19.0 -1.0
comp=Z,239nm,1.0s
Z49A Columbiana 18.86 10 P Pn 23 06 21.4 +0.4
baz=192,SNR=1000
PAMC Pamplona, Colo 18.87 111 eP P 23 06 18.4 -0.5
PAMC Pamplona, Colo 18.87 111 eP P 23 06 18.4 -0.5
SDDR Presa de Saban 18.88 74 eP Pn 23 06 21.3 -0.1
comp=Z,1µm,0.7s
153A Fort Valley 18.97 17 P Pn 23 06 21.8 -0.4
baz=200,SNR=70
256A Glennville 19.01 23 P Pn 23 06 21.9 -0.8
baz=206,SNR=69
Z50A Ashland 19.04 12 eP Pn 23 06 23.3 +0.2
comp=Z,3µm,0.8s
Z50A Ashland 19.04 12 P Pn 23 06 23.5 +0.4
baz=194,SNR=818
TXAR Lajitas Array 19.08 322 P Pn 23 06 23.3 -0.3
comp=Z,6.6nm,0.3s,baz=146,slow=9.1,SNR=380
TXAR S S 23 09 49.2 +2.5
comp=Z,0.4nm,0.3s,baz=116,slow=8.1,SNR=2.5
TXAR ScP ScP 23 13 56.6 +2.4
comp=Z,0.9nm,0.3s,baz=147,slow=4.9,SNR=18
TXAR P3KPbc 23 40 38.0
comp=Z,0.1nm,0.3s,baz=321,slow=0.4,SNR=4.1
TX31 Lajitas Ar. Si 19.08 322 eP Pn 23 06 22.3 -1.3
TX31 eS S 23 09 49.1 +2.4
TX31 eScP ScP 23 13 56.6 +2.4
154A Montrose 19.16 19 eP Pn 23 06 23.8 -0.6
comp=Z,2µm,0.9s
154A Montrose 19.16 19 P Pn 23 06 23.6 -0.9
baz=202,SNR=128
RUSC La Rusia 19.16 115 eP P 23 06 22.8 +0.8
RUSC La Rusia 19.16 115 eP P 23 06 22.8 +0.8
WLAR White Oak Lake 19.16 353 eP Pn 23 06 23.7 -0.8
comp=Z,2µm,0.8s
WLAR eS S 23 09 53.6 +5.5
CHIC Chingaza 19.23 119 eP P 23 06 22.7 0.0
CHIC Chingaza 19.23 119 eP P 23 06 22.7 0.0
Z51A Franklin 19.25 14 P Pn 23 06 25.6 0.0
baz=196,SNR=65
CCAR Cane Creek 19.28 357 eP Pn 23 06 25.8 -0.1
comp=Z,1µm,0.9s
Z52A Williamson 19.32 16 P Pn 23 06 25.7 -0.6
baz=198,SNR=219
257A Skidaway Islan 19.34 25 eP Pn 23 06 26.4 -0.3
comp=Z,1µm,0.9s
257A Skidaway Islan 19.34 25 P Pn 23 06 26.1 -0.5
baz=208,SNR=11
155A Kite 19.38 21 P Pn 23 06 26.3 -0.8
baz=204,SNR=209
Y48A Jasper 19.47 8 P Pn 23 06 27.8 -0.3
baz=190,SNR=393
FLOC Florencia 19.53 130 eP P 23 06 26.7 +1.2
FLOC Florencia 19.53 130 eP P 23 06 26.7 +1.2
Y49A Blount Mountai 19.53 10 eP Pn 23 06 28.4 -0.5
comp=Z,3µm,1.0s
Y49A eScP ScP 23 13 56.3 +1.2
Y49A Blount Mountai 19.53 10 P Pn 23 06 28.4 -0.5
baz=192,SNR=636
VILC Villavicencio, 19.54 121 eP Pn 23 06 28.8 -0.6
VILC Villavicencio, 19.54 121 eP Pn 23 06 28.8 -0.6
GRTK Grand Turk 19.63 67 eP Pn 23 06 29.8 -0.4
comp=Z,4µm,0.8s
Z53A Monticello 19.64 17 P Pn 23 06 28.8 -1.4
baz=200,SNR=334
BANI BANI 19.66 76 eP Pn 23 06 30.3 -0.4
Y50A Piedmont 19.69 12 P Pn 23 06 29.6 -1.3
baz=194,SNR=460
156A Sylvania 19.76 23 P Pn 23 06 30.4 -1.2
baz=206,SNR=38
GOGA Godfrey 19.79 18 eP Pn 23 06 30.3 -1.7
comp=Z,1µm,1.0s
GOGA Godfrey 19.79 18 P Pn 23 06 30.2 -1.8
baz=200,SNR=354
ABTX Abilene, Hawle 19.80 337 eP P 23 06 28.9 +0.7
comp=Z,1µm,1.1s
ABTX eS S 23 10 01.4 +0.7
ABTX Abilene, Hawle 19.80 337 P P 23 06 28.9 +0.7
baz=153,SNR=394
Z54A Sparta 19.82 19 P Pn 23 06 30.6 -1.8
baz=202,SNR=122
Y51A Rockmart 19.84 13 P Pn 23 06 31.4 -1.3
baz=195,SNR=772
X43A Marvell 19.84 359 eP Pn 23 06 31.1 -1.6
comp=Z,881nm,0.8s
X43A Marvell 19.84 359 P Pn 23 06 30.7 -2.0
baz=179,SNR=38
OXF Oxford 19.86 3 eP P 23 06 30.3 +1.5
comp=Z,2µm,0.9s
OXF Oxford 19.86 3 eP P 23 06 30.3 +1.5
OXF pmax pmax
comp=Z,2µm,0.9s
OXF Oxford 19.86 3 P P 23 06 30.3 +1.5
baz=183,SNR=184
X40A Basin Creek Fa 19.93 354 eP P 23 06 30.6 +1.1
comp=Z,1µm,1.6s
X40A eS S 23 10 04.5 +1.5
X40A Basin Creek Fa 19.93 354 P P 23 06 31.1 +1.6
baz=173,SNR=178
X46A Booneville 19.95 5 P Pn 23 06 32.2 -1.8
baz=185,SNR=469
157A Early Branch 19.97 24 P Pn 23 06 32.9 -1.3
baz=208,SNR=48
X47A Russellville 19.98 6 P Pn 23 06 32.8 -1.6
baz=187,SNR=483
X48A Hartselle 20.02 8 eP Pn 23 06 32.9 -1.9
comp=Z,2µm,1.0s
X48A eS S 23 10 08.2 +3.4
X48A Hartselle 20.02 8 P Pn 23 06 33.2 -1.6
baz=190,SNR=434
Z55A Blythe 20.04 21 P P 23 06 32.6 +1.9
baz=204,SNR=19
Y52A Lilburn 20.05 16 eP Pn 23 06 33.4 -1.9
comp=Z,2µm,0.8s
Y52A Lilburn 20.05 16 P Pn 23 06 33.2 -2.1
baz=198,SNR=459
MIAR Mount Ida 20.07 353 eP P 23 06 32.1 +1.1
comp=Z,1µm,1.1s
MIAR Mount Ida 20.07 353 P P 23 06 32.1 +1.1
MIAR pmax pmax
comp=Z,1µm,1.1s
MIAR Mount Ida 20.07 353 P P 23 06 32.0 +1.0
baz=171,SNR=313
TAMC Tame, Arauca 20.07 112 eP P 23 06 32.1 +0.8
TAMC Tame, Arauca 20.07 112 eP P 23 06 32.1 +0.8
SDD Santo Domingo 20.08 76 eP Pn 23 06 34.0 -1.7
comp=Z,2µm,1.0s
UALR University of 20.17 356 eP P 23 06 33.5 +1.4
comp=Z,956nm,0.9s
Y53A Monroe 20.17 17 P Pn 23 06 34.7 -2.0

baz=200,SNR=497
X49A **Woodville** 20.19 10 P Pn 23 06 34.8 -2.1
baz=192,SNR=516
X50B **Fort Payne** 20.26 12 P Pn 23 06 35.8 -2.0
baz=193,SNR=518
158A **Hollywood** 20.35 26 P Pn 23 06 37.0 -1.9
baz=210,SNR=14
X37A **Clayton** 20.40 348 eP P 23 06 36.1 +1.5
comp=Z,4µm,1.4s
Z56A **Williston** 20.40 22 P P 23 06 36.8 +2.2
baz=206,SNR=83
PLAL **Pickwick Lake** 20.42 6 eP P 23 06 36.4 +1.6
comp=Z,466nm,0.8s
PLAL eScP ScP 23 13 56.1 -1.0
Y54A **Tignall** 20.44 19 P P 23 06 36.9 +1.8
baz=202,SNR=156
MET **Memphis--Engin** 20.45 1 eP Pn 23 06 38.7 -1.4
comp=Z,4µm,1.6s
SLBS **Sierra La Lagu** 20.48 299 eP Pn 23 06 39.4 -1.4
comp=Z,657nm,1.3s
EBZ **Ebenezer Churc** 20.49 3 eP Pn 23 06 39.5 -1.1
RGRS **Roger Stewart** 20.50 25 eP Pn 23 06 38.4 -2.3
comp=Z,4µm,0.6s
X51A **Calhoun** 20.53 13 eP P 23 06 38.1 +2.2
comp=Z,2µm,1.1s
X51A eScP ScP 23 13 58.1 +0.7
X51A **Calhoun** 20.53 13 P P 23 06 38.1 +2.2
baz=196,SNR=248
W46A **Michie** 20.54 5 P P 23 06 38.1 +2.0
baz=186,SNR=109
W41B **Gary Mavity, V** 20.56 356 eP P 23 06 37.3 +1.1
comp=Z,556nm,1.0s
W41B **Gary Mavity, V** 20.56 356 P P 23 06 37.2 +1.0
baz=175,SNR=192
CSU **Charleston Sou** 20.61 26 eP Pn 23 06 39.8 -2.4
Z57A **Bowman** 20.63 24 P P 23 06 39.4 +2.4
baz=208,SNR=67
NHSC **New Hope** 20.68 25 eP Pn 23 06 40.6 -2.5
comp=Z,5µm,1.2s
NHSC **New Hope** 20.68 25 P P 23 06 39.3 +1.8
baz=209,SNR=86
WHAR **Wooly Hollow** 20.68 356 eP P 23 06 38.8 +1.3
comp=Z,619nm,1.0s
SFTN **Shelby Forest** 20.68 1 eP Pn 23 06 41.5 -1.6
SFTN **Shelby Forest** 20.68 1 eP Pn 23 06 41.5 -1.6
W48A **Pulaski** 20.71 8 P P 23 06 40.1 +2.3
baz=190,SNR=513
W39A **Magazine** 20.73 352 eP P 23 06 39.3 +1.2
comp=Z,1µm,0.8s
W39A **Magazine** 20.73 352 P P 23 06 39.1 +1.0
baz=171,SNR=135
W47A **Westpoint** 20.74 7 P P 23 06 40.3 +2.1
baz=188,SNR=401
Y55A **Saluda** 20.78 21 P P 23 06 40.1 +1.5
baz=204,SNR=110
W49A **Belvidere** 20.79 10 P P 23 06 41.5 +2.8
baz=191,SNR=356
X52A **Dahlonega** 20.79 15 P P 23 06 41.0 +2.2
baz=198,SNR=453
Y56A **Pelion** 20.85 22 P P 23 06 41.2 +1.9
baz=206,SNR=30
X53A **Estanollee** 20.86 17 P P 23 06 41.6 +2.1
baz=200,SNR=343
HBAR **Harrisburg** 20.88 360 eP P 23 06 41.7 +2.1
comp=Z,2µm,1.1s
HODGE **Hodges** 20.92 19 eP P 23 06 42.0 +1.9
comp=Z,2µm,1.0s
SWET **Sewanee** 20.94 10 eP P 23 06 42.6 +2.2
comp=Z,3µm,0.9s
LPIG **La Paz** 20.94 300 P P 23 06 43.2 +2.8
comp=Z,533nm,1.1s,baz=195,slow=0.6,SNR=30
LPIG S S 23 10 28.3 +5.6
comp=Z,33nm,0.4s,baz=117,slow=20,SNR=8.3
Z58A **St. Stephen** 21.02 26 P P 23 06 43.9 +2.7
baz=210,SNR=79
W50A **Signal Mountai** 21.04 12 eP P 23 06 43.2 +1.8
comp=Z,2µm,0.9s
W50A **Signal Mountai** 21.04 12 P P 23 06 43.5 +2.1
baz=194,SNR=384
W51A **Cleveland** 21.12 13 P P 23 06 44.6 +2.4
baz=195,SNR=622
Z59A **Georgetown, SC** 21.17 27 P P 23 06 45.2 +2.4
baz=211,SNR=28
X54A **Belton** 21.18 19 P P 23 06 44.7 +1.9
baz=202,SNR=306
V46A **Holladay** 21.23 5 P P 23 06 44.3 +1.0
baz=186,SNR=296
W52A **Murphy** 21.25 15 eP P 23 06 45.8 +2.1
comp=Z,1µm,0.9s
W52A eScP ScP 23 13 60.0 +0.8
W52A **Murphy** 21.25 15 P P 23 06 45.9 +2.3
baz=198,SNR=214
HALT **Halls** 21.26 3 eP P 23 06 45.5 +1.9
comp=Z,2µm,1.1s
GNAR **Gosnell** 21.29 1 eP P 23 06 45.8 +1.8
comp=Z,2µm,1.1s
GUVC **San Jose del G** 21.30 123 eP P 23 06 45.3 +1.0
GUVC **San Jose del G** 21.30 123 eP P 23 06 45.3 +1.0
JSC **Jenkinsville** 21.30 21 eP P 23 06 46.5 +2.3
comp=Z,1µm,1.1s
V47A **Nunnelly** 21.31 7 P P 23 06 46.2 +1.9
baz=188,SNR=489
V48A **Smith Brothers** 21.32 8 eP P 23 06 46.1 +1.9
comp=Z,4µm,1.5s
V48A **Smith Brothers** 21.32 8 P P 23 06 46.4 +2.2
baz=190,SNR=316
X55A **Gracelyn & Ava** 21.34 20 P P 23 06 46.4 +1.9
baz=204,SNR=201
Y57A **Sumter** 21.39 24 P P 23 06 47.1 +2.0
baz=207,SNR=185
WMOK **Wichita Mounta** 21.41 341 eP P 23 06 45.2 -0.1
comp=Z,964nm,1.2s
WMOK **Wichita Mounta** 21.41 341 eP P 23 06 45.2 -0.1
WMOK pmax pmax
comp=Z,964nm,1.2s
WMOK **Wichita Mounta** 21.41 341 P P 23 06 45.2 -0.1
baz=158,SNR=494
BG3 **Lake Jocassee** 21.42 17 eP P 23 06 47.3 +1.9
comp=Z,2µm,0.9s
CLNB **Carlsbad** 21.43 327 eP P 23 06 46.8 +1.2
CPCT **Cooper Cave** 21.45 13 eP P 23 06 47.9 +2.2
comp=Z,1µm,0.9s
V49A **McMinnville** 21.48 10 P P 23 06 48.1 +2.1
baz=192,SNR=256
W53A **Cullowhee** 21.52 17 P P 23 06 48.9 +2.3
baz=199,SNR=168
PCDR **Punta Cana, DR** 21.53 77 eP P 23 06 47.5 +0.8
comp=Z,761nm,1.0s
V50A **Pikevile** 21.54 12 P P 23 06 48.6 +2.0
baz=194,SNR=537
X56A **White Oak** 21.57 22 P P 23 06 49.0 +2.1
baz=205,SNR=260
Y58A **Scranton** 21.58 25 P P 23 06 48.8 +1.8
baz=209,SNR=79
WVT **Waverly** 21.58 6 eP P 23 06 48.6 +1.6
comp=Z,1µm,1.0s
WVT **Waverly** 21.58 6 eP P 23 06 48.6 +1.6
WVT pmax pmax
comp=Z,1µm,1.0s
WVT **Waverly** 21.58 6 P P 23 06 48.6 +1.6
baz=187
PAULI **Pauline** 21.61 20 eP P 23 06 49.4 +2.1
comp=Z,2µm,1.5s
GLAT **Glass** 21.61 3 eP P 23 06 49.5 +2.1
comp=Z,4µm,1.0s
GDL2 **Guadalupe Moun** 21.63 326 eP P 23 06 48.1 +0.4
U41A **Viola** 21.70 357 P P 23 06 48.9 +0.7
baz=176,SNR=89
UTMT **University of** 21.71 4 eP P 23 06 50.1 +1.8
comp=Z,3µm,1.0s
W54A **Cherokee Point** 21.73 19 P P 23 06 50.8 +2.2
baz=202,SNR=499
PVMO **Portageville** 21.74 2 eP P 23 06 50.6 +1.9
comp=Z,3µm,1.4s
TUL1 **Leonard** 21.76 348 eP P 23 06 48.8 0.0
comp=Z,957nm,0.8s
TUL1 **Leonard** 21.76 348 P P 23 06 48.9 0.0
baz=166,SNR=271
U46A **Springville** 21.78 5 P P 23 06 50.6 +1.6
baz=186,SNR=397
U40A **Yellville** 21.78 355 P P 23 06 50.0 +1.0
baz=174,SNR=204
MNTX **Cornudas Mount** 21.82 324 eP P 23 06 49.9 +0.4
comp=Z,398nm,1.3s
MNTX **Cornudas Mount** 21.82 324 P P 23 06 49.4 -0.1
baz=138,SNR=208
HHAR **Hobbs** 21.82 352 eP P 23 06 49.8 +0.3
comp=Z,620nm,1.3s

TKL **Tuckaleechee C** 21.82 15 eP P 23 06 51.1 +1.6
comp=Z,5µm,1.1s
TKL **Tuckaleechee C** 21.82 15 eP P 23 06 51.1 +1.6
TKL **Tuckaleechee C** 21.82 15 P P 23 06 51.8 +2.3
comp=Z,3µm,1.0s,baz=187,slow=9.7,SNR=594
TKL S S 23 10 40.0 +2.8
comp=Z,75nm,1.1s,baz=15,slow=20,SNR=5.9
TKL ScP ScP 23 14 00.8 +0.2
comp=Z,55nm,0.7s,baz=139,slow=4.9,SNR=8.3
V51A **Loudon** 21.83 13 eP P 23 06 51.4 +1.9
comp=Z,8µm,1.8s
V51A **Loudon** 21.83 13 P P 23 06 52.0 +2.5
baz=196,SNR=315
U44A **Portageville** 21.84 2 P P 23 06 50.9 +1.4
baz=182,SNR=42
X57A **Johnson Farm,** 21.90 24 P P 23 06 52.0 +1.7
baz=208,SNR=55
U47A **Clarksville** 21.95 7 P P 23 06 52.0 +1.3
baz=188,SNR=634
PARMO **Parma** 21.99 2 eP P 23 06 52.8 +1.7
comp=Z,2µm,0.8s
CPRX **Cap Rock** 22.03 329 eP P 23 06 52.3 +0.6
V52A **Sevierville** 22.04 15 eP P 23 06 53.8 +2.1
comp=Z,3µm,1.0s
V52A **Sevierville** 22.04 15 P P 23 06 53.6 +2.0
baz=198,SNR=631
KMSC **Kings Mountain** 22.06 20 eP P 23 06 53.6 +1.8
comp=Z,2µm,1.0s
KMSC **Kings Mountain** 22.06 20 P P 23 06 53.8 +2.0
baz=204,SNR=364
V53A **Saluda** 22.09 17 eP P 23 06 54.4 +2.2
comp=Z,4µm,1.4s
V53A **Saluda** 22.09 17 P P 23 06 54.4 +2.2
baz=200,SNR=353
PBMO **Poplar Bluff** 22.10 0 eP P 23 06 52.8 +0.7
comp=Z,416nm,0.8s
PBMO eScP ScP 23 14 00.7 -0.5
U48A **Cassie Pea, Po** 22.11 8 P P 23 06 54.2 +1.9
baz=190,SNR=342
U49A **Red Boiling Sp** 22.23 10 P P 23 06 55.4 +2.0
baz=192,SNR=490
MSTX **Muleshoe** 22.27 332 eP P 23 06 53.7 -0.3
comp=Z,488nm,0.9s
MSTX **Muleshoe** 22.27 332 P P 23 06 53.4 -0.6
baz=147,SNR=46
X58A **Rowland** 22.28 25 P P 23 06 55.6 +1.8
baz=209,SNR=56
Y60A **Bolivia** 22.29 28 P P 23 06 55.8 +1.9
baz=213,SNR=28
U50A **Jamestown** 22.31 12 P P 23 06 56.2 +2.0
baz=194,SNR=354
W56A **Indian Trail** 22.31 22 P P 23 06 55.9 +1.7
baz=206,SNR=159
T45A **Paducah** 22.40 4 eP P 23 06 56.6 +1.7
comp=Z,10µm,1.7s
T45A **Paducah** 22.40 4 P P 23 06 56.5 +1.6
baz=185,SNR=56
T43A **Greenville** 22.40 0 P P 23 06 55.7 +0.8
baz=180,SNR=117
V54A **Nebo** 22.44 18 P P 23 06 57.4 +2.0
baz=202,SNR=435
U51A **La Follette** 22.45 14 P P 23 06 57.7 +2.2
baz=196,SNR=697
T46A **Princeton** 22.48 5 P P 23 06 57.4 +1.7
baz=186,SNR=352
T47A **Sharon Grove** 22.51 7 eP P 23 06 58.2 +2.3
comp=Z,7µm,1.4s
T47A **Sharon Grove** 22.51 7 P P 23 06 57.7 +1.7
baz=188,SNR=726
W57A **Gilead** 22.55 23 P P 23 06 57.9 +1.6
baz=207,SNR=48
AMTX **Amarillo** 22.59 335 eP P 23 06 57.0 +0.2
comp=Z,627nm,0.9s
AMTX **Amarillo** 22.59 335 P P 23 06 57.6 +0.8
baz=151
X59A **McDuffie Farm,** 22.60 26 P P 23 06 58.7 +1.9
baz=211,SNR=36
U52A **Thorn Hill** 22.62 15 P P 23 06 58.9 +1.9
baz=198,SNR=197
MPR **Mayaguez** 22.67 78 eP P 23 06 59.5 +1.9
comp=Z,194nm,0.9s
CRPR **Cabo Rojo, PR** 22.68 78 eP P 23 06 57.6 -0.1
comp=Z,428nm,1.1s
AGP **Aguadilla** 22.69 77 eP P 23 06 58.4 +0.6
comp=Z,3µm,1.5s
T48A **Bowling Green** 22.72 8 P P 23 06 59.3 +1.4
baz=190,SNR=161
TZTN **Tazewell** 22.72 15 eP P 23 06 59.8 +1.9
comp=Z,1µm,0.8s
TZTN **Tazewell** 22.72 15 P P 23 07 00.0 +2.1
baz=197,SNR=295
V55A **Taylorsville** 22.74 20 P P 23 07 00.3 +2.2
baz=204,SNR=161
U53A **Fall Branch** 22.81 17 P P 23 07 00.7 +2.0
baz=200,SNR=453
T49A **Edmonton** 22.85 10 eP P 23 07 00.9 +1.9
comp=Z,3µm,0.8s
T49A **Edmonton** 22.85 10 P P 23 07 00.9 +1.9
baz=192,SNR=1000
X60A **Albert Glenn T** 22.88 27 P P 23 07 00.7 +1.5
baz=212,SNR=92
S43A **Fulton Ridge,** 22.89 1 P P 23 07 00.3 +1.0
baz=181,SNR=157
T50A **Nancy** 22.90 12 P P 23 07 01.2 +1.7
baz=194,SNR=666
S41A **Jillco Farms,** 22.93 357 P P 23 07 00.7 +1.0
baz=177,SNR=97
T51A **Gray** 23.03 13 P P 23 07 02.7 +2.1
baz=196,SNR=745
S44A **Carbondale** 23.04 2 P P 23 07 02.1 +1.5
baz=183,SNR=522
S45A **Carrier Mills** 23.06 4 P P 23 07 02.2 +1.4
baz=185,SNR=111
SIUC **Southern Illin** 23.06 3 eP P 23 07 02.4 +1.5
comp=Z,1µm,0.8s
S42A **Caledonia** 23.09 359 P P 23 07 02.1 +0.9
baz=179,SNR=86
S46A **Don Dixon Farm** 23.13 6 P P 23 07 03.3 +1.8
baz=187,SNR=245
S47A **Hartford** 23.13 7 P P 23 07 02.8 +1.2
baz=189,SNR=267
OBIP **Obispado Ponce** 23.16 78 eP P 23 07 01.5 -0.5
comp=Z,286nm,0.8s
U54A **Nelsons Funny** 23.17 18 P P 23 07 03.8 +1.8
baz=202,SNR=546
W59A **Clinton** 23.18 26 P P 23 07 03.6 +1.6
baz=211,SNR=58
ICMP **Isla Caja de M** 23.22 79 eP P 23 07 03.4 +0.8
comp=Z,444nm,1.1s
EMPR **Esperanza - Ma** 23.27 77 eP P 23 07 06.0 +3.0
comp=Z,335nm,0.9s
V57A **Coltrane Farms** 23.28 22 P P 23 07 04.4 +1.5
baz=207,SNR=363
S48A **Wiedeman Farm,** 23.31 9 P P 23 07 04.6 +1.5
baz=191,SNR=173
CCM **Cathedral Cave** 23.38 358 eP P 23 07 04.6 +0.8
comp=Z,3µm,2.0s
CCM eS S 23 11 03.6 +1.4
CCM **Cathedral Cave** 23.38 358 eP P 23 07 04.6 +0.8
CCM eS S 23 11 03.6 +1.4
CCM pmax pmax
comp=Z,3µm,2.0s
CCM **Cathedral Cave** 23.38 358 P P 23 07 05.0 +1.2
baz=178
U55A **TA2, Sparta** 23.39 19 P P 23 07 05.7 +1.7
baz=203,SNR=275
W60A **Pink Hill** 23.39 27 P P 23 07 05.4 +1.5
baz=212,SNR=64
T52A **Hallie** 23.40 15 P P 23 07 05.7 +1.7
baz=198,SNR=176
T53A **Wise** 23.40 16 P P 23 07 05.7 +1.7
baz=200,SNR=147
USIN **University of** 23.41 6 eP P 23 07 05.8 +1.7
comp=Z,3µm,0.8s
CNNC **Cliffs of the** 23.47 27 eP P 23 07 06.4 +1.8
comp=Z,1µm,0.6s
CNNC **Cliffs of the** 23.47 27 P P 23 07 06.5 +1.8
baz=212,SNR=70
S49A **Springfield** 23.56 10 P P 23 07 07.0 +1.6
baz=192,SNR=268
R44A **Waltonville** 23.60 3 P P 23 07 07.1 +1.4
baz=183,SNR=70
R42A **Luebbering** 23.60 359 P P 23 07 07.0 +1.2
baz=179,SNR=165
SJG **San Juan** 23.60 78 eP P 23 07 05.4 -0.6
comp=Z,217nm,0.9s
SJG eScP ScP 23 14 04.8 -0.7
SJG **San Juan** 23.60 78 eP P 23 07 05.4 -0.6
SJG pmax pmax
comp=Z,217nm,0.9s
SJG **San Juan** 23.60 78 P P 23 07 05.3 -0.7
comp=Z,115nm,0.6s,baz=274,slow=8.2,SNR=22
SJG PcP PcP 23 10 46.0 +0.5
comp=Z,20nm,0.6s,baz=270,slow=5.1,SNR=3.4
SJG ScP ScP 23 14 04.8 -0.7
comp=Z,27nm,0.7s,baz=114,slow=2.4,SNR=6.6
S50A **Richmond** 23.62 12 P P 23 07 07.7 +1.7
baz=195,SNR=341
R41A **Rosebud** 23.63 358 P P 23 07 06.8 +0.8
baz=178,SNR=251
R46A **Gibon Southern** 23.68 6 P P 23 07 08.0 +1.6
baz=187,SNR=356
R45A **Skylar, Fairfi** 23.69 4 P P 23 07 08.1 +1.5
baz=185,SNR=303
T54A **Tazewell** 23.74 18 P P 23 07 08.9 +1.7
baz=202,SNR=160
S51A **Beattyville** 23.76 14 eP P 23 07 09.1 +1.8
comp=Z,1µm,0.9s
S51A **Beattyville** 23.76 14 P P 23 07 08.9 +1.6
baz=197,SNR=262
HSIG **** 23.77 311 eP P 23 07 09.1 +1.6
comp=Z,181nm,1.0s
HSIG ePcP PcP 23 10 46.2 +0.5
HSIG eScP ScP 23 14 06.1 +0.3
V59A **Middlesex** 23.77 25 P P 23 07 08.8 +1.4
baz=210,SNR=93
121A **Cookes Peak, D** 23.83 322 P P 23 07 10.4 +2.2
baz=135,SNR=185
WCI **Wyandotte Cave** 23.84 8 eP P 23 07 09.5 +1.6
comp=Z,4µm,0.8s
WCI **Wyandotte Cave** 23.84 8 eP P 23 07 09.5 +1.6
WCI **Wyandotte Cave** 23.84 8 P P 23 07 10.1 +2.1
baz=190
R47A **Wooly Knot Far** 23.87 8 P P 23 07 09.5 +1.2
baz=189,SNR=505
HUMP **Col San Antoni** 23.89 78 eP P 23 07 07.9 -0.7
comp=Z,205nm,0.8s
HUMP eScP ScP 23 14 02.5 -3.8
CBYP **Canovanas** 23.89 78 eP P 23 07 08.2 -0.5
comp=Z,332nm,0.9s
SRIG **Santa Rosalia** 23.90 305 eP P 23 07 11.1 +2.4
comp=Z,1µm,1.2s
SRIG epP pP 23 07 48.9 +3.4
S52A **Salyersville** 23.92 15 P P 23 07 10.7 +1.9
baz=198,SNR=70
SLM **Saint Louis** 23.95 0 eP P 23 07 10.3 +1.3
comp=Z,462nm,0.9s
SLM eS S 23 11 13.3 +2.0
SLM eScP ScP 23 14 06.7 +0.6
SLM **Saint Louis** 23.95 0 eP P 23 07 10.3 +1.3
SLM eS S 23 11 13.3 +2.0
SLM pmax pmax
comp=Z,462nm,0.9s
319A **Douglas** 23.99 317 eP P 23 07 12.5 +2.9
comp=Z,608nm,1.2s
T55A **Pulaski** 24.04 19 P P 23 07 11.7 +1.8
baz=203,SNR=138
R48A **Northridge Ran** 24.06 9 P P 23 07 11.6 +1.6
baz=191,SNR=276
R49A **Shelbyville** 24.07 10 P P 23 07 11.3 +1.2
baz=193,SNR=345
OLIL **Olney** 24.14 5 eP P 23 07 12.3 +1.6
comp=Z,2µm,0.8s
MTP **Monte Pirata** 24.16 78 eP P 23 07 10.7 -0.5
comp=Z,511nm,0.9s
S53A **Williamson** 24.16 16 P P 23 07 12.6 +1.6
baz=200,SNR=112
T56A **Rocky Mt** 24.21 21 P P 23 07 13.2 +1.8
baz=205,SNR=65
R50A **Paris** 24.22 12 P P 23 07 13.0 +1.6
baz=194,SNR=500
BLA **Blacksburg** 24.24 20 eP P 23 07 13.6 +1.8
comp=Z,1µm,1.1s
BLA eS S 23 11 20.5 +4.4
BLA **Blacksburg** 24.24 20 eP P 23 07 13.6 +1.8
BLA eS S 23 11 20.5 +4.4
BLA pmax pmax
comp=Z,1µm,1.1s
BLA **Blacksburg** 24.24 20 P P 23 07 13.5 +1.8
baz=204,SNR=124
Q44A **Meyer Farm, Va** 24.25 3 eP P 23 07 12.9 +1.1
Q44A **Meyer Farm, Va** 24.25 3 P P 23 07 12.9 +1.1
baz=183,SNR=123
Q43A **New Douglas** 24.27 1 P P 23 07 13.1 +1.2
baz=182,SNR=84
Q45A **Warren Harvey,** 24.30 4 P P 23 07 13.6 +1.5
baz=185,SNR=223
BNM **Barren Site** 24.34 326 eP P 23 07 14.6 +1.7
BNM eScP ScP 23 14 10.3 +2.7
R51A **Hillsboro** 24.39 13 P P 23 07 14.7 +1.7
baz=196,SNR=426
CUPR **Culebra, Puert** 24.44 78 eP P 23 07 13.1 -0.5
comp=Z,202nm,0.9s
Y22D **IRIS PASSCAL I** 24.45 325 eP P 23 07 16.2 +2.5
comp=Z,431nm,0.9s
Y22D **IRIS PASSCAL I** 24.45 325 P P 23 07 16.3 +2.5
baz=139
T57A **Hurt** 24.46 22 P P 23 07 15.6 +1.9
baz=207,SNR=114
LPM **Los Pinos Moun** 24.47 326 eP P 23 07 16.0 +2.0
LPM eScP ScP 23 14 09.7 +1.8
Q46A **CEJHS Indians,** 24.49 6 P P 23 07 15.4 +1.5
baz=187,SNR=40
Q47A **Bedord North L** 24.51 8 P P 23 07 15.6 +1.5
baz=189,SNR=209
V61A **Roper** 24.52 28 P P 23 07 16.1 +1.9
baz=214,SNR=54
LENM **Lemitar** 24.54 325 eP P 23 07 16.6 +1.9
LENM eScP ScP 23 14 09.4 +1.3
Q48A **North Vernon** 24.60 9 P P 23 07 16.0 +1.1
baz=191,SNR=153
R52A **Catlettsburg** 24.65 15 P P 23 07 16.9 +1.6
baz=198,SNR=93
ATAH **Atahualpa** 24.69 150 P P 23 07 18.9 +2.5
comp=Z,69nm,0.8s,baz=344,slow=6.2,SNR=45
ATAH PcP PcP 23 10 50.3 +1.8
comp=Z,70nm,0.9s,baz=193,slow=2.4,SNR=7.8
ATAH S S 23 11 27.2 +3.1
comp=Z,7.0nm,0.6s,baz=147,slow=17,SNR=1.5
ATAH ScP ScP 23 14 11.8 +2.7
comp=Z,43nm,0.9s,baz=345,slow=3.4,SNR=12
S55A **Lewisburg** 24.73 19 P P 23 07 18.2 +2.1
baz=203,SNR=72
BLO **Bloomington** 24.73 7 eP P 23 07 17.4 +1.3
comp=Z,758nm,0.8s
BLO eScP ScP 23 14 06.5 -1.8
BLO **Bloomington** 24.73 7 eP P 23 07 17.4 +1.3
BLO pmax pmax
comp=Z,758nm,0.8s
STVI **Saint Thomas** 24.75 78 eP P 23 07 15.7 -0.8
comp=Z,642nm,1.0s
LAZ **Ladron** 24.81 326 eP P 23 07 19.4 +2.3
Q49A **Aurora** 24.81 10 P P 23 07 18.5 +1.7
baz=193,SNR=329
R53A **Hurricane** 24.82 16 P P 23 07 19.0 +2.1
baz=200,SNR=106
Q50A **Georgetown** 24.83 12 P P 23 07 18.4 +1.5
baz=195,SNR=362
P44A **Sand Creek, Wi** 24.84 3 P P 23 07 18.0 +1.0
baz=184,SNR=106
ANMO **Albuquerque** 24.86 327 eP P 23 07 19.2 +1.7
ANMO epP pP 23 07 55.9 -0.2
ANMO eScP ScP 23 14 10.7 +1.7
ANMO **Albuquerque** 24.86 327 ceP P 23 07 15.3 -2.2
ANMO pmax pmax
comp=Z,28nm,1.0s
ANMO **Albuquerque** 24.86 327 P P 23 07 18.5 +1.0
baz=141
ANMO **Albuquerque** 24.86 327 P P 23 07 18.6 +1.1
comp=Z,20nm,0.8s,baz=145,slow=12,SNR=68
ANMO pP pP 23 07 55.9 -0.2
comp=Z,21nm,0.9s,baz=146,slow=11,SNR=2.5
ANMO S S 23 11 30.3 +4.1
comp=Z,9.1nm,0.8s,baz=193,slow=17,SNR=1.3
ANMO ScP ScP 23 14 10.7 +1.7
comp=Z,44nm,0.8s,baz=189,slow=8.7,SNR=12
TASM **ASL Pad, Albuq** 24.86 327 P P 23 07 18.7 +1.2
baz=141,SNR=43
TASM **ASL Pad, Albuq** 24.86 327 P P 23 07 18.6 +1.1
baz=141,SNR=42
CDVI **St. Croix** 24.89 79 eP P 23 07 17.8 +0.1
comp=Z,322nm,0.9s
P42A **Winchester** 24.90 0 eP P 23 07 18.4 +0.8
comp=Z,597nm,1.1s
P42A eS S 23 11 30.1 +3.8

P42A	**Winchester** baz=180,SNR=110	24.90	0	P		P	23 07 18.2 +0.6
R54A	**Victor** baz=202,SNR=81	24.95	18	P		P	23 07 19.7 +1.6
P45A	**Graceland, Par** comp=Z,762nm,0.9s	24.96	5	*e*P		P	23 07 19.5 +1.4
P45A				*e*S		S	23 11 30.6 +3.4
P45A	**Graceland, Par** baz=186,SNR=156	24.96	5	P		P	23 07 19.4 +1.3
P43A	**Skaggs, Pawnee** baz=182,SNR=92	24.97	2	P		P	23 07 19.4 +1.2
P41A	**Barry, Barry** baz=179,SNR=53	24.99	359	P		P	23 07 19.3 +0.9
KSU1	**Kansas State U** baz=166,SNR=134	25.01	349	P		P	23 07 19.1 +0.5
P47A	**Martinsville** baz=190,SNR=160	25.08	8	P		P	23 07 20.4 +1.2
P46A	**Rosedale** baz=187,SNR=185	25.10	6	P		P	23 07 20.6 +1.3
Q51A	**Peebles** comp=Z,4µm,1.0s	25.14	13	*e*P		P	23 07 21.8 +2.0
Q51A	**Peebles** baz=196,SNR=718	25.14	13	P		P	23 07 21.8 +2.0
P48A	**Milroy** baz=191,SNR=226	25.17	9	P		P	23 07 21.0 +1.0
R55A	**Marlinton** baz=204,SNR=106	25.32	19	P		P	23 07 23.5 +2.1
Q52A	**Bidwell** baz=199,SNR=208	25.33	15	P		P	23 07 23.2 +1.7
P49A	**Miami Univ. Ec** baz=193,SNR=151	25.36	10	P		P	23 07 23.0 +1.2
ABVI	**Anegada Island** comp=Z,2µm,1.0s	25.37	77	*e*P		P	23 07 24.9 +2.8
Q53A	**Leroy** baz=200,SNR=114	25.43	16	P		P	23 07 24.0 +1.6
O41A	**Passleys Farm,** baz=179,SNR=46	25.43	359	P		P	23 07 23.2 +0.8
CBKS	**Cedar Bluff** comp=Z,2µm,1.3s	25.48	343	*e*P		P	23 07 24.0 +1.2
CBKS	**Cedar Bluff** comp=Z,2µm,1.3s	25.48	343	*e*P		P	23 07 24.0 +1.2
CBKS				pmax		pmax	
CBKS	**Cedar Bluff** baz=159,SNR=85	25.48	343	P		P	23 07 23.7 +0.9
O42A	**Bath** baz=181,SNR=20	25.51	1	P		P	23 07 23.8 +0.7
O44A	**Mansfield** baz=184,SNR=65	25.53	4	P		P	23 07 24.2 +1.0
TUC	**Tucson** comp=Z,280nm,1.5s	25.57	317	*e*P		P	23 07 26.1 +2.2
TUC				*e*ScP		ScP	23 14 12.4 +1.5
TUC	**Tucson**	25.57	317	*e*P		P	23 07 26.1 +2.2
TUC				pmax		pmax	
TUC	**Tucson** baz=129 comp=Z,280nm,1.5s	25.57	317	P		P	23 07 26.2 +2.3
P50A	**Jamestown** baz=195,SNR=270	25.60	12	P		P	23 07 25.6 +1.7
O43A	**Sugar Creek Fa** baz=183,SNR=28	25.62	2	P		P	23 07 24.9 +0.8
P51A	**Williamsport** comp=Z,1µm,0.8s	25.64	13	*e*P		P	23 07 25.4 +1.2
P51A	**Williamsport** baz=197,SNR=166	25.64	13	P		P	23 07 25.8 +1.6
T25A	**Trinidad** comp=Z,556nm,1.1s	25.66	334	*e*P		P	23 07 26.8 +2.1
T25A	**Trinidad** baz=148,SNR=104	25.66	334	P		P	23 07 26.5 +1.7
O45A	**Potomac** baz=186,SNR=63	25.68	5	P		P	23 07 25.7 +1.1
Q54A	**Coxs Mills** baz=202,SNR=205	25.74	17	P		P	23 07 27.0 +1.8
R58B	**Mineral** comp=Z,835nm,1.1s	25.82	23	*e*P		P	23 07 27.5 +1.6
R58B	**Mineral** baz=209,SNR=107	25.82	23	P		P	23 07 28.1 +2.2
O47A	**Sheridan** baz=190,SNR=260	25.83	8	P		P	23 07 27.0 +1.0
SFIN	**Lafayette** comp=Z,809nm,1.1s	25.86	6	*e*P		P	23 07 27.1 +0.9
SFIN	**Lafayette** baz=187,SNR=69	25.86	6	P		P	23 07 27.2 +0.9
HDIL	**Hopedale** comp=Z,1µm,1.3s	25.89	2	*e*P		P	23 07 27.8 +1.3
HDIL	**Hopedale** baz=183,SNR=69	25.89	2	P		P	23 07 27.6 +1.1
Q55A	**Buckhannon** baz=203,SNR=44	25.98	19	P		P	23 07 29.6 +2.2
O48A	**Farmland** baz=192,SNR=178	25.99	9	P		P	23 07 28.0 +0.6
P52A	**Corning** baz=198,SNR=116	26.00	15	P		P	23 07 29.1 +1.6
N41A	**Harden Midland** comp=Z,2µm,1.8s	26.02	359	*e*P		P	23 07 28.8 +1.1
N41A				*e*S		S	23 11 44.0 0.0
N41A	**Harden Midland** baz=179,SNR=26	26.02	359	P		P	23 07 28.2 +0.5
P53A	**Whipple** comp=Z,2µm,1.2s	26.06	16	*e*P		P	23 07 30.1 +2.1
P53A	**Whipple** baz=200,SNR=138	26.06	16	P		P	23 07 29.9 +1.9
O49A	**Covington** comp=Z,1µm,1.3s	26.06	11	*e*P		P	23 07 29.1 +1.0
O49A	**Covington** baz=194,SNR=114	26.06	11	P		P	23 07 29.2 +1.2
N42A	**Yates City** baz=181,SNR=84	26.14	1	P		P	23 07 29.7 +0.9
O50A	**Cable** baz=195,SNR=332	26.16	12	P		P	23 07 30.6 +1.6
N44A	**Piper City** baz=185,SNR=55	26.19	4	P		P	23 07 30.1 +1.0
N40A	**Mertquake, Sal** baz=176,SNR=44	26.21	358	P		P	23 07 30.2 +0.8
CBN	**Corbin Frederi** comp=Z,2µm,1.0s	26.23	24	*e*P		P	23 07 31.8 +2.3
CBN	**Corbin Frederi** baz=210,SNR=38	26.23	24	P		P	23 07 31.6 +2.1
N43A	**Stutzman Famil** baz=183,SNR=89	26.28	2	P		P	23 07 31.2 +1.3
N45A	**Kentland** baz=186,SNR=26	26.29	5	P		P	23 07 30.8 +0.8
ACSO	**Alum Creek Sta** comp=Z,2µm,0.9s	26.37	13	*e*P		P	23 07 32.7 +1.9
ACSO	**Alum Creek Sta** baz=196,SNR=510	26.37	13	P		P	23 07 32.7 +1.9
O51A	**Pataskala** baz=197,SNR=181	26.38	14	P		P	23 07 32.6 +1.8
N46A	**Monticello** baz=188,SNR=25	26.41	6	P		P	23 07 32.2 +1.0
P54A	**Burton** baz=202,SNR=198	26.42	18	P		P	23 07 33.1 +1.8
SMRT	**St. Maarten** comp=Z,570nm,1.3s	26.51	79	*e*P		P	23 07 31.8 -0.5
SMRT	**St. Maarten**	26.51	79	*e*P		P	23 07 29.9 -2.5
X18A	**Snowflake** comp=Z,397nm,1.8s	26.51	322	*e*P		P	23 07 34.8 +2.4
N47A	**Urbana** baz=190,SNR=90	26.52	8	P		P	23 07 32.6 +0.5
P55A	**Reedsville** baz=203,SNR=46	26.53	19	P		P	23 07 34.2 +2.0
O52A	**Adamsville** comp=Z,2µm,1.0s	26.53	15	*e*P		P	23 07 34.0 +1.8
O52A	**Adamsville** baz=199,SNR=226	26.53	15	P		P	23 07 33.9 +1.6
SEUS	**St. Eustatius** comp=Z,577nm,0.9s	26.57	80	*e*P		P	23 07 32.2 -0.7
SEUS	**St. Eustatius**	26.57	80	*e*P		P	23 07 31.6 -1.3
KSCO	**Kaye Shedlock'** comp=Z,2µm,1.5s	26.58	339	*e*P		P	23 07 34.4 +1.5
KSCO	**Kaye Shedlock'** baz=153,SNR=46	26.58	339	P		P	23 07 33.8 +1.0
N48A	**Decatur** baz=192,SNR=115	26.60	9	P		P	23 07 33.9 +1.0
SDCO	**Great Sand Dun** comp=Z,433nm,1.6s	26.64	333	*e*P		P	23 07 35.5 +1.9
SDCO	**Great Sand Dun** baz=146,SNR=54	26.64	333	P		P	23 07 35.1 +1.5
MCWV	**Mont Chateau** comp=Z,312nm,1.3s	26.66	19	*e*P		P	23 07 35.5 +2.1
MCWV	**Mont Chateau** baz=203,SNR=61	26.66	19	P		P	23 07 35.3 +1.9
M41A	**Milan** baz=180,SNR=102	26.69	360	P		P	23 07 34.6 +1.0
M40A	**Post Highland** baz=178,SNR=36	26.73	358	P		P	23 07 34.8 +0.7
214A	**Organ Pipe Nat** baz=125,SNR=49	26.73	314	P		P	23 07 36.1 +1.9
M42A	**Sheffield**	26.77	1	P		P	23 07 35.0 +0.6
	baz=182,SNR=19						
M43A	**Waltham Townsh** baz=183,SNR=65	26.78	3	P		P	23 07 35.5 +1.1
M44A	**Midewin, Midew** comp=Z,806nm,1.3s	26.78	4	*e*P		P	23 07 35.1 +0.6
M44A	**Midewin, Midew** baz=185,SNR=18	26.78	4	P		P	23 07 35.1 +0.6
W18A	**Petrified Fore** comp=Z,431nm,1.3s	26.80	323	*e*P		P	23 07 37.4 +2.4
W18A	**Petrified Fore** baz=135,SNR=37	26.80	323	P		P	23 07 37.1 +2.2
N49A	**Columbus Grove** comp=Z,718nm,1.1s	26.80	11	*e*P		P	23 07 36.2 +1.5
N49A	**Columbus Grove** baz=194,SNR=64	26.80	11	P		P	23 07 35.8 +1.2
O53A	**New Philadelph** baz=200,SNR=157	26.82	16	P		P	23 07 36.7 +1.9
M39A	**Webster** baz=176,SNR=100	26.83	357	P		P	23 07 35.5 +0.6
M45A	**Boilermakers S** baz=187,SNR=16	26.85	5	P		P	23 07 35.9 +0.9
N50A	**Nevada** baz=196,SNR=132	26.86	12	P		P	23 07 36.7 +1.5
NEV	**Hard Times**	26.95	81	*e*P		P	23 07 38.1 +1.8
NEV	**Hard Times**	26.95	81	*e*P		P	23 07 38.1 +1.8
M46A	**Old House Fiel** comp=Z,401nm,0.9s	26.96	7	*e*P		P	23 07 37.1 +1.1
M46A				*e*S		S	23 11 57.8 -0.9
M46A	**Old House Fiel** baz=189,SNR=24	26.96	7	P		P	23 07 36.8 +0.8
O54A	**Avella** baz=202,SNR=122	26.98	17	P		P	23 07 37.6 +1.3
M47A	**Cromwell** baz=190,SNR=76	27.00	8	P		P	23 07 37.1 +0.7
N51A	**Ashland** comp=Z,2µm,1.1s	27.16	14	*e*P		P	23 07 39.3 +1.3
N51A	**Ashland** baz=197,SNR=99	27.16	14	P		P	23 07 39.2 +1.3
N52A	**McGinn's Farm,** baz=199,SNR=197	27.23	15	P		P	23 07 40.1 +1.6
S22A	**4UR Ranch, Cre** comp=Z,375nm,1.1s	27.25	331	*e*P		P	23 07 41.0 +1.9
S22A	**4UR Ranch, Cre** baz=144,SNR=33	27.25	331	P		P	23 07 40.6 +1.6
M48A	**Edgerton** comp=Z,568nm,1.0s	27.26	9	*e*P		P	23 07 40.0 +1.3
M48A	**Edgerton** baz=192	27.26	9	P		P	23 07 39.7 +0.9
MLYT	**Lee's Yard**	27.31	82	*e*P		P	23 07 38.8 -0.7
SCIA	**State Center** comp=Z,282nm,0.8s	27.32	356	*e*P		P	23 07 40.4 +1.1
SCIA	**State Center** baz=174,SNR=25	27.32	356	P		P	23 07 40.0 +0.7
L42A	**Oliver, Polo** comp=Z,480nm,0.9s	27.32	1	*e*P		P	23 07 39.9 +0.6
L42A				*e*S		S	23 12 07.5 +3.0
L42A	**Oliver, Polo** baz=182,SNR=54	27.32	1	P		P	23 07 39.9 +0.6
O55A	**Ligonier** baz=204,SNR=59	27.33	19	P		P	23 07 40.7 +1.3
X16A	**Lo Mia Camp, P** comp=Z,100nm,0.9s	27.35	320	*e*P		P	23 07 42.1 +2.3
M49A	**Liberty Center** baz=194,SNR=44	27.38	11	P		P	23 07 40.6 +0.8
L40A	**Anamosa** comp=Z,527nm,0.8s	27.38	359	*e*P		P	23 07 40.6 +0.8
L40A				*e*S		S	23 12 07.7 +2.3
L40A	**Anamosa** baz=178,SNR=77	27.38	359	P		P	23 07 40.6 +0.8
L41A	**Preston** baz=180,SNR=88	27.39	360	P		P	23 07 40.4 +0.5
N53A	**Lisbon** baz=200,SNR=157	27.44	16	P		P	23 07 41.6 +1.3
L39A	**Vinton** baz=177,SNR=44	27.47	358	P		P	23 07 41.4 +0.8
SDMD	**Soldier's Deli** comp=Z,396nm,0.9s	27.48	23	*e*P		P	23 07 42.8 +2.1
M50A	**Fremont** comp=Z,2µm,1.0s	27.49	12	*e*P		P	23 07 42.5 +1.7
M50A	**Fremont** baz=196,SNR=112	27.49	12	P		P	23 07 41.9 +1.2
Q24A	**Divide** comp=Z,174nm,1.3s	27.51	335	*e*P		P	23 07 43.1 +1.8
Q24A	**Dide** baz=148,SNR=16	27.51	335	P		P	23 07 42.8 +1.4
L43A	**Garden Prairie** baz=184,SNR=15	27.54	3	P		P	23 07 41.8 +0.6
BGNE	**Belgrade** comp=Z,764nm,0.9s	27.54	347	*e*P		P	23 07 42.7 +1.4
BGNE	**Belgrade** baz=164,SNR=12	27.54	347	P		P	23 07 41.9 +0.6
L46A	**Eue Claire** baz=189,SNR=26	27.56	7	P		P	23 07 41.6 +0.2
L44A	**Lake County Fo** baz=185,SNR=18	27.58	4	P		P	23 07 42.4 +0.8
M51A	**Elyria** baz=197,SNR=80	27.60	14	P		P	23 07 43.2 +1.4
O56A	**Blue Knob Stat** comp=Z,632nm,0.9s	27.62	20	*e*P		P	23 07 43.9 +1.8
O56A	**Blue Knob Stat** baz=205,SNR=121	27.62	20	P		P	23 07 43.7 +1.7
BPA	**Boggy Peak**	27.63	81	*e*P		P	23 07 44.4 +2.0
MVCO	**Mesa Verde** comp=Z,250nm,1.0s	27.65	328	*e*P		P	23 07 44.6 +2.0
MVCO	**Mesa Verde** baz=140,SNR=81	27.65	328	P		P	23 07 44.4 +1.8
L47A	**Sherwood** baz=191,SNR=79	27.67	8	P		P	23 07 42.7 +0.3
ANWB	**Willy Bob** comp=Z,169nm,0.9s	27.72	80	*e*P		P	23 07 43.3 +0.2
ANWB	**Willy Bob**	27.72	80	*e*P		P	23 07 41.6 -1.5
L48A	**N Adams** baz=192,SNR=81	27.75	10	P		P	23 07 43.8 +0.7
N54A	**Moraine State** comp=Z,856nm,0.9s	27.82	17	*e*P		P	23 07 45.4 +1.6
N54A	**Moraine State** baz=202,SNR=162	27.82	17	P		P	23 07 45.1 +1.4
TBG	**Guadaloupe-3**	27.84	84	*e*P		P	23 07 46.3 +2.1
PLIO	**Pelee Island,** baz=196,SNR=143	27.91	13	P		P	23 07 45.7 +1.3
K41A	**Shullsburg** baz=180,SNR=60	27.92	0	P		P	23 07 45.1 +0.5
N55A	**Marion Center** baz=204,SNR=65	27.95	19	P		P	23 07 46.3 +1.4
M52A	**Chesterland** baz=199,SNR=77	28.00	15	P		P	23 07 46.6 +1.3
K40A	**Colesburg** baz=179,SNR=41	28.02	359	P		P	23 07 46.0 +0.6
BBL	**Barber's Block**	28.02	84	*e*P		P	23 07 47.4 +1.6
BBL	**Barber's Block**	28.02	84	*e*P		P	23 07 47.4 +1.6
L49A	**Milan** baz=194,SNR=65	28.03	11	P		P	23 07 46.5 +0.9
MDPO	**Dominica; Chan**	28.04	84	*e*P		P	23 07 49.6 +3.7
WUAZ	**Wupatki** comp=Z,134nm,0.9s	28.04	322	*e*P		P	23 07 48.6 +2.7
WUAZ	**Wupatki** baz=133	28.04	322	P		P	23 07 48.3 +2.4
K39A	**Oelwein** baz=177,SNR=82	28.04	358	P		P	23 07 46.3 +0.7
M53A	**WI Miller and** baz=200,SNR=156	28.07	16	P		P	23 07 47.3 +1.3
K43A	**Burlington** comp=Z,2µm,1.4s	28.08	3	*e*P		P	23 07 47.0 +1.1
K43A				*e*S		S	23 12 17.8 +1.5
K43A	**Burlington** baz=184,SNR=22	28.08	3	P		P	23 07 46.4 +0.5
K42A	**Prairie Point,** baz=182,SNR=24	28.11	2	P		P	23 07 47.1 +0.9
OGNE	**Ogallala** comp=Z,439nm,0.7s	28.12	341	*e*P		P	23 07 48.2 +1.6
OGNE	**Ogallala** baz=156,SNR=25	28.12	341	P		P	23 07 47.6 +1.1
GRHS	**Sauteurs**	28.14	91	*e*P		P	23 07 48.5 +1.6
GRHS	**Sauteurs**	28.14	91	*e*P		P	23 07 48.5 +1.6
GRGR	**Grenville** comp=Z,552nm,0.8s	28.14	91	*e*P		P	23 07 48.8 +1.9
GRGR	**Grenville**	28.14	91	*e*P		P	23 07 48.3 +1.4
L50A	**Kingsville** baz=196,SNR=143	28.15	12	P		P	23 07 48.0 +1.4
GRSS	**Sisters**	28.16	91	*e*P		P	23 07 48.9 +1.9
GRSS	**Sisters**	28.16	91	*e*P		P	23 07 48.9 +1.9
DWS	**Wesley**	28.17	84	*e*P		P	23 07 46.7 -0.4
DWS	**Wesley**	28.17	84	*e*P		P	23 07 46.7 -0.4
MVL	**Millersville** comp=Z,761nm,1.0s	28.18	23	*e*P		P	23 07 48.9 +2.0
SSPA	**Standing Stone** comp=Z,403nm,0.9s	28.18	21	*e*P		P	23 07 48.6 +1.7
SSPA	**Standing Stone** baz=206	28.18	21	P		P	23 07 48.7 +1.7
JFWS	**Jewell Farm** comp=Z,395nm,1.0s	28.23	0	*e*P		P	23 07 48.4 +1.0
JFWS	**Jewell Farm**	28.23	0	*e*P		P	23 07 48.4 +1.0
JFWS				pmax		pmax	
JFWS	**Jewell Farm** baz=180 comp=Z,395nm,1.0s	28.23	0	P		P	23 07 48.3 +1.0
AAM	**Ann Arbor** comp=Z,376nm,0.8s	28.23	11	*e*P		P	23 07 49.0 +1.6
AAM				*e*S		S	23 12 18.3 -0.5
AAM	**Ann Arbor**	28.23	11	*e*P		P	23 07 49.0 +1.6
AAM				*e*S		S	23 12 18.3 -0.5
AAM				pmax		pmax	
AAM	**Ann Arbor** baz=194,SNR=31 comp=Z,376nm,0.8s	28.23	11	P		P	23 07 48.8 +1.4
PAGS	**Pennsylvania G** comp=Z,367nm,1.1s	28.23	23	*e*P		P	23 07 49.0 +1.6
K46A	**Dorr** baz=190,SNR=23	28.29	7	P		P	23 07 48.2 +0.3
FDF	**Fort de France**	28.36	86	*e*P		P	23 07 49.0 +0.1
FDF	**Fort de France**	28.36	86	*e*P		P	23 07 47.9 -1.0
FDF	**Fort de France**	28.36	86	*e*P		P	23 07 49.0 +0.1
K47A	**Vermontville** baz=191,SNR=95	28.38	9	P		P	23 07 48.6 0.0
SVB	**Belmont** comp=Z,622nm,0.6s	28.39	89	*e*P		P	23 07 49.3 +0.2
SVB	**Belmont**	28.39	89	*e*P		P	23 07 50.9 +1.8
FCV	**Fort Charlotte**	28.41	89	*e*P		P	23 07 52.2 +3.0
FCV	**Fort Charlotte**	28.41	89	*e*P		P	23 07 52.2 +3.0
ISCO	**Idaho Springs** comp=Z,137nm,1.1s	28.41	335	*e*P		P	23 07 50.8 +1.5
ISCO	**Idaho Springs**	28.41	335	*e*P		P	23 07 50.8 +1.5
ISCO				pmax		pmax	
ISCO	**Idaho Springs** baz=148,SNR=100 comp=Z,137nm,1.1s	28.41	335	P		P	23 07 50.9 +1.5
ALLY	**Alegheny Colle** comp=Z,795nm,0.9s	28.41	16	*e*P		P	23 07 50.3 +1.3
M54A	**Oil Creek Stat** comp=Z,551nm,1.1s	28.42	17	*e*P		P	23 07 50.5 +1.5
M54A	**Oil Creek Stat** baz=202,SNR=54	28.42	17	P		P	23 07 50.4 +1.4
SVV	**Soufriere Volc**	28.42	89	*e*P		P	23 07 52.4 +3.0
SVV	**Soufriere Volc**	28.42	89	*e*P		P	23 07 52.4 +3.0
SSV	**Crater Summit**	28.44	89	*e*P		P	23 07 52.5 +2.8
SSV	**Crater Summit**	28.44	89	*e*P		P	23 07 52.5 +2.8
SFAN	**Fancy Village**	28.45	89	*e*P		P	23 07 43.0 -6.7
PSUB	**Penn St. - Bra** comp=Z,429nm,1.1s	28.47	25	*e*P		P	23 07 50.8 +1.4
SMCO	**Snowmass** comp=Z,150nm,1.2s	28.47	332	*e*P		P	23 07 51.8 +1.8
SVCV	**St. Vincent, C**	28.49	89	*e*P		P	23 07 51.2 +1.2
SLB	**Belfond**	28.54	88	*e*P		P	23 07 50.3 -0.2
SLB	**Belfond**	28.54	88	*e*P		P	23 07 50.3 -0.2
K48A	**Perry** baz=193,SNR=84	28.64	10	P		P	23 07 51.3 +0.3
MCLT	**Moule a Chique**	28.64	88	*e*P		P	23 07 52.0 +0.7
MCLT	**Moule a Chique**	28.64	88	*e*P		P	23 07 52.0 +0.7
M55A	**Ridgway** baz=204,SNR=94	28.65	19	P		P	23 07 52.4 +1.4
J42A	**Columbus** baz=183,SNR=62	28.65	2	P		P	23 07 52.0 +0.9
L53A	**Girard** baz=201,SNR=68	28.66	16	P		P	23 07 52.2 +1.0
J39A	**Decorah** baz=178,SNR=47	28.67	358	P		P	23 07 51.6 +0.4
J41A	**Loganville** baz=181,SNR=109	28.68	1	P		P	23 07 51.8 +0.5
J40A	**Soldiers Grove** baz=179,SNR=30	28.71	360	P		P	23 07 51.7 +0.1
K49A	**Clarkson** baz=194,SNR=60	28.74	11	P		P	23 07 52.7 +0.9
J43A	**Natural Harves** baz=184,SNR=51	28.75	3	P		P	23 07 52.6 +0.7
GLA	**Glamis** comp=Z,506nm,1.6s	28.76	314	*e*P		P	23 07 54.8 +2.6
GLA	**Glamis** comp=Z,506nm,1.6s	28.76	314	*e*P		P	23 07 54.8 +2.6
GLA				pmax		pmax	
GLA	**Glamis** baz=124,SNR=40	28.76	314	P		P	23 07 54.4 +2.2
ERPA	**Erie** comp=Z,878nm,0.9s	28.89	16	*e*P		P	23 07 54.7 +1.4
ERPA	**Erie** baz=201,SNR=63	28.89	16	P		P	23 07 54.6 +1.4
Y12C	**Blythe** comp=Z,260nm,1.6s	28.95	315	*e*P		P	23 07 56.4 +2.6
Y12C				*e*ScP		ScP	23 14 19.7 -1.3
Y12C	**Blythe** baz=126,SNR=25	28.95	315	P		P	23 07 55.8 +2.0
J46A	**Howard City** baz=190,SNR=28	28.96	7	P		P	23 07 54.2 +0.4
J45A	**Montague** baz=188,SNR=9.7	28.96	6	P		P	23 07 53.9 +0.2
J47A	**Sunmer** baz=191,SNR=26	28.96	9	P		P	23 07 54.2 +0.4
PDMCI	**Parker Dam,Lak** baz=127,SNR=45	29.01	317	P		P	23 07 56.5 +2.1
LUPA	**Lehigh Univers** comp=Z,77nm,0.7s	29.07	24	*e*P		P	23 07 56.8 +2.0
K51A	**Iona Station** baz=198,SNR=54	29.08	14	P		P	23 07 56.0 +1.2
I39A	**Houston** comp=Z,282nm,0.8s	29.18	358	*e*P		P	23 07 56.1 +0.4
I39A				*e*S		S	23 12 32.2 -1.4
I39A	**Houston** baz=178,SNR=87	29.18	358	P		P	23 07 56.3 +0.5
J48A	**Bridge Port** baz=193,SNR=31	29.18	10	P		P	23 07 56.2 +0.5
N59A	**State Game Lan** comp=Z,476nm,0.9s	29.19	23	*e*P		P	23 07 57.8 +1.8
N59A	**State Game Lan** baz=210,SNR=78	29.19	23	P		P	23 07 57.7 +1.8
U15A	**North Rim** comp=Z,123nm,1.2s	29.20	322	*e*P		P	23 07 58.8 +2.4
I40A	**Norwalk** baz=180,SNR=24	29.20	360	P		P	23 07 56.4 +0.5
I42A	**Draeger Farm,** comp=Z,615nm,0.9s	29.23	2	*e*P		P	23 07 57.0 +0.8
I42A	**Draeger Farm,** baz=183,SNR=81	29.23	2	P		P	23 07 57.0 +0.8
I43A	**Langenfeld Bro** baz=185,SNR=75	29.26	3	P		P	23 07 57.5 +1.0
K52A	**Tillsonburg** baz=199,SNR=112	29.32	15	P		P	23 07 58.0 +1.0
W13A	**Hualapai Mount** comp=Z,57nm,0.9s	29.33	318	*e*P		P	23 08 00.1 +2.6
W13A				*e*PcP		PcP	23 10 58.7 -0.4
J49A	**Marlette** baz=194,SNR=51	29.35	11	P		P	23 07 57.9 +0.7
I41A	**Arkdale** comp=Z,844nm,1.1s	29.38	1	*e*P		P	23 07 58.1 +0.7
I41A				*e*S		S	23 12 40.3 +3.7
I41A	**Arkdale** baz=181,SNR=89	29.38	1	P		P	23 07 57.9 +0.5
SWSC	**Sam W. Stewart** baz=123,SNR=57	29.38	313	P		P	23 08 00.1 +2.4
L55A	**Hinsdale** baz=204,SNR=69	29.40	18	P		P	23 07 58.9 +1.2
BBSR	**BB Station** comp=Z,1µm,1.3s	29.41	49	*e*P		P	23 08 00.1 +2.2
IKP	**In-Ko-Pah, Jac** baz=122,SNR=95	29.45	312	P		P	23 08 00.8 +2.4
BRNJ	**Basking Ridge** comp=Z,764nm,0.9s	29.47	25	*e*P		P	23 08 00.6 +2.3
N23A	**Red Feather La** comp=Z,82nm,0.8s	29.47	336	*e*P		P	23 08 00.3 +1.6
N23A	**Red Feather La** baz=148,SNR=50	29.47	336	P		P	23 08 00.3 +1.6
ECSD	**EROS Data Cent** comp=Z,720nm,1.4s	29.52	351	*e*P		P	23 07 58.7 0.0
ECSD				*e*S		S	23 12 37.9 -1.0
ECSD	**EROS Data Cent** baz=168,SNR=186	29.52	351	P		P	23 07 58.8 0.0
BC3	**Big Chuckawall** baz=124,SNR=99	29.53	314	P		P	23 08 01.3 +2.2
I46A	**Reed City** baz=190,SNR=66	29.57	7	P		P	23 07 59.3 +0.2
ELFO	**Elginfield** baz=198,SNR=118	29.57	14	P		P	23 07 59.9 +0.7
I45A	**Fountain** baz=188,SNR=49	29.57	6	P		P	23 07 59.7 +0.5
IRM	**Iron Mountain** baz=125,SNR=49	29.60	316	P		P	23 08 02.0 +2.4

NEE2	**Needles Airpor**	29.61	317		P		**P**	23 08 02.2	+2.5	
	baz=127,SNR=9.2									
PHWY	**Pilot Hill**	29.63	337		*e*P		**P**	23 08 01.3	+1.2	
	comp=Z,200nm,1.1s									
NNA	**Nana**	29.66	152		*e*P		**P**	23 08 03.0	+2.7	
	comp=Z,98nm,1.0s									
NNA					*e*PcP		**PcP**	23 11 00.5	+0.6	
NNA					*e*S		**S**	23 12 44.7	+2.9	
NNA					*e*ScP		**ScP**	23 14 24.9	+1.3	
NNA	**Nana**	29.66	152		P		**P**	23 08 01.8	+1.5	
	comp=Z,84nm,1.0s,baz=330,slow=8.7,SNR=11									
NNA					PcP		**PcP**	23 11 00.8	+0.9	
	comp=Z,77nm,0.7s,baz=332,slow=5.8,SNR=14									
NNA					S		**S**	23 12 44.7	+2.9	
	comp=Z,2.8nm,0.3s,baz=222,slow=14,SNR=2.0									
NNA					ScP		**ScP**	23 14 25.6	+2.0	
	comp=Z,117nm,1.1s,baz=288,slow=5.0,SNR=20									
KSPA	**Keystone Colle**	29.75	23		*e*P		**P**	23 08 02.7	+1.9	
	comp=Z,306nm,1.0s									
I47A	**Gladwin**	29.77	9		P		**P**	23 08 01.2	+0.3	
	baz=192,SNR=36									
ODNJ	**Ogdensburg**	29.79	25		*e*P		**P**	23 08 03.0	+1.9	
	comp=Z,547nm,1.1s									
MONP2	**Monument Peak**	29.80	312		P		**P**	23 08 03.2	+1.6	
	baz=122,SNR=56									
CPNY	**Central Park**	29.81	26		*e*P		**P**	23 08 03.1	+1.8	
	comp=Z,322nm,1.0s									
J52A	**Paris**	29.82	15		P		**P**	23 08 02.5	+1.1	
	baz=200,SNR=284									
O20A	**White River Ci**	29.82	332		*e*P		**P**	23 08 03.9	+2.2	
	comp=Z,271nm,1.3s									
O20A	**White River Ci**	29.82	332		P		**P**	23 08 03.1	+1.5	
	baz=144,SNR=73									
TYNO	**Tyneside**	29.83	16		P		**P**	23 08 02.6	+1.1	
	baz=201									
H42A	**Shiocton**	29.87	3		*e*P		**P**	23 08 03.0	+1.3	
	comp=Z,688nm,1.2s									
H42A	**Shiocton**	29.87	3		P		**P**	23 08 02.5	+0.8	
	baz=184,SNR=24									
BAR	**Barrett**	29.87	312		*e*P		**P**	23 08 04.6	+2.6	
	comp=Z,344nm,1.9s									
BAR					*e*ScP		**ScP**	23 14 26.0	+2.0	
H43A	**Windswept, Lux**	29.87	4		*e*P		**P**	23 08 02.4	+0.6	
	comp=Z,460nm,0.8s									
H43A	**Windswept, Lux**	29.87	4		P		**P**	23 08 02.6	+0.8	
	baz=185,SNR=24									
PKCU	**Pink Cliffs**	29.91	324		*e*P		**P**	23 08 05.7	+3.1	
	comp=Z,615nm,1.5s									
KNB	**Kanab**	29.91	322		*e*P		**P**	23 08 05.1	+2.6	
	comp=Z,261nm,1.3s									
H40A	**Chili**	29.93	0		P		**P**	23 08 02.6	+0.2	
	baz=180,SNR=65									
H41A	**Junction City**	29.93	1		*e*P		**P**	23 08 02.8	+0.4	
	comp=Z,370nm,1.0s									
H41A					*e*S		**S**	23 12 45.2	-0.2	
H41A	**Junction City**	29.93	1		P		**P**	23 08 03.0	+0.6	
	baz=182,SNR=63									
I49A	**Point Hope**	29.97	11		P		**P**	23 08 03.0	+0.3	
	baz=195									
H39A	**Augusta**	30.00	359		P		**P**	23 08 03.1	+0.2	
	baz=178,SNR=50									
K55A	**Perry**	30.01	18		P		**P**	23 08 04.2	+1.1	
	baz=204,SNR=86									
PAL	**Palisades**	30.01	26		*e*P		**P**	23 08 04.6	+1.5	
	comp=Z,545nm,0.9s									
PAL	**Palisades**	30.01	26		*e*P		**P**	23 08 04.6	+1.5	
PAL					pmax		pmax			
	comp=Z,545nm,0.9s									
PAL	**Palisades**	30.01	26		P		**P**	23 08 04.5	+1.5	
	baz=213,SNR=48									
H38A	**Maiden Rock**	30.02	357		P		**P**	23 08 03.7	+0.5	
	baz=176,SNR=103									
I48A	**Sherman Twp**	30.06	10		P		**P**	23 08 04.1	+0.7	
	baz=193,SNR=19									
MMNY	**Mt. Morris Dam**	30.06	19		*e*P		**P**	23 08 05.3	+1.8	
	comp=Z,1µm,1.2s									
MMNY					*e*S		**S**	23 12 51.8	+4.4	
BELC	**Belle Mtn. Jos**	30.10	314		*e*P		**P**	23 08 02.6	-1.5	
BELC					*e*pP		**pP**	23 08 39.9	-4.9	
BELC					*e*S		**S**	23 12 46.3	-2.2	
BELC	**Belle Mtn. Jos**	30.10	314		P		**P**	23 08 06.3	+2.2	
	baz=124,SNR=45									
LDFC	**Landfair**	30.11	317		*e*P		**P**	23 08 07.9	+3.7	
	comp=Z,150nm,0.8s									
LDFC					*e*ScP		**ScP**	23 14 26.1	+1.2	
STCO	**Saint Catharin**	30.13	17		P		**P**	23 08 05.3	+1.3	
	baz=202									
SRU	**San Rafael Swe**	30.13	328		*e*P		**P**	23 08 06.4	+1.9	
	comp=Z,117nm,1.0s									
SRU	**San Rafael Swe**	30.13	328		*e*P		**P**	23 08 06.4	+1.9	
SRU					pmax		pmax			
	comp=Z,117nm,1.0s									
LCMT	**Little Creek M**	30.16	322		*e*P		**P**	23 08 07.6	+2.9	
	comp=Z,70nm,0.8s									
H45A	**Beulah**	30.17	6		P		**P**	23 08 04.6	+0.1	
	baz=188,SNR=35									
H46A	**Fife Lake**	30.19	8		P		**P**	23 08 04.6	0.0	
	baz=190,SNR=97									
XPFO	**Pion Flat**	30.20	313		*e*P		**P**	23 08 07.7	+2.7	
	comp=Z,224nm,1.4s									
XPFO					*e*ScP		**ScP**	23 14 26.2	+1.0	
PFO	**Pinyon Flats O**	30.21	313		*e*P		**P**	23 08 07.6	+2.5	
	comp=Z,198nm,1.4s									
PFO					*e*pP		**pP**	23 08 45.3	-0.4	
PFO					*e*ScP		**ScP**	23 14 27.3	+2.0	
PFO	**Pinyon Flats O**	30.21	313		P		**P**	23 08 07.0	+1.8	
	baz=123,SNR=46									
PFO	**Pinyon Flats O**	30.21	313		P		**P**	23 08 06.9	+1.8	
	comp=Z,51nm,1.0s,baz=116,slow=7.3,SNR=68									
PFO					pP		**pP**	23 08 45.3	-0.4	
	comp=Z,63nm,1.0s,baz=95,slow=11,SNR=6.0									
PFO					ScP		**ScP**	23 14 27.0	+1.7	
	comp=Z,42nm,0.7s,baz=100,slow=2.6,SNR=35									
I51A	**Listowel**	30.22	14		P		**P**	23 08 05.9	+1.0	
	baz=198,SNR=159									
BINY	**Binghamton**	30.23	22		*e*P		**P**	23 08 06.6	+1.6	
	comp=Z,773nm,0.6s									
BINY	**Binghamton**	30.23	22		P		**P**	23 08 06.4	+1.4	
	baz=209,SNR=181									
MTPU	**Mount Pierson**	30.25	325		*e*P		**P**	23 08 07.0	+1.3	
	comp=Z,106nm,0.8s									
ACTO	**Acton**	30.26	15		P		**P**	23 08 06.6	+1.3	
	baz=200									
BASO	**Ashfield**	30.27	13		P		**P**	23 08 06.7	+1.3	
	baz=197									
SNDA	**J Saunders Pla**	30.28	313		*e*P		**P**	23 08 10.4	+4.6	
109C	**Camp Elliot, M**	30.29	312		P		**P**	23 08 07.1	+1.5	
	baz=121,SNR=12									
CPE	**Camp Elliot**	30.29	312		*e*P		**P**	23 08 08.4	+2.7	
	comp=Z,244nm,1.3s									
CPE					*e*S		**S**	23 12 54.4	+3.1	
CPE					*e*ScP		**ScP**	23 14 27.9	+2.5	
MEDO	**Medina**	30.29	18		P		**P**	23 08 07.1	+1.6	
	baz=203									
GMRC	**Granite Mounta**	30.31	316		P		**P**	23 08 08.3	+2.3	
	baz=126,SNR=67									
Q16A	**Castle Valley**	30.33	327		*e*P		**P**	23 08 08.5	+2.3	
	comp=Z,253nm,1.6s									
J54A	**Appleton**	30.34	17		P		**P**	23 08 07.0	+1.1	
	baz=203,SNR=86									
H47A	**Mio**	30.38	9		P		**P**	23 08 06.7	+0.4	
	baz=192,SNR=64									
TORO	**Toronto--Lesli**	30.46	16		P		**P**	23 08 08.4	+1.5	
	baz=202									
SZCU	**Shurtz Canyon**	30.46	323		*e*P		**P**	23 08 10.5	+3.1	
	comp=Z,103nm,0.8s									
BWLO	**Walkerton**	30.49	13		P		**P**	23 08 08.5	+1.2	
	baz=198									
G38A	**Ridgeland**	30.50	358		P		**P**	23 08 07.4	0.0	
	baz=177,SNR=104									
P17A	**Butcher Ranch,**	30.52	328		*e*P		**P**	23 08 09.8	+2.0	
	comp=Z,159nm,0.9s									
BRCO	**Bruce Peninsul**	30.54	13		P		**P**	23 08 09.3	+1.6	
	baz=197									
G41A	**Antigo**	30.54	2		P		**P**	23 08 08.2	+0.5	
	baz=182,SNR=61									
GLMI	**Grayling**	30.54	8		*e*P		**P**	23 08 08.2	+0.4	
	comp=Z,1µm,1.3s									
GLMI	**Grayling**	30.54	8		P		**P**	23 08 08.2	+0.4	
	baz=191,SNR=31									
J55A	**Hilton**	30.57	18		P		**P**	23 08 09.1	+1.1	
	baz=204,SNR=63									
MSU	**Marysvale**	30.58	325		*e*P		**P**	23 08 10.8	+2.4	
MSU					*e*ScP		**ScP**	23 14 27.7	+1.1	
MSU	**Marysvale**	30.58	325		*e*P		**P**	23 08 10.8	+2.4	
G40A	**Rib Lake**	30.58	0		*e*P		**P**	23 08 08.5	+0.4	
	comp=Z,1µm,1.8s									
G40A	**Rib Lake**	30.58	0		P		**P**	23 08 08.4	+0.3	
	baz=180,SNR=59									
I53A	**Kortright Cn E**	30.59	16		P		**P**	23 08 09.6	+1.5	
	baz=201,SNR=54									
CCUT	**Cedar City**	30.59	323		*e*P		**P**	23 08 11.4	+2.8	
	comp=Z,79nm,1.0s									
CCUT					*e*ScP		**ScP**	23 14 25.0	-1.6	
SPMN	**Marine on St.**	30.60	357		*e*P		**P**	23 08 08.8	+0.6	
	comp=Z,1µm,0.9s									
SPMN					*e*S		**S**	23 12 56.5	+0.8	
SPMN	**Marine on St.**	30.60	357		P		**P**	23 08 08.6	+0.4	
	baz=176,SNR=272									
G42A	**Mountain**	30.60	3		*e*P		**P**	23 08 08.9	+0.7	
	comp=Z,479nm,0.8s									
G42A	**Mountain**	30.60	3		P		**P**	23 08 08.6	+0.4	
	baz=184,SNR=91									
G39A	**Holcombe**	30.60	359		P		**P**	23 08 08.8	+0.5	
	baz=179,SNR=179									
SUSD	**Miller**	30.62	348		P		**P**	23 08 08.9	+0.4	
	baz=164,SNR=20									
H48A	**Harrisville**	30.62	10		P		**P**	23 08 09.0	+0.6	
	baz=194,SNR=39									
G45A	**Suttons Bay**	30.62	7		P		**P**	23 08 09.0	+0.6	
	baz=189,SNR=91									
TMUT	**Trail Mountain**	30.63	327		*e*P		**P**	23 08 11.1	+2.1	
	comp=Z,46nm,0.8s									
TMUT					*e*ScP		**ScP**	23 14 28.1	+1.3	
RWWY	**Rawlins**	30.65	335		*e*P		**P**	23 08 11.1	+2.0	
	comp=Z,320nm,0.8s									
G43A	**Wallace**	30.66	4		*e*P		**P**	23 08 09.1	+0.3	
	comp=Z,520nm,0.8s									
G43A					*e*S		**S**	23 12 58.0	+1.3	
G43A	**Wallace**	30.66	4		P		**P**	23 08 09.0	+0.3	
	baz=185,SNR=67									
I52A	**Shelburne**	30.67	15		P		**P**	23 08 09.7	+0.8	
	baz=200,SNR=58									
YLE	**Yale**	30.68	26		*e*P		**P**	23 08 10.7	+1.8	
	comp=Z,1µm,1.8s									
MURC	**Murrieta**	30.72	313		P		**P**	23 08 12.1	+2.6	
	baz=122,SNR=34									
HEC	**Hector,Ludlow**	30.79	316		P		**P**	23 08 12.9	+2.7	
	baz=125,SNR=13									
TCRU	**Three Creeks R**	30.80	325		*e*P		**P**	23 08 12.3	+1.9	
	comp=Z,89nm,0.8s									
PKRO	**Pickering**	30.85	16		P		**P**	23 08 11.6	+1.1	
	baz=202									
DRWO	**Darlington Wes**	30.86	17		P		**P**	23 08 12.1	+1.6	
	baz=202									
TUQ	**Turquoise Moun**	30.86	317		P		**P**	23 08 12.5	+1.6	
	baz=126,SNR=7.8									
DRCO	**St. Marys Ceme**	30.87	17		P		**P**	23 08 11.7	+1.1	
	baz=202,SNR=72									
BBRC	**Big Bear Solar**	30.88	314		P		**P**	23 08 13.9	+2.8	
	baz=123,SNR=5.1									
BMRO	**Meriville Lake**	30.93	13		P		**P**	23 08 11.9	+0.9	
	baz=198									
G46A	**Petoskey**	31.00	8		P		**P**	23 08 12.2	+0.5	
	baz=190,SNR=54									
G47A	**Hillman**	31.00	9		P		**P**	23 08 12.4	+0.7	
	baz=192,SNR=44									
WLVO	**Wesleyville**	31.00	17		P		**P**	23 08 13.2	+1.5	
	baz=203									
HLNC	**Highland**	31.01	314		*e*P		**P**	23 08 11.9	-0.1	
SHPR	**Sheep Range**	31.01	319		*e*P		**P**	23 08 14.4	+2.2	
	comp=Z,199nm,1.6s									
SHPR					*e*ScP		**ScP**	23 14 28.7	+0.8	
F41A	**Three Lakes**	31.07	2		*e*P		**P**	23 08 12.5	+0.1	
	comp=Z,375nm,1.0s									
F41A					*e*S		S	23 12 53.4	-10	
F41A	**Three Lakes**	31.07	2		P		**P**	23 08 12.9	+0.5	
	baz=182,SNR=60									
F37A	**Hinrichs Farm,**	31.09	357		P		**P**	23 08 13.2	+0.7	
	baz=176,SNR=54									
F42A	**Maple Grove Fa**	31.13	3		P		**P**	23 08 13.2	+0.3	
	baz=184,SNR=20									
K22A	**Casper**	31.19	337		*e*P		**P**	23 08 15.2	+1.6	
	comp=Z,249nm,1.1s									
K22A	**Casper**	31.19	337		P		**P**	23 08 14.8	+1.2	
	baz=149,SNR=55									
F39A	**Loretta**	31.23	359		P		**P**	23 08 14.1	+0.4	
	baz=179,SNR=68									
F40A	**Park Falls**	31.23	0		P		**P**	23 08 14.3	+0.5	
	baz=181,SNR=103									
F43A	**Flat Rock, Esc**	31.27	4		P		**P**	23 08 14.3	+0.3	
	baz=186,SNR=53									
RRX	**Edison Barstow**	31.27	315		P		**P**	23 08 17.0	+2.7	
	baz=124									
F45A	**CMU Biological**	31.28	7		P		**P**	23 08 14.7	+0.6	
	baz=189,SNR=50									
H52A	**Wyevale**	31.28	15		P		**P**	23 08 15.1	+1.0	
	baz=200,SNR=319									
F38A	**Pierce - Schro**	31.29	358		P		**P**	23 08 14.5	+0.2	
	baz=177									
SHOC	**Shoshone, Teco**	31.37	317		P		**P**	23 08 17.0	+1.9	
	baz=126									
GSC	**Goldstone, Bar**	31.38	316		*e*P		**P**	23 08 18.1	+2.8	
	comp=Z,81nm,1.2s									
GSC					*e*ScP		**ScP**	23 14 30.1	+1.0	
GSC	**Goldstone, Bar**	31.38	316		*e*P		**P**	23 08 18.1	+2.8	
GSC					pmax		pmax			
	comp=Z,81nm,1.2s									
GSC	**Goldstone, Bar**	31.38	316		P		**P**	23 08 17.5	+2.1	
	baz=125,SNR=23									
MPU	**Maple Canyon**	31.38	328		*e*P		**P**	23 08 17.6	+2.2	
	comp=Z,89nm,0.9s									
MPU					*e*ScP		**ScP**	23 14 30.1	+1.0	
BFSC	**Mount Baldy Ra**	31.38	313		P		**P**	23 08 17.7	+2.3	
	baz=122,SNR=26									
SCI2	**San Clemente I**	31.39	311		P		**P**	23 08 17.8	+2.5	
	baz=119,SNR=12									
PSRC	**Puddingstone R**	31.41	313		*e*P		**P**	23 08 14.1	-1.4	
PSRC					*e*S		**S**	23 13 07.7	-1.0	
COWI	**Conover**	31.43	2		*e*P		**P**	23 08 15.9	+0.3	
	comp=Z,689nm,0.8s									
COWI					*e*S		**S**	23 13 09.3	+0.6	
PECO	**Prince Edward**	31.43	19		P		**P**	23 08 16.7	+1.2	
	baz=206									
F46A	**Macinaw City C**	31.46	8		P		**P**	23 08 16.3	+0.6	
	baz=191,SNR=129									
TOBO	**Tobermory, Bru**	31.46	12		P		**P**	23 08 16.4	+0.6	
	baz=197									
F44A	**Big Bay de Noc**	31.47	5		P		**P**	23 08 16.2	+0.4	
	baz=188,SNR=90									
I55A	**Frankford**	31.48	18		P		**P**	23 08 17.1	+1.2	
	baz=204,SNR=331									
CIS	**Catalina Islan**	31.50	311		P		**P**	23 08 18.7	+2.4	
	baz=120,SNR=24									
PSUT	**Pine Spring**	31.54	323		*e*P		**P**	23 08 19.3	+2.5	
	comp=Z,71nm,0.8s									
PSUT					*e*ScP		**ScP**	23 14 32.5	+2.7	
TRY	**Troy**	31.56	24		*e*P		**P**	23 08 18.7	+2.1	
	comp=Z,1µm,1.1s									
NLU	**North Lily Min**	31.56	327		*e*P		**P**	23 08 19.2	+2.2	
	comp=Z,80nm,1.3s									
NLU					*e*ScP		**ScP**	23 14 29.9	+0.1	
FMP	**Fort Macarthur**	31.57	312		P		**P**	23 08 19.1	+2.2	
	baz=121									
SADO	**Sadowa**	31.58	16		*e*P		**P**	23 08 18.0	+1.1	
	comp=Z,1µm,0.9s									
SADO					*e*S		**S**	23 13 11.6	+0.4	
SADO					*e*ScP		**ScP**	23 14 28.9	-0.6	
SADO	**Sadowa**	31.58	16		P		**P**	23 08 17.9	+1.1	
	comp=Z,530nm,0.5s,baz=250,slow=6.8,SNR=448									
SADO					S		**S**	23 13 11.6	+0.4	
	comp=Z,32nm,0.8s,baz=95,slow=20,SNR=8.1									
SADO					ScP		**ScP**	23 14 28.9	-0.6	
	comp=Z,45nm,0.8s,baz=245,slow=0.3,SNR=6.4									
RSSD	**Black Hills**	31.62	341		*e*P		**P**	23 08 18.9	+1.5	
	comp=Z,134nm,1.1s									
RSSD	**Black Hills**	31.62	341		*e*P		**P**	23 08 18.9	+1.5	
RSSD					pmax		pmax			
	comp=Z,134nm,1.1s									
RSSD	**Black Hills**	31.62	341		P		**P**	23 08 19.0	+1.5	
	baz=154									
MWC	**Mount Wilson**	31.66	313		*e*P		**P**	23 08 20.6	+2.7	
	comp=Z,225nm,1.2s									
MWC	**Mount Wilson**	31.66	313		*e*P		**P**	23 08 20.6	+2.7	
MWC					pmax		pmax			
	comp=Z,225nm,1.2s									
E39A	**Mellen**	31.69	360		P		**P**	23 08 18.4	+0.6	
	baz=180,SNR=175									
QUA2	**Belchertown**	31.72	26		*e*P		**P**	23 08 19.7	+1.6	
	comp=Z,534nm,0.8s									
PASC	**Pasadena Art C**	31.72	313		*e*P		**P**	23 08 21.0	+2.8	
	comp=Z,426nm,1.5s									
PASC					*e*PcP		**PcP**	23 11 03.6	-1.5	
JLU	**Jordanelle**	31.72	329		*e*P		**P**	23 08 20.5	+2.1	
	comp=Z,141nm,1.4s									
JLU					*e*ScP		**ScP**	23 14 29.5	-0.9	
E40A	**Wakefield**	31.76	1		P		**P**	23 08 18.8	+0.4	
	baz=181,SNR=178									
DELO	**Deloro Mine**	31.77	18		P		**P**	23 08 19.9	+1.4	
	baz=204									
BRYW	**Bryant College**	31.78	27		*e*P		**P**	23 08 20.4	+1.8	
	comp=Z,251nm,0.9s									
E41A	**Kenton**	31.80	2		P		**P**	23 08 19.0	+0.3	
	baz=183,SNR=60									
E42A	**Champion**	31.81	3		P		**P**	23 08 19.4	+0.5	
	baz=185,SNR=74									
E43A	**Lone Tree Farm**	31.82	5		*e*P		**P**	23 08 19.4	+0.5	
	comp=Z,922nm,0.9s									
E43A					*e*S		**S**	23 13 17.3	+2.5	
E43A	**Lone Tree Farm**	31.82	5		P		**P**	23 08 19.2	+0.3	
	baz=186,SNR=93									
F48A	**Evansville**	31.84	10		P		**P**	23 08 19.4	+0.3	
	baz=194,SNR=61									
DECC	**Green Verdugo**	31.87	313		P		**P**	23 08 22.1	+2.6	
	baz=121,SNR=13									
KLBO	**Killbear Provi**	31.87	14		P		**P**	23 08 20.2	+0.8	
	baz=199									
F49A	**Sandfield**	31.88	11		P		**P**	23 08 19.8	+0.3	
	baz=196,SNR=88									
M65A	**Busby, Falmout**	31.91	29		P		**P**	23 08 21.2	+1.5	
	baz=218									
E38A	**The Farm, Brul**	31.93	359		*e*P		**P**	23 08 20.3	+0.4	
	comp=Z,693nm,0.8s									
E38A	**The Farm, Brul**	31.93	359		P		**P**	23 08 20.1	+0.2	
	baz=178,SNR=226									
H55A	**Tweed**	31.93	18		P		**P**	23 08 21.0	+1.2	
	baz=205,SNR=147									
CTU	**Camp Tracy**	31.94	329		*e*P		**P**	23 08 22.5	+2.2	
	comp=Z,116nm,1.1s									
CTU					*e*ScP		**ScP**	23 14 30.5	-0.5	
EDW2	**Edwards Air Fo**	31.96	314		P		**P**	23 08 22.2	+1.8	
	baz=123									
TPNV	**Topopah Spring**	31.98	319		*e*P		**P**	23 08 23.8	+3.2	
	comp=Z,106nm,1.0s									
TPNV					*e*ScP		**ScP**	23 14 31.7	+0.5	
TPNV	**Topopah Spring**	31.98	319		P		**P**	23 08 23.4	+2.8	
	baz=128									
E45A	**Wooded Hills,**	31.98	7		P		**P**	23 08 21.5	+1.2	
	baz=190									
SBI	**Santa Barbara**	31.98	311		*e*P		**P**	23 08 19.4	-1.1	
SBI					*e*S		**S**	23 13 17.7	+0.1	
G53A	**Haliburton**	32.05	16		P		**P**	23 08 21.8	+0.9	
	baz=202,SNR=388									
LRMC	**Laurel Mtn Rad**	32.07	315		P		**P**	23 08 23.7	+2.3	
	baz=124,SNR=20									
PT2	**Point Dume**	32.08	312		*e*P		**P**	23 08 20.7	-0.7	
FURC	**Furnace Creek,**	32.08	318		P		**P**	23 08 23.1	+1.8	
	baz=126,SNR=13									
E46A	**Sault Ste Mari**	32.10	8		P		**P**	23 08 21.9	+0.5	
	baz=191,SNR=63									
ACCN	**Adirondack Com**	32.11	23		*e*P		**P**	23 08 22.5	+1.0	
	comp=Z,369nm,0.9s									
DUG	**Dugway, Tooele**	32.13	327		*e*P		**P**	23 08 23.6	+1.7	
	comp=Z,105nm,1.4s									
DUG					*e*ScP		**ScP**	23 14 32.1	+0.5	
DUG	**Dugway, Tooele**	32.13	327		*e*P		**P**	23 08 23.6	+1.7	
DUG					pmax		pmax			
	comp=Z,105nm,1.4s									
DUG	**Dugway, Tooele**	32.13	327		P		**P**	23 08 24.4	+2.6	
	baz=136									
BANO	**Bancroft**	32.14	17		P		**P**	23 08 22.6	+0.9	
	baz=203									
BUKO	**Buck Lake**	32.15	15		P		**P**	23 08 23.0	+1.2	
	baz=200									
E44A	**Grand Marais A**	32.16	6		*e*P		**P**	23 08 23.8	+2.0	
	comp=Z,2µm,1.4s									
E44A	**Grand Marais A**	32.16	6		P		**P**	23 08 22.8	+0.9	
	baz=188,SNR=7.4									
SNCC	**San Nicolas Is**	32.24	310		*e*P		**P**	23 08 24.9	+2.1	
	comp=Z,322nm,1.3s									
SNCC	**San Nicolas Is**	32.24	310		P		**P**	23 08 25.0	+2.3	
	baz=118,SNR=8.0									
HRV	**Adam Dziewonsk**	32.25	27		*e*P		**P**	23 08 24.4	+1.8	
	comp=Z,598nm,1.2s				

baz=205,SNR=268
ISA Isabella, Lake 32.71 315 eP P 23 08 29.9 +3.0
comp=Z,502nm,2.0s
ISA Isabella, Lake 32.71 315 eP P 23 08 29.9 +3.0
ISA pmax pmax
comp=Z,502nm,2.0s
ISA Isabella, Lake 32.71 315 P P 23 08 29.4 +2.5
baz=123,SNR=25
GRAC Grapevine Rang 32.72 318 P P 23 08 29.7 +2.7
baz=126,SNR=25
SPUT South Promonto 32.75 329 eP P 23 08 29.5 +2.2
comp=Z,341nm,1.7s
SPUT eScP ScP 23 14 33.9 +0.2
BGU Big Grassy Mou 32.77 328 eP P 23 08 29.4 +1.9
comp=Z,349nm,1.7s
E50A Wahnapitae 32.77 12 P P 23 08 27.5 +0.3
baz=198,SNR=79
LONY Lake Ozonia 32.84 21 eP P 23 08 29.0 +1.2
comp=Z,846nm,0.9s
LONY Lake Ozonia 32.84 21 P P 23 08 28.8 +0.9
baz=209
CWC Cottonwood Cre 32.87 316 P P 23 08 30.8 +2.4
baz=124
HNH Hanover 32.92 25 eP P 23 08 30.4 +1.9
comp=Z,258nm,1.4s
PEMO Pembroke 32.94 17 P P 23 08 29.9 +1.2
baz=204
D47A Chapleau 32.95 9 P P 23 08 29.1 +0.3
baz=193,SNR=90
SBC Santa Barbara 32.95 312 P P 23 08 31.3 +2.4
baz=120
ALGO Algonquin Park 32.97 16 P P 23 08 30.1 +1.2
baz=202
FFD Franklin Falls 32.99 26 eP P 23 08 31.1 +2.0
comp=Z,324nm,1.1s
E52A Mattawa 33.12 15 P P 23 08 30.8 +0.6
baz=201,SNR=93
E51A G1948 Merrick 33.15 14 P P 23 08 31.4 +1.0
baz=200,SNR=395
AHID Auburn Hatcher 33.21 332 eP P 23 08 32.9 +1.5
comp=Z,208nm,1.1s
VES Vestal, Richgr 33.22 315 P P 23 08 33.9 +2.7
baz=122
PKM Mcpherson Peak 33.24 313 P P 23 08 34.2 +2.5
baz=120
C40A Isle Royale Na 33.24 2 eP P 23 08 31.3 +0.1
comp=Z,642nm,1.0s
C40A Isle Royale Na 33.24 2 P P 23 08 31.6 +0.4
baz=182
ORHO Orleans, Herit 33.26 19 P P 23 08 32.3 +0.9
baz=207
ORIO Orleans, Innes 33.26 19 P P 23 08 32.5 +1.1
baz=207
VT1 Waterbury 33.26 23 eP P 23 08 32.8 +1.2
comp=Z,318nm,0.9s
HVU Hansel Valley 33.27 329 eP P 23 08 33.6 +1.9
comp=Z,270nm,1.4s
HVU eScP ScP 23 14 35.6 +0.1
HVU Hansel Valley 33.27 329 eP P 23 08 33.6 +1.9
HVU pmax pmax
comp=Z,270nm,1.4s
EYMN Ely 33.27 359 eP P 23 08 31.4 -0.1
comp=Z,399nm,0.9s
EYMN eS S 23 13 35.3 -1.8
EYMN Ely 33.27 359 P P 23 08 31.8 +0.3
baz=178
D48A Paudash Townsh 33.28 11 P P 23 08 31.9 +0.2
baz=195,SNR=76
TIN Tinemaha, Big 33.32 317 P P 23 08 34.2 +2.0
baz=125,SNR=11
F55A Otter Lake 33.34 18 P P 23 08 33.2 +1.1
baz=205,SNR=135
FRNY Flat Rock 33.38 22 eP P 23 08 33.6 +1.2
comp=Z,523nm,1.0s
D49A Beulah Townshi 33.46 11 P P 23 08 33.6 +0.5
baz=196
E53A Dumoine, Ponti 33.47 16 P P 23 08 34.3 +1.1
baz=203
LBNH Lisbon 33.51 24 eP P 23 08 35.3 +1.7
comp=Z,204nm,1.0s
LBNH Lisbon 33.51 24 eP P 23 08 35.3 +1.7
LBNH pmax pmax
comp=Z,204nm,1.0s
LBNH Lisbon 33.51 24 P P 23 08 35.0 +1.3
baz=214
REDW Red Top Meadow 33.57 333 eP P 23 08 35.8 +1.3
comp=Z,595nm,1.1s
SMMC Simmler 33.59 313 P P 23 08 37.1 +2.6
baz=121
SNOW Snow King Moun 33.61 333 eP P 23 08 36.4 +1.6
comp=Z,557nm,1.0s
ALFO Alfred 33.62 20 P P 23 08 35.7 +1.2
baz=208
E54A Lac Daplat, Po 33.65 17 P P 23 08 35.9 +1.2
baz=204
LOHW Long Hollow 33.66 333 eP P 23 08 36.6 +1.4
comp=Z,165nm,1.0s
VOG Valley Oaks Go 33.68 315 P P 23 08 36.6 +1.3
baz=123
D51A Lot 18 Range I 33.70 14 P P 23 08 36.1 +0.8
baz=200
TPAW Teton Pass 33.72 333 eP P 23 08 37.2 +1.4
comp=Z,651nm,1.4s
PTGA Pitinga 33.81 114 eP P 23 08 35.1 -1.6
comp=Z,517nm,0.7s
PTGA Pitinga 33.81 114 P P 23 08 35.4 -1.2
comp=Z,563nm,0.7s,baz=300,slow=11,SNR=266
PTGA PcP PcP 23 11 11.5 +0.2
comp=Z,34nm,0.7s,baz=264,slow=4.9,SNR=4.3
PTGA ScP ScP 23 14 38.4 +0.7
comp=Z,61nm,1.0s,baz=8.1,slow=1.5,SNR=7.2
PTGA P3KPbc 23 39 43.1
comp=Z,4.2nm,0.7s,baz=131,slow=9.0,SNR=8.7
PTGA Pitinga 33.81 114 eP P 23 08 35.3 -1.3
D52A ZEK Kipawa Sen 33.83 15 P P 23 08 37.6 +1.3
baz=201
ELK Elko 33.83 325 eP P 23 08 38.6 +2.0
comp=Z,56nm,0.8s
ELK eScP ScP 23 14 38.6 +1.0
ELK Elko 33.83 325 eP P 23 08 38.7 +2.0
ELK pmax pmax
comp=Z,57nm,0.8s
MOOW Moose Ponds 33.83 333 eP P 23 08 37.8 +1.1
comp=Z,142nm,1.1s
PIRM Iverson Ranch 33.87 313 eP P 23 08 39.5 +2.7
FXWY Fox Creek 33.87 333 eP P 23 08 38.5 +1.5
comp=Z,118nm,1.1s
AGMN Agassiz Nation 33.90 354 eP P 23 08 37.3 +0.4
comp=Z,936nm,0.9s
AGMN eS S 23 13 47.2 +0.3
AGMN Agassiz Nation 33.90 354 P P 23 08 37.4 +0.4
baz=171
PAGB Antelope Grade 33.98 314 eP P 23 08 40.9 +3.1
comp=Z,437nm,1.2s
MDND Maddock 34.02 349 eP P 23 08 38.9 +1.0
comp=Z,2µm,1.0s
MDND Maddock 34.02 349 P P 23 08 39.0 +1.0
baz=164
IMW Indian Meadow 34.03 333 eP P 23 08 40.1 +1.6
comp=Z,127nm,1.3s
IMW eScP ScP 23 14 38.6 +0.2
MLAC Mammoth, Mammo 34.04 318 P P 23 08 41.0 +2.4
baz=125
NV11 Mina Array Sit 34.07 319 eP P 23 08 41.5 +2.7
comp=Z,12nm,0.8s
FLWY Flagg Ranch 34.08 334 eP P 23 08 40.8 +2.0
comp=Z,409nm,1.6s
OMMB Old Mammoth Mi 34.14 317 eP P 23 08 42.4 +2.9
comp=Z,393nm,1.9s
OMMB eScP ScP 23 14 39.4 +0.5
NV01 Mina Array Sit 34.17 319 eP P 23 08 41.5 +1.9
NV01 epP pP 23 09 21.2 +0.5
NV01 ePcP PcP 23 11 12.0 -0.1
NV01 eScP ScP 23 14 40.1 +1.2
NVAR Mina Array Bea 34.17 319 P P 23 08 42.3 +2.7
comp=Z,168nm,0.8s,baz=135,slow=8.3,SNR=743
NVAR pP pP 23 09 21.2 +0.5
comp=Z,194nm,1.1s,baz=135,slow=7.8,SNR=3.2
NVAR PcP PcP 23 11 12.0 -0.1
comp=Z,6.4nm,0.6s,baz=150,slow=3.8,SNR=3.8
NVAR ScP ScP 23 14 40.1 +1.2
comp=Z,89nm,0.7s,baz=132,slow=4.3,SNR=58
NVAR LR LR 23 25 47.1
comp=Z,2µm,18.1s,baz=128,slow=41
NVAR P3KPbc 23 39 41.0
comp=Z,3.7nm,0.8s,baz=283,slow=5.0,SNR=15
LHV Little Huntoon 34.19 319 eP P 23 08 42.8 +3.3

MDPB Devils Postpil 34.20 317 eP P 23 08 43.1 +3.1
comp=Z,101nm,0.8s
TRQ Mont Tremblant 34.25 20 eP P 23 08 41.3 +1.2
YPP Pitchstone Pla 34.28 334 eP P 23 08 42.5 +1.9
comp=Z,164nm,1.5s
H17A Grant Village 34.28 334 eP P 23 08 42.8 +2.1
comp=Z,296nm,1.5s
H17A Grant Village 34.28 334 P P 23 08 42.7 +2.1
baz=144
MOQ Mont Orford 34.28 23 eP P 23 08 41.8 +1.5
RLMT Red Lodge 34.34 336 eP P 23 08 42.1 +1.0
comp=Z,480nm,1.5s
RLMT Red Lodge 34.34 336 P P 23 08 42.3 +1.2
baz=147
LKWY Lake 34.34 334 eP P 23 08 43.7 +2.6
comp=Z,180nm,1.2s
LKWY Lake 34.34 334 eP P 23 08 43.7 +2.6
LKWY pmax pmax
comp=Z,180nm,1.2s
KVN Kaiserville 34.41 320 eP P 23 08 43.8 +2.1
comp=Z,146nm,1.0s
KVN Kaiserville 34.41 320 eP P 23 08 43.8 +2.1
KVN pmax pmax
comp=Z,146nm,1.0s
RYN Ryan 34.42 319 eP P 23 08 44.2 +2.5
comp=Z,84nm,0.9s
YFT Old Faithful 34.43 334 eP P 23 08 45.0 +3.2
comp=Z,243nm,1.3s
YFT eScP ScP 23 14 42.8 +3.1
D54A Lac Fusel, La 34.45 17 P P 23 08 42.9 +1.2
baz=204
YNR Norris Junctio 34.58 334 eP P 23 08 45.5 +2.3
comp=Z,84nm,1.1s
LAO LASA Array 34.61 341 eP P 23 08 44.6 +1.5
comp=Z,651nm,1.3s
LAO LASA Array 34.61 341 P P 23 08 43.8 +0.6
baz=153
YMR Madison River 34.66 334 eP P 23 08 46.3 +2.5
comp=Z,742nm,1.7s
YMR ePcP PcP 23 11 08.5 -5.0
YHH Holmes Hill 34.71 334 eP P 23 08 46.0 +1.7
comp=Z,174nm,1.4s
YHH eScP ScP 23 14 41.5 +0.8
WVL Waterville 34.72 26 eP P 23 08 46.0 +2.0
comp=Z,563nm,1.3s
BMN Battle Mountai 34.75 323 eP P 23 08 46.6 +2.1
comp=Z,358nm,1.5s
BMN Battle Mountai 34.75 323 eP P 23 08 46.6 +2.1
BMN pmax pmax
comp=Z,358nm,1.5s
YHB Horse Butte 34.83 334 eP P 23 08 47.4 +2.2
comp=Z,62nm,0.8s
WAKR Walker 34.93 318 eP P 23 08 49.3 +3.1
comp=Z,89nm,0.9s
QLMT Earthquake Lak 34.99 334 eP P 23 08 49.1 +2.5
QLMT eScP ScP 23 14 41.2 -0.5
GCMT Greycliff 35.05 336 eP P 23 08 48.3 +1.3
YERR Yerington 35.09 319 eP P 23 08 50.5 +3.0
comp=Z,121nm,0.8s
VLDQ Val d'Or 35.12 15 eP P 23 08 48.4 +1.0
comp=Z,1µm,1.1s
CMB Columbia Colle 35.29 317 eP P 23 08 51.3 +2.2
comp=Z,65nm,1.0s
CMB Columbia Colle 35.29 317 eP P 23 08 51.3 +2.2
CMB pmax pmax
comp=Z,65nm,1.0s
SAO San Andreas Ge 35.33 314 eP P 23 08 51.4 +2.0
comp=Z,68nm,0.9s
SAO San Andreas Ge 35.33 314 eP P 23 08 51.4 +2.0
SAO pmax pmax
comp=Z,68nm,0.9s
PNTR Pine Nut 35.37 319 eP P 23 08 53.1 +3.2
comp=Z,135nm,0.7s
HLID Hailey 35.40 329 eP P 23 08 51.6 +1.6
comp=Z,290nm,1.8s
HLID eScP ScP 23 14 44.6 +1.5
HLID Hailey 35.40 329 P P 23 08 51.2 +1.2
baz=138
PKME Peaks-Kenny Pk 35.44 26 eP P 23 08 51.5 +1.4
comp=Z,698nm,1.1s
PKME Peaks-Kenny Pk 35.44 26 P P 23 08 51.2 +1.1
baz=217
VCNR Virginia City 35.52 319 eP P 23 08 54.3 +3.1
comp=Z,60nm,0.9s
PAHR Pah Rah Range 35.60 320 eP P 23 08 54.6 +2.8
comp=Z,84nm,1.0s
MCMT McKenzie Canyo 35.61 332 eP P 23 08 55.0 +3.0
DGMT Dagmar 35.63 344 eP P 23 08 53.2 +1.4
comp=Z,965nm,0.9s
DGMT Dagmar 35.63 344 P P 23 08 53.2 +1.4
baz=157
BOZ Bozeman (W) 35.69 334 eP P 23 08 54.0 +1.5
comp=Z,110nm,0.9s
BOZ Bozeman (W) 35.69 334 P P 23 08 53.6 +1.1
baz=143
RUBR Rubicon Trail 35.70 319 eP P 23 08 56.5 +3.7
comp=Z,182nm,1.0s
RUBR eScP ScP 23 14 46.4 +2.0
EMMW East Machias 35.82 28 eP P 23 08 54.9 +1.5
comp=Z,476nm,1.1s
ULM Lac du Bonnet 35.83 354 eP P 23 08 53.3 -0.2
comp=Z,1µm,0.9s
ULM Lac du Bonnet 35.83 354 eP P 23 08 53.3 -0.2
ULM pmax pmax
comp=Z,1µm,0.9s
ULM Lac du Bonnet 35.83 354 P P 23 08 53.2 -0.2
comp=Z,866nm,0.9s,baz=173,slow=9.1,SNR=928
ULM S S 23 14 13.2 -3.2
comp=Z,39nm,0.9s,baz=255,slow=23,SNR=8.0
ULM ScP ScP 23 14 44.3 0.0
comp=Z,32nm,0.8s,baz=202,slow=8.8,SNR=7.5
ULM P3KPbc 23 39 30.1
comp=Z,2.9nm,0.9s,baz=243,slow=2.3,SNR=4.0
LATQ La Tuque 35.86 21 P P 23 08 55.4 +1.7
baz=210
DLMT Dillon 35.92 333 eP P 23 08 56.8 +2.4
comp=Z,282nm,1.4s
LCCM Lewis and Clar 35.99 334 eP P 23 08 57.1 +2.1
LSQQ Lebel-sur-Quev 36.12 15 P P 23 08 56.9 +1.0
baz=202
AFDM Forest Hills D 36.17 318 eP P 23 08 58.9 +2.3
comp=Z,148nm,1.7s
AFDM eScP ScP 23 14 45.8 -0.1
BEKR Beckworth 36.30 320 eP P 23 09 00.4 +2.6
comp=Z,105nm,0.8s
GGN Saint George 36.41 29 eP P 23 09 00.1 +1.8
comp=Z,354nm,1.0s
HRY Holter Researc 36.67 335 eP P 23 09 02.4 +1.7
ORV Oroville 36.85 318 eP P 23 09 04.9 +2.7
comp=Z,167nm,1.3s
ORV Oroville 36.85 318 eP P 23 09 04.9 +2.7
ORV pmax pmax
comp=Z,167nm,1.3s
WVOR Wild Horse Val 36.85 324 eP P 23 09 03.7 +1.4
comp=Z,117nm,1.1s
WVOR Wild Horse Val 36.85 324 eP P 23 09 03.7 +1.4
WVOR pmax pmax
comp=Z,117nm,1.1s
EGMT Eagleton 36.96 338 eP P 23 09 04.5 +1.4
comp=Z,1µm,1.4s
EGMT Eagleton 36.96 338 P P 23 09 04.8 +1.6
baz=148
MCCM Marconi Confer 37.02 315 eP P 23 09 06.3 +2.7
comp=Z,436nm,1.4s
PQI Presque Isle 37.09 26 eP P 23 09 05.6 +1.5
comp=Z,426nm,1.1s
GDXM Geysers 37.30 316 eP P 23 09 08.8 +2.7
J08A Cle Elum Ran 37.37 326 eP P 23 09 08.7 +2.1
comp=Z,475nm,1.4s
O03E Paynes Creek 37.45 319 P P 23 09 08.7 +1.3
baz=124
LBCM Butte Creek Ri 37.48 320 eP P 23 09 09.8 +2.1
MOD Modoc Plateau 37.48 322 eP P 23 09 09.1 +1.4
comp=Z,87nm,1.1s
HOPS Hopland Field 37.58 316 eP P 23 09 11.2 +2.8
comp=Z,444nm,1.9s
CHGQ Chibougamau 37.59 17 P P 23 09 09.5 +1.2
baz=206
MSO Missoula 37.65 333 eP P 23 09 10.1 +1.1
comp=Z,252nm,1.3s
MSO Missoula 37.65 333 P P 23 09 10.0 +1.1
baz=141
HAL Halifax 37.65 32 eP P 23 09 10.2 +1.4
comp=Z,260nm,1.0s
BMO Blue Mountains 37.77 328 eP P 23 09 10.1 +0.1
comp=Z,78nm,1.0s
BMO Blue Mountains 37.77 328 eP P 23 09 10.1 +0.1
BMO pmax pmax
comp=Z,78nm,1.0s
LPAZ La Paz 37.80 143 eP P 23 09 11.4 +0.4
LPAZ ePcP PcP 23 11 23.7 0.0
LPAZ eS ScP 23 14 54.7 +1.8
LPAZ La Paz 37.80 143 P P 23 09 11.1 0.0
comp=Z,78nm,0.6s,baz=337,slow=7.7,SNR=109
LPAZ PcP PcP 23 11 23.7 0.0
comp=Z,29nm,0.8s,baz=355,slow=3.0,SNR=4.2
LPAZ ScP ScP 23 14 54.7 +1.8
comp=Z,74nm,1.2s,baz=1.4,slow=7.0,SNR=10
LPAZ LR LR 23 23 14.1
comp=Z,5µm,21.9s,baz=330,slow=33
LPAZ La Paz 37.80 143 eP P 23 09 11.5 +0.4
LMN Caledonia Moun 37.92 30 eP P 23 09 12.5 +1.4
comp=Z,705nm,1.0s
O02D Mt. Diablo Mer 38.02 318 P P 23 09 12.3 +0.2
baz=123
WDC Whiskeytown Da 38.08 319 eP P 23 09 12.5 -0.1
comp=Z,22nm,0.8s
WDC Whiskeytown Da 38.08 319 eP P 23 09 12.5 -0.1
WDC pmax pmax
comp=Z,22nm,0.8s
KCPM Cahto Peak 38.28 317 eP P 23 09 17.5 +3.1
comp=Z,941nm,1.9s
M04C Macdoel 38.33 321 P P 23 09 16.3 +1.6
baz=126
K05A Summer Lake 38.33 323 eP P 23 09 16.2 +1.4
comp=Z,175nm,1.6s
LMPM Military Pass 38.36 321 eP P 23 09 16.9 +1.8
MDP Montagnes des 38.40 100 P P 23 09 13.7 -1.8
comp=Z,98nm,0.9s,baz=285,slow=7.9,SNR=15
MDP PcP PcP 23 11 24.6 -0.4
comp=Z,24nm,0.6s,baz=322,slow=3.7,SNR=9.6
MDP ScP ScP 23 14 54.9 +0.2
comp=Z,13nm,0.7s,baz=263,slow=3.4,SNR=5.5
N02D Trinity Center 38.40 319 P P 23 09 15.0 -0.3
baz=124
I07A Izee 38.41 326 eP P 23 09 16.4 +1.0
comp=Z,58nm,0.9s
BATG Bathurst New B 38.41 27 eP P 23 09 16.7 +1.5
F10A Beach Ranch, E 38.52 330 eP P 23 09 16.9 +0.6
comp=Z,204nm,0.9s
KMRM Mail Ridge 38.64 318 eP P 23 09 19.6 +2.3
comp=Z,240nm,1.0s
KCSM Cold Springs 38.68 318 eP P 23 09 19.6 +1.8
M02C Callahan 38.73 320 P P 23 09 18.4 +0.4
baz=124
K04D Chiloquin, OR 38.77 322 P P 23 09 19.4 +0.9
baz=127
YBH Yreka Blue Hor 38.83 320 eP P 23 09 19.1 +0.2
comp=Z,30nm,1.0s
YBH Yreka Blue Hor 38.83 320 eP P 23 09 19.1 +0.2
YBH pmax pmax
comp=Z,30nm,1.0s
YBH Yreka Blue Hor 38.83 320 P P 23 09 18.8 -0.1
comp=Z,16nm,0.5s,baz=118,slow=4.5,SNR=45
YBH ScP ScP 23 14 56.1 +0.2
comp=Z,30nm,0.8s,baz=79,slow=4.3,SNR=30
L04D Klamath Falls 38.86 321 P P 23 09 20.3 +1.1
baz=126
J05D Fort Rock, OR 38.87 323 P P 23 09 20.1 +0.9
baz=128
G08A Pilot Rock 38.92 328 eP P 23 09 20.3 +0.7
comp=Z,24nm,0.9s
G08A ePP PnPn 23 10 56.1 -1.5
KHMM Horse Mountain 39.00 319 eP P 23 09 22.3 +1.9
comp=Z,142nm,0.8s
PINE Pine Mountain 39.02 324 eP P 23 09 21.9 +1.4
comp=Z,97nm,0.8s
JCC Jacoby Creek, 39.16 318 eP P 23 09 24.0 +2.5
comp=Z,884nm,1.8s
JCC ePcP PcP 23 11 30.2 +3.3
GBN Guysborough 39.25 33 eP P 23 09 23.7 +1.5
comp=Z,472nm,1.0s
MNMC Minye Minye 39.31 148 eP P 23 09 24.4 +1.1
comp=Z,280nm,1.1s
MNMC ePcP PcP 23 11 27.6 -0.5
J04D Umpqua Nationa 39.35 323 P P 23 09 24.6 +1.3
baz=127
E09A Wood Farm, Sta 39.36 330 eP P 23 09 23.7 +0.7
comp=Z,44nm,0.8s
WALA Waterton Lakes 39.39 336 eP P 23 09 24.6 +1.2
comp=Z,220nm,1.0s
HUMO Hull Mountain 39.48 321 eP P 23 09 23.7 -0.5
comp=Z,94nm,1.8s
I05D Terrebonne, OR 39.58 325 P P 23 09 26.4 +1.4
baz=129
L02E Cave Junction 39.62 320 P P 23 09 26.1 +0.8
baz=124
G06A Carlson Farm, 39.77 326 eP P 23 09 27.9 +1.3
comp=Z,136nm,1.5s
E08A Dider Farm, El 39.79 329 eP P 23 09 27.2 +0.6
comp=Z,39nm,1.0s
PB11 IPOC Station P 39.81 148 eP P 23 09 28.3 +1.1
comp=Z,304nm,1.0s
PB11 ePcP PcP 23 11 29.9 +0.4
PB11 eScP ScP 23 15 02.5 +2.4
F07A Phinny Hill Vi 39.83 328 eP P 23 09 28.0 +1.0
comp=Z,34nm,0.8s
I04A Tendick Farm, 39.86 323 P P 23 09 28.1 +0.8
baz=127
IRO Indian Ridge 39.90 324 eP P 23 09 29.2 +1.5
K02D Willamette Mer 39.96 321 P P 23 09 29.1 +0.9
baz=125
HAWA Hanford 39.96 328 eP P 23 09 28.7 +0.6
comp=Z,44nm,0.8s
D08A Wolman Farm, 40.12 330 eP P 23 09 30.6 +1.2
comp=Z,104nm,1.1s
D08A eScP ScP 23 15 01.4 +0.7
G05D Wamic, OR 40.14 326 P P 23 09 31.4 +1.8
baz=130
NEW Newport 40.14 332 eP P 23 09 30.5 +0.9
comp=Z,216nm,1.7s
NEW eScP ScP 23 15 01.6 +0.7
NEW Newport 40.14 332 eP P 23 09 30.5 +0.9
NEW pmax pmax
comp=Z,216nm,1.7s
NEW Newport 40.14 332 P P 23 09 30.5 +0.9
baz=138
NEW Newport 40.14 332 P P 23 09 30.3 +0.7
comp=Z,28nm,0.9s,baz=142,slow=8.4,SNR=46
NEW ScP ScP 23 15 00.5 -0.3
comp=Z,24nm,0.9s,baz=173,slow=2.2,SNR=7.9
E07A Sunnyside 40.24 328 eP P 23 09 31.7 +1.3
comp=Z,99nm,0.9s
OD2 Odessa Site #2 40.25 330 eP P 23 09 31.1 +0.6
H04A Detroit Lake 40.27 325 eP P 23 09 31.9 +1.2
comp=Z,168nm,0.8s
C09A Chrisman Ranch 40.33 331 eP P 23 09 32.0 +0.9
comp=Z,396nm,1.5s
C09A eScP ScP 23 15 00.4 -1.1
I03D Drain, OR 40.35 323 P P 23 09 32.0 +0.7
baz=126
J01E Myrtle Point 40.39 321 P P 23 09 33.1 +1.6
baz=125
KEBM Edison Butte 40.47 321 eP P 23 09 35.0 +2.6
comp=Z,830nm,1.2s
H04D Lebanon 40.49 324 P P 23 09 32.8 +0.5
baz=127
F05D White Salmon 40.63 326 P P 23 09 35.6 +2.1
baz=130
COR Corvallis 40.85 324 eP P 23 09 37.3 +2.0
comp=Z,234nm,1.3s
COR Corvallis 40.85 324 eP P 23 09 37.3 +2.0
COR pmax pmax
comp=Z,234nm,1.3s
I02D Swisshome 40.88 323 P P 23 09 37.2 +1.6
baz=126
PB01 IPOC Station P 40.98 149 eP P 23 09 37.7 +1.0
comp=Z,100nm,0.8s
PB01 ePcP PcP 23 11 32.1 -1.1
PB01 eScP ScP 23 15 07.5 +2.9
FFC Flin Flon 41.04 350 eP P 23 09 37.9 +1.1
comp=Z,2µm,1.6s
FFC Flin Flon 41.04 350 i P P 23 09 37.7 +1.0
WTV Waterville 41.07 330 eP P 23 09 38.2 +1.1
GLK Glacier Lake 41.15 327 eP P 23 09 36.5 -1.5
G03D McMinnville, O 41.20 324 P P 23 09 39.5 +1.3
baz=127
WPW White Pass 41.20 327 eP P 23 09 40.1 +1.7
B08A Colville Reser 41.23 331 eP P 23 09 39.3 +0.8
comp=Z,59nm,0.9s
LON Longmire 41.38 327 eP P 23 09 41.1 +1.4
comp=Z,72nm,0.8s
LON Longmire 41.38 327 eP P 23 09 41.1 +1.4
LON pmax pmax

comp=Z,72nm,0.8s
F04D Rainier, OR 41.59 326 P **P** **23 09 42.7 +1.3**
baz=128
E04D Cinebar 41.65 327 P **P** **23 09 42.7 +0.8**
baz=129
C06D Leavenworth 41.69 329 P **P** **23 09 43.3 +1.2**
baz=133
D05A Enumclaw 41.75 328 *e*P **P** **23 09 44.5 +1.9**
comp=Z,83nm,0.9s
PB04 IPOC Station P 41.76 151 *e*P **P** **23 09 44.4 +1.3**
comp=Z,191nm,1.2s
PB04 *e*PcP **PcP** **23 11 37.4 +1.6**
PB04 *e*ScP **ScP** **23 15 11.1 +3.3**
F03A Seaside 41.80 325 *e*P **P** **23 09 45.0 +1.9**
comp=Z,208nm,0.9s
SIV San Ignacio 42.04 135 P **P** **23 09 44.2 -1.2**
comp=Z,233nm,1.0s,baz=319,slow=8.2,SNR=290
SIV PcP **PcP** **23 11 37.6 +0.9**
comp=Z,51nm,0.6s,baz=274,slow=2.4,SNR=9.7
SIV ScP **ScP** **23 15 11.1 +2.2**
comp=Z,82nm,1.1s,baz=319,slow=3.9,SNR=10
PNT Penticton 42.04 332 *e*P **P** **23 09 46.9 +1.9**
PNT Penticton 42.04 332 *e*P **P** **23 09 46.9 +1.9**
D04E Lakebay 42.16 327 P **P** **23 09 46.8 +1.0**
baz=130
B06A Marblemount 42.38 329 *e*P **P** **23 09 48.8 +1.1**
comp=Z,190nm,0.8s
B05A Bryant 42.51 329 P **P** **23 09 49.1 +0.4**
baz=132
D03D Eldon 42.55 327 P **P** **23 09 49.9 +0.8**
baz=130
LVC Limon Verde 42.58 150 *e*P **P** **23 09 51.8 +1.7**
comp=Z,153nm,0.9s
LVC *e*PP **PcP** **23 11 40.6 +1.8**
LVC *e*ScP **ScP** **23 15 14.1 +2.8**
LVC *e*ScP **ScP** **23 15 14.7 +3.4**
LVC Limon Verde 42.58 150 *e*P **P** **23 09 51.8 +1.7**
LVC *e* 23 11 40.6
LVC pmax pmax
comp=Z,153nm,0.9s
LVC Limon Verde 42.58 150 P **P** **23 09 52.2 +2.2**
comp=Z,128nm,0.9s,baz=305,slow=5.8,SNR=55
LVC PcP **PcP** **23 11 40.6 +1.8**
comp=Z,60nm,0.6s,baz=325,slow=5.6,SNR=10
LVC ScP **ScP** **23 15 14.7 +3.4**
comp=Z,110nm,1.0s,baz=302,slow=4.1,SNR=29
LVC Limon Verde 42.58 150 *e*P **P** **23 09 51.3 +1.2**
HDW Hoodsport 42.60 327 *e*P **P** **23 09 50.4 +0.8**
B013 Quilcene 42.63 328 *e*P **P** **23 09 52.9 +3.2**
MBW Mount Baker 42.75 329 *e*P **P** **23 09 51.6 +0.6**
BLN Blyn Mountain 42.79 328 *e*P **P** **23 09 52.4 +1.3**
NLWA Neilton Lookou 42.87 327 *e*P **P** **23 09 53.5 +1.8**
comp=Z,143nm,1.1s
A04D Lummi Island 43.12 329 P **P** **23 09 54.8 +1.2**
baz=131
PGC Sidney 43.45 328 *e*P **P** **23 09 57.6 +1.4**
comp=Z,770nm,2.0s
DRLN Deer Lake 43.84 31 *e*P **P** **23 09 59.7 +0.3**
comp=Z,1000nm,1.2s
YJA Yavi 43.98 146 *e*P **P** **23 10 02.9 +1.6**
LLLB Lillooet 43.99 331 *e*P **P** **23 10 01.6 +1.0**
comp=Z,219nm,1.0s
LLLB *e*ScP **ScP** **23 15 14.4 -1.8**
SCHQ Schefferville 44.17 19 *e*P **P** **23 10 02.8 +0.9**
SCHQ *e*ScP **ScP** **23 15 16.2 -0.6**
SCHQ *e*S **S** **23 16 21.8 +1.7**
SCHQ Schefferville 44.17 19 P **P** **23 10 02.8 +0.9**
comp=Z,3µm,0.8s,baz=218,slow=6.4,SNR=1220
SCHQ ScP **ScP** **23 15 16.1 -0.6**
comp=Z,62nm,0.9s,baz=211,slow=3.1,SNR=4.8
SCHQ S **S** **23 16 21.2 +1.2**
comp=Z,26nm,0.9s,baz=58,slow=16,SNR=11
SCHQ LR LR 23 30 49.5
comp=Z,5µm,18.4s,baz=221,slow=39
FCC Fort Churchill 44.18 357 *e*P **P** **23 10 02.0 +0.2**
comp=Z,490nm,1.1s
FCC Fort Churchill 44.18 357 *e*P **P** **23 10 02.0 +0.2**
FCC pmax pmax
comp=Z,490nm,1.1s
GO02 Mina Guanaco 44.45 153 *e*P **P** **23 10 06.4 +1.5**
comp=Z,314nm,0.8s
GO02 *e*ScP **ScP** **23 15 22.6 +3.8**
RPN Rapa Nui 45.33 204 *e*P **P** **23 10 13.5 +2.1**
comp=Z,513nm,1.3s
RPN Rapa Nui 45.33 204 P **P** **23 10 12.9 +1.5**
comp=Z,279nm,1.2s,baz=342,slow=5.8,SNR=8.8
SLA San Lorenzo 46.05 148 *e*P **P** **23 10 19.1 +1.8**
GO03 Copiap 46.30 155 *e*P **P** **23 10 20.4 +1.3**
comp=Z,143nm,1.2s
FSA Cafayete 46.96 149 *e*P **P** **23 10 25.2 +0.8**
LCO Las Campanas 47.37 156 *e*P **P** **23 10 28.6 +1.0**
LCO *e*PcP **PcP** **23 11 55.5 +0.3**
LCO *e*ScP **ScP** **23 15 33.5 +2.8**
LCO Las Campanas 47.37 156 *e*P **P** **23 10 28.6 +1.0**
LCO *e* 23 11 55.5
LCO Las Campanas 47.37 156 *e*P **P** **23 10 28.7 +1.0**
AHML Horco Molle 47.84 149 *e*P **P** **23 10 32.1 +1.2**
GO04 Tololo Observa 48.38 157 *e*P **P** **23 10 36.5 +1.3**
GO04 *e*PcP **PcP** **23 11 57.7 -1.0**
GO04 *e*ScP **ScP** **23 15 40.4 +5.4**
AGUA GUANDACOL 48.69 154 *e*P **P** **23 10 39.5 +2.0**
AQDB Aquidauana 48.81 135 *e*P **P** **23 10 37.5 -0.9**
AROD Rodeo 48.88 156 *e*P **P** **23 10 41.4 +2.2**
CYA Choya 48.99 151 *e*P **P** **23 10 40.4 +0.7**
ACLC CERRO LA CRUZ 49.30 153 *e*P **P** **23 10 43.1 +0.9**
ACCO Cerro Coronel 49.42 156 *e*P **P** **23 10 44.6 +1.4**
PEXB Peixe 49.49 120 *e*P **P** **23 10 41.5 -2.2**
AMOG MOGNA 49.96 155 *e*P **P** **23 10 48.1 +1.1**
APLL PUNTA DE LOS L 50.32 153 *e*P **P** **23 10 50.1 +0.3**
RTLS Leoncito 50.40 156 *e*P **P** **23 10 52.0 +1.4**
ZON Zonda 50.42 156 *e*P **P** **23 10 51.5 +1.0**
CFA Coronel Fontan 50.65 155 P **P** **23 10 53.2 +1.1**
comp=Z,116nm,0.7s,baz=333,slow=7.5,SNR=102
CFA PcP **PcP** **23 12 08.0 +1.2**
comp=Z,152nm,0.8s,baz=291,slow=2.1,SNR=13
CFA ScP **ScP** **23 15 47.6 +3.1**
comp=Z,196nm,0.9s,baz=325,slow=4.5,SNR=48
CFA S **S** **23 17 53.0 +0.9**
baz=215,slow=16
AUSP Uspallata 50.74 157 *e*P **P** **23 10 55.1 +2.0**
RTCV Cerro Valdivia 50.75 156 *e*P **P** **23 10 54.7 +1.7**
YKA Yellowknife Ar 50.81 346 P **P** **23 10 53.0 +0.1**
comp=Z,100nm,0.8s,baz=148,slow=7.6,SNR=655
YKA pP **pP** **23 11 35.6 -0.5**
comp=Z,114nm,1.1s,baz=146,slow=7.8,SNR=2.2
YKA PP **PP** **23 12 56.2 +5.3**
comp=Z,24nm,0.9s,baz=145,slow=9.6,SNR=5.2
YKA ScP **ScP** **23 15 45.1 +0.6**
comp=Z,7.1nm,0.5s,baz=148,slow=4.6,SNR=13
YKA S **S** **23 17 53.4 0.0**
comp=Z,5.9nm,1.1s,baz=142,slow=14,SNR=4.0
YKA LR LR 23 37 10.2
comp=Z,78nm,18.9s,baz=170,slow=41
YKA P3KP 23 40 32.0
comp=Z,0.5nm,0.8s,baz=263,slow=1.8,SNR=4.1
YKA PKPPKP P'P'df 23 41 15.3 -20
comp=Z,1.0nm,0.9s,baz=0.4,slow=2.6,SNR=5.8
YKB5 Yellowknife Ar 50.81 346 *e*P **P** **23 10 53.1 +0.2**
YKB5 *e*PP **PP** **23 12 56.2 +5.3**
YKB5 *e*ScP **ScP** **23 15 45.1 +0.6**
YKB5 *e*S **S** **23 17 53.4 0.0**
ROC1 El Roble 50.83 159 *e*P **P** **23 10 52.7 -1.0**
ROC1 *e*PcP **PcP** **23 12 06.2 -1.5**
ROC1 El Roble 50.83 159 *e*P **P** **23 10 54.6 +0.9**
YKW3 Yellowknife Ar 50.87 346 *e*P **P** **23 10 53.5 +0.1**
comp=Z,187nm,1.0s
YKW3 *e*sP **sP** **23 11 55.5 -2.6**
YKW3 *e*PP **PP** **23 12 56.6 +5.1**
PEL Peldehue 51.09 159 *e*P **P** **23 10 56.6 +1.1**
comp=Z,105nm,0.9s
PEL Peldehue 51.09 159 *e*P **P** **23 10 56.6 +1.1**
PEL pmax pmax
comp=Z,105nm,0.9s
ASAL Salagasta 51.28 156 *e*P **P** **23 10 58.7 +1.7**
FRB Frobisher Bay 51.42 12 P **P** **23 10 57.4 0.0**
FRB pmax pmax
comp=Z,585nm,1.2s
FRB Frobisher Bay 51.42 12 S **S** **23 17 59.6 -2.1**
comp=Z,9.4nm,0.9s,baz=270,slow=22,SNR=6.3
ARCO CERRO ARCO 51.47 157 *e*P **P** **23 10 59.9 +1.5**
BDFB Brasilia 51.61 124 *e*P **P** **23 10 58.7 -1.0**
comp=Z,123nm,0.7s
BDFB Brasilia 51.61 124 P **P** **23 10 58.9 -0.7**
comp=Z,64nm,0.7s,baz=292,slow=8.0,SNR=46
BDFB PcP **PcP** **23 12 12.2 +1.4**
comp=Z,20nm,0.5s,baz=309,slow=6.5,SNR=3.5
ACAN Cantantal 51.66 155 *e*P **P** **23 11 00.9 +1.2**
AAGR Agrelo 51.72 157 *e*P **P** **23 11 01.7 +1.4**
CPUP Villa Florida 51.90 141 *e*P **P** **23 11 00.1 -1.4**
comp=Z,120nm,0.9s
CPUP Villa Florida 51.90 141 P **P** **23 11 00.7 -0.8**
comp=Z,102nm,0.9s,baz=329,slow=7.7,SNR=64
CPUP PcP **PcP** **23 12 12.4 +1.0**
comp=Z,59nm,0.7s,baz=322,slow=3.5,SNR=11
CPUP ScP **ScP** **23 15 53.1 +3.2**
comp=Z,115nm,1.1s,baz=340,slow=5.3,SNR=17
CPUP LR LR 23 32 11.6
comp=Z,2µm,21.0s,baz=324,slow=35
CPUP Villa Florida 51.90 141 *e*P **P** **23 11 00.4 -1.1**
TCA Tanti 51.99 152 *e*P **P** **23 11 02.1 -0.1**
ITRB Iturama 52.15 130 *e*P **P** **23 11 02.6 -0.9**
AVIZ Vizcacheras 52.19 157 *e*P **P** **23 11 05.0 +1.4**
CRAG Craig 52.32 331 *e*P **P** **23 11 05.1 +0.9**
comp=Z,93nm,1.2s
MRA San Martin 52.41 153 *e*P **P** **23 11 05.3 0.0**
TRCB Terra Rica 52.48 134 *e*P **P** **23 11 05.0 -0.9**
PTGB Pitanga 54.14 136 *e*P **P** **23 11 16.4 -1.6**
JANB Januaria 54.33 121 *e*P **P** **23 11 18.5 -1.0**
BB19B Bebedouro 54.33 130 *e*P **P** **23 11 18.6 -0.9**
PMNB Patos De Minas 54.46 126 *e*P **P** **23 11 19.5 -1.0**
JIS Juneau Island 54.47 333 *e*P **P** **23 11 20.5 +0.7**
comp=Z,86nm,1.6s
TAOE Nuku Hiva Isla 54.48 248 *e*LR LR 23 27 13.0
comp=Z,6µm,31.3s
BESE Bessie Mountai 54.85 333 *e*P **P** **23 11 23.7 +1.1**
BESE *e*pP **pP** **23 12 09.2 +2.4**
FRTB Fartura 54.98 133 *e*P **P** **23 11 23.3 -0.7**
MCI8 Montes Claros 55.47 122 *e*P **P** **23 11 26.2 -1.5**
MCI9 Montes Claros 55.51 122 *e*P **P** **23 11 27.1 -0.9**
IVI Ivigtut 55.55 23 *e*P **P** **23 11 27.9 +0.5**
comp=Z,864nm,1.8s
MCI6 Montes Claros 55.57 122 *e*P **P** **23 11 28.1 -0.3**
ITAB Concordia 55.80 138 *e*P **P** **23 11 29.0 -0.7**
RCLB Rio Claro- Sao 55.89 130 *e*P **P** **23 11 29.5 -1.0**
WHY Whitehorse 56.05 335 *e*P **P** **23 11 32.1 +0.9**
comp=Z,73nm,1.4s
NRS Narsarsuaq 56.60 24 *e*P **P** **23 11 35.0 +0.2**
comp=Z,195nm,0.8s
NRS Narsarsuaq 56.60 24⇑*i*P **P** **23 11 35.3 +0.4**
NRS Narsarsuaq 56.60 24⇑*i*P **P** **23 11 35.3 +0.4**
SPB Sao Paulo 56.67 131 *e*P **P** **23 11 34.9 -1.0**
comp=Z,228nm,0.7s
SPB Sao Paulo 56.67 131 *e*P **P** **23 11 35.2 -0.7**
GO06 Curarrehue 56.73 162 *e*P **P** **23 11 37.2 +0.9**
comp=Z,103nm,0.9s
BSCB Bom Sucesso 57.14 127 *e*P **P** **23 11 38.5 -0.9**
CPSB Cacapava Do Su 57.21 142 *e*P **P** **23 11 38.9 -0.7**
HYT Haines Junctio 57.21 335 *e*P **P** **23 11 41.1 +1.8**
comp=Z,131nm,1.5s
RKT Rikitea 57.45 230 *e*P **P** **23 11 42.9 +1.5**
comp=Z,159nm,1.0s
RKT Rikitea 57.45 230 *e*LR LR 23 28 37.0
comp=Z,2µm,35.5s
RCBR Riachuelo 57.79 107 *e*P **P** **23 11 43.0 -1.1**
comp=Z,117nm,0.6s
RCBR Riachuelo 57.79 107 *e*P **P** **23 11 43.0 -1.1**
RCBR pmax pmax
comp=Z,117nm,0.6s
RCBR Riachuelo 57.79 107 *e*P **P** **23 11 42.9 -1.1**
PCA Pinnacle 58.00 333 *e*P **P** **23 11 45.7 +0.8**
comp=Z,197nm,1.6s
CNLB Canela 58.04 139 *e*P **P** **23 11 45.3 -0.2**
PLCA Paso Flores 58.06 162 *e*P **P** **23 11 46.5 +1.1**
comp=Z,261nm,1.1s
PLCA *e*pP **PcP** **23 12 36.1 +1.0**
PLCA *e*ScP **ScP** **23 16 20.8 +4.0**
PLCA *e*S **S** **23 19 32.2 +1.1**
PLCA ⇑*e* 23 41 38.6
PLCA Paso Flores 58.06 162 P **P** **23 11 46.6 +1.1**
comp=Z,137nm,1.0s,baz=3.6,slow=8.5,SNR=89
PLCA PcP **PcP** **23 12 36.1 +1.0**
comp=Z,33nm,0.9s,baz=349,slow=5.2,SNR=4.4
PLCA ScP **ScP** **23 16 20.2 +3.5**
comp=Z,15nm,0.9s,baz=22,slow=4.9,SNR=6.0
PLCA S **S** **23 19 32.2 +1.1**
comp=Z,2.3nm,1.1s,baz=236,slow=3.6,SNR=2.3
PLCA PKP2bc 23 41 38.6
comp=Z,2.6nm,0.8s,baz=190,slow=1.2,SNR=8.6
PLCA Paso Flores 58.06 162 *e*P **P** **23 11 46.6 +1.1**
PLTB Pedras Altas 58.09 143 *e*P **P** **23 11 45.0 -0.8**
LPA La Plata 58.12 149 *i*P P 23 11 37.4 -8.5
LPA PCP **PcP** **23 12 39.7 +4.4**
LPA PPP PPP 23 15 33.6
LPA S **S** **23 19 26.6 -5.2**
LPA sS sS 23 20 45.0 -4.4
SFJD Kangerlussuaq 58.51 17 *e*P **P** **23 11 48.4 +0.3**
comp=Z,111nm,1.1s
SFJD *e*pP **pP** **23 12 32.9 +0.1**
SFJD Kangerlussuaq 58.51 17⇑*i*P **P** **23 11 48.3 +0.1**
comp=Z,46nm,0.8s
SFJD Kangerlussuaq 58.51 17 *e*P **P** **23 11 48.4 +0.3**
SFJD *e**PP **pP** **23 12 32.9 +0.1**
SFJD pmax pmax
comp=Z,111nm,1.1s
SFJD Kangerlussuaq 58.51 17 P **P** **23 11 48.3 +0.1**
comp=Z,42nm,0.9s,baz=224,slow=7.6,SNR=25
SFJD pP **pP** **23 12 32.8 +0.1**
comp=Z,69nm,1.0s,baz=282,slow=5.4,SNR=4.1
SFJD Kangerlussuaq 58.51 17 *e*P **P** **23 11 48.6 +0.5**
ESAR Angra dos Reis 58.54 129 *e*P **P** **23 11 49.7 +0.7**
SJMB Sao Joao De Ma 58.75 123 *e*P **P** **23 11 49.7 -0.9**
TRQA Tornquist 58.80 154 *e*P **P** **23 11 50.6 0.0**
comp=Z,75nm,0.8s
TRQA *e*ScP **ScP** **23 16 23.2 +3.2**
TRQA Tornquist 58.80 154 *e*P **P** **23 11 50.6 0.0**
TRQA pmax pmax
comp=Z,75nm,0.8s
GO07 Milladeo Hill, 59.46 166 *e*P **P** **23 11 56.4 +1.5**
comp=Z,412nm,0.8s
DAWY Dawson 59.70 337 *e*P **P** **23 11 56.5 +0.1**
comp=Z,18nm,0.8s
ILULI Ilulissat 59.93 15 *e*P **P** **23 11 57.4 -0.4**
comp=Z,61nm,0.8s
ILULI *e*PP **PP** **23 14 08.4 -3.8**
ILULI Ilulissat 59.93 15⇑*i*P **P** **23 11 58.0 +0.2**
ILULI *i* 23 12 40.2
ILULI Ilulissat 59.93 15⇑*i*P **P** **23 11 58.0 +0.2**
ILULI *i* 23 12 40.2
EPYK Eagle Plains 60.07 340 *e*P **P** **23 11 59.2 +0.4**
comp=Z,57nm,1.0s
EPYK *e*PP **PP** **23 14 09.4 -4.2**
EPYK Eagle Plains 60.07 340 P **P** **23 11 59.3 +0.4**
baz=126
RES Resolute Bay 60.14 359 *e*P **P** **23 11 58.8 -0.4**
RES Resolute Bay 60.14 359 P **P** **23 11 59.3 +0.1**
comp=Z,44nm,0.5s,baz=310,slow=3.6,SNR=20
RES pP **pP** **23 12 44.6 +0.8**
comp=Z,46nm,0.8s,baz=189,slow=6.9,SNR=2.3
INK Inuvik 60.30 343 *e*P **P** **23 12 00.6 +0.3**
comp=Z,88nm,0.8s
INK Inuvik 60.30 343 P **P** **23 12 01.1 +0.7**
comp=Z,85nm,0.7s,baz=121,slow=7.3,SNR=293
INK pP **pP** **23 12 45.1 -0.2**
comp=Z,103nm,1.0s,baz=107,slow=9.2,SNR=4.4
INK ScP **ScP** **23 16 26.1 -0.1**
comp=Z,20nm,0.8s,baz=142,slow=5.6,SNR=6.0
INK S **S** **23 19 59.0 +0.1**
comp=Z,2.0nm,0.9s,baz=1.5,slow=27,SNR=6.5
INK PKPPKP 23 41 22.0
comp=Z,9.3nm,1.1s,baz=270,slow=4.7,SNR=8.1
INK LR LR 23 43 06.0
comp=Z,1µm,18.7s,baz=125,slow=41
EYAK Cordova Ski Ar 60.65 332 *e*P **P** **23 12 04.6 +1.8**
comp=Z,124nm,0.9s
EGAK Eagle 60.72 338 *e*P **P** **23 12 03.4 +0.1**
comp=Z,32nm,0.9s
MENT Mentasta 60.82 335 *e*P **P** **23 12 04.7 +0.7**
comp=Z,27nm,0.6s
DIV Divide 60.90 333 *e*P **P** **23 12 05.6 +1.0**
comp=Z,162nm,1.4s
KLU Klutina 61.11 333 *e*P **P** **23 12 07.1 +1.0**
comp=Z,70nm,0.8s
HARP HAARP 61.17 334 *e*P **P** **23 12 07.9 +1.5**
comp=Z,140nm,1.1s
DOT Dot Lake 61.28 336 *e*P **P** **23 12 08.2 +1.0**
comp=Z,102nm,1.2s
SCRK Sand Creek 61.40 336 *e*P **P** **23 12 09.0 +0.9**
comp=Z,95nm,1.4s
PAX Paxson 61.55 335 *e*P **P** **23 12 09.6 +0.6**
comp=Z,117nm,1.2s
PAX *e*ScP **ScP** **23 16 31.7 -0.3**
PAX Paxson 61.55 335 *e*P **P** **23 12 09.6 +0.6**
PAX pmax pmax
comp=Z,117nm,1.2s
RIDG Independ'e Rid 61.63 336 *e*P **P** **23 12 10.5 +1.0**
comp=Z,116nm,1.1s
PUH Pauahi 61.80 284 *e*P **P** **23 12 13.6 +2.1**
comp=Z,688nm,1.5s
KKO Keanakako'i 61.84 284 *e*P **P** **23 12 13.8 +2.1**
comp=Z,282nm,0.7s
SCM Sheep Creek Mo 61.86 333 *e*P **P** **23 12 11.9 +0.8**
comp=Z,311nm,1.6s
SCM Sheep Creek Mo 61.86 333 *e*P **P** **23 12 11.9 +0.8**
SCM pmax pmax
comp=Z,311nm,1.6s
HLP Hilina Pali 61.89 284 *e*P **P** **23 12 14.7 +2.7**
comp=Z,581nm,1.3s
ANGG Ammassalik, Gr 61.93 22 *e*P **P** **23 12 11.0 -0.3**
comp=Z,161nm,0.7s
ANGG *e*PP **PP** **23 14 31.0 +1.1**
MLH Mauna Loa 61.94 285 *e*P **P** **23 12 14.6 +2.0**
comp=Z,410nm,1.4s
MLH Mauna Loa 61.94 285 *e*P **P** **23 12 14.6 +2.0**
MLH pmax pmax
comp=Z,410nm,1.4s
HMH Humu'ula Sheep 62.02 285 *e*P **P** **23 12 14.7 +1.6**
comp=Z,314nm,1.3s
AIN Ainahou 62.02 284 *e*P **P** **23 12 13.9 +0.9**
comp=Z,736nm,1.9s
POHA Pohakuloa 62.05 285 *e*P **P** **23 12 14.5 +1.2**
comp=Z,358nm,1.3s
MLOA Mauna Loa Obse 62.12 285 *e*P **P** **23 12 15.4 +1.4**
comp=Z,112nm,0.9s
HPAH Hawaii Prepara 62.17 285 *e*P **P** **23 12 15.7 +1.8**
comp=Z,441nm,1.2s
KNK Knik Glacier 62.20 333 *e*P **P** **23 12 14.1 +0.8**
comp=Z,60nm,0.8s
SML Sawmill 62.30 333 *e*P **P** **23 12 14.6 +0.7**
comp=Z,216nm,1.6s
SML Sawmill 62.30 333 *e*P **P** **23 12 14.6 +0.7**
SML pmax pmax
comp=Z,217nm,1.6s
DHY Denali Highway 62.38 335 *e*P **P** **23 12 14.9 +0.3**
comp=Z,74nm,1.7s
GHO Glory Hole Cre 62.54 333 *e*P **P** **23 12 16.4 +0.8**
comp=Z,105nm,0.8s
PMR Palmer 62.57 333 *e*P **P** **23 12 16.0 +0.4**
comp=Z,179nm,1.6s
PMR Palmer 62.57 333 *e*P **P** **23 12 16.0 +0.4**
PMR pmax pmax
comp=Z,179nm,1.6s
RC01 Rabbit Creek A 62.66 332 *e*P **P** **23 12 16.8 +0.5**
comp=Z,74nm,0.8s
PRP Porcupine Dome 62.70 337 *e*P **P** **23 12 17.3 +0.6**
comp=Z,62nm,1.1s
KULLO Kullorsuaq 62.75 9⇑*i*P **P** **23 12 17.3 +0.6**
comp=Z,966nm,0.7s
KULLO *i* 23 13 00.9
KULLO Kullorsuaq 62.75 9⇑*i*P **P** **23 12 17.3 +0.6**
KULLO *i* 23 13 00.9
KULLO pmax pmax
comp=Z,970nm,0.7s
HDA Harding Lake 62.76 336 *e*P **P** **23 12 17.3 +0.4**
comp=Z,133nm,1.3s
HDA Harding Lake 62.76 336 P **P** **23 12 17.1 +0.2**
baz=115
KHLH Kahului Airpor 62.76 286 *e*P **P** **23 12 19.0 +1.3**
comp=Z,185nm,1.1s
ILAR Eielson Array 62.89 336 P **P** **23 12 17.4 -0.3**
comp=Z,28nm,0.8s,baz=138,slow=4.1,SNR=222
ILAR pP **pP** **23 13 02.8 -0.5**
comp=Z,49nm,1.0s,baz=165,slow=5.2,SNR=3.3
ILAR PKPPKP 23 41 15.7
comp=Z,2.4nm,1.0s,baz=316,slow=3.8,SNR=5.0
ILAR LR LR 23 44 20.9
comp=Z,2µm,18.1s,baz=126,slow=40
ILB Eielson Array 62.89 336 *e*P **P** **23 12 17.8 +0.1**
comp=Z,142nm,1.3s
TULEG Thule 62.99 6 *e*P **P** **23 12 17.8 -0.4**
comp=Z,263nm,1.2s
KDAK Kodiak Island 63.00 328 *i*P **P** **23 12 19.1 +0.5**
KDAK Kodiak Island 63.00 328 LR LR 23 40 42.7
comp=Z,980nm,21.8s,baz=120,slow=37
FYU Fort Yukon 63.07 339 *e*P **P** **23 12 19.6 +0.7**
comp=Z,130nm,1.5s
FYU *e*PP **PP** **23 14 34.0 -5.9**
RND Reindeer 63.13 335 *e*P **P** **23 12 20.4 +1.0**
comp=Z,200nm,1.0s
RND Reindeer 63.13 335 *e*P **P** **23 12 20.4 +1.0**
RND pmax pmax
comp=Z,200nm,1.0s
CCB Clear Creek Bu 63.20 336 *e*P **P** **23 12 19.6 -0.1**
comp=Z,59nm,1.2s
WRH Wood River Hil 63.24 336 *e*P **P** **23 12 19.6 -0.4**
comp=Z,24nm,0.8s
WRH *e*PP PP 23 14 33.3 -8.1
SUA Susitna One 63.25 332 *e*P **P** **23 12 21.2 +0.9**
comp=Z,61nm,0.7s
SUA *e*PP PP 23 14 33.3 -8.4
COLA College 63.31 336 *e*P **P** **23 12 20.7 +0.3**
comp=Z,52nm,0.8s
COLA College 63.31 336*c i*P **P** **23 12 20.3 -0.1**
COLA pmax pmax
comp=Z,43nm,1.0s
COLA College 63.31 336 *e*P **P** **23 12 20.7 +0.3**
TCOL CIGO, UAF Yank 63.31 336 P **P** **23 12 20.4 -0.1**
baz=114
MDM Murphy Dome 63.49 336 *e*P **P** **23 12 21.6 -0.2**
comp=Z,53nm,1.2s
BWN Browne 63.67 335 *e*P **P** **23 12 23.3 +0.4**
comp=Z,276nm,0.8s
TRF Thorofare Moun 63.74 334 *e*P **P** **23 12 23.8 +0.2**
comp=Z,375nm,1.7s
VAH Vaihoa 63.80 245 *e*P **P** **23 12 26.8 +2.4**
comp=Z,244nm,1.1s
VAH *e*pP **pP** **23 13 10.2 +0.7**
comp=Z,279nm,1.1s
RSO Redoubt South 63.86 331 *e*P **P** **23 12 24.9 +0.5**
PMOR Pomariorio Ree 63.93 245 *e*P **P** **23 12 27.8 +2.5**
comp=Z,147nm,1.0s
PMOR *e*pP **pP** **23 13 10.9 +0.5**
comp=Z,203nm,1.1s
HON Honolulu 64.18 287 *e*P **P** **23 12 29.6 +2.7**
comp=Z,980nm,1.4s
HON Honolulu 64.18 287 *e*P **P** **23 12 29.6 +2.7**
HON pmax pmax
comp=Z,980nm,1.4s
KIP Kipapa 64.18 287 *e*P **P** **23 12 29.2 +2.3**
comp=Z,219nm,1.1s
KIP Kipapa 64.18 287*ce*P **P** **23 12 24.1 -2.8**
KIP pmax pmax
comp=Z,156nm,1.1s
BPAW Bear Paw Mtn. 64.27 335 *e*P **P** **23 12 26.8 0.0**
comp=Z,63nm,0.9s
PPLA Purkeypile 64.36 333 *e*P **P** **23 12 27.8 +0.2**
comp=Z,196nm,1.6s
COLD Coldfoot 65.13 338 *e*P **P** **23 12 33.4 +1.1**
comp=Z,54nm,1.0s
SUMG Summit 65.28 15 *e*P **P** **23 12 34.6 +0.9**
comp=Z,170nm,0.8s
SUMG *e*PP PP 23 14 49.3 -10
SUMG Summit 65.28 15⇑*i*P **P** **23 12 34.6 +0.9**
comp=Z,557nm,0.8s
SUMG *i* 23 13 17.8
SUMG Summit 65.28 15 *e*P **P** **23 12 34.6 +0.9**
SUMG pmax pmax
comp=Z,170nm,0.8s
SVW2 Sparrevohn 65.37 331 *e*P **P** **23 12 33.3 -0.7**
comp=Z,210nm,1.8s
TOLK Toolik Lake Re 65.47 340 *e*P **P** **23 12 35.2 +0.7**
comp=Z,61nm,1.0s
TOLK Toolik Lake Re 65.47 340 P **P** **23 12 35.1 +0.6**
baz=114
CHGN Chignik 65.76 325 *e*P **P** **23 12 36.4 -0.1**
comp=Z,115nm,1.0s
TIAR Tiarei 66.27 243 *e*P **P** **23 12 42.5 +2.1**
comp=Z,49nm,1.0s
TIAR *e*pP **pP** **23 13 26.0 +0.2**
comp=Z,47nm,1.0s
TVO Taravao 66.28 243 *e*P **P** **23 12 42.7 +2.2**
comp=Z,23nm,0.9s
TVO *e*pP **pP** **23 13 26.3 +0.4**
comp=Z,29nm,1.0s
PPT Papeete 66.47 243 P **P** **23 12 44.6 +2.9**
comp=Z,18nm,0.6s,baz=75,slow=19,SNR=4.6
PPT LR LR 23 34 24.5
comp=Z,1µm,21.2s,baz=61,slow=29

PPT2 Papeete2 66.48 243 *e*P P 23 12 44.1 +2.3
comp=Z,60nm,1.2s
PPT2 Papeete2 66.48 243 *e*LR LR 23 32 47.1
comp=Z,3µm,25.8s
PAE Paea 66.51 243 *e*P P 23 12 44.0 +2.1
comp=Z,25nm,1.0s
PAE *e*pP pP 23 13 29.5 +2.2
comp=Z,14nm,0.9s
GO09 Cerro Castillo 67.47 168 *e*P P 23 12 50.6 +3.3
comp=Z,136nm,1.2s
BORG Borgarnes 68.04 26 *e*P P 23 12 52.4 +1.6
comp=Z,81nm,0.8s
BORG *e*PP PP 23 15 15.1 -8.1
BORG Borgarnes 68.04 26 *i* P P 23 12 53.1 +2.4
BORG Borgarnes 68.04 26 P P 23 12 51.9 +1.1
comp=Z,79nm,0.9s,baz=255,slow=3.4,SNR=19
BORG PP PP 23 15 15.1 -8.1
comp=Z,40nm,1.0s,baz=244,slow=6.5,SNR=4.1
PMOZ Porto Moniz, M 68.31 60 *e*P P 23 12 56.4 +3.2
comp=Z,156nm,2.0s
PMAR Madeira 68.56 60 *e*P P 23 12 57.6 +2.8
TBI Tubuai 68.91 238 *e*LR LR 23 33 46.7
comp=Z,3µm,31.5s
SCO Scoresbysund 69.21 20 *e*P P 23 12 57.7 -0.1
SCO *e*PP PP 23 15 23.1 -10
SCO Scoresbysund 69.21 20⇑ *i*P P 23 12 58.3 +0.4
SCO Scoresbysund 69.21 20⇑ *i*P P 23 12 58.3 +0.4
MACI Morro de la Ar 69.28 65 *e*P P 23 12 59.8 +0.5
comp=Z,168nm,1.0s
GO10 Punta Arenas 69.51 168 *e*P P 23 13 03.0 +3.1
comp=Z,202nm,0.9s
UNV Unalaska Valle 70.11 322 *e*P P 23 13 04.5 +0.9
comp=Z,393nm,1.8s
UNV *e*PP PP 23 15 34.1 -7.2
DAG Danmarks Havn 71.75 13 *i* P P 23 13 13.0 -0.1
comp=Z,113nm,0.7s
DAG Danmarks Havn 71.75 13 P P 23 13 12.5 -0.6
DAG pmax pmax
comp=Z,177nm,1.0s
EFI East Falkland 71.76 159 *e*P P 23 13 14.7 +1.2
comp=Z,246nm,1.3s
EFI East Falkland 71.76 159 *e*P P 23 13 14.7 +1.2
EFI pmax pmax
comp=Z,245nm,1.3s
SPIA Saint Paul Isl 72.33 326 *e*P P 23 13 18.2 +1.3
comp=Z,265nm,1.2s
VAL Valentia 72.65 40 *e*P P 23 13 16.7 -2.2
VAL *e*S S 23 22 21.4 -6.4
IGLA Glengowla, Co 73.13 38 *e*P P 23 13 21.4 -0.3
IGLA *e*S S 23 22 27.7 -5.6
GAMB Gambell 73.15 333 *e*P P 23 13 22.5 +0.9
comp=Z,28nm,1.0s
JMIC Jan Mayen 73.69 20 *e*P P 23 13 26.8 +2.1
IDGL Inch Island, C 74.16 36 *e*P P 23 13 27.7 +0.1
IDGL *e*S SKiKP 23 22 38.0 +2.8
PMAFR Mafra 74.20 53 *e*P P 23 13 27.5 -0.8
comp=Z,246nm,1.5s
PMST Lisbon--Monsan 74.30 53 *e*P P 23 13 30.4 +1.6
LIS Lisbon 74.33 53 *e*P P 23 13 29.0 0.0
LIS AMb AMB 23 13 32.0
comp=Z,198nm,2.0s
LIS *e*pP pP 23 14 16.8 +1.3
LIS *e*S S 23 22 47.0 -0.3
LIS Lisbon 74.33 53 *e*P P 23 13 29.0 0.0
LIS *e**PP pP 23 14 16.8 +1.3
LIS *e*S S 23 22 47.0 -0.3
PGAV Gavieira, Arco 74.65 50 *e*P P 23 13 30.8 -0.1
comp=Z,272nm,1.9s
PGAV *e*pP pP 23 14 20.0 +2.0
PCAS Casmilo, Conde 74.68 52 *e*P P 23 13 30.6 -0.4
comp=Z,205nm,1.9s
PCAS *e*pP pP 23 14 20.2 +2.2
ALMR Almeirim 74.72 53 *e*P P 23 13 31.0 -0.2
ALMR AMb AMB 23 13 34.3
comp=Z,305nm,1.1s
ALMR *e*pP pP 23 14 19.3 +1.5
ALMR *e*S S 23 22 51.3 -0.4
ALMR Almeirim 74.72 53 *e*P P 23 13 30.6 -0.6
comp=Z,317nm,0.9s
ALMR *e*pP pP 23 14 21.8 +4.0
ALMR Almeirim 74.72 53 *e*P P 23 13 31.0 -0.2
ALMR *e**PP pP 23 14 19.3 +1.5
ALMR *e*S S 23 22 51.3 -0.4
COI Coimbra 74.73 52 *e*P P 23 13 31.6 +0.3
comp=Z,303nm,1.7s
COI *e*pP pP 23 14 20.5 +2.2
PFVI Vila Bisbo 74.76 55 *e*P P 23 13 32.1 +0.6
comp=Z,131nm,1.0s
PFVI *e*pP pP 23 14 21.5 +3.3
PTEO Sao Teotonio 74.79 55 *e*P P 23 13 33.9 +2.2
comp=Z,157nm,1.8s
PTEO *e*pP pP 23 14 20.4 +2.0
PTOM Tomar 74.80 52 *e*P P 23 13 31.2 -0.5
comp=Z,161nm,1.1s
PTOM *e*pP pP 23 14 18.3 -0.4
MORF Marmelete 74.88 55 *e*P P 23 13 32.4 +0.1
MORF AMb AMB 23 13 35.0
comp=Z,66nm,1.0s
MORF *e*pP pP 23 14 20.2 +1.2
MORF *e*S S 23 22 53.2 -0.4
MORF Marmelete 74.88 55 *e*P P 23 13 31.9 -0.4
comp=Z,123nm,1.7s
MORF *e*pP pP 23 14 21.9 +2.9
MORF Marmelete 74.88 55 *e*P P 23 13 32.4 +0.1
MORF *e**PP pP 23 14 20.2 +1.2
MORF *e*S S 23 22 53.2 -0.4
DSB Dublin 74.94 38 *e*P P 23 13 32.1 -0.1
DSB *e*S S 23 22 46.1 -7.4
PMTG Montargil 75.00 53 *e*P P 23 13 32.6 -0.3
comp=Z,139nm,1.0s
PMTG *e*pP pP 23 14 20.4 +0.9
KPL Plockton 75.07 34⇑ *e*P P 23 13 32.6 -0.2
KPL lAmb lAmb 23 13 35.7
comp=Z,162nm,0.7s
PVIS Viseu 75.07 51 *e*P P 23 13 32.5 -0.8
comp=Z,92nm,1.7s
PVIS *e*pP pP 23 14 20.4 +0.1
POLO Lamas de Olo 75.07 51 *e*P P 23 13 35.1 +1.8
comp=Z,73nm,1.7s
GMM Mts of Mourne 75.11 37⇑ *e*P P 23 13 32.8 -0.4
PVRL Vila Real 75.14 51 *e*P P 23 13 36.3 +2.6
MESJ Messejana 75.16 54 *e*P P 23 13 33.7 0.0
MESJ AMb AMB 23 13 36.7
comp=Z,70nm,1.1s
MESJ *e*pP pP 23 14 21.5 +1.0
MESJ *e*S S 23 22 56.2 -0.3
MESJ Messejana 75.16 54 *e*P P 23 13 33.0 -0.8
comp=Z,70nm,0.8s
MESJ *e*pP pP 23 14 23.3 +2.8
MESJ Messejana 75.16 54 *e*P P 23 13 33.7 0.0
MESJ *e**PP pP 23 14 21.5 +1.0
MESJ *e*S S 23 22 56.2 -0.3
EVO Evora 75.23 54 *e*P P 23 13 34.9 +0.7
comp=Z,62nm,1.3s
EVO *e*pP pP 23 14 25.9 +5.0
EVO Evora 75.23 54⇑ *i*P P 23 13 36.1 +2.0
EVO *i*S S 23 22 58.7 +1.4
KAC Achnashellach 75.25 34 *e*P P 23 13 33.5 -0.4
LAWE Loch Awe, Argy 75.28 35⇑ *e*P P 23 13 33.7 -0.4
LAWE lAmb lAmb 23 13 34.3
comp=Z,56nm,1.0s
PCVE Castro Verde 75.32 54 *e*P P 23 13 35.6 +0.9
comp=Z,58nm,1.6s
PCVE *e*pP pP 23 14 21.1 -0.4
MTE Manteigas 75.37 52 *e*P P 23 13 34.6 -0.5
comp=Z,93nm,1.0s
MTE *e*pP pP 23 14 23.7 +1.6
MTE Manteigas 75.37 52 *e*P P 23 13 34.5 -0.5
comp=Z,51nm,0.8s
PBEJ Beja 75.41 54 *e*P P 23 13 36.4 +1.2
comp=Z,56nm,1.8s
PBEJ *e*pP pP 23 14 25.6 +3.6
PBDV Barranco-do-Ve 75.46 55 *e*P P 23 13 35.2 -0.3
comp=Z,99nm,1.5s
PBDV *e*pP pP 23 14 25.4 +3.1
PCBR Castelo Branco 75.49 52 *e*P P 23 13 35.5 -0.1
comp=Z,88nm,1.1s
PCBR *e*pP pP 23 14 23.4 +1.1
PESTR Estremoz 75.52 53 *e*P P 23 13 35.3 -0.6
comp=Z,92nm,1.2s
PESTR *e*pP pP 23 14 21.5 -1.1
PESTR Estremoz 75.52 53 *e*P P 23 13 35.9 +0.1
comp=Z,49nm,1.1s
PMRV Marv??o 75.60 53 *e*P P 23 13 35.5 -0.8
comp=Z,77nm,1.0s
PMRV *e*pP pP 23 14 24.5 +1.5
MVO Moncorvo 75.67 51 *e*P P 23 13 36.1 -0.6
comp=Z,124nm,1.9s
MVO *e*pP pP 23 14 25.0 +1.2
MDO Dochfour 75.76 34⇑ *e*P P 23 13 35.9 -0.9
PBRG Braganca 75.81 50 *e*P P 23 13 37.3 -0.1
comp=Z,74nm,1.7s
PBRG *e*pP pP 23 14 25.6 +1.0
PGBU Glenifferbraes 75.83 36⇑ *e*P P 23 13 36.9 -0.3
PGBU lAmb lAmb 23 13 39.5
comp=Z,85nm,0.7s
EAB Aberfoyle 75.88 35⇑ *e*P P 23 13 37.1 -0.4
BIGH Upper Bighouse 75.91 33 *e*P P 23 13 38.2 +0.6
BIGH lAmb lAmb 23 13 40.9
comp=Z,138nm,0.8s
INVG Invergeldie, C 76.02 35⇑ *e*P P 23 13 38.0 -0.3
INVG lAmb lAmb 23 13 41.0
comp=Z,197nm,0.7s
RSBS Rosebush, Pemb 76.04 39⇑ *e*P P 23 13 37.6 -0.9
RSBS lAmb lAmb 23 13 40.4
comp=Z,27nm,0.8s
MLA1 Latheron 76.21 33⇑ *e*P P 23 13 39.2 -0.1
HTL Hartland 76.30 40⇑ *e*P P 23 13 39.2 -0.7
HTL lAmb lAmb 23 13 42.1
comp=Z,76nm,0.7s
MCD Coleburn Disti 76.34 34 *e*P P 23 13 39.7 -0.4
EAU Auchinoon 76.41 35 *e*P P 23 13 39.5 -1.0
MME1 Meikle Cairn 76.52 34⇑ *e*P P 23 13 40.6 -0.5
ESK Eskdalemuir 76.60 36 *e*P P 23 13 41.1 -0.5
comp=Z,217nm,0.6s
ESK Eskdalemuir 76.60 36 *e*P P 23 13 41.1 -0.5
ESK lAmb lAmb 23 13 44.2
comp=Z,212nm,0.7s
ESK Eskdalemuir 76.60 36 *i* P P 23 13 41.5 -0.1
BHH Howats Hill 76.62 36⇑ *e*P P 23 13 41.5 -0.2
EKA Eskdalemuir Ar 76.62 36 P P 23 13 41.0 -0.7
comp=Z,166nm,0.7s,baz=267,slow=4.7,SNR=90
EKA pP pP 23 14 28.6 -0.1
comp=Z,92nm,0.8s,baz=277,slow=5.6,SNR=5.0
KESW Keswick, Cumbr 76.74 37⇑ *e*P P 23 13 40.7 -1.7
DRUM Mains of Drumt 76.83 34 *e*P P 23 13 42.5 -0.2
DRUM lAmb lAmb 23 13 45.5
comp=Z,206nm,0.7s
ESY Stoneypath 76.87 35 *e*P P 23 13 42.6 -0.5
GIBL Gibalbin 77.07 55 *e*P P 23 13 46.8 +2.1
MCH1 Michaelchurch 77.11 39 *e*P P 23 13 42.7 -1.8
HLM1 Long Mynd 77.12 39 *e*P P 23 13 43.8 -0.8
LRW Lerwick 77.14 31⇑ *e*P P 23 13 44.7 +0.3
LRW lAmb lAmb 23 13 47.6
comp=Z,120nm,0.8s
MONM Monmouth 77.25 39 *e*P P 23 13 44.6 -0.6
ROSF Rostrenen 77.41 43 *e*P P 23 13 46.8 +0.6
ROSF pmax pmax
comp=Z,52nm,0.9s
STNC Stoke 77.45 38⇑ *e*P P 23 13 46.4 0.0
STNC lAmb lAmb 23 13 50.9
comp=Z,95nm,0.8s
LIJA Lijar 77.51 55 *e*P P 23 13 45.5 -1.6
QUIF Quistinic 77.54 43 *e*P P 23 13 45.4 -1.5
QUIF pmax pmax
comp=Z,71nm,0.9s
STRD Stroud 77.65 39⇑ *e*P P 23 13 46.8 -0.7
STRD lAmb lAmb 23 13 51.6
comp=Z,165nm,0.8s
CEU Ceuta 77.69 56⇑ *i*P P 23 13 48.3 +0.3
CEU *i*S S 23 23 23.8 -0.3
LBWR Ladybower, Pea 77.69 38⇑ *e*P P 23 13 47.5 -0.2
LBWR lAmb lAmb 23 13 51.7
comp=Z,64nm,0.9s
SMIR Smir Dam 77.72 56 P P 23 13 54.0 +5.8
SGMF Saint Gilles 77.90 43 *e*P P 23 13 49.8 +0.9
SGMF pmax pmax
comp=Z,29nm,0.9s
SWN1 Swindon 77.91 40 *e*P P 23 13 47.7 -1.3
PAB San Pablo 77.92 52 *e*P P 23 13 48.8 -0.6
comp=Z,77nm,1.1s
PAB *e*PP PP 23 16 40.3 -7.5
PAB San Pablo 77.92 52 *e*P P 23 13 48.8 -0.6
PAB pmax pmax
comp=Z,77nm,1.1s
CWF Charnwood Fore 78.04 38⇑ *e*P P 23 13 49.0 -0.6
KBS Kingsbay 78.15 11 *e*P P 23 13 51.9 +2.2
comp=Z,338nm,1.6s
KBS Kingsbay 78.15 11 *ce*P P 23 13 51.3 +1.5
KBS pmax pmax
comp=Z,180nm,1.0s
KBS Kingsbay 78.15 11 *e*P P 23 13 53.9 +4.1
KBS *e*PP PP 23 16 50.0 +1.3
KBS *e*S S 23 23 31.9 +4.3
ESDC Sonseca Array 78.19 52 P P 23 13 50.1 -0.7
comp=Z,19nm,0.4s,baz=288,slow=5.7,SNR=59
ESDC pP pP 23 14 37.3 -0.7
comp=Z,3.9nm,0.5s,baz=269,slow=7.0,SNR=2.0
ESDC PP PP 23 16 44.4 -5.7
comp=Z,15nm,0.9s,baz=286,slow=7.1,SNR=5.0
ESDC PKKPbc PKKPbc 23 32 49.6 +0.8
comp=Z,2.1nm,0.7s,baz=90,slow=2.1,SNR=13
ESDC LR LR 23 41 11.6
comp=Z,2µm,21.8s,baz=315,slow=30
ESLA Sonseca Array 78.19 52 *e*P P 23 13 50.2 -0.6
comp=Z,66nm,0.9s
ESLA *e*PP PP 23 16 42.8 -7.3
ES06 SONSECA Array 78.20 52 *e*P P 23 13 50.1 -0.8
ES06 *e*PP PP 23 16 43.7 -6.4
IFR Ifrane 78.28 58 *i*P P 23 13 49.8 -1.8
IFR *i*S S 23 23 29.1 -1.8
UCM Universidad Co 78.64 51⇑ *i*P P 23 13 53.0 -0.2
UCM *i*S S 23 23 34.3 +0.1
GOLM Goulmima 78.74 60 P P 23 13 60.0 +5.9
GRR Gorron 79.00 43 *e*P P 23 13 53.4 -1.5
GRR pmax pmax
comp=Z,119nm,0.7s
FLN La Foliniere 79.18 42 *e*P P 23 13 54.6 -1.3
FLN pmax pmax
comp=Z,104nm,0.8s
SPA0 Spitsbergen Ar 79.22 12 *e*P P 23 13 57.0 +1.3
comp=Z,220nm,1.5s
SPA0 Spitsbergen Ar 79.22 12 *e*P P 23 13 55.8 +0.2
SPA0 lVmB_BB 23 13 57.2
comp=Z,3µm,4.3s
SPA0 *es*P sP 23 15 04.4 +0.5
SPA0 *e*PP PP 23 16 56.8 -0.8
SPA0 *e*S S 23 23 41.5 +2.5
SPITS Spitsbergen Ar 79.22 12 P P 23 13 56.5 +0.9
comp=Z,9.2nm,0.5s,baz=197,slow=2.6,SNR=30
SPITS pP pP 23 14 42.3 -0.8
comp=Z,17nm,0.9s,baz=177,slow=2.5,SNR=1.8
SPITS PKKPbc PKKPbc 23 32 44.2 -3.7
comp=Z,5.0nm,0.6s,baz=125,slow=5.5,SNR=18
SPITS LR LR 23 51 58.4
comp=Z,1µm,18.3s,baz=355,slow=38
ARF Arif 79.40 60 P P 23 14 03.0 +5.3
HSPB Hornsund (broa 79.43 13 *e*P P 23 13 58.0 +1.2
HSPB *e**PP pP 23 14 43.8 -0.4
HSPB *e*S S 23 23 45.5 +4.3
HSPB *e* 23 24 39.2
HSPB Hornsund (broa 79.43 13 *e*P P 23 13 58.6 +1.9
HSPB *e*PP PP 23 16 58.7 -0.6
HSPB *e*S S 23 23 44.1 +2.9
HSPB *e*SS SS 23 28 56.3 +4.0
HSPB lVMs_BB lVMs_BB 23 49 56.4
comp=Z,1µm,18.4s
LDF La Druitiere 79.44 42 *e*P P 23 13 55.9 -1.5
LDF pmax pmax
comp=Z,66nm,0.8s
SJPF Ste Jean 79.65 48 *e*P P 23 13 57.4 -1.2
SJPF pmax pmax
comp=Z,53nm,1.0s
MFF Saint Martin d 79.78 44 *e*P P 23 13 57.5 -1.7
MFF pmax pmax
comp=Z,30nm,0.7s
SUE Sulen 79.88 29 *e*P P 23 13 59.8 +0.4
SUE lVmB_BB 23 14 05.8
comp=Z,2µm,4.2s
SUE *es*P sP 23 15 07.8 +0.1
SUE *e*PP PP 23 17 02.7 -0.6
SUE *e*S S 23 23 49.2 +2.9
ASK Askoy 80.21 30 *e*P P 23 14 02.2 +1.0
ASK *e*S S 23 23 51.3 +1.6
BER Bergen 80.30 30 P P 23 14 02.5 +0.9
BER pmax pmax
comp=Z,22nm,0.8s
BER Bergen 80.30 30 *e*P P 23 14 03.3 +1.7
BER lVmB_BB 23 14 03.4
comp=Z,2µm,4.2s
BER *e*PP PP 23 17 08.4 +1.6
BER *e*S S 23 23 51.3 +0.7
KMY Karmoy 80.50 31 *e*P P 23 14 03.0 +0.3
KMY *e*S S 23 23 52.6 -0.3
HYA Hoyanger 80.53 29 *e*P P 23 14 04.2 +1.3
HYA lVmB_BB 23 14 04.5
comp=Z,1µm,5.1s
HYA *es*P sP 23 15 08.7 -2.4
HYA *e*S S 23 23 56.1 +3.0
MIDW Midway 80.56 297 *e*P P 23 14 05.0 +1.3
comp=Z,460nm,1.1s
AKN Aaknes 80.68 28 *e*P P 23 14 04.3 +0.6
AKN lVmB_BB 23 14 10.6
comp=Z,2µm,3.0s
AKN *e*PP PP 23 17 10.3 +0.4
AKN *e*S S 23 23 56.2 +1.5
LFF La Frestale 80.70 46 *e*P P 23 14 02.6 -1.6
LFF pmax pmax
comp=Z,35nm,0.7s
MOL Molde 80.83 28 *e*P P 23 14 06.9 +2.4
MOL *e*S S 23 23 58.4 +2.2
ODD1 Odda 81.03 30 *e*P P 23 14 06.5 +0.8
ODD1 *e*S S 23 23 59.3 +0.8
ODD1 *e*ScS ScS 23 24 16.2 +0.6
BLS5 Blasjo 81.06 31 *e*P P 23 14 06.6 +0.8
BLS5 lVmB_BB 23 14 07.5
comp=Z,3µm,5.0s
BLS5 *es*P sP 23 15 14.2 +0.1
BLS5 *e*S S 23 24 00.7 +1.9
BLS5 *e*ScS ScS 23 24 16.8 +1.0
RJF Les Rejaudoux 81.17 46 *e*P P 23 14 04.9 -1.7
RJF pmax pmax
comp=Z,49nm,1.1s
BJO Bjornoya 81.17 15 *e*P P 23 14 08.2 +2.2
BJO *e*S S 23 24 02.1 +2.8
TCF Toulx Ste Croi 81.44 44 *e*P P 23 14 06.1 -2.0
TCF pmax pmax
comp=Z,31nm,0.8s
BILL Bilibino 81.46 338 *e*P P 23 14 08.2 +0.5
comp=Z,145nm,1.3s
BILL *e*PP PP 23 17 17.2 +1.0
BILL Bilibino 81.46 338 *c* *i*P P 23 14 08.0 +0.3
BILL *i* *PP pP 23 14 54.0 -1.4
BILL *i* 23 17 15.8
BILL *i* 23 24 00.1
BILL *e* 23 24 06.0
BILL *i* 23 25 22.6
BILL pmax pmax
comp=Z,64nm,1.3s
BILL MLR MLR
comp=Z,2µm,19.0s
CAF Calviac 81.62 46 *e*P P 23 14 07.3 -1.8
CAF pmax pmax
comp=Z,9.0nm,0.6s
HOPEN Hopen 81.63 12 *e*P P 23 14 09.6 +1.2
HOPEN *e*P PcP 23 14 10.3 -3.4
HOPEN lAmb lAmb 23 14 12.6
comp=Z,156nm,1.1s
HOPEN *es*P sP 23 15 18.2 +1.3
HOPEN *es*P sP 23 15 18.2 +1.3
HOPEN *e* 23 17 15.8
HOPEN *e*S S 23 24 07.7 +3.7
PMSA Palmer Station 81.64 169 LR LR 23 45 09.8
comp=Z,640nm,18.2s,baz=295,slow=32
SKAR Skarslia 81.65 29 *e*P P 23 14 09.5 +0.5
SKAR lVmB_BB 23 14 10.8
comp=Z,2µm,5.3s
SKAR *e*pP pP 23 14 57.7 +1.1
SKAR *e*S S 23 24 06.6 +1.7
SKAR *e* 23 24 22.7
DOMB Dombas 81.65 28 *e*P P 23 14 09.6 +0.7
DOMB lVmB_BB 23 14 15.2
comp=Z,1µm,2.1s
DOMB *es*P sP 23 15 18.1 +1.0
DOMB *e*S S 23 24 07.0 +2.2
SNART Snartemo 81.70 32 *e*P P 23 14 09.7 +0.6
SNART lVmB_BB 23 14 15.8
comp=Z,1µm,3.8s
SNART *e*PP PP 23 17 18.5 +0.1
SNART *e*S S 23 24 07.8 +2.5
LOF Lofoten 81.71 22 *e*P P 23 14 10.6 +1.6
LOF *e*S S 23 24 07.2 +2.2
FIGM Figuig 81.73 59 P P 23 14 16.0 +5.9
BGF Bois d'Agland 81.81 44 *e*P P 23 14 08.2 -1.8
BGF pmax pmax
comp=Z,54nm,0.7s
UCC Uccle 81.86 40 *e*P P 23 14 09.9 -0.2
comp=Z,47nm,0.8s
UCC Uccle 81.86 40 *e*P P 23 14 09.9 -0.2
UCC pmax pmax
comp=Z,47nm,0.8s
TBLU Trondheim 81.86 27 *e*P P 23 14 10.8 +0.9
TBLU *es*P sP 23 15 19.1 +1.0
TBLU *e*S S 23 24 09.6 +2.9
KONS Konsvik 82.06 23 *e*P P 23 14 12.0 +1.1
KONS lVmB_BB 23 14 17.7
comp=Z,3µm,4.3s
KONS *es*P sP 23 15 17.9 -1.5
STOK Stokkvaagen 82.08 23 *e*P P 23 14 11.9 +1.0
AVF Avril sur Loir 82.10 44 *e*P P 23 14 09.3 -2.2
AVF pmax pmax
comp=Z,23nm,0.8s
SSF Saint Saulge 82.14 44 *e*P P 23 14 09.7 -2.0
SSF pmax pmax
comp=Z,34nm,0.8s
DOU Dourbes 82.16 40 P P 23 14 11.8 +0.1
DOU pmax pmax
comp=Z,64nm,0.7s
CFF Clermont-Ferra 82.16 45 *e*P P 23 14 11.2 -0.7
CFF pmax pmax
comp=Z,180nm,0.7s
NSS Namsos 82.21 25 *e*P P 23 14 12.1 +0.5
NSS lVmB_BB 23 14 13.7
comp=Z,2µm,2.9s
NSS *es*P sP 23 15 20.4 +0.5
NSS *e*S S 23 24 11.2 +0.9
GIVF Givet 82.30 40 *e*P P 23 14 11.2 -1.3
GIVF pmax pmax
comp=Z,23nm,0.5s
HOMB Homborsund 82.38 32 *e*P P 23 14 14.5 +1.9
HOMB *e*S S 23 24 15.4 +3.3
STEI Steigen 82.38 22 *e*P P 23 14 13.2 +0.8
STEI lVmB_BB 23 14 14.2
comp=Z,2µm,4.4s
STEI *e*PP PP 23 17 24.5 +0.8
STEI *e*S S 23 24 15.1 +3.2
SMF Signal de Mont 82.46 44 *e*P P 23 14 11.2 -2.2
SMF pmax pmax
comp=Z,38nm,0.8s
HOPE Hope Point 82.47 151 *e*P P 23 14 14.8 +1.7
comp=Z,527nm,1.4s
KONO Kongsberg 82.55 30 *e*P P 23 14 14.6 +1.1
comp=Z,232nm,1.6s
KONO *e*PP PP 23 17 22.4 -2.9
KONO Kongsberg 82.55 30 *c*P P 23 14 14.1 +0.6
KONO pmax pmax
comp=Z,30nm,1.1s
KONO Kongsberg 82.55 30 *e*P P 23 14 15.6 +2.1
KONO lVmB_BB 23 14 20.4
comp=Z,3µm,5.1s
KONO *es*P sP 23 15 20.8 -1.1
KONO *e*S S 23 24 16.8 +2.8
NC204 NORSAR Array S 82.64 29 *e*P P 23 14 14.7 +0.6
comp=Z,159nm,1.8s
MOR8 Moi Rana 82.68 23 *e*P P 23 14 15.2 +1.2
MOR8 lVmB_BB 23 14 16.2
comp=Z,3µm,4.3s
MOR8 *e*S S 23 24 18.3 +3.3
MOR8 lVMs_BB lVMs_BB 23 42 35.6
comp=Z,888nm,4.2s
NBO00 NORSAR Array S 82.72 29 *e*P P 23 14 15.1 +0.7
comp=Z,89nm,1.0s
WIT Witteveen 82.77 37 P P 23 14 16.4 +1.6
WIT pmax pmax
comp=Z,758nm,0.9s
NAO01 NORSAR Array S 82.83 29 *e*P P 23 14 15.8 +0.9
comp=Z,122nm,1.1s
HGN Heimansgroeve 82.83 39 *e*P P 23 14 14.8 -0.4
comp=Z,49nm,0.8s
HGN *e*pP pP 23 15 03.1 0.0
MEM Membach 82.92 40 P P 23 14 15.8 +0.2
NB2 NORSAR Subarra 82.92 29 P P 23 14 15.9 +0.4

comp=Z,3µm,5.0s,baz=288,slow=5.3
NB2 NORSAR Subarra 82.92 29 P **P** 23 14 15.9 +0.4
baz=288,slow=5.3
NB200 NORSAR Array S 82.92 29 *e*P **P** 23 14 15.8 +0.4
NB200 *e*pP **pP** 23 15 02.9 -0.4
NB200 *e*PP **PP** 23 17 28.4 0.0
NB200 *e*PKKPbc **PKKPbc** 23 32 37.1 -2.0
NB200 *e*P'P'df P'P'df 23 40 39.7 -3.3
NOA NORSAR Array B 82.92 29 P **P** 23 14 15.8 +0.4
comp=Z,13nm,0.6s,baz=289,slow=5.2,SNR=77
NOA pP **pP** 23 15 02.9 -0.4
comp=Z,24nm,0.8s,baz=290,slow=5.2,SNR=6.1
NOA PP **PP** 23 17 28.4 0.0
comp=Z,3.3nm,0.8s,baz=292,slow=7.8,SNR=3.3
NOA PKKPbc **PKKPbc** 23 32 37.1 -2.0
comp=Z,2.6nm,0.7s,baz=91,slow=3.7,SNR=16
NOA PKPPKP 23 40 39.7
comp=Z,2.0nm,0.9s,baz=106,slow=2.3,SNR=5.8
NOA LR LR 23 50 10.2
comp=Z,1µm,20.4s,baz=285,slow=35
NC303 NORSAR Array S 82.94 29 *e*P **P** 23 14 16.4 +0.9
comp=Z,174nm,2.0s
NB201 NORSAR Array S 82.96 29 *e*P **P** 23 14 16.5 +0.9
comp=Z,115nm,1.2s
TRO Tromso 83.00 19 P **P** 23 14 16.1 +0.5
TRO pmax pmax
comp=Z,5.0nm,1.4s
TRO Tromso 83.00 19 *e*P **P** 23 14 16.9 +1.3
TRO *es*P **sP** 23 15 24.1 0.0
TRO *e*PP **PP** 23 17 27.2 -1.5
TRO *e*S **S** 23 24 20.6 +2.5
TRO *e* 23 29 44.3
OSL Oslo 83.02 30 *e*P **P** 23 14 17.3 +1.4
OSL *es*P **sP** 23 15 23.5 -0.8
OSL *e* 23 17 27.4
OSL *e*SKSac **SKSac** 23 24 19.6 +0.5
OSL *e*ScS **ScS** 23 24 33.5 +1.8
WTSB Winterswijk 83.06 38 *e*P **P** 23 14 16.4 +0.1
comp=Z,72nm,0.8s
WTSB *e*pP **pP** 23 15 04.4 +0.1
NC405 NORSAR Array S 83.13 29 *e*P **P** 23 14 17.6 +1.0
comp=Z,82nm,1.1s
NC602 NORSAR Array S 83.17 29 *e*P **P** 23 14 17.6 +1.0
comp=Z,101nm,1.1s
NC602 NORSAR Array S 83.17 29 *e*P **P** 23 14 17.6 +0.9
NC602 IVmB_BB 23 14 18.6
comp=Z,3µm,5.4s
NC602 *e* 23 17 28.5
NC602 *e* 23 24 22.1
NORES NORESS Array B 83.17 29 P **P** 23 14 17.5 +0.8
NORES pmax pmax
comp=Z,18nm,0.6s
MUD Monsted U'grnd 83.22 33⇑ *i*P **P** 23 14 17.7 +0.7
MUD Monsted U'grnd 83.22 33 P **P** 23 14 18.5 +1.5
MUD pmax pmax
comp=Z,40nm,1.7s
WLF Walferdange 83.24 41 *e*P **P** 23 14 16.9 -0.4
comp=Z,275nm,0.6s
WLF Walferdange 83.24 41 *e*P **P** 23 14 17.4 +0.1
comp=Z,66nm,0.7s,baz=287,slow=5.0
WLF *e*pP **pP** 23 15 05.5 +0.3
WLF Walferdange 83.24 41 *e*P **P** 23 14 16.9 -0.4
WLF pmax pmax
comp=Z,275nm,0.6s
SSB Saint Sauveur 83.25 45 P **P** 23 14 17.1 -0.4
SSB pmax pmax
comp=Z,48nm,0.8s
VIVF Saint-Julien-l 83.44 45 *e*P **P** 23 14 17.6 -0.9
VIVF pmax pmax
comp=Z,21nm,0.8s
BUG Bochum--Univer 83.48 39 *e*P **P** 23 14 18.4 -0.1
comp=Z,46nm,0.9s,baz=287,slow=5.0
BUG *e*pP **pP** 23 15 06.7 +0.3
BUG Bochum--Univer 83.48 39 P **P** 23 14 18.0 -0.4
BUG pmax pmax
comp=Z,66nm,0.9s
IBBN Ibbenburen 83.54 38 *e*P **P** 23 14 18.9 +0.1
comp=Z,58nm,0.8s,baz=287,slow=5.0
IBBN *e*pP **pP** 23 15 07.1 +0.3
HAU Haudompre 83.79 42 *e*P **P** 23 14 18.6 -1.6
HAU pmax pmax
comp=Z,98nm,0.6s
CABF La Chapelle 83.97 44 *e*P **P** 23 14 19.9 -1.3
CABF pmax pmax
comp=Z,97nm,1.5s
TIC Toumodi 83.98 85 *e*PKP1 **P** 23 14 20.5 -1.2
HAMF Hammerfest 84.04 18 *e*P **P** 23 14 21.7 +0.8
HAMF IVmB_BB 23 14 27.2
comp=Z,3µm,2.7s
HAMF *e* 23 15 32.0
HAMF *e*PP **PP** 23 17 37.0 -0.1
HAMF *e*S **S** 23 24 27.3 -1.1
HAMF *e* 23 29 59.6
LIC Lamto 84.07 85 *e*PKP1 **P** 23 14 20.4 -1.8
comp=Z,167nm,0.9s
DBIC Dimbokro 84.13 85 *e*P **P** 23 14 21.1 -1.4
comp=Z,51nm,1.1s
DBIC Dimbokro 84.13 85 *e*P **P** 23 14 21.1 -1.4
DBIC pmax pmax
comp=Z,51nm,1.1s
DBIC Dimbokro 84.13 85 P **P** 23 14 20.8 -1.7
comp=Z,29nm,0.8s,baz=256,slow=5.3,SNR=20
DBIC pP **pP** 23 15 09.5 -0.8
comp=Z,16nm,0.8s,baz=214,slow=3.1,SNR=3.0
DBIC PKKPbc **PKKPbc** 23 32 36.0 +1.4
comp=Z,9.7nm,0.6s,baz=65,slow=2.4,SNR=17
DBIC PKPPKP 23 40 37.5
comp=Z,5.5nm,0.9s,baz=149,slow=3.4,SNR=4.9
DBIC LR LR 23 47 08.5
comp=Z,698nm,21.6s,baz=267,slow=32
DBIC Dimbokro 84.13 85 *e*P **P** 23 14 21.0 -1.4
HINF Hinteralfeld 84.16 42 *e*P **P** 23 14 20.4 -1.7
HINF pmax pmax
comp=Z,30nm,0.6s
ECH Echery 84.26 42 *e*P **P** 23 14 21.8 -0.7
comp=Z,45nm,0.7s
ECH *e*PP **PP** 23 17 38.4 -1.2
ECH Echery 84.26 42 *e*P **P** 23 14 21.8 -0.7
ECH *e* 23 17 38.4
ECH pmax pmax
comp=Z,45nm,0.7s
ORIF Oris-en-Rattie 84.26 45 *e*P **P** 23 14 22.5 -0.2
ORIF pmax pmax
comp=Z,26nm,0.7s
LOMF Lomont 84.27 43 P **P** 23 14 22.4 -0.3
CDF Champ du Feu 84.28 42 *e*P **P** 23 14 21.2 -1.5
CDF pmax pmax
comp=Z,35nm,0.6s
KIC Kosan Boka 84.31 85 *e*PKP1 **P** 23 14 21.3 -2.1
comp=Z,88nm,0.8s
MOF Molkenrain 84.34 42 P **P** 23 14 22.5 -0.5
RETH Rethem/Aller, 84.37 37 *e*P **P** 23 14 23.7 +0.8
comp=Z,115nm,0.6s,baz=287,slow=5.0
HFS Hagfors 84.37 29 P **P** 23 14 22.8 0.0
comp=Z,46nm,0.6s,baz=236,slow=1.6,SNR=66
HFS pP **pP** 23 15 09.6 -1.1
comp=Z,45nm,1.0s,baz=213,slow=6.9,SNR=3.1
HFS PP **PP** 23 17 39.7 -0.4
comp=Z,15nm,1.1s,baz=324,slow=7.3,SNR=4.3
TNS Taunus Mts 84.53 40 *e*P **P** 23 14 23.9 0.0
comp=Z,63nm,1.2s,baz=287,slow=5.0
TNS *e*pP **pP** 23 15 12.6 +0.7
BSEG Bad Segeberg 84.57 36 *e*P **P** 23 14 24.6 +0.7
comp=Z,94nm,0.9s,baz=287,slow=5.0
KTK1 Kautokeino 84.65 19 *e*P **P** 23 14 24.1 +0.1
KTK1 IVmB_BB 23 14 25.6
comp=Z,3µm,4.1s
KTK1 *es*P **sP** 23 15 31.6 -1.1
KTK1 *e*PP **PP** 23 17 42.6 +0.4
KTK1 *e* 23 24 37.5
KTK1 *e*ScS **ScS** 23 24 46.7 +1.8
KTK1 *e*SS **SS** 23 30 12.6 +2.9
LPL La Plagne 84.69 44 *e*P **P** 23 14 24.1 -0.9
LPL pmax pmax
comp=Z,31nm,0.7s
LPG La Plagne 84.71 44 *e*P **P** 23 14 24.4 -0.8
LPG pmax pmax
comp=Z,41nm,0.8s
BNI Bardonecchia 84.77 45 *e*P **P** 23 14 24.9 -0.5
comp=Z,31nm,0.7s
BNI Bardonecchia 84.77 45 *e*P **P** 23 14 24.9 -0.5
BNI pmax pmax
comp=Z,31nm,0.7s
SENIN Lac Senin/Sane 84.84 44 *e*P **P** 23 14 24.8 -1.0
comp=Z,62nm,0.6s
SENIN *e*PP **PP** 23 17 42.2 -2.4
NRDL Niedersach Rie 84.87 37 *e*P **P** 23 14 26.0 +0.6
comp=Z,58nm,1.0s,baz=287,slow=5.0
NRDL *e*pP **pP** 23 15 14.9 +1.4
TOD Tromm 84.92 40 P **P** 23 14 25.7 -0.1
BFO Black Forest 84.98 41 *e*P **P** 23 14 25.4 -0.8
comp=Z,48nm,1.3s,baz=287,slow=5.0
BFO *e*pP **pP** 23 15 14.5 +0.3
BFO Black Forest 84.98 41 *i* P **P** 23 14 25.9 -0.2
GTTG Gyttingen 85.07 38 *e*P **P** 23 14 27.0 +0.5
comp=Z,181nm,0.8s,baz=287,slow=5.0
LMR La Mourre 85.11 47 *e*P **P** 23 14 25.4 -1.4
LMR pmax pmax
comp=Z,35nm,0.8s
ARA0 ARCESS Array S 85.11 18 *e*P **P** 23 14 26.4 0.0
ARA0 *e*PP **PP** 23 17 43.4 -2.5
ARA0 *e*PKKPdf **PKKPdf** 23 32 27.6 +2.5
ARA0 ⇑*e* 23 53 58.2
ARCES ARCESS Array B 85.11 18 *e*P **P** 23 14 26.1 -0.2
ARCES *e*PP PP 23 17 38.1 -7.8
ARCES ARCESS Array B 85.11 18 P **P** 23 14 26.4 0.0
comp=Z,20nm,0.6s,baz=280,slow=4.8,SNR=99
ARCES PP **PP** 23 17 43.4 -2.5
comp=Z,40nm,0.8s,baz=302,slow=5.6,SNR=10
ARCES PKKP **PKKPdf** 23 32 27.6 +2.5
comp=Z,5.3nm,1.0s,baz=64,slow=2.8,SNR=6.9
ARCES LR LR 23 53 58.2
comp=Z,992nm,19.6s,baz=308,slow=37
ARE0 ARCESS Array S 85.11 18 *e*P **P** 23 14 26.5 +0.2
ARE0 *e*PP **PP** 23 17 41.8 -4.2
ARE0 ARCESS Array S 85.11 18 *e*P **P** 23 14 26.4 0.0
ARE0 IVmB_BB 23 14 28.7
comp=Z,1µm,1.7s
ARE0 *es*P **sP** 23 15 34.9 0.0
ARE0 *e* 23 24 42.2
FRF La Foret Royal 85.15 46 *e*P **P** 23 14 25.6 -1.4
FRF pmax pmax
comp=Z,72nm,0.6s
COP Copenhagen 85.19 34 *i* P **P** 23 14 25.8 -1.1
COP Copenhagen 85.19 34 *e*P **P** 23 14 25.8 -1.1
CLZ Clausthal 85.22 38 *e*P **P** 23 14 27.9 +0.6
comp=Z,97nm,0.8s,baz=287,slow=5.0
CLZ *e*pP **pP** 23 15 17.8 +2.4
SLE Schleitheim 85.24 42 P **P** 23 14 26.7 -0.8
SLE pmax pmax
comp=Z,123nm,1.2s
UBBA Unterbreizbach 85.31 39 *e*P **P** 23 14 27.6 +0.1
comp=Z,34nm,0.8s,baz=287,slow=5.0
ASSE Asse, Remlinge 85.31 37 *e*P **P** 23 14 28.2 +0.6
comp=Z,84nm,1.0s,baz=287,slow=5.0
STU Stuttgart 85.41 41 *e*P **P** 23 14 27.8 -0.4
comp=Z,67nm,0.6s
STU Stuttgart 85.41 41 *e*P **P** 23 14 28.1 -0.2
comp=Z,68nm,0.7s,baz=287,slow=5.0
STU Stuttgart 85.41 41 *e*P **P** 23 14 27.8 -0.4
STU pmax pmax
comp=Z,67nm,0.6s
KEV Kevo 85.46 18 P **P** 23 14 29.4 +1.4
KEV pmax pmax
comp=Z,75nm,2.0s
SBF Sospel 85.61 46 *e*P **P** 23 14 27.9 -1.5
SBF pmax pmax
comp=Z,63nm,1.0s
SAOF Saorge 85.67 46 P **P** 23 14 28.5 -1.1
SAOF pmax pmax
comp=Z,56nm,1.1s
TUE Stuetta 86.17 43 *e*P **P** 23 14 31.7 -0.6
comp=Z,119nm,0.7s
NEUB Neuenburg 86.25 38 *e*P **P** 23 14 32.7 +0.4
comp=Z,76nm,0.7s,baz=287,slow=5.0
NEUB *e*pP **pP** 23 15 22.7 +2.2
DAVA Damuels 86.28 42 *e*P **P** 23 14 32.6 -0.1
comp=Z,142nm,1.1s,SNR=26
DAVA *e*pP **pP** 23 15 25.7 +4.8
comp=Z,160nm,1.2s
DAVA *e*PP **PP** 23 17 58.5 +2.3
comp=Z,32nm,1.2s
UBR Ueberruh 86.31 42 *e*P **P** 23 14 32.7 -0.1
comp=Z,91nm,0.8s,baz=287,slow=5.0
MOX Moxa 86.34 39 *e*P **P** 23 14 33.0 +0.2
comp=Z,43nm,0.8s,baz=287,slow=5.0
MOX *e*pP **pP** 23 15 23.0 +2.1
MOX Moxa 86.34 39 P **P** 23 14 32.7 -0.1
MOX pmax pmax
comp=Z,68nm,1.1s
GRFO Grafenberg 86.39 40 *e*P **P** 23 14 33.4 +0.3
GRFO *e*pP **pP** 23 15 21.1 -0.1
GRA1 Grafenberg Arr 86.40 40 *e*P **P** 23 14 33.4 +0.3
GRA1 *e*pP **pP** 23 15 21.1 -0.1
GRF Grafenberg Arr 86.40 40 *e*P **P** 23 14 33.6 +0.5
comp=Z,98nm,0.8s,baz=287,slow=5.0
GRF Grafenberg Arr 86.40 40 *e*P **P** 23 14 33.4 +0.3
GRF *e**PP **pP** 23 15 21.1 -0.1
SGF Sodankyl 86.48 20 P **P** 23 14 35.0 +1.9
SGF pmax pmax
comp=Z,52nm,0.9s
PLN Plauen 86.72 39 *e*P **P** 23 14 34.9 +0.3
comp=Z,98nm,1.3s,baz=287,slow=5.0
PLN *e*pP **pP** 23 15 24.9 +2.1
BSD Bornholm Skovb 86.72 34⇑ *i*P **P** 23 14 33.9 -0.6
BSD *i* 23 15 41.5
BSD Bornholm Skovb 86.72 34⇑ *i*P **P** 23 14 33.9 -0.6
FUORN Ofenpass-Fuorn 86.73 43 *e*P **P** 23 14 35.0 -0.1
comp=Z,115nm,0.7s
GRB1 Grafenberg Arr 86.76 40 P **P** 23 14 35.3 +0.5
GRB1 pmax pmax
comp=Z,148nm,0.9s
RETA Reutte 86.79 42 *e*P **P** 23 14 34.8 -0.3
comp=Z,98nm,0.6s,SNR=29
RETA *e*pP **pP** 23 15 26.9 +3.6
comp=Z,111nm,1.0s,SNR=4.5
RETA *i* PP **PP** 23 18 02.3 +2.2
GRC1 Grafenberg Arr 86.80 40 P **P** 23 14 35.2 +0.1
GUNZ Gunzen 86.86 39 *e*P **P** 23 14 35.7 +0.4
comp=Z,48nm,0.9s,baz=287,slow=5.0
FUR Furstenfeldbru 86.91 41 *e*P **P** 23 14 35.5 -0.1
comp=Z,42nm,0.9s,baz=287,slow=5.0
FUR Furstenfeldbru 86.91 41 P **P** 23 14 34.6 -1.0
FUR pmax pmax
comp=Z,56nm,0.9s
WERN Wernitzgruen 86.91 39 *e*P **P** 23 14 36.0 +0.4
comp=Z,82nm,1.2s,baz=287,slow=5.0
WERN *e*pP **pP** 23 15 26.2 +2.4
FETA Feichten 86.91 42 *e*P **P** 23 14 35.7 -0.1
comp=Z,81nm,0.6s,SNR=26
FETA *e*pP **pP** 23 15 27.9 +3.8
comp=Z,35nm,0.9s
FETA *e*PP **PP** 23 18 06.0 +4.8
comp=Z,30nm,1.1s
TANN Tannenbergstha 86.92 39 *e*P **P** 23 14 36.1 +0.4
comp=Z,162nm,1.3s,baz=287,slow=5.0
TANN *e*pP **pP** 23 15 26.1 +2.2
CLL Collm 86.95 38 *e*P **P** 23 14 36.1 +0.4
CLL *e*pP **pP** 23 15 23.8 -0.1
CLL *e*PP **PP** 23 17 59.9 -1.3
CLL Collm 86.95 38 *e*P **P** 23 14 36.0 +0.4
comp=Z,66nm,0.8s,baz=287,slow=5.0
CLL Collm 86.95 38⇑ *i*P **P** 23 14 36.0 +0.4
comp=Z,66nm,0.8s
CLL *e*Plp 23 14 37.0
comp=Z,900nm,22.0s
CLL *i* Pmax 23 14 38.5
comp=Z,66nm,0.8s
CLL *e*Pmax 23 14 38.0
CLL *e*pP **pP** 23 15 25.0 +1.1
CLL *i* pPmax 23 15 27.5
comp=Z,144nm,1.2s
CLL *es*P **sP** 23 15 48.0 +3.5
CLL *e*PP **PP** 23 18 02.0 +0.8
CLL *e*pPP 23 18 45.0
CLL *es*PP 23 19 07.0
CLL *e*PPP PPP 23 19 55.0
CLL *e*SKSac **SKSac** 23 24 43.0 -1.3
CLL *e*(pSKSac) 23 25 52.0
CLL *e*PPS PPS 23 27 06.0
CLL *e*SS **SS** 23 30 42.0 -2.2
CLL *es*SS 23 32 00.0
CLL *e*SSSS 23 37 24.0
CLL Collm 86.95 38 *e*P **P** 23 14 36.1 +0.4
CLL *e**PP **pP** 23 15 23.8 -0.1
CLL *e* 23 17 59.9
ROTZ Rotzenmuhle 86.98 39 *e*P **P** 23 14 36.3 +0.4
comp=Z,32nm,1.0s,baz=287,slow=5.0
ROTZ *e*pP **pP** 23 15 26.4 +2.3
RUE Ruedersdorf 87.01 36 *e*P **P** 23 14 34.8 -1.1
RUE IAmb IAmb 23 14 39.4
comp=Z,25nm,0.7s
MOTA Moosalm 87.06 42 *e*P **P** 23 14 35.8 -0.7
comp=Z,55nm,0.7s,SNR=44
MOTA *e*pP **pP** 23 15 29.0 +4.3
comp=Z,60nm,1.0s
MOTA *e*PP **PP** 23 18 07.4 +5.1
comp=Z,21nm,0.9s
PGF Pioggiola 87.08 47 *e*P **P** 23 14 34.8 -1.9
PGF pmax pmax
comp=Z,40nm,0.6s
SQTA Sankt Quirin 87.16 42 *e*P **P** 23 14 36.4 -0.6
comp=Z,48nm,0.7s,SNR=11
SQTA *e*pP **pP** 23 15 28.8 +3.7
comp=Z,41nm,1.0s
SQTA *e*PP **PP** 23 18 03.6 +0.5
comp=Z,32nm,1.1s
VAF Ylistaro 87.17 25 *e*P **P** 23 14 36.4 -0.1
VAF pmax pmax
comp=Z,77nm,0.7s
FBE Freiberg 87.29 38 *e*P **P** 23 14 37.9 +0.6
comp=Z,61nm,0.9s,baz=287,slow=5.0
FBE *e*pP **pP** 23 15 29.5 +3.9
WATA Walderalm 87.36 42 *e*P **P** 23 14 37.6 -0.4
comp=Z,22nm,0.7s,SNR=16
WATA PP **PP** 23 18 05.4 +0.6
comp=Z,26nm,1.5s
WTTA Wattenberg 87.42 42 *e*P **P** 23 14 38.2 -0.1
comp=Z,70nm,0.7s
WTTA *e*pP **pP** 23 15 22.7 -3.8
comp=Z,39nm,0.6s
WTTA *i* PP **PP** 23 18 08.4 +3.0
OUL Oulu 87.44 22 P **P** 23 14 39.0 +1.3
OUL pmax pmax
comp=Z,64nm,2.9s
WET Wettzell 87.60 40 *e*P **P** 23 14 39.3 +0.4
comp=Z,83nm,1.1s,baz=287,slow=5.0
WET *e*pP **pP** 23 15 29.1 +1.9
WET Wettzell 87.60 40 P **P** 23 14 39.3 +0.4
WET pmax pmax
comp=Z,65nm,2.1s
BRG Berggiesshubel 87.66 38 *e*P **P** 23 14 39.1 +0.1
comp=Z,50nm,1.5s
BRG *i* 23 14 41.1
comp=Z,40nm,1.1s
BRG pP **pP** 23 15 22.0 -5.4
BRG sP **sP** 23 15 44.0 -3.9
BRG PP **PP** 23 18 00.0 -6.8
BRG SKS **SKSac** 23 24 43.0 -5.6
BRG S **SKKSac** 23 25 01.0 +2.1
BRG PS PS 23 26 10.0 -22
comp=N,691nm,17.5s
comp=E,1µm,19.5s
comp=Z,1µm,21.2s
BRG Berggiesshubel 87.66 38 *e*P **P** 23 14 39.1 +0.1
comp=Z,40nm,1.1s,baz=287,slow=5.0
BRG *e*pP **pP** 23 15 29.1 +1.7
BRG Berggiesshubel 87.66 38 *e*P **P** 23 14 39.1 +0.1
BRG 23 24 43.0
BRG S **SKKSac** 23 25 01.0 +2.1
BRG PS PS 23 26 10.0 -22
BRG pmax pmax
comp=Z,51nm,1.5s
BRG MLR MLR
comp=N,691nm,17.5s
BRG MLR MLR
comp=E,1µm,19.5s
BRG MLR MLR
comp=Z,1µm,21.2s
KHC Kasperske Hory 88.03 40 *e*P **P** 23 14 41.2 +0.3
comp=Z,30nm,1.1s
KHC Kasperske Hory 88.03 40 *e*P **P** 23 14 41.1 +0.1
KHC *e*pP **pP** 23 15 31.0 +1.7
KHC *e*PP **PP** 23 18 10.5 +0.5
KHC *ex* x 23 19 01.1
KHC *e*S **S** 23 25 05.9 -2.2
KHC *ex* x 23 26 01.6
KHC AMS AMS 23 43 50.0
comp=Z,3µm,49.7s
KHC Kasperske Hory 88.03 40 *e*P **P** 23 14 41.1 +0.1
KHC *e* 23 15 31.0
KHC *e* 23 18 10.5
KHC *e*S **S** 23 25 05.9 -2.2
MSF Maaselka 88.14 21 P **P** 23 14 40.5 -0.5
MSF pmax pmax
comp=Z,31nm,2.6s
PVCC Panska Ves 88.15 38 *e*P **P** 23 14 41.6 +0.2
PVCC *ex* x 23 15 33.3
PVCC *e*PP **PP** 23 18 11.8 +1.0
PVCC *ex* x 23 19 18.9
PVCC *e*S **S** 23 25 07.3 -1.8
PVCC *ex* x 23 26 11.4
PVCC AMS AMS 23 47 30.0
comp=Z,2µm,19.3s
PVCC Panska Ves 88.15 38 *e*P **P** 23 14 41.6 +0.2
PVCC *e* 23 15 33.3
PVCC *e* 23 18 11.8
PVCC *e*S **S** 23 25 07.3 -1.8
PVCC *e* 23 26 11.4
PVCC MLR MLR
comp=Z,2µm,19.3s
ABTA Abfaltersbach 88.16 42 *e*P **P** 23 14 41.6 -0.1
comp=Z,40nm,1.0s,SNR=14
ABTA *e*pP **pP** 23 15 33.6 +3.6
comp=Z,51nm,1.0s
ABTA *e*PP **PP** 23 18 11.0 -0.1
comp=Z,19nm,1.0s
GEC2 GERESS Array S 88.21 40 *e*P **P** 23 14 41.9 0.0
GEC2 *e*pP **pP** 23 15 29.4 -0.8
GEC2 *e*PKKPdf **PKKPbc** 23 32 27.1 +0.9
GEC2 GERESS Array S 88.21 40 *e*P **P** 23 14 41.8 0.0
comp=Z,33nm,1.0s,baz=287,slow=5.0
GEC2 *e*pP **pP** 23 15 31.7 +1.5
GEC2 GERESS Array S 88.21 40 *e*P **P** 23 14 41.9 0.0
GEC2 *e**PP **pP** 23 15 29.4 -0.8
GERES GERESS Array B 88.21 40 P **P** 23 14 41.8 -0.1
comp=Z,14nm,0.7s,baz=300,slow=2.9,SNR=30
GERES *e*pP **pP** 23 15 29.4 -0.8
comp=Z,32nm,0.9s,baz=309,slow=6.2,SNR=4.0
GERES *e*PP **PP** 23 18 13.7 +2.3
comp=Z,12nm,0.9s,baz=308,slow=6.6,SNR=6.8
GERES PKKPbc **PKKPbc** 23 32 27.1 +0.9
comp=Z,0.8nm,0.6s,baz=304,slow=0.5,SNR=3.5
GEA0 GERESS Array S 88.21 40 *e*P **P** 23 14 41.5 -0.4
PRU Pruhonice 88.32 39 *e*P **P** 23 14 42.2 0.0
PRU *e*pP **pP** 23 15 29.2 -1.4
PRU *ex* x 23 19 22.0
PRU *e*SKS **SKSac** 23 24 51.5 -1.2
PRU *ex* x 23 26 14.0
PRU Pruhonice 88.32 39 *e*P **P** 23 14 42.2 0.0
PRU *e* 23 15 29.2
PRU *e*S **SKSac** 23 24 51.5 -1.2
PRU *e* 23 26 14.0
GOPC GO Pecny, Ondr 88.50 39 *e*PP PP 23 18 19.3 +5.7
GOPC *ex* x 23 19 22.4
GOPC *e*S **S** 23 25 11.2 -1.2
GOPC *e*SP **SP** 23 26 16.0 -0.2
KBA Koelnbreinsper 88.59 42 *e*P **P** 23 14 43.7 -0.1
comp=Z,42nm,1.3s,SNR=13
KBA *e*pP **pP** 23 15 35.8 +3.6
comp=Z,35nm,1.0s,SNR=4.2
KBA *e*PP **PP** 23 18 14.6 0.0
comp=Z,32nm,1.1s
KBA Koelnbreinsper 88.59 42 P **P** 23 14 42.5 -1.3
KBA pmax pmax
comp=Z,46nm,0.9s
APA Apatity 88.62 19⇓ *i*P **P** 23 14 44.1 +0.8
APA *i* *PP **pP** 23 15 37.7 +6.0
APA *i* 23 18 13.1
APA *i* S **S** 23 25 09.0 -3.8
APA pmax pmax
comp=Z,12nm,1.4s
APA MLR MLR
comp=Z,2µm,16.0s
GKP Gorka Klasztor 88.67 35 *e*P **P** 23 14 44.1 +0.3
GKP *e*pP **pP** 23 15 31.9 -0.3
GKP *e*PP **PP** 23 18 15.8 +1.0
GKP *e*S **S** 23 25 12.6 -1.2
GKP Gorka Klasztor 88.67 35 *e*P **P** 23 14 44.1 +0.3
GKP *e**PP **pP** 23 15 31.9 -0.3
GKP *e* 23 18 15.8
GKP *e*S **S** 23 25 12.6 -1.2
SUF Sumiainen 88.73 24 P **P** 23 14 43.6 -0.2
SUF pmax pmax

TOA1 Torodi Ar. Sit 88.80 77 *e*P P 23 14 42.6 -2.5
TOA1 *e*pP **pP** 23 15 32.9 -0.7
TOA1 *e*PP **PP** 23 18 18.4 +1.3
TOA1 *e*PKKPdf **PKKPbc** 23 32 25.6 +2.1
TOA1 *e*P'P'df **P'P'df** 23 40 27.9 -6.1
TORD Torodi Ar. Bea 88.81 77 P P 23 14 42.6 -2.5
comp=Z,3.6nm,0.5s,baz=274,slow=2.9,SNR=49
TORD pP **pP** 23 15 32.9 -0.7
comp=Z,4.3nm,0.9s,baz=298,slow=7.6,SNR=2.7
TORD PP **PP** 23 18 18.4 +1.3
comp=Z,3.8nm,0.9s,baz=324,slow=10,SNR=3.6
TORD PKKPbc **PKKPbc** 23 32 25.6 +2.1
comp=Z,3.4nm,0.5s,baz=95,slow=1.5,SNR=24
TORD SKKPbc SKKPbc 23 35 45.2 +2.3
comp=Z,1.9nm,0.8s,baz=36,slow=2.5,SNR=8.3
TORD PKPPKP **P'P'df** 23 40 27.9 -6.1
TORD LR LR 23 51 31.8
comp=Z,418nm,21.0s,baz=315,slow=33
SEY Seymchan 88.82 336 P P 23 14 44.7 +0.4
baz=93,slow=5.4
SEY PKKPbc **PKKPbc** 23 32 23.1 -2.1
comp=Z,9.1nm,0.8s,baz=224,slow=2.0,SNR=16
MOA Molln 88.91 41 *i* P P 23 14 44.7 -0.4
comp=Z,23nm,0.5s,SNR=9.7
MOA *e*pP **pP** 23 15 36.9 +3.4
comp=Z,25nm,1.0s
MOA *e*PP **PP** 23 18 16.2 -0.7
comp=Z,22nm,1.5s
MYKA Terra Mystica 88.93 42 *e*P P 23 14 45.1 -0.2
comp=Z,28nm,0.6s,SNR=5.1
MYKA *e*pP **pP** 23 15 37.4 +3.7
comp=Z,40nm,0.9s,SNR=4.2
MYKA *e*PP **PP** 23 18 18.9 +1.6
comp=Z,19nm,1.3s
ROBS Robic 88.98 42 *e*P P 23 14 44.2 -1.1
UPC Upice 89.02 38 *e*P P 23 14 45.5 0.0
UPC *e*pP **pP** 23 15 29.7 -4.2
UPC *e*PP **PP** 23 18 18.8 +1.1
UPC *ex* x 23 19 25.5
UPC *eS* **S** 23 25 16.2 -1.0
UPC *ex* x 23 26 14.1
UPC AMS AMS 23 48 20.0
comp=Z,2µm,20.3s
UPC Upice 89.02 38 *e*P P 23 14 45.5 0.0
UPC *e* 23 18 18.8
UPC *eS* **S** 23 25 16.2 -1.0
UPC *e* 23 26 14.1
UPC MLR MLR
comp=Z,2µm,20.3s
KSP Ksiaz 89.06 37 *e*P P 23 14 46.1 +0.4
KSP *e*pP **pP** 23 15 34.8 +0.7
KSP *e*PP **PP** 23 18 17.4 -0.5
KSP *eS* **S** 23 25 15.6 -2.0
KSP *e*pS **pS** 23 26 23.1 +4.7
KSP *eS* **sS** 23 26 45.0 +3.7
KSP Ksiaz 89.06 37 *e*P P 23 14 46.1 +0.4
KSP *e**PP **pP** 23 15 34.8 +0.7
KSP *e* 23 18 17.4
KSP *eS* **S** 23 25 15.6 -2.0
KSP *e* 23 26 23.1
KSP *e**SS **sS** 23 26 45.0 +3.7
CADS Cadrg 89.13 42 *e*P P 23 14 45.8 -0.4
CADS *e*pP **pP** 23 15 37.5 +2.8
CADS *e* 23 15 54.0
TREC Trest 89.15 39 *e*P P 23 14 45.9 -0.3
TREC *e*pP **pP** 23 15 32.7 -1.8
TREC *e*PP **PP** 23 18 19.6 +0.8
TREC *eS* **S** 23 25 18.0 -0.5
TREC *e*SP **SP** 23 26 22.5 -0.9
TREC Trest 89.15 39 *e*P P 23 14 45.9 -0.3
TREC *e* 23 15 32.7
TREC *e* 23 18 19.6
TREC *eS* **S** 23 25 18.0 -0.5
TREC *e* 23 26 22.5
DPC Dobruska-Polom 89.26 38 *e*P P 23 14 47.0 +0.3
DPC *e*pP **pP** 23 15 30.8 -4.3
DPC *e*PP **PP** 23 18 20.9 +1.2
DPC *ex* x 23 19 23.5
DPC *eS* **S** 23 25 15.4 -4.2
DPC *e*SP **SP** 23 26 23.2 -1.4
DPC AMS AMS 23 48 30.0
comp=Z,2µm,25.1s
DPC Dobruska-Polom 89.26 38 *e*P P 23 14 47.0 +0.3
DPC *e* 23 18 20.9
DPC *eS* **S** 23 25 15.4 -4.2
DPC *e* 23 26 23.2
DPC MLR MLR
comp=Z,2µm,25.1s
TRI Trieste 89.33 43 *e*P P 23 14 47.4 +0.4
comp=Z,46nm,0.7s
FIA0 FINESS Array S 89.34 25 *e*P P 23 14 46.2 -0.4
FIA0 *e*pP **pP** 23 15 34.6 -0.5
FIA0 *e*PP **PP** 23 18 13.1 -6.7
FIA0 *e*PKKPdf **PKKPbc** 23 32 22.4 -1.4
FIA0 FINESS Array S 89.34 25 *e*P P 23 14 46.3 -0.4
FIA0 *e**PP **pP** 23 15 34.6 -0.5
FINES FINESS Array B 89.34 25 P P 23 14 46.2 -0.4
comp=Z,7.9nm,0.6s,baz=306,slow=3.1,SNR=34
FINES pP **pP** 23 15 34.6 -0.5
comp=Z,13nm,0.9s,baz=355,slow=4.5,SNR=2.2
FINES PP **PP** 23 18 13.1 -6.7
comp=Z,10nm,0.8s,baz=327,slow=9.9,SNR=3.8
FINES PKKPbc **PKKPbc** 23 32 22.4 -1.4
comp=Z,5.4nm,0.7s,baz=128,slow=3.1,SNR=14
FINES LR LR 23 54 06.9
comp=Z,827nm,21.6s,baz=304,slow=35
FIA1 FINESS Array S 89.34 25 *e*P P 23 14 46.5 -0.2
FIA1 *e*PP PP 23 18 11.1 -8.7
KEST Kesra 89.36 53 *e*P P 23 14 47.9 +0.4
comp=Z,44nm,0.8s
KEST Kesra 89.36 53 P P 23 14 46.9 -0.6
comp=Z,20nm,0.6s,baz=180,slow=2.3,SNR=34
KEST LR LR 23 49 29.6
comp=Z,933nm,20.6s,baz=228,slow=32
SLIT Slitere, Latvi 89.46 30 *e*P P 23 14 46.1 -1.2
SLIT IAmb IAmb 23 14 55.0
comp=Z,189nm,1.2s
OBKA Obir 89.56 42 *e*P P 23 14 48.6 +0.4
comp=Z,25nm,1.1s
OBKA *e*pP **pP** 23 15 41.1 +4.4
comp=Z,38nm,1.2s
OBKA *e*PP **PP** 23 18 22.4 +0.1
comp=Z,14nm,0.9s
KRLC Kraliky 89.64 38 *e*P P 23 14 48.8 +0.3
KRLC *ex* x 23 15 30.3
KRLC *e*PP **PP** 23 18 23.7 +1.0
KRLC Kraliky 89.64 38 *e*P P 23 14 48.8 +0.3
KRLC *e* 23 18 23.7
LJU Ljubljana 89.71 42 *e*P P 23 14 48.8 0.0
LJU *e*SKSac **SKSac** 23 24 58.9 -2.1
LJU *eS* **S** 23 25 20.0 -3.9
LJU *e* 23 26 24.6
LJU Ljubljana 89.71 42 *e*P P 23 14 48.7 -0.1
CEY Cerknica 89.75 43 *e*P P 23 14 48.7 -0.4
KRUC Moravsky 89.79 39 ⇑*i*P P 23 14 48.9 -0.2
KRUC *e*pP **pP** 23 15 36.3 -1.2
KRUC *e*PP **PP** 23 18 22.8 -1.0
KRUC *e*SKS **SKSac** 23 24 57.9 -3.4
KRUC *eS* **S** 23 25 19.8 -4.6
KRUC *e* 23 39 19.8
SOKA Soboth 89.81 42 *i* P P 23 14 49.3 -0.1
comp=Z,12nm,0.6s
SOKA *e*pP **pP** 23 15 39.3 +1.5
comp=Z,42nm,1.5s
SOKA *e*PP **PP** 23 18 20.9 -3.4
comp=Z,15nm,1.2s
VRAC Vranov 89.81 39 ⇑*i*P P 23 14 49.6 +0.3
VRAC Vranov 89.81 39 ⇑P P 23 14 49.6 +0.3
VRAC Vranov 89.81 39 ⇑*i*P P 23 14 49.2 -0.1
VRAC *e*pP **pP** 23 15 36.1 -1.5
VRAC *e*PP **PP** 23 18 22.8 -1.3
VRAC *e*SKS **SKSac** 23 24 59.4 -2.1
VRAC *eS* **S** 23 25 22.4 -2.3
VRAC *e* 23 39 23.0
VRAC Vranov 89.81 39 P P 23 14 49.5 +0.2
comp=Z,11nm,0.8s,baz=310,slow=5.6,SNR=12
VRAC pP **pP** 23 15 37.4 -0.2
comp=Z,21nm,1.0s,baz=300,slow=5.3,SNR=2.7
VRAC PP **PP** 23 18 23.3 -0.7
comp=Z,18nm,1.2s,baz=297,slow=7.3,SNR=5.5
TAM Tamanrasset 89.83 67 *e*P P 23 14 49.3 -0.7
comp=Z,12nm,1.3s
TAM Tamanrasset 89.83 67 *e*P P 23 14 49.3 -0.7
TAM pmax pmax
comp=Z,12nm,1.3s
TIXI Tiksi 89.98 348 *ci*P P 23 14 48.3 -1.2
TIXI pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 89.98 348 P P 23 14 48.5 -1.0
comp=Z,15nm,0.6s,baz=25,slow=5.0,SNR=28
TIXI PP **PP** 23 18 21.8 -2.9
comp=Z,39nm,1.2s,baz=36,slow=7.6,SNR=8.8
TIXI PKKP **PKKPdf** 23 32 15.7 -1.0
comp=Z,1.7nm,0.3s,baz=143,slow=1.4,SNR=4.4
TIXI PKPPKP 23 40 24.3
comp=Z,1.9nm,0.8s,baz=44,slow=2.3,SNR=2.9
PBUR Paburg 90.00 31 *e*P P 23 14 49.5 -0.4
PBUR IAmb IAmb 23 14 52.1
comp=Z,74nm,0.8s
MORC Moravsky Berou 90.20 38 *e*P P 23 14 51.3 +0.1
comp=Z,27nm,1.2s
MORC Moravsky Berou 90.20 38 ⇓*i*P P 23 14 51.2 +0.1
MORC Moravsky Berou 90.20 38 *e*P P 23 14 51.3 +0.1
MORC pmax pmax
comp=Z,27nm,1.2s
MORC Moravsky Berou 90.20 38 ⇑*i*P P 23 14 51.2 +0.1
MORC *e*pP **pP** 23 15 37.7 -1.8
MORC *e*PP **PP** 23 18 25.2 -2.0
MORC *e*SKS **SKSac** 23 25 01.0 -2.8
MORC *eS* **S** 23 25 24.5 -3.8
MORC *e* 23 39 24.6
AQU L'Aquila 90.24 46 *e*P P 23 14 53.0 +1.6
CRES Cresnjev 90.39 42 *e*P P 23 14 51.9 -0.1
PET Petropavlovsk 90.51 326 *ci*P P 23 14 52.6 +0.3
PET *e**PP **pP** 23 15 41.7 +0.9
PET *e**SP **sP** 23 16 03.2 +1.9
PET *e* 23 18 33.3
PET *e* 23 25 05.7
PET *i* S **S** 23 25 29.0 -1.7
PET *e*SP **SPn** 23 26 38.0 -0.8
PET *e*SPP SPP 23 27 05.0
PET *e*SS **SS** 23 31 42.9 +7.4
PET pmax pmax
comp=Z,700nm,13.1s
PET pmax pmax
comp=Z,300nm,14.6s
OKC Ostrava-Krasne 90.54 38 *e*P P 23 14 52.9 +0.3
OKC *e*pP **pP** 23 15 40.2 -0.8
OKC *e*PP **PP** 23 18 30.2 +0.5
OKC *ex* x 23 19 37.7
OKC *e*SKS **SKSac** 23 25 04.1 -1.5
OKC *e*XS **sS** 23 26 57.3 +2.0
OKC Ostrava-Krasne 90.54 38 *e*P P 23 14 52.9 +0.3
OKC *e* 23 15 40.2
OKC *e* 23 18 30.2
OKC *e*S **SKSac** 23 25 04.1 -1.5
ZST Bratislava 90.55 40 *e*P P 23 14 51.6 -1.1
ZST *e* 23 15 41.6
ZST *e* 23 18 29.7
ZST Bratislava 90.55 40 *e*P P 23 14 51.6 -1.1
ZST *e*pP **pP** 23 15 41.6 +0.5
ZST *e*PP **PP** 23 18 29.7 -0.2
MODS Modra-Piesok 90.59 39 *e*P P 23 14 52.5 -0.4
MODS pmax pmax
comp=Z,344nm,2.9s
MODS Modra-Piesok 90.59 39 *e*P P 23 14 52.5 -0.4
MODS *e*pP **pP** 23 15 41.9 +0.6
SMOL Smolenice 90.63 39 *e*P P 23 14 54.2 +1.2
SMOL *e* 23 15 45.8
SMOL *e* 23 18 34.8
SMOL Smolenice 90.63 39 *e*P P 23 14 54.2 +1.2
SMOL *e*pP **pP** 23 15 45.8 +4.3
SMOL *e*PP **PP** 23 18 34.8 +4.3
JAVC Velka Javorina 90.64 39 ⇑*i*P P 23 14 54.3 +1.1
JAVC *e*pP **pP** 23 15 41.7 +0.1
JAVC *e*PP **PP** 23 18 30.7 0.0
JAVC *e*SKS **SKSac** 23 25 07.3 +0.9
JAVC *eS* **S** 23 25 30.7 -1.6
PEA1 Petropavlovsk- 90.99 326 *e*P P 23 14 54.9 +0.3
PEA1 *e*pP **pP** 23 15 41.6 -1.5
PETK Petropavlovsk- 90.99 326 P P 23 14 54.9 +0.3
comp=Z,2.2nm,0.5s,baz=67,slow=8.0,SNR=3.2
PETK pP **pP** 23 15 41.6 -1.5
comp=Z,12nm,1.1s,baz=68,slow=8.0,SNR=2.2
VSU Vasula 91.13 28 *ce*P P 23 14 54.4 -0.7
VSU pmax pmax
comp=Z,34nm,0.8s
VSU Vasula 91.13 28 *e*P P 23 14 54.4 -0.7
VSU IAmb IAmb 23 14 57.0
comp=Z,52nm,0.7s
MA2 Magadan 91.23 333 *e*P P 23 14 56.2 +0.6
comp=Z,12nm,0.8s
MA2 Magadan 91.23 333 *ce*P P 23 14 54.9 -0.7
MA2 pmax pmax
comp=Z,17nm,1.2s
MA2 Magadan 91.23 333 P P 23 14 55.8 +0.2
baz=77,slow=7.4
BEL Belsk 91.24 35 *e*P P 23 14 54.8 -1.0
BEL *e*pP **pP** 23 15 45.3 +1.0
BEL *e*PP **PP** 23 18 36.2 +1.1
BEL Belsk 91.24 35 *e*P P 23 14 54.8 -1.0
BEL *e**PP **pP** 23 15 45.3 +1.0
BEL *e* 23 18 36.2
OJC Ojcow 91.36 37 *e*P P 23 14 55.6 +0.2
OJC *e*pP **pP** 23 15 45.6 +0.7
OJC *e*sP **sP** 23 16 03.5 -2.0
OJC *e*PP **PP** 23 18 34.2 -2.0
OJC *eS* **S** 23 25 37.1 -1.5
OJC *e*pS **pS** 23 26 39.6 -0.6
OJC *e*sS **sS** 23 27 01.6 -1.2
OJC Ojcow 91.36 37 *e*P P 23 14 56.3 -0.1
OJC *e*pP **pP** 23 15 44.9 0.0
OJC *e*PP **PP** 23 18 31.5 -4.7
OJC Ojcow 91.36 37 *e*P P 23 14 56.6 +0.2
OJC *e**PP **pP** 23 15 45.7 +0.7
OJC *e* 23 18 34.2
OJC *eS* **S** 23 25 37.1 -1.5
VYHS Vyhne 91.50 39 *e*P P 23 14 57.2 +0.1
VYHS pmax pmax
comp=Z,30nm,1.9s
VYHS Vyhne 91.50 39 *e*P P 23 14 57.2 +0.1
VYHS *e*pP **pP** 23 15 46.4 +0.9
VYHS *e*PP **PP** 23 18 37.8 +0.5
SUW Suwalki 91.56 33 *e*P P 23 14 56.7 -0.5
SUW *e*pP **pP** 23 15 44.9 -0.9
SUW *e*PP **PP** 23 18 36.6 -0.9
SUW *eS* **SKSac** 23 25 09.1 -2.1
SUW *e*pS **pS** 23 26 39.3 -2.6
SUW Suwalki 91.56 33 *e*P P 23 14 56.6 -0.5
SUW *e*pP **pP** 23 15 49.1 +3.3
SUW *e*PP **PP** 23 18 33.3 -4.3
SUW Suwalki 91.56 33 *e*P P 23 14 56.7 -0.5
SUW *e**PP **pP** 23 15 44.9 -0.9
SUW *e* 23 18 36.6
SUW *eS* **SKSac** 23 25 09.1 -2.1
CSKK Cskako 91.59 40 *e*P P 23 14 57.0 -0.5
CSKK *e*PP **PP** 23 18 39.1 +1.0
CSKK *eS* **S** 23 25 40.0 -0.9
CSKK *e*SS **PS** 23 27 15.1 -0.6
LANS Liptovska Anna 91.61 38 *e*P P 23 14 58.7 +1.1
LANS *e* 23 15 47.6
LANS *e* 23 18 39.8
LANS Liptovska Anna 91.61 38 *e*P P 23 14 58.7 +1.1
LANS *e*pP **pP** 23 15 47.6 +1.6
LANS *e*PP **PP** 23 18 39.8 +1.6
BLY Banja Luka 91.93 43 *e*P P 23 14 59.3 +0.2
comp=Z,27nm,0.6s
BLY Banja Luka 91.93 43 ⇓*i*P P 23 14 59.3 +0.2
BLY Banja Luka 91.93 43 *e*P P 23 14 59.0 -0.1
NIE Niedzica 91.99 38 *e*P P 23 15 00.3 +0.9
NIE *e*pP **pP** 23 15 48.0 +0.2
NIE *e*sP **sP** 23 16 08.5 +0.3
NIE *e*PP **PP** 23 18 41.8 +0.6
NIE *eS* **S** 23 25 42.2 -2.2
NIE *e*pS **pS** 23 26 43.3 -2.8
NIE *e*sS **sS** 23 27 08.2 -0.5
NIE Niedzica 91.99 38 *e*P P 23 15 00.3 +0.9
NIE *e**PP **pP** 23 15 48.0 +0.2
NIE *e* 23 18 41.8
NIE *eS* **S** 23 25 42.2 -2.2
TMCR Tamitsa 92.24 20 *e*P P 23 14 58.4 -1.7
TMCR pmax pmax
comp=Z,19nm,0.9s
MORH Mrgy, Hungar 92.30 41 *e*P P 23 14 59.9 -0.9
MORH Mrgy, Hungar 92.30 41 *e*PP PP 23 18 45.1 +1.4
MORH *eS* **S** 23 25 46.1 -1.1
MORH *e*SS sS 23 27 13.0 +1.4
ISAL Salakas 92.30 31 *e*P P 23 14 60.0 -0.6
ISAL IAmb IAmb 23 15 04.0
comp=Z,27nm,1.3s
PSZ Piszkesteto 92.38 39 *e*P P 23 15 01.5 +0.3
comp=Z,170nm,1.9s
PSZ Piszkesteto 92.38 39 ⇑*i*P P 23 15 00.9 -0.3
PSZ Piszkesteto 92.38 39 *e*P P 23 15 01.5 +0.3
PSZ pmax pmax
comp=Z,170nm,1.9s
PSZ Piszkesteto 92.38 39 ⇑*e*P P 23 15 02.0 +0.8
PSZ *e*PP **PP** 23 18 46.1 +1.7
PSZ *eS* **S** 23 25 44.1 -3.9
PSZ *e*SS **sS** 23 27 12.0 -0.3
IIGN Ignalina 92.46 31 *e*P P 23 15 00.3 -1.0
IIGN IAmb IAmb 23 15 03.7
comp=Z,11nm,0.7s
IDID Didziasalis 92.74 31 *e*P P 23 15 00.9 -1.7
IDID IAmb IAmb 23 15 05.5
comp=Z,12nm,0.8s
SKR Severo-Kuril's 92.95 324 *e*P P 23 15 03.4 -0.3
SKR *eS* **S** 23 25 49.0 -3.7
SKR *e**SS pS 23 27 03.5 +8.0
SKR pmax pmax
comp=Z,300nm,9.6s
NACGM Naroch 92.97 31 *e*P P 23 15 03.0 -0.7
NACGM *e*PP **PP** 23 18 42.0 -6.6
NACGM *e*SKS **SKSac** 23 25 12.0 -7.0
NACGM *eS* **S** 23 25 46.0 -6.7
NACGM *e*PS PS 23 26 42.0 -48
NACGM *e*SS SS 23 31 10.0 -61
NACGM *e*LQ LQ 23 42 36.0
STON Ston 93.00 44 *e*P P 23 15 04.2 +0.1
KWP Kalwaria Pacla 93.31 37 *e*P P 23 15 06.2 +0.8
KWP *e*pP **pP** 23 15 55.1 +1.1
KWP *e*PP **PP** 23 18 52.4 +0.9
KWP Kalwaria Pacla 93.31 37 *e*P P 23 15 06.6 +1.2
KWP *e*pP **pP** 23 15 54.6 +0.6
KWP Kalwaria Pacla 93.31 37 *e*P P 23 15 06.2 +0.8
KWP *e**PP **pP** 23 15 55.1 +1.1
KWP *e* 23 18 52.4
HAPS Han Pijesak,Bl 93.35 43 *e*P P 23 15 06.1 +0.2
TREB Trebinje 93.50 44 *e*P P 23 15 05.3 -1.1
UZH Uzhgorod 93.51 38 *e*P P 23 15 06.4 +0.1
UZH *e* 23 15 54.1
UZH *e*SP **sP** 23 16 15.5 +0.3
UZH *i* 23 18 49.7
UZH *e*PPP PPP 23 20 56.8
UZH *i* S **S** 23 25 51.3 -6.4
MICGM Minsk 93.72 31 *e*P P 23 15 05.0 -2.1
MICGM *e*pP **pP** 23 15 56.0 +0.2
MICGM *e*SKS **SKSac** 23 25 18.0 -5.2
MICGM *eS* **S** 23 25 58.0 -1.3
MICGM *e*sS pS 23 26 50.0 -12
MICGM *e*PS PS 23 27 05.0 -34
MICGM *e*SS SS 23 31 43.0 -38
MICGM *e*SSS SSS 23 32 48.0
MNK Minsk 93.72 31 *e*P P 23 15 05.0 -2.1
MNK *e* 23 15 56.0
MNK *e* 23 25 18.0
MNK *eS* **S** 23 25 56.0 -3.3
TRPA Tarpa 93.88 38 ⇑*i*P P 23 15 08.1 +0.1
LVV L'vov 93.98 36 *e*P P 23 15 08.2 -0.3
LVV *e**PP **pP** 23 15 57.7 +0.6
LVV *e* 23 18 55.7
LVV *e*PPP PPP 23 21 00.2
LVV *e* 23 25 24.2
LVV *eS* **S** 23 25 57.2 -4.6
LVV *e*PS PS 23 27 54.2 +12
LVV *e*SS **SS** 23 32 25.8 +0.5
LVV *e*SSS SSS 23 36 04.7
SIRR Siria 94.17 40 ⇓*i*P P 23 15 08.6 -0.9
BZS Buzias 94.43 41 ⇓*i*P P 23 15 10.5 -0.1
BZS Buzias 94.43 41 ⇓P P 23 15 10.5 -0.1
DRGR 94.59 39 ⇓*i*P P 23 15 11.1 -0.3
DRGR 94.59 39 ⇓P P 23 15 11.1 -0.3
KLMR Klimovskoe 94.95 22 *e*P P 23 15 10.6 -2.0
KLMR *e**PP **pP** 23 16 04.2 +3.0
KLMR *e* 23 18 59.0
KLMR pmax pmax
comp=Z,26nm,1.1s
KLMR Klimovskoe 94.95 22 *e*P P 23 15 10.6 -2.0
KLMR AMP 23 15 14.9
comp=Z,26nm,1.1s
KLMR *e*pP **pP** 23 16 04.3 +3.0
KLMR *e*PP **PP** 23 18 59.0 -4.7
CJR Cluj-Napoca 95.17 39 ⇓*i*P P 23 15 13.8 -0.3
CJR Cluj-Napoca 95.17 39 ⇓P P 23 15 13.8 -0.3
GZR Gura Zlata 95.26 41 ⇑*i*P P 23 15 13.2 -1.3
GZR Gura Zlata 95.26 41 ⇑P P 23 15 13.2 -1.3
BUR08 Bucovina Ar. S 95.70 38 *e*P P 23 15 16.6 +0.1
BUR08 *e*PP **PP** 23 19 06.0 -4.1
BURAR Bucovina Array 95.72 38 ⇓*i*P P 23 15 16.1 -0.5
BURAR Bucovina Array 95.72 38 ⇓P P 23 15 16.1 -0.5
NRIK Noril'sk 96.28 1 P P 23 15 17.9 -0.6
comp=Z,5.2nm,0.9s,baz=24,slow=4.1,SNR=10.0
NRIK pP **pP** 23 16 06.0 -1.0
comp=Z,11nm,1.1s,baz=13,slow=3.8,SNR=5.1
NRIK PKKPbc **PKKPdf** 23 32 05.2 -0.4
comp=Z,3.1nm,0.5s,baz=230,slow=1.5,SNR=8.7
NRIK LR LR 00 02 56.7
comp=Z,µm,19.3s,baz=9.5,slow=38
FNA Florina 96.36 45 *e*P P 23 15 19.5 -0.1
comp=Z,91nm,2.0s
FNA Florina 96.36 45 P P 23 15 21.5 +1.9
AK11 Malin Array Si 96.40 34 *e*P P 23 15 18.0 -1.5
KIEV Kiev 96.42 34 *e*P P 23 15 18.0 -1.5
comp=Z,39nm,1.3s
KIEV Kiev 96.42 34 ⇑*i*P P 23 15 18.2 -1.3
KIEV Kiev 96.42 34 P P 23 15 18.0 -1.5
KIEV Kiev 96.42 34 *i* P P 23 15 17.3 -2.2
KIEV pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 96.42 34 P P 23 15 17.9 -1.6
comp=Z,3.8nm,0.6s,baz=293,slow=4.2,SNR=15
AKASG pP **pP** 23 16 07.8 -0.4
comp=Z,1.6nm,0.6s,baz=297,slow=3.0,SNR=2.4
AKASG PP **PP** 23 19 13.6 -1.8
comp=Z,14nm,0.9s,baz=305,slow=6.9,SNR=12
AKASG PKKP **PKKPdf** 23 32 04.3 -0.9
comp=Z,2.5nm,0.6s,baz=90,slow=2.7,SNR=13
AKASG SKKPbc SKKPbc 23 35 26.2 +1.1
comp=Z,0.7nm,0.5s,baz=90,slow=2.2,SNR=4.7
AKASG LR LR 23 59 29.5
comp=Z,444nm,19.6s,baz=305,slow=36
AKBB Malin Array Si 96.42 34 *e*PP **PP** 23 19 15.2 -0.2
AKBB *e*PKKPbc **PKKPdf** 23 32 04.3 -0.9
ARR Arges 96.44 40 ⇑*i*P P 23 15 19.8 -0.1
PRGR Permogore 96.50 19 ⇓*i*P P 23 15 19.0 -0.6
PRGR *e**PP **pP** 23 16 08.9 +0.7
PRGR *i* 23 19 11.4
PRGR pmax pmax
comp=Z,40nm,0.6s
BIZ Bicaz 96.58 38 ⇓*i*P P 23 15 20.5 +0.1
VOIR 96.66 40 ⇓*i*P P 23 15 20.9 0.0
VOIR 96.66 40 ⇓P P 23 15 20.9 0.0
VTS Vitosha 96.81 43 *e*P P 23 15 21.7 0.0
comp=Z,17nm,1.3s
VTS Vitosha 96.81 43 ⇑*i*P P 23 15 21.6 -0.1
VTS Vitosha 96.81 43 *e*P P 23 15 21.7 0.0
VTS pmax pmax
comp=Z,17nm,1.3s
MLR Muntele Rosu 97.19 39 *e*P P 23 15 23.0 -0.3
MLR *e*pP **pP** 23 18 13.7 +1.7
MLR Muntele Rosu 97.19 39 ⇑*i*P Pdif 23 15 23.4 0.0
MLR Muntele Rosu 97.19 39 ⇑P Pdif 23 15 23.4 0.0
OBN Obninsk 97.48 28 *e*P Pdif 23 15 24.2 0.0
OBN *e*pP pP 23 16 12.2 -0.6
OBN *e*PP **PP** 23 19 20.9 -2.4
OBN *e*PKKPbc **PKKPdf** 23 32 03.0 -0.2
OBN Obninsk 97.48 28 *ci*P P 23 15 23.5 -0.7
OBN *i* *PP **pP** 23 16 11.5 -1.4
OBN *i* 23 39.4
OBN *i* S **S** 23 26 31.5 -0.2
OBN *i* *SS **sS** 23 27 57.6 +1.0
OBN *i* SS **SS** 23 33 14.6 +0.4
OBN pmax pmax
comp=Z,33nm,1.6s
OBN MLR MLR
comp=Z,710nm,17.0s

OBN	**Obninsk**	**97.48**	**28**	P		**P**	**23 15 23.3**	**-0.9**
	comp=Z,4.1nm,0.6s,baz=158,slow=1.1,SNR=9.5							
OBN				pP		**pP**	**23 16 12.2**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=90,slow=6.1,SNR=1.5							
OBN				PP		**PP**	**23 19 20.2**	**-3.1**
	comp=Z,17nm,0.9s,baz=294,slow=21,SNR=4.4							
OBN				PKKPbc		**PKKPdf**	**23 32 03.0**	**-0.2**
	comp=Z,1.9nm,0.4s,baz=294,slow=6.5,SNR=4.1							
MOS	**Moscow**	**97.55**	**27**	*e*P		**P**	**23 15 23.5**	**-1.0**
MOS				*e**PP		**pP**	**23 16 12.8**	**-0.4**
MOS				*e*			23 19 19.4	
MOS				*e*S		**SKSac**	**23 25 40.3**	**-2.9**
MOS				*e*S		**S**	**23 26 30.6**	**-1.7**
MOS				*e*SP		SP	23 27 50.3	-5.0
MOS				pmax		pmax		
	comp=Z,71nm,1.5s							
KIS	**Kishinev**	**98.15**	**37**	*e*P		**P**	**23 15 24.0**	**-3.4**
KIS				*e*pP		**sP**	**23 16 36.0**	**-0.4**
KIS	**Kishinev**	**98.15**	**37**	*e*PP		**PP**	**23 19 24.0**	**-4.7**
KIS	**Kishinev**	**98.15**	**37**	*e*PS		PS	23 28 28.0	+1.1
KIS				*e*L		L	23 46 16.0	
KIS				LRM		MLR	23 58 40.0	
	comp=Z,400nm,19.0s							
KIS	**Kishinev**	**98.15**	**37**	*e*P		**P**	**23 15 24.0**	**-3.4**
KIS				*e*			23 16 16.0	
KIS				*e**PP		**sP**	**23 16 36.0**	**-0.4**
KIS				*e*			23 19 24.0	
KIS				*e*			23 25 40.0	
KIS				*i* *SS		**sS**	**23 27 59.0**	**-3.7**
KIS				*e*PS		PS	23 28 28.0	+1.1
KIS				MLR		MLR		
	comp=Z,900nm,20.0s							
KIS				MLR		MLR		
	comp=N,400nm,16.0s							
NKL	**Nikolayevsk**	**99.55**	**332**	*e*P		**Pdif**	**23 15 34.0**	**+0.5**
NKL				*e*			23 19 42.0	
NKL				*e*			23 25 52.0	
KIRV	**Kirov**	**100.06**	**20**	P		**Pdif**	**23 15 35.1**	**-0.5**
	comp=N,13nm,0.6s,baz=144,slow=3.2,SNR=7.2							
KIRV				PP		**PP**	**23 19 41.0**	**-1.7**
	comp=N,50nm,0.9s,baz=320,slow=7.0,SNR=14							
LPSR	**Galich'ya Gora**	**100.17**	**29**	*e*P		**Pdif**	**23 15 34.9**	**-1.3**
LPSR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
KUR	**Kuril'sk**	**100.48**	**322**	*e*P		**Pdif**	**23 15 36.2**	**-1.6**
KUR				*e*			23 19 45.2	
VNA3	**Neumayer Olymp**	**100.77**	**161**	P		**Pdif**	**23 15 39.9**	**+1.4**
VNA1	**Neumayer--Stat**	**101.09**	**160**	P		**Pdif**	**23 15 43.0**	**+3.2**
VSR	**Storozhevoye**	**101.18**	**30**	*e*P		**Pdif**	**23 15 40.2**	**-0.6**
VSR				pmax		pmax		
	comp=Z,5.0nm,1.4s							
VNA2	**Neumayer--Watz**	**101.42**	**161**	P		**Pdif**	**23 15 44.8**	**+3.4**
YUK	**Yuzh-Kuril'sk**	**102.34**	**322**	*i* P		**Pdif**	**23 15 39.2**	**-6.9**
YUK				*e*S		**Sdif**	**23 27 05.2**	**-7.6**
YUK				*i*			23 30 02.3	
YUK				SS		**SS**	**23 34 24.2**	**+1.9**
YUK				*e*SSS		SSS	23 38 23.7	
SIM	**Simferopol'**	**102.36**	**37**	*e*P		**Pdif**	**23 15 44.9**	**-1.3**
SIM				*e*			23 26 05.0	
SIM				*e*PS		PS	23 28 42.0	-30
SIM				*e*SS		SS	23 34 20.0	-2.6
SIM				pmax		pmax		
	comp=Z,80nm,9.0s							
SIM				pmax		pmax		
	comp=Z,540nm,15.5s							
VRH	**Novokhopyorsk**	**102.39**	**29**	*e*P		**Pdif**	**23 15 44.0**	**-2.2**
VRH				*e*			23 19 56.5	
VRH				pmax		pmax		
	comp=Z,4.0nm,0.4s							
YSS	**Yuzh-Sakhalins**	**102.39**	**326**	*e*P		Pdif	23 16 03.5	+17
YSS				*e*			23 20 02.3	
YSS				*e*			23 27 09.0	
YSS				*e*PS		PS	23 30 10.0	+58
YSS				MLR		MLR		
	comp=Z,400nm,16.0s							
YSS				MLR		MLR		
	comp=E,500nm,16.0s							
SNAA	**Sanae**	**102.99**	**161**	P		**Pdif**	**23 15 52.0**	**+3.5**
SNAA	**Sanae**	**102.99**	**161**	*e*Pdif		**Pdif**	**23 15 48.9**	**+0.5**
SNAA	**Sanae**	**102.99**	**161**	*e*P		**Pdif**	**23 15 48.9**	**+0.5**
QSPA	**South Pole Qui**	**104.54**	**180**	PKKPbc	PKKPbc		23 31 37.8	-5.8
	comp=E,1.7nm,0.8s,baz=291,slow=4.0,SNR=6.6							
QSPA				SKKPbc	SKKPbc		23 35 00.6	-8.7
	comp=E,4.0nm,0.7s,baz=268,slow=2.3,SNR=16							
ARU	**Arti**	**104.66**	**17**	*e*Pdif		**Pdif**	**23 15 56.7**	**+0.5**
ARU	**Arti**	**104.66**	**17**	*e*P		**Pdif**	**23 15 56.7**	**+0.5**
BR101	**Keskin Array S**	**105.04**	**41**	*e*PKiKP		**PKiKP**	**23 20 13.7**	**+1.5**
BR101				*e*PKKPbc		**PKKPbc**	**23 31 39.9**	**-0.6**
BRTR	**Keskin Array B**	**105.04**	**41**	PKiKP		**PKiKP**	**23 20 13.7**	**+1.5**
	comp=E,12nm,1.1s,baz=252,slow=3.3,SNR=4.3							
BRTR				PKKPbc		**PKKPbc**	**23 31 39.9**	**-0.6**
	comp=E,3.9nm,0.8s,baz=144,slow=3.4,SNR=14							
KLR	**Kul'dur**	**106.31**	**333**	PKKPbc	PKKPbc		23 31 30.6	-6.2
	comp=E,2.1nm,0.6s,baz=279,slow=5.1,SNR=4.0							
SOC	**Sochi**	**106.38**	**35**	*i* P		**Pdif**	**23 16 00.5**	**-3.6**
SOC				*e*			23 20 27.5	
SOC				*e*PPP		PPP	23 22 51.3	
SOC				*e*			23 26 18.3	
SOC				*e*PS		**SP**	**23 29 24.4**	**-4.7**
DZM	**Mont Dzumac**	**107.26**	**251**	eLR		LR	23 51 40.1	
	comp=E,2μm,23.1s							
VNDA	**Vanda**	**107.95**	**193**	*e*PKiKP		**PKiKP**	**23 20 17.7**	**+1.5**
VNDA	**Vanda**	**107.95**	**193**	PKiKP		**PKiKP**	**23 20 18.1**	**+1.8**
	comp=E,3.4nm,0.7s,baz=315,slow=1.2,SNR=14							
KBZ	**Khabaz**	**108.03**	**34**	PP		**PP**	**23 20 39.7**	**-2.5**
	comp=E,15nm,1.0s,baz=10,slow=4.3,SNR=8.1							
KBZ				PKKPbc		**PKKPbc**	**23 31 31.0**	**-0.3**
	comp=E,6.0nm,0.9s,baz=187,slow=5.8,SNR=9.3							
AKTO	**Aktyubinsk**	**109.60**	**21**	PKKPbc	PKKPbc		23 31 24.6	-2.1
	comp=E,3.2nm,0.7s,baz=144,slow=3.7,SNR=8.4							
USRK	**Ussuriysk Ar.**	**109.86**	**329**	PKKPbc	PKKPbc		23 31 25.3	-0.2
	comp=E,1.7nm,0.6s,baz=264,slow=1.7,SNR=6.2							
USRK				PKKPab		**PKKPab**	**23 31 36.9**	**-1.5**
	comp=E,6.1nm,0.7s,baz=218,slow=3.5,SNR=11							
BVAR	**Borovoye Array**	**110.67**	**12**	SKP		**SKPdf**	**23 23 39.9**	**+0.6**
	comp=E,3.3nm,0.7s,baz=159,slow=2.3,SNR=4.7							
BVAR				PKKPbc	PKKPbc		23 31 22.4	-0.9
	comp=E,1.6nm,0.5s,baz=154,slow=4.0,SNR=12							
BVAR				PKPPKP			23 39 43.0	
	comp=E,1.1nm,0.9s,baz=104,slow=3.0,SNR=5.5							
MDJ	**Mudanjiang**	**110.73**	**331**	Pdif		**Pdif**	**23 16 22.8**	**-0.6**
MDJ				PP		**PP**	**23 21 00.8**	**-0.7**
MDJ	**Mudanjiang**	**110.73**	**331**	SS		SS	23 36 13.5	-2.0
MDJ				AMB		AMB		
	comp=Z,160nm,3.7s							
MAK	**Makhachkala**	**110.98**	**32**	*i* P		**Pdif**	**23 16 23.2**	**-1.4**
MAK				*i*			23 20 20.0	
MAK				*e*			23 21 04.4	
MAK				*e*			23 21 12.3	
MAK				*i* PPP		PPP	23 23 28.1	
MAK				*e*			23 26 42.3	
MAK				*e*PS		**PS**	**23 30 39.5**	**+2.0**
MAK				*e*SS		SS	23 36 24.0	+5.1
MAK				*e*SSS		SSS	23 40 35.2	
MAK				pmax		pmax		
	comp=Z,172nm,0.8s							
ABKAR	**Akbulak array**	**111.26**	**20**	*e*Pdif		**Pdif**	**23 16 28.9**	**+3.2**
TSUM	**Tsumeb**	**111.44**	**105**	*i* P		**PKiKP**	**23 20 25.1**	**+0.4**
TSUM	**Tsumeb**	**111.44**	**105**	*i* P		**PKiKP**	**23 20 25.1**	**+0.4**
TSUM	**Tsumeb**	**111.44**	**105**	PKKPbc	PKKPbc		23 31 21.5	+1.8
	comp=Z,4.7nm,0.9s,baz=54,slow=3.9,SNR=7.9							
TSUM				PKKPab		**PKKPab**	**23 31 30.1**	**+0.6**
	comp=Z,4.4nm,0.6s,baz=87,slow=5.8,SNR=15							
MJAR	**Matsushiro Arr**	**111.49**	**319**	PKKPbc	PKKPbc		23 31 19.3	-0.8
	comp=Z,5.0nm,0.8s,baz=227,slow=4.5,SNR=7.8							
MJAR				PKKPab		**PKKPab**	**23 31 30.3**	**-0.7**
	comp=Z,16nm,0.9s,baz=228,slow=5.9,SNR=12							
MJAR				SKKPbc	SKKPbc		23 34 46.7	+2.2
	comp=Z,0.9nm,0.4s,baz=256,slow=3.0,SNR=5.1							
MAJO	**Matsushiro**	**111.49**	**319**	*e*PKKPab	PKKPab		23 31 30.3	-0.7
ZAA1	**Zalesovo Array**	**111.61**	**3**	*e*PKiKP		**PKiKP**	**23 20 22.4**	**-1.5**
ZAA1				*e*PP		**PP**	**23 21 06.6**	**-0.7**
ZAA1				*e*SKPdf		**SKPdf**	**23 23 40.5**	**-0.6**
ZAA1				*e*PKKPbc		**PKKPbc**	**23 31 13.2**	**-7.1**
ZALV	**Zalesovo Beam**	**111.62**	**3**	PKiKP		**PKiKP**	**23 20 22.4**	**-1.5**
	comp=Z,5.8nm,0.5s,baz=252,slow=2.5,SNR=16							
ZALV				PP		**PP**	**23 21 06.6**	**-0.8**
	comp=Z,18nm,0.9s,baz=342,slow=7.8,SNR=9.1							
ZALV				SKP			23 23 40.5	
	comp=Z,4.9nm,0.6s,baz=288,slow=2.1,SNR=6.7							
ZALV				PKKPbc		**PKKPbc**	**23 31 13.2**	**-7.1**
	comp=E,2.1nm,0.8s,baz=191,slow=4.4,SNR=2.8							
MOY	**Mondy**	**113.27**	**352**	*e*PKiKP		PKiKP	23 20 35.4	+8.1
MOY				pmax		pmax		
	comp=Z,140nm,3.8s							
KURK	**Kurchatov**	**114.28**	**8**	*i* PKiKP		PKPdf	23 20 26.6	-2.4
KURBB	**Kurchatov Arra**	**114.36**	**8**	SKP		**SKPdf**	**23 23 46.3**	**-0.1**
	comp=E,6.5nm,0.6s,baz=349,slow=1.8,SNR=16							
KURBB				PKKPbc	PKKPbc		23 31 08.3	-2.7
	comp=E,5.5nm,0.7s,baz=182,slow=2.9,SNR=22							
KURBB				PKKPPKP			23 39 40.6	
	comp=Z,0.8nm,0.8s,baz=190,slow=1.9,SNR=5.3							
ULN	**Ulaanbaatar**	**115.89**	**347**	P		**PKKPbc**	**23 31 04.8**	**-1.2**
	SNR=27							
ULN				P		**PKKPbc**	**23 31 04.8**	**-1.2**
	SNR=27							
SONA0	**Songino Array**	**116.06**	**347**	*e*PKPdf		**PKPdf**	**23 20 31.9**	**-0.8**
SONA0				*e*PP		**PP**	**23 21 39.5**	**+0.5**
SONA0				*e*SKPdf		**SKPdf**	**23 23 49.9**	**-0.1**
SONM	**Songino Array**	**116.06**	**347**	PKP		**PKPdf**	**23 20 31.9**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=336,slow=1.0,SNR=12							
SONM				PP		**PP**	**23 21 39.5**	**+0.5**
	comp=Z,5.5nm,0.9s,baz=3.7,slow=5.0,SNR=6.7							
SONM				SKP			23 23 49.9	
	comp=Z,7.2nm,0.7s,baz=331,slow=1.3,SNR=9.7							
SONM				PKKPbc		**PKKPbc**	**23 31 04.2**	**-1.2**
	comp=Z,23nm,0.9s,baz=196,slow=3.5,SNR=31							
SONM				SKKPbc	SKKPbc		23 34 29.1	-2.2
	comp=Z,2.1nm,0.9s,baz=189,slow=2.4,SNR=4.6							
KS01	**Wonju Array Si**	**116.89**	**326**	*e*PKPdf		**PKPdf**	**23 20 33.8**	**-0.7**
KSRS	**Korea Array**	**116.89**	**326**	PKP		**PKPdf**	**23 20 34.2**	**-0.2**
	comp=Z,5.7nm,0.7s,baz=19,slow=1.6,SNR=15							
KSRS				SKP			23 23 53.0	
	comp=Z,3.6nm,0.7s,baz=359,slow=1.6,SNR=6.7							
KSRS				PKKPbc		**PKKPbc**	**23 30 58.8**	**-3.0**
	comp=Z,2.9nm,1.0s,baz=200,slow=3.0,SNR=8.0							
KS15	**Wonju Array Si**	**116.92**	**326**	*e*PKPdf		**PKiKP**	**23 20 36.0**	**+1.5**
SYO	**Syowa Base**	**117.26**	**162**	*e*P		**PKPdf**	**23 20 32.0**	**-2.1**
RABL	**Rabaul**	**117.51**	**273**	*e*PKPdf		**PKiKP**	**23 20 37.0**	**+0.7**
ZSN	**Zaisan**	**118.10**	**4**	*e*PP		PP	23 21 52.7	-0.3
MK32	**Makanchi Array**	**118.56**	**6**	*e*PKPdf		**PKPdf**	**23 20 35.5**	**-1.9**
MK32				*e*SKPdf		**SKPdf**	**23 23 54.4**	**-0.3**
MKAR	**Makanchi Array**	**118.56**	**6**	PKP		**PKPdf**	**23 20 35.5**	**-1.9**
	comp=Z,3.1nm,0.4s,baz=339,slow=2.9,SNR=58							
MKAR				SKP			23 23 54.4	
	comp=Z,2.6nm,0.4s,baz=308,slow=3.4,SNR=9.2							
MKAR				PKKPbc	PKKPbc		23 30 46.2	-10
	comp=Z,1.3nm,0.7s,baz=188,slow=3.6,SNR=6.8							
MKAR				PKPPKP			23 39 31.8	
	comp=Z,0.6nm,0.9s,baz=170,slow=3.5,SNR=3.8							
DL2	**Dalian**	**118.90**	**332**	PKP		**PKiKP**	**23 20 39.0**	**+0.7**
DL2				sPKP			23 21 46.0	
DL2				AMB		AMB		
	comp=Z,260nm,4.4s							
BTLS	**Baital**	**119.01**	**12**	*e*PKIKP		**PKPdf**	**23 20 36.4**	**-1.9**
BTLS				*e*			23 21 57.4	
BTLS	**Baital**	**119.01**	**12**	*e*PKP		**PKPdf**	**23 20 36.5**	**-1.9**
BTLS				*e*PP		**PP**	**23 21 57.4**	**-1.8**
BOSA	**Boshof**	**119.27**	**115**	*i* P		**PKiKP**	**23 20 39.4**	**0.0**
BOSA	**Boshof**	**119.27**	**115**	*i* P		**PKiKP**	**23 20 39.4**	**0.0**
BOSA	**Boshof**	**119.27**	**115**	PKP		**PKPdf**	**23 20 38.9**	**-0.5**
	comp=Z,23nm,0.4s,baz=278,slow=1.8,SNR=37							
BOSA				SKP			23 23 57.3	
	comp=Z,24nm,0.9s,baz=256,slow=2.3,SNR=9.3							
BOSA				PKKPbc		**PKKPab**	**23 30 54.4**	**-0.3**
	comp=Z,12nm,0.9s,baz=126,slow=3.2,SNR=13							
LBTB	**Lobatse**	**119.43**	**111**	*e*PKPdf		**PKPdf**	**23 20 39.6**	**-0.2**
LBTB				*e*PKKPbc		**PKKPab**	**23 30 54.2**	**+0.1**
LBTB	**Lobatse**	**119.43**	**111**	*e*PKiKP		**PKPdf**	**23 20 39.6**	**-0.2**
LBTB	**Lobatse**	**119.43**	**111**	SKP		**SKPdf**	**23 23 58.2**	**+1.2**
	comp=Z,13nm,0.9s,baz=249,slow=4.1,SNR=7.7							
LBTB				PKKPbc	PKKPbc		23 30 54.1	+1.9
	comp=Z,15nm,0.8s,baz=131,slow=4.5,SNR=13							
GEYT	**Alibeck**	**120.01**	**28**	PKP		**PKPdf**	**23 20 39.5**	**-1.0**
	comp=Z,10nm,0.5s,baz=304,slow=5.2,SNR=24							
GEYT				PP		**sPKPdf**	**23 21 50.3**	**-0.8**
	comp=Z,20nm,1.0s,baz=299,slow=6.6,SNR=9.4							
GEYT				SKP			23 23 57.5	
	comp=Z,6.0nm,0.6s,baz=316,slow=4.9,SNR=5.8							
GEYT				PKKPbc		**PKKPbc**	**23 30 50.2**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=151,slow=3.4,SNR=5.8							
MBAR	**Mbarara**	**120.29**	**82**	*e*PKPdf		**PKiKP**	**23 20 42.4**	**+0.5**
MBAR				*e*PKKPbc		**PKKPab**	**23 30 53.3**	**+1.9**
MBAR	**Mbarara**	**120.29**	**82**	SKP		**SKPdf**	**23 23 59.1**	**+0.1**
	comp=Z,2.2nm,0.2s,baz=75,slow=1.3,SNR=7.0							
MBAR				PKKPab	PKKPab		23 30 54.2	+2.8
	comp=Z,2.8nm,0.2s,baz=102,slow=13,SNR=5.0							
CHM	**Chimkent**	**120.47**	**17**	*e*PKIKP		**PKPdf**	**23 20 37.8**	**-3.5**
CHM				*e*			23 22 06.8	
CHM	**Chimkent**	**120.47**	**17**	*e*PKP		**PKPdf**	**23 20 37.8**	**-3.5**
CHM				*e*PP		**PP**	**23 22 06.8**	**-2.6**
KUU	**Kurty**	**120.57**	**11**	*e*PKIKP		**PKPdf**	**23 20 39.5**	**-1.9**
KUU				*e*			23 22 06.5	
KUU	**Kurty**	**120.57**	**11**	*e*PKP		**PKPdf**	**23 20 39.5**	**-1.9**
KUU				*e*PP		**PP**	**23 22 06.5**	**-3.4**
IUG	**luzhnay**	**120.75**	**17**	*e*PKIKP		**PKPdf**	**23 20 40.0**	**-1.9**
IUG				*e*			23 22 09.8	
IUG	**luzhnay**	**120.75**	**17**	*e*PKP		**PKPdf**	**23 20 40.1**	**-1.9**
IUG				*e*PP		**PP**	**23 22 09.9**	**-1.6**
USP	**Ospenovka**	**120.80**	**13**	P		**PKPdf**	**23 20 41.6**	**-0.3**
	SNR=17							
LSZ	**Lusaka**	**120.92**	**99**	*e*PKPdf		**PKPdf**	**23 20 42.0**	**-0.9**
LSZ				*e*PKKPbc		**PKKPab**	**23 30 48.9**	**+0.9**
LSZ	**Lusaka**	**120.92**	**99**	*e*PKIKP		**PKPdf**	**23 20 42.0**	**-0.9**
LSZ	**Lusaka**	**120.92**	**99**	SKP			23 24 02.2	
	comp=Z,11nm,0.9s,baz=76,slow=0.7,SNR=6.9							
LSZ				PKKPbc	PKKPbc		23 30 48.2	+1.6
	comp=Z,3.8nm,0.8s,baz=161,slow=3.3,SNR=6.1							
CHMS	**Chumysh**	**121.11**	**13**	P		**PKiKP**	**23 20 43.6**	**+0.9**
	SNR=5.4							
ARMA	**Armidale**	**121.16**	**243**	*e*PKPdf		**PKiKP**	**23 20 44.8**	**+1.7**
HHC	**Hu-ho-hao-te**	**121.18**	**341**	*e*PKP		**PKPdf**	**23 20 41.5**	**-1.3**
HHC				SKS		**SKSdf**	**23 27 32.0**	**-4.7**
HHC				AMB		AMB		
	comp=Z,480nm,11.0s							
FRU1	**Bishkek**	**121.27**	**13**	*e*PKPdf		**PKiKP**	**23 20 42.9**	**-0.1**
FRU1				*e*PP		PP	23 22 05.3	-10
AAA	**Alma-Ata**	**121.33**	**11**	*e*PKIKP		**PKPdf**	**23 20 40.4**	**-2.6**
AAA	**Alma-Ata**	**121.33**	**11**	*e*PKP		**PKPdf**	**23 20 40.4**	**-2.6**
TKM2	**Tokmak 2**	**121.36**	**12**	P		**PKPdf**	**23 20 42.6**	**-0.6**
	SNR=11							
KPKS	**Kokpek**	**121.38**	**9**	*e*PKIKP		**PKiKP**	**23 20 43.7**	**+0.5**
KPKS				*e*			23 22 20.9	
KPKS	**Kokpek**	**121.38**	**9**	*e*PKP		**PKiKP**	**23 20 43.8**	**+0.5**
KPKS				*e*PP		**PP**	**23 22 21.0**	**+5.4**
AAK	**Ala-Archa**	**121.40**	**13**	P		**PKPdf**	**23 20 43.0**	**-0.2**
	SNR=9.7							
AAK	**Ala-Archa**	**121.40**	**13**	*e*PKPdf		**PKPdf**	**23 20 42.9**	**-0.4**
AAK				*e*PP		PP	23 22 05.3	-11
AAK	**Ala-Archa**	**121.40**	**13**	*e*PKIKP		**PKPdf**	**23 20 42.9**	**-0.4**
MDOK	**Medeo**	**121.40**	**11**	*e*PKIKP		**PKPdf**	**23 20 40.8**	**-2.4**
MDOK				*e*			23 22 14.6	
MDOK	**Medeo**	**121.40**	**11**	*e*PKP		**PKPdf**	**23 20 40.9**	**-2.4**
MDOK				*e*PP		**PP**	**23 22 14.7**	**-1.1**
KBK	**Karagaybulak**	**121.48**	**13**	P		**PKiKP**	**23 20 44.7**	**+1.2**
	SNR=9.7							
TNSS	**Tian-Shan**	**121.51**	**11**	*e*PKIKP		**PKPdf**	**23 20 42.7**	**-1.0**
TNSS	**Tian-Shan**	**121.51**	**11**	*e*PKP		**PKPdf**	**23 20 42.8**	**-1.0**
MANU	**Manus Island**	**121.59**	**277**	*e*PKPdf		**PKiKP**	**23 20 46.1**	**+1.8**
ZHN	**Zhinishke**	**121.63**	**10**	*e*PKIKP		**PKPdf**	**23 20 42.0**	**-1.6**
ZHN	**Zhinishke**	**121.63**	**10**	*e*PKP		**PKPdf**	**23 20 42.0**	**-1.6**
AML	**Almayashu**	**121.70**	**14**	P		**PKPdf**	**23 20 44.1**	**-0.1**
	SNR=26							
SATY	**Saty**	**121.73**	**10**	*e*PKIKP		**PKPdf**	**23 20 41.9**	**-1.9**
SATY	**Saty**	**121.73**	**10**	*e*PKP		**PKPdf**	**23 20 41.9**	**-1.9**
UZB	**Uzynbulak**	**121.75**	**9**	*e*PKIKP		**PKPdf**	**23 20 42.5**	**-1.3**
UZB	**Uzynbulak**	**121.75**	**9**	*e*PKP		**PKPdf**	**23 20 42.6**	**-1.3**
MATP	**Matopo**	**121.79**	**105**	*i* P		**PKPdf**	**23 20 44.2**	**-0.2**
MATP	**Matopo**	**121.79**	**105**	*i* P		**PKPdf**	**23 20 44.2**	**-0.2**
MATP	**Matopo**	**121.79**	**105**	PKKPab	PKKPab		23 30 45.6	+1.5
	comp=Z,2.6nm,0.6s,baz=103,slow=2.0,SNR=12							
UCH	**Uchtor**	**121.80**	**13**	P		**PKiKP**	**23 20 44.8**	**+0.2**
	SNR=13							
SHLS	**Shalkode**	**121.80**	**9**	*e*PKIKP		**PKPdf**	**23 20 42.8**	**-1.1**
SHLS				*e*			23 22 18.0	
SHLS	**Shalkode**	**121.80**	**9**	*e*PKP		**PKPdf**	**23 20 42.8**	**-1.1**
SHLS				*e*PP		**PP**	**23 22 18.0**	**-0.4**
WMQ	**Urumqi**	**121.85**	**2**	PKP		**PKiKP**	**23 20 44.0**	**-0.1**
WMQ				PP		**PP**	**23 22 21.5**	**+2.9**
WMQ				SKS		**SKSdf**	**23 27 32.5**	**-5.2**
WMQ				SKKS		**SKKSac**	**23 28 56.3**	**-3.4**
WMQ				SS		**SS**	**23 38 42.0**	**+2.6**
WMQ				AMB		AMB		
	comp=Z,800nm,11.7s							
WMQ				LR		LR		
	comp=Z,2μm,29.7s							
WMQ				LR		LR		
	comp=Z,4μm,27.5s							
WMQ				LR		LR		
	comp=Z,4μm,22.9s							
BLWY	**Bulawayo**	**121.86**	**105**	*i* P		**PKPdf**	**23 20 42.7**	**-2.0**
BLWY	**Bulawayo**	**121.86**	**105**	*i* P		**PKPdf**	**23 20 42.7**	**-2.0**
KZA	**Kyzart**	**122.10**	**13**	P		**PKPdf**	**23 20 44.8**	**-0.1**
	SNR=17							
ULHL	**Ulahol**	**122.14**	**12**	P		**PKiKP**	**23 20 45.5**	**+0.6**
	SNR=5.3							
ARSB	**Arslanbob**	**122.30**	**15**	*e*PKPdf		**PKPdf**	**23 20 44.8**	**-0.2**
KDJ	**Kajisay**	**122.43**	**11**	*e*PKPdf		**PKiKP**	**23 20 45.6**	**+0.2**
KDJ	**Kajisay**	**122.43**	**11**	*e*PKIKP		**PKiKP**	**23 20 45.6**	**+0.2**
NRN	**Naryn**	**122.87**	**12**	*e*PKPdf		**PKPdf**	**23 20 46.0**	**-0.3**
NRN				*e*PP		PP	23 22 15.2	-11
NRN	**Naryn**	**122.87**	**12**	*e*PKIKP		**PKPdf**	**23 20 46.0**	**-0.3**
MSNA	**Messina**	**123.34**	**107**	*i* P		**PKPdf**	**23 20 45.7**	**-1.6**
MSNA	**Messina**	**123.34**	**107**	*i* P		**PKPdf**	**23 20 45.7**	**-1.6**
PMG	**Port Moresby**	**123.51**	**268**	*e*PKPdf		**PKiKP**	**23 20 49.3**	**+1.3**
PMG	**Port Moresby**	**123.51**	**268**	PKP		**PKiKP**	**23 20 48.4**	**+0.4**
	comp=Z,21nm,0.6s,baz=26,slow=7.2,SNR=8.9							
TIY	**Taiyuan**	**123.69**	**338**	PKP		**PKiKP**	**23 20 49.5**	**+1.6**
TIY				AMB		AMB		
	comp=Z,500nm,7.5s							
TIY				LR		LR		
	comp=Z,310nm,10.9s							
TIY				LR		LR		
	comp=Z,290nm,14.1s							
TIY				LR		LR		
	comp=Z,800nm,18.5s							
MAW	**Mawson**	**124.25**	**168**	*e*PKPdf		**PKiKP**	**23 20 48.0**	**+0.1**
MAW	**Mawson**	**124.25**	**168**	PKP		**PKiKP**	**23 20 47.8**	**0.0**
	comp=Z,90nm,0.7s,baz=236,slow=4.5,SNR=36							
KSH	**Kashi**	**124.71**	**13**	PKP		**PKiKP**	**23 20 49.8**	**-0.2**
KSH				AMB		AMB		
	comp=Z,1μm,5.4s							
KSH				LR		LR		
	comp=Z,470nm,16.5s							
KSH				LR		LR		
	comp=Z,670nm,15.7s							
KSH				LR		LR		
	comp=Z,720nm,19.1s							
SSE	**Sheshan**	**125.33**	**326**	PKP		**PKPdf**	**23 20 48.0**	**-2.8**
SSE				AMB		AMB		
	comp=Z,170nm,5.1s							
SSE				LR		LR		
	comp=Z,410nm,25.5s							
SSE				LR		LR		
	comp

comp=N,280nm,22.0s
GYA LR LR
comp=E,200nm,21.9s
GYA LR LR
comp=Z,220nm,22.2s
LSA Lhasa 135.94 358 *e*PKPdf **PKPdf 23 21 12.1 +0.5**
SIJI Sorong 136.56 284 PKhKP PKPpre 23 21 02.9
comp=Z,18nm,0.8s,baz=11,slow=2.2,SNR=5.8
SIJI PKP **PKPdf 23 21 13.4 +0.8**
comp=Z,80nm,0.9s,baz=45,slow=3.7,SNR=14
SIJI SKP 23 24 28.6
comp=Z,25nm,0.8s,baz=54,slow=4.7,SNR=11
MCO Taipa Grande 136.57 327 P **SKPdf 23 24 28.0 -1.1**
DANN Dangsing 136.95 7 *e*P PKPpre 23 21 03.2
WB2 Warramunga Arr 136.96 256 *e*PKPpre PKPpre 23 21 05.1
WB2 *e*PKPdf **PKiKP 23 21 14.4 -0.6**
WRAB Tennant Creek 136.96 256 *e*PKPpre PKPpre 23 21 05.0
WRAB *e*PKPdf **PKiKP 23 21 14.5 -0.5**
WRAB Tennant Creek 136.96 256 *e*PKHKP PKPpre 23 21 05.0
WRAB *e* 23 21 14.5
WR1 Warramunga Arr 136.97 256 *e*PKPpre PKPpre 23 21 05.3
WR1 *e*PKPdf **PKiKP 23 21 14.6 -0.3**
WR1 *ep*PKPdf pPKPdf 23 22 04.9 +0.8
WR1 *e*SKPbc **SKPbc 23 24 30.2 +2.3**
WRA Warramunga Arr 136.97 256 PKhKP PKPpre 23 21 05.3
comp=Z,19nm,0.8s,baz=87,slow=3.4,SNR=64
WRA PKP **PKiKP 23 21 14.6 -0.3**
comp=Z,262nm,0.9s,baz=85,slow=1.7,SNR=100
WRA pPKP pPKPdf 23 22 04.9 +0.8
comp=Z,23nm,0.9s,baz=88,slow=1.2,SNR=2.2
WRA SKP 23 24 30.2
comp=Z,74nm,0.8s,baz=85,slow=2.7,SNR=20
WRA SKKPbc SKKPbc 23 33 23.3 +3.1
comp=Z,10nm,0.8s,baz=284,slow=2.7,SNR=17
PYUN Piuthan 137.09 8 *e*P PKPpre 23 21 05.2
comp=Z,60nm,0.5s
AS01 Alice Springs 137.21 251 *e*PKPpre PKPpre 23 21 00.5
AS31 Alice Springs 137.25 251 *e*PKPpre PKPpre 23 21 02.2
AS31 *e*PKPdf **PKiKP 23 21 14.6 -0.9**
ASAR Alice Springs 137.25 251 PKhKP PKPpre 23 21 01.9
comp=Z,7.6nm,0.6s,baz=98,slow=3.4,SNR=33
ASAR PKP **PKiKP 23 21 14.6 -0.9**
comp=Z,96nm,0.9s,baz=100,slow=2.1,SNR=40
ASAR pPKP pPKPdf 23 22 05.8 +1.2
comp=Z,7.0nm,0.7s,baz=106,slow=2.4,SNR=1.1
ASAR SKP 23 24 30.3
comp=Z,25nm,0.9s,baz=96,slow=3.6,SNR=17
ASAR SKKPbc SKKPbc 23 33 18.9 -0.5
comp=Z,7.6nm,0.8s,baz=276,slow=3.5,SNR=18
KOLN Koldanda 137.50 8 *e*P PKPpre 23 21 06.0
GUN Gumba 137.60 5 *e*P PKPpre 23 21 03.7
comp=Z,80nm,0.7s
BHJ Bhuj 137.66 28 *e*P **PKPdf 23 21 13.6 -0.7**
BHJ IAMs_20 IAMs_20 00 08 48.0
comp=Z,8μm,59.1s
KKN Kakani 137.67 6 *e*P PKPpre 23 21 03.8
DMN Daman 137.83 6 *e*P PKPpre 23 21 05.7
JIRN Jiri 137.88 4 *e*P PKPpre 23 21 04.9
comp=Z,42nm,0.5s
PKIN Phulchoki 137.89 5 *e*P PKPpre 23 21 06.2
PKI Pulchoki 137.90 5 *e*P PKPpre 23 21 05.4
KMI Kunming 138.48 342 PKP **PKPdf 23 21 15.3 -0.8**
KMI AMB AMB
comp=Z,760nm,5.9s
KMI LR LR
comp=Z,530nm,20.1s
KMI LR LR
comp=Z,430nm,20.7s
KMI LR LR
comp=Z,880nm,23.5s
RAMN Ramite 138.61 4 *e*P PKPpre 23 21 07.8
comp=Z,53nm,0.5s
KCP Kidapawan 138.71 299⇑ *e*P PKPpre 23 21 09.9
OPO Ambohidratompo 139.30 102 PKhKP PKPpre 23 21 10.7
comp=Z,2.2nm,0.5s,baz=292,slow=8.9,SNR=5.1
OPO PKP **PKPdf 23 21 16.7 -0.9**
comp=Z,6.2nm,0.5s,baz=263,slow=4.1,SNR=8.0
OPO SKPbc **SKPbc 23 24 36.1 +1.3**
comp=Z,52nm,0.8s,baz=250,slow=3.5,SNR=34
OPO SKKPbc **SKKPbc 23 33 16.0 +4.6**
comp=Z,3.7nm,0.8s,baz=82,slow=4.9,SNR=4.9
MTN Manton Dam 139.58 267 *e*PKPpre PKPpre 23 21 11.6
MTN *e*PKPdf **PKPdf 23 21 19.0 +1.0**
SHL Shillong 140.02 357 *e*PKPdf **PKPdf 23 21 18.4 -0.4**
SHL Shillong 140.02 357 *e*PKIKP **PKPdf 23 21 18.4 -0.4**
SHL Shillong 140.02 357 *e*P **PKPdf 23 21 18.0 -0.8**
BHPL Bhopal 140.58 18 *e*P **PKPdf 23 21 19.4 -0.4**
QIZ Qiongzhong 141.06 328 PKP **PKPdf 23 21 19.5 -1.1**
QIZ sPKP 23 22 31.8
QIZ AMB AMB
comp=Z,470nm,7.5s
QIZ LR LR
comp=Z,370nm,17.3s
QIZ LR LR
comp=Z,580nm,20.0s
FORT Forrest 141.19 239 *e*PKPpre PKPpre 23 21 16.4
FORT *e*PKPdf **PKPdf 23 21 21.1 +0.6**
JBP Jabalpur 141.33 14 *e*P **PKPdf 23 21 19.6 -1.4**
JBP *ex* x 23 24 26.3
BOK Bokaro 141.69 5 *e*P **PKPdf 23 21 19.2 -2.5**
BRDH Bariadhala 142.91 357 SKPbc **SKiKP 23 24 45.0 0.0**
comp=Z,113nm,0.4s,baz=101,slow=3.0,SNR=3.6
NGP Nagpur 143.02 16 *ex* **PKPdf 23 21 30.9 +6.8**
POO Poona 143.65 26 *e*P PKPbc 23 21 23.9 +0.7
LUWI Luwuk 144.49 289 *e*PKPdf **PKPdf 23 21 26.6 -0.3**
NONG Nongkai 144.88 337 PKP PKPbc 23 21 26.0 -0.9
MSEY Mahe Island 145.07 77 *i* P **PKPbc 23 21 26.9 -0.9**
SNR=40
FITZ Fitzroy Crossi 145.20 259 *e*PKPdf **PKPab 23 21 29.3 +1.0**
FITZ Fitzroy Crossi 145.20 259 PKPbc **PKPab 23 21 28.9 +0.7**
comp=Z,218nm,0.7s,baz=111,slow=2.2,SNR=190
FITZ pPKPbc pPKPbc 23 22 18.4 +0.2
comp=Z,56nm,1.0s,baz=82,slow=4.9,SNR=2.0
FITZ SKPbc **SKiKP 23 24 52.3 +2.5**
comp=Z,79nm,0.8s,baz=156,slow=2.6,SNR=15
FITZ SKKPab **SKKPab 23 32 47.3 -0.1**
comp=Z,5.1nm,0.8s,baz=229,slow=4.4,SNR=6.8
CHTO Chiang Mai 145.53 344 *e*PKPdf **PKPdf 23 21 27.6 -0.9**
CHTO Chiang Mai 145.53 344 *e*PKIKP **PKPdf 23 21 27.6 -0.9**
CMMT Chiang Mai 145.53 344 PKP **PKPdf 23 21 27.6 -0.9**
SOEI Soe 145.72 274 *e*PKPdf **PKPab 23 21 31.5 +1.0**
CM31 Chiang Mai Arr 145.87 344 *e*PKPdf **PKPbc 23 21 30.2 +0.2**
CMAR Chiang Mai Arr 145.87 344 PKPbc **PKPdf 23 21 29.2 +0.1**
comp=Z,46nm,0.6s,baz=344,slow=4.3,SNR=81
CMAR SKPbc **SKiKP 23 24 52.0 +0.7**
comp=Z,28nm,0.8s,baz=343,slow=2.9,SNR=12
CMAR SKKPbc **SKKPbc 23 32 43.6 -0.3**
comp=Z,6.0nm,0.9s,baz=216,slow=4.9,SNR=11
GOA Goa 146.32 28 *e*P **PKPdf 23 21 30.1 +0.3**
GOA IAMs_20 IAMs_20 00 12 53.4
comp=Z,7μm,58.5s
BATI Baumata 146.39 273 PKPbc **PKPbc 23 21 32.2 +0.5**
comp=Z,460nm,0.6s,baz=183,slow=1.4,SNR=64
BATI SKPbc **SKiKP 23 24 55.3 +2.9**
comp=Z,71nm,0.7s,baz=76,slow=1.8,SNR=4.4
HYB Hyderabad 146.40 19 *i* PKP **PKPbc 23 21 31.0 -0.6**
HYB *ep*PKP pPKPbc 23 22 21.5 -0.2
HYB *e*PP **PP 23 24 54.0 -0.2**
HYB *e* 23 26 04.0
HYB *e*SKKS 23 31 26.0
HYB *e* 23 32 54.0
HYB *e* 23 36 16.0
HYB Hyderabad 146.40 19 *e*P **PKPdf 23 21 29.9 -0.1**
HYB IAmb IAmb 23 21 32.5
comp=Z,57nm,1.7s
KKM Kota Kinabalu 146.52 306 *e*PKPdf **PKPbc 23 21 32.7 +0.6**
KHON Khomkaen 146.58 336 PKP **PKPbc 23 21 32.1 0.0**
RER Riviere de l'E 147.24 106 *e*PKPbc **PKPbc 23 21 34.5 +0.5**
CHAI Chaiyaphum 147.29 337 PKP **PKPbc 23 21 33.4 -0.7**
MMRI Maumere 147.44 277 *e*PKPdf **PKPbc 23 21 34.0 -0.6**
UMPA Umpang Tak 148.04 343 PKP **PKPbc 23 21 36.2 +0.1**
NWAO Narrogin (SRO) 148.90 229 *e*PKPdf **PKPdf 23 21 35.4 +1.7**
NWAO *ep*PKPdf **pPKPbc 23 22 28.1 -0.1**
NWAO Narrogin (SRO) 148.90 229 PKP **PKPdf 23 21 35.1 +1.4**
comp=Z,113nm,1.0s,baz=108,slow=3.7,SNR=14
NWAO PKPbc **PKiKP 23 21 38.9 -0.2**
comp=Z,59nm,0.6s,baz=111,slow=4.9,SNR=24
NWAO pPKPbc **pPKPbc 23 22 28.1 -0.1**
comp=Z,74nm,0.9s,baz=121,slow=4.6,SNR=4.0
MRIV Mauritius Mete 148.96 105 *e*PKPdf **PKPdf 23 21 34.5 +0.4**
MRIV *e*PKPbc **PKiKP 23 21 39.0 -0.5**
SRAK Srakaew 149.00 336 PKP **PKPbc 23 21 38.3 -0.2**
SRDT SRDT 149.72 341 PKP **PKPbc 23 21 40.1 -0.2**
PHET Kaeng Krachan 150.90 339 PKP **PKiKP 23 21 43.4 -0.3**

MDRS Chennai 151.03 19 *e*P **PKPdf 23 21 37.0 -0.5**
MORW Morawa 151.57 235 *e*PKPdf **PKPdf 23 21 38.2 +0.3**
MORW *e*PKPbc **PKiKP 23 21 45.8 +1.0**
SBUM Sibu 151.85 305 *e*PKPdf **PKPdf 23 21 40.0 +1.2**
SBUM *e*PKPbc **PKiKP 23 21 47.1 +1.4**
DGPR DIGLIPUR 152.21 353 *e*P **PKPdf 23 21 38.5 -0.7**
PBA Port Blair 153.73 353 *e*PKPdf PKPdf 23 21 41.8 +0.3
PBA *e*PKPbc PKPbc 23 21 49.4 0.0
PBA *e*PKPab PKPab 23 22 01.8 -1.0
PBA Port Blair 153.73 353 *e*P PKPdf 23 21 41.2 -0.2
TRD Trivandrum 153.89 29 *e*P **PKPdf 23 21 40.1 -1.6**
KSM Kuching 153.96 306 *e*PKPdf **PKPdf 23 21 42.5 +0.6**
KSM *e*PKPab **PKPab 23 22 05.7 +1.6**
JAGI Jajag, Banyuwa 155.13 281 *e*PKPdf **PKPdf 23 21 43.1 -0.4**
CMBY CAMPBELL BAY 158.10 348 *e*P **PKPdf 23 21 47.3 0.0**
SMRI Semarang 158.14 288 *e*PKPdf **PKPdf 23 21 48.3 +0.9**
SMRI *e*PKPab **PKPab 23 22 21.8 -0.3**
UGM Wanagama 158.37 286 *e*PKPdf **PKPdf 23 21 46.6 -1.0**
UGM *e*PKPab **PKPab 23 22 20.3 -2.8**
PSI Prapat 160.37 331 *e*PKPdf **PKPdf 23 21 49.9 -0.2**
PSI *e*PKPab **PKPab 23 22 30.2 -1.4**
PSI *e*PP **PP 23 26 13.4 +0.2**
PSI Prapat 160.37 331 *e*PKIKP **PKPdf 23 21 49.9 -0.2**
PSI *e* 23 22 30.2
PSI *e* 23 26 13.4
CISI Cisompet, Garu 160.75 289 *e*PKPdf **PKPdf 23 21 49.5 -0.9**
CISI *e*PKPab **PKPab 23 22 33.5 0.0**

*MAN **25** 23:21:56.2, 17°.58N×119°.24E, h3km, MS3.3*
*IDC **25** 23:22:12.3±3.7, 17°.12N×120°.13E, h100km±33km, mb3.3/4, mb1 3.6/5, mb1mx3. 1/65, mbtmp3.8/5, Error ellipse: s-maj=86.9km s-min=21.7km az=83.0*
ISC 25 23:22:02.1±2.3, **17°.24N**±0°.06×**119°.7E**±0°.1, **h17**km±13km, **n12**, σ1**§63/17**, **mb3.6**/4, **1D**, **Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.89**	**166**	*e*P		**Pn**		**23 22 21.2**	**+1.4**
BOLP				*e*S		**Sb**		**23 22 32.5**	**+1.9**
ABRA	**Dolores**	**1.06**	**67**	*e*P		**Pg**		**23 22 22.5**	**-0.2**
ABRA				*e*S		**Sb**		**23 22 34.9**	**-0.8**
SMPP	**San Manuel, Pa**	**1.45**	**139**	*e*P		**Pn**		**23 22 27.6**	**0.0**
SMPP				*e*S		**Sn**		**23 22 45.1**	**-1.1**
APYP	**Conner**	**1.61**	**67**	*e*P		**Pb**		**23 22 30.1**	**-1.3**
APYP				*e*S		**Sn**		**23 22 48.5**	**-1.7**
CAUP	**Cauayan**	**2.07**	**98**	*e*P		**Pb**		**23 22 39.6**	**+0.4**
CVP	**Callao Caves**	**2.09**	**77**	*i*P		**Pn**		**23 22 36.4**	**-0.1**
CVP				*i*S		**Sb**		**23 23 07.3**	**+1.9**
PALP	**Palanan**	**2.63**	**93**	*e*P		**Pn**		**23 22 46.6**	**+2.8**
TGY	**Tagaytay City**	**3.35**	**159**	P		**Pb**		**23 22 59.6**	**-1.5**
	24nm,0.3s,baz=236,slow=4.6,SNR=5.0								
TGY				S		**Sb**		**23 23 42.1**	**+0.4**
	66nm,0.3s,baz=143,slow=22,SNR=4.0								
KSRS	**Korea Array**	**21.40**	**18**	P		**P**		**23 26 51.4**	**+2.3**
	0.6nm,0.4s,baz=200,slow=12,SNR=4.1								
WRA	**Warramunga Arr**	**39.66**	**158**	P		**P**		**23 29 31.8**	**-1.6**
	0.5nm,0.5s,baz=335,slow=9.6,SNR=9.0								
ASAR	**Alice Springs**	**42.97**	**161**	P		**P**		**23 29 59.9**	**-0.7**
	1.4nm,0.9s,baz=340,slow=7.2,SNR=5.3								
NOA	**NORSAR Array B**	**83.68**	**332**	P		P		23 34 31.4	+1.5
	0.4nm,0.6s,baz=64,slow=4.9,SNR=3.6								

*ISCJB **25** 23:31:06.9±0.6, 22°.81N±0°.02×121°.42E±0°.03, h110km±4km, Error ellipse: s-maj=4.8km s-min=3.4km az=25.1*
*JMA **25** 23:31:06.5±0.3, 22°.83N×121°.46E, h106km*
*TAP **25** 23:31:06.5, 22°.79N×121°.44E, h113km±1km, ML4.0, C*
ISC 25 23:31:06.7±1.6, **22°.80N**±0°.04×**121°.43E**±0°.04, **h113**km±8km, **n63**, σ0**§80**/113, **5D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.27**	**260**	*e*P		**Pn**		**23 31 23.4**	**+0.7**
	baz=261								
TTN				*e*S		**Sn**		**23 31 36.8**	**+2.2**
	baz=261								
CHKT	**Chengkung**	**0.30**	**348**	*i*P		**Pn**		**23 31 22.9**	**+0.1**
	baz=348								
CHKT				S		**Sn**		**23 31 35.2**	**+0.3**
	baz=348								
TWGBT	**Beinan**	**0.33**	**273**	P		**Pn**		**23 31 22.6**	**-0.3**
	baz=274								
TWGBT				S		**Sn**		**23 31 34.8**	**-0.3**
	baz=274								
TWG	**Pinlang**	**0.33**	**274**	P		**Pn**		**23 31 22.6**	**-0.3**
	baz=274								
TWG				S		**Sn**		**23 31 34.7**	**-0.4**
	baz=274								
FULB	**Fuli**	**0.42**	**342**	*i* P		**Pn**		**23 31 23.6**	**+0.2**
	baz=341								
FULB				*i* S		**Sn**		**23 31 36.1**	**+0.2**
	baz=341								
ECL	**Taimali**	**0.48**	**245**	*e*P		**Pn**		**23 31 23.6**	**-0.2**
	baz=246								
ECL				*e*S		**Sn**		**23 31 35.6**	**-1.0**
	baz=246								
ELDTW	**Lidau**	**0.54**	**315**	*i*P		**Pn**		**23 31 24.6**	**+0.3**
	baz=315								
ELDTW				*i* S		**Sn**		**23 31 37.8**	**+0.3**
	baz=315								
TWF1	**Yuli**	**0.56**	**347**	*i*P		**Pn**		**23 31 23.9**	**-0.4**
	baz=347								
TWF1				*e*S		**Sn**		**23 31 36.2**	**-1.3**
	baz=347								
YULB	**Yu-li**	**0.60**	**348**	*i*P		**Pn**		**23 31 24.1**	**-0.5**
	baz=347								
YULB				*i* S		**Sn**		**23 31 36.8**	**-1.3**
	baz=347								
HGSD	**Ruisui**	**0.69**	**359**	*e*P		**Pn**		**23 31 25.5**	**+0.3**
	baz=358								
HGSD				*e*S		**Sn**		**23 31 39.7**	**+0.5**
	baz=358								
EHY	**Hungye**	**0.71**	**352**	P		**Pn**		**23 31 25.0**	**-0.4**
	baz=352								
EHY				S		**Sn**		**23 31 38.2**	**-1.4**
	baz=352								
STYT	**Tauyuan**	**0.72**	**300**	*i*P		**Pn**		**23 31 25.9**	**+0.4**
	baz=300								
STYT				*i* S		**Sn**		**23 31 39.7**	**0.0**
	baz=300								
SLGT	**Liugui**	**0.75**	**285**	P		**Pn**		**23 31 26.3**	**+0.6**
	baz=285								
SLGT				S		**Sn**		**23 31 40.2**	**+0.1**
	baz=285								
MASBT	**Mashibuluo**	**0.76**	**256**	*e*P		**Pn**		**23 31 26.5**	**+0.7**
	baz=256								
MASBT				*e*S		**Sn**		**23 31 39.9**	**-0.4**
	baz=256								
LAY	**Lan-yu**	**0.77**	**172**	*e*P		**Pn**		**23 31 25.5**	**-0.5**
	baz=171								
LAY				*e*S		**Sn**		**23 31 39.2**	**-1.2**
	baz=171								
SGST	**Jiashian**	**0.83**	**290**	*e*P		**Pn**		**23 31 27.1**	**+0.6**
	baz=290								
SSPT	**Xinbi**	**0.86**	**249**	*e*P		**Pn**		**23 31 27.6**	**+1.0**
	baz=249								
SSPT				*e*S		**Sn**		**23 31 42.3**	**+0.5**
	baz=249								
SCZT	**Fangliau**	**0.86**	**241**	*e*P		**Pn**		**23 31 27.2**	**+0.5**
	baz=240								
SCZT				*e*S		**Sn**		**23 31 41.2**	**-0.6**
	baz=240								
EGFH	**Guangfu**	**0.86**	**360**	*e*P		**Pn**		**23 31 26.4**	**-0.4**
	baz=359								
EGFH				*e*S		**Sn**		**23 31 40.7**	**-1.3**
	baz=359								
WTP	**Ta-pu**	**0.87**	**301**	P		**Pn**		**23 31 27.3**	**+0.4**
	baz=300								
WTP				S		**Sn**		**23 31 41.7**	**-0.5**
	baz=300								
TPUB	**Ta-pu**	**0.89**	**304**	P		**Pn**		**23 31 27.2**	**+0.2**
	baz=304								
TPUB				S		**Sn**		**23 31 42.3**	**-0.1**
	baz=304								
ALS	**Alishan**	**0.91**	**321**	P		**Pn**		**23 31 27.8**	**+0.2**
	baz=321								
ALS				S		**Sn**		**23 31 43.1**	**-0.2**
	baz=321								
CHN1	**Nanshi**	**0.92**	**295**	*e*P		**Pn**		**23 31 27.7**	**+0.4**
	baz=295								
CHN1				*e*S		**Sn**		**23 31 42.8**	**0.0**
	baz=295								
TWM1	**Shoushan**	**0.93**	**272**	*e*P		**Pn**		**23 31 28.9**	**+1.5**
	baz=271								
CHN4	**Tsaushan**	**0.95**	**306**	*e*P		**Pn**		**23 31 27.9**	**+0.3**
	baz=305								
CHN4				*e*S		**Sn**		**23 31 43.4**	**+0.1**
	baz=305								
SNST	**Tainan City**	**0.96**	**296**	*e*P		**Pn**		**23 31 28.1**	**+0.5**
	baz=296								
SNST				*e*S		**Sn**		**23 31 43.1**	**-0.4**
	baz=296								
TWK	**Hsinying**	**0.98**	**298**	*e*P		**Pn**		**23 31 28.2**	**+0.2**
	baz=298								
TWK				*e*S		**Sn**		**23 31 43.1**	**-1.0**
	baz=298								
VWDT	**VWDT**	**0.99**	**344**	*e*P		**Pn**		**23 31 29.1**	**+1.1**
	baz=344								
VWDT				*e*S		**Sn**		**23 31 44.9**	**+0.9**
	baz=344								
ESL	**Shilin**	**1.01**	**0**	*e*P		**Pn**		**23 31 28.1**	**-0.1**
ESL				*e*S		**Sn**		**23 31 43.2**	**-1.3**
CHN3	**Shinhua**	**1.02**	**286**	*e*P		**Pn**		**23 31 29.8**	**+1.5**
	baz=285								
TWKBT	**Hengchun**	**1.03**	**214**	*e*P		**Pn**		**23 31 29.1**	**+0.7**
	baz=214								
TWKBT				*e*S		**Sn**		**23 31 45.1**	**+0.3**
	baz=214								
TWK1	**Hengchun**	**1.03**	**214**	*e*P		**Pn**		**23 31 29.1**	**+0.6**
	baz=214								
TWK1				*e*S		**Sn**		**23 31 45.1**	**+0.3**
	baz=214								
WHYT	**Xinyi Township**	**1.04**	**329**	*e*S		**Sn**		**23 31 44.3**	**-0.8**
	baz=329								
CHN5	**Tsauling**	**1.05**	**319**	*e*P		**Pn**		**23 31 29.1**	**+0.3**
	baz=318								
CHN5				*e*S		**Sn**		**23 31 45.3**	**-0.1**
	baz=318								
WLCH	**Liuqiu**	**1.07**	**245**	*e*P		**Pn**		**23 31 29.9**	**+1.1**
	baz=245								
SSLB	**Suanglung**	**1.08**	**336**	*e*P		**Pn**		**23 31 29.0**	**+0.1**
	baz=335								
SSLB				*e*S		**Sn**		**23 31 45.5**	**-0.3**
	baz=335								
CHN2	**Minshiung**	**1.14**	**310**	*e*P		**Pn**		**23 31 30.0**	**+0.4**
	baz=309								
CHN2				*e*S		**Sn**		**23 31 47.3**	**+0.4**
	baz=309								
CHY	**Chiayi**	**1.16**	**307**	*e*P		**Pn**		**23 31 29.9**	**+0.1**
	baz=307								
CHY				*e*S		**Sn**		**23 31 46.3**	**-0.9**
	baz=307								
OWD	**Renai**	**1.17**	**348**	*e*S		**Sn**		**23 31 47.7**	**-0.1**
	baz=348								
SMLT	**Sun Moon Lake**	**1.18**	**336**	*e*S		**Sn**		**23 31 49.1**	**+1.1**
	baz=335								
SCLT	**Jiali**	**1.20**	**288**	*e*S		**Sn**		**23 31 48.7**	**+0.7**
	baz=288								
WDLH	**Douliu**	**1.21**	**317**	*e*P		**Pn**		**23 31 30.6**	**+0.3**
	baz=317								
WDLH				*e*S		**Sn**		**23 31 48.2**	**0.0**
	baz=317								
TYC	**Yuchr**	**1.22**	**334**	*e*P		**Pn**		**23 31 30.6**	**+0.2**
	baz=334								
TYC				*e*S		**Sn**		**23 31 47.8**	**-0.6**
	baz=334								
CHN8	**Yiju**	**1.25**	**296**	*e*S		**Sn**		**23 31 49.0**	**+0.1**
	baz=296								
CHGB	**Renai**	**1.28**	**349**	*e*P		**Pn**		**23 31 32.3**	**+1.0**
	baz=349								
CHGB				*e*S		**Sn**		**23 31 50.6**	**+0.6**
	baz=349								
TWD	**Chiawan**	**1.28**	**7**	*e*P		**Pn**		**23 31 31.0**	**-0.1**
	baz=6.0								
TWD				*e*S		**Sn**		**23 31 48.6**	**-1.1**
	baz=6.0								
WHF	**Hehuan Shan**	**1.35**	**354**	*e*S		**Sn**		**23 31 52.1**	**+0.3**
	baz=353								
NACB	**Ninganchiao**	**1.38**	**6**	*e*P		**Pn**		**23 31 31.8**	**-0.5**
	baz=5.0								
NACB				*e*S		**Sn**		**23 31 49.8**	**-1.8**
	baz=5.0								
ETLH	**Xiulin Townshi**	**1.40**	**2**	*e*P		**Pn**		**23 31 32.4**	**-0.3**
	baz=1.0								
ETLH				*e*S		**Sn**		**23 31 50.6**	**-1.7**
	baz=1.0								
RLNB	**Erlin**	**1.47**	**318**	*e*P		**Pn**		**23 31 33.5**	**+0.2**
	baz=317								
RLNB				*e*S		**Sn**		**23 31 53.5**	**+0.1**
	baz=317								
TDCB	**Techi**	**1.47**	**350**	*e*P		**Pn**		**23 31 34.2**	**+0.7**
	baz=349								
TDCB				*e*S		**Sn**		**23 31 55.0**	**+1.2**
	baz=349								
WHP	**Taichung City**	**1.54**	**343**	*e*P		**Pn**		**23 31 34.5**	**+0.3**
	baz=343								
WHP				*e*S		**Sn**		**23 31 56.8**	**+1.7**
	baz=343								
NNSB	**Datong**	**1.62**	**358**	*e*P		**Pn**		**23 31 36.0**	**+0.8**
	baz=358								
NNSB				*e*S		**Sn**		**23 31 57.2**	**+0.2**
	baz=358								
WDGT	**Dungji**	**1.69**	**286**	*e*P		**Pn**		**23 31 35.8**	**-0.2**
	baz=285								
WDGT				*e*S		**Sn**		**23 31 56.0**	**-2.3**
	baz=285								
NDT	**Datong Townshi**	**1.79**	**2**	*e*P		**Pn**		**23 31 38.0**	**+0.8**
	baz=2.0								
NDT				*e*S		**Sn**		**23 32 00.9**	**+0.3**
	baz=2.0								
ENTT	**Nioudou**	**1.83**	**4**	*e*P		**Pn**		**23 31 38.4**	**+0.6**
	baz=3.0								
ENTT				*e*S		**Sn**		**23 32 01.7**	**+0.2**
	baz=3.0								
PHUB	**P'eng-hu**	**1.85**	**293**	*e*P		**Pn**		**23 31 37.4**	**-0.5**
	baz=292								
PHUB				*e*S		**Sn**		**23 31 59.9**	**-1.9**
	baz=292								
YHNB	**Yeheng**	**1.86**	**358**	*e*P		**Pn**		**23 31 39.2**	**+1.0**
	baz=358								
YHNB				*e*S		**Sn**		**23 32 02.9**	**+0.7**
	baz=358								
PNG	**Penghu**	**1.89**	**294**	*e*P		**Pn**		**23 31 38.1**	**-0.3**
	baz=294								
PNG				*e*S		**Sn**		**23 32 01.2**	**-1.3**
	baz=294								
VCHM	**Qimei**	**1.89**	**283**	*e*P		**Pn**		**23 31 38.2**	**-0.2**
	baz=282								
VCHM				*e*S		**Sn**		**23 32 00.6**	**-2.0**
	baz=282								
YOJ	**Yonaguni jima**	**2.20**	**41**	P		**Pn**		**23 31 42.8**	**+0.5**
HATJ	**Hateruma jima**	**2.51**	**60**	*e*S		**Sn**		**23 32 16.9**	**+0.1**
IRIF	**Iriomote-Funau**	**2.60**	**54**	P		**Pn**		**23 31 47.6**	**+0.1**

*UCR **25** 23:41:59.9±1.3, 13°.33N×90°.21W, h44km±13km, MD4.2, ML4.8, mb4.0(NEIC)*
*SNET **25** 23:41:59.0±0.0, 13°.41N×90°.23W, h52km*
*IDC **25** 23:42:01.2±0.7, 13°.67N×89°.85W, h65km±6km, mb3.7/18, mb1 3.9/20, mb1mx3.7/42, mbtmp4.0/20, MS3.5/1, Ms1 3.5/1, ms1mx3.1/35, Error ellipse: s-maj=21.1km s-min=8.5km az=55.0*
*NEIC **25** 23:42:02.6±1.0, 13°.46N×89°.97W, h90km±11km, mb4.0/7, Error ellipse: s-maj=16.1km s-min=8.4km az=48.0*
NEIC Felt [II] at San Salvador.
ISC 25 23:41:59.9±0.5, **13°.46N**±0°.06×**90°.14W**±0°.05, **h58**km, **n102**, σ1**§58**/112, **mb4.1**/20, **15C**, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.62**	**54**	*i*P		**Pn**		**23 42 14.4**	**+1.2**
CEVE				IAML				23 42 28.6	
	comp=Z,133μm,0.3s								
SBLS	**San Blas**	**0.63**	**53

LFU	La Fuente	1.04	74⇑	*eP*		Pn	23 42 20.1	+1.7
LFRS	El Faro	1.06	81⇑	*iP*		Pn	23 42 19.5	+0.8
LBRS	Las Brisas	1.10	75⇑	*iP*		Pn	23 42 20.9	+1.7
NBG	Las Nubes	1.14	350	*eP*		Pn	23 42 22.8	+2.9
PAVA	Las Pavas	1.19	78	*eP*		Pn	23 42 22.2	+1.7
FUG	Fuego 3	1.20	325	*eP*		Pn	23 42 21.5	+0.9
MTO3	Montecristo	1.20	39⇑	*iP*		Pn	23 42 22.3	+1.6
SNVI	San Vicente	1.27	83	*eP*		Pn	23 42 23.0	+1.4
LLGN	La Laguna	1.35	58	*eP*		Pn	23 42 23.8	+1.2
VICT	Victoria	1.54	71	*eP*		Pn	23 42 26.4	+1.2
APG	El Apazote	1.57	348	P		Pn	23 42 27.3	+1.6
	comp=Z,238nm,0.3s,baz=147,slow=9.1,SNR=723							
APG				S		Sn	23 42 48.0	+2.9
	comp=Z,593nm,0.3s,baz=358,slow=9.7,SNR=46							
APG				LR		LR	23 43 10.9	
	comp=Z,1μm,19.4s,baz=61,slow=48							
TECA	Tecapa	1.59	89	*eP*		Pn	23 42 27.1	+1.1
LCY	Lacayo	1.79	91	*eP*		Pn	23 42 30.1	+1.5
VSM	San Miguel	1.81	91	*eP*		Pn	23 42 30.3	+1.3
CAHU	Cacaquatique	1.90	80⇑	*eP*		Pn	23 42 31.6	+1.5
LCND	La Caada	2.19	94⇑	*eP*		Pn	23 42 35.3	+1.4
CNCH	Conchagua	2.25	94	*eP*		Pn	23 42 36.1	+1.3
CSGN	Cosiguina Volc	2.56	101	*ePn*		Pn	23 42 41.4	+2.4
CSGN	Cosiguina Volc	2.56	101	*eP*		Pn	23 42 40.1	+1.2
TGUH	Tegucigalpa,Un	2.85	78	*ePn*		Pn	23 42 44.5	+1.6
TGUH	Tegucigalpa,Un	2.85	78	*eP*		Pn	23 42 44.3	+1.5
CRIN	San Cristobal	3.10	104	*eP*		Pn	23 42 47.5	+1.0
CRIN				*eS*		Sn	23 43 24.9	+2.5
CCIG	Comitan	3.41	326	*ePn*		Pn	23 42 53.4	+2.7
CNGN	Cerro Negro	3.49	106	*eP*		Pn	23 42 51.9	+0.2
MOMN	Momotombo	3.66	106	*eP*		Pn	23 42 53.9	-0.1
MGAN	Managua	4.01	109	*eP*		Pn	23 42 59.7	+0.9
MATN	Matagalpa	4.14	97	*eP*		Pn	23 43 01.4	+0.8
MATN				*eS*		Sn	23 43 50.0	+2.1
CONN	Concepcion	4.79	113	*eP*		Pn	23 43 10.0	+0.4
ACON	Acoyapa	5.07	106	*eP*		Pn	23 43 13.0	-0.3
CMIG	Matias Romero	5.83	309	P		Pn	23 43 24.8	+1.0
	comp=Z,4.4nm,0.3s,baz=92,slow=11,SNR=24							
CMIG				S		Sn	23 44 28.7	-0.7
	comp=Z,17nm,0.3s,baz=114,slow=22,SNR=6.4							
ESPN	Las Esperanzas	5.83	102	*ePn*		Pn	23 43 23.1	-0.7
JTS	JuntasAbangare	5.97	121	*ePn*		Pn	23 43 27.5	+1.8
JTS				*eS*		Sn	23 44 32.8	-0.1
JTS	JuntasAbangare	5.97	121	P		Pn	23 43 27.4	+1.7
	comp=Z,12nm,0.3s,baz=11,slow=22,SNR=43							
JTS				S		Sn	23 44 31.6	-1.2
	comp=Z,6.1nm,0.3s,baz=311,slow=20,SNR=1.7							
JTS				LR		LR	23 45 38.0	
	comp=Z,417nm,18.1s,baz=126,slow=37							
MYIG	Mrida	7.47	3	*ePn*		Pn	23 43 49.4	+3.2
BCIP	Isla Barro Col	10.96	112	*ePn*		Pn	23 44 34.8	+0.7
SOTA	Rioblanco	17.48	129	*eP*		P	23 46 02.9	+2.0
SOTA	Rioblanco	17.48	129	*eP*		P	23 46 02.9	+2.0
OTAV	Otavalo	17.51	138	*ePn*		Pn	23 45 59.1	-1.5
	comp=Z,1.9nm,0.6s							
PCON	Cinco Dias	17.52	128⇑	*eP*		P	23 46 05.5	+4.2
PCON	Cinco Dias	17.52	128⇑	*eP*		P	23 46 05.5	+4.2
555A	McAlpin	17.86	21	*eP*		P	23 46 03.8	-0.5
	comp=Z,86nm,1.1s							
PRAC	Prado	17.91	121	*eP*		Pn	23 46 02.9	-2.2
PRAC	Prado	17.91	121	*eP*		Pn	23 46 02.9	-2.2
PAMC	Pamplona, Colo	18.19	108	*eP*		P	23 46 06.8	-1.8
PAMC	Pamplona, Colo	18.19	108	*eP*		P	23 46 06.8	-1.8
RUSC	La Rusia	18.41	112	*eP*		Pn	23 46 12.8	+1.2
RUSC	La Rusia	18.41	112	*eP*		Pn	23 46 12.8	+1.2
CHIC	Chingaza	18.41	117	*eP*		Pn	23 46 10.8	-0.8
CHIC	Chingaza	18.41	117	*eP*		Pn	23 46 10.8	-0.8
VBMS	Vicksburg	18.68	359	*eP*		P	23 46 12.4	-0.9
	comp=Z,20nm,0.7s							
SOCV	Socops	19.62	103	*eP*		P	23 46 22.1	-1.6
SOCV	Socops	19.62	103	*eP*		P	23 46 22.1	-1.6
TXAR	Lajitas Array	20.17	324	P		Pn	23 46 31.9	-0.2
	comp=Z,0.7nm,0.5s,baz=144,slow=12,SNR=5.9							
TXAR				PcP		**PcP**	**23 50 43.4**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=157,slow=2.3,SNR=6.1							
TXAR				pPcP			23 51 00.7	
	comp=Z,0.2nm,0.4s,baz=150,slow=2.7,SNR=5.8							
TX31	Lajitas Ar. Si	20.17	324	*eP*		Pn	23 46 32.4	+0.3
	comp=Z,1.4nm,0.8s							
PLAL	Pickwick Lake	21.51	5	*eP*		P	23 46 44.5	+0.5
	comp=Z,0.9nm,0.5s							
X37A	Clayton	21.56	348	*eP*		P	23 46 46.0	+1.4
	comp=Z,5.4nm,0.6s							
V48A	Smith Brothers	22.39	7	*eP*		P	23 46 51.5	-1.9
TKL	Tuckaleechee C	22.83	13	P		P	23 46 57.9	-0.3
	comp=Z,2.1nm,0.4s,baz=160,slow=6.6,SNR=8.2							
ATAH	Atahualpa	23.55	150	P		P	23 47 08.3	+2.6
	comp=Z,5.8nm,0.7s,baz=328,slow=5.8,SNR=4.9							
T47A	Sharon Grove	23.59	6	*eP*		P	23 47 05.5	+0.1
	comp=Z,21nm,0.6s							
WCI	Wyandotte Cave	24.90	7	*eP*		P	23 47 17.2	-0.2
CIAC	Catalina I. Ai	32.49	312	*eP*		P	23 48 25.8	+0.6
SADO	Sadowa	32.58	15	P		P	23 48 24.3	-1.4
	comp=Z,1.5nm,0.4s,baz=254,slow=8.5,SNR=4.2							
PASC	Pasadena Art C	32.73	314	*eP*		P	23 48 28.8	+1.6
PTGA	Pitinga	33.06	113	P		P	23 48 30.8	+0.5
	comp=Z,4.9nm,0.7s,baz=300,slow=9.1,SNR=11							
TEJ	El Tejon	33.65	315	*eP*		P	23 48 37.1	+1.9
SBC	Santa Barbara	33.95	313	*eP*		P	23 48 37.7	0.0
BAKC	Calstate	34.00	315	*eP*		P	23 48 44.8	+6.6
PTRM	Twissleman Ran	34.93	315	*eP*		P	23 48 45.3	-1.0
AGMN	Agassiz Nation	35.06	353	*eP*		P	23 48 46.3	-0.8
NV01	Mina Array Sit	35.23	320	*eP*		P	23 48 51.4	+2.3
NVAR	Mina Array Bea	35.23	320	P		P	23 48 51.8	+2.7
	comp=Z,3.7nm,0.7s,baz=138,slow=7.4,SNR=28							
NVAR				pP		**pP**	**23 49 06.9**	**+3.2**
	comp=Z,2.8nm,0.7s,baz=132,slow=8.3,SNR=8.9							
NVAR				PcP		**PcP**	**23 51 20.1**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=130,slow=3.2,SNR=7.1							
NVAR				pPcP			23 51 37.0	
	comp=Z,2.3nm,0.8s,baz=145,slow=3.3,SNR=6.3							
NVAR				ScP		**ScP**	**23 54 59.2**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=142,slow=4.6,SNR=2.7							
LPAZ	La Paz	36.70	143	P		P	23 49 02.4	+0.2
	comp=Z,2.4nm,0.8s,baz=318,slow=8.0,SNR=8.3							
ULM	Lac du Bonnet	36.99	354	P		P	23 49 01.9	-1.7
	comp=Z,1.6nm,0.3s,baz=180,slow=8.3,SNR=8.6							
YBH	Yreka Blue Hor	39.91	321	P		P	23 49 28.7	+0.3
	comp=Z,0.6nm,0.5s,baz=146,slow=7.3,SNR=3.9							
SIV	San Ignacio	41.01	135	P		P	23 49 38.0	+0.3
	comp=Z,2.0nm,0.5s,baz=313,slow=8.2,SNR=15							
GLK	Glacier Lake	42.27	328	*eP*		P	23 49 47.2	-0.6
C04A	Brinnon	43.73	328	*eP*		P	23 50 04.8	+5.4
SCHQ	Schefferville	45.12	19	P		P	23 50 08.6	-1.8
	comp=Z,3.3nm,0.4s,baz=203,slow=6.4,SNR=6.6							
SCHQ				pP		**pP**	**23 50 24.4**	**-1.1**
	comp=Z,4.1nm,0.4s,baz=253,slow=5.9,SNR=4.1							
CFA	Coronel Fontan	49.49	155	P		P	23 50 45.2	+0.6
	comp=Z,2.2nm,0.6s,baz=351,slow=6.3,SNR=4.4							
CPUP	Villa Florida	50.82	141	P		P	23 50 53.9	-0.8
	comp=Z,1.7nm,0.9s,baz=311,slow=12,SNR=3.2							
YKA	Yellowknife Ar	51.98	346	P		P	23 51 01.4	-1.5
	comp=Z,0.3nm,0.3s,baz=137,slow=7.0,SNR=12							
YKA				pP		**pP**	**23 51 17.5**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=146,slow=7.8,SNR=9.3							
PLCA	Paso Flores	56.89	162	P		P	23 51 39.3	+0.4
	comp=Z,1.6nm,0.8s,baz=354,slow=9.2,SNR=3.5							
INK	Inuvik	61.47	343	P		P	23 52 08.3	-1.8
	comp=Z,0.6nm,0.8s,baz=126,slow=9.6,SNR=4.1							
ILAR	Eielson Array	64.05	337	P		P	23 52 26.6	-0.7
	comp=Z,0.2nm,0.4s,baz=121,slow=5.2,SNR=8.5							
NOA	NORSAR Array B	83.75	29	P		P	23 54 20.7	-1.9
	comp=Z,0.2nm,0.5s,baz=290,slow=5.1,SNR=2.5							
WRA	Warramunga Arr	137.01	255	PKP		**PKiKP**	**00 01 17.8**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=89,slow=2.9,SNR=13							
WRA				pPKP		**pPKPdf**	**00 01 36.7**	**+2.4**
	comp=Z,1.6nm,0.9s,baz=83,slow=1.7,SNR=5.9							
ASAR	Alice Springs	137.18	250	PKP		**PKiKP**	**00 01 18.3**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=106,slow=3.3,SNR=4.1							
FITZ	Fitzroy Crossi	145.30	258	PKPbc		**PKPdf**	**00 01 32.8**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=112,slow=4.6,SNR=3.9							
CMAR	Chiang Mai Arr	147.04	344	PKPbc		**PKPbc**	**00 01 36.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=336,slow=3.0,SNR=6.8							

*NEIC **25** 23:44:20.9±0.0, 19.46N×67.97W, h54km, MD2.9(RSPR), After RSPR.*

RSPR 25 23:44:20.9, 19.46N×67.97W, h54km±10km, MD2.9/5, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AGPR	**Aguadilla, PR**		**1.27 140⇑**	*eP*		Pn	23 44 41.4	-1.1
AGPR	**Aguadilla, PR**		**1.27 140**	*eS*		Sn	23 44 57.5	-1.1
AGPR	**Aguadilla, PR**		**1.27 140⇑**	*eP*		Pn	23 44 41.4	-1.1
AGPR				*eS*		Sn	23 44 57.5	-1.1
DR12	**Loma Pena Alta**		**1.49 244⇑**	*eP*		Pn	23 44 44.7	-0.7
DR12	**Loma Pena Alta**		**1.49 244⇑**	*eP*		Pn	23 44 44.7	-0.7
LSP	**Las Mesas**		**1.52 147⇑**	*eP*		Pn	23 44 44.7	-1.1
LSP	**Las Mesas**		**1.52 147**	*eS*		Sn	23 45 04.2	-0.5
LSP	**Las Mesas**		**1.52 147⇑**	*eP*		Pn	23 44 44.7	-1.1
LSP				*eS*		Sn	23 45 04.2	-0.5
CRPR	**Cabo Rojo, PR**		**1.66 150⇑**	*eP*		Pn	23 44 46.5	-1.2
CRPR	**Cabo Rojo, PR**		**1.66 150**	*eS*		Sn	23 45 06.9	-0.9
CRPR	**Cabo Rojo, PR**		**1.66 150⇑**	*eP*		Pn	23 44 46.5	-1.2
CRPR				*eS*		Sn	23 45 06.9	-0.9
CELP	**Cerrillos**		**1.90 136⇑**	*eP*		Pn	23 44 50.4	-0.6
CELP				*eS*		Sn	23 45 13.4	-0.4
CELP	**Cerrillos**		**1.90 136⇑**	*eP*		Pn	23 44 50.4	-0.6
CELP				*eS*		Sn	23 45 13.4	-0.4
SJG	**San Juan**		**2.18 127**	*ePn*		Pn	23 44 53.6	-1.2
SJG				*eS*		Sn	23 45 20.0	-0.7
SDDR	**Presa de Saban**		**3.17 262**	*ePn*		Pn	23 45 08.7	+0.2
SDDR				*eS*		Sn	23 45 48.5	+3.5

*ISCJB **25** 23:57:32.9±0.5, 7.97S±0.05×117.91E±0.06, h10km, mb3.8/5, MS4.3/1, Error ellipse: s-maj=8.3km s-min=7.1km az=16.7*

*IDC **25** 23:57:32.5±1.9, 8.05S×117.84E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/40, mbtmp3.7/7, ML3.6/2, MS4.1/2, Ms1 4.1/2, ms1mx3.5/39, Error ellipse: s-maj=143.1km s-min=18.9km az=54.0*

*DJA **25** 23:57:35.8±1.0, 8.75S±6.6×111.18E±?, h19km±10km, M4.2/11, MLv4.2/11*

ISC 25 23:57:34.7±0.8, 8.06S±0.06×117.87E±0.05, h10km, n15, σ2.922/17, mb3.9/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLAI	**Plampang**		**0.77 187**	P		**Pg**	**23 57 50.5**	**+1.1**
PLAI				S		**Sb**	**23 58 01.7**	**+1.1**
SRBI	**Singaraja**		**2.63 269**	P		**Pn**	**23 58 17.0**	**-0.3**
BSSI	**Bau Bau, Buton**		**3.22 54**	P		**Pn**	**23 58 24.9**	**-0.5**
BKSI	**Bulukumba**		**3.52 39**	P		**Pn**	**23 58 28.9**	**-0.6**
JAGI	**Jajag, Banyuwa**		**3.71 263**	P		**Pn**	**23 58 32.0**	**0.0**
EDFI	**Ende, Flores**		**3.84 100**	P		**Pn**	**23 58 34.3**	**+0.4**
BLJI	**Banyuglugur**		**4.25 274**	P		**Pn**	**23 58 40.4**	**+0.9**
MMRI	**Maumere**		**4.36 98**	P		**Pb**	**23 58 55.9**	**+4.6**
FITZ	**Fitzroy Crossi**		**12.51 144**	Pn		**Pn**	**00 00 32.2**	**-0.7**
	0.2nm,0.3s,baz=344,slow=6.5,SNR=7.0							
FITZ				Sn		**Sn**	**00 02 46.1**	**-6.3**
	0.4nm,0.3s,baz=174,slow=19,SNR=5.7							
FITZ				LR		LR	00 05 43.8	
	comp=Z,379nm,20.4s,baz=50,slow=39							
WRA	**Warramunga Arr**		**19.84 128**	P		**P**	**00 02 05.2**	**-0.8**
	1.8nm,0.6s,baz=304,slow=12,SNR=12							
ASAR	**Alice Springs**		**21.84 137**	P		**P**	**00 02 27.6**	**+0.2**
	1.8nm,0.6s,baz=311,slow=9.1,SNR=20							
ASAR				LR		LR	00 12 11.0	
	comp=Z,1μm,20.4s,baz=92,slow=40							
SONM	**Songino Array**		**56.58 351**	P		**P**	**00 07 17.1**	**-0.5**
	0.9nm,0.7s,baz=161,slow=7.9,SNR=5.9							
MKAR	**Makanchi Array**		**63.12 333**	P		**P**	**00 08 02.2**	**-0.4**
	1.0nm,0.8s,baz=144,slow=7.9,SNR=11							
KURBB	**Kurotov Arra**		**67.64 334**	P		**P**	**00 08 31.0**	**-0.7**
	0.2nm,0.5s,baz=138,slow=6.0,SNR=2.8							
ZALV	**Zalesovo Beam**		**67.78 340**	P		**P**	**00 08 31.0**	**-1.5**
	1.2nm,0.7s,baz=132,slow=6.2,SNR=4.5							

KRSC 26 00:02:59.1±10.0, 59.92N×163.60E, h48km±10km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OSSR	**Ossora**		**0.72 202**	*eP*		Pn	00 03 13.4	+0.3
OSSR				*eS*		Sn	00 03 25.1	+1.9
TILK	**Tilichiki**		**1.38 66**	*eP*		Pn	00 03 22.1	+0.2
TILK				*eS*		Sn	00 03 41.3	+2.4
PALN	**Palana**		**2.03 247**	P		Pn	00 03 31.6	+0.8
PALN				S		Sn	00 03 58.8	+3.9
KMSK	**Kamenskaya**		**2.85 25**	*eP*		Pn	00 03 46.5	+4.5
KBTR	**Krutoberegovo**		**3.75 187**	P		Pn	00 03 58.3	+4.0

IDC 26 00:09:02.9±2.3, 6.75S×129.96E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=139.4km s-min=32.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**		**13.79 162**	Pn		Pn	00 12 18.6	-1.2
	0.2nm,0.3s,baz=345,slow=13,SNR=20							
WRA				Sn		Sn	00 14 40.9	-13
	0.5nm,0.3s,baz=337,slow=23,SNR=9.0							
ASAR	**Alice Springs**		**17.25 168**	P		P	00 13 06.5	-0.5
	0.1nm,0.3s,baz=350,slow=9.7,SNR=4.3							
ASAR				S		Sn	00 16 00.9	-17
	0.1nm,0.3s,baz=346,slow=26,SNR=2.9							
MKAR	**Makanchi Array**		**67.99 327**	P		P	00 20 04.0	0.0
	0.4nm,0.6s,baz=117,slow=8.2,SNR=6.9							

IDC 26 00:12:54.7±1.0, 28.72N×141.06E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/33, mbtmp3.6/7, ML2.8/1, Error ellipse: s-maj=38.9km s-min=18.9km az=64.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**		**1.90 148**	Pn		Pn	00 13 27.7	-0.6
	1.9nm,0.3s,baz=291,slow=16,SNR=3.4							
JCJ				Sn		Sb	00 13 53.8	-0.6
	13nm,0.3s,baz=298,slow=22,SNR=8.0							
MJAR	**Matsushiro Arr**		**8.16 344**	Pn		Pn	00 14 52.0	-2.5
	0.1nm,0.3s,baz=163,slow=11,SNR=4.5							
SONM	**Songino Array**		**32.86 315**	P		P	00 19 29.6	-0.8
	0.4nm,0.6s,baz=107,slow=9.2,SNR=3.0							
ZALV	**Zalesovo Beam**		**47.62 318**	P		P	00 21 32.8	+0.5
	0.7nm,0.4s,baz=112,slow=6.9,SNR=4.1							
MKAR	**Makanchi Array**		**48.69 309**	P		P	00 21 41.3	+0.6
	0.5nm,0.7s,baz=90,slow=9.0,SNR=5.1							
WRA	**Warramunga Arr**		**48.81 188**	P		P	00 21 41.6	-0.1
	0.8nm,0.5s,baz=8.3,slow=8.1,SNR=10							
KURBB	**Kurotov Arra**		**51.20 314**	P		P	00 21 59.5	-0.2
	0.8nm,0.5s,baz=93,slow=6.3,SNR=8.0							
YKA	**Yellowknife Ar**		**71.19 28**	P		P	00 24 15.5	+0.4
	0.2nm,0.6s,baz=295,slow=6.1,SNR=3.0							

*ISCJB **26** 00:14:45.1±0.4, 34.48N±0.03×15.82W±0.03, h10km, Error ellipse: s-maj=4.6km s-min=3.2km az=42.8*

*MDD **26** 00:14:46.5±0.8, 34.43N×15.90W, h0km, mb4.5/15, Error ellipse: s-maj=17.1km s-min=4.2km az=126.0, PRXIMO*

*IGIL **26** 00:14:48.8, 34.61N×16.15W, h13km, ML3.0*

*INMG **26** 00:14:51.8±2.3, 34.60N×16.14W, h10km, MD3.2, ML3.2, Error ellipse: s-maj=10.8km s-min=2.6km az=122.0*

*CNRM **26** 00:14:52.8, 34.38N×15.85W, h50km, ml4.1*

ISC 26 00:14:45.5±1.2, 34.55N±0.07×16.07W±0.07, h10km, n97, σ1.982/114, 2C-4D, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMPS	**Porto Santo**		**1.50 188⇓**	*eP*		**Pn**	**00 15 13.5**	**+1.0**
PMPS				*eS*		**Sn**	**00 15 29.8**	**-2.3**
PMPS				A		A	00 15 32.0	
	384nm,0.2s							
PMPS	**Porto Santo**		**1.50 188**	P		**Pn**	**00 15 13.5**	**+1.0**
PMPS				S		**Sn**	**00 15 29.8**	**-2.3**
	192nm,0.2s							
PMAR	**Madeira**		**1.95 201⇓**	*ePn*		**Pn**	**00 15 19.5**	**+0.7**
PMAR				*eSn*		**Sn**	**00 15 40.6**	**-2.9**
PMAR				A		A	00 15 44.1	
	839nm,0.2s							
PMAR	**Madeira**		**1.95 201**	S		**Sn**	**00 15 40.6**	**-2.9**
	420nm,0.2s							
PMAR	**Madeira**		**1.95 201**	P		**Pn**	**00 15 21.1**	**+2.2**
PMAR				S		**Sn**	**00 15 45.4**	**+1.9**
PMOZ	**Porto Moniz, M**		**1.96 209**	*ePn*		**Pn**	**00 15 19.6**	**+0.7**
PMOZ				*eSn*		**Sn**	**00 15 41.2**	**-2.4**
PMOZ				A		A	00 15 44.9	
	2μm,0.5s							
PMOZ	**Porto Moniz, M**		**1.96 209**	P		**Pn**	**00 15 19.6**	**+0.7**
	30nm,0.2s,SNR=7.9							
PMOZ	**Porto Moniz, M**		**1.96 209**	P		**Pn**	**00 15 21.8**	**+2.9**
PMOZ				S		**Sn**	**00 15 45.4**	**+1.8**

FUL	**Funchal**		**2.02 200**	*ePn*		**Pn**	**00 15 20.4**	**+0.9**
FUL				*eSn*		**Sn**	**00 15 41.4**	**-3.4**
FUL				A		A	00 15 44.8	
	666nm,0.3s							
FUL	**Funchal**		**2.02 200**	P		**Pn**	**00 15 20.4**	**+0.9**
FUL				S		**Sn**	**00 15 41.4**	**-3.4**
	333nm,0.3s							
EHIG	**Higuera**		**6.15 194**	P		**Pn**	**00 16 18.0**	**+1.4**
	5.0nm,0.1s,SNR=7.9							
EHIG				S		Sn	00 17 19.7	-7.3
	11nm,0.1s,SNR=7.9							
CFUE	**Fuerteventura**		**6.16 162**	P		**Pn**	**00 16 16.1**	**-0.4**
	16nm,0.2s,SNR=7.9							
CFUE				S		Sn	00 17 20.4	-6.6
	17nm,0.2s,SNR=7.9							
CFTV	**Fuerteventura**		**6.35 164**	P		**Pn**	**00 16 19.0**	**-0.2**
	1.9nm,0.2s,SNR=7.9							
CFTV				S		Sn	00 17 24.7	-7.0
	6.0nm,0.4s,SNR=7.9							
PFVI	**Vila Bisbo**		**6.42 64**	*ePn*		**Pn**	**00 16 21.0**	**+0.9**
PFVI				*eSn*		Sn	00 17 25.3	-8.2
PFVI				A		A	00 17 42.2	
	12nm,0.8s							
PFVI	**Vila Bisbo**		**6.42 64**	⇓P		**Pn**	**00 16 21.1**	**+0.9**
	21nm,0.2s,SNR=18							
PFVI				S		Sn	00 17 24.4	-9.1
	8.4nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**		**6.42 64**	P		**Pn**	**00 16 21.4**	**+1.2**
PFVI				S		**Sn**	**00 17 34.0**	**+0.5**
EGOM	**La Gomera**		**6.44 189**	P		Pn	00 16 19.3	-1.1
	1.3nm,0.1s,SNR=7.9							
EGOM				S		Sn	00 17 27.1	-6.9
	11nm,0.2s,SNR=7.9							
EOSO	**Osorio**		**6.47 176**	P		Pn	00 16 19.9	-1.0
	2.1nm,0.3s,SNR=7.9							
EOSO				S		Sn	00 17 27.8	-7.1
	5.7nm,0.2s,SNR=7.9							
MORF	**Marmelete**		**6.62 63**	*eP*		**Pn**	**00 16 23.6**	**+0.7**
MORF				*eS*		Sn	00 17 32.9	-5.5
MORF				AML		AML	00 17 37.1	
	comp=N,24nm,0.4s							
MORF	**Marmelete**		**6.62 63⇓**	*ePn*		**Pn**	**00 16 23.9**	**+1.0**
MORF				*eSn*		Sn	00 17 32.1	-6.3
MORF				A		A	00 17 41.6	
	comp=N,8.3nm,0.1s							
MORF	**Marmelete**		**6.62 63**	P		**Pn**	**00 16 23.9**	**+1.0**
MORF				S		Sn	00 17 32.1	-6.3
	comp=N,8.3nm,0.1s							
PTEO	**Sao Teotonio**		**6.66 61**	*ePn*		**Pn**	**00 16 24.7**	**+1.3**
PTEO				*eSn*		Sn	00 17 32.6	-6.7
PTEO				A		A	00 17 44.1	
	comp=N,8.8nm,0.6s							
PTEO	**Sao Teotonio**		**6.66 61**	P		**Pn**	**00 16 24.7**	**+1.3**
PTEO				S		Sn	00 17 32.6	-6.7
	comp=N,4.4nm,0.6s							
PMST	**Lisbon--Monsan**		**6.94 51**	*eSn*		Sn	00 17 37.7	-8.4
PMST				A		A	00 17 45.2	
	comp=N,27nm,0.8s							
PMAFR	**Mafra**		**7.00 49**	*ePn*		**Pn**	**00 16 28.0**	**-0.1**
PMAFR				*eSn*		Sn	00 17 39.8	-8.0
PMAFR				A		A	00 17 41.8	
	comp=N,31nm,1.1s							
PMAFR	**Mafra**		**7.00 49**	P		**Pn**	**00 16 27.8**	**-0.3**
	comp=N,1.8nm,0.1s,SNR=7.9							
PMAFR				S		Sn	00 17 39.3	-8.5
	comp=N,15nm,

PMRV					A	A	00 18 18.5		
	comp=N,3.7nm,0.3s								
PMRV	**Marv??o**	**8.48**	**52**		P	**Pn**	**00 16 47.8**	**-0.6**	
PMRV					S	Sn	00 18 14.3	-10	
	comp=N,3.7nm,0.3s								
ESPR	**Espera**	**8.62**	**71**		P	**Pn**	**00 16 51.5**	**+1.2**	
	comp=N,4.3nm,0.2s,SNR=7.9								
ESPR					S	Sn	00 18 19.5	-8.1	
	comp=N,13nm,0.4s,SNR=7.9								
OUZM	**OUZ**	**8.64**	**112**		P	**Pn**	**00 16 55.1**	**+4.4**	
OUZM					S	**Sn**	**00 18 25.2**	**-3.1**	
PCBR	**Castelo Branco**	**8.65**	**50**	*e*Pn	**Pn**	**00 16 50.6**	**-0.1**		
PCBR				*e*Sn	Sn	00 18 20.1	-8.2		
PCBR				A	A	00 18 27.1			
	comp=N,2.7nm,0.6s								
PCBR	**Castelo Branco**	**8.65**	**50**		P	**Pn**	**00 16 50.6**	**-0.1**	
PCBR					S	Sn	00 18 20.1	-8.2	
	comp=N,1.4nm,0.6s								
SMIR	**Smir Dam**	**8.83**	**80**		P	**Pn**	**00 16 55.5**	**+2.3**	
SMIR					S	**Sn**	**00 18 32.5**	**-0.3**	
CHEFC	**Chefchaouen**	**8.84**	**83**		P	**Pn**	**00 16 56.6**	**+3.2**	
CHEFC					S	**Sn**	**00 18 32.1**	**-1.0**	
SICH	**Sidi Chahed**	**8.91**	**90**		P	**Pn**	**00 16 56.2**	**+2.0**	
SICH					S	**Sn**	**00 18 31.4**	**-3.2**	
PVIS	**Viseu**	**8.94**	**44**	*e*Pn	**Pn**	**00 16 54.5**	**-0.2**		
PVIS				*e*Sn	Sn	00 18 25.6	-10		
PVIS				A	A	00 18 30.0			
	comp=N,3.6nm,0.2s								
PVIS	**Viseu**	**8.94**	**44**		P	**Pn**	**00 16 54.5**	**-0.2**	
PVIS					S	Sn	00 18 25.6	-10	
	comp=N,1.8nm,0.2s								
MTE	**Manteigas**	**8.94**	**47**	*e*Sn	Sn	00 18 27.5	-8.1		
MTE				A	A	00 18 32.3			
	comp=N,5.3nm,0.3s								
MTE	**Manteigas**	**8.94**	**47**	S	Sn	00 18 27.5	-8.1		
	comp=N,2.7nm,0.3s								
IFR	**Ifrane**	**9.14**	**93**	⇑*i*P	**Pn**	**00 16 59.8**	**+2.1**		
IFR				*e*S	Sn	00 18 31.4	-9.2		
ECAB	**El Cabril**	**9.29**	**65**	P	**Pn**	**00 17 00.1**	**+0.6**		
	comp=N,2.5nm,0.3s,SNR=7.9								
ECAB				S	Sn	00 18 34.9	-9.1		
	comp=N,2.0nm,0.3s,SNR=7.9								
LCRM	**LCR**	**9.34**	**92**	S	**Sn**	**00 18 43.4**	**-2.0**		
HORN	**Hornachuelos**	**9.34**	**66**	S	**Sn**	**00 18 45.2**	**0.0**		
EMIJ	**Mijas**	**9.42**	**74**	P	**Pn**	**00 17 02.8**	**+1.4**		
	comp=N,2.4nm,0.4s,SNR=7.9								
EMIJ				S	Sn	00 18 39.4	-8.0		
	comp=N,6.7nm,0.6s,SNR=7.9								
POLO	**Lamas de Olo**	**9.44**	**41**	*e*Pn	**Pn**	**00 17 01.9**	**+0.3**		
POLO				*e*Sn	Sn	00 18 39.1	-8.7		
POLO				A	A	00 18 40.3			
	comp=N,1.8nm,0.6s								
POLO	**Lamas de Olo**	**9.44**	**41**	P	**Pn**	**00 17 01.9**	**+0.3**		
POLO				S	Sn	00 18 39.1	-8.7		
	comp=N,1.8nm,0.6s								
MD31	**MD31**	**9.57**	**97**	P	**Pn**	**00 17 06.4**	**+3.0**		
MD31				S	**Sn**	**00 18 47.8**	**-3.4**		
PGAV	**Gavieira, Arco**	**9.61**	**37**	*e*Pn	**Pn**	**00 17 06.3**	**+2.3**		
PGAV				*e*Sn	Sn	00 18 42.2	-10		
PGAV				A	A	00 18 49.7			
	comp=N,4.3nm,0.8s								
PGAV	**Gavieira, Arco**	**9.61**	**37**	P	**Pn**	**00 17 06.3**	**+2.3**		
PGAV				S	Sn	00 18 42.2	-10		
	comp=N,4.3nm,0.8s								
ELOB	**Lobios**	**9.65**	**38**	P	**Pn**	**00 17 05.2**	**+0.8**		
	comp=N,2.0nm,0.3s,SNR=7.9								
ELOB				S	Sn	00 18 41.0	-12		
	comp=N,2.4nm,0.2s,SNR=7.9								
MDT	**Midelt**	**9.71**	**97**	P	**Pn**	**00 17 08.2**	**+2.9**		
MDT				S	**Sn**	**00 18 52.1**	**-2.4**		
MVO	**Moncorvo**	**9.73**	**45**	*e*Pn	**Pn**	**00 17 05.0**	**-0.6**		
MVO				*e*Sn	Sn	00 18 45.0	-10		
MVO				A	A	00 18 57.9			
	comp=N,3.4nm,0.5s								
MVO	**Moncorvo**	**9.73**	**45**	P	**Pn**	**00 17 05.5**	**-0.1**		
	comp=N,0.8nm,0.2s,SNR=7.9								
MVO				S	Sn	00 18 43.4	-11		
	comp=N,2.5nm,0.2s,SNR=7.9								
GOLM	**Goulmima**	**9.74**	**104**	P	**Pn**	**00 17 08.6**	**+2.7**		
GOLM				S	**Sn**	**00 18 53.9**	**-1.5**		
EADA	**Adamuz**	**9.95**	**65**	P	**Pn**	**00 17 09.5**	**+1.0**		
	comp=N,1.7nm,0.2s,SNR=7.9								
EADA				S	Sn	00 18 52.6	-7.7		
	comp=N,1.3nm,0.1s,SNR=7.9								
EGOR	**Sierra Gorda,**	**10.04**	**72**	P	**Pn**	**00 17 11.4**	**+1.5**		
	comp=N,0.9nm,0.3s,SNR=4.0								
EGOR				S	Sn	00 18 54.6	-8.1		
	comp=N,2.0nm,0.4s,SNR=7.9								
PBRG	**Braganca**	**10.31**	**43**	*e*Pn	**Pn**	**00 17 13.3**	**-0.2**		
PBRG	**Braganca**	**10.31**	**43**	Pn	**Pn**	**00 17 13.3**	**-0.2**		
EAGO	**Agolada(Pontev**	**10.33**	**35**	P	**Pn**	**00 17 13.7**	**-0.1**		
	comp=N,0.5nm,0.2s,SNR=7.9								
EAGO				S	Sn	00 18 56.6	-13		
	comp=N,1.6nm,0.2s,SNR=7.9								
PAB	**San Pablo**	**10.61**	**59**	P	**Pn**	**00 17 17.9**	**+0.2**		
	comp=N,0.7nm,0.2s,SNR=7.9								
PAB				S	Sn	00 19 06.9	-10		
	comp=N,0.5nm,0.2s,SNR=7.9								
GOG	**Mont Gurugu**	**10.76**	**83**	P	**Pn**	**00 17 23.8**	**+4.1**		
GOG				S	**Sn**	**00 19 19.0**	**-1.3**		
ESDC	**Sonseca Array**	**10.94**	**59**	P	**Pn**	**00 17 22.5**	**+0.4**		
	comp=N,2.6nm,0.2s,baz=248,slow=13,SNR=7.9								
ESDC				S	Sn	00 19 14.9	-10		
	comp=N,0.3nm,0.1s,baz=237,slow=35,SNR=7.9								
EQES	**Quesada**	**11.00**	**69**	P	**Pn**	**00 17 24.4**	**+1.4**		
	comp=N,0.4nm,0.1s,SNR=7.9								
EQES				S	Sn	00 19 17.1	-9.0		
	comp=N,1.1nm,0.4s,SNR=7.9								
IELO	**Elcoad**	**14.23**	**50**	P	**Pn**	**00 18 06.8**	**-0.2**		
	SNR=7.9								

OMAN 26 00:24:19.6±1.4, 14°24.N×51°34.E, h23km, ml3.6/5, Error ellipse: s-maj=100.0km s-min=20.3km az=300.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**3.63**	**31**	P	Pn	00 25 14.5	+0.1
ABTO				S	Sn	00 25 56.5	-0.1
RBK	**Rabkut**	**4.26**	**40**	P	Pn	00 25 23.3	+0.2
	SNR=10						
WHFO	**Wadi Hawf**	**4.35**	**32**	P	Pn	00 25 24.5	+0.2
WHFO				S	Sn	00 26 15.9	+1.6
DMTO	**DMTO**	**4.90**	**45**	P	Pn	00 25 31.7	-0.2
	SNR=12						
DMTO				S	Sn	00 26 28.9	+0.9

MEX 26 00:26:37.9±0.7, 16°47N×98°06W, h7km±11km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.10**	**219**	*i* P	Pg	00 26 39.2	-1.0
PNIG				*e*S	Sg	00 26 42.0	+0.1

*JMA **26** 00:33:15.9±0.1, 39°.88N×142°.37E, h31km±1km, M3.7*
JMA Felt I J1.
*ISCJB **26** 00:33:16.1±0.9, 39°.88N±0°.03×142°.37E±0°.08, h38km±8km, mb3.7/15, Error ellipse: s-maj=10.1km s-min=5.5km az=6.2*
*IDC **26** 00:33:19.8±2.5, 39°.83N×142°.35E, h60km±23km, mb3.4/14, mb1 3.6/17, mb1mx3.5/37, mbtmp3.7/17, ML3.2/3, Error ellipse: s-maj=19.3km s-min=14.7km az=117.0*
ISC 26 00:33:16.4±1.3, 39°.89N±0°.03×142°.34E±0°.06, h28km±9km, n36, σ1°44/43, mb3.7/15, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.37**	**277**	P	**Pb**	**00 33 24.6**	**0.0**
JTH				S	**Sb**	**00 33 30.7**	**+0.5**
MIYJ	**Miyakonagasawa**	**0.51**	**232**	P	**Pb**	**00 33 26.3**	**-0.5**
MIYJ				S	**Sb**	**00 33 33.6**	**-0.3**
JKEN	**Kujiedanarisaw**	**0.57**	**303**	P	**Pb**	**00 33 27.4**	**-0.5**
JKEN				S	**Sb**	**00 33 35.5**	**-0.3**
JKZ	**Kuzumaki**	**0.78**	**277**	P	**Pn**	**00 33 31.1**	**-0.5**
JKZ				S	**Sb**	**00 33 41.4**	**-0.2**
JANG	**Nango**	**0.79**	**308**	P	**Pn**	**00 33 30.6**	**-1.1**
JANG				*e*S	**Sn**	**00 33 41.5**	**-1.2**
JOM	**Ohasama**	**0.91**	**243**	P	**Pn**	**00 33 32.8**	**-0.5**
JOM				S	**Sn**	**00 33 44.8**	**-0.7**
OFUJ	**Ofunato**	**0.96**	**213**	P	**Pn**	**00 33 33.0**	**-1.1**
OFUJ				S	**Sn**	**00 33 45.4**	**-1.4**
JMK	**Ichinoseki**	**1.28**	**223**	P	**Pn**	**00 33 38.4**	**0.0**
JMK				S	**Sb**	**00 33 54.8**	**-1.0**
JTM	**Tenmabayashi**	**1.32**	**313**	P	**Pn**	**00 33 39.0**	**0.0**
JTM				*e*S	**Sn**	**00 33 56.0**	**+0.4**
JAH	**Hinai**	**1.34**	**283**	P	**Pb**	**00 33 39.9**	**-0.9**
JAH				S	**Sb**	**00 33 57.5**	**0.0**
JRG	**Rokugo**	**1.41**	**250**	P	**Pb**	**00 33 41.1**	**-0.8**
JRG				S	**Sb**	**00 34 00.1**	**+0.7**
ASAJ	**Asahikawa**	**4.22**	**3**	P	**Pn**	**00 34 20.6**	**+1.7**
	4.1nm,0.3s,baz=208,slow=12,SNR=13						
ASAJ				S	**Sb**	**00 35 16.2**	**-4.3**
	3.1nm,0.3s,baz=160,slow=5.8,SNR=3.7						
MAT	**Matsushiro**	**4.67**	**225**	P	**Pn**	**00 34 28.7**	**+3.7**
MAT				*e*S	**Sn**	**00 35 19.6**	**+1.4**
MJAR	**Matsushiro Arr**	**4.67**	**225**	P	**Pn**	**00 34 28.1**	**+3.1**
	0.4nm,0.3s,baz=33,slow=12,SNR=22						
USRK	**Ussuriysk Ar.**	**8.82**	**303**	P	**Pn**	**00 35 25.9**	**+3.9**
	0.2nm,0.3s,baz=112,slow=11,SNR=6.0						
SEY	**Seymchan**	**23.85**	**11**	P	**P**	**00 38 28.2**	**+1.2**
	1.5nm,0.8s,baz=162,slow=20,SNR=3.2						
SONM	**Songino Array**	**26.91**	**299**	P	**P**	**00 38 56.4**	**+1.3**
	0.2nm,0.4s,baz=92,slow=7.9,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**29.12**	**126**	T	T	01 09 51.8	
	baz=318,slow=75,SNR=183						
H11N1	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	01 09 54.1	
	baz=318,slow=75,SNR=195						
H11N3	**WAKE ISLAND Hy**	**29.14**	**126**	T	T	01 09 53.1	
	baz=318,slow=75,SNR=210						
H11S1	**WAKE ISLAND Hy**	**29.93**	**128**	T	T	01 11 06.7	
	baz=321,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**29.93**	**128**	T	T	01 11 04.7	
	baz=321,slow=76,SNR=37						
H11S2	**WAKE ISLAND Hy**	**29.95**	**128**	T	T	01 11 16.8	
	baz=321,slow=76,SNR=32						
ZALV	**Zalesovo Beam**	**40.58**	**310**	P	**P**	**00 40 53.4**	**+0.2**
	0.7nm,0.5s,baz=57,slow=5.5,SNR=4.3						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**00 41 15.6**	**+0.1**
	0.6nm,0.6s,baz=82,slow=9.4,SNR=7.9						
KDAK	**Kodiak Island**	**44.51**	**44**	P	**P**	**00 41 23.9**	**-1.2**
	25nm,1.0s,baz=282,slow=6.1,SNR=3.9						
ILAR	**Eielson Array**	**46.71**	**34**	P	**P**	**00 41 43.0**	**+0.6**
	0.6nm,0.6s,baz=261,slow=5.9,SNR=11						
INK	**Inuvik**	**51.52**	**28**	P	**P**	**00 42 20.1**	**+0.9**
	0.6nm,0.4s,baz=304,slow=6.8,SNR=5.8						
WRA	**Warramunga Arr**	**59.99**	**189**	P	**P**	**00 43 19.5**	**-0.9**
	1.0nm,0.7s,baz=6.9,slow=7.0,SNR=15						
YKA	**Yellowknife Ar**	**60.98**	**31**	P	**P**	**00 43 26.8**	**+0.1**
	0.3nm,0.6s,baz=300,slow=6.1,SNR=6.5						
ASAR	**Alice Springs**	**63.72**	**189**	P	**P**	**00 43 44.3**	**-1.2**
	0.5nm,0.8s,baz=0.0,slow=5.0,SNR=4.4						
FINES	**FINESS Array B**	**66.63**	**332**	P	**P**	**00 44 03.4**	**-0.6**
	2.6nm,1.0s,baz=29,slow=9.5,SNR=3.8						
KBZ	**Khabaz**	**69.60**	**310**	P	**P**	**00 44 22.7**	**-0.1**
	1.7nm,0.8s,baz=112,slow=1.9,SNR=4.6						
NOA	**NORSAR Array B**	**71.83**	**337**	P	**P**	**00 44 35.9**	**-0.3**
	0.2nm,0.5s,baz=37,slow=6.1,SNR=3.7						
AKASG	**Malin Array Be**	**72.48**	**322**	P	**P**	**00 44 39.9**	**-0.3**
	0.9nm,0.4s,baz=43,slow=6.4,SNR=4.9						
PDAR	**Pinedale Array**	**75.16**	**46**	P	**P**	**00 44 57.0**	**+0.6**
	0.1nm,0.4s,baz=322,slow=5.7,SNR=3.1						

*TIF **26** 00:45:21.9, 42°.38N×40°.99E, h22km±1km*
*MOS **26** 00:45:24.3±0.0, 42°.54N×41°.13E, h1km, MPVA3.1*
*NORS **26** 00:45:25.1±0.0, 42°.49N×41°.19E, h4km, MPVA3.0*
ISC 26 00:45:22.4±1.3, 42°.43N±0°.03×41°.09E±0°.03, h8km±11km, n18, σ0°79/37, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATM	**Batumi**	**0.94**	**151**	P	**Pg**	**00 45 41.0**	**+0.7**
BATM				S	**Sn**	**00 45 54.5**	**-1.0**
DOMR	**Dombai**	**0.95**	**24**	*e*Pg	**Pg**	**00 45 39.2**	**-1.5**
DOMR				*e*Sg	**Sg**	**00 45 51.2**	**-1.9**
DBOC	**Borcka**	**1.16**	**158**	*i* P	**Pb**	**00 45 44.8**	**0.0**
DBOC				*i* S	**Sb**	**00 45 59.5**	**-0.5**
DBOC				IAML_P			
	comp=Z,1μm,0.1s						
RPOR	**Krasnaya Polya**	**1.41**	**335**	*e*Pg	**Pb**	**00 45 49.0**	**0.0**
RPOR				*e*Sg	**Sg**	**00 46 08.0**	**+0.2**
TKB	**Tkibuli**	**1.41**	**92**	P	**Pb**	**00 45 49.4**	**+0.3**
NEY	**Neytrino**	**1.46**	**55**	*i* Pg	**Pb**	**00 45 50.3**	**+0.4**
NEY				*e*Sg	**Sb**	**00 46 08.9**	**+0.3**
DBAD	**Bademkaya**	**1.48**	**162**	*i* P	**Pn**	**00 45 49.5**	**0.0**
DBAD				*i* S	**Sn**	**00 46 07.1**	**-1.8**
DBAD				IAML_P			
	comp=Z,738nm,0.1s						
DAGI	**Agillar**	**1.48**	**155**	*i* P	**Pn**	**00 45 49.7**	**+0.2**
DAGI				*i* S	**Sn**	**00 46 08.4**	**-0.7**
DAGI				IAML_P			
	comp=Z,308nm,0.2s						
EPOS	**Posof**	**1.53**	**126**	*i* P	**Pb**	**00 45 51.0**	**-0.1**
EPOS				*i* S	**Sg**	**00 46 11.9**	**+0.3**
SOC	**Sochi**	**1.54**	**319**	*e*Pg	**Pb**	**00 45 51.4**	**+0.3**
SOC				*e*Sg	**Sb**	**00 46 11.0**	**+0.2**
DDEM	**Demirkent**	**1.61**	**162**	*i* P	**Pn**	**00 45 51.5**	**+0.2**
DDEM				*i* S	**Sn**	**00 46 12.0**	**-0.3**
DDEM				IAML_P			
	comp=Z,865nm,0.1s						
SHA1	**Shidzhatmaz**	**1.74**	**41**	*e*Pg	**Pn**	**00 45 52.7**	**-0.5**
SHA1				*e*Pg	**Pg**	**00 45 56.7**	**+0.8**
SHA1				*i* Sg	**Sg**	**00 46 18.2**	**-0.3**
SHA1				*e*Sg	**Sg**	**00 46 18.2**	**-0.3**
ONI	**Oni**	**1.75**	**84**	P	**Pb**	**00 45 54.8**	**-0.1**
ONI				S	**Sg**	**00 46 19.0**	**+0.2**
ONI	**Oni**	**1.75**	**84**	*e*Pg	**Pb**	**00 45 54.8**	**-0.1**
ONI				*e*Sg	**Sg**	**00 46 19.0**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.90**	**75**	*e*Pg	**Pb**	**00 45 57.9**	**+0.5**
DIGR				*e*Sg	**Sg**	**00 46 22.6**	**-0.8**
LZRR	**Lazarevskoye**	**1.96**	**321**	*i* Pg	**Pb**	**00 45 59.4**	**+1.0**
LZRR				*e*Sg	**Sb**	**00 46 23.5**	**+0.5**
ZEI	**Tsey**	**2.11**	**79**	*e*Pg	**Pb**	**00 46 00.9**	**-0.1**
ZEI				*e*Sg	**Sb**	**00 46 28.9**	**+1.5**
PYA1	**Pyatigorsk**	**2.20**	**41**	*e*Pg	**Pn**	**00 46 00.3**	**+1.0**
PYA1				*e*Sg	**Sb**	**00 46 31.3**	**+1.4**

*ISK **26** 00:56:32.2, 38°.35N×36°.23E, h1km, ML1.6/4*
*DDA **26** 00:56:34.7, 38°.02N×36°.48E, h7km±3km, ML2.7*
ISC 26 00:56:31.9±1.9, 38°.36N±0°.04×36°.24E±0°.04, h1km±16km, n8, σ0°69/13, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAIM	**ADANA**	**0.40**	**198**	*i* P	**Pb**	**00 56 41.1**	**-0.7**
SAIM				*i* S	**Sb**	**00 56 47.4**	**-1.1**
SAIM				IAML_P			
	comp=Z,2μm,0.1s						
BNN	**Bunyan**	**0.58**	**328**	PG	**Pb**	**00 56 44.6**	**-0.4**
BNN				SG	**Sb**	**00 56 53.6**	**-0.2**
ELBS	**KAHRAMANMARAS**	**0.70**	**92**	*i* P	**Pb**	**00 56 47.2**	**+0.1**
ELBS				IAML_P			
	comp=Z,368nm,0.1s						
YAHY	**KAYSERI_Yahyal**	**0.74**	**249**	*i* P	**Pb**	**00 56 48.5**	**+0.9**
YAHY				IAML_P			
	comp=Z,611nm,0.1s						
KOZT	**Kozan**	**0.93**	**200**	PG	**Pb**	**00 56 51.1**	**+0.2**
KOZT				SG	**Sb**	**00 57 04.7**	**+0.9**
KMRS	**Kahramanmaras**	**1.00**	**148**	PG	**Pb**	**00 56 52.0**	**0.0**
DARE	**Darende-Malaty**	**1.00**	**77**	PG	**Pb**	**00 56 52.6**	**+0.5**
DARE				SG	**Sn**	**00 57 07.5**	**-0.5**
AKCD	**Akcadag**	**1.33**	**92**	*i* P	**Pg**	**00 56 57.2**	**-0.1**
AKCD				*i* S	**Sn**	**00 57 16.6**	**+0.5**
AKCD				IAML_P			
	comp=Z,481nm,0.1s						

*SOME **26** 01:01:46.8, 41°.15N×71°.43E, h0km*
*KRNET **26** 01:01:46.5±0.1, 41°.11N×71°.34E, h19km, mb2.2*
*NNC **26** 01:01:48.0±2.0, 41°.08N×71°.41E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=16.5km s-min=6.9km az=10.0*
ISC 26 01:01:45.6±1.1, 41°.10N±0°.03×71°.51E±0°.03, h14km±11km, n23, σ1°27/40, 18C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.77**	**26**	⇑*i*P	**Pn**	**01 02 02.4**	**+0.1**
	baz=35						
ARK				⇑*i*S	**Sn**	**01 02 13.7**	**0.0**
	baz=35						
ARSB	**Arslanbob**	**1.13**	**78**	⇑*i*P	**Pg**	**01 02 09.3**	**+1.8**
	baz=79						
ARSB				⇑*i*S	**Sn**	**01 02 26.1**	**+3.4**
	baz=79						
BTK	**Batken**	**1.17**	**207**	⇑*i*P	**Pn**	**01 02 07.1**	**-0.6**
	baz=1.0						
BTK				⇑*i*S	**Sb**	**01 02 22.0**	**-0.7**
	baz=1.0						
IUG	**Iuzhnay**	**1.52**	**314**	P	**Pg**	**01 02 14.8**	**0.0**
	10nm,0.3s						
IUG				S	**Sg**	**01 02 35.4**	**+0.8**
	38nm,0.3s						
IUG	**Iuzhnay**	**1.52**	**314**	*e*P	**Pg**	**01 02 14.8**	**0.0**
	7.6nm,0.3s						
IUG				*e*S	**Sg**	**01 02 35.1**	**+0.5**
	31nm,0.2s						
DRK	**Karamyk**	**1.64**	**172**	⇑*i*P	**Pg**	**01 02 16.9**	**-0.2**
	baz=68						
DRK				⇑*i*S	**Sg**	**01 02 39.0**	**+0.6**
	baz=68						
AML	**Almayashu**	**1.93**	**57**	⇓*i*P	**Pg**	**01 02 22.2**	**-0.6**
	baz=59						
AML				⇓*i*S	**Sg**	**01 02 47.3**	**-0.6**
	baz=59						
MRKS	**Merke**	**2.08**	**37**	Pg	**Pg**	**01 02 26.1**	**+0.5**
	6.1nm,0.4s						
MRKS				Lg	Lg	01 02 54.4	
	8.7nm,0.5s						
MRKS	**Merke**	**2.08**	**37**	*e*P	**Pg**	**01 02 26.1**	**+0.5**
	4.6nm,0.3s						
MRKS				*e*S	**Sg**	**01 02 54.4**	**+1.8**
	8.7nm,0.5s						
KK31	**Karatay Array**	**2.13**	**340**	⇓Pn	**Pb**	**01 02 24.5**	**+0.5**
	0.7nm,0.3s,baz=156,slow=15,SNR=49						
KK31				⇓Sn	**Sg**	**01 02 54.1**	**0.0**
	13nm,0.6s,baz=164,slow=29,SNR=22						
ARLS	**Aral**	**2.25**	**69**	⇑*e*P	**Pb**	**01 02 26.9**	**+0.8**
	baz=70						
ARLS				⇑*i*S	**Sg**	**01 02 56.2**	**-1.7**
	baz=70						
BRLS	**Borolday**	**2.29**	**328**	Pg	**Pb**	**01 02 26.5**	**-0.3**
	0.6nm,0.2s						
BRLS				Lg	Lg	01 02 55.4	
	9.6nm,0.4s						
BRLS	**Borolday**	**2.29**	**328**	*e*P	**Pb**	**01 02 26.5**	**-0.3**
	0.1nm,0.1s						
BRLS				*e*S	**Sb**	**01 02 55.4**	**+0.4**
	9.6nm,0.4s						
UCH	**Uchtor**	**2.52**	**63**	⇑*i*P	**Pb**	**01 02 31.4**	**+0.5**
	baz=64						
UCH				⇑*i*S	**Sb**	**01 03 03.1**	**+1.3**
	baz=64						
AAK	**Ala-Archa**	**2.71**	**55**	⇑Pn	**Pg**	**01 02 36.2**	**-1.3**
	1.4nm,0.6s						
AAK				⇓Lg	Lg	01 03 16.3	
	1.5nm,0.6s						
AAK	**Ala-Archa**	**2.71**	**55**	⇑*i*P	**Pb**	**01 02 33.3**	**-0.6**
	baz=56						
AAK				⇑*i*S	**Sb**	**01 03 06.6**	**-0.4**
	baz=56						
KZA	**Kyzart**	**2.97**	**70**	⇑*i*P	**Pb**	**01 02 38.1**	**-0.5**
	baz=70						
KZA				⇑*i*S	**Sb**	**01 03 14.7**	**-0.2**
	baz=70						
USP	**Ospenovka**	**3.10**	**45**	⇓*i*P	**Pb**	**01 02 38.2**	**-2.4**
	baz=46						
USP				⇓*i*S	**Sb**	**01 03 14.8**	**-3.5**
	baz=46						
TKM2	**Tokmak 2**	**3.55**	**58**	⇓Pn	**Pb**	**01 02 45.7**	**-2.5**
	0.7nm,0.5s						
TKM2				⇑Lg	Lg	01 03 43.1	
	1.1nm,0.5s						
DGS	**Degeres**	**3.82**	**55**	Pg	**Pg**	**01 02 58.1**	**-0.7**
	1.6nm,0.3s						
DGS				Lg	Lg	01 03 49.3	
	2.7nm,0.4s						
DGS	**Degeres**	**3.82**	**55**	*e*P	**Pg**	**01 02 58.1**	**-0.7**
	1.6nm,0.3s						
DGS				*e*S	**Sg**	**01 03 49.3**	**+0.9**
	2.7nm,0.4s						
KST	**Kastek**	**3.84**	**58**	Pg	**Pg**	**01 02 58.9**	**-0.3**
	1.4nm,0.3s						
KST				Lg	Lg	01 03 50.5	
	3.6nm,0.5s						
KST	**Kastek**	**3.84**	**58**	*e*P	**Pg**	**01 02 58.9**	**-0.3**
	1.4nm,0.3s						
KST				*e*S	**Sg**	**01 03 50.5**	**+1.6**
	3.6nm,0.5s						

IDC 26 01:19:51.1±4.0, 2°.20S×99°.51E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/26, mbtmp3.7/5, Error ellipse: s-maj=172.8km s-min=21.3km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**27.44**	**258**	T	T	01 54 13.1	
	baz=80,slow=75,SNR=156						
H08S3	**Diego Garcia H**	**27.45**	**258**	T	T	01 54 09.5	
	baz=80,slow=75,SNR=182						
H08S1	**Diego Garcia H**	**27.46**	**258**	T	T	01 54 02.8	
	baz=80,slow=75,SNR=187						
H01W3	**Cape Leeuwin H**	**35.25**	**159**	T	T	02 03 60.0	
	baz=335,slow=76,SNR=6.4						
H01W2	**Cape Leeuwin H**	**35.27**	**159**	T	T	02 04 01.9	
	baz=335,slow=76,SNR=7.2						
H01W1

	baz=77								
PDGK	**Podgornoye**	**0.86**	**73**	P		**Pg**	**01 28 34.1**	**-0.5**
	1.3nm,0.2s								
PDGK				S		**Sg**	**01 28 45.2**	**-0.4**
	3.7nm,0.1s								
PDGK	**Podgornoye**	**0.86**	**73**	⇓P		**Pg**	**01 28 34.0**	**-0.5**
	0.9nm,0.3s								
PDGK				⇑S		**Sg**	**01 28 45.3**	**-0.4**
	2.2nm,0.3s								
PDGK	**Podgornoye**	**0.86**	**73**	⇑*i*P		**Pg**	**01 28 34.0**	**-0.5**
	baz=74								
PDGK				⇑*i*S		**Sg**	**01 28 45.3**	**-0.4**
	baz=74								
KOTS	**Kotyrbulak**	**0.93**	**280**	P		**Pg**	**01 28 35.5**	**-0.4**
	2.3nm,0.1s								
KOTS				S		**Sg**	**01 28 47.8**	**-0.2**
	15nm,0.2s								
KOTS	**Kotyrbulak**	**0.93**	**280**	*e*P		**Pg**	**01 28 35.5**	**-0.4**
	baz=78								
KOTS				*e*S		**Sg**	**01 28 47.8**	**-0.2**
	baz=78								
KOTS	**Kotyrbulak**	**0.93**	**280**	*e*P		**Pg**	**01 28 35.5**	**-0.4**
	2.3nm,0.1s								
KOTS				*e*S		**Sg**	**01 28 47.9**	**-0.2**
	15nm,0.2s								
MDOK	**Medeo**	**0.97**	**275**	P		**Pg**	**01 28 35.8**	**-0.8**
	1.3nm,0.4s								
MDOK				S		**Sg**	**01 28 48.9**	**-0.3**
	5.9nm,0.7s								
MNBS	**Baschi**	**1.00**	**1**	P		**Pg**	**01 28 37.1**	**-0.2**
	3.4nm,0.1s								
MNBS				S		**Sb**	**01 28 50.4**	**-0.5**
	11nm,0.1s								
MNBS	**Baschi**	**1.00**	**1**	*e*P		**Pg**	**01 28 37.1**	**-0.2**
	3.4nm,0.1s								
MNBS				*e*S		**Sb**	**01 28 50.4**	**-0.5**
	11nm,0.1s								
ARXS	**Arharly**	**1.20**	**341**	P		**Pb**	**01 28 40.4**	**-0.6**
	3.1nm,0.2s								
ARXS				S		**Sb**	**01 28 56.2**	**-0.5**
	13nm,0.1s								
ARXS	**Arharly**	**1.20**	**341**	*e*P		**Pb**	**01 28 40.4**	**-0.6**
	3.1nm,0.2s								
ARXS				*e*S		**Sb**	**01 28 56.2**	**-0.5**
	13nm,0.1s								
KDJ	**Kajisay**	**1.29**	**223**	⇑*i*P		**Pn**	**01 28 42.2**	**-0.3**
	baz=22								
KDJ				⇑*i*S		**Sg**	**01 28 59.9**	**+0.3**
	baz=22								
KTBS	**Karatobe**	**1.38**	**298**	P		**Pn**	**01 28 43.6**	**0.0**
	8.4nm,0.2s								
KTBS				S		**Sg**	**01 29 02.2**	**-0.2**
	17nm,0.5s								
KTBS	**Karatobe**	**1.38**	**298**	*e*P		**Pn**	**01 28 43.6**	**0.0**
	8.4nm,0.2s								
KTBS				*e*S		**Sn**	**01 29 01.8**	**-0.2**
	17nm,0.5s								
KTMS	**Ketmen**	**1.50**	**75**	P		**Pb**	**01 28 45.7**	**-0.4**
	2.3nm,0.2s								
KTMS				S		**Sn**	**01 29 04.9**	**-0.1**
	6.8nm,0.2s								
KTMS	**Ketmen**	**1.50**	**75**	*e*P		**Pb**	**01 28 45.7**	**-0.4**
	baz=75								
KTMS				*e*S		**Sb**	**01 29 05.0**	**-0.3**
	baz=75								
KTMS	**Ketmen**	**1.50**	**75**	*e*P		**Pb**	**01 28 45.7**	**-0.4**
	2.3nm,0.2s								
KTMS				*e*S		**Sb**	**01 29 05.0**	**-0.3**
	6.8nm,0.2s								
DJR	**Jarkent**	**1.62**	**39**	P		**Pb**	**01 28 48.3**	**+0.1**
	0.6nm,0.1s								
DJR				S		**Sg**	**01 29 09.8**	**-0.4**
	2.9nm,0.1s								
DJR	**Jarkent**	**1.62**	**39**	*e*P		**Pb**	**01 28 48.3**	**+0.1**
	0.6nm,0.1s								
DJR				*e*S		**Sg**	**01 29 09.8**	**-0.4**
	2.9nm,0.1s								
ULHL	**Ulahol**	**1.77**	**243**	⇑*i*P		**Pb**	**01 28 50.2**	**-0.7**
	baz=42								
ULHL				⇑*i*S		**Sb**	**01 29 13.5**	**+0.2**
	baz=42								
BOOM	**Boomskoye usch**	**1.88**	**253**	⇑*i*P		**Pb**	**01 28 51.9**	**-0.8**
	baz=52								
BOOM				⇑*i*S		**Sb**	**01 29 16.3**	**0.0**
	baz=52								
DGS	**Degeres**	**1.91**	**276**	P		**Pb**	**01 28 52.6**	**-0.5**
	4.1nm,0.4s								
DGS				S		**Sb**	**01 29 17.3**	**+0.3**
	9.7nm,0.4s								
DGS	**Degeres**	**1.91**	**276**	*e*P		**Pb**	**01 28 52.6**	**-0.5**
	baz=75								
DGS				*e*S		**Sb**	**01 29 17.3**	**+0.3**
	baz=75								
DGS	**Degeres**	**1.91**	**276**	*e*P		**Pb**	**01 28 52.5**	**-0.5**
	4.1nm,0.4s								
DGS				*e*S		**Sb**	**01 29 17.3**	**+0.3**
	9.7nm,0.4s								
TKM2	**Tokmak 2**	**2.04**	**266**	⇑Pn		**Pb**	**01 28 54.7**	**-0.6**
	0.7nm,0.5s								
TKM2				⇓Sn		**Sg**	**01 29 22.6**	**-0.9**
	2.2nm,0.3s								
KAPS	**Kapalarasan**	**2.32**	**18**	Pg		**Pb**	**01 29 01.0**	**+1.0**
	1.0nm,0.3s								
KAPS				Lg		Lg	01 29 31.8		
	7.3nm,0.3s								
KAPS	**Kapalarasan**	**2.32**	**18**	*e*P		**Pb**	**01 29 01.0**	**+1.0**
	1.0nm,0.3s								
KAPS				*e*S		**Sg**	**01 29 31.8**	**-0.6**
	7.3nm,0.3s								
KZA	**Kyzart**	**2.51**	**248**	⇑*i*P		**Pn**	**01 29 00.8**	**+1.4**
	baz=47								
KZA				⇑*i*S		**Sn**	**01 29 31.4**	**+1.0**
	baz=47								
AAK	**Ala-Archa**	**2.88**	**262**	⇓Pg		**Pb**	**01 29 09.0**	**-0.7**
	1.0nm,0.5s								
AAK				⇑Lg		Lg	01 29 48.3		
	2.2nm,0.8s								
ARLS	**Aral**	**3.23**	**249**	⇑*i*P		**Pn**	**01 29 10.4**	**+1.3**
	baz=49								
ARLS				⇑*i*S		**Sn**	**01 29 48.5**	**+0.7**
	baz=49								

*ISCJB **26** 01:32:55.4±1.1,43.°34N±0.°07×146.°42E±0.°09,h77km±9km, Error ellipse: s-maj=14.3km s-min=6.2km az=139.8*
*JMA **26** 01:32:56.3±0.2,43.°31N×146.°36E,h79km±1km,M3.3*
*SKHL **26** 01:32:56.2±0.4,43.°29N×146.°59E,h30km,mb4.4/2*
ISC 26 01:32:55.7±1.9,**43.°33N**±0.°09×**146.°45E**±0.°08,**h76**km±13km, **n13**,σ0**966**/25,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.52**	**274**	P	**Pn**	**01 33 09.7**	**+0.6**
NEM2				*e*S	**Sn**	**01 33 19.5**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.82**	**329**	*i* P	**Pn**	**01 33 12.0**	**-0.3**
YUK				AMB	AMB	01 33 12.0	
	27nm,0.2s						
YUK				AMB	AMB	01 33 12.0	
	24nm,0.2s						
YUK				AMB	AMB	01 33 12.0	
	189nm,0.2s						
YUK				*i* S	**Sn**	**01 33 24.0**	**-0.7**
YUK				A	A	01 33 25.0	
	1μm,0.2s						
YUK				A	A	01 33 25.0	
	655nm,0.2s						
GRPR	**Tuman**	**0.82**	**324**	*i* P	**Pn**	**01 33 12.0**	**-0.4**
GRPR				AMB	AMB	01 33 12.0	
	61nm,0.3s						
GRPR				AMB	AMB	01 33 12.0	
	67nm,0.3s						
GRPR				AMB	AMB	01 33 12.0	
	192nm,0.3s						
GRPR				*i* S	**Sn**	**01 33 24.0**	**-0.8**
GRPR				A	A	01 33 24.0	
	1μm,0.3s						
GRPR				A	A	01 33 24.0	
	989nm,0.3s						
JKHN	**Kushirohamanak**	**0.97**	**256**	P	**Pn**	**01 33 14.6**	**+0.5**
JKHN				*e*S	**Sn**	**01 33 28.2**	**+0.3**
JRA	**Rausu**	**1.14**	**303**	P	**Pn**	**01 33 16.7**	**+0.6**
JRA				*e*S	**Sn**	**01 33 32.1**	**+0.6**
JNK	**Nakash**	**1.28**	**282**	P	**Pn**	**01 33 17.9**	**-0.1**
JNK				*e*S	**Sn**	**01 33 33.7**	**-1.1**
JAK	**Akkeshi**	**1.32**	**256**	P	**Pn**	**01 33 18.5**	**0.0**
JAK				*e*S	**Sn**	**01 33 35.0**	**-0.7**
JTKR	**Abashiri--Toko**	**1.95**	**290**	P	**Pn**	**01 33 27.4**	**+0.7**
JTKR				*e*S	**Sn**	**01 33 50.9**	**+0.5**
JAR	**Ashorobuto**	**1.96**	**270**	P	**Pn**	**01 33 27.2**	**+0.4**
JAR				*e*S	**Sn**	**01 33 50.5**	**0.0**
JOB	**Onbets**	**1.96**	**258**	P	**Pn**	**01 33 27.2**	**+0.3**
JOB				*e*S	**Sn**	**01 33 50.1**	**-0.5**
KUR	**Kuril'sk**	**2.16**	**28**	*e*P	**Pn**	**01 33 30.0**	**+0.5**
KUR				*e*S	**Sn**	**01 33 55.0**	**-0.4**
KUR				A	A	01 33 56.0	
	173nm,0.3s						
KUR				A	A	01 33 56.0	
	189nm,0.3s						
JMP	**Maruseppu**	**2.34**	**288**	P	**Pn**	**01 33 32.8**	**+0.8**
JCH	**Churui**	**2.37**	**254**	P	**Pn**	**01 33 32.3**	**-0.1**
JCH				*e*S	**Sn**	**01 33 59.1**	**-1.5**

*IDC **26** 01:38:04.2±3.8,14.°20N×92.°97W,h0km,mb3.4/3, mb1 3.7/6,mb1mx3.5/34,mbtmp3.3/6,ML3.2/3,Error ellipse: s-maj=74.9km s-min=24.3km az=13.0*
*MEX **26** 01:38:07.6±0.3,14.°14N×92.°96W,h72km±30km,MD3.9*
ISC 26 01:38:10.1±1.6,**14.°3N**±0.°1×**92.°95W**±0.°08,**h37**km,**n8**, σ1°**58**/**12**,**mb3.5/3**,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.42**	**350**	*i* P	**Pn**	**01 38 32.3**	**-1.1**
PCIG				*e*S	**Sn**	**01 38 51.3**	**+0.5**
CCIG	**Comitan**	**2.12**	**22**	*i* P	**Pn**	**01 38 42.2**	**-1.0**
CCIG				*e*S	**Sn**	**01 39 08.4**	**0.0**
APG	**El Apazote**	**2.51**	**73**	Pn	**Pn**	**01 38 46.9**	**-1.6**
	4.1nm,0.3s,baz=264,slow=3.8,SNR=34						
APG				Sn	**Sn**	**01 39 21.0**	**+3.0**
	5.2nm,0.3s,baz=12,slow=10,SNR=4.7						
CMIG	**Matias Romero**	**3.34**	**326**	Pn	**Pn**	**01 38 59.1**	**-0.7**
	0.9nm,0.3s,baz=161,slow=14,SNR=16						
CMIG				Sn	**Sn**	**01 39 40.4**	**+2.1**
	3.8nm,0.3s,baz=129,slow=14,SNR=5.6						
TXAR	**Lajitas Array**	**17.95**	**328**	P	**P**	**01 42 17.1**	**-0.1**
	0.0nm,0.3s,baz=150,slow=13,SNR=2.6						
NVAR	**Mina Array Bea**	**32.86**	**322**	P	**P**	**01 44 39.8**	**-0.9**
	0.3nm,0.7s,baz=138,slow=8.6,SNR=2.6						
YKA	**Yellowknife Ar**	**50.53**	**347**	P	**P**	**01 47 03.9**	**-0.5**
	0.5nm,0.6s,baz=149,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**62.20**	**337**	P	**P**	**01 48 29.1**	**+1.5**
	0.3nm,0.8s,baz=126,slow=6.0,SNR=3.4						

IDC 26 02:01:07.3±3.5,**2.°37S×99.°25E**,**h0**km,**mb3.6/5**,**mb1 3.8/5**, **mb1mx3.5**/41,**mbtmp3.7**/5,**Error ellipse: s-maj=132.7km s-min=26.0km az=57.0**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**20.70**	**359**	P	P	02 05 50.0	+0.7
	0.6nm,0.3s,baz=180,slow=8.7,SNR=2.8						
H08S2	**Diego Garcia H**	**27.15**	**258**	T	T	02 35 22.5	
	baz=79,slow=76,SNR=120						
H08S3	**Diego Garcia H**	**27.16**	**258**	T	T	02 35 22.9	
	baz=79,slow=76,SNR=125						
H08S1	**Diego Carcia H**	**27.17**	**258**	T	T	02 35 28.8	
	baz=79,slow=76,SNR=102						
H01W3	**Cape Leeuwin H**	**35.19**	**158**	T	T	02 45 19.1	
	baz=336						
H01W2	**Cape Leeuwin H**	**35.20**	**159**	T	T	02 45 22.8	
	baz=336						
H01W1	**Cape Leeuwin H**	**35.20**	**158**	T	T	02 45 20.7	
	baz=336						
WRA	**Warramunga Arr**	**38.46**	**120**	P	P	02 08 31.0	-0.3
	0.4nm,0.7s,baz=303,slow=9.2,SNR=4.3						
SONM	**Songino Array**	**50.39**	**6**	P	P	02 10 05.7	-0.7
	0.7nm,0.7s,baz=184,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**51.19**	**345**	P	P	02 10 12.2	-0.1
	0.5nm,0.5s,baz=151,slow=8.5,SNR=8.6						
ZALV	**Zalesovo Beam**	**57.40**	**350**	P	P	02 10 57.0	-0.5
	0.7nm,0.5s,baz=182,slow=5.6,SNR=4.6						
TXAR	**Lajitas Array**	**145.45**	**37**	PKPbc	PKPdf	02 20 48.2	0.0
	0.5nm,0.6s,baz=135,slow=0.7,SNR=4.3						

JMA 26 02:15:59.2±0.2,**37.°16N×144.°40E**,**h57**km,**M3.9**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.59**	**297**	P	Pn	02 16 40.1	+1.4
JIKH				S	Sn	02 17 10.2	+1.2
JIO	**Ouri**	**2.74**	**299**	P	Pn	02 16 42.3	+1.6
JIO				S	Sn	02 17 13.8	+1.2
JFK	**Kawauchi**	**2.82**	**275**	P	Pn	02 16 43.0	+1.2
JFK				S	Sn	02 17 16.1	+1.5
JKMT	**Kesennumamotoy**	**2.84**	**306**	P	Pn	02 16 43.2	+1.2
JKMT				S	Sn	02 17 15.9	+0.9
ONAJ	**Iwakimizuishiy**	**2.88**	**270**	P	Pn	02 16 43.6	+0.9
ONAJ				S	Sn	02 17 17.7	+1.6
JMK	**Ichinoseki**	**3.08**	**306**	P	Pn	02 16 46.7	+1.3
JMK				*e*S	Sn	02 17 22.7	+1.7
JFT	**Otama**	**3.26**	**278**	P	Pn	02 16 50.0	+2.2
JFT				*e*S	Sn	02 17 28.7	+3.3
BSO1	**Boso 1**	**3.74**	**229**	P	Pn	02 16 53.6	-0.3
BSO1				*e*S	Sn	02 17 36.2	-0.1
JRY	**Ryogami san**	**4.57**	**257**	P	Pn	02 17 06.8	+1.0
JRY				S	Sn	02 17 57.0	-0.6
JOD2	**Odawara 2**	**4.69**	**248**	P	Pn	02 17 08.8	+1.3
JOD2				*e*S	Sn	02 18 01.6	+1.0
JOT	**Ohata**	**4.95**	**329**	P	Pn	02 17 13.0	+2.0
MAT	**Matsushiro**	**5.00**	**265**	P	Pn	02 17 14.6	+2.8
JKB	**Kayabe**	**5.39**	**332**	*e*S	Sn	02 18 18.9	+1.2
JCH	**Churui**	**5.51**	**352**	P	Pn	02 17 18.4	-0.2
JCH				*e*S	Sn	02 18 17.3	-3.2

IDC 26 02:31:23.2±3.6,**1.°47N×96.°96E**,**h0**km,**mb3.8/5**,**mb1 3.9/5**, **mb1mx3.6**/38,**mbtmp3.8**/5,**MS3.4/1**,**Ms1 3.4/1**, **ms1mx2.5**/37,**Error ellipse: s-maj=144.0km s-min=26.4km az=56.0**,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**26.03**	**249**	T	T	03 03 48.7	
	baz=72,slow=76,SNR=5.2						
H08S3	**Diego Garcia H**	**26.04**	**249**	T	T	03 03 49.3	
	baz=72,slow=76,SNR=5.3						
H08S1	**Diego Carcia H**	**26.05**	**249**	T	T	03 04 04.4	
	baz=72,slow=76,SNR=5.8						
WRA	**Warramunga Arr**	**42.38**	**122**	P	P	02 39 19.5	-0.2
	0.8nm,1.0s,baz=303,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**46.90**	**9**	P	P	02 39 55.8	+0.3
	0.6nm,0.6s,baz=190,slow=7.3,SNR=3.2						
SONM				LR	LR	03 01 39.2	
	comp=Z,40nm,18.3s,baz=24,slow=39						
MKAR	**Makanchi Array**	**46.93**	**346**	P	P	02 39 56.0	+0.4
	0.9nm,0.5s,baz=161,slow=7.9,SNR=12						
KURBB	**Kurchatov Arra**	**51.41**	**345**	P	P	02 40 29.3	-0.5
	0.5nm,0.6s,baz=163,slow=6.7,SNR=4.7						
ZALV	**Zalesovo Beam**	**53.26**	**351**	P	P	02 40 43.0	-0.5
	1.9nm,0.4s,baz=175,slow=7.9,SNR=8.4						

*ISCJB **26** 03:39:00.3±0.7,21.°5N±0.°1×144.°4E±0.°3,h114km, mb3.7/11,Error ellipse: s-maj=38.3km s-min=15.8km az=9.1*
*IDC **26** 03:39:06.0±9.0,21.°51N×144.°39E,h153km±84km, mb3.5/11,mb1 3.7/11,mb1mx3.3/44,mbtmp3.9/11,MS2.7/1, Ms1 2.7/1,ms1mx2.1/22,Error ellipse: s-maj=36.9km s-min=16.0km az=99.0*
ISC 26 03:39:01.9±0.9,**21.°5N**±0.°1×**144.°4E**±0.°3,**h114**km,**n11**, σ0°**84**/**11**,**mb3.6**/**11**,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**29.46**	**343**	P	**P**	**03 44 55.0**	**+0.3**
	0.7nm,0.4s,baz=170,slow=8.4,SNR=4.7						
KLR				LR	LR	03 55 48.4	
	comp=Z,12nm,18.8s,baz=54,slow=34						
SEY	**Seymchan**	**41.77**	**5**	P	**P**	**03 46 40.7**	**+1.1**
	0.6nm,0.2s,baz=11,slow=21,SNR=4.3						
WRA	**Warramunga Arr**	**42.35**	**194**	P	**P**	**03 46 45.1**	**+0.3**
	0.6nm,0.6s,baz=16,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**46.04**	**193**	P	**P**	**03 47 14.4**	**+0.1**
	0.3nm,0.4s,baz=10,slow=6.6,SNR=5.6						
ILAR	**Eielson Array**	**61.69**	**27**	P	**P**	**03 49 06.2**	**-1.4**
	0.5nm,0.7s,baz=254,slow=6.5,SNR=6.1						
INK	**Inuvik**	**67.29**	**24**	P	**P**	**03 49 43.9**	**-0.1**
	0.3nm,0.4s,baz=12,slow=4.8,SNR=4.5						
YKA	**Yellowknife Ar**	**76.09**	**28**	P	**P**	**03 50 36.7**	**0.0**
	0.4nm,0.5s,baz=291,slow=5.8,SNR=9.6						
ARCES	**ARCESS Array B**	**79.47**	**342**	P	**P**	**03 50 55.6**	**+0.2**
	2.1nm,0.8s,baz=69,slow=7.8,SNR=3.2						
NVAR	**Mina Array Bea**	**82.36**	**52**	P	**P**	**03 51 12.1**	**+0.5**
	0.2nm,0.5s,baz=278,slow=5.7,SNR=4.0						
FINES	**FINESS Array B**	**83.85**	**335**	P	**P**	**03 51 17.7**	**-0.8**
	0.9nm,0.4s,baz=66,slow=4.2,SNR=16						
HFS	**Hagfors**	**89.35**	**338**	P	**P**	**03 51 44.2**	**-1.1**
	1.8nm,1.0s,baz=96,slow=4.1,SNR=2.2						

*ISCJB **26** 03:39:20.2±0.5,19.°56S±0.°03×69.°41W±0.°07,h105km±4km, Error ellipse: s-maj=11.3km s-min=4.9km az=172.1*
*SJA **26** 03:39:20.4±0.9,19.°57S×69.°40W,h96km±3km,ML2.5, MW3.1*
*GUC **26** 03:39:21.0±0.7,19.°58S×69.°33W,h98km±3km,ML4.1*
*IDC **26** 03:39:22.0±1.6,19.°61S×68.°90W,h118km±15km,mb3.5/4, mb1 3.7/7,mb1mx3.4/35,mbtmp4.0/7,MS2.3/1,Ms1 2.5/1, ms1mx2.3/22,Error ellipse: s-maj=37.2km s-min=12.9km az=102.0*
ISC 26 03:39:20.0±0.8,**19.°55S**±0.°04×**69.°37W**±0.°07,**h99**km±6km, **n35**,σ1°**26**/**50**,**5C-5D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.34**	**231**	*e*P	**Pn**	**03 39 35.4**	**+0.4**
PB11				*e*S	**Sn**	**03 39 46.7**	**+0.6**
PB11	**IPOC Station P**	**0.34**	**231**	⇑*i*P	**Pn**	**03 39 35.4**	**+0.4**
PB11				*e*S	**Sn**	**03 39 46.6**	**+0.5**
PB11				IAML		03 39 47.6	
	comp=E,19μm,0.4s						
MNMC	**Minye Minye**	**0.46**	**333**	⇓*i*P	**Pn**	**03 39 36.7**	**+0.9**
MNMC				*i* S	**Sn**	**03 39 48.6**	**+1.0**
MNMC				IAML		03 39 50.1	
	comp=E,21μm,0.3s						
MNMCX	**Minye Minye**	**0.46**	**333**	*e*P	**Pn**	**03 39 36.8**	**+0.9**
MNMCX				*e*S	**Sn**	**03 39 48.2**	**+0.6**
PB08	**IPOC Station P**	**0.63**	**161**	⇓*e*P	**Pn**	**03 39 37.9**	**+0.6**
PB08				*e*S	**Sn**	**03 39 50.7**	**+0.7**
PB08	**IPOC Station P**	**0.63**	**161**	⇓*i*P	**Pn**	**03 39 37.8**	**+0.6**
PB08				*i* S	**Sn**	**03 39 50.0**	**0.0**
PB08				IAML		03 39 51.9	
	comp=E,13μm,0.5s						
PSGC	**Pisagua**	**0.71**	**266**	⇑*i*P	**Pn**	**03 39 38.0**	**+0.5**
PSGC				*i* S	**Sn**	**03 39 51.4**	**+0.7**
PSGCX	**Pisagua**	**0.71**	**266**	*e*P	**Pn**	**03 39 38.1**	**+0.6**
PSGCX				⇓*e*S	**Sn**	**03 39 51.4**	**+0.7**
PB12	**IPOC Station P**	**1.29**	**316**	*e*P	**Pn**	**03 39 44.6**	**+0.7**
PB12	**IPOC Station P**	**1.29**	**316**	⇑*i*P	**Pn**	**03 39 44.3**	**+0.4**
PB12				*i* S	**Sn**	**03 40 02.6**	**+0.8**
PB12				IAML		03 40 06.2	
	comp=E,1μm,0.5s						
PB01	**IPOC Station P**	**1.49**	**184**	*e*P	**Pn**	**03 39 47.0**	**+0.7**
PB01	**IPOC Station P**	**1.49**	**184**	⇑*i*P	**Pn**	**03 39 47.0**	**+0.7**
PB01				*i* S	**Sn**	**03 40 06.5**	**+0.4**
PB01				IAML		03 40 10.5	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.83**	**195**	*e*P	**Pn**	**03 39 51.5**	**+0.9**
PB02	**IPOC Station P**	**1.83**	**195**	⇑*i*P	**Pn**	**03 39 50.9**	**+0.4**
PB02				*i* S	**Sn**	**03 40 14.2**	**+0.5**
PB02				IAML		03 40 21.7	
	comp=E,3μm,0.4s						
PB07	**IPOC Station P**	**2.22**	**192**	*e*P	**Pn**	**03 39 57.1**	**+1.4**
PB07	**IPOC Station P**	**2.22**	**192**	*e*P	**Pn**	**03 39 56.0**	**+0.3**
PB07				*i* S	**Sn**	**03 40 23.7**	**+0.8**
PB07				IAML		03 40 30.3	
	comp=N,1μm,0.2s						
PB09	**IPOC Station P**	**2.24**	**177**	*e*P	**Pn**	**03 39 57.3**	**+1.4**
PB09	**IPOC Station P**	**2.24**	**177**	*e*P	**Pn**	**03 39 57.1**	**+1.1**
PB09				*i* S	**Sn**	**03 40 24.0**	**+0.7**
PB09				IAML		03 40 29.5	
	comp=E,518nm,0.7s						
PB03	**IPOC Station P**	**2.51**	**188**	*e*P	**Pn**	**03 40 00.8**	**+1.3**
PB03	**IPOC Station P**	**2.51**	**188**	*e*P	**Pn**	**03 39 59.6**	**+0.1**
PB03				*i* S	**Sn**	**03 40 28.3**	**-1.4**
PB03				IAML		03 40 41.3	
	comp=E,536nm,0.4s						
PB04	**IPOC Station P**	**2.87**	**194**	*e*P	**Pn**	**03 40 06.2**	**+2.0**
LVC	**Limon Verde**	**3.08**	**172**	*e*P	**Pn**	**03 40 08.8**	**+1.6**
LVC	**Limon Verde**	**3.08**	**172**	P	**Pn**	**03 40 08.2**	**+1.0**
	comp=E,8.9nm,0.3s,baz=2.0,slow=8.7,SNR=68						
LVC				S	**Sn**	**03 40 44.3**	**+0.9**
	comp=E,18nm,0.3s,baz=34,slow=24,SNR=9.5						
PB06	**IPOC Station P**	**3.15**	**183**	*e*P	**Pn**	**03 40 09.5**	**+1.6**
PB05	**IPOC Station P**	**3.38**	**193**	⇓*e*P	**Pn**	**03 40 11.3**	**+0.3**
LPAZ	**La Paz**	**3.45**	**20**	*e*P	**Pn**	**03 40 15.0**	**+2.6**
LPAZ	**La Paz**	**3.45**	**20**	P	**Pn**	**03 40 14.8**	**+2.4**
	comp=E,4.0nm,0.3s,baz=200,slow=5.3,SNR=74						
LPAZ				LR	LR	03 41 53.5	
	comp=E,47nm,19.6s,baz=286,slow=45						
PB15	**IPOC Station P**	**3.65**	**181**	*e*P	**Pn**	**03 40 16.0**	**+1.3**
YJA	**Yavi**	**4.46**	**127**	*e*P	**Pn**	**03 40 28.3**	**+2.5**
YJA				IAML		03 40 29.3	
	comp=Z,4.7nm,0.4s						
SIV	**San Ignacio**	**8.66**	**67**	P	**Pn**	**03 41 20.0**	**-2.7**
	comp=Z,5.6nm,0.3s,baz=269,slow=10,SNR=154						
BDFB	**Brasilia**	**20.73**	**83**	P	**P**	**03 43 52.3**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=250,slow=11,SNR=9.1						
PTGA	**Pitinga**	**20.85**	**27**	P	**P**	**03 43 51.9**	**-2.2**
	comp=Z,2.8nm,0.4s,baz=193,slow=15,SNR=12						
PLCA	**Paso Flores**	**21.14**	**182**	P	**P**	**03 43 58.5**	**+1.5**
	comp=Z,1.0nm,0.8s,baz=24,slow=14,SNR=4.0						
TORD	**Torodi Ar. Bea**	**77.12

0.7nm,0.6s,baz=92,slow=2.5,SNR=14

*BJI **26** 04:17:28.3,51°.80N×179°.90W,h8km,mb4.9/7,mB4.8/2*
*AEIC **26** 04:17:31.7±0.0,51°.83N×179°.90W,h7km*
*IDC **26** 04:17:33.7±1.5,51°.65N×179°.25W,h0km,mb3.6/8,*
mb1 4.0/9,mb1mx3.7/62,mbtmp3.7/9,ML3.8/1,MS2.7/2,
Ms1 2.7/2,ms1mx2.3/49,Error ellipse: s-maj=52.6km
s-min=17.6km az=0.0
*NEIC **26** 04:17:38.2±2.3,51°.81N×179°.34W,h25km±7km,mb4.3/37,*
ML4.3(AEIC),Error ellipse: s-maj=27.9km s-min=8.5km
az=180.0

ISC 26 04:17:37.8±1.8,51°.9N±0°.1×179°.42W±0°.07,h24km±13km,
n77,σ1§41/81,mb4.2/30,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.42**	**105**	*e*Pg			**Pb**	**04 17 45.8**	**-0.8**
GAEA	**Gareloi East**	**0.43**	**101**	*e*Pg			**Pb**	**04 17 46.0**	**-0.7**
TASE	**Tanaga Southea**	**0.86**	**92**	*e*Pg			**Pb**	**04 17 53.5**	**-0.5**
TAFP	**Tanaga Falls P**	**0.89**	**87**	*e*Pg			**Pb**	**04 17 53.8**	**-0.7**
TAFP				*e*Sn			**Sn**	**04 18 10.2**	**+3.1**
KIKV	**Kanaga Island**	**1.40**	**89**	*e*Pn			**Pn**	**04 18 01.6**	**-0.1**
KIKV				*e*Sn			**Sb**	**04 18 24.1**	**+3.5**
KIWB	**Kanaga Island**	**1.41**	**90**	*e*Pn			**Pn**	**04 18 01.7**	**-0.2**
KIWB				*e*Sn			**Sb**	**04 18 20.2**	**-0.7**
KIRH	**Kanaga Island**	**1.44**	**88**	*e*Pn			**Pn**	**04 18 02.4**	**0.0**
ADK	**Adak**	**1.70**	**88**	*e*Pn			**Pn**	**04 18 05.4**	**-0.5**
ADK				*e*Sn			**Sb**	**04 18 31.9**	**+2.8**
ADAG	**Mount Adagdak**	**1.75**	**85**	*e*Pn			**Pn**	**04 18 06.2**	**-0.4**
ETKA	**Kagalaska Isla**	**1.87**	**89**	*e*Pn			**Pn**	**04 18 08.0**	**-0.3**
ETKA				*e*Sn			**Sb**	**04 18 37.1**	**+3.0**
GSTD	**Great Sitkin T**	**2.04**	**83**	*e*Pn			**Pn**	**04 18 09.9**	**-0.8**
GSTD				*e*Sn			**Sb**	**04 18 40.4**	**+1.4**
GSMY	**Great Sitkin M**	**2.09**	**84**	*e*Pn			**Pn**	**04 18 10.7**	**-0.6**
GSTR	**Great Sitkin T**	**2.09**	**82**	*e*Pn			**Pn**	**04 18 11.9**	**+0.6**
GSTR				*e*Sn			**Sn**	**04 18 37.0**	**+0.3**
KOWE	**Korovin West**	**3.23**	**79**	*e*Pn			**Pn**	**04 18 27.0**	**+0.1**
KOKL	**Mount Kliuchef**	**3.25**	**80**	*e*Pn			**Pn**	**04 18 27.4**	**+0.1**
KOKL				*e*Sg			**Sb**	**04 19 11.1**	**-2.9**
KOFP	**Korovin Flat P**	**3.31**	**81**	*e*Pn			**Pn**	**04 18 28.3**	**+0.2**
KOFP				*e*Sg			**Sb**	**04 19 11.8**	**-3.8**
NIKH	**Nikolski High**	**6.56**	**76**	*e*Pn			**Pn**	**04 19 14.6**	**+1.9**
SPIA	**Saint Paul Isl**	**7.53**	**41**	*e*Pn			**Pn**	**04 19 26.2**	**+0.2**
SPIA				*e*Sn			**Sn**	**04 20 50.1**	**-0.4**
MSW	**Makushin Switc**	**7.92**	**70**	*e*Pn			**Pn**	**04 19 32.5**	**+1.2**
UNV	**Unalaska Valle**	**8.07**	**71**	*e*Pn			**Pn**	**04 19 34.8**	**+1.5**
PETK	**Petropavlovsk-** comp=Z,31nm,18.7s,baz=95,slow=39	**13.98**	**284**	LR			LR	04 26 41.3	
SVW2	**Sparrevohn** 22nm,1.4s	**15.99**	**45**	*e*Pn			**Pn**	**04 21 22.4**	**+1.5**
KDAK	**Kodiak Island**	**16.49**	**58**	*e*Pn			**Pn**	**04 21 24.5**	**-2.7**
KDAK				*es*P			**Pn**	**04 21 27.2**	**0.0**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=307,slow=4.0,SNR=8.8	**16.49**	**58**	Pn			**Pn**	**04 21 27.2**	**0.0**
RSO	**Redoubt South**	**17.05**	**49**	*e*Pn			**P**	**04 21 36.4**	**+0.2**
BRLK	**Bradley Lake** 133nm,1.7s	**17.76**	**52**	*e*Pn			**P**	**04 21 44.1**	**+0.3**
PPLA	**Purkeypile** 28nm,1.4s	**18.20**	**42**	*e*Pn			**P**	**04 21 49.0**	**+0.2**
RC01	**Rabbit Creek A** 52nm,1.6s	**18.65**	**49**	*e*P			**Pn**	**04 21 53.8**	**-0.3**
IM3	**Indian Mountai**	**19.17**	**33**	*e*P			**Pn**	**04 22 02.2**	**+2.0**
BPAW	**Bear Paw Mtn.** 6.6nm,1.0s	**19.21**	**39**	*e*P			**Pn**	**04 22 02.3**	**+1.6**
TRF	**Thorofare Moun** 38nm,1.6s	**19.22**	**42**	*e*P			**Pn**	**04 22 01.1**	**+0.1**
MLY	**Manley** 20nm,1.8s	**19.73**	**37**	*e*P			**P**	**04 22 04.3**	**-1.1**
DHY	**Denali Highway** 21nm,1.2s	**20.31**	**44**	*e*P			Pn	04 22 12.8	-1.2
WRH	**Wood River Hil** 16nm,1.5s	**20.51**	**40**	*e*P			**P**	**04 22 13.4**	**-0.5**
MDM	**Murphy Dome** 25nm,1.5s	**20.66**	**39**	*e*P			Pn	04 22 16.9	-1.0
CCB	**Clear Creek Bu** 5.1nm,1.1s	**20.70**	**40**	*e*P			**P**	**04 22 14.5**	**-1.4**
HDA	**Harding Lake** 13nm,1.5s	**20.95**	**41**	*e*P			**P**	**04 22 18.1**	**-0.4**
HARP	**HAARP** 40nm,1.3s	**21.10**	**47**	*e*P			**P**	**04 22 20.7**	**+0.4**
IL1	**Eielson Array**	**21.11**	**40**	*e*P			**P**	**04 22 17.4**	**-2.9**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=239,slow=8.6,SNR=22	**21.11**	**40**	P			**P**	**04 22 21.1**	**+0.8**
ILB	**Eielson Array** 16nm,1.9s	**21.11**	**40**	*e*P			**P**	**04 22 21.6**	**+1.3**
PAX	**Paxson** 34nm,1.7s	**21.11**	**45**	*e*P			**P**	**04 22 21.5**	**+1.0**
HMT	**Hamilton** 84nm,1.3s	**21.13**	**53**	*e*P			**P**	**04 22 22.1**	**+1.5**
RIDG	**Independ'e Rid** 15nm,1.3s	**21.60**	**43**	*e*P			**P**	**04 22 25.4**	**-0.2**
PRP	**Porcupine Dome** 17nm,1.8s	**21.93**	**38**	*e*P			**P**	**04 22 30.7**	**+1.5**
TOLK	**Toolik Lake Re** 17nm,1.7s	**22.02**	**29**	*e*P			**P**	**04 22 30.6**	**+0.5**
SCRK	**Sand Creek** 16nm,1.7s	**22.03**	**43**	*e*P			**P**	**04 22 30.0**	**-0.4**
EGAK	**Eagle** 4.5nm,0.8s	**23.44**	**42**	*e*P			**P**	**04 22 44.5**	**-0.4**
TIXI	**Tiksi** comp=Z,12nm,18.1s,baz=1.5,slow=36	**30.02**	**330**	LR			LR	04 35 36.7	
KLR	**Kul'dur** 0.6nm,0.5s,baz=74,slow=5.6,SNR=4.2	**30.68**	**285**	P			**P**	**04 23 51.0**	**+0.8**
MAT	**Matsushiro**	**33.48**	**260**	P			P	04 24 06.1	-8.9
MAT				*e*S			S	04 29 24.0	-11
YKA	**Yellowknife Ar** 0.4nm,0.6s,baz=281,slow=7.9,SNR=3.9	**35.18**	**47**	P			**P**	**04 24 28.0**	**-1.4**
YKB5	**Yellowknife Ar**	**35.18**	**47**	*e*P			**P**	**04 24 28.0**	**-1.4**
YBH	**Yreka Blue Hor** 3.4nm,0.9s	**39.19**	**82**	*e*P			**P**	**04 25 05.1**	**+1.3**
MOD	**Modoc Plateau** 11nm,1.4s	**40.57**	**80**	*e*P			**P**	**04 25 15.5**	**+0.2**
ORV	**Oroville** 2.2nm,0.8s	**41.22**	**84**	*e*P			**P**	**04 25 20.3**	**-0.2**
PNTR	**Pine Nut** 6.6nm,0.7s	**42.67**	**83**	*e*P			**P**	**04 25 33.3**	**+0.7**
NV01	**Mina Array Sit**	**43.88**	**83**	*e*P			**P**	**04 25 42.2**	**-0.2**
NVAR	**Mina Array Bea** 2.4nm,0.7s,baz=296,slow=7.4,SNR=17	**43.88**	**83**	P			**P**	**04 25 42.2**	**-0.1**
R11A	**Troy Canyon, C** 4.5nm,1.1s	**45.59**	**81**	*e*P			**P**	**04 25 55.5**	**-0.6**
SONA0	**Songino Array**	**46.08**	**296**	*e*P			**P**	**04 26 01.2**	**+1.5**
SONM	**Songino Array** 0.4nm,0.5s,baz=60,slow=7.6,SNR=3.7	**46.08**	**296**	P			**P**	**04 26 01.2**	**+1.6**
DUG	**Dugway, Tooele** 6.4nm,1.2s	**46.14**	**77**	*e*P			**P**	**04 26 00.0**	**-0.2**
PD31	**Pinedale Array** 4.7nm,1.5s	**46.53**	**72**	*e*P			**P**	**04 26 01.4**	**-2.0**
PDAR	**Pinedale Array** 0.4nm,0.5s,baz=332,slow=3.4,SNR=7.6	**46.53**	**72**	P			**P**	**04 26 01.4**	**-2.0**
PSUT	**Pine Spring** 3.2nm,0.6s	**46.54**	**80**	*e*P			**P**	**04 26 03.1**	**-0.4**
GSC	**Goldstone, Bar** 2.9nm,0.8s	**46.79**	**85**	*e*P			**P**	**04 26 05.0**	**-0.4**
HHC	**Hu-ho-hao-te**	**47.18**	**285**	*e*P			P	04 26 02.0	-6.4
HHC	comp=Z,19nm,0.9s				pmax		pmax		
HHC	comp=Z,96nm,5.2s				pmax		pmax		
LCMT	**Little Creek M** 3.5nm,1.0s	**47.88**	**81**	*e*P			**P**	**04 26 13.9**	**+0.1**
U15A	**North Rim** 4.5nm,0.9s	**48.84**	**81**	*e*P			**P**	**04 26 21.1**	**-0.4**
MNTX	**Cornudas Mount** 1.9nm,0.8s	**56.25**	**80**	*e*P			**P**	**04 27 14.7**	**-1.4**
CD2	**Chengdu**	**58.50**	**281**	P			P	04 27 24.5	-7.4
CD2	comp=Z,10.0nm,0.5s				pmax		pmax		
WMQ	**Urumqi**	**58.75**	**302**	*e*P			**P**	**04 27 30.0**	**-3.6**
TX31	**Lajitas Ar. Si** 9.7nm,1.8s	**58.96**	**81**	*e*P			**P**	**04 27 34.1**	**-1.1**
TXAR	**Lajitas Array** 1.3nm,0.7s,baz=309,slow=5.0,SNR=9.8	**58.96**	**81**	P			**P**	**04 27 34.1**	**-1.1**
MK32	**Makanchi Array**	**59.42**	**308**	*e*P			**P**	**04 27 39.3**	**+1.2**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=86,slow=1.9,SNR=2.7	**59.42**	**308**	P			**P**	**04 27 39.3**	**+1.2**

IDC 26 04:18:59.1±4.9,19°.20N×143°.54E,h0km,mb3.8/6,
mb1 4.0/6,mb1mx3.6/60,mbtmp3.8/6,Error ellipse:
s-maj=129.4km s-min=43.0km az=9.0,Mariana Islands
region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.74**	**326**	P			P	04 24 03.1	+0.4
	0.5nm,0.4s,baz=145,slow=8.7,SNR=4.1								
ZALV	**Zalesovo Beam**	**56.38**	**323**	P			P	04 28 42.4	+0.4
	0.8nm,0.6s,baz=99,slow=8.9,SNR=4.3								
ILAR	**Eielson Array**	**64.10**	**27**	P			P	04 29 34.2	-0.7
	0.2nm,0.6s,baz=266,slow=5.1,SNR=2.9								
YKA	**Yellowknife Ar**	**78.50**	**28**	P			P	04 31 03.0	+1.1
	0.3nm,0.3s,baz=291,slow=5.8,SNR=6.5								
ARCES	**ARCESS Array B**	**81.38**	**342**	P			P	04 31 16.8	-0.7
	3.2nm,0.9s,baz=70,slow=7.8,SNR=5.1								
FINES	**FINESS Array B**	**85.57**	**335**	P			P	04 31 38.9	-0.2
	0.7nm,0.4s,baz=81,slow=4.1,SNR=11								

IDC 26 04:20:04.0±1.3,7°.13S×128°.21E,h0km,mb4.2/3,
mb1 4.2/6,mb1mx3.8/46,mbtmp4.1/6,ML4.0/3,MS3.6/2,
Ms1 3.6/2,ms1mx2.6/31,Error ellipse: s-maj=45.8km
s-min=21.1km az=74.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.43**	**235**	Pn			Pn	04 21 27.6	+1.2
	124nm,0.3s,baz=121,slow=2.7,SNR=53								
BATI				Sn			Sn	04 22 18.7	-11
	38nm,0.3s,baz=127,slow=23,SNR=9.5								
FITZ	**Fitzroy Crossi**	**11.19**	**193**	Pn			Pn	04 22 43.1	-2.2
	0.5nm,0.3s,baz=19,slow=13,SNR=19								
FITZ				Sn			Sn	04 24 33.2	-18
	2.3nm,0.3s,baz=301,slow=22,SNR=8.0								
WRA	**Warramunga Arr**	**14.06**	**156**	Pn			Pn	04 23 25.4	+0.8
	0.8nm,0.3s,baz=330,slow=13,SNR=64								
WRA				Sn			Sn	04 25 51.3	-10
	2.4nm,0.3s,baz=329,slow=23,SNR=15								
ASAR	**Alice Springs**	**17.33**	**162**	P			P	04 24 09.0	0.0
	0.6nm,0.3s,baz=342,slow=12,SNR=27								
ASAR				S			Sn	04 27 07.3	-14
	0.6nm,0.3s,baz=330,slow=20,SNR=7.9								
PMG	**Port Moresby**	**18.89**	**98**	LR			LR	04 32 56.8	
	comp=Z,872nm,19.4s,baz=261,slow=41								
GUMO	**Guam**	**26.41**	**39**	LR			LR	04 35 19.2	
	comp=Z,22nm,19.8s,baz=96,slow=35								
STKA	**Stephens Creek**	**27.61**	**155**	P			P	04 25 52.9	-0.4
	1.9nm,0.4s,baz=338,slow=8.5,SNR=3.0								
MKAR	**Makanchi Array**	**67.37**	**328**	P			P	04 31 00.9	-0.3
	0.7nm,0.5s,baz=129,slow=7.8,SNR=11								
ZALV	**Zalesovo Beam**	**70.92**	**335**	P			P	04 31 23.4	+0.3
	1.3nm,0.5s,baz=136,slow=5.8,SNR=4.8								

*KLM **26** 04:26:16.7,11°.69N×93°.73E,h73km,mb4.8*
*ISCJB **26** 04:26:17.0±0.2,11°.02N±0°.02×93°.40E±0°.03,h123km,*
mb4.5/55,Error ellipse: s-maj=4.0km s-min=2.9km
az=153.1
*NDI **26** 04:26:18.9±2.7,11°.16N×93°.64E,h139km±12km,ML4.6,*
mb4.5(NEIC)
*NEIC **26** 04:26:19.1±2.4,11°.05N×93°.48E,h130km±5km,mb4.5/39,*
Error ellipse: s-maj=14.8km s-min=10.5km az=64.0
*IDC **26** 04:26:20.3±1.6,11°.09N×93°.64E,h141km±13km,mb3.9/20,*
mb1 4.0/2,mb1mx3.8/52,mbtmp4.3/22,MS3.0/2,
Ms1 3.1/2,ms1mx2.5/40,Error ellipse: s-maj=14.8km
s-min=9.4km az=62.0
*DJA **26** 04:26:20.8±0.6,11°.N±4°.×9°.4E±°,h128km±15km,M4.6/6,*
mB5.0/4,mb4.4/6,MLv4.8/2,Mw(mb)4.3/4

ISC 26 04:26:18.2±0.3,11°.07N±0°.04×93°.35E±0°.04,h123km,n157,
σ1§87/172,mb4.4/55,3C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.83**	**314**	*e*Pn			Pn	04 26 43.0	+4.2
PBA				*e*Sn			Sn	04 26 58.9	+4.3
PBA	**Port Blair**	**0.83**	**314**	*e*P			Pn	04 26 43.0	+4.1
PBA				*e*S			Sn	04 27 00.1	+5.5
PBA				IAML				04 27 03.0	
	comp=E,11μm,0.3s								
PBA				IAML				04 27 03.4	
	comp=N,11μm,0.3s								
DGPR	**DIGLIPUR**	**2.13**	**349**	*e*P			**Pn**	**04 26 55.5**	**+2.0**
DGPR				*e*S			**Sn**	**04 27 21.7**	**+1.3**
DGPR				IAML				04 27 23.8	
	comp=E,7μm,0.3s								
DGPR				IAML				04 27 24.2	
	comp=N,7μm,0.5s								
CMBY	**CAMPBELL BAY**	**4.08**	**172**	*e*P			**Pn**	**04 27 20.7**	**+1.9**
CMBY				*e*S			**Sn**	**04 28 05.2**	**-0.6**
CMBY				IAML				04 28 07.2	
	comp=E,2μm,0.0s								
CMBY				IAML				04 28 10.6	
	comp=N,2μm,0.5s								
PKDT	**Phuket**	**5.84**	**122**	P			**Pn**	**04 27 44.6**	**+2.0**
	comp=N,25nm,0.9s,comp=N,0.1nm								
SRDT	**SRDT**	**6.50**	**59**	P			**Pn**	**04 27 52.7**	**+1.3**
	comp=N,51nm,0.8s,comp=N,5μmcomp=N,0.2nm								
LHMI	**Lhok Sumawe**	**6.81**	**148**	*e*Pn			**Pn**	**04 27 58.9**	**+3.3**
LHMI	**Lhok Sumawe**	**6.81**	**148**	P			Pn	04 28 01.0	+5.4
TRTT	**Trang**	**7.03**	**117**	P			**Pn**	**04 28 00.0**	**+1.4**
	comp=N,10nm,0.7s,comp=N,0.0nm								
UMPA	**Umpang Tak**	**7.39**	**46**	P			**Pn**	**04 28 02.4**	**-1.1**
	comp=N,26nm,0.8s,comp=N,0.1nm								
MLSI	**Meulaboh, Aceh**	**7.41**	**156**	P			**Pn**	**04 28 03.7**	**0.0**
	comp=N,92nm,0.7s,comp=N,0.4nm								
MLSI				S			**Sn**	**04 29 24.5**	**-1.8**
	comp=N,92nm,0.7s,comp=N,0.4nm								
UTHA	**Uthaitani**	**7.42**	**52**	P			**Pn**	**04 28 06.0**	**+2.2**
	comp=N,5.3nm,0.7s,comp=N,0.0nm								
SKLT	**Songkhla**	**8.16**	**118**	P			**Pn**	**04 28 15.3**	**+1.5**
	comp=N,34nm,0.9s,comp=N,0.1nm								
KCSI	**Kotacane, Aceh**	**8.69**	**149**	P			**Pn**	**04 28 21.1**	**+0.1**
	comp=N,22nm,0.8s,comp=N,453nm								
SUKH	**Sukhothai**	**8.81**	**43**	P			**Pn**	**04 28 23.4**	**+0.8**
	comp=N,8.4nm,1.0s								
CM01	**Chiang Mai Arr**	**9.10**	**36**	*e*Pn			**Pn**	**04 28 26.7**	**+0.2**
CM31	**Chiang Mai Arr**	**9.12**	**36**	*e*Pn			**Pn**	**04 28 27.6**	**+0.8**
CM31				*e*Sn			**Sn**	**04 30 06.7**	**-0.9**
CM31				*e*				04 31 21.7	
CMAR	**Chiang Mai Arr**	**9.12**	**36**	P			**Pn**	**04 28 27.2**	**+0.5**
	comp=N,2.1nm,0.3s,baz=225,slow=14,SNR=98								
CMAR				S			**Sn**	**04 30 06.7**	**-0.9**
	comp=N,0.2nm,0.3s,baz=243,slow=29,SNR=2.5								
CMAR				LR			LR	04 31 21.7	
	comp=N,48nm,19.4s,baz=190,slow=34								
PBKT	**Sadao Pong**	**9.20**	**53**	P			**Pn**	**04 28 28.0**	**+0.2**
	comp=N,33nm,1.3s								
KULM	**Kulim**	**9.23**	**128**	*e*Pn			**Pn**	**04 28 29.4**	**+1.1**
KULM	**Kulim**	**9.23**	**128**	P			**Pn**	**04 28 29.8**	**+1.5**
CHTO	**Chiang Mai**	**9.40**	**34**	*e*Pn			**Pn**	**04 28 31.0**	**+0.4**
CMMT	**Chiang Mai**	**9.40**	**34**	P			**Pn**	**04 28 30.7**	**+0.1**
	comp=N,36nm,1.0s,comp=N,590nm								
LAMP	**Lampang**	**9.57**	**39**	P			**Pn**	**04 28 33.6**	**+0.7**
	comp=N,22nm,0.6s,comp=N,203nm								
UTTA	**Uttaradit**	**9.62**	**46**	P			**Pn**	**04 28 34.1**	**+0.5**
	comp=N,7.4nm,0.8s,comp=N,66nm								
CHAI	**Chaiyaphum**	**9.67**	**59**	P			**Pn**	**04 28 35.1**	**+0.9**
	comp=N,5.8nm,0.7s,comp=N,157nm								
PSI	**Prapat**	**9.90**	**146**	*e*Pn			**Pn**	**04 28 37.8**	**+0.3**
IPM	**Ipoh**	**10.03**	**130**	*e*Pn			**Pn**	**04 28 39.1**	**-0.1**
IPM	**Ipoh**	**10.03**	**130**	P			**Pn**	**04 28 39.6**	**+0.4**
PAYA	**Payao**	**10.36**	**37**	P			**Pn**	**04 28 46.1**	**+2.5**
	comp=N,897nm,0.6s,comp=N,67um								
BRDH	**Bariadhala**	**11.65**	**352**	S			**Sn**	**04 31 03.4**	**-5.7**
	comp=N,28nm,0.3s,baz=18,slow=20,SNR=3.7								
VIS	**Vishakhapatnam**	**11.74**	**305**	*i* P			**Pn**	**04 29 03.5**	**+1.5**
VIS				*i* S			**Sn**	**04 31 04.3**	**-6.9**
NONG	**Nongkai**	**11.75**	**53**	P			**Pn**	**04 29 02.8**	**+0.8**
	comp=N,0.8nm,0.7s,comp=N,46nm								
MDRS	**Chennai**	**12.97**	**280**	*e*P			**Pn**	**04 29 20.7**	**+2.7**
MDRS				*e*S			**Sn**	**04 31 36.3**	**-4.7**
PALK	**Pallekele**	**13.04**	**254**	*e*P			**P**	**04 29 25.0**	**+0.3**
PALK				*e*Sn			**Sn**	**04 31 41.0**	**-2.0**
PALK	**Pallekele**	**13.04**	**254**	P			**P**	**04 29 25.6**	**+0.9**
	comp=N,2.7nm,0.3s,baz=116,slow=9.5,SNR=11								
PALK				S			**Sn**	**04 31 39.0**	**-3.9**
	comp=N,11nm,0.3s,baz=116,slow=16,SNR=11								
MYKOM	**Kota Tinggi**	**13.92**	**131**	*e*Pn			**Pn**	**04 29 31.9**	**+1.7**
SHL	**Shillong**	**14.48**	**355**	*e*Pn			**P**	**04 29 39.6**	**-1.1**
SHL				*e*Sn			Sn	04 32 09.3	-8.4
SHL	**Shillong**	**14.48**	**355**	*e*P			**Pn**	**04 29 37.0**	**-0.5**
SHL				*ex*			x	04 32 09.0	
HYB	**Hyderabad**	**15.66**	**295**	*i* P			**P**	**04 29 59.0**	**+5.2**
HYB				*e*S			**Sn**	**04 32 43.0**	**-3.1**
HYB				*e*				04 32 55.0	
HYB	**Hyderabad**	**15.66**	**295**	*e*P			**P**	**04 29 55.8**	**+2.0**
HYB				*ex*			x	04 32 40.4	

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMI	**Kunming**	**16.57**	**31**	P			**P**	**04 30 05.8**	**+1.9**
KMI				pmax			pmax		
	comp=Z,49nm,0.9s								
KMI	**Kunming**	**16.57**	**31**	*e*Pn			**P**	**04 30 06.3**	**+2.4**
	comp=Z,38nm,0.8s								
RAMN	**Ramite**	**17.03**	**339**	*e*P			**Pn**	**04 30 12.4**	**+3.3**
JBP	**Jabalpur**	**17.53**	**315**	*e*P			**Pn**	**04 30 16.1**	**+1.2**
JBP				*ex*			x	04 33 19.6	
JIRN	**Jiri**	**17.82**	**339**	*e*P			**Pn**	**04 30 20.7**	**+1.9**
PKI	**Pulchoki**	**18.03**	**337**	*e*P			**Pn**	**04 30 22.9**	**+1.6**
PKIN	**Phulchoki**	**18.04**	**337**	*e*P			**Pn**	**04 30 23.1**	**+1.8**
MNAI	**Manna**	**18.07**	**148**	*e*P			**P**	**04 30 19.7**	**-0.6**
	comp=Z,229nm,1.5s								
GUN	**Gumba**	**18.16**	**338**	*e*P			**Pn**	**04 30 24.1**	**+1.3**
	comp=Z,53nm,0.4s								
DMN	**Daman**	**18.18**	**336**	*e*P			**Pn**	**04 30 24.4**	**+1.4**
	comp=Z,11nm,0.2s								
KKN	**Kakani**	**18.28**	**337**	*e*P			**Pn**	**04 30 25.1**	**+1.0**
	comp=Z,34nm,0.4s								
PPBI	**Pangkal Pinang**	**18.29**	**135**	P			**Pn**	**04 30 23.7**	**-0.5**
LSA	**Lhasa**	**18.65**	**354**	*e*P			**Pn**	**04 30 28.3**	**-0.4**
	comp=Z,39nm,0.4s								
KOLN	**Koldanda**	**18.97**	**332**	*e*P			**Pn**	**04 30 33.1**	**+0.9**
	comp=Z,51nm,0.5s								
KSM	**Kuching**	**19.35**	**118**	*e*P			**P**	**04 30 33.8**	**-0.5**
	comp=Z,25nm,1.0s								
KSM	**Kuching**	**19.35**	**118**	P			**Pn**	**04 30 38.3**	**+1.7**
DANN	**Dangsing**	**19.40**	**334**	*e*P			**Pn**	**04 30 37.7**	**+0.4**
	comp=Z,208nm,0.6s								
PYUN	**Piuthan**	**19.53**	**332**	*e*P			**Pn**	**04 30 39.2**	**+0.4**
TPI	**Tanjungpandan**	**19.78**	**133**	P			**P**	**04 30 38.6**	**-0.3**
GYA	**Guiyang**	**19.80**	**38**	↑P			**P**	**04 30 39.3**	**+0.2**
GYA				PP			**pP**	**04 31 06.0**	**+4.8**
GYA				sP			sP	04 31 23.8	+7.3
GYA				S			**S**	**04 34 10.5**	**-5.2**
GYA				pmax			pmax		
	comp=Z,30nm,0.9s								
GYA				pmax			pmax		
	comp=Z,110nm,4.5s								
SBUM	**Sibu**	**20.59**	**113**	*e*P			**P**	**04 30 47.5**	**0.0**
	comp=Z,14nm,1.1s								
SBUM	**Sibu**	**20.59**	**113**	P			**P**	**04 30 48.2**	**+0.6**
CD2	**Chengdu**	**21.97**	**25**	P			**P**	**04 31 02.8**	**+0.5**
CD2				pmax			pmax		
	comp=Z,60nm,0.6s								
KKM	**Kota Kinabalu**	**23.15**	**101**	*e*P			**P**	**04 31 12.4**	**-1.6**
	comp=Z,16nm,1.1s								
KKM	**Kota Kinabalu**	**23.15**	**101**	P			**P**	**04 31 15.9**	**+1.8**
SDKM	**Sandakan**	**24.19**	**101**	P			**P**	**04 31 23.5**	**0.0**
ENH	**Enshi**	**24.29**	**36**	*e*P			**P**	**04 31 22.8**	**-1.4**
	comp=Z,11nm,0.6s								
LZH	**Lanzhou**	**26.65**	**19**	*e*P			**P**	**04 31 45.5**	**-0.2**
LZH				pP			pwP	04 32 14.0	+2.2
LZH				sP			sP	04 32 29.8	+3.8
LZH				pmax			pmax		
	comp=Z,21nm,1.0s								
XAN	**Xi'an**	**26.93**	**29**	P			**P**	**04 31 46.0**	**-2.1**
XAN				pP			pwP	04 32 16.0	-0.4
XAN				S			**S**	**04 36 09.3**	**-6.8**
XAN				pmax			pmax		
	comp=Z,6.0nm,0.9s								
XAN				pmax			pmax		
	comp=Z,71nm,5.1s								
H08S3	**Diego Garcia H**	**27.86**	**229**	T			T	05 00 37.8	
	baz=47,slow=76,SNR=26								
H08S2	**Diego Garcia H**	**27.87**	**229**	T			T	05 00 37.8	
	baz=47,slow=76,SNR=36								
H08S1	**Diego Carcia H**	**27.88**	**229**	T			T	05 00 26.6	
	baz=47,slow=76,SNR=49								
GTA	**Gaotai**	**28.80**	**10**	*e*P			**P**	**04 32 05.0**	**+0.3**
GTA				pP			pP	04 32 38.0	+6.9
GTA				sP			sP	04 32 54.5	+9.2
GTA				pmax			pmax		
	comp=Z,9.0nm,1.1s								
NIL	**Nilore**	**29.05**	**324**	*e*P			**P**	**04 32 04.7**	**-2.2**
	comp=Z,20nm,1.0s								
SSLB	**Suanglung**	**29.14**	**61**	*e*P			**P**	**04 32 09.7**	**+1.8**
	comp=Z,9.3nm,0.7s								
MRSI	**Marisa**	**30.29**	**108**	P			**P**	**04 32 19.1**	**+1.1**
KAPI	**Kappang**	**30.75**	**120**	*e*P	

	comp=Z,21nm,0.3s,baz=170,slow=8.5,SNR=78						
ZAA1	**Zalesovo Array**	**43.31**	**353**	*e*P	**P**	**04 34 08.2**	**+0.5**
BRVK	**Borovoye**	**45.79**	**341**	*e*P	**P**	**04 34 28.2**	**+0.8**
	comp=Z,3.6nm,0.8s						
ABKAR	**Akbulak array**	**47.07**	**330**	*e*P	**P**	**04 34 38.9**	**+1.5**
	comp=Z,4.2nm,0.6s						
NWAO	**Narrogin (SRO)**	**49.34**	**153**	*e*P	**P**	**04 34 53.9**	**-1.2**
	comp=Z,104nm,1.4s						
NWAO	**Narrogin (SRO)**	**49.34**	**153**	P	**P**	**04 34 53.9**	**-1.2**
	comp=Z,14nm,0.8s,baz=325,slow=6.6,SNR=5.7						
WR1	**Warramunga Arr**	**50.77**	**127**	*e*P	**P**	**04 35 04.6**	**-1.5**
	comp=Z,7.8nm,0.5s						
WRA	**Warramunga Arr**	**50.77**	**127**	P	**P**	**04 35 04.6**	**-1.5**
	comp=Z,4.0nm,0.5s,baz=301,slow=10.0,SNR=96						
WB2	**Warramunga Arr**	**50.78**	**127**	*e*P	**P**	**04 35 04.5**	**-1.7**
	comp=Z,18nm,1.2s						
AS31	**Alice Springs**	**52.58**	**131**	*e*P	**P**	**04 35 17.7**	**-1.9**
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**52.58**	**131**	P	**P**	**04 35 17.7**	**-1.9**
	comp=Z,2.3nm,0.5s,baz=309,slow=7.1,SNR=18						
AS01	**Alice Springs**	**52.61**	**131**	*e*P	**P**	**04 35 18.8**	**-1.0**
MMAI	**Mount Meron Ar**	**57.24**	**302**	LR	LR	05 03 22.3	
	comp=Z,22nm,18.2s,baz=180,slow=39						
NRIK	**Noril'sk**	**58.33**	**358**	P	**P**	**04 36 00.2**	**+0.3**
	comp=Z,2.5nm,0.5s,baz=151,slow=5.9,SNR=3.8						
BBOO	**Buckleboo**	**59.70**	**139**	*e*P	**P**	**04 36 08.4**	**-1.6**
	comp=Z,23nm,1.1s						
BR101	**Keskin Array S**	**59.78**	**310**	*e*P	**P**	**04 36 11.0**	**+0.3**
BRTR	**Keskin Array B**	**59.78**	**310**	P	**P**	**04 36 11.0**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=121,slow=7.6,SNR=5.2						
STKA	**Stephens Creek**	**62.88**	**135**	*e*P	**P**	**04 36 30.8**	**-0.6**
	comp=Z,1.7nm,1.5s						
STKA	**Stephens Creek**	**62.88**	**135**	P	**P**	**04 36 30.8**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=304,slow=11,SNR=2.8						
TIXI	**Tiksi**	**64.27**	**12**	*e*P	**P**	**04 36 38.8**	**-1.0**
	comp=Z,9.5nm,1.1s						
TIXI	**Tiksi**	**64.27**	**12**	P	**P**	**04 36 39.0**	**-0.9**
	comp=Z,3.3nm,0.3s,baz=182,slow=4.8,SNR=12						
FIA1	**FINESS Array S**	**69.54**	**332**	*e*P	**P**	**04 37 13.3**	**-0.1**
FIA0	**FINESS Array S**	**69.54**	**332**	*e*P	**P**	**04 37 13.8**	**+0.4**
FINES	**FINESS Array B**	**69.54**	**332**	P	**P**	**04 37 13.8**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=94,slow=5.1,SNR=13						
ARA0	**ARCESS Array S**	**72.01**	**340**	*e*P	**P**	**04 37 28.9**	**+0.7**
ARCES	**ARCESS Array B**	**72.01**	**340**	P	**P**	**04 37 28.9**	**+0.7**
	comp=Z,1.1nm,0.4s,baz=98,slow=7.1,SNR=14						
GEC2	**GERESS Array S**	**74.94**	**318**	*e*P	**P**	**04 37 47.0**	**+1.0**
GERES	**GERESS Array B**	**74.94**	**318**	P	**P**	**04 37 47.0**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=58,slow=2.4,SNR=2.6						
HFS	**Hagfors**	**75.32**	**329**	P	**P**	**04 37 47.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=86,slow=4.9,SNR=5.5						
NB200	**NORSAR Array S**	**76.58**	**330**	*e*P	**P**	**04 37 54.4**	**-0.5**
NOA	**NORSAR Array B**	**76.58**	**330**	P	**P**	**04 37 54.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=91,slow=5.8,SNR=3.0						
BOSA	**Boshof**	**76.64**	**237**	P	**P**	**04 37 57.8**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=70,slow=3.3,SNR=5.6						
SYO	**Syowa Base**	**88.22**	**197**⇑	*i*P	**P**	**04 38 55.0**	**+0.1**
SYO	**Syowa Base**	**88.22**	**197**⇑	*e*PcP	**PcP**	**04 38 57.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**89.11**	**283**	P	**P**	**04 38 59.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=77,slow=4.5,SNR=4.2						
TOA1	**Torodi Ar. Sit**	**89.11**	**283**	*e*P	**P**	**04 38 59.8**	**-0.7**
RES	**Resolute Bay**	**94.25**	**2**	*e*P	**P**	**04 39 23.7**	**+0.7**
	comp=Z,0.2nm,0.4s						
RES	**Resolute Bay**	**94.25**	**2**	P	**P**	**04 39 23.7**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=50,slow=2.5,SNR=6.7						
YKA	**Yellowknife Ar**	**103.51**	**13**	PP	**PP**	**04 44 18.6**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=339,slow=7.9,SNR=5.1						
PD31	**Pinedale Array**	**122.46**	**20**	*e*PKPdf	**PKPdf**	**04 44 59.4**	**-0.3**
PDAR	**Pinedale Array**	**122.46**	**20**	PKP	**PKPdf**	**04 44 59.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=91,slow=3.1,SNR=7.0						
NV01	**Mina Array Sit**	**122.56**	**29**	*e*PKPdf	**PKiKP**	**04 45 00.7**	**+0.6**
NVAR	**Mina Array Bea**	**122.56**	**29**	PKP	**PKiKP**	**04 45 00.7**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=316,slow=2.1,SNR=7.7						
TXAR	**Lajitas Array**	**136.60**	**22**	PKP	**PKPdf**	**04 45 27.1**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=206,slow=2.7,SNR=4.8						
TXAR				SKPbc	**SKPbc**	**04 48 45.4**	**-2.6**
	comp=Z,1.6nm,0.8s,baz=304,slow=2.4,SNR=9.2						
PLCA	**Paso Flores**	**147.22**	**203**	*e*PKPbc	**PKPab**	**04 45 48.7**	**-0.8**
PLCA	**Paso Flores**	**147.22**	**203**	PKPbc	**PKPbc**	**04 45 48.5**	**+1.0**
	comp=Z,4.0nm,0.7s,baz=192,slow=2.0,SNR=20						
CPUP	**Villa Florida**	**148.46**	**237**	PKPbc	**PKiKP**	**04 45 52.0**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=175,slow=4.2,SNR=5.6						

*ISCJB **26** 04:30:06.2±0.4, 60.92N±0.02×150.87W±0.04, h32km±3km, Error ellipse: s-maj=4.3km s-min=3.0km az=138.7*
*NEIC **26** 04:30:06.4±0.0, 60.93N×150.87W, h14km, ML3.5(AEIC), After AEIC.*
NEIC Felt at Anchorage, Cooper Landing and Eagle River.
*IDC **26** 04:30:08.3±1.8, 60.93N×151.12W, h43km±22km, mb3.4/8, mb1 3.6/12, mb1mx3.4/39, mbtmp3.6/12, ML3.2/4, MS2.8/1, Ms1 2.9/1, ms1mx2.3/31, Error ellipse: s-maj=22.8km s-min=12.5km az=113.0*

ISC 26 04:30:06.0±1.1, 60.91N±0.03×150.88W±0.02, h23km±9km, n72, σ1°10/83, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKA	**Nikishka**	**0.24**	**226**	P	**Pn**	**04 30 14.2**	**0.0**
FIB	**Fire Island**	**0.43**	**53**	P	**Pb**	**04 30 15.5**	**+0.5**
FIB				S	**Sn**	**04 30 23.3**	**-0.6**
SLKM	**Skilak Lake**	**0.52**	**141**	P	**Pb**	**04 30 16.2**	**-0.3**
SUA	**Susitna One**	**0.56**	**7**	P	**Pb**	**04 30 16.6**	**-0.7**
SUA				S	**Sb**	**04 30 24.7**	**-0.2**
RC01	**Rabbit Creek A**	**0.59**	**72**	P	**Pb**	**04 30 16.6**	**-1.0**
RC01				S	**Sb**	**04 30 24.9**	**-0.6**
CKT	**Bend**	**0.71**	**295**	P	**Pb**	**04 30 19.1**	**-0.6**
CKL	**Chakachamna La**	**0.77**	**293**	P	**Pb**	**04 30 20.1**	**-0.6**
SPWE	**Spurr West**	**0.89**	**295**	P	**Pb**	**04 30 22.3**	**-0.6**
PTE	**Portage**	**0.91**	**92**	P	**Pb**	**04 30 22.3**	**-0.8**
RDJH	**Redoubt Jeurge**	**1.00**	**252**	P	**Pn**	**04 30 24.0**	**-0.7**
RDJH				S	**Sb**	**04 30 37.2**	**-0.2**
RDN	**Redoubt North**	**1.01**	**248**	P	**Pn**	**04 30 23.9**	**-0.9**
RDWB	**Redoubt West**	**1.05**	**247**	P	**Pn**	**04 30 24.8**	**-0.7**
RED	**Redoubt Volcan**	**1.05**	**243**	P	**Pn**	**04 30 24.8**	**-0.6**
RED				S	**Sb**	**04 30 39.1**	**+0.1**
SEW	**Seward**	**1.07**	**138**	P	**Pn**	**04 30 24.8**	**-0.8**
PMR	**Palmer**	**1.09**	**50**	P	**Pn**	**04 30 23.9**	**-1.9**
PMR				S	**Sn**	**04 30 38.5**	**-1.6**
BRLK	**Bradley Lake**	**1.15**	**180**	P	**Pn**	**04 30 26.5**	**-0.2**
BRLK				S	**Sn**	**04 30 41.8**	**+0.1**
PWL	**Port Wells**	**1.25**	**91**	P	**Pn**	**04 30 27.8**	**-0.2**
KNK	**Knik Glacier**	**1.28**	**66**	P	**Pn**	**04 30 27.9**	**-0.6**
GHO	**Glory Hole Cre**	**1.28**	**47**	P	**Pn**	**04 30 27.5**	**-1.0**
GHO				S	**Sn**	**04 30 43.9**	**-1.1**
HOM	**Homer**	**1.31**	**197**	P	**Pn**	**04 30 29.4**	**+0.5**
IVE	**Iliamna Volcan**	**1.39**	**231**	P	**Pn**	**04 30 30.1**	**+0.1**
ILW	**Iliamna West**	**1.41**	**234**	P	**Pn**	**04 30 30.5**	**+0.1**
ILS	**Iliamna Low So**	**1.45**	**230**	P	**Pn**	**04 30 31.1**	**+0.3**
SML	**Sawmill**	**1.52**	**53**	P	**Pn**	**04 30 31.6**	**-0.2**
SML				S	**Sn**	**04 30 50.2**	**-0.7**
SCM	**Sheep Creek Mo**	**1.94**	**60**	P	**Pn**	**04 30 38.5**	**+0.8**
PPLA	**Purkeypile**	**2.09**	**343**	P	**Pn**	**04 30 40.4**	**+0.7**
JPK	**Jack Peak**	**2.09**	**84**	P	**Pn**	**04 30 40.2**	**+0.6**
HUR	**Hurricane**	**2.16**	**15**	P	**Pn**	**04 30 41.8**	**+1.2**
SVW2	**Sparrevohn**	**2.30**	**277**	P	**Pn**	**04 30 42.5**	**0.0**
KLU	**Klutina**	**2.47**	**74**	P	**Pn**	**04 30 45.7**	**+0.8**
DIV	**Divide**	**2.50**	**83**	P	**Pn**	**04 30 45.9**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.55**	**96**	P	**Pn**	**04 30 46.0**	**+0.1**
TRF	**Thorofare Moun**	**2.56**	**6**	P	**Pn**	**04 30 47.5**	**+1.3**
CAST	**Castle Rocks**	**2.58**	**348**	P	**Pn**	**04 30 47.3**	**+0.9**
RND	**Reindeer**	**2.68**	**20**	P	**Pn**	**04 30 47.5**	**-0.3**
DHY	**Denali Highway**	**2.73**	**36**	P	**Pn**	**04 30 50.0**	**+1.4**
PS11	**TAPS Pump St11**	**2.85**	**63**	P	**Pn**	**04 30 51.7**	**+1.7**
MCK	**McKinley**	**2.98**	**17**	P	**Pn**	**04 30 53.0**	**+1.3**
CHUM	**Lake Minchumin**	**3.06**	**348**	P	**Pn**	**04 30 53.8**	**+0.9**
HARP	**HAARP**	**3.12**	**59**	P	**Pn**	**04 30 55.5**	**+1.8**
TT01	**Tatalina**	**3.15**	**312**	P	**Pn**	**04 30 54.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**3.20**	**359**	P	**Pn**	**04 30 55.5**	**+0.6**
KDAK	**Kodiak Island**	**3.26**	**196**	P	**Pn**	**04 30 56.8**	**+1.2**
	3.3nm,0.3s,baz=50,slow=8.0,SNR=49						
KDAK				S	**Sn**	**04 31 34.0**	**+0.5**
	8.4nm,0.3s,baz=24,slow=11,SNR=4.1						
KDAK				Lg	Lg	04 31 51.6	
	4.7nm,0.3s,baz=208,slow=17,SNR=2.7						
HMT	**Hamilton**	**3.31**	**97**	P	**Pn**	**04 30 55.8**	**-0.7**
BWN	**Browne**	**3.34**	**11**	P	**Pn**	**04 30 58.9**	**+2.2**
NEA	**Nenana**	**3.77**	**12**	P	**Pn**	**04 31 04.2**	**+1.5**
KHIT	**Khitrov Hills**	**3.78**	**94**	P	**Pn**	**04 31 02.4**	**-0.6**
WRH	**Wood River Hil**	**3.80**	**19**	P	**Pn**	**04 31 04.5**	**+1.5**
CCB	**Clear Creek Bu**	**4.01**	**19**	P	**Pn**	**04 31 07.3**	**+1.4**
MLY	**Manley**	**4.14**	**1**	P	**Pn**	**04 31 08.5**	**+0.8**
KIAG	**Kiagna River**	**4.16**	**86**	P	**Pn**	**04 31 08.5**	**+0.3**
COLA	**College**	**4.21**	**18**	P	**Pn**	**04 31 09.1**	**+0.4**
MDM	**Murphy Dome**	**4.24**	**15**	P	**Pn**	**04 31 10.7**	**+1.6**
ILAR	**Eielson Array**	**4.29**	**24**	P	**Pn**	**04 31 11.2**	**+1.4**
	2.1nm,0.3s,baz=209,slow=14,SNR=116						
ILAR				Lg	Lg	04 32 16.5	
	8.0nm,0.3s,baz=209,slow=30,SNR=15						
ILAR				LR	LR	04 33 13.7	
	comp=Z,94nm,18.4s,baz=194,slow=43						
SCRK	**Sand Creek**	**4.44**	**43**	P	**Pn**	**04 31 13.6**	**+1.6**
CTGM	**Chitina Glacie**	**4.66**	**85**	P	**Pn**	**04 31 16.5**	**+1.5**
BCA3	**Beaver Creek A**	**4.80**	**59**	P	**Pn**	**04 31 18.5**	**+1.6**
PS06	**TAPS Pump Stn6**	**4.99**	**5**	P	**Pn**	**04 31 20.7**	**+1.3**
YUK3	**Moose Creek**	**5.09**	**76**	P	**Pn**	**04 31 22.0**	**+1.0**
IM3	**Indian Mountai**	**5.25**	**347**	P	**Pn**	**04 31 23.9**	**+0.9**
EGAK	**Eagle**	**5.90**	**45**	*e*Pn	**Pn**	**04 31 33.4**	**+1.5**
	17nm,0.6s						
DAWY	**Dawson**	**6.19**	**54**	*e*Pn	**Pn**	**04 31 37.3**	**+1.4**
	6.8nm,0.6s						
INK	**Inuvik**	**10.48**	**38**	P	**Pn**	**04 32 36.8**	**+2.3**
	0.1nm,0.3s,baz=217,slow=22,SNR=5.2						
INK				S	**Sn**	**04 34 34.0**	**+3.1**
	0.1nm,0.3s,baz=348,slow=9.3,SNR=2.2						
INK				Lg	Lg	04 35 38.7	
	0.0nm,0.3s,baz=323,slow=20,SNR=2.1						
YKA	**Yellowknife Ar**	**17.13**	**69**	P	**P**	**04 34 05.3**	**+0.2**
	0.1nm,0.3s,baz=276,slow=10,SNR=15						
RES	**Resolute Bay**	**23.97**	**33**	P	**P**	**04 35 18.2**	**+0.1**
	0.5nm,0.5s,baz=273,slow=12,SNR=4.8						
NVAR	**Mina Array Bea**	**30.29**	**123**	P	**P**	**04 36 17.4**	**+1.9**
	0.1nm,0.3s,baz=324,slow=9.0,SNR=2.9						
PDAR	**Pinedale Array**	**30.62**	**107**	P	**P**	**04 36 19.3**	**+1.0**
	0.2nm,0.6s,baz=311,slow=6.9,SNR=2.4						
ARCES	**ARCESS Array B**	**49.82**	**2**	P	**P**	**04 38 54.9**	**-1.4**
	6.3nm,1.0s,baz=21,slow=7.7,SNR=2.7						
SONM	**Songino Array**	**55.10**	**307**	P	**P**	**04 39 36.5**	**+0.6**
	1.5nm,0.8s,baz=36,slow=7.4,SNR=8.2						
FINES	**FINESS Array B**	**57.95**	**2**	P	**P**	**04 39 54.8**	**-1.0**
	1.5nm,0.7s,baz=1.4,slow=8.0,SNR=3.4						
MKAR	**Makanchi Array**	**64.36**	**322**	P	**P**	**04 40 37.8**	**-1.7**
	0.2nm,0.5s,baz=38,slow=6.7,SNR=4.0						
AKASG	**Malin Array Be**	**68.74**	**360**	P	**P**	**04 41 06.3**	**-1.1**
	0.4nm,0.4s,baz=1.3,slow=6.2,SNR=3.3						

IDC 26 04:35:00.5±4.5, 12.06S×167.42E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/22, mbtmp3.6/3, Error ellipse: s-maj=241.8km s-min=35.4km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.70**	**252**	P	P	04 41 35.0	0.0
	0.8nm,0.6s,baz=83,slow=9.4,SNR=7.8						
ILAR	**Eielson Array**	**83.96**	**18**	P	P	04 47 32.3	+0.1
	0.2nm,0.6s,baz=240,slow=4.5,SNR=4.2						
YKA	**Yellowknife Ar**	**95.12**	**27**	P	P	04 48 24.9	-0.3
	0.1nm,0.4s,baz=255,slow=4.9,SNR=3.8						

KRSC 26 04:54:34.7±10.0, 50.73N×160.09E, h89km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.67**	**311**	*e*P	Pn	04 55 04.2	+1.8
KDTR				*e*S	Sn	04 55 25.5	+2.0
RUS	**Russkaya**	**1.97**	**331**	*e*P	Pn	04 55 07.5	+1.1
RUS				*e*S	Sn	04 55 32.0	+1.4
MTVR	**Mutnovka**	**2.12**	**327**	*e*P	Pn	04 55 10.3	+1.8
MTVR				*e*S	Sn	04 55 36.6	+2.2
ASAK	**Asacha**	**2.15**	**321**	*e*P	Pn	04 55 11.0	+2.2
PAU	**Pauzhetka**	**2.20**	**291**	*e*S	Sn	04 55 38.6	+2.7
KRMR	**Karymshinskiy**	**2.43**	**331**	*e*P	Pn	04 55 14.7	+2.2
KRMR				S	Sn	04 55 43.6	+2.1
DALK	**Dalny**	**2.45**	**341**	*e*P	Pn	04 55 14.8	+2.1
DALK				*e*S	Sn	04 55 43.7	+1.8
NLC	**Nalytchevo**	**2.49**	**350**	*e*S	Sn	04 55 45.7	+2.8
SKR	**Severo-Kuril's**	**2.53**	**271**	*e*P	Pn	04 55 15.5	+1.8
SKR				*e*S	Sn	04 55 44.9	+1.2
UGLR	**Uglovaya**	**2.61**	**343**	*e*P	Pn	04 55 16.4	+1.5
SDLR	**Sedlovina**	**2.66**	**344**	*e*P	Pn	04 55 18.3	+2.6
AVH	**Avacha**	**2.68**	**342**	*e*P	Pn	04 55 18.7	+2.9
KOK	**Koryaka**	**2.72**	**341**	*e*P	Pn	04 55 19.3	+2.8
MKZ	**Mys Kozlova**	**3.96**	**14**	*e*P	Pn	04 55 34.1	+1.0
KZV	**Kizimen**	**4.40**	**2**	*e*P	Pn	04 55 42.1	+3.0
TUMR	**Tumrok**	**4.57**	**0**	*e*P	Pn	04 55 44.7	+3.3

IDC 26 04:55:11.1±6.1, 22.14N×146.93E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/47, mbtmp3.6/3, Error ellipse: s-maj=196.6km s-min=49.9km az=6.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**18.88**	**98**	T	T	05 18 21.0	
	baz=291,slow=74						
H11S1	**WAKE ISLAND Hy**	**18.89**	**97**	T	T	05 18 23.0	
	baz=291						
H11S2	**WAKE ISLAND Hy**	**18.90**	**98**	T	T	05 18 25.7	
	baz=291,slow=74						
MKAR	**Makanchi Array**	**56.97**	**312**	P	P	05 04 58.4	-0.1
	0.3nm,0.4s,baz=81,slow=8.9,SNR=4.6						
YKA	**Yellowknife Ar**	**74.43**	**28**	P	P	05 06 50.1	-0.7
	0.2nm,0.7s,baz=282,slow=5.1,SNR=6.5						
TXAR	**Lajitas Array**	**94.95**	**56**	P	P	05 08 37.0	+1.0
	0.4nm,0.9s,baz=284,slow=3.6,SNR=4.5						

*JMA **26** 05:06:12.7±0.1, 24.44N×121.94E, h12km±3km*
*TAP **26** 05:06:12.9, 24.47N×121.87E, h20km, ML2.5, B*
*ISCJB **26** 05:06:13.1±0.4, 24.46N±0.02×121.92E±0.03, h23km±4km, Error ellipse: s-maj=4.7km s-min=2.9km az=26.0*

ISC 26 05:06:13.1±1.0, 24.46N±0.02×121.89E±0.03, h20km±3km, n34, σ0°53/55, 1C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NANB	**Nanao**	**0.13**	**256**	P	**Pg**	**05 06 17.4**	**0.0**
	baz=250						
NANB				*i* S	**Sg**	**05 06 20.5**	**+0.3**
	baz=250						
ENA	**Nanau**	**0.14**	**257**	P	**Pg**	**05 06 17.4**	**-0.1**
	baz=250						
ENA				*i* S	**Sg**	**05 06 20.6**	**+0.2**
	baz=250						
TWC	**Suao**	**0.15**	**346**⇑	*i*P	**Pg**	**05 06 17.8**	**+0.1**
	baz=357						
TWC				S	**Sg**	**05 06 20.9**	**+0.3**
	baz=357						
EOS1	**EOS1**	**0.23**	**68**	*e*P	**Pg**	**05 06 19.1**	**+0.4**
	baz=70						
EOS1				S	**Sg**	**05 06 24.1**	**+1.5**
	baz=70						
TWE	**Neicheng**	**0.33**	**322**	P	**Pg**	**05 06 20.4**	**0.0**
	baz=326						
TWE				*i* S	**Sg**	**05 06 25.5**	**+0.3**
	baz=326						
ENTT	**Nioudou**	**0.34**	**301**	*e*P	**Pg**	**05 06 20.6**	**0.0**
	baz=302						
ENTT				*i* S	**Sg**	**05 06 25.9**	**+0.3**
	baz=302						
NDT	**Datong Townshi**	**0.37**	**293**	*e*P	**Pg**	**05 06 21.2**	**+0.1**
	baz=293						
NDT				*e*S	**Sg**	**05 06 26.7**	**+0.3**
	baz=293						
EGS		**0.39**	**6**	*e*P	**Pb**	**05 06 21.7**	**+0.3**
	baz=10.0						
EGS				*e*S	**Sb**	**05 06 27.7**	**+0.6**
	baz=10.0						
NACB	**Ninganchiao**	**0.39**	**224**	*e*P	**Pg**	**05 06 20.8**	**-0.6**
	baz=220						
NACB				*e*S	**Sg**	**05 06 27.1**	**+0.2**
	baz=220						
NTC	**Toucheng**	**0.40**	**352**	P	**Pg**	**05 06 21.5**	**0.0**
	baz=355						
ETLH	**Xiulin Townshi**	**0.45**	**236**	*e*P	**Pg**	**05 06 21.9**	**-0.6**
	baz=233						
NNSB	**Datong**	**0.46**	**266**	*e*P	**Pg**	**05 06 22.8**	**+0.1**
	baz=265						
NNSB				*e*S	**Sg**	**05 06 29.4**	**+0.3**
	baz=265						
TWD	**Chiawan**	**0.46**	**215**	*i* P	**Pg**	**05 06 22.7**	**0.0**
	baz=211						
TWD				*e*S	**Sg**	**05 06 29.7**	**+0.6**
	baz=211						
NWLT	**Wulai**	**0.47**	**312**	*e*P	**Pg**	**05 06 22.7**	**-0.1**
	baz=313						
NWLT				*e*S	**Sg**	**05 06 29.5**	**+0.1**
	baz=313						
TIPB	**Shuangxi**	**0.51**	**353**	P	**Pb**	**05 06 23.2**	**-0.3**
	baz=355						
TIPB				*e*S	**Sg**	**05 06 30.6**	**0.0**
	baz=355						
NWF	**Wu-fen Shan**	**0.62**	**351**	*e*P	**Pb**	**05 06 24.3**	**-1.0**
	baz=352						
NWF				*e*S	**Sb**	**05 06 33.6**	**0.0**
	baz=352						
WFSB	**Wu-fen Shan**	**0.62**	**351**	*e*P	**Pb**	**05 06 24.5**	**-0.8**
	baz=352						
WFSB				*e*S	**Sb**	**05 06 33.8**	**+0.3**
	baz=352						
WHF	**Hehuan Shan**	**0.65**	**241**	P	**Pb**	**05 06 25.7**	**-0.4**
	baz=239						
WHF				*e*S	**Sb**	**05 06 35.2**	**+0.4**
	baz=239						
YM01	**YM01**	**0.74**	**337**	*e*P	**Pb**	**05 06 27.8**	**+0.4**
	baz=338						
YM07	**YM07**	**0.75**	**341**	*e*P	**Pb**	**05 06 27.9**	**+0.3**
	baz=342						
YM07				*e*S	**Sg**	**05 06 38.5**	**+0.4**
	baz=342						
YM11	**YM11**	**0.76**	**338**	*e*P	**Pg**	**05 06 28.5**	**+0.4**
	baz=339						
YM05	**YM05**	**0.76**	**337**	*e*P	**Pb**	**05 06 28.3**	**+0.5**
	baz=338						
YM04	**YM04**	**0.76**	**335**	*e*P	**Pb**	**05 06 28.3**	**+0.5**
	baz=336						
CHGB	**Renai**	**0.77**	**239**	*e*P	**Pb**	**05 06 28.0**	**0.0**
	baz=237						
CHGB				*e*S	**Sg**	**05 06 39.4**	**+0.9**
	baz=237						
ESL	**Shilin**	**0.77**	**213**	*e*P	**Pb**	**05 06 27.7**	**-0.1**
	baz=210						
ESL				*e*S	**Sg**	**05 06 39.2**	**+0.8**
	baz=210						
OWD	**Renai**	**0.82**	**233**	P	**Pb**	**05 06 28.7**	**-0.2**
	baz=231						
OWD				*e*S	**Sg**	**05 06 41.2**	**+0.9**
	baz=231						
WHP	**Taichung City**	**0.88**	**258**	*e*P	**Pg**	**05 06 30.9**	**+0.6**
	baz=257						
VWDT	**VWDT**	**0.98**	**224**	*e*P	**Pb**	**05 06 31.6**	**+0.1**
	baz=223						
HGSD	**Ruisui**	**1.05**	**204**	*e*P	**Pg**	**05 06 34.4**	**+0.7**
	baz=202						
SSLB	**Suanglung**	**1.09**	**232**	*e*P	**Pn**	**05 06 33.6**	**+0.3**
	baz=231						
YULB	**Yu-li**	**1.19**	**207**	*e*P	**Pn**	**05 06 34.0**	**-0.8**
	baz=205						
ELDTW	**Lidau**	**1.50**	**212**	*e*P	**Pn**	**05 06 38.8**	**-0.2**
	baz=211						
HATJ	**Hateruma jima**	**1.79**	**103**	S	**Sn**	**05 07 03.6**	**-1.6**
JKRS	**Kuro-shima**	**1.94**	**96**	P	**Pn**	**05 06 44.7**	**-0.4**
JKRS				S	**Sn**	**05 07 08.5**	**-0.5**

KRSC 26 05:25:43.3±10.0, 50.79N×160.33E, h41km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.74**	**307**	*e*P	Pn	05 26 12.8	+1.7
KDTR				*e*S	Sn	05 26 34.5	+2.5
RUS	**Russkaya**	**2.00**	**326**	*e*P	Pn	05 26 16.7	+2.1
RUS				*e*S	Sn	05 26 41.0	+2.7
MTVR	**Mutnovka**	**2.16**	**323**	*e*P	Pn	05 26 19.2	+2.3
MTVR				*e*S	Sn	05 26 45.5	+3.0
ASAK	**Asacha**	**2.20**	**317**	*e*P	Pn	05 26 19.9	+2.5
ASAK				*e*S	Sn	05 26 46.9	+3.4
SPN	**Mys Shipunski**	**2.32**	**355**	S	Sn	05 26 49.0	+2.7
DALK	**Dalny**	**2.45**	**337**	*e*P	Pn	05

1.3nm,0.6s,baz=142,slow=8.4,SNR=4.5
H11N2 WAKE ISLAND Hy 23.39 106 T T 06 21 12.3
baz=296
H11N1 WAKE ISLAND Hy 23.40 106 T T 06 21 04.8
baz=296
H11N3 WAKE ISLAND Hy 23.41 106 T T 06 21 18.2
baz=296
SONM Songino Array 34.47 315 P **P** **05 58 16.7 +1.5**
1.2nm,0.6s,baz=110,slow=7.5,SNR=7.3
WRA Warramunga Arr 48.48 191 P **P** **06 00 10.2 0.0**
2.9nm,0.6s,baz=12,slow=8.4,SNR=35
ZALV Zalesovo Beam 49.18 318 P **P** **06 00 14.9 -0.2**
0.9nm,0.5s,baz=81,slow=9.5,SNR=4.2
MKAR Makanchi Array 50.36 309 P **P** **06 00 23.7 -0.6**
0.5nm,0.6s,baz=94,slow=7.5,SNR=5.9
ASAR Alice Springs 52.20 191 P **P** **06 00 38.1 -0.1**
0.5nm,0.7s,baz=10,slow=5.7,SNR=3.1
ILAR Eielson Array 56.51 29 P **P** **06 01 09.2 +0.1**
0.8nm,1.1s,baz=305,slow=3.2,SNR=3.7
YKA Yellowknife Ar 70.93 29 P **P** **06 02 43.9 -0.3**
0.2nm,0.6s,baz=294,slow=6.4,SNR=4.2
BRTR Keskin Array B 85.81 313 P **P** **06 04 07.5 +0.4**
0.4nm,0.4s,baz=51,slow=5.7,SNR=2.9

IDC 26 06:13:13.4±3.0, 53°.40N×87°.36E, h0km, mb1 2.5/2, mb1mx2.5/44, mbtmp2.5/2, ML2.2/2, Error ellipse: s-maj=26.4km s-min=15.7km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**291**	*i*		06 25 10.0	
	baz=108,slow=347,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.61**	**291**	Pg	Pn	06 13 41.9	-1.2
	1.0nm,0.3s,baz=108,slow=14,SNR=9.3						
ZALV				Lg	Lg	06 14 03.1	
	0.6nm,0.3s,baz=114,slow=29,SNR=3.5						
KURBB	**Kurchatov Arra**	**6.12**	**246**	Pn	Pn	06 14 46.8	+1.8
	0.0nm,0.3s,baz=64,slow=14,SNR=4.1						
KURBB				Lg	Lg	06 16 28.8	
	0.0nm,0.3s,baz=63,slow=32,SNR=6.9						
MKAR	**Makanchi Array**	**7.38**	**208**	Pn	Pn	06 15 03.1	+0.8
	0.1nm,0.3s,baz=26,slow=18,SNR=4.0						
MKAR				Lg	Lg	06 17 05.5	
	0.1nm,0.3s,baz=29,slow=31,SNR=8.5						

*IDC **26** 06:16:44.9±1.4, 17°.85S×178°.64W, h538km±14km, mb4.0/25, mb1 4.1/27, mb1mx4.0/34, mbtmp4.9/27, Error ellipse: s-maj=12.7km s-min=8.9km az=118.0*
*ISCJB **26** 06:16:45.3±0.2, 17°.85S±0°.04×178°.76W±0°.04, h550km, mb4.5/116, Error ellipse: s-maj=6.1km s-min=3.8km az=42.4*
*MOS **26** 06:16:45.0±1.1, 17°.31S×178°.85W, h524km, mb4.4/24, Error ellipse: s-maj=12.8km s-min=10.3km az=57.8*
*NEIC **26** 06:16:46.9±1.7, 17°.78S×178°.81W, h559km±6km, mb4.5/92, Error ellipse: s-maj=18.6km s-min=14.9km az=131.0*
*BGR **26** 06:16:49.3±0.0, 16°.92S×177°.37W, h550km*
ISC 26 06:16:46.2±0.3, 17°.82S±0°.07×178°.77W±0°.07, h550km, n422, σ1$78/420, mb4.5/116, 71C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.48**	**100**	*eP*	**P**	**06 18 49.0**	**+0.2**
MARNC	**Mare, Loyalty**	**12.96**	**252**	*eP*	**P**	**06 19 34.5**	**-0.2**
PINNC	**Pines Island,**	**13.79**	**247**	*eP*	**P**	**06 19 43.2**	**0.0**
DZM	**Mont Dzumac**	**14.53**	**251**	*eP*	**P**	**06 19 50.9**	**0.0**
DZM	**Mont Dzumac**	**14.53**	**251**	P	**P**	**06 19 51.0**	**0.0**
	3.9nm,0.3s,baz=130,slow=19,SNR=33						
ONTNC	**Ouen Toro**	**14.58**	**250**	*eP*	**P**	**06 19 51.2**	**-0.1**
RAR	**Rarotonga**	**18.22**	**104**	P	**P**	**06 20 25.1**	**-1.1**
	0.6nm,0.3s,baz=296,slow=5.3,SNR=3.6						
OUZ	**Omahuta**	**18.62**	**200**	*eP*	**P**	**06 20 32.0**	**+2.5**
	28nm,1.1s						
URZ	**Urewera**	**20.68**	**189**	*eP*	**P**	**06 20 47.0**	**-1.3**
URZ				*eP*	P	06 20 47.0	-1.3
URZ				*eS*	**S**	**06 24 03.0**	**-1.2**
URZ	**Urewera**	**20.68**	**189**	P	**P**	**06 20 47.0**	**-1.3**
	7.6nm,0.3s,baz=255,slow=2.4,SNR=30						
URZ				S	**S**	**06 24 03.0**	**-1.2**
	4.1nm,0.7s,baz=176,slow=19,SNR=2.7						
HIZ	**Hauiti**	**21.36**	**194**	*eP*	**P**	**06 20 55.6**	**+1.3**
	37nm,1.1s						
BKZ	**Black Stump Fm**	**21.67**	**190**	*eP*	**P**	**06 20 56.1**	**-1.2**
	6.9nm,0.4s						
SNZO	**South Karori**	**24.07**	**192**	*eP*	**P**	**06 21 18.3**	**-0.2**
	48nm,1.1s						
THZ	**Tophouse**	**24.91**	**195**	*eP*	**P**	**06 21 25.9**	**-0.1**
	15nm,0.4s						
KHZ	**Kahutara**	**25.38**	**193**	*eP*	**P**	**06 21 29.5**	**-0.6**
	34nm,1.2s						
LTZ	**Lake Taylor**	**26.02**	**195**	*eP*	**P**	**06 21 35.2**	**-0.6**
	21nm,0.6s						
OXZ	**Oxford**	**26.59**	**195**	*eP*	**P**	**06 21 40.5**	**-0.3**
	30nm,0.7s						
MQZ	**McQueen's Vall**	**26.81**	**194**	*eP*	**P**	**06 21 41.8**	**-0.9**
	19nm,1.0s						
RPZ	**Rata Peaks**	**27.21**	**196**	*eP*	**P**	**06 21 45.2**	**-1.0**
RPZ				*eP*	P	06 21 45.4	-0.8
RPZ	**Rata Peaks**	**27.21**	**196**	P	**P**	**06 21 45.2**	**-1.0**
	7.4nm,0.4s,baz=335,slow=1.2,SNR=12						
FOZ	**Fox Glacier**	**27.39**	**198**	*eP*	**P**	**06 21 47.9**	**+0.1**
	69nm,1.2s						
LBZ	**Lake Benmore**	**28.07**	**197**	*eP*	**P**	**06 21 53.0**	**-0.7**
	10nm,0.5s						
ODZ	**Otahua Downs**	**28.55**	**196**	*eP*	**P**	**06 21 57.7**	**-0.2**
	4.9nm,1.2s						
WKZ	**Wanaka**	**28.81**	**198**	*eP*	**P**	**06 22 00.1**	**-0.1**
	29nm,1.0s						
EIDS	**Eidsvold**	**28.98**	**250**	*eP*	**P**	**06 22 02.4**	**+0.5**
	18nm,0.9s						
MLZ	**Mavora Lakes**	**29.57**	**199**	*eP*	**P**	**06 22 08.4**	**+1.6**
	40nm,0.7s						
ARMA	**Armidale**	**29.69**	**239**	*eP*	**P**	**06 22 09.7**	**+1.6**
	21nm,0.6s						
WHZ	**Wether Hill Ro**	**30.09**	**199**	*eP*	**P**	**06 22 12.4**	**+1.1**
	30nm,0.8s						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**06 22 38.1**	**+0.6**
	9.5nm,0.8s,baz=82,slow=12,SNR=6.2						
PMG	**Port Moresby**	**34.10**	**280**	*ieP*	**P**	**06 22 46.9**	**+1.1**
PMG				pmax	pmax		
	comp=Z,110nm,1.3s						
TOO	**Toolangi**	**36.96**	**231**	*eP*	**P**	**06 23 10.6**	**+1.4**
	comp=Z,41nm,0.9s						
TOO	**Toolangi**	**36.96**	**231**	*eP*	**P**	**06 23 10.6**	**+1.4**
TOO				pmax	pmax		
	comp=Z,41nm,0.9s						
STKA	**Stephens Creek**	**38.37**	**241**	*eP*	**P**	**06 23 22.1**	**+1.3**
	comp=Z,6.5nm,1.0s						
STKA	**Stephens Creek**	**38.37**	**241**	*eP*	**P**	**06 23 22.1**	**+1.3**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**06 23 22.5**	**+1.7**
	comp=Z,14nm,0.4s,baz=88,slow=9.9,SNR=44						
BBOO	**Buckleboo**	**43.15**	**241**	*eP*	**P**	**06 23 59.8**	**+1.1**
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**44.30**	**260**	*ieP*	**P**	**06 24 07.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WR1	**Warramunga Arr**	**44.31**	**259**	*eP*	**P**	**06 24 07.8**	**-0.1**
	comp=Z,12nm,0.8s						
WR1				*e*PcP	**PcP**	**06 25 40.2**	**+0.1**
WR1				*e*ScP	**ScP**	**06 28 41.4**	**+1.4**
WR1				*eS*	**S**	**06 29 57.5**	**-4.9**
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**06 24 07.8**	**-0.1**
	comp=Z,4.1nm,0.5s,baz=95,slow=7.9,SNR=113						
WRA				PcP	**PcP**	**06 25 40.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=89,slow=4.2,SNR=7.4						
WRA				ScP	**ScP**	**06 28 41.4**	**+1.4**
	comp=Z,1.0nm,1.0s,baz=90,slow=3.7,SNR=5.3						
WRA				S	**S**	**06 29 57.5**	**-5.0**
	comp=Z,1.6nm,0.8s,baz=94,slow=13,SNR=8.0						
AS01	**Alice Springs**	**44.44**	**254**	*eP*	**P**	**06 24 09.4**	**+0.5**
AS31	**Alice Springs**	**44.48**	**254**	*eP*	**P**	**06 24 09.6**	**+0.4**
	comp=Z,15nm,0.6s						
AS31				*e*ScP	**ScP**	**06 28 42.5**	**+1.8**
AS31				*eS*	**S**	**06 30 02.6**	**-2.2**
ASAR	**Alice Springs**	**44.48**	**254**	P	**P**	**06 24 09.7**	**+0.4**
	comp=Z,48nm,0.5s,baz=88,slow=8.3,SNR=427						
ASAR				PcP	**PcP**	**06 25 40.6**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=99,slow=5.1,SNR=5.9						
ASAR				ScP	**ScP**	**06 28 42.5**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=92,slow=4.5,SNR=5.7						
ASAR				S	**S**	**06 30 02.6**	**-2.2**
	comp=Z,5.5nm,1.1s,baz=87,slow=16,SNR=16						
MJAR	**Matsushiro Arr**	**67.63**	**324**	P	**P**	**06 26 47.9**	**-0.7**
	comp=Z,13nm,0.7s,baz=167,slow=6.2,SNR=33						
MAJO	**Matsushiro**	**67.63**	**324**	*eP*	**P**	**06 26 48.5**	**-0.2**
	comp=Z,18nm,0.7s						
MAJO	**Matsushiro**	**67.63**	**324**	*eP*	**P**	**06 26 48.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,18nm,0.7s						
MAT	**Matsushiro**	**67.63**	**324**	P	**P**	**06 26 48.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**67.64**	**324**	*eP*	**P**	**06 26 48.0**	**-0.7**
	comp=Z,18nm,0.7s						
QSPA	**South Pole Qui**	**72.23**	**180**	*eP*	**P**	**06 27 17.0**	**+1.3**
	comp=Z,6.5nm,0.8s						
YSS	**Yuzh-Sakhalins**	**73.18**	**334**	*eP*	**P**	**06 27 21.5**	**+0.3**
YSS				*e*		06 27 30.1	
YSS				pmax	pmax		
	comp=Z,20nm,1.2s						
PETK	**Petropavlovsk-**	**73.51**	**345**	P	**P**	**06 27 22.4**	**-0.5**
	comp=Z,20nm,0.7s,baz=139,slow=9.2,SNR=17						
PEA1	**Petropavlovsk-**	**73.51**	**345**	*eP*	**P**	**06 27 22.4**	**-0.5**
KSRS	**Korea Array**	**74.41**	**319**	P	**P**	**06 27 29.1**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=136,slow=5.7,SNR=12						
KS01	**Wonju Array Si**	**74.44**	**319**	*eP*	**P**	**06 27 28.8**	**+0.3**
MSHR	**Mys Shultsa**	**75.73**	**324**	*ieP*	**P**	**06 27 37.0**	**+1.4**
GATR	**Gnd/Air Tx Cnt**	**76.00**	**46**	*eP*	**P**	**06 27 37.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**76.35**	**326**	P	**P**	**06 27 40.1**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=145,slow=4.7,SNR=8.6						
SBI	**Santa Barbara**	**76.45**	**48**	*eP*	**P**	**06 27 40.2**	**+0.4**
CIAC	**Catalina I. Ai**	**76.85**	**48**	*eP*	**P**	**06 27 42.8**	**+0.7**
KMRM	**Mail Ridge**	**77.17**	**40**	*eP*	**P**	**06 27 44.2**	**+0.5**
	comp=Z,28nm,0.9s						
MWC	**Mount Wilson**	**77.53**	**48**	*eP*	**P**	**06 27 45.9**	**-0.1**
	comp=Z,10nm,0.8s						
MWC	**Mount Wilson**	**77.53**	**48**	*eP*	**P**	**06 27 45.9**	**-0.1**
MWC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NJ2	**Nanjing**	**77.62**	**310**	*eP*	**P**	**06 27 46.5**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MDJ	**Mudanjiang**	**77.92**	**325**	P	**P**	**06 27 48.0**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,40nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,100nm,4.3s						
ISA	**Isabella, Lake**	**78.00**	**46**	*eP*	**P**	**06 27 48.8**	**+0.5**
	comp=Z,12nm,0.9s						
ISA	**Isabella, Lake**	**78.00**	**46**	P	**P**	**06 27 48.8**	**+0.5**
ISA				pmax	pmax		
	comp=Z,12nm,1.0s						
CMB	**Columbia Colle**	**78.01**	**43**	*eP*	**P**	**06 27 47.4**	**-0.8**
	comp=Z,8.6nm,0.9s						
CMB	**Columbia Colle**	**78.01**	**43**	*eP*	**P**	**06 27 47.4**	**-0.8**
CMB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WDC	**Whiskeytown Da**	**78.10**	**40**	*eP*	**P**	**06 27 49.2**	**+0.6**
	comp=Z,6.6nm,1.1s						
WDC	**Whiskeytown Da**	**78.10**	**40**	*eP*	**P**	**06 27 49.2**	**+0.6**
WDC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
AFDM	**Forest Hills D**	**78.14**	**42**	*eP*	**P**	**06 27 49.3**	**+0.4**
	comp=Z,8.8nm,0.9s						
ORV	**Oroville**	**78.15**	**42**	*eP*	**P**	**06 27 49.2**	**+0.3**
	comp=Z,8.9nm,1.1s						
ORV	**Oroville**	**78.15**	**42**	*eP*	**P**	**06 27 49.2**	**+0.3**
ORV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KDAK	**Kodiak Island**	**78.40**	**14**	*i* P	**P**	**06 27 50.6**	**+0.9**
KDAK	**Kodiak Island**	**78.40**	**14**	P	**P**	**06 27 49.0**	**-0.8**
	comp=Z,15nm,0.8s,baz=248,slow=3.9,SNR=5.5						
MDPB	**Devils Postpil**	**78.65**	**44**	*eP*	**P**	**06 27 52.7**	**+0.7**
	comp=Z,13nm,0.9s						
YBH	**Yreka Blue Hor**	**78.67**	**39**	*eP*	**P**	**06 27 52.5**	**+0.7**
	comp=Z,9.8nm,0.8s						
YBH	**Yreka Blue Hor**	**78.67**	**39**	*eP*	**P**	**06 27 52.5**	**+0.7**
YBH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GRNR	**Gornyy**	**78.80**	**333**	*eP*	**P**	**06 27 51.8**	**-0.3**
GRNR				pmax	pmax		
	comp=Z,46nm,1.0s						
NKL	**Nikolayevsk**	**78.86**	**336**	*eP*	**P**	**06 27 51.0**	**-1.3**
NKL				pmax	pmax		
	comp=Z,21nm,0.9s						
WAKR	**Walker**	**78.89**	**43**	*eP*	**P**	**06 27 53.4**	**+0.2**
	comp=Z,13nm,0.9s						
HUMO	**Hull Mountain**	**79.04**	**38**	*eP*	**P**	**06 27 53.9**	**+0.3**
	comp=Z,11nm,1.0s						
PNTR	**Pine Nut**	**79.11**	**43**	*eP*	**P**	**06 27 54.2**	**-0.1**
	comp=Z,23nm,0.8s						
VCNR	**Virginia City**	**79.19**	**43**	*eP*	**P**	**06 27 54.0**	**-0.7**
	comp=Z,8.6nm,0.8s						
GLA	**Glamis**	**79.26**	**50**	*eP*	**P**	**06 27 55.5**	**+0.5**
	comp=Z,8.9nm,1.0s						
GLA	**Glamis**	**79.26**	**50**	*eP*	**P**	**06 27 55.5**	**+0.5**
GLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
YERR	**Yerington**	**79.28**	**43**	*eP*	**P**	**06 27 55.0**	**-0.2**
	comp=Z,17nm,0.7s						
RYN	**Ryan**	**79.56**	**44**	*eP*	**P**	**06 27 56.6**	**0.0**
	comp=Z,5.0nm,0.8s						
PAHR	**Pah Rah Range**	**79.59**	**42**	*eP*	**P**	**06 27 56.2**	**-0.5**
	comp=Z,8.3nm,0.9s						
NV01	**Mina Array Sit**	**79.60**	**44**	*eP*	**P**	**06 27 57.0**	**+0.1**
NVAR	**Mina Array Bea**	**79.60**	**44**	P	**P**	**06 27 57.2**	**+0.3**
	comp=Z,9.0nm,0.8s,baz=225,slow=8.9,SNR=62						
NV11	**Mina Array Sit**	**79.70**	**44**	*eP*	**P**	**06 27 57.7**	**+0.4**
	comp=Z,1.0nm,1.1s						
CN2	**Changchun**	**79.74**	**323**	*eP*	**P**	**06 27 57.8**	**+0.6**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
KLR	**Kul'dur**	**79.86**	**330**	*ieP*	**P**	**06 27 58.1**	**+0.4**
KLR	**Kul'dur**	**79.86**	**330**	P	**P**	**06 27 58.2**	**+0.5**
	comp=Z,4.9nm,1.0s,baz=100,slow=5.8,SNR=11						
LDFC	**Landfair**	**80.06**	**48**	*eP*	**P**	**06 27 59.8**	**+0.5**
	comp=Z,25nm,1.0s						
KVN	**Kaiserville**	**80.06**	**44**	*eP*	**P**	**06 27 59.5**	**+0.2**
	comp=Z,7.1nm,0.7s						
KVN	**Kaiserville**	**80.06**	**44**	*eP*	**P**	**06 27 59.5**	**+0.2**
KVN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TPNV	**Topopah Spring**	**80.20**	**46**	*eP*	**P**	**06 28 00.8**	**+0.7**
	comp=Z,4.1nm,0.8s						
TPNV	**Topopah Spring**	**80.20**	**46**	*eP*	**P**	**06 28 00.8**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MOD	**Modoc Plateau**	**80.24**	**40**	*eP*	**P**	**06 27 60.0**	**-0.1**
SHPR	**Sheep Range**	**80.73**	**47**	*eP*	**P**	**06 28 03.7**	**+0.9**
	comp=Z,5.7nm,1.1s						
MA2	**Magadan**	**81.02**	**345**	*eP*	**P**	**06 28 02.7**	**-0.8**
	comp=Z,17nm,0.9s						
MA2	**Magadan**	**81.02**	**345**	*i*P	**P**	**06 28 02.3**	**-1.2**
MA2				pmax	pmax		
	comp=Z,18nm,0.8s						
R11A	**Troy Canyon, C**	**81.37**	**45**	*eP*	**P**	**06 28 06.0**	**-0.1**
	comp=Z,6.0nm,1.1s						
BMN	**Battle Mountai**	**81.38**	**43**	*eP*	**P**	**06 28 06.3**	**+0.3**
	comp=Z,14nm,1.0s						
BMN	**Battle Mountai**	**81.38**	**43**	*eP*	**P**	**06 28 06.3**	**+0.3**
BMN				pmax	pmax		
	comp=Z,14nm,1.0s						
NLWA	**Neilton Lookou**	**81.43**	**34**	*eP*	**P**	**06 28 06.5**	**+0.5**
	comp=Z,8.1nm,0.9s						
WVOR	**Wild Horse Val**	**81.56**	**40**	*eP*	**P**	**06 28 07.2**	**+0.4**
	comp=Z,18nm,1.0s						
WVOR	**Wild Horse Val**	**81.56**	**40**	*eP*	**P**	**06 28 07.3**	**+0.4**
WVOR				pmax	pmax		
	comp=Z,18nm,1.0s						
TUC	**Tucson**	**81.92**	**52**	*eP*	**P**	**06 28 09.9**	**+1.0**
	comp=Z,9.4nm,0.9s						
TUC	**Tucson**	**81.92**	**52**	*eP*	**P**	**06 28 09.9**	**+1.0**
TUC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BBB	**Bella Bella**	**82.40**	**29**	P	**P**	**06 28 10.3**	**-0.3**
	comp=Z,13nm,1.0s,baz=250,slow=10,SNR=3.7						
ELK	**Elko**	**82.83**	**43**	*eP*	**P**	**06 28 13.6**	**+0.1**
	comp=Z,8.0nm,0.8s						
ELK	**Elko**	**82.83**	**43**	*eP*	**P**	**06 28 13.6**	**+0.1**
ELK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WUAZ	**Wupatki**	**82.95**	**49**	*eP*	**P**	**06 28 15.0**	**+1.0**
	comp=Z,12nm,1.0s						
HAWA	**Hanford**	**83.24**	**37**	*eP*	**P**	**06 28 14.9**	**-0.1**
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**83.48**	**316**	*i*P	**P**	**06 28 16.8**	**+0.4**
BJI				pmax	pmax		
	comp=Z,13nm,0.9s						
SKNT	**Sakolnakorn**	**83.51**	**290**	P	**P**	**06 28 17.8**	**+0.7**
SEY	**Seymchan**	**83.61**	**347**	*i*P	**P**	**06 28 15.9**	**-0.6**
SEY	**Seymchan**	**83.61**	**347**	P	**P**	**06 28 15.8**	**-0.7**
	comp=Z,25nm,0.7s,baz=148,slow=8.2						
BMO	**Blue Mountains**	**83.69**	**39**	*eP*	**P**	**06 28 17.1**	**-0.4**
	comp=Z,4.1nm,0.9s						
BMO	**Blue Mountains**	**83.69**	**39**	*eP*	**P**	**06 28 17.1**	**-0.4**
BMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ENH	**Enshi**	**83.94**	**304**	*eP*	**P**	**06 28 17.9**	**-1.1**
	comp=Z,27nm,0.9s						
TRTT	**Trang**	**84.39**	**280**	P	**P**	**06 28 23.3**	**+1.8**
NONG	**Nongkai**	**84.64**	**291**	P	**P**	**06 28 23.9**	**+1.3**
HLID	**Hailey**	**84.79**	**41**	*eP*	**P**	**06 28 23.4**	**+0.4**
	comp=Z,7.7nm,0.8s						
ZEA	**Zeya**	**84.94**	**331**	*eP*	**P**	**06 28 23.8**	**+0.5**
ZEA				pmax	pmax		
	comp=N,24nm,1.0s						
ZEA				pmax	pmax		
	comp=Z,32nm,1.0s						
HDA	**Harding Lake**	**85.55**	**13**	*eP*	**P**	**06 28 24.6**	**-1.4**
	comp=Z,12nm,0.9s						
NEW	**Newport**	**85.64**	**36**	*eP*	**P**	**06 28 25.0**	**-1.8**
	comp=Z,7.3nm,0.8s						
NEW	**Newport**	**85.64**	**36**	*eP*	**P**	**06 28 25.0**	**-1.8**
NEW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NEW	**Newport**	**85.64**	**36**	P	**P**	**06 28 26.4**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=216,slow=4.8,SNR=11						
IM3	**Indian Mountai**	**85.65**	**10**	*eP*	**P**	**06 28 24.6**	**-1.8**
MNTX	**Cornudas Mount**	**85.81**	**55**	*eP*	**P**	**06 28 28.2**	**+0.2**
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**85.88**	**13**	P	**P**	**06 28 26.2**	**-1.4**
	comp=Z,4.8nm,0.7s,baz=229,slow=4.8,SNR=59						
ILB	**Eielson Array**	**85.88**	**13**	*eP*	**P**	**06 28 26.1**	**-1.4**
	comp=Z,7.6nm,0.9s						
IL1	**Eielson Array**	**85.88**	**13**	*eP*	P	06 28 24.1	-3.4
DLBC	**Dease Lake**	**85.89**	**23**	P	**P**	**06 28 28.1**	**+0.3**
	comp=Z,5.2nm,0.8s,baz=251,slow=1.7,SNR=8.1						
XAN	**Xi'an**	**85.93**	**308**	P	**P**	**06 28 29.5**	**+0.9**
XAN				pP	pP	06 30 25.5	-2.6
XAN				sP	sP	06 31 22.5	-1.2
XAN				PP	**PP**	**06 32 00.0**	**+1.1**
XAN				S	**S**	**06 38 14.5**	**-2.2**
XAN	**Xi'an**	**85.93**	**308**	SS	SS	06 44 11.0	-0.4
XAN				pmax	pmax		
	comp=Z,28nm,1.2s						
XAN				pmax	pmax		
	comp=Z,110nm,4.4s						
XAN	**Xi'an**	**85.93**	**308**	*eP*	**P**	**06 28 28.6**	**+0.1**
	comp=Z,29nm,1.0s						
PBKT	**Sadao Pong**	**86.08**	**289**	P	**P**	**06 28 31.5**	**+2.0**
LTX	**Lajitas**	**86.24**	**58**	*eP*	**P**	**06 28 31.5**	**+1.3**
TX31	**Lajitas Ar. Si**	**86.24**	**58**	*eP*	**P**	**06 28 31.4**	**+1.2**
	comp=Z,12nm,0.9s						
TX31				*eP*	P	**06 28 31.4**	**+1.2**
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**06 28 31.5**	**+1.3**
	comp=Z,6.8nm,0.8s,baz=218,slow=5.7,SNR=56						
BILL	**Bilibino**	**86.31**	**354**	*eP*	**P**	**06 28 28.6**	**-0.9**
	comp=Z,14nm,0.9s						
BILL	**Bilibino**	**86.31**	**354**	*ceP*	**P**	**06 28 29.1**	**-0.4**
BILL				*e**PP	**pP**	**06 30 25.8**	**-2.6**
BILL				*e**SP	sP	06 31 17.4	-6.2
BILL				*e*		06 32 00.2	
BILL				*e*PPP	PPP	06 33 58.4	
BILL				pmax	pmax		
	comp=Z,16nm,0.9s						
ANMO	**Albuquerque**	**86.31**	**52**	*eP*	**P**	**06 28 30.6**	**+0.1**
	comp=Z,3.4nm,0.8s						
ANMO	**Albuquerque**	**86.31**	**52**	*eP*	**P**	**06 28 30.6**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MCMT	**McKenzie Canyo**	**86.39**	**41**	*eP*	**P**	**06 28 30.7**	**-0.1**
DLMT	**Dillon**	**86.81**	**40**	*eP*	**P**	**06 28 32.5**	**-0.1**
	comp=Z,9.5nm,0.8s						
TPAW	**Teton Pass**	**86.95**	**42**	*eP*	**P**	**06 28 33.7**	**+0.3**
	comp=Z,9.4nm,1.0s						
REDW	**Red Top Meadow**	**86.95**	**43**	*eP*	**P**	**06 28 33.6**	**+0.1**
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**86.97**	**315**	*eP*	**P**	**06 28 34.3**	**+0.9**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,95nm,5.1s						
FXWY	**Fox Creek**	**86.97**	**42**	*eP*	**P**	**06 28 33.7**	**+0.2**
	comp=Z,4.5nm,0.8s						
SNOW	**Snow King Moun**	**87.06**	**43**	*eP*	**P**	**06 28 34.4**	**+0.4**
	comp=Z,15nm,1.0s						
LRM	**Limekiln Ridge**	**87.12**	**40**	*eP*	**P**	**06 28 34.4**	**+0.2**
IMW	**Indian Meadow**	**87.15**	**42**	*eP*	**P**	**06 28 34.8**	**+0.4**
	comp=Z,13nm,0.8s						
MOOW	**Moose Ponds**	**87.20**	**42**	*eP*	**P**	**06 28 35.0**	**+0.5**
	comp=Z,5.0nm,1.0s						
EGAK	**Eagle**	**87.22**	**15**	*eP*	**P**	**06 28 33.3**	**-0.5**
	comp=Z,8.1

comp=Z,0.7nm,0.5s,baz=108,slow=1.8,SNR=4.7
MK32 Makanchi Array 108.83 314 *e*PKiKP **PKiKP 06 34 11.9 -1.3**
MKAR Makanchi Array 108.83 314 PKiKP **PKiKP 06 34 11.9 -1.3**
comp=Z,1.0nm,0.6s,baz=72,slow=0.7,SNR=10.0
KURK Kurchatov 111.53 318 ⇓*i*PKiKP **PKiKP 06 34 16.9 -1.2**
BRVK Borovoye 116.62 321 ⇑*i*PKiKP **PKPdf 06 34 26.3 -1.5**
ARU Arti 122.58 326 *i* PKiKP **PKPdf 06 34 38.3 -0.9**
ARU 06 36 22.7
ARU 06 41 00.1
ARA0 ARCESS Array S 126.17 350 *e*PKPdf **PKPdf 06 34 45.0 -0.7**
ARCES ARCESS Array B 126.17 350 PKP **PKPdf 06 34 45.0 -0.7**
comp=Z,2.9nm,0.8s,baz=100,slow=2.7,SNR=8.4
GEYT Alibeck 126.70 304 PKP **PKPdf 06 34 47.6 -0.1**
comp=Z,0.8nm,0.4s,baz=209,slow=12,SNR=5.7
KLMR Klimovskoe 129.14 337 *e*PKiKP PKPpre 06 34 47.5
KLMR pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 129.14 337 *e*PKPdf PKPpre 06 34 47.6
KLMR AMP 06 34 52.7
comp=Z,8.0nm,1.1s
FIA0 FINESS Array S 133.01 344 *e*PKPpre PKPpre 06 34 52.6
FIA0 *e*PKPdf sPdif 06 34 58.3 +3.4
FIA0 *e*PP **PP 06 37 36.0 +3.4**
FIA0 FINESS Array S 133.01 344 *e*PKiKP PKPpre 06 34 52.6
FIA0 *e* 06 37 36.0
FINES FINESS Array B 133.01 344 PKhKP PKPpre 06 34 52.6
comp=Z,2.6nm,1.1s,baz=78,slow=7.3,SNR=4.1
FINES PKP sPdif 06 34 58.3 +3.4
comp=Z,2.7nm,0.7s,baz=48,slow=2.1,SNR=8.2
FINES SKPbc **PP 06 37 36.0 +3.4**
comp=Z,3.2nm,0.8s,baz=4.3,slow=5.6,SNR=8.7
OBN Obninsk 134.06 332 *e*PKiKP **PKPdf 06 34 59.9 -1.1**
OBN *e* 06 37 01.0
OBN *e* 06 37 34.6
OBN *e*PPP PPP 06 40 38.4
OBN pmax pmax
comp=Z,4.0nm,0.6s
VSR Storozhevoye 135.15 327 ⇑*i*PKiKP **PKPdf 06 35 04.1 +0.9**
VSU Vasula 135.29 341 ⇓*i*PKiKP **PKPdf 06 35 03.6 +0.4**
NCK Nalchik 136.12 315 ⇑*i*PKiKP **PKPdf 06 35 05.9 +0.6**
NB2 NORSAR Subarra136.25 353 PKP PKPpre 06 34 54.3
comp=Z,0.5nm,0.6s,baz=17,slow=2.6
NB200 NORSAR Array S 136.25 353 *e*PKPdf **PKPdf 06 35 03.9 -1.1**
NOA NORSAR Array B 136.25 353 PKP **PKPdf 06 35 03.9 -1.1**
comp=Z,0.6nm,0.7s,baz=14,slow=4.0,SNR=5.6
GNI Garni 136.46 310 ⇓*e*PKiKP **PKPdf 06 35 04.4 -1.8**
NEY Neytrino 136.81 315 ⇑*i*PKiKP **PKPdf 06 35 07.7 +0.9**
AKASG Malin Array Be 140.32 332 PKhKP PKPpre 06 35 05.3
comp=Z,0.6nm,0.3s,baz=42,slow=4.1,SNR=9.6
AKASG PKP **PKPdf 06 35 13.5 +0.8**
comp=Z,0.6nm,0.3s,baz=42,slow=2.7,SNR=7.0
AK11 Malin Array Si 140.36 332 *e*PKPpre PKPpre 06 35 05.2
BEL Belsk 142.70 340 *e*PKP **PKPdf 06 35 14.7 -2.2**
LVV L'vov 143.18 335 *e*PKHKP PKPpre 06 35 13.9
BSEG Bad Segeberg 143.27 351 *e*PKPbc PKPab 06 35 15.8 0.0
baz=15,slow=2.8
KWP Kalwaria Pacla 143.85 336 *e*PKP PKPbc 06 35 17.9 -0.3
KWP Kalwaria Pacla 143.85 336 *e*PKPbc PKPbc 06 35 18.0 -0.2
KWP Kalwaria Pacla 143.85 336 *e*PKiKP PKPbc 06 35 18.0 -0.2
PRAR RASCA 144.10 331 ⇓*i*P PKPbc 06 35 18.9 -0.1
TLCR 144.31 326 ⇑*i*P PKPbc 06 35 18.7 -1.0
TLCR 144.31 326 ⇑*i*PKiKP PKPbc 06 35 18.7 -1.0
BUR08 Bucovina Ar. S 144.36 332 *e*PKPbc PKPbc 06 35 19.9 -0.1
BURAR Bucovina Array 144.37 332 ⇑*i*P PKPbc 06 35 20.0 0.0
BURAR Bucovina Array 144.37 332 ⇑*i*PKiKP PKPbc 06 35 20.0 0.0
OJC Ojcow 144.41 339 *e*PKP **PKPdf 06 35 19.6 -0.3**
OJC Ojcow 144.41 339 *e*PKPbc **PKPdf 06 35 18.8 -1.1**
OJC Ojcow 144.41 339 *e*PKiKP **PKPdf 06 35 19.6 -0.3**
BIZ Bicaz 144.46 330 ⇑*i*P **PKPdf 06 35 20.6 +0.5**
BR101 Keskin Array S 144.47 315 *e*PKPdf **PKPdf 06 35 20.1 -0.5**
BR131 Keskin Array S 144.47 315 *e*PKPdf **PKPdf 06 35 20.1 -0.5**
BRTR Keskin Array B 144.47 315 PKP **PKPdf 06 35 20.1 -0.5**
comp=Z,12nm,0.8s,baz=135,slow=3.1,SNR=44
TESR Tescani 144.51 329 ⇑*i*P **PKPdf 06 35 20.1 -0.1**
CFR Carcaliu 144.67 326 ⇑*i*P **PKPdf 06 35 20.2 -0.3**
CFR Carcaliu 144.67 326 ⇑*i*PKiKP **PKPdf 06 35 20.2 -0.3**
NRDL Niedersach Rie 144.70 351 *e*PKPbc **PKPdf 06 35 20.6 +0.4**
baz=15,slow=2.8
UZH Uzhgorod 144.82 336 ⇑*i*PKiKP **PKPdf 06 35 21.0 +0.3**
NIE Niedzica 144.91 338 *e*PKP **PKPdf 06 35 21.5 +0.6**
NIE Niedzica 144.91 338 *e*PKiKP **PKPdf 06 35 21.5 +0.6**
VRI Vrincioaia 144.92 328 ⇑*i*P **PKPdf 06 35 22.0 +1.0**
VRI Vrincioaia 144.92 328 ⇑*i*PKiKP **PKPdf 06 35 22.0 +1.0**
KSP Ksiaz 144.93 343 *e*PKP **PKPdf 06 35 21.4 +0.6**
KSP Ksiaz 144.93 343 *e*PKiKP **PKPdf 06 35 21.4 +0.6**
PLOR Plostina 144.97 328 ⇑*i*P **PKPdf 06 35 21.4 +0.3**
PLOR Plostina 144.97 328 ⇑*i*PKiKP **PKPdf 06 35 21.4 +0.3**
ANTO Ankara 144.97 315 *e*PKPdf **PKPdf 06 35 20.6 -0.7**
ANTO Ankara 144.97 315 *e*PKiKP **PKPdf 06 35 20.6 -0.7**
BMR Baia Mare 145.08 333 ⇑*i*P **PKPdf 06 35 22.7 +1.5**
BMR Baia Mare 145.08 333 ⇑*i*PKiKP **PKPdf 06 35 22.7 +1.5**
HARR Harsova 145.10 326 ⇑*i*P **PKPdf 06 35 22.8 +1.5**
HARR Harsova 145.10 326 ⇑*i*PKiKP **PKPdf 06 35 22.8 +1.5**
TLB Topalu 145.11 326 ⇑*i*P **PKPdf 06 35 22.0 +0.7**
TLB Topalu 145.11 326 ⇑*i*PKiKP **PKPdf 06 35 22.0 +0.7**
TRPA Tarpa 145.12 335 ⇑*i*P **PKPdf 06 35 21.8 +0.6**
IBBN Ibbenburen 145.20 353 *e*PKPbc **PKPdf 06 35 22.2 +1.0**
baz=15,slow=2.8
OKC Ostrava-Krasne 145.28 341 *e*PKP **PKPdf 06 35 22.5 +1.1**
OKC Ostrava-Krasne 145.28 341 *e*PKiKP **PKPdf 06 35 22.5 +1.1**
OKC MLR MLR
comp=Z,600nm,19.4s
CLZ Clausthal 145.29 350 *e*PKPbc **PKPdf 06 35 22.7 +1.3**
baz=15,slow=2.8
CLL Collm 145.30 347 *e*PKPdf **PKPdf 06 35 21.2 -0.1**
CLL Collm 145.30 347 *e*PKPbc **PKPdf 06 35 22.5 +1.1**
baz=15,slow=2.8
CLL Collm 145.30 347 ⇑*i*PKPbc **PKPdf 06 35 22.4 +1.0**
comp=Z,39nm,0.8s
CLL *e*PKiKP **PKPab 06 35 26.0 +2.3**
CLL Collm 145.30 347 ⇑*i*PKiKP **PKPdf 06 35 22.4 +1.0**
CLL pmax pmax
comp=Z,39nm,0.8s
UPC Upice 145.31 343 *e*PKP **PKPdf 06 35 22.8 +1.3**
UPC Upice 145.31 343 *e*PKiKP **PKPdf 06 35 22.8 +1.3**
DPC Dobruska-Polom 145.36 343 *e*PKP **PKPdf 06 35 23.0 +1.4**
DPC Dobruska-Polom 145.36 343 *e*PKiKP **PKPdf 06 35 23.0 +1.4**
LANS Liptovska Anna 145.43 339 *e*PKiKP **PKPdf 06 35 23.7 +1.9**
LANS Liptovska Anna 145.43 339 *e*PKP **PKPdf 06 35 23.6 +1.8**
KRLC Kraliky 145.48 342 *e*PKP **PKPdf 06 35 23.4 +1.6**
KRLC Kraliky 145.48 342 *e*PKiKP **PKPdf 06 35 23.4 +1.6**
BRG Berggiesshubel 145.50 346 *e*PKP **PKPdf 06 35 22.8 +1.0**
comp=Z,25nm,1.0s
BRG Berggiesshubel 145.50 346 *e*PKPbc **PKPdf 06 35 23.2 +1.4**
baz=15,slow=2.8
BRG Berggiesshubel 145.50 346 *e*PKiKP **PKPdf 06 35 22.8 +1.0**
BRG pmax pmax
comp=Z,25nm,1.0s
DOPR Dopca 145.51 330 ⇑*i*P **PKPdf 06 35 24.0 +2.0**
MORC Moravsky Berou 145.52 341 *e*PKPdf **PKPdf 06 35 21.9 0.0**
MORC Moravsky Berou 145.52 341 ⇑*i*P **PKPdf 06 35 22.6 +0.7**
MORC Moravsky Berou 145.52 341 ⇑*i*PKiKP **PKPdf 06 35 22.6 +0.7**
MORC Moravsky Berou 145.52 341 *e*PKP **PKPdf 06 35 23.4 +1.5**
MLR Muntele Rosu 145.58 329 *e*PKPdf **PKPdf 06 35 23.3 +1.1**
MLR Muntele Rosu 145.58 329 ⇑*i*P **PKPdf 06 35 23.0 +0.7**
MLR Muntele Rosu 145.58 329 *e*PKiKP **PKPdf 06 35 23.3 +1.1**
FBE Freiberg 145.59 346 *e*PKPbc **PKPdf 06 35 23.8 +1.9**
baz=15,slow=2.8
GTTG Gvttingen 145.64 350 *e*PKPbc **PKPdf 06 35 23.6 +1.7**
baz=15,slow=2.8
NEUB Neuenburg 145.65 348 *e*PKPbc **PKPdf 06 35 23.7 +1.7**
baz=15,slow=2.8
PVCC Panska Ves 145.66 345 *e*PKP **PKPdf 06 35 23.7 +1.6**
PVCC Panska Ves 145.66 345 *e*PKiKP **PKPdf 06 35 23.7 +1.6**
CJR Cluj-Napoca 145.78 332 ⇑*i*P **PKPdf 06 35 24.4 +1.9**
CJR Cluj-Napoca 145.78 332 ⇑*i*PKiKP **PKPdf 06 35 24.4 +1.9**
SECR 145.84 328 ⇑*i*P **PKPdf 06 35 24.3 +1.8**
LTVH Ltavrtes, Hu 145.97 335 *e*PKiKP **PKPdf 06 35 25.0 +2.4**
VOIR 146.06 329 ⇑*i*P **PKPdf 06 35 25.3 +2.3**
VOIR 146.06 329 ⇑*i*PKP2 **PKPdf 06 35 25.3 +2.3**
DRGR 146.10 333 ⇑*i*P **PKPdf 06 35 24.4 +1.4**
DRGR 146.10 333 ⇑*i*PKiKP **PKPdf 06 35 24.4 +1.4**
PRU Pruhonice 146.17 345 *e*PKP **PKPdf 06 35 25.0 +2.1**
PRU *ex* x 06 35 27.4
PRU Pruhonice 146.17 345 *e*PKiKP **PKPdf 06 35 25.0 +2.1**
PRU *e* 06 35 27.4
GOPC GO Pecny, Ondr 146.17 344 *e*PKP **PKPdf 06 35 25.3 +2.3**
GOPC GO Pecny, Ondr 146.17 344 *e*PKiKP **PKPdf 06 35 25.3 +2.3**
GOPC MLR MLR
comp=Z,500nm,17.2s
VYHS Vyhne 146.21 339 *e*PKiKP **PKPdf 06 35 25.1 +2.0**
VYHS Vyhne 146.21 339 *e*PKP **PKPdf 06 35 25.1 +2.0**
MOX Moxa 146.21 348 *e*PKPbc **PKPdf 06 35 25.2 +2.2**
baz=15,slow=2.8
MOX Moxa 146.21 348 PKiKP **PKPdf 06 35 24.8 +1.8**
VRAC Vranov 146.22 342 ⇑*i*P **PKPdf 06 35 25.0 +1.9**
VRAC Vranov 146.22 342 ⇑PKiKP **PKPdf 06 35 25.0 +1.9**
VRAC Vranov 146.22 342 *e*PKP **PKPdf 06 35 25.2 +2.1**
TANN Tannenbergstha 146.26 347 *e*PKPbc **PKPdf 06 35 25.4 +2.3**
baz=15,slow=2.8
JAVC Velka Javorina 146.28 340 *e*PKP **PKPdf 06 35 26.3 +3.1**
ARR Pirges 146.31 330 ⇑*i*P **PKPbc 06 35 27.0 +1.3**
PSZ Piszkesteto 146.32 337 *e*PKPdf **PKPbc 06 35 25.3 +2.0**
PSZ Piszkesteto 146.32 337 ⇑*i*P **PKPdf 06 35 25.5 +2.1**
PSZ Piszkesteto 146.32 337 ⇑PKiKP **PKPdf 06 35 25.5 +2.1**
PSZ Piszkesteto 146.32 337 ⇑*e*PKiKP **PKPdf 06 35 25.0 +1.7**
GUNZ Gunzen 146.33 347 *e*PKPbc **PKPdf 06 35 25.8 +2.6**
baz=15,slow=2.8
UBBA Unterbreizbach 146.34 350 *e*PKPbc **PKPdf 06 35 25.3 +2.2**
baz=15,slow=2.8
WERN Wernitzgruen 146.40 347 *e*PKPbc **PKPdf 06 35 26.1 +2.7**
baz=15,slow=2.8
KRUC Moravsky 146.50 342 PKiKP **PKPdf 06 35 25.8 +2.3**
KRUC Moravsky 146.50 342 *e*PKP **PKPdf 06 35 25.8 +2.3**
MANZ Manzenberg 146.74 347 *e*PKPbc **PKPdf 06 35 26.9 +2.9**
baz=15,slow=2.8
HUMR Humele 146.74 328 ⇑*i*P **PKPdf 06 35 26.3 +2.2**
CSS Mathiatis 146.75 307 *e*PKPbc **PKPdf 06 35 25.8 +1.4**
MODS Modra-Piesok 146.83 340 *e*PKiKP **PKPdf 06 35 26.0 +1.9**
MODS Modra-Piesok 146.83 340 *e*PKP **PKPdf 06 35 26.0 +1.9**
ROTZ Rotzenmuhle 146.92 347 *e*PKPbc **PKPdf 06 35 27.4 +3.2**
baz=15,slow=2.8
SIRR Siria 146.97 334 ⇑*i*P **PKPdf 06 35 27.2 +2.8**
BUD Budapest 147.00 338 ⇑*e*PKiKP **PKPdf 06 35 27.0 +2.7**
LEF Lefka 147.02 308 ⇑*i*P **PKPdf 06 35 27.3 +2.5**
ZST Bratislava 147.05 340 *e*PKiKP **PKPdf 06 35 27.0 +2.5**
ZST Bratislava 147.05 340 *e*PKP **PKPdf 06 35 26.9 +2.5**
MEM Membach 147.06 354 ⇑PKP **PKPdf 06 35 26.8 +2.4**
GZR Gura Zlata 147.16 332 ⇑*i*P **PKPdf 06 35 26.8 +2.0**
GZR Gura Zlata 147.16 332 ⇑PKiKP **PKPdf 06 35 26.8 +2.0**
TNS Taunus Mts 147.16 351 *e*PKPbc **PKPdf 06 35 27.9 +3.3**
baz=15,slow=2.8
GRA1 Grafenberg Arr 147.20 348 *e*PKPbc **PKPdf 06 35 28.1 +3.4**
GRF Grafenberg Arr 147.20 348 *e*PKPbc **PKPdf 06 35 28.3 +3.7**
baz=15,slow=2.8
GRFO Grafenberg 147.20 348 *e*PKPbc **PKPdf 06 35 28.1 +3.4**
KHC Kasperske Hory 147.20 345 *e*PKPdf **PKPdf 06 35 25.3 +0.5**
KHC Kasperske Hory 147.20 345 *e*PKP **PKPdf 06 35 24.6 -0.1**
KHC *ex* x 06 35 28.0
KHC *ex* x 06 35 31.3
KHC Kasperske Hory 147.20 345 *e*PKiKP **PKPdf 06 35 24.6 -0.1**
KHC *e* 06 35 31.3
NGRH Nagyer 147.27 335 *e*PKiKP **PKPdf 06 35 27.0 +2.2**
AMBH Ambrzfalva 147.29 335 ⇓*e*PKiKP **PKPbc 06 35 29.0 +0.9**
SNF Seneffe 147.29 356 ⇑PKP **PKPdf 06 35 27.2 +2.4**
BCLA Clavier 147.31 355 ⇓PKP **PKPbc 06 35 30.7 +2.6**
WET Wettzell 147.36 346 *e*PKPbc **PKPdf 06 35 28.5 +3.5**
baz=15,slow=2.8
CSKK Cskako 147.38 338 *e*PKiKP **PKPdf 06 35 28.0 +3.0**
GEC2 GERESS Array S 147.44 345 *e*PKPbc **PKPdf 06 35 27.9 +2.7**
GEC2 GERESS Array S 147.44 345 *e*PKPbc **PKPdf 06 35 28.7 +3.4**
baz=15,slow=2.8
GEC2 GERESS Array S 147.44 345 *e*PKiKP **PKPdf 06 35 27.9 +2.7**
GERES GERESS Array B 147.44 345 PKPbc **PKPdf 06 35 28.3 +3.1**
comp=Z,11nm,0.7s,baz=29,slow=3.0,SNR=49
GEA0 GERESS Array S 147.44 345 *e*PKPdf **PKPdf 06 35 24.7 -0.5**
BZS Buzias 147.50 333 ⇓*i*P **PKPdf 06 35 28.1 +2.8**
BZS Buzias 147.50 333 ⇓PKiKP **PKPdf 06 35 28.1 +2.8**
CONA Conrad Observa 147.67 341 *e*PKiKP **PKPdf 06 35 29.4 +3.8**
comp=Z,24nm,0.8s,SNR=14
SOP Sopron 147.67 340 ⇑*e*PKiKP **PKPdf 06 35 29.0 +3.5**
DOU Dourbes 147.69 356 ⇑PKP **PKPdf 06 35 28.7 +3.3**
HERR Herculane 147.71 331 ⇑*i*P **PKPdf 06 35 28.7 +3.1**
WLF Walferdange 147.98 354 *e*PKPdf **PKPdf 06 35 29.0 +3.1**
WLF Walferdange 147.98 354 *e*PKPbc **PKPbc 06 35 30.6 +0.8**
baz=15,slow=2.8
WLF Walferdange 147.98 354 *e*PKiKP **PKPdf 06 35 29.0 +3.1**
WLF Walferdange 147.98 354 ⇑PKP **PKPdf 06 35 29.6 +3.7**
MOA Molln 148.20 343 *e*PKPbc **PKPdf 06 35 30.3 +3.9**
comp=Z,15nm,1.3s,SNR=5.6
MORH Mrgy, Hungar 148.22 337 *e*P **PKPdf 06 35 29.8 +3.4**
MORH Mrgy, Hungar 148.22 337 ⇓*e*PKiKP **PKPdf 06 35 30.0 +3.6**
ARSA Arzberg 148.38 341 *e*PKPbc **PKPdf 06 35 30.6 +3.9**
comp=Z,4.6nm,0.7s
FUR Furstenfeldbru 148.64 347 *e*PKPbc **PKPbc 06 35 31.7 +0.1**
baz=15,slow=2.8
VTS Vitosha 149.00 328 *e*PKPbc **PKPdf 06 35 32.4 +4.5**
VTS Vitosha 149.00 328 ⇓*i*P **PKPdf 06 35 32.5 +4.5**
BFO Black Forest 149.02 351 *e*PKPbc **PKPdf 06 35 31.9 +4.2**
BFO Black Forest 149.02 351 *e*PKPbc **PKPbc 06 35 32.4 -0.1**
baz=15,slow=2.8
SOKA Soboth 149.04 341 *e*PKPbc **PKPdf 06 35 31.9 +4.0**
comp=Z,8.9nm,0.8s
EZN Ezine 149.14 320 ⇑*i*P **PKPdf 06 35 29.4 +1.3**
EZN Ezine 149.14 320 ⇑PKHKP PKPpre 06 35 29.4
KBA Koelnbreinsper 149.16 344 *e*PKPbc **PKPdf 06 35 32.1 +4.0**
comp=Z,15nm,0.8s
UBR Ueberruh 149.34 348 *e*PKPbc **PKPbc 06 35 33.3 0.0**
baz=15,slow=2.8
WATA Walderalm 149.36 346 *e*PKPbc **PKPdf 06 35 32.9 +4.5**
comp=Z,8.5nm,0.6s
RETA Reutte 149.39 347 *i* PKPbc **PKPbc 06 35 33.1 -0.4**
comp=Z,12nm,0.8s
WTTA Wattenberg 149.41 346 *i* PKiKP **PKPbc 06 35 33.3 -0.4**
comp=Z,13nm,0.4s
MOTA Moosalm 149.45 347 *e*PKPbc **PKPdf 06 35 33.2 +4.6**
comp=Z,21nm,0.9s,SNR=7.4
MYKA Terra Mystica 149.49 343 *e*PKPbc **PKPdf 06 35 32.7 +4.1**
comp=Z,16nm,0.8s
SQTA Sankt Quirin 149.55 347 *i* PKPbc **PKPbc 06 35 33.5 -0.5**
comp=Z,19nm,0.6s,SNR=6.3
CRES Cresnjev 149.67 340 ⇑*i*P **PKPdf 06 35 33.2 +4.4**
ABTA Abfaltersbach 149.68 345 *e*PKPbc **PKPdf 06 35 33.2 +4.4**
comp=Z,27nm,0.8s,SNR=9.2
DAVA Damuels 149.76 348 *e*PKiKP **PKPbc 06 35 34.1 -0.4**
comp=Z,17nm,0.9s,SNR=5.2
LJU Ljubljana 149.76 341 ⇑*i*P **PKPdf 06 35 33.5 +4.6**
FETA Feichten 149.84 347 *i* PKiKP **PKPbc 06 35 34.6 -0.1**
comp=Z,20nm,0.9s,SNR=7.2
HAPS Han Pijesak,Bl 149.86 334 *e*P **PKPdf 06 35 33.6 +4.3**
BLY Banja Luka 150.00 337 ⇑*i*P **PKPbc 06 35 34.3 -0.6**
BLY Banja Luka 150.00 337 ⇑*i*P **PKPbc 06 35 34.6 -0.3**
CEY Cerknica 150.07 341 ⇑*i*P **PKPdf 06 35 33.6 +4.2**
STIP Stip 150.20 327 *e*P **PKPbc 06 35 37.6 +2.1**
VAY Valandovo 150.27 326 *i* P **PKPdf 06 35 34.3 +4.4**
SKO Skopje 150.38 329 *i* P **PKPdf 06 35 34.1 +4.1**
RIY Rijeka 150.42 341 *e*P **PKPdf 06 35 32.9 +3.0**
TUE Stuetta 150.65 349 *e*PKPdf **PKPdf 06 35 29.8 -0.7**
KRUS Krusevo 150.92 328 *i* P **PKPbc 06 35 36.3 -1.0**
BRY Bratogost 151.00 333 ⇑*i*P **PKPdf 06 35 36.2 +5.1**
PDG Podgorica 151.06 332 ⇑*i*P **PKPbc 06 35 36.4 -1.0**
PDG Podgorica 151.06 332 *e*P **PKPdf 06 35 35.6 +4.6**
BIA Bitola 151.14 327 *i* P **PKPbc 06 35 36.9 -0.8**
TREB Trebinje 151.23 333 *e*P **PKPdf 06 35 35.8 +4.6**
DRME Dracevica, Mon 151.28 332 *e*P **PKPdf 06 35 36.5 +5.1**
FNA Florina 151.28 327 *e*PKPbc **PKPbc 06 35 37.4 -0.7**
FNA Florina 151.28 327 *e*PKiKP **PKPbc 06 35 37.4 -0.7**
OHR Ohrid 151.34 328 *i* P **PKPdf 06 35 36.7 +5.2**
STON Ston 151.37 334 *e*P **PKPdf 06 35 34.5 +3.1**
HCY Herceg Novi 151.38 333 *e*P **PKPdf 06 35 36.8 +5.3**
ESDC Sonseca Array 157.76 11 PKPab **PKPab 06 36 14.8 -1.6**
comp=Z,1.9nm,0.8s,baz=337,slow=4.2,SNR=7.0
TOA0 Torodi Ar. Sit 175.34 186 *e*PKPdf **PKPdf 06 35 51.7 -2.4**
TORD Torodi Ar. Bea 175.34 186 PKP **PKPdf 06 35 52.9 -1.2**
comp=Z,1.7nm,0.9s,baz=328,slow=3.4,SNR=10
TORD PKPab **PKPab 06 37 33.5 -0.8**
comp=Z,0.5nm,1.0s,baz=166,slow=7.4,SNR=2.4
TOA1 Torodi Ar. Sit 175.34 186 *e*PKPdf **PKPdf 06 35 52.9 -1.2**
TOA1 *e*PKPab **PKPab 06 37 33.5 -0.8**

*SJA **26** 06:48:23.3±0.8,31°.32S×68°.72W,h30km±1km, ML2.9, MW3.3*
*GUC **26** 06:48:24.3±0.5,31°.34S×68°.77W,h151km±22km, ML3.2*
*ISCJB **26** 06:48:25.5±0.4,31°.31S±0°.02×68°.61W±0°.05,h22km±4km, Error ellipse: s-maj=6.8km s-min=3.8km az=4.1*

ISC 26 06:48:23.7±1.3,31°.34S±0°.03×68°.77W±0°.03,h15km±11km, n22,σ0°.92/30,1C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.22**	**160**	IAML				06 48 30.8	
	comp=Z,1μm,0.2s								
ZON				*e*S		**Sb**		**06 48 35.5**	**+2.0**
RTLL	**Cerro Villicun**	**0.25**	**89**	*e*P		**Pb**		**06 48 30.2**	**+0.2**
RTLL				*e*S		**Sb**		**06 48 34.6**	**+0.4**
RTLL				IAML				06 48 35.0	
	comp=Z,2μm,0.3s								
SJA	**San Juan**	**0.26**	**138**	IAML				06 48 37.7	
	comp=Z,861nm,0.4s								
AMOG	**MOGNA**	**0.46**	**31**	*e*P		**Pb**		**06 48 33.6**	**0.0**
AMOG				*e*S		**Sb**		**06 48 40.0**	**-0.3**
RTLS	**Leoncito**	**0.65**	**224**	*e*P		**Pn**		**06 48 38.1**	**-0.6**
RTLS				*e*S		**Sn**		**06 48 48.7**	**-0.2**
RTLS				IAML				06 48 49.1	
	comp=Z,1μm,0.4s								
ACCO	**Cerro Coronel**	**0.79**	**341**	*e*P		**Pb**		**06 48 39.8**	**+0.5**
ACCO				*e*S		**Sn**		**06 48 51.4**	**-1.0**
ACDV	**Cuesta del Vie**	**1.20**	**345**	*e*P		**Pb**		**06 48 46.3**	**0.0**
ACDV				IAML				06 48 46.4	
	comp=Z,142nm,0.2s								
ACDV				*e*S		**Sg**		**06 49 03.1**	**+0.5**
ASAL	**Salagasta**	**1.25**	**183**	*e*P		**Pb**		**06 48 47.1**	**-0.1**
ASAL				*e*S		**Sg**		**06 49 04.8**	**+0.5**
AROD	**Rodeo**	**1.31**	**332**	*e*P		**Pg**		**06 48 48.8**	**-0.3**
AROD				*e*S		**Sg**		**06 49 06.9**	**+0.7**
ARCO	**CERRO ARCO**	**1.51**	**185**	IAML				06 48 52.2	
	comp=Z,105nm,0.3s								
ACAN	**Cantantal**	**1.64**	**125**	*e*P		**Pn**		**06 48 51.6**	**-0.5**
CMCH	**Combarbala**	**1.92**	**274**	⇑*i*P		**Pb**		**06 48 59.3**	**+0.7**
CMCH				*e*S		**Sg**		**06 49 25.6**	**+0.1**
GO04	**Tololo Observa**	**2.10**	**303**	*e*P		**Pb**		**06 49 01.6**	**-0.1**
GO04				*i* S		**Sg**		**06 49 29.9**	**-1.4**
APLL	**PUNTA DE LOS L**	**2.14**	**65**	*e*P		**Pn**		**06 48 58.8**	**-0.2**
APLL				IAML				06 49 25.8	
	comp=Z,78nm,0.2s								
FCH	**Farellones**	**2.37**	**213**	*e*P		**Pb**		**06 49 05.2**	**-1.1**
FCH				*i* S		**Sb**		**06 49 35.9**	**+0.4**
FCH				IAML				06 49 40.5	
	comp=E,113nm,0.3s								
PEL	**Peldehue**	**2.43**	**222**	*e*P		**Pb**		**06 49 06.3**	**-0.8**
PEL				*e*S		**Sb**		**06 49 37.1**	**+0.1**
PEL				IAML				06 49 42.5	
	comp=N,67nm,0.4s								
ROCH	**El Roble**	**2.51**	**229**	*e*P		**Pn**		**06 49 06.4**	**+2.2**
ROCH				*i* S		**Sb**		**06 49 38.7**	**-0.7**
ROCH				IAML				06 49 49.2	
	comp=N,77nm,0.4s								
CLCH	**Cerro Calan**	**2.54**	**216**	*e*P		**Pb**		**06 49 08.1**	**-1.0**
CLCH				*i* S		**Sb**		**06 49 42.0**	**+1.6**
CLCH				IAML				06 49 49.5	
	comp=E,122nm,0.6s								
LMEL	**Las Melosas**	**2.78**	**205**	*e*P		**Pb**		**06 49 12.2**	**-1.1**
MRA	**San Martin**	**2.81**	**113**	IAML				06 49 48.3	
	comp=Z,101nm,0.7s								
TCA	**Tanti**	**3.57**	**91**	IAML				06 50 17.7	
	comp=Z,27nm,0.6s								
CYA	**Choya**	**3.87**	**43**	IAML				06 50 27.0	
	comp=Z,15nm,0.3s								

SJA 26 07:04:17.7±0.4,25°.38S×64°.82W,h26km±4km, ML3.0, MW3.5, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**0.91**	**317**	*e*P		**Pn**		07 04 35.7	+0.8
SLA				*e*S		Sn		07 04 49.0	+1.7
SLA				IAML				07 04 53.4	
	comp=Z,378nm,0.4s								
FSA	**Cafayete**	**1.27**	**235**	*e*P		Pb		07 04 42.5	+1.4
FSA				*e*S		Sb		07 05 00.2	+3.1
AHML	**Horco Molle**	**1.47**	**198**	*e*P		Pb		07 04 44.5	+0.1
AHML				*e*S		Sb		07 05 04.6	+1.9
AHML				IAML				07 05 07.9	
	comp=Z,278nm,0.5s								
YJA	**Yavi**	**3.25**	**349**	*e*P		Pn		07 05 11.1	+3.6

KRSC 26 07:07:08.6±10.0,59°.94N×163°.52E,h55km±10km, ML3.9, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.73**	**199**	*e*P		Pn		07 07 23.5	+0.6
OSSR				*e*S		Sn		07 07 35.9	+2.5
TILK	**Tilichiki**	**1.41**	**68**	*e*P		Pn		07 07 32.6	+0.8
TILK				*e*S		Sn		07 07 51.2	+1.9
PALN	**Palana**	**2.00**	**246**	P		Pn		07 07 40.3	+0.3
PALN				S		Sn		07 08 06.9	+3.1
KMSK	**Kamenskaya**	**2.85**	**26**	P		Pn		07 07 54.2	+2.7
KMSK				S		Sn		07 08 29.5	+5.0
BKI	**Bering**	**4.93**	**163**	P		Pn		07 08 23.7	+3.7

IDC 26 07:10:26.0±1.2,24°.07N×68°.48E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.4/38,mbtmp3.6/5, Error ellipse: s-maj=34.7km s-min=32.2km az=143.0, India-Pakistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.24**	**23**	P		P	P	07 15 52.8	-0.9
	0.6nm,0.7s,baz=210,slow=8.3,SNR=4.2								
SONM	**Songino Array**	**38.23**	**42**	P		P		07 17 48.5	+0.7
	0.6nm,0.6s,baz=234,slow=9.6,SNR=3.1								
TORD	**Torodi Ar. Bea**	**63.73**	**273**	P		P		07 21

NIED ***26*** *07:28:00,37.60N×143.50E,h5km,Mw4.2 Best double couple: M₀2.58000×10¹⁵ NP1:φ₀5.00000°, δ30.00000°, λ-117.00000°. NP2:φ₀216.00000°, δ64.00000°, λ-75.00000°.*

ISCJB ***26*** *07:28:11.8±1.1,37.53N±0.03×143.58E±0.03,h15km±8km, mb4.3/39,MS3.5/8,Error ellipse: s-maj=4.7km s-min=4.2km az=40.6*

IDC ***26*** *07:28:11.1±0.7,37.47N×143.68E,h0km,mb3.9/17, mb1 4.1/24,mb1mx4.1/53,mbtmp4.0/24,ML3.9/6,MS3.3/11, Ms1 3.4/11,ms1mx3.0/44,Error ellipse: s-maj=17.4km s-min=13.5km az=121.0*

JMA ***26*** *07:28:14.5±0.2,37.59N×143.52E,h46km,M4.2*

MOS ***26*** *07:28:15.8±1.6,37.72N×143.64E,h40km,mb4.5/20,Error ellipse: s-maj=9.6km s-min=5.6km az=107.9*

NEIC ***26*** *07:28:15.8±0.3,37.48N×143.71E,h35km,mb4.6/17,Error ellipse: s-maj=6.2km s-min=4.8km az=115.0*

ISC 26 07:28:12.6±2.3,37.56N±0.05×143.66E±0.05,h11km±14km, n136,σ2$20/158,mb4.3/39,MS3.5/8,7C-8D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.89**	**294**	P			**Pn**	**07 28 43.8**	**-1.1**
JIKH					*e*	S	**Sn**	**07 29 05.2**	**-3.6**
JIO	**Ouri**	**2.04**	**297**	P			**Pn**	**07 28 45.9**	**-1.0**
JIO					*e*	S	**Sn**	**07 29 08.3**	**-4.0**
JKMT	**Kesennumamotoy**	**2.13**	**307**	P			**Pn**	**07 28 47.1**	**-1.1**
JKMT					*e*	S	**Sn**	**07 29 11.1**	**-3.6**
OFUJ	**Ofunato**	**2.18**	**315**	P			**Pn**	**07 28 47.7**	**-1.2**
JMK	**Ichinoseki**	**2.37**	**307**	P			**Pn**	**07 28 50.7**	**-0.8**
JMK					*e*	S	**Sn**	**07 29 18.1**	**-2.6**
JFT	**Otama**	**2.64**	**270**	P			**Pn**	**07 28 55.0**	**-0.3**
JFT					S		**Sn**	**07 29 24.4**	**-2.9**
JOM	**Ohasama**	**2.67**	**317**	P			**Pn**	**07 28 55.0**	**-0.6**
JOM					S		**Sn**	**07 29 25.2**	**-2.7**
JYK	**Kaneyama**	**2.93**	**299**	P			**Pn**	**07 28 59.0**	**-0.3**
JYK					*e*	S	**Sn**	**07 29 32.3**	**-2.2**
JANG	**Nango**	**3.27**	**330**	P			**Pn**	**07 29 04.3**	**+0.4**
JANG					*e*	S	**Sn**	**07 29 38.1**	**-4.8**
JNS	**Sasagawa**	**3.46**	**276**	P			**Pn**	**07 29 06.5**	**+0.1**
JNS					*e*	S	**Sn**	**07 29 45.0**	**-2.4**
JAG	**Ashikaga**	**3.55**	**253**	P			**Pn**	**07 29 07.4**	**-0.4**
JAG					S		**Sn**	**07 29 45.2**	**-4.6**
JAW	**Awa shima**	**3.60**	**286**	P			**Pn**	**07 29 08.9**	**+0.5**
BSO1	**Boso 1**	**3.62**	**218**	P			**Pn**	**07 29 07.3**	**-0.9**
BSO1					*e*	S	**Sn**	**07 29 47.8**	**-2.9**
JRY	**Ryogami san**	**4.12**	**250**	P			**Pn**	**07 29 15.0**	**-0.6**
JRY					S		**Sn**	**07 29 58.5**	**-5.3**
JOD2	**Odawara 2**	**4.34**	**240**	P			**Pn**	**07 29 17.7**	**-0.9**
JOD2					*e*	S	**Sn**	**07 30 04.4**	**-4.8**
ERM	**Erimo**	**4.47**	**355**	*e*	P		**Pn**	**07 29 20.6**	**+0.3**
ERM					*e*	Sn	**Sn**	**07 30 11.7**	**-0.6**
ERM	**Erimo**	**4.47**	**355**	*e*	P		**Pn**	**07 29 20.6**	**+0.3**
ERM				07 30 11.7					
MJAR	**Matsushiro Arr**	**4.48**	**259**	Pn			**Pn**	**07 29 21.0**	**+0.5**
	comp=Z,16nm,0.3s,baz=137,slow=23,SNR=15								
MJAR						Sn	**Sn**	**07 30 10.9**	**-1.7**
	2.0nm,0.3s,baz=104,slow=25,SNR=9.1								
MJAR						LR	LR	07 31 15.9	
	comp=Z,301nm,20.7s,baz=80,slow=42								
MAJO	**Matsushiro**	**4.48**	**259**	*e*	Pn		**Pn**	**07 29 21.8**	**+1.3**
MAJO					*e*	Sn	**Sn**	**07 30 10.9**	**-1.8**
MAJO	**Matsushiro**	**4.48**	**259**	*d*	*i*	P	**Pn**	**07 29 21.8**	**+1.3**
MAJO						pmax	pmax		
	comp=Z,32nm,0.7s								
MAT	**Matsushiro**	**4.48**	**259**	P			**Pn**	**07 29 21.8**	**+1.3**
MAT					S		**Sn**	**07 30 11.5**	**-1.1**
MJB9	**Matsu-Tunnel**	**4.48**	**259**	*e*	Pn		**Pn**	**07 29 21.7**	**+1.2**
JKB	**Kayabe**	**4.78**	**336**	P			**Pn**	**07 29 25.1**	**+0.5**
JKB					*e*	S	**Sn**	**07 30 15.6**	**-4.3**
JCH	**Churui**	**5.06**	**357**	P			**Pn**	**07 29 27.2**	**-1.2**
JCH					*e*	S	**Sn**	**07 30 20.6**	**-6.2**
JHJ2	**Mitsune**	**5.43**	**216**	*e*	Pn		**Pn**	**07 29 33.6**	**0.0**
JHJ2					*e*	Sn	**Sn**	**07 30 30.9**	**-5.2**
JHJ2	**Mitsune**	**5.43**	**216**	P			**Pn**	**07 29 31.8**	**-1.8**
JHJ2					*e*	S	**Sn**	**07 30 29.6**	**-6.6**
JHJ	**Hachijo jima 2**	**5.44**	**217**	Pn			**Pn**	**07 29 32.5**	**-1.3**
	comp=Z,16nm,0.3s,baz=137,slow=23,SNR=15								
JHJ						Sn	**Sn**	**07 30 28.7**	**-7.7**
	comp=Z,90nm,0.3s,baz=103,slow=23,SNR=7.8								
INU	**Inuyama**	**5.79**	**250**	*e*	Pn		**Pn**	**07 29 39.5**	**+1.0**
ASAJ	**Asahikawa**	**6.60**	**353**	Pn			**Pn**	**07 29 50.0**	**+0.3**
	comp=Z,2.8nm,0.3s,baz=190,slow=15,SNR=15								
ASAJ						Sn	**Sn**	**07 30 59.2**	**-5.7**
	comp=Z,0.7nm,0.3s,baz=253,slow=19,SNR=3.4								
YUK	**Yuzh-Kuril'sk**	**6.68**	**14**	*e*	P		**Pn**	**07 29 49.2**	**-1.5**
YUK					*e*	S	**Sn**	**07 31 00.4**	**-6.5**
YUK						pmax	pmax		
	comp=N,44nm,0.2s								
YUK						pmax	pmax		
	comp=Z,117nm,0.2s								
YUK						pmax	pmax		
	comp=E,14nm,0.1s								
SHO	**Shikotan**	**6.75**	**20**	*e*	P		**Pn**	**07 29 50.3**	**-1.4**
SHO					*e*	S	**Sn**	**07 31 01.2**	**-7.3**
SHO						pmax	pmax		
	comp=E,10.0nm,0.4s								
SHO						pmax	pmax		
	comp=E,17nm,0.4s								
SHO						pmax	pmax		
	comp=N,15nm,0.3s								
KUR	**Kuril'sk**	**8.29**	**21**	P			**Pn**	**07 30 10.4**	**-2.4**
KUR					*e*	S	**Sn**	**07 31 39.5**	**-7.0**
KUR						pmax	pmax		
	comp=Z,15nm,0.3s								
KUR						pmax	pmax		
	comp=E,10.0nm,0.1s								
KUR						pmax	pmax		
	comp=N,9.0nm,0.3s								
TEY	**Ternei**	**9.16**	**327**	*e*	P		**Pn**	**07 30 26.2**	**+1.4**
TEY						pmax	pmax		
	comp=N,40nm,0.8s								
TEY						pmax	pmax		
	comp=E,30nm,0.8s								
TEY						pmax	pmax		
	comp=Z,30nm,0.7s								
YSS	**Yuzh-Sakhalins**	**9.42**	**356**	*e*	P		**Pn**	**07 30 27.2**	**-1.0**
YSS						pmax	pmax		
	comp=Z,10.0nm,0.6s								
YSS						MLR	MLR		
	comp=Z,100nm,11.0s								
YSS						MLR	MLR		
	comp=N,100nm,14.0s								
YSS						MLR	MLR		
	comp=E,200nm,14.0s								
CBIJ	**Chichi jima**	**10.50**	**187**	*e*	Pn		**Pn**	**07 30 41.5**	**-1.7**
JCJ	**Chichijima**	**10.51**	**187**	Pn			**Pn**	**07 30 41.5**	**-1.7**
	comp=E,5.6nm,0.3s,baz=18,slon=20,SNR=5.4								
JCJ						Sn	Sn	07 32 27.9	-13
	comp=E,8.2nm,0.3s,baz=279,slow=19,SNR=6.2								
USA0B	**Ussuriysk Arra**	**11.04**	**311**	*e*	Pn		**Pn**	**07 30 50.7**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.04**	**311**	*e*	P		**Pn**	**07 30 50.7**	**+0.2**
USRK	**Ussuriysk Ar.**	**11.04**	**311**	Pn			**Pn**	**07 30 51.8**	**+1.3**
	comp=E,0.5nm,0.3s,baz=122,slow=11,SNR=13								
USRK						LR	LR	07 35 03.3	
	comp=E,126nm,19.8s,baz=128,slow=37								
JNU	**Nakatsue**	**11.34**	**251**	*e*	Pn		**Pn**	**07 30 54.4**	**-0.2**
JNU	**Nakatsue**	**11.34**	**251**	Pn			**Pn**	**07 30 54.2**	**-0.5**
	comp=E,0.4nm,0.3s,baz=90,slow=19,SNR=2.4								
KSRS	**Korea Array**	**12.50**	**274**	Pn			**Pn**	**07 31 11.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=88,slow=14,SNR=11								
KSRS						LR	LR	07 35 48.3	
	comp=E,106nm,19.0s,baz=66,slow=36								
MDJ	**Mudanjiang**	**12.73**	**308**	*e*	Pn		**Pn**	**07 31 11.3**	**-2.3**
KLR	**Kul'dur**	**14.51**	**327**	*c*	*i*	P	**Pn**	**07 31 36.3**	**-1.5**
KLR	**Kul'dur**	**14.51**	**327**	Pn			**Pn**	**07 31 36.1**	**-1.7**
	comp=E,0.2nm,0.3s,baz=131,slow=13,SNR=25								
KLR						LR	LR	07 36 57.8	
	comp=E,74nm,21.3s,baz=145,slow=36								
ZEA	**Zeya**	**19.76**	**330**	*e*	P		**P**	**07 32 42.0**	**-0.5**
ZEA						pmax	pmax		
	comp=N,24nm,0.4s								
ZEA						pmax	pmax		
	comp=Z,41nm,0.9s								
HIA	**Hailar**	**20.85**	**312**	*e*	P		**P**	**07 32 54.9**	**+0.4**
	comp=Z,8.3nm,0.5s								
HIA	**Hailar**	**20.85**	**312**	*e*	P		**P**	**07 32 54.9**	**+0.4**
HIA						pmax	pmax		
	comp=Z,8.0nm,0.5s								
SEY	**Seymchan**	**25.96**	**9**	*e*	P		**P**	**07 33 46.9**	**+2.0**
SEY	**Seymchan**	**25.96**	**9**	P			**P**	**07 33 45.6**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=208,slow=13,SNR=5.2								
H11N2	**WAKE ISLAND Hy**	**26.92**	**125**	T			T	08 02 11.9	
	baz=317,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hy**	**26.93**	**125**	T			T	08 02 10.6	
	baz=317,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**26.94**	**125**	T			T	08 02 18.1	
	baz=317,slow=75,SNR=16								
H11S1	**WAKE ISLAND Hy**	**27.69**	**127**	T			T	08 03 10.2	
	baz=318,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**27.69**	**127**	T			T	08 03 09.6	
	baz=318,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**27.70**	**127**	T			T	08 03 10.7	
	baz=318,slow=76,SNR=15								
BOD	**Bodaibo**	**28.08**	**326**	*e*	P		**P**	**07 34 04.9**	**+0.9**
BOD						pmax	pmax		
	comp=Z,7.0nm,2.2s								
ULN	**Ulaanbaatar**	**28.56**	**303**	*e*	P		**P**	**07 34 09.7**	**+1.0**
	comp=Z,3.3nm,0.7s								
ULN	**Ulaanbaatar**	**28.56**	**303**	*i*	P		**P**	**07 34 11.1**	**+2.5**
ULN						pmax	pmax		
	comp=Z,4.0nm,1.3s								
SONA0	**Songino Array**	**29.00**	**303**	*e*	P		**P**	**07 34 14.2**	**+1.7**
SONM	**Songino Array**	**29.00**	**303**	P			**P**	**07 34 14.2**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=116,slow=9.6,SNR=5.1								
SONM						LR	LR	07 46 00.5	
	comp=Z,60nm,19.4s,baz=100,slow=37								
TLY	**Talaya**	**31.36**	**310**	*e*	P		**P**	**07 34 37.3**	**+4.1**
TLY						pmax	pmax		
	comp=Z,7.0nm,0.8s								
TLY						MLR	MLR		
	comp=Z,136nm,12.0s								
ZAK	**Zakamensk**	**31.37**	**307**	*e*	P		**P**	**07 34 34.5**	**+1.1**
ZAK						pmax	pmax		
	comp=Z,3.0nm,0.9s								
TIXI	**Tiksi**	**35.01**	**352**	*i*	*e*	P	**P**	**07 35 06.2**	**+1.5**
TIXI						pmax	pmax		
	comp=Z,4.0nm,1.8s								
TIXI	**Tiksi**	**35.01**	**352**	P			**P**	**07 35 04.2**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=87,slow=6.7,SNR=3.3								
DGZ	**Jazzator, Alta**	**41.54**	**306**	*e*	P		**P**	**07 36 02.6**	**+2.4**
DGZ						pmax	pmax		
	comp=Z,6.0nm,0.8s								
ZAA1	**Zalesovo Array**	**42.89**	**312**	*e*	P		**P**	**07 36 12.2**	**+1.3**
ZAA1						ePcP	**PcP**	**07 38 02.0**	**+0.4**
ZAA0	**Zalesovo Array**	**42.89**	**312**	*e*	P		**P**	**07 36 12.0**	**+1.1**
	comp=Z,7.2nm,0.6s								
ZALV	**Zalesovo Beam**	**42.89**	**312**	*e*	P		**P**	**07 36 11.5**	**+0.5**
ZALV	**Zalesovo Beam**	**42.89**	**312**	P			**P**	**07 36 12.2**	**+1.3**
	comp=Z,1.7nm,0.4s,baz=93,slow=7.2,SNR=7.1								
ZALV						PcP	**PcP**	**07 38 02.0**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=110,slow=3.4,SNR=4.2								
ZALV						LR	LR	07 54 43.4	
	comp=Z,45nm,18.5s,baz=248,slow=37								
CMAR	**Chiang Mai Arr**	**43.36**	**257**	LR			LR	07 57 59.4	
	comp=Z,36nm,18.2s,baz=105,slow=41								
NRIK	**Noril'sk**	**43.55**	**335**	LR			LR	07 55 01.5	
	comp=Z,60nm,19.2s,baz=128,slow=37								
MK01	**Makanchi Array**	**45.36**	**302**	*e*	P		**P**	**07 36 31.2**	**+0.3**
MK31	**Makanchi Array**	**45.36**	**302**	*e*	P		**P**	**07 36 32.0**	**+1.1**
	comp=Z,2.9nm,0.8s								
MK31	**Makanchi Array**	**45.36**	**302**	*e*	P		**P**	**07 36 32.0**	**+1.1**
MK31						pmax	pmax		
	comp=Z,3.0nm,0.8s								
MK32	**Makanchi Array**	**45.36**	**302**	*e*	P		**P**	**07 36 31.4**	**+0.5**
MKAR	**Makanchi Array**	**45.36**	**302**	*ce*	P		**P**	**07 36 32.2**	**+1.3**
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.5s								
MKAR	**Makanchi Array**	**45.36**	**302**	P			**P**	**07 36 31.4**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=91,slow=8.1,SNR=9.4								
MKAR						LR	LR	07 58 37.4	
	comp=Z,30nm,18.3s,baz=62,slow=40								
MAKZ	**Makanchi**	**45.57**	**302**	*e*	P		**P**	**07 36 33.5**	**+1.0**
	comp=Z,3.6nm,0.8s								
MAKZ	**Makanchi**	**45.57**	**302**	*e*	P		**P**	**07 36 33.5**	**+1.0**
MAKZ						pmax	pmax		
	comp=Z,4.0nm,0.8s								
KURK	**Kurchatov**	**47.02**	**308**	*e*	P		**P**	**07 36 44.5**	**+0.6**
	comp=Z,13nm,0.9s								
KURK	**Kurchatov**	**47.02**	**308**	*ce*	P		**P**	**07 36 45.5**	**+1.6**
KURK						pmax	pmax		
	comp=Z,4.0nm,0.6s								
ILAR	**Eielson Array**	**48.09**	**33**	P			**P**	**07 36 52.8**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=260,slow=6.2,SNR=4.1								
ILB	**Eielson Array**	**48.09**	**33**	*e*	P		**P**	**07 36 52.4**	**+0.3**
	comp=Z,1.1nm,1.4s								
KDJ	**Kajisay**	**50.09**	**297**	*e*	P		**P**	**07 37 07.6**	**-0.3**
	comp=Z,2.0nm,0.7s								
KDJ	**Kajisay**	**50.09**	**297**	*e*	P		**P**	**07 37 07.6**	**-0.3**
KDJ						pmax	pmax		
	comp=Z,2.0nm,0.7s								
MTN	**Manton Dam**	**51.49**	**196**	*e*	P		**P**	**07 37 17.9**	**-0.4**
	comp=Z,14nm,0.8s								
BRVK	**Borovoye**	**51.60**	**312**	*i*	*e*	P	**P**	**07 37 21.4**	**+2.6**
BRVK						pmax	pmax		
	comp=Z,3.0nm,0.8s								
KKAR	**Karatay Array**	**54.41**	**300**	*e*	P		**P**	**07 37 39.8**	**0.0**
	comp=Z,6.1nm,1.1s								
KKAR	**Karatay Array**	**54.41**	**300**	*e*	P		**P**	**07 37 39.8**	**0.0**
KKAR						pmax	pmax		
	comp=Z,6.0nm,1.1s								
LPH	**Laupahoehoe**	**55.29**	**90**	*e*	S		**S**	**07 45 27.6**	**-2.7**
ARU	**Arti**	**57.15**	**319**	*e*	P		**P**	**07 37 59.7**	**+0.6**
	comp=Z,7.6nm,1.0s								
ARU	**Arti**	**57.15**	**319**	*c*	*i*	P	**P**	**07 38 00.0**	**+0.8**
ARU								07 40 03.3	
ARU						S	**S**	**07 45 57.8**	**+3.6**
ARU						SS	**SS**	**07 49 40.7**	**-1.8**
ARU						pmax	pmax		
	comp=Z,7.0nm,1.0s								
WRAB	**Tennant Creek**	**57.85**	**190**	*e*	P		**P**	**07 38 03.4**	**-1.1**
	comp=Z,12nm,0.8s								
WRAB	**Tennant Creek**	**57.85**	**190**	*de*	P		**P**	**07 38 03.7**	**-0.7**
WRAB						pmax	pmax		
	comp=Z,10.0nm,1.7s								
WB2	**Warramunga Arr**	**57.86**	**190**	*e*	P		**P**	**07 38 03.6**	**-0.8**
WR1	**Warramunga Arr**	**57.86**	**190**	*e*	P		**P**	**07 38 03.8**	**-0.7**
	comp=Z,25nm,0.6s								
WRA	**Warramunga Arr**	**57.86**	**190**	P			**P**	**07 38 03.8**	**-0.7**
	comp=Z,10nm,0.7s,baz=11,slow=7.5,SNR=54								
FITZ	**Fitzroy Crossi**	**57.90**	**200**	*e*	P		**P**	**07 38 04.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**57.90**	**200**	P			**P**	**07 38 04.2**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=8.8,slow=8.0,SNR=8.0								
ABKAR	**Akbulak array**	**58.97**	**311**	*e*	P		**P**	**07 38 12.0**	**0.0**
	comp=Z,11nm,1.6s								
RES	**Resolute Bay**	**61.64**	**15**	*e*	P		**P**	**07 38 30.4**	**+0.5**
	comp=Z,12nm,1.6s								
RES	**Resolute Bay**	**61.64**	**15**	P			**P**	**07 38 30.7**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=326,slow=13,SNR=6.9								
YKA	**Yellowknife Ar**	**62.45**	**31**	P			**P**	**07 38 36.1**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=300,slow=6.7,SNR=10								
YKB5	**Yellowknife Ar**	**62.45**	**31**	*e*	P		**P**	**07 38 36.1**	**+0.6**
FIA0	**FINESS Array S**	**69.18**	**333**	*e*	P		**P**	**07 39 19.4**	**+0.6**
FIA0	**FINESS Array S**	**69.18**	**333**	*e*	P		**P**	**07 39 19.4**	**+0.6**
FINES	**FINESS Array B**	**69.18**	**333**	*i*	P		**P**	**07 39 20.5**	**+1.6**
FINES						pmax	pmax		
	comp=Z,2.0nm,0.8s								
FINES	**FINESS Array B**	**69.18**	**333**	P			**P**	**07 39 19.4**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=31,slow=8.3,SNR=5.5								
FINES						LR	LR	08 11 03.9	
	comp=Z,36nm,21.0s,baz=46,slow=37								
VSR	**Storozhevoye**	**69.71**	**320**	*e*	P		**P**	**07 39 22.9**	**+0.6**
VSR						pmax	pmax		
	comp=Z,3.0nm,0.6s								
KBZ	**Khabaz**	**71.91**	**311**	*e*	P		**P**	**07 39 37.0**	**+1.1**
KBZ	**Khabaz**	**71.91**	**311**	P			**P**	**07 39 37.0**	**+1.1**
	comp=Z,2.9nm,1.0s,baz=41,slow=18,SNR=4.5								
FFC	**Flin Flon**	**72.29**	**34**	*e*	P		**P**	**07 39 38.1**	**+0.2**
	comp=Z,4.2nm,0.9s								
FFC	**Flin Flon**	**72.29**	**34**	*i*	P		**P**	**07 39 39.6**	**+1.7**
NV01	**Mina Array Sit**	**73.23**	**54**	*e*	P		**P**	**07 39 42.8**	**-1.3**
NVAR	**Mina Array Bea**	**73.23**	**54**	P			**P**	**07 39 45.5**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=280,slow=6.0,SNR=3.5								
NB2	**NORSAR Subarra**	**74.39**	**338**	P			**P**	**07 39 50.7**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=37,slow=5.6								
NB200	**NORSAR Array S**	**74.39**	**338**	*e*	P		**P**	**07 39 50.7**	**+0.4**
NOA	**NORSAR Array B**	**74.39**	**338**	P			**P**	**07 39 50.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=38,slow=5.8,SNR=4.0								
NOA						LR	LR	08 17 30.3	
	comp=Z,29nm,18.6s,baz=285,slow=40								
ARVC	**Arvin**	**74.78**	**57**	*e*	P		**P**	**07 39 56.2**	**+3.3**
AKASG	**Malin Array Be**	**74.97**	**323**	*ce*	P		**P**	**07 39 54.5**	**+0.8**
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**74.97**	**323**	P			**P**	**07 39 54.1**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=45,slow=5.8,SNR=10								
AKBB	**Malin Array Si**	**74.97**	**323**	*e*	P		**P**	**07 39 53.8**	**+0.1**
	comp=Z,10nm,1.4s								
AKBB	**Malin Array Si**	**74.97**	**323**	*e*	P		**P**	**07 39 53.8**	**+0.1**
AKBB						pmax	pmax		
	comp=Z,10.0nm,1.4s								
KIEV	**Kiev**	**74.98**	**323**	*i*	*e*	P	**P**	**07 39 53.5**	**-0.3**
KIEV						pmax	pmax		
	comp=Z,8.0nm,1.4s								
WSHM	**Spangler Hills**	**75.39**	**56**	*e*	P		**P**	**07 39 55.6**	**-1.0**
PD31	**Pinedale Array**	**76.02**	**47**	*e*	P		**P**	**07 40 00.0**	**-0.2**
	comp=Z,5.0nm,1.6s								
PDAR	**Pinedale Array**	**76.02**	**47**	P			**P**	**07 40 00.6**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=214,slow=0.5,SNR=4.6								
PLM	**Palomar**	**77.14**	**58**	*e*	P		**P**	**07 40 04.9**	**-1.8**
PLM	**Palomar**	**77.14**	**58**	*e*	P		**P**	**07 40 04.9**	**-1.8**
GERES	**GERESS Array B**	**83.19**	**329**	P			**P**	**07 40 38.5**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=11,slow=6.1,SNR=3.7								
GEA0	**GERESS Array S**	**83.20**	**329**	*e*	P		**P**	**07 40 38.9**	**-0.1**
BFO	**Black Forest**	**85.71**	**332**	*i*	P		**P**	**07 40 53.8**	**+2.2**
LTX	**Lajitas**	**88.38**	**54**	*e*	P		**P**	**07 41 06.0**	**+1.0**
LTX	**Lajitas**	**88.38**	**54**	*e*	P		**P**	**07 41 06.0**	**+1.0**
TXAR	**Lajitas Array**	**88.38**	**54**	P			**P**	**07 41 06.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=316,slow=5.0,SNR=4.2								

ISK 07:29:49.3,38.59N×43.17E,h17km±1km,ML2.3/5

ISCJB 07:29:50.9±0.4,38.62N±0.03×43.15E±0.03,h6km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=171.1

DDA 07:29:50.4,38.60N×43.14E,h7km±5km,ML2.8

ISC 26 07:29:50.6±0.9,38.61N±0.03×43.17E±0.03,h14km±7km, n14,σ0$90/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANB	**Van**	**0.17**	**94**	PG			**Pg**	**07 29 54.4**	**-0.4**
VANB				SG			**Sg**	**07 29 58.3**	**+0.6**
TVAN	**Van**	**0.20**	**113**	*i*	P		**Pg**	**07 29 54.8**	**-0.5**
TVAN				*i*	S		**Sg**	**07 29 58.9**	**+0.3**
TVAN				IAML_P					
	comp=Z,10μm,0.1s								
GEVA	**Gevas**	**0.31**	**196**	*i*	P		**Pg**	**07 29 56.5**	**-0.6**
GEVA				*i*	S		**Sb**	**07 30 03.8**	**+0.8**
GEVA				IAML_P					
	comp=Z,19μm,0.2s								
AKDM	**Akdamar-Van**	**0.32**	**208**	PG			**Pg**	**07 29 56.2**	**-1.0**
ADCV	**BITLIS_Adilcev**	**0.40**	**300**	*i*	P		**Pb**	**07 29 59.7**	**+0.2**
ADCV				*i*	S		**Sb**	**07 30 06.9**	**+1.3**
ADCV				IAML_P					
	comp=Z,912nm,0.1s								
VMUR	**Van-Muradiye**	**0.49**	**39**	*i*	P		**Pb**	**07 30 06.0**	**-0.5**
VMUR				*i*	S		**Sb**	**07 30 09.8**	**+1.5**
VMUR				IAML_P					
	comp=Z,2μm,0.2s								
CLDR	**Caldiran**	**0.79**	**47**	PG			**Pg**	**07 30 05.3**	**-0.7**
CLDR				SG			**Sb**	**07 30 17.1**	**+0.2**
CLDR	**Caldiran**	**0.79**	**47**	*i*	P		**Pg**	**07 30 04.3**	**-1.7**
CLDR				*i*	S		**Sn**	**07 30 19.6**	**+0.4**
CLDR				IAML_P					
	comp=Z,688nm,0.1s								
TUTA	**Tutak**	**0.84**	**341**	*i*	P		**Pg**	**07 30 06.1**	**-0.8**
TUTA				*i*	S		**Sb**	**07 30 18.9**	**+0.6**
TUTA				IAML_P					
	comp=Z,2μm,0.2s								
BLIS	**Bitlis-Merkez**	**0.85**	**257**	*i*	P		**Pg**	**07 30 05.7**	**-1.4**
BLIS				*i*	S		**Sn**	**07 30 19.7**	**-0.8**
BLIS				IAML_P					
	comp=Z,2μm,0.2s								
BASK	**Baskale_VAN**	**0.86**	**130**	*i*	P		**Pb**	**07 30 07.1**	**-0.3**
BASK				*i*	S		**Sn**	**07

BHHZ **Black Hill Sta** 14.42 192 P P 07 34 20.9 -1.3
KRHZ **Kereru** 14.51 191 P P 07 34 22.3 -0.9
KAHZ **Kahuranaki** 14.57 190 P P 07 34 23.9 0.0
PKE **Pukeiti** 14.64 199 P P 07 34 28.8 +4.3
KHEZ **Kahui Hut** 14.72 198 P P 07 34 29.3 +3.8
TSZ **Takapari Road** 14.99 192 P P 07 34 26.8 -1.3
PRHZ **Porangahau** 15.07 190 P P 07 34 29.5 +0.4
ANWZ **Angora Road** 15.29 190 P P 07 34 30.8 -0.5
BFZ **Birch Farm** 15.54 191 eP P 07 34 32.7 -1.3
22nm,1.0s
BFZ **Birch Farm** 15.54 191 P P 07 34 32.2 -1.8
SNZO **South Karori** 16.45 194 eP P 07 34 42.5 -0.9
43nm,0.7s
SNZO eS S 07 37 33.2 +0.8
THZ **Tophouse** 17.32 198 eP P 07 34 51.4 -1.0
21nm,0.8s
THZ eS S 07 37 47.4 -0.4
KHZ **Kahutara** 17.77 196 eP P 07 34 55.4 -1.1
39nm,0.7s
LTZ **Lake Taylor** 18.45 198 eP P 07 35 01.0 -1.8
16nm,0.6s
OXZ **Oxford** 19.01 198 eP P 07 35 06.5 -1.5
35nm,0.6s
MQZ **McQueen's Vall** 19.20 196 eP P 07 35 08.4 -1.3
55nm,1.2s
RPZ **Rata Peaks** 19.66 200 eP P 07 35 12.5 -1.3
27nm,1.1s
RPZ **Rata Peaks** 19.66 200 P P 07 35 12.3 -1.6
1.6nm,0.3s,baz=192,slow=7.8,SNR=12
FOZ **Fox Glacier** 19.89 202 eP P 07 35 14.7 -1.3
31nm,0.9s
LBZ **Lake Benmore** 20.53 200 eP P 07 35 19.8 -2.0
42nm,1.5s
ODZ **Otahua Downs** 20.99 199 eP P 07 35 25.1 -0.8
18nm,1.1s
WKZ **Wanaka** 21.30 202 eP P 07 35 27.4 -1.5
64nm,1.4s
MLZ **Mavora Lakes** 22.08 203 eP P 07 35 35.5 -0.4
15nm,0.9s
WHZ **Wether Hill Ro** 22.60 202 eP P 07 35 40.0 -0.5
17nm,1.1s
HNR **Honiara** 24.79 306 eP P 07 35 58.5 -1.9
91nm,0.7s
HNR **Honiara** 24.79 306 P P 07 35 57.5 -2.9
61nm,0.4s,baz=53,slow=5.1,SNR=3.5
ARMA **Armidale** 25.50 252 eP P 07 36 07.7 +1.1
43nm,0.7s
EIDS **Eidsvold** 26.08 264 eP P 07 36 12.1 +0.4
72nm,0.8s
CAN **Canberra** 28.39 242 eP P 07 36 32.2 +0.3
19nm,0.7s
PAE **Paea** 29.31 81 eT T 08 04 18.5
3.1nm,0.3s
TVO **Taravao** 29.56 81 eP P 07 36 42.5 +0.2
11nm,0.8s
CTA **Charters Tower** 31.48 273 P P 07 36 59.5 +0.6
61nm,0.7s,baz=101,slow=11,SNR=70
CTAO **Charters Tower** 31.48 273 eP P 07 36 59.7 +0.8
89nm,0.8s
TOO **Toolangi** 31.63 239 eP P 07 37 00.7 +0.7
31nm,0.9s
TAU **Tasmania Unive** 31.90 229 eP P 07 37 02.7 +0.6
13nm,0.8s
VAH **Vaihoa** 31.95 78 eP P 07 37 02.0 -0.9
68nm,1.3s
STKA **Stephens Creek** 34.16 250 eP P 07 37 21.3 -0.1
4.6nm,0.6s
STKA **Stephens Creek** 34.16 250 P P 07 37 21.7 +0.2
19nm,0.6s,baz=96,slow=11,SNR=75
STKA ScP ScP 07 42 46.0 +3.3
3.8nm,0.8s,baz=124,slow=21,SNR=4.2
PMG **Port Moresby** 34.98 291 eP P 07 37 28.7 +0.1
47nm,0.8s
PMG **Port Moresby** 34.98 291 P P 07 37 27.9 -0.7
38nm,0.7s,baz=104,slow=5.8,SNR=15
COEN **Coen** 36.35 281 eP P 07 37 40.2 +0.2
45nm,0.8s
BBOO **Buckleboo** 38.85 249 eP P 07 38 00.1 -0.2
42nm,0.9s
TAOE **Nuku Hiva Isla** 41.32 74 eP P 07 38 19.9 -0.5
85nm,0.7s
AS01 **Alice Springs** 41.74 262 eP P 07 38 23.6 -0.1
AS31 **Alice Springs** 41.78 262 eP P 07 38 23.9 -0.1
20nm,0.3s
ASAR **Alice Springs** 41.78 262 P P 07 38 23.9 0.0
13nm,0.4s,baz=88,slow=6.9,SNR=260
ASAR pP pP 07 39 49.7 -3.2
4.6nm,1.0s,baz=92,slow=9.3,SNR=3.1
ASAR ScP ScP 07 43 15.2 +3.3
1.7nm,1.0s,baz=140,slow=3.0,SNR=4.2
ASAR S S 07 43 56.8 -8.6
1.1nm,0.8s,baz=101,slow=14,SNR=4.2
WB2 **Warramunga Arr** 42.29 268 eP P 07 38 27.1 -0.9
34nm,0.6s
WRAB **Tennant Creek** 42.29 268 eP P 07 38 27.7 -0.3
27nm,0.6s
WR1 **Warramunga Arr** 42.30 268 eP P 07 38 27.5 -0.6
38nm,0.6s
WRA **Warramunga Arr** 42.30 268 P P 07 38 27.5 -0.6
29nm,0.6s,baz=99,slow=6.9,SNR=225
WRA ScP ScP 07 43 18.3 +4.2
4.6nm,1.1s,baz=104,slow=4.4,SNR=9.2
WRA S S 07 44 10.1 -2.7
2.1nm,0.8s,baz=98,slow=14,SNR=6.2
JAY **Jayapura** 44.10 295 P P 07 38 40.6 -1.6
16nm,0.8s,baz=98,slow=15,SNR=3.2
FORT **Forrest** 45.77 251 eP P 07 38 54.3 -0.6
58nm,0.7s
MTN **Manton Dam** 47.56 276 eP P 07 39 07.8 -0.9
9.8nm,0.8s
FITZ **Fitzroy Crossi** 50.70 267 eP P 07 39 32.0 +0.1
24nm,0.8s
FITZ **Fitzroy Crossi** 50.70 267 P P 07 39 32.1 +0.2
23nm,0.7s,baz=113,slow=6.0,SNR=44
HPAH **Hawaii Prepara** 50.99 30 eP P 07 39 33.9 -0.1
110nm,0.9s
GUMO **Guam** 51.70 315 eP P 07 39 38.1 -1.0
171nm,1.1s
GUMO **Guam** 51.70 315 P P 07 39 37.7 -1.4
34nm,0.4s,baz=173,slow=17,SNR=3.0
VNDA **Vanda** 52.88 185 eP P 07 39 47.3 +0.6
VNDA **Vanda** 52.88 185 P P 07 39 47.8 +1.1
1.3nm,0.7s,baz=344,slow=6.9,SNR=6.9
SIJI **Sorong** 52.90 290 P P 07 39 47.4 -0.5
55nm,0.7s,baz=68,slow=10.0,SNR=22
NWAO **Narrogin (SRO)** 54.60 247 eP P 07 39 59.8 +0.2
19nm,1.0s
NWAO **Narrogin (SRO)** 54.60 247 P P 07 40 00.0 +0.3
11nm,0.9s,baz=131,slow=11,SNR=3.2
BATI **Baumata** 55.32 275 P P 07 40 06.2 +1.1
43nm,0.6s,baz=120,slow=5.9,SNR=3.0
MORW **Morawa** 56.34 251 eP P 07 40 11.2 -0.8
18nm,0.8s
CASY **Casey** 58.75 206 eP P 07 40 27.6 0.0
15nm,0.9s
LUWI **Luwuk** 60.16 284 eP P 07 40 37.2 -0.8
23nm,0.7s
QSPA **South Pole Qui** 64.68 180 eP P 07 41 07.5 +0.9
5.4nm,0.9s
QSPA **South Pole Qui** 64.68 180 P P 07 41 08.3 +1.7
5.6nm,1.0s,baz=323,slow=2.0,SNR=12
KSRS **Korea Array** 79.38 320 P P 07 42 33.5 +1.1
1.3nm,0.7s,baz=128,slow=5.7,SNR=5.8
PEA0B **Petropavlovsk-** 80.56 347 eP P 07 42 38.7 +0.5
23nm,1.1s
PETK **Petropavlovsk-** 80.56 347 P P 07 42 37.9 -0.3
4.9nm,0.6s,baz=130,slow=7.6,SNR=4.9
PEA1 **Petropavlovsk-** 80.56 347 eP P 07 42 37.9 -0.3
NJ2 **Nanjing** 81.63 311 eP P 07 42 45.5 +1.3
NJ2 pmax pmax
comp=Z,15nm,0.5s
PKM **Mcpherson Peak** 82.75 46 P P 07 42 51.3 +1.1
baz=232
CIS **Catalina Islan** 82.78 48 P P 07 42 51.4 +1.3
baz=233
HOPS **Hopland Field** 83.29 41 eP P 07 42 53.8 +1.2
22nm,1.0s
BREC **Barre Substati** 83.31 48 eP P 07 42 51.4 -1.3
NHSM **Mount Saint He** 83.35 42 eP P 07 42 52.2 -0.7
109C **Camp Elliot, M** 83.36 49 P P 07 42 54.0 +1.0
baz=234
CPE **Camp Elliot** 83.36 49 eP P 07 42 53.9 +1.0
18nm,1.2s
KCPM **Cahto Peak** 83.44 40 eP P 07 42 54.7 +1.3
14nm,0.9s
ARVC **Arvin** 83.53 46 P P 07 42 54.9 +1.1
baz=233

SLBS **Sierra La Lagu** 83.58 60 eP P 07 42 55.5 +1.1
16nm,0.8s
MURC **Murrieta** 83.71 48 P P 07 42 56.0 +1.2
baz=234,SNR=5.9
KMRM **Mail Ridge** 83.72 40 eP P 07 42 55.5 +0.8
24nm,1.0s
SRIG **Santa Rosalia** 83.73 56 eP P 07 42 55.2 +0.3
39nm,1.4s
BFSC **Mount Baldy Ra** 83.78 48 P P 07 42 56.0 +0.7
baz=234
VES **Vestal, Richgr** 83.80 46 P P 07 42 56.0 +0.9
baz=232,SNR=8.2
MONP2 **Monument Peak** 83.83 49 P P 07 42 57.2 +1.5
baz=234,SNR=13
IKP **In-Ko-Pah, Jac** 83.90 50 P P 07 42 57.6 +1.8
baz=235,SNR=8.0
EDW2 **Edwards Air Fo** 83.94 47 P P 07 42 57.2 +1.2
baz=233,SNR=10.0
ISA **Isabella, Lake** 84.09 46 eP P 07 42 57.7 +1.0
21nm,0.9s
ISA **Isabella, Lake** 84.09 46 P P 07 42 57.9 +1.3
baz=233,SNR=21
KHMM **Horse Mountain** 84.13 39 eP P 07 42 58.0 +1.2
13nm,0.9s
PFO **Pinyon Flats O** 84.22 49 eP P 07 42 58.3 +0.9
9.2nm,0.9s
PFO **Pinyon Flats O** 84.22 49 P P 07 42 58.8 +1.3
baz=234,SNR=6.6
XPFO **Pion Flat** 84.22 49 eP P 07 42 57.6 +0.2
9.8nm,0.9s
O02D **Mt. Diablo Mer** 84.22 40 P P 07 42 59.1 +1.9
baz=230,SNR=30
SWSC **Sam W. Stewart** 84.29 50 P P 07 42 59.1 +1.5
baz=235,SNR=8.5
CMB **Columbia Colle** 84.32 43 eP P 07 42 57.7 0.0
12nm,1.0s
KRMB **Red Mountain** 84.45 39 eP P 07 42 59.3 +0.9
LRMC **Laurel Mtn Rad** 84.50 47 P P 07 42 60.0 +1.2
baz=233
AFDM **Forest Hills D** 84.53 42 eP P 07 42 59.4 +0.7
11nm,1.0s
ORV **Oroville** 84.59 41 eP P 07 42 59.6 +0.6
12nm,1.0s
WDC **Whiskeytown Da** 84.63 40 eP P 07 42 59.7 +0.6
14nm,1.0s
BELC **Belle Mtn. Jos** 84.76 49 P P 07 43 01.5 +1.5
baz=235,SNR=21
N02D **Trinity Center** 84.78 40 P P 07 43 01.6 +1.6
baz=230,SNR=8.9
CWC **Cottonwood Cre** 84.81 46 P P 07 43 01.3 +0.9
baz=233
O03E **Paynes Creek** 84.88 41 P P 07 43 01.3 +0.8
baz=230,SNR=11
BC3 **Big Chuckawall** 84.93 49 P P 07 43 02.4 +1.5
baz=235
MPMC **Manual Prospec** 84.97 46 P P 07 43 02.1 +1.0
baz=234,SNR=10
M02C **Callahan** 84.97 39 P P 07 43 02.7 +1.8
baz=230,SNR=9.0
GSC **Goldstone, Bar** 84.97 47 eP P 07 43 01.9 +0.8
15nm,0.9s
GSC **Goldstone, Bar** 84.97 47 P P 07 43 02.1 +1.1
baz=234,SNR=10
HEC **Hector,Ludlow** 85.01 48 P P 07 43 02.4 +1.2
baz=234,SNR=17
GLA **Glamis** 85.02 50 eP P 07 43 02.8 +1.6
29nm,1.0s
GLA **Glamis** 85.02 50 P P 07 43 03.2 +1.9
baz=235,SNR=6.4
L02E **Cave Junction** 85.04 38 P P 07 43 03.0 +1.9
baz=229
WAKR **Walker** 85.19 43 eP P 07 43 02.5 +0.3
10nm,1.2s
YBH **Yreka Blue Hor** 85.27 39 eP P 07 43 02.7 +0.3
4.3nm,0.8s
K02D **Willamette Mer** 85.36 38 P P 07 43 04.4 +1.7
baz=229
IRM **Iron Mountain** 85.43 49 P P 07 43 04.9 +1.7
baz=235,SNR=17
GMRC **Granite Mounta** 85.44 48 P P 07 43 04.6 +1.2
baz=235,SNR=6.7
PNTR **Pine Nut** 85.45 43 eP P 07 43 04.0 +0.6
14nm,0.8s
J01E **Myrtle Point** 85.52 38 P P 07 43 05.0 +1.6
baz=229
HSIG 85.60 55 eP P 07 43 04.6 +0.5
16nm,0.9s
FURC **Furnace Creek,** 85.61 46 P P 07 43 05.0 +1.1
baz=234
Y12C **Blythe** 85.62 50 eP P 07 43 05.5 +1.4
14nm,1.1s
Y12C **Blythe** 85.62 50 P P 07 43 05.7 +1.6
baz=236
SHOC **Shoshone, Teco** 85.67 47 P P 07 43 05.6 +1.3
baz=234
HUMO **Hull Mountain** 85.70 38 eP P 07 43 05.3 +1.0
18nm,1.2s
M04C **Macdoel** 85.80 40 P P 07 43 06.3 +1.3
baz=230
L04D **Klamath Falls** 85.81 39 P P 07 43 06.1 +1.1
baz=230,SNR=5.7
214A **Organ Pipe Nat** 85.82 52 P P 07 43 06.8 +1.7
baz=237
NV01 **Mina Array Sit** 85.86 44 eP P 07 43 06.0 +0.6
NVAR **Mina Array Bea** 85.86 44 P P 07 43 06.1 +0.7
6.3nm,0.7s,baz=223,slow=8.7,SNR=50
NV11 **Mina Array Sit** 85.95 44 eP P 07 43 06.4 +0.6
0.5nm,0.9s
PAHR **Pah Rah Range** 85.96 42 eP P 07 43 06.6 +0.8
6.7nm,0.8s
LDFC **Landfair** 85.97 48 eP P 07 43 07.1 +1.2
29nm,0.9s
NEE2 **Needles Airpor** 86.13 49 P P 07 43 08.0 +1.5
baz=235
I03D **Drain, OR** 86.19 37 P P 07 43 08.0 +1.4
baz=229
PDMCI **Parker Dam,Lak** 86.19 49 P P 07 43 08.1 +1.3
baz=236
NONG **Nongkai** 86.30 292 P P 07 43 09.9 +2.3
0.3nm,1.1s
TPNV **Topopah Spring** 86.30 46 eP P 07 43 08.3 +0.8
11nm,0.8s
TPNV **Topopah Spring** 86.30 46 P P 07 43 08.5 +1.1
baz=234,SNR=15
KVN **Kaiserville** 86.36 44 eP P 07 43 08.7 +0.9
7.4nm,0.7s
K04D **Chiloquin, OR** 86.39 39 P P 07 43 09.0 +1.2
baz=230
J04D **Umpqua Nationa** 86.58 38 P P 07 43 10.1 +1.4
baz=230,SNR=11
SHPR **Sheep Range** 86.75 47 eP P 07 43 10.6 +0.9
8.3nm,1.2s
I04A **Tendick Farm,** 86.77 38 P P 07 43 10.2 +0.9
baz=230,SNR=5.5
MOD **Modoc Plateau** 86.77 40 eP P 07 43 10.3 +0.7
6.9nm,0.8s
W13A **Hualapai Mount** 86.81 49 eP P 07 43 10.9 +0.9
3.7nm,0.8s
K05A **Summer Lake** 86.94 39 eP P 07 43 11.4 +1.0
10nm,0.8s
H04D **Lebanon** 87.06 37 P P 07 43 12.1 +1.5
baz=230
J05D **Fort Rock, OR** 87.10 39 P P 07 43 12.5 +1.4
baz=231,SNR=20
G03D **McMinnville, O** 87.22 36 P P 07 43 13.1 +1.7
baz=229
PLCA **Paso Flores** 87.24 134 eP P 07 43 12.5 +0.6
6.5nm,1.0s
PLCA **Paso Flores** 87.24 134 P P 07 43 13.2 +1.3
3.4nm,0.9s,baz=270,slow=7.3,SNR=8.5
PBKT **Sadao Pong** 87.45 290 P P 07 43 15.6 +2.5
TUC **Tucson** 87.46 52 eP P 07 43 13.9 +1.0
17nm,1.0s
TUC **Tucson** 87.46 52 P P 07 43 15.1 +2.1
baz=238
H04A **Detroit Lake** 87.46 37 eP P 07 43 13.4 +0.8
15nm,1.0s
R11A **Troy Canyon, C** 87.53 45 P P 07 43 13.9 +0.6
baz=235
PINE **Pine Mountain** 87.59 38 eP P 07 43 14.4 +0.9
37nm,1.0s
I05D **Terrebonne, OR** 87.71 38 P P 07 43 15.0 +1.2
baz=231,SNR=8.4
BMN **Battle Mountai** 87.72 43 eP P 07 43 14.7 +0.6
6.3nm,0.8s
319A **Douglas** 88.06 54 eP P 07 43 16.9 +1.0
34nm,1.1s
WVOR **Wild Horse Val** 88.07 41 eP P 07 43 16.6 +0.9
19nm,1.1s
BJI **Beijing** 88.10 316 eP P 07 43 16.3 +0.7
BJI pmax pmax
comp=Z,5.0nm,0.6s
X16A **Lo Mia Camp, P** 88.12 50 eP P 07 43 17.1 +0.9
12nm,1.0s
G05D **Wamic, OR** 88.30 37 P P 07 43 17.8 +1.3
baz=231
NLWA **Neilton Lookou** 88.34 34 eP P 07 43 17.9 +1.2
12nm,0.9s
E04D **Cinebar** 88.47 36 P P 07 43 18.7 +1.5
baz=230,SNR=6.2
CCUT **Cedar City** 88.53 47 eP P 07 43 19.0 +1.0
5.4nm,1.0s
HPIG 88.55 59 eP P 07 43 19.2 +0.9
8.1nm,0.7s
I07A **Izee** 88.58 39 eP P 07 43 19.1 +1.1
19nm,0.8s
KNB **Kanab** 88.59 48 eP P 07 43 19.3 +1.0
9.1nm,1.1s
F05D **White Salmon** 88.63 37 P P 07 43 19.2 +1.2
baz=230
U15A **North Rim** 88.63 48 eP P 07 43 19.4 +0.8
16nm,1.1s
G06A **Carlson Farm,** 88.67 37 eP P 07 43 18.9 +0.7
14nm,0.9s
J08A **Circle Bar Ran** 88.73 40 eP P 07 43 19.4 +0.7
24nm,1.1s
SZCU **Shurtz Canyon** 88.74 47 eP P 07 43 20.1 +1.1
8.2nm,1.0s
PSUT **Pine Spring** 88.76 46 eP P 07 43 20.2 +1.2
2.9nm,0.8s
WUAZ **Wupatki** 88.76 49 eP P 07 43 20.2 +1.1
9.4nm,1.0s
WUAZ **Wupatki** 88.76 49 P P 07 43 20.5 +1.4
baz=237
D04E **Lakebay** 88.76 35 P P 07 43 20.5 +2.0
baz=230
D03D **Eldon** 88.83 35 P P 07 43 20.3 +1.4
baz=229,SNR=6.9
LON **Longmire** 88.99 36 eP P 07 43 20.0 +0.3
7.1nm,0.8s
ZAIG **Zacatecas** 89.03 64 eP P 07 43 21.0 +0.2
4.7nm,0.7s
GAMB **Gambell** 89.13 4 eP P 07 43 20.8 +1.0
3.7nm,1.0s
ELK **Elko** 89.13 43 eP P 07 43 21.2 +0.4
3.6nm,0.8s
PKCU **Pink Cliffs** 89.17 47 eP P 07 43 21.6 +0.5
18nm,0.9s
D05A **Enumclaw** 89.18 35 eP P 07 43 21.8 +1.3
33nm,1.0s
X18A **Snowflake** 89.22 51 eP P 07 43 22.5 +1.2
7.8nm,0.8s
PGC **Sidney** 89.38 34 eP P 07 43 21.6 +0.3
13nm,0.8s
MTPU **Mount Pierson** 89.58 47 eP P 07 43 24.6 +1.5
14nm,0.9s
G08A **Pilot Rock** 89.63 38 eP P 07 43 23.6 +0.8
15nm,1.1s
W18A **Petrified Fore** 89.68 51 eP P 07 43 24.2 +0.8
8.1nm,1.0s
W18A **Petrified Fore** 89.68 51 P P 07 43 24.6 +1.2
baz=238
121A **Cookes Peak, D** 89.74 54 P P 07 43 25.6 +1.8
baz=239,SNR=5.1
A04D **Lummi Island** 89.80 34 P P 07 43 24.7 +1.4
baz=230,SNR=7.7
B05A **Bryant** 89.81 34 P P 07 43 24.7 +1.3
baz=230,SNR=6.2
MSU **Marysvale** 89.84 47 eP P 07 43 25.4 +1.3
E07A **Sunnyside** 89.92 37 eP P 07 43 24.9 +0.9
8.9nm,0.8s
CMAR **Chiang Mai Arr** 90.02 290 P P 07 43 26.6 +1.5
1.4nm,0.3s,baz=132,slow=3.2,SNR=16
CMMT **Chiang Mai** 90.18 291 P P 07 43 28.2 +2.4
8.7nm,1.0s
CHTO **Chiang Mai** 90.18 291 eP P 07 43 26.5 +0.7
8.4nm,1.0s
BMO **Blue Mountains** 90.30 39 eP P 07 43 26.7 +0.8
2.1nm,0.8s
DUG **Dugway, Tooele** 90.35 45 P P 07 43 27.2 +0.9
baz=236
NLU **North Lily Min** 90.69 45 eP P 07 43 29.5 +1.5
4.6nm,0.9s
Q16A **Castle Valley** 90.72 47 eP P 07 43 29.1 +1.0
6.0nm,0.9s
D08A **Wollman Farm,** 90.73 37 eP P 07 43 28.8 +1.1
4.9nm,0.9s
SEY **Seymchan** 90.73 348 P P 07 43 27.5 +0.2
4.4nm,0.8s,baz=148,slow=5.4,SNR=16
E09A **Wood Farm, Sta** 90.82 38 eP P 07 43 29.1 +1.0
4.8nm,0.8s
TMUT **Trail Mountain** 90.90 46 eP P 07 43 30.0 +0.9
18nm,0.8s
F10A **Beach Ranch, E** 91.01 38 eP P 07 43 29.6 +0.4
7.6nm,0.8s
MPU **Maple Canyon** 91.01 46 eP P 07 43 30.2 +0.8
6.3nm,0.8s
MNTX **Cornudas Mount** 91.09 55 eP P 07 43 30.4 +0.6
5.2nm,0.8s
MNTX **Cornudas Mount** 91.09 55 P P 07 43 30.9 +1.1
baz=241,SNR=7.4
SPUT **South Promonto** 91.19 44 eP P 07 43 30.9 +0.7
10nm,0.9s
HLID **Hailey** 91.24 41 eP P 07 43 31.2 +0.8
6.7nm,1.1s
HLID **Hailey** 91.24 41 P P 07 43 31.6 +1.2
baz=235,SNR=9.1
HVU **Hansel Valley** 91.25 44 eP P 07 43 31.2 +0.8
9.2nm,0.8s
SRU **San Rafael Swe** 91.25 47 eP P 07 43 31.2 +0.7
10nm,0.8s
TX31 **Lajitas Ar. Si** 91.25 58 eP P 07 43 31.3 +0.6
TXAR **Lajitas Array** 91.25 58 P P 07 43 31.9 +1.2
5.1nm,0.8s,baz=214,slow=6.4,SNR=38
P17A **Butcher Ranch,** 91.30 46 eP P 07 43 32.5 +1.7
7.1nm,1.0s
CTU **Camp Tracy** 91.30 45 eP P 07 43 31.5 +0.7
10nm,0.9s
B08A **Colville Reser** 91.31 36 eP P 07 43 30.8 +0.4
2.3nm,0.7s
JLU **Jordanelle** 91.45 45 eP P 07 43 32.0 +0.5
5.4nm,0.9s
HHC **Hu-ho-hao-te** 91.46 315 eP P 07 43 34.5 +3.1
HHC S S 07 53 54.5 +6.1
HHC pmax pmax
comp=Z,20nm,1.0s
HHC pmax pmax
comp=Z,120nm,6.2s
CD2 **Chengdu** 91.88 303 P P 07 43 34.5 +1.0
CD2 pmax pmax
comp=Z,40nm,0.5s
TASM **ASL Pad, Albuq** 91.91 52 P P 07 43 34.5 +0.9
baz=240,SNR=5.8
TASM **ASL Pad, Albuq** 91.91 52 P P 07 43 34.6 +0.9
baz=240,SNR=5.8
ANMO **Albuquerque** 91.91 52 eP P 07 43 34.0 +0.3
3.8nm,0.9s
ANMO **Albuquerque** 91.91 52 P P 07 43 34.7 +1.0
baz=240
S22A **4UR Ranch, Cre** 93.04 49 eP P 07 43 39.1 +0.2
6.9nm,1.1s
S22A **4UR Ranch, Cre** 93.04 49 P P 07 43 39.7 +0.8
baz=240,SNR=6.5
HDA **Harding Lake** 93.17 14 eP P 07 43 38.1 -0.4
4.1nm,0.7s
O20A **White River Ci** 93.29 47 P P 07 43 40.7 +0.8
baz=239
FXWY **Fox Creek** 93.34 43 eP P 07 43 43.0 +2.8
1.9nm,1.0s
ILAR **Eielson Array** 93.50 14 P P 07 43 39.0 -1.0
1.0nm,0.7s,baz=225,slow=5.2,SNR=19
ILAR PP PP 07 47 30.4 -2.9
0.5nm,0.9s,baz=224,slow=7.6,SNR=4.0
ILB **Eielson Array** 93.50 14 eP P 07 43 39.4 -0.6
1.8nm,1.0s
LOHW **Long Hollow** 93.59 43 eP P 07 43 41.4 +0.2
0.3nm,0.8s
SMCO **Snowmass** 93.65 48 eP P 07 43 41.9 0.0
4.5nm,1.1s
FLWY **Flagg Ranch** 93.78 43 eP P 07 43 42.3 +0.2
5.7nm,0.9s
BW06 **Boulder Array** 93.79 44 P P 07 43 42.7 +0.5
baz=239
PDAR **Pinedale Array** 93.79 44 eP P 07 43 42.0 -0.2
PDAR **Pinedale Array** 93.79 44 P P 07 43 41.7 -0.5
2.3nm,1.1s,baz=217,slow=3.7,SNR=8.4

SDCO	Great Sand Dun	93.95	50	P		P	07 43 43.9	+0.7
	baz=241							
BOZ	Bozeman (W)	94.03	41	P		P	07 43 44.0	+1.0
	baz=237							
LZH	Lanzhou	94.28	308	*e*P		P	07 43 43.5	-1.0
LZH				pP		pP	07 45 33.5	-0.1
LZH				sP		sP	07 46 17.5	-5.5
LZH				pmax		pmax		
	comp=Z,21nm,1.1s							
JCT	Junction City	94.76	59	P		P	07 43 47.1	+0.5
	baz=243							
EGAK	Eagle	94.81	16	*e*P		P	07 43 46.3	+0.3
	6.0nm,1.0s							
ISCO	Idaho Springs	94.87	48	P		P	07 43 48.0	+0.7
	baz=241							
N23A	Red Feather La	95.19	47	P		P	07 43 49.3	+0.7
	baz=241							
RLMT	Red Lodge	95.19	42	P		P	07 43 49.7	+1.2
	baz=239							
ABTX	Abilene, Hawle	95.83	57	P		P	07 43 52.1	+0.7
	baz=244							
INK	Inuvik	99.49	16	*e*Pdif		Pdif	07 44 06.6	-0.2
INK	Inuvik	99.49	16	P		Pdif	07 44 06.3	-0.5
	0.9nm,0.8s,baz=234,slow=5.4,SNR=3.8							
YKA	Yellowknife Ar	101.73	26	PP		PP	07 48 32.2	-3.3
	0.3nm,0.8s,baz=241,slow=7.2,SNR=4.2							
YKA				PKiKP		PKiKP	07 48 36.6	-0.4
	0.1nm,0.6s,baz=263,slow=1.7,SNR=4.8							
MKAR	Makanchi Array	113.15	312	PKiKP		PKiKP	07 48 57.8	-1.2
	0.3nm,0.6s,baz=90,slow=5.8,SNR=4.2							
MKAR				PKKPbc		PKKPbc	07 59 47.1	0.0
	0.5nm,0.7s,baz=294,slow=3.5,SNR=6.3							
ARA0	ARCESS Array S	133.35	348	*e*PKPdf		PKPdf	07 49 36.4	-0.6
ARCES	ARCESS Array B	133.35	348	PKP		PKPdf	07 49 36.3	-0.6
	1.5nm,0.5s,baz=48,slow=1.3,SNR=13							
ARCES				SKPbc		SKPab	07 52 20.9	-0.6
	8.4nm,0.8s,baz=64,slow=4.2,SNR=8.9							
FIA0	FINESS Array S	139.86	341	*e*PKPdf		PKiKP	07 49 50.5	-1.2
FINES	FINESS Array B	139.86	341	PKhKP		PKPpre	07 49 41.3	
	0.9nm,0.5s,baz=35,slow=3.4,SNR=7.0							
FINES				PKP		PKiKP	07 49 50.5	-1.2
	1.3nm,0.6s,baz=27,slow=3.7,SNR=4.2							
FINES				SKP			07 52 40.2	
	5.9nm,0.8s,baz=76,slow=5.9,SNR=16							
VSU	Vasula	141.95	337	*e*P		PKPdf	07 49 52.3	-0.6
VSU				IAmb		IAmb	07 49 56.1	
	comp=Z,29nm,0.4s							
NC303	NORSAR Array S	143.36	351	*e*PKPpre		PKPab	07 49 53.6	+0.2
NC405	NORSAR Array S	143.42	350	*e*PKPdf		PKPab	07 49 53.7	+0.1
NB201	NORSAR Array S	143.54	351	*e*PKPdf		PKPbc	07 49 54.2	0.0
NB2	NORSAR Subarra	143.56	351	PKP		PKPab	07 49 53.5	-0.7
	comp=Z,12nm,0.8s,baz=16,slow=3.3							
NB200	NORSAR Array S	143.56	351	*e*PKPdf		PKPab	07 49 53.6	-0.5
NOA	NORSAR Array B	143.56	351	PKhKP		PKPab	07 49 53.6	-0.5
	comp=Z,11nm,0.8s,baz=16,slow=4.9,SNR=44							
NBO00	NORSAR Array S	143.63	351	*e*PKPdf		PKPab	07 49 54.4	0.0
NAO01	NORSAR Array S	143.80	351	*e*PKPbc		PKPab	07 49 54.7	-0.4
NC602	NORSAR Array S	143.81	350	*e*PKPbc		PKPab	07 49 54.5	-0.5
SLIT	Slitere, Latvi	144.08	340	*e*P		PKPbc	07 49 55.0	-1.0
SLIT				IAmb		IAmb	07 49 55.7	
	comp=Z,84nm,0.6s							
IDID	Didziasalis	144.26	334	*e*P		PKPdf	07 49 57.4	+0.3
IDID				IAmb		IAmb	07 49 58.2	
	comp=Z,9.8nm,0.8s							
ISAL	Salakas	144.32	335	*e*P		PKPbc	07 49 56.2	-0.7
ISAL				IAmb		IAmb	07 49 57.7	
	comp=Z,7.0nm,0.7s							
IIGN	Ignalina	144.44	334	*e*P		PKPab	07 49 57.9	+0.3
IIGN				IAmb		IAmb	07 49 58.8	
	comp=Z,17nm,0.6s							
KONO	Kongsberg	145.13	351	*e*PKPdf		PKPdf	07 49 58.4	-0.1
AKASG	Malin Array Be	146.21	326	PKPbc		PKPbc	07 50 01.8	-0.8
	comp=Z,2.3nm,0.5s,baz=42,slow=4.1,SNR=18							
AKBB	Malin Array Si	146.21	326	*e*PKPdf		PKPdf	07 49 59.4	-1.2
AKBB				*e*PKPbc		PKPbc	07 50 02.5	-0.1
AK11	Malin Array Si	146.25	326	*e*PKPdf		PKPdf	07 50 00.2	-0.4
AK11				*e*PKPbc		PKPbc	07 50 02.6	-0.1
BR101	Keskin Array S	148.44	305	*e*PKPbc		PKPbc	07 50 09.3	+0.3
BRTR	Keskin Array B	148.44	305	PKPbc		PKPbc	07 50 09.3	+0.3
	comp=Z,0.7nm,0.5s,baz=144,slow=3.7,SNR=5.1							
KWP	Kalwaria Pacla	150.06	330	*e*PKP		PKiKP	07 50 13.3	+0.3
KWP	Kalwaria Pacla	150.06	330	*e*PKPbc		PKiKP	07 50 13.1	0.0
BUR08	Bucovina Ar. S	150.18	325	*e*PKPbc		PKiKP	07 50 14.0	+0.5
OJC	Ojcow	150.88	333	*e*PKP		PKiKP	07 50 14.7	-0.1
OJC	Ojcow	150.88	333	*e*PKPbc		PKPbc	07 50 14.5	+0.2
NIE	Niedzica	151.28	332	*e*PKP		PKiKP	07 50 16.5	+0.9
UPC	Upice	152.06	338	↑*e*PKP		PKiKP	07 50 17.8	+0.7
DPC	Dobruska-Polom	152.08	337	↑*e*PKP		PKiKP	07 50 17.9	+0.6
CLL	Collm	152.28	342	↓*i*PKPbc		PKiKP	07 50 18.0	+0.4
	comp=Z,11nm,0.8s							
CLL				*e*PKPab		PKPab	07 50 30.0	+0.3
CLL				*e*			07 52 19.0	
CLL				*ep*PKPab		pPKPab	07 52 20.0	-0.5
BRG	Berggiesshubel	152.40	341	*i* PKP		PKiKP	07 50 18.2	+0.4
	comp=Z,6.7nm,0.6s							
ESDC	Sonseca Array	165.40	12	PKPab		PKPab	07 51 27.1	+0.1
	comp=Z,1.0nm,0.6s,baz=336,slow=4.8,SNR=7.5							
ES06	SONSECA Array	165.40	12	*e*PKPab		PKPab	07 51 27.1	0.0
TORD	Torodi Ar. Bea	167.69	188	PKP		PKPdf	07 50 27.9	-0.2
	comp=Z,0.7nm,0.7s,baz=233,slow=0.7,SNR=5.4							
TORD				PKPab		PKPab	07 51 37.4	-0.2
	comp=Z,0.4nm,0.6s,baz=184,slow=4.5,SNR=2.7							
TOA1	Torodi Ar. Sit	167.70	188	*e*PKPdf		PKPdf	07 50 27.9	-0.2
TOA1				*e*PKPab		PKPab	07 51 37.4	-0.2

*ISCJB **26** 07:33:14.6±0.8, 25°.8S±0°.2×179°.7E±0°.2, h550km, mb3.7/8, Error ellipse: s-maj=32.6km s-min=19.1km az=156.9*
*IDC **26** 07:33:14.2±8.4, 25°.85S×179°.81E, h538km±92km, mb3.3/8, mb1 3.7/8, mb1mx3.3/31, mbtmp4.1/8, Error ellipse: s-maj=41.6km s-min=30.8km az=141.0*

ISC 26 07:33:14.9±0.8, 25°.9S±0°.2×179°.8E±0°.2, h550km, n13, σ0≡96/11, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	41.59	263	P	P	07 40 14.4	-0.9
	2.3nm,0.8s,baz=94,slow=8.2,SNR=3.1						
WRA	Warramunga Arr	42.15	268	P	P	07 40 20.3	+0.6
	2.7nm,0.8s,baz=98,slow=9.0,SNR=3.5						
VNA3	Neumayer Olymp	82.88	177	P	P	07 44 46.2	+4.6
VNA2	Neumayer--Watz	83.29	178	P	P	07 44 49.4	+5.8
	baz=312,slow=14						
VNA1	Neumayer--Stat	83.53	177	P	P	07 44 44.6	-0.2
NVAR	Mina Array Bea	86.31	44	P	P	07 44 59.8	+0.7
	0.2nm,0.6s,baz=239,slow=5.1,SNR=2.6						
CMAR	Chiang Mai Arr	90.08	290	P	P	07 45 18.0	+1.2
	0.7nm,0.3s,baz=134,slow=2.6,SNR=6.2						
SEY	Seymchan	91.20	348	P	P	07 45 19.3	-1.6
	1.3nm,0.9s,baz=148,slow=10,SNR=3.4						
TXAR	Lajitas Array	91.63	58	P	P	07 45 23.4	-0.4
	0.8nm,0.9s,baz=231,slow=6.6,SNR=4.0						
ILAR	Eielson Array	94.02	14	P	P	07 45 34.7	+0.8
	0.6nm,0.9s,baz=214,slow=3.1,SNR=4.1						
PDAR	Pinedale Array	94.25	44	P	P	07 45 35.9	+0.2
	0.7nm,0.8s,baz=220,slow=8.2,SNR=4.4						
AKASG	Malin Array Be	146.56	325	PKPbc	PKPbc	07 51 53.8	-0.8
	0.8nm,0.5s,baz=45,slow=4.0,SNR=6.1						
TORD	Torodi Ar. Bea	167.17	188	PKPab	PKPab	07 53 27.0	+0.3
	0.7nm,0.9s,baz=159,slow=4.3,SNR=3.1						

*ISCJB **26** 08:05:28.2±0.7, 33°.32N±0°.08×95°.2E±0°.1, h33km, mb3.4/6, MS3.1/1, Error ellipse: s-maj=15.1km s-min=7.8km az=41.5*
*IDC **26** 08:05:31.1±6.1, 33°.29N×95°.06E, h48km±63km, mb3.2/6, mb1 3.5/8, mb1mx3.2/43, mbtmp3.5/8, ML3.4/2, MS2.8/3, Ms1 2.9/3, ms1mx2.5/25, Error ellipse: s-maj=60.3km s-min=26.5km az=68.0*

ISC 26 08:05:30.3±0.9, 33°.4N±0°.1×95°.2E±0°.1, h35km, n19, σ0≡64/17, mb3.5/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUN	Gumba	9.72	238	*e*P	Pn	08 07 47.9	-0.1
RAMN	Ramite	9.84	232	*e*P	Pn	08 07 50.8	+1.3
KKN	Kakani	10.22	240	*e*P	Pn	08 07 54.6	-0.1
	7.0nm,0.4s						
PKI	Pulchoki	10.26	238	*e*P	Pn	08 07 55.1	-0.2
	26nm,0.7s						
PKIN	Phulchoki	10.26	238	*e*P	Pn	08 07 55.0	-0.4
DMN	Daman	10.45	239	*e*P	Pn	08 07 57.8	-0.1
DANN	Dangsing	11.05	246	*e*P	Pn	08 08 07.0	+0.8
	20nm,0.5s						
KOLN	Koldanda	11.47	244	*e*P	Pn	08 08 12.1	+0.3
	13nm,0.8s						
PYUN	Piuthan	11.77	247	*e*P	Pn	08 08 15.5	-0.4
	23nm,0.8s						
CMAR	Chiang Mai Arr	15.24	166	LR	LR	08 15 48.1	
	comp=Z,27nm,19.1s,baz=244,slow=41						
MKAR	Makanchi Array	16.62	327	P	Pn	08 09 19.4	-1.1
	0.1nm,0.3s,baz=133,slow=13,SNR=7.9						
MKAR				LR	LR	08 16 25.6	
	comp=Z,28nm,20.1s,baz=178,slow=39						
SONM	Songino Array	16.71	27	P	P	08 09 24.4	+0.6
	0.1nm,0.3s,baz=210,slow=12,SNR=8.9						
KURBB	Kurchatov Arra	21.14	330	P	P	08 10 12.7	+0.7
	2.2nm,0.8s,baz=138,slow=11,SNR=14						
ZALV	Zalesovo Beam	21.84	343	P	P	08 10 19.8	+0.3
	0.5nm,0.4s,baz=148,slow=14,SNR=2.5						
NOA	NORSAR Array B	58.60	325	LR	LR	08 42 34.0	
	comp=Z,13nm,16.1s,baz=240,slow=38						
WRA	Warramunga Arr	64.85	139	P	P	08 16 05.6	-0.4
	0.5nm,0.8s,baz=332,slow=7.6,SNR=4.9						
ASAR	Alice Springs	67.65	142	P	P	08 16 23.3	-0.6
	0.6nm,0.6s,baz=325,slow=6.3,SNR=6.0						
ILAR	Eielson Array	70.90	24	P	P	08 16 43.1	-0.3
	0.1nm,0.7s,baz=318,slow=5.3,SNR=2.8						
YKA	Yellowknife Ar	81.48	14	P	P	08 17 44.0	+0.5
	0.3nm,1.0s,baz=345,slow=4.5,SNR=4.5						

KRSC 26 08:14:50.0±10.0, 51°.53N×155°.45E, h494km±10km, ML4.2, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.66	79	*e*P	P	08 15 53.9	+1.1
KDTR				*e*S	S	08 16 42.9	-1.1
ASAK	Asacha	1.74	60	*e*P	P	08 15 55.0	+1.8
APC	Apacha	1.74	36	P	P	08 15 53.7	+0.6
RUS	Russkaya	2.10	63	*e*P	P	08 15 55.3	+0.5
RUS				*e*S	S	08 16 47.5	-0.3
DALK	Dalny	2.52	52	*e*P	P	08 15 58.1	+0.9
DALK				*e*S	S	08 16 52.2	+0.1
KOK	Koryaka	2.63	47	*e*P	P	08 15 58.5	+0.5
UGLR	Uglovaya	2.66	50	*e*P	P	08 16 00.2	+2.0
KRER	Koryakskii	2.69	47	*e*P	P	08 16 00.5	+2.0
SDLR	Sedlovina	2.73	49	*e*P	P	08 15 59.9	+1.2
SPN	Mys Shipunski	3.21	59	*e*P	P	08 16 03.4	+1.7
SPN				*e*S	S	08 17 00.8	+0.4
KZV	Kizimen	4.61	37	*e*P	P	08 16 14.9	+1.8
TUMR	Tumrok	4.69	35	*e*P	P	08 16 15.5	+1.8
MKZ	Mys Kozlova	4.85	49	*e*P	P	08 16 17.0	+2.0
MKZ				*e*S	S	08 17 23.2	-1.4
KBG	Krutoberegovo	6.38	39	*e*S	S	08 17 49.9	-1.2
KBTR	Krutoberegovo	6.39	40	*e*P	P	08 16 31.5	+1.9
KBTR				*e*S	S	08 17 51.1	-0.3

*ISCJB **26** 08:21:54.6±0.3, 19°.16N±0°.04×94°.96E±0°.04, h100km, mb4.3/34, Error ellipse: s-maj=7.5km s-min=3.1km az=42.1*
*IDC **26** 08:21:55.1±1.6, 19°.32N×95°.21E, h76km±12km, mb3.8/14, mb1 4.0/15, mb1mx3.7/40, mbtmp4.1/15, MS2.5/2, Ms1 2.6/2, ms1mx2.3/31, Error ellipse: s-maj=24.4km s-min=8.6km az=39.0*
*NEIC **26** 08:21:55.2±0.5, 19°.26N×95°.07E, h74km±5km, mb4.4/22, Error ellipse: s-maj=6.7km s-min=4.3km az=58.0*
*NDI **26** 08:22:03.7±2.8, 19°.83N×94°.29E, h10km, ML3.6*

ISC 26 08:21:57.0±0.5, 19°.27N±0°.06×95°.11E±0°.06, h100km, n96, σ1≡93/99, mb4.3/34, 1C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHTO	Chiang Mai	3.65	96	*e*Pn	Pn	08 22 50.1	-1.4
CHTO				*e*Sn	Sn	08 23 29.8	-3.9
CMMT	Chiang Mai	3.66	96	P	Pn	08 22 50.2	-1.3
CM31	Chiang Mai Arr	3.71	102	*e*Pn	Pn	08 22 50.1	-2.3
CM31				*e*Sn	Sn	08 23 31.8	-3.4
CMAR	Chiang Mai Arr	3.71	102	P	Pn	08 22 50.8	-1.6
	2.0nm,0.3s,baz=278,slow=14,SNR=16						
CMAR				S	Sn	08 23 30.6	-4.6
	14nm,0.3s,baz=269,slow=21,SNR=10						
CMAR				LR	LR	08 24 18.1	
	comp=Z,41nm,20.8s,baz=240,slow=39						
CM01	Chiang Mai Arr	3.74	102	*e*Pn	Pn	08 22 51.9	-0.8
SAIH	SAIHA	3.77	329	*e*P	Pn	08 22 53.0	-0.2
SAIH				*e*S	Sn	08 23 26.2	-11
SAIH				IAML		08 23 53.0	
	comp=E,264nm,0.5s						
SAIH				IAML		08 23 53.7	
	comp=N,169nm,0.5s						
LAMP	Lampang	4.34	99	P	Pn	08 23 03.6	+2.8
SUKH	Sukhothai	4.64	112	P	Pn	08 23 03.7	-1.2
UMPA	Umpang Tak	4.69	130	P	Pn	08 23 05.1	-0.5
BRDH	Bariadhala	4.69	317	P	Pn	08 23 05.2	-0.4
	comp=N,96nm,0.3s,baz=123,slow=5.8,SNR=15						
BRDH				S	Sn	08 23 56.7	-2.1
	comp=N,111nm,0.3s,baz=343,slow=19,SNR=4.6						
NANT	Nan	5.30	94	P	Pn	08 23 15.6	+1.7
	comp=N,7.3nm,0.4s,comp=N,255nmcomp=N,0.1nm						
UTTA	Uttaradit	5.38	105	P	Pn	08 23 14.2	-0.7
	comp=N,9.3nm,0.4s,comp=N,767nmcomp=N,0.2nm						
UTHA	Uthaitani	5.54	131	P	Pn	08 23 15.0	-2.1
	comp=N,106nm,0.5s,comp=N,2μmcomp=N,0.5nm						
AGT	Agartala	5.83	323	*e*P	Pn	08 23 18.3	-2.7
AGT				*e*S	Sn	08 24 09.2	-17
AGT				IAML		08 24 27.6	
	comp=N,231nm,0.3s						
AGT				IAML		08 24 27.8	
	comp=E,342nm,0.1s						
PBKT	Sadao Pong	6.19	115	P	Pn	08 23 24.5	-1.3
	comp=E,71nm,0.4s,comp=E,3μmcomp=E,0.5nm						
SRDT	SRDT	6.21	141	P	Pn	08 23 24.1	-2.1
KOHI	KOHIMA	6.49	352	*e*P	Pn	08 23 30.5	+0.4
KOHI				*e*S	Sn	08 24 35.8	-6.9
KOHI				IAML		08 24 46.6	
	comp=N,103nm,0.2s						
KOHI				IAML		08 24 49.5	
	comp=E,105nm,0.2s						
SHL	Shillong	6.95	335	*e*Pn	Pn	08 23 33.5	-2.8
SHL				*e*Sn	Sn	08 24 48.5	-5.4
SHL	Shillong	6.95	335	*e*P	Pn	08 23 34.4	-1.9
SHL				*e*S	Sn	08 24 39.9	-14
MOKO	MOKOCHONG	7.04	356	*e*P	Pn	08 23 37.8	+0.2
CHAI	Chaiyaphum	7.36	116	P	Pn	08 23 43.5	+1.7
TEZP	TEZPUR	7.62	344	*e*P	Pn	08 23 44.0	-1.2
TURI	Tura	7.66	326	*e*P	Pn	08 23 41.9	-3.9
PHET	Kaeng Krachan	7.67	145	P	Pn	08 23 44.6	-1.4
	comp=E,23nm,0.4s,comp=E,498nmcomp=E,0.1nm						
NONG	Nongkai	7.71	98	P	Pn	08 23 48.1	+1.6
	comp=E,0.6nm,0.9s,comp=E,0.0nm						
PBA	Port Blair	7.91	197	*e*Pn	Pn	08 23 46.7	-2.5
PBA				*e*Sn	Sn	08 25 11.2	-5.9
ZIRO	ZIRO	8.30	352	*e*P	Pn	08 23 53.8	-1.0
ZIRO				*e*S	Sn	08 25 16.9	-10
SRAK	Srakaew	8.45	127	P	Pn	08 24 05.2	+8.6
SKNT	Sakolnakorn	8.73	104	P	Pn	08 24 03.5	+3.0
	comp=E,4.7nm,1.2s,comp=E,603nmcomp=E,0.0nm						
TAWA	Tawang	8.81	341	*e*P	Pn	08 23 59.8	-2.0
TAWA				*e*S	Sn	08 25 25.1	-14
BOK	Bokaro	9.70	299	*e*P	Pn	08 24 10.8	-2.8
GTK	Tadong	10.00	324	*e*P	Pn	08 24 15.5	-2.3
GTK				*e*S	Sn	08 25 50.7	-17
GTK				IAML		08 25 51.1	
	comp=E,18nm,0.3s						
GTK				IAML		08 25 51.4	
	comp=N,17nm,0.3s						
RAMN	Ramite	10.94	316	*e*P	Pn	08 24 28.1	-2.7
	comp=N,207nm,0.3s						
LSA	Lhasa	10.99	342	*e*Pn	Pn	08 24 29.9	-1.8
JIRN	Jiri	11.69	317	*e*P	Pn	08 24 38.4	-2.5
	comp=N,189nm,0.3s						
GUN	Gumba	12.06	317	*e*P	Pn	08 24 43.4	-2.5
	comp=N,172nm,0.3s						
PKI	Pulchoki	12.15	315	*e*P	Pn	08 24 44.2	-2.7
	comp=N,229nm,0.5s						
PKIN	Phulchoki	12.16	315	*e*P	Pn	08 24 44.2	-2.8
	comp=N,153nm,0.4s						
DMN	Daman	12.38	314	*e*P	Pn	08 24 47.2	-2.7
	comp=N,84nm,0.4s						
KKN	Kakani	12.38	315	*e*P	Pn	08 24 47.1	-2.8
	comp=N,47nm,0.2s						
KOLN	Koldanda	13.53	311	*e*P	Pn	08 25 02.3	-2.7
	comp=N,102nm,0.2s						
DANN	Dangsing	13.77	313	*e*P	Pn	08 25 05.1	-3.1
	comp=N,105nm,0.2s						
PYUN	Piuthan	14.16	311	*e*P	Pn	08 25 10.6	-2.5
	comp=N,59nm,0.2s						
PSI	Prapat	16.78	167	*e*Pn	P	08 25 48.1	+1.4
	comp=N,15nm,1.1s						
XAN	Xi'an	19.17	37	P	Pn	08 26 15.3	+0.6
XAN				pP	pP	08 26 21.8	-10
XAN				pmax	pmax		
	comp=Z,18nm,0.7s						
XAN				pmax	pmax		
	comp=Z,84nm,4.0s						
XAN	Xi'an	19.17	37	*e*P	Pn	08 26 13.9	-0.8
	comp=Z,14nm,0.6s						
MYKOM	Kota Tinggi	19.36	153	*e*P	Pn	08 26 14.8	-2.2
	comp=Z,14nm,1.2s						
GTA	Gaotai	20.48	10	*e*P	Pn	08 26 29.5	-0.5
GTA				pP	pP	08 26 35.0	-11
GTA				sP	P	08 26 37.5	+11
GTA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIL	Nilore	24.18	311	*e*P	P	08 27 05.2	+1.1
	comp=Z,15nm,0.7s						
KSH	Kashi	26.08	325	*e*P	P	08 27 24.0	+2.6
KSH				pP	pP	08 27 45.3	+1.8
KSH				pmax	pmax		
	comp=Z,190nm,0.8s						
KDJ	Kajisay	27.41	330	*e*P	P	08 27 35.2	+1.9
	comp=Z,9.9nm,1.6s						
AAK	Ala-Archa	29.10	328	*e*P	P	08 27 49.2	+0.9
	comp=Z,2.1nm,0.6s						
MK01	Makanchi Array	29.38	342	*e*P	P	08 27 51.3	+0.7
MK31	Makanchi Array	29.40	342	*e*P	P	08 27 51.5	+0.7
	comp=Z,1.3nm,0.7s						
MK32	Makanchi Array	29.40	342	*e*P	P	08 27 51.2	+0.4
MKAR	Makanchi Array	29.40	342	P	P	08 27 51.2	+0.4
	comp=Z,1.5nm,0.6s,baz=159,slow=9.2,SNR=20						
MKAR				PcP	PcP	08 30 55.5	+1.1
	comp=Z,0.2nm,0.4s,baz=75,slow=6.1,SNR=4.3						
MKAR				ScP	ScP	08 34 29.8	+2.5
	comp=Z,0.8nm,0.7s,baz=188,slow=3.4,SNR=9.2						
SONA0	Songino Array	29.94	15	*e*P	P	08 27 56.1	+0.4
SONM	Songino Array	29.94	15	P	P	08 27 56.1	+0.4
	comp=Z,1.6nm,0.3s,baz=197,slow=9.5,SNR=17						
SONM				ScP	ScP	08 34 31.3	+2.1
	comp=Z,0.8nm,0.5s,baz=198,slow=4.0,SNR=6.5						
ULN	Ulaanbaatar	30.14	16	*e*P	P	08 27 58.0	+0.6
	comp=Z,3.2nm,0.9s						
KSRS	Korea Array	33.85	51	LR	LR	08 42 41.2	
	comp=Z,14nm,20.4s,baz=130,slow=37						
KURK	Kurchatov	34.00	341	*e*P	P	08 28 31.4	+0.4
	comp=Z,2.6nm,0.8s						
ZAA0	Zalesovo Array	35.51	350	*e*P	P	08 28 45.1	+1.1
	comp=Z,3.4nm,0.5s						
ZALV	Zalesovo Beam	35.51	350	P	P	08 28 44.7	+0.7
	comp=Z,4.5nm,0.4s,baz=173,slow=8.5,SNR=19						
ZALV				PcP	PcP	08 31 11.4	+0.3
	comp=Z,0.5nm,0.3s,baz=181,slow=2.9,SNR=2.9						
ZAA1	Zalesovo Array	35.52	350	*e*P	P	08 28 44.7	+0.7
ABKAR	Akbulak array	41.08	325	*e*P	P	08 29 31.6	+0.8
	comp=Z,8.8nm,1.6s						
NRIK	Noril'sk	50.28	357	P	P	08 30 43.2	+0.4
	comp=Z,3.1nm,0.3s,baz=346,slow=4.2,SNR=5.1						
WRA	Warramunga Arr	54.74	133	P	P	08 31 16.8	+0.3
	comp=Z,0.5nm,0.6s,baz=320,slow=7.5,SNR=16						
WRA				PcP	PcP	08 32 19.0	+1.1
	comp=Z,0.2nm,0.8s,baz=324,slow=3.2,SNR=7.7						
WR1	Warramunga Arr	54.74	133	*e*P	P	08 31 16.8	+0.3
	comp=Z,14nm,1.5s						
TIXI	Tiksi	55.95	12	*e*P	P	08 31 24.2	-0.1
TIXI	Tiksi	55.95	12	P	P	08 31 23.9	-0.5
	comp=Z,6.0nm,0.5s,baz=185,slow=4.4,SNR=15						
ASAR	Alice Springs	57.03	137	P	P	08 31 33.0	+0.3
	comp=Z,0.2nm,0.5s,baz=319,slow=7.4,SNR=5.5						
ASAR				PcP	PcP	08 32 26.9	+0.1
	comp=Z,0.4nm,0.7s,baz=316,slow=6.5,SNR=3.7						
AKASG	Malin Array Be	60.10	318	P	P	08 31 53.4	-0.3
	comp=Z,0.2nm,0.3s,baz=85,slow=6.1,SNR=4.1						
FIA1	FINESS Array S	63.25	330	*e*P	P	08 32 15.4	+0.8
	comp=Z,3.8nm,0.8s						
FIA0	FINESS Array S	63.25	330	*e*P	P	08 32 15.5	+0.9
FINES	FINESS Array B	63.25	330	P	P	08 32 15.5	+0.9
	comp=Z,2.0nm,0.5s,baz=95,slow=7.7,SNR=12						
ARA0	ARCESS Array S	64.99	339	*e*P	P	08 32 26.9	+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.74**	**295**	P	Pn	08 32 56.8	+0.9
JIKH				S	Sn	08 33 17.9	+1.0
JIO	**Ouri**	**1.88**	**298**	P	Pn	08 32 58.9	+1.1
JIO				S	Sn	08 33 21.4	+0.9
JKMT	**Kesennumamotoy**	**1.99**	**308**	P	Pn	08 33 00.0	+0.8
JKMT				S	Sn	08 33 23.7	+0.7
OFUJ	**Ofunato**	**2.05**	**317**	P	Pn	08 33 00.7	+0.6
OFUJ				S	Sn	08 33 25.1	+0.5
JMK	**Ichinoseki**	**2.23**	**308**	P	Pn	08 33 03.8	+1.2
JMK				S	Sn	08 33 30.0	+1.0
JFT	**Otama**	**2.49**	**269**	P	Pn	08 33 08.1	+2.0
JFT				eS	Sn	08 33 37.2	+1.9
JOM	**Ohasama**	**2.54**	**318**	P	Pn	08 33 08.4	+1.6
JOM				eS	Sn	08 33 37.9	+1.4
JYK	**Kaneyama**	**2.79**	**299**	P	Pn	08 33 12.2	+2.1
JYK				eS	Sn	08 33 45.2	+2.7
JANG	**Nango**	**3.17**	**332**	P	Pn	08 33 16.5	+1.1
JANG				eS	Sn	08 33 51.9	-0.1
JAG	**Ashikaga**	**3.42**	**251**	P	Pn	08 33 20.2	+1.4
JAG				eS	Sn	08 33 59.0	+0.9
BSO1	**Boso 1**	**3.56**	**215**	P	Pn	08 33 19.9	-0.3
BSO1				eS	Sn	08 34 01.2	+0.5
JRY	**Ryogami san**	**3.99**	**248**	P	Pn	08 33 27.7	+1.1
JRY				S	Sn	08 34 11.6	-0.5
JOT	**Ohata**	**4.22**	**334**	eS	Sn	08 34 16.9	-0.9
JOD2	**Odawara 2**	**4.23**	**238**	eS	Sn	08 34 16.2	-1.8
MAT	**Matsushiro**	**4.34**	**258**	P	Pn	08 33 34.4	+3.0
MAT				S	Sn	08 34 24.7	+4.0
JKB	**Kayabe**	**4.69**	**337**	eS	Sn	08 34 28.0	-1.1
JCH	**Churui**	**5.02**	**359**	P	Pn	08 33 40.1	-0.6
JCH				eS	Sn	08 34 33.6	-3.7

IDC ***26*** *08:33:24.4±1.4, 41°.48S×173°.51E, h41km±14km, mb3.5/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML3.7/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/10, Error ellipse: s-maj=29.6km s-min=9.2km az=130.0*

ISCJB ***26*** *08:33:25.1±0.2, 41°.69S±0°.02×173°.75E±0°.04, h73km±3km, mb3.7/2, Error ellipse: s-maj=5.6km s-min=2.4km az=40.0*

NEIC ***26*** *08:33:26.5±0.0, 41°.67S×173°.76E, h63km, ML4.7(WEL), After WEL.*

WEL ***26*** *08:33:26.2, 42°.S±1°×17°.4E±°, h59km±2km, ML4.7/25*

ISC 26 08:33:26.7±0.8, 41°.66S±0°.03×173°.70E±0°.03, h63km±5km, n173, σ1°32/186, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.14**	**113**	P	**Pn**	**08 33 36.3**	**0.0**
BSWZ				S	**Sn**	**08 33 43.5**	**+0.2**
TUWZ	**Tuamarina**	**0.29**	**38**	P	**Pn**	**08 33 36.6**	**-0.5**
TUWZ				S	**Sn**	**08 33 43.0**	**-1.6**
CMWZ	**Cape Campbell**	**0.39**	**103**	P	**Pn**	**08 33 39.2**	**+1.3**
CMWZ				S	**Sn**	**08 33 50.7**	**+4.6**
NNZ	**Nelson**	**0.50**	**331**	P	**Pn**	**08 33 37.2**	**-1.7**
NNZ				S	**Sn**	**08 33 45.2**	**-2.7**
THZ	**Tophouse**	**0.60**	**260**	*e*Pn	**Pn**	**08 33 39.3**	**-0.8**
THZ				*e*Sn	**Sn**	**08 33 49.5**	**-0.5**
THZ	**Tophouse**	**0.60**	**260**	P	**Pn**	**08 33 39.1**	**-1.0**
TCW	**Tory Channel**	**0.62**	**44**	P	**Pn**	**08 33 40.3**	**+0.1**
TCW				S	**Sn**	**08 33 49.8**	**-0.3**
KHZ	**Kahutara**	**0.77**	**189**	*e*Pn	**Pn**	**08 33 42.6**	**+0.7**
KHZ	**Kahutara**	**0.77**	**189**	P	**Pn**	**08 33 43.1**	**+1.2**
SNZO	**South Karori**	**0.83**	**66**	*e*Pn	**Pn**	**08 33 43.0**	**+0.3**
DUWZ	**D'Urville Isla**	**0.87**	**11**	P	**Pn**	**08 33 42.3**	**-0.9**
BHW	**Baring Head**	**0.91**	**75**	P	**Pn**	**08 33 44.1**	**+0.4**
CAW	**Cannon Point**	**1.17**	**62**	P	**Pn**	**08 33 47.3**	**+0.3**
PLWZ	**Palliser**	**1.17**	**86**	P	**Pn**	**08 33 47.2**	**+0.1**
MSWZ	**Moikau Station**	**1.19**	**79**	P	**Pn**	**08 33 47.4**	**+0.1**
KIW	**Kapiti Island**	**1.21**	**49**	P	**Pn**	**08 33 48.2**	**+0.6**
QRZ	**Quartz Range**	**1.21**	**313**	P	**Pn**	**08 33 47.1**	**-0.5**
PAWZ	**Paruwai Farm**	**1.32**	**79**	P	**Pn**	**08 33 48.9**	**-0.2**
OGWZ	**Otaki Gorge**	**1.39**	**53**	P	**Pn**	**08 33 50.3**	**+0.3**
DSZ	**Denniston Nort**	**1.42**	**266**	P	**Pn**	**08 33 50.5**	**0.0**
MTW	**Mount Morrison**	**1.44**	**70**	P	**Pn**	**08 33 50.4**	**-0.3**
TRWZ	**Traveller**	**1.51**	**81**	P	**Pn**	**08 33 51.5**	**-0.2**
LTZ	**Lake Taylor**	**1.55**	**223**	*e*Pn	**Pn**	**08 33 52.2**	**+0.1**
LTZ	**Lake Taylor**	**1.55**	**223**	P	**Pn**	**08 33 52.6**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.56**	**62**	P	**Pn**	**08 33 52.0**	**-0.3**
AMCZ	**Amberley**	**1.71**	**207**	P	**Pn**	**08 33 54.4**	**+0.2**
MRZ	**Mangatainoka R**	**1.73**	**55**	P	**Pn**	**08 33 54.3**	**-0.3**
TMWZ	**Te Maipa**	**1.74**	**72**	P	**Pn**	**08 33 54.1**	**-0.5**
TIWZ	**Tintock**	**1.87**	**63**	P	**Pn**	**08 33 55.8**	**-0.6**
OHWZ	**Ohakea**	**1.90**	**41**	P	**Pn**	**08 33 57.7**	**+0.9**
INZ	**Inchbonnie**	**1.99**	**237**	P	**Pn**	**08 33 58.2**	**+0.2**
POWZ	**Post Office Ro**	**2.01**	**52**	P	**Pn**	**08 33 57.8**	**-0.6**
CPWZ	**Castlepoint**	**2.03**	**69**	P	**Pn**	**08 33 58.0**	**-0.5**
PRWZ	**Pori Road**	**2.04**	**58**	P	**Pn**	**08 33 58.3**	**-0.4**
OXZ	**Oxford**	**2.07**	**216**	*e*Pn	**Pn**	**08 33 58.3**	**-0.9**
OXZ	**Oxford**	**2.07**	**216**	P	**Pn**	**08 33 58.5**	**-0.7**
CRLZ	**Canterbury Las**	**2.07**	**202**	*e*Pn	**Pn**	**08 33 58.5**	**-0.7**
CRLZ	**Canterbury Las**	**2.07**	**202**	P	**Pn**	**08 33 58.4**	**-0.7**
OKCZ	**Okains Bay**	**2.12**	**193**	P	**Pn**	**08 33 59.5**	**-0.3**
WAZ	**Wanganui**	**2.14**	**28**	P	**Pn**	**08 34 01.4**	**+1.4**
BFZ	**Birch Farm**	**2.15**	**64**	*e*Pn	**Pn**	**08 33 59.2**	**-1.0**
BFZ	**Birch Farm**	**2.15**	**64**	P	**Pn**	**08 33 59.1**	**-1.2**
MQZ	**McQueen's Vall**	**2.19**	**200**	*e*Pn	**Pn**	**08 33 59.6**	**-1.1**
MQZ	**McQueen's Vall**	**2.19**	**200**	P	**Pn**	**08 33 59.5**	**-1.2**
NMEZ	**Namu Road**	**2.25**	**3**	P	**Pn**	**08 34 02.6**	**+1.1**
LREZ	**Lake Rotokare**	**2.26**	**14**	P	**Pn**	**08 34 03.8**	**+2.1**
AKCZ	**Akaroa Harbour**	**2.29**	**194**	P	**Pn**	**08 34 01.4**	**-0.7**
DVHZ	**Dannevirke**	**2.31**	**55**	P	**Pn**	**08 34 01.2**	**-1.1**
PREZ	**Palmer Road**	**2.34**	**9**	P	**Pn**	**08 34 04.3**	**+1.4**
TSZ	**Takapari Road**	**2.34**	**48**	P	**Pn**	**08 34 02.3**	**-0.6**
KHEZ	**Kahui Hut**	**2.37**	**6**	P	**Pn**	**08 34 04.4**	**+1.1**
NBEZ	**Newall Road No**	**2.39**	**3**	P	**Pn**	**08 34 04.6**	**+1.1**
ANWZ	**Angora Road**	**2.42**	**61**	P	**Pn**	**08 34 02.5**	**-1.3**
PKE	**Pukeiti**	**2.47**	**5**	P	**Pn**	**08 34 05.7**	**+1.1**
DREZ	**Durham Road**	**2.50**	**9**	P	**Pn**	**08 34 05.3**	**+1.4**
PNHZ	**Pukenui**	**2.58**	**48**	P	**Pn**	**08 34 05.1**	**-1.0**
WVZ	**Waitaha Valley**	**2.61**	**236**	P	**Pn**	**08 34 06.5**	**0.0**
WPHZ	**Waipukurau**	**2.62**	**53**	P	**Pn**	**08 34 05.6**	**-1.0**
WPHZ				P	**Pn**	**08 34 05.6**	**-1.0**
PRHZ	**Porangahau**	**2.62**	**59**	P	**Pn**	**08 34 05.1**	**-1.5**
MHEZ	**Mangahewa**	**2.62**	**11**	P	**Pn**	**08 34 08.3**	**+1.6**
MTVZ	**Mangateitei**	**2.64**	**31**	P	**Pn**	**08 34 07.8**	**+0.8**
VRZ	**Vera Road**	**2.66**	**18**	P	**Pn**	**08 34 08.7**	**+1.5**
MOVZ	**Moawhango**	**2.74**	**35**	P	**Pn**	**08 34 08.0**	**-0.3**
TRVZ	**Turoa**	**2.75**	**31**	P	**Pn**	**08 34 09.1**	**+0.5**
DRZ	**Dome Shelter**	**2.77**	**31**	P	**Pn**	**08 34 09.7**	**+0.7**
WHVZ	**Whangaehu Hut**	**2.78**	**32**	P	**Pn**	**08 34 09.6**	**+0.6**
FWVZ	**Far West T-bar**	**2.79**	**31**	P	**Pn**	**08 34 09.7**	**+0.6**
TUVZ	**Tukino**	**2.81**	**33**	P	**Pn**	**08 34 10.0**	**+0.6**
BHHZ	**Black Hill Sta**	**2.82**	**40**	P	**Pn**	**08 34 08.9**	**-0.4**
RPZ	**Rata Peaks**	**2.83**	**223**	*e*Pn	**Pn**	**08 34 09.0**	**-0.5**
RPZ	**Rata Peaks**	**2.83**	**223**	P	**Pn**	**08 34 09.1**	**-0.5**
	8.4nm,0.3s,baz=231,slow=1.2,SNR=44						
RPZ				S	**Sn**	**08 34 40.8**	**-1.7**
	74nm,0.3s,baz=300,slow=20,SNR=12						
RPZ	**Rata Peaks**	**2.83**	**223**	P	**Pn**	**08 34 09.1**	**-0.5**
KRHZ	**Kereru**	**2.86**	**46**	P	**Pn**	**08 34 08.8**	**-1.2**
NGZ	**Ngauruhoe**	**2.87**	**31**	P	**Pn**	**08 34 10.8**	**+0.6**
PXZ	**Pawanui**	**2.90**	**57**	P	**Pn**	**08 34 08.6**	**-1.8**
TWVZ	**Taurewa**	**2.91**	**28**	P	**Pn**	**08 34 11.0**	**+0.4**
WTVZ	**West Tongariro**	**2.92**	**30**	P	**Pn**	**08 34 11.2**	**+0.4**
KRVZ	**Karewarewa**	**2.96**	**31**	P	**Pn**	**08 34 11.8**	**+0.4**
KWHZ	**Kaweka Forest**	**3.05**	**44**	P	**Pn**	**08 34 11.3**	**-1.2**
KAHZ	**Kahuranaki**	**3.05**	**53**	P	**Pn**	**08 34 11.0**	**-1.5**
KATZ	**Kakaramea**	**3.08**	**30**	P	**Pn**	**08 34 13.6**	**+0.6**
RITZ	**Rihia Road**	**3.15**	**32**	P	**Pn**	**08 34 13.8**	**0.0**
MCHZ	**McNeill Hill**	**3.18**	**47**	P	**Pn**	**08 34 13.1**	**-1.1**
RATZ	**Rangitukua**	**3.21**	**30**	P	**Pn**	**08 34 16.0**	**+1.3**
CKHZ	**Cape Kidnapper**	**3.25**	**53**	P	**Pn**	**08 34 13.3**	**-2.0**
HIZ	**Hauiti**	**3.26**	**16**	*e*Pn	**Pn**	**08 34 15.8**	**+0.4**
HIZ				*e*Sn	**Sn**	**08 34 52.9**	**-0.1**
HIZ	**Hauiti**	**3.26**	**16**	P	**Pn**	**08 34 16.6**	**+1.2**
BKZ	**Black Stump Fm**	**3.28**	**41**	*e*Pn	**Pn**	**08 34 14.2**	**-1.4**
BKZ	**Black Stump Fm**	**3.28**	**41**	P	**Pn**	**08 34 14.3**	**-1.4**
HATZ	**Hinemaiaia**	**3.31**	**34**	P	**Pn**	**08 34 15.7**	**-0.5**
WATZ	**Wairara**	**3.33**	**28**	P	**Pn**	**08 34 16.8**	**+0.4**
FOZ	**Fox Glacier**	**3.43**	**236**	*e*Pn	**Pn**	**08 34 17.7**	**+0.1**
FOZ	**Fox Glacier**	**3.43**	**236**	P	**Pn**	**08 34 17.5**	**0.0**
WHTZ	**Whakaora**	**3.45**	**31**	P	Pn	08 34 23.8	+5.7
ARHZ	**Aropaoanui**	**3.47**	**47**	P	**Pn**	**08 34 17.0**	**-1.2**
NMHZ	**Naumai**	**3.49**	**44**	P	**Pn**	**08 34 17.3**	**-1.3**
NMHZ				P	**Pn**	**08 34 17.1**	**-1.4**
MRHZ	**Matea Rd**	**3.50**	**37**	P	**Pn**	**08 34 17.3**	**-1.5**
KUTZ	**Kaahu Road**	**3.56**	**28**	P	**Pn**	**08 34 21.0**	**+1.6**
TLZ	**Tolley Road**	**3.61**	**24**	P	**Pn**	**08 34 20.8**	**+0.6**
WPRZ	**Whakapapatarin**	**3.66**	**32**	P	**Pn**	**08 34 20.0**	**-0.8**
MTHZ	**Maungataniwha**	**3.69**	**42**	P	**Pn**	**08 34 19.6**	**-1.7**
ALRZ	**Allen Road**	**3.70**	**34**	P	**Pn**	**08 34 20.2**	**-1.2**
WHHZ	**Waihua**	**3.73**	**47**	P	**Pn**	**08 34 20.3**	**-1.5**
LBZ	**Lake Benmore**	**3.75**	**222**	*e*Pn	**Pn**	**08 34 21.5**	**-0.6**
LBZ	**Lake Benmore**	**3.75**	**222**	P	**Pn**	**08 34 21.5**	**-0.6**
RAHZ	**Arahi**	**3.77**	**44**	P	**Pn**	**08 34 20.6**	**-1.8**
PRRZ	**Plateau Road**	**3.77**	**34**	P	**Pn**	**08 34 21.2**	**-1.2**
GRRZ	**Galatos Road**	**3.79**	**30**	P	**Pn**	**08 34 21.9**	**-0.7**
HRRZ	**Handcock Road**	**3.82**	**32**	P	**Pn**	**08 34 22.5**	**-0.5**
RTZ	**Ruatahuna**	**3.94**	**41**	P	**Pn**	**08 34 22.5**	**-2.2**
MUGZ	**Murupara**	**3.96**	**38**	P	**Pn**	**08 34 22.6**	**-2.3**
RRRZ	**Republican Roa**	**3.96**	**34**	P	**Pn**	**08 34 25.2**	**+0.3**
UTU	**Utuhina**	**3.97**	**30**	P	**Pn**	**08 34 25.5**	**+0.4**
SNGZ	**Shannon Statio**	**4.00**	**45**	P	**Pn**	**08 34 23.1**	**-2.4**
KNZ	**Kokohu**	**4.02**	**50**	P	**Pn**	**08 34 23.1**	**-2.6**
NGRZ	**Ngongotaha**	**4.03**	**29**	P	**Pn**	**08 34 25.9**	**-0.1**
TARZ	**Mount Tarawera**	**4.04**	**33**	P	**Pn**	**08 34 25.4**	**-0.8**
ODZ	**Otahua Downs**	**4.05**	**212**	*e*Pn	**Pn**	**08 34 25.1**	**-1.0**
ODZ	**Otahua Downs**	**4.05**	**212**	P	**Pn**	**08 34 24.8**	**-1.4**
MHGZ	**Mahia Peninsul**	**4.07**	**53**	P	**Pn**	**08 34 24.2**	**-2.3**
OMRZ	**Omania**	**4.10**	**31**	P	**Pn**	**08 34 26.0**	**-0.9**
KARZ	**Kaharoa**	**4.13**	**29**	P	**Pn**	**08 34 27.5**	**+0.2**
TOZ	**Tahuroa Road**	**4.16**	**20**	P	**Pn**	**08 34 28.2**	**+0.5**
KMRZ	**Kaimai**	**4.18**	**25**	P	**Pn**	**08 34 28.1**	**+0.1**
PRGZ	**Paritu Road**	**4.21**	**51**	P	**Pn**	**08 34 25.9**	**-2.4**
RAGZ	**Rawiri**	**4.25**	**43**	P	**Pn**	**08 34 26.5**	**-2.5**
RIGZ	**Rimuhau**	**4.29**	**48**	P	**Pn**	**08 34 27.2**	**-2.2**
URZ	**Urewera**	**4.29**	**39**	*e*Pn	**Pn**	**08 34 27.7**	**-1.7**
URZ	**Urewera**	**4.29**	**39**	P	**Pn**	**08 34 26.7**	**-2.7**
	4.9nm,0.3s,baz=247,slow=4.3,SNR=39						
URZ				S	**Sn**	**08 35 15.1**	**-3.0**
	25nm,0.3s,baz=80,slow=18,SNR=4.7						
MARZ	**Manawahe**	**4.32**	**33**	P	**Pn**	**08 34 28.5**	**-1.4**
JCZ	**Jackson Bay**	**4.34**	**235**	P	**Pn**	**08 34 29.4**	**-0.8**
TGRZ	**Tauranga**	**4.39**	**28**	P	**Pn**	**08 34 30.5**	**-0.3**
OPRZ	**Ohinepanea**	**4.40**	**31**	P	**Pn**	**08 34 29.6**	**-1.3**
KBAZ	**Karaka Road Bo**	**4.65**	**12**	P	**Pn**	**08 34 35.7**	**+1.4**
WKZ	**Wanaka**	**4.66**	**226**	*e*Pn	**Pn**	**08 34 32.2**	**-2.4**
WKZ	**Wanaka**	**4.66**	**226**	P	**Pn**	**08 34 32.1**	**-2.4**
MKAZ	**Moumakai**	**4.69**	**14**	P	**Pn**	**08 34 35.3**	**+0.5**
CNGZ	**Carnagh Statio**	**4.69**	**49**	P	**Pn**	**08 34 32.4**	**-2.5**
WTAZ	**Waiatarua**	**4.77**	**8**	P	**Pn**	**08 34 37.2**	**+1.2**
TWGZ	**Tauwhareparae**	**4.79**	**45**	P	**Pn**	**08 34 33.7**	**-2.6**
RUGZ	**Raukumara Rang**	**4.79**	**41**	P	**Pn**	**08 34 33.9**	**-2.5**
EAZ	**Earnscleugh**	**4.79**	**220**	P	**Pn**	**08 34 35.2**	**-1.1**
EPAZ	**Eden Park BICE**	**4.84**	**10**	P	**Pn**	**08 34 38.7**	**+1.6**
HBAZ	**Herne Bay Bore**	**4.87**	**10**	P	**Pn**	**08 34 38.8**	**+1.4**
RVAZ	**Riverhead Bore**	**4.93**	**8**	P	**Pn**	**08 34 38.7**	**+0.6**
MBAZ	**Motutapu North**	**4.97**	**11**	P	**Pn**	**08 34 39.8**	**+1.0**
WIAZ	**Waiheke Island**	**4.98**	**13**	P	**Pn**	**08 34 39.8**	**+0.8**
PKGZ	**Pakihiroa**	**5.05**	**43**	P	**Pn**	**08 34 37.6**	**-2.4**
ABAZ	**Army Bay**	**5.13**	**10**	P	**Pn**	**08 34 42.6**	**+1.7**
KUZ	**Kuaotunu**	**5.15**	**18**	P	**Pn**	**08 34 41.5**	**+0.3**
MSZ	**Milford Sound**	**5.19**	**233**	P	**Pn**	**08 34 43.0**	**+1.3**
TUZ	**Tuapeka**	**5.21**	**213**	P	**Pn**	**08 34 40.7**	**-1.2**
MXZ	**Matakaoa Point**	**5.42**	**42**	*e*Pn	**Pn**	**08 34 43.4**	**-1.5**
MLZ	**Mavora Lakes**	**5.50**	**226**	*e*Pn	**Pn**	**08 34 44.9**	**-1.1**
MLZ				*e*Sn	**Sn**	**08 35 48.9**	**+1.1**
MLZ	**Mavora Lakes**	**5.50**	**226**	P	**Pn**	**08 34 43.6**	**-2.3**
WHZ	**Wether Hill Ro**	**5.94**	**223**	*e*Pn	**Pn**	**08 34 51.9**	**0.0**
WHZ				*e*Sn	**Sn**	**08 35 59.6**	**+1.0**
OUZ	**Omahuta**	**6.43**	**359**	*e*Pn	**Pn**	**08 34 59.0**	**+0.3**
OUZ				*e*Sn	**Sn**	**08 36 09.9**	**-0.7**
DZM	**Mont Dzumac**	**20.46**	**340**	LR	LR	08 44 57.2	
	comp=Z,75nm,18.0s,baz=208,slow=34						
STKA	**Stephens Creek**	**27.38**	**280**	LR	LR	08 48 59.7	
	comp=Z,62nm,18.5s,baz=30,slow=34						
AS31	**Alice Springs**	**37.61**	**286**	*e*P	**P**	**08 40 36.4**	**+1.0**
ASAR	**Alice Springs**	**37.61**	**286**	P	**P**	**08 40 34.2**	**-1.1**
	0.5nm,0.4s,baz=125,slow=7.2,SNR=17						
ASAR				PcP	**PcP**	**08 42 50.0**	**-1.9**
	0.3nm,0.6s,baz=117,slow=5.3,SNR=3.1						
WRA	**Warramunga Arr**	**39.69**	**291**	P	**P**	**08 40 51.5**	**-1.3**
	0.7nm,0.6s,baz=126,slow=8.3,SNR=14						
WRA				PcP	**PcP**	**08 42 56.4**	**-2.0**
	0.9nm,0.9s,baz=253,slow=2.1,SNR=4.5						
WRA				S	S	08 46 38.0	-14
	0.3nm,0.5s,baz=126,slow=16,SNR=3.3						
WRA				LR	LR	08 56 43.8	
	comp=Z,12nm,19.0s,baz=215,slow=35						
SNAA	**Sanae**	**66.95**	**181**	Pdiff	**P**	**08 44 14.1**	**+2.1**
VNA3	**Neumayer Olymp**	**67.38**	**179**	Pdiff	**P**	**08 44 18.0**	**+3.3**
VNA2	**Neumayer--Watz**	**67.72**	**180**	Pdiff	**P**	**08 44 19.1**	**+2.2**
	baz=143,slow=3.9						
VNA1	**Neumayer--Stat**	**67.99**	**179**	Pdiff	**P**	**08 44 20.6**	**+2.1**
LIC	**Lamto**	**144.70**	**182**	*e*PKP1	**PKPdf**	**08 52 57.3**	**+0.7**
	62nm,1.3s						
KIC	**Kosan Boka**	**144.82**	**183**	*e*PKP1	**PKPdf**	**08 52 57.7**	**+0.9**
	24nm,0.7s						
TIC	**Toumodi**	**145.12**	**182**	*e*PKP1	**PKPdf**	**08 52 58.5**	**+1.2**
DBIC	**Dimbokro**	**145.13**	**183**	PKPbc	**PKPdf**	**08 52 58.5**	**+1.2**
	11nm,0.6s,baz=163,slow=3.9,SNR=18						
ARCES	**ARCESS Array B**	**147.55**	**340**	PKPbc	**PKPbc**	**08 53 01.6**	**-0.9**
	5.6nm,1.1s,baz=58,slow=1.2,SNR=8.7						
TORD	**Torodi Ar. Bea**	**150.75**	**196**	PKPbc	**PKiKP**	**08 53 13.0**	**+0.3**
	1.1nm,0.4s,baz=165,slow=3.5,SNR=25						
FINES	**FINESS Array B**	**152.23**	**326**	PKPbc	**PKPbc**	**08 53 12.5**	**-1.6**
	2.9nm,0.9s,baz=104,slow=5.9,SNR=7.4						

NNC ***26*** *08:54:34.7±1.4, 38°.38N×71°.35E, h0km, mb4.9, mpv4.7, Error ellipse: s-maj=13.4km s-min=8.2km az=163.0*

IDC ***26*** *08:54:34.5±0.7, 38°.47N×71°.56E, h0km, mb3.9/18, mb1 4.1/24, mb1mx3.9/55, mbtmp3.9/24, ML3.8/6, MS3.3/20, Ms1 3.3/20, ms1mx3.1/45, Error ellipse: s-maj=14.8km s-min=11.4km az=174.0*

ISCJB ***26*** *08:54:34.4±0.2, 38°.41N±0°.02×71°.49E±0°.03, h10km, mb4.2/57, MS3.4/15, Error ellipse: s-maj=3.4km s-min=3.0km az=9.5*

BJI ***26*** *08:54:35.1, 38°.51N×71°.38E, h6km, mb4.1/11, mB4.4/3, ML4.2/4, Ms3.9/6, Ms7 3.6/5*

MOS ***26*** *08:54:39.8±1.4, 38°.70N×71°.47E, h37km, mb4.6/31, Error ellipse: s-maj=5.9km s-min=4.5km az=89.5*

NEIC ***26*** *08:54:40.2±1.4, 38°.67N×71°.45E, h32km±10km, mb4.5/20, Error ellipse: s-maj=6.4km s-min=4.5km az=161.0*

ISC 26 08:54:36.2±0.4, 38°.41N±0°.03×71°.37E±0°.03, h10km, n214, σ2°.06/219, mb4.3/57, MS3.4/15, 26C-19D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.70**	**346**	*e*Pn	**Pn**	**08 55 05.2**	**-0.7**
BTK				*e*Sn	**Sn**	**08 55 26.4**	**-1.4**
BTK	**Batken**	**1.70**	**346**	*e*P	**Pn**	**08 55 05.3**	**-0.7**
BTK				*e*		08 55 26.4	
ARSB	**Arslanbob**	**3.16**	**23**	*e*Pn	**Pn**	**08 55 25.7**	**-0.5**
ARSB				*e*Sn	**Sn**	**08 56 00.6**	**-3.4**
KSH	**Kashi**	**3.75**	**72**	Pn	**Pn**	**08 55 31.8**	**-2.5**
KSH				Sn	Sn	08 56 08.3	-10
KSH				smax	smax		
	comp=N,730nm,0.9s						
KSH				smax	smax		
	comp=E,600nm,1.1s						
IUG	**Iuzhnay**	**3.87**	**345**	P	**Pn**	**08 55 38.2**	**+2.4**
AML	**Almayashu**	**4.12**	**25**	P	**Pn**	**08 55 40.3**	**+0.8**
	SNR=165						
KBL	**Kabul**	**4.30**	**207**	*e*Pn	Pn	08 55 48.9	+7.1
KBL	**Kabul**	**4.30**	**207**	PN	**Pb**	**08 55 50.6**	**-1.4**
UCH	**Uchtor**	**4.50**	**31**	P	**Pn**	**08 55 45.7**	**+0.8**
	SNR=126						
MRKS	**Merke**	**4.55**	**17**	Pg	**Pn**	**08 55 46.2**	**+0.9**
	181nm,0.6s						
MRKS				Lg	Lg	08 56 43.0	
	145nm,0.8s						
EKS2	**Erkin-Say**	**4.62**	**23**	P	**Pn**	**08 55 47.3**	**+1.1**
	SNR=56						
NRN	**Naryn**	**4.66**	**48**	*e*Pn	**Pn**	**08 55 47.2**	**+0.2**
NRN				*e*Sn	**Sn**	**08 56 36.5**	**-4.8**
NRN	**Naryn**	**4.66**	**48**	*e*PN	**Pn**	**08 55 47.2**	**+0.2**
NRN				*e*		08 56 36.5	
KZA	**Kyzart**	**4.71**	**38**	P	**Pn**	**08 55 48.5**	**+0.8**
	SNR=13						
KK31	**Karatay Array**	**4.73**	**352**	*e*Pn	**Pn**	**08 55 48.0**	**+0.4**
KK31				*e*Sn	**Sn**	**08 56 39.2**	**-3.3**
KK31	**Karatay Array**	**4.73**	**352**	⇓Pn	**Pn**	**08 55 49.0**	**+1.3**
	69nm,0.6s,baz=175,slow=13,SNR=409						
KK31				⇑Pg	**Pb**	**08 55 59.9**	**+0.7**
	40nm,0.4s,baz=167,slow=15,SNR=7.1						
KK31				⇑Sn	**Sn**	**08 56 44.9**	**+2.4**
	61nm,0.5s,baz=179,slow=20,SNR=3.7						
KK31				⇑Lg	Lg	08 57 04.4	
	85nm,0.5s,baz=171,slow=32,SNR=4.5						
KK31	**Karatay Array**	**4.73**	**352**	PN	**Pn**	**08 55 48.9**	**+1.3**
KK31				pmax	pmax		
	comp=Z,69nm,0.6s						
BRLS	**Borolday**	**4.76**	**346**	P	**Pn**	**08 55 46.5**	**-1.5**
AAK	**Ala-Archa**	**4.84**	**28**	P	**Pn**	**08 55 50.4**	**+1.1**
	SNR=70						
AAK	**Ala-Archa**	**4.84**	**28**	*e*Pn	**Pn**	**08 55 47.5**	**-1.8**
AAK	**Ala-Archa**	**4.84**	**28**	⇑Pn	**Pn**	**08 55 50.3**	**+1.0**
	comp=Z,43nm,0.4s						
AAK				⇓Pg	**Pb**	**08 56 01.3**	**+0.1**
	comp=Z,243nm,0.9s						
AAK				⇓Sn	**Sn**	**08 56 49.4**	**+3.8**
	comp=Z,298nm,1.0s						
AAK	**Ala-Archa**	**4.84**	**28**	*e*PN	**Pn**	**08 55 47.5**	**-1.8**
CHCP	**Chirah Chowk**	**4.99**	**162**	P	Pn	08 55 58.6	+7.4
NIL	**Nilore**	**4.99**	**162**	*e*Pn	Pn	08 55 56.9	+5.7
NIL	**Nilore**	**4.99**	**162**	*e*PN	Pn	08 55 56.9	+5.7
KBK	**Karagaybulak**	**5.04**	**32**	P	**Pn**	**08 55 56.6**	**+4.6**
	SNR=12						
FRU1	**Bishkek**	**5.04**	**28**	*e*Pn	**Pn**	**08 55 51.7**	**-0.3**
FRU1	**Bishkek**	**5.04**	**28**	*e*PN	**Pn**	**08 55 51.7**	**-0.3**
CHMS	**Chumysh**	**5.25**	**28**	P	**Pn**	**08 55 55.8**	**+1.1**
	SNR=72						
ULHL	**Ulahol**	**5.34**	**43**	P	**Pn**	**08 55 57.9**	**+1.8**
	SNR=26						
USP	**Ospenovka**	**5.40**	**25**	P	**Pn**	**08 55 57.5**	**+0.7**
	SNR

KOLN	Koldanda	14.74	132	*e*P		Pn	08 58 02.6	-2.4	
AKTO	Aktyubinsk	15.31	326	⇓Pn		Pn	08 58 12.4	0.0	
	comp=Z,20nm,0.8s								
AKTO				⇓Sn		Sn	09 01 03.9	+2.0	
	comp=Z,32nm,1.3s								
AKTO	Aktyubinsk	15.31	326	Pn		Pn	08 58 10.6	-1.7	
	comp=Z,1.2nm,0.3s,baz=129,slow=17,SNR=17								
AKTO				Sn		Sn	09 00 54.7	-7.2	
	comp=Z,0.4nm,0.3s,baz=127,slow=20,SNR=3.5								
AKTO				LR		LR	09 03 24.7		
	comp=Z,72nm,20.9s,baz=144,slow=34								
KKN	Kakani	15.73	128	*e*P		Pn	08 58 16.1	-2.0	
	comp=Z,19nm,0.5s								
PKI	Pulchoki	15.97	128	*e*P		Pn	08 58 18.1	-3.2	
	comp=Z,44nm,1.1s								
GUN	Gumba	16.02	127	*e*P		Pn	08 58 20.3	-1.7	
DGZ	Jazzator, Alta	16.10	40⇓	*e*P		Pn	08 58 23.1	+0.4	
DGZ				pmax	pmax				
	comp=Z,2.0nm,0.5s								
JIRN	Jiri	16.39	126	*e*P		Pn	08 58 23.5	-3.3	
	comp=Z,35nm,0.5s								
RAMN	Ramite	17.15	127	*e*P		Pn	08 58 30.8	-5.4	
	comp=Z,46nm,0.9s								
LKRN	Lenkeran, Azer	17.67	278	P		P	08 58 44.9	+1.6	
ODAN	Odare	17.71	126	*e*P		Pn	08 58 36.0	-7.2	
	comp=Z,17nm,0.6s								
ZAA0	Zalesovo Array	18.06	26	*e*Pn		Pn	08 58 44.0	-3.1	
	comp=Z,18nm,1.2s								
ZAA0				*e*Sn		Sn	09 02 05.3	-3.1	
ZALV	Zalesovo Beam	18.06	26	*e*Pn		Pn	08 58 43.6	-3.5	
ZALV	Zalesovo Beam	18.06	26	*e*P		Pn	08 58 43.9	-3.2	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.3s								
ZALV	Zalesovo Beam	18.06	26	P		Pn	08 58 44.3	-2.8	
	comp=Z,1.7nm,0.3s,baz=213,slow=12,SNR=20								
ZALV				LR		LR	09 06 05.8		
	comp=Z,22nm,21.5s,baz=106,slow=38								
ZAA1	Zalesovo Array	18.07	26	*e*Pn		Pn	08 58 44.3	-2.8	
NVS	Novosibirsk	18.30	22⇑	*i*P		Pn	08 58 47.7	-2.2	
WSAR	Wadi Sarin	18.64	219	LR		LR	09 07 41.8		
	comp=Z,79nm,18.6s,baz=42,slow=42								
SEKA	Sheki	18.77	286	P		P	08 58 55.6	+0.1	
MNGR	Mingechevir, A	18.85	285	P		P	08 58 57.4	+1.1	
ZKTA	Zakatala	19.21	287	P		P	08 59 01.1	+0.9	
GANJ	Ganja	19.43	284	P		P	08 59 03.7	+1.0	
GROC	Groznyy	19.91	292	*e*P		P	08 59 07.5	-0.4	
GROC				*e*S		S	09 02 51.0	-0.8	
GROC				pmax	pmax				
	comp=Z,73nm,1.2s								
ARU	Arti	19.94	339	*e*P		P	08 59 06.7	-1.4	
	comp=Z,13nm,1.0s								
ARU	Arti	19.94	339	*c i*P		Pn	08 59 12.1	+2.4	
ARU				pmax	pmax				
	comp=Z,14nm,1.0s								
ARU				MLR		MLR			
	comp=Z,124nm,14.0s								
TBLG	Delisi	20.62	288	*e*P		P	08 59 17.2	+1.6	
	comp=Z,15nm,0.6s								
TBLG	Delisi	20.62	288	*e*P		P	08 59 17.2	+1.6	
TBLG				pmax	pmax				
	comp=Z,15nm,0.6s								
GNI	Garni	20.66	283⇑	*e*P		Pn	08 59 21.4	+2.8	
GNI				pmax	pmax				
	comp=Z,121nm,1.3s								
ZEI	Tsey	21.27	291	*e*P		P	08 59 24.7	+1.9	
ZEI				pmax	pmax				
	comp=Z,14nm,0.6s								
NCK	Nalchik	21.53	292⇑	*e*P		P	08 59 27.6	+2.1	
NCK				pmax	pmax				
	comp=Z,97nm,0.8s								
SHL	Shillong	21.55	120	*e*P		P	08 59 24.3	-1.6	
	comp=Z,13nm,1.0s								
SHL	Shillong	21.55	120	*e*P		P	08 59 24.3	-1.6	
SHL				pmax	pmax				
	comp=Z,13nm,1.0s								
HYB	Hyderabad	21.84	161	*i*P		P	08 59 34.0	+5.0	
KARS	Kars	21.90	285	*e*P		P	08 59 30.6	+1.0	
	comp=Z,52nm,0.8s								
KARS	Kars	21.90	285	*e*P		P	08 59 30.6	+1.0	
KARS				pmax	pmax				
	comp=Z,52nm,0.8s								
KBZ	Khabaz	22.05	293	P		P	08 59 30.7	-0.3	
	comp=Z,8.0nm,0.7s,baz=127,slow=7.1,SNR=15								
KBZ				LR		LR	09 10 10.2		
	comp=Z,117nm,18.0s,baz=94,slow=42								
GOF	Gofitskoye	22.09	297	*e*P		P	08 59 33.5	+2.1	
GOF				pmax	pmax				
	comp=Z,50nm,1.4s								
GTA	Gaotai	22.12	78	*e*P		P	08 59 32.0	0.0	
GTA				pP		pP	08 59 35.5	-0.5	
GTA				sP		sP	08 59 38.5	+0.7	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.5s								
GTA				pmax	pmax				
	comp=Z,83nm,5.2s								
GTA				LR		LR			
	comp=Z,220nm,18.4s								
GTA				LR		LR			
	comp=Z,290nm,22.9s								
GTA				LR		LR			
	comp=Z,110nm,18.7s								
NEY	Neytrino	22.15	292⇓	*e*P		P	08 59 34.9	+2.6	
NEY				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRDH	Bariadhala	23.39	126	LR		LR	09 10 19.8		
	comp=Z,122nm,18.8s,baz=167,slow=41								
VRH	Novokhopyorsk	24.43	311	*e*P		P	08 59 53.4	-1.4	
VRH				pmax	pmax				
	comp=Z,4.0nm,0.2s								
KIRV	Kirov	24.67	332	LR		LR	09 09 21.2		
	comp=Z,47nm,19.8s,baz=148,slow=36								
ZAK	Zakamensk	25.54	52	*e*P		P	09 00 04.5	-0.6	
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.1s								
VSR	Storozhevoye	25.96	310	*e*P		P	09 00 09.1	+0.4	
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
ANN	Anapa	26.03	295	*e*P		P	09 00 06.5	-2.9	
ANN				*e**PP		sP	09 00 18.1	+2.7	
ANN				*e*S		S	09 04 30.2	-10	
ANN				pmax	pmax				
	comp=Z,39nm,1.1s								
TLY	Talaya	26.14	49	*e*P		P	09 00 09.4	-1.0	
	comp=Z,6.1nm,1.5s								
TLY	Talaya	26.14	49⇓	*e*P		P	09 00 10.7	+0.4	
TLY				pmax	pmax				
	comp=Z,4.0nm,0.7s								
LPSR	Galich'ya Gora	26.53	313	*e*P		P	09 00 15.8	+2.0	
LPSR				pmax	pmax				
	comp=Z,10.0nm,0.8s								
SONA0	Songino Array	27.04	58	*e*P		P	09 00 17.0	-1.7	
SONM	Songino Array	27.04	58	P		P	09 00 17.0	-1.7	
SONM	Songino Array	27.04	58	P		P	09 00 17.0	-1.7	
	comp=Z,0.3nm,0.4s,baz=258,slow=7.2,SNR=2.5								
SONM				LR		LR	09 11 22.6		
	comp=Z,99nm,18.7s,baz=15,slow=38								
ULN	Ulaanbaatar	27.48	58⇑	*e*P		P	09 00 26.8	+4.1	
ULN				pmax	pmax				
	comp=Z,5.0nm,1.4s								
OBN	Obninsk	28.71	317	*e*P		P	09 00 35.4	+2.1	
OBN				*i*			09 01 27.6		
OBN				pmax	pmax				
	comp=Z,44nm,2.2s								
BR101	Keskin Array S	29.18	285	*e*P		P	09 00 39.6	+1.7	
BR131	Keskin Array S	29.18	285	*e*P		P	09 00 39.1	+1.2	
	comp=Z,7.7nm,1.1s								
BRTR	Keskin Array B	29.18	285	*e*P		P	09 00 40.8	+2.9	
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRTR	Keskin Array B	29.18	285	P		P	09 00 39.6	+1.7	
	comp=Z,3.0nm,0.8s,baz=91,slow=6.3,SNR=10								
BRTR				LR		LR	09 14 26.1		
	comp=Z,18nm,21.9s,baz=89,slow=41								
AKASG	Malin Array Be	32.01	306	*e*P		P	09 01 04.4	+1.8	
AKASG	Malin Array Be	32.01	306	P		P	09 01 02.8	+0.3	
	comp=Z,0.4nm,0.3s,baz=114,slow=7.8,SNR=4.5								
AKASG				LR		LR	09 16 18.8		
	comp=Z,56nm,19.0s,baz=115,slow=41								
AKBB	Malin Array Si	32.01	306	*e*P		P	09 01 03.2	+0.7	
	comp=Z,3.1nm,0.8s								
AKBB	Malin Array Si	32.01	306	*e*P		P	09 01 03.3	+0.7	
AKBB				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KIEV	Kiev	32.02	306⇑	*e*P		P	09 01 06.6	+4.0	
KIEV				pmax	pmax				
	comp=Z,5.0nm,1.2s								
BOD	Bodaibo	33.70	41	*e*P		P	09 01 18.3	+1.1	
BOD				pmax	pmax				
	comp=Z,6.0nm,1.2s								
MLR	Muntele Rosu	34.14	297	*e*P		P	09 01 22.2	+0.8	
	comp=Z,14nm,1.2s								
MLR	Muntele Rosu	34.14	297	*e*P		P	09 01 22.2	+0.8	
MLR				pmax	pmax				
	comp=Z,14nm,1.2s								
VSU	Vasula	34.89	320⇓	*e*P		P	09 01 29.0	+1.5	
VSU				pmax	pmax				
	comp=Z,18nm,1.0s								
FIA1	FINESS Array S	36.08	325	*e*P		P	09 01 37.9	+0.2	
	comp=Z,15nm,1.4s								
FINES	FINESS Array B	36.08	325	*e*P		P	09 01 38.1	+0.4	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.3s								
FINES	FINESS Array B	36.08	325	P		P	09 01 37.4	-0.3	
	comp=Z,1.1nm,0.3s,baz=111,slow=7.6,SNR=15								
FINES				LR		LR	09 17 30.0		
	comp=Z,62nm,20.5s,baz=316,slow=38								
VTS	Vitosha	36.44	292	P		P	09 01 44.1	+2.8	
VTS				pmax	pmax				
	comp=Z,12nm,1.1s								
SRS	Serrai	36.47	290	P		P	09 01 44.1	+2.8	
SRS				pmax	pmax				
	comp=Z,10.0nm,1.4s								
ATD	Arta Tunnel	36.93	231	LR		LR	09 18 53.3		
	comp=Z,57nm,20.1s,baz=16,slow=39								
NIE	Niedzica	37.72	304	P		P	09 01 54.1	+2.2	
NIE				pmax	pmax				
	comp=Z,3.0nm,1.5s								
FNA	Florina	38.18	290	P		P	09 01 57.9	+2.0	
FNA				pmax	pmax				
	comp=Z,18nm,2.3s								
VYHS	Vyhne	38.75	302	*e*P		P	09 02 00.3	-0.3	
VYHS	Vyhne	38.75	302	*e*P		P	09 02 00.3	-0.3	
ARA0	ARCESS Array S	39.50	337	*e*P		P	09 02 06.6	+0.1	
ARCES	ARCESS Array B	39.50	337	*e*P		P	09 02 05.2	-1.3	
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
ARCES	ARCESS Array B	39.50	337	P		P	09 02 06.6	+0.1	
	comp=Z,2.7nm,0.6s,baz=122,slow=4.6,SNR=25								
ARE0	ARCESS Array S	39.50	337	*e*P		P	09 02 06.5	0.0	
	comp=Z,1.1nm,1.3s								
BRG	Berggiesshubel	41.70	307	*i*P		P	09 02 26.6	+1.7	
	comp=Z,6.9nm,0.6s								
BRG	Berggiesshubel	41.70	307	*i*P		P	09 02 26.6	+1.7	
BRG				pmax	pmax				
	comp=Z,7.0nm,0.6s								
GERES	GERESS Array B	42.09	304	*e*P		P	09 02 30.9	+2.6	
GERES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
GERES	GERESS Array B	42.09	304	P		P	09 02 28.4	+0.1	
	comp=Z,1.0nm,0.5s,baz=48,slow=6.0,SNR=4.8								
GERES				LR		LR	09 21 16.8		
	comp=Z,50nm,20.7s,baz=104,slow=38								
GEA0	GERESS Array S	42.09	304	*e*P		P	09 02 28.6	+0.3	
CLL	Collm	42.24	307	*e*P		P	09 02 31.0	+1.6	
	comp=Z,7.0nm,0.8s								
CLL	Collm	42.24	307	*e*P		P	09 02 31.0	+1.6	
CLL				pmax	pmax				
	comp=Z,7.0nm,0.8s								
NC405	NORSAR Array S	42.81	322	*e*P		P	09 02 33.5	-0.3	
	comp=Z,19nm,1.2s								
NORES	NORESS Array B	42.87	321	P		P	09 02 36.7	+2.4	
NB201	NORSAR Array S	43.01	322	*e*P		P	09 02 35.0	-0.5	
	comp=Z,70nm,1.6s								
NB2	NORSAR Subarra	43.05	322	P		P	09 02 35.6	-0.2	
	comp=Z,1.3nm,0.7s,baz=94,slow=8.6								
NB200	NORSAR Array S	43.05	322	*e*P		P	09 02 35.3	-0.6	
NOA	NORSAR Array B	43.05	322	*e*P		P	09 02 35.9	+0.1	
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NOA	NORSAR Array B	43.05	322	P		P	09 02 35.3	-0.6	
	comp=Z,1.7nm,0.7s,baz=92,slow=7.9,SNR=7.3								
NC204	NORSAR Array S	43.28	322	*e*P		P	09 02 37.3	-0.5	
	comp=Z,14nm,1.2s								
KLR	Kul'dur	43.80	55⇓	*e*P		P	09 02 45.3	+3.3	
KONO	Kongsberg	43.80	320	*e*P		P	09 02 41.8	-0.1	
	comp=Z,7.2nm,0.9s								
KONO	Kongsberg	43.80	320	*e*P		P	09 02 41.8	-0.1	
KONO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
TIXI	Tiksi	43.89	23	*e*P		P	09 02 40.9	-1.5	
	comp=Z,6.3nm,0.9s								
TIXI	Tiksi	43.89	23⇑	*e*P		P	09 02 41.1	-1.3	
TIXI				pmax	pmax				
	comp=Z,7.0nm,2.4s								
TIXI	Tiksi	43.89	23	P		P	09 02 41.3	-1.1	
	comp=Z,1.4nm,0.5s,baz=273,slow=4.3,SNR=9.3								
KSAR	Wonju Array Be	43.98	73	P		P	09 02 42.3	-1.3	
KSAR	Wonju Array Be	43.98	73	P		P	09 02 42.3	-1.3	
KSRS	Korea Array	44.01	73	P		P	09 02 42.3	-1.5	
	comp=Z,0.5nm,0.7s,baz=289,slow=7.5,SNR=3.1								
KSRS				LR		LR	09 24 00.3		
	comp=Z,42nm,18.6s,baz=302,slow=40								
USRK	Ussuriysk Ar.	45.00	62	P		P	09 02 49.9	-1.7	
	comp=Z,1.6nm,0.8s,baz=174,slow=29,SNR=2.2								
VLA	Vladivostok	45.21	64⇑	*e*P		P	09 02 57.4	+4.1	
MJAR	Matsushiro Arr	52.00	70	LR		LR	09 26 14.2		
	comp=Z,37nm,18.6s,baz=295,slow=37								
MA2	Magadan	52.68	39	*c e*P		P	09 03 53.3	+2.8	
MA2				pmax	pmax				
	comp=Z,16nm,1.7s								
DAG	Danmarks Havn	52.98	343	*i*P		P	09 03 56.2	+3.8	
	comp=Z,2.6nm,0.7s								
DAG	Danmarks Havn	52.98	343	*e*P		P	09 03 56.2	+3.8	
DAG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
BILL	Bilibino	56.76	27	*e*P		P	09 04 21.9	+2.0	
BILL				*e*			09 05 17.7		
BILL				*e*			09 06 26.9		
BILL				pmax	pmax				
	comp=Z,2.0nm,1.0s								
ESDC	Sonseca Array	56.84	297	P		P	09 04 22.2	+1.2	
	comp=Z,0.5nm,0.4s,baz=62,slow=8.0,SNR=6.5								
DAV	Davao City (W)	57.88	108	LR		LR	09 30 19.7		
	comp=Z,26nm,19.2s,baz=334,slow=37								
SUMG	Summit	59.35	341	*e*P		P	09 04 38.8	+0.3	
	comp=Z,7.7nm,1.0s								
SUMG	Summit	59.35	341	*i*P		P	09 04 40.9	+2.4	
	comp=Z,13nm,0.8s								
SUMG	Summit	59.35	341	*e*P		P	09 04 38.8	+0.3	
SUMG				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TOA1	Torodi Ar. Sit	66.07	268	*e*P		P	09 05 23.7	+0.1	
TOA0	Torodi Ar. Sit	66.07	268	*e*P		P	09 05 23.6	0.0	
	comp=Z,6.5nm,1.4s								
TORD	Torodi Ar. Bea	66.07	268	P		P	09 05 23.7	+0.1	
	comp=Z,0.7nm,0.5s,baz=48,slow=5.8,SNR=12								
TORD				LR		LR	09 38 27.0		
	comp=Z,30nm,19.4s,baz=140,slow=40								
BATI	Baumata	68.65	123	LR		LR	09 40 46.8		
	comp=Z,56nm,19.0s,baz=234,slow=40								
IM3	Indian Mountai	70.26	18	*e*P		P	09 05 47.8	-1.4	
INK	Inuvik	71.97	9	*e*P		P	09 05 59.2	-0.2	
	comp=Z,3.3nm,0.6s								
INK	Inuvik	71.97	9	*e*P		P	09 05 59.2	-0.2	
INK				pmax	pmax				
	comp=Z,3.0nm,0.6s								
INK	Inuvik	71.97	9	P		P	09 05 59.0	-0.5	
	comp=Z,0.9nm,0.5s,baz=342,slow=7.0,SNR=11								
ILAR	Eielson Array	72.86	16	P		P	09 06 04.3	-0.5	
	comp=Z,0.4nm,1.0s,baz=324,slow=4.8,SNR=2.8								
PPLA	Purkeypile	73.18	19	*e*P		P	09 06 06.0	-0.9	
	comp=Z,23nm,1.5s								
YKA	Yellowknife Ar	79.32	3	P		P	09 06 41.1	-0.6	
	comp=Z,0.7nm,0.6s,baz=350,slow=5.4,SNR=16								
YKB5	Yellowknife Ar	79.32	3	*e*P		P	09 06 41.0	-0.6	
WR1	Warramunga Arr	82.76	122	*e*P		P	09 07 00.7	+0.1	
	comp=Z,5.2nm,1.0s								
WRA	Warramunga Arr	82.76	122	P		P	09 07 00.7	+0.1	
	comp=Z,0.8nm,0.8s,baz=332,slow=5.4,SNR=7.0								
ASAR	Alice Springs	85.11	125	P		P	09 07 12.7	+0.1	
	comp=Z,0.3nm,0.8s,baz=316,slow=5.2,SNR=3.8								

*IDC **26** 09:01:13.0±1.2, 15°.40N×90°.46W, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/34, mbtmp3.6/4, ML3.4/2, MS2.8/3, Ms1 2.9/3, ms1mx2.5/31, Error ellipse: s-maj=32.5km s-min=7.2km az=83.0*
*ISCJB **26** 09:01:13.2±0.6, 15°.37N±0°.07×90°.72W±0°.07, h8km, mb3.9/2, MS2.9/1, Error ellipse: s-maj=12.3km s-min=5.1km az=42.3*
*UCR **26** 09:01:13.6±2.3, 15°.31N×90°.67W, h0km±20km, MD3.7, ML3.4*

ISC 26 09:01:13.8±0.8, 15°.35N±0°.06×90°.62W±0°.06, h8km, n24, σ1s03/24, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
APG	El Apazote	0.37	156	Pg	Pg		09 01 20.4	-0.8
	362nm,0.3s,baz=1.4,slow=16,SNR=2039							
APG				Lg	Lg		09 01 26.0	
	564nm,0.3s,baz=192,slow=16,SNR=28							
APG				LR	LR		09 01 44.0	
	comp=Z,2μm,20.4s,baz=106,slow=79							
NBG	Las Nubes	0.80	161⇑	*e*P	Pg		09 01 29.3	0.0
FUG	Fuego 3	0.92	194	*e*P	Pg		09 01 31.1	-0.4
MRL	Marmol	0.94	107	*e*P	Pg		09 01 31.3	-0.6
PCG	Pacaya	0.95	179	*e*P	Pg		09 01 32.2	+0.2
IXG	Ixpaco	1.18	172	*e*P	Pg		09 01 36.4	-0.1
UNIC	Santa Ana	1.69	143	*e*P	Pn		09 01 44.3	+0.6
RTR	El Retiro	1.72	147	*e*P	Pn		09 01 44.5	+0.3
SNJE	San Jose	1.77	146	*e*P	Pn		09 01 44.8	-0.1
SBLS	San Blas	1.78	147	*e*P	Pn		09 01 45.7	+0.6
CEVE	Cerro Verde	1.79	147	*e*P	Pn		09 01 45.4	+0.1
LLGN	La Laguna	1.99	126	*e*P	Pb		09 01 49.9	-0.5
LLGN				IAML			09 02 19.3	
	comp=Z,461nm,0.6s							
BOQS	Boqueron	2.06	141	*e*P	Pb		09 01 51.0	-0.6
SNET	Serv Nac Est T	2.13	141	*e*P	Pn		09 01 50.2	+0.4
LFU	La Fuente	2.15	137	*e*P	Pb		09 01 52.3	-0.9
LBRS	Las Brisas	2.21	136	*e*P	Pb		09 01 53.0	-1.1
LFRS	El Faro	2.28	138	*e*P	Pn		09 01 52.5	+0.6
PAVA	Las Pavas	2.30	135	*e*P	Pb		09 01 54.4	-1.2
CMIG	Matias Romero	4.45	294	Pn	Pn		09 02 21.2	-0.4
	comp=Z,1.5nm,0.3s,baz=111,slow=8.3,SNR=16							
CMIG				Sn	Sn		09 03 11.5	-2.2
	comp=Z,15nm,0.3s,baz=230,slow=11,SNR=5.9							
CMIG				Lg	Lg		09 03 27.3	
	comp=Z,65nm,0.3s,baz=24,slow=12,SNR=17							
CMIG				LR	LR		09 04 02.8	
	comp=Z,111nm,18.3s,baz=83,slow=37							
TXAR	Lajitas Array	18.40	321	P	Pn		09 05 30.6	+1.1
	comp=Z,0.0nm,0.3s,baz=153,slow=12,SNR=3.2							
TXAR				LR	LR		09 14 29.8	
	comp=Z,34nm,19.1s,baz=0.0,slow=43							
NVAR	Mina Array Bea	33.51	319	P	P		09 07 57.0	+2.8
	comp=Z,0.8nm,0.7s,baz=135,slow=9.0,SNR=5.1							
YKA	Yellowknife Ar	50.04	346	P	P		09 10 07.5	-1.2
	comp=Z,0.9nm,0.5s,baz=145,slow=7.6,SNR=23							
NOA	NORSAR Array B	82.33	29	LR	LR		09 48 42.6	
	comp=Z,5.1nm,21.8s,baz=260,slow=35							
CMAR	Chiang Mai Arr	145.11	344	PKPbc	PKPab		09 20 52.7	+0.4
	comp=Z,0.7nm,0.3s,baz=3.4,slow=4.5,SNR=2.5							

*ISCJB **26** 09:09:07.1±0.9, 6°.2N±0°.1×60°.5E±0°.1, h10km, mb3.9/9, MS3.3/8, Error ellipse: s-maj=21.1km s-min=19.7km az=39.4*
*NEIC **26** 09:09:08.5±0.8, 6°.18N×60°.46E, h10km, mb4.0/3, Error ellipse: s-maj=27.5km s-min=15.6km az=132.0*
*IDC **26** 09:09:08.1±1.2, 6°.32N×60°.66E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/43, mbtmp3.9/7, MS3.3/8, Ms1 3.4/8, ms1mx3.0/38, Error ellipse: s-maj=35.8km s-min=23.8km az=161.0*

ISC 26 09:09:09.1±1.1, 6°.3N±0°.2×60°.6E±0°.2, h10km, n24, σ1s03/16, mb4.0/9, MS3.4/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
H08N2	Diego Garcia H	16.27	140	T	T		09 29 08.4	
	baz=320,slow=76,SNR=37							
H08N3	Diego Garcia H	16.29	140	T	T		09 29 13.1	
	baz=320,slow=76,SNR=32							
H08N1	Diego Carcia H	16.30	140	T	T		09 29 15.4	
	baz=320,slow=76,SNR=38							
PALK	Pallekele	20.02	86	LR	LR		09 19 47.5	
	comp=Z,149nm,18.5s,baz=297,slow=32							
KMBO	Kilima Mbogo	24.41	253	*e*P	P		09 14 26.4	-2.0
	8.3nm,1.3s							
KMBO	Kilima Mbogo	24.41	253	P	P		09 14 30.7	+2.3
	2.0nm,0.5s,baz=62,slow=5.9,SNR=6.8							
CMAR	Chiang Mai Arr	39.29	68	P	P		09 16 39.1	+0.5
	1.1nm,0.3s,baz=257,slow=8.1,SNR=3.8							
CMAR				LR	LR		09 31 33.8	
	comp=Z,32nm,19.1s,baz=208,slow=34							
MAKZ	Makanchi	44.39	21	*e*P	P		09 17 19.9	-0.1
	2.7nm,1.1s							
MK01	Makanchi Array	44.48	21	*e*P	P		09 17 21.1	+0.5
MK31	Makanchi Array	44.49	21	*e*P	P		09 17 21.9	+1.1
	1.9nm,1.2s							
MK32	Makanchi Array	44.49	21	*e*P	P		09 17 21.1	+0.4
MKAR	Makanchi Array	44.49	21	P	P		09 17 21.1	+0.4
	0.6nm,0.9s,baz=208,slow=7.5,SNR=6.3							
MKAR				LR	LR		09 37 18.0	
	comp=Z,17nm,21.3s,baz=186,slow=38							
BVAR	Borovoye Array	47.30	8	LR	LR		09 38 27.5	
	comp=Z,43nm,21.0s,baz=194,slow=37							
BOSA	Boshof	48.59	223	LR	LR		09 36 38.1	
	comp=Z,38nm,18.4s,baz=34,slow=34							
ZALV	Zalesovo Beam	51.44	18	*e*P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.77**	**260**	LR	LR	09 38 43.6	
	comp=Z,64nm,18.4s,baz=44,slow=31						
ASAR	**Alice Springs**	**47.70**	**256**	P	P	09 38 10.3	+0.4
	0.8nm,0.8s,baz=100,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**47.79**	**261**	P	P	09 38 09.8	-0.8
	0.7nm,1.0s,baz=97,slow=7.1,SNR=6.1						
ASAJ	**Asahikawa**	**74.81**	**330**	LR	LR	10 06 45.0	
	comp=Z,46nm,21.9s,baz=160,slow=30						
PLCA	**Paso Flores**	**87.33**	**132**	LR	LR	10 17 30.9	
	comp=Z,19nm,19.1s,baz=284,slow=33						
AKASG	**Malin Array Be**	**144.00**	**334**	PKP	PKPdf	09 49 08.1	-0.4
	0.4nm,0.4s,baz=44,slow=4.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**172.37**	**152**	PKP	PKPdf	09 49 42.5	-0.6
	0.3nm,0.8s,baz=232,slow=1.6,SNR=3.1						

MDD ***26*** *09:30:44.5±3.9, 35.56N×7.71W, h47km±111km, mb3.5/1, Error ellipse: s-maj=39.9km s-min=10.3km az=8.0, PRXIMO*

INMG ***26*** *09:30:44.7±1.6, 35.54N×7.68W, h31km±15km, ML1.7, Error ellipse: s-maj=7.3km s-min=5.1km az=69.0*

IGIL ***26*** *09:30:44.2, 35.64N×7.70W, h10km, ML1.6*

ISC 26 09:30:42.9±3.6, 35.7N±0.2×7.65W±0.06, h14km±26km, n22, σ0s73/43, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.55**	**352**	*e*P	**Pb**	**09 31 11.2**	**-0.3**
PBDV				*e*S	**Sn**	**09 31 30.1**	**-0.1**
PBDV				A	A	09 31 36.3	
	3.5nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.55**	**352**	P	**Pb**	**09 31 11.2**	**-0.3**
PBDV				S	**Sn**	**09 31 30.1**	**-0.1**
	3.5nm,0.5s						
PVAQ	**Vaqueiros**	**1.69**	**358**	*e*Pn	**Pb**	**09 31 13.1**	**-0.8**
PVAQ				*e*Sn	**Sn**	**09 31 33.6**	**-0.1**
PVAQ	**Vaqueiros**	**1.69**	**358**	P	**Pb**	**09 31 13.1**	**-0.8**
PVAQ				S	**Sn**	**09 31 33.6**	**-0.1**
PFVI	**Vila Bisbo**	**1.71**	**327**	*e*Sn	**Sn**	**09 31 34.3**	**+0.2**
PFVI	**Vila Bisbo**	**1.71**	**327**	P	**Pn**	**09 31 12.5**	**+0.1**
	1.1nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**09 31 33.2**	**-0.9**
	2.2nm,0.1s,SNR=4.0						
MORF	**Marmelete**	**1.79**	**333**	*e*P	**Pn**	**09 31 13.7**	**+0.2**
MORF				*e*S	**Sn**	**09 31 35.7**	**-0.3**
MORF				AML	AML	09 31 39.0	
	comp=N,6.6nm,0.3s						
MORF	**Marmelete**	**1.79**	**333**	*e*Pn	**Pn**	**09 31 13.7**	**+0.2**
MORF				*e*Sn	**Sn**	**09 31 35.8**	**-0.3**
MORF				A	A	09 31 39.2	
	comp=N,5.0nm,0.1s						
MORF	**Marmelete**	**1.79**	**333**	P	**Pn**	**09 31 13.7**	**+0.2**
MORF				P	**Pn**	**09 31 13.7**	**+0.2**
MORF				S	**Sn**	**09 31 35.7**	**-0.3**
	comp=N,6.6nm,0.3s						
EGRO	**El Granado**	**1.83**	**4**	P	**Pn**	**09 31 14.9**	**+0.9**
	comp=N,0.6nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**09 31 37.2**	**+0.3**
	comp=N,1.4nm,0.2s,SNR=5.1						
ESPR	**Espera**	**1.86**	**51**	P	**Pn**	**09 31 15.4**	**+1.0**
	comp=N,1.8nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**09 31 38.5**	**+0.8**
	comp=N,6.5nm,0.3s,SNR=7.9						
PCVE	**Castro Verde**	**1.95**	**351**	*e*Pn	**Pn**	**09 31 16.6**	**+1.0**
PCVE				*e*Sn	**Sn**	**09 31 39.9**	**0.0**
PCVE				A	A	09 31 40.8	
	comp=N,3.2nm,0.2s						
PCVE	**Castro Verde**	**1.95**	**351**	P	**Pn**	**09 31 16.6**	**+1.0**
PCVE				S	**Sn**	**09 31 39.9**	**0.0**
	comp=N,3.2nm,0.2s						
MESJ	**Messejana**	**2.18**	**348**	*e*P	**Pn**	**09 31 19.6**	**+0.8**
MESJ				*e*S	**Sn**	**09 31 45.3**	**-0.3**
MESJ				AML	AML	09 31 46.9	
	comp=N,2.9nm,0.7s						
MESJ	**Messejana**	**2.18**	**348**	*e*Pn	**Pn**	**09 31 19.9**	**+1.1**
MESJ				*e*Sn	**Sn**	**09 31 45.7**	**+0.1**
MESJ				A	A	09 31 48.2	
	comp=N,1.5nm,0.1s						
MESJ	**Messejana**	**2.18**	**348**	P	**Pn**	**09 31 19.6**	**+0.8**
MESJ				S	**Sn**	**09 31 45.3**	**-0.3**
	comp=N,2.9nm,0.7s						
EMIN	**Mina Concepcio**	**2.20**	**21**	S	**Sn**	**09 31 45.6**	**-0.6**
	comp=N,1.3nm,0.1s,SNR=7.9						
ECAB	**El Cabril**	**2.96**	**36**	P	**Pn**	**09 31 29.8**	**+0.1**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**09 32 03.8**	**-1.2**
	comp=N,0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.09**	**9**	P	**Pn**	**09 31 32.5**	**+1.3**
	comp=N,0.2nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**09 32 07.2**	**-0.8**
	comp=N,1.6nm,0.4s,SNR=7.9						
PMTG	**Montargil**	**3.39**	**352**	*e*Pn	**Pn**	**09 31 36.1**	**+0.7**
PMTG				*e*Sn	**Sn**	**09 32 15.8**	**+0.4**
PMTG				A	A	09 32 17.9	
	comp=N,1.7nm,0.4s						
PMTG	**Montargil**	**3.39**	**352**	P	**Pn**	**09 31 36.1**	**+0.7**
PMTG				Sn	**Sn**	**09 32 15.8**	**+0.4**
	comp=N,1.7nm,0.4s						
EADA	**Adamuz**	**3.48**	**44**	P	**Pn**	**09 31 37.6**	**+0.9**
	comp=N,0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**09 32 15.6**	**-2.1**
	comp=N,1.6nm,0.7s,SNR=4.1						

NNC ***26*** *09:36:47.6±2.4, 53.43N×87.66E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=19.6km s-min=9.6km az=66.0, Suspected Mining explosion.*

ASRS 26 09:36:43.8, 53.61N×87.82E, M2.7, 6C-8D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.81**	**282**	⇓Pn	Pb	09 37 18.1	+0.3
	2.2nm,0.4s						
ZAA0				⇑Pn	Sg	09 37 44.2	+2.2
	18nm,0.9s						
KURK	**Kurchatov**	**6.36**	**247**	⇑Pn	Pn	09 38 20.9	+2.2
	2.6nm,0.6s						
KURK				⇓Sn	Sn	09 39 31.4	-0.5
	4.4nm,1.0s						
KURK				⇓Lg	Lg	09 40 00.3	
	14nm,0.8s						
KURBB	**Kurchatov Arra**	**6.46**	**246**	⇑Pn	Pn	09 38 22.9	+2.9
	7.8nm,0.5s						
KURBB				⇑Sn	Sn	09 39 34.4	+0.1
	7.3nm,0.6s						
KURBB				⇓Lg	Lg	09 40 06.7	
	30nm,0.8s						
MK31	**Makanchi Array**	**7.69**	**210**	⇓Pn	Pn	09 38 40.3	+3.3
	1.2nm,0.5s,baz=29,slow=12,SNR=29						
MK31				⇓Sn	Sn	09 40 04.8	+0.1
	6.8nm,1.0s,baz=29,slow=25,SNR=7.9						
MK31				⇓Lg	Lg	09 40 43.7	
	10nm,0.8s,baz=33,slow=30,SNR=5.1						
MAKZ	**Makanchi**	**7.77**	**211**	⇑Pn	Pn	09 38 40.9	+2.8
	4.4nm,1.4s						
MAKZ				⇑Sn	Sn	09 40 07.6	+0.8
	6.2nm,0.8s						
MAKZ				⇓Lg	Lg	09 40 48.4	
	15nm,1.1s						

SOME ***26*** *09:56:35.4, 43.67N×69.58E*

NNC 26 09:56:36.9±1.5, 43.68N×69.74E, h0km, mb3.8, mpv3.2, 4C-1D, Error ellipse: s-maj=8.2km s-min=4.8km az=141.0, Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.65**	**174**	P	Pn	09 56 52.6	-0.8
	4.8nm,0.5s						
BRLS				S	Sn	09 57 05.0	+0.5
	10nm,0.3s						
KK31	**Karatay Array**	**0.81**	**136**	⇑P	Pg	09 56 52.6	+0.3
	1.0nm,0.4s,baz=320,slow=17,SNR=89						
KK31				⇑S	Sg	09 57 03.7	+1.0
	7.9nm,0.4s,baz=317,slow=35,SNR=111						
IUG	**luzhnay**	**1.55**	**172**	P	Pn	09 57 06.0	+0.2
	26nm,0.5s						
IUG				S	Sb	09 57 28.3	+1.7
	47nm,0.4s						
MRKS	**Merke**	**2.71**	**109**	Pg	Pb	09 57 27.1	+0.7
	5.8nm,0.3s						
MRKS				Lg	Lg	09 58 04.5	
	9.3nm,0.4s						
BTLS	**Baital**	**3.37**	**65**	Pg	Pg	09 57 42.1	+0.6
	10.0nm,0.5s						
BTLS				Lg	Lg	09 58 29.8	
	4.5nm,0.7s						
AAK	**Ala-Archa**	**3.63**	**105**	Pg	Pb	09 57 42.9	+0.9
	4.8nm,0.5s						
AAK				⇓Lg	Lg	09 58 33.1	
	3.8nm,0.5s						
TKM2	**Tokmak 2**	**4.34**	**98**	⇑Pg	Pb	09 57 55.1	+0.9
	2.9nm,0.5s						
TKM2				⇑Lg	Lg	09 58 57.2	
	3.1nm,0.6s						
DGS	**Degeres**	**4.41**	**94**	Pg	Pg	09 57 59.1	-2.3
DGS				Lg	Lg	09 58 59.2	
KST	**Kastek**	**4.58**	**96**	Pg	Pb	09 58 01.3	+3.1
	3.3nm,0.7s						
KST				Lg	Lg	09 59 03.1	
	7.7nm,0.8s						
KTBS	**Karatobe**	**5.03**	**87**	Pg	Pg	09 58 12.0	-1.3
	2.3nm,0.5s						
KTBS				Lg	Lg	09 59 22.3	
	8.5nm,0.7s						
ARXS	**Arharly**	**5.86**	**82**	Pg	Pg	09 58 27.5	-1.6
	3.7nm,0.6s						
ARXS				Lg	Lg	09 59 47.9	
	4.1nm,0.5s						

ISCJB ***26*** *09:56:58.2±0.7, 6.34S±0.09×76.21W±0.07, h100km, mb3.5/5, Error ellipse: s-maj=12.9km s-min=8.9km az=162.1*

IDC ***26*** *09:56:59.7±3.0, 6.29S×76.17W, h96km±36km, mb3.2/5, mb1 3.6/9, mb1mx3.5/37, mbtmp3.7/9, Error ellipse: s-maj=45.3km s-min=20.2km az=28.0*

ISC 26 09:56:59.6±0.7, 6.41S±0.09×76.25W±0.09, h100km, n12, σ1s20/14, mb3.5/5, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.25**	**251**	P	**Pn**	**09 57 36.8**	**+0.9**
	baz=79,slow=16						
ATAH				S	**Sn**	**09 58 02.4**	**-1.2**
	39nm,0.3s,baz=328,slow=18,SNR=6.2						
NNA	**Nana**	**5.58**	**186**	P	**Pn**	**09 58 22.4**	**+2.2**
	1.8nm,0.3s,baz=356,slow=14,SNR=3.5						
NNA				S	**Sn**	**09 59 20.6**	**-2.5**
	12nm,0.3s,baz=260,slow=12,SNR=12						
PTGA	**Pitinga**	**17.19**	**71**	P	**P**	**10 00 52.9**	**-0.9**
	0.6nm,0.3s,baz=272,slow=18,SNR=5.7						
SIV	**San Ignacio**	**17.66**	**124**	P	**P**	**10 00 59.2**	**+0.2**
	0.2nm,0.3s,baz=315,slow=15,SNR=4.1						
TXAR	**Lajitas Array**	**44.25**	**325**	P	**P**	**10 05 00.0**	**+0.6**
	0.4nm,0.5s,baz=147,slow=9.2,SNR=5.1						
PDAR	**Pinedale Array**	**57.55**	**331**	P	**P**	**10 06 38.9**	**-0.2**
	0.3nm,0.6s,baz=163,slow=9.4,SNR=3.2						
NVAR	**Mina Array Bea**	**59.27**	**322**	P	**P**	**10 06 51.6**	**+0.4**
	0.6nm,0.7s,baz=127,slow=7.0,SNR=5.9						
YKA	**Yellowknife Ar**	**74.71**	**343**	P	**P**	**10 08 27.5**	**-0.6**
	0.4nm,0.6s,baz=141,slow=6.1,SNR=12						
TORD	**Torodi Ar. Bea**	**79.79**	**75**	P	**P**	**10 08 57.5**	**0.0**
	0.3nm,0.5s,baz=270,slow=3.7,SNR=2.8						
MKAR	**Makanchi Array**	**135.73**	**21**	PKP	**PKPdf**	**10 16 08.2**	**-0.6**
	0.2nm,0.4s,baz=343,slow=1.5,SNR=3.5						
SONM	**Songino Array**	**138.66**	**357**	PKP	**PKPdf**	**10 16 14.1**	**-0.1**
	0.2nm,0.4s,baz=14,slow=1.8,SNR=3.0						
WRA	**Warramunga Arr**	**140.11**	**228**	PKP	**PKPdf**	**10 16 18.1**	**+0.5**
	0.4nm,0.7s,baz=131,slow=1.3,SNR=4.5						

NIED ***26*** *09:59:00, 33.80N×140.80E, h53km, Mw4.3 Best double couple: M0 2.83000×10^15 NP1:φs331.00000°, δ40.00000°, λ51.00000°. NP2:φs198.00000°, δ60.00000°, λ118.00000°.*

BJI ***26*** *09:59:09.0, 33.80N×140.80E, h51km, mb4.4/8, mB4.5/2*

JMA ***26*** *09:59:10.8±0.1, 33.83N×140.77E, h56km±4km, M4.3*

ISCJB ***26*** *09:59:11.6±0.4, 33.76N±0.02×140.63E±0.04, h69km±3km, mb4.3/82, Error ellipse: s-maj=6.2km s-min=4.0km az=172.4*

MOS ***26*** *09:59:11.7±0.9, 33.73N×140.55E, h71km, mb4.6/32, Error ellipse: s-maj=11.3km s-min=6.0km az=117.0*

IDC ***26*** *09:59:12.8±1.0, 33.74N×140.66E, h68km±8km, mb3.9/22, mb1 4.1/26, mb1mx3.9/53, mbtmp4.2/26, MS3.1/13, Ms1 3.1/13, ms1mx2.9/42, Error ellipse: s-maj=14.2km s-min=7.8km az=81.0*

NEIC ***26*** *09:59:13.0±0.5, 33.71N×140.59E, h68km±5km, mb4.5/50, Error ellipse: s-maj=5.3km s-min=4.2km az=75.0*

ISC 26 09:59:11.6±0.8, 33.76N±0.03×140.76E±0.05, h58km±6km, n190, σ1s46/207, mb4.4/81, MS3.2/10, 6C-6D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.91**	**12**	P	**Pn**	**09 59 26.8**	**-1.0**
JMKN	**Mikurajimanish**	**0.98**	**278**	P	**Pn**	**09 59 29.0**	**-0.3**
JMKN				S	**Sn**	**09 59 41.9**	**-0.5**
JHJ2	**Mitsune**	**1.02**	**231**	*e*Pn	**Pn**	**09 59 30.0**	**+0.1**
JHJ2				*e*Sn	**Sn**	**09 59 44.1**	**+0.8**
JHJ2	**Mitsune**	**1.02**	**231**	P	**Pn**	**09 59 29.9**	**+0.1**
JHJ2				S	**Sn**	**09 59 43.8**	**+0.5**
JHJ	**Hachijo jima 2**	**1.04**	**232**	P	**Pn**	**09 59 30.0**	**-0.1**
	1μm,0.3s,baz=66,slow=22,SNR=177						
JHJ				S	**Sn**	**09 59 44.1**	**+0.4**
	3μm,0.3s,baz=242,slow=23,SNR=16						
JHJ				LR	LR	09 59 59.5	
	comp=Z,498nm,18.9s,baz=116,slow=50						
BSO3	**Boso 3**	**1.06**	**349**	P	**Pn**	**09 59 29.2**	**-0.8**
JHCJ	**Hachijojimakas**	**1.06**	**230**	P	**Pn**	**09 59 30.2**	**-0.1**
JHCJ				S	**Sn**	**09 59 44.5**	**+0.3**
BSO4	**Boso 4**	**1.27**	**344**	P	**Pn**	**09 59 32.5**	**-0.6**
JKO	**Kozu shima**	**1.41**	**288**	P	**Pn**	**09 59 34.8**	**-0.2**
JKO				*e*S	**Sn**	**09 59 52.1**	**-0.5**
JTHY	**Toshimahigashi**	**1.44**	**302**	P	**Pn**	**09 59 34.8**	**-0.6**
JIM2	**Oshima 3**	**1.45**	**311**	P	**Pn**	**09 59 34.7**	**-0.9**
JIM2				*e*S	**Sn**	**09 59 52.0**	**-1.7**
JAOM	**Aogashimamukai**	**1.54**	**213**	P	**Pn**	**09 59 37.2**	**+0.4**
JIZS	**Izushimoda**	**1.82**	**302**	P	**Pn**	**09 59 40.6**	**0.0**
JOD2	**Odawara 2**	**2.03**	**318**	P	**Pn**	**09 59 42.9**	**-0.6**
JOD2				S	**Sn**	**10 00 06.1**	**-1.7**
JFNN	**Fujinakano**	**2.23**	**310**	P	**Pn**	**09 59 46.2**	**+0.1**
MJA0	**Matsu Arr-Jizo**	**3.45**	**324**	*e*P	**Pn**	**10 00 03.6**	**+0.7**
MJA0				pmax	pmax		
	comp=Z,12nm,0.3s						
INU	**Inuyama**	**3.47**	**298**	*e*Pn	**Pn**	**10 00 03.8**	**+0.7**
INU				*e*Sn	**Sn**	**10 00 40.1**	**-2.8**
MJAR	**Matsushiro Arr**	**3.47**	**324**	P	**Pn**	**10 00 03.7**	**+0.5**
	comp=Z,12nm,0.3s,baz=153,slow=12,SNR=643						
MJAR				S	**Sn**	**10 00 43.6**	**+0.6**
	comp=Z,5.4nm,0.3s,baz=163,slow=24,SNR=9.7						
MJAR				LR	LR	10 01 38.5	
	comp=Z,257nm,19.7s,baz=140,slow=43						
MAJO	**Matsushiro**	**3.47**	**324**	*e*Pn	**Pn**	**10 00 04.1**	**+0.9**
MAJO				*e*Sn	**Sn**	**10 00 43.7**	**+0.7**
MAJO	**Matsushiro**	**3.47**	**324**	*e*P	**Pn**	**10 00 04.1**	**+0.9**
MAJO				*e*		10 00 43.7	
MAT	**Matsushiro**	**3.47**	**324**	P	**Pn**	**10 00 04.1**	**+0.9**
MAT				S	**Sn**	**10 00 44.0**	**+1.0**
MJB9	**Matsu-Tunnel**	**3.48**	**324**	*e*Pn	**Pn**	**10 00 04.2**	**+0.9**
MJB9				*e*Sn	**Sn**	**10 00 44.2**	**+1.1**
CBIJ	**Chichi jima**	**6.76**	**169**	*e*Pn	**Pn**	**10 00 46.8**	**-1.4**
CBIJ				*e*Sn	**Sn**	**10 01 57.2**	**-6.6**
JCJ	**Chichijima**	**6.76**	**169**	P	**Pn**	**10 00 46.8**	**-1.4**
	comp=Z,23nm,0.3s,baz=101,slow=19,SNR=15						
JCJ				S	**Sn**	**10 01 57.2**	**-6.6**
	comp=Z,20nm,0.3s,baz=112,slow=23,SNR=3.3						
JNU	**Nakatsue**	**8.28**	**268**	*e*Pn	**Pn**	**10 01 10.6**	**+1.6**
JNU	**Nakatsue**	**8.28**	**268**	P	**Pn**	**10 01 10.8**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=50,slow=3.3,SNR=25						
ERM	**Erimo**	**8.45**	**12**	*e*Pn	**Pn**	**10 01 09.7**	**-1.6**
ERM	**Erimo**	**8.45**	**12**	*e*P	**Pn**	**10 01 08.8**	**-2.5**
ASAJ	**Asahikawa**	**10.44**	**7**	P	**Pn**	**10 01 35.7**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=338,slow=33,SNR=4.8						
ASAJ				S	Sn	10 03 22.7	-11
	comp=Z,0.7nm,0.3s,baz=346,slow=33,SNR=1.4						
YUK	**Yuzh-Kuril'sk**	**11.00**	**20**	P	**Pn**	**10 01 42.4**	**-3.7**
YUK				pmax	pmax		
	comp=E,7.0nm,0.2s						
YUK				pmax	pmax		
	comp=Z,25nm,0.2s						
YUK				pmax	pmax		
	comp=N,10.0nm,0.3s						
KSRS	**Korea Array**	**11.08**	**293**	P	**Pn**	**10 01 49.5**	**+2.4**
	comp=N,0.3nm,0.3s,baz=110,slow=14,SNR=34						
KSRS				LR	LR	10 06 15.2	
	comp=N,42nm,19.8s,baz=96,slow=38						
KS15	**Wonju Array Si**	**11.10**	**293**	*e*Pn	**Pn**	**10 01 47.3**	**-0.2**
KS01	**Wonju Array Si**	**11.11**	**293**	*e*Pn	**Pn**	**10 01 51.3**	**+3.7**
SHO	**Shikotan**	**11.14**	**23**	P	Pn	10 01 42.4	-5.7
TJN	**Taejon**	**11.28**	**287**	⇓*e*P	**Pn**	**10 01 53.8**	**+3.8**
TEY	**Ternei**	**11.71**	**345**	⇓*e*P	Pn	10 01 50.6	-5.1
TEY				pmax	pmax		
	comp=Z,20nm,1.5s						
USRK	**Ussuriysk Ar.**	**12.45**	**329**	P	**Pn**	**10 02 05.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=150,slow=12,SNR=3.1						
YSS	**Yuzh-Sakhalins**	**13.26**	**6**	⇑*e*P	**Pn**	**10 02 15.4**	**-1.6**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KLR	**Kul'dur**	**16.84**	**339**	P	**Pn**	**10 02 59.9**	**-3.5**
	comp=Z,0.7nm,0.3s,baz=158,slow=15,SNR=12						
KLR				LR	LR	10 09 37.9	
	comp=Z,53nm,18.7s,baz=132,slow=37						
TYV	**Tymovskoe**	**17.14**	**4**	*e*P	**P**	**10 03 13.0**	**+5.0**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GUMO	**Guam**	**20.43**	**168**	LR	LR	10 09 22.8	
	comp=Z,8.8nm,19.1s,baz=90,slow=30						
ZEA	**Zeya**	**22.15**	**338**	*e*P	**P**	**10 04 02.2**	**-0.2**
ZEA				pmax	pmax		
	comp=N,21nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,28nm,0.8s						
MA2	**Magadan**	**26.66**	**11**	LR	LR	10 14 50.0	
	comp=Z,21nm,19.0s,baz=266,slow=35						
H11N2	**WAKE ISLAND Hy**	**27.11**	**114**	T	T	10 33 48.3	
	baz=306,slow=75,SNR=61						
H11N1	**WAKE ISLAND Hy**	**27.12**	**114**	T	T	10 33 43.7	
	baz=306,slow=75,SNR=57						
H11N3	**WAKE ISLAND Hy**	**27.13**	**114**	T	T	10 33 44.1	
	baz=306,slow=75,SNR=59						
H11S3	**WAKE ISLAND Hy**	**27.70**	**117**	T	T	10 34 32.9	
	baz=308,slow=76,SNR=9.0						
H11S1	**WAKE ISLAND Hy**	**27.70**	**117**	T	T	10 34 31.5	
	baz=308,slow=76,SNR=7.2						
H11S2	**WAKE ISLAND Hy**	**27.71**	**117**	T	T	10 34 27.4	
	baz=308,slow=76,SNR=5.9						
ULN	**Ulaanbaatar**	**28.88**	**309**	*de*P	**P**	**10 05 05.2**	**+0.3**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONA0	**Songino Array**	**29.30**	**309**	*e*P	**P**	**10 05 09.3**	**+0.7**
SONA0				*e*PcP	**PcP**	**10 08 14.0**	**0.0**
SONM	**Songino Array**	**29.30**	**309**	P	**P**	**10 05 09.3**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=109,slow=8.5,SNR=5.7						
SONM				PcP	**PcP**	**10 08 14.0**	**0.0**
	comp=Z,0.3nm,0.4s,baz=85,slow=3.0,SNR=2.5						
SONM				LR	LR	10 17 37.3	
	comp=Z,64nm,18.4s,baz=131,slow=38						
BOD	**Bodaibo**	**30.07**	**331**	*e*P	**P**	**10 05 13.7**	**-1.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ZAK	**Zakamensk**	**31.98**	**313**	*e*P	**P**	**10 05 32.1**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TLY	**Talaya**	**32.17**	**315**	*e*P	**P**	**10 05 35.0**	**+1.3**
TLY				*e*S	**S**	**10 10 37.5**	**-4.8**
TLY				pmax	pmax		
	comp=Z,12nm,0.6s						
TLY				MLR	MLR		
	comp=Z,18nm,5.0s						
SIJI	**Sorong**	**35.59**	**196**	LR	LR	10 17 54.3	
	comp=Z,30nm,21.5s,baz=120,slow=32						
BILL	**Bilibino**	**37.31**	**16**	*e*P	**P**	**10 06 18.9**	**+1.1**
BILL				*e*		10 07 43.7	
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	**Tiksi**	**38.47**	**354**	⇑*e*P	**P**	**10 06 27.5**	**0.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.1s						
CMAR	**Chiang Mai Arr**	**40.23**	**258**	P	**P**	**10 06 41.4**	**-1.4**
	comp=Z,1.0nm,0.3s,baz=41,slow=8.4,SNR=3.1						
CMAR				LR	LR	10 23 51.8	
	comp=Z,18nm,18.8s,baz=110,slow=37						
DGZ	**Jazzator, Alta**	**41.95**	**309**	*d*P	**P**	**10 06 57.4**	**+0.6**
DGZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZAA0	**Zalesovo Array**	**43.78**	**315**	*e*P	**P**	**10 07 11.5**	**+0.2**
	comp=Z,2.3nm,0.8s						
ZAA1	**Zalesovo Array**	**43.78**	**315**	*e*P	**P**	**10 07 10.3**	**-1.0**
ZAA1				*e*PP	**PcP**	**10 08 56.7**	**-0.3**
ZAA1				*e*ScP	**ScP**	**10 12 40.2**	**-3.6**
ZALV	**Zalesovo Beam**	**43.78**	**315**	*e*P	**P**	**10 07 11.3**	**0.0**
ZALV	**Zalesovo Beam**	**43.78**	**315**	*e*P	**P**	**10 07 11.1**	**-0.2**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**43.78**	**315**	P	**P**	**10 07 10.3**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=109,slow=7.7,SNR=6.6						
ZALV				PcP	**PcP**	**10 08 56.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=88,slow=3.6,SNR=3.4						
ZALV				ScP	**ScP**	**10 12 40.2**	**-3.6**
	comp=Z,0.5nm,0.2s,baz=107,slow=4.8,SNR=3.5						
ZALV				LR	LR	10 25 39.0	
	comp=Z,27nm,20.3s,baz=235,slow=36						
MK01	**Makanchi Array**	**45.47**	**305**	*e*P	**P**	**10 07 24.6**	**-0.3**
MK31	**Makanchi Array**	**45.47**	**305**	*e*P	**P**	**10 07 24.2**	**-0.7**
	comp=Z,3.4nm,0.6s						
MK31	**Makanchi Array**	**45.47**	**305**	*e*P	**P**	**10 07 24.3**	**-0.7**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MK32	**Makanchi Array**	**45.47**	**

FITZ	Fitzroy Crossi	53.55	198	*e*P		P	10 08 26.8	+0.2		
	comp=Z,3.3nm,0.6s									
WRAB	Tennant Creek	53.74	187	*e*P		P	10 08 27.8	-0.2		
	comp=Z,23nm,0.8s									
WRAB	Tennant Creek	53.74	187	*c i*P		P	10 08 27.6	-0.4		
WRAB				pmax	pmax					
	comp=Z,19nm,0.8s									
WR1	Warramunga Arr	53.76	187	*e*P		P	10 08 27.6	-0.5		
	comp=Z,29nm,0.8s									
WR1				*e*PcP		PcP	10 09 33.9	+0.5		
WRA	Warramunga Arr	53.76	187	P		P	10 08 27.6	-0.5		
	comp=Z,23nm,0.4s,baz=2.6,slow=7.7,SNR=535									
WRA				PcP		PcP	10 09 33.9	+0.5		
	comp=Z,1.6nm,0.6s,baz=0.4,slow=4.6,SNR=2.3									
BMRM	Bremner River	53.80	36	*e*P		P	10 08 29.9	+1.8		
	comp=Z,14nm,0.9s									
KK31	Karatay Array	54.35	302	*e*P		P	10 08 31.7	-0.6		
	comp=Z,4.4nm,0.6s									
KK31	Karatay Array	54.35	302	*e*P		P	10 08 31.7	-0.6		
KK31				pmax	pmax					
	comp=Z,4.0nm,0.6s									
KKAR	Karatay Array	54.35	302	*e*P		P	10 08 31.7	-0.7		
	comp=Z,4.4nm,0.6s									
KKAR	Karatay Array	54.35	302	*e*P		P	10 08 31.7	-0.7		
KKAR				pmax	pmax					
	comp=Z,4.0nm,0.6s									
EGAK	Eagle	55.00	31	*e*P		P	10 08 37.6	+0.9		
	comp=Z,3.2nm,1.5s									
EPYK	Eagle Plains	56.64	29	*e*P		P	10 08 50.0	+1.6		
	comp=Z,17nm,1.5s									
HYT	Haines Junctio	57.26	35	*e*P		P	10 08 54.1	+1.2		
	comp=Z,18nm,1.5s									
AS01	Alice Springs	57.48	187	*e*P		P	10 08 54.7	-0.1		
AS31	Alice Springs	57.48	187	*e*P		P	10 08 54.7	-0.1		
	comp=Z,4.4nm,0.6s									
ASAR	Alice Springs	57.48	187	P		P	10 08 54.5	-0.3		
	comp=Z,4.8nm,0.5s,baz=1.9,slow=6.5,SNR=121									
ASAR				PcP		PcP	10 09 47.6	-0.3		
	comp=Z,1.5nm,0.7s,baz=6.8,slow=4.6,SNR=2.6									
INK	Inuvik	57.55	26	*e*P		P	10 08 55.0	+0.4		
	comp=Z,1.9nm,1.1s									
INK	Inuvik	57.55	26	*e*P		P	10 08 55.1	+0.4		
INK				pmax	pmax					
	comp=Z,2.0nm,1.1s									
INK	Inuvik	57.55	26	P		P	10 08 54.9	+0.2		
	comp=Z,1.8nm,0.5s,baz=285,slow=5.0,SNR=16									
ARU	Arti	58.48	320	*e*P		P	10 09 00.5	-0.9		
	comp=Z,5.7nm,0.6s									
ARU	Arti	58.48	320	*d i*P		P	10 09 00.9	-0.5		
ARU				S		S	10 17 01.9	+1.6		
ARU				SS		SS	10 20 51.0	-1.9		
ARU				pmax	pmax					
	comp=Z,5.0nm,0.7s									
EIDS	Eidsvold	59.62	169	*e*P		P	10 09 10.8	+1.2		
	comp=Z,24nm,1.4s									
ABKAR	Akbulak array	59.67	311	*e*P		P	10 09 08.7	-1.1		
	comp=Z,4.4nm,0.6s									
STKA	Stephens Creek	65.30	179	*e*P		P	10 09 47.8	+0.4		
	comp=Z,1.4nm,1.0s									
STKA	Stephens Creek	65.30	179	*e*P		P	10 09 47.8	+0.4		
STKA				pmax	pmax					
	comp=Z,1.0nm,1.0s									
STKA	Stephens Creek	65.30	179	P		P	10 09 47.1	-0.2		
	comp=Z,2.0nm,0.6s,baz=337,slow=9.1,SNR=6.0									
FORT	Forrest	65.31	192	*e*P		P	10 09 47.8	+0.4		
	comp=Z,30nm,0.9s									
RES	Resolute Bay	65.89	14	*e*P		P	10 09 51.3	+0.5		
	comp=Z,2.2nm,0.8s									
RES	Resolute Bay	65.89	14	*e*P		P	10 09 51.3	+0.5		
RES				pmax	pmax					
	comp=Z,2.0nm,0.8s									
BBOO	Buckleboo	66.37	184	*e*P		P	10 09 54.1	-0.1		
	comp=Z,17nm,1.3s									
ARA0	ARCESS Array S	66.87	340	*e*P		P	10 09 57.1	0.0		
ARCES	ARCESS Array B	66.87	340	P		P	10 09 57.1	0.0		
	comp=Z,2.6nm,0.8s,baz=55,slow=7.8,SNR=4.2									
YKA	Yellowknife Ar	66.91	29	P		P	10 09 57.5	+0.1		
	comp=Z,0.5nm,0.5s,baz=296,slow=6.3,SNR=11									
YKB5	Yellowknife Ar	66.91	29	*e*P		P	10 09 57.3	-0.2		
NLWA	Neilton Lookou	69.34	46	*e*P		P	10 10 15.2	+2.2		
	comp=Z,2.8nm,0.8s									
NWAO	Narrogin (SRO)	69.93	201	*e*P		P	10 10 16.9	+0.3		
	comp=Z,45nm,1.3s									
NWAO	Narrogin (SRO)	69.93	201	*e*P		P	10 10 16.9	+0.3		
NWAO				pmax	pmax					
	comp=Z,45nm,1.3s									
TOO	Toolangi	71.11	176	P		P	10 10 25.3	+1.6		
FIA1	FINESS Array S	71.46	333	*e*P		P	10 10 25.5	-0.1		
FIA0	FINESS Array S	71.46	333	*e*P		P	10 10 25.6	0.0		
FIA0	FINESS Array S	71.46	333	*e*P		P	10 10 25.6	0.0		
FINES	FINESS Array B	71.46	333	*e*P		P	10 10 28.7	+3.1		
FINES				pmax	pmax					
	comp=Z,1.0nm,0.4s									
FINES	FINESS Array B	71.46	333	P		P	10 10 25.6	0.0		
	comp=Z,1.1nm,0.5s,baz=84,slow=4.7,SNR=6.0									
KBZ	Khabaz	72.64	311	P		P	10 10 33.7	+0.7		
	comp=Z,3.2nm,0.9s,baz=108,slow=6.3,SNR=5.5									
NEW	Newport	72.86	43	P		P	10 10 35.6	+1.3		
NEW				pmax	pmax					
	comp=Z,5.0nm,2.8s									
PINE	Pine Mountain	72.88	49	*e*P		P	10 10 36.6	+1.9		
	comp=Z,3.3nm,0.8s									
K05A	Summer Lake	73.45	50	*e*P		P	10 10 40.2	+2.1		
	comp=Z,14nm,1.3s									
BMO	Blue Mountains	74.56	46	*e*P		P	10 10 45.9	+1.5		
	comp=Z,2.2nm,0.9s									
BMO	Blue Mountains	74.56	46	*e*P		P	10 10 45.9	+1.5		
BMO				pmax	pmax					
	comp=Z,2.0nm,0.9s									
BEKR	Beckworth	75.28	52	*e*P		P	10 10 49.2	+0.5		
	comp=Z,3.4nm,0.8s									
CMB	Columbia Colle	76.22	53	*e*P		P	10 10 55.4	+1.4		
	comp=Z,8.2nm,1.3s									
CMB	Columbia Colle	76.22	53	*e*P		P	10 10 55.4	+1.4		
CMB				pmax	pmax					
	comp=Z,8.0nm,1.3s									
TAU	Tasmania Unive	76.54	175	P		P	10 10 55.5	+0.2		
AKASG	Malin Array Be	76.56	323	*e*P		P	10 10 57.7	+2.2		
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.4s									
AKASG	Malin Array Be	76.56	323	P		P	10 10 54.9	-0.7		
	comp=Z,0.5nm,0.3s,baz=46,slow=6.6,SNR=5.6									
AKASG				LR		LR	10 47 35.6			
	comp=Z,19nm,18.1s,baz=355,slow=38									
FFC	Flin Flon	76.75	32	*i*P		P	10 10 57.5	+0.9		
NC204	NORSAR Array S	76.96	338	*e*P		P	10 10 58.1	+0.4		
	comp=Z,10nm,1.0s									
NB2	NORSAR Subarra	76.99	337	P		P	10 10 58.0	+0.1		
	comp=Z,0.7nm,0.6s,baz=42,slow=5.6									
NOA	NORSAR Array B	76.99	337	P		P	10 10 58.0	+0.1		
NOA	NORSAR Array B	76.99	337	P		P	10 10 58.0	+0.1		
	comp=Z,1.1nm,0.8s,baz=41,slow=5.9,SNR=5.2									
NOA				LR		LR	10 47 30.2			
	comp=Z,13nm,20.1s,baz=350,slow=38									
KVN	Kaiserville	77.19	52	*e*P		P	10 11 01.9	+2.3		
	comp=Z,4.9nm,0.9s									
KVN	Kaiserville	77.19	52	*e*P		P	10 11 01.9	+2.3		
KVN				pmax	pmax					
	comp=Z,5.0nm,0.9s									
NV01	Mina Array Sit	77.39	52	*e*P		P	10 11 01.4	+0.6		
NVAR	Mina Array Bea	77.39	52	P		P	10 11 01.8	+1.0		
	comp=Z,1.9nm,0.8s,baz=279,slow=5.5,SNR=11									
ELK	Elko	78.08	49	*e*P		P	10 11 06.5	+1.9		
	comp=Z,2.6nm,0.8s									
ELK	Elko	78.08	49	*e*P		P	10 11 06.5	+1.9		
ELK				pmax	pmax					
	comp=Z,3.0nm,0.8s									
R11A	Troy Canyon, C	79.21	51	*e*P		P	10 11 12.3	+1.5		
	comp=Z,2.7nm,1.0s									
BGU	Big Grassy Mou	79.35	48	*e*P		P	10 11 12.4	+0.9		
	comp=Z,1.6nm,0.8s									
TPNV	Topopah Spring	79.57	53	*e*P		P	10 11 14.0	+1.2		
	comp=Z,3.3nm,0.8s									
TPNV	Topopah Spring	79.57	53	*e*P		P	10 11 14.0	+1.2		
TPNV				pmax	pmax					
	comp=Z,3.0nm,0.8s									
BKZ	Black Stump Fm	79.76	153	*e*P		P	10 11 13.3	0.0		
	comp=Z,7.8nm,1.2s									
DUG	Dugway, Tooele	79.91	48	*e*P		P	10 11 16.4	+1.8		
	comp=Z,4.6nm,1.0s									
DUG	Dugway, Tooele	79.91	48	P		P	10 11 16.0	+1.5		
DUG				pmax	pmax					
	comp=Z,7.0nm,1.2s									
PDAR	Pinedale Array	80.35	45	*e*P		P	10 11 17.4	+0.4		
PDAR	Pinedale Array	80.35	45	P		P	10 11 16.8	-0.1		
	comp=Z,0.4nm,0.7s,baz=65,slow=1.1,SNR=5.0									
SHPR	Sheep Range	80.54	52	*e*P		P	10 11 19.1	+1.1		
	comp=Z,1.9nm,0.8s									
BR101	Keskin Array S	80.62	312	*e*P		P	10 11 17.6	-0.7		
BRTR	Keskin Array B	80.62	312	P		P	10 11 17.6	-0.7		
	comp=Z,0.8nm,0.8s,baz=48,slow=2.1,SNR=2.9									
CCUT	Cedar City	81.11	51	*e*P		P	10 11 22.1	+1.0		
	comp=Z,1.9nm,0.7s									
LCMT	Little Creek M	81.50	51	*e*P		P	10 11 24.7	+1.6		
	comp=Z,4.7nm,0.8s									
KNB	Kanab	81.77	51	*e*P		P	10 11 26.6	+2.0		
	comp=Z,5.1nm,0.9s									
KNB	Kanab	81.77	51	*e*P		P	10 11 26.6	+2.0		
KNB				pmax	pmax					
	comp=Z,5.0nm,0.9s									
RPZ	Rata Peaks	81.92	158	P		P	10 11 25.0	+0.4		
	comp=Z,1.8nm,0.5s,baz=356,slow=15,SNR=1.9									
SRU	San Rafael Swe	81.98	48	*e*P		P	10 11 26.8	+1.2		
	comp=Z,5.8nm,0.7s									
SRU	San Rafael Swe	81.98	48	*e*P		P	10 11 26.8	+1.2		
SRU				pmax	pmax					
	comp=Z,6.0nm,0.7s									
U15A	North Rim	82.46	51	*e*P		P	10 11 28.1	-0.2		
	comp=Z,1.2nm,0.8s									
VYHS	Vyhne	83.11	325	*e*P		P	10 11 33.6	+2.5		
VYHS	Vyhne	83.11	325	*e*P		P	10 11 33.5	+2.5		
GERES	GERESS Array B	85.20	328	LR		LR	10 54 35.7			
	comp=Z,16nm,18.1s,baz=4.5,slow=39									
ANMO	Albuquerque	87.11	49	*e*P		P	10 11 46.4	-5.2		
DOU	Dourbes	87.93	333	P		P	10 11 54.1	-0.8		
DOU				pmax	pmax					
	comp=Z,11nm,1.5s									
WMOK	Wichita Mounta	91.95	45	P		P	10 12 14.7	+0.6		
LTX	Lajitas	92.55	52	*e*P		P	10 12 17.5	+0.4		
LTX	Lajitas	92.55	52	*e*P		P	10 12 17.5	+0.4		
TXAR	Lajitas Array	92.55	52	P		P	10 12 17.5	+0.4		
	comp=Z,2.2nm,0.8s,baz=301,slow=2.9,SNR=10									
ESDC	Sonseca Array	99.97	333	P		Pdif	10 12 49.7	-0.7		
	comp=Z,0.1nm,0.3s,baz=28,slow=5.8,SNR=3.6									
TOA1	Torodi Ar. Sit	119.21	313	*e*PKPdf		PKPdf	10 17 53.7	-1.1		
TORD	Torodi Ar. Bea	119.21	313	PKP		PKPdf	10 17 53.7	-1.1		
	comp=Z,0.7nm,0.9s,baz=12,slow=2.6,SNR=3.1									
LPAZ	La Paz	148.72	63	PKPbc		PKPbc	10 18 53.6	-0.1		
	comp=Z,1.9nm,0.7s,baz=49,slow=0.7,SNR=7.5									
PLCA	Paso Flores	154.22	115	PKPab		PKPab	10 19 20.0	+0.8		
	comp=Z,1.2nm,0.8s,baz=297,slow=4.5,SNR=2.7									

SJA ***26*** *10:00:54.9±0.9,23.22S×69.12W,h117km±8km, ML4.3*
ISCJB ***26*** *10:00:54.4±0.2,23.27S±0.02×68.81W±0.03, h88km±2km, mb4.5/108, Error ellipse: s-maj=4.4km s-min=2.7km az=161.9*
NEIC ***26*** *10:00:56.0±0.0,23.21S×69.08W, h94km, mb4.6/100, ML4.5(GUC), After GUC.*
NEIC Felt [III] at Calama and [II] at Baquedano and Tocopilla.
VAO ***26*** *10:00:56.2±0.4,23.13S×68.88W, h102km±4km, mb4.6*
IDC ***26*** *10:00:56.5±0.4,23.08S×68.70W, h91km±2km, mb4.2/14, mb1 4.3/17, mb1mx4.2/32, mbtmp4.5/17, MS3.3/5, Ms1 3.3/5, ms1mx3.0/31, Error ellipse: s-maj=14.9km s-min=8.5km az=58.0*
GUC ***26*** *10:00:56.3±0.6,23.21S×69.08W, h94km±3km, ML4.5*
ISC 26 10:00:55.6±0.3, 23.27S±0.03×68.93W±0.04, h90km±2km, h90km:pP-P, n274, σ1§44/332, mb4.6/108, 11C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.50**	**277**	*e*P		**Pn**	**10 01 11.1**	**+0.4**
PB15				*e*S		**Sn**	**10 01 22.3**	**+0.5**
PB15	**IPOC Station P**	**0.50**	**277**	*i* P		**Pn**	**10 01 11.0**	**+0.4**
PB15				*i* S		**Sn**	**10 01 22.1**	**+0.2**
LVC	**Limon Verde**	**0.66**	**2**	P		**Pn**	**10 01 12.5**	**+0.4**
	1μm,0.3s,baz=151,slow=7.5							
LVC				S		**Sn**	**10 01 24.8**	**+0.4**
	5μm,0.3s,baz=0.0,slow=21,SNR=38							
LVC	**Limon Verde**	**0.66**	**2**	*e*P		**Pn**	**10 01 12.8**	**+0.6**
PB06	**IPOC Station P**	**0.81**	**313**	*e*P		**Pn**	**10 01 13.8**	**+0.3**
PB06	**IPOC Station P**	**0.81**	**313**	⇑*i*P		**Pn**	**10 01 13.6**	**+0.1**
PB06				*i* S		**Sn**	**10 01 26.6**	**-0.2**
PB06				IAML			10 01 27.4	
	comp=N,33μm,0.4s							
PB05	**IPOC Station P**	**1.24**	**289**	*e*P		**Pn**	**10 01 18.1**	**-0.2**
PB05				*e*S		**Sn**	**10 01 35.5**	**+0.1**
PB05	**IPOC Station P**	**1.24**	**289**	⇑*i*P		**Pn**	**10 01 17.9**	**-0.4**
PB05				*i* S		**Sn**	**10 01 34.5**	**-0.9**
PB05				IAML			10 01 37.1	
	comp=E,7μm,0.2s							
PB03	**IPOC Station P**	**1.43**	**328**	*e*P		**Pn**	**10 01 21.0**	**+0.3**
PB03				*e*S		**Sn**	**10 01 39.7**	**0.0**
PB03	**IPOC Station P**	**1.43**	**328**	⇑*i*P		**Pn**	**10 01 20.8**	**+0.1**
PB03				*i* S		**Sn**	**10 01 39.1**	**-0.6**
PB03				IAML			10 01 40.3	
	comp=N,16μm,0.5s							
PB04	**IPOC Station P**	**1.46**	**309**	*e*Pn		**Pn**	**10 01 20.8**	**-0.3**
PB04				*e*Sn		**Sn**	**10 01 39.1**	**-1.1**
PB04	**IPOC Station P**	**1.46**	**309**	*e*P		**Pn**	**10 01 20.8**	**-0.3**
PB04				⇑*e*S		**Sn**	**10 01 39.7**	**-0.6**
PB04	**IPOC Station P**	**1.46**	**309**	⇑*i*P		**Pn**	**10 01 20.7**	**-0.3**
PB04				*i* S		**Sn**	**10 01 39.5**	**-0.8**
PB04				IAML			10 01 43.5	
	comp=E,12μm,0.5s							
PB09	**IPOC Station P**	**1.49**	**349**	*e*P		**Pn**	**10 01 22.9**	**+1.4**
PB09				*e*S		**Sn**	**10 01 42.5**	**+1.5**
PB09	**IPOC Station P**	**1.49**	**349**	⇑*i*P		**Pn**	**10 01 22.5**	**+1.0**
PB09				*i* S		**Sn**	**10 01 41.5**	**+0.5**
PB09				IAML			10 01 51.8	
	comp=E,9μm,0.5s							
PB10	**IPOC Station P**	**1.51**	**260**	*e*Pn		**Pn**	**10 01 21.4**	**-0.1**
PB10				*e*Sn		**Sn**	**10 01 39.4**	**-1.8**
PB10	**IPOC Station P**	**1.51**	**260**	*e*P		**Pn**	**10 01 21.4**	**-0.1**
PB10				*e*S		**Sn**	**10 01 40.5**	**-0.7**
PB10	**IPOC Station P**	**1.51**	**260**	⇑*i*P		**Pn**	**10 01 21.4**	**-0.1**
PB10				*i* S		**Sn**	**10 01 39.8**	**-1.4**
PB10				IAML			10 01 47.4	
	comp=N,5μm,0.3s							
PB07	**IPOC Station P**	**1.77**	**330**	*e*P		**Pn**	**10 01 25.3**	**+0.2**
PB07				*e*S		**Sn**	**10 01 46.2**	**-1.2**
PB07	**IPOC Station P**	**1.77**	**330**	⇑*i*P		**Pn**	**10 01 25.2**	**+0.2**
PB07				*i* S		**Sn**	**10 01 47.1**	**-0.2**
PB07				IAML			10 01 51.4	
	comp=E,8μm,0.5s							
PB14	**IPOC Station P**	**1.91**	**225**	*e*P		**Pn**	**10 01 27.9**	**+1.0**
PB14				*e*S		**Sn**	**10 01 50.7**	**0.0**
PB14	**IPOC Station P**	**1.91**	**225**	⇑*i*P		**Pn**	**10 01 27.1**	**+0.1**
PB14				*e*S		**Sn**	**10 01 51.2**	**+0.4**
PB14				IAML			10 01 56.2	
	comp=N,6μm,0.3s							
GO02	**Mina Guanaco**	**1.98**	**198**	*e*Pn		**Pn**	**10 01 29.1**	**+1.2**
GO02				*e*Sn		**Sn**	**10 01 52.2**	**-0.2**
PB02	**IPOC Station P**	**2.14**	**335**	*e*P		**Pn**	**10 01 29.8**	**0.0**
PB02	**IPOC Station P**	**2.14**	**335**	⇑*i*P		**Pn**	**10 01 29.7**	**0.0**
PB02				*i* S		**Sn**	**10 01 55.4**	**-0.4**
PB01	**IPOC Station P**	**2.27**	**347**	*e*Pn		**Pn**	**10 01 32.0**	**+0.4**
PB01				*e*Sn		**Sn**	**10 01 54.8**	**-4.2**
PB01	**IPOC Station P**	**2.27**	**347**	*e*P		**Pn**	**10 01 32.2**	**+0.7**
PB01	**IPOC Station P**	**2.27**	**347**	⇑*i*P		**Pn**	**10 01 31.8**	**+0.2**
PB01				*i* S		**Sn**	**10 01 59.2**	**+0.2**
PB01				IAML			10 02 03.4	
	comp=E,5μm,0.7s							
PB08	**IPOC Station P**	**3.12**	**356**	*e*P		**Pn**	**10 01 43.5**	**+0.4**
PB08	**IPOC Station P**	**3.12**	**356**	*e*P		**Pn**	**10 01 43.3**	**+0.2**
YJA	**Yavi**	**3.34**	**72**	*e*P		**Pn**	**10 01 49.6**	**+3.5**
YJA				IAML			10 01 51.1	
	comp=Z,150nm,0.7s							
SLA	**San Lorenzo**	**3.45**	**115**	*e*P		**Pn**	**10 01 51.7**	**+4.3**
SLA				IAML			10 01 58.1	
	comp=Z,195nm,0.6s							
PB11	**IPOC Station P**	**3.56**	**349**	*e*Pn		**Pn**	**10 01 48.0**	**-0.9**
PB11	**IPOC Station P**	**3.56**	**349**	*e*P		**Pn**	**10 01 48.4**	**-0.4**
PB11	**IPOC Station P**	**3.56**	**349**	*e*P		**Pn**	**10 01 47.7**	**-1.1**
GO01	**Chusmiza**	**3.59**	**356**	*e*Pn		**Pn**	**10 01 49.3**	**-0.3**
FSA	**Cafayete**	**3.90**	**137**	*e*P		**Pn**	**10 01 57.0**	**+3.5**
MNMC	**Minye Minye**	**4.16**	**351**	*e*Pn		**Pn**	**10 01 56.3**	**-0.9**
MNMC	**Minye Minye**	**4.16**	**351**	*e*P		**Pn**	**10 01 56.4**	**-0.9**
MNMC				*e*S		**Sn**	**10 02 43.3**	**-1.6**
MNMCX	**Minye Minye**	**4.16**	**351**	*e*P		**Pn**	**10 01 56.9**	**-0.3**
GO03	**Copiap**	**4.47**	**195**	*e*Pn		**Pn**	**10 02 00.1**	**-0.9**
GO03	**Copiap**	**4.47**	**195**	*e*P		**Pn**	**10 02 00.4**	**-0.6**
PB12	**IPOC Station P**	**4.81**	**344**	*e*P		**Pn**	**10 02 03.4**	**-2.4**
PB12	**IPOC Station P**	**4.81**	**344**	*e*P		**Pn**	**10 02 02.9**	**-2.9**
PB12				*e*S		**Sn**	**10 02 57.2**	**-3.2**
VCA	**Vinchina**	**5.48**	**173**	*e*P		**Pn**	**10 02 16.2**	**+1.2**
VCA				IAML			10 02 21.5	
	comp=Z,180nm,0.9s							
CYA	**Choya**	**5.87**	**152**	*e*P		**Pn**	**10 02 21.7**	**+1.5**
CYA				IAML			10 02 24.5	
	comp=Z,50nm,0.8s							
LCO	**Las Campanas**	**5.94**	**195**	*e*Pn		**Pn**	**10 02 19.0**	**-2.3**
LCO				*e*Sn		**Sn**	**10 03 28.3**	**+0.3**
LCO	**Las Campanas**	**5.94**	**195**	*e*P		**Pn**	**10 02 19.0**	**-2.3**
LCO	**Las Campanas**	**5.94**	**195**	*e*P		**Pn**	**10 02 25.0**	**+3.8**
AGUA	**GUANDACOL**	**6.21**	**176**	*e*P		**Pn**	**10 02 25.8**	**+1.0**
ACLC	**CERRO LA CRUZ**	**6.38**	**164**	*e*P		**Pn**	**10 02 28.1**	**+0.8**
ACDV	**Cuesta del Vie**	**6.88**	**181**	*e*P		**Pn**	**10 02 34.0**	**+0.1**
AROD	**Rodeo**	**6.89**	**184**	*e*P		**Pn**	**10 02 34.7**	**+0.5**
LPAZ	**La Paz**	**6.99**	**6**	*e*Pn		**Pn**	**10 02 37.0**	**+1.1**
LPAZ	**La Paz**	**6.99**	**6**	P		**Pn**	**10 02 36.6**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=111,slow=4.9,SNR=16							
LPAZ	**La Paz**	**6.99**	**6**	*e*P		**Pn**	**10 02 33.6**	**-2.3**
GO04	**Tololo Observa**	**7.08**	**193**	*e*Pn		**Pn**	**10 02 34.0**	**-2.8**
GO04	**Tololo Observa**	**7.08**	**193**	*e*P		**Pn**	**10 02 33.9**	**-2.9**
ACCO	**Cerro Coronel**	**7.29**	**181**	*e*P		**Pn**	**10 02 39.4**	**-0.4**
APLL	**PUNTA DE LOS L**	**7.42**	**164**	*e*P		**Pn**	**10 02 41.4**	**+0.1**
APLL				IAML			10 02 44.9	
	comp=Z,27nm,0.6s							
AMOG	**MOGNA**	**7.65**	**177**	*e*P		**Pn**	**10 02 43.3**	**-1.1**
RTLL	**Cerro Villicun**	**8.04**	**177**	IAML			10 03 35.7	
	comp=Z,40nm,0.5s							
CFA	**Coronel Fontan**	**8.33**	**176**	P		**Pn**	**10 02 52.5**	**-1.1**
	comp=Z,6.9nm,0.3s,baz=10,slow=16,SNR=55							
CFA				S		**Sn**	**10 04 17.6**	**-8.4**
	baz=340,slow=11,SNR=0.8							
CFA				LR		LR	10 06 35.6	
	comp=Z,209nm,20.8s,baz=349,slow=40							
RTLS	**Leoncito**	**8.50**	**182**	IAML			10 05 39.2	
	comp=Z,39nm,0.6s							
TCA	**Tanti**	**8.91**	**155**	*e*P		**Pn**	**10 03 02.2**	**+0.5**
TCA				IAML			10 03 04.0	
	comp=Z,24nm,0.7s							
AUSP	**Uspallata**	**8.93**	**182**	*e*P		**Pn**	**10 03 01.2**	**-0.8**
ACAN	**Cantantal**	**9.10**	**171**	*e*P		**Pn**	**10 03 02.7**	**-1.5**
ASAL	**Salagasta**	**9.29**	**180**	*e*P		**Pn**	**10 03 05.2**	**-1.5**
MRA	**San Martin**	**9.55**	**163**	*e*P		**Pn**	**10 03 09.5**	**-0.8**
MRA				IAML			10 03 13.2	
	comp=Z,15nm,0.6s							
ROC1	**El Roble**	**9.85**	**190**	*e*Pn		**Pn**	**10 03 14.9**	**+0.4**
SIV	**San Ignacio**	**10.35**	**47**	P		**Pn**	**10 03 19.3**	**-2.0**
	comp=Z,16nm,0.3s,baz=255,slow=9.4,SNR=137							
SIV				S		**Sn**	**10 05 07.8**	**-7.7**
	comp=Z,0.4nm,0.3s,baz=299,slow=16,SNR=1.1							
CPUP	**Villa Florida**	**10.97**	**109**	*e*Pn		**Pn**	**10 03 29.9**	**+0.3**
CPUP	**Villa Florida**	**10.97**	**109**	P		**Pn**	**10 03 28.7**	**-0.9**
	comp=Z,1.0nm,0.3s,baz=289,slow=12,SNR=38							
CPUP				S		**Sn**	**10 05 33.8**	**+3.3**
	baz=205,slow=12,SNR=1.0							
CPUP				LR		LR	10 08 15.6	
	comp=Z,203nm,20.4s,baz=248,slow=41							
CPUP	**Villa Florida**	**10.97**	**109**	*e*P		**Pn**	**10 03 29.8**	**+0.1**
AQDB	**Aquidauana**	**12.59**	**80**	*e*P		**Pn**	**10 03 50.9**	**-0.6**
NNA	**Nana**	**13.51**	**325**	LR		LR	10 08 47.2	
	comp=Z,32nm,18.9s,baz=147,slow=35							
SALV	**

comp=Z,8.2nm,0.8s
GGN **Saint George** 68.08 2 *eP* P 10 11 47.4 +1.9
comp=Z,33nm,1.4s
PKME **Peaks-Kenny Pk** 68.20 360 *eP* P 10 11 47.1 +0.9
comp=Z,63nm,1.4s
TUC **Tucson** 68.22 323 *eP* P 10 11 48.7 +2.0
comp=Z,8.9nm,1.0s
TUC **Tucson** 68.22 323 *eP* P 10 11 48.7 +1.9
TUC pmax pmax
comp=Z,9.0nm,1.0s
LMN **Caledonia Moun** 68.89 3 *eP* P 10 11 51.1 +0.6
comp=Z,10nm,0.8s
DBIC **Dimbokro** 69.26 73 *eP* P 10 11 52.6 -1.0
comp=Z,7.0nm,1.0s
DBIC **Dimbokro** 69.26 73 P P 10 11 52.2 -1.3
comp=Z,4.9nm,0.8s,baz=216,slow=4.9,SNR=4.5
DBIC pP PcP 10 12 15.8 -0.8
comp=Z,4.5nm,0.9s,baz=240,slow=6.0,SNR=2.3
I42A **Draeger Farm,** 69.30 345 *eP* P 10 11 52.9 -0.2
comp=Z,18nm,1.3s
TRQ **Mont Tremblant** 69.35 356 *eP* P 10 11 53.6 +0.2
X18A **Snowflake** 69.44 325 *eP* P 10 11 55.5 +1.1
comp=Z,6.0nm,1.0s
SDCO **Great Sand Dun** 69.75 330 *eP* P 10 11 57.3 +0.9
comp=Z,12nm,1.3s
W18A **Petrified Fore** 69.78 325 *eP* P 10 11 58.4 +1.9
comp=Z,16nm,1.1s
BGNE **Belgrade** 69.82 337 *eP* P 10 11 56.6 +0.2
comp=Z,35nm,0.6s
ISCO **Idaho Springs** 71.47 331 *eP* P 10 12 08.3 +1.4
comp=Z,2.9nm,0.8s
BAR **Barrett** 71.91 319 *eP* P 10 12 11.1 +1.8
comp=Z,7.1nm,0.9s
W13A **Hualapai Mount** 72.02 322 *eP* P 10 12 12.1 +2.1
comp=Z,4.4nm,0.8s
U15A **North Rim** 72.12 324 *eP* P 10 12 12.4 +1.7
comp=Z,9.0nm,0.9s
KNB **Kanab** 72.84 324 *eP* P 10 12 16.8 +1.8
comp=Z,17nm,1.0s
O20A **White River Ci** 72.94 329 *eP* P 10 12 16.8 +1.3
comp=Z,13nm,0.9s
SRU **San Rafael Swe** 73.25 327 *eP* P 10 12 17.9 +0.6
comp=Z,8.9nm,0.8s
Q16A **Castle Valley** 73.42 327 *eP* P 10 12 19.7 +1.4
comp=Z,4.4nm,0.9s
CCUT **Cedar City** 73.53 325 *eP* P 10 12 21.4 +2.4
comp=Z,12nm,0.9s
MSU **Marysvale** 73.62 326 *eP* P 10 12 19.7 +0.1
P17A **Butcher Ranch,** 73.63 327 *eP* P 10 12 19.9 +0.4
comp=Z,9.7nm,0.9s
SHPR **Sheep Range** 73.75 323 *eP* P 10 12 21.9 +1.7
comp=Z,7.0nm,1.1s
TCRU **Three Creeks R** 73.84 326 *eP* P 10 12 22.3 +1.5
comp=Z,4.9nm,0.8s
RSSD **Black Hills** 74.38 335 *eP* P 10 12 24.8 +1.0
comp=Z,6.9nm,0.8s
MPU **Maple Canyon** 74.49 327 *eP* P 10 12 26.1 +1.6
comp=Z,6.3nm,0.9s
PSUT **Pine Spring** 74.52 325 *eP* P 10 12 26.7 +1.9
comp=Z,5.8nm,0.9s
TPNV **Topopah Spring** 74.67 322 *eP* P 10 12 27.9 +2.3
comp=Z,7.7nm,0.8s
JLU **Jordanelle** 74.84 328 *eP* P 10 12 28.3 +1.6
comp=Z,4.4nm,0.7s
DAC **Darwin (Calif)** 74.97 321 *eP* P 10 12 30.4 +3.1
comp=Z,7.3nm,0.8s
ISA **Isabella, Lake** 75.05 320 *eP* P 10 12 29.5 +1.8
comp=Z,8.2nm,0.8s
VNDA **Vanda** 75.11 190 P P 10 12 29.5 +2.1
comp=Z,2.1nm,0.8s,baz=131,slow=3.1,SNR=4.3
VNDA pP pP 10 12 53.0 +1.5
comp=Z,1.2nm,0.8s,baz=131,slow=1.2,SNR=1.8
AGMN **Agassiz Nation** 75.22 342 *eP* P 10 12 28.7 +0.5
comp=Z,6.5nm,0.9s
PD31 **Pinedale Array** 75.63 330 *eP* P 10 12 31.0 -0.1
comp=Z,3.7nm,1.4s
PDAR **Pinedale Array** 75.63 330 *eP* P 10 12 30.6 -0.4
PDAR **Pinedale Array** 75.63 330 P P 10 12 31.8 +0.7
comp=Z,0.7nm,0.6s,baz=148,slow=7.0,SNR=9.4
BGU **Big Grassy Mou** 75.87 327 *eP* P 10 12 32.5 +0.1
comp=Z,4.1nm,1.0s
MDND **Maddock** 75.97 339 *eP* P 10 12 33.6 +1.0
comp=Z,36nm,0.8s
HVU **Hansel Valley** 76.39 328 *eP* P 10 12 36.3 +1.0
comp=Z,5.0nm,0.7s
REDW **Red Top Meadow** 76.69 330 *eP* P 10 12 38.3 +1.3
comp=Z,6.6nm,0.8s
OMMB **Old Mammoth Mi** 76.70 321 *eP* P 10 12 39.1 +1.7
comp=Z,11nm,1.0s
SNOW **Snow King Moun** 76.72 330 *eP* P 10 12 38.7 +1.4
comp=Z,8.2nm,0.8s
LOHW **Long Hollow** 76.77 330 *eP* P 10 12 38.8 +1.4
comp=Z,5.9nm,0.8s
NV11 **Mina Array Sit** 76.79 322 *eP* P 10 12 39.1 +1.5
comp=Z,0.3nm,1.0s
TPAW **Teton Pass** 76.83 330 *eP* P 10 12 39.0 +1.1
comp=Z,6.6nm,0.8s
ELK **Elko** 76.86 326 *eP* P 10 12 38.5 +0.4
comp=Z,5.4nm,0.9s
NV01 **Mina Array Sit** 76.87 322 *eP* P 10 12 39.1 +0.9
NVAR **Mina Array Bea** 76.87 322 P P 10 12 39.4 +1.2
comp=Z,3.5nm,0.9s,baz=163,slow=7.4,SNR=17
NVAR sP sP 10 13 13.0 +0.6
comp=Z,1.9nm,0.9s,baz=154,slow=6.6,SNR=3.0
MOOW **Moose Ponds** 76.94 330 *eP* P 10 12 39.4 +0.9
comp=Z,2.9nm,0.8s
FXWY **Fox Creek** 76.98 330 *eP* P 10 12 39.9 +1.2
comp=Z,2.6nm,0.8s
ULM **Lac du Bonnet** 76.99 343 P P 10 12 38.0 -0.2
comp=Z,4.0nm,0.6s,baz=145,slow=7.0,SNR=11
RYN **Ryan** 77.13 322 *eP* P 10 12 41.0 +1.4
comp=Z,6.6nm,1.2s
IMW **Indian Meadow** 77.14 330 *eP* P 10 12 40.9 +1.2
comp=Z,6.0nm,0.8s
FLWY **Flagg Ranch** 77.17 331 *eP* P 10 12 41.2 +1.5
comp=Z,10nm,0.8s
KVN **Kaiserville** 77.19 323 *eP* P 10 12 41.1 +1.2
comp=Z,8.7nm,1.0s
RLMT **Red Lodge** 77.36 332 *eP* P 10 12 42.1 +1.4
comp=Z,5.4nm,0.6s
LAO **LASA Array** 77.37 335 *eP* P 10 12 41.7 +1.1
comp=Z,11nm,0.9s
LKWY **Lake** 77.42 331 *eP* P 10 12 43.8 +2.6
comp=Z,4.3nm,0.8s
WAKR **Walker** 77.56 322 *eP* P 10 12 44.0 +2.0
comp=Z,5.0nm,1.0s
YMR **Madison River** 77.75 331 *eP* P 10 12 45.2 +2.2
comp=Z,7.9nm,0.8s
YHH **Holmes Hill** 77.79 331 *eP* P 10 12 44.5 +1.2
comp=Z,12nm,1.2s
SCHQ **Schefferville** 77.80 1 *eP* P 10 12 43.1 +0.4
comp=Z,15nm,1.0s
SCHQ **Schefferville** 77.80 1 P P 10 12 42.8 +0.1
comp=Z,7.4nm,0.9s,baz=223,slow=4.3,SNR=5.6
TOA0 **Torodi Ar. Sit** 77.97 70 *eP* P 10 12 44.5 0.0
TOA1 **Torodi Ar. Sit** 77.97 70 *eP* P 10 12 43.2 -1.4
TOA1 epP pP 10 13 08.7 -0.4
TORD **Torodi Ar. Bea** 77.97 70 P P 10 12 43.2 -1.4
comp=Z,10nm,0.6s,baz=260,slow=4.2,SNR=75
TORD pP pP 10 13 08.7 -0.4
comp=Z,4.5nm,0.9s,baz=278,slow=5.6,SNR=3.0
PNTR **Pine Nut** 78.06 322 *eP* P 10 12 47.1 +2.3
comp=Z,9.5nm,0.8s
GCMT **Greycliff** 78.06 332 *eP* P 10 12 45.7 +1.2
DGMT **Dagmar** 78.08 337 *eP* P 10 12 45.8 +1.3
comp=Z,17nm,0.8s
PAHR **Pah Rah Range** 78.36 323 *eP* P 10 12 47.8 +1.5
comp=Z,17nm,0.9s
HLID **Hailey** 78.52 328 *eP* P 10 12 48.8 +1.6
comp=Z,11nm,0.9s
MCMT **McKenzie Canyo** 78.73 330 *eP* P 10 12 49.9 +1.5
AFDM **Forest Hills D** 78.75 321 *eP* P 10 12 49.5 +1.2
comp=Z,6.6nm,1.1s
DLMT **Dillon** 79.02 330 *eP* P 10 12 51.5 +1.7
comp=Z,9.4nm,1.3s
ORV **Oroville** 79.46 321 *eP* P 10 12 53.5 +1.3
comp=Z,15nm,1.1s
HRY **Holter Researc** 79.72 332 *eP* P 10 12 55.2 +1.6
EGMT **Eagleton** 79.86 334 *eP* P 10 12 55.2 +0.9
comp=Z,9.9nm,0.9s
MOD **Modoc Plateau** 80.38 324 *eP* P 10 12 58.5 +1.2
comp=Z,8.3nm,1.0s
J08A **Circle Bar Ran** 80.42 326 *eP* P 10 12 58.7 +1.3
comp=Z,12nm,1.4s
WDC **Whiskeytown Da** 80.73 322 *eP* P 10 12 58.9 -0.1
comp=Z,4.9nm,0.6s
BMO **Blue Mountains** 80.89 327 *eP* P 10 13 01.1 +1.3
comp=Z,7.5nm,1.1s

KMRM **Mail Ridge** 81.17 321 *eP* P 10 13 03.3 +1.9
comp=Z,13nm,1.1s
K05A **Summer Lake** 81.26 324 *eP* P 10 13 03.9 +1.9
comp=Z,12nm,0.9s
I07A **Izee** 81.45 326 *eP* P 10 13 04.2 +1.3
comp=Z,6.0nm,0.9s
F10A **Beach Ranch, E** 81.65 328 *eP* P 10 13 05.2 +1.3
comp=Z,10nm,1.3s
PINE **Pine Mountain** 82.01 325 *eP* P 10 13 07.2 +1.3
comp=Z,12nm,0.8s
G08A **Pilot Rock** 82.02 327 *eP* P 10 13 07.1 +1.2
comp=Z,1.6nm,0.9s
WALA **Waterton Lakes** 82.41 332 *eP* P 10 13 08.5 +0.7
comp=Z,7.7nm,0.8s
BOSA **Boshof** 82.64 118 P P 10 13 08.5 -1.1
comp=Z,4.4nm,1.0s,baz=253,slow=7.9,SNR=3.2
BOSA pP pP 10 13 35.3 +1.1
comp=Z,9.4nm,0.9s,baz=236,slow=4.5,SNR=5.2
MAW **Mawson** 82.65 163 P P 10 13 09.6 +0.9
comp=Z,6.8nm,0.8s,baz=234,slow=8.6,SNR=3.9
MAW pP pP 10 13 34.3 +1.0
comp=Z,11nm,0.9s,baz=233,slow=6.1,SNR=3.3
HAWA **Hanford** 83.08 327 *eP* P 10 13 12.1 +0.9
comp=Z,4.4nm,0.7s
C09A **Chrisman Ranch** 83.46 329 *eP* P 10 13 14.4 +1.2
comp=Z,12nm,0.6s
FCC **Fort Churchill** 84.34 347 *eP* P 10 13 17.5 +0.3
comp=Z,4.5nm,0.6s
B08A **Colville Reser** 84.36 329 *eP* P 10 13 18.2 +0.5
comp=Z,9.3nm,1.4s
PGC **Sidney** 86.56 327 *eP* P 10 13 29.3 +0.8
comp=Z,7.4nm,0.8s
LLLB **Lillooet** 87.12 329 *eP* P 10 13 31.4 +0.1
comp=Z,4.3nm,0.9s
YKA **Yellowknife Ar** 92.84 341 P P 10 13 57.8 +0.1
comp=Z,4.7nm,0.8s,baz=138,slow=4.5,SNR=93
YKA pP pP 10 14 22.8 +0.2
comp=Z,0.6nm,0.7s,baz=138,slow=4.2,SNR=2.9
YKA sP sP 10 14 32.6 +0.1
comp=Z,1.0nm,0.6s,baz=137,slow=4.3,SNR=4.3
YKB5 **Yellowknife Ar** 92.84 341 *eP* P 10 13 57.6 -0.1
YKW3 **Yellowknife Ar** 92.89 341 *eP* P 10 13 58.1 +0.2
comp=Z,7.2nm,0.9s
KEST **Kesra** 94.38 53 LR LR 10 57 06.5
comp=Z,26nm,18.8s,baz=256,slow=36
KBZ **Khabaz** 121.23 52 PKP PKiKP 10 19 38.2 +0.1
comp=Z,2.0nm,0.8s,baz=254,slow=1.9,SNR=4.2
KBZ pPKP pPKPdf 10 20 04.2 +0.2
comp=Z,1.3nm,0.7s,baz=117,slow=6.8,SNR=2.1
ASAR **Alice Springs** 128.34 207 PKP PKiKP 10 19 53.0 -0.1
comp=Z,2.7nm,0.8s,baz=139,slow=1.9,SNR=24
ASAR pPKP pPKPdf 10 20 18.4 -0.1
comp=Z,4.2nm,0.8s,baz=154,slow=2.2,SNR=15
AS31 **Alice Springs** 128.34 207 *e*PKPdf PKiKP 10 19 53.1 -0.1
WR1 **Warramunga Arr** 131.42 210 *e*PKPdf PKPdf 10 19 58.9 +0.5
WR1 *ep*PKPdf PKPdf 10 20 24.9 +0.6
WRA **Warramunga Arr** 131.42 210 PKP PKPdf 10 19 58.9 +0.5
comp=Z,1.9nm,0.7s,baz=152,slow=1.5,SNR=14
WRA pPKP pPKPdf 10 20 24.9 +0.6
comp=Z,3.0nm,0.9s,baz=145,slow=1.4,SNR=8.8
FITZ **Fitzroy Crossi** 136.49 200 *e*PKPdf PKiKP 10 20 09.1 -0.6
FITZ **Fitzroy Crossi** 136.49 200 PKP PKPdf 10 20 08.8 +0.9
baz=169,slow=5.2
BVAR **Borovoye Array** 137.25 35 PKP PKPdf 10 20 08.5 +0.3
comp=Z,1.2nm,0.8s,baz=241,slow=1.5,SNR=5.1
KURBB **Kurchatov Arra** 142.81 35 PKP PKPdf 10 20 17.2 -1.2
comp=Z,1.4nm,0.2s,baz=298,slow=2.0,SNR=4.1
ZAA1 **Zalesovo Array** 143.54 26 *e*PKPdf PKPdf 10 20 18.9 -0.6
ZAA1 *ep*PKPdf PKPdf 10 20 44.7 -0.8
ZALV **Zalesovo Beam** 143.55 26 PKP PKPdf 10 20 18.9 -0.6
comp=Z,3.1nm,0.6s,baz=294,slow=3.8,SNR=12
ZALV pPKP pPKPdf 10 20 44.7 -0.9
comp=Z,1.8nm,0.6s,baz=315,slow=3.2,SNR=3.0
KSH **Kashi** 146.20 53 PKPbc PKPab 10 20 26.5 -0.3
KSH pPKP pPKPbc 10 20 51.8 +0.1
KSH PP PP 10 23 53.0 +4.0
KSH AMB AMB
comp=Z,82nm,6.1s
PALK **Pallekele** 146.78 114 pPKP pPKPdf 10 20 54.2 +1.8
comp=Z,3.6nm,0.8s,baz=297,slow=2.3,SNR=2.8
MK32 **Makanchi Array** 147.06 37 *e*PKPdf PKPbc 10 20 27.1 -0.9
MK32 *ep*PKPdf PKPdf 10 20 52.3 +0.4
MKAR **Makanchi Array** 147.06 37 PKPbc PKPbc 10 20 27.1 -0.9
comp=Z,7.3nm,0.8s,baz=325,slow=1.6,SNR=44
MKAR pPKPbc pPKPdf 10 20 52.3 +0.4
comp=Z,3.6nm,0.9s,baz=304,slow=2.8,SNR=3.8
SIJI **Sorong** 148.99 222 PKPbc PKPbc 10 20 34.5 +0.3
comp=Z,12nm,0.7s,baz=40,slow=7.1,SNR=7.9
SIJI pPKPbc pPKPbc 10 21 01.2 +1.3
comp=Z,10nm,0.8s,baz=5.7,slow=7.2,SNR=3.5
USRK **Ussuriysk Ar.** 152.97 326 PKPbc PKiKP 10 20 42.7 0.0
comp=Z,2.8nm,0.8s,baz=38,slow=5.4,SNR=4.2
USRK PKPab PKPab 10 20 54.7 +0.6
comp=Z,1.6nm,0.6s,baz=99,slow=1.9,SNR=3.5
MJAR **Matsushiro Arr** 153.12 306 PKPbc PKiKP 10 20 43.7 +0.4
comp=Z,1.4nm,0.7s,baz=278,slow=0.6,SNR=4.3
MJAR PKPab PKPab 10 20 55.9 +0.9
comp=Z,4.0nm,0.8s,baz=78,slow=2.6,SNR=6.5
MAJO **Matsushiro** 153.12 306 *e*PKPbc PKiKP 10 20 43.6 +0.4
MAJO *e*PKPab PKPab 10 20 55.9 +0.9
SONA0 **Songino Array** 155.20 8 *e*PKPdf PKPdf 10 20 38.7 +0.3
SONA0 *e*PKPbc PKPbc 10 20 47.5
SONA0 *e*PKPab PKPab 10 21 04.7 +1.1
SONM **Songino Array** 155.20 8 PKP PKPdf 10 20 38.7 +0.3
comp=Z,0.7nm,0.8s,baz=318,slow=3.9,SNR=4.6
SONM PKPbc PKPbc 10 20 47.5
comp=Z,0.7nm,0.8s,baz=1.5,slow=2.8,SNR=4.2
SONM PKPab PKPdf 10 21 04.7 +0.1
comp=Z,1.7nm,0.8s,baz=318,slow=4.1,SNR=8.0
KSRS **Korea Array** 159.76 318 PKP PKPdf 10 20 45.6 +1.5
comp=Z,1.3nm,0.9s,baz=357,slow=2.5,SNR=6.0
KSRS PKPab PKPab 10 21 23.8 +0.3
comp=Z,2.3nm,0.7s,baz=54,slow=4.4,SNR=8.6
HHC **Hu-ho-hao-te** 162.47 359 *eP* PKPdf 10 20 45.8 -1.4
LZH **Lanzhou** 165.77 24 *e*PKP PKPdf 10 20 48.0 -2.4
LZH pPKP pPKPdf 10 21 15.8 -0.8
LZH sPKP 10 21 25.3
LZH PKP PKPab 10 21 51.0 +1.0
CMAR **Chiang Mai Arr** 167.70 111 PKP PKPdf 10 20 51.9 -0.2
comp=Z,0.9nm,0.3s,baz=247,slow=4.7,SNR=2.7
CMAR PKPab PKPab 10 21 58.3 -0.6
comp=Z,1.1nm,0.3s,baz=244,slow=3.9,SNR=7.2
NJ2 **Nanjing** 168.86 323 *eP* PKPdf 10 20 52.0 -0.5
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 **Chengdu** 169.98 39 PKP PKPdf 10 20 51.8 -1.5

IDC 26 10:08:02.5±4.3, 17.12°S×177.10°W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/36, mbtmp3.6/2, Error ellipse: s-maj=247.2km s-min=44.6km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.01**	**259**	P	P	10 16 27.8	-0.2
	0.2nm,0.3s,baz=94,slow=8.6,SNR=6.9						
ASAR	**Alice Springs**	**46.21**	**253**	P	P	10 16 29.6	0.0
	0.8nm,0.6s,baz=86,slow=8.0,SNR=17						
ARCES	**ARCESS Array B**	**125.76**	**350**	PKP	PKPdf	10 27 05.6	+0.1
	1.3nm,0.8s,baz=54,slow=2.1,SNR=8.0						
BRTR	**Keskin Array B**	**145.09**	**316**	PKPbc	PKPbc	10 27 40.5	-1.3
	0.7nm,0.6s,baz=82,slow=4.6,SNR=4.5						

IDC 26 10:09:25.9±10.0, 14.76°S×178.88°W, h662km±140km, mb3.0/7, mb1 3.4/7, mb1mx2.9/36, mbtmp3.9/7, Error ellipse: s-maj=52.2km s-min=39.8km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.29**	**251**	P	P	10 16 48.0	+0.1
	0.8nm,0.4s,baz=88,slow=7.8,SNR=12						
MJAR	**Matsushiro Arr**	**65.13**	**323**	P	P	10 19 03.6	-0.5
	1.5nm,0.7s,baz=163,slow=7.6,SNR=4.5						
NVAR	**Mina Array Bea**	**77.49**	**44**	P	P	10 20 16.4	+0.4
	1.0nm,0.7s,baz=235,slow=11,SNR=6.2						
ILAR	**Eielson Array**	**82.94**	**13**	P	P	10 20 43.6	+0.4
	0.4nm,0.3s,baz=223,slow=5.8,SNR=11						
TXAR	**Lajitas Array**	**84.71**	**58**	P	P	10 20 52.1	-0.7
	0.3nm,0.7s,baz=223,slow=6.8,SNR=3.9						
PDAR	**Pinedale Array**	**85.40**	**44**	P	P	10 20 55.8	-0.2
	0.8nm,0.6s,baz=216,slow=2.3,SNR=9.6						
YKA	**Yellowknife Ar**	**91.67**	**25**	P	P	10 21 24.8	+0.4
	0.4nm,0.5s,baz=239,slow=4.5,SNR=13						
GERES	**GERESS Array B**	**144.47**	**346**	PKP	PKPdf	10 27 48.4	-0.6
	0.3nm,0.3s,baz=28,slow=2.3,SNR=1.8						

KRSC 26 10:18:15.1±10.0, 50.75°N×160.26°E, h60km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.73**	**309**	*eP*	Pn	10 18 44.8	+1.9
KDTR				*eS*	Sn	10 19 06.6	+2.7
RUS	**Russkaya**	**2.00**	**328**	*eP*	Pn	10 18 48.4	+1.8
RUS				*eS*	Sn	10 19 12.8	+2.3
MTVR	**Mutnovka**	**2.16**	**324**	*eP*	Pn	10 18 50.6	+1.7
MTVR				S	Sn	10 19 16.4	+1.8
ASAK	**Asacha**	**2.20**	**319**	*eP*	Pn	10 18 51.7	+2.4
PAU	**Pauzhetka**	**2.29**	**290**	S	Sn	10 19 21.9	+4.5
DALK	**Dalny**	**2.46**	**338**	*eP*	Pn	10 18 55.1	+2.2
KRMR	**Karymshinskiy**	**2.46**	**328**	*eP*	Pn	10 18 55.2	+2.3
SKR	**Severo-Kuril's**	**2.63**	**270**	P	Pn	10 18 56.6	+1.5
SKR				*eS*	Sn	10 19 27.0	+1.1
SDLR	**Sedlovina**	**2.67**	**342**	*eP*	Pn	10 18 58.1	+2.3
AVH	**Avacha**	**2.69**	**340**	P	Pn	10 18 59.6	+3.6
KOK	**Koryaka**	**2.73**	**339**	*eP*	Pn	10 18 59.9	+3.3
APC	**Apacha**	**2.90**	**320**	*eP*	Pn	10 19 02.8	+4.0
ALID	**Alaid**	**2.99**	**274**	P	Pn	10 19 04.5	+4.3
TUMR	**Tumrok**	**4.54**	**359**	*eP*	Pn	10 19 24.1	+2.8

WEL 26 10:34:08.3, 42°S±1°×17°4E±°, h58km±2km, ML3.7/25, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSWZ	**Blackbirch Sta**	**0.21**	**124**	P	Pn	10 34 18.2	+0.6
BSWZ				S	Sn	10 34 24.9	+0.6
TUWZ	**Tuamarina**	**0.28**	**53**	P	Pn	10 34 18.4	+0.4
TUWZ				S	Sn	10 34 24.9	-0.1
NNZ	**Nelson**	**0.43**	**332**	P	Pn	10 34 19.1	-0.3
NNZ				S	Sn	10 34 27.1	-0.3
CMWZ	**Cape Campbell**	**0.45**	**110**	P	Pn	10 34 21.1	+1.5
THZ	**Tophouse**	**0.58**	**253**	P	Pn	10 34 20.9	-0.1
TCW	**Tory Channel**	**0.61**	**51**	P	Pn	10 34 22.2	+0.8
TCW				S	Sn	10 34 31.6	+0.7
KHZ	**Kahutara**	**0.82**	**186**	P	Pn	10 34 25.1	+1.1
DUWZ	**D'Urville Isla**	**0.82**	**15**	P	Pn	10 34 24.7	+0.7
BHW	**Baring Head**	**0.94**	**79**	P	Pn	10 34 26.0	+0.6
QRZ	**Quartz Range**	**1.14**	**312**	P	Pn	10 34 29.0	+0.8
CAW	**Cannon Point**	**1.18**	**66**	P	Pn	10 34 29.3	+0.6
KIW	**Kapiti Island**	**1.21**	**53**	P	Pn	10 34 30.1	+1.1
PLWZ	**Palliser**	**1.21**	**89**	P	Pn	10 34 29.1	0.0
MSWZ	**Moikau Station**	**1.22**	**82**	P	Pn	10 34 29.3	+0.1
PAWZ	**Paruwai Farm**	**1.35**	**81**	P	Pn	10 34 30.8	-0.2
DSZ	**Denniston Nort**	**1.39**	**263**	P	Pn	10 34 32.4	+0.9
OGWZ	**Otaki Gorge**	**1.39**	**56**	P	Pn	10 34 32.2	+0.7
MTW	**Mount Morrison**	**1.46**	**73**	P	Pn	10 34 32.3	-0.2
TRWZ	**Traveller**	**1.55**	**83**	P	Pn	10 34 33.4	-0.2
LTZ	**Lake Taylor**	**1.56**	**220**	P	Pn	10 34 34.7	+0.8
HOWZ	**Holdsworth Sta**	**1.57**	**64**	P	Pn	10 34 33.9	-0.1
MRZ	**Mangatainoka R**	**1.73**	**58**	P	Pn	10 34 36.2	0.0
AMCZ	**Amberley**	**1.74**	**205**	P	Pn	10 34 36.4	+0.2
TMWZ	**Te Maipa**	**1.76**	**74**	P	Pn	10 34 35.9	-0.6
TIWZ	**Tintock**	**1.88**	**65**	P	Pn	10 34 37.7	-0.4
OHWZ	**Ohakea**	**1.88**	**43**	P	Pn	10 34 39.5	+1.4
INZ	**Inchbonnie**	**1.99**	**235**	P	Pn	10 34 40.3	+0.8
POWZ	**Post Office Ro**	**2.01**	**54**	P	Pn	10 34 39.8	0.0
PRWZ	**Pori Road**	**2.04**	**60**	P	Pn	10 34 40.1	-0.2
CPWZ	**Castlepoint**	**2.05**	**71**	P	Pn	10 34 40.2	-0.2
OXZ	**Oxford**	**2.10**	**214**	P	Pn	10 34 40.6	-0.4
WAZ	**Wanganui**	**2.11**	**29**	P	Pn	10 34 43.5	+2.3
OKCZ	**Okains Bay**	**2.17**	**191**	P	Pn	10 34 41.7	-0.4
BFZ	**Birch Farm**	**2.17**	**66**	P	Pn	10 34 41.0	-1.0
NMEZ	**Namu Road**	**2.19**	**5**	P	Pn	10 34 44.9	+2.6
LREZ	**Lake Rotokare**	**2.21**	**15**	P	Pn	10 34 46.6	+4.0
MQZ	**McQueen's Vall**	**2.23**	**199**	P	Pn	10 34 41.7	-1.2
PREZ	**Palmer Road**	**2.29**	**10**	P	Pn	10 34 46.9	+3.2
DVHZ	**Dannevirke**	**2.31**	**57**	P	Pn	10 34 43.2	-0.8
DVHZ				P	Pn	10 34 43.2	-0.8
KHEZ	**Kahui Hut**	**2.32**	**7**	P	Pn	10 34 46.6	+2.4
AKCZ	**Akaroa Harbour**	**2.33**	**193**	P	Pn	10 34 43.8	-0.5
NBEZ	**Newall Road No**	**2.33**	**4**	P	Pn	10 34 47.0	+2.7
TSZ	**Takapari Road**	**2.34**	**50**	P	Pn	10 34 44.0	-0.4
PKE	**Pukeiti**	**2.42**	**6**	P	Pn	10 34 47.9	+2.4
ANWZ	**Angora Road**	**2.42**	**63**	P	Pn	10 34 44.4	-1.1
DREZ	**Durham Road**	**2.44**	**10**	P	Pn	10 34 48.7	+2.9
PNHZ	**Pukenui**	**2.57**	**50**	P	Pn	10 34 47.0	-0.6
WVZ	**Waitaha Valley**	**2.61**	**235**	P	Pn	10 34 49.9	+1.9
MTVZ	**Mangateitei**	**2.61**	**33**	P	Pn	10 34 49.9	+1.7
VRZ	**Vera Road**	**2.62**	**19**	P	Pn	10 34 50.7	+2.6
PRHZ	**Porangahau**	**2.63**	**61**	P	Pn	10 34 47.0	-1.3
PKVZ	**Pokaka**	**2.65**	**30**	P	Pn	10 34 50.6	+2.0
MOVZ	**Moawhango**	**2.72**	**37**	P	Pn	10 34 50.4	+0.8
TRVZ	**Turoa**	**2.72**	**33**	P	Pn	10 34 51.1	+1.4
WHVZ	**Whangaehu Hut**	**2.75**	**33**	P	Pn	10 34 51.6	+1.4
FWVZ	**Far West T-bar**	**2.76**	**32**	P	Pn	10 34 51.6	+1.3
TUVZ	**Tukino**	**2.79**	**34**	P	Pn	10 34 52.0	+1.3
BHHZ	**Black Hill Sta**	**2.80**	**42**	P	Pn	10 34 51.0	+0.3
NGZ	**Ngauruhoe**	**2.84**	**32**	P	Pn	10 34 52.8	+1.3
KRHZ	**Kereru**	**2.85**	**48**	P	Pn	10 34 50.5	-0.9
RPZ	**Rata Peaks**	**2.85**	**221**	P	Pn	10 34 53.8	+2.4
TWVZ	**Taurewa**	**2.87**	**29**	P	Pn	10 34 53.0	+1.2
WTVZ	**West Tongariro**	**2.89**	**32**	P	Pn	10 34 53.4	+1.4
PXZ	**Pawanui**	**2.90**	**58**	P	Pn	10 34 50.5	-1.5
KRVZ	**Karewarewa**	**2.93**	**32**	P	Pn	10 34 54.0	+1.4
KWHZ	**Kaweka Forest**	**3.03**	**45**	P	Pn	10 34 55.2	+1.3
KAHZ	**Kahuranaki**	**3.05**	**55**	P	Pn	10 34 52.9	-1.2
KATZ	**Kakaramea**	**3.05**	**32**	P	Pn	10 34 57.4	+3.1
HIZ	**Hauiti**	**3.22**	**17**	P	Pn	10 34 58.5	+2.1
BKZ	**Black Stump Fm**	**3.26**	**43**	P	Pn	10 34 56.3	-0.8
FOZ	**Fox Glacier**	**3.43**	**234**	P	Pn	10 35 00.7	+1.5
NMHZ	**Naumai**	**3.48**	**45**	P	Pn	10 35 02.1	+2.1
NMHZ				P	Pn	10 35 02.1	+2.1
TLZ	**Tolley Road**	**3.58**	**25**	P	Pn	10 35 04.1	+2.7
MTHZ	**Maungataniwha**	**3.68**	**43**	P	Pn	10 35 01.8	-0.9
LBZ	**Lake Benmore**	**3.77**	**221**	P	Pn	10 35 05.7	+1.8
RTZ	**Ruatahuna**	**3.93**	**42**	P	Pn	10 35 06.8	+0.6
ODZ	**Otahua Downs**	**4.08**	**211**	P	Pn	10 35 07.4	-0.7
TOZ	**Tahuroa Road**	**4.12**	**21**	P	Pn	10 35 09.8	+1.1
URZ	**Urewera**	**4.27**	**40**	P	Pn	10 35 09.5	-1.2
JCZ	**Jackson Bay**	**4.35**	**234**	P	Pn	10 35 13.2	+1.3
MKAZ	**Moumakai**	**4.64**	**15**	P	Pn	10 35 17.6	+1.8
WTAZ	**Waiatarua**	**4.72**	**9**	P	Pn	10 35 19.4	+2.5
RVAZ	**Riverhead Bore**	**4.88**	**9**	P	Pn	10 35 21.3	+2.2

**IDC 26 10:35:19.5±10.0, 7.59°S×159.47°E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/41, mbtmp3.6/3,

HNR					*e*S	**Sn**	10 39 59.0	+1.5	
HNR	**Honiara**	**3.37**	**306**		*e*Pn	**Pn**	10 39 16.1	-2.6	
HNR					*e*Sn	**Sn**	10 39 55.0	-2.5	
HNR	**Honiara**	**3.37**	**306**		Pn	**Pn**	10 39 17.4	-1.3	
	55nm,0.3s,baz=150,slow=0.5,SNR=15								
HNR					Sn	**Sn**	10 40 02.2	+4.7	
	97nm,0.3s,baz=202,slow=23,SNR=6.5								
HNR					LR	LR	10 40 39.1		
	comp=Z,1μm,18.8s,baz=64,slow=42								
DZM	**Mont Dzumac**	**11.15**	**162**		*e*Pn	Pn	10 41 10.9	+5.3	
	1.5nm,0.2s								
DZM					*e*LR	LR	10 43 42.9		
	comp=Z,294nm,21.9s								
DZM	**Mont Dzumac**	**11.15**	**162**		*e*Pn	**Pn**	10 41 06.9	+1.4	
DZM					*e*Sn	**Sn**	10 43 04.3	-4.7	
DZM	**Mont Dzumac**	**11.15**	**162**		Pn	**Pn**	10 41 07.5	+2.0	
	0.4nm,0.3s,baz=338,slow=19,SNR=4.6								
DZM					Sn	**Sn**	10 43 08.9	-0.1	
	0.2nm,0.3s,baz=138,slow=19,SNR=1.8								
DZM					LR	LR	10 44 54.7		
	comp=Z,314nm,18.0s,baz=32,slow=35								
CTA	**Charters Tower**	**17.98**	**239**		P	**Pn**	10 42 34.5	-1.2	
	0.3nm,0.3s,baz=64,slow=15,SNR=2.2								
COEN	**Coen**	**19.20**	**260**		*e*P	**Pn**	10 42 50.3	-0.2	
	13nm,0.8s								
JAY	**Jayapura**	**23.54**	**291**		LR	LR	10 52 48.1		
	comp=Z,100nm,19.9s,baz=348,slow=37								
STKA	**Stephens Creek**	**28.13**	**220**		P	**P**	10 44 19.2	+2.1	
	1.4nm,0.7s,baz=28,slow=12,SNR=4.1								
STKA					LR	LR	10 54 55.9		
	comp=Z,134nm,19.4s,baz=25,slow=35								
WRAB	**Tennant Creek**	**28.52**	**249**		*e*P	**P**	10 44 21.0	+0.3	
	2.5nm,1.1s								
WB2	**Warramunga Arr**	**28.52**	**249**		*e*P	**P**	10 44 19.4	-1.3	
WR1	**Warramunga Arr**	**28.53**	**249**		*e*P	**P**	10 44 21.4	+0.6	
	4.9nm,1.1s								
WRA	**Warramunga Arr**	**28.53**	**249**		P	**P**	10 44 21.4	+0.6	
	1.1nm,0.7s,baz=78,slow=9.7,SNR=9.3								
AS01	**Alice Springs**	**29.90**	**242**		*e*P	**P**	10 44 34.3	+1.4	
ASAR	**Alice Springs**	**29.94**	**242**		P	**P**	10 44 33.6	+0.3	
	1.4nm,0.7s,baz=65,slow=10.0,SNR=21								
ASAR					LR	LR	10 56 28.5		
	comp=Z,166nm,18.5s,baz=70,slow=36								
H11S2	**WAKE ISLAND Hy**	**30.02**	**8**		T	T	11 15 28.6		
	baz=188,slow=76,SNR=32								
H11S3	**WAKE ISLAND Hy**	**30.02**	**8**		T	T	11 15 28.4		
	baz=188,slow=76,SNR=26								
H11S1	**WAKE ISLAND Hy**	**30.04**	**8**		T	T	11 15 25.3		
	baz=188,slow=76,SNR=24								
GUMO	**Guam**	**30.52**	**324**		LR	LR	10 55 33.8		
	comp=Z,101nm,22.0s,baz=140,slow=34								
H11N1	**WAKE ISLAND Hy**	**31.25**	**8**		T	T	11 17 03.3		
	baz=188,slow=76,SNR=16								
H11N3	**WAKE ISLAND Hy**	**31.26**	**8**		T	T	11 17 05.5		
	baz=188,slow=76,SNR=22								
H11N2	**WAKE ISLAND Hy**	**31.27**	**8**		T	T	11 16 57.6		
	baz=188,slow=76,SNR=13								
BBOO	**Buckleboo**	**32.39**	**225**		*e*P	**P**	**10 44 56.6**	**+1.8**	
	12nm,1.1s								
FITZ	**Fitzroy Crossi**	**36.38**	**255**		*e*P	**P**	**10 45 28.7**	**-0.7**	
	1.6nm,0.8s								
FITZ	**Fitzroy Crossi**	**36.38**	**255**		P	**P**	**10 45 29.3**	**-0.1**	
	1.7nm,0.8s,baz=78,slow=9.6								
PPT	**Papeete**	**46.51**	**103**		LR	LR	11 01 45.2		
	comp=Z,28nm,19.5s,baz=240,slow=30								
PPT2	**Papeete2**	**46.51**	**103**		*e*LR	LR	10 59 47.0		
	comp=Z,70nm,25.8s								
MJAR	**Matsushiro Arr**	**53.02**	**335**		LR	LR	11 08 35.9		
	comp=Z,33nm,22.0s,baz=155,slow=34								
USRK	**Ussuriysk Ar.**	**62.02**	**335**		P	**P**	**10 48 45.7**	**+0.7**	
	1.7nm,0.6s,baz=158,slow=16,SNR=4.2								
CM01	**Chiang Mai Arr**	**69.52**	**295**		*e*P	**P**	**10 49 31.2**	**-2.6**	
CMAR	**Chiang Mai Arr**	**69.55**	**295**		LR	LR	11 21 18.9		
	comp=Z,5.1nm,19.2s,baz=130,slow=37								
SONA0	**Songino Array**	**77.25**	**325**		*e*P	**P**	**10 50 19.4**	**+0.5**	
SONM	**Songino Array**	**77.25**	**325**		P	**P**	**10 50 19.4**	**+0.5**	
	1.7nm,0.7s,baz=138,slow=5.5,SNR=11								
QSPA	**South Pole Qui**	**78.55**	**180**		*e*P	**P**	**10 50 26.2**	**+0.3**	
IM3	**Indian Mountai**	**83.65**	**16**		*e*P	**P**	**10 50 51.3**	**-1.4**	
ILAR	**Eielson Array**	**84.87**	**19**		P	**P**	**10 51 00.4**	**+1.5**	
	0.3nm,0.7s,baz=254,slow=5.7,SNR=4.2								
IL1	**Eielson Array**	**84.87**	**19**		*e*P	**P**	**10 50 57.2**	**-1.8**	
NVAR	**Mina Array Bea**	**88.59**	**50**		P	**P**	**10 51 19.2**	**+1.2**	
	0.4nm,0.7s,baz=242,slow=5.8,SNR=4.5								
MK01	**Makanchi Array**	**91.77**	**317**		*e*P	**P**	**10 51 30.7**	**-1.6**	
MK31	**Makanchi Array**	**91.78**	**317**		*e*P	**P**	**10 51 32.7**	**+0.3**	
	0.5nm,0.7s								
MK32	**Makanchi Array**	**91.78**	**317**		*e*P	**P**	**10 51 32.1**	**-0.3**	
MKAR	**Makanchi Array**	**91.78**	**317**		P	**P**	**10 51 32.1**	**-0.3**	
	0.4nm,0.7s,baz=105,slow=4.9,SNR=4.5								
MAKZ	**Makanchi**	**91.99**	**317**		*e*P	**P**	**10 51 32.8**	**-0.6**	
	0.7nm,0.6s								
NRIK	**Noril'sk**	**95.47**	**340**		LR	LR	11 35 16.8		
	comp=Z,22nm,20.1s,baz=192,slow=36								
PDAR	**Pinedale Array**	**96.04**	**48**		LR	LR	11 33 59.9		
	comp=Z,19nm,18.7s,baz=264,slow=35								
YKA	**Yellowknife Ar**	**96.72**	**28**		P	**P**	**10 51 54.6**	**0.0**	
	0.3nm,0.9s,baz=257,slow=5.3,SNR=4.4								

*ISCJB **26** 10:39:53.9±0.3,65°.27N±0°.02×140°.96W±0°.05,h10km, Error ellipse: s-maj=3.1km s-min=2.3km az=136.6*
*AEIC **26** 10:39:55.0±0.0,65°.27N×140°.97W,h10km*
*ANF **26** 10:39:55.0±2.0,65°.14N×140°.72W,h10km±14km,ML3.5/4, Error ellipse: s-maj=12.4km s-min=3.1km az=161.0*
*NEIC **26** 10:39:55.0±0.0,65°.27N×140°.80W,h1km,ML2.9(AEIC), ML3.5(OTT),After OTT.*
*PGC **26** 10:39:55.9±0.1,65°.27N×140°.80W,h1km,ML3.5/11, 150km northwest of Dawson, Yt Northern Yukon Territory, Canada*

ISC 26 10:39:53.1±0.7,65°.32N±0°.02×140°.95W±0°.02,h10km,n79, σ2ˢ46/148,Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGAK	**Eagle**	**0.55**	**189**	*e*Pg	**Pg**	**10 40 04.5**	**+0.6**
EGAK				*e*Sg	**Sg**	10 40 11.2	+0.1
DAWY	**Dawson**	**1.43**	**151**	*e*Pg	**Pn**	10 40 20.4	+1.2
DAWY				*e*Sn	**Sn**	10 40 39.0	+1.0
DAWY	**Dawson**	**1.43**	**151**	P	**Pn**	10 40 20.0	+0.9
DAWY				S	**Sn**	10 40 37.6	-0.3
SCRK	**Sand Creek**	**1.88**	**225**	*e*Pn	**Pn**	10 40 27.0	+1.6
SCRK				*e*Sn	**Sn**	10 40 31.1	+0.9
PRP	**Porcupine Dome**	**1.92**	**278**	*e*Pn	**Pb**	10 40 28.2	-0.1
PRP				*e*Sn	**Sb**	10 40 52.1	-0.2
EPYK	**Eagle Plains**	**2.04**	**57**	*e*Pn	**Pn**	10 40 29.5	+2.0
EPYK				*e*Sn	**Sn**	10 40 55.5	+2.5
EPYK	**Eagle Plains**	**2.04**	**57**	P	**Pn**	10 40 29.4	+2.0
	baz=239						
EPYK				S	**Sb**	10 40 56.0	+0.5
	baz=239						
DOT	**Dot Lake**	**2.15**	**220**	*e*Pn	**Pn**	10 40 30.1	+1.0
DOT				*e*Sn	**Sn**	10 40 55.7	-0.1
DOT	**Dot Lake**	**2.15**	**220**	Pn	**Pb**	10 40 31.7	-0.5
DOT				Sn	**Sb**	10 40 58.9	0.0
FYU	**Fort Yukon**	**2.15**	**307**	*e*Pn	**Pn**	10 40 31.1	+2.1
FYU				*e*Sn	**Sb**	10 40 58.6	-0.3
BCA3	**Beaver Creek A**	**2.29**	**190**	*e*Pn	**Pn**	10 40 32.3	+1.3
BCA3				*e*Sn	**Sb**	10 41 03.2	+0.3
BM3	**Burnt Mountain**	**2.57**	**327**	*e*Pn	**Pn**	10 40 37.5	+2.7
IL1	**Eielson Array**	**2.58**	**260**	*e*Pn	**Pb**	10 40 38.2	-1.2
IL1				*e*Sn	**Sn**	10 41 07.7	+1.5
ILB	**Eielson Array**	**2.58**	**260**	*e*Pn	**Pn**	10 40 37.0	+2.1
ILB				*e*Sn	**Sn**	10 41 07.9	+1.7
IL16	**Eielson Array**	**2.59**	**261**	*e*Pn	**Pn**	10 40 37.2	+2.3
HDA	**Harding Lake**	**2.72**	**253**	*e*Pn	**Pn**	10 40 38.4	+1.5
HDA				*e*Sn	**Sn**	10 41 12.2	+2.5
HDA	**Harding Lake**	**2.72**	**253**	P	**Pn**	10 40 38.3	+1.5
	baz=69						
HDA				Sb	**Sg**	10 41 20.1	-0.3
	baz=69						
POKR	**Poker Plat Res**	**2.74**	**269**	Sb	**Sg**	10 41 22.3	+1.3
	baz=84						
BVCY	**Beaver Creek**	**2.92**	**179**	Pn	**Pn**	10 40 41.9	+2.3
BVCY				Pg	**Pg**	10 40 48.0	-1.0
COLA	**College**	**2.96**	**264**	*e*Pn	**Pn**	10 40 41.9	+1.9
COLA				*e*Sn	**Sn**	10 41 17.7	+2.2
TCOL	**CIGO, UAF Yank**	**2.96**	**264**	P	**Pb**	10 40 43.9	-2.0
	baz=79						
TCOL				S	**Sb**	10 41 20.6	-1.5
	baz=79						
CCB	**Clear Creek Bu**	**2.99**	**260**	*e*Pn	**Pn**	10 40 41.8	+1.2
CCB				*e*Sn	**Sn**	10 41 16.7	+0.4
PAX	**Paxson**	**3.08**	**222**	*e*Pn	**Pn**	10 40 42.3	+0.5
PAX				*e*Sn	**Sn**	10 41 17.9	-0.8
PAX	**Paxson**	**3.08**	**222**	Pn	**Pn**	10 40 44.8	+3.0
PAX				Pg	**Pg**	10 40 50.7	-1.4
PAX				Sn	**Sn**	10 41 21.8	+3.0
PAX				Sg	**Sg**	10 41 29.3	-2.6
MDM	**Murphy Dome**	**3.10**	**267**	*e*Pn	**Pn**	10 40 43.6	+1.5
MDM				*e*Sn	**Sn**	10 41 19.2	+0.2
WRH	**Wood River Hil**	**3.16**	**258**	*e*Pn	**Pn**	10 40 45.0	+2.1
WRH				*e*Sn	**Sn**	10 41 21.9	+1.4
HARP	**HAARP**	**3.47**	**214**	*e*Pn	**Pn**	10 40 49.3	+2.2
HARP				*e*Sn	**Sn**	10 41 28.9	+0.7
HARP	**HAARP**	**3.47**	**214**	Pn	**Pn**	10 40 51.0	+3.9
HARP				Pg	**Pg**	10 40 58.4	-1.1
HARP				Sg	**Sg**	10 41 41.6	-2.7
YUK2	**White River**	**3.55**	**179**	Pn	**Pn**	10 40 50.0	+1.7
YUK2				Pg	**Pb**	10 40 59.1	+3.1
YUK2				Sn	**Sn**	10 41 30.9	+0.6
YUK2				Sg	**Sb**	10 41 43.2	+4.1
YUK3	**Moose Creek**	**3.57**	**176**	Pn	**Pn**	10 40 50.6	+2.0
YUK3				Sn	**Sn**	10 41 31.1	+0.2
YUK3				Sg	**Sb**	10 41 43.3	+3.5
DHY	**Denali Highway**	**3.60**	**234**	*e*Pn	**Pn**	10 40 51.1	+2.0
DHY				*e*Sn	**Sn**	10 41 33.6	+1.9
MCK	**McKinley**	**3.80**	**249**	*e*Pn	**Pn**	10 40 50.7	-1.0
MCK				*e*Sn	**Sn**	10 41 34.4	-2.0
BWN	**Browne**	**3.83**	**256**	*e*Pn	**Pn**	10 40 52.2	+0.2
BWN				*e*Sn	**Sn**	10 41 36.0	-1.0
RND	**Reindeer**	**3.94**	**244**	*e*Pn	**Pn**	10 40 52.2	-1.4
MCARA	**McCarthy VSAT**	**4.06**	**194**	*e*Pn	**Pn**	10 40 57.7	+2.5
YUK4	**Talbot Arm**	**4.12**	**164**	Pn	**Pn**	10 40 57.3	+1.0
YUK4				Sg	**Sb**	10 41 57.9	+2.1
MLY	**Manley**	**4.14**	**270**	*e*Pn	**Pn**	10 40 58.1	+1.8
INK	**Inuvik**	**4.20**	**41**	*e*Pn	**Pn**	10 40 59.7	+2.6
INK				*e*Sn	**Sn**	10 41 48.8	+2.8
INK	**Inuvik**	**4.20**	**41**	Pn	**Pn**	10 40 59.6	+2.6
INK				Sn	**Sn**	10 41 46.9	+0.9
COLD	**Coldfoot**	**4.20**	**301**	*e*Pn	**Pn**	10 41 00.8	+3.6
COLD	**Coldfoot**	**4.20**	**301**	Pn	**Pn**	10 41 00.9	+3.8
COLD				Sn	**Sn**	10 41 50.4	+4.2
COLD				Sg	**Sg**	10 42 07.8	0.0
PTPK	**Patty Peak**	**4.21**	**190**	*e*Pn	**Pn**	10 40 59.6	+2.2
PTPK	**Patty Peak**	**4.21**	**190**	Pn	**Pn**	10 40 59.9	+2.5
PTPK				Sn	**Sn**	10 41 46.6	0.0
PTPK				Sg	**Sg**	10 42 06.4	-1.7
BALM	**Baldy**	**4.35**	**189**	*e*Pn	**Pn**	10 41 01.7	+2.4
BALM	**Baldy**	**4.35**	**189**	Pn	**Pn**	10 41 02.0	+2.7
BALM				Sn	**Sn**	10 41 50.2	+0.2
BALM				Sg	**Sg**	10 42 08.4	-4.2
CTGM	**Chitina Glacie**	**4.38**	**182**	Pn	**Pn**	10 41 02.4	+2.7
CTGM				Sn	**Sn**	10 41 51.8	+1.0
CTGM				Sg	**Sg**	10 42 10.6	-2.9
YUK5	**Granite Creek**	**4.43**	**160**	Pg	**Pg**	10 41 15.5	-2.4
YUK5				Sn	**Sn**	10 41 53.7	+1.5
YUK5				Sg	**Sb**	10 42 09.3	+4.7
KLU	**Klutina**	**4.45**	**212**	*e*Pn	**Pn**	10 41 02.3	+1.8
KLU				*e*Sg	**Sg**	10 42 11.3	-4.4
KIAG	**Kiagna River**	**4.46**	**189**	Pn	**Pn**	10 41 03.5	+2.6
KIAG				Sn	**Sn**	10 41 56.5	+3.6
TRF	**Thorofare Moun**	**4.47**	**249**	*e*Pn	**Pn**	10 41 03.9	+2.9
TRF				*e*Sg	**Sg**	10 42 15.5	-0.9
BPAW	**Bear Paw Mtn.**	**4.48**	**259**	*e*Pn	**Pn**	10 41 01.9	+0.9
SCM	**Sheep Creek Mo**	**4.51**	**222**	*e*Pn	**Pn**	10 41 05.8	+4.2
SCM				*e*Sg	**Sg**	10 42 14.6	-3.3
YUK6	**Outpost Mounta**	**4.55**	**164**	*e*Pn	**Pn**	10 41 04.5	+2.3
YUK6	**Outpost Mounta**	**4.55**	**164**	Pn	**Pn**	10 41 04.3	+2.2
YUK6				Sn	**Sn**	10 41 55.0	-0.2
YUK6				Sg	**Sg**	10 42 16.1	-3.1
TGL	**Tana Glacier**	**4.66**	**191**	*e*Pn	**Pn**	10 41 07.1	+3.5
TGL				*e*Sg	**Sg**	10 42 19.7	-2.9
CRQM	**Cirque**	**4.69**	**193**	*e*Pn	**Pn**	10 41 07.8	+3.7
TOLK	**Toolik Lake Re**	**4.75**	**318**	*e*Pn	**Pn**	10 41 08.7	+4.0
TOLK				*e*Sn	**Sn**	10 42 03.8	+4.0
TOLK	**Toolik Lake Re**	**4.75**	**318**	P	**Pn**	10 41 09.0	+4.3
	baz=130						
HYT	**Haines Junctio**	**4.78**	**159**	*e*Pn	**Pn**	10 41 07.2	+2.0
HYT				*e*Sg	**Sg**	10 42 23.4	-3.0
HYT	**Haines Junctio**	**4.78**	**159**	Pn	**Pn**	10 41 07.7	+2.5
HYT				Pg	**Pb**	10 41 20.4	+3.5
HYT				Sg	**Sg**	10 42 21.6	-4.7
SML	**Sawmill**	**4.83**	**226**	*e*Pn	**Pn**	10 41 07.9	+2.1
SML				*e*Sg	**Sg**	10 42 25.5	-2.4
YUK7	**Dusty Glacier**	**4.98**	**164**	*e*Pn	**Pn**	10 41 10.9	+2.9
YUK7	**Dusty Glacier**	**4.98**	**164**	Pn	**Pn**	10 41 10.7	+2.7
YUK7				Sn	**Sn**	10 42 08.2	-2.6
GHO	**Glory Hole Cre**	**5.04**	**229**	*e*Pn	**Pn**	10 41 08.4	-0.3
GHO				*e*Sg	**Sg**	10 42 33.8	-0.9
KNK	**Knik Glacier**	**5.17**	**224**	*e*Pn	**Pn**	10 41 13.0	+2.4
CAST	**Castle Rocks**	**5.20**	**254**	*e*Pn	**Pn**	10 41 10.3	-0.5
CAST				*e*Sg	**Sg**	10 42 38.5	-1.3
HMT	**Hamilton**	**5.23**	**198**	*e*Pn	**Pn**	10 41 13.8	+2.6
PMR	**Palmer**	**5.24**	**228**	*e*Pn	**Pn**	10 41 11.6	+0.3
IM3	**Indian Mountai**	**5.34**	**283**	*e*Pn	**Pn**	10 41 14.2	+1.4
BCPM	**Bancas Point**	**5.42**	**173**	*e*Pn	**Pn**	10 41 14.4	+0.5
BCPM				*e*Sn	**Sn**	10 42 16.3	0.0
WHY	**Whitehorse**	**5.43**	**147**	*e*Pn	**Pn**	10 41 14.4	+0.2
WHY				*e*Lg	Lg	10 42 49.7	
WHY	**Whitehorse**	**5.43**	**147**	Pn	**Pn**	10 41 16.2	+2.1
PPLA	**Purkeypile**	**5.49**	**249**	*e*Pn	**Pn**	10 41 15.4	+0.4
PLBC	**Pleasant Camp**	**6.26**	**158**	Pn	**Pn**	10 41 28.6	+3.2
PLBC				Sg	**Sg**	10 43 04.4	-5.3
DLBC	**Dease Lake**	**8.61**	**138**	*e*Pn	**Pn**	10 41 59.1	+1.5
DLBC	**Dease Lake**	**8.61**	**138**	Pn	**Pn**	10 42 00.4	+2.8
DLBC				Sg	**Sg**	10 44 21.5	-7.6
DHRN	**Dharma Camp**	**8.83**	**69**	Pn	**Pn**	10 42 02.3	+1.7
DHRN				Sn	**Sn**	10 43 33.5	-6.5
KUKN	**Kugluktuk,NWT**	**10.56**	**65**	Pn	**Pn**	10 42 23.1	-1.1
KUKN				Sn	**Sn**	10 44 15.8	-6.5
YKW3	**Yellowknife Ar**	**11.86**	**91**	Pn	**Pn**	10 42 41.4	-0.7
YKW3				Sn	Sn	10 44 42.7	-12

IDC 26 10:40:10.4±31.0,16°.03S×176°.85W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/46,mbtmp4.0/4,Error ellipse: s-maj=592.9km s-min=154.3km az=82.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.85**	**240**	P	P	10 47 54.3	0.0
	1.2nm,0.7s,baz=100,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**46.47**	**258**	P	P	10 48 39.7	0.0
	0.8nm,0.7s,baz=92,slow=7.7,SNR=17						
ASAR	**Alice Springs**	**46.76**	**252**	P	P	10 48 41.8	-0.2
	6.4nm,0.6s,baz=88,slow=8.2,SNR=91						
FITZ	**Fitzroy Crossi**	**54.83**	**259**	P	P	10 49 42.5	-0.4
	1.0nm,0.8s,baz=110,slow=9.2,SNR=1.1						

*SJA **26** 10:52:43.1±0.6,30°.16S×72°.84W,h33km,ML3.5,MW3.6*
*GUC **26** 10:52:48.7±0.6,30°.26S×72°.14W,h38km±8km,ML3.5*

ISC 26 10:52:47.5±1.6,30°.27S±0°.03×72°.16W±0°.09,h16km,n27, σ1ˢ81/35,2C-3D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO04	**Tololo Observa**	**1.18**	**86**	*e*P	**Pg**	**10 53 10.8**	**+0.5**
GO04	**Tololo Observa**	**1.18**	**86**	*i*P	**Pg**	**10 53 10.7**	**+0.4**
GO04				*i* S	**Sg**	10 53 27.3	+1.4
GO04				IAML		10 53 36.8	
	comp=N,3μm,0.4s						
CMCH	**Combarbala**	**1.35**	**132**	*i*P	**Pg**	**10 53 12.7**	**-0.7**
CMCH				*e*S	**Sg**	10 53 30.7	-0.3
LCO	**Las Campanas**	**1.79**	**46**	*e*P	**Pg**	10 53 19.9	-1.9
LCO				*e*S	**Sg**	10 53 47.0	+2.0
LCO	**Las Campanas**	**1.79**	**46**	*i*P	**Pg**	10 53 19.9	-1.9
LCO				*e*S	**Sg**	10 53 43.7	-1.4
LCO				IAML		10 53 54.0	
	comp=E,528nm,0.6s						
AROD	**Rodeo**	**2.33**	**88**	*e*P	**Pg**	10 53 30.3	-1.9
AROD				*e*S	**Sg**	10 54 02.2	-0.2
ACDV	**Cuesta del Vie**	**2.64**	**89**	*e*P	**Pg**	10 53 35.1	-2.9
ACDV				*e*S	**Sg**	10 54 12.6	+0.4
ACCO	**Cerro Coronel**	**2.69**	**98**	*e*P	**Pb**	10 53 36.0	+0.5
ACCO				*e*S	**Sg**	10 54 15.4	+1.3
ROCH	**El Roble**	**2.87**	**160**	*e*P	**Pn**	10 53 34.3	+1.5
ROCH				*i* S	**Sn**	10 54 07.6	+0.5
ROC1	**El Roble**	**2.87**	**160**	*e*P	**Pn**	10 53 34.2	+1.4
ROC1				*e*S	**Sn**	10 54 07.6	+0.4
RTLS	**Leoncito**	**2.89**	**123**	*e*P	**Pb**	10 53 38.4	-0.5
RTLS				IAML		10 54 30.3	
	comp=Z,75nm,0.5s						
AUSP	**Uspallata**	**3.07**	**130**	*e*P	**Pb**	**10 53 40.6**	**-1.3**
GO03	**Copiap**	**3.16**	**33**	*e*P	**Pn**	**10 53 38.5**	**+2.0**
GO03				*i* S	**Sn**	10 54 16.0	+2.1
GO03				IAML		10 54 38.7	
	comp=E,103nm,0.4s						
AMOG	**MOGNA**	**3.23**	**103**	*e*P	**Pb**	**10 53 43.4**	**-1.2**
AGUA	**GUANDACOL**	**3.28**	**77**	*e*P	**Pb**	**10 53 44.5**	**-0.9**
RTLL	**Cerro Villicun**	**3.34**	**109**	*e*P	**Pb**	**10 53 43.7**	**-2.7**
RTLL				*e*P	Pg	10 53 44.4	-7.1
RTLL				IAML		10 54 50.1	
	comp=Z,45nm,0.6s						
CLCH	**Cerro Calan**	**3.41**	**156**	*e*P	**Pn**	**10 53 42.6**	**+2.5**
CLCH				*e*S	**Sn**	**10 54 22.4**	**+2.1**
CLCH				IAML		10 54 50.5	
	comp=E,147nm,0.4s						
FCH	**Farellones**	**3.44**	**153**	*e*P	**Pn**	**10 53 42.4**	**+1.7**
FCH				*i* S	**Sn**	**10 54 22.3**	**+1.0**
FCH				IAML		10 54 48.2	
	comp=E,42nm,0.2s						
RTCV	**Cerro Valdivia**	**3.49**	**118**	*e*P	**Pb**	**10 53 46.0**	**-2.9**
CFA	**Coronel Fontan**	**3.63**	**113**	*e*P	**Pb**	**10 53 48.6**	**-2.6**
ASAL	**Salagasta**	**3.67**	**130**	*e*P	**Pb**	**10 53 49.3**	**-2.7**
ARCO	**CERRO ARCO**	**3.77**	**134**	*e*P	**Pb**	**10 53 50.9**	**-2.7**
VCA	**Vinchina**	**3.77**	**67**	*e*P	**Pb**	**10 53 51.5**	**-2.3**
VCA				IAML		10 54 58.3	
	comp=Z,86nm,0.4s						
ACLC	**CERRO LA CRUZ**	**4.60**	**81**	*e*P	Pb	10 54 01.0	-7.0
APLL	**PUNTA DE LOS L**	**4.87**	**93**	*e*P	Pb	10 54 05.2	-7.3
APLL				IAML		10 55 34.8	
	comp=Z,15nm,0.5s						
CYA	**Choya**	**5.84**	**73**	IAML		10 56 01.8	
	comp=Z,11nm,0.7s						
TCA	**Tanti**	**6.60**	**101**	IAML		10 54 39.5	
	comp=Z,9.9nm,0.5s						

*ISCJB **26** 11:01:28.7±0.5,6°.86N±0°.03×73°.18W±0°.04,h156km±3km, mb3.6/5,Error ellipse: s-maj=6.4km s-min=5.5km az=3.3*
*IDC **26** 11:01:28.9±3.9,6°.77N×72°.88W,h161km±27km,mb3.4/5, mb1 3.8/6,mb1mx3.3/29,mbtmp3.9/6,Error ellipse: s-maj=62.1km s-min=21.8km az=85.0*
*RSNC **26** 11:01:30.0±0.9,6°.82N×73°.18W,h151km±4km,ML4.3, Mw4.4*

ISC 26 11:01:29.5±0.8,6°.85N±0°.04×73°.15W±0°.05,h153km±6km, n27,σ0ˢ88/42,mb3.7/5,5C-4D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.23**	**350**	*i*P	**Pn**	**11 01 50.5**	**0.0**
GIRC				*e*S	**Sn**	**11 02 06.4**	**0.0**
GIRC				*i*		11 02 07.4	
	comp=E,2μm,0.4s						
BARC	**Barichara**	**0.26**	**186**	*i* P	**Pn**	**11 01 50.4**	**-0.2**
BARC				*e*S	**Sn**	**11 02 05.5**	**-1.1**
BARC				*i*		11 02 06.5	
	comp=Z,3μm,0.3s						
BRRC	**Barranca, Sant**	**0.61**	**295**	*i*P	**Pn**	**11 01 52.2**	**+0.4**
BRRC				*e*S	**Sn**	**11 02 08.8**	**0.0**
BRRC				*i*		11 02 09.9	
	comp=N,6μm,0.2s						
PAMC	**Pamplona, Colo**	**0.67**	**43**

comp=N,145nm,0.3s
AUSP Uspallata 3.25 126⇓ *eP* **Pb 11 05 36.9 -2.2**
GO03 Copiap 3.36 36 *eP* **Pn 11 05 34.5 +0.8**
GO03 *iS* **Sn 11 06 12.6 -1.0**
GO03 IAML 11 06 34.8
comp=E,170nm,0.4s
ZON Zonda 3.48 111 *eP* **Pg 11 05 48.7 +0.8**
ZON IAML 11 06 34.6
comp=Z,61nm,0.5s
AMOG MOGNA 3.49 101 *eP* **Pn 11 05 39.5 +4.0**
FCH Farellones 3.52 149 *eP* **Pn 11 05 36.8 +0.7**
FCH *iS* **Sn 11 06 17.0 -0.9**
FCH IAML 11 06 44.5
comp=E,72nm,0.4s
AGUA GUANDACOL 3.56 77 *eP* **Pn 11 05 40.7 +4.2**
RTLL Cerro Villicun 3.59 107 *eP* **Pn 11 05 39.4 +2.7**
RTLL IAML 11 06 46.4
comp=Z,70nm,0.5s
RTCV Cerro Valdivia 3.71 115 *eP* **Pn 11 05 42.6 +4.2**
ASAL Salagasta 3.84 127 *eP* Pn 11 05 45.6 +5.3
ARCO CERRO ARCO 3.93 130 *eP* **Pb 11 05 47.4 -3.1**
ARCO IAML 11 06 51.0
comp=Z,70nm,0.4s
VCA Vinchina 4.05 68 *eP* **Pn 11 05 47.5 +4.3**
VCA IAML 11 06 54.5
comp=Z,160nm,0.4s
AAGR Agrelo 4.15 132 *eP* Pn 11 05 49.7 +5.2
ACLC CERRO LA CRUZ 4.88 81 *eP* **Pn 11 05 57.1 +2.4**
ACAN Cantantal 4.93 115 *eP* Pn 11 05 59.0 +3.8
APLL PUNTA DE LOS L 5.14 92 *eP* **Pn 11 06 00.6 +2.4**
APLL IAML 11 07 21.8
comp=Z,20nm,0.6s
CYA Choya 6.12 74 *eP* Pn 11 06 15.2 +3.6
CYA IAML 11 07 55.3
comp=Z,20nm,0.7s
MRA San Martin 6.15 112 *eP* **Pn 11 06 13.6 +1.6**
MRA IAML 11 08 01.3
comp=Z,31nm,0.6s
TCA Tanti 6.85 100 *eP* **Pn 11 06 23.2 +1.5**
TCA IAML 11 06 35.9
comp=Z,17nm,0.5s

*NEIC **26** 11:20:46.1±0.0,51°.86N×173°.91W,h23km,ML3.3(AEIC), After AEIC.*
*IDC **26** 11:21:17.0±28.0,52°.80N×172°.21W,h259km±155km, mb2.8/5,mb1 3.2/7,mb1mx2.8/73,mbtmp3.5/7,MS3.5/1, Ms1 3.5/1,ms1mx2.7/8, Error ellipse: s-maj=279.5km s-min=40.9km az=66.0*
ISC 26 11:20:42.7±3.3,51°.82N±0°.07×173°.76W±0°.03, h13km±22km,n31,σ1§39/35,mb3.4/5,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KOFP	**Korovin Flat P**	**0.51**	**336**	*eP*	**Pg**		**Pn**	**11 20 55.6**	**0.0**
KOKL	**Mount Kliuchef**	**0.58**	**332**	*eP*	**Pg**		**Pn**	**11 20 56.6**	**0.0**
KOKL				*eS*	**Sg**		**Sb**	**11 21 03.6**	**+0.8**
KOWE	**Korovin West**	**0.63**	**331**	*eP*	**Pg**		**Pn**	**11 20 57.6**	**+0.3**
GSMY	**Great Sitkin M**	**1.44**	**280**	*eP*	**Pn**		**Pn**	**11 21 08.9**	**+0.5**
GSTR	**Great Sitkin T**	**1.45**	**282**	*eP*	**Pn**		**Pb**	**11 21 09.5**	**0.0**
GSTR				*eSn*	**Sn**		**Sn**	**11 21 26.5**	**-0.9**
GSTD	**Great Sitkin T**	**1.50**	**280**	*eP*	**Pn**		**Pn**	**11 21 09.8**	**+0.5**
GSTD				*eSn*	**Sn**		**Sn**	**11 21 29.0**	**+0.4**
ETKA	**Kagalaska Isla**	**1.64**	**273**	*eP*	**Pn**		**Pn**	**11 21 11.4**	**+0.3**
ETKA				*eSn*	**Sn**		**Sn**	**11 21 31.3**	**-0.8**
ADAG	**Mount Adagdak**	**1.77**	**276**	*eP*	**Pn**		**Pb**	**11 21 14.4**	**-0.4**
ADK	**Adak**	**1.81**	**273**	*eP*	**Pn**		**Pn**	**11 21 14.3**	**+0.7**
ADK				*eSn*	**Sn**		**Sn**	**11 21 34.5**	**-1.8**
ADK				*eSg*	**Sb**		**Sb**	**11 21 35.2**	**-3.0**
KIRH	**Kanaga Island**	**2.07**	**274**	*eP*	**Pn**		**Pb**	**11 21 18.6**	**-1.4**
KIWB	**Kanaga Island**	**2.10**	**272**	*eP*	**Pn**		**Pn**	**11 21 18.8**	**+1.3**
KIWB				*eSn*	**Sn**		**Sn**	**11 21 43.1**	**-0.4**
KIKV	**Kanaga Island**	**2.12**	**273**	*eP*	**Pn**		**Pn**	**11 21 19.0**	**+1.3**
TAFP	**Tanaga Falls P**	**2.62**	**274**	*eP*	**Pn**		**Pn**	**11 21 25.8**	**+1.1**
TAFP				*eSn*	**Sn**		**Sn**	**11 21 57.9**	**+1.7**
TASE	**Tanaga Southea**	**2.65**	**272**	*eP*	**Pn**		**Pn**	**11 21 27.2**	**+2.1**
NIKH	**Nikolski High**	**3.22**	**67**	*eP*	**Pn**		**Pn**	**11 21 30.9**	**-1.9**
NIKH				*eSn*	**Sn**		**Sn**	**11 22 09.2**	**-1.9**
UNV	**Unalaska Valle**	**4.85**	**62**	*eP*	**Pn**		**Pn**	**11 21 57.4**	**+2.2**
UNV				*eSn*	**Sn**		**Sn**	**11 22 51.4**	**+0.3**
SPIA	**Saint Paul Isl**	**5.75**	**19**	*eP*	**Pn**		**Pn**	**11 22 10.4**	**+2.8**
SPIA				*eSn*	**Sn**		**Sn**	**11 23 11.0**	**-2.2**
KDAK	**Kodiak Island**	**13.57**	**56**	P			**P**	**11 24 03.9**	**+0.3**
	0.9nm,0.3s,baz=329,slow=2.0,SNR=15								
ILAR	**Eielson Array**	**18.98**	**37**	P			**P**	**11 25 03.4**	**0.0**
	0.2nm,0.3s,baz=236,slow=9.2,SNR=16								
INK	**Inuvik**	**25.32**	**34**	P			**P**	**11 26 07.9**	**-0.5**
	1.5nm,1.1s,baz=239,slow=9.6,SNR=3.5								
DLBC	**Dease Lake**	**25.48**	**58**	LR			LR	11 35 39.8	
	comp=Z,120nm,20.6s,baz=239,slow=36								
YKA	**Yellowknife Ar**	**32.63**	**48**	P			**P**	**11 27 12.8**	**-0.8**
	0.1nm,0.4s,baz=275,slow=9.3,SNR=4.4								
H11N2	**WAKE ISLAND Hy**	**35.43**	**213**	T			T	12 05 20.9	
	baz=21,slow=76,SNR=143								
H11N3	**WAKE ISLAND Hy**	**35.43**	**213**	T			T	12 05 24.5	
	baz=21,slow=76,SNR=139								
H11N1	**WAKE ISLAND Hy**	**35.45**	**213**	T			T	12 05 21.0	
	baz=21,slow=76,SNR=129								
H11S1	**WAKE ISLAND Hy**	**36.63**	**212**	T			T	12 06 49.1	
	baz=20,slow=76,SNR=294								
H11S2	**WAKE ISLAND Hy**	**36.65**	**212**	T			T	12 06 52.7	
	baz=20,slow=76,SNR=325								
H11S3	**WAKE ISLAND Hy**	**36.65**	**212**	T			T	12 06 49.1	
	baz=20,slow=76,SNR=181								
NVAR	**Mina Array Bea**	**40.38**	**87**	P			**P**	**11 28 22.2**	**+1.9**
	0.2nm,0.5s,baz=293,slow=9.4,SNR=3.4								
PDAR	**Pinedale Array**	**43.17**	**76**	P			**P**	**11 28 43.5**	**+0.4**
	0.5nm,0.6s,baz=301,slow=4.0,SNR=7.4								
TXAR	**Lajitas Array**	**55.48**	**85**	P			**P**	**11 30 17.4**	**+0.3**
	0.6nm,0.4s,baz=307,slow=6.3,SNR=12								

*SOME **26** 11:20:42.7,40°.62N×72°.30E,h0km*
*KRNET **26** 11:20:43.1±0.1,40°.55N×72°.24E,h16km,mb2.3*
*NNC **26** 11:20:50.3±4.3,40°.83N×72°.23E,h0km,mb3.2,mpv2.6, Error ellipse: s-maj=38.0km s-min=18.1km az=179.0*
ISC 26 11:20:42.2±1.7,40°.54N±0°.07×72°.28E±0°.03,h5km±12km, n17,σ1§00/29,11C-11D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
ARSB	**Arslanbob**	**0.94**	**34**	⇑*iP*			**Pn**	**11 21 02.0**	**-0.3**
	baz=36								
ARSB				⇑*iS*			**Sn**	**11 21 14.6**	**-1.6**
	baz=36								
BTK	**Batken**	**1.22**	**247**	⇓*iP*			**Pn**	**11 21 06.2**	**+0.2**
	baz=46								
BTK				⇓*iS*			**Sb**	**11 21 22.4**	**+0.5**
	baz=46								
ARK	**Arkit**	**1.28**	**349**	⇓*iP*			**Pg**	**11 21 07.5**	**+0.8**
	baz=51								
ARK				⇓*iS*			**Sn**	**11 21 24.7**	**+0.3**
	baz=51								
AML	**Almayashu**	**1.91**	**33**	⇑*iP*			**Pb**	**11 21 18.4**	**+0.6**
	baz=34								
AML				⇑*iS*			**Sg**	**11 21 44.9**	**+1.3**
	baz=34								
ARLS	**Aral**	**2.03**	**49**	⇓*iP*			**Pb**	**11 21 20.6**	**+1.0**
	baz=49								
ARLS				⇓*iS*			**Sg**	**11 21 47.3**	**0.0**
	baz=49								
MRKS	**Merke**	**2.31**	**18**	Pg			**Pb**	**11 21 25.3**	**+0.9**
	4.6nm,0.4s								
MRKS				Lg			Lg	11 21 57.1	
	14nm,0.4s								
MRKS	**Merke**	**2.31**	**18**	*eP*			**Pb**	**11 21 25.3**	**+0.9**
	4.6nm,0.4s								
MRKS				*eS*			**Sg**	**11 21 57.1**	**+0.6**
	14nm,0.4s								
IUG	**luznay**	**2.33**	**314**	Pg			**Pg**	**11 21 26.1**	**-0.8**
	15nm,0.4s								
IUG				Lg			Lg	11 21 58.8	
	14nm,0.3s								
IUG	**luznay**	**2.33**	**314**	*eP*			**Pg**	**11 21 26.1**	**-0.8**
	3.5nm,0.3s								
IUG				*eS*			**Sg**	**11 21 58.3**	**+1.2**
	15nm,0.3s								
UCH	**Uchtor**	**2.38**	**44**	⇑*iP*			**Pb**	**11 21 25.9**	**+0.1**
	baz=45								
UCH				⇑*iS*			**Sg**	**11 21 58.2**	**-0.4**
	baz=45								
EKS2	**Erkin-Say**	**2.40**	**27**	⇑*iP*			**Pb**	**11 21 24.6**	**-1.3**
	baz=28								
EKS2				⇑*iS*			**Sb**	**11 21 55.9**	**+0.1**
	baz=28								
AAK	**Ala-Archa**	**2.67**	**38**	⇑Pn			**Pg**	**11 21 32.9**	**-0.4**
	1.0nm,0.6s								
AAK				⇓Lg			Lg	11 22 07.7	
	6.7nm,0.5s								
AAK	**Ala-Archa**	**2.67**	**38**	⇓*iP*			**Pb**	**11 21 29.4**	**-1.2**
	baz=38								
AAK				⇓*iS*			**Sb**	**11 22 04.0**	**+0.3**
	baz=38								
KZA	**Kyzart**	**2.71**	**55**	⇑*iP*			**Pb**	**11 21 31.1**	**-0.3**
	baz=55								
KZA				⇑*iS*			**Sb**	**11 22 07.0**	**+1.9**
	baz=55								
KK31	**Karatay Array**	**2.88**	**333**	⇓Pn			**Pg**	**11 21 36.4**	**-0.9**
	0.8nm,0.7s,baz=156,slow=17,SNR=6.9								
KK31				⇓Lg			Lg	11 22 13.5	
	1.6nm,0.4s,baz=154,slow=29,SNR=7.6								
BRLS	**Borolday**	**3.08**	**324**	Pg			**Pb**	**11 21 38.2**	**+0.6**
	0.7nm,0.5s								
BRLS				Lg			Lg	11 22 19.1	
	2.3nm,0.2s								
BRLS	**Borolday**	**3.08**	**324**	*eP*			**Pb**	**11 21 38.2**	**+0.6**
	0.2nm,0.3s								
BRLS				*eS*			**Sg**	**11 22 19.1**	**-2.1**
	3.1nm,0.2s								

JMA 26 11:33:29.4±0.1,38°.70N×142°.44E,h40km±2km,M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
OFUJ	**Ofunato**	**0.71**	**302**	P			**Pn**	**11 33 43.2**	**+0.2**
OFUJ				S			Sn	11 33 52.9	+0.1
JKMT	**Kesennumamotoy**	**0.76**	**279**	P			**Pn**	**11 33 43.9**	**+0.2**
JKMT				S			Sn	11 33 54.0	0.0
JIKH	**Ishinomakibobu**	**0.86**	**243**	P			**Pn**	**11 33 45.1**	**+0.1**
JIKH				S			Sn	11 33 56.2	-0.1
JIO	**Ouri**	**0.89**	**254**	P			**Pn**	**11 33 45.5**	**+0.1**
JIO				S			Sn	11 33 57.0	-0.1
JMK	**Ichinoseki**	**0.99**	**285**	P			**Pn**	**11 33 47.2**	**+0.5**
JMK				S			Sn	11 34 00.0	+0.5
JOM	**Ohasama**	**1.18**	**311**	P			**Pn**	**11 33 50.1**	**+0.7**
JOM				S			Sn	11 34 05.2	+0.9
JTH	**Tanohata**	**1.31**	**340**	P			**Pn**	**11 33 51.4**	**+0.1**
JOU	**Okura**	**1.43**	**257**	P			**Pn**	**11 33 53.7**	**+0.8**
JOU				S			Sn	11 34 12.0	+1.5
JMM	**Marumori**	**1.54**	**238**	P			**Pn**	**11 33 54.9**	**+0.5**
JRG	**Rokugo**	**1.57**	**297**	P			**Pn**	**11 33 55.7**	**+0.9**
JYK	**Kaneyama**	**1.64**	**278**	P			**Pn**	**11 33 56.8**	**+1.1**
JANG	**Nango**	**1.82**	**337**	P			**Pn**	**11 33 58.3**	**+0.1**

*ISCJB **26** 11:35:54.9±0.8, 14°.9S±0°.2×170°.5E±0°.2,h600km,mb4.2/1, Error ellipse: s-maj=34.6km s-min=16.3km az=144.8*
*IDC **26** 11:35:56.5±2.2, 14°.87S×170°.49E,h609km±23km,mb3.2/9, mb1 3.4/9,mb1mx3.1/32,mbtmp4.1/9, Error ellipse: s-maj=30.8km s-min=18.0km az=141.0*
ISC 26 11:35:55.7±0.9,14°.9S±0°.2×170°.5E±0°.2,h600km,n11, σ1§08/14,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CTA	**Charters Tower**	**23.72**	**254**	P			**P**	**11 40 23.6**	**+0.9**
	2.9nm,0.5s,baz=84,slow=12,SNR=6.4								
STKA	**Stephens Creek**	**31.35**	**232**	P			**P**	**11 41 29.8**	**+0.8**
	3.5nm,0.4s,baz=57,slow=8.2,SNR=16								
WRA	**Warramunga Arr**	**34.85**	**256**	P			**P**	**11 41 57.6**	**-1.0**
	2.5nm,0.8s,baz=82,slow=8.0,SNR=27								
WRA				ScP			**ScP**	**11 47 02.1**	**-1.4**
	0.6nm,0.7s,baz=90,slow=4.3,SNR=6.0								
ASAR	**Alice Springs**	**35.58**	**250**	P			**P**	**11 42 03.9**	**-0.7**
	4.3nm,0.5s,baz=75,slow=9.8,SNR=84								
ASAR				PcP			**PcP**	**11 44 15.6**	**-0.7**
	0.5nm,0.7s,baz=87,slow=3.2,SNR=4.8								
ASAR				ScP			**ScP**	**11 47 04.8**	**-1.3**
	1.2nm,0.7s,baz=92,slow=3.8,SNR=14								
QSPA	**South Pole Qui**	**75.16**	**180**	P			**P**	**11 46 37.4**	**-0.1**
	1.1nm,0.8s,baz=352,slow=1.3,SNR=5.9								
CMAR	**Chiang Mai Arr**	**77.90**	**293**	P			**P**	**11 46 54.5**	**+1.3**
	0.5nm,0.3s,baz=134,slow=5.1,SNR=4.9								
NVAR	**Mina Array Bea**	**84.99**	**48**	P			**P**	**11 47 30.6**	**+1.3**
	0.6nm,0.7s,baz=232,slow=8.5,SNR=5.4								
ILAR	**Eielson Array**	**85.71**	**17**	P			**P**	**11 47 30.6**	**-1.3**
	0.4nm,0.6s,baz=238,slow=5.2,SNR=9.1								
YKA	**Yellowknife Ar**	**96.24**	**27**	P			**P**	**11 48 20.6**	**+0.2**
	0.3nm,0.5s,baz=256,slow=4.8,SNR=10								
ARCES	**ARCESS Array B**	**121.16**	**346**	PKP			**PKPdf**	**11 53 39.8**	**-0.9**
	0.7nm,0.4s,baz=69,slow=2.4,SNR=15								
FINES	**FINESS Array B**	**126.99**	**340**	PKP			**PKPdf**	**11 53 52.1**	**+0.1**
	0.2nm,0.3s,baz=82,slow=2.9,SNR=4.8								

IDC 26 11:43:34.0±13.0,15°.23S×165°.31E,h0km,mb3.6/3, mb1 3.8/4,mb1mx3.5/41,mbtmp3.6/4,ML3.4/1,MS3.6/2, Ms1 3.7/2,ms1mx2.8/33,Error ellipse: s-maj=233.7km s-min=35.4km az=53.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DZM	**Mont Dzumac**	**6.89**	**171**	Pn			Pn	11 45 16.4	-0.1
	0.7nm,0.3s,baz=319,slow=20,SNR=9.2								
DZM				Sn			Sn	11 46 37.2	+1.6
	0.2nm,0.3s,baz=73,slow=19,SNR=2.9								
STKA	**Stephens Creek**	**27.23**	**228**	P			P	11 49 19.9	-0.1
	0.7nm,0.4s,baz=31,slow=12,SNR=4.4								
WRA	**Warramunga Arr**	**29.86**	**256**	P			P	11 49 43.6	+0.1
	0.3nm,0.8s,baz=83,slow=7.6,SNR=3.1								
ASAR	**Alice Springs**	**30.72**	**249**	P			P	11 49 51.0	-0.1
	0.3nm,0.4s,baz=78,slow=9.2,SNR=17								
GUMO	**Guam**	**35.05**	**324**	LR			LR	12 06 02.7	
	comp=Z,69nm,18.2s,baz=74,slow=38								
NVAR	**Mina Array Bea**	**89.04**	**50**	LR			LR	12 33 47.9	
	comp=Z,40nm,18.1s,baz=228,slow=34								

*IDC **26** 11:44:21.8±8.3,52°.83N×170°.60E,h0km,mb3.4/2, mb1 3.7/3,mb1mx3.2/57,mbtmp3.4/3,ML2.9/1,Error ellipse: s-maj=249.0km s-min=34.2km az=167.0*
*KRSC **26** 11:44:26.3±10.0,52°.26N×169°.92E,h97km±10km,ML4.1*
ISC 26 11:44:23.6±1.8,52°.3N±0°.2×170°.35E±0°.09,h35km,n14, σ2§27/18,Near Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KBTR	**Krutoberegovo**	**5.89**	**314**	*eP*			**Pn**	**11 45 50.7**	**+2.4**
SDLR	**Sedlovina**	**7.02**	**282**	P			**Pn**	**11 46 05.4**	**+1.5**
SDLR				S			**Sn**	**11 47 21.3**	**-1.2**
UGLR	**Uglovaya**	**7.05**	**282**	P			**Pn**	**11 46 07.2**	**+2.9**
DALK	**Dalny**	**7.09**	**280**	P			**Pn**	**11 46 05.2**	**+0.5**
DALK				S			**Sn**	**11 47 20.8**	**-3.2**
AVH	**Avacha**	**7.11**	**282**	*eP*			**Pn**	**11 46 07.9**	**+2.8**
KRX	**Arik**	**7.17**	**283**	*eP*			**Pn**	**11 46 07.6**	**+1.7**
KOK	**Koryaka**	**7.17**	**283**	*eP*			**Pn**	**11 46 07.1**	**+1.2**
KRMR	**Karymshinskiy**	**7.47**	**279**	P			**Pn**	**11 46 11.1**	**+1.2**
KRMR				S			**Sn**	**11 47 30.9**	**-2.3**
ASAK	**Asacha**	**7.63**	**275**	*eP*			**Pn**	**11 46 14.9**	**+2.7**
PETK	**Petropavlovsk-**	**7.73**	**281**	Pn			**Pn**	**11 46 16.3**	**+2.8**
	0.8nm,0.3s,baz=85,slow=19,SNR=11								
PETK				Sn			**Sn**	**11 47 38.7**	**-1.0**
	0.3nm,0.3s,baz=31,slow=46,SNR=2.8								
APC	**Apacha**	**8.05**	**280**	*eP*			**Pn**	**11 46 20.6**	**+2.7**
ALID	**Alaid**	**9.33**	**267**	P			**Pn**	**11 46 37.2**	**+1.7**
ILAR	**Eielson Array**	**24.99**	**44**	P			**P**	**11 49 41.6**	**-2.0**
	0.9nm,0.7s,baz=250,slow=6.6,SNR=11								
YKA	**Yellowknife Ar**	**39.41**	**45**	P			**P**	**11 51 49.4**	**0.0**
	0.2nm,0.5s,baz=291,slow=7.7,SNR=5.6								

*SOME **26** 11:45:50.6,40°.95N×71°.17E,h20km*
*KRNET **26** 11:45:52.3±0.1,41°.36N×71°.02E,mb2.5*
ISC 26 11:45:53.6±1.4,41°.26N±0°.04×71°.15E±0°.04,h3km±12km, n11,σ1§61/21,12C-2D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
IUG	**luznay**	**1.22**	**317**	*eP*			**Pg**	**11 46 17.6**	**+0.5**
	3.9nm,0.1s								
IUG				*eS*			**Sn**	**11 46 36.8**	**+1.9**
	10nm,0.2s								
BTK	**Batken**	**1.22**	**192**	⇑*iP*			**Pg**	**11 46 16.9**	**-0.2**
	baz=87								
BTK				⇑*iS*			**Sn**	**11 46 35.2**	**+0.3**
	baz=87								
ARSB	**Arslanbob**	**1.38**	**87**	⇑*iP*			**Pb**	**11 46 19.8**	**-0.4**
	baz=91								
ARSB				⇑*iS*			**Sg**	**11 46 40.3**	**+2.2**
	baz=91								
KK31	**Karatay Array**	**1.91**	**346**	⇑Pn			**Pn**	**11 46 27.4**	**+0.3**
	1.7nm,0.3s,baz=157,slow=14,SNR=26								
KK31				⇑Sn			**Sg**	**11 46 54.5**	**-0.3**
	5.6nm,0.6s,baz=164,slow=26,SNR=12								
BRLS	**Borolday**	**2.02**	**332**	*eP*			**Pb**	**11 46 29.2**	**-1.9**
	0.6nm,0.3s								
BRLS				*eS*			**Sb**	**11 46 56.9**	**+0.2**
	7.3nm,0.5s								
AML	**Almayashu**	**2.10**	**65**	⇑*iP*			**Pb**	**11 46 31.0**	**-1.6**
	baz=68								
AML				⇑*iS*			**Sb**	**11 46 59.2**	**0.0**
	baz=68								
MRKS	**Merke**	**2.15**	**45**	*eP*			**Pb**	**11 46 32.9**	**-0.4**
	2.5nm,0.5s								
MRKS				*eS*			**Sg**	**11 47 03.1**	**+0.5**
	3.3nm,0.3s								
ARLS	**Aral**	**2.46**	**75**	⇑*iP*			**Pb**	**11 46 37.0**	**-1.6**
	baz=77								
ARLS				⇑*iS*			**Sb**	**11 47 08.7**	**-0.6**
	baz=77								
UCH	**Uchtor**	**2.70**	**68**	⇓*iP*			**Pn**	**11 46 39.8**	**+1.4**
	baz=70								
UCH				⇓*iS*			**Sb**	**11 47 14.0**	**-2.5**
	baz=70								
AAK	**Ala-Archa**	**2.85**	**60**	Pn			**Pb**	**11 46 44.3**	**-1.0**
	1.7nm,0.6s								
AAK				Lg			Lg	11 47 23.6	
	1.6nm,0.9s								
KZA	**Kyzart**	**3.18**	**74**	⇑*eP*			**Pn**	**11 46 46.7**	**+1.7**
	baz=76								
KZA				⇑*iS*			**Sb**	**11 47 26.7**	**-3.6**
	baz=76								

*ISK **26** 11:46:35.6,41°.05N×39°.10E,h8km,ML2.6/7*
*ISCJB **26** 11:46:36.3±0.9,41°.06N±0°.04×39°.11E±0°.03,h7km±6km, Error ellipse: s-maj=7.2km s-min=3.4km az=168.1*
*DDA **26** 11:46:36.0,41°.02N×39°.08E,h31km±1km,ML3.5*
ISC 26 11:46:36.0±1.3,41°.05N±0°.05×39°.10E±0°.02,h7km±11km, n23,σ0§66/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KTUT	**Trabzon**	**0.51**	**97**	PG			**Pg**	**11 46 46.5**	**+0.7**
MACK	**Trabzon**	**0.52**	**102**	*iP*			**Pb**	**11 46 47.3**	**-0.1**
MACK				*iS*			**Sb**	**11 46 56.3**	**+1.3**
KELT	**Kelkit**	**0.91**	**172**	*iP*			**Pg**	**11 46 53.1**	**-0.3**
KELT				*iS*			**Sg**	**11 47 05.3**	**+0.1**
ORDU	**Ordu-Boztepe**	**0.94**	**267**	*iP*			**Pg**	**11 46 53.8**	**-0.2**
ORDU				*iS*			**Sb**	**11 47 07.5**	**+0.2**
ORDU				IAML_P					
	comp=Z,856nm,0.1s								
BAYT	**Aydıntepe-Bayb**	**1.03**	**129**	PG			**Pg**	**11 46 55.1**	**-0.6**
SUSE	**Susehri**	**1.08**	**219**	*iP*			**Pg**	**11 46 56.9**	**+0.2**
SUSE				*iS*			**Sg**	**11 47 10.9**	**+0.1**
SUSE				IAML_P					
	comp=Z,3μm,0.1s								
BAYB	**BAYBURT**	**1.18**	**131**	*iP*			**Pb**	**11 46 58.1**	**-0.8**
BAYB				*iS*			**Sb**	**11 47 13.3**	**-1.1**
BAYB				IAML_P					
	comp=Z,3μm,0.1s								
CHOM	**Cayeli-Rize**	**1.26**	**87**	PN			**Pn**	**11 46 59.7**	**-0.2**
CHOM				SN			**Sn**	**11 47 17.7**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.50**	**245**	PN			**Pn**	**11 47 03.3**	**+0.1**
ERZN	**Erzincan**	**1.54**	**162**	PN			**Pn**	**11 47 04.3**	**+0.4**
CUZAR	**Zara_SIVAS**	**1.54**	**222**	*iP*			**Pn**	**11 47 04.5**	**+0.5**
CUZAR				*iS*			**Sn**	**11 47 24.2**	**-0.1**
KRIK	**Erzurum-spir**	**1.56**	**116**	*iP*			**Pb**	**11 47 05.5**	**+0.2**
KRIK				*iS*			**Sg**	**11 47 26.3**	**+0.1**
REFA	**Refahiye_ERZN**	**1.67**	**189**	*iP*			Pn	11 46 57.9	-7.8
REFA				*iS*			Sn	11 47 12.0	-16
REFA				IAML_P					
	comp=Z,3μm,0.1s								
ERBA	**Erbaa**	**1.82**	**259**	*iP*			**Pb**	**11 47 08.8**	**-0.7**
ERBA				*iS*			**Sb**	**11 47 33.4**	**+0.9**
ERBA				IAML_P					
	comp=Z,1μm,0.1s								
KEMA	**Kemaliye**	**1.84**	**195**	*iP*			**Pb**	**11 47 10.1**	**+0.1**
KEMA				*iS*			**Sg**	**11 47 35.0**	**0.0**
BCA	**Borcka**	**1.94**	**77**	PN			**Pn**	**11 47 09.0**	**-0.4**
YEDI	**Yedisu-Bingol**	**1.95**	**145**	PN			**Pn**	**11 47 10.2**	**+0.6**
DBOC	**Borcka**	**1.96**	**80**	*iP*			**Pn**	**11 47 09.8**	**+0.2**
DBOC				IAML_P					
	comp=Z,735nm,0.1s								
DBAD	**Bademkaya**	**1.96**	**90**	*iP*			**Pn**	**11 47 10.2**	**+0.5**
DBAD				*iS*			**Sn**	**11 47 34.5**	**-0.1**
DBAD				IAML_P					
	comp=Z,2μm,0.1s								
DDEM	**Demirkent**	**2.01**	**94**	*iP*			**Pb**	**11 47 12.5**	**-0.4**
DDEM				*iS*			**Sb**	**11 47 37.2**	**-1.0**
DDEM				IAML_P					
	comp=Z,2μm,0.3s								
DAGI	**Agillar**	**2.13**	**88**	*iP*			**Pn**	**11 47 12.8**	**+0.8**
DAGI				*

JHJ Sn **Sn** **11 49 42.3 -0.7**
94nm,0.3s,baz=86,slow=22,SNR=13
JHJ LR LR 11 50 23.0
comp=Z,519nm,20.1s,baz=50,slow=44
INU Inuyama 3.18 262 *e*Pn **Pn** **11 49 14.6 +1.6**
ERM Erimo 6.43 15 *e*Pn **Pn** **11 49 57.2 -0.5**
ERM *e*Sn **Sn** **11 51 12.3 +1.1**
ERM Erimo 6.43 15‖ *e*P **Pn** **11 50 02.0 +4.3**
ERM pmax pmax
comp=Z,27nm,0.6s
ASAJ Asahikawa 8.38 9 Pn **Pn** **11 50 22.4 -2.1**
comp=Z,2.1nm,0.3s,baz=198,slow=13,SNR=15
JNU Nakatsue 8.68 255 *e*Pn **Pn** **11 50 28.9 +0.2**
CBIJ Chichi jima 8.78 172 *e*Pn **Pn** **11 50 27.5 -2.5**
JCJ Chichijima 8.78 172 Pn **Pn** **11 50 27.5 -2.5**
YUK Yuzh-Kuril'sk 9.05 24 *e*P **Pn** **11 50 31.3 -2.3**
YUK pmax pmax
comp=E,11nm,0.2s
YUK pmax pmax
comp=Z,61nm,0.2s
YUK pmax pmax
comp=N,25nm,0.3s
YUK MLR MLR
comp=N,641nm,17.0s
YUK MLR MLR
comp=Z,429nm,17.0s
YUK MLR MLR
comp=E,504nm,15.0s
SHO Shikotan 9.24 28 *e*P **Pn** **11 50 34.8 -1.5**
SHO pmax pmax
comp=N,12nm,0.4s
SHO pmax pmax
comp=Z,20nm,0.4s
SHO pmax pmax
comp=E,6.0nm,0.5s
MSHR Mys Shultsa 10.11 315‖ *e*P **Pn** **11 50 46.2 -2.0**
USRK Ussuriysk Ar. 10.78 324 LR LR 11 54 44.1
comp=E,168nm,21.8s,baz=127,slow=35
KUR Kuril'sk 10.79 27 P **Pn** **11 50 55.5 -2.0**
KUR pmax pmax
comp=Z,23nm,0.6s
KUR pmax pmax
comp=N,8.0nm,0.3s
KUR pmax pmax
comp=E,24nm,0.5s
KUR MLR MLR
comp=Z,327nm,12.0s
YSS Yuzh-Sakhalins 11.21 7 *e*Pn **Pn** **11 51 04.2 +1.0**
YSS Yuzh-Sakhalins 11.21 7 *e*P **Pn** **11 51 05.2 +2.0**
YSS *e*S **Sn** **11 53 09.9 +1.4**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,500nm,13.0s
YSS MLR MLR
comp=N,400nm,16.0s
MDJ Mudanjiang 12.29 319 P Pn 11 51 25.5 +7.4
MDJ S Sn 11 53 44.8 +10
MDJ pmax pmax
comp=Z,7.0nm,0.9s
MDJ pmax pmax
comp=Z,100nm,3.8s
MDJ Mudanjiang 12.29 319 P **Pn** **11 51 21.5 +3.4**
MDJ S Sn 11 53 45.8 +11
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,100nm,4.4s
MDJ LR LR
comp=Z,510nm,15.6s
MDJ LR LR
comp=Z,400nm,16.5s
CN2 Changchun 14.27 309 *e*P **Pn** **11 51 46.3 +1.3**
CN2 *e*S **Sn** **11 54 26.3 +3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,200nm,16.0s
CN2 LR LR
comp=Z,200nm,15.0s
KLR Kul'dur 14.97 336‖ *e*P **Pn** **11 51 55.4 +0.8**
TYV Tymovskoe 15.08 4 *e*P **Pn** **11 51 56.1 0.0**
TYV *e*S **Sn** **11 54 43.1 -0.1**
TYV pmax pmax
comp=Z,8.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.5s
TYV smax smax
comp=E,3.0nm,1.0s
TYV MLR MLR
comp=Z,600nm,14.0s
SKR Severo-Kuril's 18.48 32‖ *e*P **Pn** **11 52 41.6 +2.5**
NJ2 Nanjing 18.64 265 *e*P **Pn** **11 52 42.0 +0.8**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
YOJ Yonaguni jima 19.12 239 *e*P **P** **11 52 43.8 -2.4**
comp=Z,121nm,1.1s
YOJ Yonaguni jima 19.12 239 *e*P **P** **11 52 43.8 -2.4**
YOJ pmax pmax
comp=Z,121nm,1.1s
TIA Tai'an 19.21 278 P **Pn** **11 52 50.5 +2.5**
TIA pmax pmax
comp=Z,4.0nm,1.0s
BJI Beijing 19.91 290 *e*P **P** **11 52 54.0 -0.7**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI LR LR
comp=Z,170nm,19.9s
BJI LR LR
comp=Z,160nm,18.0s
ZEA Zeya 20.29 336 *e*P Pn 11 53 00.5 -0.2
ZEA pmax pmax
comp=Z,12nm,1.0s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,400nm,14.0s
HIA Hailar 20.47 318‖ *e*P **P** **11 53 01.3 +0.5**
HIA pmax pmax
comp=Z,5.0nm,0.8s
PETK Petropavlovsk- 20.95 29 *e*P **P** **11 53 06.7 +0.8**
PETK Petropavlovsk- 20.95 29 *e*P **P** **11 53 06.7 +0.8**
PETK Petropavlovsk- 20.95 29 LR LR 12 02 02.5
comp=Z,80nm,18.5s,baz=211,slow=39
PET Petropavlovsk 21.27 31‖ *i*P **P** **11 53 11.9 +2.5**
PET pmax pmax
comp=Z,83nm,1.8s
TPUB Ta-pu 21.53 240 *e*P **P** **11 53 11.2 -1.2**
comp=Z,73nm,1.4s
HHC Hu-ho-hao-te 23.47 291 *e*P **P** **11 53 33.3 +0.4**
HHC S **S** **11 57 43.3 -3.3**
HHC sS sS 11 57 52.0 +0.9
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,140nm,6.5s
HHC LR LR
comp=Z,250nm,12.9s
HHC LR LR
comp=Z,160nm,10.6s
HHC LR LR
comp=Z,390nm,11.8s
MA2 Magadan 24.62 12 *i*P **P** **11 53 48.5 +5.1**
MA2 Magadan 24.62 12 LR LR 12 03 52.1
comp=Z,114nm,18.9s,baz=212,slow=38
XAN Xi'an 26.20 275 P **P** **11 54 01.8 +3.9**
XAN pP sP 11 54 06.3 +4.5
XAN S **S** **11 58 36.0 +5.9**
XAN pmax pmax
comp=Z,9.0nm,1.2s
XAN pmax pmax
comp=Z,64nm,4.7s
XAN LR LR
comp=Z,240nm,20.6s
XAN LR LR
comp=Z,150nm,16.3s
XAN LR LR
comp=Z,82nm,6.1s
YAK Yakutsk 27.16 348 *e*P **P** **11 54 07.8 +1.6**
YAK pmax pmax
comp=Z,83nm,0.9s
YAK pmax pmax
comp=N,50nm,1.0s
YAK pmax pmax
comp=E,17nm,1.4s
ULN Ulaanbaatar 27.69 306 *i*P **P** **11 54 12.8 +1.4**
H11N2 WAKE ISLAND Hy 27.94 118 T T 12 23 19.2
baz=311,slow=75,SNR=1069
H11N1 WAKE ISLAND Hy 27.95 118 T T 12 23 19.8
baz=311,slow=75,SNR=756
H11N3 WAKE ISLAND Hy 27.96 118 T T 12 23 20.6
baz=311,slow=75,SNR=1253
SEY Seymchan 28.06 11 *i*P P 11 54 23.2 +8.9
SONA0 Songino Array 28.12 306 *e*P **P** **11 54 15.3 +0.1**
SONM Songino Array 28.12 306 P **P** **11 54 15.3 +0.1**
comp=E,1.0nm,0.6s,baz=100,slow=8.9,SNR=7.3
SONM LR LR 12 05 22.9
comp=E,124nm,18.7s,baz=98,slow=36
BOD Bodaibo 28.33 329 *e*P **P** **11 54 15.5 -1.3**
BOD pmax pmax
comp=Z,5.0nm,1.1s
H11S1 WAKE ISLAND Hy 28.60 120 T T 12 24 03.5
baz=312,slow=75,SNR=1192
H11S3 WAKE ISLAND Hy 28.60 120 T T 12 24 03.5
baz=312,slow=75,SNR=969
H11S2 WAKE ISLAND Hy 28.62 120 T T 12 24 06.4
baz=312,slow=75,SNR=856
LZH Lanzhou 29.86 282 *e*P **P** **11 54 31.0 +0.2**
LZH pP sP 11 54 35.5 +0.8
LZH sP pP 11 54 38.0 +4.4
LZH pmax pmax
comp=Z,17nm,1.0s
GYA Guiyang 30.60 262 P **P** **11 54 37.3 -0.1**
GYA PP **PnPn** **11 55 39.5 +3.0**
GYA S **S** **11 59 38.0 -1.7**
GYA SS **ScP** **12 01 19.3 +0.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.6s
GYA LR LR
comp=Z,420nm,16.9s
GYA LR LR
comp=Z,440nm,17.0s
GYA LR LR
comp=Z,450nm,17.2s
TLY Talaya 30.81 313‖ *e*P **P** **11 54 38.9 0.0**
TLY pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 31.25 272 P **P** **11 54 41.8 -1.3**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 LR LR
comp=Z,390nm,9.0s
CD2 LR LR
comp=Z,260nm,9.0s
QIZ Qiongzhong 32.04 247 P **P** **11 54 51.8 +1.8**
QIZ S **S** **12 00 03.3 +1.2**
QIZ LR LR
comp=Z,140nm,5.0s
QIZ LR LR
comp=Z,98nm,3.1s
GTA Gaotai 32.52 289 *e*P **P** **11 54 55.8 +1.6**
GTA pP sP 11 54 59.5 +1.4
GTA sP pP 11 55 03.0 +6.1
GTA pmax pmax
comp=Z,3.0nm,1.1s
BILL Bilibino 35.30 16 *e*P **P** **11 55 20.6 +2.7**
BILL *e* 11 55 31.9
BILL *e* 11 56 33.7
BILL *e*PPP PPP 11 56 52.1
BILL *e* 11 57 44.9
BILL pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 36.44 354 P **P** **11 55 27.2 -0.3**
comp=Z,0.6nm,0.5s,baz=152,slow=5.0,SNR=3.5
NONG Nongkai 37.71 252 P P 11 55 47.2 +8.2
comp=Z,0.2nm,0.7s
PBKT Sadao Pong 40.27 252 P P 11 56 07.3 +6.9
comp=Z,6.2nm,1.1s
DGZ Jazzator, Alta 40.75 307‖ *e*P **P** **11 56 03.2 -1.1**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
CMAR Chiang Mai Arr 40.78 256 LR LR 12 12 59.5
comp=Z,52nm,18.0s,baz=56,slow=36
WMQ Urumqi 41.01 298 *e*P **P** **11 56 07.3 +1.0**
WMQ pP sP 11 56 12.8 +2.6
WMQ sP pP 11 56 15.5 +6.4
WMQ LR LR
comp=Z,160nm,15.3s
WMQ LR LR
comp=Z,85nm,20.7s
WMQ LR LR
comp=Z,89nm,17.1s
ZAA0 Zalesovo Array 42.41 313 *e*P **P** **11 56 16.9 -0.6**
comp=Z,4.6nm,0.8s
ZAA1 Zalesovo Array 42.41 313 *e*P **P** **11 56 17.1 -0.5**
ZALV Zalesovo Beam 42.41 313 *e*P **P** **11 56 16.8 -0.8**
ZALV Zalesovo Beam 42.41 313 *e*P **P** **11 56 16.8 -0.8**
ZALV Zalesovo Beam 42.41 313 P **P** **11 56 17.1 -0.5**
comp=Z,3.2nm,0.8s,baz=90,slow=6.4,SNR=12
ANM Nome 42.85 31 *e*P **P** **11 56 22.4 +1.4**
comp=Z,6.9nm,1.0s
ANM Nome 42.85 31 *e*P **P** **11 56 22.5 +1.4**
ANM pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 44.18 336 LR LR 12 18 15.9
comp=Z,53nm,19.9s,baz=82,slow=41
MK01 Makanchi Array 44.39 303 *e*P **P** **11 56 32.6 -1.2**
MK31 Makanchi Array 44.40 303 *e*P **P** **11 56 33.4 -0.4**
comp=Z,6.5nm,0.9s
MK31 Makanchi Array 44.40 303 *e*P **P** **11 56 33.4 -0.4**
MK31 pmax pmax
comp=Z,7.0nm,0.9s
MK32 Makanchi Array 44.40 303 *e*P **P** **11 56 33.4 -0.3**
MKAR Makanchi Array 44.40 303 P **P** **11 56 33.4 -0.3**
comp=Z,3.4nm,0.7s,baz=91,slow=9.5,SNR=15
MKAR LR LR 12 14 07.7
comp=Z,67nm,18.5s,baz=90,slow=35
MAKZ Makanchi 44.61 303 *e*P **P** **11 56 34.9 -0.6**
comp=Z,6.4nm,0.9s
MAKZ Makanchi 44.61 303 *e*P **P** **11 56 34.9 -0.6**
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
RDOG Red Dog Mine 44.78 26 *e*P **P** **11 56 36.1 -0.4**
comp=Z,6.9nm,0.7s
KAPI Kappang 45.20 210 *ce*P **P** **11 56 41.6 +1.2**
KAPI pmax pmax
comp=Z,8.0nm,1.7s
KURK Kurchatov 46.34 309 *e*P **P** **11 56 48.5 -0.5**
comp=Z,15nm,0.9s
KURK Kurchatov 46.34 309 *i*P **P** **11 56 49.4 +0.4**
RAMN Ramite 46.66 275 *e*P **P** **11 56 53.7 +1.5**
comp=Z,30nm,0.8s
JIRN Jiri 46.70 276 *e*P **P** **11 56 54.5 +1.9**
comp=Z,44nm,0.8s
GUN Gumba 46.85 276 *e*P **P** **11 56 55.4 +1.6**
comp=Z,22nm,0.8s
PDGK Podgornoye 46.96 299 P **P** **11 56 54.1 -0.1**
PDGK pmax pmax
comp=Z,8.0nm,1.0s
IM3 Indian Mountai 47.91 30 *e*P **P** **11 57 01.9 +0.8**
DANN Dangsing 48.38 278 *e*P **P** **11 57 06.2 +0.6**
comp=Z,67nm,0.8s
PPLA Purkeypile 48.41 34 *e*P **P** **11 57 05.9 +0.8**
comp=Z,13nm,1.3s
HNR Honiara 48.48 154 *e*P **P** **11 57 02.9 -3.1**
comp=Z,58nm,1.1s
HNR Honiara 48.48 154 *e*P **P** **11 57 02.9 -3.1**
HNR pmax pmax
comp=Z,58nm,1.1s
KDJ Kajisay 48.90 298 *e*P **P** **11 57 08.7 -0.6**
comp=Z,2.6nm,0.6s
KDJ Kajisay 48.90 298 *e*P **P** **11 57 08.7 -0.6**
KDJ pmax pmax
comp=Z,3.0nm,0.6s
SUA Susitna One 49.09 36 *e*P **P** **11 57 10.3 0.0**
comp=Z,11nm,1.1s
PYUN Piuthan 49.10 278 *e*P **P** **11 57 11.3 +0.2**
comp=Z,62nm,1.0s
MLY Manley 49.10 31 *e*P **P** **11 57 12.0 +1.6**
comp=Z,4.6nm,1.0s
MTN Manton Dam 49.27 193 *e*P **P** **11 57 11.3 -0.8**
comp=Z,44nm,1.5s
TRF Thorofare Moun 49.27 34 *e*P **P** **11 57 12.7 +0.8**
comp=Z,13nm,1.4s
GHO Glory Hole Cre 49.95 36 *e*P **P** **11 57 17.2 +0.4**
comp=Z,25nm,1.5s
MDM Murphy Dome 50.17 32 *e*P **P** **11 57 19.4 +0.9**
comp=Z,12nm,1.3s
KNK Knik Glacier 50.19 36 *e*P **P** **11 57 20.9 +2.2**
comp=Z,29nm,1.4s
KSH Kashi 50.51 295 *e*P P 11 57 26.5 +5.0
DHY Denali Highway 50.60 34 *e*P **P** **11 57 22.2 +0.3**
comp=Z,11nm,1.5s
IL1 Eielson Array 50.75 32 *e*P **P** **11 57 22.7 -0.1**
ILAR Eielson Array 50.75 32 P **P** **11 57 23.4 +0.5**
comp=Z,1.3nm,0.8s,baz=264,slow=5.9,SNR=12
ILB Eielson Array 50.75 32 *e*P **P** **11 57 23.9 +1.1**
comp=Z,7.2nm,1.2s
OTUK Ortayu 50.78 307 P **P** **11 57 24.5 +1.1**
OTUK pmax pmax
comp=Z,9.0nm,0.9s
BRVK Borovoye 51.12 313 *i*P **P** **11 57 29.7 +3.9**
HARP HAARP 51.67 35 *e*P **P** **11 57 30.7 +0.9**
comp=Z,35nm,1.4s
EPYK Eagle Plains 54.79 29 *e*P **P** **11 57 54.1 +1.4**
comp=Z,18nm,1.4s
HYT Haines Junctio 55.53 36 *e*P **P** **11 57 58.7 +0.5**
comp=Z,15nm,1.5s
FITZ Fitzroy Crossi 55.54 198 *e*P **P** **11 57 56.9 -1.6**
comp=Z,7.4nm,1.4s
INK Inuvik 55.66 27 *e*P **P** **11 57 59.1 +0.2**
comp=Z,8.4nm,1.5s
INK Inuvik 55.66 27 P **P** **11 57 59.2 +0.3**
comp=Z,1.7nm,0.7s,baz=301,slow=6.0,SNR=13
WRAB Tennant Creek 55.80 187 *e*P **P** **11 57 59.1 -1.3**
comp=Z,17nm,1.4s
WRAB Tennant Creek 55.80 187 *i*P **P** **11 58 00.7 +0.3**
WR1 Warramunga Arr 55.81 187 *e*P **P** **11 57 59.2 -1.3**
comp=Z,8.6nm,0.8s
WRA Warramunga Arr 55.81 187 P **P** **11 57 59.2 -1.3**
comp=Z,7.7nm,1.0s,baz=3.0,slow=7.6,SNR=32
ARU Arti 56.98 319 *d i*P **P** **11 58 08.2 -0.3**
ARU 11 59 00.4
ARU 12 00 11.9
ARU S **S** **12 06 01.8 -0.8**
ARU pmax pmax
comp=Z,10.0nm,0.9s
ABKAR Akbulak array 58.38 311 *e*P **P** **11 58 17.4 -1.1**
comp=Z,5.9nm,0.9s
AS01 Alice Springs 59.53 187 *e*P **P** **11 58 25.5 -1.2**
AS31 Alice Springs 59.54 187 *e*P **P** **11 58 26.1 -0.6**
comp=Z,0.9nm,0.7s
ASAR Alice Springs 59.54 187 P **P** **11 58 25.3 -1.4**
comp=Z,2.0nm,0.8s,baz=6.1,slow=5.9,SNR=18
MBWA Marble Bar 60.11 203 *e*P **P** **11 58 28.1 -2.5**
comp=Z,1.1nm,1.2s
RES Resolute Bay 63.88 14 *e*P **P** **11 58 53.9 -1.4**
comp=Z,4.8nm,0.9s
RES Resolute Bay 63.88 14 *e*P **P** **11 58 53.9 -1.4**
RES pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 65.07 30 P **P** **11 59 03.8 +0.4**
comp=Z,0.3nm,0.7s,baz=299,slow=6.5,SNR=9.7
OUL Oulu 67.51 335 P **P** **11 59 18.6 -0.3**
OBN Obninsk 68.80 323 *e*P **P** **11 59 28.8 +1.7**
OBN pmax pmax
comp=Z,6.0nm,0.9s
SUF Sumiainen 68.86 333 P **P** **11 59 26.2 -1.2**
PUL Pulkovo 69.01 330‖ *e*P **P** **11 59 30.1 +1.7**
VSR Storozhevoye 69.55 319‖ *e*P **P** **11 59 30.2 -1.7**
VSR pmax pmax
comp=Z,8.0nm,0.8s
GLK Glacier Lake 69.61 47 *e*P **P** **11 59 28.4 -4.2**
FIA1 FINESS Array S 69.67 332 *e*P **P** **11 59 31.2 -1.3**
FIA0 FINESS Array S 69.67 332 *e*P **P** **11 59 32.4 -0.1**
FIA0 FINESS Array S 69.67 332 *e*P **P** **11 59 32.4 -0.1**
FINES FINESS Array B 69.67 332 P **P** **11 59 32.4 -0.1**
comp=Z,3.5nm,0.8s,baz=62,slow=8.9,SNR=6.1
FINES LR LR 12 34 21.3
comp=Z,44nm,19.1s,baz=306,slow=40
VSU Vasula 71.27 330 *i*P P 11 59 47.8 +5.5
KBZ Khabaz 71.36 311 P **P** **11 59 42.2 -0.9**
comp=Z,3.5nm,1.0s,baz=107,slow=8.5,SNR=4.0
KBZ LR LR 12 31 36.5
comp=Z,41nm,18.2s,baz=38,slow=36
YBH Yreka Blue Hor 71.43 52 LR LR 12 24 15.2
comp=Z,19nm,21.5s,baz=280,slow=30
GNI Garni 72.08 307 *e*P **P** **11 59 48.8 +1.1**
GNI pmax pmax
comp=Z,28nm,0.9s
GRTM Round Top Moun 72.93 54 *e*P **P** **11 59 49.5 -3.2**
AKASG Malin Array Be 74.98 322 P **P** **12 00 02.7 -1.7**
comp=Z,1.8nm,0.7s,baz=46,slow=5.9,SNR=7.0
KIEV Kiev 74.99 322‖ *e*P **P** **12 00 03.9 -0.5**
KIEV pmax pmax
comp=Z,5.0nm,1.1s
NC204 NORSAR Array S 75.09 338 *e*P **P** **12 00 04.5 -0.4**
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 75.13 337 P **P** **12 00 05.2 +0.1**
comp=Z,2.0nm,0.7s,baz=40,slow=6.2
NB200 NORSAR Array S 75.13 337 *e*P **P** **12 00 05.1 0.0**
NOA NORSAR Array B 75.13 337 P **P** **12 00 05.1 0.0**
comp=Z,5.1nm,0.9s,baz=38,slow=5.8,SNR=7.1
NOA LR LR 12 36 04.9
comp=Z,58nm,19.9s,baz=15,slow=38
DLMT Dillon 75.51 44 *e*P **P** **12 00 07.8 0.0**
comp=Z,4.6nm,1.0s
PHSB Hesperia Broad 75.71 56 *e*P **P** **12 00 05.6 -3.3**
BOZ Bozeman (W) 75.91 44 P **P** **12 00 11.0 +0.9**
BOZ pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 76.06 53 P **P** **12 00 10.9 -0.2**
comp=Z,1.7nm,0.9s,baz=284,slow=6.0,SNR=8.7
ELK Elko 76.66 49 LR LR 12 32 12.3
comp=Z,39nm,20.6s,baz=306,slow=34
DUG Dugway, Tooele 78.48 49 P **P** **12 00 26.0 +1.5**
DUG pmax pmax
comp=Z,4.0nm,1.2s
PDAR Pinedale Array 78.83 45 P **P** **12 00 26.1 -0.5**
comp=Z,0.7nm,0.7s,baz=280,slow=2.3,SNR=6.7
BR101 Keskin Array S 79.32 311 *e*P **P** **12 00 30.4 +1.2**
BRTR Keskin Array B 79.32 311 P **P** **12 00 30.4 +1.2**
comp=Z,3.4nm,1.1s,baz=60,slow=8.8,SNR=5.7
DPC Dobruska-Polom 81.24 328 *e*pP pP 12 00 44.2 +2.0
VYHS Vyhne 81.47 325 *e*P **P** **12 00 43.3 +2.9**
VYHS Vyhne 81.47 325 *e*P **P** **12 00 43.3 +2.9**
CLL Collm 81.92 330 *e*P **P** **12 00 44.0 +1.3**
CLL *i*sP **PcP** **12 00 47.7 -0.6**
CLL Collm 81.92 330 *e*P **P** **12 00 44.0 +1.3**
CLL *e* 12 00 48.0
KHC Kasperske Hory 83.34 328 *e*P P 12 00 54.9 +4.7
KHC Kasperske Hory 83.34 328 *e*P P 12 00 54.9 +4.7
GERES GERESS Array B 83.50 328 P **P** **12 00 51.1 0.0**
comp=Z,0.3nm,0.2s,baz=32,slow=5.3,SNR=3.5
GERES LR LR 12 41 51.5
comp=Z,60nm,18.6s,baz=346,slow=38
RPZ Rata Peaks 83.80 158 LR LR 12 39 00.9
comp=Z,47nm,19.1s,baz=94,slow=36
PMOR Pomariorio Ree 84.11 113 *e*T T 13 33 17.5
comp=Z,25nm,0.2s
PPT Papeete 84.49 116 LR LR 12 30 58.8
comp=Z,29nm,21.2s,baz=340,slow=30
PPT2 Papeete2 84.51 116 *e*LR LR 12 27 10.5
comp=Z,78nm,27.5s
PPT2 Papeete2 84.51 116 *e*T T 13 33 47.4
comp=Z,3.9nm,0.2s
PAE Paea 84.55 116 *e*T T 13 33 50.0
comp=Z,0.9nm,0.3s
TIAR Tiarei 84.65 116 *e*T T 13 33 57.5
comp=Z,2.0nm,0.2s
ANMO Albuquerque 85.70 49 *i*P P 12 01 07.6 +5.0
TBI Tubuai 88.29 120 *e*T T 13 38 29.3
comp=Z,4.8nm,0.2s
LTX Lajitas 91.20 52 *e*P **P** **12 01 29.9 +1.1**
LTX Lajitas 91.20 52 *e*P **P** **12 01 29.9 +1.1**
TXAR Lajitas Array 91.20 52 P **P** **12 01 29.9 +1.1**
comp=Z,1.1nm,1.0s,baz=275,slow=2.8,SNR=5.5
HKT Hockley 95.61 47‖ *e*P **P** **12 01 48.9 +0.1**
HKT pmax pmax
comp=Z,7.0nm,1.5s
LPAZ La Paz 147.67 61 PKPbc **PKPbc** **12 08 08.8 -0.3**
comp=Z,2.4nm,0.7s,baz=341,slow=3.9,SNR=12

KRSC 26 11:55:07.6±10.0, 50.79N×160.38E, h99km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.77**	**306**	*e*P		Pn	11 55 37.6	+0.5
KDTR				*e*S		Sn	11 55 59.0	-0.6
RUS	**Russkaya**	**2.02**	**325**	*e*P		Pn	11 55 42.4	+2.1

RUS				*e*S	Sn	11 56 06.4	+1.1	
MTVR	**Mutnovka**	**2.18**	**322**	*e*P	Pn	11 55 44.8	+2.2	
MTVR				*e*S	Sn	11 56 11.1	+1.8	
ASAK	**Asacha**	**2.23**	**317**	*e*P	Pn	11 55 45.8	+2.7	
ASAK				*e*S	Sn	11 56 13.3	+3.0	
SPN	**Mys Shipunski**	**2.33**	**355**	*e*S	Sn	11 56 13.9	+1.5	
PAU	**Pauzhetka**	**2.35**	**288**	*e*S	Sn	11 56 14.7	+1.7	
DALK	**Dalny**	**2.46**	**336**	*e*P	Pn	11 55 48.6	+2.5	
DALK				*e*S	Sn	11 56 17.6	+1.9	
KRMR	**Karymshinskiy**	**2.48**	**327**	*e*P	Pn	11 55 49.1	+2.8	
KRMR				*e*S	Sn	11 56 18.8	+2.8	
SDLR	**Sedlovina**	**2.66**	**340**	*e*P	Pn	11 55 52.0	+3.1	
SDLR				S	Sn	11 56 23.9	+3.3	
KOK	**Koryaka**	**2.73**	**337**	*e*P	Pn	11 55 53.2	+3.4	
ALID	**Alaid**	**3.06**	**273**	S	Sn	11 56 32.2	+2.0	
KBTR	**Krutoberegovo**	**5.62**	**14**	*e*P	Pn	11 56 28.3	-0.3	

NIED ***26*** *11:55:00.3, 35°.90N × 141°.00E, h11km, Mw4.2 Best double couple: M₀2.51000×10¹⁵ NP1: φ=215.00000°, δ=64.00000°, λ=-28.00000°. NP2: φ=318.00000°, δ=65.00000°, λ=-151.00000°.*

BJI ***26*** *11:55:12.8, 35°.32N × 140°.82E, h6km, mb4.5/32, mB4.7/14, Ms4.2/5, Ms7 3.9/2*

IDC ***26*** *11:55:13.6±0.6, 35°.79N × 140°.84E, h0km, mb4.1/14, mb1 4.3/18, mb1mx4.2/40, mbtmp4.2/18, ML4.3/4, MS3.5/3, Ms1 3.5/3, ms1mx2.9/46, Error ellipse: s-maj=17.8km s-min=13.0km az=98.0*

ISCJB ***26*** *11:55:15.2±0.5, 35°.81N±0°.02 × 140°.88E±0°.04, h21km±3km, mb4.5/63, Error ellipse: s-maj=5.2km s-min=4.1km az=176.3*

JMA ***26*** *11:55:15.1±0.1, 35°.87N × 140°.93E, h17km±2km, M4.6 Broadband fault plane solution: P waves. NP1: φ=229.00000°, δ=79.00000°, λ=-49.00000°. NP2: φ=331.00000°, δ=42.00000°, λ=-164.00000°. Principal axes: T Plg23.0000°, Azm289.0000°; N Plg40.0000°, Azm40.0000°; P Plg41.0000°, Azm177.0000°;*

JMA Felt III J1.

NEIC ***26*** *11:55:15.0±0.3, 35°.78N × 140°.88E, h10km, mb4.6/30 Error ellipse: s-maj=6.4km s-min=5.2km az=114.0*

NEIC Felt in Chiba, Ibaraki and Tokyo. Recorded [3 JMA] in Ibaraki.

MOS ***26*** *11:55:15.8±1.8, 35°.75N × 140°.73E, h24km, mb4.6/20, Error ellipse: s-maj=10.8km s-min=5.8km az=106.9*

ISC 26 11:55:15.9±1.0, 35°.82N±0°.03 × 140°.90E±0°.04, h15km±5km, n147, σ1°.77/152, mb4.5/63, 13C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHOJ	**Chosi**	**0.12**	**195**	⇑P		**Pg**	**11 55 19.5**	**+0.1**
CHOJ				S		**Sb**	**11 55 22.4**	**-0.1**
JIHU	**Itakohorinouch**	**0.34**	**296**	P		**Pg**	**11 55 22.7**	**-0.1**
JIHU				S		**Sb**	**11 55 28.2**	**-0.5**
JSMT	**Sammumatsuo**	**0.41**	**244**	P		**Pg**	**11 55 24.6**	**-0.1**
JSMT				S		**Sb**	**11 55 31.7**	**+1.0**
JHYU	**Hitachinakayam**	**0.58**	**334**	P		**Pg**	**11 55 26.2**	**-1.0**
JHYU				S		**Sg**	**11 55 33.6**	**-1.3**
JYT	**Yasato**	**0.70**	**306**	⇑P		**Pg**	**11 55 28.1**	**-1.5**
JYT				S		**Sg**	**11 55 37.0**	**-1.8**
JHO	**Hitachi**	**0.83**	**341**	⇑P		**Pg**	**11 55 30.0**	**-2.1**
JHO				S		**Sg**	**11 55 41.2**	**-1.8**
MJAR	**Matsushiro Arr**	**2.29**	**289**	Pn		**Pn**	**11 55 51.4**	**-1.7**
	10nm,0.3s,baz=116,slow=8.2,SNR=260							
MAJO	**Matsushiro**	**2.29**	**289**	*e*Pn		**Pn**	**11 55 52.3**	**-0.8**
MAJO	**Matsushiro**	**2.29**	**289**	*c i*P		**Pn**	**11 55 52.1**	**-1.0**
MAT	**Matsushiro**	**2.29**	**289**	P		**Pn**	**11 55 51.9**	**-1.2**
MAT				*e*S		**Sn**	**11 56 18.7**	**-2.4**
MJB9	**Matsu-Tunnel**	**2.30**	**289**	*e*Pn		**Pn**	**11 55 52.1**	**-1.1**
JHJ2	**Mitsune**	**2.85**	**199**	*e*Pn		**Pn**	**11 56 01.4**	**+0.7**
JHJ	**Hachijo jima 2**	**2.85**	**199**	Pn		**Pn**	**11 56 01.1**	**+0.4**
	37nm,0.3s,baz=72,slow=20,SNR=11							
JHJ				Sn		**Sn**	**11 56 34.9**	**+0.1**
	99nm,0.3s,baz=86,slow=23,SNR=12							
INU	**Inuyama**	**3.20**	**263**	*e*Pn		**Pn**	**11 56 06.9**	**+1.4**
ERM	**Erimo**	**6.43**	**15**	*e*Pn		**Pn**	**11 56 48.2**	**-1.7**
ERM	**Erimo**	**6.43**	**15**	⇑*e*P		**Pn**	**11 56 52.0**	**+2.1**
ASAJ	**Asahikawa**	**8.39**	**8**	Pn		**Pn**	**11 57 15.2**	**-1.6**
	7.9nm,0.3s,baz=227,slow=6.8,SNR=17							
JNU	**Nakatsue**	**8.70**	**255**	*e*Pn		**Pn**	**11 57 21.3**	**+0.1**
CBIJ	**Chichi jima**	**8.77**	**172**	*e*Pn		**Pn**	**11 57 20.1**	**-1.9**
CBIJ				*e*Sn		**Sn**	**11 58 56.5**	**-4.2**
JCJ	**Chichijima**	**8.77**	**172**	Pn		**Pn**	**11 57 20.1**	**-1.9**
	22nm,0.3s,baz=291,slow=22,SNR=17							
JCJ				Sn		**Sn**	**11 58 56.5**	**-4.2**
	10nm,0.3s,baz=283,slow=23,SNR=3.1							
JCJ				LR		LR	12 00 29.4	
	comp=Z,161nm,21.1s,baz=21,slow=36							
YUK	**Yuzh-Kuril'sk**	**9.04**	**23**	*e*P		**Pn**	**11 57 21.9**	**-3.9**
YUK				pmax	pmax			
	comp=Z,105nm,0.3s							
YUK				pmax	pmax			
	comp=N,32nm,0.2s							
YUK				pmax	pmax			
	comp=E,27nm,0.2s							
YUK				MLR	MLR			
	comp=Z,276nm,14.0s							
YUK				MLR	MLR			
	comp=N,255nm,15.0s							
SHO	**Shikotan**	**9.24**	**28**	*e*P		**Pn**	**11 57 23.8**	**-4.7**
SHO				pmax	pmax			
	comp=Z,24nm,0.4s							
SHO				pmax	pmax			
	comp=N,12nm,0.5s							
SHO				pmax	pmax			
	comp=E,10.0nm,0.2s							
TEY	**Ternei**	**9.77**	**342**	⇓*e*P		**Pn**	**11 57 36.1**	**+0.4**
TEY				pmax	pmax			
	comp=Z,10.0nm,1.0s							
KUR	**Kuril'sk**	**10.79**	**27**	*e*P		**Pn**	**11 57 47.1**	**-2.6**
KUR				pmax	pmax			
	comp=Z,32nm,0.4s							
KUR				pmax	pmax			
	comp=N,7.0nm,0.3s							
KUR				pmax	pmax			
	comp=E,17nm,0.5s							
USA0B	**Ussuriysk Arra**	**10.80**	**324**	*e*Pn		**Pn**	**11 57 49.7**	**-0.1**
USA0B	**Ussuriysk Arra**	**10.80**	**324**	*e*P		**Pn**	**11 57 49.7**	**-0.1**
USRK	**Ussuriysk Ar.**	**10.80**	**324**	Pn		**Pn**	**11 57 53.4**	**+3.6**
	comp=E,0.2nm,0.3s,baz=104,slow=11,SNR=5.8							
YSS	**Yuzh-Sakhalins**	**11.21**	**7**	*e*Pn		**Pn**	**11 57 55.9**	**+0.4**
YSS	**Yuzh-Sakhalins**	**11.21**	**7**	⇓*e*P		**Pn**	**11 57 56.6**	**+1.2**
YSS				pmax	pmax			
	comp=Z,26nm,0.8s							
TYV	**Tymovskoe**	**15.09**	**4**	*e*P		**Pn**	**11 58 48.6**	**+0.2**
TYV				*e*S		**S**	**12 01 46.9**	**-5.4**
TYV				pmax	pmax			
	comp=Z,13nm,0.7s							
TYV				smax	smax			
	comp=N,5.0nm,1.2s							
NJ2	**Nanjing**	**18.67**	**265**	*e*P		**Pn**	**11 59 33.5**	**-0.1**
NJ2				pmax	pmax			
	comp=N,11nm,0.5s							
BJI	**Beijing**	**19.93**	**290**	*e*P		**P**	**11 59 47.0**	**0.0**
BJI				pmax	pmax			
	comp=N,6.0nm,0.8s							
ZEA	**Zeya**	**20.30**	**336**	*e*P		Pn	11 59 53.1	+0.1
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HIA	**Hailar**	**20.49**	**318**	⇑*e*P		**P**	**11 59 52.4**	**-0.7**
HIA				pmax	pmax			
	comp=Z,6.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**23.49**	**291**	*e*P		**P**	**12 00 24.3**	**-0.8**
HHC				pmax	pmax			
	comp=Z,14nm,1.0s							
HHC				pmax	pmax			
	comp=Z,67nm,6.1s							
MA2	**Magadan**	**24.62**	**12**	*e*P		**P**	**12 00 36.1**	**+0.7**
	comp=Z,8.7nm,0.9s							
MA2	**Magadan**	**24.62**	**12**	⇑*e*P		**P**	**12 00 39.4**	**+4.0**
MA2				pmax	pmax			
	comp=Z,11nm,0.9s							
XAN	**Xi'an**	**26.22**	**276**	P		**P**	**12 00 48.8**	**-1.4**
XAN				pP	pP		12 00 53.0	-1.8
XAN				pmax	pmax			
	comp=Z,5.0nm,0.6s							
XAN				pmax	pmax			
	comp=Z,78nm,4.5s							
ENH	**Enshi**	**26.84**	**267**	*e*P		**P**	**12 00 53.9**	**-1.9**
	comp=Z,19nm,0.6s							
YAK	**Yakutsk**	**27.17**	**348**	*e*P		**P**	**12 01 00.4**	**+2.1**
YAK				pmax	pmax			
	comp=Z,77nm,1.1s							
YAK				pmax	pmax			
	comp=E,15nm,1.0s							
YAK				pmax	pmax			
	comp=N,42nm,1.2s							
ULN	**Ulaanbaatar**	**27.71**	**306**	⇓*e*P		**P**	**12 01 02.3**	**-1.3**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**27.91**	**118**	T		T	12 30 13.8	
	baz=311,slow=75,SNR=167							
H11N1	**WAKE ISLAND Hy**	**27.92**	**118**	T		T	12 30 10.3	
	baz=311,slow=75,SNR=150							
H11N3	**WAKE ISLAND Hy**	**27.93**	**118**	T		T	12 30 19.7	
	baz=311,slow=75,SNR=231							
SEY	**Seymchan**	**28.06**	**11**	⇓*e*P		**P**	**12 01 11.0**	**+4.7**
SONA0	**Songino Array**	**28.14**	**306**	*e*P		**P**	**12 01 07.2**	**-0.2**
SONM	**Songino Array**	**28.14**	**306**	P		**P**	**12 01 07.2**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=101,slow=8.5,SNR=4.8							
BOD	**Bodaibo**	**28.34**	**329**	*e*P		**P**	**12 01 07.9**	**-1.0**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.8s							
H11S1	**WAKE ISLAND Hy**	**28.58**	**120**	T		T	12 30 60.0	
	baz=313,slow=75,SNR=272							
H11S3	**WAKE ISLAND Hy**	**28.58**	**120**	T		T	12 31 01.0	
	baz=313,slow=75,SNR=155							
H11S2	**WAKE ISLAND Hy**	**28.59**	**120**	T		T	12 31 08.2	
	baz=313,slow=75,SNR=142							
LZH	**Lanzhou**	**29.88**	**282**	*e*P		**P**	**12 01 24.0**	**+1.0**
LZH				pP		pP	12 01 27.8	+0.1
LZH				sP		sP	12 01 30.5	+0.9
LZH				pmax	pmax			
	comp=Z,17nm,1.3s							
CD2	**Chengdu**	**31.28**	**272**	P		**P**	**12 01 34.0**	**-1.3**
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
GTA	**Gaotai**	**32.54**	**289**	*e*P		**P**	**12 01 46.5**	**+0.1**
GTA				pP		pP	12 01 51.0	-0.1
GTA				sP		sP	12 01 53.8	+0.8
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL	**Bilibino**	**35.30**	**16**	⇑*e*P		**P**	**12 02 12.7**	**+2.8**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.1s							
TIXI	**Tiksi**	**36.44**	**354**	⇓*e*P		**P**	**12 02 20.3**	**+0.7**
TIXI				pmax	pmax			
	comp=Z,6.0nm,2.1s							
DGZ	**Jazzator, Alta**	**40.78**	**307**	*c e*P		**P**	**12 02 57.8**	**+1.4**
DGZ				pmax	pmax			
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**40.80**	**256**	P		**P**	**12 02 58.9**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=48,slow=7.9,SNR=4.0							
WMQ	**Urumqi**	**41.03**	**298**	*e*P		**P**	**12 03 00.8**	**+2.3**
WMQ				pP		sP	12 03 06.5	+1.4
WMQ				pmax	pmax			
	comp=Z,22nm,0.9s							
WMQ				LR	LR			
	comp=Z,83nm,14.7s							
WMQ				LR	LR			
	comp=Z,81nm,16.9s							
ZAA0	**Zalesovo Array**	**42.43**	**313**	*e*P		**P**	**12 03 09.9**	**+0.1**
	comp=Z,6.0nm,1.0s							
ZAA1	**Zalesovo Array**	**42.43**	**313**	*e*P		**P**	**12 03 09.6**	**-0.2**
ZALV	**Zalesovo Beam**	**42.43**	**313**	P		**P**	**12 03 09.6**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=91,slow=5.9,SNR=8.1							
NVS	**Novosibirsk**	**43.38**	**315**	*e*P		**P**	**12 03 18.5**	**+1.1**
MK01	**Makanchi Array**	**44.42**	**303**	*e*P		**P**	**12 03 26.4**	**+0.5**
MK31	**Makanchi Array**	**44.42**	**303**	*e*P		**P**	**12 03 26.3**	**+0.4**
	comp=Z,2.7nm,0.8s							
MK31	**Makanchi Array**	**44.42**	**303**	*e*P		**P**	**12 03 26.3**	**+0.4**
MK31				pmax	pmax			
	comp=Z,3.0nm,0.8s							
MK32	**Makanchi Array**	**44.42**	**303**	*e*P		**P**	**12 03 26.5**	**+0.6**
MKAR	**Makanchi Array**	**44.42**	**303**	P		**P**	**12 03 26.5**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=88,slow=9.5,SNR=22							
BRDH	**Bariadhala**	**44.50**	**267**	LR		LR	12 23 15.3	
	comp=Z,77nm,18.0s,baz=148,slow=38							
MAKZ	**Makanchi**	**44.63**	**303**	*e*P		**P**	**12 03 28.3**	**+0.7**
	comp=Z,3.4nm,0.7s							
MAKZ	**Makanchi**	**44.63**	**303**	*e*P		**P**	**12 03 28.3**	**+0.7**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KURK	**Kurchatov**	**46.36**	**309**	*e*P		**P**	**12 03 41.8**	**+0.6**
KURK	**Kurchatov**	**46.36**	**309**	⇑*e*P		**P**	**12 03 43.2**	**+2.0**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.9s							
RAMN	**Ramite**	**46.68**	**275**	*e*P		**P**	**12 03 44.3**	**-0.1**
	comp=Z,18nm,0.6s							
JIRN	**Jiri**	**46.72**	**276**	*e*P		**P**	**12 03 45.8**	**+1.0**
	comp=Z,30nm,0.7s							
GUN	**Gumba**	**46.87**	**277**	*e*P		**P**	**12 03 47.8**	**+1.9**
	comp=Z,12nm,0.7s							
PDGK	**Podgornoye**	**46.98**	**299**	P		**P**	**12 03 45.5**	**-0.9**
PDGK				pmax	pmax			
	comp=Z,8.0nm,0.7s							
PKIN	**Phulchoki**	**47.40**	**276**	*e*P		**P**	**12 03 50.3**	**+0.3**
	comp=Z,6.6nm,0.5s							
DANN	**Dangsing**	**48.40**	**278**	*e*P		**P**	**12 03 59.1**	**+1.4**
	comp=Z,47nm,0.8s							
PPLA	**Purkeypile**	**48.40**	**34**	*e*P		**P**	**12 03 55.5**	**-1.6**
	comp=Z,13nm,1.3s							
HNR	**Honiara**	**48.46**	**155**	*e*P		**P**	**12 03 54.0**	**-3.9**
HNR	**Honiara**	**48.46**	**155**	*e*P		**P**	**12 03 55.1**	**-2.8**
	comp=Z,651nm,0.9s							
HNR	**Honiara**	**48.46**	**155**	*e*P		**P**	**12 03 55.1**	**-2.8**
KOLN	**Koldanda**	**48.77**	**277**	*e*P		**P**	**12 04 01.0**	**+0.5**
BPAW	**Bear Paw Mtn.**	**48.97**	**33**	*e*P		**P**	**12 04 03.1**	**+1.8**
	comp=Z,8.3nm,1.3s							
MLY	**Manley**	**49.10**	**31**	*e*P		**P**	**12 04 02.8**	**+0.5**
	comp=Z,4.1nm,0.9s							
PYUN	**Piuthan**	**49.12**	**278**	*e*P		**P**	**12 04 04.4**	**+1.2**
	comp=Z,38nm,0.9s							
BWN	**Browne**	**49.63**	**33**	*e*P		**P**	**12 04 08.4**	**+2.1**
	comp=Z,25nm,1.3s							
TOLK	**Toolik Lake Re**	**49.74**	**27**	*e*P		**P**	**12 04 08.2**	**+1.0**
	comp=Z,3.6nm,1.0s							
MDM	**Murphy Dome**	**50.16**	**32**	*e*P		**P**	**12 04 12.3**	**+1.9**
	comp=Z,5.4nm,0.9s							
COLA	**College**	**50.33**	**32**	⇓*e*P		**P**	**12 04 16.0**	**+4.5**
COLA				pmax	pmax			
	comp=Z,10.0nm,1.9s							
AAK	**Ala-Archa**	**50.71**	**299**	LR		LR	12 26 50.2	
	comp=Z,58nm,18.7s,baz=109,slow=37							
HDA	**Harding Lake**	**50.73**	**32**	*e*P		**P**	**12 04 14.4**	**-0.2**
	comp=Z,4.7nm,1.2s							
IL1	**Eielson Array**	**50.74**	**32**	*e*P		**P**	**12 04 15.7**	**+1.0**
ILAR	**Eielson Array**	**50.74**	**32**	P		**P**	**12 04 15.3**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=265,slow=5.9,SNR=16							
ILB	**Eielson Array**	**50.74**	**32**	*e*P		**P**	**12 04 15.2**	**+0.4**
	comp=Z,4.1nm,0.9s							
OTUK	**Ortayu**	**50.81**	**307**	P		**P**	**12 04 15.6**	**+0.1**
OTUK				pmax	pmax			
	comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**51.14**	**313**	⇓*e*P		**P**	**12 04 21.3**	**+3.4**
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
HARP	**HAARP**	**51.66**	**35**	*e*P		**P**	**12 04 21.7**	**0.0**
	comp=Z,30nm,1.2s							
EGAK	**Eagle**	**53.19**	**32**	*e*P		**P**	**12 04 33.3**	**+0.3**
	comp=Z,6.4nm,1.3s							
FITZ	**Fitzroy Crossi**	**55.54**	**198**	*e*P		**P**	**12 04 51.4**	**+0.9**
	comp=Z,13nm,1.4s							
INK	**Inuvik**	**55.66**	**27**	*e*P		**P**	**12 04 50.6**	**-0.2**
	comp=Z,6.5nm,1.4s							
INK	**Inuvik**	**55.66**	**27**	P		**P**	**12 04 51.3**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=296,slow=6.4,SNR=15							
WRAB	**Tennant Creek**	**55.80**	**187**	*e*P		**P**	**12 04 51.9**	**-0.4**
	comp=Z,25nm,1.5s							
WRAB	**Tennant Creek**	**55.80**	**187**	*e*P		**P**	**12 04 51.9**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,25nm,1.5s							
WB2	**Warramunga Arr**	**55.80**	**187**	*e*P		**P**	**12 04 50.2**	**-2.2**
	comp=Z,18nm,1.4s							
WR1	**Warramunga Arr**	**55.80**	**187**	*e*P		**P**	**12 04 51.4**	**-1.1**
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**55.80**	**187**	P		**P**	**12 04 51.4**	**-1.1**
	comp=Z,4.2nm,0.7s,baz=6.5,slow=7.5,SNR=22							
ARU	**Arti**	**57.00**	**319**	*c i*P		**P**	**12 05 00.6**	**0.0**
ARU							12 05 53.7	
ARU				S		**S**	**12 12 54.2**	**+0.1**
ARU				SS		**SS**	**12 16 35.5**	**-6.6**
ARU				pmax	pmax			
	comp=Z,8.0nm,1.0s							
ABKAR	**Akbulak array**	**58.41**	**311**	*e*P		**P**	**12 05 10.2**	**-0.4**
	comp=Z,3.3nm,0.7s							
AS01	**Alice Springs**	**59.53**	**187**	*e*P		**P**	**12 05 18.0**	**-0.6**
AS31	**Alice Springs**	**59.53**	**187**	*e*P		**P**	**12 05 18.2**	**-0.4**
	comp=Z,0.9nm,0.8s							
ASAR	**Alice Springs**	**59.53**	**187**	P		**P**	**12 05 18.3**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=14,slow=7.4,SNR=12							
MBWA	**Marble Bar**	**60.11**	**203**	*e*P		**P**	**12 05 21.4**	**-1.2**
	comp=Z,1.5nm,1.1s							
RES	**Resolute Bay**	**63.88**	**14**	*e*P		**P**	**12 05 47.9**	**+0.6**
	comp=Z,3.5nm,0.8s							
RES	**Resolute Bay**	**63.88**	**14**	*e*P		**P**	**12 05 47.9**	**+0.6**
RES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
YKA	**Yellowknife Ar**	**65.06**	**30**	P		**P**	**12 05 55.4**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=300,slow=6.6,SNR=19							
YKB5	**Yellowknife Ar**	**65.06**	**30**	*e*P		**P**	**12 05 55.6**	**+0.3**
FORT	**Forrest**	**67.34**	**192**	*e*P		**P**	**12 06 10.3**	**+0.2**
	comp=Z,62nm,1.4s							
STKA	**Stephens Creek**	**67.35**	**179**	P		**P**	**12 06 10.2**	**0.0**
	comp=Z,3.0nm,0.8s,baz=345,slow=8.1,SNR=4.5							
VSR	**Storozhevoye**	**69.57**	**319**	⇑*e*P		**P**	**12 06 23.9**	**-0.1**
VSR				pmax	pmax			
	comp=Z,4.0nm,0.4s							
FIA1	**FINESS Array S**	**69.69**	**332**	*e*P		**P**	**12 06 24.2**	**-0.3**
FFC	**Flin Flon**	**74.95**	**32**	*c e*P		**P**	**12 07 00.1**	**+4.0**
KIEV	**Kiev**	**75.01**	**322**	⇓*e*P		**P**	**12 07 00.2**	**+3.7**
KIEV				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NC204	**NORSAR Array S**	**75.10**	**338**	*e*P		**P**	**12 06 57.2**	**+0.3**
	comp=Z,1.0nm,0.8s							
NB2	**NORSAR Subarra**	**75.14**	**337**	P		**P**	**12 06 56.8**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=41,slow=6.2							
NB200	**NORSAR Array S**	**75.14**	**337**	*e*P		**P**	**12 06 56.8**	**-0.3**
NOA	**NORSAR Array B**	**75.14**	**337**	P		**P**	**12 06 56.8**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=39,slow=5.8,SNR=15							
LRM	**Limekiln Ridge**	**75.31**	**44**	*e*P		**P**	**12 06 55.3**	**-3.3**
KVN	**Kaiserville**	**75.83**	**52**	*e*P		**P**	**12 07 02.7**	**+1.0**
	comp=Z,2.5nm,0.9s							
KVN	**Kaiserville**	**75.83**	**52**	*e*P		**P**	**12 07 02.7**	**+1.0**
KVN				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BOZ	**Bozeman (W)**	**75.90**	**44**	*e*P		**P**	**12 07 02.8**	**+0.9**
	comp=Z,5.3nm,1.1s							
BOZ	**Bozeman (W)**	**75.90**	**44**	*e*P		**P**	**12 07 02.8**	**+0.9**
BOZ				pmax	pmax			
	comp=Z,5.0nm,1.1s							
NV01	**Mina Array Sit**	**76.05**	**53**	*e*P		**P**	**12 07 04.3**	**+1.3**
NVAR	**Mina Array Bea**	**76.05**	**53**	P		**P**	**12 07 04.2**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=282,slow=7.0,SNR=8.5							
PDAR	**Pinedale Array**	**78.81**	**45**	*e*P		**P**	**12 07 19.2**	**+0.8**
PDAR	**Pinedale Array**	**78.81**	**45**	P		**P**	**12 07 19.1**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=39,slow=0.9,SNR=9.0							
BR101	**Keskin Array S**	**79.34**	**311**	*e*P		**P**	**12 07 21.6**	**+0.4**
BRTR	**Keskin Array B**	**79.34**	**311**	P		**P**	**12 07 21.6**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=31,slow=6.7,SNR=3.8							
SZCU	**Shurtz Canyon**	**79.87**	**51**	*e*P		**P**	**12 07 24.1**	**-0.1**
	comp=Z,10nm,0.7s							
ANMO	**Albuquerque**	**85.69**	**49**	⇑*e*P		**P**	**12 07 57.6**	**+3.1**
ANMO				pmax	pmax			
	comp=Z,13nm,3.8s							
LTX	**Lajitas**	**91.19**	**52**	*e*P		**P**	**12 08 21.1**	**+0.4**
LTX	**Lajitas**	**91.19**	**52**	*e*P		**P**	**12 08 21.1**	**+0.4**
TXAR	**Lajitas Array**	**91.19**	**52**	P		**P**	**12 08 21.1**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=295,slow=3.3,SNR=5.0							
LPAZ	**La Paz**	**147.66**	**61**	*e*PKPdf		**PKPbc**	**12 14 59.8**	**-1.2**
LPAZ				*e*PKPbc		**PKiKP**	**12 15 02.0**	**-1.0**
LPAZ	**La Paz**	**147.66**	**61**	*e*PKP2		**PKPbc**	**12 14 59.8**	**-1.2**
LPAZ	**La Paz**	**147.66**	**61**	PKPbc		**PKPbc**	**12 15 01.6**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=328,slow=4.1,SNR=9.3							

IDC 26 11:56:32.3±51.0, 19°.77S × 179°.27E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/28, mbtmp4.2/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/29, Error ellipse: s-maj=914.7km s-min=147.8km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**9.78**	**165**	LR		LR	12 01 56.4	
	comp=Z,2μm,20.7s,baz=176,slow=33							
STKA	**Stephens Creek**	**35.82**	**243**	P		P	12 03 33.7	+0.1
	0.9nm,0.4s,baz=82,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**42.16**	**262**	P		P	12 04 27.1	+0.1
	2.1nm,0.6s,baz=97,slow=7.8,SNR=44							
ASAR	**Alice Springs**	**42.19**	**256**	P		P	12 04 26.8	-0.4
	4.3nm,0.5s,baz

HAPS	**Han Pijesak,Bl**	**2.38 223**	*e*Pn	**Pn**	**12 07 56.2**	**+0.5**
HAPS			*e*Sn	**Sn**	**12 08 26.4**	**+0.9**
IVAS	**Ivanjica**	**2.39 198**	*e*Pn	**Pn**	**12 07 56.3**	**+0.4**
TRPA	**Tarpa**	**2.46 22** ⇓	*i*P	**Pn**	**12 07 58.0**	**+1.3**
TRPA	**Tarpa**	**2.46 22** ⇓	*i*P	**Pn**	**12 07 58.0**	**+1.3**
ARR	**Arges**	**2.47 100** ⇓	*i*P	**Pn**	**12 07 57.5**	**+0.6**
ARR			*i* S	**Sn**	**12 08 27.2**	**-0.5**
ARR	**Arges**	**2.47 100** ⇓	*i*P	**Pn**	**12 07 57.5**	**+0.6**
SELS	**Selova**	**2.63 181**	*e*Sg	Pg	12 07 59.1	-6.9
SELS	**Selova**	**2.63 181**	*e*Pn	**Sn**	**12 08 38.9**	**+7.2**
ZAPS	**Zavoj**	**2.78 158**	*e*Pn	**Pn**	**12 08 02.4**	**+1.2**
ZAPS			*e*Sg	**Sg**	**12 08 42.9**	**-1.9**
BARS	**Barje**	**3.07 171**	*e*Sg	**Sg**	**12 08 52.8**	**-1.4**
VYHS	**Vyhne**	**3.09 330**	*e*PN	**Pn**	**12 08 05.6**	**+0.2**
VYHS			*e*PG	**Pn**	**12 08 05.8**	**+0.4**
VYHS			*e*SG	Pg	12 08 08.9	-5.8

*WEL **26** 12:19:26.3,38˚S±13˚×18˚0W±˚,h33km,ML3.9/19*
*IDC **26** 12:19:28.0±4.2,37˚.03S×179˚.53E,h0km,mb3.5/2,*
mb1 3.7/3,mb1mx3.5/32,mbtmp3.5/3,ML3.2/1,Error
ellipse: s-maj=95.7km s-min=37.5km az=133.0
ISC 26 12:19:23.0±3.7,37˚.92S±0˚.07×179˚.8W±0˚.1,h1km±24km,
n90,σ1§76/99,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**1.44**	**273**	P	**Pn**	**12 19 50.7**	**+0.4**
WMGZ				S	**Sn**	**12 20 08.3**	**-1.4**
MXZ	**Matakaoa Point**	**1.57**	**283**	P	**Pb**	**12 19 52.1**	**-0.7**
MXZ				S	**Sn**	**12 20 10.9**	**-2.0**
PUZ	**Puketiti**	**1.57**	**264**	P	**Pn**	**12 19 52.8**	**+0.8**
PUZ				S	**Sb**	**12 20 11.9**	**-1.2**
CNGZ	**Carnagh Statio**	**1.69**	**250**	P	**Pn**	**12 19 55.7**	**+2.0**
PKGZ	**Pakihiroa**	**1.70**	**270**	P	**Pn**	**12 19 54.5**	**+0.5**
TWGZ	**Tauwhareparae**	**1.79**	**261**	P	**Pn**	**12 19 56.4**	**+1.2**
TWGZ				S	**Sn**	**12 20 18.1**	**-0.5**
HAZ	**Te Kaha**	**1.94**	**274**	P	**Pn**	**12 19 57.8**	**+0.6**
TKGZ	**Te Karaka**	**1.95**	**254**	P	**Pn**	**12 19 57.8**	**+0.6**
TKGZ				S	**Sn**	**12 20 22.9**	**+0.6**
RUGZ	**Raukumara Rang**	**2.02**	**268**	P	**Pn**	**12 19 58.9**	**+0.6**
RUGZ				S	**Sn**	**12 20 22.7**	**-1.5**
RIGZ	**Rimuhau**	**2.09**	**247**	P	**Pn**	**12 20 01.1**	**+1.8**
PRGZ	**Paritu Road**	**2.10**	**241**	P	**Pn**	**12 20 01.8**	**+2.4**
MWZ	**Matawai**	**2.17**	**258**	P	**Pn**	**12 20 01.2**	**+0.9**
MHGZ	**Mahia Peninsul**	**2.20**	**235**	P	**Pn**	**12 20 03.0**	**+2.3**
KNZ	**Kokohu**	**2.29**	**240**	P	**Pn**	**12 20 03.4**	**+1.5**
RAGZ	**Rawiri**	**2.29**	**255**	P	**Pn**	**12 20 04.0**	**+2.0**
SNGZ	**Shannon Statio**	**2.43**	**248**	P	**Pn**	**12 20 06.1**	**+2.2**
URZ	**Urewera**	**2.48**	**261**	Pn	**Pn**	**12 20 06.3**	**+1.7**
	5.7nm,0.3s,baz=265,slow=4.7,SNR=63						
URZ				Sn	**Sn**	**12 20 34.8**	**-0.8**
	28nm,0.3s,baz=274,slow=19,SNR=31						
URZ	**Urewera**	**2.48**	**261**	P	**Pn**	**12 20 06.1**	**+1.5**
WHHZ	**Waihua**	**2.62**	**243**	P	**Pn**	**12 20 08.8**	**+2.3**
WHHZ	**Waihua**	**2.62**	**243**	P	**Sn**	**12 20 40.9**	**+2.0**
RTZ	**Ruatahuna**	**2.65**	**254**	P	**Pn**	**12 20 08.9**	**+1.9**
RAHZ	**Arahi**	**2.66**	**247**	P	**Pn**	**12 20 09.6**	**+2.6**
EDRZ	**Edgecumbe**	**2.76**	**265**	P	**Pn**	**12 20 10.7**	**+2.2**
MUGZ	**Murupara**	**2.78**	**257**	P	**Pn**	**12 20 10.6**	**+1.9**
MTHZ	**Maungataniwha**	**2.82**	**250**	P	**Pn**	**12 20 11.0**	**+1.7**
ARHZ	**Aropaoanui**	**2.87**	**241**	P	**Pn**	**12 20 12.4**	**+2.6**
OPRZ	**Ohinepanea**	**2.91**	**270**	P	**Pn**	**12 20 11.4**	**+1.0**
NMHZ	**Naumai**	**2.93**	**245**	P	**Pn**	**12 20 13.1**	**+2.3**
TARZ	**Mount Tarawera**	**2.96**	**263**	P	**Pn**	**12 20 12.7**	**+1.5**
RRRZ	**Republican Roa**	**2.96**	**261**	P	**Pn**	**12 20 10.8**	**-0.3**
MKRZ	**Makatiti**	**2.98**	**265**	P	**Pn**	**12 20 14.2**	**+2.7**
CKHZ	**Cape Kidnapper**	**3.01**	**234**	P	**Pn**	**12 20 13.6**	**+1.8**
PRRZ	**Plateau Road**	**3.08**	**258**	P	**Pn**	**12 20 14.6**	**+1.8**
ALRZ	**Allen Road**	**3.13**	**257**	P	**Pn**	**12 20 16.0**	**+2.6**
MRHZ	**Matea Rd**	**3.13**	**252**	P	**Pn**	**12 20 15.3**	**+1.8**
KARZ	**Kaharoa**	**3.15**	**267**	P	**Pn**	**12 20 14.5**	**+0.7**
MCHZ	**McNeill Hill**	**3.16**	**240**	P	**Pn**	**12 20 16.5**	**+2.7**
BKZ	**Black Stump Fm**	**3.18**	**246**	P	**Pn**	**12 20 16.3**	**+2.0**
NGRZ	**Ngongotaha**	**3.20**	**266**	P	**Pn**	**12 20 15.8**	**+1.3**
KAHZ	**Kahuranaki**	**3.22**	**233**	P	**Pn**	**12 20 16.8**	**+2.1**
KWHZ	**Kaweka Forest**	**3.34**	**242**	P	**Pn**	**12 20 18.4**	**+2.0**
PXZ	**Pawanui**	**3.37**	**230**	P	**Pn**	**12 20 17.5**	**+0.8**
KRHZ	**Kereru**	**3.47**	**239**	P	**Pn**	**12 20 20.1**	**+1.9**
KUTZ	**Kaahu Road**	**3.52**	**259**	P	**Pn**	**12 20 21.4**	**+2.6**
BHHZ	**Black Hill Sta**	**3.62**	**243**	P	**Pn**	**12 20 21.9**	**+1.6**
WPHZ	**Waipukurau**	**3.65**	**233**	P	**Pn**	**12 20 21.3**	**+0.7**
PRHZ	**Porangahau**	**3.65**	**229**	P	**Pn**	**12 20 21.3**	**+0.7**
KATZ	**Kakaramea**	**3.71**	**252**	P	**Pn**	**12 20 26.1**	**+4.5**
PNHZ	**Pukenui**	**3.72**	**236**	P	**Pn**	**12 20 23.1**	**+1.5**
TOZ	**Tahuroa Road**	**3.75**	**271**	P	**Pn**	**12 20 23.7**	**+1.7**
KUZ	**Kuaotunu**	**3.78**	**287**	P	**Pn**	**12 20 22.0**	**-0.4**
KRVZ	**Karewarewa**	**3.79**	**251**	P	**Pn**	**12 20 25.6**	**+2.9**
MOVZ	**Moawhango**	**3.81**	**246**	P	**Pn**	**12 20 25.5**	**+2.6**
TUVZ	**Tukino**	**3.83**	**248**	P	**Pn**	**12 20 26.9**	**+3.6**
WTVZ	**West Tongariro**	**3.83**	**250**	P	**Pn**	**12 20 27.4**	**+4.2**
NGZ	**Ngauruhoe**	**3.84**	**250**	P	**Pn**	**12 20 25.9**	**+2.5**
ANWZ	**Angora Road**	**3.87**	**228**	P	**Pn**	**12 20 25.1**	**+1.5**
FWVZ	**Far West T-bar**	**3.90**	**249**	P	**Pn**	**12 20 27.3**	**+3.0**
TRVZ	**Turoa**	**3.92**	**248**	P	**Pn**	**12 20 26.7**	**+2.2**
TSZ	**Takapari Road**	**3.95**	**236**	P	**Pn**	**12 20 26.0**	**+1.2**
DVHZ	**Dannevirke**	**3.99**	**232**	P	**Pn**	**12 20 25.7**	**+0.9**
MTZ	**Mangatainoka**	**4.00**	**247**	P	**Pn**	**12 20 28.2**	**+2.7**
MKAZ	**Moumakai**	**4.11**	**280**	P	**Pn**	**12 20 27.2**	**+0.2**
BFZ	**Birch Farm**	**4.14**	**227**	P	**Pn**	**12 20 26.9**	**-0.4**
BFZ				S	**Sn**	**12 21 14.6**	**-1.9**
WIAZ	**Waiheke Island**	**4.21**	**284**	P	**Pn**	**12 20 29.5**	**+1.1**
POWZ	**Post Office Ro**	**4.26**	**233**	P	**Pn**	**12 20 30.5**	**+1.5**
HIZ	**Hauiti**	**4.27**	**260**	P	**Pn**	**12 20 30.8**	**+1.6**
TIWZ	**Tintock**	**4.41**	**228**	P	**Pn**	**12 20 31.8**	**+0.6**
TIWZ				S	**Sn**	**12 21 22.4**	**-0.8**
WAZ	**Wanganui**	**4.49**	**244**	P	**Pn**	**12 20 34.8**	**+2.7**
MRZ	**Mangatainoka R**	**4.53**	**231**	P	**Pn**	**12 20 33.0**	**+0.3**
MRZ				S	**Sn**	**12 21 24.3**	**-1.7**
TMWZ	**Te Maipa**	**4.62**	**225**	P	**Pn**	**12 20 34.2**	**+0.1**
HOWZ	**Holdsworth Sta**	**4.71**	**229**	P	**Pn**	**12 20 35.1**	**-0.1**
OGWZ	**Otaki Gorge**	**4.87**	**232**	P	**Pn**	**12 20 38.4**	**+1.0**
MTW	**Mount Morrison**	**4.88**	**227**	P	**Pn**	**12 20 37.3**	**-0.2**
PAWZ	**Paruwai Farm**	**5.07**	**226**	P	**Pn**	**12 20 39.5**	**-0.7**
CAW	**Cannon Point**	**5.11**	**230**	P	**Pn**	**12 20 40.7**	**+0.1**
MSWZ	**Moikau Station**	**5.19**	**226**	P	**Pn**	**12 20 40.8**	**+1.1**
PLWZ	**Palliser**	**5.29**	**225**	P	**Pn**	**12 20 42.4**	**-0.8**
TCW	**Tory Channel**	**5.65**	**233**	P	**Pn**	**12 20 48.1**	**0.0**
TUWZ	**Tuamarina**	**5.98**	**232**	P	**Pn**	**12 20 52.8**	**+0.1**
NNZ	**Nelson**	**6.23**	**236**	P	**Pn**	**12 20 56.8**	**+0.7**
KHZ	**Kahutara**	**6.81**	**227**	P	**Pn**	**12 21 03.6**	**-0.4**
THZ	**Tophouse**	**6.82**	**233**	P	**Pn**	**12 21 03.2**	**-1.0**
LTZ	**Lake Taylor**	**7.78**	**229**	P	Pn	12 21 15.0	-2.3
OKCZ	**Okains Bay**	**7.95**	**221**	P	**Pn**	**12 21 19.7**	**+0.1**
AKCZ	**Akaroa Harbour**	**8.13**	**221**	P	**Pn**	**12 21 22.4**	**+0.2**
ODZ	**Otahua Downs**	**10.11**	**222**	P	**Pn**	**12 21 50.6**	**+1.2**
ASAR	**Alice Springs**	**41.84**	**276**	P	**P**	**12 27 14.8**	**+0.1**
	0.4nm,0.7s,baz=116,slow=7.7,SNR=6.6						
WRA	**Warramunga Arr**	**43.50**	**281**	P	**P**	**12 27 27.8**	**-0.4**
	0.5nm,0.5s,baz=120,slow=7.8,SNR=16						
ARCES	**ARCESS Array B**	**145.53**	**345**	PKP	**PKPdf**	**12 39 03.8**	**+2.0**
	3.7nm,0.9s,baz=27,slow=2.4,SNR=4.5						

PGC 26 12:23:47.1±0.0,55˚.48N×135˚.18W,h1km,ML3.4/8,
175km south of Sitka, Ak Off Coast Of Southeastern
Alaska,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDB	**Naden**	**2.00**	**139**	Pn	**Pn**	**12 24 21.5**	**-0.6**
DIB	**Dawson Inlet,**	**2.77**	**144**	Pn	**Pn**	**12 24 31.5**	**-1.1**
DIB				Sn	**Sn**	**12 25 05.0**	**-1.7**
MOBC	**Moresby Island**	**3.00**	**140**	Pn	**Pn**	**12 24 34.9**	**-1.0**
MOBC				Sn	**Sn**	**12 25 10.0**	**-2.4**
RUBB	**Prince Rupert**	**3.07**	**110**	Pn	**Pn**	**12 24 36.3**	**-0.4**
RUBB				Sn	**Sn**	**12 25 13.4**	**-0.6**
BESE	**Bessie Mountai**	**3.11**	**3**	Sn	**Sn**	**12 25 14.5**	**-0.7**
BESE				Sg	**Sb**	**12 25 22.7**	**+0.9**
BNB	**Barry Inlet**	**3.54**	**144**	Pn	Pn	**12 24 42.3**	**-0.9**
PLBC	**Pleasant Camp**	**4.04**	**351**	Pn	Pn	**12 24 47.4**	**-2.6**
DLBC	**Dease Lake**	**4.09**	**41**	Pn	Pn	**12 24 50.0**	**-0.8**
DLBC				Sg	**Sb**	**12 25 53.7**	**+3.8**
WHY	**Whitehorse**	**5.20**	**2**	Pn	Pn	**12 25 04.5**	**-1.5**
BBB	**Bella Bella**	**5.33**	**125**	Pn	Pn	**12 25 07.9**	**+0.2**
BBB				Sn	**Sn**	**12 26 07.2**	**-2.5**
SAMH	**Samovar Hills**	**5.54**	**330**	Pn	Pn	**12 25 09.3**	**-1.5**
FSB	**Fort Saint Jam**	**6.33**	**95**	Sg	**Sb**	**12 27 02.1**	**+8.0**
KIAG	**Kiagna River**	**6.65**	**328**	Pn	Pn	**12 25 24.7**	**-1.3**
BALM	**Baldy**	**6.73**	**329**	Pn	Pn	**12 25 25.6**	**-1.5**
PTPK	**Patty Peak**	**6.89**	**329**	Pn	Pn	**12 25 28.6**	**-0.7**
MAYB	**Maynard**	**7.01**	**133**	Pn	Pn	**12 25 30.0**	**-1.0**

*THR **26** 12:30:42.0,29˚.86N×57˚.78E,h14km,ML3.3*
*TEH **26** 12:30:42.4,29˚.99N×57˚.66E,h5km,ML3.7*
ISC 26 12:30:42.2±1.6,29˚.92N±0˚.06×57˚.73E±0˚.06,h1km±17km,
n21,σ1§63/20,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.17**	**252**	*e*Pg	**Pg**	**12 30 46.2**	**+0.5**
CHMN				*e*Sg	**Sg**	**12 30 49.3**	**+1.3**
CHMN				IAMB	IAmb	12 30 50.0	
	comp=Z,0.0nm,0.1s						
KRBR	**Kerman**	**0.84**	**275**	*e*AML	AML	12 31 13.9	
	comp=E,906nm,0.4s						
KRBR				*e*AML	AML	12 31 14.3	
	comp=N,840nm,0.4s						
KRBR	**Kerman**	**0.84**	**275**	*e*Pg	**Pb**	**12 30 59.0**	**-0.9**
TVBK	**TV Kerman**	**0.84**	**275**	*e*Pg	**Pb**	**12 30 59.2**	**-0.7**
TVBK				IAMB	IAmb	12 31 14.3	
	comp=Z,0.0nm,0.1s						
NGRK	**Negar Kerman**	**0.91**	**253**	*e*Pg	**Pb**	**12 31 00.1**	**-0.9**
NGRK				IAMB	IAmb	12 31 13.2	
	comp=Z,0.0nm,0.1s						
KHGB	**Koh Gabri**	**1.18**	**293**	IAMB	IAmb	12 31 24.1	
	comp=Z,0.0nm,0.1s						
KHGB				*e*Pg	**Pn**	**12 31 04.9**	**-1.2**
BSRN	**Basiran**	**2.37**	**30**	*e*Pn	**Pn**	**12 31 23.0**	**+0.6**
BSRN	**Basiran**	**2.37**	**30**	*e*AML	AML	12 31 58.7	
BSRN	comp=N,152nm,0.5s						
BSRN	**Basiran**	**2.37**	**30**	*e*Pn	**Pn**	**12 31 23.0**	**+0.6**
BSRN				*e*Sg	**Sg**	**12 31 57.3**	**-1.1**
NIAN	**Nian**	**2.48**	**199**	*e*Pn	**Pb**	**12 31 26.5**	**-1.0**
NIAN				IAMB	IAmb	12 32 03.7	
	comp=Z,0.0nm,0.2s						
IKOO	**Kooshah**	**2.73**	**23**	*e*Pn	**Pn**	**12 31 28.2**	**+0.8**
IKOO				IAMB	IAmb	12 32 10.6	
	comp=Z,4μm,0.3s						
GENO	**Geno**	**2.85**	**209**	*e*Pn	**Pb**	**12 31 32.0**	**-2.1**
GENO				IAMB	IAmb	12 32 10.7	
	comp=E,0.0nm,0.2s						
IMEH	**Mehriz**	**3.06**	**299**	*e*Pn	**Pb**	**12 31 34.8**	**-2.9**
IMEH				IAMB	IAmb	12 32 23.9	
	comp=Z,891nm,0.4s						
ITEG	**Tejag**	**3.10**	**16**	*e*Pn	**Pn**	**12 31 33.3**	**+0.9**
ITEG				IAMB	IAmb	12 32 27.8	
	comp=Z,3μm,0.4s						
TPRV	**Parvadeh(Tabas**	**3.23**	**344**	*e*Pn	**Pn**	**12 31 35.5**	**+1.4**
TPRV				IAMB	IAmb	12 32 31.1	
	comp=Z,0.0nm,0.4s						
IDAH	**Dahanechah**	**3.36**	**32**	*e*Pn	**Pn**	**12 31 38.2**	**+2.2**
TKDS	**Koohdasht(Taba**	**3.72**	**352**	*e*Pn	**Pn**	**12 31 42.6**	**+1.6**
TKDS				IAMB	IAmb	12 32 27.5	
	comp=Z,0.0nm,0.3s						
TABS	**Tabas**	**3.76**	**352**	*e*Pn	**Pn**	**12 31 42.8**	**+1.4**
TABS	**Tabas**	**3.76**	**352**	*e*AML	AML	12 32 53.8	
	comp=N,64nm,0.4s						
TABS	**Tabas**	**3.76**	**352**	*e*Pn	**Pn**	**12 31 42.8**	**+1.4**
ANAR	**Anarak**	**4.72**	**315**	*e*Pn	**Pn**	**12 31 57.4**	**+2.7**

*IDC **26** 12:50:16.3±3.0,32˚.96S×178˚.96W,h0km,mb3.8/2,*
mb1 4.0/3,mb1mx3.7/28,mbtmp3.8/3,ML3.9/1,Error
ellipse: s-maj=67.5km s-min=45.1km az=117.0
*ISCJB **26** 12:50:17.9±0.9,33˚.32S±0˚.06×178˚.5W±0˚.2,h32km,*
mb3.7/2,Error ellipse: s-maj=21.4km s-min=5.2km
az=16.6
*WEL **26** 12:50:19.8±0.8,33˚S±6˚×17˚8W±1˚5,h33km,ML4.6/18*
ISC 26 12:50:18.7±1.3,33˚.35S±0˚.07×178˚.4W±0˚.2,h32km,n28,
σ1§61/33,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.09**	**5**	P	**Pn**	**12 51 20.5**	**+1.4**
GLKZ				S	**Sn**	**12 52 06.7**	**+0.9**
MXZ	**Matakaoa Point**	**5.01**	**212**	P	**Pn**	**12 51 31.4**	**-0.2**
WMGZ	**Waiomatatini S**	**5.18**	**210**	P	**Pn**	**12 51 37.0**	**+3.1**
WMGZ				S	**Sn**	**12 52 31.8**	**-0.8**
PKGZ	**Pakihiroa**	**5.38**	**212**	P	**Pn**	**12 51 38.4**	**+1.5**
HAZ	**Te Kaha**	**5.41**	**215**	P	**Pn**	**12 51 39.1**	**+2.0**
HAZ				S	**Sn**	**12 52 40.6**	**+2.3**
PUZ	**Puketiti**	**5.46**	**209**	P	**Pn**	**12 51 38.7**	**+0.8**
PUZ				S	**Sn**	**12 52 39.6**	**0.0**
RUGZ	**Raukumara Rang**	**5.63**	**214**	P	**Pn**	**12 51 41.2**	**+1.0**
TWGZ	**Tauwhareparae**	**5.67**	**211**	P	**Pn**	**12 51 41.2**	**+0.5**
CNGZ	**Carnagh Statio**	**5.83**	**208**	P	**Pn**	**12 51 43.6**	**+0.6**
KUZ	**Kuaotunu**	**5.93**	**233**	P	**Pn**	**12 51 45.9**	**+1.6**
TKGZ	**Te Karaka**	**5.94**	**210**	P	**Pn**	**12 51 45.9**	**+1.5**
MWZ	**Matawai**	**6.00**	**213**	P	**Pn**	**12 51 46.0**	**+0.8**
OPRZ	**Ohinepanea**	**6.11**	**221**	P	**Pn**	**12 51 48.3**	**+1.6**
URZ	**Urewera**	**6.13**	**216**	Pn	**Pn**	**12 51 47.4**	**+0.3**
	3.0nm,0.3s,baz=273,slow=4.5,SNR=25						
URZ				Sn	**Sn**	**12 52 53.8**	**-2.3**
	1.9nm,0.3s,baz=284,slow=4.8,SNR=3.6						
URZ	**Urewera**	**6.13**	**216**	P	**Pn**	**12 51 47.4**	**+0.3**
RAGZ	**Rawiri**	**6.18**	**213**	P	**Pn**	**12 51 49.5**	**+1.7**
RIGZ	**Rimuhau**	**6.20**	**209**	P	**Pn**	**12 51 49.7**	**+1.6**
WIAZ	**Waiheke Island**	**6.35**	**235**	P	**Pn**	**12 51 54.5**	**+4.4**
RTZ	**Ruatahuna**	**6.48**	**214**	P	**Pn**	**12 51 51.4**	**-0.4**
KNZ	**Kokohu**	**6.51**	**208**	P	**Pn**	**12 51 52.1**	**-0.2**
WCZ	**Waipu Caves**	**6.55**	**245**	P	**Pn**	**12 51 53.6**	**+0.8**
TOZ	**Tahuroa Road**	**6.65**	**227**	P	**Pn**	**12 51 56.0**	**+1.8**
MTNZ	**Maungataniwha**	**6.73**	**214**	P	**Pn**	**12 51 55.6**	**+0.2**
OUZ	**Omahuta**	**6.92**	**252**	P	**Pn**	**12 51 57.8**	**-0.2**
BKZ	**Black Stump Fm**	**7.14**	**214**	P	**Pn**	**12 52 00.7**	**-0.3**
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**12 58 11.3**	**-1.9**
	0.4nm,0.4s,baz=108,slow=7.1,SNR=13						
WRA	**Warramunga Arr**	**43.99**	**275**	P	**P**	**12 58 21.2**	**-2.1**
	0.9nm,0.4s,baz=114,slow=8.1,SNR=35						
FINES	**FINESS Array B**	**147.79**	**338**	PKPbc	**PKPbc**	**13 10 00.3**	**+0.9**
	1.5nm,0.6s,baz=66,slow=4.7,SNR=5.6						

*ISCJB **26** 12:54:20.5±0.3,15˚.83N±0˚.03×94˚.07W±0˚.02,h73km±3km,*
mb4.4/86,Error ellipse: s-maj=5.3km s-min=3.0km
az=23.5
*MEX **26** 12:54:21.4±0.6,15˚.76N×94˚.13W,h71km±10km,MD4.7*
*NEIC **26** 12:54:21.4±0.0,15˚.75N×94˚.14W,h68km,mb4.5/106,*
MD4.7(MEX),After MEX.
*IDC **26** 12:54:21.1±0.7,15˚.78N×94˚.05W,h72km±5km,mb4.0/11,*
mb1 4.3/14,mb1mx4.0/37,mbtmp4.4/14,Error ellipse:
s-maj=19.7km s-min=6.6km az=46.0
*UCR **26** 12:54:23.3±1.3,16˚.40N×93˚.57W,h15km,MD4.3,*
mb4.5(NEIC)
ISC 26 12:54:20.9±0.5,15˚.78N±0˚.05×94˚.12W±0˚.03,h72km±5km,
n319,σ1§40/343,mb4.5/87,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.87**	**95**	*e*Pn	**Pn**	**12 54 36.8**	**-1.2**
PCIG				*e*Sn	**Sn**	**12 54 49.3**	**-1.3**
PCIG		**0.87**	**95**	*e*P	**Pn**	**12 54 36.8**	**-1.2**
PCIG				*e*S	**Sn**	**12 54 49.4**	**-1.2**
CMIG	**Matias Romero**	**1.49**	**331**	*e*Pn	**Pn**	**12 54 45.9**	**-0.1**
CMIG				*e*Sn	**Sn**	**12 55 02.9**	**-1.8**
CMIG	**Matias Romero**	**1.49**	**331**	*e*P	**Pn**	**12 54 45.9**	**-0.1**
CMIG				*e*S	**Sn**	**12 55 02.9**	**-1.8**
CMIG	**Matias Romero**	**1.49**	**331**	P	**Pn**	**12 54 45.7**	**-0.2**
CMIG				S	**Sn**	**12 55 05.4**	**+0.6**
	1μm,0.3s,baz=187,slow=22,SNR=32						
CMIG				LR	LR	12 55 22.9	
	comp=Z,864nm,20.6s,baz=76,slow=40						
HUIG	**Huatulco**	**1.92**	**270**	*e*Pn	**Pn**	**12 54 50.3**	**-1.2**
HUIG				*e*Sn	**Sn**	**12 55 11.2**	**-3.5**
HUIG	**Huatulco**	**1.92**	**270**	*e*P	**Pn**	**12 54 50.3**	**-1.2**
HUIG				*i* S	**Sn**	**12 55 13.4**	**-1.4**
CCIG	**Comitan**	**1.97**	**75**	*e*Pn	**Pn**	**12 54 51.5**	**-0.9**
CCIG				*e*Sn	**Sn**	**12 55 13.6**	**-2.8**
CCIG	**Comitan**	**1.97**	**75**	*e*P	**Pn**	**12 54 51.5**	**-0.9**
CCIG				*i* S	**Sn**	**12 55 15.2**	**-1.1**
THIG		**1.99**	**116**	*e*Pn	**Pn**	**12 54 50.9**	**-1.6**
THIG				*e*Sn	**Sn**	**12 55 15.9**	**-0.6**
THIG		**1.99**	**116**	*e*P	**Pn**	**12 54 50.9**	**-1.6**
THIG				*e*S	**Sn**	**12 55 15.9**	**-0.6**
VHO	**Vista Hermosa**	**2.82**	**297**	*e*Pn	**Pn**	**12 55 05.0**	**+1.1**
VHO				*e*Sn	**Sn**	**12 55 37.6**	**+0.7**
VHO	**Vista Hermosa**	**2.82**	**297**	*e*P	**Pn**	**12 55 03.4**	**-0.5**
VHO				*i* S	**Sn**	**12 55 36.3**	**-0.6**
FUG	**Fuego 3**	**3.43**	**112**	*e*P	**Pn**	**12 55 13.8**	**+1.6**
APG	**El Apazote**	**3.61**	**102**	P	**Pn**	**12 55 14.4**	**-0.3**
	34nm,0.3s,baz=232,slow=20,SNR=120						
APG				S	**Sn**	**12 55 55.6**	**-0.7**
	465nm,0.3s,baz=58,slow=18,SNR=23						
PCG	**Pacaya**	**3.66**	**112**	*e*P	**Pn**	**12 55 17.4**	**+2.0**
NBG	**Las Nubes**	**3.83**	**108**	*e*P	**Pn**	**12 55 18.6**	**+0.8**
IXG	**Ixpaco**	**3.89**	**114**	*e*P	**Pn**	**12 55 20.5**	**+2.1**
MRL	**Marmol**	**4.33**	**99**	*e*P	**Pn**	**12 55 25.3**	**+0.8**
LVIG	**Laguna Verde**	**4.49**	**331**	*e*Pn	**Pn**	**12 55 24.7**	**-1.8**
LVIG				*e*Sn	**Sn**	**12 56 14.8**	**-2.6**
TLIG	**Tlapa**	**4.62**	**293**	*e*Pn	**Pn**	**12 55 30.5**	**+2.2**
TLIG				*e*Sn	**Sn**	**12 56 25.6**	**+4.8**
BOQS	**Boqueron**	**5.11**	**113**	*e*P	**Pn**	**12 55 37.5**	**+2.4**
SNET	**Serv Nac Est T**	**5.17**	**113**	*e*P	**Pn**	**12 55 38.5**	**+2.6**
SNET				*e*S	**Sn**	**12 56 36.7**	**+2.4**
UNM	**Universidad Na**	**5.98**	**307**	*e*Pn	**Pn**	**12 55 46.6**	**-0.5**
UNM				*e*Sn	Sn	12 56 42.7	-12
CNCH	**Conchagua**	**6.58**	**111**	*e*P	**Pn**	**12 55 57.9**	**+2.7**
MYIG	**Mrida**	**6.62**	**38**	*e*Pn	**Pn**	**12 55 55.5**	**0.0**
MYIG				*e*Sn	**Sn**	**12 57 12.9**	**+3.4**
TGUH	**Tegucigalpa,Un**	**6.84**	**104**	*e*Pn	**Pn**	**12 55 59.3**	**+0.7**
TGUH	**Tegucigalpa,Un**	**6.84**	**104**	*e*P	**Pn**	**12 55 57.6**	**-1.0**
CSGN	**Cosiguina Volc**	**6.94**	**113**	*e*Pn	**Pn**	**12 56 02.6**	**+2.5**
CSGN				*e*Sn	**Sn**	**12 57 15.7**	**-2.1**
CSGN	**Cosiguina Volc**	**6.94**	**113**	*e*P	**Pn**	**12 56 02.4**	**+2.3**
CSGN				*e*S	**Sn**	**12 57 18.7**	**+1.0**
MOIG	**Morelia**	**7.77**	**301**	*e*Pn	**Pn**	**12 56 09.4**	**-2.2**
CNGN	**Cerro Negro**	**7.90**	**113**	*e*P	**Pn**	**12 56 15.6**	**+2.4**
MATN	**Matagalpa**	**8.43**	**109**	*e*P	**Pn**	**12 56 21.0**	**+0.5**
LNIG	**Linares**	**10.36**	**332**	*e*Pn	**Pn**	**12 56 47.3**	**+0.5**
JTS	**JuntasAbangare**	**10.47**	**120**	*e*Pn	**Pn**	**12 56 47.6**	**-0.7**
JTS	**JuntasAbangare**	**10.47**	**120**	P	**Pn**	**12 56 48.3**	**0.0**
	5.7nm,0.3s,baz=20,slow=16,SNR=11						
FSCY	**Frank Sound, G**	**12.83**	**72**	*e*Pn	**Pn**	**12 57 18.3**	**-2.0**
833A	**Chaparral WMA,**	**13.40**	**340**	*e*Pn	**Pn**	**12 57 28.5**	**+0.5**
833A	**Chaparral WMA,**	**13.40

Y52A	Lilburn 68nm,1.5s	20.16	25	eP		P	12 58 49.1	-0.3
Y52A	Lilburn baz=209	20.16	25	P		P	12 58 50.7	+1.2
AMTX	Amarillo 62nm,0.6s	20.20	342	eP		P	12 58 50.8	+0.9
AMTX	Amarillo baz=159	20.20	342	P		P	12 58 50.6	+0.7
W47A	Westpoint baz=198	20.25	16	P		P	12 58 51.4	+1.0
HHAR	Hobbs 50nm,1.6s	20.42	0	eP		P	12 58 52.4	+0.2
X51A	Calhoun baz=206,SNR=5.5	20.47	22	P		Pn	12 58 54.8	-0.8
W49A	Belvidere baz=202	20.50	19	P		P	12 58 54.3	+1.2
U40A	Yellville baz=184	20.52	3	P		P	12 58 53.6	+0.3
U41A	Viola baz=186	20.57	5	P		P	12 58 54.9	+1.0
V46A	Holladay baz=197,SNR=5.8	20.64	14	P		P	12 58 55.2	+0.6
SWET	Sewanee 60nm,1.5s	20.70	19	eP		P	12 58 55.9	+0.7
Y54A	Tignall baz=212	20.75	28	P		P	12 58 57.2	+1.5
121A	Cookes Peak, D baz=140,SNR=25	20.78	326	P		P	12 58 55.7	-0.7
V47A	Nunnelly baz=198	20.82	15	P		P	12 58 56.3	-0.2
X52A	Dahlonega baz=209	20.87	24	P		P	12 58 57.7	+0.5
W50A	Signal Mountai 74nm,1.6s	20.89	21	eP		P	12 58 57.6	+0.3
W50A	Signal Mountai baz=204	20.89	21	P		P	12 58 57.6	+0.3
V48A	Smith Brothers baz=200	20.92	17	P		P	12 58 58.8	+1.2
WVT	Waverly 9.5nm,0.8s	21.03	14	eP		P	12 59 00.4	+1.7
WVT	Waverly baz=197	21.03	14	P		P	12 58 59.8	+1.1
X53A	Estanollee baz=210	21.03	26	P		P	12 58 59.3	+0.5
W51A	Cleveland baz=206	21.04	22	P		P	12 59 01.3	+2.4
V49A	McMinnville baz=202	21.21	19	P		P	12 59 00.7	0.0
Z57A	Bowman baz=218	21.25	32	P		P	12 59 01.0	-0.1
NHSC	New Hope baz=219	21.37	34	P		P	12 59 03.0	+0.6
V50A	Pikevile baz=204	21.39	20	P		P	12 59 02.9	+0.3
BNM	Barren Site	21.48	331	eP		P	12 59 05.3	+1.4
T43A	Greenville baz=190	21.49	8	P		P	12 59 03.3	-0.4
LENM	Lemitar	21.66	330	eP		P	12 59 05.8	+0.1
U48A	Cassie Pea, Po baz=200	21.72	17	P		P	12 59 06.5	+0.4
X55A	Gracelyn & Ava baz=214	21.73	29	P		P	12 59 07.1	+0.8
V51A	Loudon 53nm,1.4s	21.77	22	eP		P	12 59 07.6	+1.0
V51A	Loudon baz=206	21.77	22	P		P	12 59 07.7	+1.0
S41A	Jillco Farms, baz=186	21.82	5	P		P	12 59 07.8	+0.6
TKL	Tuckaleechee C 38nm,1.4s	21.85	23	eP		P	12 59 09.0	+1.4
T46A	Princeton baz=196	21.88	13	P		P	12 59 08.8	+0.9
LAZ	Ladron	21.93	330	eP		P	12 59 11.7	+3.1
U49A	Red Boiling Sp baz=202	21.94	18	P		P	12 59 08.3	-0.2
S43A	Fulton Ridge, baz=190	22.00	9	P		P	12 59 07.8	-1.3
W54A	Cherokee Point baz=212	22.00	27	P		P	12 59 10.1	+0.9
T47A	Sharon Grove 16nm,0.6s	22.02	15	eP		P	12 59 09.8	+0.5
T47A	Sharon Grove baz=198	22.02	15	P		P	12 59 10.2	+0.9
ANMO	Albuquerque 11nm,1.2s	22.06	332	eP		P	12 59 11.1	+1.0
ANMO	Albuquerque baz=147	22.06	332	P		P	12 59 11.0	+1.0
ANMO	Albuquerque 3.2nm,0.5s,baz=149,slow=12,SNR=11	22.06	332	P		P	12 59 11.8	+1.7
TASM	ASL Pad, Albuq baz=147,SNR=9.1	22.06	332	P		P	12 59 11.4	+1.3
TASM	ASL Pad, Albuq baz=147,SNR=9.0	22.06	332	P		P	12 59 11.8	+1.7
S42A	Caledonia baz=189	22.10	7	P		P	12 59 10.2	0.0
U50A	Jamestown baz=204	22.15	20	P		P	12 59 12.0	+1.2
V53A	Saluda 60nm,1.6s	22.23	25	eP		P	12 59 10.4	-1.4
V53A	Saluda baz=210	22.23	25	P		P	12 59 12.9	+1.1
S44A	Carbondale baz=192,SNR=8.2	22.25	10	P		P	12 59 13.8	+2.0
CCM	Cathedral Cave 56nm,1.9s	22.33	6	eP		P	12 59 11.4	-1.3
CCM	Cathedral Cave baz=187	22.33	6	P		P	12 59 12.4	-0.3
TUC	Tucson 18nm,1.3s	22.36	320	eP		P	12 59 13.6	+0.4
TUC	Tucson baz=134	22.36	320	P		P	12 59 12.7	-0.5
U51A	La Follette baz=206	22.40	22	P		P	12 59 14.9	+1.4
R41A	Rosebud baz=187	22.56	6	P		P	12 59 15.8	+0.6
T49A	Edmonton baz=202	22.56	18	P		P	12 59 15.8	+0.5
S47A	Hartford baz=198	22.65	15	P		P	12 59 16.3	+0.1
TZTN	Tazewell 92nm,1.7s	22.72	22	eP		P	12 59 19.2	+2.4
R44A	Waltonville baz=193,SNR=5.7	22.82	10	P		P	12 59 19.6	+1.8
T51A	Gray baz=206,SNR=5.2	22.95	21	P		P	12 59 18.6	-0.6
R45A	Skylar, Fairfi baz=194	23.01	12	P		P	12 59 18.3	-1.4
T25A	Trinidad 52nm,1.2s	23.15	339	eP		P	12 59 22.3	+0.9
T25A	Trinidad baz=154,SNR=19	23.15	339	P		P	12 59 21.2	-0.2
Q41A	Truxton baz=187	23.22	6	P		P	12 59 19.5	-2.4
Q42A	Golden Eagle baz=189	23.26	7	P		P	12 59 20.4	-1.7
S49A	Springfield baz=202	23.27	18	P		P	12 59 20.5	-1.7
Q43A	New Douglas baz=191	23.39	9	P		P	12 59 21.7	-1.7
214A	Organ Pipe Nat baz=129,SNR=6.0	23.42	317	P		P	12 59 25.3	+1.5
CBKS	Cedar Bluff baz=166	23.47	349	P		P	12 59 23.9	-0.3
X18A	Snowflake 20nm,1.2s	23.47	326	eP		P	12 59 26.9	+2.5
R49A	Shelbyville baz=202	23.77	18	P		P	12 59 27.1	+0.2
W18A	Petrified Fore 17nm,1.2s	23.80	327	eP		P	12 59 29.7	+2.3
P42A	Winchester baz=189	23.94	7	P		P	12 59 27.5	-0.8
SDCO	Great Sand Dun	24.08	337	eP		P	12 59 32.5	+2.5
SDCO	Great Sand Dun baz=152,SNR=7.6	24.08	337	P		P	12 59 31.5	+1.6
X16A	Lo Mia Camp, P 9.2nm,0.8s	24.23	323	eP		P	12 59 33.6	+2.4
P45A	Graceland, Par baz=195	24.30	12	P		P	12 59 29.6	-2.0
KSCO	Kaye Shedlock' 29nm,1.3s	24.32	344	eP		P	12 59 34.1	+2.2
O41A	Passleys Farm, baz=188	24.41	6	P		P	12 59 31.1	-1.4
P46A	Rosedale baz=196	24.50	13	P		P	12 59 34.4	+1.0
S22A	4UR Ranch, Cre 16nm,1.4s	24.59	335	eP		P	12 59 35.8	+1.2
S22A	4UR Ranch, Cre baz=150	24.59	335	P		P	12 59 34.2	-0.5
MVCO	Mesa Verde 30nm,1.6s	24.86	332	eP		P	12 59 38.5	+1.4
MVCO	Mesa Verde baz=146,SNR=7.2	24.86	332	P		P	12 59 38.4	+1.4
WUAZ	Wupatki 11nm,1.1s	24.99	325	eP		P	12 59 40.4	+2.3
WUAZ	Wupatki baz=138	24.99	325	P		P	12 59 39.3	+1.2
N43A	Stutzman Famil baz=191	25.43	9	P		P	12 59 41.5	-0.3
GLA	Glamis 14nm,1.0s	25.43	316	eP		P	12 59 43.3	+1.3
GLA	Glamis baz=128	25.43	316	P		P	12 59 41.9	-0.1
O49A	Covington 17nm,0.8s	25.77	17	eP		P	12 59 43.1	-1.8
PDMCI	Parker Dam,Lak baz=131	25.78	319	P		P	12 59 44.7	-0.4
ISCO	Idaho Springs 12nm,1.4s	25.95	339	eP		P	12 59 48.3	+1.4
ISCO	Idaho Springs baz=154	25.95	339	P		P	12 59 46.3	-0.6
OGNE	Ogallala	26.00	346	eP		P	12 59 48.5	+1.4
OGNE	Ogallala baz=162	26.00	346	P		P	12 59 47.0	0.0
IKP	In-Ko-Pah, Jac baz=125	26.07	314	P		P	12 59 48.9	+1.1
W13A	Hualapai Mount 6.5nm,1.3s	26.15	321	eP		P	12 59 51.2	+2.5
U15A	North Rim 15nm,1.4s	26.16	325	eP		P	12 59 51.3	+2.4
BC3	Big Chuckawall baz=128,SNR=6.8	26.22	317	P		P	12 59 50.5	+1.2
ACSO	Alum Creek Sta baz=205	26.22	20	P		P	12 59 48.5	-0.5
IRM	Iron Mountain baz=129	26.32	318	P		P	12 59 48.7	-1.4
LDFC	Landfair 17nm,1.1s	26.89	319	eP		P	12 59 58.3	+3.0
Q16A	Castle Valley 8.9nm,1.2s	27.48	330	eP		P	13 00 01.0	+0.4
CCUT	Cedar City 6.9nm,1.2s	27.56	326	eP		P	13 00 03.6	+2.2
MSU	Marysvale	27.66	328	eP		P	13 00 04.2	+2.0
CUPR	Culebra, Puert 30nm,1.2s	27.67	81	eP		P	13 00 01.8	-0.4
P17A	Butcher Ranch, 13nm,1.4s	27.72	332	eP		P	13 00 04.3	+1.5
SHPR	Sheep Range 9.9nm,1.4s	27.86	322	eP		P	13 00 06.4	+2.4
ECSD	EROS Data Cent 11nm,1.0s	27.94	356	eP		P	13 00 03.6	-0.8
ECSD	EROS Data Cent baz=175	27.94	356	P		P	13 00 03.3	-1.1
PSUT	Pine Spring 5.5nm,1.2s	28.55	326	eP		P	13 00 12.4	+2.3
MPMC	Manual Prospec baz=128	29.01	318	P		P	13 00 13.6	-0.7
CTU	Camp Tracy 4.3nm,1.0s	29.16	332	eP		P	13 00 16.0	+0.5
G38A	Ridgeland baz=184	29.36	3	P		P	13 00 14.7	-2.2
R11A	Troy Canyon, C 2.7nm,1.1s	29.36	324	eP		P	13 00 19.8	+2.4
R11A	Troy Canyon, C baz=134	29.36	324	P		P	13 00 17.4	+0.1
SPMN	Marine on St. 52nm,1.9s	29.37	2	eP		P	13 00 15.8	-1.3
SPMN	Marine on St. baz=183	29.37	2	P		P	13 00 15.5	-1.6
RSSD	Black Hills baz=160	29.48	345	P		P	13 00 19.2	+0.9
GRAC	Grapevine Rang baz=130	29.52	320	P		P	13 00 20.0	+1.4
BW06	Boulder Array baz=149	29.97	337	P		P	13 00 22.4	-0.4
PD31	Pinedale Array 7.1nm,1.4s	29.97	337	eP		P	13 00 24.3	+1.5
PDAR	Pinedale Array	29.97	337	eP		P	13 00 23.4	+0.7
PDAR	Pinedale Array 0.8nm,0.5s,baz=134,slow=8.5,SNR=7.1	29.97	337	P		P	13 00 23.7	+0.9
HVU	Hansel Valley 6.4nm,1.0s	30.49	332	eP		P	13 00 29.1	+1.9
AHID	Auburn Hatcher 11nm,1.2s	30.58	335	eP		P	13 00 30.7	+2.7
E40A	Wakefield baz=188	30.77	6	P		P	13 00 27.0	-2.5
ELK	Elko 3.6nm,1.0s	30.89	328	eP		P	13 00 33.5	+2.6
NV11	Mina Array Sit 1.2nm,1.3s	30.92	321	eP		P	13 00 33.8	+2.8
REDW	Red Top Meadow 38nm,1.4s	30.98	336	eP		P	13 00 33.1	+1.5
MDPB	Devils Postpil 7.7nm,1.2s	30.98	319	eP		P	13 00 34.3	+2.5
NV01	Mina Array Sit	31.01	321	eP		P	13 00 34.1	+2.2
NVAR	Mina Array Bea 14nm,1.1s,baz=136,slow=8.7,SNR=40	31.01	321	P		P	13 00 34.4	+2.5
NVAR	1.4nm,0.9s,baz=136,slow=5.7,SNR=4.3				PcP	PcP	13 03 26.8	+0.4
SNOW	Snow King Moun 41nm,1.4s	31.02	336	eP		P	13 00 34.4	+2.3
LOHW	Long Hollow 20nm,1.4s	31.09	336	eP		P	13 00 34.0	+1.4
TPAW	Teton Pass 24nm,1.3s	31.12	336	eP		P	13 00 34.6	+1.7
MOOW	Moose Ponds 6.5nm,1.1s	31.26	336	eP		P	13 00 35.9	+1.8
RYN	Ryan 5.1nm,1.1s	31.27	321	eP		P	13 00 37.4	+3.2
FXWY	Fox Creek 17nm,1.6s	31.28	336	eP		P	13 00 35.6	+1.4
KVN	Kaiserville 4.7nm,0.9s	31.29	322	eP		P	13 00 36.6	+2.3
IMW	Indian Meadow 4.4nm,0.8s	31.46	336	eP		P	13 00 37.5	+1.6
BMN	Battle Mountai 5.3nm,1.0s	31.72	325	eP		P	13 00 40.4	+2.3
WAKR	Walker 19nm,1.7s	31.74	320	eP		P	13 00 40.7	+2.4
H17A	Grant Village 15nm,1.7s	31.75	337	eP		P	13 00 40.9	+2.5
H17A	Grant Village baz=149	31.75	337	P		P	13 00 38.2	-0.2
LKWY	Lake 10nm,1.2s	31.83	338	eP		P	13 00 41.6	+2.5
YFT	Old Faithful 16nm,1.4s	31.89	337	eP		P	13 00 42.7	+3.0
RLMT	Red Lodge 4nm,1.4s	31.91	340	eP		P	13 00 40.8	+1.0
RLMT	Red Lodge baz=152,SNR=6.9	31.91	340	P		P	13 00 39.3	-0.5
YERR	Yerington 4.6nm,1.0s	31.92	321	eP		P	13 00 39.0	-0.9
CMB	Columbia Colle 2.3nm,0.9s	32.05	319	eP		P	13 00 42.6	+1.7
YNR	Norris Junctio 7.7nm,0.9s	32.06	337	eP		P	13 00 42.9	+1.8
YMR	Madison River 12nm,1.0s	32.13	337	eP		P	13 00 44.0	+2.4
YHH	Holmes Hill 10.0nm,1.3s	32.19	337	eP		P	13 00 44.0	+1.8
MDND	Maddock baz=170	32.29	353	P		P	13 00 40.9	-1.9
LAO	LASA Array 7.8nm,1.0s	32.42	344	eP		P	13 00 45.1	+1.0
QLMT	Earthquake Lak	32.44	337	eP		P	13 00 46.2	+1.8
AGMN	Agassiz Nation 4.9nm,0.6s	32.46	358	eP		P	13 00 42.8	-1.4
AGMN	Agassiz Nation baz=177	32.46	358	P		P	13 00 42.6	-1.7
PAHR	Pah Rah Range 3.4nm,1.0s	32.47	322	eP		P	13 00 47.1	+2.5
HLID	Hailey 6.4nm,1.1s	32.64	332	eP		P	13 00 48.2	+2.0
HLID	Hailey baz=142,SNR=7.1	32.64	332	P		P	13 00 47.1	+1.0
MCMT	McKenzie Canyo	32.99	335	eP		P	13 00 51.6	+2.3
BEKR	Beckworth 9.2nm,1.4s	33.15	322	eP		P	13 00 53.3	+2.6
BOZ	Bozeman (W) 5.8nm,1.1s	33.16	337	eP		P	13 00 52.8	+2.2
BOZ	Bozeman (W) baz=148	33.16	337	P		P	13 00 51.6	+0.9
DLMT	Dillon 27nm,1.3s	33.34	336	eP		P	13 00 54.2	+2.0
DGMT	Dagmar baz=162	33.63	348	P		P	13 00 55.0	+0.5
LRM	Limekiln Ridge	33.66	337	eP		P	13 00 57.1	+2.0
WVOR	Wild Horse Val 7.6nm,1.2s	33.88	327	eP		P	13 00 58.3	+1.4
HRY	Holter Researc	34.19	338	eP		P	13 00 57.5	-2.0
O03E	Paynes Creek baz=128	34.29	321	P		P	13 00 59.4	-1.0
ULM	Lac du Bonnet 29nm,1.9s	34.41	358	eP		P	13 00 58.8	-2.4
ULM	Lac du Bonnet 2.8nm,0.5s,baz=165,slow=9.6,SNR=7.0	34.41	358	P		P	13 00 58.5	-2.7
ULM	2.8nm,0.9s,baz=201,slow=6.2,SNR=3.4				PcP	PcP	13 03 34.8	-0.5
J08A	Circle Bar Ran 19nm,1.4s	34.45	328	eP		P	13 01 03.6	+1.9
EGMT	Eagleton baz=153	34.64	341	P		P	13 01 03.8	+0.5
MSO	Missoula 17nm,1.4s	35.07	336	eP		P	13 01 08.8	+1.7
MSO	Missoula baz=146,SNR=5.2	35.07	336	P		P	13 01 07.9	+0.8
M04C	Macdoel baz=129	35.23	323	P		P	13 01 08.6	0.0
F10A	Beach Ranch, E 9.8nm,0.8s	35.78	332	eP		P	13 01 13.6	+0.4
NEW	Newport baz=142	37.51	335	P		P	13 01 27.3	-0.5
FFC	Flin Flon 27nm,1.8s	39.34	353	eP		P	13 01 41.9	-1.1
LPAZ	La Paz	40.91	140	eP		P	13 01 56.1	-1.0
LPAZ	La Paz 1.0nm,0.4s,baz=314,slow=6.9,SNR=4.4	40.91	140	P		P	13 01 56.4	-0.7
LLLB	Lillooet 13nm,1.4s	41.31	333	eP		P	13 02 00.6	+1.3
MNMC	Minye Minye 26nm,1.1s	42.26	144	eP		P	13 02 07.7	-0.1
GO01	Chusmiza 18nm,1.3s	42.92	144	eP		P	13 02 13.7	+0.4
YKA	Yellowknife Ar 3.4nm,0.6s,baz=153,slow=7.3,SNR=108	48.84	348	P		P	13 02 58.2	-0.5
YKA	1.0nm,0.5s,baz=149,slow=8.0,SNR=4.0				pP	pP	13 03 16.2	-0.8
YKB5	Yellowknife Ar	48.84	348	eP		P	13 02 58.0	-0.8
YKW3	Yellowknife Ar 8.8nm,1.1s	48.90	348	eP		P	13 02 59.4	+0.1
BDFB	Brasilia 2.9nm,0.5s,baz=300,slow=6.6,SNR=5.7	55.20	122	P		P	13 03 45.5	-1.3
RKT	Rikitea 3.1nm,0.3s	55.60	227	eT		T	14 03 04.2	
NRS	Narsarsuaq 86nm,0.9s	57.01	26	eP		P	13 03 59.9	+1.0
EPYK	Eagle Plains baz=130	57.79	341	P		P	13 04 03.3	-1.2
INK	Inuvik 36nm,1.4s	58.16	344	eP		P	13 04 06.5	-0.4
PLCA	Paso Flores 2.7nm,0.8s,baz=7.3,slow=7.6,SNR=7.6	60.34	160	P		P	13 04 21.8	-0.5
PLCA	3.0nm,1.1s,baz=299,slow=3.7,SNR=3.2				pP	pP	13 04 41.0	-0.1
IL1	Eielson Array	60.40	337	eP		P	13 04 22.4	-0.1
ILAR	Eielson Array 1.2nm,0.9s,baz=139,slow=5.7,SNR=13	60.40	337	P		P	13 04 22.2	-0.2
ILAR	1.1nm,0.5s,baz=141,slow=4.9,SNR=7.7				pP	pP	13 04 41.8	+0.6
ILB	Eielson Array 13nm,1.5s	60.40	337	eP		P	13 04 23.1	+0.6
TOLK	Toolik Lake Re baz=117	63.16	340	P		P	13 04 39.3	-1.7
PPT2	Papeete2 comp=Z,487nm,26.2s	63.93	241	eLR		LR	13 23 37.0	
TBI	Tubuai comp=Z,557nm,28.2s	66.63	235	eLR		LR	13 24 10.6	
NB2	NORSAR Subarra comp=Z,1.1nm,0.8s,baz=293,slow=5.3	83.56	28	P		P	13 06 41.1	+0.1
NOA	NORSAR Array B comp=Z,3.5nm,1.0s,baz=291,slow=5.1,SNR=7.4	83.56	28	P		P	13 06 41.0	+0.1
NOA	comp=Z,1.1nm,0.9s,baz=292,slow=4.9,SNR=2.5				pP	pP	13 07 01.3	+0.7
ARA0	ARCESS Array S	85.09	18	eP		P	13 06 49.3	+0.7
ARCES	ARCESS Array B comp=Z,2.0nm,0.7s,baz=287,slow=5.6,SNR=8.3	85.09	18	P		P	13 06 49.3	+0.7
ARCES	comp=Z,4.3nm,0.9s,baz=308,slow=4.6,SNR=2.8				pP	pP	13 07 08.1	-0.2
FIA0	FINESS Array S	89.75	25	eP		P	13 07 11.4	+0.3
FINES	FINESS Array B comp=Z,0.6nm,0.6s,baz=316,slow=8.0,SNR=3.5	89.75	25	P		P	13 07 11.4	+0.3
WRA	Warramunga Arr comp=Z,0.5nm,0.4s,baz=12,slow=0.9,SNR=25	133.81	257	PKP		PKPdf	13 13 29.7	-0.8
WRA	comp=Z,0.5nm,0.5s,baz=85,slow=2.7,SNR=3.2				pPKP	pPKPdf	13 13 52.2	+1.1
ASAR	Alice Springs comp=Z,0.7nm,0.7s,baz=85,slow=2.5,SNR=7.0	134.29	252	PKP		PKPdf	13 13 31.1	-0.2
ASAR	comp=Z,0.4nm,0.8s,baz=78,slow=2.1,SNR=2.6				pPKP	pPKPdf	13 13 52.3	+0.4

*ISCJB **26** 13:04:46.2±0.9, 16°.25N±0°.02×98°.13W±0°.01, h3km±5km, mb5.4/442, MS5.0/327, Error ellipse: s-maj=3.4km s-min=2.0km az=27.1*

*IDC **26** 13:04:46.8±0.5, 16°.14N×98°.15W, h0km, mb5.0/30, mb1 5.1/32, mb1mx5.0/41, mbtmp4.9/32, ML4.1/2, MS4.7/27, Ms1 4.7/27, ms1mx4.6/42, Error ellipse: s-maj=18.1km s-min=10.8km az=59.0*

*MEX **26** 13:04:47.0±0.6, 15°.86N×98°.43W, h5km±6km, MD5.5*

*NEIC **26** 13:04:48.1±0.1, 16°.18N×98°.15W, h10km, mb5.5/298, MS5.0/278, MW5.4, MW5.5, MD5.4(MEX), Error ellipse: s-maj=2.6km s-min=1.6km az=209.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$-0.46; $M_{r\theta}$0.22; $M_{\theta\phi}$0.72; $M_{\phi r}$-0.75; Best double couple: $M_0$1.5000×10^{17} NP1:ϕs147.00000°, δ61.00000°, λ109.00000°. NP2:ϕs292.00000°, δ34.00000°, λ60.00000°. Principal axes: T 1.4700, Plg68.0000°, Azm94.0000°; N 0.0200, Plg16.0000°, Azm318.0000°; P -1.4900, Plg14.0000°, Azm224.0000°;*

NEIC Felt [III] at Oaxaca and [II] at Mexico. Also felt at Acatzingo, Huajuapan, Naucalpan, Pinotepa Nacional and Puerto Escondido.

*NEIC **26** 13:04:48.0±0.0, 16°.15N×98°.16W, h17km, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}0.95; $M_{\theta\theta}$-0.91; $M_{\phi\phi}$-0.04; $M_{r\theta}$1.81; $M_{\theta\phi}$0.38; $M_{\phi r}$-0.72; Best double couple: $M_0$2.20000×10^{17} NP1:ϕs111.00000°, δ76.00000°, λ90.00000°. NP2:ϕs289.00000°, δ13.00000°, λ88.00000°. Principal axes: T 2.1400, Plg58.0000°, Azm22.0000°; N 0.1000, Plg0.0000°, Azm291.0000°; P -2.2400, Plg31.0000°, Azm201.0000°;*

*MOS **26** 13:04:49.4±0.9, 16°.25N×98°.16W, h25km, mb5.6/104, MS4.9/41 Error ellipse: s-maj=6.3km s-min=3.6km az=93.7*

*GCMT **26** 13:04:52.1±0.2, 16°.28N±0°.01×98°.22W±0°.01, h12km, MW5.4/105, Moment Tensor Solution. s100,c168; s105,c200; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.82±.02; $M_{\theta\theta}$-0.77±.01; $M_{\phi\phi}$-0.05±.01; $M_{r\theta}$0.87±.05; $M_{\theta\phi}$0.26±.01; $M_{\phi r}$-0.73±.05; Best double couple: $M_0$1.41300×10^{17} NP1:ϕs125.00000°, δ72.00000°, λ101.00000°. NP2:ϕs273.00000°, δ21.00000°, λ59.00000°. Principal axes: T 1.4370, Plg61.0000°, Azm51.0000°; N -0.0470, Plg10.0000°, Azm302.0000°; P -1.3900, Plg27.0000°, Azm207.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 13:04:46.1±0.9, 16°.01N±0°.04×98°.38W±0°.03, h2km±5km, n1609, σ1°.48/1565, mb5.5/458, MS5.0/327, 32C-8D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLIG	Tlapa	1.56	353	eP	n		Pn	13 05 13.6	-1.4
TLIG				eS	n		Sn	13 05 32.7	-3.1
TLIG	Tlapa	1.56	353	eP			Pn	13 05 13.4	-1.5
TLIG				i S			Sn	13 05 35.4	-0.4
VHO	Vista Hermosa	1.90	56	eP			Pn	13 05 18.6	-1.0
VHO				i S			Sn	13 05 43.8	-0.5
VHO	Vista Hermosa	1.90	56	eP			Pn	13 05 18.6	-1.0
VHO				i S			Sn	13 05 43.8	-0.5
CAIG	El Cayaco	2.09	300	eP			Pn	13 05 20.0	-2.1
CAIG				i S			Sn	13 05 45.0	-3.6
CAIG	El Cayaco	2.09	300	eP			Pn	13 05 20.0	-2.1
CAIG				i S			Sn	13 05 45.0	-3.6
HUIG	Huatulco	2.19	96	eP			Pn	13 05 21.6	-2.0
HUIG				eS			Sn	13 05 48.1	-3.2

HUIG	Huatulco	2.19	96	eP		Pn	13 05 21.6	-2.0		
HUIG				eS		Sn	13 05 48.1	-3.2		
TPIG	Tehuac#an	2.59	22	eP		Pn	13 05 28.8	-0.3		
TPIG				eS		Sn	13 06 02.2	+0.9		
TPIG	Tehuac#an	2.59	22	eP		Pn	13 05 28.8	-0.3		
TPIG				eS		Sn	13 06 02.2	+0.9		
PLIG	Platanillo	2.61	336	eP		Pn	13 05 29.0	-0.3		
PLIG				i S		Sn	13 06 00.3	-1.3		
PLIG	Platanillo	2.61	336	eP		Pn	13 05 29.0	-0.3		
PLIG				i S		Sn	13 06 00.3	-1.3		
YAIG	Yautepec	2.92	347	eP		Pn	13 05 33.6	0.0		
YAIG				i S		Sn	13 06 09.2	-0.1		
YAIG	Yautepec	2.92	347	eP		Pn	13 05 33.6	0.0		
YAIG				i S		Sn	13 06 09.2	-0.1		
ARIG	Puente Sto Nin	2.94	320	eP		Pn	13 05 33.2	-0.7		
ARIG				i S		Sn	13 06 08.2	-1.6		
ARIG	Puente Sto Nin	2.94	320	eP		Pn	13 05 33.2	-0.7		
ARIG				i S		Sn	13 06 08.2	-1.6		
PPM	Popocatepetl	3.05	356	eP		Pn	13 05 36.1	+0.2		
PPM				i S		Sn	13 06 13.4	+0.2		
PPM	Popocatepetl	3.05	356	eP		Pn	13 05 36.1	+0.2		
PPM				i S		Sn	13 06 13.4	+0.2		
PPM	Popocatepetl	3.05	356	eP		Pn	13 05 36.1	+0.2		
PPM				i S		Sn	13 06 13.4	+0.2		
ZIIG	Zihuatanejo	3.36	299	eP		Pn	13 05 38.0	-1.6		
ZIIG				i S		Sn	13 06 16.8	-3.3		
ZIIG	Zihuatanejo	3.36	299	eP		Pn	13 05 38.0	-1.6		
ZIIG				i S		Sn	13 06 16.8	-3.3		
UNM	Universidad Na	3.39	347	ePn		Pn	13 05 40.8	+0.5		
UNM				i S		Sn	13 06 20.8	-0.5		
UNM	Universidad Na	3.39	347	i P		Pn	13 05 39.7	-0.6		
UNM				i S		Sn	13 06 20.8	-0.5		
UNM	Universidad Na	3.39	347	eP		Pn	13 05 40.8	+0.5		
UNM				i S		Sn	13 06 20.8	-0.5		
CMIG	Matias Romero	3.52	72	eP		Pn	13 05 41.0	-0.7		
CMIG				i S		Sn	13 06 22.9	-1.1		
CMIG	Matias Romero	3.52	72	Pn		Pn	13 05 40.5	-1.3		
	66nm,0.3s,baz=255,slow=11,SNR=607									
CMIG				Sn		Sn	13 06 22.6	-1.4		
	335nm,0.3s,baz=239,slow=13,SNR=5.1									
CMIG				Lg		Lg	13 06 40.2			
	794nm,0.3s,baz=256,slow=21,SNR=6.4									
LVIG	Laguna Verde	4.14	26	ePn		Pn	13 05 47.2	-3.2		
DEIG	Demacu	4.32	352	eP		Pn	13 05 52.3	-0.7		
DEIG				i S		Sn	13 06 43.5	-0.6		
DEIG	Demacu	4.32	352	eP		Pn	13 05 52.3	-0.7		
DEIG				i S		Sn	13 06 43.5	-0.6		
MOIG	Morelia	4.53	324	ePn		Pn	13 05 57.0	+1.1		
MOIG				i S		Sn	13 06 48.7	-0.6		
MOIG	Morelia	4.53	324	i P		Pn	13 05 55.9	0.0		
MOIG				i S		Sn	13 06 48.7	-0.6		
PCIG		4.97	93	eP		Pn	13 06 01.2	-0.5		
PCIG				i S		Sn	13 06 57.9	-1.9		
PCIG		4.97	93	eP		Pn	13 06 01.2	-0.5		
PCIG				i S		Sn	13 06 57.9	-1.9		
MMIG	Aquila	5.26	296	i P		Pn	13 06 05.0	-0.8		
MMIG				eS		Sn	13 07 04.5	-2.6		
MMIG	Aquila	5.26	296	i P		Pn	13 06 05.0	-0.8		
MMIG				eS		Sn	13 07 04.5	-2.6		
IGIG	Irapuato, Guan	5.49	330	i P		Pn	13 06 09.0	-0.1		
IGIG				i S		Sn	13 07 11.4	-1.5		
IGIG	Irapuato, Guan	5.49	330	i P		Pn	13 06 09.0	-0.1		
IGIG				i S		Sn	13 07 11.4	-1.5		
CCIG	Comitan	6.00	87	ePn		Pn	13 06 16.3	+0.2		
CJM	Chamela	7.24	300	i P		Pn	13 06 30.6	-2.3		
CJM	Chamela	7.24	300	i P		Pn	13 06 30.6	-2.3		
APG	El Apazote	7.69	96	Pn		Pn	13 06 40.3	+0.9		
	3.8nm,0.3s,baz=320,slow=13,SNR=23									
ZAIG	Zacatecas	7.80	330	ePn		Pn	13 06 42.5	+1.5		
ZAIG	Zacatecas	7.80	330	eP		Pn	13 06 43.5	+2.5		
LNIG	Linares	8.91	354	ePn		Pn	13 06 55.0	-0.8		
MYIG	Mrida	9.56	58	ePn		Pn	13 07 03.4	-1.4		
MYIG	Mrida	9.56	58	eP		Pn	13 07 06.7	+1.9		
CSGN	Cosiguina Volc	10.90	105	ePn		Pn	13 07 25.3	+2.1		
TGUH	Tegucigalpa,Un	10.90	99	ePn		Pn	13 07 22.8	-0.4		
KVTX	Kingsville	11.49	2	ePn		Pn	13 07 31.1	-0.1		
H06E1	SOCORRO T-PHAS	12.29	285	T		T	13 20 01.5			
	SNR=3.8									
833A	Chaparral WMA,	12.30	356	ePn		Pn	13 07 43.0	+0.8		
833A	Chaparral WMA,	12.30	356	P		Pn	13 07 42.4	+0.1		
	baz=174,SNR=39									
H06S1	SOCORRO T	12.31	285	T		T	13 20 03.8			
	SNR=13									
H06N1	SOCORRO T-PHAS	12.37	285	T		T	13 20 09.2			
	SNR=3.8									
HPIG		12.81	329	ePn		Pn	13 07 51.1	+1.6		
LPIG	La Paz	13.80	308	Pn		P	13 08 08.0	-3.4		
LPIG	La Paz	13.80	308	Pn		P	13 08 08.0	-3.4		
	baz=2.5,slow=9.3,SNR=7.3									
HKT	Hockley	14.08	9	ePn		Pn	13 08 05.2	-1.3		
HKT	Hockley	14.08	9	eP		Pn	13 08 05.2	-1.3		
TXAR	Lajitas Array	14.13	341	Pn		Pn	13 08 08.9	+1.4		
	0.1nm,0.3s,baz=160,slow=13,SNR=62									
TXAR				Lg		Lg	13 12 15.9			
	0.1nm,0.3s,baz=159,slow=38,SNR=2.4									
TXAR				LR		LR	13 14 13.9			
	comp=Z,5µm,21.0s,baz=0.0,slow=40									
TX31	Lajitas Ar. Si	14.13	341	ePn		Pn	13 08 08.2	+0.7		
ESPN	Las Esperanzas	14.17	104	ePn		Pn	13 08 08.8	+1.0		
JTS	JuntasAbangare	14.25	112	ePn		Pn	13 08 10.8	+1.8		
JTS	JuntasAbangare	14.25	112	Pn		Pn	13 08 11.6	+2.6		
	7.5nm,0.3s,baz=2.2,slow=7.7,SNR=36									
JCT	Junction City	14.47	355	ePn		Pn	13 08 11.0	-1.0		
JCT	Junction City	14.47	355	eP		Pn	13 08 11.0	-1.0		
JCT	Junction City	14.47	355	P		Pn	13 08 11.1	-0.8		
	baz=174,SNR=30									
435B	Jarrell	14.73	3	ePn		Pn	13 08 14.6	-0.9		
435B	Jarrell	14.73	3	P		Pn	13 08 13.9	-1.6		
	baz=182,SNR=14									
HDC	Heredia	15.12	112	ePn		P	13 08 23.8	-2.6		
	1µm,1.5s									
WHTX	Lake Whitney,	15.94	3	ePn		Pn	13 08 29.4	-2.0		
	326nm,0.9s									
WHTX	Lake Whitney,	15.94	3	P		Pn	13 08 29.9	-1.5		
	baz=182,SNR=65									
NATX	Nacogdoches	16.05	12	ePn		Pn	13 08 31.0	-1.8		
	257nm,1.0s									
NATX	Nacogdoches	16.05	12	P		Pn	13 08 29.1	-3.7		
	baz=192,SNR=10									
ABTX	Abilene, Hawle	16.59	356	ePn		Pn	13 08 38.3	-1.5		
	608nm,1.0s									
ABTX	Abilene, Hawle	16.59	356	P		Pn	13 08 38.4	-1.5		
	baz=175,SNR=138									
FSCY	Frank Sound, G	16.71	76	ePn		Pn	13 08 39.3	-2.2		
	755nm,1.4s									
MNTX	Cornudas Mount	16.88	339	ePn		Pn	13 08 43.1	-0.4		
	146nm,1.3s									
MNTX	Cornudas Mount	16.88	339	P		Pn	13 08 43.6	+0.1		
	baz=155,SNR=114									
MNTX				S		Sn	13 11 55.9	+4.3		
	baz=155									
CLNB	Carlsbad	16.94	344	ePn		Pn	13 08 44.6	+0.2		
GDL2	Guadalupe Moun	17.02	342	ePn		Pn	13 08 45.8	+0.4		
SRIG	Santa Rosalia	17.09	314	ePn		Pn	13 08 47.1	+0.9		
	76nm,1.3s									
HSIG		17.38	320	ePn		P	13 08 50.5	-0.7		
	135nm,1.2s									
VBMS	Vicksburg	17.65	22	ePn		Pn	13 08 50.0	-3.2		
	405nm,0.9s									
VBMS	Vicksburg	17.65	22	P		Pn	13 08 49.6	-3.6		
	baz=205,SNR=17									
CPRX	Cap Rock	17.67	345	ePn		Pn	13 08 51.1	-2.4		
448A	Bay Minette	17.70	31	P		Pn	13 08 50.6	-3.2		
	baz=215									
449A	Pace	17.89	33	P		Pn	13 08 52.9	-3.2		
	baz=217									
Z41A	Richland Creek	17.90	15	ePn		Pn	13 08 53.6	-2.6		
	492nm,1.2s									
Z41A	Richland Creek	17.90	15	P		Pn	13 08 53.1	-3.1		
	baz=197,SNR=8.6									
WLAR	White Oak Lake	18.24	14	ePn		Pn	13 08 58.3	-2.0		
	426nm,1.3s									
319A	Douglas	18.25	329	ePn		P	13 09 00.9	0.0		
	175nm,0.9s									
450A	Crestview	18.25	34	P		Pn	13 08 57.0	-3.7		
	baz=218									
BRAL	Brewton	18.30	32	ePn		Pn	13 08 59.7	-1.4		
	337nm,1.1s									
BRAL	Brewton	18.30	32	P		Pn	13 08 58.2	-2.9		
	baz=217									
MSTX	Muleshoe	18.32	348	ePn		Pn	13 08 58.7	-2.8		
	354nm,1.2s									
MSTX	Muleshoe	18.32	348	P		Pn	13 09 00.7	-0.8		
	baz=166,SNR=53									
349A	Repton	18.37	32	P		Pn	13 08 59.2	-2.8		
	baz=216,SNR=10									
PAYG	Puerto Ayora	18.40	154	eP		P	13 09 06.2	+3.7		
	132nm,1.4s									
062Z	Marathon	18.40	59	P		Pn	13 08 59.3	-3.2		
	baz=245									
552A	Lynn Haven	18.48	38	P		P	13 09 00.3	-3.1		
	baz=223									
121A	Cookes Peak, D	18.54	334	P		Pn	13 09 05.9	+1.6		
	baz=150,SNR=103									
451A	Vernon	18.58	36	ePn		P	13 09 02.1	-2.3		
	281nm,1.1s									
451A	Vernon	18.58	36	P		P	13 09 01.5	-2.8		
	baz=221									
WMOK	Wichita Mounta	18.66	359	eP		P	13 09 03.5	-1.8		
	146nm,1.4s									
WMOK	Wichita Mounta	18.66	359	eP		P	13 09 03.5	-1.8		
WMOK				pmax		pmax				
	comp=Z,146nm,1.4s									
WMOK	Wichita Mounta	18.66	359	P		P	13 09 03.6	-1.8		
	baz=178,SNR=42									
X37A	Clayton	18.70	8	eP		P	13 09 05.1	-0.7		
	comp=Z,471nm,1.4s									
CCAR	Cane Creek	18.80	17	eP		P	13 09 05.3	-1.5		
	comp=Z,553nm,1.5s									
059Z	Ave Maria	18.82	54	P		P	13 09 03.6	-3.5		
	baz=240									
350A	Dozier	18.87	33	P		P	13 09 05.1	-2.5		
	baz=218,SNR=5.2									
249A	Camden	18.91	31	P		P	13 09 07.6	-0.4		
	baz=215,SNR=16									
058A	Arcadia	18.91	52	P		P	13 09 05.2	-2.9		
	baz=238									
957A	Wimauma	18.93	49	P		P	13 09 04.0	-4.3		
	baz=235									
147A	Livingston	18.96	27	eP		P	13 09 06.3	-2.3		
	comp=Z,795nm,1.6s									
147A	Livingston	18.96	27	P		P	13 09 06.7	-1.9		
	baz=211,SNR=23									
MIAR	Mount Ida	18.96	12	eP		P	13 09 06.1	-2.5		
	comp=Z,126nm,0.8s									
MIAR	Mount Ida	18.96	12	eP		P	13 09 06.1	-2.5		
MIAR				pmax		pmax				
	comp=Z,126nm,0.8s									
MIAR	Mount Ida	18.96	12	P		P	13 09 06.7	-1.9		
	baz=194,SNR=48									
061Z	Ochoppi	19.02	56	P		P	13 09 06.9	-2.4		
	baz=242									
AMTX	Amarillo	19.03	352	eP		P	13 09 08.4	-1.1		
	comp=Z,178nm,0.9s									
AMTX	Amarillo	19.03	352	P		P	13 09 09.4	-0.1		
	baz=170									
553A	Crawfordville	19.05	40	P		P	13 09 06.7	-2.9		
	baz=225									
X40A	Basin Creek Fa	19.07	14	eP		P	13 09 07.3	-2.5		
	comp=Z,74nm,1.0s									
X40A	Basin Creek Fa	19.07	14	P		P	13 09 08.1	-1.7		
	baz=196,SNR=8.8									
452A	Marianna	19.07	37	P		P	13 09 07.9	-1.9		
	baz=222									
351A	Pinckard	19.16	35	P		P	13 09 08.5	-2.2		
	baz=220,SNR=6.2									
958A	Wauchula	19.24	50	P		P	13 09 09.6	-2.0		
	baz=236									
857A	Zephyrhills	19.28	48	P		P	13 09 09.1	-3.0		
	baz=234									
BCIP	Isla Barro Col	19.32	108	eP		P	13 09 13.0	+0.3		
	comp=Z,568nm,1.6s									
BCIP	Isla Barro Col	19.32	108	eP		P	13 09 13.0	+0.3		
BCIP				pmax		pmax				
	comp=Z,568nm,1.6s									
655A	Horseshoe Beac	19.34	43	P		P	13 09 10.6	-2.2		
	baz=229									
250A	Grady	19.34	33	eP		P	13 09 10.1	-2.7		
	comp=Z,196nm,1.1s									
250A	Grady	19.34	33	P		P	13 09 10.2	-2.7		
	baz=217,SNR=8.3									
059A	Moore Haven	19.37	53	P		P	13 09 09.3	-3.9		
	baz=239									
554A	Perry	19.44	41	P		P	13 09 11.7	-2.2		
	baz=227									
UALR	University of	19.46	15	eP		P	13 09 12.5	-1.5		
	comp=Z,104nm,0.9s									
BNM	Baen Site	19.54	339	eP		P	13 09 15.6	+0.4		
W39A	Magazine	19.55	11	eP		P	13 09 13.0	-2.1		
	comp=Z,503nm,1.6s									
W39A	Magazine	19.55	11	P		P	13 09 14.3	-0.8		
	baz=193,SNR=41									
060Z	West Palm Beac	19.55	55	P		P	13 09 12.1	-3.1		
	baz=242									
Y22D	IRIS PASSCAL I	19.57	338	eP		P	13 09 15.0	-0.4		
	comp=Z,201nm,1.0s									
Y22D	IRIS PASSCAL I	19.57	338	P		Pn	13 09 17.0	+0.4		
	baz=154									
149A	Jones	19.58	30	P		P	13 09 13.6	-1.8		
	baz=215									
453A	Whigham	19.59	39	eP		P	13 09 13.1	-2.4		
	comp=Z,203nm,1.0s									
453A	Whigham	19.59	39	P		P	13 09 14.1	-1.4		
	baz=224,SNR=7.0									
X43A	Marvell	19.63	19	eP		P	13 09 14.5	-1.4		
	comp=Z,252nm,0.8s									
X43A	Marvell	19.63	19	P		P	13 09 15.7	-0.2		
	baz=201									
LENM	Lemitar	19.67	338	eP		Pn	13 09 18.0	+0.1		
LPM	Los Pinos Moun	19.68	339	eP		P	13 09 16.2	-0.5		
352A	Blakely	19.69	36	eP		P	13 09 14.7	-1.9		
	comp=Z,151nm,0.8s									
352A	Blakely	19.69	36	P		P	13 09 15.1	-1.4		
	baz=221,SNR=8.7									
656A	Willston	19.73	45	eP		P	13 09 14.7	-2.3		
	comp=Z,165nm,0.9s									
656A	Willston	19.73	45	P		P	13 09 14.8	-2.3		
	baz=231									
TUC	Tucson	19.76	327	eP		Pn	13 09 18.8	-0.2		
	comp=Z,62nm,1.0s									
TUC	Tucson	19.76	327	eP		Pn	13 09 18.8	-0.2		
TUC				pmax		pmax				
	comp=Z,62nm,1.0s									
TUC	Tucson	19.76	327	P		Pn	13 09 19.7	+0.8		
	baz=142									
DWPF	Disney Wildern	19.76	50	eP		P	13 09 15.8	-1.6		
	comp=Z,148nm,1.0s									
DWPF	Disney Wildern	19.76	50	P		P	13 09 15.5	-1.9		
	baz=236									
DWPF	Disney Wildern	19.76	50	eP		P	13 09 15.4	-2.0		
757A	Oxford	19.79	47	P		P	13 09 15.1	-2.7		
	baz=233									
LRAL	Lakeview Retre	19.84	29	eP		P	13 09 16.6	-1.6		
	comp=Z,122nm,0.9s									
LRAL	Lakeview Retre	19.84	29	P		P	13 09 16.8	-1.4		
	baz=214,SNR=33									
959A	Okeechobee	19.86	52	P		P	13 09 16.6	-1.9		
	baz=238									
W41B	Gary Mavity, V	19.86	15	eP		P	13 09 16.9	-1.5		
	comp=Z,72nm,0.8s									
W41B	Gary Mavity, V	19.86	15	P		P	13 09 16.7	-1.8		
	baz=197,SNR=15									
858A	St. Cloud	19.87	49	P		P	13 09 16.7	-1.9		
	baz=236									
251A	Midway	19.89	34	P		P	13 09 16.8	-2.0		
	baz=219,SNR=26									
454A	Quitman	19.91	40	P		P	13 09 16.8	-2.2		
	baz=226,SNR=5.3									
555A	McAlpin	19.93	42	eP		P	13 09 17.2	-2.0		
	comp=Z,316nm,0.8s									
555A	McAlpin	19.93	42	P		P	13 09 17.5	-1.7		
	baz=228,SNR=5.9									
LAZ	Ladron	19.94	338	eP		Pn	13 09 21.9	+0.7		
TUL1	Leonard	19.96	6	eP		P	13 09 18.1	-1.4		
	comp=Z,331nm,1.1s									
TUL1	Leonard	19.96	6	P		P	13 09 18.1	-1.4		
	baz=187,SNR=18									
WHAR	Wooly Hollow	19.96	15	eP		P	13 09 18.4	-1.2		
	comp=Z,270nm,1.3s									
150A	Eclectic	19.97	32	P		P	13 09 18.3	-1.3		
	baz=217,SNR=33									
353A	Camilla	20.00	38	P		P	13 09 18.3	-1.7		
	baz=223,SNR=7.7									
060A	Indiantown	20.01	54	eP		P	13 09 18.5	-1.6		
	comp=Z,366nm,0.9s									
060A	Indiantown	20.01	54	P		P	13 09 19.4	-0.7		
	baz=240									
MTDJ	Mount Denham	20.04	81	eP		P	13 09 20.0	-0.7		
	comp=Z,388nm,1.0s									
OXF	Oxford	20.11	22	eP		P	13 09 19.6	-1.6		
	comp=Z,299nm,1.0s									
OXF	Oxford	20.11	22	eP		P	13 09 19.6	-1.6		
OXF				pmax		pmax				
	comp=Z,299nm,1.0s									
OXF	Oxford	20.11	22	P		P	13 09 19.6	-1.6		
	baz=205,SNR=27									
859A	Kempfer Cattle	20.13	50	P		P	13 09 19.8	-1.7		
	baz=237									
252A	Lumpkin	20.18	36	P		P	13 09 20.3	-1.6		
	baz=221,SNR=17									
Z49A	Columbiana	20.19	30	P		P	13 09 21.1	-0.9		
	baz=214,SNR=61									
ANMO	Albuquerque	20.21	340	eP		Pn	13 09 23.6	-0.7		
	comp=Z,193nm,1.1s									
ANMO				Lg		Lg	13 15 33.3			
ANMO	Albuquerque	20.21	340	*c iP*		P	13 09 23.3	+0.9		
ANMO				pmax		pmax				
	comp=Z,219nm,1.3s									
ANMO	Albuquerque	20.21	340	P		Pn	13 09 24.1	-0.2		
	comp=Z,106nm,0.9s,baz=151,slow=12,SNR=166									
ANMO				Lg		Lg	13 15 33.3			
	comp=Z,7.8nm,1.2s,baz=230,slow=19,SNR=7.4									
ANMO				LR		LR	13 17 49.9			
	comp=Z,10µm,18.4s,baz=154,slow=39									
TASM	ASL Pad, Albuq	20.21	340	P		Pn	13 09 23.9	-0.4		
	baz=156,SNR=232									
TASM	ASL Pad, Albuq	20.21	340	P		Pn	13 09 24.0	-0.3		
	baz=156,SNR=218									
556A	Lake Butler	20.22	44	P		P	13 09 20.2	-2.1		
	baz=230,SNR=10.0									
151A	Opelika	20.27	33	P		P	13 09 21.9	-1.0		
	baz=218,SNR=71									
455A	Stateville	20.30	41	P		P	13 09 21.6	-1.8		
	baz=227,SNR=12									
657A	Interlachen	20.32	45	P		P	13 09 21.0	-2.5		
	baz=232,SNR=6.2									
758A	Lake Helen	20.42	48	P		P	13 09 22.8	-1.7		
	baz=234									
TIGA	Tifton	20.44	39	eP		P	13 09 22.4	-2.4		
	comp=Z,310nm,1.0s									
TIGA	Tifton	20.44	39	P		P	13 09 23.4	-1.4		
	baz=224									
X46A	Booneville	20.46	24	P		P	13 09 24.0	-0.9		
	baz=207,SNR=16									
Y48A	Jasper	20.49	27	P		P	13 09 24.4	-1.0		
	baz=212,SNR=24									
Z50A	Ashland	20.54	31	eP		P	13 09 24.6	-1.3		
	comp=Z,167nm,0.8s									
Z50A	Ashland	20.54	31	P		P	13 09 25.4	-0.4		
	baz=216,SNR=49									
253A	Americus	20.57	36	eP		P	13 09 24.6	-1.7		
	comp=Z,196nm,0.9s									
253A	Americus	20.57	36	P		P	13 09 24.3	-1.9		
	baz=222									
HHAR	Hobbs	20.58	10	eP		P	13 09 23.8	-2.5		
	comp=Z,181nm,1.0s									
214A	Organ Pipe Nat	20.61	323	P		Pn	13 09 29.0	+0.1		
	baz=196,SNR=79									
658A	Bunnell	20.64	47	eP		P	13 09 23.6	-3.4		
	comp=Z,1µm,1.8s									
658A	Bunnell	20.64	47	P		P	13 09 24.6	-2.4		
	baz=233									
557A	Orange Park	20.68	45	P		P	13 09 25.8	-1.6		
	baz=231									
152A	Waverly Hall	20.70	34	eP		P	13 09 24.2	-3.4		
	comp=Z,71nm,1.1s									
152A	Waverly Hall	20.70	34	P		P	13 09 26.6	-1.0		
	baz=220,SNR=23									
X47A	Russelville	20.72	25	P		P	13 09 26.4	-1.3		
	baz=209,SNR=47									
Y49A	Blount Mountai	20.79	29	eP		P	13 09 26.6	-2.0		
	comp=Z,241nm,1.2s									
Y49A	Blount Mountai	20.79	29	P		P	13 09 27.4	-1.3		
	baz=214,SNR=31									
355A	Pearson	20.82	40	P		P	13 09 26.8	-2.2		
	baz=226									
U40A	Yellville	20.86	13	P		P	13 09 28.0	-1.2		
	baz=194,SNR=195									
456A	Hilliard	20.94	43	eP		P	13 09 26.5	-3.7		
	comp=Z,206nm,0.8s									
456A	Hilliard	20.94	43	P		P	13 09 28.5	-1.7		
	baz=229									
Z51A	Franklin	20.96	32	P		P	13 09 29.0	-1.4		
	baz=218									
254A	Abbeville	20.98	38	P		P	13 09 28.6	-2.0		
	baz=224,SNR=9.3									
X48A	Hartselle	21.00	27	eP		P	13 09 28.8	-2.1		
	comp=Z,160nm,0.8s									
X48A	Hartselle	21.00	27	P		P	13 09 29.3	-1.6		
	baz=211,SNR=57									
PLAL	Pickwick Lake	21.04	24	eP		P	13 09 28.5	-2.7		
	comp=Z,243nm,0.9s									
W46A	Michie	21.05	23	P		P	13 09 29.5	-1.8		
	baz=207,SNR=20									
U41A	Viola	21.06	15	P		P	13 09 30.5	-1.0		
	baz=197,SNR=39									
Y50A	Piedmont	21.14	30	P		P	13 09 31.

baz=221,SNR=67
155A Kite 21.95 38 P P 13 09 39.5 -1.5
baz=225,SNR=27
UTMT University of 21.95 21 eP P 13 09 39.1 -2.0
comp=Z,822nm,1.0s
PARMO Parma 21.96 19 eP P 13 09 39.2 -1.9
comp=Z,378nm,0.9s
Y52A Lilburn 21.97 33 eP P 13 09 39.2 -2.0
comp=Z,382nm,0.9s
Y52A Lilburn 21.97 33 P P 13 09 40.2 -1.1
baz=219,SNR=78
V47A Nunnelly 21.99 24 P P 13 09 39.9 -1.6
baz=208,SNR=71
X51A Calhoun 22.12 31 eP P 13 09 40.3 -2.5
comp=Z,251nm,1.3s
X51A Calhoun 22.12 31 P P 13 09 41.1 -1.7
baz=216,SNR=13
WVT Waverly 22.14 23 eP P 13 09 40.9 -2.2
comp=Z,360nm,0.9s
WVT Waverly 22.14 23 eP P 13 09 40.9 -2.2
WVT pmax pmax
comp=Z,360nm,0.9s
SWET Sewanee 22.14 28 eP P 13 09 40.9 -2.2
comp=Z,415nm,1.1s
Z54A Sparta 22.17 36 P P 13 09 41.6 -1.8
baz=223,SNR=71
T43A Greenville 22.19 17 P P 13 09 41.9 -1.7
baz=200,SNR=131
V48A Smith Brothers 22.20 26 eP P 13 09 41.7 -2.0
comp=Z,252nm,1.0s
V48A Smith Brothers 22.20 26 P P 13 09 42.1 -1.7
baz=210,SNR=78
U46A Springville 22.21 22 P P 13 09 42.2 -1.6
baz=206,SNR=29
Y53A Monroe 22.22 34 P P 13 09 42.2 -1.8
baz=220,SNR=68
S41A Jillco Farms, 22.28 14 P P 13 09 43.1 -1.5
baz=196,SNR=86
257A Skidaway Islan 22.40 42 eP P 13 09 42.5 -3.3
comp=Z,536nm,1.1s
257A Skidaway Islan 22.40 42 P P 13 09 44.3 -1.6
baz=229
W50A Signal Mountai 22.41 29 eP P 13 09 43.4 -2.6
comp=Z,366nm,0.9s
W50A Signal Mountai 22.41 29 P P 13 09 44.7 -1.4
baz=214,SNR=88
GTBY Guantanamo Bay 22.47 77 eP P 13 09 45.6 -1.1
comp=Z,712nm,1.0s
SDCO Great Sand Dun 22.55 345 eP P 13 09 48.0 +0.2
comp=Z,192nm,1.1s
SDCO LR LR
comp=Z,1µm,19.0s
SDCO Great Sand Dun 22.55 345 P P 13 09 48.4 +0.5
baz=161,SNR=91
156A Sylvania 22.56 40 P P 13 09 45.6 -2.0
baz=226,SNR=24
Z55A Blythe 22.57 38 P P 13 09 45.8 -1.9
baz=224
GLA Glamis 22.57 322 eP P 13 09 48.9 +1.1
comp=Z,146nm,1.3s
GLA LR LR
comp=Z,3µm,19.0s
GLA Glamis 22.57 322 P P 13 09 50.0 +2.1
baz=134,SNR=33
V49A McMinnville 22.61 27 P P 13 09 46.7 -1.5
baz=212,SNR=70
U47A Clarksville 22.62 24 P P 13 09 46.2 -2.0
baz=208,SNR=89
X52A Dahlonega 22.63 32 P P 13 09 46.7 -1.7
baz=218,SNR=27
W51A Cleveland 22.64 30 P P 13 09 46.5 -1.9
baz=216,SNR=26
WUAZ Wupatki 22.64 332 eP P 13 09 50.0 +1.4
comp=Z,208nm,1.0s
WUAZ LR LR
comp=Z,11µm,22.0s
WUAZ Wupatki 22.64 332 P P 13 09 51.1 +2.4
baz=145,SNR=99
T45A Paducah 22.64 21 eP P 13 09 45.7 -2.8
comp=Z,463nm,0.9s
T45A Paducah 22.64 21 P P 13 09 47.1 -1.3
baz=204,SNR=10.0
S42A Caledonia 22.69 16 P P 13 09 46.9 -2.1
baz=199,SNR=50
S43A Fulton Ridge, 22.70 17 P P 13 09 47.4 -1.7
baz=201,SNR=31
Y54A Tignall 22.72 36 P P 13 09 47.2 -2.1
baz=222,SNR=122
CBKS Cedar Bluff 22.75 357 eP P 13 09 48.3 -1.4
comp=Z,259nm,1.0s
CBKS Cedar Bluff 22.75 357 eP P 13 09 48.3 -1.4
CBKS pmax pmax
comp=Z,259nm,1.0s
CBKS Cedar Bluff 22.75 357 P P 13 09 48.9 -0.8
baz=176
CCM Cathedral Cave 22.85 15 eP P 13 09 48.4 -2.2
comp=Z,127nm,0.8s
CCM Cathedral Cave 22.85 15 eP P 13 09 48.4 -2.2
CCM pmax pmax
comp=Z,127nm,0.8s
CCM Cathedral Cave 22.85 15 P P 13 09 48.9 -1.7
baz=197
X53A Estanollee 22.86 34 P P 13 09 49.2 -1.6
baz=220,SNR=64
157A Early Branch 22.88 40 P P 13 09 49.8 -1.2
baz=227,SNR=26
V50A Pikevile 22.90 29 P P 13 09 49.4 -1.7
baz=214,SNR=55
Y12C Blythe 22.90 323 eP P 13 09 52.3 +1.2
comp=Z,166nm,1.4s
Y12C LR LR
comp=Z,400nm,19.0s
Y12C Blythe 22.90 323 P P 13 09 53.3 +2.1
baz=136,SNR=27
S22A 4UR Ranch, Cre 22.91 343 eP P 13 09 52.1 +0.6
comp=Z,124nm,0.9s
S22A LR LR
comp=Z,700nm,20.0s
S22A 4UR Ranch, Cre 22.91 343 P P 13 09 52.6 +1.0
baz=158,SNR=197
T46A Princeton 22.92 22 P P 13 09 49.9 -1.5
baz=206,SNR=55
MVCO Mesa Verde 22.95 339 eP P 13 09 52.2 +0.3
comp=Z,216nm,1.0s
MVCO LR LR
comp=Z,15µm,19.0s
MVCO Mesa Verde 22.95 339 P P 13 09 52.8 +0.9
baz=154,SNR=173
U48A Cassie Pea, Po 22.98 25 P P 13 09 50.0 -1.9
baz=210,SNR=87
CPCT Cooper Cave 22.99 30 eP P 13 09 49.8 -2.3
comp=Z,152nm,0.9s
W52A Murphy 23.00 32 eP P 13 09 50.0 -2.2
comp=Z,468nm,1.0s
W52A Murphy 23.00 32 P P 13 09 50.8 -1.5
baz=218,SNR=36
R41A Rosebud 23.05 14 P P 13 09 50.5 -2.2
baz=197,SNR=61
S44A Carbondale 23.06 19 P P 13 09 51.1 -1.7
baz=202,SNR=75
KSU1 Kansas State U 23.06 4 eP P 13 09 50.3 -2.6
comp=Z,156nm,1.0s
KSU1 LR LR
comp=Z,800nm,22.0s
KSU1 Kansas State U 23.06 4 P P 13 09 51.4 -1.5
baz=184,SNR=12
IKP In-Ko-Pah, Jac 23.09 319 P P 13 09 55.5 +2.2
baz=131,SNR=12
PDMCI Parker Dam,Lak 23.09 325 P P 13 09 54.9 +1.8
baz=138,SNR=41
SIUC Southern Illin 23.09 19 eP P 13 09 50.9 -2.2
comp=Z,457nm,1.0s
SWSC Sam W. Stewart 23.09 320 P P 13 09 55.3 +2.1
baz=132,SNR=24
Z56A Williston 23.10 39 P P 13 09 51.5 -1.7
baz=226,SNR=12
T47A Sharon Grove 23.17 23 eP P 13 09 52.0 -2.0
comp=Z,477nm,1.0s
T47A Sharon Grove 23.17 23 P P 13 09 52.1 -1.8
baz=208,SNR=95
R42A Luebbering 23.17 15 P P 13 09 51.8 -2.2
baz=198,SNR=43
KSCO Kaye Shedlock' 23.22 352 eP P 13 09 54.1 -0.6
comp=Z,268nm,0.9s
KSCO LR LR
comp=Z,600nm,22.0s
KSCO Kaye Shedlock' 23.22 352 P P 13 09 54.6 0.0
baz=169,SNR=33

HODGE Hodges 23.23 36 eP P 13 09 52.5 -2.1
comp=Z,348nm,0.9s
Y55A Saluda 23.24 37 P P 13 09 52.9 -1.9
baz=224,SNR=73
S45A Carrier Mills 23.26 20 P P 13 09 53.3 -1.5
baz=204,SNR=32
U49A Red Boiling Sp 23.30 26 P P 13 09 53.7 -1.5
baz=212,SNR=69
V51A Loudon 23.36 30 eP P 13 09 53.8 -2.1
comp=Z,323nm,1.1s
V51A Loudon 23.36 30 P P 13 09 54.2 -1.6
baz=216,SNR=61
BC3 Big Chuckawall 23.37 322 P P 13 09 58.4 +2.2
baz=134,SNR=65
X54A Belton 23.40 35 P P 13 09 54.6 -1.7
baz=222,SNR=31
158A Hollywood 23.43 41 P P 13 09 55.3 -1.3
baz=229,SNR=6.3
BG3 Lake Jocassee 23.43 33 eP P 13 09 55.1 -1.6
comp=Z,262nm,1.0s
MONP2 Monument Peak 23.44 319 P P 13 09 59.1 +2.1
baz=131,SNR=29
W53A Cullowhee 23.45 33 P P 13 09 55.8 -1.1
baz=219,SNR=76
BAR Barrett 23.46 318 eP P 13 09 58.3 +1.3
comp=Z,100nm,1.4s
BAR LR LR
comp=Z,2µm,18.0s
Y56A Pelion 23.46 38 P P 13 09 55.2 -1.8
baz=225,SNR=5.3
Z57A Bowman 23.48 40 P P 13 09 55.6 -1.6
baz=227,SNR=61
TKL Tuckaleechee C 23.52 31 eP P 13 09 55.5 -2.0
comp=Z,122nm,1.0s
TKL Tuckaleechee C 23.52 31 eP P 13 09 55.5 -2.0
TKL pmax pmax
comp=Z,122nm,1.0s
TKL Tuckaleechee C 23.52 31 P P 13 09 55.6 -2.0
comp=Z,50nm,0.7s,baz=200,slow=13,SNR=21
RGRS Roger Stewart 23.54 41 eP P 13 09 56.0 -1.7
comp=Z,3µm,1.1s
IRM Iron Mountain 23.55 323 P P 13 10 00.3 +2.4
baz=135,SNR=74
W13A Hualapai Mount 23.55 327 eP P 13 09 59.0 +0.9
comp=Z,119nm,1.4s
W13A LR LR
comp=Z,2µm,18.0s
T48A Bowling Green 23.55 25 P P 13 09 56.1 -1.7
baz=210,SNR=101
S46A Don Dixon Farm 23.56 22 P P 13 09 56.6 -1.3
baz=206,SNR=16
R44A Waltonville 23.62 19 P P 13 09 58.4 0.0
baz=202,SNR=67
U50A Jamestown 23.63 28 P P 13 09 57.0 -1.6
baz=214,SNR=18
Q24A Divide 23.63 347 eP P 13 09 58.6 -0.3
comp=Z,119nm,1.0s
Q24A LR LR
comp=Z,2µm,18.0s
Q24A Divide 23.63 347 P P 13 09 59.5 +0.5
baz=163,SNR=42
SLM Saint Louis 23.65 16 eP P 13 09 57.4 -1.4
comp=Z,235nm,1.0s
SLM Saint Louis 23.65 16 eP P 13 09 57.4 -1.4
SLM pmax pmax
comp=Z,235nm,1.0s
CSU Charleston Sou 23.67 41 eP P 13 09 57.8 -1.2
NHSC New Hope 23.68 41 eP P 13 09 57.6 -1.5
comp=Z,2µm,1.2s
NHSC New Hope 23.68 41 P P 13 09 58.1 -1.0
baz=228,SNR=29
NEE2 Needles Airpor 23.70 325 P P 13 10 00.6 +1.3
baz=137
Q41A Truxton 23.71 14 P P 13 09 57.2 -2.1
baz=197,SNR=70
V52A Sevierville 23.75 31 eP P 13 09 58.0 -1.9
comp=Z,146nm,1.0s
V52A Sevierville 23.75 31 P P 13 09 58.0 -1.9
baz=217,SNR=20
X55A Gracelyn & Ava 23.76 36 P P 13 09 58.4 -1.4
baz=223,SNR=56
S47A Hartford 23.79 23 P P 13 09 58.8 -1.3
baz=208,SNR=41
U15A North Rim 23.81 331 eP P 13 10 02.1 +1.4
comp=Z,123nm,1.0s
U15A LR LR
comp=Z,700nm,21.0s
USIN University of 23.83 21 eP P 13 09 59.0 -1.5
comp=Z,682nm,1.0s
JSC Jenkinsville 23.84 37 eP P 13 09 58.0 -2.6
comp=Z,212nm,0.9s
JSC Jenkinsville 23.84 37 eP P 13 09 58.0 -2.6
JSC pmax pmax
comp=Z,212nm,0.9s
Q42A Golden Eagle 23.84 15 P P 13 09 59.9 -0.7
baz=198,SNR=62
DPP Dos Picos Cty 23.84 319 eP P 13 10 02.9 +2.2
109C Camp Elliot, M 23.88 318 P P 13 10 02.8 +1.8
baz=130
CPE Camp Elliot 23.88 318 eP P 13 10 02.2 +1.2
comp=Z,68nm,1.1s
CPE LR LR
comp=Z,2µm,20.0s
T49A Edmonton 23.90 26 eP P 13 09 59.5 -1.7
comp=Z,169nm,1.1s
T49A Edmonton 23.90 26 P P 13 09 59.9 -1.4
baz=211,SNR=39
W54A Cherokee Point 23.90 34 P P 13 10 00.6 -0.7
baz=221,SNR=57
PAULI Pauline 23.91 35 eP P 13 09 59.7 -1.7
comp=Z,298nm,1.0s
R45A Skylar, Fairfi 23.92 20 P P 13 10 00.2 -1.2
baz=204,SNR=41
BELC Belle Mtn. Jos 23.94 322 P P 13 10 03.8 +2.1
baz=134,SNR=51
XPFO Pion Flat 23.95 320 eP P 13 10 02.9 +1.0
comp=Z,112nm,1.3s
XPFO LR LR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 23.95 320 eP P 13 10 03.0 +1.1
comp=Z,105nm,1.3s
PFO Pinyon Flats O 23.95 320 eP P 13 10 03.0 +1.1
PFO pmax pmax
comp=Z,105nm,1.3s
PFO Pinyon Flats O 23.95 320 P P 13 10 04.1 +2.2
baz=132,SNR=20
PFO Pinyon Flats O 23.95 320 P P 13 10 03.8 +1.9
comp=Z,19nm,1.0s,baz=130,slow=9.5,SNR=34
PFO LR LR 13 18 40.2
comp=Z,2µm,19.0s,baz=141,slow=35
U51A La Follette 23.98 30 P P 13 10 00.9 -1.1
baz=216,SNR=34
V53A Saluda 24.02 32 eP P 13 10 01.2 -1.2
comp=Z,692nm,1.8s
V53A Saluda 24.02 32 P P 13 10 01.8 -0.6
baz=219,SNR=25
Z58A St. Stephen 24.06 41 P P 13 10 02.0 -0.7
baz=228,SNR=21
Q43A New Douglas 24.09 17 P P 13 10 01.9 -1.0
baz=200,SNR=36
R46A Gibon Southern 24.11 21 P P 13 10 02.0 -1.2
baz=206,SNR=15
X56A White Oak 24.12 37 P P 13 10 02.1 -1.1
baz=224,SNR=40
T50A Nancy 24.13 27 P P 13 10 02.0 -1.4
baz=213,SNR=56
S48A Wiedeman Farm, 24.16 24 P P 13 10 02.6 -1.0
baz=210,SNR=30
Y57A Sumter 24.16 39 P P 13 10 02.4 -1.3
baz=226,SNR=14
LDFC Landfair 24.20 325 eP P 13 10 06.1 +1.9
comp=Z,138nm,1.2s
LDFC LR LR
comp=Z,2µm,18.0s
Q44A Meyer Farm, Va 24.25 18 eP P 13 10 02.9 -1.5
comp=Z,478nm,1.1s
Q44A Meyer Farm, Va 24.25 18 P P 13 10 03.6 -0.8
baz=202,SNR=38
SMCO Snowmass 24.28 344 eP P 13 10 05.2 -0.1
comp=Z,232nm,1.0s
SMCO LR LR
comp=Z,800nm,19.0s
GMRC Granite Mounta 24.29 324 P P 13 10 07.1 +2.1
baz=136,SNR=57
U52A Thorn Hill 24.30 31 P P 13 10 04.0 -1.1
baz=217,SNR=47
TZTN Tazewell 24.30 30 eP P 13 10 03.9 -1.4
comp=Z,1µm,1.8s

TZTN Tazewell 24.34 30 P P 13 10 04.6 -0.7
baz=216,SNR=39
Z59A Georgetown, SC 24.34 42 P P 13 10 04.9 -0.4
baz=230
OLIL Olney 24.38 20 eP P 13 10 03.3 -2.3
comp=Z,505nm,1.4s
MURC Murrieta 24.40 319 P P 13 10 08.2 +2.3
baz=131,SNR=17
KMSC Kings Mountain 24.41 36 eP P 13 10 04.0 -2.0
comp=Z,951nm,1.6s
KMSC Kings Mountain 24.41 36 P P 13 10 05.2 -0.8
baz=223,SNR=39
P41A Barry, Barry 24.43 14 P P 13 10 04.7 -1.4
baz=197,SNR=32
T51A Gray 24.49 29 P P 13 10 05.9 -0.7
baz=215,SNR=38
Q45A Warren Harvey, 24.50 20 P P 13 10 05.9 -0.9
baz=204,SNR=27
P42A Winchester 24.52 15 eP P 13 10 05.6 -1.3
comp=Z,442nm,1.0s
P42A Winchester 24.52 15 P P 13 10 05.7 -1.2
baz=198,SNR=70
Y58A Scranton 24.53 40 P P 13 10 06.1 -1.0
baz=228,SNR=18
ISCO Idaho Springs 24.54 346 eP P 13 10 08.5 +1.1
comp=Z,248nm,1.0s
ISCO LR LR
comp=Z,5µm,19.0s
ISCO Idaho Springs 24.54 346 P P 13 10 09.0 +1.5
ISCO pmax pmax
comp=Z,322nm,1.5s
ISCO Idaho Springs 24.54 346 P P 13 10 08.9 +1.5
baz=162,SNR=213
R47A Wooly Knot Far 24.54 23 P P 13 10 06.5 -0.5
baz=208,SNR=96
KNB Kanab 24.54 331 eP P 13 10 08.4 +1.1
comp=Z,114nm,0.9s
KNB Kanab 24.54 331 eP P 13 10 08.5 +1.1
KNB pmax pmax
comp=Z,114nm,0.9s
V54A Nebo 24.55 34 P P 13 10 07.0 -0.3
baz=221,SNR=49
WCI Wyandotte Cave 24.57 23 eP P 13 10 06.0 -1.3
comp=Z,246nm,0.8s
WCI Wyandotte Cave 24.57 23 eP P 13 10 06.0 -1.3
WCI pmax pmax
comp=Z,246nm,0.8s
S49A Springfield 24.58 26 P P 13 10 06.5 -1.0
baz=211,SNR=57
X57A Johnson Farm, 24.65 38 P P 13 10 07.2 -0.9
baz=226,SNR=16
PKCU Pink Cliffs 24.66 333 eP P 13 10 08.8 +0.2
comp=Z,285nm,1.2s
PKCU LR LR
comp=Z,6µm,18.0s
BBRC Big Bear Solar 24.67 321 P P 13 10 11.0 +2.4
baz=132,SNR=13
U53A Fall Branch 24.67 32 P P 13 10 07.3 -1.1
baz=218,SNR=10
HEC Hector,Ludlow 24.71 323 P P 13 10 11.2 +2.4
baz=134,SNR=34
LGNH Logne 24.73 80 eP P 13 10 08.0 -1.0
comp=Z,101nm,0.8s
LCMT Little Creek M 24.73 331 eP P 13 10 09.7 +0.7
comp=Z,57nm,1.0s
LCMT LR LR
comp=Z,4µm,19.0s
P43A Skaggs, Pawnee 24.79 16 P P 13 10 08.9 -0.4
baz=200,SNR=15
W56A Indian Trail 24.84 37 P P 13 10 09.2 -0.7
baz=224,SNR=41
S50A Richmond 24.87 27 P P 13 10 09.7 -0.4
baz=213,SNR=91
SCI2 San Clemente I 24.88 316 P P 13 10 11.6 +1.4
baz=127,SNR=11
R48A Northridge Ran 24.88 24 P P 13 10 09.8 -0.3
baz=209,SNR=53
P44A Sand Creek, Wi 24.89 18 P P 13 10 10.0 -0.2
baz=202,SNR=28
Q46A CEJHS Indians, 24.89 21 P P 13 10 09.5 -0.7
baz=206
O41A Passleys Farm, 24.89 14 P P 13 10 09.4 -0.9
baz=197,SNR=75
TUQ Turquoise Moun 24.91 324 P P 13 10 12.6 +2.0
baz=136,SNR=69
CMAN1 Manizales, Cal 24.92 113 eP P 13 10 16.5 +5.3
CMAN1 Manizales, Cal 24.92 113 eP P 13 10 16.5 +5.3
V55A Taylorsville 25.00 35 P P 13 10 10.8 -0.5
baz=222,SNR=59
CIS Catalina Islan 25.05 317 P P 13 10 12.4 +0.6
baz=128,SNR=12
OGNE Ogallala 25.05 353 eP P 13 10 10.9 -0.9
comp=Z,528nm,1.1s
OGNE LR LR
comp=Z,1µm,19.0s
OGNE Ogallala 25.05 353 P P 13 10 13.0 +1.1
baz=171,SNR=75
T52A Hallie 25.06 30 P P 13 10 11.1 -0.7
baz=217,SNR=21
R49A Shelbyville 25.06 25 P P 13 10 11.2 -0.7
baz=211,SNR=32
MTPU Mount Pierson 25.10 334 eP P 13 10 14.3 +1.7
comp=Z,207nm,0.8s
BFSC Mount Baldy Ra 25.11 320 P P 13 10 14.3 +1.9
baz=131,SNR=19
SZCU Shurtz Canyon 25.13 332 eP P 13 10 14.1 +1.3
comp=Z,118nm,1.5s
SZCU LR LR
comp=Z,4µm,21.0s
Q47A Bedord North L 25.14 22 P P 13 10 12.1 -0.3
baz=208,SNR=53
RRX Edison Barstow 25.14 322 P P 13 10 14.5 +2.0
baz=133
OTAV Otavalo 25.14 127 eP P 13 10 15.3 +2.1
comp=Z,82nm,1.4s
OTAV LR LR
comp=Z,700nm,19.0s
OTAV Otavalo 25.14 127 eP P 13 10 16.4 +3.2
OTAV Otavalo 25.14 127 eP P 13 10 15.3 +2.1
OTAV pmax pmax
comp=Z,82nm,1.4s
OTAV MLR MLR
comp=Z,700nm,19.0s
OTAV Otavalo 25.14 127 eP P 13 10 16.4 +3.2
OTAV Otavalo 25.14 127 eP P 13 10 15.4 +2.1
RREF El Recreo 25.16 114 eP P 13 10 17.6 +4.0
RREF El Recreo 25.16 114 eP P 13 10 17.6 +4.0
O42A Bath 25.16 15 P P 13 10 12.0 -0.7
baz=199,SNR=12
FMP Fort Macarthur 25.17 318 P P 13 10 14.9 +2.1
baz=129
X58A Rowland 25.17 39 P P 13 10 12.7 -0.1
baz=227,SNR=31
T53A Wise 25.18 31 P P 13 10 12.3 -0.7
baz=218,SNR=22
U54A Nelsons Funny 25.18 33 P P 13 10 12.2 -0.9
baz=220,SNR=59
W57A Gilead 25.19 37 P P 13 10 12.4 -0.6
baz=225,SNR=61
CMBC Cumbal 25.19 124 eP P 13 10 22.2 +8.4
CMBC Cumbal 25.19 124 eP P 13 10 22.2 +8.4
S51A Beattyville 25.20 28 eP P 13 10 11.9 -1.2
comp=Z,428nm,0.8s
S51A Beattyville 25.20 28 P P 13 10 12.4 -0.6
baz=215,SNR=81
P45A Graceland, Par 25.21 20 eP P 13 10 11.8 -1.3
comp=Z,364nm,1.4s
P45A Graceland, Par 25.21 20 P P 13 10 12.7 -0.5
baz=204,SNR=16
CCUT Cedar City 25.22 331 eP P 13 10 15.2 +1.6
comp=Z,34nm,0.9s
CCUT LR LR
comp=Z,5µm,20.0s
EL2 El Mirage 2 25.23 321 eP P 13 10 18.5 +4.9
NORC Norcasia 25.28 112 eP P 13 10 17.1 +3.0
NORC Norcasia 25.28 112 eP P 13 10 17.1 +3.0
SHPR Sheep Range 25.29 327 eP P 13 10 15.0 +0.9
comp=Z,45nm,1.1s
SHPR LR LR
comp=Z,600nm,19.0s
BLO Bloomington 25.31 22 eP P 13 10 12.4 -1.6
comp=Z,401nm,1.6s
BLO Bloomington 25.31 22 eP P 13 10 12.4 -1.6
BLO pmax pmax
comp=Z,401nm,1.6s
BGNE Belgrade 25.32 0 eP P 13 10 13.6 -0.5
comp=Z,196nm,1.1s

BGNE LR LR
comp=Z,2µm,20.0s
BGNE Belgrade 25.32 0 P **P** 13 10 14.6 +0.4
baz=180,SNR=7.4
GSC Goldstone, Bar 25.32 323 *eP* **P** 13 10 15.9 +1.6
comp=Z,296nm,2.0s
GSC LR LR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 25.32 323 *eP* **P** 13 10 15.9 +1.6
GSC pmax pmax
comp=Z,296nm,2.0s
GSC MLR MLR
comp=Z,3µm,20.0s
GSC Goldstone, Bar 25.32 323 P **P** 13 10 16.7 +2.4
baz=134,SNR=38
MWC Mount Wilson 25.35 319 *eP* **P** 13 10 16.0 +1.3
comp=Z,91nm,1.3s
MWC LR LR
comp=Z,2µm,18.0s
MWC Mount Wilson 25.35 319 *eP* **P** 13 10 16.0 +1.3
MWC pmax pmax
comp=Z,91nm,1.3s
MWC MLR MLR
comp=Z,2µm,18.0s
SRU San Rafael Swe 25.36 338 *eP* **P** 13 10 15.4 +0.6
comp=Z,147nm,1.0s
SRU LR LR
comp=Z,7µm,18.0s
SRU San Rafael Swe 25.36 338 *eP* **P** 13 10 15.4 +0.6
SRU pmax pmax
comp=Z,147nm,1.0s
SRU MLR MLR
comp=Z,7µm,18.0s
Q48A North Vernon 25.39 23 P **P** 13 10 14.1 -0.7
baz=209,SNR=74
PASC Pasadena Art C 25.39 319 *eP* **P** 13 10 16.5 +1.6
comp=Z,119nm,1.5s
PASC LR LR
comp=Z,2µm,20.0s
R50A Paris 25.41 26 P **P** 13 10 13.6 -1.4
baz=213,SNR=37
Q16A Castle Valley 25.44 336 *eP* **P** 13 10 16.2 +0.7
comp=Z,149nm,1.1s
Q16A LR LR
comp=Z,2µm,18.0s
SHOC Shoshone, Teco 25.44 324 P **P** 13 10 16.9 +1.5
baz=136
O43A Sugar Creek Fa 25.45 16 P **P** 13 10 14.6 -0.7
baz=200,SNR=6.7
N41A Harden Midland 25.47 13 *eP* **P** 13 10 14.3 -1.1
comp=Z,188nm,0.8s
N41A Harden Midland 25.47 13 P **P** 13 10 14.9 -0.5
baz=197,SNR=19
P46A Rosedale 25.47 20 P **P** 13 10 15.2 -0.3
baz=205,SNR=39
S52A Salyersville 25.47 29 P **P** 13 10 14.8 -0.8
baz=216,SNR=16
N40A Mertquake, Sal 25.48 12 P **P** 13 10 14.8 -0.8
baz=195,SNR=32
CPAS2 Pasto 25.49 123 *eP* **P** 13 10 16.5 +0.2
CPAS2 Pasto 25.49 123 *eP* **P** 13 10 16.5 +0.2
MSU Marysvale 25.50 334 *eP* **P** 13 10 16.7 +0.7
MSU Marysvale 25.50 334 *eP* **P** 13 10 16.7 +0.7
SBI Santa Barbara 25.50 317 *eP* **P** 13 10 14.5 -1.3
Y60A Bolivia 25.51 42 P **P** 13 10 13.9 -2.0
baz=230
O20A White River Ci 25.53 342 *eP* **P** 13 10 16.9 +0.6
comp=Z,232nm,1.0s
O20A LR LR
comp=Z,900nm,18.0s
O20A White River Ci 25.53 342 P **P** 13 10 17.8 +1.5
baz=157,SNR=104
DECC Green Verdugo 25.54 319 P **P** 13 10 18.4 +2.1
baz=130
PCON Cinco Dias 25.56 120 *eP* **P** 13 10 20.4 +3.2
PCON Cinco Dias 25.56 120 *eP* **P** 13 10 20.4 +3.2
O44A Mansfield 25.56 18 P **P** 13 10 15.7 -0.6
baz=202,SNR=11
U55A TA2, Sparta 25.58 34 P **P** 13 10 16.3 -0.3
baz=221,SNR=34
X59A McDuffie Farm, 25.63 40 P **P** 13 10 16.8 -0.2
baz=228,SNR=11
MARP Paez Belalcaza 25.65 118 *eP* **P** 13 10 20.6 +2.9
MARP Paez Belalcaza 25.65 118 *eP* **P** 13 10 20.6 +2.9
N23A Red Feather La 25.66 347 *eP* **P** 13 10 17.8 +0.3
comp=Z,253nm,1.0s
N23A LR LR
comp=Z,2µm,18.0s
N23A Red Feather La 25.66 347 P **P** 13 10 18.3 +0.8
baz=162,SNR=76
P47A Martinsville 25.68 22 P **P** 13 10 16.9 -0.6
baz=207,SNR=16
SNCC San Nicolas Is 25.69 316 P **P** 13 10 18.7 +1.1
baz=126
TCRU Three Creeks R 25.69 334 *eP* **P** 13 10 18.9 +1.0
comp=Z,75nm,1.0s
TCRU LR LR
comp=Z,400nm,20.0s
HDIL Hopedale 25.70 16 *eP* **P** 13 10 16.4 -1.2
comp=Z,304nm,1.0s
HDIL Hopedale 25.70 16 P **P** 13 10 17.3 -0.4
baz=200,SNR=35
BRRC Barranca, Sant 25.70 107 *eP* **P** 13 10 19.9 +2.0
BRRC Barranca, Sant 25.70 107 *eP* **P** 13 10 19.9 +2.0
T54A Tazewell 25.72 32 P **P** 13 10 17.1 -0.8
baz=220,SNR=22
EDW2 Edwards Air Fo 25.74 321 P **P** 13 10 19.6 +1.5
baz=132,SNR=26
R51A Hillsboro 25.75 28 P **P** 13 10 17.5 -0.5
baz=214,SNR=113
P17A Butcher Ranch, 25.76 338 *eP* **P** 13 10 18.9 +0.5
comp=Z,79nm,1.1s
N42A Yates City 25.77 15 P **P** 13 10 17.8 -0.4
baz=198,SNR=37
TMUT Trail Mountain 25.78 337 *eP* **P** 13 10 19.0 +0.3
comp=Z,82nm,0.9s
TMUT LR LR
comp=Z,2µm,20.0s
Q49A Aurora 25.78 25 P **P** 13 10 17.7 -0.6
baz=211,SNR=40
CCCA Chr Cany lake 25.80 322 *eP* **P** 13 10 16.8 -1.9
V57A Coltrane Farms 25.83 36 P **P** 13 10 18.3 -0.5
baz=224,SNR=93
O45A Potomac 25.88 19 P **P** 13 10 19.2 0.0
baz=204,SNR=51
BLG Laguna Peak, P 25.91 318 P **P** 13 10 21.7 +2.1
baz=128,SNR=5.9
S53A Williamson 25.93 31 P **P** 13 10 19.0 -0.8
baz=218,SNR=7.6
PHWY Pilot Hill 25.94 348 *eP* **P** 13 10 19.8 -0.3
comp=Z,160nm,1.1s
PHWY LR LR
comp=Z,3µm,20.0s
M39A Webster 25.94 11 P **P** 13 10 19.2 -0.6
baz=193,SNR=73
LRMC Laurel Mtn Rad 25.96 322 P **P** 13 10 22.1 +1.9
baz=133,SNR=8.5
P48A Milroy 25.97 23 P **P** 13 10 18.9 -1.2
baz=209,SNR=25
SDDR Presa de Saban 26.00 79 *eP* **P** 13 10 20.4 -0.1
comp=Z,105nm,0.9s
M40A Post Highland 26.00 12 P **P** 13 10 19.6 -0.7
baz=195,SNR=37
OSI Osito Audit: C 26.02 319 *eP* **P** 13 10 21.2 +0.6
comp=Z,104nm,1.1s
OSI LR LR
comp=Z,2µm,19.0s
OSI Osito Audit: C 26.02 319 P **P** 13 10 22.7 +2.1
baz=130
Q50A Georgetown 26.03 26 P **P** 13 10 19.5 -1.0
baz=213,SNR=101
X60A Albert Glenn T 26.03 41 P **P** 13 10 20.1 -0.5
baz=230,SNR=7.0
ROSC El Rosal 26.09 113 *eP* **P** 13 10 21.4 -0.5
comp=Z,116nm,1.3s
ROSC El Rosal 26.09 113 *eP* **P** 13 10 25.3 +3.4
ROSC El Rosal 26.09 113 *eP* **P** 13 10 25.3 +3.4
N43A Stutzman Famil 26.09 16 P **P** 13 10 20.7 -0.5
baz=200,SNR=37
M41A Milan 26.17 13 P **P** 13 10 21.5 -0.4
baz=197,SNR=22
T55A Pulaski 26.18 33 P **P** 13 10 21.8 -0.3
baz=221,SNR=22
FURC Furnace Creek, 26.18 325 P **P** 13 10 23.6 +1.6
baz=136,SNR=12
GIRC Giron, Santand 26.19 107 *eP* **P** 13 10 25.4 +2.9
GIRC Giron, Santand 26.19 107 *eP* **P** 13 10 25.4 +2.9

SCIA State Center 26.19 9 *eP* **P** 13 10 20.8 -1.2
comp=Z,410nm,0.8s
SCIA State Center 26.19 9 P **P** 13 10 21.8 -0.2
baz=191,SNR=36
SFIN Lafayette 26.19 20 *eP* **P** 13 10 21.1 -0.9
comp=Z,140nm,0.8s
SFIN Lafayette 26.19 20 P **P** 13 10 21.9 -0.1
baz=205,SNR=22
TPNV Topopah Spring 26.20 326 *eP* **P** 13 10 23.1 +0.7
comp=Z,82nm,1.0s
TPNV LR LR
comp=Z,2µm,18.0s
TPNV Topopah Spring 26.20 326 *eP* **P** 13 10 23.1 +0.7
TPNV pmax pmax
comp=Z,82nm,1.0s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 26.20 326 P **P** 13 10 24.4 +2.0
baz=138,SNR=66
R52A Catlettsburg 26.20 29 P **P** 13 10 21.3 -0.9
baz=216,SNR=22
SCZ2 Santa Cruz Isl 26.21 317 P **P** 13 10 24.2 +1.9
baz=127
MPMC Manual Prospec 26.25 323 P **P** 13 10 24.8 +1.9
baz=134,SNR=50
PSUT Pine Spring 26.25 332 *eP* **P** 13 10 23.4 +0.6
comp=Z,59nm,0.9s
PSUT LR LR
comp=Z,8µm,18.0s
N44A Piper City 26.25 18 P **P** 13 10 21.9 -0.6
baz=202,SNR=29
P49A Miami Univ. Ec 26.31 24 P **P** 13 10 21.9 -1.2
baz=210,SNR=89
GRTK Grand Turk 26.35 74 *eP* **P** 13 10 21.9 -1.8
comp=Z,2µm,2.0s
GRTK LR LR
comp=Z,2µm,19.0s
O47A Sheridan 26.38 21 P **P** 13 10 22.6 -1.1
baz=207,SNR=24
BARC Barichara 26.39 108 *eP* **P** 13 10 27.4 +3.1
BARC Barichara 26.39 108 *eP* **P** 13 10 27.4 +3.1
ARVC Arvin 26.42 320 P **P** 13 10 26.4 +2.3
baz=130,SNR=15
M42A Sheffield 26.43 15 P **P** 13 10 23.8 -0.4
baz=198,SNR=20
BLA Blacksburg 26.44 34 *eP* **P** 13 10 22.7 -1.7
comp=Z,268nm,1.1s
BLA Blacksburg 26.44 34 *eP* **P** 13 10 22.7 -1.7
BLA pmax pmax
comp=Z,268nm,1.1s
BLA Blacksburg 26.44 34 P **P** 13 10 23.9 -0.5
baz=221,SNR=23
Q51A Peebles 26.45 27 *eP* **P** 13 10 23.1 -1.4
comp=Z,278nm,0.9s
Q51A Peebles 26.45 27 P **P** 13 10 23.6 -0.8
baz=214,SNR=68
DAC Darwin (Calif) 26.46 323 *eP* **P** 13 10 25.6 +0.8
comp=Z,46nm,1.2s
DAC LR LR
comp=Z,3µm,18.0s
DAC Darwin (Calif) 26.46 323 *eP* **P** 13 10 25.6 +0.8
DAC pmax pmax
comp=Z,46nm,1.2s
DAC MLR MLR
comp=Z,3µm,18.0s
N45A Kentland 26.49 19 P **P** 13 10 24.4 -0.3
baz=204,SNR=24
W60A Pink Hill 26.50 40 P **P** 13 10 24.7 -0.2
baz=229,SNR=9.8
CNNC Cliffs of the 26.51 40 *eP* **P** 13 10 23.5 -1.5
comp=Z,361nm,0.9s
CNNC Cliffs of the 26.51 40 P **P** 13 10 24.9 -0.1
baz=229,SNR=12
T56A Rocky Mt 26.51 34 P **P** 13 10 24.4 -0.6
baz=222,SNR=34
R53A Hurricane 26.52 30 P **P** 13 10 24.5 -0.6
baz=217,SNR=45
PAMC Pamplona, Colo 26.55 106 *eP* **P** 13 10 28.5 +2.4
PAMC Pamplona, Colo 26.55 106 *eP* **P** 13 10 28.5 +2.4
ISA Isabella, Lake 26.56 321 *eP* **P** 13 10 27.0 +1.5
comp=Z,38nm,1.0s
ISA LR LR
comp=Z,4µm,21.0s
ISA Isabella, Lake 26.56 321 *eP* **P** 13 10 27.0 +1.5
ISA pmax pmax
comp=Z,38nm,1.0s
ISA MLR MLR
comp=Z,4µm,21.0s
ISA Isabella, Lake 26.56 321 P **P** 13 10 27.5 +2.0
baz=132,SNR=21
MPU Maple Canyon 26.57 337 *eP* **P** 13 10 26.3 +0.5
comp=Z,85nm,0.9s
MPU LR LR
comp=Z,6µm,19.0s
L39A Vinton 26.60 11 P **P** 13 10 24.8 -1.0
baz=193,SNR=27
M43A Waltham Townsh 26.62 16 P **P** 13 10 25.4 -0.5
baz=200,SNR=22
V59A Middlesex 26.65 39 P **P** 13 10 25.8 -0.4
baz=227,SNR=64
NLU North Lily Min 26.68 336 *eP* **P** 13 10 27.1 +0.3
comp=Z,87nm,0.9s
NLU LR LR
comp=Z,4µm,20.0s
L40A Anamosa 26.69 12 *eP* **P** 13 10 24.9 -1.6
comp=Z,140nm,0.9s
L40A Anamosa 26.69 12 P **P** 13 10 25.5 -1.0
baz=195,SNR=35
RWWY Rawlins 26.71 345 *eP* **P** 13 10 26.6 -0.4
comp=Z,123nm,1.0s
RWWY LR LR
comp=Z,3µm,18.0s
CHIC Chingaza 26.71 112 *eP* **P** 13 10 30.4 +2.9
CHIC Chingaza 26.71 112 *eP* **P** 13 10 30.4 +2.9
CAPV Capacho 26.73 105 *eP* **P** 13 10 29.4 +2.0
CAPV Capacho 26.73 105 *eP* **P** 13 10 29.4 +2.0
P50A Jamestown 26.74 26 P **P** 13 10 26.4 -0.7
baz=212,SNR=36
O48A Farmland 26.76 23 P **P** 13 10 26.3 -0.9
baz=209,SNR=47
N46A Monticello 26.78 20 P **P** 13 10 27.0 -0.4
baz=205,SNR=11
S55A Lewisburg 26.82 33 P **P** 13 10 27.1 -0.7
baz=221,SNR=19
M44A Midewin, Midew 26.82 17 *eP* **P** 13 10 26.5 -1.2
comp=Z,268nm,0.8s
M44A Midewin, Midew 26.82 17 P **P** 13 10 27.6 -0.2
baz=202,SNR=17
GRAC Grapevine Rang 26.84 325 P **P** 13 10 30.1 +2.1
baz=136,SNR=9.8
L41A Preston 26.85 13 P **P** 13 10 27.3 -0.7
baz=196,SNR=37
CWC Cottonwood Cre 26.85 323 P **P** 13 10 30.3 +2.0
baz=134
BANI BANI 26.86 81 *eP* **P** 13 10 27.7 -0.8
R54A Victor 26.88 31 P **P** 13 10 27.9 -0.4
baz=219,SNR=36
Q52A Bidwell 26.88 29 P **P** 13 10 27.8 -0.5
baz=216,SNR=58
PKM Mcpherson Peak 26.88 318 P **P** 13 10 30.3 +1.7
baz=128,SNR=5.8
T57A Hurt 26.92 35 P **P** 13 10 28.2 -0.5
baz=224,SNR=43
R11A Troy Canyon, C 26.92 329 *eP* **P** 13 10 30.0 +1.1
comp=Z,30nm,1.0s
R11A LR LR
comp=Z,5µm,19.0s
R11A Troy Canyon, C 26.92 329 P **P** 13 10 30.8 +1.9
baz=141,SNR=62
P51A Williamsport 26.95 27 *eP* **P** 13 10 27.7 -1.3
comp=Z,235nm,0.9s
P51A Williamsport 26.95 27 P **P** 13 10 27.8 -1.1
baz=214,SNR=39
L42A Oliver, Polo 26.97 14 *eP* **P** 13 10 27.7 -1.4
comp=Z,276nm,0.9s
L42A Oliver, Polo 26.97 14 P **P** 13 10 28.5 -0.6
baz=198,SNR=40
JLU Jordanelle 27.01 338 *eP* **P** 13 10 30.2 +0.4
comp=Z,74nm,1.4s
JLU LR LR
comp=Z,8µm,18.0s
O49A Covington 27.02 24 *eP* **P** 13 10 28.2 -1.3
comp=Z,237nm,1.0s
O49A Covington 27.02 24 P **P** 13 10 28.5 -1.1
baz=210,SNR=40
VES Vestal, Richgr 27.04 321 P **P** 13 10 32.2 +2.4
baz=131,SNR=13
M45A Boilermakers S 27.06 19 P **P** 13 10 29.6 -0.3
baz=204
N47A Urbana 27.12 21 P **P** 13 10 29.3 -1.1
baz=207,SNR=58
Q53A Leroy 27.15 30 P **P** 13 10 30.5 -0.2
baz=217,SNR=29
DUG Dugway, Tooele 27.18 335 *eP* **P** 13 10 31.9 +0.7
comp=Z,65nm,0.9s
DUG LR LR
comp=Z,9µm,18.0s
DUG Dugway, Tooele 27.18 335 *eP* **P** 13 10 31.9 +0.7
DUG pmax pmax
comp=Z,65nm,0.9s
DUG MLR MLR
comp=Z,9µm,18.0s
DUG Dugway, Tooele 27.18 335 P **P** 13 10 33.1 +1.9
baz=148,SNR=74
K39A Oelwein 27.18 11 P **P** 13 10 30.0 -1.0
baz=193,SNR=34
CTU Camp Tracy 27.20 337 *eP* **P** 13 10 31.2 -0.1
comp=Z,46nm,0.9s
CTU LR LR
comp=Z,5µm,18.0s
SMMC Simmler 27.27 319 P **P** 13 10 34.4 +2.5
baz=129,SNR=6.6
O50A Cable 27.27 25 P **P** 13 10 30.9 -0.9
baz=212,SNR=22
K40A Colesburg 27.32 12 P **P** 13 10 31.4 -0.8
baz=195,SNR=28
N48A Decatur 27.34 22 P **P** 13 10 30.9 -1.5
baz=208,SNR=35
M46A Old House Fiel 27.36 20 *eP* **P** 13 10 31.1 -1.5
comp=Z,322nm,1.3s
M46A Old House Fiel 27.36 20 P **P** 13 10 32.0 -0.6
baz=205,SNR=8.7
TIN Tinemaha, Big 27.37 324 P **P** 13 10 35.3 +2.5
baz=134
L43A Garden Prairie 27.37 16 P **P** 13 10 32.0 -0.7
baz=200,SNR=9.4
R55A Marlinton 27.40 32 P **P** 13 10 33.0 0.0
baz=221,SNR=26
K41A Shullsburg 27.40 13 P **P** 13 10 31.8 -1.2
baz=197,SNR=22
DABV Dabajuro 27.43 97 *eP* **P** 13 10 34.6 +1.0
DABV Dabajuro 27.43 97 *eP* **P** 13 10 34.6 +1.0
K22A Casper 27.46 347 *eP* **P** 13 10 33.8 +0.1
comp=Z,100nm,1.0s
K22A LR LR
comp=Z,2µm,20.0s
K22A Casper 27.46 347 P **P** 13 10 34.5 +0.8
baz=162,SNR=27
P52A Corning 27.49 28 P **P** 13 10 32.6 -1.2
baz=215,SNR=21
VOG Valley Oaks Go 27.54 321 P **P** 13 10 36.3 +2.0
baz=131
M47A Cromwell 27.57 21 P **P** 13 10 33.5 -1.0
baz=207,SNR=19
Q54A Coxs Mills 27.58 30 P **P** 13 10 34.4 -0.2
baz=218,SNR=30
L44A Lake County Fo 27.59 17 P **P** 13 10 34.5 -0.1
baz=202,SNR=6.8
ACSO Alum Creek Sta 27.61 26 *eP* **P** 13 10 33.3 -1.5
comp=Z,173nm,1.0s
ACSO Alum Creek Sta 27.61 26 P **P** 13 10 33.9 -0.9
baz=213,SNR=33
ECSD EROS Data Cent 27.68 3 *eP* **P** 13 10 34.1 -1.3
comp=Z,49nm,1.0s
ECSD LR LR
comp=Z,1µm,21.0s
ECSD EROS Data Cent 27.68 3 P **P** 13 10 35.2 -0.3
baz=183,SNR=17
V61A Roper 27.68 41 P **P** 13 10 35.7 +0.1
baz=230,SNR=8.1
PAGB Antelope Grade 27.69 319 *eP* **P** 13 10 35.9 +0.2
comp=Z,45nm,1.1s
PAGB LR LR
comp=Z,2µm,18.0s
O51A Pataskala 27.70 27 P **P** 13 10 34.8 -0.8
baz=214,SNR=19
JFWS Jewell Farm 27.71 13 *eP* **P** 13 10 34.1 -1.6
comp=Z,119nm,0.9s
JFWS Jewell Farm 27.71 13 *eP* **P** 13 10 34.1 -1.6
JFWS pmax pmax
comp=Z,119nm,0.9s
JFWS Jewell Farm 27.71 13 P **P** 13 10 35.3 -0.4
baz=197,SNR=19
N49A Columbus Grove 27.71 24 *eP* **P** 13 10 34.1 -1.6
comp=Z,58nm,0.9s
N49A Columbus Grove 27.71 24 P **P** 13 10 34.7 -1.0
baz=210,SNR=8.9
P53A Whipple 27.71 29 *eP* **P** 13 10 34.5 -1.3
P53A Whipple 27.71 29 P **P** 13 10 35.1 -0.6
baz=217,SNR=17
MTUM Tungsten Hills 27.77 324 *eP* **P** 13 10 41.0 +4.5
K42A Prairie Point, 27.78 14 P **P** 13 10 36.0 -0.4
baz=198,SNR=14
J39A Decorah 27.83 10 P **P** 13 10 35.6 -1.2
baz=193,SNR=11
BGU Big Grassy Mou 27.89 336 *eP* **P** 13 10 37.9 +0.3
comp=Z,89nm,1.2s
BGU LR LR
comp=Z,3µm,18.0s
L46A Eue Claire 27.93 19 P **P** 13 10 36.4 -1.2
baz=205
Q55A Buckhannon 27.96 31 P **P** 13 10 37.6 -0.4
baz=220,SNR=21
K43A Burlington 27.97 16 *eP* **P** 13 10 36.6 -1.4
comp=Z,187nm,1.2s
K43A Burlington 27.97 16 P **P** 13 10 37.5 -0.6
baz=201,SNR=6.7
N50A Nevada 27.99 25 P **P** 13 10 37.4 -0.9
baz=212,SNR=15
M48A Edgerton 28.00 22 *eP* **P** 13 10 36.1 -2.2
comp=Z,109nm,0.9s
M48A Edgerton 28.00 22 P **P** 13 10 37.4 -0.9
baz=209
SPUT South Promonto 28.00 337 *eP* **P** 13 10 38.9 +0.4
comp=Z,39nm,0.9s
SPUT LR LR
comp=Z,300nm,18.0s
O52A Adamsville 28.01 28 *eP* **P** 13 10 36.7 -1.8
comp=Z,145nm,1.2s
O52A Adamsville 28.01 28 P **P** 13 10 37.4 -1.1
baz=215,SNR=12
J40A Soldiers Grove 28.07 12 P **P** 13 10 38.1 -0.8
baz=195,SNR=11
MLAC Mammoth, Mammc 28.12 324 P **P** 13 10 41.8 +2.1
baz=134,SNR=6.0
J41A Loganville 28.19 13 P **P** 13 10 39.3 -0.7
baz=197,SNR=28
P54A Burton 28.23 30 P **P** 13 10 40.3 -0.2
baz=218,SNR=27
MDPB Devils Postpil 28.26 324 *eP* **P** 13 10 41.9 +0.9
comp=Z,50nm,1.2s
MDPB LR LR
comp=Z,2µm,22.0s
L47A Sherwood 28.26 21 P **P** 13 10 39.4 -1.2
baz=207,SNR=18
M49A Liberty Center 28.26 23 P **P** 13 10 39.4 -1.2
baz=210,SNR=16
NV11 Mina Array Sit 28.31 326 *eP* **P** 13 10 42.8 +1.5
comp=Z,5.4nm,1.1s
NV11 LR LR
comp=Z,400nm,19.0s
BW06 Boulder Array 28.34 342 *eP* **P** 13 10 41.4 -0.2
comp=Z,70nm,1.1s
BW06 LR LR
comp=Z,600nm,18.0s
BW06 Boulder Array 28.34 342 P **P** 13 10 42.3 +0.7
baz=156,SNR=63
PD31 Pinedale Array 28.34 342 *eP* **P** 13 10 41.8 +0.2
comp=Z,65nm,1.1s
PDAR Pinedale Array 28.34 342 *eP* **P** 13 10 42.0 +0.3
PDAR Pinedale Array 28.34 342 P **P** 13 10 42.6 +1.0
comp=Z,24nm,1.0s,baz=139,slow=7.5,SNR=71
J42A Columbus 28.34 14 P **P** 13 10 40.5 -0.8
baz=199,SNR=14
SUSD Miller 28.35 359 P **P** 13 10 41.4 0.0
baz=178
I39A Houston 28.36 10 *eP* **P** 13 10 40.1 -1.5
comp=Z,64nm,0.7s
I39A Houston 28.36 10 P **P** 13 10 40.7 -0.8
baz=194,SNR=14
R58B Mineral 28.37 36 *eP* **P** 13 10 41.0 -0.7
comp=Z,66nm,0.9s
R58B Mineral 28.37 36 P **P** 13 10 40.5 -1.1
baz=225,SNR=9.2
NV01 Mina Array Sit 28.39 326 *eP* **P** 13 10 42.7 +0.6
NVAR Mina Array Bea 28.39 326 P **P** 13 10 44.1 +1.9

comp=Z,26nm,0.9s,baz=153,slow=9.5,SNR=155
O53A **New Philadelph** 28.40 28 P **P** 13 10 41.1 -0.8
baz=216
N51A **Ashland** 28.43 26 eP **P** 13 10 40.4 -1.8
comp=Z,63nm,0.8s
N51A **Ashland** 28.43 26 P **P** 13 10 40.8 -1.4
baz=214,SNR=7.1
RSSD **Black Hills** 28.43 351 eP **P** 13 10 42.0 -0.4
comp=Z,50nm,1.2s
RSSD LR LR
comp=Z,1µm,19.0s
RSSD **Black Hills** 28.43 351 eP **P** 13 10 42.0 -0.4
RSSD pmax pmax
comp=Z,50nm,1.2s
RSSD MLR MLR
comp=Z,1µm,19.0s
RSSD **Black Hills** 28.43 351 P **P** 13 10 43.5 +1.1
baz=168
P55A **Reedsville** 28.48 31 P **P** 13 10 42.2 -0.5
baz=220
L48A **N Adams** 28.50 22 P **P** 13 10 41.4 -1.4
baz=209,SNR=23
HVU **Hansel Valley** 28.53 337 eP **P** 13 10 43.9 +0.7
comp=Z,96nm,0.9s
HVU LR LR
comp=Z,5µm,18.0s
HVU **Hansel Valley** 28.53 337 eP **P** 13 10 43.9 +0.7
HVU pmax pmax
comp=Z,96nm,0.9s
HVU MLR MLR
comp=Z,5µm,18.0s
M50A **Fremont** 28.57 25 eP **P** 13 10 41.3 -2.1
comp=Z,66nm,0.8s
M50A **Fremont** 28.57 25 P **P** 13 10 41.9 -1.5
baz=212
I40A **Norwalk** 28.57 12 P **P** 13 10 42.6 -0.8
baz=195,SNR=9.6
J43A **Natural Harves** 28.58 15 P **P** 13 10 42.7 -0.8
baz=200,SNR=9.4
MCWV **Mont Chateau** 28.59 31 eP **P** 13 10 41.3 -2.3
comp=Z,48nm,1.0s
MCWV **Mont Chateau** 28.59 31 P **P** 13 10 42.9 -0.7
baz=219
N52A **McGinn's Farm,** 28.64 27 P **P** 13 10 42.6 -1.5
baz=215
RYN **Ryan** 28.65 326 eP **P** 13 10 45.9 +1.6
comp=Z,47nm,1.1s
RYN LR LR
comp=Z,2µm,18.0s
ELK **Elko** 28.66 333 eP **P** 13 10 45.6 +1.0
comp=Z,72nm,1.4s
ELK LR LR
comp=Z,3µm,20.0s
ELK **Elko** 28.66 333 eP **P** 13 10 45.6 +1.0
ELK pmax pmax
comp=Z,72nm,1.4s
ELK MLR MLR
comp=Z,3µm,20.0s
ELK **Elko** 28.66 333 P **P** 13 10 46.5 +1.9
comp=Z,15nm,1.1s,baz=154,slow=6.3,SNR=41
K46A **Dorr** 28.70 20 P **P** 13 10 43.5 -1.0
baz=206,SNR=8.1
O54A **Avella** 28.73 29 P **P** 13 10 44.4 -0.5
baz=218,SNR=11
KVN **Kaiserville** 28.74 327 eP **P** 13 10 46.0 +0.9
comp=Z,48nm,1.0s
KVN **Kaiserville** 28.74 327 eP **P** 13 10 46.0 +0.9
KVN pmax pmax
comp=Z,48nm,1.0s
AHID **Auburn Hatcher** 28.81 340 eP **P** 13 10 45.7 -0.1
comp=Z,56nm,1.0s
AHID LR LR
comp=Z,6µm,18.0s
CBN **Corbin Frederi** 28.82 36 P **P** 13 10 44.7 -1.0
baz=225
M51A **Elyria** 28.86 26 P **P** 13 10 44.6 -1.4
baz=213
I41A **Arkdale** 28.88 13 eP **P** 13 10 45.0 -1.1
comp=Z,104nm,1.1s
I41A **Arkdale** 28.88 13 P **P** 13 10 45.6 -0.5
baz=197,SNR=10
L49A **Milan** 28.89 23 P **P** 13 10 45.4 -0.9
baz=210,SNR=11
I42A **Draeger Farm,** 28.94 14 eP **P** 13 10 45.4 -1.3
comp=Z,93nm,1.1s
I42A **Draeger Farm,** 28.94 14 P **P** 13 10 46.1 -0.5
baz=199,SNR=9.0
K47A **Vermontville** 28.94 21 P **P** 13 10 45.8 -0.9
baz=207,SNR=9.8
N53A **Lisbon** 29.02 28 P **P** 13 10 46.1 -1.3
baz=216,SNR=9.5
PLIO **Pelee Island,** 29.03 25 P **P** 13 10 46.3 -1.1
baz=212,SNR=5.9
H38A **Maiden Rock** 29.04 9 P **P** 13 10 47.1 -0.4
baz=192,SNR=16
WAKR **Walker** 29.07 325 eP **P** 13 10 49.1 +0.9
comp=Z,141nm,1.9s
WAKR LR LR
comp=Z,2µm,19.0s
SAO **San Andreas Ge** 29.09 320 eP **P** 13 10 49.0 +0.9
comp=Z,24nm,1.0s
SAO LR LR
comp=Z,2µm,19.0s
SAO **San Andreas Ge** 29.09 320 eP **P** 13 10 49.0 +0.9
SAO pmax pmax
comp=Z,24nm,1.0s
SAO MLR MLR
comp=Z,2µm,19.0s
AAM **Ann Arbor** 29.10 23 eP **P** 13 10 46.4 -1.6
comp=Z,82nm,0.8s
AAM **Ann Arbor** 29.10 23 eP **P** 13 10 46.4 -1.6
AAM pmax pmax
comp=Z,83nm,0.8s
AAM **Ann Arbor** 29.10 23 P **P** 13 10 47.0 -1.1
baz=210
I43A **Langenfeld Bro** 29.12 15 P **P** 13 10 47.8 -0.4
baz=200,SNR=7.7
J45A **Montague** 29.19 18 P **P** 13 10 47.9 -0.9
baz=204
L50A **Kingsville** 29.20 24 P **P** 13 10 47.8 -1.2
baz=212
H39A **Augusta** 29.21 10 P **P** 13 10 48.7 -0.4
baz=194,SNR=17
REDW **Red Top Meadow** 29.27 341 eP **P** 13 10 49.8 -0.1
comp=Z,60nm,0.9s
REDW LR LR
comp=Z,800nm,20.0s
O55A **Ligonier** 29.27 31 P **P** 13 10 48.8 -0.9
baz=220,SNR=8.1
CMB **Columbia Colle** 29.29 323 eP **P** 13 10 49.8 -0.1
comp=Z,32nm,1.4s
CMB LR LR
comp=Z,1µm,18.0s
CMB **Columbia Colle** 29.29 323 eP **P** 13 10 49.8 -0.1
CMB pmax pmax
comp=Z,32nm,1.4s
CMB MLR MLR
comp=Z,1µm,18.0s
YERR **Yerington** 29.30 325 eP **P** 13 10 50.3 +0.1
comp=Z,126nm,1.9s
YERR LR LR
comp=Z,5µm,20.0s
H40A **Chili** 29.32 12 P **P** 13 10 49.7 -0.3
baz=195,SNR=24
SNOW **Snow King Moun** 29.33 341 eP **P** 13 10 50.8 +0.3
comp=Z,111nm,1.1s
SNOW LR LR
comp=Z,6µm,19.0s
BMN **Battle Mountai** 29.34 330 PFAKE 13 11 00.0 +10
BMN LR LR
comp=Z,3µm,19.0s
J46A **Howard City** 29.34 19 P **P** 13 10 49.6 -0.6
baz=205
K48A **Perry** 29.37 22 P **P** 13 10 48.9 -1.5
baz=208,SNR=24
M52A **Chesterland** 29.38 27 P **P** 13 10 49.3 -1.3
baz=215,SNR=5.5
TPAW **Teton Pass** 29.42 341 eP **P** 13 10 50.2 -1.1
comp=Z,85nm,1.0s
TPAW LR LR
comp=Z,2µm,19.0s
LOHW **Long Hollow** 29.42 342 eP **P** 13 10 51.1 -0.1
comp=Z,68nm,0.9s
LOHW LR LR
comp=Z,3µm,20.0s
H41A **Junction City** 29.46 13 eP **P** 13 10 50.0 -1.3
comp=Z,75nm,0.9s
H41A **Junction City** 29.46 13 P **P** 13 10 51.0 -0.3
baz=197,SNR=19
SPMN **Marine on St.** 29.50 8 eP **P** 13 10 50.0 -1.7
comp=Z,93nm,1.1s
SPMN LR LR
comp=Z,2µm,18.0s
SPMN **Marine on St.** 29.50 8 P **P** 13 10 51.2 -0.5
baz=190,SNR=19
N54A **Moraine State** 29.53 29 eP **P** 13 10 50.4 -1.5
comp=Z,54nm,1.0s
N54A **Moraine State** 29.53 29 P **P** 13 10 51.1 -0.8
baz=218,SNR=8.3
PNTR **Pine Nut** 29.57 325 eP **P** 13 10 52.9 +0.3
comp=Z,44nm,1.0s
PNTR LR LR
comp=Z,2µm,18.0s
FXWY **Fox Creek** 29.57 341 eP **P** 13 10 52.0 -0.6
comp=Z,59nm,1.0s
MOOW **Moose Ponds** 29.59 342 eP **P** 13 10 52.4 -0.3
comp=Z,32nm,0.9s
MOOW LR LR
comp=Z,6µm,22.0s
G38A **Ridgeland** 29.59 9 P **P** 13 10 51.9 -0.5
baz=192,SNR=12
K49A **Clarkson** 29.59 23 P **P** 13 10 50.9 -1.5
baz=210
M53A **Wi Miller and** 29.60 28 P **P** 13 10 51.3 -1.2
baz=216,SNR=8.5
H42A **Shiocton** 29.61 14 eP **P** 13 10 50.0 -2.5
comp=Z,44nm,1.0s
H42A **Shiocton** 29.61 14 P **P** 13 10 52.1 -0.5
baz=199
O56A **Blue Knob Stat** 29.69 32 eP **P** 13 10 51.2 -2.2
comp=Z,78nm,1.2s
O56A **Blue Knob Stat** 29.69 32 P **P** 13 10 52.8 -0.6
baz=221,SNR=8.3
VCNR **Virginia City** 29.74 325 eP **P** 13 10 55.8 +1.6
comp=Z,39nm,1.3s
VCNR LR LR
comp=Z,1µm,18.0s
H43A **Windswept, Lux** 29.76 15 eP **P** 13 10 52.2 -1.8
comp=Z,131nm,1.4s
H43A **Windswept, Lux** 29.76 15 P **P** 13 10 53.7 -0.3
baz=200
IMW **Indian Meadow** 29.78 342 eP **P** 13 10 54.2 -0.3
comp=Z,84nm,1.3s
IMW LR LR
comp=Z,5µm,20.0s
I45A **Fountain** 29.78 18 P **P** 13 10 53.2 -0.9
baz=204
G39A **Holcombe** 29.82 10 P **P** 13 10 53.8 -0.6
baz=194,SNR=18
RUBR **Rubicon Trail** 29.85 325 PFAKE 13 11 10.0 +15
RUBR LR LR
comp=Z,2µm,20.0s
N55A **Marion Center** 29.87 30 P **P** 13 10 54.6 -0.3
baz=220,SNR=8.0
FLWY **Flagg Ranch** 29.88 342 eP **P** 13 10 55.9 +0.7
comp=Z,54nm,1.0s
FLWY LR LR
comp=Z,2µm,19.0s
PAHR **Pah Rah Range** 29.89 326 eP **P** 13 10 56.4 +1.1
comp=Z,28nm,1.2s
MPR **Mayaguez** 29.92 81 PFAKE 13 11 10.0 +14
MPR LR LR
comp=Z,1µm,21.0s
J48A **Bridge Port** 29.92 22 P **P** 13 10 54.4 -0.9
baz=209,SNR=7.7
I46A **Reed City** 29.93 19 P **P** 13 10 54.4 -1.1
baz=205
SDMD **Soldier's Deli** 29.97 35 eP **P** 13 10 54.4 -1.4
comp=Z,122nm,1.9s
G40A **Rib Lake** 29.97 12 eP **P** 13 10 54.4 -1.4
comp=Z,113nm,1.3s
G40A **Rib Lake** 29.97 12 P **P** 13 10 55.3 -0.5
baz=196,SNR=19
F37A **Hinrichs Farm,** 30.02 8 P **P** 13 10 55.5 -0.7
baz=191
YPP **Pitchstone Pla** 30.08 342 eP **P** 13 10 54.8 -2.3
comp=Z,41nm,1.5s
YPP LR LR
comp=Z,6µm,18.0s
M54A **Oil Creek Stat** 30.11 29 eP **P** 13 10 55.8 -1.3
comp=Z,265nm,1.6s
M54A **Oil Creek Stat** 30.11 29 P **P** 13 10 56.4 -0.7
baz=218,SNR=9.5
H17A **Grant Village** 30.13 342 eP **P** 13 10 57.0 -0.5
comp=Z,29nm,1.2s
H17A LR LR
comp=Z,12µm,19.0s
H17A **Grant Village** 30.13 342 P **P** 13 10 59.3 +1.8
baz=156,SNR=9.5
G41A **Antigo** 30.13 13 P **P** 13 10 56.4 -0.8
baz=197,SNR=7.5
L53A **Girard** 30.20 27 P **P** 13 10 56.8 -1.0
baz=216,SNR=6.0
J49A **Marlette** 30.20 22 P **P** 13 10 56.6 -1.3
baz=210,SNR=5.5
LKWY **Lake** 30.23 343 eP **P** 13 10 59.7 +1.3
comp=Z,46nm,1.1s
LKWY LR LR
comp=Z,14µm,19.0s
LKWY **Lake** 30.23 343 eP **P** 13 10 59.7 +1.3
LKWY pmax pmax
comp=Z,46nm,1.1s
LKWY MLR MLR
comp=Z,14µm,19.0s
AFDM **Forest Hills D** 30.24 323 eP **P** 13 10 59.2 +0.9
comp=Z,13nm,1.1s
AFDM LR LR
comp=Z,900nm,18.0s
YFT **Old Faithful** 30.25 342 eP **P** 13 10 59.6 +1.0
comp=Z,56nm,1.4s
YFT LR LR
comp=Z,13µm,18.0s
K51A **Iona Station** 30.29 25 P **P** 13 10 56.8 -1.8
baz=213
I47A **Gladwin** 30.30 20 P **P** 13 10 58.0 -0.8
baz=207
SSPA **Standing Stone** 30.30 32 eP **P** 13 10 57.4 -1.4
comp=Z,353nm,2.0s
SSPA **Standing Stone** 30.30 32 P **P** 13 10 58.2 -0.6
baz=222
G42A **Mountain** 30.33 14 eP **P** 13 10 57.8 -1.1
comp=Z,53nm,0.9s
G42A **Mountain** 30.33 14 P **P** 13 10 58.2 -0.7
baz=199,SNR=10
F38A **Pierce - Schro** 30.36 9 P **P** 13 10 58.7 -0.5
baz=192,SNR=14
H45A **Beulah** 30.37 18 P **P** 13 10 58.8 -0.6
baz=204
OBIP **Obispado Ponce** 30.43 82 eP **P** 13 10 57.0 -3.1
comp=Z,37nm,1.0s
RLMT **Red Lodge** 30.44 345 eP **P** 13 10 59.9 -0.3
comp=Z,59nm,1.0s
RLMT LR LR
comp=Z,8µm,21.0s
RLMT **Red Lodge** 30.44 345 P **P** 13 11 01.2 +1.0
baz=158,SNR=35
ERPA **Erie** 30.45 28 eP **P** 13 10 59.2 -0.9
comp=Z,43nm,0.8s
ERPA **Erie** 30.45 28 P **P** 13 10 58.7 -1.4
baz=216
YNR **Norris Junctio** 30.45 343 eP **P** 13 11 00.6 +0.2
comp=Z,21nm,0.8s
YNR LR LR
comp=Z,6µm,20.0s
F39A **Loretta** 30.47 10 P **P** 13 10 58.6 -1.6
baz=194,SNR=14
YMR **Madison River** 30.49 342 eP **P** 13 11 00.9 +0.2
comp=Z,104nm,1.4s
YMR LR LR
comp=Z,3µm,19.0s
M55A **Ridgway** 30.50 30 P **P** 13 11 00.0 -0.5
baz=219,SNR=13
ICMP **Isla Caja de M** 30.51 82 PFAKE 13 11 10.0 +9.2
ICMP LR LR
comp=Z,900nm,20.0s
G43A **Wallace** 30.52 15 eP **P** 13 10 58.1 -2.5
comp=Z,40nm,0.9s
G43A **Wallace** 30.52 15 P **P** 13 10 59.9 -0.7
baz=200,SNR=6.4
BEKR **Beckworth** 30.53 325 eP **P** 13 11 02.8 +1.7
comp=Z,27nm,1.0s
BEKR LR LR
comp=Z,2µm,19.0s
H46A **Fife Lake** 30.55 19 P **P** 13 10 59.6 -1.3
baz=205
YHH **Holmes Hill** 30.57 342 eP **P** 13 11 02.5 +1.1
comp=Z,44nm,1.2s
YHH LR LR
comp=Z,2µm,19.0s
PAGS **Pennsylvania G** 30.61 34 eP **P** 13 11 00.1 -1.5
comp=Z,34nm,1.0s
F40A **Park Falls** 30.61 11 P **P** 13 11 01.1 -0.4
baz=195,SNR=30
YHB **Horse Butte** 30.63 342 eP **P** 13 11 02.2 +0.3
comp=Z,21nm,1.0s
YHB LR LR
comp=Z,3µm,21.0s
F41A **Three Lakes** 30.65 13 eP **P** 13 11 00.5 -1.3
comp=Z,34nm,1.1s
F41A **Three Lakes** 30.65 13 P **P** 13 11 01.2 -0.6
baz=197
MVL **Millersville** 30.65 34 eP **P** 13 11 03.4 +1.5
comp=Z,112nm,1.5s
K52A **Tillsonburg** 30.67 26 P **P** 13 11 00.6 -1.4
baz=215
HLID **Hailey** 30.68 337 eP **P** 13 11 03.1 +0.8
comp=Z,25nm,0.9s
HLID LR LR
comp=Z,5µm,18.0s
HLID **Hailey** 30.68 337 P **P** 13 11 03.9 +1.6
baz=148,SNR=23
I48A **Sherman Twp** 30.73 21 P **P** 13 11 01.8 -0.7
baz=208,SNR=8.9
ELFO **Elginfield** 30.76 25 P **P** 13 11 01.1 -1.7
baz=213,SNR=6.9
QLMT **Earthquake Lak** 30.78 342 eP **P** 13 11 03.3 +0.1
I49A **Point Hope** 30.82 22 P **P** 13 11 02.2 -1.1
baz=210
MCCM **Marconi Confer** 30.85 320 PFAKE 13 11 20.0 +16
MCCM LR LR
comp=Z,2µm,18.0s
SJG **San Juan** 30.86 81 eP **P** 13 11 02.3 -1.6
comp=Z,80nm,0.8s
SJG LR LR
comp=Z,1µm,19.0s
SJG **San Juan** 30.86 81 eP **P** 13 11 02.3 -1.6
SJG pmax pmax
comp=Z,80nm,0.8s
SJG MLR MLR
comp=Z,1µm,19.0s
G45A **Suttons Bay** 30.87 18 P **P** 13 11 03.0 -0.7
baz=204
F42A **Maple Grove Fa** 30.88 14 P **P** 13 11 02.9 -0.9
baz=199
H47A **Mio** 30.92 20 P **P** 13 11 03.3 -0.9
baz=207,SNR=7.8
ORV **Oroville** 30.95 324 eP **P** 13 11 06.1 +1.6
comp=Z,16nm,0.8s
ORV LR LR
comp=Z,1µm,18.0s
ORV **Oroville** 30.95 324 eP **P** 13 11 06.1 +1.6
ORV pmax pmax
comp=Z,17nm,0.8s
ORV MLR MLR
comp=Z,1µm,18.0s
E39A **Mellen** 30.98 11 P **P** 13 11 04.2 -0.5
baz=194,SNR=19
COWI **Conover** 30.98 13 eP **P** 13 11 03.8 -1.0
comp=Z,61nm,1.3s
GLMI **Grayling** 30.99 19 eP **P** 13 11 03.0 -1.8
comp=Z,153nm,0.9s
GLMI LR LR
comp=Z,900nm,19.0s
GLMI **Grayling** 30.99 19 P **P** 13 11 04.2 -0.6
baz=206,SNR=5.7
E38A **The Farm, Brul** 31.04 9 eP **P** 13 11 03.9 -1.3
comp=Z,288nm,1.9s
E38A LR LR
comp=Z,700nm,19.0s
E38A **The Farm, Brul** 31.04 9 P **P** 13 11 04.5 -0.6
baz=192,SNR=16
PSUB **Penn St. - Bra** 31.10 35 eP **P** 13 11 06.8 +1.0
comp=Z,43nm,1.0s
CBYP **Canovanas** 31.14 81 eP **P** 13 11 05.0 -1.5
comp=Z,83nm,0.9s
HUMP **Col San Antoni** 31.14 81 eP **P** 13 11 05.4 -1.1
comp=Z,268nm,1.9s
J52A **Paris** 31.15 26 P **P** 13 11 04.7 -1.5
baz=214,SNR=7.2
E40A **Wakefield** 31.16 11 P **P** 13 11 05.8 -0.5
baz=196,SNR=26
GCMT **Greycliff** 31.17 345 eP **P** 13 11 06.7 +0.1
F43A **Flat Rock, Esc** 31.18 15 P **P** 13 11 05.6 -0.9
baz=201,SNR=11
L55A **Hinsdale** 31.21 29 P **P** 13 11 06.2 -0.7
baz=219,SNR=11
GDXM **Geysers** 31.22 321 eP **P** 13 11 08.1 +1.1
comp=Z,16nm,1.0s
GDXM LR LR
comp=Z,6µm,18.0s
MCMT **McKenzie Canyo** 31.22 340 eP **P** 13 11 06.8 -0.4
LAO **LASA Array** 31.28 350 eP **P** 13 11 07.1 -0.4
comp=Z,187nm,1.6s
LAO **LASA Array** 31.28 350 P **P** 13 11 08.1 +0.7
baz=165,SNR=12
TYNO **Tyneside** 31.29 27 P **P** 13 11 06.1 -1.3
baz=216,SNR=6.3
H48A **Harrisville** 31.30 21 P **P** 13 11 07.0 -0.6
baz=208
BASO **Ashfield** 31.32 24 P **P** 13 11 06.2 -1.4
baz=212
G46A **Petoskey** 31.36 18 P **P** 13 11 07.1 -0.9
baz=205
E41A **Kenton** 31.37 13 P **P** 13 11 07.6 -0.5
baz=197,SNR=8.6
I51A **Listowel** 31.39 24 P **P** 13 11 07.0 -1.4
baz=213,SNR=10
MTP **Monte Pirata** 31.43 81 eP **P** 13 11 07.8 -1.2
comp=Z,151nm,0.9s
MTP LR LR
comp=Z,2µm,18.0s
HOPS **Hopland Field** 31.50 321 eP **P** 13 11 11.0 +1.6
comp=Z,44nm,1.1s
HOPS LR LR
comp=Z,4µm,18.0s
F44A **Big Bay de Noc** 31.51 16 P **P** 13 11 08.3 -1.1
baz=202,SNR=11
BOZ **Bozeman (W)** 31.53 342 eP **P** 13 11 10.7 +0.9
comp=Z,97nm,1.4s
BOZ LR LR
comp=Z,5µm,21.0s
BOZ **Bozeman (W)** 31.53 342 eP **P** 13 11 10.7 +0.9
BOZ pmax pmax
comp=Z,97nm,1.4s
BOZ MLR MLR
comp=Z,5µm,21.0s
BOZ **Bozeman (W)** 31.53 342 P **P** 13 11 11.2 +1.4
baz=155,SNR=35
G47A **Hillman** 31.55 20 P **P** 13 11 08.8 -0.9
baz=207
WVOR **Wild Horse Val** 31.56 331 eP **P** 13 11 10.8 +0.8
comp=Z,94nm,1.2s
WVOR LR LR
comp=Z,2µm,18.0s
WVOR **Wild Horse Val** 31.56 331 eP **P** 13 11 10.8 +0.8
WVOR pmax pmax
comp=Z,94nm,1.2s
WVOR MLR MLR
comp=Z,2µm,18.0s
E42A **Champion** 31.57 14 P **P** 13 11 09.1 -0.8
baz=199,SNR=9.1
BRCO **Bruce Peninsul** 31.60 24 P **P** 13 11 08.9 -1.2
baz=212
LUPA **Lehigh Univers** 31.61 35 eP **P** 13 11 08.0 -2.3
comp=Z,8.1nm,1.1s
BWLO **Walkerton** 31.61 24 P **P** 13 11 09.1 -1.1
baz=213
N59A **State Game Lan** 31.61 34 eP **P** 13 11 09.1 -1.3
comp=Z,104nm,1.6s
N59A **State Game Lan** 31.61 34 P **P** 13 11 09.8 -0.5
baz=225
DLMT **Dillon** 31.62 341 eP **P** 13 11 11.3 +0.8
comp=Z,100nm,0.9s
DLMT LR LR
comp=Z,3µm,20.0s
ACTO **Acton** 31.62 26 P **P** 13 11 08.6 -1.8
baz=215
O03E **Paynes Creek** 31.63 325 P **P** 13 11 12.0 +1.4
baz=133,SNR=8.7
CUPR **Culebra, Puert** 31.68 81 eP **P** 13 11 10.1 -1.1
comp=Z,121nm,1.4s
CUPR LR LR
comp=Z,1µm,21.0s
STCO **Saint Catharin** 31.68 27 P **P** 13 11 09.5 -1.4

baz=217
E43A Lone Tree Farm 31.74 15 eP P 13 11 10.1 -1.2
comp=Z,89nm,1.0s
E43A LR LR
comp=Z,800nm,18.0s
E43A Lone Tree Farm 31.74 15 P P 13 11 10.6 -0.7
baz=201,SNR=6.6
MDND Maddock 31.77 358 eP P 13 11 11.2 -0.5
comp=Z,441nm,0.9s
MDND LR LR
comp=Z,2µm,19.0s
MDND Maddock 31.77 358 P P 13 11 12.1 +0.5
baz=177,SNR=18
F46A Macinaw City C 31.80 18 P P 13 11 11.6 -0.4
baz=205,SNR=11
K55A Perry 31.80 29 P P 13 11 11.4 -0.6
baz=219,SNR=7.0
LCCM Lewis and Clar 31.82 342 eP P 13 11 14.5 +2.1
MMNY Mt. Morris Dam 31.88 29 eP P 13 11 10.2 -2.5
comp=Z,315nm,1.7s
I52A Shelburne 31.95 25 P P 13 11 11.7 -1.7
baz=214
MEDO Medina 31.97 28 P P 13 11 12.4 -1.0
baz=218,SNR=6.2
J54A Appleton 31.97 28 P P 13 11 12.0 -1.4
baz=218
MOD Modoc Plateau 31.97 328 eP P 13 11 14.0 +0.4
comp=Z,38nm,1.0s
MOD LR LR
comp=Z,2µm,19.0s
BMRO Meriville Lake 31.98 23 P P 13 11 11.8 -1.7
baz=212
STVI Saint Thomas 31.99 81 eP P 13 11 12.8 -1.1
comp=Z,95nm,0.9s
I53A Kortright Cn E 32.00 26 P P 13 11 12.0 -1.6
baz=215
D41A Chassel 32.02 13 eP P 13 11 12.6 -1.3
comp=Z,216nm,1.1s
D41A Chassel 32.02 13 P P 13 11 13.5 -0.3
baz=198,SNR=10
O02D Mt. Diablo Mer 32.11 323 P P 13 11 15.7 +0.9
baz=131
BRNJ Basking Ridge 32.11 35 eP P 13 11 13.7 -1.0
comp=Z,118nm,0.8s
J08A Circle Bar Ran 32.20 332 eP P 13 11 16.8 +1.2
comp=Z,115nm,1.0s
J08A LR LR
comp=Z,10µm,18.0s
E45A Wooded Hills, 32.20 17 P P 13 11 15.1 -0.3
baz=204
WDC Whiskeytown Da 32.23 324 eP P 13 11 15.2 -0.6
comp=Z,8.6nm,1.1s
WDC LR LR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 32.23 324 eP P 13 11 15.2 -0.6
WDC pmax pmax
comp=Z,9.0nm,1.1s
WDC MLR MLR
comp=Z,2µm,18.0s
E44A Grand Marais A 32.24 16 PFAKE 13 11 30.0 +14
E44A LR LR
comp=Z,2µm,18.0s
E44A Grand Marais A 32.24 16 P P 13 11 15.4 -0.4
baz=202
KCPM Cahto Peak 32.25 322 eP P 13 11 17.5 +1.4
comp=Z,48nm,1.0s
KCPM LR LR
comp=Z,3µm,19.0s
AGMN Agassiz Nation 32.27 3 eP P 13 11 14.9 -1.1
comp=Z,121nm,1.0s
AGMN LR LR
comp=Z,2µm,19.0s
AGMN Agassiz Nation 32.27 3 P P 13 11 15.6 -0.4
baz=184,SNR=55
PKRO Pickering 32.33 27 P P 13 11 15.3 -1.3
baz=216
J55A Hilton 32.34 29 P P 13 11 15.8 -0.9
baz=219,SNR=5.9
EYMN Ely 32.35 9 eP P 13 11 15.0 -1.8
comp=Z,93nm,1.6s
EYMN LR LR
comp=Z,900nm,21.0s
EYMN Ely 32.35 9 P P 13 11 15.8 -1.0
baz=192,SNR=11
ODNJ Ogdensburg 32.36 35 eP P 13 11 14.3 -2.6
comp=Z,82nm,1.2s
TOBO Tobermory, Bru 32.40 22 P P 13 11 16.1 -1.1
baz=211
DRWO Darlington Wes 32.41 27 P P 13 11 15.8 -1.4
baz=217
DRCO St. Marys Ceme 32.42 27 P P 13 11 16.3 -1.1
baz=217
BINY Binghamton 32.42 32 eP P 13 11 15.8 -1.7
comp=Z,60nm,0.8s
BINY Binghamton 32.42 32 P P 13 11 17.0 -0.5
baz=223,SNR=7.6
E46A Sault Ste Mari 32.47 18 P P 13 11 17.1 -0.7
baz=206,SNR=7.4
CPNY Central Park 32.52 36 eP P 13 11 17.0 -1.3
comp=Z,60nm,1.0s
F48A Evansville 32.53 21 P P 13 11 17.2 -1.1
baz=209
H52A Wyevale 32.54 25 P P 13 11 17.3 -1.1
baz=214
ABVI Anegada Island 32.58 80 eP P 13 11 18.6 -0.4
comp=Z,119nm,0.8s
WLVO Wesleyville 32.59 27 P P 13 11 17.8 -1.1
baz=217,SNR=7.0
N02D Trinity Center 32.59 325 P P 13 11 19.0 -0.1
baz=132
HRY Holter Researc 32.60 343 eP P 13 11 19.1 0.0
KMRM Mail Ridge 32.67 323 eP P 13 11 21.6 +1.9
comp=Z,61nm,1.2s
KMRM LR LR
comp=Z,4µm,19.0s
F49A Sandfield 32.68 21 P P 13 11 18.4 -1.2
baz=210,SNR=13
M04C Macdoel 32.68 327 P P 13 11 21.6 +1.8
baz=134
PAL Palisades 32.69 35 eP P 13 11 18.1 -1.7
comp=Z,128nm,1.0s
PAL Palisades 32.69 35 eP P 13 11 18.1 -1.7
PAL pmax pmax
comp=Z,128nm,1.0s
PAL Palisades 32.69 35 P P 13 11 19.0 -0.8
baz=227,SNR=9.8
C40A Isle Royale Na 32.72 12 eP P 13 11 18.4 -1.5
comp=Z,133nm,1.3s
C40A Isle Royale Na 32.72 12 P P 13 11 19.4 -0.6
baz=196,SNR=7.2
DGMT Dagmar 32.73 353 eP P 13 11 19.8 -0.3
comp=Z,96nm,1.0s
DGMT LR LR
comp=Z,700nm,20.0s
DGMT Dagmar 32.73 353 P P 13 11 20.7 +0.6
baz=169,SNR=21
E47A Iron Bridge 32.87 19 P P 13 11 21.0 -0.3
baz=207,SNR=15
K05A Summer Lake 32.87 329 eP P 13 11 22.6 +0.9
comp=Z,47nm,1.3s
K05A LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 32.90 335 eP P 13 11 21.8 +0.1
comp=Z,32nm,1.1s
BMO LR LR
comp=Z,6µm,18.0s
BMO Blue Mountains 32.90 335 eP P 13 11 21.8 +0.1
BMO pmax pmax
comp=Z,32nm,1.1s
BMO MLR MLR
comp=Z,6µm,18.0s
SADO Sadowa 32.95 26 eP P 13 11 20.4 -1.6
comp=Z,163nm,1.6s
SADO Sadowa 32.95 26 P P 13 11 21.0 -1.0
comp=Z,28nm,0.8s,baz=260,slow=8.1,SNR=17
SADO LR LR 13 27 01.7
comp=Z,301nm,21.3s,baz=180,slow=41
M02C Callahan 32.96 325 P P 13 11 22.6 +0.4
baz=132
KLBO Killbear Provi 33.01 24 P P 13 11 21.3 -1.2
baz=213,SNR=6.7
D46A Sault St. Mari 33.02 18 P P 13 11 21.9 -0.7
baz=206,SNR=19
KHMM Horse Mountain 33.11 324 eP P 13 11 24.8 +1.2
comp=Z,48nm,1.0s
KHMM LR LR
comp=Z,5µm,18.0s
YBH Yreka Blue Hor 33.11 326 eP P 13 11 23.4 -0.2
comp=Z,23nm,1.6s
YBH pmax pmax
comp=Z,23nm,1.6s
YBH Yreka Blue Hor 33.11 326 P P 13 11 23.8 +0.2
comp=Z,3.2nm,0.7s,baz=95,slow=8.9,SNR=4.5
YBH LR LR 13 24 18.6
comp=Z,1µm,18.7s,baz=157,slow=35
I55A Frankford 33.14 28 P P 13 11 22.3 -1.3
baz=218,SNR=7.3
I07A Izee 33.23 332 eP P 13 11 24.6 -0.1
comp=Z,27nm,0.9s
I07A LR LR
comp=Z,2µm,21.0s
L04D Klamath Falls 33.23 327 P P 13 11 26.1 +1.4
baz=134,SNR=12
K04D Chiloquin, OR 33.23 328 P P 13 11 26.1 +1.4
baz=136
PECO Prince Edward 33.23 29 P P 13 11 23.6 -0.9
baz=220,SNR=6.2
JCC Jacoby Creek, 33.24 323 eP P 13 11 25.7 +1.2
comp=Z,122nm,1.4s
JCC LR LR
comp=Z,2µm,20.0s
E48A Lockeyer 33.26 21 P P 13 11 24.3 -0.4
baz=209,SNR=7.2
EGMT Eagleton 33.28 346 eP P 13 11 25.2 +0.2
comp=Z,174nm,1.4s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 33.28 346 P P 13 11 25.8 +0.9
baz=159,SNR=22
MSO Missoula 33.35 340 eP P 13 11 26.1 +0.4
comp=Z,30nm,0.9s
MSO LR LR
comp=Z,8µm,18.0s
MSO Missoula 33.35 340 P P 13 11 26.6 +1.0
baz=152,SNR=31
BUKO Buck Lake 33.40 25 P P 13 11 24.5 -1.4
baz=214,SNR=16
DELO Deloro Mine 33.41 27 P P 13 11 24.9 -1.1
baz=218,SNR=10
YLE Yale 33.44 36 eP P 13 11 28.4 +2.0
comp=Z,97nm,0.9s
J05D Fort Rock, OR 33.45 329 P P 13 11 27.9 +1.3
baz=137,SNR=8.1
G53A Haliburton 33.45 26 P P 13 11 25.2 -1.2
baz=216,SNR=8.0
D47A Chapleau 33.46 19 P P 13 11 26.0 -0.4
baz=207,SNR=10
F51A Arnstein 33.60 24 P P 13 11 26.1 -1.6
baz=213,SNR=5.2
H55A Tweed 33.62 28 P P 13 11 26.8 -1.1
baz=219,SNR=12
BANO Bancroft 33.67 27 P P 13 11 26.9 -1.4
baz=217
PINE Pine Mountain 33.68 330 eP P 13 11 29.0 +0.3
comp=Z,17nm,0.9s
PINE LR LR
comp=Z,2µm,18.0s
E50A Wahnapitae 33.71 22 P P 13 11 27.1 -1.5
baz=211,SNR=7.9
F52A Sundridge 33.72 24 P P 13 11 27.2 -1.5
baz=214,SNR=8.3
SMRT St. Maarten 33.79 81 eP P 13 11 28.3 -1.3
comp=Z,494nm,2.0s
F10A Beach Ranch, E 33.79 336 eP P 13 11 29.7 +0.2
comp=Z,85nm,0.9s
F10A LR LR
comp=Z,3µm,20.0s
HUMO Hull Mountain 33.85 327 PFAKE 13 11 40.0 +10
HUMO LR LR
comp=Z,3µm,18.0s
J04D Umpqua Nationa 33.86 328 P P 13 11 31.5 +1.3
baz=136,SNR=13
L02E Cave Junction 33.89 325 P P 13 11 31.2 +0.9
baz=132
SEUS St. Eustatius 33.90 82 PFAKE 13 11 40.0 +9.4
SEUS LR LR
comp=Z,1µm,20.0s
G08A Pilot Rock 33.94 334 eP P 13 11 31.2 +0.4
comp=Z,50nm,1.0s
G08A LR LR
comp=Z,2µm,21.0s
D48A Paudash Townsh 33.98 20 P P 13 11 30.2 -0.8
baz=209,SNR=13
TRY Troy 34.01 33 eP P 13 11 29.9 -1.4
comp=Z,142nm,1.4s
PLVO Plevna 34.05 27 eP P 13 11 30.0 -1.6
comp=Z,38nm,1.0s
PLVO Plevna 34.05 27 P P 13 11 30.6 -1.0
baz=218,SNR=6.4
BEND Bend 34.08 330 eP P 13 11 36.8 +4.8
H56A Elgin 34.08 29 P P 13 11 30.8 -1.0
baz=220,SNR=9.7
ULM Lac du Bonnet 34.22 3 eP P 13 11 31.5 -1.5
comp=Z,112nm,1.3s
ULM LR LR
comp=Z,1µm,18.0s
ULM Lac du Bonnet 34.22 3 eP P 13 11 31.5 -1.5
ULM pmax pmax
comp=Z,112nm,1.3s
ULM MLR MLR
comp=Z,1µm,18.0s
ULM Lac du Bonnet 34.22 3 P P 13 11 32.2 -0.8
comp=Z,46nm,1.1s,baz=183,slow=9.0,SNR=39
D49A Beulah Townshi 34.22 21 P P 13 11 31.8 -1.3
baz=210,SNR=13
E51A G1948 Merrick 34.27 23 P P 13 11 32.7 -0.8
baz=213,SNR=9.7
I05D Tenonne, OR 34.28 330 P P 13 11 35.2 +1.5
baz=138,SNR=11
K02D Willamette Mer 34.29 326 P P 13 11 35.1 +1.2
baz=133
ALGO Algonquin Park 34.36 25 P P 13 11 32.8 -1.5
baz=216,SNR=8.6
G55A Calabogie 34.38 27 P P 13 11 33.5 -0.9
baz=219,SNR=8.3
E52A Mattawa 34.39 24 P P 13 11 33.3 -1.2
baz=215
I04A Tendick Farm, 34.41 329 P P 13 11 35.9 +1.1
baz=136,SNR=6.8
QUA2 Belchertown 34.41 35 eP P 13 11 33.1 -1.7
comp=Z,102nm,0.9s
ACCN Adirondack Com 34.46 33 eP P 13 11 34.4 -0.8
comp=Z,53nm,1.2s
PEMO Pembroke 34.48 27 P P 13 11 34.3 -1.0
baz=218,SNR=5.7
E09A Wood Farm, Sta 34.59 336 eP P 13 11 36.4 0.0
comp=Z,37nm,1.0s
E09A LR LR
comp=Z,2µm,18.0s
NCB Newcomb 34.60 31 eP P 13 11 35.0 -1.4
comp=Z,28nm,0.9s
G06A Carlson Farm, 34.63 332 eP P 13 11 37.3 +0.5
comp=Z,55nm,1.4s
G06A LR LR
comp=Z,4µm,18.0s
J01E Myrtle Point 34.75 326 P P 13 11 39.8 +2.1
baz=133,SNR=9.6
KEBM Edson Butte 34.77 326 eP P 13 11 39.6 +1.6
comp=Z,145nm,1.3s
KEBM LR LR
comp=Z,3µm,21.0s
D51A Lot 18 Range I 34.77 23 P P 13 11 36.5 -1.3
baz=213,SNR=6.3
I03D Drain, OR 34.82 328 P P 13 11 39.3 +1.1
baz=134,SNR=7.8
F07A Phinny Hill Vi 34.83 333 eP P 13 11 38.1 -0.3
comp=Z,29nm,1.0s
F07A LR LR
comp=Z,2µm,19.0s
E53A Dumoine, Ponti 34.86 25 P P 13 11 37.5 -1.2
baz=216,SNR=13
LONY Lake Ozonia 34.89 30 eP P 13 11 37.5 -1.4
comp=Z,116nm,1.7s
LONY Lake Ozonia 34.89 30 P P 13 11 38.0 -0.9
baz=222,SNR=6.8
M65A Busby, Falmout 34.92 38 P P 13 11 38.2 -1.0
baz=231
E08A Dider Farm, El 34.94 335 eP P 13 11 39.7 +0.4
comp=Z,15nm,1.1s
E08A LR LR
comp=Z,2µm,18.0s
H04A Detroit Lake 34.95 330 eP P 13 11 39.8 +0.3
comp=Z,110nm,1.1s
H04A LR LR
comp=Z,2µm,19.0s
G05D Wamic, OR 34.95 331 P P 13 11 41.1 +1.6
baz=139
F55A Otter Lake 34.99 27 P P 13 11 38.5 -1.2
baz=219,SNR=7.3
HRV Adam Dziewonsk 35.00 36 eP P 13 11 39.0 -0.9
comp=Z,97nm,1.1s
HRV Adam Dziewonsk 35.00 36 eP P 13 11 39.0 -0.9
HRV pmax pmax
comp=Z,97nm,1.1s
HRV Adam Dziewonsk 35.00 36 P P 13 11 38.8 -1.0
baz=229
D52A ZEK Kipawa Sen 35.05 24 P P 13 11 39.4 -0.8
baz=215
HAWA Hanford 35.06 334 eP P 13 11 39.8 -0.5
comp=Z,32nm,1.4s
HAWA LR LR
comp=Z,1µm,19.0s
ORIO Orleans, Innes 35.08 28 P P 13 11 39.4 -1.0
baz=220,SNR=5.6
H04D Lebanon 35.10 329 P P 13 11 41.6 +0.9
baz=136
E54A Lac Daplat, Po 35.11 26 P P 13 11 39.5 -1.2
baz=217,SNR=17
E07A Sunnyside 35.33 334 eP P 13 11 43.0 +0.3
comp=Z,21nm,0.9s
E07A LR LR
comp=Z,3µm,20.0s
D08A Wollman Farm, 35.34 335 eP P 13 11 42.9 0.0
comp=Z,23nm,1.0s
D08A LR LR
comp=Z,600nm,19.0s
I02D Swisshome 35.36 328 P P 13 11 44.8 +1.9
baz=134
COR Corvallis 35.42 329 PFAKE 13 12 00.0 +17
COR LR LR
comp=Z,4µm,18.0s
ALFO Alfred 35.50 29 P P 13 11 43.4 -0.7
baz=221,SNR=5.9
F05D White Salmon 35.51 332 P P 13 11 46.5 +2.3
baz=139,SNR=18
FRNY Flat Rock 35.53 31 eP P 13 11 42.9 -1.5
comp=Z,149nm,1.6s
FFD Franklin Falls 35.59 34 eP P 13 11 45.9 +1.0
comp=Z,61nm,1.1s
NEW Newport 35.67 338 eP P 13 11 46.0 +0.4
comp=Z,29nm,1.1s
NEW LR LR
comp=Z,6µm,18.0s
NEW Newport 35.67 338 eP P 13 11 46.0 +0.4
NEW pmax pmax
comp=Z,29nm,1.1s
NEW MLR MLR
comp=Z,6µm,18.0s
NEW Newport 35.67 338 P P 13 11 46.1 +0.5
baz=148,SNR=23
NEW Newport 35.67 338 P P 13 11 46.9 +1.3
comp=Z,13nm,0.9s,baz=151,slow=9.6,SNR=17
C09A Chrisman Ranch 35.70 337 eP P 13 11 46.5 +0.6
comp=Z,65nm,1.0s
C09A LR LR
comp=Z,3µm,19.0s
G03D McMinnville, O 35.85 329 P P 13 11 48.8 +1.6
baz=136
FDF Fort de France 35.89 87 eP P 13 11 47.2 -0.7
comp=Z,104nm,0.9s
FDF Fort de France 35.89 87 eP P 13 11 47.2 -0.7
FDF pmax pmax
comp=Z,104nm,0.9s
D54A Lac Fusel, La 35.90 26 P P 13 11 46.3 -1.2
baz=217,SNR=9.0
LBNH Lisbon 35.96 33 eP P 13 11 47.3 -0.9
comp=Z,190nm,1.5s
LBNH Lisbon 35.96 33 eP P 13 11 47.3 -0.9
LBNH pmax pmax
comp=Z,190nm,1.5s
LBNH Lisbon 35.96 33 P P 13 11 48.3 +0.1
baz=227
SVB Belmont 35.99 89 eP P 13 11 47.8 -0.9
comp=Z,122nm,0.7s
SVB LR LR
comp=Z,1µm,20.0s
TRQ Mont Tremblant 36.09 28 eP P 13 11 47.7 -1.6
WPW White Pass 36.16 333 eP P 13 11 47.9 -2.1
LON Longmire 36.32 333 eP P 13 11 51.9 +0.7
comp=Z,35nm,0.9s
LON LR LR
comp=Z,4µm,19.0s
LON Longmire 36.32 333 eP P 13 11 51.9 +0.7
LON pmax pmax
comp=Z,35nm,0.9s
LON MLR MLR
comp=Z,4µm,19.0s
VLDQ Val d'Or 36.35 24 eP P 13 11 49.6 -1.8
comp=Z,53nm,1.4s
F04D Rainier, OR 36.37 331 P P 13 11 53.2 +1.7
baz=137
E04D Cinebar 36.52 332 P P 13 11 54.5 +1.6
baz=138,SNR=6.1
MOQ Mont Orford 36.54 31 eP P 13 11 52.0 -1.1
B08A Colville Reser 36.57 336 eP P 13 11 53.6 +0.3
comp=Z,112nm,1.6s
B08A LR LR
comp=Z,5µm,18.0s
D05A Enumclaw 36.73 333 eP P 13 11 55.7 +1.0
comp=Z,93nm,0.9s
D05A LR LR
comp=Z,2µm,19.0s
GHW Garrison Hill 36.75 332 eP P 13 11 58.8 +4.0
C06D Leavenworth 36.84 335 P P 13 11 57.2 +1.6
baz=142
D04E Lakebay 37.08 332 P P 13 11 59.2 +1.6
baz=138,SNR=8.1
LSQQ Lebel-sur-Quev 37.31 23 P P 13 11 58.4 -1.1
baz=215
D03D Eldon 37.49 332 P P 13 12 02.2 +1.1
baz=138,SNR=50
B06A Marblemount 37.55 335 eP P 13 12 02.1 +0.5
comp=Z,51nm,1.1s
B06A LR LR
comp=Z,2µm,18.0s
B05A Bryant 37.61 334 P P 13 12 02.6 +0.6
baz=140
NLWA Neilton Lookou 37.73 331 eP P 13 12 03.6 +0.4
comp=Z,81nm,1.2s
NLWA LR LR
comp=Z,5µm,20.0s
LATQ La Tuque 37.77 29 P P 13 12 03.1 -0.4
baz=222,SNR=6.2
PKME Peaks-Kenny Pk 38.04 34 eP P 13 12 04.8 -1.0
comp=Z,67nm,1.0s
PKME Peaks-Kenny Pk 38.04 34 P P 13 12 05.6 -0.2
baz=229
A04D Lummi Island 38.22 334 P P 13 12 08.2 +1.0
baz=140,SNR=20
PGC Sidney 38.49 333 eP P 13 12 09.8 +0.3
comp=Z,92nm,1.4s
EMMW East Machias 38.70 36 eP P 13 12 10.3 -1.1
comp=Z,122nm,1.0s
FFC Flin Flon 38.74 357 eP P 13 12 11.4 -0.2
comp=Z,120nm,1.0s
FFC LR LR
comp=Z,800nm,19.0s
FFC Flin Flon 38.74 357 ceP P 13 12 11.8 +0.2
CHGQ Chibougamau 39.01 25 P P 13 12 13.0 -0.9
baz=218,SNR=17
GGN Saint George 39.30 36 eP P 13 12 15.2 -1.1
comp=Z,89nm,1.0s
PQI Presque Isle 39.63 33 eP P 13 12 17.9 -1.2
comp=Z,39nm,0.9s
LMN Caledonia Moun 40.88 36 eP P 13 12 28.5 -1.1
comp=Z,74nm,1.2s
BATG Bathurst New B 41.05 34 eP P 13 12 30.2 -0.7
comp=Z,41nm,0.9s
PTGA Pitinga 41.40 110 eP P 13 12 34.4 +0.2
comp=Z,32nm,0.8s
PTGA LR LR
comp=Z,600nm,21.0s
PTGA Pitinga 41.40 110 eP P 13 12 34.7 +0.5
GBN Guysborough 42.56 39 eP P 13 12 42.4 -0.9
comp=Z,71nm,1.0s
FCC Fort Churchill 42.81 3 eP P 13 12 44.6 -0.4
comp=Z,299nm,1.8s
FCC Fort Churchill 42.81 3 eP P 13 12 44.6 -0.4
FCC pmax pmax
comp=Z,299nm,1.8s
LPAZ La Paz 43.82 136 eP P 13 12 55.3 +0.8
comp=Z,35nm,1.4s
LPAZ La Paz 43.82 136 eP P 13 12 55.3 +0.8

LPAZ pmax pmax
comp=Z,35nm,1.4s
LPAZ La Paz 43.82 136 P **P 13 12 55.7 +1.2**
comp=Z,7.4nm,0.9s,baz=335,slow=8.3,SNR=16
LPAZ LR LR 13 30 02.7
comp=Z,631nm,18.3s,baz=313,slow=35
LPAZ La Paz 43.82 136 *e*P **P 13 12 56.1 +1.6**
MNMC Minye Minye 44.95 140 *e*P **P 13 13 04.0 +0.8**
comp=Z,49nm,1.2s
PB11 IPOC Station P 45.39 141 *e*P **P 13 13 07.2 +0.8**
comp=Z,42nm,1.0s
GO01 Chusmiza 45.61 140 *e*P **P 13 13 09.2 +0.6**
comp=Z,35nm,1.1s
DIB Dawson Inlet, 45.74 332 PFAKE 13 13 20.0 +11
DIB LR LR
comp=Z,2µm,19.0s
SCHQ Schefferville 45.76 25 *e*P **P 13 13 07.5 -1.3**
comp=Z,170nm,1.0s
SCHQ Schefferville 45.76 25 P **P 13 13 08.3 -0.5**
comp=Z,113nm,0.9s,baz=231,slow=6.2,SNR=79
SCHQ LR LR 13 35 01.1
comp=Z,2µm,18.1s,baz=220,slow=40
MDP Montagnes des 46.14 98 LR LR 13 32 39.6
comp=Z,671nm,21.4s,baz=276,slow=36
DRLN Deer Lake 46.88 36 *e*P **P 13 13 16.3 -1.4**
comp=Z,138nm,1.1s
CRAG Craig 47.53 334 *e*P **P 13 13 23.4 +0.8**
comp=Z,112nm,1.3s
CRAG LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 47.82 350 P **P 13 13 24.2 -0.6**
comp=Z,18nm,0.9s,baz=157,slow=7.4,SNR=152
YKA PP **PP 13 15 20.1 +3.6**
comp=Z,12nm,0.9s,baz=152,slow=9.4,SNR=3.5
YKA LR LR 13 33 45.8
comp=Z,51nm,19.9s,baz=161,slow=36
YKB5 Yellowknife Ar 47.82 350 *e*P **P 13 13 23.5 -1.3**
WRAK Wrangell Islan 47.85 335 PFAKE 13 13 40.0 +15
WRAK LR LR
comp=Z,900nm,20.0s
YKW3 Yellowknife Ar 47.89 350 *e*P **P 13 13 24.4 -0.9**
comp=Z,66nm,1.3s
LVC Limon Verde 48.01 142 *e*P **P 13 13 28.4 +1.1**
comp=Z,34nm,1.3s
LVC Limon Verde 48.01 142 *e*P **P 13 13 28.4 +1.1**
LVC pmax pmax
comp=Z,34nm,1.3s
LVC Limon Verde 48.01 142 LR LR 13 29 47.6
comp=Z,505nm,21.0s,baz=319,slow=31
LVC Limon Verde 48.01 142 *e*P **P 13 13 28.3 +1.1**
TAOE Nuku Hiva Isla 48.17 242 *e*T T 14 04 53.0
comp=Z,65nm,0.2s
DLBC Dease Lake 48.42 338 *e*P **P 13 13 30.2 +0.6**
DLBC LR LR
comp=Z,5µm,18.0s
SIV San Ignacio 48.64 129 LR LR 13 31 59.3
comp=Z,513nm,21.0s,baz=320,slow=34
SIT Sitka 49.50 334 PFAKE 13 13 50.0 +12
SIT LR LR
comp=Z,2µm,18.0s
GO02 Mina Guanaco 49.61 145 *e*P **P 13 13 41.0 +1.6**
comp=Z,26nm,1.1s
JIS Juneau Island 49.93 336 PFAKE 13 13 50.0 +9.0
JIS LR LR
comp=Z,2µm,19.0s
BESE Bessie Mountai 50.32 336 PFAKE 13 14 00.0 +16
BESE LR LR
comp=Z,2µm,19.0s
SKAG Skagway 51.09 337 PFAKE 13 14 00.0 +10
SKAG LR LR
comp=Z,2µm,18.0s
WHY Whitehorse 51.74 338 *e*P **P 13 13 54.5 -0.4**
comp=Z,29nm,1.1s
WHY LR LR
comp=Z,2µm,18.0s
LCO Las Campanas 52.13 149 *e*P **P 13 13 59.1 +0.8**
comp=Z,24nm,1.1s
LCO Las Campanas 52.13 149 *e*P **P 13 13 59.1 +0.8**
LCO pmax pmax
comp=Z,24nm,1.1s
LCO Las Campanas 52.13 149 *e*P **P 13 14 00.2 +1.9**
HYT Haines Junctio 52.81 337 *e*P **P 13 14 02.4 -0.4**
comp=Z,165nm,1.5s
HYT LR LR
comp=Z,2µm,20.0s
RKT Rikitea 52.85 224 *e*T T 14 10 51.6
comp=Z,30nm,0.2s
GO04 Tololo Observa 53.05 150 PFAKE 13 14 20.0 +15
GO04 LR LR
comp=Z,1µm,20.0s
JCUZ Jacuzzi 53.95 283 PFAKE 13 14 30.0 +18
JCUZ LR LR
comp=Z,1µm,18.0s
SBLHI Steaming Bluff 54.10 283 PFAKE 13 14 30.0 +17
SBLHI LR LR
comp=Z,1µm,19.0s
UWB Uwekahuna B 54.11 283 PFAKE 13 14 30.0 +17
UWB LR LR
comp=Z,3µm,22.0s
BALM Baldy 54.81 336 PFAKE 13 14 30.0 +13
BALM LR LR
comp=Z,2µm,18.0s
TGL Tana Glacier 54.84 335 *e*P **P 13 14 18.2 +0.5**
comp=Z,88nm,1.2s
TGL LR LR
comp=Z,3µm,21.0s
AQDB Aquidauana 55.41 129 *e*P **P 13 14 22.8 +0.6**
CFA Coronel Fontan 55.48 149 LR LR 13 32 49.5
comp=Z,610nm,20.4s,baz=343,slow=30
PEL Peldehue 55.57 152 PFAKE 13 14 40.0 +17
PEL LR LR
comp=Z,1µm,19.0s
DAWY Dawson 55.59 340 *e*P **P 13 14 22.8 -0.1**
comp=Z,20nm,0.8s
DAWY LR LR
comp=Z,4µm,20.0s
EYAK Cordova Ski Ar 55.94 334 *e*P **P 13 14 26.4 +1.0**
comp=Z,90nm,1.1s
EYAK LR LR
comp=Z,3µm,18.0s
DIV Divide 56.25 335 *e*P **P 13 14 28.8 +1.1**
comp=Z,67nm,1.1s
DIV LR LR
comp=Z,2µm,20.0s
EPYK Eagle Plains 56.30 343 *e*P **P 13 14 28.0 0.0**
comp=Z,184nm,2.0s
EPYK LR LR
comp=Z,4µm,18.0s
EPYK Eagle Plains 56.30 343 P **P 13 14 28.7 +0.7**
baz=134,SNR=8.8
KLU Klutina 56.51 335 *e*P **P 13 14 30.7 +1.2**
comp=Z,62nm,1.0s
KLU LR LR
comp=Z,2µm,22.0s
EGAK Eagle 56.63 340 *e*P **P 13 14 30.3 0.0**
comp=Z,37nm,0.8s
EGAK LR LR
comp=Z,2µm,19.0s
HARP HAARP 56.69 336 *e*P **P 13 14 30.6 -0.2**
comp=Z,100nm,1.0s
INK Inuvik 56.86 345 *e*P **P 13 14 31.2 -0.6**
comp=Z,67nm,0.9s
INK LR LR
comp=Z,3µm,19.0s
INK Inuvik 56.86 345 *e*P **P 13 14 31.2 -0.6**
INK pmax pmax
comp=Z,67nm,0.9s
INK MLR MLR
comp=Z,3µm,19.0s
PEXB Peixe 56.87 116 *e*P **P 13 14 33.4 +0.7**
DOT Dot Lake 56.97 338 *e*P **P 13 14 32.7 -0.1**
comp=Z,140nm,1.2s
DOT LR LR
comp=Z,3µm,18.0s
PAX Paxson 57.12 337 *e*P **P 13 14 33.8 -0.1**
comp=Z,61nm,1.0s
PAX Paxson 57.12 337 *e*P **P 13 14 33.8 -0.1**
PAX pmax pmax
comp=Z,61nm,1.0s
SCRK Sand Creek 57.13 338 *e*P **P 13 14 34.2 +0.2**
comp=Z,52nm,1.0s
SCRK LR LR
comp=Z,4µm,20.0s
SCM Sheep Creek Mo 57.26 335 *e*P **P 13 14 35.7 +0.8**
comp=Z,39nm,1.0s
SCM LR LR
comp=Z,1µm,22.0s
SCM Sheep Creek Mo 57.26 335 *e*P **P 13 14 35.7 +0.8**
SCM pmax pmax
comp=Z,39nm,1.0s
SCM MLR MLR
comp=Z,1µm,22.0s
RIDG Independ'e Rid 57.31 337 *e*P **P 13 14 35.9 +0.7**
comp=Z,144nm,1.1s
RIDG LR LR
comp=Z,3µm,18.0s
KNK Knik Glacier 57.52 334 *e*P **P 13 14 37.8 +1.1**
comp=Z,108nm,1.5s
SML Sawmill 57.66 335 *e*P **P 13 14 38.2 +0.5**
comp=Z,98nm,1.2s
SML Sawmill 57.66 335 *e*P **P 13 14 38.2 +0.5**
SML pmax pmax
comp=Z,98nm,1.2s
KDAK Kodiak Island 57.81 329 PFAKE 13 14 50.0 +11
KDAK LR LR
comp=Z,2µm,18.0s
BRLK Bradley Lake 57.82 332 *e*P **P 13 14 40.2 +1.4**
comp=Z,85nm,1.0s
GHO Glory Hole Cre 57.89 334 *e*P **P 13 14 40.6 +1.3**
comp=Z,95nm,0.9s
PMR Palmer 57.89 334 *e*P **P 13 14 40.2 +1.0**
comp=Z,40nm,0.8s
PMR LR LR
comp=Z,2µm,20.0s
RC01 Rabbit Creek A 57.91 333 *e*P **P 13 14 40.7 +1.3**
comp=Z,44nm,1.0s
DHY Denali Highway 57.91 336 *e*P **P 13 14 39.9 +0.3**
comp=Z,28nm,1.0s
DHY LR LR
comp=Z,2µm,19.0s
CPUP Villa Florida 57.99 136 *e*P **P 13 14 39.7 -0.7**
comp=Z,23nm,1.1s
CPUP Villa Florida 57.99 136 *e*P **P 13 14 39.7 -0.7**
CPUP pmax pmax
comp=Z,23nm,1.1s
CPUP Villa Florida 57.99 136 P **P 13 14 40.4 0.0**
comp=Z,7.6nm,0.9s,baz=322,slow=9.1,SNR=11
CPUP LR LR 13 39 13.8
comp=Z,302nm,20.5s,baz=331,slow=36
CPUP Villa Florida 57.99 136 *e*P **P 13 14 41.2 +0.8**
SII Sitkinak Islan 58.17 327 PFAKE 13 14 50.0 +8.7
SII LR LR
comp=Z,2µm,18.0s
HDA Harding Lake 58.45 338 *e*P **P 13 14 41.4 -1.8**
comp=Z,38nm,0.8s
HDA LR LR
comp=Z,2µm,18.0s
HDA Harding Lake 58.45 338 P **P 13 14 43.8 +0.7**
baz=122,SNR=26
SUA Susitna One 58.51 334 *e*P **P 13 14 44.5 +0.8**
comp=Z,104nm,0.8s
PRP Porcupine Dome 58.56 339 *e*P **P 13 14 43.9 -0.2**
comp=Z,94nm,1.2s
PRP LR LR
comp=Z,1µm,18.0s
IL1 Eielson Array 58.62 338 *e*P **P 13 14 44.6 +0.3**
ILAR Eielson Array 58.62 338 P **P 13 14 45.0 +0.6**
ILAR Eielson Array 58.62 338 P **P 13 14 45.0 +0.6**
comp=Z,27nm,1.0s,baz=135,slow=4.2,SNR=175
ILAR LR LR 13 42 40.6
comp=Z,2µm,18.3s,baz=132,slow=39
ILB Eielson Array 58.62 338 *e*P **P 13 14 44.3 -0.1**
comp=Z,113nm,1.3s
NRS Narsarsuaq 58.63 27 *e*P **P 13 14 43.4 -1.0**
comp=Z,86nm,1.2s
NRS Narsarsuaq 58.63 27 *e*P **P 13 14 43.4 -1.0**
NRS pmax pmax
comp=Z,86nm,1.2s
RND Reindeer 58.66 336 *e*P **P 13 14 45.3 +0.6**
comp=Z,140nm,1.1s
RND LR LR
comp=Z,2µm,18.0s
RND Reindeer 58.66 336 *e*P **P 13 14 45.3 +0.6**
RND pmax pmax
comp=Z,140nm,1.1s
RND MLR MLR
comp=Z,2µm,18.0s
BDFB Brasilia 58.82 120 P **P 13 14 47.0 +0.4**
comp=Z,22nm,0.8s,baz=292,slow=9.2,SNR=32
MCK McKinley 58.85 336 PFAKE 13 15 00.0 +14
MCK LR LR
comp=Z,2µm,18.0s
CCB Clear Creek Bu 58.89 338 *e*P **P 13 14 46.1 -0.1**
comp=Z,18nm,0.9s
CCB LR LR
comp=Z,1µm,19.0s
WRH Wood River Hil 58.91 337 *e*P **P 13 14 46.0 -0.3**
comp=Z,43nm,1.0s
WRH LR LR
comp=Z,4µm,18.0s
RSO Redoubt South 58.97 332 *e*P **P 13 14 47.6 +0.6**
POKR Poker Plat Res 59.01 338 P **P 13 14 47.6 +0.5**
baz=122,SNR=20
COLA College 59.03 338 *e*P **P 13 14 47.2 +0.1**
comp=Z,42nm,0.9s
COLA LR LR
comp=Z,2µm,19.0s
COLA College 59.03 338 *c i*P **P 13 14 47.4 +0.3**
COLA College 59.03 338 *e*P **P 13 14 48.2 +1.1**
TCOL CIGO, UAF Yank 59.03 338 P **P 13 14 47.9 +0.7**
baz=121,SNR=7.7
ITRB Iturama 59.05 125 *e*P **P 13 14 48.3 +0.3**
FYU Fort Yukon 59.06 340 *e*P **P 13 14 47.3 0.0**
comp=Z,207nm,1.7s
FYU LR LR
comp=Z,2µm,20.0s
TRCB Terra Rica 59.08 130 *e*P **P 13 14 49.0 +0.8**
MDM Murphy Dome 59.21 338 *e*P **P 13 14 48.5 +0.1**
comp=Z,20nm,0.9s
MDM LR LR
comp=Z,2µm,18.0s
TRF Thorofare Moun 59.24 336 *e*P **P 13 14 49.4 +0.6**
comp=Z,152nm,1.0s
BWN Browne 59.27 337 *e*P **P 13 14 49.0 +0.1**
comp=Z,373nm,1.0s
BWN LR LR
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 59.60 20 *e*P **P 13 14 50.6 -0.4**
comp=Z,85nm,1.0s
SFJD LR LR
comp=Z,800nm,18.0s
SFJD Kangerlussuaq 59.60 20⇑ *i*P **P 13 14 50.9 -0.1**
comp=Z,75nm,1.1s
comp=Z,880nm,16.0s
SFJD Kangerlussuaq 59.60 20⇑ *i*P **P 13 14 50.9 -0.1**
SFJD pmax pmax
comp=Z,75nm,1.1s
SFJD MLR MLR
comp=Z,880nm,16.0s
SFJD Kangerlussuaq 59.60 20 *e*P **P 13 14 51.5 +0.5**
PPLA Purkeypile 59.76 335 *e*P **P 13 14 52.8 +0.4**
comp=Z,184nm,1.4s
BPAW Bear Paw Mtn. 59.83 336 *e*P **P 13 14 52.9 +0.2**
comp=Z,51nm,1.0s
BPAW LR LR
comp=Z,1µm,19.0s
CAST Castle Rocks 59.95 335 PFAKE 13 15 10.0 +16
CAST LR LR
comp=Z,2µm,18.0s
MLY Manley 60.17 337 PFAKE 13 15 10.0 +15
MLY LR LR
comp=Z,2µm,21.0s
PPT Papeete 60.48 239 LR LR 13 34 39.2
comp=Z,466nm,18.2s,baz=60,slow=30
SVW2 Sparrevohn 60.49 332 *e*P **P 13 14 57.7 +0.4**
comp=Z,58nm,1.0s
SVW2 LR LR
comp=Z,900nm,18.0s
PPT2 Papeete2 60.49 239 *e*LQ LQ 13 30 20.3
comp=Z,1µm,35.0s
PPT2 *e*LR LR 13 32 38.9
comp=Z,1µm,26.0s,baz=53
PTGB Pitanga 60.65 131 *e*P **P 13 15 00.8 +1.9**
ILULI Ilulissat 60.73 17 *e*P **P 13 14 58.4 -0.4**
comp=Z,59nm,1.2s
ILULI LR LR
comp=Z,1µm,18.0s
ILULI Ilulissat 60.73 17 *i* P **P 13 14 58.3 -0.4**
comp=Z,49nm,1.1s
ILULI Ilulissat 60.73 17 *e*P **P 13 14 58.4 -0.4**
ILULI pmax pmax
comp=Z,59nm,1.2s
ILULI MLR MLR
comp=Z,1µm,18.0s
GO06 Curarrehue 60.73 156 *e*P **P 13 15 01.0 +1.7**
comp=Z,27nm,1.6s
GO06 LR LR
comp=Z,1µm,19.0s
COLD Coldfoot 61.07 340 *e*P **P 13 15 01.4 +0.3**
comp=Z,78nm,1.6s
COLD LR LR
comp=Z,5µm,18.0s
BB19B Bebedouro 61.23 125 *e*P **P 13 15 03.5 +0.5**
PMNB Patos De Minas 61.58 122 *e*P **P 13 15 06.4 +1.0**
TOLK Toolik Lake Re 61.59 341 *e*P **P 13 15 04.9 +0.2**
comp=Z,184nm,1.8s
TOLK LR LR
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 61.59 341 P **P 13 15 05.7 +1.0**
baz=121,SNR=30
JANB Januaria 61.67 117 *e*P **P 13 15 07.1 +1.0**
FRTB Fartura 61.70 128 *e*P **P 13 15 07.1 +1.0**
IM3 Indian Mountai 61.73 338 *e*P **P 13 15 05.0 -0.5**
PLCA Paso Flores 62.08 156 *e*P **P 13 15 09.6 +1.2**
comp=Z,40nm,1.3s
PLCA Paso Flores 62.08 156 *e*P **P 13 15 09.6 +1.2**
PLCA pmax pmax
comp=Z,40nm,1.3s
PLCA Paso Flores 62.08 156 P **P 13 15 10.2 +1.9**
comp=Z,6.5nm,0.8s,baz=355,slow=7.9,SNR=17
PLCA LR LR 13 36 49.9
comp=Z,615nm,18.7s,baz=357,slow=31
PLCA Paso Flores 62.08 156 *e*P **P 13 15 10.3 +1.9**
ITAB Concordia 62.13 133 *e*P **P 13 15 10.0 +1.2**
TULEG Thule 62.46 7 *e*P **P 13 15 09.8 -0.5**
comp=Z,160nm,1.8s
TULEG LR LR
comp=Z,1µm,21.0s
RCLB Rio Claro- Sao 62.74 126 *e*P **P 13 15 14.0 +0.9**
MCI8 Montes Claros 62.75 119 *e*P **P 13 15 14.2 +0.9**
KULLO Kullorsuaq 62.76 11⇑ *i*P **P 13 15 12.6 +0.3**
comp=Z,99nm,1.1s
comp=Z,1µm,15.0s
KULLO Kullorsuaq 62.76 11⇑ *i*P **P 13 15 12.6 +0.3**
KULLO pmax pmax
comp=Z,99nm,1.1s
KULLO MLR MLR
comp=Z,1µm,15.0s
MCI9 Montes Claros 62.79 119 *e*P **P 13 15 14.2 +0.6**
MCI6 Montes Claros 62.84 119 *e*P **P 13 15 15.0 +1.1**
CPSB Cacapava Do Su 63.24 137 *e*P **P 13 15 17.1 +0.8**
TBI Tubuai 63.43 233 *e*LQ LQ 13 31 32.1
comp=Z,691nm,33.2s
TBI *e*LR LR 13 34 13.4
comp=Z,1µm,26.8s,baz=57
TBI Tubuai 63.43 233 *e*T T 14 24 00.9
comp=Z,24nm,0.2s
SPB Sao Paulo 63.46 127 *e*P **P 13 15 18.2 +0.4**
ANGG Ammassalik, Gr 63.61 24 *e*P **P 13 15 16.5 -1.6**
comp=Z,83nm,1.1s
PLTB Pedras Altas 64.02 138 *e*P **P 13 15 22.4 +1.0**
BSCB Bom Sucesso 64.17 123 *e*P **P 13 15 23.9 +1.2**
CNLB Canela 64.30 134 *e*P **P 13 15 24.4 +1.2**
ESAR Angra dos Reis 65.48 125 *e*P **P 13 15 32.8 +1.8**
RCBR Riachuelo 65.51 104 *e*P **P 13 15 31.5 0.0**
comp=Z,91nm,1.3s
RCBR Riachuelo 65.51 104 *e*P **P 13 15 31.5 0.0**
RCBR pmax pmax
comp=Z,91nm,1.3s
RCBR Riachuelo 65.51 104 *e*P **P 13 15 31.8 +0.3**
ANM Nome 65.83 334 PFAKE 13 15 50.0 +17
ANM LR LR
comp=Z,1µm,19.0s
RDOG Red Dog Mine 65.83 338 PFAKE 13 15 50.0 +17
RDOG LR LR
comp=Z,1µm,18.0s
SJMB Sao Joao De Ma 66.01 119 *e*P **P 13 15 35.4 +0.9**
SUMG Summit 66.02 17 *e*P **P 13 15 32.7 -1.5**
comp=Z,82nm,0.9s
SUMG LR LR
comp=Z,1µm,22.0s
SUMG Summit 66.02 17⇑ *i*P **P 13 15 34.6 +0.4**
comp=Z,212nm,1.1s
SUMG Summit 66.02 17⇑ *i*P **P 13 15 34.6 +0.4**
SUMG pmax pmax
comp=Z,210nm,1.1s
GAMB Gambell 68.40 333 *e*P **P 13 15 48.8 -0.2**
comp=Z,109nm,1.9s
BORG Borgarnes 70.12 26 *ce*P **P 13 16 02.2 +2.6**
SCO Scoresbysund 70.49 20 *e*P **P 13 16 00.1 -1.7**
comp=Z,80nm,1.6s
SCO LR LR
comp=Z,800nm,21.0s
SCO Scoresbysund 70.49 20⇑ *i*P **P 13 16 02.0 +0.2**
comp=Z,66nm,1.5s
SCO Scoresbysund 70.49 20⇑ *i*P **P 13 16 02.0 +0.2**
SCO pmax pmax
comp=Z,66nm,1.5s
RAR Rarotonga 70.67 240 LR LR 13 39 11.8
comp=Z,335nm,18.6s,baz=90,slow=29
DAG Danmarks Havn 72.17 14⇑ *i*P **P 13 16 11.5 -0.4**
comp=Z,45nm,0.9s
DAG Danmarks Havn 72.17 14⇑ *i*P **P 13 16 11.5 -0.4**
DAG pmax pmax
comp=Z,37nm,0.9s
PMOZ Porto Moniz, M 74.22 60 *e*LR LR 13 39 46.6
comp=Z,678nm,22.0s
BILL Bilibino 77.28 337 *e*P **P 13 16 41.3 -0.4**
comp=Z,89nm,1.3s
BILL Bilibino 77.28 337 *e*P **P 13 16 42.4 +0.7**
BILL *e* 13 16 48.9
BILL *e* 13 19 33.0
BILL pmax pmax
comp=Z,80nm,1.7s
KBS Kingsbay 78.21 11 PFAKE 13 17 00.0 +13
KBS LR LR
comp=Z,1µm,19.0s
KBS Kingsbay 78.21 11⇓ *e*P **P 13 16 49.2 +2.5**
KBS pmax pmax
comp=Z,249nm,1.3s
SPITS Spitsbergen Ar 79.33 11 P **P 13 16 53.5 +0.6**
comp=Z,10nm,0.8s,baz=150,slow=1.8,SNR=5.3
PGAV Gavieira, Arco 79.56 49 *e*LR LR 13 41 25.1
comp=Z,635nm,18.0s
LIS Lisbon 79.58 53 *e*P **P 13 16 54.1 -0.8**
LIS AMb AMB 13 16 56.9
comp=Z,185nm,1.4s
LIS Lisbon 79.58 53 *e*P **P 13 16 54.1 -0.8**
HSPB Hornsund (broa 79.71 12 *e*P **P 13 16 56.0 +1.1**
PCAS Casmilo, Conde 79.79 51 *e*P **P 13 16 57.1 +1.0**
comp=Z,191nm,1.6s
ALMR Almeirim 79.92 52 *e*P **P 13 16 56.2 -0.6**
ALMR AMb AMB 13 16 57.0
comp=Z,89nm,1.8s
ALMR Almeirim 79.92 52 *e*P **P 13 16 57.4 +0.6**
comp=Z,137nm,1.3s
ALMR Almeirim 79.92 52 *e*P **P 13 16 56.2 -0.6**
EKA Eskdalemuir Ar 79.93 35 P **P 13 16 56.3 -0.2**
EKA pmax pmax
comp=Z,9.0nm,0.7s
PTOM Tomar 79.95 52 *e*P **P 13 16 57.9 +1.0**
comp=Z,78nm,1.2s
POLO Lamas de Olo 80.03 50 *e*P **P 13 16 58.2 +0.7**
PVIS Viseu 80.10 50 *e*P **P 13 16 58.4 +0.6**
comp=Z,80nm,1.6s
PTEO Sao Teotonio 80.16 54 *e*P **P 13 16 59.3 +1.2**
comp=Z,148nm,1.5s
PFVI Vila Bisbo 80.17 54 *e*P **P 13 16 58.9 +0.7**
comp=Z,192nm,1.6s
PMTG Montargil 80.21 52 *e*P **P 13 16 59.2 +0.8**
comp=Z,77nm,1.7s
MORF Marmelete 80.27 54 *e*P **P 13 16 58.1 -0.7**
MORF AMb AMB 13 17 01.6
comp=Z,38nm,1.8s
MORF *e*PP **PP 13 19 59.1 -2.0**
MORF Marmelete 80.27 54 *e*P **P 13 16 59.7 +0.9**
MORF Marmelete 80.27 54 *e*P **P 13 16 58.1 -0.7**
MORF *e* 13 19 59.2
MTE Manteigas 80.43 51 *e*P **P 13 16 59.7 +0.1**
comp=Z,79nm,1.3s
MTE Manteigas 80.43 51 *e*LR LR 13 42 41.8
comp=Z,650nm,18.0s
MESJ Messejana 80.48 53 *e*P **P 13 16 59.1 -0.7**
MESJ AMb AMB 13 17 01.9
comp=Z,38nm,1.9s
MESJ *e*PP **PP 13 20 00.9 -1.9**
MESJ Messejana 80.48 53 *e*P **P 13 16 59.2 -0.7**
comp=Z,43nm,1.5s
MESJ Messejana 80.48 53 *e*P **P 13 16 59.1 -0.7**

MESJ e 13 20 00.9
PCBR Castelo Branco 80.61 51 *e*P **P 13 16 59.5 -1.0**
comp=Z,77nm,1.8s
MVO Moncorvo 80.64 50 *e*P **P 13 17 00.8 +0.1**
comp=Z,42nm,1.0s
MVO Moncorvo 80.64 50 *e*LR LR 13 42 40.2
comp=Z,471nm,18.0s
PCVE Castro Verde 80.67 54 *e*P **P 13 17 01.6 +0.7**
comp=Z,74nm,1.5s
PBRG Braganca 80.71 49 *e*P **P 13 17 00.9 -0.2**
comp=Z,57nm,1.7s
PBEJ Beja 80.72 53 *e*P **P 13 17 02.5 +1.4**
comp=Z,58nm,1.7s
PESTR Estremoz 80.74 52 *e*P **P 13 17 01.4 +0.2**
comp=Z,58nm,1.8s
PESTR Estremoz 80.74 52 *e*P **P 13 16 59.8 -1.5**
comp=Z,12nm,0.9s
PESTR LR LR
comp=Z,400nm,20.0s
PMRV Marv??o 80.76 52 *e*P **P 13 17 01.5 +0.1**
comp=Z,95nm,1.6s
PMRV Marv??o 80.76 52 *e*LR LR 13 40 35.1
comp=Z,533nm,18.0s
PBDV Barranco-do-Ve 80.84 54 *e*P **P 13 17 03.0 +1.2**
SRHM Skhour des Reh 81.97 59 P **P 13 17 09.0 +1.0**
TTIG Tnine Tigouga, 81.98 61 P **P 13 17 08.0 -0.1**
OUK Oukaimeden 82.30 60 P **P 13 17 11.2 +1.1**
SFS San Fernando 82.37 54 PFAKE 13 17 20.0 +10
SFS LR LR
comp=Z,500nm,21.0s
RTC Rabat Centre 82.46 57 PFAKE 13 17 20.0 +10
RTC LR LR
comp=Z,3µm,22.0s
HORN Hornachuelos 82.76 53 P **P 13 17 12.7 +0.7**
ZHG ZHG 82.76 57 P **P 13 17 12.1 +0.1**
PAB San Pablo 83.02 51 *e*P **P 13 17 12.8 -0.6**
comp=Z,37nm,1.0s
PAB LR LR
comp=Z,800nm,19.0s
PAB San Pablo 83.02 51 *e*P **P 13 17 12.8 -0.6**
PAB pmax pmax
comp=Z,37nm,1.0s
PAB MLR MLR
comp=Z,800nm,19.0s
RSA Sarsar 83.06 56 P **P 13 17 15.2 +1.5**
GRR Gorron 83.09 42 *e*P **P 13 17 13.2 -0.2**
GRR pmax pmax
comp=Z,47nm,1.0s
FLN La Foliniere 83.22 41 *e*P **P 13 17 14.0 0.0**
FLN pmax pmax
comp=Z,37nm,0.9s
ESDC Sonseca Array 83.27 51 P **P 13 17 14.9 +0.2**
comp=Z,9.1nm,0.8s,baz=296,slow=4.9,SNR=30
ESDC LR LR 13 52 20.2
comp=Z,319nm,18.9s,baz=285,slow=34
ESLA Sonseca Array 83.27 51 *e*P **P 13 17 12.7 -1.9**
comp=Z,18nm,1.1s
ESLA LR LR
comp=Z,600nm,18.0s
ES06 SONSECA Array 83.28 51 *e*P **P 13 17 13.3 -1.3**
OUZM OUZ 83.30 60 P **P 13 17 16.1 +1.1**
CHEFC Chefchaouen 83.39 56 P **P 13 17 17.3 +2.0**
LDF La Druitiere 83.50 41 *e*P **P 13 17 15.3 -0.2**
LDF pmax pmax
comp=Z,24nm,0.9s
LCRM LCR 84.14 57 P **P 13 17 21.0 +1.7**
SJPF Ste Jean 84.32 47 *e*P **P 13 17 21.7 +1.8**
SJPF pmax pmax
comp=Z,151nm,2.2s
SEY Seymchan 84.34 334⇑ *i*P **P 13 17 20.3 +0.8**
PALE Palemas 84.47 55 P **P 13 17 22.0 +1.2**
MDT Midelt 84.58 58 P **P 13 17 22.2 +0.8**
AKLM AKL 84.72 56 P **P 13 17 23.0 +0.8**
PET Petropavlovsk 84.95 324 *e*P **P 13 17 24.1 +1.3**
PET *e*S **S 13 27 51.9 -0.5**
PET *e*SS **SS 13 33 30.1 +5.7**
PET pmax pmax
comp=Z,200nm,10.9s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,300nm,19.0s
NC204 NORSAR Array S 84.97 27 *e*P **P 13 17 22.5 -0.3**
comp=Z,65nm,1.5s
NBO00 NORSAR Array S 85.08 27 *e*P **P 13 17 22.7 -0.6**
comp=Z,67nm,1.3s
KONO Kongsberg 85.11 29 *e*P **P 13 17 22.6 -0.8**
comp=Z,119nm,1.4s
KONO LR LR
comp=Z,600nm,20.0s
KONO Kongsberg 85.11 29*c i*P **P 13 17 24.4 +1.0**
KONO pmax pmax
comp=Z,132nm,1.7s
LFF La Frestale 85.14 45 *e*P **P 13 17 24.1 +0.2**
LFF pmax pmax
comp=Z,12nm,0.5s
ARF Arif 85.26 59 P **P 13 17 26.2 +1.3**
NC303 NORSAR Array S 85.26 27 *e*P **P 13 17 23.2 -1.0**
comp=Z,28nm,1.2s
NB2 NORSAR Subarra 85.27 27 P **P 13 17 25.2 +0.9**
comp=Z,90nm,1.4s,baz=298,slow=5.1
NB2 NORSAR Subarra 85.27 27 P **P 13 17 24.0 -0.3**
NB2 pmax pmax
comp=Z,89nm,1.5s
NB2 NORSAR Subarra 85.27 27 P **P 13 17 25.2 +0.9**
baz=298,slow=5.1
NOA NORSAR Array B 85.27 27 P **P 13 17 24.8 +0.5**
comp=Z,7.3nm,0.8s,baz=300,slow=5.0,SNR=25
NOA LR LR 13 58 08.3
comp=Z,231nm,18.3s,baz=290,slow=38
NB201 NORSAR Array S 85.30 27 *e*P **P 13 17 23.6 -0.9**
comp=Z,34nm,1.0s
EPF Esparros 85.44 47 *e*P **P 13 17 25.7 +0.2**
EPF pmax pmax
comp=Z,73nm,1.2s
NC405 NORSAR Array S 85.46 27 *e*P **P 13 17 25.1 -0.2**
comp=Z,34nm,1.4s
PETK Petropavlovsk- 85.46 324 *e*P **P 13 17 26.1 +0.8**
PETK Petropavlovsk- 85.46 324 *e*P **P 13 17 26.2 +0.8**
PETK Petropavlovsk- 85.46 324 P **P 13 17 26.8 +1.4**
comp=Z,7.1nm,0.8s,baz=95,slow=8.7,SNR=6.9
PETK LR LR 13 55 24.0
comp=Z,268nm,19.3s,baz=53,slow=36
NC602 NORSAR Array S 85.55 28 *e*P **P 13 17 25.4 -0.2**
comp=Z,48nm,1.4s
NORES NORESS Array B 85.55 28 P **P 13 17 26.7 +1.1**
NORES pmax pmax
comp=Z,12nm,1.1s
RJF Les Rejaudoux 85.55 44 *e*P **P 13 17 25.7 -0.3**
RJF pmax pmax
comp=Z,79nm,1.2s
UCC Uccle 85.57 38 PFAKE 13 17 40.0 +14
UCC LR LR
comp=Z,700nm,18.0s
UCC Uccle 85.57 38⇑P **P 13 17 25.9 0.0**
SNF Seneffe 85.62 39⇑P **P 13 17 23.9 -2.3**
TCF Toulx Ste Croi 85.70 43 *e*P **P 13 17 26.3 -0.4**
TCF pmax pmax
comp=Z,64nm,1.1s
BAIF Baives 85.73 39 *e*P **P 13 17 26.7 0.0**
BAIF pmax pmax
comp=Z,86nm,1.4s
DOU Dourbes 85.95 39⇑P **P 13 17 28.1 +0.2**
comp=Z,27nm,1.8s
BGF Bois d'Agland 86.03 43 *e*P **P 13 17 27.9 -0.4**
BGF pmax pmax
comp=Z,63nm,1.1s
CAF Calviac 86.04 44 *e*P **P 13 17 28.0 -0.5**
CAF pmax pmax
comp=Z,64nm,1.5s
CART Cartagena 86.08 52 PFAKE 13 17 40.0 +11
CART LR LR
comp=Z,600nm,19.0s
GIVF Givet 86.09 39 *e*P **P 13 17 28.6 +0.1**
GIVF pmax pmax
comp=Z,151nm,1.7s
ARCES ARCESS Array B 86.10 17 *e*P **P 13 17 27.4 -0.8**
ARCES ARCESS Array B 86.10 17 *e*P **P 13 17 27.4 -0.8**
ARCES ARCESS Array B 86.10 17 P **P 13 17 28.1 -0.2**
comp=Z,13nm,0.9s,baz=305,slow=4.3,SNR=14
ARCES LR LR 13 59 07.2
comp=Z,305nm,18.1s,baz=307,slow=38
BCLA Clavier 86.27 39⇓PcP **P 13 17 30.4 +1.0**
comp=Z,37nm,1.8s
AVF Avril sur Loir 86.29 42 *e*P **P 13 17 28.7 -0.9**
AVF pmax pmax
comp=Z,27nm,1.2s
SSF Saint Saulge 86.30 42 *e*P **P 13 17 29.1 -0.5**
SSF pmax pmax
comp=Z,77nm,1.3s
BEBN Eben Emael 86.36 38⇓PcP **P 13 17 30.9 +1.1**
KEV Kevo 86.39 17 *e*P **P 13 17 30.8 +1.2**
LOR Lormes 86.45 42 *e*P **P 13 17 30.1 -0.3**
LOR pmax pmax
comp=Z,90nm,1.1s
MA2 Magadan 86.47 332 *e*P **P 13 17 30.7 +0.5**
MA2 comp=Z,39nm,1.4s LR LR
comp=Z,700nm,20.0s
MA2 Magadan 86.47 332*c i*P **P 13 17 31.0 +0.8**
MA2 pmax pmax
comp=Z,35nm,1.7s
MTLF Montolieu 86.65 46 *e*P **P 13 17 31.2 -0.3**
MTLF pmax pmax
comp=Z,50nm,1.0s
SMF Signal de Mont 86.65 42 *e*P **P 13 17 30.5 -0.9**
SMF pmax pmax
comp=Z,36nm,1.4s
TIXI Tiksi 86.96 347 *e*P **P 13 17 31.9 -0.4**
comp=Z,62nm,1.4s
TIXI LR LR
comp=Z,598nm,22.0s
TIXI Tiksi 86.96 347*c i*P **P 13 17 32.1 -0.2**
TIXI pmax pmax
comp=Z,46nm,1.3s
TIXI Tiksi 86.96 347 P **P 13 17 32.0 -0.4**
comp=Z,21nm,1.2s,baz=40,slow=5.2,SNR=36
WLF Walferdange 87.05 39 PFAKE 13 17 40.0 +6.8
WLF LR LR
comp=Z,3µm,19.0s
WLF Walferdange 87.05 39⇑pP pP 13 17 35.0 +1.1
FIGM Figuig 87.48 57 P **P 13 17 37.0 +1.1**
SSB Saint Sauveur 87.58 44 *e*P **P 13 17 33.9 -2.1**
comp=Z,22nm,1.1s
SSB LR LR
comp=Z,500nm,20.0s
SSB Saint Sauveur 87.58 44 *e*P **P 13 17 33.9 -2.1**
SSB pmax pmax
comp=Z,22nm,1.1s
SSB MLR MLR
comp=Z,500nm,20.0s
HAU Haudompre 87.77 41 *e*P **P 13 17 36.7 -0.1**
HAU pmax pmax
comp=Z,13nm,0.8s
HINF Hinteralfeld 88.16 41 *e*P **P 13 17 37.6 -1.1**
HINF pmax pmax
comp=Z,69nm,2.1s
CDF Champ du Feu 88.20 40 *e*P **P 13 17 38.0 -0.9**
CDF pmax pmax
comp=Z,17nm,1.1s
ECH Echery 88.20 40 *e*P **P 13 17 37.9 -1.0**
comp=Z,10nm,1.1s
ECH LR LR
comp=Z,500nm,18.0s
ECH Echery 88.20 40 *e*P **P 13 17 37.9 -1.0**
ECH pmax pmax
comp=Z,10.0nm,1.1s
ECH MLR MLR
comp=Z,500nm,18.0s
ORIF Oris-en-Rattie 88.59 44 *e*P **P 13 17 41.1 +0.2**
ORIF pmax pmax
comp=Z,8.0nm,0.8s
BFO Black Forest 88.88 40 PFAKE 13 17 50.0 +8.0
BFO LR LR
comp=Z,900nm,18.0s
BFO Black Forest 88.88 40*ce*P **P 13 17 42.7 +0.7**
RAO Raoul Island 88.89 239 LR LR 13 51 01.6
comp=Z,351nm,18.8s,baz=136,slow=31
LPL La Plagne 88.93 43 *e*P **P 13 17 45.3 +2.7**
LPL pmax pmax
comp=Z,13nm,1.0s
SENIN Lac Senin/Sane 88.98 42 PFAKE 13 17 50.0 +7.2
SENIN LR LR
comp=Z,700nm,19.0s
BNI Bardonecchia 89.07 43 *e*P **P 13 17 43.1 -0.1**
comp=Z,17nm,1.2s
BNI LR LR
comp=Z,700nm,19.0s
BNI Bardonecchia 89.07 43 *e*P **P 13 17 43.1 -0.1**
BNI pmax pmax
comp=Z,17nm,1.2s
BNI MLR MLR
comp=Z,700nm,19.0s
STU Stuttgart 89.23 39 PFAKE 13 17 50.0 +6.3
STU LR LR
comp=Z,700nm,19.0s
APA Apatity 89.59 17⇓ *i*P P 13 17 39.8 -5.1
APA pmax pmax
comp=Z,8.0nm,1.0s
LVZ Lovozero 89.70 16 PFAKE 13 18 00.0 +15
LVZ LR LR
comp=Z,300nm,18.0s
LVZ Lovozero 89.70 16⇑ *e*P **P 13 17 47.7 +2.2**
GRFO Grafenberg 90.06 38 PFAKE 13 18 00.0 +12
GRFO LR LR
comp=Z,500nm,19.0s
GRA1 Grafenberg Arr 90.06 38 PFAKE 13 18 00.0 +12
GRA1 LR LR
comp=Z,500nm,19.0s
TUE Stuetta 90.25 41 *e*P **P 13 17 48.0 -0.7**
comp=Z,38nm,1.7s
TUE LR LR
comp=Z,600nm,20.0s
DAVA Damuels 90.25 40 *e*pP **P 13 17 49.4 +0.7**
comp=Z,18nm,1.2s
CLL Collm 90.39 36 PFAKE 13 18 00.0 +11
CLL LR LR
comp=Z,400nm,19.0s
CLL Collm 90.39 36⇓ *i*P **P 13 17 49.4 +0.4**
comp=Z,35nm,1.8s
CLL *e*PP **PP 13 21 20.0 -2.7**
CLL *e*SKSac **SKSac 13 28 21.0 -0.4**
CLL *e*PS PS 13 29 51.0 -0.1
CLL *e*SS **SS 13 34 42.0 -1.7**
CLL *e*SSS SSS 13 38 18.0
CLL Lm MLR 14 02 00.0
comp=Z,600nm,18.3s
CLL Collm 90.39 36⇓ *i*P **P 13 17 49.4 +0.4**
CLL *e* 13 28 21.0
CLL pmax pmax
comp=Z,35nm,1.8s
CLL MLR MLR
comp=Z,600nm,18.3s
NKC Novy Kostel 90.55 37 *e*P **P 13 17 50.7 +0.9**
NKC *e*PP **PP 13 21 18.6 -5.4**
NKC AMS AMS 14 09 20.0
comp=Z,600nm,17.2s
NKC Novy Kostel 90.55 37 *e*P **P 13 17 50.7 +0.9**
NKC *e* 13 21 18.6
NKC MLR MLR
comp=Z,600nm,17.2s
RETA Reutte 90.72 40 *e*pP **P 13 17 51.5 +0.8**
comp=Z,13nm,1.3s,SNR=5.2
FUORN Ofenpass-Fuorn 90.77 41 *e*P **P 13 17 50.2 -1.0**
comp=Z,16nm,1.0s
FUORN LR LR
comp=Z,600nm,20.0s
FETA Feichten 90.89 40 *e*pP **P 13 17 52.3 +0.6**
comp=Z,12nm,1.2s
MOTA Moosalm 90.99 40 *e*pP **P 13 17 52.5 +0.4**
comp=Z,4.8nm,0.7s
SQTA Sankt Quirin 91.10 40 *e*PcP **P 13 17 52.9 +0.3**
comp=Z,21nm,1.4s
BRG Berggiesshubel 91.11 36 *e*P **P 13 17 52.3 -0.1**
comp=Z,13nm,1.0s
BRG *e*PP **PP 13 21 25.2 -3.3**
comp=Z,25nm,1.8s
BRG SS SS 13 34 54.0 -0.2
BRG Berggiesshubel 91.11 36 *e*P **P 13 17 52.3 -0.1**
BRG *e* 13 21 25.2
BRG SS SS 13 34 54.0 -0.2
BRG pmax pmax
comp=Z,13nm,1.0s
BRG pmax pmax
comp=Z,25nm,1.8s
FIA1 FINESS Array S 91.21 23 *e*P **P 13 17 51.4 -1.2**
comp=Z,30nm,1.2s
FINES FINESS Array B 91.21 23 P **P 13 17 51.6 -1.0**
comp=Z,8.0nm,0.9s,baz=299,slow=5.9,SNR=16
FINES PP **PP 13 21 27.3 -1.5**
comp=Z,3.9nm,0.9s,baz=305,slow=6.7,SNR=5.3
FINES LR LR 14 02 15.6
comp=Z,384nm,18.6s,baz=323,slow=38
TIC Toumodi 91.40 83 *e*P **P 13 17 54.3 -0.2**
LIC Lamto 91.51 83 *e*P **P 13 17 54.9 0.0**
comp=Z,165nm,1.4s
DBIC Dimbokro 91.55 83 *e*P **P 13 17 54.5 -0.6**
comp=Z,62nm,1.4s
DBIC Dimbokro 91.55 83 P **P 13 17 55.0 -0.1**
comp=Z,20nm,1.1s,baz=247,slow=3.8,SNR=10
DBIC LR LR 13 57 06.6
comp=Z,212nm,19.7s,baz=273,slow=34
DBIC Dimbokro 91.55 83 *e*P **P 13 17 55.8 +0.7**
PVCC Panska Ves 91.62 36 AMS AMS 14 02 30.0
comp=Z,700nm,15.1s
KHC Kasperske Hory 91.69 38 *e*P **P 13 17 54.3 -0.9**
comp=Z,18nm,1.9s
KHC LR LR
comp=Z,300nm,19.0s
KHC Kasperske Hory 91.69 38 *e*P **P 13 17 55.4 +0.2**
KHC *e*PP **PP 13 21 27.1 -6.1**
KHC *e*SKS **SKSac 13 28 34.3 +5.2**
KHC AMS AMS 14 05 30.0
comp=Z,600nm,18.9s
KHC Kasperske Hory 91.69 38 *e*P **P 13 17 55.4 +0.2**
KHC *e* 13 21 27.1
KHC MLR MLR
comp=Z,600nm,18.9s
KIC Kosan Boka 91.75 83 *e*P **P 13 17 56.0 0.0**
comp=Z,45nm,0.7s
VLC Villacollemand 91.86 43 PFAKE 13 18 10.0 +14
VLC LR LR
comp=Z,400nm,20.0s
PRU Pruhonice 91.86 37 *e*P **P 13 17 56.0 +0.1**
PRU *e*PP **PP 13 21 31.3 -3.1**
PRU *e*SKS **SKSac 13 28 32.0 +2.1**
PRU AMS AMS 14 03 10.0
comp=Z,600nm,18.2s
PRU Pruhonice 91.86 37 *e*P **P 13 17 56.0 +0.1**
PRU *e* 13 21 31.3
GEC2 GERESS Array S 91.90 38 *e*P **P 13 17 55.5 -0.7**
comp=Z,30nm,1.8s
GEC2 LR LR
comp=Z,700nm,19.0s
GEC2 GERESS Array S 91.90 38 *e*P **P 13 17 55.5 -0.7**
GEC2 pmax pmax
comp=Z,31nm,1.8s
GEC2 MLR MLR
comp=Z,700nm,19.0s
GERES GERESS Array B 91.90 38 P **P 13 17 56.2 0.0**
comp=Z,1.1nm,0.6s,baz=328,slow=4.7,SNR=6.6
GERES LR LR 14 01 25.7
comp=Z,416nm,18.0s,baz=294,slow=37
GEA0 GERESS Array S 91.90 38 *e*P **P 13 17 53.9 -2.3**
GOPC GO Pecny, Ondr 92.03 36 *e*PP PP 13 21 33.7 -2.1
GOPC *e*SKS **SKSac 13 28 35.1 +4.2**
GOPC AMS AMS 14 03 20.0
comp=Z,500nm,17.2s
ABTA Abfaltersbach 92.11 40 *e*PcP **P 13 17 57.5 +0.3**
comp=Z,24nm,1.4s,SNR=5.8
KSP Ksiaz 92.44 35 *e*P **P 13 17 59.9 +1.3**
KSP *e*PP **PP 13 21 39.0 +0.1**
KSP Ksiaz 92.44 35 *e*P **P 13 17 59.9 +1.3**
KSP *e* 13 21 39.0
UPC Upice 92.45 36 *e*PP PP 13 21 38.1 -0.9
UPC AMS AMS 14 04 00.0
comp=Z,700nm,17.4s
KBA Koelnbreinsper 92.48 39 *e*pP **P 13 17 59.3 +0.2**
comp=Z,12nm,1.1s,SNR=7.5
KBA Koelnbreinsper 92.48 39 *e*P **P 13 17 59.2 +0.2**
MOA Molln 92.69 38 *e*PcP **P 13 17 59.8 0.0**
comp=Z,19nm,1.5s,SNR=6.3
MOA *e*PP **PP 13 21 40.1 -0.9**
comp=Z,10.0nm,1.5s
DPC Dobruska-Polom 92.70 36 *e*P **P 13 18 00.3 +0.5**
DPC AMS AMS 14 03 30.0
comp=Z,700nm,17.7s
DPC Dobruska-Polom 92.70 36 *e*P **P 13 18 00.3 +0.5**
DPC MLR MLR
comp=Z,700nm,17.7s
TREC Trest 92.73 37 AMS AMS 14 03 20.0
comp=Z,600nm,16.4s
MYKA Terra Mystica 92.86 40 *e*pP **P 13 18 01.2 +0.5**
comp=Z,7.6nm,1.1s
MYKA *e*PP **PP 13 21 40.6 -1.8**
comp=Z,8.5nm,0.9s
TRI Trieste 93.35 41 PFAKE 13 18 10.0 +7.2
TRI LR LR
comp=Z,400nm,20.0s
VRAC Vranov 93.36 36 *e*P **P 13 18 03.3 +0.5**
VRAC *e*PP **PP 13 21 45.2 -1.0**
KRUC Moravsky 93.36 37 *e*P **P 13 18 03.1 +0.3**
KRUC *e*PP **PP 13 21 44.8 -1.4**
TMCR Tamitsa 93.38 18 *e*P **P 13 18 00.1 -2.4**
TMCR pmax pmax
comp=Z,10.0nm,0.5s
OBKA Obir 93.47 40 *e*pP **P 13 18 04.1 +0.6**
comp=Z,17nm,1.3s
YAK Yakutsk 93.52 339 *e*P **P 13 18 03.1 -0.1**
YAK pmax pmax
comp=N,27nm,1.1s
YAK pmax pmax
comp=Z,126nm,0.9s
YAK pmax pmax
comp=E,32nm,1.4s
YAK MLR MLR
comp=Z,3µm,19.0s
YAK MLR MLR
comp=E,3µm,19.0s
YAK MLR MLR
comp=N,3µm,19.0s
CONA Conrad Observa 93.60 38 *e*pP **P 13 18 04.8 +0.7**
comp=N,7.7nm,1.2s,SNR=6.0
MORC Moravsky Berou 93.66 36 *e*P **P 13 18 01.5 -2.8**
comp=N,9.4nm,1.0s
MORC LR LR
comp=Z,700nm,19.0s
MORC Moravsky Berou 93.66 36 *e*P **P 13 18 01.5 -2.8**
MORC pmax pmax
comp=Z,9.0nm,1.0s
MORC MLR MLR
comp=Z,700nm,19.0s
MORC Moravsky Berou 93.66 36 *e*P **P 13 18 04.9 +0.6**
MORC *e*PP **PP 13 21 47.5 -1.1**
SOKA Soboth 93.69 39 *e*pP **P 13 18 05.1 +0.6**
comp=Z,17nm,1.4s
SOKA *e*PP **PP 13 21 46.7 -2.3**
comp=Z,10.0nm,1.3s
ARSA Arzberg 93.72 39 PcP **P 13 18 03.7 -0.9**
comp=Z,8.3nm,1.2s
OKC Ostrava-Krasne 93.97 36 *e*PP PP 13 21 49.8 -1.1
OKC AMS AMS 14 04 40.0
comp=Z,600nm,19.4s
SOP Sopron 94.13 38⇑ *e*P **P 13 18 06.0 -0.4**
JAVC Velka Javorina 94.19 37 *e*P **P 13 18 08.3 +1.6**
MODS Modra-Piesok 94.21 37 *e*P **P 13 18 07.1 +0.3**
MODS Modra-Piesok 94.21 37 *e*P **P 13 18 07.1 +0.3**
SUW Suwalki 94.35 30 PFAKE 13 18 20.0 +13
SUW LR LR
comp=Z,600nm,20.0s
KEST Kesra 94.52 51 *e*P **P 13 18 06.3 -2.3**
comp=Z,22nm,1.0s
KEST Kesra 94.52 51 P **P 13 18 08.9 +0.4**
comp=Z,9.4nm,1.0s,baz=252,slow=0.9,SNR=4.9
KEST LR LR 13 59 46.9
comp=Z,282nm,18.0s,baz=242,slow=35
NKL Nikolayevsk 94.54 329 *e*P **P 13 18 08.5 +0.4**
NKL pmax pmax
comp=Z,28nm,1.2s
AQU L'Aquila 94.62 44 PFAKE 13 18 20.0 +11
AQU LR LR
comp=Z,600nm,21.0s
OJC Ojcow 94.69 35 *e*P **P 13 18 09.3 +0.4**
OJC *e*PP **PP 13 21 55.8 -0.7**
OJC Ojcow 94.69 35 *e*P **P 13 18 09.3 +0.4**
OJC *e* 13 21 55.8
NRIK Noril'sk 94.78 358 P **P 13 18 09.1 +0.2**
comp=Z,2.8nm,0.4s,baz=5.4,slow=2.8,SNR=12
VYHS Vyhne 95.05 36 *e*P **P 13 18 10.0 -0.6**
VYHS Vyhne 95.05 36 *e*P **P 13 18 10.0 -0.6**
NIE Niedzica 95.39 35 *e*P **P 13 18 13.0 +0.8**
NIE *e*PP **PP 13 22 02.3 +0.3**
NIE Niedzica 95.39 35 *e*P **P 13 18 13.0 +0.8**
NIE *e* 13 22 02.3
URZ Urewera 95.54 232 LR LR 13 51 39.7
comp=Z,279nm,20.3s,baz=6.0,slow=29
TOC5 Torodi Ar. Sit 95.84 75 PFAKE 13 18 30.0 +15

TOC5 LR LR
comp=Z,800nm,20.0s
TOB4 Torodi Ar. Sit 95.84 75 PFAKE 13 18 30.0 +15
TOB4 LR LR
comp=Z,700nm,20.0s
TOA0 Torodi Ar. Sit 95.85 75 *e*P **P 13 18 12.1 -2.8**
comp=Z,7.7nm,1.0s
TORD Torodi Ar. Bea 95.85 75 P **P 13 18 13.8 -1.1**
comp=Z,3.3nm,0.9s,baz=312,slow=5.4,SNR=14
TORD PKKP **PKKPdf 13 35 10.4 +6.1**
comp=Z,0.8nm,0.9s,baz=352,slow=2.8,SNR=4.1
TOC4 Torodi Ar. Sit 95.86 75 PFAKE 13 18 30.0 +15
TOC4 LR LR
comp=Z,700nm,20.0s
BLY Banja Luka 95.94 40 PFAKE 13 18 30.0 +15
BLY LR LR
comp=Z,700nm,19.0s
PSZ Piszkesteto 95.95 37 PFAKE 13 18 30.0 +15
PSZ LR LR
comp=Z,500nm,19.0s
PSZ Piszkesteto 95.95 37⇑ *e*P **P 13 18 15.0 +0.2**
MORH Mrgy, Hungar 96.10 38⇑ *e*P **P 13 18 14.1 -1.3**
TAM Tamanrasset 96.18 64 *e*P **P 13 18 15.0 -1.5**
comp=Z,12nm,1.2s
TAM Tamanrasset 96.18 64 *e*P **P 13 18 15.0 -1.5**
TAM pmax pmax
comp=Z,12nm,1.2s
KLMR Klimovskoe 96.34 19 *e*P **P 13 18 13.7 -2.4**
KLMR *e* 13 22 05.8
KLMR pmax pmax
comp=Z,40nm,1.5s
KLMR Klimovskoe 96.34 19 *e*P **P 13 18 13.8 -2.4**
KLMR AMP 13 18 16.9
comp=Z,40nm,1.6s
KLMR *e*PP **PP 13 22 05.8 -3.0**
YUK Yuzh-Kuril'sk 96.41 319*c i*P **P 13 18 17.0 +0.1**
YUK *i* 13 22 11.4
YUK *e*PPP PPP 13 24 13.8
YUK *i*S **SKSac 13 28 53.6 -1.2**
YUK *i*SS **SS 13 36 11.8 +1.6**
YUK *e*SSS SSS 13 39 56.5
YUK pmax pmax
comp=Z,108nm,4.2s
YUK pmax pmax
comp=N,75nm,1.1s
YUK pmax pmax
comp=Z,136nm,1.1s
YUK pmax pmax
comp=E,58nm,1.0s
YUK pmax pmax
comp=N,75nm,1.1s
YUK MLR MLR
comp=Z,392nm,17.0s
KWP Kalwaria Pacla 96.58 34 *e*P **P 13 18 17.7 +0.1**
KWP Kalwaria Pacla 96.58 34 *e*P **P 13 18 16.7 -0.9**
comp=Z,266nm,1.3s
KWP Kalwaria Pacla 96.58 34 *e*P **P 13 18 17.7 +0.1**
YSS Yuzh-Sakhalins 96.80 323 *e*P **P 13 18 19.7 +1.1**
YSS *e* 13 18 24.4
YSS *e* 13 36 22.6
YSS MLR MLR
comp=Z,400nm,15.0s
UZH Uzhgorod 96.92 35 *e*P **P 13 18 18.8 -0.3**
UZH *e* 13 18 25.2
UZH *i* 13 18 34.0
HIZ Hauiti 97.32 232 PFAKE 13 18 30.0 +8.9
HIZ LR LR
comp=Z,900nm,19.0s
PRGR Permogore 97.52 16 *e*P **P 13 18 20.4 -1.1**
PRGR *e**PP **sP 13 18 24.9 +2.6**
PRGR *e* 13 22 14.7
PRGR pmax pmax
comp=Z,39nm,1.0s
TIP Timpagrande 98.34 45 PFAKE 13 18 40.0 +14
TIP LR LR
comp=Z,700nm,21.0s
KIEV Kiev 99.30 31 PFAKE 13 18 40.0 +10
KIEV LR LR
comp=Z,500nm,20.0s
AKASG Malin Array Be 99.30 31*c e*P **Pdif 13 18 29.7 0.0**
AKASG Malin Array Be 99.30 31 P **Pdif 13 18 28.7 -1.1**
comp=Z,0.2nm,0.3s,baz=295,slow=3.6,SNR=6.8
AKASG LR LR 14 05 50.0
comp=Z,324nm,19.0s,baz=300,slow=37
AKBB Malin Array Si 99.30 31 PFAKE 13 18 40.0 +10
AKBB LR LR
comp=Z,500nm,20.0s
MOS Moscow 99.51 23 *e*P **Pdif 13 18 29.6 -0.9**
OBN Obninsk 99.56 24 PFAKE 13 18 40.0 +9.3
OBN LR LR
comp=Z,600nm,20.0s
OBN Obninsk 99.56 24⇑ *e*P **Pdif 13 18 31.1 +0.4**
OBN *e* 13 22 35.1
OBN *e*PPP PPP 13 24 41.4
OBN pmax pmax
comp=Z,37nm,1.9s
DZM Mont Dzumac 100.54 250 *e*SP SP 13 31 43.0 -0.4
comp=Z,163nm,25.8s
DZM Mont Dzumac 100.54 250 *e*LR LR 13 51 36.4
comp=Z,474nm,21.9s
MLR Muntele Rosu 100.76 36 PFAKE 13 18 50.0 +13
MLR LR LR
comp=Z,400nm,18.0s
VTS Vitosha 100.79 40 PFAKE 13 18 50.0 +13
VTS LR LR
comp=Z,500nm,18.0s
BOD Bodaibo 101.72 343 *e*P **Pdif 13 18 39.6 -0.8**
BOD pmax pmax
comp=Z,4.0nm,1.9s
LPSR Galich'ya Gora 102.36 25 *e*P **Pdif 13 18 43.1 -0.2**
LPSR pmax pmax
comp=Z,10.0nm,1.2s
VSR Storozhevoye 103.49 26 *e*P **Pdif 13 18 47.2 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.6s
HNR Honiara 103.69 264 PFAKE 13 19 00.0 +10
HNR LR LR
comp=Z,2μm,19.0s
VRH Novokhopyorsk 104.55 25 *e*P **Pdif 13 18 49.5 -3.5**
VRH pmax pmax
comp=Z,7.0nm,0.8s
MDJ Mudanjiang 105.55 327 PFAKE 13 23 20.0 +8.9
MDJ LR LR
comp=Z,500nm,21.0s
SIM Simferopol' 105.57 33 *e*P **Pdif 13 18 54.5 -3.3**
SIM *e* 13 23 24.0
SIM *e*PS PS 13 32 31.0 -4.3
SIM *e*SS SS 13 38 18.0 +0.9
SIM pmax pmax
comp=Z,300nm,16.0s
HIA Hailar 106.77 335 PFAKE 13 23 30.0 +17
HIA LR LR
comp=Z,600nm,21.0s
SARN Sarigan 108.88 294 PFAKE 13 23 30.0 +12
SARN LR LR
comp=Z,800nm,18.0s
RABL Rabaul 109.84 271 PFAKE 13 23 30.0 +10
RABL LR LR
comp=Z,500nm,19.0s
TLY Talaya 109.92 346 PFAKE 13 23 30.0 +11
TLY LR LR
comp=Z,401nm,20.0s
ZAA0 Zalesovo Array 110.28 358 PFAKE 13 23 30.0 +10
ZAA0 LR LR
comp=Z,600nm,18.0s
ZALV Zalesovo Beam 110.28 358 PP **PP 13 23 52.0 -0.8**
comp=Z,1.0nm,0.3s,baz=348,slow=6.2,SNR=7.2
BRVK Borovoye 110.53 7 PFAKE 13 23 30.0 +10
BRVK LR LR
comp=Z,600nm,18.0s
BVAR Borovoye Array 110.57 7 PP **PP 13 23 55.9 +0.8**
comp=Z,1.9nm,0.9s,baz=345,slow=5.1,SNR=5.7
CSS Mathiatis 111.67 41 PFAKE 13 23 30.0 +7.1
CSS LR LR
comp=Z,200nm,22.0s
ULN Ulaanbaatar 112.47 342 PFAKE 13 23 40.0 +16
ULN LR LR
comp=Z,500nm,19.0s
ULN Ulaanbaatar 112.47 342‖ *i*PKIKP **PKiKP 13 23 24.2 0.0**
ULN pmax pmax
comp=Z,6.0nm,2.5s
SONM Songino Array 112.70 342 PKiKP **PKiKP 13 23 24.9 +0.3**
comp=Z,0.2nm,0.3s,baz=321,slow=2.1,SNR=3.8
SONM PP **PP 13 24 11.2 +0.6**
comp=Z,3.2nm,1.1s,baz=46,slow=6.4,SNR=8.5

MAK Makhachkala 113.48 27 *i*PKIKP **PKiKP 13 23 21.8 -4.2**
MAK *e* 13 24 12.8
MAK *e*PS **PS 13 33 48.6 -4.1**
MAK pmax pmax
comp=Z,40nm,0.5s
KURK Kurchatov 113.52 2 PFAKE 13 23 40.0 +14
KURK LR LR
comp=Z,600nm,20.0s
KURBB Kurchatov Arra 113.61 2 PKiKP **PKiKP 13 23 26.0 0.0**
comp=Z,0.8nm,0.8s,baz=338,slow=2.0,SNR=6.0
DGZ Jazzator, Alta 114.39 356*c i*PKIKP PKPdf 13 23 27.9 +0.1
GNI Garni 114.43 30 PFAKE 13 23 40.0 +12
GNI LR LR
comp=Z,300nm,21.0s
BJI Beijing 115.63 331 *e*PKP **PKiKP 13 23 26.0 -4.2**
BJI LR LR
comp=Z,280nm,21.8s
BJI LR LR
comp=Z,300nm,24.1s
BJI LR LR
comp=Z,180nm,65.4s
BJT Baijiatuau 115.65 331 PFAKE 13 23 40.0 +10
BJT LR LR
comp=Z,500nm,18.0s
HHC Hu-ho-hao-te 116.98 335 *e*PKP **PKiKP 13 23 34.0 +1.0**
HHC SS SS 13 40 53.8 +4.6
HHC AMB AMB
comp=Z,340nm,7.1s
HHC LR LR
comp=Z,510nm,19.0s
HHC LR LR
comp=Z,330nm,19.2s
HHC LR LR
comp=Z,570nm,20.7s
MAKZ Makanchi 117.48 360 PFAKE 13 23 50.0 +16
MAKZ LR LR
comp=Z,600nm,21.0s
MKAR Makanchi Array 117.49 359 PKiKP **PKPdf 13 23 33.0 -0.7**
MKAR Makanchi Array 117.49 359 PKP **PKPdf 13 23 33.0 -0.7**
comp=Z,0.7nm,0.7s,baz=0.0,slow=2.4,SNR=6.7
MKAR PKKPbc **PKKPbc 13 33 59.8 +2.2**
comp=Z,0.5nm,0.9s,baz=139,slow=6.8,SNR=3.4
MK01 Makanchi Array 117.52 359 *e*PKPdf **PKPdf 13 23 32.9 -0.8**
WMQ Urumqi 120.21 355 *e*PKP **PKPdf 13 23 39.0 -0.1**
WMQ LR LR
comp=Z,690nm,21.9s
WMQ LR LR
comp=Z,780nm,21.9s
WMQ LR LR
comp=Z,670nm,23.5s
WMQ Urumqi 120.21 355 PFAKE 13 23 50.0 +11
WMQ LR LR
comp=Z,500nm,18.0s
NJ2 Nanjing 120.37 323 *e*PKP **PKPdf 13 23 39.5 -0.1**
KPKS Kokpek 120.76 2 *e*PKIKP **PKPdf 13 23 39.6 -0.6**
JBG Jabagly 120.97 10 *e*PKIKP **PKPdf 13 23 40.0 -0.7**
MDOK Medeo 120.98 4 *e*PKIKP **PKPdf 13 23 40.0 -0.7**
MDOK *e* 13 25 08.7
SHLS Shalkode 121.10 2 *e*PKIKP **PKPdf 13 23 39.5 -1.4**
SHLS *e* 13 25 06.2
FRU1 Bishkek 121.13 6 PFAKE 13 23 50.0 +9.0
FRU1 LR LR
comp=Z,500nm,21.0s
IUG Iuzhnay 121.16 10 *e*PKIKP **PKPdf 13 23 41.1 +0.1**
AAK Ala-Archa 121.28 6 PKP **PKiKP 13 23 41.5 +0.1**
comp=Z,1.2nm,0.7s,baz=251,slow=4.9,SNR=4.0
PRZ Przheval'sk 121.73 3 PFAKE 13 23 50.0 +7.6
PRZ LR LR
comp=Z,500nm,20.0s
GEYT Alibeck 121.98 22 PKP **PKiKP 13 23 43.1 +0.4**
comp=Z,4.4nm,0.7s,baz=260,slow=4.4,SNR=9.0
GYA0B ALIBECK ARRAY 121.98 22 PFAKE 13 23 50.0 +7.2
GYA0B LR LR
comp=Z,400nm,21.0s
KDJ Kajisay 122.01 4 *e*PKPdf **PKPdf 13 23 42.6 -0.2**
KDJ LR LR
comp=Z,500nm,20.0s
KDJ Kajisay 122.01 4 *e*PKIKP **PKPdf 13 23 42.6 -0.2**
KDJ MLR MLR
comp=Z,500nm,20.0s
GTA Gaotai 122.31 343 *e*PKP **PKiKP 13 23 43.5 0.0**
GTA PP **PP 13 25 21.5 +4.0**
GTA AMB AMB
comp=Z,110nm,6.0s
GTA LR LR
comp=Z,360nm,19.0s
GTA LR LR
comp=Z,440nm,18.4s
GTA LR LR
comp=Z,430nm,18.4s
NRN Naryn 122.62 5 *e*PKPdf **PKPdf 13 23 43.4 -0.7**
NRN LR LR
comp=Z,500nm,20.0s
NRN Naryn 122.62 5 *e*PKIKP **PKPdf 13 23 43.4 -0.7**
NRN MLR MLR
comp=Z,500nm,20.0s
STKA Stephens Creek 123.61 242 *e*PKPdf **PKiKP 13 23 46.1 +0.1**
STKA Stephens Creek 123.61 242 *e*PKIKP **PKiKP 13 23 46.1 +0.1**
STKA Stephens Creek 123.61 242 PKP **PKiKP 13 23 47.0 +0.9**
comp=Z,3.3nm,0.8s,baz=137,slow=4.2,SNR=5.8
XAN Xi'an 123.85 333 PKP **PKiKP 13 23 46.5 -0.1**
XAN Xi'an 123.85 333 PFAKE 13 24 00.0 +13
XAN LR LR
comp=Z,400nm,21.0s
LZH Lanzhou 124.09 338 *e*PKP **PKPdf 13 23 44.0 -2.9**
LZH LR LR
comp=Z,510nm,17.3s
LZH LR LR
comp=Z,1μm,18.2s
LZH LR LR
comp=Z,1μm,20.1s
KSH Kashi 124.52 5 PKP **PKiKP 13 23 49.0 +1.1**
KSH PP **PP 13 25 39.5 +7.3**
KSH AMB AMB
comp=Z,150nm,9.6s
ENH Enshi 126.73 330 *e*PKPdf **PKPdf 13 23 51.2 -0.7**
ENH LR LR
comp=Z,300nm,20.0s
MBAR Mbarara 127.56 78 PFAKE 13 24 10.0 +15
MBAR LR LR
comp=Z,400nm,20.0s
KBL Kabul 128.33 13 PFAKE 13 24 10.0 +14
KBL LR LR
comp=Z,400nm,21.0s
CD2 Chengdu 128.73 335 PKP **PKPdf 13 23 54.5 -1.2**
WRAB Tennant Creek 129.85 257 *e*PKPdf **PKPdf 13 23 57.9 -0.1**
WRAB Tennant Creek 129.85 257‖ *i*PKIKP **PKiKP 13 23 58.9 +0.1**
WRAB pmax pmax
comp=Z,16nm,1.7s
WRA Warramunga Arr 129.87 257 PKP **PKPdf 13 23 58.2 +0.2**
comp=Z,5.5nm,0.9s,baz=80,slow=1.8,SNR=25
WRA SKPbc SKPbc 13 27 23.7 +2.1
comp=Z,4.0nm,1.1s,baz=80,slow=4.6,SNR=8.0
AS01 Alice Springs 130.41 252 *e*PKPdf **PKPdf 13 23 59.1 0.0**
ASAR Alice Springs 130.46 252 PKP **PKPdf 13 23 59.4 +0.2**
comp=Z,3.0nm,0.9s,baz=106,slow=2.1,SNR=20
ASAR SKPbc **SKPbc 13 27 25.8 +2.2**
comp=Z,3.1nm,1.1s,baz=86,slow=3.8,SNR=7.8
DAV Davao City (W) 130.82 294 *e*P **PKiKP 13 24 03.9 +3.0**
GYA Guiyang 131.28 330 Pdif **Pdif 13 20 51.0 -1.6**
GYA PKP **PKPdf 13 24 00.8 0.0**
GYA PP **PP 13 26 20.5 +3.2**
GYA PKS **PKSdf 13 27 35.3 -2.2**
GYA SKKS 13 33 11.8
GYA SS **SS 13 43 48.0 -2.2**
GYA AMB AMB
comp=Z,150nm,7.9s
GYA LR LR
comp=Z,220nm,19.9s
GYA LR LR
comp=Z,180nm,20.0s
GYA LR LR
comp=Z,230nm,20.2s
ATD Arta Tunnel 132.88 57 PFAKE 13 24 20.0 +15
ATD LR LR
comp=Z,300nm,21.0s
LSA Lhasa 133.64 349 PFAKE 13 24 20.0 +13
LSA LR LR
comp=Z,400nm,20.0s
KMBO Kilima Mbogo 133.84 76 *e*PKPdf **PKPdf 13 24 05.5 -0.5**
KMBO LR LR
comp=Z,500nm,20.0s
KMBO Kilima Mbogo 133.84 76 *e*PKIKP **PKPdf 13 24 05.6 -0.5**
KMBO MLR MLR
comp=Z,500nm,20.0s

KMI Kunming 134.23 333 PKP **PKiKP 13 24 08.5 +0.6**
KMI PP **PP 13 26 38.8 +2.5**
KMI SS SS 13 44 26.0 -0.2
KMI AMB AMB
comp=Z,140nm,10.3s
KMI LR LR
comp=Z,350nm,15.3s
KMI LR LR
comp=Z,230nm,19.2s
KMI LR LR
comp=Z,450nm,16.7s
KMI Kunming 134.23 333 PFAKE 13 24 20.0 +12
KMI LR LR
comp=Z,400nm,20.0s
QIZ Qiongzhong 135.47 320 PKP **PKPdf 13 24 07.5 -1.2**
QIZ SS SS 13 44 40.3 -1.2
QIZ LR LR
comp=Z,120nm,4.1s
QIZ LR LR
comp=Z,280nm,7.8s
QIZ LR LR
comp=Z,180nm,16.8s
KKM Kota Kinabalu 139.35 300 PFAKE 13 24 30.0 +12
KKM LR LR
comp=Z,200nm,20.0s
CMMT Chiang Mai 141.43 333 P **PKPdf 13 24 20.8 +1.2**
comp=Z,6.1nm,1.4s
CHTO Chiang Mai 141.43 333 *e*P **PKiKP 13 24 23.1 +0.7**
CMAR Chiang Mai Arr 141.74 333 PKhKP PKPpre 13 24 14.8
comp=Z,3.1nm,0.9s,baz=346,slow=2.8,SNR=8.7
CMAR PKP pPKPdf 13 24 20.6 -0.2
comp=Z,3.0nm,0.9s,baz=338,slow=2.3,SNR=15
CM01 Chiang Mai Arr 141.77 333 *e*PKPpre PKPpre 13 24 12.2
UTHA Uthaitani 144.04 330 P **PKPdf 13 24 24.5 +0.2**
comp=Z,5.4nm,1.1s,comp=Z,56nm
SBUM Sibu 144.63 299 PFAKE 13 24 40.0 +11
SBUM LR LR
comp=Z,200nm,21.0s
PHET Kaeng Krachan 146.20 327 P **PKPab 13 24 30.5 +0.9**
comp=Z,7.6nm,1.2s,comp=Z,178nm
HYB Hyderabad 146.65 5 *i*PKP **PKPdf 13 24 29.0 +0.2**
HYB *e* 13 24 35.5
KSM Kuching 146.76 299 *e*PKPdf **PKPdf 13 24 28.5 -0.6**
OPO Ambohidratompo 147.05 100 PKPbc **PKPab 13 24 33.0 -0.2**
comp=Z,36nm,0.9s,baz=243,slow=2.6,SNR=25
TRTT Trang 150.32 322 P **PKiKP 13 24 40.8 0.0**
comp=Z,12nm,1.1s,comp=Z,240nm
PBA Port Blair 150.40 338 *e*PKPdf PKPdf 13 24 33.8 -1.1
PBA *e*PKPbc PKPbc 13 24 40.0 -0.1
KULM Kulim 151.68 317 *e*PKPbc **PKPbc 13 24 43.0 -0.2**
KULM LR LR
comp=Z,300nm,18.0s
MYKOM Kota Tinggi 151.80 307 *e*PKPbc **PKPbc 13 24 43.3 -0.2**
MSEY Mahe Island 151.97 69 *e*PKPbc **PKPbc 13 24 43.6 -0.3**
MSEY Mahe Island 151.97 69*c i*PKIKP **PKPbc 13 24 41.6 -2.3**
IPM Ipoh 152.02 315 *e*PKPbc **PKPbc 13 24 43.5 -0.5**
CISI Cisompet, Garu 153.05 285 *e*pPKPdf **PKPbc 13 24 45.3 -1.0**
PSI Prapat 154.67 316 *e*PKPdf **PKPdf 13 24 40.1 -1.3**
PSI *e*PKPab **PKPab 13 25 04.5 0.0**
PSI LR LR
comp=Z,300nm,18.0s
PSI Prapat 154.67 316 *e*PKIKP **PKPdf 13 24 40.1 -1.3**
PSI *e* 13 25 04.5
PSI MLR MLR
comp=Z,300nm,18.0s
PSI Prapat 154.67 316 PKP **PKPdf 13 24 41.0 -0.4**
comp=Z,2.0nm,0.4s,baz=164,slow=5.2,SNR=7.3
PSI PKPab **PKPab 13 25 05.6 +1.1**
comp=Z,12nm,1.0s,baz=354,slow=0.9,SNR=6.4
PALK Pallekele 156.85 2 *e*PKPdf **PKPdf 13 24 43.7 -0.5**
PALK PKPab **PKPab 13 25 13.8 +0.2**
PALK Pallekele 156.85 2 *e*PKIKP **PKPdf 13 24 43.7 -0.5**
PALK Pallekele 156.85 2 PKPab **PKPab 13 25 13.8 +0.2**
comp=Z,5.0nm,0.9s,baz=279,slow=0.4,SNR=4.2

SOF ***26*** *13:08:38.0, 40˚.03N×26˚.14E, h1km, MD3.4*
DDA ***26*** *13:08:43.9, 40˚.41N×25˚.98E, h33km±1km, ML3.9*
ATH ***26*** *13:08:44.4, 40˚.40N×25˚.95E, h29km±1km, ML3.5/7, Error ellipse: s-maj=1.9km s-min=0.9km az=267.0*
ISK ***26*** *13:08:44.5, 40˚.39N×26˚.02E, h18km, ML3.7/11*
THE ***26*** *13:08:45.4, 40˚.41N×25˚.95E, h16km±1km, ML3.6/6, Error ellipse: s-maj=1.6km s-min=0.6km az=341.0*
ISCJB ***26*** *13:08:45.0±0.2, 40˚.40N±0˚.02×25˚.96E±0˚.02, h21km±3km, Error ellipse: s-maj=2.7km s-min=2.4km az=141.5*

ISC 26 13:08:44.7±1.0, 40˚38N±0˚.02×26˚01E±0˚.02, h18km±3km, n98, σ0˚84/128, 7C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOKC	**Gokceada-Canak**	**0.20**	**202**	PG	**Pg**	**13 08 49.9**	**+0.3**
GOKC				SG	**Sg**	**13 08 53.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**0.35**	**87**	PG	**Pb**	**13 08 52.4**	**0.0**
GELI				SG	**Sb**	**13 08 57.8**	**+0.1**
ENEZ	**Enez**	**0.37**	**17**	PG	**Pb**	**13 08 52.6**	**-0.1**
ENEZ				SG	**Sb**	**13 08 58.2**	**0.0**
SMTH	**Samothraki Isl**	**0.38**	**284**	P	**Pg**	**13 08 52.3**	**-0.3**
SMTH				S	**Sg**	**13 08 57.4**	**-0.6**
SMTH	**Samothraki Isl**	**0.38**	**284**	P	**Pg**	**13 08 52.2**	**-0.5**
SMTH				S	**Sg**	**13 08 57.5**	**-0.6**
SMTH				AML	AML	13 08 57.7	
	comp=N,44382μm,0.5s						
SMTH				AML	AML	13 08 58.8	
	comp=E,24517μm,0.4s						
ERIK	**Erikli-Kesan**	**0.48**	**53**	PG	**Pb**	**13 08 54.3**	**-0.2**
ALN	**Alexandroupoli**	**0.52**	**3**	PG	**Pb**	**13 08 55.0**	**-0.1**
ALN				SG	**Sb**	**13 09 02.5**	**+0.3**
ALN	**Alexandroupoli**	**0.52**	**3**	P	**Pb**	**13 08 55.1**	**-0.1**
ALN				S	**Sg**	**13 09 01.4**	**-0.6**
ALN	**Alexandroupoli**	**0.52**	**3**	P	**Pb**	**13 08 55.0**	**-0.1**
ALN				S	**Sb**	**13 09 02.2**	**0.0**
ALN				AML	AML	13 09 02.7	
	comp=E,19564μm,0.4s						
ALN				AML	AML	13 09 03.3	
	comp=N,9612μm,0.4s						
BOZC	**Bozcaada**	**0.54**	**177**	PG	**Pb**	**13 08 55.6**	**+0.1**
BOZC				SG	**Sb**	**13 09 03.2**	**+0.3**
BOZC	**Bozcaada**	**0.54**	**177**	*i* P	**Pb**	**13 08 56.3**	**+0.7**
BOZC				*i* S	**Sb**	**13 09 03.4**	**+0.4**
BOZC				IAML_P			
	comp=Z,42μm,0.1s						
LPK	**Lapseki**	**0.57**	**91**	PG	**Pb**	**13 08 56.5**	**+0.5**
LPK				SG	**Sb**	**13 09 04.9**	**+1.1**
EZN	**Ezine**	**0.60**	**157**	PG	**Pg**	**13 08 56.6**	**-0.1**
KESN	**Edirne-Kesan**	**0.67**	**49**	*i* P	**Pb**	**13 08 58.1**	**0.0**
KESN				*i* S	**Sn**	**13 09 08.5**	**-1.3**
KESN				IAML_P			
	comp=Z,6μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.76**	**147**	*i* P	**Pn**	**13 09 00.1**	**-0.4**
BAYC				*i* S	**Sg**	**13 09 10.0**	**+0.3**
LIA	**Limnos Island**	**0.80**	**233**	P	**Pb**	**13 08 59.9**	**-0.1**
LIA				S	**Sg**	**13 09 10.8**	**-0.1**
LIA	**Limnos Island**	**0.80**	**233**	P	**Pb**	**13 08 59.9**	**-0.1**
LIA				S	**Sg**	**13 09 11.3**	**+0.3**
LIA				AML	AML	13 09 12.9	
	comp=N,3462μm,0.3s						
LIA				AML	AML	13 09 18.0	
	comp=E,3668μm,0.3s						
RDO	**Rodhopi**	**0.84**	**335**	PG	**Pb**	**13 09 00.6**	**-0.2**
RDO	**Rodhopi**	**0.84**	**335**	P	**Pb**	**13 09 00.6**	**-0.2**
RDO	**Rodhopi**	**0.84**	**335**	P	**Pb**	**13 09 00.5**	**-0.2**
RDO				S	**Sg**	**13 09 12.4**	**0.0**
RDO				AML	AML	13 09 15.1	
	comp=N,2465μm,0.3s						
RDO				AML	AML	13 09 16.3	
	comp=E,2376μm,0.2s						
RKY	**Sarkoy-Tekirda**	**0.94**	**71**	PG	**Pb**	**13 09 02.3**	**-0.1**
SART	**Tekirdag**	**0.94**	**71**	*i* P	**Pn**	**13 09 02.9**	**-0.1**
SART				*i* S	**Sn**	**13 09 16.7**	**+0.7**
SART				IAML_P			
	comp=Z,22μm,0.1s						
KRBG	**Karabiga-Canak**	**0.98**	**89**	PG	**Pb**	**13 09 03.1**	**0.0**
THAS	**Thassos island**	**1.01**	**283**	P	**Pb**	**13 09 03.0**	**-0.6**
THAS				S	**Sb**	**13 09 16.4**	**-0.2**
THAS	**Thassos island**	**1.01**	**283**	P	**Pb**	**13 09 03.2**	**-0.4**
THAS				S	**Sb**	**13 09 16.8**	**+0.3**
THAS				AML	AML	13 09 18.3	
	comp=E,4595μm,0.3s						
THAS				AML	AML	13 09 18.9	
	comp=N,9920μm,0.5s						
PRK	**Paraskevi**	**1.15**	**170**	P	**Pg**	**13 09 07.3**	**+0.3**
PRK				S	**Sg**	**13 09 22.9**	**+0.8**
PRK	**Paraskevi**	**1.15**	**170**	P	**Pg**	**13 09 07.2**	**+0.3**

PRK				S	Sg	13 09 23.3	+1.2			
PRK				AML	AML	13 09 24.5				
	comp=E,14359µm,0.6s									
PRK				AML	AML	13 09 26.2				
	comp=N,13240µm,0.7s									
EFSA	**Agios Efstrati**	**1.15**	**223**	P	Pg	**13 09 06.8**	**-0.2**			
KNL	**Balıkesir**	**1.16**	**95**	*i* P	Pg	**13 09 07.5**	**+0.4**			
KNL				IAML_P						
	comp=Z,38µm,0.5s									
SIGR	**SIGRI**	**1.18**	**186**	P	Pb	**13 09 06.5**	**+0.1**			
SIGR				S	Sg	**13 09 23.0**	**+0.2**			
SIGR	**SIGRI**	**1.18**	**186**	P	Pb	**13 09 06.6**	**+0.1**			
SIGR				S	Sg	**13 09 22.7**	**-0.1**			
SIGR				AML	AML	13 09 24.8				
	comp=E,4798µm,0.4s									
SIGR				AML	AML	13 09 24.9				
	comp=N,6149µm,0.5s									
AYVA	**Ayvalik**	**1.19**	**154**	*i* P	Pg	**13 09 07.9**	**+0.2**			
AYVA				*i* S	Sg	**13 09 23.5**	**+0.2**			
AYVA				IAML_P						
	comp=Z,4µm,0.2s									
MRMT	**Marmara Adasi**	**1.23**	**79**	PN	Pn	**13 09 06.9**	**0.0**			
KAVA	**Kavala**	**1.29**	**299**	P	Pn	**13 09 07.5**	**-0.3**			
KAVA				S	Sn	**13 09 23.9**	**-0.7**			
KAVA	**Kavala**	**1.29**	**299**	P	Pb	**13 09 08.1**	**-0.4**			
KDZ	**Kurdzhali**	**1.34**	**341**	P	Pg	**13 09 12.7**	**+2.1**			
KVLA	**Kavala**	**1.36**	**295**	P	Pb	**13 09 09.4**	**-0.1**			
CRLT	**Corlu**	**1.51**	**60**	PN	Pb	**13 09 11.5**	**-0.6**			
OUR	**Ouranopolis**	**1.55**	**269**	P	Pn	**13 09 10.6**	**-0.7**			
OUR	**Ouranopolis**	**1.55**	**269**	P	Pn	**13 09 10.7**	**-0.6**			
EDRB	**Edirne**	**1.56**	**20**	PN	Pb	**13 09 12.6**	**-0.4**			
KIRK	**Kırklareli**	**1.62**	**30**	*i* P	Pb	**13 09 13.0**	**-1.0**			
KIRK				*i* S	Sb	**13 09 34.8**	**+0.7**			
RZN	**Rozhen**	**1.63**	**323**	*i* P	Pn	**13 09 12.9**	**+0.3**			
ZEDA	**zmir-Bergama**	**1.64**	**150**	*i* P	Pb	**13 09 14.3**	**+0.1**			
ZEDA				*i* S	Sg	**13 09 36.2**	**-1.2**			
STEP	**BALIKESIR_Sava**	**1.65**	**127**	*i* P	Pb	**13 09 15.1**	**+0.5**			
STEP				*i* S	Sg	**13 09 37.6**	**-0.4**			
STEP				IAML_P						
	comp=Z,6µm,0.1s									
PHSR	**Pinarhisar**	**1.69**	**42**	⇑*i* P	Pg	**13 09 16.3**	**-0.9**			
DIM	**Dimitrovgrad**	**1.71**	**348**	P	Pn	**13 09 14.0**	**+0.6**			
PAIG	**Paliouri**	**1.85**	**256**	P	Pn	**13 09 14.7**	**-0.7**			
PSRA	**Psara**	**1.87**	**191**	P	Pn	**13 09 16.9**	**+1.2**			
SKY	**Skiros Island**	**1.88**	**217**	P	Pn	**13 09 15.4**	**-0.5**			
NVR	**Nevrokopi**	**1.90**	**301**	P	Pn	**13 09 16.2**	**+0.1**			
NVR	**Nevrokopi**	**1.90**	**301**	P	Pn	**13 09 16.3**	**+0.1**			
PLG	**Polygyros**	**1.96**	**271**	P	Pn	**13 09 16.6**	**-0.4**			
PLG	**Polygyros**	**1.96**	**271**	P	Pn	**13 09 16.5**	**-0.5**			
SRS	**Serrai**	**1.98**	**293**	P	Pn	**13 09 17.4**	**+0.1**			
SRS	**Serrai**	**1.98**	**293**	P	Pn	**13 09 17.7**	**+0.5**			
PLD	**Plovdiv**	**1.98**	**331**	P	Pn	**13 09 18.1**	**+0.8**			
CHOS	**Chios island**	**1.99**	**179**	P	Pn	**13 09 17.8**	**+0.3**			
CHOS	**Chios island**	**1.99**	**179**	P	Pn	**13 09 18.1**	**+0.6**			
AOS	**Alonnisos**	**2.04**	**234**	P	Pn	**13 09 17.4**	**-0.7**			
AOS	**Alonnisos**	**2.04**	**234**	P	Pn	**13 09 17.4**	**-0.7**			
DURS	**Dursunbey**	**2.04**	**112**	*i* P	Pb	**13 09 20.4**	**-0.9**			
DURS				*i* S	Sg	**13 09 50.0**	**-0.5**			
AKHS	**Akhisar**	**2.05**	**137**	*i* P	Pb	**13 09 20.2**	**-1.1**			
URLA	**Izmir**	**2.07**	**167**	*i* P	Pn	**13 09 19.3**	**+0.8**			
SOH	**Sokhos**	**2.07**	**283**	P	Pn	**13 09 18.8**	**+0.2**			
MMB	**Musomiste**	**2.11**	**306**	P	Pn	**13 09 19.4**	**+0.3**			
JMB	**Yambol**	**2.13**	**11**	P	Pb	**13 09 21.0**	**-1.6**			
ZEY	**zmir**	**2.17**	**170**	*i* P	Sg	**13 09 53.1**	**-1.5**			
ZEY				IAML_P						
	comp=Z,4µm,0.3s									
HORT	**Hortiatis**	**2.23**	**276**	P	Pn	**13 09 20.7**	**-0.1**			
SKIA	**Skiathos**	**2.31**	**239**	P	Pn	**13 09 21.1**	**-0.7**			
SKIA	**Skiathos**	**2.31**	**239**	P	Pn	**13 09 21.1**	**-0.7**			
BUY	**Buyukada**	**2.41**	**78**	*i* P	Pn	**13 09 23.9**	**+0.7**			
BUY				IAML_P						
	comp=Z,2µm,0.3s									
IGD	**Bursa**	**2.44**	**92**	*i* P	Pn	**13 09 24.0**	**+0.5**			
IGD				*i* S	Sg	**13 10 01.0**	**-2.1**			
KLYT	**Kilyos**	**2.46**	**68**	⇑*i* P	Pn	**13 09 24.0**	**+0.2**			
KNT	**Kendrikon**	**2.49**	**289**	P	Pn	**13 09 24.8**	**+0.5**			
KNT	**Kendrikon**	**2.49**	**289**	P	Pn	**13 09 24.7**	**+0.4**			
PGB	**Panagyurishte**	**2.57**	**328**	P	Pb	**13 09 31.4**	**+1.1**			
KKB	**Krupnik**	**2.66**	**305**	P	Pn	**13 09 27.0**	**+0.3**			
SMG	**Samos**	**2.75**	**166**	P	Pn	**13 09 28.6**	**+0.8**			
USAK	**Uak-Merkez**	**2.86**	**125**	*i* P	Pn	**13 09 28.5**	**-0.9**			
SILT	**Sile**	**2.86**	**73**	⇓*i* P	Pn	**13 09 29.8**	**+0.5**			
SZH	**Strazhica**	**2.88**	**359**	P	Pn	**13 09 30.6**	**+0.9**			
GDZ	**Gediz**	**2.97**	**115**	*i* P	Pn	**13 09 33.2**	**+2.2**			
GDZ				IAML_P						
	comp=Z,582nm,0.1s									
PRD	**Provadia**	**3.00**	**20**	P	Pn	**13 09 32.1**	**+0.9**			
VTS	**Vitosha**	**3.06**	**318**	P	Pn	**13 09 33.1**	**+0.9**			
AYDN	**Tasoluk**	**3.08**	**151**	*i* P	Pn	**13 09 32.4**	**0.0**			
AUBOZ	**BOZOYUK**	**3.12**	**97**	*i* P	Pg	**13 09 41.9**	**-2.5**			
STIP	**Stip**	**3.18**	**296**	*i* Pn	Pn	**13 09 32.4**	**-1.3**			
KHAL	**Karahalli**	**3.36**	**126**	*i* P	Pn	**13 09 38.2**	**+1.9**			
KHAL				IAML_P						
	comp=Z,598nm,0.3s									
KRUS	**Krusevo**	**3.75**	**287**	*i* Pn	Pn	**13 09 42.6**	**+1.0**			
VOIR		**5.10**	**352**	⇑*i* P	Pn	**13 10 01.2**	**+1.0**			
MLR	**Muntele Rosu**	**5.11**	**359**	⇑*i* P	Pn	**13 10 03.1**	**+2.8**			
HERR	**Herculane**	**5.22**	**331**	⇑*i* P	Pn	**13 10 01.8**	**0.0**			
MDVR	**Moldovita**	**5.42**	**326**	⇓*i* P	Pn	**13 10 04.7**	**+0.1**			
VRI	**Vrincioaia**	**5.51**	**1**	⇓*i* P	Pn	**13 10 09.5**	**+3.8**			
GZR	**Gura Zlata**	**5.54**	**336**	⇑*i* P	Pn	**13 10 06.5**	**+0.2**			
BZS	**Buzias**	**6.14**	**330**	⇓*i* P	Pn	**13 10 14.7**	**+0.3**			
SIRR	**Siria**	**6.68**	**333**	⇑*i* P	Pn	**13 10 22.1**	**+0.2**			

IDC ***26*** *13:12:16.0±0.7, 16°.11N×98°.22W, h0km, mb4.6/24, mb1 4.8/26, mb1mx4.7/42, mbtmp4.6/26, ML3.7/2, MS4.4/1, Ms1 4.4/1, ms1mx3.6/42, Error ellipse: s-maj=23.0km s-min=11.6km az=52.0*

ISCJB ***26*** *13:12:17.2±0.3, 16°.25N±0°.03×98°.16W±0°.02, h16km, mb5.0/235, Error ellipse: s-maj=4.7km s-min=2.4km az=5.4*

MEX ***26*** *13:12:17.5±0.5, 15°.93N×98°.45W, h8km±8km, MD5.0*

NEIC ***26*** *13:12:18.0±0.6, 16°.23N×98°.18W, h12km±3km, mb5.0/239, MD5.0(MEX), Error ellipse: s-maj=3.9km s-min=2.5km az=205.0*

NEIC Felt at Acatzingo, Chilapa, Mexico, Oaxaca and Pinotepa Nacional.

MOS ***26*** *13:12:18.5±1.0, 16°.28N×98°.17W, h26km, mb5.2/50, Error ellipse: s-maj=9.8km s-min=4.6km az=103.6*

GCMT ***26*** *13:12:23.0±0.3, 16°.27N±0°.02×98°.21W±0°.03, h16km±1km, MW5.2/89, Moment Tensor Solution. s33,c39; s89,c145; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.70±.26; Mθθ -3.38±.17; Mφφ -0.32±.13; Mrθ 5.08±.65; Mrφ 0.89±.09; Mθr -3.00±.58; Best double couple: Mo 6.94000×10^16 NP1: φs 118.00000°, δ 74.00000°, λ 97.00000°. NP2: φs 274.00000°, δ 17.00000°, λ 67.00000°. Principal axes: T 7.0700, Plg60.0000°, Azm38.0000°; N -0.2650, Plg6.0000°, Azm296.0000°; P -6.8090, Plg29.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 13:12:18.8±0.4, 16°.24N±0°.06×98°.19W±0°.06, h16km, n831, σ0 96/820, mb5.1/235, 10C-3D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.37**	**345**	*e*Pn	**Pn**	**13 12 42.7**	**-0.7**
UNM	**Universidad Na**	**3.22**	**343**	*e*Pn	**Pn**	**13 13 07.3**	**-1.6**
UNM	**Universidad Na**	**3.22**	**343**	*e*P	**Pn**	**13 13 07.3**	**-1.6**
CMIG	**Matias Romero**	**3.27**	**75**	Pn	**Pn**	**13 13 10.2**	**+0.7**
	20nm,0.3s,baz=258,slow=11,SNR=32						
CMIG				Sn	**Sb**	**13 13 52.9**	**-3.3**
	68nm,0.3s,baz=228,slow=11,SNR=3.6						
CMIG				Lg	Lg	13 14 09.9	
	503nm,0.3s,baz=267,slow=5.8,SNR=27						
CMIG				LR	LR	13 14 52.8	
	comp=Z,6µm,21.2s,baz=154,slow=47						
LVIG	**Laguna Verde**	**3.85**	**26**	*e*Pn	**Pn**	**13 13 16.8**	**-0.6**
MOIG	**Morelia**	**4.46**	**321**	*e*Pn	**Pn**	**13 13 25.2**	**-0.7**
CCIG	**Comitan**	**5.81**	**89**	*e*Pn	**Pn**	**13 13 46.3**	**+1.8**
ZAIG	**Zacatecas**	**7.70**	**328**	*e*Pn	**Pn**	**13 14 10.1**	**-0.4**
LNIG	**Linares**	**8.70**	**352**	*e*Pn	**Pn**	**13 14 24.6**	**+0.6**
MYIG	**Mrida**	**9.28**	**58**	*e*Pn	**Pn**	**13 14 34.2**	**+2.2**
CSGN	**Cosiguina Volc**	**10.78**	**106**	*e*Pn	**Pn**	**13 14 51.5**	**-1.2**
833A	**Chaparral WMA,**	**12.08**	**355**	*e*Pn	**Pn**	**13 15 05.7**	**-4.6**
833A	**Chaparral WMA,**	**12.08**	**355**	P	**Pn**	**13 15 10.3**	**0.0**
	baz=174						
H06E1	**SOCORRO T-PHAS**	**12.41**	**284**	T	T	13 27 25.1	
	SNR=140						
H06S1	**SOCORRO T**	**12.44**	**283**	T	T	13 27 27.4	
	SNR=20						
H06N1	**SOCORRO T-PHAS**	**12.48**	**284**	T	T	13 27 32.7	
	SNR=6.8						
TXAR	**Lajitas Array**	**13.98**	**340**	Pn	**Pn**	**13 15 38.8**	**+2.5**
	0.0nm,0.3s,baz=160,slow=16,SNR=3.9						
TXAR				Lg	Lg	13 19 46.3	
	0.0nm,0.3s,baz=160,slow=22,SNR=5.1						
TX31	**Lajitas Ar. Si**	**13.98**	**340**	*e*Pn	**Pn**	**13 15 35.6**	**-0.8**
ESPN	**Las Esperanzas**	**14.05**	**105**	*e*Pn	**Pn**	**13 15 40.0**	**+2.8**
JTS	**JuntasAbangare**	**14.17**	**113**	*e*Pn	**Pn**	**13 15 37.5**	**-1.4**
JTS	**JuntasAbangare**	**14.17**	**113**	*e*P	**Pn**	**13 15 37.5**	**-1.4**
JCT	**Junction City**	**14.25**	**354**	*e*Pn	**Pn**	**13 15 39.8**	**-0.2**
JCT	**Junction City**	**14.25**	**354**	*e*P	**Pn**	**13 15 39.8**	**-0.2**
JCT	**Junction City**	**14.25**	**354**	P	**Pn**	**13 15 40.6**	**+0.5**
	baz=174						
435B	**Jarrell**	**14.49**	**2**	*e*Pn	**Pn**	**13 15 42.9**	**-0.4**
435B	**Jarrell**	**14.49**	**2**	P	**Pn**	**13 15 43.8**	**+0.6**
	baz=182						
HDC	**Heredia**	**15.04**	**113**	*e*Pn	**Pn**	**13 15 53.3**	**+2.4**
	425nm,1.8s						
WHTX	**Lake Whitney,**	**15.70**	**2**	P	**Pn**	**13 15 59.6**	**+0.3**
	baz=183						
NATX	**Nacogdoches**	**15.78**	**11**	P	**Pn**	**13 16 00.9**	**+0.4**
	baz=192						
ABTX	**Abilene, Hawle**	**16.37**	**356**	P	**Pn**	**13 16 07.8**	**-0.2**
	baz=175,SNR=12						
MNTX	**Cornudas Mount**	**16.73**	**338**	*e*Pn	**Pn**	**13 16 12.3**	**-0.2**
	38nm,1.1s						
MNTX	**Cornudas Mount**	**16.73**	**338**	P	**P**	**13 16 13.7**	**-1.0**
	baz=155						
CLNB	**Carlsbad**	**16.77**	**343**	*e*Pn	**Pn**	**13 16 13.0**	**-0.1**
GDL2	**Guadalupe Moun**	**16.85**	**342**	*e*Pn	**P**	**13 16 16.1**	**-0.2**
SRIG	**Santa Rosalia**	**17.07**	**313**	*e*Pn	**Pn**	**13 16 15.4**	**-1.5**
	20nm,1.0s						
HSIG		**17.32**	**319**	*e*Pn	**Pn**	**13 16 19.3**	**-0.6**
	147nm,1.5s						
VBMS	**Vicksburg**	**17.37**	**22**	*e*Pn	**Pn**	**13 16 20.3**	**-0.2**
	87nm,0.8s						
VBMS	**Vicksburg**	**17.37**	**22**	P	**P**	**13 16 21.4**	**-0.4**
	baz=205						
CPRX	**Cap Rock**	**17.49**	**344**	*e*P	**P**	**13 16 23.2**	**-0.1**
Z41A	**Richland Creek**	**17.63**	**15**	*e*Pn	**P**	**13 16 24.2**	**-0.5**
	130nm,1.1s						
WLAR	**White Oak Lake**	**17.97**	**14**	*e*Pn	**P**	**13 16 28.2**	**-0.2**
	111nm,1.1s						
MSTX	**Muleshoe**	**18.13**	**348**	P	**P**	**13 16 30.4**	**+0.1**
	baz=166						
319A	**Douglas**	**18.15**	**328**	*e*Pn	**P**	**13 16 31.4**	**+0.8**
	75nm,0.8s						
121A	**Cookes Peak, D**	**18.41**	**334**	P	**Pn**	**13 16 34.6**	**+1.0**
	baz=150						
WMOK	**Wichita Mounta**	**18.43**	**358**	*e*P	**Pn**	**13 16 33.7**	**+0.1**
	52nm,1.3s						
WMOK	**Wichita Mounta**	**18.43**	**358**	*e*P	**Pn**	**13 16 33.7**	**+0.1**
WMOK				pmax	pmax		
	comp=Z,52nm,1.3s						
WMOK	**Wichita Mounta**	**18.43**	**358**	P	**Pn**	**13 16 34.0**	**+0.4**
	baz=178						
X37A	**Clayton**	**18.45**	**7**	*e*P	**Pn**	**13 16 34.2**	**+0.4**
	comp=Z,104nm,1.1s						
249A	**Camden**	**18.62**	**31**	P	**Pn**	**13 16 36.3**	**+0.4**
	baz=215						
147A	**Livingston**	**18.67**	**27**	P	**Pn**	**13 16 37.0**	**+0.5**
	baz=211						
MIAR	**Mount Ida**	**18.69**	**12**	*e*P	**P**	**13 16 35.5**	**-0.9**
MIAR	**Mount Ida**	**18.69**	**12**	*e*P	**P**	**13 16 35.5**	**-0.9**
MIAR	**Mount Ida**	**18.69**	**12**	P	**P**	**13 16 36.6**	**+0.2**
	baz=194,SNR=5.5						
061Z	**Ochoppi**	**18.74**	**56**	P	**P**	**13 16 36.8**	**-0.1**
	baz=242						
553A	**Crawfordville**	**18.75**	**40**	P	**P**	**13 16 37.0**	**-0.1**
	baz=225						
452A	**Marianna**	**18.78**	**37**	P	**P**	**13 16 37.0**	**-0.4**
	baz=222						
AMTX	**Amarillo**	**18.83**	**351**	*e*P	**P**	**13 16 37.3**	**-0.7**
	comp=Z,64nm,0.8s						
AMTX	**Amarillo**	**18.83**	**351**	P	**Pn**	**13 16 38.6**	**0.0**
	baz=170						
351A	**Pinckard**	**18.86**	**35**	P	**P**	**13 16 38.4**	**+0.2**
	baz=220						
857A	**Zephyrhills**	**18.98**	**48**	P	**P**	**13 16 39.3**	**-0.3**
	baz=234						
655A	**Horseshoe Beac**	**19.04**	**43**	P	**P**	**13 16 40.2**	**-0.1**
	baz=229						
250A	**Grady**	**19.05**	**33**	P	**P**	**13 16 40.2**	**-0.1**
	baz=217						
059A	**Moore Haven**	**19.08**	**53**	P	**P**	**13 16 40.2**	**-0.6**
	baz=239						
UALR	**University of**	**19.19**	**15**	*e*P	**P**	**13 16 41.8**	**0.0**
	comp=Z,64nm,1.1s						
BCIP	**Isla Barro Col**	**19.22**	**109**	*e*P	**P**	**13 16 42.3**	**0.0**
	comp=Z,175nm,1.8s						
BCIP	**Isla Barro Col**	**19.22**	**109**	*e*P	**P**	**13 16 42.3**	**0.0**
BCIP				pmax	pmax		
	comp=Z,175nm,1.8s						
060Z	**West Palm Beac**	**19.27**	**55**	P	**Pn**	**13 16 43.6**	**-0.2**
	baz=242						
W39A	**Magazine**	**19.29**	**11**	P	**Pn**	**13 16 43.6**	**-0.4**
	baz=193						
X43A	**Marvell**	**19.35**	**18**	P	**Pn**	**13 16 44.8**	**+0.1**
	baz=202						
352A	**Blakely**	**19.39**	**36**	P	**Pn**	**13 16 44.7**	**-0.5**
	baz=221						
LRAL	**Lakeview Retre**	**19.55**	**29**	*e*P	**P**	**13 16 46.4**	**+0.6**
	comp=Z,35nm,1.0s						
LRAL	**Lakeview Retre**	**19.55**	**29**	P	**Pn**	**13 16 46.6**	**-0.5**
	baz=214						
858A	**St. Cloud**	**19.58**	**50**	P	**P**	**13 16 46.5**	**+0.3**
	baz=236						
251A	**Midway**	**19.59**	**34**	P	**P**	**13 16 46.4**	**+0.1**
	baz=219						
W41B	**Gary Mavity, V**	**19.59**	**15**	*e*P	**P**	**13 16 46.5**	**+0.3**
	comp=Z,37nm,0.9s						
W41B	**Gary Mavity, V**	**19.59**	**15**	P	**P**	**13 16 46.5**	**+0.3**
	baz=197						
454A	**Quitman**	**19.61**	**40**	P	**P**	**13 16 46.4**	**-0.1**
	baz=226						
555A	**McAlpin**	**19.63**	**43**	*e*P	**P**	**13 16 46.5**	**-0.2**
	comp=Z,157nm,1.1s						
555A	**McAlpin**	**19.63**	**43**	P	**P**	**13 16 47.1**	**+0.4**
	baz=228						
TUC	**Tucson**	**19.67**	**327**	*e*P	**P**	**13 16 46.5**	**-0.7**
	comp=Z,201nm,2.0s						
TUC	**Tucson**	**19.67**	**327**	*e*P	**P**	**13 16 46.5**	**-0.7**
TUC				pmax	pmax		
	comp=Z,201nm,2.0s						
TUC	**Tucson**	**19.67**	**327**	P	**Pn**	**13 16 48.7**	**+0.1**
	baz=142						
150A	**Eclectic**	**19.68**	**32**	P	**Pn**	**13 16 48.3**	**-0.3**
	baz=217						
WHAR	**Wooly Hollow**	**19.69**	**14**	*e*P	**P**	**13 16 45.8**	**-1.6**
	comp=Z,55nm,1.1s						
353A	**Camilla**	**19.71**	**38**	P	**P**	**13 16 47.8**	**+0.3**
	baz=223						
TUL1	**Leonard**	**19.71**	**6**	*e*P	**P**	**13 16 46.4**	**-1.1**
	comp=Z,123nm,1.1s						
TUL1	**Leonard**	**19.71**	**6**	P	**Pn**	**13 16 48.4**	**-0.6**
	baz=187						
OXF	**Oxford**	**19.83**	**22**	*e*P	**P**	**13 16 49.2**	**+0.4**
	comp=Z,122nm,1.1s						
OXF	**Oxford**	**19.83**	**22**	*e*P	**P**	**13 16 49.2**	**+0.4**
OXF				pmax	pmax		
	comp=Z,122nm,1.1s						
OXF	**Oxford**	**19.83**	**22**	P	**Pn**	**13 16 49.9**	**-0.6**
	baz=206						
859A	**Kempfer Cattle**	**19.84**	**51**	P	**P**	**13 16 49.5**	**+0.5**
	baz=237						
252A	**Lumpkin**	**19.89**	**36**	P	**Pn**	**13 16 50.4**	**-0.8**
	baz=221						
Z49A	**Columbiana**	**19.90**	**30**	P	**Pn**	**13 16 50.7**	**-0.6**
	baz=215						
556A	**Lake Butler**	**19.92**	**44**	P	**P**	**13 16 50.6**	**+0.7**
	baz=230						
151A	**Opelika**	**19.97**	**33**	P	**P**	**13 16 51.0**	**+0.6**
	baz=219,SNR=8.0						
455A	**Stateville**	**20.01**	**41**	P	**P**	**13 16 51.0**	**+0.2**
	baz=227						
ANMO	**Albuquerque**	**20.05**	**340**	*e*P	**P**	**13 16 51.1**	**-0.4**
	comp=Z,66nm,1.0s						
ANMO	**Albuquerque**	**20.05**	**340**	*ce*P	Pn	13 16 52.9	-0.4
ANMO	**Albuquerque**	**20.05**	**340**	P	Pn	13 16 52.6	-0.7
	baz=156						
ANMO	**Albuquerque**	**20.05**	**340**	P	Pn	13 16 53.5	+0.2
	comp=Z,48nm,0.9s,baz=156,slow=12,SNR=21						
TASM	**ASL Pad, Albuq**	**20.05**	**340**	P	**P**	**13 16 52.0**	**+0.5**
	baz=156,SNR=7.5						
TASM	**ASL Pad, Albuq**	**20.05**	**340**	P	**P**	**13 16 52.2**	**+0.7**
	baz=156,SNR=7.5						
TIGA	**Tifton**	**20.14**	**39**	*e*P	**P**	**13 16 52.2**	**-0.1**
	comp=Z,100nm,1.0s						
TIGA	**Tifton**	**20.14**	**39**	P	**P**	**13 16 52.9**	**+0.6**
	baz=224						
X46A	**Booneville**	**20.18**	**24**	P	**P**	**13 16 53.0**	**+0.3**
	baz=208,SNR=7.3						
Y48A	**Jasper**	**20.20**	**27**	P	**P**	**13 16 53.5**	**+0.5**
	baz=212						
Z50A	**Ashland**	**20.24**	**31**	*e*P	**P**	**13 16 53.3**	**-0.1**
	comp=Z,49nm,1.0s						
Z50A	**Ashland**	**20.24**	**31**	P	**P**	**13 16 52.8**	**-0.6**
	baz=216						
HHAR	**Hobbs**	**20.32**	**10**	*e*P	**P**	**13 16 52.4**	**-1.8**
	comp=Z,72nm,1.0s						
152A	**Waverly Hall**	**20.41**	**34**	*e*P	**P**	**13 16 54.6**	**-0.5**
	comp=Z,31nm,0.9s						
152A	**Waverly Hall**	**20.41**	**34**	P	**P**	**13 16 55.6**	**+0.4**
	baz=220						
X47A	**Russelville**	**20.43**	**25**	P	**P**	**13 16 55.4**	**0.0**
	baz=209,SNR=7.3						
Y49A	**Blount Mountai**	**20.50**	**29**	*e*P	**P**	**13 16 55.9**	**-0.3**
	comp=Z,46nm,1.0s						
Y49A	**Blount Mountai**	**20.50**	**29**	P	**P**	**13 16 56.0**	**-0.2**
	baz=214						
U40A	**Yellville**	**20.59**	**12**	P	**P**	**13 16 57.2**	**+0.1**
	baz=195,SNR=20						
254A	**Abbeville**	**20.68**	**38**	P	**P**	**13 16 58.4**	**+0.2**
	baz=224						
X48A	**Hartselle**	**20.71**	**27**	*e*P	**P**	**13 16 57.0**	**-1.4**
	comp=Z,46nm,0.9s						
X48A	**Hartselle**	**20.71**	**27**	P	**P**	**13 16 58.4**	**0.0**
	baz=212						
PLAL	**Pickwick Lake**	**20.75**	**24**	*e*P	**P**	**13 16 57.8**	**-1.0**
	comp=Z,66nm,0.9s						
W46A	**Michie**	**20.76**	**23**	P	**P**	**13 16 59.8**	**+0.8**
	baz=207						
U41A	**Viola**	**20.79**	**14**	P	**P**	**13 16 59.6**	**+0.3**
	baz=197						
Y50A	**Piedmont**	**20.85**	**30**	P	**P**	**13 17 00.2**	**+0.3**
	baz=215						
GNAR	**Gosnell**	**20.95**	**19**	*e*P	**P**	**13 16 60.0**	**-1.0**
	comp=Z,256nm,1.3s						
Z52A	**Williamson**	**20.97**	**34**	P	**P**	**13 17 01.7**	**+0.5**
	baz=220						
X49A	**Woodville**	**21.08**	**28**	P	**P**	**13 17 02.9**	**+0.4**
	baz=213						
255A	**Hazlehurst**	**21.16**	**40**	*e*P	**P**	**13 17 03.2**	**-0.1**
	comp=Z,152nm,1.4s						
255A	**Hazlehurst**	**21.16**	**40**	P	**P**	**13 17 03.4**	**+0.1**
	baz=226						
W47A	**Westpoint**	**21.17**	**25**	P	**P**	**13 17 03.1**	**-0.3**
	baz=209,SNR=7.8						
Y51A	**Rockmart**	**21.19**	**31**	P	**P**	**13 17 03.3**	**-0.3**
	baz=217						
154A	**Montrose**	**21.27**	**37**	*e*P	**P**	**13 17 06.4**	**+1.9**
	comp=Z,118nm,0.9s						
W48A	**Pulaski**	**21.35**	**26**	P	**P**	**13 17 04.6**	**-0.7**
	baz=211,SNR=9.3						
X50B	**Fort Payne**	**21.36**	**30**	P	**P**	**13 17 05.3**	**-0.1**
	baz=215						
V46A	**Holladay**	**21.45**	**23**	P	**P**	**13 17 05.6**	**-0.9**
	baz=207,SNR=15						
W18A	**Petrified Fore**	**21.46**	**333**	*e*P	**P**	**13 17 06.8**	**+0.1**
	comp=Z,71nm,1.0s						
W18A	**Petrified Fore**	**21.46**	**333**	P	**P**	**13 17 05.7**	**-1.0**
	baz=148,SNR=8.7						
Z53A	**Monticello**	**21.50**	**35**	P	**P**	**13 17 05.5**	**-1.5**
	baz=221,SNR=10.0						
T25A	**Trinidad**	**21.54**	**346**	P	**P**	**13 17 07.3**	**-0.2**
	baz=164						
U44A	**Portageville**	**21.55**	**19**	P	**P**	**13 17 06.9**	**-0.6**
	baz=203						
256A	**Glennville**	**21.56**	**40**	P	**P**	**13 17 06.5**	**-1.1**
	baz=227						
PBMO	**Poplar Bluff**	**21.59**	**17**	*e*P	**P**	**13 17 07.5**	**-0.3**
	comp=Z,132nm,0.9s						
W49A	**Belvidere**	**21.62**	**27**	P	**P**	**13 17 07.2**	**-1.0**
	baz=212,SNR=11						
155A	**Kite**	**21.65**	**38**	P	**P**	**13 17 07.0**	**-1.6**
	baz=225,SNR=5.6						
GOGA	**Godfrey**	**

CCM pmax pmax
comp=Z,42nm,0.9s
CCM Cathedral Cave 22.58 14 P **P** 13 17 18.6 +0.1
baz=198
157A Early Branch 22.59 40 P **P** 13 17 18.6 0.0
baz=228,SNR=7.3
V50A Pikevile 22.60 29 P **P** 13 17 18.5 -0.3
baz=214,SNR=5.4
T46A Princeton 22.64 22 P **P** 13 17 18.6 -0.5
baz=206,SNR=6.1
U48A Cassie Pea, Po 22.69 25 P **P** 13 17 19.2 -0.5
baz=210,SNR=14
CPCT Cooper Cave 22.70 30 eP **P** 13 17 18.6 -1.1
comp=Z,40nm,1.1s
W52A Murphy 22.70 32 eP **P** 13 17 19.4 -0.5
comp=Z,109nm,1.1s
W52A Murphy 22.70 32 P **P** 13 17 19.6 -0.2
baz=218,SNR=6.9
S22A 4UR Ranch, Cre 22.74 342 eP **P** 13 17 21.4 +0.8
comp=Z,51nm,0.9s
S22A 4UR Ranch, Cre 22.74 342 P **P** 13 17 20.8 +0.2
baz=158
R41A Rosebud 22.78 14 P **P** 13 17 20.0 -0.5
baz=197,SNR=9.0
S44A Carbondale 22.78 19 P **P** 13 17 20.3 -0.4
baz=203,SNR=11
MVCO Mesa Verde 22.80 338 P **P** 13 17 21.8 +0.7
baz=154,SNR=8.2
Z56A Williston 22.80 39 P **P** 13 17 20.6 -0.2
baz=226
SIUC Southern Illin 22.81 19 eP **P** 13 17 23.0 +2.1
comp=Z,134nm,1.0s
KSU1 Kansas State U 22.82 3 eP **P** 13 17 20.2 -0.9
KSU1 Kansas State U 22.82 3 P **P** 13 17 21.6 +0.6
baz=184
Y12C Blythe 22.82 323 P **P** 13 17 21.7 +0.6
baz=136
T47A Sharon Grove 22.88 23 eP **P** 13 17 21.4 -0.3
comp=Z,135nm,1.0s
T47A Sharon Grove 22.88 23 P **P** 13 17 21.2 -0.5
baz=208,SNR=16
R42A Luebbering 22.90 15 P **P** 13 17 21.2 -0.6
baz=198,SNR=7.6
HODGE Hodges 22.93 36 eP **P** 13 17 21.8 -0.4
comp=Z,72nm,0.9s
Y55A Saluda 22.95 37 P **P** 13 17 22.0 -0.4
baz=224,SNR=6.8
S45A Carrier Mills 22.98 20 P **P** 13 17 22.2 -0.4
baz=204,SNR=9.7
PDMCI Parker Dam,Lak 23.00 324 P **P** 13 17 23.5 +0.5
baz=138
U49A Red Boiling Sp 23.01 26 P **P** 13 17 23.4 +0.4
baz=212,SNR=12
KSCO Kaye Shedlock' 23.02 351 eP **P** 13 17 18.3 -4.9
comp=Z,575nm,1.9s
KSCO Kaye Shedlock' 23.02 351 P **P** 13 17 24.3 +1.0
baz=169,SNR=6.4
SWSC Sam W. Stewart 23.03 319 eP **P** 13 17 26.6 +3.3
SWSC Sam W. Stewart 23.03 319 P **P** 13 17 24.4 +1.1
baz=132,SNR=9.1
IKP In-Ko-Pah, Jac 23.03 318 P **P** 13 17 24.4 +1.0
baz=131,SNR=6.4
V51A Loudon 23.06 30 eP **P** 13 17 23.7 +0.1
comp=Z,94nm,1.1s
V51A Loudon 23.06 30 P **P** 13 17 23.7 +0.1
baz=216,SNR=6.0
X54A Belton 23.10 35 P **P** 13 17 24.2 +0.2
baz=222
158A Hollywood 23.13 42 P **P** 13 17 24.8 +0.5
baz=229
BG3 Lake Jocassee 23.14 33 eP **P** 13 17 24.5 +0.1
comp=Z,51nm,1.0s
W53A Cullowhee 23.15 33 P **P** 13 17 25.0 +0.3
baz=219,SNR=8.6
Y56A Pelion 23.17 38 P **P** 13 17 24.2 -0.5
baz=225
Z57A Bowman 23.19 40 P **P** 13 17 24.6 -0.3
baz=227,SNR=11
T48A Bowling Green 23.27 24 P **P** 13 17 25.3 -0.3
baz=210,SNR=9.4
S46A Don Dixon Farm 23.28 21 P **P** 13 17 25.9 +0.2
baz=206
BC3 Big Chuckawall 23.30 321 P **P** 13 17 27.5 +1.3
baz=134,SNR=9.2
U50A Jamestown 23.34 28 P **P** 13 17 26.7 +0.3
baz=214
R44A Waltonville 23.34 18 P **P** 13 17 27.1 +0.7
baz=202,SNR=9.7
NHSC New Hope 23.39 41 eP **P** 13 17 27.8 +1.0
comp=Z,398nm,1.1s
NHSC New Hope 23.39 41 P **P** 13 17 27.8 +1.0
baz=228,SNR=7.6
MONP2 Monument Peak 23.39 318 P **P** 13 17 27.4 +0.2
baz=131,SNR=13
BAR Barrett 23.41 318 eP **P** 13 17 27.9 +0.6
comp=Z,46nm,1.4s
Q41A Truxton 23.44 14 P **P** 13 17 27.0 -0.3
baz=197,SNR=10
Q24A Divide 23.45 346 eP **P** 13 17 28.5 +0.7
comp=Z,104nm,1.4s
Q24A Divide 23.45 346 P **P** 13 17 28.4 +0.6
baz=163,SNR=8.6
V52A Sevierville 23.46 31 P **P** 13 17 28.3 +0.7
baz=217
X55A Gracelyn & Ava 23.46 36 P **P** 13 17 28.3 +0.7
baz=223
IRM Iron Mountain 23.47 323 P **P** 13 17 28.8 +1.0
baz=135
S47A Hartford 23.50 23 P **P** 13 17 27.7 -0.2
baz=208,SNR=8.4
JSC Jenkinsville 23.54 37 eP **P** 13 17 28.1 -0.3
comp=Z,86nm,1.2s
JSC Jenkinsville 23.54 37 eP **P** 13 17 28.1 -0.3
JSC pmax pmax
comp=Z,86nm,1.2s
USIN University of 23.55 21 eP **P** 13 17 28.5 +0.1
comp=Z,203nm,1.0s
Q42A Golden Eagle 23.56 15 P **P** 13 17 29.1 +0.6
baz=199,SNR=14
W54A Cherokee Point 23.61 34 P **P** 13 17 29.7 +0.7
baz=221,SNR=8.6
NEE2 Needles Airpor 23.61 324 P **P** 13 17 30.2 +1.1
baz=137
T49A Edmonton 23.61 26 P **P** 13 17 29.6 +0.6
baz=212
R45A Skylar, Fairfi 23.64 20 P **P** 13 17 29.8 +0.5
baz=204,SNR=7.3
EML El Monte Cty P 23.66 318 eP **P** 13 17 27.5 -2.1
U51A La Follette 23.69 29 P **P** 13 17 30.5 +0.7
baz=216
U15A North Rim 23.70 331 eP **P** 13 17 30.8 +0.6
comp=Z,101nm,1.3s
V53A Saluda 23.72 32 P **P** 13 17 30.4 +0.2
baz=219
Z58A St. Stephen 23.77 41 P **P** 13 17 31.5 +0.9
baz=229
Q43A New Douglas 23.81 17 P **P** 13 17 31.2 +0.3
baz=200
R46A Gibon Southern 23.82 21 P **P** 13 17 31.4 +0.3
baz=206
X56A White Oak 23.82 37 P **P** 13 17 31.4 +0.3
baz=224,SNR=8.0
109C Camp Elliot, M 23.83 318 P **P** 13 17 32.1 +0.9
baz=130
CPE Camp Elliot 23.83 318 eP **P** 13 17 31.2 0.0
comp=Z,44nm,1.3s
T50A Nancy 23.84 27 P **P** 13 17 31.5 +0.2
baz=213
Y57A Sumter 23.87 39 P **P** 13 17 32.0 +0.5
baz=226
BELC Belle Mtn. Jos 23.87 321 P **P** 13 17 32.9 +1.2
baz=134,SNR=16
S48A Wiedeman Farm, 23.87 24 P **P** 13 17 31.9 +0.4
baz=210
XPFO Pion Flat 23.89 320 eP **P** 13 17 31.6 -0.3
comp=Z,41nm,1.3s
PFO Pinyon Flats O 23.89 320 eP **P** 13 17 31.5 -0.4
comp=Z,42nm,1.3s
PFO Pinyon Flats O 23.89 320 eP **P** 13 17 31.5 -0.4
PFO pmax pmax
comp=Z,42nm,1.3s
PFO Pinyon Flats O 23.89 320 P **P** 13 17 33.1 +1.2
baz=132,SNR=7.7
PFO Pinyon Flats O 23.89 320 P **P** 13 17 33.0 +1.1
comp=Z,8.6nm,1.0s,baz=130,slow=9.5,SNR=12
Q44A Meyer Farm, Va 23.97 18 eP **P** 13 17 31.9 -0.5
comp=Z,154nm,1.2s
Q44A Meyer Farm, Va 23.97 18 P **P** 13 17 33.2 +0.8
baz=202,SNR=9.4
U52A Thorn Hill 24.01 30 P **P** 13 17 33.2 +0.3
baz=217
TZTN Tazewell 24.04 30 P **P** 13 17 33.7 +0.5
baz=216
Z59A Georgetown, SC 24.05 42 P **P** 13 17 33.2 0.0
baz=230
OLIL Olney 24.10 20 eP **P** 13 17 32.8 -0.8
comp=Z,60nm,0.9s
LDFC Landfair 24.11 324 eP **P** 13 17 34.5 +0.5
comp=Z,293nm,1.7s
SMCO Snowmass 24.11 343 eP **P** 13 17 34.3 0.0
comp=Z,76nm,1.0s
KMSC Kings Mountain 24.12 36 eP **P** 13 17 33.9 -0.1
comp=Z,198nm,1.5s
KMSC Kings Mountain 24.12 36 P **P** 13 17 34.4 +0.5
baz=223,SNR=6.5
P41A Barry, Barry 24.16 14 P **P** 13 17 34.5 +0.2
baz=197,SNR=6.1
T51A Gray 24.20 29 P **P** 13 17 34.9 +0.2
baz=215
GMRC Granite Mounta 24.22 323 P **P** 13 17 36.0 +1.0
baz=135,SNR=15
Q45A Warren Harvey, 24.22 19 P **P** 13 17 35.1 +0.3
baz=204
Y58A Scranton 24.24 40 P **P** 13 17 34.7 -0.3
baz=229
P42A Winchester 24.25 15 eP **P** 13 17 34.6 -0.5
comp=Z,114nm,1.0s
P42A Winchester 24.25 15 P **P** 13 17 35.1 +0.1
baz=198,SNR=12
R47A Wooly Knot Far 24.25 23 P **P** 13 17 35.6 +0.6
baz=208,SNR=10.0
V54A Nebo 24.26 34 P **P** 13 17 35.8 +0.6
baz=221,SNR=5.5
WCI Wyandotte Cave 24.28 23 eP **P** 13 17 34.9 -0.5
comp=Z,66nm,0.8s
WCI Wyandotte Cave 24.28 23 eP **P** 13 17 34.9 -0.5
WCI pmax pmax
comp=Z,66nm,0.8s
WCI Wyandotte Cave 24.28 23 P **P** 13 17 35.8 +0.4
baz=209
S49A Springfield 24.29 25 P **P** 13 17 35.4 -0.1
baz=211,SNR=6.8
MURC Murrieta 24.34 319 P **P** 13 17 37.0 +1.0
baz=131,SNR=8.0
ISCO Idaho Springs 24.35 346 eP **P** 13 17 36.4 0.0
comp=Z,86nm,1.0s
ISCO Idaho Springs 24.35 346 eP **P** 13 17 36.4 0.0
ISCO pmax pmax
comp=Z,86nm,1.0s
ISCO Idaho Springs 24.35 346 P **P** 13 17 38.0 +1.6
baz=162,SNR=34
X57A Johnson Farm, 24.36 38 P **P** 13 17 36.6 +0.5
baz=226
U53A Fall Branch 24.38 32 P **P** 13 17 35.9 -0.4
baz=219
KNB Kanab 24.42 331 eP **P** 13 17 37.4 +0.5
comp=Z,146nm,1.7s
KNB Kanab 24.42 331 eP **P** 13 17 37.4 +0.5
KNB pmax pmax
comp=Z,146nm,1.7s
P43A Skaggs, Pawnee 24.51 16 P **P** 13 17 37.5 +0.1
baz=200
PKCU Pink Cliffs 24.54 332 eP **P** 13 17 38.9 +0.8
comp=Z,76nm,1.2s
W56A Indian Trail 24.54 37 P **P** 13 17 37.8 0.0
baz=224
S50A Richmond 24.58 27 P **P** 13 17 38.3 +0.1
baz=213,SNR=12
R48A Northridge Ran 24.59 24 P **P** 13 17 38.6 +0.4
baz=209,SNR=12
Q46A CEJHS Indians, 24.60 21 P **P** 13 17 38.1 -0.2
baz=206
P44A Sand Creek, Wi 24.61 18 P **P** 13 17 38.6 +0.3
baz=202
BBRC Big Bear Solar 24.61 320 P **P** 13 17 39.9 +1.2
baz=132
LCMT Little Creek M 24.62 330 eP **P** 13 17 38.9 +0.2
comp=Z,44nm,1.5s
O41A Passleys Farm, 24.63 14 P **P** 13 17 38.7 +0.2
baz=197,SNR=9.1
HEC Hector,Ludlow 24.64 322 P **P** 13 17 40.3 +1.5
baz=134,SNR=22
V55A Taylorsville 24.71 35 P **P** 13 17 40.5 +1.2
baz=222,SNR=6.6
T52A Hallie 24.76 30 P **P** 13 17 40.4 +0.6
baz=217
R49A Shelbyville 24.77 25 P **P** 13 17 39.9 +0.1
baz=211
TUQ Turquoise Moun 24.83 324 P **P** 13 17 41.8 +1.2
baz=206,SNR=25
SCI2 San Clemente I 24.84 316 P **P** 13 17 40.5 0.0
baz=127
OGNE Ogallala 24.84 353 eP **P** 13 17 41.8 +1.2
comp=Z,204nm,1.1s
OGNE Ogallala 24.84 353 P **P** 13 17 42.2 +1.6
baz=171,SNR=17
Q47A Bedord North L 24.85 22 P **P** 13 17 41.2 +0.7
baz=208,SNR=6.2
X58A Rowland 24.87 39 P **P** 13 17 40.5 -0.3
baz=227
T53A Wise 24.88 31 P **P** 13 17 41.2 +0.3
baz=218
U54A Nelsons Funny 24.89 33 P **P** 13 17 42.4 +1.4
baz=220,SNR=6.5
O42A Bath 24.89 15 P **P** 13 17 41.0 +0.1
baz=199
W57A Gilead 24.89 37 P **P** 13 17 41.4 +0.4
baz=225,SNR=10
S51A Beattyville 24.91 28 eP **P** 13 17 41.0 -0.1
comp=Z,125nm,0.9s
S51A Beattyville 24.91 28 P **P** 13 17 41.2 +0.2
baz=215,SNR=9.7
P45A Graceland, Par 24.93 19 P **P** 13 17 41.4 +0.2
baz=204
MTPU Mount Pierson 24.98 333 eP **P** 13 17 42.6 +0.5
comp=Z,52nm,0.9s
CIS Catalina Islan 25.00 317 P **P** 13 17 42.5 +0.5
baz=128,SNR=6.6
BFSC Mount Baldy Ra 25.05 319 P **P** 13 17 42.7 +0.1
baz=131,SNR=7.2
RRX Edison Barstow 25.07 321 P **P** 13 17 43.3 +0.7
baz=133
BGNE Belgrade 25.08 0 P **P** 13 17 43.1 +0.4
baz=180
Q48A North Vernon 25.10 23 P **P** 13 17 43.1 +0.3
baz=209,SNR=9.8
CCUT Cedar City 25.11 331 eP **P** 13 17 43.4 +0.3
comp=Z,15nm,1.0s
R50A Paris 25.12 26 P **P** 13 17 42.5 -0.5
baz=213
FMP Fort Macarthur 25.12 318 P **P** 13 17 43.5 +0.5
baz=129
OTAV Otavalo 25.13 127 eP **P** 13 17 45.3 +1.5
comp=Z,12nm,0.8s
OTAV Otavalo 25.13 127 P **P** 13 17 46.8 +3.0
OTAV pmax pmax
comp=Z,16nm,1.1s
O43A Sugar Creek Fa 25.17 16 P **P** 13 17 43.8 +0.3
baz=200
S52A Salyersville 25.18 29 P **P** 13 17 43.8 +0.3
baz=216
P46A Rosedale 25.19 20 P **P** 13 17 43.3 -0.3
baz=205
SHPR Sheep Range 25.20 326 eP **P** 13 17 44.5 +0.6
comp=Z,17nm,1.0s
N41A Harden Midland 25.20 13 eP **P** 13 17 43.2 -0.5
comp=Z,55nm,0.8s
N41A Harden Midland 25.20 13 P **P** 13 17 43.7 0.0
baz=197,SNR=5.4
Y60A Bolivia 25.21 42 P **P** 13 17 43.6 -0.3
baz=230
N40A Mertquake, Sal 25.22 12 P **P** 13 17 44.0 +0.2
baz=195,SNR=7.8
SRU San Rafael Swe 25.22 337 eP **P** 13 17 44.1 +0.1
comp=Z,38nm,0.9s
GSC Goldstone, Bar 25.25 322 eP **P** 13 17 44.5 +0.3
comp=Z,31nm,1.1s
GSC Goldstone, Bar 25.25 322 P **P** 13 17 45.0 +0.8
baz=134,SNR=14
U55A TA2, Sparta 25.28 34 P **P** 13 17 44.6 0.0
baz=221
O44A Mansfield 25.28 18 P **P** 13 17 44.9 +0.5
baz=202
MWC Mount Wilson 25.29 319 eP **P** 13 17 43.8 -1.0
comp=Z,40nm,1.3s
MWC Mount Wilson 25.29 319 eP **P** 13 17 43.8 -1.0
MWC pmax pmax
comp=Z,40nm,1.3s
Q16A Castle Valley 25.30 336 eP **P** 13 17 44.5 -0.3
comp=Z,48nm,1.0s
X59A McDuffie Farm, 25.34 40 P **P** 13 17 45.3 +0.3
baz=229
MSU Marysvale 25.37 334 eP **P** 13 17 45.7 +0.2
MSU Marysvale 25.37 334 eP **P** 13 17 45.7 +0.2
O20A White River Ci 25.37 342 eP **P** 13 17 46.3 +0.9
comp=Z,86nm,1.0s
O20A White River Ci 25.37 342 P **P** 13 17 46.6 +1.2
baz=157,SNR=21
P47A Martinsville 25.39 22 P **P** 13 17 45.5 +0.1
baz=207
T54A Tazewell 25.43 32 P **P** 13 17 46.3 +0.4
baz=220
HDIL Hopedale 25.43 16 eP **P** 13 17 44.9 -0.8
HDIL Hopedale 25.43 16 P **P** 13 17 46.4 +0.7
baz=200,SNR=5.1
R51A Hillsboro 25.46 27 P **P** 13 17 46.7 +0.7
baz=214,SNR=12
SBI Santa Barbara 25.46 316 eP **P** 13 17 48.8 +2.7
N23A Red Feather La 25.47 346 eP **P** 13 17 46.3 -0.2
comp=Z,71nm,1.0s
N23A Red Feather La 25.47 346 P **P** 13 17 47.8 +1.4
baz=162,SNR=16
DECC Green Verdugo 25.49 318 P **P** 13 17 47.0 +0.6
baz=130
Q49A Aurora 25.50 25 P **P** 13 17 47.2 +0.8
baz=211,SNR=5.9
N42A Yates City 25.50 14 P **P** 13 17 46.6 +0.3
baz=198,SNR=6.5
V57A Coltrane Farms 25.54 37 P **P** 13 17 47.4 +0.7
baz=225,SNR=14
TCRU Three Creeks R 25.56 333 eP **P** 13 17 46.7 -0.6
comp=Z,18nm,1.0s
O45A Potomac 25.60 19 P **P** 13 17 48.1 +0.9
baz=204,SNR=12
P17A Butcher Ranch, 25.62 337 eP **P** 13 17 47.1 -0.6
comp=Z,26nm,1.0s
S53A Williamson 25.64 30 P **P** 13 17 48.5 +0.8
baz=218
SNCC San Nicolas Is 25.65 315 P **P** 13 17 48.6 +0.7
baz=126
EDW2 Edwards Air Fo 25.68 320 P **P** 13 17 49.0 +0.8
baz=131,SNR=16
M39A Webster 25.68 10 P **P** 13 17 48.2 +0.2
baz=193,SNR=14
P48A Milroy 25.68 23 P **P** 13 17 48.8 +0.7
baz=209
X60A Albert Glenn T 25.73 41 P **P** 13 17 48.6 +0.1
baz=230
M40A Post Highland 25.73 12 P **P** 13 17 48.8 +0.3
baz=195
Q50A Georgetown 25.74 26 P **P** 13 17 49.0 +0.5
baz=213,SNR=12
PHWY Pilot Hill 25.75 347 eP **P** 13 17 49.2 +0.2
comp=Z,59nm,1.1s
SDDR Presa de Saban 25.77 80 eP **P** 13 17 49.9 +0.7
comp=Z,33nm,1.0s
N43A Stutzman Famil 25.82 16 P **P** 13 17 49.7 +0.4
baz=200
BLG Laguna Peak, P 25.87 317 P **P** 13 17 50.1 +0.3
baz=128
T55A Pulaski 25.88 33 P **P** 13 17 50.1 +0.2
baz=221
M41A Milan 25.90 13 P **P** 13 17 50.3 +0.3
baz=197
R52A Catlettsburg 25.91 29 P **P** 13 17 49.5 -0.6
baz=216
SFIN Lafayette 25.91 20 eP **P** 13 17 50.1 +0.1
comp=Z,43nm,0.9s
SFIN Lafayette 25.91 20 P **P** 13 17 50.2 +0.1
baz=205
SCIA State Center 25.94 9 eP **P** 13 17 49.9 -0.4
comp=Z,152nm,0.9s
SCIA State Center 25.94 9 P **P** 13 17 50.8 +0.4
baz=191,SNR=10
OSI Osito Audit: C 25.96 319 eP **P** 13 17 51.0 +0.2
comp=Z,55nm,1.1s
OSI Osito Audit: C 25.96 319 P **P** 13 17 51.2 +0.4
baz=130
N44A Piper Mdty 25.98 18 P **P** 13 17 51.3 +0.6
baz=202,SNR=8.0
P49A Miami Univ. Ec 26.02 24 P **P** 13 17 51.0 -0.1
baz=211,SNR=11
O47A Sheridan 26.09 21 P **P** 13 17 51.8 +0.1
baz=207
FURC Furnace Creek, 26.10 324 P **P** 13 17 53.0 +1.1
baz=136,SNR=5.0
TPNV Topopah Spring 26.11 326 eP **P** 13 17 52.9 +0.7
comp=Z,31nm,0.9s
TPNV Topopah Spring 26.11 326 eP **P** 13 17 52.9 +0.7
TPNV pmax pmax
comp=Z,31nm,0.9s
TPNV Topopah Spring 26.11 326 P **P** 13 17 53.2 +1.0
baz=138,SNR=23
PSUT Pine Spring 26.13 331 eP **P** 13 17 52.5 +0.1
comp=Z,25nm,0.9s
Q51A Peebles 26.16 27 eP **P** 13 17 52.4 -0.1
comp=Z,100nm,0.9s
Q51A Peebles 26.16 27 P **P** 13 17 52.6 +0.2
baz=214,SNR=6.5
M42A Sheffield 26.16 14 P **P** 13 17 52.5 +0.1
baz=198,SNR=9.1
MPMC Manual Prospec 26.17 323 P **P** 13 17 53.6 +0.8
baz=134,SNR=22
SCZ2 Santa Cruz Isl 26.17 316 P **P** 13 17 53.2 +0.6
baz=127
W60A Pink Hill 26.20 41 P **P** 13 17 53.0 +0.2
baz=229
N45A Kentland 26.21 19 P **P** 13 17 53.2 +0.4
baz=204
CNNC Cliffs of the 26.21 40 eP **P** 13 17 53.1 +0.2
comp=Z,84nm,0.8s
CNNC Cliffs of the 26.21 40 P **P** 13 17 53.0 +0.1
baz=229
T56A Rocky Mt 26.22 34 P **P** 13 17 53.2 +0.2
baz=222
R53A Hurricane 26.23 30 P **P** 13 17 53.5 +0.4
baz=217
L39A Vinton 26.34 10 P **P** 13 17 53.9 0.0
baz=193
TEJ El Tejon 26.34 320 eP **P** 13 17 53.5 -0.7
M43A Waltham Townsh 26.34 16 P **P** 13 17 54.7 +0.7
baz=200
V59A Middlesex 26.35 39 P **P** 13 17 54.8 +0.7
baz=227,SNR=10
ARVC Arvin 26.36 319 P **P** 13 17 54.8 +0.5
baz=130
L40A Anamosa 26.42 12 eP **P** 13 17 54.3 -0.4
comp=Z,54nm,0.9s
L40A Anamosa 26.42 12 P **P** 13 17 54.8 +0.1
baz=195
MPU Maple Canyon 26.43 336 eP **P** 13 17 54.0 -1.1
comp=Z,25nm,0.9s
P50A Jamestown 26.45 26 P **P** 13 17 54.6 -0.5
baz=212
O48A Farmlandr 26.48 23 P **P** 13 17 55.5 +0.3
baz=209,SNR=8.5
ISA Isabella, Lake 26.49 321 eP **P** 13 17 55.9 +0.4
comp=Z,15nm,1.0s
ISA Isabella, Lake 26.49 321 eP **P** 13 17 55.9 +0.4
ISA pmax pmax
comp=Z,15nm,1.0s
ISA Isabella, Lake 26.49 321 P **P** 13 17 56.5 +1.0
baz=132,SNR=10
SBC Santa Barbara 26.49 317 P **P** 13 17 56.3 +0.9
baz=128
N46A Monticello 26.50 20 P **P** 13 17 55.9 +0.5
baz=205
S55A Lewisburg 26.52 33 P **P** 13 17 55.6 -0.1
baz=221
RWWY Rawlins 26.53 345 eP **P** 13 17 55.5 -0.5
comp=Z,49nm,1.0s
NLU North Lily Min 26.55 336 eP **P** 13 17 57.0 +0.9
comp=Z,49nm,1.1s
M44A Midewin, Midew 26.55 17 eP **P** 13 17 54.4 -1.5
comp=Z,66nm,0.8s
M44A Midewin, Midew 26.55 17 P **P** 13 17 56.1 +0.2
baz=202
L41A Preston 26.58 13 P **P** 13 17 56.2 +0.1
baz=197,SNR=6.2
R54A Victor 26.59 31 P **P** 13 17 56.6 +0.3
baz=219
Q52A Bidwell 26.59 29 P **P** 13 17 56.7 +0.4
baz=216
T57A Hurt 26.62 35 P **P** 13 17 57.1 +0.4

P51A Williamsport 26.66 27 P P 13 17 57.3 +0.3
baz=224
L42A Oliver, Polo 26.70 14 eP P 13 17 57.6 +0.3
comp=Z,92nm,0.9s
L42A Oliver, Polo 26.70 14 P P 13 17 57.2 -0.1
baz=198,SNR=5.9
O49A Covington 26.73 24 eP P 13 17 57.9 +0.3
comp=Z,62nm,0.9s
O49A Covington 26.73 24 P P 13 17 57.5 -0.1
baz=211
GRAC Grapevine Rang 26.76 324 P P 13 17 58.9 +1.0
baz=136,SNR=6.0
R11A Troy Canyon, C 26.82 329 eP P 13 17 59.3 +0.7
comp=Z,11nm,0.9s
R11A Troy Canyon, C 26.82 329 P P 13 17 59.7 +1.1
baz=141,SNR=25
N47A Urbana 26.83 21 P P 13 17 58.7 +0.3
baz=207
PKM Mcpherson Peak 26.83 318 P P 13 17 59.5 +0.7
baz=128
Q53A Leroy 26.85 30 P P 13 17 58.7 +0.1
baz=217
K39A Oelwein 26.92 10 P P 13 18 00.2 +1.0
baz=193,SNR=8.3
VES Vestal, Richgr 26.98 320 P P 13 18 00.9 +1.1
baz=131,SNR=9.4
O50A Cable 26.98 25 P P 13 17 59.7 -0.1
baz=212
DUG Dugway, Tooele 27.05 335 eP P 13 18 01.3 +0.7
comp=Z,38nm,1.1s
DUG Dugway, Tooele 27.05 335 eP P 13 18 01.3 +0.7
DUG pmax pmax
comp=Z,38nm,1.1s
DUG Dugway, Tooele 27.05 335 P P 13 18 01.6 +1.0
baz=148,SNR=24
N48A Decatur 27.05 22 P P 13 18 00.5 +0.1
baz=209
K40A Colesburg 27.05 11 P P 13 18 00.8 +0.4
baz=195
CTU Camp Tracy 27.06 337 eP P 13 18 00.8 +0.1
comp=Z,15nm,0.9s
M46A Old House Fiel 27.08 20 P P 13 18 00.9 +0.2
baz=206
L43A Garden Prairie 27.10 16 P P 13 18 01.4 +0.6
baz=200
R55A Marlinton 27.11 32 P P 13 18 01.3 +0.3
baz=221
K41A Shullsburg 27.13 13 P P 13 18 01.4 +0.3
baz=197
P52A Corning 27.20 28 P P 13 18 02.1 +0.3
baz=215
SMMC Simmler 27.21 318 P P 13 18 02.6 +0.6
baz=129,SNR=7.0
K22A Casper 27.28 346 eP P 13 18 02.8 +0.2
comp=Z,27nm,1.0s
K22A Casper 27.28 346 P P 13 18 03.5 +0.9
baz=162,SNR=5.4
M47A Cromwell 27.28 21 P P 13 18 02.6 +0.1
baz=207
Q54A Coxs Mills 27.29 30 P P 13 18 02.8 +0.3
baz=219
TIN Tinemaha, Big 27.29 323 P P 13 18 04.4 +1.6
baz=134
L44A Lake County Fo 27.32 17 P P 13 18 03.6 +0.8
baz=202
ACSO Alum Creek Sta 27.32 26 P P 13 18 03.2 +0.3
baz=213
V61A Roper 27.39 41 P P 13 18 04.8 +1.3
baz=230
ECSD EROS Data Cent 27.44 2 eP P 13 18 03.1 -0.8
comp=Z,18nm,0.9s
ECSD EROS Data Cent 27.44 2 P P 13 18 03.7 -0.2
baz=183
JFWS Jewell Farm 27.44 13 eP P 13 18 03.9 0.0
comp=Z,181nm,1.1s
JFWS Jewell Farm 27.44 13 eP P 13 18 03.9 0.0
JFWS pmax pmax
comp=Z,181nm,1.1s
JFWS Jewell Farm 27.44 13 P P 13 18 03.8 0.0
baz=197
BGU Big Grassy Mou 27.76 335 eP P 13 18 06.5 -0.4
comp=Z,33nm,1.2s
J40A Soldiers Grove 27.80 12 P P 13 18 07.3 +0.2
baz=195
SPUT South Promonto 27.86 337 eP P 13 18 07.4 -0.4
comp=Z,21nm,1.2s
J41A Loganville 27.92 13 P P 13 18 08.4 +0.2
baz=197
P54A Burton 27.94 30 P P 13 18 08.3 -0.1
baz=218
L47A Sherwood 27.98 21 P P 13 18 08.8 +0.1
baz=207
J42A Columbus 28.07 14 P P 13 18 09.3 -0.3
baz=199
I39A Houston 28.10 10 P P 13 18 10.0 +0.2
baz=194
BW06 Boulder Array 28.18 342 eP P 13 18 10.3 -0.4
comp=Z,28nm,1.1s
BW06 Boulder Array 28.18 342 P P 13 18 11.9 +1.2
baz=156,SNR=12
PD31 Pinedale Array 28.18 342 eP P 13 18 10.4 -0.3
comp=Z,26nm,1.1s
PDAR Pinedale Array 28.18 342 eP P 13 18 10.6 -0.2
PDAR Pinedale Array 28.18 342 P P 13 18 11.8 +1.0
comp=Z,11nm,1.0s,baz=142,slow=7.5,SNR=23
MDPB Devils Postpil 28.18 323 eP P 13 18 10.9 0.0
comp=Z,20nm,1.1s
L48A N Adams 28.22 22 P P 13 18 10.6 -0.3
baz=209
NV11 Mina Array Sit 28.23 325 eP P 13 18 11.3 +0.2
comp=Z,2.2nm,1.1s
RSSD Black Hills 28.23 351 eP P 13 18 10.6 -0.7
comp=Z,17nm,1.1s
RSSD Black Hills 28.23 351 eP P 13 18 10.6 -0.7
RSSD pmax pmax
comp=Z,17nm,1.1s
RSSD Black Hills 28.23 351 P P 13 18 11.2 0.0
baz=168
NV01 Mina Array Sit 28.30 325 eP P 13 18 12.5 +0.6
NVAR Mina Array Bea 28.30 325 P P 13 18 13.8 +1.9
comp=Z,12nm,0.9s,baz=158,slow=9.6,SNR=40
N52A McGinn's Farm, 28.35 27 P P 13 18 11.5 -0.6
baz=215
HVU Hansel Valley 28.39 337 eP P 13 18 12.9 +0.4
comp=Z,24nm,0.9s
HVU Hansel Valley 28.39 337 eP P 13 18 12.9 +0.4
HVU pmax pmax
comp=Z,24nm,0.9s
K46A Dorr 28.42 19 P P 13 18 12.6 0.0
baz=206
CBN Corbin Frederi 28.53 36 P P 13 18 13.3 -0.3
baz=226
ELK Elko 28.54 332 eP P 13 18 14.0 -0.1
comp=Z,61nm,2.0s
ELK Elko 28.54 332 eP P 13 18 14.0 -0.1
ELK pmax pmax
comp=Z,61nm,2.0s
ELK Elko 28.54 332 P P 13 18 15.6 +1.5
comp=Z,6.7nm,1.1s,baz=159,slow=5.4,SNR=11
RYN Ryan 28.57 325 eP P 13 18 13.8 -0.4
comp=Z,12nm,1.0s
L49A Milan 28.61 23 P P 13 18 14.5 +0.2
baz=210
I41A Arkdale 28.61 13 eP P 13 18 13.3 -1.0
comp=Z,53nm,1.4s
I41A Arkdale 28.61 13 P P 13 18 14.9 +0.5
baz=197
KVN Kaiserville 28.64 326 eP P 13 18 15.7 +0.8
comp=Z,15nm,1.0s
KVN Kaiserville 28.64 326 eP P 13 18 15.7 +0.8
KVN pmax pmax
comp=Z,15nm,1.0s
AHID Auburn Hatcher 28.66 340 eP P 13 18 14.4 -0.6
comp=Z,19nm,1.0s
N53A Lisbon 28.73 28 P P 13 18 15.8 +0.4
baz=216
PLIO Pelee Island, 28.74 25 P P 13 18 15.4 0.0
baz=212
H38A Maiden Rock 28.78 9 P P 13 18 16.3 +0.5
baz=192
I43A Langenfeld Bro 28.85 15 P P 13 18 16.4 -0.1
baz=200
H39A Augusta 28.95 10 P P 13 18 17.7 +0.4
baz=194
WAKR Walker 28.99 324 eP P 13 18 18.8 +0.8
comp=Z,45nm,1.8s
H40A Chili 29.05 12 P P 13 18 18.4 +0.2
baz=196
K48A Perry 29.08 22 P P 13 18 18.6 +0.1
baz=209
REDW Red Top Meadow 29.11 341 eP P 13 18 19.6 +0.5
comp=Z,33nm,1.2s
SNOW Snow King Moun 29.17 341 eP P 13 18 19.5 -0.2
comp=Z,28nm,0.9s
H41A Junction City 29.19 13 eP P 13 18 19.1 -0.4
comp=Z,28nm,0.9s
H41A Junction City 29.19 13 P P 13 18 20.2 +0.7
baz=197
CMB Columbia Colle 29.21 322 eP P 13 18 19.6 -0.3
comp=Z,7.7nm,1.0s
CMB Columbia Colle 29.21 322 eP P 13 18 19.6 -0.3
CMB pmax pmax
comp=Z,8.0nm,1.0s
YERR Yerington 29.21 325 eP P 13 18 19.9 -0.1
comp=Z,58nm,2.0s
N54A Moraine State 29.24 29 P P 13 18 19.6 -0.4
baz=218
SPMN Marine on St. 29.25 8 eP P 13 18 19.7 -0.3
comp=Z,32nm,1.0s
SPMN Marine on St. 29.25 8 P P 13 18 20.4 +0.4
baz=191
TPAW Teton Pass 29.26 341 eP P 13 18 20.4 0.0
comp=Z,24nm,1.0s
LOHW Long Hollow 29.26 341 eP P 13 18 20.1 -0.2
comp=Z,33nm,1.2s
G38A Ridgeland 29.33 9 P P 13 18 21.3 +0.6
baz=192
FXWY Fox Creek 29.41 341 eP P 13 18 21.6 -0.2
comp=Z,15nm,1.0s
MOOW Moose Ponds 29.43 341 eP P 13 18 21.8 -0.1
comp=Z,17nm,1.2s
PNTR Pine Nut 29.48 325 eP P 13 18 23.2 +0.7
comp=Z,18nm,1.0s
G39A Holcombe 29.55 10 P P 13 18 22.9 +0.2
baz=194
IMW Indian Meadow 29.62 341 eP P 13 18 22.9 -0.7
comp=Z,22nm,1.1s
G40A Rib Lake 29.71 11 eP P 13 18 23.4 -0.7
comp=Z,35nm,1.2s
G40A Rib Lake 29.71 11 P P 13 18 24.1 0.0
baz=196
FLWY Flagg Ranch 29.72 342 eP P 13 18 26.9 +2.5
comp=Z,21nm,1.1s
F37A Hinrichs Farm, 29.76 8 P P 13 18 24.8 +0.3
baz=191
PAHR Pah Rah Range 29.80 326 eP P 13 18 25.2 0.0
comp=Z,10nm,1.2s
G41A Antigo 29.86 13 P P 13 18 25.6 +0.2
baz=198
H17A Grant Village 29.96 342 P P 13 18 27.6 +0.9
baz=156
I47A Gladwin 30.02 20 P P 13 18 26.4 -0.4
baz=207
G42A Mountain 30.06 14 eP P 13 18 25.6 -1.5
comp=Z,117nm,2.0s
G42A Mountain 30.06 14 P P 13 18 26.9 -0.3
baz=199
LKWY Lake 30.07 342 eP P 13 18 26.5 -1.1
comp=Z,21nm,1.3s
LKWY Lake 30.07 342 eP P 13 18 26.5 -1.1
LKWY pmax pmax
comp=Z,21nm,1.3s
YFT Old Faithful 30.09 342 eP P 13 18 31.4 +3.7
comp=Z,17nm,1.3s
F38A Pierce - Schro 30.10 9 P P 13 18 27.7 +0.2
baz=192
ERPA Erie 30.16 28 P P 13 18 27.7 -0.3
baz=217
AFDM Forest Hills D 30.16 323 eP P 13 18 28.1 -0.2
comp=Z,5.5nm,1.0s
F39A Loretta 30.21 10 P P 13 18 29.3 +0.8
baz=194
M55A Ridgway 30.21 30 P P 13 18 29.0 +0.4
baz=219
G43A Wallace 30.25 15 P P 13 18 29.2 +0.4
baz=200
RLMT Red Lodge 30.27 344 eP P 13 18 29.3 0.0
comp=Z,17nm,0.9s
RLMT Red Lodge 30.27 344 P P 13 18 30.0 +0.7
baz=159,SNR=7.3
YNR Norris Junctio 30.29 342 eP P 13 18 29.3 -0.1
comp=Z,20nm,1.3s
YMR Madison River 30.33 342 eP P 13 18 29.3 -0.5
comp=Z,29nm,1.3s
F40A Park Falls 30.35 11 P P 13 18 30.3 +0.5
baz=195
F41A Three Lakes 30.38 13 P P 13 18 30.3 +0.3
baz=197
YHH Holmes Hill 30.40 342 eP P 13 18 30.6 0.0
comp=Z,12nm,1.0s
I48A Sherman Twp 30.44 21 P P 13 18 30.8 +0.2
baz=208
BEKR Beckworth 30.45 325 eP P 13 18 31.5 +0.6
comp=Z,12nm,1.0s
YHB Horse Butte 30.47 342 eP P 13 18 31.5 +0.4
comp=Z,11nm,1.0s
I49A Point Hope 30.54 22 P P 13 18 31.7 +0.3
baz=210
HLID Hailey 30.54 336 eP P 13 18 31.6 0.0
comp=Z,16nm,1.4s
HLID Hailey 30.54 336 P P 13 18 32.5 +0.9
baz=148,SNR=8.2
E39A Mellen 30.72 10 P P 13 18 33.4 +0.4
baz=194
E38A The Farm, Brul 30.78 9 eP P 13 18 32.5 -1.0
comp=Z,26nm,1.1s
E38A The Farm, Brul 30.78 9 P P 13 18 33.7 +0.2
baz=192
J52A Paris 30.86 26 P P 13 18 34.2 -0.1
baz=215
ORV Oroville 30.88 323 eP P 13 18 34.2 -0.3
comp=Z,17nm,1.4s
ORV Oroville 30.88 323 eP P 13 18 34.2 -0.3
ORV pmax pmax
comp=Z,17nm,1.4s
E40A Wakefield 30.90 11 P P 13 18 35.1 +0.5
baz=196,SNR=8.3
F43A Flat Rock, Esc 30.91 15 P P 13 18 35.1 +0.4
baz=201
GCMT Greycliff 31.00 344 eP P 13 18 35.3 -0.3
MCMT McKenzie Canyo 31.07 340 eP P 13 18 36.5 +0.1
LAO LASA Array 31.09 349 eP P 13 18 36.1 -0.2
comp=Z,87nm,1.8s
LAO LASA Array 31.09 349 P P 13 18 36.8 +0.5
baz=165
E41A Kenton 31.10 12 P P 13 18 36.8 +0.4
baz=197
MTP Monte Pirata 31.21 82 eP P 13 18 37.4 -0.2
comp=Z,32nm,0.9s
F45A CMU Biological 31.22 17 P P 13 18 37.7 +0.3
baz=204
F44A Big Bay de Noc 31.24 16 P P 13 18 38.2 +0.6
baz=202
E42A Champion 31.30 14 P P 13 18 38.0 -0.1
baz=199
ACTO Acton 31.33 26 P P 13 18 38.6 +0.1
baz=215
BOZ Bozeman (W) 31.37 342 eP P 13 18 38.8 -0.1
comp=Z,33nm,1.4s
BOZ Bozeman (W) 31.37 342 eP P 13 18 38.8 -0.1
BOZ pmax pmax
comp=Z,33nm,1.4s
BOZ Bozeman (W) 31.37 342 P P 13 18 40.1 +1.2
baz=155,SNR=13
WVOR Wild Horse Val 31.45 330 eP P 13 18 39.3 -0.3
comp=Z,48nm,1.4s
WVOR Wild Horse Val 31.45 330 eP P 13 18 39.3 -0.3
WVOR pmax pmax
comp=Z,47nm,1.4s
DLMT Dillon 31.46 340 eP P 13 18 40.0 +0.2
comp=Z,52nm,1.2s
E43A Lone Tree Farm 31.46 15 P P 13 18 39.8 +0.3
baz=201
F46A Macinaw City C 31.52 18 P P 13 18 40.3 +0.3
baz=205
MDND Maddock 31.54 358 eP P 13 18 40.4 +0.2
comp=Z,152nm,0.9s
MDND Maddock 31.54 358 P P 13 18 40.9 +0.6
baz=177,SNR=12
O03E Paynes Creek 31.55 324 P P 13 18 40.6 +0.2
baz=133
LCCM Lewis and Clar 31.66 342 eP P 13 18 43.4 +1.9
D41A Chassel 31.75 13 eP P 13 18 42.3 +0.2
comp=Z,44nm,0.9s
D41A Chassel 31.75 13 P P 13 18 42.5 +0.4
baz=198
MOD Modoc Plateau 31.87 328 eP P 13 18 44.0 +0.6
comp=Z,16nm,1.0s
AGMN Agassiz Nation 32.03 3 eP P 13 18 44.4 -0.1
comp=Z,48nm,0.9s
AGMN Agassiz Nation 32.03 3 P P 13 18 44.9 +0.4
baz=184,SNR=14
J08A Circle Bar Ran 32.08 332 eP P 13 18 45.0 -0.2
comp=Z,46nm,1.0s
EYMN Ely 32.10 8 eP P 13 18 45.0 -0.2
comp=Z,20nm,1.2s
EYMN Ely 32.10 8 P P 13 18 45.3 +0.2
baz=192
BINY Binghamton 32.13 32 P P 13 18 45.5 0.0
baz=223
WDC Whiskeytown Da 32.16 324 eP P 13 18 44.4 -1.3
comp=Z,12nm,1.6s
WDC Whiskeytown Da 32.16 324 eP P 13 18 44.4 -1.3
WDC pmax pmax
comp=Z,12nm,1.6s
KCPM Cahto Peak 32.18 322 eP P 13 18 46.7 +0.6
comp=Z,25nm,1.0s
E46A Sault Ste Mari 32.19 18 P P 13 18 46.3 +0.4
baz=206
H52A Wyevale 32.25 25 P P 13 18 46.4 -0.1
baz=214
WLVO Wesleyville 32.30 27 P P 13 18 46.5 -0.4
baz=217
F49A Sandfield 32.39 21 P P 13 18 48.0 +0.3
baz=210
HRY Holter Researc 32.44 342 eP P 13 18 48.9 +0.6
C40A Isle Royale Na 32.45 11 eP P 13 18 47.6 -0.6
C40A Isle Royale Na 32.45 11 P P 13 18 48.7 +0.5
baz=196
N02D Trinity Center 32.51 324 P P 13 18 48.4 -0.5
baz=132
DGMT Dagmar 32.52 353 eP P 13 18 48.9 0.0
comp=Z,30nm,0.8s
DGMT Dagmar 32.52 353 P P 13 18 49.7 +0.9
baz=169,SNR=6.6
M04C Macdoel 32.59 326 P P 13 18 50.4 +0.7
baz=134
KMRM Mail Ridge 32.60 322 eP P 13 18 49.8 +0.1
comp=Z,21nm,1.0s
SADO Sadowa 32.66 26 P P 13 18 50.5 +0.4
comp=Z,9.3nm,0.8s,baz=256,slow=8.4,SNR=4.2
D46A Sault St. Mari 32.75 18 P P 13 18 51.5 +0.7
baz=206
BMO Blue Mountains 32.76 334 eP P 13 18 50.9 -0.2
comp=Z,11nm,1.0s
BMO Blue Mountains 32.76 334 eP P 13 18 50.9 -0.2
BMO pmax pmax
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 33.03 325 P P 13 18 52.8 -0.7
comp=Z,1.8nm,0.7s,baz=97,slow=12,SNR=3.8
KHMM Horse Mountain 33.03 323 eP P 13 18 53.7 +0.1
comp=Z,24nm,1.0s
EGMT Eagleton 33.10 346 eP P 13 18 53.9 -0.1
comp=Z,140nm,2.0s
EGMT Eagleton 33.10 346 P P 13 18 55.0 +1.0
baz=159
BUKO Buck Lake 33.11 25 P P 13 18 53.8 -0.2
baz=214
DELO Deloro Mine 33.11 27 P P 13 18 54.0 0.0
baz=218
I07A Izee 33.12 331 eP P 13 18 53.6 -0.6
comp=Z,8.5nm,0.9s
L04D Klamath Falls 33.14 326 P P 13 18 54.6 +0.1
baz=134,SNR=6.5
D47A Chapleau 33.18 19 P P 13 18 54.9 +0.3
baz=207
MSO Missoula 33.19 340 eP P 13 18 54.5 -0.4
comp=Z,14nm,1.0s
MSO Missoula 33.19 340 P P 13 18 55.6 +0.7
baz=152,SNR=6.4
H55A Tweed 33.33 28 P P 13 18 56.1 +0.1
baz=219
J05D Fort Rock, OR 33.35 329 P P 13 18 57.3 +1.0
baz=137
BANO Bancroft 33.38 27 P P 13 18 56.7 +0.3
baz=217
F52A Sundridge 33.43 24 P P 13 18 57.3 +0.5
baz=214
F10A Beach Ranch, E 33.65 336 eP P 13 18 58.9 +0.1
comp=Z,35nm,0.9s
D48A Paudash Townsh 33.70 20 P P 13 18 59.8 +0.6
baz=209
J04D Umpqua Nationa 33.76 328 P P 13 19 00.4 +0.5
baz=136,SNR=5.1
H56A Elgin 33.79 29 P P 13 18 60.0 +0.1
baz=220
L02E Cave Junction 33.80 325 P P 13 19 00.6 +0.4
baz=132
G08A Pilot Rock 33.81 333 eP P 13 18 59.9 -0.4
comp=Z,23nm,1.0s
D49A Beulah Townshi 33.94 21 P P 13 19 01.6 +0.4
baz=210
ULM Lac du Bonnet 33.98 3 eP P 13 19 00.5 -1.0
comp=Z,23nm,1.0s
ULM Lac du Bonnet 33.98 3 eP P 13 19 00.5 -1.0
ULM pmax pmax
comp=Z,23nm,1.0s
ULM Lac du Bonnet 33.98 3 P P 13 19 00.9 -0.6
comp=Z,16nm,0.9s,baz=168,slow=7.1,SNR=7.5
E51A G1948 Merrick 33.98 23 P P 13 19 02.3 +0.7
baz=213
ALGO Algonquin Park 34.07 25 P P 13 19 03.0 +0.6
baz=216
K02D Willamette Mer 34.20 326 P P 13 19 03.6 -0.1
baz=133
I04A Tendick Farm, 34.31 328 P P 13 19 04.6 +0.1
baz=136
E09A Wood Farm, Sta 34.46 335 eP P 13 19 04.8 -1.0
comp=Z,16nm,1.0s
G06A Carlson Farm, 34.52 332 eP P 13 19 05.3 -1.1
comp=Z,18nm,1.3s
E53A Dumoine, Ponti 34.58 25 P P 13 19 07.3 +0.5
baz=216
J01E Myrtle Point 34.66 326 P P 13 19 08.0 +0.5
baz=153
KEBM Edson Butte 34.68 325 eP P 13 19 07.7 -0.1
comp=Z,83nm,1.3s
I03D Drain, OR 34.72 327 P P 13 19 08.7 +0.7
baz=134
E54A Lac Daplat, Po 34.82 26 P P 13 19 09.0 +0.2
baz=217
HAWA Hanford 34.93 334 eP P 13 19 09.5 -0.3
comp=Z,31nm,1.9s
WALA Waterton Lakes 35.16 342 eP P 13 19 11.8 -0.2
E07A Sunnyside 35.20 334 eP P 13 19 11.9 -0.2
comp=Z,8.3nm,0.8s
D08A Wollman Farm, 35.21 335 eP P 13 19 11.6 -0.6
comp=Z,9.3nm,1.1s
NEW Newport 35.52 338 eP P 13 19 14.4 -0.5
comp=Z,9.6nm,1.1s
NEW Newport 35.52 338 eP P 13 19 14.4 -0.5
NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW Newport 35.52 338 P P 13 19 15.4 +0.4
baz=148,SNR=6.2
NEW Newport 35.52 338 P P 13 19 15.7 +0.7
comp=Z,5.2nm,1.0s,baz=150,slow=11,SNR=5.1
C09A Chrisman Ranch 35.56 337 eP P 13 19 14.0 -1.2
comp=Z,27nm,1.0s
LON Longmire 36.20 332 eP P 13 19 19.6 -1.1
comp=Z,51nm,1.9s
LON Longmire 36.20 332 eP P 13 19 19.7 -1.1
LON pmax pmax
comp=Z,51nm,1.9s
E04D Cinebar 36.40 331 P P 13 19 22.6 +0.1
baz=138
B08A Colville Reser 36.43 336 eP P 13 19 21.9 -0.8
comp=Z,52nm,1.8s
D05A Enumclaw 36.61 333 eP P 13 19 22.7 -1.5
comp=Z,32nm,0.9s
GHW Garrison Hill 36.63 332 eP P 13 19 27.3 +2.9
LSQQ Lebel-sur-Quev 37.02 23 P P 13 19 27.8 +0.1
baz=215
D03D Eldon 37.37 332 P P 13 19 31.1 +0.5
baz=138,SNR=9.3
B06A Marblemount 37.42 334 eP P 13 19 30.6 -0.5
comp=Z,19nm,1.0s
LATQ La Tuque 37.48 29 P P 13 19 31.4 -0.2
baz=222
B05A Bryant 37.48 334 P P 13 19 31.6 0.0
baz=140
NLWA Neilton Lookou 37.62 331 eP P 13 19 33.0 +0.1
comp=Z,48nm,1.4s

A04D	**Lummi Island**	**38.09**	**334**	P		**P**		**13 19 37.5**	**+0.7**
	baz=140,SNR=7.8								
FFC	**Flin Flon**	**38.52**	**356**	*eP*		**P**		**13 19 40.2**	**-0.1**
	comp=Z,45nm,1.0s								
FFC	**Flin Flon**	**38.52**	**356**	*i* P		**P**		**13 19 41.1**	**+0.8**
CHGQ	**Chibougamau**	**38.72**	**25**	P		**P**		**13 19 42.2**	**+0.2**
	baz=218								
LLLB	**Lillooet**	**39.23**	**336**	*eP*		**P**		**13 19 46.3**	**0.0**
	comp=Z,22nm,1.1s								
PTGA	**Pitinga**	**41.31**	**110**	*eP*		**P**		**13 20 03.5**	**-0.5**
	comp=Z,47nm,1.8s								
PTGA	**Pitinga**	**41.31**	**110**	P		**P**		**13 20 04.1**	**0.0**
	comp=Z,7.3nm,0.9s,baz=320,slow=14,SNR=4.5								
FCC	**Fort Churchill**	**42.56**	**3**	*eP*		**P**		**13 20 12.5**	**-1.1**
	comp=Z,24nm,1.1s								
FCC	**Fort Churchill**	**42.56**	**3**	*eP*		**P**		**13 20 12.5**	**-1.1**
FCC					pmax	pmax			
	comp=Z,24nm,1.1s								
LPAZ	**La Paz**	**43.86**	**136**	*eP*		**P**		**13 20 24.4**	**-0.9**
	comp=Z,5.1nm,0.9s								
LPAZ	**La Paz**	**43.86**	**136**	*eP*		**P**		**13 20 24.5**	**-0.9**
LPAZ					pmax	pmax			
	comp=Z,5.0nm,0.9s								
LPAZ	**La Paz**	**43.86**	**136**	P		**P**		**13 20 24.5**	**-0.9**
	comp=Z,1.5nm,0.8s,baz=23,slow=4.3,SNR=4.2								
SCHQ	**Schefferville**	**45.47**	**25**	*eP*		**P**		**13 20 36.2**	**-0.8**
	comp=Z,48nm,1.0s								
SCHQ	**Schefferville**	**45.47**	**25**	P		**P**		**13 20 38.0**	**+0.9**
	comp=Z,31nm,0.9s,baz=228,slow=7.0,SNR=16								
YKA	**Yellowknife Ar**	**47.63**	**350**	P		**P**		**13 20 53.7**	**-0.1**
	comp=Z,7.4nm,0.9s,baz=158,slow=7.4,SNR=33								
YKA					PP	**PP**		**13 22 49.2**	**+3.8**
	comp=Z,4.3nm,0.9s,baz=155,slow=9.4,SNR=3.9								
YKB5	**Yellowknife Ar**	**47.63**	**350**	*eP*		**P**		**13 20 52.6**	**-1.2**
YKW3	**Yellowknife Ar**	**47.69**	**350**	*eP*		**P**		**13 20 53.5**	**-0.8**
	comp=Z,20nm,1.2s								
DLBC	**Dease Lake**	**48.27**	**338**	*eP*		**P**		**13 20 59.0**	**0.0**
	comp=Z,21nm,1.1s								
TAOE	**Nuku Hiva Isla**	**48.44**	**242**	*eT*		T		14 12 21.8	
	comp=Z,55nm,0.2s								
FRB	**Frobisher Bay**	**51.67**	**16**	P		**P**		**13 21 25.5**	**+0.9**
FRB					pmax	pmax			
	comp=Z,24nm,1.6s								
HYT	**Haines Junctio**	**52.67**	**337**	*eP*		**P**		**13 21 35.2**	**+3.0**
	comp=Z,72nm,1.7s								
RKT	**Rikitea**	**53.15**	**224**	*eT*		T		14 18 21.7	
	comp=Z,47nm,0.2s								
DAWY	**Dawson**	**55.43**	**339**	*eP*		**P**		**13 21 52.7**	**+0.4**
	comp=Z,8.9nm,0.9s								
DIV	**Divide**	**56.12**	**334**	*eP*		**P**		**13 21 57.1**	**-0.2**
	comp=Z,24nm,1.1s								
EPYK	**Eagle Plains**	**56.14**	**342**	*eP*		**P**		**13 21 57.2**	**0.0**
	comp=Z,16nm,1.1s								
EPYK	**Eagle Plains**	**56.14**	**342**	P		**P**		**13 21 57.7**	**+0.4**
	baz=134								
KLU	**Klutina**	**56.37**	**335**	*eP*		**P**		**13 21 59.1**	**-0.1**
	comp=Z,23nm,1.0s								
EGAK	**Eagle**	**56.48**	**339**	*eP*		**P**		**13 21 59.6**	**-0.1**
	comp=Z,18nm,1.0s								
HARP	**HAARP**	**56.55**	**336**	*eP*		**P**		**13 22 00.6**	**+0.3**
	comp=Z,41nm,1.0s								
INK	**Inuvik**	**56.68**	**345**	*eP*		**P**		**13 22 01.0**	**0.0**
	comp=Z,27nm,0.9s								
INK	**Inuvik**	**56.68**	**345**	*eP*		**P**		**13 22 01.0**	**0.0**
INK					pmax	pmax			
	comp=Z,27nm,0.9s								
INK	**Inuvik**	**56.68**	**345**	P		**P**		**13 22 01.5**	**+0.5**
	comp=Z,18nm,0.8s,baz=121,slow=7.6,SNR=39								
PAX	**Paxson**	**56.98**	**336**	*eP*		**P**		**13 22 04.1**	**+0.7**
	comp=Z,19nm,0.9s								
PAX	**Paxson**	**56.98**	**336**	*eP*		**P**		**13 22 04.1**	**+0.7**
PAX					pmax	pmax			
	comp=Z,19nm,0.9s								
SCRK	**Sand Creek**	**56.99**	**338**	*eP*		**P**		**13 22 04.0**	**+0.5**
	comp=Z,25nm,1.0s								
RIDG	**Independ'e Rid**	**57.17**	**337**	*eP*		**P**		**13 22 05.3**	**+0.6**
	comp=Z,55nm,1.0s								
GHO	**Glory Hole Cre**	**57.76**	**334**	*eP*		**P**		**13 22 09.1**	**+0.2**
	comp=Z,36nm,0.9s								
PMR	**Palmer**	**57.76**	**334**	*eP*		**P**		**13 22 09.1**	**+0.3**
	comp=Z,21nm,0.9s								
PMR	**Palmer**	**57.76**	**334**	*eP*		**P**		**13 22 09.1**	**+0.3**
PMR					pmax	pmax			
	comp=Z,21nm,0.9s								
DHY	**Denali Highway**	**57.77**	**336**	*eP*		**P**		**13 22 08.9**	**-0.2**
	comp=Z,18nm,1.2s								
CPUP	**Villa Florida**	**58.03**	**136**	P		**P**		**13 22 10.2**	**-1.0**
	comp=Z,4.2nm,0.9s,baz=326,slow=7.3,SNR=7.2								
PMOR	**Pomariorio Ree**	**58.08**	**240**	*eT*		T		14 24 23.9	
	comp=Z,6.2nm,0.2s								
HDA	**Harding Lake**	**58.31**	**337**	*eP*		**P**		**13 22 12.5**	**-0.1**
	comp=Z,20nm,1.0s								
HDA	**Harding Lake**	**58.31**	**337**	P		**P**		**13 22 13.0**	**+0.4**
	baz=122,SNR=8.2								
IL1	**Eielson Array**	**58.48**	**338**	*eP*		**P**		**13 22 13.8**	**0.0**
ILAR	**Eielson Array**	**58.48**	**338**	P		**P**		**13 22 14.2**	**+0.4**
	comp=Z,11nm,1.0s,baz=137,slow=4.8,SNR=62								
ILB	**Eielson Array**	**58.48**	**338**	*eP*		**P**		**13 22 13.5**	**-0.3**
	comp=Z,48nm,1.3s								
RES	**Resolute Bay**	**58.48**	**1**	*eP*		**P**		**13 22 12.6**	**-1.0**
	comp=Z,40nm,1.9s								
RES	**Resolute Bay**	**58.48**	**1**	*eP*		**P**		**13 22 12.6**	**-1.0**
RES					pmax	pmax			
	comp=Z,40nm,1.9s								
RND	**Reindeer**	**58.52**	**336**	*eP*		**P**		**13 22 14.2**	**0.0**
	comp=Z,52nm,1.0s								
RND	**Reindeer**	**58.52**	**336**	*eP*		**P**		**13 22 14.2**	**0.0**
RND					pmax	pmax			
	comp=Z,52nm,1.0s								
CCB	**Clear Creek Bu**	**58.75**	**337**	*eP*		**P**		**13 22 15.1**	**-0.6**
	comp=Z,16nm,1.2s								
WRH	**Wood River Hil**	**58.77**	**337**	*eP*		**P**		**13 22 15.2**	**-0.7**
	comp=Z,15nm,0.9s								
BDFB	**Brasilia**	**58.78**	**120**	*eP*		**P**		**13 22 16.4**	**-0.4**
	comp=Z,10nm,0.8s								
BDFB	**Brasilia**	**58.78**	**120**	P		**P**		**13 22 16.7**	**0.0**
	comp=Z,3.0nm,0.5s,baz=292,slow=7.8,SNR=4.9								
RSO	**Redoubt South**	**58.85**	**332**	*eP*		**P**		**13 22 16.3**	**-0.4**
POKR	**Poker Flat Res**	**58.86**	**338**	P		**P**		**13 22 16.5**	**0.0**
	baz=122,SNR=6.7								
COLA	**College**	**58.88**	**338**	*eP*		**P**		**13 22 16.1**	**-0.5**
	comp=Z,18nm,0.9s								
COLA	**College**	**58.88**	**338**⇑	*eP*		**P**		**13 22 16.8**	**+0.2**
COLA					pmax	pmax			
	comp=Z,20nm,1.0s								
TCOL	**CIGO, UAF Yank**	**58.89**	**338**	P		**P**		**13 22 16.5**	**-0.1**
	baz=121,SNR=5.1								
FYU	**Fort Yukon**	**58.90**	**340**	*eP*		**P**		**13 22 15.6**	**-1.1**
	comp=Z,69nm,1.5s								
MDM	**Murphy Dome**	**59.07**	**338**	*eP*		**P**		**13 22 17.5**	**-0.5**
	comp=Z,11nm,1.0s								
TRF	**Thorofare Moun**	**59.11**	**336**	*eP*		**P**		**13 22 18.5**	**+0.1**
	comp=Z,71nm,1.0s								
BWN	**Browne**	**59.13**	**337**	*eP*		**P**		**13 22 18.4**	**+0.1**
	comp=Z,144nm,1.0s								
SFJD	**Kangerlussuaq**	**59.32**	**20**	*eP*		**P**		**13 22 19.4**	**-0.1**
	comp=Z,26nm,1.0s								
SFJD	**Kangerlussuaq**	**59.32**	**20**	*i* P		**P**		**13 22 20.1**	**+0.6**
	comp=Z,22nm,1.0s								
SFJD	**Kangerlussuaq**	**59.32**	**20**	*i* P		**P**		**13 22 20.1**	**+0.6**
SFJD					pmax	pmax			
	comp=Z,22nm,1.0s								
PPLA	**Purkeypile**	**59.63**	**335**	*eP*		**P**		**13 22 21.9**	**-0.1**
	comp=Z,52nm,1.3s								
BPAW	**Bear Paw Mtn.**	**59.69**	**336**	*eP*		**P**		**13 22 22.0**	**-0.2**
	comp=Z,18nm,1.0s								
SVW2	**Sparrevohn**	**60.37**	**332**	*eP*		**P**		**13 22 26.5**	**-0.5**
	comp=Z,23nm,1.0s								
PPT2	**Papeete2**	**60.77**	**239**	*e*LR		LR		13 40 21.0	
	comp=Z,323nm,24.8s,baz=55								
COLD	**Coldfoot**	**60.91**	**339**	*eP*		**P**		**13 22 30.4**	**-0.1**
	comp=Z,11nm,1.1s								
TOLK	**Toolik Lake Re**	**61.43**	**341**	*eP*		**P**		**13 22 34.1**	**0.0**
	comp=Z,16nm,0.9s								
TOLK	**Toolik Lake Re**	**61.43**	**341**	P		**P**		**13 22 34.7**	**+0.6**
	baz=121,SNR=12								
IM3	**Indian Mountai**	**61.58**	**337**	*eP*		**P**		**13 22 34.3**	**-0.8**
TULEG	**Thule**	**62.20**	**7**	*eP*		**P**		**13 22 38.8**	**-0.3**
	comp=Z,12nm,1.0s								
PLCA	**Paso Flores**	**62.22**	**157**	*eP*		**P**		**13 22 39.3**	**-0.5**
	comp=Z,11nm,0.9s								
PLCA	**Paso Flores**	**62.22**	**157**	*eP*		**P**		**13 22 39.3**	**-0.5**
PLCA					pmax	pmax			
	comp=Z,11nm,0.9s								
PLCA	**Paso Flores**	**62.22**	**157**	P		**P**		**13 22 39.3**	**-0.5**
	comp=Z,5.0nm,1.0s,baz=0.1,slow=9.0,SNR=5.0								
TBI	**Tubuai**	**63.72**	**233**	*e*LR		LR		13 41 41.0	
	comp=Z,458nm,27.2s,baz=57								
TBI	**Tubuai**	**63.72**	**233**	*eT*		T		14 31 29.8	
	comp=Z,37nm,0.3s								
RCBR	**Riachuelo**	**65.39**	**104**	*eP*		**P**		**13 23 01.2**	**0.0**
	comp=Z,23nm,1.2s								
RCBR	**Riachuelo**	**65.39**	**104**	*eP*		**P**		**13 23 01.2**	**0.0**
RCBR					pmax	pmax			
	comp=Z,23nm,1.2s								
SUMG	**Summit**	**65.74**	**17**	*eP*		**P**		**13 23 02.5**	**-0.4**
	comp=Z,29nm,0.9s								
SUMG	**Summit**	**65.74**	**17**⇑	*i* P		**P**		**13 23 03.7**	**+0.8**
	comp=Z,71nm,1.1s								
SUMG	**Summit**	**65.74**	**17**⇑	*i* P		**P**		**13 23 03.7**	**+0.8**
SUMG					pmax	pmax			
	comp=Z,71nm,1.1s								
GAMB	**Gambell**	**68.28**	**333**	*eP*		**P**		**13 23 18.5**	**-0.2**
	comp=Z,14nm,1.2s								
SCO	**Scoresbysund**	**70.21**	**20**	*eP*		**P**		**13 23 30.5**	**0.0**
	comp=Z,36nm,1.6s								
SCO	**Scoresbysund**	**70.21**	**20**	*i* P		**P**		**13 23 33.2**	**+2.7**
	comp=Z,12nm,1.3s								
SCO	**Scoresbysund**	**70.21**	**20**	*eP*		**P**		**13 23 33.2**	**+2.7**
SCO					pmax	pmax			
	comp=Z,12nm,1.3s								
DAG	**Danmarks Havn**	**71.90**	**14**⇑	*i* P		**P**		**13 23 40.6**	**-0.1**
	comp=Z,17nm,1.0s								
DAG	**Danmarks Havn**	**71.90**	**14**⇑	*i* P		**P**		**13 23 40.6**	**-0.1**
DAG					pmax	pmax			
	comp=Z,17nm,1.0s								
BILL	**Bilibino**	**77.14**	**337**	*eP*		**P**		**13 24 10.7**	**-0.6**
	comp=Z,21nm,1.1s								
BILL	**Bilibino**	**77.14**	**337**	*eP*		**P**		**13 24 11.4**	**+0.1**
BILL					pmax	pmax			
	comp=Z,20nm,1.3s								
PAB	**San Pablo**	**82.73**	**51**	*eP*		**P**		**13 24 41.7**	**-0.6**
	comp=Z,28nm,1.4s								
PAB	**San Pablo**	**82.73**	**51**	*eP*		**P**		**13 24 41.7**	**-0.6**
PAB					pmax	pmax			
	comp=Z,28nm,1.4s								
FLN	**La Foliniere**	**82.92**	**41**	*eP*		**P**		**13 24 43.5**	**+0.6**
FLN					pmax	pmax			
	comp=Z,23nm,1.0s								
ESDC	**Sonseca Array**	**82.98**	**51**	P		**P**		**13 24 44.2**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=291,slow=4.7,SNR=9.6								
ES06	**SONSECA Array**	**82.99**	**51**	*eP*		**P**		**13 24 43.0**	**-0.5**
LDF	**La Druitiere**	**83.20**	**41**	*eP*		**P**		**13 24 44.6**	**+0.2**
LDF					pmax	pmax			
	comp=Z,25nm,1.2s								
SJPF	**Ste Jean**	**84.03**	**47**	*eP*		**P**		**13 24 51.7**	**+2.9**
SJPF					pmax	pmax			
	comp=Z,32nm,1.7s								
SEY	**Seymchan**	**84.21**	**334**⇓	*i* P		**P**		**13 24 49.4**	**+0.2**
KONO	**Kongsberg**	**84.81**	**29**	*eP*		**P**		**13 24 52.5**	**+0.2**
	comp=Z,37nm,1.4s								
KONO	**Kongsberg**	**84.81**	**29**⇓	*i* P		**P**		**13 24 53.8**	**+1.5**
KONO					pmax	pmax			
	comp=Z,36nm,1.5s								
NB2	**NORSAR Subarra**	**84.98**	**27**	P		**P**		**13 24 54.1**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=300,slow=5.3								
NOA	**NORSAR Array B**	**84.98**	**27**	P		**P**		**13 24 54.3**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=298,slow=5.0,SNR=6.0								
TCF	**Toulx Ste Croi**	**85.41**	**43**	*eP*		**P**		**13 24 55.6**	**-0.1**
TCF					pmax	pmax			
	comp=Z,19nm,1.1s								
BGF	**Bois d'Agland**	**85.74**	**43**	*eP*		**P**		**13 25 02.0**	**+4.7**
BGF					pmax	pmax			
	comp=Z,96nm,1.0s								
ARCES	**ARCESS Array B**	**85.83**	**17**	P		**P**		**13 24 56.7**	**-0.6**
	comp=Z,4.3nm,0.8s,baz=310,slow=5.6,SNR=5.4								
BCLA	**Clavier**	**85.97**	**39**⇓	P		**P**		**13 24 56.9**	**-1.4**
SSF	**Saint Saulge**	**86.00**	**42**	*eP*		**P**		**13 24 58.4**	**-0.2**
SSF					pmax	pmax			
	comp=Z,20nm,1.2s								
MTLF	**Montolieu**	**86.36**	**46**	*eP*		**P**		**13 25 00.5**	**+0.1**
MTLF					pmax	pmax			
	comp=Z,21nm,1.1s								
TIXI	**Tiksi**	**86.77**	**347**	*eP*		**P**		**13 25 00.6**	**-1.3**
	comp=Z,23nm,1.4s								
TIXI	**Tiksi**	**86.77**	**347**	*ce*P		**P**		**13 25 01.2**	**-0.6**
TIXI					pmax	pmax			
	comp=Z,21nm,1.5s								
LMR	**La Mourre**	**89.30**	**45**	P		**P**		**13 25 19.1**	**+4.6**
LMR					pmax	pmax			
	comp=Z,82nm,1.8s								
FINES	**FINESS Array B**	**90.92**	**23**	*i* P		**P**		**13 25 26.2**	**+4.5**
FINES					pmax	pmax			
	comp=Z,4.0nm,0.9s								
DBIC	**Dimbokro**	**91.34**	**83**	P		**P**		**13 25 24.6**	**0.0**
	comp=Z,4.5nm,1.0s,baz=290,slow=1.9,SNR=4.6								
DPC	**Dobruska-Polom**	**92.40**	**36**	*eP*		**P**		**13 25 30.0**	**+1.2**
DPC	**Dobruska-Polom**	**92.40**	**36**	*eP*		**P**		**13 25 30.0**	**+1.2**
VSU	**Vasula**	**93.02**	**26**⇑	*eP*		P		13 25 38.2	+6.8
VSU					pmax	pmax			
	comp=Z,68nm,1.8s								
NRIK	**Noril'sk**	**94.55**	**358**	P		**P**		**13 25 38.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=332,slow=4.7,SNR=4.7								
VYHS	**Vyhne**	**94.75**	**36**	*eP*		**P**		**13 25 42.1**	**+2.5**
VYHS	**Vyhne**	**94.75**	**36**	*eP*		**P**		**13 25 42.1**	**+2.5**
TORD	**Torodi Ar. Bea**	**95.61**	**75**	P		**P**		**13 25 43.7**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=263,slow=3.7,SNR=3.6								
UZH	**Uzhgorod**	**96.62**	**35**	*eP*		P		13 25 54.0	+5.9
UZH					*e*			13 25 59.5	
YSS	**Yuzh-Sakhalins**	**96.73**	**323**	*eP*		**P**		**13 25 53.0**	**+4.4**
PRGR	**Permogore**	**97.24**	**17**	*eP*		**P**		**13 25 47.8**	**-2.8**
PRGR					pmax	pmax			
	comp=Z,10.0nm,0.4s								
ERM	**Erimo**	**99.09**	**319**⇓	*i* P		**Pdif**		**13 25 59.5**	**+0.1**
OBN	**Obninsk**	**99.27**	**24**	*eP*		**Pdif**		**13 26 02.5**	**+2.6**
OBN					*e*			13 30 04.7	
OBN					*e*PPP	PPP		13 32 09.8	
OBN					pmax	pmax			
	comp=Z,2.0nm,0.9s								
ZALV	**Zalesovo Beam**	**110.05**	**358**	PP		**PP**		**13 31 22.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=6.8,slow=6.3,SNR=3.9								
SONM	**Songino Array**	**112.53**	**342**	PP		**PP**		**13 31 37.9**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=36,slow=3.7,SNR=3.0								
BJI	**Beijing**	**115.51**	**331**	*e*PKP		**PKiKP**		**13 30 57.0**	**-3.3**
BJI					LR	LR			
	comp=Z,270nm,17.9s								
BJI					LR	LR			
	comp=Z,410nm,15.2s								
BJI					LR	LR			
	comp=Z,300nm,24.1s								
HHC	**Hu-ho-hao-te**	**116.85**	**335**	*e*PKP		**PKiKP**		**13 31 05.0**	**+1.9**
HHC					PP	**PP**		**13 32 10.8**	**+0.2**
HHC					SS	SS		13 48 16.8	+0.2
HHC					AMB	AMB			
	comp=Z,95nm,8.6s								
HHC					LR	LR			
	comp=Z,450nm,17.7s								
HHC					LR	LR			
	comp=Z,420nm,15.7s								
HHC					LR	LR			
	comp=Z,690nm,17.7s								
WMQ	**Urumqi**	**119.99**	**355**	*e*PKP		**PKPdf**		**13 31 09.0**	**0.0**
WMQ					LR	LR			
	comp=Z,490nm,19.3s								
WMQ					LR	LR			
	comp=Z,430nm,21.1s								
WMQ					LR	LR			
	comp=Z,360nm,21.9s								
NJ2	**Nanjing**	**120.29**	**324**	*e*PKP		**PKPdf**		**13 31 09.0**	**-0.8**
GTA	**Gaotai**	**122.14**	**344**	*e*PKP		**PKPdf**		**13 31 12.5**	**-0.9**
GTA					PP	PP		13 32 57.0	+10
GTA					AMB	AMB			
	comp=Z,36nm,5.2s								
GTA					LR	LR			
	comp=Z,330nm,20.6s								
GTA					LR	LR			
	comp=Z,440nm,19.0s								
GTA					LR	LR			
	comp=Z,410nm,20.6s								
LZH	**Lanzhou**	**123.94**	**339**	*e*PKP		**PKPdf**		**13 31 09.3**	**-7.6**
LZH					sPKP			13 31 26.5	
LZH					SKS	**SKSdf**		**13 38 28.8**	**+0.1**
LZH					LR	LR			
	comp=N,510nm,17.3s								
LZH					LR	LR			
	comp=E,1μm,18.2s								
LZH					LR	LR			
	comp=Z,1μm,20.1s								
CD2	**Chengdu**	**128.59**	**336**	PKP		**PKPdf**		**13 31 23.3**	**-2.5**
WRA	**Warramunga Arr**	**130.10**	**257**	PKP		**PKPdf**		**13 31 27.9**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=83,slow=1.9,SNR=12								
AS01	**Alice Springs**	**130.66**	**253**	*e*PKPdf		**PKPdf**		**13 31 27.9**	**-1.9**
ASAR	**Alice Springs**	**130.70**	**253**	PKP		**PKPdf**		**13 31 29.0**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=72,slow=1.3,SNR=9.3								
KMBO	**Kilima Mbogo**	**133.61**	**76***c*	*i*PKIKP		**PKiKP**		**13 31 43.7**	**+6.5**
KMBO					pmax	pmax			
	comp=Z,1.0nm,0.3s								
CMAR	**Chiang Mai Arr**	**141.62**	**333**	PKhKP		PKPpre		13 31 44.8	
	comp=Z,1.0nm,0.9s,baz=345,slow=2.6,SNR=4.3								
CMAR					PKP	**PKPdf**		**13 31 50.0**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=337,slow=2.7,SNR=7.3								
CM01	**Chiang Mai Arr**	**141.65**	**333**	*e*PKPdf		**PKPdf**		**13 31 48.8**	**-1.6**
HYB	**Hyderabad**	**146.40**	**6**	*i* PKP		**PKPdf**		**13 31 58.0**	**-0.7**
HYB				*e*				13 32 04.0	
KSM	**Kuching**	**146.81**	**299**	*e*PKPdf		**PKPdf**		**13 31 57.8**	**-1.7**
ABPO	**Ambohimpanom**	**146.95**	**100**	*e*PKPdf		**PKPdf**		**13 32 00.1**	**+0.3**
ABPO	**Ambohimpanom**	**146.95**	**100**	*e*PKP2		**PKPdf**		**13 32 00.1**	**+0.3**
KULM	**Kulim**	**151.63**	**317**	*ep*PKPdf		pPKPdf		13 32 10.2	-2.3

*IDC **26** 13:16:08.8±3.6,23.96N×123.13E,h0km,mb3.8/2,*
mb1 3.9/4,mb1mx3.4/57,mbtmp3.8/4,ML3.4/2,Error
ellipse: s-maj=104.4km s-min=29.4km az=110.0
*ISCJB **26** 13:16:15.3±0.2,24.56N±0.02×122.85E±0.01,h98km±2km,*
mb4.3/5,Error ellipse: s-maj=3.1km s-min=1.9km
az=166.7
*TAP **26** 13:16:15.5,24.59N×122.86E,h99km,ML4.2,B*
*JMA **26** 13:16:15.0±0.1,24.54N×122.82E,h104km±2km,M3.6*
*NEIC **26** 13:16:15.6±0.6,24.44N×122.92E,h94km±7km,mb4.7/3,*
Error ellipse: s-maj=11.4km s-min=8.5km az=121.0

ISC 26 13:16:15.5±0.8,24.56N±0.03×122.86E±0.02,h99km±5km,
n148,σ0.99/259,mb4.0/5,7C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.14**	**144**			P	**Pn**	**13 16 29.8**	**+0.4**
JYNG						S	**Sn**	**13 16 40.3**	**+0.5**
YOJ	**Yonaguni jima**	**0.17**	**126**	*e*Pn		**Pn**	**Pn**	**13 16 29.8**	**+0.3**
YOJ	**Yonaguni jima**	**0.17**	**126**	*i* P		**Pn**	**Pn**	**13 16 29.8**	**+0.3**
	baz=139								
YOJ						S	**Sn**	**13 16 40.1**	**+0.2**
	baz=139								
YOJ	**Yonaguni jima**	**0.17**	**126**	P		**Pn**	**Pn**	**13 16 29.8**	**+0.3**
YOJ						S	**Sn**	**13 16 40.4**	**+0.5**
EOS1	**EOS1**	**0.66**	**269**	P		**Pn**	**Pn**	**13 16 32.7**	**+0.3**
	baz=261								
EOS1						S	**Sn**	**13 16 45.6**	**+0.4**
	baz=261								
IRIF	**Iriomote-Funau**	**0.83**	**106**			P	**Pn**	**13 16 34.3**	**+0.3**
IRIF						S	**Sn**	**13 16 48.5**	**+0.5**
EGS		**0.89**	**289**	*e*P		**Pn**	**Pn**	**13 16 35.1**	**+0.4**
	baz=283								
TWB1	**Santiao Chiao**	**0.91**	**299**	*e*P		**Pn**	**Pn**	**13 16 34.8**	**0.0**
	baz=292								
TWB1				*e*S			**Sn**	**13 16 48.3**	**-1.0**
	baz=292								
TWC	**Suao**	**0.92**	**273**	*e*P		**Pn**	**Pn**	**13 16 34.8**	**-0.1**
	baz=270								
TWC				*e*S			**Sn**	**13 16 48.4**	**-1.2**
	baz=270								
NTC	**Toucheng**	**0.98**	**287**	*e*P		**Pn**	**Pn**	**13 16 35.9**	**+0.3**
	baz=278								
NTC				*e*S			**Sn**	**13 16 49.7**	**-1.0**
	baz=278								
HATJ	**Hateruma jima**	**1.00**	**120**	P		**Pn**	**Pn**	**13 16 36.6**	**+0.7**
HATJ						S	**Sn**	**13 16 52.3**	**+1.1**
NANB	**Nanao**	**1.02**	**263**	*e*P		**Pn**	**Pn**	**13 16 36.3**	**+0.3**
	baz=255								
NANB				*e*S			**Sn**	**13 16 51.4**	**-0.1**
	baz=255								
TIPB	**Shuangxi**	**1.02**	**294**	*e*P		**Pn**	**Pn**	**13 16 36.3**	**+0.2**
	baz=287								
TIPB				*e*S			**Sn**	**13 16 50.7**	**-1.0**
	baz=287								
ENA	**Nanau**	**1.03**	**263**	P		**Pn**	**Pn**	**13 16 36.2**	**+0.1**
	baz=255								
ENA				*e*S			**Sn**	**13 16 51.3**	**-0.4**
	baz=255								
ILA	**

	baz=256					CHN5			eS	Sn	13 17 20.2 +2.3
YHNB	Yeheng	1.35 275	ePn	Pn	13 16 40.2 +0.2		baz=237				
YHNB	Yeheng	1.35 275	eP	Pn	13 16 40.5 +0.5	JMJ	Miyako jima 2	2.23 83	eP	Pn	13 16 52.0 +0.9
	baz=266					JMJ	baz=85		eS	Sn	13 17 18.3 +0.1
YHNB			eS	Sn	13 16 58.0 -0.5	WGK	Gukeng	2.27 248	eP	Pn	13 16 53.4 +1.8
	baz=266					WGK	baz=246		eS	Sn	13 17 20.9 +1.7
NNS	Nan Shan	1.36 265	eP	Pn	13 16 40.3 +0.2	WDLH	Douliu	2.29 248	eP	Pn	13 16 52.7 +0.9
NNS	baz=256		eS	Sn	13 16 58.0 -0.7	WDLH	baz=257		eS	Sn	13 17 22.0 +2.3
	baz=256					JOGS	Gusukube	2.33 85	P	Pn	13 16 53.0 +0.7
ANP	Anpu	1.36 297	eP	Pn	13 16 40.5 +0.4	JOGS			S	Sn	13 17 20.6 +0.1
	baz=285					STYT	Tauyuan	2.38 234	P	Pn	13 16 54.3 +1.3
NTST	Danshui	1.41 295	eP	Pn	13 16 41.2 +0.6	STYT	baz=229		eS	Sn	13 17 22.3 +0.6
NTST	baz=293		eS	Sn	13 16 58.8 -0.9	RLNB	Erlin	2.38 254	eP	Pn	13 16 53.3 +0.3
	baz=293					RLNB	baz=252		eS	Sn	13 17 21.6 -0.1
TWS1	Kuangyinshan	1.41 293	eP	Pn	13 16 41.1 +0.5	TWGBT	Beinan	2.38 223	eP	Pn	13 16 52.6 -0.5
TWS1	baz=283		eS	Sn	13 16 59.2 -0.4	TWGBT	baz=229		S	Sn	13 17 21.7 -0.1
	baz=283					TWG	Pinlang	2.38 224	ePn	Pn	13 16 52.3 -0.8
WLTB	Daxi	1.49 281	eP	Pn	13 16 42.3 +0.8	TWG	Pinlang	2.38 224	eP	Pn	13 16 52.7 -0.4
WLTB	baz=284		eS	Sn	13 17 01.1 -0.2	TWG	baz=229		S	Sn	13 17 21.6 -0.3
	baz=284					TTN	Taitung	2.39 221	eP	Pn	13 16 53.8 +0.6
ESL	Shilin	1.50 240⇑	eP	Pn	13 16 41.2 -0.6	TTN	baz=218		eS	Sn	13 17 21.6 -0.3
ESL	baz=244		eS	Sn	13 17 00.8 -0.8	TPUB	Ta-pu	2.40 239	ePn	Pn	13 16 54.2 +1.0
	baz=244					TPUB	Ta-pu	2.40 239	P	Pn	13 16 54.2 +1.0
WHF	Hehuan Shan	1.51 254	⇑P	Pn	13 16 42.3 0.0	TPUB	baz=231		eS	Sn	13 17 23.6 +1.4
WHF	baz=259		eS	Sn	13 17 01.0 -1.5	CHN4	Tsaushan	2.40 240	eP	Pn	13 16 54.9 +1.6
	baz=259					CHN4	baz=232		eS	Sn	13 17 23.9 +1.8
TWT	Tachien	1.56 259	⇑P	Pn	13 16 43.5 +0.8	CHN2	Minshiung	2.41 245	eP	Pn	13 16 55.6 +2.2
TWT	baz=253		eS	Sn	13 17 03.0 -0.3	CHN2	baz=243		eS	Sn	13 17 25.1 +2.7
	baz=253					WTP	Ta-pu	2.44 238	P	Pn	13 16 55.0 +1.2
NCU	National Centr	1.57 285	eP	Pn	13 16 43.0 +0.4	WTP	baz=230		eS	Sn	13 17 24.8 +1.6
NCU	baz=275		eS	Sn	13 17 03.4 +0.3	WTCT	Ta-ch'eng	2.45 254	eP	Pn	13 16 53.8 -0.1
	baz=275					WTCT	baz=252		eS	Sn	13 17 23.2 -0.2
NCUH	Zhongli	1.57 285	eP	Pn	13 16 42.8 +0.2	CHY	Chiayi	2.46 245	eP	Pn	13 16 55.8 +1.6
NCUH	baz=275		eS	Sn	13 17 02.9 -0.3	CHY	baz=255		eS	Sn	13 17 24.6 +0.8
	baz=275					TWK	Hsinying	2.52 240	eP	Pn	13 16 56.2 +1.3
TDCB	Techi	1.58 259	eP	Pn	13 16 43.5 +0.7	TWK	baz=238		eS	Sn	13 17 25.0 -0.3
TDCB	baz=254		eS	Sn	13 17 02.8 -0.8	CHN1	Nanshi	2.54 238	eP	Pn	13 16 56.2 +1.1
	baz=254					CHN1	baz=245		eS	Sn	13 17 27.0 +1.5
EGFH	Guangfu	1.58 236	eP	Pn	13 16 42.4 -0.4	SNST	Tainan City	2.54 239	eP	Pn	13 16 56.5 +1.4
EGFH	baz=231		eS	Sn	13 17 02.5 -0.9	SNST	baz=237		eS	Sn	13 17 25.9 +0.3
	baz=231					SGST	Jiashian	2.55 235	eP	Pn	13 16 57.0 +1.7
CHGB	Renai	1.61 252	eP	Pn	13 16 43.7 +0.4	SGST	baz=234		eS	Sn	13 17 27.6 +1.8
CHGB	baz=245		eS	Sn	13 17 03.7 -0.8	SLGT	Liugui	2.56 233	eP	Pn	13 16 57.1 +1.8
	baz=245					SLGT	baz=225		eS	Sn	13 17 27.4 +1.3
OWD	Renai	1.65 249	eP	Pn	13 16 43.5 -0.2	WLGB	Puzi	2.58 246	eP	Pn	13 16 55.9 +0.3
OWD	baz=242		eS	Sn	13 17 03.6 -1.6	WLGB	baz=253		eS	Sn	13 17 28.0 +1.6
	baz=242					WSF	Szhu	2.58 250	eP	Pn	13 16 56.2 +0.6
JTJ	Tarama	1.68 87	P	Pn	13 16 44.3 +0.4	WSF	baz=256		eS	Sn	13 17 26.2 -0.3
JTJ			eS	Sn	13 17 05.4 -0.2	ECL	Taimali	2.62 222	P	Pn	13 16 55.6 -0.6
HGSD	Ruisui	1.69 231	eP	Pn	13 16 43.8 -0.3	ECL	baz=221		eS	Sn	13 17 25.2 -2.3
HGSD	baz=227		eS	Sn	13 17 05.2 -0.6	CHN8	Yiju	2.71 244	eP	Pn	13 16 58.0 +0.7
	baz=227					CHN8	baz=242		eS	Sn	13 17 31.4 +2.0
SBCB	Hsinchu	1.72 278	eP	Pn	13 16 45.0 +0.6	CHN3	Shinhua	2.72 238	eP	Pn	13 16 59.9 +2.4
SBCB	baz=276		eS	Sn	13 17 06.0 -0.4	SSD	baz=247 Sandimen	2.73 229	P	Pn	13 16 59.3 +1.7
	baz=276					SSD	baz=228		eS	Sn	13 17 31.7 +1.7
HSN	Hsinchu	1.73 278	eP	Pn	13 16 44.7 +0.1	LAY	Lan-yu	2.79 206	eP	Pn	13 16 57.2 -1.2
EHY	baz=278 Hungye	1.75 233	eP	Pn	13 16 44.4 -0.5	MASBT	baz=206 Mashibuluo	2.82 227	eP	Pn	13 16 59.7 +0.8
EHY	baz=232		eS	Sn	13 17 05.8 -1.5	MASBT	baz=223		eS	Sn	13 17 32.5 +0.4
	baz=232					TWM1	Shoushan	2.83 233	eP	Pn	13 17 00.4 +1.4
VWDT	VWDT	1.76 243	P	Pn	13 16 45.1 +0.1	TAW	baz=232 Tawu	2.84 220	eP	Pn	13 16 58.3 -0.8
VWDT	baz=236		eS	Sn	13 17 06.6 -0.8	TAW	baz=224		eS	Sn	13 17 29.9 -2.7
	baz=236					EAST	baz=224 Anshuo	2.85 221	eP	Pn	13 16 58.8 -0.5
WHP	Taichung City	1.77 261	eP	Pn	13 16 46.4 +1.3	EAST	baz=224		eS	Sn	13 17 31.6 -1.4
WHP	baz=257		eS	Sn	13 17 08.2 +0.5	SSPT	Xinbi	2.95 226	eP	Pn	13 17 02.7 +2.1
	baz=257					SCZT	baz=225 Fangliau	3.00 224	eP	Pn	13 17 02.4 +1.2
YULB	Yu-li	1.84 231	ePn	Pn	13 16 45.7 -0.4	MATB	baz=224 Ma-tsu	3.07 302	eP	Pn	13 17 01.4 -0.8
YULB	Yu-li	1.84 231	eP	Pn	13 16 45.7 -0.4	VWUC	baz=298 VWUC	3.13 279⇑	eP	Pn	13 17 02.4 -0.5
YULB	baz=239		eS	Sn	13 17 07.3 -2.0	PNG	baz=277 Penghu	3.18 252	eP	Pn	13 17 02.9 -0.7
	baz=239					PNG	baz=250		eS	Sn	13 17 39.2 -1.5
TWF1	Yuli	1.87 230	⇑P	Pn	13 16 46.2 -0.2	PHUB	baz=250 P'eng-hu	3.18 251	eP	Pn	13 17 03.0 -0.6
TWF1	baz=238		eS	Sn	13 17 09.2 -0.7	PHUB	baz=249		eS	Sn	13 17 38.8 -2.0
	baz=238					WDGT	baz=249 Dungji	3.20 247	eP	Pn	13 17 03.9 -0.1
NMLH	Miaoli	1.88 270	eP	Pn	13 16 47.1 +0.6	TSEB	baz=246 Hengchuen, Pin	3.21 215	eS	Sn	13 17 41.7 +0.3
NMLH	baz=260		eS	Sn	13 17 09.9 -0.3	HEN	baz=221 Hengchun	3.21 218	eP	Pn	13 17 06.4 +2.4
	baz=260					HEN	baz=218		eS	Sn	13 17 42.6 +1.2
SSLB	Suanglung	1.90 246	ePn	Pn	13 16 46.9 +0.1	TWKBT	Hengchun	3.22 216	eP	Pn	13 17 04.5 +0.4
SSLB	Suanglung	1.90 246	P	Pn	13 16 47.1 +0.3	TWKBT	baz=216		eS	Sn	13 17 41.1 -0.7
SSLB	baz=245		eS	Sn	13 17 10.6 -0.1	TWK1	Hengchun	3.22 216	eP	Pn	13 17 04.4 +0.2
	baz=245					TWK1	baz=216		eS	Sn	13 17 41.7 0.0
SMLT	Sun Moon Lake	1.91 250	eP	Pn	13 16 47.7 +0.7	VCHM	baz=216 Qimei	3.42 247	eP	Pn	13 17 06.5 -0.3
SMLT	baz=244		eS	Sn	13 17 12.3 +1.2	VCHM	baz=237		eS	Sn	13 17 44.3 -2.2
	baz=244					KNM	baz=237 Kinmen	4.03 269	eP	Pn	13 17 16.1 +1.0
TWQ1	Liyutan	1.91 264	eP	Pn	13 16 47.6 +0.7	KNM	baz=266		eS	Sn	13 18 00.8 -0.6
TWQ1	baz=262		eS	Sn	13 17 10.6 -0.3	KNMB	baz=266 Chin-men Tao	4.07 270	eP	Pn	13 17 14.9 -0.7
	baz=262					JOW	baz=268 Kunigami	5.38 64	eS	Sn	13 18 30.1 -4.0
NSY	Sanyi	1.92 266	⇑P	Pn	13 16 47.7 +0.8	JOW	baz=66 Kunigami	5.38 64	Pn	Pn	13 17 31.8 -1.6
NSY	baz=264		eS	Sn	13 17 11.1 +0.1		1.4nm,0.3s,baz=105,slow=16,SNR=43				
	baz=264					SSE	Sheshan	6.67 348	ePn	Pn	13 17 52.1 +1.2
TYC	Yuchr	1.94 251	eP	Pn	13 16 48.1 +0.9	KS15	Wonju Array Si	13.54 17	ePn	P	13 19 27.5 -1.5
TYC	baz=244		eS	Sn	13 17 13.2 +1.7	KSAR	Wonju Array Be	13.54 17	Pn	P	13 19 28.6 -0.3
	baz=244					KSRS	Korea Array	13.56 17	Pn	P	13 19 28.6 -0.6
PTSB	Yuanli	1.96 267	eP	Pn	13 16 48.3 +0.7		0.5nm,0.3s,baz=195,slow=11,SNR=10				
PTSB	baz=265		eS	Sn	13 17 11.4 -0.7	ZAA0	Zalesovo Array	40.77 326	eP	P	13 23 48.3 +1.6
	baz=265						30nm,1.8s				
FULB	Fuli	1.97 227	eP	Pn	13 16 47.3 -0.4	ZALV	Zalesovo Beam	40.77 326	eP	P	13 23 48.1 +1.4
FULB	baz=220		eS	Sn	13 17 11.6 -0.7	WR1	Warramunga Arr	45.63 165	eP	P	13 24 25.9 -0.2
	baz=220						43nm,1.9s				
CHKT	Chengkung	2.00 223	eP	Pn	13 16 47.2 -0.8	WRA	Warramunga Arr	45.63 165	P	P	13 24 25.9 -0.2
CHKT	baz=220		eS	Sn	13 17 10.9 -1.9		1.5nm,0.6s,baz=347,slow=8.7,SNR=29				
	baz=220					AS31	Alice Springs	49.13 167	eP	P	13 24 51.5 -1.8
WHYT	Xinyi Township	2.02 245	eP	Pn	13 16 49.5 +1.0		2.6nm,1.4s				
WHYT	baz=243		eS	Sn	13 17 14.1 +0.5	ASAR	Alice Springs	49.13 167	P	P	13 24 53.4 +0.1
	baz=243						0.4nm,0.3s,baz=349,slow=6.9,SNR=12				
TCU	Taichung	2.03 259	eP	Pn	13 16 49.2 +0.8						
TCU	baz=266		eS	Sn	13 17 14.2 +0.5						
	baz=266										
WDJ	Dajia District	2.03 264	eP	Pn	13 16 49.1 +0.7						
WDJ	baz=262		eS	Sn	13 17 13.6 -0.1						
	baz=262										
WJS	Zhushan	2.08 250	eP	Pn	13 16 50.5 +1.4						
WJS	baz=248		eS	Sn	13 17 16.0 +1.3						
	baz=248										
WNT	Mingjian	2.10 251	eP	Pn	13 16 50.5 +1.2						
WNT	baz=249		eS	Sn	13 17 17.2 +2.1						
	baz=249										
JIRB	Irabujima	2.12 82	P	Pn	13 16 49.7 +0.1						
JIRB			S	Sn	13 17 16.0 +0.3						
ALS	Alishan	2.15 241	P	Pn	13 16 50.9 +0.6						
ALS	baz=234		eS	Sn	13 17 18.2 +1.4						
	baz=234										
WCHH	Zhanghua	2.15 258	eP	Pn	13 16 50.5 +0.6						
WCHH	baz=263		eS	Sn	13 17 17.0 +0.6						
	baz=263										
ELDTW	Lidau	2.17 231	eP	Pn	13 16 50.1 -0.3						
ELDTW	baz=226		eS	Sn	13 17 14.9 -2.1						
	baz=226										
JIKM	Ikemajima	2.20 80	P	Pn	13 16 51.3 +0.6						
JIKM			S	Sn	13 17 17.5 -0.1						
CHN5	Tsauling	2.21 245	eP	Pn	13 16 52.0 +1.1						
	baz=237										

*ISCJB **26** 13:21:08.7±0.4,24°.38N±0°.04×122°.93E±0°.02,h61km±6km, Error ellipse: s-maj=6.0km s-min=2.7km az=177.0*
*JMA **26** 13:21:08.3±0.1,24°.38N×122°.92E,h68km±1km,M2.1*
*TAP **26** 13:21:08.0,24°.41N×122°.97E,h69km,ML2.9,D*
ISC 26 13:21:09.2±1.3,24°.38N±0°.05×122°.94E±0°.03,h61km±8km, n63,σ1§05/115,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.08	7	P		Pn	13 21 18.3	0.0
JYNG				S		Sn	13 21 25.7	+0.8
YOJ	Yonaguni jima	0.11	39	P		Pn	13 21 18.3	-0.1
YOJ	baz=29			S		Sn	13 21 25.8	+0.7
YOJ	Yonaguni jima	0.11	39	P		Pn	13 21 18.4	-0.1
YOJ				S		Sn	13 21 25.6	+0.5
IRIF	Iriomote-Funau	0.73	93	P		Pn	13 21 23.7	-0.1
IRIF				S		Sn	13 21 34.9	+0.3
EOS1	EOS1	0.76	283	P		Pn	13 21 23.8	-0.3
EOS1	baz=288			S		Sn	13 21 35.3	+0.2
JKRS	Kuro-shima	0.99	98	P		Pn	13 21 27.5	+0.4
JKRS				S		Sn	13 21 41.4	+1.0
TWC	Suao	1.02	283	P		Pn	13 21 27.0	-0.4
TWC	baz=282			eS		Sn	13 21 40.1	-0.9
NANB	Nanao	1.08	273	P		Pn	13 21 28.3	0.0
NANB	baz=278			eS		Sn	13 21 42.6	+0.1
ENA	Nanau	1.09	273	eP		Pn	13 21 28.8	+0.4
ENA	baz=278			eS		Sn	13 21 42.0	-0.8
JIJ	Ishigaki jima	1.10	90	P		Pn	13 21 28.2	-0.4
JIJ				S		Sn	13 21 42.5	-0.6
NTC	Toucheng	1.11	296	eS		Sn	13 21 41.7	-1.6
TIPB	baz=294 Shuangxi	1.17	301	eP		Pn	13 21 29.1	-0.5
TIPB	baz=299			eS		Sn	13 21 42.9	-1.8
TWE	Neicheng	1.21	287	P		Pn	13 21 30.1	+0.1
TWE	baz=291			eS		Sn	13 21 44.3	-1.2
NACB	Ninganchiao	1.24	261	P		Pn	13 21 29.8	-0.6
NACB	baz=261			eS		Sn	13 21 45.6	-0.7
SLBB	Yuanshan	1.24	288	eP		Pn	13 21 30.4	-0.1
TWD	baz=292 Chiawan	1.26	257	eS		Sn	13 21 45.7	-1.0
JISG	baz=257 Ishigakijimahi	1.27	80	P		Pn	13 21 30.2	-0.6
JISG				S		Sn	13 21 46.2	-0.8
ENTT	Nioudou	1.27	282	P		Pn	13 21 31.4	+0.5
ENTT	baz=289			eS		Sn	13 21 47.3	+0.1
NDT	Datong Townshi	1.31	280	eP		Pn	13 21 31.9	+0.5
NDT	baz=286			eS		Sn	13 21 47.6	-0.5
ETLH	Xiulin Townshi	1.34	263	P		Pn	13 21 31.2	-0.6
ETLH	baz=263			eS		Sn	13 21 48.0	-0.8
NWLT	Wulai	1.36	287	eP		Pn	13 21 32.1	-0.1
NWLT	baz=287			eS		Sn	13 21 48.4	-0.9
NNSB	Datong	1.42	272	eP		Pn	13 21 32.5	-0.4
NNSB	baz=272			eS		Sn	13 21 50.2	-0.5
NNS	Nan Shan	1.43	273	eP		Pn	13 21 32.7	-0.3
NNS	baz=273			eS		Sn	13 21 50.3	-0.6
YHNB	Yeheng	1.45	282	P		Pn	13 21 33.7	+0.4
YHNB	baz=282			eS		Sn	13 21 51.5	+0.1
ESL	Shilin	1.48	248	eP		Pn	13 21 32.7	-0.9
ESL	baz=241			eS		Sn	13 21 50.5	-1.6
WHF	Hehuan Shan	1.54	262	eS		Sn	13 21 53.5	-0.7
EGFH	baz=262 Guangfu	1.55	243	P		Pn	13 21 33.8	-0.8
EGFH	baz=244			eS		Sn	13 21 52.9	-0.8
TDCB	Techi	1.62	266	eP		Pn	13 21 35.8	0.0
TDCB	baz=266			eS		Sn	13 21 55.2	-0.5
JTJ	Tarama	1.63	80	P		Pn	13 21 35.5	-0.2
JTJ				S		Sn	13 21 55.4	-0.3
CHGB	Renai	1.64	259	eP		Pn	13 21 35.8	-0.2
CHGB	baz=251			eS		Sn	13 21 54.4	-1.8
HGSD	Ruisui	1.64	238	eP		Pn	13 21 34.9	-0.9
HGSD	baz=238			eS		Sn	13 21 55.5	-0.4
OWD	Renai	1.66	256	eP		Pn	13 21 35.8	-0.4
OWD	baz=256			eS		Sn	13 21 55.0	-1.6
EHY	Hungye	1.71	240	P		Pn	13 21 36.3	-0.5
EHY	baz=251			eS		Sn	13 21 55.8	-1.9
VWDT	VWDT	1.75	250	eP		Pn	13 21 37.6	+0.3
VWDT	baz=250			eS		Sn	13 21 57.2	-1.4
YULB	Yu-li	1.79	237	P		Pn	13 21 37.2	-0.6
YULB	baz=249			eS		Sn	13 21 57.5	-2.1
TWF1	Yuli	1.81	236	P		Pn	13 21 37.8	-0.4
TWF1	baz=237			eS		Sn	13 21 59.2	-0.9
WHP	Taichung City	1.82	267	eP		Pn	13 21 39.2	+1.0
WHP	baz=261			eS		Sn	13 22 00.8	+0.5
SSLB	Suanglung	1.90	252	eP		Pn	13 21 39.1	-0.3
SSLB	baz=260			eS		Sn	13 22 01.4	-0.9
FULB	Fuli	1.91	232	P		Pn	13 21 38.6	-0.8
FULB	baz=224			eS		Sn	13 22 01.1	-1.3
CHKT	Chengkung	1.92	229	eP		Pn	13 21 38.0	-1.6
CHKT	baz=221			eS		Sn	13 22 01.1	-1.6
SMLT	Sun Moon Lake	1.92	256	eP		Pn	13 21 40.0	+0.3
SMLT	baz=256			eS		Sn	13 22 03.0	+0.1

TYC	**Yuchr**	**1.96**	**257**	*e*P	**Pn**	**13**	**21**	**40.4**	**+0.3**
	baz=250								
TYC				*e*S	**Sn**	**13**	**22**	**05.2**	**+1.7**
	baz=250								
WHYT	**Xinyi Township**	**2.02**	**251**	*e*P	**Pn**	**13**	**21**	**41.6**	**+0.6**
	baz=246								
WHYT				*e*S	**Sn**	**13**	**22**	**05.9**	**+0.7**
	baz=246								
WJS	**Zhushan**	**2.09**	**255**	*e*P	**Pn**	**13**	**21**	**42.1**	**+0.2**
	baz=251								
WJS				*e*S	**Sn**	**13**	**22**	**08.2**	**+1.3**
	baz=251								
WNT	**Mingjian**	**2.12**	**257**	*e*S	**Sn**	**13**	**22**	**09.2**	**+1.8**
	baz=258								
ELDTW	**Lidau**	**2.12**	**236**	*e*P	**Pn**	**13**	**21**	**41.8**	**-0.6**
	baz=237								
CHN5	**Tsauling**	**2.21**	**250**	P	**Pn**	**13**	**21**	**44.8**	**+1.3**
	baz=251								
CHN5				*e*S	**Sn**	**13**	**22**	**10.7**	**+1.0**
	baz=251								
WDLH	**Douliu**	**2.29**	**253**	*e*P	**Pn**	**13**	**21**	**44.8**	**+0.1**
	baz=245								
WDLH				*e*S	**Sn**	**13**	**22**	**14.0**	**+2.1**
	baz=245								
STYT	**Tauyuan**	**2.33**	**239**	*e*P	**Pn**	**13**	**21**	**45.2**	**0.0**
	baz=240								
STYT				*e*S	**Sn**	**13**	**22**	**13.2**	**+0.4**
	baz=240								
TPUB	**Ta-pu**	**2.37**	**244**	*e*P	**Pn**	**13**	**21**	**46.6**	**+0.9**
	baz=243								
TPUB				*e*S	**Sn**	**13**	**22**	**15.2**	**+1.5**
	baz=243								
CHN4	**Tsaushan**	**2.37**	**245**	*e*P	**Pn**	**13**	**21**	**47.2**	**+1.4**
	baz=246								
CHN4				*e*S	**Sn**	**13**	**22**	**15.4**	**+1.6**
	baz=246								
RLNB	**Erlin**	**2.40**	**259**	*e*S	**Sn**	**13**	**22**	**15.8**	**+1.4**
	baz=260								
WTP	**Ta-pu**	**2.41**	**243**	*e*P	**Pn**	**13**	**21**	**47.8**	**+1.6**
	baz=244								
WTP				*e*S	**Sn**	**13**	**22**	**16.4**	**+1.8**
	baz=244								
TWK	**Hsinying**	**2.50**	**244**	*e*P	**Pn**	**13**	**21**	**48.7**	**+1.2**
	baz=245								
TWK				*e*S	**Sn**	**13**	**22**	**19.7**	**+2.8**
	baz=245								
CHN1	**Nanshi**	**2.50**	**242**	*e*P	**Pn**	**13**	**21**	**48.8**	**+1.3**
	baz=244								
CHN1				*e*S	**Sn**	**13**	**22**	**19.0**	**+2.1**
	baz=244								
SLGT	**Liugui**	**2.51**	**237**	*e*P	**Pn**	**13**	**21**	**48.5**	**+0.9**
	baz=234								
SLGT				*e*S	**Sn**	**13**	**22**	**18.9**	**+1.8**
	baz=234								
SGST	**Jiashian**	**2.51**	**240**	*e*P	**Pn**	**13**	**21**	**49.5**	**+1.9**
	baz=240								
SNST	**Tainan City**	**2.51**	**243**	*e*P	**Pn**	**13**	**21**	**49.2**	**+1.5**
	baz=245								
SNST				*e*S	**Sn**	**13**	**22**	**18.9**	**+1.8**
	baz=245								
ECL	**Taimali**	**2.54**	**226**	*e*P	**Pn**	**13**	**21**	**47.0**	**-1.1**
	baz=236								
ECL				*e*S	**Sn**	**13**	**22**	**15.8**	**-2.0**
	baz=236								
SSD	**Sandimen**	**2.66**	**233**	*e*P	**Pn**	**13**	**21**	**50.6**	**+0.9**
	baz=229								
MASBT	**Mashibuluo**	**2.75**	**231**	*e*P	**Pn**	**13**	**21**	**51.3**	**+0.4**
	baz=226								
MASBT				*e*S	**Sn**	**13**	**22**	**22.1**	**-0.8**
	baz=226								
EAST	**Anshuo**	**2.76**	**224**	*e*P	**Pn**	**13**	**21**	**50.2**	**-0.8**
	baz=232								
SSPT	**Xinbi**	**2.88**	**230**	*e*P	**Pn**	**13**	**21**	**54.1**	**+1.5**
	baz=227								

IDC 26 13:25:21.4±28.0, 22°26S×173°05W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/35, mbtmp3.9/4, Error ellipse: s-maj=518.7km s-min=158.8km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.94**	**266**	P	P	13 32 42.0	+1.0
	4.5nm,0.9s,baz=84,slow=9.2,SNR=5.9						
STKA	**Stephens Creek**	**41.26**	**247**	P	P	13 33 07.0	-1.6
	0.9nm,0.6s,baz=73,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**48.63**	**258**	P	P	13 34 07.1	-0.4
	0.4nm,0.8s,baz=96,slow=6.7,SNR=7.2						
WRA	**Warramunga Arr**	**48.94**	**262**	P	P	13 34 10.1	+0.2
	1.0nm,0.6s,baz=98,slow=8.6,SNR=9.2						

*IDC **26** 13:25:57.1±1.2, 16°10N×98°19W, h0km, mb4.3/12, mb1 4.4/14, mb1mx4.2/47, mbtmp4.2/14, ML3.3/2, MS4.0/4, Ms1 4.0/4, ms1mx3.5/34, Error ellipse: s-maj=30.5km s-min=19.9km az=42.0*

*ISCJB **26** 13:25:59.0±0.4, 16°32N±0°05×98°12W±0°02, h16km, mb4.6/136, MS3.9/2, Error ellipse: s-maj=7.0km s-min=2.9km az=6.6*

*MEX **26** 13:25:58.9±0.6, 15°87N×98°28W, h10km±13km, MD4.7*

*NEIC **26** 13:25:59.4±0.3, 16°35N×98°04W, h10km, mb4.6/150, MD4.7(MEX), Error ellipse: s-maj=5.8km s-min=3.3km az=195.0*

NEIC Felt at Pinotepa Nacional.

ISC 26 13:25:59.0±0.6, 16°15N±0°06×98°19W±0°05, h16km, n491, σ1s03/485, mb4.7/136, MS4.0/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.45**	**346**	*e*Pn	**Pn**	**13 26 23.8**	**-1.0**
TLIG	**Tlapa**	**1.45**	**346**	*e*P	**Pb**	**13 26 25.6**	**-0.1**
TLIG				*i* S	**Sg**	**13 26 46.0**	**0.0**
VHO	**Vista Hermosa**	**1.67**	**56**	*e*P	**Pn**	**13 26 28.7**	**+0.9**
VHO	**Vista Hermosa**	**1.67**	**56**	*e*P	**Pn**	**13 26 28.7**	**+0.9**
VHO				*i* S	**Sb**	**13 26 51.6**	**+1.1**
HUIG	**Huatulco**	**2.04**	**100**	*e*P	**Pn**	**13 26 32.5**	**-0.2**
HUIG	**Huatulco**	**2.04**	**100**	*e*P	**Pn**	**13 26 30.5**	**-2.2**
HUIG				*i* S	**Sn**	**13 26 55.1**	**-2.7**
CAIG	**El Cayaco**	**2.18**	**294**	*e*P	**Pn**	**13 26 33.3**	**-1.3**
CAIG	**El Cayaco**	**2.18**	**294**	*e*P	**Pn**	**13 26 33.3**	**-1.3**
UNM	**Universidad Na**	**3.30**	**344**	*e*Pn	**Pn**	**13 26 51.6**	**+1.2**
CMIG	**Matias Romero**	**3.31**	**73**	*e*P	**Pn**	**13 26 56.6**	**-0.6**
CMIG				Lg	Lg	13 27 49.9	
CMIG	**Matias Romero**	**3.31**	**73**	*i* P	**Pn**	**13 26 50.8**	**+0.6**
CMIG				*i* S	**Sn**	**13 27 29.8**	**+0.7**
CMIG	**Matias Romero**	**3.31**	**73**	Pn	**Pn**	**13 26 50.9**	**+0.8**
	2.3nm,0.3s,baz=263,slow=14,SNR=36						
CMIG				Lg	Lg	13 27 49.9	
	80nm,0.3s,baz=249,slow=4.0,SNR=31						
LVIG	**Laguna Verde**	**3.94**	**25**	*e*Pn	**Pn**	**13 26 56.3**	**-2.5**
MOIG	**Morelia**	**4.53**	**321**	*e*Pn	**Pn**	**13 27 10.0**	**+2.9**
CCIG	**Comitan**	**5.82**	**88**	*e*Pn	**Pn**	**13 27 26.5**	**+1.7**
ZAIG	**Zacatecas**	**7.77**	**329**	*e*Pn	**Pn**	**13 27 53.4**	**+1.6**
LNIG	**Linares**	**8.79**	**352**	*e*Pn	**Pn**	**13 28 03.3**	**-2.1**
MYIG	**Mrida**	**9.33**	**58**	*e*Pn	**Pn**	**13 28 11.0**	**-1.9**
833A	**Chaparral WMA,**	**12.17**	**355**	*e*Pn	**Pn**	**13 28 49.4**	**-2.4**
833A	**Chaparral WMA,**	**12.17**	**355**	P	**Pn**	**13 28 49.4**	**-2.4**
	baz=174						
H06E1	**SOCORRO T-PHAS**	**12.43**	**284**	T	T	13 41 09.6	
	SNR=70						
H06S1	**SOCORRO T**	**12.45**	**284**	T	T	13 41 13.7	
	SNR=12						
H06N1	**SOCORRO T-PHAS**	**12.50**	**284**	T	T	13 41 15.8	
	SNR=4.7						
HKT	**Hockley**	**13.91**	**9**	*e*Pn	**Pn**	**13 29 12.7**	**-2.8**
TXAR	**Lajitas Array**	**14.06**	**340**	Pn	**Pn**	**13 29 19.4**	**+1.7**
	0.0nm,0.3s,baz=160,slow=15,SNR=9.9						
TXAR				Lg	Lg	13 33 28.1	
	0.0nm,0.3s,baz=163,slow=14,SNR=4.0						
TXAR				LR	LR	13 35 23.9	
	comp=Z,526nm,21.3s,baz=0.0,slow=40						
TX31	**Lajitas Ar. Si**	**14.06**	**340**	*e*Pn	**Pn**	**13 29 18.1**	**+0.4**
JTS	**JuntasAbangare**	**14.14**	**113**	*e*Pn	**Pn**	**13 29 19.7**	**+0.9**
JCT	**Junction City**	**14.34**	**354**	*e*Pn	**Pn**	**13 29 18.6**	**-2.9**
JCT	**Junction City**	**14.34**	**354**	P	**Pn**	**13 29 20.6**	**-0.9**
	baz=173						
435B	**Jarrell**	**14.58**	**2**	*e*Pn	**Pn**	**13 29 23.1**	**-1.6**
WHTX	**Lake Whitney,**	**15.79**	**2**	*e*Pn	**Pn**	**13 29 38.7**	**-2.0**
	39nm,0.9s						
WHTX	**Lake Whitney,**	**15.79**	**2**	P	**Pn**	**13 29 39.2**	**-1.5**
	baz=182,SNR=7.0						
NATX	**Nacogdoches**	**15.87**	**11**	*e*Pn	**Pn**	**13 29 40.4**	**-1.4**
	40nm,0.9s						
ABTX	**Abilene, Hawle**	**16.46**	**356**	*e*Pn	**Pn**	**13 29 48.1**	**-1.2**
	81nm,1.0s						
ABTX	**Abilene, Hawle**	**16.46**	**356**	P	**Pn**	**13 29 48.6**	**-0.8**
	baz=174,SNR=10.0						
MNTX	**Cornudas Mount**	**16.81**	**338**	*e*Pn	**Pn**	**13 29 53.9**	**+0.1**
	14nm,1.3s						
MNTX	**Cornudas Mount**	**16.81**	**338**	P	**Pn**	**13 29 54.0**	**+0.1**
	baz=155,SNR=6.5						
CLNB	**Carlsbad**	**16.86**	**343**	*e*Pn	**Pn**	**13 29 54.1**	**-0.4**
GDL2	**Guadalupe Moun**	**16.94**	**342**	*e*Pn	**Pn**	**13 29 56.4**	**+0.9**
HSIG		**17.38**	**320**	*e*Pn	**P**	**13 30 02.3**	**0.0**
	21nm,1.1s						
VBMS	**Vicksburg**	**17.45**	**22**	*e*Pn	**Pn**	**13 29 59.4**	**-2.4**
	36nm,0.9s						
Z41A	**Richland Creek**	**17.72**	**15**	*e*Pn	**Pn**	**13 30 03.1**	**-2.0**
	118nm,1.7s						
WLAR	**White Oak Lake**	**18.06**	**14**	*e*Pn	**Pn**	**13 30 05.6**	**-3.7**
	33nm,1.0s						
MSTX	**Muleshoe**	**18.22**	**348**	*e*Pn	**Pn**	**13 30 10.4**	**-1.0**
	28nm,1.0s						
MSTX	**Muleshoe**	**18.22**	**348**	P	**Pn**	**13 30 10.8**	**-0.6**
	baz=165,SNR=6.1						
319A	**Douglas**	**18.22**	**328**	*e*Pn	**Pn**	**13 30 10.5**	**-1.0**
	18nm,0.7s						
121A	**Cookes Peak, D**	**18.49**	**334**	P	**Pn**	**13 30 15.8**	**+1.1**
	baz=149,SNR=12						
WMOK	**Wichita Mounta**	**18.52**	**358**	*e*Pn	**P**	**13 30 12.9**	**-1.9**
	9.3nm,0.8s						
WMOK	**Wichita Mounta**	**18.52**	**358**	P	**P**	**13 30 13.7**	**-1.1**
	baz=178						
147A	**Livingston**	**18.75**	**27**	P	**Pn**	**13 30 17.9**	**+0.2**
	baz=211						
MIAR	**Mount Ida**	**18.78**	**12**	*e*P	**P**	**13 30 15.8**	**-1.9**
	18nm,0.9s						
MIAR	**Mount Ida**	**18.78**	**12**	P	**P**	**13 30 17.4**	**-0.2**
	baz=194,SNR=5.2						
AMTX	**Amarillo**	**18.92**	**351**	*e*P	**P**	**13 30 17.9**	**-1.3**
	29nm,1.1s						
AMTX	**Amarillo**	**18.92**	**351**	P	**P**	**13 30 19.2**	**0.0**
	baz=169						
W39A	**Magazine**	**19.38**	**11**	P	**P**	**13 30 24.6**	**+0.5**
	baz=192,SNR=8.8						
BNM	**Barren Site**	**19.47**	**339**	*e*P	**P**	**13 30 26.2**	**+0.8**
LENM	**Lemitar**	**19.61**	**338**	*e*P	**P**	**13 30 27.1**	**+0.2**
LRAL	**Lakeview Retre**	**19.63**	**29**	*e*P	**P**	**13 30 27.3**	**+0.5**
	12nm,0.9s						
LRAL	**Lakeview Retre**	**19.63**	**29**	P	**P**	**13 30 27.5**	**+0.6**
	baz=214,SNR=5.2						
TUC	**Tucson**	**19.74**	**327**	*e*P	**P**	**13 30 28.8**	**+0.6**
	6.6nm,1.0s						
TUC	**Tucson**	**19.74**	**327**	P	**Pn**	**13 30 30.0**	**+0.3**
	baz=141						
150A	**Eclectic**	**19.75**	**32**	P	**P**	**13 30 29.1**	**+0.8**
	baz=217						
060A	**Indiantown**	**19.78**	**54**	*e*P	**P**	**13 30 26.1**	**-2.5**
	116nm,0.7s						
TUL1	**Leonard**	**19.80**	**6**	*e*P	**P**	**13 30 27.6**	**-1.2**
	24nm,0.8s						
MTDJ	**Mount Denham**	**19.84**	**81**	*e*P	**P**	**13 30 29.4**	**-0.1**
	61nm,1.3s						
OXF	**Oxford**	**19.92**	**22**	P	**P**	**13 30 29.3**	**-0.7**
	38nm,1.1s						
OXF	**Oxford**	**19.92**	**22**	P	**P**	**13 30 30.1**	**+0.1**
	baz=205						
Z49A	**Columbiana**	**19.98**	**30**	P	**P**	**13 30 31.0**	**+0.3**
	baz=214,SNR=5.2						
151A	**Opelika**	**20.05**	**33**	P	**P**	**13 30 32.3**	**+0.8**
	baz=218,SNR=6.3						
ANMO	**Albuquerque**	**20.13**	**340**	*e*P	**P**	**13 30 33.7**	**+1.1**
	19nm,0.8s						
ANMO	**Albuquerque**	**20.13**	**340**	P	**P**	**13 30 33.7**	**+1.1**
	baz=156						
ANMO	**Albuquerque**	**20.13**	**340**	P	Pn	13 30 34.2	-0.3
	15nm,0.8s,baz=144,slow=12,SNR=41						
ANMO				LR	LR	13 39 00.4	
	comp=Z,856nm,18.2s,baz=136,slow=39						
TASM	**ASL Pad, Albuq**	**20.13**	**340**	P	**P**	**13 30 33.3**	**+0.6**
	baz=156,SNR=27						
TASM	**ASL Pad, Albuq**	**20.13**	**340**	P	Pn	13 30 34.1	-0.4
	baz=156,SNR=26						
X46A	**Booneville**	**20.26**	**23**	P	**P**	**13 30 34.5**	**+0.8**
	baz=207						
Y48A	**Jasper**	**20.29**	**27**	P	**P**	**13 30 34.8**	**+0.8**
	baz=212						
Z50A	**Ashland**	**20.32**	**31**	*e*P	**P**	**13 30 34.0**	**-0.5**
	21nm,1.0s						
Z50A	**Ashland**	**20.32**	**31**	P	**P**	**13 30 35.3**	**+0.8**
	baz=216,SNR=5.8						
HHAR	**Hobbs**	**20.41**	**10**	*e*P	**P**	**13 30 34.6**	**-0.7**
	21nm,0.9s						
658A	**Bunnell**	**20.42**	**47**	*e*P	**P**	**13 30 33.8**	**-1.7**
	126nm,1.2s						
X47A	**Russellville**	**20.51**	**25**	P	**P**	**13 30 36.9**	**+0.4**
	baz=209						
Y49A	**Blount Mountai**	**20.58**	**29**	P	**P**	**13 30 37.9**	**+0.6**
	baz=214						
214A	**Organ Pipe Nat**	**20.60**	**322**	P	Pn	13 30 39.3	-0.5
	baz=136,SNR=14						
U40A	**Yellville**	**20.68**	**12**	P	**P**	**13 30 38.5**	**+0.2**
	baz=194,SNR=15						
X48A	**Hartselle**	**20.80**	**27**	*e*P	**P**	**13 30 37.5**	**-2.0**
	105nm,2.0s						
X48A	**Hartselle**	**20.80**	**27**	P	**P**	**13 30 39.0**	**-0.6**
	baz=211						
PLAL	**Pickwick Lake**	**20.83**	**24**	*e*P	**P**	**13 30 38.4**	**-1.6**
	24nm,0.8s						
W46A	**Michie**	**20.85**	**23**	P	**P**	**13 30 41.5**	**+1.3**
	baz=207,SNR=5.1						
U41A	**Viola**	**20.88**	**14**	P	**P**	**13 30 40.4**	**0.0**
	baz=197,SNR=5.9						
Z52A	**Williamson**	**21.05**	**34**	P	**P**	**13 30 42.3**	**0.0**
	baz=219						
X18A	**Snowflake**	**21.13**	**332**	*e*P	**P**	**13 30 44.7**	**+1.2**
	51nm,1.3s						
X49A	**Woodville**	**21.17**	**28**	P	**P**	**13 30 43.9**	**+0.4**
	baz=213,SNR=8.4						
W47A	**Westpoint**	**21.26**	**25**	P	**P**	**13 30 44.1**	**-0.4**
	baz=209						
Y51A	**Rockmart**	**21.27**	**31**	P	**P**	**13 30 44.9**	**+0.2**
	baz=217,SNR=5.2						
W48A	**Pulaski**	**21.43**	**26**	P	**P**	**13 30 46.0**	**-0.5**
	baz=211						
X50B	**Fort Payne**	**21.44**	**29**	P	**P**	**13 30 46.9**	**+0.4**
	baz=215						
W18A	**Petrified Fore**	**21.54**	**333**	P	**P**	**13 30 49.4**	**+1.7**
	baz=148						
V46A	**Holladay**	**21.54**	**23**	P	**P**	**13 30 47.1**	**-0.5**
	baz=207,SNR=13						
Z53A	**Monticello**	**21.57**	**35**	P	**P**	**13 30 48.5**	**+0.5**
	baz=221,SNR=7.4						
T25A	**Trinidad**	**21.62**	**346**	*e*P	**P**	**13 30 49.0**	**+0.2**
	211nm,1.9s						
T25A	**Trinidad**	**21.62**	**346**	P	**P**	**13 30 50.4**	**+1.6**
	baz=163,SNR=20						
W49A	**Belvidere**	**21.70**	**27**	P	**P**	**13 30 49.6**	**+0.3**
	baz=212,SNR=7.4						
GOGA	**Godfrey**	**21.73**	**35**	*e*P	**P**	**13 30 47.6**	**-2.0**
	28nm,0.9s						
GOGA	**Godfrey**	**21.73**	**35**	P	**P**	**13 30 49.7**	**+0.1**
	baz=221,SNR=7.2						
X16A	**Lo Mia Camp, P**	**21.74**	**329**	*e*P	**P**	**13 30 51.1**	**+1.1**
	23nm,0.9s						
Y52A	**Lilburn**	**21.75**	**33**	*e*P	**P**	**13 30 48.8**	**-1.2**
	40nm,0.9s						
Y52A	**Lilburn**	**21.75**	**33**	P	**P**	**13 30 50.1**	**+0.2**
	baz=219,SNR=7.3						
V47A	**Nunnelly**	**21.79**	**24**	P	**P**	**13 30 49.3**	**-1.0**
	baz=208						
X51A	**Calhoun**	**21.90**	**31**	P	**P**	**13 30 51.8**	**+0.3**
	baz=216						
SWET	**Sewanee**	**21.93**	**28**	*e*P	**P**	**13 30 51.1**	**-0.7**
	45nm,1.0s						
WVT	**Waverly**	**21.94**	**23**	*e*P	**P**	**13 30 50.3**	**-1.5**
	41nm,0.8s						
WVT	**Waverly**	**21.94**	**23**	P	**P**	**13 30 51.4**	**-0.4**
	baz=207						
Z54A	**Sparta**	**21.95**	**36**	P	**P**	**13 30 51.9**	**-0.2**
	baz=223,SNR=6.7						
V48A	**Smith Brothers**	**21.99**	**25**	*e*P	**P**	**13 30 50.9**	**-1.6**
	37nm,1.3s						
V48A	**Smith Brothers**	**21.99**	**25**	P	**P**	**13 30 52.2**	**-0.3**
	baz=210						
T43A	**Greenville**	**22.00**	**17**	P	**P**	**13 30 52.1**	**-0.4**
	baz=200,SNR=6.9						
Y53A	**Monroe**	**22.00**	**34**	P	**P**	**13 30 52.5**	**-0.1**
	baz=220,SNR=7.8						
S41A	**Jillco Farms,**	**22.10**	**14**	P	**P**	**13 30 53.3**	**-0.3**
	baz=196,SNR=15						
W50A	**Signal Mountai**	**22.20**	**29**	*e*P	**P**	**13 30 53.4**	**-1.3**
	42nm,0.9s						
W50A	**Signal Mountai**	**22.20**	**29**	P	**P**	**13 30 54.7**	**0.0**
	baz=214,SNR=11						
GTBY	**Guantanamo Bay**	**22.26**	**77**	*e*P	**P**	**13 30 56.4**	**+1.0**
	68nm,1.1s						
156A	**Sylvania**	**22.34**	**40**	P	**P**	**13 30 57.7**	**+1.5**
	baz=226						
V49A	**McMinnville**	**22.41**	**27**	P	**P**	**13 30 56.6**	**-0.3**
	baz=212,SNR=6.8						
X52A	**Dahlonega**	**22.41**	**32**	P	**P**	**13 30 57.3**	**+0.3**
	baz=218						
U47A	**Clarksville**	**22.42**	**24**	P	**P**	**13 30 56.3**	**-0.7**
	baz=208,SNR=6.4						
W51A	**Cleveland**	**22.43**	**30**	P	**P**	**13 30 57.2**	**+0.1**
	baz=216						
SDCO	**Great Sand Dun**	**22.46**	**345**	*e*P	**P**	**13 30 57.2**	**-0.6**
	20nm,1.0s						
SDCO	**Great Sand Dun**	**22.46**	**345**	P	**P**	**13 30 58.2**	**+0.3**
	baz=161,SNR=12						
Y54A	**Tignall**	**22.50**	**36**	P	**P**	**13 30 57.8**	**-0.1**
	baz=222,SNR=13						
S42A	**Caledonia**	**22.51**	**15**	P	**P**	**13 30 57.2**	**-0.8**
	baz=199,SNR=7.5						
S43A	**Fulton Ridge,**	**22.51**	**17**	P	**P**	**13 30 57.1**	**-1.0**
	baz=200						
GLA	**Glamis**	**22.57**	**321**	*e*P	**P**	**13 31 00.1**	**+1.3**
	8.4nm,0.8s						
GLA	**Glamis**	**22.57**	**321**	P	**P**	**13 31 00.8**	**+2.0**
	baz=134						
WUAZ	**Wupatki**	**22.60**	**331**	*e*P	**P**	**13 30 59.8**	**+0.6**
	20nm,0.8s						
WUAZ	**Wupatki**	**22.60**	**331**	P	**P**	**13 31 00.2**	**+1.0**
	baz=145,SNR=16						
CBKS	**Cedar Bluff**	**22.62**	**357**	*e*P	**P**	**13 30 57.7**	**-1.5**
	24nm,0.8s						
X53A	**Estanollee**	**22.65**	**33**	P	**P**	**13 30 59.3**	**-0.2**
	baz=220,SNR=7.0						
CCM	**Cathedral Cave**	**22.67**	**14**	*e*P	**P**	**13 30 58.0**	**-1.7**
	17nm,0.9s						
CCM	**Cathedral Cave**	**22.67**	**14**	P	**P**	**13 30 59.0**	**-0.7**
	baz=197						
V50A	**Pikevile**	**22.69**	**29**	P	**P**	**13 30 59.7**	**-0.2**
	baz=214						
T46A	**Princeton**	**22.73**	**22**	P	**P**	**13 31 00.8**	**+0.5**
	baz=206,SNR=6.0						
U48A	**Cassie Pea, Po**	**22.77**	**25**	P	**P**	**13 31 00.6**	**-0.2**
	baz=210,SNR=9.7						
W52A	**Murphy**	**22.78**	**31**	P	**P**	**13 31 01.2**	**+0.3**
	baz=218,SNR=5.1						
S22A	**4UR Ranch, Cre**	**22.83**	**342**	*e*P	**P**	**13 31 02.4**	**+0.7**
	14nm,0.9s						
S22A	**4UR Ranch, Cre**	**22.83**	**342**	P	**P**	**13 31 02.5**	**+0.8**
	baz=158,SNR=20						
R41A	**Rosebud**	**22.86**	**14**	P	**P**	**13 31 00.7**	**-1.0**
	baz=197,SNR=7.2						
S44A	**Carbondale**	**22.87**	**18**	P	**P**	**13 31 02.9**	**+1.1**
	baz=202,SNR=9.6						
Z56A	**Williston**	**22.88**	**39**	P	**P**	**13 31 02.5**	**+0.6**
	baz=226						
MVCO	**Mesa Verde**	**22.88**	**338**	*e*P	**P**	**13 31 02.2**	**0.0**
	40nm,1.1s						
MVCO	**Mesa Verde**	**22.88**	**338**	P	**P**	**13 31 02.9**	**+0.7**
	baz=153,SNR=23						
Y12C	**Blythe**	**22.89**	**323**	*e*P	**P**	**13 31 02.9**	**+0.9**
	28nm,1.4s						
Y12C	**Blythe**	**22.89**	**323**	P	**P**	**13 31 02.8**	**+0.7**
	baz=136						
T47A	**Sharon Grove**	**22.97**	**23**	*e*P	**P**	**13 31 00.1**	**-2.7**
	54nm,1.0s						
T47A	**Sharon Grove**	**22.97**	**23**	P	**P**	**13 31 03.3**	**+0.5**
	baz=208,SNR=13						
R42A	**Luebbering**	**22.99**	**15**	P	**P**	**13 31 02.8**	**-0.2**
	baz=198,SNR=5.4						
HODGE	**Hodges**	**23.01**	**36**	*e*P	**P**	**13 31 02.2**	**-1.1**
	39nm,0.9s						
Y55A	**Saluda**	**23.02**	**37**	P	**P**	**13 31 03.1**	**-0.3**
	baz=224,SNR=7.2						
S45A	**Carrier Mills**	**23.07**	**20**	P	**P**	**13 31 03.7**	**-0.1**
	baz=204						
PDMCI	**Parker Dam,Lak**	**23.07**	**325**	P	**P**	**13 31 05.6**	**+1.6**
	baz=137,SNR=7.0						
U49A	**Red Boiling Sp**	**23.09**	**26**	P	**P**	**13 31 04.3**	**+0.3**
	baz=212,SNR=9.6						
SWSC	**Sam W. Stewart**	**23.10**	**320**	P	**P**	**13 31 06.0**	**+1.8**
	baz=132						
KSCO	**Kaye Shedlock'**	**23.11**	**351**	*e*P	**P**	**13 31 03.7**	**-0.7**
	39nm,0.9s						
KSCO	**Kaye Shedlock'**	**23.11**	**351**	P	**P**	**13 31 04.6**	**+0.2**
	baz=169,SNR=6.0						
V51A	**Loudon**	**23.14**	**30**	*e*P	**P**	**13 31 02.6**	**-2.0**
	37nm,1.0s						
V51A	**Loudon**	**23.14**	**30**	P	**P**	**13 31 04.9**	**+0.3**
	baz=216,SNR=6.2						
X54A	**Belton**	**23.18**	**35**	P	**P**	**13 31 05.3**	**+0.3**
	baz=222						
BG3	**Lake Jocassee**	**23.22**	**33**	*e*P	**P**	**13 31 05.4**	**-0.1**
	22nm,0.9s						
W53A	**Cullowhee**	**23.23**	**33**	P	**P**	**13 31 06.5**	**+0.8**
	baz=219,SNR=8.1						
Z57A	**Bowman**	**23.26**	**40**	P	**P**	**13 31 05.4**	**-0.5**
	baz=227						
TKL	**Tuckaleechee C**	**23.31**	**31**	P	**P**	**13 31 06.9**	**+0.5**
	7.0nm,0.8s,baz=214,slow=17,SNR=5.4						
T48A	**Bowling Green**	**23.35**	**24**	P	**P**	**13 31 06.9**	**+0.2**
	baz=210,SNR=8.3						
BC3	**Big Chuckawall**	**23.37**	**321**	P	**P**	**13 31 08.1**	**+1.1**

Q44A	Meyer Farm, Va baz=202	24.06	18	P	P	13 31 12.5	-1.0
U52A	Thorn Hill baz=217	24.09	30	P	P	13 31 14.1	+0.2
TZTN	Tazewell 125nm,1.8s	24.12	30	eP	P	13 31 13.0	-1.2
TZTN	Tazewell baz=216	24.12	30	P	P	13 31 14.4	+0.2
LDFC	Landfair 14nm,1.0s	24.18	324	eP	P	13 31 15.8	+0.9
KMSC	Kings Mountain baz=223	24.20	35	P	P	13 31 15.6	+0.7
SMCO	Snowmass 29nm,1.0s	24.20	343	eP	P	13 31 13.6	-1.7
P41A	Barry, Barry baz=197	24.25	13	P	P	13 31 14.1	-1.2
T51A	Gray baz=215	24.28	29	P	P	13 31 15.4	-0.2
GMRC	Granite Mounta baz=135,SNR=5.5	24.29	323	P	P	13 31 16.9	+1.0
Q45A	Warren Harvey, baz=204	24.31	19	P	P	13 31 15.3	-0.5
R47A	Wooly Knot Far baz=208,SNR=10	24.33	23	P	P	13 31 16.3	+0.2
V54A	Nebo baz=221,SNR=5.9	24.33	34	P	P	13 31 17.1	+1.0
P42A	Winchester 50nm,1.0s	24.34	15	eP	P	13 31 14.0	-2.1
P42A	Winchester baz=198,SNR=9.5	24.34	15	P	P	13 31 16.1	0.0
WCI	Wyandotte Cave 36nm,0.9s	24.36	23	eP	P	13 31 13.9	-2.5
WCI	Wyandotte Cave baz=208	24.36	23	P	P	13 31 16.6	+0.2
S49A	Springfield baz=211,SNR=8.1	24.38	25	P	P	13 31 16.4	-0.1
MURC	Murrieta baz=130	24.41	319	P	P	13 31 19.0	+2.1
ISCO	Idaho Springs 26nm,0.8s	24.44	346	eP	P	13 31 16.6	-0.8
ISCO	Idaho Springs baz=162,SNR=30	24.44	346	P	P	13 31 18.6	+1.2
KNB	Kanab 14nm,1.0s	24.50	331	eP	P	13 31 17.8	0.0
W56A	Indian Trail baz=224	24.61	37	P	P	13 31 20.1	+1.5
PKCU	Pink Cliffs 20nm,1.1s	24.61	332	eP	P	13 31 20.3	+1.2
S50A	Richmond baz=213,SNR=10	24.66	27	P	P	13 31 19.9	+0.9
R48A	Northridge Ran baz=209,SNR=6.5	24.67	24	P	P	13 31 19.6	+0.4
P44A	Sand Creek, Wi baz=202	24.69	18	P	P	13 31 19.3	0.0
LCMT	Little Creek M 6.8nm,1.0s	24.70	330	eP	P	13 31 19.8	+0.2
HEC	Hector,Ludlow baz=134,SNR=8.2	24.71	322	P	P	13 31 21.1	+1.5
O41A	Passleys Farm, baz=197,SNR=7.0	24.71	13	P	P	13 31 19.0	-0.5
V55A	Taylorsville baz=222,SNR=6.4	24.78	34	P	P	13 31 21.6	+1.4
T52A	Hallie baz=217	24.84	30	P	P	13 31 21.8	+1.1
R49A	Shelbyville baz=211	24.86	25	P	P	13 31 20.9	+0.1
TUQ	Turquoise Moun baz=136,SNR=8.5	24.90	324	P	P	13 31 23.9	+2.4
OGNE	Ogallala 67nm,1.2s	24.93	353	eP	P	13 31 20.7	-0.9
OGNE	Ogallala baz=171,SNR=7.0	24.93	353	P	P	13 31 22.1	+0.5
Q47A	Bedord North L baz=208,SNR=6.7	24.94	22	P	P	13 31 21.5	0.0
U54A	Nelsons Funny baz=220	24.97	33	P	P	13 31 22.2	+0.3
W57A	Gilead baz=225,SNR=6.2	24.97	37	P	P	13 31 22.3	+0.5
O42A	Bath baz=198	24.98	15	P	P	13 31 21.6	-0.3
S51A	Beattyville 52nm,0.9s	24.99	28	eP	P	13 31 21.2	-0.8
S51A	Beattyville baz=215,SNR=11	24.99	28	P	P	13 31 22.8	+0.8
P45A	Graceland, Par 40nm,1.2s	25.02	19	eP	P	13 31 20.6	-1.7
P45A	Graceland, Par baz=204	25.02	19	P	P	13 31 21.6	-0.6
MTPU	Mount Pierson 19nm,0.8s	25.05	333	eP	P	13 31 23.0	0.0
CIS	Catalina Islan baz=126	25.07	317	P	P	13 31 24.7	+1.8
BFSC	Mount Baldy Ra baz=131	25.11	319	P	P	13 31 24.8	+1.4
BGNE	Belgrade baz=180	25.17	0	P	P	13 31 22.9	-0.8
CCUT	Cedar City 4.7nm,0.9s	25.18	331	eP	P	13 31 24.7	+0.6
Q48A	North Vernon baz=209,SNR=9.3	25.19	23	P	P	13 31 24.1	+0.3
R50A	Paris baz=212,SNR=5.3	25.20	26	P	P	13 31 24.2	+0.3
SHPR	Sheep Range 5.6nm,0.9s	25.27	327	eP	P	13 31 25.3	+0.5
P46A	Rosedale baz=205	25.27	20	P	P	13 31 25.1	+0.6
N41A	Harden Midland 27nm,0.8s	25.29	13	eP	P	13 31 22.5	-2.2
N41A	Harden Midland baz=196	25.29	13	P	P	13 31 24.4	-0.2
SRU	San Rafael Swe 17nm,1.1s	25.30	337	eP	P	13 31 24.9	-0.2
N40A	Mertquake, Sal baz=195	25.30	12	P	P	13 31 24.5	-0.3
GSC	Goldstone, Bar 11nm,1.1s	25.32	322	eP	P	13 31 26.2	+1.1
GSC	Goldstone, Bar baz=134	25.32	322	P	P	13 31 27.2	+2.0
W58A	Raeford baz=227	25.32	39	P	P	13 31 25.6	+0.6
U55A	TA2, Sparta baz=221	25.36	34	P	P	13 31 25.6	+0.1
O44A	Mansfield baz=202	25.37	18	P	P	13 31 25.6	+0.1
Q16A	Castle Valley 16nm,0.9s	25.38	336	eP	P	13 31 26.2	+0.4
MSU	Marysvale	25.45	334	eP	P	13 31 27.1	+0.6
O20A	White River Ci 33nm,1.0s	25.45	342	eP	P	13 31 26.7	+0.3
O20A	White River Ci baz=157,SNR=19	25.45	342	P	P	13 31 28.5	+2.1
P47A	Martinsville baz=207	25.48	22	P	P	13 31 27.0	+0.6
T54A	Tazewell baz=220	25.51	32	P	P	13 31 27.4	+0.6
HDIL	Hopedale 44nm,1.0s	25.52	16	eP	P	13 31 25.5	-1.2
HDIL	Hopedale baz=200	25.52	16	P	P	13 31 26.9	+0.2
R51A	Hillsboro baz=214,SNR=16	25.54	27	P	P	13 31 28.3	+1.3
N23A	Red Feather La 28nm,0.9s	25.56	346	eP	P	13 31 26.3	-1.2
N23A	Red Feather La baz=162,SNR=11	25.56	346	P	P	13 31 29.5	+2.0
Q49A	Aurora baz=211,SNR=5.1	25.58	25	P	P	13 31 27.7	+0.4
N42A	Yates City baz=198	25.59	14	P	P	13 31 28.0	+0.5
V57A	Coltrane Farms baz=224,SNR=10	25.61	36	P	P	13 31 29.5	+1.8
O45A	Potomac baz=204,SNR=7.8	25.68	19	P	P	13 31 29.2	+0.9
P17A	Butcher Ranch, 16nm,1.3s	25.70	337	eP	P	13 31 28.7	0.0
TMUT	Trail Mountain 19nm,1.1s	25.72	336	eP	P	13 31 29.3	+0.2
EDW2	Edwards Air Fo baz=131	25.75	320	P	P	13 31 30.9	+1.9
P48A	Milroy baz=209	25.77	23	P	P	13 31 28.2	-0.9
M39A	Webster baz=193,SNR=9.4	25.77	10	P	P	13 31 29.4	+0.4
Q50A	Georgetown baz=213,SNR=15	25.82	26	P	P	13 31 29.8	+0.3
M40A	Post Highland baz=195	25.82	12	P	P	13 31 30.2	+0.6
N43A	Stutzman Famil baz=200	25.91	16	P	P	13 31 30.0	-0.3
R52A	Catlettsburg baz=216	25.99	29	P	P	13 31 31.5	+0.4
M41A	Milan baz=197	25.99	13	P	P	13 31 30.5	-0.5
SFIN	Lafayette 46nm,1.4s	26.00	20	eP	P	13 31 29.0	-2.1
SFIN	Lafayette baz=205	26.00	20	P	P	13 31 31.3	+0.2
SCIA	State Center 64nm,0.9s	26.03	8	eP	P	13 31 30.5	-0.9
SCIA	State Center baz=191,SNR=6.2	26.03	8	P	P	13 31 32.3	+1.0
N44A	Piper City baz=202	26.06	18	P	P	13 31 31.8	+0.1
P49A	Miami Univ. Ec baz=210,SNR=9.8	26.11	24	P	P	13 31 32.5	+0.3
FURC	Furnace Creek, baz=135	26.17	324	P	P	13 31 34.1	+1.4
O47A	Sheridan baz=207	26.18	21	P	P	13 31 32.5	-0.3
TPNV	Topopah Spring 9.3nm,0.9s	26.18	326	eP	P	13 31 31.6	-1.5
TPNV	Topopah Spring baz=137,SNR=5.1	26.18	326	P	P	13 31 34.8	+1.7
PSUT	Pine Spring 8.2nm,0.8s	26.21	331	eP	P	13 31 33.3	-0.1
BLA	Blacksburg baz=221	26.22	33	P	P	13 31 33.6	+0.4
MPMC	Manual Prospec baz=134,SNR=11	26.24	323	P	P	13 31 35.3	+1.6
Q51A	Peebles 31nm,0.8s	26.24	27	eP	P	13 31 32.2	-1.2
Q51A	Peebles baz=214,SNR=10	26.24	27	P	P	13 31 33.5	+0.1
M42A	Sheffield baz=198	26.25	14	P	P	13 31 33.2	-0.2
N45A	Kentland baz=204	26.30	18	P	P	13 31 33.4	-0.4
R53A	Hurricane baz=217	26.31	30	P	P	13 31 34.2	+0.2
ARVC	Arvin baz=130	26.43	320	P	P	13 31 37.8	+2.7
V59A	Middlesex baz=227,SNR=6.4	26.43	39	P	P	13 31 37.1	+2.1
L39A	Vinton baz=193	26.43	10	P	P	13 31 34.1	-0.9
M43A	Waltham Townsh baz=200	26.43	16	P	P	13 31 34.9	-0.2
MPU	Maple Canyon 9.9nm,0.9s	26.51	336	eP	P	13 31 36.4	+0.4
L40A	Anamosa baz=195	26.51	12	P	P	13 31 35.2	-0.6
P50A	Jamestown baz=212	26.54	25	P	P	13 31 36.3	+0.2
ISA	Isabella, Lake 4.9nm,0.9s	26.56	321	eP	P	13 31 37.8	+1.4
ISA	Isabella, Lake baz=131	26.56	321	P	P	13 31 38.3	+2.0
O48A	Farmland baz=209,SNR=5.6	26.56	23	P	P	13 31 36.3	0.0
S55A	Lewisburg baz=221	26.60	33	P	P	13 31 37.4	+0.7
NLU	North Lily Min 24nm,1.3s	26.63	336	eP	P	13 31 38.4	+1.3
M44A	Midewin, Midew baz=202	26.64	17	P	P	13 31 37.5	+0.6
BANI	BANI	26.66	81	eP	P	13 31 39.1	+1.6
R54A	Victor baz=219	26.66	31	P	P	13 31 38.0	+0.7
L41A	Preston baz=196	26.67	13	P	P	13 31 36.9	-0.3
U58A	Oxford baz=226	26.67	37	P	P	13 31 38.1	+0.8
T57A	Hurt baz=224	26.70	35	P	P	13 31 38.9	+1.4
P51A	Williamsport 24nm,0.9s	26.74	27	eP	P	13 31 36.8	-1.1
P51A	Williamsport baz=214	26.74	27	P	P	13 31 38.3	+0.4
L42A	Oliver, Polo 34nm,0.9s	26.79	14	eP	P	13 31 36.6	-1.7
L42A	Oliver, Polo baz=198,SNR=5.7	26.79	14	P	P	13 31 38.3	0.0
O49A	Covington 33nm,1.0s	26.82	24	eP	P	13 31 37.2	-1.3
O49A	Covington baz=210	26.82	24	P	P	13 31 38.4	-0.1
CWC	Cottonwood Cre baz=133	26.85	323	P	P	13 31 40.8	+1.7
R11A	Troy Canyon, C 6.3nm,1.3s	26.89	329	eP	P	13 31 39.8	+0.3
R11A	Troy Canyon, C baz=140	26.89	329	P	P	13 31 41.0	+1.5
N47A	Urbana baz=207	26.92	21	P	P	13 31 39.6	+0.1
Q53A	Leroy baz=217	26.93	30	P	P	13 31 40.7	+1.0
K39A	Oelwein baz=193	27.01	10	P	P	13 31 39.9	-0.4
O50A	Cable baz=212	27.07	25	P	P	13 31 41.1	+0.3
DUG	Dugway, Tooele 11nm,1.0s	27.13	335	eP	P	13 31 41.8	+0.2
DUG	Dugway, Tooele baz=148,SNR=8.4	27.13	335	P	P	13 31 43.3	+1.8
N48A	Decatur baz=208	27.14	22	P	P	13 31 41.6	+0.2
K40A	Coleburg baz=195,SNR=5.1	27.14	11	P	P	13 31 42.1	+0.7
R55A	Marlinton baz=221	27.18	32	P	P	13 31 43.3	+1.4
L43A	Garden Prairie baz=200	27.19	15	P	P	13 31 41.6	-0.3
K41A	Shullsburg baz=196	27.22	13	P	P	13 31 42.4	+0.2
K22A	Casper baz=162	27.36	347	P	P	13 31 44.8	+1.2
Q54A	Coxs Mills baz=218	27.36	30	P	P	13 31 44.4	+0.9
ACSO	Alum Creek Sta 20nm,1.0s	27.40	26	eP	P	13 31 44.0	+0.2
ACSO	Alum Creek Sta baz=213	27.40	26	P	P	13 31 44.4	+0.5
L44A	Lake County Fo baz=202	27.41	17	P	P	13 31 43.6	-0.2
ECSD	EROS Data Cent 9.1nm,1.1s	27.53	2	eP	P	13 31 44.5	-0.4
ECSD	EROS Data Cent baz=183	27.53	2	P	P	13 31 45.1	+0.2
JFWS	Jewell Farm baz=196	27.53	13	P	P	13 31 44.7	-0.3
K42A	Prairie Point, baz=198	27.60	14	P	P	13 31 45.9	+0.3
Q55A	Buckhannon baz=220	27.75	31	P	P	13 31 47.3	+0.3
O52A	Adamsville baz=215	27.80	28	P	P	13 31 48.5	+1.1
BGU	Big Grassy Mou 9.1nm,1.1s	27.84	335	eP	P	13 31 48.2	+0.3
J40A	Soldiers Grove baz=195	27.89	12	P	P	13 31 48.2	+0.1
SPUT	South Promonto 9.5nm,1.2s	27.94	337	eP	P	13 31 48.2	-0.6
J41A	Loganville baz=197	28.01	13	P	P	13 31 49.2	0.0
L47A	Sherwood baz=207	28.06	21	P	P	13 31 49.6	-0.1
M49A	Liberty Center baz=210	28.06	23	P	P	13 31 49.7	0.0
J42A	Columbus baz=198	28.16	14	P	P	13 31 50.8	+0.2
N51A	Ashland baz=213	28.23	26	P	P	13 31 50.5	-0.8
MDPB	Devils Postpil 11nm,1.5s	28.25	323	eP	P	13 31 52.6	+0.9
BW06	Boulder Array 9.2nm,1.1s	28.26	342	eP	P	13 31 50.6	-1.1
BW06	Boulder Array baz=156,SNR=6.4	28.26	342	P	P	13 31 52.6	+0.9
PDAR	Pinedale Array	28.26	342	eP	P	13 31 50.6	-1.1
PDAR	Pinedale Array 3.4nm,1.0s,baz=140,slow=7.8,SNR=17	28.26	342	P	P	13 31 52.8	+1.1
PDAR				LR	LR	13 43 54.2	
	comp=Z,398nm,19.3s,baz=166,slow=38						
NV11	Mina Array Sit 0.7nm,1.1s	28.30	326	eP	P	13 31 53.2	+1.1
L48A	N Adams	28.30	22	P	P	13 31 51.7	-0.2
RSSD	Black Hills baz=209	28.32	351	eP	P	13 31 51.5	-0.7
NV01	Mina Array Sit	28.38	325	eP	P	13 31 53.0	+0.1
NVAR	Mina Array Bea 3.3nm,0.8s,baz=152,slow=9.8,SNR=24	28.38	325	P	P	13 31 54.7	+1.9
HVU	Hansel Valley 9.9nm,0.9s	28.47	337	eP	P	13 31 53.2	-0.3
ELK	Elko 13nm,1.6s	28.62	332	eP	P	13 31 55.7	+0.7
ELK	Elko 2.1nm,1.1s,baz=170,slow=5.9,SNR=4.6	28.62	332	P	P	13 31 56.7	+1.7
ELK				LR	LR	13 43 16.7	
	comp=Z,193nm,19.7s,baz=153,slow=36						
RYN	Ryan 6.6nm,1.2s	28.64	325	eP	P	13 31 55.2	+0.1
L49A	Milan baz=210	28.69	23	P	P	13 31 55.7	+0.5
I41A	Arkdale baz=197	28.70	13	P	P	13 31 56.0	+0.6
KVN	Kaiserville 5.5nm,1.0s	28.71	327	eP	P	13 31 56.2	+0.4
K47A	Vermontville baz=207	28.75	20	P	P	13 31 56.1	+0.3
N53A	Lisbon baz=216	28.81	28	P	P	13 31 56.1	-0.2
H39A	Augusta baz=194	29.04	10	P	P	13 31 58.9	+0.6
H40A	Chili baz=195	29.14	11	P	P	13 31 59.6	+0.3
K48A	Perry baz=208	29.17	22	P	P	13 31 59.6	0.0
REDW	Red Top Meadow 8.4nm,0.9s	29.20	341	eP	P	13 31 59.9	-0.1
SNOW	Snow King Moun 23nm,1.3s	29.25	341	eP	P	13 32 00.6	-0.1
H41A	Junction City baz=197	29.28	13	P	P	13 32 01.3	+0.8
YERR	Yerington 4.9nm,1.1s	29.28	325	eP	P	13 32 02.2	+1.3
TPAW	Teton Pass 42nm,1.9s	29.34	341	eP	P	13 32 01.9	+0.5
O56A	Blue Knob Stat baz=221	29.47	31	P	P	13 32 02.0	-0.4
FXWY	Fox Creek 7.0nm,1.1s	29.50	341	eP	P	13 32 02.9	+0.2
MOOW	Moose Ponds 8.5nm,1.3s	29.51	341	eP	P	13 32 02.9	+0.1
IMW	Indian Meadow 5.6nm,0.9s	29.70	341	eP	P	13 32 03.5	-1.1
G40A	Rib Lake baz=195	29.80	11	P	P	13 32 05.4	+0.2
G42A	Mountain baz=199	30.15	14	P	P	13 32 08.6	+0.4
F38A	Pierce - Schro baz=192	30.19	9	P	P	13 32 08.6	+0.1
M55A	Ridgway baz=219	30.29	30	P	P	13 32 09.6	+0.1
F39A	Loretta baz=194	30.30	10	P	P	13 32 10.2	+0.7
RLMT	Red Lodge 7.7nm,1.0s	30.35	344	eP	P	13 32 10.2	-0.1
RLMT	Red Lodge baz=158	30.35	344	P	P	13 32 11.4	+1.2
F40A	Park Falls baz=195	30.44	11	P	P	13 32 11.1	+0.3
BEKR	Beckworth 3.7nm,0.8s	30.52	325	eP	P	13 32 12.8	+1.1
HLID	Hailey 4.2nm,1.2s	30.62	336	eP	P	13 32 13.2	+0.6
I49A	Point Hope baz=210	30.62	22	P	P	13 32 12.7	+0.4
E39A	Mellen baz=194	30.81	10	P	P	13 32 14.3	+0.3
E38A	The Farm, Brul baz=192	30.87	9	P	P	13 32 14.9	+0.3
E40A	Wakefield baz=195	30.99	11	P	P	13 32 15.9	+0.3
F43A	Flat Rock, Esc baz=201	31.00	15	P	P	13 32 16.2	+0.5
MCMT	McKenzie Canyo	31.15	340	eP	P	13 32 17.3	-0.1
BOZ	Bozeman (W) 12nm,1.4s	31.45	342	eP	P	13 32 20.8	+0.9
BOZ	Bozeman (W) baz=154,SNR=6.8	31.45	342	P	P	13 32 21.4	+1.5
WVOR	Wild Horse Val 14nm,1.3s	31.52	330	eP	P	13 32 21.0	+0.5
DLMT	Dillon 13nm,0.9s	31.54	340	eP	P	13 32 19.7	-1.0
E43A	Lone Tree Farm baz=201	31.55	15	P	P	13 32 21.3	+0.7
MDND	Maddock baz=177	31.63	358	P	P	13 32 21.6	+0.4
MOD	Modoc Plateau 3.7nm,0.9s	31.94	328	eP	P	13 32 24.7	+0.4
AGMN	Agassiz Nation 15nm,1.0s	32.12	3	eP	P	13 32 24.7	-0.8
AGMN	Agassiz Nation baz=184,SNR=8.2	32.12	3	P	P	13 32 25.7	+0.2
J08A	Circle Bar Ran 16nm,1.0s	32.16	332	eP	P	13 32 26.4	+0.3
F49A	Sandfield baz=210	32.48	21	P	P	13 32 29.3	+0.6
HRY	Holter Researc	32.52	342	eP	P	13 32 29.0	-0.2
DGMT	Dagmar baz=169	32.61	353	P	P	13 32 31.3	+1.4
KLBO	Killbear Provi baz=213	32.80	24	P	P	13 32 31.7	+0.1
D46A	Sault St. Mari baz=206	32.83	18	P	P	13 32 32.4	+0.6
BMO	Blue Mountains 4.5nm,1.1s	32.84	335	eP	P	13 32 31.0	-1.1
EGMT	Eagleton 29nm,1.5s	33.18	346	eP	P	13 32 34.2	-0.7
EGMT	Eagleton baz=159	33.18	346	P	P	13 32 36.1	+1.2
I07A	Izee 3.8nm,0.9s	33.19	331	eP	P	13 32 35.0	-0.2
L04D	Klamath Falls baz=134	33.21	326	P	P	13 32 36.3	+0.9
MSO	Missoula 5.7nm,1.0s	33.28	340	eP	P	13 32 35.2	-0.6
F10A	Beach Ranch, E 10nm,0.9s	33.73	336	eP	P	13 32 39.5	-0.3
J04D	Umpqua Nationa baz=135	33.83	328	P	P	13 32 42.1	+1.3
G08A	Pilot Rock 7.4nm,1.0s	33.89	333	eP	P	13 32 41.4	+0.2
ULM	Lac du Bonnet 6.0nm,1.1s,baz=194,slow=13,SNR=4.9	34.07	3	P	P	13 32 42.1	-0.4
E09A	Wood Farm, Sta 4.3nm,0.7s	34.54	335	eP	P	13 32 46.2	-0.4
E53A	Dumoine, Ponti baz=216	34.66	25	P	P	13 32 48.3	+0.6
LONY	Lake Ozonia baz=222	34.68	30	P	P	13 32 47.8	-0.1
F55A	Otter Lake baz=219	34.78	27	P	P	13 32 49.6	+0.9
H04A	Detroit Lake 9.9nm,1.0s	34.91	330	eP	P	13 32 50.1	+0.2
WALA	Waterton Lakes 7.0nm,1.0s	35.24	342	eP	P	13 32 53.2	+0.3
C09A	Chrisman Ranch	35.64	337	eP	P	13 32 56.5	+0.3
D54A	Lac Fusel, La baz=217	35.69	25	P	P	13 32 56.9	+0.3
LON	Longmire 16nm,1.8s	36.28	332	eP	P	13 33 02.3	+0.6
B08A	Colville Reser 8.9nm,1.3s	36.51	336	eP	P	13 33 03.9	+0.3
D05A	Enumclaw 14nm,0.9s	36.69	333	eP	P	13 33 05.9	+0.8
LSQQ	Lebel-sur-Quev baz=215	37.10	23	P	P	13 33 08.6	-0.1
D03D	Eldon baz=138	37.44	332	P	P	13 33 12.7	+1.2
A04D	Lummi Island baz=140	38.17	334	P	P	13 33 18.7	+1.1
FFC	Flin Flon 14nm,1.0s	38.61	356	eP	P	13 33 20.4	-0.8
LLLB	Lillooet 7.6nm,1.0s	39.31	336	eP	P	13 33 26.8	-0.4
FCC	Fort Churchill 57nm,2.0s	42.65	3	eP	P	13 33 53.4	-1.2
SCHQ	Schefferville 29nm,1.1s	45.55	25	eP	P	13 34 15.2	-2.7
SCHQ	Schefferville 12nm,0.8s,baz=242,slow=7.8,SNR=7.6	45.55	25	P	P	13 34 18.8	+0.8
YKA	Yellowknife Ar 3.0nm,0.9s,baz=157,slow=7.3,SNR=28	47.72	350	P	P	13 34 34.6	-0.1

YKB5	Yellowknife Ar	47.72	350	*e*P		P	13 34 33.8	-0.9
YKW3	Yellowknife Ar	47.78	350	*e*P		P	13 34 34.7	-0.6
	6.9nm,1.2s							
TAOE	Nuku Hiva Isla	48.40	242	*e*T		T	14 26 02.7	
	31nm,0.3s							
RKT	Rikitea	53.08	224	*e*T		T	14 32 01.2	
	18nm,0.3s							
EGAK	Eagle	56.56	340	*e*P		P	13 35 40.5	0.0
	5.2nm,0.8s							
INK	Inuvik	56.76	345	*e*P		P	13 35 42.0	+0.2
	9.4nm,0.9s							
SCRK	Sand Creek	57.07	338	*e*P		P	13 35 45.5	+1.2
	7.3nm,0.9s							
HDA	Harding Lake	58.39	337	P		P	13 35 54.5	+1.1
	baz=122							
ILAR	Eielson Array	58.56	338	P		P	13 35 55.5	+0.9
	3.8nm,1.0s,baz=142,slow=4.8,SNR=29							
RND	Reindeer	58.60	336	*e*P		P	13 35 55.6	+0.6
	18nm,1.0s							
BDFB	Brasilia	58.74	120	P		P	13 35 57.5	+0.8
	1.6nm,0.4s,baz=261,slow=7.9,SNR=4.1							
WRH	Wood River Hil	58.85	337	*e*P		P	13 35 56.6	0.0
	7.1nm,1.0s							
RSO	Redoubt South	58.92	332	*e*P		P	13 35 58.2	+0.7
POKR	Poker Flat Res	58.94	338	P		P	13 35 58.3	+1.0
	baz=122							
COLA	College	58.97	338	*e*P		P	13 35 57.0	-0.4
	5.7nm,1.0s							
TCOL	CIGO, UAF Yank	58.97	338	P		P	13 35 58.6	+1.1
	baz=121							
TRF	Thorofare Moun	59.19	336	*e*P		P	13 35 59.8	+0.6
	24nm,0.9s							
BWN	Browne	59.21	337	*e*P		P	13 35 59.0	-0.2
	56nm,0.9s							
BPAW	Bear Paw Mtn.	59.77	336	*e*P		P	13 36 02.8	-0.3
	8.4nm,1.0s							
PPT2	Papeete2	60.72	239	*e*LR		LR	13 54 03.2	
	comp=Z,105nm,23.2s							
TOLK	Toolik Lake Re	61.52	341	*e*P		P	13 36 15.2	+0.3
	31nm,1.8s							
TOLK	Toolik Lake Re	61.52	341	P		P	13 36 15.8	+0.9
	baz=121,SNR=5.7							
TBI	Tubuai	63.66	233	*e*T		T	14 45 10.5	
	20nm,0.3s							
SUMG	Summit	65.83	17	*e*P		P	13 36 42.5	-1.3
	9.3nm,1.0s							
SUMG	Summit	65.83	17	*i* P		P	13 36 43.1	-0.6
	23nm,1.0s							
BILL	Bilibino	77.22	337	*e*P		P	13 37 52.1	+0.1
	10nm,1.3s							
ESDC	Sonseca Array	83.05	51	P		P	13 38 25.3	+1.2
	1.2nm,0.8s,baz=295,slow=4.8,SNR=5.8							
NOA	NORSAR Array B	85.06	27	P		P	13 38 35.9	+2.0
	0.8nm,0.9s,baz=297,slow=5.0,SNR=3.2							
TIXI	Tiksi	86.86	347	*e*P		P	13 38 42.1	-0.4
	7.8nm,1.4s							
LZH	Lanzhou	124.02	338	*e*PKP		PKPdf	13 44 53.5	-3.8
LZH				sPKP			13 45 07.5	
CD2	Chengdu	128.67	336	PKP		PKPdf	13 45 05.3	-0.9
WRA	Warramunga Arr	130.07	257	PKP		PKPdf	13 45 08.8	-0.2
	0.8nm,1.0s,baz=84,slow=1.9,SNR=4.9							
ASAR	Alice Springs	130.67	253	PKP		PKPdf	13 45 09.9	-0.2
	0.8nm,1.0s,baz=196,slow=0.4,SNR=4.1							
CMAR	Chiang Mai Arr	141.70	333	PKP		PKPdf	13 45 31.0	+0.3
	0.4nm,0.4s,baz=343,slow=1.9,SNR=4.0							

NEIC ***26*** *13:27:15.9±0.9, 15°.86N×98°.18W, h10km, mb4.6/10, Error ellipse: s-maj=17.8km s-min=10.9km az=221.0*

ISCJB ***26*** *13:27:16.2±1.0, 15°.99N±0°.09×98°.40W±0°.05, h16km, mb4.6/7, Error ellipse: s-maj=14.0km s-min=6.1km az=14.1*

IDC ***26*** *13:27:17.4±8.6, 16°.20N×98°.09W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/46, mbtmp4.1/4, Error ellipse: s-maj=166.3km s-min=72.5km az=10.0*

MEX ***26*** *13:27:18.6±0.4, 16°.06N×98°.54W, h15km, MD3.7*

ISC 26 13:27:18.5±1.0, 16°.13N±0°.09×98°.14W±0°.06, h16km, n31, σ1°54/33, mb4.6/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	Tlapa	1.48	344	*e*Pn	Pn	13 27 44.7	+0.1
TLIG				*e*Sn	Sb	13 28 05.1	+0.7
TLIG	Tlapa	1.48	344	*i* P	Pn	13 27 41.9	-2.8
TLIG				*i* S	Sn	13 27 59.3	-4.5
VHO	Vista Hermosa	1.64	55	*i* P	Pn	13 27 48.3	+1.4
VHO				*e*S	Sg	13 28 12.5	+1.0
HUIG	Huatulco	1.98	100	*i* P	Pb	13 27 53.6	-0.7
HUIG				*i* S	Sg	13 28 21.7	-0.7
CAIG	El Cayaco	2.24	294	*i* P	Pn	13 27 47.4	-7.5
CAIG				*i* S	Sn	13 28 09.5	-13
CMIG	Matias Romero	3.26	73	*i* P	Pn	13 28 11.3	+2.3
CMIG				*i* S	Sb	13 28 53.2	-2.3
CMIG	Matias Romero	3.26	73	Lg	Lg	13 29 09.4	
	156nm,0.3s,baz=339,slow=4.4,SNR=6.8						
CSGN	Cosiguina Volc	10.71	106	*e*Pn	Pn	13 29 48.7	-2.7
H06E1	SOCORRO T-PHAS	12.48	284	T	T	13 42 34.3	
	SNR=20						
H06S1	SOCORRO T	12.51	284	T	T	13 42 33.6	
H06N1	SOCORRO T-PHAS	12.55	284	T	T	13 42 43.3	
	SNR=12						
WHTX	Lake Whitney,	15.80	2	*e*Pn	P	13 31 03.6	-0.6
	21nm,1.1s						
ABTX	Abilene, Hawle	16.48	356	*e*Pn	P	13 31 12.6	+0.8
	28nm,1.0s						
MNTX	Cornudas Mount	16.84	338	*e*Pn	Pn	13 31 14.3	+0.6
	26nm,2.0s						
BNM	Barren Site	19.50	338	*e*P	P	13 31 44.6	-0.7
ANMO	Albuquerque	20.16	340	*e*P	P	13 31 52.5	0.0
	7.6nm,0.9s						
ANMO	Albuquerque	20.16	340	P	P	13 31 53.1	+0.6
	2.5nm,0.7s,baz=157,slow=17,SNR=2.0						
WVT	Waverly	21.93	23	*e*P	P	13 32 13.0	+1.7
	27nm,1.0s						
W50A	Signal Mountai	22.19	29	*e*P	P	13 32 14.1	-0.1
	26nm,1.0s						
DREC	Desert Rsrch C	22.83	320	*e*PcP	PcP	13 36 10.8	-1.2
BELC	Belle Mtn. Jos	23.98	321	*e*PcP	PcP	13 36 13.9	-0.7
S51A	Beattyville	24.98	28	*e*P	P	13 32 42.5	+1.0
	38nm,1.1s						
SCIA	State Center	26.03	8	*e*P	P	13 32 51.9	+1.0
	36nm,1.0s						
MTUM	Tungsten Hills	27.80	323	*e*P	P	13 33 08.1	+0.8
MTUM				*e*PcP	PcP	13 36 24.9	+1.4
MTUM				*e*S	S	13 37 52.3	+2.6
SCHQ	Schefferville	45.55	25	*e*P	P	13 35 37.5	+0.1
	12nm,1.0s						
SCHQ	Schefferville	45.55	25	P	P	13 35 38.4	+1.0
	12nm,1.0s,baz=226,slow=5.7,SNR=3.5						
YKA	Yellowknife Ar	47.74	350	P	P	13 35 55.2	+0.7
	1.3nm,0.9s,baz=157,slow=7.4,SNR=2.8						
YKB5	Yellowknife Ar	47.74	350	*e*P	P	13 35 54.6	+0.2
IL1	Eielson Array	58.59	338	*e*P	P	13 37 14.3	-0.1
ILAR	Eielson Array	58.59	338	P	P	13 37 15.3	+0.9
	2.4nm,1.0s,baz=138,slow=4.8,SNR=4.2						
ILB	Eielson Array	58.59	338	*e*P	P	13 37 14.2	-0.2
	17nm,1.5s						

IDC ***26*** *13:36:11.1±1.3, 16°.06N×98°.14W, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.1/54, mbtmp4.1/15, ML3.5/2, MS3.9/4, Ms1 3.9/4, ms1mx3.3/32, Error ellipse: s-maj=29.5km s-min=20.6km az=35.0*

MEX ***26*** *13:36:12.2±0.4, 15°.91N×98°.39W, h8km±5km, MD4.0*

ISCJB ***26*** *13:36:13.8±1.6, 16°.33N±0°.05×98°.08W±0°.03, h13km±9km, mb4.5/98, MS3.8/3, Error ellipse: s-maj=9.2km s-min=3.9km az=14.4*

NEIC ***26*** *13:36:15.7±0.4, 16°.47N×98°.04W, h10km, mb4.6/109, MD3.9(MEX), Error ellipse: s-maj=7.1km s-min=3.6km az=202.0*

NEIC Felt at Acatzingo, Ixtac Zoquitlan and Pinotepa Nacional.

ISC 26 13:36:12.7±3.8, 16°.07N±0°.07×98°.31W±0°.05, h11km±24km, n418, σ1°23/420, mb4.7/98, MS4.0/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLIG	Tlapa	1.50	350	*e*Pg	Pn	13 36 38.2	-1.5
TLIG				*e*Sn	Sn	13 37 00.3	+1.0
TLIG	Tlapa	1.50	350	*e*P	Pn	13 36 38.2	-1.5
TLIG				*e*S	Sn	13 36 58.4	-1.0
VHO	Vista Hermosa	1.81	56	*e*P	Pn	13 36 42.8	-1.1
VHO	Vista Hermosa	1.81	56	*e*P	Pn	13 36 42.8	-1.1
VHO				*i* S	Sn	13 37 06.2	-0.8
CAIG	El Cayaco	2.12	298	*i* P	Pn	13 36 44.9	-3.1
CAIG				*i* S	Sn	13 37 09.8	-4.5
HUIG	Huatulco	2.14	98	*i* P	Pn	13 36 46.2	-2.0
HUIG				*i* S	Sn	13 37 11.8	-2.9
UNM	Universidad Na	3.34	346	*e*Pn	Pn	13 37 04.9	-0.2
CMIG	Matias Romero	3.44	72	*e*P	Pn	13 37 04.5	-1.5
CMIG				*i* S	Sn	13 37 46.0	-0.9
CMIG	Matias Romero	3.44	72	Pn	Pn	13 37 04.6	-1.5
	7.8nm,0.3s,baz=257,slow=10,SNR=66						
CMIG				Sn	Sn	13 37 46.2	-0.7
	45nm,0.3s,baz=207,slow=16,SNR=5.1						
CMIG				Lg	Lg	13 38 04.1	
	130nm,0.3s,baz=273,slow=3.5,SNR=38						
LVIG	Laguna Verde	4.05	26	*e*Pn	Pn	13 37 11.6	-3.0
CCIG	Comitan	5.93	87	*e*Pn	Pn	13 37 41.4	+0.8
APG	El Apazote	7.63	97	Pn	Pn	13 38 05.0	+0.9
	0.6nm,0.3s,baz=340,slow=17,SNR=3.6						
LNIG	Linares	8.85	353	*e*Pn	Pn	13 38 20.3	-0.3
H06E1	SOCORRO T-PHAS	12.34	284	T	T	13 51 26.2	
	SNR=45						
H06S1	SOCORRO T	12.36	284	T	T	13 51 27.6	
H06N1	SOCORRO T-PHAS	12.41	285	T	T	13 51 49.0	
	SNR=2.9						
TXAR	Lajitas Array	14.09	340	Pn	Pn	13 39 34.0	+1.6
	0.0nm,0.3s,baz=153,slow=11,SNR=5.2						
TXAR				Lg	Lg	13 43 42.5	
	0.0nm,0.3s,baz=184,slow=18,SNR=4.6						
TXAR				LR	LR	13 45 38.2	
	comp=Z,437nm,19.0s,baz=0.0,slow=40						
TX31	Lajitas Ar. Si	14.09	340	*e*Pn	Pn	13 39 31.9	-0.5
ESPN	Las Esperanzas	14.12	104	*e*Pn	Pn	13 39 33.0	+0.3
JTS	JuntasAbangare	14.21	112	Pn	Pn	13 39 37.2	+3.2
	0.6nm,0.3s,baz=324,slow=5.8,SNR=6.8						
HDC	Heredia	15.08	112	*e*Pn	P	13 39 50.0	-1.3
	308nm,1.8s						
WHTX	Lake Whitney,	15.87	3	*e*Pn	Pn	13 39 55.3	-0.7
	34nm,0.9s						
WHTX	Lake Whitney,	15.87	3	P	Pn	13 39 58.9	+2.9
	baz=182,SNR=6.3						
ABTX	Abilene, Hawle	16.52	356	P	P	13 40 07.8	+0.7
	baz=174,SNR=13						
MNTX	Cornudas Mount	16.84	339	*e*Pn	Pn	13 40 08.1	-0.3
	5.8nm,0.9s						
MNTX	Cornudas Mount	16.84	339	P	P	13 40 11.6	+1.0
	baz=155,SNR=6.7						
GDL2	Guadalupe Moun	16.98	342	*e*Pn	Pn	13 40 08.9	-1.4
VBMS	Vicksburg	17.56	22	*e*Pn	Pn	13 40 14.9	-2.6
	31nm,0.8s						
Z41A	Richland Creek	17.82	15	*e*Pn	Pn	13 40 18.8	-1.9
	61nm,1.4s						
WLAR	White Oak Lake	18.16	14	*e*P	Pn	13 40 23.4	-1.3
	25nm,1.0s						
319A	Douglas	18.23	329	*e*Pn	Pn	13 40 27.0	+1.2
	18nm,1.1s						
MSTX	Muleshoe	18.27	348	*e*Pn	Pn	13 40 25.3	-1.0
	18nm,0.9s						
MSTX	Muleshoe	18.27	348	P	Pn	13 40 26.9	+0.5
	baz=165						
121A	Cookes Peak, D	18.51	334	P	Pn	13 40 31.3	+2.0
	baz=149						
WMOK	Wichita Mounta	18.59	359	P	P	13 40 29.6	-0.4
	baz=178						
X37A	Clayton	18.63	8	*e*Pn	P	13 40 29.8	-0.5
	16nm,0.9s						
147A	Livingston	18.87	27	P	P	13 40 32.4	-0.5
	baz=211						
MIAR	Mount Ida	18.88	12	*e*Pn	P	13 40 31.5	-1.6
MIAR	Mount Ida	18.88	12	P	P	13 40 33.0	0.0
	baz=194						
AMTX	Amarillo	18.98	351	*e*P	P	13 40 32.5	-1.8
	18nm,0.9s						
AMTX	Amarillo	18.98	351	P	P	13 40 34.4	+0.2
	baz=169						
250A	Grady	19.25	33	P	P	13 40 36.2	-0.9
	baz=217						
W39A	Magazine	19.47	11	*e*P	P	13 40 35.5	-4.0
	55nm,1.4s						
W39A	Magazine	19.47	11	P	P	13 40 40.0	+0.5
	baz=193						
BNM	Barren Site	19.50	339	*e*P	P	13 40 42.1	+2.0
LENM	Lemitar	19.63	338	*e*P	P	13 40 43.2	+1.7
LRAL	Lakeview Retre	19.75	29	*e*P	P	13 40 41.5	-1.0
LRAL	Lakeview Retre	19.75	29	P	P	13 40 42.7	+0.1
	baz=214,SNR=5.8						
251A	Midway	19.80	34	P	P	13 40 42.6	-0.5
	baz=219						
150A	Eclectic	19.88	32	P	P	13 40 43.8	-0.1
	baz=217						
TUL1	Leonard	19.89	6	*e*P	P	13 40 42.7	-1.4
	20nm,0.8s						
TUL1	Leonard	19.89	6	P	P	13 40 44.2	+0.1
	baz=186						
OXF	Oxford	20.03	22	*e*P	P	13 40 42.9	-2.7
	39nm,1.0s						
OXF	Oxford	20.03	22	P	P	13 40 44.9	-0.7
	baz=205						
252A	Lumpkin	20.09	35	P	P	13 40 45.9	-0.4
	baz=221						
Z49A	Columbiana	20.10	30	P	P	13 40 46.3	-0.1
	baz=215,SNR=5.7						
ANMO	Albuquerque	20.17	340	*e*P	P	13 40 48.9	+1.6
	10nm,0.8s						
ANMO	Albuquerque	20.17	340	P	P	13 40 49.2	+1.8
	baz=156						
ANMO	Albuquerque	20.17	340	P	P	13 40 49.4	+2.0
	11nm,0.9s,baz=143,slow=12,SNR=23						
ANMO				LR	LR	13 49 15.1	
	comp=Z,631nm,18.6s,baz=154,slow=39						
TASM	ASL Pad, Albuq	20.17	340	P	P	13 40 49.1	+1.7
	baz=156,SNR=13						
TASM	ASL Pad, Albuq	20.17	340	P	P	13 40 49.3	+1.9
	baz=156,SNR=14						
151A	Opelika	20.18	33	P	P	13 40 46.7	-0.5
	baz=219						
X46A	Booneville	20.37	24	P	P	13 40 49.2	-0.1
	baz=208,SNR=5.9						
Y48A	Jasper	20.40	27	P	P	13 40 49.0	-0.7
	baz=212						
Z50A	Ashland	20.45	31	*e*P	P	13 40 49.2	-1.0
	25nm,0.8s						
Z50A	Ashland	20.45	31	P	P	13 40 49.8	-0.4
	baz=216,SNR=6.9						
HHAR	Hobbs	20.50	10	*e*P	P	13 40 49.6	-1.1
	19nm,0.9s						
214A	Organ Pipe Nat	20.59	323	P	Pn	13 40 54.5	+0.4
	baz=136						
152A	Waverly Hall	20.61	34	P	P	13 40 51.2	-0.7
	baz=220						
X47A	Russelville	20.63	25	P	P	13 40 51.7	-0.4
	baz=209						
Y49A	Blount Mountai	20.70	29	*e*P	P	13 40 51.7	-1.2
	16nm,0.7s						
Y49A	Blount Mountai	20.70	29	P	P	13 40 52.2	-0.7
	baz=214						
U40A	Yellville	20.78	12	P	P	13 40 53.6	-0.2
	baz=194,SNR=25						
X48A	Hartselle	20.91	27	*e*P	P	13 40 53.0	-2.2
	12nm,0.8s						
X48A	Hartselle	20.91	27	P	P	13 40 54.4	-0.8
	baz=212						
PLAL	Pickwick Lake	20.95	24	*e*P	P	13 40 54.2	-1.4
	22nm,0.8s						
W46A	Michie	20.96	23	P	P	13 40 54.8	-0.9
	baz=207,SNR=5.3						
U41A	Vicksburg	20.98	15	P	P	13 40 55.2	-0.7
	baz=197,SNR=7.0						
X18A	Snowflake	21.15	332	*e*P	P	13 41 00.0	+2.0
	25nm,1.3s						
Z52A	Williamson	21.17	34	P	P	13 40 57.2	-0.8
	baz=220						
X49A	Woodville	21.29	28	P	P	13 40 59.0	-0.2
	baz=213,SNR=8.1						
W47A	Westpoint	21.37	25	P	P	13 40 59.2	-1.0
	baz=209						
Y51A	Rockmart	21.39	31	P	P	13 40 59.6	-0.7
	baz=217,SNR=6.9						
W48A	Pulaski	21.55	26	P	P	13 41 01.0	-1.0
	baz=211,SNR=8.8						
X50B	Fort Payne	21.56	30	P	P	13 41 01.1	-1.1
	baz=215						
V46A	Holladay	21.65	23	P	P	13 41 02.2	-0.9
	baz=207,SNR=14						
T25A	Trinidad	21.67	347	*e*P	P	13 41 03.7	+0.1
	144nm,1.9s						
T25A	Trinidad	21.67	347	P	P	13 41 04.7	+1.1
	baz=163,SNR=15						
Z53A	Monticello	21.70	35	P	P	13 41 02.6	-1.1
	baz=221,SNR=6.6						
X16A	Lo Mia Camp, P	21.75	330	*e*P	P	13 41 06.8	+2.3
	16nm,1.0s						
W49A	Belvidere	21.82	27	P	P	13 41 04.4	-0.6
	baz=212,SNR=7.7						
155A	Kite	21.86	38	P	P	13 41 04.8	-0.6
	baz=225						
GOGA	Godfrey	21.86	35	*e*P	P	13 41 04.0	-1.4
	32nm,0.9s						
GOGA	Godfrey	21.86	35	P	P	13 41 04.4	-0.9
	baz=221,SNR=8.6						
Y52A	Lilburn	21.88	33	*e*P	P	13 41 03.9	-1.7
	47nm,0.8s						
Y52A	Lilburn	21.88	33	P	P	13 41 05.0	-0.6
	baz=219,SNR=8.7						
V47A	Nunnelly	21.90	24	P	P	13 41 04.9	-1.0
	baz=208,SNR=9.2						
X51A	Calhoun	22.02	31	P	P	13 41 06.0	-1.2
	baz=216						
SWET	Sewanee	22.05	28	*e*P	P	13 41 06.1	-1.4
	51nm,1.0s						
WVT	Waverly	22.05	23	*e*P	P	13 41 05.3	-2.1
	41nm,0.8s						
WVT	Waverly	22.05	23	P	P	13 41 06.0	-1.4
	baz=207						
Z54A	Sparta	22.08	36	P	P	13 41 06.6	-1.2
	baz=223,SNR=7.2						
T43A	Greenville	22.10	17	P	P	13 41 06.9	-1.1
	baz=200,SNR=22						
V48A	Smith Brothers	22.11	25	*e*P	P	13 41 06.2	-1.9
	32nm,1.1s						
V48A	Smith Brothers	22.11	25	P	P	13 41 06.9	-1.1
	baz=210,SNR=7.8						
Y53A	Monroe	22.13	34	P	P	13 41 07.3	-1.0
	baz=220,SNR=7.7						
S41A	Jillco Farms,	22.20	14	P	P	13 41 08.3	-0.8
	baz=196,SNR=9.5						
W50A	Signal Mountai	22.32	29	*e*P	P	13 41 08.9	-1.5
	42nm,0.7s						
W50A	Signal Mountai	22.32	29	P	P	13 41 09.5	-0.9
	baz=214,SNR=13						
GTBY	Guantanamo Bay	22.39	77	*e*P	P	13 41 10.8	-0.4
	54nm,1.0s						
SDCO	Great Sand Dun	22.51	345	*e*P	P	13 41 12.2	-0.5
	11nm,1.0s						
SDCO	Great Sand Dun	22.51	345	P	P	13 41 13.2	+0.5
	baz=161						
V49A	McMinnville	22.52	27	P	P	13 41 11.1	-1.4
	baz=212,SNR=7.6						
U47A	Clarksville	22.53	24	P	P	13 41 10.9	-1.7
	baz=208,SNR=9.6						
X52A	Dahlonega	22.54	32	P	P	13 41 11.4	-1.3
	baz=218						
W51A	Cleveland	22.55	30	P	P	13 41 11.7	-1.1
	baz=216						
S42A	Caledonia	22.61	16	P	P	13 41 11.8	-1.6
	baz=199,SNR=7.2						
WUAZ	Wupatki	22.61	331	*e*P	P	13 41 14.7	+1.0
	79nm,1.9s						
WUAZ	Wupatki	22.61	331	P	P	13 41 15.8	+2.1
	baz=145,SNR=7.6						
S43A	Fulton Ridge,	22.62	17	P	P	13 41 12.6	-0.9
	baz=201						
Y54A	Tignall	22.62	36	P	P	13 41 12.2	-1.4
	baz=222,SNR=12						
CBKS	Cedar Bluff	22.69	357	P	P	13 41 14.9	+0.5
	baz=176						
CCM	Cathedral Cave	22.77	15	*e*P	P	13 41 13.1	-2.0
	24nm,1.0s						
CCM	Cathedral Cave	22.77	15	P	P	13 41 14.9	-0.2
	baz=197						
X53A	Estanollee	22.77	34	P	P	13 41 13.8	-1.4
	baz=220,SNR=7.7						
157A	Early Branch	22.79	40	P	P	13 41 14.5	-0.9
	baz=228						
V50A	Pikevile	22.81	29	P	P	13 41 14.5	-1.0
	baz=214,SNR=5.2						
T46A	Princeton	22.84	22	P	P	13 41 15.3	-0.5
	baz=206,SNR=6.7						
S22A	4UR Ranch, Cre	22.87	342	*e*P	P	13 41 17.1	+0.7
	10nm,1.0s						
S22A	4UR Ranch, Cre	22.87	342	P	P	13 41 17.9	+1.4
	baz=158,SNR=6.7						
U48A	Cassie Pea, Po	22.89	25	P	P	13 41 15.4	-0.9
	baz=210,SNR=8.4						
CPCT	Cooper Cave	22.90	30	*e*P	P	13 41 14.2	-2.2
	24nm,0.8s						
W52A	Murphy	22.91	32	*e*P	P	13 41 15.5	-1.1
	59nm,1.0s						
W52A	Murphy	22.91	32	P	P	13 41 15.8	-0.8
	baz=218,SNR=5.3						
MVCO	Mesa Verde	22.91	339	P	P	13 41 18.2	+1.3
	baz=153						
R41A	Rosebud	22.97	14	P	P	13 41 17.0	-0.1
	baz=197,SNR=6.9						
S44A	Carbondale	22.98	19	P	P	13 41 17.2	0.0
	baz=202,SNR=6.0						
SIUC	Southern Illin	23.01	19	*e*P	P	13 41 15.6	-1.9
	63nm,1.0s						
PDMCI	Parker Dam,Lak	23.07	325	P	P	13 41 20.3	+2.1
	baz=137						
T47A	Sharon Grove	23.08	23	*e*P	P	13 41 15.8	-2.6
	71nm,1.1s						
T47A	Sharon Grove	23.08	23	P	P	13 41 18.0	-0.4
	baz=208,SNR=11						
SWSC	Sam W. Stewart	23.08	320	P	P	13 41 21.7	+3.3
	baz=132						
R42A	Luebbering	23.09	15	P	P	13 41 18.2	-0.2
	baz=198,SNR=5.1						
Y55A	Saluda	23.15	37	P	P	13 41 17.8	-1.3
	baz=224,SNR=5.9						
KSCO	Kaye Shedlock'	23.17	351	*e*P	P	13 41 18.2	-1.2
	26nm,0.9s						
KSCO	Kaye Shedlock'	23.17	351	P	P	13 41 19.8	+0.4
	baz=169						
S45A	Carrier Mills	23.17	20	P	P	13 41 19.1	-0.1
	baz=238,SNR=5.7						
U49A	Red Boiling Sp	23.21	26	P	P	13 41 19.2	-0.4
	baz=212,SNR=13						
V51A	Loudon	23.27	30	*e*P	P	13 41 17.6	-2.6
	37nm,1.1s						
V51A	Loudon	23.27	30	P	P	13 41 19.4	-0.9
	baz=216,SNR=6.1						
X54A	Belton	23.31	35	P	P	13 41 19.1	-1.6
	baz=222						
BG3	Lake Jocassee	23.34	33	*e*P	P	13 41 18.8	-2.2
	26nm,0.9s						
W53A	Cullowhee	23.36	33	P	P	13 41 20.4	-0.9
	baz=219,SNR=6.8						
BC3	Big Chuckawall	23.36	322	P	P	13 41 23.5	+2.2
	baz=133						
Z57A	Bowman	23.39	40	P	P	13 41 20.6	-0.9
	baz=227			

USIN	University of 69nm,0.9s	23.74	21	*e*P	P	13 41 23.3	-1.6
Q42A	Golden Eagle baz=198,SNR=7.5	23.75	15	P	P	13 41 24.8	-0.2
U15A	North Rim 11nm,0.9s	23.79	331	*e*P	P	13 41 27.2	+1.5
W54A	Cherokee Point baz=221,SNR=6.2	23.81	34	P	P	13 41 25.1	-0.6
T49A	Edmonton 11nm,0.8s	23.81	26	*e*P	P	13 41 24.7	-0.9
T49A	Edmonton baz=212	23.81	26	P	P	13 41 25.0	-0.6
R45A	Skylar, Fairfi baz=204,SNR=6.1	23.83	20	P	P	13 41 25.6	-0.1
U51A	La Follette baz=216	23.89	29	P	P	13 41 25.6	-0.8
V53A	Saluda baz=219	23.92	32	P	P	13 41 24.8	-1.9
BELC	Belle Mtn. Jos baz=133	23.93	321	P	P	13 41 28.7	+1.8
PFO	Pinyon Flats O baz=131	23.94	320	P	P	13 41 30.4	+3.4
Q43A	New Douglas baz=200	24.00	17	P	P	13 41 26.7	-0.7
R46A	Gibon Southern baz=206	24.02	21	P	P	13 41 26.8	-0.8
X56A	White Oak baz=224,SNR=6.0	24.02	37	P	P	13 41 27.0	-0.6
T50A	Nancy baz=213,SNR=5.1	24.04	27	P	P	13 41 26.9	-0.9
Y57A	Sumter baz=226	24.07	39	P	P	13 41 27.0	-1.1
S48A	Wiedeman Farm, baz=210	24.07	24	P	P	13 41 26.6	-1.5
Q44A	Meyer Farm, Va 62nm,1.3s	24.16	18	*e*P	P	13 41 27.6	-1.2
Q44A	Meyer Farm, Va baz=202	24.16	18	P	P	13 41 28.0	-0.8
U52A	Thorn Hill baz=217	24.21	30	P	P	13 41 28.5	-0.9
SMCO	Snowmass 33nm,1.4s	24.24	343	*e*P	P	13 41 28.2	-1.9
TZTN	Tazewell baz=216	24.25	30	P	P	13 41 28.9	-0.8
GMRC	Granite Mounta baz=135	24.28	323	P	P	13 41 32.0	+1.8
OLIL	Olney 25nm,0.8s	24.29	20	*e*P	P	13 41 28.9	-1.2
KMSC	Kings Mountain baz=223	24.32	36	P	P	13 41 29.7	-0.7
P41A	Barry, Barry baz=197	24.35	14	P	P	13 41 30.4	-0.3
T51A	Gray baz=215	24.40	29	P	P	13 41 30.2	-0.9
Q45A	Warren Harvey, baz=204	24.42	19	P	P	13 41 30.3	-0.9
P42A	Winchester 37nm,0.9s	24.44	15	*e*P	P	13 41 29.1	-2.3
P42A	Winchester baz=198,SNR=6.0	24.44	15	P	P	13 41 30.9	-0.5
R47A	Wooly Knot Far baz=208,SNR=11	24.45	23	P	P	13 41 31.4	-0.1
V54A	Nebo baz=221,SNR=5.4	24.46	34	P	P	13 41 31.3	-0.4
WCI	Wyandotte Cave 36nm,0.8s	24.48	23	*e*P	P	13 41 29.0	-2.8
WCI	Wyandotte Cave baz=209	24.48	23	P	P	13 41 31.5	-0.3
ISCO	Idaho Springs 20nm,1.0s	24.49	346	*e*P	P	13 41 32.6	+0.3
ISCO	Idaho Springs baz=162,SNR=16	24.49	346	P	P	13 41 34.1	+1.8
S49A	Springfield baz=211,SNR=6.0	24.49	25	P	P	13 41 31.2	-0.7
KNB	Kanab 32nm,1.7s	24.51	331	*e*P	P	13 41 33.6	+1.3
HEC	Hector,Ludlow baz=134	24.70	322	P	P	13 41 36.7	+2.7
P43A	Skaggs, Pawnee baz=200	24.70	16	P	P	13 41 33.1	-0.7
LCMT	Little Creek M 4.3nm,1.2s	24.71	330	*e*P	P	13 41 36.0	+2.0
W56A	Indian Trail baz=224	24.74	37	P	P	13 41 34.5	+0.3
S50A	Richmond baz=213,SNR=12	24.78	27	P	P	13 41 34.3	-0.3
R48A	Northridge Ran baz=209,SNR=7.0	24.79	24	P	P	13 41 34.3	-0.3
P44A	Sand Creek, Wi baz=202	24.80	18	P	P	13 41 34.6	0.0
O41A	Passleys Farm, baz=197,SNR=6.1	24.82	14	P	P	13 41 34.2	-0.6
TUQ	Turquoise Moun baz=135	24.90	324	P	P	13 41 38.1	+2.3
V55A	Taylorsville baz=222,SNR=5.8	24.91	35	P	P	13 41 35.8	0.0
T52A	Hallie baz=217	24.97	30	P	P	13 41 35.6	-0.6
R49A	Shelbyville baz=211	24.97	25	P	P	13 41 36.0	-0.3
OGNE	Ogallala 20nm,0.7s	25.00	353	*e*P	P	13 41 37.7	+1.2
OGNE	Ogallala baz=171	25.00	353	P	P	13 41 38.2	+1.6
Q47A	Bedord North L baz=208,SNR=8.2	25.05	22	P	P	13 41 36.6	-0.4
MTPU	Mount Pierson 23nm,1.2s	25.07	333	*e*P	P	13 41 37.5	-0.2
X58A	Rowland baz=228	25.07	39	P	P	13 41 37.5	+0.3
T53A	Wise baz=218	25.09	31	P	P	13 41 36.1	-1.3
U54A	Nelsons Funny baz=220,SNR=7.7	25.09	33	P	P	13 41 36.8	-0.6
W57A	Gilead baz=225,SNR=6.1	25.09	37	P	P	13 41 37.2	-0.2
S51A	Beattyville 48nm,0.8s	25.11	28	*e*P	P	13 41 36.6	-0.9
S51A	Beattyville baz=215,SNR=8.9	25.11	28	P	P	13 41 37.3	-0.2
P45A	Graceland, Par baz=204	25.13	20	P	P	13 41 37.9	+0.3
Q48A	North Vernon baz=209,SNR=12	25.30	23	P	P	13 41 38.8	-0.5
GSC	Goldstone, Bar 6.2nm,1.0s	25.31	323	*e*P	P	13 41 42.0	+2.6
GSC	Goldstone, Bar baz=134	25.31	323	P	P	13 41 42.3	+2.9
R50A	Paris baz=213,SNR=6.5	25.32	26	P	P	13 41 39.0	-0.4
SRU	San Rafael Swe 14nm,1.2s	25.33	337	*e*P	P	13 41 39.4	-0.3
P46A	Rosedale baz=205	25.39	20	P	P	13 41 40.1	+0.2
N41A	Harden Midland 21nm,0.8s	25.39	13	*e*P	P	13 41 37.2	-2.8
N41A	Harden Midland baz=196	25.39	13	P	P	13 41 39.8	-0.2
N40A	Mertquake, Sal baz=195	25.40	12	P	P	13 41 39.7	-0.4
Q16A	Castle Valley	25.40	336	*e*P	P	13 41 40.0	-0.5
W58A	Raeford baz=227	25.45	39	P	P	13 41 40.5	-0.1
MSU	Marysvale	25.46	334	*e*P	P	13 41 42.6	+1.6
U55A	TA2, Sparta baz=221,SNR=5.5	25.48	34	P	P	13 41 41.0	0.0
O20A	White River Ci 26nm,1.2s	25.49	342	*e*P	P	13 41 42.7	+1.6
O20A	White River Ci baz=157,SNR=10	25.49	342	P	P	13 41 43.0	+1.9
P47A	Martinsville baz=207	25.59	22	P	P	13 41 42.0	+0.1
N23A	Red Feather La 20nm,1.0s	25.61	347	*e*P	P	13 41 43.3	+1.0
N23A	Red Feather La baz=162	25.61	347	P	P	13 41 43.9	+1.6
HDIL	Hopedale 44nm,1.0s	25.62	16	*e*P	P	13 41 40.3	-1.8
HDIL	Hopedale baz=200,SNR=5.2	25.62	16	P	P	13 41 42.3	+0.2
T54A	Tazewell baz=220	25.63	32	P	P	13 41 41.6	-0.7
R51A	Hillsboro baz=214,SNR=15	25.66	28	P	P	13 41 42.9	+0.5
TCRU	Three Creeks R 12nm,0.4s	25.66	334	*e*P	P	13 41 42.9	+0.1
N42A	Yates City baz=198	25.69	15	P	P	13 41 42.4	-0.3
Q49A	Aurora baz=211,SNR=6.0	25.70	25	P	P	13 41 42.1	-0.7
V57A	Coltrane Farms baz=225,SNR=8.1	25.74	36	P	P	13 41 43.9	+0.6
TMUT	Trail Mountain 6.3nm,0.8s	25.75	336	*e*P	P	13 41 44.4	+0.7
O45A	Potomac baz=204,SNR=10	25.79	19	P	P	13 41 44.5	+0.9
M39A	Webster baz=193,SNR=8.0	25.87	11	P	P	13 41 44.1	-0.2
P48A	Milroy baz=209	25.88	23	P	P	13 41 43.7	-0.8
PHWY	Pilot Hill 10.0nm,1.0s	25.89	348	*e*P	P	13 41 44.4	-0.6
M40A	Post Highland baz=195	25.92	12	P	P	13 41 44.9	+0.1
Q50A	Georgetown baz=213,SNR=9.8	25.94	26	P	P	13 41 44.5	-0.5
N43A	Stutzman Famil baz=200	26.01	16	P	P	13 41 45.4	-0.3
T55A	Pulaski baz=221	26.08	33	P	P	13 41 47.1	+0.7
M41A	Milan baz=197	26.09	13	P	P	13 41 46.5	+0.1
SFIN	Lafayette baz=205	26.11	20	P	P	13 41 46.3	-0.3
SCIA	State Center 52nm,0.9s	26.12	9	*e*P	P	13 41 45.2	-1.4
SCIA	State Center baz=191	26.12	9	P	P	13 41 46.9	+0.3
N44A	Piper City baz=202	26.17	18	P	P	13 41 47.1	0.0
TPNV	Topopah Spring 18nm,1.5s	26.18	326	*e*P	P	13 41 49.5	+2.1
TPNV	Topopah Spring baz=137	26.18	326	P	P	13 41 49.8	+2.4
P49A	Miami Univ. Ec baz=210,SNR=14	26.22	24	P	P	13 41 46.9	-0.6
PSUT	Pine Spring 5.1nm,0.9s	26.22	332	*e*P	P	13 41 49.1	+1.2
MPMC	Manual Prospec baz=134	26.23	323	P	P	13 41 50.0	+2.0
O47A	Sheridan baz=207	26.29	21	P	P	13 41 47.5	-0.7
M42A	Sheffield baz=198	26.35	15	P	P	13 41 48.4	-0.3
Q51A	Peebles 33nm,0.9s	26.36	27	*e*P	P	13 41 47.4	-1.5
Q51A	Peebles baz=214,SNR=9.0	26.36	27	P	P	13 41 48.4	-0.5
N45A	Kentland baz=204	26.40	19	P	P	13 41 49.3	+0.1
T56A	Rocky Mt baz=223	26.42	34	P	P	13 41 48.8	-0.7
R53A	Hurricane baz=217	26.43	30	P	P	13 41 49.0	-0.5
L39A	Vinton baz=193	26.52	11	P	P	13 41 50.0	-0.3
MPU	Maple Canyon 10nm,1.2s	26.53	337	*e*P	P	13 41 51.7	+1.1
M43A	Waltham Townsh baz=200	26.54	16	P	P	13 41 49.9	-0.5
ISA	Isabella, Lake baz=131	26.55	321	P	P	13 41 54.1	+3.4
V59A	Middlesex baz=228,SNR=5.9	26.55	39	P	P	13 41 50.9	+0.3
L40A	Anamosa 15nm,0.9s	26.61	12	*e*P	P	13 41 49.6	-1.4
L40A	Anamosa baz=195	26.61	12	P	P	13 41 50.6	-0.5
NLU	North Lily Min 6.5nm,0.9s	26.65	336	*e*P	P	13 41 52.7	+1.0
P50A	Jamestown baz=212	26.66	26	P	P	13 41 50.4	-1.1
O48A	Farmland baz=209,SNR=6.3	26.68	23	P	P	13 41 51.1	-0.6
N46A	Monticello baz=205	26.69	20	P	P	13 41 51.6	-0.2
M44A	Midewin, Midew baz=202	26.74	17	P	P	13 41 52.0	-0.2
L41A	Presto baz=196,SNR=5.2	26.77	13	P	P	13 41 52.1	-0.4
R54A	Victor baz=219	26.79	31	P	P	13 41 52.4	-0.3
Q52A	Bidwell baz=216	26.79	29	P	P	13 41 52.3	-0.5
U58A	Oxford baz=226	26.80	37	P	P	13 41 53.5	+0.7
T57A	Hurt baz=224	26.82	35	P	P	13 41 53.9	+0.8
P51A	Williamsport 20nm,0.8s	26.86	27	*e*P	P	13 41 51.7	-1.6
P51A	Williamsport baz=214	26.86	27	P	P	13 41 52.9	-0.4
PKM	Mcpherson Peak baz=128	26.88	318	P	P	13 41 55.8	+2.0
L42A	Oliver, Polo 32nm,0.9s	26.89	14	*e*P	P	13 41 52.4	-1.2
L42A	Oliver, Polo baz=198,SNR=5.2	26.89	14	P	P	13 41 53.1	-0.5
R11A	Troy Canyon, C 5.3nm,1.4s	26.90	329	*e*P	P	13 41 57.5	+3.6
R11A	Troy Canyon, C baz=140	26.90	329	P	P	13 41 55.6	+1.6
O49A	Covington 32nm,1.0s	26.93	24	*e*P	P	13 41 52.2	-1.8
O49A	Covington baz=211	26.93	24	P	P	13 41 53.1	-0.8
N47A	Urbana baz=207	27.03	21	P	P	13 41 54.2	-0.7
Q53A	Leroy baz=217	27.06	30	P	P	13 41 54.3	-0.8
K39A	Oelwein baz=193	27.11	10	P	P	13 41 55.0	-0.5
DUG	Dugway, Tooele 9.9nm,1.4s	27.15	335	*e*P	P	13 41 57.1	+1.0
DUG	Dugway, Tooele baz=147	27.15	335	P	P	13 41 57.7	+1.6
O50A	Cable baz=212	27.18	25	P	P	13 41 55.2	-1.1
K40A	Colesburg baz=195	27.24	12	P	P	13 41 56.3	-0.5
N48A	Decatur baz=209	27.25	22	P	P	13 41 55.9	-0.9
L43A	Garden Prairie baz=200	27.29	16	P	P	13 41 56.7	-0.5
K41A	Shullsburg baz=196	27.32	13	P	P	13 41 57.2	-0.3
Q54A	Coxs Mills baz=219	27.49	30	P	P	13 41 58.5	-0.5
L44A	Lake County Fo baz=202	27.51	17	P	P	13 41 59.0	-0.2
ACSO	Alum Creek Sta 14nm,0.9s	27.52	26	*e*P	P	13 41 58.5	-0.8
ACSO	Alum Creek Sta baz=213	27.52	26	P	P	13 41 59.0	-0.3
O51A	Pataskala baz=214	27.61	27	P	P	13 41 59.8	-0.3
N49A	Columbus Grove baz=210	27.62	24	P	P	13 42 00.4	+0.2
JFWS	Jewell Farm baz=196	27.63	13	P	P	13 42 00.1	-0.1
K42A	Prairie Point, baz=198	27.70	14	P	P	13 42 00.9	0.0
BGU	Big Grassy Mou 8.9nm,1.2s	27.86	336	*e*P	P	13 42 03.2	+0.7
O52A	Adamsville baz=215	27.92	28	P	P	13 42 02.2	-0.7
SPUT	South Promonto 7.4nm,1.2s	27.96	337	*e*P	P	13 42 05.2	+1.8
J40A	Soldiers Grove baz=195	27.99	12	P	P	13 42 03.4	0.0
J41A	Loganville baz=197	28.11	13	P	P	13 42 04.3	-0.2
P54A	Burton baz=218	28.14	30	P	P	13 42 04.4	-0.5
L47A	Sherwood baz=207	28.17	21	P	P	13 42 04.3	-0.8
M49A	Liberty Center baz=210	28.18	23	P	P	13 42 04.0	-1.1
R58B	Mineral baz=225	28.28	36	P	P	13 42 05.7	-0.4
I39A	Houston baz=193	28.29	10	P	P	13 42 06.2	+0.1
BW06	Boulder Array 20nm,1.8s	28.30	342	*e*P	P	13 42 07.0	+0.5
BW06	Boulder Array baz=156	28.30	342	P	P	13 42 07.7	+1.2
PD31	Pinedale Array 18nm,1.8s	28.30	342	*e*P	P	13 42 06.5	+0.1
PDAR	Pinedale Array	28.30	342	*e*P	P	13 42 06.1	-0.4
PDAR	Pinedale Array 1.5nm,0.9s,baz=142,slow=7.4,SNR=11	28.30	342	P	P	13 42 07.4	+0.9
NV01	Mina Array Sit	28.37	326	*e*P	P	13 42 07.9	+0.7
NVAR	Mina Array Bea 1.7nm,0.8s,baz=150,slow=9.9,SNR=14	28.37	326	P	P	13 42 09.1	+1.9
L48A	N Adams baz=209	28.41	22	P	P	13 42 06.1	-1.1
HVU	Hansel Valley 6.3nm,1.0s	28.49	337	*e*P	P	13 42 09.0	+0.9
J43A	Natural Harves baz=200	28.50	15	P	P	13 42 07.7	-0.2
K46A	Dorr baz=206	28.61	20	P	P	13 42 08.5	-0.5
ELK	Elko 19nm,1.9s	28.64	333	*e*P	P	13 42 11.0	+1.5
ELK	Elko 0.9nm,0.8s,baz=116,slow=9.0,SNR=4.0	28.64	333	P	P	13 42 11.6	+2.0
REDW	Red Top Meadow 12nm,1.4s	29.23	341	*e*P	P	13 42 15.3	+0.5
H40A	Chili baz=195	29.24	12	P	P	13 42 14.7	+0.2
TPAW	Teton Pass 9.3nm,1.1s	29.38	341	*e*P	P	13 42 15.9	-0.2
H41A	Junction City baz=197	29.38	13	P	P	13 42 15.5	-0.3
FXWY	Fox Creek 11nm,1.8s	29.53	341	*e*P	P	13 42 17.9	+0.4
MOOW	Moose Ponds 4.7nm,1.3s	29.55	342	*e*P	P	13 42 18.9	+1.3
G39A	Holcombe baz=194	29.74	10	P	P	13 42 19.6	+0.6
IMW	Indian Meadow 2.7nm,0.9s	29.74	341	*e*P	P	13 42 21.0	+1.6
G42A	Mountain baz=199	30.25	14	P	P	13 42 24.1	+0.7
RLMT	Red Lodge 26nm,1.8s	30.40	345	*e*P	P	13 42 26.6	+1.6
RLMT	Red Lodge baz=158	30.40	345	P	P	13 42 25.8	+0.7
M55A	Ridgway baz=219	30.41	30	P	P	13 42 24.4	-0.6
YHH	Holmes Hill 8.9nm,1.6s	30.52	342	*e*P	P	13 42 28.0	+1.7
F40A	Park Falls baz=195	30.54	11	P	P	13 42 25.6	-0.5
E40A	Wakefield baz=195	31.09	11	P	P	13 42 30.3	-0.6
F43A	Flat Rock, Esc baz=201	31.10	15	P	P	13 42 30.4	-0.6
E42A	Champion baz=199	31.49	14	P	P	13 42 33.7	-0.7
BOZ	Bozeman (W) 13nm,1.5s	31.49	342	*e*P	P	13 42 35.9	+1.3
BOZ	Bozeman (W) baz=154	31.49	342	P	P	13 42 36.4	+1.8
WVOR	Wild Horse Val 17nm,1.6s	31.53	331	*e*P	P	13 42 35.7	+0.7
DLMT	Dillon 9.1nm,1.1s	31.58	341	*e*P	P	13 42 36.7	+1.3
E43A	Lone Tree Farm baz=201	31.66	15	P	P	13 42 35.2	-0.7
MDND	Maddock 55nm,1.0s	31.70	358	*e*P	P	13 42 35.6	-0.7
MDND	Maddock baz=177	31.70	358	P	P	13 42 36.8	+0.4
J08A	Circle Bar Ran 8.9nm,1.0s	32.17	332	*e*P	P	13 42 41.9	+1.3
AGMN	Agassiz Nation 12nm,1.0s	32.20	3	*e*P	P	13 42 39.5	-1.1
AGMN	Agassiz Nation baz=184	32.20	3	P	P	13 42 40.4	-0.2
EYMN	Ely baz=192	32.28	9	P	P	13 42 40.6	-0.7
BINY	Binghamton baz=223	32.33	32	P	P	13 42 41.7	-0.2
F48A	Evansville baz=209	32.45	21	P	P	13 42 42.3	-0.5
WLVO	Wesleyville baz=217	32.50	27	P	P	13 42 43.0	-0.3
DGMT	Dagmar baz=169	32.67	353	P	P	13 42 45.6	+0.8
BUKO	Buck Lake baz=214	33.31	25	P	P	13 42 50.4	0.0
G53A	Haliburton baz=216	33.37	26	P	P	13 42 50.4	-0.4
F10A	Beach Ranch, E 7.1nm,1.0s	33.75	336	*e*P	P	13 42 54.4	0.0
G08A	Pilot Rock 3.3nm,1.1s	33.91	333	*e*P	P	13 42 56.1	+0.4
ULM	Lac du Bonnet 24nm,1.8s	34.15	3	*e*P	P	13 42 56.2	-1.4
ULM	Lac du Bonnet 4.2nm,1.0s,baz=186,slow=12,SNR=5.5	34.15	3	P	P	13 42 57.2	-0.4
E53A	Dumoine, Ponti baz=216	34.77	25	P	P	13 43 02.6	-0.5
H04A	Detroit Lake 17nm,1.5s	34.92	330	*e*P	P	13 43 05.1	+0.6
E54A	Lac Daplat, Po baz=217	35.02	26	P	P	13 43 04.7	-0.5
LSQQ	Lebel-sur-Quev baz=215	37.22	23	P	P	13 43 23.2	-0.8
A04D	Lummi Island baz=139	38.19	334	P	P	13 43 33.8	+1.6
FFC	Flin Flon 7.3nm,0.8s	38.68	357	*e*P	P	13 43 35.9	-0.4
FCC	Fort Churchill 34nm,1.9s	42.74	3	*e*P	P	13 44 09.4	-0.3
SCHQ	Schefferville 19nm,1.0s	45.67	25	*e*P	P	13 44 32.2	-1.1
SCHQ	Schefferville 12nm,0.9s,baz=208,slow=2.9,SNR=5.2	45.67	25	P	P	13 44 33.0	-0.3
SCHQ				LR	LR	14 05 51.9	
	comp=Z,144nm,18.1s,baz=142,slow=39						
YKA	Yellowknife Ar 2.4nm,0.9s,baz=157,slow=7.5,SNR=23	47.77	350	P	P	13 44 49.2	-0.3
YKB5	Yellowknife Ar	47.77	350	*e*P	P	13 44 49.1	-0.5
YKW3	Yellowknife Ar 7.1nm,1.3s	47.84	350	*e*P	P	13 44 49.8	-0.3
INK	Inuvik 6.3nm,0.9s	56.81	345	*e*P	P	13 45 56.5	-0.1
INK	Inuvik 5.3nm,0.9s,baz=128,slow=6.8,SNR=16	56.81	345	P	P	13 45 56.8	+0.1
HDA	Harding Lake baz=122	58.42	338	P	P	13 46 08.3	+0.3
ILAR	Eielson Array 2.1nm,0.9s,baz=143,slow=4.6,SNR=19	58.59	338	P	P	13 46 09.7	+0.5
POKR	Poker Plat Res baz=122	58.97	338	P	P	13 46 12.4	+0.4
TRF	Thorofare Moun 13nm,0.9s	59.21	336	*e*P	P	13 46 14.4	+0.6
TOLK	Toolik Lake Re baz=121	61.55	341	P	P	13 46 30.2	+0.6
PLCA	Paso Flores 1.4nm,1.0s,baz=323,slow=10,SNR=2.9	62.11	156	P	P	13 46 33.7	-0.1
SUMG	Summit 9.1nm,1.0s	65.93	17	*e*P	P	13 46 57.8	-1.0
SUMG	Summit 18nm,0.9s	65.93	17	*i* P	P	13 46 58.7	-0.1
DAG	Danmarks Havn 4.1nm,0.8s	72.09	14	*i* P	P	13 47 34.8	-1.7
ESDC	Sonseca Array 0.3nm,0.4s,baz=306,slow=5.0,SNR=5.2	83.18	51	P	P	13 48 39.2	0.0
TIXI	Tiksi	86.91	347	P	P	13 48 57.0	-0.2
TIXI	Tiksi 0.5nm,0.3s,baz=47,slow=2.2,SNR=3.3	86.91	347	P	P	13 48 57.0	-0.2
LZH	Lanzhou	124.05	338	*e*PKP	PKiKP	13 55 13.8	+1.7
LZH				sPKP		13 55 26.8	
CD2	Chengdu	128.69	336	PKP	PKPdf	13 55 21.3	+0.6
WB2	Warramunga Arr	129.94	257	*e*PKPdf	PKiKP	13 55 28.0	+3.9

ISCJB ***26*** *13:37:48.1±0.4, 8.78N±0.07×40.39W±0.07, h10km, mb4.4/34, MS3.9/8, Error ellipse: s-maj=10.3km s-min=9.0km az=136.8*
IDC ***26*** *13:37:48.4±0.6, 8.85N×40.39W, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.1/59, mbtmp4.3/19, ML3.9/1, MS3.9/9, Ms1 3.9/9, ms1mx3.6/38, Error ellipse: s-maj=20.4km s-min=12.6km az=139.0*
NEIC ***26*** *13:37:49.7±0.3, 8.76N×40.40W, h10km, mb4.7/22, Error ellipse: s-maj=8.2km s-min=6.9km az=142.0*
ISC 26 13:37:49.7±0.5, 8.79N±0.09×40.41W±0.09, h10km, n56, σ0s85/42, mb4.5/34, MS3.8/8, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**12.69**	**254**	Pn	**Pn**	**13 40 48.9**	**-1.4**
	0.6nm,0.3s,baz=58,slow=14,SNR=14						
MDP				Sn	Sn	13 42 55.8	-16
	3.6nm,0.3s,baz=145,slow=15,SNR=10.0						
MDP				LR	LR	13 44 50.8	
	comp=Z,525nm,21.5s,baz=1.0,slow=33						
RCBR	**Riachuelo**	**15.20**	**163**	*e*Pn	**Pn**	**13 41 24.0**	**-0.7**
	17nm,0.9s						
H05S1	**Guadeloupe/Mar**	**20.77**	**288**	T	T	14 03 54.5	
	SNR=68						
H05N1	**Guadeloupe/Mar**	**21.49**	**292**	T	T	14 04 45.4	
	SNR=14						
PTGA	**Pitinga**	**21.66**	**245**	*e*P	**P**	**13 42 40.1**	**-0.7**
	62nm,1.0s						
PTGA	**Pitinga**	**21.66**	**245**	P	**P**	**13 42 41.0**	**+0.3**
	49nm,0.9s,baz=69,slow=14,SNR=45						
BDFB	**Brasilia**	**25.42**	**197**	*e*P	**P**	**13 43 17.1**	**-0.8**
	55nm,2.0s						
BDFB	**Brasilia**	**25.42**	**197**	P	**P**	**13 43 18.6**	**+0.7**
	3.7nm,0.6s,baz=27,slow=21,SNR=5.4						
H10N3	**ASCENSION HYDR**	**30.65**	**122**	T	T	14 16 14.8	
	baz=302,slow=75,SNR=109						
H10N2	**ASCENSION HYDR**	**30.65**	**122**	T	T	14 16 11.7	
	baz=302,slow=75,SNR=124						
H10N1	**ASCENSION HYDR**	**30.67**	**122**	T	T	14 16 13.2	
	baz=302,slow=75,SNR=432						
H10S3	**ASCENSION HYDR**	**31.11**	**124**	T	T	14 16 46.6	
	baz=304,slow=75,SNR=161						
H10S1	**ASCENSION HYDR**	**31.12**	**124**	T	T	14 16 47.1	
	baz=304,slow=75,SNR=243						
H10S2	**ASCENSION HYDR**	**31.13**	**124**	T	T	14 16 48.0	
	baz=304,slow=75,SNR=167						
SIV	**San Ignacio**	**32.02**	**220**	P	**P**	**13 44 18.6**	**+2.0**
	3.6nm,1.0s,baz=69,slow=8.5,SNR=9.8						
ROSC	**El Rosal**	**33.89**	**266**	LR	LR	13 58 08.8	
	comp=Z,146nm,21.0s,baz=359,slow=36						
DBIC	**Dimbokro**	**35.28**	**91**	P	**P**	**13 44 44.6**	**-0.6**
	3.0nm,0.6s,baz=270,slow=11,SNR=6.0						
LPAZ	**La Paz**	**37.07**	**228**	*e*P	**P**	**13 44 60.0**	**-1.1**
	5.8nm,0.8s						
LPAZ	**La Paz**	**37.07**	**228**	P	**P**	**13 45 01.1**	**0.0**
	2.4nm,0.4s,baz=42,slow=5.2,SNR=11						
LPAZ				LR	LR	14 00 10.9	
	comp=Z,134nm,19.9s,baz=24,slow=36						
MDT	**Midelt**	**40.80**	**49**	P	**P**	**13 45 30.0**	**-1.6**
	4.7nm,0.5s,baz=260,slow=7.1,SNR=11						
ATAH	**Atahualpa**	**41.03**	**248**	P	**P**	**13 45 34.9**	**+0.7**
	13nm,0.9s,baz=82,slow=7.5,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**41.52**	**80**	*e*P	**P**	**13 45 37.2**	**-0.5**
	5.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**41.52**	**80**	P	**P**	**13 45 37.4**	**-0.3**
	2.5nm,0.5s,baz=277,slow=9.0,SNR=18						
H09W1	**TRISTAN DA CUN**	**52.69**	**152**	T	T	14 43 44.7	
	SNR=14						
PLCA	**Paso Flores**	**56.58**	**207**	P	**P**	**13 47 33.5**	**+0.8**
	3.2nm,1.0s,baz=71,slow=6.8,SNR=5.0						
ULM	**Lac du Bonnet**	**61.57**	**323**	*e*P	**P**	**13 48 06.1**	**-1.1**
	5.8nm,0.8s						
ULM	**Lac du Bonnet**	**61.57**	**323**	P	**P**	**13 48 06.4**	**-0.8**
	3.4nm,0.7s,baz=128,slow=6.0,SNR=8.1						
ULM				LR	LR	14 11 51.2	
	comp=Z,89nm,19.2s,baz=117,slow=33						
TXAR	**Lajitas Array**	**62.46**	**298**	P	**P**	**13 48 14.0**	**+0.3**
	1.4nm,0.6s,baz=92,slow=6.3,SNR=16						
SUMG	**Summit**	**63.74**	**1**	*e*P	**P**	**13 48 21.9**	**+0.1**
	50nm,2.0s						
MNTX	**Cornudas Mount**	**64.17**	**301**	*e*P	**P**	**13 48 23.8**	**-1.1**
	3.6nm,0.9s						
NOA	**NORSAR Array B**	**64.45**	**25**	P	**P**	**13 48 26.8**	**+0.5**
	0.7nm,0.8s,baz=239,slow=6.6,SNR=2.7						
NOA				LR	LR	14 11 50.5	
	comp=Z,40nm,20.5s,baz=220,slow=32						
SDCO	**Great Sand Dun**	**65.01**	**308**	*e*P	**P**	**13 48 31.5**	**+0.8**
	5.2nm,1.0s						
HFS	**Hagfors**	**65.07**	**27**	P	**P**	**13 48 31.1**	**+0.9**
	2.6nm,0.9s,baz=225,slow=8.2,SNR=3.6						
S22A	**4UR Ranch, Cre**	**66.05**	**307**	*e*P	**P**	**13 48 38.1**	**+0.7**
	5.8nm,1.1s						
FFC	**Flin Flon**	**66.63**	**326**	*e*P	**P**	**13 48 40.0**	**-0.4**
	13nm,1.4s						
TUC	**Tucson**	**68.79**	**301**	*e*P	**P**	**13 48 54.8**	**+0.2**
	14nm,1.8s						
PDAR	**Pinedale Array**	**68.79**	**312**	LR	LR	14 16 25.5	
	comp=Z,47nm,19.9s,baz=67,slow=34						
WUAZ	**Wupatki**	**69.47**	**305**	*e*P	**P**	**13 48 59.8**	**+1.0**
	8.1nm,0.8s						
U15A	**North Rim**	**70.27**	**305**	*e*P	**P**	**13 49 04.9**	**+1.0**
	5.7nm,1.0s						
BGU	**Big Grassy Mou**	**71.17**	**310**	*e*P	**P**	**13 49 09.6**	**+0.4**
	24nm,1.5s						
FINES	**FINESS Array B**	**71.18**	**28**	P	**P**	**13 49 09.3**	**+0.7**
	0.5nm,0.5s,baz=224,slow=5.0,SNR=3.9						
SUR	**Sutherland**	**71.23**	**128**	LR	LR	14 12 40.1	
	comp=Z,295nm,20.7s,baz=296,slow=29						
HLID	**Hailey**	**72.41**	**313**	*e*P	**P**	**13 49 16.9**	**+0.3**
	5.2nm,1.2s						
RES	**Resolute Bay**	**72.61**	**347**	*e*P	**P**	**13 49 17.6**	**+0.7**
	6.0nm,1.3s						
ELK	**Elko**	**72.83**	**310**	*e*P	**P**	**13 49 19.8**	**+0.5**
	5.5nm,1.4s						
ELK	**Elko**	**72.83**	**310**	LR	LR	14 18 57.2	
	comp=Z,67nm,18.3s,baz=51,slow=34						
ARCES	**ARCESS Array B**	**73.50**	**20**	P	**P**	**13 49 22.8**	**+0.5**
	1.8nm,0.8s,baz=246,slow=6.8,SNR=4.9						
YKA	**Yellowknife Ar**	**74.96**	**332**	P	**P**	**13 49 30.0**	**-0.9**
	0.9nm,0.7s,baz=99,slow=5.7,SNR=15						
YKB5	**Yellowknife Ar**	**74.96**	**332**	*e*P	**P**	**13 49 30.1**	**-0.8**
KVN	**Kaiserville**	**74.97**	**308**	*e*P	**P**	**13 49 32.1**	**+0.3**
	18nm,1.9s						
MOD	**Modoc Plateau**	**76.68**	**311**	*e*P	**P**	**13 49 41.2**	**-0.2**
	5.3nm,0.8s						
INK	**Inuvik**	**83.05**	**338**	*e*P	**P**	**13 50 15.5**	**+0.4**
	19nm,1.5s						
INK	**Inuvik**	**83.05**	**338**	P	**P**	**13 50 16.1**	**+0.9**
	2.8nm,0.7s,baz=72,slow=3.5,SNR=8.8						
ILAR	**Eielson Array**	**89.03**	**336**	P	**P**	**13 50 45.5**	**+0.7**
	0.7nm,0.9s,baz=66,slow=2.8,SNR=4.4						
ABKAR	**Akbulak array**	**90.09**	**40**	*e*P	**P**	**13 50 51.6**	**+1.5**
	3.5nm,0.9s						
TIXI	**Tiksi**	**99.42**	**3**	LR	LR	14 27 46.4	
	comp=Z,56nm,22.0s,baz=56,slow=30						

*ISCJB **26** 13:39:46.9±1.0, 15°.92N×09°×98°.36W±0°.04, h17km, mb3.6/5, Error ellipse: s-maj=12.8km s-min=5.5km az=12.6*
*IDC **26** 13:39:47.5±6.3, 16°.00N×98°.19W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/49, mbtmp3.7/7, ML3.3/1, Error ellipse: s-maj=125.5km s-min=29.4km az=6.0*
*MEX **26** 13:39:48.3±0.6, 15°.86N×98°.41W, h5km±10km, MD4.1*
ISC 26 13:39:48.9±1.2, 16°.0N±0°.1×98°.37W±0°.05, h17km, n13, σ1§80/18, mb3.6/5, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**1.62**	**353**	*e*P	**Pn**	**13 40 15.7**	**-1.2**
TLIG				*i* S	**Sn**	**13 40 35.7**	**-1.7**
VHO	**Vista Hermosa**	**1.93**	**54**	*e*P	**Pn**	**13 40 18.9**	**-2.2**
VHO				*i* S	**Sn**	**13 40 44.4**	**-0.6**
CAIG	**El Cayaco**	**2.13**	**301**	*e*P	**Pn**	**13 40 21.4**	**-2.3**
CAIG				*i* S	**Sn**	**13 40 47.1**	**-2.7**
HUIG	**Huatulco**	**2.18**	**94**	*i* P	**Pn**	**13 40 23.2**	**-1.3**
HUIG				*i* S	**Sn**	**13 40 48.6**	**-2.5**
CMIG	**Matias Romero**	**3.53**	**71**	*i* P	**Pn**	**13 40 41.7**	**-1.3**
CMIG				*i* S	**Sn**	**13 41 23.4**	**-1.0**
CMIG	**Matias Romero**	**3.53**	**71**	Pn	**Pn**	**13 40 42.0**	**-1.0**
	3.0nm,0.3s,baz=242,slow=17,SNR=6.5						
CMIG				Sn	**Sn**	**13 41 23.6**	**-0.8**
	14nm,0.3s,baz=273,slow=17,SNR=4.0						
CMIG				Lg	Lg	13 41 41.5	
	30nm,0.3s,baz=341,slow=9.9,SNR=10.0						
H06E1	**SOCORRO T-PHAS**	**12.32**	**285**	T	T	13 55 02.0	
	SNR=14						
ANMO	**Albuquerque**	**20.27**	**340**	P	**P**	**13 44 25.8**	**+2.0**
	3.2nm,0.7s,baz=144,slow=12,SNR=6.8						
PDAR	**Pinedale Array**	**28.40**	**343**	P	**P**	**13 45 43.7**	**+0.9**
	0.3nm,0.5s,baz=137,slow=20,SNR=4.1						
NVAR	**Mina Array Bea**	**28.45**	**326**	P	**P**	**13 45 45.8**	**+2.6**
	0.7nm,0.8s,baz=142,slow=9.4,SNR=3.6						
YKA	**Yellowknife Ar**	**47.88**	**350**	P	**P**	**13 48 25.4**	**-0.4**
	0.5nm,0.8s,baz=157,slow=7.2,SNR=4.4						
INK	**Inuvik**	**56.91**	**345**	P	**P**	**13 49 33.6**	**+0.9**
	1.6nm,0.9s,baz=124,slow=7.1,SNR=5.4						
ILAR	**Eielson Array**	**58.68**	**338**	P	**P**	**13 49 46.7**	**+1.4**
	1.3nm,1.1s,baz=154,slow=5.3,SNR=5.6						

*ISCJB **26** 13:40:54.6±0.9, 37°.14N±0°.07×71°.7E±0°.1, h109km, mb3.5/1, Error ellipse: s-maj=16.9km s-min=5.9km az=151.1*
*NNC **26** 13:41:03.1±9.9, 37°.75N×71°.65E, h98km±206km, mb3.2, mpv3.7, Error ellipse: s-maj=78.2km s-min=60.2km az=11.0*
ISC 26 13:40:55.5±1.3, 37°.31N±0°.09×71°.7E±0°.1, h109km, n18, σ2§41/23, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.05**	**17**	P	**Pn**	**13 42 11.6**	**+2.3**
	SNR=47						
UCH	**Uchtor**	**5.36**	**23**	P	**Pn**	**13 42 15.8**	**+2.3**
	SNR=11						
KZA	**Kyzart**	**5.48**	**29**	P	**Pn**	**13 42 16.5**	**+1.4**
	SNR=7.8						
EKS2	**Erkin-Say**	**5.57**	**16**	P	**Pn**	**13 42 18.7**	**+2.6**
	SNR=5.9						
AAK	**Ala-Archa**	**5.73**	**21**	P	**Pn**	**13 42 20.9**	**+2.7**
	SNR=6.6						
AAK	**Ala-Archa**	**5.73**	**21**	⇓P	**Pn**	**13 42 20.6**	**+2.3**
	4.8nm,0.4s						
AAK				⇑S	**Sn**	**13 43 19.8**	**-3.0**
	20nm,0.7s						
KK31	**Karatay Array**	**5.87**	**351**	⇓P	**Pn**	**13 42 22.9**	**+2.9**
	4.0nm,0.3s,baz=189,slow=15,SNR=77						
KK31				⇓S	**Sn**	**13 43 24.7**	**-1.1**
	5.2nm,0.3s,baz=183,slow=24,SNR=17						
CHMS	**Chumysh**	**6.14**	**21**	P	**Pn**	**13 42 25.8**	**+2.1**
	SNR=10.0						
TKM2	**Tokmak 2**	**6.34**	**27**	⇑P	**Pn**	**13 42 28.7**	**+2.1**
	2.1nm,0.6s						
TKM2				⇓S	**Sn**	**13 43 36.5**	**-1.1**
	4.8nm,0.7s						
PYUN	**Piuthan**	**13.18**	**131**	*e*P	**Pn**	**13 43 57.0**	**-1.6**
	11nm,0.5s						
DANN	**Dangsing**	**13.48**	**128**	*e*P	**Pn**	**13 44 01.2**	**-1.4**
	6.7nm,0.4s						
KOLN	**Kxlanda**	**13.79**	**130**	*e*P	**Pn**	**13 44 05.7**	**-0.9**
	5.8nm,0.4s						
AB31	**Akbulak array**	**14.69**	**328**	⇓P	**P**	**13 44 19.7**	**-1.2**
	0.3nm,0.3s,baz=167,slow=9.2,SNR=16						
AB31				⇓S	**Sn**	**13 46 56.4**	**-3.2**
	3.1nm,0.6s,baz=153,slow=21,SNR=12						
KKN	**Kakani**	**14.83**	**126**	*e*P	**Pn**	**13 44 18.1**	**-1.8**
	7.7nm,0.5s						
PKIN	**Phulchoki**	**15.05**	**126**	*e*P	**Pn**	**13 44 20.7**	**-2.0**
	2.9nm,0.3s						
JIRN	**Jiri**	**15.52**	**124**	*e*P	**Pn**	**13 44 26.4**	**-2.2**
	14nm,0.4s						
AKTO	**Aktyubinsk**	**16.40**	**327**	⇑P	**P**	**13 44 44.1**	**+4.3**
	2.4nm,0.8s						
AKTO				⇑S	**Sn**	**13 47 39.0**	**-1.9**
	2.2nm,0.7s						
GTA	**Gaotai**	**22.08**	**76**	*e*P	**P**	**13 45 44.0**	**+2.2**
GTA				pP	pP	13 45 50.3	-14
GTA				sP	sP	13 45 54.0	-24
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						

*ISCJB **26** 13:45:15.2±0.3, 48°.09N±0°.02×113°.17W±0°.04, h10km, Error ellipse: s-maj=4.3km s-min=2.8km az=155.6*
*PGC **26** 13:45:15.7±0.0, 48°.08N×113°.04W, h2km, ML2.7, ML2.6/3, 181km south of Lethbridge, Alberta Montana*
*NEIC **26** 13:45:15.9±0.0, 48°.05N×113°.16W, h0km, MD2.7(BUT), After BUT.*
ISC 26 13:45:15.2±0.8, 48°.07N±0°.03×113°.14W±0°.03, h10km, n50, σ1§39/60, Montana

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YBMT	**Yellow Bay**	**0.62**	**251**	P	**Pg**	**13 45 28.0**	**+0.7**
SWMT	**Swartz Lake**	**0.81**	**226**	P	**Pg**	**13 45 31.1**	**+0.3**
JTMT	**Jette**	**0.83**	**248**	P	**Pg**	**13 45 31.8**	**+0.5**
SLMT	**Seeley Lake**	**0.86**	**196**	P	**Pg**	**13 45 31.8**	**-0.1**
OVMT	**Ovando**	**1.01**	**174**	P	**Pg**	**13 45 33.9**	**-0.7**
FBMT	**Ferry Basin**	**1.09**	**233**	P	**Pb**	**13 45 36.5**	**+0.3**
FBMT				S	**Sb**	**13 45 50.7**	**+0.1**
WALA	**Waterton Lakes**	**1.11**	**333**	*e*Pg	**Pb**	**13 45 36.2**	**-0.5**
WALA				*e*Sg	**Sg**	**13 45 50.8**	**-0.4**
WALA	**Waterton Lakes**	**1.11**	**333**	P	**Pb**	**13 45 36.0**	**-0.7**
WALA				S	**Sg**	**13 45 50.7**	**-0.4**
BSMT	**Bassoo Peak**	**1.13**	**259**	*e*Pg	**Pg**	**13 45 37.2**	**+0.3**
BSMT	**Bassoo Peak**	**1.13**	**259**	P	**Pg**	**13 45 37.2**	**+0.3**
CHMT	**Chamberlain Mo**	**1.16**	**184**	*e*Pg	**Pg**	**13 45 36.5**	**-1.0**
LYMT	**Lyon Mountain**	**1.24**	**152**	P	**Pb**	**13 45 37.8**	**-1.1**
RAYA	**Raymond Albert**	**1.35**	**13**	P	**Pn**	**13 45 39.5**	**-0.7**
RAYA				S	**Sb**	**13 45 57.0**	**-1.0**
MSO	**Missoula**	**1.35**	**204**	*e*Pg	**Pn**	**13 45 40.2**	**0.0**
BHMT	**Big Hole Peak**	**1.37**	**250**	P	**Pg**	**13 45 41.6**	**+0.2**
ELMT	**Elliston**	**1.61**	**164**	Pn	**Pn**	**13 45 44.7**	**+0.8**
HRY	**Holter Researc**	**1.62**	**146**	*e*Pn	**Pn**	**13 45 44.1**	**+0.1**
HRY				*e*Sn	**Sn**	**13 46 05.8**	**+0.8**
HRY	**Holter Researc**	**1.62**	**146**	Pn	**Pn**	**13 45 44.3**	**+0.3**
BPMT	**Black Pine Rid**	**1.65**	**187**	Pn	**Pn**	**13 45 43.2**	**+0.8**
EGMT	**Eagleton**	**2.27**	**90**	*e*Pn	**Pn**	**13 45 54.9**	**+2.1**
LRM	**Limekiln Ridge**	**2.30**	**168**	Pn	**Pn**	**13 45 54.4**	**+1.0**
HBMT	**Mount Humbug**	**2.31**	**171**	Pn	**Pn**	**13 45 54.4**	**+0.9**
LCCM	**Lewis and Clar**	**2.39**	**158**	*e*Pn	**Pn**	**13 45 55.8**	**+1.2**
NEW	**Newport**	**2.67**	**276**	*e*Pn	**Pn**	**13 45 58.1**	**-0.2**
BOZ	**Bozeman (W)**	**2.68**	**157**	*e*Pn	**Pn**	**13 45 59.1**	**+0.5**
DLMT	**Dillon**	**2.73**	**172**	*e*Pn	**Pn**	**13 46 00.5**	**+1.3**
PRDA	**Priddis**	**2.90**	**345**	Sn	**Sn**	**13 46 37.9**	**+1.4**
MCMT	**McKenzie Canyo**	**3.25**	**176**	*e*Pn	**Pn**	**13 46 07.5**	**+1.0**
GCMT	**Greycliff**	**3.29**	**132**	*e*Pn	**Pn**	**13 46 09.0**	**+2.0**
C09A	**Chrisman Ranch**	**3.46**	**267**	*e*Pn	**Pn**	**13 46 10.5**	**+1.3**
C09A				*e*Sg	**Sg**	**13 47 04.8**	**-1.6**
F10A	**Beach Ranch, E**	**3.50**	**235**	*e*Pn	**Pn**	**13 46 10.9**	**+1.2**
F10A				*e*Sg	**Sg**	**13 47 03.8**	**-3.6**
YHB	**Horse Butte**	**3.58**	**157**	*e*Pn	**Pn**	**13 46 12.1**	**+1.1**
YHH	**Holmes Hill**	**3.64**	**153**	*e*Pn	**Pn**	**13 46 12.8**	**+0.9**
YMR	**Madison River**	**3.72**	**155**	*e*Pn	**Pn**	**13 46 14.1**	**+1.2**
E09A	**Wood Farm, Sta**	**3.75**	**247**	*e*Pn	**Pn**	**13 46 13.8**	**+0.8**
YPP	**Pitchstone Pla**	**4.13**	**156**	*e*Pn	**Pn**	**13 46 19.8**	**+1.2**
B08A	**Colville Reser**	**4.15**	**276**	*e*Pn	**Pn**	**13 46 18.5**	**-0.2**
B08A	**Colville Reser**	**4.15**	**276**	Pn	**Pn**	**13 46 18.5**	**-0.2**
B08A				Sg	**Sg**	**13 47 26.2**	**-2.3**
BMO	**Blue Mountains**	**4.32**	**223**	*e*Pn	**Pn**	**13 46 22.2**	**+1.2**
E08A	**Dider Farm, El**	**4.33**	**251**	*e*Pn	**Pn**	**13 46 22.4**	**+1.4**
FLWY	**Flagg Ranch**	**4.33**	**156**	*e*Pn	**Pn**	**13 46 23.1**	**+1.8**
IMW	**Indian Meadow**	**4.45**	**159**	*e*Pn	**Pn**	**13 46 25.3**	**+2.4**
SLEB	**Sale Mountain**	**4.49**	**316**	Pg	**Pb**	**13 46 36.3**	**+2.1**
SLEB				Sn	**Sn**	**13 47 16.6**	**+0.8**
SLEB				Sg	**Sg**	**13 47 35.2**	**-4.1**
HLID	**Hailey**	**4.59**	**192**	*e*Pn	**Pn**	**13 46 26.6**	**+1.8**
MOOW	**Moose Ponds**	**4.63**	**158**	*e*Pn	**Pn**	**13 46 27.5**	**+2.1**
HAWA	**Hanford**	**4.67**	**251**	*e*Pn	**Pn**	**13 46 27.6**	**+1.9**
FXWY	**Fox Creek**	**4.67**	**161**	*e*Pn	**Pn**	**13 46 28.8**	**+2.8**
LON	**Longmire**	**6.03**	**261**	*e*Pn	**Pn**	**13 46 44.6**	**+0.1**
WVOR	**Wild Horse Val**	**6.84**	**217**	*e*Pn	**Pn**	**13 46 56.9**	**+1.3**
RWWY	**Rawlins**	**7.64**	**144**	*e*Pn	**Pn**	**13 47 06.2**	**-0.6**

*IDC **26** 13:49:30.5±0.7, 10°.63S×164°.63E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/35, mbtmp4.0/15, ML4.4/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/30, Error ellipse: s-maj=24.2km s-min=17.3km az=106.0*
*NEIC **26** 13:49:31.7±0.3, 10°.60S×164°.73E, h10km, mb4.7/14, Error ellipse: s-maj=9.2km s-min=7.1km az=91.0*
*ISCJB **26** 13:49:33.4±0.3, 10°.69S±0°.05×164°.72E±0°.05, h35km, mb4.2/20, MS3.8/2, Error ellipse: s-maj=7.7km s-min=6.6km az=155.0*
ISC 26 13:49:35.3±0.5, 10°.64S±0°.07×164°.78E±0°.07, h35km, n57, σ1§11/50, mb4.2/20, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.91**	**284**	*e*P	**Pn**	**13 50 47.0**	**+0.4**
HNR				*e*S	**Sn**	**13 51 43.0**	**+0.8**
HNR	**Honiara**	**4.91**	**284**	*e*P	**Pn**	**13 50 47.0**	**+0.4**
HNR				*e*S	**Sn**	**13 51 43.0**	**+0.8**
HNR	**Honiara**	**4.91**	**284**	Pn	**Pn**	**13 50 47.1**	**+0.6**
	61nm,0.3s,baz=145,slow=3.2,SNR=44						
HNR				Sn	**Sn**	**13 51 44.3**	**+2.1**
	73nm,0.3s,baz=153,slow=14,SNR=6.6						
HNR				LR	LR	13 52 45.0	
	comp=Z,2μm,18.9s,baz=92,slow=41						
MARNC	**Mare, Loyalty**	**11.22**	**164**	*e*Pn	**Pn**	**13 52 13.5**	**+0.2**
DZM	**Mont Dzumac**	**11.48**	**172**	*e*Pn	**Pn**	**13 52 16.9**	**+0.1**
	3.6nm,0.2s						
DZM				*e*LR	LR	13 55 02.7	
	comp=Z,447nm,21.5s						
DZM	**Mont Dzumac**	**11.48**	**172**	*e*Pn	**Pn**	**13 52 16.7**	**-0.2**
DZM	**Mont Dzumac**	**11.48**	**172**	Pn	**Pn**	**13 52 16.9**	**+0.1**
	2.3nm,0.3s,baz=313,slow=23,SNR=39						
ONTNC	**Quen Toro**	**11.71**	**172**	*e*Pn	**Pn**	**13 52 21.1**	**+1.2**
PINNC	**Pines Island,**	**12.18**	**168**	*e*Pn	**Pn**	**13 52 26.6**	**+0.2**
TARA	**Tarawa**	**14.41**	**35**	*e*Pn	**Pn**	**13 52 57.4**	**+0.5**
PMG	**Port Moresby**	**17.39**	**272**	*e*Pn	**Pn**	**13 53 34.4**	**-1.0**
	21nm,1.1s						
PATS	**Pohnpei**	**18.52**	**339**	*e*P	**Pn**	**13 53 48.4**	**-0.8**
	463nm,1.7s						
MANU	**Manus Island**	**19.28**	**295**	*e*P	**Pn**	**13 53 57.0**	**-1.5**
	151nm,1.1s						
EIDS	**Eidsvold**	**19.57**	**220**	*e*P	**Pn**	**13 54 01.4**	**-0.5**
	23nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**29.01**	**4**	T	T	14 25 53.4	
	baz=184,slow=76,SNR=64						
H11S3	**WAKE ISLAND Hy**	**29.01**	**4**	T	T	14 25 54.4	
	baz=184,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**29.02**	**4**	T	T	14 25 55.6	
	baz=184,slow=76,SNR=53						
STKA	**Stephens Creek**	**30.09**	**222**	*e*P	**P**	**13 55 42.2**	**+0.6**
	8.8nm,1.9s						
STKA	**Stephens Creek**	**30.09**	**222**	P	**P**	**13 55 41.7**	**+0.1**
	2.0nm,0.7s,baz=52,slow=13,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**30.23**	**4**	T	T	14 27 28.3	
	baz=184,slow=76,SNR=47						
H11N3	**WAKE ISLAND Hy**	**30.24**	**4**	T	T	14 27 27.2	
	baz=184,slow=76,SNR=52						
H11N2	**WAKE ISLAND Hy**	**30.25**	**4**	T	T	14 27 28.1	
	baz=184,slow=76,SNR=29						
WR1	**Warramunga Arr**	**30.73**	**249**	*e*P	**P**	**13 55 45.4**	**-2.0**
	20nm,1.5s						
WRA	**Warramunga Arr**	**30.73**	**249**	P	**P**	**13 55 45.4**	**-2.0**
	1.1nm,0.6s,baz=78,slow=9.6,SNR=12						
AS31	**Alice Springs**	**32.13**	**242**	*e*P	**P**	**13 55 56.9**	**-2.9**
	3.8nm,1.6s						
ASAR	**Alice Springs**	**32.13**	**242**	P	**P**	**13 55 57.3**	**-2.4**
	0.8nm,0.6s,baz=62,slow=10,SNR=19						
PPT	**Papeete**	**44.72**	**104**	LR	LR	14 12 28.1	
	comp=Z,94nm,20.4s,baz=330,slow=31						
PPT2	**Papeete2**	**44.72**	**104**	*e*LR	LR	14 10 18.3	
	comp=Z,143nm,22.8s						
TBI	**Tubuai**	**45.37**	**112**	*e*LR	LR	14 10 34.9	
	comp=Z,289nm,28.5s						
MJAR	**Matsushiro Arr**	**53.18**	**333**	P	**P**	**13 58 50.1**	**+0.1**
	2.3nm,1.0s,baz=175,slow=8.0,SNR=4.2						
MAJO	**Matsushiro**	**53.18**	**333**	*e*P	**P**	**13 58 50.1**	**+0.1**
KSRS	**Korea Array**	**59.01**	**326**	P	**P**	**13 59 31.6**	**0.0**
	1.3nm,0.9s,baz=117,slow=7.0,SNR=5.2						
KS15	**Wonju Array Si**	**59.02**	**326**	*e*P	**P**	**13 59 30.4**	**-1.3**
	22nm,1.4s						
KSAR	**Wonju Array Be**	**59.02**	**326**	P	**P**	**13 59 31.6**	**-0.1**
VNDA	**Vanda**	**66.88**	**181**	*e*P	**P**	**14 00 24.1**	**+0.7**
	12nm,1.5s						
VNDA	**Vanda**	**66.88**	**181**	P	**P**	**14 00 24.9**	**+1.5**
	2.7nm,1.0s,baz=330,slow=6.2,SNR=7.8						
CMAR	**Chiang Mai Arr**	**71.08**	**294**	P	**P**	**14 00 51.4**	**+0.9**
	0.5nm,0.3s,baz=118,slow=5.3,SNR=6.9						
SONA0	**Songino Array**	**77.78**	**324**	*e*P	**P**	**14 01 30.4**	**+1.4**
SONM	**Songino Array**	**77.78**	**324**	P	**P**	**14 01 30.4**	**+1.4**
	1.5nm,0.9s,baz=134,slow=5.6,SNR=7.0						
QSPA	**South Pole Qui**	**79.36**	**180**	P	**P**	**14 01 38.5**	**+1.0**
	2.5nm,0.7s,baz=287,slow=1.9,SNR=6.6						
HDA	**Harding Lake**	**83.17

BTNK				S		**Sn**	**14 04 04.5**	**-0.2**
TBLG	**Delisi**	**0.71**	**230**	P		**Pb**	**14 03 53.1**	**+0.5**
TBLG				S		**Sn**	**14 04 04.7**	**+0.1**
BTLR	**Botlikh**	**0.73**	**50**	*e*Pg		**Pg**	**14 03 51.9**	**-0.8**
BTLR				*e*Sg		**Sg**	**14 04 02.4**	**0.0**
GUDG	**Gudauri**	**0.78**	**291**	P		**Pn**	**14 03 54.4**	**-0.7**
GUDG				S		**Sb**	**14 04 04.5**	**+0.1**
DDFL	**Dedoflistskaro**	**0.89**	**147**	P		**Pn**	**14 03 56.3**	**-0.1**
KMGR	**Komgaron**	**0.97**	**333**	*e*Pg		**Pn**	**14 03 57.5**	**0.0**
KMGR				*e*Sg		**Sn**	**14 04 11.3**	**+0.2**
GROC	**Groznyy**	**1.04**	**13**	*e*Pg		**Pg**	**14 03 58.8**	**+0.3**
GROC				*e*Sg		**Sn**	**14 04 13.7**	**+1.1**
LACR	**Lac**	**1.07**	**307**	*e*Pg		**Pb**	**14 03 58.4**	**-0.4**
LACR				*e*Sg		**Sb**	**14 04 12.7**	**+0.1**
GNBR	**Gunib**	**1.13**	**80**	*e*Pg		**Pb**	**14 03 59.3**	**-0.4**
GNBR				*e*Sg		**Sg**	**14 04 16.0**	**+1.0**
KZRT	**Kazreti**	**1.14**	**225**	P		**Pg**	**14 04 00.2**	**-0.2**
KZRT				S		**Sg**	**14 04 16.2**	**+0.9**
TRLG	**Trialeti**	**1.21**	**238**	P		**Pg**	**14 04 01.6**	**-0.3**
TRLG				S		**Sg**	**14 04 18.9**	**+1.1**
DBC	**Dubki**	**1.30**	**50**	*e*Pg		**Pb**	**14 04 02.6**	**0.0**
DBC				*e*Sg		**Sg**	**14 04 21.7**	**+1.1**
ZEI	**Tsey**	**1.30**	**298**	*e*Pg		**Pn**	**14 04 02.4**	**+0.1**
ZEI				*e*Sg		**Sg**	**14 04 20.2**	**-0.5**
KORR	**Kora**	**1.36**	**311**	*e*Pg		**Pb**	**14 04 04.0**	**+0.2**
KORR				*e*Sg		**Sg**	**14 04 22.7**	**+0.1**
ONI	**Oni**	**1.54**	**286**	P		**Pg**	**14 04 07.8**	**-0.4**
ONI				S		**Sg**	**14 04 28.5**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.56**	**297**	*e*Pg		**Pb**	**14 04 07.2**	**0.0**
DIGR				*e*Sg		**Sb**	**14 04 27.2**	**+0.4**
TKB	**Tkibuli**	**1.84**	**276**	P		**Pb**	**14 04 12.2**	**+0.4**
TKB				S		**Sg**	**14 04 36.9**	**-0.9**

*MEX **26** 14:06:21.8±0.5, 15°.56N×98°.28W, h15km±16km, MD3.9*
*ISCJB **26** 14:06:22.5±1.2, 15°.77N±0°.10×98°.09W±0°.06, h16km, mb3.7/4, Error ellipse: s-maj=14.6km s-min=7.9km az=20.0*
*IDC **26** 14:06:28.4±4.6, 16°.42N×98°.28W, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.6/38, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=94.9km s-min=27.6km az=14.0*
ISC 26 14:06:25.9±1.5, 15°.9N±0°.1×98°.03W±0°.07, h16km, n11, σ1s43/13, mb3.7/4, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.67**	**48**	*i* P			**Pn**	**14 06 54.2**	**-0.6**
VHO				*i* S			**Sb**	**14 07 18.5**	**+1.1**
TLIG	**Tlapa**	**1.69**	**342**	*e*P			**Pn**	**14 06 52.0**	**-2.9**
TLIG				*e*S			**Sn**	**14 07 15.8**	**-0.5**
HUIG	**Huatulco**	**1.85**	**95**	*e*P			Pn	14 06 52.7	-4.3
HUIG				*i* S			**Sn**	**14 07 17.9**	**-2.3**
CMIG	**Matias Romero**	**3.22**	**69**	Pn			**Pb**	**14 07 23.5**	**+0.7**
	4.8nm,0.3s,baz=263,slow=11,SNR=10								
CMIG				Sn			**Sb**	**14 08 01.2**	**-0.7**
	6.2nm,0.3s,baz=40,slow=16,SNR=3.0								
CMIG				Lg			Lg	14 08 18.2	
	17nm,0.3s,baz=309,slow=4.7,SNR=28								
H06E1	**SOCORRO T-PHAS**	**12.63**	**285**	T			T	14 21 36.2	
	SNR=38								
TXAR	**Lajitas Array**	**14.30**	**340**	Pn			**Pn**	**14 09 47.7**	**-0.2**
	0.0nm,0.3s,baz=158,slow=12,SNR=2.7								
ANMO	**Albuquerque**	**20.38**		P			**P**	**14 11 02.8**	**+0.6**
	0.1nm,0.3s,baz=148,slow=12,SNR=6.7								
NVAR	**Mina Array Bea**	**28.63**	**325**	P			**P**	**14 12 23.3**	**+1.3**
	0.7nm,0.8s,baz=155,slow=8.9,SNR=5.4								
YKA	**Yellowknife Ar**	**47.94**	**350**	P			**P**	**14 15 03.1**	**-0.3**
	0.6nm,0.9s,baz=157,slow=7.3,SNR=9.4								
INK	**Inuvik**	**57.00**	**345**	P			**P**	**14 16 11.1**	**+0.6**
	1.0nm,0.7s,baz=124,slow=8.7,SNR=4.5								
ILAR	**Eielson Array**	**58.81**	**338**	P			**P**	**14 16 24.4**	**+1.2**
	0.6nm,0.8s,baz=152,slow=7.9,SNR=8.0								

MEX 26 14:22:54.0±0.4, 15°.93N×98°.41W, h13km±6km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.64**	**355**	*e*P			Pn	14 23 18.9	-3.8
TLIG				*i* S			Sn	14 23 38.6	-5.1
VHO	**Vista Hermosa**	**1.97**	**54**	*e*P			Pn	14 23 23.8	-3.5
VHO				*e*S			Sn	14 23 46.7	-5.4
CAIG	**El Cayaco**	**2.10**	**302**	*i* P			Pn	14 23 25.9	-3.1
CAIG				*i* S			Sn	14 23 50.5	-4.5
HUIG	**Huatulco**	**2.22**	**94**	*e*P			Pn	14 23 28.4	-2.2
HUIG				*i* S			Sn	14 23 53.5	-4.5
CMIG	**Matias Romero**	**3.58**	**71**	*i* P			Pn	14 23 46.6	-2.6
CMIG				*i* S			Sn	14 24 28.6	-2.8

*ISCJB **26** 14:24:46.4±0.9, 11°.5S±0°.1×166°.1E±0°.1, h70km, mb3.8/7, Error ellipse: s-maj=19.7km s-min=16.1km az=172.7*
*IDC **26** 14:24:47.9±3.8, 11°.44S×166°.14E, h70km±33km, mb3.7/7, mb1 3.9/9, mb1mx3.5/39, mbtmp4.0/9, ML3.7/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/29, Error ellipse: s-maj=33.8km s-min=26.4km az=127.0*
ISC 26 14:24:47.8±1.0, 11°.4S±0°.1×166°.2E±0°.2, h70km, n11, σ0s60/9, mb3.9/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.41**	**287**	P			**Pn**	**14 26 19.7**	**0.0**
	4.7nm,0.3s,baz=54,slow=0.9,SNR=6.4								
HNR				LR			LR	14 28 59.7	
	comp=Z,163nm,20.9s,baz=120,slow=39								
DZM	**Mont Dzumac**	**10.59**	**179**	P			**Pn**	**14 27 16.8**	**-0.1**
	0.2nm,0.3s,baz=144,slow=23,SNR=7.7								
STKA	**Stephens Creek**	**30.44**	**224**	P			**P**	**14 30 54.5**	**+0.6**
	2.1nm,0.9s,baz=26,slow=9.2,SNR=3.6								
WRA	**Warramunga Arr**	**31.73**	**251**	P			**P**	**14 31 05.2**	**-0.3**
	2.4nm,0.8s,baz=80,slow=8.8,SNR=11								
ASAR	**Alice Springs**	**32.98**	**244**	P			**P**	**14 31 15.6**	**-0.8**
	2.5nm,0.7s,baz=71,slow=9.7,SNR=22								
CMAR	**Chiang Mai Arr**	**72.63**	**294**	P			**P**	**14 36 09.2**	**+0.8**
	0.6nm,0.8s,baz=121,slow=4.7,SNR=3.8								
ILAR	**Eielson Array**	**83.74**	**18**	P			**P**	**14 37 09.1**	**+0.2**
	0.3nm,0.6s,baz=249,slow=5.0,SNR=5.9								
MAW	**Mawson**	**84.52**	**202**	LR			LR	15 10 49.3	
	comp=Z,146nm,18.2s,baz=5.5,slow=33								
NVAR	**Mina Array Bea**	**85.96**	**50**	LR			LR	15 10 53.3	
	comp=Z,44nm,18.2s,baz=226,slow=32								
MKAR	**Makanchi Array**	**94.07**	**317**	P			**P**	**14 37 57.9**	**-0.7**
	0.6nm,0.6s,baz=89,slow=6.3,SNR=7.8								
YKA	**Yellowknife Ar**	**95.13**	**27**	P			**P**	**14 38 02.9**	**-0.1**
	0.1nm,0.3s,baz=272,slow=4.8,SNR=4.0								

KRSC 26 14:26:47.0±10.0, 60°.07N×163°.54E, h58km±10km, ML4.4, FELT [II-III] at Ilpyrskiy., Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.86**	**197**	*e*P			Pn	14 27 02.9	-0.1
OSSR				*e*S			Sn	14 27 15.0	+0.2
TILK	**Tilichiki**	**1.35**	**73**	*e*P			Pn	14 27 11.4	+1.8
TILK				*e*S			Sn	14 27 30.6	+4.1
PALN	**Palana**	**2.07**	**243**	P			Pn	14 27 21.5	+2.3
PALN				S			Sn	14 27 48.6	+4.8
KMSK	**Kamenskaya**	**2.73**	**27**	P			Pn	14 27 30.0	+1.8
KMSK				S			Sn	14 28 02.3	+2.3
KBTR	**Krutoberegovo**	**3.89**	**186**	*e*P			Pn	14 27 48.5	+4.3
BKI	**Bering**	**5.05**	**164**	*e*P			Pn	14 28 03.7	+3.6

MEX 26 14:26:55.3±0.6, 16°.43N×98°.62W, h5km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.13**	**2**	*e*P			Pg	14 27 13.7	-3.3
TLIG				*i* S			Sg	14 27 28.6	-3.0
CAIG	**El Cayaco**	**1.70**	**291**	*e*P			Pn	14 27 22.1	-3.5
CAIG				*i* S			Sn	14 27 42.9	-4.8
HUIG	**Huatulco**	**2.50**	**105**	*i* P			Pn	14 27 34.2	-2.4

*ISCJB **26** 14:38:44.4±0.5, 64°.95N±0°.03×20°.6E±0°.1, h0km, Error ellipse: s-maj=6.4km s-min=4.1km az=167.2*
*UPP **26** 14:38:45.0±0.1, 64°.93N×20°.60E, h0km, ML2.2, Explosion*
*IDC **26** 14:38:48.2±1.1, 65°.29N×19°.57E, h0km, mb1 2.8/3, mb1mx2.7/35, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=16.5km s-min=10.3km az=101.0*
ISC 26 14:38:44.5±0.9, 64°.96N±0°.03×20°.70E±0°.05, h0km, n15, σ1s11/20, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BURU	**Burvik**	**0.47**	**142**	P			**Pg**	**14 38 54.2**	**+0.7**
BURU				S			**Sg**	**14 39 00.7**	**+1.1**
LILU	**Lilltraesk**	**0.49**	**313**	P			**Pg**	**14 38 54.1**	**+0.2**
LILU				S			**Sg**	**14 39 00.7**	**+0.4**
ODEU	**Stanfors**	**0.55**	**179**	P			**Pg**	**14 38 55.0**	**0.0**
ODEU				S			**Sg**	**14 39 02.5**	**+0.4**
SVAU	**Svanoeiden**	**0.67**	**227**	P			**Pg**	**14 38 56.8**	**-0.5**
SJUU	**Sjulsmark**	**0.67**	**34**	P			**Pb**	**14 38 58.5**	**-0.6**
UMAU	**Umeaa**	**1.08**	**181**	P			**Pg**	**14 39 04.7**	**-0.4**
HARU	**Harads**	**1.22**	**5**	P			**Pb**	**14 39 08.2**	**-0.2**
KALU	**Kalix**	**1.43**	**50**	P			**Pb**	**14 39 12.2**	**+0.1**
HUSU	**Husum**	**1.75**	**203**	P			**Pn**	**14 39 16.2**	**+0.2**
SOLU	**Sollefteaa**	**2.29**	**223**	P			**Pn**	**14 39 24.0**	**+0.5**
PAJU	**Pajala**	**2.30**	**24**	P			**Pn**	**14 39 24.8**	**+1.2**
HEMU	**Hemsoen**	**2.58**	**209**	P			**Pn**	**14 39 28.1**	**+0.6**
FINES	**FINESS Array B**	**4.28**	**143**	Pn			**Pb**	**14 40 01.6**	**+1.0**
	0.2nm,0.3s,baz=330,slow=14,SNR=7.3								
FINES				Sn			**Sg**	**14 40 58.5**	**-3.5**
	0.3nm,0.3s,baz=324,slow=26,SNR=7.7								
ARCES	**ARCESS Array B**	**4.96**	**20**	Pn			**Pn**	**14 40 00.7**	**+0.5**
	0.1nm,0.3s,baz=204,slow=14,SNR=13								
ARCES				Sn			**Sn**	**14 40 56.7**	**-1.5**
	0.4nm,0.3s,baz=208,slow=21,SNR=6.1								
NOA	**NORSAR Array B**	**5.84**	**232**	Pn			**Pn**	**14 40 12.9**	**+0.6**
	0.0nm,0.3s,baz=48,slow=16,SNR=3.5								

*ISCJB **26** 14:53:07.8±0.2, 24°.34S±0°.03×179°.91E±0°.06, h505km, mb4.3/32, Error ellipse: s-maj=7.0km s-min=4.2km az=10.7*
*IDC **26** 14:53:07.7±1.7, 24°.34S×179°.96E, h496km±16km, mb3.8/12, mb1 3.9/13, mb1mx3.6/32, mbtmp4.6/13, Error ellipse: s-maj=18.3km s-min=15.2km az=166.0*
*NEIC **26** 14:53:08.9±0.7, 24°.46S×179°.97E, h515km±8km, mb4.5/26, Error ellipse: s-maj=7.8km s-min=7.0km az=151.0*
ISC 26 14:53:08.2±0.5, 24°.38S±0°.06×179°.98W±0°.08, h505km, n90, σ1s33/101, mb4.4/32, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**5.20**	**160**	P			**P**	**14 54 37.8**	**+0.6**
GLKZ				S			**S**	**14 55 52.3**	**+2.4**
NIUE	**Niue**	**10.72**	**62**	*e*P			**P**	**14 55 32.8**	**-0.6**
MARNC	**Mare, Loyalty**	**11.42**	**282**	*e*P			**P**	**14 55 41.3**	**+0.6**
PINNC	**Pines Island,**	**11.68**	**276**	*e*P			**P**	**14 55 45.0**	**+1.6**
OUZ	**Omahuta**	**12.16**	**206**	*e*P			**P**	**14 55 50.3**	**+2.0**
OUZ	**Omahuta**	**12.16**	**206**	P			**P**	**14 55 50.4**	**+2.1**
DZM	**Mont Dzumac**	**12.70**	**278**	*e*P			**P**	**14 55 55.7**	**+1.4**
DZM	**Mont Dzumac**	**12.70**	**278**	P			**P**	**14 55 56.0**	**+1.7**
	1.9nm,0.3s,baz=87,slow=16,SNR=21								
KUZ	**Kuaotunu**	**12.87**	**196**	P			**P**	**14 55 57.0**	**+1.2**
WIAZ	**Waiheke Island**	**13.07**	**198**	P			**P**	**14 55 59.5**	**+1.6**
WMGZ	**Waiomatatini S**	**13.47**	**185**	P			**P**	**14 56 03.9**	**+1.8**
HAZ	**Te Kaha**	**13.47**	**188**	P			**P**	**14 56 02.8**	**+0.7**
RUGZ	**Raukumara Rang**	**13.69**	**188**	P			**P**	**14 56 06.6**	**+2.0**
RUGZ				S			**S**	**14 58 32.1**	**+2.1**
PUZ	**Puketiti**	**13.73**	**186**	P			**P**	**14 56 08.8**	**+1.9**
PUZ				S			**S**	**14 58 30.5**	**-0.1**
TWGZ	**Tauwhareparae**	**13.87**	**187**	P			**P**	**14 56 05.9**	**-0.4**
URZ	**Urewera**	**14.06**	**189**	*e*P			**P**	**14 56 07.4**	**-0.9**
URZ	**Urewera**	**14.06**	**189**	P			**P**	**14 56 07.8**	**-0.5**
	1.1nm,0.3s,baz=316,slow=5.2,SNR=9.2								
URZ	**Urewera**	**14.06**	**189**	P			**P**	**14 56 07.0**	**-1.4**
MWZ	**Matawai**	**14.07**	**188**	P			**P**	**14 56 08.1**	**-0.4**
MWZ				S			**S**	**14 58 36.8**	**-0.4**
RAGZ	**Rawiri**	**14.25**	**188**	P			**P**	**14 56 10.0**	**-0.4**
RIGZ	**Rimuhau**	**14.41**	**187**	P			**P**	**14 56 12.3**	**+0.2**
TLZ	**Tolley Road**	**14.42**	**194**	P			**P**	**14 56 13.9**	**+1.7**
RTZ	**Ruatahuna**	**14.43**	**190**	P			**P**	**14 56 12.4**	**+0.1**
BKZ	**Black Stump Fm**	**15.04**	**191**	*e*P			**P**	**14 56 17.4**	**-1.3**
BKZ	**Black Stump Fm**	**15.04**	**191**	P			**P**	**14 56 17.4**	**-1.3**
BKZ				S			**S**	**14 58 50.9**	**-4.9**
OTVZ	**Oturere**	**15.20**	**193**	P			**P**	**14 56 19.7**	**-0.7**
VRZ	**Vera Road**	**15.36**	**196**	P			**P**	**14 56 24.7**	**+2.8**
BHHZ	**Black Hill Sta**	**15.43**	**192**	P			**P**	**14 56 20.8**	**-2.0**
TSZ	**Takapari Road**	**16.00**	**191**	P			**P**	**14 56 27.5**	**-1.1**
BFZ	**Birch Farm**	**16.56**	**190**	*e*P			**P**	**14 56 32.0**	**-2.5**
	62nm,1.4s								
BFZ	**Birch Farm**	**16.56**	**190**	P			**P**	**14 56 33.0**	**-1.5**
BFZ				S			**S**	**14 59 20.4**	**-3.3**
MRZ	**Mangatainoka R**	**16.66**	**192**	P			**P**	**14 56 33.5**	**-1.9**
SNZO	**South Karori**	**17.46**	**193**	*e*P			**P**	**14 56 43.3**	**+0.1**
	58nm,1.3s								
THZ	**Tophouse**	**18.32**	**197**	*e*P			**P**	**14 56 50.2**	**-0.9**
	82nm,2.0s								
KHZ	**Kahutara**	**18.78**	**195**	*e*P			**P**	**14 56 53.7**	**-1.5**
	71nm,1.7s								
LTZ	**Lake Taylor**	**19.44**	**197**	*e*P			**P**	**14 57 00.6**	**-0.7**
	63nm,1.9s								
OXZ	**Oxford**	**20.01**	**197**	*e*P			**P**	**14 57 06.7**	**+0.2**
	94nm,2.0s								
RPZ	**Rata Peaks**	**20.65**	**199**	P			**P**	**14 57 13.1**	**+0.8**
	3.8nm,0.5s,baz=28,slow=5.6,SNR=5.8								
HNR	**Honiara**	**24.24**	**304**	P			**P**	**14 57 44.0**	**-0.9**
HNR	**Honiara**	**24.24**	**304**	P			**P**	**14 57 44.0**	**-0.9**
	49nm,0.5s,baz=237,slow=4.4,SNR=4.9								
CTA	**Charters Tower**	**31.50**	**271**	P			**P**	**14 58 48.6**	**+0.2**
	62nm,0.4s,baz=92,slow=11,SNR=92								
CTAO	**Charters Tower**	**31.50**	**271**	*e*P			**P**	**14 58 48.5**	**+0.1**
	37nm,1.1s								
STKA	**Stephens Creek**	**34.57**	**249**	*e*P			**P**	**14 59 14.0**	**-0.2**
	1.0nm,0.6s								
STKA	**Stephens Creek**	**34.57**	**249**	P			**P**	**14 59 14.0**	**-0.2**
	5.8nm,0.6s,baz=93,slow=10,SNR=32								
PMG	**Port Moresby**	**34.67**	**290**	P			**P**	**14 59 15.2**	**-0.1**
	14nm,0.7s,baz=81,slow=4.2,SNR=9.3								
AS01	**Alice Springs**	**41.94**	**261**	*e*P			**P**	**15 00 13.3**	**-1.2**
AS31	**Alice Springs**	**41.98**	**261**	*e*P			**P**	**15 00 14.1**	**-0.8**
	3.7nm,1.3s								
ASAR	**Alice Springs**	**41.98**	**261**	P			**P**	**15 00 14.1**	**-0.8**
	5.4nm,1.0s,baz=95,slow=7.2,SNR=60								
ASAR				ScP			**ScP**	**15 05 01.5**	**+0.8**
	1.2nm,0.8s,baz=114,slow=4.5,SNR=6.1								
WRAB	**Tennant Creek**	**42.39**	**267**	*e*P			**P**	**15 00 16.5**	**-1.5**
	13nm,1.0s								
WRA	**Warramunga Arr**	**42.40**	**267**	P			**P**	**15 00 16.9**	**-1.2**
	11nm,0.7s,baz=99,slow=8.3,SNR=142								
WRA				ScP			**ScP**	**15 05 04.5**	**+2.1**
	4.4nm,0.8s,baz=98,slow=3.7,SNR=18								
JAY	**Jayapura**	**43.73**	**294**	P			**P**	**15 00 28.0**	**-0.5**
	12nm,0.6s,baz=166,slow=3.9,SNR=7.3								
FITZ	**Fitzroy Crossi**	**50.82**	**266**	*e*P			**P**	**15 01 21.1**	**-0.8**
	8.2nm,0.8s								
QSPA	**South Pole Qui**	**65.71**	**180**	*e*P			**P**	**15 03 02.7**	**+0.5**
	12nm,0.8s								
MAGC	**SOE Magundon P**	**82.86**	**46**	*e*P			**P**	**15 04 39.4**	**-0.1**
SNAA	**Saae**	**84.19**	**179**	P			**P**	**15 04 44.3**	**-1.3**
RUBR	**Rubicon Trail**	**84.30**	**43**	*e*P			**P**	**15 04 47.9**	**+1.1**
	31nm,0.5s								
VNA3	**Neumayer Olymp**	**84.40**	**177**	P			**P**	**15 04 45.7**	**-0.8**
VNA2	**Neumayer--Watz**	**84.82**	**178**	P			**P**	**15 04 47.9**	**-0.7**
	baz=197,slow=3.5								
NV01	**Mina Array Sit**	**85.08**	**44**	*e*P			**P**	**15 04 51.0**	**+0.3**
NVAR	**Mina Array Bea**	**85.08**	**44**	P			**P**	**15 04 51.5**	**+0.8**
	1.3nm,0.8s,baz=225,slow=7.7,SNR=9.3								
LDFC	**Landfair**	**85.25**	**48**	*e*P			**P**	**15 04 51.9**	**+0.4**
	6.8nm,0.6s								
KVN	**Kaiserville**	**85.58**	**44**	*e*P			**P**	**15 04 53.4**	**+0.4**
	2.1nm,0.7s								
PINE	**Pine Mountain**	**86.75**	**38**	*e*P			**P**	**15 04 59.4**	**+0.9**
	9.6nm,1.2s								
TUC	**Tucson**	**86.79**	**52**	*e*P			**P**	**15 05 00.3**	**+1.5**
	5.0nm,1.0s								
WVOR	**Wild Horse Val**	**87.26**	**41**	*e*P			**P**	**15 05 02.0**	**+1.2**
	17nm,1.9s								
319A	**Douglas**	**87.41**	**54**	*e*P			**P**	**15 05 01.4**	**-0.3**
	7.3nm,1.0s								
I07A	**Izee**	**87.75**	**39**	*e*P			**P**	**15 05 04.3**	**+1.3**
	5.2nm,0.9s								
U15A	**North Rim**	**87.90**	**48**	*e*P			**P**	**15 05 05.5**	**+1.3**
	2.2nm,0.8s								
G08A	**Pilot Rock**	**88.79**	**38**	*e*P			**P**	**15 05 08.7**	**+0.8**
	7.0nm,1.4s								
TMUT	**Trail Mountain**	**90.15**	**46**	*e*P			**P**	**15 05 15.0**	**+0.4**
	6.6nm,0.8s								
SPUT	**South Promonto**	**90.42**	**44**	*e*P			**P**	**15 05 16.3**	**+0.6**
	9.4nm,1.3s								
HVU	**Hansel Valley**	**90.47**	**44**	*e*P			**P**	**15 05 16.4**	**+0.6**
	15nm,1.7s								
SRU	**San Rafael Swe**	**90.51**	**47**	*e*P			**P**	**15 05 15.7**	**-0.4**
	3.4nm,0.7s								
TX31	**Lajitas Ar. Si**	**90.66**	**58**	*e*P			**P**	**15 05 17.4**	**+0.5**
TXAR	**Lajitas Array**	**90.66**	**58**	P			**P**	**15 05 18.5**	**+1.6**
	2.3nm,0.8s,baz=214,slow=6.8,SNR=30								
HHC	**Hu-ho-hao-te**	**90.77**	**315**	*e*P			**P**	**15 05 18.3**	**+1.1**
HHC				pmax		pmax			
	comp=Z,6.0nm,1.0s								
HHC				pmax		pmax			
	comp=Z,180nm,6.8s								
CD2	**Chengdu**	**91.36**	**303**	P		P	**P**	**15 05 19.8**	**-0.3**
CD2				pmax		pmax			
	comp=Z,1.0nm,0.5s								
ILAR	**Eielson Array**	**92.49**	**14**	P			**P**	**15 05 23.6**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=226,slow=5.5,SNR=7.8								
PDAR	**Pinedale Array**	**93.02**	**44**	P			**P**	**15 05 27.5**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=183,slow=3.0,SNR=5.7								
LZH	**Lanzhou**	**93.69**	**308**	*e*P			**P**	**15 05 34.0**	**+3.2**
LZH				pP		pwP		15 07 28.0	+0.7
LZH				sP		sP		15 08 18.8	+6.1
LZH				pmax		pmax			
	comp=Z,25nm,1.3s								
MKAR	**Makanchi Array**	**112.49**	**313**	PKiKP			**PKiKP**	**15 10 45.3**	**-1.3**
	comp=Z,2.0nm,0.4s,baz=212,slow=1.3,SNR=5.6								
MKAR				PKKPbc			**PKKPbc**	**15 21 37.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=309,slow=2.3,SNR=4.8								
MKAR				PKKPab			**PKKPab**	**15 21 47.5**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=272,slow=6.7,SNR=4.0								
ARCES	**ARCESS Array B**	**132.36**	**348**	PKP			**PKPdf**	**15 11 23.3**	**-0.6**
	comp=Z,2.4nm,0.6s,baz=31,slow=2.8,SNR=9.2								
FINES	**FINESS Array B**	**138.90**	**341**	PKPbc			PKPpre	15 11 28.2	
	comp=Z,1.0nm,0.7s,baz=54,slow=3.3,SNR=5.8								
FINES				SKPbc			**SKPbc**	**15 14 23.7**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=36,slow=2.8,SNR=8.4								
NB2	**NORSAR Subarra**	**142.56**	**351**	PKP			PKPpre	15 11 38.9	
	comp=Z,2.2nm,1.0s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**142.56**	**351**	PKhKP			PKPpre	15 11 39.5	
	comp=Z,0.6nm,0.6s,baz=17,slow=4.5,SNR=4.1								
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc			**PKPdf**	**15 11 48.2**	**+0.2**
AKASG				SKPbc			**SKiKP**	**15 14 40.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=49,slow=3.0,SNR=5.0								
AK11	**Malin Array Si**	**145.43**	**327**	*e*PKPdf			**PKPdf**	**15 11 47.8**	**-0.3**
BRTR	**Keskin Array B**	**147.88**	**307**	PKPbc			**PKPbc**	**15 11 55.6**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=150,slow=4.8,SNR=6.4								
TOA0	**Torodi Ar. Sit**	**168.72**	**188**	*e*PKPdf			**PKPdf**	**15 12 15.6**	**-2.0**
TOA0				*e*PKPab			**PKPab**	**15 13 29.7**	**-1.4**
TORD	**Torodi Ar. Bea**	**168.72**	**188**	PKP			**PKPdf**	**15 12 17.1**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=328,slow=1.9,SNR=3.0								
TORD				PKPab			**PKPab**	**15 13 30.3**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=207,slow=1.5,SNR=6.9								

*SKO **26** 15:10:21.0, 41°.75N×19°.94E, h0km*
*TIR **26** 15:10:22.7, 41°.82N×20°.09E, h14km, Md2.5/3*
*PDG **26** 15:10:23.1±0.2, 41°.79N×19°.98E, h7km, ML2.3/7, Error ellipse: s-maj=0.3km s-min=0.7km az=0.0*
**ISC 26 15:10:22

MNTX	**Cornudas Mount**	**16.63**	**338**	*e*Pn		**Pn**	15 26 03.1	**0.0**
	2.9nm,0.8s							
HSIG		**17.22**	**319**	*e*Pn		**Pn**	15 26 12.2	**+1.7**
	5.2nm,0.5s							
CPRX	**Cap Rock**	**17.40**	**344**	*e*P		**P**	15 26 15.1	**+1.0**
MSTX	**Muleshoe**	**18.04**	**348**	*e*P		**Pn**	15 26 18.5	**-2.3**
	7.8nm,0.8s							
319A	**Douglas**	**18.05**	**328**	*e*P		**Pn**	15 26 21.2	**+0.3**
	6.9nm,0.8s							
WMOK	**Wichita Mounta**	**18.35**	**359**	*e*P		**Pn**	15 26 24.0	**-0.4**
	19nm,1.8s							
X37A	**Clayton**	**18.38**	**8**	*e*P		**P**	15 26 24.9	**+0.1**
	45nm,1.8s							
MIAR	**Mount Ida**	**18.63**	**12**	*e*P		**P**	15 26 26.3	**-1.2**
	9.2nm,1.1s							
AMTX	**Amarillo**	**18.75**	**351**	*e*P		**P**	15 26 28.6	**-0.2**
	10nm,0.5s							
BNM	**Barren Site**	**19.29**	**339**	*e*P		**P**	15 26 36.2	**+1.3**
Y22D	**IRIS PASSCAL I**	**19.33**	**338**	*e*P		**P**	15 26 35.0	**-0.3**
	38nm,0.4s							
LENM	**Lemitar**	**19.43**	**338**	*e*P		**P**	15 26 38.1	**+1.7**
ANMO	**Albuquerque**	**19.96**	**340**	*e*P		**P**	15 26 42.9	**+0.7**
	5.9nm,0.9s							
ANMO	**Albuquerque**	**19.96**	**340**	P		**P**	15 26 43.9	**+1.7**
	0.2nm,0.3s,baz=143,slow=11,SNR=10							
ANMO				LR		LR	15 35 09.3	
	comp=Z,198nm,19.4s,baz=148,slow=39							
Z50A	**Ashland**	**20.21**	**31**	*e*P		**P**	15 26 43.8	**-0.9**
	11nm,1.0s							
PBMO	**Poplar Bluff**	**21.53**	**17**	*e*P		**P**	15 27 00.1	**+1.2**
	14nm,0.8s							
X16A	**Lo Mia Camp, P**	**21.57**	**329**	*e*P		**P**	15 27 01.3	**+1.7**
	7.9nm,0.9s							
WVT	**Waverly**	**21.81**	**23**	*e*P		**P**	15 27 03.0	**+1.0**
	11nm,0.8s							
SDCO	**Great Sand Dun**	**22.29**	**345**	*e*P		**P**	15 27 07.2	**-0.2**
	4.3nm,1.0s							
WUAZ	**Wupatki**	**22.43**	**331**	*e*P		**P**	15 27 08.9	**+0.1**
	8.9nm,0.9s							
CCM	**Cathedral Cave**	**22.52**	**15**	*e*P		**P**	15 27 06.9	**-2.7**
	36nm,0.6s							
S22A	**4UR Ranch, Cre**	**22.65**	**342**	*e*P		**P**	15 27 12.0	**+0.7**
	3.7nm,0.8s							
MVCO	**Mesa Verde**	**22.70**	**338**	*e*P		**P**	15 27 12.3	**+0.5**
	9.1nm,1.0s							
T47A	**Sharon Grove**	**22.84**	**24**	*e*P		**P**	15 27 12.2	**-0.7**
	14nm,1.0s							
U15A	**North Rim**	**23.60**	**331**	*e*P		**P**	15 27 21.3	**+0.3**
	6.9nm,1.1s							
SMCO	**Snowmass**	**24.02**	**343**	*e*P		**P**	15 27 25.7	**+0.6**
	11nm,1.3s							
P42A	**Winchester**	**24.19**	**15**	*e*P		**P**	15 27 25.3	**-0.9**
	10nm,0.9s							
ISCO	**Idaho Springs**	**24.26**	**346**	*e*P		**P**	15 27 27.2	**0.0**
	10.0nm,1.1s							
KNB	**Kanab**	**24.32**	**331**	*e*P		**P**	15 27 28.5	**+0.9**
	4.9nm,1.0s							
S51A	**Beattyville**	**24.87**	**29**	*e*P		**P**	15 27 28.6	**-3.8**
	53nm,0.8s							
SRU	**San Rafael Swe**	**25.12**	**337**	*e*P		**P**	15 27 32.0	**-2.9**
	12nm,1.6s							
SCIA	**State Center**	**25.87**	**9**	*e*P		**P**	15 27 39.8	**-1.7**
	23nm,0.9s							
NLU	**North Lily Min**	**26.45**	**336**	*e*P		**P**	15 27 46.3	**-0.7**
	6.8nm,1.3s							
PDAR	**Pinedale Array**	**28.08**	**342**	P		**P**	15 28 02.0	**+0.4**
	1.1nm,0.9s,baz=167,slow=9.1,SNR=5.1							
PDAR				LR		LR	15 40 19.8	
	comp=Z,111nm,19.2s,baz=163,slow=39							
NVAR	**Mina Array Bea**	**28.20**	**325**	P		**P**	15 28 03.7	**+1.0**
	0.8nm,0.7s,baz=158,slow=9.2,SNR=8.7							
AGMN	**Agassiz Nation**	**31.95**	**3**	*e*P		**P**	15 28 35.2	**-0.3**
	5.7nm,0.9s							
F10A	**Beach Ranch, E**	**33.55**	**336**	*e*P		**P**	15 28 49.4	**-0.3**
	5.2nm,0.9s							
FFC	**Flin Flon**	**38.44**	**357**	*e*P		**P**	15 29 30.8	**-0.5**
	34nm,2.1s							
YKA	**Yellowknife Ar**	**47.54**	**350**	P		**P**	15 30 43.7	**-1.1**
	1.0nm,0.9s,baz=158,slow=7.4,SNR=13							
YKB5	**Yellowknife Ar**	**47.54**	**350**	*e*P		**P**	15 30 43.6	**-1.2**
INK	**Inuvik**	**56.59**	**345**	P		**P**	15 31 51.4	**-0.7**
	1.7nm,0.8s,baz=110,slow=8.8,SNR=7.9							
IL1	**Eielson Array**	**58.38**	**338**	*e*P		**P**	15 32 03.7	**-1.1**
ILAR	**Eielson Array**	**58.38**	**338**	P		**P**	15 32 04.8	**0.0**
	1.0nm,0.9s,baz=127,slow=4.7,SNR=9.4							
TRF	**Thorofare Moun**	**59.01**	**336**	*e*P		**P**	15 32 09.4	**0.0**
	49nm,1.8s							
PLCA	**Paso Flores**	**62.32**	**156**	P		**P**	15 32 34.3	**+2.3**
	1.4nm,0.9s,baz=302,slow=2.3,SNR=3.8							

*IDC **26** 15:30:29.9±1.2, 7.12N×77.66W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.4/27, mbtmp3.6/3, ML2.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/37, Error ellipse: s-maj=58.0km s-min=32.0km az=60.0*

*RSNC **26** 15:30:34.5±1.0, 7.28N×77.04W, h16km±5km, ML3.5, Mw3.9*

ISC 26 15:30:32.1±1.9, 7°26'N±0'05×77°12'W±0'05, h14km±11km, n21, σ1°99/34, 2D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DBBC	**Dabeiba**	**0.94**	**105**	⇓*i*P		**Pg**	**15 30 49.6**	**-0.6**
DBBC				*e*S		**Sg**	**15 31 02.0**	**-0.6**
DBBC				*i*			15 31 06.6	
	comp=Z,2μm,0.7s							
SOLC	**Bahia Solano**	**1.07**	**196**	*e*P		**Pn**	**15 30 53.6**	**+1.0**
SOLC				*e*S		**Sn**	**15 31 08.9**	**+1.7**
SOLC				*i*			15 31 13.6	
	comp=E,1μm,0.3s							
UREC	**San Jos de Ur**	**1.65**	**73**	*e*P		**Pn**	**15 31 00.8**	**+0.2**
UREC				*e*S		**Sn**	**15 31 20.5**	**-1.1**
UREC				*i*			15 31 22.7	
	comp=N,939nm,0.3s							
HELC	**Santa Helena**	**1.91**	**124**	⇓*i*P		**Pn**	**15 31 05.1**	**+0.6**
HELC				*e*S		**Sn**	**15 31 28.6**	**+0.1**
HELC				*i*			15 31 31.1	
	comp=N,286nm,0.7s							
ZARC	**Zaragoza, Cauc**	**2.26**	**84**	*e*P		**Pn**	**15 31 09.5**	**+0.5**
ZARC				*e*S		**Sn**	**15 31 34.9**	**-1.8**
ZARC				*i*			15 31 43.9	
	comp=N,409nm,0.6s							
PTBC	**PUERTO BERRIO,**	**2.74**	**105**	*e*P		**Pn**	**15 31 16.8**	**+1.1**
PTBC				*e*S		**Sn**	**15 31 48.5**	**-0.1**
PTBC				*i*			15 31 53.0	
	comp=N,153nm,0.3s							
SJCC	**San Jacinto, C**	**3.25**	**36**	*e*P		**Pn**	**15 31 26.6**	**+3.9**
SJCC				*e*S		**Sn**	**15 31 59.2**	**-1.9**
SJCC				*i*			15 32 04.9	
	comp=N,134nm,0.7s							
YOTC	**Yotoco, Valle**	**3.35**	**167**	*e*P		**Pn**	**15 31 23.4**	**-0.8**
YOTC				*e*S		**Sn**	**15 31 59.0**	**-4.8**
YOTC				*i*			15 32 01.9	
	comp=E,91nm,0.3s							
BRRC	**Barranca, Sant**	**3.39**	**92**	*e*P		**Pn**	**15 31 26.8**	**+2.3**
BRRC				*e*S		**Sn**	**15 32 04.0**	**-0.5**
BRRC				*i*			15 32 05.4	
	comp=N,184nm,0.4s							
ROSC	**El Rosal**	**3.68**	**131**	Pn		**Pn**	**15 31 32.9**	**+3.9**
	comp=N,5.9nm,0.3s,baz=297,slow=19,SNR=8.7							
GIRC	**Giron, Santand**	**3.90**	**92**	*e*P		**Pn**	**15 31 34.0**	**+2.2**
GIRC				*e*S		**Sn**	**15 32 17.0**	**-0.5**
GIRC				*i*			15 32 20.1	
	comp=Z,76nm,0.5s							
BARC	**Barichara**	**3.97**	**99**	*e*P		**Pn**	**15 31 35.1**	**+2.4**
BARC				*e*S		**Sn**	**15 32 18.6**	**-0.6**
BARC				*i*			15 32 23.2	
	comp=Z,218nm,0.4s							
PRAC	**Prado**	**4.17**	**148**	*e*P		**Pn**	**15 31 38.9**	**+3.6**
PRAC				*e*S		**Sn**	**15 32 25.8**	**+1.9**
PRAC				*i*			15 32 35.1	
	comp=N,22nm,0.5s							
RUSC	**La Rusia**	**4.24**	**109**	*e*P		**Pn**	**15 31 39.4**	**+2.8**
RUSC				*e*S		**Sn**	**15 32 25.5**	**-0.7**
RUSC				*i*			15 32 44.7	
	comp=N,108nm,0.5s							
PAMC	**Pamplona, Colo**	**4.39**	**89**	*e*P		**Pn**	**15 31 41.0**	**+2.3**
PAMC				*e*S		**Sn**	**15 32 28.9**	**-1.0**
PAMC				*i*			15 32 34.5	
	comp=N,146nm,0.5s							
CODC	**Agustn Codazz**	**4.50**	**54**	*e*P		**Pn**	**15 31 41.3**	**+1.5**
CODC				*e*S		Sn	15 32 29.6	-2.4
CODC				*i*			15 32 35.4	
	comp=N,42nm,0.4s							
NNA	**Nana**	**19.13**	**179**	LR		LR	15 42 42.4	
	comp=N,40nm,19.6s,baz=331,slow=39							
YKA	**Yellowknife Ar**	**61.53**	**341**	P		**P**	**15 40 48.1**	**-0.3**
	comp=N,0.5nm,0.7s,baz=131,slow=7.0,SNR=14							
ILAR	**Eielson Array**	**74.90**	**335**	P		**P**	**15 42 11.9**	**-0.3**
	comp=N,0.2nm,0.6s,baz=81,slow=4.4,SNR=4.0							
ASAR	**Alice Springs**	**146.06**	**238**	PKPbc		**PKPdf**	**15 50 11.0**	**-0.7**
	comp=N,0.6nm,0.6s,baz=118,slow=3.9,SNR=12							
WRA	**Warramunga Arr**	**147.00**	**244**	PKPbc		**PKPdf**	**15 50 12.7**	**-0.7**
	comp=N,0.8nm,0.6s,baz=102,slow=3.6,SNR=9.5							

*MOS **26** 15:47:28.6±0.9, 49.81N×156.60E, h53km, mb4.2/3, Error ellipse: s-maj=18.0km s-min=4.8km az=76.8*

*KRSC **26** 15:47:28.5±10.0, 49.94N×156.98E, h16km±10km, ML4.3*

*ISCJB **26** 15:47:30.1±0.8, 49.89N±0.06×156.53E±0.10, h65km±7km, mb3.4/7, Error ellipse: s-maj=14.2km s-min=4.8km az=44.4*

*IDC **26** 15:47:34.2±3.2, 50.09N×156.26E, h81km±26km, mb3.1/6, mb1 3.4/9, mb1mx3.2/46, mbtmp3.5/9, Error ellipse: s-maj=37.9km s-min=22.1km az=155.0*

ISC 26 15:47:30.6±1.5, 49°9'N±0'1×156°63'E±0'09, h54km±13km, n62, σ1°33/77, mb3.4/7, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.90**	**339**	*e*P		**Pn**	**15 47 45.4**	**-1.7**
SKR				*e*S		**Sn**	**15 47 57.7**	**-1.5**
SKR	**Severo-Kuril's**	**0.90**	**339**	*e*PN		**Pn**	**15 47 45.5**	**-1.7**
SKR				*i* S		**Sn**	**15 47 58.0**	**-1.2**
SKR				pmax		pmax		
	comp=Z,322nm,0.3s							
SKR				smax		smax		
	comp=E,8μm,0.6s							
SKR				smax		smax		
	comp=N,5μm,0.3s							
ALID	**Alaid**	**1.24**	**326**	*e*P		**Pn**	**15 47 51.1**	**-0.7**
ALID				*e*S		**Sn**	**15 48 08.3**	**+0.8**
ALID	**Alaid**	**1.24**	**326**	PN		**Pn**	**15 47 51.1**	**-0.7**
ALID				S		**Sn**	**15 48 08.3**	**+0.8**
PAU	**Pauzhetka**	**1.63**	**4**	*e*P		**Pn**	**15 47 56.3**	**-0.6**
PAU				*e*S		**Sn**	**15 48 16.1**	**-0.6**
PAU	**Pauzhetka**	**1.63**	**4**	PN		**Pn**	**15 47 56.3**	**-0.6**
PAU				S		**Sn**	**15 48 16.1**	**-0.6**
KDTR	**Khodutka, Kamc**	**2.17**	**24**	*e*P		**Pn**	**15 48 03.0**	**-1.3**
KDTR				*e*S		**Sn**	**15 48 29.0**	**-1.0**
KDTR	**Khodutka, Kamc**	**2.17**	**24**	PN		**Pn**	**15 48 03.0**	**-1.3**
KDTR				S		**Sn**	**15 48 29.0**	**-1.0**
ASAK	**Asacha**	**2.66**	**17**	*e*P		**Pn**	**15 48 11.6**	**+0.5**
ASAK	**Asacha**	**2.66**	**17**	PN		**Pn**	**15 48 11.6**	**+0.5**
MTVR	**Mutnovka**	**2.82**	**20**	*e*P		**Pn**	**15 48 13.6**	**+0.3**
MTVR				*e*S		**Sn**	**15 48 46.8**	**+0.7**
MTVR	**Mutnovka**	**2.82**	**20**	PN		**Pn**	**15 48 13.6**	**+0.3**
MTVR				S		**Sn**	**15 48 46.8**	**+0.7**
RUS	**Russkaya**	**2.85**	**24**	*e*S		**Sn**	**15 48 45.2**	**-1.4**
APC	**Apacha**	**3.10**	**6**	*e*P		**Pn**	**15 48 17.4**	**+0.4**
APC	**Apacha**	**3.10**	**6**	PN		**Pn**	**15 48 17.4**	**+0.4**
KRMR	**Karymshinskiy**	**3.13**	**17**	*e*P		**Pn**	**15 48 18.4**	**+0.9**
KRMR	**Karymshinskiy**	**3.13**	**17**	PN		**Pn**	**15 48 18.4**	**+0.9**
PETK	**Petropavlovsk-**	**3.33**	**11**	P		**Pn**	**15 48 21.2**	**+1.0**
	comp=N,1.8nm,0.3s,baz=172,slow=15,SNR=39							
PET	**Petropavlovsk**	**3.42**	**21**	*e*P		**Pn**	**15 48 21.6**	**+0.1**
PET				*e*S		**Sn**	**15 49 01.7**	**+0.9**
PET	**Petropavlovsk**	**3.42**	**21**	*e*PN		**Pn**	**15 48 21.4**	**-0.1**
PET				*e*S		**Sn**	**15 49 02.7**	**+1.9**
PET				pmax		pmax		
	comp=Z,18nm,0.5s							
PET				smax		smax		
	comp=E,143nm,0.7s							
PET				smax		smax		
	comp=N,151nm,0.6s							
DALK	**Dalny**	**3.46**	**22**	*e*P		**Pn**	**15 48 21.7**	**-0.2**
DALK				*e*S		**Sn**	**15 49 02.1**	**+0.6**
DALK	**Dalny**	**3.46**	**22**	PN		**Pn**	**15 48 21.7**	**-0.2**
DALK				S		**Sn**	**15 49 02.1**	**+0.6**
UGLR	**Uglovaya**	**3.64**	**21**	P		**Pn**	**15 48 26.6**	**+2.1**
UGLR	**Uglovaya**	**3.64**	**21**	PN		**Pn**	**15 48 26.6**	**+2.1**
AVH	**Avacha**	**3.67**	**20**	P		**Pn**	**15 48 26.9**	**+2.0**
AVH	**Avacha**	**3.67**	**20**	PN		**Pn**	**15 48 26.9**	**+2.0**
KOK	**Koryaka**	**3.67**	**19**	*e*P		**Pn**	**15 48 26.8**	**+1.9**
KOK	**Koryaka**	**3.67**	**19**	PN		**Pn**	**15 48 26.8**	**+1.9**
SMAR	**Somma**	**3.68**	**21**	*e*P		**Pn**	**15 48 27.3**	**+2.1**
SMAR	**Somma**	**3.68**	**21**	PN		**Pn**	**15 48 27.3**	**+2.1**
KRER	**Koryakskii**	**3.71**	**20**	P		**Pn**	**15 48 27.0**	**+1.5**
KRER				S		**Sn**	**15 49 09.6**	**+1.6**
KRER	**Koryakskii**	**3.71**	**20**	PN		**Pn**	**15 48 27.0**	**+1.5**
KRER				S		**Sn**	**15 49 09.6**	**+1.6**
SDLR	**Sedlovina**	**3.71**	**21**	*e*P		**Pn**	**15 48 25.7**	**+0.2**
SDLR				*e*S		**Sn**	**15 49 08.0**	**-0.1**
SDLR	**Sedlovina**	**3.71**	**21**	PN		**Pn**	**15 48 25.7**	**+0.2**
SDLR				S		**Sn**	**15 49 08.0**	**-0.1**
KRX	**Arik**	**3.74**	**19**	P		**Pn**	**15 48 27.3**	**+1.4**
KRX				S		**Sn**	**15 49 09.7**	**+1.0**
KRX	**Arik**	**3.74**	**19**	PN		**Pn**	**15 48 27.3**	**+1.4**
KRX				S		**Sn**	**15 49 09.7**	**+1.0**
NLC	**Nalytchevo**	**3.74**	**26**	S		**Sn**	**15 49 05.7**	**-2.7**
SPN	**Mys Shipunski**	**3.89**	**32**	P		**Pn**	**15 48 27.4**	**-0.4**
SPN				S		**Sn**	**15 49 11.0**	**-1.1**
SPN	**Mys Shipunski**	**3.89**	**32**	PN		**Pn**	**15 48 27.4**	**-0.4**
KUR	**Kuril'sk**	**7.51**	**235**	*e*PN		**Pn**	**15 49 18.6**	**+1.2**
KUR				*e*S		**Sn**	**15 50 43.8**	**+2.7**
KUR				pmax		pmax		
	comp=Z,14nm,0.4s							
KUR				pmax		pmax		
	comp=N,4.0nm,0.2s							
KUR				pmax		pmax		
	comp=E,6.0nm,0.3s							
SHO	**Shikotan**	**8.98**	**232**	⇑*i*PN		Pn	15 49 34.4	-3.2
SHO				pmax		pmax		
	comp=Z,5.0nm,0.3s							
SHO				pmax		pmax		
	comp=N,3.0nm,0.2s							
SHO				pmax		pmax		
	comp=E,4.0nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**9.38**	**236**	*e*PN		**Pn**	**15 49 42.4**	**-0.6**
YUK				pmax		pmax		
	comp=Z,28nm,0.3s							
YUK				pmax		pmax		
	comp=N,7.0nm,0.2s							
YUK				pmax		pmax		
	comp=E,10.0nm,0.2s							
MA2	**Magadan**	**10.32**	**343**	P		**Pn**	**15 49 55.9**	**+0.2**
	comp=E,0.6nm,0.3s,baz=148,slow=22,SNR=4.3							
ASAJ	**Asahikawa**	**11.16**	**244**	P		**Pn**	**15 50 09.3**	**+2.0**
	comp=E,0.4nm,0.3s,baz=78,slow=10,SNR=9.4							
BILL	**Bilibino**	**18.87**	**11**	*e*P		**P**	**15 51 46.4**	**+0.4**
BILL				pmax		pmax		
	comp=Z,1.0nm,0.5s							
HIA	**Hailar**	**23.79**	**283**	⇑*e*P		**P**	**15 52 35.6**	**-2.5**
HIA				pmax		pmax		
	comp=Z,2.0nm,0.5s							
TIXI	**Tiksi**	**25.26**	**340**	⇓*e*P		**P**	**15 52 50.2**	**-1.0**
TIXI				pmax		pmax		
	comp=Z,5.0nm,2.1s							
TIXI	**Tiksi**	**25.26**	**340**	P		**P**	**15 52 48.9**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=119,slow=5.4,SNR=2.5							
H11N2	**WAKE ISLAND Hy**	**31.15**	**161**	T		T	16 26 39.4	
	baz=344							
H11N1	**WAKE ISLAND Hy**	**31.16**	**161**	T		T	16 26 39.6	
	baz=344							
H11N3	**WAKE ISLAND Hy**	**31.16**	**161**	T		T	16 26 43.3	
	baz=344							
COLA	**College**	**32.26**	**41**	⇑*e*P		**P**	**15 53 56.2**	**+2.7**
COLA				pmax		pmax		
	comp=Z,17nm,2.4s							
H11S1	**WAKE ISLAND Hy**	**32.29**	**162**	T		T	16 28 03.5	
	baz=340							
H11S3	**WAKE ISLAND Hy**	**32.30**	**162**	T		T	16 28 03.5	
	baz=340							
H11S2	**WAKE ISLAND Hy**	**32.31**	**162**	T		T	16 28 04.9	
	baz=340							
ILAR	**Eielson Array**	**32.67**	**41**	P		**P**	**15 53 57.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=272,slow=6.7,SNR=4.8							
INK	**Inuvik**	**37.77**	**35**	P		**P**	**15 54 41.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=252,slow=6.4,SNR=7.0							
YKA	**Yellowknife Ar**	**47.04**	**39**	P		**P**	**15 55 57.0**	**+0.8**
YKA	**Yellowknife Ar**	**47.04**	**39**	P		**P**	**15 55 57.0**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=296,slow=8.1,SNR=3.9							
MKAR	**Makanchi Array**	**47.63**	**296**	P		**P**	**15 55 59.3**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=38,slow=4.8,SNR=4.0							
TXAR	**Lajitas Array**	**73.97**	**64**	P		**P**	**15 59 01.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=268,slow=3.8,SNR=4.0							
COCO	**West Island**	**80.88**	**239**	*i* P		**P**	**15 59 37.7**	**-1.1**

PGC 26 15:49:08.4±0.7, 52.36N×131.67W, h24km, ML3.7/19, 100km south of Sandspit, Bc Haida Gwaii Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BNB	**Barry Inlet**	**0.23**	**347**	P		Pb	15 49 14.2	-0.2
BNB				S		Sb	15 49 17.7	-0.8
HG3B	**Hotspring**	**0.26**	**31**	P		Pb	15 49 14.7	0.0
HG3B				S		Sb	15 49 18.5	-0.6
HG4B	**Hotspring**	**0.29**	**102**	P		Pb	15 49 15.0	-0.3
HG4B				S		Sb	15 49 19.1	-0.8
HG1B	**Mitchell Dam**	**0.65**	**334**	P		Pb	15 49 20.6	-0.4
HG1B				S		Sb	15 49 29.1	-0.5
MOBC	**Moresby Island**	**0.81**	**347**	P		Pb	15 49 23.6	-0.2
MOBC				S		Sb	15 49 34.6	+0.1
DIB	**Dawson Inlet,**	**0.98**	**330**	P		Pn	15 49 25.8	-0.9
DIB				S		Sb	15 49 38.7	-0.5
MASB	**Masset**	**1.68**	**353**	Pn		Pn	15 49 37.0	+0.8
MASB				Sn		Sn	15 49 57.0	+0.1
NDB	**Naden**	**1.78**	**335**	Pn		Pn	15 49 37.1	-0.5
RUBB	**Prince Rupert**	**2.15**	**23**	Pn		Pn	15 49 43.1	+0.5
BBB	**Bella Bella**	**2.19**	**93**	Pn		Pn	15 49 42.5	-0.7
BBB				Sn		Sn	15 50 09.3	-0.2
BBB				Sg		Sb	15 50 16.1	+2.2
HOLB	**Holberg**	**2.80**	**126**	Pn		Pn	15 49 50.7	-0.9
HOLB				Sn		Sn	15 50 23.6	-1.0
PHC	**Port Hardy**	**3.12**	**120**	Pn		Pn	15 49 55.0	-1.0
PHC				Sn		Sn	15 50 29.3	-3.0
PACB	**Port Alice, BC**	**3.24**	**125**	Pn		Pn	15 49 57.6	-0.1
PACB				Sn		Sn	15 50 33.6	-1.9
BPBC	**Brooks Peninsu**	**3.29**	**130**	Pn		Pn	15 49 58.4	-0.1
MAYB	**Maynard**	**3.43**	**123**	Pn		Pn	15 49 59.5	-0.9
TLCB	**Telegraph Cove**	**3.52**	**119**	Pn		Pn	15 50 00.7	-0.8
TLCB				Sn		Sn	15 50 38.9	-3.5
EDB	**Eliza Dome**	**3.79**	**129**	Pn		Pn	15 50 06.1	+0.9
EDB				Sn		Sn	15 50 44.9	-4.1
WOSB	**Woss**	**3.88**	**122**	Pn		Pn	15 50 07.1	+0.5
NCRB	**Newcastle Ridg**	**4.02**	**117**	Pn		Pn	15 50 09.0	+0.5
CBB	**Campbell River**	**4.59**	**118**	Sn		Sn	15 51 07.0	-1.9
BTB	**Buttle Lake**	**4.84**	**124**	Pn		Pn	15 50 20.3	+0.4
BTB				Sn		Sn	15 51 13.3	-1.9
FSB	**Fort Saint Jam**	**4.88**	**61**	Pn		Pn	15 50 21.5	+1.3
TXB	**Texada**	**5.28**	**117**	Pn		Pn	15 50 26.6	+0.9
MGB	**Mount Grey**	**5.56**	**124**	Pn		Pn	15 50 31.7	+2.0
SHB	**Sechelt**	**5.64**	**116**	Pn		Pn	15 50 32.2	+1.4
SHB				Sn		Sn	15 51 30.4	-4.4
SHB				Sg		Sb	15 52 04.9	+12
PFB	**Port Renfrew**	**5.97**	**127**	Pn		Pn	15 50 36.4	+1.2
DLBC	**Dease Lake**	**6.17**	**8**	Pn		Pn	15 50 40.0	+2.1
LZB	**Mount Lazard**	**6.25**	**124**	Pn		Pn	15 50 40.8	+1.7
B009	**North Saanich**	**6.42**	**122**	Sn		Sn	15 51 53.1	-0.7
PGC	**Sidney**	**6.42**	**122**	Sn		Sn	15 51 53.0	-0.8
B011	**North Saanich**	**6.42**	**122**	Sn		Sn	15 51 52.1	-1.6
BMBC	**Bull Mountain**	**6.70**	**53**	Pn		Pn	15 50 46.0	+0.7
BMBC				Sn		Sn	15 52 01.2	+0.3
FNBB	**Fort Nelson**	**8.17**	**33**	Pn		Pn	15 51 06.9	+1.5
FNBB				Sn		Sn	15 52 35.0	-1.8
SLEB	**Sale Mountain**	**8.48**	**93**	Sn		Sn	15 52 43.7	-1.1
WHY	**Whitehorse**	**8.51**	**349**	Pn		Pn	15 51 12.4	+2.3
WHY				Sn		Sn	15 52 43.0	-2.3
YKW3	**Yellowknife Ar**	**13.69**	**35**	Sn		Sn	15 54 46.1	-5.6
DHRN	**Dharma Camp**	**15.90**	**18**	P		P	15 52 54.4	+0.7

MEX 26 15:53:44.6±0.7, 16.01N×98.30W, h9km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.42**	**23**	*e*P		Pg	15 53 51.8	-1.0
PNIG				*i* S		Sg	15 53 58.8	+0.5
TLIG	**Tlapa**	**1.57**	**351**	*e*P		Pn	15 54 09.4	-3.3
TLIG				*e*S		Sn	15 54 28.2	-5.0
VHO	**Vista Hermosa**	**1.83**	**55**	*e*P		Pn	15 54 13.3	-3.1
VHO				*i* S		Sn	15 54 35.3	-4.6
HUIG	**Hu

WRA	Warramunga Arr	56.40	147	P		P	16 23 42.2	-1.5
	1.5nm,0.7s,baz=338,slow=8.3,SNR=27								
ASAR	Alice Springs	59.41	149	P		P	16 24 03.8	-1.0
	0.7nm,0.7s,baz=331,slow=6.7,SNR=13								
NOA	NORSAR Array B	66.73	328	P		P	16 24 51.3	-1.8
	0.5nm,0.8s,baz=71,slow=4.2,SNR=2.9								
DAVOX	Davos/Dischmat	72.73	314	LR		LR	16 58 42.1		
	comp=Z,179nm,20.2s,baz=8.5,slow=37								
YKA	Yellowknife Ar	83.08	17	P		P	16 26 26.0	-1.3	
	0.3nm,0.6s,baz=327,slow=5.1,SNR=6.4								

IDC 26 16:26:46.4±9.3, 17.96S×170.95E, h206km±60km, mb3.3/3, mb1 3.5/4, mb1mx3.1/39, mbtmp3.8/4, Error ellipse: s-maj=83.6km s-min=30.9km az=38.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	5.89	225	P	Pn	16 28 13.1	+0.7
	0.2nm,0.3s,baz=72,slow=20,SNR=4.1						
DZM				S	S	16 29 20.1	-0.2
	0.5nm,0.3s,baz=120,slow=20,SNR=3.4						
WRA	Warramunga Arr	34.64	261	P	P	16 33 16.3	-0.1
	0.2nm,0.5s,baz=89,slow=8.3,SNR=11						
ASAR	Alice Springs	35.02	254	P	P	16 33 19.6	0.0
	2.2nm,0.5s,baz=80,slow=9.0,SNR=83						
VNDA	Vanda	59.76	182	P	P	16 36 28.9	-0.2
	0.6nm,0.3s,baz=13,slow=6.1,SNR=5.7						

MEX 26 16:30:23.0±0.8, 16.02N×98.32W, h13km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.41	26	*e*P	Pg	16 30 29.9	-1.4
PNIG				*i* S	Sg	16 30 36.3	-0.6
TLIG	Tlapa	1.55	351	*i* P	Pn	16 30 46.7	-3.8
TLIG				*i* S	Sn	16 31 06.5	-4.1
CAIG	El Cayaco	2.13	299	*i* P	Pn	16 30 55.1	-3.2

MEX 26 16:44:36.0±0.6, 16.04N×98.28W, h5km±3km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.38	23	*e*P	Pg	16 44 42.7	-0.8
PNIG				*i* S	Sg	16 44 49.0	+0.5
TLIG	Tlapa	1.54	350	*e*P	Pn	16 45 00.6	-3.7
TLIG				*i* S	Sn	16 45 19.1	-5.6

IDC 26 17:08:33.7±20.0, 5.87S×107.50E, h220km±194km, mb2.9/3, mb1 3.1/3, mb1mx2.8/30, mbtmp3.4/3, Error ellipse: s-maj=244.0km s-min=21.7km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	25.61	341	P	P	17 13 43.1	0.0
	0.3nm,0.6s,baz=176,slow=7.8,SNR=7.0						
WRA	Warramunga Arr	29.59	121	P	P	17 14 18.6	0.0
	0.4nm,0.9s,baz=294,slow=11,SNR=2.9						
SONM	Songino Array	53.48	359	PcP	PcP	17 18 37.9	+2.4
	1.0nm,0.5s,baz=171,slow=5.1,SNR=4.9						
MKAR	Makanchi Array	57.01	340	P	P	17 17 56.4	-0.1
	0.3nm,0.5s,baz=147,slow=8.3,SNR=7.0						

IDC ***26*** *17:23:49.7±0.3, 9.27S×120.23E, h0km, mb5.2/41, mb1 5.2/43, mb1mx5.1/58, mbtmp5.2/43, ML5.5/2, MS4.4/26, Ms1 4.5/26, ms1mx4.3/42, Error ellipse: s-maj=12.3km s-min=8.8km az=63.0*

BJI ***26*** *17:23:57.2, 9.40S×120.30E, h69km, mb5.1/67, mB5.3/57, Ms4.9/72, Ms7 4.7/67*

ISCJB ***26*** *17:23:58.7±0.3, 9.42S±0.02×120.30E±0.02, h89km±2km, mb5.3/255, Error ellipse: s-maj=3.3km s-min=2.5km az=37.3*

NEIC ***26*** *17:23:58.1±0.4, 9.35S×120.28E, h69km±3km, mb5.5/163, MW5.5, Error ellipse: s-maj=3.8km s-min=2.7km az=218.0, Moment Tensor Solution. s30 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.32; $M_{\theta\theta}$0.08; $M_{\phi\phi}$1.24; $M_{r\theta}$1.52; $M_{\theta\phi}$0.48; $M_{\phi r}$0.83; Best double couple: $M_0$2.20000×10^{17} NP1: ϕ_s0.00000°, δ26.00000°, λ-136.00000°. NP2:ϕ_s229.00000°, δ72.00000°, λ-71.00000°. Principal axes: T 2.0300, Plg25.0000°, Azm304.0000°; N 0.3200, Plg18.0000°, Azm43.0000°; P -2.3500, Plg58.0000°, Azm166.0000°;*

NEIC Felt [IV] at Waingapu.

MOS ***26*** *17:23:58.3±1.4, 9.25S×120.34E, h80km, mb5.4/71 Error ellipse: s-maj=7.2km s-min=4.2km az=115.4*

DJA ***26*** *17:23:59.8±0.2, 10.2°S±2.2°×12.0°E±1.1°, h68km±2km, M5.4/81, mb5.7/81, mB5.8/64, MLv6.0/24, Mw(mB)5.3/64, Mwp5.3/2*

KLM ***26*** *17:24:00.9, 9.42S×120.61E, h86km, mb5.5*

GCMT ***26*** *17:24:00.1±0.1, 9.47S±0.01×120.29E±0.01, h95km±1km, MW5.4/115, Moment Tensor Solution. s101,c196; s115,c222; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.88±.03; $M_{\theta\theta}$0.44±.03; $M_{\phi\phi}$0.44±.04; $M_{r\theta}$1.15±.02; $M_{\theta\phi}$0.89±.02; $M_{\phi r}$0.90±.02; Best double couple: $M_0$1.83600×10^{17} NP1:ϕ_s232.00000°, δ72.00000°, λ-84.00000°. NP2:ϕ_s32.00000°, δ19.00000°, λ-109.00000°. Principal axes: T 2.0530, Plg26.0000°, Azm317.0000°; N -0.4330, Plg6.0000°, Azm50.0000°; P -1.6190, Plg63.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 17:23:59.1±0.3, 9.42S±0.03×120.30E±0.03, h75km±2km, h76km: pP-P, n1067, σ1.82/1011, mb5.4/248, 21C-11D, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	Waingapu	0.25	181	P	Pn	17 24 07.5	-3.1
BASI	Baing, Sumba	0.84	161	P	Pn	17 24 14.0	-2.0
EDFI	Ende, Flores	1.52	64	P	Pn	17 24 23.1	-1.6
MMRI	Maumere	2.06	68	*e*Pn	Pn	17 24 31.1	-0.6
MMRI				*e*Sn	Sn	17 24 55.9	-0.8
MMRI	Maumere	2.06	68	P	Pn	17 24 31.4	-0.3
PLAI	Plampang	2.56	283	P	Pn	17 24 39.2	+0.8
BSSI	Bau Bau, Buton	3.26	3	P	Pn	17 24 48.7	+0.8
BATI	Baumata	3.41	104	P	Pn	17 24 50.4	+0.5
BATI	Baumata	3.41	104	Pn	Pn	17 24 50.0	+0.2
	373nm,0.3s,baz=349,slow=0.4,SNR=392						
BATI				Sn	Sn	17 25 30.4	+1.2
	919nm,0.3s,baz=141,slow=22,SNR=9.3						
SOEI	Soe	3.93	95	*e*Pn	Pn	17 24 57.2	+0.1
SOEI	Soe	3.93	95	P	Pn	17 24 58.3	+1.2
BKSI	Bulukumba	4.07	357	P	Pn	17 25 01.5	+2.5
KAPI	Kappang	4.41	353	*e*Pn	Pn	17 25 05.4	+1.8
KAPI				*e*Sn	Sn	17 25 54.7	+1.0
KAPI	Kappang	4.41	353	*e*P	Pn	17 25 05.4	+1.8
KAPI				*e*		17 25 54.7	
KAPI	Kappang	4.41	353	P	Pn	17 25 05.9	+2.3
	SNR=115						
BBSI	Bau Bau	4.51	30	P	Pn	17 25 07.2	+2.3
BNSI	Bone	4.99	358	P	Pn	17 25 16.9	+5.4
	4µm,0.8s,36µm14nm						
DNP	Denpasar	5.08	278	P	Pn	17 25 15.9	+3.1
DNP				pmax	pmax		
	comp=Z,4µm,0.6s						
DNP	Denpasar	5.08	278	P	Pn	17 25 15.8	+3.0
	comp=Z,5µm,0.5s,comp=Z,68µmcomp=Z,71nm						
SRBI	Singaraja	5.20	284	P	Pn	17 25 16.5	+2.1
	comp=Z,535nm,0.7s,comp=Z,8µmcomp=Z,7.5nm						
SPSI	Sidrap Palu	5.44	354	P	Pn	17 25 22.0	+4.3
	comp=Z,1µm,0.7s,comp=Z,10µmcomp=Z,4.2nm						
KDI	Kendari	5.89	23	P	Pn	17 25 27.1	+3.2
	comp=Z,2µm,1.0s,comp=Z,12µmcomp=Z,4.6nm						
JAGI	Jajag, Banyuwa	6.15	278	*e*Pn	Pn	17 25 25.3	-2.1
JAGI				*e*Sn	Sn	17 26 34.8	-1.6
JAGI	Jajag, Banyuwa	6.15	278	P	Pn	17 25 26.3	-1.0
	comp=Z,1µm,0.7s,comp=Z,25µmcomp=Z,14nm						
KMMI	Kalianget	6.70	290	P	Pn	17 25 39.6	+4.8
	comp=Z,454nm,0.8s,comp=Z,3µmcomp=Z,1.9nm						
BLJI	Banyuglugur	6.84	284	P	Pn	17 25 38.0	+1.3
	comp=Z,791nm,0.6s,comp=Z,14µmcomp=Z,5.1nm						
GMJI	Gumukmas	6.87	279	P	Pn	17 25 36.0	-1.2
	comp=Z,1µm,0.9s,comp=Z,12µmcomp=Z,5.5nm						
GRJI	Gresik	8.13	287	P	Pn	17 25 57.6	+3.1
	comp=Z,386nm,0.7s,comp=Z,4µmcomp=Z,1.5nm						
PWJI	Pagerwojo	8.51	279	P	Pn	17 26 01.2	+1.5
	comp=Z,378nm,0.6s,comp=Z,6µmcomp=Z,4.6nm						
APSI	Ampana	8.56	9	P	Pn	17 26 04.0	+3.7
	comp=Z,377nm,0.9s,comp=Z,4µmcomp=Z,3µm						
LUWI	Luwuk	8.68	17	*e*Pn	Pn	17 26 05.1	+3.1
LUWI	Luwuk	8.68	17	P	Pn	17 26 05.6	+3.7
	comp=Z,1µm,0.8s,comp=Z,12µm						
TBJI	Tambak Boyo	8.76	287	P	Pn	17 26 12.6	+10
BKB	Balikpapan	8.78	337	P	Pn	17 26 10.3	+6.9
	comp=Z,1µm,0.8s,comp=Z,14µm						
NGJI	Ngawi	8.98	282	P	Pn	17 26 11.1	+5.1
	comp=Z,316nm,0.8s,comp=Z,8µm						
PCJI	Pacitan	9.10	277	P	Pn	17 26 08.8	+1.1
	comp=Z,482nm,0.9s,comp=Z,5µm						
SANI	Sanana	9.25	38	P	Pn	17 26 12.3	+2.6
	comp=Z,342nm,1.0s,comp=Z,4µm						
SMKI	Samarinda	9.43	341	P	Pn	17 26 16.3	+4.1
	comp=Z,776nm,0.7s,comp=Z,10µm						
MPSI	Mapaga	9.70	358	P	Pn	17 26 22.3	+6.4
	comp=Z,66nm,1.0s,comp=Z,946nm						
UGM	Wanagama	9.78	278	*e*Pn	Pn	17 26 16.5	-0.5
UGM				*e*Sn	Sn	17 28 01.3	-4.0
UGM	Wanagama	9.78	278	P	Pn	17 26 18.3	+1.3
	comp=Z,556nm,0.9s,comp=Z,6µm						
MRSI	Marisa	9.96	10	P	Pn	17 26 23.3	+3.8
	comp=Z,339nm,1.1s,comp=Z,3µm						
MTKI	Muara Teweh, K	9.99	327	P	Pn	17 26 25.2	+5.3
	comp=Z,445nm,0.8s,comp=Z,7µm						
SMRI	Semarang	10.04	283	*e*Pn	Pn	17 26 18.1	-2.4
SMRI				*e*Sn	Sn	17 28 13.6	+2.1
SMRI	Semarang	10.04	283	P	Pn	17 26 23.0	+2.5
	comp=Z,307nm,0.7s						
FITZ	Fitzroy Crossi	10.06	150	P	Pn	17 26 16.4	-4.4
	baz=10.0,SNR=694						
FITZ				S	Sn	17 28 00.8	-11
	baz=10.0						
FITZ	Fitzroy Crossi	10.06	150	*e*Pn	Pn	17 26 16.4	-4.4
FITZ				*e*Sn	Sn	17 27 59.5	-13
FITZ	Fitzroy Crossi	10.06	150	Pn	Pn	17 26 16.0	-4.8
	comp=Z,23nm,0.3s,baz=337,slow=7.9,SNR=321						
FITZ				Sn	Sn	17 28 01.2	-11
	comp=Z,41nm,0.3s,baz=162,slow=15,SNR=13						
FITZ				LR	LR	17 30 50.4	
	comp=Z,2µm,21.9s,baz=316,slow=41						
KNRA	Kununurra	10.34	128	P	Pn	17 26 21.1	-3.4
	baz=10,SNR=198						
KMSI	Cibinong	10.58	20	P	Pn	17 26 34.5	+6.6
	comp=Z,398nm,0.8s,comp=Z,3µm						
BNDI	Bandanaira	10.70	64	P	Pn	17 26 45.1	+16
PBKI	Pangkalan Bun	10.87	307	P	Pn	17 26 43.9	+12
SAUI	Saumlaki	10.97	83	*e*Pn	Pn	17 26 32.0	-1.1
SAUI	Saumlaki	10.97	83	P	Pn	17 26 32.4	-0.8
	comp=Z,2µm,0.9s,comp=Z,16µm						
MTN	Manton Dam	11.16	109	S	Sn	17 28 26.6	-12
	baz=11						
MTN	Manton Dam	11.16	109	*e*Pn	Pn	17 26 31.5	-4.3
CMJI	Cimerak	11.83	277	P	Pn	17 26 50.3	+5.3
	comp=Z,145nm,0.7s,comp=Z,2µm						
TNTI	Ternate	12.33	35	*e*Pn	Pn	17 26 51.0	-0.8
TNTI	Ternate	12.33	35	P	Pn	17 26 55.5	+3.8
	comp=Z,157nm,1.0s,comp=Z,3µm						
KDU	Kakadu	12.38	106	P	Pn	17 26 48.9	-3.5
	baz=12,SNR=539						
CISI	Cisompet, Garu	12.49	278	*e*Pn	Pn	17 26 50.6	-3.4
CISI	Cisompet, Garu	12.49	278	P	Pn	17 26 52.1	-1.9
	comp=Z,353nm,0.7s,comp=Z,5µm						
FAKI	Fak Fak	13.52	62	*e*Pn	Pn	17 27 04.3	-3.3
FAKI	Fak Fak	13.52	62	P	Pn	17 27 07.7	0.0
	comp=Z,542nm,0.9s,comp=Z,5µm						
CBJI	Citeko	13.65	282	P	Pn	17 27 06.0	-3.5
	comp=Z,485nm,0.7s,comp=Z,6µm						
SKJI	Sukabumi	13.81	279	P	Pn	17 27 13.3	+1.7
	comp=Z,700nm,0.8s,comp=Z,5µm						
SWI	Sorong	13.83	53	P	Pn	17 27 12.9	+1.2
	comp=Z,237nm,1.0s,comp=Z,5µm						
SIJI	Sorong	13.83	53	Pn	Pn	17 27 11.5	-0.3
	comp=Z,2.9nm,0.3s,baz=228,slow=7.3,SNR=40						
SIJI				LR	LR	17 33 57.2	
	comp=Z,1µm,19.7s,baz=229,slow=44						
TSM	Tawau	13.84	350	P	Pn	17 27 17.3	-0.4
SGSI	Sangihe	14.02	22	P	P	17 27 20.3	+0.5
	comp=Z,270nm,0.5s						
SBUM	Sibu	14.28	325	*e*Pn	Pn	17 27 17.1	-0.5
SBUM	Sibu	14.28	325	P	P	17 27 24.7	+2.1
GIRL	Giralia	14.38	203	P	Pn	17 27 15.1	-3.8
	baz=14,SNR=78						
GIRL	Giralia	14.38	203	*e*Pn	Pn	17 27 14.9	-4.0
SBJI	Serang	14.42	282	P	P	17 27 31.8	+7.6
BTM	Bintulu	14.45	330	P	P	17 27 27.3	+2.6
XMIS	Christmas Isla	14.47	265	*e*Pn	Pn	17 27 19.2	-1.0
KSM	Kuching	14.70	317	*e*Pn	Pn	17 27 23.5	+0.4
KSM	Kuching	14.70	317	P	P	17 27 30.6	+3.2
SDKM	Sandakan	15.28	348	P	P	17 27 36.6	+2.8
BLSI	Bandar Lampung	15.46	284	P	P	17 27 37.8	+2.0
	comp=Z,205nm,0.4s						
PPBI	Pangkal Pinang	15.82	296	P	Pn	17 27 38.1	+0.6
	comp=Z,39nm,1.0s,comp=Z,761nm						
RKPI	Ransiki, Papua	15.88	61	P	Pn	17 27 37.2	-1.0
	comp=Z,371nm,0.8s,comp=Z,4µm						
KKM	Kota Kinabalu	15.89	345	*e*Pn	Pn	17 27 39.1	+0.7
	comp=Z,607nm,1.4s						
KKM	Kota Kinabalu	15.89	345	P	P	17 27 43.1	+2.4
DDMP	Don Marcelino,	16.34	19	*e*P	P	17 27 46.7	+1.2
SKMP	Bagumbayan, Su	16.39	15	*e*P	P	17 27 45.5	-0.6
KDM	Kudat	16.59	348	P	P	17 27 53.0	+4.6
LWLI	Liwa	16.69	284	P	P	17 27 51.0	+1.4
	comp=Z,210nm,0.7s,comp=Z,11µm						
PMBI	Palembang	16.73	292	P	P	17 27 57.1	+7.3
MDSI	Maura Dua	16.73	286	P	Pn	17 27 48.7	-0.1
	comp=Z,55nm,1.2s,comp=Z,1µm						
CTBH	Cotabato--PC H	16.99	14	*i* P	P	17 27 56.3	+3.6
KCP	Kidapawan	17.00	16	*e*P	P	17 27 55.1	+2.1
WRA	Warramunga Arr	17.13	129	*i* P	Pn	17 27 49.0	-4.7
WRA				pmax	pmax		
	comp=Z,148nm,0.9s						
WRA	Warramunga Arr	17.13	129	P	Pn	17 27 49.1	-4.7
	comp=Z,4.4nm,0.3s,baz=305,slow=13,SNR=147						
WRA				S	Sn	17 30 45.6	-18
	comp=Z,19nm,0.3s,baz=298,slow=24,SNR=13						
WRA				LR	LR	17 35 53.6	
	comp=Z,2µm,20.9s,baz=305,slow=42						
WR1	Warramunga Arr	17.13	129	*e*Pn	Pn	17 27 49.1	-4.6
	comp=Z,203nm,0.8s						
WR1				*e*Sn	Sn	17 30 45.6	-18
WRAB	Tennant Creek	17.13	129	*e*Pn	Pn	17 27 49.9	-3.8
	comp=Z,187nm,0.8s						
WRAB	Tennant Creek	17.13	129	*ce*P	Pn	17 27 50.3	-3.4
WRAB				pmax	pmax		
	comp=Z,169nm,0.8s						
WB2	Warramunga Arr	17.14	129	*e*Pn	Pn	17 27 49.4	-4.5
WB2				*e*Sn	Sn	17 30 44.6	-19
MEEK	Meekatharra	17.20	185	P	Pn	17 27 51.9	-2.6
	baz=17,SNR=110						
MEEK				S	Sn	17 30 49.4	-16
	baz=17						
DAV	Davao City (W)	17.20	18	*e*Pn	P	17 27 58.4	+3.2
	comp=Z,547nm,1.4s						
DAV	Davao City (W)	17.20	18	*i* P	Pn	17 27 54.0	-0.6
DAV	Davao City (W)	17.20	18	P	P	17 28 04.9	+10
	SNR=20						
DAV	Davao City (W)	17.20	18	LR	LR	17 35 19.6	
	comp=Z,1µm,20.4s,baz=213,slow=40						
MATI	Mati	17.31	20	*e*P	P	17 27 57.9	+1.6
PAGZ	Pagadian	17.43	10	*e*P	P	17 27 58.4	+0.8
SRPI	Serui, Papua	17.54	66	P	Pn	17 27 58.2	-0.5
	comp=Z,199nm,1.0s,comp=Z,2µm						
LHSI	Lahat	17.56	287	P	P	17 28 01.0	+1.9
	comp=Z,194nm,1.0s,comp=Z,2µm						
BUKP	Muguan	17.83	16	*e*P	Pn	17 28 03.8	+1.6
MNAI	Manna	17.93	285	*e*Pn	P	17 28 01.7	-1.5
	comp=Z,418nm,0.6s						
MNAI				*e*Sn	Sn	17 31 17.0	-6.3
MNAI	Manna	17.93	285	P	Pn	17 28 05.7	+2.1
	comp=Z,634nm,0.5s,comp=Z,8µm						
DSRI	Dabo	17.99	299	P	Pn	17 28 05.2	+0.9
	comp=Z,231nm,0.9s,comp=Z,3µm						
BATP	Bataraza	18.27	352	*e*P	Pn	17 28 08.7	+1.1
BATP				*e*S	S	17 31 38.5	+7.3
CGP	Cagayan de Oro	18.29	14	*e*P	Pn	17 28 12.8	+5.0
TPRI	Tanjung Pinang	18.77	302	P	Pn	17 28 15.1	+1.5
	comp=Z,43nm,1.0s,comp=Z,4µm						
SNPH	Sibulan	18.87	9	*i* P	Pn	17 28 18.0	+3.2
AS31	Alice Springs	19.23	139	*e*P	P	17 28 17.2	-0.2
	comp=Z,48nm,0.7s						
ASAR	Alice Springs	19.23	139	P	P	17 28 17.1	-0.2
	comp=Z,26nm,0.3s,baz=315,slow=11,SNR=686						
ASAR				LR	LR	17 36 20.6	
	comp=Z,3µm,19.5s,baz=310,slow=39						
AS01	Alice Springs	19.26	139	*e*P	P	17 28 17.2	-0.5
MYKOM	Kota Tinggi	19.81	303	*e*P	P	17 28 23.4	-0.4
	comp=Z,36nm,0.7s						
MYKOM	Kota Tinggi	19.81	303	P	P	17 28 24.4	+0.6
LLP	Lapu-Lapu	19.94	11	*i* P	Pn	17 28 26.6	-0.8
LLP				*e*S	S	17 32 08.0	+2.5
MSLP	Maasin	19.95	13	*e*P	Pn	17 28 26.9	-0.6
MORW	Morawa	19.95	191	P	P	17 28 24.8	-0.3
	baz=20,SNR=19						
MORW	Morawa	19.95	191	*e*P	P	17 28 24.6	-0.6
	comp=Z,480nm,1.5s						
GUIM	Jordan	20.04	7	*e*P	P	17 28 23.9	-2.3
KRJI	Kerinci	20.10	290	P	Pn	17 28 29.3	-0.1
	comp=Z,649nm,0.7s,comp=Z,4µm						
CUYO	Cuyo Island	20.15	2	*e*P	Pn	17 28 29.8	-0.1
KGM	Kluang	20.38	303	P	Pn	17 28 31.3	-1.2
ENPP	El Nido	20.51	358	*e*P	P	17 28 30.2	-1.0
ENPP				*e*S	S	17 32 16.7	0.0
GENI	Genyem	20.88	72	P	P	17 28 34.8	-0.5
	comp=Z,339nm,1.1s,comp=Z,4µm						
BLDU	Ballidu	21.35	189	P	P	17 28 39.3	-0.9
	baz=21,SNR=42						
JAY	Jayapura	21.41	73	P	P	17 28 41.2	+0.2
	comp=Z,610nm,1.1s,comp=Z,15µm						
JAY	Jayapura	21.41	73	P	P	17 28 39.6	-1.4
	comp=Z,46nm,0.8s,baz=224,slow=8.7,SNR=18						
PDSI	Padang	21.47	292	P	P	17 28 44.7	+3.0
	comp=Z,51nm,0.7s,comp=Z,1µm						
BKNI	Bangkinang	21.48	296	*e*P	P	17 28 40.8	-0.9
	comp=Z,122nm,0.8s						
BKNI	Bangkinang	21.48	296	P	P	17 28 46.6	+4.9
	comp=Z,148nm,0.8s						
QIS	Mount Isa	21.66	123	P	P	17 28 43.3	-0.3
	baz=22,SNR=130						
SJMP	San Jose	21.75	2	*e*P	P	17 28 45.2	+0.7
PALU	Palau	21.83	41	P	P	17 28 45.1	-0.3
	baz=22,SNR=4.3						
KMBL	Kambalda	21.89	176	P	P	17 28 44.6	-1.3
	baz=22,SNR=33						
KLBR	Kellerberrin	22.19	186	P	P	17 28 48.5	-0.6
	baz=22,SNR=35						
FORT	Forrest	22.45	162	P	P	17 28 51.7	-0.2
	baz=22,SNR=17						
FORT	Forrest	22.45	162	*e*P	P	17 28 50.9	-1.1
	comp=Z,223nm,0.8s						
KTGM	Kuala Trenggan	22.52	310	P	P	17 28 55.1	+2.2
SISI	Saibi	22.58	290	P	P	17 29 05.5	+12
MUN	Mundaring	22.77	189	P	P	17 28 53.7	-1.6
	baz=23,SNR=24						
BOAC	Boac	22.78	4	*e*P	P	17 28 55.5	-0.1
COEN	Coen	22.84	104	P	P	17 28 55.5	-0.8
	baz=23,SNR=54						
COEN	Coen	22.84	104	*e*P	P	17 28 55.1	-1.2
	comp=Z,270nm,1.2s						
MNSI	Mandailing Nat	23.00	295	P	P	17 29 00.0	+2.2
	comp=Z,42nm,0.7s						
COCO	West Island	23.21	261	*e*P	P	17 29 00.0	+0.2
	comp=Z,205nm,1.0s						
COCO				LR	LR		
	comp=Z,2µm,20.0s						
COCO	West Island	23.21	261	*e*P	P	17 29 00.0	+0.2
COCO				pmax	pmax		
	comp=Z,205nm,1.0s						
COCO				MLR	MLR		
	comp=Z,2µm,20.0s						
TGY	Tagaytay City	23.38	2	LR	LR	17 38 27.1	
	comp=Z,1µm,21.3s,baz=187,slow=38						
NWAO	Narrogin (SRO)	23.57	186	P	P	17 29 01.8	-1.1
	baz=24,SNR=104						
NWAO	Narrogin (SRO)	23.57	186	*e*P	P	17 29 01.5	-1.4
	comp=Z,376nm,1.1s						
NWAO				*e*S	S	17 33 14.0	+2.5
NWAO	Narrogin (SRO)	23.57	186	P	P	17 29 01.9	-1.1
	SNR=6.5						
NWAO	Narrogin (SRO)	23.57	186	P	P	17 29 01.8	-1.1
	comp=Z,191nm,0.8s,baz=8.6,slow=8.0,SNR=75						
NWAO				S	S	17 33 15.1	+3.7
	comp=Z,88nm,0.5s,baz=237,slow=5.2,SNR=8.2						
NWAO				LR	LR	17 39 12.1	
	comp=Z,2µm,18.6s,baz=12,slow=39						
IPM	Ipoh	23.66	305	*e*P	P	17 29 02.3	-1.7
	comp=Z,75nm,0.9s						
IPM	Ipoh	23.66	305	P	P	17 29 04.5	+0.6
KULM	Kulim	24.43	306	*e*P	P	17 29 10.2	-0.7
	comp=Z,42nm,0.7s						
KULM	Kulim	24.43	306	P	P	17 29 11.2	+0.3
PSI	Prapat	24.52	299	*e*P	P	17 29 09.7	-2.2
	comp=Z,102nm,0.8s						
PSI	Prapat	24.52	299	P	P	17 29 10.5	-1.4
	comp=Z,99nm,0.7s,baz=179,slow=7.5,SNR=42						
PSI				LR	LR	17 40 30.1	
	comp=Z,3µm,18.4s,baz=91,slow=41						
MTSU	Mount Surprise	24.86	113	P	P	17 29 15.0	+0.2
	baz=25,SNR=306						
GSI	Gunungsitoli	25.02	294	*e*P	P	17 29 14.6	-1.7
	comp=Z,50nm,0.6s						
GSI	Gunungsitoli	25.02	294	P	P	17 29 17.0	+0.7
	comp=Z,70nm,0.6s,comp=Z

comp=Z,200nm,20.0s
PHET Kaeng Krachan 30.23 317 P P 17 30 05.5 +2.7
comp=Z,19nm,0.8s,comp=Z,168nm
SKNT Sakolnakorn 30.79 328 P P
KHON Khomkaen 30.89 326 P P 17 30 10.9 +2.3
comp=Z,23nm,0.8s
CHAI Chaiyaphum 31.01 324 P P 17 30 10.3 +0.6
RMQ Roma 31.83 126 P P 17 30 18.3 +1.3
baz=32,SNR=20
RABL Rabaul 32.05 83 *e*P P 17 30 18.8 -0.2
comp=Z,112nm,1.0s
TWG Pinlang 32.05 1 *e*P P 17 30 18.1 -0.7
comp=Z,325nm,1.6s
PBKT Sadao Pong 32.13 323 P P 17 30 19.6 0.0
comp=Z,71nm,0.7s
NONG Nongkai 32.13 328 P P 17 30 21.2 +1.6
comp=Z,1.1nm,0.5s
CMSA Cobar Meteorol 32.25 137 P P 17 30 21.3 +0.8
baz=32,SNR=20
UTHA Uthaitani 32.29 320 P P 17 30 21.5 +0.5
TPUB Ta-pu 32.52 1 *e*P P 17 30 23.0 +0.1
comp=Z,168nm,1.7s
YULB Yu-li 32.62 2 *e*P P 17 30 23.8 0.0
comp=Z,18nm,0.7s
SSLB Suanglung 33.01 1 *e*P P 17 30 25.5 -1.7
comp=Z,22nm,0.9s
GZH Guangzhou 33.02 348 P P 17 30 34.0 +6.8
GZH S S 17 35 51.8 +11
GZH LR LR
comp=N,890nm,19.6s
GZH LR LR
comp=E,930nm,19.6s
UMPA Umpang Tak 33.15 320 P P 17 30 29.8 +1.3
comp=E,30nm,0.5s,comp=E,288nm
EIDS Eidsvold 33.26 122 P P 17 30 29.7 +0.2
baz=33,SNR=3.9
EIDS Eidsvold 33.26 122 *e*P P 17 30 29.2 -0.2
comp=E,79nm,1.5s
UTTA Uttaradit 33.30 324 P P 17 30 30.6 +0.8
comp=E,16nm,0.8s,comp=E,152nm
NACB Ninganchiao 33.41 2 *e*P P 17 30 30.8 +0.1
comp=E,22nm,0.8s
GUMO Guam 33.42 47 *e*P P 17 30 29.4 -1.5
comp=E,567nm,1.3s
GUMO Guam 33.42 47 P P 17 30 29.8 -1.0
comp=E,366nm,1.1s,baz=194,slow=11,SNR=5.2
GUMO LR LR 17 42 29.0
comp=E,194nm,21.6s,baz=240,slow=34
ARPS Mount Arapiles 33.50 148 P P 17 30 32.0 +0.7
baz=34,SNR=36
SUKH Sukhothai 33.64 323 P P 17 30 33.8 +1.1
comp=E,26nm,0.7s
YOJ Yonaguni jima 33.78 4 *e*P P 17 30 32.1 -1.7
comp=E,652nm,1.7s
YOJ Yonaguni jima 33.78 4 *e*P P 17 30 32.1 -1.7
YOJ pmax pmax
comp=Z,652nm,1.7s
YHNB Yeheng 33.90 2 *e*P P 17 30 34.7 -0.2
comp=Z,149nm,1.7s
QZH Quanzhou 34.19 357 P P 17 30 41.8 +4.4
QZH S **S 17 35 57.5 -1.1**
QZH LR LR
comp=Z,600nm,17.1s
QZH LR LR
comp=Z,840nm,22.7s
TATO Taipei 34.20 2 PFAKE 17 30 50.0 +12
TATO LR LR
comp=Z,1μm,22.0s
PBA Port Blair 34.48 307 *e*P P 17 30 38.1 -2.0
comp=Z,51nm,0.6s
CM01 Chiang Mai Arr 34.77 323 *e*P P 17 30 42.1 -0.4
CM31 Chiang Mai Arr 34.81 323 *e*P P 17 30 42.7 -0.2
comp=Z,25nm,0.6s
CM31 Chiang Mai Arr 34.81 323 P P 17 30 42.9 +0.1
SNR=13
CMAR Chiang Mai Arr 34.81 323 *i*P P 17 30 43.0 +0.2
CMAR pmax pmax
comp=Z,18nm,0.5s
CMAR Chiang Mai Arr 34.81 323 P P 17 30 42.8 -0.1
comp=Z,14nm,0.6s,baz=153,slow=6.5,SNR=98
CMAR PcP **PcP 17 33 16.2 +1.4**
comp=Z,5.8nm,0.6s,baz=177,slow=2.8,SNR=11
CMAR ScP **ScP 17 36 59.3 +5.5**
comp=Z,1.5nm,0.7s,baz=184,slow=3.5,SNR=4.2
CMAR LR LR 17 46 28.6
comp=Z,1μm,18.3s,baz=173,slow=39
CMMT Chiang Mai 35.08 323 P P 17 30 45.5 +0.3
CHTO Chiang Mai 35.08 323 *e*P P 17 30 45.1 -0.1
comp=Z,34nm,0.6s
CHTO LR LR
comp=Z,905nm,21.0s
CHTO Chiang Mai 35.08 323 *e*P P 17 30 45.1 -0.1
CHTO pmax pmax
comp=Z,34nm,0.6s
CHTO MLR MLR
comp=Z,905nm,21.0s
YNG Young 35.73 138 P P 17 30 51.7 +1.0
baz=36,SNR=42
ARMA Armidale 35.91 130 P P 17 30 52.4 +0.1
baz=36,SNR=23
ARMA Armidale 35.91 130 *e*P P 17 30 53.2 +0.8
comp=Z,95nm,1.4s
TOO Toolangi 36.08 145 P P 17 30 54.3 +0.6
baz=36,SNR=23
TOO Toolangi 36.08 145 *e*P P 17 30 54.7 +1.0
comp=Z,87nm,1.3s
TOO Toolangi 36.08 145 *e*P P 17 30 54.7 +1.0
TOO pmax pmax
comp=Z,87nm,1.3s
SARN Sarigan 36.18 44 *e*P P 17 30 55.6 +1.0
comp=Z,77nm,1.2s
CAN Canberra 36.74 139 *e*P P 17 30 59.7 +0.4
comp=Z,117nm,1.6s
CAN Canberra 36.74 139 *e*P P 17 30 59.7 +0.4
CAN pmax pmax
comp=Z,117nm,1.6s
JOW Kunigami 36.86 12 *e*P P 17 31 00.5 +0.3
comp=Z,112nm,1.9s
MGCD Mangrove Creek 36.96 134 P P 17 31 01.7 +0.6
baz=37,SNR=25
CNB Canberra Magne 36.98 139 P P 17 31 01.6 +0.3
baz=37,SNR=7.0
RIV Riverview 37.33 135 P P 17 31 04.2 0.0
baz=37,SNR=4.8
MILA Mila 37.92 141 P P 17 31 11.0 +1.8
baz=38,SNR=3.5
GYA Guiyang 38.05 340⇑ *i*P P 17 31 12.5 +2.0
GYA pP pP 17 31 29.5 +1.1
GYA PcP **PcP 17 33 28.0 +3.5**
GYA S **S 17 37 02.8 +5.1**
GYA sS sS 17 37 30.3 +1.6
GYA SS **SnSn 17 39 42.3 -5.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=Z,620nm,17.9s
GYA LR LR
comp=Z,680nm,17.6s
GYA LR LR
comp=Z,630nm,18.2s
KMI Kunming 38.36 334 P P 17 31 15.8 +2.5
KMI pP pP 17 31 28.5 -2.7
KMI sP sP 17 31 35.5 -4.3
KMI PP **PnPn 17 32 49.0 +4.0**
KMI S **S 17 37 05.5 +2.7**
KMI sS sS 17 37 30.0 -3.8
KMI SS **SS 17 39 46.0 -8.8**
KMI pmax pmax
comp=Z,41nm,1.1s
KMI pmax pmax
comp=Z,430nm,4.6s
KMI LR LR
comp=Z,1μm,19.2s
KMI LR LR
comp=Z,620nm,18.2s
KMI LR LR
comp=Z,1μm,20.7s
KMI Kunming 38.36 334 *e*P P 17 31 14.6 +1.3
comp=Z,76nm,1.3s
KMI Kunming 38.36 334 *e*P P 17 31 14.6 +1.3
KMI pmax pmax
comp=Z,76nm,1.3s
HNR Honiara 39.10 93 *e*P P 17 31 15.0 -4.4
HNR Honiara 39.10 93 *e*P P 17 31 18.1 -1.2
comp=Z,162nm,0.9s
HNR LR LR
comp=Z,1μm,22.0s
HNR Honiara 39.10 93 P P 17 31 20.5 +1.1
comp=Z,114nm,0.8s,baz=232,slow=5.9,SNR=8.1
WHN Wuhan 40.14 352⇑ P P 17 31 28.3 +0.6
WHN S **S 17 37 26.8 -2.0**
WHN pmax pmax
comp=Z,470nm,10.1s
WHN LR LR
comp=Z,2μm,14.8s
WHN LR LR
comp=Z,2μm,24.1s
SSE Sheshan 40.29 1 *e*P P 17 31 27.9 -1.1
comp=Z,59nm,0.7s
SSE LR LR
comp=Z,620nm,21.0s
ENH Enshi 40.81 346 *e*P P 17 31 32.5 -0.8
comp=Z,52nm,0.6s
ENH LR LR
comp=Z,1μm,22.0s
TAU Tasmania Unive 40.88 149 *e*P P 17 31 34.5 +0.8
comp=Z,126nm,1.5s
TAU LR LR
comp=Z,4μm,22.0s
TAU Tasmania Unive 40.88 149 *e*P P 17 31 34.5 +0.8
TAU pmax pmax
comp=Z,126nm,1.5s
TAU MLR MLR
comp=Z,4μm,22.0s
PATS Pohnpei 41.17 68 *e*P P 17 31 37.8 +1.3
comp=Z,397nm,1.5s
NJ2 Nanjing 41.26 358 *e*P P 17 31 38.5 +1.6
NJ2 pP **pP 17 31 57.5 +2.4**
NJ2 S **S 17 37 45.8 +0.4**
NJ2 pmax pmax
comp=Z,25nm,0.8s
NJ2 pmax pmax
comp=Z,380nm,3.5s
NJ2 LR LR
comp=Z,740nm,21.1s
NJ2 LR LR
comp=Z,380nm,11.4s
NJ2 LR LR
comp=Z,570nm,18.4s
LHI Lord Howe Isla 42.13 127 *e*P P 17 31 45.3 +1.2
comp=Z,110nm,1.1s
PALK Pallekele 42.80 291 *e*P P 17 31 50.6 +0.8
comp=Z,13nm,1.0s
PALK Pallekele 42.80 291 *e*P P 17 31 50.6 +0.8
PALK pmax pmax
comp=Z,13nm,1.0s
CD2 Chengdu 43.13 339⇑ P P 17 31 51.5 -0.7
CD2 PP **PP 17 33 34.3 +0.5**
CD2 S **S 17 38 11.3 -1.8**
CD2 pmax pmax
comp=Z,150nm,1.0s
CD2 pmax pmax
comp=Z,430nm,3.8s
CD2 LR LR
comp=Z,1μm,21.1s
CD2 LR LR
comp=Z,1μm,15.1s
CD2 LR LR
comp=Z,1μm,20.4s
JNU Nakatsue 43.49 13 *e*P P 17 31 54.1 -0.9
comp=Z,47nm,1.7s
JNU Nakatsue 43.49 13 P P 17 31 54.3 -0.8
comp=Z,5.9nm,0.9s,baz=131,slow=8.3,SNR=3.9
JNU LR LR 17 48 10.8
comp=Z,266nm,21.9s,baz=182,slow=34
SHL Shillong 44.44 322 *e*P P 17 32 01.5 -1.5
comp=Z,35nm,0.7s
SHL Shillong 44.44 322 *e*P P 17 32 01.5 -1.5
SHL pmax pmax
comp=Z,35nm,0.7s
SHL Shillong 44.44 322 *e*P P 17 32 03.5 +0.5
SHL *e*S **S 17 38 30.0 -2.7**
XAN Xi'an 44.55 346 P P 17 32 02.5 -1.1
XAN pP pP 17 32 18.5 -3.3
XAN PP **PP 17 33 49.0 0.0**
XAN S **S 17 38 30.3 -3.5**
XAN SS ScS 17 41 42.3 -12
XAN ScS **SS 17 41 53.3 -2.9**
XAN pmax pmax
comp=Z,43nm,0.8s
XAN pmax pmax
comp=Z,210nm,6.7s
XAN LR LR
comp=Z,790nm,26.5s
XAN LR LR
comp=Z,430nm,22.1s
XAN LR LR
comp=Z,1μm,28.9s
XAN Xi'an 44.55 346 *e*P P 17 32 02.2 -1.4
comp=Z,32nm,0.7s
XAN Xi'an 44.55 346 *e*P P 17 32 02.2 -1.4
XAN pmax pmax
comp=Z,32nm,0.7s
TIA Tai'an 45.48 356 P P 17 32 07.8 -3.1
TIA sP **sP 17 32 35.5 -2.2**
TIA S **S 17 38 45.3 -1.8**
TIA pmax pmax
comp=Z,2.0nm,0.5s
TIA pmax pmax
comp=Z,76nm,6.5s
TIA LR LR
comp=Z,210nm,20.6s
TIA LR LR
comp=Z,190nm,15.3s
TIA LR LR
comp=Z,310nm,20.5s
DZM Mont Dzumac 45.98 112 *e*P P 17 32 17.5 +2.3
comp=Z,115nm,1.4s
DZM Mont Dzumac 45.98 112 *e*P P 17 32 15.4 +0.1
comp=Z,161nm,1.7s
PINNC Pines Island, 46.98 112 *e*P P 17 32 21.6 -1.3
comp=Z,136nm,1.3s
KS15 Wonju Array Si 47.15 8 *e*P P 17 32 25.0 +1.1
comp=Z,56nm,1.7s
KS15 *e*PcP **PcP 17 33 54.8 +0.3**
KSAR Wonju Array Be 47.15 8 P **P 17 32 24.1 +0.2**
KSAR PcP **PcP 17 33 55.5 +1.0**
KSAR Wonju Array Be 47.15 8 P **P 17 32 24.1 +0.2**
KSAR 17 33 55.5
KSRS Korea Array 47.17 8 P **P 17 32 24.1 0.0**
comp=Z,4.3nm,0.6s,baz=188,slow=8.1,SNR=14
KSRS PcP **PcP 17 33 55.5 +0.9**
comp=Z,9.4nm,0.6s,baz=184,slow=2.9,SNR=19
KSRS LR LR 17 54 18.3
comp=Z,285nm,19.4s,baz=192,slow=39
KS01 Wonju Array Si 47.19 8 *e*P P 17 32 24.3 +0.1
KS01 *e*PcP **PcP 17 33 55.7 +1.1**
INU Inuyama 47.24 19 *e*P P 17 32 23.0 -1.7
comp=Z,13nm,1.0s
H08S2 Diego Garcia H 47.28 268 T T 18 23 21.5
baz=95,slow=76,SNR=78
H08S3 Diego Garcia H 47.30 268 T T 18 23 17.2
baz=95,slow=76,SNR=69
H08S1 Diego Carcia H 47.30 268 T T 18 23 06.0
baz=95,slow=76,SNR=86
DGAR Diego Garcia 47.35 269 *e*P P 17 32 24.6 -1.3
comp=Z,87nm,1.1s
DGAR LR LR
comp=Z,568nm,20.0s
DGAR Diego Garcia 47.35 269 *e*P P 17 32 24.6 -1.3
DGAR pmax pmax
comp=Z,87nm,1.1s
DGAR MLR MLR
comp=Z,568nm,20.0s
MARNC Mare, Loyalty 47.37 110 *e*P P 17 32 26.5 +0.6
comp=Z,687nm,1.6s
TIY Taiyuan 47.46 352 *e*P P 17 32 32.3 +5.9
TIY PP **PP 17 34 17.0 -1.5**
TIY S **S 17 39 15.3 -0.2**
TIY sS sS 17 39 50.5 +3.3
TIY pmax pmax
comp=Z,15nm,0.6s
TIY pmax pmax
comp=Z,160nm,4.5s
TIY LR LR
comp=Z,320nm,13.8s
TIY LR LR
comp=Z,200nm,11.4s
TIY LR LR
comp=Z,310nm,12.6s
LZH Lanzhou 47.84 342 *e*P P 17 32 32.3 +2.8
LZH pP pP 17 32 48.3 +0.3
LZH sP sP 17 32 55.8 -0.7
LZH PP **PP 17 34 23.5 +1.3**
LZH *e*S **S 17 39 20.8 -0.4**
LZH sS sS 17 39 51.0 -2.0
LZH pmax pmax
comp=Z,89nm,1.3s
LZH pmax pmax
comp=Z,550nm,6.0s
LZH LR LR
comp=Z,850nm,15.9s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,2μm,17.1s
LSA Lhasa 47.96 325 *e*P P 17 32 30.4 -0.5
comp=Z,37nm,0.6s
LSA LR LR
comp=Z,1μm,20.0s
LSA Lhasa 47.96 325 *e*P P 17 32 30.4 -0.5
LSA pmax pmax
comp=Z,37nm,0.6s
LSA MLR MLR
comp=Z,1μm,20.0s
DL2 Dalian 48.09 1 P **P 17 32 30.5 -0.6**
DL2 sP **pP 17 32 52.5 +2.9**
DL2 ScP **ScP 17 37 47.5 +1.7**
DL2 S **S 17 39 20.3 -3.9**
DL2 pmax pmax
comp=Z,56nm,1.2s
DL2 pmax pmax
comp=Z,330nm,4.3s
DL2 LR LR
comp=Z,410nm,22.5s
DL2 LR LR
comp=Z,500nm,24.7s
DL2 LR LR
comp=Z,690nm,19.5s
ODAN Odare 48.17 319 *e*P P 17 32 31.3 -1.0
comp=Z,72nm,0.7s
TAPN Taplejung 48.31 320 *e*P P 17 32 33.0 -0.4
comp=Z,127nm,0.8s
MJAR Matsushiro Arr 48.72 19 P **P 17 32 33.8 -2.3**
comp=Z,14nm,0.9s,baz=202,slow=9.0,SNR=26
MJAR LR LR 17 52 57.4
comp=Z,150nm,21.8s,baz=210,slow=36
MAJO Matsushiro 48.72 19 *e*P P 17 32 34.2 -1.9
comp=Z,27nm,1.0s
MAJO Matsushiro 48.72 19⇑ *e*P P 17 32 34.3 -1.8
MAJO pmax pmax
comp=Z,30nm,1.1s
MAT Matsushiro 48.72 19 P **P 17 32 34.3 -1.8**
MAT S **S 17 39 30.4 -2.8**
MJB9 Matsu-Tunnel 48.72 19 *e*P P 17 32 34.1 -2.0
comp=Z,29nm,1.1s
RAMN Ramite 48.74 319 *e*P P 17 32 36.0 -0.7
comp=Z,115nm,0.5s
HYB Hyderabad 49.12 303 *i*P P 17 32 40.0 +0.5
HYB *e*S **S 17 39 36.0 -3.5**
HYB *e*ScS **ScS 17 42 28.0 +3.0**
BJT Baijiatuau 49.34 356 *e*P P 17 32 39.2 -1.5
comp=Z,27nm,0.6s
BJT LR LR
comp=Z,626nm,21.0s
BJT Baijiatuau 49.34 356 *e*P P 17 32 39.2 -1.5
BJT pmax pmax
comp=Z,27nm,0.6s
BJT MLR MLR
comp=Z,626nm,21.0s
BJI Beijing 49.36 356⇑ *i*P P 17 32 42.3 +1.5
BJI S **S 17 39 35.0 -6.9**
BJI sS **sS 17 40 16.8 +2.9**
BJI pmax pmax
comp=Z,21nm,0.7s
BJI pmax pmax
comp=Z,110nm,3.0s
BJI LR LR
comp=Z,410nm,19.1s
BJI LR LR
comp=Z,310nm,23.6s
BJI LR LR
comp=Z,390nm,26.0s
JIRN Jiri 49.49 319 *e*P P 17 32 41.3 -1.3
comp=Z,171nm,0.7s
GUN Gumba 49.87 319 *e*P P 17 32 44.1 -1.3
comp=Z,176nm,0.6s
PKI Pulchoki 49.94 318 *e*P P 17 32 44.3 -1.6
comp=Z,53nm,0.5s
PKIN Phulchoki 49.95 318 *e*P P 17 32 44.1 -1.9
comp=Z,64nm,0.5s
DMN Daman 50.16 318 *e*P P 17 32 46.0 -1.6
comp=Z,62nm,0.5s
KKN Kakani 50.17 319 *e*P P 17 32 45.9 -1.7
comp=Z,68nm,0.7s
MNCI Minicoy 50.23 289 *e*P P 17 32 48.2 +0.3
comp=Z,102nm,1.0s
HHC Hu-ho-hao-te 50.66 351 *e*P P 17 32 52.8 +1.9
HHC pP pP 17 33 07.5 -2.0
HHC sP sP 17 33 14.0 -3.9
HHC S **S 17 39 57.8 -2.6**
HHC sS sS 17 40 27.3 -5.1
HHC ScS **ScS 17 42 34.8 +0.1**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,170nm,6.4s
HHC LR LR
comp=Z,530nm,18.2s
HHC LR LR
comp=Z,330nm,17.7s
HHC LR LR
comp=Z,750nm,18.4s
BTO Baotou 50.67 350 *e*P P 17 32 53.0 +2.1
KOLN Koldanda 51.27 317 *e*P P 17 32 54.1 -1.7
comp=Z,64nm,0.6s
DANN Dangsing 51.54 318 *e*P P 17 32 56.3 -1.7
comp=Z,181nm,0.5s
PYUN Piuthan 51.89 317 *e*P P 17 32 58.8 -1.7
comp=Z,63nm,0.4s
GTA Gaotai 52.18 340⇑ P P 17 33 02.5 +0.3
GTA pP pP 17 33 18.3 -2.7
GTA sP sP 17 33 25.5 -3.9
GTA PcP **PcP 17 34 14.3 +1.3**
GTA ScP **ScP 17 38 05.5 +2.0**
GTA S **S 17 40 20.3 -1.0**
GTA ScS **ScS 17 42 46.0 +0.7**
GTA pmax pmax
comp=Z,16nm,1.7s
GTA pmax pmax
comp=Z,240nm,6.0s
GTA LR LR
comp=Z,610nm,22.5s
GTA LR LR
comp=Z,550nm,19.7s
GTA LR LR
comp=Z,900nm,22.5s
CN2 Changchun 53.17 5 *e*P P 17 33 12.5 +3.2
CN2 *e*S **S 17 40 40.0 +5.6**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,300nm,23.0s
CN2 LR LR
comp=Z,300nm,23.0s
CN2 LR LR
comp=Z,300nm,28.0s
TARA Tarawa 53.49 81 PFAKE 17 33 20.0 +7.8
TARA LR LR
comp=Z,143nm,22.0s
PYZ Puysegur Point 53.84 141 *e*P P 17 33 13.8 -0.5
comp=Z,117nm,1.2s
MLZ Mavora Lakes 54.38 140 *e*P P 17 33 18.2 -0.1
comp=Z,56nm,1.2s
USA0B Ussuriysk Arra 54.41 10 *e*P P 17 33 17.2 -1.1
comp=Z,34nm,1.5s
USA0B Ussuriysk Arra 54.41 10 *e*P P 17 33 17.3 -1.1
USA0B pmax pmax
comp=Z,34nm,1.5s
USRK Ussuriysk Ar. 54.41 10 P **P 17 33 17.1 -1.2**
comp=Z,8.9nm,0.7s,baz=202,slow=8.9,SNR=14
USRK LR LR 17 57 48.2
comp=Z,126nm,19.6s,baz=178,slow=38
MDJ Mudanjiang 54.44 8 *e*P P 17 33 17.4 -1.1
comp=Z,19nm,0.8s

MDJ LR LR
comp=Z,378nm,22.0s
MCQ Macquarie Isla 54.44 153 *e*P **P 17 33 19.4 +0.9**
comp=Z,1µm,1.9s
MCQ Macquarie Isla 54.44 153 *e*P **P 17 33 19.4 +0.9**
MCQ pmax pmax
comp=Z,1µm,1.9s
WHZ Wether Hill Ro 54.51 141 *e*P **P 17 33 19.5 +0.3**
comp=Z,141nm,1.7s
FOZ Fox Glacier 54.73 137 *e*P **P 17 33 21.0 +0.3**
comp=Z,77nm,1.3s
WKZ Wanaka 54.73 139 *e*P **P 17 33 21.7 +0.9**
comp=Z,232nm,1.7s
OUZ Omahuta 54.82 127 *e*P **P 17 33 22.2 +0.7**
comp=Z,106nm,1.6s
LBZ Lake Benmore 55.31 138 *e*P **P 17 33 24.3 -0.7**
comp=Z,109nm,1.7s
ERM Erimo 55.31 21 *e*P **P 17 33 25.0 +0.1**
comp=Z,158nm,1.8s
ERM LR LR
comp=Z,176nm,20.0s
ERM Erimo 55.31 21 *e*P **P 17 33 25.0 +0.1**
ERM pmax pmax
comp=Z,158nm,1.8s
ERM MLR MLR
comp=Z,176nm,20.0s
RPZ Rata Peaks 55.62 137 *e*P **P 17 33 27.2 -0.1**
comp=Z,86nm,1.0s
RPZ Rata Peaks 55.62 137 P **P 17 33 28.0 +0.7**
comp=Z,54nm,0.9s,baz=306,slow=2.9,SNR=27
ODZ Otahua Downs 55.87 139 *e*P **P 17 33 30.5 +1.5**
comp=Z,177nm,2.0s
LTZ Lake Taylor 56.11 136 *e*P **P 17 33 31.4 +0.6**
comp=Z,49nm,1.3s
OXZ Oxford 56.15 136 *e*P **P 17 33 30.7 -0.3**
comp=Z,51nm,0.9s
THZ Tophouse 56.21 134 *e*P **P 17 33 32.1 +0.5**
comp=Z,65nm,0.8s
HIZ Hauiti 56.65 130 *e*P **P 17 33 35.8 +1.1**
comp=Z,267nm,1.9s
MQZ McQueen's Vall 56.70 137 *e*P **P 17 33 36.0 +1.1**
comp=Z,80nm,1.3s
KHZ Kahutara 56.87 135 *e*P **P 17 33 37.0 +0.9**
comp=Z,52nm,1.0s
ASAJ Asahikawa 56.99 19 P **P 17 33 35.5 -1.3**
comp=Z,16nm,0.7s,baz=257,slow=7.1,SNR=13
CASY Casey 57.17 185 *e*P **P 17 33 37.8 -0.1**
comp=Z,23nm,1.1s
CASY LR LR
comp=Z,205nm,19.0s
SNZO South Karori 57.34 133 *e*P **P 17 33 39.7 +0.2**
comp=Z,82nm,0.9s
SNZO LR LR
comp=Z,1µm,19.0s
YUK Yuzh-Kuril'sk 58.04 22 *e*P **P 17 33 45.0 +0.8**
YUK *e**PP **pP 17 34 04.6 +1.4**
YUK *e* 17 34 34.1
YUK *e* 17 35 49.1
YUK *e*S **S 17 41 37.4 -1.7**
YUK *i* 17 43 23.0
YUK *e*SS **SS 17 45 29.3 -2.5**
YUK pmax pmax
comp=Z,69nm,1.1s
YUK pmax pmax
comp=Z,110nm,1.4s
BKZ Black Stump Fm 58.06 130 *e*P **P 17 33 44.6 0.0**
comp=Z,242nm,1.8s
ULN Ulaanbaatar 58.23 350 *e*P **P 17 33 44.4 -1.3**
comp=Z,70nm,1.6s
ULN LR LR
comp=Z,638nm,22.0s
ULN Ulaanbaatar 58.23 350‖ *e*P **P 17 33 44.8 -0.9**
ULN pmax pmax
comp=Z,24nm,1.0s
BFZ Birch Farm 58.28 132 *e*P **P 17 33 47.0 +0.9**
comp=Z,205nm,1.9s
URZ Urewera 58.30 129 *e*P **P 17 33 46.3 0.0**
comp=Z,60nm,1.4s
URZ Urewera 58.30 129 P **P 17 33 47.7 +1.5**
comp=Z,16nm,0.6s,baz=338,slow=2.4,SNR=14
SONA0 Songino Array 58.32 349 *e*P **P 17 33 45.7 -0.6**
SONM Songino Array 58.32 349 P **P 17 33 45.7 -0.6**
SONM LR LR 18 00 14.3
comp=Z,500nm,21.6s,baz=185,slow=38
HIA Hailar 58.44 360 *e*P **P 17 33 45.8 -1.1**
comp=Z,12nm,0.9s
HIA LR LR
comp=Z,418nm,21.0s
HIA Hailar 58.44 360 *e*P **P 17 33 45.8 -1.1**
HIA pmax pmax
comp=Z,12nm,0.9s
HIA MLR MLR
comp=Z,418nm,21.0s
MXZ Matakaoa Point 59.06 128 *e*P **P 17 33 52.0 +0.4**
comp=Z,194nm,1.4s
KLR Kul'dur 59.26 9 P **P 17 33 52.5 -0.1**
comp=Z,2.1nm,0.5s,baz=164,slow=10,SNR=12
YSS Yuzh-Sakhalins 59.59 18 *e*P **P 17 33 55.0 +0.2**
comp=Z,74nm,1.5s
YSS LR LR
comp=Z,206nm,19.0s
YSS Yuzh-Sakhalins 59.59 18 *e*P **P 17 33 54.9 0.0**
YSS *e**PP **pP 17 34 13.8 -0.2**
YSS *e* 17 34 39.2
YSS *e* 17 36 14.8
YSS *e*S **S 17 41 53.6 -5.6**
YSS *e*SS **SS 17 45 59.8 +3.7**
YSS pmax pmax
comp=Z,20nm,0.6s
KUR Kuril'sk 59.80 22‖ *e*P **P 17 33 57.2 +0.8**
WMQ Urumqi 60.70 333 P **P 17 34 05.5 +2.9**
WMQ pP pP 17 34 18.5 -3.3
WMQ sP sP 17 34 32.0 +1.9
WMQ PcP **PcP 17 34 42.3 -3.8**
WMQ S **S 17 42 11.8 -1.9**
WMQ ScS **ScS 17 43 47.0 +0.2**
WMQ pmax pmax
comp=Z,63nm,0.7s
WMQ pmax pmax
comp=Z,650nm,4.9s
WMQ LR LR
comp=Z,1µm,30.1s
WMQ LR LR
comp=Z,760nm,31.5s
WMQ LR LR
comp=Z,600nm,30.1s
WMQ Urumqi 60.70 333 *e*P **P 17 34 01.8 -0.9**
comp=Z,22nm,0.6s
WMQ Urumqi 60.70 333 *e*P **P 17 34 01.8 -0.9**
WMQ pmax pmax
comp=Z,22nm,0.6s
RAO Raoul Island 60.87 118 PFAKE 17 34 20.0 +16
RAO LR LR
comp=Z,1µm,19.0s
ZAK Zakamensk 61.37 348 *e*P **P 17 34 02.8 -4.3**
ZAK *e* 17 42 20.7
ZAK pmax pmax
comp=Z,17nm,0.9s
GRNR Gornyy 61.55 12 *e*P **P 17 34 09.0 +0.8**
GRNR pmax pmax
comp=Z,13nm,0.6s
NIL Nilore 61.89 316 *e*P **P 17 34 09.2 -1.7**
comp=Z,24nm,0.5s
NIL Nilore 61.89 316 *e*P **P 17 34 09.2 -1.7**
NIL pmax pmax
comp=Z,24nm,0.5s
TLY Talaya 62.53 348 *e*P **P 17 34 13.6 -1.1**
comp=Z,19nm,0.7s
TLY LR LR
comp=Z,268nm,19.0s
TLY Talaya 62.53 348 *e*P **P 17 34 14.8 0.0**
TLY *e*S **S 17 42 35.3 -1.2**
TLY pmax pmax
comp=Z,51nm,0.8s
TLY Talaya 62.53 348 P **P 17 34 17.3 +2.5**
SNR=8.3
IRK Irkutsk 62.94 349 *e*P **P 17 34 15.7 -1.8**
IRK *e*S **S 17 42 43.4 +1.8**
IRK pmax pmax
comp=Z,44nm,3.2s
RER Riviere de l'E 63.00 251 *e*P **P 17 34 19.7 +1.1**
comp=Z,78nm,1.0s
MOY Mondy 63.08 347 *e*P **P 17 34 18.4 -0.1**
MOY pmax pmax
comp=Z,52nm,2.1s

TYV Tymovskoe 63.09 16 *e*P **P 17 34 19.6 +1.1**
TYV pmax pmax
comp=Z,19nm,1.2s
TYV pmax pmax
comp=Z,100nm,4.3s
ZEA Zeya 63.19 5 *e*P **P 17 34 17.9 -1.1**
ZEA *e* 17 42 42.0
KSH Kashi 63.71 323 P **P 17 34 21.8 -1.2**
KSH sP sP 17 34 45.8 -4.7
KSH S **S 17 42 44.0 -7.9**
KSH pmax pmax
comp=Z,12nm,0.6s
KSH LR LR
comp=Z,140nm,9.2s
KSH LR LR
comp=Z,93nm,8.8s
KSH LR LR
comp=Z,220nm,13.4s
PRZ Przheval'sk 64.29 327 *e*P **P 17 34 26.4 -0.4**
comp=Z,31nm,1.1s
PRZ Przheval'sk 64.29 327 *e*P **P 17 34 26.4 -0.4**
PRZ pmax pmax
comp=Z,31nm,1.1s
PDGK Podgornoye 64.29 328 P **P 17 34 25.3 -1.4**
PDGK pmax pmax
comp=Z,12nm,0.7s
UZB Uzynbulak 64.41 328 *e*P **P 17 34 26.3 -1.2**
UZB *i* S **S 17 42 57.3 -3.2**
UZB pmax pmax
comp=Z,73nm,0.9s
UZB smax smax
comp=N,181nm,4.8s
UZB Uzynbulak 64.41 328 *e*P **P 17 34 26.3 -1.2**
comp=N,73nm,0.9s
UZB *i* S **S 17 42 57.3 -3.2**
comp=N,181nm,4.8s
MSEY Mahe Island 64.43 269 *e*P **P 17 34 29.1 +1.0**
comp=N,23nm,1.3s
MSEY LR LR
comp=Z,768nm,20.0s
MSEY Mahe Island 64.43 269 *e*P **P 17 34 29.1 +1.0**
MSEY pmax pmax
comp=Z,23nm,1.3s
MSEY MLR MLR
comp=Z,768nm,20.0s
SATY Saty 64.68 327 *e*P **P 17 34 28.0 -1.2**
SATY *i* S **S 17 43 02.6 -1.1**
SATY pmax pmax
comp=Z,260nm,0.7s
SATY smax smax
comp=E,247nm,4.4s
SATY Saty 64.68 327 *e*P **P 17 34 28.0 -1.2**
comp=E,260nm,0.7s
SATY *i* S **S 17 43 02.7 -1.1**
comp=E,247nm,4.4s
NKL Nikolayevsk 64.70 13 *e*P **P 17 34 28.0 -1.0**
NKL pmax pmax
comp=Z,25nm,0.8s
KDJ Kajisay 64.72 326 *e*P **P 17 34 29.4 -0.2**
comp=Z,11nm,0.8s
ZHN Zhinishke 64.74 327 *e*P **P 17 34 28.4 -1.2**
ZHN pmax pmax
comp=Z,82nm,0.9s
ZHN Zhinishke 64.74 327 *e*P **P 17 34 28.5 -1.2**
comp=Z,82nm,0.8s
ZSN Zaisan 64.77 334 *e*P **P 17 34 28.8 -0.8**
ZSN *e*S **S 17 43 01.5 -3.0**
ZSN pmax pmax
comp=Z,92nm,0.9s
ZSN MLR MLR
comp=Z,112nm,16.0s
ZSN Zaisan 64.77 334 *e*P **P 17 34 28.8 -0.8**
comp=Z,92nm,0.9s
ZSN *e*S **S 17 43 01.5 -3.0**
ZSN *e*LR LR 18 03 37.6
comp=Z,112nm,15.9s
KPKS Kokpek 64.81 328 *e*P **P 17 34 28.2 -1.8**
KPKS pmax pmax
comp=Z,148nm,0.6s
KPKS Kokpek 64.81 328 *e*P **P 17 34 28.2 -1.8**
comp=Z,148nm,0.6s
NRN Naryn 64.93 325 *e*P **P 17 34 29.3 -1.8**
comp=Z,11nm,0.7s
NRN Naryn 64.93 325 *e*P **P 17 34 29.3 -1.8**
NRN pmax pmax
comp=Z,11nm,0.7s
KBL Kabul 65.29 315 *e*P **P 17 34 31.5 -2.0**
comp=Z,35nm,0.7s
KBL Kabul 65.29 315 *e*P **P 17 34 31.5 -2.0**
KBL pmax pmax
comp=Z,35nm,0.7s
MK01 Makanchi Array 65.39 332 *e*P **P 17 34 32.5 -1.2**
MK31 Makanchi Array 65.42 332 *e*P **P 17 34 32.2 -1.6**
comp=Z,39nm,1.0s
MK31 Makanchi Array 65.42 332 *e*P **P 17 34 32.7 -1.1**
MK31 pmax pmax
comp=Z,78nm,1.1s
MK32 Makanchi Array 65.42 332 *e*P **P 17 34 32.4 -1.5**
MKAR Makanchi Array 65.42 332 P **P 17 34 32.4 -1.5**
comp=Z,26nm,0.5s,baz=144,slow=5.3,SNR=91
MKAR LR LR 18 05 52.6
comp=Z,386nm,20.7s,baz=160,slow=39
MDOK Medeo 65.48 327 *e*P **P 17 34 33.7 -0.8**
MDOK *i* S **S 17 43 12.6 -1.0**
MDOK pmax pmax
comp=Z,38nm,0.8s
MDOK MLR MLR
comp=Z,283nm,19.0s
MDOK Medeo 65.48 327 *e*P **P 17 34 33.8 -0.8**
comp=Z,38nm,0.8s
MDOK *i* S **S 17 43 12.7 -1.0**
comp=Z,216nm,3.3s
MDOK *e*LR LR 18 05 26.5
comp=Z,283nm,19.2s
DGZ Jazzator, Alta 65.52 337 *ce*P **P 17 34 34.7 +0.1**
DGZ pmax pmax
comp=Z,52nm,0.7s
MAKZ Makanchi 65.57 332 *e*P **P 17 34 34.2 -0.6**
comp=Z,25nm,1.1s
MAKZ Makanchi 65.57 332 *e*P **P 17 34 34.2 -0.6**
MAKZ pmax pmax
comp=Z,25nm,1.1s
AAA Alma-Ata 65.58 327 *e*P **P 17 34 33.1 -1.9**
AAA pmax pmax
comp=Z,67nm,0.6s
AAA MLR MLR
comp=Z,130nm,21.0s
AAA Alma-Ata 65.58 327 *e*P **P 17 34 33.2 -1.9**
comp=Z,67nm,0.6s
AAA *e*LR LR 18 05 30.4
KZA Kyzart 65.77 325 P **P 17 34 36.2 -0.4**
SNR=25
TDK Taldyqorghan 66.02 329 *e*P **P 17 34 37.5 -0.2**
TDK pmax pmax
comp=Z,590nm,0.9s
TDK MLR MLR
comp=Z,501nm,24.0s
TDK Taldyqorghan 66.02 329 *e*P **P 17 34 37.6 -0.2**
comp=Z,590nm,0.8s
TDK *e*LR LR 18 03 57.9
comp=Z,501nm,23.8s
TKM2 Tokmak 2 66.12 326 P **P 17 34 37.7 -0.9**
SNR=14
TKM2 Tokmak 2 66.12 326 P **P 17 34 38.3 -0.4**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s
UCH Uchtor 66.29 324 P **P 17 34 39.5 -0.6**
SNR=8.4
KBK Karagaybulak 66.31 325 P **P 17 34 43.5 +3.6**
SNR=6.0
KUU Kuru 66.35 327 *e*P **P 17 34 38.1 -1.8**
comp=Z,63nm,0.8s
KUU *e*LR LR 18 04 58.4
comp=Z,98nm,18.2s
AAK Ala-Archa 66.56 325 P **P 17 34 40.9 -0.5**
SNR=16
AAK Ala-Archa 66.56 325 *e*P **P 17 34 40.4 -1.0**
comp=Z,14nm,0.9s
AAK LR LR
comp=Z,425nm,19.0s
AAK Ala-Archa 66.56 325 *e*P **P 17 34 40.4 -1.0**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK MLR MLR
comp=Z,425nm,19.0s
AAK Ala-Archa 66.56 325 P **P 17 34 40.6 -0.8**
comp=Z,7.2nm,0.5s,baz=117,slow=3.3,SNR=34
ARSB Arslanbob 66.62 323 *e*P **P 17 34 40.7 -1.1**
comp=Z,48nm,0.8s
AML Almayashu 66.70 324 P **P 17 34 41.9 -0.7**
SNR=28
USP Ospenovka 66.96 325 P **P 17 34 42.6 -1.2**
SNR=11
BTK Batken 67.18 321 *e*P **P 17 34 44.0 -1.4**
comp=Z,20nm,0.6s
BTK Batken 67.18 321 *e*P **P 17 34 44.0 -1.4**
BTK pmax pmax
comp=Z,21nm,0.6s
BOD Bodaibo 67.20 356 *e*P **P 17 34 43.8 -1.1**
BOD *e*S **S 17 43 33.5 0.0**
BOD pmax pmax
comp=Z,27nm,1.3s
KNTN Kanton 67.83 89 *e*P **P 17 34 50.6 +0.7**
comp=Z,626nm,1.9s
BTLS Baital 68.34 327 *e*P **P 17 34 52.3 -0.1**
BTLS pmax pmax
comp=Z,52nm,1.0s
BTLS Baital 68.34 327 *e*P **P 17 34 52.3 -0.1**
comp=Z,52nm,1.0s
BTLS *e*LR LR 18 08 00.3
comp=Z,183nm,21.6s
WSAR Wadi Sarin 68.47 300 P **P 17 34 52.6 -1.1**
comp=Z,25nm,0.5s,baz=147,slow=5.2,SNR=48
IUG Iuzhnay 68.88 322 *e*P **P 17 34 54.2 -1.7**
IUG *e*S **S 17 43 52.1 -2.4**
IUG pmax pmax
comp=Z,513nm,0.7s
IUG Iuzhnay 68.88 322 *e*P **P 17 34 54.3 -1.7**
comp=Z,513nm,0.7s
IUG *e*S **S 17 43 52.1 -2.4**
SEM Semipalatinsk 69.00 334 *e*P **P 17 34 55.2 -1.4**
SEM *e*S S 17 43 46.7 -9.1
SEM pmax pmax
comp=Z,478nm,0.9s
SEM smax smax
comp=N,538nm,9.4s
SEM MLR MLR
comp=Z,237nm,19.0s
SEM Semipalatinsk 69.00 334 *e*P **P 17 34 55.3 -1.4**
comp=Z,478nm,0.9s
SEM *e*S S 17 43 46.7 -9.1
comp=Z,538nm,9.4s
SEM *e*LR LR 18 06 38.9
comp=Z,237nm,18.9s
KK31 Karatay Array 69.16 323 *e*P **P 17 34 55.8 -1.7**
comp=Z,10nm,1.1s
KK31 Karatay Array 69.16 323 *i* P **P 17 34 57.4 -0.1**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 69.16 323 *e*P **P 17 34 55.7 -1.9**
comp=Z,10nm,1.1s
KKAR Karatay Array 69.16 323 *e*P **P 17 34 55.7 -1.9**
KKAR pmax pmax
comp=Z,10.0nm,1.1s
CHM Chimkent 69.24 322 *e*P **P 17 34 57.1 -1.0**
CHM *i* S **S 17 43 57.1 -1.4**
CHM pmax pmax
comp=Z,375nm,0.6s
CHM smax smax
comp=N,972nm,3.9s
CHM Chimkent 69.24 322 *e*P **P 17 34 57.1 -1.0**
comp=N,375nm,0.6s
CHM *i* S **S 17 43 57.2 -1.4**
comp=N,972nm,3.9s
MAW Mawson 69.28 200 P **P 17 34 59.3 +1.4**
baz=69,SNR=16
MAW Mawson 69.28 200 *e*P **P 17 34 59.3 +1.4**
comp=N,9.5nm,1.0s
MAW Mawson 69.28 200 P **P 17 34 59.5 +1.7**
comp=N,27nm,0.8s,baz=74,slow=8.4,SNR=22
ZAA0 Zalesovo Array 69.89 339 *e*P **P 17 35 00.3 -1.5**
comp=N,104nm,0.6s
ZAA0 *e*S **S 17 44 01.2 -4.5**
ZALV Zalesovo Beam 69.89 339 *e*P **P 17 34 59.6 -2.2**
ZALV Zalesovo Beam 69.89 339 P **P 17 35 00.4 -1.4**
comp=N,108nm,0.6s,baz=143,slow=4.4,SNR=104
ZALV LR LR 18 09 36.3
comp=N,232nm,18.7s,baz=302,slow=39
ZAA1 Zalesovo Array 69.90 339 *e*P **P 17 35 00.4 -1.4**
KURBB Kurchatov Arra 69.92 333 P **P 17 35 01.8 -0.2**
comp=N,18nm,0.6s,baz=144,slow=5.7,SNR=54
KURK Kurchatov 69.94 333 *e*P **P 17 35 01.4 -0.7**
comp=N,41nm,0.9s
KURK LR LR
comp=Z,1µm,20.0s
KURK Kurchatov 69.94 333 *c i*P **P 17 35 01.6 -0.6**
KURK pmax pmax
comp=Z,36nm,0.8s
KURK Kurchatov 69.94 333 P **P 17 35 04.6 +2.5**
SNR=8.2
PEA0B Petropavlovsk- 69.95 23 *e*P **P 17 35 01.8 -0.4**
comp=Z,40nm,0.6s
PEA0B Petropavlovsk- 69.95 23 *e*P **P 17 35 01.8 -0.4**
PEA0B pmax pmax
comp=Z,40nm,0.6s
PETK Petropavlovsk- 69.95 23 *e*P **P 17 35 01.0 -1.2**
PETK Petropavlovsk- 69.95 23 P **P 17 35 01.9 -0.3**
comp=Z,25nm,0.6s,baz=196,slow=5.3,SNR=40
PEA1 Petropavlovsk- 69.95 23 *e*P **P 17 35 01.9 -0.3**
PET Petropavlovsk 70.25 23 *e*P **P 17 35 02.5 -1.5**
comp=Z,295nm,2.0s
PET Petropavlovsk 70.25 23 *e*P **P 17 35 05.5 +1.5**
PET *e*S **S 17 44 13.2 +3.3**
PET pmax pmax
comp=Z,22nm,0.8s
PET MLR MLR
comp=Z,200nm,21.0s
MIDW Midway 70.86 56 PFAKE 17 35 20.0 +12
MIDW LR LR
comp=Z,773nm,20.0s
ABPO Ambohimpanom 71.07 253 *e*P **P 17 35 10.4 +0.5**
comp=Z,22nm,1.0s
ABPO LR LR
comp=Z,256nm,19.0s
ABPO Ambohimpanom 71.07 253 *e*P **P 17 35 10.4 +0.5**
ABPO pmax pmax
comp=Z,22nm,1.0s
ABPO MLR MLR
comp=Z,256nm,19.0s
NVS Novosibirsk 71.17 338⇑ *i*P **P 17 35 09.0 -0.5**
NVS *i* 17 35 24.5
NVS *e*S **S 17 44 15.7 -4.7**
NVS pmax pmax
comp=N,25nm,1.1s
NVS pmax pmax
comp=E,31nm,1.1s
NVS pmax pmax
comp=Z,53nm,1.1s
NVS smax smax
comp=N,15nm,1.7s
NVS smax smax
comp=E,11nm,1.9s
OTUK Ortayu 71.29 328 P **P 17 35 09.5 -1.0**
OTUK pmax pmax
comp=Z,25nm,0.7s
VNDA Vanda 71.38 171 *e*P **P 17 35 11.4 +0.8**
VNDA Vanda 71.38 171 *e*P **P 17 35 11.4 +0.8**
VNDA Vanda 71.38 171 P **P 17 35 11.8 +1.3**
comp=Z,16nm,1.1s,baz=313,slow=6.8,SNR=28
VNDA LR LR 18 05 48.1
comp=Z,408nm,18.0s,baz=352,slow=35
YAK Yakutsk 71.60 5 *e*P **P 17 35 11.1 -0.9**
YAK *e**PP **pP 17 35 32.4 +0.8**
YAK *e* 17 37 52.5
YAK *e*S **S 17 44 27.0 +1.8**
YAK *e**SS **sS 17 45 03.5 +4.1**
YAK *e* 17 45 09.5
YAK *e*SS **SS 17 48 58.2 -4.0**
YAK pmax pmax
comp=Z,78nm,1.0s
YAK pmax pmax
comp=N,51nm,1.2s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=Z,30nm,0.5s
YAK smax smax
comp=N,105nm,1.5s
SBA Scott Base 72.37 171 *e*P **P 17 35 17.1 +0.6**
comp=N,49nm,1.4s
SBA LR LR
comp=Z,1µm,21.0s

SBA Scott Base 72.37 171 *e*P P 17 35 17.1 +0.6
SBA pmax pmax
comp=Z,49nm,1.4s
SBA MLR MLR
comp=Z,1µm,21.0s
MA2 Magadan 72.97 16 *e*P P 17 35 19.5 -0.7
comp=Z,60nm,0.9s
MA2 LR LR
comp=Z,274nm,22.0s
MA2 Magadan 72.97 16*ce*P P 17 35 19.9 -0.3
MA2 pmax pmax
comp=Z,78nm,1.0s
MA2 Magadan 72.97 16 P P 17 35 19.8 -0.4
comp=Z,45nm,0.8s,baz=201,slow=6.9,SNR=31
JOHN Johnston Islan 74.08 70 *e*P P 17 35 27.0 -0.6
comp=Z,650nm,1.6s
GEYT Alibeck 74.66 314 P P 17 35 30.0 -0.7
comp=Z,14nm,0.7s,baz=140,slow=4.8,SNR=20
GEYT LR LR 18 11 40.2
comp=Z,244nm,21.6s,baz=115,slow=38
GYA0B ALIBECK ARRAY 74.66 314 *e*P P 17 35 29.6 -1.0
comp=Z,18nm,0.9s
BVA0 Borovoye Array 75.27 331 *i* P P 17 35 32.4 -1.4
BVA0 pmax pmax
comp=Z,27nm,1.0s
BVAR Borovoye Array 75.27 331 P P 17 35 32.2 -1.5
comp=Z,16nm,0.7s,baz=131,slow=6.1,SNR=29
BRVK Borovoye 75.34 331 *e*P P 17 35 33.8 -0.4
BRVK LR LR
comp=Z,21nm,1.0s
comp=Z,452nm,20.0s
BRVK Borovoye 75.34 331*ce*P P 17 35 33.9 -0.3
BRVK pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 75.34 331 P P 17 35 36.6 +2.4
SNR=10
SEY Seymchan 76.24 14⇑ *e*P P 17 35 38.8 -0.2
SEY Seymchan 76.24 14 P P 17 35 38.5 -0.5
comp=Z,70nm,0.8s,baz=211,slow=5.1,SNR=92
RAR Rarotonga 77.32 110 *e*P P 17 35 45.6 -0.5
comp=Z,48nm,1.2s
RAR Rarotonga 77.32 110 *e*P P 17 35 45.6 -0.5
RAR pmax pmax
comp=Z,48nm,1.2s
AB31 Akbulak array 78.64 324 *i* P P 17 35 51.3 -1.5
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 78.64 324 *e*P P 17 35 51.0 -1.8
comp=Z,14nm,0.6s
DAMY Dhamar 78.93 287 *e*P P 17 35 54.4 -1.1
comp=Z,58nm,1.4s
ATD Arta Tunnel 79.76 284 *e*P P 17 35 58.3 -1.4
comp=Z,23nm,1.1s
AKTO Aktyubinsk 80.30 325 P P 17 36 01.3 -0.5
AKTO pmax pmax
comp=Z,23nm,0.7s
QSPA South Pole Qui 80.58 180 *e*P P 17 36 03.1 -0.1
comp=Z,79nm,1.5s
QSPA *e*S S 17 46 06.5 +2.4
QSPA LR LR
comp=Z,1µm,21.0s
QSPA South Pole Qui 80.58 180 P P 17 36 04.0 +0.8
comp=Z,16nm,0.7s,baz=298,slow=1.6,SNR=49
TIXI Tiksi 81.09 3 *e*P P 17 36 03.8 -1.7
TIXI LR LR
comp=Z,255nm,19.0s
TIXI Tiksi 81.09 3*c i*P P 17 36 06.1 +0.6
TIXI pmax pmax
comp=Z,30nm,1.0s
TIXI Tiksi 81.09 3 P P 17 36 03.8 -1.7
comp=Z,17nm,0.7s,baz=139,slow=4.6,SNR=11
NRIK Noril'sk 81.81 349 P P 17 36 11.3 +1.9
comp=Z,4.2nm,0.5s,baz=131,slow=4.5,SNR=6.7
NRIK LR LR 18 15 56.6
comp=Z,225nm,19.9s,baz=155,slow=38
SVE Sverdlovsk 82.06 331⇓ *e*P P 17 36 10.0 -0.9
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,608nm,24.0s
ARU Arti 82.86 330 *e*P P 17 36 13.9 -1.2
comp=Z,9.1nm,0.7s
ARU LR LR
comp=Z,219nm,20.0s
ARU Arti 82.86 330*c i*P P 17 36 15.4 +0.3
ARU *PP pP 17 36 34.3 -0.9
ARU 17 39 20.5
ARU S S 17 46 28.1 +0.7
ARU pmax pmax
comp=Z,15nm,1.2s
ARU MLR MLR
comp=Z,441nm,26.0s
KMBO Kilima Mbogo 82.96 270 *e*P P 17 36 17.5 +0.5
comp=Z,13nm,1.0s
KMBO LR LR
comp=Z,386nm,20.0s
KMBO Kilima Mbogo 82.96 270 *i* P P 17 36 18.7 +1.8
KMBO pmax pmax
comp=Z,5.0nm,0.6s
KMBO Kilima Mbogo 82.96 270 P P 17 36 18.1 +1.1
comp=Z,4.5nm,0.6s,baz=64,slow=8.5,SNR=16
FURI Furi 83.28 280 *e*P P 17 36 22.2 +3.6
comp=Z,22nm,0.8s
BILL Bilibino 83.84 16 *e*P P 17 36 20.3 +0.4
comp=Z,9.0nm,1.1s
BILL LR LR
comp=Z,386nm,20.0s
BILL Bilibino 83.84 16 *e*P P 17 36 21.1 +1.2
BILL *e* 17 39 30.9
BILL *e*PPP PPP 17 41 26.7
BILL pmax pmax
comp=Z,21nm,2.5s
MAK Makhachkala 84.04 315 *e*P P 17 36 19.7 -1.8
MAK *e* 17 46 36.2
MAK pmax pmax
comp=Z,133nm,0.9s
KEKH Kekaha 84.33 67 *e*P P 17 36 23.1 -0.4
comp=Z,638nm,1.9s
GNI Garni 85.17 312 *e*P P 17 36 33.1 +5.6
GNI Garni 85.17 312 *e*P P 17 36 26.7 -0.8
comp=Z,23nm,0.9s
GNI LR LR
comp=Z,430nm,20.0s
GNI Garni 85.17 312⇓ *e*P P 17 36 28.0 +0.5
GNI pmax pmax
comp=Z,36nm,0.8s
CUKT Cukurca 85.23 309 *e*P P 17 36 29.7 +1.9
GROC Groznyy 85.31 315 *e*P P 17 36 28.9 +1.0
GROC *e**SP sP 17 36 52.0 -4.3
GROC *e* 17 39 49.6
GROC *e*S S 17 46 47.9 -4.6
GROC pmax pmax
comp=Z,46nm,1.3s
TASB TASBURUN-IGDIR 85.50 312 *e*P P 17 36 32.1 +3.1
TBLG Delisi 85.62 313 *e*P P 17 36 29.6 +0.1
comp=Z,122nm,1.6s
TBLG Delisi 85.62 313 *e*P P 17 36 29.6 +0.1
TBLG pmax pmax
comp=Z,123nm,1.6s
KIP Kipapa 85.76 68 *e*P P 17 36 30.4 -0.2
comp=Z,333nm,1.8s
KIP Kipapa 85.76 68 *e*P P 17 36 30.4 -0.2
KIP pmax pmax
comp=Z,333nm,1.8s
OPA Opana 85.82 67 *e*P P 17 36 31.3 +0.4
comp=Z,247nm,1.5s
OPA Opana 85.82 67 *e*P P 17 36 31.3 +0.4
OPA pmax pmax
comp=Z,247nm,1.5s
AKDM Akdamar-Van 85.99 310 *e*P P 17 36 31.7 +0.1
AGRB Hanur-Agry 86.31 311 *e*P P 17 36 35.1 +1.9
ZEI Tsey 86.52 314 *e*P P 17 36 32.2 -1.9
ZEI pmax pmax
comp=Z,37nm,1.3s
KARS Kars 86.52 312 *e*P P 17 36 32.9 -1.2
comp=Z,95nm,1.0s
KARS Kars 86.52 312 *e*P P 17 36 32.9 -1.2
KARS pmax pmax
comp=Z,95nm,1.0s
TBI Tubuai 86.54 113 *e*LR LR 18 04 10.3
comp=Z,631nm,27.8s
GURO Guroymak-BITLI 86.77 310 *e*P P 17 36 38.5 +3.1
NCK Nalchik 86.93 315⇓ *e*P P 17 36 35.9 0.0
NCK pmax pmax
comp=Z,12nm,0.6s
SPIA Saint Paul Isl 87.00 31 *e*P P 17 36 36.7 +0.9
comp=Z,385nm,1.7s
PPT2 Papeete2 87.32 107 *e*P P 17 36 40.3 +1.9
comp=Z,74nm,1.5s
PPT2 Papeete2 87.32 107 *e*LR LR 18 04 31.2
comp=Z,1µm,29.0s
PPT Papeete 87.32 107 *e*P P 17 36 36.3 -2.0
PPT Papeete 87.32 107 *e*P P 17 36 36.3 -2.0
PPT Papeete 87.32 107 LR LR 18 11 34.6
comp=Z,133nm,21.0s,baz=260,slow=33
KHLU Kahalu`u 87.35 70 *e*P P 17 36 38.0 -0.5
comp=Z,154nm,1.1s
HUH Hualalai 87.42 70 *e*P P 17 36 38.0 -1.1
comp=Z,366nm,1.8s
NEY Neytrino 87.47 314⇓ *i*P P 17 36 41.0 +2.3
NEY pmax pmax
comp=Z,2.0nm,0.6s
KBZ Khabaz 87.48 315 P P 17 36 37.6 -0.8
comp=Z,14nm,0.9s,baz=92,slow=2.2,SNR=20
TVO Taravao 87.59 108 *e*P P 17 36 41.7 +2.0
comp=Z,16nm,1.0s
MLOA Mauna Loa Obse 87.64 70 *e*P P 17 36 39.9 -0.4
comp=Z,161nm,1.4s
KIV Kislovodsk 87.69 315 PFAKE 17 36 50.0 +10
KIV LR LR
comp=Z,281nm,21.0s
AIN Ainahou 87.72 70 *e*P P 17 36 39.5 -0.9
comp=Z,273nm,1.4s
GOF Gofitskoye 87.73 316 *e*P P 17 36 41.7 +2.0
GOF pmax pmax
comp=Z,80nm,1.0s
HMH Humu'ula Sheep 87.73 70 *e*P P 17 36 40.8 +0.2
comp=Z,399nm,1.6s
MLH Mauna Loa 87.80 70 *e*P P 17 36 41.7 +0.8
comp=Z,102nm,0.8s
MLH Mauna Loa 87.80 70 *e*P P 17 36 41.7 +0.8
MLH pmax pmax
comp=Z,102nm,0.8s
HATHI Halema'uma'u T 87.91 70 *e*P P 17 36 38.0 -3.3
comp=Z,306nm,0.7s
AKUT Akutan 88.32 34 *e*P P 17 36 41.9 -0.3
comp=Z,465nm,1.5s
GAMB Gambell 88.94 24 *e*P P 17 36 46.9 +2.0
comp=Z,9.2nm,0.8s
PMOR Pomariorio Ree 89.32 105 *e*P P 17 36 49.8 +2.0
comp=Z,95nm,1.1s
ASF Jabal al Asfar 89.43 303 P P 17 36 49.1 +1.0
comp=Z,6.7nm,0.6s,baz=74,slow=4.1,SNR=12
MBAR Mbarara 89.47 269 PFAKE 17 37 00.0 +11
MBAR LR LR
comp=Z,751nm,19.0s
LSZ Lusaka 89.57 255 *e*P P 17 36 50.8 +1.6
comp=Z,43nm,1.7s
LSZ LR LR
comp=Z,571nm,21.0s
LSZ Lusaka 89.57 255 *e*P P 17 36 50.8 +1.6
LSZ pmax pmax
comp=Z,43nm,1.7s
LSZ MLR MLR
comp=Z,571nm,21.0s
SOC Sochi 89.68 314 *e*P P 17 36 45.6 -3.3
SOC *e* 17 40 22.0
SOC *e*PPP PPP 17 42 18.8
SOC *e*S **SKSac** 17 47 09.9 -2.9
SOC *e*SS **SS** 17 53 35.7 +3.0
SOC MLR MLR
comp=Z,159nm,17.0s
FALS False Pass 89.85 34 *e*P P 17 36 51.1 +1.8
comp=Z,322nm,1.7s
BOSA Boshof 89.93 241 *e*P P 17 36 51.5 +0.9
comp=Z,35nm,1.4s
BOSA Boshof 89.93 241 *e*P P 17 36 51.5 +0.9
BOSA pmax pmax
comp=Z,35nm,1.4s
BOSA Boshof 89.93 241 P P 17 36 52.7 +2.0
comp=Z,8.5nm,0.6s,baz=117,slow=3.6,SNR=13
BOSA LR LR 18 11 52.3
comp=Z,148nm,19.8s,baz=70,slow=32
VRH Novokhopyorsk 90.20 322 *e*P P 17 36 50.8 -0.3
VRH pmax pmax
comp=Z,10.0nm,0.9s
LBTB Lobatse 90.29 245 *e*P P 17 36 54.5 +2.2
comp=Z,18nm,1.3s
LBTB Lobatse 90.29 245 *e*P P 17 36 54.6 +2.2
LBTB pmax pmax
comp=Z,18nm,1.3s
MMAI Mount Meron Ar 90.83 303 P P 17 36 55.5 +0.9
comp=Z,7.7nm,0.5s,baz=91,slow=7.5,SNR=20
SNAA Sanae 90.94 195 P P 17 36 56.0 +1.7
SNAA Sanae 90.94 195 *e*P P 17 36 55.7 +1.3
comp=Z,20nm,0.8s
SNAA Sanae 90.94 195⇑ *e*P P 17 36 56.1 +1.7
PRGR Permogore 91.05 333 *e*P P 17 36 52.6 -2.2
PRGR pmax pmax
comp=Z,5.0nm,0.5s
ANN Anapa 91.55 315 *e*P P 17 36 52.0 -5.5
ANN *e**PP pP 17 37 12.7 -5.3
ANN *e*S **SKSac** 17 47 16.2 -7.3
ANN pmax pmax
comp=Z,122nm,1.3s
VSR Storozhevoye 91.76 322 *e*P P 17 36 58.0 -0.4
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 92.21 323 *e*P P 17 36 59.3 -1.1
LPSR pmax pmax
comp=Z,10.0nm,1.0s
VNA2 Neumayer--Watz 92.57 195 P P 17 37 03.2 +1.4
baz=114,slow=3.4
VNA3 Neumayer Olymp 92.94 194 P P 17 37 04.9 +1.4
VNA1 Neumayer--Stat 92.97 195 P P 17 37 05.3 +1.6
BR101 Keskin Array S 93.39 310 *e*P P 17 37 05.0 -1.5
BR131 Keskin Array S 93.39 310 *e*P P 17 37 05.6 -0.8
comp=Z,5.9nm,0.8s
BRTR Keskin Array B 93.39 310 P P 17 37 05.0 -1.4
BRTR Keskin Array B 93.39 310 P P 17 37 05.0 -1.4
comp=Z,3.5nm,0.8s,baz=122,slow=6.4,SNR=14
BRTR LR LR 18 24 22.0
comp=Z,114nm,20.2s,baz=97,slow=39
MOS Moscow 93.61 326 *e*P P 17 37 20.5 +14
MOS pmax MLR MLR
comp=Z,700nm,23.0s
KLMR Klimovskoe 93.69 331 *e*P P 17 37 08.6 +1.6
KLMR pmax pmax
comp=Z,6.0nm,0.6s
KLMR Klimovskoe 93.69 331 *e*P P 17 37 08.7 +1.7
KLMR AMP 17 37 11.8
comp=Z,6.0nm,0.6s
ANTO Ankara 94.06 310 PFAKE 17 37 20.0 +11
ANTO LR LR
comp=Z,309nm,21.0s
OBN Obninsk 94.08 325 PFAKE 17 37 20.0 +11
OBN LR LR
comp=Z,241nm,21.0s
OBN Obninsk 94.08 325 *e*P P 17 37 07.6 -1.3
OBN *e* 17 40 54.6
OBN *e*PPP PPP 17 42 58.2
OBN pmax pmax
comp=Z,3.0nm,0.5s
TMCR Tamitsa 95.05 334 *e*P P 17 37 12.5 -0.7
TMCR pmax pmax
comp=Z,23nm,1.5s
KDAK Kodiak Island 96.36 33 PFAKE 17 37 30.0 +11
KDAK LR LR
comp=Z,230nm,20.0s
IM3 Indian Mountai 96.88 24 *e*P P 17 37 20.8 -0.8
LVZ Lovozero 97.02 338 PFAKE 17 37 30.0 +7.8
LVZ LR LR
comp=Z,370nm,21.0s
APA Apatity 97.45 337⇑ *i*P P 17 37 18.4 -5.6
APA pmax pmax
comp=Z,1.0nm,0.8s
SUA Susitna One 97.70 29 *e*P P 17 37 24.3 -1.1
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 97.83 26 *e*P Pdif 17 37 26.4 +0.5
comp=Z,18nm,1.3s
AKASG Malin Array Be 97.89 320 P P 17 37 26.3 -0.1
comp=Z,3.3nm,0.6s,baz=75,slow=4.8
AKASG LR LR 18 27 47.2
comp=Z,172nm,20.5s,baz=80,slow=39
KIEV Kiev 97.90 320 PFAKE 17 37 40.0 +14
KIEV LR LR
comp=Z,379nm,22.0s
KIEV Kiev 97.90 320⇓ *e*P Pdif 17 37 26.5 0.0
KIEV pmax pmax
comp=Z,24nm,3.6s
TRF Thorofare Moun 98.09 27 *e*P P 17 37 25.9 -1.3
comp=Z,18nm,1.0s
RC01 Rabbit Creek A 98.15 29 *e*P P 17 37 26.2 -1.1
comp=Z,14nm,0.9s
COLD Coldfoot 98.42 23 *e*P Pdif 17 37 28.5 +0.1
comp=Z,5.5nm,0.9s
BWN Browne 98.51 26 *e*P P 17 37 28.1 -0.7
comp=Z,28nm,0.9s
RND Reindeer 98.73 27 *e*P P 17 37 28.8 -1.2
comp=Z,33nm,0.8s
RND Reindeer 98.73 27 *e*P P 17 37 28.8 -1.2
RND pmax pmax
comp=Z,33nm,0.8s
TOLK Toolik Lake Re 98.75 22 *e*P P 17 37 29.2 -0.8
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 98.75 22 P Pdif 17 37 32.1 +2.2
baz=267
TSUM Tsumeb 98.75 249 PFAKE 17 37 40.0 +8.8
TSUM LR LR
comp=Z,266nm,19.0s
KNK Knik Glacier 98.79 29 *e*P P 17 37 29.6 -0.6
comp=Z,24nm,0.9s
WRH Wood River Hil 99.12 26 *e*P **Pdif** 17 37 32.2 +0.6
comp=Z,17nm,1.0s
COLA College 99.24 26 PFAKE 17 37 40.0 +7.9
COLA LR LR
comp=Z,503nm,19.0s
COLA College 99.24 26⇓ *e*P **Pdif** 17 37 32.4 +0.3
COLA pmax pmax
comp=Z,6.0nm,1.1s
CCB Clear Creek Bu 99.25 26 *e*P **Pdif** 17 37 33.2 +1.0
comp=Z,14nm,0.8s
DHY Denali Highway 99.38 27 *e*P **Pdif** 17 37 34.3 +1.3
comp=Z,14nm,0.7s
HDA Harding Lake 99.61 26 *e*Pdif **Pdif** 17 37 33.9 0.0
comp=Z,12nm,0.9s
HDA Harding Lake 99.61 26 P **Pdif** 17 37 34.2 +0.4
baz=268
IL1 Eielson Array 99.65 26 *e*Pdif **Pdif** 17 37 32.8 -1.2
ILAR Eielson Array 99.65 26 P **Pdif** 17 37 34.1 +0.2
comp=Z,1.8nm,0.6s,baz=240,slow=5.2,SNR=24
ILAR PP **PP** 17 41 37.9 -1.0
comp=Z,0.9nm,1.0s,baz=281,slow=6.3,SNR=4.6
ILAR PKKPbc **PKKPbc** 17 53 58.2 +0.1
comp=Z,0.9nm,0.7s,baz=164,slow=2.0,SNR=6.8
ILB Eielson Array 99.65 26 *e*Pdif **Pdif** 17 37 33.2 -0.8
comp=Z,15nm,1.5s
VSU Vasula 99.82 328⇓ *e*P **Pdif** 17 37 35.9 +1.1
VSU pmax pmax
comp=Z,20nm,0.7s
KEV Kevo 99.91 339 PFAKE 17 37 50.0 +15
KEV LR LR
comp=Z,1µm,20.0s
FIA0 FINESS Array S 100.22 331 *e*Pdif **Pdif** 17 37 37.6 +1.1
FIA0 FINESS Array S 100.22 331 *e*P **Pdif** 17 37 37.6 +1.1
FINES FINESS Array B 100.22 331 *i* P **Pdif** 17 37 38.9 +2.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 100.22 331 P **Pdif** 17 37 37.6 +1.1
comp=Z,1.7nm,0.7s,baz=116,slow=8.7,SNR=5.7
ARA0 ARCESS Array S 100.44 339 *e*Pdif **Pdif** 17 37 39.0 +1.6
ARCES ARCESS Array B 100.44 339 P **Pdif** 17 37 39.0 +1.6
comp=Z,4.1nm,0.9s,baz=57,slow=5.1,SNR=5.1
RIDG Independ'e Rid 100.53 27 *e*Pdif **Pdif** 17 37 37.4 -0.6
SCRK Sand Creek 100.91 27 *e*Pdif **Pdif** 17 37 39.0 -0.7
LIT Litokhoron 101.96 309 *e*Pdif **Pdif** 17 37 42.9 -2.0
LIT Litokhoron 101.96 309 *e*P **Pdif** 17 37 42.9 -2.0
SPA0 Spitsbergen Ar 102.01 348 *e*Pdif **Pdif** 17 37 44.8 +0.5
SPITS Spitsbergen Ar 102.01 348 P **Pdif** 17 37 44.5 +0.2
comp=Z,6.2nm,0.7s,baz=62,slow=8.8,SNR=6.0
EGAK Eagle 102.10 26 PFAKE 17 38 00.0 +15
EGAK LR LR
comp=Z,473nm,22.0s
KBS Kingsbay 102.69 349 PFAKE 17 38 00.0 +13
KBS LR LR
comp=Z,428nm,20.0s
DAWY Dawson 102.92 26 *e*Pdif **Pdif** 17 37 49.1 +0.5
EPYK Eagle Plains 103.78 24 P **Pdif** 17 37 54.5 +2.2
baz=278
LANS Liptovska Anna 104.15 318 *e*P **Pdif** 17 37 57.1 +2.7
LANS Liptovska Anna 104.15 318 *e*PDIF **Pdif** 17 37 57.1 +2.7
VYHS Vyhne 104.59 318 *e*P **Pdif** 17 38 00.8 +4.5
VYHS Vyhne 104.59 318 *e*PDIF **Pdif** 17 38 00.8 +4.5
INK Inuvik 104.66 22 *e*Pdif **Pdif** 17 37 57.4 +1.2
INK PP **PP** 17 42 14.3 -2.0
INK PKKPbc **PKKPbc** 17 53 42.6 -0.8
INK Inuvik 104.66 22 *e*P **Pdif** 17 37 57.4 +1.2
INK 17 42 14.3
INK Inuvik 104.66 22 Pdiff **Pdif** 17 37 57.9 +1.8
comp=Z,2.4nm,1.0s,baz=281,slow=1.3,SNR=5.7
INK PP **PP** 17 42 14.3 -2.0
comp=Z,0.7nm,0.6s,baz=320,slow=4.5,SNR=5.8
INK PKKPbc **PKKPbc** 17 53 42.6 -0.8
comp=Z,1.2nm,0.6s,baz=38,slow=7.1,SNR=4.3
OKC Ostrava-Krasne 104.98 319 AMS AMS 18 31 20.0
comp=Z,300nm,22.1s
DPC Dobruska-Polom 106.11 320 AMS AMS 18 28 50.0
comp=Z,400nm,21.3s
UPC Upice 106.30 320 AMS AMS 18 32 40.0
comp=Z,300nm,19.1s
TREC Trest 106.74 319 AMS AMS 18 33 00.0
comp=Z,400nm,17.8s
GOPC GO Pecny, Ondr 107.14 319 AMS AMS 18 29 30.0
comp=Z,300nm,21.4s
PVCC Panska Ves 107.21 320 AMS AMS 18 33 40.0
comp=Z,300nm,24.0s
PRU Pruhonice 107.29 319 *e*SKS **SKSac** 17 48 41.1 -0.5
PRU *e*SP SP 17 51 49.1 +0.1
PRU AMS AMS 18 29 30.0
comp=Z,300nm,22.0s
KHC Kasperske Hory 108.00 319 *e*SKS **SKSac** 17 48 44.1 -0.7
KHC *e*SP SP 17 51 52.5 -3.9
KHC AMS AMS 18 31 50.0
comp=Z,300nm,22.2s
CLL Collm 108.10 321 *e*PKiKP **PKiKP** 17 42 20.0 +1.7
CLL *e*PP **PP** 17 42 39.0 -3.1
CLL *e*PPP PPP 17 45 06.0
CLL *e*SP SP 17 51 57.0 -0.2
CLL *e* 17 52 40.0
CLL *e*PPS PPS 17 53 12.0
CLL *e* 17 54 33.0
NKC Novy Kostel 108.60 320 AMS AMS 18 33 40.0
comp=Z,300nm,24.0s
BFO Black Forest 111.56 318 PFAKE 17 42 40.0 +15
BFO LR LR
comp=Z,9.0nm,19.0s
YKA Yellowknife Ar 114.04 25 PKiKP PKPdf 17 42 28.4 -0.7
comp=Z,2.5nm,0.5s,baz=302,slow=1.8,SNR=37
YKB5 Yellowknife Ar 114.04 25 *e*PKiKP PKPdf 17 42 27.9 -1.3
NLWA Neilton Lookou 114.29 42 PFAKE 17 42 40.0 +10
NLWA LR LR
comp=Z,688nm,20.0s
HUMO Hull Mountain 115.94 47 *e*PKPdf **PKiKP** 17 42 34.9 +1.4
GLK Glacier Lake 115.99 43 *e*PKPdf **PKiKP** 17 42 34.1 +0.5
ESK Eskdalemuir 116.41 328 PFAKE 17 42 50.0 +16
ESK LR LR
comp=Z,422nm,20.0s
J04D Umpqua Nationa 116.42 46 P **PKiKP** 17 42 37.1 +2.5
baz=283
N02D Trinity Center 116.44 49 P **PKiKP** 17 42 36.9 +2.3
baz=281
L04D Klamath Falls 116.49 47 P **PKiKP** 17 42 36.7 +1.9
baz=282
O02D Mt. Diablo Mer 116.53 50 P **PKiKP** 17 42 37.4 +2.6
baz=281
M04C Macdoel 116.92 48 P **PKiKP** 17 42 38.3 +2.7
baz=282
B08A Colville Reser 116.99 40 *e*PKPdf **PKPdf** 17 42 33.6 -1.8
J05D Fort Rock, OR 117.03 46 P **PKiKP** 17 42 38.7 +3.0
baz=283
PINE Pine Mountain 117.12 46 *e*PKPdf **PKiKP** 17 42 38.0 +2.0
K05A Summer Lake 117.40 47 *e*PKPdf **PKPdf** 17 42 35.6 -0.9
CNIC Niles Canyon 117.61 52 *e*PKPdf **PKiKP** 17 42 38.8 +1.9
PEV Pleasant Valle 117.82 53 *e*PKPdf **PKPdf** 17 42 37.2 -0.1
G08A Pilot Rock 118.11 43 *e*PKPdf **PKPdf** 17 42 37.1 -0.6
G08A *e*PP **PP** 17 43 47.2 -6.3
AFDM Forest Hills D 118.14 51 *e*PKPdf **PKiKP** 17 42 38.8 +0.9
AFDM *e*PP **PP** 17 43 52.3 -1.6
NEW Newport 118.42 40 PKKPbc PKKPbc 17 52 57.7 +0.3
NEW LR LR
comp=Z,648nm,20.0s
NEW Newport 118.42 40 PKKPbc PKKPbc 17 52 57.7 +0.3
comp=Z,1.7nm,0.6s,baz=127,slow=6.2,SNR=3.7
F10A Beach Ranch, E 119.08 42 *e*PKPdf **PKiKP** 17 42 40.2 +0.6
F10A *e*PP **PP** 17 43 54.6 -5.5
WVOR Wild Horse Val 119.09 47 PFAKE 17 42 50.0 +10
WVOR LR LR

comp=Z,654nm,19.0s
EFI East Falkland 119.14 181 PFAKE 17 42 50.0 +11
EFI LR LR
comp=Z,789nm,19.0s
BMO Blue Mountains 119.36 44 *e*PKPdf **PKPdf 17 42 39.4 -0.7**
BMO *e*PP **PP 17 43 56.1 -6.0**
BMO LR LR
comp=Z,664nm,19.0s
BMO Blue Mountains 119.36 44 *e*PKIKP **PKPdf 17 42 39.4 -0.7**
BMO MLR MLR
comp=Z,664nm,19.0s
TOA0 Torodi Ar. Sit 119.80 280 *e*PKPdf **PKPdf 17 42 41.0 -0.6**
TOA0 *e*PKPdf **PKiKP 17 42 41.1 -0.6**
TORD Torodi Ar. Bea 119.80 280 PKP **PKiKP 17 42 42.1 +0.3**
comp=Z,4.9nm,0.5s,baz=12,slow=3.3,SNR=35
TOA1 Torodi Ar. Sit 119.80 280 *e*PKPdf **PKiKP 17 42 42.0 +0.3**
NV01 Mina Array Sit 120.29 51 *e*PKPdf **PKiKP 17 42 42.4 0.0**
NVAR Mina Array Bea 120.29 51 PKP **PKiKP 17 42 43.8 +1.4**
comp=Z,2.9nm,0.6s,baz=260,slow=2.1,SNR=20
KVN Kaiserville 120.30 50 *e*PKPdf **PKPdf 17 42 41.8 -0.4**
KVN *e*PP **PP 17 44 02.7 -6.2**
KVN Kaiserville 120.30 50 *e*PKIKP **PKPdf 17 42 41.8 -0.4**
CWC Cottonwood Cre 120.88 53 P **PKiKP 17 42 45.5 +1.9**
baz=282
MSO Missoula 120.94 41 *e*PKPdf **PKPdf 17 42 42.9 -0.2**
MSO *e*PP PP 17 44 02.3 -11
MSO Missoula 120.94 41 P **PKiKP 17 42 45.1 +1.8**
baz=291
MPMC Manual Prospec 121.43 53 P **PKiKP 17 42 47.2 +2.5**
baz=282
PSRC Puddingstone R 121.56 56 *e*PKPdf **PKiKP 17 42 46.2 +1.5**
HLID Hailey 121.73 44 *e*PKPdf **PKiKP 17 42 45.9 +0.9**
HLID LR LR
comp=Z,538nm,19.0s
HLID Hailey 121.73 44 P **PKiKP 17 42 48.2 +3.2**
baz=289
ES06 SONSECA Array 122.14 311 *e*PKPdf **PKPdf 17 42 45.2 -0.3**
ESDC Sonseca Array 122.15 311 PKP **PKiKP 17 42 48.3 +2.6**
comp=Z,1.3nm,0.5s,baz=14,slow=3.0,SNR=6.4
SFJD Kangerlussuaq 122.17 356 PFAKE 17 43 00.0 +15
SFJD LR LR
comp=Z,554nm,20.0s
TPNV Topopah Spring 122.21 52 P **PKiKP 17 42 48.8 +2.7**
baz=284
R11A Troy Canyon, C 122.38 50 *e*PKPdf **PKPdf 17 42 45.0 -1.2**
R11A Troy Canyon, C 122.38 50 P **PKiKP 17 42 49.4 +2.9**
baz=285
PAB San Pablo 122.47 311 PFAKE 17 43 00.0 +14
PAB LR LR
comp=Z,281nm,20.0s
PFO Pinyon Flats O 122.75 56 PFAKE 17 43 00.0 +13
PFO LR LR
comp=Z,622nm,19.0s
BOZ Bozeman (W) 122.88 41 PFAKE 17 43 00.0 +13
BOZ LR LR
comp=Z,568nm,21.0s
BOZ Bozeman (W) 122.88 41 P **PKiKP 17 42 49.9 +2.8**
baz=292
EGMT Eagleton 123.08 38 PFAKE 17 43 00.0 +13
EGMT LR LR
comp=Z,491nm,20.0s
EGMT Eagleton 123.08 38 P **PKiKP 17 42 49.6 +2.2**
baz=296
GMRC Granite Mounta 123.16 55 P **PKiKP 17 42 50.7 +2.7**
baz=282
IRM Iron Mountain 123.71 55 *e*PKPpre PKPpre 17 42 39.6
IRM Iron Mountain 123.71 55 P **PKiKP 17 42 52.3 +3.3**
baz=282
FFC Flin Flon 123.77 28 *e*PKPdf **PKiKP 17 42 48.8 +0.3**
FFC LR LR
comp=Z,468nm,19.0s
DUG Dugway, Tooele 123.93 48 PFAKE 17 43 00.0 +11
DUG LR LR
comp=Z,430nm,21.0s
DUG Dugway, Tooele 123.93 48 P **PKiKP 17 42 51.5 +2.1**
baz=286
LKWY Lake 124.08 42 PFAKE 17 43 00.0 +10
LKWY LR LR
comp=Z,690nm,22.0s
REDW Red Top Meadow 124.24 43 *e*PKPdf **PKiKP 17 42 51.3 +1.3**
AHID Auburn Hatcher 124.28 44 PFAKE 17 43 00.0 +10
AHID LR LR
comp=Z,495nm,22.0s
HWUT Hardware Ranch 124.36 46 PFAKE 17 43 00.0 +10
HWUT LR LR
comp=Z,419nm,21.0s
SZCU Shurtz Canyon 124.48 51 *e*PKPpre PKPpre 17 42 34.6
RLMT Red Lodge 124.60 41 PFAKE 17 43 00.0 +9.3
RLMT LR LR
comp=Z,469nm,21.0s
BW06 Boulder Array 125.34 44 *e*PKPdf **PKPdf 17 42 51.3 -0.6**
BW06 LR LR
comp=Z,563nm,20.0s
BW06 Boulder Array 125.34 44 P **PKiKP 17 42 54.7 +2.5**
baz=292
PD31 Pinedale Array 125.34 44 *e*PKPpre PKPpre 17 42 35.4
PD31 *e*PKPdf **PKPdf 17 42 49.4 -2.5**
PDAR Pinedale Array 125.34 44 *e*PKPdf **PKPdf 17 42 49.8 -2.1**
PDAR Pinedale Array 125.34 44 PKP **PKiKP 17 42 52.9 +0.7**
comp=Z,1.5nm,0.9s,baz=321,slow=1.9,SNR=14
KIC Kosan Boka 125.52 271 *e*P **PKiKP 17 42 54.0 +0.9**
comp=Z,44nm,1.1s
DBIC Dimbokro 125.67 271 *e*PKPdf **PKPdf 17 42 52.0 -1.0**
DBIC Dimbokro 125.67 271 PKP **PKiKP 17 42 54.2 +0.9**
comp=Z,8.3nm,0.9s,baz=102,slow=4.0,SNR=6.9
LIC Lamto 125.79 271 *e*P **PKPdf 17 42 53.1 -0.1**
comp=Z,39nm,1.0s
LAO LASA Array 125.82 38 PFAKE 17 43 00.0 +7.2
LAO LR LR
comp=Z,579nm,20.0s
LAO LASA Array 125.82 38 P **PKiKP 17 42 55.8 +2.9**
baz=298
TIC Toumodi 125.83 271 *e*P **PKPdf 17 42 51.5 -1.8**
WUAZ Wupatki 126.38 53 *e*PKPpre PKPpre 17 42 38.2
WUAZ *e*PKPdf **PKPdf 17 42 51.2 -2.7**
WUAZ *e*Sdif Sdif 17 52 44.9 -0.5
WUAZ LR LR
comp=Z,543nm,19.0s
WUAZ Wupatki 126.38 53 P **PKiKP 17 42 56.9 +2.5**
baz=286
O20A White River Ci 127.24 46 P **PKiKP 17 42 59.4 +3.3**
baz=292
TUC Tucson 127.69 56 PFAKE 17 43 10.0 +13
TUC LR LR
comp=Z,695nm,21.0s
MVCO Mesa Verde 128.08 50 PFAKE 17 43 10.0 +12
MVCO LR LR
comp=Z,425nm,21.0s
MVCO Mesa Verde 128.08 50 P **PKiKP 17 43 00.9 +3.0**
baz=290
RSSD Black Hills 128.39 40 *e*PKPdf **PKPdf 17 42 57.5 -0.1**
RSSD Black Hills 128.39 40 P **PKiKP 17 43 00.3 +2.1**
baz=298
PLCA Paso Flores 129.10 169 *e*PKPdf **PKiKP 17 43 03.0 +3.3**
PLCA Paso Flores 129.10 169 PKP **PKiKP 17 43 00.4 +0.7**
comp=Z,3.8nm,1.1s,baz=61,slow=1.0,SNR=5.6
S22A 4UR Ranch, Cre 129.14 49 P **PKiKP 17 43 03.7 +3.6**
baz=291
ISCO Idaho Springs 129.24 46 PFAKE 17 43 10.0 +10
ISCO LR LR
comp=Z,723nm,21.0s
ISCO Idaho Springs 129.24 46 P **PKiKP 17 43 03.1 +2.9**
baz=294
ULM Lac du Bonnet 129.49 29 *e*PKPdf **PKPdf 17 42 59.2 0.0**
ULM Lac du Bonnet 129.49 29 PKP **PKiKP 17 43 00.0 +0.1**
comp=Z,4.2nm,0.6s,baz=315,slow=1.2,SNR=9.4
SDCO Great Sand Dun 130.12 48 PFAKE 17 43 10.0 +8.0
SDCO LR LR
comp=Z,273nm,19.0s
SDCO Great Sand Dun 130.12 48 P **PKiKP 17 43 04.9 +2.9**
baz=292
TASM ASL Pad, Albuq 130.39 52 P **PKiKP 17 43 04.8 +2.3**
baz=290
TASM ASL Pad, Albuq 130.39 52 P **PKiKP 17 43 04.8 +2.3**
baz=290
ANMO Albuquerque 130.39 52 *e*PKPpre PKPpre 17 42 48.0
ANMO *e*PKPdf **PKPdf 17 42 60.0 -1.7**
ANMO *e*SKPbc **SKPbc 17 46 20.1 +1.5**
ANMO LR LR
comp=Z,395µm,21.0s
ANMO Albuquerque 130.39 52 P **PKiKP 17 43 04.8 +2.2**
baz=290
ANMO Albuquerque 130.39 52 PKP **PKiKP 17 43 04.7 +2.2**
comp=Z,2.4nm,0.6s,baz=265,slow=2.9,SNR=7.8
ANMO SKPbc **SKPbc 17 46 20.2 +1.7**
comp=Z,6.9nm,0.7s,baz=276,slow=3.5,SNR=21

AGMN Agassiz Nation 130.76 31 PFAKE 17 43 10.0 +7.4
AGMN LR LR
comp=Z,173nm,19.0s
OGNE Ogallala 131.20 43 PFAKE 17 43 10.0 +6.2
OGNE LR LR
comp=Z,644nm,19.0s
ASCN Ascension 131.66 251 PFAKE 17 43 20.0 +15
ASCN LR LR
comp=Z,42µm,21.0s
MNTX Cornudas Mount 132.27 56 *e*PKPpre PKPpre 17 42 51.3
MNTX *e*PKPdf **PKPdf 17 43 03.5 -1.6**
MNTX LR LR
comp=Z,369nm,20.0s
MNTX Cornudas Mount 132.27 56 P **PKiKP 17 43 07.7 +1.5**
baz=288
TRQA Tornquist 132.72 178 PFAKE 17 43 20.0 +13
TRQA LR LR
comp=Z,2.0nm,20.0s
ECSD EROS Data Cent 133.15 37 P **PKiKP 17 43 09.0 +1.4**
baz=306
CBKS Cedar Bluff 133.76 44 PFAKE 17 43 20.0 +11
CBKS LR LR
comp=Z,765nm,20.0s
C40A Isle Royale Na 134.29 28 P **PKiKP 17 43 10.6 +0.9**
baz=318
F38A Pierce - Schro 134.35 31 P **PKiKP 17 43 10.2 +0.2**
baz=313
TX31 Lajitas Ar. Si 134.37 58 *e*PKPpre PKPpre 17 42 58.6
TXAR Lajitas Array 134.37 58 PKhKP PKPpre 17 42 58.9
comp=Z,0.8nm,0.8s,baz=225,slow=3.1,SNR=4.9
TXAR SKPbc **SKPab 17 46 35.3 -0.3**
comp=Z,1.6nm,0.9s,baz=292,slow=3.4,SNR=5.6
E39A Mellen 134.73 30 P **PKiKP 17 43 10.9 +0.2**
baz=315
F39A Loretta 134.87 31 P **PKiKP 17 43 11.8 +0.8**
baz=314
G38A Ridgeland 134.90 32 P **PKiKP 17 43 11.2 +0.2**
baz=312
E40A Wakefield 135.00 29 P **PKiKP 17 43 11.8 +0.6**
baz=316
G39A Holcombe 135.17 32 P **PKiKP 17 43 12.1 +0.5**
baz=313
H39A Augusta 135.53 32 P **PKiKP 17 43 13.8 +1.4**
baz=313
KSU1 Kansas State U 135.72 42 PFAKE 17 43 20.0 +7.1
KSU1 LR LR
comp=Z,408nm,19.0s
I39A Houston 135.95 33 *e*PKPpre PKPpre 17 42 57.6
I39A *e*PKPdf **PKPdf 17 43 09.3 -2.3**
J39A Decorah 136.19 34 P **PKiKP 17 43 14.5 +0.8**
baz=311
WMOK Wichita Mounta 136.30 49 PFAKE 17 43 20.0 +5.7
WMOK LR LR
comp=Z,283nm,20.0s
K40A Colesburg 136.92 34 P **PKiKP 17 43 16.6 +1.4**
baz=311
JCT Junction City 137.19 55 *e*PKPpre PKPpre 17 43 02.0
JCT *e*PKPdf **PKPdf 17 43 11.9 -2.4**
JCT LR LR
comp=Z,380nm,19.0s
JCT Junction City 137.19 55 *e*PKHKP PKPpre 17 43 02.0
JCT *e* 17 43 11.9
JCT MLR MLR
comp=Z,380nm,19.0s
P42A Winchester 139.39 37 *e*PKPpre PKPpre 17 43 07.5
P42A Winchester 139.39 37 P PKPpre 17 43 11.3
baz=310
R41A Rosebud 139.55 40 P PKPpre 17 43 12.8
baz=307
Q42A Golden Eagle 139.70 38 P PKPpre 17 43 13.8
baz=309
U40A Yellville 139.71 43 P PKPpre 17 43 13.9
baz=304
S41A Jillco Farms, 139.74 41 P PKPpre 17 43 13.4
baz=306
CCM Cathedral Cave 139.78 40 *e*PKPpre PKPpre 17 43 12.3
CCM Cathedral Cave 139.78 40 *e*PKHKP PKPpre 17 43 12.3
CCM Cathedral Cave 139.78 40 P PKPpre 17 43 13.8
baz=307
R42A Luebbering 139.93 39 P PKPpre 17 43 14.6
baz=308
O44A Mansfield 140.12 35 P PKPpre 17 43 15.6
baz=312
MIAR Mount Ida 140.17 46 *e*PKPpre PKPpre 17 43 14.8
MIAR LR LR
comp=Z,473nm,22.0s
MIAR Mount Ida 140.17 46 *e*PKIKP PKPpre 17 43 14.8
MIAR MLR MLR
comp=Z,473nm,22.0s
MIAR Mount Ida 140.17 46 P PKPpre 17 43 14.8
baz=301
Q43A New Douglas 140.19 38 P PKPpre 17 43 14.6
baz=310
S42A Caledonia 140.24 40 P PKPpre 17 43 15.2
baz=307
U41A Viola 140.34 42 P PKPpre 17 43 15.9
baz=305
P44A Sand Creek, Wi 140.48 36 P PKPpre 17 43 15.7
baz=312
HKT Hockley 140.57 54 *i* PKIKP **PKiKP 17 43 22.5 -0.5**
NATX Nacogdoches 140.71 50 PFAKE 17 43 30.0 +6.7
NATX LR LR
comp=Z,679nm,22.0s
S43A Fulton Ridge, 140.81 39 P PKPpre 17 43 14.9
baz=308
L48A N Adams 140.97 30 P PKPpre 17 43 15.5
baz=319
Q45A Warren Harvey, 141.13 36 P PKPpre 17 43 17.4
baz=312
N48A Decatur 141.48 31 P PKPpre 17 43 18.4
baz=318
ALFO Alfred 141.63 17 P PKPpre 17 43 17.7
baz=336
Q47A Bedord North L 142.10 35 P PKPpre 17 43 20.1
baz=314
S46A Don Dixon Farm 142.19 37 P PKPpre 17 43 20.2
baz=311
R47A Wooly Knot Far 142.48 36 P PKPpre 17 43 20.8
baz=313
Q48A North Vernon 142.49 34 P PKPpre 17 43 20.9
baz=315
T46A Princeton 142.50 38 P PKPpre 17 43 21.1
baz=310
MEDO Medina 142.60 23 P PKPpre 17 43 22.1
baz=329
WCI Wyandotte Cave 142.66 36 *e*PKPpre PKPpre 17 43 17.2
WCI Wyandotte Cave 142.66 36 *e*PKHKP PKPpre 17 43 17.2
WCI Wyandotte Cave 142.66 36 P **PKPdf 17 43 21.1 -2.9**
baz=314
O50A Cable 142.73 31 P **PKPdf 17 43 22.4 -1.7**
baz=319
S47A Hartford 142.75 37 P **PKPdf 17 43 22.5 -1.6**
baz=312
J55A Hilton 142.75 22 P **PKPdf 17 43 22.5 -1.5**
baz=330
U46A Springville 142.76 39 P **PKPdf 17 43 23.2 -1.0**
baz=309
ACSO Alum Creek Sta 142.98 30 *e*PKPpre PKPpre 17 43 19.4
ACSO LR LR
comp=Z,404nm,19.0s
ACSO Alum Creek Sta 142.98 30 P **PKPdf 17 43 23.3 -1.2**
baz=320
T47A Sharon Grove 143.01 38 *e*PKPpre PKPpre 17 43 19.1
P50A Jamestown 143.04 32 P PKPbc 17 43 22.4 +0.8
baz=318
OXF Oxford 143.07 43 *e*PKPdf PKPbc 17 43 22.9 +1.1
OXF Oxford 143.07 43 P PKPbc 17 43 23.0 +1.2
baz=306
WVT Waverly 143.12 39 *e*PKPpre PKPpre 17 43 19.0
WVT Waverly 143.12 39 *e*PKHKP PKPpre 17 43 19.0
WVT Waverly 143.12 39 P PKPbc 17 43 22.8 +0.9
baz=309
K55A Perry 143.12 23 P PKPbc 17 43 23.1 +1.3
baz=329
V46A Holladay 143.14 40 P PKPab 17 43 21.2 +0.6
baz=309
N52A McGinn's Farm, 143.16 28 P PKPbc 17 43 23.3 +1.4
baz=322
S48A Wiedeman Farm, 143.19 36 P PKPbc 17 43 22.3 +0.2
baz=313
O51A Pataskala 143.24 30 P PKPbc 17 43 22.5 +0.4
baz=320
R49A Shelbyville 143.25 34 P **PKPdf 17 43 24.1 -0.9**
baz=315
U47A Clarksville 143.26 39 P **PKPdf 17 43 23.9 -1.2**
baz=310
NCB Newcomb 143.33 18 *e*PKPpre PKPpre 17 43 21.7

T48A Bowling Green 143.36 37 P PKPbc 17 43 23.6 +1.1
baz=312
L55A Hinsdale 143.44 24 P PKPbc 17 43 23.7 +1.0
baz=328
M54A Oil Creek Stat 143.50 26 *e*PKPdf PKPbc 17 43 24.0 +1.2
M54A Oil Creek Stat 143.50 26 P **PKPdf 17 43 24.6 -0.8**
baz=326
V47A Nunnelly 143.50 40 P PKPab 17 43 22.2 +0.2
baz=310
Q50A Georgetown 143.51 33 P **PKPdf 17 43 24.5 -1.0**
baz=317
S49A Springfield 143.54 35 P **PKPdf 17 43 24.5 -1.1**
baz=314
X46A Booneville 143.59 42 P **PKPdf 17 43 25.8 0.0**
baz=307
O52A Adamsville 143.63 29 *e*PKPpre PKPpre 17 43 23.0
O52A Adamsville 143.63 29 P **PKPdf 17 43 24.7 -1.0**
baz=321
U48A Cassie Pea, Po 143.67 38 P PKPbc 17 43 24.5 +1.1
baz=312
PLAL Pickwick Lake 143.67 41 *e*PKPdf PKPbc 17 43 24.3 +0.8
Q51A Peebles 143.71 32 *e*PKPpre PKPpre 17 43 23.1
Q51A Peebles 143.71 32 P **PKPdf 17 43 25.1 -0.7**
baz=318
R50A Paris 143.72 34 P **PKPdf 17 43 24.8 -1.1**
baz=316
N54A Moraine State 143.81 26 P **PKPdf 17 43 25.6 -0.4**
baz=325
W47A Westpoint 143.82 40 P **PKPdf 17 43 25.1 -1.1**
baz=309
P52A Corning 143.86 30 P **PKPdf 17 43 25.4 -0.7**
baz=320
T49A Edmonton 143.87 36 *e*PKPdf PKPbc 17 43 23.7 -0.3
T49A Edmonton 143.87 36 P **PKPdf 17 43 25.3 -0.9**
baz=313
M55A Ridgway 143.91 25 P **PKPdf 17 43 25.7 -0.4**
baz=327
V48A Smith Brothers 144.00 39 *e*PKPdf PKPab 17 43 23.3 -0.6
V48A Smith Brothers 144.00 39 P **PKPdf 17 43 25.6 -0.8**
baz=310
X47A Russelville 144.10 42 P **PKPdf 17 43 26.2 -0.5**
baz=308
GBN Guysborough 144.11 2 *e*PKPdf PKPbc 17 43 25.1 +0.6
R51A Hillsboro 144.12 33 P **PKPdf 17 43 25.8 -0.7**
baz=317
S50A Richmond 144.12 34 P **PKPdf 17 43 25.9 -0.7**
baz=316
U49A Red Boiling Sp 144.12 37 P PKPbc 17 43 24.7 -0.1
baz=312
O54A Avella 144.26 28 P **PKPdf 17 43 26.7 0.0**
baz=324
GO02 Mina Guanaco 144.30 165 *e*PKPdf **PKPdf 17 43 27.1 -0.6**
Q52A Bidwell 144.31 31 P **PKPdf 17 43 26.3 -0.5**
baz=320
W48A Pulaski 144.31 40 P **PKPab 17 43 24.6 -0.5**
baz=310
SACV Santiago Islan 144.33 283 PFAKE 17 43 40.0 +8.8
SACV LR LR
comp=Z,473nm,20.0s
T50A Nancy 144.33 36 P **PKPdf 17 43 26.7 -0.3**
baz=314
P53A Whipple 144.34 29 *e*PKPdf PKPbc 17 43 25.5 +0.1
P53A Whipple 144.34 29 P **PKPdf 17 43 26.9 0.0**
baz=322
BINY Binghamton 144.35 21 *e*PKPdf PKPbc 17 43 25.8 +0.4
BINY Binghamton 144.35 21 P **PKPdf 17 43 27.3 +0.4**
baz=332
CPUP Villa Florida 144.39 184 *e*PKPdf **PKPdf 17 43 27.0 -0.4**
CPUP Villa Florida 144.39 184 PKP **PKPdf 17 43 27.6 +0.2**
comp=Z,5.9nm,0.7s,baz=162,slow=0.9,SNR=12
N55A Marion Center 144.39 26 P **PKPdf 17 43 26.8 -0.2**
baz=326
V49A McMinnville 144.55 38 P **PKPab 17 43 25.8 -0.2**
baz=312
R52A Catlettsburg 144.59 32 P PKPbc 17 43 26.3 +0.1
baz=319
S51A Beattyville 144.59 34 *e*PKPdf **PKPab 17 43 25.9 -0.1**
S51A Beattyville 144.59 34 P **PKPab 17 43 25.7 -0.3**
baz=317
X48A Hartselle 144.67 41 *e*PKPdf **PKPab 17 43 25.6 -0.8**
X48A Hartselle 144.67 41 P **PKPab 17 43 26.0 -0.5**
baz=309
P54A Burton 144.68 28 P PKPbc 17 43 26.4 -0.1
baz=323
O55A Ligonier 144.72 26 P **PKPab 17 43 26.5 0.0**
baz=325
W49A Belvidere 144.74 39 P **PKPab 17 43 26.6 -0.1**
baz=310
HAL Halifax 144.75 5 *e*PKPdf **PKPab 17 43 26.2 -0.2**
HAL Halifax 144.75 5 *e*PKIKP **PKPab 17 43 26.2 -0.2**
Q53A Leroy 144.76 30 P PKPbc 17 43 27.0 +0.3
baz=321
S52A Salyersville 144.84 33 P **PKPab 17 43 26.7 -0.3**
baz=317
T51A Gray 144.88 35 P **PKPdf 17 43 27.7 -0.2**
baz=315
SWET Sewanee 144.89 39 *e*PKPdf **PKPab 17 43 26.8 -0.4**
147A Livingston 144.90 45 *e*PKPbc **PKPab 17 43 26.7 -0.6**
147A Livingston 144.90 45 P **PKPdf 17 43 27.8 -0.3**
baz=305
Y48A Jasper 144.92 42 P **PKPab 17 43 27.0 -0.4**
baz=308
MCWV Mont Chateau 144.93 28 *e*PKPbc **PKPab 17 43 26.8 -0.4**
MCWV Mont Chateau 144.93 28 P **PKPdf 17 43 27.6 -0.3**
baz=324
R53A Hurricane 144.95 31 P **PKPab 17 43 27.2 -0.1**
baz=320
CMIG Matias Romero 144.96 74 PKP **PKiKP 17 43 30.6 -1.8**
comp=Z,20nm,1.0s,baz=244,slow=2.1,SNR=11
SSPA Standing Stone 144.97 24 *e*PKPbc **PKPab 17 43 27.1 -0.3**
SSPA Standing Stone 144.97 24 P PKPbc 17 43 27.4 0.0
baz=328
O56A Blue Knob Stat 144.99 26 *e*PKPbc PKPbc 17 43 26.6 -0.9
O56A Blue Knob Stat 144.99 26 P **PKPab 17 43 27.6 +0.1**
baz=326
Q54A Coxs Mills 145.00 29 P **PKPab 17 43 27.7 +0.2**
baz=322
P55A Reedsville 145.06 28 P **PKPbc 17 43 27.6 -0.1**
baz=324
X49A Woodville 145.09 40 P **PKPbc 17 43 27.7 -0.2**
baz=310
V50A Pikevile 145.10 38 P **PKPbc 17 43 27.9 0.0**
baz=312
U51A La Follette 145.25 36 P **PKPdf 17 43 29.4 +0.7**
baz=315
W50A Signal Mountai 145.28 38 *e*PKPbc **PKPbc 17 43 28.0 -0.6**
W50A Signal Mountai 145.28 38 P **PKPab 17 43 28.6 -0.1**
baz=312
T52A Hallie 145.31 34 P **PKPdf 17 43 28.7 0.0**
baz=317
S53A Williamson 145.35 32 P **PKPab 17 43 29.0 +0.2**
baz=319
Q55A Buckhannon 145.35 29 P **PKPab 17 43 29.5 +0.6**
baz=323
TZTN Tazewell 145.40 35 *e*PKPbc **PKPdf 17 43 28.9 0.0**
TZTN Tazewell 145.40 35 P **PKPab 17 43 29.5 +0.4**
baz=316
QUA2 Belchertown 145.43 17 *e*PKPdf **PKPab 17 43 29.1 +0.2**
HRV Adam Dziewonsk 145.44 16 *e*PKPdf **PKPdf 17 43 28.0 -0.7**
HRV Adam Dziewonsk 145.44 16 *e*PKIKP **PKPdf 17 43 28.0 -0.7**
HRV Adam Dziewonsk 145.44 16 P **PKPab 17 43 29.3 +0.3**
baz=339
Y49A Blount Mountai 145.45 41 *e*PKPdf **PKPdf 17 43 28.2 -0.8**
Y49A Blount Mountai 145.45 41 P **PKPdf 17 43 28.8 -0.2**
baz=309
V51A Loudon 145.45 37 P **PKPab 17 43 29.8 +0.5**
baz=314
N59A State Game Lan 145.55 22 *e*PKPdf **PKPdf 17 43 28.9 -0.1**
N59A *e*PKPbc **PKiKP 17 43 31.5 -1.5**
N59A State Game Lan 145.55 22 P **PKPbc 17 43 29.3 +0.1**
baz=331
R54A Victor 145.55 30 P **PKPdf 17 43 28.8 -0.3**
baz=321
X50B Fort Payne 145.55 40 P **PKPdf 17 43 29.0 -0.2**
baz=310
LRAL Lakeview Retre 145.56 43 *e*PKPdf **PKPdf 17 43 29.2 0.0**
LRAL *e*PKPbc **PKPab 17 43 31.2 +1.5**
LRAL Lakeview Retre 145.56 43 P **PKPbc 17 43 29.5 0.0**
baz=307
CPCT Cooper Cave 145.59 37 *e*PKPdf **PKPdf 17 43 28.9 -0.3**
CPCT *e*PKPbc **PKPab 17 43 31.0 +1.2**
U52A Thorn Hill 145.61 35 P **PKPab 17 43 30.3 +0.4**
baz=316
W51A Cleveland 145.64 38 P **PKPbc 17 43 29.8 +0.1**
baz=312
T53A Wise 145.65 33 P **PKPbc 17 43 29.8 +0.1**
baz=318

Z49A	**Columbiana**	**145.78**	**42**	P	**PKPab**	17 43 30.5	**-0.1**
	baz=308						
PAGS	**Pennsylvania G**	**145.78**	**23**	*e*PKPdf	**PKPdf**	**17 43 28.6**	**-0.7**
ODNJ	**Ogdensburg**	**145.81**	**20**	*e*PKPdf	**PKPbc**	**17 43 30.2**	**+0.2**
Y50A	**Piedmont**	**145.86**	**41**	P	**PKPbc**	**17 43 30.4**	**0.0**
	baz=310						
V52A	**Sevierville**	**145.87**	**36**	*e*PKPdf	**PKPdf**	**17 43 29.9**	**+0.2**
V52A	**Sevierville**	**145.87**	**36**	P	**PKPab**	**17 43 30.7**	**-0.2**
	baz=315						
TKL	**Tuckaleechee C**	**145.89**	**36**	*e*PKPdf	**PKPab**	**17 43 31.1**	**+0.1**
TKL	**Tuckaleechee C**	**145.89**	**36**	PKPbc	**PKPab**	**17 43 31.8**	**+0.9**
	comp=Z,93nm,1.0s,baz=177,slow=0.8,SNR=25						
R55A	**Marlinton**	**145.90**	**29**	P	**PKPab**	**17 43 30.9**	**-0.1**
	baz=322						
149A	**Jones**	**145.96**	**43**	P	**PKPab**	**17 43 31.2**	**-0.1**
	baz=307						
X51A	**Calhoun**	**145.98**	**39**	*e*PKPdf	**PKPbc**	**17 43 30.3**	**-0.4**
X51A	**Calhoun**	**145.98**	**39**	P	**PKPab**	**17 43 31.3**	**0.0**
	baz=312						
U53A	**Fall Branch**	**146.07**	**34**	P	**PKPab**	**17 43 32.3**	**+0.6**
	baz=317						
249A	**Camden**	**146.10**	**45**	P	**PKPab**	**17 43 32.4**	**+0.5**
	baz=306						
T54A	**Tazewell**	**146.10**	**32**	P	**PKPbc**	**17 43 31.1**	**0.0**
	baz=319						
S55A	**Lewisburg**	**146.11**	**30**	P	**PKPab**	**17 43 31.9**	**+0.2**
	baz=321						
PAL	**Palisades**	**146.12**	**19**	*e*PKPdf	**PKPdf**	**17 43 30.2**	**+0.3**
PAL	**Palisades**	**146.12**	**19**	*e*PKP2	**PKPdf**	**17 43 30.2**	**+0.3**
PAL	**Palisades**	**146.12**	**19**	P	**PKPab**	**17 43 31.4**	**-0.2**
	baz=334						
MVL	**Millersville**	**146.12**	**23**	*e*PKPdf	**PKPbc**	**17 43 30.7**	**-0.2**
Z50A	**Ashland**	**146.14**	**42**	*e*PKPdf	**PKPdf**	**17 43 30.6**	**+0.4**
Z50A	**Ashland**	**146.14**	**42**	P	**PKPbc**	**17 43 31.3**	**0.0**
	baz=309						
448A	**Bay Minette**	**146.17**	**47**	P	**PKPab**	**17 43 32.3**	**+0.2**
	baz=304						
BRNJ	**Basking Ridge**	**146.18**	**21**	*e*PKPdf	**PKPbc**	**17 43 31.2**	**+0.1**
W52A	**Murphy**	**146.19**	**37**	*e*PKPdf	**PKPdf**	**17 43 29.6**	**-0.7**
W52A	**Murphy**	**146.19**	**37**	P	**PKPbc**	**17 43 31.1**	**-0.3**
	baz=314						
U54A	**Nelsons Funny**	**146.37**	**33**	P	**PKPbc**	**17 43 32.0**	**+0.1**
	baz=318						
349A	**Repton**	**146.41**	**46**	P	**PKPab**	**17 43 33.0**	**-0.1**
	baz=305						
V53A	**Saluda**	**146.44**	**35**	*e*PKPdf	**PKPbc**	**17 43 31.7**	**-0.5**
V53A	**Saluda**	**146.44**	**35**	P	**PKPab**	**17 43 32.6**	**-0.5**
	baz=316						
T55A	**Pulaski**	**146.47**	**31**	P	**PKPbc**	**17 43 32.3**	**+0.2**
	baz=320						
150A	**Eclectic**	**146.47**	**43**	P	**PKPbc**	**17 43 32.4**	**+0.2**
	baz=308						
X52A	**Dahlonega**	**146.54**	**38**	P	**PKPab**	**17 43 33.8**	**+0.3**
	baz=313						
BLA	**Blacksburg**	**146.58**	**31**	PFAKE		17 43 40.0	+4.7
BLA				LR	LR		
	comp=Z,404nm,19.0s						
BLA	**Blacksburg**	**146.58**	**31**	P	**PKiKP**	**17 43 34.5**	**-0.8**
	baz=321						
Z51A	**Franklin**	**146.59**	**41**	P	**PKPab**	**17 43 33.2**	**-0.5**
	baz=310						
W53A	**Cullowhee**	**146.59**	**36**	P	**PKPab**	**17 43 33.6**	**-0.2**
	baz=315						
BRAL	**Brewton**	**146.61**	**46**	P	**PKiKP**	**17 43 34.8**	**-0.7**
	baz=305						
250A	**Grady**	**146.69**	**44**	P	**PKPab**	**17 43 34.5**	**+0.4**
	baz=307						
U55A	**TA2, Sparta**	**146.80**	**32**	P	**PKPbc**	**17 43 33.2**	**+0.1**
	baz=319						
V54A	**Nebo**	**146.85**	**34**	P	**PKPbc**	**17 43 33.5**	**+0.3**
	baz=317						
LVC	**Limon Verde**	**146.91**	**164**	PFAKE		17 43 40.0	+3.2
LVC				LR	LR		
	comp=Z,499nm,20.0s						
T56A	**Rocky Mt**	**146.92**	**31**	P	**PKPbc**	**17 43 33.2**	**-0.2**
	baz=321						
Y52A	**Lilburn**	**146.94**	**39**	P	**PKPbc**	**17 43 34.1**	**+0.6**
	baz=312						
X53A	**Estanollee**	**146.97**	**37**	P	**PKPab**	**17 43 34.4**	**-0.7**
	baz=314						
151A	**Opelika**	**146.99**	**42**	P	**PKPbc**	**17 43 33.9**	**+0.2**
	baz=309						
Z52A	**Williamson**	**147.16**	**40**	P	**PKPbc**	**17 43 34.8**	**+0.6**
	baz=311						
V55A	**Taylorsville**	**147.20**	**33**	P	**PKPbc**	**17 43 34.8**	**+0.6**
	baz=318						
251A	**Midway**	**147.20**	**43**	P	**PKPbc**	**17 43 35.1**	**+0.8**
	baz=308						
R58B	**Mineral**	**147.20**	**27**	*e*PKPbc	**PKPab**	**17 43 35.1**	**-0.8**
R58B	**Mineral**	**147.20**	**27**	P	**PKPbc**	**17 43 34.3**	**+0.2**
	baz=326						
W54A	**Cherokee Point**	**147.21**	**35**	P	**PKPab**	**17 43 35.3**	**-0.8**
	baz=316						
Y53A	**Monroe**	**147.24**	**39**	P	**PKPbc**	**17 43 35.1**	**+0.7**
	baz=313						
152A	**Waverly Hall**	**147.30**	**41**	*e*PKPbc	**PKPbc**	**17 43 34.3**	**-0.2**
152A	**Waverly Hall**	**147.30**	**41**	P	**PKPbc**	**17 43 34.9**	**+0.3**
	baz=310						
X54A	**Belton**	**147.49**	**36**	P	**PKPbc**	**17 43 35.7**	**+0.7**
	baz=315						
GOGA	**Godfrey**	**147.61**	**39**	*e*PKPbc	**PKPbc**	**17 43 35.1**	**-0.3**
GOGA	**Godfrey**	**147.61**	**39**	*e*PKP2	**PKPbc**	**17 43 35.1**	**-0.3**
GOGA	**Godfrey**	**147.61**	**39**	P	**PKPbc**	**17 43 36.1**	**+0.7**
	baz=312						
PAULI	**Pauline**	**147.62**	**35**	*e*PKPdf	**PKPdf**	**17 43 32.4**	**-0.2**
Z53A	**Monticello**	**147.63**	**39**	P	**PKPbc**	**17 43 35.9**	**+0.4**
	baz=312						
KMSC	**Kings Mountain**	**147.65**	**34**	*e*PKPdf	**PKPdf**	**17 43 33.4**	**+0.7**
KMSC				*e*PKPbc	**PKiKP**	**17 43 37.1**	**-0.4**
252A	**Lumpkin**	**147.71**	**42**	P	**PKPbc**	**17 43 36.3**	**+0.6**
	baz=309						
HODGE	**Hodges**	**147.78**	**37**	*e*PKPbc	**PKPbc**	**17 43 35.5**	**-0.3**
Y54A	**Tignall**	**147.78**	**38**	P	**PKPbc**	**17 43 36.8**	**+0.9**
	baz=314						
153A	**Fort Valley**	**147.88**	**40**	P	**PKiKP**	**17 43 38.1**	**0.0**
	baz=311						
352A	**Blakely**	**147.90**	**43**	P	**PKiKP**	**17 43 37.5**	**-0.6**
	baz=308						
V57A	**Coltrane Farms**	**147.93**	**32**	P	**PKiKP**	**17 43 37.4**	**-0.7**
	baz=321						
X55A	**Gracelyn & Ava**	**147.97**	**36**	P	**PKPbc**	**17 43 36.8**	**+0.5**
	baz=316						
253A	**Americus**	**148.07**	**42**	P	**PKiKP**	**17 43 38.2**	**-0.2**
	baz=310						
W56A	**Indian Trail**	**148.07**	**34**	P	**PKPbc**	**17 43 37.3**	**+0.7**
	baz=318						
Z54A	**Sparta**	**148.11**	**39**	P	**PKPbc**	**17 43 37.6**	**+0.8**
	baz=313						
Y55A	**Saluda**	**148.22**	**37**	P	**PKiKP**	**17 43 38.3**	**-0.4**
	baz=315						
X56A	**White Oak**	**148.30**	**35**	P	**PKiKP**	**17 43 39.0**	**+0.2**
	baz=317						
JSC	**Jenkinsville**	**148.32**	**35**	*e*PKPbc	**PKiKP**	**17 43 38.3**	**-0.6**
JSC	**Jenkinsville**	**148.32**	**35**	*e*PKP2	**PKiKP**	**17 43 38.3**	**-0.6**
W57A	**Gilead**	**148.38**	**33**	P	**PKiKP**	**17 43 38.7**	**-0.3**
	baz=320						
353A	**Camilla**	**148.46**	**43**	P	**PKPbc**	**17 43 38.3**	**+0.6**
	baz=309						
254A	**Abbeville**	**148.69**	**41**	P	**PKiKP**	**17 43 39.4**	**-0.3**
	baz=311						
453A	**Whigham**	**148.69**	**44**	P	**PKiKP**	**17 43 39.2**	**-0.5**
	baz=308						
155A	**Kite**	**148.76**	**39**	P	**PKiKP**	**17 43 39.6**	**-0.2**
	baz=313						
V59A	**Middlesex**	**148.81**	**30**	P	**PKiKP**	**17 43 40.3**	**+0.5**
	baz=323						
TIGA	**Tifton**	**148.81**	**42**	*e*PKPbc	**PKPbc**	**17 43 39.1**	**+0.5**
TIGA	**Tifton**	**148.81**	**42**	P	**PKiKP**	**17 43 39.8**	**-0.2**
	baz=310						
W59A	**Clinton**	**149.18**	**31**	P	**PKiKP**	**17 43 41.9**	**+1.3**
	baz=322						
X58A	**Rowland**	**149.18**	**33**	P	**PKiKP**	**17 43 41.5**	**+0.8**
	baz=320						
255A	**Hazlehurst**	**149.22**	**40**	*e*PKPbc	**PKPbc**	**17 43 39.4**	**-0.2**
255A	**Hazlehurst**	**149.22**	**40**	P	**PKiKP**	**17 43 40.9**	**+0.1**
	baz=312						
Z57A	**Bowman**	**149.35**	**36**	P	**PKiKP**	**17 43 42.2**	**+1.2**
	baz=316						
355A	**Pearson**	**149.36**	**41**	P	**PKiKP**	**17 43 41.8**	**+0.7**
	baz=311						
PB11	**IPOC Station P**	**149.39**	**161**	*e*PKPdf	**PKPdf**	**17 43 34.5**	**-1.6**
PB11				*e*PKPbc	**PKiKP**	**17 43 42.0**	**+0.3**
APG	**El Apazote**	**149.44**	**76**	PKPbc	**PKiKP**	**17 43 42.8**	**+0.8**
	comp=Z,34nm,0.7s,baz=332,slow=9.2,SNR=22						
157A	**Early Branch**	**149.62**	**37**	P	**PKiKP**	**17 43 43.0**	**+1.4**
	baz=315						
GO01	**Chusmiza**	**149.62**	**162**	*e*PKPbc	**PKiKP**	**17 43 42.7**	**+0.1**
455A	**Stateville**	**149.63**	**42**	P	**PKiKP**	**17 43 43.2**	**+1.5**
	baz=310						
356A	**Blackshear**	**149.84**	**41**	P	**PKiKP**	**17 43 43.4**	**+1.3**
	baz=312						
X60A	**Albert Glenn T**	**149.88**	**31**	P	**PKiKP**	**17 43 43.3**	**+1.2**
	baz=322						
MNMC	**Minye Minye**	**150.00**	**161**	*e*PKPdf	**PKPdf**	**17 43 35.9**	**-1.4**
MNMC				*e*PKPbc	**PKiKP**	**17 43 44.0**	**+0.8**
RCBR	**Riachuelo**	**151.86**	**238**	*e*PKPdf	**PKPdf**	**17 43 40.1**	**+0.1**
RCBR				*e*PKPbc	**PKiKP**	**17 43 48.5**	**+1.6**
RCBR				LR	LR		
	comp=Z,18μm,21.0s						
RCBR	**Riachuelo**	**151.86**	**238**	*e*PKIKP	**PKPdf**	**17 43 40.1**	**+0.1**
BDFB	**Brasilia**	**152.54**	**205**	PKP	**PKPdf**	**17 43 43.3**	**+2.3**
	comp=Z,6.2nm,0.8s,baz=207,slow=4.6,SNR=6.7						
BDFB				PKPbc	**PKiKP**	**17 43 49.6**	**+1.4**
	comp=Z,15nm,0.5s,baz=153,slow=3.3,SNR=15						
NNA	**Nana**	**152.75**	**141**	PFAKE		17 43 50.0	+1.4
NNA				LR	LR		
	comp=Z,300nm,21.0s						
LPAZ	**La Paz**	**153.13**	**162**	*e*PKPdf	**PKPdf**	**17 43 46.0**	**+3.5**
LPAZ	**La Paz**	**153.13**	**162**	PKP	**PKPdf**	**17 43 45.2**	**+2.7**
	comp=Z,1.7nm,0.9s,baz=202,slow=1.3,SNR=6.8						
JTS	**JuntasAbangare**	**155.10**	**86**	PFAKE		17 44 00.0	-9.5
JTS				LR	LR		
	comp=Z,347nm,21.0s						
OTAV	**Otavalo**	**159.22**	**115**	PFAKE		17 44 00.0	+10
OTAV				LR	LR		
	comp=Z,268nm,22.0s						
AZU	**Azuero**	**159.59**	**93**	*e*P	**PKPdf**	**17 43 53.0**	**+2.8**
AZU	**Azuero**	**159.59**	**93**	*e*P	**PKPdf**	**17 43 53.0**	**+2.8**
CMBC	**Cumbal**	**160.09**	**114**	*e*P	**PKPdf**	**17 43 54.4**	**+3.0**
CMBC	**Cumbal**	**160.09**	**114**	*e*P	**PKPdf**	**17 43 54.4**	**+3.0**
BCIP	**Isla Barro Col**	**160.12**	**89**	PFAKE		17 44 00.0	+9.2
BCIP				LR	LR		
	comp=Z,298nm,22.0s						
MTDJ	**Mount Denham**	**160.61**	**61**	PFAKE		17 44 00.0	+8.7
MTDJ				LR	LR		
	comp=Z,283nm,21.0s						
CRUC	**La Cruz**	**161.15**	**113**	*e*P	**PKPdf**	**17 43 55.5**	**+3.0**
CRUC	**La Cruz**	**161.15**	**113**	*e*P	**PKPdf**	**17 43 55.5**	**+3.0**
SOTA	**Rioblanco**	**161.70**	**112**	*e*P	**PKPdf**	**17 43 56.9**	**+3.7**
SOTA	**Rioblanco**	**161.70**	**112**	*e*P	**PKPdf**	**17 43 56.9**	**+3.7**
GTBY	**Guantanamo Bay**	**161.81**	**53**	PFAKE		17 44 00.0	+7.6
GTBY				LR	LR		
	comp=Z,316nm,21.0s						
FLOC	**Florencia**	**162.32**	**115**	*e*P	**PKPdf**	**17 43 55.9**	**+2.7**
FLOC	**Florencia**	**162.32**	**115**	*e*P	**PKPdf**	**17 43 55.9**	**+2.7**
MARP	**Paez Belalcaza**	**162.57**	**111**	*e*P	**PKPdf**	**17 43 57.5**	**+3.8**
MARP	**Paez Belalcaza**	**162.57**	**111**	*e*P	**PKPdf**	**17 43 57.5**	**+3.8**
YOTC	**Yotoco, Valle**	**162.61**	**107**	*e*P	**PKPdf**	**17 43 56.2**	**+2.6**
YOTC	**Yotoco, Valle**	**162.61**	**107**	*e*P	**PKPdf**	**17 43 56.2**	**+2.6**
BETC	**Betania**	**162.98**	**112**	*e*P	**PKPdf**	**17 43 55.2**	**+1.4**
BETC	**Betania**	**162.98**	**112**	*e*P	**PKPdf**	**17 43 55.2**	**+1.4**
PRAC	**Prado**	**163.89**	**110**	*e*P	**PKPdf**	**17 43 57.5**	**+2.8**
PRAC	**Prado**	**163.89**	**110**	*e*P	**PKPdf**	**17 43 57.5**	**+2.8**
CHIC	**Chingaza**	**165.28**	**108**	*e*P	**PKPdf**	**17 43 57.9**	**+1.5**
CHIC	**Chingaza**	**165.28**	**108**	*e*P	**PKPdf**	**17 43 57.9**	**+1.5**
SDDR	**Presa de Saban**	**165.29**	**48**	PFAKE		17 44 10.0	+14
SDDR				LR	LR		
	comp=Z,417nm,22.0s						
RUSC	**La Rusia**	**166.28**	**104**	*e*P	**PKPdf**	**17 43 59.7**	**+2.4**
RUSC	**La Rusia**	**166.28**	**104**	*e*P	**PKPdf**	**17 43 59.7**	**+2.4**
BARC	**Barichara**	**166.36**	**101**	*e*P	**PKPdf**	**17 43 59.4**	**+2.3**
BARC	**Barichara**	**166.36**	**101**	*e*P	**PKPdf**	**17 43 59.4**	**+2.3**
PAMC	**Pamplona, Colo**	**166.97**	**98**	*e*P	**PKPdf**	**17 43 59.7**	**+1.9**
PAMC	**Pamplona, Colo**	**166.97**	**98**	*e*P	**PKPdf**	**17 43 59.7**	**+1.9**
SJG	**San Juan**	**169.33**	**35**	PFAKE		17 44 10.0	+11
SJG				LR	LR		
	comp=Z,273nm,19.0s						
PTGA	**Pitinga**	**169.91**	**178**	*e*PKPdf	**PKPdf**	**17 43 59.6**	**+0.4**
PTGA				*e*PKPab	**PKPab**	**17 45 15.1**	**+1.2**
PTGA				LR	LR		
	comp=Z,9μm,20.0s						
ANWB	**Willy Bob**	**171.55**	**14**	PFAKE		17 44 10.0	+10
ANWB				LR	LR		
	comp=Z,403nm,19.0s						
GRGR	**Grenville**	**176.69**	**35**	PFAKE		17 44 10.0	+8.3
GRGR				LR	LR		
	comp=Z,387nm,19.0s						

*STR **26** 17:31:48.0±0.5,49°N±2°×±°, h10km, M1.8/6, MLv1.8/6*
LDG 26 17:31:47.4±0.1, 49.06N×6.05E, h2km, Md2.2/2, Ml2.3/15, Error ellipse: s-maj=1.4km s-min=1.1km az=50.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGF	**Fort de Pagny**	**0.55**	**203**	*e*Pg	Pg	17 31 58.0	0.0
	baz=22						
PAGF	**Fort de Pagny**	**0.55**	**203**	*e*Pn	Pb	17 32 00.7	+0.9
	baz=15						
PAGF				*e*Sg	Sg	17 32 05.2	+0.1
	baz=24						
PAGF				*e*Sn	Sb	17 32 09.9	+1.7
	19nm,0.3s,baz=19						
THEF	**They Montfort**	**0.84**	**183**	Pg	Pg	17 32 03.3	-0.2
THEF				Sg	Sg	17 32 13.5	-0.9
MEZF	**Maizieres J'vi**	**0.87**	**230**	*e*Pg	Pg	17 32 03.7	-0.3
	baz=46						
MEZF	**Maizieres J'vi**	**0.87**	**230**	*e*Pn	Pb	17 32 04.9	-0.2
	baz=47						
MEZF				*e*Sg	Sg	17 32 14.9	-0.3
	baz=51						
MEZF				*e*Sn	Sb	17 32 17.4	+0.2
	7.4nm,0.2s,baz=53						
CDF	**Champ du Feu**	**1.04**	**128**	*e*Pg	Pg	17 32 06.9	-0.5
CDF	**Champ du Feu**	**1.04**	**128**	*e*Pn	Pg	17 32 07.5	+0.1
CDF				*e*Sg	Sg	17 32 20.5	-0.4
	5.2nm,0.3s						
HAU	**Haudompre**	**1.08**	**169**	*e*Pg	Pg	17 32 07.2	-0.8
HAU	**Haudompre**	**1.08**	**169**	*e*Pn	Pg	17 32 07.9	-0.1
HAU				*e*Sg	Sg	17 32 21.8	-0.2
	4.9nm,0.2s						
WLS	**Welschbruch**	**1.08**	**127**	Pn	Pg	17 32 07.9	-0.3
WLS				Sg	Sg	17 32 22.7	+0.6
SFTF	**Sexfontaines**	**1.09**	**218**	*e*Pg	Pg	17 32 08.0	-0.3
	baz=40						
SFTF				*e*Sg	Sg	17 32 22.1	-0.3
	16nm,0.2s,baz=25						
ECH	**Echery**	**1.12**	**139**	Pg	Pg	17 32 08.3	-0.7
ECH				Sg	Sg	17 32 23.3	-0.2
ABH	**Alteburg**	**1.27**	**50**	Pn	Pg	17 32 11.1	-0.7
ABH				Sg	Sn	17 32 29.6	-0.4
GIVF	**Givet**	**1.31**	**323**	*e*Pg	Pg	17 32 12.0	-0.5
GIVF				*e*Sg	Sg	17 32 29.0	-0.5
	9.8nm,0.2s						
HINF	**Hinteralfeld**	**1.36**	**156**	*e*Pg	Pg	17 32 12.6	-0.8
HINF				*e*Sg	Sg	17 32 30.2	-0.8
	2.5nm,0.2s						
DOU	**Dourbes**	**1.40**	**318**	Pn	Pn	17 32 13.1	-0.8
BAIF	**Baives**	**1.56**	**310**	*e*Pg	Pn	17 32 16.4	+0.3
BAIF				*e*Sn	Sn	17 32 33.7	-3.2
	3.7nm,0.4s						
BAIF				*e*Sg	Sb	17 32 36.7	-0.4
	5.0nm,0.3s						
LOR	**Lormes**	**2.32**	**220**	*e*Pn	Pn	17 32 24.6	-2.0
LOR	**Lormes**	**2.32**	**220**	*e*Pg	Pb	17 32 30.6	+0.7
	baz=38						
LOR				*e*Sn	Sn	17 32 51.6	-4.1
	baz=31						
LOR				*e*Sg	Sb	17 33 00.2	+1.2
	2.9nm,0.2s,baz=28						
CABF	**La Chapelle**	**2.46**	**179**	*e*Pn	Pn	17 32 26.8	-1.7
CABF				*e*Sn	Sn	17 32 55.9	-3.2
CABF				*e*Sg	Sg	17 33 05.0	-1.2
	1.7nm,0.2s						
SSF	**Saint Saulge**	**2.63**	**221**	*e*Pn	Pn	17 32 29.2	-1.7
SSF				*e*Sg	Sb	17 33 09.4	+1.4
	1.5nm,0.2s						
SMF	**Signal de Mont**	**2.84**	**212**	*e*Pn	Pn	17 32 32.2	-1.6
SMF	**Signal de Mont**	**2.84**	**212**	*e*Pg	Pb	17 32 40.1	+1.3
SMF				*e*Sg	Sg	17 33 16.6	-2.0
	2.0nm,0.2s						
AVF	**Avril sur Loir**	**2.91**	**220**	*e*Pn	Pn	17 32 33.2	-1.5
AVF				*e*Sn	Sn	17 33 06.2	-4.0
AVF				*e*Sg	Sg	17 33 18.6	-2.2
	0.4nm,0.1s						
BGF	**Bois d'Agland**	**3.31**	**222**	*e*Pn	Pn	17 32 38.5	-1.7
BGF	**Bois d'Agland**	**3.31**	**222**	*e*Pg	Pg	17 32 48.7	+1.9
BGF				*e*Sg	Sg	17 33 30.9	-2.7
	5.8nm,0.3s						

*IDC **26** 17:33:44.8±17.0, 21°.37S×174°.91W, h0km, mb4.6/5, mb1 4.7/5, mb1mx3.9/51, mbtmp4.6/5, Error ellipse: s-maj=315.8km s-min=142.9km az=83.0*
*ISCJB **26** 17:33:58.5±0.5, 21°.5S±0°.2×175°.43W±0°.10, h100km, mb4.9/21, Error ellipse: s-maj=25.6km s-min=8.3km az=155.0*
*NEIC **26** 17:33:59.5±1.5, 21°.42S×175°.43W, h92km±15km, mb5.0/16, Error ellipse: s-maj=22.1km s-min=7.6km az=153.0*
ISC 26 17:34:00.4±0.7, 21°.5S±0°.2×175°.4W±0°.1, h100km, n34, σ0.96/34, mb5.0/21, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.64**	**66**	*e*Pn	**Pn**	**17 35 21.2**	**-0.5**
NIUE				*e*Sn	Sn	17 36 14.7	-11
ARMA	**Armidale**	**30.89**	**246**	*e*P	**P**	**17 40 08.1**	**+0.4**
	16nm,1.2s						
EIDS	**Eidsvold**	**30.97**	**256**	*e*P	**P**	**17 40 07.5**	**-0.8**
	29nm,1.3s						
CAN	**Canberra**	**34.05**	**238**	*e*P	**P**	**17 40 33.7**	**-1.4**
	55nm,1.6s						
CTA	**Charters Tower**	**35.84**	**265**	P	**P**	**17 40 51.6**	**+0.9**
	6.3nm,0.4s,baz=99,slow=11,SNR=8.1						
CTAO	**Charters Tower**	**35.84**	**265**	*e*P	**P**	**17 40 51.5**	**+0.9**
	32nm,1.4s						
TOO	**Toolangi**	**37.35**	**236**	*e*P	**P**	**17 41 04.1**	**+0.8**
	64nm,1.9s						
TAU	**Tasmania Unive**	**37.71**	**227**	*e*P	**P**	**17 41 08.3**	**+2.2**
	73nm,1.6s						
STKA	**Stephens Creek**	**39.60**	**246**	*e*P	**P**	**17 41 21.3**	**-0.9**
	4.6nm,1.3s						
STKA	**Stephens Creek**	**39.60**	**246**	P	**P**	**17 41 21.6**	**-0.6**
	11nm,1.0s,baz=96,slow=6.5,SNR=7.1						
BBOO	**Buckleboo**	**44.33**	**245**	*e*P	**P**	**17 41 59.4**	**-1.3**
	37nm,1.6s						
AS01	**Alice Springs**	**46.65**	**257**	*e*P	**P**	**17 42 18.3**	**-0.8**
AS31	**Alice Springs**	**46.69**	**257**	*e*P	**P**	**17 42 18.4**	**-1.0**
	1.4nm,0.6s						
ASAR	**Alice Springs**	**46.69**	**257**	P	**P**	**17 42 18.4**	**-1.1**
	3.8nm,0.6s,baz=90,slow=7.5,SNR=24						
WB2	**Warramunga Arr**	**46.88**	**262**	*e*P	**P**	**17 42 19.0**	**-1.9**
WRAB	**Tennant Creek**	**46.89**	**262**	*e*P	**P**	**17 42 20.0**	**-1.0**
	23nm,1.5s						
WR1	**Warramunga Arr**	**46.89**	**262**	*e*P	**P**	**17 42 20.0**	**-1.0**
	17nm,1.3s						
WRA	**Warramunga Arr**	**46.90**	**262**	P	**P**	**17 42 20.0**	**-1.0**
	2.4nm,0.3s,baz=96,slow=8.6,SNR=227						
FORT	**Forrest**	**51.17**	**247**	*e*P	**P**	**17 42 52.0**	**-1.5**
	57nm,1.1s						
MTN	**Manton Dam**	**51.62**	**270**	*e*P	**P**	**17 42 57.2**	**+0.2**
	63nm,1.9s						
FITZ	**Fitzroy Crossi**	**55.33**	**262**	*e*P	**P**	**17 43 24.3**	**+0.2**
	33nm,2.0s						
FITZ	**Fitzroy Crossi**	**55.33**	**262**	P	**P**	**17 43 24.5**	**+0.4**
	1.9nm,0.4s,baz=84,slow=5.5,SNR=38						
VNDA	**Vanda**	**57.20**	**186**	*e*P	**P**	**17 43 36.8**	**+0.2**
SOEI	**Soe**	**58.97**	**271**	*e*P	**P**	**17 43 49.7**	**-0.3**
	17nm,0.9s						
TNTI	**Ternate**	**60.06**	**284**	*e*P	**P**	**17 43 58.4**	**+1.1**
	9.3nm,1.0s						
NWAO	**Narrogin (SRO)**	**60.13**	**244**	*e*P	**P**	**17 43 57.2**	**-0.4**
	101nm,1.5s						
MMRI	**Maumere**	**61.23**	**272**	*e*P	**P**	**17 44 06.1**	**+0.8**
	52nm,1.6s						
WKR	**Work Ranch**	**77.06**	**43**	*e*P	**P**	**17 45 42.8**	**+0.1**
CNIC	**Niles Canyon**	**77.29**	**41**	*e*P	**P**	**17 45 43.2**	**-0.7**
PSRC	**Puddingstone R**	**77.78**	**46**	*e*P	**P**	**17 45 47.4**	**+0.7**
BFSC	**Mount Baldy Ra**	**77.97**	**46**	*e*P	**P**	**17 45 47.4**	**-0.5**
DANC	**Danby, Needles**	**79.73**	**47**	*e*P	**P**	**17 45 58.1**	**+0.7**
MNTX	**Cornudas Mount**	**85.33**	**53**	*e*P	**P**	**17 46 26.9**	**+0.4**
	38nm,1.6s						
CLL	**Collm**	**149.48**	**350**	*e*PKPbc	**PKiKP**	**17 53 39.0**	**+0.2**

*WEL **26** 17:36:21.4±0.6, 33°S±5°×17°8W±1°, h33km, ML6.1/51*
*ISCJB **26** 17:36:22.2±0.5, 33°.16S±0°.03×179°.48W±0°.03, h34km±4km, mb5.3/193, MS4.7/25, Error ellipse: s-maj=4.9km s-min=3.5km az=144.0*
*BJI **26** 17:36:23.2, 32°.92S×178°.70W, h57km, mb5.2/24, mB5.5/11, Ms5.1/11, Ms7 4.8/13*
*MOS **26** 17:36:24.6±1.0, 33°.00S×179°.56W, h54km, mb5.6/34, Error ellipse: s-maj=10.3km s-min=8.1km az=71.3*
*NEIC **26** 17:36:24.4±0.6, 33°.28S×179°.52W, h49km±5km, mb5.4/159, Error ellipse: s-ma

RIGZ Rimuhau 6.01 203 P Pn 17 37 50.2 -0.5
RIGZ P 17 37 52.1
MKAZ Moumakai 6.02 228 P Pn 17 37 54.9 +4.1
MKRZ Makatiti 6.04 214 P Pn 17 37 55.5 +4.4
KARZ Kaharoa 6.06 216 P Pn 17 37 54.6 +3.3
OMRZ Omania 6.06 215 P Pn 17 37 53.4 +2.0
KMRZ Kaimai 6.08 219 P Pn 17 37 55.3 +3.7
TARZ Mount Tarawera 6.10 213 P Pn 17 37 54.2 +2.2
NGRZ Ngongotaha 6.15 216 P Pn 17 37 56.4 +3.8
EPAZ Eden Park BICE 6.15 232 P Pn 17 37 58.4 +5.8
PRGZ Paritu Road 6.17 202 P Pn 17 37 51.5 -1.3
RRRZ Republican Roa 6.18 213 P Pn 17 37 55.4 +2.4
MUGZ Murupara 6.18 211 P Pn 17 37 52.4 -0.6
HLRZ Highlands Stat 6.19 214 P Pn 17 37 56.4 +3.3
UTU Utuhina 6.20 216 P Pn 17 37 58.5 +5.2
RTZ Ruatahuna 6.21 209 P Pn 17 37 52.3 -1.2
RTZ Ruatahuna 6.21 209 P Pn 17 37 52.3 -1.2
SNGZ Shannon Statio 6.22 206 P Pn 17 37 53.0 -0.6
TOZ Tahuroa Road 6.24 222 P Pn 17 37 57.7 +4.0
TOZ Tahuroa Road 6.24 222 P Pn 17 37 57.6 +3.9
OUZ Omahuta 6.28 249 eP Pn 17 37 57.4 +3.1
OUZ Omahuta 6.28 249 P Pn 17 37 58.4 +4.1
HSRZ Hossack Road 6.28 215 P Pn 17 37 58.2 +3.8
HSRZ P 17 38 00.0
WTAZ Waiatarua 6.30 232 P Pn 17 37 59.9 +5.3
KNZ Kokohu 6.32 203 P Pn 17 37 53.1 -1.8
HRRZ Handcock Road 6.33 214 P Pn 17 37 57.5 +2.4
PRRZ Plateau Road 6.37 213 P Pn 17 37 57.7 +2.1
MHGZ Mahia Peninsul 6.37 201 P Pn 17 37 55.0 -0.6
GRRZ Galatos Road 6.38 215 P Pn 17 37 59.1 +3.3
RAHZ Arahi 6.43 207 P Pn 17 37 56.5 0.0
ALRZ Allen Road 6.44 213 P Pn 17 37 59.5 +2.5
MTHZ Maungataniwha 6.47 208 P Pn 17 37 56.6 +0.5
WPRZ Whakapapatarin 6.49 214 P Pn 17 38 00.7 +3.4
WHHZ Waihua 6.52 205 P Pn 17 37 57.8 +0.1
KUTZ Kaahu Road 6.63 216 P Pn 17 38 02.3 +3.1
MRHZ Matea Rd 6.63 211 P Pn 17 37 59.0 -0.2
TLZ Tolley Road 6.65 218 P Pn 17 38 02.1 +2.6
NMHZ Naumai 6.70 208 P Pn 17 37 59.9 -0.2
NMHZ P 17 38 01.3
WHTZ Whakaora 6.70 214 P Pn 17 38 02.6 +2.4
ARHZ Aropaoanui 6.77 206 P Pn 17 38 00.4 -0.6
HATZ Hinemaiaia 6.82 212 P Pn 17 38 05.4 +3.6
WATZ Wairara 6.84 215 P Pn 17 38 04.4 +2.3
BKZ Black Stump Fm 6.88 209 eP Pn 17 38 01.8 -0.8
BKZ Black Stump Fm 6.88 209 P Pn 17 38 01.3 -1.3
RATZ Rangitukua 6.95 214 P Pn 17 38 05.2 +1.7
RATZ P 17 38 05.5
RITZ Rihia Road 7.00 213 P Pn 17 38 05.9 +1.7
MCHZ McNeill Hill 7.04 207 P Pn 17 38 04.4 -0.4
KATZ Kakaramea 7.07 214 P Pn 17 38 07.9 +2.5
CKHZ Cape Kidnapper 7.09 204 P Pn 17 38 03.2 -2.3
KWHZ Kaweka Forest 7.13 208 P Pn 17 38 04.9 -1.2
HIZ Hauiti 7.15 221 eP Pn 17 38 08.3 +2.0
HIZ Hauiti 7.15 221 P Pn 17 38 09.5 +3.2
KRVZ Karewarewa 7.19 214 P Pn 17 38 07.6 +0.7
WTVZ West Tongariro 7.23 214 P 17 38 08.9
WTVZ P Pn 17 38 08.5 +1.0
TWVZ Taurewa 7.27 215 P Pn 17 38 09.0 +1.0
NGZ Ngauruhoe 7.28 214 P Pn 17 38 08.9 +0.7
KAHZ Kahuranaki 7.28 204 P Pn 17 38 05.8 -2.3
TUVZ Tukino 7.33 213 P Pn 17 38 09.5 +0.7
BHHZ Black Hill Sta 7.33 210 P Pn 17 38 07.5 -1.4
KRHZ Kereru 7.34 208 P Pn 17 38 07.2 -1.7
FWVZ Far West T-bar 7.36 213 P Pn 17 38 09.5 +0.1
WHVZ Whangaehu Hut 7.37 213 P Pn 17 38 10.0 +0.6
DRZ Dome Shelter 7.37 213 P Pn 17 38 11.2 +1.6
DRZ P Pn 17 38 11.2 +1.6
MOVZ Moawhango 7.39 212 P Pn 17 38 08.8 -0.9
MOVZ P 17 38 13.2
TRVZ Turoa 7.40 213 P Pn 17 38 10.3 +0.4
PKVZ Pokaka 7.49 214 P Pn 17 38 12.0 +1.1
PKVZ P Pn 17 38 12.0 +1.1
PXZ Pawanui 7.50 204 P Pn 17 38 08.9 -2.1
MTVZ Mangateitei 7.50 213 P Pn 17 38 11.3 +0.1
PNHZ Pukenui 7.64 208 P Pn 17 38 11.3 -1.7
VRZ Vera Road 7.65 218 P Pn 17 38 14.9 +1.8
WPHZ Waipukurau 7.68 206 P Pn 17 38 12.2 -1.3
WPHZ Waipukurau 7.68 206 P Sn 17 39 41.5 +2.4
PRHZ Porangahau 7.79 204 P Pn 17 38 12.2 -2.9
PRHZ Porangahau 7.79 204 P Sn 17 39 38.9 -3.0
MHEZ Mangahewa 7.84 220 P Pn 17 38 19.9 +4.1
TSZ Takapari Road 7.86 208 P Pn 17 38 12.7 -3.3
DVHZ Dannevirke 7.98 206 P Pn 17 38 15.4 -2.3
DVHZ Dannevirke 7.98 206 P Sn 17 39 02.1 -3.4
ANWZ Angora Road 8.02 204 P Pn 17 38 16.3 -1.9
ANWZ Angora Road 8.02 204 P Sn 17 39 46.7 -0.7
WAZ Wanganui 8.03 214 P Pn 17 38 18.3 0.0
PKE Pukeiti 8.11 221 P Pn 17 38 23.2 +3.8
PREZ Palmer Road 8.12 219 P Pn 17 38 23.5 +3.9
KHEZ Kahui Hut 8.17 220 P Pn 17 38 23.6 +3.4
POWZ Post Office Ro 8.22 208 P Pn 17 38 19.0 -1.9
POWZ Post Office Ro 8.22 208 P Sn 17 39 49.7 -2.6
NBEZ Newall Road No 8.23 221 P Pn 17 38 26.2 +5.2
OHWZ Ohakea 8.24 211 P Pn 17 38 24.2 +3.0
PRWZ Pori Road 8.28 206 P Pn 17 38 19.6 -2.1
PRWZ Pori Road 8.28 206 P Sn 17 39 50.6 -3.3
BFZ Birch Farm 8.29 205 ePn Pn 17 38 19.8 -2.2
BFZ eSn Sn 17 39 48.0 -6.3
BFZ Birch Farm 8.29 205 P Pn 17 38 17.9 -4.0
TIWZ Tintock 8.51 206 P Pn 17 38 22.2 -2.7
TIWZ Tintock 8.51 206 P Sn 17 39 55.7 -3.8
CPWZ Castlepoint 8.51 204 P Pn 17 38 23.9 -1.0
CPWZ Castlepoint 8.51 204 P Sn 17 39 56.9 -2.6
MRZ Mangatainoka R 8.52 208 P Pn 17 38 21.4 -3.7
MRZ Mangatainoka R 8.52 208 P Sn 17 39 55.4 -4.4
HOWZ Holdsworth Sta 8.75 207 P Pn 17 38 24.5 -3.7
HOWZ Holdsworth Sta 8.75 207 P Sn 17 40 00.1 -5.3
TMWZ Te Maipa 8.79 205 P Pn 17 38 25.1 -3.7
TMWZ Te Maipa 8.79 205 P Sn 17 40 00.6 -5.9
OGWZ Otaki Gorge 8.82 209 P Pn 17 38 26.1 -3.0
KIW Kapiti Island 8.96 210 P Pn 17 38 27.2 -3.9
KIW Kapiti Island 8.96 210 P Sn 17 40 06.4 -4.2
MTW Mount Morrison 8.98 206 P Pn 17 38 26.6 -4.7
MTW Mount Morrison 8.98 206 P Sn 17 40 04.4 -6.7
TRWZ Traveller 9.12 205 P Pn 17 38 29.8 -3.5
PAWZ Paruwai Farm 9.20 206 P Pn 17 38 30.9 -3.5
MSWZ Moikau Station 9.30 207 P Pn 17 38 32.7 -3.0
DUWZ D'Urville Isla 9.35 214 P Pn 17 38 33.2 -3.2
SNO South Karori 9.42 209 ePn Pn 17 38 32.7 -4.7
SNZO eSn Sn 17 40 12.9 -8.9
PLWZ Palliser 9.43 206 P Pn 17 38 33.0 -4.6
BHW Baring Head 9.44 208 P Pn 17 38 33.7 -3.8
TCW Tory Channel 9.52 211 P Pn 17 38 34.1 -4.6
TUWZ Tuamarina 9.84 212 P Pn 17 38 39.0 -4.2
NNZ Nelson 9.93 214 P Pn 17 38 41.6 -2.7
CMWZ Cape Campbell 9.99 210 P Pn 17 38 44.2 -0.9
QRZ Quartz Range 10.06 219 P Pn 17 38 42.9 -3.2
BSWZ Blackbirch Sta 10.10 211 P Pn 17 38 43.2 -3.6
THZ Tophouse 10.58 214 ePn Pn 17 38 48.2 -5.1
THZ eSn Sn 17 40 43.0 -7.4
THZ Tophouse 10.58 214 P Pn 17 38 49.1 -4.1
CTZ Chatham Island 10.71 170 P Pn 17 38 54.2 -0.7
KHZ Kahutara 10.82 210 ePn Pn 17 38 52.3 -4.2
KHZ eSn Sn 17 40 47.1 -9.1
KHZ Kahutara 10.82 210 P Pn 17 38 51.4 -5.1
DSZ Denniston Nort 11.10 217 P Pn 17 38 56.3 -4.1
LTZ Lake Taylor 11.67 213 ePn Pn 17 39 02.8 -5.3
LTZ Lake Taylor 11.67 213 P Pn 17 39 03.2 -4.9
NFK Norfolk Island 11.76 287 P Pn 17 39 10.4 +1.0
baz=12,SNR=4.7
AMCZ Amberley 11.82 210 P Pn 17 39 05.3 -4.8
INZ Inchbonnie 12.01 215 P Pn 17 39 07.8 -5.0
OKCZ Okains Bay 12.11 208 P Pn 17 39 08.1 -6.0
CRLZ Canterbury Las 12.16 209 ePn Pn 17 39 12.7 -2.0
CRLZ eSn Sn 17 41 20.6 -8.2
OXZ Oxford 12.21 212 ePn Pn 17 39 09.2 -6.2
OXZ Oxford 12.21 212 P Pn 17 39 09.3 -6.1
MQZ McQueen's Vall 12.26 209 ePn Pn 17 39 10.0 -6.1
MQZ eSn Sn 17 41 16.8 -14
MQZ McQueen's Vall 12.26 209 P Pn 17 39 09.4 -6.7
AKCZ Akaroa Harbour 12.29 208 P Pn 17 39 11.2 -5.5
WVZ Waitaha Valley 12.62 216 P Pn 17 39 19.3 -1.7
WVZ P Pn 17 39 19.3 -1.7
RPZ Rata Peaks 12.95 213 ePn Pn 17 39 19.1 -6.5
RPZ eSn Sn 17 41 36.7 -12
RPZ Rata Peaks 12.95 213 P Pn 17 39 19.6 -6.0
4.7nm,0.3s,baz=291,slow=1.0,SNR=23
RPZ S Sn 17 41 36.7 -12
6.8nm,0.3s,baz=142,slow=23,SNR=11
RPZ Rata Peaks 12.95 213 P Pn 17 39 19.6 -6.1
FOZ Fox Glacier 13.41 217 ePn Pn 17 39 25.8 -6.1
FOZ Fox Glacier 13.41 217 P Pn 17 39 27.2 -4.6
LBZ Lake Benmore 13.87 213 ePn Pn 17 39 31.6 -6.6
LBZ Lake Benmore 13.87 213 P Pn 17 39 32.6 -5.5
ODZ Otahua Downs 14.18 211 ePn Pn 17 39 35.7 -6.6
ODZ Otahua Downs 14.18 211 P Pn 17 39 35.9 -6.4
WKZ Wanaka 14.75 215 ePn Pn 17 39 43.6 -6.3
MLZ Mavora Lakes 15.58 215 ePn Pn 17 39 55.5 -5.2
35nm,0.8s
MLZ Mavora Lakes 15.58 215 P Pn 17 39 59.6 -1.1
PINNC Pines Island, 15.80 309 ePn Pn 17 39 59.2 -4.4
130nm,1.1s
SYZ Scrubby Hill 16.01 210 P Pn 17 40 02.7 -3.4
WHZ Wether Hill Ro 16.05 214 ePn Pn 17 40 01.4 -5.2
27nm,0.8s
MARNC Mare, Loyalty 16.25 313 ePn Pn 17 40 03.7 -5.6
210nm,1.1s
NIUE Niue 16.35 33 P P 17 40 12.7 -0.1
baz=16,SNR=4.1
NIUE Niue 16.35 33 ePn Pn 17 40 07.3 -3.3
248nm,1.0s
NIUE eSn Sn 17 42 53.4 -18
DZM Mont Dzumac 16.84 308 ePn P 17 40 21.9 +3.5
373nm,1.4s
DZM eLR LR 17 44 18.5
comp=Z,14µm,25.8s
DZM Mont Dzumac 16.84 308 ePn Pn 17 40 15.8 -1.1
138nm,1.1s
DZM Mont Dzumac 16.84 308 LR LR 17 45 31.0
comp=Z,6µm,20.3s,baz=170,slow=33
PYZ Puysegur Point 16.85 216 ePn Pn 17 40 13.7 -3.0
71nm,1.1s
LHI Lord Howe Isla 18.42 269 P Pn 17 40 36.7 +0.6
baz=18,SNR=3.6
LHI Lord Howe Isla 18.42 269 eP P 17 40 35.4 -0.3
106nm,1.0s
RAR Rarotonga 20.98 60 eP Pn 17 41 07.3 +0.5
64nm,0.9s
RAR S S 17 44 41.6 -13
RAR Rarotonga 20.98 60 eP Pn 17 41 07.3 +0.6
RAR pmax pmax
comp=Z,64nm,0.9s
RAR Rarotonga 20.98 60 S S 17 44 41.6 -13
comp=Z,19nm,0.9s,baz=181,slow=14,SNR=3.0
RAR LR LR 17 48 11.3
comp=Z,744nm,19.4s,baz=248,slow=33
MGCD Mangrove Creek 24.79 262 P P 17 41 43.1 +1.4
baz=25,SNR=12
ARMA Armidale 24.89 268 P P 17 41 45.4 +2.5
baz=25,SNR=5.1
ARMA Armidale 24.89 268 eP P 17 41 48.4 +5.5
comp=Z,83nm,1.6s
MCQ Macquarie Isla 26.27 209 eP P 17 42 01.7 +6.8
comp=Z,1µm,2.0s
MCQ Macquarie Isla 26.27 209 eP P 17 42 01.7 +6.8
MCQ pmax pmax
comp=Z,1µm,2.0s
CAN Canberra 26.29 256 eP P 17 41 58.6 +3.1
comp=Z,61nm,1.5s
CAN Canberra 26.29 256 eP P 17 41 58.6 +3.1
CAN pmax pmax
comp=Z,61nm,1.5s
YNG Young 26.89 259 P P 17 42 02.3 +1.5
baz=27,SNR=5.8
EIDS Eidsvold 26.99 279 P P 17 42 03.4 +1.7
baz=27,SNR=6.5
EIDS Eidsvold 26.99 279 eP P 17 42 03.9 +2.2
comp=Z,112nm,1.5s
TBI Tubuai 27.91 77 eS S 17 46 48.9 -1.5
comp=Z,783nm,31.0s
TBI eLQ LQ 17 47 44.0
comp=Z,2µm,27.8s
TBI eLR LR 17 49 08.1
comp=Z,4µm,30.0s,baz=241
TBI Tubuai 27.91 77 eT T 18 10 56.0
comp=Z,129nm,0.3s
TAU Tasmania Unive 27.91 240 eP P 17 42 11.4 +1.6
comp=Z,82nm,1.4s
TAU Tasmania Unive 27.91 240 eP P 17 42 11.4 +1.6
TAU pmax pmax
comp=Z,82nm,1.4s
MOO Moorlands 27.93 241 P P 17 42 10.7 +0.6
baz=28,SNR=9.5
RMQ Roma 28.49 275 P P 17 42 16.9 +1.7
baz=28,SNR=11
TOO Toolangi 28.99 251 P P 17 42 20.7 +1.2
baz=29,SNR=6.1
TOO Toolangi 28.99 251 eP P 17 42 20.8 +1.2
comp=Z,90nm,2.0s
TOO Toolangi 28.99 251 eP P 17 42 20.8 +1.2
TOO pmax pmax
comp=Z,90nm,2.0s
CMSA Cobar Meteorol 29.60 264 P P 17 42 26.3 +1.3
baz=30,SNR=15
HNR Honiara 30.47 316 eP P 17 42 31.0 -1.8
HNR Honiara 30.47 316 eP P 17 42 32.2 -0.5
comp=Z,165nm,0.8s
HNR Honiara 30.47 316 eP P 17 42 32.3 -0.5
HNR pmax pmax
comp=Z,165nm,0.8s
HNR Honiara 30.47 316 P P 17 42 32.3 -0.5
comp=Z,126nm,0.8s,baz=352,slow=2.0,SNR=8.0
PAE Paea 30.78 67 eT T 18 14 35.9
comp=Z,50nm,0.2s
PPT2 Papeete2 30.83 67 eS S 17 47 36.5 -0.1
comp=Z,736nm,27.5s
PPT2 eLR LR 17 50 39.6
comp=Z,4µm,26.2s,baz=230
PPT2 Papeete2 30.83 67 eT T 18 14 41.0
comp=Z,48nm,0.3s
PPT Papeete 30.84 67 eP P 17 42 37.8 +1.7
PPT e 17 55 04.2
PPT Papeete 30.84 67 eP P 17 42 37.8 +1.7
PPT Papeete 30.84 67 LR LR 17 55 04.2
comp=Z,613nm,18.2s,baz=246,slow=36
TVO Taravao 30.97 68 eT T 18 14 50.0
comp=Z,5.1nm,0.3s
TIAR Tiarei 31.03 67 eP P 17 42 40.3 +2.6
comp=Z,16nm,0.8s
TIAR epP sP 17 42 54.7 +0.4
comp=Z,31nm,0.8s
TIAR Tiarei 31.03 67 eT T 18 14 44.6
comp=Z,6.5nm,0.3s
KNTN Kanton 31.08 15 eP P 17 42 40.5 +2.3
comp=Z,256nm,1.5s
ARPS Mount Arapiles 31.95 252 P P 17 42 46.7 +1.0
baz=32,SNR=17
STKA Stephens Creek 32.93 261 eP P 17 42 55.6 +1.3
comp=Z,4.3nm,1.1s
STKA Stephens Creek 32.93 261 eP P 17 42 56.8 +2.5
STKA pmax pmax
comp=Z,7.0nm,0.8s
STKA Stephens Creek 32.93 261 P P 17 42 56.2 +2.0
comp=Z,6.9nm,0.8s,baz=112,slow=13,SNR=11
CTA Charters Tower 33.35 284 P P 17 43 00.3 +2.2
comp=Z,35nm,0.5s,baz=116,slow=10,SNR=83
CTAO Charters Tower 33.35 284 eP P 17 42 59.6 +1.5
comp=Z,42nm,0.6s
CTAO Charters Tower 33.35 284 eP P 17 42 59.6 +1.5
CTAO pmax pmax
comp=Z,42nm,0.6s
PMOR Pomariorio Ree 33.67 65 eT T 18 18 13.3
comp=Z,19nm,0.3s
VAH Vaihoa 33.73 66 eT T 18 18 17.6
comp=Z,120nm,0.3s
HTT Hatt 34.80 258 P P 17 43 11.3 +0.7
baz=35,SNR=10
MTSU Mount Surprise 35.92 286 P P 17 43 22.6 +2.3
baz=36,SNR=17
BBOO Buckleboo 37.28 258 P P 17 43 32.1 +0.4
baz=37,SNR=18
BBOO Buckleboo 37.28 258 eP P 17 43 31.1 -0.7
comp=Z,24nm,1.1s
QIS Mount Isa 38.59 278 P P 17 43 44.5 +1.6
baz=38,SNR=11
PMG Port Moresby 38.98 300 eP P 17 43 47.1 +0.9
comp=Z,72nm,0.9s
PMG Port Moresby 38.98 300 ePc P 17 43 47.7 +1.6
PMG pmax pmax
comp=Z,326nm,1.0s
PMG Port Moresby 38.98 300 P P 17 43 47.8 +1.7
comp=Z,53nm,0.8s,baz=79,slow=5.6,SNR=24
PMG LR LR 17 56 02.6
comp=Z,3µm,21.8s,baz=104,slow=30
COEN Coen 39.15 290 P P 17 43 50.0 +2.4
baz=39,SNR=18
COEN Coen 39.15 290 eP P 17 43 48.6 +1.0
comp=Z,98nm,1.6s
RABL Rabaul 39.32 311 eP P 17 43 48.3 -0.8
comp=Z,370nm,1.4s
RKT Rikitea 40.03 87 eLR LR 17 54 43.7
comp=Z,5µm,29.0s
RKT Rikitea 40.03 87 eT T 18 26 00.4
comp=Z,15nm,0.2s
XMAS Kiritimati 40.65 35 eP P 17 44 00.5 +0.5
comp=Z,63nm,0.9s
AS01 Alice Springs 41.97 271 eP P 17 44 11.2 +0.4
AS31 Alice Springs 42.01 271 eP P 17 44 11.8 +0.6
comp=Z,24nm,0.5s
AS31 eS S 17 50 24.2 -2.7
AS31 eSS PKiKP 17 53 10.1 -1.6
ASAR Alice Springs 42.01 271 P P 17 44 10.7 -0.5
comp=Z,45nm,0.5s,baz=109,slow=7.6,SNR=269
ASAR S S 17 50 24.2 -2.7
comp=Z,1.5nm,0.9s,baz=115,slow=15,SNR=4.9
ASAR PKiKP PKiKP 17 53 10.1 -1.6
comp=Z,0.3nm,0.5s,baz=117,slow=1.3,SNR=5.0
WRAB Tennant Creek 43.25 276 eP P 17 44 21.0 -0.3
comp=Z,66nm,0.6s
WRAB Tennant Creek 43.25 276 ceP P 17 44 21.7 +0.4
WRAB pmax pmax
comp=Z,46nm,0.6s
WR1 Warramunga Arr 43.25 276 eP P 17 44 20.2 -1.1
comp=Z,86nm,0.6s
WR1 e 17 53 11.2
WRA Warramunga Arr 43.25 276 eP P 17 44 18.9 -2.4
WRA pmax pmax
comp=Z,52nm,0.5s
WRA Warramunga Arr 43.25 276 P P 17 44 20.2 -1.1
comp=Z,52nm,0.5s,baz=114,slow=7.6,SNR=291
WRA PKiKP PKiKP 17 53 11.2 -1.7
comp=Z,0.9nm,0.7s,baz=98,slow=0.2,SNR=6.3
MANU Manus Island 44.05 308 eP P 17 44 27.7 0.0
comp=Z,151nm,1.4s
FORT Forrest 44.39 258 P P 17 44 30.7 +0.4
baz=44,SNR=22
FORT Forrest 44.39 258 eP P 17 44 29.6 -0.7
comp=Z,83nm,0.8s
SBA Scott Base 45.17 184 eP P 17 44 39.0 +3.1
SBA ePcP PcP 17 46 17.0 +1.6
VNDA Vanda 45.20 186 eP P 17 44 38.7 +2.5
VNDA ePcP PcP 17 46 16.8 +1.2
VNDA eScP ScP 17 50 04.8 +0.6
VNDA Vanda 45.20 186 eP P 17 44 38.7 +2.5
VNDA e 17 46 16.8
VNDA Vanda 45.20 186 P P 17 44 38.9 +2.7
comp=Z,4.9nm,0.8s,baz=18,slow=5.8,SNR=19
VNDA PcP PcP 17 46 17.2 +1.7
comp=Z,9.4nm,0.9s,baz=334,slow=3.7,SNR=5.9
VNDA ScP ScP 17 50 04.8 +0.6
comp=Z,1.1nm,0.7s,baz=304,slow=1.8,SNR=3.8
WRKA Warakurna 46.16 266 P P 17 44 44.3 -0.2
baz=46,SNR=53
JAY Jayapura 48.34 301 P P 17 45 01.8 +0.3
comp=Z,638nm,1.3s,comp=Z,9µm
JAY Jayapura 48.34 301 P P 17 45 01.8 +0.3
comp=Z,58nm,0.9s,baz=184,slow=10,SNR=17
JAY LR LR 18 03 32.4
comp=Z,799nm,21.3s,baz=112,slow=34
KDU Kakadu 48.46 283 P P 17 45 02.1 -0.3
baz=48,SNR=17
GENI Genyem 48.68 300 P P 17 45 03.2 -0.8
comp=Z,111nm,0.8s,comp=Z,2µm
KMBL Kambalda 49.24 255 P P 17 45 07.4 -0.9
baz=49,SNR=5.5
MTN Manton Dam 49.47 282 P P 17 45 10.6 +0.5
baz=50,SNR=37
MTN Manton Dam 49.47 282 eP P 17 45 10.0 -0.1
comp=Z,230nm,2.0s
KNRA Kununurra 49.95 277 P P 17 45 14.3 +0.5
baz=50,SNR=13
FITZ Fitzroy Crossi 51.38 273 P P 17 45 24.7 +0.1
baz=51,SNR=16
FITZ Fitzroy Crossi 51.38 273 eP P 17 45 24.6 +0.1
comp=Z,113nm,1.5s
FITZ Fitzroy Crossi 51.38 273 P P 17 45 24.7 +0.1
comp=Z,12nm,0.6s,baz=144,slow=7.3,SNR=31
SRPI Serui, Papua 52.05 297 P P 17 45 30.0 +0.4
CASY Casey 52.18 209 eP P 17 45 29.3 -0.5
comp=Z,70nm,1.1s
NWAO Narrogin (SRO) 52.48 252 P P 17 45 31.2 -1.3
comp=Z,16nm,0.8s,baz=106,slow=9.0,SNR=7.1
NWAO LR LR 18 06 44.0
comp=Z,698nm,18.8s,baz=110,slow=35
KLBR Kellerberrin 52.50 253 P P 17 45 31.7 -1.1
baz=52,SNR=22
MEEK Meekatharra 53.59 260 P P 17 45 39.6 -1.3
baz=54,SNR=12
MUN Mundaring 53.61 252 P P 17 45 40.6 -0.3
baz=54,SNR=4.9
FAKI Fak Fak 54.40 293 eP P 17 45 46.0 -0.9
comp=Z,191nm,1.8s
MORW Morawa 54.78 256 P P 17 45 48.6 -0.9
baz=55,SNR=9.4
MORW Morawa 54.78 256 eP P 17 45 48.1 -1.4
comp=Z,58nm,1.0s
SOEI Soe 56.78 281 eP P 17 46 05.0 +0.9
comp=Z,114nm,0.8s
SOEI Soe 56.78 281 P P 17 46 04.5 +0.4
QSPA South Pole Qui 56.91 180 P P 17 46 07.1 +2.8
comp=Z,65nm,0.8s,baz=31,slow=2.0,SNR=138
KHLU Kahalu`u 57.04 26 eP P 17 46 06.4 +0.8
comp=Z,116nm,1.0s
BATI Baumata 57.04 280 P P 17 46 06.5 +0.7
PUH Pauahi 57.09 27 eP P 17 46 06.1 0.0
comp=Z,96nm,0.9s
MLH Mauna Loa 57.14 27 eP P 17 46 06.7 +0.1
comp=Z,69nm,0.8s
MLH Mauna Loa 57.14 27 eP P 17 46 06.7 +0.1
MLH pmax pmax
comp=Z,69nm,0.8s
HMH Humu'ula Sheep 57.20 27 eP P 17 46 07.9 +0.9
comp=Z,150nm,0.8s
POHA Pohakuloa 57.32 27 eP P 17 46 08.4 +0.5
comp=Z,97nm,1.1s
HPAH Hawaii Prepara 57.51 26 eP P 17 46 09.9 +1.0
comp=Z,116nm,0.8s
GUMO Guam 57.79 318 LR LR 18 07 31.2
comp=Z,294nm,21.3s,baz=138,slow=32
HON Honolulu 57.89 23 eP P 17 46 12.2 +0.8
comp=Z,159nm,1.1s
HON Honolulu 57.89 23 eP P 17 46 12.3 +0.8
HON pmax pmax
comp=Z,159nm,1.1s
GIRL Giralia 58.87 262 P P 17 46 18.8 +0.2
baz=59,SNR=6.2
MMRI Maumere 59.07 280 eP P 17 46 19.5 -0.5
comp=Z,210nm,1.1s
MMRI Maumere 59.07 280 P P 17 46 20.1 +0.1
comp=Z,178nm,1.5s,comp=Z,3µm
EDFI Emde, Flores 59.46 280 P P 17 46 22.0 -0.8
comp=Z,42nm,2.1s
SANI Sanana 59.84 289 P P 17 46 24.7 -0.6
comp=Z,77nm,2.1s,comp=Z,2µm
WSI Waingapu 60.11 278 P P 17 46 27.4 +0.2
comp=Z,267nm,0.9s,comp=Z,4µm
TNTI Ternate 60.50 293 eP P 17 46 27.6 -2.2
comp=Z,125nm,1.9s
BKSI Bulukumba 62.66 282 P P 17 46 44.2 -0.1
comp=Z,29nm,1.7s
LUWI Luwuk 63.00 288 eP P 17 46 45.8 -0.8
comp=Z,70nm,1.1s
LUWI Luwuk 63.00 288 P P 17 46 46.6 0.0
comp=Z,55nm,0.9s,comp=Z,989nm
KAPI Kappang 63.13 282 eP P 17 46 47.1 -0.4
comp=Z,26nm,0.9s
KAPI Kappang 63.13 282 eP P 17 46 47.1 -0.4
KAPI pmax pmax
comp=Z,26nm,0.9s
BNSI Bone 63.19 283 P P 17 46 47.7 -0.2
comp=Z,59nm,1.7s,comp=Z,1µm
SPSI Sidrap Palu 63.72 283 P P 17 46 50.0 -1.4
comp=Z,30nm,1.4s,comp=Z,393nm
SRBI Singaraja 65.19 277 P P 17 47 00.4 -0.6
comp=Z,62nm,1.5s
JAGI Jajag, Banyuwa 65.87 276 eP P 17 47 02.8 -2.6
comp=Z,116nm,1.2s
JAGI Jajag, Banyuwa 65.87 276 P P 17 47 04.2 -1.2
comp=Z,84nm,1.2s
MPSI Mapaga 66.12 287 P P 17 47 06.0 -1.0
comp=Z,20nm,1.2s,comp=Z,404nm
KCP Kidapawan 66.23 296 eP P 17 47 06.7 -1.1

GMJI	Gumukmas	66.56	276	P		P		17 47 09.4	-0.5	
	comp=Z,122nm,1.3s,comp=Z,2µm									
KMMI	Kalianget	66.79	277	P		P		17 47 11.7	+0.4	
	comp=Z,50nm,1.1s,comp=Z,431nm									
CTBH	Cotabato--PC H	67.00	296	⇓	iP	P		17 47 12.3	-0.3	
PWJI	Pagerwojo	68.07	275	P		P		17 47 18.9	-0.5	
	comp=Z,57nm,1.5s									
PCJI	Pacitan	68.50	274	P		P		17 47 22.3	+0.2	
	comp=Z,186nm,1.3s									
UGM	Wanagama	69.20	274		eP	P		17 47 26.5	0.0	
	comp=Z,214nm,1.5s									
MAW	Mawson	69.32	201	P		P		17 47 26.2	-0.1	
	baz=69,SNR=6.4									
MAW	Mawson	69.32	201		eP	P		17 47 26.3	0.0	
	comp=Z,12nm,1.4s									
MAW	Mawson	69.32	201	P		P		17 47 26.9	+0.6	
	comp=Z,11nm,0.5s,baz=133,slow=5.6,SNR=14									
MAW				LR		LR		18 16 32.3		
	comp=Z,772nm,20.4s,baz=112,slow=35									
TSM	Tawau	70.11	289	P		P		17 47 32.4	+0.4	
SDKM	Sandakan	71.46	290	P		P		17 47 39.5	-0.8	
CISI	Cisompet, Garu	71.65	273		eP	P		17 47 39.3	-2.2	
	comp=Z,157nm,1.2s									
XMIS	Christmas Isla	71.93	269		eP	P		17 47 42.1	-1.0	
	comp=Z,272nm,1.6s									
KKM	Kota Kinabalu	72.47	290		eP	P		17 47 44.9	-1.5	
	comp=Z,29nm,0.8s									
KKM	Kota Kinabalu	72.47	290	P		P		17 47 46.6	+0.2	
SBUM	Sibu	73.56	284		eP	P		17 47 51.3	-1.4	
	comp=Z,22nm,1.3s									
SBUM	Sibu	73.56	284	P		P		17 47 52.6	-0.1	
SYO	Syowa Base	74.15	194	⇓	iP	P		17 47 54.0	-1.3	
SYO	Syowa Base	74.15	194	⇓	ePcP	PcP		17 48 08.2	-1.9	
SYO	Syowa Base	74.15	194	⇓	ipP	pP		17 48 14.6	+6.4	
GO09	Cerro Castillo	74.27	141		eP	P		17 47 57.2	+0.9	
	comp=Z,61nm,0.9s									
KSM	Kuching	74.56	282		eP	P		17 47 56.9	-1.7	
	comp=Z,30nm,1.2s									
KSM	Kuching	74.56	282	P		P		17 47 58.6	0.0	
SNAA	Sanae	75.38	179	P		P		17 48 03.5	+0.9	
SNAA	Sanae	75.38	179		eP	P		17 48 02.9	+0.4	
	comp=Z,36nm,1.0s									
SNAA	Sanae	75.38	179	⇑	iP	P		17 48 03.4	+0.9	
VNA3	Neumayer Olymp	75.58	177	P		P		17 48 04.7	+1.1	
VNA2	Neumayer--Watz	76.00	177	P		P		17 48 07.3	+1.3	
	baz=173,slow=5.8									
VNA1	Neumayer--Stat	76.23	177	P		P		17 48 08.6	+1.3	
INU	Inuyama	79.57	325		eP	P		17 48 24.8	-1.4	
	comp=Z,20nm,1.1s									
MJA0	Matsu Arr-Jizo	79.96	326		eP	P		17 48 26.7	-1.6	
MJA0					pmax	pmax				
	comp=Z,8.0nm,1.0s									
MJAR	Matsushiro Arr	79.97	326	P		P		17 48 26.4	-2.0	
	comp=Z,7.8nm,1.0s,baz=169,slow=5.5,SNR=12									
MJAR				LR		LR		18 20 05.5		
	comp=Z,207nm,21.0s,baz=160,slow=33									
MAJO	Matsushiro	79.98	326		eP	P		17 48 26.8	-1.6	
	comp=Z,14nm,1.0s									
MAJO					e			18 20 05.5		
MAJO	Matsushiro	79.98	326		eP	P		17 48 26.8	-1.6	
MAJO					pmax	pmax				
	comp=Z,14nm,1.0s									
MAT	Matsushiro	79.98	326	P		P		17 48 26.3	-2.1	
MAT				S		S		17 58 31.4	+2.8	
MJB9	Matsu-Tunnel	79.98	326		eP	P		17 48 26.8	-1.6	
	comp=Z,14nm,1.0s									
MYKOM	Kota Tinggi	80.06	279		eP	P		17 48 27.9	-1.5	
	comp=Z,23nm,1.2s									
MYKOM	Kota Tinggi	80.06	279	P		P		17 48 29.3	0.0	
SSLB	Suanglung	80.36	307		eP	P		17 48 28.4	-2.3	
	comp=Z,134nm,2.0s									
KGM	Kluang	80.62	279	P		P		17 48 31.8	-0.6	
EFI	East Falkland	81.00	147		eP	P		17 48 33.5	-0.3	
	comp=Z,343nm,1.8s									
EFI	East Falkland	81.00	147	⇑	eP	P		17 48 35.1	+1.3	
EFI					pmax	pmax				
	comp=Z,168nm,1.5s									
PLCA	Paso Flores	81.35	133		eP	P		17 48 38.4	+2.3	
	comp=Z,95nm,1.3s									
PLCA	Paso Flores	81.35	133	P		P		17 48 38.5	+2.5	
	comp=Z,21nm,0.7s,baz=255,slow=5.5,SNR=60									
GO06	Curarrehue	81.47	132		eP	P		17 48 39.1	+2.4	
	comp=Z,45nm,1.1s									
KTGM	Kuala Trenggan	82.62	281	P		P		17 48 42.5	-0.5	
YUK	Yuzh-Kuril'sk	83.21	335		eP	P		17 48 42.4	-2.8	
YUK					e*PP	pP		17 48 57.9	-0.6	
YUK					e			17 52 00.5		
YUK					ePPP	PPP		17 53 52.5		
YUK					eS	S		17 58 58.2	-3.4	
YUK					pmax	pmax				
	comp=Z,75nm,1.3s									
IPM	Ipoh	83.89	279		eP	P		17 48 46.5	-3.0	
	comp=Z,24nm,1.1s									
KULM	Kulim	84.65	280		eP	P		17 48 51.3	-2.0	
	comp=Z,35nm,1.2s									
PSI	Prapat	84.71	277		eP	P		17 48 50.7	-3.1	
	comp=Z,43nm,1.3s									
PSI	Prapat	84.71	277		eP	P		17 48 50.7	-3.1	
PSI					pmax	pmax				
	comp=Z,43nm,1.3s									
KIWB	Kanaga Island	84.72	1		eP	P		17 48 52.5	-0.2	
GSI	Gunungsitoli	85.01	275		eP	P		17 48 53.9	-1.4	
	comp=Z,107nm,1.1s									
QIZ	Qiongzhong	85.27	296	P		P		17 48 56.5	+0.2	
QIZ				S		S		17 59 23.5	+0.1	
TJN	Taejon	85.33	319	⇑	eP	P		17 48 55.5	-0.7	
ROC1	El Roble	85.69	127		eP	P		17 49 00.2	+1.5	
	comp=Z,42nm,0.9s									
PEL	Peldehue	85.81	127		eP	P		17 49 00.8	+1.8	
	comp=Z,96nm,1.0s									
PEL	Peldehue	85.81	127		eP	P		17 49 00.8	+1.8	
PEL					pmax	pmax				
	comp=Z,97nm,1.0s									
KSRS	Korea Array	85.83	321		eP	P		17 48 58.5	-0.1	
KSRS					pmax	pmax				
	comp=Z,3.0nm,0.7s									
KSRS	Korea Array	85.83	321	P		P		17 48 58.1	-0.5	
	comp=Z,2.7nm,0.7s,baz=138,slow=5.8,SNR=10									
KSRS				LR		LR		18 22 32.6		
	comp=Z,135nm,21.7s,baz=125,slow=32									
KS15	Wonju Array Si	85.84	320		eP	P		17 48 58.2	-0.4	
	comp=Z,61nm,1.9s									
KSAR	Wonju Array Be	85.84	320	P		P		17 48 58.1	-0.6	
KSAR	Wonju Array Be	85.84	320	P		P		17 48 58.1	-0.6	
KS01	Wonju Array Si	85.86	321		eP	P		17 48 58.0	-0.8	
YSS	Yuzh-Sakhalins	86.83	335		eP	P		17 49 03.1	-0.2	
	comp=Z,20nm,0.9s									
YSS	Yuzh-Sakhalins	86.83	335		eP	P		17 49 03.4	+0.1	
YSS					pmax	pmax				
	comp=Z,20nm,0.9s									
SCZ2	Santa Cruz Isl	87.18	46	P		P		17 49 07.1	+1.7	
	baz=226									
NJ2	Nanjing	87.30	311		eP	P		17 49 05.8	-0.1	
NJ2					pmax	pmax				
	comp=Z,13nm,0.5s									
CIS	Catalina Islan	87.51	47	P		P		17 49 08.6	+1.6	
	baz=227									
GO04	Tololo Observa	87.53	125		eP	P		17 49 08.1	+0.4	
	comp=Z,57nm,1.4s									
SRIG	Santa Rosalia	87.55	55		eP	P		17 49 08.2	+0.9	
	comp=Z,11nm,0.9s									
BLG	Laguna Peak, P	87.60	46	P		P		17 49 09.1	+1.7	
	baz=227									
PT2	Point Dume	87.69	46		eP	P		17 49 11.7	+3.9	
PKM	Mcpherson Peak	87.69	45	P		P		17 49 10.0	+2.0	
	baz=226									
BCH	Branch Mountai	87.73	45		eP	P		17 49 10.2	+2.0	
FMP	Fort Macarthur	87.80	47	P		P		17 49 10.4	+2.1	
	baz=227									
SMMC	Simmler	87.87	45	P		P		17 49 11.1	+2.3	
	baz=226									
PEV	Pleasant Valle	87.98	42		eP	P		17 49 12.1	+3.0	
109C	Camp Elliot, M	87.98	48	P		P		17 49 11.0	+1.8	
	baz=228									
CPE	Camp Elliot	87.98	48		eP	P		17 49 10.6	+1.3	
	comp=Z,30nm,1.3s									
PAGB	Antelope Grade	88.01	44		eP	P		17 49 11.1	+1.7	
	comp=Z,176nm,1.9s									
SAO	San Andreas Ge	88.04	43		eP	P		17 49 10.4	+0.9	
	comp=Z,17nm,1.0s									
BAR	Barrett	88.11	48		eP	P		17 49 11.2	+1.3	
	comp=Z,14nm,1.1s									
DECC	Green Verdugo	88.14	46	P		P		17 49 11.4	+1.4	
	baz=227									
OSI	Osito Audit: C	88.15	46	P		P		17 49 12.0	+1.9	
	baz=227									
PASC	Pasadena Art C	88.18	47		eP	P		17 49 09.5	-0.7	
PASC					ePcP	PcP		17 49 11.1	-0.8	
PETK	Petropavlovsk-	88.28	346		eP	P		17 49 09.0	-1.1	
PETK	Petropavlovsk-	88.28	346	P		P		17 49 10.1	0.0	
	comp=Z,18nm,0.9s,baz=128,slow=7.2,SNR=22									
PETK				LR		LR		18 23 45.2		
	comp=Z,303nm,20.7s,baz=165,slow=32									
PEA1	Petropavlovsk-	88.28	346		eP	P		17 49 10.1	0.0	
PEA1					e			18 23 45.2		
MWC	Mount Wilson	88.29	47		eP	P		17 49 11.9	+1.0	
	comp=Z,21nm,0.9s									
MWC	Mount Wilson	88.29	47		eP	P		17 49 11.9	+1.0	
MWC					pmax	pmax				
	comp=Z,21nm,0.9s									
LCO	Las Campanas	88.30	124		eP	P		17 49 12.8	+1.4	
	comp=Z,43nm,1.4s									
CMCM	Mills College	88.35	42		eP	P		17 49 13.5	+2.7	
MURC	Murrieta	88.40	48	P		P		17 49 13.0	+1.7	
	baz=228,SNR=5.9									
SRAK	Srakaew	88.41	288	P		P		17 49 10.8	-0.8	
MONP2	Monument Peak	88.41	48	P		P		17 49 13.8	+2.2	
	baz=228,SNR=17									
ARVC	Arvin	88.44	45	P		P		17 49 13.0	+1.6	
	baz=227									
IKP	In-Ko-Pah, Jac	88.44	49	P		P		17 49 13.7	+2.2	
	baz=228,SNR=7.2									
BFSC	Mount Baldy Ra	88.54	47	P		P		17 49 13.7	+1.7	
	baz=228,SNR=12									
SKNT	Sakolnakorn	88.56	291	P		P		17 49 12.1	-0.2	
HOPS	Hopland Field	88.72	40		eP	P		17 49 14.0	+1.4	
	comp=Z,33nm,1.2s									
GDXM	Geysers	88.74	41		eP	P		17 49 14.5	+1.7	
	comp=Z,14nm,0.9s									
EDW2	Edwards Air Fo	88.77	46	P		P		17 49 14.9	+1.9	
	baz=227,SNR=20									
VES	Vestal, Richgr	88.78	45	P		P		17 49 14.3	+1.4	
	baz=227,SNR=6.8									
SWSC	Sam W. Stewart	88.83	49	P		P		17 49 15.4	+2.2	
	baz=229									
PFO	Pinyon Flats O	88.86	48		eP	P		17 49 15.4	+1.9	
	comp=Z,19nm,0.9s									
PFO	Pinyon Flats O	88.86	48		eP	P		17 49 15.4	+1.9	
PFO					pmax	pmax				
	comp=Z,19nm,0.9s									
PFO	Pinyon Flats O	88.86	48	P		P		17 49 15.6	+2.0	
	baz=228,SNR=11									
PFO	Pinyon Flats O	88.86	48	P		P		17 49 15.7	+2.0	
	comp=Z,14nm,0.7s,baz=251,slow=3.4,SNR=19									
XPFO	Pion Flat	88.86	48		eP	P		17 49 15.4	+1.9	
	comp=Z,21nm,0.9s									
VOG	Valley Oaks Go	88.93	44	P		P		17 49 14.9	+1.3	
	baz=226									
USRK	Ussuriysk Ar.	88.94	327	P		P		17 49 12.5	-1.0	
	comp=Z,2.4nm,0.8s,baz=103,slow=6.1,SNR=7.0									
USRK				LR		LR		18 24 15.7		
	comp=Z,217nm,20.1s,baz=131,slow=32									
KCPM	Cahto Peak	88.95	40		eP	P		17 49 15.6	+1.8	
	comp=Z,23nm,1.0s									
BBRC	Big Bear Solar	89.01	47	P		P		17 49 16.3	+2.0	
	baz=229									
ISA	Isabella, Lake	89.02	45		eP	P		17 49 15.7	+1.5	
	comp=Z,34nm,0.9s									
ISA	Isabella, Lake	89.02	45		eP	P		17 49 15.7	+1.5	
ISA					pmax	pmax				
	comp=Z,34nm,0.9s									
ISA	Isabella, Lake	89.02	45	P		P		17 49 16.0	+1.8	
	baz=227,SNR=28									
WASM	Alta Sierra Ca	89.02	45		eP	P		17 49 16.2	+1.9	
KHON	Khomkaen	89.11	290	P		P		17 49 15.4	+0.5	
KMRM	Mail Ridge	89.27	39		eP	P		17 49 17.4	+2.2	
	comp=Z,27nm,1.1s									
LRMC	Laurel Mtn Rad	89.36	46	P		P		17 49 17.7	+1.8	
	baz=228									
RRX	Edison Barstow	89.38	47	P		P		17 49 17.8	+2.0	
	baz=228									
BELC	Belle Mtn. Jos	89.41	48	P		P		17 49 18.3	+2.2	
	baz=228,SNR=24									
HSIG		89.50	54		eP	P		17 49 17.8	+1.3	
	comp=Z,24nm,1.4s									
CHAI	Chaiyaphum	89.52	289	P		P		17 49 17.1	+0.3	
BC3	Big Chuckawall	89.52	48	P		P		17 49 19.2	+2.6	
	baz=229,SNR=21									
GLA	Glamis	89.52	49		eP	P		17 49 18.4	+1.8	
	comp=Z,34nm,0.8s									
GLA	Glamis	89.52	49		eP	P		17 49 18.4	+1.8	
GLA					pmax	pmax				
	comp=Z,34nm,0.8s									
GLA	Glamis	89.52	49	P		P		17 49 19.0	+2.5	
	baz=229,SNR=9.8									
CMB	Columbia Colle	89.53	43		eP	P		17 49 17.4	+0.9	
	comp=Z,25nm,0.9s									
CMB	Columbia Colle	89.53	43		eP	P		17 49 17.4	+0.9	
CMB					pmax	pmax				
	comp=Z,25nm,0.9s									
O02D	Mt. Diablo Mer	89.72	40	P		P		17 49 19.4	+2.1	
	baz=224,SNR=37									
KHMM	Horse Mountain	89.72	39		eP	P		17 49 18.6	+1.2	
	comp=Z,19nm,1.1s									
PHET	Kaeng Krachan	89.72	286	P		P		17 49 19.1	+1.3	
HEC	Hector,Ludlow	89.75	47	P		P		17 49 19.4	+1.8	
	baz=228,SNR=19									
GSC	Goldstone, Bar	89.78	46		eP	P		17 49 19.0	+1.2	
	comp=Z,29nm,1.0s									
GSC	Goldstone, Bar	89.78	46		eP	P		17 49 19.0	+1.2	
GSC					pmax	pmax				
	comp=Z,29nm,1.0s									
GSC	Goldstone, Bar	89.78	46	P		P		17 49 19.4	+1.6	
	baz=228,SNR=9.5									
CWC	Cottonwood Cre	89.78	45	P		P		17 49 19.5	+1.6	
	baz=227									
NONG	Nongkai	89.84	292	P		P		17 49 18.4	+0.1	
AFDM	Forest Hills D	89.84	42		eP	P		17 49 18.7	+0.8	
	comp=Z,18nm,1.0s									
MPMC	Manual Prospec	89.87	46	P		P		17 49 20.1	+1.7	
	baz=228,SNR=13									
DAC	Darwin (Calif)	89.96	45		eP	P		17 49 21.2	+2.5	
	comp=Z,10.0nm,1.1s									
ORV	Oroville	89.98	41		eP	P		17 49 19.2	+0.7	
	comp=Z,17nm,1.1s									
ORV	Oroville	89.98	41		eP	P		17 49 19.2	+0.7	
ORV					pmax	pmax				
	comp=Z,17nm,1.1s									
MDPB	Devils Postpil	90.00	44		eP	P		17 49 20.3	+1.3	
	comp=Z,11nm,1.0s									
MMPM	Mammoth Pass	90.02	44		eP	P		17 49 19.5	+0.3	
OMMB	Old Mammoth Mi	90.04	44		eP	P		17 49 20.4	+1.2	
	comp=Z,50nm,2.0s									
IRM	Iron Mountain	90.04	48	P		P		17 49 21.5	+2.5	
	baz=229,SNR=25									
KRMB	Red Mountain	90.10	38		eP	P		17 49 20.9	+1.8	
TIN	Tinemaha, Big	90.11	44	P		P		17 49 20.8	+1.6	
	baz=227									
214A	Organ Pipe Nat	90.11	51	P		P		17 49 21.7	+2.3	
	baz=230									
GMRC	Granite Mounta	90.14	47	P		P		17 49 21.5	+2.0	
	baz=229,SNR=14									
WDC	Whiskeytown Da	90.14	40		eP	P		17 49 20.5	+1.3	
	comp=Z,30nm,1.2s									
WDC	Whiskeytown Da	90.14	40		eP	P		17 49 20.5	+1.3	
WDC					pmax	pmax				
	comp=Z,30nm,1.2s									
MLAC	Mammoth, Mammo	90.14	44	P		P		17 49 21.1	+1.5	
	baz=227									
Y12C	Blythe	90.17	49		eP	P		17 49 21.4	+1.9	
	comp=Z,23nm,0.9s									
Y12C	Blythe	90.17	49	P		P		17 49 21.8	+2.3	
	baz=229,SNR=6.6									
TYV	Tymovskoe	90.21	337		eP	P		17 49 20.3	+1.1	
TYV					pmax	pmax				
	comp=Z,300nm,3.3s									
TYV					pmax	pmax				
	comp=Z,20nm,1.1s									
N02D	Trinity Center	90.34	39	P		P		17 49 22.0	+1.8	
	baz=224,SNR=18									
O03E	Paynes Creek	90.34	40	P		P		17 49 21.0	+0.8	
	baz=225,SNR=11									
WAKR	Walker	90.40	43		eP	P		17 49 22.2	+1.5	
	comp=Z,21nm,1.0s									
TUQ	Turquoise Moun	90.40	47	P		P		17 49 22.6	+1.9	
	baz=228									
SHOC	Shoshone, Teco	90.50	46	P		P		17 49 22.5	+1.5	
	baz=228									
FURC	Furnace Creek,	90.52	46	P		P		17 49 22.6	+1.6	
	baz=228									
M02C	Callahan	90.56	39	P		P		17 49 23.1	+1.9	
	baz=224,SNR=18									
GRAC	Grapevine Rang	90.58	45	P		P		17 49 23.4	+2.0	
	baz=228									
PBKT	Sadao Pong	90.70	289	P		P		17 49 22.6	+0.3	
PNTR	Pine Nut	90.71	42		eP	P		17 49 23.6	+1.4	
	comp=Z,24nm,0.9s									
L02E	Cave Junction	90.72	38	P		P		17 49 23.5	+1.6	
	baz=224,SNR=6.0									
PDMCI	Parker Dam,Lak	90.77	49	P		P		17 49 24.7	+2.4	
	baz=230									
NEE2	Needles Airpor	90.77	48	P		P		17 49 24.7	+2.4	
	baz=229									
YERR	Yerington	90.84	42		eP	P		17 49 23.6	+0.9	
	comp=Z,14nm,0.9s									
KEBM	Edson Butte	90.86	37		eP	P		17 49 24.2	+1.6	
	comp=Z,52nm,1.1s									
YBH	Yreka Blue Hor	90.88	39		eP	P		17 49 23.9	+1.2	
	comp=Z,15nm,1.1s									
YBH	Yreka Blue Hor	90.88	39		eP	P		17 49 23.9	+1.2	
YBH					pmax	pmax				
	comp=Z,15nm,1.1s									
YBH	Yreka Blue Hor	90.88	39	P		P		17 49 24.2	+1.5	
	comp=Z,10nm,1.1s,baz=206,slow=2.6,SNR=16									
CHGN	Chignik	90.90	11		eP	P		17 49 22.7	+0.4	
	comp=Z,56nm,0.8s									
NV01	Mina Array Sit	91.00	43		eP	P		17 49 24.4	+0.8	
NVAR	Mina Array Bea	91.00	43	P		P		17 49 24.9	+1.3	
	comp=Z,12nm,0.8s,baz=219,slow=8.0,SNR=58									
NVAR				LR		LR		18 23 14.8		
	comp=Z,195nm,20.1s,baz=220,slow=31									
RYN	Ryan	91.00	43		eP	P		17 49 24.0	+0.5	
	comp=Z,8.8nm,1.0s									
K02D	Willamette Mer	91.07	37	P		P		17 49 25.2	+1.6	
	baz=224,SNR=9.3									
NV11	Mina Array Sit	91.08	43		eP	P		17 49 24.1	+0.2	
	comp=Z,1.0nm,1.0s									
TIA	Tai'an	91.13	314	P		P		17 49 23.5	-0.4	
TIA					pmax	pmax				
	comp=Z,5.0nm,0.9s									
TPNV	Topopah Spring	91.21	46		eP	P		17 49 25.9	+1.4	
	comp=Z,14nm,0.8s									
TPNV	Topopah Spring	91.21	46		eP	P		17 49 25.9	+1.4	
TPNV					pmax	pmax				
	comp=Z,14nm,0.8s									
TPNV	Topopah Spring	91.21	46	P		P		17 49 26.1	+1.7	
	baz=228,SNR=21									
PAHR	Pah Rah Range	91.26	42		eP	P		17 49 25.4	+0.8	
	comp=Z,11nm,0.9s									
J01E	Myrtle Point	91.28	37	P		P		17 49 26.1	+1.7	
	baz=224									
UTHA	Uthaitani	91.35	288	P		P		17 49 26.1	+0.7	
M04C	Macdoel	91.37	39	P		P		17 49 26.3	+1.3	
	baz=225,SNR=6.1									
HUMO	Hull Mountain	91.37	38		eP	P		17 49 26.2	+1.3	
	comp=Z,24nm,1.2s									
GO02	Mina Guanaco	91.42	121		eP	P		17 49 28.1	+1.9	
	comp=Z,44nm,1.0s									
L04D	Klamath Falls	91.43	39	P		P		17 49 26.5	+1.1	
	baz=225,SNR=7.1									
W13A	Hualapai Mount	91.44	48		eP	P		17 49 27.4	+1.8	
	comp=Z,11nm,1.0s									
SHPR	Sheep Range	91.57	46		eP	P		17 49 27.8	+1.6	
	comp=Z,8.6nm,1.0s									
TUC	Tucson	91.67	52		eP	P		17 49 28.6	+2.1	
	comp=Z,16nm,1.0s									
TUC	Tucson	91.67	52		eP	P		17 49 28.7	+2.1	
TUC					pmax	pmax				
	comp=Z,16nm,1.0s									
TUC	Tucson	91.67	52	P		P		17 49 29.0	+2.4	
	baz=231									
CN2	Changchun	91.76	323		eP	P		17 49 26.0	-0.6	
CN2					eS	S		18 00 25.0	+1.4	
CN2					pmax	pmax				
	comp=Z,10.0nm,1.0s									
CN2					pmax	pmax				
	comp=Z,200nm,3.0s									
CN2					LR	LR				
	comp=Z,200nm,23.0s									
CN2					LR	LR				
	comp=Z,200nm,23.0s									
I03D	Drain, OR	91.96	37	P		P		17 49 29.1	+1.5	
	baz=224									
I02D	Swisshome	92.00	36	P		P		17 49 29.3	+1.6	
	baz=224									
GYA	Guiyang	92.05	300	P		P		17 49 30.0	+1.4	
GYA					pP	pwP		17 49 45.5	+1.1	
GYA					PP	PP		17 53 12.0	+2.8	
GYA					S	S		18 00 25.5	-1.8	
GYA					pmax	pmax				
	comp=Z,30nm,1.0s									
GYA					pmax	pmax				
	comp=Z,140nm,6.0s									
J04D	Umpqua Nationa	92.26	38	P		P		17 49 30.6	+1.4	
	baz=225,SNR=16									
MOD	Modoc Plateau	92.27	40		eP	P		17 49 30.1	+0.8	
	comp=Z,15nm,0.9s									
GRNR	Gornyy	92.32	334		eP	P		17 49 28.2	-0.8	
GRNR					pmax	pmax				
	comp=Z,21nm,1.0s									
ENH	Enshi	92.33	305		eP	P		17 49 29.1

KMI LR LR
comp=Z,210nm,22.2s
KMI LR LR
comp=Z,490nm,36.1s
BJI Beijing 94.20 316 P **P** 17 49 39.0 +1.0
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI LR LR
comp=Z,190nm,25.5s
BJI LR LR
comp=Z,190nm,23.5s
BJI LR LR
comp=Z,330nm,27.0s
I07A Izee 94.20 39 *e*P **P** 17 49 39.1 +1.0
comp=Z,10.0nm,1.0s
J08A Circle Bar Ran 94.25 40 *e*P **P** 17 49 39.6 +1.3
comp=Z,18nm,1.1s
ELK Elko 94.30 43 *e*P **P** 17 49 39.6 +0.8
comp=Z,4.1nm,0.8s
ELK Elko 94.30 43 *e*P **P** 17 49 39.6 +0.8
ELK pmax pmax
comp=Z,4.0nm,0.8s
ELK Elko 94.30 43 P **P** 17 49 39.8 +1.0
comp=Z,3.1nm,0.8s,baz=256,slow=6.5,SNR=12
MTPU Mount Pierson 94.38 47 *e*P **P** 17 49 41.6 +2.3
comp=Z,16nm,1.5s
G06A Carlson Farm, 94.42 37 *e*P **P** 17 49 39.9 +1.0
comp=Z,15nm,1.1s
CMIG Matias Romero 94.60 73 LR LR 18 22 04.1
comp=Z,282nm,21.5s,baz=224,slow=29
PB11 IPOC Station P 94.66 117 *e*P **P** 17 49 41.1 +0.1
comp=Z,33nm,0.7s
D04E Lakebay 94.73 35 P **P** 17 49 41.3 +1.1
baz=225
TX31 Lajitas Ar. Si 94.77 58 *e*P **P** 17 49 42.8 +1.8
TXAR Lajitas Array 94.77 58 P **P** 17 49 42.4 +1.4
comp=Z,1.9nm,0.9s,baz=190,slow=6.2,SNR=8.6
TXAR LR LR 18 26 51.0
comp=Z,230nm,18.4s,baz=0.0,slow=32
LON Longmire 94.89 36 *e*P **P** 17 49 41.5 +0.4
comp=Z,3.2nm,0.7s
LON Longmire 94.89 36 *e*P **P** 17 49 41.5 +0.4
LON pmax pmax
comp=Z,3.0nm,0.7s
MNTX Cornudas Mount 94.94 55 *e*P **P** 17 49 42.4 +0.8
comp=Z,3.0nm,0.9s
MNTX Cornudas Mount 94.94 55 P **P** 17 49 42.8 +1.1
baz=234
MNMC Minye Minye 95.09 117 *e*P **P** 17 49 45.1 +2.0
comp=Z,14nm,0.9s
G08A Pilot Rock 95.31 38 *e*P **P** 17 49 44.0 +0.9
comp=Z,15nm,1.4s
E07A Sunnyside 95.73 37 *e*P **P** 17 49 45.6 +0.8
comp=Z,7.0nm,0.8s
TMUT Trail Mountain 95.76 46 *e*P **P** 17 49 47.4 +1.8
comp=Z,18nm,0.5s
HAWA Hanford 95.77 37 *e*P **P** 17 49 45.8 +0.8
comp=Z,5.2nm,0.8s
LTY Liberty 95.81 36 *e*P **P** 17 49 45.7 +0.4
comp=Z,24nm,1.9s
A04D Lummi Island 95.86 34 P **P** 17 49 46.1 +0.7
baz=225
BMO Blue Mountains 95.88 39 *e*P **P** 17 49 46.4 +0.7
comp=Z,24nm,2.0s
BMO Blue Mountains 95.88 39 *e*P **P** 17 49 46.4 +0.7
BMO pmax pmax
comp=Z,24nm,2.0s
SRU San Rafael Swe 96.06 47 *e*P **P** 17 49 47.8 +1.0
comp=Z,3.5nm,0.8s
SRU San Rafael Swe 96.06 47 *e*P **P** 17 49 47.8 +1.0
SRU pmax pmax
comp=Z,4.0nm,0.8s
TASM ASL Pad, Albuq 96.13 52 P **P** 17 49 49.1 +1.9
baz=234
TASM ASL Pad, Albuq 96.13 52 P **P** 17 49 49.2 +2.0
baz=234
ANMO Albuquerque 96.13 52 P **P** 17 49 49.2 +2.0
baz=234
SPUT South Promonto 96.28 44 *e*P **P** 17 49 49.1 +1.4
comp=Z,15nm,1.5s
HVU Hansel Valley 96.39 44 *e*P **P** 17 49 49.0 +0.8
comp=Z,12nm,1.3s
HVU Hansel Valley 96.39 44 *e*P **P** 17 49 49.0 +0.8
HVU pmax pmax
comp=Z,12nm,1.3s
D08A Wollman Farm, 96.53 37 *e*P **P** 17 49 49.4 +1.0
comp=Z,6.9nm,0.8s
HLID Hailey 96.60 41 *e*P **P** 17 49 50.3 +1.2
comp=Z,4.3nm,0.8s
HLID Hailey 96.60 41 P **P** 17 49 50.5 +1.4
baz=230
F10A Beach Ranch, E 96.67 38 *e*P **P** 17 49 49.0 -0.3
comp=Z,5.8nm,0.8s
CD2 Chengdu 96.70 303 P **P** 17 49 48.8 -0.9
CD2 pmax pmax
comp=Z,10.0nm,0.6s
GAMB Gambell 96.84 3 *e*P **P** 17 49 49.5 +0.2
comp=Z,10.0nm,1.4s
SUA Susitna One 97.14 13 *e*P Pdif 17 49 51.3 +0.2
comp=Z,16nm,0.8s
HHC Hu-ho-hao-te 97.44 314 *e*P Pdif 17 49 55.5 +2.6
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,130nm,5.7s
GHO Glory Hole Cre 97.78 14 *e*P Pdif 17 49 54.6 +0.7
comp=Z,18nm,0.7s
LPAZ La Paz 97.92 115 *e*P Pdif 17 49 57.4 +1.0
comp=Z,3.2nm,0.8s
LPAZ La Paz 97.92 115 P Pdif 17 49 58.4 +2.0
comp=Z,1.6nm,0.6s,baz=213,slow=5.0,SNR=5.7
SEY Seymchan 98.47 347‖ *e*P **P** **17 49 55.7 -1.1**
SEY Seymchan 98.47 347 P **P** **17 49 55.9 -0.9**
comp=Z,0.7nm,0.3s,baz=194,slow=7.8,SNR=4.3
REDW Red Top Meadow 98.49 43 *e*P Pdif 17 49 59.1 +1.4
comp=Z,16nm,1.5s
FXWY Fox Creek 98.56 43 *e*P Pdif 17 50 00.1 +2.1
comp=Z,9.0nm,1.5s
IMW Indian Meadow 98.77 43 *e*P Pdif 17 49 59.5 +0.5
comp=Z,5.3nm,1.1s
BW06 Boulder Array 98.87 44 P Pdif 17 50 00.0 +0.6
baz=233
PD31 Pinedale Array 98.87 44 *e*P Pdif 17 50 00.6 +1.1
comp=Z,7.0nm,0.7s
PDAR Pinedale Array 98.87 44 P Pdif 17 49 59.9 +0.4
comp=Z,1.0nm,0.7s,baz=222,slow=2.0,SNR=9.6
PDAR PKKPbc **PKKPbc** **18 06 25.8 -1.4**
comp=Z,0.2nm,0.3s,baz=81,slow=4.5,SNR=5.5
PDAR LR LR 18 25 48.4
comp=Z,260nm,21.4s,baz=254,slow=30
CPUP Villa Florida 99.04 130 LR LR 18 26 41.1
comp=Z,533nm,21.8s,baz=208,slow=30
TRF Thorofare Moun 99.05 13 *e*P **Pdif** **17 49 59.9 +0.3**
comp=Z,12nm,0.8s
RND Reindeer 99.28 13 *e*P **Pdif** **17 50 00.8 +0.3**
comp=Z,17nm,1.2s
RND Reindeer 99.28 13 *e*P **Pdif** **17 50 00.8 +0.3**
RND pmax pmax
comp=Z,17nm,1.2s
YHH Holmes Hill 99.36 42 *e*P **Pdif** **17 50 03.0 +1.4**
comp=Z,5.5nm,1.3s
BOZ Bozeman (W) 99.43 41 P **Pdif** **17 50 02.6 +0.9**
baz=232
LZH Lanzhou 99.56 307 *e*P **Pdif** **17 50 02.0 -0.6**
LZH pP pP 17 50 16.8 +0.7
LZH sP sP 17 50 23.3 +2.2
LZH pmax pmax
comp=Z,24nm,1.1s
WRH Wood River Hil 100.39 13 *e*Pdif **Pdif** **17 50 05.8 +0.5**
RLMT Red Lodge 100.46 43 P **Pdif** **17 50 07.6 +1.2**
baz=233
HDA Harding Lake 100.55 14 P **Pdif** **17 50 08.0 +1.9**
baz=207
CCB Clear Creek Bu 100.60 13 *e*Pdif **Pdif** **17 50 06.1 -0.1**
TCOL CIGO, UAF Yank 100.79 13 P **Pdif** **17 50 08.1 +1.0**
baz=207
COLA College 100.80 13‖ *e*P **Pdif** **17 50 07.4 +0.3**
COLA pmax pmax
comp=Z,33nm,3.1s
MDM Murphy Dome 100.80 13 *e*Pdif **Pdif** **17 50 07.5 +0.3**
IM3 Indian Mountai 100.81 10 *e*Pdif **Pdif** **17 50 06.7 -0.4**
IL1 Eielson Array 100.89 14 *e*Pdif **Pdif** **17 50 07.8 +0.2**
ILAR Eielson Array 100.89 14 P **Pdif** **17 50 07.5 -0.1**
comp=Z,2.3nm,0.8s,baz=213,slow=6.0,SNR=18
ILAR PKKPbc **PKKPbc** **18 06 19.0 -2.9**
comp=Z,0.9nm,0.8s,baz=37,slow=3.2,SNR=9.4
ILB Eielson Array 100.89 14 *e*Pdif **Pdif** **17 50 07.7 +0.1**

POKR Poker Plat Res 101.09 13 P **Pdif** **17 50 09.7 +1.2**
baz=207
BILL Bilibino 101.52 354 *e*P **Pdif** **17 50 08.4 -1.9**
BILL pmax pmax
comp=Z,2.0nm,0.9s
SONA0 Songino Array 104.52 318 *e*PKKPbc PKKPbc 18 06 11.4 +0.8
SONM Songino Array 104.52 318 PKKPbc PKKPbc 18 06 11.4 +0.8
comp=Z,1.2nm,0.8s,baz=207,slow=3.3,SNR=5.8
YKA Yellowknife Ar 108.42 26 PKiKP **PKiKP** **17 54 46.1 -0.6**
comp=Z,0.7nm,0.5s,baz=254,slow=1.4,SNR=9.1
YKA PKKPbc **PKKPbc** **18 05 55.7 -3.1**
comp=Z,1.1nm,0.7s,baz=42,slow=3.2,SNR=14
YKB5 Yellowknife Ar 108.42 26 *e*PKiKP **PKiKP** **17 54 45.2 -1.4**
YKB5 *e*PKKPbc **PKKPbc** **18 05 52.0 -6.7**
TIXI Tiksi 110.68 345 PKiKP **PKiKP** **17 54 49.5 -1.2**
comp=Z,1.9nm,0.3s,baz=99,slow=0.8,SNR=16
P48A Milroy 112.83 57 P **PKiKP** **17 54 57.5 +1.7**
baz=245
X54A Belton 112.97 63 P **PKiKP** **17 54 57.8 +1.7**
baz=245
WMQ Urumqi 114.12 308 *e*PKP **PKiKP** **17 54 58.5 +0.3**
WMQ LR LR
comp=Z,260nm,29.3s
WMQ LR LR
comp=Z,410nm,29.1s
WMQ LR LR
comp=Z,430nm,27.1s
F43A Flat Rock, Esc 114.25 50 P **PKiKP** **17 54 59.6 +1.4**
BOSA Boshof 114.28 204 PKP PKPdf 17 54 59.4 +0.2
comp=Z,5.4nm,0.8s,baz=174,slow=2.7,SNR=13
H45A Beulah 114.51 52 P **PKiKP** **17 55 00.5 +1.7**
baz=247
I49A Point Hope 116.39 53 P **PKiKP** **17 55 03.1 +0.7**
baz=248
DGZ Jazzator, Alta 116.51 314*d* iPKiKP **PKPdf** **17 55 01.6 -1.1**
D48A Paudash Townsh 118.19 50 P **PKiKP** **17 55 07.3 +1.4**
baz=251
MK01 Makanchi Array 118.74 309 *e*PKPdf **PKPdf** **17 55 04.6 -2.4**
MK31 Makanchi Array 118.75 309 *e*PKPdf **PKPdf** **17 55 04.7 -2.2**
MK32 Makanchi Array 118.75 309 *e*PKPdf **PKPdf** **17 55 05.2 -1.8**
MK32 *e*PKKPbc **PKKPab** **18 05 23.8 +0.4**
MKAR Makanchi Array 118.75 309 PKP **PKPdf** **17 55 05.2 -1.8**
comp=Z,2.4nm,0.6s,baz=68,slow=1.4,SNR=24
MKAR PKKPbc **PKKPab** **18 05 23.8 +0.4**
comp=Z,1.3nm,0.7s,baz=287,slow=4.2,SNR=11
MAKZ Makanchi 118.96 309 *e*PKPdf **PKPdf** **17 55 05.1 -2.2**
BUKO Buck Lake 119.20 53 P **PKiKP** **17 55 10.8 +2.9**
baz=251
F52A Sundridge 119.36 52 P **PKiKP** **17 55 11.3 +3.1**
baz=251
WLVO Wesleyville 119.38 55 P **PKiKP** **17 55 11.2 +3.0**
baz=251
ZAA0 Zalesovo Array 119.41 318 *e*PKPdf **PKPdf** **17 55 06.4 -1.5**
ZALV Zalesovo Beam 119.41 318 *e*PKPdf **PKPdf** **17 55 05.3 -2.6**
ZALV Zalesovo Beam 119.41 318 *e*PKIKP **PKPdf** **17 55 06.4 -1.5**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV Zalesovo Beam 119.41 318 PKP **PKPdf** **17 55 06.1 -1.8**
comp=Z,2.4nm,0.4s,baz=143,slow=2.3,SNR=16
ZAA1 Zalesovo Array 119.42 318 *e*PKPdf **PKPdf** **17 55 06.1 -1.8**
E51A G1948 Merrick 119.48 51 P **PKiKP** **17 55 11.6 +3.2**
baz=252
G53A Haliburton 119.61 53 P **PKiKP** **17 55 12.0 +3.3**
baz=252
E52A Mattawa 119.96 52 P **PKiKP** **17 55 12.4 +3.2**
baz=252
PRZ Przheval'sk 119.98 303 *e*PKPdf **PKPdf** **17 55 08.0 -1.6**
RES Resolute Bay 120.23 18 *e*PKPdf **PKPdf** **17 55 07.9 -1.0**
ALGO Algonquin Park 120.26 52 P **PKiKP** **17 55 12.8 +2.9**
baz=252
D52A ZEK Kipawa Sen 120.33 51 P **PKiKP** **17 55 12.8 +2.8**
baz=253
PECO Prince Edward 120.34 55 P **PKiKP** **17 55 13.1 +3.0**
baz=252
NVS Novosibirsk 120.55 318 *e*PKIKP **PKPdf** **17 55 08.7 -1.4**
NVS pmax pmax
comp=Z,6.0nm,0.8s
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,3.0nm,0.9s
PLVO Plevna 120.63 54 P **PKiKP** **17 55 14.0 +3.3**
baz=252
E53A Dumoine, Ponti 120.64 52 P **PKiKP** **17 55 13.4 +2.8**
baz=253
PEMO Pembroke 120.71 53 P **PKiKP** **17 55 13.5 +2.8**
baz=253
KSH Kashi 120.74 300 *e*PKP **PKiKP** **17 55 12.5 +1.2**
KSH PP **PP** **17 56 47.3 +7.1**
KSH AMB AMB
comp=E,65nm,7.7s
NIL Nilore 120.75 292 *e*Pdif **Pdif** **17 51 34.9 -1.8**
NIL Nilore 120.75 292 *e*P **Pdif** **17 51 34.9 -1.8**
E54A Lac Daplat, Po 120.97 52 P **PKiKP** **17 55 13.9 +2.6**
baz=253
H56A Elgin 121.05 54 P **PKiKP** **17 55 14.2 +2.7**
baz=252
NRN Naryn 121.34 302 *e*PKPdf **PKPdf** **17 55 10.4 -2.1**
D54A Lac Fusel, La 121.53 51 P **PKiKP** **17 55 14.5 +2.1**
baz=254
NRIK Norilsk 121.76 335 PKP **PKPdf** **17 55 11.4 -0.5**
comp=E,3.7nm,0.5s,baz=102,slow=2.1,SNR=6.1
LSQQ Lebel-sur-Quev 121.84 49 P **PKiKP** **17 55 15.3 +2.4**
baz=255
KZA Kyzart 122.07 302 P **PKiKP** **17 55 14.5 +0.3**
SNR=6.7
TKM2 Tokmak 2 122.08 303 P **PKPdf** **17 55 12.0 -1.7**
SNR=6.7
KURK Kurchatov 122.21 313 *e*PKPpre PKPpre 17 54 59.4
KURK *e*PKPdf **PKPdf** **17 55 11.8 -1.6**
KURK Kurchatov 122.21 313‖ *i*PKIKP **PKPdf** **17 55 12.1 -1.3**
ALFO Alfred 122.28 54 P **PKiKP** **17 55 16.3 +2.5**
baz=254
UCH Uchtor 122.64 302 P **PKPdf** **17 55 14.6 -0.6**
SNR=6.3
AAK Ala-Archa 122.77 303 *e*PKPdf **PKPdf** **17 55 13.0 -2.0**
USP Ospenovka 122.95 303 P **PKPdf** **17 55 14.0 -1.2**
SNR=5.7
AML Almayashu 123.20 302 P **PKPdf** **17 55 15.5 -0.7**
SNR=8.7
ARSB Arslanbob 123.47 301 *e*PKPdf **PKPdf** **17 55 14.5 -1.9**
CHGQ Chibougamau 123.69 49 P **PKiKP** **17 55 18.4 +1.9**
baz=257
LBNH Lisbon 123.93 56 P **PKiKP** **17 55 20.4 +3.1**
baz=255
KBL Kabul 124.33 292 *e*PKPpre PKPpre 17 55 05.9
KBL *e*PKPdf **PKPdf** **17 55 17.1 -1.2**
BTK Batken 124.69 299 *e*PKPdf **PKPdf** **17 55 17.5 -1.2**
BTK Batken 124.69 299 *e*PKIKP **PKPdf** **17 55 17.5 -1.2**
LSZ Lusaka 125.14 213 *e*PKPdf **PKiKP** **17 55 20.6 0.0**
TSUM Tsumeb 125.47 200 *e*PKPdf **PKPdf** **17 55 20.9 0.0**
KK31 Karatay Array 125.72 302 *e*PKPdf **PKPdf** **17 55 18.9 -1.5**
KK31 Karatay Array 125.72 302 *e*PKIKP **PKPdf** **17 55 18.9 -1.5**
KKAR Karatay Array 125.72 302 *e*PKPdf **PKPdf** **17 55 18.9 -1.5**
KKAR Karatay Array 125.72 302 *e*PKIKP **PKPdf** **17 55 18.9 -1.5**
PKME Peaks-Kenny Pk 126.00 55 P **PKiKP** **17 55 24.2 +2.9**
baz=257
TULEG Thule 126.75 16 *e*PKPdf **PKPdf** **17 55 20.1 -1.3**
BVAR Borovoye Array 127.65 314 PKP **PKPdf** **17 55 22.9 -0.9**
comp=E,4.2nm,0.5s,baz=150,slow=2.2,SNR=30
BRVK Borovoye 127.72 314 *e*PKPdf **PKPdf** **17 55 22.3 -1.6**
BRVK Borovoye 127.72 314*c* iPKIKP **PKPdf** **17 55 22.7 -1.2**
KMBO Kilima Mbogo 131.56 233 *e*PKPdf **PKPdf** **17 55 32.5 -0.2**
KMBO Kilima Mbogo 131.56 233 *e*PKIKP **PKiKP** **17 55 33.7 -0.1**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
KMBO Kilima Mbogo 131.56 233 PKP **PKiKP** **17 55 33.5 -0.3**
comp=Z,0.8nm,0.4s,baz=181,slow=4.5,SNR=6.6
SVE Sverdlovsk 133.37 319 *e*PKIKP **PKPdf** **17 55 34.0 -0.5**
GEYT Alibeck 133.74 293 PKP **PKPdf** **17 55 36.0 +0.2**
comp=Z,4.7nm,0.8s,baz=25,slow=4.9,SNR=6.2
ABKAR Akbulak array 133.90 309 *e*PKPdf **PKPdf** **17 55 33.5 -2.2**
KBS Kingsbay 133.93 357 *e*PKPdf **PKiKP** **17 55 35.6 -0.7**
ILULI Ilulissat 133.94 23‖ *i*P **PKiKP** **17 55 39.1 +2.6**
comp=Z,13nm,0.5s
ILULI Ilulissat 133.94 23‖ *i*PKIKP **PKiKP** **17 55 39.1 +2.6**
ILULI pmax pmax
comp=Z,13nm,0.5s
SPA0 Spitsbergen Ar 134.42 356 *e*PKPdf **PKPdf** **17 55 35.7 -0.2**
SPA0 Spitsbergen Ar 134.42 356 *e*PKPdf **PKPdf** **17 55 35.8 -0.2**
ARU Arti 134.55 319 *e*PKPdf **PKPdf** **17 55 35.5 -1.2**
ARU Arti 134.55 319 *i* PKIKP **PKPdf** **17 55 35.2 -1.5**
ARU 17 58 06.2
ARU SS SS 18 15 48.4 -10

AKTO Aktyubinsk 135.17 310 PKP **PKPdf** **17 55 38.3 +0.2**
comp=Z,3.8nm,0.6s,baz=95,slow=6.5,SNR=15
HOPEN Hopen 135.18 352 *e*PKPdf **PKPdf** **17 55 37.5 +0.1**
DAG Danmarks Havn 135.44 6⇑ *i*P **PKPdf** **17 55 36.2 -1.6**
comp=Z,8.4nm,1.0s
DAG Danmarks Havn 135.44 6⇑ *i*PKIKP **PKPdf** **17 55 36.2 -1.6**
DAG pmax pmax
comp=Z,8.0nm,1.0s
HSPB Hornsund (broa 135.60 355 *e*PKPdf **PKPdf** **17 55 38.6 +0.5**
SUMG Summit 135.68 16 *e*PKPdf **PKPdf** **17 55 38.9 0.0**
SUMG Summit 135.68 16 *i* P **PKiKP** **17 55 40.5 0.0**
comp=Z,41nm,1.1s
SUMG Summit 135.68 16 *i* PKIKP **PKiKP** **17 55 40.5 0.0**
SUMG pmax pmax
comp=Z,41nm,1.1s
PRGR Permogore 139.71 329 *e*PKIKP **PKPdf** **17 55 42.3 -3.8**
PRGR pmax pmax
comp=Z,7.0nm,0.6s
SCO Scoresbysund 140.65 12 *e*PKPpre PKPpre 17 55 40.8
SCO Scoresbysund 140.65 12 *e*PKHKP PKPpre 17 55 40.8
ARA0 ARCESS Array S 141.09 346 *e*PKPpre PKPpre 17 55 42.3
ARCES ARCESS Array B 141.09 346 PKPpre PKPpre 17 55 42.3
ARCES *e*PKPdf **PKPdf** **17 55 48.5 +0.1**
ARCES ARCESS Array B 141.09 346 PKHKP PKPpre 17 55 42.3
ARCES *e* 17 55 48.5
ARCES ARCESS Array B 141.09 346 PKhKP PKPpre 17 55 42.3
comp=Z,2.6nm,0.4s,baz=27,slow=2.6,SNR=33
ARE0 ARCESS Array S 141.09 346 *e*PKPdf **PKPdf** **17 55 49.1 +0.7**
TMCR Tamitsa 141.48 335 *e*PKIKP **PKPdf** **17 55 48.6 -0.6**
KTK1 Kautokeino 141.97 347 *e*PKPdf **PKPdf** **17 55 50.8 +0.8**
TRO Tromso 142.14 350 *e*PKPdf **PKPdf** **17 55 50.7 +0.4**
KLMR Klimovskoe 142.70 330 *e*PKIKP **PKPdf** **17 55 48.5 -2.9**
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR Klimovskoe 142.70 330 *e*PKPdf **PKPdf** **17 55 48.6 -2.9**
KLMR AMP 17 55 53.3
comp=Z,33nm,1.6s
KLMR *i* SKP 17 59 16.9
GROC Groznyy 143.63 299 *e*PKHKP PKPab 17 55 49.5 -0.9
GROC pmax pmax
comp=Z,43nm,1.3s
STEI Steigen 144.24 351 *e*PKPdf PKPbc 17 55 52.4 +0.1
STEI *ep*PKPdf pPKPdf 17 56 08.9 +1.4
LOF Lofoten 144.26 352 *e*PKPdf PKPbc 17 55 53.0 +0.6
LOF *ep*PKPdf pPKPdf 17 56 08.7 +1.1
GNI Garni 144.35 294*c* iPKIKP **PKPab** **17 55 51.7 -1.8**
TBLG Delisi 144.41 297 *e*PKPdf **PKPab** **17 55 53.0 -0.4**
TBLG Delisi 144.41 297 *e*PKIKP **PKPab** **17 55 53.0 -0.4**
ZEI Tsey 145.02 299 *i* PKIKP **PKPbc** **17 55 54.1 -1.8**
ZEI pmax pmax
comp=Z,16nm,0.7s
NCK Nalchik 145.22 300⇑ *e*PKIKP **PKPbc** **17 55 54.8 -1.5**
VRH Novokhopyorsk 145.30 314 *e*PKIKP **PKPbc** **17 55 53.9 -2.3**
VRH pmax pmax
comp=Z,70nm,1.4s
GOF Gofitskoye 145.51 303 *e*PKIKP **PKPdf** **17 55 55.8 -1.1**
GOF pmax pmax
comp=Z,60nm,0.8s
KARS Kars 145.64 295 *e*PKPdf **PKPdf** **17 55 57.3 -0.2**
BORG Borgarnes 145.65 17 *e*PKPdf **PKPab** **17 55 57.6 +0.4**
BORG Borgarnes 145.65 17 *i* PKPZ **PKPab** **17 55 58.5 +1.3**
KBZ Khabaz 145.72 300 PKPbc **PKPdf** **17 55 57.1 -0.2**
comp=Z,6.9nm,0.5s,baz=63,slow=3.2,SNR=30
NEY Neytrino 145.87 299*de* PKIKP **PKPdf** **17 55 58.0 +0.2**
KONS Konsvik 145.87 351 *e*PKPbc **PKPbc** **17 55 57.4 -0.1**
KONS *ep*PKPdf pPKPab 17 56 11.6 +0.2
MOS Moscow 145.99 323 *i* PKIKP **PKPdf** **17 55 55.1 -2.2**
MOS *e* 17 56 07.3
MOS pmax pmax
comp=Z,170nm,1.5s
MOR8 Moi Rana 146.00 350 *e*PKPdf **PKPdf** **17 55 56.8 -0.3**
LPSR Galich'ya Gora 146.52 317 *e*PKP2 **PKPdf** **17 55 59.0 +0.7**
LPSR pmax pmax
comp=Z,100nm,1.0s
VORR Voronezh 146.66 315 *e*PKIKP **PKPdf** **17 55 57.0 -1.6**
VORR pmax pmax
comp=Z,350nm,2.0s
OBN Obninsk 146.81 322 *e*PKPdf **PKPdf** **17 55 58.3 -0.5**
OBN Obninsk 146.81 322 *e*PKIKP **PKPdf** **17 55 58.0 -0.7**
OBN *e* 17 56 12.4
OBN pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 146.81 322 PKPbc **PKPdf** **17 55 59.4 +0.7**
comp=Z,5.1nm,0.5s,baz=113,slow=4.0,SNR=14
VSR Storozhevoye 146.83 314 *e*PKP2 **PKPdf** **17 55 59.0 +0.1**
VSR pmax pmax
comp=Z,140nm,1.8s
PUL Pulkovo 147.06 333‖ *i*PKP2 **PKPbc** **17 56 01.5 +0.3**
FIA1 FINESS Array S 147.38 338 *e*PKPdf **PKPdf** **17 55 58.3 -1.2**
FIA1 *e*PKPdf **PKPbc** **17 55 58.5 -3.6**
FIA1 *e*PKPbc **PKPab** **17 56 01.1 -3.0**
FIA1 *e*PKPbc **PKiKP** **17 56 01.7 -2.5**
FIA0 FINESS Array S 147.38 338 *e*PKPdf **PKPdf** **17 55 58.4 -1.1**
FIA0 *e*PKPbc **PKPbc** **17 56 01.1 -0.9**
FIA0 FINESS Array S 147.38 338 *e*PKIKP **PKPdf** **17 55 58.4 -1.1**
FIA0 *e* 17 56 01.1
FINES FINESS Array B 147.38 338 *e*PKP2 **PKPdf** **17 56 00.7 +1.2**
FINES pmax pmax
comp=Z,48nm,0.5s
FINES FINESS Array B 147.38 338 PKP **PKPdf** **17 55 58.4 -1.1**
comp=Z,48nm,0.5s,baz=51,slow=3.1,SNR=272
FINES PKPbc **PKPbc** **17 56 01.1 -0.9**
comp=Z,48nm,0.5s,baz=48,slow=4.1,SNR=274
VSU Vasula 149.31 333*c* iPKP2 **PKPbc** **17 56 06.0 -1.1**
VSU Vasula 149.31 333 *e*P **PKPbc** **17 56 06.1 -1.1**
VSU IAmb IAmb 17 56 09.2
comp=Z,187nm,0.5s
TBLU Trondheim 149.35 352 *e*PKPbc **PKPbc** **17 56 05.6 -1.5**
ANN Anapa 149.50 303 *i* PKHKP **PKPbc** **17 56 06.2 -1.8**
ANN *e* 17 59 36.8
ANN pmax pmax
comp=Z,89nm,1.4s
TOTH TOTAH 150.28 280 *e*P **PKPbc** **17 56 10.1 -0.4**
MOL Molde 150.31 354 *e*PKPbc **PKPbc** **17 56 09.1 -0.3**
QASN Qassioun 150.44 281⇑ *e*P **PKPdf** **17 56 02.7 -2.8**
DOMB Dombas 150.66 352 *e*PKPbc **PKPbc** **17 56 10.0 -0.4**
BRBR Barbar 150.69 280 *e*P **PKPdf** **17 56 08.7 +2.7**
AKN Aaknes 150.74 354 *e*PKPbc **PKPbc** **17 56 10.6 0.0**
NC303 NORSAR Array S 151.14 349 *e*PKPdf **PKPdf** **17 56 05.5 -0.1**
NC303 *e*PKPbc **PKPbc** **17 56 11.2 -0.3**
NC204 NORSAR Array S 151.18 350 *e*PKPbc **PKPbc** **17 56 09.9 -1.7**
NC405 NORSAR Array S 151.19 349 *e*PKPbc **PKPbc** **17 56 09.9 -1.7**
NB201 NORSAR Array S 151.32 349 *e*PKPdf **PKPdf** **17 56 04.7 -1.2**
NB201 *e*PKPbc **PKPbc** **17 56 10.5 -1.4**
NB2 NORSAR Subarra151.34 349 PKP **PKPbc** **17 56 11.0 -1.0**
comp=Z,81nm,1.0s,baz=17,slow=2.6
NB2 NORSAR Subarra151.34 349 PKP **PKPbc** **17 56 11.0 -1.0**
baz=17,slow=2.6
NB200 NORSAR Array S 151.34 349 *e*PKPdf **PKPdf** **17 56 04.6 -1.3**
NB200 *e*PKPbc **PKPbc** **17 56 11.2 -0.8**
NOA NORSAR Array B 151.34 349 PKP **PKPdf** **17 56 04.6 -1.3**
comp=Z,3.7nm,0.9s,baz=18,slow=1.7,SNR=15
NOA PKPbc **PKPbc** **17 56 11.2 -0.8**
comp=Z,31nm,0.8s,baz=15,slow=4.1,SNR=114
MICGM Minsk 151.41 326 *e*P **PKPbc** **17 56 11.0 -1.3**
MNK Minsk 151.41 326 *e*PKIKP **PKPbc** **17 56 11.0 -1.3**
NBO00 NORSAR Array S 151.41 350 *e*PKPdf **PKPbc** **17 56 05.5 -0.5**
NBO00 *e*PKPbc **PKPbc** **17 56 11.6 -0.5**
IDID Didziasalis 151.42 328 *e*P **PKPbc** **17 56 11.6 -0.7**
IDID IAmb IAmb 17 56 13.3
comp=Z,32nm,1.0s
ISAL Salakas 151.52 329 *e*P **PKPbc** **17 56 11.9 -0.6**
ISAL IAmb IAmb 17 56 13.5
comp=Z,20nm,0.9s
SLIT Slitere, Latvi 151.53 336 *e*P **PKPbc** **17 56 10.1 -2.4**
SLIT IAmb IAmb 17 56 11.5
comp=Z,97nm,0.5s
NAO01 NORSAR Array S 151.57 350 *e*PKPdf **PKPdf** **17 56 06.6 +0.3**
NAO01 *e*PKPbc **PKPbc** **17 56 11.9 -0.6**
NC602 NORSAR Array S 151.58 349 *e*PKPdf **PKPdf** **17 56 05.9 -0.4**
NC602 *e*PKPbc **PKPbc** **17 56 11.5 -1.0**
NC602 NORSAR Array S 151.58 349 *e*PKPdf **PKPdf** **17 56 05.9 -0.4**
NC602 *e*PKPbc **PKPbc** **17 56 11.5 -1.0**
IIGN Ignalina 151.62 329 *e*P **PKPbc** **17 56 12.0 -0.8**
IIGN IAmb IAmb 17 56 13.8
comp=Z,30nm,0.9s
NACGM Naroch 151.66 328 *e* **PKPbc** **17 56 12.0 -0.9**
HFS Hagfors 151.75 346 PKP **PKPdf** **17 56 05.2 -1.3**
comp=Z,3.6nm,0.9s,baz=199,slow=3.1,SNR=5.6
HFS PKPbc **PKPbc** **17 56 11.5 -1.4**
comp=Z,47nm,0.7s,baz=129,slow=2.1,SNR=86
HYA Hoyanger 151.81 354 *e*PKPbc **PKPbc** **17 56 12.6 -0.4**
SKAR Skarslia 152.08 352 *e*PKPbc **PKiKP** **17 56 13.8 -0.2**

SKAR				*ep*PKPdf	**pPKPdf**	17 56 21.5	+0.9	
ASK	**Askoy**	**152.56**	**355**	*e*PKPbc	**PKPbc**	17 56 14.4	-0.3	
LIC	**Lamto**	**152.61**	**167**	*eP*	**PKPdf**	17 56 10.0	+0.7	
	comp=Z,202nm,1.1s							
BER	**Bergen**	**152.65**	**355**	*e*PKPbc	**PKPbc**	17 56 14.8	-0.1	
ILGA	**Ilgaz**	**152.72**	**296**	*e*PKPbc	**PKPbc**	17 56 15.0	-1.1	
KIC	**Kosan Boka**	**152.80**	**168**	*eP*	**PKPdf**	17 56 10.1	+0.5	
	comp=Z,86nm,0.8s							
AKASG	**Malin Array Be**	**152.80**	**318**	*e*PKIKP	**PKPdf**	17 56 08.4	0.0	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**152.80**	**318**	PKP	**PKPdf**	17 56 06.8	-1.5	
	comp=Z,0.6nm,0.6s,baz=65,slow=0.4,SNR=5.4							
AKASG				PKPbc	**PKPbc**	17 56 14.2	-1.3	
	comp=Z,3.2nm,0.4s,baz=59,slow=2.2,SNR=30							
AKBB	**Malin Array Si**	**152.80**	**318**	*e*PKPbc	**PKPbc**	17 56 12.7	-2.9	
KIEV	**Kiev**	**152.81**	**318**	*e*PKPbc	**PKPbc**	17 56 12.2	-3.3	
KIEV	**Kiev**	**152.81**	**318**	*ce*PKIKP	**PKPdf**	17 56 05.9	-2.5	
AK11	**Malin Array Si**	**152.85**	**318**	*e*PKPdf	**PKPdf**	17 56 08.0	-0.5	
AK11				*e*PKPbc	**PKPbc**	17 56 14.8	-0.9	
PBUR	**Paburg**	**152.88**	**334**	*eP*	**PKPbc**	17 56 14.2	-1.4	
PBUR				IAmb	IAmb	17 56 16.3		
	comp=Z,93nm,1.0s							
BR101	**Keskin Array S**	**152.88**	**293**	*e*PKPbc	**PKPbc**	17 56 14.7	-1.6	
BR131	**Keskin Array S**	**152.88**	**293**	*e*PKPbc	**PKPbc**	17 56 14.3	-2.1	
BRTR	**Keskin Array B**	**152.88**	**293**	PKPbc	**PKPbc**	17 56 14.7	-1.6	
	comp=Z,10nm,0.7s,baz=138,slow=3.7,SNR=40							
KONO	**Kongsberg**	**152.91**	**350**	*e*PKPbc	**PKPbc**	17 56 14.8	-0.7	
KONO	**Kongsberg**	**152.91**	**350**	*c i*PKIKP	**PKPbc**	17 56 14.4	-1.1	
KONO	**Kongsberg**	**152.91**	**350**	*e*PKPbc	**PKPbc**	17 56 14.8	-0.7	
ODD1	**Odda**	**153.01**	**354**	*e*PKPbc	**PKPbc**	17 56 15.7	-0.1	
TIC	**Toumodi**	**153.03**	**167**	*eP*	**PKPdf**	17 56 12.0	+2.1	
DBIC	**Dimbokro**	**153.08**	**168**	*e*PKPdf	**PKPdf**	17 56 10.2	+0.2	
DBIC				*e*PKPbc	**PKiKP**	17 56 17.6	+0.2	
DBIC				*e*PKPbab	**sPKPdf**	17 56 29.6	+1.2	
DBIC	**Dimbokro**	**153.08**	**168**	PKP	**PKPdf**	17 56 10.8	+0.9	
	comp=Z,5.0nm,0.7s,baz=175,slow=0.6,SNR=5.0							
DBIC				PKPbc	**PKiKP**	17 56 18.1	+0.6	
	comp=Z,8.5nm,0.6s,baz=154,slow=2.4,SNR=13							
DBIC				PKPab	**pPKPbc**	17 56 29.9	-0.9	
	comp=Z,26nm,0.8s,baz=177,slow=6.2,SNR=12							
BLS5	**Blasjo**	**153.51**	**353**	*e*PKPdf	**PKPdf**	17 56 08.4	-0.8	
BLS5				*e*PKPbc	**PKPbc**	17 56 16.7	-0.2	
ANTO	**Ankara**	**153.53**	**294**	*e*PKPdf	**PKPdf**	17 56 07.9	-2.0	
ANTO				*e*PKPbc	**PKPbc**	17 56 16.4	-1.2	
ANTO	**Ankara**	**153.53**	**294**	*e*PKIKP	**PKPdf**	17 56 07.9	-2.0	
KMY	**Karmoy**	**153.82**	**355**	*e*PKPdf	**PKPdf**	17 56 09.5	-0.1	
SUW	**Suwalki**	**153.83**	**329**	*e*PKPdf	**PKPdf**	17 56 08.6	-1.1	
SUW				*e*PKPbc	**PKPbc**	17 56 17.0	-0.6	
SUW	**Suwalki**	**153.83**	**329**	*e*PKIKP	**PKPdf**	17 56 08.6	-1.1	
SNART	**Snartemo**	**154.49**	**352**	*e*PKPbc	**PKPbc**	17 56 18.8	-0.1	
EKA	**Eskdalemuir Ar**	**157.71**	**6**	PKPab	**PKPab**	17 56 46.5	-1.0	
	comp=Z,4.2nm,0.7s,baz=342,slow=3.1,SNR=8.1							
UZH	**Uzhgorod**	**157.71**	**320**	*e*PKP2	**PKPab**	17 56 48.0	+0.3	
OKC	**Ostrava-Krasne**	**158.99**	**327**	*e*PKP	**PKPdf**	17 56 15.9	-0.7	
OKC				*ep*PKP	**pPKPdf**	17 56 28.0	-2.2	
OKC				AMS	AMS	19 12 20.0		
	comp=Z,200nm,17.9s							
OKC	**Ostrava-Krasne**	**158.99**	**327**	*e*PKIKP	**PKPdf**	17 56 15.9	-0.7	
OKC				*e*		17 56 28.0		
OKC				MLR	MLR			
	comp=Z,200nm,17.9s							
MORC	**Moravsky Berou**	**159.30**	**328**	*e*PKP	**PKPdf**	17 56 16.3	-0.8	
DPC	**Dobruska-Polom**	**159.39**	**331**	*e*PKP	**PKPdf**	17 56 16.5	-0.6	
DPC				AMS	AMS	19 07 10.0		
	comp=Z,300nm,19.0s							
DPC	**Dobruska-Polom**	**159.39**	**331**	*e*PKIKP	**PKPdf**	17 56 16.5	-0.6	
DPC				MLR	MLR			
	comp=Z,300nm,19.0s							
UPC	**Upice**	**159.39**	**332**	*e*PKP	**PKPdf**	17 56 16.1	-1.0	
UPC				AMS	AMS	19 07 00.0		
	comp=Z,300nm,18.4s							
UPC	**Upice**	**159.39**	**332**	*e*PKIKP	**PKPdf**	17 56 16.1	-1.0	
UPC				MLR	MLR			
	comp=Z,300nm,18.4s							
KRLC	**Kraliky**	**159.41**	**330**	*e*PKP	**PKPdf**	17 56 16.7	-0.5	
KRLC	**Kraliky**	**159.41**	**330**	*e*PKIKP	**PKPdf**	17 56 16.7	-0.5	
VYHS	**Vyhne**	**159.59**	**324**	*e*PKP2	**PKPab**	17 56 55.7	-0.2	
VYHS	**Vyhne**	**159.59**	**324**	*e*PKP	**PKPab**	17 56 55.7	-0.2	
CLL	**Collm**	**159.82**	**337**	*e*PKPdf	**PKPdf**	17 56 17.0	-0.5	
CLL				*ep*PKPdf	**pPKPdf**	17 56 30.0	-1.1	
CLL				*i* PKPab	**PKPab**	17 56 56.0	-0.7	
	comp=Z,22nm,1.4s							
CLL				*i* pPKPab	**pPKPab**	17 57 09.4	-0.7	
	comp=Z,30nm,1.6s							
CLL				*es*PKPab	**sPKPab**	17 57 15.0	0.0	
CLL				*e*		17 57 40.0		
CLL				*e*PP	**PP**	**18 00 37.0**	-1.3	
CLL				*e*PPPP		18 06 36.0		
CLL	**Collm**	**159.82**	**337**	*e*PKIKP	**PKPdf**	17 56 17.0	-0.5	
CLL				*i*		17 56 56.0		
CLL				pmax	pmax			
	comp=Z,22nm,1.4s							
BRG	**Berggiesshubel**	**159.88**	**335**	*e*PKP	**PKPdf**	17 56 16.5	-1.1	
	comp=Z,19nm,1.5s							
BRG	**Berggiesshubel**	**159.88**	**335**	PKP	PKPdf	17 56 27.2	+10	
	comp=Z,8.4nm,1.2s							
BRG	**Berggiesshubel**	**159.88**	**335**	*e*PKIKP	**PKPdf**	17 56 16.5	-1.1	
BRG				*e*		17 56 27.2		
BRG				pmax	pmax			
	comp=Z,19nm,1.5s							
BRG				pmax	pmax			
	comp=Z,8.0nm,1.2s							
JAVC	**Velka Javorina**	**159.90**	**326**	*e*PKP	**PKPdf**	17 56 18.1	+0.3	
PVCC	**Panska Ves**	**159.93**	**334**	*e*PKP	**PKPdf**	17 56 18.2	+0.5	
PVCC				AMS	AMS	19 07 20.0		
	comp=Z,200nm,21.1s							
PVCC	**Panska Ves**	**159.93**	**334**	*e*PKIKP	**PKPdf**	17 56 18.2	+0.5	
PVCC				MLR	MLR			
	comp=Z,200nm,21.1s							
TOA0	**Torodi Ar. Sit**	**160.01**	**183**	*e*PKPdf	**PKPdf**	17 56 17.0	-1.8	
TOA0				*e*PKPdf	**PKPdf**	17 56 18.2	-0.6	
TOA0				*e*PKPbab	**PKPab**	17 56 57.5	-0.9	
TOA0				*e*PKPbab	**PKPab**	17 56 58.5	+0.2	
TORD	**Torodi Ar. Bea**	**160.01**	**183**	PKP	**PKPdf**	17 56 18.9	0.0	
	comp=Z,4.9nm,0.8s,baz=345,slow=1.1,SNR=23							
TORD				PKPab	**PKPab**	17 56 58.5	+0.1	
	comp=Z,43nm,0.9s,baz=176,slow=1.3,SNR=33							
TORD				PP	**PP**	**18 00 40.2**	+1.1	
	comp=Z,1.4nm,0.9s,baz=184,slow=4.4,SNR=3.8							
TOA1	**Torodi Ar. Sit**	**160.02**	**183**	*e*PKPdf	**PKPdf**	17 56 18.9	0.0	
TOA1				*e*PKPbab	**PKPab**	17 56 58.5	+0.1	
TOA1				*e*PP	**PP**	**18 00 40.1**	+1.1	
VRAC	**Vranov**	**160.06**	**328**	*e*PKP	**PKPdf**	17 56 17.2	-0.7	
KRUC	**Moravsky**	**160.33**	**328**	*e*PKP	**PKPdf**	17 56 17.2	-1.0	
GOPC	**GO Pecny, Ondr**	**160.34**	**332**	*e*PKP	**PKPdf**	17 56 19.8	+1.6	
GOPC				*ep*PKP	**pPKPdf**	17 56 31.1	-0.7	
GOPC				AMS	AMS	19 07 10.0		
	comp=Z,300nm,18.9s							
GOPC	**GO Pecny, Ondr**	**160.34**	**332**	*e*PKIKP	**PKPdf**	17 56 19.8	+1.6	
GOPC				*e*		17 56 31.1		
GOPC				MLR	MLR			
	comp=Z,300nm,18.9s							
PRU	**Pruhonice**	**160.38**	**333**	AMS	AMS	19 10 40.0		
	comp=Z,400nm,20.4s							
TREC	**Trest**	**160.55**	**330**	AMS	AMS	19 07 00.0		
	comp=Z,300nm,18.7s							
NKC	**Novy Kostel**	**160.93**	**337**	AMS	AMS	19 12 50.0		
	comp=Z,300nm,20.9s							
CONA	**Conrad Observa**	**161.41**	**327**	*i* PKPdf	**PKPdf**	17 56 18.2	-1.3	
	comp=Z,5.9nm,1.3s							
KHC	**Kasperske Hory**	**161.44**	**333**	*e*PKPdf	**PKPdf**	17 56 18.4	-1.0	
KHC	**Kasperske Hory**	**161.44**	**333**	*e*PKP	**PKPdf**	17 56 18.8	-0.6	
KHC				*ex*	x	17 56 27.7		
KHC				AMS	AMS	19 08 40.0		
	comp=Z,300nm,17.9s							
KHC	**Kasperske Hory**	**161.44**	**333**	*e*PKIKP	**PKPdf**	17 56 18.8	-0.6	
KHC				MLR	MLR			
	comp=Z,300nm,17.9s							
GEC2	**GERESS Array S**	**161.63**	**332**	*e*PKPdf	**PKPdf**	17 56 17.7	-2.0	
GEC2	**GERESS Array S**	**161.63**	**332**	*e*PKIKP	**PKPdf**	17 56 17.7	-2.0	
GERES	**GERESS Array B**	**161.63**	**332**	*e*PKIKP	**PKPdf**	17 56 18.8	-0.9	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
GERES	**GERESS Array B**	**161.63**	**332**	PKP	**PKPdf**	17 56 18.5	-1.2	
	comp=Z,0.9nm,0.8s,baz=75,slow=1.5,SNR=8.5							
GERES				PKPab	**PKPab**	17 57 04.9	+0.1	
	comp=Z,1.3nm,0.7s,baz=49,slow=4.1,SNR=5.0							
GEA0	**GERESS Array S**	**161.63**	**332**	*e*PKPdf	**PKPdf**	17 56 17.4	-2.3	
GEA0				*e*PKPbab	**PKPab**	17 57 04.1	-0.8	
ARSA	**Arzberg**	**162.06**	**326**	*i* PKPdf	**PKPdf**	17 56 18.7	-1.4	
	comp=Z,3.1nm,0.7s							
MOA	**Molln**	**162.18**	**329**	*i* PKPdf	**PKPdf**	17 56 18.7	-1.5	
	comp=Z,5.9nm,1.1s							
SOKA	**Soboth**	**162.70**	**325**	*i* PKPdf	**PKPdf**	17 56 19.5	-1.4	
	comp=Z,4.3nm,1.0s							
KBA	**Koelnbreinsper**	**163.17**	**329**	*i* PKPdf	**PKPdf**	17 56 19.7	-1.7	
	comp=Z,6.9nm,1.1s							
MYKA	**Terra Mystica**	**163.38**	**328**	*i* PKPdf	**PKPdf**	17 56 21.2	-0.3	
	comp=Z,1.8nm,0.5s							
ABTA	**Abfaltersbach**	**163.78**	**330**	*i* PKPdf	**PKPdf**	17 56 20.1	-1.8	
	comp=Z,14nm,1.8s							
MOTA	**Moosalm**	**163.85**	**334**	*i* PKPdf	**PKPdf**	17 56 20.7	-1.3	
	comp=Z,4.8nm,0.7s							
RETA	**Reutte**	**163.85**	**335**	*i* PKPdf	**PKPdf**	17 56 20.6	-1.4	
	comp=Z,4.8nm,1.0s							
SQTA	**Sankt Quirin**	**163.92**	**334**	*i* PKPdf	**PKPdf**	17 56 20.9	-1.2	
	comp=Z,12nm,1.2s							
FETA	**Feichten**	**164.26**	**334**	*i* PKPdf	**PKPdf**	17 56 21.3	-1.1	
	comp=Z,11nm,1.0s							
DAVA	**Damuels**	**164.33**	**336**	*i* PKPdf	**PKPdf**	17 56 22.8	+0.4	
	comp=Z,6.1nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**164.77**	**334**	*e*PKPdf	**PKPdf**	17 56 23.9	+1.0	
FUORN				*e*PKPab	**PKPab**	17 57 18.4	-0.5	
TAM	**Tamanrasset**	**168.81**	**203**	*e*PKPdf	**PKPdf**	17 56 27.3	+0.6	
TAM	**Tamanrasset**	**168.81**	**203**	*e*PKIKP	**PKPdf**	17 56 27.3	+0.6	
PAB	**San Pablo**	**172.45**	**32**	*e*PKPdf	**PKPdf**	17 56 28.8	+0.8	
PAB	**San Pablo**	**172.45**	**32**	*e*PKIKP	**PKPdf**	17 56 28.8	+0.8	
ESDC	**Sonseca Array**	**172.50**	**29**	PKP	**PKPdf**	17 56 28.7	+0.7	
	comp=Z,0.3nm,0.3s,baz=357,slow=1.9,SNR=11							
ESDC				PKPab	**PKPab**	17 57 53.4	+0.4	
	comp=Z,1.4nm,0.7s,baz=325,slow=4.0,SNR=7.0							
ES06	**SONSECA Array**	**172.51**	**29**	*e*PKPdf	**PKPdf**	17 56 28.8	+0.8	
ES06				*e*PKPab	**PKPab**	17 57 53.4	+0.3	
MDT	**Midelt**	**175.46**	**94**	PKP	**PKPdf**	17 56 30.4	+1.1	
	comp=Z,5.6nm,0.8s,baz=187,slow=1.1,SNR=8.7							

*ISCJB **26** 17:41:40.1±0.7,35.75N±0.02×2.76W±0.04,h10km±5km,*
Error ellipse: s-maj=5.4km s-min=3.9km az=13.3
*INMG **26** 17:41:41.7±1.4,35.62N×2.72W,h21km±4km,ML2.3, Error*
ellipse: s-maj=4.1km s-min=3.6km az=89.0
*SFS **26** 17:41:41.0,35.64N×2.72W, ML2.7, ALBORAN SUR*
*MDD **26** 17:41:41.1±0.6,35.64N×2.70W,h18km±4km, mbLg2.6/16,*
Error ellipse: s-maj=7.1km s-min=3.9km az=88.0, PRXIMO
*CNRM **26** 17:41:44.6,35.63N×2.73W,h10km, ml2.8*

ISC 26 17:41:39.2±1.1,35.70N±0.02×2.72W±0.03,h10km±9km,
n38,σ1s44/72,2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.35**	**314**	P	**Pb**	**17 41 48.6**	**+1.0**
	1.6nm,0.4s,SNR=15						
EALB				S	**Sb**	**17 41 55.5**	**+2.3**
	406nm,0.1s,SNR=6.9						
MELI	**Melilla**	**0.44**	**204**	P	**Pb**	**17 41 48.8**	**-0.2**
	117nm,0.1s,SNR=7.9						
MELI				S	**Sg**	**17 41 54.3**	**+0.7**
	2µm,0.2s,SNR=7.9						
MELI	**Melilla**	**0.44**	**204**	*e*P	**Pb**	17 41 48.8	-0.2
MELI				*e*S	**Sg**	17 41 54.3	+0.7
EMEL	**Melilla**	**0.44**	**206**	P	**Pb**	**17 41 49.1**	**0.0**
	3.6nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**17 41 55.0**	**-0.7**
	5µm,0.2s,SNR=7.9						
TAF	**Taforalt**	**0.92**	**164**	P	**Pn**	17 41 59.3	+1.1
TAF				S	**Sn**	17 42 12.2	+0.8
PALE	**Palemas**	**1.10**	**245**	P	**Pn**	17 42 01.9	+1.1
PALE				S	**Sn**	17 42 17.8	+1.7
EBER	**Berja**	**1.21**	**354**	P	**Pg**	17 42 02.5	0.0
	0.9nm,0.1s,SNR=14						
EBER				S	**Sg**	17 42 18.6	+0.5
	57nm,0.2s,SNR=29						
ENIJ	**Nijar**	**1.34**	**18**	⇓P	**Pg**	17 42 04.1	-0.9
	6.9nm,0.2s,SNR=18						
ENIJ				S	**Sg**	17 42 20.6	-1.7
	38nm,0.3s,SNR=7.9						
ELGU	**Los Guajares,**	**1.38**	**328**	P	**Pn**	17 42 04.3	-0.3
	1.7nm,0.2s,SNR=7.9						
ELGU				S	**Sg**	17 42 21.6	-2.0
	43nm,0.1s,SNR=7.9						
AKLM	**AKL**	**1.51**	**219**	P	**Pn**	17 42 07.0	+0.6
AKLM				S	**Sn**	17 42 30.6	+4.5
EQUE	**Quentar**	**1.61**	**339**	P	**Pb**	17 42 09.7	+0.5
	0.6nm,0.3s,SNR=9.5						
EQUE				S	**Sn**	17 42 28.9	+0.1
	4.8nm,0.2s						
EMAL	**Malaga-Limoner**	**1.74**	**308**	*e*P	**Pn**	17 42 10.2	+0.7
EMAL				*e*S	**Sn**	17 42 31.3	-0.4
EGOR	**Sierra Gorda,**	**1.80**	**322**	P	**Pn**	17 42 11.8	+1.3
	0.2nm,0.1s,SNR=7.9						
EGOR				S	**Sn**	17 42 33.0	-0.4
	0.1nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.87**	**298**	P	**Pn**	17 42 10.3	-1.0
	6.5nm,0.7s,SNR=7.3						
EMIJ				S	**Sn**	17 42 33.8	-1.3
	7.0nm,0.1s,SNR=5.4						
EQES	**Quesada**	**2.12**	**352**	⇓P	**Pb**	17 42 17.7	-0.1
	4.1nm,0.3s,SNR=18						
EQES				S	**Sb**	17 42 45.2	+0.9
	5.7nm,0.2s,SNR=6.2						
CHEFC	**Chefchaouen**	**2.22**	**255**	P	**Pg**	17 42 21.4	-0.4
CHEFC				S	**Sg**	17 42 50.5	0.0
SESP	**Santiago Espad**	**2.42**	**3**	P	**Pn**	17 42 19.0	0.0
	4.7nm,0.3s,SNR=7.9						
SESP				S	**Sn**	17 42 51.1	+2.2
	5.1nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.42**	**3**	P	**Pg**	17 42 26.5	+0.8
SESP				S	**Sg**	17 42 58.5	+1.3
EMUR	**La Murta**	**2.45**	**29**	P	**Pn**	17 42 19.2	-0.1
	5.8nm,0.4s,SNR=6.2						
EMUR				S	**Sn**	17 42 47.5	-1.8
	20nm,0.3s,SNR=6.2						
LCRM	**LCR**	**2.67**	**222**	P	**Pg**	17 42 29.5	-0.9
LCRM				S	**Sg**	17 43 05.7	+0.7
EADA	**Adamuz**	**2.88**	**329**	P	**Pn**	17 42 27.0	+1.8
	2.1nm,0.3s,SNR=7.9						
EADA				S	**Sn**	17 43 00.1	+0.1
	3.5nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**2.96**	**317**	P	**Pb**	17 42 31.0	-1.0
HORN				S	**Sb**	17 43 08.9	+0.7
ETOB	**Tobarra**	**3.09**	**17**	P	**Pn**	17 42 30.7	+2.5
	0.1nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	17 43 04.7	-0.4
	2.0nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.21**	**318**	P	**Pn**	17 42 31.4	+1.7
	SNR=7.9						
ECAB				S	**Sn**	17 43 08.4	+0.3
	1.4nm,0.2s,SNR=7.9						
MDT	**Midelt**	**3.27**	**209**	P	**Pb**	17 42 35.6	-1.9
MDT				S	**Sb**	17 43 17.0	-0.4
MD31	**MD31**	**3.29**	**211**	P	**Pb**	17 42 36.5	-1.2
MD31				S	**Sb**	17 43 17.2	-0.6
EBEN2	**Beniarda presa**	**3.59**	**33**	S	**Sn**	17 43 16.6	-0.9
	3.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.79**	**304**	P	**Pn**	17 42 38.3	+0.7
	1.0nm,0.1s,SNR=9.3						
EMIN				S	**Sn**	17 43 20.4	-1.8
	0.8nm,0.1s,SNR=7.9						
PAB	**San Pablo**	**4.05**	**342**	P	**Pn**	17 42 44.1	+2.7
	0.4nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.25**	**297**	P	**Pn**	17 42 44.9	+1.0
	1.4nm,0.1s,SNR=12						
EGRO				S	**Sn**	17 43 31.3	-2.3
	2.1nm,0.2s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.37**	**294**	*e*Pn	**Pn**	17 42 46.5	+0.9
PVAQ				*e*Sn	**Sn**	17 43 34.7	-1.9
PBDV	**Barranco-do-Ve**	**4.47**	**292**	*e*Pn	**Pn**	17 42 47.4	+0.3
PBDV				*e*Sn	**Sn**	17 43 38.2	-1.0
EBAD	**Badajoz**	**4.59**	**313**	P	**Pn**	17 42 50.0	+1.4
	0.4nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	17 43 39.7	-2.3
	6.0nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**4.64**	**43**	P	**Pn**	17 42 50.1	+0.7
	1.1nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	17 43 40.0	-3.2
	0.9nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**4.69**	**296**	*e*Pn	**Pn**	17 42 51.4	+1.3
MESJ	**Messejana**	**4.91**	**297**	*e*Pn	**Pn**	17 42 54.2	+1.2
MESJ				*e*Sn	**Sn**	17 43 48.1	-1.7
MESJ				A	A	17 43 59.0	
	4.2nm,0.6s						
PNCL	**Nicolau / Gran**	**5.24**	**299**	*e*Pn	**Pn**	17 42 58.8	+1.2
PNCL				*e*Sn	**Sn**	17 43 56.1	-2.0
PMTG	**Montargil**	**5.53**	**309**	*e*Sn	**Sn**	17 44 02.6	-2.5

*SFS **26** 17:44:57.0,35.61N×2.67W,ML2.5,ALBORAN SUR*

*MDD **26** 17:44:57.2±0.8,35.61N×2.67W,h21km±6km,mbLg2.4/9,*
Error ellipse: s-maj=9.8km s-min=4.9km az=87.0, PRXIMO
*CNRM **26** 17:45:02.7,35.67N×2.83W,h3km,ml2.4*

ISC 26 17:44:55.9±1.2,35.77N±0.02×2.70W±0.04,h6km±10km,
n26,σ1s69/51,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.32**	**302**	P	**Pb**	**17 45 05.8**	**+1.8**
	19nm,0.1s,SNR=6.0						
EALB				S	**Sb**	**17 45 12.0**	**+2.6**
	389nm,0.1s						
MELI	**Melilla**	**0.51**	**202**	P	**Pg**	**17 45 04.9**	**-0.8**
	16nm,0.1s,SNR=7.9						
MELI				S	**Sg**	**17 45 10.2**	**-2.1**
	221nm,0.1s,SNR=7.9						
MELI	**Melilla**	**0.51**	**202**	*e*P	**Pg**	17 45 04.6	-1.1
MELI				*e*S	**Sg**	17 45 10.3	-2.1
EMEL	**Melilla**	**0.51**	**204**	P	**Pg**	**17 45 05.0**	**-0.7**
	30nm,0.4s,SNR=7.9						
EMEL				S	**Sg**	**17 45 10.6**	**-1.8**
	1µm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**0.60**	**204**	P	**Pn**	17 45 12.3	+1.3
GOG				S	**Sg**	17 45 16.4	+1.2
TAF	**Taforalt**	**0.98**	**166**	P	**Pn**	17 45 16.3	0.0
TAF				S	**Sn**	17 45 32.8	+2.3
EBER	**Berja**	**1.14**	**352**	P	**Pb**	17 45 18.4	+0.3
	0.2nm,0.1s,SNR=5.8						
EBER				S	**Sn**	17 45 34.4	-0.1
	8.1nm,0.1s,SNR=13						
PALE	**Palemas**	**1.15**	**242**	P	**Pn**	17 45 19.4	+0.9
PALE				S	**Sn**	17 45 34.9	+0.3
ENIJ	**Nijar**	**1.26**	**18**	P	**Pn**	17 45 19.8	-0.3
	2.1nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	17 45 38.0	+0.5
	13nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**1.33**	**326**	P	**Pn**	17 45 20.2	-0.8
	1.4nm,0.1s,SNR=7.9						
ELGU				S	**Sb**	17 45 38.0	-0.5
	16nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**1.55**	**338**	P	**Pb**	17 45 25.7	+0.6
	0.8nm,0.1s,SNR=4.6						
EQUE				S	**Sn**	17 45 44.4	-0.3
	2.7nm,0.1s						
AKLM	**AKL**	**1.58**	**217**	P	**Pg**	17 45 30.2	+4.1
AKLM				S	**Sg**	17 45 50.4	+3.9
EMAL	**Malaga-Limoner**	**1.71**	**306**	*e*P	**Pn**	17 45 25.4	-0.8
EMAL				*e*S	**Sn**	17 45 46.2	-2.2
EGOR	**Sierra Gorda,**	**1.75**	**320**	P	**Pn**	17 45 27.4	+0.4
	0.6nm,0.3s,SNR=7.9						
EGOR				S	**Sn**	17 45 50.4	+0.7
	0.5nm,0.0s,SNR=7.9						
EMIJ	**Mijas**	**1.85**	**296**	P	**Pn**	17 45 27.6	-0.6
	0.1nm,0.1s,SNR=4.5						
EMIJ				S	**Sn**	17 45 48.2	-3.8
	5.5nm,0.2s,SNR=8.8						
EQES	**Quesada**	**2.05**	**352**	P	**Pb**	17 45 33.8	+0.2
	1.6nm,0.2s,SNR=19						
EQES				S	**Sb**	17 45 59.2	-0.2
	3.0nm,0.2s						
EMUR

BADI					AML	AML		
	comp=N,138μm,1.3s							
BADI					AML	AML		
	comp=E,104μm,1.2s							
BADI					AML	AML		
	comp=N,138μm,1.3s							
PIEI	**Pieia**	**0.12**	**74**	P	Pg		17 53 59.9	+0.4
PIEI				AML	AML			
	comp=E,62μm,0.4s							
PIEI				AML	AML			
	comp=N,46μm,0.3s							
PIEI				AML	AML			
	comp=E,62μm,0.4s							
PIEI				AML	AML			
	comp=N,46μm,0.3s							
PIEI				AML	AML			
	comp=E,62μm,0.4s							
PIEI				AML	AML			
	comp=N,46μm,0.3s							
ATVO	**AVT- Monte Val**	**0.12**	**170**	P	Pg		17 54 00.1	+0.6
ATVO				S	Sg		17 54 02.5	+0.9
ATVO				AML	AML			
	comp=E,142μm,0.2s							
ATVO				AML	AML			
	comp=N,86μm,1.4s							
ATVO				AML	AML			
	comp=E,142μm,0.2s							
ATVO				AML	AML			
	comp=N,86μm,1.4s							
ATVO				AML	AML			
	comp=N,86μm,1.4s							
ATVO				AML	AML			
	comp=E,142μm,0.2s							
ATBU	**Serra di Buran**	**0.13**	**102**	P	Pg		17 54 00.3	+0.6
ATBU				S	Sg		17 54 02.9	+1.1
ATBU				AML	AML			
	comp=E,85μm,0.3s							
ATBU				AML	AML			
	comp=N,99μm,1.2s							
ATBU				AML	AML			
	comp=E,85μm,0.3s							
ATBU				AML	AML			
	comp=N,99μm,1.2s							
ATBU				AML	AML			
	comp=N,99μm,1.2s							
ATBU				AML	AML			
	comp=E,85μm,0.3s							
ATMC	**Monte Cedrone**	**0.14**	**247**	P	Pg		17 54 00.3	+0.5
ATMC				S	Sg		17 54 03.0	+0.8
ATMC				AML	AML			
	comp=E,92μm,0.1s							
ATMC				AML	AML			
	comp=N,105μm,0.6s							
ATMC				AML	AML			
	comp=E,92μm,0.1s							
ATMC				AML	AML			
	comp=N,105μm,0.6s							
PARC	**Parchiule**	**0.18**	**325**	P	Pg		17 54 00.9	+0.4
PARC				AML	AML			
	comp=E,51μm,0.1s							
PARC				AML	AML			
	comp=N,75μm,0.2s							
PARC				AML	AML			
	comp=E,51μm,0.1s							
PARC				AML	AML			
	comp=N,75μm,0.2s							
NARO	**Abbazia di Nar**	**0.18**	**54**	P	Pg		17 54 00.9	+0.4
NARO				S	Sg		17 54 03.9	+0.7
NARO				AML	AML			
	comp=E,37μm,1.1s							
NARO				AML	AML			
	comp=N,46μm,1.1s							
NARO				AML	AML			
	comp=E,37μm,1.1s							
NARO				AML	AML			
	comp=N,46μm,1.1s							
NARO				AML	AML			
	comp=N,46μm,1.1s							
NARO				AML	AML			
	comp=E,37μm,1.1s							
CPGN	**Carpegna, Ital**	**0.30**	**352**	P	Pb		17 54 03.8	-0.5
ATTE	**AVT- Monte Tez**	**0.31**	**183**	P	Pg		17 54 03.3	+0.6
ATTE				S	Sb		17 54 08.2	-1.2

*ISCJB **26** 17:58:46.8±0.8, 7°.79N±0°.02×121°.60E±0°.02, h23^{km}±6^{km}, mb4.4/26, MS4.3/2, Error ellipse: s-maj=4.0km s-min=3.4km az=41.5*

*MAN **26** 17:58:46.6, 7°.89N×121°.48E, h36^{km}, MS4.4*

*DJA **26** 17:58:47.4±0.8, 8°N±8°×12°2E±°, h10^{km}, M4.5/11, mB5.0/6, mb4.5/11, MLv4.6/7, Mw(mB)4.3/6*

*IDC **26** 17:58:51.9±4.8, 7°.85N×121°.76E, h48^{km}±52^{km}, mb3.8/6, mb1 4.0/8, mb1mx3.6/47, mbtmp4.1/8, ML4.4/2, MS4.3/2, Ms1 4.3/2, ms1mx3.2/49, Error ellipse: s-maj=64.5km s-min=17.3km az=57.0*

*NEIC **26** 17:58:52.9±0.9, 7°.55N×121°.36E, h56^{km}±10^{km}, mb4.4/30, Error ellipse: s-maj=9.0km s-min=5.7km az=63.0*

*KLM **26** 17:58:53.2, 7°.55N×121°.45E, h142^{km}, mb4.5*

ISC 26 17:58:46.5±2.9, 7°.83N±0°.04×121°.53E±0°.03, h8^{km}±19^{km}, n94, σ1°94/106, mb4.4/26, 2C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZMPH	**Zamboanga City**	**1.02**	**148**	⇓*i*P			**Pb**	**17 59 05.1**	**-1.3**
ZMPH				*i*S			**Sb**	**17 59 18.3**	**-1.6**
IPIL	**Ipil**	**1.03**	**92**	*e*P			**Pb**	**17 59 04.7**	**-1.9**
IPIL				*e*S			**Sb**	**17 59 16.6**	**-3.7**
PAGZ	**Pagadian**	**1.84**	**89**	*e*P			**Pn**	**17 59 17.6**	**-0.7**
PAGZ				*e*S			**Sn**	**17 59 39.4**	**-2.3**
SNPH	**Sibulan**	**2.26**	**48**	⇑*i*P			**Pn**	**17 59 23.7**	**-0.5**
SNPH				*i*S			**Sn**	**17 59 51.2**	**-1.2**
CTBH	**Cotabato--PC H**	**2.76**	**102**	⇓*e*P			**Pn**	**17 59 30.0**	**-1.1**
CTBH				*i*S			**Sn**	**18 00 00.7**	**-3.9**
JAP	**San Jose, Anti**	**2.93**	**8**	⇓*e*P			**Pn**	**17 59 33.7**	**+0.3**
JAP				*e*S			**Sn**	**18 00 09.1**	**+0.3**
TBP	**Tagbilaran**	**2.96**	**51**	*e*P			**Pn**	**17 59 33.6**	**-0.2**
GUIM	**Jordan**	**2.97**	**21**	*e*P			**Pn**	**17 59 32.6**	**-1.4**
GUIM				*e*S			**Sn**	**18 00 04.3**	**-5.5**
CGP	**Cagayan de Oro**	**3.20**	**79**	⇓*e*P			**Pn**	**17 59 36.8**	**-0.3**
CGP				*e*S			**Sn**	**18 00 14.2**	**-1.2**
SKMP	**Bagumbayan, Su**	**3.26**	**113**	*e*P			**Pn**	**17 59 36.9**	**-1.1**
SKMP				*e*S			**Sn**	**18 00 13.3**	**-3.7**
LLP	**Lapu-Lapu**	**3.45**	**44**	⇑*i*P			**Pn**	**17 59 40.1**	**-0.5**
LLP				*e*S			**Sn**	**18 00 19.0**	**-2.7**
BUKP	**Musuan**	**3.50**	**89**	*e*P			**Pn**	**17 59 41.2**	**-0.1**
BUKP				*e*S			**Sb**	**18 00 30.8**	**-0.8**
KCP	**Kidapawan**	**3.62**	**103**	⇓*e*P			**Pn**	**17 59 43.9**	**+0.9**
RCP	**Roxas**	**3.90**	**18**	⇓*e*P			**Pn**	**17 59 47.9**	**+1.1**
ENPP	**El Nido**	**3.95**	**328**	*e*P			**Pn**	**17 59 44.7**	**-2.7**
ENPP				*e*S			**Sn**	**18 00 27.8**	**-6.1**
MSLP	**Maasin**	**4.01**	**55**	*e*P			**Pn**	**17 59 48.0**	**-0.3**
DAV	**Davao City (W)**	**4.09**	**100**	*e*Pn			**Pn**	**17 59 46.1**	**-3.2**
BUTP	**Butuan**	**4.21**	**74**	*e*P			**Pn**	**17 59 51.1**	**+0.1**
BUSP	**Coron**	**4.35**	**343**	*e*P			**Pn**	**17 59 51.5**	**-1.5**
BUSP				*e*S			**Sn**	**18 00 37.9**	**-6.0**
OCLP	**Ormoc**	**4.42**	**43**	*e*P			**Pn**	**17 59 52.8**	**-1.0**
OCLP				*e*S			**Sn**	**18 00 43.2**	**-2.3**
DDMP	**Don Marcelino,**	**4.49**	**112**	*e*P			**Pn**	**17 59 54.3**	**-0.6**
SJMP	**San Jose**	**4.62**	**355**	*e*P			**Pn**	**17 59 56.2**	**-0.5**
SJMP				*e*S			**Sn**	**18 00 46.5**	**-4.1**
KDM	**Kudat**	**4.74**	**259**	P			**Pb**	18 00 05.0	-5.0
SDKM	**Sandakan**	**4.82**	**243**	P			**Pn**	**17 59 58.2**	**-1.3**
TSM	**Tawau**	**5.05**	**226**	P			**Pn**	**18 00 03.1**	**+0.5**
KKM	**Kota Kinabalu**	**5.56**	**252**	*e*Pn			**Pn**	**18 00 10.3**	**+0.5**
KKM				*e*Sn			**Sn**	**18 01 10.9**	**-3.1**
KKM	**Kota Kinabalu**	**5.56**	**252**	P			**Pn**	**18 00 11.0**	**+1.2**
CNP	**Catarman**	**5.58**	**33**	*e*P			**Pn**	**18 00 08.8**	**-1.1**
CNP				*e*S			**Sn**	**18 01 12.6**	**-1.7**
MRSI	**Marisa** 14nm,0.6s,0.1nm	**7.31**	**177**	P			**Pn**	**18 00 34.1**	**+0.4**
KMSI	**Cibinong**	**7.61**	**161**	P			**Pn**	**18 00 37.8**	**+0.1**
MPSI	**Mapaga** 22nm,0.8s,278nm0.1nm	**7.62**	**192**	P			**Pn**	**18 00 37.5**	**-0.3**
APSI	**Ampana**	**8.68**	**179**	P			Pn	18 01 07.9	+15
LUWI	**Luwuk**	**8.90**	**172**	*e*Pn			**Pn**	**18 00 57.6**	**+2.1**
LUWI				*e*Sn			**Sn**	**18 02 35.5**	**-0.4**
LUWI	**Luwuk**	**8.90**	**172**	P			**Pn**	**18 00 56.2**	**+0.8**
TNTI	**Ternate**	**9.11**	**140**	*e*Pn			**Pn**	**18 01 00.1**	**+1.7**
BTM	**Bintulu**	**9.58**	**242**	P			**Pn**	**18 01 05.3**	**+0.5**
BTM	**Bintulu**	**9.58**	**242**	P			**Pn**	**18 01 05.3**	**+0.5**
SBUM	**Sibu**	**10.70**	**241**	*e*Pn			**Pn**	**18 01 21.2**	**+1.1**
SBUM	**Sibu**	**10.70**	**241**	P			**Pn**	**18 01 21.5**	**+1.4**

KSM	**Kuching**	**12.84**	**241**	*e*Pn			**Pn**	**18 01 46.4**	**-3.0**
SIJI	**Sorong** 0.9nm,0.3s,baz=323,slow=20,SNR=7.0	**13.00**	**131**	P			**Pn**	**18 01 52.3**	**+0.7**
FAKI	**Fak Fak** 37nm,1.2s	**15.11**	**135**	*e*Pn			**P**	**18 02 26.2**	**+0.5**
TPUB	**Ta-pu** 106nm,1.5s	**15.41**	**357**	*e*Pn			**P**	**18 02 30.6**	**+1.6**
YULB	**Yu-li** 32nm,1.4s	**15.48**	**359**	*e*Pn			**P**	**18 02 30.4**	**+0.6**
SSLB	**Suanglung** 84nm,1.8s	**15.88**	**358**	*e*Pn			**P**	**18 02 39.2**	**+4.9**
SRBI	**Singaraja**	**17.01**	**202**	P			P	18 03 01.3	+14
SOEI	**Soe** 22nm,0.9s	**17.68**	**171**	*e*Pn			**P**	**18 02 56.4**	**+2.1**
JAGI	**Jajag, Banyuwa** 20nm,0.9s	**17.78**	**205**	*e*Pn			**P**	**18 02 57.4**	**+2.1**
BATI	**Baumata** 2.8nm,0.3s,baz=348,slow=0.8,SNR=8.5	**18.04**	**173**	P			**P**	**18 03 00.3**	**+2.1**
PPBI	**Pangkal Pinang** 6.7nm,0.8s	**18.28**	**238**	P			**P**	**18 03 01.8**	**+0.9**
MYKOM	**Kota Tinggi** 11nm,0.9s	**18.60**	**252**	*e*P			**P**	**18 03 04.5**	**+0.1**
SKNT	**Sakolnakorn** 3.8nm,1.1s	**19.38**	**300**	P			**Pn**	**18 03 17.2**	**+3.1**
CBJI	**Citeko**	**20.36**	**226**	P			Pn	18 03 26.1	+0.4
CISI	**Cisompet, Garu** 185nm,1.6s	**20.50**	**222**	*e*P			**P**	**18 03 23.7**	**-1.6**
IPM	**Ipoh** 29nm,1.8s	**20.65**	**262**	*e*P			**P**	**18 03 23.8**	**-3.1**
MDSI	**Maura Dua**	**21.20**	**235**	P			**P**	**18 03 33.9**	**+1.2**
MNSI	**Mandailing Nat**	**22.96**	**253**	P			**P**	**18 03 53.0**	**+1.4**
CM01	**Chiang Mai Arr**	**24.34**	**298**	*e*P			**P**	**18 04 04.7**	**-0.4**
CM31	**Chiang Mai Arr** 23nm,1.8s	**24.37**	**298**	*e*P			**P**	**18 04 04.8**	**-0.6**
CMAR	**Chiang Mai Arr** 1.8nm,0.9s,baz=121,slow=8.3,SNR=12	**24.37**	**298**	P			**P**	**18 04 06.5**	**+1.2**
CMMT	**Chiang Mai**	**24.50**	**299**	P			**P**	**18 04 08.8**	**+2.2**
CHTO	**Chiang Mai** 4.9nm,1.2s	**24.51**	**299**	*e*P			**P**	**18 04 07.3**	**+0.7**
GSI	**Gunungsitoli** 14nm,0.8s	**24.73**	**256**	*e*P			**P**	**18 04 09.1**	**+0.5**
FITZ	**Fitzroy Crossi** 10nm,1.1s	**26.08**	**171**	*e*P			**P**	**18 04 21.4**	**+0.6**
FITZ	**Fitzroy Crossi** 4.9nm,0.9s,baz=352,slow=6.1,SNR=5.6	**26.08**	**171**	P			**P**	**18 04 21.9**	**+1.1**
JNU	**Nakatsue** 17nm,1.3s	**26.62**	**18**	*e*P			**P**	**18 04 27.6**	**+2.0**
WRAB	**Tennant Creek** 20nm,1.4s	**30.34**	**156**	*e*P			**P**	**18 04 57.4**	**-1.4**
WR1	**Warramunga Arr** 31nm,1.8s	**30.34**	**156**	*e*P			**P**	**18 04 57.5**	**-1.4**
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=337,slow=9.7,SNR=20	**30.34**	**156**	*e*P			**P**	**18 04 57.5**	**-1.4**
WB2	**Warramunga Arr**	**30.34**	**156**	*e*P			**P**	**18 04 56.5**	**-2.4**
COEN	**Coen** 45nm,1.5s	**30.50**	**135**	*e*P			**P**	**18 04 59.8**	**-0.5**
AS31	**Alice Springs** 2.9nm,1.4s	**33.55**	**159**	*e*P			**P**	**18 05 25.7**	**-1.4**
ASAR	**Alice Springs** 1.1nm,0.7s,baz=340,slow=6.9,SNR=28	**33.56**	**159**	P			**P**	**18 05 26.4**	**-0.7**
AS01	**Alice Springs**	**33.57**	**159**	*e*P			**P**	**18 05 26.6**	**-0.7**
CTAO	**Charters Tower** 41nm,1.6s	**36.90**	**139**	*e*P			**P**	**18 05 54.7**	**-1.3**
ASAJ	**Asahikawa** comp=Z,455nm,20.4s,baz=150,slow=34	**40.55**	**23**	LR			LR	18 21 34.3	
BBOO	**Buckleboo** 68nm,1.8s	**42.72**	**162**	*e*P			**P**	**18 06 42.0**	**-2.2**
EIDS	**Eidsvold** 19nm,1.3s	**43.77**	**140**	*e*P			**P**	**18 06 52.3**	**-0.6**
STKA	**Stephens Creek** 4.6nm,1.7s	**43.89**	**155**	*e*P			**P**	**18 06 52.9**	**-0.8**
STKA	**Stephens Creek** 2.0nm,0.9s,baz=326,slow=11,SNR=4.1	**43.89**	**155**	P			**P**	**18 06 53.6**	**-0.1**
TLY	**Talaya** 2.9nm,0.8s	**46.14**	**345**	*e*P			**P**	**18 07 12.4**	**+1.0**
WMQ	**Urumqi** 7.4nm,0.4s	**46.44**	**326**	*e*P			**P**	**18 07 14.9**	**+0.9**
ARMA	**Armidale** 48nm,1.9s	**47.75**	**144**	*e*P			**P**	**18 07 24.5**	**+0.1**
MK01	**Makanchi Array**	**51.26**	**326**	*e*P			**P**	**18 07 52.0**	**+1.1**
MK31	**Makanchi Array** 1.8nm,0.8s	**51.28**	**326**	*e*P			**P**	**18 07 52.2**	**+1.2**
MK32	**Makanchi Array**	**51.28**	**326**	*e*P			**P**	**18 07 52.5**	**+1.5**
MKAR	**Makanchi Array** 1.4nm,0.6s,baz=127,slow=9.0,SNR=16	**51.28**	**326**	P			**P**	**18 07 52.5**	**+1.5**
MAKZ	**Makanchi** 3.8nm,1.3s	**51.46**	**326**	*e*P			**P**	**18 07 52.7**	**+0.3**
PETK	**Petropavlovsk-**	**53.83**	**26**	*e*P			**P**	**18 08 11.1**	**+1.3**
AAK	**Ala-Archa** 3.9nm,1.0s	**53.87**	**318**	*e*P			**P**	**18 08 12.3**	**+1.9**
PET	**Petropavlovsk** 212nm,1.8s	**54.20**	**27**	*e*P			**P**	**18 08 14.9**	**+2.5**
KK31	**Karatay Array** 2.3nm,0.8s	**56.73**	**317**	*e*P			**P**	**18 08 32.4**	**+1.4**
KKAR	**Karatay Array** 2.3nm,0.8s	**56.73**	**317**	*e*P			**P**	**18 08 32.4**	**+1.4**
KMBO	**Kilima Mbogo** comp=Z,123nm,21.3s,baz=98,slow=32	**84.48**	**268**	LR			LR	18 44 30.8	

*NEIC **26** 18:16:04.5±0.4, 10°.91S×165°.91E, h10^{km}, mb4.9/25, Error ellipse: s-maj=9.8km s-min=7.1km az=67.0*

*ISCJB **26** 18:16:06.6±0.4, 11°.04S±0°.05×165°.86E±0°.06, h35^{km}, mb4.8/30, MS3.5/4, Error ellipse: s-maj=9.4km s-min=6.4km az=145.4*

*IDC **26** 18:16:09.6±3.6, 11°.04S×165°.85E, h46^{km}±30^{km}, mb3.9/8, mb1 4.1/10, mb1mx3.7/52, mbtmp4.2/10, ML4.5/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/39, Error ellipse: s-maj=27.7km s-min=21.8km az=82.0*

ISC 26 18:16:08.4±0.6, 10°.97S±0°.09×165°.85E±0°.07, h35^{km}, n59, σ1°42/52, mb4.8/30, MS3.5/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.01**	**284**	*e*P			Pn	18 17 31.0	-3.9
HNR				*e*S			**Sn**	**18 18 36.0**	**-6.5**
HNR	**Honiara**	**6.01**	**284**	*e*Pn			**Pn**	**18 17 35.0**	**+0.1**
HNR				*e*Sn			**Sn**	**18 18 44.2**	**+1.8**
HNR	**Honiara** 16nm,0.3s,baz=356,slow=4.6,SNR=13	**6.01**	**284**	P			**Pn**	**18 17 35.4**	**+0.6**
HNR	2.5nm,0.3s,baz=192,slow=22,SNR=3.4			S			**Sn**	**18 18 44.2**	**+1.8**
HNR	comp=Z,465nm,20.2s,baz=1.0,slow=37			LR			LR	18 19 51.0	
MARNC	**Mare, Loyalty**	**10.66**	**169**	*e*Pn			**Pn**	**18 18 39.7**	**+1.0**
DZM	**Mont Dzumac**	**11.06**	**177**	*e*Pn			**Pn**	**18 18 44.1**	**-0.1**
DZM	**Mont Dzumac** 2.1nm,0.3s,baz=313,slow=13,SNR=21	**11.06**	**177**	P			**Pn**	**18 18 44.4**	**+0.2**
DZM	comp=Z,281nm,21.0s,baz=344,slow=34			LR			LR	18 22 20.8	
ONTNC	**Ouen Toro**	**11.29**	**177**	*e*Pn			**Pn**	**18 18 47.5**	**+0.1**
PINNC	**Pines Island,**	**11.68**	**173**	*e*Pn			**Pn**	**18 18 53.5**	**+0.8**
EIDS	**Eidsvold** 82nm,2.0s	**20.02**	**222**	*e*P			**Pn**	**18 20 40.2**	**-0.1**
MANU	**Manus Island** 41nm,1.1s	**20.38**	**294**	*e*P			Pn	18 20 46.6	+2.0
CTA	**Charters Tower** 8.0nm,0.8s,baz=74,slow=7.0,SNR=5.1	**20.93**	**242**	P			**P**	**18 20 49.2**	**+0.9**
CTAO	**Charters Tower** 19nm,1.1s	**20.93**	**242**	*e*P			**P**	**18 20 49.4**	**+1.2**
ARMA	**Armidale** 42nm,1.8s	**23.44**	**212**	*e*P			**P**	**18 21 15.3**	**+0.6**
H11S2	**WAKE ISLAND Hy** baz=181,slow=76,SNR=16	**29.28**	**2**	T			T	18 52 30.4	
H11S3	**WAKE ISLAND Hy** baz=181,slow=76,SNR=13	**29.29**	**2**	T			T	18 52 29.8	
H11S1	**WAKE ISLAND Hy** baz=181,slow=76,SNR=15	**29.30**	**2**	T			T	18 52 28.4	
BKZ	**Black Stump Fm** 38nm,1.8s	**29.64**	**163**	*e*P			**P**	**18 22 10.2**	**-0.4**
H11N1	**WAKE ISLAND Hy** baz=182,slow=76,SNR=8.3	**30.50**	**2**	T			T	18 54 00.7	
H11N3	**WAKE ISLAND Hy** baz=182,slow=76,SNR=5.1	**30.51**	**2**	T			T	18 53 58.9	
H11N2	**WAKE ISLAND Hy** baz=182,slow=76,SNR=6.9	**30.52**	**2**	T			T	18 54 00.1	
STKA	**Stephens Creek** 5.0nm,1.6s	**30.57**	**223**	*e*P			**P**	**18 22 19.9**	**+0.9**
STKA	**Stephens Creek** 1.9nm,0.6s,baz=58,slow=10.0,SNR=6.4	**30.57**	**223**	P			**P**	**18 22 19.7**	**+0.8**
STKA	comp=Z,138nm,18.5s,baz=22,slow=35			LR			LR	18 34 09.1	
BFZ	**Birch Farm** 120nm,1.8s	**30.99**	**165**	*e*P			**P**	**18 22 21.2**	**-1.3**
THZ	**Tophouse** 22nm,1.3s	**31.30**	**170**	*e*P			**P**	**18 22 26.2**	**+0.9**

WRAB	**Tennant Creek** 41nm,1.8s	**31.59**	**250**	*e*P			**P**	**18 22 27.2**	**-0.9**
WR1	**Warramunga Arr** 12nm,1.1s	**31.61**	**250**	*e*P			**P**	**18 22 27.6**	**-0.6**
WRA	**Warramunga Arr** 3.1nm,0.7s,baz=81,slow=9.0,SNR=20	**31.61**	**250**	P			**P**	**18 22 27.6**	**-0.7**
KHZ	**Kahutara** 33nm,1.3s	**32.04**	**169**	*e*P			**P**	**18 22 32.5**	**+0.7**
GUMO	**Guam** comp=Z,62nm,21.6s,baz=179,slow=32	**32.07**	**319**	LR			LR	18 33 28.0	
LTZ	**Lake Taylor** 102nm,2.0s	**32.19**	**171**	*e*P			**P**	**18 22 32.3**	**-0.8**
TOO	**Toolangi** 14nm,1.3s	**32.19**	**211**	*e*P			**P**	**18 22 34.4**	**+1.2**
AS31	**Alice Springs** 1.6nm,1.1s	**32.92**	**243**	*e*P			**P**	**18 22 38.8**	**-0.9**
ASAR	**Alice Springs** 1.8nm,0.7s,baz=66,slow=10,SNR=21	**32.92**	**243**	P			**P**	**18 22 38.7**	**-1.1**
ASAR	comp=Z,148nm,18.7s,baz=62,slow=35			LR			LR	18 35 08.3	
RPZ	**Rata Peaks** 51nm,1.5s	**32.94**	**173**	*e*P			**P**	**18 22 39.7**	**+0.1**
MQZ	**McQueen's Vall** 23nm,0.9s	**33.15**	**171**	*e*P			**P**	**18 22 40.7**	**-0.7**
LBZ	**Lake Benmore** 63nm,1.6s	**33.51**	**174**	*e*P			**P**	**18 22 42.9**	**-1.6**
WKZ	**Wanaka** 193nm,1.9s	**33.85**	**176**	*e*P			**P**	**18 22 47.4**	**-0.1**
RAR	**Rarotonga** 218nm,2.0s	**34.49**	**112**	*e*P			**P**	**18 22 52.1**	**-1.3**
RAR	**Rarotonga** comp=Z,50nm,18.2s,baz=278,slow=35	**34.49**	**112**	LR			LR	18 36 17.6	
BBOO	**Buckleboo** 40nm,1.4s	**34.96**	**227**	*e*P			**P**	**18 22 57.1**	**-0.2**
FITZ	**Fitzroy Crossi** 31nm,1.9s	**39.50**	**255**	*e*P			**P**	**18 23 35.4**	**-0.6**
MORW	**Morawa** 70nm,1.5s	**49.75**	**241**	*e*P			**P**	**18 24 57.9**	**+0.2**
GIRL	**Giralia** 507nm,1.4s	**50.53**	**250**	*e*P			**P**	**18 25 02.4**	**-1.3**
MJAR	**Matsushiro Arr** 3.9nm,1.1s,baz=162,slow=7.0,SNR=5.2	**53.95**	**332**	P			**P**	**18 25 31.0**	**+2.2**
MAJO	**Matsushiro**	**53.95**	**332**	*e*P			**P**	**18 25 31.0**	**+2.2**
VNDA	**Vanda** 8.3nm,1.4s	**66.57**	**181**	*e*P			**P**	**18 26 54.2**	**-0.3**
SBA	**Scott Base** 49nm,1.9s	**66.88**	**180**	*e*P			**P**	**18 26 56.9**	**+0.4**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=239,slow=4.7,SNR=7.7	**83.41**	**18**	P			**P**	**18 28 31.1**	**-0.7**
EML	**El Monte Cty P**	**85.44**	**55**	*e*P			**P**	**18 28 44.8**	**+1.9**
BACC	**Bachelor Mtn.**	**85.49**	**55**	*e*P			**P**	**18 28 40.0**	**-3.0**
MK01	**Makanchi Array**	**93.52**	**317**	*e*P			**P**	**18 29 19.9**	**-0.8**
MK31	**Makanchi Array** 1.8nm,1.2s	**93.53**	**317**	*e*P			**P**	**18 29 20.5**	**-0.3**
MK32	**Makanchi Array**	**93.53**	**317**	*e*P			**P**	**18 29 20.4**	**-0.5**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=104,slow=8.9,SNR=6.0	**93.53**	**317**	P			**P**	**18 29 20.4**	**-0.4**
ZALV	**Zalesovo Beam**	**93.55**	**324**	*e*P			**P**	**18 29 19.7**	**-1.0**
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=107,slow=9.2,SNR=2.6	**93.55**	**324**	P			**P**	**18 29 20.6**	**-0.1**
ZAA1	**Zalesovo Array**	**93.55**	**324**	*e*P			**P**	**18 29 20.6**	**-0.1**
MAKZ	**Makanchi** 4.6nm,1.4s	**93.75**	**317**	*e*P			**P**	**18 29 22.1**	**+0.3**
CLL	**Collm**	**134.07**	**337**	*e*PKPdf			**PKPdf**	**18 35 24.0**	**+1.8**

*JMA **26** 18:21:27.9±0.3, 23°.46N×124°.60E, h43^{km}, M3.1*

*ISCJB **26** 18:21:28.2±1.4, 23°.47N±0°.09×124°.59E±0°.05, h42^{km}±22^{km}, mb3.7/2, Error ellipse: s-maj=15.6km s-min=7.0km az=166.5*

*IDC **26** 18:22:11.6±4.9, 17°.52N×124°.86E, h0^{km}, mb3.6/3, mb1 3.9/3, mb1mx3.3/49, mbtmp3.6/3, Error ellipse: s-maj=287.2km s-min=30.3km az=93.0*

ISC 26 18:21:28.2±2.2, 23°.50N±0°.09×124°.58E±0°.05, h27^{km}±15^{km}, n13, σ0°46/23, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.91**	**308**	P			**Pn**	**18 21 44.6**	**-0.6**
HATJ				S			**Sb**	**18 21 56.8**	**-0.1**
JKRS	**Kuro-shima**	**0.91**	**325**	P			**Pb**	**18 21 45.4**	**+0.1**
JKRS				S			**Sn**	**18 21 58.0**	**+0.6**
JIJ	**Ishigaki jima**	**0.95**	**335**	P			**Pn**	**18 21 45.7**	**-0.1**
JIJ				*e*S			**Sb**	**18 21 57.9**	**-0.4**
JISG	**Ishigakijimahi**	**1.11**	**347**	P			**Pn**	**18 21 47.8**	**-0.2**
JISG				S			**Sb**	**18 22 03.0**	**+0.1**
IRIF	**Iriomote-Funau**	**1.14**	**317**	P			**Pn**	**18 21 48.5**	**+0.1**
IRIF				*e*S			**Sb**	**18 22 03.7**	**0.0**
JTJ	**Tarama**	**1.14**	**5**	P			**Pn**	**18 21 48.5**	**0.0**
JTJ				*e*S			**Sb**	**18 22 04.0**	**+0.2**
JIRB	**Irabujima**	**1.43**	**22**	P			**Pn**	**18 21 51.9**	**-0.5**
JIRB				*e*S			**Sn**	**18 22 09.9**	**-0.4**
JOGS	**Gusukube**	**1.47**	**31**	P			**Pn**	**18 21 53.0**	**+0.1**
JOGS				*e*S			**Sn**	**18 22 11.3**	**+0.1**
JIKM	**Ikemajima**	**1.54**	**23**	*e*S			**Sn**	**18 22 13.7**	**+0.6**
YOJ	**Yonaguni jima**	**1.73**	**304**	P			**Pn**	**18 21 57.0**	**+0.5**
YOJ				*e*S			**Sn**	**18 22 17.6**	**-0.1**
JYNG	**Yonagunijimaku**	**1.77**	**303**	P			**Pn**	**18 21 57.6**	**+0.5**
JYNG				*e*S			**Sn**	**18 22 18.1**	**-0.7**
WRA	**Warramunga Arr** 1.1nm,0.7s,baz=347,slow=9.0,SNR=11	**44.21**	**167**	P			**P**	**18 29 34.4**	**-0.8**
ASAR	**Alice Springs** 0.4nm,0.6s,baz=350,slow=12,SNR=9.1	**47.75**	**168**	P			**P**	**18 30 03.8**	**+0.7**

**IDC 26 18:22:38.1±4.

OKHR				Sgmax			18 29 27.5	
	220nm,0.6s							
OKHR				Sgmax			18 29 27.5	
	40nm,0.3s							
SNGR	**Sinegor'e**	**3.49**	**10**	*eP*		**Pn**	**18 28 32.1**	**+0.2**
SNGR				*ePg*		**Pg**	**18 28 42.4**	**-2.0**
SNGR				Pgmax			18 28 44.6	
	10.0nm,0.4s							
SNGR				*eSg*		**Sg**	**18 29 29.5**	**-0.1**
SNGR				Sgmax			18 29 39.5	
	340nm,0.4s							
SUUS	**Susuman**	**4.18**	**354**	*⇓iP*		**Pn**	**18 28 43.0**	**+1.7**
SUUS				*e*			18 28 59.3	
SUUS				*eSg*		**Sg**	**18 29 50.0**	**-1.5**
SUUS				Sgmax			18 30 04.3	
	20nm,0.6s							
SUUS				Sgmax			18 30 04.3	
	250nm,0.6s							
SEY	**Seymchan**	**4.59**	**19**	*eP*		**Pn**	**18 28 48.2**	**+1.2**
SEY				*ePg*		**Pg**	**18 29 02.0**	**-3.4**
SEY				*eSg*		**Sg**	**18 30 04.6**	**-0.3**
SEY				Sgmax			18 30 15.2	
	180nm,0.8s							
SEY				Sgmax			18 30 15.2	
	40nm,0.5s							
SEY	**Seymchan**	**4.59**	**19**	Pn		**Pn**	**18 28 48.7**	**+1.8**
	0.6nm,0.3s,baz=204,slow=12,SNR=11							
SEY				Lg		Lg	18 30 06.2	
	8.2nm,0.3s,baz=303,slow=19,SNR=4.5							
OMS	**Omsukchan**	**5.09**	**37**	*eS*		**Pg**	**18 29 15.9**	**+1.0**
OMS				*eSg*		**Sg**	**18 30 18.5**	**-2.2**
OMS				Sgmax			18 30 36.5	
	30nm,0.3s							
PETK	**Petropavlovsk-**	**7.35**	**135**	Pn		**Pn**	**18 29 21.7**	**-3.1**
	2.2nm,0.3s,baz=307,slow=11,SNR=58							
ILAR	**Eielson Array**	**29.73**	**51**	P		**P**	**18 33 46.4**	**+2.9**
	0.4nm,0.9s,baz=266,slow=7.1,SNR=4.5							
PDAR	**Pinedale Array**	**59.94**	**57**	P		**P**	**18 37 44.5**	**+0.7**
	0.1nm,0.4s,baz=323,slow=5.9,SNR=2.8							
WRA	**Warramunga Arr**	**79.24**	**194**	P		**P**	**18 39 41.1**	**-1.5**
	0.5nm,0.6s,baz=10,slow=5.8,SNR=4.8							
ASAR	**Alice Springs**	**82.97**	**194**	P		**P**	**18 40 01.0**	**-1.4**
	0.2nm,0.5s,baz=9.0,slow=4.8,SNR=5.5							

*IDC **26** 18:29:39.4±64.0,21.°72S×179.°58W,h0km, mb4.2/3, mb1 4.4/3,mb1mx3.7/32,mbtmp4.2/3,Error ellipse: s-maj=1155.0km s-min=160.5km az=84.0*
*ISCJB **26** 18:30:30.9±1.2,23.°7S±0.°2×179.°2W±0.°2, h600km, mb4.5/17,Error ellipse: s-maj=25.3km s-min=20.7km az=145.9*
*NEIC **26** 18:30:32.1±3.2,23.°60S×179.°19W, h598km±41km, mb4.7/14,Error ellipse: s-maj=19.4km s-min=15.5km az=212.0*

ISC 26 18:30:32.2±1.4,23.°6S±0.°2×179.°2W±0.°2,h600km,n21, σ0s33/21,mb4.6/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**24.04**	**202**	*eP*	**P**	**18 35 01.5**	**-0.2**
	68nm,1.6s						
ARMA	**Armidale**	**26.83**	**249**	*eP*	**P**	**18 35 26.5**	**-0.2**
	43nm,1.9s						
EIDS	**Eidsvold**	**27.10**	**260**	*eP*	**P**	**18 35 28.6**	**-0.3**
	16nm,1.1s						
CTAO	**Charters Tower**	**32.24**	**269**	*eP*	**P**	**18 36 13.1**	**0.0**
	33nm,1.4s						
TOO	**Toolangi**	**33.24**	**237**	*eP*	**P**	**18 36 21.7**	**+0.4**
	64nm,2.0s						
PMG	**Port Moresby**	**35.12**	**288**	*eP*	**P**	**18 36 37.5**	**+0.2**
	17nm,1.1s						
STKA	**Stephens Creek**	**35.53**	**248**	*eP*	**P**	**18 36 40.5**	**0.0**
	9.3nm,1.9s						
STKA	**Stephens Creek**	**35.53**	**248**	P	**P**	**18 36 40.7**	**+0.2**
	1.3nm,0.7s,baz=99,slow=13,SNR=3.6						
BBOO	**Buckleboo**	**40.25**	**247**	*eP*	**P**	**18 37 18.4**	**-0.3**
	84nm,1.8s						
AS01	**Alice Springs**	**42.79**	**260**	*eP*	**P**	**18 37 38.7**	**-0.1**
AS31	**Alice Springs**	**42.83**	**260**	*eP*	**P**	**18 37 39.1**	**0.0**
	2.6nm,1.3s						
ASAR	**Alice Springs**	**42.83**	**260**	P	**P**	**18 37 39.0**	**-0.1**
	1.4nm,0.4s,baz=95,slow=7.4,SNR=40						
WB2	**Warramunga Arr**	**43.17**	**266**	*eP*	**P**	**18 37 41.2**	**-0.5**
WRAB	**Tennant Creek**	**43.18**	**266**	*eP*	**P**	**18 37 41.3**	**-0.5**
	9.2nm,1.1s						
WR1	**Warramunga Arr**	**43.18**	**266**	*eP*	**P**	**18 37 41.5**	**-0.4**
	37nm,1.8s						
WRA	**Warramunga Arr**	**43.19**	**266**	P	**P**	**18 37 41.5**	**-0.4**
	2.8nm,0.3s,baz=95,slow=8.5,SNR=182						
FORT	**Forrest**	**47.12**	**249**	*eP*	**P**	**18 38 11.6**	**-0.1**
	52nm,1.1s						
MTN	**Manton Dam**	**48.19**	**274**	*eP*	**P**	**18 38 19.9**	**0.0**
	26nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.61**	**265**	*eP*	**P**	**18 38 45.5**	**+0.7**
	21nm,1.8s						
MORW	**Morawa**	**57.69**	**250**	*eP*	**P**	**18 39 26.9**	**-0.1**
	157nm,1.9s						
LRC	**Lone Oak Road**	**80.97**	**44**	*eP*	**P**	**18 41 45.3**	**0.0**

*SJA **26** 18:51:10.6±0.5,20.°56S×68.°60W,h118km±4km, ML2.7, MW3.1*
*ISCJB **26** 18:51:19.6±1.3,20.°19S±0.°04×69.°2W±0.°1, h105km±10km, Error ellipse: s-maj=17.7km s-min=5.5km az=172.8*
*GUC **26** 18:51:19.6±0.7,20.°20S×69.°23W, h99km±3km, ML3.7*

ISC 26 18:51:20.4±2.2,20.°19S±0.°04×69.°2W±0.°1,h98km±14km, n13,σ0s38/22,6C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.08**	**54**	*⇓eP*	**Pn**	**18 51 34.3**	**-0.2**
PB08				*eS*	**Sn**	**18 51 45.2**	**+0.2**
PB08				IAML		18 51 47.0	
	comp=E,7μm,0.2s						
PB11	**IPOC Station P**	**0.59**	**316**	*eP*	**Pn**	**18 51 36.1**	**-0.7**
PB11	**IPOC Station P**	**0.59**	**316**	*⇓eP*	**Pn**	**18 51 36.5**	**-0.3**
PB11				*eS*	**Sn**	**18 51 49.5**	**+0.4**
PB01	**IPOC Station P**	**0.88**	**196**	*eS*	**Sn**	**18 51 53.8**	**-0.1**
PB01	**IPOC Station P**	**0.88**	**196**	*⇑eP*	**Pn**	**18 51 39.4**	**-0.1**
PB01				*eS*	**Sn**	**18 51 54.1**	**+0.2**
PB01				IAML		18 51 55.7	
	comp=N,4μm,0.3s						
PSGC	**Pisagua**	**1.03**	**305**	*⇑eP*	**Pn**	**18 51 40.7**	**-0.4**
PSGC				*eS*	**Sn**	**18 51 57.2**	**+0.6**
PSGC				IAML		18 51 58.0	
	comp=N,2μm,0.3s						
PSGCX	**Pisagua**	**1.03**	**305**	*eP*	**Pn**	**18 51 41.4**	**+0.3**
MNMC	**Minye Minye**	**1.11**	**342**	*eP*	**Pn**	**18 51 42.1**	**-0.1**
MNMC				*eS*	**Sn**	**18 51 59.0**	**+0.5**
MNMCX	**Minye Minye**	**1.11**	**342**	*eP*	**Pn**	**18 51 41.8**	**-0.4**
PB02	**IPOC Station P**	**1.29**	**209**	*⇑eP*	**Pn**	**18 51 43.8**	**-0.3**
PB02				*eS*	**Sn**	**18 52 02.0**	**0.0**
PB02				IAML		18 52 07.2	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**1.60**	**181**	*⇑eP*	**Pn**	**18 51 48.0**	**0.0**
PB09				*eS*	**Sn**	**18 52 09.3**	**+0.5**
PB09				IAML		18 52 12.3	
	comp=E,848nm,0.4s						
PB07	**IPOC Station P**	**1.65**	**202**	*⇑eP*	**Pn**	**18 51 48.2**	**-0.4**
PB07				*eS*	**Sn**	**18 52 10.2**	**+0.2**
PB07				IAML		18 52 12.4	
	comp=E,748nm,0.3s						
PB12	**IPOC Station P**	**1.88**	**326**	*⇑eP*	**Pn**	**18 51 51.1**	**-0.4**
PB12				*eS*	**Sn**	**18 52 15.4**	**+0.2**
PB12				IAML		18 52 17.7	
	comp=N,1μm,0.2s						

*IDC **26** 18:55:53.4±5.0,7.°66N×126.°79E, h33km±38km, mb3.6/9, mb1 3.8/10,mb1mx3.4/58,mbtmp3.8/10,ML4.0/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/34,Error ellipse: s-maj=41.2km s-min=14.9km az=63.0*
*MAN **26** 18:55:55.0,7.°37N×126.°78E, h42km, MS3.6*
*ISCJB **26** 18:55:55.1±0.6,7.°50N±0.°03×126.°74E±0.°06, h68km±5km, mb4.2/18,Error ellipse: s-maj=9.7km s-min=4.9km az=162.6*
*NEIC **26** 18:55:56.9±1.1,7.°57N×126.°70E, h69km±9km, mb4.5/11, Error ellipse: s-maj=16.1km s-min=5.1km az=62.0*

ISC 26 18:55:56.1±1.0,7.°47N±0.°04×126.°77E±0.°08,h54km±10km, n52,σ1s48/56,mb4.1/18,4C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.73**	**224**	*eP*	**Pn**	**18 56 09.5**	**-0.9**
MATI				*eS*	**Sn**	**18 56 19.4**	**-1.4**
BIPH	**Bislig**	**0.82**	**330**	*⇑iP*	**Pn**	**18 56 10.0**	**-1.6**
BIPH				*i* S	**Sn**	**18 56 19.7**	**-3.1**
DAV	**Davao City (W)**	**1.25**	**251**	Pg	**Pn**	**18 56 18.4**	**+1.1**
	134nm,0.3s,baz=74,slow=2.5,SNR=22						
DAV				Lg	Lg	18 56 37.3	
	145nm,0.3s,baz=137,slow=18,SNR=8.0						
DDMP	**Don Marcelino,**	**1.72**	**218**	*eP*	**Pn**	**18 56 23.1**	**-0.5**
DDMP				*eS*	**Sn**	**18 56 43.5**	**-1.0**
KCP	**Kidapawan**	**1.73**	**255**	*⇓iP*	**Pn**	**18 56 24.3**	**+0.4**
BUKP	**Musuan**	**1.74**	**284**	*eP*	**Pn**	**18 56 24.3**	**+0.3**
BUKP				*eS*	Sn	18 56 54.7	+10
BUTP	**Butuan**	**1.87**	**323**	*eP*	**Pn**	**18 56 26.8**	**+1.0**
BUTP				*eS*	**Sn**	**18 56 52.5**	**+4.2**
GSPH	**General Santos**	**2.27**	**233**	*i P*	**Pn**	**18 56 30.6**	**-0.7**
CGP	**Cagayan de Oro**	**2.28**	**296**	*⇑iP*	**Pn**	**18 56 32.0**	**+0.7**
CGP				*i S*	**Sn**	**18 56 59.5**	**+1.3**
SKMP	**Bagumbayan, Su**	**2.40**	**247**	*eP*	**Pn**	**18 56 32.2**	**-0.9**
SKMP				*eS*	**Sn**	**18 57 00.6**	**-0.7**
CTBH	**Cotabato--PC H**	**2.52**	**265**	*⇓eP*	**Pn**	**18 56 34.5**	**0.0**
SCPH	**Surigao**	**2.62**	**331**	*i P*	**Pn**	**18 56 37.3**	**+1.2**
SCPH				*i S*	Sn	18 56 55.2	-11
MSLP	**Maasin**	**3.25**	**325**	*eP*	**Pn**	**18 56 44.4**	**-0.3**
PAGZ	**Pagadian**	**3.38**	**277**	*eP*	**Pn**	**18 56 45.7**	**-0.7**
TBP	**Tagbilaran**	**3.62**	**308**	*eP*	**Pn**	**18 56 49.8**	**0.0**
LLP	**Lapu-Lapu**	**3.96**	**316**	*⇑eP*	**Pn**	**18 56 55.5**	**+1.1**
LLP				*eS*	**Sn**	**18 57 42.6**	**+3.0**
SNPH	**Sibulan**	**3.96**	**298**	*⇑eP*	**Pn**	**18 56 54.5**	**0.0**
SNPH				*eS*	**Sn**	**18 57 39.5**	**-0.2**
CNP	**Catarman**	**5.42**	**338**	*eP*	**Pn**	**18 57 14.2**	**-0.2**
TNTI	**Ternate**	**6.68**	**175**	*ePn*	**Pn**	**18 57 34.5**	**+2.7**
LUWI	**Luwuk**	**9.35**	**205**	*ePn*	**Pn**	**18 58 09.4**	**+1.1**
SIJI	**Sorong**	**9.42**	**151**	Pn	**Pn**	**18 58 10.5**	**+1.2**
	1.4nm,0.3s,baz=62,slow=22,SNR=8.4						
FAKI	**Fak Fak**	**11.68**	**152**	*ePn*	**Pn**	**18 58 42.2**	**+2.0**
GUMO	**Guam**	**18.80**	**70**	LR	LR	19 05 31.1	
	comp=Z,41nm,21.6s,baz=36,slow=31						
FITZ	**Fitzroy Crossi**	**25.43**	**183**	*eP*	**P**	**19 01 20.2**	**+1.2**
	22nm,1.9s						
FITZ	**Fitzroy Crossi**	**25.43**	**183**	P	**P**	**19 01 21.4**	**+2.4**
	1.1nm,0.6s,baz=350,slow=10,SNR=3.1						
PSI	**Prapat**	**28.11**	**262**	LR	LR	19 15 33.8	
	comp=Z,61nm,18.1s,baz=14,slow=42						
WRAB	**Tennant Creek**	**28.23**	**165**	*eP*	**P**	**19 01 44.5**	**+0.3**
	17nm,1.5s						
WR1	**Warramunga Arr**	**28.24**	**165**	*eP*	**P**	**19 01 44.0**	**-0.4**
	41nm,1.9s						
WRA	**Warramunga Arr**	**28.24**	**165**	P	**P**	**19 01 43.9**	**-0.4**
	0.6nm,0.7s,baz=350,slow=9.7,SNR=9.1						
AS31	**Alice Springs**	**31.72**	**167**	*eP*	**P**	**19 02 14.8**	**-0.3**
	1.8nm,1.1s						
ASAR	**Alice Springs**	**31.72**	**167**	P	**P**	**19 02 15.2**	**+0.1**
	0.3nm,0.4s,baz=337,slow=7.4,SNR=9.4						
ASAR				PcP	**PcP**	**19 05 06.0**	**+0.2**
	0.6nm,0.6s,baz=349,slow=2.4,SNR=12						
AS01	**Alice Springs**	**31.73**	**167**	*eP*	**P**	**19 02 15.2**	**0.0**
FORT	**Forrest**	**38.05**	**178**	*eP*	**P**	**19 03 10.1**	**+0.7**
	51nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**40.74**	**68**	T	T	19 47 38.5	
	baz=265,slow=74,SNR=4.9						
H11N2	**WAKE ISLAND Hy**	**40.75**	**68**	T	T	19 47 44.8	
	baz=265,slow=74,SNR=3.8						
H11N3	**WAKE ISLAND Hy**	**40.76**	**68**	T	T	19 47 44.1	
	baz=265,slow=74,SNR=5.2						
BBOO	**Buckleboo**	**41.02**	**168**	*eP*	**P**	**19 03 34.6**	**+0.4**
	50nm,1.4s						
NWAO	**Narrogin (SRO)**	**41.19**	**192**	*eP*	**P**	**19 03 36.2**	**+0.7**
	127nm,1.8s						
STKA	**Stephens Creek**	**41.61**	**161**	*eP*	**P**	**19 03 39.3**	**+0.3**
	3.9nm,1.6s						
STKA	**Stephens Creek**	**41.61**	**161**	P	**P**	**19 03 39.5**	**+0.4**
	1.2nm,0.6s,baz=318,slow=11,SNR=3.9						
MK01	**Makanchi Array**	**54.53**	**324**	*eP*	**P**	**19 05 17.4**	**-1.3**
MK31	**Makanchi Array**	**54.55**	**324**	*eP*	**P**	**19 05 18.0**	**-0.9**
MK32	**Makanchi Array**	**54.55**	**324**	*eP*	**P**	**19 05 17.1**	**-1.7**
MKAR	**Makanchi Array**	**54.55**	**324**	P	**P**	**19 05 17.1**	**-1.7**
	0.7nm,0.5s,baz=124,slow=8.5,SNR=11						
MAKZ	**Makanchi**	**54.74**	**324**	*eP*	**P**	**19 05 18.6**	**-1.7**
	6.1nm,1.8s						
KDJ	**Kajisay**	**55.63**	**317**	*eP*	**P**	**19 05 24.0**	**-3.0**
	4.3nm,0.9s						
KURK	**Kurchatov**	**58.65**	**326**	*eP*	**P**	**19 05 45.0**	**-2.8**
	4.3nm,1.2s						
KURBB	**Kurchatov Arra**	**58.65**	**326**	P	**P**	**19 05 45.7**	**-2.1**
	0.4nm,0.3s,baz=125,slow=6.4,SNR=4.4						
BVAR	**Borovoye Array**	**64.24**	**326**	P	**P**	**19 06 24.3**	**-1.2**
	0.3nm,0.3s,baz=134,slow=8.4,SNR=5.1						
ILAR	**Eielson Array**	**81.73**	**26**	P	**P**	**19 08 08.3**	**-0.5**
	0.3nm,0.5s,baz=248,slow=4.8,SNR=6.0						
FIA0	**FINESS Array S**	**88.58**	**332**	*eP*	**P**	**19 08 41.8**	**-1.2**
FINES	**FINESS Array B**	**88.58**	**332**	P	**P**	**19 08 41.8**	**-1.2**
	1.0nm,0.9s,baz=68,slow=5.1,SNR=3.7						

*NNC **26** 18:58:21.1±6.8,38.°66N×72.°97E, h0km, mb3.7,mpv3.3, Error ellipse: s-maj=52.6km s-min=38.3km az=169.0*

ISC 26 18:58:20.1±4.6,38.°3N±0.°3×73.°2E±0.°1,h103km,n12, σ1s14/15,2C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.84**	**6**	P	**Pn**	**18 59 17.7**	**+0.2**
	SNR=132						
UCH	**Uchtor**	**4.05**	**14**	P	**Pn**	**18 59 20.6**	**+0.2**
	SNR=65						
KZA	**Kyzart**	**4.09**	**22**	P	**Pn**	**18 59 20.4**	**-0.5**
	SNR=44						
AAK	**Ala-Archa**	**4.44**	**13**	P	**Pn**	**18 59 26.0**	**+0.6**
	SNR=17						
AAK	**Ala-Archa**	**4.44**	**13**	Pn	**Pn**	**18 59 25.5**	**+0.1**
	5.6nm,0.5s						
AAK				Sn	**Sn**	**19 00 17.9**	**+1.9**
	1.5nm,0.7s						
KBK	**Karagaybulak**	**4.55**	**17**	P	**Pn**	**18 59 27.4**	**+0.5**
	SNR=9.9						
ULHL	**Ulahol**	**4.58**	**30**	P	**Pn**	**18 59 26.8**	**-0.6**
	SNR=17						
CHMS	**Chumysh**	**4.84**	**14**	P	**Pn**	**18 59 31.0**	**+0.3**
	SNR=6.2						
TKM2	**Tokmak 2**	**4.96**	**21**	P	**Pn**	**18 59 32.5**	**-0.1**
	SNR=11						
TKM2	**Tokmak 2**	**4.96**	**21**	*⇓*Pn	**Pn**	**18 59 32.1**	**-0.4**
	1.8nm,0.3s						
TKM2				*⇑*Sn	**Sn**	**19 00 28.7**	**-0.1**
	2.2nm,0.7s						
USP	**Ospenovka**	**5.05**	**11**	P	**Pn**	**18 59 34.1**	**+0.5**
	SNR=5.5						
KK31	**Karatay Array**	**5.19**	**338**	*⇑*Pn	**Pn**	**18 59 36.8**	**+1.3**
	0.7nm,0.3s,baz=146,slow=12,SNR=27						
KK31				Sn	**Sn**	**19 00 31.2**	**-2.9**
	7.8nm,0.6s,baz=149,slow=21,SNR=14						

IDC 26 19:09:48.0±999.0,44.°96N×65.°48E,h0km,Error ellipse: s-maj=1247.0km s-min=253.7km az=47.0,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**15.42**	**47**	*i*		20 41 50.0	
	baz=244,slow=329,SNR=3.2						
I34MN	**SONGINO INFRAS**	**28.14**	**69**	*i*		22 02 00.0	
	baz=278,slow=316,SNR=0.7						
I18DK	**QAANAAQ INFRAS**	**54.68**	**349**	*i*		00 38 45.0	
	baz=11,slow=340,SNR=3.8						

MEX 26 19:25:11.2±0.3,15.°95N×98.°21W,h4km±2km,MD3.7,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.45**	**10**	*eP*	Pg	19 25 19.5	-0.4
PNIG				*eS*	Sg	19 25 26.1	+0.4

IDC 26 19:25:46.0±1.9,2.°98N×126.°93E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/40,mbtmp3.4/4,MS2.9/1,Ms1 2.9/1, ms1mx2.4/17,Error ellipse: s-maj=104.2km s-min=24.0km az=70.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.98**	**183**	P	P	19 30 31.4	+0.5
	1.5nm,0.8s,baz=5.7,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**23.91**	**163**	P	P	19 31 01.8	+0.1
	0.6nm,0.7s,baz=342,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**27.34**	**166**	P	P	19 31 32.8	-0.1
	0.3nm,0.7s,baz=352,slow=6.9,SNR=4.8						
KSRS	**Korea Array**	**34.32**	**1**	LR	LR	19 46 17.0	
	comp=Z,19nm,21.9s,baz=318,slow=36						
MKAR	**Makanchi Array**	**58.28**	**325**	P	P	19 35 42.3	-0.3
	0.3nm,0.5s,baz=117,slow=7.9,SNR=6.6						

IDC 26 19:27:44.5±2.0,2.°92N×126.°90E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/39,mbtmp3.5/4,MS3.3/1,Ms1 3.3/1, ms1mx2.5/22,Error ellipse: s-maj=114.6km s-min=25.0km az=69.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.92**	**183**	P	P	19 32 29.5	+0.6
	1.5nm,0.6s,baz=19,slow=11,SNR=7.8						
WRA	**Warramunga Arr**	**23.86**	**162**	P	P	19 32 59.9	0.0
	0.7nm,0.3s,baz=341,slow=11,SNR=18						
WRA				LR	LR	19 44 14.5	
	comp=Z,68nm,18.8s,baz=215,slow=42						
ASAR	**Alice Springs**	**27.29**	**166**	P	P	19 33 31.2	+0.2
	0.4nm,0.3s,baz=347,slow=12,SNR=11						
MKAR	**Makanchi Array**	**58.32**	**325**	P	P	19 37 40.8	-0.6
	0.2nm,0.4s,baz=127,slow=6.9,SNR=4.4						

*THE **26** 19:32:31.6,40.°75N×20.°60E,h12km±1km,ML2.0/3,Error ellipse: s-maj=1.6km s-min=0.7km az=91.0*
*TIR **26** 19:32:32.4,40.°72N×20.°68E,h15km, Md2.9/6*
*ATH **26** 19:32:32.8,40.°73N×20.°69E, h20km±2km, ML2.3/2, Error ellipse: s-maj=4.0km s-min=1.8km az=131.0*
*SKO **26** 19:32:32.4,40.°68N×20.°60E,h7km, M1.5, ML2.0*

ISC 26 19:32:33.1±1.1,40.°70N±0.°02×20.°64E±0.°03,h15km±9km, n27,σ1s41/45,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.42**	**133**	P	**Pg**	**19 32 40.7**	**-0.9**
NEST				S	**Sb**	**19 32 48.0**	**-0.6**
NEST	**Nestorio**	**0.42**	**133**	P	**Pb**	**19 32 41.4**	**-0.9**
NEST				S	**Sb**	**19 32 47.4**	**-1.2**
NEST				AML	AML	19 32 49.8	
	comp=E,515μm,0.2s						
NEST				AML	AML	19 32 52.5	
	comp=N,586μm,0.2s						
OHR	**Ohrid**	**0.42**	**16**	*i* Pg	**Pg**	**19 32 40.7**	**-1.0**
OHR				*i* Sg	**Sb**	**19 32 48.2**	**-0.4**
OHR				*e*Lg	Lg	19 32 48.6	
	comp=N,59nm,0.3s						
OHR				*e*Lg	Lg	19 32 48.6	
	comp=E,62nm,0.4s						
FNA	**Florina**	**0.56**	**82**	P	**Pg**	**19 32 43.1**	**-1.1**
FNA				S	**Sb**	**19 32 51.7**	**-0.9**
FNA	**Florina**	**0.56**	**82**	*i* PG	**Pg**	**19 32 43.2**	**-1.1**
FNA				*i* SG	**Sb**	**19 32 51.9**	**-0.7**
FNA	**Florina**	**0.56**	**82**	P	**Pg**	**19 32 43.3**	**-0.9**
FNA				S	**Sb**	**19 32 51.8**	**-0.9**
FNA				AML	AML	19 32 53.3	
	comp=N,1806μm,0.3s						
FNA				AML	AML	19 32 54.7	
	comp=E,1625μm,0.2s						
BIA	**Bitola**	**0.61**	**58**	*i* Pg	**Pb**	**19 32 44.3**	**-1.2**
BIA				*i* Sg	**Sb**	**19 32 53.9**	**0.0**
BIA				*e*Lg	Lg	19 32 54.2	
	comp=E,145nm,0.4s						
BIA				*e*Lg	Lg	19 32 54.4	
	comp=N,107nm,0.5s						
TPE	**Tepelena**	**0.63**	**230**	*i* PG	**Pg**	**19 32 44.4**	**-1.0**
TPE				*i* SG	**Sb**	**19 32 56.2**	**+1.7**
PENT	**Pentalofos**	**0.63**	**143**	P	**Pg**	**19 32 44.8**	**-0.7**
PENT				S	**Sb**	**19 32 54.9**	**+0.3**
PENT	**Pentalofos**	**0.63**	**143**	P	**Pg**	**19 32 44.9**	**-0.7**
PENT				S	**Sb**	**19 32 54.1**	**-0.5**
KRUS	**Krusevo**	**0.81**	**34**	*i* Pg	**Pb**	**19 32 48.0**	**-0.9**
KRUS				*i* Sg	**Sb**	**19 32 59.6**	**-0.1**
KRUS				*e*Lg	Lg	19 33 00.3	
	comp=E,23nm,0.3s						
KRUS				*e*Lg	Lg	19 33 00.3	
	comp=N,19nm,0.3s						
TIR	**Tirane**	**0.87**	**318**	*i* PG	**Pg**	**19 32 48.4**	**-1.6**
TIR				*i* SG	**Sn**	**19 33 02.9**	**-0.4**
KPRO	**Kipourio**	**0.93**	**143**	P	**Pg**	**19 32 49.5**	**-1.6**
KPRO				S	**Sn**	**19 33 04.6**	**-0.2**
KPRO	**Kipourio**	**0.93**	**143**	P	**Pb**	**19 32 50.5**	**-0.4**
KZN	**Kozani**	**0.95**	**114**	P	**Pg**	**19 32 50.3**	**-1.1**
KZN	**Kozani**	**0.95**	**114**	P	**Pg**	**19 32 50.3**	**-1.1**
SRN	**Sarande**	**0.96**	**211**	*i* PG	**Pn**	**19 32 51.7**	**-0.2**
SRN				*i* SG	**Sn**	**19 33 06.6**	**+1.2**
PHP	**Peshkopia**	**0.99**	**351**	*i* PG	**Pg**	**19 32 50.9**	**-1.4**
PHP				*i* SG	**Sn**	**19 33 05.9**	**-0.4**
KEK	**Kerkira**	**1.18**	**213**	P	**Pn**	**19 32 56.3**	**+1.2**
IGT	**Igoumenitsa**	**1.19**	**192**	P	**Pn**	**19 32 56.2**	**+1.0**
STIP	**Stip**	**1.53**	**49**	*i* Pg	**Pg**	**19 33 04.2**	**+1.7**
STIP				*i* Sg	**Sg**	**19 33 28.8**	**+6.5**
STIP				*e*Lg	Lg	19 33 29.1	
	comp=N,4.8nm,0.3s						
STIP				*e*Lg	Lg	19 33 29.4	
	comp=E,7.4nm,0.5s						
LIT	**Litokhoron**	**1.53**	**113**	P	**Pg**	**19 33 01.2**	**-1.4**
THL	**Klokotos Trika**	**1.55**	**137**	P	**Pg**	**19 33 01.9**

DION					AML	AML	19 33 25.9	
	comp=E,795µm,0.4s							
MRKA	**Markates**	**0.38**	**316**		P	**Pg**	**19 33 19.9**	**+0.1**
MRKA					S	**Sg**	**19 33 25.5**	**+0.7**
MRKA	**Markates**	**0.38**	**316**		P	**Pg**	**19 33 20.2**	**+0.4**
MRKA					S	**Sg**	**19 33 25.3**	**+0.5**
MRKA					AML	AML	19 33 25.9	
	comp=E,294µm,0.3s							
MRKA					AML	AML	19 33 26.0	
	comp=N,378µm,0.4s							
PTL	**Penteli**	**0.39**	**187**		P	**Pg**	**19 33 20.2**	**+0.2**
PTL					S	**Sg**	**19 33 26.0**	**+0.8**
PTL	**Penteli**	**0.39**	**187**		P	**Pg**	**19 33 20.3**	**+0.3**
VILL	**Villia**	**0.55**	**241**		P	**Pg**	**19 33 23.3**	**+0.2**
VILL					S	**Sb**	**19 33 31.4**	**-1.0**
VIL2	**Platees**	**0.56**	**247**		P	**Pg**	**19 33 23.4**	**+0.1**
VLY	**Voula,Athens**	**0.59**	**190**		P	**Pg**	**19 33 24.0**	**+0.2**
VLY					S	**Sg**	**19 33 31.9**	**+0.3**
VLY	**Voula,Athens**	**0.59**	**190**		P	**Pg**	**19 33 24.2**	**+0.4**
SKY	**Skiros Island**	**0.66**	**48**		P	**Pb**	**19 33 26.2**	**0.0**
LTK	**Loutraki**	**0.86**	**242**		P	**Pb**	**19 33 29.6**	**0.0**
LTK					S	**Sn**	**19 33 42.5**	**-1.0**
LTK	**Loutraki**	**0.86**	**242**		P	**Pb**	**19 33 30.0**	**+0.4**

ISC 26 19:41:24.9±2.4, 51°.6N±0°.1×16°.00E±0°.06, h0km, n10, σ0s61/17, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**165**	*e*Pg	**Pg**	**19 41 38.7**	**-0.1**
KSP				*e*Sg	**Sg**	**19 41 48.8**	**+0.6**
UPC	**Upice**	**1.04**	**179**	*e*PG	**Pg**	**19 41 44.5**	**-0.3**
UPC				*e*SG	**Sg**	**19 41 59.0**	**+0.7**
	comp=Z,6.2nm,0.2s						
DPC	**Dobruska-Polom**	**1.22**	**170**	*e*PG	**Pg**	**19 41 47.7**	**-0.5**
DPC				*e*SG	**Sg**	**19 42 04.0**	**+0.1**
	comp=Z,3.0nm,0.5s						
PVCC	**Panska Ves**	**1.36**	**222**	*e*PG	**Pg**	**19 41 50.3**	**-0.7**
PVCC				*e*SG	**Sn**	**19 42 09.8**	**-0.1**
	comp=Z,11nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**243**	PG	**Pn**	**19 41 52.6**	**+0.1**
BRG				SG	**Sg**	**19 42 11.2**	**-0.5**
	9.5nm,0.5s						
KRLC	**Kraliky**	**1.55**	**161**	*e*PG	**Pn**	**19 41 53.7**	**-0.2**
KRLC				*e*SG	**Sb**	**19 42 15.0**	**+0.2**
PRU	**Pruhonice**	**1.81**	**211**	*e*SG	**Sg**	**19 42 22.8**	**-0.3**
	comp=Z,3.6nm,0.4s						
CLL	**Collm**	**1.89**	**264**	*e*Pg	**Pn**	**19 41 59.0**	**+0.6**
CLL				*e*Sg	**Sb**	**19 42 24.0**	**-0.4**
NKC	**Novy Kostel**	**2.60**	**241**	*e*SG	**Sg**	**19 42 50.0**	**+1.5**
	comp=Z,3.4nm,0.3s						
KHC	**Kasperske Hory**	**2.87**	**214**	*e*SG	**Sg**	**19 42 57.8**	**+0.7**

KRSC 26 19:48:24.1±10.0, 53°.10N×160°.42E, h48km±10km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.24**	**269**	*e*P	Pn	19 48 34.4	+1.9
SPN				*e*S	Sn	19 48 40.1	+1.6
NLC	**Nalytchevo**	**0.65**	**277**	*e*P	Pn	19 48 38.6	+1.5
NLC				*e*S	Sn	19 48 47.1	+0.7
SDLR	**Sedlovina**	**0.94**	**281**	*e*P	Pn	19 48 42.6	+1.5
SDLR				*e*S	Sn	19 48 54.3	+0.8
UGLR	**Uglovaya**	**0.96**	**277**	*e*P	Pn	19 48 43.3	+1.9
UGLR				*e*S	Sn	19 48 55.7	+1.6
SMAR	**Somma**	**0.98**	**280**	*e*P	Pn	19 48 43.2	+1.4
SMAR				*e*S	Sn	19 48 55.1	+0.4
DALK	**Dalny**	**1.01**	**267**	*e*P	Pn	19 48 43.3	+1.5
DALK				*e*S	Sn	19 48 55.5	+0.6
AVH	**Avacha**	**1.02**	**280**	*e*P	Pn	19 48 44.0	+1.8
AVH				*e*S	Sn	19 48 57.3	+1.8
KRER	**Koryakskii**	**1.02**	**282**	*e*P	Pn	19 48 43.9	+1.6
KRER				*e*S	Sn	19 48 56.6	+1.0
PET	**Petropavlovsk**	**1.07**	**267**	*e*P	Pn	19 48 44.2	+1.6
PET				*e*S	Sn	19 48 57.3	+0.9
KOK	**Koryaka**	**1.09**	**281**	*e*P	Pn	19 48 44.3	+1.3
KOK				S	Sn	19 48 57.2	+0.2
KRX	**Arik**	**1.09**	**284**	*e*P	Pn	19 48 44.6	+1.4
KRX				*e*S	Sn	19 48 57.2	-0.1
RUS	**Russkaya**	**1.34**	**241**	*e*P	Pn	19 48 48.2	+1.9
RUS				*e*S	Sn	19 49 04.5	+1.6
KRMR	**Karymshinskiy**	**1.41**	**260**	*e*P	Pn	19 48 49.1	+1.8
KRMR				*e*S	Sn	19 49 05.7	+1.0
MTVR	**Mutnovka**	**1.49**	**246**	*e*P	Pn	19 48 50.9	+2.3
MTVR				*e*S	Sn	19 49 09.0	+2.1
GRL	**Gorelyy**	**1.52**	**250**	S	Sn	19 49 10.0	+2.3
MKZ	**Mys Kozlova**	**1.65**	**28**	*e*P	Pn	19 48 52.2	+1.6
MKZ				*e*S	Sn	19 49 11.7	+1.1
ASAK	**Asacha**	**1.69**	**246**	*e*P	Pn	19 48 54.2	+3.0
ASAK				*e*S	Sn	19 49 15.2	+3.5
KDTR	**Khodutka, Kamc**	**1.93**	**229**	*e*P	Pn	19 48 57.2	+2.8
KDTR				*e*S	Sn	19 49 19.0	+1.6
APC	**Apacha**	**1.98**	**266**	*e*P	Pn	19 48 57.9	+2.8
APC				*e*S	Sn	19 49 22.4	+3.8
KZV	**Kizimen**	**2.02**	**358**	*e*P	Pn	19 48 58.5	+2.7
KZV				*e*S	Sn	19 49 22.0	+2.2
TUMD	**Tumrok D**	**2.11**	**360**	*e*P	Pn	19 48 59.2	+2.3
TUMD				*e*S	Sn	19 49 23.4	+1.6
TUMR	**Tumrok**	**2.19**	**356**	*e*P	Pn	19 49 01.1	+3.0
TUMR				*e*S	Sn	19 49 26.2	+2.1
PAU	**Pauzhetka**	**2.75**	**235**	P	Pn	19 49 08.9	+3.2
ZLN	**Zelenaya**	**2.93**	**4**	P	Pn	19 49 12.2	+4.0
ESO	**Esso**	**3.00**	**341**	*e*P	Pn	19 49 11.7	+2.6
KLY	**Klyuchi**	**3.22**	**2**	S	Sn	19 49 55.5	+6.3
SRDR	**Sredinnyy**	**3.25**	**353**	P	Pn	19 49 15.6	+3.1
KBTR	**Krutoberegovo**	**3.41**	**23**	P	Pn	19 49 20.3	+5.6
KBTR				S	Sn	19 49 57.7	+3.8
KBG	**Krutoberegovo**	**3.43**	**22**	P	Pn	19 49 20.6	+5.7
BDR	**Baidarnaya**	**3.50**	**7**	P	Pn	19 49 21.5	+5.4
SMKR	**Semkarok**	**3.54**	**9**	P	Pn	19 49 21.7	+5.1
SRKR	**Sorokina**	**3.59**	**7**	P	Pn	19 49 21.9	+4.7
BKI	**Bering**	**3.89**	**55**	P	Pn	19 49 24.0	+2.8
BKI				S	Sn	19 50 03.9	-1.6

*IDC **26** 19:58:46.5±1.4, 37°.55N×20°.53E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.3/42, mbtmp3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.6/38, Error ellipse: s-maj=65.7km s-min=25.9km az=128.0*
*TIR **26** 19:58:47.7, 37°.91N×21°.97E, h1km, Md3.7/6*
*THE **26** 19:58:47.4, 37°.49N×20°.26E, h0km±1km, ML3.7/13, Error ellipse: s-maj=2.1km s-min=0.8km az=236.0*
*ATH **26** 19:58:49.7, 37°.56N×20°.47E, h23km±1km, ML3.6/5, Error ellipse: s-maj=2.5km s-min=0.9km az=59.0*

ISC 26 19:58:48.7±1.4, 37°.53N±0°.03×20°.38E±0°.03, h10km±9km, n118, σ1s24/143, mb3.6/5, 2C-2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.67**	**14**	P	**Pg**	**19 59 01.6**	**-0.1**
VLS				S	**Sb**	**19 59 11.6**	**-0.2**
VLS	**Valsamata**	**0.67**	**14**	P	**Pg**	**19 59 01.5**	**-0.2**
VLS				S	**Sb**	**19 59 11.7**	**-0.2**
VLS				AML	AML	19 59 15.1	
	comp=E,5889µm,0.3s						
VLS				AML	AML	19 59 16.0	
	comp=N,11717µm,0.6s						
VTN	**Vitineika**	**0.75**	**58**	P	**Pg**	**19 59 03.3**	**+0.1**
VTN	**Vitineika**	**0.75**	**58**	P	**Pg**	**19 59 03.3**	**+0.1**
VTN				S	**Sg**	**19 59 12.1**	**-0.9**
RLS	**Riolos of Patr**	**1.01**	**58**	P	**Pg**	**19 59 07.3**	**-0.9**
RLS				S	**Sn**	**19 59 24.6**	**+1.4**
RLS	**Riolos of Patr**	**1.01**	**58**	P	**Pg**	**19 59 07.4**	**-0.9**
RLS				S	**Sg**	**19 59 20.5**	**-0.9**
RLS				AML	AML	19 59 25.8	
	comp=E,5786µm,0.6s						
RLS				AML	AML	19 59 26.3	
	comp=N,5931µm,0.4s						
AMT	**Artemida-Makis**	**1.06**	**89**	P	**Pg**	**19 59 08.4**	**-0.6**
AMT				S	**Sn**	**19 59 26.2**	**+1.8**
AMT	**Artemida-Makis**	**1.06**	**89**	P	**Pg**	**19 59 08.4**	**-0.6**
AMT				AML	AML	19 59 29.7	
	comp=N,6005µm,0.6s						
AMT				AML	AML	19 59 32.6	
	comp=E,7619µm,0.9s						
MES3	**Kyparissia**	**1.07**	**105**	P	**Pg**	**19 59 09.1**	**-0.1**
MES3				S	**Sb**	**19 59 23.5**	**+0.3**
EVGI	**Lefkada island**	**1.11**	**11**	P	**Pg**	**19 59 09.5**	**-0.6**
EVGI				S	**Sn**	**19 59 25.6**	**-0.1**
DRO	**Drossia**	**1.14**	**68**	P	**Pg**	**19 59 09.9**	**-0.7**
DRO				S	**Sn**	**19 59 29.0**	**+2.6**
DRO	**Drossia**	**1.14**	**68**	P	**Pg**	**19 59 09.7**	**-0.9**
DRO				AML	AML	19 59 33.6	
	comp=N,5631µm,0.4s						
DRO				AML	AML	19 59 34.7	
	comp=E,7470µm,0.4s						
MGNA	**Meganis**	**1.18**	**16**	P	**Pn**	**19 59 11.7**	**+0.5**
PYL	**PYLOS**	**1.26**	**120**	P	**Pn**	**19 59 12.1**	**-0.2**
PYL	**PYLOS**	**1.26**	**120**	P	**Pn**	**19 59 12.0**	**-0.2**
MES2	**Methoni**	**1.27**	**123**	P	**Pg**	**19 59 13.7**	**+0.6**
LKD2	**Lefkada island**	**1.28**	**10**	P	**Pn**	**19 59 12.6**	**0.0**
LKD2				S	**Sn**	**19 59 31.5**	**+1.6**
LKD2	**Lefkada island**	**1.28**	**10**	P	**Pn**	**19 59 12.6**	**0.0**
LKD2				S	**Sn**	**19 59 30.1**	**+0.3**
LKD2				AML	AML	19 59 38.5	
	comp=N,7793µm,0.8s						
LKD2				AML	AML	19 59 40.4	
	comp=E,6162µm,0.6s						
ITM	**Ithomi**	**1.28**	**105**	P	**Pn**	**19 59 12.8**	**+0.1**
ITM	**Ithomi**	**1.28**	**105**	P	**Pn**	**19 59 12.7**	**+0.1**
TSLK	**Tsoukalades, L**	**1.31**	**9**	P	**Pb**	**19 59 13.5**	**0.0**
PVO	**Paravola**	**1.42**	**39**	P	**Pb**	**19 59 15.0**	**-0.1**
PVO				S	**Sg**	**19 59 36.0**	**+1.7**
PVO	**Paravola**	**1.42**	**39**	P	**Pb**	**19 59 15.1**	**-0.1**
LAKA	**Lakka**	**1.45**	**60**	P	**Pn**	**19 59 14.9**	**-0.1**
LAKA	**Lakka**	**1.45**	**60**	P	**Pn**	**19 59 15.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.50**	**69**	P	**Pn**	**19 59 15.7**	**+0.1**
KLV				S	**Sg**	**19 59 38.1**	**+1.2**
KLV	**Kalavryta, Ach**	**1.50**	**69**	P	**Pn**	**19 59 16.0**	**+0.4**
TRIP	**Tripoli**	**1.50**	**89**	P	**Pb**	**19 59 16.6**	**-0.2**
TRIP	**Tripoli**	**1.50**	**89**	P	**Pb**	**19 59 16.5**	**-0.2**
EFP	**Efpalio**	**1.51**	**53**	P	**Pn**	**19 59 15.8**	**+0.1**
EFP				S	**Sg**	**19 59 38.8**	**+1.7**
EFP	**Efpalio**	**1.51**	**53**	P	**Pn**	**19 59 15.9**	**+0.1**
ALIK	**Allki, Aigiali**	**1.56**	**61**	P	**Pb**	**19 59 17.3**	**-0.2**
TRIZ	**Trizonia**	**1.58**	**57**	P	**Pn**	**19 59 17.1**	**+0.4**
TRIZ	**Trizonia**	**1.58**	**57**	P	**Pn**	**19 59 17.1**	**+0.4**
TRAZ	**Trapeza**	**1.59**	**66**	P	**Pb**	**19 59 18.0**	**-0.1**
TRAZ	**Trapeza**	**1.59**	**66**	P	**Pb**	**19 59 18.1**	**-0.1**
SERG	**Sergoula**	**1.59**	**56**	P	**Pn**	**19 59 17.2**	**+0.2**
SERG				S	**Sg**	**19 59 41.4**	**+1.4**
SERG	**Sergoula**	**1.59**	**56**	P	**Pn**	**19 59 17.5**	**+0.6**
VLX	**Vlachokerasia**	**1.60**	**95**	P	**Pb**	**19 59 17.9**	**-0.5**
VLX	**Vlachokerasia**	**1.60**	**95**	P	**Pb**	**19 59 18.0**	**-0.3**
GUR	**Goura**	**1.61**	**75**	P	**Pn**	**19 59 17.6**	**+0.4**
GUR	**Goura**	**1.61**	**75**	P	**Pb**	**19 59 18.0**	**-0.6**
ANX	**Ano Chora**	**1.62**	**48**	P	**Pn**	**19 59 17.9**	**+0.6**
ANX				S	**Sg**	**19 59 41.5**	**+0.7**
ANX	**Ano Chora**	**1.62**	**48**	P	**Pn**	**19 59 18.0**	**+0.6**
EVR	**Evrytania**	**1.79**	**39**	P	**Pn**	**19 59 20.6**	**+0.9**
EVR				S	**Sg**	**19 59 46.0**	**-0.2**
EVR	**Evrytania**	**1.79**	**39**	P	**Pb**	**19 59 21.1**	**-0.4**
DSF	**Desfina**	**1.92**	**62**	P	**Pn**	**19 59 22.4**	**+1.0**
DSF				S	**Sg**	**19 59 48.9**	**-1.4**
DSF	**Desfina**	**1.92**	**62**	P	**Pb**	**19 59 22.6**	**-1.1**
IGT	**Igoumenitsa**	**2.00**	**359**	P	**Pn**	**19 59 23.1**	**+0.5**
IGT	**Igoumenitsa**	**2.00**	**359**	*i* PG	**Pg**	**19 59 27.5**	**+0.4**
IGT				*i* SG	**Sg**	**19 59 55.4**	**+2.3**
IGT	**Igoumenitsa**	**2.00**	**359**	P	**Pb**	**19 59 24.1**	**-1.1**
LOUT	**Loutraki**	**2.11**	**77**	P	**Pn**	**19 59 24.5**	**+0.4**
LTK	**Loutraki**	**2.11**	**76**	P	**Pn**	**19 59 24.7**	**+0.6**
LTK	**Loutraki**	**2.11**	**76**	P	**Pn**	**19 59 24.6**	**+0.6**
PROD	**Prodromos**	**2.13**	**69**	P	**Pn**	**19 59 25.3**	**+1.0**
PROD				S	**Sb**	**19 59 54.7**	**+1.0**
PROD	**Prodromos**	**2.13**	**69**	P	**Pn**	**19 59 25.2**	**+1.0**
AGG	**Agios Georgios**	**2.14**	**45**	P	**Pn**	**19 59 25.8**	**+1.3**
AGG	**Agios Georgios**	**2.14**	**45**	P	**Pb**	**19 59 26.2**	**-1.4**
EPID	**Epidavros**	**2.18**	**87**	P	**Pn**	**19 59 25.0**	**0.0**
VLI	**Veliai**	**2.20**	**111**	P	**Pb**	**19 59 27.2**	**-1.3**
KRND	**KRANIDI**	**2.21**	**93**	P	**Pn**	**19 59 27.0**	**+1.6**
KEK	**Kerkira**	**2.23**	**348**	P	**Pn**	**19 59 27.1**	**+1.4**
DID	**Didima**	**2.27**	**90**	P	**Pn**	**19 59 25.9**	**-0.4**
DID				S	**Sb**	**19 59 57.5**	**-0.5**
DID	**Didima**	**2.27**	**90**	P	**Pn**	**19 59 25.9**	**-0.4**
LKR	**Lokris**	**2.35**	**61**	P	**Pn**	**19 59 28.3**	**+0.9**
LKR	**Lokris**	**2.35**	**61**	P	**Pn**	**19 59 28.3**	**+0.9**
SRN	**Sarande**	**2.37**	**353**	*i* PG	**Pg**	**19 59 35.5**	**+1.4**
SRN				*i* SG	**Sg**	**20 00 08.6**	**+3.8**
VIL2	**Platees**	**2.39**	**72**	P	**Pn**	**19 59 28.4**	**+0.5**
ATAL	**Atalanti**	**2.39**	**60**	P	**Pn**	**19 59 28.6**	**+0.8**
ATAL				S	**Sb**	**20 00 01.2**	**-0.1**
ATAL	**Atalanti**	**2.39**	**60**	P	**Pn**	**19 59 28.7**	**+0.9**
THL	**Klokotos Trika**	**2.41**	**32**	P	**Pn**	**19 59 29.4**	**+1.3**
THL	**Klokotos Trika**	**2.41**	**32**	P	**Pn**	**19 59 29.6**	**+1.5**
VILL	**Villia**	**2.41**	**74**	P	**Pn**	**19 59 28.3**	**+0.1**
KPRO	**Kipourio**	**2.54**	**17**	P	**Pn**	**19 59 30.3**	**+0.2**
KPRO	**Kipourio**	**2.54**	**17**	P	**Pn**	**19 59 30.6**	**+0.5**
SMIA	**Simia**	**2.61**	**58**	P	**Pn**	**19 59 31.6**	**+0.7**
VLY	**Voula,Athens**	**2.73**	**82**	P	**Pn**	**19 59 32.8**	**+0.3**
PENT	**Pentalofos**	**2.73**	**12**	P	**Pn**	**19 59 34.9**	**+2.3**
ATHU	**Athens Univers**	**2.74**	**80**	P	**Pn**	**19 59 32.7**	**+0.1**
FYTO	**Fytoko, Volos**	**2.75**	**46**	P	**Pn**	**19 59 33.6**	**+0.8**
FYTO	**Fytoko, Volos**	**2.75**	**46**	P	**Pn**	**19 59 33.6**	**+0.8**
TPE	**Tepelena**	**2.78**	**354**	*i* PG	**Pb**	**19 59 38.0**	**-0.4**
TPE				*i* SG	**Sg**	**20 00 17.0**	**-1.0**
MRKA	**Markates**	**2.79**	**64**	P	**Pn**	**19 59 33.8**	**+0.4**
PTL	**Penteli**	**2.81**	**78**	P	**Pn**	**19 59 33.9**	**+0.2**
NEO	**Neokhori**	**2.86**	**51**	P	**Pn**	**19 59 35.1**	**+0.8**
DION	**Dionisos Attik**	**2.87**	**78**	P	**Pn**	**19 59 34.6**	**+0.1**
NEST	**Nestorio**	**2.93**	**10**	P	**Pn**	**19 59 38.1**	**+2.7**
LIT	**Litokhoron**	**3.06**	**32**	P	**Pn**	**19 59 37.9**	**+0.9**
LIT	**Litokhoron**	**3.06**	**32**	P	**Pn**	**19 59 37.8**	**+0.8**
TIP	**Timpagrande**	**3.29**	**301**	*i* P	**Pn**	**19 59 41.5**	**+1.2**
PAIG	**Paliouri**	**3.52**	**46**	P	**Pn**	**19 59 43.3**	**-0.1**
PLG	**Polygyros**	**3.72**	**39**	P	**Pn**	**19 59 46.3**	**+0.1**
TIR	**Tirane**	**3.84**	**354**	*i* P	**Pn**	**19 59 51.3**	**+3.5**
TIR	**Tirane**	**3.84**	**354**	*i* PG	**Pb**	**19 59 53.2**	**-3.2**
TIR				*i* SG	**Sb**	**20 00 40.0**	**-3.0**
KRUS	**Krusevo**	**3.90**	**10**	*i* Pn	**Pn**	**19 59 49.6**	**+0.9**
OUR	**Ouranopolis**	**3.97**	**44**	P	**Pn**	**19 59 50.5**	**+1.0**
OUR	**Ouranopolis**	**3.97**	**44**	P	**Pn**	**19 59 50.5**	**+1.0**
SOH	**Sokhos**	**4.02**	**34**	P	**Pn**	**19 59 51.7**	**+1.4**
KNT	**Kendrikon**	**4.12**	**28**	P	**Pn**	**19 59 51.8**	**+0.1**
KNT	**Kendrikon**	**4.12**	**28**	P	**Pn**	**19 59 52.1**	**+0.4**
VAY	**Valandovo**	**4.15**	**23**	*e*Pn	**Pn**	**19 59 50.7**	**-1.4**
PHP	**Peshkopia**	**4.15**	**1**	*i* PG	**Pn**	**19 59 55.7**	**+3.5**
STIP	**Stip**	**4.39**	**18**	*e*Pn	**Pn**	**19 59 56.7**	**+1.3**
NVR	**Nevrokopi**	**4.67**	**34**	P	**Pn**	**20 00 00.1**	**+0.8**
NVR	**Nevrokopi**	**4.67**	**34**	P	**Pn**	**20 00 00.1**	**+0.8**
BCI	**Bajram Curri**	**4.84**	**357**	*i* PN	**Pn**	**20 00 05.0**	**+3.4**
PDG	**Podgorica**	**4.97**	**350**	*i* P	**Pn**	**20 00 04.2**	**+0.9**
VTS	**Vitosha**	**5.54**	**22**	*i* P	**Pn**	**20 00 11.7**	**+0.4**
STON	**Ston**	**5.72**	**340**	*i* Pn	**Pn**	**20 00 12.3**	**-1.3**
STON					Sn	**20 01 14.7**	**-4.5**
UDBI	**Udbina**	**7.81**	**335**	*e*Pn	**Pn**	**20 00 44.0**	**+1.5**
NVLJ	**Novalja**	**8.17**	**331**	*e*Pn	**Pn**	**20 00 47.5**	**+0.3**
FINES	**FINESS Array B**	**24.21**		P	**P**	**20 04 04.1**	**-1.0**
	comp=E,1.0nm,0.6s,baz=164,slow=11,SNR=7.4						
FINES				LR	LR	20 14 45.2	
	comp=E,30nm,20.4s,baz=239,slow=40						
NB2	**NORSAR Subarra**	**24.23**	**349**	P	**P**	**20 04 09.1**	**+3.6**
	comp=Z,0.2nm,0.4s,baz=152,slow=11						
TORD	**Torodi Ar. Bea**	**29.45**	**219**	P	**P**	**20 04 52.9**	**+0.2**
	comp=Z,1.2nm,1.0s,baz=23,slow=9.9,SNR=5.7						
MKAR	**Makanchi Array**	**45.74**	**58**	P	**P**	**20 07 08.7**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=276,slow=6.9,SNR=4.9						
ZALV	**Zalesovo Beam**	**46.21**	**48**	P	**P**	**20 07 11.8**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=264,slow=9.3,SNR=3.4						
ROSC	**El Rosal**	**90.81**	**277**	LR	LR	20 49 13.0	
	comp=Z,39nm,19.5s,baz=243,slow=33						

*ISCJB **26** 20:00:21.4±0.5, 43°.86N±0°.06×105°.20W±0°.07, h0km, mb3.8/1, MS3.2/1, Error ellipse: s-maj=8.6km s-min=6.8km az=172.8*
*IDC **26** 20:00:21.4±1.9, 43°.74N×105°.38W, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.3/38, mbtmp3.5/4, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.3/45, Error ellipse: s-maj=48.7km s-min=8.9km az=150.0*
*NEIC **26** 20:00:22.9±0.5, 43°.84N×105°.20W, h0km, ML3.1, Error ellipse: s-maj=8.6km s-min=6.4km az=166.0, Suspected Mining explosion.*
NEIC 56 km [35 miles] SSE of Gillette.

ISC 26 20:00:22.1±1.0, 43°.82N±0°.07×105°.21W±0°.08, h0km, n20, σ1s09/17, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.90**	**70**	*e*Pg	**Pb**	**20 00 40.5**	**-0.1**
LAO	**LASA Array**	**2.95**	**346**	*e*Pn	**Pn**	**20 01 11.3**	**+1.0**
RLMT	**Red Lodge**	**3.18**	**295**	*e*Pn	**Pn**	**20 01 13.9**	**+0.3**
BW06	**Boulder Array**	**3.35**	**253**	*e*Pn	**Pn**	**20 01 16.1**	**+0.3**
PDAR	**Pinedale Array**	**3.35**	**253**	Pn	**Pn**	**20 01 16.2**	**+0.4**
	3.1nm,0.3s,baz=69,slow=16,SNR=51						
PDAR				Lg	Lg	20 02 01.9	
	15nm,0.3s,baz=71,slow=35,SNR=13						
OGNE	**Ogallala**	**3.72**	**140**	*e*Pn	**Pn**	**20 01 22.7**	**+2.0**
LKWY	**Lake**	**3.81**	**283**	*e*Pn	**Pn**	**20 01 23.4**	**+1.2**
ISCO	**Idaho Springs**	**4.03**	**184**	*e*Pn	**Pn**	**20 01 26.0**	**+0.7**
AHID	**Auburn Hatcher**	**4.43**	**258**	*e*Pn	Pn	20 01 34.0	+3.3
DGMT	**Dagmar**	**4.70**	**8**	*e*Pn	**Pn**	**20 01 36.6**	**+2.3**
BOZ	**Bozeman (W)**	**4.91**	**293**	*e*Pn	**Pn**	**20 01 37.9**	**+0.7**
EGMT	**Eagleton**	**5.26**	**325**	*e*Pn	**Pn**	**20 01 41.8**	**-0.2**
	13nm,0.6s						
ECSD	**EROS Data Cent**	**6.22**	**88**	*e*Pn	**Pn**	**20 01 55.1**	**-0.1**
	5.7nm,0.5s						
HLID	**Hailey**	**6.68**	**271**	*e*Pn	**Pn**	**20 02 02.8**	**+1.2**
DUG	**Dugway, Tooele**	**6.72**	**240**	*e*Pn	**Pn**	**20 02 01.1**	**-1.0**
I10CA	**LAC DU BONNET**	**8.94**	**41**	*i*		20 54 15.0	
	baz=222,slow=322,SNR=5.3						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**20 02 33.2**	**-0.6**
	0.8nm,0.3s,baz=232,slow=11,SNR=8.6						
ULM				Lg	Lg	20 05 05.5	
	0.3nm,0.3s,baz=138,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**20 04 49.9**	**-0.5**
	0.1nm,0.3s,baz=157,slow=13,SNR=5.6						
RES	**Resolute Bay**	**31.30**	**5**	LR	LR	20 19 58.0	
	comp=Z,51nm,18.3s,baz=150,slow=38						
MKAR	**Makanchi Array**	**89.52**	**355**	P	**P**	**20 13 20.6**	**-0.5**
	0.4nm,0.7s,baz=7.0,slow=5.0,SNR=4.5						

IDC 26 20:04:39.5±2.1, 50°.08N×114°.77W, h0km, mb1 3.2/2, mb1mx2.9/39, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=44.5km s-min=9.8km az=119.0, Alberta

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEW	**Newport**	**2.39**	**221**	Pn	Pb	**20 05 21.6**	-1.7
	0.6nm,0.3s,baz=35,slow=13,SNR=19						
NEW				Sn	Sn	20 05 50.5	+0.6
	0.6nm,0.3s,baz=311,slow=23,SNR=2.6						
NEW				Lg	Lg	20 05 53.8	
	2.0nm,0.3s,baz=337,slow=20,SNR=11						
I56US	**NEWPORT INFRAS**	**2.39**	**221**	*i*		20 23 55.0	
	baz=39,slow=325,SNR=9.4						
I10CA	**LAC DU BONNET**	**12.03**	**82**	*i*		21 18 40.0	
	baz=274,slow=374,SNR=2.1						
YKA	**Yellowknife Ar**	**12.44**	**0**	Pn	Pn	20 07 33.8	-3.8
	0.1nm,0.3s,baz=177,slow=12,SNR=2.9						

*IDC **26** 20:21:27.1±1.2, 45°.05N×107°.00W, h0km, mb1 3.4/3, mb1mx3.1/43, mbtmp3.1/3, ML2.6/2, Error ellipse: s-maj=43.4km s-min=8.1km az=132.0*
*NEIC **26** 20:21:28.1±0.6, 45°.20N×106°.90W, h0km, ML2.5, Error ellipse: s-maj=9.6km s-min=7.1km az=136.0, Suspected Mining explosion.*
NEIC 45 km [28 miles] N of Sheridan.

ISC 26 20:21:25.5±1.0, 44°.98N±0°.09×106°.87W±0°.07, h0km, n11, σ0s70/10, Wyoming

| Code

H11S3	**WAKE ISLAND Hyd**	**22.12**	**282**	T		T	23 07 36.7	
	baz=101,slow=74,SNR=6.5							
MK32	**Makanchi Array**	**144.29**	**28**	*e*PKPdf		**PKPab**	**20 53 52.0**	**+1.0**
MKAR	**Makanchi Array**	**144.29**	**28**	PKPbc		**PKPab**	**20 53 52.0**	**+1.0**
	0.3nm,0.8s,baz=321,slow=1.6,SNR=4.4							
SONA0	**Songino Array**	**148.98**	**359**	*e*PKPbc		**PKPbc**	**20 54 06.0**	**+0.8**
SONM	**Songino Array**	**148.98**	**359**	PKPbc		**PKPbc**	**20 54 05.9**	**+0.8**
	1.2nm,0.7s,baz=3.7,slow=1.5,SNR=11							

*NNC **26** 20:37:13.4±0.4, 47.°26N×82.°03E, h10km±5km, mb3.9, mpv3.6, Error ellipse: s-maj=4.2km s-min=3.2km az=179.0*
*SOME **26** 20:37:14.3, 47.°15N×81.°78E, h0km*
ISC 26 20:37:14.5±1.4, 47.°22N±0.°03×82.°09E±0.°04, h4km±12km, n43, σ1s62/64, 26C-17D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**0.42**	**191**	⇑P		**Pg**	**20 37 23.5**	**+0.9**
	49nm,0.3s							
MAKZ				⇑S		**Sb**	**20 37 30.5**	**-0.7**
	286nm,0.3s							
MK05	**Makanchi Array**	**0.45**	**162**	⇑P		**Pg**	**20 37 24.3**	**+1.2**
MK05				⇑S		**Sb**	**20 37 31.9**	**-0.1**
MK31	**Makanchi Array**	**0.45**	**162**	⇓P		**Pg**	**20 37 24.2**	**+1.1**
	16nm,0.3s,baz=306,slow=5.0,SNR=6074							
MK31				⇑S		**Sb**	**20 37 31.6**	**-0.5**
	105nm,0.3s,baz=353,slow=26,SNR=41							
MK09	**Makanchi Array**	**0.47**	**164**	⇓P		**Pg**	**20 37 24.6**	**+1.1**
MK09				⇑S		**Sb**	**20 37 32.6**	**+0.1**
MK04	**Makanchi Array**	**0.47**	**163**	⇓P		**Pg**	**20 37 24.6**	**+1.1**
MK04				⇑S		**Sb**	**20 37 32.5**	**-0.2**
MK06	**Makanchi Array**	**0.47**	**161**	⇓P		**Pg**	**20 37 24.6**	**+1.1**
MK06				⇓S		**Sb**	**20 37 32.6**	**-0.1**
MK01	**Makanchi Array**	**0.47**	**162**	⇓P		**Pg**	**20 37 24.6**	**+1.0**
MK01				⇑S		**Sb**	**20 37 32.6**	**-0.2**
MK02	**Makanchi Array**	**0.48**	**162**	⇑P		**Pg**	**20 37 24.6**	**+1.0**
MK02				⇑S		**Sb**	**20 37 32.5**	**-0.3**
MK03	**Makanchi Array**	**0.48**	**162**	⇓P		**Pg**	**20 37 24.8**	**+1.1**
MK03				⇑S		**Sb**	**20 37 32.6**	**-0.3**
MK08	**Makanchi Array**	**0.48**	**164**	⇓P		**Pg**	**20 37 24.9**	**+1.1**
MK08				⇑S		**Sb**	**20 37 32.8**	**-0.2**
MK07	**Makanchi Array**	**0.49**	**162**	⇓P		**Pg**	**20 37 25.0**	**+1.0**
MK07				⇓S		**Sb**	**20 37 33.1**	**-0.2**
ZSN	**Zaisan**	**1.90**	**82**	P		**Pn**	**20 37 48.8**	**+1.1**
	7.8nm,0.1s							
ZSN				S		**Sb**	**20 38 13.8**	**0.0**
	50nm,0.2s							
ZSN	**Zaisan**	**1.90**	**82**	*e*P		**Pn**	**20 37 48.8**	**+1.1**
	0.9nm,0.2s							
ZSN				*e*S		**Sb**	**20 38 13.8**	**0.0**
	41nm,0.3s							
KAPS	**Kapalarasan**	**2.71**	**225**	Pg		**Pn**	**20 37 59.9**	**+1.1**
	6.8nm,0.2s							
KAPS				Lg		Lg	20 38 32.9	
	32nm,0.5s							
KAPS	**Kapalarasan**	**2.71**	**225**	*e*P		**Pn**	**20 37 59.9**	**+1.1**
	7.7nm,0.2s							
KAPS				*e*S		**Sn**	**20 38 32.9**	**+0.7**
	28nm,0.5s							
DJR	**Jarkent**	**3.31**	**210**	Pg		**Pb**	**20 38 13.6**	**-0.2**
	0.9nm,0.2s							
DJR				Lg		Lg	20 38 56.4	
	14nm,0.4s							
DJR	**Jarkent**	**3.31**	**210**	*e*P		**Pb**	**20 38 13.6**	**-0.2**
	1.0nm,0.3s							
DJR				*e*S		**Sb**	**20 38 56.4**	**+2.0**
	14nm,0.4s							
TDK	**Taldyqorghan**	**3.39**	**230**	Pg		**Pb**	**20 38 15.5**	**+0.4**
	98nm,0.4s							
TDK				Lg		Lg	20 39 00.4	
	95nm,0.5s							
TDK	**Taldyqorghan**	**3.39**	**230**	*e*P		**Pb**	**20 38 15.5**	**+0.4**
	14nm,0.4s							
TDK				*e*S		**Sb**	**20 38 59.4**	**+2.7**
	83nm,0.5s							
SEM	**Semipalatinsk**	**3.41**	**340**	Pg		**Pb**	**20 38 17.2**	**+1.6**
	31nm,0.3s							
SEM				Lg		Lg	20 39 02.8	
	156nm,0.3s							
SEM	**Semipalatinsk**	**3.41**	**340**	*e*P		**Pb**	**20 38 17.2**	**+1.6**
	2.7nm,0.1s							
SEM				*e*S		**Sb**	**20 39 02.8**	**+5.4**
	42nm,0.2s							
KTMS	**Ketmen**	**3.97**	**199**	Pg		**Pb**	**20 38 25.2**	**+0.1**
KTMS				Lg		Lg	20 39 16.2	
KTMS	**Ketmen**	**3.97**	**199**	*e*P		**Pb**	**20 38 25.2**	**+0.1**
KTMS				*e*S		**Sb**	**20 39 16.2**	**+2.7**
MNBS	**Baschi**	**4.07**	**221**	Pg		**Pb**	**20 38 28.2**	**+1.5**
	7.9nm,0.3s							
MNBS				Lg		Lg	20 39 22.5	
	29nm,0.7s							
MNBS	**Baschi**	**4.07**	**221**	*e*P		**Pb**	**20 38 28.2**	**+1.5**
	2.1nm,0.3s							
MNBS				*e*S		**Sg**	**20 39 21.5**	**-3.7**
	29nm,0.7s							
KURBB	**Kurchatov Arra**	**4.13**	**327**	⇓Pg		**Pb**	**20 38 25.3**	**-2.4**
	24nm,0.8s							
KURBB				⇑Lg		Lg	20 39 20.6	
	147nm,0.7s							
KURK	**Kurchatov**	**4.18**	**328**	⇑Pg		**Pb**	**20 38 26.4**	**-2.1**
	16nm,0.8s							
KURK				⇓Lg		Lg	20 39 21.1	
	86nm,0.7s							
PDGK	**Podgornoye**	**4.30**	**206**	Pg		**Pb**	**20 38 31.5**	**+0.7**
	1.6nm,0.2s							
PDGK				Lg		Lg	20 39 26.9	
	17nm,0.6s							
PDGK	**Podgornoye**	**4.30**	**206**	⇑Pn		**Pn**	**20 38 21.2**	**+0.3**
	1.3nm,0.4s							
PDGK				⇑Lg		Lg	20 39 31.0	
	28nm,0.5s							
KPKS	**Kokpek**	**4.46**	**214**	*e*P		**Pb**	**20 38 34.0**	**+0.7**
	5.1nm,0.1s							
KPKS				*e*S		**Sb**	**20 39 31.1**	**+3.7**
	40nm,0.6s							
MDOK	**Medeo**	**5.40**	**223**	Pn		**Pn**	**20 38 35.1**	**-0.8**
MDOK				Lg		Lg	20 40 02.8	
TKM2	**Tokmak 2**	**6.29**	**229**	P		**Pn**	**20 38 48.0**	**-0.3**
	SNR=5.8							
TKM2	**Tokmak 2**	**6.29**	**229**	⇓Pn		**Pn**	**20 38 47.7**	**-0.6**
	2.8nm,0.6s							
TKM2				⇑Lg		Lg	20 40 32.3	
	3.6nm,0.5s							
ULHL	**Ulahol**	**6.49**	**222**	P		**Pn**	**20 38 52.3**	**+1.4**
	SNR=13							
OTUK	**Ortayu**	**6.66**	**282**	⇑Pn		**Pn**	**20 38 50.1**	**-2.9**
	0.5nm,0.4s							
OTUK				⇑Sn		**Sn**	**20 40 05.4**	**-4.0**
	1.1nm,0.5s							
OTUK				⇓Lg		Lg	20 40 42.0	
	5.7nm,0.8s							
USP	**Ospenovka**	**6.66**	**236**	P		**Pn**	**20 38 52.1**	**-1.0**
	SNR=22							
KBK	**Karagaybulak**	**6.82**	**231**	P		**Pn**	**20 38 55.6**	**+0.2**
	SNR=14							
ZAA0	**Zalesovo Array**	**6.95**	**13**	⇑Pn		**Pn**	**20 38 57.3**	**+0.2**
	0.4nm,0.7s							
ZAA0				⇑Lg		Lg	20 40 48.2	
	2.7nm,0.8s							
AAK	**Ala-Archa**	**7.08**	**232**	P		**Pn**	**20 38 58.4**	**-0.5**
	SNR=5.9							
AAK	**Ala-Archa**	**7.08**	**232**	Pn		**Pn**	**20 38 58.4**	**-0.5**
	1.5nm,0.5s							
AAK				Lg		Lg	20 40 58.7	
	6.8nm,0.8s							
KK31	**Karatay Array**	**9.16**	**247**	⇓Pn		**Pn**	**20 39 23.8**	**-3.5**
	0.8nm,0.3s,baz=60,slow=14,SNR=12							
KK31				⇑Lg		Lg	20 42 03.4	
	1.3nm,0.4s,baz=58,slow=27,SNR=4.3							
BVA0	**Borovoye Array**	**9.49**	**312**	⇓Pn		Pn	20 39 25.1	-6.8
	1.2nm,0.8s,baz=119,slow=11,SNR=4.7							
BVA0				⇑Sn		**Sn**	**20 41 19.0**	**+0.1**
	1.8nm,0.7s,baz=121,slow=18,SNR=4.5							
BVA0				⇑Lg		Lg	20 42 15.8	
	4.9nm,0.8s,baz=117,slow=27,SNR=4.9							
BRVK	**Borovoye**	**9.56**	**312**	⇓Pn		Pn	20 39 26.5	-6.4
	2.4nm,0.9s							
BRVK				⇑Sn		**Sn**	**20 41 21.8**	**+1.1**
	2.7nm,0.9s							
BRVK				⇑Lg		Lg	20 42 18.0	
	3.3nm,0.7s							

*ISCJB **26** 20:54:27.3±0.3, 24.°63N±0.°02×122.°20E±0.°02, h65km±3km,*

Error ellipse: s-maj=3.0km s-min=2.4km az=160.5
*JMA **26** 20:54:27.3±0.2, 24.°58N×122.°18E, h69km±3km, M2.7*
*TAP **26** 20:54:27.5, 24.°65N×122.°18E, h63km, ML3.3, C*
ISC 26 20:54:27.7±1.2, 24.°63N±0.°03×122.°19E±0.°02, h64km±6km, n104, σ0s84/192, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EOS1	**EOS1**	**0.10**	**215**	*e*P		**Pn**	**20 54 37.6**	**+0.4**
	baz=203							
EOS1				S		**Sn**	**20 54 44.8**	**+0.7**
	baz=203							
TWC	**Suao**	**0.31**	**266**	P		**Pn**	**20 54 38.1**	**-0.2**
	baz=261							
TWC				S		**Sn**	**20 54 45.2**	**-0.9**
	baz=261							
NTC	**Toucheng**	**0.40**	**304**	*e*P		**Pn**	**20 54 38.8**	**-0.2**
	baz=302							
NTC				*e*S		**Sn**	**20 54 46.8**	**-0.5**
	baz=302							
ILA	**Ilan**	**0.43**	**288**	*e*P		**Pn**	**20 54 39.5**	**+0.1**
	baz=285							
ILA				*e*S		**Sn**	**20 54 48.0**	**+0.2**
	baz=285							
NANB	**Nanao**	**0.45**	**243**	P		**Pn**	**20 54 39.7**	**+0.1**
	baz=240							
NANB				S		**Sn**	**20 54 48.7**	**+0.5**
	baz=240							
ENA	**Nanau**	**0.46**	**244**	P		**Pn**	**20 54 39.8**	**+0.1**
	baz=239							
ENA				S		**Sn**	**20 54 48.6**	**+0.3**
	baz=239							
TIPB	**Shuangxi**	**0.47**	**315**	*e*P		**Pn**	**20 54 39.7**	**-0.1**
	baz=314							
TIPB				*e*S		**Sn**	**20 54 48.2**	**-0.4**
	baz=314							
TWE	**Neicheng**	**0.49**	**280**	P		**Pn**	**20 54 39.9**	**0.0**
	baz=278							
TWE				*e*S		**Sn**	**20 54 48.4**	**-0.3**
	baz=278							
ENTT	**Nioudou**	**0.57**	**271**	P		**Pn**	**20 54 41.5**	**+0.7**
	baz=268							
ENTT				S		**Sn**	**20 54 51.2**	**+0.9**
	baz=268							
NWF	**Wu-fen Shan**	**0.57**	**319**	P		**Pn**	**20 54 41.2**	**+0.3**
	baz=319							
NWF				S		**Sn**	**20 54 50.5**	**-0.1**
	baz=319							
WFSB	**Wu-fen Shan**	**0.57**	**319**	P		**Pn**	**20 54 41.1**	**+0.3**
	baz=318							
WFSB				S		**Sn**	**20 54 50.2**	**-0.2**
	baz=318							
NDT	**Datong Townshi**	**0.62**	**267**	P		**Pn**	**20 54 42.1**	**+0.7**
	baz=265							
NDT				S		**Sn**	**20 54 51.9**	**+0.6**
	baz=265							
NWLT	**Wulai**	**0.64**	**283**	*e*P		**Pn**	**20 54 41.8**	**+0.1**
	baz=281							
NWLT				*e*S		**Sn**	**20 54 53.0**	**+1.1**
	baz=281							
TWA	**Mucha**	**0.65**	**302**	P		**Pn**	**20 54 41.7**	**0.0**
	baz=301							
TWA				*e*S		**Sn**	**20 54 51.6**	**-0.4**
	baz=301							
NHDH	**Xindian Distri**	**0.69**	**298**	*e*P		**Pn**	**20 54 42.2**	**+0.1**
	baz=297							
NHDH				S		**Sn**	**20 54 52.2**	**-0.5**
	baz=297							
JYNG	**Yonagunijimaku**	**0.71**	**105**	P		**Pn**	**20 54 42.5**	**+0.2**
JYNG				*e*S		**Sn**	**20 54 53.2**	**+0.1**
NACB	**Ninganchiao**	**0.71**	**230**	*e*P		**Pn**	**20 54 42.0**	**-0.4**
	baz=228							
NACB				*e*S		**Sn**	**20 54 52.7**	**-0.5**
	baz=228							
TATO	**Taipei**	**0.72**	**298**	*e*P		**Pn**	**20 54 42.2**	**-0.3**
	baz=297							
TATO				*e*S		**Sn**	**20 54 52.5**	**-0.9**
	baz=297							
TAP	**Taipei**	**0.74**	**303**	*e*P		**Pn**	**20 54 42.6**	**-0.2**
	baz=302							
TAP				*e*S		**Sn**	**20 54 53.0**	**-0.8**
	baz=302							
YHNB	**Yeheng**	**0.74**	**273**	P		**Pn**	**20 54 43.4**	**+0.5**
	baz=271							
YHNB				S		**Sn**	**20 54 54.0**	**0.0**
	baz=271							
YM01	**YM01**	**0.76**	**312**	P		**Pn**	**20 54 43.0**	**0.0**
	baz=311							
YM01				*e*S		**Sn**	**20 54 53.7**	**-0.6**
	baz=311							
YOJ	**Yonaguni jima**	**0.76**	**103**	*e*P		**Pn**	**20 54 42.6**	**-0.4**
	baz=103							
YOJ				*e*S		**Sn**	**20 54 54.8**	**+0.6**
	baz=103							
YOJ	**Yonaguni jima**	**0.76**	**103**	P		**Pn**	**20 54 43.1**	**+0.1**
YOJ				*e*S		**Sn**	**20 54 54.3**	**+0.1**
NNSB	**Datong**	**0.77**	**255**	P		**Pn**	**20 54 43.3**	**+0.2**
	baz=252							
NNSB				S		**Sn**	**20 54 54.4**	**-0.1**
	baz=252							
NNS	**Nan Shan**	**0.77**	**256**	P		**Pn**	**20 54 43.4**	**+0.1**
	baz=253							
NNS				S		**Sn**	**20 54 54.5**	**-0.1**
	baz=253							
YM11	**YM11**	**0.77**	**313**	P		**Pn**	**20 54 43.2**	**0.0**
	baz=312							
YM11				*e*S		**Sn**	**20 54 54.1**	**-0.4**
	baz=312							
TWD	**Chiawan**	**0.78**	**225**	*e*P		**Pn**	**20 54 42.8**	**-0.4**
	baz=222							
TWD				*e*S		**Sn**	**20 54 54.0**	**-0.4**
	baz=222							
ETLH	**Xiulin Townshi**	**0.78**	**237**	P		**Pn**	**20 54 42.9**	**-0.4**
	baz=235							
ETLH				*e*S		**Sn**	**20 54 54.2**	**-0.4**
	baz=235							
YM05	**YM05**	**0.78**	**313**	P		**Pn**	**20 54 43.2**	**0.0**
	baz=312							
YM05				*e*S		**Sn**	**20 54 53.8**	**-0.9**
	baz=312							
YM04	**YM04**	**0.79**	**311**	*e*P		**Pn**	**20 54 43.2**	**-0.1**
	baz=310							
YM04				*e*S		**Sn**	**20 54 54.2**	**-0.6**
	baz=310							
TWY	**Chenhua**	**0.84**	**320**	*e*S		**Sn**	**20 54 56.3**	**+0.5**
	baz=319							
TWS1	**Kuangyinshan**	**0.84**	**304**	P		**Pn**	**20 54 44.2**	**+0.2**
	baz=303							
TWS1				S		**Sn**	**20 54 56.1**	**+0.2**
	baz=303							
HWA	**Hwalien**	**0.85**	**219**	*e*P		**Pn**	**20 54 43.6**	**-0.5**
	baz=217							
NTST	**Danshui**	**0.86**	**308**	*e*P		**Pn**	**20 54 44.1**	**-0.1**
	baz=307							
NTST				*e*S		**Sn**	**20 54 56.0**	**-0.3**
	baz=307							
WLTB	**Daxi**	**0.88**	**284**	*e*P		**Pn**	**20 54 44.8**	**+0.4**
	baz=283							
WLTB				*e*S		**Sn**	**20 54 57.8**	**+0.9**
	baz=283							
NCU	**National Centr**	**0.97**	**290**	*e*S		**Sn**	**20 54 59.8**	**+0.9**
	baz=289							
NCUH	**Zhongli**	**0.97**	**290**	*e*S		**Sn**	**20 54 59.5**	**+0.6**
	baz=289							
WHF	**Hehuan Shan**	**0.98**	**240**	*e*P		**Pn**	**20 54 45.7**	**-0.3**
	baz=238							
WHF				*e*S		**Sn**	**20 54 58.8**	**-0.9**
	baz=238							
TWT	**Tachien**	**1.00**	**248**	*e*P		**Pn**	**20 54 46.5**	**+0.4**
	baz=246							
TWT				*e*S		**Sn**	**20 55 00.2**	**+0.4**
	baz=246							
TDCB	**Techi**	**1.02**	**248**	*e*P		**Pn**	**20 54 46.7**	**+0.4**
	baz=246							
TDCB				*e*S		**Sn**	**20 54 59.8**	**-0.3**
	baz=246							
ESL	**Shilin**	**1.07**	**221**	*e*P		**Pn**	**20 54 46.0**	**-0.9**
	baz=218							
ESL				*e*S		**Sn**	**20 55 00.2**	**-1.0**
	baz=218							
LIOB	**Emei**	**1.07**	**271**	*e*P		**Pn**	**20 54 44.7**	**-2.2**
	baz=269							
LIOB				*e*S		**Sn**	**20 54 59.2**	**-1.9**
	baz=269							
CHGB	**Renai**	**1.09**	**239**	P		**Pn**	**20 54 47.1**	**-0.2**
	baz=237							
CHGB				S		**Sn**	**20 55 01.2**	**-0.7**
	baz=237							
OWD	**Renai**	**1.15**	**234**	*e*P		**Pn**	**20 54 47.4**	**-0.6**
	baz=232							
OWD				S		**Sn**	**20 55 02.3**	**-0.8**
	baz=232							
EGFH	**Guangfu**	**1.19**	**216**	*e*P		**Pn**	**20 54 47.4**	**-1.0**
	baz=215							
EGFH				*e*S		**Sn**	**20 55 02.4**	**-1.4**
	baz=215							
WHP	**Taichung City**	**1.19**	**253**	*e*P		**Pn**	**20 54 49.3**	**+0.8**
	baz=251							
WHP				*e*S		**Sn**	**20 55 04.6**	**+0.6**
	baz=251							
NMLH	**Miaoli**	**1.28**	**266**	*e*P		**Pn**	**20 54 49.2**	**-0.4**
	baz=264							
NMLH				*e*S		**Sn**	**20 55 06.9**	**+0.9**
	baz=264							
VWDT	**VWDT**	**1.30**	**228**	P		**Pn**	**20 54 49.9**	**0.0**
	baz=226							
VWDT				*e*S		**Sn**	**20 55 05.8**	**-0.6**
	baz=226							
NSY	**Sanyi**	**1.32**	**261**	*e*S		**Sn**	**20 55 08.1**	**+1.0**
	baz=259							
HGSD	**Ruisui**	**1.34**	**212**	*e*P		**Pn**	**20 54 50.3**	**0.0**
	baz=210							
HGSD				*e*S		**Sn**	**20 55 07.6**	**+0.3**
	baz=210							
EHY	**Hungye**	**1.38**	**216**	*e*P		**Pn**	**20 54 49.5**	**-1.4**
	baz=214							
EHY				*e*S		**Sn**	**20 55 06.9**	**-1.4**
	baz=214							
SMLT	**Sun Moon Lake**	**1.40**	**238**	P		**Pn**	**20 54 52.1**	**+0.8**
	baz=236							
SMLT				S		**Sn**	**20 55 09.7**	**+0.7**
	baz=236							
SSLB	**Suanglung**	**1.41**	**234**	P		**Pn**	**20 54 51.7**	**+0.3**
	baz=232							
SSLB				*e*S		**Sn**	**20 55 10.7**	**+1.6**
	baz=232							
TYC	**Yuchr**	**1.42**	**239**	P		**Pn**	**20 54 52.2**	**+0.7**
	baz=238							
TYC				*e*S		**Sn**	**20 55 10.3**	**+1.0**
	baz=238							
IRIF	**Iriomote-Funau**	**1.43**	**102**	P		**Pn**	**20 54 51.6**	**0.0**
IRIF				S		**Sn**	**20 55 09.6**	**0.0**
WDJ	**Dajia District**	**1.44**	**259**	*e*S		**Sn**	**20 55 10.4**	**+0.5**
	baz=257							
TCU	**Taichung**	**1.47**	**251**	*e*S		**Sn**	**20 55 11.4**	**+1.1**
	baz=249							
YULB	**Yu-li**	**1.48**	**214**	*e*P		**Pn**	**20 54 50.9**	**-1.4**
	baz=212							
YULB				*e*S		**Sn**	**20 55 10.9**	**0.0**
	baz=212							
TWF1	**Yuli**	**1.52**	**213**	*e*P		**Pn**	**20 54 51.4**	**-1.4**
	baz=211							
TWF1				*e*S		**Sn**	**20 55 11.8**	**+0.2**
	baz=211							
WHYT	**Xinyi Township**	**1.54**	**233**	*e*P		**Pn**	**20 54 53.8**	**+0.7**
	baz=231							
WHYT				*e*S		**Sn**	**20 55 13.4**	**+1.2**
	baz=231							
WJS	**Zhushan**	**1.56**	**239**	*e*P		**Pn**	**20 54 54.6**	**+1.2**
	baz=237							
WJS				*e*S		**Sn**	**20 55 14.2**	**+1.5**
	baz=237							
WNT	**Mingjian**	**1.57**	**242**	*e*P		**Pn**	**20 54 54.4**	**+0.9**
	baz=240							
WNT				*e*S		**Sn**	**20 55 14.0**	**+1.1**
	baz=240							
WCHH	**Zhanghua**	**1.59**	**250**	*e*S		**Sn**	**20 55 14.5**	**+1.1**
	baz=248							
FULB	**Fuli**	**1.65**	**210**	*e*P		**Pn**	**20 54 53.6**	**-1.0**
	baz=209							
FULB				*e*S		**Sn**	**20 55 15.0**	**+0.1**
	baz=209							
ALS	**Alishan**	**1.69**	**229**	*e*P		**Pn**	**20 54 56.2**	**+0.8**
	baz=227							
ALS				*e*S		**Sn**	**20 55 17.0**	**+0.8**
	baz=227							
JKRS	**Kuro-shima**	**1.70**	**103**	P		**Pn**	**20 54 55.7**	**+0.5**
JKRS				*e*S		**Sn**	**20 55 16.4**	**+0.4**
CHKT	**Chengkung**	**1.71**	**207**	*e*P		**Pn**	**20 54 54.0**	**-1.3**
	baz=205							
CHKT				*e*S		**Sn**	**20 55 15.1**	**-1.0**
	baz=205							
CHN5	**Tsauling**	**1.73**	**234**	*e*P		**Pn**	**20 54 56.3**	**+0.6**
	baz=232							
CHN5				*e*S		**Sn**	**20 55 17.8**	**+1.0**
	baz=232							
WGK	**Gukeng**	**1.76**	**238**	*e*P		**Pn**	**20 54 56.6**	**+0.6**
	baz=236							
WGK				*e*S		**Sn**	**20 55 19.0**	**+1.5**
	baz=236							
WDLH	**Douliu**	**1.78**	**238**	*e*P		**Pn**	**20 54 57.1**	**+0.8**
	baz=237							
WDLH				*e*S		**Sn**	**20 55 18.9**	**+0.9**
	baz=237							
JIJ	**Ishigaki jima**	**1.80**	**98**	P		**Pn**	**20 54 56.5**	**0.0**
JIJ				S		**Sn**	**20 55 17.4**	**-0.9**
ELDTW	**Lidau**	**1.80**	**217**	*e*P		**Pn**	**20 54 55.8**	**-0.8**
	baz=215							
ELDTW				*e*S		**Sn**	**20 55 17.7**	**-0.8**
	baz=215							
RLNB	**Erlin**	**1.83**	**247**	*e*P		**Pn**	**20 54 58.3**	**+1.4**
	baz=245							
RLNB				*e*S		**Sn**	**20 55 19.1**	**0.0**
	baz=245							
CHN2	**Minshiung**	**1.92**	**235**	*e*S		**Sn**	**20 55 22.3**	**+1.1**
	baz=234							
JISG	**Ishigakijimahi**	**1.93**	**91**	P		**Pn**	**20 54 58.6**	**+0.3**
JISG				*e*S		**Sn**	**20 55 21.8**	**+0.3**
CHN4	**Tsaushan**	**1.94**	**229**	*e*P		**Pn**	**20 55 00.1**	**+1.6**
	baz=228							
CHN4				*e*S		**Sn**	**20 55 23.1**	**+1.2**
	baz=228							
TPUB	**Ta-pu**	**1.95**	**227**	*e*P		**Pn**	**20 54 59.4**	**+0.7**
	baz=226							
TPUB				*e*S		**Sn**	**20 55 23.4**	**+1.3**
	baz=226							
STYT	**Tauyuan**	**1.97**	**222**	*e*P		**Pn**	**20 54 59.0**	**+0.1**
	baz=221							
STYT				*e*S		**Sn**	**20 55 23.7**	**+1.1**
	baz=221							
CHY	**Chiayi**	**1.97**	**235**	*e*P		**Pn**	**20 54 59.9**	**+0.9**
	baz=234							
CHY				*e*S		**Sn**	**20 55 24.2**	**+1.6**
	baz=234							
WTP	**Ta-pu**	**2.00**	**227**	*e*P		**Pn**	**20 54 59.9**	**+0.6**
	baz=225							
WTP				*e*S		**Sn**	**20 55 24.2**	**+0.8**
	baz=225							
WSF	**Szhu**	**2.06**	**242**	*e*S		**Sn**	**20 55 24.1**	**-0.5**
	baz=240							
TWK	**Hsinying**	**2.07**	**229**	*e*P		**Pn**	**20 55 01.1**	**+0.8**
	baz=228							
TWK				*e*S		**Sn**	**20 55 26.1**	**+1.1**
	baz=228							
TWG	**Pinlang**	**2.08**	**210**	*e*P		**Pn**	**20 54 59.1**	**-1.3**
	baz=208							
TWG				*e*S		**Sn**	**20 55 23.6**	**-1.6**
	baz=208							
SNST	**Tainan City**	**2.10**	**228**	*e*P

	baz=214						
VWUC	**VWUC**	**2.52**	**279**	*e*P	**Pn**	**20 55 05.9**	**-0.4**
	baz=277						
VWUC				*e*S	**Sn**	**20 55 33.7**	**-2.2**
	baz=277						
MATB	**Ma-tsu**	**2.53**	**307**	*e*P	**Pn**	**20 55 06.4**	**-0.1**
	baz=306						
MATB				*e*S	**Sn**	**20 55 35.1**	**-1.1**
	baz=306						
EAST	**Anshuo**	**2.56**	**209**	*e*P	**Pn**	**20 55 06.4**	**-0.5**
	baz=208						
EAST				*e*S	**Sn**	**20 55 36.8**	**-0.1**
	baz=208						
PHUB	**P'eng-hu**	**2.64**	**246**	*e*S	**Sn**	**20 55 37.7**	**-1.2**
	baz=244						
LAY	**Lan-yu**	**2.65**	**193**	*e*P	**Pn**	**20 55 07.5**	**-0.7**
	baz=192						
LAY				*e*S	**Sn**	**20 55 38.6**	**-0.6**
	baz=192						
SCZT	**Fangliau**	**2.67**	**213**	*e*P	**Pn**	**20 55 09.7**	**+1.3**
	baz=212						
SCZT				*e*S	**Sn**	**20 55 40.0**	**+0.3**
	baz=212						
VCHM	**Qimei**	**2.90**	**241**	*e*S	**Sn**	**20 55 43.3**	**-1.9**
	baz=240						
HEN	**Hengchun**	**2.94**	**207**	*e*P	**Pn**	**20 55 13.3**	**+1.2**
	baz=206						
HEN				*e*S	**Sn**	**20 55 46.1**	**-0.1**
	baz=206						
TWK1	**Hengchun**	**2.97**	**206**	*e*P	**Pn**	**20 55 12.5**	**0.0**
	baz=204						
TWK1				*e*S	**Sn**	**20 55 45.9**	**-1.0**
	baz=204						
TWKBT	**Hengchun**	**2.97**	**206**	*e*P	**Pn**	**20 55 12.2**	**-0.2**
	baz=204						
TSEB	**Hengchuen, Pin**	**2.97**	**204**	*e*P	**Pn**	**20 55 13.1**	**+0.6**
	baz=203						
KNM	**Kinmen**	**3.43**	**267**	*e*S	**Sn**	**20 55 59.0**	**+0.8**
	baz=266						
KNMB	**Chin-men Tao**	**3.47**	**268**	*e*P	**Pn**	**20 55 19.2**	**-0.1**
	baz=266						
KNMB				*e*S	**Sn**	**20 55 56.6**	**-2.6**
	baz=266						

ISCJB ***26*** *21:05:59.7±0.4, 34°.53N±0°.04×139°.65E±0°.07, h119km±3km, mb3.8/12, Error ellipse: s-maj=10.0km s-min=5.3km az=160.3*
JMA ***26*** *21:06:00.9±0.1, 34°.56N×139°.67E, h106km±2km, M3.4*
IDC ***26*** *21:06:01.2±0.8, 34°.48N×139°.55E, h118km±8km, mb3.5/12, mb1 3.7/14, mb1mx3.4/77, mbtmp3.9/14, MS2.9/3, Ms1 2.9/3, ms1mx2.5/26, Error ellipse: s-maj=19.7km s-min=10.8km az=74.0*

ISC 26 21:06:00.6±0.7, 34°.55N±0°.04×139°.66E±0°.06, h111km±5km, n36, σ0=61/41, mb3.8/12, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIM2	**Oshima 3**	**0.25**	**313**	P			**Pn**	**21 06 16.1**	**-0.2**
JIM2					*e*S		**Sn**	**21 06 27.7**	**-0.4**
JTHY	**Toshimahigashi**	**0.30**	**266**	P			**Pn**	**21 06 16.7**	**+0.2**
TATJ	**Tateyama 2**	**0.52**	**22**	P			**Pn**	**21 06 18.3**	**+0.6**
JMKN	**Mikurajimanish**	**0.65**	**185**	P			**Pn**	**21 06 18.7**	**0.0**
JMKN				S			**Sn**	**21 06 32.6**	**+0.3**
JIZS	**Izushimoda**	**0.67**	**285**	P			**Pn**	**21 06 18.9**	**+0.1**
JIZS				S			**Sn**	**21 06 32.5**	**+0.1**
BSO3	**Boso 3**	**0.75**	**70**	P			**Pn**	**21 06 19.9**	**+0.8**
JOD2	**Odawara 2**	**0.85**	**327**	P			**Pn**	**21 06 20.5**	**0.0**
JOD2				S			**Sn**	**21 06 35.4**	**0.0**
JFNN	**Fujinakano**	**1.03**	**309**	P			**Pn**	**21 06 22.5**	**+0.3**
JFNN				*e*S			**Sn**	**21 06 38.9**	**+0.5**
BSO1	**Boso 1**	**1.09**	**84**	P			**Pn**	**21 06 22.8**	**+0.5**
SHZ3	**Shizuoka 3**	**1.30**	**294**	P			**Pn**	**21 06 25.4**	**+0.2**
JYN	**Shimob**	**1.32**	**316**	P			**Pn**	**21 06 25.9**	**+0.5**
JHJ	**Hachijo jima 2**	**1.43**	**176**	P			**Pn**	**21 06 27.4**	**+0.7**
	160nm,0.3s,baz=237,slow=24,SNR=34								
JHJ				S			**Sn**	**21 06 46.8**	**+0.5**
	398nm,0.3s,baz=331,slow=22,SNR=36								
JHJ2	**Mitsune**	**1.44**	**175**	P			**Pn**	**21 06 27.3**	**+0.6**
JHJ2				*e*S			**Sn**	**21 06 46.8**	**+0.3**
TK04	**Tokai 4**	**1.48**	**264**	P			**Pn**	**21 06 27.9**	**+0.8**
JRY	**Ryogami san**	**1.59**	**337**	P			**Pn**	**21 06 29.3**	**+0.7**
JRY				S			**Sn**	**21 06 50.4**	**+0.5**
TK02	**Tokai 2**	**1.68**	**250**	P			**Pn**	**21 06 30.3**	**+0.8**
JAG	**Ashikaga**	**1.88**	**355**	P			**Pn**	**21 06 32.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.31**	**330**	P			**Pn**	**21 06 37.9**	**+0.2**
	2.4nm,0.3s,baz=161,slow=11,SNR=129								
MAT	**Matsushiro**	**2.32**	**330**	P			**Pn**	**21 06 38.2**	**+0.5**
MAT				S			**Sn**	**21 07 07.0**	**+0.8**
JNU	**Nakatsue**	**7.44**	**261**	P			**Pn**	**21 07 47.5**	**+1.0**
	2.6nm,0.3s,baz=70,slow=1.5,SNR=25								
JNU				LR			LR	21 10 26.4	
	comp=Z,22nm,19.3s,baz=212,slow=36								
KSRS	**Korea Array**	**9.94**	**290**	LR			LR	21 12 26.4	
	comp=Z,28nm,18.1s,baz=152,slow=39								
H11N2	**WAKE ISLAND Hy**	**28.26**	**114**	T			T	21 41 01.8	
	baz=306,slow=75,SNR=18								
H11N1	**WAKE ISLAND Hy**	**28.27**	**114**	T			T	21 41 02.8	
	baz=306,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**28.28**	**114**	T			T	21 41 03.7	
	baz=306,slow=75,SNR=18								
ZALV	**Zalesovo Beam**	**42.58**	**314**	P			**P**	**21 13 44.9**	**-0.5**
	0.9nm,0.6s,baz=117,slow=8.5,SNR=4.7								
MKAR	**Makanchi Array**	**44.28**	**304**	P			**P**	**21 13 58.5**	**-0.7**
	0.3nm,0.6s,baz=90,slow=9.3,SNR=4.2								
KURBB	**Kurchatov Arra**	**46.45**	**310**	P			**P**	**21 14 15.3**	**-0.8**
	0.9nm,0.5s,baz=92,slow=7.9,SNR=14								
BVAR	**Borovoye Array**	**51.22**	**314**	P			**P**	**21 14 52.0**	**-0.6**
	0.4nm,0.3s,baz=102,slow=9.2,SNR=5.8								
ILAR	**Eielson Array**	**52.36**	**31**	P			**P**	**21 15 01.2**	**+0.4**
	0.5nm,0.8s,baz=273,slow=6.6,SNR=6.5								
WRA	**Warramunga Arr**	**54.42**	**186**	P			**P**	**21 15 14.6**	**-1.8**
	1.5nm,0.4s,baz=4.6,slow=7.5,SNR=52								
INK	**Inuvik**	**57.25**	**26**	P			**P**	**21 15 36.8**	**+0.8**
	0.3nm,0.3s,baz=318,slow=7.0,SNR=4.2								
ASAR	**Alice Springs**	**58.15**	**186**	P			**P**	**21 15 42.6**	**-0.2**
	0.8nm,0.6s,baz=16,slow=13,SNR=12								
STKA	**Stephens Creek**	**66.10**	**178**	P			**P**	**21 16 35.3**	**-0.4**
	3.2nm,0.8s,baz=324,slow=7.5,SNR=5.0								
STKA				LR			LR	21 45 00.3	
	comp=Z,52nm,18.0s,baz=207,slow=35								
YKA	**Yellowknife Ar**	**66.67**	**29**	P			**P**	**21 16 39.2**	**+0.1**
	0.3nm,0.5s,baz=300,slow=6.2,SNR=6.2								
FINES	**FINESS Array B**	**70.34**	**332**	P			**P**	**21 17 02.0**	**0.0**
	2.0nm,1.1s,baz=44,slow=5.8,SNR=4.2								
TXAR	**Lajitas Array**	**92.78**	**51**	P			**P**	**21 19 01.6**	**+0.7**
	0.4nm,0.6s,baz=265,slow=3.1,SNR=5.2								

MEX 26 21:19:28.0±0.5, 16°.05N×98°.31W, h1km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.38**	**27**	*i* P			Pg	21 19 34.9	-0.4
PNIG				*e*S			Sg	21 19 40.6	+0.4

NIED ***26*** *21:22:00, 33°.70N×134°.00E, h32km, Mw3.6 Best double couple: M0 2.54000×10^14 NP1:φs=279.00000°, δ65.00000°, λ19.00000°. NP2:φs=180.00000°, δ72.00000°, λ154.00000°.*

JMA 26 21:22:56.6, 33°.70N×133°.98E, h37km, M3.7, 2C-6D Broadband fault plane solution: P waves. NP1: φs=176.00000°, δ74.00000°, λ139.00000°. **NP2:** φs=280.00000°, δ50.00000°, λ21.00000°. **Principal axes:** T Plg40.0000°, Azm130.0000°; N Plg46.0000°, Azm339.0000°; P Plg15.0000°, Azm233.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMN	**Monobe**	**0.09**	**288**	⇑P			Pn	21 23 02.7	-0.2
JMN				S			Sn	21 23 07.0	-0.2
MRT2	**Murotomisaki 2**	**0.34**	**156**	⇑P			Pn	21 23 04.9	-0.1
MRT2				S			Sn	21 23 10.7	-1.1
JAI	**Aioi**	**0.40**	**77**	⇓P			Pn	21 23 05.8	+0.1
JAI				S			Sn	21 23 12.1	-0.4
JJS	**Sakaide**	**0.67**	**357**	⇓P			Pn	21 23 09.5	-0.2
JJS				S			Sn	21 23 18.7	-0.3
JET	**Tanbara**	**0.78**	**276**	⇓P			Pn	21 23 10.8	-0.3
JET				S			Sn	21 23 21.2	-0.4
JKU	**Kubokawa**	**0.86**	**243**	⇓P			Pn	21 23 11.9	-0.3
JAJ2	**Tsuna**	**1.04**	**46**	P			Pn	21 23 14.3	-0.3
JWM	**Minabe**	**1.16**	**82**	⇓P			Pn	21 23 15.7	-0.5
JWM				*e*S			Sn	21 23 29.3	-1.4
UWA2	**Uwa jima 2**	**1.23**	**247**	⇓P			Pn	21 23 17.0	-0.3
JAD	**Aida**	**1.25**	**7**	P			Pn	21 23 17.2	-0.3
MAT	**Matsushiro**	**4.48**	**50**	P			Pn	21 24 03.1	+1.2
MAT				S			Sn	21 24 53.1	+0.4

SKHL ***26*** *21:35:01.1±0.4, 44°.83N×149°.69E, h43km±3km, mb4.1/4*
JMA ***26*** *21:35:02.4±0.8, 44°.96N×149°.49E, h30km, M4.0*

ISC 26 21:35:00.7±4.2, 44°.8N±0°.1×149°.7E±0°.2, h35km, n20, σ1=74/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.38**	**289**	*i* P			**Pn**	**21 35 22.0**	**-1.4**
KUR					AMB		AMB	21 35 28.0	
	29nm,0.3s								
KUR				*i* S			**Sn**	**21 35 38.0**	**-2.4**
KUR					A		A	21 35 39.0	
	70nm,0.2s								
KUR					A		A	21 35 39.0	
	294nm,0.2s								
SHO	**Shikotan**	**2.27**	**247**	*e*P			**Pn**	**21 35 35.7**	**0.0**
SHO					AMB		AMB	21 35 40.0	
	34nm,0.3s								
SHO				*e*S			**Sn**	**21 36 01.4**	**-0.9**
SHO					A		A	21 36 10.0	
	22nm,0.2s								
SHO					A		A	21 36 10.0	
	213nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**2.86**	**256**	*e*P			**Pn**	**21 35 45.0**	**+1.2**
YUK					AMB		AMB	21 35 52.0	
	10.0nm,0.3s								
YUK				*e*S			**Sn**	**21 36 18.0**	**+1.0**
YUK					A		A	21 36 22.0	
	217nm,0.4s								
YUK					A		A	21 36 22.0	
	221nm,0.4s								
GRPR	**Tuman**	**2.94**	**255**	*e*P			**Pn**	**21 35 46.0**	**+1.1**
GRPR					AMB		AMB	21 35 54.0	
	60nm,0.4s								
GRPR					AMB		AMB	21 35 54.0	
	39nm,0.4s								
GRPR					AMB		AMB	21 35 54.0	
	85nm,0.4s								
GRPR				*e*S			**Sn**	**21 36 19.5**	**+0.6**
GRPR					A		A	21 36 23.0	
	152nm,0.4s								
GRPR					A		A	21 36 23.0	
	228nm,0.4s								
NEM2	**Nemuro 2**	**3.20**	**245**	P			**Pn**	**21 35 48.4**	**-0.1**
NEM2				*e*S			**Sn**	**21 36 22.6**	**-2.7**
JRA	**Rausu**	**3.40**	**257**	P			**Pn**	**21 35 53.2**	**+2.0**
JNK	**Nakash**	**3.79**	**253**	*e*S			**Sn**	**21 36 38.9**	**-1.0**
JAK	**Akkeshi**	**4.05**	**245**	P			**Pn**	**21 36 00.2**	**+0.1**
JTKR	**Abashiri--Toko**	**4.24**	**261**	P			**Pn**	**21 36 05.5**	**+2.7**
JAR	**Ashorobuto**	**4.54**	**253**	P			**Pn**	**21 36 09.3**	**+2.4**
JMP	**Maruseppu**	**4.62**	**262**	P			**Pn**	**21 36 10.6**	**+2.6**
JOB	**Onbets**	**4.65**	**248**	P			**Pn**	**21 36 09.6**	**+1.1**
JKK2	**Kamakawa 2**	**5.08**	**262**	P			**Pn**	**21 36 17.2**	**+2.9**
JCH	**Churui**	**5.09**	**247**	P			**Pn**	**21 36 15.5**	**+1.0**
JCH				*e*S			**Sn**	**21 37 10.3**	**-1.8**
MYR	**Moyori**	**5.30**	**244**	*e*P			**Pn**	**21 36 18.8**	**+1.4**
JNBK	**Urakawa-nobuka**	**5.65**	**246**	P			**Pn**	**21 36 23.3**	**+1.1**
JNB	**Noboribetsu**	**6.71**	**253**	*e*S			**Sn**	**21 37 52.2**	**+0.3**
JKB	**Kayabe**	**6.96**	**248**	P			**Pn**	**21 36 41.7**	**+1.5**
JKB				*e*S			**Sn**	**21 37 55.4**	**-2.7**
JYM2	**Yakumo 2**	**7.30**	**252**	P			**Pn**	**21 36 46.1**	**+1.2**
JANG	**Nango**	**7.49**	**237**	P			**Pn**	**21 36 47.1**	**-0.4**

WEL 26 21:35:33.7±0.6, 33°S±10°×17°9W±2°.2, h33km, ML4.7/21, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.04**	**20**	S			Sn	21 37 18.2	-1.2
MXZ	**Matakaoa Point**	**4.82**	**202**	P			Pn	21 36 47.3	+3.5
MXZ				S			Sn	21 37 40.3	+1.9
WMGZ	**Waiomatatini S**	**5.02**	**199**	P			Pn	21 36 47.8	+1.2
HAZ	**Te Kaha**	**5.17**	**205**	P			Pn	21 36 49.3	+0.6
PKGZ	**Pakihiroa**	**5.19**	**202**	P			Pn	21 36 48.8	-0.2
PUZ	**Puketiti**	**5.30**	**200**	P			Pn	21 36 50.2	-0.4
KUZ	**Kuaotunu**	**5.37**	**226**	P			Pn	21 36 52.6	+1.1
RUGZ	**Raukumara Rang**	**5.39**	**205**	P			Pn	21 36 52.3	+0.5
TWGZ	**Tauwhareparae**	**5.48**	**202**	P			Pn	21 36 53.0	0.0
OPRZ	**Ohinepanea**	**5.74**	**213**	P			Pn	21 36 57.9	+1.3
TKGZ	**Te Karaka**	**5.76**	**201**	P			Pn	21 36 58.5	+1.6
MWZ	**Matawai**	**5.77**	**204**	P			Pn	21 36 55.6	-1.4
MWZ				S			Sn	21 38 01.0	-1.1
MARZ	**Manawahe**	**5.80**	**212**	P			Pn	21 36 58.9	+1.4
URZ	**Urewera**	**5.86**	**207**	P			Pn	21 36 58.8	+0.7
URZ				S			Sn	21 38 01.7	-2.4
RAGZ	**Rawiri**	**5.96**	**204**	P			Pn	21 36 58.2	-1.4
RIGZ	**Rimuhau**	**6.04**	**201**	P			Pn	21 36 59.9	-0.7
TARZ	**Mount Tarawera**	**6.09**	**211**	P			Pn	21 37 03.3	+1.9
MUGZ	**Murupara**	**6.18**	**209**	P			Pn	21 37 03.1	+0.5
PRGZ	**Paritu Road**	**6.20**	**199**	P			Pn	21 37 04.3	+1.4
RTZ	**Ruatahuna**	**6.22**	**207**	P			Pn	21 37 01.0	-2.2
SNGZ	**Shannon Statio**	**6.24**	**204**	P			Pn	21 37 03.7	+0.3
SNGZ				S			Sn	21 38 11.8	-1.8
PRRZ	**Plateau Road**	**6.36**	**211**	P			Pn	21 37 05.2	+0.2
MHGZ	**Mahia Peninsul**	**6.41**	**199**	P			Pn	21 37 06.3	+0.6
ALRZ	**Allen Road**	**6.43**	**211**	P			Pn	21 37 06.1	+0.1
TLZ	**Tolley Road**	**6.62**	**216**	P			Pn	21 37 09.2	+0.6
MRHZ	**Matea Rd**	**6.63**	**209**	P			Pn	21 37 07.9	-0.9
NMHZ	**Naumai**	**6.71**	**206**	P			Pn	21 37 09.5	-0.4
ARHZ	**Aropaoanui**	**6.79**	**204**	P			Pn	21 37 10.4	-0.6
BKZ	**Black Stump Fm**	**6.88**	**207**	P			Pn	21 37 10.9	-1.4
MCHZ	**McNeill Hill**	**7.05**	**205**	P			Pn	21 37 13.2	-1.4
KATZ	**Kakaramea**	**7.05**	**212**	P			Pn	21 37 13.7	-1.1
HIZ	**Hauiti**	**7.11**	**219**	P			Pn	21 37 15.9	+0.7
CKHZ	**Cape Kidnapper**	**7.12**	**202**	P			Pn	21 37 14.0	-1.5
KWHZ	**Kaweka Forest**	**7.14**	**207**	P			Pn	21 37 13.9	-1.9
KRVZ	**Karewarewa**	**7.18**	**212**	P			Pn	21 37 15.0	-1.3
WTVZ	**West Tongariro**	**7.22**	**212**	P			Pn	21 37 15.3	-1.7
TWVZ	**Taurewa**	**7.25**	**213**	P			Pn	21 37 16.0	-1.4
NGZ	**Ngauruhoe**	**7.26**	**212**	P			Pn	21 37 15.9	-1.7
KAHZ	**Kahuranaki**	**7.31**	**203**	P			Pn	21 37 14.3	-3.8
TUVZ	**Tukino**	**7.31**	**211**	P			Pn	21 37 16.2	-2.0
BHHZ	**Black Hill Sta**	**7.33**	**208**	P			Pn	21 37 15.7	-2.7
KRHZ	**Kereru**	**7.35**	**206**	P			Pn	21 37 16.0	-2.6
FWVZ	**Far West T-bar**	**7.35**	**212**	P			Pn	21 37 16.5	-2.3
WHVZ	**Whangaehu Hut**	**7.36**	**211**	P			Pn	21 37 16.6	-2.3
TRVZ	**Turoa**	**7.39**	**212**	P			Pn	21 37 16.9	-2.5
MOVZ	**Moawhango**	**7.39**	**210**	P			Pn	21 37 16.2	-3.1
PKVZ	**Pokaka**	**7.47**	**213**	P			Pn	21 37 18.2	-2.1
PXZ	**Pawanui**	**7.53**	**202**	P			Pn	21 37 18.8	-2.2
VRZ	**Vera Road**	**7.62**	**216**	P			Pn	21 37 21.4	-0.9
PNHZ	**Pukenui**	**7.65**	**206**	P			Pn	21 37 19.1	-3.7
PRHZ	**Porangahau**	**7.81**	**202**	P			Pn	21 37 22.0	-3.0
TSZ	**Takapari Road**	**7.86**	**207**	P			Pn	21 37 21.8	-4.0
DVHZ	**Dannevirke**	**8.00**	**205**	P			Pn	21 37 23.7	-3.9
ANWZ	**Angora Road**	**8.04**	**203**	P			Pn	21 37 24.7	-3.4
PKE	**Pukeiti**	**8.06**	**219**	P			Pn	21 37 27.4	-1.0
KHEZ	**Kahui Hut**	**8.12**	**219**	P			Pn	21 37 28.0	-1.4
POWZ	**Post Office Ro**	**8.22**	**206**	P			Pn	21 37 26.6	-4.1
PRWZ	**Pori Road**	**8.29**	**205**	P			Pn	21 37 27.9	-3.7
BFZ	**Birch Farm**	**8.31**	**203**	P			Pn	21 37 26.7	-5.2
TIWZ	**Tintock**	**8.52**	**205**	P			Pn	21 37 29.9	-4.9
MRZ	**Mangatainoka R**	**8.53**	**206**	P			Pn	21 37 29.5	-5.4
CPWZ	**Castlepoint**	**8.54**	**203**	P			Pn	21 37 31.7	-3.1
HOWZ	**Holdsworth Sta**	**8.76**	**206**	P			Pn	21 37 31.8	-6.2
TMWZ	**Te Maipa**	**8.81**	**203**	P			Pn	21 37 33.2	-5.6
MTW	**Mount Morrison**	**8.99**	**205**	P			Pn	21 37 35.0	-6.2
CAW	**Cannon Point**	**9.11**	**207**	P			Pn	21 37 36.3	-6.5
TRWZ	**Traveller**	**9.14**	**204**	P			Pn	21 37 37.3	-5.9
PAWZ	**Paruwai Farm**	**9.22**	**205**	P			Pn	21 37 38.0	-6.3
MSWZ	**Moikau Station**	**9.31**	**205**	P			Pn	21 37 38.8	-6.8
CTZ	**Chatham Island**	**10.86**	**169**	P			Pn	21 38 18.6	+12

NIED ***26*** *22:11:00, 37°.50N×142°.10E, h44km, Mw3.5 Best double couple: M0 2.23000×10^14 NP1:φs=59.00000°, δ48.00000°, λ-16.00000°. NP2:φs=160.00000°, δ78.00000°, λ-137.00000°.*

JMA 26 22:11:36.2±0.1, 37°.54N×142°.07E, h30km±3km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.91**	**328**	P			Pn	22 11 52.8	-0.1
JIKH					S		Sn	22 12 04.2	-0.7
JFK	**Kawauchi**	**0.97**	**260**	P			Pn	22 11 53.6	-0.2
JFK					S		Sn	22 12 06.2	-0.3
JMM	**Marumori**	**1.06**	**288**	P			Pn	22 11 55.3	+0.2
JMM					S		Sn	22 12 08.6	-0.2
JIO	**Ouri**	**1.08**	**328**	P			Pn	22 11 55.4	+0.2
JIO					S		Sn	22 12 09.1	0.0
ONAJ	**Iwakimizuishiy**	**1.10**	**247**	P			Pn	22 11 55.5	-0.2
ONAJ					S		Sn	22 12 08.9	-1.0
JFT	**Otama**	**1.38**	**270**	P			Pb	22 12 00.6	-0.7
JFT					S		Sb	22 12 18.1	-0.5
JOU	**Okura**	**1.38**	**307**	P			Pb	22 12 00.7	-0.7
JOU					S		Sb	22 12 18.7	-0.1
JMK	**Ichinoseki**	**1.56**	**335**	P			Pn	22 12 02.8	+0.9
JMK				*e*S			Sn	22 12 22.0	+0.9
JYS	**Shirataka**	**1.73**	**294**	P			Pb	22 12 06.5	-0.7
JYS					S		Sb	22 12 28.6	+0.1
JFY	**Yanaizu**	**1.89**	**267**	P			Pb	22 12 08.6	-1.4
JFY					S		Sb	22 12 31.8	-1.4
JYK	**Kaneyama**	**1.93**	**316**	P			Pn	22 12 08.4	+1.5
JOM	**Ohasama**	**2.02**	**343**	P			Pn	22 12 09.6	+1.3
JOM				*e*S			Sn	22 12 34.3	+1.7
MAT	**Matsushiro**	**3.25**	**253**	P			Pb	22 12 29.8	-3.3
MAT				*e*S			Sb	22 13 07.7	-4.5

UCR 26 22:21:42.9±1.8, 13°.29N×89°.96W, h36km±145km, MD3.3, ML4.1,3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.63**	**31**	*e*P			Pn	22 21 55.8	+0.2
CEVE				*e*S			Sn	22 22 05.6	+1.1
CEVE				IAML				22 22 08.1	
	comp=Z,8μm,0.2s								
SBLS	**San Blas**	**0.64**	**31**	⇑*e*P			Pn	22 21 56.0	+0.2
SBLS				*e*S			Sn	22 22 05.5	+0.8
SNJE	**San Jose**	**0.67**	**31**	⇑*e*P			Pn	22 21 56.3	+0.2
SNJE				*e*S			Sn	22 22 06.3	+0.9
RTR	**El Retiro**	**0.68**	**27**	⇑*e*P			Pn	22 21 56.7	+0.5
RTR				*e*S			Sn	22 22 07.3	+1.7
BOQS	**Boqueron**	**0.79**	**56**	*e*P			Pn	22 21 58.0	+0.2
BOQS				*e*S			Sn	22 22 09.0	+0.5
UEES	**San Salvador**	**0.82**	**58**	*e*P			Pn	22 21 58.2	+0.2
UEES				*e*S			Sn	22 22 10.3	+1.2
CUSC	**San Salvador**	**0.87**	**59**	*e*P			Pn	22 21 59.1	+0.4
LFRS	**El Faro**	**0.93**	**69**	*e*P			Pn	22 21 59.3	-0.3
LFRS				*e*S			Sn	22 22 12.1	+0.3
LFU	**La Fuente**	**0.94**	**61**	*e*P			Pn	22 21 59.5	-0.2
LBRS	**Las Brisas**	**0.99**	**63**	*e*P			Pn	22 22 00.6	+0.2
LBRS				*e*S			Sn	22 22 13.7	+0.4
IXG	**Ixpaco**	**1.00**	**332**	*e*P			Pn	22 22 01.0	+0.5
IXG				*e*S			Sn	22 22 13.5	+0.1
PAVA	**Las Pavas**	**1.08**	**67**	*e*P			Pn	22 22 02.1	+0.6
PAVA				*e*S			Sn	22 22 16.8	+1.4
MTO3	**Montecristo**	**1.25**	**28**	*e*P			Pn	22 22 04.7	+0.7
NBG	**Las Nubes**	**1.34**	**344**	*e*P			Pn	22 22 07.6	+2.2
NBG				*e*S			Sn	22 22 25.2	+3.0
FUG	**Fuego 3**	**1.44**	**323**	*e*P			Pn	22 22 07.0	+0.4
FUG				*e*S			Sn	22 22 24.4	+0.1
VICT	**Victoria**	**1.45**	**62**	*e*P			Pn	22 22 06.8	+0.2
CNCH	**Conchagua**	**2.07**	**90**	*e*P			Pn	22 22 15.6	+0.4
CSGN	**Cosiguina Volc**	**2.36**	**97**	*e*P			Pn	22 22 19.4	+0.3

ISCJB ***26*** *22:39:40.7±0.5, 38°.75N±0°.02×27°.90E±0°.03, h1km±7km, Error ellipse: s-maj=4.7km s-min=3.8km az=145.7*
DDA ***26*** *22:39:40.2, 38°.82N×27°.90E, h7km±2km, ML2.5*
ISK ***26*** *22:39:40.7, 38°.74N×27°.93E, h12km, ML2.1/6*

ISC 26 22:39:40.5±1.1, 38°.79N±0°.03×27°.90E±0°.03, h7km±10km, n17, σ0=43/25, Turkey

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

PNIG	**Pinotepa**	**0.31**	**58**	*e*P		Pg	22 52 26.5	-0.4
PNIG				*e*S		Sg	22 52 31.3	+0.4

*GII **26** 23:32:33.6±0.0,36.68N×22.92E,h10km,MD3.7/1*
*IDC **26** 23:32:40.2±0.8,36.71N×23.09E,h0km,mb3.7/13,*
mb1 3.8/21,mb1mx3.6/63,mbtmp3.6/21,ML3.2/5,MS2.9/2,
Ms1 2.9/2,ms1mx2.4/53,Error ellipse: s-maj=16.5km
s-min=13.4km az=47.0
*ATH **26** 23:32:41.6,36.68N×22.92E,h25km,ML3.6/23,Error*
ellipse: s-maj=1.2km s-min=0.7km az=227.0
*ISCJB **26** 23:32:42.6±0.3,36.66N±0.02×22.91E±0.02,h22km±3km,*
mb3.6/13,MS2.7/1,Error ellipse: s-maj=3.5km
s-min=2.3km az=148.2
*THE **26** 23:32:42.2,36.69N×22.91E,h3km,ML3.6/15,Error*
ellipse: s-maj=0.7km s-min=0.3km az=241.0

ISC 26 23:32:41.5±0.8,36.69N±0.02×22.95E±0.02,h13km±5km,
n141,σ1s89/187,mb3.5/13,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.03**	**338**	P		**Pg**		**23 32 43.2**	**-0.7**
VLI				S		**Sg**		**23 32 44.1**	**-1.5**
KTHR	**Kythira**	**0.43**	**174**	P		**Pb**		**23 32 51.0**	**+0.1**
KTHR				S		**Sb**		**23 32 57.4**	**+0.1**
KYTH	**Kithira**	**0.43**	**170**	P		**Pb**		**23 32 50.9**	**0.0**
KYTH				S		**Sb**		**23 32 57.0**	**-0.3**
KYTH	**Kithira**	**0.43**	**170**	P		**Pb**		**23 32 50.9**	**0.0**
KYTH				S		**Sg**		**23 32 56.5**	**+0.7**
KYTH				AML		AML		23 32 57.9	
	comp=N,24032μm,0.4s								
KYTH				AML		AML		23 33 01.1	
	comp=E,24330μm,0.3s								
KRND	**KRANIDI**	**0.71**	**13**	P		**Pb**		**23 32 55.7**	**0.0**
KRND				S		**Sb**		**23 33 06.2**	**+0.7**
KRND	**KRANIDI**	**0.71**	**13**	P		**Pb**		**23 32 55.8**	**0.0**
KRND				S		**Sb**		**23 33 05.7**	**+0.2**
KRND				AML		AML		23 33 07.4	
	comp=E,6588μm,0.3s								
KRND				AML		AML		23 33 10.0	
	comp=N,8746μm,0.4s								
VLX	**Vlachokerasia**	**0.82**	**326**	P		**Pg**		**23 32 57.2**	**-0.2**
VLX				S		**Sg**		**23 33 08.0**	**-0.3**
VLX	**Vlachokerasia**	**0.82**	**326**	P		**Pg**		**23 32 57.2**	**-0.2**
VLX				S		**Sb**		**23 33 08.6**	**-0.2**
VLX				AML		AML		23 33 13.4	
	comp=N,6602μm,0.4s								
VLX				AML		AML		23 33 15.1	
	comp=E,8192μm,0.6s								
DID	**Didima**	**0.85**	**15**	P		**Pb**		**23 32 58.3**	**+0.2**
DID				S		**Sn**		**23 33 10.8**	**-0.7**
DID	**Didima**	**0.85**	**15**	P		**Pn**		**23 32 59.3**	**+0.1**
DID				S		**Sn**		**23 33 11.2**	**-0.4**
DID				AML		AML		23 33 13.9	
	comp=E,13240μm,0.4s								
DID				AML		AML		23 33 16.3	
	comp=N,9311μm,0.5s								
ANKY	**Antikythira Is**	**0.87**	**161**	P		**Pb**		**23 32 58.9**	**+0.5**
ANKY				S		**Sn**		**23 33 11.5**	**-0.3**
ANKY	**Antikythira Is**	**0.87**	**161**	P		**Pb**		**23 32 59.0**	**+0.5**
ANKY				S		**Sb**		**23 33 10.6**	**+0.8**
ANKY				AML		AML		23 33 15.0	
	comp=N,6164μm,0.6s								
ANKY				AML		AML		23 33 17.5	
	comp=E,5957μm,0.5s								
EPID	**Epidavros**	**0.94**	**8**	P		**Pn**		**23 33 00.2**	**-0.2**
EPID				S		**Sn**		**23 33 14.0**	**+0.4**
ITM	**Ithomi**	**0.96**	**301**	P		**Pb**		**23 32 59.2**	**-0.8**
ITM				S		**Sb**		**23 33 13.0**	**+0.4**
ITM	**Ithomi**	**0.96**	**301**	P		**Pb**		**23 32 59.2**	**-0.8**
ITM				S		**Sn**		**23 33 13.9**	**-0.3**
ITM				AML		AML		23 33 17.2	
	comp=N,6040μm,0.3s								
ITM				AML		AML		23 33 21.0	
	comp=E,4522μm,0.5s								
PYL	**PYLOS**	**0.99**	**282**	P		**Pb**		**23 32 59.6**	**-1.0**
PYL	**PYLOS**	**0.99**	**282**	P		**Pb**		**23 32 59.6**	**-1.0**
PYL				S		**Sg**		**23 33 13.5**	**-0.2**
PYL				AML		AML		23 33 23.8	
	comp=N,3073μm,0.5s								
PYL				AML		AML		23 33 24.0	
	comp=E,3647μm,0.5s								
TRIP	**Tripoli**	**1.00**	**327**	P		**Pb**		**23 33 00.5**	**-0.3**
TRIP				S		**Sn**		**23 33 15.2**	**-0.1**
TRIP	**Tripoli**	**1.00**	**327**	P		**Pb**		**23 33 00.3**	**-0.5**
TRIP				S		**Sb**		**23 33 13.6**	**-0.2**
TRIP				AML		AML		23 33 18.3	
	comp=N,3870μm,0.5s								
TRIP				AML		AML		23 33 25.9	
	comp=E,3693μm,0.6s								
MES2	**Methoni**	**1.01**	**278**	P		**Pb**		**23 33 00.0**	**-0.8**
MHLO	**Agia Marina, M**	**1.17**	**89**	P		**Pg**		**23 33 04.4**	**+0.4**
MHLO				S		**Sn**		**23 33 20.7**	**+1.4**
MHLO				AML		AML		23 33 25.9	
	comp=N,15339μm,0.8s								
MHLO				AML		AML		23 33 28.3	
	comp=E,22991μm,0.6s								
MES3	**Kyparissia**	**1.17**	**299**	P		**Pg**		**23 33 04.1**	**+0.1**
MHLA	**Plaka, Milos I**	**1.18**	**87**	P		**Pg**		**23 33 05.1**	**+0.8**
MHLA				S		**Sg**		**23 33 22.6**	**+2.9**
MHLA				AML		AML		23 33 30.9	
	comp=E,6786μm,1.0s								
MHLA				AML		AML		23 33 32.4	
	comp=N,8600μm,0.9s								
LOUT	**Loutraki**	**1.30**	**1**	P		**Pg**		**23 33 06.4**	**-0.1**
LOUT				S		**Sg**		**23 33 24.3**	**+0.9**
LOUT	**Loutraki**	**1.30**	**1**	P		**Pg**		**23 33 06.4**	**-0.1**
AMT	**Artemida-Makis**	**1.30**	**311**	P		**Pb**		**23 33 05.7**	**-0.2**
AMT	**Artemida-Makis**	**1.30**	**311**	P		**Pb**		**23 33 05.7**	**-0.2**
AMT				S		**Sn**		**23 33 22.5**	**-0.2**
AMT				AML		AML		23 33 36.1	
	comp=N,7477μm,0.6s								
AMT				AML		AML		23 33 37.0	
	comp=E,4746μm,0.7s								
SERI	**Serifos**	**1.32**	**68**	P		**Pb**		**23 33 06.3**	**+0.2**
SERI	**Serifos**	**1.32**	**68**	P		**Pb**		**23 33 06.1**	**0.0**
SERI				S		**Sn**		**23 33 23.7**	**+0.6**
SERI				AML		AML		23 33 29.1	
	comp=N,2061μm,0.5s								
SERI				AML		AML		23 33 30.2	
	comp=E,1881μm,0.4s								
LTK	**Loutraki**	**1.33**	**0**	P		**Pb**		**23 33 06.8**	**+0.4**
LTK				S		**Sg**		**23 33 25.9**	**+1.4**
LTK	**Loutraki**	**1.33**	**0**	P		**Pg**		**23 33 07.1**	**-0.1**
LTK				S		**Sg**		**23 33 24.5**	**0.0**
LTK				AML		AML		23 33 29.7	
	comp=E,3389μm,0.6s								
LTK				AML		AML		23 33 33.4	
	comp=N,6239μm,0.6s								
GUR	**Goura**	**1.34**	**339**	P		**Pb**		**23 33 06.3**	**-0.2**
GUR				S		**Sg**		**23 33 25.4**	**+0.7**
GUR	**Goura**	**1.34**	**339**	P		**Pb**		**23 33 06.5**	**0.0**
GUR				S		**Sg**		**23 33 24.9**	**+0.2**
GUR				AML		AML		23 33 29.6	
	comp=N,8276μm,0.4s								
GUR				AML		AML		23 33 31.4	
	comp=E,8203μm,0.4s								
VLY	**Voula,Athens**	**1.34**	**30**	P		**Pb**		**23 33 06.6**	**+0.1**
VLY	**Voula,Athens**	**1.34**	**30**	P		**Pb**		**23 33 06.7**	**+0.1**
VLY				S		**Sn**		**23 33 24.2**	**+0.5**
ATH	**Athens Observa**	**1.42**	**25**	P		**Pg**		**23 33 08.5**	**-0.3**
ATH				S		**Sg**		**23 33 27.4**	**+0.1**
ATH	**Athens Observa**	**1.42**	**25**	P		**Pb**		**23 33 08.1**	**+0.3**
ATH				S		**Sg**		**23 33 27.6**	**+0.3**
ATH				AML		AML		23 33 35.5	
	comp=N,2690μm,0.7s								
ATH				AML		AML		23 33 35.8	
	comp=E,3055μm,0.5s								
ATHU	**Athens Univers**	**1.44**	**27**	P		**Pb**		**23 33 07.9**	**-0.3**
ATHU	**Athens Univers**	**1.44**	**27**	P		**Pb**		**23 33 07.9**	**-0.3**
CHAN	**Chania**	**1.46**	**143**	P		**Pb**		**23 33 08.4**	**-0.2**
IMMV	**Iera Moni Meta**	**1.48**	**145**	P		**Pb**		**23 33 08.5**	**-0.4**
IMMV				S		**Sg**		**23 33 30.8**	**+1.6**
IMMV	**Iera Moni Meta**	**1.48**	**145**	P		**Pb**		**23 33 08.4**	**-0.4**
IMMV				S		**Sg**		**23 33 28.7**	**-0.5**
IMMV				AML		AML		23 33 37.5	
	comp=N,3568μm,0.3s								
IMMV				AML		AML		23 33 39.2	
	comp=E,3212μm,0.9s								
KLV	**Kalavryta, Ach**	**1.50**	**335**	P		**Pb**		**23 33 09.2**	**0.0**
KLV				S		**Sg**		**23 33 29.4**	**-0.4**
KLV	**Kalavryta, Ach**	**1.50**	**335**	P		**Pb**		**23 33 09.1**	**-0.2**
KLV				S		**Sg**		**23 33 29.0**	**-0.7**
KLV				AML		AML		23 33 33.5	
	comp=N,2391μm,0.5s								
KLV				AML		AML		23 33 36.7	
	comp=E,2790μm,0.6s								
VILL	**Villia**	**1.50**	**11**	P		**Pb**		**23 33 08.9**	**-0.4**
VILL				S		**Sg**		**23 33 30.7**	**+0.8**
PTL	**Penteli**	**1.54**	**28**	P		**Pb**		**23 33 09.5**	**-0.4**
PTL	**Penteli**	**1.54**	**28**	P		**Pb**		**23 33 09.8**	**-0.2**
VILL	**Platees**	**1.54**	**9**	P		**Pn**		**23 33 08.8**	**+0.1**
VIL2				S		**Sg**		**23 33 30.6**	**-0.6**
VIL2				AML		AML		23 33 36.4	
	comp=E,4032μm,0.8s								
VIL2				AML		AML		23 33 37.6	
	comp=N,3217μm,0.7s								
PROD	**Prodromos**	**1.57**	**359**	P		**Pb**		**23 33 10.0**	**-0.4**
PROD	**Prodromos**	**1.57**	**359**	P		**Pb**		**23 33 10.0**	**-0.4**
TRAZ	**Trapeza**	**1.59**	**338**	P		**Pb**		**23 33 10.6**	**-0.2**
TRAZ	**Trapeza**	**1.59**	**338**	P		**Pb**		**23 33 10.6**	**-0.2**
TRAZ				S		**Sg**		**23 33 32.0**	**-0.7**
DION	**Dionisos Attik**	**1.59**	**29**	P		**Pb**		**23 33 10.4**	**-0.4**
DION				S		**Sb**		**23 33 30.6**	**-0.2**
DION				AML		AML		23 33 37.1	
	comp=N,1622μm,0.4s								
DION				AML		AML		23 33 41.8	
	comp=E,2028μm,0.7s								
DRO	**Drossia**	**1.60**	**322**	P		**Pb**		**23 33 10.8**	**-0.2**
DRO	**Drossia**	**1.60**	**322**	P		**Pb**		**23 33 10.9**	**-0.2**
DRO				S		**Sb**		**23 33 31.3**	**+0.1**
VAM	**Vamos**	**1.63**	**141**	P		**Pn**		**23 33 10.7**	**+0.8**
VAM				S		**Sg**		**23 33 34.4**	**+0.4**
VAM	**Vamos**	**1.63**	**141**	P		**Pn**		**23 33 10.7**	**+0.8**
VAM				S		**Sb**		**23 33 32.1**	**+0.2**
VAM				AML		AML		23 33 40.3	
	comp=E,3410μm,1.1s								
VAM				AML		AML		23 33 43.4	
	comp=N,3140μm,0.4s								
ALIK	**Aliki, Aigiali**	**1.71**	**337**	P		**Pb**		**23 33 12.3**	**-0.4**
LAKA	**Lakka**	**1.73**	**334**	P		**Pb**		**23 33 12.7**	**-0.5**
LAKA				S		**Sb**		**23 33 34.8**	**-0.1**
LAKA	**Lakka**	**1.73**	**334**	P		**Pb**		**23 33 12.8**	**-0.5**
DSF	**Desfina**	**1.75**	**349**	P		**Pn**		**23 33 12.2**	**+0.5**
DSF	**Desfina**	**1.75**	**349**	P		**Pb**		**23 33 12.7**	**-0.9**
DSF				S		**Sn**		**23 33 34.4**	**+0.5**
DSF				AML		AML		23 33 40.8	
	comp=N,1974μm,0.4s								
DSF				AML		AML		23 33 44.8	
	comp=E,1360μm,0.6s								
RLS	**Riolos of Patr**	**1.81**	**320**	P		**Pn**		**23 33 12.9**	**+0.5**
TRIZ	**Trizonia**	**1.81**	**338**	P		**Pb**		**23 33 13.8**	**-0.8**
TRIZ	**Trizonia**	**1.81**	**338**	P		**Pb**		**23 33 13.6**	**-1.0**
SERG	**Sergoula**	**1.86**	**338**	P		**Pb**		**23 33 14.4**	**-1.1**
SERG	**Sergoula**	**1.86**	**338**	P		**Pb**		**23 33 15.0**	**-0.5**
SERG				S		**Sb**		**23 33 39.0**	**+0.4**
SERG				AML		AML		23 33 46.8	
	comp=N,2295μm,0.5s								
SERG				AML		AML		23 33 47.1	
	comp=E,1865μm,0.7s								
EREA	**Eretria**	**1.90**	**24**	P		**Pn**		**23 33 14.5**	**+0.9**
EREA				S		**Sb**		**23 33 40.3**	**+0.7**
EREA	**Eretria**	**1.90**	**24**	P		**Pn**		**23 33 14.9**	**+1.2**
EREA				S		**Sb**		**23 33 38.7**	**-0.9**
EFP	**Efpalio**	**1.93**	**335**	P		**Pb**		**23 33 15.5**	**-1.0**
EFP	**Efpalio**	**1.93**	**335**	P		**Pb**		**23 33 15.9**	**-0.6**
LKR	**Lokris**	**1.96**	**1**	P		**Pn**		**23 33 15.3**	**+0.9**
ATAL	**Atalanti**	**2.00**	**2**	P		**Pn**		**23 33 16.0**	**+1.0**
GVD	**Gavdhos**	**2.06**	**153**	P		**Pb**		**23 33 18.4**	**-0.4**
ANX	**Ano Chora**	**2.07**	**337**	P		**Pn**		**23 33 17.5**	**+1.4**
ANX				S		**Sb**		**23 33 43.8**	**-0.9**
ANX	**Ano Chora**	**2.07**	**337**	P		**Pn**		**23 33 17.5**	**+1.4**
ANX				S		**Sb**		**23 33 43.5**	**-1.2**
ANX				AML		AML		23 33 50.7	
	comp=E,2406μm,0.6s								
ANX				AML		AML		23 33 55.4	
	comp=N,1745μm,0.4s								
MRKA	**Markates**	**2.08**	**14**	P		**Pn**		**23 33 17.1**	**+1.1**
MRKA	**Markates**	**2.08**	**14**	P		**Pn**		**23 33 17.2**	**+1.1**
APE	**Apeiranthos**	**2.10**	**79**	P		**Pn**		**23 33 17.5**	**+1.0**
APE	**Apeiranthos**	**2.10**	**79**	P		**Pn**		**23 33 17.4**	**+1.0**
IDI	**Anoyia**	**2.10**	**131**	Pn		**Pn**		**23 33 16.6**	**+0.1**
	comp=N,2.6nm,0.3s,baz=286,slow=4.0,SNR=30								
IDI					Sn	**Sb**		**23 33 44.5**	**-1.1**
	comp=N,33nm,0.3s,baz=70,slow=19,SNR=7.4								
IDI					LR	LR		23 34 13.6	
	comp=N,124nm,20.6s,baz=282,slow=46								
SMIA	**Simia**	**2.20**	**5**	P		**Pn**		**23 33 18.9**	**+1.2**
PVO	**Paravola**	**2.23**	**330**	P		**Pb**		**23 33 20.2**	**-1.5**
SIVA	**Sivas**	**2.25**	**137**	P		**Pn**		**23 33 19.8**	**+1.4**
AMGA	**Amorgos Island**	**2.37**	**86**	P		**Pn**		**23 33 21.5**	**+1.6**
AGG	**Agios Georgios**	**2.38**	**348**	P		**Pn**		**23 33 21.9**	**+1.6**
AGG	**Agios Georgios**	**2.38**	**348**	P		**Pn**		**23 33 21.7**	**+1.4**
EVR	**Evrytania**	**2.40**	**338**	P		**Pn**		**23 33 22.3**	**+1.7**
EVR	**Evrytania**	**2.40**	**338**	P		**Pn**		**23 33 22.5**	**+1.9**
SKIA	**Skiathos**	**2.51**	**9**	P		**Pn**		**23 33 23.2**	**+1.2**
LAST	**Lasithi**	**2.55**	**126**	P		**Pn**		**23 33 24.1**	**+1.4**
NPS	**Neapolis**	**2.58**	**123**	P		**Pn**		**23 33 24.1**	**+1.1**
NPS	**Neapolis**	**2.58**	**123**	P		**Pn**		**23 33 24.4**	**+1.4**
XOR	**Xorichti**	**2.68**	**4**	P		**Pn**		**23 33 25.4**	**+1.0**
THL	**Klokotos Trika**	**2.97**	**346**	P		**Pn**		**23 33 29.5**	**+1.2**
CHOS	**Chios island**	**2.99**	**55**	P		**Pn**		**23 33 30.1**	**+1.4**
OUR	**Ouranopolis**	**3.73**	**12**	P		**Pn**		**23 33 39.8**	**+1.0**
VAY	**Valandovo**	**4.64**	**356**	*i* Pn		**Pn**		**23 33 51.4**	**+0.2**
KRUS	**Krusevo**	**4.86**	**345**	*i* Pn		**Pn**		**23 33 56.0**	**+1.6**
STIP	**Stip**	**5.04**	**353**	*i* Pn		**Pn**		**23 33 58.9**	**+2.1**
SG1	**Sgolgore (BA)**	**6.42**	**312**	*e*Pn		**Pn**		**23 34 17.8**	**+2.0**
BAI	**Bari**	**6.47**	**315**	*e*Pn		**Pn**		**23 34 19.3**	**+2.9**
VAE	**Valguarnera**	**6.87**	**279**	Pn		**Pn**		**23 34 25.4**	**+3.4**
	comp=N,0.5nm,0.3s,baz=94,slow=19,SNR=1.5								
STON	**Ston**	**7.38**	**328**	*i* Pn		**Pn**		**23 34 30.1**	**+1.2**
STON					Sn	**Sn**		**23 35 48.8**	**-3.7**
CSS	**Mathiatis**	**8.60**	**98**	Pn		Pn		23 34 39.6	-6.1
CSS					Sn	**Sn**		**23 36 16.0**	**-6.6**
BRTR	**Keskin Array B**	**8.94**	**67**	Pn		**Pn**		**23 34 52.5**	**+2.1**
	comp=N,0.1nm,0.3s,baz=250,slow=14,SNR=3.8								
MLR	**Muntele Rosu**	**9.08**	**13**	Pn		**Pn**		**23 34 55.1**	**+2.7**
	baz=207,slow=6.8								
NVLJ	**Novalja**	**9.98**	**325**	*e*Pn		**Pn**		**23 35 05.5**	**+1.1**
MMAI	**Mount Meron Ar**	**10.87**	**106**	Pn		**Pn**		**23 35 15.6**	**-1.2**
	baz=309,slow=13								
MMAI					Sn	**Sn**		**23 37 13.4**	**-4.8**
	comp=N,1.3nm,0.3s,baz=299,slow=22,SNR=5.7								
KEST	**Kesra**	**11.04**	**269**	LR		LR		23 39 29.3	
	comp=N,62nm,20.1s,baz=285,slow=37								
AMAZ	**Amatzia**	**11.17**	**114**	Sn		**Sn**		**23 37 19.3**	**-6.3**
HMDT	**Nahal Hemdat**	**11.28**	**109**	Pn		Pn		23 35 15.6	-6.8
HMDT					Sn	**Sn**		**23 37 20.7**	**-7.6**
DSI	**Dead Sea**	**11.49**	**113**	Pn		Pn		23 35 18.6	-6.7
DSI					Sn	**Sn**		**23 37 26.1**	**-7.4**
MZDA	**Masada**	**11.61**	**114**	Sn		**Sn**		**23 37 29.6**	**-6.7**
GHAJ	**Ghor Haditha**	**11.76**	**114**	Pn		Pn		23 35 21.4	-7.6
GHAJ					Sn	**Sn**		**23 37 33.3**	**-6.8**
KRMI	**Paran Flat**	**11.81**	**120**	Pn		Pn		23 35 22.7	-7.0
PRNI	**Paran**	**11.87**	**119**	Pn		Pn		23 35 23.2	-7.3
PRNI					Sn	**Sn**		**23 37 35.7**	**-7.2**
ZFRI	**Zfri**	**11.88**	**117**	Pn		Pn		23 35 23.6	-7.0
ZFRI					Sn	**Sn**		**23 37 35.4**	**-7.6**
HRFI	**Mount Harif**	**12.08**	**120**	Sn		**Sn**		**23 37 40.9**	**-7.1**
MBRI	**Mt Berech**	**12.14**	**121**	Pn		Pn		23 35 27.4	-6.8
VYHS	**Vyhne**	**12.18**	**347**	*e*PN		Pn		23 35 25.9	-8.7
EIL	**Elat**	**12.24**	**121**	Pn		Pn		23 35 29.1	-6.4
EIL	**Elat**	**12.24**	**121**	Pn		**Pn**		**23 35 35.1**	**-0.5**
	comp=N,0.4nm,0.3s,baz=357,slow=9.8,SNR=4.8								
GERES	**GERESS Array B**	**13.91**	**334**	Pn		**Pn**		**23 36 00.3**	**+2.0**
	comp=N,0.1nm,0.3s,baz=140,slow=12,SNR=1.4								
KHC	**Kasperske Hory**	**14.19**	**334**	*e*P		**P**		**23 36 10.8**	**+1.2**
KHC				*e*pP		**P**		**23 36 13.2**	**+3.6**
AKASG	**Malin Array Be**	**14.72**	**16**	Pn		**Pn**		**23 36 09.3**	**+0.1**
	baz=209,slow=9.5,SNR=1.4								
ESDC	**Sonseca Array**	**21.34**	**286**	P		**P**		**23 37 30.4**	**+2.0**
	comp=N,1.5nm,0.6s,baz=78,slow=9.4,SNR=9.2								
MDT	**Midelt**	**22.94**	**268**	LR		LR		23 46 51.8	
	comp=N,28nm,20.1s,baz=149,slow=37								
HFS	**Hagfors**	**24.21**	**349**	P		**P**		**23 37 57.2**	**-0.4**
	comp=N,1.3nm,0.5s,baz=165,slow=12,SNR=11								
FINES	**FINESS Array B**	**24.86**	**4**	P		**P**		**23 38 02.1**	**-1.3**
	comp=N,0.8nm,0.7s,baz=147,slow=18,SNR=5.2								
NB2	**NORSAR Subarra**	**25.48**	**347**	P		**P**		**23 38 09.8**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=153,slow=10								
NOA	**NORSAR Array B**	**25.48**	**347**	P		**P**		**23 38 10.0**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=276,slow=4.4,SNR=8.3								
EKA	**Eskdalemuir Ar**	**25.76**	**325**	P		**P**		**23 38 13.7**	**+2.0**
	comp=Z,4.4nm,0.6s,baz=124,slow=9.2,SNR=17								
TORD	**Torodi Ar. Bea**	**30.21**	**225**	P		**P**		**23 38 53.2**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=32,slow=10,SNR=3.6								
KURBB	**Kurchatov Arra**	**41.58**	**52**	P		**P**		**23 40 28.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=277,slow=8.7,SNR=5.5								
MKAR	**Makanchi Array**	**44.45**	**58**	P		**P**		**23 40 51.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=267,slow=7.8,SNR=12								
ZALV	**Zalesovo Beam**	**45.26**	**47**	P		**P**		**23 40 57.9**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=266,slow=10,SNR=9.0								
SONM	**Songino Array**	**59.91**	**51**	P		**P**		**23 42 46.1**	**-1.0**
	comp=Z,0.3nm,0.8s,baz=286,slow=8.0,SNR=2.8								
BOSA	**Boshof**	**64.99**	**178**	P		**P**		**23 43 21.8**	**+0.6**
	comp=Z,5.8nm,1.1s,baz=11,slow=5.2,SNR=3.5								
YKA	**Yellowknife Ar**	**75.44**	**341**	P		**P**		**23 44 25.4**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=30,slow=5.4,SNR=5.6								
ILAR	**Eielson Array**	**78.56**	**356**	P		**P**		**23 44 43.2**	**+0.9**
	comp=Z,0.2nm,0.7s,baz=7.5,slow=7.6,SNR=4.2								

*DDA **26** 23:35:20.5,43.14N×41.53E,h11km±1km,ML5.0*
*TIF **26** 23:35:20.2,43.19N×41.46E,h11km±1km*
*BJI **26** 23:35:22.0,43.20N×41.60E,h10km,mb5.0/63,mB5.0/40,*
Ms4.6/40,Ms7 4.4/35
*IDC **26** 23:35:22.4±0.3,43.14N×41.70E,h0km,mb4.7/39,*
mb1 4.7/48,mb1mx4.6/65,mbtmp4.6/48,ML4.1/7,MS3.9/35,
Ms1 3.9/35,ms1mx3.8/55,Error ellipse: s-maj=6.2km
s-min=5.0km az=154.0
*ISK **26** 23:35:22.9,43.25N×41.52E,h12km,ML5.0/20*
*NORS **26** 23:35:22.4±0.0,43.25N×41.73E,h10km,MPVA5.5*
*AZER **26** 23:35:24.0±0.5,43.22N×41.54E,h10km,ml4.9/13,*
ms3.4/3,Error ellipse: s-maj=6.2km s-min=3.9km az=65.0
*MOS **26** 23:35:23.3±1.2,43.25N×41.75E,h9km,mb5.1/103,*
MS4.1/33,Error ellipse: s-maj=3.8km s-min=2.5km
az=29.6
MOS Felt (II) at Arkhyz, Dombai, Nizhniy Arkhyz, Teberda.
*GCMT **26** 23:35:24.5±0.3,43.25N±0.02×41.57E±0.03,h18km±1km,*
MW4.9/68,Moment Tensor Solution. s24,c27; s68,c104;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.37±.15;
Mθθ-1.89±.09; Mφφ-0.47±.08; Mrθ0.86±.17; Mrφ0.86±.05;
Mθφ-0.98±.21; Best double couple: Mo2.67000×10^16
NP1:φs126.00000°,δ59.00000°,λ101.00000°. NP2:
φs285.00000°,δ32.00000°,λ72.00000°. Principal axes: T
2.7490, Plg73.0000°, Azm63.0000°; N -0.1520,
Plg9.0000°, Azm300.0000°; P -2.5900, Plg14.0000°,
Azm208.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
*NEIC **26** 23:35:24.5±0.1,43.22N×41.64E,h10km,mb5.1/219 Error*
ellipse: s-maj=2.8km s-min=1.9km az=182.0
NEIC Felt at Yasnaya Polyana, Russia.
*ISCJB **26** 23:35:24.3±0.1,43.191N±0.009×41.609E±0.009,h15km,*
mb5.0/334,MS4.1/53,Error ellipse: s-maj=1.4km
s-min=0.9km az=23.6
*BGR **26** 23:35:25.8±0.0,43.09N×41.42E,h10km,mb4.8*

ISC 26 23:35:23.7±0.6,43.23N±0.01×41.61E±0.01,h7km±3km,
n1283,σ1s44/1402,mb5.1/343,MS4.1/54,84C-98D,
Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.06**	**8**	*i*P		**Pg**		**23 35 24.2**	**-1.4**
DOMR	**Dombai**	**0.06**	**8**	*e*Pg		**Pg**		**23 35 23.9**	**-1.7**
DOMR				*e*Sg		**Sg**		**23 35 25.5**	**-1.4**
NEY	**Neytrino**	**0.81**	**88**	*e*PG		**Pg**		**23 35 37.0**	**-2.3**
NEY				*e*S		**Sg**		**23 35 46.5**	**-3.3**
NEY	**Neytrino**	**0.81**	**88**	*e*Pg		**Pg**		**23 35 36.7**	**-2.6**
NEY				*e*Sg		**Sg**		**23 35 46.0**	**-3.8**
SHA1	**Shidzhatmaz**	**0.92**	**56**	*i**e*PG		**Pg**		**23

LACR eSg Sb 23 36 24.6 -1.4
PRTR Priterechnaya 2.01 74 *d* iPN Pb 23 35 59.7 -0.9
PRTR Priterechnaya 2.01 74 ePg Pb 23 35 59.5 -1.1
PRTR eSg Sb 23 36 25.0 -0.8
GOF Gofitskoye 2.10 29 *c* iPN Pb 23 36 01.9 -0.2
GOF eS Sg 23 36 31.0 -0.1
GOF pmax pmax
comp=Z,7µm,0.8s
GOF smax smax
comp=E,4µm,0.6s
GOF Gofitskoye 2.10 29 ePg Pb 23 36 00.1 -2.0
GOF eSg Sb 23 36 27.9 -0.5
BTKR Batakoyurt 2.14 85 *i* PN Pb 23 36 02.0 -0.9
BTKR Batakoyurt 2.14 85 ePg Pb 23 36 01.9 -0.9
DAGI Agillar 2.16 174 ⇓ iP Pn 23 35 58.5 -1.8
DAGI *i* S Sb 23 36 28.2 -2.1
DAGI IAML_P
comp=Z,29µm,0.4s
DBAD Bademkaya 2.21 178 ⇓ *i* P Pn 23 35 59.3 -1.6
DBAD *i* S Sn 23 36 26.8 -1.7
DBAD IAML_P
comp=Z,72µm,0.3s
GUDG Gudauri 2.24 109 P Pb 23 36 02.8 -1.9
GUDG S Sb 23 36 32.5 -0.2
VLKR Vladikavkaz 2.25 94 ePN Pb 23 36 02.8 -1.9
VLKR eS Sb 23 36 31.6 -1.2
VLKR Vladikavkaz 2.25 94 ePg Pb 23 36 02.8 -1.9
VLKR ePg Pb 23 36 02.9 -1.9
VLKR eSg Sn 23 36 30.2 +0.8
VLKR eSg Sb 23 36 31.6 -1.2
TRKR Terskaya 2.32 77 *i* PN Pb 23 36 04.0 -1.9
TRKR *i* S Sb 23 36 33.9 -0.9
DDEM Demirkent 2.34 177 ⇓ iP Pn 23 36 01.4 -1.3
DDEM *i* S Sb 23 36 33.9 -1.4
DDEM IAML_P
comp=Z,78µm,0.2s
KMGR Komgaron 2.39 93 ePN Pb 23 36 05.1 -1.9
KMGR eS Sn 23 36 34.3 +1.4
KMGR Komgaron 2.39 93 ePn Pb 23 36 04.7 -2.4
KMGR eSn Sn 23 36 34.1 +1.3
TRLG Trialeti 2.50 132 P Pb 23 36 04.9 -0.1
TRLG S Sn 23 36 36.6 +0.8
KGUR Krasnodar 2.58 315 ⇓ ePN Pg 23 36 10.7 -2.5
KGUR eS Sg 23 36 48.9 +2.3
KGUR Krasnodar 2.58 315 ePn Pb 23 36 08.2 -2.1
KGUR eSn Sb 23 36 39.4 -2.9
ERBR Yeremizino-Bor 2.61 342 ePN Pb 23 36 09.6 -1.3
ERBR Yeremizino-Bor 2.61 342 ePn Pb 23 36 09.6 -1.3
ERBR eSn Sb 23 36 42.8 -0.4
KTUT Trabzon 2.63 212 PN Pn 23 36 05.4 -1.1
MACK Trabzon 2.66 212 ⇓ iP Pn 23 36 05.5 -1.6
MACK *i* S Sn 23 36 37.1 -2.6
MACK IAML_P
comp=Z,31µm,0.1s
SENK Senkaya-Erzuru 2.72 168 PN Pn 23 36 08.1 0.0
TBLG Delisi 2.75 122 PN Pn 23 36 09.3 +1.0
TBLG Delisi 2.75 122 P Pn 23 36 08.2 -0.1
TBLG S Sn 23 36 43.1 +1.2
TBLG Delisi 2.75 122 ePn Pn 23 36 08.4 0.0
TBLG Delisi 2.75 122 ePN Pn 23 36 08.3 -0.1
TBLG eS Sn 23 36 43.1 +1.2
TBLG Delisi 2.75 122 ⇑ iP Pn 23 36 08.6 +0.2
TBLG *i* S Sn 23 36 43.8 +1.9
TBLG Delisi 2.75 122 ePn Pn 23 36 08.2 -0.1
TBLG eSn Sn 23 36 43.1 +1.2
KZRT Kazreti 2.77 131 P Pn 23 36 08.4 -0.2
KZRT S Sb 23 36 46.0 -1.7
SEAG Tbilisi Sea 2.78 121 P Pn 23 36 09.2 +0.5
SEAG S Sb 23 36 46.8 -1.1
BTNK Botanikuri 2.82 122 P Pn 23 36 09.1 -0.2
BTNK S Sn 23 36 44.7 +1.2
BTNK Botanikuri 2.82 122 ⇑ iP Pn 23 36 09.2 -0.1
BTNK *i* S Sn 23 36 45.1 +1.6
KARS Kars 2.82 157 PN Pn 23 36 10.2 +0.9
KARS Kars 2.82 157 ePn Pn 23 36 09.8 +0.5
KARS Kars 2.82 157 ePN Pn 23 36 09.8 +0.5
KRIK Erzurum-spir 2.93 190 ⇓ iP Pn 23 36 11.2 +0.2
KRIK *i* S Sn 23 36 46.4 -0.2
KRIK IAML_P
comp=Z,46µm,0.4s
EAK Akyaka 2.94 149 ⇓ iP Pn 23 36 11.7 +0.7
EAK *i* S Sg 23 36 56.4 -1.8
BAYT Aydıntepe-Bayb 3.04 202 PN Pn 23 36 12.2 -0.2
GROC Groznyy 3.06 89 ePN Pn 23 36 13.8 +1.3
GROC *e* 23 36 22.0
GROC eS Sn 23 36 49.5 +0.2
GROC *e* 23 36 59.6
GROC *e* 23 37 05.9
GROC pmax pmax
comp=Z,2µm,1.0s
GROC smax smax
comp=E,6µm,1.3s
GROC smax smax
comp=E,3µm,1.2s
GROC Groznyy 3.06 89 *i* Pn Pn 23 36 13.6 +1.2
GROC eSn Sn 23 36 51.8 +2.4
DIGO Kars 3.10 154 ⇓ iP Pn 23 36 13.5 +0.1
DIGO *i* S Sg 23 37 00.4 -3.0
BAYB BAYBURT 3.14 199 ⇓ iP Pn 23 36 13.2 -0.6
BAYB *i* S Sn 23 36 51.0 -0.6
BAYB IAML_P
comp=Z,30µm,0.4s
HOMI Horasan 3.19 176 ⇓ iP Pn 23 36 14.8 +0.3
HOMI *i* S Sb 23 37 01.1 +1.1
KOPR Koprukoy-ERZUR 3.24 177 PN Pn 23 36 15.5 +0.4
KOPT Kop Dagi 3.31 195 ⇓ iP Pn 23 36 16.6 +0.4
KOPT *i* S Sb 23 36 58.5 -5.2
DVE Vedeno 3.32 93 *c* iPN Pn 23 36 16.3 +0.2
DVE Vedeno 3.32 93 ePn Pn 23 36 16.3 +0.2
DVE eSn Sn 23 36 56.6 +0.8
ANN Anapa 3.40 299 ⇓ iPN Pb 23 36 20.8 -3.4
ANN *e* 23 37 00.7
ANN Anapa 3.40 299 *i* Pn Pb 23 36 20.8 -3.4
ANN eSn Sb 23 37 03.2 -2.5
BTLR Botlikh 3.43 98 ePN Pn 23 36 18.5 +0.8
BTLR Botlikh 3.43 98 ePn Pn 23 36 18.4 +0.8
BTLR eSn Sn 23 36 58.9 +0.2
QZX Qazax, Azerbai 3.54 127 ⇓ P Pn 23 36 19.1 0.0
SNR=121
QZX ⇑ S Sn 23 37 01.4 +0.2
KELT Kelkit 3.55 211 ⇓ iP Pn 23 36 19.4 0.0
KELT *i* S Sn 23 37 02.1 +0.3
KELT IAML_P
comp=Z,7µm,0.3s
LGD Lagodekhi 3.69 111 P Pb 23 36 29.1 -0.2
LGD Lagodekhi 3.69 111 PN Pb 23 36 29.1 -0.2
DDFL Dedoflistskaro 3.79 117 P Pn 23 36 20.1 -2.4
TASB TASBURUN-IGDIR 3.79 148 PN Pn 23 36 24.5 +1.8
AGRB Hanur-Agry 3.79 164 PN Pn 23 36 23.3 +0.5
EUZM Uzumlu 3.80 203 ⇓ iP Pn 23 36 23.8 +1.0
XNZR Khunzakh 3.81 99 ePN Pn 23 36 20.8 -2.1
XNZR eSn Sn 23 37 00.7 -7.3
DBC Dubki 3.83 91 ePN Pn 23 36 23.7 +0.6
DBC eS Sn 23 37 08.9 +0.5
DBC Dubki 3.83 91 ePn Pn 23 36 23.6 +0.5
DBC eSn Sn 23 37 08.8 +0.4
IGDI IGDIR 3.83 150 ⇓ iP Pn 23 36 24.3 +1.1
IGDI *i* S Sg 23 37 25.9 -0.9
GNI Garni 3.87 142 ePn Pn 23 36 24.3 +0.6
GNI Pg Pb 23 36 32.0 -0.3
GNI Lg Lg 23 37 23.3
GNI Garni 3.87 142 *i* P Pn 23 36 22.1 -1.7
SNR=46
GNI Garni 3.87 142 *c* iPN Pn 23 36 25.6 +1.8
GNI Garni 3.87 142 Pn Pn 23 36 23.8 +0.1
comp=Z,3.7nm,0.3s,baz=3.3,slow=2.9,SNR=41
GNI Pg Pb 23 36 32.0 -0.3
comp=Z,49nm,0.3s,baz=270,slow=3.7,SNR=44
GNI Lg Lg 23 37 23.3
comp=Z,50nm,0.3s,baz=7.4,slow=20,SNR=4.3
GNI Garni 3.87 142 ePn Pn 23 36 25.6 +1.8
YEDI Yedisu-Bingol 3.87 192 PN Pn 23 36 24.1 +0.3
ERZN Erzincan 3.91 202 PN Pn 23 36 24.3 0.0
TUTA Tutak 3.93 166 ⇓ iP Pn 23 36 25.6 +0.9
TUTA *i* S Sg 23 37 24.8 -5.1
TUTA IAML_P
comp=Z,8µm,0.3s
KARO Karliova-Bingo 3.94 186 PN Pn 23 36 24.9 +0.1
GDB GEDABAY 3.98 128 ⇑ P Pn 23 36 25.8 +0.5
SNR=51
GDB ⇑ S Sn 23 37 14.0 +1.8

DYDN Diyadin 4.00 156 ⇓ iP Pn 23 36 26.3 +0.7
DYDN *i* S Sg 23 37 37.1 +5.0
GNBR Gunib 4.03 100 *i* PN Pn 23 36 28.8 +3.0
GNBR Gunib 4.03 100 ePn Pn 23 36 28.2 +2.4
GNBR eSn Sn 23 37 15.8 +2.5
ZKTA Zakatala 4.03 112 ⇓ P Pn 23 36 26.3 +0.3
SNR=19
ZKTA ⇑ S Sn 23 37 15.0 +1.6
VRTB Varto-Mus 4.07 182 PN Pn 23 36 27.1 +0.6
VRTB Varto-Mus 4.07 182 *i* P Pn 23 36 28.3 +1.8
VRTB *i* S Sg 23 37 31.9 -2.3
MLAZ Malazgirt-MUS 4.14 170 PN Pn 23 36 28.1 +0.5
KERU Kerch 4.25 301 ePN Pb 23 36 32.4 -6.2
KERU Kerch 4.25 301 ePn Pb 23 36 32.4 -6.2
KERU eSn Sb 23 37 27.7 -2.4
HYR Heyderabad 4.27 144 ⇑ P Pn 23 36 29.4 +0.2
HYR ⇓ S Sn 23 37 21.1 +1.8
RSDY Resadiye-TOKAT 4.27 230 PN Pn 23 36 29.1 -0.1
BNGB Bingl 4.29 190 PN Pn 23 36 29.8 +0.3
MAK Makhachkala 4.32 92 ePN Pn 23 36 28.4 -1.4
MAK *e* 23 36 42.3
MAK *e* 23 37 19.7
MAK *e* 23 37 33.6
MAK *e* 23 37 45.5
MAK pmax pmax
comp=Z,166nm,0.4s
MAK smax smax
comp=E,1µm,0.6s
MAK smax smax
comp=E,1µm,0.6s
MAK MLR MLR
comp=Z,2µm,5.0s
MAK Makhachkala 4.32 92 ePn Pn 23 36 32.8 +3.0
MAK eSn Sn 23 37 19.7 -0.8
GANJ Ganja 4.36 125 ⇓ P Pn 23 36 30.8 +0.4
SNR=32
GANJ ⇓ S Sn 23 37 24.2 +2.7
REFA Refahiye_ERZN 4.39 210 ⇓ iP Pn 23 36 25.4 -5.6
REFA *i* S Sn 23 37 11.7 -11
REFA IAML_P
comp=Z,4µm,0.4s
TNCL Tunceli-Merkez 4.40 202 ⇓ iP Pn 23 36 31.4 +0.4
TNCL *i* S Sb 23 37 33.2 -1.5
TNCL IAML_P
comp=Z,2µm,0.6s
CUZAR Zara_SIVAS 4.41 222 *i* P Pn 23 36 31.8 +0.6
ILIC ilic-Erzincan 4.41 212 PN Pn 23 36 31.4 +0.2
ERBA Erbaa 4.43 237 *i* P Pn 23 36 32.3 +1.0
CLDR Caldiran 4.44 156 PN Pn 23 36 33.2 +1.6
CLDR Caldiran 4.44 156 *i* P Pn 23 36 33.1 +1.5
VMUR Van-Muradiye 4.49 160 *i* P Pn 23 36 32.7 +0.4
URKR Urkarakh 4.56 101 *i* PN Pn 23 36 36.2 +2.9
KEMA Kemaliye 4.60 212 *i* P Pn 23 36 34.9 +1.1
SEKA Sheki 4.61 114 ⇓ P Pn 23 36 34.7 +0.7
SNR=52
SEKA ⇑ S Sn 23 37 30.1 +2.3
KVT Kavak 4.66 244 PN Pn 23 36 34.6 0.0
GURO Guroymak-BITLI 4.68 176 PN Pn 23 36 35.0 0.0
MNGR Mingechevir, A 4.76 119 ⇓ P Pn 23 36 36.9 +1.0
SNR=11
MNGR ⇓ S Sn 23 37 31.5 +0.3
TOKT Tokat 4.78 234 PN Pn 23 36 36.3 +0.2
SVSK Karacayir 4.79 228 PN Pn 23 36 36.8 +0.6
TOKA Tokat 4.81 235 *i* P Pn 23 36 37.6 +0.9
VANB Van 4.82 163 PN Pn 23 36 39.4 +2.6
FEOD Feodosiya 4.82 294 ePn Pn 23 36 38.6 +1.9
SBZ Shahbuz 4.84 141 ⇑ P Pn 23 36 37.1 0.0
SBZ ⇓ S Sn 23 37 34.1 +0.6
AKT Akhty 4.86 109 *i* PN Pn 23 36 39.5 +2.2
AKT Akhty 4.86 109 ePn Pn 23 36 37.6 +0.2
AKT eSn Sn 23 37 32.3 -1.6
SNOP Sinop 4.88 258 ePn Pn 23 36 38.0 +0.5
SINO SINOP_Merkez 4.88 258 *i* P Pn 23 36 38.4 +0.9
SINO *i* S Sn 23 37 35.7 +1.4
DIKM Dikmen 4.96 254 ⇓ iP Pn 23 36 38.7 +0.1
NAX Nakhchivan 5.00 143 ⇓ P Pn 23 36 39.7 +0.5
SNR=59
NAX ⇓ S Sn 23 37 38.6 +1.3
CUKAN kangal_SIVAS 5.00 220 *i* P Pn 23 36 40.1 +0.7
AKDM Akdamar-Van 5.00 168 PN Pn 23 36 39.7 +0.3
GEVA Gevas 5.03 167 *i* P Pn 23 36 40.1 +0.3
SUDU Sudak 5.05 291 ⇓ ePN Pn 23 36 39.8 0.0
SUDU eS Sn 23 37 37.5 -0.8
SUDU Sudak 5.05 291 ePn Pn 23 36 39.8 0.0
SUDU eSn Sn 23 37 37.5 -0.8
DRN Derbent 5.10 101 ⇓ ePN Pn 23 36 43.5 +3.0
DRN eS Sn 23 37 40.7 +1.1
DRN Derbent 5.10 101 ePn Pn 23 36 43.4 +3.0
DRN eSn Sn 23 37 41.6 +2.0
BRDA Brd 5.11 124 ⇓ P Pn 23 36 41.3 +0.6
SNR=26
BRDA ⇓ S Sn 23 37 41.5 +1.6
ELZG Elazig 5.13 204 *i* P Pn 23 36 42.4 +1.3
QBL Gabala 5.16 114 ⇓ P Pn 23 36 42.3 +0.9
SNR=6.7
QBL ⇑ S Sn 23 37 42.8 +1.5
QSAR Qusar 5.22 107 ⇑ P Pn 23 36 42.6 +0.4
SNR=61
QSAR ⇓ S Sn 23 37 44.1 +1.5
SRTM Siirt_Merkez 5.24 177 *i* P Pn 23 36 44.2 +1.6
XNQ Khinaliq 5.27 111 ⇑ P Pn 23 36 42.9 -0.1
SNR=44
XNQ ⇑ S Sn 23 37 45.3 +1.2
BTMN Batman 5.34 183 *i* P Pn 23 36 46.6 +2.7
ALU Alushta 5.40 288 *e* P Pn 23 36 45.0 +0.3
ALU eS Sn 23 37 46.6 -0.5
ALU Alushta 5.40 288 ePn Pn 23 36 45.0 +0.3
ALU eSn Sn 23 37 46.6 -0.5
ZRD Zardab 5.41 121 ⇑ P Pn 23 36 45.4 +0.6
SNR=22
ZRD ⇑ S Sn 23 37 48.8 +1.5
ORD Ordubad 5.42 141 ⇑ P Pn 23 36 45.9 +0.8
ORD ⇑ S Sn 23 37 49.2 +1.4
QUBA Quba, Azerbaij 5.44 108 ⇓ P Pn 23 36 46.1 +0.9
SNR=9.4
QUBA ⇑ S Sn 23 37 49.7 +1.7
IML Ismayilli 5.46 114 ⇓ P Pn 23 36 46.7 +1.0
SNR=9.5
IML ⇓ S Sn 23 37 50.7 +1.9
YAL Yalta 5.54 286 ⇓ *e* P Pn 23 36 45.0 -1.5
YAL eS Sn 23 37 50.0 -0.4
YAL Yalta 5.54 286 *e* Pn Pn 23 36 45.1 -1.5
YAL eSn Sn 23 37 50.4 0.0
DARE Darende-Malaty 5.61 215 PN Pn 23 36 48.1 +0.5
SIM Simferopol' 5.67 290 ⇑ *e* P Pn 23 36 49.2 +0.9
SIM eS Sn 23 37 55.1 +1.5
SIM Simferopol' 5.67 290 *e* Pn Pn 23 36 50.3 +2.0
SIM eSn Sn 23 37 55.1 +1.5
AKCD Akcadag 5.67 211 *i* P Pn 23 36 49.2 +0.8
KDMR Kurdemir 5.68 118 ⇑ P Pn 23 36 48.5 0.0
SNR=9.1
KDMR ⇓ S Sn 23 37 55.7 +1.8
PQL Pirkuli 5.74 113 ⇑ P Pn 23 36 50.0 +0.5
SNR=29
PQL ⇓ S Sn 23 37 57.3 +1.5
BZK Bozkurt 5.76 260 ⇑ P Pn 23 36 50.4 +0.9
SIZA Siyzn 5.83 109 ⇑ P Pn 23 36 50.7 +0.1
SNR=11
SIZA ⇑ S Sn 23 37 59.3 +1.6
SEV Sevastopol' 5.89 286 ⇓ *e* P Pn 23 36 50.8 -0.6
SEV eS Sn 23 37 56.7 -2.4
SEV Sevastopol' 5.89 286 *e* Pn Pn 23 36 50.8 -0.6
SEV eSn Sn 23 37 56.7 -2.4
ATGJ Altiaghaj 5.95 111 ⇑ P Pn 23 36 52.3 0.0
SNR=13
ATGJ ⇑ S Sn 23 38 02.2 +1.5
GBS Qobustan 6.10 114 ⇓ P Pn 23 36 54.7 +0.4
SNR=3.6
GBS ⇓ S Sn 23 38 06.0 +1.6
SAAT Saatly 6.12 121 ⇓ S Sn 23 38 04.3 -0.4
CUKT Cukurca 6.17 165 PN Pn 23 36 57.8 +2.5
ILGA Ilgaz 6.26 252 ePn Pn 23 36 57.3 +0.6
ALIB Äli-Bayra 6.43 118 ⇓ P Pn 23 36 59.5 +0.7
SNR=5.1
ALIB ⇑ S Sn 23 38 14.2 +1.7
GLBA Clilabad 6.48 126 ⇓ P Pn 23 36 59.8 +0.4
SNR=17
GLBA ⇑ S Sn 23 38 15.3 +1.7
GOBA Gobu 6.69 112 ⇑ P Pn 23 37 02.8 +0.4
GOBA ⇓ S Sn 23 38 20.3 +1.4
NDR Nardaran 6.78 110 ⇑ P Pn 23 37 04.0 +0.4
NDR ⇓ S Sn 23 38 22.8 +1.7

LRK Lerik 6.85 130 ⇓ P Pn 23 37 05.4 +0.7
SNR=38
LRK ⇓ S Sn 23 38 24.5 +1.5
BR131 Keskin Array S 6.93 242 ePn Pn 23 37 06.3 +0.4
BR131 Keskin Array S 6.93 242 P Pn 23 37 07.0 +1.1
SNR=8.2
BRTR Keskin Array B 6.93 242 *i* P Pn 23 37 06.8 +0.9
BRTR pmax pmax
comp=Z,10.0nm,0.5s
BRTR Keskin Array B 6.93 242 Pn Pn 23 37 06.2 +0.4
comp=Z,2.5nm,0.3s,baz=38,slow=10,SNR=68
BRTR Sn Sn 23 38 23.8 -1.3
comp=Z,1.4nm,0.3s,baz=53,slow=19,SNR=3.7
GALA Gala 6.97 111 ⇓ P Pn 23 37 06.5 +0.2
GALA ⇓ S Sn 23 38 27.5 +1.7
LKRN Lenkeran, Azer 7.05 127 ⇓ P Pn 23 37 07.9 +0.5
SNR=16
LKRN ⇓ S Sn 23 38 30.0 +2.2
ASTR Astara 7.16 128 ⇑ P Pn 23 37 09.5 +0.7
SNR=6.5
ASTR ⇓ S Sn 23 38 32.1 +1.6
ANTO Ankara 7.42 246 ePn Pn 23 37 13.0 +0.6
comp=Z,156nm,1.0s
ANTO Ankara 7.42 246 *e* P Pn 23 37 13.0 +0.6
ANTO pmax pmax
comp=Z,156nm,1.0s
BR231 Keskin MP Arra 7.44 246 ePn Pn 23 37 13.8 +1.0
VRH Novokhopyorsk 7.98 0 *e* P Pn 23 37 21.5 +1.5
VRH pmax pmax
comp=Z,50nm,0.8s
VRH pmax pmax
comp=Z,30nm,0.6s
VRH MLR MLR
comp=Z,2µm,13.0s
VSR Storozhevoye 8.16 349 *e* P Pn 23 37 22.3 -0.2
VSR pmax pmax
comp=Z,140nm,0.5s
VSR pmax pmax
comp=Z,170nm,0.5s
VSR MLR MLR
comp=Z,1µm,10.0s
VORR Voronezh 8.60 350 *e* P Pn 23 37 28.0 -0.6
VORR pmax pmax
comp=Z,500nm,0.8s
TLCR 9.40 286 ⇓ iP Pn 23 37 39.5 0.0
TLCR 9.40 286 P Pn 23 37 38.8 -0.7
MANR Mangalia 9.48 278 ⇑ iP Pn 23 37 39.4 -1.2
LPSR Galich'ya Gora 9.55 350 *e* P Pn 23 37 42.4 +0.9
LPSR pmax pmax
comp=Z,290nm,0.8s
LPSR pmax pmax
comp=Z,240nm,0.7s
LPSR MLR MLR
comp=Z,1µm,12.0s
MFTR Murfatlar 9.60 280 ⇑ iP Pn 23 37 41.2 -1.1
TIRR Tirgusor 9.62 282 ePn Pn 23 37 40.9 -1.6
TIRR Tirgusor 9.62 282 ⇓ iP Pn 23 37 40.6 -1.9
TIRR Tirgusor 9.62 282 *e* P Pn 23 37 40.9 -1.6
MILM Milestii Mici 9.78 297 ⇑ iP Pn 23 37 44.0 -0.7
PSN Preselentsi 9.78 277 *e* P Pn 23 37 43.4 -1.3
KIS Kishinev 9.80 297 *e* P Pn 23 37 45.0 0.0
KIS eS Sn 23 39 25.0 -10
KIS eLQ LQ 23 40 48.0
KIS LRM MLR 23 43 04.0
comp=Z,700nm,12.0s
KIS Kishinev 9.80 297 *e* P Pn 23 37 45.0 0.0
KIS MLR MLR
comp=Z,700nm,12.0s
KIS MLR MLR
comp=E,300nm,10.0s
CFR Carcaliu 9.87 286 ⇓ iP Pn 23 37 46.1 +0.1
CFR Carcaliu 9.87 286 P Pn 23 37 46.9 +0.9
CFR pmax pmax
comp=Z,56nm,0.6s
HARR Harsova 9.97 283 ⇓ iP Pn 23 37 46.8 -0.6
LEOM Leova 10.03 293 ⇓ iP Pn 23 37 47.7 -0.4
ICOR Ion Corvin 10.05 280 ⇑ iP Pn 23 37 48.0 -0.4
PRD Provadia 10.38 275 *e* P Pn 23 37 51.2 -1.7
AMRR Amara 10.39 283 ⇓ iP Pn 23 37 53.0 -0.1
CSS Mathiatis 10.46 221 ePn Pn 23 37 54.6 +0.5
IAS Iasi 10.68 297 ⇑ iP Pn 23 37 56.6 -0.4
IAS Iasi 10.68 297 P Pn 23 38 01.0 +4.0
IAS pmax pmax
comp=Z,28nm,1.1s
ODBI Odobesti 10.71 289 ⇑ iP Pn 23 37 57.8 +0.4
VRI Vrincioaia 10.95 289 ⇑ iP Pn 23 38 00.4 -0.3
PLOR Plostina 11.00 289 ⇑ iP Pn 23 38 01.3 -0.2
TESR Tescani 11.02 292 ⇑ iP Pn 23 38 02.5 -0.5
AKASG Malin Array Be 11.28 316 Pn Pn 23 38 04.0 -1.2
comp=Z,5.8nm,0.3s,baz=114,slow=14,SNR=28
AKASG Sn Sn 23 40 10.4 -1.2
comp=Z,2.3nm,0.3s,baz=126,slow=25,SNR=6.5
AKASG Lg Lg 23 41 26.4
baz=120,slow=30,SNR=2.1
AKBB Malin Array Si 11.28 316 ePn Pn 23 38 04.6 -0.6
AKBB Malin Array Si 11.28 316 *e* P Pn 23 38 04.6 -0.6
KIEV Kiev 11.29 316 ePn Pn 23 38 04.7 -0.6
KIEV Kiev 11.29 316 *i* P Pn 23 38 05.0 -0.3
SNR=10
KIEV Kiev 11.29 316 *de* P Pn 23 38 05.4 +0.1
KIEV pmax pmax
comp=Z,12nm,0.6s
AK11 Malin Array Si 11.30 316 ePn Pn 23 38 04.5 -0.9
MMAI Mount Meron Ar 11.30 208 Pn Pn 23 38 08.7 +3.0
comp=Z,0.4nm,0.3s,baz=61,slow=13,SNR=7.1
MMAI LR LR 23 42 46.1
comp=Z,619nm,21.7s,baz=40,slow=39
GIRR Girov 11.31 294 ⇑ iP Pn 23 38 05.0 -0.7
SECR 11.32 285 ⇑ iP Pn 23 38 05.3 -0.5
SGRR Singureni 11.36 280 ⇑ iP Pn 23 38 05.8 -0.6
SZH Strazhica 11.44 276 *e* P Pn 23 38 04.8 -2.7
MLR Muntele Rosu 11.44 287 ⇓ iP Pn 23 38 08.1 +0.5
MLR Muntele Rosu 11.44 287 Pn Pn 23 38 07.8 +0.2
comp=Z,3.1nm,0.3s,baz=24,slow=3.6,SNR=74
MLR Sn Sn 23 40 15.4 -0.4
comp=Z,2.3nm,0.3s,baz=153,slow=21,SNR=5.9
MLR LR LR 23 43 49.6
comp=Z,118nm,18.4s,baz=84,slow=44
BIZ Bicaz 11.57 294 ⇑ iP Pn 23 38 08.8 -0.5
PRAR RASCA 11.60 296 ⇑ iP Pn 23 38 09.0 -0.6
ASF Jabal al Asfar 11.65 200 P Pn 23 38 19.6 +9.2
comp=Z,13nm,0.7s
ASF Jabal al Asfar 11.65 200 Pn Pn 23 38 08.5 -2.0
comp=Z,0.2nm,0.3s,baz=83,slow=19,SNR=2.2
ASF Lg Lg 23 41 28.9
comp=Z,0.1nm,0.3s,baz=25,slow=21,SNR=1.1
ASF LR LR 23 43 17.3
comp=Z,757nm,18.9s,baz=325,slow=41
DOPR Dopca 11.89 289 ⇓ iP Pn 23 38 13.5 -0.1
MTUR Matau 12.04 285 ⇑ iP Pn 23 38 16.3 +0.5
VOIR 12.07 286 ⇑ iP Pn 23 38 15.6 -0.5
VOIR 12.07 286 P Pn 23 38 17.1 +1.0
VOIR pmax pmax
comp=Z,54nm,1.0s
HUMR Humele 12.08 282 ⇓ iP Pn 23 38 15.4 -0.7
BURAR Bucovina Array 12.32 297 ⇑ iP Pn 23 38 18.4 -1.2
OBN Obninsk 12.34 346 ePn Pn 23 38 18.1 -1.5
OBN Sn Sn 23 40 36.0 -1.4
OBN Lg Lg 23 41 49.2
OBN Obninsk 12.34 346 *e* P Pn 23 38 18.9 -0.8
OBN eS Sn 23 40 37.1 -0.2
OBN pmax pmax
comp=Z,51nm,1.4s
OBN MLR MLR
comp=Z,1µm,15.0s
OBN Obninsk 12.34 346 Pn Pn 23 38 18.9 -0.8
comp=Z,1.2nm,0.3s,baz=359,slow=11,SNR=9.4
OBN Sn Sn 23 40 36.0 -1.4
comp=Z,0.7nm,0.3s,baz=156,slow=23,SNR=1.5
OBN Lg Lg 23 41 49.2
comp=Z,1.2nm,0.3s,baz=336,slow=22,SNR=3.2
BUR08 Bucovina Ar. S 12.34 297 ePn Pn 23 38 18.4 -1.5
ARR Arges 12.35 286 ⇑ iP Pn 23 38 20.4 +0.4
PLD Plovdiv 12.50 271 P Pn 23 38 24.2 +2.2
PLD pmax pmax
comp=Z,78nm,0.8s
RZN Rozhen 12.58 269 *e* P Pn 23 38 06.5 -17
ARCR ARCALIA 12.78 294 ⇑ iP Pn 23 38 25.2 -0.5
MOS Moscow 12.78 350 *e* P Pn 23 38 23.6 -2.1
MOS eS Sn 23 40 45.9 -2.3
MOS MLR MLR
comp=N,800nm,14.0s
MOS MLR MLR
comp=Z,1µm,14.0s

PGB Panagyurishte 12.82 273 *e*P **Pn 23 38 24.7 -1.6**
LOT Lotru 12.97 286⇑ *i*P **Pn 23 38 28.4 0.0**
CJR Cluj-Napoca 13.22 291⇑ *i*P **Pn 23 38 31.5 -0.3**
AKTO Aktyubinsk 13.33 52 Pn **Pn 23 38 30.7 -2.5**
comp=Z,2.6nm,0.3s,baz=242,slow=12,SNR=42
AKTO Sn Sn 23 40 47.8 -14
comp=Z,0.5nm,0.3s,baz=32,slow=22,SNR=2.4
AKTO LR LR 23 45 11.1
comp=Z,513nm,20.1s,baz=235,slow=44
BMR Baia Mare 13.47 296⇑ *i*P **Pn 23 38 35.3 +0.2**
BMR Baia Mare 13.47 296 P **P 23 38 39.9 -4.7**
BMR pmax pmax
comp=Z,108nm,1.0s
VTS Vitosha 13.51 274 *e*Pn **Pn 23 38 35.2 -0.7**
VTS Vitosha 13.51 274⇑ *i*P **Pn 23 38 35.2 -0.7**
VTS Vitosha 13.51 274 *e*P **Pn 23 38 35.2 -0.7**
VTS Vitosha 13.51 274 *e*P **Pn 23 38 34.0 -1.9**
DEV Deva 13.60 288⇓ *i*P **Pn 23 38 37.7 +0.7**
DEV Deva 13.60 288 P P 23 38 40.8 -5.3
DEV pmax pmax
comp=Z,30nm,0.8s
GEYT Alibeck 13.61 107 Pn **Pn 23 38 35.0 -2.1**
comp=Z,3.4nm,0.3s,baz=296,slow=13,SNR=24
GEYT LR LR 23 44 37.0
comp=Z,81nm,18.8s,baz=260,slow=41
GYA0B ALIBECK ARRAY 13.61 107 *e*Pn **Pn 23 38 35.1 -2.0**
GZR Gura Zlata 13.66 286⇑ *i*P **Pn 23 38 37.2 -0.7**
KKB Krupnik 13.73 271 *e*P **Pn 23 38 39.8 +1.0**
APE Apeiranthos 13.74 249 *i* P **Pn 23 38 41.3 +2.3**
LVV L'vov 13.77 305 *e*P **Pn 23 38 39.6 +0.4**
LVV *e*S **Sn 23 41 14.4 +2.1**
LVV MLR MLR
comp=E,400nm,10.0s
LVV MLR MLR
comp=Z,400nm,10.0s
LVV MLR MLR
comp=N,200nm,11.0s
HSNJ Maan 13.79 202 P P 23 38 53.6 +5.3
ASHT Ashkhabad 13.79 107 P **Pn 23 38 41.7 +2.1**
ASHT pmax pmax
comp=Z,97nm,0.7s
DRGR 13.84 291⇑ *i*P **Pn 23 38 40.4 +0.2**
DRGR 13.84 291 P P 23 38 43.4 -5.4
DRGR pmax pmax
comp=Z,46nm,0.8s
AB31 Akbulak array 14.03 58 *i* P **Pn 23 38 39.9 -2.9**
AB31 pmax pmax
comp=Z,11nm,0.4s
ABKAR Akbulak array 14.03 58 *e*Pn **Pn 23 38 40.4 -2.4**
TRPA Tarpa 14.20 297⇑ *i*P **Pn 23 38 44.8 -0.3**
MICGM Minsk 14.42 326 *e*Pn **Pn 23 38 44.0 -4.1**
MICGM *e*Sn **Sn 23 41 20.0 -8.2**
MICGM *e*LR LR 23 43 36.0
MNK Minsk 14.42 326 *e*P **Pn 23 38 44.0 -4.1**
UZH Uzhgorod 14.48 299⇓ *i*P **Pn 23 38 47.0 -1.9**
UZH *e*S **Sn 23 41 26.8 -2.8**
UZH MLR MLR
comp=N,75nm,16.0s
UZH MLR MLR
comp=E,60nm,16.0s
UZH MLR MLR
comp=Z,60nm,16.0s
BZS Buzias 14.49 286⇑ *i*P **Pn 23 38 48.5 -0.6**
BZS Buzias 14.49 286 P P 23 39 00.9 +5.0
SIRR Siria 14.50 289⇓ *i*P **Pn 23 38 49.3 +0.1**
KWP Kalwaria Pacla 14.51 303 *e*P **Pn 23 38 49.2 -0.1**
KWP Kalwaria Pacla 14.51 303 *e*Pn **Pn 23 38 48.0 -1.3**
KWP Kalwaria Pacla 14.51 303 *e*P **Pn 23 38 49.2 -0.1**
EIL Elat 14.55 204 Pn **Pn 23 38 51.5 +1.6**
comp=Z,0.1nm,0.3s,baz=340,slow=12,SNR=3.6
EIL LR LR 23 44 59.8
comp=Z,872nm,20.0s,baz=70,slow=40
LIT Litokhoron 14.63 264 *e*Pn **Pn 23 38 51.7 +0.6**
LIT Litokhoron 14.63 264 *e*P **Pn 23 38 51.7 +0.6**
NACGM Naroch 15.16 326 *e*P **Pn 23 38 53.0 -5.1**
NACGM *e*S **Sn 23 41 38.0 -8.1**
NACGM *e*SS **SnSn 23 41 52.0 -6.6**
NACGM *e*LQ LQ 23 43 52.0
NACGM *e*LR LR 23 45 12.0
IDI Anoyia 15.17 244 Pn **P 23 39 04.6 +1.0**
comp=Z,0.9nm,0.3s,baz=111,slow=7.7,SNR=2.3
IDI LR LR 23 46 26.1
comp=Z,190nm,19.4s,baz=64,slow=44
IDID Didziasalis 15.46 327 *e*P **Pn 23 38 58.1 -4.1**
IDID IAmb IAmb 23 39 14.5
comp=Z,17nm,0.7s
IIGN Ignalina 15.70 326 *e*P **Pn 23 39 02.3 -2.9**
IIGN IAmb IAmb 23 39 18.1
comp=Z,20nm,0.7s
ISAL Salakas 15.89 326 *e*P **Pn 23 39 05.5 -2.2**
ISAL IAmb IAmb 23 39 23.8
comp=Z,20nm,0.9s
PSZ Piszkesteto 15.90 295 *e*Pn **Pn 23 39 06.6 -1.3**
comp=Z,30nm,0.9s
PSZ Piszkesteto 15.90 295 *e*P **Pn 23 39 06.6 -1.3**
PSZ pmax pmax
comp=Z,30nm,0.9s
PSZ Piszkesteto 15.90 295 *e*Pn **Pn 23 39 08.0 +0.1**
PSZ *e*Sg 23 39 56.0
NIE Niedzica 15.95 300 *e*P **Pn 23 39 08.0 -0.5**
NIE Niedzica 15.95 300 *e*P **Pn 23 39 08.0 -0.5**
KIRV Kirov 16.12 15 Pn **Pn 23 39 09.7 -1.0**
comp=Z,2.8nm,0.3s,baz=270,slow=1.5,SNR=12
SUW Suwalki 16.22 318 *e*P **Pn 23 39 09.4 -2.5**
SUW Suwalki 16.22 318 *e*Pn **Pn 23 39 09.8 -2.1**
comp=Z,224nm,1.1s
SUW Suwalki 16.22 318 *e*P **Pn 23 39 09.8 -2.1**
SUW pmax pmax
comp=Z,224nm,1.1s
LANS Liptovska Anna 16.41 299 *e*P **Pn 23 39 13.8 -0.6**
LANS Liptovska Anna 16.41 299 *e*PN **Pn 23 39 13.8 -0.6**
TTG Podgorica 16.42 275 *e*Pn **P 23 39 15.0 -2.3**
comp=Z,81nm,1.7s
BEL Belsk 16.44 309 *e*P **P 23 39 19.1 +1.6**
BEL Belsk 16.44 309 P **P 23 39 19.7 +2.2**
BEL pmax pmax
comp=Z,214nm,0.8s
OJC Ojcow 16.48 303 *e*P **Pn 23 39 12.1 -3.2**
OJC Ojcow 16.48 303 *e*Pn **Pn 23 39 14.5 -0.7**
comp=Z,36nm,0.8s
OJC Ojcow 16.48 303 *e*P **Pn 23 39 14.5 -0.7**
OJC pmax pmax
comp=Z,36nm,0.8s
MORH Mrgy, Hungar 16.58 288 *e*Pn **P 23 39 20.1 +0.9**
VYHS Vyhne 16.69 296 *e*P **P 23 39 18.9 -1.5**
VYHS Vyhne 16.69 296 *e*PN **P 23 39 18.9 -1.5**
VYHS Vyhne 16.69 296 *e*P **P 23 39 25.0 +4.6**
ARU Arti 17.08 33 *e*Pn **Pn 23 39 19.2 -3.6**
comp=Z,57nm,1.0s
ARU Arti 17.08 33 *d*P **Pn 23 39 19.9 -2.9**
ARU S **Sn 23 42 30.2 -2.6**
ARU pmax pmax
comp=Z,35nm,1.3s
ARU MLR MLR
comp=Z,473nm,14.0s
OKC Ostrava-Krasne 17.41 300 *e*P **P 23 39 30.5 +2.3**
OKC *ex* x 23 39 36.4
OKC *e*S S 23 42 58.3 +9.0
OKC AMS AMS 23 47 40.0
comp=Z,600nm,14.4s
OKC Ostrava-Krasne 17.41 300 *e*P **P 23 39 30.5 +2.3**
OKC MLR MLR
comp=Z,600nm,14.4s
RAC Raciborz 17.43 301 *e*P **P 23 39 30.7 +2.2**
RAC MLR MLR
comp=Z,400nm,16.1s
JAVC Velka Javorina 17.52 297 *e*P **P 23 39 29.1 -0.4**
SMOL Smolenice 17.62 296 P **P 23 39 33.0 +2.4**
SMOL pmax pmax
comp=Z,42nm,1.3s
SMOL Smolenice 17.62 296 *e*P **P 23 39 32.3 +1.7**
BLY Banja Luka 17.63 283 *e*Pn **P 23 39 29.8 -1.0**
comp=Z,58nm,1.7s
MODS Modra-Piesok 17.70 295 *e*P **P 23 39 33.0 +1.5**
MODS Modra-Piesok 17.70 295 *e*P **P 23 39 33.0 +1.5**
KLMR Klimovskoe 17.70 357⇓ *i*P **P 23 39 30.8 -0.6**
KLMR *e* 23 42 52.1
KLMR pmax pmax
comp=Z,542nm,1.3s
KLMR Klimovskoe 17.70 357⇓ *i*Pn **P 23 39 30.8 -0.6**
KLMR *e*Pn **P 23 39 30.8 -0.6**
KLMR *e*Pn **P 23 39 30.8 -0.6**
KLMR AMP 23 39 36.3
comp=Z,542nm,1.2s
KLMR *e*Sn **S 23 42 52.2 -2.9**
KLMR *e*Sn **S 23 42 52.2 -2.9**
MORC Moravsky Berou 17.77 300 *e*Pn **P 23 39 30.7 -1.6**
comp=Z,14nm,0.8s
MORC Moravsky Berou 17.77 300 *e*P **P 23 39 30.7 -1.6**
MORC pmax pmax
comp=Z,14nm,0.8s
MORC Moravsky Berou 17.77 300 *e*P **P 23 39 30.6 -1.8**
ZST Bratislava 17.79 295 *e*P **P 23 39 35.1 +2.6**
ZST Bratislava 17.79 295 *e*P **P 23 39 35.1 +2.6**
VSU Vasula 17.84 334 *d*P **P 23 39 31.8 -1.2**
VSU pmax pmax
comp=Z,123nm,0.9s
VSU Vasula 17.84 334 *e*P **P 23 39 31.5 -1.4**
VSU IAmb IAmb 23 39 54.4
comp=Z,294nm,1.3s
PUL Pulkovo 17.95 341 *de*P **P 23 39 36.7 +2.6**
PUL pmax pmax
comp=Z,354nm,1.0s
PUL Pulkovo 17.95 341 *e*P **P 23 39 35.9 +1.8**
PUL IAmb IAmb 23 39 38.7
comp=Z,260nm,0.7s
PBUR Paburg 17.98 322 *e*P **Pn 23 39 31.5 -2.5**
PBUR IAmb IAmb 23 39 36.9
comp=Z,86nm,0.9s
SOP Sopron 18.10 293 P **P 23 39 39.2 +3.3**
SOP pmax pmax
comp=Z,20nm,1.1s
SVE Sverdlovsk 18.20 35 *e*P **Pn 23 39 34.2 -2.5**
SVE *e*S **Sn 23 42 55.7 -4.2**
SVE pmax pmax
comp=Z,238nm,1.5s
SVE MLR MLR
comp=Z,532nm,12.0s
VRAC Vranov 18.29 298 *e*P **P 23 39 40.4 +2.4**
VRAC Vranov 18.29 298 P **P 23 39 39.8 +1.8**
comp=Z,0.2nm,0.3s,baz=107,slow=14,SNR=2.4
VRAC LR LR 23 48 23.4
comp=Z,211nm,20.1s,baz=98,slow=42
KRLC Kraliky 18.32 301 *e*P **P 23 39 39.3 +0.9**
KRLC *e*S S 23 43 18.7 +11
KRLC Kraliky 18.32 301 *e*P **P 23 39 39.3 +0.9**
KRUC Moravsky 18.38 297 P **P 23 39 41.0 +2.0**
KRUC pmax pmax
comp=Z,20nm,1.2s
KRUC Moravsky 18.38 297 *e*P **P 23 39 39.3 +0.3**
CONA Conrad Observa 18.59 294 *i* pP pP 23 39 44.0 +0.2
comp=Z,20nm,1.2s,SNR=11
PRGR Permogore 18.59 6⇓ *i*P **Pn 23 39 42.0 +0.6**
PRGR *e*S **Sn 23 43 03.1 -6.1**
PRGR pmax pmax
comp=Z,104nm,0.8s
DPC Dobruska-Polom 18.67 301 *e*P **Pn 23 39 44.0 +1.5**
DPC *ex* x 23 39 57.6
DPC *e*S **S 23 43 21.8 +6.8**
DPC AMS AMS 23 49 50.0
comp=Z,600nm,10.8s
DPC Dobruska-Polom 18.67 301 *e*P **Pn 23 39 44.0 +1.5**
DPC MLR MLR
comp=Z,600nm,10.8s
ARSA Arzberg 18.77 291 *i* P **Pn 23 39 46.3 +2.6**
comp=Z,21nm,1.6s
KSP Ksiaz 18.80 303 *e*P **P 23 39 41.5 -2.1**
KSP Ksiaz 18.80 303 P **Pn 23 39 47.3 +3.3**
KSP pmax pmax
comp=Z,25nm,0.9s
SLIT Slitere, Latvi 18.85 327 *e*P **Pn 23 39 43.8 -0.8**
SLIT IAmb IAmb 23 39 47.7
comp=Z,159nm,0.6s
UPC Upice 18.89 302 *e*P **Pn 23 39 46.9 +1.7**
UPC *e*pP **sP 23 39 52.8 +4.7**
UPC AMS AMS 23 49 50.0
comp=Z,600nm,11.5s
UPC Upice 18.89 302 *e*P **Pn 23 39 46.9 +1.7**
UPC MLR MLR
comp=Z,600nm,11.5s
BOJS Bojanci 18.96 286 *i* P **Pn 23 39 48.5 +2.5**
GKP Gorka Klasztor 19.00 310 *e*P **P 23 39 44.0 -1.7**
GKP Gorka Klasztor 19.00 310 P **Pn 23 39 49.6 +3.2**
GKP pmax pmax
comp=Z,84nm,1.0s
TREC Trest 19.00 298 *e*P **Pn 23 39 49.6 +3.1**
TREC AMS AMS 23 50 10.0
comp=Z,300nm,12.8s
TREC Trest 19.00 298 *e*P **Pn 23 39 49.6 +3.1**
TREC MLR MLR
comp=Z,300nm,12.8s
PERS Pernice 19.03 289 *i* P **Pn 23 39 50.2 +3.3**
SOKA Soboth 19.09 290 *i* P **Pn 23 39 50.5 +2.8**
comp=Z,22nm,1.4s
TIP Timpagrande 19.11 266 *e*P **Pn 23 39 47.7 -0.3**
comp=Z,90nm,1.9s
VISS Visnje 19.23 287 *i* P **Pn 23 39 51.5 +2.2**
OBKA Obir 19.42 289 *i* P **Pn 23 39 54.7 +3.0**
comp=Z,29nm,1.7s
GOPC GO Pecny, Ondr 19.55 299 *e*P **Pn 23 39 53.7 +0.6**
GOPC AMS AMS 23 49 00.0
comp=Z,500nm,11.9s
GOPC GO Pecny, Ondr 19.55 299 *e*P **Pn 23 39 53.7 +0.6**
GOPC MLR MLR
comp=Z,500nm,11.9s
MOA Molln 19.66 293 *i* P **Pn 23 39 56.7 +2.3**
comp=Z,12nm,1.2s
PRU Pruhonice 19.72 299 *e*P **Pn 23 39 55.9 +0.8**
PRU *ex* x 23 40 08.8
PRU AMS AMS 23 50 10.0
comp=Z,500nm,8.9s
PRU Pruhonice 19.72 299 *e*P **Pn 23 39 55.9 +0.8**
PRU MLR MLR
comp=Z,500nm,8.9s
JAVS Javornik 19.77 287 *i* P Pn 23 40 01.6 +5.7
PVCC Panska Ves 19.80 301 *e*P **Pn 23 39 56.5 +0.5**
PVCC AMS AMS 23 50 00.0
comp=Z,400nm,9.4s
PVCC Panska Ves 19.80 301 *e*P **Pn 23 39 56.5 +0.5**
PVCC MLR MLR
comp=Z,400nm,9.4s
MYKA Terra Mystica 20.05 289 *i* P Pn 23 40 03.0 +3.9
comp=Z,15nm,1.0s
GEA0 GERESS Array S 20.11 296 *e*P Pn 23 39 58.9 -0.9
GEC2 GERESS Array S 20.11 296 *e*P Pn 23 39 59.3 -0.5
comp=Z,44nm,1.1s
GEC2 GERESS Array S 20.11 296 *e*P Pn 23 39 59.6 -0.3
comp=Z,70nm,1.3s,baz=98,slow=11
GEC2 GERESS Array S 20.11 296 *e*P Pn 23 39 59.3 -0.6
GEC2 pmax pmax
comp=Z,44nm,1.1s
GERES GERESS Array B 20.11 296 P Pn 23 39 59.8 0.0
comp=Z,17nm,0.9s,baz=102,slow=9.7,SNR=71
GERES LR LR 23 48 12.6
comp=Z,174nm,21.1s,baz=104,slow=38
KHC Kasperske Hory 20.22 297 *e*P Pn 23 39 60.0 -1.1
comp=Z,17nm,1.2s
KHC Kasperske Hory 20.22 297 *e*P Pn 23 40 01.4 +0.3
KHC AMS AMS 23 51 00.0
comp=Z,400nm,8.8s
KHC Kasperske Hory 20.22 297 *e*P Pn 23 40 01.4 +0.3
KHC MLR MLR
comp=Z,400nm,8.8s
KBA Koelnbreinsper 20.25 291 *i* pP pP 23 40 02.7 +0.6
comp=Z,20nm,0.8s,SNR=16
KBA Koelnbreinsper 20.25 291 P Pn 23 40 02.7 +1.1
BRG Berggiesshubel 20.26 302 *e*P Pn 23 40 01.2 -0.3
comp=Z,15nm,1.1s
BRG S Sn 23 43 52.0 +2.4
comp=N,325nm,14.1s
comp=E,310nm,17.3s
comp=Z,447nm,9.3s
BRG Berggiesshubel 20.26 302 *e*P Pn 23 40 01.1 -0.4
comp=Z,22nm,1.1s,baz=98,slow=11
BRG Berggiesshubel 20.26 302 *e*P Pn 23 40 01.2 -0.3
BRG S Sn 23 43 52.0 +2.4
BRG pmax pmax
comp=Z,15nm,1.1s
BRG MLR MLR
comp=N,325nm,14.1s
BRG MLR MLR
comp=E,310nm,17.3s
BRG MLR MLR
comp=Z,447nm,9.4s
FIA1 FINESS Array S 20.46 338 *e*P Pn 23 40 01.5 -2.2
FINES FINESS Array B 20.46 338 P Pn 23 40 02.2 -1.5
comp=Z,16nm,0.6s,baz=146,slow=11,SNR=44
TAS Tashkent 20.53 86 P Pn 23 40 04.0 -0.8
TAS pmax pmax
comp=Z,131nm,1.4s
CHM Chimkent 20.53 83 *d*P **P 23 40 01.4 -1.2**
CHM *e*S **S 23 43 53.4 +0.9**
CHM pmax pmax
comp=Z,1μm,0.6s
CHM Chimkent 20.53 83⇓ *i*P **P 23 40 01.5 -1.2**
comp=Z,1μm,0.6s
CHM *e*S **S 23 43 53.5 +0.9**
JOF Joensuu 20.62 347 P Pn 23 40 04.9 -0.7
JOF pmax pmax
comp=Z,112nm,1.3s
FBE Freiberg 20.63 302 *e*P Pn 23 40 05.7 -0.1
comp=Z,75nm,1.3s,baz=98,slow=11
WET Wettzell 20.68 297 *e*P Pn 23 40 05.4 -1.1
comp=Z,23nm,1.1s,baz=98,slow=11
WET Wettzell 20.68 297 P Pn 23 40 07.0 +0.5
WET pmax pmax
comp=Z,20nm,1.9s
AQU L'Aquila 20.69 277 *e*P Pn 23 40 04.4 -2.3
comp=Z,60nm,1.1s
AQU L'Aquila 20.69 277 *e*P Pn 23 40 04.4 -2.2
AQU pmax pmax
comp=Z,60nm,1.1s
RUE Ruedersdorf 20.73 306 *e*P Pn 23 40 05.3 -1.6
comp=Z,78nm,1.0s,baz=98,slow=11
RUE Ruedersdorf 20.73 306 *e*P Pn 23 40 06.7 -0.3
RUE IAmb IAmb 23 40 11.1
comp=Z,70nm,1.1s
ABTA Abfaltersbach 20.82 290 *i* Pn Pn 23 40 07.6 -0.7
comp=Z,33nm,1.2s
SHME Shamm 20.84 141 P **P 23 40 04.6 -1.4**
IUG Iuzhnay 20.88 83 *e*P **P 23 40 04.6 -1.9**
IUG pmax pmax
comp=Z,556nm,0.7s
IUG Iuzhnay 20.88 83 *e*P **P 23 40 04.7 -1.9**
comp=Z,556nm,0.7s
IUG *e*S Sn 23 44 06.4 +1.5
comp=Z,717nm,5.6s
CLL Collm 20.93 303 *e*P Pn 23 40 07.5 -1.7
comp=Z,29nm,0.9s
CLL Collm 20.93 303 *e*P Pn 23 40 08.7 -0.5
comp=Z,34nm,0.9s,baz=98,slow=11
CLL Collm 20.93 303 *i* P Pn 23 40 08.7 -0.6
comp=Z,22nm,1.2s
CLL *i* sP sP 23 40 13.0 +2.8
comp=Z,69nm,1.6s
CLL *i* 23 40 15.7
comp=Z,34nm,0.9s
CLL *i* 23 40 22.1
CLL *e*PP **PnPn 23 40 27.0 +1.9**
CLL *e*S Sn 23 44 06.0 +0.4
CLL Collm 20.93 303 *i* P Pn 23 40 08.7 -0.6
CLL *i* 23 40 13.0
CLL pmax pmax
comp=Z,22nm,1.2s
BSD Bornholm Skovb 20.97 314 *i* P Pn 23 40 07.4 -2.4
comp=Z,4.9nm,0.4s
BSD Bornholm Skovb 20.97 314 *i* P Pn 23 40 07.4 -2.4
BSD pmax pmax
comp=Z,5.0nm,0.4s
KK31 Karatay Array 21.04 80 *e*P **P 23 40 07.6 -0.5**
comp=Z,33nm,0.8s
KK31 Karatay Array 21.04 80 *e*P **P 23 40 07.6 -0.5**
KK31 pmax pmax
comp=Z,33nm,0.8s
KKAR Karatay Array 21.04 80 *e*P **P 23 40 07.5 -0.6**
comp=Z,33nm,0.8s
KKAR Karatay Array 21.04 80 *e*P **P 23 40 07.5 -0.6**
KKAR pmax pmax
comp=Z,33nm,0.8s
UMQ Umm Al-Quwin 21.07 142 P **P 23 40 07.8 -0.7**
TMCR Tamitsa 21.08 356 *e*P **P 23 40 08.0 -0.2**
TMCR *e*S **S 23 44 04.3 +1.5**
TMCR pmax pmax
comp=Z,162nm,0.8s
NKC Novy Kostel 21.09 300 *e*P **P 23 40 10.4 +1.8**
NKC AMS AMS 23 50 40.0
comp=Z,500nm,11.4s
NKC Novy Kostel 21.09 300 *e*P **P 23 40 10.4 +1.8**
NKC MLR MLR
comp=Z,500nm,11.4s
TANN Tannenbergstha 21.11 300 *e*P **P 23 40 10.5 +1.7**
comp=Z,77nm,1.1s,baz=98,slow=11
WERN Wernitzgruen 21.14 300 *e*P **P 23 40 11.0 +1.9**
comp=Z,48nm,1.1s,baz=98,slow=11
GUNZ Gunzen 21.18 300 *e*P **P 23 40 11.2 +1.6**
comp=Z,39nm,1.1s,baz=98,slow=11
PLN Plauen 21.31 300 *e*P **P 23 40 12.3 +1.4**
comp=Z,24nm,1.0s,baz=98,slow=11
BRVK Borovoye 21.38 53 *e*P **P 23 40 12.0 +0.4**
BRVK Borovoye 21.38 53 *c* *i*P **P 23 40 12.7 +1.1**
BRVK pmax pmax
comp=Z,116nm,0.8s
BRVK MLR MLR
comp=Z,479nm,19.0s
BRVK Borovoye 21.38 53 P **P 23 40 12.6 +1.0**
SNR=76
WTTA Wattenberg 21.42 291 *i* P **P 23 40 11.6 -0.7**
comp=Z,75nm,1.2s
BVAR Borovoye Array 21.43 53 P **P 23 40 12.8 +0.6**
comp=Z,58nm,1.0s,baz=258,slow=7.4,SNR=226
BVAR S **S 23 43 59.4 -11**
comp=Z,2.2nm,0.7s,baz=247,slow=22,SNR=1.9
BVAR LR LR 23 49 55.1
comp=Z,504nm,19.3s,baz=252,slow=41
MSFE Esma-Masafi 21.44 142 *i* P **P 23 40 12.2 -0.4**
SNR=14
VAE Valguarnera 21.46 264 P **P 23 40 16.4 +3.8**
comp=Z,19nm,1.0s,baz=100,slow=6.1,SNR=2.8
WATA Walderalm 21.46 291 *i* P **P 23 40 15.6 +2.9**
comp=Z,59nm,1.0s,SNR=18
SUF Sumiainen 21.52 340 P **P 23 40 14.5 +1.5**
SUF pmax pmax
comp=Z,121nm,1.1s
NAZ Nazwa, Dubai 21.54 143 *i* P **P 23 40 13.3 -0.2**
SNR=8.5
RGN Rugen 21.62 311 *e*P **P 23 40 13.7 -0.5**
comp=Z,240nm,1.1s
AJN Ajban 21.62 145 *i* P **P 23 40 14.5 +0.1**
SNR=13
AJN Ajban 21.62 145 P **P 23 40 16.9 +2.4**
SNR=6.3
NEUB Neuenburg 21.66 302 *e*P **P 23 40 16.6 +1.9**
comp=Z,71nm,0.9s,baz=98,slow=11
DZA Taraz 21.67 81 *e*P **P 23 40 14.7 -0.1**
DZA pmax pmax
comp=Z,497nm,1.3s
DZA Taraz 21.67 81 *e*P **P 23 40 14.8 -0.1**
comp=Z,497nm,1.3s
MOX Moxa 21.68 300 *e*P **P 23 40 16.5 +1.6**
comp=Z,40nm,1.5s,baz=98,slow=11
MOX Moxa 21.68 300 P **P 23 40 17.1 +2.3**
MOX pmax pmax
comp=Z,19nm,1.4s
SQTA Sankt Quirin 21.71 291 *i* P **P 23 40 16.5 +1.1**
comp=Z,23nm,0.7s,SNR=19
SQTA Sankt Quirin 21.71 291 P **P 23 40 16.5 +1.1**
ASUD Al Ashush, Dub 21.71 144 *i* P **P 23 40 15.5 +0.1**
SNR=11
FAQ Al Faqa, Dubai 21.72 144 P **P 23 40 16.1 +0.6**
MOTA Moosalm 21.78 292 *i* P **P 23 40 12.9 -3.2**
SNR=30
MOTA Moosalm 21.78 292 P **P 23 40 17.4 +1.2**
GRA1 Grafenberg Arr 21.81 298 *e*P **P 23 40 16.9 +0.6**
comp=Z,44nm,1.0s
GRF Grafenberg Arr 21.81 298 *e*P **P 23 40 18.0 +1.7**
comp=Z,51nm,1.1s,baz=98,slow=11
GRFO Grafenberg 21.81 298 *e*P **P 23 40 15.1 -1.2**
comp=Z,39nm,1.0s
GRFO Grafenberg 21.81 298 *e*P **P 23 40 15.1 -1.2**
GRFO pmax pmax
comp=Z,39nm,1.0s
HATD Hatta, Dubai 21.89 142 *i* P **P 23 40 17.7 +0.4**
SNR=6.5
OTUK Ortayu 21.94 66 *i* P **P 23 40 18.1 +0.4**
OTUK pmax pmax
comp=Z,166nm,1.3s
ASHO Ashiyiah 21.98 143 *i* P **P 23 40 16.8 -1.6**
SNR=7.3
BTK Batken 22.00 88 *e*P **P 23 40 18.3 -0.3**
comp=Z,104nm,1.0s
BTK Batken 22.00 88 *e*P **P 23 40 18.3 -0.3**
BTK pmax pmax
comp=Z,104nm,1.0s
RETA Reutte 22.01 292 *i* P **P 23 40 20.5 +1.9**
comp=Z,51nm,1.7s,SNR=12
FETA Feichten 22.04 291 *i* P **P 23 40 19.9 +0.9**

FUORN **Ofenpass-Fuorn** 22.38 290 *e*P P 23 40 23.2 +0.5
comp=Z,47nm,1.1s,SNR=19
comp=Z,64nm,1.2s

ALNE **Al Ain** 22.40 144 *i* P P 23 40 22.5 -0.3
SNR=25

UBR **Ueberruh** 22.45 292 *e*P P 23 40 23.4 +0.1
comp=Z,72nm,1.3s,baz=98,slow=11

ASSE **Asse, Remlinge** 22.51 304 *e*P P 23 40 25.1 +1.4
comp=Z,54nm,1.2s,baz=98,slow=11

DAVA **Damuels** 22.61 291 *i* P P 23 40 26.3 +1.2
comp=Z,30nm,0.8s,SNR=12

DAVOX **Davos/Dischmat** 22.63 290 LR LR 23 50 50.2
comp=Z,264nm,19.3s,baz=83,slow=41

CLZ **Clausthal** 22.64 303 *e*P P 23 40 26.8 +1.6
comp=Z,47nm,1.4s,baz=98,slow=11

SOHO **SOHO** 22.67 142 P P 23 40 26.1 +0.5
SNR=14

VAF **Ylistaro** 22.70 337 P P 23 40 27.0 +1.4
VAF pmax pmax
comp=Z,103nm,1.1s

KBL **Kabul** 22.97 103 *e*P P 23 40 29.1 +0.1
comp=Z,48nm,1.0s

KBL **Kabul** 22.97 103 *e*P P 23 40 29.1 +0.1
KBL pmax pmax
comp=Z,48nm,1.0s

TUE **Stuetta** 23.02 289 *e*P P 23 40 29.3 -0.1
comp=Z,30nm,0.8s

STU **Stuttgart** 23.08 295 *e*P P 23 40 30.5 +0.7
comp=Z,93nm,1.0s

STU **Stuttgart** 23.08 295 *e*P P 23 40 31.4 +1.7
comp=Z,103nm,1.1s,baz=98,slow=11

STU **Stuttgart** 23.08 295 *e*P P 23 40 30.5 +0.7
STU pmax pmax
comp=Z,93nm,1.0s

ARSB **Arslanbob** 23.22 84 *e*P P 23 40 31.7 +0.2
comp=Z,80nm,1.0s

BTLS **Baital** 23.27 74 *e*P P 23 40 30.9 -0.8
BTLS *i* S S 23 44 42.3 -2.0
BTLS pmax pmax
comp=Z,229nm,1.3s
BTLS smax smax
comp=N,56nm,3.0s
BTLS MLR MLR
comp=Z,332nm,16.0s

BTLS **Baital** 23.27 74 *e*P P 23 40 30.9 -0.8
comp=Z,229nm,1.3s
BTLS *i* S S 23 44 42.3 -2.0
comp=Z,56nm,3.0s
BTLS *e*LR LR 23 50 42.5
comp=Z,332nm,16.3s

RETH **Rethem/Aller,** 23.41 305 *e*P P 23 40 34.3 +1.2
comp=Z,154nm,2.1s,baz=98,slow=11

HOQ **Hoqain** 23.50 141 P P 23 40 34.8 +0.6
SNR=6.0

AML **Almayashu** 23.54 82 P P 23 40 36.5 +1.6
SNR=15

SLE **Schleitheim** 23.54 293 P P 23 40 35.3 +0.8
SLE pmax pmax
comp=Z,31nm,1.4s

TNS **Taunus Mts** 23.64 299 *e*P P 23 40 37.1 +1.6
comp=Z,37nm,1.6s,baz=98,slow=11

BFO **Black Forest** 23.65 294 *e*P P 23 40 35.8 +0.2
comp=Z,19nm,1.1s

BFO **Black Forest** 23.65 294 *e*P P 23 40 35.9 +0.4
comp=Z,25nm,1.2s,baz=98,slow=11

BFO **Black Forest** 23.65 294 *i* P P 23 40 36.7 +1.2

USP **Ospenovka** 23.87 79 P P 23 40 37.8 0.0
SNR=13

HFS **Hagfors** 23.92 325 P P 23 40 39.0 +1.0

HFS **Hagfors** 23.92 325 P P 23 40 39.0 +1.0
comp=Z,23nm,0.7s,baz=123,slow=11,SNR=39
HFS LR LR 23 50 12.2
comp=Z,240nm,19.6s,baz=112,slow=37

AAK **Ala-Archa** 24.00 80 P P 23 40 40.3 +1.2
SNR=19

AAK **Ala-Archa** 24.00 80 P P 23 40 39.4 +0.2
comp=Z,6.6nm,0.6s,baz=252,slow=12,SNR=26
AAK LR LR 23 51 51.3
comp=Z,536nm,18.2s,baz=285,slow=41

FRU1 **Bishkek** 24.06 80 *e*P P 23 40 41.1 +1.5
comp=Z,50nm,0.9s

FRU1 **Bishkek** 24.06 80 *e*P P 23 40 41.1 +1.5
FRU1 pmax pmax
comp=Z,50nm,0.9s

UCH **Uchtor** 24.11 81 P P 23 40 41.9 +1.4
SNR=8.3

CHMS **Chumysh** 24.11 79 P P 23 40 41.0 +1.0
SNR=8.6

SMDO **Samad** 24.29 141 P P 23 40 41.5 -0.3
SNR=6.4

IBBN **Ibbenburen** 24.31 304 *e*P P 23 40 44.0 +2.4
comp=Z,45nm,1.2s,baz=98,slow=11

KBK **Karagaybulak** 24.32 80 P P 23 40 43.0 +0.9
SNR=26

CDF **Champ du Feu** 24.35 294 *e*P P 23 40 42.9 +0.7
CDF pmax pmax
comp=Z,19nm,1.4s

WSAR **Wadi Sarin** 24.41 139 P P 23 40 41.9 -1.0
comp=Z,26nm,0.6s,baz=352,slow=8.6,SNR=23
WSAR LR LR 23 50 56.4
comp=Z,157nm,20.2s,baz=316,slow=38

ECH **Echery** 24.43 294 *e*P P 23 40 43.2 +0.3
comp=Z,18nm,1.2s

ECH **Echery** 24.43 294 *e*P P 23 40 43.2 +0.3
ECH pmax pmax
comp=Z,19nm,1.2s

SENIN **Lac Senin/Sane** 24.44 289 *e*P P 23 40 43.7 +0.5
comp=Z,38nm,0.9s

HINF **Hinteralfeld** 24.65 293 *e*P P 23 40 45.1 +0.2
HINF pmax pmax
comp=Z,24nm,1.6s

KZA **Kyzart** 24.68 81 P P 23 40 46.8 +1.1
SNR=13

SBF **Sospel** 24.68 283 *e*P P 23 40 46.4 +1.1
SBF pmax pmax
comp=Z,57nm,0.9s

TKM2 **Tokmak 2** 24.73 79 P P 23 40 46.1 +0.2
SNR=25

APA **Apatity** 24.79 352 ⇓*i*P P 23 40 46.5 +0.6
APA *i* 23 41 29.0
APA *i* S S 23 45 07.0 -1.3
APA pmax pmax
comp=Z,50nm,0.9s
APA MLR MLR
comp=Z,800nm,11.0s

JMDO **Jabal Madar** 24.91 141 P P 23 40 46.7 -0.6
SNR=6.2

LPG **La Plagne** 24.91 287 *e*P P 23 40 47.9 +0.3
LPG pmax pmax
comp=Z,25nm,0.9s

LPL **La Plagne** 24.92 287 *e*P P 23 40 48.0 +0.4
LPL pmax pmax
comp=Z,14nm,0.7s

HAU **Haudompre** 24.98 293 *e*P P 23 40 47.7 -0.1
HAU pmax pmax
comp=Z,26nm,1.0s

LVZ **Lovozero** 25.00 354 *e*P P 23 40 49.6 +1.7
comp=Z,46nm,0.7s

LVZ **Lovozero** 25.00 354 *e*P P 23 40 48.9 +1.0
LVZ pmax pmax
comp=Z,54nm,0.9s

MBDF **Montbardon** 25.01 286 *e*P P 23 40 49.1 +0.8
MBDF pmax pmax
comp=Z,27nm,0.8s

BNI **Bardonecchia** 25.02 286 *e*P P 23 40 49.6 +1.2
comp=Z,39nm,1.2s

KUU **Kurty** 25.07 76 *e*P P 23 40 48.2 -0.5
comp=Z,328nm,1.3s
KUU *e*LR LR 23 51 55.6
comp=Z,264nm,13.0s

WLF **Walferdange** 25.09 297 *e*P P 23 40 49.5 +0.7
comp=Z,111nm,1.0s

WLF **Walferdange** 25.09 297 *e*P P 23 40 49.5 +0.7
WLF pmax pmax
comp=Z,111nm,1.0s

WLF **Walferdange** 25.09 297 ⇑P P 23 40 49.9 +1.1
comp=Z,21nm,1.4s

OSL **Oslo** 25.11 322 *e*P P 23 40 50.2 +1.4

NC602 **NORSAR Array S** 25.15 325 *e*P P 23 40 50.0 +0.8
comp=Z,80nm,1.8s

NC602 **NORSAR Array S** 25.15 325 *e*P P 23 40 50.4 +1.2

NORES **NORESS Array B** 25.15 325 P P 23 40 50.3 +1.1
NORES pmax pmax
comp=Z,1.0nm,0.4s

MEM **Membach** 25.23 299 ⇑P P 23 40 51.1 +1.2

CABF **La Chapelle** 25.25 290 *e*P P 23 40 50.8 +0.4
CABF pmax pmax
comp=Z,51nm,0.9s

NC405 **NORSAR Array S** 25.27 325 *e*P P 23 40 50.8 +0.5
comp=Z,41nm,0.9s

FRF **La Foret Royal** 25.30 283 *e*P P 23 40 51.9 +1.1
FRF pmax pmax
comp=Z,29nm,0.7s

ULHL **Ulahol** 25.35 80 P P 23 40 53.7 +2.2
SNR=7.1

NRN **Naryn** 25.38 82 *e*P P 23 40 52.9 +1.0
comp=Z,13nm,0.9s

NB201 **NORSAR Array S** 25.41 325 *e*P P 23 40 52.4 +0.7
comp=Z,31nm,1.0s

NB2 **NORSAR Subarra** 25.44 325 P P 23 40 52.5 +0.6
comp=Z,38nm,1.4s,baz=124,slow=10

NB2 **NORSAR Subarra** 25.44 325 P P 23 40 52.5 +0.6
baz=124,slow=10

NOA **NORSAR Array B** 25.44 325 P P 23 40 52.1 +0.2
comp=Z,4.7nm,0.6s,baz=125,slow=9.5,SNR=34
NOA LR LR 23 51 08.8
comp=Z,235nm,20.0s,baz=120,slow=37

LMR **La Mourre** 25.45 282 *e*P P 23 40 53.3 +1.3
LMR pmax pmax
comp=Z,39nm,2.1s

NC303 **NORSAR Array S** 25.47 325 *e*P P 23 40 52.6 +0.5
comp=Z,44nm,1.0s

NAO01 **NORSAR Array S** 25.48 324 *e*P P 23 40 52.7 +0.5
comp=Z,29nm,0.9s

KONO **Kongsberg** 25.49 321 *e*P P 23 40 52.5 +0.3
comp=Z,26nm,0.9s

KONO **Kongsberg** 25.49 321 *e*P P 23 40 52.6 +0.3
KONO pmax pmax
comp=Z,26nm,0.9s

KONO **Kongsberg** 25.49 321 *e*P P 23 40 52.9 +0.6

ORIF **Oris-en-Rattie** 25.60 286 *e*P P 23 40 53.1 -0.5
ORIF pmax pmax
comp=Z,61nm,1.6s

AAA **Alma-Ata** 25.61 78 *e*P P 23 40 52.4 -1.3
AAA pmax pmax
comp=Z,144nm,0.9s
AAA MLR MLR
comp=Z,175nm,13.0s

AAA **Alma-Ata** 25.61 78 *e*P P 23 40 52.5 -1.3
comp=Z,144nm,0.9s
AAA *e*LR LR 23 51 45.6
comp=Z,175nm,13.3s

NBO00 **NORSAR Array S** 25.62 325 *e*P P 23 40 54.0 +0.5
comp=Z,33nm,1.1s

TNSS **Tian-Shan** 25.67 78 *e*P P 23 40 54.5 -0.1
TNSS pmax pmax
comp=Z,136nm,0.8s

TNSS **Tian-Shan** 25.67 78 *e*P P 23 40 54.5 -0.1
comp=Z,136nm,0.8s

MDOK **Medeo** 25.72 78 *e*P P 23 40 53.5 -1.3
MDOK *e*S S 23 45 25.7 +1.8
MDOK pmax pmax
comp=Z,143nm,1.0s
MDOK MLR MLR
comp=Z,296nm,14.0s

MDOK **Medeo** 25.72 78 *e*P P 23 40 53.5 -1.3
comp=Z,143nm,1.0s
MDOK *e*S S 23 45 25.7 +1.8
MDOK *e*LR LR 23 51 56.7
comp=Z,296nm,14.4s

NC204 **NORSAR Array S** 25.75 325 *e*P P 23 40 55.2 +0.5
comp=Z,30nm,1.0s

KEST **Kesra** 25.89 264 *e*P P 23 40 57.9 +1.6
comp=Z,25nm,0.8s

KEST **Kesra** 25.89 264 P P 23 40 58.2 +2.0
comp=Z,24nm,0.8s,baz=355,slow=0.8,SNR=17
KEST LR LR 23 53 38.7
comp=Z,92nm,21.4s,baz=348,slow=42

KSH **Kashi** 25.94 86 P P 23 40 57.0 +0.2
KSH pP sP 23 41 01.0 +0.6
KSH sP pP 23 41 04.0 +4.7
KSH S S 23 45 22.5 -4.9
KSH SS SnSn 23 46 27.0 +3.5
KSH pmax pmax
comp=Z,7.0nm,0.7s
KSH pmax pmax
comp=Z,130nm,6.8s
KSH LR LR
comp=Z,230nm,9.1s
KSH LR LR
comp=Z,170nm,10.1s

GIVF **Givet** 25.96 298 *e*P P 23 40 58.9 +2.2
GIVF pmax pmax
comp=Z,15nm,1.0s

KDJ **Kajisay** 26.05 80 *e*P P 23 41 00.2 +2.3
comp=Z,13nm,0.8s

MHTO **MHTO** 26.05 143 P P 23 40 56.6 -1.1

KURBB **Kurchatov Arra** 26.06 61 P P 23 40 58.5 +0.9
comp=Z,61nm,0.7s,baz=273,slow=9.3,SNR=310

DOU **Dourbes** 26.11 298 ⇑P P 23 40 59.7 +1.6
comp=Z,14nm,1.2s

SNART **Snartemo** 26.12 317 *e*P P 23 40 59.4 +1.4

KURK **Kurchatov** 26.12 60 *e*P P 23 40 58.6 +0.5

KURK **Kurchatov** 26.12 60*c* *i*P P 23 40 58.8 +0.7
KURK pmax pmax
comp=Z,99nm,1.0s

KURK **Kurchatov** 26.12 60 P P 23 40 58.9 +0.8
SNR=48

TDK **Taldyqorghan** 26.33 73 *e*P P 23 40 59.9 -0.2
TDK pmax pmax
comp=Z,197nm,0.8s
TDK MLR MLR
comp=Z,1μm,18.0s

TDK **Taldyqorghan** 26.33 73 *e*P P 23 40 59.9 -0.2
comp=Z,197nm,0.8s
TDK *e*LR LR 23 52 31.1
comp=Z,1μm,17.7s

BAIF **Baives** 26.36 298 *e*P P 23 41 02.7 +2.4
BAIF pmax pmax
comp=Z,38nm,1.3s

NIL **Nilore** 26.43 101 *e*P P 23 41 02.7 +1.6
comp=Z,38nm,0.8s

VIVF **Saint-Julien-l** 26.46 286 *e*P P 23 41 01.7 +0.4
VIVF pmax pmax
comp=Z,15nm,1.4s

SSB **Saint Sauveur** 26.48 287 *e*P P 23 41 02.4 +0.9
comp=Z,13nm,0.8s

SSB **Saint Sauveur** 26.48 287 *e*P P 23 41 02.4 +0.9
SSB pmax pmax
comp=Z,13nm,0.8s

SKAR **Skarslia** 26.53 323 *e*P P 23 41 04.4 +2.6

LOR **Lormes** 26.71 292 *e*P P 23 41 04.7 +1.2
LOR pmax pmax
comp=Z,22nm,1.4s

ZHN **Zhinishke** 26.71 77 *e*P P 23 41 02.7 -0.9
ZHN pmax pmax
comp=Z,103nm,1.0s
ZHN MLR MLR
comp=Z,370nm,13.0s

ZHN **Zhinishke** 26.71 77 *e*P P 23 41 02.8 -0.9
comp=Z,103nm,1.0s
ZHN *e*LR LR 23 52 54.3
comp=Z,370nm,13.3s

SATY **Saty** 26.71 78 *e*P P 23 41 02.9 -0.8
SATY pmax pmax
comp=Z,362nm,1.0s
SATY MLR MLR
comp=Z,549nm,16.0s

SATY **Saty** 26.71 78 *e*P P 23 41 03.0 -0.8
comp=Z,362nm,1.0s
SATY *e*LR LR 23 53 06.5
comp=Z,549nm,15.5s

SMF **Signal de Mont** 26.79 291 *e*P P 23 41 04.7 +0.5
SMF pmax pmax
comp=Z,16nm,1.1s

KPKS **Kokpek** 26.82 77 *e*P P 23 41 03.7 -0.9
KPKS pmax pmax
comp=Z,78nm,0.9s
KPKS MLR MLR
comp=Z,768nm,14.0s

KPKS **Kokpek** 26.82 77 *e*P P 23 41 03.8 -0.9
comp=Z,78nm,0.9s
KPKS *e*LR LR 23 53 02.1
comp=Z,768nm,14.4s

DOMB **Dombas** 26.84 326 *e*P P 23 41 05.5 +1.0

PRZ **Przheval'sk** 26.84 79 *e*P P 23 41 05.0 0.0
comp=Z,26nm,1.0s

PRZ **Przheval'sk** 26.84 79 *e*P P 23 41 05.0 0.0
PRZ pmax pmax
comp=Z,26nm,1.0s

BLS5 **Blasjo** 26.87 319 *e*P P 23 41 08.9 +4.1

ODD1 **Odda** 26.97 320 *e*P P 23 41 07.8 +2.1

AVF **Avril sur Loir** 27.10 291 *e*P P 23 41 07.2 +0.2
AVF pmax pmax
comp=Z,20nm,1.0s

NSS **Namsos** 27.12 332 *e*P P 23 41 04.5 -2.4

UZB **Uzynbulak** 27.13 77 *e*P P 23 41 05.9 -1.6
UZB pmax pmax
comp=Z,31nm,0.9s
UZB MLR MLR
comp=Z,370nm,13.0s

UZB **Uzynbulak** 27.13 77 *e*P P 23 41 06.0 -1.6
comp=Z,31nm,0.9s
UZB *e*LR LR 23 53 13.1
comp=Z,370nm,13.3s

MOR8 **Moi Rana** 27.40 336 *e*P P 23 41 05.0 -4.5

PDGK **Podgornoye** 27.42 77 *i* P P 23 41 10.2 +0.1
PDGK pmax pmax
comp=Z,14nm,0.8s

SHLS **Shalkode** 27.44 77 *e*P P 23 41 12.4 +2.2
SHLS pmax pmax
comp=Z,62nm,1.1s
SHLS MLR MLR
comp=Z,444nm,14.0s

SHLS **Shalkode** 27.44 77 *e*P P 23 41 12.5 +2.2
comp=Z,62nm,1.1s
SHLS *e*LR LR 23 53 34.2
comp=Z,444nm,14.4s

KTK1 **Kautokeino** 27.56 346 *e*P P 23 41 03.1 -7.8

ARCES **ARCESS Array B** 27.64 348 *e*P P 23 41 11.9 +0.3

ARCES **ARCESS Array B** 27.64 348 P P 23 41 13.0 +1.3

ARCES **ARCESS Array B** 27.64 348 P P 23 41 12.9 +1.3
comp=Z,7.0nm,0.7s,baz=151,slow=7.3,SNR=13

ARE0 **ARCESS Array S** 27.64 348 *e*P P 23 41 02.5 -9.2

HYA **Hoyanger** 27.67 323 *e*P P 23 41 14.4 +2.5

CLF **Chambon-Foret** 27.72 294 *e*P P 23 41 13.2 +0.7
comp=Z,26nm,1.0s

BER **Bergen** 27.75 321 *e*P P 23 41 16.3 +3.7

AKN **Aaknes** 27.76 325 *e*P P 23 41 14.9 +2.1

ASK **Askoy** 27.85 321 *e*P P 23 41 17.1 +3.6

TCF **Toulx Ste Croi** 27.95 290 *e*P P 23 41 15.4 +0.7
TCF pmax pmax
comp=Z,21nm,1.1s

KONS **Konsvik** 28.02 336 *e*P P 23 41 10.7 -4.3

CAF **Calviac** 28.27 287 *e*P P 23 41 18.3 +0.7
CAF pmax pmax
comp=Z,40nm,1.8s

STEI **Steigen** 28.44 339 *e*P P 23 41 13.8 -4.9

MTLF **Montolieu** 28.50 284 *e*P P 23 41 20.2 +0.7
MTLF pmax pmax
comp=Z,25nm,1.5s

MAKZ **Makanchi** 28.54 69 *e*P P 23 41 20.4 +0.5
comp=Z,21nm,1.0s

MAKZ **Makanchi** 28.54 69 *e*P P 23 41 20.4 +0.5
MAKZ pmax pmax
comp=Z,21nm,1.0s

RJF **Les Rejaudoux** 28.59 288 *e*P P 23 41 21.4 +1.1
RJF pmax pmax
comp=Z,19nm,1.3s

MK31 **Makanchi Array** 28.75 69 *e*P P 23 41 22.5 +0.7
comp=Z,21nm,1.4s

MK31 **Makanchi Array** 28.75 69 *e*P P 23 41 22.5 +0.7
MK31 pmax pmax
comp=Z,21nm,1.4s

MKAR **Makanchi Array** 28.75 69 P P 23 41 22.4 +0.6
comp=Z,8.0nm,0.8s,baz=277,slow=7.8,SNR=29
MKAR LR LR 23 54 21.0
comp=Z,291nm,18.9s,baz=276,slow=40

MK01 **Makanchi Array** 28.76 69 *e*P P 23 41 22.0 +0.1

TRO **Tromso** 28.91 344 *e*P P 23 41 16.6 -6.3

HAMF **Hammerfest** 28.92 348 *e*P P 23 41 14.7 -8.3

LFF **La Frestale** 29.19 288 *e*P P 23 41 27.3 +1.6
LFF pmax pmax
comp=Z,6.0nm,0.8s

NVS **Novosibirsk** 29.22 52 ⇓*i*P P 23 41 27.6 +1.8
NVS *e* 23 42 23.7
NVS *e*PPP PPP 23 42 38.7
NVS *e*S S 23 46 16.8 -1.7
NVS pmax pmax
comp=N,23nm,1.5s
NVS pmax pmax
comp=E,19nm,1.5s
NVS pmax pmax
comp=Z,54nm,1.5s
NVS pmax pmax
comp=Z,26nm,1.5s
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
NVS smax smax
comp=N,15nm,1.7s
NVS smax smax
comp=E,10.0nm,1.5s

FLN **La Foliniere** 29.47 296 *e*P P 23 41 31.6 +3.5
FLN pmax pmax
comp=Z,68nm,1.4s

MFF **Saint Martin d** 29.51 291 *e*P P 23 41 32.6 +4.1
MFF pmax pmax
comp=Z,14nm,1.1s

EPF **Esparros** 29.91 284 *e*P P 23 41 32.1 0.0
EPF pmax pmax
comp=Z,10.0nm,1.2s

ZAA0 **Zalesovo Array** 30.07 54 *e*P P 23 41 33.9 +0.5
comp=Z,28nm,0.8s

ZALV **Zalesovo Beam** 30.07 54 *e*P P 23 41 33.4 0.0

ZALV **Zalesovo Beam** 30.07 54 *e*P P 23 41 33.4 0.0

ZALV **Zalesovo Beam** 30.07 54 P P 23 41 33.8 +0.4
comp=Z,30nm,0.8s,baz=265,slow=9.8,SNR=70
ZALV LR LR 23 55 19.0
comp=Z,286nm,18.8s,baz=250,slow=40

ETSF **Etsaut** 30.58 284 *e*P P 23 41 38.4 +0.3
ETSF pmax pmax
comp=Z,20nm,1.3s

SJPF **Ste Jean** 30.99 285 *e*P P 23 41 44.0 +2.4
SJPF pmax pmax
comp=Z,118nm,2.6s

EKA **Eskdalemuir Ar** 31.07 309 P P 23 41 42.5 +0.3
comp=Z,1.9nm,0.5s,baz=101,slow=9.1,SNR=11
EKA PP PnPn 23 42 36.7 -6.4
comp=Z,3.0nm,0.7s,baz=99,slow=14,SNR=3.3
EKA PcP PcP 23 44 37.6 +0.2
comp=Z,1.6nm,0.7s,baz=108,slow=1.8,SNR=4.7

ESK **Eskdalemuir** 31.09 309 *e*P P 23 41 43.6 +1.3
comp=Z,8.0nm,0.7s

ESK **Eskdalemuir** 31.09 309 *e*P P 23 41 43.6 +1.3
ESK pmax pmax
comp=Z,8.0nm,0.7s

DGZ **Jazzator, Alta** 31.81 62*c* *i*P P 23 41 49.9 +0.9
DGZ pmax pmax
comp=Z,13nm,1.1s

NDI **New Delhi** 32.00 105 *e*P P 23 41 50.0 -0.7

WMQ **Urumqi** 33.09 73 P P 23 42 01.5 +1.4
WMQ pP sP 23 42 04.5 +0.8
WMQ sP pP 23 42 08.0 +5.3
WMQ pmax pmax
comp=Z,110nm,0.7s
WMQ pmax pmax
comp=Z,250nm,4.5s
WMQ LR LR
comp=Z,950nm,18.3s
WMQ LR LR
comp=Z,1μm,19.7s
WMQ LR LR
comp=Z,2μm,20.9s

WMQ **Urumqi** 33.09 73 *e*P P 23 42 01.0 +0.9
comp=Z,31nm,0.8s

WMQ **Urumqi** 33.09 73 *e*P P 23 42 01.0 +0.9
WMQ pmax pmax
comp=Z,31nm,0.8s

ES06 **SONSECA Array** 34.01 280 *e*P P 23 42 08.6 +0.4
ES06 *e*PcP PcP 23 44 46.4 +0.4

ESDC **Sonseca Array** 34.02 280 P P 23 42 08.5 +0.3
comp=Z,5.1nm,0.8s,baz=57,slow=8.8,SNR=22
ESDC PcP PcP 23 44 46.1 +0.1
comp=Z,0.8nm,0.6s,baz=359,slow=0.8,SNR=5.9

PAB **San Pablo** 34.34 280 *e*P P 23 42 11.4 +0.3
comp=Z,3.6nm,0.4s

PAB **San Pablo** 34.34 280 *e*P P 23 42 11.4 +0.3
PAB pmax pmax
comp=Z,4.0nm,0.4s

NRIK **Noril'sk** 35.07 26 P P 23 42 18.0 +1.0

NRIK **Noril'sk** 35.07 26 P P 23 42 18.0 +1.0
comp=Z,8.5nm,1.0s,baz=236,slow=6.3,SNR=14
NRIK LR LR 23 58 24.0
comp=Z,313nm,20.0s,baz=273,slow=39

PBRG **Braganca** 35.28 285 *e*P P 23 42 19.9 +0.8

MVO **Moncorvo** 35.69 284 *e*P P 23 42 23.5 +0.8
comp=Z,33nm,2.3s

TAM **Tamanrasset** 36.10 247 *e*P P 23 42 26.8 +0.3
comp=Z,8.6nm,1.0s
TAM **Tamanrasset** 36.10 247 *e*P P 23 42 26.8 +0.3
TAM pmax pmax
comp=Z,9.0nm,1.0s
PYUN **Piuthan** 36.46 101 *e*P P 23 42 29.7 +0.2
comp=Z,82nm,1.3s
SPA0 **Spitsbergen Ar** 36.48 351 *e*P P 23 42 20.3 -8.6
SPITS **Spitsbergen Ar** 36.48 351 P P 23 42 30.4 +1.5
comp=Z,6.4nm,0.6s,baz=133,slow=12,SNR=26
PCBR **Castelo Branco** 36.48 282 *e*P P 23 42 30.4 +1.0
PMRV **Marv??o** 36.58 281 *e*P P 23 42 31.3 +1.1
comp=Z,42nm,1.5s
PTO **Porto** 36.82 284 *e*P P 23 42 33.1 +0.9
DANN **Dangsing** 36.87 100 *e*P P 23 42 33.6 +0.5
comp=Z,112nm,0.9s
PESTR **Estremoz** 36.93 280 *e*P P 23 42 34.0 +0.7
comp=Z,37nm,1.4s
COI **Coimbra** 37.02 283 *e*P P 23 42 36.0 +2.1
JMIC **Jan Mayen** 37.02 335 LR LR 23 57 48.3
comp=Z,291nm,19.1s,baz=64,slow=36
KOLN **Koldanda** 37.09 101 *e*P P 23 42 34.9 0.0
comp=Z,54nm,1.4s
PMTG **Montargil** 37.31 281 *e*P P 23 42 38.2 +1.8
MDT **Midelt** 37.44 270 P P 23 42 39.0 +1.3
comp=Z,3.5nm,1.0s,baz=285,slow=9.1,SNR=3.9
KBS **Kingsbay** 37.59 351 *e*P P 23 42 29.9 -8.5
DMN **Daman** 38.27 100 *e*P P 23 42 45.1 +0.2
comp=Z,76nm,1.1s
KKN **Kakani** 38.29 99 *e*P P 23 42 45.0 -0.1
comp=Z,41nm,0.9s
PKIN **Phulchoki** 38.49 99 *e*P P 23 42 46.7 -0.2
comp=Z,30nm,0.9s
PKI **Pulchoki** 38.51 99 *e*P P 23 42 47.0 0.0
comp=Z,49nm,0.9s
GUN **Gumba** 38.65 98 *e*P P 23 42 48.2 -0.1
comp=Z,33nm,0.8s
JIRN **Jiri** 39.02 99 *e*P P 23 42 51.6 +0.2
comp=Z,62nm,0.7s
RAMN **Ramite** 39.73 99 *e*P P 23 42 56.9 -0.3
comp=Z,33nm,1.0s
TAPN **Taplejung** 40.30 98 *e*P P 23 43 01.9 -0.1
comp=Z,33nm,1.0s
ODAN **Odare** 40.35 99 *e*P P 23 43 02.7 +0.4
comp=Z,80nm,0.8s
HYB **Hyderabad** 40.47 118 *i* P P 23 43 03.0 -0.1
HYB *e*PcP PcP 23 45 04.5 -1.4
BORG **Borgarnes** 40.61 324 LR LR 23 59 00.5
comp=Z,148nm,22.0s,baz=98,slow=35
LSA **Lhasa** 41.49 92 *e*P P 23 43 13.1 +1.2
comp=Z,10nm,0.9s
DAG **Danmarks Havn** 41.62 342⇑*i*P P 23 43 13.2 +1.3
comp=Z,10nm,1.0s
DAG **Danmarks Havn** 41.62 342⇑*i*P P 23 43 13.2 +1.3
DAG pmax pmax
comp=Z,10.0nm,1.0s
TLY **Talaya** 41.63 56 *e*P P 23 43 13.1 +0.7
comp=Z,10nm,0.8s
TLY **Talaya** 41.63 56 *e*P P 23 43 14.0 +1.6
TLY *e*S S 23 49 34.2 +5.4
TLY pmax pmax
comp=Z,37nm,1.0s
TLY MLR MLR
comp=Z,397nm,17.0s
TLY **Talaya** 41.63 56 P P 23 43 14.0 +1.6
SNR=9.1
ZAK **Zakamensk** 41.73 58 *e*P P 23 43 14.3 +1.1
ZAK *e* 23 44 55.9
ZAK pmax pmax
comp=Z,8.0nm,1.1s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
GTA **Gaotai** 43.12 74 ⇑P P 23 43 25.3 +0.5
GTA pP sP 23 43 33.0 +4.5
GTA sP pP 23 43 36.0 +8.6
GTA PcP PcP 23 45 16.5 +2.0
GTA pmax pmax
comp=Z,14nm,1.0s
GTA pmax pmax
comp=Z,83nm,5.1s
GTA LR LR
comp=Z,210nm,16.2s
GTA LR LR
comp=Z,200nm,18.4s
GTA LR LR
comp=Z,200nm,17.8s
KMBO **Kilima Mbogo** 44.33 186 *e*P P 23 43 35.4 +0.6
comp=Z,9.5nm,1.0s
KMBO **Kilima Mbogo** 44.33 186 *i* P P 23 43 34.0 -0.7
SNR=9.0
KMBO **Kilima Mbogo** 44.33 186 *i* P P 23 43 35.7 +0.9
KMBO pmax pmax
comp=Z,8.0nm,0.9s
KMBO **Kilima Mbogo** 44.33 186 P P 23 43 35.0 +0.2
comp=Z,8.3nm,0.9s,baz=18,slow=8.7,SNR=19
SHL **Shillong** 44.37 97 *e*P P 23 43 34.5 -0.5
SHL **Shillong** 44.37 97 *e*P P 23 43 34.5 -0.5
SHL **Shillong** 44.37 97 *e*P P 23 43 36.0 +1.0
SONM **Songino Array** 44.43 61 P P 23 43 35.5 +0.3
comp=Z,5.4nm,0.7s,baz=282,slow=8.8,SNR=53
SONM PcP PP 23 45 18.1 -0.4
comp=Z,1.3nm,0.7s,baz=279,slow=4.1,SNR=4.0
SONM LR LR 00 04 00.2
comp=Z,326nm,18.1s,baz=290,slow=39
MBAR **Mbarara** 44.71 196 P P 23 43 37.1 -0.6
comp=Z,3.3nm,0.2s,baz=25,slow=22,SNR=3.5
ULN **Ulaanbaatar** 44.84 60 *e*P P 23 43 38.6 +0.1
comp=Z,27nm,1.0s
ULN **Ulaanbaatar** 44.84 60*c i*P P 23 43 38.8 +0.3
ULN pmax pmax
comp=Z,29nm,1.0s
ULN **Ulaanbaatar** 44.84 60 P P 23 43 39.0 +0.5
SNR=14
TOA0 **Torodi Ar. Sit** 45.55 241 *e*P P 23 43 42.1 -2.1
TOA0 **Torodi Ar. Sit** 45.55 241 P P 23 43 43.7 -0.6
SNR=5.9
TORD **Torodi Ar. Bea** 45.55 241 P P 23 43 42.7 -1.6
comp=Z,9.6nm,0.8s,baz=357,slow=13,SNR=31
TORD PcP PcP 23 45 22.1 -0.8
comp=Z,1.2nm,0.6s,baz=46,slow=2.4,SNR=3.2
BOD **Bodaibo** 45.99 45 *e*P P 23 43 47.2 0.0
BOD pmax pmax
comp=Z,17nm,1.5s
SUMG **Summit** 46.47 336 *e*P P 23 43 52.0 +0.7
comp=Z,44nm,1.8s
SUMG **Summit** 46.47 336⇑*i*P P 23 43 53.3 +2.0
comp=Z,14nm,0.7s
SUMG **Summit** 46.47 336 *e*P P 23 43 52.0 +0.7
SUMG pmax pmax
comp=Z,44nm,1.8s
LZH **Lanzhou** 47.47 77 *e*P P 23 44 00.3 +1.0
LZH pP sP 23 44 04.0 +1.0
LZH sP pP 23 44 06.5 +4.5
LZH pmax pmax
comp=Z,31nm,1.1s
LZH LR LR
comp=Z,350nm,11.9s
LZH LR LR
comp=Z,620nm,13.0s
LZH LR LR
comp=Z,700nm,13.0s
TIXI **Tiksi** 48.82 25 *e*P P 23 44 09.1 0.0
TIXI **Tiksi** 48.82 25⇓*e*P P 23 44 10.0 +0.9
TIXI pmax pmax
comp=Z,5.0nm,1.1s
TIXI **Tiksi** 48.82 25 LR LR 00 07 53.3
comp=Z,119nm,18.2s,baz=320,slow=40
MSEY **Mahe Island** 49.30 162 *e*P P 23 44 12.9 -0.5
comp=Z,19nm,0.8s
MSEY **Mahe Island** 49.30 162 P P 23 44 13.0 -0.5
MSEY **Mahe Island** 49.30 162 *i* P P 23 44 15.4 +1.9
BTO **Baotou** 49.67 68 *e*P P 23 44 15.0 -1.2
CD2 **Chengdu** 50.03 83 P P 23 44 17.8 -1.2
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,240nm,7.8s
HHC **Hu-ho-hao-te** 50.60 67 *e*P P 23 44 22.8 -0.4
HHC S S 23 51 32.0 -6.1
HHC pmax pmax
comp=Z,30nm,1.0s
HHC pmax pmax
comp=Z,83nm,6.1s
HHC LR LR
comp=Z,320nm,18.1s
HHC LR LR
comp=Z,230nm,15.6s
HHC LR LR
comp=Z,560nm,14.7s
SFJD **Kangerlussuaq** 51.95 330 LR LR 00 06 34.6
comp=Z,201nm,18.9s,baz=64,slow=36
XAN **Xi'an** 52.09 76 P P 23 44 34.5 +0.1
XAN sP sP 23 44 41.5 +3.3
XAN PcP PcP 23 45 48.0 +1.6
XAN PP PP 23 46 29.0 -3.5
XAN S S 23 51 49.0 -10
XAN pmax pmax
comp=Z,22nm,1.1s
XAN pmax pmax
comp=Z,170nm,4.3s
XAN LR LR
comp=Z,170nm,18.6s
XAN LR LR
comp=Z,260nm,14.3s
XAN LR LR
comp=Z,260nm,19.0s
XAN **Xi'an** 52.09 76 *e*P P 23 44 34.8 +0.3
comp=Z,57nm,1.5s
HIA **Hailar** 52.11 54 *e*P P 23 44 34.8 +0.4
HIA **Hailar** 52.11 54*c i*P P 23 44 35.2 +0.9
HIA pmax pmax
comp=Z,21nm,0.7s
KMI **Kunming** 52.55 89 P P 23 44 38.3 +0.2
KMI pP sP 23 44 43.3 +1.4
KMI sP pP 23 44 44.8 +4.0
KMI pmax pmax
comp=Z,9.0nm,1.2s
KMI LR LR
comp=Z,140nm,17.9s
KMI LR LR
comp=Z,150nm,19.5s
KMI LR LR
comp=Z,140nm,18.3s
TULEG **Thule** 52.87 344 *e*P P 23 44 40.0 +0.5
comp=Z,44nm,1.7s
CHTO **Chiang Mai** 53.67 98 *e*P P 23 44 45.1 -1.1
comp=Z,26nm,1.3s
CHTO **Chiang Mai** 53.67 98 *e*P P 23 44 45.1 -1.1
CHTO pmax pmax
comp=Z,28nm,1.3s
CMMT **Chiang Mai** 53.67 98 P P 23 44 45.5 -0.7
comp=Z,18nm,1.3s,comp=Z,302nm
CMAR **Chiang Mai Arr** 53.90 99 P P 23 44 47.0 -0.9
comp=Z,2.3nm,0.5s,baz=303,slow=7.7,SNR=23
CMAR PcP PcP 23 45 52.6 -0.7
comp=Z,0.8nm,0.4s,baz=304,slow=6.2,SNR=4.1
CMAR LR LR 00 11 41.0
comp=Z,39nm,21.0s,baz=322,slow=40
CM01 **Chiang Mai Arr** 53.93 99 *e*P P 23 44 47.0 -1.1
BJI **Beijing** 54.08 66⇑*i*P P 23 44 49.5 +0.6
BJI S S 23 52 25.8 +0.3
BJI pmax pmax
comp=Z,17nm,0.8s
BJI LR LR
comp=Z,200nm,13.7s
BJI LR LR
comp=Z,220nm,13.6s
BJI LR LR
comp=Z,180nm,20.1s
BJT **Baijiatuan** 54.08 66 *e*P P 23 44 50.0 +1.0
comp=Z,18nm,0.7s
BJT **Baijiatuan** 54.08 66 *e*P P 23 44 50.0 +1.0
BJT pmax pmax
comp=Z,18nm,0.7s
ZEA **Zeya** 54.41 47 *e*P P 23 44 52.1 +1.0
ZEA pmax pmax
comp=E,18nm,1.0s
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=Z,600nm,14.0s
ENH **Enshi** 54.52 80 *e*P P 23 44 52.5 +0.2
DBIC **Dimbokro** 54.63 242 *e*P P 23 44 52.7 -0.5
comp=Z,11nm,0.6s
DBIC **Dimbokro** 54.63 242 *e*P P 23 44 52.7 -0.5
DBIC pmax pmax
comp=Z,11nm,0.6s
DBIC **Dimbokro** 54.63 242 P P 23 44 52.5 -0.7
comp=Z,9.1nm,0.5s,baz=16,slow=7.8,SNR=24
GYA **Guiyang** 54.63 85 *e*P P 23 44 55.0 +1.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
TIC **Toumodi** 54.76 242 *e*P P 23 44 53.4 -0.8
KIC **Kosan Boka** 54.79 242 *e*P P 23 44 53.7 -0.7
comp=Z,22nm,0.7s
LIC **Lamto** 55.08 242 *e*P P 23 44 55.8 -0.7
comp=Z,72nm,0.6s
PBKT **Sadao Pong** 56.59 99 P P 23 45 07.2 0.0
comp=Z,12nm,1.2s,comp=Z,1μm
TIA **Tai'an** 56.68 70 P P 23 45 08.3 +0.5
TIA pmax pmax
comp=Z,6.0nm,1.2s
SRDT **SRDT** 56.73 102 P P 23 45 09.6 +1.3
comp=Z,14nm,1.7s,comp=Z,2μm
WHN **Wuhan** 57.84 77 ⇑P P 23 45 16.0 0.0
CN2 **Changchun** 58.16 58 *e*P P 23 45 17.8 -0.3
CN2 *e*S S 23 53 17.8 -1.9
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,200nm,14.0s
CN2 LR LR
comp=Z,200nm,16.0s
DL2 **Dalian** 58.28 65 P P 23 45 20.8 +1.8
DL2 *e*S S 23 53 23.8 +2.4
DL2 pmax pmax
comp=Z,63nm,1.1s
DL2 LR LR
comp=Z,310nm,13.1s
DL2 LR LR
comp=Z,220nm,13.3s
DL2 LR LR
comp=Z,250nm,13.8s
RES **Resolute Bay** 58.87 348 *e*P P 23 45 22.8 +0.3
comp=Z,4.6nm,0.9s
RES **Resolute Bay** 58.87 348 *e*P P 23 45 22.8 +0.3
RES pmax pmax
comp=Z,5.0nm,0.9s
KLR **Kul'dur** 59.05 50 *i* P P 23 45 24.4 +0.2
KLR **Kul'dur** 59.05 50 P P 23 45 24.2 0.0
comp=Z,12nm,0.8s,baz=305,slow=7.8,SNR=46
KLR LR LR 00 15 25.3
comp=Z,327nm,18.4s,baz=318,slow=41
LSZ **Lusaka** 59.51 195 *e*P P 23 45 27.3 -0.4
comp=Z,3.2nm,0.9s
LSZ **Lusaka** 59.51 195 *e*P P 23 45 27.3 -0.4
LSZ pmax pmax
comp=Z,3.0nm,0.9s
LSZ **Lusaka** 59.51 195 P P 23 45 27.1 -0.6
comp=Z,2.3nm,0.8s,baz=21,slow=9.4,SNR=4.7
NJ2 **Nanjing** 60.17 73 *e*P P 23 45 32.0 -0.1
NJ2 pmax pmax
comp=Z,30nm,0.5s
GRNR **Gornyy** 60.77 46 *e*P P 23 45 35.0 -1.0
GRNR pmax pmax
comp=Z,21nm,1.0s
SEY **Seymchan** 60.77 29⇑*i*P P 23 45 36.5 +0.7
SEY **Seymchan** 60.77 29 P P 23 45 36.0 +0.2
comp=Z,7.1nm,0.8s,baz=284,slow=6.5,SNR=20
BILL **Bilibino** 61.58 21 *e*P P 23 45 41.0 -0.2
comp=Z,2.6nm,0.7s
BILL **Bilibino** 61.58 21 *e*P P 23 45 42.0 +0.8
BILL *e* 23 46 23.7
BILL *e* 23 48 01.2
BILL *e*S S 23 54 06.0 +3.0
BILL pmax pmax
comp=Z,4.0nm,0.8s
BILL MLR MLR
comp=Z,139nm,18.0s
NKL **Nikolayevsk** 61.61 43 *e*P P 23 45 41.0 -0.6
NKL pmax pmax
comp=Z,22nm,1.0s
USRK **Ussuriysk Ar.** 61.92 55 P P 23 45 43.2 -0.6
comp=Z,9.4nm,0.8s,baz=340,slow=4.0,SNR=12
USRK LR LR 00 15 50.5
comp=Z,96nm,18.6s,baz=136,slow=39
ABPO **Ambohimpanom** 62.15 174 *i* P P 23 45 49.8 +4.1
MA2 **Magadan** 62.26 33⇓*e*P P 23 45 45.8 -0.1
MA2 pmax pmax
comp=Z,8.0nm,1.2s
MA2 **Magadan** 62.26 33 LR LR 00 16 00.1
comp=Z,155nm,18.8s,baz=308,slow=39
KS01 **Wonju Array Si** 63.18 63 *e*P P 23 45 51.2 -1.1
KS15 **Wonju Array Si** 63.19 63 *e*P P 23 45 52.5 +0.1
comp=Z,105nm,1.8s
KSAR **Wonju Array Be** 63.19 63 P P 23 45 52.2 -0.3
KSAR **Wonju Array Be** 63.19 63 P P 23 45 52.2 -0.3
KSRS **Korea Array** 63.21 63 P P 23 45 52.2 -0.4
comp=Z,13nm,0.7s,baz=299,slow=6.6,SNR=46
KSRS LR LR 00 16 23.6
comp=Z,170nm,18.6s,baz=298,slow=39
TJN **Taejon** 63.47 64⇑*i*P P 23 45 52.9 -1.4
SCHQ **Schefferville** 64.99 323 P P 23 46 04.0 0.0
comp=Z,7.9nm,0.7s,baz=30,slow=6.0,SNR=6.4
SCHQ LR LR 00 14 43.7
comp=Z,44nm,19.2s,baz=336,slow=36
TSUM **Tsumeb** 65.94 205 *e*P P 23 46 10.0 -0.6
comp=Z,3.5nm,0.9s
YSS **Yuzh-Sakhalins** 66.40 47 *e*P P 23 46 13.2 0.0
comp=Z,13nm,0.5s
YSS **Yuzh-Sakhalins** 66.40 47 *e*P P 23 46 13.3 +0.1
YSS pmax pmax
comp=Z,20nm,1.1s
YSS MLR MLR
comp=Z,300nm,16.0s
TPUB **Ta-pu** 66.64 79 *e*P P 23 46 15.7 +0.6
comp=Z,26nm,0.9s
JNU **Nakatsue** 67.73 65 P P 23 46 21.1 -0.9
comp=Z,8.0nm,0.8s,baz=336,slow=5.7,SNR=4.8
ASAJ **Asahikawa** 68.09 50 P P 23 46 23.8 -0.2
comp=Z,10nm,0.8s,baz=326,slow=28,SNR=4.9
ASAJ LR LR 00 20 20.0
comp=Z,221nm,20.4s,baz=206,slow=40
TOLK **Toolik Lake Re** 68.14 4 *e*P P 23 46 24.7 +0.7
comp=Z,20nm,1.0s
TOLK **Toolik Lake Re** 68.14 4 P P 23 46 25.1 +1.1
baz=351,SNR=17
INK **Inuvik** 68.73 358 *e*P P 23 46 27.8 +0.3
comp=Z,12nm,1.1s
INK **Inuvik** 68.73 358 *e*P P 23 46 27.8 +0.3
INK pmax pmax
comp=Z,12nm,1.1s
INK **Inuvik** 68.73 358 P P 23 46 28.1 +0.6
comp=Z,3.4nm,0.5s,baz=4.4,slow=14,SNR=7.0
PETK **Petropavlovsk-** 69.47 35 *e*P P 23 46 31.1 -1.3
PETK **Petropavlovsk-** 69.47 35 *e*P P 23 46 31.1 -1.3
PETK **Petropavlovsk-** 69.47 35 LR LR 00 20 09.8
comp=Z,116nm,19.2s,baz=317,slow=39
LBTB **Lobatse** 69.49 196 *e*P P 23 46 32.7 -0.2
comp=Z,10nm,0.8s
LBTB **Lobatse** 69.49 196 *e*P P 23 46 32.7 -0.2
LBTB pmax pmax
comp=Z,10.0nm,0.8s
COLD **Coldfoot** 69.51 5 *e*P P 23 46 33.0 +0.6
comp=Z,14nm,0.9s
ERM **Erimo** 69.75 51 *e*P P 23 46 33.5 -0.9
comp=Z,23nm,0.8s
ERM **Erimo** 69.75 51⇓*e*P P 23 46 33.1 -1.2
ERM pmax pmax
comp=Z,29nm,1.3s
MAJO **Matsushiro** 70.31 58 *e*P P 23 46 38.4 +0.5
comp=Z,6.0nm,0.7s
MAJO **Matsushiro** 70.31 58⇓*e*P P 23 46 37.5 -0.4
MAJO pmax pmax
comp=Z,7.0nm,1.0s
MJAR **Matsushiro Arr** 70.31 58 P P 23 46 36.7 -1.2
comp=Z,3.4nm,0.7s,baz=299,slow=8.6,SNR=8.7
MJAR LR LR 00 21 10.0
comp=Z,101nm,18.4s,baz=315,slow=39
ANM **Nome** 70.47 12 *e*P P 23 46 39.1 +0.7
comp=Z,16nm,1.2s
ANM **Nome** 70.47 12 *e*P P 23 46 39.1 +0.7
ANM pmax pmax
comp=Z,16nm,1.2s
IM3 **Indian Mountai** 70.47 7 *e*P P 23 46 38.4 0.0
EPYK **Eagle Plains** 70.73 359 *e*P P 23 46 40.3 +0.3
comp=Z,30nm,1.2s
EPYK **Eagle Plains** 70.73 359 P P 23 46 40.3 +0.3
baz=1.3
MLY **Manley** 71.65 5 *e*P P 23 46 46.5 +0.9
comp=Z,12nm,1.1s
CHGQ **Chibougamau** 71.72 322 P P 23 46 46.7 +0.4
baz=44,SNR=6.9
POKR **Poker Plat Res** 71.76 4 P P 23 46 47.6 +1.4
baz=353,SNR=6.5
MDM **Murphy Dome** 71.88 4 *e*P P 23 46 47.6 +0.7
comp=Z,17nm,1.2s
COLA **College** 71.98 4 *e*P P 23 46 48.5 +1.0
comp=Z,15nm,0.9s
COLA **College** 71.98 4⇓*i*P P 23 46 48.9 +1.4
COLA pmax pmax
comp=Z,14nm,1.1s
TCOL **CIGO, UAF Yank** 71.98 4 P P 23 46 48.7 +1.2
baz=353
IL1 **Eielson Array** 72.13 4 *e*P P 23 46 48.6 +0.1
ILAR **Eielson Array** 72.13 4 P P 23 46 48.5 +0.1
comp=Z,1.4nm,1.0s,baz=313,slow=2.1,SNR=15
ILAR PP PP 23 49 23.9 -4.0
comp=Z,0.6nm,0.9s,baz=353,slow=8.8,SNR=4.4
ILB **Eielson Array** 72.13 4 *e*P P 23 46 49.5 +1.1
comp=Z,29nm,2.0s
CCB **Clear Creek Bu** 72.21 4 *e*P P 23 46 49.4 +0.5
comp=Z,11nm,1.0s
EGAK **Eagle** 72.31 1 *e*P P 23 46 49.9 +0.4
comp=Z,12nm,1.1s
WRH **Wood River Hil** 72.37 4 *e*P P 23 46 50.1 +0.2
comp=Z,17nm,1.3s
HDA **Harding Lake** 72.49 4 *e*P P 23 46 51.2 +0.6
comp=Z,13nm,0.8s
BPAW **Bear Paw Mtn.** 72.55 6 *e*P P 23 46 51.5 +0.5
comp=Z,17nm,1.3s
PKME **Peaks-Kenny Pk** 72.60 316 P P 23 46 53.0 +1.4
baz=46
LATQ **La Tuque** 72.81 320 P P 23 46 53.7 +0.9
baz=44
YKW3 **Yellowknife Ar** 72.85 349 *e*P P 23 46 52.6 -0.1
comp=Z,53nm,1.6s
YKA **Yellowknife Ar** 72.91 349 P P 23 46 53.6 +0.5
comp=Z,6.6nm,0.7s,baz=13,slow=6.2,SNR=96
YKB5 **Yellowknife Ar** 72.91 349 *e*P P 23 46 53.1 +0.1
DAWY **Dawson** 73.05 0 *e*P P 23 46 54.9 +0.9
comp=Z,15nm,1.0s
SCRK **Sand Creek** 73.05 3 *e*P P 23 46 54.7 +0.6
comp=Z,24nm,1.5s
BOSA **Boshof** 73.05 195 *e*P P 23 46 53.9 -0.5
comp=Z,46nm,1.7s
BOSA **Boshof** 73.05 195 *e*P P 23 46 53.9 -0.5
BOSA pmax pmax
comp=Z,46nm,1.7s
BOSA **Boshof** 73.05 195 P P 23 46 53.4 -1.0
comp=Z,6.2nm,0.6s,baz=5.8,slow=5.7,SNR=12
BOSA LR LR 00 22 23.4
comp=Z,111nm,18.4s,baz=32,slow=39
MCK **McKinley** 73.06 5 *e*P P 23 46 54.9 +0.9
comp=Z,47nm,1.8s
MCK **McKinley** 73.06 5 *e*P P 23 46 54.9 +0.9
MCK pmax pmax
comp=Z,47nm,1.8s
CAST **Castle Rocks** 73.14 6 *e*P P 23 46 54.7 +0.2
comp=Z,22nm,1.0s
TRF **Thorofare Moun** 73.25 6 *e*P P 23 46 56.0 +0.7
comp=Z,10nm,1.0s
RIDG **Independ'e Rid** 73.25 3 *e*P P 23 46 56.0 +0.8
comp=Z,21nm,1.0s
DOT **Dot Lake** 73.37 3 *e*P P 23 46 56.6 +0.7
comp=Z,30nm,1.4s
RND **Reindeer** 73.39 5 *e*P P 23 46 56.0 0.0
comp=Z,11nm,1.0s
RND **Reindeer** 73.39 5 *e*P P 23 46 56.0 0.0
RND pmax pmax
comp=Z,11nm,1.0s
LSQQ **Lebel-sur-Quev** 73.50 323 P P 23 46 58.1 +1.2
baz=42
DHY **Denali Highway** 73.80 4 *e*P P 23 46 59.0 +0.5
comp=Z,9.1nm,1.0s
PAX **Paxson** 74.00 3 *e*P P 23 46 54.9 +0.6
comp=Z,11nm,1.1s
PAX **Paxson** 74.00 3 *e*P P 23 47 00.3 +0.6
PAX pmax pmax
comp=Z,11nm,1.1s
MOQ **Mont Orford** 74.04 318 *e*P P 23 47 01.2 +1.0
VLDQ **Val d'Or** 74.42 323 *e*P P 23 47 03.2 +1.0
comp=Z,9.0nm,0.8s
TRQ **Mont Tremblant** 74.49 320 *e*P P 23 47 03.6 +0.8
LBNH **Lisbon** 74.65 317 P P 23 47 05.4 +1.8

	baz=44								
D54A	Lac Fusel, La	74.78	321	P		P		23 47 05.3	+0.9
	baz=42								
SML	Sawmill	75.01	5	eP		P		23 47 06.0	+0.6
	comp=Z,23nm,1.1s								
SML	Sawmill	75.01	5	eP		P		23 47 06.0	+0.6
SML				pmax		pmax			
	comp=Z,23nm,1.1s								
SCM	Sheep Creek Mo	75.04	4	eP		P		23 47 06.0	+0.4
	comp=Z,30nm,1.0s								
SCM	Sheep Creek Mo	75.04	4	eP		P		23 47 06.1	+0.4
SCM				pmax		pmax			
	comp=Z,30nm,1.0s								
ALFO	Alfred	75.08	319	P		P		23 47 07.3	+1.2
	baz=42								
PMR	Palmer	75.17	5	eP		P		23 47 06.9	+0.6
	comp=Z,33nm,1.5s								
PMR	Palmer	75.17	5	eP		P		23 47 06.9	+0.6
PMR				pmax		pmax			
	comp=Z,33nm,1.5s								
SUA	Susitna One	75.18	6	eP		P		23 47 06.7	+0.2
	comp=Z,20nm,1.2s								
KNK	Knik Glacier	75.39	5	eP		P		23 47 08.0	+0.3
	comp=Z,17nm,0.9s								
KLU	Klutina	75.45	4	eP		P		23 47 08.1	0.0
	comp=Z,18nm,1.0s								
ORIO	Orleans, Innes	75.51	320	P		P		23 47 09.9	+1.3
	baz=42								
E54A	Lac Daplat, Po	75.56	321	P		P		23 47 10.1	+1.3
	baz=41								
F55A	Otter Lake	75.62	320	P		P		23 47 10.2	+1.0
	baz=42								
LONY	Lake Ozonia	75.68	319	P		P		23 47 11.0	+1.4
	baz=42								
D52A	ZEK Kipawa Sen	75.70	322	P		P		23 47 10.9	+1.2
	baz=41								
E53A	Dumoine, Ponti	75.82	321	P		P		23 47 11.7	+1.3
	baz=41,SNR=9.0								
DIV	Divide	75.82	4	eP		P		23 47 10.5	+0.3
	comp=Z,18nm,1.1s								
PEMO	Pembroke	76.15	321	P		P		23 47 13.2	+0.9
	baz=41								
G55A	Calabogie	76.23	320	P		P		23 47 13.8	+1.2
	baz=41								
HYT	Haines Junctio	76.30	360	eP		P		23 47 14.1	+1.1
	comp=Z,21nm,1.1s								
ALGO	Algonquin Park	76.31	321	P		P		23 47 14.1	+1.0
	baz=41								
E52A	Mattawa	76.34	322	P		P		23 47 14.3	+1.0
	baz=40								
H56A	Elgin	76.50	319	P		P		23 47 15.6	+1.3
	baz=42								
E51A	G1948 Merrick	76.52	323	P		P		23 47 15.1	+0.8
	baz=40								
PLVO	Plevna	76.55	320	P		P		23 47 15.9	+1.4
	baz=41								
D49A	Beulah Townshi	76.77	324	P		P		23 47 16.5	+0.8
	baz=39								
BANO	Bancroft	76.97	321	P		P		23 47 17.6	+0.8
	baz=41								
H55A	Tweed	76.97	320	P		P		23 47 18.1	+1.2
	baz=41								
F52A	Sundridge	77.01	322	P		P		23 47 18.4	+1.3
	baz=40,SNR=5.9								
D48A	Paudash Townsh	77.04	324	P		P		23 47 17.8	+0.5
	baz=39								
E50A	Wahnapitae	77.16	323	P		P		23 47 19.2	+1.3
	baz=39,SNR=7.4								
F51A	Arnstein	77.17	322	P		P		23 47 19.8	+1.8
	baz=40								
DELO	Deloro Mine	77.20	320	P		P		23 47 19.8	+1.6
	baz=41								
G53A	Haliburton	77.21	321	P		P		23 47 19.8	+1.6
	baz=40								
BUKO	Buck Lake	77.32	322	P		P		23 47 20.1	+1.3
	baz=40								
PECO	Prince Edward	77.35	319	P		P		23 47 20.4	+1.4
	baz=41								
I55A	Frankford	77.46	320	P		P		23 47 21.0	+1.4
	baz=41								
FFC	Flin Flon	77.60	339	eP		P		23 47 21.1	+0.8
	comp=Z,8.3nm,0.8s								
FFC	Flin Flon	77.60	339	i P		P		23 47 21.3	+1.0
D47A	Chapleau	77.68	325	P		P		23 47 21.8	+1.0
	baz=38								
KLBO	Killbear Provi	77.75	322	P		P		23 47 23.0	+1.7
	baz=39								
BINY	Binghamton	78.16	318	P		P		23 47 25.3	+1.7
	baz=41								
DRCO	St. Marys Ceme	78.19	320	P		P		23 47 25.0	+1.3
	baz=40								
D46A	Sault St. Mari	78.20	325	P		P		23 47 24.8	+1.1
	baz=37								
E47A	Iron Bridge	78.23	325	P		P		23 47 25.4	+1.5
	baz=38								
F49A	Sandfield	78.24	323	P		P		23 47 24.9	+1.0
	baz=38								
F48A	Evansville	78.44	324	P		P		23 47 25.8	+0.7
	baz=38								
DLBC	Dease Lake	78.46	356	eP		P		23 47 26.2	+1.1
	comp=Z,28nm,1.4s								
KDAK	Kodiak Island	78.66	8	i P		P		23 47 26.5	+0.5
E46A	Sault Ste Mari	78.73	325	P		P		23 47 28.3	+1.6
	baz=37								
BMRO	Meriville Lake	78.79	322	P		P		23 47 28.8	+1.8
	baz=39								
BWLO	Walkerton	79.13	322	P		P		23 47 30.6	+1.8
	baz=39								
I51A	Listowel	79.32	322	P		P		23 47 31.3	+1.3
	baz=39								
TYNO	Tyneside	79.34	321	P		P		23 47 31.4	+1.3
	baz=39								
L55A	Hinsdale	79.36	319	P		P		23 47 31.1	+0.8
	baz=40								
F46A	Macinaw City C	79.39	325	P		P		23 47 31.5	+1.2
	baz=37								
C40A	Isle Royale Na	79.40	329	eP		P		23 47 30.7	+0.4
	comp=Z,31nm,0.9s								
C40A	Isle Royale Na	79.40	329	P		P		23 47 31.3	+1.0
	baz=34								
BASO	Ashfield	79.44	322	P		P		23 47 32.6	+2.0
	baz=38								
G47A	Hillman	79.49	324	P		P		23 47 32.2	+1.4
	baz=37								
J52A	Paris	79.51	321	P		P		23 47 30.8	-0.2
	baz=39								
ULM	Lac du Bonnet	79.78	334	eP		P		23 47 33.1	+0.7
	comp=Z,12nm,0.9s								
ULM	Lac du Bonnet	79.78	334	P		P		23 47 32.6	+0.3
	comp=Z,7.3nm,0.6s,baz=31,slow=4.8,SNR=21								
ULM				LR		LR		00 22 14.5	
	comp=Z,100nm,20.0s,baz=10,slow=35								
D41A	Chassel	79.88	328	P		P		23 47 33.9	+0.9
	baz=34								
F44A	Big Bay de Noc	79.92	326	P		P		23 47 34.3	+1.2
	baz=36								
ELFO	Elginfield	79.93	321	P		P		23 47 34.4	+1.1
	baz=38								
M55A	Ridgway	80.07	319	P		P		23 47 34.9	+0.8
	baz=40								
E42A	Champion	80.15	327	P		P		23 47 35.1	+0.7
	baz=35								
I48A	Sherman Twp	80.21	323	P		P		23 47 35.8	+1.1
	baz=37								
EYMN	Ely	80.25	330	eP		P		23 47 35.0	+0.1
	comp=Z,20nm,1.1s								
EYMN	Ely	80.25	330	P		P		23 47 36.1	+1.2
	baz=33								
SSPA	Standing Stone	80.28	318	P		P		23 47 36.2	+1.0
	baz=40								
F43A	Flat Rock, Esc	80.34	326	P		P		23 47 36.7	+1.3
	baz=35								
G45A	Suttons Bay	80.36	325	P		P		23 47 36.6	+1.1
	baz=36								
M54A	Oil Creek Stat	80.47	319	P		P		23 47 37.4	+1.1
	baz=39								
E41A	Kenton	80.53	328	P		P		23 47 37.6	+1.1
	baz=34								
H46A	Fife Lake	80.57	325	P		P		23 47 38.2	+1.5
	baz=36								
J49A	Marlette	80.62	323	P		P		23 47 37.9	+1.0
	baz=37								
I47A	Gladwin	80.69	324	P		P		23 47 38.8	+1.4
	baz=37								
N55A	Marion Center	80.70	319	P		P		23 47 38.4	+0.8
	baz=40								
H45A	Beulah	80.86	325	P		P		23 47 39.3	+1.1
	baz=36								
COWI	Conover	80.90	328	eP		P		23 47 39.3	+0.8
	comp=Z,11nm,1.0s								
E40A	Wakefield	80.91	328	P		P		23 47 39.6	+1.1
	baz=34,SNR=6.5								
J48A	Bridge Port	80.95	323	P		P		23 47 39.5	+0.7
	baz=37								
I46A	Reed City	81.16	324	P		P		23 47 41.7	+1.8
	baz=36								
F41A	Three Lakes	81.19	328	eP		P		23 47 40.6	+0.6
	comp=Z,69nm,1.8s								
F41A	Three Lakes	81.19	328	P		P		23 47 41.1	+1.1
	baz=34,SNR=5.3								
E39A	Mellen	81.21	329	P		P		23 47 40.9	+0.7
	baz=33,SNR=10.0								
K49A	Clarkson	81.22	322	P		P		23 47 41.1	+0.9
	baz=37								
MPSI	Mapaga	81.23	98	P		P		23 47 39.7	-1.0
G42A	Mountain	81.33	327	eP		P		23 47 41.7	+1.0
	comp=Z,22nm,1.1s								
G42A	Mountain	81.33	327	P		P		23 47 41.9	+1.2
	baz=34								
E38A	The Farm, Brul	81.40	329	eP		P		23 47 41.4	+0.3
	comp=Z,18nm,1.1s								
E38A	The Farm, Brul	81.40	329	P		P		23 47 41.6	+0.5
	baz=32,SNR=5.2								
F40A	Park Falls	81.43	328	P		P		23 47 42.1	+0.8
	baz=33								
AGMN	Agassiz Nation	81.47	333	eP		P		23 47 42.3	+0.9
	comp=Z,13nm,1.0s								
AGMN	Agassiz Nation	81.47	333	P		P		23 47 42.1	+0.7
	baz=30								
K48A	Perry	81.50	323	P		P		23 47 42.8	+1.2
	baz=37								
N53A	Lisbon	81.57	320	P		P		23 47 42.7	+0.6
	baz=38								
G41A	Antigo	81.65	327	P		P		23 47 43.6	+1.2
	baz=34								
F39A	Loretta	81.74	329	P		P		23 47 43.7	+0.8
	baz=33,SNR=6.4								
O54A	Avella	81.84	319	P		P		23 47 44.2	+0.6
	baz=39								
H42A	Shiocton	81.97	326	P		P		23 47 45.0	+0.9
	baz=34								
K47A	Vermontville	81.99	323	P		P		23 47 45.1	+0.8
	baz=36								
MCWV	Mont Chateau	81.99	318	P		P		23 47 45.2	+0.9
	baz=39								
G40A	Rib Lake	82.00	328	eP		P		23 47 45.2	+0.8
	comp=Z,17nm,0.8s								
G40A	Rib Lake	82.00	328	P		P		23 47 45.0	+0.6
	baz=33,SNR=6.6								
F38A	Pierce - Schro	82.06	329	P		P		23 47 45.6	+1.0
	baz=32,SNR=9.9								
P55A	Reedsville	82.10	318	P		P		23 47 46.2	+1.2
	baz=39								
O53A	New Philadelph	82.19	320	P		P		23 47 46.4	+1.0
	baz=38								
N51A	Ashland	82.20	321	P		P		23 47 47.0	+1.5
	baz=38								
R58B	Mineral	82.32	316	P		P		23 47 49.4	+3.3
	baz=40								
I43A	Langenfeld Bro	82.33	326	P		P		23 47 47.0	+0.9
	baz=34								
H41A	Junction City	82.33	327	eP		P		23 47 47.3	+1.3
	comp=Z,24nm,1.1s								
H41A	Junction City	82.33	327	P		P		23 47 46.8	+0.8
	baz=34								
P54A	Burton	82.34	319	P		P		23 47 47.2	+1.0
	baz=38								
G39A	Holcombe	82.36	328	P		P		23 47 46.8	+0.6
	baz=33,SNR=6.7								
F37A	Hinrichs Farm,	82.54	330	P		P		23 47 48.7	+1.6
	baz=32								
O52A	Adamsville	82.58	320	P		P		23 47 48.0	+0.6
	baz=38								
H40A	Chili	82.62	328	P		P		23 47 48.9	+1.3
	baz=33								
Q55A	Buckhannon	82.62	318	P		P		23 47 48.2	+0.5
	baz=39								
L47A	Sherwood	82.64	323	P		P		23 47 48.5	+0.8
	baz=36								
I42A	Draeger Farm,	82.64	326	P		P		23 47 48.2	+0.6
	baz=34								
G38A	Ridgeland	82.72	329	P		P		23 47 48.8	+0.7
	baz=32,SNR=11								
M48A	Edgerton	82.82	322	P		P		23 47 50.1	+1.5
	baz=36								
J43A	Natural Harves	82.86	326	P		P		23 47 49.7	+0.9
	baz=34								
P53A	Whipple	82.87	319	P		P		23 47 49.6	+0.7
	baz=38								
I41A	Arkdale	82.88	327	eP		P		23 47 50.0	+1.1
	comp=Z,16nm,0.9s								
I41A	Arkdale	82.88	327	P		P		23 47 49.8	+0.9
	baz=33								
H39A	Augusta	82.92	328	P		P		23 47 50.4	+1.3
	baz=37								
O51A	Pataskala	82.92	320	P		P		23 47 50.0	+0.7
	baz=38								
Q54A	Coxs Mills	83.00	318	P		P		23 47 50.4	+0.8
	baz=37								
ACSO	Alum Creek Sta	83.03	321	P		P		23 47 50.4	+0.6
	baz=37								
N49A	Columbus Grove	83.03	322	eP		P		23 47 50.7	+1.0
	comp=Z,14nm,0.8s								
N49A	Columbus Grove	83.03	322	P		P		23 47 50.4	+0.7
	baz=37								
SPMN	Marine on St.	83.03	329	eP		P		23 47 51.0	+1.4
	comp=Z,13nm,0.8s								
SPMN	Marine on St.	83.03	329	P		P		23 47 50.8	+1.1
	baz=32								
MDND	Maddock	83.07	335	eP		P		23 47 50.7	+0.9
	comp=Z,40nm,1.0s								
MDND	Maddock	83.07	335	P		P		23 47 50.5	+0.7
	baz=27								
P52A	Corning	83.11	320	P		P		23 47 50.8	+0.6
	baz=38								
J42A	Columbus	83.20	326	P		P		23 47 51.3	+0.7
	baz=34								
H38A	Maiden Rock	83.30	329	P		P		23 47 52.0	+1.0
	baz=32								
I40A	Norwalk	83.32	327	P		P		23 47 52.4	+1.2
	baz=33								
K43A	Burlington	83.38	325	P		P		23 47 53.7	+2.2
	baz=34								
O50A	Cable	83.39	321	P		P		23 47 52.4	+0.8
	baz=37								
Q53A	Leroy	83.43	319	P		P		23 47 52.5	+0.7
	baz=38								
N48A	Decatur	83.46	322	P		P		23 47 52.6	+0.6
	baz=36								
J41A	Loganville	83.52	327	P		P		23 47 53.1	+0.9
	baz=33,SNR=6.2								
M46A	Old House Fiel	83.60	323	P		P		23 47 53.2	+0.5
	baz=35								
L44A	Lake County Fo	83.64	325	P		P		23 47 53.7	+0.8
	baz=37								
P51A	Williamsport	83.66	320	P		P		23 47 53.0	0.0
	baz=37								
O49A	Covington	83.69	321	eP		P		23 47 53.9	+0.7
	comp=Z,18nm,0.8s								
O49A	Covington	83.69	321	P		P		23 47 53.7	+0.6
	baz=36								
Q52A	Bidwell	83.70	319	P		P		23 47 53.8	+0.5
	baz=38								
I39A	Houston	83.70	328	P		P		23 47 54.0	+0.9
	baz=32								
N47A	Urbana	83.74	323	P		P		23 47 54.2	+0.8
	baz=36								
S55A	Lewisburg	83.78	318	P		P		23 47 54.6	+0.9
	baz=38								
J40A	Soldiers Grove	83.78	327	P		P		23 47 53.7	+0.2
	baz=33								
DGMT	Dagmar	83.86	338	eP		P		23 47 54.8	+0.9
	comp=Z,21nm,1.0s								
P50A	Jamestown	83.91	321	P		P		23 47 54.7	+0.4
	baz=37								
L43A	Garden Prairie	83.98	325	P		P		23 47 55.2	+0.6
	baz=34								
JFWS	Jewell Farm	83.99	327	eP		P		23 47 55.6	+1.0
	comp=Z,12nm,0.8s								
JFWS	Jewell Farm	83.99	327	eP		P		23 47 55.7	+1.0
JFWS				pmax		pmax			
	comp=Z,12nm,0.8s								
JFWS	Jewell Farm	83.99	327	P		P		23 47 55.1	+0.5
	baz=33								
O48A	Farmland	84.00	322	P		P		23 47 55.3	+0.5
	baz=36								
R53A	Hurricane	84.05	319	P		P		23 47 55.9	+0.9
	baz=38								
Q51A	Peebles	84.16	320	eP		P		23 47 56.4	+0.8
	comp=Z,23nm,1.1s								
Q51A	Peebles	84.16	320	P		P		23 47 56.1	+0.5
	baz=37								
N46A	Monticello	84.19	323	P		P		23 47 56.1	+0.5
	baz=35								
J39A	Decorah	84.21	328	P		P		23 47 56.3	+0.5
	baz=32,SNR=5.9								
K41A	Shullsburg	84.27	326	P		P		23 47 56.6	+0.5
	baz=33								
R52A	Catlettsburg	84.38	319	P		P		23 47 57.2	+0.5
	baz=37								
P49A	Miami Univ. Ec	84.39	321	P		P		23 47 56.5	-0.2
	baz=36								
O47A	Sheridan	84.48	323	P		P		23 47 57.5	+0.4
	baz=35								
L42A	Oliver, Polo	84.52	326	P		P		23 47 57.9	+0.6
	baz=33								
K40A	Colesburg	84.53	327	P		P		23 47 57.8	+0.4
	baz=32								
N45A	Kentland	84.56	324	P		P		23 47 58.6	+1.0
	baz=35								
Q50A	Georgetown	84.60	320	P		P		23 47 58.1	+0.3
	baz=36								
M43A	Waltham Townsh	84.69	325	P		P		23 47 59.0	+0.8
	baz=34								
SFIN	Lafayette	84.77	323	P		P		23 47 58.8	+0.2
	baz=35								
P48A	Milroy	84.77	322	P		P		23 47 58.9	+0.3
	baz=36								
L41A	Preston	84.79	326	P		P		23 47 59.2	+0.5
	baz=33								
KAPI	Kappang	84.81	102	eP		P		23 47 58.6	-0.6
	comp=Z,6.2nm,0.4s								
KAPI	Kappang	84.81	102	eP		P		23 47 58.6	-0.6
KAPI				pmax		pmax			
	comp=Z,6.0nm,0.4s								
K39A	Oelwein	84.82	328	P		P		23 47 59.0	+0.2
	baz=32,SNR=5.3								
R51A	Hillsboro	84.85	320	P		P		23 47 59.4	+0.4
	baz=37								
N44A	Piper City	84.87	324	P		P		23 47 59.1	0.0
	baz=34								
V57A	Coltrane Farms	84.88	316	P		P		23 47 59.5	+0.2
	baz=39								
Q49A	Aurora	84.89	321	P		P		23 47 59.7	+0.4
	baz=36								
M42A	Sheffield	85.01	326	P		P		23 48 00.4	+0.6
	baz=33								
U55A	TA2, Sparta	85.04	317	P		P		23 48 00.9	+0.7
	baz=38								
L40A	Anamosa	85.10	327	eP		P		23 48 01.1	+0.8
	comp=Z,23nm,1.0s								
L40A	Anamosa	85.10	327	P		P		23 48 00.7	+0.5
	baz=32								
P47A	Martinsville	85.13	322	P		P		23 48 00.5	0.0
	baz=35								
O45A	Potomac	85.15	324	P		P		23 48 00.8	+0.3
	baz=34								
N43A	Stutzman Famil	85.19	325	P		P		23 48 01.5	+0.7
	baz=34								
R50A	Paris	85.21	320	P		P		23 48 01.3	+0.4
	baz=36								
Q48A	North Vernon	85.34	322	P		P		23 48 01.6	+0.1
	baz=36								
L39A	Vinton	85.36	327	P		P		23 48 01.9	+0.3
	baz=32								
S51A	Beattyville	85.38	319	eP		P		23 48 03.1	+1.4
	comp=Z,16nm,1.0s								
S51A	Beattyville	85.38	319	P		P		23 48 02.6	+0.9
	baz=37								
M41A	Milan	85.40	326	P		P		23 48 01.9	+0.1
	baz=33								
P46A	Rosedale	85.44	323	P		P		23 48 02.3	+0.3
	baz=35								
LLLB	Lillooet	85.44	350	eP		P		23 48 02.8	+0.9
	comp=Z,20nm,0.8s								
T52A	Hallie	85.52	319	P		P		23 48 03.5	+1.1
	baz=37								
O44A	Mansfield	85.55	324	P		P		23 48 03.6	+1.1
	baz=34								
HDIL	Hopedale	85.56	325	eP		P		23 48 03.5	+0.9
	comp=Z,28nm,0.8s								
HDIL	Hopedale	85.56	325	P		P		23 48 03.2	+0.6
	baz=34								
R49A	Shelbyville	85.60	321	P		P		23 48 03.9	+1.1
	baz=36								
WALA	Waterton Lakes	85.62	344	eP		P		23 48 03.8	+0.9
	comp=Z,9.3nm,0.8s								
N42A	Yates City	85.65	325	P		P		23 48 03.6	+0.6
	baz=33								
EGMT	Eagleton	85.69	341	eP		P		23 48 04.2	+1.0
	comp=Z,12nm,0.9s								
EGMT	Eagleton	85.69	341	P		P		23 48 04.0	+0.8
	baz=20,SNR=7.0								
ECSD	EROS Data Cent	85.70	331	eP		P		23 48 03.8	+0.5
	comp=Z,41nm,1.5s								
ECSD	EROS Data Cent	85.70	331	P		P		23 48 04.2	+0.9
	baz=29,SNR=12								
P45A	Graceland, Par	85.75	323	eP		P		23 48 04.2	+0.7
	comp=Z,22nm,1.0s								
P45A	Graceland, Par	85.75	323	P		P		23 48 03.8	+0.3
	baz=34								
M40A	Post Highland	85.77	327	P		P		23 48 03.7	+0.1
	baz=32								
O43A	Sugar Creek Fa	85.80	325	P		P		23 48 04.5	+0.7
	baz=34								
R48A	Northridge Ran	85.83	321	P		P		23 48 04.3	+0.4
	baz=35								
SUSD	Miller	85.88	333	P		P		23 48 05.2	+1.1
	baz=28								
W56A	Indian Trail	85.88	316	P		P		23 48 04.8	+0.6
	baz=38								
U53A	Fall Branch	85.91	318	P		P		23 48 05.1	+0.6
	baz=37								
M39A	Webster	85.97	327	P		P		23 48 05.1	+0.4
	baz=32								
SCIA	State Center	86.02	328	eP		P		23 48 05.8	+1.0
	comp=Z,21nm,0.9s								
SCIA	State Center	86.02	328	P		P		23 48 05.5	+0.7
	baz=31								
LAO	LASA Array	86.04	338	eP		P		23 48 05.8	+0.9
	comp=Z,33nm,0.8s								
LAO	LASA Array	86.04	338	P		P		23 48 07.1	+2.1
	baz=23,SNR=9.5								
S49A	Springfield	86.06	321	P		P		23 48 05.7	+0.6
	baz=36								
P44A	Sand Creek, Wi	86.18	324	P		P		23 48 06.5	+0.9
	baz=34								
R47A	Wooly Knot Far	86.22	322	P		P		23 48 06.0	+0.1
	baz=35								
N40A	Mertquake, Sal	86.24	326	P		P		23 48 06.4	+0.4
	baz=32								
TZTN	Tazewell	86.24	319	P		P		23 48 08.8	+2.7
	baz=37								
KMSC	Kings Mountain	86.26	316	P		P		23 48 07.7	+1.5
	baz=38								
Y58A	Scranton	86.37	315	P		P		23 48 07.5	+0.8
	baz=39								
P43A	Skaggs, Pawnee	86.42	324	P		P		23 48 07.9	+1.0
	baz=33								
Q45A	Warren Harvey,	86.45	323	P		P		23 48 07.7	+0.6
	baz=34								
T50A	Nancy	86.47	320	P		P		23 48 08.8	+1.7
	baz=36								
S48A	Wiedeman Farm,	86.52	321	P		P		23 48 08.3	+0.9
	baz=35								
V53A	Saluda	86.58	318	P		P		23 48 09.5	+1.7
	baz=37								
X56A	White Oak	86.61	316	P		P		23 48 08.8	+0.9
	baz=38								
PAULI	Pauline	86.75	317	eP		P		23 48 09.4	+0.8
	comp=Z,56nm,1.4s								
P42A	Winchester	86.82	325	eP		P		23 48 09.4	+0.6
	comp=Z,33nm,1.5s								
P42A	Winchester	86.82	325	P		P		23 48 09.4	+0.6

P41A	**Barry, Barry** baz=32	**87.04 325**	P	**P**	**23 48 10.1 +0.2**
Q43A	**New Douglas** baz=33	**87.08 324**	P	**P**	**23 48 10.7 +0.6**
T48A	**Bowling Green** baz=35	**87.12 321**	P	**P**	**23 48 10.9 +0.6**
W53A	**Cullowhee** baz=37	**87.15 318**	P	**P**	**23 48 11.1 +0.5**
X54A	**Belton** baz=37	**87.25 317**	P	**P**	**23 48 11.9 +0.9**
S46A	**Don Dixon Farm** baz=34	**87.25 322**	P	**P**	**23 48 12.4 +1.4**
B08A	**Colville Reser** comp=Z,14nm,1.5s	**87.27 347**	*e*P	**P**	**23 48 11.8 +0.9**
R44A	**Waltonville** baz=34	**87.39 323**	P	**P**	**23 48 11.8 +0.1**
HRY	**Holter Researc**	**87.40 342**	*e*P	**P**	**23 48 12.7 +1.0**
B06A	**Marblemount** comp=Z,12nm,0.6s	**87.43 349**	*e*P	**P**	**23 48 11.3 -0.2**
Q42A	**Golden Eagle** baz=33	**87.46 325**	P	**P**	**23 48 12.6 +0.7**
Y55A	**Saluda** baz=38	**87.47 316**	P	**P**	**23 48 13.3 +1.2**
PGC	**Sidney**	**87.57 350**	*e*P	**P**	**23 48 12.8 +0.5**
C09A	**Chrisman Ranch** comp=Z,15nm,0.9s	**87.63 347**	*e*P	**P**	**23 48 13.1 +0.5**
S45A	**Carrier Mills** baz=34	**87.64 323**	P	**P**	**23 48 13.2 +0.4**
V50A	**Pikevile** baz=36	**87.68 319**	P	**P**	**23 48 15.3 +2.2**
Q41A	**Truxton** baz=32	**87.72 325**	P	**P**	**23 48 14.0 +0.8**
MSO	**Missoula** comp=Z,49nm,1.7s	**87.75 343**	*e*P	**P**	**23 48 14.0 +0.7**
MSO	**Missoula** baz=18,SNR=16	**87.75 343**	P	**P**	**23 48 14.2 +0.9**
GCMT	**Greycliff**	**87.76 340**	*e*P	**P**	**23 48 14.2 +0.8**
B05A	**Bryant** baz=12,SNR=6.0	**87.77 349**	P	**P**	**23 48 13.3 +0.1**
RSSD	**Black Hills** comp=Z,10nm,0.9s	**87.77 336**	*e*P	**P**	**23 48 14.2 +0.5**
RSSD RSSD	**Black Hills** comp=Z,10.0nm,0.9s	**87.77 336**	*e*P pmax	**P** pmax	**23 48 14.2 +0.5**
RSSD	**Black Hills** baz=24	**87.77 336**	P	**P**	**23 48 15.1 +1.5**
T46A	**Princeton** baz=34	**87.86 322**	P	**P**	**23 48 14.2 +0.3**
SIUC	**Southern Illin** comp=Z,19nm,1.2s	**87.89 323**	*e*P	**P**	**23 48 14.9 +0.9**
S44A	**Carbondale** baz=34	**87.93 323**	P	**P**	**23 48 15.2 +0.9**
Y54A	**Tignall** baz=37	**87.95 317**	P	**P**	**23 48 15.4 +1.0**
V49A	**McMinnville** baz=35	**87.99 320**	P	**P**	**23 48 16.4 +1.9**
U47A	**Clarksville** baz=35	**88.08 321**	P	**P**	**23 48 15.2 +0.2**
R42A	**Luebbering** baz=33	**88.10 324**	P	**P**	**23 48 15.9 +0.9**
RLMT	**Red Lodge** comp=Z,38nm,1.8s	**88.28 340**	*e*P	**P**	**23 48 16.9 +0.8**
RLMT	**Red Lodge** baz=21,SNR=7.6	**88.28 340**	P	**P**	**23 48 17.5 +1.4**
R41A	**Rosebud** baz=32	**88.34 325**	P	**P**	**23 48 16.6 +0.4**
S43A	**Fulton Ridge,** baz=33	**88.39 324**	P	**P**	**23 48 17.0 +0.6**
Y53A	**Monroe** baz=37	**88.40 317**	P	**P**	**23 48 17.4 +0.9**
BOZ	**Bozeman (W)** comp=Z,24nm,1.5s	**88.41 342**	*e*P	**P**	**23 48 17.5 +0.9**
BOZ BOZ	**Bozeman (W)** comp=Z,24nm,1.5s	**88.41 342**	*e*P pmax	**P** pmax	**23 48 17.5 +0.9**
BOZ	**Bozeman (W)** baz=19,SNR=14	**88.41 342**	P	**P**	**23 48 17.7 +1.1**
D08A	**Wollman Farm,** comp=Z,14nm,1.1s	**88.46 347**	*e*P	**P**	**23 48 17.4 +0.9**
Z54A	**Sparta** baz=37	**88.53 316**	P	**P**	**23 48 19.5 +2.4**
D03D	**Eldon** baz=11	**88.61 350**	P	**P**	**23 48 18.7 +1.4**
Y52A	**Lilburn** baz=36	**88.63 317**	P	**P**	**23 48 18.5 +0.9**
GOGA	**Godfrey** baz=37	**88.70 317**	P	**P**	**23 48 18.6 +0.7**
D05A	**Enumclaw** comp=Z,43nm,1.5s	**88.81 349**	*e*P	**P**	**23 48 18.9 +0.7**
DLMT	**Dillon** comp=Z,15nm,1.1s	**88.85 342**	*e*P	**P**	**23 48 19.0 +0.4**
E09A	**Wood Farm, Sta** comp=Z,16nm,0.9s	**88.86 346**	*e*P	**P**	**23 48 19.4 +1.0**
NLWA	**Neilton Lookou** comp=Z,30nm,1.9s	**88.86 350**	*e*P	**P**	**23 48 19.3 +0.8**
T43A	**Greenville** baz=33	**88.89 323**	P	**P**	**23 48 19.6 +0.8**
YHH	**Holmes Hill** comp=Z,26nm,1.7s	**88.99 341**	*e*P	**P**	**23 48 20.7 +1.2**
QLMT	**Earthquake Lak**	**89.09 341**	*e*P	**P**	**23 48 21.1 +1.2**
LKWY	**Lake** comp=Z,9.4nm,0.4s	**89.09 340**	*e*P	**P**	**23 48 20.7 +0.8**
LKWY LKWY	**Lake** comp=Z,9.0nm,0.4s	**89.09 340**	*e*P pmax	**P** pmax	**23 48 20.7 +0.8**
S41A	**Jillco Farms,** baz=32	**89.09 325**	P	**P**	**23 48 20.7 +1.0**
YHB	**Horse Butte** comp=Z,18nm,1.4s	**89.11 341**	*e*P	**P**	**23 48 21.3 +1.3**
YMR	**Madison River** comp=Z,50nm,1.9s	**89.13 341**	*e*P	**P**	**23 48 20.7 +0.7**
HAWA	**Hanford** comp=Z,17nm,1.0s	**89.21 347**	*e*P	**P**	**23 48 20.7 +0.6**
F10A	**Beach Ranch, E** comp=Z,11nm,0.9s	**89.21 345**	*e*P	**P**	**23 48 21.4 +1.2**
H17A	**Grant Village** comp=Z,21nm,1.4s	**89.29 340**	*e*P	P	23 48 24.9 +4.0
H17A	**Grant Village** baz=20,SNR=5.6	**89.29 340**	P	**P**	**23 48 23.5 +2.6**
YFT	**Old Faithful** comp=Z,18nm,1.2s	**89.30 341**	*e*P	**P**	**23 48 21.7 +0.8**
Z52A	**Williamson** baz=36	**89.35 317**	P	**P**	**23 48 22.1 +1.1**
MCMT	**McKenzie Canyo**	**89.42 342**	*e*P	**P**	**23 48 22.2 +0.8**
YPP	**Pitchstone Pla** comp=Z,21nm,1.6s	**89.46 341**	*e*P	**P**	**23 48 22.3 +0.5**
E04D	**Cinebar** baz=11	**89.50 349**	P	**P**	**23 48 21.7 +0.3**
X48A	**Hartselle** baz=35	**89.60 320**	P	**P**	**23 48 24.9 +2.8**
FLWY	**Flagg Ranch** comp=Z,48nm,1.9s	**89.62 340**	*e*P	**P**	**23 48 23.3 +0.9**
K22A	**Casper** comp=Z,13nm,0.8s	**89.84 337**	*e*P	**P**	**23 48 23.7 +0.3**
K22A	**Casper** baz=23	**89.84 337**	P	**P**	**23 48 23.8 +0.5**
MOOW	**Moose Ponds** comp=Z,34nm,1.9s	**89.94 340**	*e*P	**P**	**23 48 24.8 +0.9**
F05D	**White Salmon** baz=12	**90.00 348**	P	**P**	**23 48 25.3 +1.5**
FXWY	**Fox Creek** comp=Z,6.4nm,1.1s	**90.11 341**	*e*P	**P**	**23 48 25.9 +1.1**
G08A	**Pilot Rock** comp=Z,33nm,1.9s	**90.18 346**	*e*P	**P**	**23 48 25.5 +0.7**
TPAW	**Teton Pass** comp=Z,10nm,1.1s	**90.23 340**	*e*P	**P**	**23 48 26.4 +1.1**
BMO	**Blue Mountains** comp=Z,6.9nm,1.0s	**90.31 345**	*e*P	**P**	**23 48 25.8 +0.4**
BMO BMO	**Blue Mountains** comp=Z,7.0nm,1.0s	**90.31 345**	*e*P pmax	**P** pmax	**23 48 25.8 +0.4**
REDW	**Red Top Meadow** comp=Z,16nm,1.4s	**90.33 340**	*e*P	**P**	**23 48 27.0 +1.3**
TIGA	**Tifton** baz=36	**90.34 316**	P	**P**	**23 48 27.8 +2.1**
252A	**Lumpkin** baz=36	**90.47 317**	P	**P**	**23 48 28.3 +2.1**
G06A	**Carlson Farm,** comp=Z,21nm,1.6s	**90.51 348**	*e*P	**P**	**23 48 27.3 +1.0**
BW06	**Boulder Array** comp=Z,3.7nm,1.2s	**90.56 339**	*e*P	**P**	**23 48 27.1 +0.3**
PD31	**Pinedale Array** comp=Z,6.9nm,1.5s	**90.56 339**	*e*P	**P**	**23 48 27.6 +0.8**
PDAR	**Pinedale Array**	**90.56 339**	*e*P	**P**	**23 48 27.0 +0.2**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.7s,baz=22,slow=1.6,SNR=7.0	**90.56 339**	P	**P**	**23 48 27.5 +0.7**
U40A	**Yellville** baz=31	**90.60 325**	P	**P**	**23 48 27.5 +0.7**
PHWY	**Pilot Hill** comp=Z,8.1nm,0.8s	**90.77 336**	*e*P	**P**	**23 48 28.0 +0.1**
RWWY	**Rawlins** comp=Z,16nm,1.3s	**90.93 337**	*e*P	**P**	**23 48 29.1 +0.6**
AHID	**Auburn Hatcher** comp=Z,5.4nm,0.4s	**90.95 340**	*e*P	**P**	**23 48 29.0 +0.4**
HLID	**Hailey** comp=Z,1.4nm,0.5s	**90.97 343**	*e*P	**P**	**23 48 29.2 +0.6**
HLID	**Hailey** baz=17	**90.97 343**	P	**P**	**23 48 29.8 +1.2**
N23A	**Red Feather La** comp=Z,9.7nm,1.0s	**91.29 336**	*e*P	**P**	**23 48 30.7 +0.4**
N23A	**Red Feather La** baz=23	**91.29 336**	P	**P**	**23 48 31.6 +1.4**
I07A	**Izee** comp=Z,5.9nm,0.9s	**91.45 347**	*e*P	**P**	**23 48 31.4 +0.7**
PINE	**Pine Mountain** comp=Z,7.7nm,1.1s	**91.97 347**	*e*P	**P**	**23 48 34.8 +1.5**
J08A	**Circle Bar Ran** comp=Z,4.7nm,0.8s	**91.97 346**	*e*P	**P**	**23 48 34.4 +1.2**
HWUT	**Hardware Ranch** comp=Z,24nm,1.8s	**92.16 340**	*e*P	**P**	**23 48 34.6 +0.4**
I04A	**Tendick Farm,** baz=12	**92.19 348**	P	**P**	**23 48 34.8 +0.8**
TUL1	**Leonard** comp=Z,13nm,0.7s	**92.19 327**	*e*P	**P**	**23 48 34.9 +0.7**
TUL1	**Leonard** baz=30	**92.19 327**	P	**P**	**23 48 34.3 +0.2**
ISCO	**Idaho Springs** comp=Z,15nm,1.8s	**92.20 335**	*e*P	**P**	**23 48 34.9 +0.4**
ISCO ISCO	**Idaho Springs** comp=Z,15nm,1.8s	**92.20 335**	*e*P pmax	**P** pmax	**23 48 34.9 +0.4**
ISCO	**Idaho Springs** baz=23	**92.20 335**	P	**P**	**23 48 35.3 +0.8**
HVU	**Hansel Valley** comp=Z,3.8nm,0.9s	**92.29 341**	*e*P	**P**	**23 48 35.4 +0.7**
HVU HVU	**Hansel Valley** comp=Z,4.0nm,0.9s	**92.29 341**	*e*P pmax	**P** pmax	**23 48 35.4 +0.7**
I03D	**Drain, OR** baz=11	**92.42 349**	P	**P**	**23 48 36.2 +1.2**
MIAR	**Mount Ida** baz=31	**92.45 324**	P	**P**	**23 48 37.0 +1.6**
J05D	**Fort Rock, OR** baz=12	**92.51 348**	P	**P**	**23 48 37.2 +1.5**
SPUT	**South Promonto** comp=Z,15nm,1.3s	**92.66 341**	*e*P	**P**	**23 48 37.1 +0.7**
O20A	**White River Ci** comp=Z,10nm,1.1s	**92.66 337**	*e*P	**P**	**23 48 36.9 +0.4**
J04D	**Umpqua Nationa** baz=12	**92.69 348**	P	**P**	**23 48 37.8 +1.2**
WVOR	**Wild Horse Val** comp=Z,9.4nm,1.0s	**92.89 345**	*e*P	**P**	**23 48 38.6 +1.1**
WVOR WVOR	**Wild Horse Val** comp=Z,9.0nm,1.0s	**92.89 345**	*e*P pmax	**P** pmax	**23 48 38.6 +1.1**
K05A	**Summer Lake** comp=Z,9.9nm,1.0s	**93.00 347**	*e*P	**P**	**23 48 38.6 +0.5**
J01E	**Myrtle Point** baz=10	**93.02 349**	P	**P**	**23 48 38.7 +0.9**
BGU	**Big Grassy Mou** comp=Z,3.6nm,1.1s	**93.16 341**	*e*P	**P**	**23 48 39.5 +0.7**
X37A	**Clayton** comp=Z,6.9nm,0.9s	**93.17 326**	*e*P	**P**	**23 48 39.5 +0.8**
SMCO	**Snowmass** comp=Z,9.1nm,1.5s	**93.18 336**	*e*P	**P**	**23 48 39.5 +0.4**
KEBM	**Edson Butte** comp=Z,50nm,1.4s	**93.36 350**	*e*P	**P**	**23 48 40.5 +1.0**
HUMO	**Hull Mountain** comp=Z,15nm,1.5s	**93.43 349**	*e*P	**P**	**23 48 40.4 +0.6**
K02D	**Willamette Mer** baz=11	**93.44 349**	P	**P**	**23 48 40.7 +0.8**
MPU	**Maple Canyon** comp=Z,5.8nm,1.0s	**93.68 340**	*e*P	**P**	**23 48 42.2 +1.0**
MOD	**Modoc Plateau** comp=Z,9.9nm,1.1s	**93.70 347**	*e*P	**P**	**23 48 42.1 +0.8**
L04D	**Klamath Falls** baz=12	**93.72 348**	P	**P**	**23 48 42.0 +0.8**
DUG	**Dugway, Tooele** comp=Z,17nm,1.4s	**93.80 341**	*e*P	**P**	**23 48 42.4 +0.7**
DUG DUG	**Dugway, Tooele** comp=Z,17nm,1.4s	**93.80 341**	*e*P pmax	**P** pmax	**23 48 42.4 +0.7**
DUG	**Dugway, Tooele** baz=18	**93.80 341**	P	**P**	**23 48 43.3 +1.6**
ELK	**Elko** comp=Z,9.1nm,1.0s	**93.84 343**	*e*P	**P**	**23 48 42.4 +0.4**
ELK ELK	**Elko** comp=Z,9.0nm,1.0s	**93.84 343**	*e*P pmax	**P** pmax	**23 48 42.4 +0.4**
L02E	**Cave Junction** baz=11	**93.96 349**	P	**P**	**23 48 43.5 +1.2**
M04C	**Macdoel** baz=12	**94.07 348**	P	**P**	**23 48 44.1 +1.2**
SRU	**San Rafael Swe** comp=Z,6.3nm,0.7s	**94.24 339**	*e*P	**P**	**23 48 44.4 +0.6**
SRU SRU	**San Rafael Swe** comp=Z,6.0nm,0.7s	**94.24 339**	*e*P pmax	**P** pmax	**23 48 44.4 +0.6**
TMUT	**Trail Mountain** comp=Z,7.4nm,0.8s	**94.25 339**	*e*P	**P**	**23 48 44.9 +0.9**
WMOK	**Wichita Mounta** comp=Z,7.1nm,0.8s	**94.40 328**	*e*P	**P**	**23 48 44.6 +0.2**
WMOK WMOK	**Wichita Mounta** comp=Z,7.0nm,0.8s	**94.40 328**	*e*P pmax	**P** pmax	**23 48 44.6 +0.2**
WMOK	**Wichita Mounta** baz=28	**94.40 328**	P	**P**	**23 48 44.8 +0.4**
S22A	**4UR Ranch, Cre** comp=Z,18nm,1.5s	**94.46 335**	*e*P	**P**	**23 48 45.5 +0.6**
S22A	**4UR Ranch, Cre** baz=22	**94.46 335**	P	**P**	**23 48 46.1 +1.1**
BMN	**Battle Mountai** comp=Z,5.3nm,0.8s	**94.56 344**	*e*P	**P**	**23 48 47.3 +2.1**
BMN BMN	**Battle Mountai** comp=Z,5.0nm,0.8s	**94.56 344**	*e*P pmax	**P** pmax	**23 48 47.3 +2.1**
Q16A	**Castle Valley** comp=Z,11nm,1.0s	**94.59 339**	*e*P	**P**	**23 48 45.8 +0.3**
M02C	**Callahan** baz=11	**94.61 348**	P	**P**	**23 48 45.9 +0.6**
N02D	**Trinity Center** baz=11	**94.99 348**	P	**P**	**23 48 48.2 +1.1**
TCRU	**Three Creeks R** comp=Z,10nm,0.5s	**95.21 340**	*e*P	**P**	**23 48 48.6 +0.3**
MSU	**Marysvale**	**95.23 340**	*e*P	**P**	**23 48 49.1 +0.7**
MSU	**Marysvale**	**95.23 340**	*e*P	**P**	**23 48 49.1 +0.7**
WDC	**Whiskeytown Da** comp=Z,4.9nm,1.2s	**95.36 348**	*e*P	**P**	**23 48 49.4 +0.8**
WDC WDC	**Whiskeytown Da** comp=Z,5.0nm,1.2s	**95.36 348**	*e*P pmax	**P** pmax	**23 48 49.4 +0.8**
MVCO	**Mesa Verde** comp=Z,34nm,1.9s	**95.45 336**	*e*P	**P**	**23 48 49.8 +0.4**
MVCO	**Mesa Verde** baz=21	**95.45 336**	P	**P**	**23 48 50.5 +1.0**
PSUT	**Pine Spring** comp=Z,6.7nm,0.9s	**95.63 341**	*e*P	**P**	**23 48 51.2 +1.0**
PAHR	**Pah Rah Range** comp=Z,21nm,1.9s	**95.67 345**	*e*P	**P**	**23 48 51.4 +1.1**
MTPU	**Mount Pierson** comp=Z,11nm,0.9s	**95.68 339**	*e*P	**P**	**23 48 51.0 +0.4**
O02D	**Mt. Diablo Mer** baz=11	**95.79 348**	P	**P**	**23 48 51.8 +1.1**
R11A	**Troy Canyon, C** comp=Z,7.7nm,1.4s	**96.21 342**	*e*P	**P**	**23 48 53.4 +0.6**
R11A	**Troy Canyon, C** baz=16	**96.21 342**	P	**P**	**23 48 54.1 +1.3**
CCUT	**Cedar City** comp=Z,11nm,1.0s	**96.44 340**	*e*P	**P**	**23 48 54.9 +0.9**
ABTX	**Abilene, Hawle** baz=27	**96.60 328**	P	**P**	**23 48 55.4 +1.0**
NV01	**Mina Array Sit**	**96.70 344**	*e*P	**P**	**23 48 55.4 +0.3**
NVAR	**Mina Array Bea** comp=Z,1.3nm,0.7s,baz=32,slow=4.9,SNR=10	**96.70 344**	P	**P**	**23 48 56.0 +0.9**
ANMO	**Albuquerque** comp=Z,1.0nm,0.5s	**96.92 334**	*e*P	**P**	**23 48 56.0 -0.1**
ANMO ANMO	**Albuquerque** comp=Z,1.0nm,0.5s	**96.92 334**	*e*P pmax	**P** pmax	**23 48 56.0 -0.1**
ANMO	**Albuquerque** baz=23	**96.92 334**	P	**P**	**23 48 56.9 +0.8**
TASM	**ASL Pad, Albuq** baz=23	**96.92 334**	P	**P**	**23 48 57.0 +0.9**
TASM	**ASL Pad, Albuq** baz=23	**96.92 340**	*e*P	**P**	**23 48 56.9 +0.8**
LCMT	**Little Creek M**	**96.92 340**	*e*P	**P**	**23 48 57.1 +1.1**
	comp=Z,8.6nm,1.0s				
U15A	**North Rim** comp=Z,4.3nm,0.6s	**97.23 339**	*e*P	Pdif	23 48 57.8 +0.1
WUAZ	**Wupatki** comp=Z,9.9nm,1.1s	**97.85 338**	*e*P	Pdif	23 49 01.3 +1.0
FURC	**Furnace Creek,** baz=16	**98.29 343**	P	Pdif	23 49 03.8 +1.8
MNTX	**Cornudas Mount** comp=Z,4.3nm,0.9s	**99.53 332**	*e*P	**Pdif**	**23 49 08.5 +0.8**
MNTX	**Cornudas Mount** baz=24	**99.53 332**	P	**Pdif**	**23 49 08.4 +0.8**
121A	**Cookes Peak, D** baz=22	**99.56 334**	P	**Pdif**	**23 49 08.9 +0.9**
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=67,slow=3.3,SNR=6.8	**101.07 330**	P	**Pdif**	**23 49 15.1 +0.5**
PLCA	**Paso Flores** comp=Z,2.9nm,0.9s,baz=80,slow=6.6,SNR=4.8	**130.78 248**	PKP	**PKiKP**	**23 54 35.5 -0.7**
LTZ	**Lake Taylor**	**144.34 107**	*e*PKPdf	**PKPdf**	**23 54 59.6 -0.5**
HIZ	**Hauiti**	**144.69 99**	*e*PKPdf	**PKPdf**	**23 54 59.7 -1.1**
KHZ	**Kahutara**	**145.12 106**	*e*PKPbc	**PKiKP**	**23 55 02.3 -3.0**
BKZ	**Black Stump Fm**	**146.12 99**	*e*PKPdf	**PKPab**	**23 55 03.5 -1.5**
URZ	**Urewera**	**146.23 97**	*e*PKPdf	**PKPab**	**23 55 04.1 -1.2**
BFZ	**Birch Farm**	**146.48 101**	*e*PKPdf	**PKPab**	**23 55 05.2 -1.1**

*ISCJB **26** 23:40:45.4±0.9, 22°.36N±0°.09×144°.0E±0°.3, h100km, mb3.6/9, Error ellipse: s-maj=37.1km s-min=9.7km az=167.4*
*IDC **26** 23:40:49.4±2.6, 22°.39N×143°.97E, h119km±23km, mb3.3/9, mb1 3.4/10, mb1mx3.2/63, mbtmp3.7/10, Error ellipse: s-maj=42.9km s-min=14.4km az=80.0*

ISC 26 23:40:47.6±1.0, 22°.3N±0°.1×144°.1E±0°.3, h100km, n13, σ1§44/12, mb3.8/9, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima** 13nm,0.3s,baz=288,slow=23,SNR=12	**5.06**	**340**	P	**Pn**	**Pn**	**23 42 03.5**	**+2.4**
JCJ	30nm,0.3s,baz=286,slow=23,SNR=13			S	**Sn**	**Sn**	**23 42 57.2**	**-1.2**
H11S3	**WAKE ISLAND Hy** baz=162,slow=74,SNR=5.3	**21.52**	**96**	T	T		00 09 08.2	
H11S1	**WAKE ISLAND Hy** baz=284,slow=74,SNR=2.6	**21.53**	**96**	T	T		00 09 02.6	
H11S2	**WAKE ISLAND Hy**	**21.54**	**96**	T	T		00 09 06.5	
SONM	**Songino Array** 0.2nm,0.6s,baz=120,slow=5.3,SNR=1.7	**39.40**	**320**	P	**P**		**23 48 08.3**	**+0.6**
CTA	**Charters Tower** 1.7nm,0.5s,baz=349,slow=10,SNR=1.3	**42.20**	**177**	P	**P**		**23 48 31.7**	**+1.0**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=13,slow=8.5,SNR=39	**43.06**	**193**	P	**P**		**23 48 37.8**	**0.0**
ASAR	**Alice Springs** 0.4nm,0.4s,baz=12,slow=8.5,SNR=5.7	**46.77**	**193**	P	**P**		**23 49 06.5**	**-0.6**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=84,slow=7.4,SNR=3.1	**54.90**	**312**	P	**P**		**23 50 06.7**	**-1.2**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=92,slow=7.6,SNR=5.1	**57.65**	**317**	P	**P**		**23 50 25.9**	**-1.4**
KURBB	0.9nm,0.7s,baz=94,slow=7.7,SNR=4.1			pP	**pP**		**23 50 52.1**	**+1.7**
ILAR	**Eielson Array** 0.3nm,0.9s,baz=273,slow=8.0,SNR=2.2	**61.11**	**27**	P	**P**		**23 50 50.6**	**-0.3**
BVAR	**Borovoye Array** 0.6nm,0.4s,baz=85,slow=6.1,SNR=6.1	**62.75**	**319**	P	**P**		**23 51 01.1**	**-1.0**
FINES	**FINESS Array B** 1.3nm,0.9s,baz=59,slow=4.9,SNR=4.8	**82.98**	**335**	P	**P**		**23 52 59.7**	**-1.6**

*TIF **26** 23:47:29.8, 43°.23N×41°.62E, h20km±5km*
*MOS **26** 23:47:30.6±0.0, 43°.23N×41°.75E, h2km, MPVA3.5*
*NORS **26** 23:47:32.3±0.0, 43°.19N×41°.85E, h11km, MPVA3.4*

ISC 26 23:47:30.6±1.0, 43°.20N±0°.03×41°.70E±0°.03, h6km±9km, n19, σ0§88/34, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.10**	**330**	*i* Pg	**Pg**		**23 47 32.4**	**-0.6**
DOMR				*e*Sg	**Sg**		**23 47 34.6**	**-0.1**
NEY	**Neytrino**	**0.75**	**86**	*e*Pg	**Pg**		**23 47 44.6**	**-0.4**
NEY				*e*Sg	**Sg**		**23 47 54.0**	**-0.8**
SHA1	**Shidzhatmaz**	**0.88**	**52**	*i* Pg	**Pg**		**23 47 48.1**	**+0.6**
SHA1				*e*Sg	**Sg**		**23 47 59.6**	**+0.6**
KIV0	**Kislovodsk Arr**	**1.05**	**44**	*i* Pg	**Pn**		**23 47 51.2**	**-0.7**
KIV0				*e*Sg	**Sn**		**23 48 05.1**	**-1.8**
BEYR	**Belyy Ugol+**	**1.15**	**45**	*i* Pg	**Pg**		**23 47 53.0**	**+0.4**
BEYR				*e*Sg	**Sg**		**23 48 07.8**	**+0.3**
PYA1	**Pyatigorsk**	**1.33**	**49**	*e*Pg	**Pg**		**23 47 55.8**	**-0.3**
PYA1				*e*Sg	**Sg**		**23 48 13.8**	**+0.4**
KBTC	**Kuba-Taba**	**1.39**	**63**	*e*Pg	**Pg**		**23 47 57.8**	**+0.6**
KBTC				*e*Sg	**Sg**		**23 48 15.8**	**+0.5**
DIGR	**Digorskoe uzhe**	**1.41**	**102**	*e*Pg	**Pg**		**23 47 59.1**	**+1.4**
DIGR				*e*Sg	**Sg**		**23 48 16.9**	**+0.9**
NVNR	**Nevinnomyssk**	**1.43**	**8**	*e*Pg	**Pg**		**23 47 58.5**	**+0.6**
NVNR				*e*Sg	**Sg**		**23 48 17.5**	**+1.0**
ONI	**Oni**	**1.43**	**115**	*i* P	**Pn**		**23 47 58.1**	**+0.2**
ONI				S	**Sg**		**23 48 17.1**	**+0.7**
ONI	**Oni**	**1.43**	**115**	*e*Pg	**Pg**		**23 47 58.1**	**+0.2**
ONI				*e*Sg	**Sg**		**23 48 17.1**	**+0.7**
ALER	**Alexandrovskoy**	**1.79**	**29**	*e*Pg	**Pg**		**23 48 05.5**	**+0.6**
ALER				*e*Sg	**Sg**		**23 48 29.6**	**+1.4**
LZRR	**Lazarevskoye**	**1.84**	**294**	*e*Pg	**Pg**		**23 48 06.1**	**+0.3**
LZRR				*e*Sg	**Sg**		**23 48 30.6**	**+1.1**
DBOC	**Borcka** comp=Z,644nm,0.1s	**1.85**	**181**	*i* P IAML_P	**Pn**		**23 48 02.9**	**0.0**
DBOC								
EPOS	**Posof**	**1.86**	**155**	*i* P	**Pb**		**23 48 04.2**	**-0.8**
EPOS				*i* S	**Sg**		**23 48 30.9**	**+0.5**
GOF	**Gofitskoye**	**2.10**	**27**	*e*Pg	**Pg**		**23 48 11.7**	**+0.9**
GOF				*e*Sg	**Sg**		**23 48 39.8**	**+1.9**
DAGI	**Agillar** comp=Z,166nm,0.2s	**2.13**	**176**	*i* P IAML_P	**Pn**		**23 48 07.5**	**+0.8**
DAGI								
DBAD	**Bademkaya** comp=Z,199nm,0.1s	**2.18**	**180**	*i* P IAML_P	**Pn**		**23 48 08.6**	**+1.1**
DBAD								
DDEM	**Demirkent** comp=Z,436nm,0.2s	**2.31**	**179**	*i* P IAML_P	**Pn**		**23 48 08.6**	**-0.6**
DDEM								

IDC 26 23:53:30.6±4.5, 11°.70N×87°.21W, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/48, mbtmp3.2/4, ML2.5/1, Error ellipse: s-maj=202.7km s-min=29.1km az=42.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare** 0.8nm,0.3s,baz=7.4,slow=18,SNR=1.7	**2.62**	**122**	P	**Pn**	**Pn**	**23 54 14.2**	**0.0**
JTS	7.0nm,0.3s,baz=267,slow=18,SNR=8.7			S	**Sn**	**Sn**	**23 54 43.5**	**-3.3**
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=134,slow=10,SNR=7.2	**23.30**	**321**	P	**P**		**23 58 39.1**	**-1.2**
H06E1	**SOCORRO T-PHAS**	**23.92**	**290**	T	T		00 23 35.3	
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=125,slow=8.9,SNR=3.6	**36.54**	**332**	P	P		00 00 39.3	**+1.0**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=137,slow=7.7,SNR=7.3	**54.39**	**345**	P	P		00 02 59.0	**-0.1**

*ATH **27** 00:04:39.7, 36°.25N×27°.69E, h20km±4km, ML2.9/3, Error ellipse: s-maj=6.3km s-min=1.4km az=123.0*
*ISCJB **27** 00:04:40.9±0.6, 36°.14N±0°.03×27°.67E±0°.03, h7km±4km, Error ellipse: s-maj=5.0km s-min=3.5km az=136.7*
*DDA **27** 00:04:40.5, 36°.16N×27°.72E, h14km±2km, ML2.9*
*THE **27** 00:04:40.8, 36°.14N×27°.74E, h2km±2km, ML2.9/2, Error ellipse: s-maj=2.2km s-min=0.6km az=140.0*
*ISK **27** 00:04:40.5, 36°.17N×27°.74E, h5km, ML2.8/11*

ISC 27 00:04:41.0±1.0, 36°.16N±0°.03×27°.71E±0°.03, h12km±8km, n39, σ1§59/55, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.34**	**80**	P	**Pg**		**00 04 47.4**	**-0.4**
ARG				S	**Sg**		**00 04 52.3**	**-0.1**
ARG	**Arkhangelos**	**0.34**	**80**	P	**Pg**		**00 04 47.4**	**-0.4**
ARG				S	**Sg**		**00 04 51.7**	**-0.7**
ARG	comp=E,8986μm,0.2s			AML	AML		00 04 52.8	
ARG	comp=N,7446μm,0.3s			AML	AML		00 04 52.9	
DAT	**Datca**	**0.58**	**349**	PG	**Pg**		**00 04 52.7**	**+0.4**
DAT				SG	**Sb**		**00 05 02.3**	**+1.0**
DAT	**Datca

DAT				IAML_P				
	comp=Z,2μm,0.1s							
KARP	**Karpathos**	**0.76**	**216**	P		**Pg**	**00 04 55.5**	**-0.2**
KARP				S		**Sg**	**00 05 07.2**	**+1.6**
KARP	**Karpathos**	**0.76**	**216**	P		**Pg**	**00 04 55.4**	**-0.3**
KARP				S		**Sn**	**00 05 08.7**	**-0.2**
KARP				AML	AML		00 05 10.6	
	comp=E,1793μm,0.2s							
KARP				AML	AML		00 05 11.0	
	comp=N,1364μm,0.1s							
BDRM	**Kayabasi**	**0.93**	**347**	*i* P		**Pb**	**00 04 59.3**	**+0.2**
BDRM				*i* S		**Sg**	**00 05 11.9**	**+0.8**
BODT	**Bodrum**	**0.96**	**340**	PG		**Pb**	**00 05 00.2**	**+0.7**
BODT				SG		**Sn**	**00 05 14.4**	**+0.6**
DALY	**Dalyan (Mula)**	**1.00**	**49**	PG		**Pb**	**00 05 00.7**	**+0.5**
DALY	**Dalyan (Mula)**	**1.00**	**49**	*i* P		**Pb**	**00 05 00.1**	**-0.1**
DALY				IAML_P				
	comp=Z,959nm,0.2s							
TURN	**Turunc**	**1.01**	**45**	PG		Pb	00 04 55.9	-4.4
TURN				SG		**Sb**	**00 05 06.9**	**-6.7**
TURN	**Turunc**	**1.01**	**45**	*i* P		Pb	00 04 55.8	-4.6
TURN				*i* S		**Sb**	**00 05 07.3**	**-6.3**
TURN				IAML_P				
	comp=Z,3μm,0.1s							
YER	**Yerkesik**	**1.07**	**25**	PG		**Pb**	**00 05 01.6**	**+0.1**
YER				SG		**Sn**	**00 05 17.8**	**+1.1**
YER	**Yerkesik**	**1.07**	**25**	P		**Pb**	**00 05 01.6**	**+0.1**
YER				S		**Sg**	**00 05 16.2**	**+0.5**
FETY	**Fethiye**	**1.20**	**66**	PN		**Pb**	**00 05 04.4**	**+0.7**
FETY	**Fethiye**	**1.20**	**66**	P		**Pn**	**00 05 02.7**	**-0.9**
FETY				S		**Sb**	**00 05 19.9**	**+0.7**
FETY	**Fethiye**	**1.20**	**66**	*i* P		**Pn**	**00 05 03.8**	**+0.2**
FETY				*i* S		**Sg**	**00 05 21.3**	**+1.5**
FETY				IAML_P				
	comp=Z,1μm,0.2s							
AYDN	**Tasoluk**	**1.50**	**5**	*i* P		**Pn**	**00 05 08.0**	**+0.3**
AYDN				IAML_P				
	comp=Z,2μm,0.3s							
AKAS	**Kas**	**1.53**	**87**	PN		**Pb**	**00 05 09.8**	**+0.5**
AKAS	**Kas**	**1.53**	**87**	*i* P		**Pb**	**00 05 09.8**	**+0.5**
AKAS				IAML_P				
	comp=Z,3μm,0.2s							
GCAM	**G?zelcaml?**	**1.58**	**346**	PN		**Pb**	**00 05 10.4**	**+0.2**
GCAM	**G?zelcaml?**	**1.58**	**346**	*i* P		**Pn**	**00 05 09.8**	**+1.0**
GCAM				IAML_P				
	comp=Z,619nm,0.2s							
ZKR	**Zakros**	**1.60**	**230**	P		**Pn**	**00 05 10.1**	**+1.0**
AMGA	**Amorgos Island**	**1.61**	**295**	P		**Pn**	**00 05 07.9**	**-1.3**
TAVA	**DENIZLI_Tavas**	**1.62**	**36**	*i* P		**Pg**	**00 05 12.5**	**+0.4**
TAVA				*i* S		**Sg**	**00 05 34.0**	**+0.9**
TAVA				IAML_P				
	comp=Z,1μm,0.2s							
STIA	**Sitia Lasithi**	**1.63**	**235**	P		**Pn**	**00 05 08.7**	**-0.7**
STIA				S		**Sn**	**00 05 31.4**	**+1.1**
SMG	**Samos**	**1.70**	**336**	P		**Pn**	**00 05 09.0**	**-1.4**
SMG				S		**Sn**	**00 05 30.8**	**-1.2**
SMG				AML	AML		00 05 41.2	
	comp=N,227μm,0.5s							
SMG				AML	AML		00 05 43.1	
	comp=E,458μm,0.4s							
AYDB	**Zeytinkoy-Aydi**	**1.79**	**4**	PN		**Pb**	**00 05 13.4**	**-0.3**
ELL	**Elmali**	**1.86**	**71**	PN		**Pb**	**00 05 15.1**	**+0.1**
NPS	**Neapolis**	**1.93**	**243**	P		**Pn**	**00 05 13.9**	**+0.3**
NPS				S		**Sn**	**00 05 37.9**	**+0.1**
APE	**Apeiranthos**	**1.98**	**298**	P		**Pn**	**00 05 14.1**	**-0.2**
LAST	**Lasithi**	**2.08**	**242**	P		**Pn**	**00 05 16.2**	**+0.6**
KORT	**Korkueli**	**2.28**	**68**	PN		**Pn**	**00 05 20.9**	**+2.4**
KORT	**Korkueli**	**2.28**	**68**	*i* P		**Pb**	**00 05 22.3**	**+0.2**
KORT				IAML_P				
	comp=Z,444nm,0.2s							
ZEY	**zmir**	**2.29**	**335**	*i* P		**Pn**	**00 05 18.7**	**+0.2**
ZEY				IAML_P				
	comp=Z,683nm,0.2s							
BRDR	**BURDUR-Merkez**	**2.43**	**50**	*i* P		**Pb**	**00 05 24.2**	**-0.3**
BRDR				IAML_P				
	comp=Z,78nm,0.1s							
KULA	**Kula-Manisa**	**2.47**	**18**	PN		**Pn**	**00 05 23.1**	**+2.0**
KHAL	**Karahalli**	**2.62**	**32**	*i* P		**Pn**	**00 05 25.4**	**+2.1**
KHAL				*i* S		**Sn**	**00 05 57.7**	**+2.7**
KHAL				IAML_P				
	comp=Z,100nm,0.2s							
AKHS	**Akhisar**	**2.72**	**2**	*i* P		**Pn**	**00 05 24.6**	**+0.2**
AKHS				IAML_P				
	comp=Z,284nm,0.2s							

*ISCJB **27** 00:06:47.8±0.5, 33°.28N±0°.07×137°.86E±0°.08, h350km, mb3.2/5, Error ellipse: s-maj=9.9km s-min=8.4km az=37.0*
*JMA **27** 00:06:47.4±0.2, 33°.43N×137°.90E, h367km, M3.1*
*IDC **27** 00:06:48.7±1.6, 33°.34N×137°.84E, h343km±16km, mb3.1/5, mb1 3.2/8, mb1mx2.9/47, mbtmp3.8/8, Error ellipse: s-maj=35.0km s-min=15.1km az=67.0*
ISC 27 00:06:48.2±0.9, 33°.30N±0°.08×137°.84E±0°.07, h350km, n26, σ1§57/28, mb3.3/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TK01	**Tokai 1**	**0.51**	**336**	P		**Pn**	**00 07 33.4**	**+1.4**
TK02	**Tokai 2**	**0.65**	**354**	P		**Pn**	**00 07 34.0**	**+1.5**
TTO3	**TONANKAI O.B.S**	**0.67**	**327**	P		**Pn**	**00 07 34.3**	**+1.7**
TTO2	**TONANKAI O.B.S**	**0.81**	**303**	P		**Pn**	**00 07 34.5**	**+1.6**
TTO1	**TONANKAI O.B.S**	**0.94**	**290**	P		**Pn**	**00 07 34.7**	**+1.4**
TTO5	**TONANKAI O.B.S**	**0.96**	**354**	P		**Pn**	**00 07 35.0**	**+1.5**
TK04	**Tokai 4**	**1.08**	**2**	P		**Pn**	**00 07 35.6**	**+1.5**
JIE	**Ise**	**1.44**	**319**	P		**Pn**	**00 07 36.5**	**+0.5**
JOD2	**Odawara 2**	**2.21**	**27**	P		**Pn**	**00 07 41.4**	**+0.4**
JYN	**Shimob**	**2.27**	**15**	P		**Pn**	**00 07 41.7**	**+0.2**
JYTA	**Yamagatataniai**	**2.46**	**335**	P		**Pn**	**00 07 42.9**	**0.0**
JWT	**Wachi**	**2.83**	**315**	P		**Pn**	**00 07 45.7**	**-0.3**
JWT				S		**S**	**00 08 29.4**	**-3.1**
JRY	**Ryogami san**	**2.85**	**18**	P		**Pn**	**00 07 46.5**	**+0.3**
JAI	**Aioi**	**2.87**	**281**	P		**Pn**	**00 07 46.4**	**0.0**
BSO1	**Boso 1**	**2.94**	**62**	P		**Pn**	**00 07 46.2**	**-0.1**
BSO1				S		**S**	**00 08 32.6**	**-0.6**
MAT	**Matsushiro**	**3.25**	**5**	P		**Pn**	**00 07 49.4**	**-0.4**
MAT	**Matsushiro**	**3.25**	**5**	P		**Pn**	**00 07 49.0**	**-0.8**
MJAR	**Matsushiro Arr**	**3.25**	**5**	P		**Pn**	**00 07 49.3**	**-0.5**
	1.1nm,0.3s,baz=189,slow=10,SNR=74							
JNU	**Nakatsue**	**5.84**	**270**	P		**Pn**	**00 08 17.3**	**+0.1**
	1.5nm,0.3s,baz=137,slow=3.2,SNR=9.4							
JCJ	**Chichijima**	**7.24**	**148**	S		**S**	**00 09 54.1**	**-4.9**
	11nm,0.3s,baz=281,slow=23,SNR=9.5							
KSRS	**Korea Array**	**9.10**	**300**	P		**Pn**	**00 08 55.0**	**-0.3**
	0.5nm,0.3s,baz=110,slow=12,SNR=13							
SONM	**Songino Array**	**27.73**	**311**	P		**P**	**00 12 08.3**	**+2.6**
	0.8nm,0.6s,baz=124,slow=10,SNR=9.4							
MKAR	**Makanchi Array**	**43.73**	**305**	P		**P**	**00 14 19.6**	**-0.5**
	0.2nm,0.3s,baz=89,slow=9.4,SNR=8.5							
WRA	**Warramunga Arr**	**53.05**	**184**	P		**P**	**00 15 31.9**	**+1.3**
	1.5nm,0.4s,baz=1.2,slow=7.8,SNR=39							
ASAR	**Alice Springs**	**56.77**	**184**	P		**P**	**00 15 58.3**	**+1.3**
	0.5nm,0.4s,baz=14,slow=13,SNR=13							
FINES	**FINESS Array B**	**70.73**	**332**	P		**P**	**00 17 26.9**	**+0.1**
	0.3nm,0.3s,baz=98,slow=6.0,SNR=1.2							

*TIF **27** 00:13:05.5, 43°.26N×41°.46E, h19km±4km*
*ISCJB **27** 00:13:07.2±0.5, 43°.25N±0°.03×41°.67E±0°.03, h11km±4km, Error ellipse: s-maj=5.2km s-min=3.7km az=174.9*
*MOS **27** 00:13:08.2±0.0, 43°.26N×41°.73E, h2km, MPVA3.4*
*NORS **27** 00:13:09.7±0.0, 43°.24N×41°.77E, h7km, MPVA3.3*
ISC 27 00:13:07.6±0.9, 43°.24N±0°.03×41°.66E±0°.03, h9km±7km, n21, σ1§21/41, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**0.06**	**336**	*i* Pg		**Pg**	**00 13 09.3**	**-0.6**
DOMR				*e*Sg		**Sg**	**00 13 11.5**	**+0.1**
NEY	**Neytrino**	**0.78**	**89**	*e*Pg		**Pg**	**00 13 21.9**	**-0.7**
NEY				*e*Sg		**Sg**	**00 13 31.1**	**-1.7**
SHA1	**Shidzhatmaz**	**0.88**	**55**	*i* Pg		**Pg**	**00 13 25.1**	**+0.5**
SHA1				*e*Sg		**Sg**	**00 13 36.9**	**+0.7**
KIV0	**Kislovodsk Arr**	**1.04**	**46**	*i* Pg		**Pn**	**00 13 28.2**	**-0.3**
KIV0				*e*Sg		**Sg**	**00 13 41.7**	**+0.5**
TKB	**Tkibuli**	**1.32**	**132**	P		**Pn**	**00 13 32.5**	**+0.2**
TKB				S		**Sg**	**00 13 51.4**	**+1.2**
PYA1	**Pyatigorsk**	**1.33**	**51**	*e*Pg		**Pg**	**00 13 33.2**	**+0.1**
PYA1				*e*Sg		**Sg**	**00 13 50.7**	**+0.3**
KBTC	**Kuba-Taba**	**1.40**	**65**	*e*Pg		**Pb**	**00 13 33.9**	**-0.1**
KBTC				*e*Sg		**Sg**	**00 13 52.9**	**+0.3**
NCK	**Nalchik**	**1.44**	**79**	*e*Pg		**Pg**	**00 13 36.3**	**+1.1**
NCK				*e*Sg		**Sg**	**00 13 55.6**	**+1.8**
DIGR	**Digorskoe uzhe**	**1.45**	**103**	*e*Pg		**Pg**	**00 13 35.6**	**+0.2**
DIGR				*e*Sg		**Sg**	**00 13 55.0**	**+0.8**
ONI	**Oni**	**1.47**	**115**	P		**Pb**	**00 13 35.1**	**0.0**
ONI				S		**Sg**	**00 13 56.8**	**+2.0**
ONI	**Oni**	**1.47**	**115**	*e*Pg		**Pb**	**00 13 35.1**	**0.0**
ONI				*e*Sg		**Sg**	**00 13 56.8**	**+2.0**
LSNR	**Lesken**	**1.58**	**88**	*e*Pg		**Pg**	**00 13 39.5**	**+1.5**
LSNR				*e*Sg		**Sg**	**00 13 60.0**	**+1.4**
ZEI	**Tsey**	**1.71**	**104**	*e*Pg		**Pg**	**00 13 40.6**	**+0.3**
ZEI				*e*Sg		**Sg**	**00 14 02.8**	**+0.3**
ALER	**Alexandrovskoy**	**1.77**	**30**	*e*Pg		**Pg**	**00 13 42.6**	**+1.0**
ALER				*e*Sg		**Sg**	**00 14 06.6**	**+1.9**
LZRR	**Lazarevskoye**	**1.80**	**294**	*e*Pg		**Pg**	**00 13 42.4**	**+0.3**
LZRR				*e*Sg		**Sg**	**00 14 08.0**	**+2.6**
DBOC	**Borcka**	**1.89**	**180**	*i* P		**Pn**	**00 13 41.0**	**+0.9**
DBOC				*i* S		**Sn**	**00 14 01.5**	**-2.5**
DBOC				IAML_P				
	comp=Z,1μm,0.1s							
EPOS	**Posof**	**1.90**	**155**	*i* P		**Pn**	**00 13 40.7**	**+0.3**
EPOS				*i* S		**Sb**	**00 14 06.4**	**-0.1**
GOF	**Gofitskoye**	**2.08**	**28**	*e*Pg		**Pb**	**00 13 45.3**	**-0.2**
GOF				*e*Sg		**Sg**	**00 14 13.3**	**-1.0**
DAGI	**Agillar**	**2.17**	**175**	*i* P		**Pn**	**00 13 44.0**	**0.0**
DAGI				*i* S		**Sn**	**00 14 08.6**	**-2.3**
DAGI				IAML_P				
	comp=Z,195nm,0.2s							
DBAD	**Bademkaya**	**2.22**	**179**	*i* P		**Pn**	**00 13 44.5**	**-0.1**
DBAD				*i* S		**Sn**	**00 14 10.2**	**-2.0**
DBAD				IAML_P				
	comp=Z,352nm,0.1s							
DDEM	**Demirkent**	**2.34**	**178**	*i* P		**Pn**	**00 13 47.4**	**+1.0**
DDEM				IAML_P				
	comp=Z,694nm,0.1s							

IDC 27 00:36:49.6±55.0, 19°.51S×179°.54E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/42, mbtmp4.2/3, Error ellipse: s-maj=994.0km s-min=147.6km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.17**	**242**	P		P	00 43 54.0	0.0
	2.1nm,0.5s,baz=83,slow=8.1,SNR=4.7							
WRA	**Warramunga Arr**	**42.45**	**262**	P		P	00 44 46.6	-0.1
	0.8nm,0.4s,baz=97,slow=7.8,SNR=42							
ASAR	**Alice Springs**	**42.51**	**256**	P		P	00 44 46.9	-0.2
	4.3nm,0.8s,baz=90,slow=8.2,SNR=24							

MEX 27 00:40:15.7±0.7, 15°.85N×98°.25W, h12km±33km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.55**	**12**	*i* P		Pg	00 40 25.1	-1.4
PNIG				*e*S		Sg	00 40 31.9	-1.9

MEX 27 00:43:46.2±0.5, 17°.17N×100°.80W, h24km±24km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.52**	**104**	*e*P		Pb	00 43 54.7	-2.1
CAIG				*e*S		Sb	00 44 02.0	-2.0
ZIIG	**Zihuatanejo**	**0.77**	**304**	*e*P		Pb	00 43 58.5	-2.4
ZIIG				*e*S		Sb	00 44 07.8	-3.2
ARIG	**Puente Sto Nin**	**1.18**	**21**	*e*P		Pn	00 44 04.9	-2.4
ARIG				*e*S		Sn	00 44 18.2	-4.5
MEIG	**Mezcala**	**1.35**	**56**	*e*P		Pn	00 44 07.1	-2.6
MEIG				*e*S		Sn	00 44 22.8	-4.2
PLIG	**Platanillo**	**1.73**	**45**	*e*P		Pn	00 44 12.7	-2.3
PLIG				*e*S		Sn	00 44 32.6	-3.7

*ISCJB **27** 00:44:42.3±0.7, 31°.98N±0°.02×116°.23W±0°.04, h10km±6km, Error ellipse: s-maj=6.4km s-min=4.0km az=170.8*
*SCEDC **27** 00:44:43.8, 31°.99N×116°.27W, h13km*
*ANF **27** 00:44:44.2±0.8, 32°.06N×116°.29W, h22km±4km, ML3.0/10, Error ellipse: s-maj=5.0km s-min=2.9km az=9.0*
*ECX **27** 00:44:44.0±0.4, 31°.97N×116°.25W, h6km, MD3.1, ML3.3, Fault plane solution: NP1:φs138.33000°, δ90.00000°, λ30.00000°.*
*MEX **27** 00:44:44.2±0.5, 31°.93N×116°.31W, h16km±999km, MD3.7*
ISC 27 00:44:42.4±1.1, 31°.98N±0°.03×116°.26W±0°.04, h16km±9km, n18, σ0§50/35, 4C-4D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECNX	**Esteban Cantu**	**0.43**	**222**	⇓*e*P		**Pb**	**00 44 51.8**	**+0.2**
ECNX				⇑*i*P		**Pg**	**00 44 51.2**	**-0.2**
ECNX				*e*S		**Sg**	**00 44 56.5**	**-0.5**
ECNX				*e*S		**Sb**	**00 44 58.0**	**+0.1**
PBX	**Punta Banda**	**0.46**	**240**	⇑*e*P		**Pb**	**00 44 52.4**	**+0.2**
PBX				*e*S		**Sb**	**00 44 58.9**	**+0.2**
CBX	**Cerro Bola**	**0.48**	**314**	*e*P		**Pb**	**00 44 52.4**	**-0.2**
CBX				*e*S		**Sb**	**00 44 58.8**	**-0.7**
CBX	**Cerro Bola**	**0.48**	**314**	⇑*i*P		**Pb**	**00 44 52.8**	**+0.3**
CBX				*e*S		**Sb**	**00 44 59.6**	**+0.2**
CBX				⇓*e*			00 45 00.5	
CBX				IAML			00 45 00.5	
	comp=E,3μm,0.2s							
TJIG	**Tijuana**	**0.58**	**322**	*e*P		**Pb**	**00 44 54.1**	**0.0**
TJIG				*e*S		**Sb**	**00 45 01.5**	**-0.6**
RMX	**La Rumorosa**	**0.64**	**14**	⇓*e*P		**Pg**	**00 44 55.1**	**0.0**
RMX				*e*S		**Sg**	**00 45 03.1**	**-0.6**
RMX				⇑*e*			00 45 04.5	
RMX				IAML			00 45 04.5	
	comp=N,2μm,0.1s							
IKP	**In-Ko-Pah, Jac**	**0.68**	**11**	P		**Pb**	**00 44 56.2**	**+0.2**
	baz=192							
IKP				S		**Sg**	**00 45 04.8**	**-0.1**
	baz=192							
IKP	**In-Ko-Pah, Jac**	**0.68**	**11**	⇓*e*P		**Pb**	**00 44 56.2**	**+0.2**
MONP2	**Monument Peak**	**0.92**	**351**	P		**Pb**	**00 45 00.1**	**-0.1**
	baz=172							
MONP2				S		**Sb**	**00 45 11.8**	**-0.5**
	baz=172							
SWSC	**Sam W. Stewart**	**1.04**	**22**	P		**Pb**	**00 45 02.5**	**+0.5**
	baz=203							
SWSC				S		**Sg**	**00 45 16.2**	**0.0**
	baz=203							
SPIG	**San Pedro Mart**	**1.15**	**144**	*e*P		**Pn**	**00 45 04.6**	**+0.5**
SPIG				*e*S		**Sb**	**00 45 17.8**	**-1.0**
109C	**Camp Elliot, M**	**1.16**	**322**	P		**Pb**	**00 45 03.8**	**-0.3**
	baz=142							
109C				S		**Sb**	**00 45 18.2**	**-0.6**
	baz=142							
GLA	**Glamis**	**1.62**	**48**	P		**Pn**	**00 45 10.7**	**+0.4**
	baz=229							
GLA				S		**Sn**	**00 45 29.8**	**-1.1**
	baz=229							
TPFO	**Pinon Flats**	**1.63**	**354**	P		**Pn**	**00 45 11.1**	**+0.5**
	baz=174							
TPFO				Sb		**Sb**	**00 45 33.3**	**+0.6**
	baz=174							
PFO	**Pinyon Flats O**	**1.64**	**354**	P		**Pn**	**00 45 11.3**	**+0.6**
	baz=174							
PFO				Sb		**Sb**	**00 45 33.4**	**+0.6**
	baz=174							
MURC	**Murrieta**	**1.80**	**334**	Pb		**Pb**	**00 45 14.6**	**-0.4**
	baz=154							
MURC				Sb		**Sb**	**00 45 37.3**	**-0.1**
	baz=154							
BC3	**Big Chuckawall**	**1.81**	**22**	P		**Pn**	**00 45 13.7**	**+0.7**
	baz=203							
BBRC	**Big Bear Solar**	**2.35**	**346**	Sb		**Sb**	**00 45 54.0**	**+0.7**
	baz=166							

IDC 27 00:55:02.7±2.9, 3°.74S×151°.80E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/52, mbtmp4.0/3, Error ellipse: s-maj=111.6km s-min=39.7km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.43**	**225**	P		P	01 00 14.0	+0.2
	3.0nm,0.6s,baz=50,slow=10,SNR=33							
ASAR	**Alice Springs**	**26.29**	**219**	P		P	01 00 39.0	-1.1
	0.9nm,0.6s,baz=50,slow=9.4,SNR=6.9							
FITZ	**Fitzroy Crossi**	**29.32**	**239**	P		P	01 01 09.1	+1.9
	1.7nm,0.4s,baz=64,slow=8.0,SNR=14							
TORD	**Torodi Ar. Bea**	**149.02**	**289**	PKPbc	PKPbc		01 14 52.4	-1.5
	1.6nm,0.8s,baz=77,slow=3.1,SNR=11							

*ISCJB **27** 00:56:45.9±0.3, 50°.40N±0°.02×90°.26E±0°.04, h10km, mb4.0/21, MS3.2/12, Error ellipse: s-maj=3.8km s-min=3.4km az=9.3*
*IDC **27** 00:56:45.6±0.6, 50°.27N×90°.36E, h0km, mb3.8/16, mb1 4.0/23, mb1mx3.8/83, mbtmp3.9/23, ML3.8/7, MS3.3/18, Ms1 3.3/18, ms1mx3.1/54, Error ellipse: s-maj=14.0km s-min=10.4km az=5.0*
*MOS **27** 00:56:46.3±1.2, 50°.33N×90°.17E, h13km, mb4.5/5, Error ellipse: s-maj=7.8km s-min=7.0km az=130.7*
*BJI **27** 00:56:46.1, 50°.41N×90°.02E, h10km, mb4.3/8, mB4.5/4, ML4.4/5, Ms3.9/4, Ms7 3.7/2*
*ASRS **27** 00:56:47.4±1.2, 50°.29N×90°.17E, h15km, Ms4.4/3*
*NEIC **27** 00:56:47.4±1.9, 50°.33N×90°.30E, h9km±13km, mb4.1/9, Error ellipse: s-maj=5.7km s-min=4.0km az=194.0*
*NNC **27** 00:56:52.9±2.7, 50°.48N×89°.51E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=28.0km s-min=13.7km az=97.0*
ISC 27 00:56:47.8±0.4, 50°.32N±0°.03×90°.21E±0°.04, h10km, n132, σ1§99/136, mb4.0/25, MS3.3/12, 16C-14D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGZ	**Jazzator, Alta**	**1.90**	**252**	*c i*PN		**Pn**	**00 57 20.7**	**+0.3**
CERR	**Cheremushki**	**2.64**	**16**	*e*Pg		**Pg**	**00 57 36.4**	**-2.0**
CERR				*e*Sg		**Sg**	**00 58 11.1**	**-1.6**
CERR	**Cheremushki**	**2.64**	**16**	*e*PN		**Pg**	**00 57 36.4**	**-2.0**
CERR				*e*			00 58 11.1	
TASR	**Tashtagol**	**2.84**	**330**	*e*Pg		**Pb**	**00 57 40.0**	**+1.4**
TASR				*e*Sg		**Sg**	**00 58 17.7**	**-1.3**
TASR	**Tashtagol**	**2.84**	**330**	*e*PN		**Pb**	**00 57 40.0**	**+1.4**
TASR				*e*			00 58 17.7	
ELT	**Eltsovka**	**3.84**	**322**	*e*Pg		**Pb**	**00 57 57.3**	**+1.8**
ELT				*e*Sg		**Sb**	**00 58 43.4**	**+1.4**
ELT	**Eltsovka**	**3.84**	**322**	*e*PN		**Pb**	**00 57 57.3**	**+1.8**
ELT				*e*			00 58 43.4	
ZAA0	**Zalesovo Array**	**4.92**	**320**	*e*Pn		**Pn**	**00 58 01.9**	**+0.2**
ZAA0	**Zalesovo Array**	**4.92**	**320**	⇓Pn		**Pn**	**00 58 02.0**	**+0.3**
	0.7nm,0.2s							
ZAA0				⇑Pg		**Pb**	**00 58 15.7**	**+1.8**
	7.6nm,0.5s							
ZAA0				⇑Lg		Lg	00 59 21.3	
	90nm,0.8s							
ZALV	**Zalesovo Beam**	**4.92**	**320**	*e*Pn		**Pn**	**00 58 02.0**	**+0.3**
ZALV				Pg		**Pb**	**00 58 16.2**	**+2.3**
ZALV				Lg		Lg	00 59 17.9	
ZALV	**Zalesovo Beam**	**4.92**	**320**	Pn		**Pn**	**00 58 02.4**	**+0.6**
	9.3nm,0.3s,baz=144,slow=14,SNR=85							
ZALV				Pg		**Pb**	**00 58 16.2**	**+2.3**
	19nm,0.3s,baz=135,slow=15,SNR=41							
ZALV				Lg		Lg	00 59 17.8	
	24nm,0.3s,baz=140,slow=28,SNR=5.8							
ZALV				LR		LR	01 00 12.6	
	comp=Z,211nm,19.8s,baz=68,slow=41							
ZAA1	**Zalesovo Array**	**4.92**	**320**	*e*Pn		**Pn**	**00 58 02.4**	**+0.6**
ZAA1				*e*Pg		**Pb**	**00 58 16.2**	**+2.2**
NVS	**Novosibirsk**	**6.21**	**319**	*i* Pn		**Pn**	**00 58 19.3**	**-0.1**
NVS				*e*Sn		**Sn**	**00 59 32.0**	**+1.7**
NVS				*e*Sg		**Sg**	**01 00 03.7**	**-3.2**
NVS	**Novosibirsk**	**6.21**	**319**	*i* PN		**Pn**	**00 58 19.3**	**-0.1**
NVS				*e*			00 59 32.0	
MK31	**Makanchi Array**	**6.33**	**239**	*e*Pn		**Pn**	**00 58 22.2**	**+1.1**
MK31	**Makanchi Array**	**6.33**	**239**	⇑Pn		**Pn**	**00 58 23.1**	**+1.9**
	14nm,0.5s,baz=53,slow=14,SNR=394							
MK31				⇓Pg		Pb	00 58 43.2	+5.2
	24nm,0.5s,baz=62,slow=15,SNR=10							
MK31				⇑Lg		Lg	01 00 04.5	
	91nm,0.7s,baz=58,slow=29,SNR=3.6							
MK31	**Makanchi Array**	**6.33**	**239**	PN		**Pn**	**00 58 22.5**	**+1.3**
MK31				pmax	pmax			
	comp=Z,14nm,0.5s							
MK32	**Makanchi Array**	**6.33**	**239**	*e*Pn		**Pn**	**00 58 22.4**	**+1.2**
MK32				*e*Sn		**Sn**	**00 59 38.1**	**+4.6**
MKAR	**Makanchi Array**	**6.33**	**239**	Pn		**Pn**	**00 58 22.4**	**+1.2**
	comp=Z,7.5nm,0.3s,baz=52,slow=14,SNR=98							
MKAR				Sn		**Sn**	**00 59 38.1**	**+4.6**
	comp=Z,7.8nm,0.3s,baz=64,slow=24,SNR=3.3							
MKAR				Lg		Lg	01 00 04.4	
	comp=Z,19nm,0.3s,baz=60,slow=27,SNR=4.5							
MKAR				LR		LR	01 01 01.3	
	comp=Z,126nm,19.4s,baz=66,slow=40							
MK01	**Makanchi Array**	**6.34**	**239**	*e*Pn		**Pn**	**00 58 22.7**	**+1.4**
MAKZ	**Makanchi**	**6.50**	**240**	*e*Pn		**Pn**	**00 58 24.3**	**+0.9**
MAKZ	**Makanchi**	**6.50**	**240**	⇑Pn		**Pn**	**00 58 26.1**	**+2.7**
	comp=Z,21nm,0.5s							
MAKZ				⇑Lg		Lg	01 00 11.9	
	comp=

comp=Z,1.0nm,0.4s
BVA0 Borovoye Array 12.59 290 Pn **Pn 00 59 45.0 -1.8**
comp=Z,1.0nm,0.4s,baz=93,slow=13,SNR=22
BVA0 Sn **Sn 01 02 00.6 -6.4**
comp=Z,9.4nm,0.7s,baz=150,slow=77,SNR=6.4
BVA0 Borovoye Array 12.59 290 P **Pn 00 59 45.3 -1.5**
BVA0 S **Sn 01 02 00.6 -6.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.4s
BVA0 smax smax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 12.59 290 Pn **Pn 00 59 45.0 -1.9**
comp=Z,1.0nm,0.3s,baz=98,slow=14,SNR=25
BVAR Sn **Sn 01 01 59.7 -7.4**
comp=Z,1.7nm,0.3s,baz=81,slow=23,SNR=5.9
BVAR LR LR 01 04 49.6
comp=Z,193nm,19.2s,baz=82,slow=38
BRVK Borovoye 12.66 290 *e*Pn **Pn 00 59 46.1 -1.6**
BRVK Borovoye 12.66 290⇓*e*P **Pn 00 59 46.4 -1.3**
AAK Ala-Archa 13.26 241 Pn **Pn 00 59 56.5 +0.3**
comp=Z,1.4nm,0.3s,baz=84,slow=7.1,SNR=11
AAK Sn **Sn 01 02 25.2 +1.5**
comp=Z,0.2nm,0.3s,baz=240,slow=20,SNR=3.9
AAK Lg Lg 01 03 49.2
comp=Z,0.4nm,0.3s,baz=126,slow=19,SNR=7.6
AAK LR LR 01 05 16.7
comp=Z,104nm,21.4s,baz=41,slow=38
KSH Kashi 14.75 228 P **P 01 00 24.0 +1.4**
KSH sP Pn 01 00 30.5 +14
KSH S **S 01 03 11.0 -7.8**
KSH SS SnSn 01 03 28.5 +16
KSH pmax pmax
comp=Z,79nm,4.6s
KSH LR LR
comp=Z,99nm,7.9s
KSH LR LR
comp=Z,210nm,8.9s
KSH LR LR
comp=Z,170nm,9.5s
KK31 Karatay Array 15.29 249 *e*Pn **Pn 01 00 24.1 +0.5**
comp=Z,3.0nm,0.7s
KK31 Karatay Array 15.29 249 *e*P **Pn 01 00 24.1 +0.5**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 15.29 249 *e*Pn **Pn 01 00 25.0 +1.4**
comp=Z,3.0nm,0.7s
KKAR Karatay Array 15.29 249 *e*P **Pn 01 00 25.0 +1.4**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
BOD Bodaibo 15.79 53 *e*P **Pn 01 00 27.8 -2.2**
BOD pmax pmax
comp=Z,6.0nm,1.2s
SVE Sverdlovsk 18.62 302 *e*P **P 01 01 04.6 -0.6**
SVE *e*S **Sn 01 04 27.7 -5.8**
SVE pmax pmax
comp=Z,5.0nm,0.6s
SVE MLR MLR
comp=Z,252nm,13.0s
HIA Hailar 19.04 82 *e*P **P 01 01 08.6 -1.3**
comp=Z,3.6nm,0.4s
HIA Hailar 19.04 82⇓*e*P **Pn 01 01 11.4 +0.8**
HIA pmax pmax
comp=Z,7.0nm,1.0s
NRIK Noril'sk 19.12 357 P **Pn 01 01 11.0 -0.4**
comp=Z,0.2nm,0.3s,baz=174,slow=11,SNR=5.1
NRIK LR LR 01 09 01.7
comp=Z,65nm,20.6s,baz=150,slow=38
AB31 Akbulak array 19.51 279 P Pn 01 01 23.7 +7.5
comp=Z,4.2nm,0.8s,baz=85,slow=13,SNR=6.3
AB31 Akbulak array 19.51 279 P Pn 01 01 23.7 +7.5
AB31 pmax pmax
comp=Z,27nm,0.9s
ABKAR Akbulak array 19.51 279 *e*P **P 01 01 15.8 +0.9**
comp=Z,4.8nm,0.9s
ARU Arti 19.72 300 *e*P **P 01 01 17.9 +0.7**
comp=Z,9.5nm,0.7s
ARU Arti 19.72 300 P **Pn 01 01 18.4 -0.3**
ARU S **Sn 01 05 03.6 +3.7**
ARU MLR MLR
comp=Z,143nm,15.0s
AKTO Aktyubinsk 20.45 283 ⇑P **P 01 01 25.3 +0.1**
comp=Z,6.1nm,0.8s
AKTO Aktyubinsk 20.45 283 P Pn 01 01 26.8 -0.5
comp=Z,2.4nm,0.6s,baz=77,slow=13,SNR=10
AKTO LR LR 01 09 30.9
comp=Z,74nm,19.3s,baz=77,slow=37
LSA Lhasa 20.61 178 *e*P **P 01 01 26.9 -0.7**
comp=Z,7.4nm,0.6s
LSA Lhasa 20.61 178 *e*P **P 01 01 26.9 -0.7**
LSA pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 21.28 133 P **P 01 01 34.5 +0.2**
XAN pP sP 01 01 38.8 -0.7
XAN pmax pmax
comp=Z,12nm,1.1s
XAN pmax pmax
comp=Z,95nm,3.3s
XAN Xi'an 21.28 133 *e*P **P 01 01 33.7 -0.6**
comp=Z,11nm,0.9s
XAN Xi'an 21.28 133 *e*P **P 01 01 33.7 -0.6**
XAN pmax pmax
comp=Z,11nm,0.9s
DANN Dangsing 22.49 195 *e*P **P 01 01 47.2 -0.3**
comp=Z,48nm,0.9s
GUN Gumba 22.62 190 *e*P **P 01 01 48.2 -0.9**
comp=Z,20nm,0.6s
KKN Kakani 22.82 191 *e*P **P 01 01 50.5 -0.4**
comp=Z,14nm,0.7s
JIRN Jiri 22.84 189 *e*P **P 01 01 51.1 -0.3**
comp=Z,45nm,0.7s
PYUN Piuthan 22.86 197 *e*P **P 01 01 51.9 +0.4**
comp=Z,26nm,0.8s
PKIN Phulchoki 23.01 191 *e*P **P 01 01 52.5 -0.5**
comp=Z,8.6nm,0.5s
TAPN Taplejung 23.02 186 *e*P **P 01 01 53.4 +0.2**
comp=Z,13nm,0.5s
KOLN Koldanda 23.08 195 *e*P **P 01 01 53.6 -0.1**
comp=Z,16nm,0.9s
RAMN Ramite 23.50 188 *e*P **P 01 01 58.2 +0.2**
comp=Z,7.3nm,0.4s
ODAN Odare 23.53 186 *e*P **P 01 01 58.6 +0.4**
comp=Z,34nm,0.5s
KIRV Kirov 24.77 305 LR LR 01 13 23.5
comp=Z,50nm,21.7s,baz=168,slow=40
GEYT Alibeck 25.94 254 LR LR 01 13 54.3
comp=Z,25nm,20.4s,baz=40,slow=40
KLR Kul'dur 26.60 76*d**e*P **P 01 02 30.4 +4.4**
KLR Kul'dur 26.60 76 P **P 01 02 23.8 -2.2**
comp=Z,0.4nm,0.5s,baz=331,slow=10,SNR=2.5
KSRS Korea Array 29.73 101 LR LR 01 15 39.4
comp=Z,61nm,18.7s,baz=314,slow=38
OBN Obninsk 32.16 300⇓*e*P **P 01 03 15.1 -0.1**
OBN pmax pmax
comp=Z,6.0nm,0.5s
KBZ Khabaz 32.46 277 LR LR 01 18 00.9
comp=Z,70nm,18.2s,baz=22,slow=39
CMAR Chiang Mai Arr 32.55 164 LR LR 01 17 41.5
comp=Z,17nm,18.1s,baz=80,slow=39
GNI Garni 33.12 270 LR LR 01 18 31.1
comp=Z,43nm,18.9s,baz=35,slow=39
ARA0 ARCESS Array S 35.43 327 *e*P **P 01 03 43.6 +0.1**
ARCES ARCESS Array B 35.43 327 P **P 01 03 43.6 +0.1**
comp=Z,5.2nm,1.1s,baz=82,slow=8.4,SNR=3.2
FIA1 FINESS Array S 36.15 313 *e*P **P 01 03 50.4 +0.7**
FIA0 FINESS Array S 36.15 313 *e*P **P 01 03 49.9 +0.1**
FIA0 FINESS Array S 36.15 313 *e*P **P 01 03 49.9 +0.1**
FINES FINESS Array B 36.15 313 P **P 01 03 49.9 +0.1**
comp=Z,0.8nm,0.4s,baz=93,slow=12,SNR=7.2
FINES LR LR 01 20 03.7
comp=Z,44nm,18.4s,baz=94,slow=39
AKASG Malin Array Be 37.81 295 *e*P **P 01 04 04.8 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 37.81 295 P **P 01 04 03.9 -0.1**
comp=Z,1.0nm,0.3s,baz=60,slow=9.1,SNR=7.1
BR101 Keskin Array S 40.45 277 *e*P **P 01 04 27.4 +0.9**
BRTR Keskin Array B 40.45 277 P **P 01 04 27.4 +0.9**
comp=Z,0.8nm,0.8s,baz=77,slow=7.6,SNR=2.7
HFS Hagfors 42.33 314 P **P 01 04 41.3 -0.1**
comp=Z,2.3nm,0.6s,baz=64,slow=7.1,SNR=12
HFS LR LR 01 21 42.7
comp=Z,34nm,19.1s,baz=72,slow=35
NORES NORESS Array B 43.08 315 P **P 01 04 47.6 +0.1**
NB2 NORSAR Subarra 43.11 316 P **P 01 04 47.2 -0.6**
comp=Z,0.5nm,0.5s,baz=80,slow=7.4
NB2 NORSAR Subarra 43.11 316 P **P 01 04 46.8 -1.0**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NB200 NORSAR Array S 43.11 316 *e*P **P 01 04 47.7 -0.1**
NOA NORSAR Array B 43.11 316 P **P 01 04 47.7 -0.1**
comp=Z,0.2nm,0.7s,baz=60,slow=6.3,SNR=11
NOA LR LR 01 24 31.7
comp=Z,57nm,18.1s,baz=80,slow=39
VYHS Vyhne 44.82 297 *e*P **P 01 05 03.8 +2.1**
VYHS Vyhne 44.82 297 *e*P **P 01 05 03.8 +2.1**
CLL Collm 46.64 303 *i*P **P 01 05 16.6 +0.7**
comp=Z,5.0nm,0.6s
CLL *i* sP **pP 01 05 20.5 +0.7**
CLL Collm 46.64 303 *i*P **P 01 05 16.6 +0.7**
CLL *i* 01 05 20.5
CLL pmax pmax
comp=Z,5.0nm,0.6s
GERES GERESS Array B 47.55 299 P **P 01 05 23.7 +0.5**
comp=Z,0.6nm,0.8s,baz=64,slow=9.1,SNR=4.2
GERES LR LR 01 26 40.9
comp=Z,66nm,18.7s,baz=116,slow=38
MOA Molln 47.77 298 *e*pP pP 01 05 27.3 -1.4
comp=Z,4.0nm,1.1s
KBA Koelnbreinsper 48.71 298 P **P 01 05 32.2 -0.1**
comp=Z,4.5nm,1.0s
MOTA Moosalm 49.83 299 *i*pP pP 01 05 43.0 -1.7
comp=Z,1.7nm,0.8s
SQTA Sankt Quirin 49.84 299 *i*pP **P 01 05 42.0 +1.2**
comp=Z,1.7nm,0.6s
FETA Feichten 50.22 299 *e*pP pP 01 05 47.3 -0.3
comp=Z,7.5nm,1.2s
EKA Eskdalemuir Ar 52.53 314 P **P 01 06 00.6 -0.1**
comp=Z,0.9nm,0.4s,baz=65,slow=6.2,SNR=6.9
ILAR Eielson Array 57.03 25 *e*P P 01 06 37.5 +4.3
ILAR Eielson Array 57.03 25 P **P 01 06 35.1 +1.9**
comp=Z,0.4nm,0.8s,baz=308,slow=5.0,SNR=5.2
ILB Eielson Array 57.03 25 *e*P **P 01 06 34.0 +0.8**
comp=Z,17nm,1.9s
TRF Thorofare Moun 57.05 28 *e*P **P 01 06 33.4 -0.2**
comp=Z,29nm,1.8s
ESDC Seneca Array 63.12 300 P **P 01 07 15.8 +0.3**
comp=Z,0.3nm,0.5s,baz=30,slow=6.5,SNR=3.8
YKA Yellowknife Ar 65.82 12 P **P 01 07 33.1 +0.5**
comp=Z,0.6nm,0.7s,baz=339,slow=7.0,SNR=13
FITZ Fitzroy Crossi 74.94 145 P **P 01 08 27.4 -1.5**
comp=Z,1.2nm,0.8s,baz=14,slow=7.5,SNR=3.1
TOA1 Torodi Ar. Sit 79.06 277 *e*P **P 01 08 51.9 -0.5**
TORD Torodi Ar. Bea 79.07 277 P **P 01 08 51.9 -0.5**
comp=Z,0.7nm,0.8s,baz=17,slow=6.4,SNR=6.3
TORD LR LR 01 51 09.4
comp=Z,35nm,18.3s,baz=300,slow=41
WRA Warramunga Arr 80.06 138 P **P 01 08 55.9 -1.6**
comp=Z,0.4nm,0.8s,baz=342,slow=5.9,SNR=3.8
ASAR Alice Springs 83.19 140 P **P 01 09 12.7 -1.3**
comp=Z,0.2nm,0.3s,baz=327,slow=6.6,SNR=3.2

MEX 27 00:58:53.9±0.3, 15.96N×98.32W, h1km±2km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.46**	**23**	*i* P	Pg	00 59 02.6	-0.3
PNIG				*e*S	Sg	00 59 09.2	+0.4

*SOME **27** 01:11:09.2, 39.55N×72.68E, h10km*
*KRNET **27** 01:11:11.7±0.1, 39.34N×73.05E, mb3.1*
*ISCJB **27** 01:11:12.9±1.1, 39.45N±0.06×73.10E±0.05, h10km, Error ellipse: s-maj=9.3km s-min=5.1km az=167.7*
*NNC **27** 01:11:14.6±4.5, 39.68N×73.04E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=34.8km s-min=21.1km az=167.0*
ISC 27 01:11:13.6±1.7, 39.58N±0.08×73.00E±0.04, h10km, n29, σ2.209/48, 17C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.74**	**360**	⇓*i*P	**Pb**	**01 11 45.6**	**-0.1**
ARSB	baz=59			⇓*i*S	**Sg**	**01 12 10.5**	**+0.9**
BTK	**Batken**	**1.75**	**287**	⇑*e*P	**Pn**	**01 11 44.1**	**+0.1**
BTK	baz=93			⇑*i*S	**Sb**	**01 12 07.6**	**-0.2**
ARK	**Arkit**	**2.35**	**341**	⇓*i*P	**Pn**	**01 11 53.8**	**+1.4**
ARK	baz=42			⇓*i*S	**Sb**	**01 12 24.6**	**-0.6**
ARLS	**Aral**	**2.49**	**23**	⇑*i*P	**Pn**	**01 11 55.7**	**+1.4**
ARLS	baz=21			⇑*i*S	**Sb**	**01 12 28.0**	**-1.3**
AML	**Almayashu** SNR=18	**2.60**	**11**	P	**Pb**	**01 11 58.7**	**-1.9**
AML	**Almayashu** baz=10.0	**2.60**	**11**	⇑*e*P	**Pn**	**01 11 57.7**	**+1.6**
AML	baz=10.0			⇑*i*S	**Sb**	**01 12 30.9**	**-1.8**
UCH	**Uchtor** SNR=16	**2.88**	**23**	P	**Pn**	**01 12 02.5**	**+2.5**
UCH	**Uchtor** baz=21	**2.88**	**23**	⇑*e*P	**Pn**	**01 12 01.3**	**+1.3**
UCH	baz=21			⇑*i*S	**Sn**	**01 12 37.5**	**+2.5**
NRN	**Naryn** baz=46	**2.94**	**50**	⇑*i*P	**Pn**	**01 12 00.8**	**+0.1**
NRN	baz=46			⇑*i*S	**Sn**	**01 12 36.5**	**+0.2**
KZA	**Kyzart** SNR=11	**3.02**	**34**	P	**Pn**	**01 12 04.3**	**+2.4**
KZA	**Kyzart** baz=31	**3.02**	**34**	⇓*i*P	**Pn**	**01 12 02.7**	**+0.8**
KZA	baz=31			⇓*i*S	**Sn**	**01 12 39.9**	**+1.5**
MRKS	**Merke** 5.9nm,0.3s	**3.17**	**3**	Pg	**Pb**	**01 12 08.1**	**-1.9**
MRKS	9.0nm,0.3s			Lg	Lg	01 12 50.5	
MRKS	**Merke** 2.7nm,0.3s	**3.17**	**3**	*e*P	**Pb**	**01 12 08.1**	**-1.9**
MRKS	9.0nm,0.3s			*e*S	**Sb**	**01 12 50.5**	**+1.8**
AAK	**Ala-Archa** SNR=7.3	**3.26**	**20**	P	**Pn**	**01 12 08.1**	**+3.2**
AAK	**Ala-Archa** baz=18	**3.26**	**20**	⇑*i*P	**Pn**	**01 12 06.1**	**+1.2**
AAK	baz=18			⇑*i*S	**Sn**	**01 12 45.6**	**+1.8**
KBK	**Karagaybulak** baz=23	**3.41**	**25**	⇑*i*P	**Pn**	**01 12 08.1**	**+1.1**
KBK	baz=23			⇑*i*S	**Sn**	**01 12 49.1**	**+1.6**
ULHL	**Ulahol** baz=39	**3.62**	**42**	⇑*e*P	**Pn**	**01 12 10.9**	**+0.9**
ULHL	baz=39			⇑*e*S	**Sn**	**01 12 53.9**	**+1.0**
CHMS	**Chumysh** SNR=5.3	**3.66**	**21**	P	**Pn**	**01 12 13.6**	**+3.3**
TKM2	**Tokmak 2** SNR=5.8	**3.87**	**30**	P	**Pn**	**01 12 15.9**	**+2.6**
TKM2	**Tokmak 2** baz=28	**3.87**	**30**	⇓*e*P	**Pn**	**01 12 14.4**	**+1.1**
TKM2	baz=28			⇓*i*S	**Sn**	**01 13 00.2**	**+1.2**
KK31	**Karatay Array** 0.4nm,0.3s,baz=146,slow=13,SNR=15	**3.98**	**333**	Pn	**Pn**	**01 12 16.7**	**+1.9**
KK31	3.8nm,0.6s,baz=151,slow=24,SNR=7.4			⇑Sn	**Sn**	**01 13 06.2**	**+4.6**
KST	**Kastek** 2.8nm,0.5s	**4.12**	**32**	Pg	**Pb**	**01 12 27.9**	**+1.7**
KST	3.4nm,0.5s			Lg	Lg	01 13 24.5	
KST	**Kastek** 0.5nm,0.2s	**4.12**	**32**	*e*P	**Pb**	**01 12 27.9**	**+1.7**
KST	3.2nm,0.5s			*e*S	**Sg**	**01 13 24.5**	**-1.3**
BRLS	**Borolday** 0.3nm,0.2s	**4.19**	**326**	*e*P	**Pn**	**01 12 21.3**	**+3.8**
BRLS	3.6nm,0.4s			*e*S	**Sb**	**01 13 13.2**	**-4.9**
DGS	**Degeres** 3.3nm,0.6s	**4.21**	**29**	Pg	**Pb**	**01 12 29.4**	**+1.6**
DGS	7.0nm,0.7s			Lg	Lg	01 13 27.7	
DGS	**Degeres** 1.1nm,0.3s	**4.21**	**29**	*e*P	**Pb**	**01 12 29.4**	**+1.6**
DGS	7.0nm,0.7s			*e*S	**Sg**	**01 13 27.1**	**-1.7**
TNSS	**Tian-Shan** 2.7nm,0.3s	**4.56**	**39**	Pg	**Pb**	**01 12 36.1**	**+2.2**
TNSS	3.4nm,0.5s			Lg	Lg	01 13 39.0	
TNSS	**Tian-Shan** 2.7nm,0.3s	**4.56**	**39**	*e*P	**Pb**	**01 12 36.1**	**+2.2**
TNSS	3.4nm,0.5s			*e*S	**Sg**	**01 13 39.0**	**-0.9**
KOTS	**Kotyrbulak** 2.1nm,0.4s	**4.78**	**39**	*e*P	**Pg**	**01 12 41.1**	**-4.1**
KOTS	11nm,0.5s			*e*S	**Sg**	**01 13 47.3**	**+0.2**

*IDC **27** 01:13:23.9±1.7, 36.71N×22.82E, h0km, mb3.9/7, mb1 3.9/9, mb1mx3.5/45, mbtmp3.8/9, ML2.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.3/51, Error ellipse: s-maj=37.0km s-min=18.3km az=39.0*
*ISCJB **27** 01:13:26.4±0.5, 36.18N±0.04×22.40E±0.05, h68km±4km, mb3.7/7, Error ellipse: s-maj=8.9km s-min=3.6km az=44.7*
*ATH **27** 01:13:26.2, 36.15N×22.42E, h60km±5km, ML3.4/10, Error ellipse: s-maj=5.4km s-min=1.3km az=90.0*
*THE **27** 01:13:28.0, 36.21N×22.40E, h48km±2km, ML3.4/9, Error ellipse: s-maj=2.9km s-min=0.5km az=55.0*
ISC 27 01:13:26.7±1.0, 36.15N±0.04×22.34E±0.04, h57km±8km, n78, σ1.905/98, mb3.7/7, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTHR	**Kythira**	**0.55**	**79**	P	**Pn**	**01 13 38.1**	**-0.8**
KTHR				S	**Sn**	**01 13 47.2**	**-0.6**
KYTH	**Kithira**	**0.58**	**79**	P	**Pn**	**01 13 38.8**	**-0.6**
KYTH				S	**Sn**	**01 13 48.3**	**-0.3**
KYTH	**Kithira**	**0.58**	**79**	P	**Pn**	**01 13 38.8**	**-0.6**
KYTH				S	**Sn**	**01 13 48.0**	**-0.5**
KYTH	comp=E,8753μm,0.3s			AML	AML	01 13 50.0	
KYTH	comp=N,7770μm,0.3s			AML	AML	01 13 50.9	
VLI	**Veliai**	**0.74**	**40**	P	**Pn**	**01 13 41.1**	**-0.2**
VLI				S	**Sn**	**01 13 50.8**	**-1.1**
VLI	**Veliai**	**0.74**	**40**	P	**Pn**	**01 13 41.1**	**-0.2**
VLI				S	**Sn**	**01 13 52.9**	**+1.0**
VLI	comp=E,10810μm,0.5s			AML	AML	01 13 54.3	
VLI	comp=N,7634μm,0.6s			AML	AML	01 13 55.3	
MNVA	**Monemvasia**	**0.78**	**46**	P	**Pn**	**01 13 41.7**	**+0.1**
MNVA				S	**Sn**	**01 13 53.1**	**+0.5**
ANKY	**Antikythira Is**	**0.83**	**110**	P	**Pn**	**01 13 43.0**	**+0.7**
ANKY				S	**Sn**	**01 13 54.1**	**+0.2**
ANKY	**Antikythira Is**	**0.83**	**110**	P	**Pn**	**01 13 42.8**	**+0.5**
ANKY				S	**Sn**	**01 13 53.1**	**-0.8**
ANKY	comp=N,8857μm,0.4s			AML	AML	01 13 56.1	
ANKY	comp=E,12202μm,0.4s			AML	AML	01 13 57.3	
MES2	**Methoni**	**0.84**	**323**	P	**Pn**	**01 13 42.6**	**+0.1**
MES2				S	**Sn**	**01 13 54.6**	**+0.5**
MES2	comp=E,3944μm,0.8s			AML	AML	01 13 56.4	
MES2	comp=N,6756μm,0.3s			AML	AML	01 13 56.7	
PYL	**PYLOS**	**0.88**	**327**	P	**Pn**	**01 13 43.3**	**+0.2**
PYL				S	**Sn**	**01 13 55.6**	**+0.5**
PYL	**PYLOS**	**0.88**	**327**	P	**Pn**	**01 13 43.2**	**+0.2**
PYL				S	**Sn**	**01 13 56.3**	**+1.2**
PYL	comp=E,3365μm,0.4s			AML	AML	01 13 58.3	
PYL	comp=N,2851μm,0.4s			AML	AML	01 14 02.1	
ITM	**Ithomi**	**1.08**	**342**	P	**Pn**	**01 13 46.3**	**+0.7**
ITM				S	**Sn**	**01 13 59.9**	**+0.2**
ITM	**Ithomi**	**1.08**	**342**	P	**Pn**	**01 13 46.1**	**+0.5**
ITM				S	**Sn**	**01 14 01.5**	**+1.8**
ITM	comp=E,2780μm,0.3s			AML	AML	01 14 03.4	
ITM	comp=N,1916μm,0.3s			AML	AML	01 14 04.1	
VLX	**Vlachokerasia**	**1.22**	**1**	P	**Pn**	**01 13 47.9**	**+0.4**
VLX				S	**Sn**	**01 14 02.5**	**-0.6**
VLX	**Vlachokerasia**	**1.22**	**1**	P	**Pn**	**01 13 48.6**	**+1.0**
VLX				S	**Sn**	**01 14 04.8**	**+1.8**
VLX	comp=N,2382μm,0.6s			AML	AML	01 14 15.2	
VLX	comp=E,2410μm,0.6s			AML	AML	01 14 17.6	
MES3	**Kyparissia**	**1.22**	**334**	P	**Pn**	**01 13 48.1**	**+0.6**
MES3				S	**Sn**	**01 14 04.3**	**+1.4**
KERA	**Keramoti**	**1.26**	**128**	P	**Pn**	**01 13 47.3**	**-0.8**
TRIP	**Tripoli**	**1.37**	**358**	P	**Pn**	**01 13 50.8**	**+1.2**
TRIP				S	**Sn**	**01 14 07.5**	**+0.7**
TRIP	comp=N,1269μm,0.6s			AML	AML	01 14 24.2	
TRIP	comp=E,1197μm,0.6s			AML	AML	01 14 24.8	
KRND	**KRANIDI**	**1.39**	**28**	P	**Pn**	**01 13 50.1**	**+0.3**
KRND	**KRANIDI**	**1.39**	**28**	P	**Pn**	**01 13 50.1**	**+0.3**
KRND				S	**Sn**	**01 14 06.7**	**-0.4**
KRND	comp=E,1851μm,0.4s			AML	AML	01 14 14.4	
KRND	comp=N,1828μm,0.5s			AML	AML	01 14 19.8	
AMT	**Artemida-Makis**	**1.47**	**340**	P	**Pn**	**01 13 51.7**	**+0.8**
AMT				S	**Sn**	**01 14 09.2**	**+0.2**
AMT	**Artemida-Makis**	**1.47**	**340**	P	**Pn**	**01 13 52.6**	**+1.8**
AMT				S	**Sn**	**01 14 09.8**	**+0.8**
AMT	comp=N,2956μm,0.4s			AML	AML	01 14 21.1	
AMT	comp=E,2177μm,0.6s			AML	AML	01 14 27.2	
YDRA	**Hydra**	**1.50**	**37**	P	**Pn**	**01 13 51.4**	**+0.2**
IMMV	**Iera Moni Meta**	**1.50**	**117**	P	**Pn**	**01 13 51.9**	**+0.6**
IMMV				S	**Sn**	**01 14 11.3**	**+1.5**
IMMV	**Iera Moni Meta**	**1.50**	**117**	P	**Pn**	**01 13 52.0**	**+0.7**
DID	**Didima**	**1.53**	**28**	P	**Pn**	**01 13 51.7**	**0.0**
DID	**Didima**	**1.53**	**28**	P	**Pn**	**01 13 51.6**	**-0.1**
EPID	**Epidavros**	**1.59**	**23**	P	**Pn**	**01 13 53.1**	**+0.6**
VAM	**Vamos**	**1.69**	**116**	P	**Pn**	**01 13 54.4**	**+0.6**
VAM				S	**Sn**	**01 14 15.8**	**+1.5**
VAM	**Vamos**	**1.69**	**116**	P	**Pn**	**01 13 54.4**	**+0.6**
MHLO	**Agia Marina, M**	**1.75**	**72**	P	**Pn**	**01 13 54.2**	**-0.4**
MHLA	**Plaka, Milos I**	**1.78**	**70**	P	**Pn**	**01 13 54.9**	**-0.2**
GUR	**Goura**	**1.78**	**0**	P	**Pn**	**01 13 56.0**	**+0.8**
GUR	**Goura**	**1.78**	**0**	P	**Pn**	**01 13 56.6**	**+1.4**
DRO	**Drossia**	**1.86**	**345**	P	**Pn**	**01 13 57.5**	**+1.3**
KLV	**Kalavryta, Ach**	**1.89**	**355**	P	**Pn**	**01 13 57.9**	**+1.3**
LOUT	**Loutraki**	**1.90**	**15**	P	**Pn**	**01 13 58.5**	**+1.8**
LTK	**Loutraki**	**1.93**	**15**	P	**Pn**	**01 13 57.4**	**+0.2**
LTK	**Loutraki**	**1.93**	**15**	P	**Pn**	**01 13 57.6**	**+0.4**
SERI	**Serifos**	**2.00**	**59**	P	**Pn**	**01 13 57.2**	**-0.8**
TRAZ	**Trapeza**	**2.01**	**357**	P	**Pn**	**01 13 59.3**	**+1.0**
VLY	**Voula,Athens**	**2.06**	**34**	P	**Pn**	**01 13 58.2**	**-0.6**
LAKA	**Lakka**	**2.10**	**352**	P	**Pn**	**01 14 00.9**	**+1.4**
ATHU	**Athens Univers**	**2.15**	**32**	P	**Pn**	**01 14 00.1**	**+0.1**
PROD	**Prodromos**	**2.15**	**12**	P	**Pn**	**01 14 01.5**	**+1.4**
IDI	**Anoyia** comp=E,2.9nm,0.3s,baz=322,slow=9.7,SNR=40	**2.25**	**112**	Pn	**Pn**	**01 14 01.6**	**+0.1**
IDI	comp=E,12nm,0.3s,baz=295,slow=23,SNR=6.7			Sn	**Sn**	**01 14 30.6**	**+2.5**
DSF	**Desfina**	**2.26**	**4**	P	**Pn**	**01 14 01.6**	**-0.1**
DION	**Dionisos Attik**	**2.31**	**33**	P	**Pn**	**01 14 01.9**	**-0.4**
ANX	**Ano Chora**	**2.46**	**352**	P	**Pn**	**01 14 05.1**	**+0.7**
ANX	**Ano Chora**	**2.46**	**352**	P	**Pn**	**01 14 05.8**	**+1.4**
PVO	**Paravola**	**2.54**	**345**	P	**Pn**	**01 14 08.0**	**+2.5**
LKR	**Lokris**	**2.55**	**12**	P	**Pn**	**01 14 05.5**	**0.0**
LKR	**Lokris**	**2.55**	**12**	P	**Pn**	**01 14 05.5**	**0.0**
ATL	**Atalanti**	**2.59**	**12**	P	**Pn**	**01 14 06.2**	**+0.1**
EREA	**Eretria**	**2.59**	**29**	P	**Pn**	**01 14 05.9**	**-0.3**
AXAR	**Agios Charalam**	**2.62**	**5**	P	**Pn**	**01 14 08.4**	**+1.8**
APE	**Apeiranthos**	**2.73**	**69**	P	**Pn**	**01 14 07.7**	**-0.3**
MRKA	**Markates**	**2.73**	**21**	P	**Pn**	**01 14 08.8**	**+0.7**
LAST	**Lasithi**	**2.74**	**110**	P	**Pn**	**01 14 07.6**	**-0.6**
EVR	**Evrytania**	**2.79**	**351**	P	**Pn**	**01 14 11.9**	**+2.9**
VAY	**Valandovo**	**5.16**	**2**	*i* Pn	**Pn**	**01 14 40.6**	**-0.7**
KRUS	**Krusevo**	**5.28**	**351**	*i* Pn	**Pn**	**01 14 41.9**	**-1.1**
STIP	**Stip**	**5.53**	**359**	*i* Pn	**Pn**	**01 14 46.1**	**-0.4**
VAE	**Valguarnera** comp=E,0.3nm,0.3s,baz=90,slow=20,SNR=3.0	**6.50**	**284**	Pn	Pn	01 15 05.5	+5.9
VAE	comp=E,2.1nm,0.3s,baz=107,slow=5.0,SNR=6.9			Sn	**Sn**	**01 16 08.9**	**-3.5**
STON	**Ston**	**7.61**	**333**	*e*Pn	**Pn**	**01 15 12.5**	**-2.3**

STON					Sn	Sn	01 16 31.2	-8.3
BRTR	**Keskin Array B**	**9.61**	**65**		Pn	Pn	01 15 31.9	-10
	comp=E,0.2nm,0.3s,baz=259,slow=12,SNR=4.2							
UDBI	**Udbina**	**9.75**	**331**	*e*Pn		**Pn**	**01 15 43.7**	**-0.5**
NVLJ	**Novalja**	**10.15**	**328**	*e*Pn		**Pn**	**01 15 48.5**	**-1.0**
ESDC	**Sonseca Array**	**21.02**	**288**	LR		LR	01 26 15.4	
	comp=E,36nm,18.2s,baz=175,slow=36							
HFS	**Hagfors**	**24.64**	**350**	P		**P**	**01 18 40.8**	**-0.7**
	comp=E,1.1nm,0.5s,baz=150,slow=9.9,SNR=8.0							
FINES	**FINESS Array B**	**25.42**	**4**	P		**P**	**01 18 48.5**	**-0.1**
	comp=E,0.7nm,0.3s,baz=173,slow=10,SNR=13							
NB2	**NORSAR Subarra**	**25.89**	**348**	P		**P**	**01 18 52.1**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=151,slow=10							
NOA	**NORSAR Array B**	**25.89**	**348**	P		**P**	**01 18 52.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=160,slow=7.6,SNR=3.5							
EKA	**Eskdalemuir Ar**	**25.92**	**326**	P		**P**	**01 18 55.5**	**+2.3**
	comp=Z,1.2nm,0.4s,baz=125,slow=9.9,SNR=7.8							
ARCES	**ARCESS Array B**	**33.48**	**2**	P		**P**	**01 19 59.9**	**-0.2**
	comp=Z,2.6nm,0.9s,baz=187,slow=10,SNR=13							
MKAR	**Makanchi Array**	**45.15**	**57**	P		**P**	**01 21 37.1**	**-0.5**
	comp=Z,1.4nm,0.3s,baz=274,slow=7.7,SNR=45							
ZALV	**Zalesovo Beam**	**45.99**	**47**	P		**P**	**01 21 42.9**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=266,slow=7.9,SNR=5.3							
NRIK	**Noril'sk**	**47.97**	**26**	LR		LR	01 44 36.8	
	comp=Z,24nm,21.0s,baz=130,slow=40							

IDC 27 01:14:46.5±1.8, 7.22S×129.24E, h0km, mb3.8/1, mb1 3.9/4, mb1mx3.5/34, mbtmp3.7/4, ML3.8/3, Error ellipse: s-maj=69.4km s-min=29.0km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIJI	**Sorong**	**6.62**	**18**	Pn		Pn	01 16 25.2	0.0
	1.9nm,0.3s,baz=351,slow=2.4,SNR=13							
SIJI				Sn		Sn	01 17 30.7	-11
	1.4nm,0.3s,baz=253,slow=19,SNR=4.4							
WRA	**Warramunga Arr**	**13.58**	**159**	Pn		Pn	01 17 59.9	-0.8
	0.6nm,0.3s,baz=341,slow=13,SNR=37							
WRA				Sn		Sn	01 20 20.6	-12
	1.1nm,0.3s,baz=335,slow=22,SNR=9.7							
ASAR	**Alice Springs**	**16.96**	**165**	Pn		Pn	01 18 46.0	+0.7
	0.2nm,0.3s,baz=344,slow=9.0,SNR=4.9							
ASAR				Sn		Sn	01 21 46.1	-8.5
	0.2nm,0.3s,baz=0.2,slow=27,SNR=4.9							
MKAR	**Makanchi Array**	**68.00**	**327**	P		P	01 25 47.6	0.0
	0.4nm,0.5s,baz=121,slow=8.0,SNR=7.1							

MEX 27 01:21:35.7±0.7, 16.09N×98.37W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.38**	**39**	*i* P		Pg	01 21 42.0	-1.0
PNIG				*e*S		Sg	01 21 48.2	+0.1

*NIED **27** 01:25:00, 45.40N×142.70E, h300km, Mw5.0 Best double couple: M0 3.39000×10^16 NP1:φs240.00000°, δ9.00000°, λ17.00000°. NP2:φs134.00000°, δ87.00000°, λ99.00000°.*

*BJI **27** 01:25:42.7, 45.47N×142.90E, h286km, mb4.7/72, mB4.6/48*

*ISCJB **27** 01:25:45.2±0.1, 45.40N±0.02×142.60E±0.02, h288km±1km, mb4.8/492, Error ellipse: s-maj=2.7km s-min=1.9km az=159.1*

*MOS **27** 01:25:45.0±0.9, 45.41N×142.60E, h286km, mb4.9/99, Error ellipse: s-maj=5.5km s-min=3.8km az=94.2*

*JMA **27** 01:25:45.6±0.2, 45.35N×142.66E, h290km±2km, M4.9*

JMA Felt I J1.

*IDC **27** 01:25:46.1±0.5, 45.48N×142.60E, h286km±4km, mb4.3/26, mb1 4.5/35, mb1mx4.4/42, mbtmp5.0/35, Error ellipse: s-maj=8.8km s-min=7.1km az=99.0*

*SKHL **27** 01:25:46.0±0.8, 45.34N×142.60E, h295km±22km, mb5.7/3, Ms3.9/2, msh5.7/3*

*NEIC **27** 01:25:46.1±1.7, 45.43N×142.61E, h284km±4km, mb4.9/419, Error ellipse: s-maj=11.0km s-min=9.2km az=100.0*

NEIC Recorded [1 JMA] in Aomori, Honshu.

*GCMT **27** 01:25:49.1±0.3, 45.42N±0.03×142.65E±0.04, h288km±2km, MW5.0/49, Moment Tensor Solution. s34,c42; s49,c59; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.26±.16; Mθθ-0.79±.16; Mφφ 1.05±.18; Mrθ 3.55±.18; Mθφ-0.16±.17; Mφr-2.90±.19; Best double couple: M0 4.68200×10^16 NP1:φs310.00000°, δ89.00000°, λ-102.00000°. NP2:φs214.00000°, δ12.00000°, λ-6.00000°. Principal axes: T 4.6100, Plg43.0000°, Azm51.0000°; N 0.1400, Plg12.0000°, Azm310.0000°; P -4.7540, Plg45.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 01:25:45.9±0.3, 45.41N±0.03×142.64E±0.03, h286km±2km, h285km:pP-P, n1361, σ1s12/1495, mb4.8/492, 44C-54D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSE	**Soyaes**	**0.45**	**185**	⇑P		**Pn**	**01 26 22.7**	**-0.2**
JSE				*e*S		**S**	**01 26 51.3**	**-0.8**
JWK2	**Keihoku**	**0.53**	**261**	⇑P		**Pn**	**01 26 23.5**	**+0.5**
JWK2				*e*S		**S**	**01 26 52.6**	**+0.2**
JRR	**Rishiri**	**0.97**	**255**	⇑P		**Pn**	**01 26 24.9**	**+0.2**
JRR				*e*S		**S**	**01 26 56.1**	**+0.8**
JSS	**Shosan**	**1.15**	**209**	⇑P		**Pn**	**01 26 25.8**	**+0.2**
ASAJ	**Asahikawa**	**1.29**	**181**	⇑P		**Pn**	**01 26 26.6**	**+0.1**
ASAJ	**Asahikawa**	**1.29**	**181**	P		**Pn**	**01 26 26.7**	**+0.2**
	277nm,0.3s,baz=332,slow=6.2,SNR=1977							
ASAJ				S		**S**	**01 26 58.7**	**+0.1**
	48nm,0.3s,baz=70,slow=32,SNR=20							
JYG	**Yagishiri**	**1.30**	**222**	⇑P		**Pn**	**01 26 26.6**	**+0.1**
JYG				*e*S		**S**	**01 26 58.7**	**+0.1**
JMP	**Maruseppu**	**1.49**	**159**	⇑P		**Pn**	**01 26 27.7**	**-0.1**
JMP				*e*S		**S**	**01 27 00.5**	**-0.5**
JKK2	**Kamakawa 2**	**1.53**	**177**	⇑P		**Pn**	**01 26 28.1**	**0.0**
YSS	**Yuzh-Sakhalins**	**1.55**	**3**	*e*Pn		**Pn**	**01 26 27.7**	**-0.3**
YSS				*e*S		**S**	**01 26 58.8**	**-2.6**
YSS	**Yuzh-Sakhalins**	**1.55**	**3**	⇓*i*P		**Pn**	**01 26 28.3**	**+0.4**
YSS				AMB		AMB	01 26 29.0	
	8μm,0.7s							
YSS				*i* S		**S**	**01 27 01.0**	**-0.4**
YSS				A		A	01 27 01.7	
	10μm,2.0s							
YSS				A		A	01 27 01.8	
	9μm,0.7s							
YSS				A		A	01 27 01.8	
	4μm,0.7s							
YSS				AMS		AMS	01 28 03.0	
	1μm,10.0s							
YSS	**Yuzh-Sakhalins**	**1.55**	**3**	κ *i*PN		**Pn**	**01 26 28.4**	**+0.5**
YSS				*i* S		**S**	**01 27 00.9**	**-0.4**
YSS				pmax		pmax		
	comp=Z,8μm,0.7s							
YSS				pmax		pmax		
	comp=N,3μm,0.8s							
YSS				smax		smax		
	comp=E,4μm,1.1s							
YSS				smax		smax		
	comp=E,8μm,2.0s							
JTKR	**Abashiri--Toko**	**1.70**	**147**	⇑P		**Pn**	**01 26 29.2**	**+0.1**
JTKR				*e*S		**S**	**01 27 03.0**	**-0.5**
KHLM	**Kholmsk**	**1.70**	**346**	*e*S		**S**	**01 27 03.3**	**+0.1**
KHLM				A		A	01 27 05.0	
	comp=E,4μm,0.9s							
KHLM				A		A	01 27 05.0	
	comp=E,8μm,0.9s							
JHR	**Hokuryu**	**1.79**	**202**	⇑P		**Pn**	**01 26 29.9**	**+0.1**
JFR	**Furan**	**2.24**	**181**	⇑P		**Pn**	**01 26 33.2**	**-0.4**
JAR	**Ashorobuto**	**2.26**	**158**	⇑P		**Pn**	**01 26 33.8**	**+0.1**
JRA	**Rausu**	**2.30**	**129**	⇓P		**Pn**	**01 26 34.5**	**+0.4**
JSK	**Shakotan**	**2.57**	**218**	P		**Pn**	**01 26 36.6**	**+0.1**
GRPR	**Tuman**	**2.65**	**121**	*i* P		**Pn**	**01 26 37.3**	**+0.1**
GRPR				AMB		AMB	01 26 44.3	
	comp=E,460nm,0.4s							
GRPR				*i* S		**S**	**01 27 18.7**	**+0.6**
GRPR				A		A	01 27 25.7	
	comp=E,830nm,0.4s							
GRPR				A		A	01 27 25.7	
	comp=E,2μm,0.4s							
GRPR	**Tuman**	**2.65**	**121**	*d i*PN		**Pn**	**01 26 37.3**	**+0.1**
GRPR				*i* S		**S**	**01 27 18.7**	**+0.6**
GRPR				pmax		pmax		
	comp=N,603nm,0.4s							
GRPR				pmax		pmax		
	comp=Z,456nm,0.4s							
GRPR				pmax		pmax		
	comp=E,424nm,0.5s							
GRPR				smax		smax		
	comp=N,832nm,0.4s							
GRPR				smax		smax		
	comp=E,2μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.68**	**120**	⇑*i*P		**Pn**	**01 26 38.0**	**+0.5**
YUK				AMB		AMB	01 26 39.0	
	comp=E,1μm,0.9s							
YUK				*i* S		**S**	**01 27 19.6**	**+1.0**
YUK				A		A	01 27 20.7	
	comp=E,4μm,0.6s							
YUK				A		A	01 27 20.7	
	comp=E,4μm,0.6s							
YUK				A		A	01 27 21.3	
	comp=E,19μm,3.0s							
YUK				A		A	01 27 21.3	
	comp=E,11μm,3.0s							
YUK	**Yuzh-Kuril'sk**	**2.68**	**120**	*c i*PN		**Pn**	**01 26 37.1**	**-0.4**
YUK				*i* S		**S**	**01 27 18.3**	**-0.3**
YUK				pmax		pmax		
	comp=E,137nm,0.7s							
YUK				pmax		pmax		
	comp=Z,502nm,0.7s							
YUK				pmax		pmax		
	comp=N,133nm,0.6s							
YUK				smax		smax		
	comp=N,2μm,0.6s							
YUK				smax		smax		
	comp=E,2μm,0.6s							
JEW	**Eniwo**	**2.70**	**199**	⇑P		**Pn**	**01 26 38.1**	**+0.3**
JAK	**Akkeshi**	**2.83**	**148**	⇑P		**Pn**	**01 26 37.1**	**-1.9**
JAK				*e*S		**S**	**01 27 17.3**	**-4.0**
JCH	**Churui**	**2.84**	**169**	⇑P		**Pn**	**01 26 37.2**	**-2.0**
JCH				*e*S		**S**	**01 27 16.8**	**-4.8**
NEM2	**Nemuro 2**	**3.02**	**131**	P		**Pn**	**01 26 38.8**	**-2.1**
NEM2				*e*S		**S**	**01 27 20.8**	**-4.0**
JNBK	**Urakawa-nobuka**	**3.12**	**178**	⇑P		**Pn**	**01 26 40.4**	**-1.7**
SHO	**Shikotan**	**3.37**	**116**	*e*P		**Pn**	**01 26 42.5**	**-2.0**
SHO				AMB		AMB	01 26 47.3	
	comp=E,190nm,0.7s							
SHO				*e*S		**S**	**01 27 27.5**	**-3.7**
SHO				A		A	01 27 29.8	
	comp=E,8μm,0.5s							
SHO	**Shikotan**	**3.37**	**116**	*d i*PN		**Pn**	**01 26 42.2**	**-2.3**
SHO				*i* S		**S**	**01 27 26.6**	**-4.6**
SHO				pmax		pmax		
	comp=Z,129nm,0.5s							
SHO				pmax		pmax		
	comp=E,73nm,0.4s							
SHO				pmax		pmax		
	comp=N,46nm,0.2s							
SHO				smax		smax		
	comp=N,2μm,0.3s							
SHO				smax		smax		
	comp=E,6μm,0.4s							
ERM	**Erimo**	**3.41**	**173**	*e*Pn		**Pn**	**01 26 43.6**	**-1.4**
ERM				*e*S		**S**	**01 27 26.2**	**-6.0**
ERM	**Erimo**	**3.41**	**173**	*e*Pn		**Pn**	**01 26 43.6**	**-1.4**
ERM				*e*S		**S**	**01 27 26.2**	**-6.0**
KUR	**Kuril'sk**	**3.69**	**91**	⇓*i*P		**Pn**	**01 26 49.0**	**+1.0**
KUR				AMB		AMB	01 26 49.2	
	comp=E,1μm,0.6s							
KUR				*i* S		**S**	**01 27 38.7**	**+1.2**
KUR				A		A	01 27 39.2	
	comp=E,2μm,0.9s							
KUR				A		A	01 27 39.2	
	comp=E,840nm,0.9s							
KUR				A		A	01 27 41.0	
	comp=E,6μm,5.0s							
KUR	**Kuril'sk**	**3.69**	**91**	*d i*PN		**Pn**	**01 26 48.9**	**+1.0**
KUR				*i* S		**S**	**01 27 38.3**	**+0.8**
KUR				pmax		pmax		
	comp=N,247nm,0.5s							
KUR				pmax		pmax		
	comp=Z,649nm,0.5s							
KUR				pmax		pmax		
	comp=E,119nm,0.6s							
KUR				pmax		pmax		
	comp=Z,2μm,1.1s							
KUR				smax		smax		
	comp=N,518nm,1.0s							
KUR				smax		smax		
	comp=E,238nm,0.9s							
KUR				smax		smax		
	comp=N,2μm,2.2s							
KUR				smax		smax		
	comp=E,2μm,2.2s							
UGL	**Uglegorsk**	**3.69**	**354**	⇓*i*P		**Pn**	**01 26 48.9**	**+1.1**
UGL				AMB		AMB	01 26 49.8	
	comp=E,3μm,1.0s							
UGL				AMB		AMB	01 26 50.0	
	comp=E,5μm,2.0s							
UGL				*e*S		**S**	**01 27 37.9**	**+0.5**
UGL				A		A	01 27 40.8	
	comp=E,11μm,5.0s							
UGL				A		A	01 27 40.8	
	comp=E,2μm,1.6s							
UGL				A		A	01 27 40.8	
	comp=E,1μm,1.6s							
UGL	**Uglegorsk**	**3.69**	**354**	*d i*PN		**Pn**	**01 26 49.0**	**+1.1**
UGL				*e*S		**S**	**01 27 38.5**	**+1.1**
UGL				pmax		pmax		
	comp=Z,5μm,1.5s							
UGL				pmax		pmax		
	comp=N,810nm,1.0s							
UGL				pmax		pmax		
	comp=Z,3μm,1.0s							
UGL				pmax		pmax		
	comp=E,1μm,0.9s							
UGL				smax		smax		
	comp=E,8μm,2.0s							
UGL				smax		smax		
	comp=N,9μm,2.3s							
UGL				smax		smax		
	comp=E,1μm,1.2s							
UGL				smax		smax		
	comp=N,2μm,1.6s							
JKB	**Kayabe**	**3.70**	**199**	⇑P		**Pn**	**01 26 46.8**	**-1.4**
JKB				*e*S		**S**	**01 27 32.7**	**-5.2**
TEY	**Ternei**	**4.28**	**267**	⇑*e*P		**Pn**	**01 26 54.8**	**+0.3**
TEY				AMB		AMB	01 26 55.8	
	comp=N,590nm,0.7s							
TEY				*e*S		**S**	**01 27 48.0**	**-1.4**
TEY				A		A	01 27 50.0	
	comp=N,4μm,3.0s							
TEY				A		A	01 27 51.4	
	comp=N,160nm,1.5s							
TEY				A		A	01 27 51.4	
	comp=N,140nm,1.5s							
TEY				AMS		AMS	01 30 35.3	
	comp=N,2μm,25.0s							
TEY	**Ternei**	**4.28**	**267**	⇑*e*PN		**Pn**	**01 26 55.0**	**+0.5**
TEY				*e*S		**S**	**01 27 47.9**	**-1.4**
TEY				pmax		pmax		
	comp=E,570nm,0.6s							
TEY				pmax		pmax		
	comp=N,40nm,0.3s							
TEY				pmax		pmax		
	comp=Z,590nm,0.7s							
TEY				smax		smax		
	comp=N,160nm,3.3s							
TEY				smax		smax		
	comp=E,130nm,1.7s							
TYV	**Tymovskoe**	**5.46**	**0**	⇓*i*P		**Pn**	**01 27 08.6**	**+0.4**
TYV				AMB		AMB	01 27 09.2	
	comp=E,800nm,2.0s							
TYV				AMB		AMB	01 27 09.4	
	comp=E,350nm,0.6s							
TYV				*e*S		**S**	**01 28 14.1**	**-0.2**
TYV				A		A	01 28 15.6	
	comp=E,340nm,1.5s							
TYV				A		A	01 28 15.6	
	comp=E,280nm,1.5s							
TYV				A		A	01 28 15.8	
	comp=E,2μm,3.1s							
TYV	**Tymovskoe**	**5.46**	**0**	⇓*i*PN		**Pn**	**01 27 08.7**	**+0.5**
TYV				*e*S		**S**	**01 28 14.1**	**-0.2**
TYV				pmax		pmax		
	comp=Z,800nm,2.0s							
TYV				pmax		pmax		
	comp=Z,351nm,0.6s							
TYV				smax		smax		
	comp=N,242nm,1.3s							
TYV				smax		smax		
	comp=N,2μm,3.1s							
GRNR	**Gornyy**	**6.79**	**324**	⇓*i*P		**Pn**	**01 27 24.2**	**-0.1**
GRNR				AMB		AMB	01 27 25.0	
	comp=N,48nm,1.0s							
GRNR				AMB		AMB	01 27 25.0	
	comp=N,67nm,1.0s							
GRNR				*e*S		**S**	**01 28 44.8**	**+1.1**
GRNR	**Gornyy**	**6.79**	**324**	⇓*i*PN		**Pn**	**01 27 24.2**	**-0.1**
GRNR				*e*			01 28 44.0	
GRNR				pmax		pmax		
	comp=N,48nm,1.0s							
GRNR				pmax		pmax		
	comp=E,48nm,1.0s							
GRNR				pmax		pmax		
	comp=Z,67nm,1.0s							
USA0B	**Ussuriysk Arra**	**7.67**	**265**	*e*Pn		**Pn**	**01 27 36.0**	**+0.8**
USA0B				*e*S		**S**	**01 29 02.2**	**-1.4**
USA0B	**Ussuriysk Arra**	**7.67**	**265**	*e*PN		**Pn**	**01 27 36.0**	**+0.8**
USA0B				*e*S		**S**	**01 29 02.3**	**-1.4**
USRK	**Ussuriysk Ar.**	**7.67**	**265**	P		**Pn**	**01 27 35.9**	**+0.7**
	comp=Z,7.9nm,0.3s,baz=71,slow=10,SNR=214							
USRK				S		**S**	**01 29 03.1**	**-0.6**
	baz=82,slow=25,SNR=8.1							
NKL	**Nikolayevsk**	**7.86**	**351**	*e*P		**Pn**	**01 27 38.0**	**+0.6**
NKL				AMB		AMB	01 27 40.0	
	comp=Z,35nm,1.0s							
NKL				AMB		AMB	01 27 40.0	
	comp=Z,60nm,1.0s							
NKL				*e*S		**S**	**01 29 08.0**	**+0.4**
NKL				A		A	01 29 10.0	
	comp=Z,54nm,1.0s							
NKL	**Nikolayevsk**	**7.86**	**351**	*e*PN		**Pn**	**01 27 37.0**	**-0.4**
NKL				*e*			01 29 05.0	
NKL				pmax		pmax		
	comp=E,35nm,1.0s							
NKL				pmax		pmax		
	comp=E,60nm,1.0s							
VLA	**Vladivostok**	**8.05**	**257**	*c i*PN		**Pn**	**01 27 40.4**	**+0.5**
OKH	**Okha**	**8.15**	**1**	*e*P		**Pn**	**01 27 42.4**	**+1.3**
OKH				AMB		AMB	01 27 43.1	
	comp=Z,120nm,0.5s							
OKH				AMB		AMB	01 27 49.6	
	comp=Z,80nm,0.9s							
OKH				*e*S		**S**	**01 29 16.9**	**+2.5**
OKH				A		A	01 29 21.4	
	comp=Z,1μm,1.4s							
OKH				*e*S		S	01 29 27.3	+13
OKH				A		A	01 29 29.7	
	comp=Z,70nm,1.4s							
OKH	**Okha**	**8.15**	**1**	*de*PN		Pn	01 27 35.7	-5.4
KLR	**Kul'dur**	**8.33**	**301**	*d i*PN		**Pn**	**01 27 44.3**	**+1.0**
KLR	**Kul'dur**	**8.33**	**301**	P		**Pn**	**01 27 44.0**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=114,slow=12,SNR=49							
KLR				S		**S**	**01 29 14.8**	**-3.6**
	baz=137,slow=19,SNR=1.9							
MSHR	**Mys Shultsa**	**8.74**	**255**	⇓*i*PN		**Pn**	**01 27 49.2**	**+0.7**
MDJ	**Mudanjiang**	**9.28**	**270**	P		**Pn**	**01 27 55.8**	**+0.7**
MDJ				sP		sP	01 28 55.5	
MDJ				S		**S**	**01 29 39.0**	**-1.2**
MDJ				ScS		**ScS**	**01 40 21.3**	**-2.5**
MDJ				pmax		pmax		
	comp=Z,120nm,0.7s							
MDJ	**Mudanjiang**	**9.28**	**270**	*e*Pn		**Pn**	**01 27 55.9**	**+0.7**
MDJ				*e*S		**S**	**01 29 34.4**	**-5.8**
MJB9	**Matsu-Tunnel**	**9.46**	**202**	*e*Pn		**Pn**	**01 27 56.1**	**-1.5**
MJB9				*e*S		**S**	**01 29 41.9**	**-2.8**
MAJO	**Matsushiro**	**9.46**	**202**	*e*Pn		**Pn**	**01 27 55.6**	**-2.0**
MAJO				*e*S		**S**	**01 29 41.2**	**-3.5**
MAJO	**Matsushiro**	**9.46**	**202**	*ce*PN		**Pn**	**01 27 55.7**	**-1.9**
MAJO				pmax		pmax		
	comp=Z,33nm,0.5s							
MAT	**Matsushiro**	**9.46**	**202**	P		**Pn**	**01 27 55.4**	**-2.2**
MAT				S		**S**	**01 29 38.4**	**-6.3**
MJAR	**Matsushiro Arr**	**9.46**	**202**	P		**Pn**	**01 27 55.5**	**-2.1**
	comp=Z,2.1nm,0.3s,baz=8.5,slow=13,SNR=72							
MJAR				S		**S**	**01 29 38.5**	**-6.2**
	baz=326,slow=43,SNR=4.7							
MJAR				ScP		**ScP**	**01 36 50.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=193,slow=0.1,SNR=15							
EKMR	**Ekimchan**	**9.94**	**324**	*e*P		**Pn**	**01 28 03.6**	**+0.4**
EKMR				AMB		AMB	01 28 05.8	
	comp=Z,19nm,0.9s							
EKMR				*e*S		**S**	**01 29 55.5**	**+0.4**
EKMR				A		A	01 29 56.0	
	comp=Z,20nm,1.0s							
SKR	**Severo-Kuril's**	**10.45**	**55**	*e*P		**Pn**	**01 28 11.0**	**+1.5**
SKR				AMB		AMB	01 28 12.2	
	comp=Z,2μm,0.6s							
SKR				*e*S		**S**	**01 30 07.3**	**+0.5**
SKR	**Severo-Kuril's**	**10.45**	**55**	*e*PN		**Pn**	**01 28 11.1**	**+1.5**
SKR				*e*S		**S**	**01 30 06.8**	**0.0**
SKR				pmax		pmax		
	comp=Z,2μm,0.7s							
SKR				pmax		pmax		
	comp=Z,4μm,1.5s							
SKR				MLR		MLR		
	comp=Z,2μm,16.0s							
SKR				MLR		MLR		
	comp=Z,1μm,18.0s							
INU	**Inuyama**	**10.92**	**205**	*e*Pn		**Pn**	**01 28 14.0**	**-1.5**
INU				*e*S		**S**	**01 30 12.2**	**-5.6**
PAU	**Pauzhetka**	**11.19**	**52**	*e*P		**Pn**	**01 28 19.8**	**+1.2**
PAU				AMB		AMB	01 28 20.5	
	comp=Z,2μm,0.8s							
PAU				*e*S		**S**	**01 30 22.8**	**-0.8**
CN2	**Changchun**	**12.36**	**269**	⇓P		**Pn**	**01 28 32.8**	**-0.2**
CN2				*e*SP			01 29 38.0	
CN2				*e*S		**S**	**01 30 46.3**	**-4.0**
CN2				pmax		pmax		
	comp=Z,30nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,6.0s							
JHJ	**Hachijo jima 2**	**12.46**	**191**	P		**Pn**	**01 28 34.6**	**+0.2**
	comp=Z,56nm,0.3s,baz=78,slow=14,SNR=10.0							
JHJ				S		S	01 30 43.5	-10
	comp=Z,17nm,0.3s,baz=53,slow=20,SNR=6.3							
JHJ2	**Mitsune**	**12.47**	**191**	*e*Pn		**Pn**	**01 28 33.9**	**-0.6**
PEA0B	**Petropavlovsk-**	**12.48**	**46**	*e*Pn		**P**	**01 28 35.3**	**-0.4**
PEA0B	**Petropavlovsk-**	**12.48**	**46**	*e*PN		**P**	**01 28 35.3**	**-0.4**
PETK	**Petropavlovsk-**	**12.48**	**46**	*e*Pn		**Pn**	**01 28 34.6**	**+0.2**
PETK	**Petropavlovsk-**	**12.48**	**46**	P		**P**	**01 28 35.1**	**-0.7**
	comp=Z,11nm,0.3s,baz=220,slow=8.6,SNR=141							
PETK				ScP		**ScP**	**01 36 53.6**	**-0.1**
	baz=310,slow=1.1,SNR=4.2							
PEA1	**Petropavlovsk-**	**12.48**	**46**	*e*Pn		**Pn**	**01 28 35.0**	**+0.6**
PEA1				*e*ScP		**ScP**	**01 36 53.6**	**-0.1**
BMKR	**Bomnak**	**12.83**	**321**	*e*P		**Pn**	**01 28 39.0**	**+0.4**
BMKR				AMB		AMB	01 28 39.5	
	comp=Z,4.0nm,0.8s							
PET	**Petropavlovsk**	**12.93**	**48**	*e*Pn		**Pn**	**01 28 39.6**	**-0.2**
PET	**Petropavlovsk**	**12.93**	**48**	⇓*i*P		**P**	**01 28 40.7**	**0.0**
PET				AMB		AMB	01 28 42.8	
	comp=Z,190nm,0.6s							
PET				*e*S		**S**	**01 30 59.1**	**-4.0**
PET				A		A	01 31 05.9	
	comp=Z,150nm,0.8s							
PET				A		A	01 31 05.9	
	comp=Z,210nm,0.8s							
PET				AMS		AMS	01 34 52.9	
	comp=Z,730nm,20.0s							
PET	**Petropavlovsk**	**12.93**	**48**	⇑*i*PN		**P**	**01 28 40.6**	**-0.1**
PET				*e*S		**S**	**01 31 02.5**	**-0.6**
PET				pmax		pmax		
	comp=Z,241nm,0.7s

KROS AMB AMB 01 28 53.8
comp=Z,7.0nm,0.5s
KSRS Korea Array 13.59 239 P **Pn** **01 28 47.5 -0.4**
comp=Z,2.0nm,0.3s,baz=51,slow=10,SNR=81
KSRS S **S** **01 31 20.6 +2.5**
comp=Z,0.1nm,0.3s,baz=64,slow=19,SNR=2.5
KSRS ScP **ScP** **01 36 57.3 +1.6**
comp=Z,0.2nm,0.3s,baz=36,slow=0.7,SNR=22
KS01 Wonju Array Si 13.59 240 *e*P**n** **Pn** **01 28 46.3 -1.6**
KS15 Wonju Array Si 13.62 239 *e*P**n** **P** **01 28 49.5 +1.1**
KS15 *e*S **S** **01 31 20.6 +1.8**
KS15 *e*ScP **ScP** **01 36 57.3 +1.5**
SNY Shenyang 14.26 262 ||P **Pn** **01 28 56.8 +0.9**
SNY S **S** **01 31 33.0 +0.4**
SNY pmax pmax
comp=Z,160nm,0.8s
SNY pmax pmax
comp=Z,610nm,4.7s
SNY LR LR
comp=Z,190nm,8.0s
SNY LR LR
comp=Z,190nm,10.0s
SNY LR LR
comp=Z,340nm,7.2s
TJN Taejon 14.63 237*d i*P **Pn** **01 29 00.9 +0.5**
MA2 Magadan 15.01 16 *e*P **P** **01 29 02.7 -0.9**
MA2 Magadan 15.01 16*de*P **Pn** **01 29 04.2 -0.5**
MA2 pmax pmax
comp=Z,617nm,1.7s
MA2 Magadan 15.01 16 P **P** **01 29 03.8 +0.3**
comp=Z,8.9nm,0.3s,baz=199,slow=9.3,SNR=149
JNU Nakatsue 15.26 221 *e*P **P** **01 29 05.2 -1.3**
comp=Z,59nm,1.0s
JNU *e*S **S** **01 31 53.1 -0.2**
JNU Nakatsue 15.26 221 P **P** **01 29 07.1 +0.5**
comp=Z,3.3nm,0.3s,baz=42,slow=11,SNR=20
JNU S **S** **01 31 52.0 -1.3**
comp=Z,0.2nm,0.3s,baz=165,slow=15,SNR=3.5
HIA Hailar 15.98 292 *e*P **P** **01 29 13.4 -0.9**
comp=Z,37nm,0.7s
HIA Hailar 15.98 292 *e*P **P** **01 29 13.4 -0.9**
HIA pmax pmax
comp=Z,37nm,0.7s
DL2 Dalian 16.85 255 *e*P **Pn** **01 29 26.0 -0.4**
DL2 sP **sP** **01 30 37.5 -4.9**
DL2 S **S** **01 32 25.5 +0.6**
DL2 pmax pmax
comp=Z,38nm,0.9s
DL2 pmax pmax
comp=Z,150nm,8.7s
YAK Yakutsk 18.27 340 *e*P **P** **01 29 37.1 -1.8**
YAK *e*S **S** **01 32 47.7 -4.7**
YAK pmax pmax
comp=Z,94nm,0.9s
YAK pmax pmax
comp=N,37nm,0.8s
YAK pmax pmax
comp=E,32nm,1.1s
YAK smax smax
comp=N,4μm,2.8s
YAK smax smax
comp=E,2μm,2.0s
CBIJ Chichi jima 18.28 181 *e*P **P** **01 29 39.5 +0.1**
CBIJ *e*S **S** **01 32 59.4 +6.3**
JCJ Chichijima 18.28 181 P **P** **01 29 39.5 +0.1**
comp=E,24nm,0.3s,baz=310,slow=23,SNR=12
JCJ S **S** **01 32 59.4 +6.2**
comp=E,2.3nm,0.3s,baz=218,slow=19,SNR=1.8
SEY Seymchan 18.43 14 P **P** **01 29 40.6 +0.1**
comp=E,13nm,0.3s,baz=204,slow=7.9,SNR=630
BJI Beijing 20.12 264 P **P** **01 29 58.0 -0.8**
BJI S **S** **01 33 27.5 -0.4**
BJI pmax pmax
comp=E,29nm,0.8s
BJT Baijiatuau 20.14 264 *e*P **P** **01 29 58.2 -0.8**
comp=E,60nm,1.1s
BJT Baijiatuau 20.14 264 *e*P **P** **01 29 58.2 -0.8**
BJT pmax pmax
comp=Z,60nm,1.1s
TIA Tai'an 21.31 253 P **P** **01 30 10.0 -0.7**
TIA pmax pmax
comp=Z,13nm,0.9s
BOD Bodaibo 21.50 316 *e*P **P** **01 30 10.6 -1.5**
BOD pmax pmax
comp=Z,5.0nm,1.2s
SMY Shemya 21.75 59 *e*P **P** **01 30 13.9 -0.5**
comp=Z,219nm,0.7s
SMY Shemya 21.75 59 *e*P **P** **01 30 13.9 -0.5**
SMY pmax pmax
comp=Z,219nm,0.7s
NJ2 Nanjing 22.74 242 *e*P **P** **01 30 24.5 +0.8**
NJ2 pmax pmax
comp=Z,59nm,0.8s
HHC Hu-ho-hao-te 23.05 270 *e*P **P** **01 30 27.5 +0.9**
HHC sP sP 01 31 51.5 +0.5
HHC S **S** **01 34 16.0 +0.4**
HHC pmax pmax
comp=Z,60nm,1.0s
HHC pmax pmax
comp=Z,480nm,4.8s
BTO Baotou 24.23 270 *e*P **P** **01 30 36.3 -0.9**
ULN Ulaanbaatar 24.43 289 *e*P **P** **01 30 39.1 +0.1**
comp=Z,11nm,0.7s
ULN Ulaanbaatar 24.43 289*ce*P **P** **01 30 39.0 0.0**
ULN pmax pmax
comp=Z,28nm,1.7s
SONA0 Songino Array 24.87 289 *e*P **P** **01 30 43.2 +0.2**
SONA0 *e*ScP **ScP** **01 37 22.0 +0.6**
SONM Songino Array 24.87 289 P **P** **01 30 43.2 +0.2**
comp=Z,8.8nm,0.5s,baz=82,slow=8.9,SNR=87
SONM ScP **ScP** **01 37 22.0 +0.6**
comp=Z,11nm,1.0s,baz=108,slow=2.3,SNR=34
BILL Bilibino 25.79 20 *e*P **P** **01 30 48.9 -2.0**
comp=Z,21nm,1.1s
BILL Bilibino 25.79 20*d i*P **P** **01 30 49.3 -1.5**
BILL *j* *PP **pP** **01 31 46.0 +1.6**
BILL *i* 01 34 09.2
BILL pmax pmax
comp=Z,25nm,1.2s
WHN Wuhan 26.61 246 P **P** **01 30 58.8 +0.3**
WHN pmax pmax
comp=Z,170nm,1.1s
ZAK Zakamensk 26.63 295 *e*P **P** **01 30 57.9 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 27.14 350 *e*P **P** **01 31 00.5 -2.2**
comp=Z,5.9nm,0.8s
TIXI *e*pP **pP** **01 32 01.7 +4.1**
TIXI Tiksi 27.14 350 P **P** **01 31 00.1 -2.6**
comp=Z,3.2nm,0.5s,baz=141,slow=10,SNR=7.9
XAN Xi'an 28.11 258 P **P** **01 31 12.0 +0.2**
XAN pP pP 01 32 04.5 -1.9
XAN pmax pmax
comp=Z,15nm,1.4s
XAN pmax pmax
comp=Z,170nm,5.8s
XAN Xi'an 28.11 258 *e*P **P** **01 31 12.3 +0.4**
comp=Z,12nm,0.8s
XAN Xi'an 28.11 258 *e*P **P** **01 31 12.3 +0.4**
XAN pmax pmax
comp=Z,13nm,0.8s
ENH Enshi 29.97 251 *e*P **P** **01 31 28.8 +0.5**
comp=Z,33nm,1.1s
LZH Lanzhou 30.57 266 *e*P **P** **01 31 34.8 +1.1**
LZH pP pP 01 32 27.8 -1.0
LZH sP sP 01 33 02.3 +0.6
LZH PcP **PcP** **01 34 26.0 +1.5**
LZH SS SS 01 38 27.5 -2.8
LZH pmax pmax
comp=Z,29nm,1.2s
SPIA Saint Paul Isl 31.09 51 *e*P **P** **01 31 36.4 -1.3**
comp=Z,160nm,1.0s
GAMB Gambell 31.29 38 *e*P **P** **01 31 37.9 -1.4**
comp=Z,8.0nm,0.8s
GUMO Guam 31.77 176 *e*P **P** **01 31 42.6 -1.4**
comp=Z,83nm,0.8s
GUMO Guam 31.77 176 *e*P **P** **01 31 42.6 -1.4**
GUMO pmax pmax
comp=Z,83nm,0.8s
GTA Gaotai 31.89 275 P **P** **01 31 46.0 +1.0**
GTA pP pwP 01 32 43.8 +1.5
GTA sP sP 01 33 15.8 +2.6
GTA PcP **PcP** **01 34 29.5 +1.6**
GTA ScP **ScP** **01 37 44.5 +1.0**
GTA ScS **ScS** **01 41 43.0 +0.3**

GTA pmax pmax
comp=Z,19nm,1.2s
GTA pmax pmax
comp=Z,140nm,6.0s
CD2 Chengdu 33.47 258 P **P** **01 31 58.0 -0.7**
CD2 pP pP 01 32 52.8 -1.7
CD2 sP sP 01 33 27.0 -0.3
CD2 S **S** **01 36 55.8 -2.9**
CD2 sS sS 01 38 39.8 0.0
CD2 pmax pmax
comp=Z,70nm,1.2s
CD2 pmax pmax
comp=Z,220nm,3.5s
ANM Nome 34.16 37 *e*P **P** **01 32 04.4 +0.3**
comp=Z,31nm,0.6s
ANM Nome 34.16 37 *e*P **P** **01 32 04.4 +0.3**
ANM pmax pmax
comp=Z,31nm,0.6s
GYA Guiyang 34.35 249⇑ *i*P **P** **01 32 06.3 0.0**
GYA pP pP 01 33 04.5 +2.3
GYA sP sP 01 33 36.0 +1.1
GYA S **S** **01 37 14.8 +2.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
NRIK Noril'sk 36.23 331 P **P** **01 32 19.9 -1.7**
comp=Z,2.2nm,0.3s,baz=121,slow=8.9,SNR=5.4
NRIK ScP **ScP** **01 37 58.3 0.0**
comp=Z,2.1nm,0.3s,baz=91,slow=2.7,SNR=5.1
SDPT Sand Point 36.64 53 *e*P **P** **01 32 24.4 -0.8**
comp=Z,90nm,0.6s
DGZ Jazzator, Alta 36.79 297||*e*P **P** **01 32 27.1 +0.3**
DGZ pmax pmax
comp=Z,1.0nm,0.7s
ZAA1 Zalesovo Array 37.41 305 *e*P **P** **01 32 29.9 -1.8**
ZAA1 *ep*P **pP** **01 33 29.4 +1.1**
ZAA1 *e*S **S** **01 38 02.6 +4.7**
ZALV Zalesovo Beam 37.41 305 P **P** **01 32 29.9 -1.8**
comp=Z,1.0nm,0.4s,baz=90,slow=6.5,SNR=3.4
ZALV pP **pP** **01 33 29.4 +1.0**
comp=Z,1.8nm,0.6s,baz=68,slow=8.6,SNR=2.9
ZALV ScP **ScP** **01 38 02.6 -0.3**
comp=Z,4.8nm,0.8s,baz=92,slow=3.5,SNR=11
CHGN Chignik 37.65 51 *e*P **P** **01 32 33.3 -0.3**
comp=Z,54nm,0.6s
KMI Kunming 37.85 251 P **P** **01 32 36.5 +0.5**
KMI S **S** **01 38 05.0 -0.6**
KMI sS sS 01 39 49.8 +1.7
KMI pmax pmax
comp=Z,53nm,1.1s
KMI pmax pmax
comp=Z,200nm,3.1s
WMQ Urumqi 38.50 288 P **P** **01 32 42.0 +1.0**
WMQ S **S** **01 38 14.3 -0.3**
WMQ ScS **ScS** **01 42 16.3 -2.3**
WMQ pmax pmax
comp=Z,44nm,0.9s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ LR LR
comp=Z,170nm,20.7s
WMQ LR LR
comp=Z,100nm,20.7s
WMQ LR LR
comp=Z,74nm,19.7s
WMQ Urumqi 38.50 288 *e*P **P** **01 32 42.2 +1.2**
comp=Z,16nm,0.8s
WMQ Urumqi 38.50 288 *e*P **P** **01 32 42.2 +1.2**
WMQ pmax pmax
comp=Z,16nm,0.8s
SVW2 Sparrevohn 38.54 43 *e*P **P** **01 32 39.7 -1.3**
comp=Z,106nm,0.6s
IM3 Indian Mountai 39.13 36 *e*P **P** **01 32 43.8 -2.0**
SII Sitkinak Islan 39.91 50 *e*P **P** **01 32 52.3 0.0**
comp=Z,108nm,0.7s
PPLA Purkeypile 39.97 40 *e*P **P** **01 32 53.0 +0.1**
comp=Z,30nm,1.1s
BPAW Bear Paw Mtn. 40.40 38 *e*P **P** **01 32 55.5 -0.7**
comp=Z,18nm,0.8s
BPAW *e*PcP **PcP** **01 34 53.9 +0.9**
COLD Coldfoot 40.52 34 *e*P **P** **01 32 56.4 -0.8**
comp=Z,13nm,0.8s
KDAK Kodiak Island 40.53 48 *e*P **P** **01 32 57.0 -0.3**
comp=Z,89nm,0.6s
KDAK Kodiak Island 40.53 48 *i* P **P** **01 32 56.5 -0.8**
TOLK Toolik Lake Re 40.72 31 *e*P **P** **01 32 57.4 -1.4**
comp=Z,25nm,0.8s
TOLK Toolik Lake Re 40.72 31 P **P** **01 32 57.5 -1.4**
baz=271
TRF Thorofare Moun 40.77 39 *e*P **P** **01 32 58.8 -0.7**
comp=Z,15nm,0.7s
SUA Susitna One 40.82 42 *e*P **P** **01 32 58.8 -1.0**
comp=Z,20nm,0.5s
MK31 Makanchi Array 40.96 294 *e*P **P** **01 33 02.2 +1.1**
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 40.96 294 *e*P **P** **01 33 02.2 +1.1**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK32 Makanchi Array 40.96 294 *e*P **P** **01 33 00.5 -0.5**
MK32 *e*ScP **ScP** **01 38 16.8 -0.1**
MKAR Makanchi Array 40.96 294 P **P** **01 33 00.5 -0.5**
comp=Z,1.5nm,0.7s,baz=68,slow=7.9,SNR=8.0
MKAR ScP **ScP** **01 38 16.8 -0.1**
comp=Z,4.2nm,0.8s,baz=56,slow=4.5,SNR=16
MK01 Makanchi Array 40.96 294 *e*P **P** **01 33 00.8 -0.2**
BRLK Bradley Lake 41.03 45 *e*P **P** **01 33 01.1 -0.3**
comp=Z,27nm,0.6s
BWN Browne 41.05 38 *e*P **P** **01 33 02.1 +0.6**
comp=Z,97nm,0.6s
KCP Kidapawan 41.17 207⇑ *i*P **P** **01 33 04.4 +1.4**
RC01 Rabbit Creek A 41.36 43 *e*P **P** **01 33 03.0 -1.0**
comp=Z,17nm,0.5s
RND Reindeer 41.42 39 *e*P **P** **01 33 03.2 -1.3**
comp=Z,26nm,0.5s
RND Reindeer 41.42 39 *e*P **P** **01 33 03.2 -1.3**
RND pmax pmax
comp=Z,26nm,0.5s
MDM Murphy Dome 41.49 37 *e*P **P** **01 33 04.4 -0.7**
comp=Z,33nm,1.0s
PMR Palmer 41.56 42 *e*P **P** **01 33 05.1 -0.5**
comp=Z,28nm,0.6s
PMR Palmer 41.56 42 *e*P **P** **01 33 05.1 -0.5**
PMR pmax pmax
comp=Z,28nm,0.6s
WRH Wood River Hil 41.61 38 *e*P **P** **01 33 05.1 -0.9**
comp=Z,44nm,1.2s
GHO Glory Hole Cre 41.63 42 *e*P **P** **01 33 05.6 -0.7**
comp=Z,64nm,0.5s
TCOL CIGO, UAF Yank 41.66 37 P **P** **01 33 05.7 -0.7**
baz=277
COLA College 41.66 37 *e*P **P** **01 33 05.9 -0.5**
comp=Z,68nm,0.8s
COLA College 41.66 37*c i*P **P** **01 33 05.8 -0.6**
COLA pmax pmax
comp=Z,119nm,1.4s
CCB Clear Creek Bu 41.71 37 *e*P **P** **01 33 05.7 -1.1**
comp=Z,16nm,0.7s
POKR Poker Plat Res 41.81 37 P **P** **01 33 07.0 -0.6**
baz=277
SML Sawmill 41.90 42 *e*P **P** **01 33 07.9 -0.5**
comp=Z,32nm,0.6s
SML Sawmill 41.90 42 *e*P **P** **01 33 07.9 -0.5**
SML pmax pmax
comp=Z,32nm,0.6s
KNK Knik Glacier 41.91 42 *e*P **P** **01 33 08.1 -0.4**
comp=Z,34nm,0.6s
KURK Kurchatov 41.92 301⇑ *e*P **P** **01 33 08.2 -0.5**
KURK pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 42.09 37 P **P** **01 33 08.4 -1.4**
comp=Z,22nm,0.8s,baz=274,slow=7.4,SNR=119
ILAR PcP **PcP** **01 34 57.4 -1.1**
comp=Z,2.7nm,0.7s,baz=281,slow=3.0,SNR=4.1
ILAR ScP **ScP** **01 38 21.2 +0.1**
comp=Z,0.9nm,0.9s,baz=299,slow=3.6,SNR=4.9
ILB Eielson Array 42.09 37 *e*P **P** **01 33 08.4 -1.4**
comp=Z,25nm,0.8s
ILB *e*PP **PcP** **01 34 57.4 -1.1**
ILB *e*ScP **ScP** **01 38 21.2 +0.1**
IL1 Eielson Array 42.09 37 *e*P **P** **01 33 07.6 -2.2**
HDA Harding Lake 42.11 38 *e*P **P** **01 33 08.5 -1.5**
comp=Z,26nm,0.6s
HDA Harding Lake 42.11 38 P **P** **01 33 08.3 -1.8**
baz=278
DHY Denali Highway 42.13 40 *e*P **P** **01 33 09.1 -1.2**

comp=Z,55nm,0.6s
SCM Sheep Creek Mo 42.37 41 *e*P **P** **01 33 12.1 -0.1**
comp=Z,24nm,0.6s
SCM Sheep Creek Mo 42.37 41 *e*P **P** **01 33 12.1 -0.1**
SCM pmax pmax
comp=Z,24nm,0.6s
FYU Fort Yukon 42.53 34 *e*P **P** **01 33 13.1 -0.3**
comp=Z,98nm,1.1s
PRP Porcupine Dome 42.55 36 *e*P **P** **01 33 13.5 -0.3**
comp=Z,35nm,0.6s
SKNT Sakolnakorn 42.91 241 P **P** **01 33 17.5 +0.5**
comp=Z,25nm,1.0s
PAX Paxson 43.00 40 *e*P **P** **01 33 16.9 -0.4**
comp=Z,7.1nm,0.7s
PAX Paxson 43.00 40 *e*P **P** **01 33 16.9 -0.4**
PAX pmax pmax
comp=Z,7.0nm,0.7s
KLU Klutina 43.09 42 *e*P **P** **01 33 17.8 -0.2**
comp=Z,34nm,0.6s
RIDG Independ'e Rid 43.13 38 *e*P **P** **01 33 16.6 -1.7**
comp=Z,20nm,0.6s
DIV Divide 43.24 42 *e*P **P** **01 33 19.3 +0.1**
comp=Z,40nm,0.6s
HARP HAARP 43.25 40 *e*P **P** **01 33 19.7 +0.5**
comp=Z,53nm,0.5s
EYAK Cordova Ski Ar 43.38 43 *e*P **P** **01 33 20.7 +0.5**
comp=Z,61nm,0.7s
SCRK Sand Creek 43.46 38 *e*P **P** **01 33 19.6 -1.4**
comp=Z,32nm,0.6s
DOT Dot Lake 43.49 38 *e*P **P** **01 33 19.5 -1.6**
MENT Mentasta 43.79 39 *e*P **P** **01 33 23.2 -0.3**
comp=Z,18nm,0.6s
PDGK Podgornoye 44.15 291 P **P** **01 33 26.9 +0.2**
PDGK pmax pmax
comp=Z,10.0nm,1.3s
EGAK Eagle 44.50 36 *e*P **P** **01 33 27.8 -1.2**
comp=Z,79nm,1.1s
TGL Tana Glacier 44.72 42 *e*P **P** **01 33 31.6 +0.6**
comp=Z,24nm,1.0s
CMMT Chiang Mai 44.76 248 P **P** **01 33 31.9 +0.2**
comp=Z,28nm,1.0s
CHTO Chiang Mai 44.76 248 *e*P **P** **01 33 32.0 +0.3**
comp=Z,20nm,0.8s
CHTO Chiang Mai 44.76 248 *e*P **P** **01 33 32.0 +0.3**
CHTO pmax pmax
comp=Z,20nm,0.8s
SHL Shillong 44.99 262 *e*P **P** **01 33 33.7 +0.1**
comp=Z,42nm,1.0s
SHL Shillong 44.99 262 *e*P **P** **01 33 33.7 +0.1**
SHL pmax pmax
comp=Z,42nm,1.0s
CM31 Chiang Mai Arr 45.02 248 *e*P **P** **01 33 34.0 +0.3**
comp=Z,17nm,1.0s
CM31 *e*PcP **PcP** **01 35 10.1 +0.8**
CM31 *e*ScP **ScP** **01 38 35.4 +1.7**
CMAR Chiang Mai Arr 45.02 248 *i* P **P** **01 33 34.4 +0.7**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
CMAR Chiang Mai Arr 45.02 248 P **P** **01 33 34.0 +0.3**
comp=Z,18nm,1.1s,baz=34,slow=7.2,SNR=40
CMAR PcP **PcP** **01 35 10.1 +0.8**
comp=Z,3.3nm,0.7s,baz=16,slow=2.8,SNR=5.5
CMAR ScP **ScP** **01 38 35.4 +1.7**
comp=Z,1.4nm,0.4s,baz=19,slow=3.3,SNR=12
PBKT Sadao Pong 45.10 244 P **P** **01 33 35.1 +0.8**
comp=Z,12nm,1.0s
DAWY Dawson 45.41 37 *e*P **P** **01 33 35.3 -0.9**
comp=Z,4.2nm,0.8s
KKM Kota Kinabalu 45.44 218 *e*P **P** **01 33 38.3 +1.2**
comp=Z,23nm,0.9s
EPYK Eagle Plains 45.92 34 *e*P **P** **01 33 39.8 -0.3**
comp=Z,56nm,0.7s
BRVK Borovoye 45.99 307 *e*P **P** **01 33 40.8 0.0**
comp=Z,3.1nm,0.9s
BRVK Borovoye 45.99 307*ce*P **P** **01 33 40.2 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 46.61 31 *e*P **P** **01 33 44.5 -0.8**
comp=Z,32nm,0.6s
INK Inuvik 46.61 31 *e*P **P** **01 33 44.5 -0.8**
INK pmax pmax
comp=Z,32nm,0.6s
ULHL Ulahol 46.77 291 P **P** **01 33 47.9 +0.6**
SNR=6.5
TAPN Taplejung 46.81 267 *e*P **P** **01 33 48.8 +1.0**
comp=Z,21nm,0.4s
TKM2 Tokmak 2 46.89 292 P **P** **01 33 49.0 +0.9**
SNR=10
HYT Haines Junctio 47.20 41 *e*P **P** **01 33 51.3 +1.2**
comp=Z,88nm,0.9s
ODAN Odare 47.34 267 *e*P **P** **01 33 52.3 +0.5**
KBK Karagaybulak 47.43 292 P **P** **01 33 53.0 +0.8**
SNR=15
USP Ospenovka 47.44 293 P **P** **01 33 52.7 +0.6**
SNR=11
KZA Kyzart 47.51 291 P **P** **01 33 54.6 +1.5**
SNR=17
JIRN Jiri 47.69 268 *e*P **P** **01 33 55.4 +0.7**
AAK Ala-Archa 47.74 292 P **P** **01 33 55.0 +0.4**
SNR=6.1
AAK Ala-Archa 47.74 292 *e*P **P** **01 33 54.9 +0.4**
comp=Z,4.4nm,0.6s
AAK Ala-Archa 47.74 292 *e*P **P** **01 33 54.9 +0.3**
AAK pmax pmax
comp=Z,4.0nm,0.6s
GUN Gumba 47.76 269 *e*P **P** **01 33 55.6 +0.4**
RAMN Ramite 47.84 267 *e*P **P** **01 33 56.1 +0.5**
comp=Z,139nm,1.0s
SRDT SRDT 47.94 244 P **P** **01 33 57.4 +1.2**
comp=Z,36nm,1.3s,comp=Z,2μm
EKS2 Erkin-Say 48.19 293 P **P** **01 33 58.6 +0.6**
SNR=6.5
KKN Kakani 48.25 269 *e*P **P** **01 33 59.4 +0.6**
comp=Z,110nm,1.4s
KSH Kashi 48.27 288 P **P** **01 34 02.5 +3.9**
KSH PcP **PcP** **01 35 24.3 +3.6**
KSH S **S** **01 40 39.3 +3.4**
KSH SS **SS** **01 44 10.3 +1.3**
KSH pmax pmax
comp=Z,14nm,1.2s
KSH pmax pmax
comp=Z,96nm,3.8s
KSH LR LR
comp=Z,79nm,10.4s
KSH LR LR
comp=Z,92nm,11.4s
KSH LR LR
comp=Z,83nm,10.5s
PKI Pulchoki 48.30 269 *e*P **P** **01 33 59.5 +0.3**
PKIN Phulchoki 48.30 269 *e*P **P** **01 33 59.4 +0.2**
comp=Z,61nm,1.3s
WHY Whitehorse 48.47 41 *e*P **P** **01 34 00.5 +0.7**
comp=Z,22nm,0.8s
DMN Daman 48.49 269 *e*P **P** **01 34 01.3 +0.7**
AML Almayashu 48.50 292 P **P** **01 34 01.5 +0.8**
SNR=7.1
SKAG Skagway 48.70 42 *e*P **P** **01 34 03.1 +1.7**
comp=Z,36nm,1.0s
DANN Dangsing 48.99 271 *e*P **P** **01 34 05.4 +1.0**
comp=Z,184nm,1.0s
FAKI Fak Fak 48.99 194 *e*P **P** **01 34 03.8 -0.4**
comp=Z,79nm,0.9s
BESE Bessie Mountai 49.26 43 *e*P **P** **01 34 07.0 +1.2**
comp=Z,73nm,1.0s
ARSB Arslanbob 49.36 291 *e*P **P** **01 34 08.0 +1.1**
comp=Z,33nm,0.8s
KOLN Koldanda 49.45 270 *e*P **P** **01 34 08.4 +0.6**
comp=Z,109nm,1.2s
JIS Juneau Island 49.61 44 *e*P **P** **01 34 09.8 +1.6**
comp=Z,114nm,1.1s
SIT Sitka 49.63 45 *e*P **P** **01 34 10.8 +2.4**
comp=Z,125nm,0.8s
SIT Sitka 49.63 45 *e*P **P** **01 34 10.8 +2.4**
SIT pmax pmax
comp=Z,125nm,0.8s
PYUN Piuthan 49.68 271 *e*P **P** **01 34 10.2 +0.7**
comp=Z,191nm,1.1s
SVE Sverdlovsk 49.70 314 *e*P **P** **01 34 08.9 -0.1**
SVE pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 50.09 295 *e*P **P** **01 34 12.3 +0.2**
comp=Z,8.6nm,0.8s
KK31 *ep*P **pP** **01 35 14.6 +2.4**
KK31 Karatay Array 50.09 295 *e*P **P** **01 34 12.3 +0.2**
KK31 *e**PP **pP** **01 35 14.6 +2.4**
KK31 pmax pmax
comp=Z,9.0nm,0.8s

KKAR **Karatay Array** 50.09 295 *e*P P 01 34 12.3 +0.2
comp=Z,8.6nm,0.8s
KKAR *ep*P **pP** 01 35 14.6 +2.4
KKAR Karatay Array 50.09 295 *e*P P 01 34 12.3 +0.2
KKAR *e**PP **pP** 01 35 14.6 +2.4
KKAR pmax pmax
comp=Z,9.0nm,0.8s
SBUM Sibu 50.42 221 *e*P P 01 34 15.0 +0.1
comp=Z,26nm,1.0s
ARU Arti 50.91 315 *e*P P 01 34 17.4 -0.6
comp=Z,7.4nm,0.9s
ARU Arti 50.91 315 *c i*P P 01 34 17.2 -0.8
ARU *PP **pP** 01 35 16.3 -2.1
ARU 01 35 25.4
ARU 01 36 14.5
ARU S **S** 01 41 12.8 +1.1
ARU SS **SS** 01 44 43.7 -6.1
ARU pmax pmax
comp=Z,11nm,1.2s
WRAK Wrangell Islan 51.39 45 *e*P P 01 34 23.3 +1.8
comp=Z,63nm,1.1s
BTK Batken 51.41 291 *e*P P 01 34 22.3 +0.2
comp=Z,11nm,1.0s
BTK Batken 51.41 291 *e*P P 01 34 22.3 +0.2
BTK pmax pmax
comp=Z,11nm,1.0s
CRAG Craig 51.41 46 *e*P P 01 34 23.6 +1.9
comp=Z,60nm,1.0s
DLBC Dease Lake 51.62 42 *e*P P 01 34 25.0 +1.7
comp=Z,100nm,1.0s
KSM Kuching 52.18 223 *e*P P 01 34 27.9 +0.1
comp=Z,58nm,0.9s
SKLT Songkhla 52.60 237 P P 01 34 33.2 +2.2
comp=Z,43nm,1.2s
TRTT Trang 52.62 238 P P 01 34 32.6 +1.5
comp=Z,17nm,1.1s,comp=Z,222nm
DIB Dawson Inlet, 52.79 49 *e*P P 01 34 33.3 +1.5
comp=Z,46nm,0.9s
NIL Nilore 53.25 283 *e*P P 01 34 36.2 +0.6
comp=Z,34nm,1.0s
NIL Nilore 53.25 283 *e*P P 01 34 36.2 +0.6
NIL pmax pmax
comp=Z,34nm,1.0s
PKDT Phuket 53.40 240 P P 01 34 38.2 +1.5
comp=Z,26nm,1.1s,comp=Z,996nm
HSPB Hornsund (broa 53.48 347 *e*P P 01 34 35.6 -0.9
ABKAR Akbulak array 53.50 306 *e*P P 01 34 37.0 -0.1
comp=Z,6.1nm,0.7s
KULM Kulim 54.09 235 *e*P P 01 34 42.9 +1.1
comp=Z,55nm,1.0s
KAPI Kappang 54.20 209 *e*P P 01 34 42.8 +0.3
comp=Z,21nm,1.0s
RES Resolute Bay 54.29 16 *e*P P 01 34 40.3 -2.0
comp=Z,58nm,0.6s
RES Resolute Bay 54.29 16 *e*P P 01 34 40.3 -2.0
RES pmax pmax
comp=Z,58nm,0.6s
PRGR Permogore 54.37 324 *e*P P 01 34 41.5 -1.6
PRGR *e**PP **PcP** 01 35 42.8 -0.1
PRGR pmax pmax
comp=Z,11nm,0.9s
IPM Ipoh 54.53 234 *e*P P 01 34 45.2 +0.2
comp=Z,33nm,1.0s
PMG Port Moresby 54.71 175 *e*P P 01 34 46.7 +0.7
comp=Z,36nm,0.9s
PMG Port Moresby 54.71 175 *d i*P P 01 34 46.4 +0.3
PMG pmax pmax
comp=Z,166nm,1.0s
MYKOM Kota Tinggi 55.19 230 *e*P P 01 34 50.8 +1.2
comp=Z,49nm,0.9s
APA Apatity 55.51 334 ⇓ *i*P P 01 34 49.2 -1.9
APA pmax pmax
comp=Z,6.0nm,0.8s
APA MLR MLR
comp=Z,400nm,10.0s
BBB Bella Bella 55.60 48 *e*P P 01 34 53.4 +1.3
comp=Z,42nm,0.8s
KBL Kabul 55.61 286 *e*P P 01 34 52.0 -0.6
comp=Z,13nm,1.0s
KBL Kabul 55.61 286 *e*P P 01 34 52.0 -0.6
KBL pmax pmax
comp=Z,13nm,1.0s
TMCR Tamitsa 55.93 329 *e*P P 01 34 53.2 -0.9
TMCR pmax pmax
comp=Z,17nm,1.1s
YKW3 Yellowknife Ar 56.15 33 *e*P P 01 34 55.0 -0.7
comp=Z,66nm,0.8s
YKA Yellowknife Ar 56.20 33 P P 01 34 55.8 -0.3
comp=Z,57nm,0.7s,baz=305,slow=6.7,SNR=1074
YKA PcP **PcP** 01 35 50.4 +0.4
comp=Z,5.4nm,0.8s,baz=310,slow=3.5,SNR=5.2
YKB5 Yellowknife Ar 56.20 33 *e*P P 01 34 54.6 -1.5
YKB5 *e*PcP **PcP** 01 35 50.4 +0.4
POHA Pohakuloa 56.52 95 *e*P P 01 34 59.8 +0.6
comp=Z,121nm,0.9s
ARA0 ARCESS Array S 56.54 338 *e*P P 01 34 57.3 -1.1
ARCES ARCESS Array B 56.54 338 P P 01 34 57.3 -1.1
comp=Z,1.8nm,0.6s,baz=45,slow=6.7,SNR=6.8
TULEG Thule 56.69 8 *e*P P 01 34 57.5 -1.8
comp=Z,19nm,0.8s
MLH Mauna Loa 56.79 96 *e*P P 01 35 02.7 +1.5
comp=Z,5nm,0.7s
MLH Mauna Loa 56.79 96 *e*P P 01 35 02.7 +1.5
MLH pmax pmax
comp=Z,5nm,0.7s
AIN Ainahou 56.83 96 *e*P P 01 35 03.0 +1.6
comp=Z,78nm,0.8s
MMRI Maumere 56.84 204 *e*P P 01 35 00.6 -0.5
comp=Z,53nm,0.7s
PSI Prapat 57.11 235 *e*P P 01 35 03.4 +0.1
comp=Z,47nm,1.0s
PSI Prapat 57.11 235 *e*P P 01 35 03.4 +0.1
PSI pmax pmax
comp=Z,47nm,1.0s
KLMR Klimovskoe 57.27 325 *e*P P 01 35 01.4 -2.2
KLMR pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 57.27 325 *e*P P 01 35 01.5 -2.2
KLMR AMP 01 35 03.2
comp=Z,7.0nm,1.0s
SOEI Soe 57.35 202 *e*P P 01 35 04.2 -0.6
comp=Z,21nm,0.6s
DAG Danmarks Havn 57.52 355 ⇑ *i*P P 01 35 03.4 -1.7
comp=Z,10nm,0.9s
DAG Danmarks Havn 57.52 355 ⇑ *i*P P 01 35 03.4 -1.7
DAG pmax pmax
comp=Z,9.0nm,0.9s
MTN Manton Dam 58.90 193 *e*P P 01 35 15.5 +0.2
comp=Z,132nm,0.9s
COEN Coen 59.08 179 *e*P P 01 35 12.8 -3.8
comp=Z,52nm,0.8s
GSI Gunungsitoli 59.10 236 *e*P P 01 35 17.4 +0.6
comp=Z,45nm,0.7s
SMRI Semarang 59.66 218 *e*P P 01 35 21.6 +1.0
comp=Z,168nm,1.1s
HYB Hyderabad 59.66 264 *i*P P 01 35 21.0 +0.3
LLLB Lillooet 59.73 47 *e*P P 01 35 21.4 +0.7
comp=Z,25nm,1.0s
PGC Sidney 60.04 50 *e*P P 01 35 23.6 +0.8
comp=Z,25nm,0.7s
A04D Lummi Island 60.40 49 P P 01 35 26.2 +1.0
baz=306,SNR=6.3
NLWA Neilton Lookou 60.56 51 *e*P P 01 35 27.8 +1.4
comp=Z,71nm,1.0s
GEYT Alibeck 60.81 296 P P 01 35 28.1 -0.1
comp=Z,5.8nm,0.8s,baz=29,slow=3.4,SNR=8.9
GYA0B ALIBECK ARRAY 60.81 296 *e*P P 01 35 28.9 +0.6
comp=Z,8.6nm,0.9s
D03D Eldon 60.90 51 P P 01 35 30.0 +1.4
baz=307,SNR=25
B05A Bryant 61.00 50 P P 01 35 30.1 +0.9
baz=307,SNR=20
B06A Marblemount 61.17 49 *e*P P 01 35 31.1 +0.8
comp=Z,61nm,1.0s
D04E Lakebay 61.28 51 P P 01 35 33.1 +2.0
baz=307,SNR=6.0
F03A Seaside 61.60 52 *e*P P 01 35 35.0 +1.7
comp=Z,74nm,1.1s
D05A Enumclaw 61.70 50 *e*P P 01 35 35.4 +1.5
comp=Z,34nm,0.8s
E04D Cinebar 61.77 51 P P 01 35 36.0 +1.6
baz=307,SNR=22
F04D Rainier, OR 61.81 52 P P 01 35 35.6 +0.9
baz=307
C06D Leavenworth 61.85 49 P P 01 35 35.7 +0.8
baz=308
FIA1 FINESS Array S 61.89 331 *e*P P 01 35 34.1 -0.9
comp=Z,15nm,0.8s
FIA0 FINESS Array S 61.90 331 *e*P P 01 35 33.6 -1.4
FIA0 FINESS Array S 61.90 331 *e*P P 01 35 33.6 -1.4
FINES FINESS Array B 61.90 331 *i*P P 01 35 34.0 -0.9
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES FINESS Array B 61.90 331 P P 01 35 33.6 -1.4
comp=Z,10nm,0.7s,baz=46,slow=8.2,SNR=34
OBN Obninsk 62.04 321 *i*P P 01 35 33.3 -2.7
OBN *i**PP **pP** 01 36 41.1 +2.0
OBN *i* 01 37 53.8
OBN pmax pmax
comp=Z,5.0nm,0.9s
VRH Novokhopyorsk 62.11 316 *e*P P 01 35 33.4 -3.1
VRH pmax pmax
comp=Z,8.0nm,0.5s
G03D McMinnville, O 62.20 53 P P 01 35 38.7 +1.5
baz=308
SUMG Summit 62.32 0 *e*P P 01 35 37.8 -0.3
comp=Z,23nm,0.8s
SUMG *ep*P **pP** 01 36 42.6 +1.1
SUMG Summit 62.32 0 *i*P P 01 35 37.9 -0.2
comp=Z,60nm,0.8s
SUMG Summit 62.32 0 *i*P P 01 35 37.9 -0.2
SUMG pmax pmax
comp=Z,60nm,0.8s
B08A Colville Reser 62.41 48 *e*P P 01 35 39.2 +0.5
comp=Z,17nm,0.8s
I02D Swisshome 62.54 54 P P 01 35 40.9 +1.4
baz=308,SNR=5.5
COR Corvallis 62.56 53 *e*P P 01 35 41.8 +2.2
comp=Z,67nm,0.9s
COR Corvallis 62.56 53 *e*P P 01 35 41.8 +2.2
COR pmax pmax
comp=Z,67nm,0.9s
LPSR Galich'ya Gora 62.57 318 *e*P P 01 35 38.3 -1.3
LPSR pmax pmax
comp=Z,7.0nm,0.7s
F05D White Salmon 62.79 51 P P 01 35 42.2 +1.0
baz=308
H04D Lebanon 62.91 53 P P 01 35 43.5 +1.6
baz=308,SNR=9.4
KEBM Edson Butte 63.02 55 *e*P P 01 35 44.8 +2.0
comp=Z,51nm,1.0s
J01E Myrtle Point 63.07 55 P P 01 35 44.6 +1.6
baz=308,SNR=7.1
I03D Drain, OR 63.08 54 P P 01 35 44.7 +1.7
baz=308,SNR=19
H04A Detroit Lake 63.13 53 *e*P P 01 35 44.6 +1.1
comp=Z,55nm,0.9s
E07A Sunnyside 63.25 50 *e*P P 01 35 45.2 +1.0
comp=Z,31nm,0.9s
G05D Wamic, OR 63.27 52 P P 01 35 45.6 +1.3
baz=308,SNR=14
C09A Chrisman Ranch 63.31 48 *e*P P 01 35 45.1 +0.6
comp=Z,29nm,0.7s
VSR Storozhevoye 63.35 317 *e*P P 01 35 41.9 -2.8
VSR pmax pmax
comp=Z,6.0nm,0.7s
D08A Wollman Farm, 63.44 49 *e*P P 01 35 45.7 +0.3
comp=Z,20nm,0.7s
K02D Willamette Mer 63.51 55 P P 01 35 47.2 +1.2
baz=308,SNR=10
HAWA Hanford 63.52 50 *e*P P 01 35 46.8 +0.8
comp=Z,24nm,0.8s
I04A Tendick Farm, 63.55 54 P P 01 35 47.3 +1.0
baz=308,SNR=36
NEW Newport 63.62 47 *e*P P 01 35 47.1 +0.5
comp=Z,29nm,0.8s
NEW Newport 63.62 47 *e*P P 01 35 47.1 +0.5
NEW pmax pmax
comp=Z,29nm,0.8s
NEW Newport 63.62 47 P P 01 35 47.0 +0.5
baz=309,SNR=27
F07A Phinny Hill Vi 63.62 51 *e*P P 01 35 47.9 +1.3
comp=Z,42nm,0.8s
G06A Carlson Farm, 63.65 52 *e*P P 01 35 47.9 +1.0
comp=Z,20nm,1.1s
E08A Dider Farm, El 63.72 50 *e*P P 01 35 48.1 +0.9
comp=Z,31nm,0.8s
VSU Vasula 63.77 328 ⇓ *e*P P 01 35 46.7 -0.5
VSU pmax pmax
comp=Z,27nm,0.9s
I05D Terrebonne, OR 63.82 53 P P 01 35 49.1 +1.2
baz=309,SNR=10
L02E Cave Junction 63.88 56 P P 01 35 49.8 +1.4
baz=309,SNR=10.0
SCO Scoresbysund 63.88 354 *i*P P 01 35 47.3 -0.5
comp=Z,5.1nm,0.8s
SCO Scoresbysund 63.88 354 *i*P P 01 35 47.3 -0.5
SCO pmax pmax
comp=Z,5.0nm,0.8s
HUMO Hull Mountain 63.98 55 *e*P P 01 35 50.4 +1.4
comp=Z,15nm,1.1s
J04D Umpqua Nationa 64.07 54 P P 01 35 51.1 +1.4
baz=309,SNR=23
KRMB Red Mountain 64.10 56 *e*P P 01 35 51.7 +1.8
E09A Wood Farm, Sta 64.19 49 *e*P P 01 35 51.0 +0.7
comp=Z,42nm,0.8s
PINE Pine Mountain 64.38 53 *e*P P 01 35 53.0 +1.2
comp=Z,79nm,0.8s
G08A Pilot Rock 64.53 51 *e*P P 01 35 53.4 +0.7
comp=Z,9.8nm,0.9s
J05D Fort Rock, OR 64.54 54 P P 01 35 54.2 +1.5
baz=309,SNR=34
L04D Klamath Falls 64.60 55 P P 01 35 54.3 +1.2
baz=309,SNR=50
KHMM Horse Mountain 64.61 57 *e*P P 01 35 54.9 +1.7
comp=Z,30nm,0.9s
K04D Chiloquin, OR 64.66 54 P P 01 35 54.8 +1.3
baz=309,SNR=7.1
YBH Yreka Blue Hor 64.67 56 *e*P P 01 35 54.9 +1.4
comp=Z,18nm,0.8s
YBH Yreka Blue Hor 64.67 56 *e*P P 01 35 54.9 +1.4
YBH pmax pmax
comp=Z,18nm,0.8s
WALA Waterton Lakes 64.74 45 *e*P P 01 35 54.4 +0.5
comp=Z,30nm,0.9s
M02C Callahan 64.80 56 P P 01 35 56.0 +1.6
baz=309,SNR=20
I07A Izee 65.00 52 *e*P P 01 35 56.7 +1.0
comp=Z,22nm,1.0s
F10A Beach Ranch, E 65.03 49 *e*P P 01 35 56.5 +0.7
KMRM Mail Ridge 65.03 57 *e*P P 01 35 57.6 +1.7
comp=Z,32nm,0.9s
K05A Summer Lake 65.08 54 *e*P P 01 35 57.8 +1.4
comp=Z,78nm,1.0s
M04C Macdoel 65.14 55 P P 01 35 57.8 +1.2
baz=310,SNR=52
N02D Trinity Center 65.15 56 P P 01 35 58.1 +1.5
baz=309,SNR=28
ILULI Ilulissat 65.25 5 *e*P P 01 35 55.7 -0.9
comp=Z,33nm,1.0s
ILULI Ilulissat 65.25 5 *i*P P 01 35 55.4 -1.2
comp=Z,30nm,0.9s
ILULI Ilulissat 65.25 5 *e*P P 01 35 55.7 -0.9
ILULI pmax pmax
comp=Z,33nm,1.0s
CTA Charters Tower 65.26 176 P P 01 35 56.9 -0.5
comp=Z,10nm,0.9s,baz=343,slow=6.6,SNR=5.9
PALK Pallekele 65.29 255 *e*P P 01 35 57.9 +0.2
comp=Z,25nm,1.0s
KCPM Cahto Peak 65.45 58 *e*P P 01 35 59.9 +1.4
comp=Z,21nm,0.8s
WRAB Tennant Creek 65.46 189 *e*P P 01 35 58.8 +0.2
comp=Z,18nm,0.8s
WRAB Tennant Creek 65.46 189 ⇓ *i*P P 01 35 57.8 -0.8
WRAB pmax pmax
comp=Z,37nm,1.2s
WR1 Warramunga Arr 65.47 189 *e*P P 01 35 58.2 -0.5
comp=Z,17nm,0.8s
WR1 *ep*P **pP** 01 37 02.4 -0.4
WRA Warramunga Arr 65.47 189 P P 01 35 58.2 -0.5
comp=Z,19nm,0.9s,baz=2.9,slow=6.8,SNR=84
WRA pP **pP** 01 37 02.4 -0.4
comp=Z,3.2nm,0.9s,baz=6.6,slow=7.2,SNR=2.2
WDC Whiskeytown Da 65.50 57 *e*P P 01 35 59.7 +1.0
comp=Z,17nm,0.9s
WDC Whiskeytown Da 65.50 57 *e*P P 01 35 59.7 +1.0
WDC pmax pmax
comp=Z,17nm,0.9s
O02D Mt. Diablo Mer 65.61 57 P P 01 36 00.9 +1.4
baz=310,SNR=31
BMO Blue Mountains 65.71 50 *e*P P 01 36 01.0 +0.8
comp=Z,13nm,0.8s
BMO Blue Mountains 65.71 50 *e*P P 01 36 01.0 +0.8
BMO pmax pmax
comp=Z,13nm,0.8s
MOD Modoc Plateau 65.95 54 *e*P P 01 36 02.7 +0.9
comp=Z,19nm,0.8s
NCK Nalchik 66.03 308 ⇑ *e*P P 01 36 03.6 +1.5
NCK pmax pmax
comp=Z,2.0nm,0.2s
J08A Circle Bar Ran 66.04 52 *e*P P 01 36 03.5 +1.2
O03E Paynes Creek 66.11 56 P P 01 36 03.2 +0.4
baz=310,SNR=40
HOPS Hopland Field 66.19 58 *e*P P 01 36 04.0 +0.9
comp=Z,12nm,0.8s
MSO Missoula 66.19 47 *e*P P 01 36 03.6 +0.4
comp=Z,18nm,0.8s
MSO Missoula 66.19 47 P P 01 36 03.6 +0.4
baz=312,SNR=21
FFC Flin Flon 66.24 35 *e*P P 01 36 03.5 +0.3
comp=Z,87nm,0.9s
FFC Flin Flon 66.24 35 *i*P P 01 36 03.3 +0.1
KBZ Khabaz 66.27 309 P P 01 36 04.5 +1.0
comp=Z,7.7nm,0.8s,baz=40,slow=4.6,SNR=20
ZEI Tsey 66.32 307 *e*P P 01 36 03.6 -0.6
ZEI pmax pmax
comp=Z,8.0nm,0.9s
GDXM Geysers 66.48 58 *e*P P 01 36 06.9 +1.8
comp=Z,32nm,1.0s
TBLG Delisi 66.53 306 *e*P P 01 36 06.8 +1.5
comp=Z,15nm,0.8s
TBLG Delisi 66.53 306 P P 01 36 06.8 +1.5
TBLG pmax pmax
comp=Z,15nm,0.8s
WVOR Wild Horse Val 66.55 53 *e*P P 01 36 06.4 +0.9
comp=Z,48nm,1.1s
WVOR Wild Horse Val 66.55 53 *e*P P 01 36 06.4 +0.9
WVOR pmax pmax
comp=Z,48nm,1.1s
NC405 NORSAR Array S 66.65 336 *e*P P 01 36 05.1 -0.6
comp=Z,13nm,0.7s
NC303 NORSAR Array S 66.65 337 *e*P P 01 36 05.0 -0.6
comp=Z,11nm,0.8s
NEY Neytrino 66.68 308 ⇑ *e*P P 01 36 07.6 +1.2
NEY pmax pmax
comp=Z,1.0nm,1.0s
ORV Oroville 66.77 57 *e*P P 01 36 07.1 +0.3
comp=Z,16nm,0.7s
ORV Oroville 66.77 57 *e*P P 01 36 07.1 +0.3
ORV pmax pmax
comp=Z,16nm,0.7s
NC204 NORSAR Array S 66.78 337 *e*P P 01 36 06.1 -0.5
comp=Z,15nm,0.8s
NC204 *ep*P **pP** 01 37 13.0 +2.3
NB201 NORSAR Array S 66.82 337 *e*P P 01 36 06.2 -0.6
comp=Z,18nm,0.8s
NB201 *ep*P **pP** 01 37 13.2 +2.3
NB2 NORSAR Subarra 66.85 337 P P 01 36 05.7 -1.3
comp=Z,14nm,0.9s,baz=34,slow=6.5
NB200 NORSAR Array S 66.85 337 *e*P P 01 36 06.0 -1.0
NB200 *ep*P **pP** 01 37 11.2 0.0
NOA NORSAR Array B 66.85 337 P P 01 36 06.0 -1.0
comp=Z,9.8nm,0.8s,baz=35,slow=6.2,SNR=53
NOA pP **pP** 01 37 11.2 0.0
comp=Z,7.8nm,1.0s,baz=34,slow=6.3,SNR=6.9
NBO00 NORSAR Array S 66.98 337 *e*P P 01 36 07.1 -0.7
comp=Z,13nm,0.8s
NBO00 *ep*P **pP** 01 37 13.6 +1.6
NORES NORESS Array B 67.01 336 P P 01 36 06.6 -1.3
BEKR Beckworth 67.23 56 *e*P P 01 36 10.6 +0.7
comp=Z,38nm,0.9s
HRY Holter Researc 67.35 46 *e*P P 01 36 11.2 +0.8
AFDM Forest Hills D 67.47 57 *e*P P 01 36 11.8 +0.6
comp=Z,11nm,1.1s
SFJD Kangerlussuaq 67.47 6 *e*P P 01 36 10.4 -0.3
comp=Z,25nm,1.0s
SFJD Kangerlussuaq 67.47 6 *e*P P 01 36 10.4 -0.3
SFJD pmax pmax
comp=Z,25nm,1.0s
EGMT Eagleton 67.48 44 *e*P P 01 36 11.8 +0.5
comp=Z,49nm,0.8s
EGMT Eagleton 67.48 44 P P 01 36 11.7 +0.5
baz=314,SNR=30
GNI Garni 67.56 305 *e*P P 01 36 15.4 +3.5
comp=Z,6.9nm,0.9s
GNI Garni 67.56 305 *ce*P P 01 36 13.5 +1.5
GNI pmax pmax
comp=Z,28nm,1.4s
DLMT Dillon 67.87 47 *e*P P 01 36 14.4 +0.7
comp=Z,49nm,0.8s
PAHR Pah Rah Range 67.90 56 *e*P P 01 36 15.0 +0.9
comp=Z,45nm,0.9s
VCNR Virginia City 68.02 56 *e*P P 01 36 16.0 +1.1
comp=Z,20nm,0.8s
MCMT McKenzie Canyo 68.10 48 *e*P P 01 36 15.6 +0.2
HLID Hailey 68.12 50 *e*P P 01 36 16.3 +0.9
comp=Z,10nm,0.9s
HLID Hailey 68.12 50 P P 01 36 16.3 +0.9
baz=312,SNR=18
PNTR Pine Nut 68.19 56 *e*P P 01 36 17.1 +1.1
comp=Z,25nm,0.8s
KARS Kars 68.20 306 *e*P P 01 36 17.7 +1.8
comp=Z,29nm,0.8s
KARS Kars 68.20 306 P P 01 36 17.7 +1.8
KARS pmax pmax
comp=Z,29nm,0.8s
BOZ Bozeman (W) 68.21 47 *e*P P 01 36 16.6 +0.7
comp=Z,30nm,0.8s
BOZ Bozeman (W) 68.21 47 P P 01 36 16.6 +0.7
BOZ pmax pmax
comp=Z,30nm,0.8s
BOZ Bozeman (W) 68.21 47 P P 01 36 16.5 +0.7
baz=313,SNR=48
AKASG Malin Array Be 68.30 321 P P 01 36 15.6 -0.5
comp=Z,0.4nm,0.3s,baz=40,slow=6.3,SNR=9.9
AKASG pP **pP** 01 37 20.8 +0.2
comp=Z,2.2nm,0.7s,baz=41,slow=6.8,SNR=2.5
AKBB Malin Array Si 68.30 321 *e*P P 01 36 15.6 -0.5
comp=Z,6.3nm,0.8s
AKBB *ep*P **pP** 01 37 20.8 +0.2
AKBB Malin Array Si 68.30 321 *e*P P 01 36 15.6 -0.5
AKBB *e**PP **pP** 01 37 20.8 +0.2
AKBB pmax pmax
comp=Z,6.0nm,0.8s
KIEV Kiev 68.31 321 ⇓ *i*P P 01 36 22.4 +6.2
KIEV Kiev 68.31 321 ⇓ *e*P P 01 36 15.2 -1.0
KIEV pmax pmax
comp=Z,10.0nm,1.3s
CMB Columbia Colle 68.42 57 *e*P P 01 36 18.1 +1.0
comp=Z,38nm,1.0s
CMB Columbia Colle 68.42 57 *e*P P 01 36 18.1 +1.0
CMB pmax pmax
comp=Z,38nm,1.0s
YERR Yerington 68.46 56 *e*P P 01 36 18.9 +1.3
comp=Z,63nm,0.9s
WAKR Walker 68.67 57 *e*P P 01 36 20.1 +1.2
comp=Z,20nm,0.8s
BMN Battle Mountai 68.67 54 *e*P P 01 36 20.0 +1.2
comp=Z,28nm,0.8s
BMN Battle Mountai 68.67 54 *e*P P 01 36 20.0 +1.2
BMN pmax pmax
comp=Z,28nm,0.8s
QLMT Earthquake Lak 68.83 47 *e*P P 01 36 20.7 +0.9
YHB Horse Butte 69.01 47 *e*P P 01 36 21.9 +1.0
comp=Z,37nm,0.9s
GCMT Greycliff 69.07 46 *e*P P 01 36 22.2 +1.1
KVN Kaiserville 69.08 55 *e*P P 01 36 22.5 +1.1
comp=Z,58nm,0.7s
KVN Kaiserville 69.08 55 *e*P P 01 36 22.5 +1.1
KVN pmax pmax
comp=Z,58nm,0.7s
RYN Ryan 69.12 56 *e*P P 01 36 22.7 +1.1
comp=Z,28nm,0.9s
YHH Holmes Hill 69.16 47 *e*P P 01 36 22.7 +0.7
comp=Z,26nm,1.1s
YMR Madison River 69.19 47 *e*P P 01 36 23.1 +1.2
comp=Z,18nm,0.9s
AS01 Alice Springs 69.19 189 *e*P P 01 36 22.0 +0.2
AS31 Alice Springs 69.20 189 *e*P P 01 36 22.6 +0.7
comp=Z,6.6nm,0.6s
AS31 *ep*P **pP** 01 37 27.8 +1.0
ASAR Alice Springs 69.20 189 P P 01 36 22.4 +0.5
comp=Z,15nm,0.6s,baz=6.1,slow=5.6,SNR=147
ASAR pP **pP** 01 37 27.8 +1.0
comp=Z,3.6nm,0.8s,baz=6.2,slow=6.1,SNR=3.1
ASAR PKP2bc 02 04 28.6
comp=Z,2.0nm,1.0s,baz=182,slow=3.4,SNR=8.3
YNR Norris Junctio 69.30 47 *e*P P 01 36 24.6 +1.9
comp=Z,11nm,1.0s
NV01 Mina Array Sit 69.38 56 *e*P P 01 36 23.5 +0.2
NVAR Mina Array Bea 69.38 56 P P 01 36 24.3 +1.0

comp=Z,26nm,0.7s,baz=295,slow=5.7,SNR=202
YFT Old Faithful 69.40 47 eP P 01 36 25.9 +2.6
comp=Z,20nm,0.8s
MDPB Devils Postpil 69.46 57 eP P 01 36 24.7 +0.9
comp=Z,16nm,0.9s
NV11 Mina Array Sit 69.46 56 eP P 01 36 24.8 +1.1
comp=Z,1.9nm,0.8s
OMMB Old Mammoth Mi 69.52 57 eP P 01 36 25.5 +1.3
comp=Z,8.8nm,1.0s
YPP Pitchstone Pla 69.55 47 eP P 01 36 26.5 +2.3
comp=Z,8.4nm,0.9s
ELK Elko 69.57 52 eP P 01 36 25.6 +1.2
comp=Z,11nm,0.8s
ELK Elko 69.57 52 eP P 01 36 25.6 +1.2
ELK pmax pmax
comp=Z,11nm,0.8s
H17A Grant Village 69.58 47 eP P 01 36 26.8 +2.4
comp=Z,38nm,1.0s
H17A Grant Village 69.58 47 P P 01 36 26.8 +2.4
baz=314,SNR=29
MLAC Mammoth, Mammo 69.60 57 P P 01 36 26.0 +1.4
baz=312
FLWY Flagg Ranch 69.73 47 eP P 01 36 27.3 +2.0
comp=Z,18nm,1.1s
IMW Indian Meadow 69.73 48 eP P 01 36 27.3 +1.9
comp=Z,19nm,0.9s
RLMT Red Lodge 69.74 46 eP P 01 36 26.3 +0.9
comp=Z,16nm,0.8s
RLMT Red Lodge 69.74 46 P P 01 36 26.2 +0.9
baz=315,SNR=29
DGMT Dagmar 69.80 41 eP P 01 36 25.9 +0.4
comp=Z,61nm,0.8s
DGMT Dagmar 69.80 41 P P 01 36 25.8 +0.4
baz=316,SNR=18
FXWY Fox Creek 69.87 48 eP P 01 36 27.5 +1.3
comp=Z,34nm,0.9s
MOOW Moose Ponds 69.94 48 eP P 01 36 25.2 -1.4
comp=Z,22nm,1.0s
TPAW Teton Pass 70.01 48 eP P 01 36 28.4 +1.3
comp=Z,27nm,1.0s
PAGB Antelope Grade 70.02 59 eP P 01 36 28.4 +1.4
comp=Z,36nm,0.9s
LOHW Long Hollow 70.11 48 eP P 01 36 25.7 -1.9
comp=Z,6.4nm,1.0s
LAO LASA Array 70.13 43 eP P 01 36 27.4 0.0
comp=Z,49nm,1.1s
LAO LASA Array 70.13 43 P P 01 36 28.2 +0.7
baz=316,SNR=14
SNOW Snow King Moun 70.13 48 eP P 01 36 29.6 +1.8
comp=Z,14nm,0.9s
REDW Red Top Meadow 70.15 48 eP P 01 36 29.1 +1.2
comp=Z,16nm,0.9s
VOG Valley Oaks Go 70.15 58 P P 01 36 28.0 +0.3
baz=312
HVU Hansel Valley 70.22 50 eP P 01 36 29.6 +1.4
comp=Z,25nm,1.1s
HVU Hansel Valley 70.22 50 eP P 01 36 29.6 +1.4
HVU pmax pmax
comp=Z,25nm,1.1s
TIN Tinemaha, Big 70.34 57 P P 01 36 30.2 +1.2
baz=312
AHID Auburn Hatcher 70.44 49 eP P 01 36 29.6 0.0
comp=Z,18nm,0.8s
SMMC Simmler 70.46 59 P P 01 36 30.5 +0.9
baz=312
VES Vestal, Richgr 70.65 58 P P 01 36 30.7 0.0
baz=312,SNR=9.9
BGU Big Grassy Mou 70.67 51 eP P 01 36 31.9 +1.0
comp=Z,9.7nm,0.9s
SPUT South Promonto 70.72 50 eP P 01 36 32.2 +0.9
comp=Z,24nm,1.0s
CWC Cottonwood Cre 70.85 57 P P 01 36 32.8 +0.7
baz=313
PKM Mcpherson Peak 70.85 60 P P 01 36 33.1 +0.9
baz=312,SNR=6.4
GRAC Grapevine Rang 70.89 57 P P 01 36 33.5 +1.3
baz=313,SNR=8.2
HWUT Hardware Ranch 71.00 50 eP P 01 36 33.9 +1.0
comp=Z,26nm,0.9s
R11A Troy Canyon, C 71.01 54 eP P 01 36 33.8 +0.8
comp=Z,18nm,0.7s
R11A Troy Canyon, C 71.01 54 P P 01 36 33.8 +0.8
baz=313,SNR=44
ISA Isabella, Lake 71.14 58 eP P 01 36 33.6 -0.1
comp=Z,12nm,0.9s
ISA Isabella, Lake 71.14 58 eP P 01 36 33.6 -0.1
ISA pmax pmax
comp=Z,12nm,0.9s
ISA Isabella, Lake 71.14 58 P P 01 36 33.5 -0.3
baz=313,SNR=11
BW06 Boulder Array 71.25 48 eP P 01 36 34.4 -0.1
comp=Z,38nm,0.9s
BW06 Boulder Array 71.25 48 P P 01 36 34.9 +0.4
baz=315,SNR=52
PD31 Pinedale Array 71.25 48 eP P 01 36 34.9 +0.4
comp=Z,38nm,1.0s
PDAR Pinedale Array 71.25 48 eP P 01 36 32.8 -1.7
PDAR Pinedale Array 71.25 48 P P 01 36 34.8 +0.4
comp=Z,23nm,0.8s,baz=311,slow=1.6,SNR=160
DAC Darwin (Calif) 71.25 57 eP P 01 36 37.2 +2.8
comp=Z,14nm,0.8s
DAC Darwin (Calif) 71.25 57 P P 01 36 37.3 +2.8
DAC pmax pmax
comp=Z,14nm,0.8s
ARVC Arvin 71.29 59 P P 01 36 34.7 +0.2
baz=313
DUG Dugway, Tooele 71.30 52 eP P 01 36 35.8 +1.1
comp=Z,29nm,0.8s
DUG Dugway, Tooele 71.30 52 eP P 01 36 35.8 +1.1
DUG pmax pmax
comp=Z,29nm,0.8s
DUG Dugway, Tooele 71.30 52 P P 01 36 35.7 +1.1
baz=314,SNR=38
MPMC Manual Prospec 71.46 57 P P 01 36 36.5 +0.7
baz=313,SNR=31
CTU Camp Tracy 71.53 51 eP P 01 36 37.3 +1.1
comp=Z,23nm,1.1s
FURC Furnace Creek, 71.55 57 P P 01 36 37.0 +1.0
baz=313,SNR=11
TPNV Topopah Spring 71.58 56 eP P 01 36 37.4 +0.9
comp=Z,59nm,0.8s
TPNV Topopah Spring 71.58 56 eP P 01 36 37.4 +0.9
TPNV pmax pmax
comp=Z,59nm,0.8s
TPNV Topopah Spring 71.58 56 P P 01 36 37.3 +0.9
baz=313,SNR=77
LRMC Laurel Mtn Rad 71.74 58 P P 01 36 37.5 +0.2
baz=313
JLU Jordanelle 71.76 50 eP P 01 36 38.5 +0.9
comp=Z,15nm,0.9s
PSUT Pine Spring 71.86 53 eP P 01 36 39.1 +0.9
comp=Z,22nm,0.9s
NLU North Lily Min 71.87 51 eP P 01 36 39.2 +1.0
comp=Z,29nm,0.8s
KWP Kalwaria Pacla 71.90 324 eP P 01 36 38.9 +1.0
KWP Kalwaria Pacla 71.90 324 eP P 01 36 37.9 0.0
comp=Z,96nm,1.0s
KWP Kalwaria Pacla 71.90 324 eP P 01 36 37.9 0.0
KWP pmax pmax
comp=Z,96nm,1.0s
EDW2 Edwards Air Fo 71.96 59 P P 01 36 39.3 +0.7
baz=313,SNR=16
ULM Lac du Bonnet 72.07 35 eP P 01 36 38.5 -0.4
comp=Z,26nm,0.8s
ULM Lac du Bonnet 72.07 35 eP P 01 36 38.5 -0.4
ULM pmax pmax
comp=Z,26nm,0.8s
ULM Lac du Bonnet 72.07 35 P P 01 36 38.4 -0.4
comp=Z,23nm,0.7s,baz=314,slow=5.9,SNR=64
MPU Maple Canyon 72.07 51 eP P 01 36 40.4 +1.1
comp=Z,32nm,0.8s
SNCC San Nicolas Is 72.14 61 P P 01 36 40.5 +0.9
baz=313
DECC Green Verdugo 72.18 59 P P 01 36 40.5 +0.6
baz=313
SHOC Shoshone, Teco 72.28 57 P P 01 36 41.1 +0.6
baz=314
MDND Maddock 72.33 39 eP P 01 36 41.1 +0.6
comp=Z,69nm,0.9s
MDND Maddock 72.33 39 P P 01 36 40.6 +0.1
baz=319,SNR=7.2
BUR08 Bucovina Ar. S 72.34 321 eP P 01 36 41.1 +0.4
comp=Z,7.4nm,1.0s
BURAR Bucovina Array 72.35 321 ⇑iP P 01 36 40.6 -0.1
BURAR Bucovina Array 72.35 321 ⇑P P 01 36 40.6 -0.1
MWC Mount Wilson 72.37 59 eP P 01 36 41.9 +0.7
comp=Z,15nm,0.9s
GSC Goldstone, Bar 72.38 58 eP P 01 36 41.6 +0.5
comp=Z,15nm,0.8s
GSC Goldstone, Bar 72.38 58 eP P 01 36 41.6 +0.5
GSC pmax pmax
comp=Z,15nm,0.8s
GSC Goldstone, Bar 72.38 58 P P 01 36 41.7 +0.6
baz=314,SNR=15
BIZ Bicaz 72.46 320 ⇓iP P 01 36 41.4 +0.1
SHPR Sheep Range 72.52 56 eP P 01 36 43.3 +1.3
comp=Z,39nm,0.9s
TESR Tescani 72.54 319 ⇓iP P 01 36 41.8 +0.1
RRX Edison Barstow 72.56 58 P P 01 36 42.9 +0.9
baz=314
BFSC Mount Baldy Ra 72.60 59 P P 01 36 42.7 +0.2
baz=314,SNR=8.1
TCRU Three Creeks R 72.60 52 eP P 01 36 44.2 +1.6
comp=Z,15nm,0.9s
OJC Ojcow 72.63 326 eP P 01 36 41.6 -0.6
OJC Ojcow 72.63 326 eP P 01 36 41.9 -0.3
comp=Z,11nm,1.1s
OJC Ojcow 72.63 326 eP P 01 36 41.9 -0.3
OJC pmax pmax
comp=Z,11nm,1.1s
TMUT Trail Mountain 72.81 51 eP P 01 36 44.7 +0.9
comp=Z,27nm,0.8s
TUQ Turquoise Moun 72.81 57 P P 01 36 44.5 +0.8
baz=314
MSU Marysvale 72.82 52 eP P 01 36 45.2 +1.4
CCUT Cedar City 72.83 54 eP P 01 36 44.9 +1.0
comp=Z,20nm,1.1s
UZH Uzhgorod 72.84 323 iP P 01 36 43.0 -0.4
UZH e 01 36 56.5
UZH i 01 37 49.7
PETR Petresti 72.86 319 ⇓iP P 01 36 44.1 +0.5
K22A Casper 72.89 46 eP P 01 36 44.1 +0.1
comp=Z,15nm,1.0s
K22A Casper 72.89 46 P P 01 36 44.2 +0.1
baz=317,SNR=6.8
SCI2 San Clemente I 72.92 60 P P 01 36 44.3 +0.1
baz=313
P17A Butcher Ranch, 72.94 51 eP P 01 36 45.4 +0.9
comp=Z,57nm,1.1s
SZCU Shurtz Canyon 72.95 54 eP P 01 36 45.5 +0.9
comp=Z,23nm,1.2s
HEC Hector,Ludlow 72.98 58 P P 01 36 45.4 +0.8
baz=314,SNR=6.2
BBRC Big Bear Solar 73.02 58 P P 01 36 45.3 +0.2
baz=314
BSEG Bad Segeberg 73.03 333 eP P 01 36 44.8 +0.4
comp=Z,6.4nm,0.9s,baz=33,slow=5.7
ILGA Ilgaz 73.05 312 eP P 01 36 47.0 +2.0
comp=Z,22nm,1.1s
RSSD Black Hills 73.05 44 eP P 01 36 45.2 +0.1
comp=Z,26nm,1.0s
RSSD Black Hills 73.05 44 eP P 01 36 45.2 +0.1
RSSD pmax pmax
comp=Z,25nm,1.0s
RSSD Black Hills 73.05 44 P P 01 36 45.0 -0.1
baz=318
NIE Niedzica 73.06 325 eP P 01 36 45.9 +1.1
NIE Niedzica 73.06 325 eP P 01 36 45.8 +1.1
Q16A Castle Valley 73.09 52 eP P 01 36 46.3 +1.0
comp=Z,15nm,1.1s
TRPA Tarpa 73.13 323 ⇓iP P 01 36 45.9 +0.8
TRPA Tarpa 73.13 323 ⇑eP P 01 36 45.0 -0.1
MTPU Mount Pierson 73.15 53 eP P 01 36 47.5 +1.6
comp=Z,18nm,0.8s
RWWY Rawlins 73.23 47 eP P 01 36 46.5 +0.3
comp=Z,48nm,1.0s
LCMT Little Creek M 73.27 54 eP P 01 36 47.5 +1.2
comp=Z,77nm,0.8s
MURC Murrieta 73.31 59 P P 01 36 46.6 0.0
baz=314
SRU San Rafael Swe 73.31 51 eP P 01 36 47.4 +0.7
comp=Z,43nm,0.8s
SRU San Rafael Swe 73.31 51 eP P 01 36 47.4 +0.7
SRU pmax pmax
comp=Z,43nm,0.8s
IVI Ivigtut 73.38 5 eP P 01 36 46.0 -0.4
comp=Z,47nm,1.0s
GMRC Granite Mounta 73.42 57 P P 01 36 48.0 +0.8
baz=314,SNR=17
KSP Ksiaz 73.49 328 eP P 01 36 47.7 +0.5
KSP Ksiaz 73.49 328 eP P 01 36 47.7 +0.5
PKCU Pink Cliffs 73.50 53 eP P 01 36 49.9 +2.0
comp=Z,29nm,0.9s
KNB Kanab 73.51 54 eP P 01 36 49.1 +1.3
comp=Z,29nm,1.0s
KNB Kanab 73.51 54 eP P 01 36 49.1 +1.3
KNB pmax pmax
comp=Z,29nm,1.0s
LDFC Landfair 73.54 57 eP P 01 36 47.4 -0.5
comp=Z,62nm,0.8s
OKC Ostrava-Krasne 73.58 326 eP P 01 36 48.4 +0.7
OKC Ostrava-Krasne 73.58 326 eP P 01 36 48.4 +0.7
AGMN Agassiz Nation 73.59 36 eP P 01 36 47.1 -0.7
comp=Z,9.9nm,0.8s
AGMN Agassiz Nation 73.59 36 P P 01 36 47.8 0.0
baz=321
LANS Liptovska Anna 73.61 325 eP P 01 36 49.2 +1.3
LANS Liptovska Anna 73.61 325 eP P 01 36 49.2 +1.3
MLR Muntele Rosu 73.63 319 ⇓iP P 01 36 49.7 +1.4
MLR Muntele Rosu 73.63 319 ⇓P P 01 36 49.7 +1.4
PFO Pinyon Flats O 73.75 59 eP P 01 36 49.5 +0.3
comp=Z,14nm,1.0s
PFO Pinyon Flats O 73.75 59 eP P 01 36 49.5 +0.3
PFO pmax pmax
comp=Z,14nm,1.0s
PFO Pinyon Flats O 73.75 59 P P 01 36 49.4 +0.3
baz=314,SNR=8.5
XPFO Pion Flat 73.75 59 eP P 01 36 49.9 +0.7
comp=Z,16nm,1.1s
BELC Bell Mtn. Jos 73.76 58 P P 01 36 49.4 +0.2
baz=314,SNR=9.6
ICOR Ion Corvin 73.78 317 ⇑iP P 01 36 49.3 +0.3
O20A White River Ci 73.81 49 eP P 01 36 50.0 +0.4
comp=Z,24nm,0.8s
O20A White River Ci 73.81 49 P P 01 36 49.9 +0.4
baz=316,SNR=20
109C Camp Elliot, M 73.86 60 P P 01 36 48.9 -0.7
baz=314
CPE Camp Elliot 73.86 60 eP P 01 36 50.5 +0.8
comp=Z,14nm,0.9s
UPC Upice 73.87 328 eP P 01 36 49.9 +0.5
UPC Upice 73.87 328 eP P 01 36 49.9 +0.5
MORC Moravsky Berou 73.87 326 eP P 01 36 49.8 +0.3
comp=Z,16nm,0.9s
MORC Moravsky Berou 73.87 326 ⇓iP P 01 36 50.2 +0.7
MORC Moravsky Berou 73.87 326 eP P 01 36 49.8 +0.3
MORC pmax pmax
comp=Z,16nm,0.9s
MORC Moravsky Berou 73.87 326 eP P 01 36 50.0 +0.5
DPC Dobruska-Polom 73.88 327 eP P 01 36 50.4 +0.9
DPC Dobruska-Polom 73.88 327 eP P 01 36 50.4 +0.9
KRLC Kraliky 73.92 327 eP P 01 36 50.5 +0.7
KRLC Kraliky 73.92 327 epP pP 01 37 54.3 -1.0
KRLC Kraliky 73.92 327 eP P 01 36 50.5 +0.7
KRLC e 01 37 54.3
BR101 Keskin Array S 74.04 311 eP P 01 36 51.1 +0.4
BR131 Keskin Array S 74.04 311 eP P 01 36 51.5 +0.8
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 74.04 311 iP P 01 36 51.5 +0.7
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BRTR Keskin Array B 74.04 311 P P 01 36 51.2 +0.4
comp=Z,3.2nm,0.8s,baz=70,slow=4.2,SNR=17
NEE2 Needles Airpor 74.04 57 P P 01 36 51.1 +0.5
baz=315
VOIR 74.08 320 ⇓iP P 01 36 51.7 +0.9
VOIR 74.08 320 ⇓P P 01 36 51.7 +0.9
DRGR 74.09 322 ⇓iP P 01 36 51.3 +0.5
DRGR 74.09 322 ⇓P P 01 36 51.3 +0.5
SULR 74.10 318 ⇓iP P 01 36 44.1 -6.7
IRM Iron Mountain 74.16 57 P P 01 36 52.2 +0.8
baz=314,SNR=14
U15A North Rim 74.22 54 eP P 01 36 53.1 +1.1
comp=Z,56nm,0.9s
W13A Hualapai Mount 74.24 56 eP P 01 36 52.9 +0.8
comp=Z,17nm,0.8s
BAR Barrett 74.27 59 eP P 01 36 52.5 +0.4
comp=Z,15nm,0.9s
MONP2 Monument Peak 74.27 59 P P 01 36 52.5 +0.2
baz=314,SNR=6.7
NRDL Niedersach Rie 74.31 332 epP pP 01 37 58.3 +0.8
CLL Collm 74.31 330 eP P 01 36 51.6 -0.3
comp=Z,21nm,0.9s
CLL Collm 74.31 330 eP P 01 36 51.9 0.0
comp=Z,14nm,0.8s,baz=33,slow=5.7
CLL epP pP 01 37 59.1 +1.6
CLL Collm 74.31 330 ⇑iP P 01 36 51.6 -0.3
comp=Z,24nm,1.0s
CLL epP pP 01 37 57.0 -0.5
CLL Collm 74.31 330 eP P 01 36 51.6 -0.3
CLL pmax pmax
comp=Z,21nm,0.9s
ARR Arges 74.32 320 ⇓iP P 01 36 53.5 +1.3
BC3 Big Chuckawall 74.32 58 P P 01 36 52.9 +0.5
baz=314,SNR=7.7
BRG Berggiesshubel 74.33 329 iP P 01 36 52.0 0.0
comp=Z,11nm,1.2s
BRG Berggiesshubel 74.33 329 iP P 01 36 52.0 0.0
BRG pmax pmax
comp=Z,11nm,1.2s
VYHS Vyhne 74.38 325 eP P 01 36 52.7 +0.3
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 74.38 325 eP P 01 36 52.7 +0.3
PVCC Panska Ves 74.39 329 eP P 01 36 53.1 +0.8
PVCC Panska Ves 74.39 329 eP P 01 36 53.1 +0.8
PSZ Piszkesteto 74.40 324 eP P 01 36 52.7 +0.1
comp=Z,11nm,1.0s
PSZ Piszkesteto 74.40 324 ⇓iP P 01 36 52.9 +0.3
PSZ Piszkesteto 74.40 324 eP P 01 36 52.7 +0.1
PSZ pmax pmax
comp=Z,11nm,1.0s
PSZ Piszkesteto 74.40 324 ⇑eP P 01 36 52.1 -0.5
PHWY Pilot Hill 74.42 47 eP P 01 36 53.6 +0.5
comp=Z,10.0nm,0.9s
ASSE Asse, Remlinge 74.43 332 eP P 01 36 52.9 +0.4
comp=Z,7.4nm,1.0s,baz=33,slow=5.7
N23A Red Feather La 74.47 47 eP P 01 36 54.2 +0.8
comp=Z,14nm,0.9s
N23A Red Feather La 74.47 47 P P 01 36 54.0 +0.7
baz=317,SNR=11
FBE Freiberg 74.50 329 epP pP 01 37 59.6 +0.9
JAVC Velka Javorina 74.56 326 eP P 01 36 55.0 +1.6
SWSC Sam W. Stewart 74.61 59 P P 01 36 54.1 +0.2
baz=314
VRAC Vranov 74.61 327 ⇓iP P 01 36 55.0 +1.3
VRAC Vranov 74.61 327 ⇓P P 01 36 55.0 +1.3
VRAC Vranov 74.61 327 eP P 01 36 54.5 +0.8
IKP In-Ko-Pah, Jac 74.63 59 P P 01 36 54.7 +0.6
baz=314,SNR=6.9
PDMCI Parker Dam,Lak 74.65 57 P P 01 36 54.9 +0.8
baz=315,SNR=20
CLZ Clausthal 74.77 332 eP P 01 36 55.2 +0.7
comp=Z,9.7nm,0.8s,baz=33,slow=5.7
CLZ epP pP 01 38 00.7 +0.3
GOPC GO Pecny, Ondr 74.81 328 eP P 01 36 55.6 +0.8
GOPC GO Pecny, Ondr 74.81 328 eP P 01 36 55.6 +0.8
Y12C Blythe 74.81 57 eP P 01 36 55.4 +0.3
comp=Z,32nm,0.9s
Y12C Blythe 74.81 57 P P 01 36 55.9 +0.9
baz=315,SNR=12
PRU Pruhonice 74.84 328 eP P 01 36 55.7 +0.8
PRU epP pP 01 38 02.6 +1.9
PRU Pruhonice 74.84 328 eP P 01 36 55.7 +0.8
PRU e 01 38 02.6
KRUC Moravsky 74.89 327 eP P 01 36 55.9 +0.6
SMOL Smolenice 74.93 326 eP P 01 36 56.6 +1.1
SMOL Smolenice 74.93 326 eP P 01 36 56.6 +1.1
SIRR Siria 74.95 322 ⇓iP P 01 36 56.4 +0.7
TREC Trest 75.05 327 eP P 01 36 57.0 +0.8
TREC Trest 75.05 327 eP P 01 36 57.0 +0.8
MODS Modra-Piesok 75.10 326 eP P 01 36 56.7 +0.2
MODS pmax pmax
comp=Z,22nm,1.1s
MODS Modra-Piesok 75.10 326 eP P 01 36 56.7 +0.2
BUD Budapest 75.11 324 P P 01 36 58.4 +1.9
BUD Budapest 75.11 324 ⇓eP P 01 36 57.1 +0.6
GLA Glamis 75.12 58 eP P 01 36 57.9 +1.0
comp=Z,17nm,0.8s
GLA Glamis 75.12 58 eP P 01 36 57.9 +1.0
GLA pmax pmax
comp=Z,17nm,0.8s
GLA Glamis 75.12 58 P P 01 36 57.8 +1.0
baz=315,SNR=8.3
SRO Srobarova 75.13 325 eP P 01 36 57.8 +1.2
SRO Srobarova 75.13 325 eP P 01 36 57.8 +1.2
GZR Gura Zlata 75.14 321 ⇓iP P 01 36 57.3 +0.5
GZR Gura Zlata 75.14 321 ⇓P P 01 36 57.3 +0.5
SMCO Snowmass 75.18 49 eP P 01 36 58.4 +0.8
comp=Z,26nm,0.8s
SUSD Miller 75.22 41 P P 01 36 57.2 0.0
baz=320,SNR=7.9
NGRH Nagyer 75.27 323 eP P 01 37 02.0 +4.6
ZST Bratislava 75.31 326 eP P 01 36 58.0 +0.3
ZST Bratislava 75.31 326 eP P 01 36 58.0 +0.3
GUNZ Gunzen 75.33 330 eP P 01 36 58.4 +0.6
comp=Z,5.5nm,0.9s,baz=33,slow=5.7
MOX Moxa 75.35 330 eP P 01 36 58.3 +0.5
comp=Z,5.7nm,0.9s,baz=33,slow=5.7
WERN Wernitzgruen 75.38 330 eP P 01 36 58.5 +0.5
comp=Z,5.3nm,0.9s,baz=33,slow=5.7
WERN epP pP 01 38 05.8 +1.9
WUAZ Wupatki 75.39 54 eP P 01 36 59.8 +1.2
comp=Z,30nm,0.9s
WUAZ Wupatki 75.39 54 P P 01 36 59.8 +1.2
baz=316,SNR=14
NKC Novy Kostel 75.40 330 eP P 01 36 58.6 +0.4
NKC Novy Kostel 75.40 330 eP P 01 36 58.6 +0.4
ISCO Idaho Springs 75.44 48 eP P 01 36 59.8 +0.8
comp=Z,14nm,1.0s
ISCO Idaho Springs 75.44 48 eP P 01 36 59.8 +0.8
ISCO pmax pmax
comp=Z,14nm,1.0s
ISCO Idaho Springs 75.44 48 P P 01 36 59.8 +0.8
baz=318,SNR=18
VLAD Vladila 75.47 319 ⇓iP P 01 36 58.8 +0.2
BZS Buzias 75.48 322 P P 01 36 58.7 +0.1
CSKK Cskako 75.52 325 ⇓eP P 01 36 59.1 +0.2
EYMN Ely 75.65 34 eP P 01 36 59.1 -0.5
comp=Z,34nm,1.0s
EYMN Ely 75.65 34 P P 01 36 59.2 -0.5
baz=324,SNR=14
MANZ Manzenberg 75.73 330 eP P 01 37 00.5 +0.5
comp=Z,4.1nm,0.9s,baz=33,slow=5.7
MVCO Mesa Verde 75.79 51 eP P 01 37 01.7 +0.8
comp=Z,32nm,0.9s
MVCO Mesa Verde 75.79 51 P P 01 37 01.6 +0.7
baz=317,SNR=25
ROTZ Rotzenmuhle 75.87 329 eP P 01 37 01.5 +0.7
comp=Z,7.5nm,1.0s,baz=33,slow=5.7
KHC Kasperske Hory 75.90 328 eP P 01 37 01.6 +0.6
comp=Z,7.1nm,1.0s
KHC Kasperske Hory 75.90 328 eP P 01 37 01.5 +0.5
KHC ex x 01 37 39.3
KHC epP pP 01 38 08.7 +1.7
KHC Kasperske Hory 75.90 328 eP P 01 37 01.5 +0.5
KHC e 01 38 08.7
ARMA Armidale 75.91 172 eP P 01 37 03.0 +1.8
comp=Z,14nm,0.9s
SOP Sopron 75.94 326 P P 01 37 02.5 +1.3
SOP Sopron 75.94 326 eP P 01 37 02.0 +0.8
CONA Conrad Observa 76.02 326 iP P 01 37 03.1 +1.3
comp=Z,19nm,1.2s,SNR=8.6
GEC2 GERESS Array S 76.09 328 eP P 01 37 02.6 +0.4
comp=Z,6.6nm,0.9s
GEC2 epP pP 01 38 08.7 +0.5
GEC2 GERESS Array S 76.09 328 eP P 01 37 02.5 +0.4
comp=Z,4.6nm,0.9s,baz=33,slow=5.7
GEC2 GERESS Array S 76.09 328 eP P 01 37 02.6 +0.4
GEC2 e*PP pP 01 38 08.7 +0.5
GEC2 pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 76.09 328 P P 01 37 02.1 -0.1
comp=Z,3.2nm,0.8s,baz=28,slow=6.0,SNR=24
GERES pP pP 01 38 08.7 +0.5
comp=Z,1.2nm,0.8s,baz=51,slow=5.2,SNR=2.7
GEA0 GERESS Array S 76.10 328 eP P 01 37 02.1 -0.1
X16A Lo Mia Camp, P 76.14 55 eP P 01 37 04.0 +1.2
comp=Z,28nm,0.8s
WET Wettzell 76.15 329 eP P 01 37 03.3 +0.9
comp=Z,12nm,0.9s,baz=33,slow=5.7
WET epP pP 01 38 09.2 +0.8
MORH Mrgy, Hungar 76.28 324 eP P 01 37 02.0 -1.1
GRA1 Grafenberg Arr 76.29 330 eP P 01 37 03.7 +0.5
comp=Z,32nm,1.0s
GRF Grafenberg Arr 76.29 330 eP P 01 37 04.1 +0.9
comp=Z,19nm,0.9s,baz=33,slow=5.7
GRF Grafenberg Arr 76.29 330 eP P 01 37 03.7 +0.5
GRF pmax pmax

comp=Z,32nm,1.0s
GRFO Grafenberg 76.29 330 *e*P **P 01 37 03.7 +0.5**
comp=Z,25nm,0.9s
GRFO Grafenberg 76.29 330 *e*P **P 01 37 03.7 +0.5**
GRFO pmax pmax
comp=Z,25nm,0.9s
Q24A Divide 76.30 48 *e*P **P 01 37 04.3 +0.5**
comp=Z,20nm,0.9s
Q24A Divide 76.30 48 P **P 01 37 04.3 +0.5**
baz=318,SNR=15
S22A 4UR Ranch, Cre 76.31 50 *e*P **P 01 37 04.9 +1.1**
comp=Z,25nm,1.0s
S22A 4UR Ranch, Cre 76.31 50 P **P 01 37 04.9 +1.1**
baz=317,SNR=33
OGNE Ogallala 76.41 45 *e*P **P 01 37 04.7 +0.6**
comp=Z,62nm,1.0s
OGNE Ogallala 76.41 45 P **P 01 37 04.3 +0.2**
baz=319,SNR=5.4
W18A Petrified Fore 76.61 53 *e*P **P 01 37 07.0 +1.6**
comp=Z,17nm,0.9s
W18A Petrified Fore 76.61 53 P **P 01 37 06.3 +0.8**
baz=316
MOA Molln 76.70 327 *i*P **P 01 37 06.4 +0.9**
comp=Z,9.0nm,0.9s
ARSA Arzberg 76.70 326 *i*P **P 01 37 06.4 +0.9**
comp=Z,9.9nm,1.4s
E38A The Farm, Brul 76.71 35 *e*P **P 01 37 05.1 -0.5**
comp=Z,42nm,0.9s
E38A The Farm, Brul 76.71 35 P **P 01 37 05.0 -0.5**
baz=324,SNR=17
TNS Taunus Mts 76.79 332 *e*P **P 01 37 06.1 +0.1**
comp=Z,10nm,1.1s,baz=33,slow=5.7
ECSD EROS Data Cent 76.83 40 *e*P **P 01 37 06.2 -0.2**
comp=Z,49nm,1.1s
ECSD EROS Data Cent 76.83 40 P **P 01 37 06.0 -0.3**
baz=322,SNR=21
X18A Snowflake 76.92 54 *e*P **P 01 37 08.3 +1.1**
comp=Z,19nm,0.9s
STKA Stephens Creek 76.92 181 *e*P **P 01 37 07.0 +0.3**
comp=Z,1.2nm,0.6s
STKA Stephens Creek 76.92 181 *e*P **P 01 37 07.0 +0.3**
STKA pmax pmax
comp=Z,1.0nm,0.6s
STKA Stephens Creek 76.92 181 P **P 01 37 07.0 +0.3**
comp=Z,4.5nm,0.6s,baz=342,slow=8.1,SNR=7.8
F37A Hinrichs Farm, 76.98 36 P **P 01 37 06.4 -0.7**
baz=324,SNR=6.2
SDCO Great Sand Dun 77.02 49 *e*P **P 01 37 08.4 +0.6**
comp=Z,16nm,0.9s
SDCO Great Sand Dun 77.02 49 P **P 01 37 08.4 +0.6**
baz=318,SNR=26
SCHQ Schefferville 77.05 17 *e*P **P 01 37 07.4 +0.1**
comp=Z,34nm,1.1s
SCHQ Schefferville 77.05 17 P **P 01 37 07.0 -0.4**
comp=Z,22nm,1.0s,baz=9.4,slow=5.2,SNR=11
VTS Vitosha 77.08 319 *e*P **P 01 37 08.5 +0.6**
comp=Z,18nm,1.1s
VTS Vitosha 77.08 319 *e*P **P 01 37 08.5 +0.6**
VTS pmax pmax
comp=Z,18nm,1.1s
214A Organ Pipe Nat 77.09 58 P **P 01 37 08.7 +0.7**
baz=316,SNR=9.5
F38A Pierce - Schro 77.10 36 P **P 01 37 07.7 0.0**
baz=324,SNR=20
BEBN Eben Emael 77.19 334 ⇓P **P 01 37 08.2 +0.1**
MEM Membach 77.25 333 ⇑P **P 01 37 08.2 -0.3**
comp=Z,16nm,1.2s
E39A Mellen 77.30 35 P **P 01 37 08.4 -0.4**
baz=325,SNR=22
SPMN Marine on St. 77.31 37 *e*P **P 01 37 08.4 -0.5**
comp=Z,15nm,0.8s
SPMN Marine on St. 77.31 37 P **P 01 37 08.2 -0.7**
baz=324,SNR=6.2
SOKA Soboth 77.37 326 *i*P **P 01 37 09.7 +0.4**
comp=Z,19nm,1.1s,SNR=8.8
PERS Pernice 77.37 326 *i*P **P 01 37 09.6 +0.3**
E40A Wakefield 77.50 34 P **P 01 37 10.1 +0.2**
baz=325,SNR=34
D41A Chassel 77.52 33 P **P 01 37 09.9 -0.1**
baz=326
F39A Loretta 77.53 35 P **P 01 37 09.9 -0.3**
baz=325,SNR=11
FUR Furstenfeldbru 77.55 329 *e*P **P 01 37 11.2 +1.0**
comp=Z,20nm,0.9s,baz=33,slow=5.7
KSCO Kaye Shedlock' 77.57 46 *e*P **P 01 37 10.8 +0.2**
comp=Z,14nm,1.1s
KSCO Kaye Shedlock' 77.57 46 P **P 01 37 10.0 -0.6**
baz=319
BCLA Clavier 77.63 334 ⇓P **P 01 37 09.9 -0.7**
comp=Z,9.0nm,1.0s
KBA Koelnbreinsper 77.69 327 *i*P **P 01 37 12.3 +1.0**
comp=Z,23nm,0.9s,SNR=11
KBA Koelnbreinsper 77.69 327 P **P 01 37 12.2 +1.0**
OBKA Obir 77.69 326 *i*P **P 01 37 11.4 +0.3**
comp=Z,12nm,0.9s
G38A Ridgeland 77.75 36 P **P 01 37 10.4 -0.9**
baz=324,SNR=8.7
STU Stuttgart 77.77 331 *e*P **P 01 37 11.9 +0.5**
comp=Z,19nm,1.0s,baz=33,slow=5.7
F40A Park Falls 77.84 35 P **P 01 37 11.2 -0.6**
baz=325,SNR=15
LEGS Legarje 77.85 325 *i*P **P 01 37 11.9 0.0**
E41A Kenton 77.86 34 P **P 01 37 11.3 -0.6**
baz=326,SNR=8.1
BGNE Belgrade 77.94 42 *e*P **P 01 37 12.7 +0.2**
comp=Z,68nm,0.8s
BGNE Belgrade 77.94 42 P **P 01 37 11.9 -0.5**
baz=321,SNR=5.1
G39A Holcombe 77.94 36 P **P 01 37 11.7 -0.7**
baz=325
MYKA Terra Mystica 77.95 327 *i*P **P 01 37 12.0 -0.5**
comp=Z,81nm,0.8s
H38A Maiden Rock 77.97 37 P **P 01 37 11.9 -0.7**
baz=324
TUC Tucson 78.04 56 *e*P **P 01 37 14.0 +0.7**
comp=Z,13nm,0.9s
TUC Tucson 78.04 56 *e*P **P 01 37 14.0 +0.7**
TUC pmax pmax
comp=Z,13nm,0.9s
TUC Tucson 78.04 56 P **P 01 37 13.9 +0.7**
baz=316
T25A Trinidad 78.05 49 *e*P **P 01 37 13.8 +0.4**
comp=Z,28nm,0.8s
T25A Trinidad 78.05 49 P **P 01 37 13.7 +0.4**
baz=319,SNR=22
BBOO Buckleboo 78.08 186 *e*P **P 01 37 14.0 +1.0**
comp=Z,31nm,0.8s
SRS Serrai 78.08 318 P **P 01 37 14.2 +1.0**
COWI Conover 78.09 34 *e*P **P 01 37 12.6 -0.6**
comp=Z,18nm,0.9s
DOU Dourbes 78.14 334 ⇑P **P 01 37 12.8 -0.5**
WATA Walderalm 78.14 328 *i*P **P 01 37 14.2 +0.6**
comp=Z,12nm,0.7s,SNR=6.8
WTTA Wattenberg 78.18 328 *e*P **P 01 37 14.4 +0.6**
baz=33,slow=5.7
WTTA Wattenberg 78.18 328 *e*P **P 01 37 14.6 +0.7**
comp=Z,23nm,1.0s
ABTA Abfaltersbach 78.28 328 *i*P **P 01 37 14.3 -0.1**
comp=Z,10nm,1.2s
E42A Champion 78.29 33 P **P 01 37 13.7 -0.5**
baz=326,SNR=5.2
STIP Stip 78.29 319 *i*P **P 01 37 13.7 -0.7**
MOTA Moosalm 78.31 329 *i*P **P 01 37 15.0 +0.5**
comp=Z,26nm,0.9s,SNR=19
RETA Reutte 78.31 329 *i*P **P 01 37 15.0 +0.5**
comp=Z,20nm,1.1s,SNR=7.3
G40A Rib Lake 78.35 35 *e*P **P 01 37 14.6 0.0**
comp=Z,24nm,0.9s
G40A Rib Lake 78.35 35 P **P 01 37 14.2 -0.4**
baz=325,SNR=9.3
SQTA Sankt Quirin 78.37 329 *i*P **P 01 37 15.3 +0.5**
comp=Z,20nm,0.9s,SNR=8.2
H39A Augusta 78.38 36 P **P 01 37 14.2 -0.6**
baz=325,SNR=5.3
F41A Three Lakes 78.40 34 *e*P **P 01 37 14.8 -0.1**
comp=Z,45nm,0.9s
F41A Three Lakes 78.40 34 P **P 01 37 14.6 -0.3**
baz=326,SNR=10
VAY Valandovo 78.40 318 *i*P **P 01 37 15.6 +0.6**
BFO Black Forest 78.45 331 *e*P **P 01 37 15.3 +0.2**
comp=Z,16nm,1.1s
BFO Black Forest 78.45 331 *e*P **P 01 37 15.4 +0.2**
comp=Z,8.8nm,1.0s,baz=33,slow=5.7
BFO Black Forest 78.45 331 *i*P **P 01 37 15.8 +0.7**
TASM ASL Pad, Albuq 78.57 52 P **P 01 37 17.3 +1.1**
baz=318,SNR=31
TASM ASL Pad, Albuq 78.57 52 P **P 01 37 17.4 +1.1**
baz=318,SNR=29
ANMO Albuquerque 78.57 52 *e*P **P 01 37 17.1 +0.9**
comp=Z,16nm,0.9s
ANMO Albuquerque 78.57 52 *i*P **P 01 37 17.4 +1.1**
ANMO pmax pmax
comp=Z,37nm,1.4s
ANMO Albuquerque 78.57 52 P **P 01 37 17.3 +1.1**
baz=318
LAZ Ladron 78.59 52 *e*P **P 01 37 17.8 +1.4**
E43A Lone Tree Farm 78.69 33 P **P 01 37 15.7 -0.7**
baz=327
FETA Feichten 78.72 329 *i*P **P 01 37 17.4 +0.7**
comp=Z,18nm,1.0s,SNR=6.5
CDF Champ du Feu 78.74 331 *e*P **P 01 37 16.3 -0.5**
CDF pmax pmax
comp=Z,25nm,1.1s
DAVA Damuels 78.80 329 *e*P **P 01 37 17.7 +0.5**
baz=33,slow=5.7
DAVA Damuels 78.80 329 *i*P **P 01 37 17.6 +0.4**
comp=Z,25nm,1.1s,SNR=6.4
H40A Chili 78.80 36 P **P 01 37 16.6 -0.5**
baz=325,SNR=6.6
G41A Antigo 78.80 34 P **P 01 37 16.7 -0.4**
baz=326,SNR=6.0
LENM Lemitar 78.86 52 *e*P **P 01 37 19.4 +1.6**
SLE Schleitheim 78.88 330 *e*P **P 01 37 17.3 -0.2**
baz=33,slow=5.7
E44A Grand Marais A 78.88 32 P **P 01 37 14.6 -2.9**
baz=328
ECH Echery 78.95 331 *e*P **P 01 37 16.8 -1.0**
comp=Z,17nm,1.0s
ECH Echery 78.95 331 *e*P **P 01 37 16.8 -1.0**
ECH pmax pmax
comp=Z,17nm,1.0s
I39A Houston 78.95 37 *e*P **P 01 37 17.1 -0.8**
comp=Z,43nm,1.0s
I39A Houston 78.95 37 P **P 01 37 17.0 -0.9**
baz=324,SNR=10
KRUS Krusevo 78.98 319 *i*P **P 01 37 18.6 +0.4**
F43A Flat Rock, Esc 79.08 33 P **P 01 37 18.1 -0.4**
baz=327
G42A Mountain 79.08 34 *e*P **P 01 37 18.6 0.0**
comp=Z,30nm,0.9s
G42A Mountain 79.08 34 P **P 01 37 18.1 -0.4**
baz=326,SNR=7.0
H41A Junction City 79.10 35 *e*P **P 01 37 18.5 -0.2**
comp=Z,16nm,0.9s
H41A Junction City 79.10 35 P **P 01 37 18.3 -0.4**
baz=326
CBKS Cedar Bluff 79.17 45 *e*P **P 01 37 18.9 -0.4**
comp=Z,50nm,1.0s
CBKS Cedar Bluff 79.17 45 *e*P **P 01 37 18.9 -0.4**
CBKS pmax pmax
comp=Z,49nm,1.0s
CBKS Cedar Bluff 79.17 45 P **P 01 37 18.7 -0.5**
baz=321,SNR=7.0
PLONS Plons/SG 79.18 330 *e*P **P 01 37 19.5 +0.3**
baz=33,slow=5.7
SULZ Cheisacher 79.22 331 *e*P **P 01 37 19.4 +0.1**
baz=33,slow=5.7
FUORN Ofenpass-Fuorn 79.22 329 *e*P **P 01 37 20.3 +0.6**
comp=Z,26nm,0.9s
J39A Decorah 79.30 37 P **P 01 37 18.6 -1.2**
baz=324,SNR=9.5
I40A Norwalk 79.30 36 P **P 01 37 19.1 -0.7**
baz=325
D46A Sault St. Mari 79.34 31 P **P 01 37 19.0 -0.9**
baz=329
G43A Wallace 79.36 34 P **P 01 37 19.7 -0.4**
baz=327
HINF Hinteralfeld 79.40 331 *e*P **P 01 37 19.4 -0.9**
HINF pmax pmax
comp=Z,9.0nm,1.1s
HAU Haudompre 79.40 332 *e*P **P 01 37 19.6 -0.7**
HAU pmax pmax
comp=Z,14nm,1.0s
I41A Arkdale 79.47 36 *e*P **P 01 37 20.6 -0.1**
comp=Z,15nm,0.9s
I41A Arkdale 79.47 36 P **P 01 37 20.2 -0.5**
baz=326
BALST Balsthal 79.52 331 *e*P **P 01 37 21.4 +0.4**
baz=33,slow=5.7
D47A Chapleau 79.53 30 P **P 01 37 20.0 -1.0**
baz=329
319A Douglas 79.59 56 *e*P **P 01 37 21.7 0.0**
comp=Z,45nm,0.9s
121A Cos Peak, D 79.61 54 P **P 01 37 23.1 +1.3**
baz=318,SNR=22
H42A Shiocton 79.64 35 *e*P **P 01 37 21.7 +0.1**
comp=Z,23nm,0.9s
H42A Shiocton 79.64 35 P **P 01 37 21.2 -0.4**
baz=326
J40A Soldiers Grove 79.66 36 P **P 01 37 20.6 -1.1**
baz=325
E46A Sault Ste Mari 79.69 31 P **P 01 37 20.9 -0.9**
baz=329
K39A Oelwein 79.73 38 P **P 01 37 20.8 -1.3**
baz=324,SNR=8.0
CHGQ Chibougamau 79.76 23 P **P 01 37 21.1 -1.0**
baz=335,SNR=6.0
LSQQ Lebel-sur-Quev 79.77 25 P **P 01 37 21.8 -0.4**
baz=333
SCIA State Center 79.80 39 *e*P **P 01 37 21.6 -0.9**
comp=Z,48nm,1.0s
SCIA State Center 79.80 39 P **P 01 37 22.2 -0.3**
baz=324
F45A CMU Biological 79.83 32 P **P 01 37 21.8 -0.7**
baz=328
D48A Paudash Townsh 79.88 29 P **P 01 37 21.2 -1.6**
baz=330
D49A Beulah Townshi 79.94 29 P **P 01 37 22.2 -1.0**
baz=330
H43A Windswept, Lux 79.98 34 *e*P **P 01 37 23.6 +0.2**
comp=Z,49nm,1.0s
H43A Windswept, Lux 79.98 34 P **P 01 37 23.2 -0.2**
baz=327,SNR=5.2
E47A Iron Bridge 79.98 30 P **P 01 37 22.4 -1.0**
baz=329
J41A Loganville 79.98 36 P **P 01 37 22.6 -0.9**
baz=326
I42A Draeger Farm, 80.00 35 *e*P **P 01 37 23.5 0.0**
comp=Z,28nm,1.0s
I42A Draeger Farm, 80.00 35 P **P 01 37 22.9 -0.6**
baz=326
K40A Colesburg 80.06 37 P **P 01 37 22.9 -0.9**
baz=325,SNR=5.8
L39A Vinton 80.16 38 P **P 01 37 23.6 -0.8**
baz=324,SNR=6.9
JFWS Jewell Farm 80.26 36 P **P 01 37 23.7 -1.2**
baz=325
G45A Suttons Bay 80.32 32 P **P 01 37 24.4 -0.7**
baz=328
I43A Langenfeld Bro 80.32 35 P **P 01 37 24.5 -0.7**
baz=326
G46A Petoskey 80.38 32 P **P 01 37 24.8 -0.7**
baz=328,SNR=5.9
J42A Columbus 80.39 36 P **P 01 37 24.8 -0.8**
baz=326
VLDQ Val d'Or 80.47 26 *e*P **P 01 37 24.8 -1.1**
comp=Z,79nm,1.1s
KSU1 Kansas State U 80.47 43 P **P 01 37 25.5 -0.6**
baz=322,SNR=5.3
K41A Shullsburg 80.49 37 P **P 01 37 25.4 -0.7**
baz=325
SENIN Lac Senin/Sane 80.50 330 *e*P **P 01 37 26.7 +0.3**
comp=Z,10nm,0.9s
H45A Beulah 80.52 33 P **P 01 37 25.5 -0.8**
baz=328
L40A Anamosa 80.54 38 *e*P **P 01 37 25.9 -0.6**
comp=Z,16nm,1.0s
L40A Anamosa 80.54 38 P **P 01 37 25.3 -1.1**
baz=325
CAN Canberra 80.56 175 *e*P **P 01 37 27.9 +1.5**
comp=Z,27nm,1.1s
CAN Canberra 80.56 175 *e*P **P 01 37 27.9 +1.5**
CAN pmax pmax
comp=Z,27nm,1.1s
M39A Webster 80.61 38 P **P 01 37 26.3 -0.4**
baz=324,SNR=11
J43A Natural Harves 80.63 35 P **P 01 37 25.9 -1.0**
baz=326
K42A Prairie Point, 80.75 36 P **P 01 37 26.5 -1.0**
baz=326
F48A Evansville 80.76 30 P **P 01 37 26.6 -0.9**
baz=330
D51A Lot 18 Range I 80.76 28 P **P 01 37 26.6 -0.9**
baz=332
FLN La Foliniere 80.83 336 *e*P **P 01 37 27.8 0.0**
FLN pmax pmax
comp=Z,27nm,1.3s
L41A Preston 80.84 37 P **P 01 37 26.9 -1.1**
baz=325
LOR Lormes 80.86 333 *e*P **P 01 37 27.3 -0.7**
LOR pmax pmax
comp=Z,24nm,1.0s
G47A Hillman 80.87 31 P **P 01 37 27.5 -0.7**
baz=329
LDF La Druitiere 80.88 336 *e*P **P 01 37 28.5 +0.4**
LDF pmax pmax
comp=Z,18nm,1.1s
GLMI Grayling 80.89 32 *e*P **P 01 37 28.4 +0.2**
comp=Z,72nm,1.0s
GLMI Grayling 80.89 32 P **P 01 37 27.8 -0.4**
baz=328
E50A Wahnapitae 80.89 29 P **P 01 37 27.4 -0.8**
baz=331
H46A Fife Lake 80.91 32 P **P 01 37 27.9 -0.4**
baz=328
I45A Fountain 80.94 33 P **P 01 37 28.1 -0.4**
baz=328
M40A Post Highland 80.95 38 P **P 01 37 27.9 -0.7**
baz=325,SNR=7.4
F49A Sandfield 81.02 30 P **P 01 37 27.9 -1.0**
baz=330
SSF Saint Saulge 81.16 333 *e*P **P 01 37 29.7 +0.1**
SSF pmax pmax
comp=Z,8.0nm,0.8s
D52A ZEK Kipawa Sen 81.17 27 P **P 01 37 28.6 -1.1**
baz=332
AMTX Amarillo 81.20 49 *e*P **P 01 37 30.8 +0.6**
comp=Z,38nm,0.7s
AMTX Amarillo 81.20 49 P **P 01 37 30.7 +0.6**
baz=320
E51A G1948 Merrick 81.21 28 P **P 01 37 28.8 -1.0**
baz=332,SNR=6.6
K43A Burlington 81.22 35 P **P 01 37 29.3 -0.7**
baz=326
H47A Mio 81.23 32 P **P 01 37 29.7 -0.3**
baz=329
L42A Oliver, Polo 81.25 37 P **P 01 37 29.0 -1.2**
baz=326
GRR Gorron 81.28 336 *e*P **P 01 37 29.7 -0.5**
GRR pmax pmax
comp=Z,30nm,1.2s
NWAO Narrogin (SRO) 81.30 201 P **P 01 37 31.4 +1.1**
comp=Z,32nm,0.7s,baz=19,slow=5.9,SNR=12
MSTX Muleshoe 81.31 50 *e*P **P 01 37 31.1 +0.3**
comp=Z,13nm,0.9s
MSTX Muleshoe 81.31 50 P **P 01 37 30.5 -0.2**
baz=320
I46A Reed City 81.33 33 P **P 01 37 30.3 -0.2**
baz=328
N40A Mertquake, Sal 81.35 38 P **P 01 37 30.4 -0.3**
baz=325
M41A Milan 81.40 38 P **P 01 37 30.2 -0.7**
baz=325,SNR=5.1
SMF Signal de Mont 81.42 333 *e*P **P 01 37 30.5 -0.5**
SMF pmax pmax
comp=Z,25nm,1.0s
LPL La Plagne 81.43 330 *e*P **P 01 37 31.2 -0.1**
LPL pmax pmax
comp=Z,10.0nm,0.9s
LPG La Plagne 81.44 330 *e*P **P 01 37 31.4 -0.1**
LPG pmax pmax
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 81.44 333 *e*P **P 01 37 30.6 -0.5**
AVF pmax pmax
comp=Z,32nm,1.2s
H48A Harrisville 81.47 31 P **P 01 37 30.7 -0.6**
baz=329
L43A Garden Prairie 81.49 36 P **P 01 37 30.4 -1.0**
baz=326
D54A Lac Fusel, La 81.57 26 P **P 01 37 30.8 -0.9**
baz=333
MNTX Cornudas Mount 81.58 53 *e*P **P 01 37 32.9 +0.8**
comp=Z,14nm,0.8s
MNTX Cornudas Mount 81.58 53 P **P 01 37 32.9 +0.8**
baz=319,SNR=23
F51A Arnstein 81.60 28 P **P 01 37 30.9 -1.0**
baz=331
I47A Gladwin 81.62 32 P **P 01 37 31.6 -0.4**
baz=329
TOBO Tobermory, Bru 81.66 30 P **P 01 37 31.6 -0.6**
baz=330
M42A Sheffield 81.67 37 P **P 01 37 31.4 -0.9**
baz=326
E52A Mattawa 81.71 28 P **P 01 37 31.3 -1.2**
baz=332
J46A Howard City 81.75 33 P **P 01 37 32.7 -0.1**
baz=328
I48A Sherman Twp 81.77 32 P **P 01 37 32.8 -0.1**
baz=329
GDL2 Guadalupe Moun 81.78 52 *e*P **P 01 37 34.2 +1.0**
N41A Harden Midland 81.81 38 *e*P **P 01 37 33.1 0.0**
comp=Z,31nm,0.8s
N41A Harden Midland 81.81 38 P **P 01 37 32.6 -0.5**
baz=325,SNR=5.5
L44A Lake County Fo 81.83 35 P **P 01 37 31.8 -1.4**
baz=327
F52A Sundridge 81.92 28 P **P 01 37 32.8 -0.8**
baz=332
E53A Dumoine, Ponti 81.94 27 P **P 01 37 32.6 -1.1**
baz=333
ITM Ithomi 81.97 316 *e*P **P 01 37 36.8 +2.8**
comp=Z,23nm,0.9s
KLBO Killbear Provi 82.00 29 P **P 01 37 33.1 -0.9**
baz=331
M43A Waltham Townsh 82.02 37 P **P 01 37 33.7 -0.5**
baz=326,SNR=5.6
E54A Lac Daplat, Po 82.05 27 P **P 01 37 33.1 -1.1**
baz=333
N42A Yates City 82.06 38 P **P 01 37 33.9 -0.5**
baz=326,SNR=11
MBDF Montbardon 82.11 330 *e*P **P 01 37 34.7 -0.1**
MBDF pmax pmax
comp=Z,16nm,1.2s
J47A Sunmer 82.16 33 P **P 01 37 33.6 -1.3**
baz=328
ALGO Algonquin Park 82.19 27 P **P 01 37 33.6 -1.3**
baz=332
BUKO Buck Lake 82.20 28 P **P 01 37 34.2 -0.8**
baz=332
ORIF Oris-en-Rattie 82.25 331 *e*P **P 01 37 35.2 -0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.9s
TCF Toulx Ste Croi 82.25 334 *e*P **P 01 37 35.1 -0.2**
TCF pmax pmax
comp=Z,13nm,1.0s
K46A Dorr 82.26 34 P **P 01 37 34.4 -1.0**
baz=328
O41A Passleys Farm, 82.28 38 P **P 01 37 35.3 -0.2**
baz=325,SNR=10
I49A Point Hope 82.31 31 P **P 01 37 34.0 -1.6**
baz=330
BMRO Meriville Lake 82.32 30 P **P 01 37 35.1 -0.5**
baz=331
N43A Stutzman Famil 82.34 37 P **P 01 37 35.4 -0.4**
baz=326,SNR=7.2
SSB Saint Sauveur 82.39 332 *e*P **P 01 37 35.6 -0.4**
comp=Z,8.7nm,1.1s
SSB Saint Sauveur 82.39 332 *e*P **P 01 37 35.6 -0.4**
SSB pmax pmax
comp=Z,9.0nm,1.1s
M44A Midewin, Midew 82.44 36 *e*P **P 01 37 36.3 0.0**
comp=Z,46nm,1.1s
M44A Midewin, Midew 82.44 36 P **P 01 37 35.9 -0.4**
baz=327
LATQ La Tuque 82.50 23 P **P 01 37 35.6 -0.9**
baz=336
J48A Bridge Port 82.50 32 P **P 01 37 36.7 +0.1**
baz=329,SNR=5.3
P41A Barry, Barry 82.56 39 P **P 01 37 36.8 -0.2**
baz=325
O42A Bath 82.57 38 P **P 01 37 36.1 -0.9**
baz=326
K47A Vermontville 82.58 33 P **P 01 37 36.7 -0.3**
baz=328
HDIL Hopedale 82.61 37 *e*P **P 01 37 37.3 +0.1**
comp=Z,55nm,1.0s
HDIL Hopedale 82.61 37 P **P 01 37 36.8 -0.4**
baz=326,SNR=7.7
L46A Eue Claire 82.63 35 P **P 01 37 36.8 -0.4**
baz=328
BASO Ashfield 82.67 31 P **P 01 37 36.7 -0.7**
baz=330
MFF Saint Martin d 82.69 335 *e*P **P 01 37 37.5 0.0**
MFF pmax pmax

comp=Z,13nm,0.9s
VIVF Saint-Julien-I 82.72 331 *e*P P 01 37 37.6 -0.1
VIVF pmax pmax
comp=Z,59nm,2.2s
H52A Wyevale 82.74 29 P P 01 37 37.1 -0.7
baz=331
G53A Haliburton 82.74 28 P P 01 37 37.1 -0.7
baz=332,SNR=6.1
BWLO Walkerton 82.76 30 P P 01 37 37.3 -0.6
baz=331
M45A Boilermakers S 82.77 35 P P 01 37 37.3 -0.7
baz=327
K48A Perry 82.80 33 P P 01 37 37.9 -0.3
baz=329
WMOK Wichita Mounta 82.82 47 *e*P P 01 37 38.6 +0.2
comp=Z,29nm,1.1s
WMOK Wichita Mounta 82.82 47 *e*P P 01 37 38.6 +0.2
WMOK pmax pmax
comp=Z,29nm,1.1s
WMOK Wichita Mounta 82.82 47 P P 01 37 38.6 +0.2
baz=322,SNR=21
O43A Sugar Creek Fa 82.82 37 P P 01 37 37.9 -0.4
baz=326
F55A Otter Lake 82.84 26 P P 01 37 37.0 -1.3
baz=334
N44A Piper City 82.90 36 P P 01 37 38.2 -0.5
baz=327,SNR=5.9
P42A Winchester 82.95 38 *e*P P 01 37 38.9 -0.1
comp=Z,27nm,0.8s
P42A Winchester 82.95 38 P P 01 37 38.6 -0.4
baz=326,SNR=7.6
TRQ Mont Tremblant 83.04 25 *e*P P 01 37 38.9 -0.6
BANO Bancroft 83.06 28 P P 01 37 38.9 -0.6
baz=333,SNR=6.5
K49A Clarkson 83.07 32 P P 01 37 39.8 +0.2
baz=329,SNR=6.4
I51A Listowel 83.08 30 P P 01 37 39.5 -0.1
baz=331
Q41A Truxton 83.08 39 P P 01 37 39.7 +0.1
baz=325,SNR=22
L47A Sherwood 83.09 34 P P 01 37 39.2 -0.5
baz=328,SNR=6.6
N45A Kentland 83.11 36 P P 01 37 39.5 -0.3
baz=327
M46A Old House Fiel 83.11 35 *e*P P 01 37 40.0 +0.2
comp=Z,40nm,1.1s
M46A Old House Fiel 83.11 35 P P 01 37 39.6 -0.1
baz=328
G55A Calabogie 83.25 27 P P 01 37 39.5 -0.9
baz=333
P43A Skaggs, Pawnee 83.27 38 P P 01 37 40.3 -0.3
baz=326,SNR=5.9
O44A Mansfield 83.29 37 P P 01 37 40.2 -0.5
baz=327
PLVO Plevna 83.32 27 *e*P P 01 37 40.5 -0.3
comp=Z,26nm,1.0s
PLVO Plevna 83.32 27 P P 01 37 40.1 -0.7
baz=333,SNR=5.9
RJF Les Rejaudoux 83.35 334 *e*P P 01 37 40.8 -0.1
RJF pmax pmax
comp=Z,79nm,2.3s
N46A Monticello 83.39 35 P P 01 37 40.5 -0.7
baz=328
TUL1 Leonard 83.40 44 *e*P P 01 37 41.8 +0.4
TUL1 Leonard 83.40 44 P P 01 37 41.6 +0.3
baz=323,SNR=13
AAM Ann Arbor 83.41 33 *e*P P 01 37 41.8 +0.5
comp=Z,33nm,1.0s
AAM Ann Arbor 83.41 33 *e*P P 01 37 41.8 +0.5
AAM pmax pmax
comp=Z,33nm,1.0s
AAM Ann Arbor 83.41 33 P P 01 37 41.0 -0.2
baz=329
L48A N Adams 83.42 33 P P 01 37 41.2 -0.1
baz=329,SNR=10
Q42A Golden Eagle 83.42 39 P P 01 37 41.4 0.0
baz=326,SNR=8.6
ORIO Orleans, Innes 83.45 26 P P 01 37 40.3 -1.0
baz=334,SNR=5.2
M47A Cromwell 83.45 34 P P 01 37 41.3 -0.1
baz=328
ALFO Alfred 83.48 25 P P 01 37 40.8 -0.8
baz=334,SNR=6.7
ELFO Elginfield 83.50 31 P P 01 37 41.5 -0.2
baz=331
CAF Calviac 83.51 333 *e*P P 01 37 42.2 +0.4
CAF pmax pmax
comp=Z,14nm,1.1s
O45A Potomac 83.52 36 P P 01 37 41.8 -0.1
baz=327,SNR=7.6
L49A Milan 83.53 33 P P 01 37 42.1 +0.2
baz=329,SNR=7.0
R41A Rosebud 83.55 40 P P 01 37 42.0 -0.1
baz=325,SNR=12
I53A Kortright Cn E 83.56 29 P P 01 37 41.2 -0.8
baz=332
DELO Deloro Mine 83.61 28 P P 01 37 41.6 -0.6
baz=333
PKRO Pickering 83.61 29 P P 01 37 41.5 -0.7
baz=332
SFIN Lafayette 83.68 36 *e*P P 01 37 42.7 +0.1
comp=Z,12nm,0.8s
SFIN Lafayette 83.68 36 P P 01 37 42.1 -0.6
baz=327
M48A Edgerton 83.70 34 *e*P P 01 37 42.8 0.0
comp=Z,36nm,1.0s
M48A Edgerton 83.70 34 P P 01 37 42.5 -0.2
baz=329,SNR=5.6
H55A Tweed 83.72 27 P P 01 37 42.1 -0.6
baz=333,SNR=5.7
J52A Paris 83.76 30 P P 01 37 42.7 -0.3
baz=331
Q43A New Douglas 83.77 38 P P 01 37 42.9 -0.2
baz=326
P44A Sand Creek, Wi 83.80 37 P P 01 37 43.2 0.0
baz=327,SNR=6.2
CCM Cathedral Cave 83.81 40 *e*P P 01 37 43.2 -0.1
comp=Z,33nm,1.0s
CCM Cathedral Cave 83.81 40 *e*P P 01 37 43.2 -0.1
CCM pmax pmax
comp=Z,33nm,1.0s
CCM Cathedral Cave 83.81 40 P P 01 37 43.2 -0.1
baz=325
DRWO Darlington Wes 83.81 29 P P 01 37 42.7 -0.6
baz=332
N47A Urbana 83.82 35 P P 01 37 42.9 -0.5
baz=328,SNR=7.2
R42A Luebbering 83.83 39 P P 01 37 43.3 -0.2
baz=326,SNR=7.4
K51A Iona Station 83.84 31 P P 01 37 43.6 +0.1
baz=331,SNR=5.3
I55A Frankford 83.86 28 P P 01 37 42.6 -0.9
baz=333
WLVO Wesleyville 83.88 28 P P 01 37 43.1 -0.5
baz=332
LFF La Frestale 83.92 334 *e*P P 01 37 44.0 +0.2
LFF pmax pmax
comp=Z,11nm,0.9s
L50A Kingsville 83.95 32 P P 01 37 43.8 -0.2
baz=330
S41A Jillco Farms, 83.96 40 P P 01 37 43.9 -0.3
baz=325,SNR=11
H56A Elgin 83.98 27 P P 01 37 43.4 -0.7
baz=334
M49A Liberty Center 84.00 33 P P 01 37 44.0 -0.2
baz=329,SNR=5.8
HHAR Hobbs 84.00 43 *e*P P 01 37 44.1 -0.2
comp=Z,19nm,0.8s
ABTX Abilene, Hawle 84.02 49 *e*P P 01 37 44.8 +0.2
comp=Z,24nm,0.9s
ABTX Abilene, Hawle 84.02 49 P P 01 37 44.8 +0.2
baz=321,SNR=9.1
K52A Tillsonburg 84.08 31 P P 01 37 44.5 -0.1
baz=331
Q44A Meyer Farm, Va 84.10 38 *e*P P 01 37 45.0 +0.2
comp=Z,31nm,1.0s
Q44A Meyer Farm, Va 84.10 38 P P 01 37 44.5 -0.3
baz=326,SNR=6.0
N48A Decatur 84.11 34 P P 01 37 44.5 -0.3
baz=329,SNR=6.4
P45A Graceland, Par 84.12 37 *e*P P 01 37 44.7 -0.2
comp=Z,28nm,1.0s
P45A Graceland, Par 84.12 37 P P 01 37 44.6 -0.3
baz=327,SNR=5.5
O47A Sheridan 84.17 35 P P 01 37 44.5 -0.7
baz=328
S42A Caledonia 84.25 40 P P 01 37 45.4 -0.1
baz=326,SNR=13

STCO Saint Catharin 84.25 29 P P 01 37 44.6 -0.8
baz=332
P46A Rosedale 84.27 36 P P 01 37 45.4 -0.3
baz=327
PLIO Pelee Island, 84.27 32 P P 01 37 45.3 -0.3
baz=330
PECO Prince Edward 84.33 28 P P 01 37 45.2 -0.6
baz=333
TX31 Lajitas Ar. Si 84.33 53 *e*P P 01 37 47.0 +0.7
TXAR Lajitas Array 84.34 53 P P 01 37 46.9 +0.6
comp=Z,24nm,0.8s,baz=289,slow=3.9,SNR=234
TXAR pP pP 01 38 54.6 +1.0
comp=Z,2.6nm,1.0s,baz=311,slow=4.7,SNR=1.6
TXAR PP PP 01 41 02.2 -2.7
comp=Z,1.3nm,0.9s,baz=323,slow=7.3,SNR=3.4
J54A Appleton 84.37 29 P P 01 37 45.1 -0.9
baz=332
N49A Columbus Grove 84.39 34 *e*P P 01 37 45.7 -0.5
comp=Z,37nm,1.0s
N49A Columbus Grove 84.39 34 P P 01 37 46.1 -0.1
baz=329,SNR=6.6
M50A Fremont 84.41 33 P P 01 37 46.2 -0.1
baz=330
U40A Yellville 84.45 42 P P 01 37 46.5 -0.1
baz=324,SNR=32
Q45A Warren Harvey, 84.47 37 P P 01 37 46.7 0.0
baz=327,SNR=8.4
LONY Lake Ozonia 84.48 26 P P 01 37 45.8 -0.9
baz=335
MEDO Medina 84.53 29 P P 01 37 46.3 -0.6
baz=332
MOQ Mont Orford 84.54 24 *e*P P 01 37 47.2 +0.2
O48A Farmland 84.57 35 P P 01 37 46.5 -0.6
baz=328
R44A Waltonville 84.61 38 P P 01 37 47.3 -0.1
baz=326,SNR=5.2
OLIL Olney 84.63 37 *e*P P 01 37 47.6 +0.2
comp=Z,22nm,0.9s
X37A Clayton 84.66 45 *e*P P 01 37 48.0 +0.3
comp=Z,15nm,0.9s
J55A Hilton 84.66 28 P P 01 37 46.9 -0.6
baz=333,SNR=5.0
S43A Fulton Ridge, 84.73 39 P P 01 37 47.7 -0.3
baz=326,SNR=11
P47A Martinsville 84.77 36 P P 01 37 47.6 -0.5
baz=328
M51A Elyria 84.80 32 P P 01 37 47.8 -0.4
baz=330
MTLF Montolieu 84.88 332 *e*P P 01 37 49.6 +1.0
MTLF pmax pmax
comp=Z,30nm,1.6s
U41A Viola 84.90 41 P P 01 37 48.5 -0.3
baz=325,SNR=7.9
ERPA Erie 84.92 30 P P 01 37 48.5 -0.3
baz=332
N50A Nevada 84.92 33 P P 01 37 48.8 0.0
baz=330,SNR=5.3
R45A Skylar, Fairfi 84.92 38 P P 01 37 48.9 0.0
baz=327
M52A Chesterland 84.93 32 P P 01 37 49.1 +0.2
baz=331
W39A Magazine 84.94 43 *e*P P 01 37 49.1 0.0
comp=Z,12nm,0.9s
W39A Magazine 84.94 43 P P 01 37 49.0 -0.1
baz=324,SNR=5.8
O49A Covington 84.95 34 P P 01 37 48.8 -0.3
baz=329
L53A Girard 84.97 31 P P 01 37 49.0 -0.1
baz=331
HPIG 85.00 56 *e*P P 01 37 50.5 +0.8
comp=Z,32nm,0.9s
SIUC Southern Illin 85.00 39 *e*P P 01 37 49.5 +0.2
comp=Z,68nm,0.8s
S44A Carbondale 85.00 39 P P 01 37 49.4 +0.1
baz=326,SNR=13
T43A Greenville 85.04 40 P P 01 37 49.4 -0.1
baz=326,SNR=16
K55A Perry 85.05 29 P P 01 37 49.0 -0.5
baz=333,SNR=6.1
N51A Ashland 85.09 33 *e*P P 01 37 49.8 +0.1
comp=Z,33nm,0.9s
N51A Ashland 85.09 33 P P 01 37 49.5 -0.2
baz=330
MMNY Mt. Morris Dam 85.10 29 *e*P P 01 37 49.5 -0.2
comp=Z,31nm,1.2s
P48A Milroy 85.14 35 P P 01 37 49.6 -0.4
baz=328,SNR=6.3
Q47A Bedord North L 85.17 36 P P 01 37 50.2 +0.1
baz=328,SNR=13
PBMO Poplar Bluff 85.23 40 *e*P P 01 37 50.7 +0.3
comp=Z,31nm,0.9s
M53A W Miller and 85.27 31 P P 01 37 50.5 -0.1
baz=331
O50A Cable 85.27 34 P P 01 37 50.6 -0.1
baz=329,SNR=7.7
S45A Carrier Mills 85.31 38 P P 01 37 50.9 +0.1
baz=327
R46A Gibon Southern 85.32 37 P P 01 37 51.0 +0.1
baz=327
P49A Miami Univ. Ec 85.36 35 P P 01 37 50.8 -0.3
baz=329,SNR=7.5
N52A McGinn's Farm, 85.44 32 P P 01 37 51.0 -0.5
baz=330
ACSO Alum Creek Sta 85.45 33 *e*P P 01 37 51.8 +0.3
comp=Z,23nm,0.7s
ACSO Alum Creek Sta 85.45 33 P P 01 37 51.4 0.0
baz=330,SNR=6.7
Q48A North Vernon 85.46 36 P P 01 37 51.4 -0.2
baz=328,SNR=5.9
M54A Oil Creek Stat 85.57 30 *e*P P 01 37 51.9 -0.2
comp=Z,34nm,1.1s
M54A Oil Creek Stat 85.57 30 P P 01 37 52.0 -0.1
baz=332
MIAR Mount Ida 85.57 43 *e*P P 01 37 52.5 +0.3
MIAR Mount Ida 85.57 43 *e*P P 01 37 52.5 +0.3
MIAR Mount Ida 85.57 43 P P 01 37 52.5 +0.3
baz=324,SNR=24
WHAR Wooly Hollow 85.58 42 *e*P P 01 37 52.3 +0.1
comp=Z,65nm,0.9s
JCT Junction City 85.60 50 *e*P P 01 37 52.7 +0.2
comp=Z,23nm,0.9s
JCT Junction City 85.60 50 *e*P P 01 37 52.7 +0.2
JCT pmax pmax
comp=Z,23nm,0.9s
JCT Junction City 85.60 50 P P 01 37 52.5 +0.1
baz=321,SNR=10
PARMO Parma 85.63 40 *e*P P 01 37 53.2 +0.8
comp=Z,76nm,0.9s
WHTX Lake Whitney, 85.66 48 *e*P P 01 37 53.4 +0.7
comp=Z,27nm,0.9s
WHTX Lake Whitney, 85.66 48 P P 01 37 52.8 +0.2
baz=322
P50A Jamestown 85.66 34 P P 01 37 52.5 0.0
baz=329,SNR=5.4
O51A Pataskala 85.67 33 P P 01 37 52.3 -0.2
baz=330
R47A Wooly Knot Far 85.67 37 P P 01 37 52.6 0.0
baz=328,SNR=7.3
S46A Don Dixon Farm 85.67 38 P P 01 37 52.6 0.0
baz=327
W41B Gary Mavity, V 85.70 42 *e*P P 01 37 52.7 -0.1
comp=Z,41nm,1.0s
W41B Gary Mavity, V 85.70 42 P P 01 37 52.7 -0.1
baz=325,SNR=15
Q49A Aurora 85.74 35 P P 01 37 53.0 +0.1
baz=329,SNR=5.1
N53A Lisbon 85.76 32 P P 01 37 52.8 -0.2
baz=331
U44A Portageville 85.79 40 P P 01 37 53.2 +0.1
baz=326
WCI Wyandotte Cave 85.82 37 *e*P P 01 37 53.4 +0.1
comp=Z,22nm,0.8s
WCI Wyandotte Cave 85.82 37 *e*P P 01 37 53.4 +0.1
WCI pmax pmax
comp=Z,22nm,0.8s
WCI Wyandotte Cave 85.82 37 P P 01 37 53.3 -0.1
baz=328
T45A Paducah 85.83 39 P P 01 37 53.2 -0.2
baz=327
R48A Northridge Ran 85.85 36 P P 01 37 53.7 +0.2
baz=328,SNR=5.5
M55A Ridgway 85.92 30 P P 01 37 53.7 -0.1
baz=332,SNR=5.1
N54A Moraine State 85.93 31 *e*P P 01 37 51.9 -2.0
comp=Z,15nm,0.9s
N54A Moraine State 85.93 31 P P 01 37 53.8 -0.1
baz=332
X40A Basin Creek Fa 85.98 43 *e*P P 01 37 55.0 +0.8

comp=Z,32nm,0.9s
X40A Basin Creek Fa 85.98 43 P P 01 37 54.5 +0.3
baz=325,SNR=14
O52A Adamsville 85.99 33 *e*P P 01 37 54.4 +0.3
comp=Z,20nm,0.8s
O52A Adamsville 85.99 33 P P 01 37 54.0 -0.1
baz=330,SNR=5.3
P51A Williamsport 86.06 34 *e*P P 01 37 54.5 0.0
comp=Z,14nm,0.9s
P51A Williamsport 86.06 34 P P 01 37 54.2 -0.3
baz=330
O53A New Philadelph 86.11 32 P P 01 37 54.5 -0.2
baz=331
S47A Hartford 86.11 37 P P 01 37 54.0 -0.8
baz=328
HBAR Harrisburg 86.13 41 *e*P P 01 37 56.2 +1.3
comp=Z,164nm,1.2s
T46A Princeton 86.14 38 P P 01 37 55.2 +0.3
baz=327,SNR=8.6
GLAT Glass 86.16 40 *e*P P 01 37 56.0 +1.0
comp=Z,42nm,0.8s
BINY Binghamton 86.22 28 P P 01 37 55.0 -0.3
baz=334
R49A Shelbyville 86.23 36 P P 01 37 54.9 -0.5
baz=329
Q50A Georgetown 86.25 35 P P 01 37 55.5 +0.1
baz=329
P52A Corning 86.29 33 P P 01 37 55.3 -0.3
baz=330
Q51A Peebles 86.34 34 *e*P P 01 37 56.4 +0.5
comp=Z,36nm,0.9s
Q51A Peebles 86.34 34 P P 01 37 56.0 +0.1
baz=330,SNR=8.5
S48A Wiedeman Farm, 86.41 37 P P 01 37 56.2 0.0
baz=328,SNR=7.0
N55A Marion Center 86.45 30 P P 01 37 56.1 -0.3
baz=332
O54A Avella 86.47 32 P P 01 37 56.5 0.0
baz=331,SNR=6.3
WLAR White Oak Lake 86.49 44 *e*P P 01 37 57.5 +0.8
comp=Z,56nm,0.9s
T47A Sharon Grove 86.52 38 *e*P P 01 37 57.1 +0.3
comp=Z,29nm,0.8s
T47A Sharon Grove 86.52 38 P P 01 37 57.0 +0.3
baz=328,SNR=12
435B Jarrell 86.54 48 P P 01 37 57.1 +0.1
baz=322
U46A Springville 86.58 39 P P 01 37 57.3 +0.2
baz=327
R50A Paris 86.59 35 P P 01 37 57.2 +0.1
baz=329,SNR=5.2
S49A Springfield 86.62 36 P P 01 37 57.4 +0.2
baz=329,SNR=8.1
P53A Whipple 86.70 33 *e*P P 01 37 58.0 +0.4
comp=Z,19nm,0.9s
P53A Whipple 86.70 33 P P 01 37 57.7 +0.1
baz=331,SNR=5.2
T48A Bowling Green 86.73 37 P P 01 37 57.8 0.0
baz=328
Q52A Bidwell 86.82 33 P P 01 37 57.6 -0.6
baz=330
O55A Ligonier 86.84 31 P P 01 37 58.2 -0.1
baz=332
R51A Hillsboro 86.87 35 P P 01 37 58.6 +0.2
baz=330,SNR=5.2
X43A Marvell 86.88 42 *e*P P 01 37 59.5 +1.0
comp=Z,70nm,1.0s
X43A Marvell 86.88 42 P P 01 37 58.9 +0.5
baz=326
U47A Clarksville 86.90 38 P P 01 37 58.6 0.0
baz=328,SNR=6.1
WVT Waverly 86.93 39 *e*P P 01 37 59.0 +0.3
comp=Z,26nm,1.0s
WVT Waverly 86.93 39 *e*P P 01 37 59.0 +0.3
WVT pmax pmax
comp=Z,26nm,1.0s
WVT Waverly 86.93 39 P P 01 37 59.0 +0.3
baz=327
P54A Burton 86.94 32 P P 01 37 59.1 +0.3
baz=331,SNR=6.0
CCAR Cane Creek 86.95 43 *e*P P 01 38 00.1 +1.3
comp=Z,70nm,0.9s
SSPA Standing Stone 86.97 30 P P 01 37 58.8 -0.1
baz=333
Z41A Richland Creek 86.99 44 P P 01 37 58.6 -0.4
baz=325
O56A Blue Knob Stat 87.06 30 *e*P P 01 37 59.8 +0.5
comp=Z,24nm,0.9s
O56A Blue Knob Stat 87.06 30 P P 01 37 59.4 +0.1
baz=332,SNR=6.2
S50A Richmond 87.08 36 P P 01 37 59.6 +0.2
baz=329,SNR=6.6
V46A Holladay 87.08 39 P P 01 37 59.4 -0.1
baz=327,SNR=10.0
T49A Edmonton 87.09 37 *e*P P 01 37 59.8 +0.3
comp=Z,15nm,0.8s
T49A Edmonton 87.09 37 P P 01 37 59.5 0.0
baz=328,SNR=9.4
MCWV Mont Chateau 87.13 31 *e*P P 01 38 00.6 +1.0
comp=Z,12nm,1.0s
MCWV Mont Chateau 87.13 31 P P 01 37 59.9 +0.3
baz=332
U48A Cassie Pea, Po 87.17 38 P P 01 37 59.9 0.0
baz=328,SNR=7.6
Q53A Leroy 87.20 33 P P 01 38 00.3 +0.3
baz=331,SNR=8.6
R52A Catlettsburg 87.22 34 P P 01 37 59.8 -0.2
baz=330
P55A Reedsville 87.27 32 P P 01 38 00.7 +0.4
baz=332,SNR=8.2
NATX Nacogdoches 87.28 46 P P 01 38 01.1 +0.6
baz=324
HRV Adam Dziewonsk 87.31 25 P P 01 38 00.4 0.0
baz=337
V47A Nunnelly 87.32 39 P P 01 38 00.7 +0.2
baz=327,SNR=15
Q54A Coxs Mills 87.35 32 P P 01 38 01.1 +0.4
baz=331,SNR=9.4
S51A Beattyville 87.44 35 *e*P P 01 38 00.5 -0.6
comp=Z,27nm,1.0s
S51A Beattyville 87.44 35 P P 01 38 01.1 -0.1
baz=330
N59A State Game Lan 87.44 28 *e*P P 01 38 01.5 +0.4
comp=Z,28nm,1.1s
N59A State Game Lan 87.44 28 P P 01 38 01.2 +0.1
baz=334,SNR=5.7
T50A Nancy 87.46 36 P P 01 38 01.3 +0.1
baz=329,SNR=11
R53A Hurricane 87.49 34 P P 01 38 01.5 +0.2
baz=330
U49A Red Boiling Sp 87.49 37 P P 01 38 01.6 +0.2
baz=328,SNR=13
833A Chaparral WMA, 87.50 51 P P 01 38 01.9 +0.3
baz=322
W46A Michie 87.52 40 P P 01 38 01.3 -0.2
baz=327,SNR=7.9
OXF Oxford 87.56 41 *e*P P 01 38 02.0 +0.2
comp=Z,60nm,0.9s
OXF Oxford 87.56 41 *e*P P 01 38 02.0 +0.2
OXF pmax pmax
comp=Z,60nm,0.9s
OXF Oxford 87.56 41 P P 01 38 01.9 +0.1
baz=326,SNR=9.5
S52A Salyersville 87.61 35 P P 01 38 01.7 -0.2
baz=330
Q55A Buckhannon 87.62 32 P P 01 38 02.3 +0.3
baz=332,SNR=5.6
V48A Smith Brothers 87.70 38 *e*P P 01 38 02.5 +0.1
comp=Z,31nm,1.0s
V48A Smith Brothers 87.70 38 P P 01 38 02.4 0.0
baz=328,SNR=11
PAGS Pennsylvania G 87.73 29 *e*P P 01 38 02.6 +0.2
comp=Z,13nm,0.9s
W47A Westpoint 87.77 39 P P 01 38 02.7 0.0
baz=327,SNR=9.3
PLAL Pickwick Lake 87.78 39 *e*P P 01 38 02.5 -0.3
comp=Z,22nm,0.8s
T51A Gray 87.87 36 P P 01 38 03.0 -0.2
baz=329
X46A Booneville 87.91 40 P P 01 38 03.3 -0.1
baz=327,SNR=5.0
PAL Palisades 87.96 27 P P 01 38 03.3 -0.2
baz=335
U50A Jamestown 87.97 37 P P 01 38 03.7 0.0
baz=329,SNR=9.2
S53A Williamson 87.99 34 P P 01 38 03.8 0.0
baz=330
R54A Victor 87.99 33 P P 01 38 03.9 +0.1

baz=331,SNR=5.6
MVL Millersville 88.07 29 eP P 01 38 04.5 +0.4
comp=Z,22nm,1.2s
V49A McMinnville 88.07 38 P P 01 38 04.1 -0.1
baz=328,SNR=6.4
T52A Hallie 88.14 35 P P 01 38 03.9 -0.5
baz=330
W48A Pulaski 88.15 39 P P 01 38 04.7 +0.1
baz=328,SNR=19
R55A Marlinton 88.23 32 P P 01 38 05.2 +0.2
baz=332,SNR=5.4
X47A Russelville 88.27 40 P P 01 38 04.8 -0.3
baz=327,SNR=8.1
U51A La Follette 88.35 36 P P 01 38 05.5 +0.1
baz=329
TZTN Tazewell 88.40 36 eP P 01 38 06.3 +0.6
comp=Z,12nm,0.8s
TZTN Tazewell 88.40 36 P P 01 38 05.7 0.0
baz=330
T53A Wise 88.43 35 P P 01 38 06.0 +0.1
baz=330
W49A Belvidere 88.46 38 P P 01 38 06.1 +0.1
baz=328,SNR=9.5
V50A Pikeville 88.50 37 P P 01 38 06.1 -0.1
baz=329
SWET Sewanee 88.53 38 eP P 01 38 06.2 -0.1
comp=Z,36nm,0.9s
S55A Lewisburg 88.54 33 P P 01 38 06.3 -0.1
baz=331
U52A Thorn Hill 88.60 35 P P 01 38 06.9 +0.2
baz=330,SNR=5.9
X48A Hartselle 88.68 39 eP P 01 38 06.8 -0.2
comp=Z,15nm,0.7s
X48A Hartselle 88.68 39 P P 01 38 06.7 -0.3
baz=328,SNR=6.0
V51A Loudon 88.70 36 eP P 01 38 07.6 +0.5
comp=Z,41nm,1.1s
V51A Loudon 88.70 36 P P 01 38 07.0 -0.1
baz=329,SNR=5.1
T54A Tazewell 88.74 34 P P 01 38 07.3 0.0
baz=331
W50A Signal Mountai 88.81 37 eP P 01 38 07.7 0.0
comp=Z,20nm,0.8s
W50A Signal Mountai 88.81 37 P P 01 38 07.6 0.0
baz=329,SNR=6.8
URZ Urewera 88.88 154 P P 01 38 07.1 -0.4
comp=Z,4.5nm,0.9s,baz=287,slow=4.2,SNR=6.1
CPCT Cooper Cave 88.93 37 eP P 01 38 08.7 +0.5
comp=Z,34nm,0.9s
VBMS Vicksburg 88.94 43 eP P 01 38 09.7 +1.5
comp=Z,52nm,1.1s
VBMS Vicksburg 88.94 43 P P 01 38 09.2 +1.0
baz=326
U53A Fall Branch 88.95 35 P P 01 38 08.5 +0.2
baz=330
X49A Woodville 88.95 39 P P 01 38 08.4 +0.1
baz=328,SNR=11
V52A Sevierville 88.98 36 eP P 01 38 08.8 +0.3
comp=Z,26nm,1.0s
V52A Sevierville 88.98 36 P P 01 38 08.7 +0.3
baz=330,SNR=6.4
T55A Pulaski 89.00 33 P P 01 38 08.8 +0.3
baz=331,SNR=5.7
BLA Blacksburg 89.06 33 P P 01 38 08.8 0.0
baz=331
TKL Tuckaleechee C 89.06 36 eP P 01 38 08.3 -0.5
comp=Z,23nm,0.8s
TKL Tuckaleechee C 89.06 36 eP P 01 38 08.3 -0.5
TKL pmax pmax
comp=Z,23nm,0.8s
W51A Cleveland 89.08 37 P P 01 38 08.8 -0.1
baz=329,SNR=5.8
Y48A Jasper 89.08 39 P P 01 38 08.4 -0.5
baz=328
U54A Nelsons Funny 89.11 34 P P 01 38 09.2 +0.1
baz=331
X50B Fort Payne 89.29 38 P P 01 38 09.7 -0.3
baz=328
R58B Mineral 89.34 31 P P 01 38 10.3 +0.2
baz=333
T56A Rocky Mt 89.37 33 P P 01 38 10.3 0.0
baz=332
U55A TA2, Sparta 89.44 34 P P 01 38 10.7 0.0
baz=331
V53A Saluda 89.45 35 P P 01 38 10.5 -0.1
baz=330
Y49A Blount Mountai 89.47 39 P P 01 38 10.6 -0.2
baz=328
W52A Murphy 89.48 37 P P 01 38 10.9 +0.1
baz=329
BKZ Black Stump Fm 89.52 154 eP P 01 38 12.2 +1.6
comp=Z,12nm,1.0s
X51A Calhoun 89.54 37 P P 01 38 11.2 +0.2
baz=329
147A Livingston 89.62 41 eP P 01 38 12.3 +0.9
comp=Z,47nm,0.9s
147A Livingston 89.62 41 P P 01 38 11.8 +0.4
baz=327
T57A Hurt 89.69 32 P P 01 38 11.7 +0.1
baz=332
V54A Nebo 89.71 35 P P 01 38 11.9 0.0
baz=330
Y50A Piedmont 89.73 38 P P 01 38 11.8 -0.2
baz=328,SNR=5.6
W53A Cullowhee 89.74 36 P P 01 38 12.0 -0.1
baz=330
LRAL Lakeview Retre 89.90 40 eP P 01 38 12.4 -0.3
comp=Z,14nm,1.1s
LRAL Lakeview Retre 89.90 40 P P 01 38 12.4 -0.3
baz=328
X52A Dahlonega 89.92 37 P P 01 38 13.0 +0.1
baz=329,SNR=5.7
V55A Taylorsville 89.94 34 P P 01 38 13.4 +0.5
baz=331
Z49A Columbiana 89.97 39 P P 01 38 13.1 0.0
baz=328
ZAIG Zacatecas 89.98 57 eP P 01 38 14.6 +1.0
comp=Z,10nm,1.1s
BG3 Lake Jocassee 89.98 36 eP P 01 38 13.9 +0.8
comp=Z,25nm,1.0s
Y51A Rockmart 90.02 38 P P 01 38 13.2 -0.1
baz=329,SNR=7.7
ES06 SONSECA Array 90.14 335 eP P 01 38 13.8 -0.1
ESDC Sonseca Array 90.15 335 P P 01 38 13.3 -0.5
comp=Z,1.3nm,0.8s,baz=13,slow=4.3,SNR=6.8
ESDC pP pP 01 39 22.2 0.0
comp=Z,0.9nm,0.6s,baz=17,slow=3.9,SNR=3.7
Z50A Ashland 90.19 39 eP P 01 38 14.6 +0.4
comp=Z,50nm,0.8s
Z50A Ashland 90.19 39 P P 01 38 14.1 0.0
baz=328,SNR=16
W54A Cherokee Point 90.21 35 P P 01 38 14.2 +0.1
baz=330
X53A Estanollee 90.25 36 P P 01 38 14.8 +0.5
baz=330,SNR=11
V56A Mocksville 90.26 34 P P 01 38 14.5 +0.2
baz=331
T59A Double "B" Far 90.34 31 P P 01 38 15.0 +0.3
baz=333
149A Jones 90.36 40 P P 01 38 15.1 +0.2
baz=328,SNR=5.0
Z51A Franklin 90.47 38 P P 01 38 15.1 -0.2
baz=329
V57A Coltrane Farms 90.47 33 P P 01 38 15.1 -0.2
baz=332
Y52A Lilburn 90.48 37 eP P 01 38 15.9 +0.5
comp=Z,14nm,0.8s
Y52A Lilburn 90.48 37 P P 01 38 15.1 -0.3
baz=329
U58A Oxford 90.49 32 P P 01 38 16.1 +0.7
baz=332
KMSC Kings Mountain 90.51 35 eP P 01 38 15.9 +0.4
comp=Z,25nm,1.1s
KMSC Kings Mountain 90.51 35 P P 01 38 15.3 -0.2
baz=331
X54A Belton 90.60 36 P P 01 38 15.4 -0.5
baz=330
Y53A Monroe 90.69 37 P P 01 38 16.7 +0.3
baz=330,SNR=7.2
150A Eclectic 90.70 39 P P 01 38 16.1 -0.3
baz=328
249A Camden 90.73 40 P P 01 38 17.3 +0.7
baz=328,SNR=8.3
U59A Littleton 90.81 32 P P 01 38 16.7 -0.2
baz=333
W56A Indian Trail 90.81 34 P P 01 38 16.8 -0.1
baz=331
Z52A Williamson 90.91 38 P P 01 38 17.5 +0.1
baz=329
X55A Gracelyn & Ava 90.97 35 P P 01 38 17.8 +0.1
baz=331
W57A Gilead 91.03 34 P P 01 38 18.1 +0.2
baz=332
Y54A Tignall 91.06 36 P P 01 38 18.7 +0.6
baz=330,SNR=5.4
151A Opelika 91.07 39 P P 01 38 18.0 -0.1
baz=329
250A Grady 91.12 40 P P 01 38 18.7 +0.3
baz=328
GOGA Godfrey 91.12 37 eP P 01 38 19.1 +0.7
comp=Z,16nm,1.0s
GOGA Godfrey 91.12 37 eP P 01 38 19.1 +0.7
GOGA pmax pmax
comp=Z,17nm,1.0s
GOGA Godfrey 91.12 37 P P 01 38 18.5 +0.1
baz=330
V59A Middlesex 91.16 32 P P 01 38 18.5 0.0
baz=333
Z53A Monticello 91.19 37 P P 01 38 18.7 0.0
baz=330
X56A White Oak 91.19 35 P P 01 38 18.6 -0.1
baz=331
Y55A Saluda 91.34 36 P P 01 38 19.4 +0.1
baz=331
251A Midway 91.40 39 P P 01 38 19.3 -0.4
baz=329
W58A Raeford 91.44 33 P P 01 38 19.8 0.0
baz=332
351A Pinckard 92.01 40 P P 01 38 22.8 +0.2
baz=328
Z56A Williston 92.07 36 P P 01 38 23.5 +0.7
baz=331
352A Blakely 92.14 39 P P 01 38 23.7 +0.6
baz=329
155A Kite 92.23 37 P P 01 38 24.0 +0.5
baz=330
RPZ Rata Peaks 92.26 160 P P 01 38 25.1 +2.0
comp=Z,6.5nm,0.6s,baz=265,slow=6.8,SNR=6.2
254A Abbeville 92.46 38 P P 01 38 24.3 -0.2
baz=330
TOA1 Torodi Ar. Sit 111.86 319 ePKiKP PKiKP 01 43 46.6 -0.6
TOA1 ePP PP 01 44 29.1 -5.0
TORD Torodi Ar. Bea 111.87 319 PKiKP PKiKP 01 43 46.6 -0.6
comp=Z,0.2nm,0.4s,baz=16,slow=2.2,SNR=6.7
TORD PP PP 01 44 29.0 -5.0
comp=Z,0.9nm,1.0s,baz=15,slow=6.2,SNR=3.9
VNDA Vanda 123.23 175 ePKPdf PKiKP 01 44 07.7 +0.3
VNDA Vanda 123.23 175 PKP PKPdf 01 44 06.8 -0.3
comp=Z,2.3nm,0.7s,baz=288,slow=3.2,SNR=14
LPAZ La Paz 141.18 52 PKhKP PKPpre 01 44 38.9
comp=Z,1.7nm,0.7s,baz=334,slow=5.4,SNR=3.7
PB11 IPOC Station P 143.07 57 ePKPpre PKPpre 01 44 43.0
PB01 IPOC Station P 144.16 58 ePKPdf PKPbc 01 44 47.3 +0.4
PB04 IPOC Station P 144.74 60 ePKPbc PKPdf 01 44 49.3 +0.3
LVC Limon Verde 145.70 59 ePKPdf PKPab 01 44 52.7 +0.1
LVC Limon Verde 145.70 59 ePKP2 PKPab 01 44 52.7 +0.1
GO02 Mina Guanaco 147.16 63 ePKPbc PKPbc 01 44 56.5 +0.7
SNAA Sanae 148.97 200 PKiKP PKPbc 01 44 58.9 +0.1
SNAA Sanae 148.97 200 ePKPbc PKPbc 01 44 58.7 -0.1
SNAA Sanae 148.97 200 ePKP2 PKPbc 01 44 58.7 -0.1
BDFB Brasilia 149.00 20 PKPbc PKPbc 01 45 00.8 +0.3
comp=Z,10.0nm,0.8s,baz=2.8,slow=3.6,SNR=18
GO04 Tololo Observa 149.77 71 ePKPdf PKPbc 01 45 02.2 0.0
GO04 ePKPab PKPab 01 45 08.0 -0.8
VNA2 Neumayer--Watz 150.56 200 PKiKP PKiKP 01 45 02.9 -0.2
VNA3 Neumayer Olymp 150.85 198 PKiKP PKPbc 01 45 03.3 +0.1
VNA1 Neumayer--Stat 150.96 200 PKiKP PKiKP 01 45 04.1 +0.2
ROC1 El Roble 151.33 76 ePKPbc PKPbc 01 45 05.4 -0.5
CPUP Villa Florida 155.14 47 PKPab PKPab 01 45 31.4 +0.3
comp=Z,14nm,0.9s,baz=329,slow=4.1,SNR=24

*ASRS **27** 01:26:58.2±2.9,51°.35N×89°.76E,h15km,Ms3.0/3*
*NNC **27** 01:27:06.1±3.1,51°.61N×89°.30E,h0km,mb3.4,mpv3.1,*
Error ellipse: s-maj=29.0km s-min=17.5km az=92.0
ISC 27 01:27:03.6±1.6,51°.50N±0°.07×89°.92E±0°.07,h10km,n9,
σ2$38/14,8C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CERR	**Cheremushki**	**1.64**	**34**	*e*Pg	**Pn**	**01 27 31.2**	**-1.2**
CERR				*e*Sg	**Sn**	**01 27 54.6**	**+1.1**
TASR	**Tashtagol**	**1.78**	**316**	*e*Pg	**Pn**	**01 27 34.7**	**+0.3**
TASR				*e*Sg	**Sn**	**01 27 57.1**	**0.0**
ELT	**Eltsovka**	**2.86**	**309**	*e*Pg	**Pn**	**01 27 48.3**	**-1.0**
ELT				*e*Sg	**Sn**	**01 28 27.3**	**+3.5**
ZAA0	**Zalesovo Array**	**3.95**	**310**	⇑Pn	**Pn**	**01 28 02.8**	**-1.5**
	0.1nm,0.2s						
ZAA0				⇑Pg	Pb	01 28 10.3	-3.0
	0.8nm,0.5s						
ZAA0				⇓Lg	Lg	01 29 01.8	
	2.6nm,0.4s						
NVS	**Novosibirsk**	**5.23**	**312**	*e*Pg	**Pb**	**01 28 34.1**	**-0.9**
NVS				*e*Sg	**Sb**	**01 29 40.6**	**+2.8**
MK31	**Makanchi Array**	**6.87**	**230**	⇑Pn	**Pn**	**01 28 43.8**	**-0.6**
	2.0nm,0.5s,baz=55,slow=13,SNR=32						
MK31				⇓Lg	Lg	01 30 32.3	
	6.3nm,0.7s,baz=50,slow=30,SNR=5.2						
MAKZ	**Makanchi**	**7.01**	**231**	⇑Pn	**Pn**	**01 28 49.6**	**+3.3**
	2.2nm,0.5s						
MAKZ				⇓Lg	Lg	01 30 37.1	
	4.5nm,0.6s						
KURK	**Kurchatov**	**7.16**	**268**	⇑Pn	**Pn**	**01 28 48.7**	**+0.4**
	0.5nm,0.3s						
KURK				⇑Lg	Lg	01 30 46.1	
	17nm,0.7s						
KURBB	**Kurchatov Arra**	**7.24**	**267**	⇑Pn	**Pn**	**01 28 47.9**	**-1.4**
	1.5nm,0.4s						
KURBB				⇑Sn	**Sn**	**01 30 06.7**	**-4.7**
	17nm,0.7s						
KURBB				⇓Lg	Lg	01 30 46.4	
	34nm,0.8s						

MEX 27 01:37:27.4±0.4,16°.00N×95°.82W,h41km±7km,MD3.7,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.36**	**231**	*e*P	Pn	01 37 34.7	-1.7
HUIG				*i* S	Sn	01 37 40.9	-1.8
VHO	**Vista Hermosa**	**1.38**	**321**	*e*P	Pn	01 37 48.4	-2.0
VHO				*e*S	Sn	01 38 04.9	-2.7
CMIG	**Matias Romero**	**1.41**	**39**	*e*P	Pn	01 37 49.1	-1.6
CMIG				*e*S	Sn	01 38 06.1	-2.0
PNIG	**Pinotepa**	**2.25**	**280**	*e*P	Pn	01 38 00.7	-1.5
PNIG				*e*S	Sn	01 38 26.9	-1.9

IDC 27 01:40:38.9±3.3,22°.27S×179°.61W,h622km±34km,
mb3.6/5,mb1 3.8/5,mb1mx3.2/30,mbtmp4.7/5,Error
ellipse: s-maj=47.4km s-min=23.4km az=162.0,South
of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.87**	**267**	P	P	01 46 15.3	-0.2
	7.0nm,0.4s,baz=94,slow=10,SNR=17						
STKA	**Stephens Creek**	**35.69**	**246**	P	P	01 46 47.6	+0.5
	2.7nm,0.5s,baz=96,slow=13,SNR=6.9						
ASAR	**Alice Springs**	**42.68**	**259**	P	P	01 47 43.4	+0.1
	6.3nm,0.5s,baz=99,slow=8.2,SNR=62						
ASAR				PcP	PcP	01 49 20.9	+0.7
	1.0nm,0.5s,baz=104,slow=4.2,SNR=5.6						
ASAR				S	S	01 53 23.6	+0.2
	0.9nm,0.8s,baz=101,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**42.90**	**264**	P	P	01 47 44.2	-0.7
	5.9nm,0.6s,baz=92,slow=6.1,SNR=230						
WRA				PcP	PcP	01 49 20.0	-1.1
	0.3nm,0.5s,baz=82,slow=1.4,SNR=2.1						
CMAR	**Chiang Mai Arr**	**89.31**	**290**	P	P	01 52 32.8	+2.0
	1.1nm,0.3s,baz=123,slow=5.3,SNR=6.5						
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP	PKiKP	01 58 02.7	-0.6
	0.2nm,0.4s,baz=52,slow=1.3,SNR=2.8						
ARCES	**ARCESS Array B**	**130.37**	**349**	PKP	PKPdf	01 58 38.7	-0.4
	4.2nm,1.0s,baz=77,slow=1.9,SNR=4.1						
FINES	**FINESS Array B**	**137.02**	**342**	PKP	PKPdf	01 58 51.2	-0.6
	0.8nm,0.7s,baz=48,slow=2.1,SNR=3.9						
NOA	**NORSAR Array B**	**140.53**	**352**	PKhKP	PKPpre	01 58 52.8	
	0.2nm,0.6s,baz=359,slow=2.1,SNR=3.0						
AKASG	**Malin Array Be**	**143.79**	**329**	PKP	PKPbc	01 59 02.6	-1.0
	2.4nm,0.4s,baz=42,slow=4.0,SNR=12						
BRTR	**Keskin Array B**	**146.86**	**309**	PKPbc	PKPbc	01 59 12.4	-0.6
	1.4nm,0.7s,baz=101,slow=2.9,SNR=8.4						
CLL	**Collm**	**149.40**	**344**	*e*PKPbc	PKPbc	01 59 19.0	+0.2
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**149.55**	**343**	*i* PKP	PKPbc	01 59 19.3	+0.1
	comp=Z,6.0nm,0.5s						
GERES	**GERESS Array B**	**151.45**	**341**	PKPbc	PKPbc	01 59 23.4	-0.3
	comp=Z,0.5nm,0.4s,baz=20,slow=2.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**170.84**	**188**	PKPab	PKPab	02 00 59.9	-0.5
	comp=Z,0.6nm,1.0s,baz=174,slow=1.4,SNR=2.9						

*IDC **27** 01:46:19.7±1.3,11°.33S×164°.94E,h0km,mb3.9/5,*
mb1 4.2/8,mb1mx3.9/42,mbtmp4.0/8,ML4.1/3,MS3.0/2,
Ms1 3.0/2,ms1mx2.8/43,Error ellipse: s-maj=38.5km
s-min=24.7km az=135.0
*ISCJB **27** 01:46:23.2±0.9,11°.5S±0°.1×164°.83E±0°.09,h34km,*
mb3.9/5,Error ellipse: s-maj=17.4km s-min=10.8km
az=34.1
ISC 27 01:46:24.8±1.0,11°.4S±0°.1×164°.9E±0°.1,h34km,n14,
σ0$49/9,mb3.9/5,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.24**	**292**	Pn	**Pn**	**01 47 41.4**	**+0.6**
	24nm,0.3s,baz=167,slow=12,SNR=4.8						
HNR				Sn	**Sn**	**01 48 39.5**	**-0.5**
	8.9nm,0.3s,baz=197,slow=19,SNR=2.3						
HNR				LR	LR	01 49 50.5	
	comp=Z,178nm,21.1s,baz=124,slow=40						
DZM	**Mont Dzumac**	**10.71**	**172**	Pn	**Pn**	**01 48 56.0**	**+0.1**
	0.7nm,0.3s,baz=331,slow=23,SNR=6.9						
DZM				LR	LR	01 52 24.8	
	comp=Z,65nm,19.3s,baz=104,slow=34						
CTA	**Charters Tower**	**19.89**	**242**	P	**Pn**	**01 50 55.5**	**+0.2**
	0.2nm,0.3s,baz=72,slow=13,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**29.76**	**3**	T	T	02 23 48.9	
	baz=184,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.76**	**3**	T	T	02 23 46.0	
	baz=184,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.78**	**3**	T	T	02 23 49.4	
	baz=184,slow=76,SNR=15						
WRA	**Warramunga Arr**	**30.57**	**250**	P	**P**	**01 52 35.3**	**-0.3**
	0.7nm,0.7s,baz=79,slow=9.0,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**30.98**	**4**	T	T	02 25 19.8	
	baz=184,slow=76,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**30.99**	**4**	T	T	02 25 19.2	
	baz=184,slow=76,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**31.00**	**4**	T	T	02 25 26.0	
	baz=184,slow=76,SNR=4.2						
ASAR	**Alice Springs**	**31.88**	**243**	P	**P**	**01 52 46.8**	**-0.3**
	1.2nm,0.7s,baz=73,slow=9.5,SNR=8.9						
ILAR	**Eielson Array**	**84.12**	**19**	P	**P**	**01 58 52.3**	**+0.4**
	1.2nm,0.6s,baz=224,slow=3.8,SNR=6.8						
MKAR	**Makanchi Array**	**93.21**	**317**	P	**P**	**01 59 35.9**	**+0.1**
	0.5nm,0.7s,baz=84,slow=6.2,SNR=4.9						
YKA	**Yellowknife Ar**	**95.68**	**27**	P	**P**	**01 59 46.1**	**-0.6**
	0.3nm,0.9s,baz=257,slow=4.6,SNR=4.1						

MEX 27 02:02:40.0±0.5,16°.08N×98°.43W,h4km±3km,MD3.7,Near
coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.43**	**43**	*i* P	Pg	02 02 47.6	-0.6
PNIG				*e*S	Sg	02 02 54.4	+0.6

*NIED **27** 02:03:00,23°.90N×121°.10E,h5km,Mw5.8 Best double*
couple: M0:5.71000×10^17 NP1:φs338.00000°,δ26.00000°,
λ39.00000°. NP2:φs212.00000°,δ74.00000°,λ110.00000°.
*BGR **27** 02:03:17.6±0.0,23°.01N×121°.93E,h33km,mb6.1,Ms6.2*
*BJI **27** 02:03:18.0,23°.90N×120°.95E,h10km,mb5.4/52,mB6.1/67,*
ML6.4/8,Ms6.4/87,Ms7 6.4/59
*MOS **27** 02:03:18.8±1.0,23°.88N×121°.26E,h24km,mb6.0/140,*
MS5.9/111,Error ellipse: s-maj=6.1km s-min=3.2km
az=119.0
*IDC **27** 02:03:19.8±1.6,23°.80N×121°.21E,h21km±9km,mb5.0/52,*
mb1 5.0/57,mb1mx5.0/60,mbtmp5.1/57,ML4.0/3,MS5.8/50,
Ms1 5.8/50,ms1mx5.7/59,Error ellipse: s-maj=9.4km
s-min=7.4km az=74.0
*ASIES **27** 02:03:19.6,23°.90N×121°.07E,h20km,MW5.5*
*NEIC **27** 02:03:19.8±0.1,23°.83N×121°.22E,h19km,mb5.8/256,*
ME5.8,MS5.8/298,MW5.9,MW5.9,ML6.1(TAP),Error
ellipse: s-maj=3.1km s-min=2.5km az=109.0,Moment
Tensor Solution. s59 Moment tensor: Scale 10^17Nm;
Mrr5.48; Mθθ-0.61; Mφφ-4.87; Mrθ-1.41; Mθφ-1.84;
Mφr-5.19; Best double couple: M0:7.70000×10^17 NP1:
φs197.00000°,δ67.00000°,λ87.00000°. NP2:φs24.00000°,
δ23.00000°,λ97.00000°. Principal axes: T 7.6800,
Plg68.0000°, Azm101.0000°; N 0.0500, Plg3.0000°,
Azm198.0000°; P -7.7300, Plg22.0000°, Azm289.0000°;
Broadband fault plane solution: P waves. NP1:
φs323.00000°,δ28.00000°,λ47.00000°. NP2:
φs190.00000°,δ70.00000°,λ110.00000°. Principal axes:
T Plg60.0000°, Azm129.0000°; N Plg0.0000°,
Azm0.0000°; P Plg22.0000°, Azm265.0000°; Apparent
Stress 0.47 MPa. Depth from synthetics of broadband
displacement seismograms. Energy computed from BB
mechanism.
NEIC One person killed, 86 injured and several buildings
damaged in Nantou. Felt [V] at Taichung, [IV] at Tainan
and [III] at Taipei. Felt in much of Taiwan. Felt [III] at
Xiamen, Fujian. Also felt at Fuzhou. Felt at Guangzhou,
Guangdong and at Hangzhou, Zhejiang. Recorded [6 TAP]
in Nantou; [5 TAP] in Changhua; [4 TAP] Chiayi, Hualien,
Miaoli and Yunlin; [3 TAP] in Hsinchu, Penghu and Yilan;
[2 TAP] in Pingtung, Taitung and Taoyuan.
*JMA **27** 02:03:19.8±0.1,23°.89N×121°.14E,h9km±3km,M6.1*
*TAP **27** 02:03:19.6,23°.90N×121°.05E,h19km,ML6.2,B*
*GCMT **27** 02:03:20.8±0.1,23°.91N±0°.01×120°.84E,h23km,*
MW6.0/132,Moment Tensor Solution. s129,c286;
s132,c432; Duration: 2^4 Moment tensor: Scale 10^18
Nm; Mrr0.86±.01; Mθθ0.01±.01; Mφφ-0.86±.01;
Mrθ-0.17±.01; Mθφ-0.07±.00; Mφr-0.77±.01; Best double
couple: M0:1.17200×10^18 NP1:φs190.00000°,δ66.00000°,
λ94.00000°. NP2:φs359.00000°,δ24.00000°,λ80.00000°.
Principal axes: T 1.1680, Plg68.0000°, Azm108.0000°; N
0.0070, Plg4.0000°, Azm8.0000°; P -1.1750, Plg21.0000°,
Azm276.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface/mantle waves, cutoff=50s.
Triangular moment-rate function
*NEIC **27** 02:03:20.0±0.0,23°.74N×121°.13E,h21km,Moment*
Tensor Solution. s25 Moment tensor: Scale 10^17Nm;
Mrr5.93; Mθθ-0.69; Mφφ-5.24; Mrθ-3.09; Mθφ-1.52;
Mφr-5.10; Best double couple: M0:8.30000×10^17 NP1:
φs207.00000°,δ68.00000°,λ97.00000°. NP2:φs8.00000°,
δ23.00000°,λ73.00000°. Principal axes: T 8.5300,
Plg66.0000°, Azm129.0000°; N -0.4100, Plg6.0000°,
Azm24.0000°; P -8.1200, Plg22.0000°, Azm291.0000°;
*ISCJB **27** 02:03:20.3±0.1,23°.872N±0°.008×121°.121E±0°.009,*
h30km,mb5.6/432,MS5.9/729 Error ellipse: s-maj=1.6km
s-min=1.1km az=38.2
ISC 27 02:03:19.9±0.3,23°.88N±0°.01×121°.14E±0°.01,h19km±1km,
h18km:pP-P,n2259,σ2$03/2089,mb5.7/446,MS5.9/738,
131C-133D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OWD	**Renai**	**0.08**	**27**	⇓*i* P	**Pg**	**02 03 24.1**	**+0.4**
	baz=65						
OWD				*i* S	**Sg**	**02 03 27.0**	**+0.7**
	baz=65						
VWDT	**VWDT**	**0.13**	**177**	⇓*i* P	**Pg**	**02 03 24.7**	**+0.8**
	baz=151						
CHGB	**Renai**	**0.18**	**11**	⇑*i* P	**Pg**	**02 03 25.0**	**+0.1**
	baz=35						
CHGB				S	**Sg**	**02 03 28.7**	**+0.4**
	baz=35						
SSLB	**Suanglung**	**0.19**	**241**	*e*Pg	**Pb**	**02 03 23.9**	**-0.4**
SSLB				*e*Sg	**Sg**	**02 03 27.6**	**-0.6**
SSLB	**Suanglung**	**0.19**	**241**	⇑*i* P	**Pb**	**02 03 23.8**	**-0.4**
	baz=218						
SMLT	**Sun Moon Lake**	**0.21**	**270**	⇑*i* P	**Pb**	**02 03 24.1**	**-0.8**
	baz=261						
TYC	**Yuchr**	**0.26**	**275**	⇑*i* P	**Pb**	**02 03 24.5**	**-1.3**
	baz=271						

TYC S Sb 02 03 28.1 -1.6
baz=271
ESL Shilin 0.28 104⇓*iP* Pb 02 03 27.5 +1.1
baz=104
WHF Hehuan Shan 0.29 24⇓*iP* Pb 02 03 26.9 +0.3
baz=40
WHF S Sg 02 03 32.4 +1.2
baz=40
WHYT Xinyi Township 0.32 234⇑*iP* Pg 02 03 26.1 -0.7
baz=222
EGFH Guangfu 0.34 128⇓*iP* Pb 02 03 28.3 +0.8
baz=124
EGFH *e*S Sn 02 03 34.8 -1.6
baz=124
TWT Tachien 0.37 6⇑*eP* Pg 02 03 27.3 -0.6
baz=16
WJS Zhushan 0.38 261⇓*iP* Pg 02 03 27.3 -0.5
baz=255
WJS *i*S Sg 02 03 33.4 +0.2
baz=255
EHY Hungye 0.41 155⇓*iP* Pb 02 03 29.4 +0.6
baz=148
EHY *e*S Sn 02 03 37.0 -1.1
baz=148
WNT Mingjian 0.41 270⇓*iP* Pg 02 03 27.9 -0.6
baz=266
WNT S Sg 02 03 34.0 -0.2
baz=266
WHP Taichung City 0.43 336⇑*eP* Pg 02 03 28.0 -0.8
baz=330
WHP *e*S Sg 02 03 34.4 -0.5
baz=330
HWA Hwalien 0.44 77⇓*iP* Pn 02 03 30.5 -0.8
baz=82
HWA *e*S Sn 02 03 38.7 -0.1
baz=82
ETLH Xiulin Townshi 0.45 44 ⇓P Pb 02 03 29.6 +0.1
baz=52
ETLH *e*S Sb 02 03 36.3 +0.4
baz=52
TWD Chiawan 0.47 65⇓*iP* Pb 02 03 30.1 +0.5
baz=71
TWD S Sn 02 03 37.8 -1.6
baz=71
HGSD Ruisui 0.47 146 ⇓P Pn 02 03 30.9 -0.8
baz=140
HGSD *e*S Sn 02 03 38.9 -0.6
baz=140
ALS Alishan 0.48 219⇓*eP* Pg 02 03 29.5 -0.3
baz=209
TCU Taichung 0.50 302 ⇓P Pg 02 03 29.7 -0.3
baz=306
TCU *e*S Sb 02 03 37.5 +0.4
baz=306
TCU Taichung 0.50 302 P Pb 02 03 30.3 +0.2
CHN5 Tsauling 0.51 236⇓*iP* Pg 02 03 29.6 -0.6
baz=229
CHN5 *e*S Sb 02 03 38.4 +1.0
baz=229
YULB Yu-li 0.51 163 *e*Pg Pb 02 03 30.3 0.0
YULB *e*Sg Sg 02 03 35.9 -1.2
YULB Yu-li 0.51 163 ⇓P Pb 02 03 30.8 +0.5
baz=156
YULB *e*S Sb 02 03 38.8 +1.4
baz=156
NACB Ninganchiao 0.51 55 *e*Pg Pb 02 03 30.8 +0.5
NACB *e*Sg Sg 02 03 36.3 -0.9
NACB Ninganchiao 0.51 55 ⇓P Pb 02 03 30.6 +0.2
baz=61
NACB *e*S Sb 02 03 38.4 +1.0
baz=61
TWF1 Yuli 0.55 164⇓*eP* Pg 02 03 31.6 +0.7
baz=157
WGK Gukeng 0.56 250⇓*iP* Pb 02 03 30.6 -0.5
baz=244
WGK *e*S Sg 02 03 39.9 +1.2
baz=244
WCHH Zhanghua 0.56 291⇓*iP* Pb 02 03 30.5 -0.6
baz=291
WCHH *e*S Sg 02 03 39.0 +0.2
baz=291
TWQ1 Liyutan 0.57 325⇓*iP* Pb 02 03 31.2 -0.1
baz=331
TWQ1 *e*S Sg 02 03 39.9 +0.8
baz=331
WDLH Douliu 0.58 251⇓*iP* Pb 02 03 30.9 -0.5
baz=246
WDLH *e*S Sg 02 03 39.5 +0.1
baz=246
NNSB Datong 0.59 23 ⇓P Pb 02 03 31.3 -0.4
baz=30
NNSB *e*S Sb 02 03 39.1 -0.6
baz=30
NNS Nan Shan 0.60 21⇓*eP* Pb 02 03 31.6 -0.3
baz=29
NSY Sanyi 0.63 327⇓*iP* Pg 02 03 32.7 +0.2
baz=333
NSY *e*S Sn 02 03 42.3 -1.3
baz=333
WDJ Dajia District 0.65 316⇓*iP* Pb 02 03 32.6 -0.1
baz=320
WDJ S Sg 02 03 41.9 +0.4
baz=320
PTSB Yuanli 0.69 325⇓*iP* Pg 02 03 33.5 0.0
baz=330
FULB Fuli 0.69 168⇓*iP* Pn 02 03 34.9 +0.1
baz=162
FULB *e*S Sn 02 03 45.7 +0.6
baz=162
CHN2 Minshiung 0.70 240⇓*iP* Pb 02 03 33.1 -0.4
baz=235
CHN2 *e*S Sg 02 03 43.3 +0.3
baz=235
RLNB Erlin 0.71 271 ⇓P Pb 02 03 32.8 -0.9
baz=269
NMLH Miaoli 0.72 334 ⇓P Pg 02 03 34.4 +0.2
baz=339
NMLH *e*S Sn 02 03 45.0 -0.9
baz=339
CHN4 Tsaushan 0.72 223⇓*iP* Pb 02 03 33.6 -0.4
baz=217
CHN4 *e*S Sn 02 03 45.3 -0.6
baz=217
TPUB Ta-pu 0.74 219 *e*Pg Pb 02 03 33.9 -0.4
TPUB *e*Sg Sg 02 03 44.4 0.0
TPUB Ta-pu 0.74 219 ⇓P Pb 02 03 33.8 -0.4
baz=213
TPUB *e*S Sg 02 03 44.4 0.0
baz=213
CHY Chiayi 0.76 240 ⇓P Pb 02 03 33.8 -0.7
baz=235
CHY *e*S Sg 02 03 44.8 -0.1
baz=235
ENA Nanau 0.78 45 ⇓P Pg 02 03 35.3 +0.1
baz=51
ENA *e*S Sn 02 03 46.7 -0.4
baz=51
NANB Nanao 0.78 46 ⇓P Pg 02 03 35.2 0.0
baz=51
NANB *e*S Sn 02 03 46.5 -0.8
baz=51
WTCT Ta-ch'eng 0.78 269⇓*iP* Pb 02 03 33.8 -1.1
baz=267
WTCT *e*S Sb 02 03 44.6 -0.6
baz=267
WTP Ta-pu 0.79 217⇓*iP* Pb 02 03 34.6 -0.6
baz=211
WTP *e*S Sg 02 03 46.2 +0.2
baz=211
STYT Tauyuan 0.80 206⇓*iP* Pb 02 03 35.3 0.0
baz=200
STYT *e*S Sg 02 03 46.5 +0.4
baz=200
NDT Datong Townshi 0.80 26 P Pb 02 03 35.0 -0.2
baz=31
NDT *e*S Sn 02 03 46.8 -0.8
baz=31
CHKT Chengkung 0.81 165 *eP* Pn 02 03 36.7 +0.3
baz=160
CHKT *e*S Sn 02 03 50.0 +2.2
baz=160
YHNB Yeheng 0.81 16 *e*Pg Pb 02 03 34.8 -0.8
YHNB *e*Sg Sb 02 03 45.1 -1.2
YHNB Yeheng 0.81 16 ⇓P Pb 02 03 35.2 -0.4
baz=21
YHNB *e*S Sb 02 03 45.8 -0.4
baz=21
WMLT Mailiao 0.84 265⇓*eP* Pb 02 03 34.8 -1.1
baz=263
WMLT *e*S Sb 02 03 46.6 -0.2
baz=263
ENTT Nioudou 0.85 27 ⇓P Pb 02 03 36.1 -0.1
baz=33
ENTT *e*S Sn 02 03 49.7 +0.7
baz=33
TWK Hsinying 0.85 224⇓*iP* Pb 02 03 35.5 -0.7
baz=218
TWK *e*S Sg 02 03 48.5 +0.5
baz=218
WLGB Puzi 0.86 242 ⇓P Pb 02 03 35.4 -1.0
baz=239
WLGB *e*S Sg 02 03 48.1 -0.1
baz=239
WSF Szhu 0.87 254 ⇓P Pb 02 03 35.0 -1.4
baz=251
WSF *e*S Sb 02 03 47.4 -0.3
baz=251
SNST Tainan City 0.88 222 *eP* Pb 02 03 36.2 -0.4
baz=217
SNST *e*S Sn 02 03 49.6 -0.1
baz=217
CHN1 Nanshi 0.89 219 ⇓P Pb 02 03 36.1 -0.7
baz=214
CHN1 *e*S Sg 02 03 48.9 -0.2
baz=214
SBCB Hsinchu 0.92 351⇓*eP* Pg 02 03 37.9 0.0
baz=356
SBCB *e*S Sn 02 03 51.4 +0.8
baz=356
HSN Hsinchu 0.93 351 *eP* Pg 02 03 38.3 +0.2
baz=358
HSN *e*S Sn 02 03 52.4 +1.5
baz=358
SGST Jiashian 0.94 213⇓*eP* Pb 02 03 37.4 -0.3
baz=207
SGST *e*S Sn 02 03 52.3 +1.0
baz=207
NWLT Wulai 0.95 21⇓*eP* Pb 02 03 37.7 -0.2
baz=25
NWLT *e*S Sn 02 03 51.7 +0.2
baz=25
TWE Neicheng 0.97 30 P Pg 02 03 38.8 +0.1
baz=35
TWE *e*S Sg 02 03 51.5 0.0
baz=35
WLTB Daxi 0.97 6 *eP* Pg 02 03 39.3 +0.4
baz=11
WLTB *e*S Sn 02 03 52.8 +0.9
baz=11
TWC Suao 0.97 42 ⇓P Pg 02 03 38.7 -0.2
baz=46
TWC *e*S Sn 02 03 52.4 +0.5
baz=46
SLBB Yuanshan 0.98 28 *eP* Pb 02 03 38.5 +0.1
baz=32
SLBB *e*S Sn 02 03 53.5 +1.3
baz=32
SLGT Liugui 0.99 207⇓*eP* Pb 02 03 38.4 -0.1
baz=202
SLGT *e*S Sn 02 03 52.4 -0.1
baz=202
CHN8 Yiju 1.00 238 *eP* Pb 02 03 37.6 -1.1
baz=234
CHN8 *e*S Sg 02 03 53.1 +0.5
baz=234
ILA Ilan 1.04 32 *eP* Pg 02 03 40.1 -0.1
baz=37
ILA *e*S Sg 02 03 54.8 +0.9
baz=37
TWG Pinlang 1.06 183 *e*Pg Pg 02 03 40.2 -0.3
TWG *e*Sg Sn 02 03 53.8 -0.3
TWG Pinlang 1.06 183⇑*eP* Pg 02 03 40.1 -0.3
baz=179
TWG *e*S Sg 02 03 56.6 +2.2
baz=179
TWGBT Beinan 1.06 183 ⇑P Pn 02 03 40.1 +0.3
baz=179
TWGBT *e*S Sg 02 03 56.4 +1.9
baz=179
CHN3 Shinhua 1.07 222 *eP* Pn 02 03 40.3 +0.3
baz=218
CHN3 *e*S Sg 02 03 56.3 +1.5
baz=218
NCUH Zhongli 1.08 2 *eP* Pg 02 03 40.8 -0.2
baz=6.0
NCUH *e*S Sg 02 03 55.5 +0.3
baz=6.0
NCU National Centr 1.08 2 *eP* Pg 02 03 40.8 -0.2
baz=7.0
NCU *e*S Sg 02 03 55.6 +0.3
baz=7.0
SCLT Jiali 1.11 231 *eP* Pn 02 03 40.1 -0.4
baz=227
SCLT *e*S Sg 02 03 56.7 +0.5
baz=227
TTN Taitung 1.12 179 *eP* Pg 02 03 41.7 0.0
baz=175
EOS1 EOS1 1.12 54 ⇓P Pg 02 03 42.1 +0.3
baz=57
EOS1 *e*S Sg 02 03 58.7 +2.1
baz=57
NHDH Xindian Distri 1.13 18 *eP* Pg 02 03 41.5 -0.5
baz=22
NHDH *e*S Sg 02 03 58.0 +1.2
baz=22
TATO Taipei 1.14 16 *e*Pn Pg 02 03 42.1 +0.1
TATO *e*Sg Sg 02 03 56.5 -0.3
TATO Taipei 1.14 16 *eP* Pg 02 03 41.6 -0.3
baz=20
TATO Taipei 1.14 16 P Pg 02 03 43.3 +1.3
SNR=424
NTC Toucheng 1.16 33⇓*eP* Pb 02 03 41.8 +0.4
baz=37
NTC *e*S Sg 02 03 58.4 +0.9
baz=37
TWA Mucha 1.17 20⇓*eP* Pg 02 03 42.2 -0.4
baz=25
TWA *e*S Sg 02 03 59.7 +1.8
baz=25
TAI1 Yung-k'ang 1.18 225⇓*eP* Pb 02 03 41.6 -0.1
baz=221
TAI1 *e*S Sg 02 03 59.5 +1.2
baz=221
TAP Taipei 1.20 16 *eP* Pg 02 03 42.9 -0.3
baz=20
TAP *e*S Sg 02 04 00.3 +1.4
baz=20
EGS 1.20 37⇓*eP* Pg 02 03 43.2 -0.1
baz=41
EGS *e*S Sg 02 04 04.0 +5.0
baz=41
TAP1 Taipei 1.21 17⇑*eP* Pn 02 03 41.9 +0.1
baz=20
SSD Sandimen 1.22 202 *eP* Pb 02 03 42.7 +0.3
baz=198
SSD *e*S Sg 02 04 00.6 +1.0
baz=198
TWM1 Shoushan 1.24 212⇓*eP* Pg 02 03 43.5 -0.4
baz=208
TWS1 Kuangyinshan 1.24 12 *eP* Pb 02 03 43.1 +0.3
baz=16
TWS1 *e*S Sg 02 04 00.6 +0.3
baz=16
ECL Taimali 1.29 187⇑*eP* Pb 02 03 43.7 +0.1
baz=184
ECL *e*S Sg 02 04 02.4 +0.6
baz=184
SGLT Jiouru 1.29 207 *eP* Pg 02 03 44.9 -0.1
baz=203
NTST Danshui 1.31 13 *eP* Pb 02 03 44.0 0.0
baz=16
NTST *e*S Sg 02 04 02.5 +0.1
baz=16
YM04 YM04 1.32 16 *eP* Pb 02 03 44.2 0.0
baz=19
YM04 *e*S Sg 02 04 02.0 -0.7
baz=19
YM01 YM01 1.32 17⇑*eP* Pb 02 03 44.0 -0.2
baz=21
YM01 *e*S Sg 02 04 02.7 -0.1
baz=21
NWF Wu-fen Shan 1.32 26 *eP* Pg 02 03 45.2 -0.3
baz=30
NWF *e*S Sg 02 04 04.3 +1.4
baz=30
WFSB Wu-fen Shan 1.32 26⇑*eP* Pg 02 03 45.2 -0.3
baz=30
WFSB *e*S Sg 02 04 02.7 -0.2
baz=30
YM05 YM05 1.34 17⇑*eP* Pb 02 03 44.4 -0.1
baz=20
YM05 *e*S Sg 02 04 03.2 -0.1
baz=20
YM11 YM11 1.34 17⇑*eP* Pb 02 03 44.4 -0.1
baz=21
YM11 *e*S Sg 02 04 03.1 -0.3
baz=21
SNJT Kaohsiung City 1.34 213⇓*eP* Pb 02 03 44.7 +0.2
baz=210
SNJT *e*S Sn 02 04 00.9 -0.2
baz=210
YM03 YM03 1.34 16 *eP* Pb 02 03 44.5 -0.1
baz=19
YM03 *e*S Sg 02 04 04.7 +1.2
baz=19
MASBT Mashibuluo 1.34 200⇑*eP* Pb 02 03 44.5 -0.1
baz=197
ANP Anpu 1.35 15 *eP* Pb 02 03 44.5 -0.1
baz=19
ANP *e*S Sg 02 04 04.1 +0.5
baz=19
YM07 YM07 1.36 19⇑*eP* Pb 02 03 44.7 -0.2
baz=22
TWB1 Santiao Chiao 1.36 35⇓*eP* Pg 02 03 45.7 -0.6
baz=38
TWB1 *e*S Sg 02 04 04.1 -0.1
baz=38
TWY Chenhua 1.45 17 *eP* Pb 02 03 46.3 -0.1
baz=20
PHUB P'eng-hu 1.48 256 ⇓P Pn 02 03 44.3 -1.3
baz=254
PHUB *e*S Sn 02 04 03.2 -1.2
baz=254
PNG Penghu 1.48 258⇓*eP* Pn 02 03 44.3 -1.4
baz=256
PNG *e*S Sn 02 04 03.7 -0.8
baz=256
SSPT Xinbi 1.49 201⇑*eP* Pb 02 03 46.7 -0.2
baz=198
SSPT *e*S Sg 02 04 07.0 -1.0
baz=198
WDGT Dungji 1.49 246 ⇓P Pn 02 03 44.6 -1.1
baz=243
WDGT *e*S Sn 02 04 04.3 -0.3
baz=243
KAU Kaohsiung 1.51 210 *eP* Pb 02 03 47.1 -0.3
baz=207
EAST Anshuo 1.52 190⇑*eP* Pb 02 03 47.4 -0.1
baz=187
EAST *e*S Sg 02 04 10.1 +1.2
baz=187
TAW Tawu 1.53 188 *eP* Pb 02 03 47.2 -0.5
baz=185
TAW *e*S Sg 02 04 09.8 +0.4
baz=185
SCZT Fangliau 1.58 198⇑*eP* Pb 02 03 47.8 -0.7
baz=194
SCZT *e*S Sg 02 04 10.2 -0.7
baz=194
WLCH Liuqiu 1.68 205 *eP* Pb 02 03 50.5 +0.3
baz=202
TWP Hsiaoliuchiu 1.69 205 *eP* Pb 02 03 50.1 -0.3
baz=202
VCHM Qimei 1.70 247⇓*eP* Pn 02 03 47.5 -1.2
baz=245
VCHM *e*S Sn 02 04 10.0 +0.1
baz=245
JYNG Yonaguni jima 1.75 71 P Pb 02 03 50.8 -0.6
JYNG *e*S Sb 02 04 12.1 -0.9
YOJ Yonaguni jima 1.81 71 *e*Pn Pn 02 03 51.1 +1.0
YOJ *e*Sn Sb 02 04 14.1 -0.7
YOJ Yonaguni jima 1.81 71 *eP* Pb 02 03 51.7 -0.8
baz=72
YOJ Yonaguni jima 1.81 71 *eP* Pn 02 03 51.1 +1.0
YOJ *e* 02 04 14.1
YOJ Yonaguni jima 1.81 71 P Pb 02 03 51.6 -0.8
YOJ *e*S Sb 02 04 14.1 -0.7
LAY Lan-yu 1.87 168⇑*eP* Pn 02 03 51.1 0.0
baz=166
LAY *e*S Sb 02 04 17.3 +0.6
baz=166
VWUC VWUC 1.89 306⇓*eP* Pn 02 03 49.0 -2.3
baz=307
HEN Hengchun 1.90 191⇑*eP* Pn 02 03 52.7 +1.3
baz=189
PCYT Pengchaiyu 1.94 26 *eP* Pn 02 03 53.2 +1.3
baz=29
TWK1 Hengchun 1.95 189 *eP* Pn 02 03 53.1 +1.0
baz=186
TWKBT Hengchun 1.96 189⇑*eP* Pn 02 03 53.2 +1.1
baz=186
TSEB Hengchuen, Pin 1.98 186 *eP* Pb 02 03 54.5 -1.0
baz=185
IRIF Iriomote-Funau 2.41 79 ⇑P Pn 02 04 00.3 +1.8
IRIF *e*S Sn 02 04 29.3 +1.8
HATJ Hateruma jima 2.45 85 P Pn 02 04 00.5 +1.6
HATJ *e*S Sn 02 04 29.8 +1.4
MATB Ma-tsu 2.50 335⇓*eP* Pn 02 03 57.9 -1.9
baz=335
KNM Kinmen 2.52 283⇓*eP* Pn 02 03 59.9 -0.1
baz=281
KNM *e*S Sn 02 04 32.2 +2.0
baz=281
QZH Quanzhou 2.55 295⇓*i*Pn Pn 02 03 58.0 -2.3
QZH Sn Sn 02 04 30.0 -0.8
KNMB Chin-men Tao 2.58 284⇓*eP* Pn 02 03 58.7 -2.0
baz=283
JKRS Kuro-shima 2.65 82 P Pn 02 04 03.7 +2.0
JKRS *e*S Sn 02 04 34.4 +1.0
JIJ Ishigaki jima 2.79 79 P Pn 02 04 05.0 +1.4
JIJ *e*S Sn 02 04 38.0 +1.2
JISG Ishigakijimahi 2.98 76 P Pn 02 04 07.5 +1.2
JISG *e*S Sn 02 04 42.9 +1.3
JTJ Tarama 3.34 76 P Pn 02 04 12.9 +1.7
JIRB Irabujima 3.80 75 P Pn 02 04 19.5 +2.0
JIKM Ikemajima 3.89 74 P Pn 02 04 21.4 +2.6
JMJ Miyako jima 2 3.91 75 *eP* Pn 02 04 21.7 +2.7
baz=77
JOGS Gusukube 3.99 76 P Pn 02 04 22.7 +2.5
VDOS Pratas Island 5.16 233 *eP* Pn 02 04 36.4 +0.2
baz=231
VDOS *e*S Sn 02 05 34.7 -0.7
baz=231
APYP Conner 5.99 179 *eP* Pn 02 04 49.2 +1.6
CVP Callao Caves 6.18 174 *eP* Pn 02 04 51.4 +1.1
ABRA Dolores 6.21 184 *eP* Pn 02 04 53.6 +2.9
HKC Hong Kong Obse 6.60 258 P Pn 02 04 56.0 0.0
JOW Kunigami 7.09 64 *e*Pn Pn 02 05 03.4 +0.6
JOW Kunigami 7.09 64 *eP* Pn 02 05 03.7 +0.8
baz=66
JOW Kunigami 7.09 64 P Pn 02 05 03.6 +0.8
JOW Kunigami 7.09 64 Pn Pn 02 05 03.2 +0.3
7.8nm,0.3s,baz=189,slow=15,SNR=30
JOW Sn Sn 02 06 23.6 +0.6
baz=240,slow=20,SNR=1.2
SSE Sheshan 7.19 0 P Pn 02 05 03.5 -0.5
SSE S Sn 02 06 32.5 +7.3
SSE Sheshan 7.19 0 *e*Pn Pn 02 05 03.6 -0.5
SSE *e*Sn Sn 02 06 26.4 +1.2
GZH Guangzhou 7.20 265 P Pn 02 04 58.8 -5.4
GZH smax smax
comp=N,15μm,1.0s
GZH smax smax
comp=E,15μm,1.0s
MCO Taipa Grande 7.20 257 P Pn 02 05 04.0 -0.2
BOLP Bolinao 7.55 189 *eP* Pn 02 05 14.2 +5.1
BALP Baler 8.11 177 *eP* Pn 02 05 17.9 +1.1
NJ2 Nanjing 8.38 347 *eP* Pn 02 05 18.5 -2.0
NJ2 S Sn 02 06 49.5 -5.2
NJ2 pmax pmax
comp=Z,120nm,0.5s
NJ2 smax smax
comp=N,9μm,1.3s
NJ2 smax smax
comp=E,8μm,0.9s
NJ2 LR LR
comp=N,218μm,10.8s
NJ2 LR LR
comp=E,99μm,7.6s
NJ2 LR LR
comp=Z,227μm,11.9s
WHN Wuhan 8.97 319 ⇑P Pn 02 05 26.5 -2.0

WHN S **Sn** **02 07 00.8 -8.3**
WHN LR LR
comp=N,373µm,6.2s
JMZ **Minamidaito 2** **9.36 76** P **Pn** **02 05 31.5 -2.4**
TGY **Tagaytay City** **9.73 181** Pn **Pn** **02 05 43.0 +3.9**
71nm,0.3s,baz=107,slow=17,SNR=1.8
TGY LR LR 02 10 21.4
comp=Z,71µm,18.6s,baz=20,slow=44
JFU **Fukue jima 2** **11.02 36** P **Pn** **02 06 00.2 +3.6**
JSU **Suzuyama** **11.21 45** P **Pn** **02 06 03.5 +4.2**
SJMP **San Jose** **11.36 180** *e*P **Pn** **02 06 05.9 +4.6**
QIZ **Qiongzhong** **11.57 247** P **Pn** **02 06 03.8 -0.4**
QIZ S **Sn** **02 08 13.8 +0.8**
QIZ LR LR
comp=N,86µm,16.3s
QIZ LR LR
comp=E,42µm,11.7s
QIZ LR LR
comp=Z,76µm,14.9s
QIZ **Qiongzhong** **11.57 247** *e*Pn **Pn** **02 06 07.4 +3.2**
QIZ *e*Sn **Sn** **02 08 05.8 -7.1**
CNP **Catarman** **11.79 163** *e*P **Pn** **02 06 11.9 +4.6**
ENH **Enshi** **12.17 304** *e*Pn **Pn** **02 06 12.6 +0.2**
RCP **Roxas** **12.35 173**⇑ *e*P **Pn** **02 06 18.9 +4.0**
JNU **Nakatsue** **12.57 41** *e*Pn **Pn** **02 06 21.9 +4.1**
JNU *e*Sn **Sn** **02 08 40.0 +2.6**
JNU **Nakatsue** **12.57 41** Pn **Pn** **02 06 20.9 +3.1**
4.1nm,0.3s,baz=226,slow=10,SNR=32
JNU LR LR 02 12 09.8
comp=Z,47µm,19.7s,baz=222,slow=42
ENPP **El Nido** **12.71 188** *e*P **Pn** **02 06 22.8 +2.9**
TIA **Tai'an** **12.77 345** P **Pn** **02 06 19.8 -0.7**
TIA S **Sn** **02 08 50.5 +8.3**
TIA LR LR
comp=N,60µm,11.4s
TIA LR LR
comp=E,12µm,6.3s
TIA LR LR
comp=Z,82µm,12.8s
JTU **Tsushima** **12.82 32** P P 02 06 26.9 -5.2
PLP **Palo** **13.17 163**⇑ *e*P **Pn** **02 06 28.9 +2.8**
GUIM **Jordan** **13.26 174** *e*P **Pn** **02 06 28.1 +0.8**
GYA **Guiyang** **13.35 284**⇑ *i*P **Pn** **02 06 27.5 -1.2**
GYA pP P 02 06 35.5 -2.7
GYA PP **PnPn** **02 06 41.3 +4.7**
GYA S **Sn** **02 08 51.8 -5.0**
GYA sS S 02 09 07.5 -13
GYA SS **SnSn** **02 09 16.0 +6.9**
GYA pmax pmax
comp=Z,280nm,1.2s
GYA pmax pmax
comp=Z,3µm,7.2s
GYA LR LR
comp=N,68µm,10.6s
GYA LR LR
comp=E,177µm,14.5s
GYA LR LR
comp=Z,223µm,13.0s
TJN **Taejon** **13.56 22**⇑ *e*P **Pn** **02 06 33.4 +2.0**
LLP **Lapu-Lapu** **13.76 168** *e*P **P** **02 06 40.6 -2.0**
LLP *e*S **S** **02 09 35.4 +6.5**
MSLP **Maasin** **14.13 165** *e*P **P** **02 06 44.0 -2.7**
KS15 **Wonju Array Si** **14.70 22** *e*Pn **Pn** **02 06 47.0 0.0**
XAN **Xi'an** **14.71 316** P **Pn** **02 06 45.8 -1.3**
XAN sP P 02 06 54.5 +1.4
XAN PP **PnPn** **02 06 57.3 +2.1**
XAN S **Sn** **02 09 26.5 -3.1**
XAN SS **S** **02 09 47.3 -1.0**
XAN pmax pmax
comp=Z,2µm,8.5s
XAN LR LR
comp=N,142µm,10.9s
XAN LR LR
comp=E,167µm,11.4s
XAN LR LR
comp=Z,205µm,14.2s
XAN **Xi'an** **14.71 316** *e*Pn **Pn** **02 06 46.3 -0.8**
XAN **Xi'an** **14.71 316** *e*P **Pn** **02 06 46.3 -0.8**
KSRS **Korea Array** **14.73 22** Pn **Pn** **02 06 48.5 +1.2**
0.4nm,0.3s,baz=209,slow=13,SNR=18
KSRS LR LR 02 12 45.8
comp=Z,24µm,20.4s,baz=202,slow=38
KS01 **Wonju Array Si** **14.74 22** *e*Pn **P** **02 06 50.5 -2.9**
JMN **Monobe** **14.85 46** P **Pn** **02 06 45.5 -3.6**
DL2 **Dalian** **14.98 1** P **P** **02 06 56.5 +0.4**
DL2 S **S** **02 09 46.5 -7.3**
DL2 pmax pmax
comp=Z,300nm,1.3s
DL2 pmax pmax
comp=Z,3µm,7.9s
DL2 LR LR
comp=N,55µm,15.6s
DL2 LR LR
comp=E,26µm,16.5s
DL2 LR LR
comp=Z,59µm,14.3s
JHS **Saijyo** **15.21 41** P **Pn** **02 06 53.8 +0.1**
BATP **Bataraza** **15.34 193** *e*P **Pn** **02 06 54.7 -0.8**
TIY **Taiyuan** **15.67 334** *e*P **Pn** **02 07 00.3 +0.4**
TIY PP **sP** **02 07 13.0 +0.6**
TIY S **Sn** **02 09 56.5 +3.4**
TIY SS **S** **02 10 12.5 +4.5**
TIY ScS **ScS** **02 19 15.3 +3.0**
TIY pmax pmax
comp=Z,2µm,5.2s
TIY LR LR
comp=N,180µm,12.8s
TIY LR LR
comp=E,106µm,9.6s
TIY LR LR
comp=Z,181µm,14.1s
CGP **Cagayan de Oro** **15.71 167** *e*P **P** **02 07 07.4 +3.0**
PAGZ **Pagadian** **16.09 172** *e*P **Pn** **02 07 01.1 -4.2**
BUKP **Musuan** **16.35 166** *e*P **Pn** **02 07 09.9 +1.3**
BJT **Baijiatuau** **16.63 347** *e*Pn **P** **02 07 14.4 +0.1**
303nm,1.1s
BJT **Baijiatuau** **16.63 347** *e*P **P** **02 07 14.4 +0.1**
BJT pmax pmax
comp=Z,303nm,1.1s
BJI **Beijing** **16.65 347** P **P** **02 07 13.8 -0.7**
BJI S **Sn** **02 10 17.3 +0.7**
KMI **Kunming** **16.79 278** P **Pn** **02 07 13.0 -1.4**
KMI pP P 02 07 18.0 +1.5
KMI sP pP 02 07 20.8 -1.4
KMI PP **sP** **02 07 28.0 +2.9**
KMI pmax pmax
comp=Z,3µm,6.2s
KMI LR LR
comp=Z,46µm,10.2s
KMI LR LR
comp=Z,282µm,10.3s
KMI **Kunming** **16.79 278** *e*Pn **P** **02 07 18.3 +1.8**
comp=Z,304nm,1.2s
KMI **Kunming** **16.79 278** *e*P **P** **02 07 18.3 +1.8**
KMI pmax pmax
comp=Z,304nm,1.2s
CTBH **Cotabato--PC H** **16.83 169**⇑ *i*P **P** **02 07 18.3 +1.5**
CD2 **Chengdu** **16.93 298**⇑ *i*P **Pn** **02 07 15.8 -0.2**
CD2 pP pP 02 07 25.0 +1.6
CD2 S **Sn** **02 10 27.8 +4.0**
CD2 SS **SnSn** **02 10 44.8 +7.7**
CD2 pmax pmax
comp=Z,1µm,1.0s
CD2 pmax pmax
comp=Z,7µm,4.0s
KCP **Kidapawan** **17.20 167**⇑ *e*P **P** **02 07 20.5 -0.5**
DAV **Davao City (W)** **17.25 165**⇑ *i*P **Pn** **02 07 19.2 -0.8**
DAV **Davao City (W)** **17.25 165** LR LR 02 13 42.0
comp=Z,36µm,20.3s,baz=341,slow=36
KDM **Kudat** **17.37 194** P P 02 07 35.5 +13
KDM **Kudat** **17.37 194** P **P** **02 07 26.5 +3.8**
SKNT **Sakolnakorn** **17.48 250** P **P** **02 07 25.5 +1.6**
comp=Z,96nm,1.5s,comp=Z,4µmcomp=Z,10µm
SKMP **Bagumbayan, Su** **17.57 169** *e*P **Pn** **02 07 22.8 -1.2**
INU **Inuyama** **17.90 47** *e*Pn **P** **02 07 28.3 -0.1**
comp=Z,85nm,1.0s
SNY **Shenyang** **18.01 6**⇑ P **P** **02 07 31.3 +1.7**
SNY pmax pmax
comp=Z,17µm,5.4s
SNY LR LR
comp=Z,53µm,12.7s
SNY LR LR
comp=Z,19µm,10.8s
SNY LR LR
comp=Z,76µm,12.8s
KKM **Kota Kinabalu** **18.36 196** *e*P **Pn** **02 07 35.2 +1.4**
comp=Z,1µm,1.5s
KKM **Kota Kinabalu** **18.36 196** P **Pn** **02 07 36.7 +2.9**
SDKM **Sandakan** **18.53 192** P **Pn** **02 07 40.0 +4.3**
JGN **Niukaw** **18.61 45** P **Pn** **02 07 37.3 +0.6**
HHC **Hu-ho-hao-te** **18.73 337** *e*P **Pn** **02 07 40.5 +2.4**
HHC sP sP 02 07 48.8 +2.5
HHC PP **PnPn** **02 07 57.3 +7.0**
HHC S **Sn** **02 11 07.3 +0.1**
HHC pmax pmax
comp=Z,100nm,1.5s
HHC pmax pmax
comp=Z,9µm,5.9s
HHC LR LR
comp=Z,101µm,12.5s
HHC LR LR
comp=Z,24µm,12.6s
HHC LR LR
comp=Z,81µm,14.7s
JHJ **Hachijo jima 2** **18.77 56** P **Pn** **02 07 38.9 +0.3**
comp=Z,47nm,0.3s,baz=204,slow=9.2,SNR=20
JHJ LR LR 02 14 49.7
comp=Z,26µm,20.3s,baz=250,slow=37
JHJ2 **Mitsune** **18.80 57** *e*P **Pn** **02 07 40.5 +1.6**
comp=Z,1µm,0.9s
JYN **Shimob** **19.01 49** P **Pn** **02 07 42.6 +1.0**
BTO **Baotou** **19.11 333** *e*P **Pn** **02 07 44.0 +1.2**
BTO S **Sn** **02 11 17.0 +0.5**
JNG **Nsakai** **19.23 46** P **Pn** **02 07 46.1 +1.9**
LZH **Lanzhou** **19.26 313**⇓ *i*P **Pn** **02 07 45.5 +0.9**
LZH pP pP 02 07 50.0 +0.8
LZH sP sP 02 07 52.5 +0.5
LZH PP **PnPn** **02 08 04.3 +6.6**
LZH *e*S **Sn** **02 11 19.0 -1.2**
LZH sS sS 02 11 25.5 -4.1
LZH SS **SnSn** **02 11 43.5 +9.1**
LZH pmax pmax
comp=Z,14µm,4.6s
JOD2 **Odawara 2** **19.27 50** P **Pn** **02 07 45.3 +0.7**
JCJ **Chichijima** **19.27 76** P **P** **02 07 43.2 -0.3**
comp=Z,32nn,0.3s,baz=277,slow=5.6,SNR=17
JCJ LR LR 02 14 37.2
comp=Z,28µm,20.6s,baz=256,slow=35
MAJO **Matsushiro** **19.38 45** *e*P **P** **02 07 43.0 -1.7**
comp=Z,218nm,1.6s
MAJO **Matsushiro** **19.38 45** *c e*P **P** **02 07 43.0 -1.7**
MAJO pmax pmax
comp=Z,41nm,0.9s
MAJO **Matsushiro** **19.38 45** *e*P **P** **02 07 42.5 -2.2**
MAT **Matsushiro** **19.38 45** P **P** **02 07 43.7 -1.0**
MAT S **S** **02 11 25.6 +2.4**
MJB9 **Matsu-Tunnel** **19.38 45** *e*P **P** **02 07 42.8 -2.0**
comp=Z,202nm,1.5s
MJAR **Matsushiro Arr** **19.38 45** P **P** **02 07 43.6 -1.1**
comp=Z,0.3nm,0.3s,baz=239,slow=10,SNR=20
MJAR ScP **ScP** **02 15 39.5 -1.9**
baz=245,slow=4.8,SNR=5.8
MJAR LR LR 02 15 54.7
comp=Z,31µm,21.5s,baz=235,slow=39
JRY **Ryogami san** **19.54 48** P **P** **02 07 46.9 +0.4**
TSM **Tawau** **19.73 190** P **Pn** **02 07 49.5 -0.7**
CN2 **Changchun** **20.18 9**⇑ P **P** **02 07 54.3 +0.9**
CN2 *e*pP pP 02 07 59.5 +0.4
CN2 *e*S **S** **02 11 36.0 -3.2**
CN2 LR LR
comp=Z,58µm,15.0s
CN2 LR LR
comp=Z,44µm,15.0s
CN2 LR LR
comp=Z,66µm,16.0s
PBKT **Sadao Pong** **20.26 253** P Pn 02 07 55.8 -0.6
comp=Z,434nm,1.8s,comp=Z,8µm
JSD **Sado** **20.32 42** P **P** **02 07 54.3 -0.6**
MSHR **Mys Shultsa** **20.42 22**⇓ *e*P **P** **02 07 56.1 +0.1**
I39PW **PALAU INFRASON** **20.73 139** *i*
baz=324,slow=318,SNR=0.7 04 10 40.0
VLA **Vladivostok** **21.14 22** *c i*P **P** **02 08 04.6 +0.8**
VLA pmax pmax
comp=Z,207nm,1.9s
CMMT **Chiang Mai** **21.26 261** P **P** **02 08 06.3 +0.9**
comp=Z,176nm,1.8s,comp=Z,6µm
CHTO **Chiang Mai** **21.27 261** *e*P **P** **02 08 06.4 +1.0**
comp=Z,182nm,1.0s
CHTO LR LR
comp=Z,21µm,22.0s
CHTO **Chiang Mai** **21.27 261** *e*P **P** **02 08 06.4 +1.0**
CHTO pmax pmax
comp=Z,182nm,1.0s
CHTO MLR MLR
comp=Z,21µm,22.0s
CHTO **Chiang Mai** **21.27 261** *e*P **P** **02 08 06.4 +1.0**
CM01 **Chiang Mai Arr** **21.37 259** *e*P **P** **02 08 06.2 -0.3**
CM01 *e*S Sn 02 12 10.9 -0.2
CM31 **Chiang Mai Arr** **21.38 260** *e*P **P** **02 08 08.3 +1.7**
comp=Z,164nm,1.0s
CMAR **Chiang Mai Arr** **21.38 260** *c e*P **P** **02 08 07.5 +0.9**
CMAR pmax pmax
comp=Z,66nm,0.9s
CMAR **Chiang Mai Arr** **21.38 260** P **P** **02 08 07.0 +0.4**
comp=Z,66nm,0.9s,baz=62,slow=9.1,SNR=61
CMAR PcP **PcP** **02 12 09.4 -0.8**
comp=Z,8.8nm,0.7s,baz=29,slow=0.9,SNR=10.0
CMAR LR LR 02 17 09.7
comp=Z,27µm,20.1s,baz=70,slow=39
MDJ **Mudanjiang** **21.81 16** P **P** **02 08 11.3 +0.4**
MDJ S **S** **02 12 13.5 +2.2**
MDJ pmax pmax
comp=Z,2µm,7.7s
MDJ LR LR
comp=Z,30µm,16.6s
MDJ LR LR
comp=Z,59µm,15.4s
MDJ LR LR
comp=Z,52µm,17.6s
MDJ **Mudanjiang** **21.81 16** *e*P **P** **02 08 11.3 +0.4**
comp=Z,282nm,1.3s
MDJ LR LR
comp=Z,26µm,18.0s
BTM **Bintulu** **21.98 202** P **P** **02 08 17.7 +4.6**
USA0B **Ussuriysk Arra** **22.13 21** *e*P **P** **02 08 15.2 +0.8**
comp=Z,321nm,1.4s
USA0B LR LR
comp=Z,22µm,18.0s
USA0B **Ussuriysk Arra** **22.13 21** *e*P **P** **02 08 15.3 +0.8**
USA0B pmax pmax
comp=Z,321nm,1.4s
USA0B MLR MLR
comp=Z,22µm,18.0s
USRK **Ussuriysk Ar.** **22.13 21** P **P** **02 08 14.6 +0.2**
comp=Z,29nm,0.7s,baz=215,slow=9.2,SNR=24
USRK LR LR 02 17 19.5
comp=Z,19µm,19.9s,baz=185,slow=38
SRDT **SRDT** **22.83 249** P **P** **02 08 24.3 +2.2**
comp=Z,193nm,1.9s,comp=Z,8µm
SBUM **Sibu** **22.98 203** *e*P **P** **02 08 22.6 -1.1**
comp=Z,343nm,1.5s
SBUM LR LR
comp=Z,15µm,18.0s
SBUM **Sibu** **22.98 203** P **P** **02 08 23.8 +0.1**
JOM **Ohasama** **23.07 43** P **P** **02 08 21.5 -2.9**
MRSI **Marisa** **23.28 178** P **P** **02 08 25.5 -1.2**
KMSI **Cibinong** **23.33 173** P **P** **02 08 26.6 -0.6**
MPSI **Mapaga** **23.43 183** P **P** **02 08 26.2 -2.0**
comp=Z,100nm,1.9s,comp=Z,3µm
JTM **Tenmabayashi** **23.74 40** P **P** **02 08 28.0 -3.0**
TNTI **Ternate** **23.75 164** *e*P **P** **02 08 28.5 -2.8**
comp=Z,410nm,1.4s
TNTI **Ternate** **23.75 164** P **P** **02 08 27.7 -3.6**
comp=Z,181nm,1.1s,comp=Z,4µmcomp=Z,7µm
GTA **Gaotai** **23.77 316** ⇓P **P** **02 08 31.5 0.0**
GTA pP pP 02 08 38.3 +0.9
GTA sP sP 02 08 41.5 +1.1
GTA S **S** **02 12 47.5 +1.3**
GTA sS sS 02 12 55.5 +0.1
GTA pmax pmax
comp=Z,2µm,5.1s
GTA LR LR
comp=Z,40µm,15.9s
GTA LR LR
comp=Z,38µm,15.9s
GTA LR LR
comp=Z,26µm,15.2s
SARN **Sarigan** **24.17 103** *e*P **P** **02 08 36.4 +1.1**
comp=Z,662nm,1.8s
SARN LR LR
comp=Z,9µm,20.0s
ANA2 **Anatahan** **24.24 103** *e*P **P** **02 08 36.8 +0.8**
comp=Z,290nm,1.1s
ANA2 LR LR
comp=Z,14µm,20.0s
SMKI **Samarinda** **24.48 190** P **P** **02 08 39.4 +1.3**
comp=Z,314nm,1.6s,comp=Z,11µmcomp=Z,17µm
SGKI **Sangatta, Kali** **24.51 189** P P 02 08 29.2 -9.2
TEY **Ternei** **24.57 27**⇓ *e*P P 02 08 30.9 -7.8
TEY *e*S **S** **02 12 53.0 -5.7**
TEY pmax pmax
comp=Z,10.0nm,0.9s
TEY pmax pmax
comp=Z,60nm,2.1s
TEY pmax pmax
comp=N,40nm,2.0s
TEY MLR MLR
comp=E,19µm,13.0s
TEY MLR MLR
comp=N,12µm,14.0s
TEY MLR MLR
comp=Z,30µm,16.0s
KSM **Kuching** **24.62 207** *e*P **P** **02 08 39.1 -0.3**
comp=Z,549nm,1.6s
KSM LR LR
comp=Z,14µm,21.0s
KSM **Kuching** **24.62 207** P **P** **02 08 39.9 +0.5**
APSI **Ampana** **24.65 179** P **P** **02 08 38.7 -0.9**
GUMO **Guam** **24.66 110** *e*P **P** **02 08 39.8 0.0**
comp=Z,3µm,1.3s
GUMO LR LR
comp=Z,22µm,20.0s
GUMO **Guam** **24.66 110** *e*P **P** **02 08 39.8 0.0**
GUMO pmax pmax
comp=Z,3µm,1.3s
GUMO MLR MLR
comp=Z,22µm,20.0s
GUMO **Guam** **24.66 110** P **P** **02 08 39.7 -0.1**
comp=Z,304nm,1.0s,baz=164,slow=7.4,SNR=7.1
GUMO LR LR 02 17 57.9
comp=Z,23µm,19.5s,baz=262,slow=36
LUWI **Luwuk** **24.82 176** *e*P **P** **02 08 38.3 -2.9**
comp=Z,2µm,1.4s
LUWI LR LR
comp=Z,17µm,22.0s
LUWI **Luwuk** **24.82 176** P **P** **02 08 36.3 -4.9**
KTGM **Kuala Trenggan** **25.31 226** P **P** **02 08 48.3 +2.6**
HIA **Hailar** **25.36 358** *e*P **P** **02 08 44.7 -1.1**
comp=Z,353nm,1.3s
HIA LR LR
comp=Z,31µm,20.0s
HIA **Hailar** **25.36 358** *e*P **P** **02 08 44.7 -1.1**
HIA pmax pmax
comp=Z,353nm,1.3s
HIA MLR MLR
comp=Z,31µm,20.0s
MTKI **Muara Teweh, K** **25.41 195** P **P** **02 08 45.6 -0.9**
ERM **Erimo** **25.73 40** *e*P **P** **02 08 46.5 -2.7**
comp=Z,88nm,1.0s
ERM LR LR
comp=Z,25µm,19.0s
ERM **Erimo** **25.73 40** *c i*P **P** **02 08 47.1 -2.1**
ERM pmax pmax
comp=Z,26nm,1.0s
SKLT **Songkhla** **25.76 233** P P 02 08 58.3 +8.6
TRTT **Trang** **26.01 236** P **P** **02 08 55.8 +3.8**
comp=Z,31nm,1.3s,comp=Z,1µm
SANI **Sanana** **26.20 169** P **P** **02 08 50.1 -3.6**
ULN **Ulaanbaatar** **26.43 338** *e*P **P** **02 08 56.1 +0.4**
comp=Z,864nm,1.7s
ULN LR LR
comp=Z,60µm,18.0s
ULN **Ulaanbaatar** **26.43 338** *e*P **P** **02 08 56.1 +0.4**
ULN pmax pmax
comp=Z,864nm,1.7s
ULN MLR MLR
comp=Z,60µm,18.0s
ULN **Ulaanbaatar** **26.43 338** P **P** **02 08 56.2 +0.5**
SNR=200
SIJI **Sorong** **26.50 157** P **P** **02 08 55.6 -0.8**
comp=Z,30nm,0.7s,baz=335,slow=8.1,SNR=12
SHL **Shillong** **26.60 280** *e*P **P** **02 08 58.0 +0.5**
comp=Z,516nm,1.2s
SHL LR LR
comp=Z,15µm,20.0s
SHL **Shillong** **26.60 280** *e*P **P** **02 08 58.0 +0.5**
SHL pmax pmax
comp=Z,516nm,1.2s
SHL MLR MLR
comp=Z,15µm,20.0s
SHL **Shillong** **26.60 280** *e*P **P** **02 08 57.8 +0.3**
SHL IAmb IAmb 02 09 02.0
comp=Z,377nm,1.5s
SHL *i* x x 02 12 32.0
SONM **Songino Array** **26.63 338** P **P** **02 08 57.7 +0.2**
comp=Z,32nn,0.8s,baz=159,slow=8.9,SNR=62
SONM PcP **PcP** **02 12 22.7 +1.5**
comp=Z,3.3nm,0.6s,baz=172,slow=3.3,SNR=6.2
SONM ScP **ScP** **02 15 59.3 -1.1**
comp=Z,2.5nm,0.8s,baz=152,slow=2.2,SNR=2.7
SONM LR LR 02 20 59.7
comp=Z,51µm,18.1s,baz=150,slow=40
SONM P3KPbc 02 41 39.5
comp=Z,0.1nm,0.4s,baz=264,slow=0.3,SNR=3.7
KLR **Kul'dur** **26.64 16** *c i*P **P** **02 08 57.0 -0.4**
KLR **Kul'dur** **26.64 16** P **P** **02 08 57.7 +0.3**
comp=Z,19nm,0.7s,baz=209,slow=7.2,SNR=48
KLR PcP **PcP** **02 12 21.5 +0.5**
comp=Z,21nm,1.0s,baz=204,slow=4.3,SNR=6.1
KLR LR LR 02 20 19.5
comp=Z,23µm,19.6s,baz=198,slow=38
ASAJ **Asahikawa** **26.76 36** P **P** **02 08 58.4 -0.2**
comp=Z,16nm,0.6s,baz=215,slow=9.2,SNR=9.3
ASAJ ScP **ScP** **02 15 59.3 -1.4**
comp=Z,11nm,0.8s,baz=233,slow=5.1,SNR=4.5
ASAJ LR LR 02 20 07.1
comp=Z,38µm,19.2s,baz=241,slow=38
PKDT **Phuket** **27.02 238** P **P** **02 09 07.1 +6.0**
KULM **Kulim** **27.03 230** *e*P **P** **02 09 03.4 +2.1**
comp=Z,161nm,1.4s
KULM LR LR
comp=Z,22µm,21.0s
KULM **Kulim** **27.03 230** P **P** **02 09 03.6 +2.4**
BRDH **Bariadhala** **27.10 273** P **P** **02 09 00.8 -1.0**
comp=Z,68nm,0.8s,baz=75,slow=9.5,SNR=17
BRDH LR LR 02 22 16.5
comp=Z,22µm,18.1s,baz=104,slow=42
JMP **Maruseppu** **27.11 37** P **P** **02 09 03.1 +1.4**
LSA **Lhasa** **27.34 289** P **P** **02 09 06.3 +1.8**
LSA S **S** **02 13 49.8 +5.9**
LSA LR LR
comp=Z,18µm,16.7s
LSA LR LR
comp=Z,70µm,16.7s
LSA **Lhasa** **27.34 289** *e*P **P** **02 09 06.2 +1.7**
comp=Z,837nm,1.9s
LSA LR LR
comp=Z,59µm,18.0s
LSA **Lhasa** **27.34 289** *i* P **P** **02 09 05.2 +0.7**
SNR=59
LSA **Lhasa** **27.34 289** *e*P **P** **02 09 06.2 +1.7**
LSA pmax pmax
comp=Z,837nm,1.9s
LSA MLR MLR
comp=Z,59µm,18.0s
IPM **Ipoh** **27.35 228** *e*P **P** **02 09 05.4 +1.3**
comp=Z,246nm,1.3s
IPM LR LR
comp=Z,16µm,21.0s
IPM **Ipoh** **27.35 228** P **P** **02 09 05.7 +1.6**
MYKOM **Kota Tinggi** **27.61 220** *e*P **P** **02 09 07.4 +1.0**
comp=Z,371nm,1.7s
MYKOM LR LR
comp=Z,13µm,22.0s
MYKOM **Kota Tinggi** **27.61 220** P **P** **02 09 09.3 +2.9**
KDI **Kendari** **27.71 177** P **P** **02 09 02.2 -5.0**
comp=Z,51nn,0.8s,comp=Z,2µm
SPSI **Sidrap Palu** **27.71 183** P **P** **02 09 04.5 -2.7**
comp=Z,59nn,1.2s,comp=Z,2µm
KGM **Kluang** **27.75 221** P **P** **02 09 10.8 +3.1**
TPRI **Tanjung Pinang** **27.93 218** P **P** **02 09 09.9 +0.6**
BNSI **Bone** **28.13 182** P P 02 09 05.7 -5.3
comp=Z,118nm,1.9s,comp=Z,3µm
YUK **Yuzh-Kuril'sk** **28.53 39** *c i*P **P** **02 09 09.8 -4.6**
YUK *i* 02 12 20.4
YUK *i* S **S** **02 13 55.9 -5.5**
YUK *e**SS **pS** **02 14 07.4 -0.9**

YUK pmax pmax
comp=E,129nm,1.0s
YUK pmax pmax
comp=Z,239nm,1.0s
YUK pmax pmax
comp=N,131nm,1.1s
YUK pmax pmax
comp=Z,301nm,2.0s
CIT Chita 28.69 350 *e*P **P** **02 09 15.7 -0.1**
CIT *e* 02 09 27.0
CIT *e* 02 10 04.2
CIT pmax pmax
comp=Z,564nm,1.8s
DGPR DIGLIPUR 28.73 253 *e*P **P** **02 09 16.6 +0.2**
DGPR IAmb IAmb 02 09 25.1
comp=Z,72μm,10.7s
KAPI Kappang 28.75 183 *e*P **P** **02 09 15.3 -1.2**
comp=Z,158nm,1.3s
KAPI LR LR
comp=Z,10μm,20.0s
KAPI Kappang 28.75 183 *e*P **P** **02 09 15.3 -1.2**
KAPI pmax pmax
comp=Z,158nm,1.3s
KAPI MLR MLR
comp=Z,10μm,20.0s
KAPI Kappang 28.75 183 P **P** **02 09 15.3 -1.2**
SNR=56
FAKI Fak Fak 28.75 156 *e*P **P** **02 09 14.7 -1.9**
comp=Z,185nm,1.5s
FAKI LR LR
comp=Z,8μm,22.0s
FAKI Fak Fak 28.75 156 P **P** **02 09 15.2 -1.4**
comp=Z,64nm,0.7s,comp=Z,2μm
YSS Yuzh-Sakhalins 28.81 32 *e*P **P** **02 09 16.1 -0.7**
comp=Z,228nm,1.2s
YSS LR LR
comp=Z,11μm,18.0s
YSS Yuzh-Sakhalins 28.81 32⇑ *e*P **P** **02 09 17.6 +0.8**
YSS *e* 02 09 21.4
YSS *e**SP **sP** **02 09 27.0 +1.6**
YSS *e* 02 10 08.4
YSS *e*PPP PPP 02 10 25.2
YSS *e*S **S** **02 14 04.4 -1.2**
YSS *e*SSS SSS 02 15 53.3
YSS pmax pmax
comp=Z,30nm,0.5s
YSS MLR MLR
comp=Z,22μm,15.0s
YSS MLR MLR
comp=N,16μm,16.0s
YSS MLR MLR
comp=E,12μm,13.0s
BKSI Bulukumba 29.04 182 P **P** **02 09 17.9 -1.2**
comp=E,23nm,1.6s,comp=E,801nm
GRNR Gornyy 29.34 20 *e*P **P** **02 09 20.5 -1.0**
GRNR *e* 02 12 27.5
GRNR *e* 02 16 05.5
GRNR pmax pmax
comp=Z,21nm,1.0s
TPI Tanjungpandan 29.55 208 P **P** **02 09 24.4 +0.7**
comp=Z,96nm,1.3s,comp=Z,4μm
PBA Port Blair 29.58 251 *e*P P 02 09 22.7 -1.2
comp=Z,93nm,1.2s
PBA Port Blair 29.58 251 *e*P P 02 09 24.2 +0.3
PBA IAmb IAmb 02 09 25.6
comp=Z,412nm,3.0s
PPBI Pangkal Pinang 29.72 211 P **P** **02 09 26.2 +1.1**
comp=Z,47nm,0.5s,comp=Z,14μm
TSI Tuntungan 29.76 231 P **P** **02 09 26.3 +0.8**
LHMI Lhok Sumawe 29.77 235 *e*P **P** **02 09 24.1 -1.5**
comp=Z,94nm,1.0s
ZAK Zakamensk 29.88 337 *e*P **P** **02 09 26.0 -0.4**
ZAK pmax pmax
comp=Z,42nm,1.6s
PSI Prapat 30.00 229 *e*P **P** **02 09 28.6 +0.7**
comp=Z,157nm,1.2s
PSI LR LR
comp=Z,18μm,22.0s
PSI Prapat 30.00 229 *e*P **P** **02 09 28.6 +0.7**
PSI pmax pmax
comp=Z,157nm,1.2s
PSI MLR MLR
comp=Z,18μm,22.0s
PSI Prapat 30.00 229 P **P** **02 09 27.2 -0.6**
comp=Z,8.8nm,0.7s,baz=1.1,slow=1.7,SNR=13
PSI ScP **ScP** **02 16 09.8 -1.6**
comp=Z,1.6nm,0.3s,baz=357,slow=7.5,SNR=8.4
PSI LR LR 02 21 03.3
comp=Z,16μm,21.6s,baz=89,slow=35
ZEA Zeya 30.17 7 *e*P **P** **02 09 28.3 -0.5**
ZEA *e* 02 10 33.0
ZEA *e*S **S** **02 14 26.0 -0.9**
ZEA pmax pmax
comp=Z,2μm,10.0s
ZEA pmax pmax
comp=N,2μm,6.0s
ZEA pmax pmax
comp=N,36nm,1.4s
ZEA pmax pmax
comp=E,170nm,1.4s
ZEA pmax pmax
comp=Z,63μm,1.4s
ZEA pmax pmax
comp=Z,1μm,9.0s
ZEA pmax pmax
comp=N,1μm,11.0s
ZEA smax smax
comp=E,2μm,14.0s
ZEA smax smax
comp=N,1μm,13.0s
ZEA MLR MLR
comp=Z,56μm,14.0s
ZEA MLR MLR
comp=E,11μm,11.0s
ZEA MLR MLR
comp=N,49μm,13.0s
TAPN Taplejung 30.29 284 *e*P **P** **02 09 31.3 +0.8**
comp=N,398nm,1.1s
KCSI Kotacane, Aceh 30.31 232 P P 02 09 39.6 +9.2
KUR Kuril'sk 30.40 39*c*e P **P** **02 09 28.9 -2.0**
KUR *e*PPP PPP 02 10 44.2
KUR *e* 02 12 29.9
KUR *i* S **S** **02 14 28.8 -1.8**
KUR *e*SS **SnSn** **02 16 07.0 +0.7**
KUR pmax pmax
comp=Z,1μm,5.0s
KUR pmax pmax
comp=Z,163nm,1.4s
KUR pmax pmax
comp=N,65nm,0.8s
KUR pmax pmax
comp=E,28nm,1.2s
KUR MLR MLR
comp=Z,22μm,18.0s
KUR MLR MLR
comp=N,9μm,15.0s
KUR MLR MLR
comp=E,4μm,17.0s
BKNI Bangkinang 30.47 223 PFAKE 02 09 40.0 +8.2
BKNI LR LR
comp=Z,10μm,22.0s
BKNI Bangkinang 30.47 223 P P 02 09 45.9 +14
ODAN Odare 30.58 283 *e*P **P** **02 09 33.5 +0.4**
comp=Z,288nm,0.9s
MLSI Meulaboh, Aceh 30.81 235 P P 02 09 44.9 +10
TLY Talaya 30.84 339 *e*P **P** **02 09 35.2 +0.5**
comp=Z,65nm,0.9s
TLY LR LR
comp=Z,56μm,18.0s
TLY Talaya 30.84 339*c i*P **P** **02 09 35.0 +0.2**
TLY *e* 02 10 54.0
TLY *e*S **S** **02 14 38.4 +0.9**
TLY *e*SS **SS** **02 16 44.1 -5.3**
TLY pmax pmax
comp=Z,241nm,1.1s
TLY MLR MLR
comp=Z,139μm,16.0s
TLY Talaya 30.84 339 P **P** **02 09 34.5 -0.2**
SNR=79
BSI Banda Aceh 30.86 238 P P **02 09 38.9 +3.6**
comp=Z,97nm,1.8s,comp=Z,59μm
CMBY CAMPBELL BAY 31.03 242 *e*P **P** **02 09 37.5 +0.7**
CMBY IAmb IAmb 02 09 44.9
comp=Z,185nm,1.7s
MNSI Mandailing Nat 31.04 225 P P **02 09 38.0 +1.2**
comp=Z,182nm,0.8s,comp=Z,5μm

IRK Irkutsk 31.11 340 *e*P **P** **02 09 37.1 -0.1**
IRK pmax pmax
comp=Z,338nm,3.7s
RAMN Ramite 31.29 283 *e*P **P** **02 09 40.0 +0.7**
comp=Z,392nm,1.1s
KMMI Kalianget 31.53 194 P **P** **02 09 43.0 +1.9**
comp=Z,45nm,0.8s,comp=Z,1μm
JIRN Jiri 31.63 284 *e*P **P** **02 09 43.1 +0.7**
comp=Z,986nm,1.5s
TYV Tymovskoe 31.67 26 *e*P **P** **02 09 43.6 +1.5**
TYV *e*S **S** **02 14 55.1 +4.7**
TYV pmax pmax
comp=Z,1μm,4.7s
TYV pmax pmax
comp=Z,25nm,1.4s
TYV smax smax
comp=E,1μm,8.1s
TYV MLR MLR
comp=E,21μm,13.0s
TYV MLR MLR
comp=Z,23μm,13.0s
GRJI Gresik 31.75 196 P **P** **02 09 44.8 +1.7**
comp=Z,120nm,0.8s,comp=Z,2μm
MOY Mondy 31.77 336 *e*P **P** **02 09 42.3 -0.8**
MOY pmax pmax
comp=Z,256nm,2.0s
PDSI Padang 31.79 222 P **P** **02 09 42.6 -0.9**
TBJI Tambak Boyo 31.83 198 P **P** **02 09 45.7 +1.9**
comp=Z,347nm,1.8s,comp=Z,7μm
GUN Gumba 31.90 285 *e*P **P** **02 09 45.4 +0.6**
comp=Z,1μm,1.8s
GSI Gunungsitoli 32.01 229 PFAKE 02 10 00.0 +15
GSI LR LR
comp=Z,18μm,21.0s
GSI Gunungsitoli 32.01 229 P P 02 09 56.3 +11
KRJI Kerinci 32.13 219 P **P** **02 09 47.2 +0.6**
GENI Genyem 32.18 142 P P 02 09 52.9 +6.0
BOK Bokaro 32.19 277 *e*P **P** **02 09 47.2 +0.2**
BOK IAmb IAmb 02 09 50.3
comp=Z,131nm,1.4s
BOK IAMs_20 IAMs_20 02 34 18.2
comp=Z,4μm,10.3s
BLJI Banyuglugur 32.28 194 P **P** **02 09 48.3 +0.5**
comp=Z,237nm,0.8s
SRBI Singaraja 32.29 191 P **P** **02 09 48.7 +0.9**
comp=Z,52nm,1.8s,comp=Z,2μm
PKI Pulchoki 32.33 284 *e*P **P** **02 09 48.5 0.0**
comp=Z,134nm,1.1s
MMRI Maumere 32.34 178 *e*P **P** **02 09 47.2 -1.1**
comp=Z,436nm,1.1s
MMRI LR LR
comp=Z,6μm,20.0s
MMRI Maumere 32.34 178 P **P** **02 09 47.8 -0.4**
comp=Z,426nm,1.5s,comp=Z,5μm
PKIN Phulchoki 32.34 284 *e*P **P** **02 09 48.5 0.0**
comp=Z,380nm,1.7s
KKN Kakani 32.43 285 *e*P **P** **02 09 49.4 +0.1**
comp=Z,174nm,0.9s
EDFI Ende, Flores 32.44 179 P **P** **02 09 47.3 -1.9**
comp=Z,303nm,1.2s
LHSI Lahat 32.45 214 P P 02 09 56.7 +7.5
NGJI Ngawi 32.46 198 P **P** **02 09 51.5 +2.2**
comp=Z,232nm,1.0s,comp=Z,9μm
SMRI Semarang 32.47 200 *e*P **P** **02 09 49.4 0.0**
comp=Z,352nm,1.2s
SMRI LR LR
comp=Z,13μm,18.0s
SMRI Semarang 32.47 200 P **P** **02 09 51.6 +2.2**
comp=Z,280nm,1.0s,comp=Z,14μm
DMN Daman 32.59 284 *e*P **P** **02 09 51.1 +0.3**
comp=Z,634nm,1.6s
PLAI Plampang 32.67 186 P **P** **02 09 51.0 -0.2**
comp=Z,148nm,1.9s,comp=Z,4μm
MDSI Maura Dua 32.68 213 P **P** **02 09 52.1 +0.8**
comp=Z,127nm,1.1s,comp=Z,4μm
NKL Nikolayevsk 32.76 22 *i* P **P** **02 09 51.0 -0.6**
NKL *e*S **S** **02 15 02.0 -5.3**
NKL pmax pmax
comp=E,13nm,0.9s
NKL pmax pmax
comp=Z,46nm,0.9s
NKL pmax pmax
comp=N,1μm,10.0s
NKL pmax pmax
comp=E,1μm,10.0s
NKL pmax pmax
comp=Z,2μm,10.0s
NKL smax smax
comp=E,4μm,14.0s
NKL MLR MLR
comp=N,29μm,16.0s
NKL MLR MLR
comp=E,24μm,16.0s
NKL MLR MLR
comp=Z,60μm,16.0s
GMJI Gumukmas 32.83 194 P **P** **02 09 52.5 0.0**
comp=Z,126nm,2.0s,comp=Z,4μm
JAGI Jajag, Banyuwa 32.87 193 *e*P **P** **02 09 51.3 -1.6**
comp=Z,413nm,2.0s
JAGI LR LR
comp=Z,6μm,21.0s
JAGI Jajag, Banyuwa 32.87 193 P **P** **02 09 52.8 -0.1**
SISI Saibi 32.97 224 P **P** **02 09 57.3 +3.5**
comp=Z,119nm,1.5s,comp=Z,2μm
MNAI Manna 33.20 215 PFAKE 02 10 10.0 +14
MNAI LR LR
comp=Z,7μm,18.0s
LWLI Liwa 33.20 212 P **P** **02 09 59.0 +3.0**
comp=Z,105nm,0.9s
SBJI Serang 33.22 208 P **P** **02 09 57.2 +1.2**
UGM Wanagama 33.26 199 *e*P **P** **02 09 56.9 +0.6**
comp=Z,2μm,1.5s
UGM LR LR
comp=Z,10μm,19.0s
UGM Wanagama 33.26 199 P **P** **02 09 57.6 +1.3**
comp=Z,735nm,1.6s,comp=Z,14μm
PCJI Pacitan 33.33 198 P **P** **02 09 52.7 -4.2**
SOEI Soe 33.57 174 *e*P **P** **02 09 56.1 -3.0**
comp=Z,256nm,1.2s
SOEI *e*S **S** **02 15 21.7 +0.9**
SOEI LR LR
comp=Z,9μm,21.0s
SOEI Soe 33.57 174 P **P** **02 09 59.1 0.0**
comp=Z,197nm,0.9s,comp=Z,2μm
DANN Dangsing 33.76 286 *e*P **P** **02 10 01.3 +0.2**
comp=Z,308nm,1.1s
CMJI Cimerak 33.82 203 P P 02 10 17.1 +16
WMQ Urumqi 33.83 314 P **P** **02 10 02.5 +1.3**
WMQ pP pP 02 10 07.3 +0.1
WMQ S **S** **02 15 27.5 +3.1**
WMQ sS sS 02 15 36.3 +2.3
WMQ ScS **ScS** **02 20 24.5 -1.0**
WMQ pmax pmax
comp=Z,230nm,1.9s
WMQ pmax pmax
comp=Z,5μm,3.7s
WMQ LR LR
comp=Z,56μm,14.9s
WMQ Urumqi 33.83 314 *e*P **P** **02 10 03.3 +2.1**
comp=Z,305nm,1.3s
WMQ LR LR
comp=Z,9μm,18.0s
WMQ Urumqi 33.83 314 *e*P **P** **02 10 03.3 +2.1**
WMQ pmax pmax
comp=Z,305nm,1.3s
WMQ MLR MLR
comp=Z,9μm,18.0s
CISI Cisompet, Garu 33.84 204 *e*P **P** **02 10 00.7 -0.8**
comp=Z,191nm,0.9s
CISI LR LR
comp=Z,6μm,18.0s
CISI Cisompet, Garu 33.84 204 P **P** **02 09 59.8 -1.7**
BASI Baing, Sumba 33.90 181 P P 02 10 12.1 +10
KOLN Koldanda 33.92 285 *e*P **P** **02 10 02.5 +0.2**
comp=Z,209nm,0.9s
BATI Baumata 33.97 176 P **P** **02 10 00.6 -1.9**
comp=Z,65nm,1.2s,comp=Z,1μm
BATI Baumata 33.97 176 P **P** **02 09 59.9 -2.7**
comp=Z,126nm,0.8s,baz=15,slow=1.2,SNR=10
BOD Bodaibo 34.29 353⇓ *i*P **P** **02 10 03.7 -1.2**
BOD pmax pmax
comp=Z,99nm,1.8s
PYUN Piuthan 34.45 285 *e*P **P** **02 10 07.3 +0.4**
comp=Z,226nm,1.0s
MANU Manus Island 36.26 132 *e*P **P** **02 10 23.1 +0.8**
comp=Z,85nm,0.8s
MANU LR LR
comp=Z,19μm,20.0s
ZSN Zaisan 37.20 318 *e*P **P** **02 10 30.3 +0.3**
ZSN *e*S **S** **02 16 19.6 +3.7**
ZSN pmax pmax
comp=Z,60nm,0.9s
ZSN MLR MLR
comp=Z,7μm,13.0s
ZSN Zaisan 37.20 318 *e*P **P** **02 10 30.3 +0.3**
comp=Z,60nm,0.9s
ZSN *e*S **S** **02 16 19.6 +3.7**
ZSN *e*LR LR 02 26 09.9
comp=Z,7μm,12.6s
JBP Jabalpur 37.65 277 *e*P **P** **02 10 36.0 +1.9**
JBP IAmb IAmb 02 10 40.5
comp=Z,1μm,1.9s
JBP *ex* x 02 12 29.3
JBP AMS AMS 02 27 08.6
comp=Z,18μm,14.4s
SKR Severo-Kuril's 38.03 36 *e*P P 02 10 29.9 -7.0
SKR *e*S **S** **02 16 25.1 -3.2**
SKR *e*SSS SSS 02 19 34.3
SKR pmax pmax
comp=Z,1μm,4.4s
SKR pmax pmax
comp=Z,600nm,7.0s
SKR MLR MLR
comp=Z,23μm,21.0s
SKR MLR MLR
comp=Z,21μm,16.0s
MK01 Makanchi Array 38.51 316 *e*P **P** **02 10 41.6 +0.5**
MK31 Makanchi Array 38.52 316 *e*P **P** **02 10 41.9 +0.6**
comp=Z,239nm,1.3s
MK31 Makanchi Array 38.52 316 *e*P **P** **02 10 41.7 +0.5**
MK31 pmax pmax
comp=Z,101nm,0.8s
MKAR Makanchi Array 38.52 316 P **P** **02 10 42.2 +0.9**
comp=Z,37nm,0.7s,baz=112,slow=9.7,SNR=366
MKAR PcP **PcP** **02 12 55.4 +1.6**
comp=Z,19nm,0.9s,baz=132,slow=2.6,SNR=4.4
MKAR ScP **ScP** **02 16 40.6 -0.4**
comp=Z,3.3nm,0.8s,baz=136,slow=5.4,SNR=4.3
MKAR LR LR 02 28 16.0
comp=Z,27μm,18.4s,baz=106,slow=39
YAK Yakutsk 38.58 6 *e*P **P** **02 10 39.7 -1.6**
YAK *e**PP **pP** **02 10 47.8 +0.3**
YAK *e* 02 12 06.2
YAK *e*PPP PPP 02 12 29.4
YAK *e* 02 12 52.8
YAK *e*S **S** **02 16 34.9 -1.4**
YAK *e*SSS SSS 02 19 43.7
YAK *e* 02 20 47.0
YAK pmax pmax
comp=Z,253nm,1.1s
YAK pmax pmax
comp=N,191nm,1.1s
YAK pmax pmax
comp=E,42nm,1.0s
YAK pmax pmax
comp=Z,1μm,2.8s
YAK pmax pmax
comp=N,1μm,2.7s
YAK pmax pmax
comp=E,844nm,2.9s
YAK smax smax
comp=N,694nm,2.9s
YAK smax smax
comp=E,1μm,3.4s
YAK MLR MLR
comp=Z,88μm,17.0s
YAK MLR MLR
comp=N,69μm,17.0s
YAK MLR MLR
comp=E,34μm,17.0s
DDI Dehra Dun 38.71 289 *e*P **P** **02 10 43.6 +0.6**
DDI IAmb IAmb 02 10 50.2
comp=Z,1μm,2.1s
MAKZ Makanchi 38.73 316 *e*P **P** **02 10 43.5 +0.6**
comp=Z,383nm,1.3s
MAKZ LR LR
comp=Z,15μm,19.0s
MAKZ Makanchi 38.73 316 *e*P **P** **02 10 43.5 +0.6**
MAKZ pmax pmax
comp=Z,383nm,1.3s
MAKZ MLR MLR
comp=Z,15μm,19.0s
SHLS Shalkode 39.22 310 *e*P **P** **02 10 44.2 -3.0**
SHLS *e*S **S** **02 16 45.3 -1.5**
SHLS pmax pmax
comp=Z,249nm,0.8s
SHLS smax smax
comp=E,2μm,6.2s
SHLS MLR MLR
comp=Z,24μm,12.0s
SHLS Shalkode 39.22 310 *e*P **P** **02 10 44.2 -3.0**
comp=Z,249nm,0.8s
SHLS *e*S **S** **02 16 45.4 -1.5**
comp=Z,2μm,6.2s
SHLS *e*LR LR 02 27 02.3
comp=Z,24μm,12.2s
PDGK Podgornoye 39.25 310 P **P** **02 10 48.0 +0.5**
PDGK pmax pmax
comp=Z,175nm,1.2s
SMLA Simla 39.46 290 *e*P **P** **02 10 49.3 +0.1**
SMLA IAmb IAmb 02 10 56.8
comp=Z,122nm,0.8s
PATS Pohnpei 39.48 109 PFAKE 02 11 00.0 +10
PATS LR LR
comp=Z,14μm,19.0s
NDI New Delhi 39.50 287 *e*P **P** **02 10 49.0 -0.6**
UZB Uzynbulak 39.53 310 *e*P **P** **02 10 49.0 -0.8**
UZB *e*S **S** **02 16 51.6 +0.1**
UZB pmax pmax
comp=Z,112nm,0.9s
UZB smax smax
comp=E,2μm,7.2s
UZB MLR MLR
comp=Z,14μm,11.0s
UZB Uzynbulak 39.53 310 *e*P **P** **02 10 49.1 -0.8**
comp=Z,112nm,0.9s
UZB *e*S **S** **02 16 51.7 +0.1**
comp=Z,2μm,7.2s
UZB *e*LR LR 02 27 27.7
comp=Z,14μm,11.3s
PRZ Przheval'sk 39.80 308 *e*P **P** **02 10 54.8 +2.6**
comp=Z,196nm,1.2s
PRZ LR LR
comp=Z,23μm,18.0s
PRZ Przheval'sk 39.80 308 *e*P **P** **02 10 54.8 +2.6**
PRZ pmax pmax
comp=Z,197nm,1.2s
PRZ MLR MLR
comp=Z,23μm,18.0s
KPKS Kokpek 39.85 310 *e*P **P** **02 10 51.5 -0.9**
KPKS *e*S **S** **02 16 55.2 -1.0**
KPKS pmax pmax
comp=Z,183nm,0.9s
KPKS smax smax
comp=E,1μm,5.9s
KPKS MLR MLR
comp=Z,48μm,14.0s
KPKS Kokpek 39.85 310 *e*P **P** **02 10 51.6 -0.9**
comp=Z,183nm,0.9s
KPKS *e*S **S** **02 16 55.2 -1.0**
comp=Z,1μm,5.9s
KPKS *e*LR LR 02 27 35.2
comp=Z,48μm,13.8s
ZHN Zhinishke 39.95 309 *e*P **P** **02 10 53.0 -0.3**
ZHN *e*S **S** **02 16 56.3 -1.4**
ZHN pmax pmax
comp=Z,81nm,1.0s
ZHN smax smax
comp=E,78nm,6.2s
ZHN MLR MLR
comp=Z,11μm,12.0s
ZHN Zhinishke 39.95 309 *e*P **P** **02 10 53.0 -0.3**
comp=Z,81nm,1.0s
ZHN *e*S **S** **02 16 56.4 -1.4**
comp=Z,78nm,6.2s
ZHN *e*LR LR 02 27 45.0
comp=Z,11μm,12.1s
BHPL Bhopal 39.95 278 *e*P **P** **02 10 53.6 +0.1**
BHPL IAmb IAmb 02 10 56.9
comp=Z,84nm,0.3s
BHPL IAMs_20 IAMs_20 02 41 10.6
comp=Z,5μm,5.9s
BHK Bhakra 40.10 291 *e*P **P** **02 10 55.2 +0.6**

MDRS Chennai 40.11 262 *e*P P 02 10 56.4 +1.6
MDRS IAmb IAmb 02 11 06.7
PEA0B Petropavlovsk- 40.14 34 PFAKE 02 11 10.0 +15
PEA0B LR LR
comp=Z,17µm,22.0s
PETK Petropavlovsk- 40.14 34 P P 02 10 54.1 -0.5
comp=Z,7.0nm,0.8s,baz=208,slow=6.0,SNR=5.3
PETK LR LR 02 28 15.8
comp=Z,13µm,19.3s,baz=224,slow=37
DHRM DHARAMSHALA 40.20 292 *e*P P 02 10 55.6 0.0
DHRM IAmb IAmb 02 11 06.0
comp=Z,123nm,0.6s
DHRM IAMs_20 IAMs_20 02 36 57.3
comp=Z,10µm,18.4s
HYB Hyderabad 40.25 269 *i* P P 02 10 57.0 +1.0
HYB *e*PcP PcP 02 13 03.0 +3.2
HYB *e*S S 02 17 04.0 +1.4
TDK Taldyqorghan 40.47 312 *e*P P 02 10 57.6 +0.2
TDK *e*S S 02 17 07.9 +2.6
TDK pmax pmax
comp=Z,674nm,0.6s
TDK smax smax
comp=E,4µm,10.8s
TDK MLR MLR
comp=Z,37µm,15.0s
TDK Taldyqorghan 40.47 312 *e*P P 02 10 57.6 +0.2
comp=Z,674nm,0.6s
TDK *e*S S 02 17 08.0 +2.6
comp=Z,4µm,10.8s
TDK *e*LR LR 02 28 42.4
comp=Z,37µm,15.1s
ZAA0 Zalesovo Array 40.47 327 *e*P P 02 10 57.1 -0.2
comp=Z,655nm,1.6s
ZAA0 LR LR
comp=Z,33µm,18.0s
ZALV Zalesovo Beam 40.47 327 *e*P P 02 10 56.3 -1.0
ZALV Zalesovo Beam 40.47 327 P P 02 10 57.1 -0.2
comp=Z,55nm,0.8s,baz=116,slow=8.1,SNR=90
ZALV PcP PcP 02 12 59.3 -0.5
comp=Z,10nm,0.6s,baz=112,slow=3.8,SNR=4.5
ZALV ScP ScP 02 16 46.9 -1.5
comp=Z,2.9nm,0.8s,baz=132,slow=4.1,SNR=2.6
ZALV LR LR 02 27 52.4
comp=Z,14µm,18.1s,baz=137,slow=36
PET Petropavlovsk 40.59 34 PFAKE 02 11 10.0 +12
PET LR LR
comp=Z,14µm,22.0s
PET Petropavlovsk 40.59 34 *e*P P 02 10 59.3 +1.0
PET *e*S S 02 17 03.8 -2.9
PET 02 21 02.5
PET pmax pmax
comp=Z,1µm,7.9s
PET pmax pmax
comp=Z,2µm,5.3s
PET pmax pmax
comp=Z,85nm,1.1s
PET MLR MLR
comp=Z,18µm,17.0s
PET MLR MLR
comp=Z,18µm,16.0s
KDJ Kajisay 40.60 308 *e*P P 02 11 01.5 +2.7
comp=Z,83nm,0.9s
KDJ LR LR
comp=Z,21µm,20.0s
KDJ Kajisay 40.60 308 *e*P P 02 11 01.5 +2.7
KDJ pmax pmax
comp=Z,83nm,0.9s
KDJ MLR MLR
comp=Z,21µm,20.0s
MDOK Medeo 40.93 309 *e*P P 02 11 01.5 0.0
MDOK *i* S S 02 17 16.1 +3.6
MDOK pmax pmax
comp=Z,121nm,0.9s
MDOK MLR MLR
comp=Z,15µm,16.0s
MDOK Medeo 40.93 309 *e*P P 02 11 01.5 0.0
comp=Z,122nm,0.9s
MDOK *i* S S 02 17 16.2 +3.6
comp=Z,3µm,8.2s
MDOK *e*LR LR 02 28 18.6
comp=Z,15µm,16.5s
KSH Kashi 41.03 303 P P 02 11 06.3 +4.0
KSH pP sP 02 11 11.0 -0.3
KSH sP pP 02 11 14.5 +6.1
KSH PcP PcP 02 13 06.0 +3.9
KSH S S 02 17 20.0 +6.0
KSH sS sS 02 17 28.8 +5.1
KSH SS SS 02 20 18.3 +2.1
KSH pmax pmax
comp=Z,49nm,1.1s
KSH pmax pmax
comp=Z,2µm,6.1s
KSH LR LR
comp=Z,42µm,15.3s
KSH LR LR
comp=Z,37µm,14.2s
KSH LR LR
comp=Z,36µm,16.9s
AAA Alma-Ata 41.04 309 *e*P P 02 11 00.0 -2.2
AAA *i* S S 02 17 17.7 +3.8
AAA pmax pmax
comp=Z,164nm,1.2s
AAA smax smax
comp=E,3µm,7.5s
AAA MLR MLR
comp=Z,8µm,15.0s
AAA Alma-Ata 41.04 309 *e*P P 02 11 00.0 -2.2
comp=Z,164nm,1.2s
AAA *i* S S 02 17 17.8 +3.8
comp=Z,3µm,7.5s
AAA *e*LR LR 02 28 24.6
comp=Z,8µm,15.0s
RABL Rabaul 41.14 129 PFAKE 02 11 10.0 +6.7
RABL LR LR
comp=Z,12µm,21.0s
MA2 Magadan 41.28 22 *e*P P 02 11 03.8 -0.1
comp=Z,189nm,1.8s
MA2 LR LR
comp=Z,14µm,19.0s
MA2 Magadan 41.28 22*c**e*P P 02 11 03.1 -0.8
MA2 pmax pmax
comp=Z,29nm,0.8s
MA2 Magadan 41.28 22 P P 02 11 03.5 -0.4
comp=Z,26nm,0.8s,baz=218,slow=7.1,SNR=18
MA2 PcP PcP 02 13 02.3 0.0
comp=Z,14nm,0.7s,baz=171,slow=8.8,SNR=4.3
MA2 LR LR 02 28 58.9
comp=Z,13µm,18.9s,baz=220,slow=37
ULHL Ulahol 41.31 307 P P 02 11 06.0 +1.3
SNR=29
NRN Naryn 41.33 306 *e*P P 02 11 06.3 +1.4
comp=Z,438nm,1.4s
NRN LR LR
comp=Z,26µm,18.0s
NRN Naryn 41.33 306 *e*P P 02 11 06.3 +1.4
NRN pmax pmax
comp=Z,438nm,1.4s
NRN MLR MLR
comp=Z,26µm,18.0s
KUU Kurty 41.60 310 *e*P P 02 11 06.5 -0.3
KUU pmax pmax
comp=Z,106nm,1.1s
KUU MLR MLR
comp=Z,7µm,12.0s
KUU Kurty 41.60 310 *e*P P 02 11 06.5 -0.3
comp=Z,106nm,1.1s
KUU *e*S S 02 17 00.5 -22
comp=Z,1µm,6.0s
KUU *e*LR LR 02 29 48.7
comp=Z,7µm,11.9s
PMG Port Moresby 41.73 139 *e*P P 02 11 08.0 -0.1
comp=Z,115nm,1.0s
PMG LR LR
comp=Z,10µm,19.0s
PMG Port Moresby 41.73 139*c**e*P P 02 11 07.4 -0.7
PMG pmax pmax
comp=Z,161nm,1.0s
PMG Port Moresby 41.73 139 P P 02 11 06.4 -1.7
comp=Z,16nm,0.5s,baz=347,slow=9.0,SNR=10
NVS Novosibirsk 41.74 328 *e*P P 02 11 09.2 +1.5
NVS *e* 02 13 01.9
NVS *e*S S 02 17 14.7 -9.1
NVS pmax pmax
comp=N,251nm,1.7s
NVS pmax pmax
comp=E,275nm,1.7s
NVS pmax pmax
comp=Z,417nm,1.7s
NVS smax smax
comp=N,60nm,1.8s
NVS smax smax
comp=E,72nm,1.8s
TKM2 Tokmak 2 41.91 308 P P 02 11 10.9 +1.3
SNR=77
TKM2 Tokmak 2 41.91 308 *i* P P 02 11 10.7 +1.1
TKM2 pmax pmax
comp=Z,168nm,1.1s
FITZ Fitzroy Crossi 41.95 174 *e*P P 02 11 07.7 -2.1
comp=Z,37nm,1.0s
FITZ Fitzroy Crossi 41.95 174 P P 02 11 07.3 -2.5
comp=Z,4.9nm,0.4s,baz=1.0,slow=6.2,SNR=27
FITZ PcP PcP 02 13 04.6 -0.5
comp=Z,28nm,1.1s,baz=301,slow=1.1,SNR=3.9
KZA Kyzart 42.00 307 P P 02 11 12.1 +1.5
SNR=36
PALK Pallekele 42.11 254 *e*P P 02 11 12.8 +1.5
comp=Z,250nm,2.0s
PALK Pallekele 42.11 254 *i* P P 02 11 13.3 +2.0
SNR=16
KURK Kurchatov 42.29 320 *e*P P 02 11 12.7 +0.3
comp=Z,527nm,1.4s
KURK LR LR
comp=Z,38µm,18.0s
KURK Kurchatov 42.29 320*c* *i*P P 02 11 12.5 +0.2
KURK pmax pmax
comp=Z,199nm,2.5s
KURK Kurchatov 42.29 320 P P 02 11 12.6 +0.3
SNR=163
KURBB Kurchatov Arra 42.31 320 P P 02 11 12.8 +0.4
comp=Z,12nm,0.6s,baz=111,slow=9.2,SNR=94
KURBB PcP PcP 02 13 05.8 0.0
comp=Z,5.1nm,0.6s,baz=118,slow=3.5,SNR=3.2
KURBB ScP ScP 02 16 54.3 -1.4
comp=Z,3.5nm,0.9s,baz=126,slow=5.8,SNR=4.2
KURBB PKPPKP 02 43 18.4
comp=Z,0.7nm,0.8s,baz=267,slow=3.0,SNR=4.1
KBK Karagaybulak 42.33 308 P P 02 11 15.0 +2.0
SNR=35
CHMS Chumysh 42.54 308 P P 02 11 15.9 +1.5
SNR=22
H11N1 WAKE ISLAND Hy 42.55 86 T T 02 56 27.0
baz=283,slow=74,SNR=52
H11N2 WAKE ISLAND Hy 42.55 86 T T 02 56 23.1
baz=283,slow=74,SNR=70
UCH Uchtor 42.56 307 P P 02 11 16.9 +1.7
SNR=65
H11N3 WAKE ISLAND Hy 42.57 86 T T 02 56 28.2
baz=283,slow=74,SNR=75
FRU1 Bishkek 42.59 308 *e*P P 02 11 17.9 +3.0
comp=Z,86nm,0.9s
FRU1 LR LR
comp=Z,22µm,18.0s
AAK Ala-Archa 42.65 308 P P 02 11 17.3 +1.7
SNR=31
AAK Ala-Archa 42.65 308 *e*P P 02 11 16.8 +1.2
comp=Z,66nm,1.0s
AAK LR LR
comp=Z,28µm,19.0s
AAK Ala-Archa 42.65 308 *i* P P 02 11 16.1 +0.5
AAK pmax pmax
comp=Z,75nm,1.2s
AAK Ala-Archa 42.65 308 P P 02 11 17.0 +1.5
comp=Z,18nm,0.8s,baz=119,slow=5.9,SNR=44
AAK PcP PcP 02 13 07.4 0.0
comp=Z,18nm,0.7s,baz=132,slow=5.8,SNR=5.3
H11S3 WAKE ISLAND Hy 42.67 88 T T 02 56 32.4
baz=284,slow=74,SNR=237
H11S1 WAKE ISLAND Hy 42.68 88 T T 02 56 32.0
baz=284,slow=74,SNR=134
H11S2 WAKE ISLAND Hy 42.69 88 T T 02 56 38.2
baz=284,slow=74,SNR=111
NIL Nilore 42.77 294 *e*P P 02 11 17.1 +0.6
comp=Z,135nm,1.3s
NIL LR LR
comp=Z,18µm,19.0s
NIL Nilore 42.77 294 *e*P P 02 11 17.1 +0.6
NIL pmax pmax
comp=Z,135nm,1.3s
NIL MLR MLR
comp=Z,18µm,19.0s
USP Ospenovka 42.77 309 P P 02 11 17.8 +1.4
SNR=13
COCO West Island 43.01 216 PFAKE 02 11 30.0 +12
COCO LR LR
comp=Z,5µm,20.0s
AML Almayashu 43.15 307 P P 02 11 21.1 +1.2
SNR=63
EKS2 Erkin-Say 43.18 308 P P 02 11 21.4 +1.6
SNR=28
COEN Coen 43.34 148 *e*P P 02 11 20.7 -0.5
comp=Z,147nm,0.9s
COEN LR LR
comp=Z,11µm,20.0s
BTLS Baital 43.47 311 *e*P P 02 11 19.0 -2.9
BTLS *i* S S 02 17 50.7 +1.2
BTLS pmax pmax
comp=Z,218nm,1.0s
BTLS smax smax
comp=E,1µm,6.4s
BTLS MLR MLR
comp=Z,9µm,14.0s
BTLS Baital 43.47 311 *e*P P 02 11 19.1 -2.9
comp=Z,218nm,1.0s
BTLS *i* S S 02 17 50.8 +1.2
comp=Z,1µm,6.4s
BTLS *e*LR LR 02 29 54.4
comp=Z,9µm,14.2s
ARSB Arslanbob 43.55 305 *e*P P 02 11 24.2 +1.4
comp=Z,146nm,1.2s
ARSB *e*S S 02 17 53.5 +2.3
ARSB LR LR
comp=Z,25µm,20.0s
POO Poona 44.25 272 *e*P P 02 11 29.8 +1.2
POO IAmb IAmb 02 11 31.7
comp=Z,104nm,1.0s
POO IAMs_20 IAMs_20 02 31 21.5
comp=Z,11µm,11.8s
SEY Seymchan 44.27 20 *i*P P 02 11 27.9 -0.2
SEY Seymchan 44.27 20 P P 02 11 27.4 -0.8
comp=Z,11nm,0.7s,baz=221,slow=6.5,SNR=20
SEY PcP PcP 02 13 12.0 -0.2
comp=Z,7.9nm,0.6s,baz=108,slow=3.2,SNR=5.6
SEY LR LR 02 31 04.3
comp=Z,7µm,20.0s,baz=219,slow=38
TRD Trivandrum 44.88 258 *e*P P 02 11 32.7 -0.9
TRD IAMs_20 IAMs_20 02 29 45.7
comp=Z,6µm,18.8s
DZA Taraz 44.99 307 *e*P P 02 11 34.8 +0.6
DZA *e*S S 02 18 15.0 +3.1
DZA pmax pmax
comp=Z,425nm,0.7s
DZA smax smax
comp=E,287nm,5.3s
DZA MLR MLR
comp=Z,7µm,12.0s
DZA Taraz 44.99 307 *e*P P 02 11 34.9 +0.6
comp=Z,425nm,0.7s
DZA *e*S S 02 18 15.1 +3.1
comp=Z,287nm,5.3s
DZA *e*LR LR 02 31 03.2
comp=Z,7µm,11.7s
BTK Batken 45.03 303 *e*P P 02 11 35.9 +1.2
comp=Z,355nm,1.7s
BOM Bombay 45.10 273 *e*P P 02 11 36.0 +0.6
BOM *ex* x 02 18 00.4
GOA Goa 45.15 268 *e*P P 02 11 37.6 +1.8
GOA IAmb IAmb 02 11 43.0
comp=Z,64nm,0.8s
OTUK Ortayu 45.37 315 P P 02 11 38.2 +1.0
OTUK pmax pmax
comp=Z,116nm,0.9s
WRAB Tennant Creek 45.41 162 *e*P P 02 11 35.1 -2.6
comp=Z,78nm,1.0s
WRAB LR LR
comp=Z,4µm,21.0s
WRAB Tennant Creek 45.41 162*c* *i*P P 02 11 35.6 -2.1
WRAB pmax pmax
comp=Z,51nm,0.7s
WRA Warramunga Arr 45.42 162 *i* P P 02 11 35.5 -2.2
WRA pmax pmax
comp=Z,38nm,0.7s
WRA Warramunga Arr 45.42 162 P P 02 11 35.5 -2.2
comp=Z,36nm,0.8s,baz=345,slow=8.7,SNR=121
WRA S S 02 18 16.3 -2.0
comp=Z,1.7nm,0.9s,baz=343,slow=16,SNR=3.8
WRA LR LR 02 30 31.1
comp=Z,3µm,20.9s,baz=340,slow=36
KK31 Karatay Array 45.62 308 *e*P P 02 11 40.3 +1.1
comp=Z,75nm,1.0s
KK31 *e*S S 02 18 17.6 -3.3
KK31 Karatay Array 45.62 308 *i* P P 02 11 40.1 +0.9
KK31 pmax pmax
comp=Z,61nm,1.0s
KKAR Karatay Array 45.62 308 *e*P P 02 11 40.3 +1.1
comp=Z,75nm,1.0s
KKAR *e*S S 02 18 17.6 -3.3
KKAR Karatay Array 45.62 308 *e*P P 02 11 40.3 +1.1
KKAR *e*S S 02 18 17.6 -3.3
KKAR pmax pmax
comp=Z,75nm,1.0s
IUG Iuzhnay 45.85 306 *e*P P 02 11 40.6 -0.5
IUG *e*S S 02 18 27.6 +3.2
IUG pmax pmax
comp=Z,577nm,0.8s
IUG smax smax
comp=E,2µm,5.8s
IUG MLR MLR
comp=Z,8µm,15.0s
IUG Iuzhnay 45.85 306 *e*P P 02 11 40.6 -0.5
comp=Z,577nm,0.8s
IUG *e*S S 02 18 27.6 +3.2
comp=Z,2µm,5.8s
IUG *e*LR LR 02 31 27.2
comp=Z,8µm,15.0s
CHM Chimkent 46.18 306 *e*P P 02 11 43.5 -0.1
CHM *e*S S 02 18 29.4 +0.3
CHM pmax pmax
comp=Z,563nm,0.6s
CHM smax smax
comp=E,4µm,5.5s
CHM MLR MLR
comp=Z,4µm,14.0s
CHM Chimkent 46.18 306 *e*P P 02 11 43.5 -0.1
comp=Z,563nm,0.6s
CHM *e*S S 02 18 29.4 +0.3
comp=Z,4µm,5.5s
CHM *e*LR LR 02 31 34.7
comp=Z,4µm,14.2s
KBL Kabul 46.25 296 *e*P P 02 11 45.9 +1.4
comp=Z,226nm,1.3s
KBL LR LR
comp=Z,21µm,22.0s
KBL Kabul 46.25 296 *e*P P 02 11 45.9 +1.4
KBL pmax pmax
comp=Z,226nm,1.3s
KBL MLR MLR
comp=Z,21µm,22.0s
GIRL Giralia 46.73 189 *e*P P 02 11 48.5 +0.5
comp=Z,521nm,0.8s
KWAJ Kwajalein Atol 46.82 101 PFAKE 02 12 00.0 +11
KWAJ LR LR
comp=Z,7µm,21.0s
BHJ Bhuj 46.97 280 *e*P P 02 11 51.0 +1.0
BHJ IAmb IAmb 02 11 58.0
comp=Z,89nm,0.8s
BVA0 Borovoye Array 47.88 321 *i* P P 02 11 56.8 +0.1
BVA0 pmax pmax
comp=Z,181nm,1.1s
BVAR Borovoye Array 47.88 321 P P 02 11 57.2 +0.5
comp=Z,8.0nm,0.6s,baz=109,slow=8.6,SNR=39
BVAR PcP PcP 02 13 24.8 -0.3
comp=Z,9.9nm,0.5s,baz=135,slow=3.7,SNR=7.1
BVAR ScP ScP 02 17 18.5 -0.1
comp=Z,2.0nm,0.6s,baz=151,slow=3.3,SNR=4.6
BRVK Borovoye 47.95 321 *e*P P 02 11 57.9 +0.6
comp=Z,234nm,1.0s
BRVK LR LR
comp=Z,12µm,20.0s
BRVK Borovoye 47.95 321*c**e*P P 02 11 57.8 +0.6
BRVK pmax pmax
comp=Z,47nm,1.2s
BRVK Borovoye 47.95 321 P P 02 11 58.0 +0.8
SNR=121
TIXI Tiksi 48.00 3 *e*P P 02 11 55.4 -1.9
comp=Z,228nm,1.4s
TIXI LR LR
comp=Z,16µm,18.0s
TIXI Tiksi 48.00 3*c* *i*P P 02 11 56.0 -1.3
TIXI pmax pmax
comp=Z,145nm,1.7s
TIXI Tiksi 48.00 3 P P 02 11 56.0 -1.3
comp=Z,22nm,0.9s,baz=167,slow=6.4,SNR=55
TIXI LR LR 02 34 07.7
comp=Z,12µm,18.8s,baz=190,slow=38
MNCY Minicoy 48.51 260 *e*P P 02 12 04.0 +1.9
AS31 Alice Springs 48.86 164 *e*P P 02 12 03.3 -1.3
comp=Z,14nm,0.8s
ASAR Alice Springs 48.86 164 P P 02 12 03.1 -1.4
comp=Z,21nm,0.7s,baz=342,slow=6.9,SNR=74
ASAR ScP ScP 02 17 21.8 -1.4
comp=Z,2.6nm,0.8s,baz=358,slow=4.2,SNR=4.2
ASAR P4KPbc 02 49 40.5
comp=Z,0.5nm,0.7s,baz=348,slow=4.2,SNR=3.6
AS01 Alice Springs 48.87 164 *e*P P 02 12 02.6 -2.1
SMY Shemya 49.09 40 PFAKE 02 12 20.0 +14
SMY LR LR
comp=Z,6µm,21.0s
NRIK Noril'sk 49.68 345 P P 02 12 09.5 -0.8
comp=Z,22nm,0.9s,baz=132,slow=7.1,SNR=38
NRIK LR LR 02 34 54.8
comp=Z,13µm,19.6s,baz=146,slow=38
CTA Charters Tower 50.09 149 P P 02 12 13.8 -0.2
comp=Z,66nm,0.8s,baz=330,slow=9.5,SNR=52
CTAO Charters Tower 50.09 149 *e*P P 02 12 13.8 -0.2
comp=Z,67nm,0.8s
CTAO LR LR
comp=Z,8µm,20.0s
CTAO Charters Tower 50.09 149 *e*P P 02 12 13.8 -0.2
CTAO pmax pmax
comp=Z,67nm,0.8s
CTAO MLR MLR
comp=Z,8µm,20.0s
HNR Honiara 50.34 127 PFAKE 02 12 30.0 +14
HNR LR LR
comp=Z,6µm,20.0s
BILL Bilibino 51.98 20 *e*P P 02 12 26.7 -1.0
comp=Z,71nm,1.3s
BILL LR LR
comp=Z,18µm,20.0s
BILL Bilibino 51.98 20*c* *i*P P 02 12 26.6 -1.0
BILL *i* 02 12 32.0
BILL *i* 02 13 40.4
BILL *i*S S 02 19 47.7 -2.1
BILL *i* 02 22 11.4
BILL pmax pmax
comp=Z,9.0nm,0.9s
BILL MLR MLR
comp=Z,16µm,18.0s
MORW Morawa 52.87 186 *e*P P 02 12 33.4 -1.3
comp=Z,67nm,0.8s
ABKAR Akbulak array 53.62 315 *e*P P 02 12 40.8 +0.8
comp=Z,256nm,1.3s
SVE Sverdlovsk 54.26 324*d* *i*P P 02 12 45.4 +0.8
SVE *e* 02 13 47.2
SVE *e* 02 14 45.0
SVE *e*S S 02 20 22.1 +1.0
SVE *e* 02 22 27.9
SVE *e*SS SKiKP 02 23 55.8 +1.0
SVE pmax pmax
comp=Z,508nm,1.4s
SVE pmax pmax
comp=Z,1µm,7.3s
SVE MLR MLR
comp=N,6µm,14.0s
SVE MLR MLR
comp=E,11µm,13.0s
SVE MLR MLR
comp=Z,17µm,13.0s
FORT Forrest 54.75 173 *e*P P 02 12 47.7 -0.7
comp=Z,125nm,0.8s
TARA Tarawa 54.86 106 PFAKE 02 13 00.0 +10
TARA LR LR
comp=Z,9µm,21.0s
MIDW Midway 54.91 71 PFAKE 02 13 00.0 +10
MIDW LR LR
comp=Z,5µm,22.0s
GEYT Alibeck 54.91 301 P P 02 12 51.4 +1.7
comp=Z,55nm,0.9s,baz=82,slow=3.1,SNR=56
GEYT LR LR 02 40 32.8
comp=Z,24µm,18.9s,baz=95,slow=41

GYA0B ALIBECK ARRAY 54.91 301 *e*P **P 02 12 52.2 +2.5**
GYA0B LR LR
comp=Z,26µm,18.0s
AKTO Aktyubinsk 54.96 316 P **P 02 12 50.2 +0.4**
comp=Z,23nm,0.9s,baz=92,slow=7.7,SNR=29
AKTO LR LR 02 38 02.0
comp=Z,19µm,18.4s,baz=101,slow=38
ARU Arti 55.32 323 *e*P **P 02 12 52.4 +0.1**
comp=Z,411nm,1.1s
ARU LR LR
comp=Z,9µm,20.0s
ARU Arti 55.32 323*c i*P **P 02 12 52.3 +0.1**
ARU 02 13 54.5
ARU PPP PPP 02 16 12.0
ARU *e*S **S 02 20 37.8 +2.5**
ARU 02 22 43.4
ARU SS **SS 02 24 21.9 +2.4**
ARU pmax pmax
comp=Z,103nm,1.5s
ARU MLR MLR
comp=Z,14µm,15.0s
NWAO Narrogin (SRO) 56.61 184 *e*P **P 02 13 00.7 -1.0**
comp=Z,185nm,1.1s
NWAO Narrogin (SRO) 56.61 184 *e*P **P 02 13 00.7 -1.0**
NWAO pmax pmax
comp=Z,185nm,1.1s
NWAO Narrogin (SRO) 56.61 184 P **P 02 13 00.8 -1.0**
comp=Z,84nm,0.9s,baz=2.8,slow=7.6,SNR=22
WBK Wadi Bani Khal 56.71 282 P P 02 13 10.2 +7.4
SNR=5.7
DGAR Diego Garcia 56.78 243 PFAKE 02 13 20.0 +17
DGAR LR LR
comp=Z,8µm,18.0s
EIDS Eidsvold 56.91 147 *e*P **P 02 13 02.9 -1.0**
comp=Z,219nm,1.9s
EIDS LR LR
comp=Z,4µm,21.0s
BIDO Bidbid 57.24 283 P **P 02 13 10.3 +3.8**
SNR=22
MHTO MHTO 58.03 281 P **P 02 13 14.3 +2.2**
SNR=7.5
BBOO Buckleboo 58.15 165 *e*P **P 02 13 11.5 -1.1**
comp=Z,102nm,0.8s
BBOO LR LR
comp=Z,3µm,19.0s
SOHO SOHO 58.51 285 P **P 02 13 18.1 +2.7**
SNR=21
MSFE Esma-Masafi 58.55 286 *i* P **P 02 13 17.3 +1.6**
SNR=6.0
HATD Hatta, Dubai 58.70 285 *i* P **P 02 13 18.4 +1.6**
SNR=8.9
HATD Hatta, Dubai 58.70 285 P P 02 13 23.1 +6.3
SNR=5.1
SPIA Saint Paul Isl 58.71 36 PFAKE 02 13 30.0 +14
SPIA LR LR
comp=Z,5µm,20.0s
GAMB Gambell 58.77 29 *e*P **P 02 13 16.7 +0.2**
comp=Z,34nm,0.9s
GAMB LR LR
comp=Z,4µm,21.0s
ASHO Ashiyiah 58.80 285 *i* P **P 02 13 18.1 +0.7**
SNR=14
ASHO Ashiyiah 58.80 285 P **P 02 13 20.4 +3.0**
SNR=13
STKA Stephens Creek 58.80 160 *e*P **P 02 13 16.0 -1.1**
comp=Z,15nm,0.7s
STKA LR LR
comp=Z,1µm,20.0s
STKA Stephens Creek 58.80 160 *e*P **P 02 13 16.0 -1.1**
STKA pmax pmax
comp=Z,15nm,0.7s
STKA MLR MLR
comp=Z,1µm,20.0s
STKA Stephens Creek 58.80 160 P **P 02 13 16.1 -1.1**
comp=Z,67nm,0.6s,baz=339,slow=6.8,SNR=123
STKA LR LR 02 39 30.6
comp=Z,4µm,21.4s,baz=344,slow=37
NAZ Nazwa, Dubai 59.07 286 *i* P **P 02 13 20.0 +0.7**
SNR=5.4
NAZ Nazwa, Dubai 59.07 286 P P 02 13 25.5 +6.1
SNR=8.1
FAQ Al Faqa, Dubai 59.19 285 *i* P **P 02 13 20.9 +0.7**
SNR=20
FAQ Al Faqa, Dubai 59.19 285 P P 02 13 26.1 +6.0
SNR=6.9
ALNE Al Ain 59.22 285 *i* P **P 02 13 22.1 +1.7**
SNR=21
NIKH Nikolski High 59.34 41 *e*P **P 02 13 20.2 -0.5**
comp=Z,267nm,1.3s
ASUD Al Ashush, Dub 59.45 285 P **P 02 13 23.2 +1.3**
ASUD Al Ashush, Dub 59.45 285 P P 02 13 28.4 +6.5
SNR=8.4
KIRV Kirov 60.44 325 LR LR 02 42 19.7
comp=Z,13µm,19.1s,baz=94,slow=39
UNV Unalaska Valle 60.75 40 PFAKE 02 13 40.0 +10
UNV LR LR
comp=Z,4µm,21.0s
AKUT Akutan 61.17 40 PFAKE 02 13 50.0 +17
AKUT LR LR
comp=Z,4µm,19.0s
ARMA Armidale 61.41 150 *e*P **P 02 13 33.8 -1.4**
comp=Z,30nm,0.9s
ARMA LR LR
comp=Z,6µm,20.0s
ANM Nome 61.61 28 PFAKE 02 13 50.0 +14
ANM LR LR
comp=Z,5µm,22.0s
PRGR Permogore 62.41 329⇓ *i*P **P 02 13 41.6 +0.2**
PRGR pmax pmax
comp=Z,159nm,0.9s
MAK Makhachkala 62.44 307 *e*P **P 02 13 43.7 +1.8**
MAK *e* 02 15 57.6
MAK *e*PPP PPP 02 17 28.7
MAK *e*S **S 02 22 10.6 +2.5**
MAK *e*SS **SS 02 26 11.3 -0.4**
MAK pmax pmax
comp=Z,238nm,1.2s
MAK MLR MLR
comp=Z,8µm,15.0s
FALS False Pass 62.52 39 PFAKE 02 13 50.0 +7.8
FALS LR LR
comp=Z,4µm,19.0s
RDOG Red Dog Mine 62.84 24 PFAKE 02 14 00.0 +16
RDOG LR LR
comp=Z,5µm,21.0s
ABTO Aybut 63.31 278 P P 02 13 60.0 +12
SNR=5.5
DZM Mont Dzumac 63.46 133 *e*P **P 02 13 49.5 +0.4**
comp=Z,104nm,1.1s
DZM *e*S **S 02 22 26.0 +4.4**
comp=Z,10µm,29.4s
DZM *e*SS **SS 02 26 32.0 +2.9**
comp=Z,3µm,26.0s
DZM *e*LR LR 02 32 42.4
comp=Z,19µm,22.9s
DZM Mont Dzumac 63.46 133 *e*P **P 02 13 49.2 +0.1**
comp=Z,41nm,1.0s
DZM LR LR
comp=Z,10µm,22.0s
GROC Groznyy 63.64 308 *e*P **P 02 13 49.9 0.0**
GROC *e* 02 14 26.3
GROC *e* 02 16 07.6
GROC *e*S **S 02 22 22.6 -0.6**
GROC pmax pmax
comp=Z,406nm,1.4s
MARNC Mare, Loyalty 64.15 131 PFAKE 02 14 00.0 +6.5
MARNC LR LR
comp=Z,7µm,22.0s
SDPT Sand Point 64.17 38 *e*P **P 02 13 51.5 -1.7**
comp=Z,91nm,0.6s
SDPT LR LR
comp=Z,2µm,20.0s
PINNC Pines Island, 64.51 132 PFAKE 02 14 10.0 +14
PINNC LR LR
comp=Z,11µm,21.0s
CAN Canberra 64.53 155 *e*P **P 02 13 55.7 -0.1**
comp=Z,90nm,1.6s
CAN LR LR
comp=Z,6µm,19.0s
CAN Canberra 64.53 155 *e*P **P 02 13 55.7 -0.1**
CAN pmax pmax
comp=Z,90nm,1.6s
CAN MLR MLR
comp=Z,6µm,19.0s
TBLG Delisi 64.65 306 *e*P **P 02 13 58.3 +1.6**
comp=Z,112nm,1.2s
TBLG Delisi 64.65 306 *e*P **P 02 13 58.3 +1.6**
TBLG pmax pmax
comp=Z,112nm,1.2s
GNI Garni 64.94 305 *e*P **P 02 14 00.6 +1.9**
comp=Z,560nm,1.4s
GNI LR LR
comp=Z,6µm,20.0s
GNI Garni 64.94 305 *i* P **P 02 13 59.8 +1.1**
SNR=28
GNI Garni 64.94 305*c i*P **P 02 14 00.2 +1.5**
GNI pmax pmax
comp=Z,388nm,1.5s
GNI Garni 64.94 305 P **P 02 14 00.4 +1.7**
SNR=86
GNI Garni 64.94 305 LR LR 02 45 46.8
comp=Z,6µm,19.4s,baz=84,slow=39
ZEI Tsey 65.08 308 *e*P **P 02 13 58.7 -0.9**
ZEI *e*S **S 02 22 43.4 +1.9**
ZEI pmax pmax
comp=Z,596nm,6.6s
ZEI pmax pmax
comp=Z,248nm,1.3s
ZEI pmax pmax
comp=N,82nm,0.8s
ZEI pmax pmax
comp=E,171nm,0.9s
ZEI MLR MLR
comp=Z,7µm,13.0s
ZEI MLR MLR
comp=E,6µm,14.0s
ZEI MLR MLR
comp=N,5µm,13.0s
NCK Nalchik 65.17 308⇓ *e*P **P 02 14 00.8 +0.8**
CHGN Chignik 65.24 37 *e*P **P 02 13 58.3 -1.8**
comp=N,47nm,0.6s
CHGN LR LR
comp=Z,3µm,21.0s
VRH Novokhopyorsk 65.25 317 *e*P **P 02 14 00.8 +0.5**
VRH *e*S **S 02 22 36.3 -6.4**
VRH pmax pmax
comp=Z,380nm,1.0s
VRH smax smax
comp=E,3µm,9.9s
VRH MLR MLR
comp=Z,8µm,14.0s
TOO Toolangi 65.28 159 *e*P **P 02 13 59.3 -1.3**
comp=Z,46nm,0.8s
TOO LR LR
comp=Z,4µm,19.0s
TOO Toolangi 65.28 159 *e*P **P 02 13 59.3 -1.3**
TOO pmax pmax
comp=Z,46nm,0.8s
TOO MLR MLR
comp=Z,4µm,19.0s
GOF Gofitskoye 65.30 310⇓ *i*P **P 02 14 02.1 +1.3**
GOF pmax pmax
comp=Z,50nm,0.8s
KLMR Klimovskoe 65.39 328⇑ *i*P **P 02 14 00.6 -0.5**
KLMR *e* 02 16 23.1
KLMR pmax pmax
comp=Z,357nm,1.3s
KLMR Klimovskoe 65.39 328⇑ *i*P **P 02 14 00.6 -0.5**
KLMR ⇑ *i*P **P 02 14 00.6 -0.5**
KLMR ⇑ *i*P **P 02 14 00.6 -0.5**
KLMR AMP 02 14 14.6
comp=Z,357nm,1.3s
KLMR *e*PP **PP 02 16 23.2 -1.5**
KBZ Khabaz 65.63 309 P **P 02 14 03.4 +0.5**
comp=Z,20nm,0.9s,baz=103,slow=4.3,SNR=26
KBZ LR LR 02 47 15.0
comp=Z,11µm,18.4s,baz=66,slow=40
CLDR Caldiran 65.76 304 *e*P **P 02 14 06.0 +1.9**
TMCR Tamitsa 65.79 332 *e*P **P 02 14 03.2 -0.4**
TMCR pmax pmax
comp=Z,178nm,0.9s
NEY Neytrino 65.85 308*d i*P **P 02 14 06.7 +2.1**
NEY pmax pmax
comp=Z,19nm,1.6s
LHI Lord Howe Isla 65.97 145 PFAKE 02 14 20.0 +15
LHI LR LR
comp=Z,4µm,19.0s
KARS Kars 66.09 305 *e*P **P 02 14 08.4 +2.2**
KARS Kars 66.09 305 *e*P **P 02 14 08.4 +2.2**
comp=Z,1µm,1.5s
KARS LR LR
comp=Z,24µm,18.0s
KARS Kars 66.09 305 *e*P **P 02 14 08.4 +2.2**
KARS pmax pmax
comp=Z,1µm,1.5s
KARS MLR MLR
comp=Z,24µm,18.0s
SVW2 Sparrevohn 66.18 32 *e*P **P 02 14 06.6 +0.5**
comp=Z,88nm,1.2s
SVW2 LR LR
comp=Z,5µm,21.0s
VANB Van 66.28 303 *e*P **P 02 14 08.9 +1.6**
AGRB Hanur-Agry 66.37 304 *e*P P 02 14 15.7 +7.7
CUKT Cukurca 66.40 302 *e*P **P 02 14 09.0 +0.8**
IM3 Indian Mountai 66.47 26 *e*P **P 02 14 07.1 -0.8**
AKDM Akdamar-Van 66.65 303 *e*P **P 02 14 11.3 +1.5**
SENK Senkaya-Erzuru 66.65 306 *e*P **P 02 14 11.8 +2.0**
VORR Voronezh 66.73 318 *e*P **P 02 14 09.0 -0.8**
VORR pmax pmax
comp=Z,250nm,2.0s
LPSR Galich'ya Gora 66.75 319 *e*P **P 02 14 09.6 -0.3**
LPSR *e* 02 14 12.7
LPSR *e*S **S 02 22 58.2 -2.8**
LPSR pmax pmax
comp=Z,320nm,1.6s
LPSR smax smax
comp=E,2µm,10.4s
LPSR MLR MLR
comp=Z,7µm,14.0s
MLAZ Malazgirt-MUS 66.80 304 *e*P **P 02 14 12.6 +1.9**
LVZ Lovozero 66.80 336 *e*P **P 02 14 10.1 0.0**
comp=Z,85nm,1.2s
LVZ LR LR
comp=Z,12µm,18.0s
LVZ Lovozero 66.80 336⇑ *e*P **P 02 14 09.2 -0.9**
LVZ pmax pmax
comp=Z,50nm,1.1s
VSR Storozhevoye 66.83 317 *e*P **P 02 14 09.8 -0.7**
VSR *e* 02 14 13.0
VSR *e*S **S 02 23 00.1 -2.0**
VSR pmax pmax
comp=Z,210nm,1.1s
VSR smax smax
comp=E,760nm,9.0s
VSR MLR MLR
comp=Z,10µm,13.0s
BATM Batumi 66.92 307⇑ *i*P P 02 14 19.7 +8.5
BCA Borcka 67.00 307 *e*P **P 02 14 14.9 +3.1**
BCA Borcka 67.00 307⇓ *i*P **P 02 14 14.4 +2.6**
MOS Moscow 67.01 322 *e*P **P 02 14 08.8 -2.7**
MOS *e* 02 14 17.2
MOS *e* 02 14 35.7
MOS *e* 02 16 36.3
MOS *e*S **S 02 23 01.8 -2.3**
MOS *e*SS **SS 02 27 22.1 -0.3**
MOS pmax pmax
comp=Z,600nm,2.4s
MOS pmax pmax
comp=Z,169nm,1.6s
MOS MLR MLR
comp=Z,9µm,15.0s
MOS MLR MLR
comp=E,7µm,14.0s
KOPR Koprukoy-ERZUR 67.14 305 *e*P **P 02 14 14.9 +2.0**
APA Apatity 67.31 335⇓ *i*P **P 02 14 12.0 -1.3**
APA *i* 02 14 41.0
APA *i* 02 16 42.4
APA *i* PPP PPP 02 18 24.0
APA *i* S **S 02 23 02.0 -5.4**
APA *i* SSS SSS 02 30 33.0
APA pmax pmax
comp=Z,27nm,1.0s
APA MLR MLR
comp=Z,20µm,14.0s
GURO Guroymak-BITLI 67.32 303 *e*P **P 02 14 15.7 +1.7**
CAST Castle Rocks 67.50 29 PFAKE 02 14 30.0 +15
CAST LR LR
comp=Z,5µm,19.0s
SII Sitkinak Islan 67.53 37 *e*P **P 02 14 13.6 -1.3**
comp=Z,157nm,1.3s
SII LR LR
comp=Z,4µm,19.0s
PPLA Purkeypile 67.53 30 *e*P **P 02 14 15.2 +0.3**
comp=Z,422nm,1.8s
PPLA LR LR
comp=Z,4µm,20.0s
VRTB Varto-Mus 67.62 304 *e*P **P 02 14 18.9 +2.9**
CHOM Cayeli-Rize 67.71 306 *e*P **P 02 14 18.3 +2.0**
OBN Obninsk 67.71 322 *e*P **P 02 14 15.8 -0.2**
comp=Z,182nm,1.2s
OBN LR LR
comp=Z,6µm,18.0s
OBN Obninsk 67.71 322⇓ *i*P **P 02 14 16.1 +0.2**
OBN Obninsk 67.71 322*c i*P **P 02 14 15.3 -0.6**
OBN *i* 02 14 21.1
OBN *i* 02 14 40.5
OBN *i* 02 16 42.4
OBN *i* S **S 02 23 05.6 -6.9**
OBN pmax pmax
comp=Z,134nm,1.7s
OBN MLR MLR
comp=Z,10µm,17.0s
OBN Obninsk 67.71 322 LR LR 02 45 50.6
comp=Z,2µm,19.0s,baz=72,slow=38
COLD Coldfoot 67.72 25 *e*P **P 02 14 16.5 +0.6**
comp=Z,83nm,1.9s
COLD LR LR
comp=Z,3µm,19.0s
TOLK Toolik Lake Re 67.75 23 *e*P **P 02 14 16.1 +0.1**
comp=Z,137nm,1.6s
TOLK LR LR
comp=Z,6µm,18.0s
TOLK Toolik Lake Re 67.75 23 P **P 02 14 16.0 -0.1**
baz=278
MLY Manley 67.84 27 PFAKE 02 14 30.0 +13
MLY LR LR
comp=Z,5µm,19.0s
BPAW Bear Paw Mtn. 67.88 28 *e*P **P 02 14 17.1 +0.1**
comp=Z,382nm,1.9s
BPAW LR LR
comp=Z,3µm,20.0s
KARO Karlova-Bingo 67.90 304 *e*P **P 02 14 15.9 -1.8**
SOC Sochi 67.92 309*c i*P **P 02 14 17.5 -0.1**
SOC *e**PP **pP 02 14 23.0 -1.1**
SOC *e**SP **sP 02 14 25.7 -1.2**
SOC *e*PPP PPP 02 18 19.7
SOC *e*S **S 02 23 14.9 -0.6**
SOC *e*SS **SS 02 27 41.1 +4.0**
SOC pmax pmax
comp=Z,16nm,0.6s
SOC MLR MLR
comp=Z,10µm,16.0s
SVAN Silvan-Diyarba 68.05 303 *e*P **P 02 14 22.6 +4.1**
KDAK Kodiak Island 68.18 35 *e*P **P 02 14 16.7 -2.2**
comp=Z,240nm,1.4s
KDAK LR LR
comp=Z,4µm,21.0s
KDAK Kodiak Island 68.18 35 *i* P **P 02 14 18.2 -0.7**
KDAK Kodiak Island 68.18 35 P **P 02 14 18.5 -0.3**
comp=Z,42nm,0.6s,baz=271,slow=4.3,SNR=87
YEDI Yedisu-Bingol 68.25 305 *e*P **P 02 14 21.6 +1.7**
BNGB Bingl 68.25 304 *e*P **P 02 14 21.4 +1.5**
TRF Thorofare Moun 68.29 29 *e*P **P 02 14 19.6 -0.1**
comp=Z,38nm,0.8s
TRF LR LR
comp=Z,4µm,20.0s
HOM Homer 68.32 33 PFAKE 02 14 30.0 +10
HOM LR LR
comp=Z,3µm,20.0s
SUA Susitna One 68.44 31 *e*P **P 02 14 19.7 -0.9**
comp=Z,206nm,1.0s
SUA LR LR
comp=Z,4µm,20.0s
KTUT Trabzon 68.47 306 *e*P **P 02 14 21.1 +0.1**
KTUT Trabzon 68.47 306⇓ *i*P **P 02 14 24.2 +3.2**
BWN Browne 68.53 28 *e*P **P 02 14 21.2 +0.2**
comp=Z,86nm,0.9s
BWN LR LR
comp=Z,4µm,20.0s
BRLK Bradley Lake 68.68 33 *e*P **P 02 14 21.0 -1.0**
comp=Z,81nm,0.8s
BRLK LR LR
comp=Z,4µm,20.0s
ERZN Erzincan 68.83 305 *e*P **P 02 14 26.5 +3.0**
MCK McKinley 68.84 28 PFAKE 02 14 30.0 +7.0
MCK LR LR
comp=Z,5µm,19.0s
MDM Murphy Dome 68.90 27 *e*P **P 02 14 23.2 -0.2**
comp=Z,157nm,1.1s
MDM LR LR
comp=Z,6µm,18.0s
RND Reindeer 68.94 29 *e*P **P 02 14 22.7 -1.0**
comp=Z,134nm,0.9s
RND LR LR
comp=Z,4µm,20.0s
RND Reindeer 68.94 29 *e*P **P 02 14 22.7 -1.0**
RND pmax pmax
comp=Z,134nm,0.9s
RND MLR MLR
comp=Z,4µm,20.0s
RC01 Rabbit Creek A 68.98 31 *e*P **P 02 14 23.3 -0.5**
comp=Z,198nm,1.8s
RC01 LR LR
comp=Z,4µm,19.0s
WRH Wood River Hil 69.06 28 *e*P **P 02 14 24.7 +0.5**
comp=Z,64nm,1.1s
WRH LR LR
comp=Z,6µm,19.0s
TCOL CIGO, UAF Yank 69.07 27 P **P 02 14 24.0 -0.3**
baz=281
COLA College 69.08 27 *e*P **P 02 14 24.4 +0.1**
comp=Z,41nm,0.8s
COLA LR LR
comp=Z,6µm,18.0s
COLA College 69.08 27⇓ *i*P **P 02 14 25.2 +0.9**
COLA pmax pmax
comp=Z,87nm,2.3s
COLA College 69.08 27 *e*P **P 02 14 23.9 -0.4**
CCB Clear Creek Bu 69.14 27 *e*P **P 02 14 24.2 -0.5**
comp=Z,22nm,0.9s
CCB LR LR
comp=Z,6µm,18.0s
PMR Palmer 69.17 31 *e*P **P 02 14 24.1 -0.9**
comp=Z,76nm,1.0s
PMR LR LR
comp=Z,4µm,20.0s
PMR Palmer 69.17 31 *e*P **P 02 14 24.1 -0.9**
PMR pmax pmax
comp=Z,76nm,1.0s
PMR MLR MLR
comp=Z,4µm,20.0s
POKR Poker Plat Res 69.20 27 P **P 02 14 24.8 -0.3**
baz=282,SNR=33
GHO Glory Hole Cre 69.23 31 *e*P **P 02 14 25.3 -0.2**
comp=Z,103nm,1.2s
GHO LR LR
comp=Z,4µm,20.0s
KEV Kevo 69.24 338 *e*P **P 02 14 25.6 +0.3**
comp=Z,95nm,0.9s
KEV LR LR
comp=Z,9µm,19.0s
KEV Kevo 69.24 338 *e*P **P 02 14 25.6 +0.3**
KEV pmax pmax
comp=Z,95nm,0.9s
KEV MLR MLR
comp=Z,9µm,19.0s
KEV Kevo 69.24 338 *e*P **P 02 14 23.7 -1.6**
ANN Anapa 69.26 311 *e*P **P 02 14 25.4 -0.4**
ANN *e*S **S 02 23 34.4 +3.2**
ANN pmax pmax
comp=E,91nm,1.5s
ANN pmax pmax
comp=N,79nm,1.5s
ANN pmax pmax
comp=Z,434nm,1.5s
ANN MLR MLR
comp=N,5µm,18.0s
ANN MLR MLR
comp=Z,14µm,18.0s
ANN MLR MLR
comp=E,11µm,18.0s
SEW Seward 69.32 32 PFAKE 02 14 40.0 +14
SEW LR LR
comp=Z,4µm,20.0s
SML Sawmill 69.50 30 *e*P **P 02 14 26.7 -0.4**
comp=Z,108nm,1.0s
SML LR LR
comp=Z,5µm,21.0s

SML	**Sawmill**	**69.50**	**30**	*eP*	**P**		**02 14 26.7**	**-0.4**		
SML				pmax	pmax					
	comp=Z,108nm,1.0s									
SML				MLR	MLR					
	comp=Z,5µm,21.0s									
ILAR	**Eielson Array**	**69.50**	**27**	P	**P**		**02 14 25.4**	**-1.6**		
	comp=Z,4.3nm,0.6s,baz=268,slow=4.9,SNR=52									
ILAR				PKPPKP	**P'P'df**		**02 42 33.1**	**-6.8**		
	comp=Z,1.4nm,1.0s,baz=94,slow=1.4,SNR=7.3									
ILAR				LR	LR		02 48 10.2			
	comp=Z,4µm,18.1s,baz=286,slow=39									
ILB	**Eielson Array**	**69.50**	**27**	*eP*	**P**		**02 14 25.7**	**-1.4**		
	comp=Z,91nm,1.8s									
KNK	**Knik Glacier**	**69.52**	**31**	*eP*	**P**		**02 14 26.8**	**-0.4**		
	comp=Z,150nm,1.1s									
KNK				LR	LR					
	comp=Z,5µm,20.0s									
HDA	**Harding Lake**	**69.55**	**28**	*eP*	**P**		**02 14 26.1**	**-1.2**		
	comp=Z,70nm,1.3s									
HDA				LR	LR					
	comp=Z,8µm,18.0s									
HDA	**Harding Lake**	**69.55**	**28**	P	**P**		**02 14 25.8**	**-1.6**		
	baz=282,SNR=23									
DHY	**Denali Highway**	**69.66**	**29**	*eP*	**P**		**02 14 27.6**	**-0.6**		
	comp=Z,20nm,0.7s									
DHY				LR	LR					
	comp=Z,4µm,20.0s									
ILIC	**ilic-Erzincan**	**69.73**	**305**	*eP*	**P**		**02 14 31.1**	**+2.0**		
SPA0	**Spitsbergen Ar**	**69.77**	**348**	*eP*	**P**		**02 14 29.0**	**+0.5**		
	comp=Z,626nm,2.0s									
FYU	**Fort Yukon**	**69.77**	**25**	*eP*	**P**		**02 14 29.5**	**+0.9**		
	comp=Z,83nm,1.2s									
FYU				LR	LR					
	comp=Z,4µm,20.0s									
ARCES	**ARCESS Array B**	**69.80**	**338**	*eP*	**P**		**02 14 28.8**	**0.0**		
ARCES	**ARCESS Array B**	**69.80**	**338**	*eP*	**P**		**02 14 28.8**	**0.0**		
ARCES	**ARCESS Array B**	**69.80**	**338**	P	**P**		**02 14 29.1**	**+0.3**		
	comp=Z,25nm,0.7s,baz=67,slow=9.3,SNR=71									
ARCES				LR	LR		02 48 15.0			
	comp=Z,10µm,18.1s,baz=68,slow=39									
ARE0	**ARCESS Array S**	**69.80**	**338**	*eP*	**P**		**02 14 29.5**	**+0.7**		
	comp=Z,4.6nm,1.1s									
ARE0				LR	LR					
	comp=Z,600nm,20.0s									
PRP	**Porcupine Dome**	**69.90**	**26**	PFAKE			02 14 40.0	+10		
PRP				LR	LR					
	comp=Z,4µm,20.0s									
MSEY	**Mahe Island**	**69.91**	**255**	PFAKE			02 14 40.0	+10		
MSEY				LR	LR					
	comp=Z,5µm,20.0s									
MSEY	**Mahe Island**	**69.91**	**255**	P	**P**		**02 14 30.8**	**+0.4**		
SCM	**Sheep Creek Mo**	**69.96**	**30**	*eP*	**P**		**02 14 29.8**	**-0.2**		
	comp=Z,157nm,1.0s									
SCM				LR	LR					
	comp=Z,5µm,21.0s									
SCM	**Sheep Creek Mo**	**69.96**	**30**	*eP*	**P**		**02 14 29.8**	**-0.2**		
SCM				pmax	pmax					
	comp=Z,157nm,1.0s									
SCM				MLR	MLR					
	comp=Z,5µm,21.0s									
URFA	**Urfa**	**70.05**	**303**	*eP*	P		02 14 38.4	+7.4		
PUL	**Pulkovo**	**70.09**	**327**⇑	*eP*	**P**		**02 14 32.0**	**+1.4**		
PUL				pmax	pmax					
	comp=Z,42nm,0.4s									
PUL	**Pulkovo**	**70.09**	**327**	*eP*	**P**		**02 14 30.3**	**-0.3**		
PUL				IAmb	IAmb		02 14 34.9			
	comp=Z,86nm,0.5s									
HAMF	**Hammerfest**	**70.13**	**339**	*eP*	**P**		**02 14 31.1**	**+0.4**		
KBS	**Kingsbay**	**70.32**	**349**	PFAKE			02 14 40.0	+8.2		
KBS				LR	LR					
	comp=Z,27µm,18.0s									
KBS	**Kingsbay**	**70.32**	**349**	P	**P**		**02 14 34.2**	**+2.4**		
HSPB	**Hornsund (broa**	**70.34**	**347**	*eP*	**P**		**02 14 32.0**	**0.0**		
HSPB				MLR	MLR					
	comp=Z,126µm,18.2s									
RSDY	**Resadiye-TOKAT**	**70.41**	**306**	*eP*	**P**		**02 14 34.7**	**+1.6**		
PAX	**Paxson**	**70.53**	**29**	*eP*	**P**		**02 14 33.0**	**-0.5**		
	comp=Z,107nm,1.4s									
PAX				LR	LR					
	comp=Z,5µm,18.0s									
PAX	**Paxson**	**70.53**	**29**	*eP*	**P**		**02 14 33.0**	**-0.5**		
PAX				pmax	pmax					
	comp=Z,107nm,1.4s									
PAX				MLR	MLR					
	comp=Z,5µm,18.0s									
RIDG	**Independ'e Rid**	**70.61**	**28**	*eP*	**P**		**02 14 32.8**	**-1.1**		
	comp=Z,158nm,1.4s									
RIDG				LR	LR					
	comp=Z,6µm,19.0s									
KLU	**Klutina**	**70.69**	**31**	*eP*	**P**		**02 14 34.6**	**+0.2**		
	comp=Z,87nm,1.0s									
KLU				LR	LR					
	comp=Z,6µm,19.0s									
TAU	**Tasmania Unive**	**70.71**	**160**	PFAKE			02 14 50.0	+15		
TAU				LR	LR					
	comp=Z,4µm,20.0s									
KTK1	**Kautokeino**	**70.72**	**338**	*eP*	**P**		**02 14 34.9**	**+0.5**		
DARE	**Darende-Malaty**	**70.77**	**304**	*eP*	**P**		**02 14 37.0**	**+1.6**		
SVSK	**Karacayir**	**70.78**	**306**	*eP*	**P**		**02 14 36.8**	**+1.5**		
HARP	**HAARP**	**70.81**	**29**	*eP*	**P**		**02 14 35.7**	**+0.5**		
	comp=Z,355nm,1.8s									
HARP				LR	LR					
	comp=Z,5µm,21.0s									
DIV	**Divide**	**70.85**	**31**	*eP*	**P**		**02 14 35.6**	**+0.2**		
	comp=Z,183nm,1.4s									
DIV				LR	LR					
	comp=Z,7µm,22.0s									
SCRK	**Sand Creek**	**70.92**	**28**	*eP*	**P**		**02 14 35.0**	**-0.9**		
	comp=Z,44nm,0.9s									
SCRK				LR	LR					
	comp=Z,5µm,19.0s									
DOT	**Dot Lake**	**70.97**	**28**	*eP*	**P**		**02 14 35.0**	**-1.1**		
	comp=Z,42nm,1.0s									
DOT				LR	LR					
	comp=Z,4µm,19.0s									
TOKT	**Tokat**	**71.01**	**306**	*eP*	**P**		**02 14 37.8**	**+1.0**		
EYAK	**Cordova Ski Ar**	**71.01**	**31**	*eP*	**P**		**02 14 36.8**	**+0.6**		
	comp=Z,333nm,1.4s									
EYAK				LR	LR					
	comp=Z,10µm,20.0s									
MID	**Middleton Isla**	**71.01**	**33**	PFAKE			02 14 50.0	+14		
MID				LR	LR					
	comp=Z,5µm,21.0s									
KVT	**Kavak**	**71.17**	**307**	*eP*	**P**		**02 14 38.9**	**+1.2**		
MENT	**Mentasta**	**71.31**	**29**	*eP*	**P**		**02 14 38.3**	**+0.2**		
	comp=Z,80nm,0.9s									
MENT				LR	LR					
	comp=Z,5µm,20.0s									
GAZ	**Gaziantep**	**71.36**	**303**	*eP*	**P**		**02 14 40.4**	**+1.4**		
SIM	**Simferopol'**	**71.50**	**312**	*c iP*	**P**		**02 14 39.8**	**+0.2**		
SIM				*i* S	**S**		**02 23 56.6**	**-0.9**		
SIM				*i* PS	**PnS**		**02 24 42.0**	**+15**		
SIM				*e*SS	**SS**		**02 28 39.0**	**+6.9**		
SIM				pmax	pmax					
	comp=Z,910nm,5.5s									
KMRS	**Kahramanmaras**	**71.51**	**303**	*eP*	**P**		**02 14 41.0**	**+1.2**		
SNOP	**Sinop**	**71.52**	**308**	*eP*	**P**		**02 14 40.3**	**+0.5**		
SNOP	**Sinop**	**71.52**	**308**	PFAKE			02 14 50.0	+10		
SNOP				LR	LR					
	comp=Z,5µm,20.0s									
DIKM	**Dikmen**	**71.59**	**308**	*eP*	P		02 14 46.8	+6.6		
DIKM	**Dikmen**	**71.59**	**308**⇓	*iP*	P		02 14 47.4	+7.2		
FIA1	**FINESS Array S**	**71.68**	**330**	*eP*	**P**		**02 14 40.3**	**0.0**		
FINES	**FINESS Array B**	**71.68**	**330**	P	**P**		**02 14 40.3**	**-0.1**		
	comp=Z,15nm,0.7s,baz=55,slow=5.8,SNR=48									
FINES				LR	LR		02 48 52.3			
	comp=Z,15µm,20.1s,baz=74,slow=38									
HMT	**Hamilton**	**71.78**	**31**	*eP*	**P**		**02 14 41.3**	**+0.3**		
	comp=Z,133nm,1.4s									
HMT				LR	LR					
	comp=Z,7µm,21.0s									
EGAK	**Eagle**	**71.87**	**27**	*eP*	**P**		**02 14 40.8**	**-0.7**		
	comp=Z,72nm,1.1s									
EGAK				LR	LR					
	comp=Z,4µm,18.0s									
BNN	**Bunyan**	**71.93**	**305**	*eP*	**P**		**02 14 43.6**	**+1.1**		
KEKH	**Kekaha**	**71.96**	**73**	PFAKE			02 14 50.0	+7.3		
KEKH				LR	LR					
	comp=Z,8µm,21.0s									
YOZ	**Yozgat**	**72.10**	**306**	*eP*	P		02 14 55.0	+12		
VSU	**Vasula**	**72.21**	**327**	*c iP*	**P**		**02 14 43.6**	**+0.1**		
VSU				pmax	pmax					
	comp=Z,517nm,1.7s									
VSU	**Vasula**	**72.21**	**327**	*eP*	**P**		**02 14 43.3**	**-0.2**		
VSU				IAmb	IAmb		02 14 56.0			
	comp=Z,315nm,0.9s									
DAMY	**Dhamar**	**72.31**	**278**	PFAKE			02 15 00.0	+15		
DAMY				LR	LR					
	comp=Z,3µm,19.0s									
KOZT	**Kozan**	**72.33**	**304**	*eP*	**P**		**02 14 45.9**	**+1.2**		
BZK	**Bozkurt**	**72.40**	**309**	*eP*	P		02 14 51.8	+6.8		
BZK	**Bozkurt**	**72.40**	**309**⇑	*iP*	**P**		**02 14 47.0**	**+2.0**		
BALM	**Baldy**	**72.48**	**30**	PFAKE			02 15 00.0	+15		
BALM				LR	LR					
	comp=Z,5µm,21.0s									
CEYT	**Ceyhan**	**72.53**	**303**	*eP*	**P**		**02 14 48.8**	**+2.9**		
MICGM	**Minsk**	**72.74**	**322**	*eP*	**P**		**02 14 46.0**	**-0.8**		
MICGM				PM			02 14 47.0			
	comp=Z,0.3nm,1.8s									
MICGM				*e*PcP	**sP**		**02 14 58.0**	**+2.3**		
MICGM				*e*PP	**PP**		**02 17 29.0**	**+0.7**		
MICGM				*e*PPP	PPP		02 19 20.0			
MICGM				*e*S	**S**		**02 24 11.0**	**-0.4**		
MICGM				*e*PS	**PnS**		**02 24 40.0**	**-3.1**		
MICGM				*e*SS	**SS**		**02 28 46.0**	**-4.5**		
MICGM				*e*SSS	SSS		02 32 30.0			
MICGM				*e*LQ	LQ		02 40 24.0			
MICGM				*e*LR	LR		02 42 48.0			
MICGM				LRM	MLR		02 49 36.0			
	comp=N,13nm,11.0s									
MICGM				LRM	MLR		02 49 50.0			
	comp=Z,18nm,12.0s									
MICGM				LRM	MLR		02 49 53.0			
	comp=Z,21nm,12.0s									
MICGM				LRM	MLR		02 49 54.0			
	comp=E,12nm,12.0s									
MNK	**Minsk**	**72.74**	**322**⇓	*eP*	**P**		**02 14 46.0**	**-0.8**		
MNK				*e*			02 17 29.0			
MNK				*e*			02 19 20.0			
MNK				*e*S	**S**		**02 24 11.0**	**-0.4**		
MNK				*e*			02 24 40.0			
MNK				*e*			02 28 46.0			
MNK				pmax	pmax					
	comp=Z,320nm,1.8s									
MNK				MLR	MLR					
	comp=Z,21µm,12.0s									
MNK				MLR	MLR					
	comp=E,12µm,12.0s									
MNK				MLR	MLR					
	comp=Z,18µm,12.0s									
DAWY	**Dawson**	**72.82**	**27**	*eP*	**P**		**02 14 46.8**	**-0.4**		
	comp=Z,49nm,1.0s									
DAWY				LR	LR					
	comp=Z,6µm,20.0s									
ILGA	**Ilgaz**	**72.87**	**308**	*eP*	**P**		**02 14 50.2**	**+2.1**		
	comp=Z,141nm,1.4s									
ILGA				LR	LR					
	comp=Z,5µm,19.0s									
AKASG	**Malin Array Be**	**73.06**	**318**	*i* P	**P**		**02 14 48.2**	**-0.6**		
AKASG				pmax	pmax					
	comp=Z,10.0nm,0.8s									
AKASG	**Malin Array Be**	**73.06**	**318**	P	**P**		**02 14 48.2**	**-0.6**		
	comp=Z,4.2nm,0.6s,baz=59,slow=5.9,SNR=40									
AKBB	**Malin Array Si**	**73.06**	**318**	*eP*	**P**		**02 14 48.3**	**-0.5**		
	comp=Z,231nm,1.7s									
ASF	**Jabal al Asfar**	**73.07**	**298**	LR	LR		02 51 35.7			
	comp=Z,5µm,19.7s,baz=32,slow=40									
KIEV	**Kiev**	**73.08**	**318**	*eP*	**P**		**02 14 48.2**	**-0.7**		
	comp=Z,223nm,1.7s									
KIEV				LR	LR					
	comp=Z,9µm,22.0s									
KIEV	**Kiev**	**73.08**	**318**⇑	*iP*	**P**		**02 14 48.4**	**-0.5**		
KIEV	**Kiev**	**73.08**	**318**	*i* P	**P**		**02 14 48.1**	**-0.7**		
	SNR=9.9									
KIEV	**Kiev**	**73.08**	**318**	*c iP*	**P**		**02 14 48.1**	**-0.8**		
KIEV				pmax	pmax					
	comp=Z,60nm,2.0s									
EPYK	**Eagle Plains**	**73.09**	**24**	*eP*	**P**		**02 14 47.9**	**-0.9**		
	comp=Z,39nm,0.8s									
EPYK				LR	LR					
	comp=Z,3µm,18.0s									
EPYK	**Eagle Plains**	**73.09**	**24**	P	**P**		**02 14 47.9**	**-0.9**		
	baz=291									
AK11	**Malin Array Si**	**73.11**	**318**	*eP*	**P**		**02 14 48.4**	**-0.6**		
NACGM	**Naroch**	**73.23**	**323**	*eP*	**P**		**02 14 48.0**	**-1.7**		
NACGM				*eP*	**P**		**02 14 48.0**	**-1.7**		
NACGM				PM			02 15 02.0			
	comp=Z,0.7nm,1.0s									
NACGM				*e*PP	**PP**		**02 17 40.0**	**+7.5**		
NACGM				*e*PPP	PPP		02 19 22.0			
NACGM				*e*S	**S**		**02 24 16.0**	**-0.9**		
NACGM				*e*PS	**PnS**		**02 24 42.0**	**-7.5**		
NACGM				*e*SS	SS		02 29 30.0	+32		
NACGM				*e*SSS	SSS		02 32 56.0			
NACGM				*e*LQ	LQ		02 39 46.0			
NACGM				*e*LR	LR		02 46 30.0			
NACGM				LRM	MLR		02 49 28.0			
	comp=Z,24nm,18.0s									
BR131	**Keskin Array S**	**73.31**	**306**	*eP*	**P**		**02 14 51.3**	**+0.6**		
	comp=Z,195nm,1.5s									
BR131	**Keskin Array S**	**73.31**	**306**	P	**P**		**02 14 49.9**	**-0.8**		
	SNR=26									
BRTR	**Keskin Array B**	**73.31**	**306**	*i* P	**P**		**02 14 51.4**	**+0.7**		
BRTR				pmax	pmax					
	comp=Z,9.0nm,0.6s									
BRTR	**Keskin Array B**	**73.31**	**306**	P	**P**		**02 14 50.5**	**-0.2**		
	comp=Z,9.0nm,0.6s,baz=116,slow=3.2,SNR=36									
BRTR				LR	LR		02 52 52.9			
	comp=Z,4µm,18.1s,baz=56,slow=40									
KURC	**Kurucasile-Bar**	**73.34**	**309**	*eP*	**P**		**02 14 52.1**	**+1.5**		
ISAL	**Salakas**	**73.39**	**324**	*eP*	**P**		**02 14 50.7**	**+0.1**		
ISAL				IAmb	IAmb		02 15 04.3			
	comp=Z,65nm,1.0s									
YAYX	**Yaylak**	**73.42**	**306**	*eP*	**P**		**02 14 51.8**	**+0.5**		
MERS	**Mersin**	**73.51**	**303**	*eP*	**P**		**02 14 53.4**	**+1.6**		
INK	**Inuvik**	**73.52**	**22**	*eP*	**P**		**02 14 50.1**	**-1.1**		
	comp=Z,192nm,1.8s									
INK				LR	LR					
	comp=Z,5µm,21.0s									
INK	**Inuvik**	**73.52**	**22**	*eP*	**P**		**02 14 50.1**	**-1.1**		
INK				pmax	pmax					
	comp=Z,192nm,1.8s									
INK				MLR	MLR					
	comp=Z,5µm,21.0s									
INK	**Inuvik**	**73.52**	**22**	P	**P**		**02 14 50.0**	**-1.1**		
	comp=Z,11nm,0.7s,baz=303,slow=5.6,SNR=45									
INK				LR	LR		02 50 37.2			
	comp=Z,4µm,19.9s,baz=276,slow=39									
OPA	**Opana**	**73.55**	**73**	PFAKE			02 15 00.0	+7.8		
OPA				LR	LR					
	comp=Z,9µm,21.0s									
SERE	**Sereflikochisa**	**73.60**	**306**	*eP*	**P**		**02 14 54.4**	**+2.0**		
KIP	**Kipapa**	**73.63**	**73**	PFAKE			02 15 00.0	+7.3		
KIP				LR	LR					
	comp=Z,10µm,21.0s									
HON	**Honolulu**	**73.68**	**74**	PFAKE			02 15 00.0	+7.1		
HON				LR	LR					
	comp=Z,10µm,22.0s									
PCA	**Pinnacle**	**73.75**	**31**	*eP*	**P**		**02 14 53.5**	**+0.6**		
	comp=Z,130nm,1.0s									
PCA				LR	LR					
	comp=Z,6µm,19.0s									
STEI	**Steigen**	**73.86**	**338**	*eP*	**P**		**02 14 53.1**	**0.0**		
SULT	**Sultanhani-AKS**	**73.87**	**305**	*eP*	**P**		**02 14 54.8**	**+0.9**		
ANTO	**Ankara**	**73.89**	**307**	*eP*	**P**		**02 14 54.8**	**+0.8**		
	comp=Z,92nm,0.9s									
ANTO				LR	LR					
	comp=Z,4µm,20.0s									
ANTO	**Ankara**	**73.89**	**307**	*eP*	**P**		**02 14 54.8**	**+0.8**		
ANTO				pmax	pmax					
	comp=Z,92nm,0.9s									
ANTO				MLR	MLR					
	comp=Z,4µm,20.0s									
LOD	**Lodumlu**	**73.91**	**307**	*eP*	**P**		**02 14 54.8**	**+0.7**		
BR231	**Keskin MP Arra**	**73.91**	**307**	*eP*	**P**		**02 14 55.0**	**+0.8**		
	comp=Z,72nm,0.9s									
KIZK	**Mersin**	**73.92**	**303**	*eP*	**P**		**02 14 54.4**	**+0.3**		
KULU	**Kulu**	**73.99**	**306**	*eP*	**P**		**02 14 57.2**	**+2.6**		
MMAI	**Mount Meron Ar**	**74.00**	**299**	LR	LR		02 52 39.3			
	comp=Z,3µm,18.7s,baz=65,slow=40									
BCPM	**Bancas Point**	**74.10**	**31**	PFAKE			02 15 10.0	+15		
BCPM				LR	LR					
	comp=Z,6µm,20.0s									
WALJ	**Wala**	**74.13**	**298**	P	P		02 15 01.2	+5.8		
EREN	**Erenkoy**	**74.19**	**302**	*eP*	P		02 15 00.5	+4.8		
CHBY	**Cihanbeyli**	**74.22**	**306**	*eP*	**P**		**02 14 55.9**	**-0.1**		
KEBE	**Keben-Mersin**	**74.26**	**303**	*eP*	**P**		**02 14 55.7**	**-0.5**		
IKL	**Isikli**	**74.34**	**303**	*eP*	P		02 14 46.4	-10		
KARJ		**74.40**	**297**	P	**P**		**02 14 59.4**	**+2.4**		
GHAJ	**Ghor Haditha**	**74.41**	**298**	P	P		02 15 03.9	+6.8		
KIS	**Kishinev**	**74.44**	**315**⇑	*iP*	**P**		**02 14 56.0**	**-1.0**		
	comp=Z,170nm,2.0s									
KIS	**Kishinev**	**74.44**	**315**	*i* PcP	P		02 15 03.0	+6.0		
KIS	**Kishinev**	**74.44**	**315**	*e*PP	PP		02 17 52.0	+8.9		
KIS	**Kishinev**	**74.44**	**315**⇑	*iP*	**P**		**02 14 56.0**	**-1.0**		
KIS				*i*			02 15 03.0			
KIS				*e*			02 17 52.0			
KIS				*i* S	**SKiKP**		**02 24 26.0**	**+3.3**		
KIS				*i*			02 25 08.0			
KIS				pmax	pmax					
	comp=Z,170nm,2.0s									
KIS				pmax	pmax					
	comp=Z,3µm,8.0s									
KIS				smax	smax					
	comp=N,300nm,10.0s									
KIS				MLR	MLR					
	comp=Z,12µm,16.0s									
KIS				MLR	MLR					
	comp=N,5µm,16.0s									
TEVE	**Tevekalti-Mers**	**74.47**	**303**	*eP*	**P**		**02 14 57.2**	**-0.2**		
AKKU	**Akkuyu-Mersin**	**74.47**	**303**	*eP*	P		02 15 02.6	+5.3		
JDRJ	**Daraweish**	**74.52**	**297**	P	P		02 15 03.0	+5.1		
HSNJ	**Maan**	**74.65**	**297**	P	**P**		**02 15 02.5**	**+3.8**		
BERE	**Bereket-Mersin**	**74.66**	**303**	*eP*	**P**		**02 15 01.1**	**+2.4**		
SLIT	**Slitere, Latvi**	**74.71**	**327**	*eP*	**P**		**02 14 57.4**	**-0.9**		
SLIT				IAmb	IAmb		02 15 06.9			
	comp=Z,677nm,1.2s									
LADK	**Ladik-KONYA**	**74.73**	**305**	*eP*	**P**		**02 14 58.5**	**-0.5**		
LFK	**Lefkose**	**74.76**	**302**	*eP*	**P**		**02 15 01.1**	**+2.0**		
HYT	**Haines Junctio**	**74.78**	**30**	*eP*	**P**		**02 14 59.6**	**+0.8**		
	comp=Z,117nm,1.3s									
HYT				LR	LR					
	comp=Z,5µm,20.0s									
ATD	**Arta Tunnel**	**74.81**	**276**	PFAKE			02 15 10.0	+10		
ATD				LR	LR					
	comp=Z,3µm,21.0s									
KONT	**Konya--Tatoy**	**74.81**	**305**	*eP*	**P**		**02 14 57.7**	**-1.6**		
TEKE	**Tekeli-Mersin**	**74.81**	**303**	*eP*	P		02 15 05.2	+5.9		
MDUB	**Mudurnu**	**74.87**	**308**	*eP*	P		02 15 06.2	+6.5		
MOR8	**Moi Rana**	**74.87**	**336**	*eP*	**P**		**02 14 57.7**	**-1.4**		
SVRH	**Sivrihisar-ESK**	**74.96**	**307**	*eP*	**P**		**02 15 00.7**	**+0.5**		
CSS	**Mathiatis**	**75.02**	**302**	*eP*	**P**		**02 15 01.9**	**+1.3**		
	comp=Z,132nm,1.1s									
CSS				LR	LR					
	comp=Z,5µm,22.0s									
CSS	**Mathiatis**	**75.02**	**302**	P	P		02 15 06.3	+5.7		
IAS	**Iasi**	**75.19**	**315**⇑	*iP*	**P**		**02 15 04.7**	**+3.4**		
KHLH	**Kahului Airpor**	**75.20**	**73**	PFAKE			02 15 10.0	+8.2		
KHLH				LR	LR					
	comp=Z,11µm,22.0s									
KONS	**Konsvik**	**75.21**	**337**	*eP*	**P**		**02 15 00.8**	**-0.2**		
LEF	**Lefka**	**75.31**	**302**	*eP*	**P**		**02 15 02.6**	**+0.4**		
LEF	**Lefka**	**75.31**	**302**⇑	*iP*	**P**		**02 15 06.4**	**+4.2**		
CIFT	**Cifteler, Eski**	**75.32**	**307**	*eP*	**P**		**02 15 03.6**	**+1.3**		
AQBJ	**Aqaba**	**75.35**	**296**	P	**P**		**02 15 05.9**	**+3.4**		
GULT	**Gulveren**	**75.37**	**308**	*eP*	**P**		**02 15 02.9**	**+0.3**		
HLK	**Haleakala**	**75.41**	**74**	PFAKE			02 15 10.0	+6.7		
HLK				LR	LR					
	comp=Z,10µm,20.0s									
SAUV	**Serdivan-Sakar**	**75.41**	**308**	*eP*	**P**		**02 15 01.8**	**-0.9**		
SRCK	**Sariçakaya, Es**	**75.42**	**308**	*eP*	**P**		**02 15 02.9**	**+0.1**		
SPNC	**Sapanca-Adapaz**	**75.44**	**308**	*eP*	**P**		**02 15 03.1**	**+0.2**		
EIL	**Elat**	**75.45**	**296**	P	**P**		**02 15 03.6**	**+0.5**		
	comp=Z,54nm,1.4s									
EIL	**Elat**	**75.45**	**296**	LR	LR		02 52 39.5			
	comp=Z,4µm,19.5s,baz=62,slow=39									
BIR	**Birlad**	**75.46**	**314**⇓	*iP*	**P**		**02 15 06.2**	**+3.4**		
PBUR	**Paburg**	**75.47**	**325**	*eP*	**P**		**02 15 02.7**	**0.0**		
PBUR				IAmb	IAmb		02 15 22.8			
	comp=Z,2µm,2.1s									
CFR	**Carcaliu**	**75.48**	**313**⇑	*iP*	**P**		**02 15 03.7**	**+0.7**		
CFR	**Carcaliu**	**75.48**	**313**	P	**P**		**02 15 03.7**	**+0.7**		
SUW	**Suwalki**	**75.51**	**323**	*eP*	**P**		**02 15 02.8**	**-0.2**		
SUW				*eS*	**S**		**02 24 41.7**	**-0.8**		
SUW				LMZ	LR		02 50 36.2			
	comp=Z,10µm,20.4s									
SUW	**Suwalki**	**75.51**	**323**	*eP*	**P**		**02 15 02.9**	**-0.1**		
	comp=Z,611nm,1.1s									
SUW				LR	LR					
	comp=Z,10µm,20.0s									
SUW	**Suwalki**	**75.51**	**323**	*eP*	**P**		**02 15 02.9**	**-0.1**		
SUW				pmax	pmax					
	comp=Z,611nm,1.1s									
SUW				MLR	MLR					
	comp=Z,10µm,20.0s									
TIRR	**Tirgusor**	**75.53**	**312**⇓	*iP*	**P**		**02 15 07.9**	**+4.6**		
SILT	**Sile**	**75.76**	**309**

ARMT	**Armutlu**	**76.52**	**308**	*eP*		**P**		**02 15 10.0**	**+0.9**
CTKS	**Kestanelik-??a**	**76.54**	**309**	*eP*		**P**		**02 15 12.8**	**+3.7**
BUR08	**Bucovina Ar. S**	**76.55**	**316**	*eP*		**P**		**02 15 09.8**	**+0.6**
	comp=Z,186nm,1.8s									
BURAR	**Bucovina Array**	**76.55**	**316**	⇓*iP*		**P**		**02 15 10.1**	**+0.9**
BURAR	**Bucovina Array**	**76.55**	**316**	*P*		**P**		**02 15 10.1**	**+0.9**
MDNY	**Mudanya-Bursa**	**76.57**	**308**	*eP*		**P**		**02 15 09.7**	**+0.4**
AIN	**Ainahou**	**76.59**	**75**	*eP*		**P**		**02 15 08.5**	**-1.5**
	comp=Z,208nm,1.3s									
AIN					LR	LR				
	comp=Z,4µm,20.0s									
LEHL	**Lehliu**	**76.60**	**313**	⇓*iP*		**P**		**02 15 10.7**	**+1.3**
MLH	**Mauna Loa**	**76.61**	**74**	PFAKE				02 15 20.0	+10
MLH					LR	LR				
	comp=Z,5µm,19.0s									
KORT	**Korkueli**	**76.63**	**305**	*eP*		**P**		**02 15 10.3**	**+0.4**
GEDZ	**Gediz**	**76.64**	**307**	*eP*		P		02 15 15.7	+5.9
PRD	**Provadia**	**76.64**	**311**	*eP*		P		02 15 15.2	+5.6
DAG	**Danmarks Havn**	**76.66**	**351**	⇑*iP*		**P**		**02 15 07.8**	**-1.3**
DAG				*i*				02 17 57.9		
	comp=Z,5µm,16.0s									
DAG	**Danmarks Havn**	**76.66**	**351**	⇑*iP*		**P**		**02 15 07.8**	**-1.3**
DAG				*i*				02 17 57.9		
DAG					MLR	MLR				
	comp=Z,5µm,16.0s									
UWE	**Uwekahuna**	**76.72**	**75**	PFAKE				02 15 20.0	+9.3	
UWE					LR	LR				
	comp=Z,6µm,22.0s									
SDHHI	**Sand Hill**	**76.73**	**75**	PFAKE				02 15 20.0	+9.3	
SDHHI					LR	LR				
	comp=Z,5µm,22.0s									
UWB	**Uwekahuna B**	**76.73**	**74**	PFAKE				02 15 20.0	+9.3	
UWB					LR	LR				
	comp=Z,4µm,19.0s									
NPH	**North Pit**	**76.73**	**75**	PFAKE				02 15 20.0	+9.3	
NPH					LR	LR				
	comp=Z,5µm,22.0s									
RIM	**Rim**	**76.74**	**75**	PFAKE				02 15 20.0	+9.2	
RIM					LR	LR				
	comp=Z,5µm,21.0s									
HLP	**Hilina Pali**	**76.75**	**75**	PFAKE				02 15 20.0	+9.3	
HLP					LR	LR				
	comp=Z,4µm,20.0s									
SLVT	**Silivri**	**76.76**	**309**	*eP*		**P**		**02 15 10.5**	**+0.2**
PUH	**Pauahi**	**76.80**	**75**	PFAKE				02 15 20.0	+8.9	
PUH					LR	LR				
	comp=Z,4µm,20.0s									
MLR	**Muntele Rosu**	**76.83**	**314**	*eP*		**P**		**02 15 11.5**	**+0.7**
	comp=Z,70nm,1.0s									
MLR					LR	LR				
	comp=Z,8µm,20.0s									
MLR	**Muntele Rosu**	**76.83**	**314**	⇓*iP*		**P**		**02 15 11.6**	**+0.7**
MLR	**Muntele Rosu**	**76.83**	**314**	*eP*		**P**		**02 15 11.5**	**+0.7**
MLR					pmax	pmax				
	comp=Z,70nm,1.0s									
MLR					MLR	MLR				
	comp=Z,8µm,20.0s									
MLR	**Muntele Rosu**	**76.83**	**314**	LR		LR		02 53 33.2		
	comp=Z,8µm,20.4s,baz=55,slow=39									
STCH	**Steam Cracks**	**76.88**	**74**	PFAKE				02 15 20.0	+8.5	
STCH					LR	LR				
	comp=Z,4µm,20.0s									
NPOC	**North of Pu'u**	**76.89**	**74**	PFAKE				02 15 20.0	+8.5	
NPOC					LR	LR				
	comp=Z,4µm,18.0s									
BESE	**Bessie Mountai**	**76.89**	**31**	PFAKE				02 15 20.0	+9.1	
BESE					LR	LR				
	comp=Z,2µm,20.0s									
SECR		**76.91**	**314**	⇑*iP*		**P**		**02 15 12.1**	**+1.0**
SULR		**76.91**	**313**	⇓*iP*		**P**		**02 15 11.6**	**+0.5**
SIMA	**Simav-Kutahya**	**76.94**	**307**	*eP*		**P**		**02 15 11.3**	**-0.2**
KCTX	**Karacabey (Bur**	**76.98**	**308**	*eP*		**P**		**02 15 12.3**	**+0.6**
DOPR	**Dopca**	**77.02**	**315**	⇓*iP*		**P**		**02 15 12.8**	**+1.0**
ELL	**Elmali**	**77.05**	**305**	*eP*		**P**		**02 15 15.9**	**+3.6**
PHSR	**Pinarhisar**	**77.10**	**310**	*eP*		**P**		**02 15 16.9**	**+4.6**
PHSR	**Pinarhisar**	**77.10**	**310**	⇓*iP*		**P**		**02 15 14.9**	**+2.6**
CRLT	**Corlu**	**77.13**	**309**	*eP*		P		02 15 17.5	+5.1
JIS	**Juneau Island**	**77.24**	**32**	*eP*		**P**		**02 15 12.4**	**-0.3**
	comp=Z,91nm,1.1s									
JIS					LR	LR				
	comp=Z,4µm,20.0s									
ARCR	**ARCALIA**	**77.29**	**316**	⇓*iP*		**P**		**02 15 13.3**	**+0.1**
EDC	**Edincik**	**77.31**	**309**	*eP*		**P**		**02 15 13.9**	**+0.4**
KULA	**Kula-Manisa**	**77.37**	**307**	*eP*		P		02 15 20.3	+6.3
KWP	**Kalwaria Pacla**	**77.37**	**319**	*eP*		**P**		**02 15 14.2**	**+0.5**
KWP				*eS*		**S**		**02 25 02.6**	**-0.6**
KWP					LMZ	LR		02 51 43.5		
	comp=Z,9µm,19.3s									
KWP	**Kalwaria Pacla**	**77.37**	**319**	*eP*		**P**		**02 15 14.2**	**+0.5**
	comp=Z,5µm,1.6s									
KWP					LR	LR				
	comp=Z,74µm,19.0s									
KWP	**Kalwaria Pacla**	**77.37**	**319**	*eP*		**P**		**02 15 14.2**	**+0.5**
KWP				*eS*		**S**		**02 25 02.6**	**-0.6**
KWP					MLR	MLR				
	comp=Z,9µm,19.3s									
MRMT	**Marmara Adasi**	**77.41**	**309**	*eP*		**P**		**02 15 14.5**	**+0.4**
VOIR		**77.44**	**314**	⇑*iP*		**P**		**02 15 14.2**	**0.0**
VOIR		**77.44**	**314**	*P*		**P**		**02 15 14.2**	**0.0**
MANT	**Manisa**	**77.45**	**307**	*eP*		**P**		**02 15 15.0**	**+0.4**
	comp=Z,513nm,1.6s									
JMB	**Yambol**	**77.46**	**311**	*eP*		P		02 15 21.6	+7.3	
MTUR	**Matau**	**77.50**	**314**	⇓*iP*		**P**		**02 15 14.8**	**+0.2**
BALB	**Balikesir**	**77.55**	**308**	*eP*		**P**		**02 15 15.1**	**+0.3**
EDRB	**Edirne**	**77.57**	**310**	*eP*		**P**		**02 15 16.2**	**+1.3**
BMR	**Baia Mare**	**77.61**	**317**	⇑*iP*		**P**		**02 15 16.0**	**+1.0**
SZH	**Strazhica**	**77.62**	**312**	*eP*		P		02 15 22.1	+6.9	
BEL	**Belsk**	**77.66**	**321**	*eP*		**P**		**02 15 15.8**	**+0.6**
BEL				*eS*		**S**		**02 25 06.8**	**+0.7**
BEL					LMZ	LR		02 52 08.9		
	comp=Z,14µm,17.6s									
BEL	**Belsk**	**77.66**	**321**	*eP*		**P**		**02 15 15.8**	**+0.6**
BEL				*eS*		**S**		**02 25 06.8**	**+0.7**
BEL					MLR	MLR				
	comp=Z,14µm,17.6s									
RKY	**Sarkoy-Tekirda**	**77.68**	**309**	*eP*		**P**		**02 15 15.4**	**-0.2**
KRBG	**Karabiga-Canak**	**77.70**	**309**	*eP*		**P**		**02 15 15.7**	**+0.1**
FETY	**Fethiye**	**77.71**	**305**	*eP*		**P**		**02 15 15.9**	**+0.1**
ARR	**Arges**	**77.73**	**314**	⇓*iP*		**P**		**02 15 16.1**	**+0.3**
TBLU	**Trondheim**	**77.79**	**334**	*eP*		**P**		**02 15 14.9**	**-0.8**
HUMR	**Humele**	**77.81**	**313**	⇓*iP*		**P**		**02 15 16.3**	**+0.1**
CJR	**Cluj-Napoca**	**77.91**	**316**	⇓*iP*		**P**		**02 15 18.2**	**+1.4**
CJR	**Cluj-Napoca**	**77.91**	**316**	*P*		**P**		**02 15 18.1**	**+1.3**
DALY	**Dalyan (Mula)**	**77.97**	**305**	*eP*		**P**		**02 15 18.1**	**+0.9**
TURN	**Turunc**	**77.99**	**305**	*eP*		**P**		**02 15 19.4**	**+2.1**
UZH	**Uzhgorod**	**78.00**	**318**	⇑*iP*		**P**		**02 15 17.2**	**0.0**
UZH				*i*				02 15 23.9		
UZH				*i*				02 15 27.2		
UZH				*e*				02 18 21.0		
UZH				*e*	PPP	PPP		02 20 09.7		
UZH				*i S*		**S**		**02 25 05.6**	**-4.3**
UZH				*eSP*		**ScS**		**02 25 36.6**	**+0.8**
UZH				*ePS*				02 25 48.0		
UZH				*eSS*		**SS**		**02 30 11.0**	**+0.5**
UZH					MLR	MLR				
	comp=N,900nm,16.0s									
UZH					MLR	MLR				
	comp=E,2µm,16.0s									
UZH					MLR	MLR				
	comp=Z,600nm,16.0s									
TRPA	**Tarpa**	**78.04**	**317**	⇓*iP*		**P**		**02 15 18.2**	**+0.8**
TRPA	**Tarpa**	**78.04**	**317**	*eS*		**S**		**02 25 12.0**	**+1.7**
TRPA	**Tarpa**	**78.04**	**317**	*eP*		**P**		**02 15 17.1**	**-0.3**
TRPA	**Tarpa**	**78.04**	**317**	*ePP*		PP		02 18 17.1	+3.8	
LPK	**Lapseki**	**78.09**	**309**	*eP*		**P**		**02 15 18.7**	**+0.9**
YER	**Yerkesik**	**78.14**	**305**	*eP*		**P**		**02 15 13.6**	**-4.6**
AYDB	**Zeytinkoy-Aydi**	**78.14**	**306**	*eP*		**P**		**02 15 19.0**	**+0.7**
ERIK	**Erikli-Kesan**	**78.16**	**309**	*eP*		**P**		**02 15 18.7**	**+0.5**
NC405	**NORSAR Array S**	**78.22**	**332**	*eP*		**P**		**02 15 17.6**	**-0.6**
	comp=Z,229nm,0.7s									
LOT	**Lotru**	**78.27**	**315**	⇓*iP*		**P**		**02 15 19.5**	**+0.6**
GELI	**Tayfur-Gelibol**	**78.28**	**309**	*eP*		**P**		**02 15 19.4**	**+0.5**
NC303	**NORSAR Array S**	**78.31**	**332**	*eP*		**P**		**02 15 18.4**	**-0.2**
	comp=Z,111nm,0.9s									
ENEZ	**Enez**	**78.39**	**309**	*eP*		**P**		**02 15 20.1**	**+0.6**
VLAD	**Vladila**	**78.39**	**313**	⇓*iP*		**P**		**02 15 21.2**	**+1.8**
ALN	**Alexandroupoli**	**78.41**	**310**	PFAKE				02 15 30.0	+10	
ALN					LR	LR				
	comp=Z,3µm,18.0s									
ALN	**Alexandroupoli**	**78.41**	**310**	*P*		**P**		**02 15 18.8**	**-0.7**
NB201	**NORSAR Array S**	**78.43**	**332**	*eP*		**P**		**02 15 19.0**	**-0.4**
	comp=Z,132nm,0.8s									
DRGR		**78.44**	**316**	⇑*iP*		**P**		**02 15 20.0**	**+0.2**
DRGR		**78.44**	**316**	*P*		**P**		**02 15 19.9**	**+0.2**
NB2	**NORSAR Subarra**	**78.47**	**332**	*P*		**P**		**02 15 18.9**	**-0.7**
	comp=Z,110nm,0.8s,baz=59,slow=5.6									
NOA	**NORSAR Array B**	**78.47**	**332**	*P*		**P**		**02 15 18.5**	**-1.1**
	comp=Z,27nm,0.7s,baz=269,slow=3.1,SNR=139									
NOA					LR	LR		02 53 54.2		
	comp=Z,20µm,18.7s,baz=65,slow=39									
NC602	**NORSAR Array S**	**78.47**	**332**	*eP*		**P**		**02 15 18.9**	**-0.7**
	comp=Z,49nm,0.9s									
NC602	**NORSAR Array S**	**78.47**	**332**	*eP*		**P**		**02 15 19.1**	**-0.4**
NORES	**NORESS Array B**	**78.47**	**332**	*P*		**P**		**02 15 18.8**	**-0.8**
NORES					pmax	pmax				
	comp=Z,13nm,0.6s									
NC204	**NORSAR Array S**	**78.55**	**332**	*eP*		**P**		**02 15 19.9**	**-0.2**
	comp=Z,94nm,0.8s									
KDZ	**Kurdzhali**	**78.57**	**310**	*eP*		P		02 15 31.1	+11	
EZN	**Ezine**	**78.60**	**308**	*eP*		**P**		**02 15 17.7**	**-2.9**
EZN	**Ezine**	**78.60**	**308**	⇑*iP*		**P**		**02 15 22.7**	**+2.1**
EZN	**Ezine**	**78.60**	**308**	*P*		**P**		**02 15 22.6**	**+2.0**
BLCB	**Balcova**	**78.60**	**307**	*eP*		**P**		**02 15 21.0**	**+0.3**
NBO00	**NORSAR Array S**	**78.66**	**332**	*eP*		**P**		**02 15 20.5**	**-0.1**
	comp=Z,209nm,1.7s									
DEV	**Deva**	**78.67**	**315**	⇓*iP*		**P**		**02 15 22.0**	**+1.1**
DEV	**Deva**	**78.67**	**315**	*P*		**P**		**02 15 22.0**	**+1.1**
RDO	**Rodhopi**	**78.67**	**310**	*P*		**P**		**02 15 19.6**	**-1.4**
NAO01	**NORSAR Array S**	**78.70**	**332**	*eP*		**P**		**02 15 20.5**	**-0.3**
	comp=Z,62nm,0.9s									
GCAM	**G?zelcaml?**	**78.71**	**306**	*eP*		P		02 15 28.0	+6.7	
LTVH	**Ltavrtes, Hu**	**78.72**	**317**	*eS*		S		02 25 37.0	+19	
LTVH	**Ltavrtes, Hu**	**78.72**	**317**	*eP*		**P**		**02 15 20.0**	**-1.2**
LTVH	**Ltavrtes, Hu**	**78.72**	**317**	*ePP*		PP		02 18 26.1	+7.1	
LTVH	**Ltavrtes, Hu**	**78.72**	**317**	⇑*eP*		P		02 15 32.0	+11	
LTVH				*eS*		S		02 25 43.1	+25	
BOZC	**Bozcaada**	**78.79**	**309**	*eP*		P		02 15 27.7	+6.0	
DAT	**Datca**	**78.81**	**305**	*eP*		P		02 15 08.2	-14	
PRK	**Paraskevi**	**78.85**	**308**	*P*		**P**		**02 15 21.9**	**-0.1**
DOMB	**Dombas**	**78.87**	**334**	*eP*		**P**		**02 15 21.8**	**+0.1**
OJC	**Ojcow**	**78.88**	**320**	*eP*		**P**		**02 15 22.4**	**+0.4**
OJC				*eS*		**S**		**02 25 18.6**	**-0.7**
OJC					LMZ	LR		02 50 30.3		
	comp=Z,7µm,22.8s									
OJC	**Ojcow**	**78.88**	**320**	*eP*		**P**		**02 15 22.3**	**+0.3**
	comp=Z,186nm,1.2s									
OJC	**Ojcow**	**78.88**	**320**	*eP*		**P**		**02 15 22.4**	**+0.4**
OJC				*eS*		**S**		**02 25 18.6**	**-0.7**
OJC					MLR	MLR				
	comp=Z,7µm,22.8s									
BODT	**Bodrum**	**78.89**	**306**	*eP*		P		02 15 28.4	+6.1	
PLD	**Plovdiv**	**78.89**	**311**	*eP*		P		02 15 28.3	+6.1	
NIE	**Niedzica**	**78.90**	**319**	*eP*		**P**		**02 15 23.1**	**+0.9**
NIE				*eS*		**S**		**02 25 18.3**	**-1.4**
NIE					LMZ	LR		02 55 47.5		
	comp=Z,6µm,17.5s									
NIE	**Niedzica**	**78.90**	**319**	*eP*		**P**		**02 15 23.1**	**+0.9**
NIE				*eS*		**S**		**02 25 18.3**	**-1.4**
SMTH	**Samothraki Isl**	**78.93**	**309**	*P*		**P**		**02 15 19.1**	**-3.4**
GZR	**Gura Zlata**	**78.94**	**315**	⇑*iP*		**P**		**02 15 22.8**	**+0.2**
GZR	**Gura Zlata**	**78.94**	**315**	*P*		**P**		**02 15 22.7**	**+0.2**
RES	**Resolute Bay**	**78.97**	**9**	*eP*		**P**		**02 15 21.1**	**-0.9**
	comp=Z,59nm,1.4s									
RES					LR	LR				
	comp=Z,7µm,22.0s									
RES	**Resolute Bay**	**78.97**	**9**	*eP*		**P**		**02 15 21.1**	**-0.9**
RES					pmax	pmax				
	comp=Z,59nm,1.4s									
RES					MLR	MLR				
	comp=Z,7µm,22.0s									
RES	**Resolute Bay**	**78.97**	**9**	*P*		**P**		**02 15 20.4**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=295,slow=6.1,SNR=14									
RZN	**Rozhen**	**79.04**	**311**	*eP*		P		02 15 30.3	+7.0	
WRAK	**Wrangell Islan**	**79.04**	**33**	PFAKE				02 15 30.0	+7.3	
WRAK					LR	LR				
	comp=Z,3µm,18.0s									
GKP	**Gorka Klasztor**	**79.06**	**324**	*eP*		**P**		**02 15 22.9**	**0.0**
GKP				*eS*		**S**		**02 25 21.1**	**+0.1**
GKP					LMZ	LR		02 53 24.8		
	comp=Z,18µm,19.1s									
GKP	**Gorka Klasztor**	**79.06**	**324**	*eP*		**P**		**02 15 22.9**	**0.0**
GKP				*eS*		**S**		**02 25 21.1**	**+0.1**
GKP					MLR	MLR				
	comp=Z,18µm,19.1s									
CRAG	**Craig**	**79.08**	**34**	PFAKE				02 15 30.0	+7.1	
CRAG					LR	LR				
	comp=Z,3µm,20.0s									
PGB	**Panagyurishte**	**79.09**	**312**	*eP*		P		02 15 30.8	+7.4	
MOL	**Molde**	**79.21**	**334**	*eP*		**P**		**02 15 24.0**	**+0.4**
OSL	**Oslo**	**79.22**	**331**	*eP*		**P**		**02 15 23.8**	**+0.1**
DLBC	**Dease Lake**	**79.23**	**30**	*eP*		**P**		**02 15 24.7**	**+0.9**
	comp=Z,35nm,1.0s									
DLBC					LR	LR				
	comp=Z,4µm,21.0s									
DLBC	**Dease Lake**	**79.23**	**30**	*P*		**P**		**02 15 23.7**	**-0.2**
	comp=Z,10nm,0.6s,baz=281,slow=3.6,SNR=9.6									
PUNG	**Punghina**	**79.26**	**314**	⇓*iP*		**P**		**02 15 25.3**	**+1.1**
SIRR	**Siria**	**79.31**	**316**	⇓*iP*		**P**		**02 15 25.1**	**+0.6**
LIA	**Limnos Island**	**79.39**	**309**	*P*		**P**		**02 15 22.9**	**-2.1**
KAVA	**Kavala**	**79.44**	**310**	*P*		**P**		**02 15 23.9**	**-1.4**
THAS	**Thassos island**	**79.45**	**310**	*P*		**P**		**02 15 24.0**	**-1.3**
BSD	**Bornholm Skovb**	**79.48**	**326**	⇑*iP*		**P**		**02 15 24.9**	**-0.2**
	comp=Z,256nm,1.4s									
	comp=Z,17µm,14.0s									
BSD	**Bornholm Skovb**	**79.48**	**326**	⇑*iP*		**P**		**02 15 24.9**	**-0.2**
BSD					pmax	pmax				
	comp=Z,260nm,1.4s									
BSD					MLR	MLR				
	comp=Z,17µm,14.0s									
LANS	**Liptovska Anna**	**79.51**	**319**	*eP*		**P**		**02 15 27.3**	**+1.8**
LANS	**Liptovska Anna**	**79.51**	**319**	*eP*		**P**		**02 15 27.3**	**+1.8**
FURI	**Furi**	**79.60**	**275**	PFAKE				02 15 40.0	+13	
FURI					LR	LR				
	comp=Z,4µm,19.0s									
BZS	**Buzias**	**79.60**	**315**	⇓*iP*		**P**		**02 15 26.2**	**+0.2**
BZS	**Buzias**	**79.60**	**315**	*P*		**P**		**02 15 26.2**	**+0.2**
TULEG	**Thule**	**79.62**	**2**	*eP*		**P**		**02 15 24.7**	**-0.9**
	comp=Z,90nm,1.6s									
TULEG					LR	LR				
	comp=Z,8µm,20.0s									
AKN	**Aaknes**	**79.64**	**334**	*eP*		**P**		**02 15 26.1**	**+0.2**
VTS	**Vitosha**	**79.70**	**312**	*eP*		**P**		**02 15 27.5**	**+0.6**
	comp=Z,126nm,1.0s									
VTS					LR	LR				
	comp=Z,6µm,20.0s									
VTS	**Vitosha**	**79.70**	**312**	*eP*		P		02 15 33.9	+7.0	
PSZ	**Piszkesteto**	**79.75**	**318**	*eP*		**P**		**02 15 26.0**	**-0.9**
	comp=Z,262nm,1.8s									
PSZ					LR	LR				
	comp=Z,8µm,18.0s									
PSZ	**Piszkesteto**	**79.75**	**318**	⇓*iP*		**P**		**02 15 27.7**	**+0.8**
PSZ	**Piszkesteto**	**79.75**	**318**	*eP*		**P**		**02 15 26.0**	**-0.9**
PSZ					pmax	pmax				
	comp=Z,262nm,1.8s									
PSZ					MLR	MLR				
	comp=Z,8µm,18.0s									
PSZ	**Piszkesteto**	**79.75**	**318**	*eP*		**P**		**02 15 24.0**	**-2.9**
PSZ				*ePP*		**PP**		**02 18 34.0**	**+6.3**
PSZ				*eS*		S		02 25 38.0	+9.2	
MMB	**Musomiste**	**79.76**	**311**	*eP*		P		02 15 32.6	+5.5	
NVR	**Nevrokopi**	**79.76**	**311**	*P*		**P**		**02 15 23.0**	**-4.1**
KONO	**Kongsberg**	**79.85**	**331**	*eP*		**P**		**02 15 27.0**	**-0.1**
	comp=Z,38nm,1.0s									
KONO					LR	LR				
	comp=Z,40µm,18.0s									
KONO	**Kongsberg**	**79.85**	**331**	*eP*		**P**		**02 15 27.0**	**-0.1**
KONO					pmax	pmax				
	comp=Z,38nm,1.0s									
KONO					MLR	MLR				
	comp=Z,40µm,18.0s									
MDVR	**Moldovita**	**79.87**	**314**	⇓*iP*		**P**		**02 15 28.2**	**+0.6**
RAC	**Raciborz**	**79.87**	**320**	*eP*		**P**		**02 15 27.2**	**-0.2**
RAC					MLR	MLR				
	comp=Z,14µm,16.8s									
AMBH	**Ambrzfalva**	**79.88**	**316**	*eP*		**P**		**02 15 28.0**	**+0.5**
SKAR	**Skarslia**	**79.89**	**333**	*eP*		**P**		**02 15 28.0**	**+0.7**
HIZ	**Hauiti**	**79.91**	**140**	*eP*		**P**		**02 15 26.8**	**-0.8**
	comp=Z,112nm,1.0s									
HIZ					LR	LR				
	comp=Z,4µm,21.0s									
HIZ	**Hauiti**	**79.91**	**140**	*P*		**P**		**02 15 27.8**	**+0.2**
BANR	**Banloc**	**80.00**	**315**	⇑*iP*		**P**		**02 15 29.0**	**+0.8**
OKC	**Ostrava-Krasne**	**80.00**	**320**	*eP*		**P**		**02 15 28.9**	**+0.8**
OKC				*eP*		**sP**		**02 15 37.2**	**0.0**
OKC				*ePP*		**PP**		**02 18 26.9**	**-2.7**
OKC				*eS*		**S**		**02 25 28.7**	**-2.6**
OKC					AMS	AMS		02 53 10.0		
	comp=Z,9µm,13.9s									
OKC	**Ostrava-Krasne**	**80.00**	**320**	*eP*		**P**		**02 15 28.9**	**+0.8**
OKC				*e*				02 15 37.2		
OKC				*e*				02 18 26.9		
OKC				*e*				02 25 28.7		
OKC					MLR	MLR				
	comp=Z,9µm,13.9s									
SRS	**Serrai**	**80.04**	**310**	*P*		**P**		**02 15 23.8**	**-4.7**
OUR	**Ouranopolis**	**80.07**	**310**	*P*		**P**		**02 15 26.4**	**-2.3**
KKB	**Krupnik**	**80.10**	**311**	*eP*		P		02 15 35.4	+6.5	
VYHS	**Vyhne**	**80.16**	**319**	*eP*		**P**		**02 15 29.8**	**+0.8**
VYHS					pmax	pmax				
	comp=Z,177nm,1.6s									
VYHS	**Vyhne**	**80.16**	**319**	*eP*		**P**		**02 15 29.8**	**+0.8**
VYHS				*ePP*		**PP**		**02 18 30.2**	**-0.8**
VYHS				*eS*		**S**		**02 25 29.1**	**-3.9**
VYHS				*eSS*		**SS**		**02 30 46.8**	**+3.8**
VYHS				*eL*		L		02 54 43.0		
APE	**Apeiranthos**	**80.20**	**306**	*P*		**P**		**02 15 27.4**	**-2.1**
SOH	**Sokhos**	**80.32**	**310**	*P*		**P**		**02 15 25.6**	**-4.5**
MORC	**Moravsky Berou**	**80.38**	**320**	*eP*		**P**		**02 15 30.0**	**-0.2**
	comp=Z,94nm,1.2s									
MORC					LR	LR				
	comp=Z,8µm,18.0s									
MORC	**Moravsky Berou**	**80.38**	**320**	⇑*iP*		**P**		**02 15 29.0**	**-1.3**
MORC	**Moravsky Berou**	**80.38**	**320**	*eP*		**P**		**02 15 30.0**	**-0.2**
MORC					pmax	pmax				
	comp=Z,94nm,1.2s									
MORC					MLR	MLR				
	comp=Z,8µm,18.0s									
MORC	**Moravsky Berou**	**80.38**	**320**	⇑*iP*		**P**		**02 15 30.6**	**+0.3**
MORC	**Moravsky Berou**	**80.38**	**320**	*eS*		**S**		**02 25 35.8**	**+0.4**
DIB	**Dawson Inlet,**	**80.43**	**36**	PFAKE				02 15 40.0	+10	
DIB					LR	LR				
	comp=Z,4µm,19.0s									
PLG	**Polygyros**	**80.43**	**310**	*P*		**P**		**02 15 26.4**	**-4.3**
PAIG	**Paliouri**	**80.44**	**309**	*P*		P		02 15 24.9	-5.8	
BUD	**Budapest**	**80.47**	**318**	*P*		**P**		**02 15 31.6**	**+0.9**
BUD	**Budapest**	**80.47**	**318**	*eP*		**P**		**02 15 31.0**	**+0.3**
COP	**Copenhagen**	**80.47**	**327**	*i P*		**P**		**02 15 30.7**	**+0.2**
	comp=Z,91nm,1.0s									
	comp=Z,16µm,15.0s									
COP	**Copenhagen**	**80.47**	**327**	*i P*		**P**		**02 15 30.7**	**+0.2**
COP					pmax	pmax				
	comp=Z,91nm,1.0s									
COP					MLR	MLR				
	comp=Z,16µm,15.0s									
HYA	**Hoyanger**	**80.51**	**334**	*eP*		**P**		**02 15 30.9**	**+0.4**
KNT	**Kendrikon**	**80.51**	**311**	*P*		**P**		**02 15 26.4**	**-4.6**
SANT	**Santorini**	**80.53**	**305**	PFAKE				02 15 40.0	+8.7	
SANT					LR	LR				
	comp=Z,5µm,18.0s									
RGN	**Rugen**	**80.56**	**326**	PFAKE				02 15 40.0	+9.0	
RGN					LR	LR				
	comp=Z,17µm,18.0s									
HORT	**Hortiatis**	**80.59**	**310**	*P*		**P**		**02 15 30.3**	**-1.3**
AOS	**Alonnisos**	**80.60**	**309**	*P*		**P**		**02 15 29.6**	**-1.9**
FOZ	**Fox Glacier**	**80.60**	**146

ZST e 02 18 41.3
ZST eS **S** **02 25 39.3 -5.9**
ZST Bratislava 81.33 319 eP **P** **02 15 35.0 -0.3**
ZST ePP **PP** **02 18 41.3 +0.7**
ZST eS **S** **02 25 39.3 -5.9**
ZST eSS **SS** **02 30 54.1 -6.3**
BLS5 Blasjo 81.34 332 eP **P** **02 15 35.4 +0.3**
LTZ Lake Taylor 81.35 145 eP **P** **02 15 34.5 -0.8**
comp=Z,109nm,1.9s
RPZ Rata Peaks 81.36 146 eP **P** **02 15 34.1 -1.2**
comp=Z,54nm,1.0s
RPZ Rata Peaks 81.36 146 P **P** **02 15 34.0 -1.3**
comp=Z,26nm,0.9s,baz=330,slow=0.8,SNR=13
IDI Anoyia 81.37 305 LR LR 02 56 33.5
comp=Z,940nm,21.3s,baz=76,slow=39
KRUC Moravsky 81.37 320 P **P** **02 15 36.0 +0.5**
KRUC Moravsky 81.37 320⇑ *i*P **P** **02 15 35.8 +0.3**
KRUC Moravsky 81.37 320 eS **S** **02 25 46.9 +1.3**
MXZ Matakaoa Point 81.38 138 PFAKE 02 15 50.0 +15
MXZ LR LR
comp=Z,6µm,20.0s
LBZ Lake Benmore 81.40 147 eP **P** **02 15 35.1 -0.4**
comp=Z,56nm,1.2s
WHZ Wether Hill Ro 81.41 149 PFAKE 02 15 50.0 +15
WHZ LR LR
comp=Z,3µm,22.0s
TIH Tihany 81.42 318⇑ eP **P** **02 15 35.1 -0.7**
TIH eS **S** **02 25 53.0 +6.9**
RAGZ Rawiri 81.42 139 P **P** **02 15 34.2 -1.7**
PKGZ Pakihiroa 81.44 138 P **P** **02 15 34.9 -1.0**
KRHZ Kereru 81.53 140 P **P** **02 15 35.3 -1.0**
KRUS Krusevo 81.56 311 *i* P **P** **02 15 35.2 -1.6**
TWGZ Tauwhareparae 81.56 138 P **P** **02 15 36.1 -0.5**
OXZ Oxford 81.60 145 PFAKE 02 15 50.0 +13
OXZ LR LR
comp=Z,1µm,19.0s
WMGZ Waiomatatini S 81.60 138 P **P** **02 15 36.1 -0.5**
PNHZ Pukenui 81.61 140 P **P** **02 15 35.5 -1.3**
KZN Kozani 81.63 310 P P 02 15 29.9 -7.2
TKGZ Te Karaka 81.65 138 P **P** **02 15 35.7 -1.2**
BIA Bitola 81.65 311 *i* P **P** **02 15 37.5 +0.3**
MUD Monsted U'grnd 81.68 329 *i* P **P** **02 15 36.9 0.0**
comp=Z,28µm,15.0s
MUD Monsted U'grnd 81.68 329 *i* P **P** **02 15 36.9 0.0**
MUD MLR MLR
comp=Z,28µm,15.0s
SNZO South Karori 81.68 142 PFAKE 02 15 50.0 +13
SNZO LR LR
comp=Z,4µm,20.0s
FNA Florina 81.71 311 eP **P** **02 15 36.4 -1.2**
comp=Z,87nm,1.4s
FNA LR LR
comp=Z,4µm,20.0s
FNA Florina 81.71 311 P **P** **02 15 33.3 -4.2**
FNA Florina 81.71 311 eP **P** **02 15 36.4 -1.2**
FNA pmax pmax
comp=Z,87nm,1.4s
FNA MLR MLR
comp=Z,4µm,20.0s
DID Didima 81.72 307 P P 02 15 24.7 -13
PVCC Panska Ves 81.76 322 eP **P** **02 15 38.1 +0.6**
PVCC ePP **PP** **02 18 49.5 +5.4**
PVCC eS **S** **02 25 47.3 -2.3**
PVCC AMS AMS 02 56 40.0
comp=Z,13µm,14.6s
PVCC Panska Ves 81.76 322 eP **P** **02 15 38.1 +0.6**
PVCC *e* 02 18 49.5
PVCC *e* 02 25 47.3
PVCC MLR MLR
comp=Z,13µm,14.6s
AGG Agios Georgios 81.76 309 eP **P** **02 15 36.5 -1.3**
comp=Z,58nm,1.0s
AGG LR LR
comp=Z,2µm,19.0s
AGG Agios Georgios 81.76 309 P **P** **02 15 41.0 +3.2**
AGG Agios Georgios 81.76 309 eP **P** **02 15 36.5 -1.3**
AGG pmax pmax
comp=Z,58nm,1.0s
AGG MLR MLR
comp=Z,2µm,19.0s
THL Klokotos Trika 81.77 310 P **P** **02 15 38.4 +0.7**
KULLO Kullorsuaq 81.77 360 *i* P **P** **02 15 34.1 -3.0**
comp=Z,5µm,18.0s
KULLO Kullorsuaq 81.77 360 *i* P **P** **02 15 34.1 -3.0**
KULLO MLR MLR
comp=Z,5µm,18.0s
TREC Trest 81.80 320 eP **P** **02 15 38.3 +0.5**
TREC epP **pP** **02 15 44.5 +0.1**
TREC ePP **PP** **02 18 49.7 +5.2**
TREC eS **S** **02 25 51.3 +1.2**
TREC AMS AMS 02 54 40.0
comp=Z,9µm,17.4s
TREC Trest 81.80 320 eP **P** **02 15 38.3 +0.5**
TREC *e* 02 15 44.5
TREC *e* 02 18 49.7
TREC *e* 02 25 51.3
TREC MLR MLR
comp=Z,9µm,17.4s
IVA Berane 81.85 313⇓ *i*P **P** **02 15 39.6 +1.3**
DSF Desfina 81.87 308 P **P** **02 15 33.6 -4.8**
SOP Sopron 81.89 319 P **P** **02 15 38.6 +0.4**
SOP Sopron 81.89 319⇑ eP **P** **02 15 38.0 -0.2**
SOP eS **S** **02 25 56.0 +5.1**
GOPC GO Pecny, Ondr 81.92 321 eP **P** **02 15 39.0 +0.6**
GOPC epP **pP** **02 15 45.3 +0.3**
GOPC eS **S** **02 25 51.6 +0.3**
GOPC AMS AMS 02 54 50.0
comp=Z,11µm,16.6s
GOPC GO Pecny, Ondr 81.92 321 eP **P** **02 15 39.0 +0.6**
GOPC *e* 02 15 45.3
GOPC *e* 02 25 51.6
GOPC MLR MLR
comp=Z,11µm,16.6s
KAHZ Kahuranaki 81.93 140 P **P** **02 15 36.4 -2.0**
BRG Berggiesshubel 81.95 322 *i* P **P** **02 15 38.8 +0.3**
comp=Z,144nm,1.9s
BRG *i* 02 15 45.7
comp=Z,324nm,2.1s
BRG Berggiesshubel 81.95 322 S **S** **02 25 53.0 +1.5**
BRG SS **SS** **02 31 10.0 +0.6**
comp=N,15µm,15.2s
comp=E,14µm,15.1s
comp=Z,20µm,15.3s
BRG Berggiesshubel 81.95 322 eP **P** **02 15 38.8 +0.3**
comp=Z,273nm,2.1s,baz=60,slow=5.0
BRG Berggiesshubel 81.95 322 *i* P **P** **02 15 38.8 +0.3**
BRG *i* 02 15 45.7
BRG S **S** **02 25 53.0 +1.5**
BRG SS **SS** **02 31 10.0 +0.6**
BRG pmax pmax
comp=Z,144nm,1.9s
BRG MLR MLR
comp=N,15µm,15.2s
BRG MLR MLR
comp=E,14µm,15.1s
BRG MLR MLR
comp=Z,20µm,15.3s
HAPS Han Pijesak,BI 81.96 315 eP **P** **02 15 38.0 -0.8**
OHR Ohrid 81.98 311 *i* P **P** **02 15 37.2 -1.7**
PHP Peshkopia 81.98 312 P **P** **02 15 37.3 -1.6**
PLE Pljevlja 81.99 314⇓ *i*P **P** **02 15 39.8 +0.8**
PRU Pruhonice 82.03 321 eP **P** **02 15 39.2 +0.3**
PRU epP **pP** **02 15 45.6 +0.1**
PRU ePP **PP** **02 18 51.2 +4.9**
PRU eS **S** **02 25 51.7 -0.6**
PRU AMS AMS 02 56 40.0
comp=Z,10µm,14.2s
PRU Pruhonice 82.03 321 eP **P** **02 15 39.2 +0.3**
PRU *e* 02 15 45.6
PRU *e* 02 18 51.2
PRU *e* 02 25 51.7
PRU MLR MLR
comp=Z,10µm,14.2s
KPRO Kipourio 82.06 310 P **P** **02 15 35.0 -4.4**
PRHZ Porangahau 82.09 140 P **P** **02 15 38.0 -1.2**
KOME Kolasin 82.11 313⇓ *i*P **P** **02 15 40.1 +0.5**
BFZ Birch Farm 82.14 141 eP **P** **02 15 38.0 -1.5**
comp=Z,72nm,0.9s
GVD Gavdhos 82.15 305 P P 02 15 45.2 +5.3
GUR Goura 82.19 308 P **P** **02 15 41.9 +1.7**
CONA Conrad Observa 82.20 319 *i* P **P** **02 15 40.7 +0.8**
comp=Z,84nm,1.3s,SNR=23
TRIZ Trizonia 82.21 308 P **P** **02 15 37.5 -2.6**
ANX Ano Chora 82.23 309 P P 02 15 33.7 -6.6

FBE Freiberg 82.26 323 eP **P** **02 15 40.6 +0.6**
comp=Z,263nm,1.6s,baz=60,slow=5.0
CLL Collm 82.27 323 eP **P** **02 15 39.4 -0.7**
comp=Z,85nm,1.0s
CLL LR LR
comp=Z,14µm,19.0s
CLL Collm 82.27 323 eP **P** **02 15 40.2 +0.1**
comp=Z,113nm,1.2s,baz=60,slow=5.0
CLL Collm 82.27 323⇑ *i*P **P** **02 15 40.0 -0.1**
comp=Z,30nm,0.9s
CLL ePmax 02 15 42.0
CLL ePlp 02 15 43.0
CLL comp=Z,1µm,16.0s *i* pP **pP** **02 15 46.2 -0.6**
CLL comp=Z,113nm,1.2s ePP **PP** **02 18 47.0 -1.2**
CLL epPP 02 18 56.0
CLL ePPP PPP 02 20 42.0
CLL *e* 02 25 46.0
CLL eS **S** **02 25 55.0 +0.3**
CLL ePS 02 26 42.0
CLL eSS **SS** **02 31 16.0 +1.9**
CLL eSSS SSS 02 35 06.0
CLL eSSSS 02 37 18.0
CLL *e* 02 37 24.0
CLL eSKKPdf SKKPbc 02 37 30.0 -12
CLL *e* 02 42 02.0
CLL ePKPPKPdf P'P'df 02 42 09.0 -8.0
CLL Lm MLR 02 56 00.0
comp=Z,14µm,18.1s
CLL Lmax 02 56 00.0
CLL Collm 82.27 323 eP **P** **02 15 39.4 -0.7**
CLL pmax pmax
comp=Z,85nm,1.0s
CLL MLR MLR
comp=Z,14µm,19.0s
KLV Kalavryta, Ach 82.29 308 P **P** **02 15 37.3 -3.3**
BEHE Becsehely 82.30 317⇑ *i*P **P** **02 15 40.9 +0.5**
BEHE Becsehely 82.30 317⇑ eP **P** **02 15 40.1 -0.3**
SCO Scoresbysund 82.35 348 eP **P** **02 15 40.6 +0.4**
comp=Z,207nm,1.5s
SCO LR LR
comp=Z,4µm,19.0s
SCO Scoresbysund 82.35 348 *i* P **P** **02 15 38.2 -2.0**
comp=Z,5µm,16.0s
SCO Scoresbysund 82.35 348 eP **P** **02 15 40.6 +0.4**
SCO pmax pmax
comp=Z,207nm,1.5s
SCO MLR MLR
comp=Z,4µm,19.0s
BSEG Bad Segeberg 82.40 326 eP **P** **02 15 41.3 +0.6**
comp=Z,135nm,1.4s,baz=60,slow=5.0
BSEG ePP **PP** **02 18 54.9 +5.7**
PDG Podgorica 82.47 313⇓ *i*P **P** **02 15 41.7 +0.3**
PDG Podgorica 82.47 313⇓ *i*P **P** **02 15 40.9 -0.4**
TTG Podgorica 82.47 313⇓ *i*P **P** **02 15 42.5 +1.2**
TTG Podgorica 82.47 313 eP **P** **02 15 41.7 +0.3**
comp=Z,61nm,1.1s
TTG LR LR
comp=Z,5µm,21.0s
NKY Niksic 82.48 313⇓ *i*P **P** **02 15 42.0 +0.4**
PVO Paravola 82.50 309 P **P** **02 15 39.0 -2.6**
TIR Tirane 82.52 312 eP **P** **02 15 42.1 +0.4**
comp=Z,188nm,1.2s
TIR LR LR
comp=Z,6µm,21.0s
TIR Tirane 82.52 312⇑ *i*P **P** **02 15 41.6 -0.1**
TIR Tirane 82.52 312 P **P** **02 15 42.1 +0.4**
NKME Niksic 82.52 313⇓ *i*P **P** **02 15 41.9 +0.2**
DRME Dracevica, Mon 82.62 313⇓ *i*P **P** **02 15 43.3 +1.1**
DRME Dracevica, Mon 82.62 313⇑ *i*P **P** **02 15 42.1 -0.1**
KOGS Kog 82.63 318 *i* P **P** **02 15 41.9 -0.2**
KOGS *e* 02 15 48.0
KOGS ePP **PP** **02 18 56.2 +4.8**
KOGS eSKSac **S** **02 25 56.9 -1.7**
CEME Cevo 82.64 313⇓ *i*P **P** **02 15 43.5 +1.1**
ARSA Arzberg 82.71 319 *i* P **P** **02 15 42.8 +0.2**
comp=Z,50nm,1.9s,SNR=8.3
BRY Bratogost 82.74 314⇓ *i*P **P** **02 15 42.9 -0.1**
BRY Bratogost 82.74 314⇑ *i*P **P** **02 15 42.6 -0.4**
SUMG Summit 82.80 354 eP **P** **02 15 41.6 -1.4**
comp=Z,66nm,1.1s
SUMG LR LR
comp=Z,5µm,21.0s
SUMG Summit 82.80 354 *i* P **P** **02 15 42.6 -0.4**
SUMG *i* 02 17 00.0
comp=Z,13µm,17.0s
SUMG Summit 82.80 354 *i* P **P** **02 15 42.6 -0.4**
SUMG MLR MLR
comp=Z,13µm,17.0s
ITM Ithomi 82.81 307 eP **P** **02 15 42.6 -0.7**
comp=Z,78nm,0.7s
BLY Banja Luka 82.81 316 eP **P** **02 15 43.5 +0.3**
comp=Z,46nm,1.0s
BLY LR LR
comp=Z,9µm,20.0s
BLY Banja Luka 82.81 316⇓ *i*P **P** **02 15 43.2 +0.1**
BLY Banja Luka 82.81 316⇑ *i*P **P** **02 15 43.2 +0.1**
IGT Igoumenitsa 82.96 310 P **P** **02 15 41.9 -2.1**
IGT Igoumenitsa 82.96 310 P **P** **02 15 46.6 +2.6**
HCY Herceg Novi 82.97 313⇓ *i*P **P** **02 15 44.0 0.0**
HCY Herceg Novi 82.97 313 eP **P** **02 15 43.0 -1.0**
KHC Kasperske Hory 82.98 321 eP **P** **02 15 44.2 +0.2**
comp=Z,79nm,1.8s
KHC LR LR
comp=Z,4µm,19.0s
KHC Kasperske Hory 82.98 321 eP **P** **02 15 44.4 +0.4**
KHC epP **pP** **02 15 50.3 -0.3**
KHC ePP **PP** **02 19 00.4 +6.2**
KHC eS **S** **02 26 03.9 +1.7**
KHC AMS AMS 02 55 20.0
comp=Z,12µm,16.1s
KHC Kasperske Hory 82.98 321 eP **P** **02 15 44.2 +0.2**
KHC pmax pmax
comp=Z,79nm,1.8s
KHC MLR MLR
comp=Z,4µm,19.0s
NEUB Neuenburg 82.99 323 eP **P** **02 15 44.1 +0.2**
comp=Z,177nm,1.4s,baz=60,slow=5.0
TANN Tannenbergstha 83.00 322 eP **P** **02 15 44.3 +0.2**
comp=Z,384nm,2.0s,baz=60,slow=5.0
TANN ePP **PP** **02 18 58.9 +4.6**
SRN Sarande 83.05 310 P **P** **02 15 39.7 -4.7**
GEC2 GERESS Array S 83.05 321 eP **P** **02 15 44.7 +0.3**
comp=Z,55nm,1.0s
GEC2 LR LR
comp=Z,8µm,20.0s
GEC2 GERESS Array S 83.05 321 eP **P** **02 15 44.7 +0.3**
comp=Z,76nm,1.1s,baz=60,slow=5.0
GEC2 GERESS Array S 83.05 321 eP **P** **02 15 44.7 +0.3**
GEC2 pmax pmax
comp=Z,55nm,1.0s
GEC2 MLR MLR
comp=Z,8µm,20.0s
GERES GERESS Array B 83.05 321 P **P** **02 15 44.6 +0.3**
comp=Z,8.2nm,0.7s,baz=57,slow=4.9,SNR=74
GERES LR LR 02 55 48.4
comp=Z,7µm,18.8s,baz=54,slow=38
GEA0 GERESS Array S 83.05 321 eP **P** **02 15 43.7 -0.7**
ZAG Zagreb 83.08 317⇑ *i*P **P** **02 15 45.1 +0.6**
GROS Grobnik 83.09 318 *i* P **P** **02 15 44.4 -0.3**
NKC Novy Kostel 83.09 322 eP **P** **02 15 45.0 +0.5**
NKC ePP **PP** **02 19 00.0 +4.9**
NKC eS **S** **02 26 03.7 +0.4**
NKC AMS AMS 02 57 30.0
comp=Z,15µm,13.4s
NKC Novy Kostel 83.09 322 eP **P** **02 15 45.0 +0.5**
NKC *e* 02 19 00.0
NKC *e* 02 26 03.7
NKC MLR MLR
comp=Z,15µm,13.4s
GUNZ Gunzen 83.10 322 eP **P** **02 15 44.9 +0.4**
comp=Z,155nm,1.4s,baz=60,slow=5.0
WERN Wernitzgruen 83.11 322 eP **P** **02 15 45.0 +0.4**
comp=Z,95nm,1.3s,baz=60,slow=5.0
ASSE Asse, Remlinge 83.12 324 eP **P** **02 15 44.8 +0.3**
comp=Z,194nm,1.6s,baz=60,slow=5.0
PLN Plauen 83.13 323 eP **P** **02 15 44.8 +0.1**
comp=Z,147nm,1.6s,baz=60,slow=5.0
MOA Molln 83.19 320 *i* P **P** **02 15 45.7 +0.6**
comp=Z,110nm,0.9s,SNR=24
YKW3 Yellowknife Ar 83.22 23 eP **P** **02 15 43.7 -1.1**
NRDL Niedersach Rie 83.24 325 eP **P** **02 15 45.7 +0.6**
comp=Z,216nm,1.6s,baz=60,slow=5.0
BBB Bella Bella 83.25 35 PFAKE 02 16 00.0 +15

BBB LR LR
comp=Z,3µm,18.0s
BBB Bella Bella 83.25 35 P **P** **02 15 44.5 -0.7**
comp=Z,5.0nm,0.7s,baz=306,slow=7.9,SNR=5.5
YKA Yellowknife Ar 83.26 23 *i* P **P** **02 15 44.2 -0.9**
YKA pmax pmax
comp=Z,13nm,0.7s
YKA Yellowknife Ar 83.26 23 P **P** **02 15 44.2 -0.9**
comp=Z,12nm,0.7s,baz=314,slow=4.8,SNR=308
YKA PKiKP **PKiKP** **02 21 01.9 -1.1**
comp=Z,0.4nm,0.7s,baz=317,slow=1.8,SNR=3.8
YKA PKKPbc **PKKPbc** **02 34 01.4 -5.0**
comp=Z,0.6nm,0.7s,baz=125,slow=2.6,SNR=4.6
YKA PKPPKP **P'P'df** **02 42 09.5 -5.7**
comp=Z,0.4nm,0.8s,baz=128,slow=2.7,SNR=5.7
YKA LR LR 02 58 00.8
comp=Z,451nm,18.9s,baz=326,slow=39
SOKA Soboth 83.27 318 *i* P **P** **02 15 45.8 +0.2**
comp=Z,45nm,1.0s,SNR=11
STON Ston 83.31 314 eP **P** **02 15 44.7 -1.0**
VLS Valsamata 83.35 309 P **P** **02 15 44.6 -1.5**
MOX Moxa 83.36 323 eP **P** **02 15 45.7 -0.1**
comp=Z,149nm,1.5s,baz=60,slow=5.0
MOX ePP **PP** **02 19 02.7 +5.5**
MOX eL L 02 58 09.5
comp=Z,13µm,18.7s
MOX Moxa 83.36 323 P **P** **02 15 46.5 +0.7**
WET Wettzell 83.38 321 eP **P** **02 15 46.3 +0.3**
comp=Z,261nm,2.0s,baz=60,slow=5.0
WET Wettzell 83.38 321 P **P** **02 15 46.2 +0.2**
CRES Cresnjev 83.41 317⇑ *i*P **P** **02 15 46.1 -0.1**
MANZ Manzenberg 83.41 322 eP **P** **02 15 46.2 +0.1**
comp=Z,121nm,1.5s,baz=60,slow=5.0
CLZ Clausthal 83.43 324 eP **P** **02 15 46.7 +0.5**
comp=Z,240nm,1.4s,baz=60,slow=5.0
ROTZ Rotzenmuhle 83.46 322 eP **P** **02 15 46.9 +0.5**
comp=Z,149nm,1.4s,baz=60,slow=5.0
RETH Rethem/Aller, 83.50 325 eP **P** **02 15 46.8 +0.3**
comp=Z,116nm,1.4s,baz=60,slow=5.0
OBKA Obir 83.65 318 *i* P **P** **02 15 47.6 0.0**
comp=Z,39nm,0.9s
ABPO Ambohimpanom 83.70 246 eP **P** **02 15 49.3 +1.0**
comp=Z,164nm,1.8s
ABPO LR LR
comp=Z,3µm,18.0s
ABPO Ambohimpanom 83.70 246 eP **P** **02 15 49.3 +1.0**
ABPO pmax pmax
comp=Z,164nm,1.8s
ABPO MLR MLR
comp=Z,3µm,18.0s
LJU Ljubljana 83.88 318 eP **P** **02 15 48.7 +0.1**
LJU *e* 02 15 54.7
LJU ePP **PP** **02 19 06.0 +4.4**
LJU *e* 02 21 29.1
LJU eSKSac **SKSac** **02 26 06.4 -4.4**
LJU eS **S** **02 26 10.9 -0.5**
LJU *e* 02 27 02.6
LJU Ljubljana 83.88 318⇑ *i*P **P** **02 15 48.6 0.0**
GRA1 Grafenberg Arr 84.05 322 eP **P** **02 15 50.0 +0.6**
comp=Z,328nm,1.5s
GRA1 LR LR
comp=Z,9µm,21.0s
GRF Grafenberg Arr 84.05 322 eP **P** **02 15 50.0 +0.6**
comp=Z,324nm,1.5s,baz=60,slow=5.0
GRF eL L 02 57 06.4
comp=Z,8µm,19.7s
GRF Grafenberg Arr 84.05 322 eP **P** **02 15 50.0 +0.6**
GRF pmax pmax
comp=Z,328nm,1.5s
GRF MLR MLR
comp=Z,9µm,21.0s
LRW Lerwick 84.05 335 eP **P** **02 15 49.0 -0.1**
GRFO Grafenberg 84.05 322 eP **P** **02 15 50.0 +0.7**
comp=Z,256nm,1.4s
GRFO LR LR
comp=Z,8µm,21.0s
GRFO Grafenberg 84.05 322 eP **P** **02 15 50.1 +0.7**
GRFO pmax pmax
comp=Z,256nm,1.4s
GRFO MLR MLR
comp=Z,8µm,21.0s
CEY Cerknica 84.08 318⇑ *i*P **P** **02 15 49.6 -0.1**
KBA Koelnbreinsper 84.10 319 *i* P **P** **02 15 49.8 -0.2**
comp=Z,45nm,0.9s,SNR=9.7
KBA Koelnbreinsper 84.10 319 P **P** **02 15 49.8 -0.2**
comp=Z,42nm,1.5s,SNR=10
MYKA Terra Mystica 84.14 319 *i* P **P** **02 15 50.1 +0.1**
UBBA Unterbreizbach 84.15 324 eP **P** **02 15 50.1 +0.3**
comp=Z,272nm,1.9s,baz=60,slow=5.0
RIY Rijeka 84.25 317⇑ *i*P **P** **02 15 49.7 -0.8**
CADS Cadrg 84.28 318 *i* P **P** **02 15 50.0 -0.7**
CADS *i* 02 15 56.1
TRI Trieste 84.51 318 PFAKE 02 16 00.0 +8.2
TRI LR LR
comp=Z,5µm,20.0s
IBBN Ibbenburen 84.56 326 eP **P** **02 15 52.2 +0.3**
comp=Z,221nm,1.6s,baz=60,slow=5.0
ABTA Abfaltersbach 84.76 319 *i* P **P** **02 15 52.5 -0.7**
comp=Z,87nm,1.3s,SNR=11
FUR Furstenfeldbru 84.79 321 eP **P** **02 15 53.8 +0.6**
comp=Z,373nm,1.4s,baz=60,slow=5.0
KMBO Kilima Mbogo 84.86 267 eP **P** **02 15 55.8 +1.3**
comp=Z,46nm,1.4s
KMBO LR LR
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 84.86 267 *i* P **P** **02 15 54.4 0.0**
SNR=11
KMBO Kilima Mbogo 84.86 267 eP **P** **02 15 55.8 +1.3**
KMBO pmax pmax
comp=Z,46nm,1.4s
KMBO MLR MLR
comp=Z,3µm,21.0s
KMBO Kilima Mbogo 84.86 267 P **P** **02 15 55.7 +1.3**
SNR=13
KMBO Kilima Mbogo 84.86 267 P **P** **02 15 54.1 -0.3**
comp=Z,4.9nm,0.9s,baz=56,slow=4.4,SNR=15
WATA Walderalm 85.03 320 *i* P **P** **02 15 55.0 +0.4**
comp=Z,12nm,0.6s,SNR=9.7
WTTA Wattenberg 85.03 320 *i* P **P** **02 15 51.9 -2.7**
comp=Z,31nm,0.7s
WTSB Winterswijk 85.25 326 eP **P** **02 15 55.3 -0.1**
BUG Bochum–Univer 85.29 325 eP **P** **02 15 55.5 -0.1**
comp=Z,276nm,1.6s,baz=60,slow=5.0
MOTA Moosalm 85.30 320 *i* P **P** **02 15 55.9 -0.1**
comp=Z,16nm,0.8s,SNR=18
SQTA Sankt Quirin 85.30 320 *i* P **P** **02 15 55.6 -0.3**
comp=Z,94nm,1.2s,SNR=12
TNS Taunus Mts 85.31 324 eP **P** **02 15 56.0 +0.2**
comp=Z,265nm,2.2s,baz=60,slow=5.0
TNS Taunus Mts 85.31 324 P **P** **02 15 56.3 +0.5**
RETA Reutte 85.43 320 *i* P **P** **02 15 56.3 -0.2**
comp=Z,20nm,1.1s
TOD Tromm 85.44 323 P **P** **02 15 56.6 +0.1**
TIP Timpagrande 85.61 311 eP **P** **02 15 57.7 +0.2**
comp=Z,146nm,1.3s
TIP LR LR
comp=Z,6µm,19.0s
TIP Timpagrande 85.61 311⇓ *i*P **P** **02 15 58.0 +0.5**
STU Stuttgart 85.66 322 PFAKE 02 16 10.0 +12
STU LR LR
comp=Z,15µm,19.0s
STU Stuttgart 85.66 322 eP **P** **02 15 57.5 0.0**
comp=Z,61nm,1.1s,baz=60,slow=5.0
STU Stuttgart 85.66 322 P **P** **02 15 57.4 -0.1**
FETA Feichten 85.69 320 *i* P **P** **02 15 57.8 -0.1**
comp=Z,42nm,1.2s,SNR=13
UBR Ueberruh 85.71 321 eP **P** **02 15 57.5 -0.4**
comp=Z,194nm,1.6s,baz=60,slow=5.0
KTD Kalmit 85.99 323 P **P** **02 15 59.4 +0.2**
DAVA Damuels 86.05 321 *i* P **P** **02 15 59.6 -0.1**
comp=Z,26nm,1.0s
FUORN Ofenpass-Fuorn 86.17 320 eP **P** **02 16 00.6 +0.1**
comp=Z,167nm,1.4s
FUORN LR LR
comp=Z,11µm,20.0s
AQU L'Aquila 86.36 315 eP **P** **02 16 01.7 +0.5**
comp=Z,228nm,1.2s
AQU LR LR
comp=Z,6µm,20.0s
AQU L'Aquila 86.36 315 P **P** **02 16 01.7 +0.5**
AQU L'Aquila 86.36 315⇑ *i*P **P** **02 16 01.2 0.0**
HGN Heimansgroeve 86.36 325 eP **P** **02 16 00.3 -0.6**
HGN Heimansgroeve 86.36 325 eS **SKSac** **02 26 25.5 -0.9**
BFO Black Forest 86.39 322 eP **P** **02 16 01.3 +0.1**
comp=Z,130nm,1.7s
BFO LR LR

comp=Z,11µm,18.0s
BFO Black Forest 86.39 322 *e*P **P 02 16 00.8 -0.4**
comp=Z,166nm,1.8s,baz=60,slow=5.0
BFO Black Forest 86.39 322 *i* P **P 02 16 02.0 +0.8**
MEM Membach 86.41 325 P **P 02 16 01.7 +0.5**
MEM Membach 86.41 325 ⇑P **P 02 16 00.3 -0.9**
MEM ⇓pP **pP 02 16 07.2 -1.0**
MEM ⇑sP **sP 02 16 09.6 -0.7**
comp=Z,38nm,1.3s
BEBN Eben Emael 86.48 325 ⇑P **P 02 16 01.3 -0.2**
BEBN ⇓pP **pP 02 16 07.2 -1.3**
BEBN ⇑PP **PP 02 19 21.5 -1.0**
SLE Schleitheim 86.59 321 P **P 02 16 02.1 -0.1**
CEL Celeste 86.63 310 *e*P **P 02 16 03.5 +0.9**
comp=Z,394nm,1.3s
CEL LR LR
comp=Z,4µm,20.0s
TUE Stuetta 86.78 320 *e*P **P 02 16 03.1 -0.3**
comp=Z,207nm,1.8s
TUE LR LR
comp=Z,10µm,19.0s
WLF Walferdange 86.86 324 *e*P **P 02 16 04.2 +0.7**
comp=Z,500nm,0.9s
WLF LR LR
comp=Z,32µm,19.0s
WLF Walferdange 86.86 324 *e*P **P 02 16 03.8 +0.4**
comp=Z,174nm,1.0s,baz=60,slow=5.0
WLF Walferdange 86.86 324 ⇑P **P 02 16 04.1 +0.7**
WLF ⇓pP **pP 02 16 10.2 -0.2**
comp=Z,128nm,1.5s
BCLA Clavier 86.89 325 ⇑P **P 02 16 03.3 -0.2**
BCLA ⇓pP **pP 02 16 09.2 -1.2**
BCLA ⇑sP **sP 02 16 11.8 -0.8**
comp=Z,46nm,1.6s
BCLA ⇑PP **PP 02 19 31.9 +6.1**
CDF Champ du Feu 86.93 322 *e*P **P 02 16 02.9 -1.0**
CDF pmax pmax
comp=Z,381nm,2.1s
BORG Borgarnes 87.00 345 PFAKE 02 16 20.0 +16
BORG LR LR
comp=Z,8µm,18.0s
ILULI Ilulissat 87.00 357 PFAKE 02 16 10.0 +6.3
ILULI LR LR
comp=Z,7µm,18.0s
ILULI Ilulissat 87.00 357⇑ *i*P **P 02 16 01.8 -1.9**
ILULI *i* 02 19 22.7
comp=Z,7µm,17.0s
ILULI Ilulissat 87.00 357⇑ *i*P **P 02 16 01.8 -1.9**
ILULI *i* 02 19 22.7
ILULI MLR MLR
comp=Z,7µm,17.0s
ECH Echery 87.11 322 *e*P **P 02 16 04.1 -0.6**
comp=Z,29nm,1.1s
ECH LR LR
comp=Z,7µm,18.0s
ECH Echery 87.11 322 *e*P **P 02 16 04.1 -0.6**
ECH pmax pmax
comp=Z,29nm,1.1s
ECH MLR MLR
comp=Z,7µm,18.0s
UCC Uccle 87.17 325 *e*P **P 02 16 05.0 +0.1**
comp=Z,66nm,0.9s
UCC LR LR
comp=Z,15µm,18.0s
UCC Uccle 87.17 325 *e*P **P 02 16 05.0 +0.1**
UCC pmax pmax
comp=Z,66nm,0.9s
UCC MLR MLR
comp=Z,15µm,18.0s
UCC Uccle 87.17 325 ⇑P **P 02 16 04.3 -0.5**
UCC ⇓pP **pP 02 16 10.3 -1.5**
UCC ⇑sP **sP 02 16 13.1 -0.8**
MOF Molkenrain 87.32 322 P **P 02 16 05.8 0.0**
GIVF Givet 87.32 325 *e*P **P 02 16 04.8 -0.8**
GIVF pmax pmax
comp=Z,210nm,1.8s
VLC Villacollemand 87.36 318 PFAKE 02 16 20.0 +14
VLC LR LR
comp=Z,7µm,19.0s
LLLB Lillooet 87.38 35 *e*P **P 02 16 06.4 +0.4**
comp=Z,44nm,1.0s
LLLB LR LR
comp=Z,3µm,20.0s
DOU Dourbes 87.45 325 ⇑P **P 02 16 05.9 -0.3**
DOU ⇑pP **pP 02 16 12.4 -0.8**
comp=Z,32nm,1.2s
DOU ⇑sP **sP 02 16 14.6 -0.7**
HINF Hinteralfeld 87.50 322 *e*P **P 02 16 06.0 -0.6**
HINF pmax pmax
comp=Z,84nm,1.6s
INVG Invergeldie, C 87.61 333 *e*P **P 02 16 05.5 -1.4**
INVG IAmb IAmb 02 16 16.0
comp=Z,138nm,1.9s
PGC Sidney 87.66 37 *e*P **P 02 16 07.8 +0.5**
comp=Z,170nm,2.0s
BAIF Baives 87.67 325 *e*P **P 02 16 06.4 -0.9**
BAIF pmax pmax
comp=Z,97nm,1.6s
HAU Haudompre 87.67 322 *e*P **P 02 16 06.0 -1.4**
HAU pmax pmax
comp=Z,20nm,0.8s
EDMD Edmundbyers 87.76 331 *e*P **P 02 16 07.0 -0.6**
EDMD IAmb IAmb 02 16 16.3
comp=Z,144nm,1.2s
LOMF Lomont 87.77 322 P **P 02 16 08.4 +0.4**
EKA Eskdalemuir Ar 87.95 332 P **P 02 16 07.9 -0.7**
EKA pmax pmax
comp=Z,5.0nm,0.6s
ESK Eskdalemuir 87.99 332 PFAKE 02 16 20.0 +11
ESK LR LR
comp=Z,35µm,18.0s
A04D Lummi Island 88.03 36 P **P 02 16 09.2 +0.2**
baz=305,SNR=5.6
SENIN Lac Senin/Sane 88.04 321 *e*P **P 02 16 08.9 -0.5**
comp=Z,26nm,0.8s
SENIN LR LR
comp=Z,13µm,18.0s
NLWA Neilton Lookou 88.13 38 *e*P **P 02 16 10.3 +0.6**
comp=Z,189nm,2.0s
NLWA LR LR
comp=Z,2µm,21.0s
D03D Eldon 88.49 38 P **P 02 16 11.9 +0.6**
baz=304,SNR=13
LBWR Ladybower, Pea 88.57 330 *e*P **P 02 16 10.9 -0.6**
B05A Bryant 88.62 37 P **P 02 16 12.1 +0.3**
baz=305,SNR=17
B06A Marblemount 88.81 36 *e*P **P 02 16 12.8 +0.1**
comp=Z,54nm,1.0s
B06A LR LR
comp=Z,3µm,18.0s
LPG La Plagne 88.83 320 *e*P **P 02 16 12.6 -0.7**
LPG pmax pmax
comp=Z,61nm,0.7s
LPL La Plagne 88.83 320 *e*P **P 02 16 12.4 -0.8**
LPL pmax pmax
comp=Z,37nm,0.7s
D04E Lakebay 88.87 38 P **P 02 16 13.8 +0.7**
baz=305
RAR Rarotonga 89.04 114 LR LR 02 51 53.4
comp=Z,1µm,18.7s,baz=304,slow=33
PGF Pioggiola 89.06 317 *e*P **P 02 16 13.5 -0.7**
PGF pmax pmax
comp=Z,70nm,0.8s
BNI Bardonecchia 89.12 320 *e*P **P 02 16 13.8 -0.7**
comp=Z,32nm,0.9s
BNI LR LR
comp=Z,15µm,19.0s
BNI Bardonecchia 89.12 320 *e*P **P 02 16 13.8 -0.7**
BNI pmax pmax
comp=Z,32nm,0.9s
BNI MLR MLR
comp=Z,15µm,19.0s
F03A Seaside 89.13 39 *e*P **P 02 16 15.3 +1.0**
comp=Z,343nm,1.8s
F03A LR LR
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 89.19 357 PFAKE 02 16 30.0 +16
SFJD LR LR
comp=Z,4µm,19.0s
SFJD Kangerlussuaq 89.19 357 *i* P **P 02 16 12.0 -2.1**
comp=Z,3µm,17.0s
SFJD Kangerlussuaq 89.19 357 *i* P **P 02 16 12.0 -2.1**
SFJD MLR MLR
comp=Z,3µm,17.0s
SFJD Kangerlussuaq 89.19 357 *e*P **P 02 16 13.6 -0.5**
MBDF Montbardon 89.25 320 *e*P **P 02 16 14.2 -0.9**
MBDF pmax pmax
comp=Z,13nm,0.8s
D05A Enumclaw 89.30 37 *e*P **P 02 16 16.3 +1.2**
comp=Z,119nm,1.2s
D05A LR LR
comp=Z,2µm,18.0s
ANGG Ammassalik, Gr 89.31 351 PFAKE 02 16 30.0 +15
ANGG LR LR
comp=Z,6µm,18.0s
SBF Sospel 89.32 319 *e*P **P 02 16 14.1 -1.3**
SBF pmax pmax
comp=Z,49nm,0.7s
E04D Cinebar 89.34 38 P **P 02 16 15.8 +0.5**
baz=305
F04D Rainier, OR 89.36 39 P **P 02 16 15.7 +0.4**
baz=304
C06D Leavenworth 89.48 36 P **P 02 16 15.7 -0.3**
baz=306
LOR Lormes 89.48 323 *e*P **P 02 16 14.6 -1.4**
LOR pmax pmax
comp=Z,43nm,1.1s
FOEL Foel Wylfa 89.58 330 *e*P **P 02 16 16.0 -0.3**
ORIF Oris-en-Rattie 89.67 320 *e*P **P 02 16 16.0 -1.0**
ORIF pmax pmax
comp=Z,29nm,0.8s
G03D McMinnville, O 89.70 40 P **P 02 16 16.8 -0.2**
baz=304
SSF Saint Saulge 89.80 323 *e*P **P 02 16 16.2 -1.2**
SSF pmax pmax
comp=Z,30nm,1.0s
SMF Signal de Mont 89.85 322 *e*P **P 02 16 16.6 -1.1**
SMF pmax pmax
comp=Z,75nm,1.0s
CLF Chambon-Foret 89.91 324 *e*P **P 02 16 18.4 +0.5**
comp=Z,108nm,1.2s
CLF LR LR
comp=Z,13µm,19.0s
FRF La Foret Royal 89.97 319 *e*P **P 02 16 17.1 -1.2**
FRF pmax pmax
comp=Z,28nm,0.8s
IDGL Inch Island, C 89.97 333 *e*P **P 02 16 17.1 -0.9**
I02D Swisshome 89.98 41 P **P 02 16 18.1 -0.2**
baz=304
COR Corvallis 90.03 40 *e*P **P 02 16 20.0 +1.4**
comp=Z,237nm,1.8s
COR LR LR
comp=Z,2µm,21.0s
AVF Avril sur Loir 90.04 323 *e*P **P 02 16 17.4 -1.1**
AVF pmax pmax
comp=Z,63nm,1.0s
B08A Colville Reser 90.06 35 *e*P **P 02 16 18.5 -0.2**
comp=Z,163nm,1.8s
B08A LR LR
comp=Z,2µm,18.0s
MCH1 Michaelchurch 90.07 329 *e*P **P 02 16 17.1 -1.5**
MCH1 IAmb IAmb 02 16 26.4
comp=Z,98nm,1.2s
CASY Casey 90.24 184 *e*P **P 02 16 18.1 -0.6**
comp=Z,55nm,1.0s
SSB Saint Sauveur 90.24 321 *e*P **P 02 16 19.2 -0.4**
comp=Z,22nm,0.9s
SSB LR LR
comp=Z,8µm,19.0s
SSB Saint Sauveur 90.24 321 *e*P **P 02 16 19.2 -0.4**
SSB pmax pmax
comp=Z,22nm,0.9s
SSB MLR MLR
comp=Z,8µm,19.0s
F05D White Salmon 90.36 38 P **P 02 16 20.4 +0.3**
baz=306
KEBM Edson Butte 90.37 42 *e*P **P 02 16 21.3 +1.0**
comp=Z,141nm,1.2s
H04D Lebanon 90.40 40 P **P 02 16 20.6 +0.3**
baz=305
VIVF Saint-Julien-l 90.41 320 *e*P **P 02 16 19.2 -1.2**
VIVF pmax pmax
comp=Z,15nm,0.8s
J01E Myrtle Point 90.46 42 P **P 02 16 20.9 +0.3**
baz=304,SNR=5.4
BGF Bois d'Agland 90.46 323 *e*P **P 02 16 20.8 +0.3**
BGF pmax pmax
comp=Z,46nm,1.0s
I03D Drain, OR 90.51 41 P **P 02 16 21.2 +0.4**
baz=304,SNR=6.4
MBAR Mbarara 90.60 270 PFAKE 02 16 30.0 +8.0
MBAR LR LR
comp=Z,2µm,18.0s
H04A Detroit Lake 90.63 40 *e*P **P 02 16 20.9 -0.6**
comp=Z,36nm,1.1s
H04A LR LR
comp=Z,2µm,19.0s
DSB Dublin 90.76 332 PFAKE 02 16 30.0 +8.3
DSB LR LR
comp=Z,21µm,18.0s
G05D Wamic, OR 90.81 39 P **P 02 16 21.1 -1.1**
baz=306
E07A Sunnyside 90.86 37 *e*P **P 02 16 22.4 0.0**
comp=Z,195nm,1.8s
E07A LR LR
comp=Z,2µm,19.0s
K02D Willamette Mer 90.88 42 P **P 02 16 22.4 -0.3**
baz=304
C09A Chrisman Ranch 90.96 35 *e*P **P 02 16 22.9 +0.1**
comp=Z,144nm,1.8s
C09A LR LR
comp=Z,3µm,18.0s
TCF Toulx Ste Croi 90.97 323 *e*P **P 02 16 22.1 -0.9**
TCF pmax pmax
comp=Z,51nm,1.1s
I04A Tendick Farm, 91.01 40 P **P 02 16 22.9 -0.4**
baz=305,SNR=12
D08A Wollman Farm, 91.07 36 *e*P **P 02 16 23.2 -0.1**
comp=Z,160nm,1.9s
D08A LR LR
comp=Z,2µm,19.0s
HAWA Hanford 91.14 37 *e*P **P 02 16 24.3 +0.7**
comp=Z,60nm,1.4s
HAWA LR LR
comp=Z,2µm,20.0s
G06A Carlson Farm, 91.21 39 *e*P **P 02 16 24.4 +0.2**
comp=Z,175nm,1.8s
G06A LR LR
comp=Z,2µm,21.0s
F07A Phinny Hill Vi 91.21 38 *e*P **P 02 16 24.5 +0.5**
comp=Z,39nm,1.1s
F07A LR LR
comp=Z,3µm,19.0s
L02E Cave Junction 91.22 42 P **P 02 16 23.9 -0.3**
baz=304
NEW Newport 91.28 35 *e*P **P 02 16 24.2 -0.1**
comp=Z,29nm,1.1s
NEW LR LR
comp=Z,3µm,18.0s
NEW Newport 91.28 35 *e*P **P 02 16 24.2 -0.1**
NEW pmax pmax
comp=Z,29nm,1.1s
NEW MLR MLR
comp=Z,3µm,18.0s
NEW Newport 91.28 35 P **P 02 16 24.3 -0.1**
baz=309
NEW Newport 91.28 35 P **P 02 16 24.3 -0.1**
comp=Z,7.1nm,0.7s,baz=291,slow=4.1,SNR=16
I05D Terrebonne, OR 91.33 40 P **P 02 16 24.3 -0.4**
baz=306
GRR Gorron 91.33 326 *e*P **P 02 16 27.2 +2.7**
GRR pmax pmax
comp=Z,58nm,1.4s
E08A Dider Farm, El 91.34 37 PFAKE 02 16 40.0 +15
E08A LR LR
comp=Z,2µm,18.0s
HUMO Hull Mountain 91.36 42 *e*P **P 02 16 25.2 +0.4**
comp=Z,56nm,1.5s
HUMO LR LR
comp=Z,2µm,19.0s
KRMB Red Mountain 91.38 43 *e*P **P 02 16 25.7 +0.6**
J04D Umpqua Nationa 91.51 41 P **P 02 16 25.6 -0.1**
baz=305,SNR=8.7
JCC Jacoby Creek, 91.70 44 *e*P **P 02 16 23.7 -2.6**
comp=Z,48nm,1.1s
JCC LR LR
comp=Z,2µm,19.0s
E09A Wood Farm, Sta 91.82 36 *e*P **P 02 16 27.4 +0.6**
comp=Z,54nm,1.3s
E09A LR LR
comp=Z,2µm,19.0s
KHMM Horse Mountain 91.86 43 PFAKE 02 16 40.0 +13
KHMM LR LR
comp=Z,2µm,20.0s
CAF Calviac 91.87 322 *e*P **P 02 16 26.7 -0.5**
CAF pmax pmax
comp=Z,108nm,1.6s
PINE Pine Mountain 91.88 40 *e*P **P 02 16 28.0 +0.5**
comp=Z,56nm,1.0s
PINE LR LR
comp=Z,3µm,21.0s
IGLA Glengowla, Co 91.91 333 *e*P P 02 16 21.6 -5.5
RJF Les Rejaudoux 91.95 322 *e*P **P 02 16 27.2 -0.3**
RJF pmax pmax
comp=Z,132nm,1.1s
L04D Klamath Falls 91.98 42 P **P 02 16 27.8 0.0**
baz=305,SNR=25
J05D Fort Rock, OR 92.00 40 P **P 02 16 28.0 +0.1**
baz=306,SNR=18
YBH Yreka Blue Hor 92.01 42 *e*P **P 02 16 28.0 +0.1**
comp=Z,32nm,1.2s
YBH LR LR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 92.01 42 *e*P **P 02 16 28.0 +0.1**
YBH pmax pmax
comp=Z,32nm,1.2s
YBH MLR MLR
comp=Z,2µm,21.0s
YBH Yreka Blue Hor 92.01 42 P **P 02 16 28.0 +0.1**
comp=Z,9.9nm,0.9s,baz=24,slow=4.8,SNR=18
MFF Saint Martin d 92.07 324 *e*P **P 02 16 28.3 +0.3**
MFF pmax pmax
comp=Z,70nm,1.3s
K04D Chiloquin, OR 92.08 41 P **P 02 16 28.3 0.0**
baz=305
M02C Callahan 92.11 43 P **P 02 16 27.3 -1.2**
baz=305,SNR=14
G08A Pilot Rock 92.12 38 *e*P **P 02 16 28.8 +0.3**
comp=Z,28nm,1.5s
G08A LR LR
comp=Z,3µm,22.0s
KMRM Mail Ridge 92.23 44 *e*P **P 02 16 29.6 +0.6**
comp=Z,18nm,1.1s
KMRM LR LR
comp=Z,4µm,18.0s
WALA Waterton Lakes 92.39 33 *e*P **P 02 16 29.4 -0.2**
comp=Z,98nm,1.4s
WALA LR LR
comp=Z,4µm,21.0s
KEST Kesra 92.43 311 *e*P **P 02 16 30.7 +0.7**
comp=Z,137nm,1.5s
KEST Kesra 92.43 311 P **P 02 16 29.7 -0.3**
comp=Z,9.6nm,0.7s,baz=31,slow=0.8,SNR=17
KEST PP **PP 02 20 06.1 -4.5**
comp=Z,3.2nm,0.8s,baz=320,slow=2.6,SNR=3.9
KEST LR LR 03 04 24.9
comp=Z,2µm,18.6s,baz=347,slow=40
N02D Trinity Center 92.44 43 P **P 02 16 29.4 -0.6**
baz=305
M04C Macdoel 92.51 42 P **P 02 16 30.2 -0.2**
baz=305,SNR=26
K05A Summer Lake 92.53 41 *e*P **P 02 16 30.6 +0.1**
comp=Z,91nm,1.1s
K05A LR LR
comp=Z,2µm,18.0s
I07A Izee 92.54 39 *e*P **P 02 16 30.3 -0.1**
comp=Z,60nm,1.8s
I07A LR LR
comp=Z,2µm,19.0s
LFF La Frestale 92.61 322 *e*P **P 02 16 30.1 -0.4**
LFF pmax pmax
comp=Z,56nm,1.3s
KCPM Cahto Peak 92.61 44 PFAKE 02 16 40.0 +9.2
KCPM LR LR
comp=Z,3µm,18.0s
F10A Beach Ranch, E 92.66 36 *e*P **P 02 16 31.2 +0.4**
comp=Z,79nm,1.8s
F10A LR LR
comp=Z,2µm,19.0s
MTLF Montolieu 92.73 320 *e*P **P 02 16 32.3 +1.2**
MTLF pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 92.77 43 *e*P **P 02 16 31.2 -0.2**
comp=Z,23nm,1.2s
WDC LR LR
comp=Z,2µm,21.0s
WDC Whiskeytown Da 92.77 43 *e*P **P 02 16 31.2 -0.2**
WDC pmax pmax
comp=Z,23nm,1.2s
WDC MLR MLR
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 92.84 44 P **P 02 16 31.6 -0.2**
baz=305,SNR=14
BMO Blue Mountains 93.31 37 *e*P **P 02 16 33.5 -0.4**
comp=Z,14nm,0.9s
BMO LR LR
comp=Z,2µm,21.0s
HOPS Hopland Field 93.33 45 PFAKE 02 16 40.0 +6.0
HOPS LR LR
comp=Z,3µm,20.0s
VAL Valentia 93.35 332 *e*P P 02 16 22.2 -12
MOD Modoc Plateau 93.37 41 *e*P **P 02 16 34.4 +0.1**
comp=Z,45nm,1.1s
MOD LR LR
comp=Z,2µm,19.0s
O03E Paynes Creek 93.39 43 P **P 02 16 33.4 -0.9**
baz=305
FFC Flin Flon 93.42 23 *e*P **P 02 16 32.4 -1.6**
comp=Z,38nm,1.4s
FFC LR LR
comp=Z,4µm,21.0s
FFC Flin Flon 93.42 23 *i* P **P 02 16 33.1 -1.0**
J08A Circle Bar Ran 93.58 39 *e*P **P 02 16 35.8 +0.7**
comp=Z,20nm,0.9s
J08A LR LR
comp=Z,2µm,20.0s
GDXM Geysers 93.61 45 *e*P **P 02 16 35.9 +0.5**
comp=Z,20nm,1.2s
GDXM LR LR
comp=Z,3µm,20.0s
MSO Missoula 93.85 34 PFAKE 02 16 50.0 +14
MSO LR LR
comp=Z,3µm,19.0s
ORV Oroville 94.01 43 *e*P **P 02 16 35.9 -1.2**
comp=Z,18nm,1.0s
ORV LR LR
comp=Z,2µm,18.0s
ORV Oroville 94.01 43 *e*P **P 02 16 35.9 -1.2**
ORV pmax pmax
comp=Z,18nm,1.0s
ORV MLR MLR
comp=Z,2µm,18.0s
WVOR Wild Horse Val 94.04 40 *e*P **P 02 16 37.5 +0.1**
comp=Z,34nm,1.4s
WVOR LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 94.04 40 *e*P **P 02 16 37.5 +0.1**
WVOR pmax pmax
comp=Z,34nm,1.4s
WVOR MLR MLR
comp=Z,2µm,21.0s
BEKR Beckworth 94.54 43 *e*P **P 02 16 39.5 -0.3**
comp=Z,23nm,1.0s
BEKR LR LR
comp=Z,2µm,20.0s
NRS Narsarsuaq 94.56 354 PFAKE 02 16 50.0 +11
NRS LR LR
comp=Z,6µm,18.0s
AFDM Forest Hills D 94.70 44 *e*P **P 02 16 39.9 -0.5**
comp=Z,16nm,1.1s
AFDM LR LR
comp=Z,2µm,20.0s
IVI Ivigtut 94.78 355 PFAKE 02 16 50.0 +10
IVI LR LR
comp=Z,6µm,20.0s
HRY Holter Researc 95.01 33 *e*P **P 02 16 41.8 +0.1**
EGMT Eagleton 95.12 32 *e*P **P 02 16 41.7 -0.5**
comp=Z,16nm,1.0s
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 95.12 32 P **P 02 16 41.5 -0.6**
baz=314
RUBR Rubicon Trail 95.15 43 PFAKE 02 16 50.0 +7.4
RUBR LR LR
comp=Z,2µm,20.0s
PAHR Pah Rah Range 95.24 42 *e*P **P 02 16 42.8 -0.1**
comp=Z,25nm,1.1s
PAHR LR LR
comp=Z,2µm,20.0s
VCNR Virginia City 95.32 43 *e*P **P 02 16 43.7 +0.3**

comp=Z,12nm,0.9s
VCNR LR LR
comp=Z,3µm,19.0s
PNTR Pine Nut 95.48 43 *e*P P 02 16 44.8 +0.6
comp=Z,17nm,1.0s
PNTR LR LR
comp=Z,2µm,20.0s
DLMT Dillon 95.52 35 *e*P P 02 16 44.2 +0.1
comp=Z,64nm,1.6s
DLMT LR LR
comp=Z,2µm,18.0s
CMB Columbia Colle 95.60 44 *e*P P 02 16 43.7 -0.8
comp=Z,22nm,1.0s
CMB LR LR
comp=Z,2µm,18.0s
CMB Columbia Colle 95.60 44 *e*P P 02 16 43.7 -0.8
CMB pmax pmax
comp=Z,22nm,1.0s
CMB MLR MLR
comp=Z,2µm,18.0s
SAO San Andreas Ge 95.66 46 PFAKE 02 17 00.0 +15
SAO LR LR
comp=Z,2µm,19.0s
HLID Hailey 95.74 37 *e*P P 02 16 45.7 +0.5
comp=Z,14nm,1.3s
HLID LR LR
comp=Z,3µm,20.0s
HLID Hailey 95.74 37 P P **02 16 44.8 -0.3**
baz=311
MCMT McKenzie Canyo 95.75 35 *e*P P 02 16 47.6 +2.3
YERR Yerington 95.76 43 PFAKE 02 17 00.0 +15
YERR LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 95.87 34 PFAKE 02 17 00.0 +14
BOZ LR LR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 95.87 34 P P **02 16 44.5 -1.1**
baz=313
WAKR Walker 95.93 43 *e*P P 02 16 46.3 +0.1
comp=Z,14nm,1.1s
WAKR LR LR
comp=Z,2µm,20.0s
BMN Battle Mountai 96.11 41 *e*P P 02 16 48.2 +1.3
comp=Z,16nm,1.1s
BMN LR LR
comp=Z,2µm,19.0s
BMN Battle Mountai 96.11 41 *e*P P 02 16 48.2 +1.3
BMN pmax pmax
comp=Z,16nm,1.1s
BMN MLR MLR
comp=Z,2µm,19.0s
PPT Papeete 96.31 106 LR LR 02 51 43.0
comp=Z,3µm,21.2s,baz=272,slow=30
PPT2 Papeete2 96.32 106 *e*PP PP 02 20 42.3 +0.4
comp=Z,387nm,24.5s
PPT2 *e*SKSac **SKSac 02 27 22.3 -2.0**
comp=Z,1µm,26.8s
PPT2 Papeete2 96.32 106 *e*PS PS 02 29 32.3 +2.8
comp=Z,2µm,27.8s
PPT2 *e*SS SS 02 34 46.0 +5.2
comp=Z,769nm,26.0s
PPT2 Papeete2 96.32 106 *e*LR LR 02 47 54.5
comp=Z,8µm,23.2s,baz=295
RYN Ryan 96.42 43 PFAKE 02 17 00.0 +12
RYN LR LR
comp=Z,2µm,21.0s
KVN Kaiserville 96.43 42 *e*P P 02 16 48.4 0.0
comp=Z,21nm,1.2s
KVN LR LR
comp=Z,2µm,18.0s
KVN Kaiserville 96.43 42 *e*P P 02 16 48.4 0.0
KVN pmax pmax
comp=Z,21nm,1.2s
KVN MLR MLR
comp=Z,2µm,18.0s
YHB Horse Butte 96.67 35 PFAKE 02 17 00.0 +11
YHB LR LR
comp=Z,3µm,20.0s
MDPB Devils Postpil 96.67 44 *e*P P 02 16 50.1 +0.4
comp=Z,15nm,1.3s
MDPB LR LR
comp=Z,2µm,18.0s
NV01 Mina Array Sit 96.68 43 *e*P P 02 16 49.1 -0.5
NVAR Mina Array Bea 96.68 43 P P **02 16 48.5 -1.2**
comp=Z,4.8nm,0.8s,baz=300,slow=5.5,SNR=14
NVAR LR LR 02 56 49.7
comp=Z,2µm,21.2s,baz=306,slow=33
OMMB Old Mammoth Mi 96.74 44 *e*P P 02 16 50.0 0.0
comp=Z,9.8nm,1.1s
OMMB LR LR
comp=Z,2µm,18.0s
NV11 Mina Array Sit 96.77 43 PFAKE 02 17 00.0 +10
NV11 LR LR
comp=Z,200nm,20.0s
YHH Holmes Hill 96.82 34 PFAKE 02 17 00.0 +10
YHH LR LR
comp=Z,3µm,19.0s
YMR Madison River 96.84 35 PFAKE 02 17 00.0 +10
YMR LR LR
comp=Z,3µm,18.0s
YNR Norris Junctio 96.96 34 PFAKE 02 17 00.0 +9.2
YNR LR LR
comp=Z,3µm,19.0s
PAGB Antelope Grade 97.04 46 *e*P Pdif 02 16 51.3 +0.2
comp=Z,23nm,1.0s
PAGB LR LR
comp=Z,2µm,19.0s
YFT Old Faithful 97.06 35 PFAKE 02 17 00.0 +8.7
YFT LR LR
comp=Z,7µm,18.0s
ELK Elko 97.09 40 *e*P Pdif 02 16 53.1 +1.6
comp=Z,14nm,1.5s
ELK LR LR
comp=Z,2µm,20.0s
ELK Elko 97.09 40 *e*P Pdif 02 16 53.1 +1.6
ELK pmax pmax
comp=Z,14nm,1.5s
ELK MLR MLR
comp=Z,2µm,20.0s
YPP Pitchstone Pla 97.20 35 PFAKE 02 17 00.0 +8.0
YPP LR LR
comp=Z,4µm,18.0s
LKWY Lake 97.21 34 PFAKE 02 17 00.0 +8.0
LKWY LR LR
comp=Z,5µm,20.0s
H17A Grant Village 97.23 35 PFAKE 02 17 00.0 +7.9
H17A LR LR
comp=Z,5µm,20.0s
DGMT Dagmar 97.34 29 PFAKE 02 17 00.0 +7.8
DGMT LR LR
comp=Z,4µm,18.0s
FLWY Flagg Ranch 97.39 35 PFAKE 02 17 00.0 +7.3
FLWY LR LR
comp=Z,3µm,20.0s
IMW Indian Meadow 97.39 35 PFAKE 02 17 00.0 +7.2
IMW LR LR
comp=Z,2µm,18.0s
RLMT Red Lodge 97.40 33 PFAKE 02 17 00.0 +7.2
RLMT LR LR
comp=Z,3µm,19.0s
RLMT Red Lodge 97.40 33 P P **02 16 51.9 -0.8**
baz=315
MOOW Moose Ponds 97.59 35 PFAKE 02 17 00.0 +6.3
MOOW LR LR
comp=Z,2µm,19.0s
TPAW Teton Pass 97.66 35 PFAKE 02 17 10.0 +16
TPAW LR LR
comp=Z,2µm,19.0s
VES Vestal, Richgr 97.74 45 P P **02 16 53.1 -1.1**
baz=307
LAO LASA Array 97.75 31 PFAKE 02 17 10.0 +16
LAO LR LR
comp=Z,3µm,19.0s
LAO LASA Array 97.75 31 P P **02 16 53.4 -0.7**
baz=317
LOHW Long Hollow 97.76 35 PFAKE 02 17 10.0 +16
LOHW LR LR
comp=Z,2µm,20.0s
SNOW Snow King Moun 97.78 35 PFAKE 02 17 10.0 +15
SNOW LR LR
comp=Z,3µm,18.0s
REDW Red Top Meadow 97.80 35 PFAKE 02 17 10.0 +15
REDW LR LR
comp=Z,3µm,18.0s
UCM Universidad Co 97.81 320 P P **02 16 54.1 -0.3**
UCM Universidad Co 97.81 320 PP PP **02 20 54.9 +2.9**
HVU Hansel Valley 97.82 38 PFAKE 02 17 10.0 +15
HVU LR LR
comp=Z,2µm,19.0s
PKM Mcpherson Peak 97.83 47 P P **02 16 53.8 -1.0**
baz=306
CWC Cottonwood Cre 98.03 44 P P **02 16 54.9 -0.8**
baz=307
AHID Auburn Hatcher 98.08 36 PFAKE 02 17 10.0 +14
AHID LR LR
comp=Z,3µm,19.0s
GRAC Grapevine Rang 98.15 44 P P **02 16 55.4 -0.6**
baz=308
CART Cartagena 98.18 317 PFAKE 02 17 10.0 +14
CART LR LR
comp=Z,4µm,18.0s
BGU Big Grassy Mou 98.24 38 PFAKE 02 17 10.0 +13
BGU LR LR
comp=Z,2µm,21.0s
ISA Isabella, Lake 98.25 45 *e*P P 02 16 55.4 -1.1
comp=Z,4.7nm,1.0s
ISA LR LR
comp=Z,2µm,20.0s
ISA Isabella, Lake 98.25 45 *e*P P 02 16 55.4 -1.1
ISA pmax pmax
comp=Z,5.0nm,1.0s
ISA MLR MLR
comp=Z,2µm,20.0s
SPUT South Promonto 98.32 38 PFAKE 02 17 10.0 +13
SPUT LR LR
comp=Z,3µm,18.0s
R11A Troy Canyon, C 98.41 42 *e*P Pdif 02 16 58.6 +1.2
comp=Z,18nm,1.8s
R11A LR LR
comp=Z,2µm,20.0s
R11A Troy Canyon, C 98.41 42 P P **02 16 56.7 -0.6**
baz=309
DAC Darwin (Calif) 98.44 44 PFAKE 02 17 10.0 +12
DAC LR LR
comp=Z,2µm,19.0s
HWUT Hardware Ranch 98.61 37 PFAKE 02 17 10.0 +12
HWUT LR LR
comp=Z,2µm,19.0s
TBI Tubuai 98.62 112 *e*PP PP 02 20 53.2 -6.2
comp=Z,441nm,27.2s
TBI *e*SKSac **SKSac 02 27 36.2 +0.5**
comp=Z,956nm,28.5s
TBI Tubuai 98.62 112 *e*PS PS 02 29 57.3 +3.0
comp=Z,2µm,30.0s
TBI Tubuai 98.62 112 *e*LR LR 02 49 05.9
comp=Z,3µm,31.0s,baz=300
ESDC Sonseca Array 98.64 320 P P **02 16 57.9 -0.3**
comp=Z,0.1nm,0.3s,baz=37,slow=3.0,SNR=3.1
ESDC PP PP **02 20 58.4 -0.1**
comp=Z,5.7nm,1.0s,baz=48,slow=8.1,SNR=7.8
ESDC PKKPbc **PKKPdf 02 33 28.4 -1.2**
comp=Z,0.8nm,0.7s,baz=246,slow=1.5,SNR=5.0
ESDC LR LR 03 06 16.1
comp=Z,2µm,18.0s,baz=10.0,slow=38
ESLA Sonseca Array 98.64 320 PFAKE 02 17 10.0 +12
ESLA LR LR
comp=Z,5µm,18.0s
MPMC Manual Prospec 98.64 44 P P **02 16 57.6 -0.9**
baz=308
LSZ Lusaka 98.67 257 *e*P P 02 16 57.9 -0.9
LSZ LR LR
comp=Z,5µm,20.0s
LSZ Lusaka 98.67 257 *e*P P 02 16 57.9 -0.9
LSZ MLR MLR
comp=Z,5µm,20.0s
OSI Osito Audit: C 98.71 46 PFAKE 02 17 10.0 +11
OSI LR LR
comp=Z,3µm,20.0s
PBRG Braganca 98.79 323 *e*Pdif Pdif 02 17 05.8 +7.0
PBRG Braganca 98.79 323 *e*PP PP 02 21 07.9 +8.5
DUG Dugway, Tooele 98.85 39 PFAKE 02 17 10.0 +11
DUG LR LR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 98.85 39 P P **02 16 58.3 -0.9**
baz=312
TPNV Topopah Spring 98.88 43 PFAKE 02 17 10.0 +11
TPNV LR LR
comp=Z,2µm,20.0s
TPNV Topopah Spring 98.88 43 P P **02 16 57.9 -1.5**
baz=309
BW06 Boulder Array 98.90 35 PFAKE 02 17 10.0 +10
BW06 LR LR
comp=Z,3µm,18.0s
BW06 Boulder Array 98.90 35 P P **02 16 58.5 -1.0**
baz=314
PDAR Pinedale Array 98.90 35 P Pdif 02 16 59.5 0.0
comp=Z,0.3nm,0.5s,baz=165,slow=3.7,SNR=2.4
PDAR PP **PP 02 21 05.2 +4.7**
comp=Z,0.3nm,0.4s,baz=308,slow=7.4,SNR=4.1
PDAR LR LR 03 00 48.4
comp=Z,2µm,21.3s,baz=340,slow=35
PAB San Pablo 98.95 320 PFAKE 02 17 10.0 +10
PAB LR LR
comp=Z,4µm,19.0s
SNCC San Nicolas Is 98.99 48 PFAKE 02 17 10.0 +10
SNCC LR LR
comp=Z,3µm,19.0s
EDW2 Edwards Air Fo 99.03 46 P **Pdif 02 16 58.5 -1.5**
baz=307
CTU Camp Tracy 99.12 38 PFAKE 02 17 10.0 +10
CTU LR LR
comp=Z,2µm,20.0s
ULM Lac du Bonnet 99.24 23 PFAKE 02 17 10.0 +9.4
ULM LR LR
comp=Z,3µm,18.0s
ULM Lac du Bonnet 99.24 23 P **Pdif 02 17 01.1 +0.5**
comp=Z,1.1nm,0.6s,baz=336,slow=10.0,SNR=3.2
ULM PKKPbc **PKKPbc 02 33 23.0 -2.8**
comp=Z,3.9nm,1.1s,baz=162,slow=3.8,SNR=3.7
ULM LR LR 03 05 03.3
comp=Z,2µm,19.6s,baz=341,slow=37
PSUT Pine Spring 99.33 41 PFAKE 02 17 10.0 +8.5
PSUT LR LR
comp=Z,2µm,18.0s
PASC Pasadena Art C 99.33 46 PFAKE 02 17 10.0 +8.7
PASC LR LR
comp=Z,3µm,20.0s
JLU Jordanelle 99.35 38 PFAKE 02 17 10.0 +8.4
JLU LR LR
comp=Z,2µm,20.0s
MVO Moncorvo 99.39 323 *e*Pdif Pdif 02 17 07.5 +6.0
MVO Moncorvo 99.39 323 *e*PP PP 02 21 06.8 +2.8
MVO *e*SKS **SKSac 02 27 36.0 -3.4**
MVO *e*SS **SS 02 35 28.8 +7.4**
MVO Moncorvo 99.39 323 *e*LR LR 02 52 09.0
comp=Z,7µm,18.0s
MWC Mount Wilson 99.39 46 PFAKE 02 17 10.0 +8.2
MWC LR LR
comp=Z,3µm,20.0s
NLU North Lily Min 99.43 39 PFAKE 02 17 10.0 +8.1
NLU LR LR
comp=Z,3µm,20.0s
PGAV Gavieira, Arco 99.51 324 *e*Pdif Pdif 02 17 08.2 +6.1
PGAV Gavieira, Arco 99.51 324 *e*PP PP 02 21 13.9 +9.0
PGAV *e*SKS **SKSac 02 27 31.1 -8.9**
PGAV Gavieira, Arco 99.51 324 *e*LR LR 02 53 03.2
comp=Z,7µm,18.0s
GSC Goldstone, Bar 99.55 45 PFAKE 02 17 10.0 +7.6
GSC LR LR
comp=Z,2µm,20.0s
PCAB Cabril 99.55 324 *e*Pdif Pdif 02 17 11.7 +10
PCAB Cabril 99.55 324 *e*PP PP 02 21 15.8 +11
BFSC Mount Baldy Ra 99.64 46 P **Pdif 02 17 01.3 -1.6**
baz=308
MPU Maple Canyon 99.64 38 PFAKE 02 17 10.0 +7.1
MPU LR LR
comp=Z,3µm,21.0s
POLO Lamas de Olo 99.66 324 *e*Pdif Pdif 02 17 08.7 +5.9
POLO Lamas de Olo 99.66 324 *e*PP PP 02 21 14.4 +8.3
POLO *e*SKS **SKSac 02 27 42.7 +1.9**
MDND Maddock 99.77 26 PFAKE 02 17 10.0 +7.0
MDND LR LR
comp=Z,4µm,20.0s
SHPR Sheep Range 99.83 43 PFAKE 02 17 10.0 +6.3
SHPR LR LR
comp=Z,2µm,20.0s
TCRU Three Creeks R 100.11 40 PFAKE 02 17 20.0 +15
TCRU LR LR
comp=Z,2µm,18.0s
PVIS Viseu 100.17 323 *e*Pdif Pdif 02 17 12.5 +7.5
PVIS Viseu 100.17 323 *e*PP PP 02 21 17.7 +7.7
MTE Manteigas 100.19 323 *e*Pdif Pdif 02 17 12.4 +7.3
MTE Manteigas 100.19 323 *e*PP PP 02 21 18.6 +8.4
MTE *e*SKS 02 27 44.6
MTE Manteigas 100.19 323 *e*LR LR 02 52 34.3
comp=Z,6µm,18.0s
MTE Manteigas 100.19 323 PFAKE 02 17 20.0 +15
MTE LR LR
comp=Z,6µm,21.0s
CCUT Cedar City 100.26 41 PFAKE 02 17 20.0 +14
CCUT LR LR
comp=Z,2µm,19.0s
TMUT Trail Mountain 100.37 39 PFAKE 02 17 20.0 +14
TMUT LR LR
comp=Z,2µm,20.0s
SZCU Shurtz Canyon 100.40 41 PFAKE 02 17 20.0 +14
SZCU LR LR
comp=Z,2µm,20.0s
P17A Butcher Ranch, 100.52 38 PFAKE 02 17 20.0 +13
P17A LR LR
comp=Z,2µm,19.0s
PCBR Castelo Branco 100.54 322 *e*Pdif Pdif 02 17 15.0 +8.4
PCBR Castelo Branco 100.54 322 *e*PP PP 02 21 23.3 +11
K22A Casper 100.55 34 PFAKE 02 17 20.0 +13
K22A LR LR
comp=Z,2µm,22.0s
GMRC Granite Mounta 100.60 44 P **Pdif 02 17 06.1 -1.0**
baz=309
MTPU Mount Pierson 100.64 40 PFAKE 02 17 20.0 +12
MTPU LR LR
comp=Z,2µm,19.0s
Q16A Castle Valley 100.65 39 PFAKE 02 17 20.0 +13
Q16A LR LR
comp=Z,3µm,20.0s
LCMT Little Creek M 100.69 41 PFAKE 02 17 20.0 +13
LCMT LR LR
comp=Z,2µm,20.0s
RSSD Black Hills 100.69 31 PFAKE 02 17 20.0 +13
RSSD LR LR
comp=Z,3µm,18.0s
RSSD Black Hills 100.69 31 P **Pdif 02 17 06.5 -1.0**
baz=319
LDFC Landfair 100.77 44 PFAKE 02 17 20.0 +12
LDFC LR LR
comp=Z,2µm,20.0s
PMRV Marv??o 100.78 322 *e*Pdif Pdif 02 17 13.3 +5.7
PMRV Marv??o 100.78 322 *e*PP PP 02 21 21.1 +6.6
PMRV *e*SKS **SKSac 02 27 44.5 -1.6**
PMRV *e*SS **SS 02 35 49.8 +9.0**
PMRV Marv??o 100.78 322 *e*LQ LQ 02 54 20.6
PMRV *e*LR LR 02 59 12.3
comp=Z,8µm,18.0s
COI Coimbra 100.81 323 *e*Pdif Pdif 02 17 12.9 +5.2
COI Coimbra 100.81 323 *e*PP PP 02 21 20.5 +5.8
COI *e*SKS **SKSac 02 27 52.7 +6.5**
PFO Pinyon Flats O 100.81 46 PFAKE 02 17 20.0 +12
PFO LR LR
comp=Z,3µm,20.0s
XPFO Pion Flat 100.81 46 PFAKE 02 17 20.0 +12
XPFO LR LR
comp=Z,3µm,20.0s
EMAL Malaga-Limoner 100.81 318 P **Pdif 02 17 03.1 -4.8**
EMAL Malaga-Limoner 100.81 318 PP PP **02 21 21.4 +6.5**
CPE Camp Elliot 100.83 47 PFAKE 02 17 20.0 +12
CPE LR LR
comp=Z,2µm,21.0s
MELI Melilla 100.83 316 P **Pdif 02 17 11.2 +3.2**
MELI Melilla 100.83 316 PP PP **02 21 18.8 +3.7**
AGMN Agassiz Nation 100.87 24 PFAKE 02 17 20.0 +12
AGMN LR LR
comp=Z,3µm,21.0s
SRU San Rafael Swe 100.89 38 PFAKE 02 17 20.0 +12
SRU LR LR
comp=Z,3µm,19.0s
RWWY Rawlins 100.89 35 PFAKE 02 17 20.0 +12
RWWY LR LR
comp=Z,3µm,21.0s
KNB Kanab 100.94 41 PFAKE 02 17 20.0 +11
KNB LR LR
comp=Z,2µm,19.0s
PCAS Casmilo, Conde 100.96 323 *e*Pdif Pdif 02 17 14.7 +6.2
PCAS Casmilo, Conde 100.96 323 *e*PP PP 02 21 25.1 +9.2
PCAS *e*SKS **SKSac 02 27 52.9 +5.9**
PCAS *e*SS **SS 02 35 53.8 +11**
PKCU Pink Cliffs 100.96 41 PFAKE 02 17 20.0 +11
PKCU LR LR
comp=Z,2µm,21.0s
PTOM Tomar 101.22 323 *e*PP PP 02 21 27.6 +10
BAR Barrett 101.24 47 PFAKE 02 17 20.0 +10
BAR LR LR
comp=Z,2µm,18.0s
PESTR Estremoz 101.27 322 *e*Pdif Pdif 02 17 15.1 +5.2
PESTR Estremoz 101.27 322 *e*PP PP 02 21 26.3 +8.0
PESTR *e*SKS 02 27 51.0
PESTR Estremoz 101.27 322 PFAKE 02 17 20.0 +10
PESTR LR LR
comp=Z,6µm,18.0s
SCHQ Schefferville 101.31 5 PFAKE 02 17 20.0 +10
SCHQ LR LR
comp=Z,5µm,21.0s
O20A White River Ci 101.45 36 PFAKE 02 17 20.0 +9.1
O20A LR LR
comp=Z,2µm,19.0s
TAOE Nuku Hiva Isla 101.46 95 *e*PP PP 02 21 23.7 +2.5
comp=Z,539nm,25.0s
TAOE Nuku Hiva Isla 101.46 95 *e*SS SS 02 35 56.1 +3.2
comp=Z,1µm,28.9s
TAOE Nuku Hiva Isla 101.46 95 *e*LR LR 02 50 21.2
comp=Z,3µm,21.8s
PMTG Montargil 101.49 322 *e*Pdif Pdif 02 17 18.2 +7.4
PMTG Montargil 101.49 322 *e*PP PP 02 21 26.6 +6.7
PMTG *e*SKS **SKSac 02 27 52.1 +2.6**
PMTG *e*SS **SS 02 35 55.0 +4.4**
W13A Hualapai Mount 101.53 43 PFAKE 02 17 20.0 +8.6
W13A LR LR
comp=Z,2µm,21.0s
ALMR Almeirim 101.63 322 *e*PP PP 02 21 21.3 +0.3
ALMR *e*SKSac **SKSac 02 27 48.9 -1.3**
ALMR AMS AMS 03 01 20.1
comp=E,6µm,17.4s
U15A North Rim 101.65 41 PFAKE 02 17 20.0 +8.1
U15A LR LR
comp=Z,2µm,20.0s
EVO Evora 101.74 322 *e*Pdif Pdif 02 17 20.5 +8.6
EVO Evora 101.74 322 *e*PP PP 02 21 30.0 +8.2
EVO Evora 101.74 322 P **Pdif 02 17 17.1 +5.1**
EVO Evora 101.74 322 PP PP 02 21 30.8 +9.0
CEU Ceuta 101.96 318 P **Pdif 02 17 15.5 +2.6**
CEU Ceuta 101.96 318 PP PP **02 21 30.1 +6.6**
Y12C Blythe 101.98 45 PFAKE 02 17 20.0 +6.9
Y12C LR LR
comp=Z,3µm,20.0s
PBEJ Beja 102.00 321 *e*Pdif Pdif 02 17 26.6 +13
PBEJ Beja 102.00 321 *e*PP PP 02 21 35.6 +12
PHWY Pilot Hill 102.08 34 PFAKE 02 17 20.0 +6.2
PHWY LR LR
comp=Z,2µm,19.0s
SFS San Fernando 102.08 319 PFAKE 02 17 20.0 +6.5
SFS LR LR
comp=Z,5µm,20.0s
SFS San Fernando 102.08 319 P **Pdif 02 17 12.5 -1.0**
SFS San Fernando 102.08 319 PP PP **02 21 29.8 +5.3**
N23A Red Feather La 102.12 35 PFAKE 02 17 30.0 +16
N23A LR LR
comp=Z,2µm,20.0s
TAM Tamanrasset 102.13 302 PFAKE 02 17 30.0 +16
TAM LR LR
comp=Z,3µm,20.0s
PMAFR Mafra 102.16 323 *e*Pdif Pdif 02 17 19.3 +5.5
PMAFR Mafra 102.16 323 *e*PP PP 02 21 33.9 +8.9
PMAFR *e*SKS **SKSac 02 27 56.2 +3.4**
GLA Glamis 102.23 45 PFAKE 02 17 30.0 +16
GLA LR LR
comp=Z,2µm,20.0s
PNCL Nicolau / Gran 102.33 322 *e*Pdif Pdif 02 17 21.8 +7.3
PNCL Nicolau / Gran 102.33 322 *e*PP PP 02 21 32.5 +6.3
PNCL *e*SKS **SKSac 02 27 55.9 +2.4**
PNCL *e*SS SS 02 36 15.3 +13
PVAQ Vaqueiros 102.34 321 *e*SKS SKSac 02 27 56.6 +2.9
PVAQ *e*SS SS 02 36 15.4 +13
PCVE Castro Verde 102.37 321 *e*Pdif Pdif 02 17 21.6 +6.8
PCVE Castro Verde 102.37 321 *e*PP PP 02 21 34.8 +8.2
PBDV Barranco-do-Ve 102.58 321 *e*Pdif Pdif 02 17 22.3 +6.6
PBDV Barranco-do-Ve 102.58 321 *e*PP PP 02 21 31.4 +3.2
PBDV *e*SKS **SKSac 02 28 00.0 +5.1**
EYMN Ely 102.72 22 PFAKE 02 17 30.0 +14

EYMN LR LR
comp=Z,4µm,19.0s
WUAZ Wupatki 102.81 42 PFAKE 02 17 30.0 +13
WUAZ LR LR
comp=Z,2µm,21.0s
SMCO Snowmass 102.81 36 PFAKE 02 17 30.0 +13
SMCO LR LR
comp=Z,3µm,19.0s
PTEO Sao Teotonio 102.83 321 *e*Pdif **Pdif 02 17 26.6 +10**
PTEO Sao Teotonio 102.83 321 *e*PP PP 02 21 42.8 +13
MORF Marmelete 102.95 321 *e*Pdif **Pdif 02 17 16.8 -0.6**
MORF *e*PP **PP 02 21 31.3 +0.3**
MORF *e*SKSac **SKSac 02 27 55.0 -1.6**
MORF *e*SS **SS 02 36 12.9 +1.9**
MORF AMS AMS 03 02 04.7
comp=N,7µm,21.7s
MORF Marmelete 102.95 321 *e*Pdif **Pdif 02 17 27.1 +10**
MORF Marmelete 102.95 321 *e*PP PP 02 21 38.8 +7.8
MORF *e*SKS 02 27 52.8
MORF Marmelete 102.95 321 *e*P **Pdif 02 17 16.8 -0.6**
MORF *e* 02 21 31.3
MORF *e* 02 27 55.0
MORF *e*SS SS 02 36 12.9 +1.9
ISCO Idaho Springs 103.09 35 PFAKE 02 17 30.0 +12
ISCO LR LR
comp=Z,3µm,21.0s
PFVI Vila Bisbo 103.17 321 *e*Pdif **Pdif 02 17 24.9 +6.6**
PFVI Vila Bisbo 103.17 321 *e*PP **PP 02 21 39.9 +7.3**
PFVI *e*SKS 02 28 02.5
PFVI Vila Bisbo 103.17 321 PFAKE 02 17 30.0 +12
PFVI LR LR
comp=Z,7µm,18.0s
MVCO Mesa Verde 103.35 39 PFAKE 02 17 30.0 +11
MVCO LR LR
comp=Z,2µm,19.0s
IFR Ifrane 103.36 316 P **Pdif 02 17 23.6 +4.1**
IFR Ifrane 103.36 316 PP **PP 02 21 37.0 +2.6**
X16A Lo Mia Camp, P 103.50 42 PFAKE 02 17 30.0 +10
X16A LR LR
comp=Z,2µm,20.0s
C40A Isle Royale Na 103.53 20 PFAKE 02 17 30.0 +10
C40A LR LR
comp=Z,4µm,20.0s
E38A The Farm, Brul 103.86 23 PFAKE 02 17 30.0 +8.8
E38A LR LR
comp=Z,4µm,22.0s
S22A 4UR Ranch, Cre 103.92 37 PFAKE 02 17 30.0 +8.0
S22A LR LR
comp=Z,3µm,18.0s
Q24A Divide 103.95 35 PFAKE 02 17 30.0 +7.8
Q24A LR LR
comp=Z,3µm,20.0s
VNDA Vanda 104.00 172 Pdiff **Pdif 02 17 21.9 +0.9**
comp=Z,2.2nm,1.1s,baz=297,slow=6.3,SNR=6.6
VNDA PKiKP **PKiKP 02 21 36.4 -1.7**
comp=Z,2.0nm,0.8s,baz=5.7,slow=4.7,SNR=5.9
VNDA PKKPbc **PKKPbc 02 33 10.9 -2.2**
comp=Z,0.7nm,0.7s,baz=78,slow=1.6,SNR=5.6
OGNE Ogallala 104.06 32 PFAKE 02 17 30.0 +7.7
OGNE LR LR
comp=Z,4µm,18.0s
W18A Petrified Fore 104.06 41 PFAKE 02 17 30.0 +7.4
W18A LR LR
comp=Z,2µm,20.0s
RTC Rabat Centre 104.13 318 PFAKE 02 17 30.0 +7.3
RTC LR LR
comp=Z,11µm,20.0s
ECSD EROS Data Cent 104.32 27 PFAKE 02 17 30.0 +6.7
ECSD LR LR
comp=Z,4µm,21.0s
X18A Snowflake 104.33 42 PFAKE 02 17 30.0 +6.2
X18A LR LR
comp=Z,2µm,19.0s
D41A Chassel 104.47 20 PFAKE 02 17 30.0 +6.1
D41A LR LR
comp=Z,4µm,20.0s
SPMN Marine on St. 104.59 24 PFAKE 02 17 40.0 +16
SPMN LR LR
comp=Z,4µm,19.0s
SDCO Great Sand Dun 104.65 37 PFAKE 02 17 40.0 +15
SDCO LR LR
comp=Z,3µm,20.0s
COWI Conover 105.13 21 PFAKE 02 21 50.0 +8.7
COWI LR LR
comp=Z,6µm,20.0s
KSCO Kaye Shedlock' 105.23 34 PFAKE 02 21 50.0 +8.2
KSCO LR LR
comp=Z,4µm,20.0s
TUC Tucson 105.30 44 PFAKE 02 21 50.0 +7.9
TUC LR LR
comp=Z,3µm,20.0s
F41A Three Lakes 105.45 21 PFAKE 02 21 50.0 +8.1
F41A LR LR
comp=Z,5µm,19.0s
G40A Rib Lake 105.49 22 PFAKE 02 21 50.0 +8.1
G40A LR LR
comp=Z,4µm,22.0s
BGNE Belgrade 105.53 30 PFAKE 02 21 50.0 +7.9
BGNE LR LR
comp=Z,2µm,21.0s
E43A Lone Tree Farm 105.57 20 PFAKE 02 21 50.0 +8.0
E43A LR LR
comp=Z,3µm,19.0s
E44A Grand Marais A 105.68 19 PFAKE 02 21 50.0 +7.8
E44A LR LR
comp=Z,4µm,18.0s
T25A Trinidad 105.68 36 PFAKE 02 21 50.0 +7.2
T25A LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 106.12 39 PFAKE 02 21 50.0 +6.4
ANMO LR LR
comp=Z,2µm,20.0s
G42A Mountain 106.12 21 PFAKE 02 21 50.0 +6.9
G42A LR LR
comp=Z,5µm,20.0s
I39A Houston 106.23 24 PFAKE 02 21 50.0 +6.6
I39A LR LR
comp=Z,3µm,19.0s
H41A Junction City 106.25 22 PFAKE 02 21 50.0 +6.7
H41A LR LR
comp=Z,5µm,21.0s
G43A Wallace 106.35 21 PFAKE 02 21 50.0 +6.5
G43A LR LR
comp=Z,5µm,20.0s
VLDQ Val d'Or 106.42 13 PFAKE 02 21 50.0 +6.5
VLDQ LR LR
comp=Z,4µm,21.0s
Y22D IRIS PASSCAL I 106.46 40 PFAKE 02 22 00.0 +16
Y22D LR LR
comp=Z,3µm,20.0s
I41A Arkdale 106.66 23 PFAKE 02 22 00.0 +16
I41A LR LR
comp=Z,6µm,18.0s
H42A Shiocton 106.73 22 PFAKE 02 22 00.0 +16
H42A LR LR
comp=Z,5µm,20.0s
CBKS Cedar Bluff 106.83 32 PFAKE 02 22 00.0 +15
CBKS LR LR
comp=Z,3µm,20.0s
319A Douglas 106.88 44 PFAKE 02 22 00.0 +15
319A LR LR
comp=Z,3µm,21.0s
H43A Windswept, Lux 107.02 21 PFAKE 02 22 00.0 +15
H43A LR LR
comp=Z,5µm,20.0s
I42A Draeger Farm, 107.14 22 PFAKE 02 22 00.0 +15
I42A LR LR
comp=Z,5µm,20.0s
SCIA State Center 107.23 26 PFAKE 02 22 00.0 +15
SCIA LR LR
comp=Z,4µm,18.0s
HSIG 107.36 46 PFAKE 02 22 00.0 +14
HSIG LR LR
comp=Z,2µm,22.0s
JFWS Jewell Farm 107.52 24 PFAKE 02 22 00.0 +14
JFWS LR LR
comp=Z,3µm,18.0s
JFWS Jewell Farm 107.52 24 P **PKiKP 02 21 44.4 -1.3**
baz=330
L39A Vinton 107.53 25 P **PKiKP 02 21 44.0 -1.8**
baz=328
SRIG Santa Rosalia 107.58 49 PFAKE 02 22 00.0 +14
SRIG LR LR
comp=Z,2µm,21.0s
GLMI Grayling 107.69 19 PFAKE 02 22 00.0 +14
GLMI LR LR
comp=Z,4µm,20.0s
L40A Anamosa 107.88 25 PFAKE 02 22 00.0 +14
L40A LR LR
comp=Z,4µm,20.0s
L40A Anamosa 107.88 25 P **PKiKP 02 21 45.6 -0.9**
baz=329
LATQ La Tuque 107.97 10 P **PKiKP 02 21 45.2 -1.2**
baz=347
KSU1 Kansas State U 108.08 30 PFAKE 02 22 00.0 +13
KSU1 LR LR
comp=Z,4µm,18.0s
K43A Burlington 108.39 22 PFAKE 02 22 00.0 +13
K43A LR LR
comp=Z,4µm,19.0s
L42A Oliver, Polo 108.52 24 PFAKE 02 22 00.0 +12
L42A LR LR
comp=Z,3µm,21.0s
AMTX Amarillo 108.83 36 PFAKE 02 22 00.0 +11
AMTX LR LR
comp=Z,4µm,19.0s
MSTX Muleshoe 108.92 38 PFAKE 02 22 00.0 +11
MSTX LR LR
comp=Z,4µm,19.0s
MNTX Cornudas Mount 109.05 41 PFAKE 02 22 00.0 +11
MNTX LR LR
comp=Z,2µm,18.0s
U32A Winter Ranch, 109.09 33 PFAKE 02 22 00.0 +11
U32A LR LR
comp=Z,3µm,19.0s
N41A Harden Midland 109.19 25 PFAKE 02 22 00.0 +11
N41A LR LR
comp=Z,3µm,18.0s
SADO Sadowa 109.21 15 PFAKE 02 22 00.0 +11
SADO LR LR
comp=Z,4µm,18.0s
PQI Presque Isle 109.29 7 PFAKE 02 22 00.0 +11
PQI LR LR
comp=Z,4µm,20.0s
PLVO Plevna 109.43 14 PFAKE 02 22 00.0 +11
PLVO LR LR
comp=Z,4µm,20.0s
TSUM Tsumeb 109.53 257 PFAKE 02 22 00.0 +10
TSUM LR LR
comp=Z,3µm,18.0s
M44A Midewin, Midew 109.65 23 PFAKE 02 22 00.0 +10
M44A LR LR
comp=Z,4µm,20.0s
HDIL Hopedale 109.92 24 PFAKE 02 22 00.0 +10
HDIL LR LR
comp=Z,4µm,18.0s
M46A Old House Fiel 110.22 22 PFAKE 02 22 00.0 +9.2
M46A LR LR
comp=Z,4µm,20.0s
AAM Ann Arbor 110.28 19 PFAKE 02 22 00.0 +9.1
AAM LR LR
comp=Z,4µm,20.0s
TOC2 Torodi Ar. Sit 110.30 295 PFAKE 02 22 00.0 +8.4
TOC2 LR LR
comp=Z,4µm,20.0s
TOC1 Torodi Ar. Sit 110.30 295 PFAKE 02 22 00.0 +8.3
TOC1 LR LR
comp=Z,5µm,20.0s
FRNY Flat Rock 110.31 11 PFAKE 02 22 00.0 +9.1
FRNY LR LR
comp=Z,4µm,20.0s
TOC3 Torodi Ar. Sit 110.31 295 PFAKE 02 22 00.0 +8.3
TOC3 LR LR
comp=Z,4µm,20.0s
TOB2 Torodi Ar. Sit 110.31 295 PFAKE 02 22 00.0 +8.3
TOB2 LR LR
comp=Z,4µm,20.0s
TOA2 Torodi Ar. Sit 110.32 295 PFAKE 02 22 00.0 +8.3
TOA2 LR LR
comp=Z,4µm,20.0s
TOB3 Torodi Ar. Sit 110.32 295 PFAKE 02 22 00.0 +8.3
TOB3 LR LR
comp=Z,4µm,21.0s
TORD Torodi Ar. Bea 110.32 295 PKiKP **PKiKP 02 21 49.3 -2.4**
comp=Z,2.3nm,0.8s,baz=27,slow=1.9,SNR=14
TORD PP **PP 02 22 26.9 +0.8**
comp=Z,1.6nm,0.8s,baz=34,slow=8.4,SNR=4.7
TORD PKKPbc **PKKPbc 02 32 50.8 -0.7**
comp=Z,1.6nm,0.9s,baz=272,slow=2.3,SNR=6.1
LONY Lake Ozonia 110.33 12 PFAKE 02 22 00.0 +9.0
LONY LR LR
comp=Z,5µm,22.0s
TOC5 Torodi Ar. Sit 110.35 295 PFAKE 02 22 00.0 +8.3
TOC5 LR LR
comp=Z,5µm,20.0s
P42A Winchester 110.35 25 PFAKE 02 22 00.0 +8.9
P42A LR LR
comp=Z,4µm,19.0s
L48A N Adams 110.36 20 P **PKiKP 02 21 49.6 -1.5**
baz=335
LMN Caledonia Moun 110.39 4 PFAKE 02 22 00.0 +8.9
LMN LR LR
comp=Z,5µm,20.0s
WMOK Wichita Mounta 110.48 34 PFAKE 02 22 00.0 +8.4
WMOK LR LR
comp=Z,3µm,18.0s
PKME Peaks-Kenny Pk 110.53 8 PFAKE 02 22 00.0 +8.7
PKME LR LR
comp=Z,6µm,20.0s
Q41A Truxton 110.53 26 P **PKiKP 02 21 50.1 -1.4**
baz=328
M48A Edgerton 110.69 20 PFAKE 02 22 00.0 +8.3
M48A LR LR
comp=Z,5µm,21.0s
SUR Sutherland 110.69 243 PFAKE 02 22 00.0 +7.9
SUR LR LR
comp=Z,4µm,19.0s
Q42A Golden Eagle 110.85 26 P **PKiKP 02 21 50.5 -1.6**
baz=329
SFIN Lafayette 110.87 23 PFAKE 02 22 00.0 +7.9
SFIN LR LR
comp=Z,4µm,20.0s
VT1 Waterbury 110.94 11 PFAKE 02 22 00.0 +7.8
VT1 LR LR
comp=Z,3µm,20.0s
PMOZ Porto Moniz, M 111.01 323 *e*PP PP 02 22 38.4 +8.2
PMOZ Porto Moniz, M 111.01 323 *e*LR LR 02 58 34.5
comp=Z,4µm,18.0s
NCB Newcomb 111.03 12 PFAKE 02 22 00.0 +7.7
NCB LR LR
comp=Z,4µm,22.0s
R41A Rosebud 111.03 27 P **PKiKP 02 21 51.1 -1.4**
baz=328
TUL1 Leonard 111.04 32 PFAKE 02 22 00.0 +7.4
TUL1 LR LR
comp=Z,5µm,18.0s
P44A Sand Creek, Wi 111.12 24 P **PKiKP 02 21 51.4 -1.2**
baz=331
LBNH Lisbon 111.16 10 PFAKE 02 22 00.0 +7.4
LBNH LR LR
comp=Z,5µm,20.0s
WVL Waterville 111.17 8 PFAKE 02 22 00.0 +7.5
WVL LR LR
comp=Z,5µm,19.0s
SLM Saint Louis 111.21 26 PFAKE 02 22 00.0 +7.2
SLM LR LR
comp=Z,4µm,18.0s
M50A Fremont 111.28 19 PFAKE 02 22 00.0 +7.1
M50A LR LR
comp=Z,5µm,18.0s
R42A Luebbering 111.29 27 P **PKiKP 02 21 51.4 -1.5**
baz=329
EMMW East Machias 111.29 7 PFAKE 02 22 00.0 +7.3
EMMW LR LR
comp=Z,4µm,18.0s
CCM Cathedral Cave 111.29 27 PFAKE 02 22 00.0 +7.0
CCM LR LR
comp=Z,3µm,20.0s
O47A Sheridan 111.32 22 P **PKiKP 02 21 51.5 -1.5**
baz=333
N49A Columbus Grove 111.37 20 PFAKE 02 22 00.0 +7.0
N49A LR LR
comp=Z,6µm,22.0s
P45A Graceland, Par 111.39 24 PFAKE 02 22 00.0 +6.9
P45A LR LR
comp=Z,3µm,22.0s
MMNY Mt. Morris Dam 111.43 15 PFAKE 02 22 00.0 +6.9
MMNY LR LR
comp=Z,4µm,22.0s
Q44A Meyer Farm, Va 111.46 25 PFAKE 02 22 00.0 +6.7
Q44A LR LR
comp=Z,4µm,19.0s
S41A Jillco Farms, 111.48 28 P **PKiKP 02 21 51.9 -1.5**
baz=328
ERPA Erie 111.49 17 PFAKE 02 22 00.0 +6.8
ERPA LR LR
comp=Z,4µm,18.0s
SLBS Sierra La Lagu 111.49 50 PFAKE 02 22 10.0 +16
SLBS LR LR
comp=Z,2µm,20.0s
HHAR Hobbs 111.60 30 PFAKE 02 22 00.0 +6.3
HHAR LR LR
comp=Z,3µm,20.0s
HNH Hanover 111.63 10 PFAKE 02 22 00.0 +6.6
HNH LR LR
comp=Z,4µm,19.0s
ABTX Abilene, Hawle 111.65 36 PFAKE 02 22 10.0 +16
ABTX LR LR
comp=Z,4µm,19.0s
S42A Caledonia 111.72 27 P **PKiKP 02 21 52.3 -1.6**
baz=329
TXAR Lajitas Array 111.77 41 Pdiff **Pdif 02 17 59.5 +2.7**
comp=Z,0.2nm,0.7s,baz=256,slow=3.6,SNR=2.7
TXAR PKiKP **PKiKP 02 21 52.4 -1.9**
comp=Z,1.2nm,0.5s,baz=233,slow=0.4,SNR=16
TXAR PP PP 02 22 44.3 +8.4
comp=Z,8.1nm,1.2s,baz=282,slow=5.8,SNR=6.0
TXAR PKKPbc **PKKPbc 02 32 46.8 -0.6**
comp=Z,0.3nm,0.8s,baz=141,slow=8.1,SNR=3.5
Q45A Warren Harvey, 111.79 24 P **PKiKP 02 21 52.5 -1.4**
baz=331
L55A Hinsdale 111.82 16 P **PKiKP 02 21 52.4 -1.5**
baz=341
N50A Nevada 111.83 20 P **PKiKP 02 21 52.3 -1.6**
baz=336
ALLY Alegheny Colle 111.88 17 PFAKE 02 22 10.0 +16
ALLY LR LR
comp=Z,4µm,19.0s
N51A Ashland 111.93 19 PFAKE 02 22 10.0 +16
N51A LR LR
comp=Z,6µm,18.0s
OLIL Olney 111.95 24 PFAKE 02 22 10.0 +16
OLIL LR LR
comp=Z,4µm,20.0s
P47A Martinsville 111.96 23 P **PKiKP 02 21 52.5 -1.7**
baz=333
FFD Franklin Falls 111.96 10 PFAKE 02 22 10.0 +16
FFD LR LR
comp=Z,4µm,20.0s
Q49A Covington 111.98 21 PFAKE 02 22 10.0 +16
Q49A LR LR
comp=Z,5µm,20.0s
R44A Waltonville 112.00 25 P **PKiKP 02 21 52.7 -1.6**
baz=330
U40A Yellville 112.03 29 P **PKiKP 02 21 52.7 -1.7**
baz=326
M54A Oil Creek Stat 112.14 17 PFAKE 02 22 10.0 +15
M54A LR LR
comp=Z,4µm,18.0s
M54A Oil Creek Stat 112.14 17 P **PKiKP 02 21 52.8 -1.8**
baz=339
BLO Bloomington 112.15 23 PFAKE 02 22 10.0 +15
BLO LR LR
comp=Z,4µm,18.0s
S43A Fulton Ridge, 112.19 26 P **PKiKP 02 21 53.0 -1.7**
baz=329
HPIG 112.21 45 PFAKE 02 22 10.0 +15
HPIG LR LR
comp=Z,2µm,20.0s
X37A Clayton 112.31 32 PFAKE 02 22 10.0 +15
X37A LR LR
comp=Z,4µm,18.0s
TRY Troy 112.33 12 PFAKE 02 22 10.0 +15
TRY LR LR
comp=Z,4µm,20.0s
ACSO Alum Creek Sta 112.37 20 PFAKE 02 22 10.0 +15
ACSO LR LR
comp=Z,5µm,18.0s
ACSO Alum Creek Sta 112.37 20 P **PKiKP 02 21 53.3 -1.6**
baz=336
BINY Binghamton 112.37 14 PFAKE 02 22 10.0 +15
BINY LR LR
comp=Z,4µm,20.0s
BINY Binghamton 112.37 14 P **PKiKP 02 21 53.8 -1.2**
baz=343
Q47A Bedord North L 112.39 23 P **PKiKP 02 21 53.8 -1.3**
baz=333
SIUC Southern Illin 112.41 26 PFAKE 02 22 10.0 +15
SIUC LR LR
comp=Z,3µm,19.0s
M55A Ridgway 112.41 16 P **PKiKP 02 21 53.7 -1.3**
baz=340
U41A Viola 112.45 28 P **PKiKP 02 21 53.5 -1.8**
baz=327
T43A Greenville 112.52 27 P **PKiKP 02 21 53.5 -1.8**
baz=329
W39A Magazine 112.56 31 PFAKE 02 22 10.0 +15
W39A LR LR
comp=Z,3µm,18.0s
W39A Magazine 112.56 31 P **PKiKP 02 21 54.2 -1.2**
baz=325
O51A Pataskala 112.57 20 P **PKiKP 02 21 53.9 -1.4**
baz=336
N54A Moraine State 112.57 17 PFAKE 02 22 10.0 +15
N54A LR LR
comp=Z,4µm,19.0s
Q48A North Vernon 112.64 22 P **PKiKP 02 21 54.3 -1.2**
baz=333
PBMO Poplar Bluff 112.72 27 PFAKE 02 22 10.0 +14
PBMO LR LR
comp=Z,3µm,21.0s
USIN University of 112.79 24 PFAKE 02 22 10.0 +14
USIN LR LR
comp=Z,3µm,18.0s
O52A Adamsville 112.83 19 PFAKE 02 22 10.0 +14
O52A LR LR
comp=Z,5µm,18.0s
O52A Adamsville 112.83 19 P **PKiKP 02 21 54.5 -1.3**
baz=337
HRV Adam Dziewonsk 112.91 10 PFAKE 02 22 10.0 +14
HRV LR LR
comp=Z,4µm,20.0s
R47A Wooly Knot Far 112.92 23 P **PKiKP 02 21 54.5 -1.5**
baz=332
QUA2 Belchertown 113.00 11 PFAKE 02 22 10.0 +14
QUA2 LR LR
comp=Z,5µm,18.0s
P51A Williamsport 113.03 20 PFAKE 02 22 10.0 +14
P51A LR LR
comp=Z,5µm,18.0s
KSPA Keystone Colle 113.03 14 PFAKE 02 22 10.0 +14
KSPA LR LR
comp=Z,3µm,20.0s
R48A Northridge Ran 113.06 23 P **PKiKP 02 21 54.8 -1.6**
baz=333
WCI Wyandotte Cave 113.07 23 PFAKE 02 22 10.0 +14
WCI LR LR
comp=Z,4µm,20.0s
WCI Wyandotte Cave 113.07 23 P **PKiKP 02 21 54.7 -1.7**
baz=333
WES Weston 113.07 10 PFAKE 02 22 10.0 +14
WES LR LR
comp=Z,4µm,19.0s
PARMO Parma 113.10 27 PFAKE 02 22 10.0 +14
PARMO LR LR
comp=Z,4µm,21.0s
WHAR Wooly Hollow 113.17 29 PFAKE 02 22 10.0 +13
WHAR LR LR
comp=Z,4µm,21.0s
P52A Corning 113.18 19 P **PKiKP 02 21 54.8 -1.8**
baz=337
JCT Junction City 113.19 38 PFAKE 02 22 10.0 +13
JCT LR LR
comp=Z,3µm,18.0s
JCT Junction City 113.19 38 P **PKiKP 02 21 55.3 -1.6**
baz=319
MIAR Mount Ida 113.20 31 PFAKE 02 22 10.0 +13
MIAR LR LR
comp=Z,2µm,20.0s
MIAR Mount Ida 113.20 31 P **PKiKP 02 21 55.5 -1.2**
baz=326
T45A Paducah 113.24 26 PFAKE 02 22 10.0 +13
T45A LR LR
comp=Z,4µm,20.0s
W41B Gary Mavity, V 113.29 29 PFAKE 02 22 10.0 +13
W41B LR LR
comp=Z,4µm,21.0s

WHTX **Lake Whitney,** **113.31** **35** PFAKE 02 22 10.0 +13
WHTX LR LR
comp=Z,3µm,18.0s
PVMO **Portageville** **113.33** **27** PFAKE 02 22 10.0 +13
PVMO LR LR
comp=Z,4µm,21.0s
Q51A **Peebles** **113.36** **21** PFAKE 02 22 10.0 +13
Q51A LR LR
comp=Z,5µm,18.0s
SSPA **Standing Stone** **113.42** **16** PFAKE 02 22 10.0 +13
SSPA LR LR
comp=Z,4µm,22.0s
SSPA **Standing Stone** **113.42** **16** P **PKiKP** **02 21 55.4 -1.5**
baz=341
BRYW **Bryant College** **113.49** **10** PFAKE 02 22 10.0 +13
BRYW LR LR
comp=Z,4µm,20.0s
T46A **Princeton** **113.51** **25** P **PKiKP** **02 21 55.8 -1.4**
baz=331
P53A **Whipple** **113.54** **19** PFAKE 02 22 10.0 +13
P53A LR LR
comp=Z,4µm,20.0s
UALR **University of** **113.58** **30** PFAKE 02 22 10.0 +13
UALR LR LR
comp=Z,4µm,20.0s
GNAR **Gosnell** **113.59** **27** PFAKE 02 22 10.0 +13
GNAR LR LR
comp=Z,3µm,21.0s
X40A **Basin Creek Fa** **113.59** **30** PFAKE 02 22 10.0 +13
X40A LR LR
comp=Z,4µm,20.0s
O56A **Blue Knob Stat** **113.59** **16** PFAKE 02 22 10.0 +13
O56A LR LR
comp=Z,3µm,21.0s
O56A **Blue Knob Stat** **113.59** **16** P **PKiKP** **02 21 56.0 -1.4**
baz=340
GLAT **Glass** **113.63** **27** PFAKE 02 22 10.0 +13
GLAT LR LR
comp=Z,3µm,21.0s
N59A **State Game Lan** **113.64** **14** PFAKE 02 22 10.0 +13
N59A LR LR
comp=Z,5µm,22.0s
S48A **Wiedeman Farm,** **113.66** **23** P **PKiKP** **02 21 56.0 -1.5**
baz=333
HBAR **Harrisburg** **113.66** **28** PFAKE 02 22 10.0 +12
HBAR LR LR
comp=Z,4µm,20.0s
QSPA **South Pole Qui** **113.67** **180** PFAKE 02 22 10.0 +13
QSPA LR LR
comp=Z,2µm,19.0s
ODNJ **Ogdensburg** **113.73** **13** PFAKE 02 22 10.0 +12
ODNJ LR LR
comp=Z,5µm,21.0s
S49A **Springfield** **113.82** **23** P **PKiKP** **02 21 56.2 -1.6**
baz=334
MCWV **Mont Chateau** **113.82** **18** PFAKE 02 22 10.0 +12
MCWV LR LR
comp=Z,2µm,18.0s
T47A **Sharon Grove** **113.86** **24** PFAKE 02 22 10.0 +12
T47A LR LR
comp=Z,3µm,18.0s
T47A **Sharon Grove** **113.86** **24** P **PKiKP** **02 21 56.1 -1.8**
baz=332
HALT **Halls** **113.91** **27** PFAKE 02 22 10.0 +12
HALT LR LR
comp=Z,3µm,20.0s
PAL **Palisades** **113.95** **12** PFAKE 02 22 10.0 +12
PAL LR LR
comp=Z,5µm,22.0s
PAL **Palisades** **113.95** **12** P **PKiKP** **02 21 56.4 -1.5**
baz=345
P55A **Reedsville** **113.97** **18** P **PKiKP** **02 21 56.5 -1.6**
baz=339
U46A **Springville** **114.00** **26** P **PKiKP** **02 21 56.8 -1.4**
baz=331
T48A **Bowling Green** **114.02** **24** P **PKiKP** **02 21 56.6 -1.6**
baz=332
MACI **Morro de la Ar** **114.03** **319** PFAKE 02 22 10.0 +11
MACI LR LR
comp=Z,3µm,20.0s
LUPA **Lehigh Univers** **114.04** **14** PFAKE 02 22 10.0 +12
LUPA LR LR
comp=Z,400nm,20.0s
PAGS **Pennsylvania G** **114.08** **15** PFAKE 02 22 10.0 +12
PAGS LR LR
comp=Z,4µm,18.0s
WLAR **White Oak Lake** **114.12** **31** PFAKE 02 22 10.0 +12
WLAR LR LR
comp=Z,3µm,18.0s
BRNJ **Basking Ridge** **114.13** **13** PFAKE 02 22 10.0 +12
BRNJ LR LR
comp=Z,4µm,21.0s
CPNY **Central Park** **114.14** **13** PFAKE 02 22 10.0 +12
CPNY LR LR
comp=Z,4µm,21.0s
Q54A **Coxs Mills** **114.17** **19** P **PKiKP** **02 21 56.6 -1.8**
baz=338
435B **Jarrell** **114.18** **36** PFAKE 02 22 10.0 +11
435B LR LR
comp=Z,2µm,18.0s
R52A **Catlettsburg** **114.21** **20** P **PKiKP** **02 21 56.9 -1.7**
baz=336
S50A **Richmond** **114.22** **22** P **PKiKP** **02 21 56.9 -1.7**
baz=334
U47A **Clarksville** **114.27** **25** P **PKiKP** **02 21 57.5 -1.2**
baz=331
WVT **Waverly** **114.33** **25** PFAKE 02 22 10.0 +11
WVT LR LR
comp=Z,4µm,19.0s
WVT **Waverly** **114.33** **25** P **PKiKP** **02 21 57.3 -1.5**
baz=331
T49A **Edmonton** **114.34** **23** PFAKE 02 22 10.0 +11
T49A LR LR
comp=Z,4µm,21.0s
MET **Memphis--Engin** **114.34** **28** PFAKE 02 22 10.0 +11
MET LR LR
comp=Z,4µm,21.0s
Q55A **Buckhannon** **114.37** **18** P **PKiKP** **02 21 57.3 -1.6**
baz=339
MVL **Millersville** **114.39** **15** PFAKE 02 22 10.0 +11
MVL LR LR
comp=Z,5µm,22.0s
X43A **Marvell** **114.44** **29** PFAKE 02 22 10.0 +11
X43A LR LR
comp=Z,2µm,19.0s
U48A **Cassie Pea, Po** **114.50** **24** P **PKiKP** **02 21 57.4 -1.7**
baz=332
V46A **Holladay** **114.50** **26** P **PKiKP** **02 21 57.6 -1.6**
baz=331
S51A **Beattyville** **114.53** **21** PFAKE 02 22 10.0 +11
S51A LR LR
comp=Z,4µm,22.0s
S51A **Beattyville** **114.53** **21** P **PKiKP** **02 21 57.6 -1.6**
baz=335
CCAR **Cane Creek** **114.55** **30** PFAKE 02 22 10.0 +11
CCAR LR LR
comp=Z,4µm,20.0s
Z41A **Richland Creek** **114.62** **31** PFAKE 02 22 10.0 +11
Z41A LR LR
comp=Z,2µm,20.0s
PSUB **Penn St. - Bra** **114.66** **14** PFAKE 02 22 10.0 +11
PSUB LR LR
comp=Z,5µm,19.0s
T50A **Nancy** **114.66** **23** P **PKiKP** **02 21 57.6 -1.8**
baz=334
U49A **Red Boiling Sp** **114.78** **24** P **PKiKP** **02 21 58.3 -1.4**
baz=333
SDMD **Soldier's Deli** **114.83** **15** PFAKE 02 22 10.0 +10
SDMD LR LR
comp=Z,2µm,18.0s
NATX **Nacogdoches** **114.94** **33** PFAKE 02 22 10.0 +10
NATX LR LR
comp=Z,4µm,18.0s
W46A **Michie** **114.98** **26** P **PKiKP** **02 21 58.4 -1.7**
baz=330
T51A **Gray** **115.02** **22** P **PKiKP** **02 21 58.6 -1.5**
baz=335
833A **Chaparral WMA,** **115.05** **39** PFAKE 02 22 10.0 +10
833A LR LR
comp=Z,3µm,18.0s
V48A **Smith Brothers** **115.07** **25** PFAKE 02 22 10.0 +10
V48A LR LR
comp=Z,5µm,19.0s
V48A **Smith Brothers** **115.07** **25** P **PKiKP** **02 21 58.4 -1.9**
baz=332
OXF **Oxford** **115.08** **28** PFAKE 02 22 10.0 +10
OXF LR LR
comp=Z,3µm,21.0s
OXF **Oxford** **115.08** **28** P **PKiKP** **02 21 58.8 -1.5**
baz=329
W47A **Westpoint** **115.19** **26** P **PKiKP** **02 21 58.4 -2.1**
baz=331
U50A **Jamestown** **115.20** **23** P **PKiKP** **02 21 58.9 -1.7**
baz=334
T52A **Hallie** **115.22** **21** P **PKiKP** **02 21 58.7 -1.9**
baz=336
PLAL **Pickwick Lake** **115.23** **26** PFAKE 02 22 10.0 +9.4
PLAL LR LR
comp=Z,4µm,18.0s
V49A **McMinnville** **115.39** **24** P **PKiKP** **02 21 58.7 -2.2**
baz=333
TZTN **Tazewell** **115.54** **22** PFAKE 02 22 10.0 +8.8
TZTN LR LR
comp=Z,5µm,19.0s
W48A **Pulaski** **115.55** **25** P **PKiKP** **02 21 59.6 -1.6**
baz=332
T54A **Tazewell** **115.72** **20** P **PKiKP** **02 21 59.7 -1.8**
baz=337
HKT **Hockley** **115.77** **35** PFAKE 02 22 10.0 +8.3
HKT LR LR
comp=Z,2µm,19.0s
V50A **Pikevile** **115.78** **24** P **PKiKP** **02 21 59.8 -1.9**
baz=333
W49A **Belvidere** **115.83** **25** P **PKiKP** **02 21 59.9 -1.9**
baz=332
CBN **Corbin Frederi** **115.84** **16** PFAKE 02 22 10.0 +8.3
CBN LR LR
comp=Z,3µm,22.0s
SWET **Sewanee** **115.87** **24** PFAKE 02 22 10.0 +8.1
SWET LR LR
comp=Z,4µm,18.0s
T55A **Pulaski** **115.91** **19** P **PKiKP** **02 21 59.9 -2.1**
baz=338
V51A **Loudon** **115.93** **23** PFAKE 02 22 10.0 +8.1
V51A LR LR
comp=Z,4µm,20.0s
V51A **Loudon** **115.93** **23** P **PKiKP** **02 22 00.2 -1.8**
baz=334
BLA **Blacksburg** **115.93** **19** PFAKE 02 22 10.0 +8.0
BLA LR LR
comp=Z,4µm,20.0s
R58B **Mineral** **115.94** **17** PFAKE 02 22 10.0 +8.1
R58B LR LR
comp=Z,5µm,20.0s
X48A **Hartselle** **116.11** **26** *e*PKPdf **PKiKP** **02 22 00.2 -2.0**
X48A LR LR
comp=Z,3µm,20.0s
X48A **Hartselle** **116.11** **26** P **PKiKP** **02 22 00.3 -2.0**
baz=331
W50A **Signal Mountai** **116.12** **24** PFAKE 02 22 10.0 +7.6
W50A LR LR
comp=Z,3µm,19.0s
W50A **Signal Mountai** **116.12** **24** P **PKiKP** **02 22 00.6 -1.8**
baz=333
V52A **Sevierville** **116.16** **22** *e*PKPdf **PKiKP** **02 22 01.6 -0.8**
V52A LR LR
comp=Z,4µm,20.0s
V52A **Sevierville** **116.16** **22** P **PKiKP** **02 22 00.8 -1.6**
baz=335
CPCT **Cooper Cave** **116.18** **23** PFAKE 02 22 10.0 +7.6
CPCT LR LR
comp=Z,5µm,20.0s
TKL **Tuckaleechee C** **116.26** **22** *e*PKPdf **PKiKP** **02 22 01.8 -0.8**
TKL LR LR
comp=Z,4µm,19.0s
TKL **Tuckaleechee C** **116.26** **22** *e*PKIKP **PKiKP** **02 22 01.8 -0.8**
TKL MLR MLR
comp=Z,4µm,19.0s
X49A **Woodville** **116.34** **25** P **PKiKP** **02 22 00.8 -2.0**
baz=332
KVTX **Kingsville** **116.50** **39** PFAKE 02 22 10.0 +6.8
KVTX LR LR
comp=Z,3µm,19.0s
Y48A **Jasper** **116.53** **26** P **PKPdf** **02 22 01.2 -1.9**
baz=331
VBMS **Vicksburg** **116.54** **30** PFAKE 02 22 10.0 +6.8
VBMS LR LR
comp=Z,3µm,22.0s
V53A **Saluda** **116.58** **22** *e*PKPdf **PKPdf** **02 22 02.3 -0.9**
V53A LR LR
comp=Z,5µm,20.0s
V53A **Saluda** **116.58** **22** P **PKPdf** **02 22 01.5 -1.8**
baz=335
X50B **Fort Payne** **116.64** **25** P **PKPdf** **02 22 01.5 -1.8**
baz=332
W52A **Murphy** **116.72** **23** *e*PKPdf **PKPdf** **02 22 02.1 -1.4**
W52A LR LR
comp=Z,4µm,20.0s
W52A **Murphy** **116.72** **23** P **PKPdf** **02 22 01.9 -1.6**
baz=334
V54A **Nebo** **116.77** **21** P **PKPdf** **02 22 02.0 -1.6**
baz=336
X51A **Calhoun** **116.85** **24** PFAKE 02 22 20.0 +16
X51A LR LR
comp=Z,4µm,19.0s
Y49A **Blount Mountai** **116.88** **26** *e*PKPdf **PKPdf** **02 22 02.5 -1.4**
Y49A LR LR
comp=Z,5µm,20.0s
Y49A **Blount Mountai** **116.88** **26** P **PKPdf** **02 22 01.9 -1.9**
baz=332
W53A **Cullowhee** **116.92** **22** P **PKPdf** **02 22 02.4 -1.6**
baz=335
V55A **Taylorsville** **116.94** **20** P **PKPdf** **02 22 02.6 -1.2**
baz=337
T59A **Double "B" Far** **116.96** **17** P **PKPdf** **02 22 02.7 -1.2**
baz=341
ZAIG **Zacatecas** **117.12** **46** PFAKE 02 22 20.0 +15
ZAIG LR LR
comp=Z,3µm,19.0s
147A **Livingston** **117.15** **28** PFAKE 02 22 20.0 +16
147A LR LR
comp=Z,2µm,19.0s
BG3 **Lake Jocassee** **117.16** **22** PFAKE 02 22 20.0 +16
BG3 LR LR
comp=Z,6µm,18.0s
X52A **Tahlonega** **117.17** **23** P **PKPdf** **02 22 03.0 -1.3**
baz=334
V56A **Mocksville** **117.20** **20** P **PKPdf** **02 22 02.9 -1.4**
baz=338
U58A **Oxford** **117.23** **18** P **PKPdf** **02 22 02.9 -1.5**
baz=340
W54A **Cherokee Point** **117.32** **21** P **PKPdf** **02 22 03.2 -1.5**
baz=336
V57A **Coltrane Farms** **117.35** **19** P **PKPdf** **02 22 02.8 -1.8**
baz=338
LRAL **Lakeview Retre** **117.36** **26** *e*PKPdf **PKPdf** **02 22 03.6 -1.1**
LRAL LR LR
comp=Z,3µm,20.0s
LRAL **Lakeview Retre** **117.36** **26** P **PKPdf** **02 22 03.2 -1.6**
baz=331
Z49A **Columbiana** **117.42** **26** P **PKPdf** **02 22 03.6 -1.2**
baz=331
X53A **Estanollee** **117.47** **23** P **PKPdf** **02 22 03.7 -1.3**
baz=335
KMSC **Kings Mountain** **117.55** **21** PFAKE 02 22 20.0 +15
KMSC LR LR
comp=Z,4µm,18.0s
KMSC **Kings Mountain** **117.55** **21** P **PKPdf** **02 22 03.7 -1.4**
baz=337
LNIG **Linares** **117.56** **42** *e*PKPdf **PKPdf** **02 22 03.7 -1.6**
LNIG LR LR
comp=Z,2µm,19.0s
Z50A **Ashland** **117.60** **25** *e*PKPdf **PKPdf** **02 22 04.0 -1.2**
Z50A LR LR
comp=Z,4µm,19.0s
Z50A **Ashland** **117.60** **25** P **PKPdf** **02 22 04.0 -1.2**
baz=332
PAULI **Pauline** **117.69** **21** *e*PKPdf **PKPdf** **02 22 04.6 -0.8**
PAULI LR LR
comp=Z,4µm,19.0s
X54A **Belton** **117.75** **22** P **PKPdf** **02 22 04.2 -1.2**
baz=336
Y52A **Lilburn** **117.77** **24** *e*PKPdf **PKPdf** **02 22 05.0 -0.5**
Y52A LR LR
comp=Z,4µm,20.0s
Y52A **Lilburn** **117.77** **24** P **PKPdf** **02 22 04.5 -1.0**
baz=334
149A **Jones** **117.83** **27** P **PKPdf** **02 22 04.2 -1.5**
baz=331
V59A **Middlesex** **117.91** **18** P **PKPdf** **02 22 04.3 -1.4**
baz=340
Y53A **Monroe** **117.95** **23** P **PKPdf** **02 22 04.4 -1.5**
baz=334
X55A **Gracelyn & Ava** **118.07** **21** P **PKPdf** **02 22 04.7 -1.4**
baz=336
HODGE **Hodges** **118.08** **22** PFAKE 02 22 20.0 +14
HODGE LR LR
comp=Z,5µm,18.0s
150A **Eclectic** **118.13** **26** P **PKPdf** **02 22 04.5 -1.7**
baz=332
249A **Camden** **118.23** **27** P **PKPdf** **02 22 05.1 -1.3**
baz=331
Z52A **Williamson** **118.24** **24** P **PKPdf** **02 22 05.1 -1.4**
baz=333
Y54A **Tignall** **118.26** **22** P **PKPdf** **02 22 05.3 -1.1**
baz=335
W58A **Raeford** **118.32** **19** P **PKPdf** **02 22 04.9 -1.6**
baz=339
JSC **Jenkinsville** **118.36** **21** PFAKE 02 22 20.0 +13
JSC LR LR
comp=Z,5µm,21.0s
GOGA **Godfrey** **118.39** **23** PFAKE 02 22 20.0 +13
GOGA LR LR
comp=Z,6µm,20.0s
Z53A **Monticello** **118.47** **23** P **PKPdf** **02 22 05.2 -1.7**
baz=334
CNNC **Cliffs of the** **118.50** **18** PFAKE 02 22 20.0 +13
CNNC LR LR
comp=Z,4µm,19.0s
CNNC **Cliffs of the** **118.50** **18** P **PKPdf** **02 22 05.4 -1.4**
baz=340
250A **Grady** **118.59** **26** PFAKE 02 22 20.0 +13
250A LR LR
comp=Z,4µm,20.0s
152A **Waverly Hall** **118.59** **25** *e*PKPdf **PKPdf** **02 22 06.5 -0.7**
152A LR LR
comp=Z,4µm,20.0s
152A **Waverly Hall** **118.59** **25** P **PKPdf** **02 22 05.8 -1.3**
baz=333
W60A **Pink Hill** **118.72** **18** P **PKPdf** **02 22 05.7 -1.6**
baz=340
Z54A **Sparta** **118.78** **23** P **PKPdf** **02 22 06.3 -1.2**
baz=335
251A **Midway** **118.83** **26** P **PKPdf** **02 22 06.4 -1.2**
baz=332
BRAL **Brewton** **118.97** **28** PFAKE 02 22 20.0 +12
BRAL LR LR
comp=Z,3µm,21.0s
BRAL **Brewton** **118.97** **28** P **PKPdf** **02 22 06.6 -1.3**
baz=330
Z55A **Blythe** **119.04** **22** P **PKPdf** **02 22 06.4 -1.5**
baz=336
X60A **Albert Glenn T** **119.09** **18** P **PKPdf** **02 22 06.8 -1.2**
baz=340
DBIC **Dimbokro** **119.20** **293** PKP **PKPdf** **02 22 07.8 -0.9**
comp=Z,8.6nm,0.9s,baz=73,slow=1.3,SNR=8.6
DBIC PKKPbc **PKKPab** **02 32 26.2 +1.5**
comp=Z,2.0nm,0.6s,baz=235,slow=6.4,SNR=3.6
Z56A **Williston** **119.20** **22** P **PKPdf** **02 22 07.0 -1.3**
baz=336
154A **Montrose** **119.24** **23** PFAKE 02 22 20.0 +12
154A LR LR
comp=Z,6µm,20.0s
KIC **Kosan Boka** **119.27** **293** *e*PKP1 **PKPdf** **02 22 07.4 -1.5**
comp=Z,52nm,1.2s
TIC **Toumodi** **119.35** **293** *e*PKP1 **PKPdf** **02 22 07.7 -1.4**
253A **Americus** **119.36** **25** PFAKE 02 22 20.0 +11
253A LR LR
comp=Z,3µm,19.0s
253A **Americus** **119.36** **25** P **PKPdf** **02 22 07.4 -1.2**
baz=333
155A **Kite** **119.46** **23** P **PKPdf** **02 22 07.7 -1.1**
baz=335
351A **Pinckard** **119.47** **26** P **PKPdf** **02 22 07.7 -1.2**
baz=332
352A **Blakely** **119.56** **26** PFAKE 02 22 20.0 +11
352A LR LR
comp=Z,5µm,20.0s
LIC **Lamto** **119.58** **293** *e*PKP1 **PKPdf** **02 22 08.3 -1.2**
comp=Z,74nm,1.3s
254A **Abbeville** **119.77** **24** P **PKPdf** **02 22 08.0 -1.4**
baz=334
NHSC **New Hope** **119.80** **21** PFAKE 02 22 20.0 +11
NHSC LR LR
comp=Z,4µm,19.0s
353A **Camilla** **119.96** **25** P **PKPdf** **02 22 08.7 -1.1**
baz=333
451A **Vernon** **119.99** **27** PFAKE 02 22 20.0 +10
451A LR LR
comp=Z,4µm,20.0s
255A **Hazlehurst** **120.09** **23** PFAKE 02 22 20.0 +10
255A LR LR
comp=Z,5µm,19.0s
TIGA **Tifton** **120.12** **24** PFAKE 02 22 20.0 +10
TIGA LR LR
comp=Z,6µm,20.0s
TIGA **Tifton** **120.12** **24** P **PKPdf** **02 22 08.9 -1.2**
baz=334
MOIG **Morelia** **120.20** **47** PFAKE 02 22 20.0 +9.1
MOIG LR LR
comp=Z,2µm,21.0s
453A **Whigham** **120.36** **25** PFAKE 02 22 20.0 +9.4
453A LR LR
comp=Z,5µm,19.0s
257A **Skidaway Islan** **120.55** **22** PFAKE 02 22 20.0 +9.0
257A LR LR
comp=Z,3µm,20.0s
456A **Hilliard** **121.34** **23** PFAKE 02 22 20.0 +7.4
456A LR LR
comp=Z,5µm,18.0s
555A **McAlpin** **121.53** **25** PFAKE 02 22 20.0 +7.0
555A LR LR
comp=Z,5µm,20.0s
UNM **Universidad Na** **121.78** **46** PFAKE 02 22 30.0 +16
UNM LR LR
comp=Z,2µm,20.0s
656A **Willston** **122.37** **25** PFAKE 02 22 30.0 +15
656A LR LR
comp=Z,6µm,20.0s
658A **Bunnell** **122.80** **23** PFAKE 02 22 30.0 +15
658A LR LR
comp=Z,3µm,19.0s
SNAA **Sanae** **122.94** **198** P **PKPdf** **02 22 13.0 -1.2**
SNAA **Sanae** **122.94** **198** *e*PKPdf **PKiKP** **02 22 14.9 +0.4**
SNAA **Sanae** **122.94** **198** *e*PKIKP **PKiKP** **02 22 14.9 +0.4**
LVIG **Laguna Verde** **123.27** **43** PFAKE 02 22 30.0 +13
LVIG LR LR
comp=Z,2µm,19.0s
TLIG **Tlapa** **123.44** **47** PFAKE 02 22 30.0 +13
TLIG LR LR
comp=Z,2µm,19.0s
DWPF **Disney Wildern** **123.92** **24** PFAKE 02 22 30.0 +12
DWPF LR LR
comp=Z,4µm,20.0s
DWPF **Disney Wildern** **123.92** **24** *e*P **PKPdf** **02 22 17.4 -0.1**
957A **Wimauma** **124.01** **25** PFAKE 02 22 30.0 +12
957A LR LR
comp=Z,6µm,19.0s
VNA2 **Neumayer--Watz** **124.59** **198** P **PKPdf** **02 22 16.5 -0.8**
959A **Okeechobee** **124.65** **24** P **PKPdf** **02 22 17.5 -1.4**
baz=335
VNA1 **Neumayer--Stat** **124.97** **198** P **PKPdf** **02 22 14.8 -3.2**
059A **Moore Haven** **125.06** **24** PFAKE 02 22 30.0 +10
059A LR LR
comp=Z,5µm,18.0s
VNA3 **Neumayer Olymp** **125.06** **197** P **PKPdf** **02 22 17.4 -0.9**
060A **Indiantown** **125.29** **24** PFAKE 02 22 30.0 +10
060A LR LR
comp=Z,4µm,18.0s
060A **Indiantown** **125.29** **24** P **PKPdf** **02 22 19.3 -0.8**
baz=336
061Z **Ochoppi** **126.14** **25** PFAKE 02 22 30.0 +7.8
061Z LR LR
comp=Z,4µm,18.0s
MYIG **Mrida** **126.24** **36** PFAKE 02 22 30.0 +7.5
MYIG LR LR
comp=Z,2µm,20.0s
TEIG **Tepich** **127.62** **36** PFAKE 02 22 40.0 +15
TEIG LR LR
comp=Z,2µm,19.0s
SACV **Santiago Islan** **128.25** **315** PFAKE 02 22 40.0 +13
SACV LR LR
comp=Z,4µm,19.0s
CCIG **Comitan** **128.53** **42** PFAKE 02 22 40.0 +13
CCIG LR LR
comp=Z,2µm,22.0s
TGUH **Tegucigalpa,Un** **133.17** **39** PFAKE 02 22 50.0 +13
TGUH LR LR
comp=Z,2µm,21.0s

GRTK	**Grand Turk**	**133.33**	**16**	PFAKE			02 22 50.0	+13
GRTK				LR	LR			
	comp=Z,2µm,19.0s							
GTBY	**Guantanamo Bay**	**133.67**	**21**	PFAKE			02 22 50.0	+13
GTBY				LR	LR			
	comp=Z,2µm,20.0s							
MTDJ	**Mount Denham**	**134.35**	**25**	PFAKE			02 22 50.0	+11
MTDJ				LR	LR			
	comp=Z,3µm,21.0s							
SDDR	**Presa de Saban**	**135.71**	**17**	ePKPpre	PKPpre		02 22 31.0	
SDDR				LR	LR			
	comp=Z,3µm,20.0s							
ESPN	**Las Esperanzas**	**136.37**	**37**	PFAKE			02 22 50.0	+7.0
ESPN				LR	LR			
	comp=Z,1µm,20.0s							
ABVI	**Anegada Island**	**137.31**	**8**	PFAKE			02 22 50.0	+5.1
ABVI				LR	LR			
	comp=Z,2µm,18.0s							
MPR	**Mayaguez**	**137.39**	**12**	PFAKE			02 22 50.0	+5.0
MPR				LR	LR			
	comp=Z,3µm,22.0s							
JTS	**JuntasAbangare**	**137.53**	**40**	PFAKE			02 23 00.0	+15
JTS				LR	LR			
	comp=Z,2µm,21.0s							
CBYP	**Canovanas**	**137.55**	**10**	PFAKE			02 23 00.0	+15
CBYP				LR	LR			
	comp=Z,2µm,20.0s							
CUPR	**Culebra, Puert**	**137.60**	**9**	PFAKE			02 23 00.0	+15
CUPR				LR	LR			
	comp=Z,2µm,20.0s							
STVI	**Saint Thomas**	**137.60**	**9**	ePKPdf	**PKPdf**		**02 22 42.7**	**-0.9**
OBIP	**Obispado Ponce**	**137.65**	**11**	PFAKE			02 23 00.0	+14
OBIP				LR	LR			
	comp=Z,3µm,20.0s							
SJG	**San Juan**	**137.66**	**10**	PFAKE			02 23 00.0	+14
SJG				LR	LR			
	comp=Z,2µm,22.0s							
HUMP	**Col San Antoni**	**137.68**	**10**	PFAKE			02 23 00.0	+14
HUMP				LR	LR			
	comp=Z,2µm,20.0s							
MTP	**Monte Pirata**	**137.77**	**9**	ePKPdf	**PKPdf**		**02 22 43.4**	**-0.5**
MTP				LR	LR			
	comp=Z,2µm,22.0s							
ICMP	**Isla Caja de M**	**137.82**	**11**	PFAKE			02 23 00.0	+14
ICMP				LR	LR			
	comp=Z,2µm,19.0s							
HDC	**Heredia**	**138.25**	**39**	PFAKE			02 23 00.0	+13
HDC				LR	LR			
	comp=Z,1µm,20.0s							
ANWB	**Willy Bob**	**138.60**	**4**	PFAKE			02 23 00.0	+12
ANWB				LR	LR			
	comp=Z,2µm,21.0s							
SEUS	**St. Eustatius**	**138.68**	**6**	PFAKE			02 23 00.0	+12
SEUS				LR	LR			
	comp=Z,2µm,20.0s							
BCIP	**Isla Barro Col**	**141.28**	**34**	PFAKE			02 23 00.0	+6.9
BCIP				LR	LR			
	comp=Z,2µm,21.0s							
FDF	**Fort de France**	**141.56**	**4**	PFAKE			02 23 00.0	+6.3
FDF				LR	LR			
	comp=Z,2µm,20.0s							
PAYG	**Puerto Ayora**	**141.79**	**57**	PFAKE			02 23 00.0	+5.8
PAYG				LR	LR			
	comp=Z,2µm,21.0s							
URIC	**Uribia, Colomb**	**142.38**	**21**	*e*P	PKPpre		02 22 40.0	
URIC	**Uribia, Colomb**	**142.38**	**21**	*e*P	PKPpre		02 22 40.0	
SJCC	**San Jacinto, C**	**142.83**	**27**	*e*P	PKPpre		02 22 46.8	
SJCC	**San Jacinto, C**	**142.83**	**27**	*e*P	PKPpre		02 22 46.8	
CODC	**Agustn Codazz**	**143.49**	**25**	*e*P	PKPab		02 22 50.7	+0.2
CODC	**Agustn Codazz**	**143.49**	**25**	*e*P	PKPab		02 22 50.7	+0.2
GRGR	**Grenville**	**144.10**	**5**	PFAKE			02 23 10.0	+11
GRGR				LR	LR			
	comp=Z,2µm,22.0s							
SMLC	**San Martn de**	**144.28**	**26**	*e*P		**PKPab**	**02 22 50.1**	**-3.4**
SMLC	**San Martn de**	**144.28**	**26**	*e*P		**PKPab**	**02 22 50.1**	**-3.4**
UREC	**San Jos de Ur**	**144.59**	**29**	*e*P		**PKPab**	**02 22 49.5**	**-5.3**
UREC	**San Jos de Ur**	**144.59**	**29**	*e*P		**PKPab**	**02 22 49.5**	**-5.3**
DBBC	**Dabeiba**	**144.93**	**31**	*e*P		**PKPab**	**02 22 55.6**	**-0.4**
DBBC	**Dabeiba**	**144.93**	**31**	*e*P		**PKPab**	**02 22 55.6**	**-0.4**
OCAC	**Ocana**	**145.09**	**26**	*e*P		**PKPbc**	**02 22 55.0**	**-1.7**
OCAC	**Ocana**	**145.09**	**26**	*e*P		**PKPbc**	**02 22 55.0**	**-1.7**
ZARC	**Zaragoza, Cauc**	**145.12**	**29**	*e*P		**PKPbc**	**02 22 54.1**	**-2.5**
ZARC	**Zaragoza, Cauc**	**145.12**	**29**	*e*P		**PKPbc**	**02 22 54.1**	**-2.5**
CAPV	**Capacho**	**145.82**	**24**	*e*P		**PKPdf**	**02 22 58.5**	**-0.1**
CAPV	**Capacho**	**145.82**	**24**	*e*P		**PKPdf**	**02 22 58.5**	**-0.1**
BRRC	**Barranca, Sant**	**145.96**	**27**	*e*P		**PKPdf**	**02 22 58.5**	**-0.1**
BRRC	**Barranca, Sant**	**145.96**	**27**	*e*P		**PKPdf**	**02 22 58.5**	**-0.1**
HELC	**Santa Helena**	**145.97**	**31**	*e*P		**PKPdf**	**02 22 57.7**	**-1.4**
HELC	**Santa Helena**	**145.97**	**31**	*e*P		**PKPdf**	**02 22 57.7**	**-1.4**
PTBC	**PUERTO BERRIO**	**146.15**	**29**	*e*P		**PKPdf**	**02 22 56.9**	**-2.1**
PTBC	**PUERTO BERRIO**	**146.15**	**29**	*e*P		**PKPdf**	**02 22 56.9**	**-2.1**
PAMC	**Pamplona, Colo**	**146.16**	**25**	*e*P		**PKPdf**	**02 22 59.1**	**-0.4**
PAMC	**Pamplona, Colo**	**146.16**	**25**	*e*P		**PKPdf**	**02 22 59.1**	**-0.4**
GIRC	**Giron, Santand**	**146.20**	**26**	*e*P		**PKPdf**	**02 22 59.5**	**+0.3**
GIRC	**Giron, Santand**	**146.20**	**26**	*e*P		**PKPdf**	**02 22 59.5**	**+0.3**
BARC	**Barichara**	**146.64**	**27**	*e*P		**PKPbc**	**02 23 00.9**	**-0.7**
BARC	**Barichara**	**146.64**	**27**	*e*P		**PKPbc**	**02 23 00.9**	**-0.7**
NORC	**Norcasia**	**146.83**	**30**	*e*P		**PKPdf**	**02 22 58.3**	**-1.8**
NORC	**Norcasia**	**146.83**	**30**	*e*P		**PKPdf**	**02 22 58.3**	**-1.8**
MALC	**Bahia Malaga**	**146.94**	**35**	*e*P		**PKPbc**	**02 23 02.1**	**0.0**
MALC	**Bahia Malaga**	**146.94**	**35**	*e*P		**PKPbc**	**02 23 02.1**	**0.0**
RREF	**El Recreo**	**147.19**	**31**	*e*P		**PKPdf**	**02 23 00.3**	**-1.2**
RREF	**El Recreo**	**147.19**	**31**	*e*P		**PKPdf**	**02 23 00.3**	**-1.2**
RUSC	**La Rusia**	**147.32**	**27**	*e*P		**PKPdf**	**02 22 59.9**	**-1.7**
RUSC	**La Rusia**	**147.32**	**27**	*e*P		**PKPdf**	**02 22 59.9**	**-1.7**
GRGC	**Isla de Gorgon**	**147.33**	**38**	*e*P		**PKPbc**	**02 23 02.0**	**-1.2**
GRGC	**Isla de Gorgon**	**147.33**	**38**	*e*P		**PKPbc**	**02 23 02.0**	**-1.2**
TAMC	**Tame, Arauca**	**147.33**	**24**	*e*P		**PKPdf**	**02 23 01.4**	**+0.4**
TAMC	**Tame, Arauca**	**147.33**	**24**	*e*P		**PKPdf**	**02 23 01.4**	**+0.4**
YOTC	**Yotoco, Valle**	**147.49**	**34**	*e*P		**PKPdf**	**02 22 58.8**	**-2.6**
YOTC	**Yotoco, Valle**	**147.49**	**34**	*e*P		**PKPdf**	**02 22 58.8**	**-2.6**
ELOV	**Elorza**	**147.60**	**20**	*e*P		**PKPbc**	**02 23 02.8**	**-1.2**
ELOV	**Elorza**	**147.60**	**20**	*e*P		**PKPbc**	**02 23 02.8**	**-1.2**
ROSC	**El Rosal**	**147.72**	**30**	ePKPdf		**PKPdf**	**02 23 02.3**	**+0.3**
ROSC	**El Rosal**	**147.72**	**30**	*e*P		**PKPdf**	**02 23 01.0**	**-1.1**
ROSC	**El Rosal**	**147.72**	**30**	*e*P		**PKPdf**	**02 23 01.0**	**-1.1**
ROSC	**El Rosal**	**147.72**	**30**	PKPbc		**PKPbc**	**02 23 03.8**	**-1.0**
	comp=Z,34nm,0.6s,baz=40,slow=23,SNR=19							
TUMC	**Tumaco**	**147.97**	**40**	*e*P		**PKPdf**	**02 23 01.4**	**-0.6**
TUMC	**Tumaco**	**147.97**	**40**	*e*P		**PKPdf**	**02 23 01.4**	**-0.6**
CHIC	**Chingaza**	**148.17**	**29**	*e*P		**PKPdf**	**02 23 02.0**	**-0.8**
CHIC	**Chingaza**	**148.17**	**29**	*e*P		**PKPdf**	**02 23 02.0**	**-0.8**
USHA	**Ushuaia**	**148.28**	**169**	PKPbc		**PKPdf**	**02 23 01.7**	**+0.6**
	baz=158,slow=5.4							
PRAC	**Prado**	**148.44**	**32**	*e*P		**PKPdf**	**02 22 59.9**	**-2.9**
PRAC	**Prado**	**148.44**	**32**	*e*P		**PKPdf**	**02 22 59.9**	**-2.9**
VILC	**Villavicencio,**	**148.65**	**29**	*e*P		**PKPdf**	**02 23 02.1**	**-1.2**
VILC	**Villavicencio,**	**148.65**	**29**	*e*P		**PKPdf**	**02 23 02.1**	**-1.2**
MARP	**Paez Belalcaza**	**148.66**	**34**	*e*P		**PKPbc**	**02 23 05.7**	**-1.5**
MARP	**Paez Belalcaza**	**148.66**	**34**	*e*P		**PKPbc**	**02 23 05.7**	**-1.5**
PCON	**Cinco Dias**	**148.86**	**36**	*e*P		**PKPdf**	**02 23 04.0**	**-0.1**
PCON	**Cinco Dias**	**148.86**	**36**	*e*P		**PKPdf**	**02 23 04.0**	**-0.1**
SOTA	**Rioblanco**	**148.91**	**36**	*e*P		**PKPdf**	**02 23 02.8**	**-1.4**
SOTA	**Rioblanco**	**148.91**	**36**	*e*P		**PKPdf**	**02 23 02.8**	**-1.4**
BETC	**Betania**	**149.06**	**34**	*e*P		**PKPbc**	**02 23 07.3**	**-0.6**
BETC	**Betania**	**149.06**	**34**	*e*P		**PKPbc**	**02 23 07.3**	**-0.6**
CRUC	**La Cruz**	**149.19**	**37**	*e*P		**PKPbc**	**02 23 08.0**	**-0.6**
CRUC	**La Cruz**	**149.19**	**37**	*e*P		**PKPbc**	**02 23 08.0**	**-0.6**
CMBC	**Cumbal**	**149.21**	**39**	*e*P		**PKPbc**	**02 23 08.2**	**-0.6**
CMBC	**Cumbal**	**149.21**	**39**	*e*P		**PKPbc**	**02 23 08.2**	**-0.6**
GCUF	**Volcan Galeras**	**149.25**	**38**	*e*P		**PKPbc**	**02 23 08.4**	**-0.6**
GCUF	**Volcan Galeras**	**149.25**	**38**	*e*P		**PKPbc**	**02 23 08.4**	**-0.6**
GO10	**Punta Arenas**	**149.34**	**166**	ePKPbc		**PKPbc**	**02 23 07.7**	**+0.3**
OTAV	**Otavalo**	**149.40**	**41**	ePKPdf		**PKPdf**	**02 23 04.8**	**-0.1**
OTAV				LR	LR			
	comp=Z,2µm,22.0s							
OTAV	**Otavalo**	**149.40**	**41**	*e*P		**PKPdf**	**02 23 04.0**	**-0.9**
OTAV	**Otavalo**	**149.40**	**41**	ePKHKP	PKPpre		02 23 04.8	
OTAV				MLR	MLR			
	comp=Z,2µm,22.0s							
OTAV	**Otavalo**	**149.40**	**41**	*e*P		**PKPdf**	**02 23 04.0**	**-0.9**
OTAV	**Otavalo**	**149.40**	**41**	*e*P		**PKPdf**	**02 23 04.5**	**-0.4**
FLOC	**Florencia**	**149.88**	**35**	*e*P		**PKPbc**	**02 23 08.8**	**-1.2**
FLOC	**Florencia**	**149.88**	**35**	*e*P		**PKPbc**	**02 23 08.8**	**-1.2**
MDP	**Montagnes des**	**150.56**	**347**	PKP		**PKPdf**	**02 23 05.2**	**-1.0**
	comp=Z,23nm,0.8s,baz=257,slow=3.2,SNR=4.1							
MDP				PKPbc		**PKPbc**	**02 23 10.4**	**-1.2**
	comp=Z,33nm,0.9s,baz=35,slow=3.8,SNR=8.0							
GO09	**Cerro Castillo**	**150.74**	**163**	ePKPdf		**PKPdf**	**02 23 04.5**	**-0.7**
PTLC	**Puerto Leguiza**	**151.53**	**35**	*e*P		**PKPdf**	**02 23 06.0**	**-1.6**
PTLC	**Puerto Leguiza**	**151.53**	**35**	*e*P		**PKPdf**	**02 23 06.0**	**-1.6**
RCBR	**Riachuelo**	**151.54**	**305**	ePKPbc		**PKPbc**	**02 23 11.9**	**-1.9**
RCBR				LR	LR			
	comp=Z,6µm,19.0s							
RCBR	**Riachuelo**	**151.54**	**305**	*e*PKIKP		**PKPbc**	**02 23 11.9**	**-1.9**
RCBR				MLR	MLR			
	comp=Z,6µm,19.0s							
RCBR	**Riachuelo**	**151.54**	**305**	*e*P		**PKPdf**	**02 23 08.3**	**+0.6**
EFI	**East Falkland**	**152.25**	**181**	*e*pPKPdf		**PKPbc**	**02 23 14.0**	**-0.2**
EFI	**East Falkland**	**152.25**	**181**	*e*PKIKP		**PKPbc**	**02 23 14.0**	**-0.2**
NBPA	**Parau_RN**	**152.38**	**307**	*e*P		**PKPdf**	**02 23 08.8**	**0.0**
ATAH	**Atahualpa**	**154.93**	**52**	PKP		**PKPdf**	**02 23 11.8**	**-1.3**
	comp=Z,15nm,1.2s,baz=294,slow=1.7,SNR=8.8							
PTGA	**Pitinga**	**156.96**	**3**	ePKPdf		**PKPdf**	**02 23 14.9**	**-0.3**
PTGA				LR	LR			
	comp=Z,2µm,22.0s							
PTGA	**Pitinga**	**156.96**	**3**	PKP		**PKPdf**	**02 23 14.7**	**-0.5**
	comp=Z,10nm,0.7s,baz=347,slow=2.1,SNR=24							
PTGA	**Pitinga**	**156.96**	**3**	*e*P		**PKPdf**	**02 23 14.5**	**-0.8**
NNA	**Nana**	**159.23**	**58**	PFAKE			02 23 30.0	+12
NNA				LR	LR			
	comp=Z,2µm,21.0s							
NNA	**Nana**	**159.23**	**58**	PKP		**PKPdf**	**02 23 16.2**	**-1.8**
	comp=Z,5.8nm,0.5s,baz=252,slow=3.2,SNR=2.9							
PLCA	**Paso Flores**	**160.54**	**152**	ePKPdf		**PKPdf**	**02 23 18.5**	**-0.3**
PLCA	**Paso Flores**	**160.54**	**152**	ePKIKP		**PKPdf**	**02 23 18.5**	**-0.3**
PLCA	**Paso Flores**	**160.54**	**152**	PKP		**PKPdf**	**02 23 18.1**	**-0.7**
	comp=Z,4.6nm,0.7s,baz=233,slow=2.9,SNR=9.8							
PLCA				PKPab		**PKPab**	**02 23 59.1**	**-1.0**
	comp=Z,4.9nm,0.8s,baz=245,slow=6.7,SNR=6.0							
PLCA	**Paso Flores**	**160.54**	**152**	*e*P		**PKPdf**	**02 23 19.9**	**+1.1**
GO06	**Curarrehue**	**161.06**	**149**	ePKPdf		**PKPdf**	**02 23 19.1**	**-0.4**
SJMB	**Sao Joao De Ma**	**162.74**	**284**	*e*P		**PKPdf**	**02 23 23.6**	**+2.1**
JANB	**Januaria**	**163.72**	**300**	*e*P		**PKPdf**	**02 23 23.9**	**+1.2**
MCI9	**Montes Claros**	**164.25**	**294**	*e*P		**PKPdf**	**02 23 22.9**	**-0.3**
MCI8	**Montes Claros**	**164.25**	**294**	*e*P		**PKPdf**	**02 23 23.5**	**+0.4**
MCI6	**Montes Claros**	**164.30**	**294**	*e*P		**PKPdf**	**02 23 22.6**	**-0.6**
PEXB	**Peixe**	**164.58**	**318**	*e*P		**PKPdf**	**02 23 22.4**	**-1.0**
BSCB	**Bom Sucesso**	**166.66**	**280**	*e*P		**PKPdf**	**02 23 24.7**	**-0.4**
ESAR	**Angra dos Reis**	**166.73**	**271**	*e*P		**PKPdf**	**02 23 27.6**	**+2.6**
BDFB	**Brasilia**	**166.91**	**307**	ePKPdf		**PKPdf**	**02 23 24.9**	**-0.5**
BDFB				ePKPab		**PKPab**	**02 24 29.3**	**+0.5**
BDFB	**Brasilia**	**166.91**	**307**	ePKIKP		**PKPdf**	**02 23 24.9**	**-0.5**
BDFB	**Brasilia**	**166.91**	**307**	PKP		**PKPdf**	**02 23 24.1**	**-1.3**
	comp=Z,6.9nm,0.9s,baz=150,slow=3.6,SNR=6.8							
BDFB				PKPab		**PKPab**	**02 24 28.8**	**0.0**
	comp=Z,15nm,1.0s,baz=59,slow=5.5,SNR=5.7							
LCO	**Las Campanas**	**168.23**	**118**	ePKPdf		**PKPdf**	**02 23 26.4**	**+0.2**
LCO	**Las Campanas**	**168.23**	**118**	ePKIKP		**PKPdf**	**02 23 26.4**	**+0.2**
LCO	**Las Campanas**	**168.23**	**118**	*e*P		**PKPdf**	**02 23 26.2**	**0.0**
LPAZ	**La Paz**	**168.48**	**51**	PKP		**PKPdf**	**02 23 27.0**	**-0.1**
	comp=Z,21nm,1.1s,baz=21,slow=3.6,SNR=18							
LPAZ	**La Paz**	**168.48**	**51**	*e*P		**PKPdf**	**02 23 27.6**	**+0.4**
CFA	**Coronel Fontan**	**168.69**	**135**	PKP		**PKPdf**	**02 23 25.7**	**-0.5**
	comp=Z,15nm,0.9s,baz=210,slow=2.4,SNR=11							
MNMC	**Minye Minye**	**168.95**	**67**	ePKPdf		**PKPdf**	**02 23 27.2**	**+0.2**
LPA	**La Plata**	**168.98**	**184**	PKIKP		PKPpre	02 23 19.8	
LPA	**La Plata**	**168.98**	**184**	PKP		PKPab	02 24 27.2	-10
LPA				PKIKS			02 26 51.5	
LPA				pPP			02 28 35.4	
LPA				SS		SS	02 49 11.9	-6.1
GO03	**Copiap**	**169.10**	**112**	ePKPdf		**PKPdf**	**02 23 26.8**	**+0.2**
PB1P	**IPOC Station P**	**169.17**	**70**	ePKPdf		**PKPdf**	**02 23 27.0**	**+0.1**
PB10	**IPOC Station P**	**169.28**	**90**	ePKPdf		**PKPdf**	**02 23 27.2**	**+0.5**
RCLB	**Rio Claro- Sao**	**169.47**	**276**	*e*P		**PKPdf**	**02 23 29.5**	**+2.6**
GO01	**Chusmiza**	**169.53**	**68**	ePKPdf		**PKPdf**	**02 23 27.4**	**-0.1**
BB19B	**Bebedouro**	**170.04**	**284**	*e*P		**PKPdf**	**02 23 28.2**	**+0.9**
GO02	**Mina Guanaco**	**170.15**	**100**	ePKPdf		**PKPdf**	**02 23 28.0**	**+0.5**
LVC	**Limon Verde**	**170.68**	**84**	ePKPdf		**PKPdf**	**02 23 29.0**	**+1.0**
LVC	**Limon Verde**	**170.68**	**84**	ePKIKP		**PKPdf**	**02 23 29.0**	**+1.0**
LVC	**Limon Verde**	**170.68**	**84**	PKP		**PKPdf**	**02 23 27.3**	**-0.6**
	comp=Z,3.4nm,0.8s,baz=95,slow=1.6,SNR=8.8							
LVC	**Limon Verde**	**170.68**	**84**	*e*P		**PKPdf**	**02 23 29.1**	**+1.0**
PLTB	**Pedras Altas**	**170.87**	**209**	*e*P		**PKPdf**	**02 23 27.4**	**0.0**
TIJ01	**Guaruva-PR**	**170.91**	**259**	*e*P		**PKPdf**	**02 23 30.7**	**+3.0**
CNLB	**Canela**	**171.02**	**231**	*e*P		**PKPdf**	**02 23 30.5**	**+2.9**
ITRB	**Iturama**	**171.07**	**296**	*e*P		**PKPdf**	**02 23 30.7**	**+2.8**
FRTB	**Fartura**	**171.45**	**272**	*e*P		**PKPdf**	**02 23 28.8**	**+0.9**
SIV	**San Ignacio**	**171.88**	**15**	PKP		**PKPdf**	**02 23 27.7**	**-0.6**
	comp=Z,15nm,0.9s,baz=150,slow=0.8,SNR=29							
CPSB	**Cacapava Do Su**	**171.90**	**215**	*e*P		**PKPdf**	**02 23 30.7**	**+2.8**
ITAB	**Concordia**	**173.06**	**240**	*e*P		**PKPdf**	**02 23 31.1**	**+2.6**
PTGB	**Pitanga**	**173.74**	**261**	*e*P		**PKPdf**	**02 23 31.0**	**+2.1**
TRCB	**Terra Rica**	**174.17**	**279**	*e*P		**PKPdf**	**02 23 30.8**	**+1.7**
AQDB	**Aquidauana**	**175.52**	**319**	*e*P		**PKPdf**	**02 23 31.1**	**+1.7**
CPUP	**Villa Florida**	**177.19**	**209**	ePKPdf		**PKPdf**	**02 23 29.2**	**-0.5**
CPUP				ePKPab	PKPab		02 25 15.2	+1.3
CPUP	**Villa Florida**	**177.19**	**209**	PKP		**PKPdf**	**02 23 29.1**	**-0.5**
	comp=Z,4.6nm,0.9s,baz=111,slow=0.7,SNR=11							
CPUP				PKPab	PKPab		02 25 13.4	-0.4
	comp=Z,4.5nm,1.0s,baz=130,slow=4.3,SNR=3.9							
CPUP	**Villa Florida**	**177.19**	**209**	*e*P		**PKPdf**	**02 23 32.0**	**+2.3**

TAP 27 02:04:05.9, 23°.92N×121°.05E, h19km, ML5.0, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OWD	**Renai**	**0.12**	**73**	P		Pg	02 04 10.4	+0.2
OWD	baz=74			S		Sg	02 04 13.2	+0.1
SMLT	**Sun Moon Lake**	**0.14**	**255**	*e*P		Pg	02 04 10.3	-0.1
SSLB	baz=246 **Suanglung**	**0.16**	**214**	P		Pg	02 04 10.3	-0.2
CHGB	baz=213 **Renai**	**0.18**	**39**	P		Pg	02 04 11.4	+0.4
CHGB	baz=45			S		Sg	02 04 14.6	+0.2
TYC	baz=45 **Yuchr**	**0.18**	**265**	P		Pg	02 04 10.9	+0.2
VWDT	baz=265 **VWDT**	**0.18**	**154**	P		Pg	02 04 11.1	+0.3
VWDT	baz=154			S		Sg	02 04 14.3	+0.2
WHYT	**Xinyi Township**	**0.29**	**219**	*e*P		Pb	02 04 12.6	+0.2
WHF	baz=219 **Hehuan Shan**	**0.30**	**41**	P		Pg	02 04 13.1	+0.3
WHF	baz=47			S		Sg	02 04 17.9	+0.4
WJS	baz=47 **Zhushan**	**0.31**	**252**	*e*P		Pb	02 04 13.8	+0.9
WJS	baz=251			*e*S		Sb	02 04 19.5	+1.9
WNT	baz=251 **Mingjian**	**0.34**	**263**	*e*P		Pb	02 04 14.3	+0.9
WNT	baz=262			*e*S		Sb	02 04 20.1	+1.6
ESL	baz=262 **Shilin**	**0.36**	**107**	*e*P		Pb	02 04 14.0	+0.1
WHP	baz=107 **Taichung City**	**0.37**	**345**	*e*P		Pb	02 04 14.7	+0.7
WHP	baz=348			*e*S		Sb	02 04 20.9	+1.4
EGFH	baz=348 **Guangfu**	**0.42**	**126**	P		Pb	02 04 14.8	0.0
EGFH	baz=120			S		Sg	02 04 20.6	-0.1
EHY	baz=120 **Hungye**	**0.48**	**149**	*e*P		Pb	02 04 15.9	+0.1
EHY	baz=141			*e*S		Sg	02 04 22.2	-0.1
ETLH	baz=141 **Xiulin Townshi**	**0.49**	**54**	P		Pg	02 04 15.9	0.0
TWQ1	baz=54 **Liyutan**	**0.50**	**329**	*e*P		Pb	02 04 16.8	+0.8
HWA	baz=329 **Hwalien**	**0.51**	**83**	P		Pg	02 04 16.7	+0.5
HWA	baz=84			S		Sb	02 04 24.2	+1.0
TWD	baz=84 **Chiawan**	**0.52**	**72**	*e*P		Pb	02 04 16.4	0.0
TWD	baz=73			*e*S		Sb	02 04 23.4	-0.1
NACB	baz=73 **Ninganchiao**	**0.56**	**63**	P		Pb	02 04 16.7	-0.3
NACB	baz=71			*e*S		Sg	02 04 24.9	+0.2
NSY	baz=71 **Sanyi**	**0.56**	**332**	*e*P		Pn	02 04 18.7	-0.2
YULB	baz=332 **Yu-li**	**0.57**	**157**	*e*P		Pg	02 04 17.4	0.0
YULB	baz=149			*e*S		Sb	02 04 24.6	-0.3
NNSB	baz=149 **Datong**	**0.59**	**31**	*e*P		Pb	02 04 17.3	-0.3
	baz=31							

TAP 27 02:05:26.3, 23°.90N×121°.08E, h20km±1km, ML4.0, 2C-1D, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OWD	**Renai**	**0.10**	**60**	⇓*i*P		Pg	02 05 31.0	+0.6
OWD	baz=60			S		Sg	02 05 33.5	+0.3
VWDT	**VWDT**	**0.16**	**159**	P		Pg	02 05 31.7	+0.8
VWDT	baz=159			S		Sg	02 05 35.3	+1.3
SSLB	**Suanglung**	**0.16**	**225**	⇑P		Pg	02 05 31.1	+0.1
SSLB	baz=224			*e*S		Sg	02 05 34.3	+0.1
SMLT	baz=224 **Sun Moon Lake**	**0.17**	**263**	P		Pg	02 05 31.3	+0.2
CHGB	baz=261 **Renai**	**0.18**	**29**	P		Pg	02 05 31.8	+0.4
CHGB	baz=29			S		Sg	02 05 35.1	+0.3
TYC	baz=29 **Yuchr**	**0.20**	**270**	⇑*i*P		Pg	02 05 31.7	+0.2
WHYT	baz=270 **Xinyi Township**	**0.29**	**225**	*e*P		Pb	02 05 33.5	+0.6
WHF	baz=225 **Hehuan Shan**	**0.29**	**35**	*e*P		Pg	02 05 34.0	+0.8
WHF	baz=36			*e*S		Sg	02 05 38.5	+0.7
WJS	baz=36 **Zhushan**	**0.33**	**256**	*e*P		Pb	02 05 34.2	+0.6
ESL	baz=255 **Shilin**	**0.34**	**105**	*e*P		Pb	02 05 34.4	+0.7
WNT	baz=105 **Mingjian**	**0.36**	**266**	*e*P		Pb	02 05 35.1	+0.9
WNT	baz=265			*e*S		Sb	02 05 41.3	+1.8
WHP	baz=265 **Taichung City**	**0.39**	**342**	*e*P		Pb	02 05 35.6	+0.8
EGFH	baz=341 **Guangfu**	**0.40**	**126**	*e*P		Pb	02 05 35.3	+0.6
EGFH	baz=126			*e*S		Sb	02 05 41.0	+0.6
TCU	baz=126 **Taichung**	**0.44**	**303**	*e*P		Pn	02 05 36.8	-0.8
EHY	baz=303 **Hungye**	**0.45**	**151**	*e*P		Pb	02 05 36.0	+0.3
YULB	baz=150 **Yu-li**	**0.55**	**159**	*e*P		Pg	02 05 37.4	+0.1
YULB	baz=158			*e*S		Sg	02 05 45.3	+0.6
	baz=158							

SOF ***27*** *02:09:11.1, 42°.59N×22°.98E, h4km, MD2.6*
SKO ***27*** *02:09:12.1, 42°.64N×23°.01E, h5km*
BEO ***27*** *02:09:12.2±0.4, 42°.59N×22°.98E, h4km±3km, ML1.8/7*

ISC 27 02:09:11.5±1.1, 42°.60N±0°.02×22°.97E±0°.02, h1km±11km, n32, σ0°91/47, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.20**	**85**	*e*Pg		**Pg**	**02 09 15.3**	**+0.1**
VTS				*e*Sg		**Sg**	**02 09 17.7**	**-0.1**
VTS	**Vitosha**	**0.20**	**85**	*i* Pg		**Pg**	**02 09 15.4**	**+0.1**
VTS				*i* Sg		**Sg**	**02 09 17.8**	**-0.1**
VTS	**Vitosha**	**0.20**	**85**	P		**Pg**	**02 09 15.0**	**-0.3**
VTS	**Vitosha**	**0.20**	**85**	P		**Pg**	**02 09 15.0**	**-0

TCU	**Taichung**	**0.41**	**309**	⇓P	Pb	02 11 18.9	+0.9
	baz=309								
EGFH	**Guangfu**	**0.43**	**121**	*e*P	Pb	02 11 18.3	+0.1
EGFH	baz=121			*e*S	Sb	02 11 24.6	+0.2
CHN5	**Tsauling**	**0.43**	**228**	P	Pb	02 11 18.7	+0.3
CHN5	baz=228			S	Sb	02 11 25.8	+1.2
EHY	**Hungye**	**0.47**	**145**	P	Pb	02 11 19.0	0.0
EHY	baz=139			S	Sb	02 11 25.8	+0.3
WCHH	**Zhanghua**	**0.47**	**294**	⇓P	Pb	02 11 19.8	+0.8
WCHH	baz=293			S	Sn	02 11 27.6	-1.4
WGK	**Gukeng**	**0.47**	**245**	⇑P	Pb	02 11 19.8	+0.8
WGK	baz=244			*e*S	Sb	02 11 27.2	+1.6
WDLH	**Douliu**	**0.49**	**246**	*e*P	Pb	02 11 19.7	+0.4
TWQ1	baz=245 **Liyutan**	**0.51**	**333**	⇓P	Pb	02 11 20.5	+0.8
TWQ1	baz=333			S	Sn	02 11 28.7	-1.4
ETLH	**Xiulin Townshi**	**0.52**	**53**	*e*P	Pg	02 11 19.5	-0.1
HWA	baz=50 **Hwalien**	**0.54**	**80**	*e*P	Pb	02 11 20.4	+0.3
HWA	baz=81			*e*S	Sb	02 11 28.4	+0.9
HGSD	**Ruisui**	**0.54**	**137**	P	Pb	02 11 20.8	+0.7
YULB	baz=138 **Yu-li**	**0.55**	**153**	⇓P	Pb	02 11 20.6	+0.2
YULB	baz=154			*e*S	Sb	02 11 28.1	0.0
TWD	**Chiawan**	**0.55**	**70**	P	Pb	02 11 20.4	0.0
TWD	baz=70			*e*S	Sg	02 11 26.8	-0.8
WDJ	**Dajia District**	**0.58**	**322**	⇓P	Pn	02 11 22.0	-0.6
NSY	baz=308 **Sanyi**	**0.58**	**335**	⇓*i*P	Pn	02 11 22.1	-0.6
NSY	baz=336			*e*S	Sn	02 11 31.3	-0.4
TWF1	**Yuli**	**0.59**	**155**	⇓P	Pb	02 11 21.4	+0.4
TWF1	baz=155			S	Sb	02 11 29.5	+0.4
NACB	**Ninganchiao**	**0.59**	**61**	P	Pg	02 11 20.6	-0.3
NACB	baz=69			S	Sg	02 11 28.0	-0.8
NNSB	**Datong**	**0.63**	**31**	*e*P	Pg	02 11 21.1	-0.6
PTSB	baz=36 **Yuanli**	**0.63**	**332**	*e*P	Pn	02 11 22.6	-0.7
PTSB	baz=332			*e*S	Sn	02 11 32.1	-0.9
NNS	**Nan Shan**	**0.63**	**30**	*e*P	Pg	02 11 21.2	-0.5
CHN4	baz=31 **Tsaushan**	**0.67**	**217**	P	Pb	02 11 23.0	+0.7
CHN4	baz=216			*e*S	Sn	02 11 33.6	-0.2
CHY	**Chiayi**	**0.68**	**235**	*e*P	Pb	02 11 22.8	+0.4
CHY	baz=234			*e*S	Sn	02 11 33.4	-0.7
NMLH	**Miaoli**	**0.68**	**342**	*e*P	Pn	02 11 23.5	-0.5
TPUB	baz=342 **Ta-pu**	**0.69**	**212**	P	Pb	02 11 23.2	+0.5
TPUB	baz=212			*e*S	Sn	02 11 33.5	-1.0
FULB	**Fuli**	**0.73**	**160**	P	Pn	02 11 24.7	0.0
FULB	baz=161			*e*S	Sn	02 11 35.6	+0.1
WTP	**Ta-pu**	**0.74**	**211**	*e*P	Pb	02 11 23.6	-0.1
STYT	baz=210 **Tauyuan**	**0.76**	**199**	P	Pg	02 11 24.6	+0.5
STYT	baz=198			*e*S	Sg	02 11 34.8	+0.6
WSF	**Szhu**	**0.78**	**251**	*e*P	Pb	02 11 24.2	0.0
TWK	baz=251 **Hsinying**	**0.79**	**219**	*e*P	Pg	02 11 24.9	+0.2
SNST	baz=217 **Tainan City**	**0.82**	**216**	*e*P	Pg	02 11 25.1	-0.1
CHN1	baz=216 **Nanshi**	**0.84**	**213**	*e*P	Pg	02 11 25.8	+0.3
NDT	baz=225 **Datong Townshi**	**0.84**	**32**	*e*P	Pb	02 11 25.0	-0.3
YHNB	baz=27 **Yeheng**	**0.84**	**22**	*e*P	Pb	02 11 25.1	-0.3
CHKT	baz=23 **Chengkung**	**0.84**	**158**	*e*P	Pn	02 11 26.4	+0.2
ENA	baz=147 **Nanau**	**0.84**	**50**	*e*P	Pb	02 11 25.2	-0.1
NANB	baz=51 **Nanao**	**0.85**	**51**	P	Pb	02 11 25.1	-0.3
NANB	baz=51			*e*S	Sb	02 11 35.9	-0.7
ENTT	**Nioudou**	**0.90**	**33**	*e*P	Pb	02 11 26.4	+0.1
SBCB	baz=30 **Hsinchu**	**0.90**	**358**	*e*P	Pn	02 11 27.8	+0.8
SGST	baz=358 **Jiashian**	**0.90**	**207**	*e*P	Pn	02 11 28.4	+1.4
SLGT	baz=218 **Liugui**	**0.96**	**201**	*e*P	Pn	02 11 28.4	+0.6
WLTB	baz=213 **Daxi**	**0.98**	**12**	*e*P	Pg	02 11 29.4	+1.2
WLTB	baz=18			*e*S	Sn	02 11 43.8	+2.1
NWLT	**Wulai**	**0.98**	**26**	*e*P	Pg	02 11 29.4	+1.2
TWE	baz=21 **Neicheng**	**1.01**	**35**	*e*P	Pg	02 11 29.2	+0.4
SLBB	baz=45 **Yuanshan**	**1.02**	**33**	*e*P	Pg	02 11 29.4	+0.4
TWC	baz=24 **Suao**	**1.04**	**46**	*e*P	Pn	02 11 28.8	-0.1
SCLT	baz=47 **Jiali**	**1.04**	**227**	*e*P	Pg	02 11 30.1	+0.7
TWG	baz=226 **Pinlang**	**1.06**	**178**	P	Pg	02 11 30.0	+0.2
TWG	baz=171			*e*S	Sg	02 11 45.1	+1.3
TWGBT	baz=171 **Beinan**	**1.07**	**177**	P	Pg	02 11 29.8	0.0
SSD	baz=169 **Sandimen**	**1.19**	**198**	*e*P	Pg	02 11 32.2	-0.1
TWA	baz=197 **Mucha**	**1.20**	**25**	*e*P	Pg	02 11 33.0	+0.7
TWA	baz=39			*e*S	Sg	02 11 50.7	+2.6
EOS1	**EOS1**	**1.20**	**57**	*e*P	Pg	02 11 32.3	-0.1
NTC	baz=71 **Toucheng**	**1.21**	**37**	*e*P	Pg	02 11 33.8	+1.3
EGS	baz=25	**1.26**	**41**	*e*P	Pn	02 11 32.0	+0.1
ECL	baz=50 **Taimali**	**1.29**	**183**	*e*P	Pg	02 11 33.8	-0.3
ECL	baz=168			*e*S	Sg	02 11 51.8	+0.9
MASBT	**Mashibuluo**	**1.32**	**196**	*e*P	Pg	02 11 34.3	-0.4
YM01	baz=195 **YM01**	**1.35**	**21**	*e*P	Pg	02 11 35.2	0.0
YM01	baz=21			*e*S	Sg	02 11 52.8	+0.1
YM05	**YM05**	**1.36**	**21**	*e*P	Pn	02 11 33.7	+0.2
NWF	baz=22 **Wu-fen Shan**	**1.36**	**30**	*e*P	Pg	02 11 35.8	+0.4
WFSB	baz=31 **Wu-fen Shan**	**1.36**	**30**	*e*P	Pg	02 11 35.7	+0.2
YM11	baz=31 **YM11**	**1.36**	**21**	*e*P	Pb	02 11 34.7	+0.4
	baz=22						
ANP	**Anpu**	**1.37**	**19**	*e*P	Pn	02 11 33.7	+0.1
PHUB	baz=20 **P'eng-hu**	**1.39**	**255**	*e*P	Pn	02 11 33.5	-0.2
PHUB	baz=255			*e*S	Sb	02 11 51.8	-0.2
PNG	baz=255 **Penghu**	**1.39**	**257**	*e*P	Pn	02 11 33.3	-0.4
WDGT	baz=256 **Dungji**	**1.40**	**244**	*e*P	Pn	02 11 34.4	+0.4
TWB1	baz=243 **Santiao Chiao**	**1.42**	**38**	*e*P	Pg	02 11 36.1	-0.4
TWB1	baz=49			*e*S	Sg	02 11 56.0	+1.0
EAST	**Anshuo**	**1.51**	**186**	*e*P	Pg	02 11 37.5	-0.7
SCZT	baz=180 **Fangliau**	**1.56**	**194**	*e*P	Pg	02 11 38.6	-0.5
VCHM	baz=193 **Qimei**	**1.61**	**246**	*e*P	Pn	02 11 37.2	+0.3
VCHM	baz=236			*e*S	Sn	02 11 57.8	+0.6
KNMB	baz=236 **Chin-men Tao**	**2.48**	**284**	*e*P	Pn	02 11 48.4	-0.3
	baz=281						

TAP 27 02:11:42.8, 23.89N×121.02E, h17km, ML3.9, 4C-16D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.11**	**268**	⇑*i*P		Pb	02 11 46.7	+0.1
SMLT	baz=266			*i* S		Sb	02 11 49.6	+0.4
SSLB	**Suanglung**	**0.12**	**213**	⇑P		Pb	02 11 46.6	-0.1
SSLB	baz=213			S		Sg	02 11 49.0	0.0
OWD	**Renai**	**0.15**	**65**	⇓*i*P		Pb	02 11 47.5	+0.1
OWD	baz=64			*i* S		Sb	02 11 50.3	-0.1
VWDT	**VWDT**	**0.17**	**141**	⇓P		Pb	02 11 48.0	+0.5
VWDT	baz=141			S		Sb	02 11 51.2	+0.4
CHGB	**Renai**	**0.22**	**39**	⇑P		Pg	02 11 48.3	+0.2
CHGB	baz=44			S		Sg	02 11 51.6	-0.1
WHYT	**Xinyi Township**	**0.25**	**219**	⇑*e*P		Pb	02 11 48.9	0.0
WHYT	baz=219			*e*S		Sb	02 11 53.3	+0.3
WJS	**Zhushan**	**0.28**	**256**	⇓*i*P		Pb	02 11 49.9	+0.5
WJS	baz=256			S		Sb	02 11 55.0	+1.1
WNT	**Mingjian**	**0.31**	**268**	⇓*i*P		Pb	02 11 50.5	+0.5
WNT	baz=268			*i* S		Sb	02 11 56.0	+1.3
WHF	**Hehuan Shan**	**0.34**	**41**	⇓*i*P		Pb	02 11 50.5	-0.2
WHF	baz=49			*i* S		Sg	02 11 55.4	+0.3
ESL	**Shilin**	**0.38**	**101**	⇓*i*P		Pb	02 11 51.1	0.0
ESL	baz=101			*i* S		Sb	02 11 56.6	-0.2
TWT	**Tachien**	**0.39**	**21**	P		Pg	02 11 50.6	-0.3
TWT	baz=23			*e*S		Sg	02 11 55.4	-1.0
WHP	**Taichung City**	**0.39**	**350**	P		Pb	02 11 51.6	+0.2
WHP	baz=349			S		Sb	02 11 58.5	+1.2
TCU	**Taichung**	**0.41**	**309**	⇓P		Pb	02 11 52.4	+0.8
CHN5	baz=310 **Tsauling**	**0.43**	**228**	⇓P		Pb	02 11 52.3	+0.3
CHN5	baz=228			S		Sb	02 11 59.3	+1.0
EGFH	**Guangfu**	**0.43**	**120**	P		Pb	02 11 51.9	-0.1
EGFH	baz=121			S		Sb	02 11 58.3	+0.1
WCHH	**Zhanghua**	**0.47**	**294**	⇓P		Pb	02 11 53.4	+0.7
WCHH	baz=293			*e*S		Sn	02 12 01.1	-1.6
EHY	**Hungye**	**0.47**	**144**	⇓*i*P		Pb	02 11 52.8	+0.2
EHY	baz=139			S		Sb	02 11 59.4	0.0
WGK	**Gukeng**	**0.47**	**245**	P		Pb	02 11 53.1	+0.4
WGK	baz=244			S		Sb	02 12 00.9	+1.6
WDLH	**Douliu**	**0.49**	**246**	*e*P		Pb	02 11 53.6	+0.6
WDLH	baz=246			*e*S		Sn	02 12 01.9	-1.3
TWQ1	**Liyutan**	**0.51**	**333**	⇓*i*P		Pb	02 11 54.1	+0.7
TWQ1	baz=334			S		Sn	02 12 02.4	-1.5
ETLH	baz=334 **Xiulin Townshi**	**0.53**	**53**	*e*P		Pg	02 11 53.2	-0.1
HGSD	baz=51 **Ruisui**	**0.54**	**137**	⇓P		Pb	02 11 54.3	+0.5
HWA	baz=137 **Hwalien**	**0.54**	**80**	P		Pb	02 11 54.2	+0.4
HWA	baz=81			*e*S		Sb	02 12 01.9	+0.6
YULB	**Yu-li**	**0.55**	**153**	⇓P		Pb	02 11 54.2	+0.1
YULB	baz=154			S		Sg	02 12 01.3	+0.1
TWD	baz=154 **Chiawan**	**0.56**	**70**	P		Pg	02 11 53.8	-0.1
TWD	baz=70			*e*S		Sg	02 12 01.1	-0.3
WDJ	**Dajia District**	**0.58**	**323**	⇓*i*P		Pn	02 11 55.5	-0.8
WDJ	baz=322			*e*S		Sn	02 12 04.8	-0.6
NSY	**Sanyi**	**0.58**	**335**	P		Pn	02 11 55.6	-0.7
NSY	baz=336			S		Sn	02 12 04.8	-0.7
TWF1	**Yuli**	**0.59**	**155**	⇓*i*P		Pb	02 11 55.0	+0.2
TWF1	baz=154			S		Sb	02 12 02.6	-0.2
NACB	baz=154 **Ninganchiao**	**0.59**	**61**	P		Pg	02 11 54.3	-0.3
NACB	baz=69			*e*S		Sg	02 12 01.7	-0.9
PTSB	**Yuanli**	**0.63**	**332**	*e*P		Pn	02 11 56.5	-0.5
PTSB	baz=332			*e*S		Sn	02 12 05.9	-0.8
NNSB	baz=332 **Datong**	**0.63**	**31**	*e*P		Pg	02 11 54.6	-0.7
NNS	baz=31 **Nan Shan**	**0.64**	**30**	*e*P		Pg	02 11 55.0	-0.4
CHN4	baz=31 **Tsaushan**	**0.67**	**217**	P		Pb	02 11 56.5	+0.5
CHN4	baz=216			S		Sn	02 12 06.9	-0.7
CHY	**Chiayi**	**0.67**	**235**	*e*P		Pb	02 11 56.3	+0.1
NMLH	baz=234 **Miaoli**	**0.68**	**342**	*e*P		Pn	02 11 57.4	-0.3
NMLH	baz=341			*e*S		Sn	02 12 08.2	+0.2
TPUB	baz=341 **Ta-pu**	**0.69**	**212**	*e*P		Pb	02 11 56.9	+0.5
FULB	baz=211 **Fuli**	**0.73**	**160**	⇓P		Pn	02 11 58.2	-0.2
FULB	baz=160			*e*S		Sn	02 12 09.4	+0.2
WTP	baz=160 **Ta-pu**	**0.74**	**211**	*e*P		Pb	02 11 57.4	0.0
WTP	baz=210			*e*S		Sb	02 12 08.1	+0.9
STYT	**Tauyuan**	**0.76**	**199**	P		Pg	02 11 58.3	+0.5
STYT	baz=198			*e*S		Sb	02 12 08.6	+0.8
TWK	baz=198 **Hsinying**	**0.79**	**219**	P		Pg	02 11 58.6	+0.4
TWK	baz=218			*e*S		Sn	02 12 09.8	-0.9
CHN1	baz=218 **Nanshi**	**0.83**	**213**	*e*P		Pg	02 11 59.0	-0.1
NDT	baz=225 **Datong Townshi**	**0.84**	**32**	*e*P		Pb	02 11 58.8	-0.2
YHNB	baz=28 **Yeheng**	**0.84**	**22**	*e*P		Pb	02 11 58.8	-0.3
YHNB	baz=22			*e*S		Sn	02 12 11.3	-0.8
CHKT	**Chengkung**	**0.84**	**158**	*e*P		Pn	02 11 59.9	-0.1
ENA	baz=146 **Nanau**	**0.85**	**50**	*e*P		Pb	02 11 59.1	-0.1
NANB	baz=51 **Nanao**	**0.85**	**51**	*e*P		Pb	02 11 58.6	-0.6
ENTT	baz=51 **Nioudou**	**0.90**	**33**	*e*P		Pg	02 12 00.3	+0.1
SGST	baz=30 **Jiashian**	**0.90**	**207**	*e*P		Pn	02 12 01.1	+0.3
SBCB	baz=217 **Hsinchu**	**0.90**	**358**	P		Pn	02 12 01.2	+0.4
SBCB	baz=348			S		Sn	02 12 14.1	+0.7
CHN8	baz=348 **Yiju**	**0.92**	**234**	*e*P		Pn	02 12 01.0	0.0
SLGT	baz=233 **Liugui**	**0.96**	**201**	*e*P		Pn	02 12 02.0	+0.5
WLTB	baz=213 **Daxi**	**0.98**	**12**	*e*P		Pg	02 12 02.6	+0.7
NWLT	baz=21 **Wulai**	**0.99**	**26**	*e*P		Pg	02 12 02.0	0.0
TWE	baz=21 **Neicheng**	**1.02**	**35**	*e*P		Pg	02 12 02.7	+0.2
SLBB	baz=46 **Yuanshan**	**1.03**	**33**	*e*P		Pg	02 12 03.0	+0.2
TWC	baz=24 **Suao**	**1.04**	**46**	*e*P		Pn	02 12 02.8	+0.1
TWG	baz=47 **Pinlang**	**1.06**	**178**	P		Pg	02 12 03.6	+0.2
TWG	baz=171			*e*S		Sn	02 12 18.4	+0.9
TWGBT	baz=171 **Beinan**	**1.07**	**177**	P		Pg	02 12 03.7	+0.2
TWGBT	baz=171			S		Sn	02 12 18.3	+0.8
TATO	**Taipei**	**1.16**	**21**	*e*P		Pg	02 12 05.8	+0.5
NHDH	baz=27 **Xindian Distri**	**1.16**	**23**	*e*P		Pg	02 12 05.0	-0.3
SSD	baz=5.0 **Sandimen**	**1.19**	**198**	*e*P		Pg	02 12 06.0	+0.2
TWA	baz=196 **Mucha**	**1.20**	**25**	*e*P		Pg	02 12 06.8	+0.8
EOS1	baz=7.0 **EOS1**	**1.20**	**57**	*e*P		Pg	02 12 07.0	+1.0
NTC	baz=71 **Toucheng**	**1.21**	**37**	*e*P		Pg	02 12 06.9	+0.7
TWS1	baz=47 **Kuangyinshan**	**1.26**	**16**	*e*P		Pg	02 12 08.6	+1.5
EGS	baz=1.0	**1.26**	**41**	*e*P		Pg	02 12 08.1	+0.9
ECL	baz=50 **Taimali**	**1.29**	**183**	*e*P		Pg	02 12 07.5	-0.1
MASBT	baz=182 **Mashibuluo**	**1.32**	**196**	*e*P		Pb	02 12 07.6	+0.5
MASBT	baz=196			*e*S		Sg	02 12 27.1	+1.6
YM04	**YM04**	**1.34**	**20**	*e*P		Pb	02 12 07.5	-0.1
YM01	baz=21 **YM01**	**1.35**	**22**	*e*P		Pg	02 12 08.5	-0.3
YM05	baz=23 **YM05**	**1.36**	**21**	*e*P		Pb	02 12 07.7	-0.3
NWF	baz=23 **Wu-fen Shan**	**1.36**	**30**	*e*P		Pg	02 12 08.9	-0.2
WFSB	baz=32 **Wu-fen Shan**	**1.36**	**30**	*e*P		Pg	02 12 09.1	-0.1
YM11	baz=32 **YM11**	**1.37**	**21**	*e*P		Pb	02 12 08.1	+0.1
ANP	baz=23 **Anpu**	**1.37**	**19**	*e*P		Pb	02 12 08.4	+0.3
PHUB	baz=20 **P'eng-hu**	**1.38**	**255**	*e*P		Pn	02 12 06.6	-0.8
PNG	baz=254 **Penghu**	**1.38**	**257**	*e*P		Pn	02 12 06.9	-0.5
WDGT	baz=256 **Dungji**	**1.40**	**244**	*e*P		Pn	02 12 08.0	+0.4
TWB1	baz=243 **Santiao Chiao**	**1.42**	**38**	P		Pg	02 12 10.5	+0.3
EAST	baz=27 **Anshuo**	**1.51**	**186**	*e*P		Pb	02 12 10.9	+0.5
TAW	baz=205 **Tawu**	**1.53**	**184**	*e*P		Pg	02 12 12.5	+0.3
SCZT	baz=174 **Fangliau**	**1.55**	**194**	*e*P		Pb	02 12 11.1	0.0
VCHM	baz=193 **Qimei**	**1.61**	**246**	*e*P		Pn	02 12 10.6	0.0
	baz=235							

TAP 27 02:12:02.2, 23.93N×121.03E, h15km, ML3.7, 3C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.13**	**249**	⇑*i*P		Pb	02 12 06.2	-0.2
SMLT	baz=246			*i* S		Sb	02 12 09.0	-0.2
OWD	**Renai**	**0.14**	**79**	P		Pb	02 12 06.5	-0.1
OWD	baz=80			*i* S		Sb	02 12 09.2	-0.3
SSLB	**Suanglung**	**0.16**	**206**	⇑P		Pg	02 12 06.3	+0.1
SSLB	baz=206			S		Sg	02 12 08.8	-0.1
CHGB	**Renai**	**0.18**	**45**	⇑P		Pg	02 12 07.1	+0.3
CHGB	baz=52			S		Sg	02 12 10.2	+0.3
VWDT	**VWDT**	**0.20**	**150**	⇓P		Pb	02 12 07.5	0.0
VWDT	baz=150			S		Sb	02 12 10.9	-0.3
WHYT	**Xinyi Township**	**0.28**	**215**	*e*P		Pg	02 12 08.5	+0.3
WJS	baz=214 **Zhushan**	**0.30**	**249**	P		Pb	02 12 09.6	+0.4
WJS	baz=244			S		Sb	02 12 15.2	+1.2
WHF	**Hehuan Shan**	**0.30**	**45**	P		Pg	02 12 09.1	+0.2
WHF	baz=54			S		Sg	02 12 13.7	+0.3
WNT	**Mingjian**	**0.32**	**261**	P		Pb	02 12 09.9	+0.3
WNT	baz=260			S		Sb	02 12 15.7	+1.0
TWT	baz=260 **Tachien**	**0.35**	**22**	P		Pg	02 12 09.2	-0.2
TWT	baz=25			S		Sg	02 12 13.8	-0.6
WHP	baz=25 **Taichung City**	**0.36**	**348**	P		Pb	02 12 10.2	-0.1
WHP	baz=348			*e*S		Sb	02 12 16.7	+0.9
ESL	**Shilin**	**0.39**	**107**	P		Pb	02 12 10.4	-0.4
ESL	baz=107			*i* S		Sg	02 12 15.8	+0.4
TCU	**Taichung**	**0.39**	**304**	P		Pb	02 12 11.4	+0.6
EGFH	baz=304 **Guangfu**	**0.45**	**125**	*e*P		Pg	02 12 11.3	+0.2
EGFH	baz=119			*e*S		Sg	02 12 17.5	+0.3
WCHH	baz=119 **Zhanghua**	**0.46**	**289**	P		Pb	02 12 12.6	+0.6
WCHH	baz=288			S		Sb	02 12 20.2	+1.7
CHN5	baz=288 **Tsauling**	**0.46**	**224**	*e*P		Pb	02 12 11.8	-0.3
	baz=224							

CHN5				*e*S		Sb	02 12 19.3	+0.6
	baz=224								
TWQ1	**Liyutan**	**0.48**	**331**	P		Pb	02 12 12.6	+0.2
	baz=340								
TWQ1				S		Sb	02 12 20.6	+1.4
	baz=340								
WGK	**Gukeng**	**0.49**	**241**	*e*P		Pb	02 12 13.3	+0.7
	baz=240								
WGK				*e*S		Sb	02 12 21.0	+1.4
	baz=240								
ETLH	**Xiulin Townshi**	**0.50**	**56**	*e*P		Pg	02 12 11.2	-0.8
	baz=54								
EHY	**Hungye**	**0.50**	**148**	⇓*i*P		Pb	02 12 12.4	-0.3
	baz=142								
EHY				S		Sg	02 12 18.8	0.0
	baz=142								
HWA	**Hwalien**	**0.53**	**85**	*e*P		Pg	02 12 12.8	+0.2
	baz=86								
TWD	**Chiawan**	**0.54**	**74**	*e*P		Pg	02 12 12.8	-0.1
	baz=74								
TWD				*e*S		Sg	02 12 19.6	-0.5
	baz=74								
NSY	**Sanyi**	**0.54**	**333**	P		Pn	02 12 14.5	-1.0
	baz=334								
WDJ	**Dajia District**	**0.55**	**320**	*e*P		Pb	02 12 14.1	+0.6
	baz=319								
WDJ				*e*S		Sn	02 12 23.7	-0.7
	baz=319								
HGSD	**Ruisui**	**0.56**	**140**	*e*P		Pb	02 12 14.0	+0.2
	baz=140								
HGSD				*e*S		Sb	02 12 21.8	+0.1
	baz=140								
NACB	**Ninganchiao**	**0.57**	**65**	*e*P		Pg	02 12 12.7	-0.8
	baz=73								
NACB				*e*S		Sg	02 12 21.0	-0.1
	baz=73								
YULB	**Yu-li**	**0.59**	**155**	P		Pg	02 12 13.8	0.0
	baz=145								
YULB				*e*S		Sg	02 12 21.8	+0.2
	baz=145								
PTSB	**Yuanli**	**0.59**	**330**	P		Pn	02 12 15.6	-0.5
	baz=330								
PTSB				*e*S		Sn	02 12 24.7	-0.9
	baz=330								
TWF1	**Yuli**	**0.62**	**157**	⇓P		Pb	02 12 14.7	-0.2
	baz=156								
TWF1				S		Sg	02 12 22.8	0.0
	baz=156								
NMLH	**Miaoli**	**0.64**	**340**	P		Pn	02 12 16.4	-0.4
	baz=340								
NMLH				*e*S		Sn	02 12 26.2	-0.5
	baz=340								
FULB	**Fuli**	**0.77**	**162**	P		Pn	02 12 18.4	-0.1
	baz=162								
FULB				*e*S		Sn	02 12 29.3	-0.5
	baz=162								
YHNB	**Yeheng**	**0.80**	**23**	*e*P		Pn	02 12 18.6	-0.4
	baz=24								
STYT	**Tauyuan**	**0.80**	**198**	*e*P		Pg	02 12 17.7	-0.1
	baz=196								
SBCB	**Hsinchu**	**0.86**	**357**	*e*P		Pn	02 12 19.4	-0.4
	baz=358								
WLTB	**Daxi**	**0.94**	**12**	*e*P		Pg	02 12 20.6	+0.2
	baz=22								
TWE	**Neicheng**	**0.98**	**36**	*e*P		Pn	02 12 23.2	+1.8
	baz=46								
SLBB	**Yuanshan**	**0.99**	**34**	*e*P		Pn	02 12 21.9	+0.3
	baz=30								
ECL	**Taimali**	**1.33**	**183**	*e*P		Pb	02 12 27.0	+0.2
	baz=166								

TAP 27 02:17:46.7, 23.89N×121.03E, h17km, ML3.8, 6C-19D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.12**	**267**	⇑*i*P		Pb	02 17 50.8	+0.2
	baz=266							
SMLT				*i* S		Sb	02 17 53.8	+0.6
	baz=266							
SSLB	**Suanglung**	**0.12**	**215**	⇑P		Pb	02 17 50.6	0.0
	baz=215							
SSLB				S		Sg	02 17 53.1	0.0
	baz=215							
OWD	**Renai**	**0.15**	**64**	P		Pb	02 17 51.4	+0.3
	baz=64							
OWD				S		Sb	02 17 54.2	+0.1
	baz=64							
TYC	**Yuchr**	**0.16**	**275**	⇑*i*P		Pb	02 17 51.1	-0.1
	baz=276							
TYC				*i* S		Sb	02 17 54.3	+0.1
	baz=276							
VWDT	**VWDT**	**0.17**	**143**	⇓P		Pb	02 17 52.0	+0.6
	baz=143							
VWDT				S		Sb	02 17 55.0	+0.5
	baz=143							
CHGB	**Renai**	**0.21**	**38**	⇑P		Pb	02 17 52.2	-0.1
	baz=43							
CHGB				S		Sg	02 17 55.5	-0.1
	baz=43							
WHYT	**Xinyi Township**	**0.25**	**220**	*e*P		Pb	02 17 52.9	+0.1
	baz=220							
WHYT				*e*S		Sb	02 17 57.3	+0.3
	baz=220							
WJS	**Zhushan**	**0.28**	**256**	⇓*i*P		Pb	02 17 53.9	+0.6
	baz=256							
WJS				S		Sb	02 17 58.8	+1.0
	baz=256							
WNT	**Mingjian**	**0.32**	**268**	⇓*i*P		Pb	02 17 54.5	+0.6
	baz=268							
WNT				*i* S		Sb	02 18 00.1	+1.3
	baz=268							
WHF	**Hehuan Shan**	**0.33**	**40**	P		Pb	02 17 54.4	-0.1
	baz=49							
WHF				S		Sg	02 17 59.2	+0.2
	baz=49							
ESL	**Shilin**	**0.38**	**101**	⇓*i*P		Pb	02 17 55.0	+0.1
	baz=101							
ESL				*i* S		Sb	02 18 00.5	0.0
	baz=101							
TWT	**Tachien**	**0.39**	**20**	P		Pg	02 17 54.6	-0.1
	baz=22							
TWT				S		Sg	02 17 59.5	-0.8
	baz=22							
WHP	**Taichung City**	**0.40**	**349**	*e*P		Pb	02 17 55.5	+0.2
	baz=349							
WHP				*e*S		Sb	02 18 02.0	+0.9
	baz=349							
TCU	**Taichung**	**0.41**	**309**	*e*P		Pb	02 17 56.4	+0.8
	baz=309							
EGFH	**Guangfu**	**0.42**	**121**	P		Pb	02 17 55.9	+0.1
	baz=121							
EGFH				S		Sb	02 18 01.9	0.0
	baz=121							
CHN5	**Tsauling**	**0.43**	**228**	P		Pb	02 17 56.4	+0.4
	baz=228							
CHN5				*e*S		Sb	02 18 03.4	+1.2
	baz=228							
EHY	**Hungye**	**0.47**	**145**	⇓*i*P		Pb	02 17 56.7	+0.3
	baz=139							
EHY				*i* S		Sb	02 18 03.1	0.0
	baz=139							
WCHH	**Zhanghua**	**0.47**	**294**	P		Pb	02 17 57.2	+0.6
	baz=293							
WCHH				S		Sn	02 18 05.1	-1.5
	baz=293							
WGK	**Gukeng**	**0.47**	**245**	*e*P		Pb	02 17 57.0	+0.4
	baz=244							
WGK				*e*S		Sb	02 18 04.5	+1.2
	baz=244							
WDLH	**Douliu**	**0.49**	**246**	*e*P		Pb	02 17 57.9	+1.0
	baz=245							
TWQ1	**Liyutan**	**0.51**	**333**	⇓*i*P		Pb	02 17 58.0	+0.8
	baz=333							
TWQ1				S		Sn	02 18 06.4	-1.3
	baz=333							
ETLH	**Xiulin Townshi**	**0.52**	**52**	*e*P		Pg	02 17 57.1	0.0
	baz=49							
HWA	**Hwalien**	**0.53**	**80**	*e*P		Pb	02 17 58.0	+0.4
	baz=80							
HWA				*e*S		Sb	02 18 06.3	+1.3
	baz=80							
HGSD	**Ruisui**	**0.54**	**137**	⇓P		Pb	02 17 58.3	+0.7
	baz=135							
HGSD				S		Sb	02 18 06.1	+1.0
	baz=135							
TWD	**Chiawan**	**0.55**	**70**	⇓*i*P		Pb	02 17 57.8	-0.1
	baz=70							
TWD				S		Sg	02 18 04.6	-0.5
	baz=70							
YULB	**Yu-li**	**0.55**	**154**	⇓P		Pb	02 17 58.1	+0.2
	baz=154							
YULB				S		Sg	02 18 05.2	0.0
	baz=154							
NSY	**Sanyi**	**0.58**	**335**	⇓P		Pn	02 17 59.7	-0.5
	baz=335							
NSY				S		Sn	02 18 08.3	-1.1
	baz=335							
WDJ	**Dajia District**	**0.58**	**322**	⇓P		Pn	02 17 59.5	-0.7
	baz=322							
WDJ				*e*S		Sn	02 18 09.2	-0.1
	baz=322							
TWF1	**Yuli**	**0.59**	**155**	⇓*i*P		Pb	02 17 58.9	+0.3
	baz=155							
TWF1				*i* S		Sb	02 18 06.7	+0.1
	baz=155							
NACB	**Ninganchiao**	**0.59**	**61**	⇑P		Pg	02 17 58.2	-0.2
	baz=69							
NACB				*e*S		Sg	02 18 05.8	-0.4
	baz=69							
NNSB	**Datong**	**0.63**	**31**	*e*P		Pg	02 17 58.6	-0.6
	baz=36							
PTSB	**Yuanli**	**0.63**	**332**	⇓*i*P		Pn	02 18 00.5	-0.4
	baz=332							
PTSB				*e*S		Sn	02 18 09.8	-0.8
	baz=332							
NNS	**Nan Shan**	**0.63**	**30**	*e*P		Pg	02 17 58.9	-0.4
	baz=31							
CHN4	**Tsaushan**	**0.67**	**217**	*e*P		Pb	02 18 00.5	+0.6
	baz=217							
CHN4				S		Sn	02 18 11.6	+0.1
	baz=217							
CHY	**Chiayi**	**0.68**	**235**	*e*P		Pb	02 18 00.6	+0.5
	baz=234							
NMLH	**Miaoli**	**0.68**	**341**	*e*P		Pn	02 18 01.5	-0.1
	baz=341							
TPUB	**Ta-pu**	**0.69**	**212**	*e*P		Pb	02 18 00.6	+0.3
	baz=212							
TPUB				*e*S		Sb	02 18 10.6	+1.1
	baz=212							
FULB	**Fuli**	**0.73**	**161**	⇓*i*P		Pn	02 18 02.1	-0.1
	baz=161							
FULB				S		Sn	02 18 12.9	-0.1
	baz=161							
WTP	**Ta-pu**	**0.74**	**211**	P		Pg	02 18 01.5	+0.2
	baz=210							
STYT	**Tauyuan**	**0.77**	**199**	⇓*i*P		Pn	02 18 02.3	-0.5
	baz=199							
STYT				*e*S		Sg	02 18 12.3	+0.5
	baz=199							
TWK	**Hsinying**	**0.79**	**219**	*e*P		Pg	02 18 02.4	+0.2
	baz=217							
SNST	**Tainan City**	**0.83**	**216**	*e*P		Pg	02 18 03.1	+0.3
	baz=216							
NDT	**Datong Townshi**	**0.84**	**32**	*e*P		Pb	02 18 02.7	-0.1
	baz=27							
CHN1	**Nanshi**	**0.84**	**213**	*e*P		Pg	02 18 03.1	+0.1
	baz=225							
YHNB	**Yeheng**	**0.84**	**22**	⇑P		Pb	02 18 02.6	-0.3
	baz=23							
ENA	**Nanau**	**0.84**	**50**	*e*P		Pb	02 18 02.6	-0.3
	baz=51							
CHKT	**Chengkung**	**0.84**	**159**	P		Pn	02 18 04.0	+0.2
	baz=142							
CHKT				*e*S		Sn	02 18 16.0	+0.2
	baz=142							
NANB	**Nanao**	**0.85**	**51**	*e*P		Pb	02 18 02.4	-0.6
	baz=51							
ENTT	**Nioudou**	**0.89**	**33**	*e*P		Pb	02 18 03.9	+0.1
	baz=28							
ENTT				*e*S		Sn	02 18 17.2	+0.1
	baz=28							
SBCB	**Hsinchu**	**0.90**	**357**	*e*P		Pn	02 18 05.5	+0.9
	baz=357							
SGST	**Jiashian**	**0.90**	**207**	*e*P		Pn	02 18 04.8	+0.2
	baz=218							
HSN	**Hsinchu**	**0.91**	**357**	*e*P		Pn	02 18 06.3	+1.6
	baz=358							
HSN				*e*S		Sn	02 18 19.1	+1.7
	baz=358							
CHN8	**Yiju**	**0.93**	**234**	*e*P		Pg	02 18 04.8	+0.1
	baz=233							
SLGT	**Liugui**	**0.96**	**202**	*e*P		Pn	02 18 05.6	+0.2
	baz=213							
WLTB	**Daxi**	**0.98**	**12**	*e*P		Pg	02 18 07.4	+1.7
	baz=13							
WLTB				*e*S		Sn	02 18 21.8	+2.6
	baz=13							
NWLT	**Wulai**	**0.98**	**26**	*e*P		Pb	02 18 05.3	-0.1
	baz=21							
TWE	**Neicheng**	**1.01**	**35**	*e*P		Pn	02 18 06.0	-0.1
	baz=45							
SLBB	**Yuanshan**	**1.02**	**33**	*e*P		Pg	02 18 06.7	+0.1
	baz=23							
TWC	**Suao**	**1.04**	**46**	*e*P		Pn	02 18 06.5	0.0
	baz=47							
TWG	**Pinlang**	**1.06**	**178**	⇓*i*P		Pg	02 18 07.4	+0.1
	baz=171							
TWG				*e*S		Sg	02 18 22.8	+1.5
	baz=171							
TWGBT	**Beinan**	**1.07**	**178**	⇓P		Pg	02 18 07.4	0.0
	baz=171							
TWGBT				S		Sg	02 18 22.5	+1.1
	baz=171							
NCUH	**Zhongli**	**1.08**	**7**	*e*P		Pg	02 18 08.1	+0.4
	baz=8.0							
NCU	**National Centr**	**1.09**	**8**	*e*P		Pg	02 18 08.9	+1.2
	baz=8.0							
TATO	**Taipei**	**1.16**	**21**	*e*P		Pg	02 18 08.9	-0.3
	baz=27							
NHDH	**Xindian Distri**	**1.16**	**23**	*e*P		Pg	02 18 09.8	+0.6
	baz=5.0							
SSD	**Sandimen**	**1.20**	**198**	*e*P		Pg	02 18 09.9	+0.1
	baz=197							
TWA	**Mucha**	**1.20**	**25**	*e*P		Pg	02 18 10.4	+0.5
	baz=6.0							
EOS1	**EOS1**	**1.20**	**57**	*e*P		Pg	02 18 10.1	+0.2
	baz=49							
TWM1	**Shoushan**	**1.20**	**208**	*e*P		Pg	02 18 11.5	+1.6
	baz=208							
NTC	**Toucheng**	**1.21**	**37**	*e*P		Pg	02 18 10.3	+0.3
	baz=46							
TWS1	**Kuangyinshan**	**1.26**	**16**	*e*P		Pg	02 18 10.9	-0.1
	baz=2.0							
TWS1				*e*S		Sg	02 18 29.6	+2.2
	baz=2.0							
ECL	**Taimali**	**1.29**	**183**	⇓P		Pg	02 18 11.2	-0.4
	baz=167							
MASBT	**Mashibuluo**	**1.32**	**196**	*e*P		Pg	02 18 12.0	-0.2
	baz=197							
NTST	**Danshui**	**1.33**	**17**	*e*P		Pg	02 18 12.9	+0.6
	baz=359							
YM04	**YM04**	**1.34**	**20**	*e*P		Pb	02 18 11.2	-0.2
	baz=20							
YM01	**YM01**	**1.34**	**21**	*e*P		Pg	02 18 12.4	-0.3
	baz=21							
YM05	**YM05**	**1.36**	**21**	*e*P		Pn	02 18 11.0	0.0
	baz=22							
NWF	**Wu-fen Shan**	**1.36**	**30**	*e*P		Pg	02 18 13.2	+0.2
	baz=31							
WFSB	**Wu-fen Shan**	**1.36**	**30**	*e*P		Pg	02 18 13.3	+0.3
	baz=31							
YM11	**YM11**	**1.36**	**21**	*e*P		Pb	02 18 12.2	+0.3
	baz=22							
ANP	**Anpu**	**1.37**	**19**	*e*P		Pb	02 18 11.8	-0.1
	baz=19							
PHUB	**P'eng-hu**	**1.39**	**255**	*e*P		Pn	02 18 11.6	+0.3
	baz=254							
PNG	**Penghu**	**1.39**	**257**	*e*P		Pn	02 18 11.6	+0.3
	baz=256							
TWB1	**Santiao Chiao**	**1.42**	**38**	⇓P		Pg	02 18 14.2	+0.2
	baz=39							
TWB1				*e*S		Sg	02 18 33.3	+0.8
	baz=39							
SSPT	**Xinbi**	**1.46**	**197**	*e*P		Pg	02 18 15.0	+0.1
	baz=198							
TWY	**Chenhua**	**1.48**	**20**	*e*P		Pg	02 18 15.1	0.0
	baz=21							
EAST	**Anshuo**	**1.51**	**186**	*e*P		Pb	02 18 14.5	+0.2
	baz=206							
SCZT	**Fangliau**	**1.56**	**194**	*e*P		Pb	02 18 15.2	+0.1
	baz=193							
VCHM	**Qimei**	**1.62**	**246**	*e*P		Pn	02 18 15.2	+0.8
	baz=231							
YOJ	**Yonaguni jima**	**1.90**	**72**	*e*P		Pn	02 18 18.1	-0.2
	baz=71							
LAY	**Lan-yu**	**1.90**	**165**	*e*P		Pn	02 18 18.7	+0.3
	baz=155							
TWK1	**Hengchun**	**1.95**	**186**	*e*P		Pb	02 18 22.1	+0.4
	baz=202							
MATB	**Ma-tsu**	**2.46**	**337**	*e*P		Pn	02 18 25.1	-0.9
	baz=333							
KNMB	**Chin-men Tao**	**2.48**	**284**	*e*P		Pn	02 18 25.8	-0.5
	baz=281							

TAP 27 02:21:17.6, 22.69N×121.36E, h84km, ML4.1, 5C-11D, B, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op		ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.20**	**289**	*e*P		Pn	02 21 30.3	+0.4
	baz=289							
TWGBT	**Beinan**	**0.29**	**297**	⇑P		Pn	02 21 30.6	+0.4
	baz=297							
TWGBT				S		Sn	02 21 39.8	+0.2
	baz=297							
TWG	**Pinlang**	**0.29**	**297**	⇑*i*P		Pn	02 21 30.6	+0.4
	baz=297							
TWG				*i* S		Sn	02 21 40.0	+0.3
	baz=297							
ECL	**Taimali**	**0.38**	**257**	P		Pn	02 21 30.8	0.0
	baz=256							
ECL				*e*S		Sn	02 21 40.7	+0.2
	baz=256							
CHKT	**Chengkung**	**0.41**	**1**	*e*P		Pn	02 21 31.7	+0.7
	baz=2.0							
CHKT				*e*S		Sn	02 21 42.3	+1.3
	baz=2.0							
FULB	**Fuli**	**0.51**	**354**	⇓P		Pn	02 21 32.6	+0.8
	baz=353							
FULB				*e*S		Sn	02 21 43.8	+1.4
	baz=353							
TAW	**Tawu**	**0.54**	**232**	*e*P		Pn	02 21 32.7	+0.7
	baz=231							
TAW				S		Sn	02 21 43.2	+0.5
	baz=231							
EAST	**Anshuo**	**0.56**	**237**	P		Pn	02 21 33.2	+1.0
	baz=236							
EAST				*e*S		Sn	02 21 43.5	+0.4
	baz=236							
TWF1	**Yuli**	**0.67**	**355**	⇓P		Pn	02 21 33.3	0.0
	baz=356							
TWF1				*e*S		Sn	02 21 44.9	0.0
	baz=356							
LAY	**Lan-yu**	**0.67**	**164**	P		Pn	02 21 33.2	-0.1
	baz=163							
LAY				S		Sn	02 21 44.9	0.0
	baz=163							
SSD	**Sandimen**	**0.67**	**275**	*i* P		Pn	02 21 33.9	+0.7
	baz=275							
SSD				S		Sn	02 21 45.3	+0.4
	baz=275							
MASBT	**Mashibuluo**	**0.67**	**264**	⇓P		Pn	02 21 33.9	+0.7
	baz=263							
MASBT				S		Sn	02 21 45.0	0.0
	baz=263							
YULB	**Yu-li**	**0.70**	**356**	P		Pn	02 21 33.6	-0.1
	baz=355							
YULB				*e*S		Sn	02 21 45.0	-0.5
	baz=355							
SLGT	**Liugui**	**0.72**	**295**	*e*P		Pn	02 21 34.7	+0.9
	baz=295							
SLGT				*e*S		Sn	02 21 46.5	+0.7
	baz=295							
STYT	**Tauyuan**	**0.73**	**311**	*e*P		Pn	02 21 34.5	+0.5
	baz=311							
STYT				*e*S		Sn	02 21 46.7	+0.6
	baz=311							
SCZT	**Fangliau**	**0.75**	**245**	⇓*i*P		Pn	02 21 34.4	+0.3
	baz=244							
SCZT				*i* S		Sn	02 21 46.1	-0.2
	baz=244							
SSPT	**Xinbi**	**0.76**	**255**	⇓P		Pn	02 21 34.9	+0.8
	baz=254							
SSPT				*e*S		Sn	02 21 47.1	+0.7
	baz=254							
HGSD	**Ruisui**	**0.81**	**5**	*e*P		Pn	02 21 35.4	+0.8
	baz=4.0							
HGSD				*e*S		Sn	02 21 49.1	+1.7
	baz=4.0							
SGST	**Jiashian**	**0.81**	**299**	P		Pn	02 21 35.4	+0.6
	baz=299							
SGST				*e*S		Sn	02 21 48.2	+0.6
	baz=299							
EHY	**Hungye**	**0.82**	**358**	P		Pn	02 21 34.7	-0.1
	baz=358							
EHY				S		Sn	02 21 47.3	-0.4
	baz=358							
TWM1	**Shoushan**	**0.87**	**279**	⇑P		Pn	02 21 36.7	+1.3
	baz=279							
TWM1				*e*S		Sn	02 21 49.7	+1.0
	baz=279							
WTP	**Ta-pu**	**0.88**	**309**	*i* P		Pn	02 21 36.0	+0.4
	baz=309							
WTP				S		Sn	02 21 49.5	+0.6
	baz=309							
HEN	**Hengchun**	**0.89**	**220**	⇓*e*P		Pn	02 21 36.2	+0.6
	baz=219							
HEN				*e*S		Sn	02 21 49.7	+0.8
	baz=219							
TSEB	**Hengchuen, Pin**	**0.89**	**208**	P		Pn	02 21 36.5	+0.9
	baz=210							
TSEB				*e*S		Sn	02 21 50.5	+1.5
	baz=210							
TWKBT	**Hengchun**	**0.90**	**214**	⇓P		Pn	02 21 36.2	+0.6
	baz=214							
TWKBT				S		Sn	02 21 49.7	+0.5
	baz=214							
TWK1	**Hengchun**	**0.90**	**215**	⇓*i*P		Pn	02 21 36.2	+0.5
	baz=214							
TWK1				S		Sn	02 21 49.6	+0.4
	baz=214							
TPUB	**Ta-pu**	**0.91**	**313**	*e*P		Pn	02 21 35.7	-0.1
	baz=312							
TPUB				*e*S		Sn	02 21 49.6	+0.2
	baz=312							
CHN1	**Nanshi**	**0.91**	**303**	P		Pn	02 21 36.4	+0.5
	baz=303							
CHN1				S		Sn	02 21 49.8	+0.3
	baz=303							
SNJT	**Kaohsiung City**	**0.94**	**274**	*e*P		Pn	02 21 37.2	+1.0
	baz=274							
SNJT				*e*S		Sn	02 21 51.5	+1.4
	baz=274							
SNST	**Tainan City**	**0.95**	**304**	*e*P		Pn	02 21 36.8	+0.4
	baz=303							
SNST				*e*S		Sn	02 21 50.6	+0.3
	baz=303							
WLCH	**Liuqiu**	**0.96**	**250**	*e*P		Pn	02 21 37.9	+1.5
	baz=249							
WLCH				*e*S		Sn	02 21 53.1	+2.6
	baz=249							
CHN4	**Tsaushan**	**0.96**	**313**	*e*P		Pn	02 21 36.8	+0.3
	baz=313							
CHN4				S		Sn	02 21 51.2	+0.7
	baz=313							
KAU	**Kaohsiung**	**0.97**	**263**	*e*P		Pn	02 21 36.8	+0.2
	baz=262							
TWP	**Hsiaoliuchiu**	**0.98**	**250**	*e*P		Pn	02 21 37.8	+1.2
	baz=249							
TWP				*e*S		Sn	02 21 53.2	+2.3
	baz=249							
EGFH	**Guangfu**	**0.98**	**4**	*e*P		Pn	02 21 36.6	0.0
	baz=3.0							
TWK	**Hsinying**	**0.99**	**306**	P		Pn	02 21 37.0	+0.2
	baz=306							
TWK				S		Sn	02 21 51.4	+0.3
	baz=306							
CHN3	**Shinhua**	**0.99**	**293**	*e*P		Pn	02 21 37.4	+0.6
	baz=292							
VWDT	**VWDT**	**1.08**	**350**	*e*P		Pn	02 21 39.0	+1.1
	baz=349							
VWDT				*e*S		Sn	02 21 53.9	+0.9
	baz=349							
CHN5	**Tsauling**	**1.10**	**326**	⇑P		Pn	02 21 38.4	+0.2
	baz=325							
CHN5				*e*S		Sn	02 21 53.8	+0.3
	baz=325							
WHYT	**Xinyi Township**	**1.11**	**335**	*e*P		Pn	02 21 38.4	+0.2
	baz=335							
ESL	**Shilin**	**1.12**	**4**	*e*P		Pn	02 21 37.9	-0.5
	baz=4.0							
ESL				*e*S		Sn	02 21 53.2	-0.7
	baz=4.0							

SSLB	**Suanglung** baz=341	**1.16**	**341**	⇓P		Pn	02 21 39.0	+0.2
SSLB	baz=341			S		Sn	02 21 54.9	+0.2
SCLT	**Jiali** baz=294	**1.18**	**295**	*e*P		Pn	02 21 39.1	+0.1
SCLT	baz=294			*e*S		Sn	02 21 55.5	+0.5
CHY	**Chiayi** baz=313	**1.18**	**313**	*e*P		Pn	02 21 39.0	0.0
CHY	baz=313			*e*S		Sn	02 21 54.8	-0.2
WGK	**Gukeng** baz=324	**1.23**	**324**	*e*P		Pn	02 21 39.5	-0.2
WGK	baz=324			*e*S		Sn	02 21 56.9	+0.6
CHN8	**Yiju** baz=302	**1.24**	**302**	*e*P		Pn	02 21 39.6	-0.2
CHN8	baz=302			*e*S		Sn	02 21 56.7	+0.2
WDLH	**Douliu** baz=323	**1.25**	**323**	*e*P		Pn	02 21 39.9	0.0
SMLT	**Sun Moon Lake** baz=340	**1.26**	**341**	*e*P		Pn	02 21 40.4	+0.2
SMLT	baz=340			*e*S		Sn	02 21 57.4	+0.2
WJS	**Zhushan** baz=332	**1.27**	**333**	*e*P		Pn	02 21 40.9	+0.7
WJS	baz=332			*e*S		Sn	02 21 57.9	+0.8
OWD	**Renai** baz=352	**1.27**	**353**	*e*P		Pn	02 21 40.7	+0.3
TYC	**Yuchr** baz=339	**1.30**	**339**	*e*P		Pn	02 21 40.7	+0.2
TYC	baz=339			*e*S		Sn	02 21 58.4	+0.7
WNT	**Mingjian** baz=332	**1.34**	**333**	P		Pn	02 21 41.5	+0.5
WNT	baz=332			*e*S		Sn	02 21 59.3	+0.7
CHGB	**Renai** baz=353	**1.38**	**353**	*e*P		Pn	02 21 42.5	+0.8
CHGB	baz=353			*e*S		Sn	02 22 00.6	+0.7
TWD	**Chiawan** baz=9.0	**1.41**	**9**	*e*P		Pn	02 21 41.9	+0.1
TWD	baz=9.0			*e*S		Sn	02 22 00.7	+0.6
WSF	**Szhu** baz=312	**1.41**	**312**	*e*P		Pn	02 21 41.8	-0.1
WSF	baz=312			*e*S		Sn	02 21 59.6	-0.6
WHF	**Hehuan Shan** baz=357	**1.46**	**357**	P		Pn	02 21 43.7	+0.8
WHF	baz=357			*e*S		Sn	02 22 02.5	+0.6
NACB	**Ninganchiao** baz=8.0	**1.50**	**8**	*e*P		Pn	02 21 42.8	-0.2
NACB	baz=8.0			*e*S		Sn	02 22 02.0	-0.2
ETLH	**Xiulin Townshi** baz=4.0	**1.52**	**4**	*e*P		Pn	02 21 43.6	+0.2
ETLH	baz=4.0			*e*S		Sn	02 22 02.7	-0.2
WMLT	**Mailiao** baz=316	**1.52**	**317**	*e*P		Pn	02 21 43.8	+0.4
WCHH	**Zhanghua** baz=332	**1.57**	**332**	*e*P		Pn	02 21 44.1	+0.1
WCHH	baz=332			*e*S		Sn	02 22 05.1	+1.2
TCU	**Taichung** baz=337	**1.58**	**337**	*e*P		Pn	02 21 44.2	0.0
TCU	baz=337			*e*S		Sn	02 22 05.4	+1.2
WHP	**Taichung City** baz=346	**1.63**	**347**	P		Pn	02 21 45.3	+0.5
WHP	baz=346			*e*S		Sn	02 22 06.8	+1.4
WDGT	**Dungji** baz=290	**1.66**	**290**	⇑*e*P		Pn	02 21 44.3	-0.9
WDGT	baz=290			*e*S		Sn	02 22 03.7	-2.4
NNSB	**Datong**	**1.73**	**1**	*e*P		Pn	02 21 47.2	+0.9
NNSB				*e*S		Sn	02 22 09.0	+1.1
TWQ1	**Liyutan** baz=342	**1.74**	**342**	*e*P		Pn	02 21 45.9	-0.2
TWQ1	baz=342			*e*S		Sn	02 22 08.8	+0.9
NNS	**Nan Shan**	**1.75**	**1**	*e*P		Pn	02 21 47.5	+1.1
NNS				*e*S		Sn	02 22 09.3	+1.0
ENA	**Nanau** baz=11	**1.77**	**11**	*e*P		Pn	02 21 47.0	+0.4
ENA	baz=11			*e*S		Sn	02 22 09.4	+0.8
NANB	**Nanao** baz=11	**1.77**	**12**	*e*P		Pn	02 21 47.0	+0.4
NANB	baz=11			*e*S		Sn	02 22 08.6	0.0
WDJ	**Dajia District** baz=338	**1.78**	**339**	*e*P		Pn	02 21 46.6	-0.1
WDJ	baz=338			*e*S		Sn	02 22 09.2	+0.4
NSY	**Sanyi** baz=342	**1.81**	**343**	*e*P		Pn	02 21 46.9	-0.2
PHUB	**P'eng-hu** baz=296	**1.84**	**297**	*e*P		Pn	02 21 46.4	-1.1
VCHM	**Qimei** baz=286	**1.85**	**287**	*e*P		Pn	02 21 46.6	-1.0
PTSB	**Yuanli** baz=341	**1.85**	**341**	*e*P		Pn	02 21 47.2	-0.5
PNG	**Penghu** baz=297	**1.88**	**298**	P		Pn	02 21 47.0	-0.9
PNG	baz=297			*e*S		Sn	02 22 09.2	-1.9
NDT	**Datong Townshi** baz=4.0	**1.91**	**4**	*e*P		Pn	02 21 49.4	+0.9
ENTT	**Nioudou** baz=5.0	**1.96**	**6**	*e*P		Pn	02 21 49.9	+0.8
ENTT	baz=5.0			*e*S		Sn	02 22 13.5	+0.6
TWC	**Suao** baz=13	**1.97**	**13**	*e*P		Pn	02 21 49.9	+0.8
TWC	baz=13			*e*S		Sn	02 22 14.1	+0.9
YHNB	**Yeheng**	**1.98**	**1**	*e*P		Pn	02 21 50.6	+1.2
YHNB				*e*S		Sn	02 22 14.1	+0.6
EOS1	**EOS1** baz=20	**1.99**	**21**	P		Pn	02 21 50.6	+1.3
EOS1	baz=20			*e*S		Sn	02 22 14.3	+0.8
TWE	**Neicheng** baz=8.0	**2.05**	**8**	*e*P		Pn	02 21 51.0	+0.8
TWE	baz=8.0			*e*S		Sn	02 22 14.9	-0.1
SLBB	**Yuanshan** baz=7.0	**2.07**	**7**	*e*P		Pn	02 21 51.7	+1.1
NWLT	**Wulai** baz=3.0	**2.09**	**4**	*e*P		Pn	02 21 51.8	+1.0
NWLT	baz=3.0			*e*S		Sn	02 22 16.8	+0.7
NTC	**Toucheng** baz=11	**2.20**	**11**	*e*P		Pn	02 21 53.5	+1.2
TATO	**Taipei** baz=3.0	**2.28**	**3**	*e*P		Pn	02 21 54.6	+1.3
TWA	**Mucha** baz=5.0	**2.29**	**5**	*e*P		Pn	02 21 53.2	-0.3
YOJ	**Yonaguni jima** baz=40	**2.33**	**40**	*e*P		Pn	02 21 54.5	+0.5
YOJ	baz=40			*e*S		Sn	02 22 22.5	+0.7
TWB1	**Santiao Chiao** baz=14	**2.38**	**14**	*e*P		Pn	02 21 55.4	+0.7
NWF	**Wu-fen Shan** baz=9.0	**2.41**	**9**	*e*P		Pn	02 21 55.8	+0.7
WFSB	**Wu-fen Shan** baz=9.0	**2.41**	**9**	*e*P		Pn	02 21 56.0	+1.0
WFSB	baz=9.0			*e*S		Sn	02 22 23.2	-0.5
YM01	**YM01** baz=4.0	**2.46**	**5**	*e*P		Pn	02 21 56.5	+0.8
YM04	**YM04** baz=3.0	**2.46**	**4**	*e*P		Pn	02 21 55.8	0.0
YM05	**YM05** baz=4.0	**2.47**	**4**	*e*P		Pn	02 21 56.2	+0.2
YM05	baz=4.0			*e*S		Sn	02 22 25.6	+0.1
YM11	**YM11** baz=4.0	**2.48**	**5**	*e*P		Pn	02 21 56.4	+0.3
YM03	**YM03** baz=3.0	**2.49**	**4**	*e*P		Pn	02 21 56.2	0.0
YM07	**YM07** baz=5.0	**2.49**	**6**	*e*P		Pn	02 21 56.5	+0.3
ANP	**Anpu** baz=3.0	**2.49**	**3**	*e*P		Pn	02 21 55.8	-0.5
VWUC	**VWUC** baz=322	**2.88**	**323**	⇓*e*P		Pn	02 22 00.3	-1.1
VWUC	baz=322			*e*S		Sn	02 22 32.1	-3.0
KNM	**Kinmen** baz=301	**3.19**	**303**	*e*P		Pn	02 22 05.3	-0.2
KNMB	**Chin-men Tao** baz=303	**3.25**	**304**	*e*P		Pn	02 22 04.8	-1.6
MATB	**Ma-tsu** baz=339	**3.68**	**340**	⇓*e*P		Pn	02 22 10.8	-1.4
MATB	baz=339			*e*S		Sn	02 22 50.8	-3.7
VDOS	**Pratas Island** baz=245	**4.73**	**246**	*e*P		Pn	02 22 25.6	-1.0
VDOS	baz=245			*e*S		Sn	02 23 16.4	-3.8

IDC 27 02:23:45.4±3.5, 5°12S×133°70E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=178.6km s-min=28.5km az=78.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.75**	**178**	Pn	Pn	02 27 14.3	-1.1
WRA	0.1nm,0.3s,baz=356,slow=13,SNR=7.6			Sn	Sn	02 29 58.4	-1.4
ASAR	**Alice Springs** 0.1nm,0.3s,baz=358,slow=23,SNR=4.6	**18.45**	**179**	P	P	02 28 03.5	+0.8
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=2.5,slow=11,SNR=14	**68.75**	**325**	P	P	02 34 51.1	0.0
	0.2nm,0.6s,baz=116,slow=9.8,SNR=2.8						

IDC 27 02:35:38.1±1.4, 2°56S×138°72E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/38, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=30.4km s-min=26.3km az=121.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura** 14nm,0.3s,baz=249,slow=10,SNR=80	**1.99**	**89**	Pn	Pn	02 36 11.2	-1.9
JAY	9.8nm,0.3s,baz=136,slow=23,SNR=5.7			Sn	Sn	02 36 34.5	-4.2
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=9.7,slow=13,SNR=12	**17.80**	**194**	P	P	02 39 48.6	+0.3
WRA	0.1nm,0.3s,baz=23,slow=24,SNR=4.6			S	Sn	02 43 01.5	-5.0
FITZ	**Fitzroy Crossi** 1.9nm,1.0s,baz=53,slow=10,SNR=2.3	**20.07**	**219**	P	P	02 40 12.6	-0.7
ASAR	**Alice Springs** 0.5nm,0.7s,baz=16,slow=10,SNR=4.9	**21.49**	**192**	P	P	02 40 28.6	-0.1
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=114,slow=9.6,SNR=3.2	**69.68**	**322**	P	P	02 46 50.5	+0.7

TIF 27 02:49:21.8, 43°15N×41°52E, h21km±4km
MOS 27 02:49:22.6±0.0, 43°27N×41°73E, h2km, MPVA3.5
NORS 27 02:49:25.3±0.0, 43°27N×41°82E, h1km, MPVA3.4
ISC 27 02:49:22.3±0.9, 43°21N±0°03×41°66E±0°02, h7km±8km, n26, σ1§15/50, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**0.08**	**342**	*i* Pg	**Pg**	**02 49 23.6**	**-0.9**
DOMR				*i* Sg	**Sg**	**02 49 25.8**	**-0.2**
NEY	**Neytrino**	**0.78**	**87**	*e*Pg	**Pg**	**02 49 36.4**	**-0.9**
NEY				*e*Sg	**Sg**	**02 49 45.5**	**-1.9**
SHA1	**Shidzhatmaz**	**0.90**	**54**	*i* Pg	**Pg**	**02 49 39.5**	**-0.1**
SHA1				*e*Sg	**Sg**	**02 49 51.5**	**+0.2**
KIV0	**Kislovodsk Arr**	**1.06**	**45**	*i* Pg	**Pg**	**02 49 42.7**	**0.0**
KIV0				*i* Sg	**Sg**	**02 49 56.6**	**+0.3**
BEYR	**Belyy Ugol+**	**1.16**	**46**	*i* Pg	**Pb**	**02 49 44.5**	**-0.3**
BEYR				*e*Sg	**Sb**	**02 49 59.5**	**-0.5**
TKB	**Tkibuli**	**1.31**	**131**	P	**Pn**	**02 49 47.0**	**-0.1**
TKB				S	**Sg**	**02 50 05.9**	**+1.5**
PYA1	**Pyatigorsk**	**1.34**	**50**	*e*Pg	**Pn**	**02 49 46.4**	**-1.1**
PYA1				*e*Sg	**Sb**	**02 50 04.9**	**-0.5**
KBTC	**Kuba-Taba**	**1.41**	**64**	*e*Pg	**Pn**	**02 49 49.4**	**+0.9**
KBTC				*e*Sg	**Sb**	**02 50 08.1**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.44**	**102**	*e*Pg	**Pn**	**02 49 49.5**	**+0.4**
DIGR				*e*Sg	**Sb**	**02 50 09.1**	**+0.8**
ONI	**Oni**	**1.46**	**115**	P	**Pn**	**02 49 49.1**	**0.0**
ONI				S	**Sg**	**02 50 10.4**	**+1.2**
ONI	**Oni**	**1.46**	**115**	*e*Pg	**Pn**	**02 49 49.1**	**0.0**
ONI				*e*Sg	**Sg**	**02 50 10.4**	**+1.2**
SOC	**Sochi**	**1.46**	**285**	*e*Pg	**Pb**	**02 49 50.5**	**+0.6**
SOC				*e*Sg	**Sg**	**02 50 12.4**	**+3.1**
LSNR	**Lesken**	**1.59**	**87**	*e*Pg	**Pb**	**02 49 52.9**	**+0.9**
LSNR				*e*Sg	**Sb**	**02 50 13.3**	**+1.0**
BATM	**Batumi**	**1.61**	**179**	P	**Pn**	**02 49 51.0**	**-0.1**
BATM				S	**Sn**	**02 50 10.7**	**-1.5**
ZEI	**Tsey**	**1.70**	**104**	*e*Pg	**Pb**	**02 49 55.3**	**+1.2**
ZEI				*e*Sg	**Sg**	**02 50 17.5**	**+0.5**
STDR	**Stavd-Durt**	**1.76**	**84**	*e*Pg	**Pg**	**02 49 57.1**	**+1.0**
STDR				*e*Sg	**Sb**	**02 50 18.1**	**+0.8**
LZRR	**Lazarevskoye**	**1.81**	**294**	*e*Pg	**Pb**	**02 49 56.3**	**+0.6**
LZRR				*e*Sg	**Sg**	**02 50 22.6**	**+2.3**
DBOC	**Borcka**	**1.87**	**180**	*i* P	**Pn**	**02 49 54.2**	**-0.6**
DBOC				*i* S	**Sn**	**02 50 16.8**	**-1.9**
DBOC	comp=Z,902nm,0.1s			IAML_P			
EPOS	**Posof**	**1.89**	**155**	*i* P	**Pn**	**02 49 55.7**	**+0.6**
EPOS				*i* S	**Sb**	**02 50 20.4**	**-0.5**
LACR	**Lac**	**1.97**	**100**	*e*Pg	**Pb**	**02 49 58.8**	**+0.1**
LACR				*e*Sg	**Sb**	**02 50 25.3**	**+1.8**
DAGI	**Agillar**	**2.14**	**175**	*i* P	**Pn**	**02 49 58.4**	**-0.2**
DAGI				*i* S	**Sn**	**02 50 23.1**	**-2.4**
DAGI	comp=Z,196nm,0.1s			IAML_P			
DBAD	**Bademkaya**	**2.19**	**179**	*i* P	**Pn**	**02 49 59.4**	**+0.1**
DBAD				IAML_P			
	comp=Z,657nm,0.1s						
GUDG	**Gudauri**	**2.21**	**109**	P	**Pb**	**02 50 03.1**	**+0.4**
GUDG				S	**Sb**	**02 50 31.7**	**+1.4**
DDEM	**Demirkent**	**2.32**	**178**	*i* P	**Pn**	**02 50 00.7**	**-0.4**
DDEM				IAML_P			
	comp=Z,425nm,0.1s						
TRLG	**Trialeti**	**2.47**	**132**	P	**Pb**	**02 50 07.5**	**+0.4**
TRLG				S	**Sb**	**02 50 37.0**	**+0.1**
KELT	**Kelkit**	**3.55**	**211**	*i* P	**Pn**	**02 50 16.5**	**-1.6**
KELT				*i* S	**Sn**	**02 50 58.6**	**-1.8**
KELT	comp=Z,42nm,0.5s			IAML_P			

IDC 27 02:59:02.4±7.6, 30°22S×177°93W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/17, mbtmp3.7/2, Error ellipse: s-maj=321.1km s-min=56.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 0.3nm,0.4s,baz=99,slow=7.8,SNR=4.0	**43.18**	**267**	P	P	03 07 05.8	+0.5
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=111,slow=8.1,SNR=18	**44.15**	**272**	P	P	03 07 13.1	0.0
FINES	**FINESS Array B** 1.1nm,0.8s,baz=64,slow=4.4,SNR=6.7	**145.00**	**340**	PKPbc	PKPbc	03 18 39.3	-0.9

IDC 27 03:22:47.4±3.8, 17°63S×178°66W, h501km±42km, mb3.5/15, mb1 3.7/16, mb1mx3.5/46, mbtmp4.4/16, Error ellipse: s-maj=19.0km s-min=15.6km az=67.0
ISCJB 27 03:22:49.8±0.6, 17°75S±0°1×178°8W±0°1, h539km, mb4.0/15, Error ellipse: s-maj=18.2km s-min=12.0km az=145.0
ISC 27 03:22:50.7±0.7, 17°7S±0°1×178°9W±0°1, h539km, n42, σ1§46/42, mb4.1/15, 5C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac** 1.7nm,0.3s,baz=158,slow=22,SNR=14	**14.47**	**250**	P	**P**	**03 25 55.9**	**+0.9**
URZ	**Urewera** 2.5nm,0.3s,baz=242,slow=3.5,SNR=7.6	**20.81**	**189**	P	**P**	**03 26 53.0**	**-1.5**

HNR	**Honiara** 83nm,0.3s,baz=180,slow=5.1,SNR=2.9	**22.12**	**289**	P		**P**	**03 27 06.0**	**-0.7**
CTA	**Charters Tower** 4.0nm,0.8s,baz=84,slow=9.2,SNR=2.8	**33.03**	**260**	P		**P**	**03 28 43.5**	**+1.6**
STKA	**Stephens Creek** 3.6nm,0.5s,baz=99,slow=12,SNR=8.9	**38.34**	**241**	P		**P**	**03 29 27.7**	**+2.0**
WRA	**Warramunga Arr** 1.5nm,0.8s,baz=96,slow=7.9,SNR=21	**44.22**	**259**	P		**P**	**03 30 12.7**	**+0.2**
WRA	0.9nm,0.9s,baz=96,slow=13,SNR=3.7			S		**S**	**03 36 01.3**	**-5.8**
ASAR	**Alice Springs** 11nm,0.6s,baz=88,slow=8.3,SNR=119	**44.41**	**254**	P		**P**	**03 30 14.9**	**+1.0**
ASAR	1.5nm,1.0s,baz=85,slow=15,SNR=8.5			S		**S**	**03 36 06.0**	**-3.8**
SIJI	**Sorong** 7.9nm,0.3s,baz=78,slow=8.5,SNR=6.5	**51.73**	**283**	P		**P**	**03 31 10.1**	**+1.4**
MJAR	**Matsushiro Arr** 4.4nm,0.7s,baz=168,slow=6.5,SNR=13	**67.44**	**324**	P		**P**	**03 32 52.8**	**-0.2**
QSPA	**South Pole Qui** 2.3nm,0.7s,baz=303,slow=0.5,SNR=13	**72.38**	**180**	P		**P**	**03 33 22.0**	**-0.1**
PETK	**Petropavlovsk-** 4.5nm,0.7s,baz=130,slow=8.7,SNR=4.4	**73.33**	**346**	P		**P**	**03 33 27.9**	**+0.5**
NVAR	**Mina Array Bea** 1.1nm,0.7s,baz=218,slow=8.1,SNR=7.8	**79.58**	**44**	P		**P**	**03 34 01.2**	**-1.1**
ILAR	**Eielson Array** 0.6nm,0.4s,baz=222,slow=5.2,SNR=24	**85.76**	**13**	P		**P**	**03 34 31.4**	**-1.1**
TXAR	**Lajitas Array** 0.7nm,0.7s,baz=213,slow=7.2,SNR=8.9	**86.26**	**58**	P		**P**	**03 34 36.9**	**+1.0**
PDAR	**Pinedale Array** 0.5nm,0.5s,baz=199,slow=3.8,SNR=6.8	**87.50**	**44**	P		**P**	**03 34 41.3**	**-0.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=92,slow=2.6,SNR=7.2	**88.37**	**290**	P		**P**	**03 34 47.6**	**+1.8**
YKA	**Yellowknife Ar** 0.5nm,0.8s,baz=244,slow=4.1,SNR=9.9	**94.31**	**25**	P		**P**	**03 35 11.4**	**-0.7**
ARCES	**ARCESS Array B** 3.1nm,1.0s,baz=72,slow=4.0,SNR=5.7	**126.00**	**350**	PKP		**PKPdf**	**03 40 50.4**	**-0.6**
BURAR	**Bucovina Array**	**144.19**	**332**	⇓*i*P		**PKPdf**	**03 41 26.2**	**+0.8**
BIZ	**Bicaz**	**144.28**	**330**	⇑*i*P		**PKPab**	**03 41 25.9**	**+0.3**
BRTR	**Keskin Array B** 3.8nm,0.8s,baz=88,slow=2.3,SNR=18	**144.29**	**315**	PKP		**PKPdf**	**03 41 25.7**	**-0.2**
CFR	**Carcaliu**	**144.48**	**326**	⇑*i*P		**PKPdf**	**03 41 25.5**	**-0.3**
VRI	**Vrincioaia**	**144.74**	**328**	⇓*i*P		PKPbc	03 41 26.6	-0.1
TRPA	**Tarpa**	**144.94**	**335**	⇑*i*P		PKPbc	03 41 27.1	-0.1
CLL	**Collm** comp=Z,10.0nm,0.9s	**145.13**	**347**	*i* PKPbc		**PKPbc**	**03 41 27.5**	**-0.1**
DRGR		**145.92**	**333**	⇓*i*P		**PKPbc**	**03 41 30.4**	**+0.2**
JAVC	**Velka Javorina**	**146.11**	**340**	*e*PKP		**PKPbc**	**03 41 31.5**	**+0.9**
ARR	**Arges**	**146.12**	**330**	⇑*i*P		**PKPab**	**03 41 31.7**	**-1.2**
KHC	**Kasperske Hory**	**147.03**	**345**	*e*P		**PKPbc**	**03 41 33.1**	**0.0**
KHC				*ex*		x	03 41 36.4	
GERES	**GERESS Array B** comp=Z,2.6nm,0.5s,baz=20,slow=3.1,SNR=20	**147.26**	**345**	PKPbc		**PKPbc**	**03 41 33.6**	**-0.2**
BZS	**Buzias**	**147.31**	**333**	⇓*i*P		**PKPbc**	**03 41 33.9**	**0.0**
CONA	**Conrad Observa** comp=Z,6.4nm,1.0s	**147.49**	**341**	*i* PKPbc		**PKPbc**	**03 41 34.5**	**+0.1**
HERR	**Herculane**	**147.53**	**331**	⇑*i*P		**PKPbc**	**03 41 33.4**	**-1.1**
SOKA	**Soboth** comp=Z,8.1nm,1.3s	**148.87**	**341**	*i* PKPdf		**PKPbc**	**03 41 36.6**	**-1.3**
KBA	**Koelnbreinsper** comp=Z,2.6nm,0.5s	**148.99**	**344**	*i* PKPbc		**PKPbc**	**03 41 37.4**	**-0.9**
WATA	**Walderalm** comp=Z,2.3nm,0.5s	**149.19**	**346**	*e*PKPbc		**PKPbc**	**03 41 37.5**	**-1.3**
RETA	**Reutte** comp=Z,5.6nm,1.3s	**149.22**	**347**	*i* PKPbc		**PKPbc**	**03 41 38.4**	**-0.3**
MOTA	**Moosalm** comp=Z,2.2nm,0.4s	**149.28**	**347**	*i* PKPbc		**PKPbc**	**03 41 38.4**	**-0.5**
SQTA	**Sankt Quirin** comp=Z,7.0nm,1.3s	**149.38**	**346**	*i* PKPdf		**PKPbc**	**03 41 36.9**	**-2.2**
ABTA	**Abfaltersbach** comp=Z,4.7nm,0.7s	**149.51**	**344**	*i* PKPbc		**PKPbc**	**03 41 38.5**	**-1.0**
DAVA	**Damuels** comp=Z,14nm,1.2s	**149.59**	**348**	*i* PKPbc		**PKPbc**	**03 41 39.5**	**-0.2**
FETA	**Feichten** comp=Z,6.3nm,1.1s	**149.67**	**347**	*i* PKPbc		**PKPbc**	**03 41 39.8**	**-0.1**

IDC 27 03:29:59.2±0.7, 23°84N×121°14E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/47, mbtmp4.0/15, ML3.4/1, Error ellipse: s-maj=28.3km s-min=15.4km az=66.0
ASIES 27 03:30:01.9, 23°93N×121°03E, h19km, MW3.7
BJI 27 03:30:01.5, 23°96N×121°01E, h11km, mb4.1/2, ML4.3/6, Ms3.9/3
TAP 27 03:30:02.3, 23°93N×121°00E, h14km, ML4.5, B
NEIC 27 03:30:02.2±1.8, 23°89N×121°05E, h18km±1km, mb4.4/15, Error ellipse: s-maj=6.7km s-min=4.7km az=111.0
JMA 27 03:30:02.7±0.1, 23°93N×121°07E, h9km, M4.2
ISCJB 27 03:30:03.1±0.1, 23°928N±0°010×121°01E±0°01, h22km±1km, mb4.2/26, Error ellipse: s-maj=2.0km s-min=1.4km az=37.9
ISC 27 03:30:01.8±0.7, 23°93N±0°01×121°01E±0°01, h16km±4km, n170, σ1§12/265, mb4.1/26, 17C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMLT	**Sun Moon Lake** baz=240	**0.11**	**246**	⇑*i*P	**Pg**	**03 30 05.8**	**+0.3**
SMLT	baz=240			S	**Sb**	**03 30 08.5**	**+0.2**
TYC	**Yuchr** baz=258	**0.14**	**260**	⇑*i*P	**Pg**	**03 30 05.9**	**+0.2**
TYC	baz=258			*i* S	**Sg**	**03 30 08.7**	**+0.4**
SSLB	**Suanglung**	**0.15**	**200**	*e*Pg	**Pg**	**03 30 05.9**	**+0.1**
SSLB				*e*Sg	**Sg**	**03 30 08.4**	**-0.1**
SSLB	**Suanglung** baz=196	**0.15**	**200**	⇑P	**Pg**	**03 30 06.2**	**+0.3**
SSLB	baz=196			S	**Sg**	**03 30 08.4**	**-0.1**
OWD	**Renai** baz=82	**0.15**	**80**	P	**Pb**	**03 30 07.0**	**+0.5**
OWD	baz=82			S	**Sb**	**03 30 10.0**	**+0.4**
CHGB	**Renai** baz=57	**0.20**	**49**	⇓P	**Pb**	**03 30 07.4**	**+0.1**
CHGB	baz=57			S	**Sb**	**03 30 10.8**	**-0.1**
VWDT	**VWDT** baz=143	**0.21**	**145**	⇓P	**Pb**	**03 30 07.9**	**+0.6**
VWDT	baz=143			S	**Sb**	**03 30 11.2**	**+0.2**
WHYT	**Xinyi Township** baz=210	**0.27**	**212**	⇑*e*P	**Pb**	**03 30 08.3**	**-0.1**
WHYT	baz=210			*e*S	**Sb**	**03 30 13.2**	**+0.4**
WJS	**Zhushan** baz=241	**0.28**	**248**	⇑P	**Pb**	**03 30 09.2**	**+0.7**
WJS	baz=241			*e*S	**Sb**	**03 30 14.3**	**+1.3**
WNT	**Mingjian** baz=259	**0.30**	**260**	⇓*i*P	**Pb**	**03 30 09.5**	**+0.6**
WNT	baz=259			S	**Sb**	**03 30 14.7**	**+1.0**
WHF	**Hehuan Shan** baz=58	**0.32**	**47**	⇓*i*P	**Pb**	**03 30 09.9**	**+0.5**
WHF	baz=58			S	**Sb**	**03 30 14.5**	**-0.1**
TDCB	**Techi** baz=29	**0.35**	**23**	⇑P	**Pb**	**03 30 09.5**	**-0.3**
TDCB	baz=29			*e*S	**Sg**	**03 30 13.7**	**-0.4**
WHP	**Taichung City** baz=352	**0.35**	**350**	⇑P	**Pb**	**03 30 09.7**	**-0.2**
WHP	baz=352			S	**Sb**	**03 30 16.0**	**+0.8**
TWT	**Tachien** baz=30	**0.36**	**25**	⇑P	**Pg**	**03 30 09.6**	**+0.3**
TWT	baz=30			*e*S	**Sg**	**03 30 14.2**	**-0.2**
TCU	**Taichung** baz=293	**0.38**	**306**	⇓*i*P	**Pb**	**03 30 11.1**	**+1.0**
TCU	baz=293			S	**Sb**	**03 30 17.9**	**+2.1**
ESL	**Shilin** baz=97	**0.40**	**106**	⇓*i*P	**Pb**	**03 30 11.3**	**+0.6**
ESL	baz=97			*i* S	**Sb**	**03 30 16.9**	**+0.3**
WCHH	**Zhanghua** baz=290	**0.44**	**290**	*e*P	**Pb**	**03 30 12.0**	**+0.8**
CHN5	**Tsauling** baz=222	**0.45**	**223**	⇑P	**Pb**	**03 30 12.0**	**+0.6**
CHN5	baz=222			*e*S	**Sn**	**03 30 20.2**	**-1.4**
ALS	**Alishan** baz=193	**0.46**	**204**	*e*P	**Pb**	**03 30 12.2**	**+0.4**
ALS	baz=193			S	**Sb**	**03 30 19.2**	**+0.8**

EGFH	**Guangfu**	**0.46**	**124**	⇓*i*P	**Pb**	**03 30 12.1**	**+0.5**
	baz=124								
EGFH				S	**Sb**	**03 30 18.6**	**+0.4**
	baz=124								
TWQ1	**Liyutan**	**0.47**	**333**	⇓*i*P	**Pb**	**03 30 12.8**	**+1.0**
	baz=343								
TWQ1				S	**Sb**	**03 30 19.8**	**+1.2**
	baz=343								
WGK	**Gukeng**	**0.48**	**240**	⇓*e*P	**Pb**	**03 30 12.6**	**+0.7**
	baz=237								
WDLH	**Douliu**	**0.49**	**241**	*e*P	**Pb**	**03 30 13.0**	**+0.9**
	baz=239								
EHY	**Hungye**	**0.51**	**146**	⇓*i*P	**Pb**	**03 30 13.1**	**+0.6**
	baz=139								
EHY				S	**Sb**	**03 30 20.3**	**+0.6**
	baz=139								
ETLH	**Xiulin Townshi**	**0.51**	**57**	⇓P	**Pb**	**03 30 12.8**	**+0.2**
	baz=56								
ETLH				*e*S	**Sb**	**03 30 19.4**	**-0.5**
	baz=56								
NSY	**Sanyi**	**0.54**	**335**	⇓*i*P	**Pn**	**03 30 14.3**	**-0.6**
	baz=337								
NSY				S	**Sn**	**03 30 22.4**	**-1.2**
	baz=337								
WDJ	**Dajia District**	**0.54**	**321**	⇓*i*P	**Pn**	**03 30 14.2**	**-0.7**
	baz=322								
WDJ				S	**Sn**	**03 30 22.6**	**-1.1**
	baz=322								
HWA	**Hwalien**	**0.55**	**85**	⇓*i*P	**Pn**	**03 30 14.1**	**-0.9**
	baz=86								
HWA				S	**Sn**	**03 30 22.5**	**-1.3**
	baz=86								
TWD	**Chiawan**	**0.56**	**74**	⇓*i*P	**Pb**	**03 30 13.6**	**+0.4**
	baz=75								
TWD				S	**Sb**	**03 30 20.6**	**-0.4**
	baz=75								
HGSD	**Ruisui**	**0.58**	**139**	⇓P	**Pn**	**03 30 14.6**	**-0.8**
	baz=138								
HGSD				S	**Sn**	**03 30 23.8**	**-0.8**
	baz=138								
NACB	**Ninganchiao**	**0.59**	**65**	*e*Pg	**Pb**	**03 30 13.6**	**-0.2**
NACB				*e*Pn	Pn	03 30 20.4	+4.9
NACB	**Ninganchiao**	**0.59**	**65**	⇓*i*P	**Pb**	**03 30 14.0**	**+0.2**
	baz=76								
NACB				*e*S	**Sg**	**03 30 21.2**	**0.0**
	baz=76								
YULB	**Yu-li**	**0.59**	**154**	*e*Pg	**Pb**	**03 30 14.4**	**+0.5**
YULB				*e*Sg	**Sg**	**03 30 20.2**	**-1.4**
YULB	**Yu-li**	**0.59**	**154**	⇓P	**Pb**	**03 30 14.4**	**+0.5**
	baz=153								
YULB				*e*S	**Sb**	**03 30 22.8**	**+0.7**
	baz=153								
RLNB	**Erlin**	**0.60**	**267**	*e*P	**Pb**	**03 30 14.4**	**+0.5**
	baz=266								
RLNB				S	**Sb**	**03 30 23.5**	**+1.4**
	baz=266								
NNSB	**Datong**	**0.60**	**34**	⇑P	**Pg**	**03 30 13.8**	**0.0**
	baz=43								
NNSB				*e*S	**Sg**	**03 30 21.1**	**-0.7**
	baz=43								
NNS	**Nan Shan**	**0.61**	**33**	⇓P	**Pb**	**03 30 14.2**	**-0.1**
	baz=42								
NNS				*e*S	**Sg**	**03 30 22.0**	**0.0**
	baz=42								
CHN2	**Minshiung**	**0.63**	**231**	P	**Pn**	**03 30 15.6**	**-0.5**
	baz=230								
CHN2				S	**Sn**	**03 30 24.8**	**-1.1**
	baz=230								
TWF1	**Yuli**	**0.63**	**155**	⇓*i*P	**Pb**	**03 30 15.2**	**+0.7**
	baz=154								
TWF1				*e*S	**Sn**	**03 30 24.8**	**-1.2**
	baz=154								
NMLH	**Miaoli**	**0.64**	**342**	⇓P	**Pn**	**03 30 16.2**	**-0.1**
	baz=342								
NMLH				S	**Sn**	**03 30 26.0**	**-0.1**
	baz=342								
CHY	**Chiayi**	**0.69**	**231**	*e*P	**Pb**	**03 30 16.4**	**+0.9**
	baz=230								
CHY				*e*S	**Sn**	**03 30 26.5**	**-0.9**
	baz=230								
CHN4	**Tsaushan**	**0.69**	**214**	*e*P	**Pb**	**03 30 16.3**	**+0.8**
	baz=213								
CHN4				S	**Sn**	**03 30 27.9**	**+0.5**
	baz=213								
TPUB	**Ta-pu**	**0.72**	**209**	*e*Pg	**Pg**	**03 30 16.0**	**+0.2**
TPUB				*e*Sg	**Sg**	**03 30 25.2**	**-0.1**
TPUB	**Ta-pu**	**0.72**	**209**	⇑P	**Pb**	**03 30 16.4**	**+0.4**
	baz=208								
TPUB				*e*S	**Sb**	**03 30 27.0**	**+1.4**
	baz=208								
WMLT	**Mailiao**	**0.73**	**260**	*e*P	**Pb**	**03 30 16.5**	**+0.3**
	baz=260								
WMLT				*e*S	**Sb**	**03 30 27.4**	**+1.4**
	baz=260								
WTP	**Ta-pu**	**0.77**	**208**	*e*P	**Pb**	**03 30 17.4**	**+0.5**
	baz=206								
FULB	**Fuli**	**0.77**	**160**	⇓P	**Pn**	**03 30 18.4**	**+0.2**
	baz=160								
FULB				*e*S	**Sn**	**03 30 30.3**	**+0.8**
	baz=160								
WSF	**Szhu**	**0.78**	**248**	*e*P	**Pg**	**03 30 15.9**	**-1.1**
	baz=247								
YHNB	**Yeheng**	**0.81**	**24**	*e*Pg	**Pg**	**03 30 17.5**	**-0.1**
YHNB				*e*Sg	**Sg**	**03 30 27.6**	**-0.7**
YHNB	**Yeheng**	**0.81**	**24**	⇑P	**Pb**	**03 30 17.7**	**0.0**
	baz=25								
YHNB				*e*S	**Sg**	**03 30 27.4**	**-1.0**
	baz=25								
NDT	**Datong Townshi**	**0.81**	**34**	*e*P	**Pg**	**03 30 17.8**	**+0.2**
	baz=36								
TWK	**Hsinying**	**0.81**	**216**	⇑*i*P	**Pg**	**03 30 18.3**	**+0.6**
	baz=214								
TWK				*e*S	**Sn**	**03 30 30.3**	**-0.3**
	baz=214								
ENA	**Nanau**	**0.83**	**53**	P	**Pn**	**03 30 18.5**	**-0.5**
	baz=49								
ENA				*e*S	**Sb**	**03 30 28.8**	**-0.2**
	baz=49								
NANB	**Nanao**	**0.84**	**54**	⇓P	**Pg**	**03 30 18.3**	**+0.1**
	baz=49								
NANB				*e*S	**Sb**	**03 30 28.8**	**-0.4**
	baz=49								
SNST	**Tainan City**	**0.85**	**214**	*e*P	**Pg**	**03 30 18.8**	**+0.5**
	baz=212								
SBCB	**Hsinchu**	**0.86**	**359**	P	**Pn**	**03 30 20.3**	**+1.0**
	baz=359								
SBCB				S	**Sn**	**03 30 32.4**	**+0.8**
	baz=359								
CHN1	**Nanshi**	**0.86**	**211**	*e*P	**Pg**	**03 30 18.9**	**+0.3**
	baz=221								
CHN1				*e*S	**Sn**	**03 30 31.4**	**-0.3**
	baz=221								
HSN	**Hsinchu**	**0.87**	**358**	P	**Pn**	**03 30 21.2**	**+1.7**
	baz=1.0								
HSN				S	**Sn**	**03 30 32.3**	**+0.4**
	baz=1.0								
ENTT	**Nioudou**	**0.87**	**36**	*e*P	**Pg**	**03 30 18.9**	**+0.1**
	baz=30								
ENTT				S	**Sn**	**03 30 31.1**	**-0.8**
	baz=30								
CHKT	**Chengkung**	**0.89**	**158**	⇓*i*P	**Pn**	**03 30 20.7**	**+1.0**
	baz=158								
CHKT				S	**Sn**	**03 30 33.8**	**+1.5**
	baz=158								
SGST	**Jiashian**	**0.93**	**205**	*e*P	**Pn**	**03 30 20.7**	**+0.4**
	baz=214								
CHN8	**Yiju**	**0.94**	**232**	*e*P	**Pb**	**03 30 19.8**	**+0.1**
	baz=241								
WLTB	**Daxi**	**0.95**	**13**	P	**Pn**	**03 30 21.6**	**+1.1**
	baz=23								
WLTB				*e*S	**Sn**	**03 30 34.8**	**+1.0**
	baz=23								
NWLT	**Wulai**	**0.96**	**28**	*e*P	**Pn**	**03 30 20.8**	**+0.1**
	baz=29								
SLGT	**Liugui**	**0.99**	**200**	*e*P	**Pn**	**03 30 21.5**	**+0.4**
	baz=198								
TWE	**Neicheng**	**0.99**	**37**	*e*P	**Pn**	**03 30 21.7**	**+0.5**
	baz=39								
TWE				*e*S	**Sn**	**03 30 34.4**	**-0.4**
	baz=39								
TWC	**Suao**	**1.02**	**48**	⇑P	**Pg**	**03 30 21.8**	**+0.2**
	baz=50								
TWC				S	**Sn**	**03 30 35.3**	**-0.3**
	baz=50								
CHN3	**Shinhua**	**1.03**	**215**	*e*P	**Pg**	**03 30 22.2**	**+0.3**
	baz=213								
NCUH	**Zhongli**	**1.05**	**9**	*e*P	**Pg**	**03 30 23.8**	**+1.7**
	baz=9.0								
NCUH				*e*S	**Sn**	**03 30 37.5**	**+1.2**
	baz=9.0								
NCU	**National Centr**	**1.05**	**9**	*e*P	**Pg**	**03 30 23.6**	**+1.5**
	baz=12								
SCLT	**Jiali**	**1.06**	**225**	*e*P	**Pg**	**03 30 22.6**	**+0.2**
	baz=224								
SCLT				S	**Sn**	**03 30 39.1**	**+2.6**
	baz=224								
TWG	**Pinlang**	**1.10**	**177**	*e*Pn	**Pn**	**03 30 22.9**	**+0.2**
TWG				*e*Sg	**Sb**	**03 30 35.1**	**-1.7**
TWG	**Pinlang**	**1.10**	**177**	⇑P	**Pg**	**03 30 24.3**	**+1.1**
	baz=168								
TWG				*e*S	**Sn**	**03 30 40.0**	**+2.3**
	baz=168								
TWGBT	**Beinan**	**1.11**	**177**	⇓P	**Pg**	**03 30 23.9**	**+0.6**
	baz=168								
TWGBT				*e*S	**Sg**	**03 30 40.3**	**+2.5**
	baz=168								
TATO	**Taipei**	**1.13**	**23**	*e*Pn	**Pg**	**03 30 24.1**	**+0.4**
TATO				*e*Sg	**Sg**	**03 30 38.8**	**+0.3**
TATO	**Taipei**	**1.13**	**23**	*e*P	**Pg**	**03 30 24.0**	**+0.4**
	baz=28								
TATO				*e*S	**Sg**	**03 30 40.3**	**+1.9**
	baz=28								
NHDH	**Xindian Distri**	**1.13**	**24**	*e*P	**Pg**	**03 30 25.5**	**+1.8**
	baz=30								
TTN	**Taitung**	**1.18**	**174**	*e*P	**Pg**	**03 30 25.2**	**+0.7**
	baz=172								
NTC	**Toucheng**	**1.19**	**39**	*e*P	**Pg**	**03 30 25.0**	**+0.2**
	baz=40								
NTC				*e*S	**Sg**	**03 30 42.4**	**+2.1**
	baz=40								
EOS1	**EOS1**	**1.19**	**59**	*e*P	**Pg**	**03 30 25.6**	**+0.8**
	baz=60								
TAP	**Taipei**	**1.19**	**22**	*e*P	**Pg**	**03 30 26.2**	**+1.3**
	baz=25								
TWS1	**Kuangyinshan**	**1.23**	**18**	*e*P	**Pg**	**03 30 26.7**	**+1.2**
	baz=4.0								
TWS1				*e*S	**Sg**	**03 30 43.2**	**+1.7**
	baz=4.0								
TWM1	**Shoushan**	**1.23**	**206**	*e*P	**Pg**	**03 30 26.1**	**+0.6**
	baz=203								
SSD	**Sandimen**	**1.23**	**197**	*e*P	**Pg**	**03 30 25.7**	**+0.2**
	baz=184								
EGS		**1.24**	**42**	*e*P	**Pg**	**03 30 26.3**	**+0.5**
	baz=55								
EGS				*e*S	**Sg**	**03 30 43.8**	**+1.8**
	baz=55								
NTST	**Danshui**	**1.29**	**18**	*e*P	**Pg**	**03 30 27.4**	**+0.6**
	baz=32								
YM04	**YM04**	**1.31**	**21**	*e*P	**Pb**	**03 30 26.5**	**+0.3**
	baz=22								
YM04				*e*S	**Sg**	**03 30 44.4**	**+0.2**
	baz=22								
YM01	**YM01**	**1.31**	**23**	*e*P	**Pb**	**03 30 26.5**	**+0.3**
	baz=23								
YM01				*e*S	**Sg**	**03 30 44.6**	**+0.2**
	baz=23								
ECL	**Taimali**	**1.33**	**182**	P	**Pg**	**03 30 28.0**	**+0.6**
	baz=182								
ECL				*e*S	**Sg**	**03 30 46.3**	**+1.6**
	baz=182								
YM05	**YM05**	**1.33**	**22**	⇑*e*P	**Pb**	**03 30 26.7**	**+0.2**
	baz=25								
YM11	**YM11**	**1.33**	**23**	*e*P	**Pb**	**03 30 26.8**	**+0.2**
	baz=23								
YM11				*e*S	**Sg**	**03 30 46.5**	**+1.5**
	baz=23								
ANP	**Anpu**	**1.34**	**20**	*e*P	**Pb**	**03 30 26.7**	**+0.1**
	baz=21								
ANP				*e*S	**Sg**	**03 30 45.3**	**+0.3**
	baz=21								
NWF	**Wu-fen Shan**	**1.34**	**32**	P	**Pg**	**03 30 28.4**	**+0.8**
	baz=32								
NWF				*e*S	**Sg**	**03 30 46.9**	**+1.8**
	baz=32								
WFSB	**Wu-fen Shan**	**1.34**	**32**	P	**Pg**	**03 30 28.4**	**+0.8**
	baz=32								
WFSB				*e*S	**Sg**	**03 30 46.9**	**+1.8**
	baz=32								
MASBT	**Mashibuluo**	**1.36**	**195**	⇑P	**Pb**	**03 30 27.5**	**+0.6**
	baz=194								
MASBT				S	**Sg**	**03 30 46.2**	**+0.5**
	baz=194								
PHUB	**P'eng-hu**	**1.38**	**253**	*e*P	**Pn**	**03 30 26.5**	**0.0**
	baz=251								
PHUB				S	**Sn**	**03 30 43.4**	**-1.0**
	baz=251								
PNG	**Penghu**	**1.38**	**255**	*e*P	**Pn**	**03 30 26.2**	**-0.2**
	baz=247								
PNG				*e*S	**Sn**	**03 30 44.3**	**-0.2**
	baz=247								
TWB1	**Santiao Chiao**	**1.40**	**39**	*e*P	**Pg**	**03 30 28.9**	**+0.1**
	baz=40								
TWB1				*e*S	**Sg**	**03 30 47.5**	**+0.6**
	baz=40								
WDGT	**Dungji**	**1.41**	**242**	*e*P	**Pn**	**03 30 27.4**	**+0.5**
	baz=240								
WDGT				*e*S	**Sb**	**03 30 45.8**	**+0.3**
	baz=240								
TWY	**Chenhua**	**1.44**	**22**	*e*P	**Pg**	**03 30 30.0**	**+0.4**
	baz=22								
TWY				*e*S	**Sg**	**03 30 48.6**	**+0.2**
	baz=22								
SSPT	**Xinbi**	**1.50**	**196**	*e*P	**Pg**	**03 30 30.7**	**+0.1**
	baz=205								
EAST	**Anshuo**	**1.55**	**186**	*e*P	**Pg**	**03 30 31.0**	**-0.6**
	baz=176								
TAW	**Tawu**	**1.57**	**184**	*e*P	**Pg**	**03 30 31.3**	**-0.7**
	baz=171								
SCZT	**Fangliau**	**1.59**	**193**	*e*P	**Pb**	**03 30 31.1**	**+0.2**
	baz=181								
VCHM	**Qimei**	**1.62**	**244**	*e*P	**Pn**	**03 30 30.1**	**+0.3**
	baz=233								
VCHM				*e*S	**Sn**	**03 30 50.8**	**+0.5**
	baz=233								
JYNG	**Yonagunijimaku**	**1.84**	**73**	P	**Pb**	**03 30 34.3**	**-0.9**
JYNG				*e*S	**Sb**	**03 30 57.9**	**-0.1**
YOJ	**Yonaguni jima**	**1.90**	**73**	*e*Pn	**Pn**	**03 30 34.1**	**+0.4**
YOJ				*e*Sn	**Sn**	**03 30 55.1**	**-2.3**
YOJ	**Yonaguni jima**	**1.90**	**73**	*e*P	**Pb**	**03 30 35.0**	**-1.2**
	baz=88								
YOJ				*e*S	**Sb**	**03 30 58.4**	**-1.4**
	baz=88								
YOJ	**Yonaguni jima**	**1.90**	**73**	P	**Pb**	**03 30 35.2**	**-1.0**
YOJ				S	**Sb**	**03 30 59.5**	**-0.3**
HEN	**Hengchun**	**1.93**	**188**	*e*P	**Pg**	**03 30 40.7**	**+1.8**
	baz=185								
LAY	**Lan-yu**	**1.95**	**165**	P	**Pn**	**03 30 35.1**	**+0.8**
	baz=150								
PCYT	**Pengchaiyu**	**1.95**	**29**	*e*P	**Pn**	**03 30 35.5**	**+1.1**
	baz=19								
TWK1	**Hengchun**	**1.98**	**185**	*e*P	**Pb**	**03 30 37.3**	**-0.3**
	baz=199								
TWKBT	**Hengchun**	**1.99**	**185**	*e*P	**Pb**	**03 30 38.1**	**+0.5**
	baz=199								
TSEB	**Hengchuen, Pin**	**2.02**	**183**	*e*P	**Pg**	**03 30 41.1**	**+0.5**
	baz=175								
MATB	**Ma-tsu**	**2.41**	**337**	*e*P	**Pn**	**03 30 40.1**	**-0.6**
	baz=336								
QZH	**Quanzhou**	**2.42**	**295**	Pn	**Pn**	**03 30 40.8**	**0.0**
QZH				Sn	**Sn**	**03 31 04.0**	**-6.2**
QZH				smax	smax		
	comp=N,590nm,0.8s								
QZH				smax	smax		
	comp=E,300nm,0.7s								
KNMB	**Chin-men Tao**	**2.45**	**283**	*e*P	**Pn**	**03 30 41.0**	**-0.3**
	baz=281								
IRIF	**Iriomote-Funau**	**2.52**	**80**	P	**Pn**	**03 30 43.7**	**+1.6**
IRIF				*e*S	**Sn**	**03 31 13.7**	**+1.2**
HATJ	**Hateruma jima**	**2.56**	**87**	P	**Pn**	**03 30 44.2**	**+1.5**
HATJ				*e*S	**Sn**	**03 31 14.6**	**+1.0**
JKRS	**Kuro-shima**	**2.76**	**83**	P	**Pn**	**03 30 47.3**	**+1.9**
JKRS				*e*S	**Sn**	**03 31 21.0**	**+2.5**
JIJ	**Ishigaki jima**	**2.89**	**81**	P	**Pn**	**03 30 48.6**	**+1.3**
JIJ				S	**Sn**	**03 31 22.7**	**+0.9**
JISG	**Ishigakijimahi**	**3.08**	**77**	P	**Pn**	**03 30 51.3**	**+1.4**
JISG				*e*S	**Sn**	**03 31 27.2**	**+0.7**
JTJ	**Tarama**	**3.44**	**77**	P	**Pn**	**03 30 56.5**	**+1.6**
JTJ				S	**Sn**	**03 31 37.6**	**+2.2**
JIRB	**Irabujima**	**3.90**	**76**	P	**Pn**	**03 31 03.7**	**+2.6**
JIRB				*e*S	**Sn**	**03 31 48.1**	**+1.5**
JIKM	**Ikemajima**	**3.99**	**75**	P	**Pn**	**03 31 05.5**	**+3.1**
JIKM				*e*S	**Sn**	**03 31 51.6**	**+2.8**
JMJ	**Miyako jima 2**	**4.00**	**76**	*e*P	**Pn**	**03 31 05.0**	**+2.4**
	baz=79								
GZH	**Guangzhou**	**7.09**	**265**	Pn	**Pn**	**03 31 41.3**	**-3.6**
GZH				Sn	**Sn**	**03 32 52.3**	**-13**
GZH				smax	smax		
	comp=N,140nm,0.9s								
GZH				smax	smax		
	comp=E,150nm,0.8s								
JOW	**Kunigami**	**7.18**	**65**	Pn	**Pn**	**03 31 46.5**	**+0.2**
	comp=E,1.4nm,0.3s,baz=184,slow=14,SNR=19								
JOW				Sn	**Sn**	**03 33 07.9**	**+0.4**
	comp=E,0.2nm,0.3s,baz=66,slow=20,SNR=1.9								
CM01	**Chiang Mai Arr**	**21.27**	**259**	*e*P	**P**	**03 34 47.3**	**-0.5**
ANA2	**Anatahan**	**24.36**	**103**	*e*P	**P**	**03 35 16.1**	**-3.3**
	comp=E,299nm,1.4s								
LUWI	**Luwuk**	**24.88**	**176**	*e*P	**P**	**03 35 20.3**	**-3.7**
	comp=E,73nm,1.5s								
SONA0	**Songino Array**	**26.54**	**338**	*e*P	**P**	**03 35 39.2**	**+0.2**
SONM	**Songino Array**	**26.54**	**338**	P	**P**	**03 35 39.2**	**+0.2**
	comp=E,2.4nm,1.1s,baz=158,slow=8.8,SNR=10								
KLR	**Kul'dur**	**26.63**	**16**	P	**P**	**03 35 40.7**	**+1.0**
	comp=E,1.2nm,0.6s,baz=202,slow=11,SNR=5.1								
WMQ	**Urumqi**	**33.72**	**314**	*e*P	**P**	**03 36 45.8**	**+3.3**
WMQ				LR	LR		
	comp=E,430nm,19.7s								
MK01	**Makanchi Array**	**38.40**	**316**	*e*P	**P**	**03 37 22.9**	**+0.4**
MK31	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**03 37 21.9**	**-0.7**
	comp=E,2.2nm,0.6s								
MK32	**Makanchi Array**	**38.41**	**316**	*e*P	**P**	**03 37 24.2**	**+1.6**
MK32				*e*PcP	**PcP**	**03 39 36.1**	**+0.3**
MKAR	**Makanchi Array**	**38.41**	**316**	P	**P**	**03 37 24.2**	**+1.6**
	comp=E,1.7nm,0.7s,baz=105,slow=11,SNR=16								
MKAR				PcP	**PcP**	**03 39 36.1**	**+0.3**
	comp=E,0.4nm,0.6s,baz=90,slow=4.9,SNR=3.7								
ZAA0	**Zalesovo Array**	**40.37**	**327**	*e*P	**P**	**03 37 39.8**	**+0.9**
	comp=E,4.0nm,0.7s								
ZALV	**Zalesovo Beam**	**40.37**	**327**	*e*P	**P**	**03 37 39.3**	**+0.5**
ZALV	**Zalesovo Beam**	**40.37**	**327**	P	**P**	**03 37 39.6**	**+0.8**
	comp=E,3.0nm,0.7s,baz=122,slow=8.7,SNR=12								
ZAA1	**Zalesovo Array**	**40.38**	**327**	*e*P	**P**	**03 37 39.6**	**+0.8**
KURBB	**Kurchatov Arra**	**42.20**	**320**	P	**P**	**03 37 55.9**	**+2.0**
	comp=E,0.9nm,0.7s,baz=109,slow=9.2,SNR=5.8								
KKAR	**Karatay Array**	**45.50**	**308**	*e*P	**P**	**03 38 20.4**	**-0.2**
	comp=E,2.2nm,1.2s								
WR1	**Warramunga Arr**	**45.50**	**162**	*e*P	**P**	**03 38 18.7**	**-2.0**
	comp=E,7.2nm,1.1s								
WRA	**Warramunga Arr**	**45.50**	**162**	P	**P**	**03 38 18.7**	**-2.0**
	comp=E,0.8nm,0.5s,baz=345,slow=8.7,SNR=13								
AS31	**Alice Springs**	**48.94**	**164**	*e*P	**P**	**03 38 47.4**	**-0.2**
	comp=E,0.8nm,0.8s								
ASAR	**Alice Springs**	**48.94**	**164**	P	**P**	**03 38 47.4**	**-0.2**
	comp=E,1.1nm,0.9s,baz=342,slow=6.9,SNR=6.5								
ABKAR	**Akbulak array**	**53.51**	**314**	*e*P	**P**	**03 39 23.3**	**+1.8**
	comp=E,1.9nm,0.8s								
STKA	**Stephens Creek**	**58.88**	**160**	*e*P	**P**	**03 39 59.2**	**-0.9**
	comp=E,1.6nm,1.3s								
STKA	**Stephens Creek**	**58.88**	**160**	P	**P**	**03 39 59.2**	**-0.9**
	comp=E,1.3nm,0.5s,baz=320,slow=8.8,SNR=2.9								
CHGN	**Chignik**	**65.27**	**37**	*e*P	**P**	**03 40 42.4**	**-0.3**
	comp=E,31nm,1.4s								
IM3	**Indian Mountai**	**66.48**	**26**	*e*P	**P**	**03 40 49.4**	**-1.0**
PPLA	**Purkeypile**	**67.55**	**30**	*e*P	**P**	**03 40 57.4**	**0.0**
	comp=E,10nm,1.4s								
BPAW	**Bear Paw Mtn.**	**67.89**	**28**	*e*P	**P**	**03 40 59.4**	**0.0**
	comp=E,5.8nm,1.4s								
KDAK	**Kodiak Island**	**68.20**	**35**	*e*P	**P**	**03 41 00.5**	**-0.9**
	comp=E,7.4nm,0.9s								
ILAR	**Eielson Array**	**69.51**	**27**	P	**P**	**03 41 08.9**	**-0.6**
	comp=E,0.2nm,0.5s,baz=291,slow=7.5,SNR=5.6								
ILB	**Eielson Array**	**69.51**	**27**	*e*P	**P**	**03 41 08.9**	**-0.6**
	comp=E,1.2nm,0.9s								
ARA0	**ARCESS Array S**	**69.72**	**338**	*e*P	**P**	**03 41 11.2**	**+0.6**
ARCES	**ARCESS Array B**	**69.72**	**338**	P	**P**	**03 41 11.2**	**+0.6**
	comp=E,3.2nm,0.8s,baz=65,slow=8.1,SNR=7.7								
FIA0	**FINESS Array S**	**71.58**	**330**	*e*P	**P**	**03 41 23.1**	**+0.9**
FINES	**FINESS Array B**	**71.58**	**330**	P	**P**	**03 41 23.1**	**+0.9**
	comp=E,1.2nm,0.5s,baz=55,slow=6.5,SNR=12								
NB2	**NORSAR Subarra**	**78.38**	**332**	P	**P**	**03 42 01.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=57,slow=5.9								
NB200	**NORSAR Array S**	**78.38**	**332**	*e*P	**P**	**03 42 01.7**	**+0.2**
NOA	**NORSAR Array B**	**78.38**	**332**	P	**P**	**03 42 01.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=58,slow=5.6,SNR=7.6								
GEC2	**GERESS Array S**	**82.94**	**321**	*e*P	**P**	**03 42 26.6**	**+0.4**
	comp=Z,1.8nm,1.0s								
GERES	**GERESS Array B**	**82.94**	**321**	P	**P**	**03 42 26.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=64,slow=3.1,SNR=3.9								
YKA	**Yellowknife Ar**	**83.27**	**23**	P	**P**	**03 42 27.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=314,slow=4.6,SNR=15								

*ISCJB **27** 03:37:18.4±0.7, 25°.2S±0°.1×179°.8E±0°.1, h493km, mb3.8/8, Error ellipse: s-maj=18.7km s-min=14.1km az=146.0*
*IDC **27** 03:37:21.7±3.2, 25°.35S×179°.81E, h527km±36km, mb3.4/8, mb1 3.6/11, mb1mx3.3/38, mbtmp4.3/11, Error ellipse: s-maj=25.4km s-min=20.2km az=3.0*
ISC 27 03:37:18.6±0.7, 25°.2S±0°.2×179°.8E±0°.1, h493km, n18, σ1ŝ77/19, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.65**	**281**	P	**P**	**03 40 06.8**	**+2.5**
	1.3nm,0.3s,baz=64,slow=18,SNR=11						
URZ	**Urewera**	**13.25**	**189**	P	**P**	**03 40 11.6**	**+1.4**
	1.2nm,0.3s,baz=294,slow=4.0,SNR=5.7						
RPZ	**Rata Peaks**	**19.84**	**199**	P	**P**	**03 41 15.2**	**-0.7**
	0.7nm,0.3s,baz=24,slow=2.7,SNR=4.4						
CTA	**Charters Tower**	**31.35**	**272**	P	**P**	**03 42 59.5**	**+1.4**
	4.7nm,0.3s,baz=97,slow=11,SNR=13						
STKA	**Stephens Creek**	**34.12**	**250**	P	**P**	**03 43 21.8**	**+0.3**
	2.3nm,0.6s,baz=113,slow=12,SNR=

KSRS	**Korea Array**	**5.29**	**266**	P		**P**	**03 50 49.1**	**+0.2**
	0.3nm,0.3s,baz=85,slow=10.0,SNR=6.0							
USRK	**Ussuriysk Ar.**	**6.52**	**344**	P		**P**	**03 51 05.0**	**+2.2**
	0.3nm,0.3s,baz=176,slow=12,SNR=4.4							
JCH	**Churui**	**8.17**	**53**	P		**P**	**03 51 21.7**	**+0.7**
JCH				S		**S**	**03 52 52.5**	**-4.1**
ASAJ	**Asahikawa**	**8.63**	**42**	P		**P**	**03 51 27.6**	**+1.5**
	1.1nm,0.3s,baz=242,slow=15,SNR=6.8							
JTKR	**Abashiri--Toko**	**9.27**	**47**	S		**S**	**03 53 16.5**	**-3.1**
MKAR	**Makanchi Array**	**38.97**	**300**	P		**P**	**03 56 11.8**	**-1.1**
	0.2nm,0.6s,baz=90,slow=10,SNR=2.8							
ILAR	**Eielson Array**	**51.63**	**32**	P		**P**	**03 57 53.2**	**+2.7**
	0.6nm,1.0s,baz=278,slow=6.3,SNR=3.2							
WRA	**Warramunga Arr**	**57.60**	**180**	P		**P**	**03 58 31.4**	**-1.8**
	0.3nm,0.6s,baz=356,slow=7.9,SNR=6.4							
ASAR	**Alice Springs**	**61.31**	**181**	P		**P**	**03 58 57.0**	**-1.3**
	0.8nm,0.8s,baz=359,slow=9.5,SNR=4.4							

MEX 27 03:55:41.3±0.5, 16°.19N×98°.31W, h7km±2km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.26**	**41**	*i*	P		Pg	03 55 46.0	-0.5
PNIG				*e*	S		Sg	03 55 50.4	+0.3

*ISCJB **27** 03:58:27.6±1.0, 32°.34S±0°.03×70°.57W±0°.05, h2km±9km, Error ellipse: s-maj=7.3km s-min=4.3km az=168.0*
*GUC **27** 03:58:27.4±0.7, 32°.36S×70°.55W, h9km±4km, ML2.9*
*SJA **27** 03:58:27.5±0.8, 32°.35S×70°.52W, h10km±5km, ML3.2, MW3.6*
ISC 27 03:58:26.9±1.6, 32°.33S±0°.03×70°.56W±0°.06, h6km±17km, n13, σ0°.61/24, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.74**	**211**	*e*	P		**Pb**	**03 58 42.3**	**-0.2**
ROCH				*e*	S		**Sb**	**03 58 53.0**	**+0.1**
ROCH				IAML				03 58 55.7	
	comp=E,2μm,0.5s								
ROC1	**El Roble**	**0.75**	**211**	*e*	P		**Pb**	**03 58 42.4**	**-0.2**
ROC1				*e*	S		**Sb**	**03 58 53.1**	**0.0**
PEL	**Peldehue**	**0.81**	**188**	*e*	P		**Pb**	**03 58 43.2**	**-0.4**
PEL				*i*	S		**Sb**	**03 58 54.7**	**-0.2**
PEL				IAML				03 58 59.5	
	comp=E,517nm,0.4s								
FCH	**Farellones**	**1.02**	**167**↑	*i*	P		**Pg**	**03 58 46.5**	**0.0**
FCH				*e*	S		**Sb**	**03 58 60.0**	**-1.0**
FCH				IAML				03 59 01.2	
	comp=E,697nm,0.1s								
CLCH	**Cerro Calan**	**1.06**	**179**	*e*	P		**Pg**	**03 58 47.5**	**+0.2**
CLCH				*i*	S		**Sb**	**03 59 02.0**	**+0.1**
RTLS	**Leoncito**	**1.20**	**64**	*e*	P		**Pg**	**03 58 49.8**	**-0.1**
RTLS				IAML				03 59 05.1	
	comp=Z,527nm,0.5s								
CMCH	**Combarbala**	**1.22**	**342**↓	*i*	P		**Pn**	**03 58 49.6**	**-1.0**
CMCH				*e*	S		**Sb**	**03 59 05.8**	**-0.7**
ARCO	**CERRO ARCO**	**1.46**	**111**	*e*	P		**Pg**	**03 58 54.9**	**-0.2**
ARCO				*e*	S		**Sg**	**03 59 14.1**	**+0.1**
ASAL	**Salagasta**	**1.48**	**100**	*e*	P		**Pg**	**03 58 55.1**	**-0.2**
ASAL				*e*	S		**Sg**	**03 59 14.9**	**+0.4**
LMEL	**Las Melosas**	**1.54**	**169**	*e*	P		**Pb**	**03 58 55.7**	**-0.3**
LMEL				*i*	S		**Sg**	**03 59 16.7**	**+0.2**
LMEL				IAML				03 59 24.0	
	comp=E,394nm,0.1s								
AAGR	**Agrelo**	**1.64**	**118**	*e*	S		**Sg**	**03 59 20.3**	**+0.6**
ACCO	**Cerro Coronel**	**2.16**	**37**	*e*	P		**Pb**	**03 59 06.6**	**-0.1**
ACCO				*e*	S		**Sg**	**03 59 35.5**	**-0.8**
GO04	**Tololo Observa**	**2.16**	**354**↑	*i*	P		**Pn**	**03 59 05.5**	**+1.7**
GO04				*e*	S		**Sb**	**03 59 34.7**	**+0.8**

*ISCJB **27** 04:02:02.5±0.7, 21°.53S±0°.06×66°.77W±0°.10, h231km±13km, mb3.0/1, Error ellipse: s-maj=15.7km s-min=7.6km az=22.7*
*IDC **27** 04:02:02.5±1.0, 21°.55S×66°.59W, h213km±16km, mb3.0/1, mb1 3.3/5, mb1mx3.0/34, mbtmp3.8/5, Error ellipse: s-maj=27.3km s-min=12.1km az=117.0*
*GUC **27** 04:02:04.5±0.6, 21°.46S×67°.35W, h262km±10km, ML3.6*
ISC 27 04:02:03.0±1.1, 21°.48S±0°.09×66°.8W±0°.1, h228km±15km, n17, σ1°38/30, 3C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.27**	**240**	P			**Pn**	**04 02 47.9**	**+1.3**
	5.2nm,0.3s,baz=65,slow=5.9,SNR=56								
LVC				S			**S**	**04 03 20.8**	**+0.1**
	7.5nm,0.3s,baz=238,slow=21,SNR=24								
PB09	**IPOC Station P**	**2.30**	**262**	*e*	P		**Pn**	**04 02 48.3**	**+1.5**
PB09				*e*	S		**S**	**04 03 21.4**	**+0.4**
PB09				IAML				04 03 27.0	
	comp=E,54nm,0.2s								
PB01	**IPOC Station P**	**2.55**	**279**	*e*	P		**Pn**	**04 02 50.0**	**+0.6**
PB01				*e*	S		**S**	**04 03 24.8**	**-0.8**
PB08	**IPOC Station P**	**2.58**	**301**↑	*e*	P		**Pn**	**04 02 51.5**	**+1.6**
PB08				*i*	S		**S**	**04 03 27.3**	**+0.7**
PB08				IAML				04 03 31.1	
	comp=N,53nm,0.3s								
PB03	**IPOC Station P**	**2.81**	**258**	*e*	P		**Pn**	**04 02 52.9**	**+0.7**
PB03				*e*	S		**S**	**04 03 29.5**	**-1.2**
PB03				IAML				04 03 31.1	
	comp=E,144nm,0.2s								
PB06	**IPOC Station P**	**2.85**	**244**	*e*	P		**Pn**	**04 02 53.9**	**+1.2**
PB06				*i*	S		**S**	**04 03 31.5**	**-0.1**
PB06				IAML				04 03 32.1	
	comp=E,88nm,0.2s								
PB07	**IPOC Station P**	**2.89**	**265**	*e*	P		**Pn**	**04 02 54.0**	**+0.8**
PB07				*e*	S		**S**	**04 03 31.0**	**-1.4**
PB07				IAML				04 03 31.8	
	comp=N,226nm,0.5s								
PB02	**IPOC Station P**	**2.90**	**273**	*e*	P		**Pn**	**04 02 53.9**	**+0.8**
PB02				*e*	S		**S**	**04 03 30.9**	**-1.5**
PB02				IAML				04 03 33.8	
	comp=E,195nm,0.2s								
PB15	**IPOC Station P**	**3.02**	**235**	*e*	P		**Pn**	**04 02 56.1**	**+1.5**
PB15				*e*	S		**S**	**04 03 35.3**	**+0.3**
PB11	**IPOC Station P**	**3.18**	**302**↑	*i*	P		**Pn**	**04 02 57.0**	**+0.6**
PB04	**IPOC Station P**	**3.23**	**254**	*e*	P		**Pn**	**04 02 57.6**	**+0.6**
PB04				*e*	S		**S**	**04 03 37.5**	**-1.8**
PB05	**IPOC Station P**	**3.45**	**246**↑	*i*	P		**Pn**	**04 03 00.0**	**+0.6**
PB05				*e*	S		**S**	**04 03 41.5**	**-2.1**
LPAZ	**La Paz**	**5.32**	**346**	P			**Pn**	**04 03 24.8**	**+2.1**
	comp=E,0.8nm,0.3s,baz=153,slow=9.0,SNR=13								
LPAZ				S			**S**	**04 04 25.9**	**+0.1**
	baz=344,slow=13,SNR=3.7								
SIV	**San Ignacio**	**7.69**	**46**	P			**Pn**	**04 03 51.5**	**-0.9**
	comp=E,2.0nm,0.3s,baz=241,slow=13,SNR=38								
SIV				S			**S**	**04 05 17.0**	**-3.0**
	comp=E,0.2nm,0.3s,baz=96,slow=9.2,SNR=2.5								
CFA	**Coronel Fontan**	**10.17**	**187**	P			**Pn**	**04 04 21.3**	**-2.7**
	comp=E,0.7nm,0.3s,baz=292,slow=19,SNR=12								
TORD	**Torodi Ar. Bea**	**75.50**	**69**	P			**P**	**04 13 23.0**	**+0.4**
	comp=E,0.2nm,0.5s,baz=235,slow=5.7,SNR=5.8								
MKAR	**Makanchi Array**	**144.44**	**37**	PKP			**PKPdf**	**04 21 12.8**	**+0.8**
	comp=E,0.3nm,0.4s,baz=277,slow=2.3,SNR=3.9								

*ISCJB **27** 04:05:32.4±0.3, 23°.91N±0°.01×122°.04E±0°.02, h18km±3km, Error ellipse: s-maj=3.0km s-min=1.8km az=135.1*
*JMA **27** 04:05:32.5±0.1, 23°.92N×121°.98E, h22km±2km, M2.4*
*TAP **27** 04:05:33.4, 23°.98N×121°.97E, h29km, ML3.0, C*
ISC 27 04:05:32.7±1.0, 23°.93N±0°.02×122°.00E±0°.02, h25km±10km, n78, σ0°.72/144, 3C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.36**	**278**	P			**Pn**	**04 05 41.5**	**-0.9**
	baz=269								
HWA				S			**Sn**	**04 05 48.1**	**-0.6**
	baz=269								
TWD	**Chiawan**	**0.40**	**293**	*i*	P		**Pb**	**04 05 41.1**	**0.0**
	baz=287								
TWD				S			**Sb**	**04 05 47.2**	**+0.2**
	baz=287								
NACB	**Ninganchiao**	**0.44**	**304**	*i*	P		**Pb**	**04 05 41.5**	**-0.5**
	baz=292								
NACB				S			**Sb**	**04 05 48.2**	**0.0**
	baz=292								
ESL	**Shilin**	**0.53**	**258**	P			**Pb**	**04 05 42.7**	**-0.6**
	baz=251								
ESL				S			**Sb**	**04 05 51.6**	**+1.0**
	baz=251								
ETLH	**Xiulin Townshi**	**0.55**	**301**	*i*	P		**Pb**	**04 05 43.5**	**-0.2**
	baz=297								
ETLH				S			**Sb**	**04 05 51.3**	**+0.1**
	baz=297								
NANB	**Nanao**	**0.55**	**336**↑	*i*	P		**Pb**	**04 05 43.5**	**-0.2**
	baz=325								
NANB				S			**Sb**	**04 05 51.4**	**+0.2**
	baz=325								
ENA	**Nanau**	**0.55**	**335**↑	*i*	P		**Pb**	**04 05 43.5**	**-0.3**
	baz=325								
ENA				S			**Sb**	**04 05 51.6**	**+0.3**
	baz=325								
EGFH	**Guangfu**	**0.58**	**244**	*i*	P		**Pb**	**04 05 44.4**	**+0.2**
	baz=238								
EGFH				S			**Sb**	**04 05 53.1**	**+0.9**
	baz=238								
EOS1	**EOS1**	**0.63**	**11**	*i*	P		**Pn**	**04 05 45.5**	**-0.5**
	baz=21								
EOS1				*e*	S		**Sn**	**04 05 54.4**	**-0.9**
	baz=21								
HGSD	**Ruisui**	**0.68**	**230**	P			**Pb**	**04 05 46.1**	**+0.2**
	baz=218								
HGSD				S			**Sn**	**04 05 56.5**	**-0.1**
	baz=218								
TWC	**Suao**	**0.69**	**349**	*i*	P		**Pb**	**04 05 46.2**	**+0.1**
	baz=351								
TWC				S			**Sn**	**04 05 56.4**	**-0.5**
	baz=351								
WHF	**Hehuan Shan**	**0.70**	**288**	*i*	P		**Pb**	**04 05 46.3**	**-0.3**
	baz=274								
WHF				S			**Sb**	**04 05 55.7**	**-0.3**
	baz=274								
EHY	**Hungye**	**0.75**	**236**	*i*	P		**Pb**	**04 05 46.9**	**-0.2**
	baz=231								
EHY				S			**Sb**	**04 05 56.9**	**0.0**
	baz=231								
NNSB	**Datong**	**0.75**	**312**	*i*	P		**Pb**	**04 05 46.9**	**-0.3**
	baz=310								
NNSB				S			**Sb**	**04 05 57.1**	**0.0**
	baz=310								
OWD	**Renai**	**0.75**	**272**	P			**Pb**	**04 05 47.3**	**+0.1**
	baz=268								
OWD				S			**Sb**	**04 05 56.9**	**-0.2**
	baz=268								
CHGB	**Renai**	**0.76**	**280**	*i*	P		**Pb**	**04 05 47.6**	**+0.1**
	baz=267								
CHGB				S			**Sb**	**04 05 57.9**	**+0.3**
	baz=267								
NNS	**Nan Shan**	**0.76**	**312**	*i*	P		**Pb**	**04 05 47.2**	**-0.3**
	baz=310								
NNS				S			**Sb**	**04 05 57.5**	**0.0**
	baz=310								
VWDT	**VWDT**	**0.80**	**258**	*i*	P		**Pn**	**04 05 48.3**	**-0.1**
	baz=243								
VWDT				S			**Sb**	**04 05 58.8**	**+0.4**
	baz=243								
NDT	**Datong Townshi**	**0.80**	**327**	P			**Pb**	**04 05 47.7**	**-0.3**
	baz=318								
NDT				S			**Sn**	**04 05 58.6**	**-1.1**
	baz=318								
ENTT	**Nioudou**	**0.81**	**331**	*i*	P		**Pb**	**04 05 47.8**	**-0.4**
	baz=321								
ENTT				*i*	S		**Sn**	**04 05 58.9**	**-1.0**
	baz=321								
TWT	**Tachien**	**0.82**	**294**	P			**Pn**	**04 05 48.9**	**+0.1**
	baz=290								
TWT				S			**Sn**	**04 06 00.0**	**-0.2**
	baz=290								
TDCB	**Techi**	**0.83**	**293**	P			**Pn**	**04 05 48.9**	**-0.1**
	baz=290								
TDCB				S			**Sn**	**04 05 59.8**	**-0.7**
	baz=290								
YULB	**Yu-li**	**0.83**	**230**	*i*	P		**Pb**	**04 05 48.2**	**-0.4**
	baz=240								
YULB				S			**Sb**	**04 05 59.5**	**+0.2**
	baz=240								
TWE	**Neicheng**	**0.84**	**339**	*i*	P		**Pb**	**04 05 48.6**	**-0.1**
	baz=340								
TWE				S			**Sn**	**04 06 00.5**	**-0.2**
	baz=340								
TWF1	**Yuli**	**0.86**	**228**	*i*	P		**Pb**	**04 05 48.6**	**-0.4**
	baz=237								
TWF1				S			**Sb**	**04 06 00.4**	**+0.3**
	baz=237								
EGS		**0.92**	**356**	P			**Pn**	**04 05 50.4**	**+0.4**
	baz=11								
YHNB	**Yeheng**	**0.93**	**323**	*i*	P		**Pb**	**04 05 49.8**	**-0.5**
	baz=310								
YHNB				S			**Sb**	**04 06 01.7**	**-0.5**
	baz=310								
NTC	**Toucheng**	**0.94**	**351**	P			**Pb**	**04 05 50.3**	**0.0**
	baz=351								
NTC				S			**Sn**	**04 06 03.8**	**+0.9**
	baz=351								
NWLT	**Wulai**	**0.96**	**332**	*i*	P		**Pn**	**04 05 50.2**	**-0.5**
	baz=323								
NWLT				S			**Sn**	**04 06 03.0**	**-0.5**
	baz=323								
SSLB	**Suanglung**	**0.96**	**262**↑	*e*	P		**Pn**	**04 05 49.9**	**-0.8**
	baz=258								
SSLB				*e*	S		**Sb**	**04 06 02.9**	**-0.2**
	baz=258								
FULB	**Fuli**	**0.97**	**222**	*e*	P		**Pn**	**04 05 50.6**	**-0.1**
	baz=207								
FULB				*e*	S		**Sn**	**04 06 04.4**	**+0.6**
	baz=207								
CHKT	**Chengkung**	**1.01**	**215**	P			**Pn**	**04 05 50.3**	**-0.9**
	baz=200								
CHKT				S			**Sb**	**04 06 02.6**	**-1.7**
	baz=200								
JYNG	**Yonagunijimaku**	**1.01**	**59**	P			**Pn**	**04 05 51.5**	**+0.2**
JYNG				*e*	S		**Sb**	**04 06 02.8**	**-1.7**
WHP	**Taichung City**	**1.02**	**290**	P			**Pb**	**04 05 52.4**	**+0.6**
	baz=287								
WHP				*e*	S		**Sn**	**04 06 04.8**	**-0.3**
	baz=287								
TYC	**Yuchr**	**1.04**	**269**	*e*	P		**Pn**	**04 05 51.6**	**-0.2**
	baz=266								
YOJ	**Yonaguni jima**	**1.07**	**60**	*i*	P		**Pb**	**04 05 52.7**	**+0.2**
	baz=63								
YOJ				S			**Sb**	**04 06 06.9**	**+0.8**
	baz=63								
YOJ	**Yonaguni jima**	**1.07**	**60**	P			**Pb**	**04 05 52.6**	**+0.1**
YOJ				S			**Sn**	**04 06 06.2**	**0.0**
TWB1	**Santiao Chiao**	**1.08**	**360**	*i*	P		**Pn**	**04 05 52.1**	**-0.1**
	baz=1.0								
TATO	**Taipei**	**1.14**	**336**	*e*	P		**Pb**	**04 05 53.4**	**-0.4**
	baz=336								
NWF	**Wu-fen Shan**	**1.16**	**350**	P			**Pb**	**04 05 54.3**	**+0.2**
	baz=351								
NWF				*e*	S		**Sb**	**04 06 09.1**	**+0.4**
	baz=351								
WFSB	**Wu-fen Shan**	**1.16**	**350**	P			**Pb**	**04 05 54.1**	**+0.1**
	baz=351								
WFSB				*e*	S		**Sb**	**04 06 08.9**	**+0.3**
	baz=351								
WJS	**Zhushan**	**1.17**	**265**	*e*	P		**Pb**	**04 05 54.6**	**+0.5**
	baz=262								
WJS				*e*	S		**Sb**	**04 06 10.7**	**+1.9**
	baz=262								
ALS	**Alishan**	**1.17**	**249**	*i*	P		**Pb**	**04 05 54.5**	**+0.2**
	baz=246								
ALS				*i*	S		**Sb**	**04 06 09.2**	**0.0**
	baz=246								
TWQ1	**Liyutan**	**1.19**	**291**	*e*	P		**Pb**	**04 05 54.9**	**+0.2**
	baz=288								
TWQ1				*e*	S		**Sb**	**04 06 10.7**	**+1.1**
	baz=288								
WNT	**Mingjian**	**1.20**	**268**	*e*	S		**Sb**	**04 06 11.6**	**+1.7**
	baz=265								
CHN5	**Tsauling**	**1.25**	**255**	*i*	P		**Pb**	**04 05 56.0**	**+0.3**
	baz=252								
CHN5				S			**Sb**	**04 06 13.1**	**+1.7**
	baz=252								
YM01	**YM01**	**1.27**	**342**	*e*	P		**Pb**	**04 05 56.2**	**+0.1**
	baz=327								
TWS1	**Kuangyinshan**	**1.28**	**336**	*e*	P		**Pb**	**04 05 56.1**	**0.0**
	baz=336								
TWS1				*e*	S		**Sb**	**04 06 12.0**	**-0.2**
	baz=336								
YM04	**YM04**	**1.29**	**341**	*e*	P		**Pb**	**04 05 56.3**	**0.0**
	baz=341								
YM11	**YM11**	**1.29**	**343**	*e*	P		**Pb**	**04 05 55.8**	**-0.5**
	baz=327								
YM05	**YM05**	**1.29**	**342**	*e*	P		**Pb**	**04 05 55.7**	**-0.7**
	baz=327								
WDLH	**Douliu**	**1.35**	**260**	*e*	P		**Pb**	**04 05 57.2**	**-0.2**
	baz=245								
WDLH				S			**Sb**	**04 06 16.2**	**+1.9**
	baz=245								
STYT	**Tauyuan**	**1.37**	**236**	P			**Pn**	**04 05 57.1**	**+0.8**
	baz=233								
STYT				S			**Sb**	**04 06 14.9**	**+0.1**
	baz=233								
TWGBT	**Beinan**	**1.39**	**217**	P			**Pn**	**04 05 55.9**	**-0.7**
	baz=215								
TWGBT				S			**Sn**	**04 06 14.4**	**+0.3**
	baz=215								
TWG	**Pinlang**	**1.39**	**218**	P			**Pn**	**04 05 56.3**	**-0.3**
	baz=215								
TWG				S			**Sn**	**04 06 13.4**	**-0.7**
	baz=215								
TPUB	**Ta-pu**	**1.40**	**244**	*e*	P		**Pb**	**04 05 58.2**	**0.0**
	baz=241								
TPUB				*e*	S		**Sb**	**04 06 16.1**	**+0.4**
	baz=241								
WTP	**Ta-pu**	**1.44**	**242**	P			**Pb**	**04 05 58.8**	**0.0**
	baz=239								
WTP				*e*	S		**Sb**	**04 06 17.6**	**+0.8**
	baz=239								
RLNB	**Erlin**	**1.50**	**269**	*e*	S		**Sb**	**04 06 18.8**	**+0.4**
	baz=266								
CHY	**Chiayi**	**1.50**	**254**	*e*	S		**Sb**	**04 06 19.0**	**+0.5**
	baz=251								
TWK	**Hsinying**	**1.53**	**245**	P			**Pb**	**04 05 60.0**	**-0.5**
	baz=242								
TWK				S			**Sb**	**04 06 20.2**	**+0.8**
	baz=242								
CHN1	**Nanshi**	**1.54**	**242**	P			**Pb**	**04 06 00.6**	**+0.1**
	baz=239								
CHN1				S			**Sb**	**04 06 20.6**	**+1.0**
	baz=239								
SNST	**Tainan City**	**1.54**	**243**	*e*	S		**Sb**	**04 06 21.3**	**+1.6**
	baz=240								
SLGT	**Liugui**	**1.55**	**233**	*e*	P		**Pb**	**04 06 00.2**	**-0.5**
	baz=230								
SLGT				*e*	S		**Sb**	**04 06 21.6**	**+1.7**
	baz=230								
ECL	**Taimali**	**1.63**	**216**	*e*	P		**Pn**	**04 05 59.9**	**0.0**
	baz=213								
ECL				S			**Sn**	**04 06 18.9**	**-1.3**
	baz=213								
IRIF	**Iriomote-Funau**	**1.64**	**75**	P			**Pn**	**04 06 00.5**	**+0.6**
IRIF				*e*	S		**Sn**	**04 06 20.8**	**+0.6**
HATJ	**Hateruma jima**	**1.66**	**85**	P			**Pn**	**04 06 00.7**	**+0.4**
HATJ				*e*	S		**Sn**	**04 06 21.1**	**+0.3**
SSD	**Sandimen**	**1.72**	**227**	*e*	P		**Pb**	**04 06 02.6**	**-1.0**
	baz=224								
SSD				*e*	S		**Sb**	**04 06 25.2**	**+0.4**
	baz=224								
MASBT	**Mashibuluo**	**1.81**	**224**	*e*	P		**Pn**	**04 06 03.8**	**+1.4**
	baz=221								
MASBT				S			**Sb**	**04 06 27.3**	**-0.2**
	baz=221								
JKRS	**Kuro-shima**	**1.87**	**80**	P			**Pn**	**04 06 04.0**	**+0.9**
JKRS				*e*	S		**Sn**	**04 06 27.2**	**+1.3**
LAY	**Lan-yu**	**1.92**	**192**	*e*	P		**Pn**	**04 06 02.7**	**-1.2**
	baz=190								
LAY				*e*	S		**Sn**	**04 06 25.2**	**-2.2**
	baz=190								
SSPT	**Xinbi**	**1.95**	**223**	*e*	P		**Pb**	**04 06 06.8**	**-0.7**
	baz=207								
SSPT				*e*	S		**Sb**	**04 06 30.5**	**-0.8**
	baz=207								
SCZT	**Fangliau**	**2.00**	**220**	*e*	P		**Pn**	**04 06 06.1**	**+1.2**
	baz=205								
SCZT				*e*	S		**Sb**	**04 06 31.4**	**-1.4**
	baz=205								
JIJ	**Ishigaki jima**	**2.01**	**77**	P			**Pn**	**04 06 05.3**	**+0.2**
JIJ				S			**Sn**	**04 06 29.0**	**-0.4**
JISG	**Ishigakijimahi**	**2.21**	**72**	P			**Pn**	**04 06 08.1**	**+0.2**
JISG				*e*	S		**Sn**	**04 06 33.5**	**-0.9**
TWKBT	**Hengchun**	**2.26**	**209**	*e*	P		**Pn**	**04 06 08.7**	**+0.2**
	baz=198								
TWKBT				*e*	S		**Sn**	**04 06 36.0**	**+0.5**
	baz=198								
PHUB	**P'eng-hu**	**2.26**	**260**	*e*	P		**Pn**	**04 06 08.4**	**-0.1**
	baz=257								
PHUB				*e*	S		**Sn**	**04 06 37.5**	**+1.9**
	baz=257								
TWK1	**Hengchun**	**2.26**	**209**	*e*	P		**Pn**	**04 06 09.2**	**+0.7**
	baz=198								
TWK1				*e*	S		**Sn**	**04 06 36.0**	**+0.5**
	baz=198								
VWUC	**VWUC**	**2.55**	**295**	*e*	P		**Pn**	**04 06 12.6**	**+0.1**
	baz=293								
VWUC				*e*	S		**Sn**	**04 06 41.6**	**-1.1**
	baz=293								

*JMA **27** 04:14:32.3±0.2, 23°.96N×121°.04E, h5km±5km, M3.3*
*TAP **27** 04:14:32.3, 23°.96N×121°.02E, h15km, ML3.7, B*
*ISCJB **27** 04:14:33.1±0.2, 23°.95N±0°.01×121°.05E±0°.01, h12km±1km, Error ellipse: s-maj=2.1km s-min=1.4km az=40.4*
ISC 27 04:14:32.4±0.8, 23°.96N±0°.01×121°.04E±0°.01, h13km±5km, n96, σ0°.80/154, 7C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OWD	**Renai**	**0.13**	**91**↓	*i*	P		**Pb**	**04 14 36.7**	**-0.1**
	baz=91								
OWD				*i*	S		**Sb**	**04 14 39.4**	**-0.3**
	baz=91								
SMLT	**Sun Moon Lake**	**0.14**	**240**↑	*i*	P		**Pg**	**04 14 36.3**	**+0.2**
	baz=234								
SMLT				*i*	S		**Sg**	**04 14 39.3**	**+0.6**
	baz=234								
CHGB	**Renai**	**0.16**	**50**	↓	P		**Pb**	**04 14 37.1**	**-0.4**
	baz=61								
CHGB				S			**Sb**	**04 14 39.9**	**-0.8**
	baz=61								
TYC	**Yuchr**	**0.17**	**253**↑	*i*	P		**Pg**	**04 14 36.5**	**+0.1**
	baz=249								
TYC				*i*	S		**Sg**	**04 14 39.2**	**0.0**
	baz=249								
SSLB	**Suanglung**	**0.18**	**204**	↑	P		**Pg**	**04 14 36.7**	**0.0**
	baz=193								
SSLB				S			**Sg**	**04 14 39.2**	**-0.4**
	baz=193								
VWDT	**VWDT**	**0.22**	**154**	↓	P		**Pb**	**04 14 38.1**	**-0.2**
	baz=151								
VWDT				S			**Sb**	**04 14 41.5**	**-0.8**
	baz=151								
WHF	**Hehuan Shan**	**0.28**	**48**↓	*i*	P		**Pb**	**04 14 39.4**	**-0.2**
	baz=60								
W

		baz=221							
CHN5					S		Sb	04 14 50.1	+0.3
		baz=221							
ALS	**Alishan**	**0.49**	**206**	*e*P			Pb	04 14 42.8	-0.3
		baz=195							
ALS				*e*S			Sb	04 14 50.0	-0.3
		baz=195							
WGK	**Gukeng**	**0.51**	**238**	*e*P			Pb	04 14 43.4	+0.2
		baz=236							
WGK				*e*S			Sb	04 14 51.4	+0.9
		baz=236							
EHY	**Hungye**	**0.52**	**150**	⇓*i*P			Pb	04 14 43.1	-0.2
		baz=142							
EHY				S			Sg	04 14 49.7	+0.2
		baz=142							
HWA	**Hwalien**	**0.52**	**88**	P			Pb	04 14 43.7	+0.3
		baz=88							
HWA				*e*S			Sb	04 14 51.2	+0.4
		baz=88							
NSY	**Sanyi**	**0.52**	**331**	⇑*i*P			Pb	04 14 44.1	+0.7
		baz=342							
NSY				S			Sn	04 14 52.8	-1.5
		baz=342							
TWD	**Chiawan**	**0.53**	**76**	⇓*i*P			Pb	04 14 43.1	-0.4
		baz=85							
TWD				S			Sb	04 14 50.1	-0.9
		baz=85							
WDLH	**Douliu**	**0.53**	**240**	*e*P			Pb	04 14 43.8	+0.3
		baz=239							
WDLH				*e*S			Sb	04 14 52.1	+1.1
		baz=239							
WDJ	**Dajia District**	**0.53**	**317**	*e*P			Pb	04 14 44.3	+0.7
		baz=319							
WDJ				*e*S			Sn	04 14 53.2	-1.4
		baz=319							
NACB	**Ninganchiao**	**0.56**	**67**	⇓P			Pb	04 14 43.5	-0.5
		baz=76							
NACB				S			Sg	04 14 50.6	-0.1
		baz=76							
NNSB	**Datong**	**0.57**	**34**	P			Pg	04 14 43.3	-0.3
		baz=41							
NNSB				S			Sg	04 14 50.3	-0.8
		baz=41							
NNS	**Nan Shan**	**0.57**	**32**	⇑P			Pg	04 14 43.7	0.0
		baz=40							
NNS				*e*S			Sg	04 14 51.1	-0.2
		baz=40							
HGSD	**Ruisui**	**0.58**	**142**	⇓P			Pb	04 14 44.7	+0.2
		baz=141							
HGSD				S			Sb	04 14 52.5	-0.1
		baz=141							
YULB	**Yu-li**	**0.61**	**157**	⇓P			Pb	04 14 44.6	-0.3
		baz=146							
YULB				S			Sg	04 14 52.4	0.0
		baz=146							
NMLH	**Miaoli**	**0.62**	**339**	*e*P			Pn	04 14 46.1	-0.8
		baz=340							
NMLH				*e*S			Sn	04 14 55.6	-1.1
		baz=340							
RLNB	**Erlin**	**0.62**	**264**	⇓P			Pb	04 14 45.1	0.0
		baz=264							
RLNB				*e*S			Sb	04 14 54.0	+0.2
		baz=264							
TWF1	**Yuli**	**0.65**	**158**	⇓*i*P			Pb	04 14 45.4	-0.2
		baz=147							
TWF1				S			Sg	04 14 53.9	+0.3
		baz=147							
CHN2	**Minshiung**	**0.67**	**231**	*e*P			Pb	04 14 46.2	+0.3
		baz=230							
CHN2				S			Sn	04 14 56.3	-1.4
		baz=230							
CHY	**Chiayi**	**0.72**	**231**	*e*P			Pb	04 14 47.0	+0.1
		baz=229							
CHY				*e*S			Sn	04 14 58.0	-1.2
		baz=229							
TPUB	**Ta-pu**	**0.75**	**210**	*e*P			Pg	04 14 45.5	-1.5
		baz=209							
TPUB				*e*S			Sb	04 14 58.0	+0.5
		baz=209							
YHNB	**Yeheng**	**0.78**	**23**	⇓*e*P			Pg	04 14 47.2	-0.3
		baz=25							
YHNB				*e*S			Sg	04 14 55.9	-1.8
		baz=25							
NDT	**Datong Townshi**	**0.78**	**34**	*e*P			Pg	04 14 47.2	-0.3
		baz=36							
FULB	**Fuli**	**0.79**	**163**	⇓P			Pn	04 14 48.6	-0.6
		baz=161							
FULB				S			Sn	04 15 00.3	-0.6
		baz=161							
ENA	**Nanau**	**0.80**	**54**	P			Pb	04 14 47.9	-0.3
		baz=56							
NANB	**Nanao**	**0.80**	**54**	⇓P			Pg	04 14 47.7	-0.3
		baz=55							
NANB				*e*S			Sg	04 14 57.5	-1.0
		baz=55							
WTP	**Ta-pu**	**0.81**	**209**	*e*P			Pg	04 14 48.0	-0.1
		baz=207							
WTP				S			Sb	04 14 59.4	+0.3
		baz=207							
WSF	**Szhu**	**0.81**	**247**	*e*P			Pg	04 14 47.8	-0.3
		baz=246							
WSF				*e*S			Sb	04 14 59.9	+0.8
		baz=246							
SBCB	**Hsinchu**	**0.83**	**357**	*e*P			Pn	04 14 49.6	-0.2
		baz=358							
SBCB				*e*S			Sn	04 15 02.5	+0.5
		baz=358							
ENTT	**Nioudou**	**0.83**	**35**	*e*P			Pg	04 14 48.3	-0.3
		baz=32							
HSN	**Hsinchu**	**0.84**	**356**	*e*P			Pn	04 14 49.9	0.0
		baz=1.0							
TWK	**Hsinying**	**0.85**	**216**	P			Pb	04 14 49.0	0.0
		baz=213							
SNST	**Tainan City**	**0.88**	**214**	*e*P			Pb	04 14 49.6	0.0
		baz=212							
CHN1	**Nanshi**	**0.90**	**211**	P			Pb	04 14 49.7	-0.1
		baz=210							
CHN1				*e*S			Sb	04 15 01.8	+0.1
		baz=210							
CHKT	**Chengkung**	**0.90**	**160**	*e*P			Pn	04 14 50.4	-0.4
		baz=142							
WLTB	**Daxi**	**0.91**	**12**	*e*P			Pn	04 14 52.1	+1.2
		baz=23							
NWLT	**Wulai**	**0.92**	**27**	*e*P			Pb	04 14 49.7	-0.6
		baz=29							
TWE	**Neicheng**	**0.95**	**37**	*e*P			Pb	04 14 50.5	-0.3
		baz=40							
SGST	**Jiashian**	**0.96**	**206**	*e*P			Pn	04 14 51.4	-0.2
		baz=214							
CHN8	**Yiju**	**0.97**	**231**	*e*P			Pb	04 14 51.0	-0.1
		baz=240							
TWC	**Suao**	**0.99**	**49**	*e*P			Pg	04 14 51.3	-0.2
		baz=50							
TWC				*e*S			Sg	04 15 04.1	-0.3
		baz=50							
NCUH	**Zhongli**	**1.02**	**8**	*e*P			Pn	04 14 53.5	+1.1
		baz=10.0							
NCU	**National Centr**	**1.02**	**8**	*e*P			Pb	04 14 51.1	-0.8
		baz=11							
SLGT	**Liugui**	**1.02**	**201**	*e*P			Pg	04 14 52.1	-0.1
		baz=198							
CHN3	**Shinhua**	**1.07**	**215**	*e*P			Pg	04 14 54.1	+1.0
		baz=213							
TATO	**Taipei**	**1.09**	**22**	*e*P			Pg	04 14 53.4	-0.2
		baz=33							
TWG	**Pinlang**	**1.13**	**178**	P			Pg	04 14 54.6	+0.4
		baz=170							
TWG				*e*S			Sn	04 15 10.4	+1.2
		baz=170							
TWGBT	**Beinan**	**1.13**	**178**	⇓P			Pg	04 14 54.7	+0.5
		baz=170							
TWGBT				*e*S			Sn	04 15 10.2	+0.8
		baz=170							
TWA	**Mucha**	**1.14**	**26**	*e*P			Pg	04 14 55.3	+1.0
		baz=34							
TWA				*e*S			Sn	04 15 11.2	+1.8
		baz=34							
EOS1	**EOS1**	**1.16**	**59**	*e*P			Pg	04 14 54.8	+0.1
		baz=61							
TWS1	**Kuangyinshan**	**1.19**	**17**	*e*P			Pg	04 14 56.6	+1.2
		baz=32							
EGS		**1.20**	**43**	*e*P			Pg	04 14 56.8	+1.2
		baz=54							
SSD	**Sandimen**	**1.26**	**197**	*e*P			Pg	04 14 56.4	-0.3
		baz=187							
SSD				*e*S			Sg	04 15 13.6	+0.5
		baz=187							
YM04	**YM04**	**1.28**	**21**	*e*P			Pg	04 14 57.5	+0.5
		baz=4.0							
YM01	**YM01**	**1.28**	**22**	*e*P			Pb	04 14 56.2	-0.2
		baz=25							
YM05	**YM05**	**1.30**	**22**	*e*P			Pb	04 14 56.3	-0.4
		baz=24							
YM11	**YM11**	**1.30**	**22**	*e*P			Pb	04 14 56.5	-0.2
		baz=25							
NWF	**Wu-fen Shan**	**1.30**	**31**	*e*P			Pg	04 14 57.8	+0.4
		baz=32							
NWF				*e*S			Sg	04 15 16.1	+1.6
		baz=32							
WFSB	**Wu-fen Shan**	**1.30**	**31**	*e*P			Pg	04 14 57.9	+0.4
		baz=32							
WFSB				*e*S			Sg	04 15 16.1	+1.7
		baz=32							
ANP	**Anpu**	**1.30**	**20**	*e*P			Pg	04 14 57.6	+0.1
		baz=4.0							
ECL	**Taimali**	**1.35**	**183**	*e*P			Pb	04 14 57.8	+0.2
		baz=167							
ECL				*e*S			Sg	04 15 15.9	-0.2
		baz=167							
TWB1	**Santiao Chiao**	**1.36**	**39**	*e*P			Pg	04 14 58.9	+0.3
		baz=40							
TWB1				*e*S			Sg	04 15 17.4	+1.1
		baz=40							
MASBT	**Mashibuluo**	**1.39**	**196**	*e*P			Pb	04 14 58.4	+0.2
		baz=195							
MASBT				*e*S			Sg	04 15 17.0	-0.2
		baz=195							
PNG	**Penghu**	**1.41**	**254**	*e*P			Pn	04 14 56.8	-0.9
		baz=253							
PHUB	**P'eng-hu**	**1.41**	**252**	*e*P			Pn	04 14 56.7	-1.1
		baz=251							
PHUB				*e*S			Sn	04 15 14.9	-1.3
		baz=251							
WDGT	**Dungji**	**1.44**	**242**	*e*P			Pn	04 14 58.1	-0.1
		baz=228							
WDGT				*e*S			Sn	04 15 16.3	-0.6
		baz=228							
EAST	**Anshuo**	**1.57**	**186**	*e*P			Pb	04 15 00.9	-0.5
		baz=177							
SCZT	**Fangliau**	**1.62**	**194**	*e*P			Pb	04 15 01.4	-0.7
		baz=182							
VCHM	**Qimei**	**1.65**	**244**	*e*P			Pn	04 15 00.6	-0.5
		baz=231							
YOJ	**Yonaguni jima**	**1.87**	**74**	*e*P			Pb	04 15 05.1	-1.3
		baz=88							
YOJ	**Yonaguni jima**	**1.87**	**74**	P			Pb	04 15 06.0	-0.4
YOJ				*e*S			Sn	04 15 28.1	+0.5
TWKBT	**Hengchun**	**2.02**	**186**	*e*P			Pn	04 15 06.7	+0.6
		baz=200							
MATB	**Ma-tsu**	**2.40**	**336**	*e*P			Pn	04 15 10.1	-1.2
		baz=335							
KNMB	**Chin-men Tao**	**2.47**	**282**	*e*P			Pn	04 15 11.3	-1.0
		baz=280							
IRIF	**Iriomote-Funau**	**2.49**	**81**	P			Pn	04 15 14.4	+1.8
IRIF				*e*S			Sb	04 15 45.1	-2.4
HATJ	**Hateruma jima**	**2.53**	**87**	*e*S			Sb	04 15 46.6	-2.2
JKRS	**Kuro-shima**	**2.73**	**84**	P			Pn	04 15 18.1	+2.2
JIJ	**Ishigaki jima**	**2.87**	**81**	P			Pn	04 15 19.6	+1.8
JIJ				*e*S			Sn	04 15 52.0	-0.1
JISG	**Ishigakijimahi**	**3.05**	**77**	P			Pn	04 15 22.2	+1.9
JISG				*e*S			Sn	04 15 57.2	+0.5
JTJ	**Tarama**	**3.41**	**78**	*e*S			Sn	04 16 07.9	+2.3

*NNC **27** 04:16:43.7±0.9, 42.°63N×79.°89E, h0km, mb2.5, mpv2.2,*
Error ellipse: s-maj=5.8km s-min=4.5km az=135.0
*KRNET **27** 04:16:44.5±0.1, 42.°66N×79.°89E, h17km, mb2.8*
*SOME **27** 04:16:44.2, 42.°62N×79.°95E, h20km*

ISC 27 04:16:41.3±2.0, 42.°60N±0.°05×80.°03E±0.°06, h4km±12km, n30, σ1°s16/58, 12C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHLS	**Shalkode**	**0.70**	**323**	*e*P		Pg	04 16 55.0	+0.3
	baz=60							
SHLS				*e*S		Sg	04 17 03.0	-0.8
	baz=60							
SHLS	**Shalkode**	**0.70**	**323**	*e*P		Pg	04 16 55.0	+0.3
	53nm,0.1s							
SHLS				*e*S		Sg	04 17 03.0	-0.8
	38nm,0.2s							
PDGK	**Podgornoye**	**0.83**	**332**	⇑P		Pb	04 16 58.6	+0.1
	1.6nm,0.3s							
PDGK				⇓S		Sb	04 17 09.0	-1.0
	6.8nm,0.4s							
PDGK	**Podgornoye**	**0.83**	**332**	⇑*i*P		Pn	04 16 58.7	-1.3
	baz=37							
PDGK				⇑*i*S		Sb	04 17 09.3	-0.8
	baz=37							
KTMS	**Ketmen**	**0.88**	**15**	*e*P		Pn	04 17 00.6	0.0
	baz=22							
KTMS				*e*S		Sn	04 17 12.4	-1.6
	baz=22							
KTMS	**Ketmen**	**0.88**	**15**	*e*P		Pn	04 17 00.6	0.0
	11nm,0.1s							
KTMS				*e*S		Sn	04 17 12.4	-1.6
	9.0nm,0.1s							
UZB	**Uzynbulak**	**0.92**	**307**	*e*P		Pb	04 17 00.0	0.0
	baz=8.0							
UZB				*e*S		Sg	04 17 11.4	+0.4
	baz=8.0							
UZB	**Uzynbulak**	**0.92**	**307**	*e*P		Pb	04 16 60.0	0.0
	1.2nm,0.1s							
UZB				*e*S		Sg	04 17 11.4	+0.4
	9.5nm,0.1s							
PRZ	**Przheval'sk**	**1.21**	**265**	⇑*i*P		Pg	04 17 05.7	+1.2
	baz=62							
PRZ				⇑*i*S		Sb	04 17 20.5	-0.5
	baz=62							
SATY	**Saty**	**1.28**	**292**	*e*P		Pg	04 17 06.5	+0.6
	2.1nm,0.2s							
SATY				*e*S		Sb	04 17 22.5	-0.4
	16nm,0.1s							
KPKS	**Kokpek**	**1.32**	**312**	*e*P		Pg	04 17 06.8	+0.3
	baz=12							
KPKS				*e*S		Sb	04 17 22.9	-1.0
	baz=12							
KPKS	**Kokpek**	**1.32**	**312**	*e*P		Pg	04 17 06.8	+0.3
	6.4nm,0.1s							
KPKS				*e*S		Sb	04 17 22.9	-1.0
	17nm,0.2s							
KURS	**Kuram**	**1.63**	**304**	*e*P		Pg	04 17 12.9	+0.4
	baz=4.0							
KURS				*e*S		Sg	04 17 33.5	-0.1
	baz=4.0							
KURS	**Kuram**	**1.63**	**304**	*e*P		Pg	04 17 12.9	+0.4
	0.3nm,0.3s							
KURS				*e*S		Sg	04 17 33.5	-0.1
	3.2nm,0.3s							
DJR	**Jarkent**	**1.75**	**354**	*e*P		Pg	04 17 15.5	+0.8
	0.7nm,0.2s							
DJR				*e*S		Sg	04 17 38.0	+0.7
	4.5nm,0.2s							
KDJ	**Kajisay**	**2.16**	**259**	⇑*i*P		Pg	04 17 22.8	+0.1
	baz=56							
KDJ				⇑*i*S		Sg	04 17 50.4	-0.4
	baz=56							
KOTS	**Kotyrbulak**	**2.24**	**288**	*e*P		Pb	04 17 23.3	+0.9
	baz=87							
KOTS				*e*S		Sb	04 17 51.5	+1.0
	baz=87							
KOTS	**Kotyrbulak**	**2.24**	**288**	*e*P		Pb	04 17 23.2	+0.9
	1.9nm,0.2s							
KOTS				*e*S		Sb	04 17 51.4	+1.0
	7.0nm,0.4s							
MDOK	**Medeo**	**2.27**	**286**	*e*P		Pb	04 17 23.6	+0.8
	baz=85							
MDOK				*e*S		Sb	04 17 52.1	+0.8
	baz=85							
MDOK	**Medeo**	**2.27**	**286**	*e*P		Pb	04 17 23.6	+0.8
	0.8nm,0.3s							
MDOK				*e*S		Sb	04 17 52.1	+0.8
	2.1nm,0.5s							
ARXS	**Arharly**	**2.28**	**316**	*e*P		Pg	04 17 24.2	-0.7
	1.3nm,0.3s							
ARXS				*e*S		Sg	04 17 52.9	-1.6
	7.2nm,0.2s							
TNSS	**Tian-Shan**	**2.31**	**282**	*e*P		Pb	04 17 24.4	+0.6
	baz=81							
TNSS				*e*S		Sb	04 17 53.5	+0.7
	baz=81							
TNSS	**Tian-Shan**	**2.31**	**282**	*e*P		Pb	04 17 24.4	+0.6
	1.6nm,0.2s							
TNSS				*e*S		Sb	04 17 53.6	+0.7
	2.9nm,0.3s							
KTBS	**Karatobe**	**2.69**	**296**	*e*P		Pb	04 17 31.5	+1.4
	baz=95							
KTBS				*e*S		Sb	04 18 05.3	+1.8
	baz=95							
KTBS	**Karatobe**	**2.69**	**296**	*e*P		Pb	04 17 31.4	+1.4
	0.9nm,0.3s							
KTBS				*e*S		Sb	04 18 05.2	+1.8
	6.1nm,0.3s							
KAPS	**Kapalarasan**	**2.73**	**350**	*e*P		Pg	04 17 33.0	-0.6
	0.1nm,0.1s							
KAPS				*e*S		Sg	04 18 08.0	-1.0
	1.3nm,0.3s							
ULHL	**Ulahol**	**2.83**	**264**	⇓*i*P		Pb	04 17 31.8	-0.6
	baz=63							
ULHL				⇓*i*S		Sb	04 18 06.0	-1.5
	baz=63							
BOOM	**Boomskoye usch**	**3.02**	**269**	⇑*i*P		Pb	04 17 34.1	-1.7
	baz=68							
BOOM				⇑*i*S		Sb	04 18 10.1	-3.1
	baz=68							
TKM2	**Tokmak 2**	**3.28**	**277**	⇓Pg		Pb	04 17 41.4	+1.2
	0.3nm,0.3s							
TKM2				⇑Lg		Lg	04 18 24.5	
	1.2nm,0.4s							
MK31	**Makanchi Array**	**4.50**	**20**	Pn		Pn	04 17 54.2	+4.0
	0.1nm,0.2s,baz=201,slow=14,SNR=6.9							
MK31				⇑Sn		Sn	04 18 47.0	+4.1
	0.6nm,0.6s							
MK31				⇑Lg		Lg	04 19 05.3	
	0.2nm,0.4s,baz=201,slow=28,SNR=3.8							

MEX 27 04:19:13.4±0.4, 16.°01N×98.°29W, h7km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.41**	**22**	*i*P		Pg	04 19 20.9	-0.5
PNIG				*e*S		Sg	04 19 27.3	+0.4

*ISCJB **27** 04:20:09.9±0.3, 23.°90N±0.°02×122.°42E±0.°01, h28km±2km,*
Error ellipse: s-maj=3.2km s-min=2.0km az=168.0
*JMA **27** 04:20:09.8±0.1, 23.°91N×122.°35E, h52km±5km, M2.4*
*TAP **27** 04:20:10.6, 23.°93N×122.°39E, h40km, ML3.3, D*

ISC 27 04:20:09.5±1.0, 23.°89N±0.°03×122.°39E±0.°02, h30km±11km, n78, σ0°s70/136, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS1	**EOS1**	**0.70**	**340**	P		Pn	04 20 23.8	+0.3
	baz=332							
EOS1				S		Sn	04 20 33.8	+0.5
	baz=332							
HWA	**Hwalien**	**0.73**	**277**	P		Pb	04 20 24.4	+0.7
	baz=264							
HWA				*e*S		Sn	04 20 34.2	+0.4
	baz=264							
TWD	**Chiawan**	**0.76**	**285**	*i*P		Pb	04 20 24.1	0.0
	baz=281							
TWD				*e*S		Sn	04 20 34.2	-0.4
	baz=281							
JYNG	**Yonagunijimaku**	**0.76**	**42**	P		Pb	04 20 24.7	+0.5
JYNG				S		Sn	04 20 35.1	+0.5
NACB	**Ninganchiao**	**0.79**	**292**	*i*P		Pb	04 20 24.4	-0.2
	baz=277							
NACB				S		Sb	04 20 35.1	+0.1
	baz=277							
NANB	**Nanao**	**0.80**	**313**	*i*P		Pb	04 20 25.1	+0.2
	baz=319							
NANB				S		Sb	04 20 35.9	+0.6
	baz=319							
YOJ	**Yonaguni jima**	**0.80**	**44**	P		Pb	04 20 25.3	+0.3
	baz=46							
YOJ				S		Sb	04 20 35.8	+0.3
	baz=46							
YOJ	**Yonaguni jima**	**0.80**	**44**	P		Pb	04 20 25.3	+0.3
YOJ				*e*S		Sb	04 20 36.1	+0.6
ENA	**Nanau**	**0.81**	**312**	P		Pb	04 20 25.2	+0.2
	baz=318							
ENA				S		Sb	04 20 36.4	+0.8
	baz=318							
TWC	**Suao**	**0.88**	**326**	P		Pb	04 20 25.8	-0.4
	baz=324							
TWC				*e*S		Sb	04 20 35.9	-1.6
	baz=324							
ESL	**Shilin**	**0.88**	**266**	*i*P		Pn	04 20 25.7	-0.2
	baz=262							
ESL				S		Sb	04 20 37.5	-0.3
	baz=262							
ETLH	**Xiulin Townshi**	**0.89**	**291**	*i*P		Pb	04 20 26.2	-0.4
	baz=280							
ETLH				*i*S		Sb	04 20 37.9	-0.2
	baz=280							
EGFH	**Guangfu**	**0.91**	**257**	*i*P		Pb	04 20 26.7	-0.1
	baz=244							
EGFH				S		Sb	04 20 38.9	+0.3
	baz=244							
HGSD	**Ruisui**	**0.97**	**246**	*i*P		Pn	04 20 27.5	+0.4
	baz=243							
HGSD				S		Sn	04 20 39.9	0.0
	baz=243							
EGS		**1.04**	**336**	*e*P		Pb	04 20 29.4	+0.4
	baz=326							
EGS				S		Sb	04 20 41.5	-0.9
	baz=326							
EHY	**Hungye**	**1.05**	**249**	*i*P		Pn	04 20 28.8	+0.5
	baz=246							
EHY				S		Sb	04 20 42.6	0.0
	baz=246							
TWE	**Neicheng**	**1.06**	**322**	P		Pb	04 20 29.0	-0.4
	baz=320							
TWE				S		Sb	04 20 42.1	-0.8
	baz=320							
WHF	**Hehuan Shan**	**1.06**	**284**	*i*P		Pb	04 20 29.1	-0.5
	baz=281							
WHF				S		Sb	04 20 42.5	-0.8
	baz=281							
ENTT	**Nioudou**	**1.07**	**315**	P		Pb	04 20 29.1	-0.3
	baz=302							
ENTT				S		Sb	04 20 42.8	-0.2
	baz=302							
NNSB	**Datong**	**1.07**	**301**	*i*P		Pb	04 20 29.1	-0.4
	baz=298							
NNSB				S		Sb	04 20 42.6	-0.6
	baz=298							
NDT	**Datong Townshi**	**1.07**	**312**	P		Pb	04 20 29.5	-0.1
	baz=309							
NDT				S		Sb	04 20 42.6	-0.6
	baz=309							
NNS	**Nan Shan**	**1.08**	**301**	*i*P		Pb	04 20 29.4	-0.4
	baz=290							
NNS				S		Sb	04 20 43.0	-0.6
	baz=290							
NTC	**Toucheng**	**1.09**	**332**	*e*P		Pb	04 20 30.2	+0.4
	baz=331							
NTC				*e*S		Sb	04 20 42.7	-1.1
	baz=331							
OWD	**Renai**	**1.12**	**274**	P		Pb	04 20 29.6	-0.7
	baz=271							
OWD				S		Sn	04 20 43.2	-0.5
	baz=271							
YULB	**Yu-li**	**1.12**	**244**	*i*P		Pn	04 20 29.8	+0.6
	baz=232							
YULB				S		Sn	04 20 44.0	+0.4
	baz=232							
CHGB	**Renai**	**1.13**	**279**	*i*P		Pb	04 20 30.0	-0.6
	baz=276							
CHGB				*e*S		Sb	04 20 44.2	-0.8
	baz=276							
TWF1	**Yuli**	**1.14**	**242**	*i*P		Pn	04 20 30.3	+0.9
	baz=239							
TWF1				S		Sb	04 20 45.0	0.0
	baz=239							
VWDT	**VWDT**	**1.16**	**264**	*i*P		Pn	04 20 29.6	0.0
	baz=261							
VWDT				S		Sb	04 20 45.2	-0.3
	baz=261							
TWT	**Tachien**	**1.17**	**288**	*i*P		Pb	04 20 31.4	+0.2
	baz=285							
TWT				S		Sb	04 20 46.6	+0.4
	baz=285							
TWB1	**Santiao Chiao**	**1.18**	**342**	*e*P		Pb	04 20 29.9	-1.4
	baz=342							
TDCB	**Techi**	**1.19**	**288**	*i*P		Pb	04 20 31.4	-0.1
	baz=285							
TDCB				S	

NWLT	**Wulai** baz=316	**1.20**	**318**	P		**Pb**	**04 20 31.2**	**-0.5**
NWLT	baz=316			S		**Sb**	**04 20 45.7**	**-1.2**
YHNB	**Yeheng** baz=308	**1.21**	**310**	*i* P		**Pb**	**04 20 31.2**	**-0.7**
YHNB	baz=308			*e*S		**Sb**	**04 20 46.1**	**-1.2**
FULB	**Fuli** baz=224	**1.22**	**236**	P		**Pn**	**04 20 31.2**	**+0.7**
FULB	baz=224			*e*S		**Sn**	**04 20 46.2**	**+0.1**
IRIF	**Iriomote-Funau**	**1.30**	**70**	P		**Pb**	**04 20 32.5**	**-0.8**
IRIF				*e*S		**Sb**	**04 20 48.8**	**-0.9**
HATJ	**Hateruma jima**	**1.30**	**82**	P		**Pn**	**04 20 32.6**	**+0.9**
HATJ				S		**Sn**	**04 20 48.4**	**+0.3**
TWA	**Mucha** baz=325	**1.32**	**326**	S		**Sb**	**04 20 49.8**	**-0.4**
SSLB	**Suanglung** baz=264	**1.32**	**266**	*e*P		**Pb**	**04 20 33.1**	**-0.6**
NHDH	**Xindian Distri** baz=322	**1.33**	**324**	*e*P		**Pb**	**04 20 33.5**	**-0.4**
NHDH	baz=322			S		**Sb**	**04 20 49.6**	**-1.0**
TATO	**Taipei** baz=321	**1.36**	**323**	*e*S		**Sb**	**04 20 50.6**	**-0.9**
SMLT	**Sun Moon Lake** baz=267	**1.37**	**270**	*i* P		**Pb**	**04 20 33.9**	**-0.7**
SMLT	baz=267			*e*S		**Sb**	**04 20 50.8**	**-0.9**
WHP	**Taichung City** baz=284	**1.38**	**287**	P		**Pb**	**04 20 34.5**	**-0.3**
WHP	baz=284			S		**Sb**	**04 20 51.8**	**-0.2**
TYC	**Yuchr** baz=268	**1.41**	**271**	P		**Pb**	**04 20 34.6**	**-0.5**
TYC	baz=268			*e*S		**Sb**	**04 20 51.9**	**-0.8**
WLTB	**Daxi** baz=311	**1.42**	**313**	*e*S		**Sb**	**04 20 52.2**	**-0.8**
WHYT	**Xinyi Township** baz=251	**1.42**	**263**	P		**Pb**	**04 20 35.4**	**-0.1**
WHYT	baz=251			*e*S		**Sb**	**04 20 52.4**	**-0.8**
ALS	**Alishan** baz=253	**1.50**	**256**	*i* P		**Pb**	**04 20 36.5**	**-0.4**
ALS	baz=253			*e*S		**Sn**	**04 20 54.6**	**+1.1**
JKRS	**Kuro-shima**	**1.52**	**76**	P		**Pb**	**04 20 36.0**	**-1.0**
JKRS				S		**Sb**	**04 20 55.4**	**-0.5**
WJS	**Zhushan** baz=265	**1.53**	**268**	P		**Pb**	**04 20 37.0**	**-0.1**
WJS	baz=265			*e*S		**Sb**	**04 20 57.7**	**+1.5**
NCUH	**Zhongli** baz=313	**1.54**	**315**	*e*S		**Sb**	**04 20 55.7**	**-0.8**
TWQ1	**Liyutan** baz=285	**1.55**	**288**	P		**Pb**	**04 20 37.3**	**-0.3**
TWQ1	baz=285			S		**Sb**	**04 20 56.9**	**0.0**
TWY	**Chenhua** baz=346	**1.56**	**333**	*e*P		**Pb**	**04 20 36.2**	**-1.5**
WNT	**Mingjian** baz=268	**1.56**	**270**	*i* P		**Pb**	**04 20 38.0**	**+0.1**
WNT	baz=268			S		**Sb**	**04 20 58.3**	**+1.0**
SBCB	**Hsinchu** baz=304	**1.57**	**305**	*e*S		**Sb**	**04 20 57.3**	**-0.1**
NSY	**Sanyi** baz=288	**1.58**	**290**	*e*P		**Pb**	**04 20 38.1**	**-0.1**
NSY	baz=288			*e*S		**Sb**	**04 20 57.6**	**-0.1**
TCU	**Taichung** baz=277	**1.59**	**280**	*e*P		**Pb**	**04 20 38.7**	**+0.4**
TCU	baz=277			*e*S		**Sb**	**04 20 58.3**	**+0.3**
CHN5	**Tsauling** baz=250	**1.60**	**260**	*i* P		**Pb**	**04 20 38.2**	**-0.3**
CHN5	baz=250			S		**Sb**	**04 20 58.2**	**-0.1**
NMLH	**Miaoli** baz=292	**1.60**	**294**	*e*S		**Sb**	**04 20 58.8**	**+0.5**
TWGBT	**Beinan** baz=238	**1.61**	**229**	*e*P		**Pn**	**04 20 36.8**	**+0.9**
TWGBT	baz=238			*e*S		**Sn**	**04 20 55.0**	**-0.6**
WDJ	**Dajia District** baz=284	**1.67**	**286**	*e*S		**Sb**	**04 20 59.3**	**-0.9**
JIJ	**Ishigaki jima**	**1.67**	**73**	P		**Pn**	**04 20 37.2**	**+0.5**
JIJ				S		**Sn**	**04 20 57.2**	**+0.1**
WCHH	**Zhanghua** baz=275	**1.69**	**277**	*e*P		**Pb**	**04 20 40.0**	**0.0**
WCHH	baz=275			*e*S		**Sb**	**04 21 01.3**	**+0.5**
WDLH	**Douliu** baz=261	**1.71**	**264**	*e*P		**Pb**	**04 20 39.5**	**-0.8**
WDLH	baz=261			*e*S		**Sb**	**04 21 01.6**	**+0.2**
TPUB	**Ta-pu** baz=239	**1.72**	**251**	*e*P		**Pb**	**04 20 39.1**	**-1.3**
SLGT	**Liugui** baz=232	**1.83**	**241**	*e*P		**Pb**	**04 20 41.0**	**-1.4**
SGST	**Jiashian** baz=234	**1.84**	**245**	*e*P		**Pb**	**04 20 41.8**	**-0.8**
CHN1	**Nanshi** baz=246	**1.85**	**248**	*e*P		**Pb**	**04 20 42.0**	**-0.7**
CHN1	baz=246			*e*S		**Sb**	**04 21 04.7**	**-0.7**
RLNB	**Erlin** baz=268	**1.86**	**271**	*e*P		**Pb**	**04 20 41.9**	**-1.0**
RLNB	baz=268			S		**Sb**	**04 21 06.0**	**+0.3**
JISG	**Ishigakijimahi**	**1.88**	**68**	P		**Pn**	**04 20 40.0**	**+0.3**
JISG				S		**Sn**	**04 21 01.6**	**-0.9**
SSD	**Sandimen** baz=227	**1.98**	**235**	*e*P		**Pb**	**04 20 43.8**	**-1.0**
LAY	**Lan-yu** baz=200	**2.00**	**203**	*e*P		**Pb**	**04 20 41.2**	**0.0**
MASBT	**Mashibuluo** baz=223	**2.06**	**232**	*e*P		**Pn**	**04 20 43.8**	**+1.8**
SCZT	**Fangliau** baz=224	**2.22**	**228**	*e*P		**Pb**	**04 20 47.8**	**-1.2**
JTJ	**Tarama**	**2.24**	**70**	P		**Pn**	**04 20 45.3**	**+0.8**
JTJ				S		**Sn**	**04 21 10.8**	**-0.4**
WDGT	**Dungji** baz=255	**2.58**	**257**	*e*P		**Pn**	**04 20 50.8**	**+1.5**
PNG	**Penghu** baz=263	**2.62**	**264**	*e*P		**Pn**	**04 20 50.1**	**+0.3**
JIRB	**Irabujima**	**2.70**	**69**	P		**Pn**	**04 20 51.5**	**+0.6**
JIRB				*e*S		**Sn**	**04 21 22.7**	**0.0**
JIKM	**Ikemajima**	**2.80**	**68**	P		**Pn**	**04 20 53.0**	**+0.7**
JIKM				S		**Sn**	**04 21 26.3**	**+1.2**
VCHM	**Qimei** baz=255	**2.80**	**257**	*e*P		**Pn**	**04 20 53.9**	**+1.5**

DJA 27 04:30:00.4±0.3, 5°S±4°×10°5E±°, h10km, M3.8/6, MLv3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.16**	**199**	P	Pg	04 30 04.3	+0.3
LWLI	**Liwa**	**0.60**	**306**	P	Pg	04 30 11.6	-0.5
BLSI	**Bandar Lampung**	**0.69**	**90**	P	Pg	04 30 13.4	-0.4
MDSI	**Maura Dua**	**0.95**	**337**	P	Pg	04 30 17.2	-1.6
SBJI	**Serang**	**1.74**	**115**	P	Pb	04 30 31.6	-0.9
LHSI	**Lahat**	**1.84**	**326**	P	Pb	04 30 33.4	-0.8
MNAI	**Manna**	**1.88**	**302**	P	Pb	04 30 34.0	-0.8
SKJI	**Sukabumi**	**2.57**	**129**	P	Pn	04 30 41.8	-0.4
CISI	**Cisompet, Garu**	**3.90**	**124**	P	Pn	04 31 00.4	-0.1

DJA 27 04:35:29.0±2.8, 11°S±24°×11°2E±1°0, h10km, M4.1/8, mb4.1/1, MLv4.0/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**3.33**	**22**	P	Pn	04 36 20.8	-0.3
JAGI	**Jajag, Banyuwa**	**3.49**	**34**	P	Pn	04 36 23.3	0.0
UGM	**Wanagama**	**3.80**	**335**	P	Pn	04 36 27.2	-0.4
BLJI	**Banyuglugur**	**3.87**	**22**	P	Pn	04 36 29.1	+0.5
SRBI	**Singaraja**	**4.44**	**43**	P	Pn	04 36 36.0	-0.4
PLAI	**Plampang**	**6.08**	**66**	P	Pn	04 36 59.3	+0.3

*IDC **27** 05:19:36.2±5.8, 36°.04N×69°.77E, h76km±34km, mb3.4/3, mb1 3.4/9, mb1mx3.1/56, mbtmp3.7/9, Error ellipse: s-maj=68.1km s-min=19.3km az=158.0*
*NNC **27** 05:19:42.5±3.2, 36°.40N×69°.90E, h157km±53km, mb2.8, mpv3.5, Error ellipse: s-maj=29.5km s-min=24.8km az=153.0*

ISC 27 05:19:41.8±2.2, 36°.3N±0°.2×69°.7E±0°.1, h150km, n20, σ1§97/23, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=36	**6.57**	**27**	P	**Pn**	**05 21 15.0**	**-1.3**
KK31	**Karatay Array** 0.9nm,0.4s,baz=191,slow=15,SNR=24	**6.79**	**5**	P	**Pn**	**05 21 18.6**	**-0.3**
KK31	1.6nm,0.5s,baz=192,slow=21,SNR=3.8			⇑S	**Sn**	**05 22 34.5**	**-0.6**
UCH	**Uchtor** SNR=16	**6.97**	**31**	P	**Pn**	**05 21 20.5**	**-1.3**
EKS2	**Erkin-Say** SNR=5.6	**7.06**	**25**	P	**Pn**	**05 21 24.0**	**+1.3**
KZA	**Kyzart** SNR=7.1	**7.17**	**35**	P	**Pn**	**05 21 23.2**	**-1.3**
AAK	**Ala-Archa** 1.9nm,0.4s	**7.31**	**29**	⇑P	**Pn**	**05 21 25.1**	**-0.9**
AAK	13nm,0.7s			⇑S	**Sn**	**05 22 45.3**	**-2.4**
AAK	**Ala-Archa** 1.3nm,0.3s,baz=158,slow=4.9,SNR=9.5	**7.31**	**29**	P	**Pn**	**05 21 24.9**	**-1.1**
AAK	1.5nm,0.3s,baz=351,slow=21,SNR=14			S	**Sn**	**05 22 46.3**	**-1.4**
USP	**Ospenovka** SNR=6.0	**7.85**	**27**	P	**Pn**	**05 21 32.6**	**-0.6**
TKM2	**Tokmak 2** 2.2nm,0.6s	**8.00**	**33**	⇓P	**Pn**	**05 21 33.5**	**-1.8**
TKM2	4.9nm,0.7s			⇓S	**Sn**	**05 23 02.7**	**-1.8**
GEYT	**Alibeck** 1.1nm,0.3s,baz=132,slow=8.2,SNR=5.0	**9.37**	**283**	P	**Pn**	**05 21 50.4**	**-3.1**
GEYT	0.8nm,0.3s,baz=102,slow=21,SNR=3.0			S	**Sn**	**05 23 35.7**	**-1.7**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=226,slow=10,SNR=2.8	**14.06**	**38**	P	**Pn**	**05 22 53.2**	**-1.1**
AB31	**Akbulak array** 0.5nm,0.4s,baz=147,slow=12,SNR=20	**14.74**	**334**	P	**P**	**05 23 04.4**	**-0.5**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=211,slow=10,SNR=4.6	**15.64**	**21**	P	**P**	**05 23 16.1**	**+1.3**
AKTO	**Aktyubinsk** 2.3nm,1.0s	**16.41**	**333**	⇓P	**P**	**05 23 23.0**	**-0.4**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=166,slow=12,SNR=4.9	**16.41**	**333**	P	**Pn**	**05 23 26.0**	**+2.6**
BVAR	**Borovoye Array** 0.4nm,0.3s,baz=171,slow=10,SNR=5.7	**16.69**	**1**	P	**Pn**	**05 23 29.4**	**+2.6**
ZALV	**Zalesovo Beam** 1.7nm,0.4s,baz=221,slow=10,SNR=7.9	**20.51**	**26**	P	Pn	05 24 10.6	-1.3
ARCES	**ARCESS Array B** 2.7nm,0.8s,baz=100,slow=10,SNR=3.7	**40.89**	**338**	P	P	05 27 13.2	+4.4
NB2	**NORSAR Subarra** comp=Z,0.3nm,0.5s,baz=99,slow=8.6	**43.87**	**323**	P	**P**	**05 27 36.2**	**+3.2**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=98,slow=8.0,SNR=4.2	**43.87**	**323**	P	**P**	**05 27 36.5**	**+3.6**

*ISCJB **27** 05:28:33.5±0.8, 25°.95S±0°.08×174°.6W±0°.1, h10km, mb4.2/7, MS3.0/1, Error ellipse: s-maj=15.3km s-min=10.6km az=30.6*
*NEIC **27** 05:28:36.0±3.0, 25°.82S×174°.79W, h10km±3km, mb4.0/6, Error ellipse: s-maj=32.4km s-min=23.2km az=161.0*
*IDC **27** 05:28:37.1±1.6, 25°.89S×175°.16W, h0km, mb4.3/6, mb1 4.4/7, mb1mx4.0/34, mbtmp4.2/7, ML3.2/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/37, Error ellipse: s-maj=57.3km s-min=26.8km az=143.0*

ISC 27 05:28:35.5±0.9, 25°.9S±0°.1×174°.6W±0°.1, h10km, n20, σ1§11/18, mb4.4/7, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 0.1nm,0.3s,baz=333,slow=18,SNR=2.7	**14.16**	**207**	Pn	**Pn**	**05 31 55.8**	**-0.3**
URZ	1.1nm,0.3s,baz=69,slow=23,SNR=11			Sn	**Sn**	**05 34 32.1**	**-1.1**
RAR	**Rarotonga** 4.7nm,0.3s,baz=280,slow=8.3,SNR=16	**14.41**	**74**	Pn	**Pn**	**05 31 58.8**	**-0.8**
RAR	comp=Z,96nm,20.6s,baz=248,slow=32			LR	LR	05 36 38.1	
BFZ	**Birch Farm** 14nm,1.1s	**16.58**	**205**	*e*Pn	**Pn**	**05 32 28.5**	**+0.5**
DZM	**Mont Dzumac** 15nm,0.8s	**17.69**	**278**	*e*Pn	**P**	**05 32 42.5**	**-0.6**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=104,slow=17,SNR=6.2	**17.69**	**278**	P	**P**	**05 32 42.5**	**-0.6**
THZ	**Tophouse** 3.7nm,1.0s	**18.87**	**210**	*e*P	**P**	**05 32 56.5**	**+0.6**
KHZ	**Kahutara** 14nm,0.9s	**19.13**	**208**	*e*P	**Pn**	**05 33 02.2**	**+2.8**
PPT2	**Papeete2** comp=Z,167nm,27.2s	**24.68**	**75**	*e*LR	LR	05 39 58.9	
PPT	**Papeete** comp=Z,48nm,18.7s,baz=231,slow=34	**24.69**	**75**	LR	LR	05 43 02.5	
CTA	**Charters Tower** 3.8nm,0.6s,baz=107,slow=7.1,SNR=3.7	**36.36**	**271**	P	**P**	**05 35 39.8**	**-0.3**
STKA	**Stephens Creek** 1.4nm,1.1s	**38.58**	**251**	*e*P	**P**	**05 35 58.5**	**-0.2**
STKA	**Stephens Creek** 1.8nm,0.7s,baz=97,slow=8.1,SNR=3.3	**38.58**	**251**	P	**P**	**05 35 58.5**	**-0.2**
ASAR	**Alice Springs** 5.4nm,0.9s,baz=103,slow=8.3,SNR=23	**46.52**	**261**	P	**P**	**05 37 03.7**	**+0.2**
WR1	**Warramunga Arr** 8.9nm,1.1s	**47.13**	**266**	*e*P	**P**	**05 37 06.8**	**-1.3**
WRA	**Warramunga Arr** 3.3nm,0.9s,baz=102,slow=8.1,SNR=12	**47.13**	**266**	P	**P**	**05 37 06.8**	**-1.3**
NVAR	**Mina Array Bea** 0.3nm,0.6s,baz=210,slow=7.0,SNR=4.0	**82.92**	**41**	P	P	05 41 06.6	+5.8
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,baz=114,slow=2.2,SNR=3.2	**94.77**	**288**	P	**P**	**05 41 58.8**	**+1.0**
AKASG	**Malin Array Be** 0.7nm,0.4s,baz=44,slow=4.1,SNR=3.5	**149.21**	**330**	PKPbc	**PKiKP**	**05 48 25.1**	**-0.2**
BR101	**Keskin Array S**	**152.65**	**307**	*e*PKPab	**PKPab**	**05 48 44.5**	**+1.2**
BRTR	**Keskin Array B** 0.4nm,0.7s,baz=67,slow=3.7,SNR=2.7	**152.65**	**307**	PKPab	**PKPab**	**05 48 44.5**	**+1.2**

*ISCJB **27** 05:32:32.4±1.2, 50°.39N±0°.05×130°.05W±0°.06, h9km±9km, mb3.3/3, Error ellipse: s-maj=9.3km s-min=4.6km az=37.2*
*PGC **27** 05:32:32.7±2.8, 50°.22N×130°.23W, h10km, MLSn2.9/24, Mw3.5/24, Mw3.5/24, 206km west of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **27** 05:32:34.0±1.4, 50°.36N×129°.96W, h0km, mb3.4/3, mb1 3.5/9, mb1mx3.4/43, mbtmp3.2/9, ML3.2/6, MS3.2/2, Ms1 3.2/2, ms1mx2.6/25, Error ellipse: s-maj=22.5km s-min=13.8km az=77.0*

ISC 27 05:32:32.9±3.5, 50°.28N±0°.06×130°.13W±0°.05, h10km±23km, n49, σ1§97/55, mb3.4/3, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.33**	**73**	P	**Pb**	**05 32 56.5**	**-1.5**
HOLB				S	**Sn**	**05 33 13.2**	**-2.1**
BPBC	**Brooks Peninsu**	**1.52**	**94**	Pn	**Pn**	**05 32 58.4**	**-1.8**
BPBC				Sn	**Sn**	**05 33 14.0**	**-6.1**
PACB	**Port Alice, BC**	**1.70**	**84**	Pn	**Pn**	**05 33 01.3**	**-1.2**
PACB				Sn	**Sn**	**05 33 21.4**	**-2.9**
PHC	**Port Hardy**	**1.78**	**75**	Pn	**Pn**	**05 33 02.8**	**-0.9**
PHC				Sn	**Sn**	**05 33 24.1**	**-2.2**
MAYB	**Maynard**	**1.90**	**85**	Pn	**Pn**	**05 33 04.3**	**-1.2**
MAYB				Sg	**Sb**	**05 33 30.2**	**-1.4**
EDB	**Eliza Dome**	**1.98**	**101**	Pn	**Pn**	**05 33 05.1**	**-1.4**
HG4B	**Hotspring**	**2.12**	**342**	Pn	**Pn**	**05 33 06.4**	**-2.1**
TLCB	**Telegraph Cove**	**2.13**	**81**	Pn	**Pn**	**05 33 08.0**	**-0.4**
TLCB				Sn	**Sn**	**05 33 33.1**	**-1.8**
WOSB	**Woss**	**2.29**	**92**	Pn	**Pn**	**05 33 10.2**	**-0.7**
BBB	**Bella Bella**	**2.29**	**33**	Pn	**Pn**	**05 33 10.3**	**-0.5**
BBB				Sn	**Sn**	**05 33 36.6**	**-2.4**
BBB	**Bella Bella** 6.8nm,0.3s,baz=227,slow=12,SNR=49	**2.29**	**33**	Pn	**Pn**	**05 33 09.2**	**-1.6**
BBB	10nm,0.3s,baz=329,slow=23,SNR=15			Sn	**Sn**	**05 33 36.9**	**-2.1**
HG3B	**Hotspring**	**2.44**	**341**	Pn	**Pn**	**05 33 11.4**	**-1.4**
HG3B				Sn	**Sn**	**05 33 39.3**	**-3.4**
BNB	**Barry Inlet**	**2.51**	**337**	Pn	**Pn**	**05 33 11.9**	**-2.0**
NCRB	**Newcastle Ridg**	**2.62**	**86**	Pn	**Pn**	**05 33 14.9**	**-0.4**
GDR	**Gold River**	**2.69**	**99**	Pn	**Pn**	**05 33 15.7**	**-0.6**
BCBC	**Bella Coola**	**2.98**	**44**	Pn	**Pn**	**05 33 21.8**	**+1.6**
BCBC				Sn	**Sn**	**05 33 56.2**	**+0.2**
CBB	**Campbell River**	**3.08**	**93**	Pn	**Pn**	**05 33 21.3**	**-0.3**
CBB				Sn	**Sn**	**05 33 56.2**	**-2.1**
MOBC	**Moresby Island**	**3.09**	**339**	Pn	**Pn**	**05 33 20.6**	**-1.2**
BTB	**Buttle Lake**	**3.09**	**103**	Pn	**Pn**	**05 33 20.5**	**-1.4**
DIB	**Dawson Inlet,**	**3.27**	**334**	Pn	**Pn**	**05 33 22.2**	**-2.0**
TXB	**Texada**	**3.72**	**97**	Pn	**Pn**	**05 33 29.4**	**-1.1**
MGB	**Mount Grey**	**3.76**	**108**	Pn	**Pn**	**05 33 31.6**	**+0.5**
RUBB	**Prince Rupert**	**4.05**	**359**	Pn	**Pn**	**05 33 34.7**	**-0.2**
YOUB	**Youbou, Lake C**	**4.06**	**108**	Pn	Pn	05 33 29.4	-5.8
SHB	**Sechelt**	**4.10**	**97**	Pn	**Pn**	**05 33 33.8**	**-1.9**
NLLB	**Nanaimo Lost L**	**4.12**	**102**	Pn	**Pn**	**05 33 36.7**	**+0.8**
GOBB	**Galiano Island**	**4.51**	**105**	Pn	**Pn**	**05 33 43.0**	**+1.8**
WPB	**Watts Point**	**4.51**	**95**	Pn	**Pn**	**05 33 42.5**	**+1.2**
SNB	**Saturna Island**	**4.78**	**106**	Pn	**Pn**	**05 33 47.0**	**+2.0**
LLLB	**Lillooet**	**5.28**	**83**	Pn	**Pn**	**05 33 52.8**	**+0.9**
VDB	**Vedder Mountai**	**5.37**	**100**	Pn	**Pn**	**05 33 56.0**	**+3.1**
FSB	**Fort Saint Jam**	**5.51**	**38**	Pn	**Pn**	**05 33 56.2**	**+1.3**
FSB				Sn	**Sn**	**05 34 57.7**	**-0.6**
MBW	**Mount Baker**	**5.57**	**102**	Pn	**Pn**	**05 33 57.4**	**+1.5**
JCW	**Jim Creek**	**5.76**	**108**	Pn	**Pn**	**05 34 01.4**	**+3.0**
BMBC	**Bull Mountain**	**7.51**	**37**	Pn	**Pn**	**05 34 25.5**	**+3.0**
DLBC	**Dease Lake**	**8.18**	**0**	Pn	**Pn**	**05 34 33.7**	**+2.1**
DLBC	**Dease Lake** 0.2nm,0.3s,baz=193,slow=16,SNR=7.5	**8.18**	**0**	Pn	**Pn**	**05 34 34.0**	**+2.4**
NEW	**Newport** comp=Z,140nm,20.8s,baz=226,slow=38	**8.74**	**98**	LR	LR	05 38 04.2	
NVAR	**Mina Array Bea** 0.1nm,0.3s,baz=314,slow=11,SNR=3.0	**14.53**	**140**	Pn	**P**	**05 36 04.0**	**-1.5**
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=223,slow=12,SNR=13	**14.90**	**29**	Pn	**Pn**	**05 36 02.0**	**-1.4**
KDAK	**Kodiak Island** comp=Z,94nm,19.1s,baz=185,slow=33	**15.13**	**308**	LR	LR	05 40 60.0	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=306,slow=7.7,SNR=2.6	**16.00**	**110**	Pn	**P**	**05 36 22.4**	**+0.8**
ILAR	**Eielson Array** 0.0nm,0.3s,baz=146,slow=8.7,SNR=3.1	**17.00**	**335**	Pn	**P**	**05 36 34.4**	**+2.1**
ULM	**Lac du Bonnet** 0.6nm,0.3s,baz=302,slow=9.5,SNR=1.9	**21.79**	**77**	P	**P**	**05 37 24.9**	**+0.2**
TXAR	**Lajitas Array** 0.3nm,0.9s,baz=316,slow=10,SNR=3.5	**28.91**	**126**	P	**P**	**05 38 34.6**	**+2.6**
H11N2	**WAKE ISLAND Hy** baz=42,slow=75,SNR=16	**57.85**	**262**	T	T	06 44 59.9	
H11N3	**WAKE ISLAND Hy** baz=42,slow=75,SNR=14	**57.85**	**262**	T	T	06 45 01.1	
H11N1	**WAKE ISLAND Hy** baz=42,slow=75,SNR=15	**57.87**	**262**	T	T	06 45 07.9	
MKAR	**Makanchi Array** 0.3nm,0.7s,baz=26,slow=3.6,SNR=2.9	**79.33**	**338**	P	**P**	**05 44 40.1**	**+1.6**

*IDC **27** 05:59:43.0±2.7, 57°.40S×24°.82W, h21km±16km, mb5.2/27, mb1 5.2/28, mb1mx5.0/37, mbtmp5.3/28, ML5.7/1, MS4.8/21, Ms1 4.8/21, ms1mx4.8/21, Error ellipse: s-maj=13.9km s-min=9.7km az=39.0*
*BJI **27** 05:59:43.0, 57°.40S×24°.90W, h20km, mB5.4/21, Ms5.3/21, Ms7 5.0/24*
*MOS **27** 05:59:44.0±1.1, 57°.38S×24°.96W, h33km, mb5.5/16, MS4.9/14, Error ellipse: s-maj=19.6km s-min=10.8km az=105.8*
*ISCJB **27** 05:59:45.8±1.3, 57°.42S±0°.04×24°.99W±0°.07, h56km±11km, mb5.4/56, MS5.1/164, Error ellipse: s-maj=7.0km s-min=5.0km az=42.0*
*NEIC **27** 05:59:45.4±1.8, 57°.38S×24°.84W, h35km±2km, mb5.4/50, MS5.1/149, Error ellipse: s-maj=12.6km s-min=11.5km az=169.0*
*GCMT **27** 05:59:49.4±0.1, 57°.44S±0°.01×24°.35W±0°.01, h58km±1km, MW5.4/108, Moment Tensor Solution. s96,c176; s108,c191; Duration: 1§2 Moment tensor: Scale 10^{17} Nm; M_{rr}0.87±.02; $M_{\theta\theta}$-0.99±.02; $M_{\phi\phi}$0.12±.02; $M_{r\theta}$-0.19±.02; $M_{r\phi}$0.79±.02; $M_{\theta\phi}$0.99±.02; Best double couple: $M_0$1.58400×10^{17} NP1:ϕ_{ϕ}329.00000°, δ69.00000°, λ126.00000°. NP2:ϕ_{ϕ}86.00000°, δ41.00000°, λ33.00000°. Principal axes: T 1.5880, Plg52.0000°, Azm282.0000°; N -0.0080, Plg33.0000°, Azm134.0000°; P -1.5800, Plg16.0000°, Azm34.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 05:59:44.2±0.8, 57°.56S±0°.05×24°.95W±0°.05, h30km±5km, h30km:pP-P, n821, σ1§27/754, mb5.4/55, MS5.0/165, 11C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.26**	**292**	*e*Pn	**Pn**	**06 01 31.8**	**+3.6**
VNA1	**Neumayer--Stat**	**14.93**	**158**	P	**P**	**06 03 16.5**	**-1.5**
VNA3	**Neumayer Olymp**	**15.15**	**161**	P	**P**	**06 03 19.0**	**-1.6**
VNA2	**Neumayer--Wanz** baz=327,slow=14	**15.33**	**158**	P	**P**	**06 03 21.1**	**-1.4**
SNAA	**Sanae**	**16.86**	**156**	P	**P**	**06 03 41.8**	**+2.3**
SNAA	**Sanae** 215nm,1.3s	**16.86**	**156**	*e*Pn	**P**	**06 03 41.3**	**+1.8**
SNAA				*e*Sn	**Sn**	**06 06 35.3**	**-8.4**
SNAA	**Sanae**	**16.86**	**156**	*i* P	**P**	**06 03 40.1**	**+0.6**
SNAA	**Sanae** 24nm,0.3s,baz=321,slow=14,SNR=238	**16.86**	**156**	Pn	**P**	**06 03 39.9**	**+0.4**
SNAA	1.5nm,0.3s,baz=309,slow=18,SNR=4.1			Sn	**Sn**	**06 06 35.3**	**-8.4**
SNAA	comp=Z,3μm,18.8s,baz=335,slow=32			LR	LR	06 08 50.9	
PMSA	**Palmer Station**	**19.90**	**233**	*e*P	**Pn**	**06 04 15.5**	**+1.0**
PMSA				*e*P	**Pn**	**06 04 15.6**	**+1.0**
PMSA				*e*S	**S**	**06 07 50.6**	**-4.2**
PMSA	comp=Z,7μm,20.0s			LR	LR		
PMSA	**Palmer Station** comp=Z,308nm,0.8s,baz=88,slow=12,SNR=10	**19.90**	**233**	P	**Pn**	**06 04 15.5**	**+1.0**
PMSA	comp=Z,13nm,0.7s,baz=0.0,slow=20,SNR=6.3			S	**S**	**06 07 50.6**	**-4.2**
PMSA	comp=Z,7μm,21.0s,baz=90,slow=33			LR	LR	06 10 50.2	
PMSA	**Palmer Station**	**19.90**	**233**	*e*P	**Pn**	**06 04 14.7**	**+0.2**
EFI	**East Falkland** comp=Z,580nm,0.6s	**19.91**	**273**	*e*P	**Pn**	**06 04 15.0**	**+0.1**
EFI	**East Falkland**	**19.91**	**273**	*i* P	**P**	**06 04 13.6**	**+0.5**
EFI	comp=Z,376nm,0.9s			pmax	pmax		
USHA	**Ushuaia** comp=Z,68nm,0.7s,baz=105,slow=10,SNR=77	**24.04**	**258**	P	**P**	**06 04 57.1**	**+0.9**
USHA	comp=Z,8μm,21.9s,baz=100,slow=31			LR	LR	06 12 12.2	
GO10	**Punta Arenas**	**26.17**	**260**	*e*P	**P**	**06 05 17.0**	**+1.4**
GO09	**Cerro Castillo**	**27.80**	**262**	*e*P	**P**	**06 05 30.3**	**+0.1**
SYO	**Syowa Base**	**29.63**	**139⇑**	*e*P	**P**	**06 05 45.4**	**-0.9**
SYO	**Syowa Base**	**29.63**	**139⇑**	*e*SP	**P**	**06 05 49.2**	**+2.9**
PLTB	**Pedras Altas**	**32.42**	**310**	*e*P	**P**	**06 06 12.3**	**+1.0**
QSPA	**South Pole Qui** comp=Z,92nm,1.2s	**32.69**	**180**	*e*P	**P**	**06 06 16.4**	**+2.9**
QSPA				*e*PcP	**PcP**	**06 08 58.8**	**+0.4**
QSPA				*e*ScP	**ScP**

PTGB **Pitanga** 38.14 318 *e*P P 06 07 01.7 +1.1
MAW **Mawson** 38.20 142 *e*P P 06 07 01.4 +0.9
comp=Z,7.2nm,1.4s
MAW **Mawson** 38.20 142 *e*P P 06 07 01.5 +0.9
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW **Mawson** 38.20 142 P P 06 07 00.8 +0.3
comp=Z,3.9nm,0.5s,baz=223,slow=6.4,SNR=9.0
MAW PcP PcP 06 09 15.4 +1.0
comp=Z,8.8nm,0.8s,baz=284,slow=9.0,SNR=4.2
MAW LR LR 06 20 28.1
comp=Z,1μm,21.8s,baz=248,slow=32
FRTB **Fartura** 38.53 322 *e*P P 06 07 05.4 +1.5
ARCO **CERRO ARCO** 38.64 291 *e*P P 06 07 03.8 -1.1
CPUP **Villa Florida** 38.73 310 *e*P P 06 07 05.2 -0.2
comp=Z,155nm,0.7s
CPUP **Villa Florida** 38.73 310 *e*P P 06 07 05.2 -0.2
CPUP pmax pmax
comp=Z,155nm,0.7s
CPUP **Villa Florida** 38.73 310 P P 06 07 04.0 -1.4
comp=Z,110nm,0.5s,baz=154,slow=8.1,SNR=308
CPUP LR LR 06 24 26.3
comp=Z,759nm,19.0s,baz=155,slow=38
CPUP **Villa Florida** 38.73 310 *e*P P 06 07 05.3 -0.1
RCLB **Rio Claro- Sao** 38.75 325 *e*P P 06 07 07.3 +1.6
ASAL **Salagasta** 38.79 291 *e*P P 06 07 05.4 -0.6
RTCV **Cerro Valdivia** 39.23 292 *e*P P 06 07 08.0 -1.7
CFA **Coronel Fontan** 39.28 292 *e*P P 06 07 08.3 -1.8
CFA **Coronel Fontan** 39.28 292 P P 06 07 08.1 -2.0
comp=Z,83nm,0.4s,baz=143,slow=7.6,SNR=240
CFA PcP PcP 06 09 18.9 +0.4
comp=Z,49nm,0.6s,baz=141,slow=2.4,SNR=17
CFA S S 06 12 59.3 -10
comp=Z,3.3nm,0.7s,baz=351,slow=19,SNR=4.1
PEL **Peldehue** 39.29 288 *e*P P 06 07 09.1 -1.0
PEL *e*PcP PcP 06 09 19.0 +0.6
PEL LR LR
comp=Z,1μm,21.0s
PEL **Peldehue** 39.29 288 *e*P P 06 07 09.1 -1.0
PEL *e* 06 09 19.0
PEL MLR MLR
comp=Z,1μm,21.0s
BSCB **Bom Sucesso** 39.30 330 *e*P P 06 07 11.3 +1.0
AUSP **Uspallata** 39.36 291 *e*P P 06 07 10.3 -0.7
ZON **Zonda** 39.55 292 *e*P P 06 07 10.4 -1.9
ROC1 **El Roble** 39.59 288 *e*P P 06 07 11.7 -1.2
ROC1 **El Roble** 39.59 288 *e*P P 06 07 11.9 -1.0
RTLL **Cerro Villicun** 39.62 292 *e*P P 06 07 11.6 -1.3
RTLS **Leoncito** 39.66 291 *e*P P 06 07 13.1 -0.4
SUR **Sutherland** 39.91 71 *e*P P 06 07 14.3 -1.2
comp=Z,39nm,1.1s
SUR LR LR
comp=Z,6μm,20.0s
SUR **Sutherland** 39.91 71 P P 06 07 14.3 -1.2
comp=Z,16nm,1.0s,baz=203,slow=7.3,SNR=10
AMOG **MOGNA** 39.95 293 *e*P P 06 07 15.0 -0.7
TRCB **Terra Rica** 40.10 318 *e*P P 06 07 17.5 +0.6
BB19B **Bebedouro** 40.33 325 *e*P P 06 07 19.8 +0.9
ACCO **Cerro Coronel** 40.52 292 *e*P P 06 07 20.4 -0.3
CYA **Choya** 40.70 298 *e*P P 06 07 19.7 -2.2
ACDV **Cuesta del Vie** 40.89 293 *e*P P 06 07 22.9 -0.7
VCA **Vinchina** 41.62 295 *e*P P 06 07 29.5 -0.1
GO04 **Tololo Observa** 41.73 291 *e*P P 06 07 29.5 -1.1
AHML **Horco Molle** 41.88 300 *e*P P 06 07 29.6 -2.0
PMNB **Patos De Minas** 42.10 329 *e*P P 06 07 35.1 +1.6
ITRB **Iturama** 42.18 323 *e*P P 06 07 35.1 +1.0
LCO **Las Campanas** 42.62 292 *e*P P 06 07 36.7 -1.2
comp=Z,80nm,0.9s
LCO LR LR
comp=Z,1μm,19.0s
LCO **Las Campanas** 42.62 292 *e*P P 06 07 36.6 -1.3
LCO **Las Campanas** 42.62 292 *e*P P 06 07 36.7 -1.2
LCO pmax pmax
comp=Z,80nm,0.9s
LCO MLR MLR
comp=Z,1μm,19.0s
LCO **Las Campanas** 42.62 292 *e*P P 06 07 36.4 -1.5
FSA **Cafayete** 42.75 300 *e*P P 06 07 37.5 -1.4
MCI6 **Montes Claros** 43.09 333 *e*P P 06 07 41.7 +0.2
MCI9 **Montes Claros** 43.19 333 *e*P P 06 07 42.9 +0.6
MCI8 **Montes Claros** 43.23 333 *e*P P 06 07 42.9 +0.2
AQDB **Aquidauana** 43.35 316 *e*P P 06 07 42.7 -0.8
GO03 **Copiap** 43.56 294 *e*P P 06 07 43.6 -1.6
GO03 LR LR
comp=Z,800nm,19.0s
SBA **Scott Base** 44.65 184 *e*P P 06 07 57.2 +3.9
comp=Z,108nm,1.5s
JANB **Januaria** 44.87 333 *e*P P 06 07 56.2 +0.5
HJA **Humahuaca** 44.98 302 *e*P P 06 07 56.6 -0.4
VNDA **Vanda** 45.11 182 *e*P P 06 07 59.4 +2.4
comp=Z,40nm,0.7s
VNDA **Vanda** 45.11 182 *e*P P 06 07 59.4 +2.4
VNDA pmax pmax
comp=Z,41nm,0.7s
VNDA **Vanda** 45.11 182 P P 06 07 58.8 +1.8
comp=Z,12nm,0.7s,baz=182,slow=7.1,SNR=60
VNDA LR LR 06 25 41.2
comp=Z,895nm,21.0s,baz=178,slow=34
VNDA PKP2ab 06 40 42.5
comp=Z,1.6nm,0.5s,baz=27,slow=5.4,SNR=23
BOSA **Boshof** 45.20 72 *i* P P 06 07 51.8 -6.7
BOSA **Boshof** 45.20 72 *e*P P 06 07 57.0 -1.4
BOSA *e*P P 06 07 58.0 -0.4
BOSA **Boshof** 45.20 72 *i* P P 06 07 51.8 -6.7
BOSA **Boshof** 45.20 72 P P 06 07 57.0 -1.4
comp=Z,12nm,0.8s,baz=210,slow=8.6,SNR=13
BOSA LR LR 06 22 36.5
comp=Z,3μm,21.6s,baz=211,slow=30
BOSA **Boshof** 45.20 72 *e*P P 06 07 58.2 -0.3
GO02 **Mina Guanaco** 45.27 296 *e*P P 06 07 59.0 -0.3
GO02 LR LR
comp=Z,1μm,19.0s
BDFB **Brasilia** 45.30 328 *e*P P 06 08 00.1 +0.9
comp=Z,33nm,0.8s
BDFB LR LR
comp=Z,2μm,21.0s
BDFB **Brasilia** 45.30 328 P P 06 07 59.0 -0.2
BDFB **Brasilia** 45.30 328 P P 06 07 59.0 -0.2
comp=Z,24nm,0.6s,baz=133,slow=6.6,SNR=28
BDFB LR LR 06 24 16.9
comp=Z,1μm,21.9s,baz=141,slow=33
YJA **Yavi** 45.92 303 *e*P P 06 08 04.1 -0.4
PB14 **IPOC Station P** 46.12 296 *e*P P 06 08 04.5 -1.4
PB15 **IPOC Station P** 46.87 298 *e*P P 06 08 10.9 -0.8
LVC **Limon Verde** 47.12 299 *e*P P 06 08 13.6 -0.2
LVC *e*P P 06 08 13.6 -0.2
LVC *e*PcP PcP 06 09 46.6 +1.3
LVC LR LR
comp=Z,1μm,20.0s
LVC **Limon Verde** 47.12 299 *e*P P 06 08 12.9 -0.9
LVC **Limon Verde** 47.12 299 *e*P P 06 08 13.6 -0.2
LVC *e* 06 09 46.6
LVC MLR MLR
comp=Z,1μm,20.0s
LVC **Limon Verde** 47.12 299 P P 06 08 13.6 -0.2
comp=Z,118nm,0.4s,baz=146,slow=5.2,SNR=112
LVC PcP PcP 06 09 46.6 +1.3
comp=Z,24nm,0.6s,baz=353,slow=1.0,SNR=3.9
LVC LR LR 06 29 07.1
comp=Z,720nm,20.1s,baz=164,slow=38
LVC **Limon Verde** 47.12 299 *e*P P 06 08 13.6 -0.2
PB10 **IPOC Station P** 47.13 297 *e*P P 06 08 12.6 -0.9
comp=Z,105nm,1.2s
PB10 **IPOC Station P** 47.13 297 *e*P P 06 08 12.3 -1.2
PB06 **IPOC Station P** 47.35 298 *e*P P 06 08 14.5 -0.9
PB05 **IPOC Station P** 47.52 297 *e*P P 06 08 15.6 -1.1
PB04 **IPOC Station P** 47.94 298 *e*P P 06 08 19.6 -0.4
comp=Z,313nm,1.2s
PB04 **IPOC Station P** 47.94 298 *e*P P 06 08 18.9 -1.1
PB09 **IPOC Station P** 47.97 299 *e*P P 06 08 20.4 +0.1
PB03 **IPOC Station P** 48.00 298 *e*P P 06 08 19.7 -0.7
LBTB **Lobatse** 48.32 70 *e*P P 06 08 22.1 -0.7
comp=Z,29nm,0.8s
LBTB **Lobatse** 48.32 70 *e*P P 06 08 22.1 -0.7
LBTB pmax pmax
comp=Z,29nm,0.8s
PB07 **IPOC Station P** 48.34 298 *e*P P 06 08 22.5 -0.5
PB02 **IPOC Station P** 48.69 299 *e*P P 06 08 24.4 -1.3
PB01 **IPOC Station P** 48.73 299 *e*P P 06 08 26.2 +0.2
comp=Z,142nm,0.7s
PEXB **Peixe** 48.74 329 *e*P P 06 08 27.2 +1.2
H10S2 **ASCENSION HYDR** 49.14 14 T T 07 01 29.7
baz=188,slow=75,SNR=61
H10S3 **ASCENSION HYDR** 49.14 13 T T 07 01 29.7
baz=188,slow=75,SNR=18
H10S1 **ASCENSION HYDR** 49.16 14 T T 07 01 29.7
baz=188,slow=75,SNR=24
PB08 **IPOC Station P** 49.35 300 *e*P P 06 08 31.2 +0.1
TSUM **Tsumeb** 49.40 57 *i* P P 06 08 16.4 -15
TSUM **Tsumeb** 49.40 57 *e*P P 06 08 29.9 -1.4
comp=Z,13nm,0.9s
TSUM LR LR
comp=Z,1μm,20.0s
TSUM **Tsumeb** 49.40 57 *i* P P 06 08 16.4 -15
SIV **San Ignacio** 49.51 312 P P 06 08 31.7 -0.2
comp=Z,47nm,0.8s,baz=169,slow=7.5,SNR=183
GO01 **Chusmiza** 49.78 301 *e*P P 06 08 34.7 +0.2
GO01 LR LR
comp=Z,700nm,20.0s
PB11 **IPOC Station P** 49.92 300 *e*P P 06 08 34.8 -0.3
comp=Z,160nm,1.2s
PB11 LR LR
comp=Z,500nm,20.0s
PB11 **IPOC Station P** 49.92 300 *e*P P 06 08 34.4 -0.7
H10N1 **ASCENSION HYDR** 50.26 14 T T 07 02 57.9
baz=185,slow=74,SNR=16
H10N3 **ASCENSION HYDR** 50.26 14 T T 07 02 52.2
SNR=25
H10N2 **ASCENSION HYDR** 50.27 14 T T 07 02 59.1
baz=131,slow=74,SNR=26
CASY **Casey** 52.06 159 *e*P P 06 08 53.0 +2.5
comp=Z,27nm,0.8s
LPAZ **La Paz** 52.25 304 *e*P P 06 08 53.8 +0.6
comp=Z,108nm,0.6s
LPAZ **La Paz** 52.25 304 *e*P P 06 08 53.3 +0.2
LPAZ **La Paz** 52.25 304 *e*P P 06 08 53.8 +0.6
LPAZ pmax pmax
comp=Z,109nm,0.6s
LPAZ **La Paz** 52.25 304 P P 06 08 53.4 +0.2
comp=Z,94nm,0.6s,baz=146,slow=6.9,SNR=105
LPAZ LR LR 06 32 42.9
comp=Z,435nm,20.9s,baz=148,slow=38
LPAZ **La Paz** 52.25 304 *e*P P 06 08 53.4 +0.2
RCBR **Riachuelo** 52.31 346 *e*P P 06 08 54.9 +1.9
NBPA **Parau_RN** 52.55 345 *e*P P 06 08 55.3 +0.7
MSNA **Messina** 52.79 72 *i* P P 06 08 56.3 -0.2
MSNA **Messina** 52.79 72 *i* P P 06 08 56.3 -0.2
MATP **Matopo** 53.61 69 *i* P P 06 09 02.6 -0.1
MATP **Matopo** 53.61 69 *i* P P 06 09 02.6 -0.1
BLWY **Bulawayo** 53.91 69 *i* P P 06 09 04.5 -0.4
BLWY **Bulawayo** 53.91 69 *i* P P 06 09 04.5 -0.4
KRI **Karoi** 57.20 68 *i* P P 06 09 28.0 -0.6
KRI **Karoi** 57.20 68 *i* P P 06 09 28.0 -0.6
LSZ **Lusaka** 57.82 66 *i* P P 06 09 32.5 -0.4
LSZ **Lusaka** 57.82 66 *e*P P 06 09 32.6 -0.4
comp=Z,18nm,0.8s
LSZ LR LR
comp=Z,2μm,20.0s
LSZ **Lusaka** 57.82 66 *e*P P 06 09 32.6 -0.3
LSZ pmax pmax
comp=Z,18nm,0.8s
LSZ MLR MLR
comp=Z,2μm,20.0s
LSZ **Lusaka** 57.82 66 *i* P P 06 09 32.5 -0.3
NNA **Nana** 60.05 297 *e*P P 06 09 47.7 -0.5
comp=Z,33nm,0.9s
NNA *e*P P 06 09 48.1 -0.2
NNA LR LR
comp=Z,1μm,19.0s
NNA **Nana** 60.05 297 P P 06 09 48.1 -0.2
comp=Z,28nm,0.8s,baz=180,slow=6.4,SNR=12
PTGA **Pitinga** 63.12 320 *e*P P 06 10 08.8 -0.2
comp=Z,37nm,0.8s
PTGA LR LR
comp=Z,800nm,22.0s
PTGA **Pitinga** 63.12 320 P P 06 10 08.6 -0.3
comp=Z,38nm,0.8s,baz=167,slow=7.9,SNR=47
PTGA **Pitinga** 63.12 320 *e*P P 06 10 08.3 -0.6
ABPO **Ambohimpanom** 64.60 86 PFAKE 06 10 30.0 +11
ABPO LR LR
comp=Z,2μm,20.0s
ATAH **Atahualpa** 65.01 298 P P 06 10 22.6 +0.8
comp=Z,16nm,0.8s,baz=106,slow=6.8,SNR=9.2
LIC **Lamto** 65.60 22 *e*P P 06 10 24.6 -0.5
comp=Z,56nm,1.0s
KIC **Kosan Boka** 65.79 22 *e*P P 06 10 25.9 -0.4
comp=Z,38nm,1.0s
TIC **Toumodi** 66.01 22 *e*P P 06 10 27.4 -0.4
DBIC **Dimbokro** 66.07 22 *e*P P 06 10 26.9 -1.2
comp=Z,19nm,1.3s
DBIC **Dimbokro** 66.07 22 P P 06 10 27.8 -0.3
comp=Z,6.7nm,0.6s,baz=174,slow=6.9,SNR=14
DBIC LR LR 06 32 13.5
comp=Z,485nm,20.9s,baz=172,slow=30
DBIC **Dimbokro** 66.07 22 *e*P P 06 10 27.9 -0.1
MDP **Montagnes des** 66.36 330 P P 06 10 30.3 +0.3
comp=Z,25nm,0.6s,baz=171,slow=5.7,SNR=20
PTLC **Puerto Leguiza** 69.81 305 *e*P P 06 10 49.0 -2.7
PTLC **Puerto Leguiza** 69.81 305 *e*P P 06 10 49.0 -2.7
FLOC **Florencia** 71.45 305 *e*P P 06 11 01.1 -0.6
FLOC **Florencia** 71.45 305 *e*P P 06 11 01.1 -0.6
OTAV **Otavalo** 71.51 302 *e*P P 06 11 02.9 +0.3
comp=Z,75nm,1.4s
OTAV LR LR
comp=Z,300nm,20.0s
OTAV **Otavalo** 71.51 302 *e*P P 06 11 03.1 +0.6
OTAV **Otavalo** 71.51 302 *e*P P 06 11 02.9 +0.3
OTAV pmax pmax
comp=Z,75nm,1.4s
OTAV MLR MLR
comp=Z,300nm,20.0s
OTAV **Otavalo** 71.51 302 *e*P P 06 11 03.1 +0.6
OTAV **Otavalo** 71.51 302 *e*P P 06 11 03.2 +0.6
MBAR **Mbarara** 71.78 60 PFAKE 06 11 20.0 +16
MBAR LR LR
comp=Z,700nm,20.0s
CMBC **Cumbal** 71.85 303 *e*P P 06 11 06.5 +1.9
CMBC **Cumbal** 71.85 303 *e*P P 06 11 06.5 +1.9
GCUF **Volcan Galeras** 71.89 304 *e*P P 06 11 06.3 +1.4
GCUF **Volcan Galeras** 71.89 304 *e*P P 06 11 06.3 +1.4
CRUC **La Cruz** 72.01 304 *e*P P 06 11 06.9 +1.4
CRUC **La Cruz** 72.01 304 *e*P P 06 11 06.9 +1.4
SJAC **San Juan de Ar** 72.23 308 *e*P P 06 11 08.3 +1.8
SJAC **San Juan de Ar** 72.23 308 *e*P P 06 11 08.3 +1.8
SACV **Santiago Islan** 72.27 1 PFAKE 06 11 20.0 +14
SACV LR LR
comp=Z,1μm,18.0s
SOTA **Rioblanco** 72.36 305 *e*P P 06 11 08.6 +0.8
SOTA **Rioblanco** 72.36 305 *e*P P 06 11 08.6 +0.8
PCON **Cinco Dias** 72.44 305 *e*P P 06 11 09.2 +0.9
PCON **Cinco Dias** 72.44 305 *e*P P 06 11 09.2 +0.9
MARP **Paez Belalcaza** 72.71 306 *e*P P 06 11 09.8 +0.3
MARP **Paez Belalcaza** 72.71 306 *e*P P 06 11 09.8 +0.3
VILC **Villavicencio,** 72.87 308 *e*P P 06 11 10.3 0.0
VILC **Villavicencio,** 72.87 308 *e*P P 06 11 10.3 0.0
PRAC **Prado** 73.02 307 *e*P P 06 11 10.6 -0.5
PRAC **Prado** 73.02 307 *e*P P 06 11 10.6 -0.5
CHIC **Chingaza** 73.35 309 *e*P P 06 11 12.7 -0.8
CHIC **Chingaza** 73.35 309 *e*P P 06 11 12.7 -0.8
TOC4 **Torodi Ar. Sit** 73.78 27 PFAKE 06 11 30.0 +15
TOC4 LR LR
comp=Z,900nm,21.0s
TOC5 **Torodi Ar. Sit** 73.78 27 PFAKE 06 11 30.0 +15
TOC5 LR LR
comp=Z,1μm,21.0s
ROSC **El Rosal** 73.79 308 *e*P P 06 11 15.7 -0.4
comp=Z,29nm,0.8s
ROSC LR LR
comp=Z,300nm,21.0s
ROSC **El Rosal** 73.79 308 *e*P P 06 11 16.1 +0.1
ROSC **El Rosal** 73.79 308 *e*P P 06 11 16.1 +0.1
ROSC **El Rosal** 73.79 308 P P 06 11 15.8 -0.3
comp=Z,35nm,0.8s,baz=157,slow=4.9,SNR=26
ROSC LR LR 06 45 53.3
comp=Z,329nm,19.8s,baz=152,slow=38
TOB4 **Torodi Ar. Sit** 73.79 27 PFAKE 06 11 30.0 +15
TOB4 LR LR
comp=Z,900nm,22.0s
TOB3 **Torodi Ar. Sit** 73.80 27 PFAKE 06 11 30.0 +14
TOB3 LR LR
comp=Z,900nm,21.0s
TOA3 **Torodi Ar. Sit** 73.80 27 PFAKE 06 11 30.0 +14
TOA3 LR LR
comp=Z,900nm,22.0s
TOC3 **Torodi Ar. Sit** 73.80 27 PFAKE 06 11 30.0 +14
TOC3 LR LR
comp=Z,900nm,21.0s
TOA0 **Torodi Ar. Sit** 73.81 27 *e*P P 06 11 14.0 -1.5
TOA0 *e*P P 06 11 15.6 +0.1
TOA0 LR LR
comp=Z,1μm,22.0s
TORD **Torodi Ar. Bea** 73.81 27 P P 06 11 13.9 -1.6
comp=Z,24nm,0.8s,baz=223,slow=3.9,SNR=89
TORD LR LR 06 36 56.6
comp=Z,699nm,21.5s,baz=280,slow=30
TOB5 **Torodi Ar. Sit** 73.81 27 PFAKE 06 11 30.0 +14
TOB5 LR LR
comp=Z,1μm,22.0s
TOA1 **Torodi Ar. Sit** 73.81 27 *e*P P 06 11 13.9 -1.6
TOA1 LR LR
comp=Z,1μm,22.0s
TOB2 **Torodi Ar. Sit** 73.81 27 PFAKE 06 11 30.0 +14
TOB2 LR LR
comp=Z,1μm,22.0s
TOC7 **Torodi Ar. Sit** 73.82 27 PFAKE 06 11 30.0 +14
TOC7 LR LR
comp=Z,900nm,21.0s
TOC2 **Torodi Ar. Sit** 73.82 27 PFAKE 06 11 30.0 +14
TOC2 LR LR
comp=Z,900nm,21.0s
GRGC **Isla de Gorgon** 73.83 304 *e*P P 06 11 16.6 +0.8
GRGC **Isla de Gorgon** 73.83 304 *e*P P 06 11 16.6 +0.8
TOC1 **Torodi Ar. Sit** 73.83 27 PFAKE 06 11 30.0 +14
TOC1 LR LR
comp=Z,1μm,21.0s
YOTC **Yotoco, Valle** 73.90 306 *e*P P 06 11 15.1 -1.2
YOTC **Yotoco, Valle** 73.90 306 *e*P P 06 11 15.1 -1.2
TAMC **Tame, Arauca** 74.18 311 *e*P P 06 11 18.2 +0.3
TAMC **Tame, Arauca** 74.18 311 *e*P P 06 11 18.2 +0.3
RUSC **La Rusia** 74.22 310 *e*P P 06 11 17.3 -1.3
RUSC **La Rusia** 74.22 310 *e*P P 06 11 17.3 -1.3
RREF **El Recreo** 74.28 307 *e*P P 06 11 18.5 -0.7
RREF **El Recreo** 74.28 307 *e*P P 06 11 18.5 -0.7
MALC **Bahia Malaga** 74.36 305 *e*P P 06 11 19.6 +0.8
MALC **Bahia Malaga** 74.36 305 *e*P P 06 11 19.6 +0.8
KMBO **Kilima Mbogo** 74.47 67 *e*P P 06 11 19.1 -0.8
comp=Z,6.9nm,1.3s
KMBO LR LR
comp=Z,1μm,22.0s
KMBO **Kilima Mbogo** 74.47 67 *e*P P 06 11 19.1 -0.8
KMBO pmax pmax
comp=Z,7.0nm,1.3s
KMBO MLR MLR
comp=Z,1μm,22.0s
KMBO **Kilima Mbogo** 74.47 67 LR LR 06 41 46.0
comp=Z,693nm,18.3s,baz=203,slow=34
NORC **Norcasia** 74.67 308 *e*P P 06 11 18.7 -2.1
NORC **Norcasia** 74.67 308 *e*P P 06 11 18.7 -2.1
PLMC **San Jos del P** 74.69 306 *e*P P 06 11 20.2 -0.7
PLMC **San Jos del P** 74.69 306 *e*P P 06 11 20.2 -0.7
BARC **Barichara** 74.89 310 *e*P P 06 11 20.0 -2.2
BARC **Barichara** 74.89 310 *e*P P 06 11 20.0 -2.2
PAMC **Pamplona, Colo** 75.37 311 *e*P P 06 11 24.0 -1.3
PAMC **Pamplona, Colo** 75.37 311 *e*P P 06 11 24.0 -1.3
PTBC **PUERTO BERRIO,** 75.38 309 *e*P P 06 11 22.1 -2.6
PTBC **PUERTO BERRIO,** 75.38 309 *e*P P 06 11 22.1 -2.6
HELC **Santa Helena** 75.52 308 *e*P P 06 11 24.2 -1.8
HELC **Santa Helena** 75.52 308 *e*P P 06 11 24.2 -1.8
BRRC **Barranca, Sant** 75.58 310 *e*P P 06 11 24.2 -1.7
BRRC **Barranca, Sant** 75.58 310 *e*P P 06 11 24.2 -1.7
ZARC **Zaragoza, Cauc** 76.40 309 *e*P P 06 11 28.8 -1.8
ZARC **Zaragoza, Cauc** 76.40 309 *e*P P 06 11 28.8 -1.8
OCAC **Ocana** 76.44 310 *e*P P 06 11 28.9 -2.1
OCAC **Ocana** 76.44 310 *e*P P 06 11 28.9 -2.1
DBBC **Dabeiba** 76.55 307 *e*P P 06 11 31.0 -0.5
DBBC **Dabeiba** 76.55 307 *e*P P 06 11 31.0 -0.5
UREC **San Jos de Ur** 76.92 308 *e*P P 06 11 32.0 -1.6
UREC **San Jos de Ur** 76.92 308 *e*P P 06 11 32.0 -1.6
SMLC **San Martn de** 77.25 310 *e*P P 06 11 33.9 -1.5
SMLC **San Martn de** 77.25 310 *e*P P 06 11 33.9 -1.5
LBZ **Lake Benmore** 77.64 191 *e*PcP PcP 06 11 51.9 +4.5
RPZ **Rata Peaks** 78.21 192 *e*P P 06 11 41.9 +1.5
RPZ *e*P P 06 11 42.5 +2.1
RPZ **Rata Peaks** 78.21 192 P P 06 11 41.9 +1.5
comp=Z,15nm,0.9s,baz=122,slow=1.8,SNR=9.6
SJCC **San Jacinto, C** 78.70 309 *e*P P 06 11 43.5 0.0
SJCC **San Jacinto, C** 78.70 309 *e*P P 06 11 43.5 0.0
SMRC **Santa Marta, M** 79.45 311 *e*P P 06 11 47.1 -0.4
SMRC **Santa Marta, M** 79.45 311 *e*P P 06 11 47.1 -0.4
TAU **Tasmania Unive** 79.69 174 *e*P P 06 11 50.1 +1.6
comp=Z,81nm,0.9s
TAU **Tasmania Unive** 79.69 174 *e*P P 06 11 50.1 +1.6
TAU pmax pmax
comp=Z,81nm,0.9s
THZ **Tophouse** 79.91 193 *e*P P 06 11 51.6 +1.7
comp=Z,40nm,0.8s
SNZO **South Karori** 80.12 195 *e*P P 06 11 53.0 +2.1
MSEY **Mahe Island** 80.94 84 PFAKE 06 12 10.0 +14
MSEY LR LR
comp=Z,800nm,20.0s
MSEY **Mahe Island** 80.94 84 *ce*P P 06 11 50.0 -5.7
SMRT **St. Maarten** 81.72 324 *e*P P 06 11 59.4 -0.2
comp=Z,39nm,0.9s
SMRT LR LR
comp=Z,400nm,18.0s
BKZ **Black Stump Fm** 81.96 197 *e*P P 06 12 03.1 +2.3
comp=Z,16nm,0.9s
BKZ LR LR
comp=Z,1μm,18.0s
MTP **Monte Pirata** 82.58 321 *e*P P 06 12 03.8 -0.2
comp=Z,25nm,1.0s
MTP LR LR
comp=Z,600nm,20.0s
STVI **Saint Thomas** 82.62 322 *e*P P 06 12 04.3 +0.1
comp=Z,34nm,0.8s
CUPR **Culebra, Puert** 82.68 322 *e*P P 06 12 04.3 -0.2
comp=Z,101nm,1.3s
HUMP **Col San Antoni** 82.72 321 *e*P P 06 12 04.0 -0.7
comp=Z,56nm,1.3s
URZ **Urewera** 82.75 197 *e*P P 06 12 06.3 +1.5
URZ *e*P P 06 12 06.6 +1.7
URZ **Urewera** 82.75 197 P P 06 12 06.3 +1.5
comp=Z,6.0nm,0.5s,baz=262,slow=8.4,SNR=6.6
SJG **San Juan** 82.80 321 *e*P P 06 12 03.9 -1.2
SJG *e*P P 06 12 04.5 -0.6
SJG LR LR
comp=Z,400nm,21.0s
SJG **San Juan** 82.80 321 *e*P P 06 12 03.9 -1.2
SJG MLR MLR
comp=Z,400nm,21.0s
SJG **San Juan** 82.80 321 P P 06 12 03.9 -1.2
comp=Z,12nm,0.7s,baz=21,slow=2.1,SNR=4.7
CBYP **Canovanas** 82.84 321 *e*P P 06 12 04.9 -0.6
comp=Z,32nm,0.9s
CBYP LR LR
comp=Z,700nm,22.0s
HIZ **Hauiti** 82.85 196 PFAKE 06 12 20.0 +15
HIZ LR LR
comp=Z,1μm,20.0s
CRPR **Cabo Rojo, PR** 83.03 320 *e*P P 06 12 06.1 -0.2
comp=Z,49nm,1.1s
EMPR **Esperanza - Ma** 83.26 321 PFAKE 06 12 20.0 +12
EMPR LR LR
comp=Z,600nm,21.0s
JTS **JuntasAbangare** 83.36 301 *e*P P 06 12 07.6 -0.6
comp=Z,45nm,1.4s
JTS **JuntasAbangare** 83.36 301 *i* P P 06 12 08.0 -0.2
JTS pmax pmax
comp=Z,14nm,1.0s
JTS **JuntasAbangare** 83.36 301 P P 06 12 08.4 +0.1
comp=Z,9.6nm,0.7s,baz=115,slow=3.1,SNR=5.8
FURI **Furi** 83.85 63 PFAKE 06 12 20.0 +8.9
FURI LR LR
comp=Z,1μm,22.0s
TAM **Tamanrasset** 84.02 28 *e*P P 06 12 12.4 +0.9
TAM **Tamanrasset** 84.02 28 *e*P P 06 12 12.4 +0.9
SDD **Santo Domingo** 84.44 318 PFAKE 06 12 20.0 +6.4
SDD LR LR
comp=Z,600nm,21.0s
ESPN **Las Esperanzas** 84.73 302 *e*P P 06 12 14.0 -1.2
comp=Z,32nm,0.6s
TOO **Toolangi** 84.89 172 *e*P P 06 12 16.3 +0.4
comp=Z,26nm,0.9s
TOO LR LR
comp=Z,1μm,22.0s
TOO **Toolangi** 84.89 172 *e*P P 06 12 16.3 +0.4
TOO pmax pmax
comp=Z,26nm,0.9s
TOO MLR MLR
comp=Z,1μm,22.0s
ACON **Acoyapa** 84.93 301 *e*P P 06 12 15.0 -1.2
comp=Z,39nm,0.7s
CSGN **Cosiguina Volc** 86.92 300 PFAKE 06 12 40.0 +14

CSGN LR LR
comp=Z,400nm,19.0s
TBI Tubuai 87.06 229 *e*S **S 06 23 03.6 0.0**
comp=Z,287nm,28.5s
TBI Tubuai 87.06 229 *e*LR LR 06 40 09.3
comp=Z,692nm,35.0s
CAN Canberra 87.33 175 *e*P **P 06 12 29.7 +1.7**
CAN Canberra 87.33 175 *e*P **P 06 12 29.7 +1.7**
FORT Forrest 89.11 157 *e*P **P 06 12 38.1 +1.7**
comp=Z,84nm,0.9s
APG El Apazote 90.05 298 P **P 06 12 41.3 +0.2**
comp=Z,17nm,0.9s,baz=128,slow=2.7,SNR=6.7
STKA Stephens Creek 90.19 169 *e*P **P 06 12 43.0 +1.5**
comp=Z,6.1nm,0.9s
STKA LR LR
comp=Z,200nm,19.0s
STKA Stephens Creek 90.19 169 *e*P **P 06 12 43.0 +1.5**
STKA pmax pmax
comp=Z,6.0nm,0.9s
STKA MLR MLR
comp=Z,200nm,19.0s
STKA Stephens Creek 90.19 169 P **P 06 12 42.4 +0.9**
comp=Z,21nm,0.9s,baz=168,slow=6.0,SNR=20
STKA LR LR 06 53 30.2
comp=Z,997nm,18.0s,baz=192,slow=36
DAMY Dhamar 91.52 65 PFAKE 06 13 00.0 +12
DAMY LR LR
comp=Z,700nm,22.0s
PPT2 Papeete2 92.24 232 *e*PS PS 06 25 12.9 +7.4
comp=Z,388nm,32.0s
PPT2 Papeete2 92.24 232 *e*LR LR 06 42 38.2
comp=Z,3µm,24.5s,baz=156
PPT Papeete 92.26 232 LR LR 06 45 08.4
comp=Z,1µm,21.6s,baz=154,slow=30
TAOE Nuku Hiva Isla 95.62 244 *e*LR LR 06 44 00.3
comp=Z,678nm,27.7s
CART Cartagena 96.91 19 PFAKE 06 13 20.0 +8.2
CART LR LR
comp=Z,800nm,21.0s
ASAR Alice Springs 97.16 161 P **P 06 13 13.4 -0.3**
comp=Z,7.8nm,0.7s,baz=191,slow=3.8,SNR=47
ASAR PP **PP 06 17 14.8 +5.8**
comp=Z,2.0nm,1.0s,baz=182,slow=8.0,SNR=4.5
ASAR PKKPbc **PKKPdf 06 29 52.0 +1.5**
comp=Z,1.4nm,0.9s,baz=0.1,slow=2.5,SNR=7.5
ASAR LR LR 06 54 27.2
comp=Z,405nm,20.8s,baz=183,slow=34
AS31 Alice Springs 97.16 161 *e*P Pdif 06 13 14.2 +0.4
comp=Z,3.7nm,1.0s
AS01 Alice Springs 97.17 161 *e*P **P 06 13 13.2 -0.5**
KEST Kesra 97.32 28 PFAKE 06 13 20.0 +6.0
KEST LR LR
comp=Z,700nm,21.0s
KEST Kesra 97.32 28 LR LR 06 52 31.3
comp=Z,446nm,20.4s,baz=175,slow=33
DWPF Disney Wildern 97.58 312 *e*P Pdif 06 13 17.3 +2.1
ESDC Sonseca Array 98.47 16 LR LR 06 52 01.4
comp=Z,206nm,21.8s,baz=160,slow=32
ESLA Sonseca Array 98.47 16 PFAKE 06 13 30.0 +11
ESLA LR LR
comp=Z,400nm,20.0s
555A McAlpin 99.98 312 PFAKE 06 13 40.0 +14
555A LR LR
comp=Z,1µm,20.0s
DZM Mont Dzumac 100.10 191 *e*LR LR 06 46 24.5
comp=Z,690nm,23.1s
WR1 Warramunga Arr 100.88 160 *e*Pdif **Pdif 06 13 30.4 +0.1**
WR1 *e*PP **PP 06 17 33.4 -4.0**
WR1 *e*PKiKP **PKiKP 06 17 54.2 -1.5**
WR1 *e*PKKPbc **PKKPbc 06 29 41.2 +1.4**
WRA Warramunga Arr 100.88 160 P **Pdif 06 13 30.4 0.0**
comp=Z,1.5nm,0.5s,baz=196,slow=4.2,SNR=27
WRA PP **PP 06 17 33.4 -4.0**
comp=Z,0.8nm,1.0s,baz=217,slow=7.0,SNR=5.0
WRA PKiKP **PKiKP 06 17 54.2 -1.5**
comp=Z,1.2nm,0.8s,baz=225,slow=1.4,SNR=6.0
WRA PKKPbc **PKKPbc 06 29 41.2 +1.4**
comp=Z,2.5nm,0.8s,baz=358,slow=2.9,SNR=11
WRAB Tennant Creek 100.89 160 PFAKE 06 13 40.0 +10
WRAB LR LR
comp=Z,800nm,20.0s
WRAB Tennant Creek 100.89 160 *i* P **Pdif 06 13 31.8 +1.5**
WRAB pmax pmax
comp=Z,5.0nm,1.1s
253A Americus 102.15 312 PFAKE 06 13 50.0 +15
253A LR LR
comp=Z,1µm,22.0s
152A Waverly Hall 102.92 312 PFAKE 06 13 50.0 +11
152A LR LR
comp=Z,1µm,22.0s
Z50A Ashland 103.92 311 PFAKE 06 13 50.0 +6.7
Z50A LR LR
comp=Z,1µm,22.0s
CSS Mathiatis 104.34 46 PFAKE 06 14 00.0 +15
CSS LR LR
comp=Z,500nm,22.0s
PALK Pallekele 104.49 99 PFAKE 06 14 00.0 +14
PALK LR LR
comp=Z,400nm,20.0s
AQU L'Aquila 104.60 28 PFAKE 06 14 00.0 +14
AQU LR LR
comp=Z,400nm,20.0s
V52A Sevierville 105.26 314 PFAKE 06 18 10.0 +6.9
V52A LR LR
comp=Z,800nm,21.0s
X48A Hartselle 105.42 311 PFAKE 06 18 20.0 +17
X48A LR LR
comp=Z,900nm,20.0s
VLC Villacollemand 105.56 26 PFAKE 06 18 20.0 +17
VLC LR LR
comp=Z,800nm,21.0s
BNI Bardonecchia 105.60 23 PFAKE 06 18 20.0 +16
BNI LR LR
comp=Z,700nm,20.0s
MANT Manisa 105.70 41 PFAKE 06 18 20.0 +16
MANT LR LR
comp=Z,1µm,19.0s
TTG Podgorica 106.27 33 PFAKE 06 18 20.0 +15
TTG LR LR
comp=Z,300nm,20.0s
PLAL Pickwick Lake 106.30 310 PFAKE 06 18 20.0 +15
PLAL LR LR
comp=Z,800nm,20.0s
MVL Millersville 106.32 321 PFAKE 06 18 20.0 +15
MVL LR LR
comp=Z,1µm,21.0s
NATX Nacogdoches 106.38 304 PFAKE 06 18 20.0 +15
NATX LR LR
comp=Z,500nm,19.0s
V48A Smith Brothers 106.45 312 PFAKE 06 18 20.0 +15
V48A LR LR
comp=Z,900nm,22.0s
SENIN Lac Senin/Sane 106.98 23 PFAKE 06 18 20.0 +14
SENIN LR LR
comp=Z,700nm,22.0s
WVT Waverly 107.19 311 PFAKE 06 18 20.0 +13
WVT LR LR
comp=Z,800nm,20.0s
FUORN Ofenpass-Fuorn 107.86 25 PFAKE 06 18 20.0 +12
FUORN LR LR
comp=Z,700nm,21.0s
COEN Coen 108.07 168 PFAKE 06 18 20.0 +11
COEN LR LR
comp=Z,900nm,19.0s
T45A Paducah 108.29 311 PFAKE 06 18 20.0 +11
T45A LR LR
comp=Z,1µm,22.0s
PARMO Parma 108.44 310 PFAKE 06 18 20.0 +11
PARMO LR LR
comp=Z,800nm,21.0s
ANTO Ankara 108.45 43 PFAKE 06 18 20.0 +11
ANTO LR LR
comp=Z,300nm,21.0s
TXAR Lajitas Array 108.57 295 PKiKP **PKiKP 06 18 09.3 -0.3**
comp=Z,1.3nm,0.8s,baz=160,slow=3.9,SNR=9.2
BR101 Keskin Array S 108.64 44 *e*PKKPbc PKKPbc 06 29 19.3 +1.8
BRTR Keskin Array B 108.64 44 PKKPbc PKKPbc 06 29 19.3 +1.8
comp=Z,1.2nm,0.8s,baz=72,slow=5.1,SNR=5.3
BKNI Bangkinang 108.75 121 PFAKE 06 18 20.0 +10
BKNI LR LR
comp=Z,600nm,21.0s
BFO Black Forest 109.06 23 PFAKE 06 18 20.0 +10
BFO LR LR
comp=Z,500nm,21.0s
OLIL Olney 109.54 312 PFAKE 06 18 20.0 +9.1
OLIL LR LR
comp=Z,700nm,21.0s
STU Stuttgart 109.67 23 PFAKE 06 18 20.0 +9.2
STU LR LR
comp=Z,500nm,21.0s
PSI Prapat 109.94 118 PFAKE 06 18 20.0 +7.3
PSI LR LR
comp=Z,1µm,22.0s
SLM Saint Louis 110.32 311 PFAKE 06 18 20.0 +7.6
SLM LR LR
comp=Z,1µm,20.0s
GEC2 GERESS Array S 110.75 26 PFAKE 06 18 20.0 +7.0
GEC2 LR LR
comp=Z,600nm,20.0s
GERES GERESS Array B 110.75 26 PKiKP **PKiKP 06 18 11.6 -1.4**
comp=Z,0.2nm,0.3s,baz=231,slow=4.7,SNR=3.7
GRFO Grafenberg 110.97 24 PFAKE 06 18 30.0 +17
GRFO LR LR
comp=Z,400nm,22.0s
GRA1 Grafenberg Arr 110.98 24 PFAKE 06 18 30.0 +17
GRA1 LR LR
comp=Z,400nm,21.0s
KHC Kasperske Hory 110.99 26 PFAKE 06 18 30.0 +17
KHC LR LR
comp=Z,100nm,21.0s
KHC Kasperske Hory 110.99 26 *e*SP SP 06 28 22.1 +2.6
KHC AMS AMS 06 59 30.0
comp=Z,300nm,20.7s
MYKOM Kota Tinggi 111.33 123 PFAKE 06 18 30.0 +15
MYKOM LR LR
comp=Z,300nm,19.0s
TREC Trest 111.60 27 AMS AMS 06 59 40.0
comp=Z,800nm,24.9s
VYHS Vyhne 111.72 30 *e*P **Pdif 06 14 23.9 +6.3**
VYHS Vyhne 111.72 30 *e*PDIF **Pdif 06 14 23.9 +6.3**
MSTX Muleshoe 111.96 299 P **PKiKP 06 18 15.6 -0.2**
baz=145
GOPC GO Pecny, Ondr 112.01 26 *e*SP SP 06 28 49.1 +20
GOPC AMS AMS 07 00 40.0
comp=Z,400nm,20.1s
PRU Pruhonice 112.02 26 *e*SP SP 06 28 39.1 +10
PRU AMS AMS 07 00 40.0
comp=Z,400nm,22.3s
IPM Ipoh 112.40 119 PFAKE 06 18 30.0 +13
IPM LR LR
comp=Z,500nm,22.0s
PVCC Panska Ves 112.53 26 AMS AMS 07 00 40.0
comp=Z,400nm,18.8s
DPC Dobruska-Polom 112.78 27 *e*SP SP 06 28 49.5 +14
DPC AMS AMS 07 00 40.0
comp=Z,500nm,22.7s
UPC Upice 112.85 27 *e*SP SP 06 28 53.4 +17
UPC AMS AMS 07 01 10.0
comp=Z,400nm,17.2s
CLL Collm 112.89 25 PFAKE 06 18 30.0 +13
CLL LR LR
comp=Z,400nm,22.0s
CLL Collm 112.89 25 *e*PS PS 06 28 45.0 +4.6
CLL *e*PPS PPS 06 29 48.0
CLL *e*SS SS 06 34 49.0 +1.7
CLL *e* 06 37 30.0
CLL *e*(SSS) 06 38 42.0
CLL *e*SSSS 06 42 12.0
CLL *e* 06 45 36.0
KULM Kulim 112.93 118 PFAKE 06 18 30.0 +12
KULM LR LR
comp=Z,100nm,21.0s
PMG Port Moresby 112.96 172*c i*PKiKP **PKiKP 06 18 13.6 -4.6**
PMG pmax pmax
comp=Z,209nm,1.7s
KARS Kars 113.13 50 PFAKE 06 18 30.0 +12
KARS LR LR
comp=Z,1µm,20.0s
121A Cookes Peak, D 113.20 294 P **PKiKP 06 18 18.4 +0.1**
baz=144
GNI Garni 113.43 52 PFAKE 06 18 30.0 +12
GNI LR LR
comp=Z,300nm,19.0s
KSM Kuching 113.84 130 PFAKE 06 18 30.0 +10
KSM LR LR
comp=Z,300nm,18.0s
PBA Port Blair 114.49 108 PFAKE 06 18 30.0 +9.0
PBA LR LR
comp=Z,800nm,22.0s
TUC Tucson 114.51 292 P **PKiKP 06 18 20.9 +0.2**
baz=144
ANMO Albuquerque 114.51 297*c i*PKIKP PKPdf 06 18 20.0 -0.8
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 114.51 297 P **PKiKP 06 18 20.6 -0.2**
baz=144
TASM ASL Pad, Albuq 114.52 297 P **PKiKP 06 18 20.7 0.0**
baz=144
TASM ASL Pad, Albuq 114.52 297 P **PKiKP 06 18 21.0 +0.2**
baz=144
J39A Decorah 114.89 312 P PKPdf 06 18 20.7 -0.2
baz=147
I39A Houston 115.25 313 P **PKPdf 06 18 21.3 -0.3**
baz=147
T25A Trinidad 115.31 300 *e*PKPdf **PKiKP 06 18 22.9 +0.6**
T25A Trinidad 115.31 300 P **PKiKP 06 18 22.5 +0.2**
baz=144
H40A Chili 115.45 314 P **PKiKP 06 18 21.8 -0.2**
baz=147
SBUM Sibu 115.51 131 PFAKE 06 18 40.0 +17
SBUM LR LR
comp=Z,300nm,21.0s
H39A Augusta 115.84 313 P **PKPdf 06 18 22.4 -0.3**
baz=147
X18A Snowflake 115.88 294 *e*PKPdf **PKiKP 06 18 24.5 +1.1**
G40A Rib Lake 115.92 315 P **PKiKP 06 18 22.8 0.0**
baz=147
KSCO Kaye Shedlock' 116.00 302 P **PKPdf 06 18 23.1 -0.4**
baz=144
H38A Maiden Rock 116.23 313 P **PKPdf 06 18 23.1 -0.4**
baz=146
G39A Holcombe 116.31 314 P **PKPdf 06 18 23.2 -0.4**
baz=146
SDCO Great Sand Dun 116.32 299 *e*PKPdf **PKiKP 06 18 24.8 +0.6**
SDCO Great Sand Dun 116.32 299 P **PKPdf 06 18 24.0 -0.3**
baz=144
GROC Groznyy 116.40 50 *i* PKIKP **PKiKP 06 18 25.5 +1.7**
GROC *e* 06 19 29.8
GROC pmax pmax
comp=Z,22nm,0.4s
F40A Park Falls 116.43 315 P **PKPdf 06 18 23.2 -0.6**
baz=147
E41A Kenton 116.45 316 P **PKPdf 06 18 23.4 -0.5**
baz=147
G38A Ridgeland 116.47 313 P **PKPdf 06 18 23.2 -0.7**
baz=146
X16A Lo Mia Camp, P 116.53 293 *e*PKPdf **PKiKP 06 18 25.3 +0.6**
AK11 Malin Array Si 116.67 35 *e*PKPdf **PKPdf 06 18 23.3 -0.8**
KIEV Kiev 116.70 35 *i* PKIKP **PKPdf 06 18 23.7 -0.4**
AKASG Malin Array Be 116.71 35 PKP **PKPdf 06 18 22.8 -1.4**
comp=Z,1.3nm,0.5s,baz=242,slow=1.8,SNR=8.4
F39A Loretta 116.73 314 P **PKPdf 06 18 24.1 -0.4**
baz=146
E40A Wakefield 116.79 315 P **PKPdf 06 18 24.1 -0.4**
baz=147
SPMN Marine on St. 116.89 313 PFAKE 06 18 40.0 +15
SPMN LR LR
comp=Z,500nm,21.0s
SPMN Marine on St. 116.89 313 P **PKPdf 06 18 24.5 -0.3**
baz=146
MAK Makhachkala 116.92 52 *i* PKIKP **PKPdf 06 18 24.3 -0.5**
MAK *e* 06 19 32.9
MAK *e*PS **PS 06 29 22.1 +4.8**
MAK pmax pmax
comp=Z,57nm,0.5s
S22A 4UR Ranch, Cre 116.94 298 *e*PKPdf **PKPdf 06 18 25.1 -0.4**
S22A 4UR Ranch, Cre 116.94 298 P **PKPdf 06 18 25.3 -0.2**
baz=143
E39A Mellen 116.98 315 P **PKPdf 06 18 24.5 -0.4**
baz=146
SCHQ Schefferville 117.06 334 PKP **PKPdf 06 18 24.4 -0.4**
comp=Z,3.6nm,0.4s,baz=229,slow=8.3,SNR=5.2
F38A Pierce - Schro 117.14 314 P **PKPdf 06 18 24.9 -0.2**
baz=146
GLA Glamis 117.15 289 P **PKiKP 06 18 26.0 +0.2**
baz=143
ECSD EROS Data Cent 117.22 309 *e*PKPdf **PKPdf 06 18 24.4 -1.0**
ECSD EROS Data Cent 117.22 309 P **PKPdf 06 18 25.0 -0.4**
baz=145
F37A Hinrichs Farm, 117.24 313 P **PKPdf 06 18 25.0 -0.4**
baz=146
OGNE Ogallala 117.30 304 P **PKPdf 06 18 25.6 -0.2**
baz=144
MVCO Mesa Verde 117.31 297 *e*PKPdf **PKPdf 06 18 25.8 -0.4**
MVCO Mesa Verde 117.31 297 P **PKiKP 06 18 26.2 +0.1**
baz=143
WUAZ Wupatki 117.37 294 *e*PKPdf **PKPdf 06 18 25.8 -0.4**
WUAZ Wupatki 117.37 294 P **PKiKP 06 18 26.4 +0.2**
baz=143
IKP In-Ko-Pah, Jac 117.48 288 P **PKiKP 06 18 26.8 +0.4**
baz=142
Y12C Blythe 117.55 290 *e*PKPdf **PKiKP 06 18 26.7 +0.3**
Y12C Blythe 117.55 290 P **PKiKP 06 18 26.8 +0.4**
baz=142
SWSC Sam W. Stewart 117.56 288 P **PKPdf 06 18 26.1 -0.3**
baz=142
PDMCI Parker Dam,Lak 117.79 291 P **PKiKP 06 18 27.2 +0.3**
baz=142
MONP2 Monument Peak 117.83 288 P **PKiKP 06 18 27.7 +0.5**
baz=142
BC3 Big Chuckawall 117.94 289 P **PKiKP 06 18 28.0 +0.6**
baz=142
ISCO Idaho Springs 118.01 301 *e*PKPdf **PKiKP 06 18 27.5 0.0**
ISCO Idaho Springs 118.01 301 *e*PKIKP **PKiKP 06 18 27.5 0.0**
ISCO Idaho Springs 118.01 301 P **PKiKP 06 18 27.7 +0.1**
baz=143
SMCO Snowmass 118.15 299 *e*PKPdf **PKPdf 06 18 27.2 -0.7**
IRM Iron Mountain 118.18 290 P **PKiKP 06 18 28.1 +0.4**
baz=142
W13A Hualapai Mount 118.29 291 *e*PKPdf **PKPdf 06 18 27.9 -0.2**
PFO Pinyon Flats O 118.42 288 P **PKiKP 06 18 28.7 +0.5**
baz=142
BELC Belle Mtn. Jos 118.49 289 P **PKiKP 06 18 29.2 +0.8**
baz=142
U15A North Rim 118.54 293 *e*PKPdf **PKPdf 06 18 28.3 -0.3**
EYMN Ely 118.64 315 P **PKPdf 06 18 27.1 -0.9**
baz=146
SIJI Sorong 118.72 153 PKP **PKiKP 06 18 30.6 +1.2**
comp=Z,7.0nm,0.5s,baz=196,slow=1.1,SNR=3.5
GMRC Granite Mounta 118.94 290 P **PKiKP 06 18 29.8 +0.5**
baz=142
N23A Red Feather La 119.04 301 *e*PKPdf **PKiKP 06 18 29.5 0.0**
N23A Red Feather La 119.04 301 P **PKiKP 06 18 29.3 -0.2**
baz=142
PHWY Pilot Hill 119.14 302 *e*PKPdf **PKPdf 06 18 28.6 -1.0**
KNB Kanab 119.27 294 *e*PKPdf **PKiKP 06 18 30.4 +0.5**
KNB Kanab 119.27 294 *e*PKIKP **PKiKP 06 18 30.4 +0.5**
HEC Hector,Ludlow 119.31 289 P **PKiKP 06 18 30.1 +0.2**
baz=142
LCMT Little Creek M 119.47 293 *e*PKPdf **PKiKP 06 18 31.1 +0.8**
O20A White River Ci 119.51 299 *e*PKPdf **PKiKP 06 18 30.6 +0.3**
O20A White River Ci 119.51 299 P **PKiKP 06 18 30.4 +0.1**
baz=142
BFSC Mount Baldy Ra 119.53 288 P **PKiKP 06 18 30.6 +0.1**
baz=142
MTPU Mount Pierson 119.76 295 *e*PKPdf **PKiKP 06 18 32.0 +1.0**
SRU San Rafael Swe 119.79 297 *e*PKPdf **PKiKP 06 18 31.0 +0.1**
SRU San Rafael Swe 119.79 297 *e*PKIKP **PKiKP 06 18 31.0 +0.1**
SZCU Shurtz Canyon 119.85 294 *e*PKPdf **PKiKP 06 18 31.7 +0.6**
GSC Goldstone, Bar 119.92 289 *e*PKPdf **PKiKP 06 18 32.2 +1.1**
GSC Goldstone, Bar 119.92 289 *e*PKIKP **PKiKP 06 18 32.2 +1.1**
GSC Goldstone, Bar 119.92 289 P **PKiKP 06 18 31.6 +0.5**
baz=142
Q16A Castle Valley 119.95 296 *e*PKPdf **PKiKP 06 18 31.6 +0.4**
CCUT Cedar City 119.95 294 *e*PKPdf **PKiKP 06 18 31.9 +0.6**
SHPR Sheep Range 120.03 291 *e*PKPdf **PKiKP 06 18 32.4 +1.0**
SHOC Shoshone, Teco 120.12 290 P **PKiKP 06 18 31.7 +0.3**
baz=141
MSU Marysvale 120.12 295 *e*PKPdf **PKiKP 06 18 32.6 +1.0**
P17A Butcher Ranch, 120.18 297 *e*PKPdf **PKiKP 06 18 32.2 +0.6**
EDW2 Edwards Air Fo 120.20 288 P **PKiKP 06 18 31.8 +0.2**
baz=141
RWWY Rawlins 120.25 301 *e*PKPdf **PKiKP 06 18 31.6 -0.2**
TMUT Trail Mountain 120.27 296 *e*PKPdf **PKiKP 06 18 31.9 0.0**
TCRU Three Creeks R 120.33 295 *e*PKPdf **PKiKP 06 18 32.1 +0.1**
KBL Kabul 120.42 73 PFAKE 06 18 40.0 +7.7
KBL LR LR
comp=Z,200nm,22.0s
AGMN Agassiz Nation 120.62 313 *e*PKPdf **PKPdf 06 18 31.4 -0.4**
AGMN Agassiz Nation 120.62 313 P **PKPdf 06 18 31.0 -0.8**
baz=144
K22A Casper 120.69 302 P **PKPdf 06 18 31.9 -0.5**
baz=142
RSSD Black Hills 120.72 305 *e*PKPdf **PKPdf 06 18 32.2 -0.2**
RSSD Black Hills 120.72 305 *e*PKIKP **PKPdf 06 18 32.2 -0.2**
RSSD Black Hills 120.72 305 P **PKPdf 06 18 32.1 -0.4**
baz=142
MPMC Manual Prospec 120.86 289 P **PKiKP 06 18 33.5 +0.4**
baz=141
FURC Furnace Creek, 120.86 290 P **PKiKP 06 18 33.7 +0.9**
baz=141
TPNV Topopah Spring 120.93 291 *e*PKPdf **PKiKP 06 18 34.0 +0.8**
TPNV Topopah Spring 120.93 291 *e*PKIKP **PKiKP 06 18 34.0 +0.8**
TPNV Topopah Spring 120.93 291 P **PKiKP 06 18 33.8 +0.6**
baz=141
PSUT Pine Spring 120.96 294 *e*PKPdf **PKiKP 06 18 33.9 +0.6**
MPU Maple Canyon 121.03 297 *e*PKPdf **PKiKP 06 18 33.9 +0.7**
ISA Isabella, Lake 121.06 288 *e*PKPdf **PKiKP 06 18 34.1 +0.8**
ISA Isabella, Lake 121.06 288 *e*PKIKP **PKiKP 06 18 34.1 +0.8**
ISA Isabella, Lake 121.06 288 P **PKiKP 06 18 34.2 +0.9**
baz=141
DAC Darwin (Calif) 121.08 290 *e*PKPdf **PKiKP 06 18 35.6 +2.2**
PKM Mcpherson Peak 121.14 287 P **PKiKP 06 18 34.7 +1.0**
baz=141
NLU North Lily Min 121.20 296 *e*PKPdf **PKiKP 06 18 34.2 +0.5**
NLU LR LR
comp=Z,500nm,19.0s
JLU Jordanelle 121.40 297 *e*PKPdf **PKiKP 06 18 33.9 -0.2**
CWC Cottonwood Cre 121.46 289 P **PKiKP 06 18 34.5 +0.3**
baz=141
GRAC Grapevine Rang 121.53 290 P **PKiKP 06 18 34.9 +0.7**
baz=141
NB2 NORSAR Subarra 121.61 20 PKPdf **PKPdf 06 18 32.8 -0.5**
comp=Z,0.6nm,0.7s,baz=202,slow=1.9
NOA NORSAR Array B 121.61 20 PKP **PKiKP 06 18 33.2 -0.3**
comp=Z,2.3nm,0.8s,baz=199,slow=1.8,SNR=12
CTU Camp Tracy 121.61 297 *e*PKPdf **PKiKP 06 18 34.7 +0.3**
R11A Troy Canyon, C 121.68 293 *e*PKPdf **PKiKP 06 18 34.7 +0.1**
R11A Troy Canyon, C 121.68 293 P **PKiKP 06 18 35.0 +0.5**
baz=141
DUG Dugway, Tooele 121.74 296 *e*PKPdf **PKiKP 06 18 35.5 +0.9**
DUG Dugway, Tooele 121.74 296 P **PKiKP 06 18 35.0 +0.4**
baz=141
MDND Maddock 121.77 310 *e*PKPdf **PKPdf 06 18 33.8 -0.2**
MDND Maddock 121.77 310 P **PKPdf 06 18 33.5 -0.6**
baz=142
NIL Nilore 121.92 77 *e*PKPdf **PKiKP 06 18 34.9 -0.1**
NIL LR LR
comp=Z,400nm,22.0s
PD31 Pinedale Array 122.18 300 *e*PKPdf **PKPdf 06 18 35.0 -0.4**
PDAR Pinedale Array 122.18 300 *e*PKPdf **PKPdf 06 18 34.2 -1.1**
PDAR Pinedale Array 122.18 300 PKP **PKPdf 06 18 34.9 -0.4**
comp=Z,2.9nm,0.5s,baz=133,slow=5.1,SNR=32
BW06 Boulder Array 122.18 300 *e*PKPdf **PKPdf 06 18 35.0 -0.3**
BW06 Boulder Array 122.18 300 P **PKPdf 06 18 34.8 -0.6**
baz=140
ULM Lac du Bonnet 122.19 314 *e*PKPdf **PKPdf 06 18 34.2 -0.6**
ULM Lac du Bonnet 122.19 314 *e*PKIKP **PKPdf 06 18 34.2 -0.6**
ULM Lac du Bonnet 122.19 314 PKP **PKPdf 06 18 33.5 -1.3**
comp=Z,14nm,0.7s,baz=148,slow=2.8,SNR=38
HWUT Hardware Ranch 122.23 298 *e*PKPdf **PKiKP 06 18 35.9 +0.4**
DLV T Lat 122.40 123 PFAKE 06 18 50.0 +13
DLV LR LR
comp=Z,400nm,22.0s
BGU Big Grassy Mou 122.41 296 *e*PKPdf **PKiKP 06 18 36.5 +0.6**
SPUT South Promonto 122.42 297 *e*PKPdf **PKiKP 06 18 36.6 +0.7**
VSU Vasula 122.75 29*c i*PKIKP **PKiKP 06 18 35.6 -0.1**
VSU pmax pmax
comp=Z,25nm,0.7s
OBN Obninsk 122.80 37 PFAKE 06 18 50.0 +14
OBN LR LR
comp=Z,300nm,21.0s
OBN Obninsk 122.80 37 *i* PKIKP **PKPdf 06 18 34.2 -1.5**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OMMB Old Mammoth Mi 122.83 289 *e*PKPdf **PKiKP 06 18 38.4 +1.4**
MDPB Devils Postpil 122.89 289 *e*PKPdf **PKiKP 06 18 38.5 +1.4**
HVU Hansel Valley 122.94 297 *e*PKPdf **PKiKP 06 18 37.5 +0.6**
HVU Hansel Valley 122.94 297 *e*PKIKP **PKiKP 06 18 37.5 +0.6**
NV11 Mina Array Sit 123.03 291 *e*PKPdf **PKiKP 06 18 38.0 +0.8**
NV01 Mina Array Sit 123.10 291 *e*PKPdf **PKiKP 06 18 38.1 +0.7**
NVAR Mina Array Bea 123.10 291 PKP **PKiKP 06 18 38.1 +0.6**
comp=Z,4.2nm,0.6s,baz=139,slow=3.1,SNR=38
REDW Red Top Meadow 123.24 300 *e*PKPdf **PKiKP 06 18 37.8 +0.3**
SNOW Snow King Moun 123.27 300 *e*PKPdf **PKiKP 06 18 38.1 +0.4**
LOHW Long Hollow 123.32 300 *e*PKPdf **PKiKP 06 18 37.6 -0.1**
ELK Elko 123.35 295 *e*PKPdf **PKiKP 06 18 38.6 +0.8**

ELK	Elko	123.35	295	ePKIKP	PKiKP	06 18 38.7	+0.8		
RYN	Ryan	123.36	291	ePKPdf	PKiKP	06 18 39.3	+1.4		
CM01	Chiang Mai Arr	123.37	109	ePKPdf	PKPdf	06 18 37.8	-0.2		
TPAW	Teton Pass	123.39	300	ePKPdf	PKiKP	06 18 38.1	+0.2		
CM31	Chiang Mai Arr	123.39	109	ePKPdf	PKiKP	06 18 38.8	+0.5		
CMAR	Chiang Mai Arr	123.39	109	PKP	PKiKP	06 18 38.5	+0.1		
	comp=Z,14nm,0.8s,baz=235,slow=3.7,SNR=54								
KVN	Kaiserville	123.47	291	ePKPdf	PKiKP	06 18 39.2	+1.1		
MOOW	Moose Ponds	123.49	300	ePKPdf	PKiKP	06 18 38.1	0.0		
FXWY	Fox Creek	123.54	300	ePKPdf	PKiKP	06 18 38.1	-0.1		
LAO	LASA Array	123.69	305	ePKPdf	PKiKP	06 18 38.1	0.0		
LAO	LASA Array	123.69	305	P	PKiKP	06 18 38.1	0.0		
	baz=140								
CHTO	Chiang Mai	123.69	109	ePKPdf	PKiKP	06 18 38.8	-0.2		
CHTO				LR	LR				
	comp=Z,200nm,20.0s								
CHTO	Chiang Mai	123.69	109	ePKIKP	PKiKP	06 18 38.8	-0.2		
CHTO				MLR	MLR				
	comp=Z,200nm,20.0s								
CHTO	Chiang Mai	123.69	109	eP	PKiKP	06 18 38.7	-0.2		
IMW	Indian Meadow	123.69	300	ePKPdf	PKiKP	06 18 38.8	+0.3		
FLWY	Flagg Ranch	123.72	300	ePKPdf	PKPdf	06 18 37.3	-1.0		
WAKR	Walker	123.73	290	ePKPdf	PKiKP	06 18 40.6	+1.9		
RLMT	Red Lodge	123.86	302	ePKPdf	PKiKP	06 18 38.5	-0.2		
RLMT	Red Lodge	123.86	302	P	PKiKP	06 18 38.5	-0.2		
	baz=140								
CMB	Columbia Colle	123.86	289	ePKPdf	PKiKP	06 18 39.5	+0.8		
CMB	Columbia Colle	123.86	289	ePKIKP	PKiKP	06 18 39.5	+0.8		
H17A	Grant Village	123.90	301	ePKPdf	PKiKP	06 18 40.4	+1.5		
H17A	Grant Village	123.90	301	P	PKiKP	06 18 39.6	+0.7		
	baz=140								
YPP	Pitchstone Pla	123.92	300	ePKPdf	PKiKP	06 18 39.9	+1.0		
LKWY	Lake	123.95	301	ePKPdf	PKiKP	06 18 40.3	+1.4		
YERR	Yerington	124.00	290	ePKPdf	PKiKP	06 18 40.9	+1.7		
YFT	Old Faithful	124.07	300	ePKPdf	PKiKP	06 18 41.1	+1.9		
BMN	Battle Mountai	124.09	293	ePKPdf	PKiKP	06 18 40.0	+0.7		
DGMT	Dagmar	124.18	308	ePKPdf	PKiKP	06 18 39.2	+0.2		
DGMT	Dagmar	124.18	308	P	PKiKP	06 18 38.8	-0.1		
	baz=140								
PNTR	Pine Nut	124.26	290	ePKPdf	PKiKP	06 18 41.3	+1.6		
YMR	Madison River	124.29	301	ePKPdf	PKiKP	06 18 40.7	+1.1		
YHH	Holmes Hill	124.33	301	ePKPdf	PKiKP	06 18 40.7	+0.9		
VCNR	Virginia City	124.44	290	ePKPdf	PKiKP	06 18 41.4	+1.4		
YHB	Horse Butte	124.46	300	ePKPdf	PKiKP	06 18 41.1	+1.2		
GCMT	Greycliff	124.55	302	ePKPdf	PKiKP	06 18 40.3	+0.3		
PAHR	Pah Rah Range	124.62	291	ePKPdf	PKiKP	06 18 41.5	+1.2		
QLMT	Earthquake Lak	124.63	300	ePKPdf	PKiKP	06 18 41.6	+1.4		
AFDM	Forest Hills D	124.85	289	ePKPdf	PKiKP	06 18 41.6	+1.0		
HLID	Hailey	125.08	297	ePKPdf	PKiKP	06 18 42.1	+0.9		
HLID	Hailey	125.08	297	P	PKiKP	06 18 41.7	+0.6		
	baz=139								
FIA0	FINESS Array S	125.16	27	ePKPdf	PKPdf	06 18 39.8	-0.2		
FIA0	FINESS Array S	125.16	27	ePKIKP	PKPdf	06 18 39.8	-0.2		
FINES	FINESS Array B	125.16	27	PKP	PKPdf	06 18 39.8	-0.2		
	comp=Z,16nm,0.8s,baz=126,slow=2.6,SNR=46								
FIA1	FINESS Array S	125.16	27	ePKPdf	PKPdf	06 18 39.6	-0.5		
FIA1				ePKPdf	PKiKP	06 18 40.0	-0.4		
BEKR	Beckworth	125.23	290	ePKPdf	PKiKP	06 18 42.6	+1.0		
MCMT	McKenzie Canyo	125.29	299	ePKPdf	PKiKP	06 18 42.5	+0.9		
BOZ	Bozeman (W)	125.30	301	P	PKiKP	06 18 41.9	+0.5		
	baz=139								
SHL	Shillong	125.54	98	ePKPdf	PKiKP	06 18 42.7	+0.1		
SHL				LR	LR				
	comp=Z,400nm,21.0s								
SHL	Shillong	125.54	98	ePKIKP	PKiKP	06 18 42.7	+0.1		
SHL				MLR	MLR				
	comp=Z,400nm,21.0s								
BTK	Batken	125.56	70	ePKPdf	PKPdf	06 18 41.3	-0.4		
BTK	Batken	125.56	70	ePKIKP	PKPdf	06 18 41.3	-0.4		
DLMT	Dillon	125.58	300	ePKPdf	PKiKP	06 18 43.1	+1.1		
ORV	Oroville	125.58	289	ePKPdf	PKiKP	06 18 42.8	+0.8		
ORV	Oroville	125.58	289	ePKIKP	PKiKP	06 18 42.8	+0.8		
SFJD	Kangerlussuaq	125.70	348	*i* P	PKPdf	06 18 40.3	-0.6		
SFJD	Kangerlussuaq	125.70	348	*i* PKIKP	PKPdf	06 18 40.3	-0.6		
LRM	Limekiln Ridge	125.85	300	ePKPdf	PKiKP	06 18 43.2	+0.5		
HOPS	Hopland Field	125.96	288	ePKPdf	PKiKP	06 18 44.0	+1.3		
HRY	Holter Researc	126.23	302	ePKPdf	PKiKP	06 18 43.8	+0.5		
EGMT	Eagleton	126.27	304	ePKPdf	PKiKP	06 18 43.1	-0.1		
EGMT	Eagleton	126.27	304	P	PKiKP	06 18 43.2	0.0		
	baz=138								
O03E	Paynes Creek	126.28	290	P	PKiKP	06 18 43.5	0.0		
	baz=138								
WVOR	Wild Horse Val	126.29	294	ePKPdf	PKiKP	06 18 44.5	+1.0		
O02D	Mt. Diablo Mer	126.70	289	P	PKiKP	06 18 44.8	+0.4		
	baz=138								
MOD	Modoc Plateau	126.73	292	ePKPdf	PKiKP	06 18 45.0	+0.6		
WDC	Whiskeytown Da	126.87	289	ePKPdf	PKiKP	06 18 44.8	+0.2		
J08A	Circle Bar Ran	126.90	294	ePKPdf	PKiKP	06 18 45.1	+0.5		
N02D	Trinity Center	127.25	290	P	PKiKP	06 18 45.8	+0.4		
	baz=138,SNR=23								
AKTO	Aktyubinsk	127.25	53	PKP	PKPdf	06 18 44.3	-0.2		
	comp=Z,9.9nm,0.9s,baz=172,slow=3.4,SNR=22								
MSO	Missoula	127.29	300	ePKPdf	PKiKP	06 18 45.4	+0.1		
MSO				LR	LR				
	comp=Z,700nm,19.0s								
MSO	Missoula	127.29	300	P	PKiKP	06 18 45.4	+0.1		
	baz=137								
NPOC	North of Pu'u	127.31	245	PFAKE		06 19 00.0	+14		
NPOC				LR	LR				
	comp=Z,2μm,20.0s								
KKO	Keanakako`i	127.39	245	PFAKE		06 19 00.0	+14		
KKO				LR	LR				
	comp=Z,1μm,18.0s								
RIM	Rim	127.39	245	PFAKE		06 19 00.0	+14		
RIM				LR	LR				
	comp=Z,3μm,21.0s								
SDHHI	Sand Hill	127.40	245	PFAKE		06 19 00.0	+14		
SDHHI				LR	LR				
	comp=Z,1μm,19.0s								
BYL	Byron's Ledge	127.40	245	PFAKE		06 19 00.0	+14		
BYL				LR	LR				
	comp=Z,1μm,21.0s								
M04C	Macdoel	127.41	291	P	PKiKP	06 18 46.1	+0.3		
	baz=138,SNR=12								
NPH	North Pit	127.41	245	PFAKE		06 19 00.0	+14		
NPH				LR	LR				
	comp=Z,2μm,18.0s								
WRMHI	West Rim	127.42	245	PFAKE		06 19 00.0	+14		
WRMHI				LR	LR				
	comp=Z,2μm,22.0s								
OBL	Observatory Le	127.42	245	PFAKE		06 19 00.0	+14		
OBL				LR	LR				
	comp=Z,2μm,18.0s								
BMO	Blue Mountains	127.43	296	ePKPdf	PKiKP	06 18 45.4	-0.2		
BMO				LR	LR				
	comp=Z,400nm,19.0s								
ARSB	Arslanbob	127.60	70	ePKPdf	PKiKP	06 18 46.1	-0.1		
ARSB				LR	LR				
	comp=Z,700nm,19.0s								
K05A	Summer Lake	127.63	292	ePKPdf	PKiKP	06 18 46.9	+0.6		
M02C	Callahan	127.63	290	P	PKiKP	06 18 46.5	+0.4		
	baz=138,SNR=15								
KK31	Karatay Array	127.67	67	ePKPdf	PKPdf	06 18 45.1	-0.4		
KK31	Karatay Array	127.67	67	ePKIKP	PKPdf	06 18 45.1	-0.4		
KKAR	Karatay Array	127.67	67	ePKPdf	PKPdf	06 18 45.1	-0.4		
KKAR	Karatay Array	127.67	67	ePKIKP	PKPdf	06 18 45.1	-0.4		
KHMM	Horse Mountain	127.70	289	ePKPdf	PKiKP	06 18 47.7	+1.3		
SCO	Scoresbysund	127.77	1	*i* P	PKiKP	06 18 46.0	+0.6		
SCO	Scoresbysund	127.77	1	ePKIKP	PKiKP	06 18 46.0	+0.6		
KSH	Kashi	127.80	74	PKP	PKiKP	06 18 46.5	-0.1		
KSH				sPKP		06 18 59.3			
KSH				PP	PP	06 20 51.5	+2.6		
KSH				AMB	AMB				
	comp=Z,120nm,5.7s								
KSH				LR	LR				
	comp=Z,140nm,9.1s								
KSH				LR	LR				
	comp=Z,130nm,9.7s								
KSH				LR	LR				
	comp=Z,150nm,13.4s								
YBH	Yreka Blue Hor	127.81	290	ePKPdf	PKiKP	06 18 46.2	-0.3		
ILULI	Ilulissat	127.89	348	PFAKE		06 19 00.0	+14		
ILULI				LR	LR				
	comp=Z,600nm,21.0s								
ILULI	Ilulissat	127.89	348	*i* P	PKPdf	06 18 44.9	-0.1		
	comp=Z,10.0nm,0.8s								
ILULI	Ilulissat	127.89	348	*i* PKIKP	PKPdf	06 18 44.9	-0.1		
ILULI				pmax	pmax				
	comp=Z,10.0nm,0.8s								
I07A	Izee	127.94	294	ePKPdf	PKiKP	06 18 47.2	+0.5		
L04D	Klamath Falls	127.96	291	P	PKiKP	06 18 46.8	-0.1		
	baz=137,SNR=10								
K04D	Chiloquin, OR	127.98	292	P	PKiKP	06 18 47.2	+0.3		
	baz=137								
FFC	Flin Flon	128.02	314	ePKPdf	PKiKP	06 18 46.0	-0.4		
FFC	Flin Flon	128.02	314	*c i*PKIKP	PKiKP	06 18 46.3	-0.1		
J05D	Fort Rock, OR	128.21	293	P	PKiKP	06 18 47.9	+0.5		
	baz=137,SNR=20								
F10A	Beach Ranch, E	128.22	298	ePKPdf	PKPdf	06 18 46.6	+0.1		
SLVN	Son La	128.31	112	PFAKE		06 19 00.0	+12		
SLVN				LR	LR				
	comp=Z,300nm,21.0s								
KLMR	Klimovskoe	128.37	34	ePKIKP	PKPdf	06 18 44.5	-1.7		
KLMR				pmax	pmax				
	comp=Z,27nm,1.3s								
KLMR	Klimovskoe	128.37	34	ePKPdf	PKPdf	06 18 44.5	-1.7		
KLMR				AMP		06 18 59.5			
	comp=Z,27nm,1.2s								
KLMR				eSKP		06 22 14.0			
LSA	Lhasa	128.43	94	PFAKE		06 19 00.0	+11		
LSA				LR	LR				
	comp=Z,200nm,20.0s								
PINE	Pine Mountain	128.43	293	ePKPdf	PKiKP	06 18 48.5	+0.7		
AML	Almayashu	128.55	70	P	PKPdf	06 18 47.7	-0.1		
	SNR=10								
G08A	Pilot Rock	128.55	296	ePKPdf	PKiKP	06 18 48.2	+0.3		
L02E	Cave Junction	128.57	290	P	PKiKP	06 18 48.2	+0.3		
	baz=137,SNR=6.1								
HUMO	Hull Mountain	128.58	291	ePKPdf	PKiKP	06 18 48.3	+0.4		
J04D	Umpqua Nationa	128.61	292	P	PKiKP	06 18 48.1	-0.1		
	baz=137								
WALA	Waterton Lakes	128.90	302	ePKPdf	PKPdf	06 18 47.7	-0.1		
EKS2	Erkin-Say	128.98	70	P	PKiKP	06 18 48.6	-0.3		
	SNR=10								
K02D	Willamette Mer	129.00	290	P	PKiKP	06 18 48.9	+0.1		
	baz=137,SNR=7.5								
I05D	Terrebonne, OR	129.03	293	P	PKiKP	06 18 49.1	+0.2		
	baz=136,SNR=8.2								
UCH	Uchtor	129.04	71	P	PKiKP	06 18 49.3	-0.2		
	SNR=6.1								
E09A	Wood Farm, Sta	129.04	297	ePKPdf	PKiKP	06 18 48.8	+0.1		
I04A	Tendick Farm,	129.17	292	P	PKiKP	06 18 48.6	-0.5		
	baz=136,SNR=8.9								
QIZ	Qiongzhong	129.22	120	PKP	PKiKP	06 18 50.0	+0.1		
QIZ				PP	PP	06 20 59.5	+1.7		
QIZ				SS	SS	06 38 22.0	+5.9		
QIZ				LR	LR				
	comp=Z,190nm,14.4s								
NRN	Naryn	129.22	72	PFAKE		06 19 00.0	+10		
NRN				LR	LR				
	comp=Z,300nm,19.0s								
KZA	Kyzart	129.30	71	P	PKPdf	06 18 49.2	0.0		
	SNR=8.8								
AAK	Ala-Archa	129.33	70	P	PKiKP	06 18 49.4	-0.3		
	SNR=6.4								
AAK	Ala-Archa	129.33	70	ePKPdf	PKiKP	06 18 49.3	-0.3		
AAK				LR	LR				
	comp=Z,300nm,20.0s								
AAK	Ala-Archa	129.33	70	ePKIKP	PKiKP	06 18 49.3	-0.3		
AAK				MLR	MLR				
	comp=Z,300nm,20.0s								
G06A	Carlson Farm,	129.33	295	ePKPdf	PKiKP	06 18 49.6	+0.3		
G06A				LR	LR				
	comp=Z,400nm,20.0s								
F07A	Phinny Hill Vi	129.46	296	ePKPdf	PKiKP	06 18 50.3	+0.8		
E08A	Dider Farm, El	129.47	297	ePKPdf	PKiKP	06 18 50.0	+0.4		
J01E	Myrtle Point	129.47	291	P	PKiKP	06 18 49.6	-0.1		
	baz=136								
FRU1	Bishkek	129.52	70	PFAKE		06 19 00.0	+10		
FRU1				LR	LR				
	comp=Z,400nm,20.0s								
I03D	Drain, OR	129.57	291	P	PKiKP	06 18 49.7	-0.1		
	baz=136								
HAWA	Hanford	129.62	296	ePKPdf	PKiKP	06 18 50.3	+0.4		
G05D	Wamic, OR	129.67	294	P	PKiKP	06 18 50.0	0.0		
	baz=136								
H04A	Detroit Lake	129.70	293	ePKPdf	PKiKP	06 18 49.9	-0.2		
D08A	Wollman Farm,	129.81	297	ePKPdf	PKiKP	06 18 50.5	+0.3		
NEW	Newport	129.82	300	ePKPdf	PKPdf	06 18 49.3	-0.2		
NEW	Newport	129.82	300	ePKIKP	PKPdf	06 18 49.3	-0.2		
NEW	Newport	129.82	300	P	PKPdf	06 18 49.1	-0.4		
	baz=135								
H04D	Lebanon	129.85	293	P	PKiKP	06 18 50.3	-0.1		
	baz=136								
E07A	Sunnyside	129.90	296	ePKPdf	PKiKP	06 18 51.1	+0.6		
BOOM	Boomskoye usch	129.96	71	ePKPdf	PKPdf	06 18 50.1	+0.1		
BOOM				LR	LR				
	comp=Z,400nm,20.0s								
BOOM	Boomskoye usch	129.96	71	ePKIKP	PKPdf	06 18 50.2	+0.1		
BOOM				MLR	MLR				
	comp=Z,400nm,20.0s								
C09A	Chrisman Ranch	130.03	298	ePKPdf	PKiKP	06 18 50.5	-0.2		
SUMG	Summit	130.19	355	ePKPdf	PKiKP	06 18 50.2	-0.5		
SUMG	Summit	130.19	355	*i* P	PKPdf	06 18 49.9	0.0		
	comp=Z,25nm,1.0s								
SUMG	Summit	130.19	355	ePKIKP	PKiKP	06 18 50.2	-0.5		
F05D	White Salmon	130.20	295	P	PKiKP	06 18 51.4	+0.3		
	baz=135								
KDJ	Kajisay	130.33	73	PFAKE		06 19 00.0	+8.3		
KDJ				LR	LR				
	comp=Z,400nm,22.0s								
TMCR	Tamitsa	130.53	31	ePKIKP	PKPdf	06 18 49.8	-0.4		
G03D	McMinnville, O	130.61	293	P	PKiKP	06 18 51.7	-0.1		
	baz=135								
KMI	Kunming	130.87	108	PFAKE		06 19 00.0	+6.6		
KMI				LR	LR				
	comp=Z,300nm,21.0s								
PRGR	Permogore	130.88	37	ePKIKP	PKPdf	06 18 49.0	-1.9		
PRGR				pmax	pmax				
	comp=Z,17nm,0.8s								
B08A	Colville Reser	130.93	298	ePKPdf	PKiKP	06 18 52.1	-0.4		
E04D	Cinebar	131.22	295	P	PKiKP	06 18 53.0	-0.1		
	baz=135								
D05A	Enumclaw	131.38	296	ePKPdf	PKiKP	06 18 53.6	+0.2		
ARU	Arti	131.80	48	PFAKE		06 19 00.0	+6.1		
ARU				LR	LR				
	comp=Z,400nm,20.0s								
ARU	Arti	131.80	48	*i* PKIKP	PKPdf	06 18 52.7	-0.2		
ARU					*i*	06 21 11.1			
ARA0	ARCESS Array S	131.90	21	ePKPdf	PKPdf	06 18 52.0	-0.8		
ARCES	ARCESS Array B	131.90	21	PKIKP	PKPdf	06 18 52.0	-0.7		
ARCES	ARCESS Array B	131.90	21	PKP	PKPdf	06 18 52.0	-0.7		
	comp=Z,4.4nm,0.6s,baz=112,slow=1.0,SNR=3.7								
APA	Apatity	132.01	26	⇓ *i* PKIKP	PKPdf	06 18 52.6	-0.4		
APA					*i*	06 21 17.1			
APA				pmax	pmax				
	comp=Z,6.0nm,0.9s								
B06A	Marblemount	132.06	297	ePKPdf	PKiKP	06 18 54.2	-0.4		
D03D	Eldon	132.16	295	P	PKiKP	06 18 55.0	+0.1		
	baz=134								
B05A	Bryant	132.18	297	P	PKiKP	06 18 54.5	-0.4		
	baz=134								
NLWA	Neilton Lookou	132.44	295	ePKPdf	PKiKP	06 18 55.9	+0.3		
A04D	Lummi Island	132.79	297	P	PKiKP	06 18 55.9	-0.2		
	baz=133								
PGC	Sidney	133.10	296	ePKPdf	PKiKP	06 18 56.8	+0.1		
LLLB	Lillooet	133.68	299	ePKPdf	PKPdf	06 18 57.1	+0.4		
GYA	Guiyang	133.96	111	Pdif	Pdif	06 15 58.3	+1.1		
GYA				PP	PP	06 21 34.0	+5.4		
GYA				AMB	AMB				
	comp=Z,180nm,8.0s								
DAG	Danmarks Havn	134.13	2	*i* P	PKPdf	06 18 56.2	-0.5		
	comp=Z,5.4nm,1.0s								
DAG	Danmarks Havn	134.13	2	*i* PKIKP	PKPdf	06 18 56.2	-0.5		
DAG				pmax	pmax				
	comp=Z,5.0nm,1.0s								
BRVK	Borovoye	134.53	57	ePKPdf	PKPdf	06 18 58.0	-0.1		
BRVK				LR	LR				
	comp=Z,500nm,20.0s								
BRVK	Borovoye	134.53	57	*c i*PKIKP	PKPdf	06 18 58.3	+0.2		
BRVK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
MAKZ	Makanchi	136.05	71	ePKPdf	PKPdf	06 19 00.6	-0.6		
MAKZ				LR	LR				
	comp=Z,400nm,20.0s								
CD2	Chengdu	136.07	105	PKP	PKiKP	06 19 03.0	-0.5		
CD2				LR	LR				
	comp=Z,450nm,20.1s								
CD2				LR	LR				
	comp=Z,330nm,20.6s								
CD2				LR	LR				
	comp=Z,510nm,23.2s								
MK32	Makanchi Array	136.20	71	ePKPpre	PKPpre	06 18 51.3			
MK32				ePKPdf	PKPdf	06 19 00.8	-0.8		
MKAR	Makanchi Array	136.20	71	PKhKP	PKPpre	06 18 51.3			
	comp=Z,1.2nm,0.8s,baz=240,slow=4.4,SNR=9.6								
MKAR				PKP	PKPdf	06 19 00.8	-0.8		
	comp=Z,3.5nm,0.8s,baz=240,slow=2.9,SNR=18								
TULEG	Thule	136.71	346	ePKPdf	PKPdf	06 19 01.9	+0.4		
KURK	Kurchatov	136.94	65	ePKPdf	PKPdf	06 19 01.2	-1.5		
KURK				LR	LR				
	comp=Z,300nm,20.0s								
KURK	Kurchatov	136.94	65	*i* PKIKP	PKPdf	06 19 02.5	-0.2		
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
WMQ	Urumqi	137.00	78	ePKP	PKiKP	06 19 04.0	-1.0		
WMQ				LR	LR				
	comp=Z,410nm,23.1s								
WMQ				LR	LR				
	comp=Z,410nm,21.3s								
WMQ				LR	LR				
	comp=Z,810nm,32.7s								
WMQ	Urumqi	137.00	78	PFAKE		06 19 20.0	+15		
WMQ				LR	LR				
	comp=Z,400nm,21.0s								
YKA	Yellowknife Ar	138.12	316	PKhKP	PKPpre	06 18 52.2			
	comp=Z,1.2nm,0.5s,baz=128,slow=3.2,SNR=34								
YKA				PKP	PKPdf	06 19 03.8	-0.6		
	comp=Z,25nm,0.8s,baz=126,slow=2.2,SNR=92								
YKA				PP	PP	06 21 47.8	-6.6		
	comp=Z,3.7nm,1.0s,baz=123,slow=5.8,SNR=3.8								
YKA				SKPbc	SKPbc	06 22 36.5	+0.4		
	comp=Z,0.8nm,0.5s,baz=128,slow=3.5,SNR=4.1								
YKB5	Yellowknife Ar	138.12	316	ePKPdf	PKPdf	06 19 03.9	-0.6		
YKW3	Yellowknife Ar	138.16	316	ePKPdf	PKPdf	06 19 01.8	-2.8		
SARN	Sarigan	138.62	166	PFAKE		06 19 20.0	+11		
SARN				LR	LR				
	comp=Z,1μm,22.0s								
RES	Resolute Bay	139.72	337	ePKPpre	PKPpre	06 18 57.8			
RES	Resolute Bay	139.72	337	ePKHKP	PKPpre	06 18 57.8			
LZH	Lanzhou	140.13	100	ePKP	PKPdf	06 19 06.5	-2.8		
LZH				sPKP		06 19 21.0			
LZH				SKKS		06 28 57.5			
GTA	Gaotai	140.42	93	ePKP	PKPdf	06 19 09.5	-0.2		
GTA				sPKP		06 19 24.5			
GTA				LR	LR				
	comp=Z,180nm,20.9s								
GTA				LR	LR				
	comp=Z,310nm,21.3s								
GTA				LR	LR				
	comp=Z,250nm,22.5s								
DGZ	Jazzator, Alta	140.70	71	*i* PKIKP	PKPpre	06 19 05.1			
XAN	Xi'an	141.22	107	PKP	PKPdf	06 19 10.0	-1.2		
XAN	Xi'an	141.22	107	PFAKE		06 19 20.0	+6.1		
XAN				LR	LR				
	comp=Z,200nm,20.0s								
NVS	Novosibirsk	141.66	62	ePKIKP	PKPdf	06 19 08.5	-2.7		
NVS				pmax	pmax				
	comp=N,7.0nm,0.9s								
NVS				pmax	pmax				
	comp=E,14nm,0.9s								
NVS				pmax	pmax				
	comp=E,4.0nm,0.5s								
ZAA0	Zalesovo Array	141.92	64	ePKPdf	PKPdf	06 19 11.7	0.0		
ZAA0				LR	LR				
	comp=Z,200nm,20.0s								
ZALV	Zalesovo Beam	141.92	64	PKhKP	PKPpre	06 19 05.8			
	comp=Z,2.2nm,0.4s,baz=255,slow=3.4,SNR=9.2								
ZAA1	Zalesovo Array	141.93	64	ePKPpre	PKPpre	06 19 05.8			
JIS	Juneau Island	144.08	302	ePKPdf	PKPbc	06 19 13.6	+0.2		
BESE	Bessie Mountai	144.45	302	ePKPdf	PKPdf	06 19 16.0	-0.1		
NJ2	Nanjing	144.51	120	ePKP	PKPdf	06 19 16.8	-0.2		
SSE	Sheshan	144.77	124	PFAKE		06 19 30.0	+8.8		
SSE				LR	LR				
	comp=Z,900nm,22.0s								
SKAG	Skagway	145.09	303	ePKPbc	PKPdf	06 19 17.4	+0.4		
WHY	Whitehorse	145.44	305	ePKPbc	PKPab	06 19 17.9	-0.2		
TIY	Taiyuan	145.86	107	ePKPbc	PKPdf	06 19 19.3	+0.1		
TIY				PKPab	PKiKP	06 19 24.0	+0.6		
TIY				PP	PP	06 22 51.0	+9.3		
TIY				SS	SS	06 41 34.0	+0.1		
TIY				AMB	AMB				
	comp=Z,110nm,4.7s								
TIY				LR	LR				
	comp=Z,190nm,4.0s								
TIY				LR	LR				
	comp=Z,80nm,3.2s								
TIY				LR	LR				
	comp=Z,270nm,18.1s								
HYT	Haines Junctio	146.68	305	ePKPdf	PKPdf	06

	comp=Z,200nm,28.0s								
SCM	**Sheep Creek Mo**	**151.45**	**303**	*e*PKPdf		**PKPdf**	**06 19 28.3**	**+0.8**
SCM				*e*PKPbc		**PKPbc**	**06 19 33.6**	**0.0**
PRP	**Porcupine Dome**	**151.63**	**311**	*e*PKPbc		**PKiKP**	**06 19 34.9**	**+0.5**
FYU	**Fort Yukon**	**151.73**	**313**	*e*PKPdf		**PKPdf**	**06 19 25.7**	**-1.9**
FYU				*e*PKPbc		**PKiKP**	**06 19 34.7**	**+0.3**
DHY	**Denali Highway**	**151.83**	**306**	*e*PKPdf		**PKPdf**	**06 19 26.8**	**-1.3**
DHY				*e*PKPbc		**PKiKP**	**06 19 34.7**	**-0.2**
KNK	**Knik Glacier**	**151.84**	**302**	*e*PKPbc		**PKiKP**	**06 19 35.5**	**+0.7**
SML	**Sawmill**	**151.90**	**303**	*e*PKPbc		**PKiKP**	**06 19 35.6**	**+0.6**
TJN	**Taejon**	**151.95**	**127**	*c* iPKIKP		**PKiKP**	**06 19 35.8**	**0.0**
HDA	**Harding Lake**	**151.98**	**308**	*e*PKPbc		**PKPbc**	**06 19 34.6**	**-0.1**
HDA	**Harding Lake** baz=103	**151.98**	**308**	P		**PKPbc**	**06 19 34.6**	**-0.1**
ILAR	**Eielson Array**	**152.03**	**309**	PKP		**PKPdf**	**06 19 24.8**	**-3.4**
	comp=Z,2.1nm,0.9s,baz=334,slow=1.5,SNR=20								
ILAR				PKPbc		**PKPbc**	**06 19 34.8**	**-0.1**
	comp=Z,102nm,0.8s,baz=135,slow=2.2,SNR=491								
ILB	**Eielson Array**	**152.03**	**309**	*e*PKPbc		**PKPbc**	**06 19 34.8**	**-0.1**
GHO	**Glory Hole Cre**	**152.16**	**302**	*e*PKPbc		**PKiKP**	**06 19 36.2**	**+0.7**
GHO				LR		LR			
	comp=Z,400nm,20.0s								
PMR	**Palmer**	**152.20**	**302**	*e*PKPbc		**PKiKP**	**06 19 35.3**	**-0.2**
RC01	**Rabbit Creek A**	**152.33**	**301**	*e*PKPdf		**PKPdf**	**06 19 26.3**	**-2.4**
RC01				*e*PKPbc		**pPKPdf**	**06 19 36.7**	**-0.5**
RC01				LR		LR			
	comp=Z,300nm,21.0s								
POKR	**Poker Plat Res** baz=101	**152.34**	**310**	P		**PKPbc**	**06 19 35.4**	**0.0**
CCB	**Clear Creek Bu**	**152.39**	**309**	*e*PKPdf		**PKPdf**	**06 19 26.9**	**-1.8**
CCB				*e*PKPbc		**PKPbc**	**06 19 34.9**	**-0.7**
CCB				*e*PKPab		**PKPab**	**06 19 45.6**	**-0.4**
BRLK	**Bradley Lake**	**152.44**	**298**	*e*PKPbc		**PKiKP**	**06 19 36.2**	**0.0**
COLA	**College**	**152.46**	**309**	*e*PKPbc		**PKPbc**	**06 19 35.6**	**-0.1**
COLA				*e*PKPab		**PKPab**	**06 19 46.7**	**+0.5**
TCOL	**CIGO, UAF Yank** baz=102	**152.46**	**309**	P		**PKPbc**	**06 19 35.5**	**-0.3**
RND	**Reindeer**	**152.56**	**306**	*e*PKPdf		**PKPdf**	**06 19 27.5**	**-1.6**
RND				*e*PKPbc		**pPKPdf**	**06 19 36.8**	**-0.9**
RND	**Reindeer**	**152.56**	**306**	*e*PKIKP		**PKPdf**	**06 19 27.5**	**-1.6**
RND				*e*			06 19 36.8		
KDAK	**Kodiak Island**	**152.57**	**293**	*e*PKPbc		**PKiKP**	**06 19 37.1**	**+0.7**
KDAK	**Kodiak Island**	**152.57**	**293**	*i* PKIKP		**PKiKP**	**06 19 36.6**	**+0.2**
MDM	**Murphy Dome**	**152.63**	**309**	*e*PKPdf		**PKPdf**	**06 19 27.9**	**-1.2**
MDM				*e*PKPbc		**PKPbc**	**06 19 36.0**	**-0.2**
MDM				*e*PKPab		**PKPab**	**06 19 47.1**	**0.0**
SII	**Sitkinak Islan**	**152.90**	**290**	*e*PKPbc		**PKiKP**	**06 19 38.1**	**+0.9**
SUA	**Susitna One**	**152.90**	**301**	*e*PKPdf		**PKPdf**	**06 19 31.2**	**+1.4**
SUA				*e*PKPbc		**pPKPdf**	**06 19 37.7**	**-0.5**
BWN	**Browne**	**153.00**	**307**	*e*PKPdf		**PKPdf**	**06 19 28.0**	**-1.6**
BWN				*e*PKPbc		**pPKPdf**	**06 19 37.2**	**-1.0**
KSRS	**Korea Array**	**153.10**	**127**	PKPbc		**PKiKP**	**06 19 38.2**	**+0.1**
	comp=Z,4.8nm,0.8s,baz=199,slow=2.4,SNR=18								
KSRS				PKPab		**sPKPbc**	**06 19 48.6**	**-0.8**
	comp=Z,3.9nm,0.8s,baz=209,slow=3.3,SNR=8.6								
KS01	**Wonju Array Si**	**153.11**	**127**	*e*PKPbc		**PKiKP**	**06 19 38.0**	**-0.2**
TRF	**Thorofare Moun**	**153.20**	**306**	*e*PKPbc		**PKPbc**	**06 19 37.4**	**-0.2**
TOLK	**Toolik Lake Re** baz=93	**153.63**	**317**	P		**PKiKP**	**06 19 38.6**	**+0.2**
COLD	**Coldfoot**	**153.76**	**314**	*e*PKPdf		**PKPdf**	**06 19 29.7**	**-0.9**
COLD				*e*PKPbc		**PKiKP**	**06 19 39.3**	**+0.7**
MAJO	**Matsushiro**	**156.18**	**145**	*e*PKPdf		**PKPdf**	**06 19 34.9**	**-0.1**
MAJO	**Matsushiro**	**156.18**	**145**	*e*PKIKP		**PKPdf**	**06 19 34.9**	**-0.1**
MJAR	**Matsushiro Arr**	**156.18**	**145**	PKP		**PKPdf**	**06 19 34.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=140,slow=3.9,SNR=4.6								
MJAR				PKPab		**PKPbc**	**06 20 02.6**	**-0.2**
	comp=Z,5.5nm,0.8s,baz=189,slow=4.6,SNR=9.0								
CN2	**Changchun**	**156.97**	**114**	*e*PKP		**PKPdf**	**06 19 34.5**	**-1.2**
CN2				*ep*PKP		pPKPdf	06 19 44.0	-0.3
CN2				*e*PP		**PP**	**06 23 48.0**	**+2.9**
CN2				*e*SS		SS	06 43 37.5	+1.1
CN2				AMB		AMB			
	comp=Z,200nm,8.0s								
CN2				LR		LR			
	comp=Z,200nm,20.0s								
CN2				LR		LR			
	comp=Z,200nm,20.0s								
CN2				LR		LR			
	comp=Z,200nm,22.0s								
HIA	**Hailar**	**157.60**	**96**	PFAKE			06 19 50.0	+14	
HIA				LR		LR			
	comp=Z,400nm,22.0s								
BOD	**Bodaibo**	**158.29**	**72**	*e*PKIKP		**PKPdf**	**06 19 34.7**	**-2.2**
BOD				pmax		pmax			
	comp=Z,9.0nm,1.8s								
USRK	**Ussuriysk Ar.**	**160.37**	**123**	PKPab		**PKPbc**	**06 20 20.6**	**-0.1**
	comp=Z,3.4nm,0.9s,baz=234,slow=5.0,SNR=3.5								
ZEA	**Zeya**	**163.91**	**92**	*e*PKIKP		**PKPdf**	**06 19 41.8**	**-1.2**
ZEA				pmax		pmax			
	comp=Z,42nm,2.0s								
YUK	**Yuzh-Kuril'sk**	**165.29**	**153**	*e*PKP2		**PKPab**	**06 20 42.3**	**0.0**
YUK				*e*			06 24 26.2		
YUK				*e*SS		SS	06 45 00.0	-2.4
YUK				*e*SSS		SSS	06 51 31.8		
YSS	**Yuzh-Sakhalins**	**167.00**	**140**	*e*PKP2		PKPab	06 21 02.4	+13	
BILL	**Bilibino**	**168.33**	**339**	*i* PKIKP		**PKPdf**	**06 19 41.6**	**-4.5**
BILL				pmax		pmax			
	comp=Z,3.0nm,1.0s								
PETK	**Petropavlovsk-**	**175.29**	**200**	PKPab		**PKPab**	**06 21 26.5**	**+0.1**
	comp=Z,4.5nm,1.0s,baz=50,slow=4.5,SNR=4.3								
PEA1	**Petropavlovsk-**	**175.29**	**200**	*e*PKPab		**PKPab**	**06 21 26.5**	**0.0**

IDC 27 06:03:57.8±3.9, **53.80N**×**89.95E**, **h0**km, **mb1 2.8**/3, **mb1mx2.7**/46, **mbtmp2.8**/3, **ML2.3**/3, **Error ellipse: s-maj=38.1km s-min=24.9km az=36.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.04**	**275**	*i*			06 27 08.6	
	baz=94,slow=345,SNR=1.8							
ZALV	**Zalesovo Beam**	**3.04**	**275**	Pn		Pn	06 04 47.5	+0.3
	0.4nm,0.3s,baz=86,slow=16,SNR=3.2							
ZALV				Lg		Lg	06 05 33.0	
	0.6nm,0.3s,baz=90,slow=26,SNR=6.9							
KURBB	**Kurchatov Arra**	**7.70**	**250**	Pn		Pn	06 05 51.0	-0.1
	0.1nm,0.3s,baz=64,slow=15,SNR=7.9							
KURBB				Sn		Sn	06 07 18.4	-0.6
	0.0nm,0.3s,baz=62,slow=25,SNR=2.4							
MKAR	**Makanchi Array**	**8.55**	**218**	Pn		Pn	06 06 03.7	+0.9
	0.1nm,0.3s,baz=36,slow=17,SNR=5.3							

BJI **27** *06:42:47.5, 57.30S×24.90W, h20km, mB5.4/11, Ms5.2/10, Ms7 4.9/11*

MOS **27** *06:42:49.4±1.3, 57.39S×25.00W, h37km, mb5.4/18, Error ellipse: s-maj=20.7km s-min=11.7km az=109.1*

IDC **27** *06:42:49.8±2.7, 57.37S×24.86W, h33km±19km, mb5.0/21, mb1 5.0/22, mb1mx4.9/26, mbtmp5.2/22, ML5.1/1, MS4.3/18, Ms1 4.3/18, ms1mx4.3/21, Error ellipse: s-maj=13.7km s-min=10.4km az=32.0*

NEIC **27** *06:42:50.8±1.7, 57.32S×24.87W, h38km±3km, mb5.4/42, Error ellipse: s-maj=15.6km s-min=12.4km az=221.0*

ISCJB **27** *06:42:51.5±1.4, 57.46S±0.05×25.00W±0.08, h66km±13km, mb5.2/45, Error ellipse: s-maj=9.2km s-min=5.9km az=39.5*

GCMT **27** *06:42:52.8±0.2, 57.51S±0.02×24.46W±0.02, h62km, MW5.1/85, Moment Tensor Solution. s47,c56; s85,c128; Duration: 1s8 Moment tensor: Scale 10^16Nm; Mrr0.15±.23; Mθθ-2.35±.18; Mϕϕ2.20±.18; Mrθ-0.26±.12; Mθϕ1.02±.15; Mϕr4.70±.08; Best double couple: M05.04800×10^16 NP1ϕs165.00000°, δ88.00000°, λ-113.00000°. NP2ϕs69.00000°, δ23.00000°, λ-6.00000°. Principal axes: T 6.0330, Plg38.0000°, Azm276.0000°; N -1.9710, Plg23.0000°, Azm166.0000°; P -4.0620, Plg43.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 06:42:50.9±0.8, **57.39S**±0.06×**24.92W**±0.06, **h44**km±6km, **n537**, σ**1s18**/553, **mb5.3**/45, **MS4.4**/21, **8C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**7.22**	**291**	*e*Pn		**Pn**	**06 44 37.2**	**+3.5**
VNA1	**Neumayer--Stat**	**15.09**	**158**	P		**Pn**	**06 46 20.9**	**+0.2**
VNA3	**Neumayer Olymp**	**15.32**	**161**	P		**Pn**	**06 46 23.1**	**-0.5**
VNA2	**Neumayer--Watz** baz=327,slow=12	**15.48**	**158**	P		**Pn**	**06 46 25.5**	**-0.3**

SNAA	**Sanae**	**17.01**	**156**	P		**P**	**06 46 46.0**	**-0.6**	
SNAA	**Sanae**	**17.01**	**156**	*e*Pn		**P**	**06 46 45.8**	**-0.8**	
	54nn,0.9s								
SNAA				*e*Sn		Sn	06 49 38.5	-15	
SNAA	**Sanae**	**17.01**	**156**	*i* P		**P**	**06 46 46.3**	**-0.3**	
SNAA	**Sanae**	**17.01**	**156**	Pn		**Pn**	**06 46 45.4**	**+0.2**	
	6.4nm,0.3s,baz=338,slow=10,SNR=183								
SNAA				Sn		Sn	06 49 38.5	-15	
	1.1nm,0.3s,baz=274,slow=3.6,SNR=3.6								
SNAA				PcP		**PcP**	**06 51 28.7**	**+0.3**	
	0.4nm,0.3s,baz=306,slow=1.9,SNR=4.8								
SNAA				LR		LR	06 51 53.5		
	comp=Z,821nm,21.0s,baz=338,slow=32								
EFI	**East Falkland**	**19.93**	**272**	*e*P		**Pn**	**06 47 20.1**	**-0.4**	
	415nm,0.8s								
EFI	**East Falkland**	**19.93**	**272**	*i* P		**P**	**06 47 18.1**	**-0.5**	
EFI				pmax		pmax			
	comp=Z,435nm,1.1s								
PMSA	**Palmer Station**	**20.02**	**232**	*e*P		Pn	06 47 20.7	-0.8	
PMSA				*e*P		**P**	**06 47 21.5**	**+2.0**	
PMSA	**Palmer Station**	**20.02**	**232**	P		Pn	06 47 20.7	-0.8	
	comp=Z,218nm,0.6s,baz=71,slow=6.3,SNR=12								
PMSA				LR		LR	06 54 07.1		
	comp=Z,2μm,20.2s,baz=92,slow=34								
PMSA	**Palmer Station**	**20.02**	**232**	*e*P		**P**	**06 47 18.9**	**-0.6**	
USHA	**Ushuaia**	**24.09**	**257**	P		**P**	**06 48 02.5**	**+0.6**	
	comp=Z,26nm,0.6s,baz=106,slow=10,SNR=34								
USHA				LR		LR	06 55 17.9		
	comp=Z,3μm,21.3s,baz=108,slow=31								
GO09	**Cerro Castillo**	**27.84**	**262**	*e*P		**P**	**06 48 35.1**	**-0.7**	
SYO	**Syowa Base**	**29.75**	**139**	*i* P		**P**	**06 48 49.2**	**-3.3**	
SYO	**Syowa Base**	**29.75**	**139**	*i* pP		**P**	**06 48 52.0**	**-0.5**	
PLTB	**Pedras Altas**	**32.32**	**310**	*e*P		**P**	**06 49 17.4**	**+1.8**	
QSPA	**South Pole Qui**	**32.86**	**180**	*e*P		**P**	**06 49 21.1**	**+1.0**	
	comp=Z,42nm,0.7s								
QSPA				*e*PcP		**PcP**	**06 52 04.2**	**+0.6**	
QSPA	**South Pole Qui**	**32.86**	**180**	P		**P**	**06 49 20.5**	**+0.4**	
	comp=Z,16nm,0.5s,baz=211,slow=2.4,SNR=81								
QSPA				PcP		**PcP**	**06 52 04.2**	**+0.6**	
	comp=Z,21nm,0.7s,baz=190,slow=3.7,SNR=4.8								
CNLB	**Canela**	**33.40**	**316**	*e*P		**P**	**06 49 27.1**	**+2.0**	
CPSB	**Cacapava Do Su**	**33.44**	**312**	*e*P		**P**	**06 49 27.1**	**+1.7**	
PLCA	**Paso Flores**	**33.47**	**280**	*e*P		**P**	**06 49 24.3**	**-1.3**	
	comp=Z,76nm,0.8s								
PLCA	**Paso Flores**	**33.47**	**280**	*e*P		**P**	**06 49 24.3**	**-1.3**	
PLCA				pmax		pmax			
	comp=Z,76nm,0.8s								
PLCA	**Paso Flores**	**33.47**	**280**	P		**P**	**06 49 24.4**	**-1.3**	
	comp=Z,68nm,0.9s,baz=166,slow=8.5,SNR=150								
PLCA				PcP		**PcP**	**06 52 06.3**	**+0.7**	
	comp=Z,3.2nm,0.7s,baz=104,slow=2.3,SNR=3.6								
PLCA				LR		LR	07 02 03.6		
	comp=Z,782nm,21.8s,baz=162,slow=34								
PLCA	**Paso Flores**	**33.47**	**280**	*e*P		**P**	**06 49 24.9**	**-0.7**	
GO07	**Milladeo Hill,**	**33.49**	**274**	*e*P		**P**	**06 49 23.3**	**-2.3**	
	comp=Z,57nm,0.6s								
GO06	**Curarrehue**	**34.78**	**280**	*e*P		**P**	**06 49 35.0**	**-2.0**	
	comp=Z,19nm,0.8s								
ITAB	**Concordia**	**35.76**	**316**	*e*P		**P**	**06 49 48.0**	**+2.6**	
ESAR	**Angra dos Reis**	**37.14**	**329**	*e*P		**P**	**06 49 59.9**	**+2.8**	
MRA	**San Martin**	**37.32**	**294**	*e*P		**P**	**06 49 56.9**	**-1.8**	
SPB	**Sao Paulo**	**37.48**	**325**	*e*P		**P**	**06 49 59.4**	**-0.7**	
	comp=Z,90nm,0.7s								
SPB	**Sao Paulo**	**37.48**	**325**	*e*P		**P**	**06 50 02.0**	**+2.0**	
TCA	**Tanti**	**37.65**	**297**	*e*P		**P**	**06 49 59.9**	**-1.7**	
TCA				IAML			06 50 01.3		
	comp=Z,19nm,0.6s								
PTGB	**Pitanga**	**38.02**	**318**	*e*P		**P**	**06 50 06.9**	**+2.3**	
MAW	**Mawson**	**38.33**	**142**	*e*P		**P**	**06 50 07.0**	**+0.3**	
MAW	**Mawson**	**38.33**	**142**	*e*P		**P**	**06 50 07.0**	**+0.3**	
MAW	**Mawson**	**38.33**	**142**	P		**P**	**06 50 06.7**	**0.0**	
	comp=Z,7.1nm,0.4s,baz=230,slow=8.4,SNR=22								
MAW				LR		LR	07 03 30.7		
	comp=Z,735nm,21.9s,baz=251,slow=32								
FRTB	**Fartura**	**38.41**	**322**	*e*P		**P**	**06 50 09.9**	**+2.0**	
RCLB	**Rio Claro- Sao**	**38.62**	**325**	*e*P		**P**	**06 50 12.2**	**+2.5**	
CPUP	**Villa Florida**	**38.63**	**310**	*e*P		**P**	**06 50 10.1**	**+0.4**	
	comp=Z,127nm,0.9s								
CPUP	**Villa Florida**	**38.63**	**310**	P		**P**	**06 50 10.2**	**+0.5**	
	comp=Z,101nm,0.8s,baz=153,slow=7.9,SNR=161								
CPUP				LR		LR	07 04 40.1		
	comp=Z,299nm,19.0s,baz=150,slow=34								
CPUP	**Villa Florida**	**38.63**	**310**	*e*P		**P**	**06 50 10.2**	**+0.5**	
ASAL	**Salagasta**	**38.74**	**291**	*e*P		**P**	**06 50 09.4**	**-1.4**	
BSCB	**Bom Sucesso**	**39.16**	**330**	*e*P		**P**	**06 50 16.6**	**+2.4**	
RTCV	**Cerro Valdivia**	**39.18**	**292**	*e*P		**P**	**06 50 12.7**	**-1.6**	
CFA	**Coronel Fontan**	**39.23**	**292**	P		**P**	**06 50 12.8**	**-2.0**	
	comp=Z,51nm,0.8s,baz=147,slow=8.8,SNR=117								
CFA				PcP		**PcP**	**06 52 23.7**	**+0.6**	
	comp=Z,22nm,0.6s,baz=168,slow=2.5,SNR=11								
PEL	**Peldehue**	**39.25**	**288**	*e*P		**P**	**06 50 13.9**	**-1.0**	
	comp=Z,53nm,0.8s								
PEL	**Peldehue**	**39.25**	**288**	*e*P		**P**	**06 50 13.9**	**-1.0**	
PEL				pmax		pmax			
	comp=Z,53nm,0.8s								
AUSP	**Uspallata**	**39.32**	**290**	*e*P		**P**	**06 50 14.7**	**-1.1**	
ROC1	**El Roble**	**39.55**	**288**	*e*P		**P**	**06 50 16.7**	**-0.9**	
ROC1	**El Roble**	**39.55**	**288**	*e*P		**P**	**06 50 16.7**	**-0.9**	
RTLL	**Cerro Villicun**	**39.57**	**292**	*e*P		**P**	**06 50 16.4**	**-1.2**	
RTLS	**Leoncito**	**39.61**	**291**	*e*P		**P**	**06 50 17.2**	**-1.0**	
SUR	**Sutherland**	**39.83**	**71**	*e*P		**P**	**06 50 19.2**	**-0.7**	
	comp=Z,68nm,1.3s								
SUR	**Sutherland**	**39.83**	**71**	P		**P**	**06 50 19.2**	**-0.7**	
	comp=Z,16nm,0.9s,baz=252,slow=5.3,SNR=4.0								
AMOG	**MOGNA**	**39.90**	**293**	*e*P		**P**	**06 50 19.6**	**-0.8**	
TRCB	**Terra Rica**	**39.98**	**318**	*e*P		**P**	**06 50 22.4**	**+1.4**	
BB19B	**Bebedouro**	**40.19**	**325**	*e*P		**P**	**06 50 24.6**	**+1.8**	
ACCO	**Cerro Coronel**	**40.47**	**292**	*e*P		**P**	**06 50 24.8**	**-0.6**	
ACDV	**Cuesta del Vie**	**40.84**	**293**	*e*P		**P**	**06 50 27.4**	**-0.8**	
AROD	**Rodeo**	**41.02**	**292**	*e*P		**P**	**06 50 29.7**	**-0.2**	
AGUA	**GUANDACOL**	**41.08**	**294**	*e*P		**P**	**06 50 30.0**	**-0.2**	
GO04	**Tololo Observa**	**41.68**	**291**	*e*P		**P**	**06 50 34.2**	**-1.0**	
	comp=Z,46nm,1.0s								
AHML	**Horco Molle**	**41.81**	**300**	*e*P		**P**	**06 50 33.9**	**-2.2**	
AHML				IAML			06 50 35.3		
	comp=Z,23nm,0.6s								
PMNB	**Patos De Minas**	**41.96**	**329**	*e*P		**P**	**06 50 39.4**	**+2.0**	
ITRB	**Iturama**	**42.05**	**323**	*e*P		**P**	**06 50 40.1**	**+2.1**	
LCO	**Las Campanas**	**42.57**	**292**	*e*P		**P**	**06 50 41.1**	**-1.4**	
	comp=Z,52nm,0.9s								
LCO	**Las Campanas**	**42.57**	**292**	*e*P		**P**	**06 50 41.1**	**-1.4**	
LCO				pmax		pmax			
	comp=Z,52nm,0.9s								
LCO	**Las Campanas**	**42.57**	**292**	*e*P		**P**	**06 50 41.6**	**-0.9**	
FSA	**Cafayete**	**42.68**	**299**	*e*P		**P**	**06 50 41.7**	**-1.6**	
MCI6	**Montes Claros**	**42.94**	**333**	*e*P		**P**	**06 50 46.6**	**+1.3**	
MCI9	**Montes Claros**	**43.04**	**333**	*e*P		**P**	**06 50 47.5**	**+1.3**	
MCI8	**Montes Claros**	**43.09**	**333**	*e*P		**P**	**06 50 47.8**	**+1.2**	
AQDB	**Aquidauana**	**43.23**	**316**	*e*P		**P**	**06 50 47.8**	**+0.1**	
GO03	**Copiap**	**43.51**	**294**	*e*P		**P**	**06 50 49.5**	**-0.3**	
JANB	**Januaria**	**44.72**	**333**	*e*P		**P**	**06 51 00.7**	**+1.1**	
HJA	**Humahuaca**	**44.90**	**302**	*e*P		**P**	**06 51 01.2**	**-0.2**	
BOSA	**Boshof**	**45.13**	**72**	*e*P		**P**	**06 51 02.7**	**-0.3**	
	comp=Z,42nm,1.0s								
BOSA	**Boshof**	**45.13**	**72**	P		**P**	**06 51 03.2**	**+0.3**	
	comp=Z,21nm,0.9s,baz=205,slow=7.8,SNR=16								
BOSA				LR		LR	07 05 49.6		
	comp=Z,1μm,20.4s,baz=218,slow=31								
BOSA	**Boshof**	**45.13**	**72**	*e*P		**P**	**06 51 02.5**	**-0.4**	
BDFB	**Brasilia**	**45.16**	**328**	*e*P		**P**	**06 51 04.8**	**+1.6**	
	comp=Z,41nm,1.1s								
BDFB	**Brasilia**	**45.16**	**328**	*e*P		**P**	**06 51 04.8**	**+1.6**	
BDFB				pmax		pmax			
	comp=Z,41nm,1.1s								
BDFB	**Brasilia**	**45.16**	**328**	P		**P**	**06 51 04.0**	**+0.8**	
	comp=Z,23nm,0.8s,baz=134,slow=5.7,SNR=21								
BDFB				LR		LR	07 07 12.6		
	comp=Z,500nm,21.8s,baz=119,slow=32								
GO02	**Mina Guanaco**	**45.21**	**296**	*e*P		**P**	**06 51 03.2**	**-0.6**	
	comp=Z,87nm,0.8s								
VNDA	**Vanda**	**45.29**	**182**	*e*P		**P**	**06 51 05.1**	**+1.7**	
	comp=Z,83nm,1.5s								
VNDA	**Vanda**	**45.29**	**182**	*e*P		**P**	**06 51 05.1**	**+1.7**	
VNDA				pmax		pmax			
	comp=Z,83nm,1.5s								
VNDA	**Vanda**	**45.29**	**182**	P		**P**	**06 51 04.0**	**+0.6**	
	comp=Z,9.6nm,0.7s,baz=193,slow=6.4,SNR=52								
VNDA				LR		LR	07 09 26.9		
	comp=Z,142nm,18.7s,baz=183,slow=35								
LVC	**Limon Verde**	**47.05**	**299**	*e*P		**P**	**06 51 18.4**	**+0.1**	
	comp=Z,84nm,0.7s								
LVC				*e*PcP		**PcP**	**06 52 51.5**	**+1.7**	
LVC	**Limon Verde**	**47.05**	**299**	*e*P		**P**	**06 51 18.4**	**+0.1**	
LVC				*e*			06 52 51.5		
LVC				pmax		pmax			

	comp=Z,83nm,0.7s								
LVC	**Limon Verde**	**47.05**	**299**	P		**P**	**06 51 18.4**	**+0.1**	
	comp=Z,34nm,0.3s,baz=145,slow=5.7,SNR=63								
LVC				PcP		**PcP**	**06 52 51.5**	**+1.7**	
	comp=Z,16nm,0.8s,baz=143,slow=6.7,SNR=3.1								
LVC	**Limon Verde**	**47.05**	**299**	*e*P		**P**	**06 51 18.5**	**+0.1**	
PB10	**IPOC Station P**	**47.07**	**296**	*e*P		**P**	**06 51 17.2**	**-0.8**	
	comp=Z,28nm,0.8s								
PB04	**IPOC Station P**	**47.88**	**298**	*e*P		**P**	**06 51 23.9**	**-0.6**	
	comp=Z,95nm,0.8s								
LBTB	**Lobatse**	**48.24**	**70**	*e*P		**P**	**06 51 27.4**	**+0.2**	
	comp=Z,33nm,1.0s								
LBTB	**Lobatse**	**48.24**	**70**	P		**P**	**06 51 27.5**	**+0.2**	
	comp=Z,17nm,0.9s,baz=219,slow=8.3,SNR=16								
PEXB	**Peixe**	**48.60**	**329**	*e*P		**P**	**06 51 32.1**	**+2.1**	
PB01	**IPOC Station P**	**48.66**	**299**	*e*P		**P**	**06 51 30.5**	**0.0**	
	comp=Z,93nm,0.8s								
H10S1	**ASCENSION HYDR** SNR=21	**48.98**	**13**	T		T	07 44 37.8		
TSUM	**Tsumeb**	**49.29**	**57**	*e*P		**P**	**06 51 35.1**	**-0.3**	
	comp=Z,34nm,1.4s								
SIV	**San Ignacio**	**49.40**	**312**	P		**P**	**06 51 36.1**	**0.0**	
	comp=Z,36nm,0.8s,baz=165,slow=7.5,SNR=90								
GO01	**Chusmiza**	**49.71**	**300**	*e*P		**P**	**06 51 39.2**	**+0.3**	
PB11	**IPOC Station P**	**49.85**	**300**	*e*P		**P**	**06 51 39.2**	**-0.4**	
	comp=Z,64nm,0.9s								
H10N1	**ASCENSION HYDR** baz=131,slow=74,SNR=30	**50.08**	**14**	T		T	07 46 01.4		
H10N2	**ASCENSION HYDR** baz=185,slow=74,SNR=100	**50.10**	**14**	T		T	07 45 56.5		
MNMC	**Minye Minye**	**50.36**	**300**	*e*P		**P**	**06 51 44.2**	**+0.6**	
	comp=Z,128nm,0.7s								
RCBR	**Riachuelo**	**52.14**	**346**	*e*P		**P**	**06 51 59.4**	**+2.7**	
LPAZ	**La Paz**	**52.17**	**304**	*e*P		**P**	**06 51 58.3**	**+0.7**	
	comp=Z,53nm,0.6s								
LPAZ	**La Paz**	**52.17**	**304**	*e*P		**P**	**06 51 58.3**	**+0.7**	
LPAZ				pmax		pmax			
	comp=Z,53nm,0.6s								
LPAZ	**La Paz**	**52.17**	**304**	P		**P**	**06 51 58.2**	**+0.7**	
	comp=Z,54nm,0.7s,baz=146,slow=6.3,SNR=126								
LPAZ				LR		LR	07 15 38.9		
	comp=Z,175nm,20.1s,baz=154,slow=38								
LPAZ	**La Paz**	**52.17**	**304**	*e*P		**P**	**06 51 58.2**	**+0.7**	
NBPA	**Parau_RN**	**52.38**	**345**	*e*P		**P**	**06 52 00.0**	**+1.6**	
LSZ	**Lusaka**	**57.73**	**66**	*e*P		**P**	**06 52 37.0**	**-0.2**	
	comp=Z,31nm,0.8s								
LSZ	**Lusaka**	**57.73**	**66**	*e*P		**P**	**06 52 37.0**	**-0.2

TBI Tubuai 87.19 229 eLR LR 07 22 59.0
comp=Z,320nm,28.8s
FORT Forrest 89.26 157 eP P 06 55 42.8 +0.8
comp=Z,41nm,0.9s
STKA Stephens Creek 90.36 169 eP P 06 55 47.6 +0.5
comp=Z,3.4nm,1.1s
STKA Stephens Creek 90.36 169 eP P 06 55 47.6 +0.5
STKA pmax pmax
comp=Z,3.0nm,1.1s
STKA Stephens Creek 90.36 169 P P 06 55 46.8 -0.3
comp=Z,9.4nm,0.8s,baz=177,slow=4.6,SNR=8.9
STKA LR LR 07 32 59.9
comp=Z,231nm,21.8s,baz=202,slow=33
PPT2 Papeete2 92.36 232 eLR LR 07 25 30.8
comp=Z,1µm,26.2s
PPT Papeete 92.38 232 LR LR 07 28 14.4
comp=Z,364nm,21.2s,baz=171,slow=30
TAOE Nuku Hiva Isla 95.72 244 eLR LR 07 27 04.4
comp=Z,248nm,32.3s
KEST Kesra 97.16 27 LR LR 07 33 46.8
comp=Z,149nm,21.3s,baz=172,slow=32
ASAR Alice Springs 97.32 160 P P 06 56 18.6 -0.6
comp=Z,3.8nm,0.6s,baz=182,slow=4.1,SNR=36
ASAR LR LR 07 37 07.7
comp=Z,92nm,21.1s,baz=192,slow=34
AS01 Alice Springs 97.33 161 eP P 06 56 18.3 -0.9
DZM Mont Dzumac 100.28 191 eLR LR 07 29 07.9
comp=Z,194nm,23.9s
WR1 Warramunga Arr 101.04 160 ePdif Pdif 06 56 35.1 -0.8
WR1 ePKiKP PKiKP 07 00 59.8 -0.9
WR1 ePKKPbc PKKPbc 07 12 45.4 +1.3
WRA Warramunga Arr 101.04 160 P Pdif 06 56 35.1 -0.8
comp=Z,1.0nm,0.6s,baz=195,slow=4.2,SNR=16
WRA PKiKP PKiKP 07 00 59.8 -1.0
comp=Z,0.5nm,0.8s,baz=207,slow=2.0,SNR=3.2
WRA PKKPbc PKKPbc 07 12 45.4 +1.3
comp=Z,0.4nm,0.7s,baz=334,slow=2.6,SNR=5.2
WRAB Tennant Creek 101.05 160 iP Pdif 06 56 35.6 -0.3
WRAB pmax pmax
comp=Z,4.0nm,1.1s
TXAR Lajitas Array 108.51 295 PKiKP PKiKP 07 01 13.7 -0.5
comp=Z,0.4nm,0.7s,baz=160,slow=4.0,SNR=5.4
CLL Collm 112.72 25 ePS PS 07 11 50.0 +6.0
CLL e 07 14 09.0
CLL eSSS SSS 07 22 06.0
ANMO Albuquerque 114.45 297 iPKiKP PKPdf 07 01 24.6 -0.8
ANMO Albuquerque 114.45 297 P PKiKP 07 01 25.6 +0.2
baz=144
TASM ASL Pad, Albuq 114.45 297 P PKiKP 07 01 25.8 +0.4
baz=144
TASM ASL Pad, Albuq 114.45 297 P PKiKP 07 01 25.6 +0.2
baz=144
TUC Tucson 114.47 292 P PKiKP 07 01 26.2 +0.8
baz=144
214A Organ Pipe Nat 115.21 290 P PKiKP 07 01 28.0 +1.3
baz=143
T25A Trinidad 115.24 300 P PKiKP 07 01 28.0 +1.1
baz=144
SDCO Great Sand Dun 116.25 299 ePKPdf PKiKP 07 01 29.8 +0.8
SDCO Great Sand Dun 116.25 299 P PKiKP 07 01 29.6 +0.7
baz=144
X16A Lo Mia Camp, P 116.48 293 ePKPdf PKiKP 07 01 30.6 +1.3
KIEV Kiev 116.54 35 iPKIKP PKPdf 07 01 28.5 -0.1
AKASG Malin Array Be 116.56 35 PKP PKPdf 07 01 27.9 -0.7
comp=Z,0.8nm,0.5s,baz=216,slow=2.3,SNR=5.4
S22A 4UR Ranch, Cre 116.88 298 ePKPdf PKiKP 07 01 31.2 +1.1
S22A 4UR Ranch, Cre 116.88 298 P PKiKP 07 01 30.9 +0.8
baz=143
SCHQ Scheffer ville 116.91 334 PKP PKPdf 07 01 27.9 -1.3
comp=Z,2.4nm,0.6s,baz=227,slow=2.8,SNR=7.1
F37A Hinrichs Farm, 117.13 313 P PKiKP 07 01 30.1 +0.2
baz=146
OGNE Ogallala 117.22 304 P PKiKP 07 01 30.6 +0.2
baz=144
MVCO Mesa Verde 117.25 297 P PKiKP 07 01 31.2 +0.4
baz=143
WUAZ Wupatki 117.32 294 ePKPdf PKiKP 07 01 32.3 +1.4
WUAZ Wupatki 117.32 294 P PKiKP 07 01 31.8 +0.9
baz=142
SWSC Sam W. Stewart 117.52 289 P PKiKP 07 01 31.8 +0.7
baz=142
PDMCI Parker Dam,Lak 117.75 291 P PKiKP 07 01 32.7 +1.2
baz=142
BC3 Big Chuckawall 117.90 289 P PKiKP 07 01 33.1 +1.1
baz=142
ISCO Idaho Springs 117.94 301 ePKPdf PKiKP 07 01 32.8 +0.7
ISCO Idaho Springs 117.94 301 ePKIKP PKiKP 07 01 32.8 +0.7
ISCO Idaho Springs 117.94 301 P PKiKP 07 01 33.1 +0.9
baz=143
SMCO Snowmass 118.08 299 ePKPdf PKiKP 07 01 33.6 +1.0
IRM Iron Mountain 118.14 290 P PKiKP 07 01 33.7 +1.3
baz=142
W13A Hualapai Mount 118.24 291 ePKPdf PKiKP 07 01 34.0 +1.2
BELC Belle Mtn. Jos 118.45 289 P PKiKP 07 01 34.0 +0.9
baz=142
EYMN Ely 118.53 315 P PKPdf 07 01 32.3 -0.2
baz=146
GMRC Granite Mounta 118.89 290 P PKiKP 07 01 35.1 +1.2
baz=142
N23A Red Feather La 118.96 301 P PKiKP 07 01 34.0 0.0
baz=142
KNB Kanab 119.22 294 ePKPdf PKiKP 07 01 35.6 +1.0
O20A White River Ci 119.44 299 ePKPdf PKiKP 07 01 35.5 +0.5
O20A White River Ci 119.44 299 P PKiKP 07 01 34.8 -0.1
baz=142
MTPU Mount Pierson 119.70 295 ePKPdf PKiKP 07 01 36.9 +1.2
SRU San Rafael Swe 119.73 297 ePKPdf PKPdf 07 01 34.5 -0.9
SRU San Rafael Swe 119.73 297 ePKIKP PKPdf 07 01 34.5 -0.9
SZCU Shurtz Canyon 119.80 294 ePKPdf PKiKP 07 01 37.1 +1.4
GSC Goldstone, Bar 119.88 289 ePKPdf PKiKP 07 01 36.5 +0.7
GSC Goldstone, Bar 119.88 289 ePKIKP PKiKP 07 01 36.5 +0.7
GSC Goldstone, Bar 119.88 289 P PKiKP 07 01 36.2 +0.4
baz=141
Q16A Castle Valley 119.89 296 ePKPdf PKiKP 07 01 36.6 +0.8
CCUT Cedar City 119.90 294 ePKPdf PKiKP 07 01 36.6 +0.7
SHPR Sheep Range 119.99 292 ePKPdf PKiKP 07 01 36.7 +0.6
MSU Marysvale 120.07 295 ePKPdf PKiKP 07 01 37.1 +0.9
SHOC Shoshone, Teco 120.08 290 P PKiKP 07 01 36.7 +0.6
baz=141
EDW2 Edwards Air Fo 120.16 288 P PKiKP 07 01 37.0 +0.6
baz=141
RWWY Rawlins 120.17 301 ePKPdf PKiKP 07 01 36.4 0.0
TMUT Trail Mountain 120.20 296 ePKPdf PKiKP 07 01 36.8 +0.2
TCRU Three Creeks R 120.28 295 ePKPdf PKiKP 07 01 38.3 +1.7
AGMN Agassiz Nation 120.51 313 ePKPdf PKPdf 07 01 36.2 -0.1
AGMN Agassiz Nation 120.51 313 P PKPdf 07 01 35.7 -0.7
baz=144
K22A Casper 120.61 302 ePKPdf PKiKP 07 01 37.1 0.0
K22A Casper 120.61 302 P PKPdf 07 01 36.3 -0.7
baz=142
RSSD Black Hills 120.64 305 ePKPdf PKiKP 07 01 37.1 0.0
RSSD Black Hills 120.64 305 ePKIKP PKiKP 07 01 37.1 0.0
RSSD Black Hills 120.64 305 P PKPdf 07 01 36.7 -0.4
baz=142
MPMC Manual Prospec 120.82 290 P PKiKP 07 01 37.9 +0.1
baz=141
TPNV Topopah Spring 120.88 291 ePKPdf PKiKP 07 01 39.2 +1.5
TPNV Topopah Spring 120.88 291 P PKiKP 07 01 39.0 +1.2
baz=141
PSUT Pine Spring 120.91 294 ePKPdf PKPdf 07 01 37.2 -0.5
MPU Maple Canyon 120.97 297 ePKPdf PKiKP 07 01 38.9 +1.0
ISA Isabella, Lake 121.02 288 ePKPdf PKiKP 07 01 38.4 +0.4
ISA Isabella, Lake 121.02 288 ePKIKP PKiKP 07 01 38.4 +0.4
ISA Isabella, Lake 121.02 288 P PKiKP 07 01 39.0 +1.1
baz=141
PKM Mcpherson Peak 121.11 287 P PKiKP 07 01 39.4 +1.1
baz=141
NLU North Lily Min 121.14 296 ePKPdf PKiKP 07 01 39.5 +1.2
JLU Jordanelle 121.33 297 ePKPdf PKiKP 07 01 39.7 +1.1
CWC Cottonwood Cre 121.42 289 P PKiKP 07 01 39.9 +1.1
baz=141
NB2 NORSAR Subarra 121.43 20 PKPdf PKPdf 07 01 37.5 -0.3
comp=Z,1.0nm,0.8s,baz=202,slow=1.9
NOA NORSAR Array B 121.43 20 PKP PKPdf 07 01 37.4 -0.4
comp=Z,0.8nm,0.7s,baz=198,slow=1.8,SNR=7.6
CTU Camp Tracy 121.55 297 ePKPdf PKiKP 07 01 40.0 +1.0
R11A Troy Canyon, C 121.63 293 ePKPdf PKiKP 07 01 40.5 +1.2
R11A Troy Canyon, C 121.63 293 P PKiKP 07 01 40.3 +1.1
baz=141
MDND Maddock 121.67 310 P PKPdf 07 01 38.1 -0.5
baz=142
DUG Dugway, Tooele 121.68 296 ePKPdf PKiKP 07 01 39.9 +0.7
DUG Dugway, Tooele 121.68 296 P PKiKP 07 01 39.9 +0.7
baz=140
NIL Nilore 121.86 76 ePKPdf PKiKP 07 01 39.6 -0.1

ULM Lac du Bonnet 122.08 314 ePKPdf PKPdf 07 01 38.7 -0.6
ULM Lac du Bonnet 122.08 314 PKP PKPdf 07 01 38.9 -0.4
comp=Z,6.6nm,0.6s,baz=202,slow=0.6,SNR=15
ULM PP PP 07 03 12.5 -2.9
comp=Z,5.2nm,1.1s,baz=150,slow=7.5,SNR=3.9
PD31 Pinedale Array 122.11 300 ePKPdf PKPdf 07 01 39.2 -0.7
PD31 ePP PP 07 03 13.6 -2.4
PDAR Pinedale Array 122.11 300 ePKPdf PKPdf 07 01 38.2 -1.7
PDAR Pinedale Array 122.11 300 PKP PKPdf 07 01 39.5 -0.4
comp=Z,2.4nm,0.7s,baz=145,slow=5.4,SNR=21
PDAR PP PP 07 03 13.6 -2.4
comp=Z,0.8nm,0.8s,baz=108,slow=4.8,SNR=4.9
BW06 Boulder Array 122.11 300 ePKPdf PKPdf 07 01 39.5 -0.4
BW06 Boulder Array 122.11 300 P PKPdf 07 01 39.8 -0.1
baz=140
BGU Big Grassy Mou 122.35 296 ePKPdf PKiKP 07 01 41.4 +0.9
SPUT South Promonto 122.36 297 ePKPdf PKiKP 07 01 41.5 +0.9
VSU Vasula 122.58 29c iPKIKP PKiKP 07 01 40.1 0.0
VSU pmax pmax
comp=Z,69nm,2.5s
OBN Obninsk 122.65 37 iPKIKP PKPdf 07 01 39.5 -0.7
OBN pmax pmax
comp=Z,4.0nm,0.8s
OMMB Old Mammoth Mi 122.79 290 ePKPdf PKPdf 07 01 41.1 -0.4
MDPB Devils Postpil 122.84 290 ePKPdf PKiKP 07 01 42.2 +0.4
HVU Hansel Valley 122.88 297 ePKPdf PKiKP 07 01 42.0 +0.5
HVU Hansel Valley 122.88 297 ePKIKP PKiKP 07 01 42.0 +0.5
NV11 Mina Array Sit 122.98 291 ePKPdf PKiKP 07 01 42.3 +0.4
NV01 Mina Array Sit 123.06 291 ePKPdf PKiKP 07 01 43.0 +0.9
NVAR Mina Array Bea 123.06 291 PKP PKiKP 07 01 43.5 +1.4
comp=Z,2.7nm,0.6s,baz=135,slow=3.4,SNR=25
REDW Red Top Meadow 123.17 300 ePKPdf PKiKP 07 01 42.8 +0.6
SNOW Snow King Moun 123.20 300 ePKPdf PKiKP 07 01 43.0 +0.8
LOHW Long Hollow 123.25 300 ePKPdf PKiKP 07 01 42.8 +0.4
ELK Elko 123.29 295 ePKPdf PKiKP 07 01 43.5 +1.0
ELK Elko 123.29 295 ePKIKP PKiKP 07 01 43.5 +1.0
TPAW Teton Pass 123.32 300 ePKPdf PKiKP 07 01 43.4 +0.9
CM01 Chiang Mai Arr 123.41 109 ePKPdf PKPdf 07 01 42.6 -0.2
MOOW Moose Ponds 123.42 300 ePKPdf PKiKP 07 01 43.1 +0.4
KVN Kaiserville 123.43 291 ePKPdf PKiKP 07 01 44.2 +1.4
KVN Kaiserville 123.43 291 ePKIKP PKiKP 07 01 44.2 +1.4
CMAR Chiang Mai Arr 123.43 109 PKP PKPdf 07 01 43.0 +0.1
comp=Z,6.8nm,0.8s,baz=231,slow=3.9,SNR=23
FXWY Fox Creek 123.47 300 ePKPdf PKiKP 07 01 43.4 +0.6
LAO LASA Array 123.60 305 ePKPdf PKiKP 07 01 43.0 +0.2
LAO LASA Array 123.60 305 P PKiKP 07 01 42.9 +0.2
baz=140
IMW Indian Meadow 123.62 300 ePKPdf PKiKP 07 01 43.3 +0.2
FLWY Flagg Ranch 123.65 300 ePKPdf PKiKP 07 01 44.2 +1.1
WAKR Walker 123.69 290 ePKPdf PKiKP 07 01 45.4 +2.1
RLMT Red Lodge 123.78 302 ePKPdf PKiKP 07 01 43.9 +0.5
RLMT Red Lodge 123.78 302 P PKiKP 07 01 43.3 0.0
baz=140
H17A Grant Village 123.83 301 P PKiKP 07 01 44.4 +1.0
baz=140
LKWY Lake 123.88 301 ePKPdf PKiKP 07 01 45.2 +1.7
YERR Yerington 123.96 290 ePKPdf PKiKP 07 01 44.0 +0.2
YFT Old Faithful 123.99 300 ePKPdf PKiKP 07 01 46.1 +2.3
BMN Battle Mountai 124.03 293 ePKPdf PKiKP 07 01 44.8 +0.9
DGMT Dagmar 124.08 308 ePKPdf PKiKP 07 01 44.0 +0.5
DGMT Dagmar 124.08 308 P PKiKP 07 01 43.5 -0.1
baz=140
PNTR Pine Nut 124.22 290 ePKPdf PKiKP 07 01 46.6 +2.2
YMR Madison River 124.22 301 ePKPdf PKiKP 07 01 45.6 +1.4
YHH Holmes Hill 124.26 301 ePKPdf PKiKP 07 01 45.6 +1.3
GCMT Greyclift 124.47 302 ePKPdf PKiKP 07 01 44.9 +0.3
QLMT Earthquake Lak 124.56 300 ePKPdf PKiKP 07 01 46.0 +1.1
AFDM Forest Hills D 124.81 289 ePKPdf PKiKP 07 01 45.1 -0.2
FIA0 FINESS Array S 124.99 27 ePKPdf PKPdf 07 01 44.3 -0.2
FIA0 FINESS Array S 124.99 27 ePKIKP PKPdf 07 01 44.3 -0.2
FINES FINESS Array B 124.99 27 PKP PKPdf 07 01 44.3 -0.2
comp=Z,8.5nm,0.7s,baz=126,slow=2.6,SNR=34
FIA1 FINESS Array S 124.99 27 ePKPdf PKPdf 07 01 44.4 -0.1
FIA1 ePKPdf PKiKP 07 01 44.8 -0.1
HLID Hailey 125.02 297 ePKPdf PKiKP 07 01 47.0 +1.2
HLID Hailey 125.02 297 P PKiKP 07 01 46.5 +0.7
baz=139
BEKR Beckworth 125.19 290 ePKPdf PKiKP 07 01 47.5 +1.3
BOZ Bozeman (W) 125.23 301 ePKPdf PKiKP 07 01 47.1 +1.1
BOZ Bozeman (W) 125.23 301 ePKIKP PKiKP 07 01 47.2 +1.1
BOZ Bozeman (W) 125.23 301 P PKiKP 07 01 46.8 +0.8
baz=139
DLMT Dillon 125.50 300 ePKPdf PKiKP 07 01 48.0 +1.4
ORV Oroville 125.54 289 ePKPdf PKiKP 07 01 48.1 +1.4
ORV Oroville 125.54 289 ePKIKP PKiKP 07 01 48.1 +1.4
LRM Limekiln Ridge 125.78 301 ePKPdf PKiKP 07 01 48.4 +1.1
HRY Holter Researc 126.15 302 ePKPdf PKiKP 07 01 49.0 +1.1
EGMT Eagleton 126.18 304 ePKPdf PKiKP 07 01 48.5 +0.7
EGMT Eagleton 126.18 304 P PKiKP 07 01 48.0 +0.2
baz=138
WVOR Wild Horse Val 126.24 294 ePKPdf PKiKP 07 01 49.5 +1.3
WVOR Wild Horse Val 126.24 294 ePKIKP PKiKP 07 01 49.5 +1.3
O03E Paynes Creek 126.24 290 P PKiKP 07 01 48.5 +0.4
baz=138
O02D Mt. Diablo Mer 126.66 289 P PKiKP 07 01 49.7 +0.7
baz=138
MOD Modoc Plateau 126.68 292 ePKPdf PKiKP 07 01 50.0 +0.9
WDC Whiskeytown Da 126.83 289 ePKPdf PKiKP 07 01 49.7 +0.5
WDC Whiskeytown Da 126.83 289 ePKIKP PKiKP 07 01 49.7 +0.5
J08A Circle Bar Ran 126.84 295 ePKPdf PKiKP 07 01 50.1 +0.8
ABKAR Akbulak array 127.11 55 ePKPdf PKPdf 07 01 48.9 -0.1
N02D Trinity Center 127.21 290 P PKiKP 07 01 50.0 0.0
baz=138,SNR=13
MSO Missoula 127.22 300 ePKPdf PKiKP 07 01 50.6 +0.7
MSO Missoula 127.22 300 P PKiKP 07 01 50.2 +0.2
baz=137
M04C Macdoel 127.36 291 P PKiKP 07 01 50.2 -0.2
baz=138,SNR=5.3
BMO Blue Mountains 127.37 297 ePKPdf PKiKP 07 01 50.8 +0.5
ARSB Arslanbob 127.52 70 ePKPdf PKiKP 07 01 51.5 +0.8
K05A Summer Lake 127.58 292 ePKPdf PKiKP 07 01 52.1 +1.2
KK31 Karatay Array 127.58 67 ePKPdf PKPdf 07 01 50.1 0.0
KK31 Karatay Array 127.58 67 ePKIKP PKPdf 07 01 50.1 0.0
KKAR Karatay Array 127.58 67 ePKPdf PKPdf 07 01 50.1 0.0
KKAR Karatay Array 127.58 67 ePKIKP PKPdf 07 01 50.1 0.0
M02C Callahan 127.59 290 P PKiKP 07 01 51.0 +0.1
baz=137,SNR=7.7
KSH Kashi 127.73 74 PKP PKPdf 07 01 50.5 -0.2
KSH sPKP 07 02 04.0
KSH PP PP 07 03 51.8 -1.6
KSH SS SS 07 21 01.8 -0.4
KSH AMB AMB
comp=Z,98nm,6.3s
KSH LR LR
comp=Z,100nm,9.4s
KSH LR LR
comp=Z,110nm,10.6s
YBH Yreka Blue Hor 127.77 290 ePKPdf PKiKP 07 01 51.8 +0.6
YBH Yreka Blue Hor 127.77 290 ePKIKP PKiKP 07 01 51.8 +0.6
YBH Yreka Blue Hor 127.77 290 PKP PKPdf 07 01 50.5 -0.2
comp=Z,2.7nm,0.9s,baz=93,slow=6.2,SNR=8.4
I07A Izee 127.88 294 ePKPdf PKiKP 07 01 52.6 +1.2
FFC Flin Flon 127.91 314c iPKIKP PKiKP 07 01 51.3 +0.4
L04D Klamath Falls 127.92 291 P PKiKP 07 01 51.4 -0.2
baz=137,SNR=7.1
K04D Chiloquin, OR 127.94 292 P PKiKP 07 01 51.5 0.0
baz=137
F10A Beach Ranch, E 128.15 298 ePKPdf PKiKP 07 01 51.6 -0.2
J05D Fort Rock, OR 128.16 293 P PKiKP 07 01 52.9 +0.9
baz=137,SNR=12
KLMR Klimovskoe 128.22 34 ePKIKP PKPdf 07 01 50.0 -0.6
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 128.22 34 ePKPdf PKPdf 07 01 50.1 -0.6
KLMR AMP 07 02 04.4
comp=Z,13nm,1.0s
PINE Pine Mountain 128.38 293 ePKPdf PKiKP 07 01 53.4 +0.9
G08A Pilot Rock 128.49 296 ePKPdf PKiKP 07 01 53.1 +0.6
HUMO Hull Mountain 128.53 291 ePKPdf PKiKP 07 01 53.6 +1.0
L02E Eve Junction 128.53 290 P PKiKP 07 01 53.3 +0.7
baz=137
J04D Umpqua Nationa 128.56 292 P PKiKP 07 01 53.1 +0.2
baz=137,SNR=5.6
WALA Waterton Lakes 128.82 302 ePKPdf PKiKP 07 01 53.0 -0.1
K02D Willamette Mer 128.96 290 P PKiKP 07 01 53.8 +0.3
baz=136,SNR=5.8
I05D Terrebonne, OR 128.97 293 P PKiKP 07 01 53.8 +0.4
baz=136
E09A Wood Farm, Sta 128.98 298 ePKPdf PKiKP 07 01 53.7 +0.4
I04A Tendick Farm, 129.12 292 P PKiKP 07 01 53.5 -0.2
baz=136
AAK Ala-Archa 129.25 70 ePKPdf PKPdf 07 01 53.8 +0.3
AAK Ala-Archa 129.25 70 ePKIKP PKPdf 07 01 53.8 +0.3

G06A Carlson Farm, 129.27 295 ePKPdf PKiKP 07 01 54.3 +0.3
QIZ Qiongzhong 129.29 120 PKP PKiKP 07 01 55.8 +1.0
QIZ PP PP 07 04 05.0 +1.8
QIZ SS SS 07 21 27.5 +6.8
E08A Dider Farm, El 129.40 297 ePKPdf PKiKP 07 01 54.7 +0.6
I03D Drain, OR 129.52 292 P PKiKP 07 01 55.1 +0.6
baz=136
HAWA Hanford 129.56 297 ePKPdf PKiKP 07 01 55.1 +0.6
G05D Wamic, OR 129.61 294 P PKiKP 07 01 54.6 -0.1
baz=136
H04A Detroit Lake 129.64 293 ePKPdf PKiKP 07 01 54.8 0.0
D08A Wollman Farm, 129.74 298 ePKPdf PKiKP 07 01 55.5 +0.6
NEW Newport 129.75 300 ePKPdf PKiKP 07 01 54.8 -0.1
NEW Newport 129.75 300 ePKIKP PKiKP 07 01 54.8 -0.1
NEW Newport 129.75 300 P PKPdf 07 01 54.0 -0.1
baz=135
NEW Newport 129.75 300 PKP PKPdf 07 01 54.2 +0.1
comp=Z,1.8nm,0.6s,baz=114,slow=2.8,SNR=4.7
H04D Lebanon 129.81 293 P PKiKP 07 01 55.3 +0.2
baz=136
E07A Sunnyside 129.84 296 ePKPdf PKiKP 07 01 55.9 +0.8
TMCR Tamitsa 130.37 31 ePKIKP PKiKP 07 01 56.4 +0.9
PRGR Permogore 130.73 36 ePKIKP PKPdf 07 01 53.9 -1.5
PRGR pmax pmax
comp=Z,7.0nm,0.6s
B08A Colville Reser 130.86 298 ePKPdf PKiKP 07 01 56.7 -0.4
E04D Cinebar 131.16 295 P PKiKP 07 01 57.6 -0.1
baz=134
D05A Enumclaw 131.32 296 ePKPdf PKiKP 07 01 57.8 -0.2
ARU Arti 131.67 48 iPKIKP PKPdf 07 01 57.2 -0.2
ARU 07 09 04.8
ARA0 ARCESS Array S 131.73 21 ePKPdf PKPdf 07 01 57.1 0.0
ARCES ARCESS Array B 131.73 21 PKP PKPdf 07 01 57.1 0.0
comp=Z,3.7nm,0.6s,baz=146,slow=2.4,SNR=18
APA Apatity 131.85 26 ijPKIKP PKPdf 07 01 55.4 -2.0
APA pmax pmax
comp=Z,6.0nm,1.3s
B06A Marblemount 132.00 297 ePKPdf PKiKP 07 01 59.2 -0.1
D03D Eldon 132.10 295 P PKiKP 07 01 59.6 0.0
baz=134
B05A Bryant 132.12 297 P PKiKP 07 01 59.1 -0.5
baz=134
A04D Lummi Island 132.73 297 P PKiKP 07 02 00.6 -0.1
baz=133
LLLB Lillooet 133.61 299 ePKPdf PKPdf 07 02 01.5 +0.2
GYA Guiyang 134.01 111 Pdif Pdif 06 59 04.0 +1.7
GYA PKP PKiKP 07 02 05.5 +1.2
GYA PP PP 07 04 39.8 +5.9
GYA AMB AMB
comp=Z,180nm,8.0s
BRVK Borovoye 134.42 57 ePKPdf PKiKP 07 02 03.8 -0.3
BRVK Borovoye 134.42 57c iPKIKP PKiKP 07 02 04.1 0.0
BRVK pmax pmax
comp=Z,3.0nm,0.8s
CD2 Chengdu 136.10 105 PKP PKPdf 07 02 07.3 +0.6
MK31 Makanchi Array 136.13 71 ePKPpre PKPpre 07 01 58.1
MK31 Makanchi Array 136.13 71 ePKHKP PKPpre 07 01 58.1
MK32 Makanchi Array 136.13 71 ePKPpre PKPpre 07 01 56.1
MK32 ePKPdf PKPdf 07 02 05.9 -0.2
MKAR Makanchi Array 136.13 71c iPKIKP PKiKP 07 02 07.0 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 136.13 71 PKhKP PKPpre 07 01 56.1
comp=Z,0.7nm,0.7s,baz=246,slow=2.5,SNR=7.3
MKAR PKP PKPdf 07 02 05.9 -0.2
comp=Z,1.6nm,0.7s,baz=241,slow=2.7,SNR=12
TULEG Thule 136.54 346 ePKPdf PKPdf 07 02 06.3 +0.4
KURK Kurchatov 136.84 65c iPKIKP PKPdf 07 02 05.9 -1.4
KURK pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 136.95 78 ePKP PKiKP 07 02 09.8 +0.2
WMQ LR LR
comp=Z,170nm,25.9s
WMQ LR LR
comp=Z,470nm,29.9s
WMQ LR LR
comp=Z,450nm,25.9s
YKA Yellowknife Ar 138.00 316 PKhKP PKPpre 07 02 00.5
comp=Z,0.9nm,0.8s,baz=116,slow=3.7,SNR=17
YKA PKP PKPdf 07 02 09.4 +0.4
comp=Z,16nm,0.8s,baz=125,slow=2.2,SNR=96
YKA PP PP 07 04 52.9 -5.7
comp=Z,2.4nm,1.0s,baz=123,slow=5.7,SNR=5.4
YKA SKPbc SKPbc 07 05 39.3 +0.3
comp=Z,0.6nm,0.7s,baz=130,slow=3.4,SNR=4.7
YKB5 Yellowknife Ar 138.00 316 ePKPdf PKPdf 07 02 09.4 +0.4
YKW3 Yellowknife Ar 138.05 316 ePKPdf PKPdf 07 02 07.5 -1.6
RES Resolute Bay 139.57 337 ePKPdf PKPdf 07 02 12.2 +0.6
RES Resolute Bay 139.57 337 PKhKP PKPpre 07 02 03.2
comp=Z,2.7nm,0.8s,baz=144,slow=5.2,SNR=10
LZH Lanzhou 140.14 100 ePKP PKPdf 07 02 09.5 -4.6
LZH sPKP 07 02 22.0
GTA Gaotai 140.41 93 ePKP PKiKP 07 02 17.3 +0.4
GTA LR LR
comp=Z,120nm,20.0s
GTA LR LR
comp=Z,150nm,20.6s
DGZ Jazzator, Alta 140.63 71 iPKIKP PKPdf 07 02 13.3 -1.2
XAN Xi'an 141.25 107 PKP PKiKP 07 02 18.3 -0.4
NVS Novosibirsk 141.57 62 ePKIKP PKiKP 07 02 25.6 +7.0
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS pmax pmax
comp=Z,9.0nm,0.9s
ZALV Zalesovo Beam 141.83 64 ePKPpre PKPpre 07 02 11.4
ZALV Zalesovo Beam 141.83 64 ePKHKP PKPpre 07 02 11.4
ZALV Zalesovo Beam 141.83 64 PKhKP PKPpre 07 02 11.8
comp=Z,1.7nm,0.5s,baz=250,slow=4.6,SNR=5.1
ZAA1 Zalesovo Array 141.83 64 ePKPpre PKPpre 07 02 11.8
DLBC Dease Lake 142.11 304 PKhKP PKPpre 07 02 12.3
comp=Z,4.1nm,0.8s,baz=112,slow=8.0,SNR=4.9
JIS Juneau Island 144.01 302 ePKPdf PKPdf 07 02 19.5 -0.4
BESE Bessie Mountai 144.37 302 ePKPdf PKPdf 07 02 20.7 0.0
NJ2 Nanjing 144.58 120 ePKP PKPdf 07 02 23.5 +1.7
SKAG Skagway 145.01 303 ePKPbc PKPdf 07 02 22.7 +1.1
WHY Whitehorse 145.36 305 ePKPbc PKPab 07 02 23.4 +0.8
HYT Haines Junctio 146.59 305 ePKPdf PKPdf 07 02 24.4 -0.1
BTO Baotou 146.75 101 ePKPbc PKPbc 07 02 27.0 -0.2
PCA Pinnacle 147.53 302 ePKPbc PKPbc 07 02 29.5 +0.8
INK Inuvik 147.63 319 ePKPdf PKPdf 07 02 26.7 +0.9
INK Inuvik 147.63 319 ePKIKP PKPdf 07 02 26.7 +0.9
INK Inuvik 147.63 319 PKPbc PKPbc 07 02 29.1 +0.4
comp=Z,56nm,0.9s,baz=82,slow=3.4,SNR=121
HHC Hu-ho-hao-te 147.74 102 ePKPbc PKPbc 07 02 30.0 0.0
EPYK Eagle Plains 148.26 315 ePKPdf PKPdf 07 02 25.5 -1.5
EPYK ePKPbc PKPbc 07 02 30.8 +0.4
DAWY Dawson 148.61 310 ePKPbc PKPbc 07 02 31.7 +0.2
TGL Tana Glacier 148.96 303 ePKPbc PKPbc 07 02 33.6 -0.2
NRIK Noril'sk 149.25 40 PKPbc PKPbc 07 02 32.3 -0.5
comp=Z,8.3nm,0.8s,baz=39,slow=0.3,SNR=16
ZAK Zakamensk 149.34 81 ePKIKP PKPdf 07 02 27.2 -2.2
ZAK pmax pmax
comp=Z,11nm,1.6s
HMT Hamilton 149.46 301 ePKPbc PKiKP 07 02 35.3 +0.6
BJT Baijiatuan 149.55 108 ePKPbc PKPbc 07 02 34.8 +0.3
SONA0 Songino Array 149.55 87 ePKPbc PKPbc 07 02 33.9 -0.5
SONM Songino Array 149.55 87 PKPbc PKPbc 07 02 33.9 -0.5
comp=Z,9.7nm,0.6s,baz=237,slow=1.8,SNR=25
EGAK Eagle 149.56 311 ePKPdf PKPdf 07 02 28.7 -0.4
EGAK ePKPbc PKPbc 07 02 33.9 +0.2
ULN Ulaanbaatar 149.93 88 ePKPbc PKPbc 07 02 35.1 -0.2
EYAK Cordova Ski Ar 150.23 301 ePKPbc PKiKP 07 02 36.9 +0.7
TLY Talaya 150.23 79 ePKPbc PKiKP 07 02 36.2 -0.3
TLY Talaya 150.23 79c iPKIKP PKiKP 07 02 36.5 -0.1
TLY pmax pmax
comp=Z,19nm,1.0s
DIV Divide 150.44 302 ePKPbc PKiKP 07 02 37.6 +0.9
DOT Dot Lake 150.46 308 ePKPbc PKiKP 07 02 37.2 +0.5
SCRK Sand Creek 150.52 308 ePKPbc PKPbc 07 02 35.9 -0.4
HARP HAARP 150.57 305 ePKPbc PKiKP 07 02 37.7 +0.7
KLU Klutina 150.63 303 ePKPdf PKPdf 07 02 29.5 -1.5
KLU ePKPbc PKPbc 07 02 36.6 +0.1
JNU Nakatsue 150.66 135 ePKPbc PKPbc 07 02 37.3 -0.1
JNU Nakatsue 150.66 135 PKPbc PKPbc 07 02 37.1 -0.4
comp=Z,19nm,0.8s,baz=43,slow=2.1,SNR=10
RIDG Independ'e Rid 150.82 308 ePKPbc PKiKP 07 02 38.5 +1.1
PAX Paxson 150.88 306 ePKPbc PKiKP 07 02 37.3 -0.4
SCM Sheep Creek Mo 151.37 303 ePKPbc PKiKP 07 02 39.5 +0.8
DL2 Dalian 151.44 116 PKPbc PKPbc 07 02 39.0 0.0
FYU Fort Yukon 151.62 313 ePKPdf PKPdf 07 02 31.2 -1.0
FYU ePKPbc PKiKP 07 02 39.8 +0.9

KNK	Knik Glacier	151.76	302	*e*PKPbc	PKiKP	07 02 40.1	+0.6	
SML	Sawmill	151.82	303	*e*PKPbc	PKiKP	07 02 40.2	+0.6	
HDA	Harding Lake	151.88	309	*e*PKPdf	PKPdf	07 02 30.5	-2.2	
HDA	Harding Lake baz=103	151.88	309	P	PKiKP	07 02 39.5	-0.1	
ILAR	Eielson Array comp=Z,1.3nm,0.8s,baz=334,slow=1.2,SNR=15	151.94	309	PKP	PKPdf	07 02 29.6	-3.2	
ILAR				PKPbc	PKiKP	07 02 39.7	+0.1	
	comp=Z,56nm,0.9s,baz=140,slow=4.0,SNR=275							
ILB	Eielson Array	151.94	309	*e*PKPdf	PKPdf	07 02 30.6	-2.2	
ILB				*e*PKPbc	PKiKP	07 02 39.8	+0.1	
TJN	Taejon	152.04	127*c*	*i*PKIKP	PKiKP	07 02 40.9	+0.1	
GHO	Glory Hole Cre	152.08	303	*e*PKPbc	PKiKP	07 02 40.7	+0.5	
PMR	Palmer	152.12	302	*e*PKPbc	PKiKP	07 02 41.0	+0.9	
POKR	Poker Plat Res baz=101	152.24	310	P	PKiKP	07 02 40.5	+0.2	
RC01	Rabbit Creek A	152.25	301	*e*PKPbc	PKiKP	07 02 41.5	+1.1	
CCB	Clear Creek Bu	152.30	309	*e*PKPbc	PKiKP	07 02 40.4	0.0	
CCB				*e*PKPab	pPKPbc	07 02 51.0	-1.5	
COLA	College	152.36	309	*e*PKPbc	PKiKP	07 02 40.9	+0.4	
COLA				*e*PKPab	pPKPbc	07 02 51.3	-1.3	
TCOL	CIGO, UAF Yank baz=101	152.37	309	P	PKiKP	07 02 40.4	-0.1	
BRLK	Bradley Lake	152.38	298	*e*PKPbc	PKiKP	07 02 41.3	+0.5	
WRH	Wood River Hil	152.38	309	*e*PKPdf	PKPdf	07 02 31.8	-1.7	
RND	Reindeer	152.47	306	*e*PKPdf	PKPdf	07 02 32.7	-1.0	
RND	Reindeer	152.47	306	*e*PKIKP	PKPdf	07 02 32.7	-1.0	
KDAK	Kodiak Island comp=Z,20nm,0.7s,baz=127,slow=1.6,SNR=27	152.52	293	PKPbc	PKiKP	07 02 41.4	+0.4	
MDM	Murphy Dome	152.54	310	*e*PKPbc	PKiKP	07 02 40.8	-0.2	
SUA	Susitna One	152.82	302	*e*PKPdf	PKPdf	07 02 35.5	+1.1	
SUA				*e*PKPbc	PKiKP	07 02 42.2	+0.4	
BWN	Browne	152.90	308	*e*PKPbc	PKiKP	07 02 42.1	+0.4	
TRF	Thorofare Moun	153.11	306	*e*PKPdf	PKPdf	07 02 36.5	+1.8	
KSRS	Korea Array comp=Z,3.0nm,0.5s,baz=190,slow=2.2,SNR=13	153.19	126	PKPbc	PKPbc	07 02 42.9	-0.1	
KS01	Wonju Array Si	153.20	126	*e*PKPbc	PKPbc	07 02 42.7	-0.3	
RSO	Redoubt South	153.48	299	*e*PKPbc	PKiKP	07 02 44.0	+0.8	
TOLK	Toolik Lake Re	153.51	317	*e*PKPdf	PKPdf	07 02 32.8	-2.3	
TOLK	Toolik Lake Re baz=93	153.51	317	P	PKiKP	07 02 43.6	+0.8	
BPAW	Bear Paw Mtn.	153.54	307	*e*PKPdf	PKPdf	07 02 32.5	-2.7	
COLD	Coldfoot	153.65	314	*e*PKPdf	PKPdf	07 02 34.6	-0.6	
COLD				*e*PKPbc	PKPbc	07 02 41.2	-1.8	
PPLA	Purkeypile	153.83	304	*e*PKPdf	PKPdf	07 02 35.3	-0.6	
PPLA				*e*PKPbc	PKiKP	07 02 44.3	+0.5	
IM3	Indian Mountai	154.96	311	*e*PKPdf	PKPdf	07 02 37.0	-0.1	
IM3				*e*PKPbc	PKiKP	07 02 46.9	+1.0	
IM3				*e*PKPab	PKPab	07 03 03.0	+1.3	
MAJO	Matsushiro	156.31	144	*e*PKPab	PKPab	07 03 08.4	+0.2	
MAJO	Matsushiro	156.31	144	*e*PKP2	PKPab	07 03 08.4	+0.2	
MJAR	Matsushiro Arr comp=Z,1.4nm,0.4s,baz=196,slow=4.6,SNR=5.2	156.31	144	PKPab	PKPab	07 03 08.4	+0.2	
CN2	Changchun	157.02	113	*e*PKP	PKPdf	07 02 39.0	-1.5	
CN2				*ep*PKP	pPKPdf	07 02 49.0	-3.9	
CN2				*e*PP	PP	07 06 53.3	+3.0	
CN2				*e*SS	SS	07 26 43.3	+2.8	
CN2				AMB	AMB			
	comp=Z,200nm,8.0s							
CN2				LR	LR			
	comp=Z,200nm,20.0s							
CN2				LR	LR			
	comp=Z,200nm,20.0s							
CN2				LR	LR			
	comp=Z,200nm,22.0s							
BOD	Bodaibo	158.22	71	*e*PKIKP	PKPdf	07 02 38.8	-2.7	
BOD				pmax	pmax			
	comp=Z,7.0nm,1.8s							
TIXI	Tiksi	162.04	27	*e*PKIKP	PKPdf	07 02 43.0	-2.4	
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
KLR	Kul'dur comp=Z,1.6nm,0.5s,baz=171,slow=3.2,SNR=6.4	163.91	110	PKPab	PKPab	07 03 39.5	-1.5	
BILL	Bilibino	168.17	339	*e*PKIKP	PKPdf	07 02 49.0	-1.7	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
SEY	Seymchan comp=Z,0.9nm,0.5s,baz=314,slow=7.6,SNR=3.5	174.27	12	PKPab	PKPab	07 04 27.6	+1.1	

SJA **27** *06:54:21.1±0.7,29.75S×68.98W,h14km±4km, ML2.7, MW3.1*
GUC **27** *06:54:24.2±0.5,29.70S×69.15W,h11km±8km, ML2.9*

ISC 27 06:54:20.7±1.3**,29.76S**±0.03×**68.98W**±0.04**,h14**km±14km**,**
n14,σ1ᵖ**56**/21**,2D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AGUA	GUANDACOL	0.50	58	*e*P	Pb	06 54 31.4		0.0
AGUA				*e*S	Sb	06 54 39.1		+0.5
AROD	Rodeo	0.59	226	*e*P	Pb	06 54 34.3		+1.2
AROD				*e*S	Sb	06 54 42.9		+1.5
ACCO	Cerro Coronel	0.83	185	*e*P	Pb	06 54 38.0		+0.8
ACCO				*e*S	Sn	06 54 50.9		+0.2
RTLL	Cerro Villicun	1.63	165	*e*P	Pb	06 54 51.2		+0.6
RTLL				*e*S	Sg	06 55 14.4		+1.2
GO04	Tololo Observa	1.63	255	*i*P	Pg	06 54 52.6		+0.5
GO04				*e*S	Sg	06 55 14.6		+1.2
LCO	Las Campanas	1.68	296	*i*P	Pg	06 54 53.0		+0.1
LCO				*e*S	Sg	06 55 14.7		0.0
LCO				IAML		06 55 16.1		
	comp=E,359nm,0.4s							
RTLS	Leoncito comp=Z,54nm,0.4s	2.05	188	IAML		06 55 36.8		
CMCH	Combarbala	2.25	230	*e*P	Pg	06 55 03.1		-0.7
CMCH				*e*S	Sg	06 55 34.0		+1.1
GO03	Copiap	2.42	333	*e*P	Pb	06 55 04.7		+0.6
GO03				*i*S	Sg	06 55 36.7		-1.8
GO03				IAML		06 55 39.0		
	comp=N,67nm,0.5s							
ROCH	El Roble	3.65	208	*e*P	Pb	06 55 22.1		-3.1
PEL	Peldehue	3.68	203	*e*P	Pb	06 55 24.1		-1.5
FCH	Farellones	3.73	197	*e*P	Pb	06 55 25.3		-1.3
CLCH	Cerro Calan	3.86	200	*e*P	Pb	06 55 26.3		-2.5
LMEL	Las Melosas	4.21	194	*e*P	Pb	06 55 31.8		-2.9

IDC **27** *06:58:47.4±0.7,50.62N×160.14E,h0km,mb3.9/12, mb1 4.1/15,mb1mx3.9/42,mbtmp3.9/15,ML3.0/3,Error ellipse: s-maj=16.9km s-min=16.3km az=168.0*
KRSC **27** *06:58:48.4±10.0,50.68N×160.27E,h87km±10km,ML4.3*
ISCJB **27** *06:58:49.6±1.2,50.69N±0.03×160.21E±0.05, h26km±9km, mb4.0/16, Error ellipse: s-maj=5.6km s-min=5.4km az=165.0*
NEIC **27** *06:58:52.9±1.9,50.63N×160.12E,h36km±7km,mb4.0/6, Error ellipse: s-maj=22.0km s-min=11.4km az=89.0*
MOS **27** *06:58:53.3±0.9,50.67N×160.22E,h59km,mb4.6/2, Error ellipse: s-maj=12.8km s-min=4.3km az=100.0*

ISC 27 06:58:49.9±3.6**,50.66N**±0.06×**160.29E**±0.05**,h17**km±22km**,**
n92,σ1ᵖ**58**/122**,mb4.1**/16**,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KDTR	Khodutka, Kamc	1.81	311	*e*P	Pn	06 59 18.9		-1.4
KDTR				*e*S	Sn	06 59 40.9		-1.9
KDTR	Khodutka, Kamc	1.81	311	PN	Pn	06 59 18.9		-1.4
KDTR				S	Sn	06 59 40.9		-1.9
RUS	Russkaya	2.10	329	*e*P	Pn	06 59 22.8		-1.5
RUS				*e*S	Sn	06 59 47.0		-3.0
RUS	Russkaya	2.10	329	PN	Pn	06 59 22.8		-1.5
RUS				S	Sn	06 59 47.0		-3.0
MTVR	Mutnovka	2.25	325	*e*P	Pn	06 59 25.5		-1.1
MTVR				*e*S	Sn	06 59 52.1		-1.9
MTVR	Mutnovka	2.25	325	PN	Pn	06 59 25.5		-1.1
MTVR				S	Sn	06 59 52.1		-1.9
ASAK	Asacha	2.28	320	*e*P	Pn	06 59 26.0		-0.9
ASAK				*e*S	Sn	06 59 54.0		-0.7
ASAK	Asacha	2.28	320	PN	Pn	06 59 26.0		-0.9
ASAK				S	Sn	06 59 54.0		-0.7
PAU	Pauzhetka	2.34	292	*e*P	Pn	06 59 27.0		-0.6
PAU				*e*S	Sn	06 59 53.5		-2.4
PAU	Pauzhetka	2.34	292	PN	Pn	06 59 27.0		-0.6
PAU				S	Sn	06 59 53.5		-2.4
SPN	Mys Shipunski	2.45	356	*e*P	Pn	06 59 27.9		-1.3
SPN				*e*S	Sn	06 59 55.5		-3.2
SPN	Mys Shipunski	2.45	356	PN	Pn	06 59 27.9		-1.3
SPN				S	Sn	06 59 55.5		-3.2
KRMR	Karymshinskiy	2.56	329	*e*P	Pn	06 59 29.8		-0.8
KRMR				*e*S	Sn	07 00 00.3		-1.0
KRMR	Karymshinskiy	2.56	329	PN	Pn	06 59 29.8		-0.8
KRMR				S	Sn	07 00 00.3		-1.0
DALK	Dalny	2.56	339	*e*P	Pn	06 59 29.9		-0.8
DALK				*e*S	Sn	06 59 59.6		-1.8
DALK	Dalny	2.56	339	PN	Pn	06 59 29.9		-0.8
DALK				S	Sn	06 59 59.6		-1.8
PET	Petropavlovsk	2.58	337	*e*Pn	Pn	06 59 29.9		-1.1
PET	Petropavlovsk	2.58	337	*e*P	Pn	06 59 29.8		-1.1
PET				*e*S	Sn	06 59 59.8		-2.1
PET	Petropavlovsk	2.58	337	PN	Pn	06 59 29.8		-1.1
PET				S	Sn	06 59 59.8		-2.1
NLC	Nalytchevo	2.59	347	*e*P	Pn	06 59 30.2		-0.8
NLC				*e*S	Sn	07 00 01.7		-0.3
NLC	Nalytchevo	2.59	347	PN	Pn	06 59 30.2		-0.8
NLC				S	Sn	07 00 01.7		-0.3
SKR	Severo-Kuril's	2.65	272	*e*P	Pn	06 59 30.5		-1.4
SKR				*e*S	Sn	07 00 00.2		-3.5
SKR	Severo-Kuril's	2.65	272	PN	Pn	06 59 30.5		-1.4
SKR				S	Sn	07 00 00.2		-3.5
UGLR	Uglovaya	2.71	341	*e*P	Pn	06 59 32.6		-0.3
UGLR	Uglovaya	2.71	341	PN	Pn	06 59 32.6		-0.3
SDLR	Sedlovina	2.77	342	*e*P	Pn	06 59 32.8		-0.8
SDLR				*e*S	Sn	07 00 05.8		-0.9
SDLR	Sedlovina	2.77	342	PN	Pn	06 59 32.8		-0.8
SDLR				S	Sn	07 00 05.8		-0.9
SMAR	Somma	2.77	341	*e*P	Pn	06 59 33.1		-0.6
SMAR	Somma	2.77	341	PN	Pn	06 59 33.1		-0.6
AVH	Avacha	2.78	340	*e*P	Pn	06 59 33.6		-0.2
AVH	Avacha	2.78	340	PN	Pn	06 59 33.6		-0.2
KRER	Koryakskii	2.82	341	*e*P	Pn	06 59 34.0		-0.4
KRER	Koryakskii	2.82	341	PN	Pn	06 59 34.0		-0.4
KOK	Koryaka	2.83	339	*e*P	Pn	06 59 34.3		-0.2
KOK	Koryaka	2.83	339	PN	Pn	06 59 34.3		-0.2
KRX	Arik	2.89	340	*e*P	Pn	06 59 35.1		-0.2
KRX	Arik	2.89	340	PN	Pn	06 59 35.1		-0.2
PEA0B	Petropavlovsk-	2.93	328	*e*Pn	Pn	06 59 36.0		+0.2
PEA0B	Petropavlovsk-	2.93	328	*e*PN	Pn	06 59 36.0		+0.2
PETK	Petropavlovsk-	2.93	328	*e*Pn	Pn	06 59 35.3		-0.5
PETK	Petropavlovsk- 9.1nm,0.3s,baz=125,slow=19,SNR=127	2.93	328	*e*PN	Pn	06 59 35.5		-0.3
PETK				Sn	Sn	07 00 13.7		+3.0
	6.3nm,0.3s,baz=197,slow=30,SNR=7.5							
PEA1	Petropavlovsk-	2.94	328	*e*Pn	Pn	06 59 35.5		-0.4
PEA1				*e*Sn	Sn	07 00 13.7		+2.9
ALID	Alaid	3.02	276	*e*P	Pn	06 59 36.5		-0.6
ALID				S	Sn	07 00 10.7		-2.2
ALID	Alaid	3.02	276	PN	Pn	06 59 36.5		-0.6
ALID				S	Sn	07 00 10.7		-2.2
MKZ	Mys Kozlova	4.00	12	*e*P	Pn	06 59 48.9		-1.6
MKZ				*e*S	Sn	07 00 31.8		-5.2
MKZ	Mys Kozlova	4.00	12	PN	Pn	06 59 48.9		-1.6
MKZ				S	Sn	07 00 31.8		-5.2
KZV	Kizimen	4.47	0	*e*P	Pn	06 59 56.9		-0.1
KZV				*e*S	Sn	07 00 47.1		-1.5
KZV	Kizimen	4.47	0	PN	Pn	06 59 56.9		-0.1
KZV				S	Sn	07 00 47.1		-1.5
TUMD	Tumrok D	4.56	1	*e*P	Pn	06 59 57.7		-0.4
TUMD				*e*S	Sn	07 00 47.6		-3.0
TUMR	Tumrok	4.64	359	*e*P	Pn	06 59 59.8		+0.5
TUMR	Tumrok	4.64	359	PN	Pn	06 59 57.7		-1.6
TUMR				S	Sn	07 00 47.6		-5.1
BKI	Bering	5.71	35	*e*S	Sn	07 01 10.7		-8.2
KBTR	Krutoberegovo	5.76	14	*e*P	Pn	07 00 14.0		-0.6
KBTR				*e*S	Sn	07 01 17.4		-2.9
KBTR	Krutoberegovo	5.76	14	PN	Pn	07 00 14.0		-0.6
KBTR				S	Sn	07 01 17.4		-2.9
KBG	Krutoberegovo	5.79	13	*e*S	Sn	07 01 17.7		-3.3
SMKR	Semkarok	5.98	6	P	Sn	07 00 18.7		+1.0
SMKR	Semkarok	5.98	6	PN	Pn	07 00 18.7		+1.0
SRKR	Sorokina	6.03	5	*e*P	Pn	07 00 19.0		+0.6
SRKR	Sorokina	6.03	5	PN	Pn	07 00 19.0		+0.6
SEY	Seymchan 0.1nm,0.3s,baz=147,slow=10,SNR=3.6	13.03	344	Pn	Pn	07 01 55.2		+1.1
KLR	Kul'dur 0.1nm,0.3s,baz=190,slow=3.5,SNR=4.8	18.38	277	P	P	07 03 01.9		-1.9
TIXI	Tiksi	25.36	337	*e*P	P	07 04 16.0		+0.3
TIXI				*e*P	P	07 04 16.0		+0.3
TIXI	Tiksi	25.36	337	*e*P	P	07 04 16.0		+0.3
TIXI	Tiksi 6.7nm,0.6s,baz=130,slow=7.8,SNR=12	25.36	337	P	P	07 04 16.0		+0.3
ILAR	Eielson Array 0.3nm,0.5s,baz=247,slow=7.1,SNR=3.9	30.50	42	P	P	07 05 01.8		+0.2
H11N2	WAKE ISLAND Hy baz=352,slow=76,SNR=8.0	31.30	168	T	T	07 38 03.4		
H11N3	WAKE ISLAND Hy baz=352,slow=76,SNR=7.8	31.32	168	T	T	07 38 05.6		
H11N1	WAKE ISLAND Hy baz=352,slow=76,SNR=8.9	31.32	168	T	T	07 38 05.6		
H11S1	WAKE ISLAND Hy baz=354,slow=74,SNR=3.9	32.48	169	T	T	07 39 12.5		
H11S3	WAKE ISLAND Hy baz=92,slow=74,SNR=9.7	32.49	169	T	T	07 39 28.0		
INK	Inuvik 2.9nm,0.9s,baz=260,slow=5.8,SNR=5.2	35.76	36	P	P	07 05 48.3		+0.9
ZAA1	Zalesovo Array	44.23	305	*e*P	P	07 06 56.4		-1.6
ZALV	Zalesovo Beam 0.4nm,0.3s,baz=74,slow=5.1,SNR=2.0	44.23	305	P	P	07 06 56.4		-1.6
YKA	Yellowknife Ar 0.8nm,0.8s,baz=295,slow=7.9,SNR=5.6	44.90	41	P	P	07 07 03.7		+0.6
TULEG	Thule	49.30	14	*e*S	S	07 14 43.0		+0.8
MK31	Makanchi Array 0.8nm,0.6s	49.36	298	*e*P	P	07 07 38.2		0.0
MK31	Makanchi Array comp=Z,1.0nm,0.6s	49.36	298	*e*P	P	07 07 38.2		0.0
MK31				pmax	pmax			
MK32	Makanchi Array	49.36	298	*e*P	P	07 07 38.1		-0.1
MKAR	Makanchi Array comp=Z,0.7nm,0.5s,baz=58,slow=7.3,SNR=12	49.36	298	P	P	07 07 38.1		-0.1
KDJ	Kajisay comp=Z,12nm,0.8s	55.09	296	*e*P	P	07 08 22.2		+1.2
KDJ	Kajisay	55.09	296	*e*P	P	07 08 22.2		+1.2
KDJ				pmax	pmax			
	comp=Z,12nm,0.8s							
NVAR	Mina Array Bea comp=Z,0.7nm,0.6s,baz=297,slow=7.4,SNR=5.9	56.49	69	P	P	07 08 32.5		+1.4
PDAR	Pinedale Array comp=Z,1.0nm,0.9s,baz=316,slow=4.1,SNR=6.5	58.63	60	P	P	07 08 46.9		+0.7
FIA0	FINESS Array S	62.41	337	*e*P	P	07 09 12.1		+0.8
FIA0	FINESS Array S	62.41	337	*e*P	P	07 09 12.1		+0.8
FINES	FINESS Array B comp=Z,2.1nm,0.9s,baz=2.1,slow=11,SNR=2.7	62.41	337	P	P	07 09 12.1		+0.8
TX31	Lajitas Ar. Si comp=Z,1.0nm,0.6s	71.50	66	*e*P	P	07 10 10.6		+0.8
TXAR	Lajitas Array comp=Z,0.7nm,0.5s,baz=298,slow=5.1,SNR=28	71.50	66	P	P	07 10 10.4		+0.6
WR1	Warramunga Arr comp=Z,3.8nm,1.1s	73.92	205	*e*P	P	07 10 23.4		-0.6
WRA	Warramunga Arr comp=Z,2.2nm,0.7s,baz=15,slow=6.1,SNR=12	73.92	205	P	P	07 10 23.4		-0.6
CLL	Collm	74.68	339	*e*P	P	07 10 29.0		+0.9
ASAR	Alice Springs comp=Z,1.1nm,0.6s,baz=16,slow=5.5,SNR=12	77.59	205	P	P	07 10 45.1		+0.2

SJA **27** *07:21:31.5±1.2,24.04S×66.94W,h210km±14km,ML2.2, MW2.6*
ISCJB **27** *07:21:32.2±0.9,24.19S±0.05×67.04W±0.06, h189km±15km,Error ellipse: s-maj=10.0km s-min=5.2km az=138.0*
GUC **27** *07:21:33.6±0.6,24.07S×67.56W,h238km±12km,ML3.6*

ISC 27 07:21:31.4±2.0**,24.16S**±0.05×**66.97W**±0.06**,**
h198km±21km**,n28**,σ1ᵖ**23**/47**,4C-7D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
HJA	Humahuaca	1.72	57	*e*P	Pn	07 22 08.0		+0.6
HJA				IAML		07 22 10.0		
	comp=Z,9.6nm,0.4s							
FSA	Cafayete	2.14	155	*e*P	Pn	07 22 12.0		+0.5
FSA				IAML		07 22 12.1		
	comp=Z,2.7nm,0.3s							
LVC	Limon Verde	2.35	311	*e*P	Pn	07 22 15.2		+1.2
LVC				*e*S	S	07 22 47.6		+0.6
YJA	Yavi	2.39	35	*e*P	Pn	07 22 15.2		+0.8
YJA				IAML		07 22 16.2		
	comp=Z,3.5nm,0.4s							
PB15	IPOC Station P	2.48	292	*e*P	Pn	07 22 16.4		+1.3
PB15				*e*S	S	07 22 49.6		+0.5
PB15	IPOC Station P	2.48	292	*i*P	Pn	07 22 16.5		+1.3
PB15				*i*S	S	07 22 49.0		-0.2
PB06	IPOC Station P	2.79	301	*e*P	Pn	07 22 20.0		+1.3
PB06				*e*S	S	07 22 55.4		-0.1
PB06	IPOC Station P	2.79	301	*i*P	Pn	07 22 19.9		+1.2
PB06				*i*S	S	07 22 55.1		-0.4
PB06				IAML		07 22 58.0		
	comp=E,189nm,0.2s							
AHML	Horco Molle	3.00	151	*e*P	Pn	07 22 21.7		+0.6
AHML				*e*S	S	07 22 58.3		-1.6
AHML				IAML		07 22 59.4		
	comp=Z,2.8nm,0.5s							
PB09	IPOC Station P	3.15	318	*e*P	Pn	07 22 24.5		+1.6
PB09				*e*S	S	07 23 03.4		+0.3
PB09	IPOC Station P	3.15	318	*e*P	Pn	07 22 24.5		+1.6
PB09				*i*S	S	07 23 03.5		+0.3
PB09				IAML		07 23 06.9		
	comp=E,53nm,0.3s							
PB14	IPOC Station P	3.16	261	*e*P	Pn	07 22 24.6		+1.4
PB14	IPOC Station P	3.16	261	*e*P	Pn	07 22 23.9		+0.8
PB14				*e*S	S	07 23 02.0		-1.5
PB14				IAML		07 23 04.2		
	comp=E,150nm,0.2s							
PB05	IPOC Station P	3.24	293	*e*P	Pn	07 22 24.8		+0.9
PB05				*e*S	S	07 23 03.5		-1.4
PB05	IPOC Station P	3.24	293	*e*P	Pn	07 22 24.7		+0.7
PB05				*e*S	S	07 23 03.1		-1.8
PB05				IAML		07 23 10.6		
	comp=E,67nm,0.5s							
PB03	IPOC Station P	3.31	309	*e*P	Pn	07 22 25.8		+0.9
PB03				*e*S	S	07 23 04.9		-1.7
PB03	IPOC Station P	3.31	309	*e*P	Pn	07 22 25.7		+0.9
PB03				*e*S	S	07 23 05.4		-1.2
PB03				IAML		07 23 07.0		
	comp=N,122nm,0.4s							
PB10	IPOC Station P	3.34	280	*e*P	Pn	07 22 26.0		+1.0
PB10				*e*S	S	07 23 05.5		-1.4
PB10				IAML		07 23 10.2		
	comp=E,57nm,0.3s							
PB04	IPOC Station P	3.44	301	*e*P	Pn	07 22 27.1		+0.7
PB04				*e*S	S	07 23 07.5		-1.9
PB07	IPOC Station P	3.62	311	*e*P	Pn	07 22 29.1		+0.5
PB07	IPOC Station P	3.62	311	*e*P	Pn	07 22 29.1		+0.5
PB07				*e*S	S	07 23 11.3		-1.9
PB01	IPOC Station P	3.88	323	*e*P	Pn	07 22 32.2		+0.5
PB01				*e*S	S	07 23 18.2		-0.7
PB01	IPOC Station P	3.88	323	*e*P	Pn	07 22 32.0		+0.3
PB01				*e*S	S	07 23 17.0		-2.0
PB02	IPOC Station P	3.91	316	*e*P	Pn	07 22 32.3		+0.2
PB02				*e*S	S	07 23 17.8		-1.8
PB02	IPOC Station P	3.91	316	*e*P	Pn	07 22 32.3		+0.2
CYA	Choya	4.39	166	*e*P	Pn	07 22 41.0		+3.0
CYA				IAML		07 22 41.2		
	comp=Z,1.7nm,0.4s							
ACLC	CERRO LA CRUZ	5.25	180	*e*P	Pn	07 22 49.3		+0.2
APLL	PUNTA DE LOS L	6.22	176	*e*P	Pn	07 23 01.0		-0.5
APLL				IAML		07 23 02.3		
	comp=Z,6.4nm,0.2s							

IDC **27** *07:48:49.0±3.1,2.12S×99.38E,h0km,mb3.9/6,mb1 4.0/6, mb1mx3.7/50,mbtmp3.9/6,MS4.2/1,Ms1 4.2/1, ms1mx2.8/43,Error ellipse: s-maj=126.3km s-min=19.8km az=58.0*
ISCJB **27** *07:48:51.1±0.8,2.13S±0.05×99.21E±0.06,h30km, mb3.9/5,MS4.3/1,Error ellipse: s-maj=10.0km s-min=5.9km az=140.4*
DJA **27** *07:48:52.4±1.0,2.2°S±4°×9°9E±°,h30km±16km,M3.8/9, mb3.9/1,MLv3.8/9*

ISC 27 07:48:52.9±0.9**,2.08S**±0.06×**99.28E**±0.07**,h30**km**,n26,**
σ0ᵖ88/21**,mb4.0**/5**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SISI	Saibi	0.77	345	P	Pn	07 49 07.5		-0.2
PPSI	Pulau Pagai	1.00	133	P	Pb	07 49 10.3		-1.4
PPSI				S	Sb	07 49 23.7		-0.8
PDSI	Padang	1.65	46	P	Pn	07 49 19.4		-0.5
PDSI				S	Sb	07 49 41.2		-2.0
PPI	Padang Panjang	1.96	35	P	Pn	07 49 23.8		-0.3
KRJI	Kerinci	2.18	90	P	Pn	07 49 28.0		+0.8
KRJI				S	Sn	07 49 53.7		+0.4
PBSI	Pulau Batu	2.24	333	P	Pn	07 49 27.7		-0.3
SDSI	Sungai Dareh	2.43	62	P	Pn	07 49 31.2		+0.6
MNSI	Mandailing Nat	2.87	6	P	Pn	07 49 36.5		-0.1
RGRI	Rengat	3.50	61	P	Pb	07 50 02.2		+8.0
MNAI	Manna	4.31	122	P	Pn	07 49 56.3		-0.2
MDSI	Maura Dua	5.44	116	P	Pn	07 50 12.3		+0.2
DSRI	Dabo	5.53	73	P	Pn	07 50

MKAR	**Makanchi Array**	**54.95**	**327**	P		**P**	**08 22 30.7**	**+0.2**
	2.2nm,0.3s,baz=124,slow=7.7,SNR=32							
PETK	**Petropavlovsk-**	**56.45**	**24**	P		**P**	**08 22 41.3**	**+0.6**
	5.8nm,1.0s,baz=224,slow=5.3,SNR=4.0							
ZALV	**Zalesovo Beam**	**58.40**	**335**	P		**P**	**08 22 52.9**	**-1.0**
	0.6nm,0.4s,baz=133,slow=5.2,SNR=3.6							
NRIK	**Noril'sk**	**69.02**	**347**	P		**P**	**08 24 00.5**	**-0.7**
	1.6nm,0.4s,baz=126,slow=6.5,SNR=3.9							
ILAR	**Eielson Array**	**86.26**	**25**	P		**P**	**08 25 32.6**	**-1.3**
	0.2nm,0.6s,baz=262,slow=4.8,SNR=6.0							
ARCES	**ARCESS Array B**	**88.60**	**340**	P		**P**	**08 25 44.2**	**-0.6**
	1.7nm,0.9s,baz=101,slow=4.8,SNR=2.5							

KRSC 27 08:30:33.0±10.0, 53.17N×161.88E, h40km±10km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.12**	**267**	*eS*	Sn	08 31 07.9	+1.5
MKZ	**Mys Kozlova**	**1.39**	**356**	*eP*	Pn	08 30 56.9	+1.1
NLC	**Nalytchevo**	**1.53**	**271**	*eP*	Pn	08 30 59.4	+1.7
NLC				*eS*	Sn	08 31 18.6	+2.3
SDLR	**Sedlovina**	**1.81**	**275**	*eP*	Pn	08 31 03.7	+2.0
SDLR				*eS*	Sn	08 31 26.2	+2.8
UGLR	**Uglovaya**	**1.84**	**272**	P	Pn	08 31 04.0	+1.9
UGLR				S	Sn	08 31 26.9	+2.7
SMAR	**Somma**	**1.86**	**274**	*eP*	Pn	08 31 04.1	+1.7
KRER	**Koryakskii**	**1.89**	**275**	*eP*	Pn	08 31 05.1	+2.2
KRER				*eS*	Sn	08 31 28.3	+2.8
DALK	**Dalny**	**1.89**	**267**	*eP*	Pn	08 31 04.5	+1.8
DALK				*eS*	Sn	08 31 27.7	+2.4
AVH	**Avacha**	**1.89**	**274**	*eP*	Pn	08 31 05.3	+2.5
KRX	**Arik**	**1.95**	**277**	*eP*	Pn	08 31 05.7	+2.0
KRX				S	Sn	08 31 29.5	+2.5
PET	**Petropavlovsk**	**1.95**	**267**	*eP*	Pn	08 31 06.0	+2.5
PET				S	Sn	08 31 29.7	+2.9
KOK	**Koryaka**	**1.96**	**275**	*eP*	Pn	08 31 05.9	+2.2
KZV	**Kizimen**	**2.16**	**335**	*eP*	Pn	08 31 08.7	+2.2
KZV				*eS*	Sn	08 31 34.0	+1.9
TUMD	**Tumrok D**	**2.22**	**337**	*eP*	Pn	08 31 08.7	+1.5
KRMR	**Karymshinskiy**	**2.29**	**263**	*eP*	Pn	08 31 10.7	+2.5
KRMR				*eS*	Sn	08 31 37.5	+2.3
MTVR	**Mutnovka**	**2.35**	**254**	*eP*	Pn	08 31 11.8	+2.7
MTVR				*eS*	Sn	08 31 38.8	+2.0
TUMR	**Tumrok**	**2.35**	**335**	*eP*	Pn	08 31 11.7	+2.6
ASAK	**Asacha**	**2.54**	**254**	*eP*	Pn	08 31 15.0	+3.2
ASAK				*eS*	Sn	08 31 44.8	+3.3
KDTR	**Khodutka, Kamc**	**2.70**	**241**	S	Sn	08 31 47.7	+2.6
APC	**Apacha**	**2.86**	**267**	*eP*	Pn	08 31 20.1	+4.1
APC				*eS*	Sn	08 31 53.9	+4.7
ZLN	**Zelenaya**	**2.92**	**348**	P	Pn	08 31 21.9	+4.9
BDR	**Baidarnaya**	**3.43**	**354**	*eP*	Pn	08 31 28.0	+4.1

HEL 27 09:00:45.6±0.2, 60.84N×27.78E, h0km, ML1.3, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.32**	**200**	PG	Pg	09 00 51.1	-0.5
VJF				SG	Sg	09 00 55.6	-0.1
PVF	**Pernaja**	**0.99**	**254**	PG	Pg	09 01 03.1	-1.4
PVF				MSG		09 01 15.9	
	comp=Z,4.8nm,0.2s						
PVF				SB	Sg	09 01 16.9	-0.4
FIA0	**FINESS Array S**	**1.03**	**307**	SB	Sg	09 01 18.3	-0.2
KAF	**Kangasniemi**	**1.46**	**332**	MSG		09 01 29.7	
	comp=Z,1.0nm,0.2s						
KAF				SG	Sg	09 01 31.8	-0.8
ARBE	**Arbavere**	**1.67**	**213**	PG	Pn	09 01 15.8	-0.2
KEF	**Keuruu**	**1.93**	**315**	PG	Pn	09 01 20.2	+0.5
KEF				SG	Sb	09 01 46.5	+0.2
SUF	**Sumiainen**	**2.04**	**338**	PG	Pn	09 01 22.3	+1.2
SUF				MSG		09 01 46.2	
	comp=Z,1.4nm,0.2s						
SUF				SG	Sb	09 01 49.2	-0.2
VAF	**Ylistaro**	**3.27**	**315**	SG	Sb	09 02 27.1	+2.2
OUF	**Merijarvi**	**3.81**	**340**	SB	Sb	09 02 38.5	-1.8
OUL	**Oulu**	**4.35**	**349**	PB	Pn	09 01 56.4	+3.5
KLMR	**Klimovskoe**	**5.74**	**85**	*i* P	Pb	09 02 23.0	-3.5
KLMR				*i* S	Sn	09 03 26.4	+8.0
KLMR				*i* S	Sn	09 03 26.4	+8.0
KLMR				*i* S	Sn	09 03 26.4	+8.0

*ISCJB **27** 09:01:19.4±0.7, 64.93N×0.04×30.0E±0.1, h0km, Error ellipse: s-maj=9.0km s-min=4.7km az=14.8*
*KOLA **27** 09:01:20.3, 64.75N×30.77E, h0km*
*IDC **27** 09:01:21.1±2.0, 64.79N×30.75E, h0km, mb1 2.9/3, mb1mx2.7/46, mbtmp2.8/3, ML2.2/3, Error ellipse: s-maj=29.2km s-min=7.9km az=102.0*
*NAO **27** 09:01:21.3±1.6, 64.85N×30.37E, ML2.4*
*BER **27** 09:01:22.3±2.3, 64.80N×30.36E, h0km, ML2.4(NAO), Suspected explosion*

ISC 27 09:01:20.9±1.1, 64.85N±0.03×30.40E±0.07, h0km, n19, σ1s76/39, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**2.96**	**20**	Pn	**Pn**	**09 02 08.3**	**-0.8**
	baz=190,slow=14						
APA0				Sn	**Sn**	**09 02 45.4**	**+0.2**
	baz=204,slow=28						
APA0	**Apatity Array**	**2.96**	**20**	P	**Pn**	**09 02 08.4**	**-0.6**
APA0				S	**Sn**	**09 02 44.5**	**-0.7**
APA0	**Apatity Array**	**2.96**	**20**	Pn	**Pn**	**09 02 08.3**	**-0.8**
	baz=190,slow=14						
APA0				Sn	**Sn**	**09 02 45.4**	**+0.2**
	baz=204,slow=28						
APA	**Apatity**	**2.99**	**23**	P	**Pn**	**09 02 08.8**	**-0.6**
APA				S	**Sn**	**09 02 45.0**	**-0.9**
FIA0	**FINESS Array S**	**3.95**	**212**	Pn	**Pn**	**09 02 22.2**	**-0.4**
	baz=33,slow=16						
FIA0				Sn	**Sn**	**09 03 08.4**	**-1.1**
	baz=45,slow=22						
FIA0				Lg	Lg	09 03 23.2	
	baz=33,slow=28						
FIA0	**FINESS Array S**	**3.95**	**212**	Pn	**Pn**	**09 02 22.2**	**-0.4**
	baz=33,slow=16						
FIA0				Sn	**Sn**	**09 03 08.4**	**-1.1**
	baz=45,slow=22						
FIA0				Sg	**Sb**	**09 03 23.2**	**+3.8**
	baz=33,slow=28						
FINES	**FINESS Array B**	**3.95**	**212**	Pn	**Pn**	**09 02 21.9**	**-0.7**
	0.1nm,0.3s,baz=27,slow=12,SNR=5.0						
FINES				Pg	**Pb**	**09 02 31.0**	**-0.2**
	0.5nm,0.3s,baz=33,slow=14,SNR=9.3						
FINES				Sn	**Sn**	**09 03 09.1**	**-0.4**
	0.4nm,0.3s,baz=27,slow=22,SNR=5.4						
FINES				Lg	Lg	09 03 24.5	
	2.2nm,0.3s,baz=34,slow=25,SNR=13						
HEF	**Hetta**	**4.46**	**326**	Pn	**Pn**	**09 02 29.4**	**-0.4**
HEF				Sn	**Sn**	**09 03 22.5**	**+0.2**
HEF				Lg	Lg	09 03 41.2	
HEF	**Hetta**	**4.46**	**326**	Pn	**Pn**	**09 02 29.4**	**-0.4**
HEF				Sn	**Sn**	**09 03 22.5**	**+0.2**
HEF				Sg	**Sg**	**09 03 41.2**	**+3.0**
ARA0	**ARCESS Array S**	**5.07**	**340**	Pn	**Pn**	**09 02 37.9**	**-0.2**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 03 35.2**	**-2.0**
	baz=160,slow=28						
ARA0				Lg	Lg	09 03 56.6	
	baz=160,slow=28						
ARA0	**ARCESS Array S**	**5.07**	**340**	Pn	**Pn**	**09 02 37.9**	**-0.2**
	baz=153,slow=14						
ARA0				Sn	**Sn**	**09 03 35.2**	**-2.0**
	baz=160,slow=28						
ARA0				Sg	**Sb**	**09 03 56.6**	**+4.8**
	baz=160,slow=28						
ARCES	**ARCESS Array B**	**5.07**	**340**	Pn	**Pn**	**09 02 37.8**	**-0.3**
	0.7nm,0.3s,baz=158,slow=16,SNR=48						
ARCES				Pg	**Pb**	**09 02 49.7**	**-0.7**
	0.3nm,0.3s,baz=154,slow=17,SNR=5.0						
ARCES				Sn	**Sn**	**09 03 35.3**	**-2.0**
	0.4nm,0.3s,baz=156,slow=25,SNR=4.0						
ARCES				Lg	Lg	09 03 56.9	
	1.4nm,0.3s,baz=158,slow=25,SNR=12						
KEV	**Kevo**	**5.10**	**347**	Pn	**Pn**	**09 02 37.8**	**-0.5**
KEV				Sn	**Sn**	**09 03 35.6**	**-2.2**
KEV				Lg	Lg	09 03 57.7	
KEV	**Kevo**	**5.10**	**347**	Pn	**Pn**	**09 02 37.8**	**-0.5**
KEV				Sn	**Sn**	**09 03 35.6**	**-2.2**

KEV					Sg	**Sb**	**09 03 57.7**	**+5.3**
HFS	**Hagfors**	**9.05**	**246**		Pn	**Pn**	**09 03 31.2**	**-1.4**
	baz=51,slow=12							
HFS	**Hagfors**	**9.05**	**246**		Pn	**Pn**	**09 03 31.2**	**-1.4**
	baz=51,slow=12							
NB2	**NORSAR Subarra**	**9.53**	**255**		Pn	**Pn**	**09 03 40.2**	**+1.1**
NB2	**NORSAR Subarra**	**9.53**	**255**		Pn	**Pn**	**09 03 40.2**	**+1.1**
NOA	**NORSAR Array B**	**9.53**	**255**		Pn	**Pn**	**09 03 37.7**	**-1.4**
	0.0nm,0.3s,baz=55,slow=14,SNR=4.0							
NOA					Lg	Lg	09 06 25.1	
	0.0nm,0.3s,baz=5.4,slow=15,SNR=3.4							

IDC 27 09:02:31.1±999.0, 54.15N×3.11W, h0km, Error ellipse: s-maj=640.9km s-min=205.0km az=98.0, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**11.74**	**110**	*i*		10 17 40.0	
	baz=303,slow=340,SNR=1.5						
I43RU	**DUBNA INFRASON**	**22.79**	**67**	*i*		11 23 10.0	
	baz=281,slow=333,SNR=0.5						
I31KZ	**AKTYUBINSK INF**	**36.57**	**70**	*i*		12 43 30.0	
	baz=300,slow=322,SNR=0.3						

*ISCJB **27** 09:17:02.5±0.5, 57.17S±0.07×24.7W±0.2, h10km, mb4.3/7, Error ellipse: s-maj=14.6km s-min=8.8km az=151.9*
*IDC **27** 09:17:02.7±0.7, 57.18S×24.61W, h0km, mb4.2/7, mb1 4.3/8, mb1mx4.1/22, mbtmp4.3/8, ML4.4/1, Error ellipse: s-maj=23.8km s-min=21.7km az=97.0*
*NEIC **27** 09:17:08.3±0.3, 57.17S×24.63W, h35km, mb4.3/7, Error ellipse: s-maj=9.7km s-min=9.2km az=40.0*

ISC 27 09:17:04.0±0.6, 57.19S±0.10×24.6W±0.1, h10km, n41, σ0s74/39, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.20**	**159**	P	**Pn**	**09 20 38.8**	**+0.5**
VNA1				S	Sn	09 23 16.0	-10
VNA3	**Neumayer Olymp**	**15.44**	**162**	P	**Pn**	**09 20 41.6**	**+0.1**
VNA3				S	Sn	09 23 17.7	-15
VNA2	**Neumayer--Watz**	**15.59**	**159**	P	**Pn**	**09 20 44.1**	**+0.5**
	baz=323,slow=14						
VNA2				S	Sn	09 23 20.7	-15
	baz=322,slow=21						
SNAA	**Sanae**	**17.11**	**157**	P	**P**	**09 21 04.5**	**-0.1**
SNAA				S	Sn	09 23 58.8	-14
SNAA	**Sanae**	**17.11**	**157**	*e*Pn	**P**	**09 21 04.5**	**-0.1**
	19nm,1.5s						
SNAA				*e*Sn	Sn	09 23 58.5	-14
SNAA	**Sanae**	**17.11**	**157**	Pn	**P**	**09 21 04.3**	**-0.4**
	1.2nm,0.3s,baz=34,slow=14,SNR=43						
SNAA				Sn	Sn	09 23 58.5	-14
	0.1nm,0.3s,baz=323,slow=20,SNR=3.3						
EFI	**East Falkland**	**20.11**	**272**	*e*P	Pn	09 21 38.7	-0.6
	117nm,1.4s						
PMSA	**Palmer Station**	**20.29**	**232**	*e*P	Pn	09 21 41.8	+0.4
	107nm,1.4s						
PMSA	**Palmer Station**	**20.29**	**232**	P	**P**	**09 21 40.4**	**+1.0**
	22nm,0.7s,baz=79,slow=16,SNR=5.7						
TRQA	**Tornquist**	**31.10**	**292**	*e*P	**P**	**09 23 21.5**	**-0.8**
	16nm,1.6s						
QSPA	**South Pole Qui**	**33.05**	**180**	*e*P	**P**	**09 23 39.5**	**+0.2**
QSPA	**South Pole Qui**	**33.05**	**180**	P	**P**	**09 23 39.4**	**+0.1**
	1.2nm,0.5s,baz=215,slow=2.1,SNR=9.3						
PLCA	**Paso Flores**	**33.62**	**279**	*e*P	**P**	**09 23 43.6**	**-0.8**
	1.9nm,1.0s						
PLCA	**Paso Flores**	**33.62**	**279**	P	**P**	**09 23 43.4**	**-1.1**
	0.5nm,0.8s,baz=147,slow=6.6,SNR=4.6						
CPUP	**Villa Florida**	**38.66**	**309**	*e*P	**P**	**09 24 28.2**	**+0.8**
	5.0nm,1.3s						
CPUP	**Villa Florida**	**38.66**	**309**	P	**P**	**09 24 27.3**	**-0.1**
	1.2nm,0.4s,baz=136,slow=8.2,SNR=5.3						
H10S2	**ASCENSION HYDR**	**48.73**	**13**	T	T	10 19 42.0	
	baz=188,slow=74,SNR=3.9						
H10S3	**ASCENSION HYDR**	**48.74**	**13**	T	T	10 19 39.6	
	baz=188,slow=74,SNR=2.5						
H10S1	**ASCENSION HYDR**	**48.75**	**13**	T	T	10 19 43.7	
	baz=188,slow=74,SNR=4.1						
LPAZ	**La Paz**	**52.22**	**303**	*e*P	**P**	**09 26 15.5**	**-0.2**
	2.0nm,0.8s						
LPAZ	**La Paz**	**52.22**	**303**	P	**P**	**09 26 15.8**	**+0.1**
	1.6nm,0.5s,baz=126,slow=5.6,SNR=8.1						
DBIC	**Dimbokro**	**65.65**	**22**	*e*P	**P**	**09 27 48.7**	**+0.5**
	18nm,1.3s						
DBIC	**Dimbokro**	**65.65**	**22**	P	**P**	**09 27 48.7**	**+0.5**
	6.4nm,1.1s,baz=209,slow=6.0,SNR=2.9						
TOA0	**Torodi Ar. Sit**	**73.38**	**27**	*e*P	**P**	**09 28 36.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.38**	**27**	P	**P**	**09 28 36.5**	**+0.6**
	3.6nm,0.6s,baz=202,slow=6.1,SNR=29						
TOA1	**Torodi Ar. Sit**	**73.39**	**27**	*e*P	**P**	**09 28 36.5**	**+0.5**
NV01	**Mina Array Sit**	**123.17**	**291**	*e*PKPdf	**PKPdf**	**09 35 59.7**	**-0.6**
NVAR	**Mina Array Bea**	**123.17**	**291**	PKP	**PKPdf**	**09 36 00.3**	**-0.1**
	0.2nm,0.7s,baz=113,slow=6.9,SNR=2.7						
FIA0	**FINESS Array S**	**124.73**	**27**	*e*PKPdf	**PKiKP**	**09 36 02.5**	**0.0**
FINES	**FINESS Array B**	**124.73**	**27**	PKP	**PKiKP**	**09 36 02.6**	**0.0**
	0.9nm,0.7s,baz=347,slow=11,SNR=2.5						
MK32	**Makanchi Array**	**135.89**	**71**	*e*PKPdf	**PKPdf**	**09 36 22.2**	**-1.8**
MKAR	**Makanchi Array**	**135.89**	**71**	PKP	**PKPdf**	**09 36 22.2**	**-1.8**
	0.1nm,0.3s,baz=186,slow=1.4,SNR=2.6						
YKA	**Yellowknife Ar**	**138.00**	**316**	PKP	**PKPdf**	**09 36 27.6**	**+0.4**
	0.7nm,0.7s,baz=125,slow=2.2,SNR=11						
YKB5	**Yellowknife Ar**	**138.00**	**316**	*e*PKPdf	**PKPdf**	**09 36 27.6**	**+0.3**
SONA0	**Songino Array**	**149.35**	**86**	*e*PKPbc	**PKPbc**	**09 36 52.3**	**+0.1**
SONM	**Songino Array**	**149.35**	**86**	PKP	**PKPdf**	**09 36 45.9**	**-1.9**
	0.2nm,0.3s,baz=180,slow=0.9,SNR=2.7						
SONM				PKPbc	**PKPbc**	**09 36 52.3**	**+0.1**
	1.0nm,0.6s,baz=225,slow=3.2,SNR=5.6						
DOT	**Dot Lake**	**150.49**	**308**	*e*PKPbc	**PKiKP**	**09 36 55.4**	**+0.4**
RIDG	**Independ'e Rid**	**150.85**	**308**	*e*PKPbc	**PKiKP**	**09 36 56.7**	**+0.9**
IL1	**Eielson Array**	**151.96**	**310**	*e*PKPbc	**PKiKP**	**09 36 58.2**	**+0.2**
ILAR	**Eielson Array**	**151.96**	**310**	PKPbc	**PKiKP**	**09 36 58.1**	**+0.2**
	1.9nm,0.6s,baz=136,slow=3.5,SNR=26						
ILAR				PKPab	**PKPab**	**09 37 07.7**	**+0.6**
	0.5nm,0.7s,baz=123,slow=3.3,SNR=5.1						
ILB	**Eielson Array**	**151.96**	**310**	*e*PKPbc	**PKiKP**	**09 36 58.2**	**+0.2**
ILB				*e*PKPab	**PKPab**	**09 37 08.0**	**+0.9**

*IDC **27** 09:47:00.3±0.7, 20.31S×173.74W, h0km, mb4.0/13, mb1 4.3/14, mb1mx4.1/33, mbtmp4.1/14, ML4.3/1, MS3.6/10, Ms1 3.6/10, ms1mx3.3/36, Error ellipse: s-maj=27.3km s-min=16.8km az=131.0*
*NEIC **27** 09:47:11.2±0.3, 20.38S×175.09W, h35km, mb4.3/13, Error ellipse: s-maj=13.0km s-min=5.7km az=120.0*

ISC 27 09:47:12.1±0.7, 20.64S±0.10×174.8W±0.2, h56km, n65, σ2s29/59, mb4.3/39, MS3.7/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.04**	**95**	Pn	Pn	09 49 58.6	-30
	5.3nm,0.3s,baz=268,slow=8.1,SNR=16						
RAR				LR	LR	09 54 33.0	
	comp=Z,141nm,19.5s,baz=254,slow=35						
DZM	**Mont Dzumac**	**17.54**	**262**	*e*LR	LR	09 55 31.4	
	comp=Z,256nm,22.9s						
DZM	**Mont Dzumac**	**17.54**	**262**	LR	LR	09 57 39.8	
	comp=Z,220nm,18.8s,baz=90,slow=34						
URZ	**Urewera**	**18.91**	**200**	*e*P	**Pn**	**09 51 31.5**	**+2.2**
URZ				*e*S	**S**	**09 54 54.3**	**-5.8**
URZ	**Urewera**	**18.91**	**200**	P	**Pn**	**09 51 30.7**	**+1.4**
	0.8nm,0.3s,baz=57,slow=4.0,SNR=7.0						
URZ				S	**S**	**09 54 54.3**	**-5.8**
	0.2nm,0.3s,baz=0.0,slow=20,SNR=3.4						
BKZ	**Black Stump Fm**	**19.93**	**200**	*e*P	**P**	**09 51 41.9**	**+2.5**
	12nm,1.2s						
BFZ	**Birch Farm**	**21.39**	**199**	*e*P	**P**	**09 51 57.6**	**+2.5**
	26nm,1.1s						
SNZO	**South Karori**	**22.46**	**201**	*e*P	**P**	**09 52 08.9**	**+2.4**
	87nm,1.3s						
KHZ	**Kahutara**	**23.84**	**202**	*e*P	**P**	**09 52 20.2**	**+0.2**
	8.8nm,0.9s						
PPT2	**Papeete2**	**24.01**	**87**	*e*LR	LR	09 57 19.7	
	comp=Z,177nm,28.2s						
PPT	**Papeete**	**24.01**	**87**	LR	LR	09 59 16.9	
	comp=Z,105nm,18.6s,baz=224,slow=32						
OXZ	**Oxford**	**25.17**	**203**	*e*P	**P**	**09 52 33.3**	**+1.1**
	13nm,0.7s						
RPZ	**Rata Peaks**	**25.87**	**204**	*e*P	**P**	**09 52 40.7**	**+2.2**
RPZ	**Rata Peaks**	**25.87**	**204**	P	**P**	**09 52 40.2**	**+1.7**
	4.6nm,0.8s,baz=27,slow=2.3,SNR=3.8						
HNR	**Honiara**	**26.78**	**291**	LR	LR	10 04 33.6	
	comp=Z,84nm,18.0s,baz=214,slow=38						

MLZ	**Mavora Lakes**	**28.41**	**206**	*e*P		**P**	**09 53 01.9**	**+0.6**
	70nm,1.6s							
CTA	**Charters Tower**	**36.47**	**264**	P		**P**	**09 54 15.9**	**+3.8**
	2.3nm,0.6s,baz=85,slow=13,SNR=3.8							
STKA	**Stephens Creek**	**40.45**	**245**	*e*P		**P**	**09 54 45.9**	**+0.6**
	3.4nm,1.5s							
STKA				*e*			10 10 36.0	
STKA	**Stephens Creek**	**40.45**	**245**	LR		LR	10 10 36.0	
	comp=Z,92nm,18.3s,baz=27,slow=34							
AS31	**Alice Springs**	**47.41**	**256**	*e*P		**P**	**09 55 41.3**	**-0.1**
	3.0nm,1.5s							
ASAR	**Alice Springs**	**47.41**	**256**	P		**P**	**09 55 43.2**	**+1.8**
	2.2nm,0.8s,baz=99,slow=7.9,SNR=17							
ASAR				PcP		**PcP**	**09 57 12.1**	**+0.8**
	1.6nm,0.8s,baz=94,slow=4.4,SNR=7.3							
WR1	**Warramunga Arr**	**47.56**	**261**	*e*P		**P**	**09 55 44.3**	**+1.8**
	11nm,1.4s							
WR1				*e*PcP		**PcP**	**09 57 12.9**	**+1.1**
WRA	**Warramunga Arr**	**47.56**	**261**	P		**P**	**09 55 44.3**	**+1.8**
	1.3nm,0.8s,baz=97,slow=8.4,SNR=26							
WRA				PcP		**PcP**	**09 57 12.9**	**+1.1**
	1.4nm,0.8s,baz=90,slow=4.0,SNR=4.7							
VNDA	**Vanda**	**58.06**	**186**	*e*P		**P**	**09 56 59.5**	**+0.5**
VNDA	**Vanda**	**58.06**	**186**	P		**P**	**09 56 58.4**	**-0.6**
	0.6nm,0.8s,baz=0.1,slow=6.5,SNR=5.0							
TGY	**Tagaytay City**	**71.97**	**293**	LR		LR	10 27 08.1	
	comp=Z,67nm,19.7s,baz=199,slow=33							
MJAR	**Matsushiro Arr**	**72.14**	**322**	P		**P**	**09 58 29.5**	**-1.4**
	1.8nm,0.8s,baz=163,slow=5.6,SNR=5.9							
MAJO	**Matsushiro**	**72.14**	**322**	*e*P		**P**	**09 58 29.5**	**-1.4**
PETK	**Petropavlovsk-**	**77.22**	**343**	P		**P**	**09 58 57.7**	**-2.2**
	3.5nm,1.0s,baz=103,slow=6.9,SNR=3.7							
PEA1	**Petropavlovsk-**	**77.22**	**343**	*e*P		**P**	**09 58 57.7**	**-2.2**
WAKR	**Walker**	**78.43**	**41**	*e*P		**P**	**09 59 09.9**	**+2.7**
	5.3nm,1.2s							
KSRS	**Korea Array**	**79.01**	**317**	P		**P**	**09 59 09.9**	**-0.3**
	1.7nm,0.9s,baz=144,slow=8.4,SNR=3.6							
KSAR	**Wonju Array Be**	**79.03**	**317**	P		**P**	**09 59 09.8**	**-0.4**
KS01	**Wonju Array Si**	**79.04**	**317**	*e*P		**P**	**09 59 09.9**	**-0.5**
NVAR	**Mina Array Bea**	**79.09**	**42**	P		P	09 59 02.1	-8.7
	2.0nm,0.7s,baz=224,slow=9.5,SNR=19							
KVN	**Kaiserville**	**79.59**	**41**	*e*P		**P**	**09 59 14.6**	**+1.0**
	5.2nm,1.2s							
SHPR	**Sheep Range**	**79.98**	**45**	*e*P		**P**	**09 59 18.2**	**+2.5**
	3.4nm,1.2s							
X16A	**Lo Mia Camp, P**	**81.36**	**48**	*e*P		**P**	**09 59 25.0**	**+1.8**
	3.4nm,1.0s							
LCMT	**Little Creek M**	**81.53**	**45**	*e*P		**P**	**09 59 25.3**	**+1.3**
	3.1nm,1.0s							
CCUT	**Cedar City**	**81.75**	**45**	*e*P		**P**	**09 59 26.9**	**+1.6**
	3.1nm,1.0s							
U15A	**North Rim**	**81.85**	**46**	*e*P		**P**	**09 59 28.6**	**+2.8**
	7.9nm,1.4s							
PSUT	**Pine Spring**	**81.98**	**44**	*e*P		**P**	**09 59 26.1**	**-0.3**
	3.7nm,1.1s							
PKCU	**Pink Cliffs**	**82.39**	**45**	*e*P		**P**	**09 59 30.6**	**+1.9**
	9.4nm,1.1s							
MTPU	**Mount Pierson**	**82.80**	**45**	*e*P		**P**	**09 59 32.5**	**+1.6**
	5.2nm,1.1s							
KLR	**Kul'dur**	**84.21**	**328**	LR		LR	10 33 20.1	
	comp=Z,23nm,20.6s,baz=130,slow=33							
MNTX	**Cornudas Mount**	**84.40**	**53**	*e*P		**P**	**09 59 40.1**	**+1.3**
	4.3nm,1.4s							
SRU	**San Rafael Swe**	**84.47**	**45**	*e*P		**P**	**09 59 42.2**	**+3.0**
	8.2nm,1.0s							
HLID	**Hailey**	**84.49**	**39**	*e*P		**P**	**09 59 42.3**	**+3.1**
	4.4nm,1.1s							
P17A	**Butcher Ranch,**	**84.53**	**44**	*e*P		**P**	**09 59 42.8**	**+3.4**
	8.4nm,1.2s							
TXAR	**Lajitas Array**	**84.61**	**56**	P		P	09 59 30.2	-10
	0.5nm,0.8s,baz=207,slow=8.0,SNR=5.7							
TXAR				LR		LR	10 29 59.4	
	comp=Z,27nm,19.3s,baz=0.0,slow=31							
ANMO	**Albuquerque**	**85.16**	**50**	*e*P		**P**	**09 59 43.7**	**+0.9**
	6.5nm,1.4s							
MCMT	**McKenzie Canyo**	**86.14**	**39**	*e*P		**P**	**09 59 50.6**	**+3.1**
S22A	**4UR Ranch, Cre**	**86.27**	**47**	*e*P		**P**	**09 59 51.5**	**+3.2**
	7.6nm,1.3s							
IMW	**Indian Meadow**	**86.77**	**41**	*e*P		**P**	**09 59 51.5**	**+0.9**
	3.9nm,1.1s							

ISCJB ***27*** *09:56:30.9±0.9, 64°.75N±0°.05×30°.8E±0°.1, h0km, Error ellipse: s-maj=9.8km s-min=5.5km az=37.9*
UPP ***27*** *09:56:30.9±2.7, 64°.62N×31°.02E, h0km, ML1.7, Suspected explosion*
KOLA ***27*** *09:56:32.8, 64°.81N×30°.21E, h0km*
IDC ***27*** *09:56:36.3±1.6, 64°.82N×29°.84E, h0km, mb1 3.0/4, mb1mx2.8/44, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=22.9km s-min=7.3km az=99.0*
ISC 27 09:56:32.7±1.3, 64°.77N±0°.05×30°.69E±0°.08, h0km, n16, σ1s60/23, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**3.00**	**17**	P	**Pn**	**09 57 21.3**	**-0.1**
APA0				S	**Sn**	**09 57 57.6**	**-0.4**
APA	**Apatity**	**3.02**	**20**	P	**Pn**	**09 57 21.8**	**+0.1**
APA				S	**Sn**	**09 57 58.4**	**-0.1**
KALU	**Kalix**	**3.27**	**293**	P	**Pn**	**09 57 25.7**	**+0.7**
KALU				S	**Sn**	**09 58 06.3**	**+1.7**
PAJU	**Pajala**	**3.85**	**309**	P	**Pn**	**09 57 33.1**	**+0.1**
FINES	**FINESS Array B**	**3.94**	**214**	Pn	**Pn**	**09 57 34.9**	**+0.6**
	0.2nm,0.3s,baz=28,slow=13,SNR=5.7						
FINES				Pg	**Pb**	**09 57 43.7**	**+0.8**
	0.4nm,0.3s,baz=25,slow=17,SNR=8.0						
FINES				Sn	**Sn**	**09 58 20.9**	**-0.2**
	0.5nm,0.3s,baz=21,slow=20,SNR=5.1						
FINES				Lg	Lg	09 58 35.0	
	0.5nm,0.3s,baz=27,slow=28,SNR=3.6						
ERTU	**Ertsjaerv**	**3.95**	**301**	P	**Pn**	**09 57 35.0**	**+0.5**
BURU	**Burvik**	**4.01**	**272**	P	**Pn**	**09 57 34.8**	**-0.4**
HARU	**Harads**	**4.29**	**293**	P	**Pn**	**09 57 39.5**	**+0.5**
HARU				S	**Sn**	**09 58 31.4**	**+1.7**
MASU	**Masugnsbyn**	**4.45**	**311**	P	**Pn**	**09 57 41.9**	**+0.6**
LILU	**Lilltraesk**	**4.63**	**281**	P	**Pn**	**09 57 43.6**	**-0.1**
LANU	**Lannavaara**	**4.80**	**317**	P	**Pn**	**09 57 45.4**	**-0.8**
ARCES	**ARCESS Array B**	**5.20**	**339**	Pn	**Pn**	**09 57 50.9**	**-0.7**
	0.5nm,0.3s,baz=155,slow=13,SNR=31						
ARCES				Sn	**Sn**	**09 58 49.3**	**-2.8**
	0.5nm,0.3s,baz=156,slow=24,SNR=6.2						
ARCES				Lg	Lg	09 59 12.0	
	1.0nm,0.3s,baz=159,slow=27,SNR=10						
KUA	**Kurravaara**	**5.25**	**312**	P	**Pn**	**09 57 52.8**	**+0.5**
RATU	**Laukkuluspa**	**5.42**	**309**	P	**Pn**	**09 57 55.4**	**+0.6**
HFS	**Hagfors**	**9.13**	**247**	Pn	**Pn**	**09 58 41.3**	**-4.1**
	0.1nm,0.3s,baz=64,slow=6.6,SNR=3.5						
HFS				Lg	Lg	10 01 11.3	
	0.1nm,0.3s,baz=54,slow=20,SNR=2.8						
NOA	**NORSAR Array B**	**9.62**	**256**	Pn	**Pn**	**09 58 48.2**	**-4.0**
	0.0nm,0.3s,baz=58,slow=11,SNR=2.3						
NOA				Lg	Lg	10 01 27.8	
	0.0nm,0.3s,baz=57,slow=23,SNR=2.8						

NNC ***27*** *10:20:52.4±2.5, 53°.69N×87°.80E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.3km s-min=17.1km az=6.0, Suspected Mining explosion.*
KRAR 27 10:20:46.7±0.1, 53°.61N×87°.90E, M2.2, 5C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.40**	**247**	⇑Pn	Pn	10 22 26.0	+3.8
	1.9nm,0.6s						
KURK				⇑Sn	Sn	10 23 42.8	+6.8
	1.4nm,0.6s						
KURK				⇓Lg	Lg	10 24 17.2	
	2.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.50**	**246**	⇑Pn	Pn	10 22 28.6	+5.1
	3.7nm,0.4s						
KURBB				⇓Sn	Sn	10 23 44.4	+6.1
	3.2nm,0.5s						
KURBB				⇓Lg	Lg	10 24 15.3	
	5.6nm,0.7s						
MK31	**Makanchi Array**	**7.71**	**210**	⇑Pn	Pn	10 22 47.3	+7.1
	0.6nm,0.5s,baz=30,slow=13,SNR=11						
MK31				⇓Sn	Sn	10 24 16.2	+7.9
	0.5nm,0.5s						
MK31				⇑Lg	Lg	10 24 55.8	
	1.6nm,0.6s						

NIED ***27*** *10:21:00, 24°.30N×126°.50E, h5km, Mw3.9 Best double couple: M0 8.19000×10^14 NP1:φs=280.00000°, δ=44.00000°, λ=170.00000°. NP2:φs=17.00000°, δ=83.00000°, λ=46.00000°.*
ISCJB ***27*** *10:21:31.0±1.3, 24°.31N±0°.04×126°.48E±0°.03, h24km±10km, mb4.0/16, MS3.8/1, Error ellipse: s-maj=7.7km s-min=3.1km az=147.9*
IDC ***27*** *10:21:30.0±0.8, 24°.34N×126°.44E, h0km, mb3.9/11, mb1 4.0/12, mb1mx3.8/45, mbtmp3.9/12, ML2.9/2, MS3.5/2, Ms1 3.5/2, ms1mx2.7/38, Error ellipse: s-maj=30.7km s-min=17.3km az=73.0*
JMA ***27*** *10:21:32.6±0.2, 24°.33N×126°.46E, h80km±5km, M3.5*
NEIC ***27*** *10:21:34.7±0.4, 24°.28N×126°.36E, h35km, mb4.3/4, Error ellipse: s-maj=8.8km s-min=7.2km az=147.0*
ISC 27 10:21:32.0±2.2, 24°.33N±0°.08×126°.47E±0°.06, h17km±12km, n52, σ1s25/72, mb4.0/16, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.06**	**294**	P	**Pg**	**10 21 52.4**	**-0.1**
JIKM	**Ikemajima**	**1.26**	**298**	P	**Pn**	**10 21 55.1**	**+0.2**
JIRB	**Irabujima**	**1.28**	**293**	P	**Pn**	**10 21 55.1**	**-0.1**
JTJ	**Tarama**	**1.64**	**281**	P	**Pn**	**10 22 00.0**	**-0.1**
JTJ				S	**Sn**	**10 22 20.6**	**-0.2**
JISG	**Ishigakijimahi**	**1.98**	**278**	P	**Pn**	**10 22 05.6**	**+0.8**
JKE	**Kume jima 2**	**2.01**	**8**	P	**Pn**	**10 22 05.0**	**-0.2**
JKE				S	**Sn**	**10 22 29.5**	**-0.5**
JIJ	**Ishigaki jima**	**2.12**	**272**	P	**Pn**	**10 22 06.4**	**-0.3**
JIJ				eS	**Sn**	**10 22 31.4**	**-1.3**
JJT3	**Tamagusuku3**	**2.17**	**33**	P	**Pn**	**10 22 07.4**	**+0.1**
JJT3				S	**Sn**	**10 22 33.1**	**-0.7**
JKRS	**Kuro-shima**	**2.25**	**268**	P	**Pn**	**10 22 08.3**	**-0.1**
JKRS				S	**Sn**	**10 22 35.4**	**-0.4**
JAGN	**Aguni-jima**	**2.36**	**17**	P	**Pn**	**10 22 09.9**	**-0.1**
JAGN				eS	**Sn**	**10 22 37.8**	**-0.8**
HATJ	**Hateruma jima**	**2.45**	**264**	P	**Pn**	**10 22 10.4**	**-0.8**
HATJ				eS	**Sn**	**10 22 38.6**	**-2.2**
IRIF	**Iriomote-Funau**	**2.50**	**271**	P	**Pn**	**10 22 11.4**	**-0.5**
IRIF				eS	**Sn**	**10 22 40.9**	**-1.1**
JNTH	**Nagotoyohara**	**2.60**	**32**	P	**Pn**	**10 22 12.6**	**-0.6**
JNTH				S	**Sn**	**10 22 43.1**	**-1.3**
JOW	**Kunigami**	**2.98**	**33**	P	**Pn**	**10 22 18.9**	**+0.3**
JOW				eS	**Sn**	**10 22 53.1**	**-0.9**
JOW	**Kunigami**	**2.98**	**33**	Pn	**Pn**	**10 22 19.0**	**+0.5**
	0.8nm,0.3s,baz=161,slow=13,SNR=22						
JOW				Sn	**Sn**	**10 22 52.8**	**-1.2**
	2.9nm,0.3s,baz=95,slow=18,SNR=5.1						
JIH	**Iheya**	**3.02**	**26**	S	**Sn**	**10 22 53.8**	**-1.0**
JYNG	**Yonagunijimaku**	**3.22**	**273**	P	**Pn**	**10 22 21.5**	**-0.3**
JYNG				eS	**Sn**	**10 22 58.9**	**-0.8**
JYRO	**Yoronjima**	**3.23**	**33**	P	**Pn**	**10 22 21.7**	**-0.2**
JYRO				eS	**Sn**	**10 23 02.6**	**+2.6**
JOKE	**Okinoerabujima**	**3.57**	**32**	P	**Pn**	**10 22 27.0**	**+0.4**
JOKE				eS	**Sn**	**10 23 07.9**	**-0.5**
JTK	**Tokunoshima**	**4.11**	**32**	P	**Pn**	**10 22 33.9**	**-0.1**
JTK				eS	**Sn**	**10 23 19.9**	**-1.8**
NACB	**Ninganchiao**	**4.45**	**269**	ePn	**Pn**	**10 22 37.5**	**-1.2**
JMZ	**Minamidaito 2**	**4.56**	**70**	P	**Pn**	**10 22 38.7**	**-1.5**
JMZ				eS	**Sn**	**10 23 28.2**	**-4.6**
TATO	**Taipei**	**4.58**	**279**	ePn	**Pn**	**10 22 40.9**	**+0.4**
JAMN	**Amaminishikomi**	**4.59**	**31**	P	**Pn**	**10 22 40.2**	**-0.5**
JAMN				S	**Sn**	**10 23 31.7**	**-2.0**
YHNB	**Yeheng**	**4.65**	**275**	ePn	**Pn**	**10 22 41.4**	**-0.3**
YULB	**Yu-li**	**4.83**	**260**	ePn	**Pn**	**10 22 41.7**	**-2.2**
YULB				eSn	**Sn**	**10 23 35.9**	**-3.6**
SSLB	**Suanglung**	**5.07**	**265**	ePn	**Pn**	**10 22 46.1**	**-1.2**
SSLB				eSn	**Sn**	**10 23 43.8**	**-1.8**
TPUB	**Ta-pu**	**5.45**	**260**	ePn	**Pn**	**10 22 52.2**	**-0.2**
JNU	**Nakatsue**	**9.58**	**23**	ePn	**Pn**	**10 23 50.2**	**+1.0**
JNU				Sn	**Sn**	**10 25 34.1**	**-2.4**
JNU	**Nakatsue**	**9.58**	**23**	Pn	**Pn**	**10 23 49.0**	**-0.1**
	0.4nm,0.3s,baz=262,slow=7.1,SNR=4.8						
JNU				Sn	**Sn**	**10 25 34.1**	**-2.4**
	0.0nm,0.3s,baz=350,slow=19,SNR=1.7						
JNU				LR	LR	10 27 58.1	
	comp=Z,126nm,18.2s,baz=221,slow=40						
SONA0	**Songino Array**	**28.36**	**331**	*e*P	**P**	**10 27 25.1**	**-0.2**
SONM	**Songino Array**	**28.36**	**331**	P	**P**	**10 27 25.1**	**-0.2**
	1.1nm,0.4s,baz=141,slow=9.6,SNR=7.3						
PBA	**Port Blair**	**34.36**	**255**	*e*P	P	10 28 16.6	-1.7
	19nm,1.1s						
MK32	**Makanchi Array**	**41.66**	**314**	*e*P	**P**	**10 29 19.1**	**-0.5**
MKAR	**Makanchi Array**	**41.66**	**314**	P	**P**	**10 29 19.1**	**-0.5**
	0.6nm,0.6s,baz=100,slow=10,SNR=7.0						
ZALV	**Zalesovo Beam**	**42.83**	**325**	P	**P**	**10 29 29.1**	**+0.1**
	1.8nm,0.4s,baz=108,slow=7.9,SNR=4.1						
ZAA1	**Zalesovo Array**	**42.84**	**325**	*e*P	**P**	**10 29 29.1**	**0.0**
WR1	**Warramunga Arr**	**44.66**	**169**	*e*P	**P**	**10 29 44.0**	**-0.1**
	14nm,1.5s						
WRA	**Warramunga Arr**	**44.66**	**169**	P	**P**	**10 29 44.0**	**-0.1**
	1.3nm,0.6s,baz=351,slow=8.7,SNR=16						
KURBB	**Kurchatov Arra**	**45.17**	**318**	P	**P**	**10 29 47.7**	**0.0**
	1.1nm,0.6s,baz=108,slow=9.0,SNR=9.4						
AS31	**Alice Springs**	**48.25**	**171**	*e*P	**P**	**10 30 10.8**	**-1.4**
	2.6nm,1.5s						
ASAR	**Alice Springs**	**48.25**	**171**	P	**P**	**10 30 13.6**	**+1.4**
	0.4nm,0.5s,baz=354,slow=13,SNR=8.1						
ABKAR	**Akbulak array**	**56.80**	**314**	*e*P	**P**	**10 31 14.8**	**-0.6**
	2.1nm,0.7s						
AKTO	**Aktyubinsk**	**58.05**	**315**	P	**P**	**10 31 25.5**	**+1.4**
	0.6nm,0.6s,baz=126,slow=8.7,SNR=3.2						
AKASG	**Malin Array Be**	**75.94**	**319**	P	**P**	**10 33 18.5**	**+0.6**
	0.8nm,0.5s,baz=60,slow=6.2,SNR=6.1						
AKBB	**Malin Array Si**	**75.94**	**319**	*e*P	**P**	**10 33 17.1**	**-0.7**
	4.0nm,1.0s						
BR101	**Keskin Array S**	**76.94**	**308**	*e*P	**P**	**10 33 25.3**	**+1.3**
BRTR	**Keskin Array B**	**76.94**	**308**	P	**P**	**10 33 25.3**	**+1.3**
	1.4nm,0.8s,baz=99,slow=6.4,SNR=5.8						
BRTR				LR	LR	11 09 26.8	
	comp=Z,43nm,18.3s,baz=282,slow=37						
NB200	**NORSAR Array S**	**80.31**	**333**	*e*P	**P**	**10 33 42.9**	**+1.0**
NOA	**NORSAR Array B**	**80.31**	**333**	P	**P**	**10 33 42.9**	**+1.0**
	0.8nm,0.7s,baz=54,slow=5.9,SNR=4.0						
YKA	**Yellowknife Ar**	**80.91**	**24**	P	**P**	**10 33 45.9**	**+0.8**
	0.2nm,0.7s,baz=302,slow=5.5,SNR=4.5						
YKB5	**Yellowknife Ar**	**80.91**	**24**	*e*P	**P**	**10 33 45.0**	**0.0**

IDC 27 10:29:18.6±16.0, 0°.30S×126°.90E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/58, mbtmp3.5/3, Error ellipse: s-maj=244.8km s-min=171.3km az=157.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.84**	**160**	P	P	10 34 02.8	+0.8
	0.4nm,0.6s,baz=338,slow=12,SNR=4.3						
ASAR	**Alice Springs**	**24.20**	**164**	P	P	10 34 37.3	+0.2
	0.2nm,0.3s,baz=346,slow=11,SNR=6.9						
STKA	**Stephens Creek**	**34.34**	**158**	P	P	10 36 06.4	-0.9
	2.5nm,0.7s,baz=337,slow=13,SNR=3.3						

ISCJB ***27*** *10:38:11.4±0.5, 15°.11N±0°.08×59°.4E±0°.1, h10km, mb4.0/17, MS3.1/3, Error ellipse: s-maj=14.8km s-min=9.8km az=25.1*
IDC ***27*** *10:38:11.7±0.6, 15°.05N×59°.54E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.8/61, mbtmp4.0/15, ML4.5/1, MS3.1/3, Ms1 3.2/3, ms1mx2.7/35, Error ellipse: s-maj=22.5km s-min=14.4km az=115.0*
NEIC ***27*** *10:38:13.2±0.3, 15°.09N×59°.50E, h10km, mb4.3/3, Error ellipse: s-maj=11.4km s-min=7.7km az=112.0*
ISC 27 10:38:13.1±0.7, 15°.1N±0°.1×59°.5E±0°.2, h10km, n30, σ0s86/30, mb4.0/17, MS3.2/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**8.11**	**354**	Pn	**Pn**	**10 40 09.9**	**-1.1**
	5.6nm,0.3s,baz=198,slow=9.5,SNR=65						
WSAR				Sn	Sn	10 41 35.0	-7.9
	4.3nm,0.3s,baz=143,slow=20,SNR=3.9						
EIL	**Elat**	**26.84**	**307**	LR	LR	10 55 14.9	
	comp=Z,66nm,18.9s,baz=62,slow=38						
AKTO	**Aktyubinsk**	**35.24**	**358**	P	**P**	**10 45 08.9**	**+1.3**
	0.6nm,0.5s,baz=149,slow=5.9,SNR=2.3						
MK32	**Makanchi Array**	**36.85**	**26**	*e*P	**P**	**10 45 22.9**	**+1.4**
MK32				*e*PcP	**PcP**	**10 47 43.1**	**-0.2**
MKAR	**Makanchi Array**	**36.85**	**26**	P	**P**	**10 45 22.9**	**+1.4**
	0.4nm,0.5s,baz=218,slow=10,SNR=4.9						
MKAR				PcP	**PcP**	**10 47 43.1**	**-0.2**
	0.3nm,0.6s,baz=239,slow=2.0,SNR=3.1						
CMAR	**Chiang Mai Arr**	**37.85**	**79**	LR	LR	11 00 52.5	
	comp=Z,12nm,19.5s,baz=170,slow=36						
KURBB	**Kurchatov Arra**	**38.60**	**19**	P	**P**	**10 45 37.6**	**+1.3**
	0.6nm,0.6s,baz=218,slow=8.6,SNR=5.1						
BVAR	**Borovoye Array**	**38.78**	**10**	P	**P**	**10 45 39.6**	**+1.8**
	0.4nm,0.4s,baz=201,slow=7.7,SNR=2.5						
ARU	**Arti**	**41.23**	**359**	*e*P	**P**	**10 45 57.3**	**-0.7**
	6.9nm,1.1s						
ZALV	**Zalesovo Beam**	**43.51**	**22**	*e*P	**P**	**10 46 17.2**	**+0.5**
ZALV	**Zalesovo Beam**	**43.51**	**22**	P	**P**	**10 46 17.4**	**+0.8**
	1.1nm,0.4s,baz=229,slow=8.5,SNR=6.8						
ZAA1	**Zalesovo Array**	**43.52**	**22**	*e*P	**P**	**10 46 17.4**	**+0.8**
MATP	**Matopo**	**46.65**	**222**	P	**P**	**10 46 42.7**	**+0.5**
	3.1nm,0.7s,baz=24,slow=11,SNR=5.7						
LBTB	**Lobatse**	**51.81**	**220**	*e*P	**P**	**10 47 22.4**	**+0.9**
	1.5nm,1.4s						
LBTB	**Lobatse**	**51.81**	**220**	P	**P**	**10 47 22.6**	**+0.9**
	3.0nm,0.6s,baz=50,slow=7.6,SNR=6.4						
FIA0	**FINESS Array S**	**52.07**	**340**	*e*P	**P**	**10 47 23.0**	**+0.1**
FINES	**FINESS Array B**	**52.07**	**340**	P	**P**	**10 47 23.0**	**+0.1**
	1.9nm,0.6s,baz=116,slow=8.7,SNR=7.8						
FINES				LR	LR	11 12 46.5	
	comp=Z,28nm,19.7s,baz=28,slow=40						
TSUM	**Tsumeb**	**53.53**	**232**	P	**P**	**10 47 34.8**	**+0.4**
	2.8nm,0.7s,baz=58,slow=6.7,SNR=6.1						
BOSA	**Boshof**	**54.66**	**217**	P	**P**	**10 47 42.5**	**-0.1**
	2.4nm,0.7s,baz=59,slow=7.2,SNR=4.4						
TOA0	**Torodi Ar. Sit**	**55.96**	**276**	*e*P	**P**	**10 47 51.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**55.96**	**276**	P	**P**	**10 47 52.1**	**+0.1**
	3.3nm,1.0s,baz=79,slow=6.3,SNR=14						
TOA1	**Torodi Ar. Sit**	**55.96**	**276**	*e*P	**P**	**10 47 52.1**	**+0.1**
ESDC	**Sonseca Array**	**60.14**	**307**	P	**P**	**10 48 20.3**	**-0.8**
	0.7nm,0.6s,baz=82,slow=7.2,SNR=5.8						
WRA	**Warramunga Arr**	**81.39**	**113**	P	**P**	**10 50 30.1**	**-0.6**
	1.1nm,0.7s,baz=304,slow=7.1,SNR=12						
WR1	**Warramunga Arr**	**81.39**	**113**	*e*P	**P**	**10 50 30.1**	**-0.6**
	15nm,1.5s						
ASAR	**Alice Springs**	**82.26**	**117**	P	**P**	**10 50 34.2**	**-1.1**
	1.1nm,0.8s,baz=296,slow=5.0,SNR=9.2						
AS31	**Alice Springs**	**82.27**	**117**	*e*P	**P**	**10 50 34.2**	**-1.1**
	1.2nm,1.0s						
NV01	**Mina Array Sit**	**126.69**	**358**	*e*PKPdf	**PKiKP**	**10 57 18.1**	**0.0**
NVAR	**Mina Array Bea**	**126.69**	**358**	PKP	**PKiKP**	**10 57 18.0**	**-0.1**
	0.4nm,0.7s,baz=118,slow=1.1,SNR=3.9						
TXAR	**Lajitas Array**	**132.91**	**340**	PKP	**PKiKP**	**10 57 30.1**	**-0.5**
	0.2nm,0.9s,baz=38,slow=4.6,SNR=2.5						

KRNET ***27*** *10:57:39.7±0.1, 40°.72N×72°.34E, h18km, mb2.0*
SOME ***27*** *10:57:42.3, 40°.90N×72°.40E, h0km*
NNC ***27*** *10:57:50.1±6.8, 41°.18N×72°.33E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=62.4km s-min=23.4km az=165.0*
ISC 27 10:57:40.2±1.6, 40°.77N±0°.06×72°.35E±0°.04, h10km±12km, n14, σ0s82/26, 18C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.73**	**41**	⇑*i*P	**Pb**	**10 57 55.2**	**+0.1**
	baz=38						
ARSB				⇑*i*S	**Sb**	**10 58 05.2**	**0.0**
	baz=38						
ARK	**Arkit**	**1.06**	**344**	⇑*i*P	**Pn**	**10 58 01.1**	**-0.2**
	baz=46						
ARK				⇑*i*S	**Sn**	**10 58 16.2**	**-0.1**
	baz=46						
BTK	**Batken**	**1.37**	**239**	⇑*i*P	**Pn**	**10 58 05.0**	**-0.5**
	baz=41						
BTK				⇑*i*S	**Sn**	**10 58 23.3**	**-0.5**
	baz=41						
AML	**Almayashu**	**1.69**	**36**	⇑*i*P	**Pg**	**10 58 12.6**	**0.0**
	baz=35						
AML				⇑*i*S	**Sg**	**10 58 35.8**	**+1.2**
	baz=35						
ARLS	**Aral**	**1.84**	**53**	⇑*i*P	**Pb**	**10 58 14.3**	**+0.3**
	baz=52						
ARLS				⇑*i*S	**Sg**	**10 58 39.3**	**0.0**
	baz=52						
MRKS	**Merke**	**2.08**	**18**	Pg	**Pg**	**10 58 19.6**	**-0.4**
	5.2nm,0.4s						
MRKS				Lg	Lg	10 58 46.8	
	6.1nm,0.4s						
MRKS	**Merke**	**2.08**	**18**	*e*P	**Pg**	**10 58 19.6**	**-0.4**
	5.2nm,0.4s						
MRKS				*e*S	**Sg**	**10 58 46.8**	**-0.1**
	6.1nm,0.4s						
UCH	**Uchtor**	**2.18**	**47**	⇑*i*P	**Pb**	**10 58 20.9**	**+0.9**
	baz=47						
UCH				⇑*i*S	**Sg**	**10 58 49.7**	**-0.5**
	baz=47						
IUG	**luzhnay**	**2.22**	**309**	Pg	**Pg**	**10 58 23.3**	**+0.6**
	8.5nm,0.4s						
IUG				Lg	Lg	10 58 53.1	
	8.4nm,0.6s						
IUG	**luzhnay**	**2.22**	**309**	*e*P	**Pg**	**10 58 23.4**	**+0.6**
	5.1nm,0.3s						
IUG				*e*S	**Sg**	**10 58 53.1**	**+1.6**
	7.2nm,0.2s						
AAK	**Ala-Archa**	**2.46**	**40**	⇓P	**Pg**	**10 58 27.0**	**-0.3**
	1.6nm,0.8s						
AAK				⇑S	**Sg**	**10 58 58.6**	**-0.5**
	4.0nm,0.3s						
AAK	**Ala-Archa**	**2.46**	**40**	⇑*i*P	**Pb**	**10 58 24.5**	**-0.1**
	baz=39						
AAK				⇑*i*S	**Sb**	**10 58 56.1**	**+1.1**
	baz=39						
KZA	**Kyzart**	**2.54**	**58**	⇑*i*P	**Pb**	**10 58 26.1**	**0.0**
	baz=57						
KZA				⇑*i*S	**Sb**	**10 58 58.7**	**+1.1**
	baz=57						
KK31	**Karatay Array**	**2.70**	**330**	⇓P	**Pg**	**10 58 29.9**	**-2.1**
	0.3nm,0.3s,baz=142,slow=17,SNR=2.7						
KK31				⇑S	**Sg**	**10 59 06.3**	**-0.7**
	0.6nm,0.2s,baz=137,slow=32,SNR=4.6						

ISCJB ***27*** *11:00:04.7±0.7, 51°.54N±0°.03×16°.01E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=2.9km az=18.9*
IPEC ***27*** *11:00:05.1±0.2, 51°.65N×16°.13E, h0km, ML2.6/3, Error ellipse: s-maj=3.2km s-min=1.6km az=69.0*
ISC 27 11:00:05.1±1.3, 51°.65N±0°.06×16°.01E±0°.03, h0km, n27, σ0s95/58, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.82**	**167**	*e*Pg	**Pg**	**11 00 20.9**	**+0.1**
KSP				*e*Sg	**Sg**	**11 00 31.1**	**-0.3**
UPC	**Upice**	**1.14**	**180**	*e*PG	**Pg**	**11 00 26.7**	**-0.2**
UPC				*e*SG	**Sg**	**11 00 41.0**	**-0.6**
DPC	**Dobruska-Polom**	**1.31**	**171**	*e*PG	**Pg**	**11 00 29.6**	**-0.6**
DPC				*e*SG	**Sg**	**11 00 45.9**	**-1.3**
	comp=Z,48nm,0.4s						
PVCC	**Panska Ves**	**1.44**	**220**	*e*PG	**Pb**	**11 00 32.7**	**0.0**
PVCC				*e*SG	**Sb**	**11 00 51.7**	**+0.1**
BRG	**Berggiesshubel**	**1.51**	**240**	PN	**Pn**	**11 00 32.8**	**-0.5**
BRG				PG	**Pg**	**11 00 33.9**	**0.0**
BRG				SG	**Sn**	**11 00 53.8**	**+0.1**
	139nm,0.3s						
KRLC	**Kraliky**	**1.65**	**162**	*e*PG	**Pn**	**11 00 34.7**	**-0.6**
KRLC				*e*SG	**Sn**	**11 00 56.6**	**-0.6**
	comp=Z,20nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.90**	**205**	*e*PN	**Pn**	**11 00 38.4**	**-0.3**
GOPC				*e*PG	**Pb**	**11 00 40.0**	**-0.6**
PRU	**Pruhonice**	**1.90**	**210**	*e*PN	**Pn**	**11 00 38.3**	**-0.4**
PRU				*e*PG	**Pb**	**11 00 40.2**	**-0.4**
PRU				*e*SG	**Sb**	**11 01 04.6**	**-0.3**
	comp=Z,32nm,0.3s						
CLL	**Collm**	**1.91**	**261**	*e*Pn	**Pn**	**11 00 38.0**	**-0.8**
	comp=Z,11nm,0.5s						
CLL				*i* Pg	**Pg**	**11 00 41.1**	**-0.5**
CLL				*i*		11 00 45.2	
CLL				*e*Sg	**Sg**	**11 01 06.0**	**-0.3**
	comp=Z,21nm,0.4s						
MORC	**Moravsky Berou**	**2.11**	**152**	*e*PN	**Pn**	**11 00 41.0**	**-0.7**
MORC				*e*SG	**Sb**	**11 01 10.6**	**-0.3**
MORC	**Moravsky Berou**	**2.11**	**152**	*e*Pn	**Pn**	**11 00 41.0**	**-0.7**
	baz=335						
MORC				*e*Sg	**Sb**	**11 01 10.6**	**-0.3**
	comp=Z,42nm,0.5s,baz=335						
OKC	**Ostrava-Krasne**	**2.26**	**142**	*e*PG	**Pg**	**11 00 47.6**	**-0.8**
OKC				*e*SG	**Sb**	**11 01 16.2**	**+0.9**
VRAC	**Vranov**	**2.37**	**171**	*e*PN	**Pn**	**11 00 45.2**	**0.0**
VRAC				*e*SG	**Sb**	**11 01 19.1**	**+0.7**
VRAC	**Vranov**	**2.37**	**171**	*e*Pn	**Pn**	**11 00 45.2**	**0.0**
	baz=353						
VRAC				*e*Sg	**Sb**	**11 01 19.0**	**+0.7**
	comp=Z,27nm,0.4s,baz=353						
KRUC	**Moravsky**	**2.60**	**174**	*e*PN	**Pn**	**11 00 48.7**	**+0.4**
KRUC				*e*SG	**Sb**	**11 01 26.3**	**+1.4**
KRUC	**Moravsky**	**2.60**	**174**	*e*Pn	**Pn**	**11 00 48.7**	**+0.4**
	baz=356						
KRUC				*e*

NEY	**Neytrino**	**0.76**	**84**	*i* Pg	**Pg**	**11 26 36.0**	**-0.4**
NEY				*e*Sg	**Sg**	**11 26 45.1**	**-1.2**
SHA1	**Shidzhatmaz**	**0.90**	**51**	*i* Pg	**Pg**	**11 26 39.2**	**0.0**
SHA1				*e*Sg	**Sg**	**11 26 50.8**	**-0.1**
KIV	**Kislovodsk**	**1.06**	**42**	*i* Pg	**Pg**	**11 26 42.4**	**0.0**
KIV				*e*Sg	**Sg**	**11 26 56.2**	**+0.1**
BEYR	**Belyy Ugol+**	**1.17**	**44**	*e*Pg	**Pb**	**11 26 44.2**	**-0.4**
BEYR				*e*Sg	**Sb**	**11 26 59.4**	**-0.8**
TKB	**Tkibuli**	**1.26**	**130**	P	**Pb**	**11 26 46.1**	**-0.1**
PYA1	**Pyatigorsk**	**1.35**	**48**	*e*Pg	**Pn**	**11 26 47.5**	**0.0**
PYA1				*e*Sg	**Sb**	**11 27 04.7**	**-0.7**
KBTC	**Kuba-Taba**	**1.41**	**62**	*e*Pg	**Pb**	**11 26 48.7**	**+0.1**
KBTC				*e*Sg	**Sb**	**11 27 07.2**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.41**	**101**	*e*Pg	**Pg**	**11 26 50.1**	**+1.2**
DIGR				*e*Sg	**Sg**	**11 27 09.1**	**+1.8**
ONI	**Oni**	**1.42**	**114**	P	**Pb**	**11 26 48.9**	**0.0**
ONI				S	**Sg**	**11 27 07.8**	**+0.2**
ONI	**Oni**	**1.42**	**114**	*e*Pg	**Pb**	**11 26 48.9**	**0.0**
ONI				*e*Sg	**Sg**	**11 27 07.8**	**+0.2**
SOC	**Sochi**	**1.50**	**287**	*e*Pg	**Pb**	**11 26 50.3**	**+0.1**
SOC				*e*Sg	**Sg**	**11 27 12.3**	**+2.3**
BATM	**Batumi**	**1.57**	**180**	P	**Pb**	**11 26 50.9**	**-0.5**
BATM				S	**Sb**	**11 27 10.7**	**-0.8**
ZEI	**Tsey**	**1.67**	**103**	*e*Pg	**Pg**	**11 26 54.3**	**+0.5**
ZEI				*e*Sg	**Sg**	**11 27 17.3**	**+1.8**
ALER	**Alexandrovskoy**	**1.82**	**29**	*e*Pg	**Pg**	**11 26 57.0**	**+0.3**
ALER				*e*Sg	**Sg**	**11 27 21.8**	**+1.5**
DBOC	**Borcka**	**1.83**	**181**	*i* P	**Pn**	**11 26 54.5**	**+0.5**
DBOC				*i* S	**Sn**	**11 27 16.5**	**-1.0**
DBOC				IAML_P			
	comp=Z,664nm,0.1s						
EPOS	**Posof**	**1.84**	**155**	*i* P	**Pb**	**11 26 56.2**	**+0.1**
EPOS				*i* S	**Sg**	**11 27 20.9**	**0.0**
LZRR	**Lazarevskoye**	**1.84**	**295**	*e*Pg	**Pb**	**11 26 56.7**	**+0.6**
LZRR				*e*Sg	**Sg**	**11 27 21.7**	**+0.6**
DAGI	**Agillar**	**2.10**	**175**	*i* P	**Pb**	**11 26 59.2**	**-1.3**
DAGI				*i* S	**Sn**	**11 27 23.8**	**-0.6**
DAGI				IAML_P			
	comp=Z,166nm,0.1s						
DBAD	**Bademkaya**	**2.15**	**180**	*i* P	**Pn**	**11 26 59.5**	**+1.0**
DBAD				*i* S	**Sn**	**11 27 24.2**	**-1.4**
DBAD				IAML_P			
	comp=Z,379nm,0.1s						

MEX 27 11:28:12.3±0.6, 15°.61N×96°.10W, h8km±4km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.16**	**356**	*i* P	Pg	11 28 15.1	-0.6
HUIG				*e*S	Sg	11 28 18.0	-0.1
CMIG	**Matias Romero**	**1.88**	**38**	*e*P	Pn	11 28 41.8	-2.9
CMIG				*e*S	Sn	11 29 03.3	-5.4

MEX 27 11:40:22.3±0.6, 16°.87N×98°.82W, h27km±14km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	**Tlapa**	**0.73**	**19**	*i* P	Pb	11 40 34.1	-2.5
TLIG				*i* S	Sb	11 40 44.0	-2.2
MEIG	**Mezcala**	**1.30**	**324**	*e*P	Pn	11 40 41.8	-3.1
MEIG				*e*S	Sn	11 40 57.9	-3.5
PLIG	**Platanillo**	**1.65**	**337**	*e*P	Pn	11 40 47.8	-1.9
PLIG				*e*S	Sn	11 41 06.9	-3.1
YAIG	**Yautepec**	**2.00**	**353**	*i* P	Pn	11 40 52.2	-2.2
YAIG				*e*S	Sn	11 41 16.0	-2.7
ARIG	**Puente Sto Nin**	**2.02**	**314**	*e*P	Pn	11 40 52.6	-2.1
ARIG				*i* S	Sn	11 41 15.4	-3.8

NIED ***27*** *11:54:00.30°.60N×131°.20E, h32km, Mw3.8 Best double couple: M0 5.41000×10^14 NP1:φs312.00000°, δ39.00000°, λ152.00000°. NP2:φs64.00000°, δ73.00000°, λ54.00000°.*

ISCJB ***27*** *11:54:12.2±0.6, 30°.55N±0°.04×131°.18E±0°.07, h51km±4km, mb3.7/10, MS3.3/3, Error ellipse: s-maj=10.8km s-min=4.9km az=23.0*

JMA ***27*** *11:54:12.7±0.1, 30°.56N×131°.21E, h38km±1km, M3.6 Broadband fault plane solution: P waves. NP1: φs178.00000°, δ80.00000°, λ-89.00000°. NP2: φs350.00000°, δ10.00000°, λ-98.00000°. Principal axes: T Plg35.0000°, Azm267.0000°; N Plg1.0000°, Azm358.0000°; P Plg55.0000°, Azm90.0000°;*

JMA Felt I J1.

IDC ***27*** *11:54:13.6±1.4, 30°.58N×130°.93E, h44km±12km, mb3.5/10, mb1 3.6/14, mb1mx3.5/45, mbtmp3.7/14, ML2.7/4, MS3.2/4, Ms1 3.2/4, ms1mx2.6/46 Error ellipse: s-maj=22.8km s-min=8.6km az=103.0*

ISC 27 11:54:13.1±0.9, 30°.56N±0°.04×131°.13E±0°.07, h41km±7km, n29, σ0°.92/37, mb3.7/10, MS3.3/3, 5C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.16**	**308**	⇓P	**Pn**	**11 54 19.6**	**-0.6**
JTN				*e*S	**Sn**	**11 54 25.0**	**-0.1**
JMTN	**Minamitane**	**0.25**	**231**	⇓P	**Pn**	**11 54 20.7**	**-0.2**
JMTN				*e*S	**Sn**	**11 54 27.3**	**+0.9**
JYAK	**Yakushimahirau**	**0.62**	**239**	⇑P	**Pn**	**11 54 25.6**	**+0.2**
JYAK				*e*S	**Sn**	**11 54 35.7**	**+1.4**
JTSR	**Tashiro 2**	**0.63**	**344**	⇓P	**Pn**	**11 54 25.5**	**-0.2**
JTSR				S	**Sn**	**11 54 34.9**	**+0.3**
JKC	**Kuchinoerabu**	**0.81**	**263**	⇑P	**Pn**	**11 54 28.6**	**+0.6**
JKC				*e*S	**Sn**	**11 54 40.7**	**+1.9**
JNAR	**Kushima--Naru**	**0.97**	**7**	P	**Pn**	**11 54 30.6**	**+0.3**
JNAR				*e*S	**Sn**	**11 54 43.8**	**+0.9**
JSU	**Suzuyama**	**1.11**	**329**	⇑P	**Pn**	**11 54 32.3**	**+0.2**
JNN	**Nakanoshima**	**1.30**	**237**	P	**Pn**	**11 54 35.6**	**+0.9**
JNN				*e*S	**Sn**	**11 54 52.7**	**+1.8**
JTZ	**Takazaki**	**1.34**	**359**	P	**Pn**	**11 54 35.8**	**+0.5**
JTZ				*e*S	**Sn**	**11 54 53.0**	**+1.1**
JZO	**Okuchi**	**1.64**	**344**	⇑P	**Pn**	**11 54 39.7**	**+0.2**
JSJ	**Shimokoshiki**	**1.65**	**313**	⇑P	**Pn**	**11 54 38.8**	**-0.7**
JSJ				S	**Sn**	**11 54 59.4**	**-0.1**
JTSN	**Tsuno**	**1.71**	**11**	P	**Pn**	**11 54 40.3**	**-0.1**
JNU	**Nakatsue**	**2.56**	**355**	P	**Pn**	**11 54 53.1**	**+1.0**
	3.0nm,0.3s,baz=300,slow=0.3,SNR=28						
JNU				S	**Sn**	**11 55 22.5**	**+0.3**
	9.3nm,0.3s,baz=328,slow=17,SNR=8.7						
JOW	**Kunigami**	**4.48**	**215**	P	**Pn**	**11 55 19.3**	**+0.9**
	0.4nm,0.3s,baz=97,slow=19,SNR=5.4						
JOW				S	**Sn**	**11 56 07.5**	**-1.8**
	0.8nm,0.3s,baz=89,slow=19,SNR=6.5						
KSRS	**Korea Array**	**7.37**	**340**	LR	LR	11 59 12.4	
	comp=Z,85nm,18.2s,baz=148,slow=41						
MJAR	**Matsushiro Arr**	**8.40**	**43**	P	**Pn**	**11 56 12.2**	**0.0**
	0.1nm,0.3s,baz=190,slow=12,SNR=4.7						
KLR	**Kul'dur**	**18.66**	**1**	P	**Pn**	**11 58 28.0**	**0.0**
	0.2nm,0.3s,baz=209,slow=7.3,SNR=6.5						
SONM	**Songino Array**	**25.62**	**319**	P	**P**	**11 59 37.8**	**-0.9**
	0.5nm,0.5s,baz=140,slow=8.4,SNR=4.8						
MKAR	**Makanchi Array**	**40.74**	**308**	P	**P**	**12 01 49.8**	**-0.2**
	0.3nm,0.5s,baz=94,slow=9.8,SNR=4.7						
BVAR	**Borovoye Array**	**48.86**	**316**	LR	LR	12 25 41.6	
	comp=Z,31nm,18.2s,baz=56,slow=39						
WRA	**Warramunga Arr**	**50.30**	**176**	P	**P**	**12 03 05.9**	**+0.2**
	0.6nm,0.7s,baz=349,slow=7.7,SNR=3.6						
ASAR	**Alice Springs**	**53.98**	**177**	P	**P**	**12 03 34.5**	**+1.4**
	0.2nm,0.7s,baz=19,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**56.69**	**313**	LR	LR	12 30 01.4	
	comp=Z,31nm,18.1s,baz=62,slow=38						
INK	**Inuvik**	**63.92**	**24**	P	**P**	**12 04 41.8**	**+0.5**
	1.1nm,0.5s,baz=296,slow=6.7,SNR=15						
KBZ	**Khabaz**	**68.42**	**309**	P	**P**	**12 05 10.8**	**+0.2**
	3.1nm,0.8s,baz=152,slow=2.0,SNR=7.4						
FINES	**FINESS Array B**	**70.36**	**330**	P	**P**	**12 05 21.2**	**-1.1**
	0.9nm,0.4s,baz=54,slow=6.5,SNR=7.0						
YKA	**Yellowknife Ar**	**73.54**	**26**	P	**P**	**12 05 41.9**	**+0.6**
	0.5nm,0.8s,baz=305,slow=5.6,SNR=12						
BRTR	**Keskin Array B**	**76.39**	**308**	P	**P**	**12 05 56.8**	**-1.7**
	1.3nm,0.8s,baz=64,slow=4.3,SNR=3.9						
NOA	**NORSAR Array B**	**76.55**	**334**	P	**P**	**12 05 57.9**	**-1.0**
	0.7nm,0.9s,baz=51,slow=5.2,SNR=2.2						
NOA				LR	LR	12 42 29.7	
	comp=Z,9.7nm,19.1s,baz=265,slow=38						

ISCJB ***27*** *11:55:59.8±1.2, 11°.12S±0°.08×165°.9E±0°.2, h61km, mb3.9/4, Error ellipse: s-maj=22.9km s-min=10.7km az=164.9*

IDC ***27*** *11:56:00.6±4.0, 11°.01S×165°.88E, h53km±36km, mb3.6/5, mb1 4.0/7, mb1mx3.5/44, mbtmp4.1/7, ML4.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.7/34, Error ellipse: s-maj=30.8km s-min=27.4km az=95.0*

ISC 27 11:56:01.3±1.3, 11°.05S±0°.1×165°.8E±0°.2, h61km, n15, σ1°.38/9, mb3.8/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.98**	**285**	*e*P	**Pn**	**11 57 25.0**	**-2.3**
HNR				*e*S	Sn	11 58 53.0	+19
HNR	**Honiara**	**5.98**	**285**	P	**Pn**	**11 57 27.2**	**-0.1**
	45nm,0.3s,baz=137,slow=5.5,SNR=10						
HNR				LR	LR	11 59 32.5	
	comp=Z,176nm,20.6s,baz=110,slow=35						
DZM	**Mont Dzumac**	**10.99**	**177**	P	**Pn**	**11 58 35.8**	**-0.1**
	0.9nm,0.3s,baz=351,slow=8.0,SNR=13						
DZM				S	**Sn**	**12 00 36.4**	**-1.0**
	0.3nm,0.3s,baz=150,slow=20,SNR=2.4						
DZM				LR	LR	12 02 41.5	
	comp=Z,127nm,18.7s,baz=229,slow=36						
CTA	**Charters Tower**	**20.85**	**242**	P	**P**	**12 00 40.5**	**+2.1**
	3.2nm,0.8s,baz=78,slow=15,SNR=3.6						
H11S2	**WAKE ISLAND Hy**	**29.35**	**2**	T	T	12 32 17.5	
	baz=181,slow=76,SNR=118						
H11S3	**WAKE ISLAND Hy**	**29.36**	**2**	T	T	12 32 17.9	
	baz=181,slow=76,SNR=59						
H11S1	**WAKE ISLAND Hy**	**29.37**	**2**	T	T	12 32 18.1	
	baz=181,slow=76,SNR=100						
H11N1	**WAKE ISLAND Hy**	**30.57**	**2**	T	T	12 33 49.1	
	baz=182,slow=76,SNR=60						
H11N3	**WAKE ISLAND Hy**	**30.58**	**2**	T	T	12 33 50.5	
	baz=182,slow=76,SNR=41						
H11N2	**WAKE ISLAND Hy**	**30.59**	**2**	T	T	12 33 50.5	
	baz=182,slow=76,SNR=48						
WRA	**Warramunga Arr**	**31.54**	**250**	P	**P**	**12 02 18.7**	**+0.6**
	3.0nm,0.7s,baz=80,slow=9.1,SNR=20						
GUMO	**Guam**	**32.09**	**319**	LR	LR	12 14 32.6	
	comp=Z,28nm,20.1s,baz=106,slow=35						
ASAR	**Alice Springs**	**32.85**	**243**	P	**P**	**12 02 29.9**	**+0.4**
	1.0nm,0.7s,baz=63,slow=10,SNR=16						
ILAR	**Eielson Array**	**83.49**	**18**	P	**P**	**12 08 22.4**	**+0.2**
	0.3nm,0.5s,baz=235,slow=5.0,SNR=9.6						
MKAR	**Makanchi Array**	**93.55**	**317**	P	**P**	**12 09 10.5**	**-0.3**
	0.2nm,0.6s,baz=106,slow=5.1,SNR=2.5						

JMA 27 12:01:41.7±0.1, 38°.30N×141°.89E, h46km±1km, M3.7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.33**	**272**	P	Pn	12 01 50.7	-0.1
JIKH				S	Sn	12 01 56.9	-0.3
JIO	**Ouri**	**0.45**	**290**	P	Pn	12 01 52.1	0.0
JIO				S	Sn	12 01 59.4	-0.1
JKMT	**Kesennumamotoy**	**0.60**	**328**	P	Pn	12 01 54.1	0.0
JKMT				S	Sn	12 02 02.7	-0.2
OFUJ	**Ofunato**	**0.80**	**348**	P	Pn	12 01 56.5	-0.1
OFUJ				S	Sn	12 02 06.9	-0.6
JMK	**Ichinoseki**	**0.84**	**321**	P	Pn	12 01 57.4	+0.3
JMK				S	Sn	12 02 08.7	+0.4
JOU	**Okura**	**0.97**	**274**	P	Pn	12 01 59.2	+0.3
JOU				S	Sn	12 02 12.0	+0.5
JMM	**Marumori**	**0.97**	**244**	P	Pn	12 01 58.4	-0.5
JMM				S	Sn	12 02 11.2	-0.3
JFK	**Kawauchi**	**1.23**	**221**	P	Pn	12 02 01.9	-0.6
JFK				S	Sn	12 02 16.5	-1.5
JOM	**Ohasama**	**1.26**	**338**	P	Pn	12 02 03.3	+0.4
JOM				S	Sn	12 02 19.7	+1.0
JYK	**Kaneyama**	**1.35**	**298**	P	Pn	12 02 04.5	+0.4
JYS	**Shirataka**	**1.44**	**267**	P	Pn	12 02 05.7	+0.4
JFT	**Otama**	**1.46**	**238**	P	Pn	12 02 05.9	+0.3
JFT				S	Sn	12 02 24.0	+0.5
JRG	**Rokugo**	**1.47**	**319**	P	Pn	12 02 06.5	+0.8

ISCJB ***27*** *12:10:16.1±1.3, 38°.30N±0°.09×43°.02E±0°.05, h11km±4km, Error ellipse: s-maj=15.7km s-min=5.0km az=164.2*

DDA ***27*** *12:10:16.3, 38°.35N×43°.01E, h7km±4km, ML2.6*

ISK ***27*** *12:10:16.2, 38°.37N×43°.00E, h10km, ML2.3/3*

ISC 27 12:10:15.9±1.3, 38°.32N±0°.09×43°.03E±0°.04, h13km±7km, n9, σ0°.42/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GEVA	**Gevas**	**0.02**	**110**	*i* P	**Pg**	**12 10 18.2**	**-0.3**
GEVA				*i* S	**Sg**	**12 10 21.2**	**+0.8**
AKDM	**Akdamar-Van**	**0.04**	**282**	PG	**Pg**	**12 10 18.5**	**-0.1**
AKDM				SG	**Sg**	**12 10 20.0**	**-0.5**
TVAN	**Van**	**0.36**	**55**	*i* P	**Pg**	**12 10 23.1**	**-0.2**
TVAN				*i* S	**Sb**	**12 10 29.6**	**-0.4**
TVAN				IAML_P			
	comp=Z,5μm,0.3s						
VANB	**Van**	**0.39**	**46**	PG	**Pg**	**12 10 23.5**	**-0.4**
VANB				SG	**Sg**	**12 10 28.9**	**-0.3**
ADCV	**BITLIS_Adilcev**	**0.54**	**334**	*i* P	**Pg**	**12 10 26.4**	**-0.2**
ADCV				*i* S	**Sb**	**12 10 35.5**	**+0.3**
BLIS	**Bitlis-Merkez**	**0.73**	**278**	*i* P	**Pb**	**12 10 30.4**	**-0.1**
BLIS				*i* S	**Sb**	**12 10 40.2**	**-0.3**
BLIS				IAML_P			
	comp=Z,2μm,0.2s						
VMUR	**Van-Muradiye**	**0.79**	**32**	*i* P	**Pb**	**12 10 31.9**	**+0.2**
VMUR				*i* S	**Sn**	**12 10 44.6**	**-0.1**
VMUR				IAML_P			
	comp=Z,386nm,0.2s						
GURO	**Guroymak-BITLI**	**0.82**	**287**	PG	**Pg**	**12 10 31.6**	**-0.2**
GURO				SG	**Sb**	**12 10 42.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.25**	**359**	PN	**Pn**	**12 10 39.9**	**+0.6**

IDC ***27*** *12:13:33.1±4.1, 24°.11N×120°.87E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/57, mbtmp3.5/3, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/32, Error ellipse: s-maj=226.5km s-min=32.5km az=92.0*

ISCJB ***27*** *12:13:44.4±0.2, 24°.13N±0°.02×122°.90E±0°.01, h50km±5km, mb3.2/2, Error ellipse: s-maj=2.9km s-min=2.1km az=173.3*

JMA ***27*** *12:13:44.4±0.1, 24°.22N×122°.88E, h58km±2km, M3.0*

TAP ***27*** *12:13:44.4, 24°.19N×122°.90E, h51km, ML3.9, C*

ISC 27 12:13:44.0±0.9, 24°.13N±0°.03×122°.91E±0°.02, h51km±7km, n119, σ1°.44/215, 16D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.32**	**7**	P	**Pn**	**12 13 53.8**	**+0.4**
JYNG				S	**Sn**	**12 14 00.6**	**+0.5**
YOJ	**Yonaguni jima**	**0.34**	**16**	⇓P	**Pn**	**12 13 54.1**	**+0.4**
	baz=17						
YOJ				S	**Sn**	**12 14 00.9**	**+0.4**
	baz=17						
YOJ	**Yonaguni jima**	**0.34**	**16**	P	**Pn**	**12 13 54.1**	**+0.4**
YOJ				S	**Sn**	**12 14 00.9**	**+0.4**
IRIF	**Iriomote-Funau**	**0.78**	**75**	P	**Pn**	**12 13 59.6**	**+0.8**
IRIF				*e*S	**Sn**	**12 14 10.7**	**+1.1**
EOS1	**EOS1**	**0.82**	**301**	P	**Pn**	**12 13 59.8**	**+0.4**
	baz=305						
EOS1				S	**Sn**	**12 14 11.6**	**+1.1**
	baz=305						
HATJ	**Hateruma jima**	**0.83**	**95**	P	**Pn**	**12 14 01.0**	**+1.6**
HATJ				*e*S	**Sn**	**12 14 13.3**	**+2.6**
JKRS	**Kuro-shima**	**1.01**	**84**	P	**Pn**	**12 14 03.2**	**+1.3**
JKRS				S	**Sn**	**12 14 17.5**	**+2.3**
TWC	**Suao**	**1.07**	**296**	P	**Pn**	**12 14 03.2**	**+0.5**
	baz=303						
TWC				S	**Sn**	**12 14 16.4**	**-0.3**
	baz=303						
NANB	**Nanao**	**1.09**	**286**	⇓P	**Pn**	**12 14 03.5**	**+0.5**
	baz=283						
NANB				S	**Sn**	**12 14 18.2**	**+1.1**
	baz=283						
ENA	**Nanau**	**1.10**	**286**	⇓P	**Pn**	**12 14 03.5**	**+0.3**
	baz=283						
JIJ	**Ishigaki jima**	**1.15**	**78**	P	**Pn**	**12 14 04.5**	**+0.7**
JIJ				S	**Sn**	**12 14 19.1**	**+0.5**
NACB	**Ninganchiao**	**1.20**	**272**	⇓P	**Pn**	**12 14 04.7**	**+0.2**
	baz=258						
NACB				S	**Sn**	**12 14 19.4**	**-0.3**
	baz=258						
TWD	**Chiawan**	**1.20**	**268**	*e*P	**Pn**	**12 14 04.8**	**+0.3**
	baz=264						
HWA	**Hwalien**	**1.20**	**263**	*e*P	**Pn**	**12 14 05.0**	**+0.5**
	baz=260						
HWA				*e*S	**Sn**	**12 14 20.0**	**+0.4**
	baz=260						
TWB1	**Santiao Chiao**	**1.21**	**316**	*e*P	**Pn**	**12 14 05.0**	**+0.4**
	baz=324						
TWB1				S	**Sn**	**12 14 18.6**	**-1.3**
	baz=324						
NTC	**Toucheng**	**1.22**	**307**	*e*P	**Pn**	**12 14 05.5**	**+0.8**
	baz=314						
NTC				*e*S	**Sn**	**12 14 20.8**	**+0.8**
	baz=314						
ILA	**Ilan**	**1.23**	**301**	*e*P	**Pn**	**12 14 05.2**	**+0.3**
	baz=307						
ILA				*e*S	**Sn**	**12 14 22.1**	**+1.8**
	baz=307						
TWE	**Neicheng**	**1.27**	**298**	P	**Pn**	**12 14 06.4**	**+1.0**
	baz=303						
TWE				S	**Sn**	**12 14 21.9**	**+0.5**
	baz=303						
TIPB	**Shuangxi**	**1.29**	**311**	*e*P	**Pn**	**12 14 05.9**	**+0.2**
	baz=308						
TIPB				*e*S	**Sn**	**12 14 21.1**	**-0.8**
	baz=308						
ETLH	**Xiulin Townshi**	**1.30**	**274**	⇓*e*P	**Pn**	**12 14 06.3**	**+0.3**
	baz=271						
ETLH				*e*S	**Sn**	**12 14 21.8**	**-0.5**
	baz=271						
ENTT	**Nioudou**	**1.32**	**293**	⇓P	**Pn**	**12 14 07.3**	**+1.2**
	baz=278						
ENTT				*e*S	**Sn**	**12 14 23.1**	**+0.4**
	baz=278						
NDT	**Datong Townshi**	**1.35**	**291**	P	**Pn**	**12 14 07.8**	**+1.2**
	baz=276						
NDT				*e*S	**Sn**	**12 14 24.0**	**+0.6**
	baz=276						
JISG	**Ishigakijimahi**	**1.36**	**70**	P	**Pn**	**12 14 07.1**	**+0.5**
JISG				*e*S	**Sn**	**12 14 24.4**	**+0.8**
ESL	**Shilin**	**1.38**	**257**	⇓P	**Pn**	**12 14 06.8**	**-0.2**
	baz=254						
ESL				*e*S	**Sn**	**12 14 23.2**	**-0.9**
	baz=254						
NWF	**Wu-fen Shan**	**1.39**	**313**	*e*P	**Pn**	**12 14 07.7**	**+0.6**
	baz=310						
NWF				*e*S	**Sn**	**12 14 24.9**	**+0.5**
	baz=310						
WFSB	**Wu-fen Shan**	**1.39**	**313**	*e*P	**Pn**	**12 14 07.7**	**+0.7**
	baz=310						
WFSB				*e*S	**Sn**	**12 14 24.7**	**+0.5**
	baz=310						
NNSB	**Datong**	**1.42**	**282**	⇓P	**Pn**	**12 14 08.2**	**+0.6**
	baz=270						
NNSB				*e*S	**Sn**	**12 14 25.0**	**-0.3**
	baz=270						
EGFH	**Guangfu**	**1.43**	**251**	*e*P	**Pn**	**12 14 07.6**	**+0.1**
	baz=249						
EGFH				*e*S	**Sn**	**12 14 25.1**	**-0.2**
	baz=249						
NWLT	**Wulai**	**1.43**	**297**	*e*P	**Pn**	**12 14 08.9**	**+1.2**
	baz=304						
NWLT				*e*S	**Sn**	**12 14 26.8**	**+1.5**
	baz=304						
NNS	**Nan Shan**	**1.43**	**283**	*e*P	**Pn**	**12 14 08.3**	**+0.6**
	baz=270						
NNS				*e*S	**Sn**	**12 14 26.0**	**+0.5**
	baz=270						
TWA	**Mucha**	**1.47**	**305**	*e*P	**Pn**	**12 14 08.8**	**+0.6**
	baz=303						
TWA				*e*S	**Sn**	**12 14 25.7**	**-0.6**
	baz=303						
YHNB	**Yeheng**	**1.49**	**291**	⇓P	**Pn**	**12 14 09.6**	**+1.1**
	baz=277						
YHNB				*e*S	**Sn**	**12 14 27.4**	**+0.4**
	baz=277						
HGSD	**Ruisui**	**1.50**	**245**	⇓P	**Pn**	**12 14 08.4**	**-0.1**
	baz=243						
HGSD				*e*S	**Sn**	**12 14 26.0**	**-0.9**
	baz=243						
WHF	**Hehuan Shan**	**1.50**	**271**	⇓P	**Pn**	**12 14 09.2**	**+0.2**
	baz=258						
WHF				*e*S	**Sn**	**12 14 27.4**	**-0.2**
	baz=258						
NHDH	**Xindian Distri**	**1.50**	**304**	*e*P	**Pn**	**12 14 09.6**	**+1.0**
	baz=301						
NHDH				*e*S	**Sn**	**12 14 27.5**	**+0.4**
	baz=301						
TATO	**Taipei**	**1.54**	**303**	*e*P	**Pn**	**12 14 09.4**	**+0.3**
	baz=301						
TATO				*e*S	**Sn**	**12 14 27.4**	**-0.5**
	baz=301						
EHY	**Hungye**	**1.58**	**247**	*e*P	**Pn**	**12 14 09.8**	**+0.2**
	baz=257						
EHY				*e*S	**Sn**	**12 14 28.4**	**-0.5**
	baz=257						
YM01	**YM01**	**1.58**	**310**	*e*P	**Pn**	**12 14 10.6**	**+0.9**
	baz=308						
YM01				*e*S	**Sn**	**12 14 28.4**	**-0.6**
	baz=308						
CHGB	**Renai**	**1.58**	**268**	⇓P	**Pn**	**12 14 10.6**	**+0.7**
	baz=265						
CHGB				S	**Sn**	**12 14 29.4**	**0.0**
	baz=265						
TWT	**Tachien**	**1.58**	**275**	*e*P	**Pn**	**12 14 11.1**	**+1.2**
	baz=262						
TWT				*e*S	**Sn**	**12 14 29.6**	**+0.2**
	baz=262						
YM11	**YM11**	**1.59**	**311**	*e*P	**Pn**	**12 14 11.0**	**+1.1**
	baz=308						
YM11				*e*S	**Sn**	**12 14 29.1**	**-0.2**
	baz=308						
OWD	**Renai**	**1.59**	**264**	*e*P	**Pn**	**12 14 10.3**	**+0.4**
	baz=261						
OWD				*e*S	**Sn**	**12 14 28.4**	**-1.1**
	baz=261						
YM05	**YM05**	**1.59**	**310**	*e*P	**Pn**	**12 14 10.5**	**+0.6**
	baz=308						
YM05				*e*S	**Sn**	**12 14 29.2**	**-0.2**
	baz=308						
TDCB	**Techi**	**1.60**	**275**	⇓*e*P	**Pn**	**12 14 10.9**	**+0.9**
	baz=262						
TDCB				*e*S	**Sn**	**12 14 29.8**	**+0.1**
	baz=262

NCU	National Centr	1.77	298	eP	Pn	12 14 13.5	+1.2
	baz=307						
NCU				eS	Sn	12 14 35.3	+1.6
	baz=307						
NCUH	Zhongli	1.77	298	eP	Pn	12 14 13.7	+1.4
	baz=308						
NCUH				eS	Sn	12 14 35.5	+1.8
	baz=308						
WHP	Taichung City	1.79	275	eP	Pn	12 14 14.5	+1.9
	baz=264						
WHP				eS	Sn	12 14 35.6	+1.3
	baz=264						
SSLB	Suanglung	1.82	260	eP	Pn	12 14 13.8	+0.8
	baz=257						
SSLB				eS	Sn	12 14 35.0	+0.2
	baz=257						
SMLT	Sun Moon Lake	1.85	263	⇓P	Pn	12 14 14.6	+1.2
	baz=260						
SMLT				eS	Sn	12 14 36.6	+0.9
	baz=260						
SBCB	Hsinchu	1.87	291	eP	Pn	12 14 14.8	+1.2
	baz=288						
SBCB				eS	Sn	12 14 37.7	+1.6
	baz=288						
TYC	Yuchr	1.89	264	P	Pn	12 14 15.2	+1.4
	baz=261						
TYC				eS	Sn	12 14 36.6	+0.2
	baz=261						
WHYT	Xinyi Township	1.93	257	eP	Pn	12 14 16.0	+1.5
	baz=247						
WHYT				eS	Sn	12 14 39.0	+1.5
	baz=247						
TWQ1	Liyutan	1.96	277	eP	Pn	12 14 16.6	+1.8
	baz=274						
TWQ1				eS	Sn	12 14 40.1	+1.9
	baz=274						
ELDTW	Lidau	1.97	242	P	Pn	12 14 15.1	0.0
	baz=240						
ELDTW				eS	Sn	12 14 36.9	-1.7
	baz=240						
NMLH	Miaoli	1.97	282	eP	Pn	12 14 16.6	+1.7
	baz=279						
NMLH				eS	Sn	12 14 39.8	+1.3
	baz=279						
NSY	Sanyi	1.98	279	eP	Pn	12 14 17.1	+2.0
	baz=276						
NSY				eS	Sn	12 14 40.7	+2.0
	baz=276						
WJS	Zhushan	2.02	262	eP	Pn	12 14 17.9	+2.3
	baz=259						
WJS				eS	Sn	12 14 43.0	+3.4
	baz=259						
PTSB	Yuanli	2.03	279	eP	Pn	12 14 17.3	+1.5
	baz=277						
PTSB				eS	Sn	12 14 41.7	+1.6
	baz=277						
TCU	Taichung	2.04	271	eP	Pn	12 14 18.0	+2.1
	baz=268						
TCU				eS	Sn	12 14 42.3	+2.2
	baz=268						
WNT	Mingjian	2.05	263	eP	Pn	12 14 18.5	+2.5
	baz=260						
WDJ	Dajia District	2.08	276	eP	Pn	12 14 18.1	+1.7
	baz=274						
WDJ				eS	Sn	12 14 43.2	+2.0
	baz=274						
CHN5	Tsauling	2.11	256	eP	Pn	12 14 19.1	+2.1
	baz=247						
CHN5				eS	Sn	12 14 43.5	+1.5
	baz=247						
TTN	Taitung	2.12	230	eP	Pn	12 14 17.6	+0.6
	baz=221						
TWGBT	Beinan	2.13	232	eP	Pn	12 14 16.9	-0.3
	baz=225						
TWGBT				eS	Sn	12 14 41.3	-1.1
	baz=225						
TWG	Pinlang	2.13	233	eP	Pn	12 14 17.3	+0.2
	baz=225						
TWG				eS	Sn	12 14 41.8	-0.6
	baz=225						
WCHH	Zhanghua	2.15	269	eP	Pn	12 14 18.9	+1.5
	baz=278						
WGK	Gukeng	2.19	259	eP	Pn	12 14 20.3	+2.3
	baz=256						
WGK				eS	Sn	12 14 46.3	+2.4
	baz=256						
STYT	Tauyuan	2.19	244	eP	Pn	12 14 19.4	+1.3
	baz=237						
STYT				eS	Sn	12 14 44.9	+0.8
	baz=237						
WDLH	Douliu	2.21	259	eP	Pn	12 14 20.4	+2.1
	baz=256						
TPUB	Ta-pu	2.24	249	⇓P	Pn	12 14 20.8	+2.1
	baz=255						
TPUB				eS	Sn	12 14 47.2	+2.0
	baz=255						
CHN4	Tsaushan	2.26	250	eP	Pn	12 14 21.1	+2.2
	baz=248						
CHN4				eS	Sn	12 14 48.9	+3.3
	baz=248						
WTP	Ta-pu	2.28	248	⇓P	Pn	12 14 21.3	+2.1
	baz=252						
WTP				eS	Sn	12 14 47.7	+1.6
	baz=252						
JMJ	Miyako jima 2	2.28	72	eP	Pn	12 14 20.5	+1.2
	baz=73						
JMJ				eS	Sn	12 14 45.3	-0.8
	baz=73						
RLNB	Erlin	2.34	265	eP	Pn	12 14 21.9	+1.8
	baz=262						
RLNB				eS	Sn	12 14 49.9	+2.3
	baz=262						
ECL	Taimali	2.35	230	eP	Pn	12 14 20.0	-0.3
	baz=238						
ECL				eS	Sn	12 14 46.0	-1.9
	baz=238						
CHY	Chiayi	2.36	255	eP	Pn	12 14 22.2	+2.0
	baz=252						
CHY				eS	Sn	12 14 51.0	+2.9
	baz=252						
SLGT	Liugui	2.36	242	eP	Pn	12 14 22.2	+1.8
	baz=234						
SLGT				eS	Sn	12 14 49.3	+1.2
	baz=234						
SGST	Jiashian	2.37	244	eP	Pn	12 14 22.8	+2.3
	baz=235						
CHN1	Nanshi	2.37	247	eP	Pn	12 14 22.9	+2.4
	baz=245						
CHN1				eS	Sn	12 14 51.0	+2.5
	baz=245						
TWK	Hsinying	2.38	249	eP	Pn	12 14 22.9	+2.3
	baz=247						
TWK				eS	Sn	12 14 50.8	+2.2
	baz=247						
SNST	Tainan City	2.39	248	eP	Pn	12 14 23.3	+2.6
	baz=246						
SNST				eS	Sn	12 14 51.4	+2.6
	baz=246						
WTCT	Ta-ch'eng	2.41	264	eP	Pn	12 14 22.4	+1.4
	baz=261						
WTCT				eS	Sn	12 14 52.3	+2.9
	baz=261						
LAY	Lan-yu	2.43	211	eP	Pn	12 14 20.8	-0.5
	baz=212						
LAY				eS	Sn	12 14 47.4	-2.4
	baz=212						
SSD	Sandimen	2.50	237	eP	Pn	12 14 23.3	+1.0
	baz=233						
SSD				eS	Sn	12 14 53.3	+1.7
	baz=233						
WSF	Szhu	2.50	259	eP	Pn	12 14 23.9	+1.6
	baz=257						
WSF				eS	Sn	12 14 55.0	+3.3
	baz=257						
CHN3	Shinhua	2.56	246	eP	Pn	12 14 25.9	+2.9
	baz=254						
CHN3				eS	Sn	12 14 57.4	+4.5
	baz=254						
EAST	Anshuo	2.57	228	eP	Pn	12 14 23.5	+0.3
	baz=234						
EAST				eS	Sn	12 14 51.9	-1.4
	baz=234						
MASBT	Mashibuluo	2.58	235	eP	Pn	12 14 24.4	+1.1
	baz=231						
MASBT				eS	Sn	12 14 55.9	+2.4
	baz=231						
CHN8	Yiju	2.59	253	eP	Pn	12 14 24.8	+1.3
	baz=251						
CHN8				eS	Sn	12 14 56.6	+2.9
	baz=251						
TWM1	Shoushan	2.62	241	eP	Pn	12 14 28.0	+4.0
	baz=239						
SSPT	Xinbi	2.70	233	eP	Pn	12 14 28.0	+3.0
	baz=229						
SCZT	Fangliau	2.74	231	eP	Pn	12 14 27.2	+1.8
	baz=225						
TWKBT	Hengchun	2.91	222	eP	Pn	12 14 28.4	+0.5
	baz=222						
TWKBT				eS	Sn	12 15 02.9	+1.3
	baz=222						
TWK1	Hengchun	2.91	222	eP	Pn	12 14 29.2	+1.3
	baz=222						
TWK1				eS	Sn	12 15 02.0	+0.3
	baz=222						
WDGT	Dungji	3.10	254	eP	Pn	12 14 31.9	+1.5
	baz=251						
PHUB	P'eng-hu	3.11	259	eP	Pn	12 14 31.6	+0.9
	baz=256						
PHUB				eS	Sn	12 15 06.4	-0.2
	baz=256						
PNG	Penghu	3.12	260	eP	Pn	12 14 31.6	+0.8
	baz=257						
VWUC	VWUC	3.26	286	eP	Pn	12 14 32.7	+0.1
	baz=283						
VCHM	Qimei	3.32	255	eP	Pn	12 14 34.8	+1.4
	baz=251						
MATB	Ma-tsu	3.35	307	eP	Pn	12 14 34.1	+0.2
	baz=293						
KNM	Kinmen	4.09	275	eP	Pn	12 14 46.2	+2.2
	baz=262						
KNMB	Chin-men Tao	4.13	276	eP	Pn	12 14 44.7	0.0
	baz=263						
KSRS	Korea Array	13.96	17	Pn	P	12 17 02.9	-2.8
	0.3nm,0.3s,baz=201,slow=13,SNR=6.9						
JHJ	Hachijo jima 2	17.30	55	LR	LR	12 25 13.3	
	comp=Z,104nm,20.5s,baz=82,slow=37						
WRA	Warramunga Arr	45.20	165	P	P	12 21 56.2	0.0
	0.3nm,0.9s,baz=346,slow=8.8,SNR=2.9						
YKA	Yellowknife Ar	82.40	23	P	P	12 26 00.2	-0.2
	0.3nm,0.6s,baz=314,slow=5.3,SNR=7.4						

NIED **27** *12:33:00, 41°.50N×142°.80E, h26km, Mw3.7 Best double couple: M0 4.40000×10*^{14} *NP1:ϕs67.00000°, δ18.00000°, λ63.00000°. NP2:ϕs275.00000°, δ74.00000°, λ99.00000°.*
JMA **27** *12:33:18.9±0.1, 41°.54N×142°.82E, h32km±2km, M3.7*
ISCJB **27** *12:33:19.6±0.6, 41°.56N±0°.04×142°.81E±0°.06, h45km±5km, mb3.7/14, MS3.5/2, Error ellipse: s-maj=9.0km s-min=4.2km az=44.6*
IDC **27** *12:33:23.5±1.9, 41°.55N×142°.69E, h67km±16km, mb3.4/14, mb1 3.6/17, mb1mx3.5/38, mbtmp3.7/17, MS2.9/6, Ms1 2.9/6, ms1mx2.7/32, Error ellipse: s-maj=18.8km s-min=11.7km az=114.0*
ISC 27 12:33:19.6±1.3**, 41°.62N**±0°.05×**142°.77E**±0°.04**, h29**km±9km**, n41,** σ1^s**17**/42**, mb3.8**/14**, 1C-4D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	Erimo	0.49	37	⇑P	Pb	12 33 29.7	-0.1
JEM				eS	Sn	12 33 37.3	-0.9
JNBK	Urakawa-nobuka	0.66	359	⇓P	Pn	12 33 32.8	-0.1
JNBK				eS	Sn	12 33 43.3	+1.0
JTHR	Tokachihiroo	0.78	31	⇓P	Pn	12 33 34.4	-0.2
JTHR				eS	Sn	12 33 45.5	+0.2
JSHD	Hidakashinhida	0.82	344	P	Pn	12 33 36.0	+0.9
JCH	Churui	1.09	24	⇓P	Pb	12 33 39.3	-0.5
JBT2	Biratori 2	1.19	346	P	Pb	12 33 41.5	-0.1
JARK	Aomorirokkasho	1.22	240	P	Pn	12 33 40.2	-0.4
JARK				eS	Sn	12 33 56.4	+0.3
JOT	Ohata	1.31	260	P	Pn	12 33 42.0	+0.1
JOT				eS	Sn	12 33 59.0	+0.6
JKB	Kayabe	1.32	282	P	Pn	12 33 42.2	+0.2
JKB				eS	Sb	12 33 59.4	-0.9
JOB	Onbets	1.51	31	⇓P	Pb	12 33 46.1	-0.8
JOB				eS	Sb	12 34 06.5	+0.9
JTM	Tenmabayashi	1.53	237	P	Pn	12 33 45.1	+0.2
JNB	Noboribetsu	1.54	304	P	Pn	12 33 45.5	+0.5
JNB				eS	Sb	12 34 05.5	-1.0
JFR	Furan	1.55	355	P	Pb	12 33 46.7	-0.9
JEW	Eniwo	1.56	322	P	Pb	12 33 47.1	-0.7
JANG	Nango	1.57	218	P	Pn	12 33 44.7	-0.7
JANG				eS	Sn	12 34 04.3	-0.4
ASAJ	Asahikawa	2.50	357	P	Pb	12 34 01.6	-2.1
	21nm,0.3s,baz=216,slow=8.9,SNR=124						
ASAJ				S	Sb	12 34 33.6	-0.4
	9.8nm,0.3s,baz=223,slow=33,SNR=7.1						
ASAJ				LR	LR	12 34 58.9	
	comp=Z,60nm,19.7s,baz=154,slow=37						
MJAR	Matsushiro Arr	6.19	216	P	Pn	12 34 51.1	+2.1
	0.2nm,0.3s,baz=34,slow=12,SNR=13						
MJAR				LR	LR	12 37 37.3	
	comp=Z,68nm,19.9s,baz=30,slow=42						
KLR	Kul'dur	10.85	318	LR	LR	12 40 01.6	
	comp=Z,49nm,21.2s,baz=48,slow=37						
KSRS	Korea Array	12.19	255	P	Pn	12 36 15.3	+4.1
	0.2nm,0.3s,baz=60,slow=13,SNR=3.4						
JNU	Nakatsue	12.69	232	LR	LR	12 41 02.8	
	comp=Z,42nm,18.5s,baz=17,slow=36						
SONM	Songino Array	26.40	296	P	P	12 38 54.1	+0.6
	0.5nm,0.5s,baz=80,slow=7.7,SNR=4.3						
H11N2	WAKE ISLAND Hy	29.93	129	T	T	13 10 53.1	
	baz=323,slow=75,SNR=21						
H11N1	WAKE ISLAND Hy	29.94	130	T	T	13 10 56.4	
	baz=323,slow=75,SNR=24						
H11N3	WAKE ISLAND Hy	29.95	129	T	T	13 11 01.9	
	baz=323,slow=75,SNR=17						
H11S1	WAKE ISLAND Hy	30.79	131	T	T	13 11 57.1	
	baz=324,slow=76,SNR=28						
H11S3	WAKE ISLAND Hy	30.79	131	T	T	13 11 54.1	
	baz=324,slow=76,SNR=21						
H11S2	WAKE ISLAND Hy	30.80	131	T	T	13 11 58.4	
	baz=324,slow=76,SNR=28						
ZALV	Zalesovo Beam	39.74	308	P	P	12 40 49.4	+0.1
	1.0nm,0.6s,baz=94,slow=7.7,SNR=5.8						
MKAR	Makanchi Array	42.72	298	P	P	12 41 14.3	+0.4
	0.5nm,0.6s,baz=82,slow=9.9,SNR=5.6						
ILAR	Eielson Array	45.09	35	P	P	12 41 33.5	+0.9
	1.3nm,0.8s,baz=258,slow=5.6,SNR=18						
BVAR	Borovoye Array	48.36	310	P	P	12 41 58.9	+0.5
	0.6nm,0.4s,baz=74,slow=9.2,SNR=6.3						
INK	Inuvik	49.85	29	P	P	12 42 08.2	-1.3
	0.5nm,0.4s,baz=293,slow=6.7,SNR=6.3						
HNR	Honiara	53.20	159	LR	LR	13 00 35.6	
	comp=Z,37nm,21.1s,baz=100,slow=31						
YKA	Yellowknife Ar	59.34	32	P	P	12 43 18.7	+0.3
	0.3nm,0.6s,baz=305,slow=6.1,SNR=9.6						
WRA	Warramunga Arr	61.75	189	P	P	12 43 34.3	-1.0
	1.0nm,0.7s,baz=5.8,slow=6.9,SNR=15						
FINES	FINESS Array B	65.26	332	P	P	12 43 57.1	-0.9
	0.6nm,0.5s,baz=46,slow=5.5,SNR=4.6						
FINES				LR	LR	13 17 09.2	
	comp=Z,32nm,20.9s,baz=210,slow=40						
ASAR	Alice Springs	65.47	189	P	P	12 43 57.9	-2.0
	0.6nm,0.7s,baz=15,slow=6.0,SNR=5.9						
AKASG	Malin Array Be	71.32	322	P	P	12 44 34.0	-2.2
	0.3nm,0.3s,baz=40,slow=6.2,SNR=4.4						
NVAR	Mina Array Bea	71.45	55	P	P	12 44 38.8	+1.3
	0.3nm,0.6s,baz=268,slow=5.9,SNR=3.7						
PDAR	Pinedale Array	73.74	47	P	P	12 44 51.7	+0.7
	0.3nm,0.6s,baz=266,slow=2.4,SNR=2.8						
TXAR	Lajitas Array	86.52	53	P	P	12 46 00.8	+0.8
	0.4nm,0.8s,baz=300,slow=1.3,SNR=4.3						

NNC **27** *12:46:06.5±4.2, 42°.05N×83°.26E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=31.3km s-min=15.4km az=147.0*
SOME **27** *12:46:25.8, 43°.18N×76°.88E, h10km*
ISC 27 12:46:16.8±4.4**, 42°.4N**±0°.2×**82°.8E**±0°.2**, h10**km**, n6,** σ1^s**98**/8**, 1C-3D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	2.55	288	eP	Pg	12 47 06.0	+0.2
	11nm,0.4s						
SHLS				eS	Sb	12 47 34.7	+0.5
	12nm,0.4s						
PDGK	Podgornoye	2.59	292	⇓Pg	Pb	12 47 02.1	-1.3
	1.7nm,0.4s						
PDGK				⇑Lg	Lg	12 47 43.8	
	13nm,0.6s						
DJR	Jarkent	2.91	313	eP	Pg	12 47 09.6	-3.0
	0.6nm,0.2s						
DJR				eS	Sn	12 47 41.1	+2.8
	1.6nm,0.5s						
KAPS	Kapalarasan	3.80	321	eP	Pn	12 47 16.4	+0.9
	2.2nm,0.5s						
KAPS				eS	Sn	12 47 52.8	-7.4
	2.8nm,0.6s						
MK31	Makanchi Array	4.41	356	Pg	Pb	12 47 34.2	-0.2
	1.6nm,0.5s,baz=168,slow=15,SNR=31						
MK31				Lg	Lg	12 48 37.8	
	3.1nm,0.7s,baz=162,slow=29,SNR=5.7						
MAKZ	Makanchi	4.45	353	⇓Pg	Pb	12 47 35.0	0.0
	1.1nm,0.7s						
MAKZ				⇓Lg	Lg	12 48 40.0	
	1.4nm,0.6s						

KRNET **27** *12:49:42.6±0.1, 40°.94N×68°.86E, mb3.0*
SOME **27** *12:49:47.4, 41°.27N×69°.68E, h5km*
NNC **27** *12:49:49.8±3.5, 41°.00N×69°.99E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=31.4km s-min=16.8km az=4.0*
ISC 27 12:49:44.6±2.4**, 40°.87N**±0°.07×**69°.2E**±0°.1**, h10**km**, n18,** σ2^s**00**/27**, 8C-4D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	Batken	1.47	123	⇑eP	Pn	12 50 11.6	+0.3
	baz=20						
BTK				⇑iS	Sn	12 50 32.5	+1.8
	baz=20						
ARK	Arkit	2.28	65	⇓iP	Pn	12 50 21.8	-0.6
	baz=69						
ARK				⇓iS	Sn	12 50 50.9	+0.3
	baz=69						
KK31	Karatay Array	2.44	23	Pn	Pb	12 50 26.8	-1.8
	5.2nm,0.4s,baz=203,slow=14,SNR=50						
KK31				⇑Sn	Sb	12 50 57.3	-1.4
	30nm,0.6s,baz=201,slow=25,SNR=5.9						
ARSB	Arslanbob	2.89	80	⇑iP	Pn	12 50 31.4	+0.5
	baz=82						
ARSB				⇑iS	Sn	12 51 06.5	+0.7
	baz=82						
MRKS	Merke	3.54	57	Pg	Pn	12 50 44.3	+4.5
	8.9nm,0.5s						
MRKS				Lg	Lg	12 51 25.1	
	9.9nm,0.6s						
MRKS	Merke	3.54	57	eP	Pn	12 50 44.3	+4.5
	8.9nm,0.5s						
MRKS				eS	Sn	12 51 24.5	+2.7
	9.9nm,0.6s						
ARLS	Aral	3.98	74	⇑iP	Pn	12 50 45.5	-0.3
	baz=75						
ARLS				⇑iS	Sn	12 51 32.4	-0.2
	baz=75						
AAK	Ala-Archa	4.33	64	Pg	Pb	12 50 59.1	-1.9
	3.0nm,0.5s						
AAK				⇓Lg	Lg	12 51 52.9	
	4.5nm,0.5s						
TKM2	Tokmak 2	5.19	65	⇑Pg	Pb	12 51 13.2	-2.4
	1.6nm,0.6s						
TKM2				⇓Lg	Lg	12 52 18.1	
	5.1nm,0.6s						
DGS	Degeres	5.43	62	Pg	Pb	12 51 18.6	-1.1
	5.2nm,0.6s						
DGS				Lg	Lg	12 52 22.9	
	4.0nm,0.8s						
DGS	Degeres	5.43	62	eP	Pb	12 51 18.6	-1.1
	3.6nm,0.6s						
DGS				eS	Sb	12 52 22.9	-2.1
	8.2nm,0.7s						
BTLS	Baital	5.48	39	Pg	Pb	12 51 18.9	-1.5
	1.8nm,0.6s						
BTLS				Lg	Lg	12 52 23.3	
	1.2nm,0.6s						
BTLS	Baital	5.48	39	eP	Pb	12 51 18.9	-1.5
	2.2nm,0.5s						
BTLS				eS	Sb	12 52 23.3	-2.8
	0.3nm,0.1s						
KST	Kastek	5.49	64	Pg	Pb	12 51 19.5	-1.1
	3.5nm,0.6s						
KST				Lg	Lg	12 52 25.1	
	3.6nm,0.7s						
KST	Kastek	5.49	64	eP	Pb	12 51 19.5	-1.1
	0.2nm,0.1s						
KST				eS	Sb	12 52 25.1	-1.4
	3.1nm,0.5s						
KUU	Kurty	6.09	58	Pg	Pb	12 51 31.7	+0.9
	2.5nm,0.5s						
KUU				Lg	Lg	12 52 45.7	
	2.2nm,0.6s						
KUU	Kurty	6.09	58	eP	Pb	12 51 31.7	+0.9
	1.7nm,0.5s						
KUU				eS	Sb	12 52 45.7	+2.1
	0.7nm,0.2s						
TNSS	Tian-Shan	6.17	67	Pg	Pb	12 51 28.6	-3.8
	1.1nm,0.8s						
TNSS				Lg	Lg	12 52 40.2	
	1.2nm,0.6s						

IDC 27 12:53:40.3±3.5**, 5°.37S**×**151°.32E, h0**km**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/29**, mbtmp3.5**/3**, Error ellipse: s-maj=130.0km s-min=48.3km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	21.97	227	P	P	12 58 36.4	+0.4
	0.3nm,0.4s,baz=53,slow=10,SNR=6.0						
ASAR	Alice Springs	24.75	221	P	P	12 59 02.7	-1.1
	0.4nm,0.6s,baz=44,slow=9.8,SNR=4.8						
FITZ	Fitzroy Crossi	28.09	241	P	P	12 59 34.8	+0.7
	2.3nm,0.9s,baz=46,slow=8.8,SNR=3.1						
TORD	Torodi Ar. Bea	149.07	287	PKPbc	PKPbc	13 13 31.1	-0.6
	0.2nm,0.3s,baz=91,slow=2.4,SNR=3.5						

ISCJB **27** *12:57:55.5±1.1, 35°.27N±0°.05×23°.33E±0°.05, h8km±6km, mb3.6/11, MS2.9/2, Error ellipse: s-maj=9.1km s-min=4.3km az=37.4*
IDC **27** *12:57:55.3±1.0, 35°.33N×23°.43E, h0km, mb3.8/11, mb1 3.9/15, mb1mx3.7/55, mbtmp3.7/15, ML3.8/4, MS3.0/3, Ms1 3.0/3, ms1mx2.5/37, Error ellipse: s-maj=21.5km s-min=14.3km az=12.0*
ATH **27** *12:57:56.6, 35°.31N×23°.36E, h8km±2km, ML3.8/5, Error ellipse: s-maj=3.8km s-min=1.2km az=46.0*
THE **27** *12:57:57.1, 35°.36N×23°.41E, h1km±1km, ML3.7/5, Error ellipse: s-maj=1.9km s-min=0.5km az=224.0*
ISC 27 12:57:57.3±1.0**, 35°.34N**±0°.04×**23°.42E**±0°.04**, h14**km±6km**, n50,** σ0^s**89**/61**, mb3.9**/11**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERA	Keramoti	0.12	73	P	Pg	12 58 00.4	-0.2
KERA				S	Sg	12 58 03.3	+0.4
KERA				AML	AML	12 58 03.5	
KERA				AML	AML	12 58 04.0	
IMMV	Iera Moni Meta	0.47	75	P	Pg	12 58 06.5	-0.2
IMMV				S	Sb	12 58 13.8	-0.4
IMMV	Iera Moni Meta	0.47	75	P	Pg	12 58 06.4	-0.2
IMMV				S	Sb	12 58 14.0	-0.3
IMMV				AML	AML	12 58 15.2	
	comp=N,21001μm,0.3s						
IMMV				AML	AML	12 58 16.2	
	comp=E,21766μm,0.2s						
CHAN	Chania	0.54	70	P	Pb	12 58 07.7	-0.8
CHAN				S	Sg	12 58 15.8	+0.7
ANKY	Antikythira Is	0.54	349	P	Pb	12 58 07.4	-1.1
ANKY				S	Sb	12 58 15.0	-1.1
ANKY	Antikythira Is	0.54	349	P	Pb	12 58 07.4	-1.1
ANKY				S	Sb	12 58 15.2	-0.9
ANKY				AML	AML	12 58 17.3	
	comp=E,10612μm,0.6s						
ANKY				AML	AML	12 58 18.1	
	comp=N,13374μm,0.4s						
VAM	Vamos	0.64	83	P	Pb	12 58 09.3	-0.9
VAM				S	Sg	12 58 19.1	+0.8
VAM	Vamos	0.64	83	P	Pb	12 58 09.3	-0.9
VAM				S	Sg	12 58 19.9	+1.6
VAM				AML	AML	12 58 25.4	
	comp=N,17326μm,0.3s						
VAM				AML	AML	12 58 28.6	
	comp=E,17907μm,0.5s						
GVD	Gavdhos	0.74	132	P	Pb	12 58 11.4	-0.5
GVD				S	Sn	12 58 23.0	-1.2
GVD	Gavdhos	0.74	132	P	Pb	12 58 11.3	-0.5
GVD				S	Sn	12 58 22.8	-1.5

GVD				AML	AML	12 58 27.0
	comp=N,38875μm,0.4s					
GVD				AML	AML	12 58 27.3
	comp=E,36132μm,0.4s					
KYTH	**Kithira**	**0.98**	**342**	P	**Pb**	**12 58 15.1 -0.9**
KYTH				S	**Sg**	**12 58 28.9 -0.1**
KYTH	**Kithira**	**0.98**	**342**	P	**Pb**	**12 58 15.1 -0.9**
SIVA	**Sivas**	**1.18**	**105**	P	**Pn**	**12 58 18.9 -0.4**
SIVA	**Sivas**	**1.18**	**105**	P	**Pb**	**12 58 19.5 0.0**
IDI	**Anoyia**	**1.20**	**92**	Pn	**Pn**	**12 58 19.1 -0.6**
	comp=E,24nm,0.3s,baz=257,slow=10,SNR=97					
IDI				Sn	**Sg**	**12 58 37.9 +1.8**
	comp=E,111nm,0.3s,baz=306,slow=17,SNR=12					
IDI				LR	LR	12 59 02.5
	comp=E,536nm,18.2s,baz=300,slow=56					
MNVA	**Monemvasia**	**1.38**	**347**	P	**Pb**	**12 58 22.7 -0.2**
VLI	**Veliai**	**1.43**	**344**	P	**Pb**	**12 58 23.2 -0.6**
VLI	**Veliai**	**1.43**	**344**	P	**Pb**	**12 58 23.8 +0.1**
MHLO	**Agia Marina, M**	**1.57**	**30**	P	**Pn**	**12 58 23.8 -0.9**
MHLA	**Plaka, Milos I**	**1.62**	**30**	P	**Pg**	**12 58 29.0 +0.5**
LAST	**Lasithi**	**1.69**	**95**	P	**Pb**	**12 58 27.2 -1.0**
LAST	**Lasithi**	**1.69**	**95**	P	**Pg**	**12 58 28.9 +0.7**
NPS	**Neapolis**	**1.79**	**92**	P	**Pg**	**12 58 31.1 -0.6**
THR6	**Thira Island,**	**1.90**	**57**	P	**Pn**	**12 58 30.1 +0.9**
THR3	**Thira Island,**	**1.93**	**56**	P	**Pb**	**12 58 31.3 -0.9**
KRND	**KRANIDI**	**2.05**	**354**	P	**Pn**	**12 58 31.9 +0.5**
KRND	**KRANIDI**	**2.05**	**354**	P	**Pb**	**12 58 34.0 -0.4**
DID	**Didima**	**2.17**	**356**	P	**Pn**	**12 58 33.8 +0.8**
APE	**Apeiranthos**	**2.43**	**44**	P	**Pn**	**12 58 37.3 +0.7**
VLY	**Voula,Athens**	**2.53**	**7**	P	**Pn**	**12 58 38.3 +0.4**
LTK	**Loutraki**	**2.71**	**352**	P	**Pn**	**12 58 41.4 +1.0**
BRTR	**Keskin Array B**	**9.22**	**59**	Pn	Pn	13 00 14.5 +4.6
	comp=E,0.1nm,0.3s,baz=239,slow=9.6,SNR=12					
EIL	**Elat**	**11.25**	**117**	Pn	**Pn**	**13 00 38.0 +0.4**
	comp=E,1.0nm,0.3s,baz=274,slow=6.0,SNR=4.9					
GERES	**GERESS Array B**	**15.29**	**335**	Pn	**Pn**	**13 01 33.2 +0.6**
	comp=E,0.2nm,0.3s,baz=154,slow=14,SNR=2.4					
GERES				LR	LR	13 08 20.3
	comp=E,58nm,19.7s,baz=138,slow=41					
DAVOX	**Davos/Dischmat**	**15.30**	**322**	Pn	**P**	**13 01 36.4 -1.3**
	comp=E,0.2nm,0.3s,baz=307,slow=20,SNR=2.3					
AKASG	**Malin Array Be**	**15.92**	**14**	Pn	**Pn**	**13 01 39.1 -1.6**
	comp=E,0.4nm,0.3s,baz=206,slow=12,SNR=2.8					
KBZ	**Khabaz**	**17.18**	**55**	P	**Pn**	**13 01 55.0 -1.7**
	comp=E,0.1nm,0.3s,baz=200,slow=12,SNR=2.2					
CLL	**Collm**	**17.64**	**338**	*e*P	**P**	**13 02 05.0 +1.6**
CLL				LmV		13 09 00.0
	comp=Z,100nm,19.3s					
ESDC	**Sonseca Array**	**22.11**	**289**	P	**P**	**13 02 52.2 -0.1**
	comp=Z,0.5nm,0.4s,baz=81,slow=10,SNR=4.7					
HFS	**Hagfors**	**25.60**	**349**	P	**P**	**13 03 26.5 +0.7**
	comp=Z,2.1nm,0.5s,baz=152,slow=13,SNR=6.2					
NB2	**NORSAR Subarra**	**26.89**	**347**	P	**P**	**13 03 38.2 +0.8**
	comp=Z,0.3nm,0.5s,baz=156,slow=9.3					
NOA	**NORSAR Array B**	**26.89**	**347**	P	**P**	**13 03 37.1 -0.3**
	comp=Z,0.4nm,0.7s,baz=155,slow=9.2,SNR=2.8					
NOA				LR	LR	13 16 09.7
	comp=Z,33nm,18.6s,baz=160,slow=41					
EKA	**Eskdalemuir Ar**	**27.09**	**326**	P	**P**	**13 03 39.6 +0.4**
	comp=Z,3.1nm,0.8s,baz=111,slow=10,SNR=4.0					
TORD	**Torodi Ar. Bea**	**29.54**	**227**	P	**P**	**13 04 01.3 -0.2**
	comp=Z,1.1nm,0.6s,baz=36,slow=8.3,SNR=12					
TORD				LR	LR	13 15 15.4
	comp=Z,24nm,20.7s,baz=350,slow=35					
ARCES	**ARCESS Array B**	**34.27**	**1**	P	**P**	**13 04 42.3 -0.2**
	comp=Z,1.2nm,0.5s,baz=182,slow=9.5,SNR=8.8					
MKAR	**Makanchi Array**	**44.86**	**56**	P	**P**	**13 06 11.1 0.0**
	comp=Z,1.2nm,0.6s,baz=279,slow=6.3,SNR=13					
ZALV	**Zalesovo Beam**	**45.91**	**46**	P	**P**	**13 06 18.4 -0.8**
	comp=Z,1.1nm,0.6s,baz=268,slow=10,SNR=5.1					
SONM	**Songino Array**	**60.47**	**50**	P	**P**	**13 08 08.0 +1.3**
	comp=Z,0.2nm,0.3s,baz=284,slow=7.3,SNR=3.0					
YKA	**Yellowknife Ar**	**76.84**	**341**	P	**P**	**13 09 48.9 +0.6**
	comp=Z,0.3nm,0.5s,baz=33,slow=5.6,SNR=6.9					
ILAR	**Eielson Array**	**79.93**	**356**	P	**P**	**13 10 06.9 +1.5**
	comp=Z,0.2nm,0.7s,baz=356,slow=2.7,SNR=4.1					

IDC 27 13:02:12.6±8.8, 6°.68S×128°.84E, h192km±93km, mb3.1/1, mb1 3.1/5, mb1mx2.9/37, mbtmp3.6/5, Error ellipse: s-maj=85.8km s-min=25.1km az=42.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.20**	**235**	P	Pn	13 03 43.4	+1.0
	3.1nm,0.3s,baz=127,slow=20,SNR=3.5						
BATI				S	Sn	13 04 53.4	-0.1
	4.1nm,0.3s,baz=209,slow=23,SNR=9.7						
FITZ	**Fitzroy Crossi**	**11.77**	**195**	P	Pn	13 04 54.6	-0.2
	0.3nm,0.3s,baz=26,slow=8.6,SNR=14						
FITZ				S	Sn	13 06 57.0	-8.8
	0.2nm,0.3s,baz=248,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**14.22**	**158**	P	Pn	13 05 24.0	-1.6
	0.2nm,0.3s,baz=328,slow=13,SNR=19						
WRA				S	Sn	13 07 57.0	-7.5
	0.3nm,0.3s,baz=334,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**17.57**	**164**	P	Pn	13 06 05.5	-0.7
	0.3nm,0.3s,baz=338,slow=9.6,SNR=26						
MKAR	**Makanchi Array**	**67.33**	**327**	P	P	13 12 46.8	-0.1
	0.3nm,0.4s,baz=130,slow=6.2,SNR=4.9						

*ISCJB **27** 13:23:41.6±0.7, 16°.78S±0°.05×69°.57W±0°.07, h185km±6km, mb3.2/4, Error ellipse: s-maj=11.4km s-min=7.6km az=16.6*
*GUC **27** 13:23:43.2±0.8, 16°.75S×69°.52W, h165km±8km, ML3.7*
*IDC **27** 13:23:43.2±1.0, 16°.85S×69°.29W, h186km±7km, mb3.1/5, mb1 3.4/7, mb1mx3.3/25, mbtmp3.8/7, MS3.5/2, Ms1 3.5/2, ms1mx2.7/11, Error ellipse: s-maj=22.5km s-min=12.3km az=100.0*

ISC 27 13:23:42.3±0.9, 16°.80S±0°.06×69°.51W±0°.08, h179km±7km, n27, σ1°27/37, mb3.1/4, 7D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.42**	**69**	*i*P	**Pn**	**13 24 14.9**	**+0.8**
LPAZ				*e*S	**Sn**	**13 24 38.2**	**-0.6**
LPAZ	**La Paz**	**1.42**	**69**	P	**Pn**	**13 24 15.0**	**+0.8**
	16nm,0.3s,baz=323,slow=5.9,SNR=382						
LPAZ				S	**Sn**	**13 24 38.1**	**-0.6**
	12nm,0.3s,baz=136,slow=24,SNR=52						
PB12	**IPOC Station P**	**1.96**	**203**	*e*P	**Pn**	**13 24 18.9**	**-0.1**
PB12				*e*S	**Sn**	**13 24 46.2**	**-1.4**
PB12				IAML		13 24 50.1	
	comp=N,268nm,0.4s						
MNMC	**Minye Minye**	**2.32**	**182**	*e*P	**Pn**	**13 24 24.2**	**+1.0**
MNMC				*e*S	**Sn**	**13 24 55.6**	**+0.6**
MNMC				IAML		13 24 59.8	
	comp=E,287nm,0.7s						
PSGC	**Pisagua**	**2.84**	**192**	*e*P	**Pn**	**13 24 28.9**	**-0.2**
PSGC				IAML		13 25 08.2	
	comp=E,89nm,0.5s						
GO01	**Chusmiza**	**2.87**	**174**	↓*e*P	**Pn**	**13 24 31.2**	**+1.4**
GO01				*e*S	**Sn**	**13 25 08.1**	**+1.2**
GO01				IAML		13 25 13.4	
	comp=N,169nm,0.1s						
PB11	**IPOC Station P**	**2.94**	**183**	↓*i*P	**Pn**	**13 24 30.8**	**+0.3**
PB11				*e*S	**Sn**	**13 25 07.5**	**-0.5**
PB11				IAML		13 25 09.5	
	comp=E,234nm,0.2s						
PB08	**IPOC Station P**	**3.34**	**174**	*e*P	**Pn**	**13 24 37.0**	**+1.5**
PB08				*e*S	**Sn**	**13 25 17.8**	**+0.7**
PB08	**IPOC Station P**	**3.34**	**174**	*e*P	**Pn**	**13 24 36.6**	**+1.1**
PB08				*e*S	**Sn**	**13 25 17.3**	**+0.3**
PB01	**IPOC Station P**	**4.22**	**180**	*e*P	**Pn**	**13 24 46.2**	**-0.1**
PB01				*e*S	**Sn**	**13 25 33.3**	**-3.1**
PB02	**IPOC Station P**	**4.51**	**185**	*e*P	**Pn**	**13 24 51.0**	**+0.9**
PB07	**IPOC Station P**	**4.91**	**184**	*e*P	**Pn**	**13 24 54.8**	**-0.5**
PB03	**IPOC Station P**	**5.22**	**182**	↓*e*P	**Pn**	**13 24 59.1**	**-0.3**
PB04	**IPOC Station P**	**5.54**	**186**	↓*e*P	**Pn**	**13 25 02.5**	**-0.9**
LVC	**Limon Verde**	**5.80**	**174**	P	**Pn**	**13 25 07.7**	**+0.6**
	comp=E,7.1nm,0.3s,baz=40,slow=12,SNR=48						
LVC				S	**Sn**	**13 26 11.1**	**-2.7**
	comp=E,12nm,0.3s,baz=261,slow=18,SNR=17						
PB06	**IPOC Station P**	**5.87**	**181**	*e*P	**Pn**	**13 25 07.4**	**-0.4**
PB05	**IPOC Station P**	**6.05**	**186**	↓*e*P	**Pn**	**13 25 08.9**	**-1.2**
YJA	**Yavi**	**6.54**	**145**	↓*e*P	**Pn**	**13 25 18.0**	**+1.1**
YJA				*e*S	**Sn**	**13 26 33.1**	**+1.8**
YJA				IAML		13 26 40.9	
	comp=Z,3.1nm,0.5s						
HJA	**Humahuaca**	**7.45**	**149**	*e*P	**Pn**	**13 25 29.4**	**+0.7**
HJA				IAML		13 25 31.7	
	comp=Z,24nm,0.6s						
HJA				*e*S	**Sn**	**13 26 52.4**	**-0.5**

SIV	**San Ignacio**	**8.14**	**86**	P	**Pn**	**13 25 34.9 -2.7**
	comp=Z,4.5nm,0.3s,baz=278,slow=11,SNR=45					
BDFB	**Brasilia**	**20.68**	**90**	P	**P**	**13 28 07.5 -1.1**
	comp=Z,1.9nm,0.4s,baz=227,slow=9.2,SNR=3.6					
ROSC	**El Rosal**	**22.02**	**347**	LR	LR	13 37 06.2
	comp=Z,119nm,20.2s,baz=45,slow=36					
PLCA	**Paso Flores**	**23.86**	**182**	P	**P**	**13 28 40.9 +1.5**
	comp=Z,3.2nm,0.7s,baz=19,slow=11,SNR=12					
MDP	**Montagnes des**	**27.42**	**39**	LR	LR	13 41 33.8
	comp=Z,74nm,18.0s,baz=170,slow=39					
TXAR	**Lajitas Array**	**56.49**	**324**	P	**P**	**13 33 06.8 +0.8**
	comp=Z,0.1nm,0.5s,baz=128,slow=5.8,SNR=2.7					
TORD	**Torodi Ar. Bea**	**76.37**	**72**	P	**P**	**13 35 11.1 -1.3**
	comp=Z,0.4nm,0.6s,baz=232,slow=5.7,SNR=3.4					
YKA	**Yellowknife Ar**	**86.59**	**341**	P	**P**	**13 36 05.6 +0.7**
	comp=Z,0.1nm,0.5s,baz=135,slow=5.1,SNR=5.2					

ISC 27 13:32:44.3±1.1, 48°.40N±0°.04×17°.23E±0°.04, h7km±7km, n7, σ0°59/13, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MODS	**Modra-Piesok**	**0.04**	**122**	*e*PG	**Pg**	**13 32 45.3**	**-0.4**
MODS				*e*SG	**Sg**	**13 32 46.9**	**+0.2**
MODS				eLG	Lg	13 32 48.0	
SMOL	**Smolenice**	**0.18**	**48**	*e*PG	**Pg**	**13 32 47.9**	**0.0**
SMOL				*e*SG	**Sg**	**13 32 51.4**	**+1.1**
ZST	**Bratislava**	**0.22**	**203**	*e*PG	**Pg**	**13 32 48.3**	**-0.2**
ZST				*e*SG	**Sg**	**13 32 52.4**	**+1.0**
JAVC	**Velka Javorina**	**0.55**	**32**	*e*PG	**Pb**	**13 32 55.8**	**-0.5**
JAVC				*e*SG	**Sb**	**13 33 04.8**	**+0.4**
KRUC	**Moravsky**	**0.87**	**321**	*e*PG	**Pb**	**13 33 01.4**	**-0.2**
VRAC	**Vranov**	**1.01**	**336**	*e*PG	**Pg**	**13 33 03.7**	**+0.1**
VRAC				*e*SG	**Sg**	**13 33 16.2**	**-0.4**
VYHS	**Vyhne**	**1.07**	**84**	*e*PG	**Pg**	**13 33 04.6**	**-0.3**
VYHS				*e*SG	**Sn**	**13 33 21.0**	**0.0**

*IDC **27** 13:59:34.0±3.8, 15°.26N×98°.21W, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/41, mbtmp3.6/8, ML3.6/2, MS3.7/2, Ms1 3.6/2, ms1mx2.7/32, Error ellipse: s-maj=66.1km s-min=21.2km az=171.0*
*ISCJB **27** 13:59:39.7±2.2, 16°.0N±0°.1×98°.38W±0°.06, h23km±11km, mb3.5/5, MS4.5/1, Error ellipse: s-maj=20.2km s-min=7.7km az=13.4*
*MEX **27** 13:59:40.9±0.6, 15°.97N×98°.41W, h4km±3km, MD4.2*
*NEIC **27** 13:59:41.1±0.0, 15°.99N×98°.41W, h3km, MD4.2(MEX), After MEX.*

ISC 27 13:59:40.6±2.4, 16°.0N±0°.1×98°.44W±0°.05, h11km±11km, n17, σ1°84/25, mb3.6/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.48**	**38**	*i*P	**Pg**	**13 59 49.9**	**0.0**
PNIG				*e*S	**Sg**	**13 59 57.0**	**+0.6**
PNIG	**Pinotepa**	**0.48**	**38**	*i*P	**Pg**	**13 59 50.0**	**0.0**
PNIG				*i*S	**Sb**	**13 59 57.6**	**-0.6**
CAIG	**El Cayaco**	**2.04**	**301**	*e*P	**Pn**	**14 00 12.8**	**-2.0**
CAIG				*e*S	**Sb**	**14 00 40.6**	**-2.3**
CAIG	**El Cayaco**	**2.04**	**301**	*e*P	**Pn**	**14 00 12.8**	**-2.0**
CAIG				*i*S	**Sn**	**14 00 38.8**	**-1.4**
MEIG	**Mezcala**	**2.21**	**329**	*e*P	**Pn**	**14 00 16.3**	**-1.1**
MEIG				*e*S	**Sn**	**14 00 43.3**	**-1.4**
MEIG	**Mezcala**	**2.21**	**329**	*e*P	**Pn**	**14 00 16.3**	**-1.1**
MEIG				*e*S	**Sn**	**14 00 43.3**	**-1.4**
ARIG	**Puente Sto Nin**	**2.90**	**321**	*e*P	**Pn**	**14 00 28.4**	**+1.6**
ARIG				*e*S	**Sb**	**14 01 04.5**	**-3.4**
ARIG	**Puente Sto Nin**	**2.90**	**321**	*i*P	**Pn**	**14 00 25.2**	**-1.5**
ARIG				*i*S	**Sn**	**14 01 01.2**	**-0.5**
CMIG	**Matias Romero**	**3.57**	**72**	Pn	**Pn**	**14 00 33.5**	**-2.5**
	3.7nm,0.3s,baz=246,slow=13,SNR=55						
CMIG				Sn	**Sn**	**14 01 15.7**	**-2.5**
	7.1nm,0.3s,baz=238,slow=21,SNR=5.8						
CMIG				Lg	Lg	14 01 31.3	
	20nm,0.3s,baz=75,slow=5.9,SNR=5.9						
TXAR	**Lajitas Array**	**14.10**	**341**	Pn	**P**	**14 03 09.4**	**+1.2**
	0.1nm,0.3s,baz=165,slow=14,SNR=4.9						
TXAR				LR	LR	14 08 40.9	
	comp=Z,56nm,20.2s,baz=0.0,slow=37						
ANMO	**Albuquerque**	**20.18**	**341**	P	**Pn**	**14 04 17.4**	**+0.1**
	1.9nm,0.7s,baz=151,slow=12,SNR=4.5						
PDAR	**Pinedale Array**	**28.31**	**343**	P	**P**	**14 05 37.8**	**+3.3**
	0.2nm,0.4s,baz=162,slow=12,SNR=3.2						
NVAR	**Mina Array Bea**	**28.35**	**326**	P	**P**	**14 05 37.6**	**+2.6**
	0.8nm,0.8s,baz=145,slow=9.7,SNR=3.8						
YKA	**Yellowknife Ar**	**47.80**	**350**	P	**P**	**14 08 17.7**	**-0.1**
	0.6nm,0.8s,baz=158,slow=7.4,SNR=7.8						
INK	**Inuvik**	**56.83**	**345**	P	**P**	**14 09 25.0**	**+0.2**
	1.1nm,0.7s,baz=120,slow=7.6,SNR=7.0						
ILAR	**Eielson Array**	**58.59**	**338**	P	**P**	**14 09 38.1**	**+0.9**
	0.4nm,0.8s,baz=139,slow=3.9,SNR=6.0						
RAR	**Rarotonga**	**70.62**	**240**	LR	LR	14 33 35.8	
	comp=Z,257nm,19.9s,baz=139,slow=29						

*IDC **27** 14:02:11.9±8.1, 6°.36N×72°.75W, h183km±219km, mb2.7/2, mb1 3.1/3, mb1mx2.8/37, mbtmp3.2/3, ML1.9/1, Error ellipse: s-maj=356.0km s-min=75.1km az=179.0*
*ISCJB **27** 14:02:12.6±0.7, 6°.85N±0°.03×73°.15W±0°.04, h149km±5km, mb3.1/2, Error ellipse: s-maj=7.3km s-min=5.6km az=11.5*
*RSNC **27** 14:02:13.4±0.9, 6°.81N×73°.13W, h148km±4km, ML3.1, Mw3.5*

ISC 27 14:02:12.9±1.0, 6°.84N±0°.04×73°.14W±0°.05, h148km±7km, n21, σ0°77/36, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GIRC	**Giron, Santand**	**0.24**	**347**	↑*i*P	**Pn**	**14 02 33.3**	**+0.1**
GIRC				*e*S	**Sn**	**14 02 48.7**	**0.0**
GIRC				*i*		14 02 49.3	
	comp=Z,136nm,0.3s						
BARC	**Barichara**	**0.25**	**190**	*e*P	**Pn**	**14 02 33.2**	**-0.2**
BARC				*e*S	**Sn**	**14 02 48.4**	**-0.5**
BARC				*i*		14 02 51.9	
	comp=Z,250nm,0.3s						
BRRC	**Barranca, Sant**	**0.63**	**295**	↑*i*P	**Pn**	**14 02 35.1**	**+0.4**
BRRC				*e*S	**Sn**	**14 02 52.1**	**+0.8**
BRRC				*i*		14 02 52.3	
	comp=N,515nm,0.2s						
PAMC	**Pamplona, Colo**	**0.66**	**41**	*e*P	**Pn**	**14 02 36.0**	**+0.5**
PAMC				*e*S	**Sn**	**14 02 53.1**	**+0.4**
PAMC				*i*		14 02 55.9	
	comp=E,218nm,0.4s						
RUSC	**La Rusia**	**0.94**	**177**	*e*P	**Pn**	**14 02 37.0**	**-0.5**
RUSC				*e*S	**Sn**	**14 02 55.9**	**-0.4**
RUSC				*i*		14 02 57.2	
	comp=N,83nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**257**	*e*P	**Pn**	**14 02 39.8**	**-0.9**
PTBC				*e*S	**Sn**	**14 03 00.9**	**-1.0**
PTBC				*i*		14 03 04.0	
	comp=N,217nm,0.2s						
TAMC	**Tame, Arauca**	**1.40**	**107**	↑*i*P	**Pn**	**14 02 41.4**	**+0.2**
TAMC				*e*S	**Sn**	**14 03 03.0**	**0.0**
TAMC				*i*		14 03 03.7	
	comp=N,181nm,0.3s						
OCAC	**Ocana**	**1.40**	**353**	*e*P	**Pn**	**14 02 41.7**	**+0.2**
OCAC				*e*S	**Sn**	**14 03 03.3**	**-0.1**
OCAC				*i*		14 03 06.5	
	comp=N,350nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*P	**Pn**	**14 02 46.1**	**+0.2**
ZARC				*e*S	**Sn**	**14 03 12.2**	**+1.0**
ZARC				*i*		14 03 17.2	
	comp=N,139nm,0.3s						
NORC	**Norcasia**	**2.14**	**234**	*e*P	**Pn**	**14 02 49.2**	**-0.4**
NORC				*e*S	**Sn**	**14 03 16.8**	**-1.0**
NORC				*i*		14 03 22.3	
	comp=Z,88nm,0.2s						
SMLC	**San Martn de**	**2.16**	**335**	*e*S	**Sn**	**14 03 17.6**	**-0.6**
SMLC				*i*		14 03 21.0	
	comp=Z,79nm,0.1s						
CHIC	**Chingaza**	**2.27**	**195**	*e*P	**Pn**	**14 02 51.3**	**-0.3**
CHIC				*e*S	**Sn**	**14 03 21.0**	**-0.4**
CHIC				*i*		14 03 26.6	
	comp=N,81nm,0.3s						
ROSC	**El Rosal**	**2.31**	**211**	*e*P	**Pn**	**14 02 53.0**	**+1.0**
ROSC				*e*S	**Sn**	**14 03 24.4**	**+2.4**
ROSC				*i*		14 03 29.3	
	comp=Z,70nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**14 02 52.6**	**+0.6**
	comp=Z,7.6nm,0.3s,baz=288,slow=20,SNR=5.5						
ROSC				S	**Sn**	**14 03 22.2**	**+0.2**
	comp=Z,13nm,0.3s,baz=193,slow=23,SNR=15						

HELC	**Santa Helena**	**2.46**	**255**	*e*P	**Pn**	**14 02 53.9 +0.1**
HELC				*i*		14 03 32.7
	comp=N,65nm,0.3s					
UREC	**San Jos de Ur**	**2.54**	**291**	*e*P	**Pn**	**14 02 54.0 -0.5**
RREF	**El Recreo**	**2.92**	**229**	*e*P	**Pn**	**14 03 00.0 +0.6**
RREF				*e*S	**Sn**	**14 03 36.2 +0.2**
RREF				*i*		14 03 45.1
	comp=Z,48nm,0.3s					
DBBC	**Dabeiba**	**3.06**	**274**	*e*P	**Pn**	**14 03 01.1 +0.1**
DBBC				*i*		14 03 41.4
	comp=Z,29nm,0.4s					
PRAC	**Prado**	**3.56**	**209**	*e*P	**Pn**	**14 03 06.9 -0.6**
PRAC				*e*S	**Sn**	**14 03 50.1 +0.4**
PRAC				*i*		14 03 54.3
	comp=N,54nm,0.8s					
TXAR	**Lajitas Array**	**36.44**	**312**	P	**P**	**14 09 05.0 +1.3**
	comp=N,0.1nm,0.4s,baz=117,slow=11,SNR=2.6					
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**14 12 23.8 -1.5**
	comp=N,0.3nm,0.5s,baz=133,slow=6.7,SNR=7.9					

DJA 27 14:14:26.6±0.3, 1°N±2°×9°9E±°, h10km, M3.7/9, MLv3.7/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.75**	**156**	P	Pg	14 14 40.3	-0.8
MNSI				S	Sg	14 14 51.1	+0.3
GSI	**Gunungsitoli**	**1.70**	**264**	P	Pn	14 14 55.3	-1.1
GSI				S	Sn	14 15 18.7	+0.4
PBSI	**Pulau Batu**	**1.82**	**213**	P	Pn	14 14 58.4	+0.4
PBSI				S	Sb	14 15 22.6	-0.2
BKNI	**Bangkinang**	**2.11**	**123**	P	Pn	14 15 01.5	-0.5
BKNI				S	Sg	14 15 34.6	+0.2
PPI	**Padang Panjang**	**2.23**	**150**	P	Pb	14 15 05.7	-1.3
PDSI	**Padang**	**2.66**	**153**	P	Pn	14 15 09.8	+0.2
TPTI		**2.74**	**310**	P	Pn	14 15 09.9	-0.7
TPTI				S	Sb	14 15 51.5	+2.2
SISI	**Saibi**	**2.79**	**184**	P	Pn	14 15 10.8	-0.6

*ISCJB **27** 14:22:19.2±1.1, 67°.59N±0°.03×33°.5E±0°.2, h0km, Error ellipse: s-maj=9.1km s-min=4.5km az=178.0*
*HEL **27** 14:22:19.8±0.4, 67°.60N×33°.87E, h0km, ML2.0, Explosion*
*KOLA **27** 14:22:20.8, 67°.66N×33°.76E, M1.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NAO **27** 14:22:21.5±1.1, 67°.68N×33°.60E, ML2.7*
*IDC **27** 14:22:22.4±1.8, 67°.75N×33°.65E, h0km, mb1 3.5/4, mb1mx3.0/56, mbtmp3.4/4, ML2.6/4, Error ellipse: s-maj=20.3km s-min=9.4km az=78.0*

ISC 27 14:22:20.9±1.5, 67°.70N±0°.03×33°.65E±0°.08, h0km, n34, σ1°62/57, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APZ9	**Apatity**	**0.17**	**215**	Pg	**Pg**	**14 22 23.9**	**-0.2**
APZ9				Lg	Lg	14 22 26.1	
APZ9				Rg	Rg	14 22 27.1	
APZ9	**Apatity**	**0.17**	**215**	Pg	**Pg**	**14 22 23.9**	**-0.2**
APZ9				Sg	**Sg**	**14 22 26.1**	**0.0**
APZ9				Rg	Rg	14 22 27.1	
APA0	**Apatity Array**	**0.27**	**249**	Pg	**Pg**	**14 22 26.3**	**+0.2**
	baz=82,slow=16						
APA0				Lg	Lg	14 22 29.6	
	baz=79,slow=28						
APA0				Rg	Rg	14 22 30.8	
	baz=62,slow=37						
APA0	**Apatity Array**	**0.27**	**249**	Pg	**Pg**	**14 22 26.3**	**+0.2**
	baz=82,slow=16						
APA0				Sg	**Sg**	**14 22 29.6**	**0.0**
	baz=79,slow=28						
APA0				Rg	Rg	14 22 30.8	
	baz=62,slow=37						
VRF	**Varrio**	**1.54**	**274**	PG	**Pn**	**14 22 49.0**	**-0.7**
VRF				MSG		14 23 08.5	
	comp=Z,15nm,0.2s						
VRF				SG	**Sn**	**14 23 09.3**	**-1.1**
KU6	**Riekki**	**2.25**	**223**	PG	**Pn**	**14 22 59.6**	**+0.3**
KU6				MSG		14 23 25.9	
	comp=Z,7.2nm,0.2s						
KU6				SG	**Sb**	**14 23 29.6**	**-1.0**
MSF	**Maaselka**	**2.56**	**228**	PB	**Pn**	**14 23 04.6**	**+0.9**
MSF				SG	**Sb**	**14 23 40.0**	**+0.2**
SGF	**Sodankyl**	**2.75**	**268**	PN	**Pn**	**14 23 06.3**	**+0.1**
SGF				SB	**Sb**	**14 23 44.7**	**-0.3**
KEV	**Kevo**	**3.18**	**313**	Pn	**Pn**	**14 23 13.3**	**+1.1**
KEV				Sn	**Sn**	**14

*ISCJB **27** 14:35:38.6±0.4,40.77N±0.02×21.40E±0.04, h6km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=173.3*
*THE **27** 14:35:38.9,40.77N×21.39E, h6km±1km, ML2.3/4, Error ellipse: s-maj=1.6km s-min=0.8km az=319.0*
*ATH **27** 14:35:38.1,40.80N×21.39E, h11km±1km, ML2.3/1, Error ellipse: s-maj=5.4km s-min=1.6km az=320.0*
*SKO **27** 14:35:38.2,40.78N×21.40E, h12km*

ISC 27 14:35:38.6±0.8, 40.76N±0.02×21.37E±0.03, h6km±4km, n27, σ0996/41, 7C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.03**	**19**	P	**Pg**	**14 35 40.0**	**+0.2**
FNA				S	**Sg**	**14 35 41.0**	**+0.2**
FNA	**Florina**	**0.03**	**19**	*i*Pg	**Pg**	**14 35 40.1**	**+0.2**
FNA				*i* Sg	**Sg**	**14 35 41.0**	**+0.2**
FNA	**Florina**	**0.03**	**19**	P	**Pg**	**14 35 40.1**	**+0.2**
FNA				S	**Sg**	**14 35 41.0**	**+0.2**
BIA	**Bitola**	**0.26**	**353**	*i*Pg	**Pg**	**14 35 44.2**	**+0.5**
BIA				*i* Sg	**Sg**	**14 35 48.0**	**+0.8**
	comp=E,415nm,0.2s						
BIA				*e*Lg	Lg	14 35 48.8	
BIA				eLg	Lg	14 35 48.8	
NEST	**Nestorio**	**0.42**	**215**	P	**Pg**	**14 35 47.0**	**+0.3**
NEST				S	**Sb**	**14 35 54.3**	**-0.8**
NEST	**Nestorio**	**0.42**	**215**	P	**Pg**	**14 35 47.0**	**+0.3**
NEST				S	**Sb**	**14 35 54.4**	**-0.8**
NEST				AML	AML	14 35 54.6	
	comp=E,1063μm,0.3s						
NEST				AML	AML	14 35 57.0	
	comp=N,969μm,0.3s						
KZN	**Kozani**	**0.55**	**146**	P	**Pg**	**14 35 49.3**	**+0.2**
KZN				S	**Sg**	**14 35 57.4**	**+1.1**
KZN	**Kozani**	**0.55**	**146**	P	**Pg**	**14 35 49.5**	**+0.4**
OHR	**Ohrid**	**0.55**	**310**	*i*Pg	**Pg**	**14 35 49.4**	**+0.1**
OHR				*i* Sg	**Sb**	**14 35 57.3**	**-1.6**
	comp=E,400nm,0.3s						
OHR				*e*Lg	Lg	14 35 58.8	
OHR				eLg	Lg	14 35 59.0	
PENT	**Pentalofos**	**0.59**	**197**	P	**Pg**	**14 35 49.6**	**-0.3**
PENT	**Pentalofos**	**0.59**	**197**	P	**Pg**	**14 35 50.4**	**+0.5**
KRUS	**Krusevo**	**0.61**	**352**	*i*Pg	**Pg**	**14 35 50.1**	**-0.4**
KRUS				*i* Sg	**Sb**	**14 35 59.1**	**-1.6**
	comp=E,134nm,0.5s						
KRUS				*e*Lg	Lg	14 35 59.3	
KRUS				eLg	Lg	14 35 59.4	
KPRO	**Kipourio**	**0.80**	**180**	P	**Pg**	**14 35 54.8**	**+0.8**
VAY	**Valandovo**	**1.07**	**58**	*i*Pg	**Pb**	**14 35 58.7**	**-0.8**
VAY				*i* Sg	**Sb**	**14 36 13.0**	**-0.7**
	comp=E,66nm,0.8s						
VAY				*e*Lg	Lg	14 36 16.9	
VAY				eLg	Lg	14 36 17.0	
LIT	**Litokhoron**	**1.08**	**127**	P	**Pg**	**14 35 58.8**	**-0.5**
LIT	**Litokhoron**	**1.08**	**127**	*i*Pg	**Pg**	**14 35 59.2**	**-0.1**
LIT				*i* Sg	**Sb**	**14 36 14.3**	**+0.2**
LIT	**Litokhoron**	**1.08**	**127**	P	**Pg**	**14 35 59.0**	**-0.4**
STIP	**Stip**	**1.12**	**33**	*i*Pg	**Pn**	**14 36 02.3**	**+1.5**
STIP				*i* Sg	**Sn**	**14 36 20.2**	**+3.7**
STIP				*e*Lg	Lg	14 36 20.6	
STIP				eLg	Lg	14 36 20.7	
	comp=E,14nm,0.5s						
KNT	**Kendrikon**	**1.23**	**70**	P	**Pb**	**14 36 01.5**	**-0.7**
KNT	**Kendrikon**	**1.23**	**70**	*i*Pg	**Pg**	**14 36 01.7**	**-0.4**
KNT				*i* Sg	**Sn**	**14 36 18.3**	**-0.9**
KNT	**Kendrikon**	**1.23**	**70**	P	**Pb**	**14 36 01.6**	**-0.7**
THL	**Klokotos Trika**	**1.29**	**157**	P	**Pn**	**14 36 02.0**	**-1.1**
THL				S	**Sg**	**14 36 21.4**	**+1.3**
THL	**Klokotos Trika**	**1.29**	**157**	P	**Pn**	**14 36 02.3**	**-0.8**
HORT	**Hortiatis**	**1.33**	**96**	P	**Pn**	**14 36 03.2**	**-0.5**
SOH	**Sokhos**	**1.51**	**87**	P	**Pb**	**14 36 06.7**	**-0.4**
PAIG	**Paliouri**	**1.96**	**114**	P	**Pn**	**14 36 12.3**	**0.0**
XOR	**Xorichti**	**1.98**	**134**	P	**Pn**	**14 36 12.9**	**+0.4**

*ISCJB **27** 15:02:13.9±1.3,28.07N±0.06×18.1W±0.1, h23km, mb3.5/4, Error ellipse: s-maj=15.2km s-min=7.5km az=164.1*
*IDC **27** 15:02:13.7±5.3,27.69N×17.97W, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/48, mbtmp3.6/4, Error ellipse: s-maj=152.2km s-min=29.9km az=79.0*

ISC 27 15:02:17.0±1.5, 28.04N±0.08×18.0W±0.1, h23km, n12, σ2999/16, mb3.6/4, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**4.69**	**11**	S	**Sn**	**15 04 17.7**	**-2.3**
PMAR	**Madeira**	**4.76**	**11**	S	**Sn**	**15 04 20.9**	**-1.1**
PMAR				A	A	15 04 29.0	
	147nm,0.3s						
PMAR	**Madeira**	**4.76**	**11**	P	**Pn**	**15 03 25.8**	**-1.7**
PMAR				S	**Sn**	**15 04 26.5**	**+4.5**
PMOZ	**Porto Moniz, M**	**4.81**	**8**	*e*P	**Pn**	**15 03 28.8**	**+0.6**
PMOZ				*e*S	**Sn**	**15 04 21.4**	**-1.9**
PMOZ				A	A	15 04 26.3	
	202nm,0.4s						
PMOZ	**Porto Moniz, M**	**4.81**	**8**	P	**Pn**	**15 03 27.1**	**-1.0**
PMOZ				S	**Sn**	**15 04 29.6**	**+6.3**
PMPS	**Porto Santo**	**5.20**	**16**	*e*S	**Sn**	**15 04 32.5**	**-0.1**
PMPS				A	A	15 04 35.0	
	41nm,0.6s						
TANT	**Tantan**	**5.97**	**85**	P	**Pn**	**15 03 45.3**	**+1.3**
TANT				S	**Sn**	**15 04 53.4**	**+1.7**
MDT	**Midelt**	**12.49**	**64**	Sn	**Sn**	**15 07 28.0**	**-3.9**
	0.1nm,0.3s,baz=192,slow=9.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**23.59**	**125**	P	**P**	**15 07 24.1**	**-2.1**
	0.6nm,0.6s,baz=316,slow=9.1,SNR=5.0						
DBIC	**Dimbokro**	**24.63**	**147**	P	**P**	**15 07 33.0**	**-2.8**
	2.3nm,0.8s,baz=312,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**44.33**	**29**	P	**P**	**15 10 26.7**	**+1.7**
	1.5nm,0.9s,baz=243,slow=9.1,SNR=3.8						
MKAR	**Makanchi Array**	**76.62**	**44**	P	**P**	**15 14 08.4**	**+2.6**
	0.3nm,0.8s,baz=285,slow=4.6,SNR=4.2						

MEX 27 15:05:51.1±0.3, 18.21N×100.38W, h54km±2km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.08**	**23**	*e*P	Pn	15 05 57.6	-1.8
ARIG				*i* S	Sn	15 06 03.3	-2.0
MEIG	**Mezcala**	**0.78**	**111**	*e*P	Pn	15 06 04.5	-1.5
MEIG				*e*S	Sn	15 06 14.9	-2.1
PLIG	**Platanillo**	**0.85**	**78**	*e*P	Pn	15 06 05.6	-1.5
PLIG				*i* S	Sn	15 06 17.1	-1.7
CAIG	**El Cayaco**	**1.16**	**175**	*e*P	Pn	15 06 09.6	-1.5
CAIG				*i* S	Sn	15 06 23.9	-2.0
ZIIG	**Zihuatanejo**	**1.20**	**240**	*i* P	Pn	15 06 10.0	-1.6
ZIIG				*i* S	Sn	15 06 24.8	-1.9
YAIG	**Yautepec**	**1.40**	**62**	*e*P	Pn	15 06 13.0	-1.5
YAIG				*i* S	Sn	15 06 29.8	-2.3
TLIG	**Tlapa**	**1.84**	**110**	*i* P	Pn	15 06 18.9	-1.5
TLIG				*i* S	Sn	15 06 40.6	-2.1

*IDC **27** 15:07:53.5±0.8,27.66N×18.24W, h0km, mb3.9/11, mb1 4.0/13, mb1mx3.8/50, mbtmp3.9/13, ML4.1/2, Error ellipse: s-maj=22.7km s-min=20.5km az=49.0*
*ISCJB **27** 15:07:55.9±0.5,28.09N±0.04×18.04W±0.04, h23km, mb4.3/17, Error ellipse: s-maj=5.2km s-min=4.8km az=164.7*
*NEIC **27** 15:07:56.0±0.0,27.72N×18.26W, h19km, mb4.6/4, MN4.6(MDD), After MDD.*
*INMG **27** 15:07:56.0±2.2,27.66N×18.30W, h24km±13km, ML4.1, Error ellipse: s-maj=13.3km s-min=10.7km az=88.0*
*CNRM **27** 15:08:11.2,28.51N×17.71W, h50km, ml4.6*

ISC 27 15:07:57.2±0.6, 27.99N±0.06×18.09W±0.06, h23km, n51, σ2878/61, mb4.3/17, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACI	**Morro de la Ar**	**1.42**	**79**	*e*Pn	**Pn**	**15 08 21.8**	**0.0**
FUL	**Funchal**	**4.76**	**12**	S	**Sn**	**15 09 59.5**	**-2.5**
FUL				A	A	15 10 03.4	
	252nm,0.4s						
PMAR	**Madeira**	**4.83**	**12**	*e*P	**Pn**	**15 09 08.9**	**+0.3**
PMAR				S	**Sn**	**15 10 01.1**	**-2.9**
PMAR				A	A	15 10 03.7	
	299nm,0.2s						
PMAR	**Madeira**	**4.83**	**12**	P	**Pn**	**15 09 13.2**	**+4.6**
PMAR				S	**Sn**	**15 10 01.7**	**-2.3**
PMOZ	**Porto Moniz, M**	**4.88**	**9**	*e*P	**Pn**	**15 09 09.3**	**0.0**
PMOZ				*e*S	**Sn**	**15 10 02.4**	**-2.8**
PMOZ				A	A	15 10 06.9	
	363nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.88**	**9**	P	Pn	15 09 14.6	+5.3
PMOZ				S	**Sn**	**15 10 04.7**	**-0.4**
PMPS	**Porto Santo**	**5.28**	**16**	*e*P	**Pn**	**15 09 14.9**	**+0.3**
PMPS				S	**Sn**	**15 10 12.6**	**-2.1**
PMPS				A	A	15 10 17.0	
	74nm,0.5s						
TANT	**Tantan**	**6.07**	**84**	P	Pn	15 09 32.2	+6.7
TANT				S	**Sn**	**15 10 33.3**	**-1.0**
SFNM	**Sidi Ifni**	**7.09**	**77**	P	Pn	15 09 49.5	+10
SFNM				S	**Sn**	**15 11 01.1**	**+1.7**
EAH	**EAH**	**8.24**	**62**	P	Pn	15 10 00.8	+5.5
EAH				S	**Sn**	**15 11 27.4**	**-0.3**
TTIG	**Tnine Tigouga,**	**8.81**	**71**	P	Pn	15 10 09.0	+5.8
TTIG				S	**Sn**	**15 11 43.0**	**+1.2**
SRHM	**Skhour des Reh**	**9.88**	**61**	P	**Pn**	**15 10 20.8**	**+2.8**
SRHM				S	**Sn**	**15 12 02.9**	**-5.3**
OUZM	**OUZ**	**10.30**	**71**	P	**Pn**	**15 10 27.8**	**+4.2**
OUZM				S	**Sn**	**15 12 18.0**	**-0.4**
ZHG	**ZHG**	**11.25**	**58**	P	**Pn**	**15 10 40.1**	**+3.5**
ZHG				S	**Sn**	**15 12 37.7**	**-4.1**
MORF	**Marmelete**	**12.23**	**38**	*e*S	**Sn**	**15 13 02.4**	**-3.1**
MORF				A	A	15 13 06.0	
	5.0nm,0.3s						
MD31	**MD31**	**12.49**	**64**	P	P	15 10 59.8	-5.4
MD31				S	**Sn**	**15 13 11.4**	**-0.7**
PBDV	**Barranco-do-Ve**	**12.58**	**40**	S	**Sn**	**15 13 08.3**	**-5.9**
PBDV				A	A	15 13 19.1	
	6.0nm,0.4s						
MDT	**Midelt**	**12.59**	**64**	Pn	**Pn**	**15 10 55.6**	**+0.6**
	0.2nm,0.3s,baz=225,slow=13,SNR=3.1						
MDT				Sn	**Sn**	**15 13 09.4**	**-5.2**
	0.5nm,0.3s,baz=217,slow=10,SNR=4.4						
MDT	**Midelt**	**12.59**	**64**	P	P	15 11 00.9	-5.5
MDT				S	**Sn**	**15 13 14.9**	**+0.3**
PVAQ	**Vaqueiros**	**12.82**	**40**	S	**Sn**	**15 13 13.3**	**-6.6**
MESJ	**Messejana**	**12.85**	**38**	S	**Sn**	**15 13 16.8**	**-3.9**
PNCL	**Nicolau / Gran**	**12.89**	**36**	S	**Sn**	**15 13 15.0**	**-6.6**
PNCL				A	A	15 13 20.2	
	3.3nm,1.0s						
SFS	**San Fernando**	**13.13**	**47**	*e*Pn	**Pn**	**15 11 01.1**	**-1.2**
ROSA	**Rosais**	**13.65**	**324**	*e*Pn	**Pn**	**15 11 10.9**	**+1.6**
ESDC	**Sonseca Array**	**16.52**	**41**	Pn	**P**	**15 11 51.9**	**+2.0**
	0.4nm,0.3s,baz=231,slow=12,SNR=3.1						
ESLA	**Sonseca Array**	**16.52**	**41**	*e*Pn	**P**	**15 11 48.9**	**-1.0**
	25nm,1.6s						
TOA1	**Torodi Ar. Sit**	**23.63**	**125**	*e*P	**P**	**15 13 05.8**	**-1.0**
TOA1				*e*S	**S**	**15 17 17.3**	**-2.9**
TORD	**Torodi Ar. Bea**	**23.64**	**125**	P	**P**	**15 13 05.8**	**-1.0**
	1.2nm,0.6s,baz=312,slow=7.2,SNR=4.3						
TORD				S	**S**	**15 17 17.3**	**-3.0**
	1.4nm,1.1s,baz=312,slow=17,SNR=3.4						
KEST	**Kesra**	**24.50**	**65**	P	**P**	**15 13 17.7**	**+2.9**
	7.1nm,1.0s,baz=234,slow=14,SNR=5.6						
TIC	**Toumodi**	**24.58**	**147**	*e*PKP1	**P**	**15 13 16.8**	**+1.2**
DBIC	**Dimbokro**	**24.64**	**147**	*e*P	**P**	**15 13 12.4**	**-3.7**
	19nm,1.3s						
DBIC	**Dimbokro**	**24.64**	**147**	P	**P**	**15 13 13.8**	**-2.2**
	3.2nm,0.7s,baz=298,slow=8.7,SNR=3.4						
LIC	**Lamto**	**24.94**	**148**	*e*PKP1	**P**	**15 13 16.9**	**-2.0**
	50nm,1.4s						
KIC	**Kosan Boka**	**24.96**	**147**	*e*PKP1	**P**	**15 13 15.9**	**-3.1**
	31nm,1.2s						
FIA0	**FINESS Array S**	**44.42**	**29**	*e*P	**P**	**15 16 08.6**	**+2.7**
FINES	**FINESS Array B**	**44.42**	**29**	P	**P**	**15 16 08.6**	**+2.7**
	1.0nm,0.6s,baz=225,slow=4.6,SNR=5.0						
V52A	**Seiverville**	**55.24**	**296**	*e*P	**P**	**15 17 28.4**	**-0.2**
	15nm,0.6s						
TKL	**Tuckaleechee C**	**55.42**	**296**	*e*P	**P**	**15 17 29.7**	**-0.3**
	26nm,0.5s						
V51A	**Loudon**	**55.85**	**296**	*e*P	**P**	**15 17 33.4**	**+0.4**
	16nm,0.6s						
GO01	**Chusmiza**	**68.46**	**232**	*e*P	**P**	**15 18 54.6**	**-3.6**
	10nm,1.3s						
YKA	**Yellowknife Ar**	**68.48**	**330**	P	**P**	**15 18 58.4**	**+1.3**
	0.3nm,0.6s,baz=67,slow=6.8,SNR=5.4						
YKB5	**Yellowknife Ar**	**68.48**	**330**	*e*P	**P**	**15 18 57.0**	**-0.2**
BOSA	**Boshof**	**69.94**	**140**	P	**P**	**15 19 06.4**	**-0.4**
	3.7nm,0.9s,baz=320,slow=9.7,SNR=4.3						
TXAR	**Lajitas Array**	**73.32**	**295**	*e*P	**P**	**15 19 27.6**	**+0.3**
	0.3nm,0.7s,baz=60,slow=5.3,SNR=3.0						
MK32	**Makanchi Array**	**76.72**	**44**	*e*P	**P**	**15 19 47.4**	**+0.7**
MKAR	**Makanchi Array**	**76.72**	**44**	P	**P**	**15 19 47.4**	**+0.7**
	0.7nm,0.8s,baz=302,slow=5.6,SNR=7.2						
ILAR	**Eielson Array**	**79.38**	**340**	P	**P**	**15 20 02.5**	**+1.6**
	0.5nm,0.8s,baz=29,slow=3.8,SNR=5.3						
PLCA	**Paso Flores**	**83.91**	**217**	*e*P	**P**	**15 20 23.1**	**-2.1**
	4.1nm,0.9s						
PLCA	**Paso Flores**	**83.91**	**217**	P	**P**	**15 20 23.6**	**-1.7**
	3.0nm,0.8s,baz=51,slow=6.0,SNR=7.0						
SONA0	**Songino Array**	**89.57**	**34**	*e*P	**P**	**15 20 56.1**	**+3.1**
SONM	**Songino Array**	**89.57**	**34**	P	**P**	**15 20 56.1**	**+3.1**
	0.5nm,0.7s,baz=326,slow=4.3,SNR=4.2						

IDC 27 15:13:02.7±2.0, 4.26N×127.24E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/26, Error ellipse: s-maj=153.3km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.05**	**164**	P	P	15 18 27.2	-1.7
	1.2nm,0.7s,baz=344,slow=11,SNR=14						
WRA				LR	LR	15 30 36.4	
	comp=Z,18nm,20.6s,baz=115,slow=42						
ASAR	**Alice Springs**	**28.51**	**167**	P	P	15 19 02.0	+2.0
	0.3nm,0.7s,baz=341,slow=8.8,SNR=7.3						
STKA	**Stephens Creek**	**38.45**	**160**	P	P	15 20 26.2	-0.2
	2.2nm,0.9s,baz=325,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	15 22 53.2	0.0
	0.2nm,0.4s,baz=108,slow=7.1,SNR=4.1						

KRSC 27 15:14:27.4±10.0, 50.77N×160.17E, h95km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.67**	**309**	*e*P	Pn	15 14 56.5	+1.0
KDTR				*e*S	Sn	15 15 18.0	+1.1
RUS	**Russkaya**	**1.96**	**329**	*e*P	Pn	15 15 00.7	+1.5
RUS				*e*S	Sn	15 15 24.9	+1.5
MTVR	**Mutnovka**	**2.11**	**325**	*e*P	Pn	15 15 03.1	+1.7
MTVR				*e*S	Sn	15 15 29.3	+2.0
ASAK	**Asacha**	**2.15**	**320**	*e*P	Pn	15 15 03.9	+2.2
ASAK				S	Sn	15 15 30.3	+2.4
PAU	**Pauzhetka**	**2.23**	**289**	*e*S	Sn	15 15 31.0	+1.3
KRMR	**Karymshinskiy**	**2.42**	**329**	*e*P	Pn	15 15 07.3	+2.1
KRMR				*e*S	Sn	15 15 36.7	+2.5
DALK	**Dalny**	**2.42**	**339**	*e*P	Pn	15 15 07.2	+1.9
DALK				*e*S	Sn	15 15 36.3	+1.9
UGLR	**Uglovaya**	**2.58**	**342**	*e*P	Pn	15 15 10.1	+2.6
SDLR	**Sedlovina**	**2.63**	**343**	*e*P	Pn	15 15 10.4	+2.2
AVH	**Avacha**	**2.65**	**341**	*e*P	Pn	15 15 11.4	+3.0
KOK	**Koryaka**	**2.69**	**340**	*e*P	Pn	15 15 11.7	+2.7
APC	**Apacha**	**2.85**	**320**	*e*P	Pn	15 15 14.6	+3.6
MKZ	**Mys Kozlova**	**3.91**	**13**	*e*P	Pn	15 15 26.1	+0.9
KZV	**Kizimen**	**4.35**	**1**	*e*P	Pn	15 15 34.4	+3.1
TUMD	**Tumrok D**	**4.44**	**2**	P	Pn	15 15 34.6	+2.2
TUMR	**Tumrok**	**4.52**	**360**	*e*P	Pn	15 15 37.1	+3.5
KBTR	**Krutoberegovo**	**5.67**	**15**	P	Pn	15 15 50.9	+1.8

MEX 27 15:16:17.5±0.9, 17.18N×94.69W, h164km±9km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.21**	**245**	*e*P	Pn	15 16 39.0	-0.6
CMIG				*i* S	Sn	15 16 53.4	-2.9
HUIG	**Huatulco**	**1.96**	**224**	*e*P	Pn	15 16 51.7	-1.4
HUIG				*e*S	Sn	15 17 18.2	-2.3
VHO	**Vista Hermosa**	**1.96**	**267**	*i* P	Pn	15 16 52.3	-1.0
VHO				*i* S	Sn	15 17 18.9	-1.9
PCIG		**2.03**	**136**	*e*P	Pn	15 16 52.1	-1.8
PCIG				*i* S	Sn	15 17 19.8	-2.3

*ISCJB **27** 15:37:52.0±0.4,0.68N±0.04×126.86E±0.04, h10km, mb4.3/12, MS2.8/1, Error ellipse: s-maj=6.3km s-min=5.9km az=10.6*

*DJA **27** 15:37:56.6±0.4,1.1N±3×12.7E±°, h10km, M4.0/7, mb4.3/3, mB4.5/1, MLv3.8/7, Mw(mB)3.7/1*
*NEIC **27** 15:37:56.1±1.3,0.66N×126.86E, h26km±10km, mb4.5/7, Error ellipse: s-maj=7.9km s-min=6.4km az=89.0*
*IDC **27** 15:38:02.1±4.7,0.56N×126.70E, h84km±45km, mb3.8/9, mb1 4.0/10, mb1mx3.6/37, mbtmp4.1/10, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=40.5km s-min=15.6km az=81.0*

ISC 27 15:37:54.6±0.6, 0.64N±0.06×126.75E±0.05, h10km, n40, σ1984/39, mb4.5/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.63**	**78**	*e*Pg	**Pg**	**15 38 06.4**	**-0.4**
TNTI	**Ternate**	**0.63**	**78**	P	**Pg**	**15 38 06.6**	**-0.2**
TNTI				S	**Sb**	**15 38 22.1**	**+5.6**
KMSI	**Cibinong**	**2.77**	**269**	P	**Pn**	**15 38 38.8**	**-0.3**
SANI	**Sanana**	**2.78**	**196**	P	**Pn**	**15 38 38.1**	**-1.2**
SANI				S	**Sn**	**15 39 15.1**	**+2.2**
LUWI	**Luwuk**	**4.32**	**247**	*e*Pn	**Pn**	**15 38 56.3**	**-4.1**
LUWI	**Luwuk**	**4.32**	**247**	P	**Pn**	**15 39 04.2**	**+3.8**
LUWI				S	**Sn**	**15 39 52.2**	**+1.3**
SIJI	**Sorong**	**4.76**	**108**	P	Pn	15 39 11.8	+5.3
	0.6nm,0.3s,baz=180,slow=20,SNR=3.9						
MRSI	**Marisa**	**4.81**	**268**	P	**Pn**	**15 39 08.5**	**+1.3**
APSI	**Ampana**	**5.33**	**253**	P	**Pn**	**15 39 14.9**	**+0.5**
	29nm,0.5s,444nm0.2nm						
FAKI	**Fak Fak**	**6.54**	**123**	*e*Pn	**Pn**	**15 39 29.9**	**-1.0**
MPSI	**Mapaga**	**6.86**	**267**	P	**Pn**	**15 39 38.0**	**+2.6**
	3.3nm,0.7s						
PCI	**Palu**	**7.08**	**257**	P	Pn	15 39 47.0	+8.5
SPSI	**Sidrap Palu**	**8.35**	**237**	P	**Pn**	**15 39 54.2**	**-1.6**
KAPI	**Kappang**	**8.97**	**231**	*e*Pn	**Pn**	**15 40 05.7**	**+1.3**
SOEI	**Soe**	**10.62**	**193**	*e*Pn	**Pn**	**15 40 27.4**	**+0.2**
MTN	**Manton Dam**	**14.09**	**162**	*e*Pn	**Pn**	**15 41 13.2**	**-1.2**
JAGI	**Jajag, Banyuwa**	**15.48**	**234**	*e*Pn	**Pn**	**15 41 34.9**	**+1.7**
	70nm,1.6s						
KSM	**Kuching**	**16.46**	**273**	*e*Pn	**Pn**	**15 41 48.1**	**+2.2**
	6.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.66**	**183**	*e*P	**P**	**15 42 13.5**	**+0.7**
	18nm,1.5s						
LEM	**Lembang**	**20.49**	**248**	LR	LR	15 51 57.7	
	comp=Z,45nm,19.6s,baz=349,slow=41						
WRAB	**Tennant Creek**	**21.76**	**160**	*e*P	**P**	**15 42 45.1**	**-1.6**
	14nm,0.8s						
WR1	**Warramunga Arr**	**21.77**	**160**	*e*P	**P**	**15 42 45.7**	**-1.0**
	15nm,0.6s						
WRA	**Warramunga Arr**	**21.77**	**160**	P	**P**	**15 42 45.7**	**-1.0**
	8.6nm,0.4s,baz=341,slow=10.0,SNR=80						
WB2	**Warramunga Arr**	**21.77**	**160**	*e*P	**P**	**15 42 45.7**	**-1.0**
AS31	**Alice Springs**	**25.14**	**164**	*e*P	**P**	**15 43 18.3**	**-1.9**
	4.9nm,0.3s						
ASAR	**Alice Springs**	**25.14**	**164**	P	**P**	**15 43 19.4**	**-0.7**
	4.1nm,0.3s,baz=344,slow=11,SNR=178						
AS01	**Alice Springs**	**25.16**	**164**	*e*P	**P**	**15 43 20.1**	**-0.1**
STKA	**Stephens Creek**	**35.27**	**158**	*e*P	**P**	**15 44 48.2**	**-1.5**
	10.0nm,1.8s						
STKA	**Stephens Creek**	**35.27**	**158**	P	**P**	**15 44 48.5**	**-1.1**
	5.1nm,0.7s,baz=319,slow=8.7,SNR=15						
MAJO	**Matsushiro**	**37.26**	**15**	*e*P	**P**	**15 45 05.4**	**-1.3**
MJAR	**Matsushiro Arr**	**37.26**	**15**	P	**P**	**15 45 05.4**	**-1.3**
	0.5nm,0.4s,baz=193,slow=9.7,SNR=4.0						
SONA0	**Songino Array**	**50.22**	**342**	*e*P	**P**	**15 46 50.8**	**-0.1**
SONM	**Songino Array**	**50.22**	**342**	P	**P**	**15 46 50.8**	**-0.1**
	0.7nm,0.6s,baz=153,slow=8.6,SNR=7.0						
PETK	**Petropavlovsk-**	**58.27**	**21**	P	**P**	**15 47 50.0**	**+0.7**
	2.9nm,0.5s,baz=184,slow=4.8,SNR=18						
PEA1	**Petropavlovsk-**	**58.27**	**21**	*e*P	**P**	**15 47 50.0**	**+0.6**
MK32	**Makanchi Array**	**60.10**	**326**	*e*P	**P**	**15 48 01.1**	**-1.1**
MKAR	**Makanchi Array**	**60.10**	**326**	P	**P**	**15 48 01.1**	**-1.1**
	1.3nm,0.4s,baz=119,slow=7.6,SNR=37						
ZALV	**Zalesovo Beam**	**63.34**	**334**	P	**P**	**15 48 21.8**	**-2.0**
	0.9nm,0.6s,baz=126,slow=7.5,SNR=4.5						
ZAA1	**Zalesovo Array**	**63.34**	**334**	*e*P	**P**	**15 48 21.8**	**-2.1**
ILAR	**Eielson Array**	**87.86**	**25**	P	P	15 50 40.5	-3.7
	0.4nm,0.9s,baz=250,slow=5.5,SNR=3.8						

*TEH **27** 15:53:00.2,32.01N×50.27E, h5km, ML3.1*
*ISCJB **27** 15:53:03.1±0.7,32.00N±0.07×50.20E±0.05, h15km, Error ellipse: s-maj=10.6km s-min=5.8km az=18.5*
*THR **27** 15:53:04.2,32.01N×50.10E, h41km, ML3.0*

ISC 27 15:53:01.5±1.1, 32.01N±0.05×50.24E±0.03, h15km, n30, σ2814/27, Northern and central Iran

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

mb3.5/8, Error ellipse: s-maj=7.6km s-min=6.8km az=166.3

CNRM ***27*** *16:11:12.5, 28.57N× 17.66W, h50km, ml4.4*

ISC 27 16:10:55.5±0.8, 27.95N±0.08× 18.06W±0.07, h23km, n21, σ2.36/28, mb3.5/8, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAR	**Madeira**	**4.86**	**11**	*eP*	**Pn**	**16 12 08.4**	**+0.9**
PMAR				*eS*	**Sn**	**16 12 58.6**	**-4.5**
PMAR				A	A	16 13 08.5	
	150nm,0.5s						
PMAR	**Madeira**	**4.86**	**11**	P	Pb	16 12 13.9	-6.2
PMAR				S	**Sn**	**16 13 03.1**	**-0.1**
PMOZ	**Porto Moniz, M**	**4.92**	**8**	*eP*	**Pn**	**16 12 08.8**	**+0.7**
PMOZ				*eS*	**Sn**	**16 13 00.5**	**-3.9**
PMOZ				A	A	16 13 08.7	
	292nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.92**	**8**	P	Pn	16 12 14.5	+6.4
PMOZ				S	**Sn**	**16 13 03.1**	**-1.3**
PMPS	**Porto Santo**	**5.31**	**16**	*eP*	**Pn**	**16 12 15.8**	**+2.4**
PMPS				*eS*	**Sn**	**16 13 12.7**	**-1.1**
PMPS				A	A	16 13 18.6	
	47nm,0.4s						
TANT	**Tantan**	**6.04**	**84**	P	Pb	16 12 32.7	-7.4
TANT				S	**Sn**	**16 13 35.2**	**+3.3**
TTIG	**Tnine Tigouga,**	**8.79**	**71**	P	Pn	16 13 10.8	+9.5
TTIG				S	**Sn**	**16 14 43.8**	**+4.0**
OUK	**Oukaimeden**	**9.45**	**67**	P	Pn	16 13 19.4	+8.8
OUK				S	**Sn**	**16 14 59.0**	**+2.8**
OUZM	**OUZ**	**10.28**	**71**	P	Pn	16 13 29.3	+7.5
OUZM				S	**Sn**	**16 15 15.9**	**-0.4**
ZHG	**ZHG**	**11.25**	**58**	P	Pn	16 13 40.7	+5.8
ZHG				S	**Sn**	**16 15 37.9**	**-2.1**
MD31	**MD31**	**12.48**	**64**	P	**P**	**16 14 00.2**	**-3.2**
MD31				S	**Sn**	**16 16 09.4**	**-0.7**
MDT	**Midelt**	**12.58**	**64**	Pn	**Pn**	**16 13 54.2**	**+1.0**
	0.2nm,0.3s,baz=237,slow=4.6,SNR=3.4						
MDT				Sn	**Sn**	**16 16 08.9**	**-3.7**
	0.6nm,0.3s,baz=259,slow=16,SNR=5.9						
MDT				LR	LR	16 18 33.4	
	comp=Z,29nm,19.2s,baz=342,slow=36						
MDT	**Midelt**	**12.58**	**64**	P	**P**	**16 14 01.7**	**-2.9**
MDT				S	**Sn**	**16 16 14.6**	**+1.9**
TORD	**Torodi Ar. Bea**	**23.59**	**125**	P	**P**	**16 16 04.2**	**-0.5**
	0.9nm,0.8s,baz=310,slow=9.6,SNR=4.6						
TORD				S	**S**	**16 20 15.9**	**-1.9**
	0.1nm,0.4s,baz=312,slow=21,SNR=2.2						
DBIC	**Dimbokro**	**24.58**	**147**	P	**P**	**16 16 12.8**	**-1.2**
	2.2nm,0.6s,baz=330,slow=8.1,SNR=4.6						
YKA	**Yellowknife Ar**	**68.53**	**330**	P	**P**	**16 21 56.7**	**+0.9**
	0.1nm,0.4s,baz=74,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	**72.64**	**310**	P	**P**	**16 22 21.6**	**-0.1**
	0.2nm,0.5s,baz=78,slow=8.4,SNR=3.0						
TXAR	**Lajitas Array**	**73.36**	**295**	P	**P**	**16 22 26.4**	**+0.5**
	0.4nm,0.8s,baz=76,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**76.73**	**44**	P	**P**	**16 22 47.1**	**+2.1**
	0.4nm,0.8s,baz=293,slow=6.1,SNR=5.0						
ILAR	**Eielson Array**	**79.43**	**340**	P	**P**	**16 23 01.5**	**+1.9**
	0.3nm,0.7s,baz=38,slow=4.6,SNR=3.8						
PLCA	**Paso Flores**	**83.90**	**217**	P	**P**	**16 23 21.9**	**-1.6**
	1.5nm,0.9s,baz=58,slow=9.5,SNR=4.0						

MEX 27 16:30:17.3±0.3, 18.00N×99.77W, h56km±2km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.16**	**116**	*eP*	Pn	16 30 24.9	-1.4
MEIG				*i* S	Sn	16 30 30.8	-1.9
PLIG	**Platanillo**	**0.47**	**33**	*eP*	Pn	16 30 27.4	-1.3
PLIG				*i* S	Sn	16 30 35.4	-1.7
ARIG	**Puente Sto Nin**	**0.62**	**297**	*eP*	Pn	16 30 28.9	-1.5
ARIG				*i* S	Sn	16 30 38.1	-1.9
CAIG	**El Cayaco**	**1.06**	**207**	*eP*	Pn	16 30 34.5	-1.5
CAIG				*eS*	Sn	16 30 47.9	-1.9
TLIG	**Tlapa**	**1.22**	**110**	*eP*	Pn	16 30 37.5	-0.8
TLIG				*eS*	Sn	16 30 52.4	-1.6
ZIIG	**Zihuatanejo**	**1.66**	**257**	*i* P	Pn	16 30 43.2	-0.9
ZIIG				*i* S	Sn	16 31 02.1	-2.3

IDC 27 16:33:50.3±59.0, 16.80S×179.57W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/29, mbtmp4.1/3, Error ellipse: s-maj=1075.0km s-min=158.1km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.21**	**240**	P	P	16 41 12.1	+0.1
	1.6nm,0.6s,baz=69,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**43.75**	**259**	P	P	16 41 57.5	-0.4
	0.5nm,0.6s,baz=94,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**44.03**	**253**	P	P	16 42 00.1	0.0
	5.7nm,0.5s,baz=89,slow=7.8,SNR=147						

IDC ***27*** *16:39:02.0±3.1, 0.75N×98.59E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/31, mbtmp3.6/6, ML3.0/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/46, Error ellipse: s-maj=124.7km s-min=20.3km az=59.0*

ISCJB ***27*** *16:39:07.3±0.3, 1.49N±0.03× 99.25E±0.04, h10km, mb4.0/10, MS3.0/2, Error ellipse: s-maj=5.3km s-min=4.3km az=164.8*

DJA ***27*** *16:39:08.5±0.3, 1°N±2°×9°9E±°, h10km, M3.9/11, MLv3.9/11*

NEIC ***27*** *16:39:10.8±2.4, 1.42N×99.17E, h35km±22km, mb4.3/3, Error ellipse: s-maj=10.7km s-min=9.2km az=59.0*

NEIC Felt [III] at Padangsidempuan.

KLM ***27*** *16:39:10.1, 1.47N×99.19E, h118km, mb4.3*

ISC 27 16:39:07.6±0.6, 1.43N±0.03× 99.23E±0.04, h10km, n49, σ1°34/45, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.72**	**151**	P	**Pg**	**16 39 21.8**	**+0.3**
MNSI				S	**Sg**	**16 39 32.2**	**+1.2**
PSI	**Prapat**	**1.40**	**347**	*ePn*	**Pn**	**16 39 32.5**	**-0.8**
GSI	**Gunungsitoli**	**1.66**	**266**	*ePn*	**Pn**	**16 39 36.4**	**-0.4**
GSI	**Gunungsitoli**	**1.66**	**266**	P	**Pn**	**16 39 38.1**	**+1.3**
GSI				S	**Sn**	**16 39 59.4**	**+1.2**
PBSI	**Pulau Batu**	**1.75**	**213**	P	**Pn**	**16 39 39.6**	**+1.5**
PBSI				S	**Sb**	**16 40 03.6**	**+1.6**
BKNI	**Bangkinang**	**2.12**	**121**	*ePn*	**Pb**	**16 39 47.1**	**+1.0**
BKNI	**Bangkinang**	**2.12**	**121**	P	**Pb**	**16 39 47.2**	**+1.1**
TSI	**Tuntungan**	**2.16**	**342**	P	**Pb**	**16 39 46.1**	**-0.7**
PPI	**Padang Panjang**	**2.21**	**148**	P	**Pb**	**16 39 47.0**	**-0.6**
KCSI	**Kotacane, Aceh**	**2.54**	**325**	P	**Pn**	**16 39 48.9**	**0.0**
PDSI	**Padang**	**2.63**	**152**	P	**Pn**	**16 39 51.2**	**+1.0**
TPTI		**2.74**	**312**	P	**Pn**	**16 39 51.9**	**+0.3**
SISI	**Saibi**	**2.74**	**183**	P	**Pn**	**16 39 52.3**	**+0.6**
FRIM	**Kepong**	**2.99**	**53**	P	**Pn**	**16 39 55.6**	**+0.5**
SNSI	**Sinabang, Aceh**	**3.06**	**289**	P	**Pn**	**16 39 56.1**	**0.0**
IPM	**Ipoh**	**3.52**	**31**	*ePn*	**Pn**	**16 40 03.1**	**+0.7**
IPM	**Ipoh**	**3.52**	**31**	P	**Pn**	**16 40 04.6**	**+2.2**
MLSI	**Meulaboh, Aceh**	**3.99**	**315**	P	**Pn**	**16 40 11.0**	**+2.2**
KULM	**Kulim**	**4.09**	**20**	*ePn*	**Pn**	**16 40 10.9**	**+0.7**
KULM	**Kulim**	**4.09**	**20**	P	**Pn**	**16 40 11.3**	**+1.1**
KGM	**Kluang**	**4.13**	**82**	P	**Pn**	**16 40 12.3**	**+1.5**
KGM	**Kluang**	**4.13**	**82**	P	**Pn**	**16 40 11.3**	**+0.6**
LHMI	**Lhok Sumawe**	**4.41**	**329**	*ePn*	**Pn**	**16 40 16.0**	**+1.4**
MYKOM	**Kota Tinggi**	**4.63**	**86**	*ePn*	**Pn**	**16 40 17.8**	**+0.2**
MYKOM	**Kota Tinggi**	**4.63**	**86**	P	**Pn**	**16 40 18.2**	**+0.5**
KTGM	**Kuala Trenggan**	**5.49**	**45**	P	**Pn**	**16 40 31.0**	**+1.4**
PBA	**Port Blair**	**12.03**	**328**	*ePn*	Pn	16 41 59.9	+0.7
CISI	**Cisompet, Garu**	**12.37**	**136**	*ePn*	**Pn**	**16 42 01.2**	**-2.8**
SBUM	**Sibu**	**13.02**	**85**	*ePn*	Pn	16 42 07.3	-5.6
COCO	**West Island**	**13.74**	**190**	*ePn*	**Pn**	**16 42 21.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.92**	**359**	P	**P**	**16 43 08.1**	**+1.4**
	0.0nm,0.3s,baz=189,slow=11,SNR=6.1						
H08S2	**Diego Garcia H**	**28.15**	**251**	T	T	17 12 36.3	
	baz=72,slow=75,SNR=7.1						
H08S3	**Diego Garcia H**	**28.16**	**251**	T	T	17 12 38.9	
	baz=72,slow=75,SNR=6.2						
H08S1	**Diego Garcia H**	**28.17**	**251**	T	T	17 12 45.7	
	baz=72,slow=75,SNR=11						
CD2	**Chengdu**	**29.63**	**8**	P	**P**	**16 45 13.5**	**+0.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WRA	**Warramunga Arr**	**40.45**	**123**	P	**P**	**16 46 44.2**	**-2.4**
	comp=Z,0.4nm,0.9s,baz=303,slow=9.0,SNR=3.2						
HHC	**Hu-ho-hao-te**	**40.80**	**14**	*eP*	**P**	**16 46 51.5**	**+2.2**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,100nm,5.8s						
ASAR	**Alice Springs**	**41.93**	**129**	P	**P**	**16 46 55.2**	**-3.7**
	comp=Z,0.4nm,0.9s,baz=299,slow=7.5,SNR=2.7						
JNU	**Nakatsue**	**43.31**	**40**	LR	LR	17 04 59.8	
	comp=Z,22nm,21.2s,baz=121,slow=35						
WMQ	**Urumqi**	**43.44**	**348**	*eP*	**P**	**16 47 12.0**	**+1.2**
KSRS	**Korea Array**	**44.53**	**33**	LR	LR	17 06 50.3	
	comp=Z,13nm,18.2s,baz=70,slow=37						
SONM	**Songino Array**	**46.64**	**7**	P	**P**	**16 47 38.3**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=183,slow=7.2,SNR=2.2						
MK01	**Makanchi Array**	**47.52**	**344**	*eP*	**P**	**16 47 42.4**	**-0.6**
MK31	**Makanchi Array**	**47.54**	**344**	*eP*	**P**	**16 47 42.5**	**-0.8**
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**47.54**	**344**	P	**P**	**16 47 42.8**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=156,slow=7.4,SNR=11						
MAKZ	**Makanchi**	**47.64**	**344**	*eP*	**P**	**16 47 43.9**	**-0.1**
	comp=Z,6.4nm,1.7s						
ZALV	**Zalesovo Beam**	**53.68**	**349**	*eP*	**P**	**16 48 29.1**	**-0.3**
ZALV	**Zalesovo Beam**	**53.68**	**349**	P	**P**	**16 48 29.4**	**0.0**
	comp=Z,2.1nm,0.7s,baz=174,slow=6.9,SNR=9.8						
ABKAR	**Akbulak array**	**58.29**	**331**	*eP*	**P**	**16 49 02.2**	**-0.3**
	comp=Z,6.9nm,1.8s						

ISCJB ***27*** *16:49:53.1±0.8, 16.20N±0.10× 146.96E±0.2, h30km, mb3.7/10, Error ellipse: s-maj=24.0km s-min=8.9km az=29.8*

IDC ***27*** *16:49:56.2±4.5, 16.23N× 146.95E, h41km±46km, mb3.5/10, mb1 3.7/11, mb1mx3.5/57, mbtmp3.7/11, ML3.8/1, Error ellipse: s-maj=33.3km s-min=27.9km az=20.0*

ISC 27 16:49:54.6±1.0, 16.2N±0.1× 146.9E±0.2, h30km, n14, σ1°00/12, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.26**	**218**	P	**Pn**	**16 50 45.0**	**+1.4**
	9.4nm,0.3s,baz=22,slow=2.3,SNR=8.6						
GUMO				S	**Sn**	**16 51 19.6**	**-1.9**
	17nm,0.3s,baz=311,slow=20,SNR=7.7						
H11N1	**WAKE ISLAND Hy**	**19.30**	**77**	T	T	17 15 38.7	
	baz=264						
H11N2	**WAKE ISLAND Hy**	**19.31**	**76**	T	T	17 15 31.2	
	baz=264						
H11N3	**WAKE ISLAND Hy**	**19.32**	**77**	T	T	17 15 33.1	
	baz=264						
MJAR	**Matsushiro Arr**	**21.72**	**341**	P	**P**	**16 54 44.6**	**+1.3**
	0.9nm,0.6s,baz=168,slow=10,SNR=4.3						
KLR	**Kul'dur**	**35.22**	**343**	P	**P**	**16 56 45.3**	**-0.8**
	0.6nm,0.5s,baz=191,slow=5.2						
CMAR	**Chiang Mai Arr**	**45.78**	**280**	P	**P**	**16 58 14.4**	**+0.5**
	0.4nm,0.6s,baz=75,slow=6.6,SNR=4.2						
SONM	**Songino Array**	**45.85**	**322**	P	**P**	**16 58 14.1**	**0.0**
	0.4nm,0.6s,baz=125,slow=8.5,SNR=3.7						
TIXI	**Tiksi**	**56.50**	**353**	P	**P**	**16 59 33.0**	**-0.5**
	0.9nm,0.3s,baz=165,slow=3.3,SNR=3.8						
MKAR	**Makanchi Array**	**61.06**	**315**	P	**P**	**17 00 05.5**	**-0.2**
	0.4nm,0.6s,baz=87,slow=8.5,SNR=4.7						
ILAR	**Eielson Array**	**65.39**	**26**	P	**P**	**17 00 33.4**	**-0.6**
	0.5nm,0.6s,baz=250,slow=6.3,SNR=9.0						
YKA	**Yellowknife Ar**	**79.65**	**28**	P	**P**	**17 01 58.8**	**-0.2**
	0.3nm,0.6s,baz=286,slow=5.4,SNR=6.0						
NVAR	**Mina Array Bea**	**83.75**	**52**	P	**P**	**17 02 22.0**	**+0.6**
	0.7nm,0.7s,baz=249,slow=3.8,SNR=4.8						
ELK	**Elko**	**85.38**	**49**	P	**P**	**17 02 29.8**	**+0.2**
	0.8nm,0.6s,baz=299,slow=8.9,SNR=4.7						

MEX 27 16:52:08.4±0.5, 14.64N×93.03W, h16km±40km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.78**	**70**	*i* P	Pb	16 52 20.4	-3.2
THIG				*i* S	Sb	16 52 30.6	-3.5
PCIG		**1.07**	**350**	*eP*	Pb	16 52 25.1	-3.5
PCIG				*eS*	Sb	16 52 37.6	-4.7
CCIG	**Comitan**	**1.84**	**28**	*i* P	Pn	16 52 36.4	-3.2
CCIG				*eS*	Sn	16 52 58.1	-4.5
CMIG	**Matias Romero**	**3.02**	**324**	*eP*	Pn	16 52 53.2	-2.4
CMIG				*i* S	Sn	16 53 27.5	-3.9

IDC ***27*** *16:52:39.9±1.2, 4.17S×139.25E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/39, mbtmp3.4/5, ML2.6/1, MS3.1/5, Ms1 3.1/5, ms1mx2.7/25, Error ellipse: s-maj=33.3km s-min=23.9km az=126.0*

ISCJB ***27*** *16:52:40.2±0.7, 4.44S±0.09× 139.3E±0.2, h24km, mb3.4/3, MS3.1/4, Error ellipse: s-maj=24.6km s-min=7.2km az=25.7*

ISC 27 16:52:41.5±0.9, 4.5S±0.1× 139.4E±0.2, h24km, n11, σ1°77/9, mb3.4/3, MS3.2/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.32**	**34**	Pn	**Pn**	**16 53 16.1**	**-2.2**
	1.8nm,0.3s,baz=227,slow=14,SNR=5.4						
JAY				Sn	**Sn**	**16 53 47.5**	**+1.3**
	4.0nm,0.3s,baz=72,slow=20,SNR=3.8						
JAY				LR	LR	16 54 33.4	
	comp=Z,133nm,22.0s,baz=182,slow=52						
WRA	**Warramunga Arr**	**16.17**	**197**	Pn	**Pn**	**16 56 26.4**	**-0.9**
	0.1nm,0.3s,baz=19,slow=12,SNR=4.8						
WRA				Sn	**Sn**	**16 59 25.2**	**-0.8**
	0.1nm,0.3s,baz=19,slow=24,SNR=3.6						
WRA				Lg	Lg	17 01 13.9	
	0.1nm,0.3s,baz=17,slow=30,SNR=3.4						
ASAR	**Alice Springs**	**19.82**	**195**	P	**Pn**	**16 57 14.2**	**+2.0**
	2.7nm,0.9s,baz=21,slow=9.7,SNR=26						
STKA	**Stephens Creek**	**27.36**	**176**	LR	LR	17 10 22.8	
	comp=Z,99nm,20.4s,baz=21,slow=38						
JHJ	**Hachijo jima 2**	**37.37**	**1**	LR	LR	17 13 00.1	
	comp=Z,37nm,20.5s,baz=92,slow=33						
JNU	**Nakatsue**	**38.23**	**348**	LR	LR	17 14 09.2	
	comp=Z,18nm,20.8s,baz=111,slow=34						
CMAR	**Chiang Mai Arr**	**45.91**	**301**	P	**P**	**17 01 01.2**	**-1.4**
	0.3nm,0.6s,baz=127,slow=5.7,SNR=3.3						
PETK	**Petropavlovsk-**	**59.39**	**13**	LR	LR	17 25 04.0	
	comp=Z,18nm,21.8s,baz=112,slow=33						
MKAR	**Makanchi Array**	**71.58**	**323**	P	**P**	**17 04 02.5**	**+1.6**
	0.1nm,0.5s,baz=109,slow=7.9,SNR=2.5						
ILAR	**Eielson Array**	**87.12**	**24**	P	**P**	**17 05 26.5**	**+1.4**
	0.4nm,0.6s,baz=253,slow=5.5,SNR=6.9						
LPAZ	**La Paz**	**145.85**	**128**	PKPbc	**PKiKP**	**17 12 23.7**	**-0.5**
	1.2nm,0.7s,baz=292,slow=5.4,SNR=4.8						

TAP 27 16:52:48.2, 23.91N×120.99E, h11km, ML1.0, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.09**	**252**	P	Pg	16 52 51.5	+0.6
	baz=248						
SMLT				*eS*	Sg	16 52 54.1	+1.2
	baz=248						
TYC	**Yuchr**	**0.12**	**267**	P	Pg	16 52 51.6	+0.3
	baz=267						
TYC				S	Sg	16 52 54.0	+0.5
	baz=267						
SSLB	**Suanglung**	**0.13**	**196**	P	Pb	16 52 52.1	-0.6
	baz=195						
SSLB				S	Sg	16 52 54.4	+0.7
	baz=195						
OWD	**Renai**	**0.17**	**76**	P	Pb	16 52 53.3	-0.2
	baz=75						
OWD				S	Sg	16 52 56.2	+1.2
	baz=75						
VWDT	**VWDT**	**0.21**	**139**	*eP*	Pb	16 52 54.0	+0.1
	baz=138						
VWDT				S	Sg	16 52 57.7	+2.0
	baz=138						
CHGB	**Renai**	**0.22**	**48**	P	Pb	16 52 53.8	-0.6
	baz=48						
CHGB				S	Sg	16 52 57.1	+0.7
	baz=48						
WHYT	**Xinyi Township**	**0.25**	**211**	*eP*	Pg	16 52 53.7	+0.3
	baz=210						
WHYT				S	Sg	16 52 58.7	+1.8
	baz=210						
WJS	**Zhushan**	**0.26**	**250**	*eP*	Pb	16 52 54.5	-0.3
	baz=249						
WJS				*eS*	Sb	16 52 59.5	+0.2
	baz=249						
WHP	**Taichung City**	**0.37**	**353**	P	Pb	16 52 56.3	-0.5
	baz=353						
WHP				S	Sb	16 53 02.6	0.0
	baz=353						
TCU	**Taichung**	**0.37**	**309**	*eP*	Pb	16 52 56.2	-0.6
	baz=309						
ESL	**Shilin**	**0.41**	**103**	*eP*	Pg	16 52 56.9	+0.5
	baz=103						
EGFH	**Guangfu**	**0.47**	**121**	*eP*	Pb	16 52 58.5	+0.1
	baz=121						
EHY	**Hungye**	**0.50**	**143**	*eP*	Pb	16 52 59.0	-0.1
	baz=142						
EHY				*eS*	Sb	16 53 05.7	-0.7
	baz=142						
HGSD	**Ruisui**	**0.57**	**136**	*eP*	Pg	16 52 59.2	-0.2
	baz=136						
HGSD				*eS*	Sb	16 53 09.1	+0.7
	baz=136						
YULB	**Yu-li**	**0.59**	**151**	*eP*	Pb	16 53 00.4	-0.1
	baz=151						
YULB				*eS*	Sb	16 53 08.1	-0.6
	baz=151						
TWF1	**Yuli**	**0.62**	**153**	*eP*	Pb	16 53 01.0	-0.1
	baz=152						
TWF1				*eS*	Sb	16 53 10.2	+0.5
	baz=152						
WLGB	**Puzi**	**0.77**	**236**	*eP*	Pb	16 53 03.6	+0.1
	baz=235						
WLGB				*eS*	Sb	16 53 14.2	+0.2
	baz=235						

IDC ***27*** *16:57:49.9±0.8, 50.66N× 160.19E, h0km, mb3.6/8, mb1 3.8/10, mb1mx3.5/65, mbtmp3.5/10, ML2.7/2, Error ellipse: s-maj=20.9km s-min=19.6km az=145.0*

ISCJB ***27*** *16:57:53.1±0.6, 50.75N±0.04× 160.25E±0.06, h33km, mb3.5/8, Error ellipse: s-maj=5.7km s-min=5.2km az=152.9*

KRSC ***27*** *16:57:53.0±10.0, 50.84N× 160.08E, h99km±10km, ML4.0*

ISC 27 16:57:54.8±0.8, 50.74N±0.06× 160.24E±0.06, h35km, n38, σ1°25/48, mb3.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.73**	**309**	*eP*	**Pn**	**16 58 21.6**	**-0.7**
KDTR				*eS*	**Sn**	**16 58 42.2**	**-0.9**
RUS	**Russkaya**	**2.01**	**328**	*eP*	**Pn**	**16 58 25.1**	**-1.1**
RUS				*eS*	**Sn**	**16 58 49.1**	**-0.9**
MTVR	**Mutnovka**	**2.17**	**325**	*eP*	**Pn**	**16 58 27.8**	**-0.7**
MTVR				*eS*	**Sn**	**16 58 53.8**	**-0.4**
ASAK	**Asacha**	**2.20**	**319**	*eP*	**Pn**	**16 58 28.4**	**-0.5**
ASAK				*eS*	**Sn**	**16 58 55.2**	**+0.3**
PAU	**Pauzhetka**	**2.28**	**290**	*eP*	**Pn**	**16 58 29.8**	**-0.1**
PAU				*eS*	**Sn**	**16 58 56.3**	**-0.4**
SPN	**Mys Shipunski**	**2.37**	**357**	*eS*	**Sn**	**16 58 56.1**	**-2.8**
KRMR	**Karymshinskiy**	**2.47**	**329**	*eP*	**Pn**	**16 58 32.1**	**-0.4**
KRMR				*eS*	**Sn**	**16 59 01.3**	**-0.1**
DALK	**Dalny**	**2.47**	**339**	*eP*	**Pn**	**16 58 32.0**	**-0.5**
DALK				*eS*	**Sn**	**16 59 00.2**	**-1.3**
PET	**Petropavlovsk**	**2.49**	**337**	*eP*	**Pn**	**16 58 32.0**	**-0.8**
PET				*eS*	**Sn**	**16 58 59.2**	**-2.1**
NLC	**Nalytchevo**	**2.50**	**348**	*eS*	**Sn**	**16 59 02.2**	**+0.1**
SKR	**Severo-Kuril's**	**2.62**	**270**	*eP*	**Pn**	**16 58 33.2**	**-1.3**
SKR				*eS*	**Sn**	**16 59 02.7**	**-2.4**
UGLR	**Uglovaya**	**2.62**	**341**	*eP*	**Pn**	**16 58 34.6**	**-0.1**
SDLR	**Sedlovina**	**2.68**	**342**	*eP*	**Pn**	**16 58 35.1**	**-0.4**
SMAR	**Somma**	**2.68**	**341**	*eP*	**Pn**	**16 58 36.6**	**+1.0**
AVH	**Avacha**	**2.70**	**340**	*eP*	**Pn**	**16 58 36.0**	**+0.3**
KRER	**Koryakskii**	**2.73**	**341**	*eP*	**Pn**	**16 58 36.3**	**0.0**
KOK	**Koryaka**	**2.74**	**339**	*eP*	**Pn**	**16 58 36.9**	**+0.6**
KRX	**Arik**	**2.80**	**340**	*eP*	**Pn**	**16 58 37.2**	**0.0**
PETK	**Petropavlovsk-**	**2.85**	**327**	Pn	**Pn**	**16 58 38.0**	**+0.3**
	3.3nm,0.3s,baz=106,slow=15,SNR=77						
PETK				Sn	**Sn**	**16 59 13.2**	**+2.5**
	4.5nm,0.3s,baz=104,slow=18,SNR=9.1						
APC	**Apacha**	**2.91**	**320**	*eP*	**Pn**	**16 58 39.1**	**+0.6**
ALID	**Alaid**	**2.98**	**274**	*eP*	**Pn**	**16 58 38.2**	**-1.4**
MKZ	**Mys Kozlova**	**3.93**	**13**	*eP*	**Pn**	**16 58 51.2**	**-1.3**
MKZ				*eS*	**Sn**	**16 59 33.4**	**-4.0**
KZV	**Kizimen**	**4.38**	**0**	P	**Pn**	**16 58 58.3**	**-0.6**
KZV				*eS*	**Sn**	**16 59 47.3**	**-1.5**
TUMD	**Tumrok D**	**4.47**	**1**	*eP*	**Pn**	**16 58 59.8**	**-0.2**
TUMD				*eS*	**Sn**	**16 59 48.5**	**-2.3**
TUMR	**Tumrok**	**4.55**	**359**	*eP*	**Pn**	**16 59 02.1**	**+0.9**
KBTR	**Krutoberegovo**	**5.69**	**15**	*eP*	**Pn**	**16 59 16.0**	**-0.7**
KLR	**Kul'dur**	**18.34**	**276**	P	**P**	**17 02 04.5**	**-1.4**
	0.0nm,0.3s,baz=108,slow=9.6,SNR=3.7						
TIXI	**Tiksi**	**25.28**	**337**	P	**P**	**17 03 17.9**	**+0.6**
	2.6nm,0.6s,baz=126,slow=12,SNR=10						
ILAR	**Eielson Array**	**30.45**	**42**	P	**P**	**17 04 03.5**	**-0.2**
	0.3nm,0.6s,baz=253,slow=8.1,SNR=4.4						
H11N2	**WAKE ISLAND Hy**	**31.39**	**168**	T	T	17 37 12.2	
	baz=352,slow=76,SNR=5.1						
H11N3	**WAKE ISLAND Hy**	**31.40**	**168**	T	T	17 37 10.4	
	baz=352,slow=76,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**31.40**	**168**	T	T	17 37 13.4	
	baz=352,slow=76,SNR=5.4						

	baz=357						
E40A	**Wakefield**	**2.44**	**115**	P	**Pn**	**17 01 02.9**	**-0.2**
	baz=299						
E40A				S	**Sn**	**17 01 33.3**	**-0.3**
	baz=299						
G38A	**Ridgeland**	**2.50**	**159**	P	**Pn**	**17 01 04.4**	**+0.5**
	baz=342,SNR=10						
G38A				S	**Sn**	**17 01 35.2**	**+0.2**
	baz=342						
F40A	**Park Falls**	**2.59**	**127**	P	**Pn**	**17 01 05.6**	**+0.3**
	baz=311,SNR=14						
F40A				S	**Sn**	**17 01 37.5**	**0.0**
	baz=311						
G39A	**Holcombe**	**2.59**	**148**	P	**Pn**	**17 01 05.6**	**+0.4**
	baz=332,SNR=17						
G39A				S	**Sn**	**17 01 37.7**	**+0.2**
	baz=332						
C40A	**Isle Royale Na**	**2.69**	**80**	P	**Pn**	**17 01 07.0**	**+0.4**
	baz=264						
C40A				S	**Sn**	**17 01 40.6**	**+0.7**
	baz=264						
H38A	**Maiden Rock**	**2.89**	**168**	S	**Sn**	**17 01 44.8**	**0.0**
	baz=351						
G40A	**Rib Lake**	**3.01**	**137**	P	**Pn**	**17 01 10.9**	**-0.1**
	baz=321,SNR=6.9						
G40A				S	**Sn**	**17 01 48.2**	**+0.5**
	baz=321						
E41A	**Kenton**	**3.02**	**109**	P	**Pn**	**17 01 11.7**	**+0.6**
	baz=293,SNR=6.1						
E41A				S	**Sn**	**17 01 48.2**	**+0.3**
	baz=293						
COWI	**Conover**	**3.06**	**116**	*e*Pn	**Pn**	**17 01 12.1**	**+0.4**
COWI				*e*Sn	**Sn**	**17 01 47.0**	**-2.1**
D41A	**Chassel**	**3.12**	**97**	P	**Pn**	**17 01 12.8**	**+0.4**
	baz=281						
D41A				S	**Sn**	**17 01 50.9**	**+0.5**
	baz=281						
ULM	**Lac du Bonnet**	**3.30**	**327**	Pn	**Pn**	**17 01 16.1**	**+1.2**
	0.2nm,0.3s,baz=176,slow=16,SNR=2.1						
ULM				Pg	**Pb**	**17 01 22.2**	**+0.9**
	0.4nm,0.3s,baz=168,slow=19,SNR=4.8						
ULM				Lg	Lg	17 02 05.8	
	0.9nm,0.3s,baz=64,slow=22,SNR=12						
H41A	**Junction City**	**3.76**	**139**	P	**Pn**	**17 01 21.1**	**-0.2**
	baz=323						
H41A				S	**Sn**	**17 02 05.5**	**-0.7**
	baz=323						
F42A	**Maple Grove Fa**	**3.84**	**115**	P	**Pn**	**17 01 22.5**	**+0.2**
	baz=300						
G42A	**Mountain**	**3.95**	**123**	P	**Pn**	**17 01 23.7**	**-0.1**
	baz=308						
G42A				S	**Sn**	**17 02 10.5**	**-0.3**
	baz=308						
I40A	**Norwalk**	**4.02**	**153**	P	**Pn**	**17 01 25.1**	**+0.3**
	baz=337						
J39A	**Decorah**	**4.29**	**166**	S	**Sn**	**17 02 18.7**	**-0.6**
	baz=348						
E43A	**Lone Tree Farm**	**4.33**	**103**	P	**Pn**	**17 01 29.4**	**+0.3**
	baz=288						
E43A				S	**Sn**	**17 02 20.6**	**+0.4**
	baz=288						
G43A	**Wallace**	**4.37**	**119**	P	**Pn**	**17 01 29.4**	**-0.2**
	baz=304						
G43A				S	**Sn**	**17 02 20.1**	**-1.1**
	baz=304						
H42A	**Shiocton**	**4.37**	**132**	Sb	**Sb**	**17 02 34.6**	**+1.6**
	baz=316						
MDND	**Maddock**	**4.41**	**277**	S	**Sn**	**17 02 22.5**	**+0.3**
	baz=91						
F43A	**Flat Rock, Esc**	**4.41**	**110**	S	**Sn**	**17 02 21.4**	**-0.8**
	baz=296						
ECSD	**EROS Data Cent**	**4.51**	**214**	Pn	**Pn**	**17 01 32.4**	**+0.8**
ECSD				*e*Sg	**Sb**	**17 02 38.8**	**+1.7**
ECSD	**EROS Data Cent**	**4.51**	**214**	Sb	**Sb**	**17 02 38.4**	**+1.3**
	baz=32						
I42A	**Draeger Farm,**	**4.66**	**140**	Sb	**Sb**	**17 02 43.2**	**+2.0**
	baz=324						
J41A	**Loganville**	**4.68**	**151**	Sb	**Sb**	**17 02 43.7**	**+1.9**
	baz=335						
H43A	**Windswept, Lux**	**4.80**	**127**	Sb	**Sb**	**17 02 47.5**	**+2.2**
	baz=312						
F44A	**Big Bay de Noc**	**4.84**	**106**	P	**Pn**	**17 01 36.1**	**+0.1**
	baz=292						
F44A				Sb	**Sb**	**17 02 49.5**	**+3.1**
	baz=292						
K40A	**Colesburg**	**5.01**	**163**	Sb	**Sb**	**17 02 53.8**	**+2.6**
	baz=346						
I43A	**Langenfeld Bro**	**5.02**	**135**	Sb	**Sb**	**17 02 54.4**	**+2.9**
	baz=319						
JFWS	**Jewell Farm**	**5.02**	**155**	Pn	**Pn**	**17 01 38.5**	**-0.1**
JFWS				Sn	**Sb**	**17 02 46.3**	**-5.2**
JFWS	**Jewell Farm**	**5.02**	**155**	Sb	**Sb**	**17 02 53.4**	**+1.8**
	baz=338						
J42A	**Columbus**	**5.04**	**145**	Sb	**Sb**	**17 02 54.4**	**+2.2**
	baz=329						
SUSD	**Miller**	**5.11**	**235**	Sb	**Sb**	**17 02 57.5**	**+3.3**
	baz=51						
J43A	**Natural Harves**	**5.28**	**140**	Sb	**Sb**	**17 03 01.7**	**+2.6**
	baz=324						
K41A	**Shullsburg**	**5.29**	**157**	Sb	**Sb**	**17 03 02.0**	**+2.7**
	baz=340						
ANMO	**Albuquerque**	**16.05**	**223**	LR	LR	17 09 54.0	
	comp=Z,52nm,20.8s,baz=51,slow=38						
YKA	**Yellowknife Ar**	**19.27**	**329**	P	**P**	**17 04 47.5**	**-0.4**
	0.0nm,0.3s,baz=129,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**33.30**	**321**	P	**P**	**17 06 59.8**	**-1.1**
	0.2nm,0.6s,baz=94,slow=8.2,SNR=3.1						

*ROM **27** 17:06:24.9±0.1, 44.˙077N±0.˙006×12.˙726E±0.˙009, h18km±2km, ML2.5/34*
*ISCJB **27** 17:06:25.3±0.3, 44.˙07N±0.˙02×12.˙72E±0.˙04, h12km±2km, Error ellipse: s-maj=4.5km s-min=2.6km az=16.3*
ISC 27 17:06:26.0±0.8**, 44.˙03N**±0.˙02×**12.˙68E**±0.˙03**, h16**km±6km, **n43, σ0.87/59, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PESA	**Pesaro**	**0.14**	**127**	P	**Pg**	**17 06 29.4**	**-0.5**
PESA				S	**Sg**	**17 06 32.8**	**+0.2**
PESA				AML	AML		
	comp=E,10560μm,0.8s						
PESA				AML	AML		
	comp=N,9095μm,0.5s						
PESA				AML	AML		
	comp=E,10560μm,0.8s						
PESA				AML	AML		
	comp=N,9095μm,0.5s						
PESA				AML	AML		
	comp=E,10560μm,0.8s						
PESA				AML	AML		
	comp=N,9095μm,0.5s						
PESA				AML	AML		
	comp=E,10560μm,0.8s						
PESA				AML	AML		
	comp=N,9095μm,0.5s						
BLLA	**Bellaria**	**0.19**	**308**	P	**Pb**	**17 06 30.2**	**-0.9**
BLLA				S	**Sg**	**17 06 33.8**	**+0.1**
BLLA				AML	AML		
	comp=E,2120μm,0.3s						
BLLA				AML	AML		
	comp=N,2590μm,1.2s						
BLLA				AML	AML		
	comp=E,2120μm,0.3s						
BLLA				AML	AML		
	comp=N,2585μm,1.2s						
BLLA				AML	AML		
	comp=E,2120μm,0.3s						
BLLA				AML	AML		
	comp=N,2587μm,1.2s						
BLLA				AML	AML		
	comp=E,2120μm,0.3s						
BLLA				AML	AML		
	comp=N,2587μm,1.2s						
RSM	**Repubblica di**	**0.19**	**240**	P	**Pb**	**17 06 30.4**	**-0.7**
RSM				S	**Sg**	**17 06 34.8**	**+0.9**
RSM				AML	AML		
	comp=E,1028μm,0.5s						
RSM				AML	AML		
	comp=N,1016μm,0.4s						
RSM				AML	AML		
	comp=E,1028μm,0.5s						
RSM				AML	AML		
	comp=N,1016μm,0.4s						
RSM				AML	AML		
	comp=E,1028μm,0.5s						
RSM				AML	AML		
	comp=N,1016μm,0.4s						
RSM				AML	AML		
	comp=E,1028μm,0.5s						
RSM				AML	AML		
	comp=N,1016μm,0.4s						
FSSB	**Fossombrone**	**0.34**	**168**	P	**Pg**	**17 06 32.6**	**-0.5**
FSSB				S	**Sb**	**17 06 38.9**	**0.0**
FSSB				AML	AML		
	comp=E,2500μm,0.2s						
FSSB				AML	AML		
	comp=N,2670μm,1.5s						
FSSB				AML	AML		
	comp=E,2500μm,0.2s						
FSSB				AML	AML		
	comp=N,2670μm,1.5s						
FSSB				AML	AML		
	comp=E,2500μm,0.2s						
FSSB				AML	AML		
	comp=N,2670μm,1.5s						
CPGN	**Carpegna, Ital**	**0.34**	**229**	P	**Pb**	**17 06 33.5**	**-0.2**
CPGN				AML	AML		
	comp=E,366μm,1.2s						
CPGN				AML	AML		
	comp=N,403μm,1.6s						
CPGN				AML	AML		
	comp=E,366μm,1.2s						
CPGN				AML	AML		
	comp=N,403μm,1.6s						
CPGN				AML	AML		
	comp=E,366μm,1.2s						
CPGN				AML	AML		
	comp=N,403μm,1.6s						
CPGN				AML	AML		
	comp=N,403μm,1.6s						
CPGN				AML	AML		
	comp=E,366μm,1.2s						
PE3	**Peglio**	**0.36**	**202**	P	**Pb**	**17 06 33.0**	**-0.9**
PE3				S	**Sb**	**17 06 39.8**	**+0.5**
PE3				AML	AML		
	comp=E,1340μm,0.4s						
PE3				AML	AML		
	comp=N,1135μm,0.3s						
PE3				AML	AML		
	comp=E,1340μm,0.4s						
PE3				AML	AML		
	comp=N,1135μm,0.3s						
PE3				AML	AML		
	comp=E,1335μm,0.4s						
PE3				AML	AML		
	comp=N,1135μm,0.3s						
PE3				AML	AML		
	comp=N,1135μm,0.3s						
PE3				AML	AML		
	comp=E,1335μm,0.4s						
MPAG	**Monte Paganucc**	**0.40**	**172**	P	**Pg**	**17 06 33.6**	**-0.6**
MPAG				S	**Sb**	**17 06 40.5**	**-0.1**
MPAG				AML	AML		
	comp=E,1310μm,0.4s						
MPAG				AML	AML		
	comp=N,1115μm,0.2s						
MPAG				AML	AML		
	comp=E,1310μm,0.4s						
MPAG				AML	AML		
	comp=N,1115μm,0.2s						
MPAG				AML	AML		
	comp=E,1310μm,0.4s						
MPAG				AML	AML		
	comp=N,1115μm,0.2s						
MPAG				AML	AML		
	comp=N,1115μm,0.2s						
MPAG				AML	AML		
	comp=E,1310μm,0.4s						
COR1	**Corinaldo**	**0.46**	**149**	P	**Pb**	**17 06 35.4**	**-0.3**
COR1				AML	AML		
	comp=E,585μm,0.8s						
COR1				AML	AML		
	comp=N,1042μm,1.3s						
PARC	**Parchiule**	**0.49**	**220**	P	**Pb**	**17 06 35.3**	**-1.0**
PARC				S	**Sb**	**17 06 43.8**	**+0.5**
PARC				AML	AML		
	comp=E,210μm,1.1s						
PARC				AML	AML		
	comp=N,210μm,1.2s						
PARC				AML	AML		
	comp=E,210μm,1.1s						
PARC				AML	AML		
	comp=N,210μm,1.2s						
PARC				AML	AML		
	comp=N,210μm,1.2s						
PARC				AML	AML		
	comp=E,210μm,1.1s						
PIEI	**Pieia**	**0.50**	**192**	P	**Pg**	**17 06 35.3**	**-0.7**
PIEI				S	**Sb**	**17 06 43.7**	**+0.2**
PIEI				AML	AML		
	comp=E,1165μm,0.5s						
PIEI				AML	AML		
	comp=N,802μm,1.0s						
PIEI				AML	AML		
	comp=E,1165μm,0.5s						
PIEI				AML	AML		
	comp=N,802μm,1.0s						
PIEI				AML	AML		
	comp=E,1165μm,0.5s						
PIEI				AML	AML		
	comp=N,802μm,1.0s						
PIEI				AML	AML		
	comp=E,1165μm,0.5s						
PIEI				AML	AML		
	comp=N,802μm,1.0s						
FRON	**Frontone**	**0.51**	**176**	P	**Pg**	**17 06 35.7**	**-0.5**
FRON				S	**Sb**	**17 06 44.2**	**+0.5**
FRON				AML	AML		
	comp=E,620μm,0.7s						
FRON				AML	AML		
	comp=N,1280μm,0.5s						
FRON				AML	AML		
	comp=E,620μm,0.7s						
FRON				AML	AML		
	comp=N,1278μm,0.5s						
FRON				AML	AML		
	comp=N,1278μm,0.5s						
FRON				AML	AML		
	comp=E,620μm,0.7s						
ATBU	**Serra di Buran**	**0.56**	**190**	P	**Pb**	**17 06 36.7**	**-0.7**
ATBU				S	**Sb**	**17 06 46.3**	**+1.1**
ATBU				AML	AML		
	comp=E,1385μm,0.3s						
ATBU				AML	AML		
	comp=N,1560μm,0.3s						
ATBU				AML	AML		
	comp=E,1385μm,0.3s						
ATBU				AML	AML		
	comp=N,1560μm,0.3s						
ATBU				AML	AML		
	comp=N,1560μm,0.3s						
ATBU				AML	AML		
	comp=E,1385μm,0.3s						
ARVD	**Arcevia**	**0.56**	**160**	P	**Pg**	**17 06 36.4**	**-0.8**
ARVD				AML	AML		
	comp=E,256μm,0.8s						
ARVD				AML	AML		
	comp=N,240μm,1.5s						
ARVD				AML	AML		
	comp=E,256μm,0.8s						
ARVD				AML	AML		
	comp=N,240μm,1.5s						
ARVD				AML	AML		
	comp=E,256μm,0.8s						
ARVD				AML	AML		
	comp=N,240μm,1.5s						
ATPC	**Poggio Castell**	**0.57**	**197**	P	**Pb**	**17 06 36.9**	**-0.7**
ATPC				S	**Sn**	**17 06 46.9**	**-1.6**
ATPC				AML	AML		
	comp=E,940μm,0.2s						
ATPC				AML	AML		
	comp=N,797μm,0.5s						
ATPC				AML	AML		
	comp=E,940μm,0.2s						
ATPC				AML	AML		
	comp=N,797μm,0.5s						
ATPC				AML	AML		
	comp=E,940μm,0.2s						
ATPC				AML	AML		
	comp=N,797μm,0.5s						
SSFR	**Montelago di S**	**0.59**	**173**	P	**Pg**	**17 06 37.2**	**-0.6**
SSFR				S	**Sb**	**17 06 46.8**	**+0.6**
SSFR				AML	AML		
	comp=E,1610μm,0.2s						
SSFR				AML	AML		
	comp=N,1355μm,0.5s						
SSFR				AML	AML		
	comp=N,1355μm,0.5s						
SSFR				AML	AML		
	comp=E,1610μm,0.2s						
BADI	**Badiali**	**0.61**	**212**	P	**Pb**	**17 06 37.3**	**-0.9**
BADI				S	**Sn**	**17 06 47.8**	**-1.5**
BADI				AML	AML		
	comp=E,304μm,1.5s						
BADI				AML	AML		
	comp=N,400μm,0.5s						
BADI				AML	AML		
	comp=E,304μm,1.5s						
BADI				AML	AML		
	comp=N,400μm,0.5s						
BADI				AML	AML		
	comp=N,400μm,0.5s						
BADI				AML	AML		
	comp=E,304μm,1.5s						
ATPI	**Pietralunga -**	**0.61**	**199**	P	**Pb**	**17 06 37.5**	**-0.8**
ATPI				S	**Sb**	**17 06 47.6**	**+1.0**
ATPI				AML	AML		
	comp=E,299μm,0.3s						
ATPI				AML	AML		
	comp=N,216μm,0.4s						
ATPI				AML	AML		
	comp=E,299μm,0.3s						
ATPI				AML	AML		
	comp=N,217μm,0.4s						
ATPI				AML	AML		
	comp=E,299μm,0.3s						
ATPI				AML	AML		
	comp=N,217μm,0.4s						
ATVO	**AVT- Monte Val**	**0.68**	**197**	P	**Pb**	**17 06 38.6**	**-0.8**
ATVO				AML	AML		
	comp=E,386μm,0.2s						
ATVO				AML	AML		
	comp=N,340μm,0.5s						
ATVO				AML	AML		
	comp=E,387μm,0.2s						
ATVO				AML	AML		
	comp=N,340μm,0.5s						
ATVO				AML	AML		
	comp=N,340μm,0.5s						
ATVO				AML	AML		
	comp=E,387μm,0.2s						
ATMC	**Monte Cedrone**	**0.68**	**211**	P	**Pb**	**17 06 38.9**	**-0.5**
ATMC				AML	AML		
	comp=E,226μm,0.4s						
ATMC				AML	AML		
	comp=N,228μm,0.3s						
ATMC				AML	AML		
	comp=E,226μm,0.4s						
ATMC				AML	AML		
	comp=N,228μm,0.3s						
ATMC				AML	AML		
	comp=N,228μm,0.3s						
ATMC				AML	AML		
	comp=E,226μm,0.4s						
ASQU	**Asqua**	**0.68**	**251**	P	**Pb**	**17 06 38.7**	**-0.8**
ASQU				AML	AML		
	comp=E,218μm,0.7s						
ASQU				AML	AML		
	comp=N,226μm,0.5s						
ASQU				AML	AML		
	comp=E,218μm,0.7s						
ASQU				AML	AML		
	comp=N,226μm,0.5s						
ASQU				AML	AML		
	comp=E,218μm,0.7s						
ASQU				AML	AML		
	comp=N,226μm,0.5s						
CING	**Cingoli**	**0.75**	**150**	P	**Pb**	**17 06 40.5**	**-0.1**
CING				AML	AML		
	comp=E,180μm,1.2s						
CING				AML	AML		
	comp=N,193μm,0.3s						
CING				AML	AML		
	comp=E,180μm,1.2s						
CING				AML	AML		
	comp=N,193μm,0.3s						
EL6	**Elcito**	**0.76**	**156**	P	**Pg**	**17 06 40.4**	**-0.5**
MURB	**Monte Urbino**	**0.77**	**188**	P	**Pb**	**17 06 40.7**	**-0.4**
MURB				AML	AML		
	comp=E,978μm,0.4s						
MURB				AML	AML		
	comp=N,1024μm,0.4s						
MURB				AML	AML		
	comp=E,1052μm,0.4s						
MURB				AML	AML		
	comp=N,1110μm,0.4s						
MURB				AML	AML		
	comp=E,978μm,0.4s						
MURB				AML	AML		
	comp=N,1022μm,0.4s						
MURB				AML	AML		
	comp=E,1052μm,0.4s						
MURB				AML	AML		
	comp=N,1110μm,0.4s						
MURB				AML	AML		
	comp=N,1110μm,0.4s						
MURB				AML	AML		
	comp=N,1022μm,0.4s						
MURB				AML	AML		
	comp=E,1052μm,0.4s						
MURB				AML	AML		
	comp=E,978μm,0.4s						
SNTG	**Esanatoglia**	**0.80**	**166**	P	**Pb**	**17 06 41.2**	**-0.2**
SNTG				AML	AML		
	comp=E,242μm,0.3s						
SNTG				AML	AML		
	comp=N,361μm,1.5s						
SNTG				AML	AML		
	comp=E,242μm,0.3s						
SNTG				AML	AML		
	comp=N,361μm,1.5s						
SNTG				AML	AML		
	comp=E,242μm,0.3s						
SNTG				AML	AML		
	comp=N,361μm,1.5s						
ATCC	**AVT- Casa Cast**	**0.84**	**182**	P	**Pg**	**17 06 41.7**	**-0.7**
ATCC				AML	AML		
	comp=E,601μm,0.6s						
ATCC				AML	AML		
	comp=N,692μm,0.3s						
ATCC				AML	AML		
	comp=E,601μm,0.6s						
ATCC				AML	AML		
	comp=N,692μm,0.3s						
ATCC				AML	AML		
	comp=E,601μm,0.6s						
ATCC				AML	AML		
	comp=N,692μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.86**	**196**	P	**Pb**	**17 06 42.2**	**-0.4**
ATTE				AML	AML		
	comp=E,152μm,0.5s						
ATTE				AML	AML		
	comp=N,140μm,0.4s						
ATTE				AML	AML		
	comp=E,152μm,0.5s						
ATTE				AML	AML		
	comp=N,140μm,0.4s						
ATTE				AML	AML		
	comp=N,140μm,0.4s						
ATTE				AML	AML		
	comp=E,152μm,0.5s						
CAFI	**Castiglion Fio**	**0.87**	**217**	P	**Pb**	**17 06 42.1**	**-0.6**
CAFI				AML	AML		
	comp=E,86μm,1.2s						
CAFI				AML	AML		
	comp=N,92μm,0.8s						
CAFI				AML	AML		
	comp=E,86μm,1.2s						
CAFI				AML	AML		
	comp=N,92μm,0.8s						
SEI	**Scarperia**	**0.95**	**272**	AML	AML		
	comp=N,459μm,0.7s						
SEI				AML	AML		
	comp=E,223μm,0.5s						
SEI				AML	AML		
	comp=N,459μm,0.7s						
SEI				AML	AML		

comp=E,223μm,0.5s
SEI AML AML
comp=N,459μm,0.7s
SEI AML AML
comp=E,223μm,0.5s
ASSB Assisi San Ben 0.98 181 P **Pg 17 06 43.9 -1.1**
ASSB AML AML
comp=E,322μm,0.3s
ASSB AML AML
comp=N,432μm,0.9s
ASSB AML AML
comp=E,322μm,0.3s
ASSB AML AML
comp=N,432μm,0.9s
ASSB AML AML
comp=E,322μm,0.3s
ASSB AML AML
comp=N,432μm,0.9s
CSP1 Cessapalombo 1.01 158 P **Pb 17 06 44.9 -0.2**
FDMO Fiordimonte 1.03 163 P **Pb 17 06 45.0 -0.4**
FDMO AML AML
comp=E,164μm,0.3s
FDMO AML AML
comp=N,152μm,0.7s
FDMO AML AML
comp=N,152μm,0.7s
FDMO AML AML
comp=E,164μm,0.3s
CESI CESI - Serrava 1.03 171 P **Pb 17 06 44.9 -0.6**
CESI AML AML
comp=E,64μm,0.4s
CESI AML AML
comp=N,114μm,0.4s
CESI AML AML
comp=N,114μm,0.4s
CESI AML AML
comp=E,64μm,0.4s
MGAB Montegabbione 1.19 201 P **Pg 17 06 48.3 -0.7**
MGAB AML AML
comp=E,202μm,0.4s
MGAB AML AML
comp=N,172μm,0.4s
MGAB AML AML
comp=E,218μm,0.4s
MGAB AML AML
comp=N,144μm,0.5s
MGAB AML AML
comp=E,218μm,0.4s
MGAB AML AML
comp=E,202μm,0.4s
MGAB AML AML
comp=N,144μm,0.5s
MGAB AML AML
comp=N,172μm,0.4s
LNSS **Leonessa 1.45 169** AML AML
comp=N,121μm,0.5s
LNSS AML AML
comp=E,128μm,0.3s
LNSS AML AML
comp=N,121μm,0.5s
LNSS AML AML
comp=E,128μm,0.3s
NVLJ Novalja 1.66 70 *e*Pn **Pb 17 06 55.5 -0.7**
NVLJ Sn **Sn 17 07 15.3 -0.1**
STAL STALIGIAL 2.23 1 AML AML
comp=E,44μm,0.8s
STAL AML AML
comp=N,38μm,0.2s
STAL AML AML
comp=N,38μm,0.2s
STAL AML AML
comp=E,44μm,0.8s
UDBI Udbina 2.27 76 *e*Pn **Pb 17 07 05.2 -1.4**
ABTA Abfaltersbach 2.72 358 Pn **Pn 17 07 10.4 +1.3**
comp=E,0.7nm,0.2s
OBKA Obir 2.81 27 Pn **Pn 17 07 10.9 +0.6**
OBKA Pg **Pg 17 07 19.1 -0.8**
comp=E,1.6nm,0.3s
OBKA Sg **Sg 17 07 57.3 +1.0**
comp=E,3.7nm,0.3s
SOKA Soboth 3.13 31 Pg **Pg 17 07 24.9 -1.0**
comp=E,0.5nm,0.3s
SOKA Sg **Sg 17 08 06.5 +0.1**
comp=E,0.8nm,0.4s
FETA Feichten 3.29 336 *e*Pn **Pn 17 07 19.0 +2.0**
comp=E,1.2nm,0.4s
FETA Pg **Pg 17 07 28.2 -0.9**
comp=E,0.7nm,0.3s
SQTA Sankt Quirin 3.36 343 *e*Pn **Pn 17 07 20.3 +2.5**
comp=E,3.1nm,0.3s
MOA Molln 3.98 16 *e*Pn **Pn 17 07 27.2 +0.9**
comp=E,0.3nm,0.1s

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*ISCJB **27** 17:14:26.1±1.2, 12°.1S±0°.1×166°.6E±0°.2, h300km, mb3.5/7, Error ellipse: s-maj=27.1km s-min=18.4km az=13.5*
*IDC **27** 17:14:26.4±11.0, 12°.11S×166°.61E, h292km±145km, mb3.2/7, mb1 3.4/8, mb1mx3.1/42, mbtmp3.9/8, MS3.6/2, Ms1 3.6/2, ms1mx2.9/7, Error ellipse: s-maj=122.0km s-min=25.3km az=156.0*

ISC 27 17:14:27.1±1.3, 12°.1S±0°.1×166°.6E±0°.2, h300km, n10, σ0§67/8, mb3.5/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.88**	**181**	P			**Pn**	**17 16 44.0**	**+0.2**
	0.3nm,0.3s,baz=330,slow=20,SNR=6.8								
CTA	**Charters Tower**	**21.10**	**245**	P			**P**	**17 18 48.6**	**-0.4**
	5.3nm,1.1s,baz=80,slow=11,SNR=3.0								
URZ	**Urewera**	**27.64**	**162**	LR			LR	17 29 10.4	
	comp=Z,97nm,19.5s,baz=354,slow=32								
RPZ	**Rata Peaks**	**31.69**	**174**	LR			LR	17 32 29.9	
	comp=Z,136nm,18.6s,baz=334,slow=34								
WRA	**Warramunga Arr**	**31.95**	**252**	P			**P**	**17 20 25.0**	**-0.8**
	0.8nm,0.7s,baz=82,slow=9.0,SNR=6.4								
ASAR	**Alice Springs**	**33.10**	**245**	P			**P**	**17 20 35.2**	**-0.6**
	0.6nm,0.6s,baz=68,slow=10,SNR=16								
FITZ	**Fitzroy Crossi**	**39.95**	**256**	P			**P**	**17 21 33.7**	**+0.5**
	2.9nm,0.9s,baz=104,slow=8.3,SNR=3.4								
SONM	**Songino Array**	**80.06**	**324**	P			**P**	**17 26 04.2**	**+0.4**
	0.2nm,0.4s,baz=131,slow=4.9,SNR=3.8								
ILAR	**Eielson Array**	**84.27**	**18**	P			**P**	**17 26 24.4**	**-0.7**
	0.5nm,0.6s,baz=240,slow=4.7,SNR=8.6								
MKAR	**Makanchi Array**	**94.91**	**317**	P			**P**	**17 27 16.1**	**+0.6**
	0.3nm,0.5s,baz=95,slow=5.3,SNR=5.4								

IDC 27 17:31:52.4±10.0, 29°.68S×178°.42W, h271km±101km, mb2.7/2, mb1 3.1/3, mb1mx2.9/27, mbtmp3.6/3, Error ellipse: s-maj=88.8km s-min=51.3km az=14.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.61**	**45**	LR			LR	17 32 33.1	
	comp=Z,2μm,21.5s,baz=214,slow=66								
URZ	**Urewera**	**9.32**	**202**	P			Pn	17 34 03.4	+1.2
	0.9nm,0.3s,baz=12,slow=19,SNR=11								
URZ				S			S	17 35 44.6	-2.9
	1.3nm,0.3s,baz=95,slow=23,SNR=8.5								
ASAR	**Alice Springs**	**42.79**	**266**	P			P	17 39 24.1	+0.1
	0.5nm,1.0s,baz=103,slow=7.7,SNR=3.8								
WRA	**Warramunga Arr**	**43.71**	**272**	P			P	17 39 31.2	-0.1
	0.2nm,0.3s,baz=108,slow=8.0,SNR=10								
FINES	**FINESS Array B**	**144.35**	**340**	PKP			PKPab	17 50 54.5	0.0
	0.9nm,0.4s,baz=28,slow=2.4,SNR=9.9								

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*MOS **27** 17:44:50.3±0.9, 26°.04S×177°.37W, h137km, mb4.8/20, Error ellipse: s-maj=11.4km s-min=10.4km az=136.8*
*IDC **27** 17:44:52.5±0.6, 26°.00S×177°.32W, h147km±5km, mb4.3/22, mb1 4.5/23, mb1mx4.4/31, mbtmp4.8/23, MS3.5/8, Ms1 3.5/8, ms1mx3.2/32, Error ellipse: s-maj=13.1km s-min=11.5km az=164.0*
*WEL **27** 17:44:52.0, 26°.04S×177°.34W, h146km*
*NEIC **27** 17:44:52.1±0.7, 26°.04S×177°.34W, h146km±6km, mb4.8/53, Error ellipse: s-maj=9.0km s-min=5.2km az=151.0*
*GCMT **27** 17:44:53.1±0.3, 26°.06S±0°.03×176°.99W±0°.02, h158km±4km, MW5.0/76, Moment Tensor Solution. s24,c29; s76,c104; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.69±.16; Mθθ-0.24±.20; Mφφ-0.44±.19; Mrθ-0.38±.12; Mrφ-1.68±.15; Mθφ2.93±.11; Best double couple: M0 3.44000×10^16^ NP1:φs0.00000°, δ84.00000°, λ60.00000°. NP2:φs260.00000°, δ30.00000°, λ168.00000°.*

Principal axes: T 3.6110, Plg43.0000°, Azm242.0000°; N -0.3420, Plg30.0000°, Azm4.0000°; P -3.2690, Plg32.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*ISCJB **27** 17:44:54.8±0.7, 26°.61S±0°.04×177°.27W±0°.05, h194km±7km, mb4.5/73 Error ellipse: s-maj=7.7km s-min=5.5km az=39.4*

ISC 27 17:44:52.4±0.4, 26°.19S±0°.05×177°.34W±0°.06, h149km±4km, h149km:pP-P, n302, σ1§80/296, mb4.7/73, 12C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**3.09**	**190**	P			**Pn**	**17 45 41.7**	**+0.9**
RIZ				S			**Sn**	**17 46 21.9**	**+3.5**
RAO	**Raoul Island**	**3.10**	**189**	*e*Pn			**Pn**	**17 45 41.2**	**+0.3**
RAO				*e*Pn			Pn	17 45 41.5	+0.6
RAO				*e*Sn			**Sn**	**17 46 20.7**	**+2.2**
RAO	**Raoul Island**	**3.10**	**189**	*e*P			**Pn**	**17 45 41.2**	**+0.3**
RAO				*e*				17 46 20.7	
RAO	**Raoul Island**	**3.10**	**189**	P			**Pn**	**17 45 41.5**	**+0.6**
	148nm,0.3s,baz=69,slow=7.5,SNR=10								
RAO				S			**Sn**	**17 46 20.7**	**+2.2**
	1μm,0.3s,baz=86,slow=23,SNR=17								
GLKZ	**Green Lake**	**3.11**	**189**	P			**Pn**	**17 45 41.2**	**+0.1**
GLKZ				S			**Sn**	**17 46 21.3**	**+2.6**
NIUE	**Niue**	**9.84**	**46**	*e*Pn			Pn	17 47 02.8	-7.6
NIUE				*e*Sn			Sn	17 48 40.7	-19
OUZ	**Omahuta**	**11.91**	**219**	*e*Pn			**P**	**17 47 42.6**	**-1.6**
OUZ	**Omahuta**	**11.91**	**219**	P			**P**	**17 47 42.6**	**-1.6**
WCZ	**Waipu Caves**	**12.05**	**214**	P			**Pn**	**17 47 39.3**	**+0.1**
WMGZ	**Waiomatatini S**	**12.14**	**196**	P			Pn	17 47 32.6	-7.9
WMGZ				S			Sn	17 49 45.9	-8.7
HAZ	**Te Kaha**	**12.25**	**199**	P			Pn	17 47 33.9	-8.0
HAZ				S			**Sn**	**17 49 50.3**	**-7.0**
PKGZ	**Pakihiroa**	**12.30**	**197**	P			Pn	17 47 33.5	-9.0
PKGZ				S			Sn	17 49 46.3	-12
WIAZ	**Waiheke Island**	**12.37**	**209**	P			**P**	**17 47 47.0**	**-2.3**
PUZ	**Puketiti**	**12.42**	**196**	P			Pn	17 47 34.1	-10
PUZ				S			Sn	17 49 51.0	-10
RUGZ	**Raukumara Rang**	**12.48**	**199**	P			Pn	17 47 36.8	-8.1
TWGZ	**Tauwhareparae**	**12.59**	**197**	P			Pn	17 47 38.4	-8.0
TWGZ				S			Sn	17 49 55.5	-10
OPRZ	**Ohinepanea**	**12.72**	**202**	P			**Pn**	**17 47 45.5**	**-2.4**
CNGZ	**Carnagh Statio**	**12.82**	**196**	P			Pn	17 47 41.5	-7.7
MWZ	**Matawai**	**12.86**	**198**	P			Pn	17 47 40.2	-10
TKGZ	**Te Karaka**	**12.88**	**197**	P			Pn	17 47 44.0	-5.9
URZ	**Urewera**	**12.92**	**200**	S			Sn	17 50 02.2	-11
	11nm,0.3s,baz=299,slow=19,SNR=11								
URZ				LR			LR	17 52 21.2	
	comp=Z,104nm,18.9s,baz=9.5,slow=34								
URZ	**Urewera**	**12.92**	**200**	P			Pn	17 47 41.7	-8.7
RIGZ	**Rimuhau**	**13.15**	**197**	P			Pn	17 47 45.5	-8.0
MUGZ	**Murupara**	**13.22**	**201**	P			Pn	17 47 47.5	-6.9
MUGZ				P			P	17 47 47.9	-11
RTZ	**Ruatahuna**	**13.29**	**200**	P			Pn	17 47 47.1	-8.1
HRRZ	**Handcock Road**	**13.30**	**202**	P			**P**	**17 47 59.7**	**-0.1**
SNGZ	**Shannon Statio**	**13.33**	**198**	P			Pn	17 47 47.6	-8.2
TLZ	**Tolley Road**	**13.52**	**205**	P			**Pn**	**17 47 57.1**	**-1.1**
WHHZ	**Waihua**	**13.64**	**198**	P			Pn	17 47 50.2	-9.5
RATZ	**Rangitukua**	**13.91**	**203**	P			**Pn**	**17 48 00.4**	**-2.7**
BKZ	**Black Stump Fm**	**13.94**	**200**	P			Pn	17 47 57.2	-6.4
MCNZ	**McNeill Hill**	**14.13**	**199**	P			**Pn**	**17 48 02.0**	**-3.9**
WTVZ	**West Tongariro**	**14.19**	**203**	P			**Pn**	**17 48 06.6**	**-0.2**
KWHZ	**Kaweka Forest**	**14.20**	**200**	P			Pn	17 47 59.3	-7.5
TWVZ	**Taurewa**	**14.21**	**204**	P			**Pn**	**17 48 07.3**	**+0.3**
NGZ	**Ngauruhoe**	**14.24**	**203**	P			**Pn**	**17 48 03.9**	**-3.6**
TUVZ	**Tukino**	**14.31**	**203**	P			Pn	17 48 03.7	-4.6
PINNC	**Pines Island,**	**14.31**	**281**	*e*Pn			**P**	**17 48 11.8**	**+0.7**
FWVZ	**Far West T-bar**	**14.33**	**203**	P			**Pn**	**17 48 04.2**	**-4.4**
WHVZ	**Whangaehu Hut**	**14.34**	**203**	P			**Pn**	**17 48 09.6**	**+0.8**
TRVZ	**Turoa**	**14.37**	**203**	P			**Pn**	**17 48 09.8**	**+0.7**
MOVZ	**Moawhango**	**14.40**	**202**	P			Pn	17 48 03.2	-6.1
KAHZ	**Kahuranaki**	**14.41**	**198**	P			Pn	17 48 00.5	-8.9
PKVZ	**Pokaka**	**14.44**	**203**	P			**Pn**	**17 48 08.8**	**-1.0**
VRZ	**Vera Road**	**14.51**	**205**	P			**P**	**17 48 12.8**	**-0.3**
PXZ	**Pawanui**	**14.63**	**198**	P			Pn	17 48 06.7	-5.4
PNHZ	**Pukenui**	**14.72**	**200**	P			Pn	17 48 05.4	-7.8
WPHZ	**Waipukurau**	**14.78**	**199**	P			**Pn**	**17 48 13.2**	**-0.8**
PRHZ	**Porangahau**	**14.91**	**198**	P			Pn	17 48 10.5	-5.2
TSZ	**Takapari Road**	**14.92**	**200**	P			Pn	17 48 07.5	-8.3
DVHZ	**Dannevirke**	**15.08**	**199**	P			**Pn**	**17 48 12.1**	**-5.7**
ANWZ	**Angora Road**	**15.14**	**198**	P			**Pn**	**17 48 12.1**	**-6.4**
ONTNC	**Ouen Toro**	**15.28**	**281**	*e*Pn			**P**	**17 48 23.4**	**+1.6**
	164nm,1.6s								
POWZ	**Post Office Ro**	**15.29**	**200**	P			**Pn**	**17 48 20.2**	**-0.1**
DZM	**Mont Dzumac**	**15.36**	**282**	*e*Pn			**P**	**17 48 26.5**	**+3.7**
	82nm,1.1s								
DZM				*e*LR			LR	17 52 05.7	
	comp=Z,326nm,27.8s								
DZM	**Mont Dzumac**	**15.36**	**282**	*e*Pn			**P**	**17 48 27.0**	**+4.2**
	41nm,0.9s								
DZM	**Mont Dzumac**	**15.36**	**282**	P			**P**	**17 48 26.8**	**+4.0**
	1.1nm,0.3s,baz=80,slow=17,SNR=11								
DZM				LR			LR	17 53 02.2	
	comp=Z,222nm,21.0s,baz=171,slow=32								
PRWZ	**Pori Road**	**15.37**	**200**	P			**Pn**	**17 48 17.3**	**-4.1**
BFZ	**Birch Farm**	**15.41**	**199**	P			**Pn**	**17 48 15.4**	**-6.5**
TIWZ	**Tintock**	**15.60**	**199**	P			Pn	17 48 16.8	-7.4
TMWZ	**Te Maipa**	**15.90**	**199**	P			**Pn**	**17 48 21.2**	**-6.7**
MTW	**Mount Morrison**	**16.07**	**200**	P			**Pn**	**17 48 23.2**	**-6.7**
TRWZ	**Traveller**	**16.23**	**199**	P			**Pn**	**17 48 29.3**	**-2.6**
RAR	**Rarotonga**	**16.83**	**77**	*e*P			**P**	**17 48 35.5**	**-3.4**
	30nm,0.6s								
RAR				P			**Pn**	**17 48 41.5**	**+2.2**
RAR				S			S	17 51 31.4	-15
RAR	**Rarotonga**	**16.83**	**77**	*e*P			**P**	**17 48 35.5**	**-3.4**
RAR				S			S	17 51 31.4	-15
RAR				pmax			pmax		
	comp=Z,30nm,0.6s								
RAR	**Rarotonga**	**16.83**	**77**	P			**Pn**	**17 48 41.5**	**+2.2**
	comp=Z,2.0nm,0.3s,baz=258,slow=9.3,SNR=3.1								
RAR				S			S	17 51 31.4	-15
	comp=Z,2.4nm,0.3s,baz=135,slow=17,SNR=3.2								
RPZ	**Rata Peaks**	**19.87**	**205**	P			**P**	**17 49 08.1**	**-3.8**
	comp=Z,4.6nm,0.4s,baz=14,slow=2.1,SNR=10.0								
RPZ				S			S	17 52 33.3	-14
	comp=Z,4.5nm,0.6s,baz=351,slow=19,SNR=5.3								
TBI	**Tubuai**	**25.45**	**90**	*e*T			T	18 16 01.6	
	comp=Z,26nm,0.3s								
PAE	**Paea**	**27.07**	**77**	*e*T			T	18 17 51.7	
	comp=Z,14nm,0.3s								
PPT2	**Papeete2**	**27.10**	**77**	*e*LR			LR	17 57 11.6	
	comp=Z,415nm,38.2s								
PPT	**Papeete**	**27.11**	**77**	LR			LR	18 00 45.1	
	comp=Z,25nm,18.8s,baz=235,slow=35								
HNR	**Honiara**	**27.22**	**304**	LR			LR	17 59 44.5	
	comp=Z,99nm,21.1s,baz=190,slow=33								
TVO	**Taravao**	**27.31**	**78**	*e*T			T	18 18 14.3	
	comp=Z,4.4nm,0.3s								
TIAR	**Tiarei**	**27.31**	**77**	*e*T			T	18 18 11.1	
	comp=Z,2.6nm,0.3s								
EIDS	**Eidsvold**	**28.42**	**265**	*e*P			**P**	**17 50 33.6**	**+0.5**
	comp=Z,21nm,1.1s								
CAN	**Canberra**	**30.21**	**244**	*e*P			**P**	**17 50 50.7**	**+1.7**
	comp=Z,32nm,1.3s								
CAN	**Canberra**	**30.21**	**244**	*e*P			**P**	**17 50 50.7**	**+1.7**
CAN				pmax			pmax		
	comp=Z,32nm,1.3s								
TAU	**Tasmania Unive**	**33.26**	**231**	*e*P			**P**	**17 51 15.7**	**+0.3**
	comp=Z,235nm,1.9s								
TAU	**Tasmania Unive**	**33.26**	**231**	*e*P			**P**	**17 51 15.7**	**+0.3**
TAU				pmax			pmax		
	comp=Z,235nm,1.9s								
TOO	**Toolangi**	**33.34**	**241**	*e*P			**P**	**17 51 16.5**	**+0.2**
	comp=Z,55nm,1.8s								
TOO	**Toolangi**	**33.34**	**241**	*e*P			**P**	**17 51 16.5**	**+0.2**
TOO				pmax			pmax		
	comp=Z,55nm,1.8s								
CTA	**Charters Tower**	**33.95**	**273**	P			**P**	**17 51 23.1**	**+1.4**
	comp=Z,51nm,0.7s,baz=100,slow=11,SNR=57								
CTAO	**Charters Tower**	**33.95**	**273**	*e*P			**P**	**17 51 23.3**	**+1.6**
	comp=Z,62nm,0.8s								
CTAO	**Charters Tower**	**33.95**	**273**	*e*P			**P**	**17 51 23.3**	**+1.6**
CTAO				pmax			pmax		
	comp=Z,62nm,0.8s								
XMAS	**Kiritimati**	**34.02**	**37**	*e*P			**P**	**17 51 20.4**	**-1.9**
	comp=Z,111nm,1.0s								
STKA	**Stephens Creek**	**36.20**	**251**	*e*P			**P**	**17 51 41.5**	**+0.7**
	comp=Z,4.5nm,1.3s								
STKA	**Stephens Creek**	**36.20**	**251**	*e*P			**P**	**17 51 41.5**	**+0.7**
STKA				pmax			pmax		
	comp=Z,5.0nm,1.3s								
STKA	**Stephens Creek**	**36.20**	**251**	P			**P**	**17 51 41.5**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=104,slow=13,SNR=12								
STKA				LR			LR	18 03 56.7	
	comp=Z,116nm,19.4s,baz=51,slow=32								
PMG	**Port Moresby**	**37.53**	**290**	*e*P			**P**	**17 51 53.1**	**+0.9**
	comp=Z,72nm,1.7s								
PMG	**Port Moresby**	**37.53**	**290**	*e*P			**P**	**17 51 53.1**	**+0.9**
PMG				pmax			pmax		
	comp=Z,71nm,1.7s								
PMG	**Port Moresby**	**37.53**	**290**	P			**P**	**17 51 52.7**	**+0.5**
	comp=Z,10nm,1.0s,baz=130,slow=6.3,SNR=2.7								
RKT	**Rikitea**	**38.50**	**95**	*e*T			T	18 32 28.8	
	comp=Z,6.0nm,0.3s								
COEN	**Coen**	**38.88**	**280**	*e*P			**P**	**17 52 04.8**	**+1.2**
	comp=Z,88nm,1.8s								
TAOE	**Nuku Hiva Isla**	**39.24**	**71**	*e*LR			LR	18 02 54.0	
	comp=Z,616nm,33.9s								
BBOO	**Buckleboo**	**40.84**	**249**	*e*P			**P**	**17 52 19.2**	**-0.4**
	comp=Z,31nm,0.8s								
AS01	**Alice Springs**	**44.04**	**262**	*e*P			**P**	**17 52 44.6**	**-1.0**
AS31	**Alice Springs**	**44.09**	**262**	*e*P			**P**	**17 52 45.4**	**-0.5**
AS31				*e*pP			**pwP**	**17 53 20.2**	**-1.4**
AS31				*e*PcP			**PcP**	**17 54 29.5**	**+0.8**
ASAR	**Alice Springs**	**44.09**	**262**	P			**P**	**17 52 45.9**	**0.0**
	comp=Z,25nm,1.0s,baz=96,slow=7.3,SNR=98								
ASAR				pP			**pwP**	**17 53 20.2**	**-1.4**
	comp=Z,18nm,0.8s,baz=105,slow=8.9,SNR=7.5								
ASAR				PcP			**PcP**	**17 54 29.5**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=108,slow=4.4,SNR=2.3								
WB2	**Warramunga Arr**	**44.68**	**268**	*e*P			**P**	**17 52 50.0**	**-0.7**
WB2				*e*P			**P**	**17 52 50.4**	**-0.4**
WRAB	**Tennant Creek**	**44.69**	**268**	*e*P			**P**	**17 52 49.9**	**-0.9**
	comp=Z,29nm,0.9s								
WRAB	**Tennant Creek**	**44.69**	**268**	*i* P			**P**	**17 52 50.5**	**-0.2**
WRAB				pmax			pmax		
	comp=Z,19nm,0.9s								
WR1	**Warramunga Arr**	**44.69**	**268**	*e*P			**P**	**17 52 49.9**	**-0.9**
WR1				*e*pP			**pP**	**17 53 24.2**	**+0.9**
WR1				*e*PcP			**PcP**	**17 54 31.2**	**+0.4**
WR1				eS			**S**	**17 59 11.2**	**-5.1**
WRA	**Warramunga Arr**	**44.69**	**268**	P			**P**	**17 52 49.9**	**-0.9**
	comp=Z,16nm,0.6s,baz=101,slow=7.5,SNR=116								
WRA				pP			**pP**	**17 53 24.2**	**+0.9**
	comp=Z,23nm,0.9s,baz=102,slow=8.1,SNR=8.8								
WRA				PcP			**PcP**	**17 54 31.2**	**+0.4**
	comp=Z,3.0nm,0.8s,baz=101,slow=3.0,SNR=3.4								
WRA				S			**S**	**17 59 11.2**	**-5.1**
	comp=Z,1.5nm,1.0s,baz=98,slow=15,SNR=2.6								
JAY	**Jayapura**	**46.63**	**293**	P			**P**	**17 53 05.9**	**-0.2**
	comp=Z,14nm,0.8s,baz=170,slow=9.5,SNR=3.6								
FORT	**Forrest**	**47.82**	**251**	*e*P			**P**	**17 53 14.2**	**-0.9**
	comp=Z,107nm,0.6s								
SBA	**Scott Base**	**52.27**	**184**	*e*P			**P**	**17 53 51.5**	**+3.7**
	comp=Z,60nm,1.2s								
VNDA	**Vanda**	**52.33**	**186**	*e*P			**P**	**17 53 51.5**	**+3.2**
	comp=Z,46nm,1.4s								
VNDA	**Vanda**	**52.33**	**186**	*e*P			**P**	**17 53 51.5**	**+3.2**
VNDA				pmax			pmax		
	comp=Z,47nm,1.4s								
VNDA	**Vanda**	**52.33**	**186**	P			**P**	**17 53 51.0**	**+2.6**
	comp=Z,9.3nm,0.5s,baz=5.0,slow=7.0,SNR=80								
FITZ	**Fitzroy Crossi**	**53.08**	**266**	*e*P			**P**	**17 53 54.0**	**-0.7**
	comp=Z,16nm,0.8s								
FITZ	**Fitzroy Crossi**	**53.08**	**266**	P			**P**	**17 53 54.6**	**-0.1**
	comp=Z,18nm,0.8s,baz=111,slow=4.9,SNR=18								
SIJI	**Sorong**	**55.45**	**288**	P			**P**	**17 54 11.0**	**-0.9**
	comp=Z,51nm,1.0s,baz=67,slow=7.5,SNR=18								
BATI	**Baumata**	**57.80**	**274**	P			**P**	**17 54 29.2**	**+0.7**
	comp=Z,14nm,0.7s,baz=149,slow=2.9,SNR=5.4								
BATI				LR			LR	18 20 39.6	
	comp=Z,71nm,18.1s,baz=176,slow=37								
QSPA	**South Pole Qui**	**63.91**	**180**	*e*P			**P**	**17 55 10.8**	**+1.6**
	comp=Z,26nm,0.9s								
LEM	**Lembang**	**73.62**	**270**	LR			LR	18 29 19.1	
	comp=Z,34nm,19.6s,baz=131,slow=36								
MJAR	**Matsushiro Arr**	**75.15**	**324**	P			**P**	**17 56 17.5**	**-0.7**
	comp=Z,2.6nm,0.8s,baz=166,slow=6.5,SNR=7.3								
MAJO	**Matsushiro**	**75.15**	**324**	*e*P			**P**	**17 56 17.5**	**-0.8**
MAJO	**Matsushiro**	**75.15**	**324**	*e*P			**P**	**17 56 17.5**	**-0.8**
MAT	**Matsushiro**	**75.15**	**324**	P			**P**	**17 56 17.7**	**-0.6**
MAW	**Mawson**	**76.45**	**200**	*e*P			**P**	**17 56 26.9**	**+1.7**
	comp=Z,8.7nm,1.3s								
MAW	**Mawson**	**76.45**	**200**	*e*P			**P**	**17 56 26.9**	**+1.7**
MAW				pmax			pmax		
	comp=Z,9.0nm,1.3s								
MAW	**Mawson**	**76.45**	**200**	P			**P**	**17 56 26.8**	**+1.7**
	comp=Z,11nm,0.5s,baz=132,slow=6.4,SNR=17								
ASAJ	**Asahikawa**	**79.00**	**332**	P			**P**	**17 56 40.3**	**+0.8**
	comp=Z,9.2nm,0.8s,baz=220,slow=10,SNR=5.9								
YSS	**Yuzh-Sakhalins**	**81.23**	**334↑**	*e*P			**P**	**17 56 52.4**	**+1.0**
YSS				pmax			pmax		
	comp=Z,20nm,0.9s								
KSRS	**Korea Array**	**81.55**	**319**	P			**P**	**17 56 52.6**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=136,slow=5.5,SNR=5.3								
KSAR	**Wonju Array Be**	**81.56**	**319**	P			**P**	**17 56 52.5**	**-0.8**
KSAR	**Wonju Array Be**	**81.56**	**319**	P			**P**	**17 56 52.6**	**-0.8**
KS01	**Wonju Array Si**	**81.58**	**319**	*e*P			**P**	**17 56 52.8**	**-0.7**
PETK	**Petropavlovsk-**	**81.90**	**345**	P			**P**	**17 56 54.9**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=106,slow=11,SNR=6.0								
PEA1	**Petropavlovsk-**	**81.90**	**345**	*e*P			**P**	**17 56 54.9**	**+0.1**
SNAA	**Sanae**	**82.33**	**178**	P			**P**	**17 56 57.9**	**+0.8**
SNAA	**Sanae**	**82.33**	**178**	*e*P			**P**	**17 56 57.8**	**+0.7**
	comp=Z,14nm,0.9s								
SNAA	**Sanae**	**82.33**	**178**	*i* P			**P**	**17 56 58.0**	**+0.8**
VNA3	**Neumayer Olymp**	**82.45**	**176**	P			**P**	**17 56 57.9**	**+0.2**
VNA2	**Neumayer--Watz**	**82.90**	**177**	P			**P**	**17 57 00.4**	**+0.5**
VNA1	**Neumayer--Stat**	**83.12**	**176**	P			**P**	**17 57 01.8**	**+0.7**
WDC	**Whiskeytown Da**	**83.

	comp=Z,6.1nm,1.1s									
PSI	**Prapat**	**85.61**	**275**	*e*P		**P**	17 57 13.2	**-1.6**		
PSI				pmax		pmax				
	comp=Z,6.0nm,1.1s									
TUC	**Tucson**	**86.03**	**51**	*e*P		**P**	17 57 16.2	**-0.2**		
	comp=Z,8.8nm,0.9s									
TUC	**Tucson**	**86.03**	**51**	*e*P		**P**	17 57 16.2	**-0.2**		
TUC				pmax		pmax				
	comp=Z,9.0nm,0.9s									
K05A	**Summer Lake**	**86.03**	**38**	*e*P		**P**	17 57 16.6	**+0.3**		
K05A				*ep*P		**pP**	17 57 53.0	**-0.4**		
GSI	**Gunungsitoli**	**86.16**	**273**	*e*P		**P**	17 57 17.7	**+0.3**		
	comp=Z,14nm,0.8s									
WHN	**Wuhan**	**86.30**	**307**	P		**P**	17 57 17.5	**-0.1**		
X16A	**Lo Mia Camp, P**	**86.77**	**49**	*e*P		**P**	17 57 20.0	**-0.1**		
X16A				*ep*P		**pP**	17 57 57.5	**+0.3**		
NKL	**Nikolayevsk**	**87.02**	**336**	*e*P		**P**	17 57 20.7	**+0.2**		
NKL				pmax		pmax				
	comp=Z,12nm,1.0s									
CN2	**Changchun**	**87.16**	**322**	*e*P		**P**	17 57 24.5	**+3.0**		
CN2				pmax		pmax				
	comp=Z,10.0nm,0.8s									
U15A	**North Rim**	**87.35**	**47**	*e*P		**P**	17 57 22.8	**-0.1**		
U15A				*ep*P		**pP**	17 57 59.6	**-0.6**		
WUAZ	**Wupatki**	**87.44**	**48**	*e*P		**P**	17 57 24.2	**+1.0**		
WUAZ				*ep*P		**pP**	17 58 00.6	**+0.2**		
KLR	**Kul'dur**	**87.71**	**329**	*ce*P		**P**	17 57 25.2	**+1.2**		
W18A	**Petrified Fore**	**88.32**	**49**	*e*P		**P**	17 57 28.4	**+0.9**		
	comp=Z,7.7nm,1.0s									
MTPU	**Mount Pierson**	**88.35**	**46**	*e*P		**P**	17 57 27.7	**0.0**		
	comp=Z,21nm,1.9s									
G08A	**Pilot Rock**	**88.76**	**37**	*e*P		**P**	17 57 28.4	**-0.8**		
	comp=Z,4.3nm,0.9s									
E07A	**Sunnyside**	**89.10**	**36**	*e*P		**P**	17 57 31.3	**+0.7**		
E07A				*ep*P		**pP**	17 58 07.7	**-0.3**		
MNTX	**Cornudas Mount**	**89.56**	**54**	*e*P		**P**	17 57 33.4	**+0.3**		
	comp=Z,3.0nm,0.8s									
TX31	**Lajitas Ar. Si**	**89.62**	**57**	*e*P		**P**	17 57 33.5	**-0.1**		
TX31				*e*P		**PcP**	17 57 33.8	**-1.0**		
TXAR	**Lajitas Array**	**89.62**	**57**	P		**P**	17 57 34.0	**+0.4**		
	comp=Z,1.7nm,0.9s,baz=205,slow=5.5,SNR=13									
TMUT	**Trail Mountain**	**89.70**	**45**	*e*P		**P**	17 57 34.2	**+0.2**		
	comp=Z,5.9nm,0.9s									
ENH	**Enshi**	**89.72**	**304**	*e*P		**P**	17 57 33.9	**-0.1**		
	comp=Z,28nm,1.4s									
D08A	**Wollman Farm,**	**89.92**	**36**	*e*P		**P**	17 57 34.3	**-0.1**		
	comp=Z,7.1nm,0.9s									
SUA	**Susitna One**	**89.95**	**12**	*e*P		**P**	17 57 33.9	**-0.4**		
	comp=Z,10nm,0.9s									
E09A	**Wood Farm, Sta**	**89.98**	**36**	*e*P		**P**	17 57 34.6	**-0.1**		
E09A				*ep*P		**pP**	17 58 11.1	**-0.9**		
F10A	**Beach Ranch, E**	**90.13**	**37**	*e*P		**P**	17 57 34.6	**-0.9**		
	comp=Z,5.8nm,0.8s									
F10A				*ep*P		**pP**	17 58 10.4	**-2.5**		
ANMO	**Albuquerque**	**90.49**	**51**	*e*P		**P**	17 57 37.2	**-0.4**		
ANMO				*ep*P		**pP**	17 58 13.7	**-1.2**		
ANMO	**Albuquerque**	**90.49**	**51**	*i* P		**P**	17 57 37.1	**-0.5**		
ANMO				pmax		pmax				
	comp=Z,6.0nm,1.5s									
B08A	**Colville Reser**	**90.54**	**34**	*e*P		**P**	17 57 36.9	**-0.4**		
B08A				*ep*P		**pP**	17 58 12.2	**-2.5**		
LLLB	**Lillooet**	**90.78**	**32**	*e*P		**P**	17 57 37.4	**-1.0**		
	comp=Z,4.1nm,0.8s									
BCPM	**Bancas Point**	**91.23**	**18**	*e*P		**P**	17 57 40.4	**+0.2**		
	comp=Z,46nm,1.1s									
TRF	**Thorofare Moun**	**91.86**	**12**	*e*P		**P**	17 57 42.0	**-1.2**		
	comp=Z,31nm,1.8s									
MCMT	**McKenzie Canyo**	**91.89**	**40**	*e*P		**P**	17 57 42.5	**-1.5**		
MCMT				*ep*P		**pP**	17 58 20.6	**-0.7**		
XAN	**Xi'an**	**92.04**	**307**	P		**P**	17 57 45.8	**+1.2**		
XAN				pmax		pmax				
	comp=Z,7.0nm,0.9s									
XAN				pmax		pmax				
	comp=Z,46nm,3.7s									
RND	**Reindeer**	**92.09**	**12**	*e*P		**P**	17 57 43.8	**-0.4**		
	comp=Z,9.9nm,1.2s									
RND	**Reindeer**	**92.09**	**12**	*e*P		**P**	17 57 43.8	**-0.4**		
RND				pmax		pmax				
	comp=Z,10.0nm,1.2s									
CM01	**Chiang Mai Arr**	**92.54**	**289**	*e*P		**P**	17 57 48.4	**+1.2**		
CM31	**Chiang Mai Arr**	**92.57**	**289**	*e*P		**P**	17 57 48.3	**+0.9**		
	comp=Z,5.7nm,0.9s									
CMAR	**Chiang Mai Arr**	**92.57**	**289**	*i* P		**P**	17 57 49.2	**+1.8**		
CMAR				pmax		pmax				
	comp=Z,4.0nm,0.9s									
CMAR	**Chiang Mai Arr**	**92.57**	**289**	P		**P**	17 57 48.5	**+1.1**		
	comp=Z,3.7nm,0.9s,baz=147,slow=3.1,SNR=23									
PD31	**Pinedale Array**	**92.68**	**43**	*e*P		**P**	17 57 46.7	**-0.9**		
	comp=Z,2.9nm,0.6s									
PDAR	**Pinedale Array**	**92.68**	**43**	P		**P**	17 57 46.4	**-1.2**		
	comp=Z,1.5nm,0.8s,baz=219,slow=2.9,SNR=12									
PDAR				pP		**pP**	17 58 23.8	**-1.2**		
	comp=Z,1.0nm,0.8s,baz=209,slow=2.7,SNR=3.8									
CHTO	**Chiang Mai**	**92.73**	**290**	*e*P		**P**	17 57 49.5	**+1.4**		
	comp=Z,6.3nm,0.9s									
CHTO	**Chiang Mai**	**92.73**	**290**	*e*P		**P**	17 57 49.5	**+1.4**		
CHTO				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MENT	**Mentasta**	**92.75**	**15**	*e*P		**P**	17 57 46.5	**-0.7**		
BOZ	**Bozeman (W)**	**93.04**	**40**	*ep*P		pP	17 58 25.7	-0.9		
DOT	**Dot Lake**	**93.30**	**14**	*e*P		**P**	17 57 49.4	**-0.3**		
	comp=Z,2.7nm,0.8s									
HDA	**Harding Lake**	**93.37**	**13**	*e*P		**P**	17 57 49.1	**-0.9**		
	comp=Z,3.6nm,0.6s									
ILAR	**Eielson Array**	**93.70**	**13**	P		**P**	17 57 50.2	**-1.3**		
	comp=Z,1.2nm,0.8s,baz=222,slow=5.2,SNR=15									
ILAR				pP		**pP**	17 58 27.9	**-0.9**		
	comp=Z,0.1nm,0.6s,baz=219,slow=2.9,SNR=2.6									
ILB	**Eielson Array**	**93.70**	**13**	*e*P		**P**	17 57 50.4	**-1.0**		
	comp=Z,2.2nm,0.8s									
HHC	**Hu-ho-hao-te**	**93.74**	**314**	*e*P		**P**	17 57 54.5	**+2.1**		
HHC				pmax		pmax				
	comp=Z,10.0nm,1.0s									
HHC				pmax		pmax				
	comp=Z,220nm,5.7s									
CD2	**Chengdu**	**94.34**	**302**	P		**P**	17 57 55.3	**0.0**		
CD2				pmax		pmax				
	comp=Z,20nm,0.5s									
BILL	**Bilibino**	**94.73**	**354**	*i* P		**P**	17 57 54.7	**-1.4**		
BILL				*i*			17 58 26.4			
BILL				pmax		pmax				
	comp=Z,3.0nm,0.9s									
LZH	**Lanzhou**	**96.68**	**307**	*e*P		P	17 58 10.8	+4.8		
LZH				pP		pwP	17 58 45.8	+0.1		
LZH				sP		sP	17 59 01.0	+2.5		
LZH				pmax		pmax				
	comp=Z,24nm,1.2s									
ULN	**Ulaanbaatar**	**100.03**	**319**	*i* P		**Pdif**	17 58 20.9	**+0.2**		
ULN				pmax		pmax				
	comp=Z,1.0nm,0.8s									
SONA0	**Songino Array**	**100.41**	**318**	*e*Pdif		**Pdif**	17 58 21.4	**-0.9**		
SONM	**Songino Array**	**100.41**	**318**	P		**Pdif**	17 58 21.4	**-0.9**		
	comp=Z,0.2nm,0.4s,baz=132,slow=4.1,SNR=2.5									
YKA	**Yellowknife Ar**	**101.40**	**25**	*i* P		**Pdif**	17 58 27.2	**+1.0**		
YKA	**Yellowknife Ar**	**101.40**	**25**	PKKPbc	PKKPbc		18 14 33.3	-3.3		
	comp=Z,0.1nm,0.7s,baz=38,slow=2.8,SNR=5.0									
WMQ	**Urumqi**	**111.05**	**309**	*e*PKP		**PKiKP**	18 03 08.5	**+0.4**		
ZALV	**Zalesovo Beam**	**115.25**	**320**	PKP		**PKPdf**	18 03 15.0	**-0.6**		
	comp=Z,0.4nm,0.5s,baz=132,slow=2.1,SNR=2.9									
ZAA1	**Zalesovo Array**	**115.25**	**320**	*e*PKPdf		**PKPdf**	18 03 15.1	**-0.6**		
MK32	**Makanchi Array**	**115.47**	**312**	*e*PKPdf		**PKPdf**	18 03 15.1	**-1.3**		
MKAR	**Makanchi Array**	**115.47**	**312**	*c i*PKIKP		**PKPdf**	18 03 15.3	**-1.1**		
MKAR	**Makanchi Array**	**115.47**	**312**	PKP		**PKPdf**	18 03 15.1	**-1.3**		
	comp=Z,1.1nm,0.8s,baz=87,slow=1.7,SNR=7.8									
MAKZ	**Makanchi**	**115.69**	**311**	*e*PKPdf		**PKPdf**	18 03 15.5	**-1.3**		
MAKZ	**Makanchi**	**115.69**	**311**	*e*PKIKP		**PKPdf**	18 03 15.5	**-1.3**		
KURK	**Kurchatov**	**118.52**	**315**	*e*PKPdf		**PKPdf**	18 03 21.0	**-1.1**		
KURK	**Kurchatov**	**118.52**	**315**	*c i*PKIKP		**PKPdf**	18 03 21.8	**-0.3**		
KURK				pmax		pmax				
	comp=Z,32nm,1.3s									
BOSA	**Boshof**	**121.35**	**203**	PKP		**PKiKP**	18 03 29.1	**+0.3**		
	comp=Z,2.1nm,0.7s,baz=180,slow=3.0,SNR=2.7									
KK31	**Karatay Array**	**123.16**	**306**	*e*PKPdf		**PKPdf**	18 03 30.8	**-0.5**		
KK31	**Karatay Array**	**123.16**	**306**	*e*PKIKP		**PKPdf**	18 03 30.8	**-0.5**		
KKAR	**Karatay Array**	**123.16**	**306**	*e*PKPdf		**PKPdf**	18 03 30.8	**-0.5**		
KKAR	**Karatay Array**	**123.16**	**306**	*e*PKIKP		**PKPdf**	18 03 30.8	**-0.5**		
BRVK	**Borovoye**	**123.81**	**318**	*c i*PKIKP		**PKiKP**	18 03 32.6	**+0.1**		
BRVK				pmax		pmax				
	comp=Z,12nm,1.3s									
ARU	**Arti**	**130.15**	**323**	*i* PKIKP		**PKPdf**	18 03 44.2	**0.0**		
ARA0	**ARCESS Array S**	**134.59**	**349**	*e*PKPdf		**PKPdf**	18 03 49.4	**-2.8**		
ARCES	**ARCESS Array B**	**134.59**	**349**	PKP		**PKPdf**	18 03 49.4	**-2.8**		
	comp=Z,5.1nm,0.9s,baz=25,slow=5.4,SNR=6.8									
FIA0	**FINESS Array S**	**141.36**	**342**	*e*PKPpre	PKPpre		18 03 57.8			
FIA0	**FINESS Array S**	**141.36**	**342**	*e*PKiKP	PKPpre		18 03 57.8			
FINES	**FINESS Array B**	**141.36**	**342**	PKhKP	PKPpre		18 03 57.8			
	comp=Z,1.1nm,0.9s,baz=47,slow=2.7,SNR=4.0									
OBN	**Obninsk**	**141.97**	**329**	*i* PKIKP		**PKPdf**	18 04 06.8	**+0.7**		
OBN				pmax		pmax				
	comp=Z,4.0nm,1.0s									
NC303	**NORSAR Array S**	**144.47**	**353**	*e*PKPdf		**PKPab**	18 04 08.6	**-0.5**		
NC405	**NORSAR Array S**	**144.54**	**352**	*e*PKPdf		**PKPab**	18 04 08.6	**-0.8**		
SIRT	**Sirnak**	**144.62**	**299**	*e*PKPdf		PKPbc	18 04 10.6	0.0		
NB201	**NORSAR Array S**	**144.66**	**353**	*e*PKPdf		**PKPab**	18 04 09.3	**-0.5**		
NB2	**NORSAR Subarra**	**144.67**	**353**	PKP		**PKPab**	18 04 09.0	**-0.9**		
	comp=Z,14nm,0.7s,baz=11,slow=3.6									
NB200	**NORSAR Array S**	**144.67**	**353**	*e*PKPdf		**PKPab**	18 04 08.8	**-1.1**		
NOA	**NORSAR Array B**	**144.67**	**353**	PKP		**PKPab**	18 04 08.8	**-1.1**		
	comp=Z,12nm,0.8s,baz=10,slow=2.3,SNR=56									
NAO01	**NORSAR Array S**	**144.90**	**353**	*e*PKPbc	PKPbc		18 04 10.2	-0.5		
NC602	**NORSAR Array S**	**144.93**	**352**	*e*PKPbc	PKPbc		18 04 10.1	-0.7		
KONO	**Kongsberg**	**146.21**	**354**	*e*PKPdf		**PKPbc**	18 04 14.2	**-0.5**		
KONO	**Kongsberg**	**146.21**	**354**	*e*PKP2		**PKPbc**	18 04 14.2	**-0.5**		
AKASG	**Malin Array Be**	**148.19**	**327**	PKPbc		**PKPbc**	18 04 19.3	**-1.1**		
	comp=Z,3.7nm,0.7s,baz=45,slow=3.8,SNR=6.3									
AKBB	**Malin Array Si**	**148.19**	**327**	*e*PKPbc	PKPbc		18 04 19.4	**-1.0**		
AKBB	**Malin Array Si**	**148.19**	**327**	*e*PKP2		**PKPbc**	18 04 19.4	**-1.0**		
KIEV	**Kiev**	**148.20**	**327**	*e*PKPdf		**PKPbc**	18 04 19.5	**-0.9**		
KIEV	**Kiev**	**148.20**	**327**	*i* PKIKP		**PKPbc**	18 04 18.9	**-1.6**		
AK11	**Malin Array Si**	**148.23**	**327**	*e*PKPdf		**PKPbc**	18 04 19.2	**-1.4**		
SUW	**Suwalki**	**148.32**	**337**	*e*PKP		**PKPbc**	18 04 20.7	**0.0**		
SUW	**Suwalki**	**148.32**	**337**	*e*PKP2		**PKPbc**	18 04 20.7	**0.0**		
BR101	**Keskin Array S**	**150.87**	**305**	*e*PKPbc	PKPbc		18 04 27.0	**-0.6**		
BR131	**Keskin Array S**	**150.87**	**305**	*e*PKPbc	PKPbc		18 04 25.7	**-1.9**		
BRTR	**Keskin Array B**	**150.87**	**305**	*c i*PKIKP		**PKPbc**	18 04 27.3	**-0.3**		
BRTR	**Keskin Array B**	**150.87**	**305**	PKPbc	PKPbc		18 04 27.0	**-0.6**		
	comp=Z,4.5nm,0.9s,baz=111,slow=2.8,SNR=13									
LVV	**L'vov**	**151.21**	**331**	*e*PKIKP		**PKPdf**	18 04 20.6	**-1.2**		
ANTO	**Ankara**	**151.44**	**306**	*e*PKPbc	PKPbc		18 04 28.5	**-0.3**		
ANTO	**Ankara**	**151.44**	**306**	*e*PKIKP	PKPbc		18 04 28.5	**-0.3**		
TLCR		**151.73**	**319**	⇑PKIKP		**PKPdf**	18 04 20.4	**-2.3**		
KWP	**Kalwaria Pacla**	**151.92**	**332**	*e*PKP		**PKiKP**	18 04 33.2	**+3.4**		
KWP	**Kalwaria Pacla**	**151.92**	**332**	*e*PKIKP		**PKiKP**	18 04 33.2	**+3.4**		
CFR	**Carcaliu**	**152.13**	**319**	⇑PKIKP		**PKPbc**	18 04 29.7	**-0.4**		
BURB08	**Bucovina Ar. S**	**152.19**	**326**	*e*PKIKP		**PKiKP**	18 04 30.6	**0.0**		
BURAR	**Bucovina Array**	**152.21**	**326**	⇓PKIKP		**PKiKP**	18 04 31.1	**+0.5**		
TLB	**Topalu**	**152.52**	**318**	⇓PKIKP		**PKPbc**	18 04 31.0	**+0.1**		
VRI	**Vrincioaia**	**152.53**	**322**	⇑PKIKP		**PKPbc**	18 04 31.0	**0.0**		
OJC	**Ojcow**	**152.62**	**336**	*e*PKP		**PKiKP**	18 04 34.8	**+3.6**		
OJC	**Ojcow**	**152.62**	**336**	*e*PKPbc	PKPbc		18 04 29.9	**-1.1**		
OJC	**Ojcow**	**152.62**	**336**	*e*PKIKP	PKPbc		18 04 29.9	**-1.1**		
UZH	**Uzhgorod**	**152.86**	**331**	⇑*e*PKP2		**PKPab**	18 04 43.3	**+0.1**		
NIE	**Niedzica**	**153.07**	**334**	*e*PKP		**PKiKP**	18 04 36.8	**+4.5**		
NIE	**Niedzica**	**153.07**	**334**	*e*PKIKP		**PKiKP**	18 04 36.8	**+4.5**		
DPC	**Dobruska-Polom**	**153.68**	**340**	⇑PKP		**PKiKP**	18 04 37.2	**+3.7**		
DPC				*ex*	x		18 04 41.9			
DPC				*e*PKPAB		**PKPab**	18 04 47.0	**+0.3**		
DPC	**Dobruska-Polom**	**153.68**	**340**	*e*PKIKP		**PKiKP**	18 04 37.2	**+3.7**		
DPC				*e*			18 04 41.9			
CLL	**Collm**	**153.70**	**345**	*e*PKPdf		**PKPdf**	18 04 26.0	**+0.6**		
CLL				*e*PKPbc	PKPbc		18 04 33.0	**-0.3**		
	comp=Z,6.0nm,0.9s									
CLL				*e*PKPab		**PKPab**	18 04 46.0	**-0.6**		
	comp=Z,5.0nm,0.9s									
CLL	**Collm**	**153.70**	**345**	*e*PKIKP		**PKPdf**	18 04 26.0	**+0.6**		
CLL				*e*			18 04 46.0			
CLL				pmax		pmax				
	comp=Z,6.0nm,0.9s									
CLL				pmax		pmax				
	comp=Z,5.0nm,0.9s									
VOIR		**153.72**	**323**	⇑PKIKP		**PKPbc**	18 04 33.2	**-0.5**		
BRG	**Berggiesshubel**	**153.88**	**344**	*e*PKIKP		**PKiKP**	18 04 33.9	**+0.1**		
BRG				pmax		pmax				
	comp=Z,3.0nm,0.8s									
VYHS	**Vyhne**	**154.39**	**335**	*e*PKIKP		**PKiKP**	18 04 38.6	**+3.6**		
VYHS				*e*			18 04 49.9			
VYHS	**Vyhne**	**154.39**	**335**	*e*PKP		**PKiKP**	18 04 38.6	**+3.6**		
VYHS				*e*			18 04 49.9			
PRU	**Pruhonice**	**154.53**	**342**	*e*PKPAB		**PKPab**	18 04 50.4	**+0.2**		
PRU				*ex*	x		18 04 58.1			
PRU	**Pruhonice**	**154.53**	**342**	*e*PKP2		**PKPab**	18 04 50.4	**+0.2**		
MODS	**Modra-Piesok**	**155.07**	**336**	*e*PKIKP		**PKPdf**	18 04 30.6	**+3.1**		
MODS	**Modra-Piesok**	**155.07**	**336**	*e*PKP		**PKPdf**	18 04 30.6	**+3.1**		
MODS				*e*			18 04 42.0			
KHC	**Kasperske Hory**	**155.57**	**342**	*e*PKPab		**PKPab**	18 04 54.2	**-0.6**		
KHC	**Kasperske Hory**	**155.57**	**342**	*e*PKPAB		**PKPab**	18 04 55.0	**+0.2**		
KHC				*ex*	x		18 05 02.3			
KHC	**Kasperske Hory**	**155.57**	**342**	*e*PKP2		**PKPab**	18 04 54.2	**-0.6**		
GEC2	**GERESS Array S**	**155.80**	**342**	*e*PKPab		**PKPab**	18 04 54.9	**-0.9**		
GEC2	**GERESS Array S**	**155.80**	**342**	*e*PKP2		**PKPab**	18 04 54.9	**-0.9**		
GERES	**GERESS Array B**	**155.80**	**342**	PKPab		**PKPab**	18 04 55.1	**-0.7**		
	comp=Z,0.6nm,0.6s,baz=33,slow=3.8,SNR=4.6									
VTS	**Vitosha**	**156.50**	**319**	⇓PKP2		**PKPab**	18 05 00.1	**+0.9**		
TOA0	**Torodi Ar. Sit**	**167.00**	**176**	*e*PKPab		**PKPab**	18 05 45.6	**+0.2**		
TORD	**Torodi Ar. Bea**	**167.00**	**176**	PKP		**PKPdf**	18 04 40.0	**-1.1**		
	comp=Z,0.7nm,0.8s,baz=169,slow=1.0,SNR=4.0									
TORD				PKPab		**PKPab**	18 05 45.5	**+0.2**		
	comp=Z,1.7nm,0.9s,baz=185,slow=1.4,SNR=6.3									
TOA1	**Torodi Ar. Sit**	**167.00**	**176**	*e*PKPdf		**PKPdf**	18 04 40.0	**-1.1**		
TOA1				*e*PKPab		**PKPab**	18 05 45.5	**+0.1**		

IDC 27 18:01:58.2±3.0, 5°24S×129°13E, h198^{km}±42^{km}, mb2.7/1, mb1 3.0/5, mb1mx2.9/31, mbtmp3.5/5, Error ellipse: s-maj=73.1km s-min=18.0km az=86.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.83**	**26**	P		P	Pn	18 03 10.5	0.0
	0.8nm,0.3s,baz=262,slow=22,SNR=16								
SIJI						S	Sn	18 04 02.2	-5.3
	2.6nm,0.3s,baz=236,slow=22,SNR=22								
FITZ	**Fitzroy Crossi**	**13.23**	**195**	P		P	Pn	18 04 58.8	+0.1
	0.1nm,0.3s,baz=16,slow=7.4,SNR=2.3								
FITZ						S	Sn	18 07 22.4	-4.0
	0.0nm,0.3s,baz=338,slow=19,SNR=1.7								
WRA	**Warramunga Arr**	**15.47**	**161**	P		P	Pn	18 05 24.9	-1.4
	0.2nm,0.3s,baz=335,slow=13,SNR=12								
WRA						S	S	18 08 10.8	-7.5
	0.1nm,0.3s,baz=338,slow=22,SNR=3.7								
ASAR	**Alice Springs**	**18.89**	**166**	P		P	P	18 06 04.5	+0.5
	0.1nm,0.3s,baz=351,slow=12,SNR=8.1								
MKAR	**Makanchi Array**	**66.29**	**327**	P		P	P	18 12 25.3	0.0
	0.1nm,0.4s,baz=114,slow=6.9,SNR=3.1								

*IDC **27** 18:14:32.0±1.9, 37°.14N×142°.58E, h0^{km}, mb3.3/3, mb1 3.6/6, mb1mx3.3/48, mbtmp3.5/6, ML3.0/3, MS2.4/1, Ms1 2.4/1, ms1mx2.0/28, Error ellipse: s-maj=37.2km s-min=24.7km az=84.0*

*ISCJB **27** 18:14:33.5±0.9, 37°.14N±0°.04×142°.32E±0°.09, h10^{km}, mb3.2/3, Error ellipse: s-maj=9.9km s-min=6.3km az=178.2*

*JMA **27** 18:14:35.2±0.3, 37°.11N×142°.27E, h28^{km}±5^{km}, M3.5*

ISC 27 18:14:34.1±1.3, 37°.15N±0°.05×142°.25E±0°.09, h10^{km}, n25, σ1°43/25, mb3.2/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.12**	**281**	P		P	**Pb**	18 14 55.5	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.16**	**268**	P		P	**Pb**	18 14 55.9	**-0.4**
JIKH	**Ishinomakikobu**	**1.31**	**332**	P		P	**Pn**	18 14 58.5	**0.0**
JIKH						*e*S	**Sb**	18 15 15.4	**-0.4**
JFFD	**Fukushimafurud**	**1.35**	**268**	P		P	**Pn**	18 14 58.7	**-0.3**
JMM	**Marumori**	**1.36**	**302**	P		P	**Pn**	18 14 59.1	**0.0**
JMM						*e*S	**Sb**	18 15 16.8	**-0.3**
JIO	**Ouri**	**1.48**	**331**	P		P	**Pn**	18 15 01.2	**+0.4**
JFT	**Otama**	**1.57**	**284**	P		P	**Pn**	18 15 02.9	**+0.9**
JOU	**Okura**	**1.75**	**314**	P		P	**Pn**	18 15 05.4	**+0.9**
JYK	**Kaneyama**	**2.31**	**320**	P		P	**Pn**	18 15 13.3	**+1.1**
JAG	**Ashikaga**	**2.36**	**253**	P		P	**Pn**	18 15 13.3	**+0.4**
JOM	**Ohasama**	**2.44**	**342**	P		P	**Pn**	18 15 15.5	**+1.5**
BSO1	**Boso 1**	**2.70**	**203**	P		P	**Pn**	18 15 18.5	**+1.0**
MJAR	**Matsushiro Arr**	**3.30**	**261**	Pn		Pn	**Pn**	18 15 28.9	**+3.1**
	0.7nm,0.3s,baz=91,slow=14,SNR=30								
MJAR						Sn	**Sb**	18 16 12.0	**-0.9**
	0.3nm,0.3s,baz=56,slow=19,SNR=4.3								
MJAR						LR	LR	18 17 11.0	
	comp=Z,51nm,20.3s,baz=50,slow=45								
MAT	**Matsushiro**	**3.30**	**261**	P		P	**Pn**	18 15 29.1	**+3.3**
MAT						*e*S	**Sn**	18 16 04.8	**-0.4**
JHJ	**Hachijo jima 2**	**4.50**	**207**	Pn		Pn	**Pn**	18 15 44.4	**+2.0**
	7.5nm,0.3s,baz=65,slow=16,SNR=2.4								
JHJ						Sn	**Sn**	18 16 31.9	**-2.9**
	6.3nm,0.3s,baz=94,slow=19,SNR=2.3								
ASAJ	**Asahikawa**	**6.96**	**2**	Pn		Pn	**Pn**	18 16 17.2	**+1.1**
	0.2nm,0.3s,baz=189,slow=14,SNR=5.5								
ASAJ						Sn	**Sn**	18 17 34.0	**-1.3**
	0.3nm,0.3s,baz=285,slow=20,SNR=2.3								
H11N2	**WAKE ISLAND Hy**	**27.64**	**122**	T		T	T	18 49 25.7	
	baz=315,slow=75,SNR=17								
H11N1	**WAKE ISLAND Hy**	**27.64**	**122**	T		T	T	18 49 19.9	
	baz=315,slow=75,SNR=19								
H11N3	**WAKE ISLAND Hy**	**27.65**	**122**	T		T	T	18 49 21.9	
	baz=315,slow=75,SNR=15								
SONM	**Songino Array**	**28.28**	**304**	P		**P**	**P**	18 20 28.3	**+0.6**
	0.2nm,0.4s,baz=101,slow=7.6,SNR=2.9								
H11S1	**WAKE ISLAND Hy**	**28.36**	**124**	T		T	T	18 50 11.7	
	baz=317,slow=76,SNR=14								
H11S3	**WAKE ISLAND Hy**	**28.37**	**124**	T		T	T	18 50 12.0	
	baz=317,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**28.38**	**124**	T		T	T	18 50 13.9	
	baz=317,slow=76,SNR=11								

baz=142,SNR=21
DAC **Darwin (Calif)** **2.97** **342** *e*Pn **Pn** **18 17 47.2 +1.2**
FURC **Furnace Creek,** **3.03** **354** Pg **Pg** **18 17 55.5 -1.0**
baz=173,SNR=13
PKM **Mcpherson Peak** **3.14** **298** P **Pn** **18 17 48.3 -0.1**
baz=116
SHPR **Sheep Range** **3.22** **19** *e*Pn **Pn** **18 17 50.2 +0.7**
CWC **Cottonwood Cre** **3.27** **336** P **Pn** **18 17 50.4 +0.3**
baz=155
214A **Organ Pipe Nat** **3.41** **115** P **Pn** **18 17 53.0 +1.1**
baz=298
SMMC **Simmler** **3.48** **303** P **Pn** **18 17 52.6 -0.2**
baz=121
TPNV **Topopah Spring** **3.49** **3** *e*Pn **Pn** **18 17 53.9 +0.8**
TPNV **Topopah Spring** **3.49** **3** P **Pn** **18 17 53.8 +0.6**
baz=183,SNR=13
GRAC **Grapevine Rang** **3.61** **348** Pg **Pg** **18 18 06.4 -1.3**
baz=168
X16A **Lo Mia Camp, P** **4.27** **76** *e*Pn **Pn** **18 18 04.1 +0.2**
LCMT **Little Creek M** **4.41** **35** *e*Pn **Pn** **18 18 06.4 +0.7**
U15A **North Rim** **4.52** **48** *e*Pn **Pn** **18 18 08.1 +0.7**
KNB **Kanab** **4.63** **39** *e*Pn **Pn** **18 18 09.9 +1.1**
OMMB **Old Mammoth Mi** **4.64** **334** *e*Pn **Pn** **18 18 09.5 +0.3**
WUAZ **Wupatki** **4.66** **62** *e*Pn **Pn** **18 18 10.8 +1.6**
WUAZ **Wupatki** **4.66** **62** P **Pn** **18 18 11.0 +1.8**
baz=246,SNR=22
CCUT **Cedar City** **4.80** **31** *e*Pn **Pn** **18 18 13.1 +1.9**
TUC **Tucson** **4.89** **102** *e*Pn **Pn** **18 18 12.1 -0.3**
R11A **Troy Canyon, C** **4.93** **8** *e*Pn **Pn** **18 18 13.1 +0.1**
SZCU **Shurtz Canyon** **4.95** **33** *e*Pn **Pn** **18 18 13.3 0.0**
NV11 **Mina Array Sit** **5.16** **345** *e*Pn **Pn** **18 18 17.9 +1.8**
NV01 **Mina Array Sit** **5.19** **344** *e*Pn **Pn** **18 18 17.9 +1.4**
NV01 eLg Lg 18 19 44.2
NVAR **Mina Array Bea** **5.19** **344** Pn **Pn** **18 18 18.6 +2.1**
0.3nm,0.3s,baz=166,slow=15,SNR=6.4
NVAR Lg Lg 18 19 44.2
baz=160,slow=32,SNR=1.8
PKCU **Pink Cliffs** **5.22** **39** *e*Pn **Pn** **18 18 18.5 +1.5**
RYN **Ryan** **5.43** **343** *e*Pn **Pn** **18 18 19.7 -0.2**
PSUT **Pine Spring** **5.49** **22** *e*Pn **Pn** **18 18 21.8 +1.2**
X18A **Snowflake** **5.50** **77** *e*Pn **Pn** **18 18 21.1 +0.3**
CMB **Columbia Colle** **5.58** **326** *e*Pn **Pn** **18 18 20.1 -1.7**
WAKR **Walker** **5.59** **335** *e*Pg **Pg** **18 18 42.0 -3.6**
MTPU **Mount Pierson** **5.74** **36** *e*Pn **Pn** **18 18 24.5 +0.3**
KVN **Kaiserville** **5.74** **347** *e*Pn **Pn** **18 18 23.9 -0.2**
YERR **Yerington** **5.96** **339** *e*Pn **Pn** **18 18 27.7 +0.5**
TCRU **Three Creeks R** **6.03** **31** *e*Pn **Pn** **18 18 28.9 +0.1**
MSU **Marysvale** **6.12** **33** *e*Pn **Pn** **18 18 30.0 +0.7**
PNTR **Pine Nut** **6.17** **337** *e*Pn **Pn** **18 18 33.1 +3.1**
DUG **Dugway, Tooele** **7.33** **22** *e*Pn **Pn** **18 18 43.0 -2.8**
121A **Cookes Peak, D** **7.33** **95** P **Pn** **18 18 46.4 +0.5**
baz=280,SNR=5.9
MVCO **Mesa Verde** **7.49** **58** *e*Pn **Pn** **18 18 47.9 -0.3**
BNM **Barren Site** **8.20** **82** *e*Pn **Pn** **18 18 59.2 +1.3**
MNTX **Cornudas Mount** **9.49** **98** P **Pn** **18 19 16.2 +0.7**
baz=284
PDAR **Pinedale Array** **10.76** **28** Pn Pn 18 19 37.9 +5.0
0.0nm,0.3s,baz=208,slow=14,SNR=3.5
TXAR **Lajitas Array** **11.66** **107** Pn **Pn** **18 19 47.5 +2.2**
0.1nm,0.3s,baz=292,slow=13,SNR=8.4
656A **Willston** **29.15** **89** *e*P **P** **18 23 00.4 +0.5**

*KOLA **27** 18:36:17.1,67.˚55N×19.˚74E,h0km*
*ISCJB **27** 18:36:25.7±0.3,67.˚05N±0.˚02×21.˚06E±0.˚06,h0km,Error ellipse: s-maj=3.3km s-min=2.5km az=0.7*
*IDC **27** 18:36:26.6±1.0,67.˚04N×21.˚01E,h0km,mb1 2.7/3, mb1mx2.7/37,mbtmp2.6/3,ML1.9/3,Error ellipse: s-maj=15.0km s-min=8.1km az=112.0*
*UPP **27** 18:36:26.2±0.1,67.˚05N×20.˚95E,h0km,ML2.2,Explosion*
*NAO **27** 18:36:27.0±0.9,67.˚05N×21.˚27E,ML2.5*
*HEL **27** 18:36:27.1±0.1,67.˚05N×20.˚95E,h0km,ML2.2, ML2.2(UPP),Explosion*
*BER **27** 18:36:28.8±3.8,66.˚99N×21.˚22E,h0km,ML1.5, ML2.5(NAO),Suspected explosion*
ISC 27 18:36:26.1±0.7,67.˚04N±0.˚02×20.˚93E±0.˚03,h0km,n67, σ1§27/92,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.59**	**44**	P			**Pg**	**18 36 37.4**	**+0.1**
MASU	**Masugnsbyn**	**0.59**	**44**	*i* P			**Pg**	**18 36 37.4**	**+0.1**
ERTU	**Ertsjaerv**	**0.70**	**134**	P			**Pg**	**18 36 39.3**	**-0.1**
ERTU				S			**Sg**	**18 36 49.0**	**+0.6**
ERTU	**Ertsjaerv**	**0.70**	**134**	*i* P			**Pg**	**18 36 39.3**	**-0.1**
ERTU				*i* S			**Sg**	**18 36 49.0**	**+0.6**
PAJU	**Pajala**	**0.86**	**90**	P			**Pg**	**18 36 42.1**	**-0.4**
PAJU	**Pajala**	**0.86**	**90**	*i* P			**Pg**	**18 36 42.1**	**-0.4**
HARU	**Harads**	**0.88**	**179**	*i* P			**Pg**	**18 36 42.9**	**0.0**
HARU				S			**Sg**	**18 36 54.6**	**+0.3**
HARU	**Harads**	**0.88**	**179**	*i* P			**Pg**	**18 36 42.9**	**0.0**
HARU				*i* S			**Sg**	**18 36 54.6**	**+0.3**
RATU	**Laukkuluspa**	**0.94**	**327**	P			**Pg**	**18 36 43.7**	**-0.3**
RATU	**Laukkuluspa**	**0.94**	**327**	*e*P			**Pg**	**18 36 43.7**	**-0.3**
KUA	**Kurravaara**	**0.95**	**346**	P			**Pg**	**18 36 43.7**	**-0.5**
KUA	**Kurravaara**	**0.95**	**346**	*e*P			**Pg**	**18 36 43.7**	**-0.5**
SALU	**Saltoluokta**	**1.00**	**291**	P			**Pg**	**18 36 45.4**	**+0.1**
SALU	**Saltoluokta**	**1.00**	**291**	*e*P			**Pg**	**18 36 45.4**	**+0.1**
LANU	**Lannavaara**	**1.09**	**21**	P			**Pg**	**18 36 46.2**	**-0.7**
LANU	**Lannavaara**	**1.09**	**21**	*e*P			**Pg**	**18 36 46.2**	**-0.7**
KALU	**Kalix**	**1.54**	**139**	P			**Pn**	**18 36 54.2**	**-0.4**
KALU	**Kalix**	**1.54**	**139**	*e*P			**Pn**	**18 36 54.2**	**-0.4**
SJUU	**Sjulsmark**	**1.56**	**170**	P			**Pn**	**18 36 55.0**	**-0.1**
SJUU	**Sjulsmark**	**1.56**	**170**	*e*P			**Pn**	**18 36 55.0**	**-0.1**
TOF	**Tornio**	**1.67**	**124**	*e*P			**Pn**	**18 36 56.6**	**+0.2**
TOF				MSG				18 37 17.0	
	comp=Z,32nm,0.2s								
TOF				*e*SN			**Sn**	**18 37 19.1**	**+0.6**
HEF	**Hetta**	**1.72**	**36**	*e*P			**Pn**	**18 36 57.5**	**+0.2**
HEF	**Hetta**	**1.72**	**36**	*e*P			**Pn**	**18 36 57.1**	**-0.2**
	baz=214								
HEF				MSG				18 37 17.0	
	comp=Z,18nm,0.2s								
HEF				*e*SN			**Sg**	**18 37 21.6**	**+0.3**
LILU	**Lilltraesk**	**1.82**	**195**	P			**Pn**	**18 36 59.3**	**+0.8**
LILU	**Lilltraesk**	**1.82**	**195**	*e*P			**Pn**	**18 36 59.3**	**+0.8**
KIF	**Kilpisjarvi**	**1.97**	**359**	Pn			**Pb**	**18 37 02.2**	**-0.6**
KIF				Sn			**Sg**	**18 37 29.0**	**-0.4**
KIF	**Kilpisjarvi**	**1.97**	**359**	Pn			**Pb**	**18 37 02.2**	**-0.6**
KIF				*e*S			**Sn**	**18 37 26.0**	**0.0**
KIF	**Kilpisjarvi**	**1.97**	**359**	*e*PB			**Pb**	**18 37 02.2**	**-0.6**
KIF				MSG				18 37 25.8	
	comp=Z,37nm,0.2s								
KIF				*e*SG			**Sg**	**18 37 29.3**	**-0.1**
RNF	**Rovaniemi**	**2.06**	**100**	*e*P			**Pn**	**18 37 02.7**	**+0.9**
RNF				*e*SG			**Sb**	**18 37 30.7**	**+0.4**
KTK1	**Kautokeino**	**2.16**	**23**	*e*P			**Pb**	**18 37 05.2**	**-0.8**
KTK1				*e*S			**Sn**	**18 37 28.5**	**-2.2**
KTK1				IAML				18 37 36.7	
	comp=Z,6.8nm,0.3s								
SGF	**Sodankyl**	**2.21**	**77**	*e*PB			**Pn**	**18 37 05.2**	**+1.2**
SGF				*e*SG			**Sb**	**18 37 35.0**	**+0.2**
BURU	**Burvik**	**2.48**	**176**	P			**Pn**	**18 37 09.4**	**+1.8**
BURU	**Burvik**	**2.48**	**176**	*e*P			**Pn**	**18 37 09.4**	**+1.8**
SVAU	**Svanoeiden**	**2.62**	**193**	P			**Pn**	**18 37 10.8**	**+1.3**
SVAU	**Svanoeiden**	**2.62**	**193**	*e*P			**Pn**	**18 37 10.8**	**+1.3**
MOR8	**Moi Rana**	**2.73**	**254**	*e*P			**Pn**	**18 37 12.6**	**+1.4**
OUL	**Oulu**	**2.82**	**132**	*e*PB			**Pn**	**18 37 14.7**	**+2.4**
OUL				*e*SG			**Sg**	**18 37 55.7**	**-0.8**
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn			**Pn**	**18 37 15.5**	**+0.3**
	baz=203,slow=16								
ARA0				Sn			**Sn**	**18 37 52.1**	**0.0**
	baz=220,slow=22								
ARA0	**ARCESS Array S**	**3.03**	**32**	Pn			**Pn**	**18 37 15.5**	**+0.3**
	baz=203,slow=16								
ARA0				Sn			**Sn**	**18 37 52.1**	**0.0**
	baz=220,slow=22								
ARCES	**ARCESS Array B**	**3.03**	**32**	Pn			**Pn**	**18 37 15.5**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=211,slow=13,SNR=29								
ARCES				Sn			**Sn**	**18 37 52.5**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=213,slow=23,SNR=8.3								
ARE0	**ARCESS Array S**	**3.03**	**32**	*e*P			**Pn**	**18 37 17.2**	**+2.0**
ARE0	**ARCESS Array S**	**3.03**	**32**	*e*P			**Pn**	**18 37 16.0**	**+0.8**
	baz=212								
ARE0				*e*				18 37 45.6	
LOF	**Lofoten**	**3.04**	**295**	*e*P			**Pn**	**18 37 16.8**	**+1.6**
OUF	**Merijarvi**	**3.11**	**148**	*e*P			**Pn**	**18 37 17.9**	**+1.6**
OUF				MSG				18 37 59.2	
	comp=Z,3.1nm,0.2s								
KONS	**Konsvik**	**3.14**	**264**	*e*P			**Pn**	**18 37 18.7**	**+2.0**
VRF	**Varrio**	**3.43**	**74**	*e*P			**Pn**	**18 37 22.0**	**+1.4**
	baz=266								
VRF				*e*SB			**Sb**	**18 38 09.2**	**-0.5**
MSF	**Maaselka**	**3.44**	**105**	*e*PG			**Pb**	**18 37 29.6**	**+1.8**
	baz=293								
KEV	**Kevo**	**3.53**	**37**	Pn			**Pn**	**18 37 22.9**	**+0.8**
KEV				Sn			**Sn**	**18 38 04.0**	**-0.4**
KEV	**Kevo**	**3.53**	**37**	Pn			**Pn**	**18 37 22.9**	**+0.8**
KEV				Sn			**Sn**	**18 38 04.0**	**-0.4**
KEV	**Kevo**	**3.53**	**37**	*e*PB			**Pn**	**18 37 25.6**	**+3.5**
	baz=220								
KU6	**Riekki**	**3.73**	**102**	*e*P			**Pn**	**18 37 26.1**	**+1.4**
HAMF	**Hammerfest**	**3.75**	**14**	*e*P			**Pn**	**18 37 26.7**	**+1.6**
VAF	**Ylistaro**	**4.08**	**169**	*e*P			**Pn**	**18 37 31.5**	**+1.9**
	baz=348								
VAF				*e*SB			**Sb**	**18 38 25.7**	**-2.8**
NSS	**Namsos**	**4.47**	**240**	*e*P			**Pn**	**18 37 37.9**	**+3.0**
APA0	**Apatity Array**	**4.70**	**78**	Sn			**Sn**	**18 38 32.0**	**-1.3**
APA0				Lg			Lg	18 38 47.8	
APA0	**Apatity Array**	**4.70**	**78**	P			Pn	18 37 33.1	-5.0
APA0				S			**Sn**	**18 38 30.2**	**-3.1**
APA0	**Apatity Array**	**4.70**	**78**	Sn			**Sn**	**18 38 32.0**	**-1.3**
APA0				Sg			**Sb**	**18 38 47.8**	**+1.5**
FIA0	**FINESS Array S**	**6.05**	**156**	Pn			**Pn**	**18 37 58.0**	**+1.4**
	baz=348,slow=14								
FIA0				Sn			**Sn**	**18 39 05.4**	**-1.0**
	baz=346,slow=28								
FIA0	**FINESS Array S**	**6.05**	**156**	Pn			**Pn**	**18 37 58.0**	**+1.4**
	baz=348,slow=14								
FIA0				Sn			**Sn**	**18 39 05.4**	**-1.0**
	baz=346,slow=28								
FINES	**FINESS Array B**	**6.05**	**156**	Pn			**Pn**	**18 37 58.1**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=346,slow=13,SNR=11								
FINES				Sn			**Sn**	**18 39 05.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=344,slow=21,SNR=7.3								
FINES				Lg			Lg	18 39 36.9	
	comp=Z,0.2nm,0.3s,baz=342,slow=27,SNR=4.2								
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn			**Pn**	**18 38 14.2**	**-0.6**
	baz=27,slow=14								
NB2	**NORSAR Subarra**	**7.37**	**220**	Pn			**Pn**	**18 38 14.2**	**-0.6**
	baz=27,slow=14								
NOA	**NORSAR Array B**	**7.37**	**220**	Pn			**Pn**	**18 38 14.9**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=56,slow=12,SNR=8.8								
NOA				Sn			**Sn**	**18 39 34.2**	**-4.8**
	comp=Z,0.0nm,0.3s,baz=35,slow=21,SNR=2.4								
NOA				Lg			Lg	18 40 17.6	
	comp=Z,0.0nm,0.3s,baz=56,slow=19,SNR=2.7								
NRA0	**NORESS Array S**	**7.55**	**218**	Pn			**Pn**	**18 38 18.4**	**+1.1**
	baz=21,slow=14								
NRA0	**NORESS Array S**	**7.55**	**218**	Pn			**Pn**	**18 38 18.4**	**+1.1**
	baz=21,slow=14								
HFS	**Hagfors**	**7.64**	**208**	Pn			**Pn**	**18 38 18.6**	**+0.1**
	baz=25,slow=14								
HFS	**Hagfors**	**7.64**	**208**	Pn			**Pn**	**18 38 18.6**	**+0.1**
	baz=25,slow=14								

*ISCJB **27** 18:43:20.0±1.0,10.˚75S±0.˚1×165.˚8E±0.˚2,h35km,mb3.7/7, Error ellipse: s-maj=23.5km s-min=17.1km az=174.1*
*IDC **27** 18:43:22.6±1.5,10.˚74S×165.˚85E,h48km±9km,mb3.5/7, mb1 3.8/8,mb1mx3.5/35,mbtmp3.8/8,ML4.2/1,Error ellipse: s-maj=40.8km s-min=23.0km az=127.0*
ISC 27 18:43:22.0±0.9,10.˚78S±0.˚09×165.˚8E±0.˚1,h35km,n17, σ2§55/16,mb3.7/7,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.95**	**283**	*e*P			**Pn**	**18 44 50.0**	**+2.4**
HNR				*e*S			**Sn**	**18 45 50.0**	**-4.5**
HNR	**Honiara**	**5.95**	**283**	P			**Pn**	**18 44 51.2**	**+3.6**
	13nm,0.3s,baz=167,slow=1.7,SNR=9.0								
DZM	**Mont Dzumac**	**11.24**	**177**	P			**Pn**	**18 46 02.9**	**+2.6**
	1.5nm,0.3s,baz=359,slow=7.5,SNR=16								
DZM				S			**Sn**	**18 48 01.0**	**-3.8**
	0.2nm,0.3s,baz=330,slow=20,SNR=3.0								
H11S2	**WAKE ISLAND Hy**	**29.10**	**2**	T			T	19 19 50.7	
	baz=181,slow=76,SNR=34								
H11S3	**WAKE ISLAND Hy**	**29.10**	**2**	T			T	19 19 46.0	
	baz=181,slow=76,SNR=18								
H11S1	**WAKE ISLAND Hy**	**29.12**	**2**	T			T	19 19 52.2	
	baz=181,slow=76,SNR=43								
H11N1	**WAKE ISLAND Hy**	**30.32**	**2**	T			T	19 21 22.3	
	baz=182,slow=76,SNR=24								
H11N3	**WAKE ISLAND Hy**	**30.33**	**2**	T			T	19 21 21.9	
	baz=182,slow=76,SNR=20								
H11N2	**WAKE ISLAND Hy**	**30.34**	**2**	T			T	19 21 21.4	
	baz=182,slow=76,SNR=13								
WRA	**Warramunga Arr**	**31.65**	**249**	P			**P**	**18 49 41.7**	**-0.5**
	0.8nm,0.7s,baz=80,slow=8.9,SNR=5.8								
WRA				pP			**pP**	**18 49 54.2**	**+2.3**
	1.4nm,0.8s,baz=80,slow=9.0,SNR=5.3								
ASAR	**Alice Springs**	**32.98**	**243**	P			**P**	**18 49 53.1**	**-0.8**
	0.9nm,0.9s,baz=74,slow=9.8,SNR=5.5								
ASAR				pP			**pP**	**18 50 05.9**	**+2.1**
	1.0nm,0.8s,baz=68,slow=9.6,SNR=5.7								
FITZ	**Fitzroy Crossi**	**39.53**	**255**	P			**P**	**18 50 49.2**	**-0.6**
	1.5nm,0.6s,baz=79,slow=5.2,SNR=5.3								
CMAR	**Chiang Mai Arr**	**72.08**	**293**	P			**P**	**18 54 43.6**	**+0.4**
	0.4nm,0.9s,baz=90,slow=4.5,SNR=4.1								
SONM	**Songino Array**	**78.50**	**324**	P			**P**	**18 55 19.3**	**-0.4**
	0.3nm,0.5s,baz=107,slow=4.8,SNR=2.7								
ILAR	**Eielson Array**	**83.24**	**18**	P			**P**	**18 55 43.5**	**-1.0**
	0.4nm,0.6s,baz=236,slow=5.0,SNR=10								
MKAR	**Makanchi Array**	**93.39**	**317**	P			**P**	**18 56 32.5**	**-1.2**
	0.4nm,0.7s,baz=98,slow=7.3,SNR=5.2								
MKAR				pP			**pP**	**18 56 46.8**	**+2.0**
	0.4nm,0.7s,baz=90,slow=4.5,SNR=4.7								
ARCES	**ARCESS Array B**	**116.10**	**346**	PKP			**PKiKP**	**19 01 58.3**	**-2.5**
	3.1nm,0.9s,baz=30,slow=2.4,SNR=3.2								

*NIED **27** 18:46:00,23.˚90N×121.˚00E,h23km,Mw3.6 Best double couple: M○2.59000×10^14 NP1:φ○=50.00000°,δ53.00000°, λ141.00000°. NP2:φ○166.00000°,δ60.00000°,λ44.00000°.*
*IDC **27** 18:46:08.0±1.1,23.˚76N×121.˚02E,h0km,mb3.6/5, mb1 3.7/6,mb1mx3.4/40,mbtmp3.6/6,ML2.8/1,Error ellipse: s-maj=43.8km s-min=21.9km az=62.0*
*JMA **27** 18:46:10.2±0.2,23.˚94N×120.˚98E,h4km,M3.7*
*TAP **27** 18:46:10.8,23.˚93N×120.˚99E,h13km,ML4.0,B*
*ISCJB **27** 18:46:11.5±0.2,23.˚931N±0.˚009×121.˚03E±0.˚01, h12km±1km,mb3.5/5,Error ellipse: s-maj=1.8km s-min=1.3km az=39.4*
*ASIES **27** 18:46:11.1,23.˚94N×121.˚03E,h21km,MW3.4*
ISC 27 18:46:10.9±0.8,23.˚94N±0.˚01×121.˚01E±0.˚01,h14km±4km, n140,σ○§82/211,mb3.5/5,15C-35D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMLT	**Sun Moon Lake**	**0.11**	**240**	⇑*i*P			**Pg**	**18 46 14.2**	**0.0**
	baz=236								
SMLT				S			**Sg**	**18 46 16.7**	**+0.2**
	baz=236								
TYC	**Yuchr**	**0.14**	**255**	⇑*i*P			**Pg**	**18 46 14.3**	**-0.1**
	baz=256								
TYC				*i* S			**Sg**	**18 46 16.8**	**-0.1**
	baz=256								
OWD	**Renai**	**0.16**	**85**	⇓*i*P			**Pb**	**18 46 15.5**	**-0.2**
	baz=83								
OWD				S			**Sb**	**18 46 18.5**	**-0.4**
	baz=83								
SSLB	**Suanglung**	**0.16**	**197**	⇓P			**Pg**	**18 46 14.6**	**-0.2**
	baz=186								
SSLB				S			**Sg**	**18 46 17.0**	**-0.5**
	baz=186								
CHGB	**Renai**	**0.20**	**52**	⇑P			**Pb**	**18 46 16.0**	**-0.4**
	baz=59								
CHGB				S			**Sg**	**18 46 19.2**	**+0.5**
	baz=59								
VWDT	**VWDT**	**0.22**	**146**	⇓P			**Pb**	**18 46 16.4**	**-0.3**
	baz=142								
VWDT				S			**Sb**	**18 46 20.0**	**-0.7**
	baz=142								
WHYT	**Xinyi Township**	**0.28**	**210**	⇑P			**Pg**	**18 46 16.8**	**0.0**
	baz=203								
WHYT				*e*S			**Sg**	**18 46 21.4**	**+0.6**
	baz=203								
WJS	**Zhushan**	**0.28**	**245**	⇑*i*P			**Pb**	**18 46 17.6**	**-0.1**
	baz=240								
WJS				S			**Sb**	**18 46 22.5**	**+0.2**
	baz=240								
WNT	**Mingjian**	**0.30**	**258**	⇓*i*P			**Pb**	**18 46 17.9**	**-0.2**
	baz=259								
WNT				S			**Sb**	**18 46 23.2**	**+0.3**
	baz=259								
WHF	**Hehuan Shan**	**0.31**	**49**	⇑*i*P			**Pb**	**18 46 18.4**	**-0.2**
	baz=59								
WHF				S			**Sb**	**18 46 23.1**	**-0.6**
	baz=59								
WHP	**Taichung City**	**0.34**	**351**	⇑P			**Pg**	**18 46 18.1**	**+0.2**
	baz=357								
WHP				S			**Sb**	**18 46 24.3**	**+0.1**
	baz=357								
TDCB	**Techi**	**0.34**	**24**	⇑P			**Pg**	**18 46 17.9**	**0.0**
	baz=30								
TDCB				S			**Sg**	**18 46 22.2**	**-0.5**
	baz=30								
TWT	**Tachien**	**0.35**	**27**	⇑*i*P			**Pg**	**18 46 17.9**	**-0.1**
	baz=31								
TWT				*e*S			**Sg**	**18 46 23.1**	**+0.1**
	baz=31								
TCU	**Taichung**	**0.36**	**305**	⇓P			**Pb**	**18 46 19.6**	**+0.4**
	baz=307								
TCU				S			**Sb**	**18 46 26.3**	**+1.6**
	baz=307								
ESL	**Shilin**	**0.41**	**108**	⇓*i*P			**Pb**	**18 46 19.8**	**-0.2**
	baz=97								
ESL				S			**Sb**	**18 46 25.4**	**-0.7**
	baz=97								
WCHH	**Zhanghua**	**0.43**	**289**	⇓*i*P			**Pb**	**18 46 20.5**	**+0.2**
	baz=289								
WCHH				*e*S			**Sb**	**18 46 27.7**	**+1.1**
	baz=289								
CHN5	**Tsauling**	**0.45**	**221**	⇓*i*P			**Pb**	**18 46 20.7**	**0.0**
	baz=221								
CHN5				S			**Sb**	**18 46 27.9**	**+0.4**
	baz=221								
TWQ1	**Liyutan**	**0.46**	**332**	⇓*i*P			**Pb**	**18 46 21.2**	**+0.4**
	baz=344								
TWQ1				S			**Sb**	**18 46 28.8**	**+1.3**
	baz=344								
EGFH	**Guangfu**	**0.47**	**125**	⇓*i*P			**Pb**	**18 46 20.6**	**-0.4**
	baz=124								
EGFH				*e*S			**Sb**	**18 46 27.2**	**-0.6**
	baz=124								
WGK	**Gukeng**	**0.48**	**238**	⇓*i*P			**Pb**	**18 46 21.1**	**0.0**
	baz=237								
WGK				*e*S			**Sb**	**18 46 28.9**	**+0.9**
	baz=237								
WDLH	**Douliu**	**0.49**	**240**	*e*P			**Pb**	**18 46 21.5**	**+0.1**
	baz=239								
ETLH	**Xiulin Townshi**	**0.51**	**59**	⇓P			**Pg**	**18 46 21.2**	**+0.3**
	baz=59								
ETLH				*e*S			**Sg**	**18 46 28.0**	**+0.2**
	baz=59								
EHY	**Hungye**	**0.52**	**146**	⇓*i*P			**Pb**	**18 46 21.5**	**-0.3**
	baz=139								
EHY				*e*S			**Sg**	**18 46 27.8**	**-0.3**
	baz=139								
NSY	**Sanyi**	**0.52**	**335**	⇓*i*P			**Pb**	**18 46 22.8**	**+0.9**
	baz=347								
NSY				S			**Sn**	**18 46 31.2**	**-1.5**
	baz=347								
WDJ	**Dajia District**	**0.53**	**321**	⇓*i*P			**Pb**	**18 46 22.8**	**+0.8**
	baz=322								
WDJ				S			**Sn**	**18 46 31.6**	**-1.1**
	baz=322								
HWA	**Hwalien**	**0.55**	**86**	⇓*i*P			**Pb**	**18 46 22.6**	**+0.3**
	baz=86								
HWA				S			**Sb**	**18 46 30.8**	**+0.7**
	baz=86								
TWD	**Chiawan**	**0.56**	**75**	⇓*i*P			**Pb**	**18 46 22.1**	**-0.3**
	baz=76								
TWD				S			**Sg**	**18 46 28.9**	**-0.4**
	baz=76								
PTSB	**Yuanli**	**0.57**	**332**	⇓P			**Pb**	**18 46 23.6**	**+0.8**
	baz=333								
PTSB				S			**Sn**	**18 46 32.5**	**-1.4**
	baz=333								
NACB	**Ninganchiao**	**0.59**	**67**	⇓P			**Pg**	**18 46 22.5**	**+0.1**
	baz=77								
NACB				S			**Sg**	**18 46 30.2**	**0.0**
	baz=77								
HGSD	**Ruisui**	**0.59**	**139**	⇓P			**Pb**	**18 46 23.2**	**+0.2**
	baz=138								
HGSD				S			**Sb**	**18 46 31.9**	**+0.7**
	baz=138								
RLNB	**Erlin**	**0.59**	**265**	⇓P			**Pb**	**18 46 22.9**	**-0.2**
	baz=265								
RLNB				S			**Sb**	**18 46 31.7**	**+0.4**
	baz=265								
NNSB	**Datong**	**0.60**	**35**	⇑P			**Pg**	**18 46 22.2**	**-0.4**
	baz=44								
NNSB				*e*S			**Sg**	**18 46 29.7**	**-0.8**
	baz=44								
NNS	**Nan Shan**	**0.60**	**34**	⇓P			**Pg**	**18 46 22.6**	**-0.1**
	baz=43								
NNS				*e*S			**Sg**	**18 46 30.5**	**-0.2**
	baz=43								
YULB	**Yu-li**	**

HSN	**Hsinchu**	**0.86**	**358**	P	**Pn**	**18 46 29.6**	**+1.0**
	baz=1.0						
HSN				S	**Sn**	**18 46 41.7**	**+0.8**
	baz=1.0						
ENTT	**Nioudou**	**0.86**	**36**	*eP*	**Pg**	**18 46 27.2**	**-0.4**
	baz=31						
CHN1	**Nanshi**	**0.87**	**210**	*eP*	**Pg**	**18 46 27.6**	**-0.1**
	baz=220						
CHN1				*eS*	**Sb**	**18 46 39.8**	**+0.4**
	baz=220						
CHKT	**Chengkung**	**0.90**	**158**	⇓*iP*	**Pn**	**18 46 29.2**	**+0.1**
	baz=158						
CHKT				*eS*	**Sn**	**18 46 42.6**	**+0.6**
	baz=158						
CHN8	**Yiju**	**0.94**	**231**	*eP*	**Pb**	**18 46 28.8**	**-0.1**
	baz=243						
NWLT	**Wulai**	**0.95**	**28**	*eP*	**Pb**	**18 46 28.9**	**-0.2**
	baz=29						
TWE	**Neicheng**	**0.98**	**38**	*eP*	**Pb**	**18 46 29.7**	**0.0**
	baz=49						
SLGT	**Liugui**	**1.00**	**199**	*eP*	**Pg**	**18 46 30.3**	**+0.1**
	baz=197						
TWC	**Suao**	**1.02**	**49**	⇓*eP*	**Pg**	**18 46 30.5**	**-0.1**
	baz=50						
TWC				*eS*	**Sg**	**18 46 43.9**	**0.0**
	baz=50						
NCUH	**Zhongli**	**1.04**	**9**	*eP*	**Pn**	**18 46 31.8**	**+0.8**
	baz=11						
NCU	**National Centr**	**1.04**	**9**	*eP*	**Pn**	**18 46 31.4**	**+0.3**
	baz=10.0						
NCU				*eS*	**Sn**	**18 46 46.4**	**+0.9**
	baz=10.0						
CHN3	**Shinhua**	**1.04**	**214**	*eP*	**Pn**	**18 46 31.5**	**+0.5**
	baz=225						
CHN3				*eS*	**Sn**	**18 46 47.6**	**+2.2**
	baz=225						
ILA	**Ilan**	**1.06**	**39**	*eP*	**Pg**	**18 46 31.7**	**+0.3**
	baz=38						
SCLT	**Jiali**	**1.06**	**225**	P	**Pg**	**18 46 31.5**	**0.0**
	baz=223						
SCLT				S	**Sn**	**18 46 47.6**	**+1.6**
	baz=223						
TWG	**Pinlang**	**1.12**	**177**	P	**Pg**	**18 46 32.6**	**+0.2**
	baz=168						
TWG				*eS*	**Sn**	**18 46 48.8**	**+1.5**
	baz=168						
TWGBT	**Beinan**	**1.12**	**176**	⇓P	**Pn**	**18 46 32.2**	**0.0**
	baz=168						
TWGBT				S	**Sn**	**18 46 48.3**	**+0.9**
	baz=168						
TATO	**Taipei**	**1.12**	**23**	⇑P	**Pg**	**18 46 32.4**	**-0.1**
	baz=28						
TATO				*eS*	**Sn**	**18 46 48.9**	**+1.5**
	baz=28						
NHDH	**Xindian Distri**	**1.12**	**25**	*eP*	**Pg**	**18 46 33.5**	**+1.0**
	baz=30						
NHDH				*eS*	**Sn**	**18 46 49.4**	**+1.9**
	baz=30						
TAI1	**Yung-k'ang**	**1.15**	**219**	*eP*	**Pg**	**18 46 33.4**	**+0.5**
	baz=218						
TAI1				*eS*	**Sn**	**18 46 50.2**	**+2.2**
	baz=218						
TWA	**Mucha**	**1.16**	**27**	*eP*	**Pg**	**18 46 33.4**	**+0.1**
	baz=35						
TWA				*eS*	**Sn**	**18 46 49.7**	**+1.2**
	baz=35						
NTC	**Toucheng**	**1.18**	**39**	*eP*	**Pg**	**18 46 33.7**	**+0.1**
	baz=41						
TAP	**Taipei**	**1.19**	**23**	*eP*	**Pg**	**18 46 34.4**	**+0.7**
	baz=25						
TTN	**Taitung**	**1.19**	**174**	*eP*	**Pg**	**18 46 34.5**	**+0.7**
	baz=171						
EOS1	**EOS1**	**1.19**	**59**	*eP*	**Pg**	**18 46 34.1**	**+0.3**
	baz=60						
TWS1	**Kuangyinshan**	**1.22**	**18**	*eP*	**Pg**	**18 46 34.5**	**+0.2**
	baz=2.0						
TWM1	**Shoushan**	**1.23**	**206**	*eP*	**Pb**	**18 46 34.2**	**+0.2**
	baz=203						
EGS		**1.23**	**43**	*eP*	**Pg**	**18 46 34.8**	**+0.1**
	baz=55						
SSD	**Sandimen**	**1.24**	**196**	⇓*eP*	**Pb**	**18 46 34.3**	**+0.3**
	baz=184						
TIPB	**Shuangxi**	**1.27**	**36**	*eP*	**Pb**	**18 46 34.7**	**+0.1**
	baz=37						
NTST	**Danshui**	**1.28**	**18**	*eP*	**Pg**	**18 46 36.5**	**+0.9**
	baz=2.0						
SGLT	**Jiouru**	**1.30**	**201**	*eP*	**Pg**	**18 46 36.4**	**+0.6**
	baz=199						
YM04	**YM04**	**1.30**	**22**	*eP*	**Pb**	**18 46 35.1**	**-0.1**
	baz=4.0						
YM01	**YM01**	**1.31**	**23**	*eP*	**Pn**	**18 46 34.8**	**0.0**
	baz=25						
YM05	**YM05**	**1.32**	**23**	*eP*	**Pn**	**18 46 35.1**	**+0.1**
	baz=23						
YM05				*eS*	**Sn**	**18 46 52.7**	**+0.2**
	baz=23						
YM11	**YM11**	**1.33**	**23**	*eP*	**Pn**	**18 46 35.1**	**0.0**
	baz=25						
ANP	**Anpu**	**1.33**	**21**	*eP*	**Pb**	**18 46 35.9**	**+0.3**
	baz=5.0						
NWF	**Wu-fen Shan**	**1.33**	**32**	*eP*	**Pg**	**18 46 37.0**	**+0.5**
	baz=34						
WFSB	**Wu-fen Shan**	**1.33**	**32**	*eP*	**Pg**	**18 46 37.0**	**+0.6**
	baz=34						
ECL	**Taimali**	**1.34**	**182**	P	**Pg**	**18 46 36.3**	**-0.3**
	baz=179						
MASBT	**Mashibuluo**	**1.36**	**195**	*eP*	**Pb**	**18 46 36.1**	**-0.1**
	baz=194						
MASBT				*eS*	**Sg**	**18 46 54.4**	**-0.5**
	baz=194						
PNG	**Penghu**	**1.38**	**255**	*eP*	**Pn**	**18 46 35.1**	**-0.6**
	baz=246						
PNG				*eS*	**Sn**	**18 46 53.5**	**-0.2**
	baz=246						
PHUB	**P'eng-hu**	**1.38**	**252**	*eP*	**Pn**	**18 46 35.0**	**-0.8**
	baz=251						
TWB1	**Santiao Chiao**	**1.39**	**40**	*eP*	**Pg**	**18 46 37.6**	**0.0**
	baz=41						
TWB1				*eS*	**Sg**	**18 46 56.3**	**+0.5**
	baz=41						
WDGT	**Dungji**	**1.41**	**242**	*eP*	**Pn**	**18 46 35.8**	**-0.4**
	baz=240						
TWY	**Chenhua**	**1.44**	**22**	*eP*	**Pb**	**18 46 37.9**	**+0.4**
	baz=6.0						
SSPT	**Xinbi**	**1.50**	**196**	*eP*	**Pg**	**18 46 40.4**	**+0.6**
	baz=204						
EAST	**Anshuo**	**1.56**	**185**	*eP*	**Pn**	**18 46 38.8**	**+0.5**
	baz=202						
TAW	**Tawu**	**1.58**	**184**	*eP*	**Pb**	**18 46 40.0**	**+0.1**
	baz=170						
SCZT	**Fangliau**	**1.60**	**193**	*eP*	**Pb**	**18 46 39.8**	**-0.5**
	baz=180						
VCHM	**Qimei**	**1.62**	**244**	*eP*	**Pn**	**18 46 38.5**	**-0.6**
	baz=232						
TWP	**Hsiaoliuchiu**	**1.69**	**201**	*eP*	**Pb**	**18 46 42.5**	**+0.6**
	baz=198						
JYNG	**Yonaguni jima**	**1.84**	**74**	P	**Pb**	**18 46 43.5**	**-0.9**
JYNG				*eS*	**Sb**	**18 47 06.4**	**-0.9**
YOJ	**Yonaguni jima**	**1.90**	**74**	*eP*	**Pn**	**18 46 43.9**	**+0.9**
	baz=89						
YOJ	**Yonaguni jima**	**1.90**	**74**	P	**Pn**	**18 46 43.6**	**+0.7**
YOJ				*eS*	**Sn**	**18 47 07.6**	**+0.9**
HEN	**Hengchun**	**1.94**	**187**	*eP*	**Pb**	**18 46 45.9**	**-0.1**
	baz=184						
PCYT	**Pengchaiyu**	**1.94**	**30**	*eP*	**Pn**	**18 46 44.7**	**+1.2**
	baz=33						
LAY	**Lan-yu**	**1.96**	**165**	*eP*	**Pn**	**18 46 43.6**	**-0.1**
	baz=150						
TWK1	**Hengchun**	**2.00**	**185**	*eP*	**Pb**	**18 46 45.8**	**-1.2**
	baz=199						
TWKBT	**Hengchun**	**2.00**	**185**	*eP*	**Pn**	**18 46 44.6**	**+0.3**
	baz=199						
TSEB	**Hengchuen, Pin**	**2.03**	**183**	*eP*	**Pb**	**18 46 48.7**	**+1.1**
	baz=189						
KNM	**Kinmen**	**2.40**	**282**	*eP*	**Pn**	**18 46 50.9**	**+1.1**
	baz=279						
MATB	**Ma-tsu**	**2.40**	**337**	*eP*	**Pn**	**18 46 48.8**	**-1.1**
	baz=337						
KNMB	**Chin-men Tao**	**2.45**	**283**	*eP*	**Pn**	**18 46 49.4**	**-1.0**
	baz=281						
IRIF	**Iriomote-Funau**	**2.52**	**80**	P	**Pn**	**18 46 52.4**	**+1.0**
IRIF				*eS*	**Sn**	**18 47 22.4**	**+0.4**
HATJ	**Hateruma jima**	**2.56**	**87**	P	**Pn**	**18 46 52.9**	**+0.9**
HATJ				*eS*	**Sn**	**18 47 23.7**	**+0.7**
JKRS	**Kuro-shima**	**2.76**	**83**	P	**Pn**	**18 46 56.1**	**+1.4**
JKRS				S	**Sn**	**18 47 30.1**	**+2.2**
JIJ	**Ishigaki jima**	**2.90**	**81**	P	**Pn**	**18 46 57.2**	**+0.6**
JIJ				*eS*	**Sn**	**18 47 31.2**	**-0.1**
JISG	**Ishigakijimahi**	**3.08**	**77**	P	**Pn**	**18 46 59.8**	**+0.6**
JISG				*eS*	**Sn**	**18 47 36.6**	**+0.7**
JTJ	**Tarama**	**3.44**	**78**	P	**Pn**	**18 47 05.2**	**+1.1**
JTJ				*eS*	**Sn**	**18 47 46.2**	**+1.4**
JIRB	**Irabujima**	**3.90**	**76**	P	**Pn**	**18 47 12.1**	**+1.7**
JIRB				*eS*	**Sn**	**18 47 58.0**	**+1.9**
JIKM	**Ikemajima**	**3.99**	**75**	P	**Pn**	**18 47 14.4**	**+2.8**
JIKM				*eS*	**Sn**	**18 48 00.4**	**+2.2**
JMJ	**Miyako jima 2**	**4.01**	**77**	*eP*	**Pn**	**18 47 12.6**	**+0.7**
	baz=80						
JOGS	**Gusukube**	**4.10**	**78**	P	**Pn**	**18 47 16.2**	**+3.1**
JOW	**Kunigami**	**7.18**	**65**	Pn	**Pn**	**18 47 55.5**	**+0.1**
	0.3nm,0.3s,baz=201,slow=15,SNR=4.4						
JOW				Sn	**Sn**	**18 49 14.2**	**-2.6**
	baz=92,slow=18,SNR=2.3						
MKAR	**Makanchi Array**	**38.40**	**316**	P	**P**	**18 53 32.7**	**+0.8**
	0.8nm,0.6s,baz=108,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**40.36**	**327**	P	**P**	**18 53 47.8**	**-0.3**
	0.6nm,0.5s,baz=110,slow=6.6,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**42.66**	**86**	T	T	19 39 13.5	
	baz=282,slow=74						
H11N2	**WAKE ISLAND Hy**	**42.67**	**86**	T	T	19 39 17.8	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**42.68**	**86**	T	T	19 39 16.4	
	baz=282,slow=74						
H11S3	**WAKE ISLAND Hy**	**42.79**	**88**	T	T	19 39 20.8	
	baz=284						
H11S1	**WAKE ISLAND Hy**	**42.80**	**88**	T	T	19 39 22.6	
	baz=284						
H11S2	**WAKE ISLAND Hy**	**42.81**	**88**	T	T	19 39 22.1	
	baz=284						
WRA	**Warramunga Arr**	**45.51**	**162**	P	**P**	**18 54 27.9**	**-2.3**
	0.2nm,0.4s,baz=344,slow=8.8,SNR=4.6						
ASAR	**Alice Springs**	**48.95**	**164**	P	**P**	**18 54 54.8**	**-2.2**
	0.1nm,0.3s,baz=338,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**71.57**	**330**	P	**P**	**18 57 31.7**	**+0.3**
	0.9nm,0.7s,baz=56,slow=4.9,SNR=4.6						

***IDC* 27 19:05:52.3±1.2, 25°56N×109°80W, h0km, mb1 3.7/3, mb1mx3.4/45, mbtmp3.2/3, ML3.7/2, Error ellipse: s-maj=27.6km s-min=11.6km az=115.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.52**	**198**	Pg	Pn	19 06 19.6	-1.1
	baz=326,slow=4.2,SNR=11						
LPIG				Lg	Lg	19 06 39.6	
	17nm,0.3s,baz=354,slow=19,SNR=6.7						
TXAR	**Lajitas Array**	**6.62**	**54**	Pn	Pn	19 07 30.5	-0.5
	0.1nm,0.3s,baz=231,slow=13,SNR=4.7						
TXAR				Sn	Sn	19 08 47.2	-0.1
	0.3nm,0.3s,baz=236,slow=19,SNR=4.8						
TXAR				Lg	Lg	19 09 20.5	
	0.5nm,0.3s,baz=240,slow=32,SNR=3.6						
ANMO	**Albuquerque**	**9.79**	**16**	Lg	Lg	19 10 51.8	
	0.2nm,0.3s,baz=117,slow=18,SNR=3.6						
NVAR	**Mina Array Bea**	**14.71**	**333**	Pn	Pn	19 09 24.4	+2.6
	baz=160,slow=12,SNR=5.6						
PDAR	**Pinedale Array**	**17.17**	**1**	Pn	P	19 09 54.9	-0.6
	0.1nm,0.3s,baz=167,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**121.07**	**261**	PKP	PKiKP	19 24 49.0	+1.3
	0.5nm,0.9s,baz=70,slow=2.6,SNR=3.3						

ISCJB ***27*** *19:11:11.9±0.3, 62°92N±0°02×150°75W±0°06, h122km±3km, mb3.4/5, Error ellipse: s-maj=4.7km s-min=3.6km az=158.5*
IDC ***27*** *19:11:12.2±2.0, 62°96N×151°07W, h98km±22km, mb3.1/5, mb1 3.2/9, mb1mx3.0/44, mbtmp3.4/9, Error ellipse: s-maj=23.8km s-min=20.1km az=30.0*
NEIC ***27*** *19:11:13.7±0.0, 62°92N×150°75W, h108km, ML3.1(AEIC), After AEIC.*

ISC 27 19:11:13.1±0.8, 62°91N±0°03×150°75W±0°04, h116km±6km, n86, σ0s90/97, mb3.4/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.52**	**82**	*eP*n	**Pn**	**19 11 30.6**	**-0.1**
HUR				*eS*n	**Sn**	**19 11 43.6**	**-0.3**
TRF	**Thorofare Moun**	**0.58**	**21**	*eP*n	**Pn**	**19 11 31.1**	**-0.2**
TRF				*eS*n	**Sn**	**19 11 44.4**	**-0.6**
PPLA	**Purkeypile**	**0.66**	**269**	*eP*n	**Pn**	**19 11 31.9**	**+0.1**
PPLA				*eS*n	**Sn**	**19 11 45.7**	**-0.3**
CAST	**Castle Rocks**	**0.79**	**311**	*eP*n	**Pn**	**19 11 32.4**	**-0.3**
CAST				*eS*n	**Sn**	**19 11 46.6**	**-1.1**
RND	**Reindeer**	**0.99**	**59**	*eP*n	**Pn**	**19 11 34.9**	**+0.2**
RND				*eS*n	**Sn**	**19 11 50.6**	**-0.5**
MCK	**McKinley**	**1.16**	**44**	*eP*n	**Pn**	**19 11 36.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**1.20**	**355**	*eP*n	**Pn**	**19 11 36.5**	**-0.2**
BPAW				*eS*n	**Sn**	**19 11 53.7**	**-1.0**
CHUM	**Lake Minchumin**	**1.20**	**325**	*eS*n	**Sn**	**19 11 54.1**	**-0.6**
BWN	**Browne**	**1.39**	**24**	*eP*n	**Pn**	**19 11 39.5**	**+0.6**
GHO	**Glory Hole Cre**	**1.43**	**143**	*eP*n	**Pn**	**19 11 39.7**	**+0.3**
GHO				*eS*n	**Sn**	**19 11 59.8**	**+0.3**
SUA	**Susitna One**	**1.46**	**180**	*eP*n	**Pn**	**19 11 39.7**	**-0.1**
PMR	**Palmer**	**1.53**	**150**	*eP*n	**Pn**	**19 11 40.3**	**-0.2**
DHY	**Denali Highway**	**1.55**	**82**	*eP*n	**Pn**	**19 11 41.1**	**+0.1**
SML	**Sawmill**	**1.58**	**133**	*eP*n	**Pn**	**19 11 41.2**	**0.0**
SML				*eS*n	**Sn**	**19 12 03.0**	**+0.4**
NEA	**Nenana**	**1.83**	**23**	*eP*n	**Pn**	**19 11 44.2**	**+0.1**
NEA				*eS*n	**Sn**	**19 12 06.9**	**-0.9**
SPWE	**Spurr West**	**1.85**	**208**	P	**Pn**	**19 11 44.9**	**+0.3**
KNK	**Knik Glacier**	**1.85**	**143**	*eP*n	**Pn**	**19 11 44.3**	**-0.2**
RC01	**Rabbit Creek A**	**1.89**	**165**	*eP*n	**Pn**	**19 11 44.2**	**-0.7**
SCM	**Sheep Creek Mo**	**1.93**	**123**	*eP*n	**Pn**	**19 11 45.2**	**-0.3**
WRH	**Wood River Hil**	**1.96**	**36**	*eP*n	**Pn**	**19 11 45.9**	**+0.1**
MLY	**Manley**	**2.13**	**0**	*eP*n	**Pn**	**19 11 47.9**	**0.0**
CCB	**Clear Creek Bu**	**2.18**	**36**	*eP*n	**Pn**	**19 11 48.4**	**-0.1**
NKA	**Nikishka**	**2.19**	**186**	*eP*n	**Pn**	**19 11 51.3**	**+2.6**
PTE	**Portage**	**2.21**	**158**	*eP*n	**Pn**	**19 11 48.8**	**-0.2**
HDA	**Harding Lake**	**2.27**	**47**	*eP*n	**Pn**	**19 11 49.4**	**-0.2**
MDM	**Murphy Dome**	**2.34**	**27**	*eP*n	**Pn**	**19 11 50.6**	**+0.1**
COLA	**College**	**2.35**	**32**	*eP*n	**Pn**	**19 11 50.9**	**+0.2**
PAX	**Paxson**	**2.42**	**86**	*eP*n	**Pn**	**19 11 52.2**	**+0.6**
SLKM	**Skilak Lake**	**2.43**	**174**	*eP*n	**Pn**	**19 11 51.8**	**+0.1**
IL06	**Eielson Array**	**2.53**	**41**	*eP*n	**Pn**	**19 11 53.1**	**0.0**
IL1	**Eielson Array**	**2.53**	**41**	*eP*n	**Pn**	**19 11 52.1**	**-1.0**
ILAR	**Eielson Array**	**2.53**	**41**	P	**Pn**	**19 11 52.9**	**-0.2**
	2.9nm,0.3s,baz=223,slow=13,SNR=234						
ILAR				S	**Sn**	**19 12 20.2**	**-3.5**
	3.6nm,0.3s,baz=212,slow=22,SNR=13						
ILB	**Eielson Array**	**2.53**	**41**	*eP*n	**Pn**	**19 11 52.6**	**-0.4**
PS11	**TAPS Pump St11**	**2.59**	**107**	*eP*n	**Pn**	**19 11 54.5**	**+0.8**
HARP	**HAARP**	**2.63**	**99**	*eP*n	**Pn**	**19 11 54.7**	**+0.3**
RSO	**Redoubt South**	**2.64**	**202**	*eP*n	**Pn**	**19 11 55.4**	**+0.7**
KLU	**Klutina**	**2.68**	**120**	*eP*n	**Pn**	**19 11 54.2**	**-0.8**
JPK	**Jack Peak**	**2.71**	**132**	*eP*n	**Pn**	**19 11 54.7**	**-0.7**
RIDG	**Independ'e Rid**	**2.79**	**70**	*eP*n	**Pn**	**19 11 56.9**	**+0.4**
SEW	**Seward**	**2.89**	**167**	*eP*n	**Pn**	**19 11 57.4**	**-0.2**
SVW2	**Sparrevohn**	**2.92**	**233**	*eP*n	**Pn**	**19 11 57.8**	**-0.3**
DIV	**Divide**	**2.95**	**125**	*eP*n	**Pn**	**19 11 57.7**	**-0.9**
PS06	**TAPS Pump Stn6**	**2.99**	**8**	*eP*n	**Pn**	**19 11 59.3**	**+0.4**
PS12	**TAPS Pump St12**	**3.00**	**116**	*eP*n	**Pn**	**19 11 58.7**	**-0.5**
DOT	**Dot Lake**	**3.11**	**73**	*eP*n	**Pn**	**19 12 00.5**	**-0.2**
BRLK	**Bradley Lake**	**3.16**	**181**	*eP*n	**Pn**	**19 12 01.5**	**+0.2**
MENT	**Mentasta**	**3.22**	**86**	*eP*n	**Pn**	**19 12 02.3**	**+0.3**
SCRK	**Sand Creek**	**3.22**	**68**	*eP*n	**Pn**	**19 12 02.1**	**0.0**
IM3	**Indian Mountai**	**3.34**	**338**	*eP*n	**Pn**	**19 12 03.6**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.36**	**133**	*eP*n	**Pn**	**19 12 03.6**	**-0.3**
MCARA	**McCarthy VSAT**	**3.94**	**109**	*eP*n	**Pn**	**19 12 11.6**	**0.0**
HMT	**Hamilton**	**4.04**	**127**	*eP*n	**Pn**	**19 12 12.2**	**-0.7**
BCA3	**Beaver Creek A**	**4.09**	**84**	*eP*n	**Pn**	**19 12 13.4**	**-0.3**
MID	**Middleton Isla**	**4.10**	**147**	*eP*n	**Pn**	**19 12 14.3**	**+0.5**
PTPK	**Patty Peak**	**4.27**	**110**	*eP*n	**Pn**	**19 12 16.3**	**+0.1**
TGL	**Tana Glacier**	**4.33**	**116**	*eP*n	**Pn**	**19 12 16.3**	**-0.7**
COLD	**Coldfoot**	**4.34**	**3**	*eP*n	**Pn**	**19 12 16.5**	**-0.4**
KHIT	**Khitrov Hills**	**4.35**	**121**	*eP*n	**Pn**	**19 12 17.0**	**-0.2**
FYU	**Fort Yukon**	**4.36**	**30**	*eP*n	**Pn**	**19 12 17.4**	**+0.2**
BALM	**Baldy**	**4.39**	**112**	*eP*n	**Pn**	**19 12 17.1**	**-0.7**
EGAK	**Eagle**	**4.64**	**62**	*eP*n	**Pn**	**19 12 20.9**	**0.0**
MESA	**MESA**	**5.03**	**119**	*eP*n	**Pn**	**19 12 26.3**	**-0.1**
DAWY	**Dawson**	**5.22**	**72**	*eP*n	**Pn**	**19 12 28.6**	**-0.3**
KDAK	**Kodiak Island**	**5.23**	**191**	P	**Pn**	**19 12 27.4**	**-1.5**
	2.3nm,0.3s,baz=56,slow=7.2,SNR=74						
KDAK				S	**Sn**	**19 13 23.0**	**-4.9**
	3.0nm,0.3s,baz=311,slow=20,SNR=14						
PCA	**Pinnacle**	**5.76**	**115**	*eP*n	**Pn**	**19 12 36.4**	**+0.2**
TOLK	**Toolik Lake Re**	**5.77**	**4**	*eP*n	**Pn**	**19 12 38.3**	**+2.1**
YUK4	**Talbot Arm**	**5.89**	**100**	*eP*n	**Pn**	**19 12 38.6**	**+0.5**
BCPM	**Bancas Point**	**6.10**	**114**	*eP*n	**Pn**	**19 12 40.8**	**+0.1**
YUK5	**Granite Creek**	**6.33**	**101**	*eP*n	**Pn**	**19 12 43.6**	**-0.3**
PNL	**Peninsula**	**6.36**	**116**	*eP*n	**Pn**	**19 12 44.4**	**+0.1**
HYT	**Haines Junctio**	**6.61**	**103**	*eP*n	**Pn**	**19 12 47.2**	**-0.4**
EPYK	**Eagle Plains**	**6.95**	**54**	*eP*n	**Pn**	**19 12 51.9**	**-0.2**
WHY	**Whitehorse**	**7.85**	**100**	*eP*n	**Pn**	**19 13 04.5**	**0.0**
BESE	**Bessie Mountai**	**8.90**	**112**	*eP*n	**Pn**	**19 13 18.0**	**-0.6**
INK	**Inuvik**	**8.92**	**45**	P	**Pn**	**19 13 19.6**	**+0.8**
	0.1nm,0.3s,baz=247,slow=18,SNR=3.9						
JIS	**Juneau Island**	**9.29**	**113**	*eP*n	**Pn**	**19 13 23.0**	**-0.7**
YKA	**Yellowknife Ar**	**16.45**	**75**	P	**Pn**	**19 14 56.5**	**-0.1**
	0.1nm,0.3s,baz=285,slow=11,SNR=7.9						
YKB5	**Yellowknife Ar**	**16.45**	**75**	*eP*n	**Pn**	**19 14 56.5**	**-0.1**
SEY	**Seymchan**	**25.17**	**296**	P	**P**	**19 16 26.9**	**-0.2**
	0.7nm,0.7s,baz=72,slow=20,SNR=2.2						
TXAR	**Lajitas Array**	**45.13**	**116**	P	**P**	**19 19 20.2**	**+2.5**
	0.2nm,0.6s,baz=318,slow=6.1,SNR=2.4						
SONA0	**Songino Array**	**53.96**	**306**	*eP*	**P**	**19 20 25.2**	**+0.7**
SONM	**Songino Array**	**53.96**	**306**	P	**P**	**19 20 25.2**	**+0.7**
	0.3nm,0.6s,baz=48,slow=7.3,SNR=2.9						
ZAA1	**Zalesovo Array**	**55.65**	**324**	*eP*	**P**	**19 20 35.8**	**-0.7**
ZALV	**Zalesovo Beam**	**55.66**	**324**	P	**P**	**19 20 35.8**	**-0.7**
	0.5nm,0.4s,baz=26,slow=6.9,SNR=3.4						
MK32	**Makanchi Array**	**62.81**	**322**	*eP*	**P**	**19 21 24.9**	**-0.9**
MKAR	**Makanchi Array**	**62.81**	**322**	P	**P**	**19 21 24.9**	**-0.9**
	0.3nm,0.6s,baz=42,slow=8.3,SNR=3.7						

IDC ***27*** *19:38:56.2±2.4, 1°58N×126°84E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/42, mbtmp3.2/3, Error ellipse: s-maj=217.2km s-min=26.2km az=66.0*
ISCJB ***27*** *19:39:04.2±1.2, 2°02N±0°09×127°56E±0°09, h100km, mb3.1/3, Error ellipse: s-maj=15.2km s-min=10.2km az=135.6*
DJA ***27*** *19:39:09.8±1.5, 2°N±13°×12°7E±1°3, h134km±38km, M3.8/4, MLv3.8/4*

ISC 27 19:39:06.0±1.5, 2°0N±0°1×127°6E±0°1, h100km, n6, σ1s85/7, mb2.9/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.63**	**310**	P	Pn	19 39 40.4	-6.5
SGSI				S	**Sn**	**19 40 15.8**	**-2.5**
KMSI	**Cibinong**	**3.84**	**249**	P	**Pn**	**19 40 03.6**	**+0.6**
KMSI				S	**Sn**	**19 40 47.1**	**-0.1**
SANI	**Sanana**	**4.31**	**201**	P	**Pn**	**19 40 09.4**	**0.0**
WRA	**Warramunga Arr**	**22.79**	**163**	P	**P**	**19 43 58.9**	**-1.6**
	0.3nm,0.5s,baz=340,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**26.24**	**167**	P	**P**	**19 44 31.1**	**-0.9**
	0.4nm,1.0s,baz=351,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**59.44**	**325**	P	**P**	**19 49 00.4**	**+2.0**
	0.2nm,0.3s,baz=118,slow=7.6,SNR=5.4						

ISCJB ***27*** *19:43:04.9±0.3, 24°23N±0°01×121°83E±0°02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=36.8*
JMA ***27*** *19:43:04.7, 24°20N×121°77E, h17km±1km*
TAP ***27*** *19:43:04.8, 24°25N×121°80E, h16km, ML3.0, B*

ISC 27 19:43:04.6±0.9, 24°23N±0°02×121°80E±0°02, h16km±6km, n85, σ0s55/114, 14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.20**	**255**	⇓P	**Pb**	**19 43 09.6**	**-0.3**
	baz=250						
NACB				S	**Sb**	**19 43 13.1**	**-0.3**
	baz=250						
NANB	**Nanao**	**0.21**	**346**	⇓P	**Pg**	**19 43 09.5**	**-0.1**
	baz=343						
NANB				S	**Sg**	**19 43 12.8**	**-0.1**
	baz=343						
ENA	**Nanau**	**0.21**	**344**	⇓*iP*	**Pg**	**19 43 09.5**	**-0.1**
	baz=343						
ENA				*i* S	**Sg**	**19 43 12.8**	**-0.1**
	baz=343						
TWD	**Chiawan**	**0.24**	**233**	⇓*iP*	**Pb**	**19 43 10.5**	**-0.1**
	baz=235						
TWD				S	**Sb**	**19 43 14.9**	**+0.4**
	baz=235						
ETLH	**Xiulin Townshi**	**0.29**	**266**	*eP*	**Pb**	**19 43 11.3**	**-0.3**
	baz=263						

TATO	Taipei	0.80	339	*e*P	Pg	19 43 20.5	+0.2
	baz=332						
HGSD	Ruisui	0.81	206	*e*P	Pn	19 43 21.2	-0.1
	baz=195						
EHY	Hungye	0.84	212	*e*P	Pg	19 43 21.3	+0.2
	baz=225						
NWF	Wu-fen Shan	0.84	359	*e*P	Pg	19 43 21.2	+0.2
	baz=357						
WFSB	Wu-fen Shan	0.84	359	*e*P	Pb	19 43 21.1	+0.1
	baz=357						
SSLB	Suanglung	0.89	241	*e*P	Pg	19 43 21.8	-0.2
	baz=251						
SSLB				S	Sg	19 43 33.4	-0.3
	baz=251						
SMLT	Sun Moon Lake	0.89	248	*e*P	Pg	19 43 22.2	+0.1
	baz=248						
TYC	Yuchr	0.92	250	*e*P	Pn	19 43 22.8	-0.1
	baz=251						
TYC				*e*S	Sn	19 43 35.4	-0.5
	baz=251						
NCUH	Zhongli	0.93	323	*e*P	Pn	19 43 23.2	+0.2
	baz=321						
NCU	National Centr	0.93	323	*e*P	Pn	19 43 23.1	0.0
	baz=321						
SBCB	Hsinchu	0.94	307	*e*P	Pn	19 43 23.9	+0.8
	baz=306						
TWS1	Kuangyinshan	0.94	338	*e*P	Pn	19 43 23.3	+0.1
	baz=336						
TWS1				*e*S	Sn	19 43 37.0	+0.7
	baz=336						
YM01	YM01	0.94	347	*e*P	Pb	19 43 22.8	+0.2
	baz=329						
YULB	Yu-li	0.95	209	*e*P	Pb	19 43 22.1	-0.7
	baz=212						
YM04	YM04	0.96	345	*e*P	Pg	19 43 23.1	-0.1
	baz=343						
YM05	YM05	0.96	347	*e*P	Pg	19 43 23.3	0.0
	baz=330						
YM11	YM11	0.96	348	*e*P	Pg	19 43 23.3	0.0
	baz=330						
NSY	Sanyi	0.97	282	*e*P	Pn	19 43 24.3	+0.7
	baz=281						
NMLH	Miaoli	0.97	289	*e*P	Pn	19 43 24.7	+1.0
	baz=288						
TWF1	Yuli	0.98	208	*e*P	Pb	19 43 22.3	-1.0
	baz=223						
NTST	Danshui	0.99	341	*e*P	Pn	19 43 23.7	-0.2
	baz=339						
ANP	Anpu	0.99	345	*e*P	Pb	19 43 23.2	-0.3
	baz=344						
WHYT	Xinyi Township	1.02	239	*e*P	Pg	19 43 24.6	+0.2
	baz=241						
PTSB	Yuanli	1.03	283	*e*P	Pg	19 43 25.4	+0.9
	baz=282						
TCU	Taichung	1.03	266	*e*P	Pg	19 43 25.9	+1.2
	baz=266						
TWY	Chenhua	1.06	350	*e*P	Pg	19 43 25.6	+0.3
	baz=333						
WJS	Zhushan	1.06	248	*e*P	Pg	19 43 26.2	+1.0
	baz=242						
JYNG	Yonaguni jima	1.07	78	P	Pb	19 43 24.9	+0.2
JYNG				*e*S	Sg	19 43 39.9	+0.7
WDJ	Dajia District	1.07	277	*e*P	Pg	19 43 25.9	+0.6
	baz=277						
FULB	Fuli	1.12	205	*e*P	Pn	19 43 25.8	0.0
	baz=224						
YOJ	Yonaguni jima	1.13	78	*e*P	Pn	19 43 25.8	0.0
	baz=67						
YOJ	Yonaguni jima	1.13	78	P	Pn	19 43 25.9	+0.2
YOJ				*e*S	Sb	19 43 40.6	+0.4
CHKT	Chengkung	1.19	200	*e*P	Pn	19 43 25.8	-0.8
	baz=187						
CHN5	Tsauling	1.21	239	*e*P	Pg	19 43 27.9	-0.1
	baz=243						
CHN5				*e*S	Sg	19 43 46.4	+2.7
	baz=243						
ELDTW	Lidau	1.26	215	*e*P	Pn	19 43 26.7	-1.0
	baz=204						
WDLH	Douliu	1.27	245	*e*P	Pg	19 43 29.4	+0.2
	baz=247						
RLNB	Erlin	1.36	256	*e*P	Pb	19 43 29.8	+0.1
	baz=258						
CHN4	Tsaushan	1.41	232	*e*P	Pg	19 43 31.4	-0.4
	baz=235						
TPUB	Ta-pu	1.42	230	*e*P	Pb	19 43 30.9	+0.2
	baz=232						
STYT	Tauyuan	1.43	222	*e*P	Pb	19 43 30.9	-0.1
	baz=225						
CHY	Chiayi	1.46	240	*e*P	Pg	19 43 31.9	-0.8
	baz=243						
WTP	Ta-pu	1.46	228	*e*P	Pb	19 43 31.8	+0.3
	baz=230						
TWK	Hsinying	1.54	232	*e*P	Pb	19 43 32.6	-0.2
	baz=233						
CHN1	Nanshi	1.56	229	*e*P	Pb	19 43 33.5	+0.3
	baz=231						
SLGT	Liugui	1.62	221	*e*P	Pb	19 43 34.3	+0.1
	baz=224						
IRIF	Iriomote-Funau	1.76	86	P	Pn	19 43 34.7	+0.2
IRIF				*e*S	Sb	19 43 58.0	-0.4
ECL	Taimali	1.80	206	*e*P	Pb	19 43 36.1	-1.1
	baz=197						
SSD	Sandimen	1.82	216	*e*P	Pb	19 43 37.2	-0.4
	baz=204						
HATJ	Hateruma jima	1.84	95	*e*S	Sn	19 43 57.3	-1.1
MASBT	Mashibuluo	1.93	214	*e*P	Pb	19 43 38.8	-0.7
	baz=216						
JKRS	Kuro-shima	2.01	89	P	Pn	19 43 39.0	+1.0
EAST	Anshuo	2.03	206	*e*P	Pb	19 43 40.8	-0.5
	baz=198						
JIJ	Ishigaki jima	2.14	86	P	Pn	19 43 39.8	+0.1
JIJ				*e*S	Sn	19 44 05.9	0.0
JISG	Ishigakijimahi	2.31	81	P	Pn	19 43 43.0	+0.9

*IDC **27** 19:45:57.6±0.6,26°.05N×128°.39E, h0km, mb4.1/20, mb1 4.1/23, mb1mx4.0/45, mbtmp4.0/23, ML4.0/1, MS3.3/7, Ms1 3.3/7, ms1mx3.0/32, Error ellipse: s-maj=19.3km s-min=13.1km az=89.0*
*NIED **27** 19:46:00, 26°.10N×128°.60E, h14km, Mw4.2 Best double couple: M₀2.64000×10¹⁵ NP1:φ₀=211.00000°, δ42.00000°, λ83.00000°. NP2:φ₀=41.00000°, δ49.00000°, λ97.00000°.*
*JMA **27** 19:46:00.3±0.3, 26°.06N×128°.64E, h40km, M3.8*
*NEIC **27** 19:46:00.5±1.3, 26°.04N×128°.38E, h18km±7km, mb4.6/19, Error ellipse: s-maj=7.0km s-min=5.4km az=125.0*

ISC 27 19:45:59.3±2.1, 26°.06N±0°.05×128°.58E±0°.04, h12km±12km, n82, σ1§27/91, mb4.4/37, MS3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNTH	Nagotoyohara	0.68	313	P	Pb	19 46 13.6	+0.5
JNTH				*e*S	Sn	19 46 23.9	-1.4
JJT3	Tamagusuku3	0.72	277	P	Pn	19 46 15.0	-0.3
JJT3				S	Sn	19 46 26.1	-0.2
JOW	Kunigami	0.82	340	P	Pb	19 46 16.0	+0.5
JOW				*e*S	Sb	19 46 26.9	+0.3
JOW	Kunigami	0.82	340	Pn	Pb	19 46 16.0	+0.5
	baz=161,slow=12						
JOW				Sn	Sg	19 46 26.2	+0.2
	180nm,0.3s,baz=82,slow=18,SNR=25						
JYRO	Yoronjima	0.97	353	P	Pb	19 46 18.0	-0.1
JYRO				*e*S	Sg	19 46 29.9	-0.9
JIH	Iheya	1.12	331	P	Pb	19 46 20.6	0.0
JOKE	Okinoerabujima	1.30	360	P	Pn	19 46 23.0	-0.3
JOKE				*e*S	Sb	19 46 38.7	-1.7
JAGN	Aguni-jima	1.31	294	P	Pb	19 46 23.5	-0.4
JKE	Kume jima 2	1.64	280	P	Pn	19 46 27.4	-0.5
JTK	Tokunoshima	1.75	11	P	Pn	19 46 29.2	-0.4
JTK				S	Sn	19 46 47.8	-4.1
JMZ	Minamidaito 2	2.39	95	P	Pn	19 46 36.6	-1.6
JMZ				*e*S	Sn	19 47 02.7	-4.7
YHNB	Yeheng	6.66	260	*e*Pn	Pn	19 47 35.5	-1.6
SSLB	Suanglung	7.28	254	*e*Pn	Pn	19 47 43.0	-2.6
JNU	Nakatsue	7.32	15	Pn	Pn	19 47 46.9	+0.8
	2.3nm,0.3s,baz=233,slow=1.6,SNR=21						
JNU				Sn	Sn	19 49 06.9	-2.3
	0.9nm,0.3s,baz=180,slow=20,SNR=5.5						
JNU				LR	LR	19 51 03.6	
	comp=Z,189nm,19.1s,baz=200,slow=42						
TPUB	Ta-pu	7.74	251	*e*Pn	Pn	19 47 50.2	-1.6
KSAR	Wonju Array Be	11.37	357	Pn	Pn	19 48 42.7	+1.2
KSRS	Korea Array	11.38	357	Pn	Pn	19 48 42.7	+1.1
	baz=180,slow=14,SNR=3.7						
KSRS				LR	LR	19 53 24.9	
	comp=Z,183nm,18.1s,baz=176,slow=39						
MAJO	Matsushiro	13.29	36	*e*Pn	Pn	19 49 10.3	+2.4
MJAR	Matsushiro Arr	13.29	36	Pn	Pn	19 49 10.3	+2.4
	0.0nm,0.3s,baz=210,slow=13,SNR=3.4						
MJAR				LR	LR	19 53 01.7	
	comp=Z,24nm,20.2s,baz=225,slow=32						
XAN	Xi'an	18.77	300	*e*P	P	19 50 18.2	-0.2
	8.3nm,0.6s						
GUMO	Guam	19.68	126	LR	LR	19 56 00.9	
	comp=Z,60nm,21.9s,baz=34,slow=30						
ASAJ	Asahikawa	21.30	29	P	P	19 50 47.1	+1.3
	4.4nm,0.8s,baz=225,slow=10.0,SNR=3.2						
KLR	Kul'dur	23.27	5	P	P	19 51 08.1	+1.5
	1.3nm,0.6s,baz=210,slow=5.2,SNR=10.0						
YSS	Yuzh-Sakhalins	23.69	25	*e*P	P	19 51 12.5	+1.7
	35nm,0.9s						
ULN	Ulaanbaatar	27.57	328	*e*P	P	19 51 47.7	+1.4
	5.7nm,0.8s						
SONA0	Songino Array	27.87	327	*e*P	P	19 51 46.4	-2.6
SONM	Songino Array	27.87	327	P	P	19 51 46.4	-2.6
	3.2nm,0.8s,baz=142,slow=8.3,SNR=6.2						
SONM				LR	LR	20 04 51.6	
	comp=Z,119nm,18.7s,baz=152,slow=41						
CMAR	Chiang Mai Arr	28.41	261	P	P	19 51 51.9	-2.0
	0.8nm,0.6s,baz=58,slow=6.8,SNR=3.3						
TAPN	Taplejung	36.42	281	*e*P	P	19 53 04.0	-0.3
ODAN	Odare	36.77	281	*e*P	P	19 53 07.4	+0.1
	49nm,0.7s						
RAMN	Ramite	37.46	281	*e*P	P	19 53 13.0	-0.1
	12nm,0.7s						
JIRN	Jiri	37.72	282	*e*P	P	19 53 16.1	+0.6
GUN	Gumba	37.96	283	*e*P	P	19 53 17.7	+0.2
	32nm,1.1s						
PKI	Pulchoki	38.42	282	*e*P	P	19 53 21.1	-0.2
	18nm,0.6s						
PKIN	Phulchoki	38.43	282	*e*P	P	19 53 21.1	-0.2
	11nm,0.5s						
KKN	Kakani	38.50	283	*e*P	P	19 53 21.7	-0.2
	33nm,0.9s						
DMN	Daman	38.68	282	*e*P	P	19 53 23.3	-0.1
	25nm,1.0s						
DANN	Dangsing	39.76	284	*e*P	P	19 53 33.0	+0.5
	47nm,0.8s						
KOLN	Koldanda	39.98	283	*e*P	P	19 53 34.2	0.0
	30nm,0.9s						
SEY	Seymchan	40.10	17	P	P	19 53 35.0	+0.6
	1.9nm,0.6s,baz=206,slow=6.9,SNR=14						
PYUN	Piuthan	40.47	283	*e*P	P	19 53 38.3	0.0
	31nm,0.9s						
MK01	Makanchi Array	41.87	312	*e*P	P	19 53 48.3	-1.0
MK31	Makanchi Array	41.89	312	*e*P	P	19 53 48.3	-1.2
	13nm,1.8s						
MK32	Makanchi Array	41.89	312	*e*P	P	19 53 48.6	-0.8
MK32				*e*PcP	PcP	19 55 45.5	+0.4
MKAR	Makanchi Array	41.89	312	P	P	19 53 48.6	-0.8
	1.4nm,0.6s,baz=99,slow=10,SNR=25						
MKAR				PcP	PcP	19 55 45.5	+0.4
	0.5nm,0.6s,baz=92,slow=4.4,SNR=4.3						
MAKZ	Makanchi	42.10	312	*e*P	P	19 53 50.2	-1.0
	4.6nm,1.1s						
ZALV	Zalesovo Beam	42.58	323	P	P	19 53 53.4	-1.6
	1.3nm,0.5s,baz=119,slow=8.5,SNR=7.4						
ZAA1	Zalesovo Array	42.58	323	*e*P	P	19 53 53.4	-1.6
KURK	Kurchatov	45.16	317	*e*P	P	19 54 15.2	-0.6
	12nm,1.5s						
TIXI	Tiksi	45.63	0	P	P	19 54 18.5	-0.7
	1.4nm,0.3s,baz=191,slow=4.2,SNR=8.6						
NRN	Naryn	45.65	303	*e*P	P	19 54 18.9	-1.3
	2.6nm,0.8s						
WR1	Warramunga Arr	46.06	172	*e*P	P	19 54 23.1	-0.1
	18nm,1.4s						
WRA	Warramunga Arr	46.06	172	P	P	19 54 23.1	-0.1
	1.7nm,0.6s,baz=354,slow=8.4,SNR=21						
CTA	Charters Tower	48.97	158	P	P	19 54 46.4	+0.6
	2.6nm,0.7s,baz=348,slow=9.3,SNR=3.7						
NRIK	Noril'sk	49.51	342	LR	LR	20 18 05.8	
	comp=Z,49nm,19.4s,baz=338,slow=39						
AS01	Alice Springs	49.70	174	*e*P	P	19 54 51.5	+0.1
BRVK	Borovoye	50.68	318	*e*P	P	19 54 58.5	0.0
	3.3nm,0.7s						
KBL	Kabul	51.46	295	*e*P	P	19 55 05.2	+0.3
	7.6nm,0.9s						
ABKAR	Akbulak array	56.99	313	*e*P	P	19 55 44.4	-0.4
	4.1nm,0.6s						
STKA	Stephens Creek	58.93	167	P	P	19 55 58.7	+0.3
	2.3nm,0.9s,baz=353,slow=4.8,SNR=3.0						
GEYT	Alibek	59.65	300	P	P	19 56 04.2	+0.6
	1.4nm,0.8s,baz=93,slow=6.9,SNR=4.0						
MDM	Murphy Dome	63.85	28	*e*P	P	19 56 32.6	+1.2
	5.4nm,0.9s						
ILAR	Eielson Array	64.44	28	P	P	19 56 35.2	0.0
	0.2nm,0.6s,baz=267,slow=4.5,SNR=7.2						
HDA	Harding Lake	64.46	29	*e*P	P	19 56 35.1	-0.3
	8.0nm,1.4s						
KBZ	Khabaz	69.51	309	P	P	19 57 08.1	+0.2
	2.2nm,0.8s,baz=108,slow=5.0,SNR=4.9						
FIA0	FINESS Array S	73.17	331	*e*P	P	19 57 29.2	-0.4
FINES	FINESS Array B	73.17	331	P	P	19 57 29.2	-0.4
	1.6nm,0.6s,baz=47,slow=5.1,SNR=10						
FINES				LR	LR	20 33 18.0	
	comp=Z,36nm,19.0s,baz=30,slow=39						
RES	Resolute Bay	75.66	11	*e*P	P	19 57 47.0	+3.1
	4.3nm,0.7s						
AKASG	Malin Array Be	75.87	320	P	P	19 57 44.9	-0.6
	3.1nm,0.6s,baz=58,slow=6.3,SNR=5.0						
AKBB	Malin Array Si	75.87	320	*e*P	P	19 57 44.7	-0.8
	5.1nm,0.6s						
KIEV	Kiev	75.88	320	*e*P	P	19 57 45.3	-0.3
	4.9nm,0.6s						
BR101	Keskin Array S	77.39	308	*e*P	P	19 57 55.1	+0.6
BR131	Keskin Array S	77.39	308	*e*P	P	19 57 55.0	+0.5
	5.2nm,1.0s						
BRTR	Keskin Array B	77.39	308	P	P	19 57 55.1	+0.6
	2.7nm,0.9s,baz=95,slow=5.9,SNR=10						
YKA	Yellowknife Ar	78.55	25	P	P	19 58 01.0	+0.7
	0.6nm,0.6s,baz=300,slow=5.6,SNR=12						
YKB5	Yellowknife Ar	78.55	25	*e*P	P	19 58 01.0	+0.7
BUR08	Bucovina Ar. S	79.57	318	*e*P	P	19 58 06.7	+0.3
	17nm,1.8s						
NB2	NORSAR Subarra	79.61	334	P	P	19 58 05.0	-1.2
	comp=Z,0.9nm,0.6s,baz=52,slow=5.9						
NB200	NORSAR Array S	79.61	334	*e*P	P	19 58 05.5	-0.8
NOA	NORSAR Array B	79.61	334	P	P	19 58 05.5	-0.8
	comp=Z,1.6nm,0.7s,baz=51,slow=5.5,SNR=9.0						
SUMG	Summit	81.23	356	*e*P	P	19 58 16.6	+1.4
	comp=Z,9.7nm,1.0s						
GERES	GERESS Array B	85.53	323	P	P	19 58 37.9	+0.5
	comp=Z,0.4nm,0.6s,baz=28,slow=6.7,SNR=3.7						

IDC 27 19:46:41.2±63.0, 16°.81S×179°.33W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/31, mbtmp3.9/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/28, Error ellipse: s-maj=1147.0km s-min=151.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	21.46	287	LR	LR	19 59 20.6	
	comp=Z,62nm,18.4s,baz=164,slow=35						
STKA	Stephens Creek	38.40	240	P	P	19 54 05.1	+0.6
	2.8nm,1.2s,baz=68,slow=5.4,SNR=3.4						
WRA	Warramunga Arr	43.97	259	P	P	19 54 50.0	-0.6
	0.7nm,1.0s,baz=96,slow=7.7,SNR=9.0						
ASAR	Alice Springs	44.25	253	P	P	19 54 52.5	-0.3
ASAR	Alice Springs	44.25	253	P	P	19 54 52.5	-0.3
	2.4nm,0.5s,baz=90,slow=7.7,SNR=50						

IDC 27 19:48:10.2±2.6, 17°.64S×176°.00E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.7/28, mbtmp3.6/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=116.9km s-min=27.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	10.01	242	LR	LR	19 54 01.2	
	comp=Z,235nm,19.8s,baz=84,slow=35						
RAR	Rarotonga	23.11	103	LR	LR	20 01 55.1	
	comp=Z,55nm,18.1s,baz=203,slow=36						
PPT	Papeete	32.78	95	LR	LR	20 04 54.0	
	comp=Z,39nm,21.9s,baz=88,slow=31						
STKA	Stephens Creek	34.14	239	LR	LR	20 07 13.5	
	comp=Z,66nm,19.1s,baz=26,slow=34						
H11S2	WAKE ISLAND Hy	37.05	345	T	T	20 34 15.2	
	baz=159						
H11S3	WAKE ISLAND Hy	37.06	345	T	T	20 34 23.8	
	baz=159						
H11S1	WAKE ISLAND Hy	37.07	345	T	T	20 34 19.2	
	baz=159						
WRA	Warramunga Arr	39.44	260	P	P	19 55 41.8	-0.7
	0.9nm,0.7s,baz=92,slow=9.0,SNR=4.7						
ASAR	Alice Springs	39.74	254	P	P	19 55 44.9	-0.1
	0.8nm,0.8s,baz=82,slow=9.1,SNR=3.4						
NVAR	Mina Array Bea	83.01	46	P	P	20 00 37.9	0.0
	0.1nm,0.3s,baz=247,slow=5.8,SNR=3.1						
CMAR	Chiang Mai Arr	83.81	291	P	P	20 00 43.2	+1.1
	0.5nm,0.8s,baz=126,slow=4.6,SNR=3.6						
ILAR	Eielson Array	86.92	15	P	P	20 00 56.7	+0.1
	0.3nm,0.8s,baz=256,slow=5.2,SNR=4.0						
SONM	Songino Array	89.93	321	P	P	20 01 10.7	-0.8
	0.3nm,0.8s,baz=108,slow=3.3,SNR=2.4						
GERES	GERESS Array B	145.72	339	PKPbc	PKPdf	20 07 50.2	-0.6
	1.3nm,0.7s,baz=29,slow=3.0,SNR=13						

*IDC **27** 19:55:11.2±2.6, 7°.21S×119°.43E, h0km, mb3.0/2, mb1 3.1/3, mb1mx3.0/28, mbtmp2.9/3, ML3.0/1, Error ellipse: s-maj=277.1km s-min=26.2km az=53.0*
*DJA **27** 19:55:12.4±1.1, 8°.5±12°×11°.9E±°, h105km±19km, M3.3/7, MLv3.3/7*
*ISCJB **27** 19:55:13.8±0.8, 7°.76S±0°.08×118°.35E±0°.09, h33km, mb3.2/2, Error ellipse: s-maj=15.0km s-min=8.5km az=37.8*

ISC 27 19:55:14.7±1.1, 7°.82S±0°.07×118°.37E±0°.07, h35km, n8, σ1§66/9, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	1.16	210	P	Pn	19 55 34.4	-0.1
PLAI				S	Sn	19 55 50.4	+1.3
WSI	Waingapu	2.65	134	P	Pn	19 55 55.8	+0.8
BSSI	Bau Bau, Buton	2.69	52	P	Pn	19 55 56.5	+1.0
BKSI	Bulukumba	3.03	35	P	Pn	19 55 59.6	-0.7
SRBI	Singaraja	3.13	265	P	Pn	19 56 01.4	-0.3
WRA	Warramunga Arr	19.61	130	P	P	19 59 37.6	-2.7
	0.0nm,0.3s,baz=316,slow=9.9,SNR=4.4						
ASAR	Alice Springs	21.68	138	P	P	20 00 00.9	-1.8
	0.4nm,0.8s,baz=318,slow=9.5,SNR=6.0						
MKAR	Makanchi Array	63.13	333	P	P	20 05 40.4	+1.4
	0.2nm,0.6s,baz=141,slow=7.1,SNR=3.1						

*ISK **27** 20:12:04.9, 38°.68N×25°.86E, h6km, ML2.8/27*
*DDA **27** 20:12:05.4, 38°.67N×25°.94E, h7km±3km, ML3.1*
*ATH **27** 20:12:05.0, 38°.65N×25°.93E, h28km±1km, ML2.8/5, Error ellipse: s-maj=2.3km s-min=1.3km az=261.0*
*ISCJB **27** 20:12:06.2±0.4, 38°.66N±0°.02×25°.89E±0°.03, h17km±5km, Error ellipse: s-maj=4.4km s-min=3.0km az=173.4*
*THE **27** 20:12:06.3, 38°.66N×25°.97E, h15km±1km, ML2.6/3, Error ellipse: s-maj=2.4km s-min=0.6km az=89.0*

ISC 27 20:12:05.5±1.0, 38°.66N±0°.02×25°.93E±0°.03, h17km±8km, n60, σ0§75/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOS	Chios island	0.29	160	PG	Pg	20 12 11.9	0.0
CHOS				SG	Sb	20 12 16.9	-0.1
CHOS	Chios island	0.29	160	P	Pb	20 12 12.2	-0.2
CHOS				S	Sb	20 12 16.8	-0.2
CHOS	Chios island	0.29	160	P	Pb	20 12 12.1	-0.2
CHOS				S	Sg	20 12 16.5	+0.3
CHOS				AML	AML	20 12 16.8	
	comp=N,4691μm,0.3s						
CHOS				AML	AML	20 12 18.2	
	comp=E,6391μm,0.1s						
PSRA	Psara	0.31	247	P	Pb	20 12 13.5	+0.8
PSRA				S	Sb	20 12 17.9	+0.5
PSRA				AML	AML	20 12 18.7	
	comp=N,5496μm,0.1s						
PSRA				AML	AML	20 12 18.8	
	comp=E,7252μm,0.2s						
CESE	eme	0.44	139	PG	Pb	20 12 14.9	0.0
KRBN	Karaburun	0.49	98	PG	Pb	20 12 16.1	+0.3
SIGR	SIGRI	0.55	354	PG	Pg	20 12 16.2	-0.3
SIGR	SIGRI	0.55	354	P	Pg	20 12 16.4	-0.1
SIGR				S	Sn	20 12 26.0	-1.4
SIGR	SIGRI	0.55	354	P	Pg	20 12 16.4	-0.1
SIGR				S	Sb	20 12 23.9	-0.4
SIGR				AML	AML	20 12 27.8	
	comp=E,837μm,0.2s						
SIGR				AML	AML	20 12 28.8	
	comp=N,1426μm,0.4s						
URLA	Izmir	0.60	120	PG	Pb	20 12 17.8	+0.1
URLA	Izmir	0.60	120	*i* P	Pb	20 12 18.4	+0.7
URLA				*i* S	Sb	20 12 26.9	+1.0
URLA				IAML_P			
	comp=Z,7μm,0.1s						
ZEY	zmir	0.62	133	*i* P	Pb	20 12 18.6	+0.7
ZEY				*i* S	Sb	20 12 26.3	0.0
ZEY				IAML_P			
	comp=Z,5μm,0.1s						
FOCM	Foa	0.63	85	PG	Pb	20 12 18.7	+0.6
PRK	Paraskevi	0.64	25	P	Pb	20 12 18.9	+0.6
PRK				S	Sb	20 12 27.6	+0.6
PRK	Paraskevi	0.64	25	P	Pb	20 12 18.9	+0.6
PRK				S	Sn	20 12 29.6	0.0
PRK				AML	AML	20 12 31.0	
	comp=N,969μm,0.5s						
PRK				AML	AML	20 12 31.1	
	comp=E,1159μm,0.4s						
GPNR	Gulpinar-Canak	0.81	11	PG	Pg	20 12 20.7	-0.6
AYVA	Ayvalik	0.88	42	*i* P	Pn	20 12 22.9	-0.2
AYVA				*i* S	Sn	20 12 35.1	-0.4
BLCB	Balcova	0.92	107	PG	Pn	20 12 23.9	+0.3
ZEDA	zmir-Bergama	0.95	71	*i* P	Pn	20 12 24.6	+0.5
ZEDA				*i* S	Sn	20 12 37.3	+0.1
ZEDA				IAML_P			
	comp=Z,893nm,0.1s						
DGB	zmir	0.97	129	*i* P	Pn	20 12 24.8	+0.5
DGB				IAML_P			
	comp=Z,2μm,0.1s						
BAYC	CANAKKALE_Bayr	1.18	24	*i* P	Pb	20 12 27.4	-0.1
BAYC				*i* S	Sb	20 12 42.5	0.0
BOZC	Bozcaada	1.18	5	PN	Pb	20 12 27.5	0.0
BOZC	Bozcaada	1.18	5	*i* P	Pg	20 12 28.4	0.0
BOZC				*i* S	Sg	20 12 43.8	0.0
SMG	Samos	1.19	143	P	Pb	20 12 27.7	0.0
SMG	Samos	1.19	143	P	Pn	20 12 27.5	+0.1
SMG				S

KCTX	Karacabey (Bur	2.47	49	PN		Pn	20 12 46.9	+1.9
TURN	Turunc	2.77	129	PN		Pn	20 12 49.8	+0.7

KRSC ***27*** *20:14:03.8±10.0, 54.02N×162.80E, h68km±10km, ML4.3*
IDC ***27*** *20:14:15.7±3.1, 54.16N×161.44E, h71km±31km, mb3.3/8, mb1 3.6/10,mb1mx3.3/35,mbtmp3.7/10,ML3.7/2,MS2.8/2, Ms1 2.8/2,ms1mx2.5/20, Error ellipse: s-maj=40.7km s-min=18.7km az=149.0*

ISC 27 20:14:03.2±2.1, 53.98N±0.04×162.92E±0.05, h14km±13km, n58, σ1§64/82, mb3.5/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	Mys Kozlova	0.90	310	eP	Pn	20 14 21.2	-0.2
MKZ				eS	Sg	20 14 32.0	-0.5
KZV	Kizimen	1.90	308	eP	Pn	20 14 35.3	0.0
KZV				eS	Sn	20 14 56.8	-2.3
TUMD	Tumrok D	1.91	311	eP	Pn	20 14 35.0	-0.2
TUMD				eS	Sn	20 14 56.6	-2.4
SPN	Mys Shipunski	1.94	244	eP	Pn	20 14 36.1	+0.4
SPN				eS	Sn	20 14 56.6	-3.2
TUMR	Tumrok	2.07	310	eP	Pn	20 14 38.0	+0.4
BKI	Bering	2.16	54	eP	Pb	20 14 40.6	-1.3
BKI				eS	Sn	20 15 04.2	-0.8
KBTR	Krutoberegovo	2.23	359	eP	Pn	20 14 39.6	0.0
KBTR				eS	Sn	20 15 05.0	-1.9
KBG	Krutoberegovo	2.28	357	eP	Pn	20 14 40.6	+0.3
KBG				eS	Sn	20 15 06.7	-1.4
NLC	Nalytchevo	2.28	251	eP	Pn	20 14 40.7	+0.4
NLC				eS	Sn	20 15 06.1	-2.0
BZGR	Bezymyannyi-Gr	2.34	328	eP	Pn	20 14 42.5	+1.2
BZGR				eS	Sn	20 15 09.3	-0.5
ZLN	Zelenaya	2.37	330	eP	Pn	20 14 43.0	+1.3
ZLN				eS	Sn	20 15 11.5	+0.9
BZMR	Bezymyannaya	2.41	325	P	Pn	20 14 42.9	+0.7
BZWR	Bezymyannyi-We	2.43	326	P	Pn	20 14 43.5	+1.0
LGNR	Loginova	2.46	330	P	Pn	20 14 44.4	+1.3
CIRR	Tsirk	2.48	331	eP	Pn	20 14 44.4	+1.3
CIRR				eS	Sn	20 15 13.4	+0.2
SDLR	Sedlovina	2.50	255	eP	Pn	20 14 44.4	+0.9
SDLR				eS	Sn	20 15 11.7	-2.2
KPT	Kopyto	2.52	323	eP	Pn	20 14 45.3	+1.6
SMAR	Somma	2.56	255	eP	Pn	20 14 45.1	+0.8
SMAR				eS	Sn	20 15 14.0	-1.3
UGLR	Uglovaya	2.56	254	eP	Pn	20 14 45.5	+1.2
UGLR				eS	Sn	20 15 12.3	-2.9
KRER	Koryakskii	2.58	256	eP	Pn	20 14 45.8	+1.3
KRER				eS	Sn	20 15 13.3	-2.4
AVH	Avacha	2.59	256	eP	Pn	20 14 46.0	+1.3
AVH				eS	Sn	20 15 15.5	-0.5
KRX	Arik	2.62	258	eP	Sn	20 14 46.2	+1.1
KRX				eS	Sn	20 15 15.1	-1.6
KOK	Koryaka	2.64	257	eP	Pn	20 14 46.5	+1.1
KOK				eS	Sn	20 15 16.8	-0.4
DALK	Dalny	2.67	251	eP	Pn	20 14 46.4	+0.8
DALK				eS	Sn	20 15 15.8	-1.8
KLY	Klyuchi	2.67	332	eP	Pn	20 14 45.9	+0.2
KLY				S	Sn	20 15 15.1	-2.7
KOZ	Kozyrevsk	2.72	321	eP	Pn	20 14 47.7	+1.3
KOZ				eS	Sn	20 15 18.7	-0.3
PET	Petropavlovsk	2.72	251	eP	Pn	20 14 47.5	+1.1
PET				eS	Sn	20 15 16.3	-2.7
SMKR	Semkarok	2.73	343	eP	Pn	20 14 47.8	+1.2
SMKR				eS	Sn	20 15 19.1	-0.3
BDR	Baidarnaya	2.77	340	eP	Pn	20 14 48.2	+1.1
BDR				eS	Sn	20 15 21.2	+0.9
SRKR	Sorokina	2.86	340	eP	Pn	20 14 49.4	+1.1
SRKR				eS	Sn	20 15 22.5	0.0
SRDR	Sredinnyy	2.97	323	eP	Pn	20 14 50.6	+0.7
RUS	Russkaya	3.07	241	eP	Pn	20 14 52.2	+1.0
RUS				eS	Sn	20 15 25.3	-2.3
KRMR	Karymshinskiy	3.09	250	eP	Pn	20 14 53.0	+1.6
KRMR				eS	Sn	20 15 27.1	-1.0
ESO	Esso	3.12	310	eP	Pn	20 14 52.6	+0.8
ESO				eS	Sn	20 15 26.0	-2.8
MTVR	Mutnovka	3.22	244	eP	Pn	20 14 55.0	+1.7
MTVR				eS	Sn	20 15 30.2	-1.3
PETK	Petropavlovsk-16nm,0.3s,baz=75,slow=18,SNR=250	3.24	256	P	Pn	20 14 53.3	-0.2
PETK				S	Sn	20 15 31.1	-0.6
	9.4nm,0.3s,baz=203,slow=26,SNR=8.5						
ASAK	Asacha	3.42	244	eP	Pn	20 14 58.3	+2.3
ASAK				eS	Sn	20 15 37.0	+0.6
APC	Apacha	3.60	255	eP	Pn	20 15 01.2	+2.7
APC				eS	Sn	20 15 41.3	+0.5
KDTR	Khodutka, Kamc	3.65	235	eP	Pn	20 15 00.3	+1.2
KDTR				eS	Sn	20 15 39.0	-3.0
PAU	Pauzhetka	4.49	238	eP	Pn	20 15 12.9	+2.3
OSSR	Ossora	5.28	1	eP	Pn	20 15 21.9	+0.4
OSSR				eS	Sn	20 16 17.6	-4.4
TILK	Tilichiki	6.71	14	eP	Pn	20 15 43.4	+2.3
TILK				eS	Sn	20 16 55.1	-2.1
MA2	Magadan	8.71	315	LR	LR	20 19 47.8	
	comp=Z,68nm,18.9s,baz=100,slow=42						
ASAJ	Asahikawa	16.52	242	P	Pn	20 17 55.3	+1.1
	1.0nm,0.3s,baz=81,slow=13,SNR=10						
MJAR	Matsushiro Arr	24.43	234	P	P	20 19 22.4	+1.3
	2.4nm,0.7s,baz=11,slow=9.8,SNR=8.3						
ILAR	Eielson Array	26.98	47	P	P	20 19 55.6	+12
	0.4nm,0.9s,baz=257,slow=8.0,SNR=3.3						
KSRS	Korea Array	29.11	250	LR	LR	20 31 26.8	
	comp=Z,14nm,18.3s,baz=135,slow=36						
H11N2	WAKE ISLAND Hy	34.33	173	T	T	20 58 27.5	
	baz=355,slow=76,SNR=9.5						
H11N3	WAKE ISLAND Hy	34.34	173	T	T	20 58 28.7	
	baz=355,slow=76,SNR=11						
H11N1	WAKE ISLAND Hy	34.34	173	T	T	20 58 28.9	
	baz=355,slow=76,SNR=14						
YKA	Yellowknife Ar	41.35	44	P	P	20 21 58.0	+10
	0.1nm,0.3s,baz=297,slow=8.2,SNR=3.0						
MKAR	Makanchi Array	49.28	297	P	P	20 22 48.3	-2.8
	0.1nm,0.3s,baz=47,slow=6.8,SNR=3.2						
NVAR	Mina Array Bea	53.86	73	P	P	20 23 40.0	+14
	0.1nm,0.3s,baz=307,slow=6.4,SNR=2.3						
FINES	FINESS Array B	59.95	338	P	P	20 24 11.0	+2.7
	1.6nm,1.0s,baz=46,slow=8.1,SNR=2.4						
CMAR	Chiang Mai Arr	60.01	260	P	P	20 24 09.5	+0.2
	2.5nm,0.7s,baz=24,slow=7.0,SNR=23						
NB2	NORSAR Subarra	63.14	345	P	P	20 24 43.5	+14
	comp=Z,0.9nm,0.8s,baz=19,slow=6.9						
NOA	NORSAR Array B	63.14	345	P	P	20 24 33.4	+3.5
	comp=Z,0.3nm,0.7s,baz=14,slow=5.5,SNR=2.6						
TXAR	Lajitas Array	68.74	69	P	P	20 25 15.5	+9.0
	comp=Z,0.2nm,0.5s,baz=302,slow=5.2,SNR=3.3						

ISCJB ***27*** *20:28:11.7±0.5, 39.44N±0.03×26.28E±0.04, h10km, Error ellipse: s-maj=5.3km s-min=4.3km az=21.7*
ATH ***27*** *20:28:11.3, 39.43N×26.29E, h16km±3km, ML2.0/1, Error ellipse: s-maj=3.7km s-min=1.2km az=221.0*
DDA ***27*** *20:28:13.0, 39.51N×26.49E, h7km±5km, ML2.5*

ISC 27 20:28:11.4±0.9, 39.44N±0.03×26.28E±0.04, h10km, n14, σ0§51/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.19	181	P	Pg	20 28 16.0	+0.5
PRK				S	Sg	20 28 18.9	+0.6
PRK				AML	AML	20 28 20.4	
	comp=E,918μm,0.4s						
PRK				AML	AML	20 28 23.5	
	comp=N,1469μm,0.5s						
AYVA	Ayvalik	0.35	112	*i* P	Pg	20 28 17.9	-0.4
AYVA				IAML_P			
	comp=Z,1μm,0.1s						
BAYC	CANAKKALE_Bayr	0.37	35	*i* P	Pg	20 28 18.8	+0.1
SIGR	SIGRI	0.40	235	P	Pg	20 28 19.4	+0.1
SIGR				S	Sg	20 28 25.2	+0.7
LIA	Limnos Island	0.96	299	P	Pb	20 28 30.1	0.0
LIA				S	Sb	20 28 43.1	+0.2
PSRA	Psara	1.05	212	P	Pb	20 28 31.8	0.0
CHOS	Chios island	1.07	189	P	Pg	20 28 30.9	-1.1
CHOS				S	Sg	20 28 45.7	-1.1
BALY	Balya	1.08	74	*i* P	Pg	20 28 31.7	-0.5
BALY				IAML_P			
	comp=Z,1μm,0.3s						
STEP	BALIKESIR_Sava	1.12	93	*i* P	Pg	20 28 32.7	-0.3
STEP				IAML_P			
	comp=Z,577nm,0.1s						
SMTH	Samothraki Isl	1.18	331	P	Pg	20 28 33.7	-0.4
KESN	Edirne-Kesan	1.42	13	*i* P	Pg	20 28 38.4	-0.3
SART	Tekirdag	1.43	29	*i* P	Pn	20 28 37.3	-0.2
SART				IAML_P			
	comp=Z,425nm,0.1s						
DURS	Dursunbey	1.71	84	*i* P	Pg	20 28 45.2	+1.0
DURS				IAML_P			
	comp=Z,181nm,0.2s						
SMG	Samos	1.79	166	P	Pb	20 28 44.2	-0.1

MEX 27 20:50:19.9±0.8, 14.02N×92.31W, h41km±87km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		0.89	3	*i* P	Pn	20 50 34.3	-1.6
THIG				*i* S	Sn	20 50 45.2	-2.4
PCIG		1.90	333	*e*P	Pn	20 50 48.0	-1.8
PCIG				*i* S	Sn	20 51 10.6	-1.8
CCIG	Comitan	2.26	4	*i* P	Pn	20 50 53.1	-1.9
CCIG				*i* S	Sn	20 51 20.2	-1.6

IDC ***27*** *20:53:45.3±8.4, 23.91S×178.85W, h374km±99km, mb3.4/5, mb1 3.7/6, mb1mx3.2/42, mbtmp4.3/6, Error ellipse: s-maj=154.7km s-min=31.6km az=176.0*

ISC 27 20:53:46.7±1.5, 24.1S±0.2×178.8W±0.2, h392km, n9, σ1§01/9, mb3.6/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	5.18	171	P	Pn	20 55 10.2	+0.2
	110nm,0.3s,baz=45,slow=20,SNR=3.8						
CTA	Charters Tower	32.57	270	P	P	20 59 43.9	+0.4
	3.0nm,0.4s,baz=119,slow=9.6,SNR=6.1						
ASAR	Alice Springs	43.08	261	P	P	21 01 10.0	-0.2
	1.2nm,0.5s,baz=98,slow=6.6,SNR=16						
WRA	Warramunga Arr	43.48	266	P	P	21 01 12.5	-0.9
	2.4nm,0.5s,baz=96,slow=8.4,SNR=112						
FITZ	Fitzroy Crossi	51.90	265	P	P	21 02 17.1	-0.1
	1.1nm,0.3s,baz=110,slow=6.4,SNR=15						
CMAR	Chiang Mai Arr	90.63	290	P	P	21 06 07.5	+1.3
	0.2nm,0.4s,baz=130,slow=3.8,SNR=2.7						
FINES	FINESS Array B	138.99	342	PKP	PKPdf	21 12 27.4	+0.7
	1.4nm,0.9s,baz=174,slow=2.5,SNR=3.8						
AKASG	Malin Array Be	145.74	328	PKPbc	PKPdf	21 12 37.3	-1.6
	0.6nm,0.3s,baz=46,slow=4.3,SNR=2.8						
BRTR	Keskin Array B	148.58	307	PKPbc	PKiKP	21 12 49.0	-0.5
	0.7nm,0.6s,baz=93,slow=3.0,SNR=4.2						

ISCJB ***27*** *20:59:26.1±0.3, 10.86S±0.04×73.95W±0.04, h105km, mb3.9/14, Error ellipse: s-maj=6.8km s-min=4.9km az=143.7*
IDC ***27*** *20:59:28.0±0.5, 10.82S×73.92W, h112km±4km, mb3.7/14, mb1 4.0/20,mb1mx3.9/37,mbtmp4.2/20,MS3.3/9, Ms1 3.3/9,ms1mx3.0/34, Error ellipse: s-maj=16.2km s-min=9.0km az=49.0*

ISC 27 20:59:27.7±0.4, 10.79S±0.06×73.88W±0.06, h105km, n59, σ1§72/70, mb4.0/15, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	Nana	3.14	248	P	Pn	21 00 14.2	-1.3
	184nm,0.3s,baz=74,slow=11,SNR=139						
NNA				S	Sn	21 00 48.2	-4.1
	124nm,0.3s,baz=67,slow=16,SNR=13						
NNA				LR	LR	21 01 14.8	
	comp=Z,222nm,18.4s,baz=38,slow=35						
ATAH	Atahualpa	5.75	309	P	Pn	21 00 51.0	-0.1
	8.0nm,0.3s,baz=129,slow=14,SNR=46						
ATAH				S	Sn	21 01 55.9	-0.1
	12nm,0.3s,baz=69,slow=22,SNR=8.1						
LPAZ	La Paz	7.81	135	P	Pn	21 01 20.6	+1.3
	2.4nm,0.3s,baz=332,slow=7.2,SNR=26						
LPAZ				S	Sn	21 02 45.1	-1.3
	2.0nm,0.3s,baz=177,slow=6.3,SNR=4.1						
PTLC	Puerto Leguiza	10.93	355	*e*P	Pn	21 01 57.0	-4.1
PTLC	Puerto Leguiza	10.93	355	*e*P	Pn	21 01 57.0	-4.1
FLOC	Florencia	12.42	352	*e*P	Pn	21 02 22.9	+1.9
FLOC	Florencia	12.42	352	*e*P	Pn	21 02 22.9	+1.9
LVC	Limon Verde	12.68	159	P	Pn	21 02 25.0	+0.4
	0.2nm,0.3s,baz=290,slow=5.2,SNR=4.6						
LVC				LR	LR	21 08 01.7	
	comp=Z,71nm,20.7s,baz=284,slow=40						
SOTA	Rioblanco	13.13	348	*e*P	Pn	21 02 32.9	+2.2
SOTA	Rioblanco	13.13	348	*e*P	Pn	21 02 32.9	+2.2
PCON	Cinco Dias	13.28	349	*e*P	Pn	21 02 33.5	+0.9
PCON	Cinco Dias	13.28	349	*e*P	Pn	21 02 33.5	+0.9
SIV	San Ignacio	13.49	114	P	Pn	21 02 35.3	+0.4
	4.5nm,0.3s,baz=304,slow=11,SNR=44						
SIV				LR	LR	21 07 49.9	
	comp=Z,86nm,21.3s,baz=292,slow=37						
VILC	Villavicencio,	14.81	1	*e*P	P	21 02 54.8	-0.4
VILC	Villavicencio,	14.81	1	*e*P	P	21 02 54.8	-0.4
CHIC	Chingaza	15.32	1	*e*P	P	21 03 01.4	+0.2
CHIC	Chingaza	15.32	1	*e*P	P	21 03 01.4	+0.2
ROSC	El Rosal	15.54	358	P	P	21 03 06.0	+2.5
	1.1nm,0.3s,baz=198,slow=20,SNR=6.9						
ROSC				LR	LR	21 09 22.9	
	comp=Z,57nm,21.8s,baz=178,slow=38						
RREF	El Recreo	15.66	355	*e*P	P	21 03 08.1	+2.9
RREF	El Recreo	15.66	355	*e*P	P	21 03 08.1	+2.9
RUSC	La Rusia	16.60	3	*e*P	P	21 03 18.7	+3.3
RUSC	La Rusia	16.60	3	*e*P	P	21 03 18.7	+3.3
PTGA	Pitinga	17.06	55	P	Pn	21 03 20.2	+0.3
	4.5nm,0.3s,baz=245,slow=14,SNR=27						
PTGA				S	Sn	21 06 23.0	-6.8
	1.2nm,0.3s,baz=323,slow=20,SNR=5.2						
PTGA				LR	LR	21 09 21.4	
	comp=Z,54nm,18.2s,baz=232,slow=35						
PAMC	Pamplona, Colo	18.05	4	*e*P	Pn	21 03 32.6	+0.3
PAMC	Pamplona, Colo	18.05	4	*e*P	Pn	21 03 32.6	+0.3
ZARC	Zaragoza, Cauc	18.19	357	*e*P	P	21 03 32.7	+0.2
ZARC	Zaragoza, Cauc	18.19	357	*e*P	P	21 03 32.7	+0.2
SMLC	San Martn de	19.47	359	*e*P	P	21 03 46.6	+0.3
SMLC	San Martn de	19.47	359	*e*P	P	21 03 46.6	+0.3
SJCC	San Jacinto, C	20.60	356	*e*P	P	21 03 59.2	+0.6
SJCC	San Jacinto, C	20.60	356	*e*P	P	21 03 59.2	+0.6
CODC	Agustn Codazz	20.60	1	*e*P	P	21 03 57.2	-1.3
CODC	Agustn Codazz	20.60	1	*e*P	P	21 03 57.2	-1.3
CFA	Coronel Fontan	21.36	167	P	P	21 04 06.3	-0.4
	4.3nm,0.7s,baz=342,slow=12,SNR=4.1						
SMRC	Santa Marta, M	21.82	359	*e*P	P	21 04 12.5	+1.0
SMRC	Santa Marta, M	21.82	359	*e*P	P	21 04 12.5	+1.0
CPUP	Villa Florida	21.98	137	P	P	21 04 13.4	+0.2
	8.4nm,1.1s,baz=311,slow=9.5,SNR=6.5						
BDFB	Brasilia	25.63	104	pP	pP	21 05 12.1	+1.2
	7.8nm,0.5s,baz=271,slow=10.0,SNR=9.2						
BDFB				LR	LR	21 16 13.7	
	comp=Z,94nm,19.3s,baz=137,slow=39						
MDP	Montagnes des	26.39	54	LR	LR	21 16 17.3	
	comp=Z,75nm,18.2s,baz=296,slow=38						
PLCA	Paso Flores	29.96	175	P	P	21 05 25.8	-0.4
	0.7nm,0.6s,baz=14,slow=8.3,SNR=3.3						
TKL	Tuckaleechee C	47.14	349	P	P	21 07 49.7	+0.2
	0.9nm,0.3s,baz=150,slow=11,SNR=2.6						
TXAR	Lajitas Array	49.16	325	P	P	21 08 05.2	0.0
	1.9nm,0.5s,baz=152,slow=8.6,SNR=39						
TXAR				pP	pP	21 08 32.2	+1.7
	0.5nm,0.5s,baz=153,slow=8.6,SNR=2.6						
PDAR	Pinedale Array	62.49	331	P	P	21 09 39.2	-1.1
	0.4nm,0.5s,baz=152,slow=6.6,SNR=6.4						
ULM	Lac du Bonnet	63.76	344	P	P	21 09 47.4	-0.8
	1.4nm,0.4s,baz=149,slow=8.5,SNR=5.0						
ULM				pP	pP	21 10 15.0	+0.6
	1.5nm,0.6s,baz=160,slow=8.4,SNR=1.5						
NVAR	Mina Array Bea	64.15	322	P	P	21 09 51.0	-0.5
	1.5nm,0.8s,baz=146,slow=7.0,SNR=4.7						
DBIC	Dimbokro	70.86	79	P	P	21 10 34.1	+0.2
	2.1nm,0.6s,baz=208,slow=5.5,SNR=3.9						
DBIC				pP	pP	21 11 01.3	+0.9
	3.4nm,0.5s,baz=240,slow=6.9,SNR=3.9						
DBIC				LR	LR	21 39 22.9	
	comp=Z,25nm,18.5s,baz=104,slow=34						
TORD	Torodi Ar. Bea	78.67	74	P	P	21 11 18.4	-0.5
	1.4nm,0.7s,baz=235,slow=4.5,SNR=20						
TORD				pP	pP	21 11 46.5	+0.5
	2.2nm,0.7s,baz=268,slow=5.1,SNR=7.4						
YKA	Yellowknife Ar	79.58	342	P	P	21 11 22.4	-0.4
	2.4nm,0.9s,baz=137,slow=6.2,SNR=29						
YKA				pP	pP	21 11 50.5	+0.7
	1.3nm,0.8s,baz=135,slow=6.1,SNR=5.1						
ESDC	Sonseca Array	81.83	47	P	P	21 11 35.8	+0.3
	0.2nm,0.4s,baz=246,slow=4.9,SNR=2.6						
ESDC				pP	pP	21 12 04.3	+1.6
	0.1nm,0.3s,baz=235,slow=4.5,SNR=1.8						
RAR	Rarotonga	82.38	250	LR	LR	21 39 23.1	
	comp=Z,95nm,20.4s,baz=126,slow=29						
VNDA	Vanda	86.49	190	P	P	21 11 58.2	0.0
	1.8nm,0.9s,baz=133,slow=4.0,SNR=8.1						
ILAR	Eielson Array	92.58	336	P	P	21 12 26.5	-0.5
	0.2nm,0.7s,baz=118,slow=1.5,SNR=4.5						
ILAR				pP	pP	21 12 55.6	+0.8
	0.4nm,0.9s,baz=157,slow=3.2,SNR=3.0						
ZALV	Zalesovo Beam	133.72	17	PKP	PKPdf	21 18 31.8	-0.2
	0.8nm,0.6s,baz=304,slow=1.4,SNR=4.4						
ZALV				pPKP	pPKPdf	21 19 02.8	+1.8
	1.0nm,0.6s,baz=327,slow=2.5,SNR=3.4						
ASAR	Alice Springs	136.28	218	PKP	PKPdf	21 18 36.1	-1.8
	1.0nm,0.8s,baz=172,slow=2.7,SNR=5.7						
ASAR				pPKP	pPKPdf	21 19 07.9	+0.9
	0.3nm,0.6s,baz=120,slow=1.7,SNR=2.0						
WRA	Warramunga Arr	138.71	222	PKP	PKPdf	21 18 41.4	-1.0
	1.0nm,0.6s,baz=133,slow=1.9,SNR=12						
WRA				pPKP	pPKPdf	21 19 12.0	+0.5
	0.9nm,0.7s,baz=129,slow=1.8,SNR=3.1						
MKAR	Makanchi Array	138.83	25	PKP	PKPdf	21 18 41.1	-0.8
	0.2nm,0.8s,baz=323,slow=2.2,SNR=2.4						
MKAR				pPKP	pPKPdf	21 19 12.1	+1.5
	0.6nm,0.9s,baz=33,slow=4.6,SNR=4.0						
MJAR	Matsushiro Arr	141.32	317	PKhKP	PKPpre	21 18 39.5	
	2.0nm,0.7s,baz=128,slow=1.8,SNR=6.1						
SONM	Songino Array	143.08	360	PKhKP	PKPpre	21 18 45.8	
	0.4nm,0.8s,baz=295,slow=0.2,SNR=3.6						
KSRS	Korea Array	147.00	327	PKPbc	PKPdf	21 18 56.8	+0.4
	5.2nm,1.1s,baz=34,slow=2.6,SNR=9.3						

ISCJB ***27*** *21:18:14.1±0.4, 30.00S±0.05×178.91W±0.10, h200km, mb3.8/12, Error ellipse: s-maj=12.5km s-min=4.4km az=23.5*
IDC ***27*** *21:18:16.0±0.5, 29.52S×178.76W, h206km±4km, mb3.7/12, mb1 3.9/12,mb1mx3.8/23,mbtmp4.2/12, Error ellipse: s-maj=15.9km s-min=15.5km az=64.0*

ISC 27 21:18:14.8±0.5, 29.97S±0.06×178.9W±0.1, h200km, n90, σ1§93/92, mb3.9/12, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.12	51	P	Pn	21 18 45.7	+0.3
GLKZ				S	Sn	21 19 07.0	-2.1
RIZ	Raoul Island	1.13	51	P	Pn	21 18 46.2	+0.8
RAO	Raoul Island	1.13	51	P	Pn	21 18 45.9	+0.4
	293nm,0.3s,baz=122,slow=4.9,SNR=17						
RAO				S	Sn	21 19 07.7	-1.4
	430nm,0.3s,baz=270,slow=20,SNR=6.7						
GRZ	Great Barrier	7.84	215	P	Pn	21 20 12.2	+6.4
KUZ	Kuaotunu	8.11	212	P	Pn	21 20 15.2	+5.9
WMGZ	Waiomatatini S	8.14	195	P	Pn	21 20 09.8	+0.2
WMGZ				S	Sn	21 21 38.6	-2.7
OUZ	Omahuta	8.20	228	P	Pn	21 20 19.4	+8.9
WCZ	Waipu Caves	8.21	222	P	Pn	21 20 18.8	+8.2
HAZ	Te Kaha	8.23	199	P	Pn	21 20 11.6	+0.7
HAZ				S	Sn	21 21 49.0	+5.4
PKGZ	Pakihiroa	8.28	197	P	Pn	21 20 11.5	-0.1
PKGZ				S	Sn	21 21 46.7	+1.9
PUZ	Puketiti	8.41	195	P	Pn	21 20 12.8	-0.6
WIAZ	Waiheke Island	8.42	215	P	Pn	21 20 20.2	+6.8
RUGZ	Raukumara Rang	8.46	199	P	Pn	21 20 14.5	+0.5
TWGZ	Tauwhareparae	8.58	197	P	Pn	21 20 17.2	+1.7
TWGZ				S	Sn	21 21 55.6	+3.7
OPRZ	Ohinepanea	8.71	204	P	Pn	21 20 17.6	+0.5
CNGZ	Carnagh Statio	8.82	195	P	Pn	21 20 17.8	-0.8
MWZ	Matawai	8.85	198	P	Pn	21 20 18.4	-0.6
TKGZ	Te Karaka	8.86	197	P	Pn	21 20 22.5	+3.4
URZ	Urewera	8.90	201	P	Pn	21 20 19.5	-0.1
	2.1nm,0.3s,baz=279,slow=4.3,SNR=20						
URZ				S	Sn	21 22 00.2	+0.8
	19nm,0.3s,baz=172,slow=20,SNR=17						
URZ	Urewera	8.90	201	P	Pn	21 20 19.5	-0.1
RAGZ	Rawiri	9.03	199	P	Pn	21 20 20.3	-1.1
RIGZ	Rimuhau	9.13	197	P	Pn	21 20 20.8	-1.9
MUGZ	Murupara	9.20	202	P	Pn	21 20 24.5	+1.0
RTZ	Ruatahuna	9.27	200	P	Pn	21 20 22.5	-2.0
KNZ	Kokohu	9.46	196	P	Pn	21 20 26.7	-0.1
RAHZ	Arahi	9.51	199	P	Pn	21 20 25.7	-1.9
MTHZ	Maungataniwha	9.53	200	P	Pn	21 20 27.9	+0.2
BKZ	Black Stump Fm	9.92	201	P	Pn	21 20 33.4	+0.5
HIZ	Hauiti	9.95	209	P	Pn	21 20 39.1	+5.8
KWHZ	Kuweka Forest	10.18	201	P	Pn	21 20 36.2	0.0
NGZ	Ngauruhoe	10.23	205	P	P	21 20 40.3	-4.5
FWVZ	Far West T-bar	10.32	205	P	Pn	21 20 40.4	+2.2

MMAI	**Mount Meron Ar**	**150.65**	**285**	PKPbc	**PKiKP**	**21**	**37**	**43.5 -0.5**
	comp=Z,12nm,0.5s,baz=83,slow=6.2,SNR=36							
EIL	**Elat**	**150.67**	**278**	PKPbc	**PKiKP**	**21**	**37**	**43.4 -0.5**
	comp=Z,8.0nm,0.7s,baz=11,slow=2.8,SNR=9.9							
BRTR	**Keskin Array B**	**151.69**	**299**	PKPbc	**PKiKP**	**21**	**37**	**45.3 -0.7**
	comp=Z,2.7nm,0.6s,baz=142,slow=4.7,SNR=17							
VRAC	**Vranov**	**157.37**	**333**	PKPab	**PKPab**	**21**	**38**	**17.5 -1.4**
	comp=Z,0.8nm,0.5s,baz=45,slow=2.9,SNR=3.2							
CONA	**Conrad Observa**	**158.76**	**332**	PKPab	**PKPab**	**21**	**38**	**25.1 +0.1**
	comp=Z,1.3nm,0.6s							
GERES	**GERESS Array B**	**158.83**	**336**	PKPab	**PKPab**	**21**	**38**	**24.1 -1.2**
	comp=Z,1.3nm,0.7s,baz=4.3,slow=5.4,SNR=10							
KBA	**Koelnbreinsper**	**160.44**	**334**	*e*PKPab	**PKPab**	**21**	**38**	**32.4 -0.1**
	comp=Z,3.4nm,1.1s							
WTTA	**Wattenberg**	**160.89**	**338**	*e*PKPab	**PKPab**	**21**	**38**	**34.9 +0.4**
	comp=Z,10nm,0.4s							
RETA	**Reutte**	**160.97**	**340**	*e*PKPab	**PKPab**	**21**	**38**	**34.3 -0.4**
	comp=Z,4.5nm,0.7s							
MOTA	**Moosalm**	**160.99**	**339**	*e*PKPab	**PKPab**	**21**	**38**	**34.3 -0.5**
	comp=Z,4.1nm,0.8s							
ABTA	**Abfaltersbach**	**161.03**	**335**	*e*PKPab	**PKPab**	**21**	**38**	**34.0 -1.0**
	comp=Z,3.0nm,0.7s							
SQTA	**Sankt Quirin**	**161.07**	**338**	*e*PKPab	**PKPab**	**21**	**38**	**34.8 -0.4**
	comp=Z,5.9nm,1.0s							
FETA	**Feichten**	**161.40**	**339**	*e*PKPab	**PKPab**	**21**	**38**	**36.3 -0.4**
	comp=Z,3.9nm,0.9s							
DAVA	**Damuels**	**161.41**	**341**	*e*PKPab	**PKPab**	**21**	**38**	**36.0 -0.7**
	comp=Z,3.7nm,0.7s							
DAVOX	**Davos/Dischmat**	**161.87**	**340**	PKPab	**PKPab**	**21**	**38**	**38.2 -0.6**
TORD	**Torodi Ar. Bea**	**163.25**	**182**	PKPab	**PKPab**	**21**	**38**	**47.0 +1.8**
	comp=Z,0.9nm,0.8s,baz=178,slow=2.1,SNR=6.6							

OMAN 27 21:20:59.4±0.7, 16°38N×59°54E, h32km±30km, ml3.7/4, Error ellipse: s-maj=52.4km s-min=7.8km az=318.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**4.01**	**332**	P	Pn	21 21 58.7	+0.1
	SNR=48						
DMTO	**DMTO**	**4.59**	**287**	P	Pn	21 22 05.8	-0.8
DMTO				S	Sn	21 22 58.5	-0.4
	SNR=13						
MHTO	**MHTO**	**4.82**	**342**	P	Pn	21 22 08.8	-0.9
	SNR=31						
MHTO				S	Sn	21 23 06.8	+2.4
RBK	**Rabkut**	**5.23**	**283**	P	Pn	21 22 14.5	-0.9
JLN	**Jalan Bani Buh**	**5.74**	**359**	P	Pn	21 22 20.4	-2.0
JLN				S	Sn	21 23 26.2	-0.9
SMDO	**Samad**	**6.79**	**348**	P	Pn	21 22 37.9	+1.0
SMDO				S	Sn	21 23 54.1	+0.9

DRS 27 21:24:47.1±0.0, 39°45N×46°95E, h18km
IDC 27 21:24:57.5±1.3, 40°16N×47°31E, h0km, mb3.3/5, mb1 3.4/9, mb1mx3.2/40, mbtmp3.3/9, ML2.8/4, Error ellipse: s-maj=21.0km s-min=10.5km az=178.0
TIF 27 21:24:59.7, 40°38N×47°18E, h11km±1km
NSSP 27 21:24:59.1, 40°37N×47°10E, h10km, Ms3.4
NORS 27 21:25:00.7±0.0, 40°42N×47°24E, h14km, MPVA4.2
AZER 27 21:25:00.1±0.7, 40°37N×47°19E, h25km, ml3.4/28, Error ellipse: s-maj=0.9km s-min=0.6km az=6.0
MOS 27 21:25:01.3±1.0, 40°35N×47°17E, h15km, mb3.8/2, Error ellipse: s-maj=9.4km s-min=4.3km az=100.5
ISCJB 27 21:25:01.7±0.3, 40°34N±0°02×47°23E±0°02, h15km±3km, mb3.5/5, Error ellipse: s-maj=2.6km s-min=2.2km az=18.2
DDA 27 21:25:26.2, 41°09N×45°15E, h6km±4km, ML2.4

ISC 27 21:25:01.2±0.9, 40°39N±0°02×47°23E±0°02, h17km±6km, n99, σ1°39/153, mb3.5/5, 34C-29D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDA	**Brd**	**0.13**	**197**	↑P	**Pb**	**21 25 05.9**	**+0.7**
	SNR=742						
BRDA				↓S	**Sg**	**21 25 11.0**	**+3.4**
ZRD	**Zardab**	**0.37**	**107**	↓P	**Pb**	**21 25 09.7**	**+0.5**
	SNR=42						
ZRD				↑S	**Sb**	**21 25 17.7**	**+3.0**
MNGR	**Mingechevir, A**	**0.40**	**344**	PG	**Pb**	**21 25 10.5**	**+0.7**
MNGR	**Mingechevir, A**	**0.40**	**344**	↑P	**Pb**	**21 25 10.6**	**+0.7**
	SNR=117						
MNGR				↓S	**Sb**	**21 25 18.6**	**+2.9**
QBL	**Gabala**	**0.72**	**40**	↑P	**Pb**	**21 25 15.6**	**+0.2**
	SNR=95						
QBL				↑S	**Sb**	**21 25 25.4**	**+0.3**
KDMR	**Kurdemir**	**0.73**	**91**	↑P	**Pb**	**21 25 15.6**	**+0.1**
	SNR=5.9						
KDMR				↓S	**Sn**	**21 25 27.8**	**+0.3**
GANJ	**Ganja**	**0.74**	**291**	PG	**Pg**	**21 25 14.4**	**-1.2**
GANJ	**Ganja**	**0.74**	**291**	↓P	**Pg**	**21 25 14.4**	**-1.2**
	SNR=527						
GANJ				↑S	**Sg**	**21 25 24.5**	**-0.9**
SEKA	**Sheki**	**0.82**	**358**	PG	**Pb**	**21 25 16.7**	**-0.4**
SEKA	**Sheki**	**0.82**	**358**	↓P	**Pb**	**21 25 16.7**	**-0.4**
	SNR=712						
SEKA				↑S	**Sb**	**21 25 29.1**	**+1.2**
IML	**Ismayilli**	**0.83**	**61**	↑P	**Pb**	**21 25 17.1**	**-0.1**
	SNR=17						
IML				↑S	**Sb**	**21 25 28.5**	**+0.3**
XNQ	**Khinaliq**	**1.05**	**41**	↓P	**Pg**	**21 25 20.3**	**-1.2**
	SNR=28						
XNQ				↓S	**Sn**	**21 25 35.3**	**-0.4**
SAAT	**Saatly**	**1.06**	**119**	↓P	**Pb**	**21 25 18.8**	**-2.2**
SAAT				↓S	**Sb**	**21 25 33.5**	**-1.0**
PQL	**Pirkuli**	**1.11**	**68**	↑P	**Pn**	**21 25 22.2**	**0.0**
	SNR=296						
PQL				↑S	**Sn**	**21 25 37.7**	**+0.4**
VADZ	**Vardenis**	**1.15**	**260**	*e*P	**Pb**	**21 25 21.8**	**-1.0**
VADZ				*e*S	**Sb**	**21 25 37.0**	**-0.7**
AKT	**Akhty**	**1.16**	**19**	↓*e*PG	**Pn**	**21 25 22.7**	**0.0**
AKT				*e*		21 25 39.2	
AKT				pmax	pmax		
	comp=Z,472nm,0.5s						
AKT				smax	smax		
	comp=N,2μm,0.4s						
AKT	**Akhty**	**1.16**	**19**	*i* Pg	**Pg**	**21 25 22.9**	**-0.6**
AKT				*e*Sg	**Sn**	**21 25 39.4**	**+1.1**
GDB	**GEDABAY**	**1.17**	**287**	↑P	**Pb**	**21 25 21.5**	**-1.6**
GDB				↑S	**Sb**	**21 25 37.0**	**-1.1**
GBS	**Qobustan**	**1.32**	**83**	↓Pg	**Pg**	**21 25 26.4**	**-0.2**
	SNR=8.9						
GBS				↑Sg	**Sg**	**21 25 44.2**	**+0.5**
ZKTA	**Zakatala**	**1.33**	**340**	PG	**Pn**	**21 25 25.2**	**+0.1**
ZKTA	**Zakatala**	**1.33**	**340**	↑Pn	**Pn**	**21 25 25.0**	**-0.1**
	SNR=38						
ZKTA				↓Sn	**Sg**	**21 25 43.9**	**-0.3**
DDFL	**Dedoflistskaro**	**1.35**	**322**	P	**Pn**	**21 25 23.1**	**-2.2**
DDFL				S	**Sg**	**21 25 46.9**	**+2.0**
QUBA	**Quba, Azerbaij**	**1.36**	**44**	↑Pn	**Pn**	**21 25 24.4**	**-1.1**
	SNR=8.7						
QUBA				↑Sn	**Sg**	**21 25 44.6**	**-0.6**
QSAR	**Qusar**	**1.37**	**35**	↑Pn	**Pn**	**21 25 25.7**	**0.0**
	SNR=9.1						
QSAR				↑Sn	**Sg**	**21 25 44.9**	**-0.7**
ATGJ	**Altiaghaj**	**1.39**	**69**	↑Pn	**Pg**	**21 25 26.9**	**-1.0**
	SNR=60						
ATGJ				↓Sn	**Sn**	**21 25 44.4**	**+0.6**
KSMR	**Kasumkent**	**1.39**	**29**	*e*PG	**Pg**	**21 25 27.0**	**-1.0**
KSMR				*e*S	**Sg**	**21 25 46.0**	**-0.2**
KSMR				pmax	pmax		
	comp=Z,98nm,0.3s						
ALIB	**Äli-Bayra**	**1.43**	**107**	↑Pg	**Pg**	**21 25 28.1**	**-0.6**
	SNR=9.5						
ALIB				↓Sg	**Sg**	**21 25 46.3**	**-1.0**
SIZA	**Siyzn**	**1.44**	**61**	↓Pn	**Pg**	**21 25 28.0**	**-1.0**
	SNR=28						
SIZA				↓Sn	**Sg**	**21 25 47.3**	**-0.6**
GLBA	**Clilabad**	**1.46**	**142**	Pn	**Pn**	**21 25 26.2**	**-0.5**
	SNR=101						
GLBA				↑Sn	**Sb**	**21 25 46.5**	**+0.5**
QZX	**Qazax, Azerbai**	**1.56**	**296**	↑Pn	**Pn**	**21 25 28.0**	**-0.2**
	SNR=28						
QZX				↓Sn	**Sn**	**21 25 48.7**	**+0.6**
SBZ	**Shahbuz**	**1.62**	**233**	↑Pg	**Pn**	**21 25 29.8**	**+0.6**
SBZ				↓Sg	**Sn**	**21 25 50.7**	**+0.9**
LGD	**Lagodekhi**	**1.63**	**333**	P	**Pn**	**21 25 29.8**	**+0.7**
LGD				S	**Sg**	**21 25 52.6**	**-1.0**
LGD	**Lagodekhi**	**1.63**	**333**	PN	**Pn**	**21 25 29.8**	**+0.7**
LGD				S	**Sg**	**21 25 52.6**	**-1.0**
ORD	**Ordubad**	**1.74**	**214**	↓Pn	**Pn**	**21 25 31.0**	**+0.2**
ORD				↑Sn	**Sb**	**21 25 52.8**	**+0.2**
KMKR	**Kumukh**	**1.74**	**357**	*e*PN	**Pb**	**21 25 33.0**	**+0.1**
KMKR				*e*S	**Sg**	**21 25 57.3**	**-0.2**
KMKR				pmax	pmax		
	comp=Z,55nm,0.3s						
URKR	**Urkarakh**	**1.80**	**10**	↑*e*PN	**Pb**	**21 25 34.2**	**+0.4**
URKR				*e*		21 26 00.3	
NAX	**Nakhchivan**	**1.80**	**228**	PN	**Pb**	**21 25 32.8**	**-1.0**
NAX	**Nakhchivan**	**1.80**	**228**	↑Pg	**Pb**	**21 25 32.8**	**-1.0**
	SNR=9.1						
NAX				↑Sg	**Sb**	**21 25 57.4**	**+1.2**
DRN	**Derbent**	**1.84**	**27**	↓*e*PN	**Pg**	**21 25 36.7**	**+0.2**
DRN				*e*		21 26 01.2	
DRN				pmax	pmax		
	comp=Z,50nm,0.5s						
DRN				smax	smax		
	comp=N,87nm,0.6s						
DRN	**Derbent**	**1.84**	**27**	*e*Pg	**Pg**	**21 25 35.0**	**-1.5**
DRN				*e*Sg	**Sg**	**21 26 01.3**	**+0.9**
GNI	**Garni**	**1.92**	**264**	↓*i*PN	**Pb**	**21 25 35.3**	**-0.5**
GNI	**Garni**	**1.92**	**264**	*i* P	**Pb**	**21 25 34.9**	**-0.9**
GNI				*i* S	**Sb**	**21 26 01.0**	**+1.4**
GNI	**Garni**	**1.92**	**264**	Pn	**Pb**	**21 25 35.1**	**-0.7**
	comp=N,11nm,0.3s,baz=68,slow=3.6,SNR=59						
GNI				Lg	Lg	21 25 59.5	
	comp=N,11nm,0.3s,baz=55,slow=16,SNR=3.8						
HYR	**Heyderabad**	**1.94**	**251**	↓Pg	**Pb**	**21 25 35.1**	**-1.0**
HYR				↓Sg	**Sb**	**21 26 01.8**	**+1.6**
LRK	**Lerik**	**1.94**	**153**	Pn	**Pn**	**21 25 33.4**	**-0.2**
	SNR=159						
LRK				↓Sn	**Sn**	**21 25 58.7**	**+1.0**
GNBR	**Gunib**	**2.01**	**354**	↓*e*PN	**Pb**	**21 25 37.5**	**+0.2**
GNBR				pmax	pmax		
	comp=Z,58nm,0.7s						
GNBR	**Gunib**	**2.01**	**354**	*i* Pg	**Pb**	**21 25 37.6**	**+0.2**
GNBR				*e*Sg	**Sg**	**21 26 04.7**	**-1.1**
LKRN	**Lenkeran, Azer**	**2.06**	**144**	PN	**Pn**	**21 25 34.9**	**-0.1**
LKRN	**Lenkeran, Azer**	**2.06**	**144**	Pn	**Pn**	**21 25 34.9**	**-0.1**
	SNR=121						
LKRN				↓Sn	**Sn**	**21 26 01.3**	**+1.0**
XNZR	**Khunzakh**	**2.19**	**350**	↑*e*PN	**Pb**	**21 25 39.9**	**-0.5**
XNZR				*e*		21 26 08.4	
ASTR	**Astara**	**2.19**	**146**	↓Pn	**Pn**	**21 25 36.7**	**-0.1**
	SNR=65						
ASTR				↑Sn	**Sn**	**21 26 04.2**	**+0.7**
STEZ	**Stepenevan**	**2.24**	**287**	*e*P	**Pn**	**21 25 38.0**	**+0.4**
STEZ				*e*S	**Sb**	**21 26 08.5**	**-0.2**
BTNK	**Botanikuri**	**2.25**	**306**	P	**Pn**	**21 25 38.8**	**+1.2**
BTNK				S	**Sb**	**21 26 09.1**	**+0.1**
BTNK	**Botanikuri**	**2.25**	**306**	*i* P	**Pb**	**21 25 39.9**	**-1.5**
BTNK				*i* S	**Sb**	**21 26 08.6**	**-0.3**
BTNK				IAML_P			
	comp=Z,2μm,0.1s						
TBLG	**Delisi**	**2.31**	**306**	P	**Pn**	**21 25 39.7**	**+1.1**
TBLG				S	**Sb**	**21 26 10.3**	**-0.5**
TBLG	**Delisi**	**2.31**	**306**	PN	**Pn**	**21 25 40.0**	**+1.5**
TBLG				S	**Sb**	**21 26 10.3**	**-0.5**
TBLG	**Delisi**	**2.31**	**306**	*i* P	**Pb**	**21 25 40.8**	**-1.6**
TBLG				*i* S	**Sb**	**21 26 10.1**	**-0.7**
TBLG				IAML_P			
	comp=Z,2μm,0.1s						
KZRT	**Kazreti**	**2.37**	**296**	P	**Pn**	**21 25 39.7**	**+0.4**
KZRT				S	**Sb**	**21 26 10.8**	**-1.5**
BTLR	**Botlikh**	**2.40**	**342**	↓*e*PN	**Pn**	**21 25 41.7**	**+1.9**
BTLR				*e*		21 26 13.2	
BTLR				pmax	pmax		
	comp=Z,29nm,0.8s						
BTLR				smax	smax		
	comp=N,31nm,0.6s						
BTLR	**Botlikh**	**2.40**	**342**	*i* Pn	**Pb**	**21 25 42.0**	**-1.9**
BTLR				*e*Sn	**Sb**	**21 26 12.4**	**-0.9**
IGDI	**IGDIR**	**2.47**	**259**	*i* P	**Pn**	**21 25 42.0**	**+1.2**
IGDI				IAML_P			
	comp=Z,56nm,0.2s						
MAK	**Makhachkala**	**2.58**	**5**	*e*PN	**Pn**	**21 25 42.1**	**-0.1**
MAK				*e*		21 26 25.1	
MAK				pmax	pmax		
	comp=Z,45nm,0.3s						
TRLG	**Trialeti**	**2.63**	**297**	P	**Pn**	**21 25 44.7**	**+1.6**
TRLG				S	**Sb**	**21 26 18.3**	**-1.8**
DBC	**Dubki**	**2.65**	**354**	↑*e*PN	**Pb**	**21 25 48.4**	**+0.2**
DBC				*e*		21 26 23.9	
DBC	**Dubki**	**2.65**	**354**	*e*Pn	**Pn**	**21 25 45.6**	**+2.4**
DBC				*e*Sn	**Sb**	**21 26 18.8**	**-1.7**
DVE	**Vedeno**	**2.70**	**343**	*e*PN	**Pn**	**21 25 46.1**	**+2.3**
DVE				pmax	pmax		
	comp=Z,40nm,0.4s						
DVE	**Vedeno**	**2.70**	**343**	*e*Pn	**Pn**	**21 25 46.2**	**+2.3**
DVE				*e*Sn	**Sb**	**21 26 20.3**	**-1.5**
EAK	**Akyaka**	**2.77**	**277**	*i* P	**Pb**	**21 25 49.6**	**-0.8**
EAK				IAML_P			
	comp=Z,435nm,0.2s						
GUDG	**Gudauri**	**2.93**	**316**	P	**Pn**	**21 25 48.8**	**+1.6**
GUDG				S	**Sn**	**21 26 23.6**	**+1.5**
GROC	**Groznyy**	**3.01**	**340**	*e*PN	**Pn**	**21 25 47.7**	**-0.4**
GROC				*e*		21 25 56.2	
GROC				*e*		21 26 34.6	
GROC				*e*		21 26 41.5	
GROC				pmax	pmax		
	comp=Z,22nm,0.6s						
GROC				smax	smax		
	comp=E,41nm,1.0s						
GROC				smax	smax		
	comp=E,110nm,1.2s						
KMGR	**Komgaron**	**3.20**	**327**	↑*e*PN	**Pb**	**21 25 57.8**	**+0.2**
VLKR	**Vladikavkaz**	**3.27**	**325**	*i* PN	**Pn**	**21 25 54.9**	**+3.1**
LACR	**Lac**	**3.28**	**319**	*e*PN	**Pn**	**21 25 53.4**	**+1.4**
LACR				pmax	pmax		
	comp=Z,20nm,0.3s						
LACR	**Lac**	**3.28**	**319**	*e*Pn	**Pn**	**21 25 54.3**	**+2.4**
LACR				*e*Sn	**Sn**	**21 26 34.6**	**+3.9**
ZEI	**Tsey**	**3.46**	**315**	*e*PN	**Pn**	**21 25 56.4**	**+1.9**
ZEI				*e*S	**Sn**	**21 26 38.7**	**+3.5**
ZEI	**Tsey**	**3.46**	**315**	*e*Pn	**Pn**	**21 25 56.4**	**+1.9**
ZEI				*e*Sn	**Sn**	**21 26 38.7**	**+3.5**
EPOS	**Posof**	**3.58**	**290**	*i* P	**Pb**	**21 26 03.2**	**-1.0**
ONI	**Oni**	**3.59**	**309**	P	**Pn**	**21 25 58.1**	**+2.0**
ONI	**Oni**	**3.59**	**309**	PN	**Pn**	**21 25 58.1**	**+2.0**
LSNR	**Lesken**	**3.85**	**320**	*ce*PN	**Pb**	**21 26 07.7**	**-0.9**
DAGI	**Agillar**	**4.09**	**281**	*i* P	**Pb**	**21 26 15.2**	**+2.3**
NCK	**Nalchik**	**4.12**	**320**	*i* PN	**Pn**	**21 26 05.4**	**+2.0**
NEY	**Neytrino**	**4.42**	**312**	*i* PN	**Pn**	**21 26 06.7**	**-0.9**
KBZ	**Khabaz**	**4.64**	**317**	Pn	**Pn**	**21 26 14.5**	**+4.0**
	comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=3.3						
KBZ				Pg	**Pg**	**21 26 27.9**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=258,slow=3.8,SNR=6.0						
KBZ				Lg	Lg	21 27 30.2	
	comp=Z,0.4nm,0.3s,baz=312,slow=16,SNR=3.7						
SHA1	**Shidzhatmaz**	**4.77**	**316**	*i* PN	**Pn**	**21 26 14.5**	**+1.9**
KVAR	**Kislovodsk Arr**	**4.90**	**318**	Pn	**Pn**	**21 26 17.9**	**+3.7**
	baz=140,slow=7.9,SNR=3.1						
GEYT	**Alibeck**	**8.81**	**103**	Pn	**Pn**	**21 27 06.0**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=285,slow=16,SNR=3.9						
GEYT				Sn	**Sn**	**21 28 44.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=18,slow=9.7,SNR=2.6						
AKTO	**Aktyubinsk**	**12.57**	**33**	Pn	**Pn**	**21 27 58.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=228,slow=16,SNR=2.4						
KIEV	**Kiev**	**16.25**	**315**	*i* P	**P**	**21 28 51.4**	**-0.1**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.2s						
OBN	**Obninsk**	**16.35**	**338**	*i* P	**Pn**	**21 28 50.7**	**+0.9**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARU	**Arti**	**17.69**	**21**	*i* P	**P**	**21 29 07.6**	**+0.2**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.8s						
BRVK	**Borovoye**	**20.15**	**43**	*i* P	Pn	21 29 38.0	+1.7
BVAR	**Borovoye Array**	**20.19**	**44**	P	**P**	**21 29 33.5**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=258,slow=6.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**24.04**	**54**	P	**P**	**21 30 15.3**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=260,slow=9.2,SNR=2.6						
KURK	**Kurchatov**	**24.12**	**54**	*i* P	**P**	**21 30 17.9**	**+2.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.5s						
FINES	**FINESS Array B**	**24.72**	**336**	P	**P**	**21 30 20.4**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=134,slow=9.9,SNR=2.3						
GERES	**GERESS Array B**	**25.15**	**301**	P	**P**	**21 30 25.9**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=96,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**26.04**	**64**	*i* P	**P**	**21 30 35.4**	**+2.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**26.04**	**64**	P	**P**	**21 30 32.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=268,slow=9.5,SNR=6.6						

ISCJB 27 21:43:04.1±0.5, 41°56N±0°03×142°07E±0°06, h70km±5km, mb3.4/6, Error ellipse: s-maj=8.4km s-min=4.9km az=23.0
JMA 27 21:43:04.5±0.1, 41°58N×142°09E, h63km±2km, M3.3
IDC 27 21:43:06.8±2.0, 41°59N×142°21E, h87km±17km, mb3.2/6, mb1 3.2/10, mb1mx3.1/44, mbtmp3.4/10, Error ellipse: s-maj=27.3km s-min=14.3km az=114.0

ISC 27 21:43:05.1±0.9, 41°56N±0°04×142°09E±0°05, h64km±9km, n33, σ1°17/36, mb3.5/6, 1C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.64**	**243**	↓P	**Pn**	**21 43 18.8**	**0.0**
JAHD				eS	**Sn**	**21 43 29.1**	**+0.3**
JARK	**Aomorirokkasho**	**0.78**	**225**	P	**Pn**	**21 43 20.0**	**-0.4**
JARK				eS	**Sn**	**21 43 31.0**	**-0.7**
JOT	**Ohata**	**0.80**	**257**	↓P	**Pn**	**21 43 20.3**	**-0.4**
JOT				eS	**Sn**	**21 43 31.6**	**-0.7**
JKB	**Kayabe**	**0.85**	**293**	↓P	**Pn**	**21 43 20.5**	**-0.9**
JKB				eS	**Sn**	**21 43 32.7**	**-0.7**
JNBK	**Urakawa-nobuka**	**0.87**	**34**	P	**Pn**	**21 43 20.8**	**-0.9**
JEM	**Erimo**	**0.92**	**60**	↑P	**Pn**	**21 43 21.6**	**-0.6**
JIAM	**Iburiatsuma**	**1.07**	**353**	P	**Pn**	**21 43 24.4**	**+0.3**
JTM	**Tenmabayashi**	**1.09**	**225**	↓P	**Pn**	**21 43 24.4**	**0.0**
JTM				eS	**Sn**	**21 43 38.4**	**-0.4**
JNB	**Noboribetsu**	**1.20**	**320**	↓P	**Pn**	**21 43 24.8**	**-1.0**
JNB				eS	**Sn**	**21 43 39.9**	**-1.4**
JBT2	**Biratori 2**	**1.23**	**9**	P	**Pn**	**21 43 26.0**	**-0.3**
JSR	**Shiriuchi**	**1.25**	**269**	P	**Pn**	**21 43 26.2**	**-0.3**
JANG	**Nango**	**1.26**	**200**	P	**Pn**	**21 43 26.3**	**-0.4**
JANG				eS	**Sn**	**21 43 42.2**	**-0.7**
JEW	**Eniwo**	**1.36**	**340**	↓P	**Pn**	**21 43 27.9**	**-0.1**
JEW				eS	**Sn**	**21 43 45.0**	**-0.2**
JYM2	**Yakumo 2**	**1.40**	**294**	↓P	**Pn**	**21 43 28.4**	**-0.1**
JCH	**Churui**	**1.42**	**42**	P	**Pn**	**21 43 29.0**	**+0.3**
JFR	**Furan**	**1.65**	**13**	P	**Pn**	**21 43 31.5**	**-0.3**
JOSM	**Okushiri--Mats**	**2.02**	**286**	P	**Pn**	**21 43 36.1**	**-0.7**
ASAJ	**Asahikawa**	**2.58**	**8**	P	**Pn**	**21 43 45.4**	**+0.9**
	4.3nm,0.3s,baz=191,slow=13,SNR=26						
ASAJ				S	**Sn**	**21 44 17.0**	**+2.3**
	3.3nm,0.3s,baz=353,slow=24,SNR=7.1						
MJAR	**Matsushiro Arr**	**5.85**	**212**	P	**Pn**	**21 44 32.3**	**+3.1**
	0.0nm,0.3s,baz=22,slow=13,SNR=3.1						
USRK	**Usuriysk Ar.**	**7.87**	**293**	P	**Pn**	**21 44 59.0**	**+2.3**
	0.1nm,0.3s,baz=97,slow=12,SNR=2.3						
KSRS	**Korea Array**	**11.68**	**254**	P	**Pn**	**21 45 52.2**	**+3.3**
	0.2nm,0.3s,baz=65,slow=14,SNR=3.2						
SONM	**Songino Array**	**25.97**	**296**	P	**P**	**21 48 31.6**	**-0.1**
	0.3nm,0.5s,baz=82,slow=8.8,SNR=3.6						
H11N2	**WAKE ISLAND Hy**	**30.29**	**128**	T	T	22 21 45.8	
	baz=322,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**30.30**	**128**	T	T	22 21 46.4	
	baz=322,slow=76,SNR=16						
H11N3	**WAKE ISLAND Hy**	**30.31**	**128**	T	T	22 21 46.9	
	baz=322,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hy**	**31.13**	**130**	T	T	22 22 40.9	
	baz=323,slow=76,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**31.14**	**130**	T	T	22 22 42.3	
	baz=323,slow=76,SNR=9.7						
H11S2	**WAKE ISLAND Hy**	**31.15**	**130**	T	T	22 22 43.3	
	baz=323,slow=76,SNR=9.7						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**21 50 28.1**	**-0.1**
	0.5nm,0.5s,baz=86,slow=9.8,SNR=3.0						
MKAR	**Makanchi Array**	**42.30**	**298**	P	**P**	**21 50 52.4**	**0.0**
	0.2nm,0.5s,baz=80,slow=7.9,SNR=2.8						
ILAR	**Eielson Array**	**45.44**	**35**	P	**P**	**21 51 15.7**	**-1.5**
	0.3nm,0.5s,baz=260,slow=5.1,SNR=4.6						
WRA	**Warramunga Arr**	**61.61**	**188**	P	**P**	**21 53 15.5**	**-0.5**
	0.4nm,1.0s,baz=6.3,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**65.07**	**332**	P	**P**	**21 53 37.5**	**-0.9**
	1.1nm,0.8s,baz=38,slow=9.5,SNR=5.6						

IDC 27 21:47:00.8±3.3, 23°26S×179°16E, h681km±56km, mb2.9/4, mb1 3.1/4, mb1mx2.7/38, mbtmp4.0/4, Error ellipse: s-maj=92.2km s-min=27.3km az=175.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res

*ISCJB **27** 22:08:53.4±0.5, 6°.88N±0°.03×73°.13W±0°.05, h159km±4km, mb3.4/4, Error ellipse: s-maj=7.4km s-min=5.2km az=5.9*
*RSNC **27** 22:08:55.4±1.5, 6°.84N×73°.10W, h148km±7km, ML3.7, Mw3.7*
*IDC **27** 22:08:56.3±3.6, 6°.74N×73°.44W, h174km±28km, mb3.1/4, mb1 3.4/5, mb1mx3.0/35, mbtmp3.6/5, Error ellipse: s-maj=82.0km s-min=32.6km az=87.0*

ISC 27 22:08:54.0±0.8, 6°.87N±0°.04×73°.12W±0°.05, h155km±6km, n24, σ1°13/40, mb3.5/4, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**193**	*eP*	**Pn**	**22 09 15.5**	**0.0**
BARC				*eS*	**Sn**	**22 09 30.5**	**-1.4**
BARC				*i*		22 09 33.2	
	comp=Z,830nm,0.4s						
PAMC	**Pamplona, Colo**	**0.62**	**42**	⇑*iP*	**Pn**	**22 09 18.2**	**+1.0**
PAMC				*eS*	**Sn**	**22 09 35.2**	**+0.3**
PAMC				*i*		22 09 36.8	
	comp=N,758nm,0.4s						
BRRC	**Barranca, Sant**	**0.64**	**292**	⇑*iP*	**Pn**	**22 09 17.3**	**+0.7**
BRRC				*eS*	**Sn**	**22 09 34.4**	**+0.4**
BRRC				*i*		22 09 35.5	
	comp=N,1000nm,0.2s						
RUSC	**La Rusia**	**0.97**	**178**	⇓*iP*	**Pn**	**22 09 19.3**	**-0.3**
RUSC				*eS*	**Sn**	**22 09 38.1**	**-1.2**
RUSC				*i*		22 09 39.7	
	comp=N,307nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.37**	**256**	*eP*	**Pn**	**22 09 22.0**	**-0.7**
PTBC				*eS*	**Sn**	**22 09 43.2**	**-1.4**
PTBC				*i*		22 09 49.1	
	comp=N,1μm,0.5s						
OCAC	**Ocana**	**1.37**	**352**	*eP*	**Pn**	**22 09 23.5**	**+0.6**
OCAC				*eS*	**Sn**	**22 09 46.3**	**+1.2**
OCAC				*i*		22 09 51.0	
	comp=N,1μm,0.3s						
TAMC	**Tame, Arauca**	**1.39**	**108**	⇓*iP*	**Pn**	**22 09 23.7**	**+0.8**
TAMC				*eS*	**Sn**	**22 09 43.6**	**-1.4**
TAMC				*i*		22 09 46.1	
	comp=N,414nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.83**	**290**	*eP*	**Pn**	**22 09 28.1**	**+0.5**
ZARC				*eS*	**Sn**	**22 09 54.2**	**+0.8**
ZARC				*i*		22 09 58.9	
	comp=N,787nm,0.4s						
CTAU	**Tausa, Cundina**	**1.90**	**209**	*eP*	**Pn**	**22 09 32.4**	**+3.6**
SMLC	**San Martn de**	**2.14**	**334**	*eP*	**Pn**	**22 09 31.8**	**+0.7**
SMLC				*eS*	**Sn**	**22 09 59.5**	**-0.2**
SMLC				*i*		22 10 02.1	
	comp=N,367nm,0.3s						
CTAB	**Cerro Tablazo,**	**2.14**	**210**	*eP*	**Pn**	**22 09 32.9**	**+1.3**
NORC	**Norcasia**	**2.17**	**233**	*eP*	**Pn**	**22 09 31.3**	**-0.3**
NORC				*eS*	**Sn**	**22 09 59.7**	**-0.8**
NORC				*i*		22 10 05.8	
	comp=N,534nm,0.2s						
CHIC	**Chingaza**	**2.31**	**195**	*eP*	**Pn**	**22 09 33.5**	**0.0**
CHIC				*eS*	**Sn**	**22 10 03.5**	**-0.5**
CHIC				*i*		22 10 12.6	
	comp=Z,123nm,0.4s						
ROSC	**El Rosal**	**2.35**	**211**	*eP*	**Pn**	**22 09 35.0**	**+1.1**
ROSC				*eS*	**Sn**	**22 10 05.7**	**+0.9**
ROSC				*i*		22 10 13.2	
	comp=Z,284nm,0.4s						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**22 09 35.3**	**+1.3**
	comp=Z,32nm,0.3s,baz=71,slow=14,SNR=41						
ROSC				S	**Sn**	**22 10 03.6**	**-1.2**
	comp=Z,18nm,0.3s,baz=127,slow=19,SNR=7.6						
HELC	**Santa Helena**	**2.49**	**254**	*eP*	**Pn**	**22 09 37.4**	**+1.7**
HELC				*eS*	**Sn**	**22 10 08.5**	**+0.8**
HELC				*i*		22 10 14.4	
	comp=N,188nm,0.3s						
UREC	**San Jos de Ur**	**2.55**	**290**	*eP*	**Pn**	**22 09 35.4**	**-0.6**
CODC	**Agustn Codazz**	**3.06**	**354**	*eP*	**Pn**	**22 09 42.8**	**+0.4**
CODC				*eS*	**Sn**	**22 10 20.7**	**+0.8**
CODC				*i*		22 10 24.0	
	comp=N,60nm,0.4s						
SJCC	**San Jacinto, C**	**3.63**	**326**	*eP*	**Pn**	**22 09 49.2**	**-0.5**
SJCC				*eS*	**Sn**	**22 10 30.9**	**-2.2**
SJCC				*i*		22 10 34.4	
	comp=N,185nm,0.4s						
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**22 15 43.3**	**-0.7**
	comp=N,0.2nm,0.5s,baz=138,slow=8.5,SNR=2.6						
ULM	**Lac du Bonnet**	**47.24**	**340**	P	**P**	**22 17 11.2**	**0.0**
	comp=N,1.1nm,0.4s,baz=149,slow=7.0,SNR=3.4						
PDAR	**Pinedale Array**	**48.04**	**324**	P	**P**	**22 17 18.5**	**+0.6**
	comp=N,0.2nm,0.4s,baz=137,slow=9.4,SNR=2.1						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**22 19 05.7**	**+0.3**
	comp=N,0.6nm,0.5s,baz=131,slow=6.7,SNR=16						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**22 28 27.0**	**-1.0**
	comp=N,0.6nm,1.0s,baz=103,slow=3.1,SNR=6.0						

MEX 27 22:09:53.8±0.5, 16°.91N×100°.80W, h18km±32km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.53**	**75**	*i* P	Pg	22 10 02.5	-1.9
CAIG				*eS*	Sg	22 10 09.2	-2.4
ZIIG	**Zihuatanejo**	**0.94**	**318**	*eP*	Pb	22 10 08.5	-3.1
ZIIG				*eS*	Sb	22 10 19.7	-4.0
ARIG	**Puente Sto Nin**	**1.43**	**18**	*eP*	Pn	22 10 16.0	-2.9
ARIG				*eS*	Sn	22 10 32.2	-5.0
MEIG	**Mezcala**	**1.52**	**48**	*i* P	Pn	22 10 17.2	-2.9
MEIG				*eS*	Sn	22 10 34.6	-4.7
PLIG	**Platanillo**	**1.93**	**40**	*eP*	Pn	22 10 22.9	-2.8
PLIG				*eS*	Sn	22 10 45.8	-3.8
YAIG	**Yautepec**	**2.55**	**40**	*i* P	Pn	22 10 32.6	-1.8
YAIG				*i* S	Sn	22 11 01.0	-4.0

MEX 27 22:28:40.8±0.7, 16°.19N×98°.23W, h2km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.22**	**27**	*i* P	Pg	22 28 44.5	-0.6
PNIG				*i* S	Sg	22 28 48.7	+0.7

IDC 27 22:46:28.9±0.9, 14°.98S×178°.86W, h450km±112km, mb3.2/7, mb1 3.6/7, mb1mx3.2/32, mbtmp3.9/7, Error ellipse: s-maj=98.0km s-min=28.1km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.81**	**257**	P	P	22 54 01.3	-0.3
	0.5nm,0.8s,baz=93,slow=7.3,SNR=2.5						
ASAR	**Alice Springs**	**45.24**	**251**	P	P	22 54 04.8	-0.1
	6.6nm,0.5s,baz=84,slow=8.4,SNR=84						
NVAR	**Mina Array Bea**	**77.64**	**44**	P	P	22 57 38.1	0.0
	1.2nm,0.7s,baz=224,slow=9.8,SNR=11						
ILAR	**Eielson Array**	**83.15**	**13**	P	P	22 58 06.2	+0.1
	0.9nm,0.6s,baz=236,slow=5.6,SNR=18						
TXAR	**Lajitas Array**	**84.81**	**58**	P	P	22 58 15.5	+0.2
	0.2nm,0.6s,baz=220,slow=6.4,SNR=5.9						
PDAR	**Pinedale Array**	**85.54**	**44**	P	P	22 58 18.4	-0.4
	0.6nm,0.6s,baz=230,slow=2.8,SNR=7.5						
YKA	**Yellowknife Ar**	**91.87**	**25**	P	P	22 58 47.4	-0.1
	0.2nm,0.7s,baz=243,slow=4.4,SNR=5.1						
BRTR	**Keskin Array B**	**142.39**	**317**	PKP	PKPdf	23 05 08.5	-1.5
	0.9nm,0.8s,baz=350,slow=1.8,SNR=4.9						
GERES	**GERESS Array B**	**144.69**	**346**	PKP	PKPab	23 05 13.9	-0.1
	0.4nm,0.6s,baz=26,slow=2.5,SNR=5.3						

*ISCJB **27** 23:01:47.5±0.6, 79°.62N±0°.08×3°.5E±0°.2, h10km, mb3.3/1, MS2.9/3, Error ellipse: s-maj=11.6km s-min=5.2km az=19.1*
*IDC **27** 23:01:49.8±1.5, 79°.70N×2°.61E, h0km, mb3.5/1, mb1 3.8/5, mb1mx3.3/55, mbtmp3.7/5, ML3.5/4, MS2.9/4, Ms1 2.9/4, ms1mx2.6/35, Error ellipse: s-maj=43.3km s-min=21.6km az=30.0*
*BER **27** 23:01:52.4±2.6, 79°.88N×4°.52E, h15km±140km, ML2.7, ML3.3(NAO), Confirmed Earthquake*
*NAO **27** 23:01:53.6±3.5, 79°.82N×5°.93E, h3km±17km, ML3.3*
*IEPN **27** 23:01:54.0, 79°.73N×5°.13E, h15km, station ZFI2 has station magnitude of 3.40*

ISC 27 23:01:49.1±0.9, 79°.58N±0°.09×3°.11E±0°.05, h10km, n34, σ2°31/43, MS3.0/3, 3C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.78**	**107**	Pg	**Pn**	**23 02 19.8**	**0.0**
KBS				Lg	Lg	23 02 39.2	
KBS	**Kingsbay**	**1.78**	**107**	⇑*iP*	**Pn**	**23 02 19.6**	**-0.3**
KBS				*i* S	**Sn**	**23 02 39.0**	**-3.5**
KBS	**Kingsbay**	**1.78**	**107**	*eP*	**Pn**	**23 02 19.5**	**-0.3**
KBS				*eS*	**Sn**	**23 02 39.2**	**-3.3**
KBS				IAML		23 02 39.8	
	comp=Z,145nm,0.1s						
BRBA	**Barentsburg A**	**2.65**	**120**	Pn	**Pn**	**23 02 33.1**	**+1.3**
BRBA				Sn	**Sn**	**23 03 02.0**	**-1.8**
BRBA	**Barentsburg A**	**2.65**	**120**	Pn	**Pn**	**23 02 33.1**	**+1.3**
BRBA				Sn	**Sn**	**23 03 02.0**	**-1.8**
SPA0	**Spitsbergen Ar**	**2.93**	**112**	Pn	**Pn**	**23 02 36.2**	**+0.6**
	baz=323,slow=11						
SPA0				Sn	**Sn**	**23 03 07.6**	**-3.2**
	baz=321,slow=28						
SPA0	**Spitsbergen Ar**	**2.93**	**112**	⇑*iP*	**Pn**	**23 02 36.3**	**+0.6**
SPA0				*i* S	**Sn**	**23 03 07.8**	**-2.9**
SPA0	**Spitsbergen Ar**	**2.93**	**112**	Pn	**Pn**	**23 02 36.2**	**+0.6**
	baz=323,slow=11						
SPA0				Sn	**Sn**	**23 03 07.6**	**-3.2**
	baz=321,slow=28						
HSP	**Hornsund**	**3.61**	**129**	Pn	**Pn**	**23 02 46.0**	**+1.0**
HSP				Sn	**Sn**	**23 03 25.3**	**-2.4**
HSPB	**Hornsund (broa**	**3.62**	**129**	*eP*	**Pn**	**23 02 46.1**	**+1.0**
HSPB				*eS*	**Sn**	**23 03 25.4**	**-2.3**
HSPB				IAML		23 03 29.8	
	comp=Z,35nm,0.3s						
DAG	**Danmarks Havn**	**5.26**	**249**	⇑*iP*	**Pn**	**23 03 08.2**	**+0.6**
DAG				*i* S	**Sn**	**23 04 02.5**	**-5.6**
HOPEN	**Hopen**	**5.46**	**113**	Pn	**Pn**	**23 03 10.5**	**+0.1**
HOPEN				Sn	Sn	23 04 07.6	-5.5
HOPEN	**Hopen**	**5.46**	**113**	*eP*	**Pn**	**23 03 10.3**	**0.0**
HOPEN				*eS*	Sn	23 04 07.6	-5.5
HOPEN				IAML		23 04 13.4	
	comp=Z,22nm,0.3s						
BJO1	**Bjornoya**	**6.20**	**137**	Pn	**Pn**	**23 03 22.9**	**+2.4**
BJO	**Bjornoya**	**6.22**	**137**	*eP*	**Pn**	**23 03 22.8**	**+2.1**
ZFI2	**Zemlya Franca-**	**7.54**	**59**	*eP*	**Pn**	**23 03 38.1**	**-0.7**
ZFI2				*eS*	Sn	23 04 54.9	-9.1
	comp=Z,10.0nm,0.6s						
KEV	**Kevo**	**11.56**	**135**	Pn	**Pn**	**23 04 35.5**	**+1.7**
KEV	**Kevo**	**11.56**	**135**	Pn	**Pn**	**23 04 35.5**	**+1.7**
KIF	**Kilpisjarvi**	**11.56**	**147**	Pn	**Pn**	**23 04 35.9**	**+2.0**
KIF	**Kilpisjarvi**	**11.56**	**147**	Pn	**Pn**	**23 04 35.9**	**+2.0**
ARA0	**ARCESS Array S**	**11.58**	**138**	Pn	**Pn**	**23 04 35.5**	**+1.4**
	baz=348,slow=12						
ARA0				Sn	**Sn**	**23 06 38.6**	**-4.6**
	baz=350,slow=22						
ARA0	**ARCESS Array S**	**11.58**	**138**	Pn	**Pn**	**23 04 35.5**	**+1.4**
	baz=348,slow=12						
ARA0				Sn	**Sn**	**23 06 38.6**	**-4.6**
	baz=350,slow=22						
ARCES	**ARCESS Array B**	**11.58**	**138**	Pn	**Pn**	**23 04 35.6**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=347,slow=11,SNR=17						
ARCES				Sn	Sn	23 06 38.1	-5.1
	comp=Z,0.2nm,0.3s,baz=356,slow=22,SNR=2.6						
SUMG	**Summit**	**11.87**	**256**	*iP*	**Pn**	**23 04 38.6**	**+0.2**
AMDE	**Amderma**	**17.28**	**92**	*eP*	**Pn**	**23 05 49.5**	**-0.5**
AMDE				*i* S	Sn	23 08 48.0	-14
SFJD	**Kangerlussuaq**	**18.83**	**259**	P	**Pn**	**23 06 09.2**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=28,slow=11,SNR=7.8						
FIA0	**FINESS Array S**	**19.46**	**146**	P	**Pn**	**23 06 19.6**	**+2.9**
	baz=11,slow=16						
FIA0	**FINESS Array S**	**19.46**	**146**	P	**Pn**	**23 06 19.6**	**+2.9**
	baz=11,slow=16						
FINES	**FINESS Array B**	**19.46**	**146**	P	**Pn**	**23 06 19.6**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=348,slow=15,SNR=4.9						
FINES				LR	LR	23 15 06.2	
	comp=Z,19nm,18.1s,baz=46,slow=41						
RES	**Resolute Bay**	**19.75**	**309**	P	**Pn**	**23 06 19.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=22,slow=14,SNR=3.9						
FRB	**Frobisher Bay**	**25.02**	**273**	LR	LR	23 17 40.5	
	comp=Z,40nm,19.0s,baz=290,slow=38						
ZALV	**Zalesovo Beam**	**36.04**	**84**	LR	LR	23 27 26.3	
	comp=Z,20nm,19.1s,baz=72,slow=42						
MKAR	**Makanchi Array**	**42.44**	**90**	P	**P**	**23 09 46.2**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=346,slow=7.6,SNR=8.6						
SONM	**Songino Array**	**45.70**	**66**	LR	LR	23 30 24.0	
	comp=Z,16nm,19.5s,baz=80,slow=38						

*ISCJB **27** 23:03:50.0±0.7, 14°.9N±0°.1×118°.90E±0°.09, h22km, mb3.8/9, Error ellipse: s-maj=18.5km s-min=8.3km az=33.3*
*IDC **27** 23:03:54.6±2.4, 14°.83N×119°.00E, h46km±24km, mb3.6/9, mb1 3.8/11, mb1mx3.5/47, mbtmp3.8/11, ML4.5/2, MS3.1/5, Ms1 3.1/5, ms1mx2.7/41, Error ellipse: s-maj=23.9km s-min=14.3km az=59.0*

ISC 27 23:03:51.4±0.8, 14°.8N±0°.1×119°.1E±0°.1, h22km, n15, σ0°39/15, mb3.7/9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**1.96**	**111**	P	**Pb**	**23 04 25.7**	**-0.8**
	182nm,0.3s,baz=251,slow=6.3,SNR=36						
TGY				S	**Sb**	**23 04 51.0**	**+0.4**
	102nm,0.3s,baz=5.7,slow=19,SNR=3.7						
TGY				LR	LR	23 05 28.5	
	comp=Z,475nm,18.1s,baz=246,slow=47						
TGY	**Tagaytay City**	**1.96**	**111**	⇓*iP*	**Pb**	**23 04 26.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.60**	**283**	P	**Pn**	**23 08 19.4**	**-0.3**
	0.5nm,0.3s,baz=98,slow=10,SNR=14						
CMAR				LR	LR	23 15 58.4	
	comp=Z,25nm,18.1s,baz=90,slow=37						
KSRS	**Korea Array**	**23.89**	**18**	LR	LR	23 19 10.7	
	comp=Z,22nm,19.4s,baz=250,slow=38						
BRDH	**Bariadhala**	**27.07**	**291**	LR	LR	23 21 57.2	
	comp=Z,44nm,19.1s,baz=154,slow=40						
SONM	**Songino Array**	**34.56**	**345**	P	**P**	**23 10 38.1**	**-0.3**
	0.6nm,0.6s,baz=166,slow=8.7,SNR=4.4						
KLR	**Kul'dur**	**35.87**	**14**	P	**P**	**23 10 49.5**	**0.0**
	1.1nm,0.9s,baz=221,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**37.67**	**156**	P	**P**	**23 11 05.0**	**-0.2**
	0.8nm,0.6s,baz=332,slow=9.9,SNR=9.6						
WRA				PcP	**PcP**	**23 13 22.9**	**+0.4**
	0.3nm,0.7s,baz=341,slow=3.0,SNR=4.9						
ASAR	**Alice Springs**	**40.91**	**159**	P	**P**	**23 11 32.6**	**+0.3**
	2.1nm,0.6s,baz=338,slow=7.0,SNR=19						
ASAR				PcP	**PcP**	**23 13 32.9**	**+0.2**
	0.5nm,0.4s,baz=345,slow=2.9,SNR=4.1						
MKAR	**Makanchi Array**	**44.19**	**324**	P	**P**	**23 11 58.9**	**+0.2**
	0.6nm,0.9s,baz=125,slow=9.3,SNR=4.6						
HNR	**Honiara**	**47.16**	**118**	LR	LR	23 31 23.1	
	comp=Z,40nm,19.1s,baz=260,slow=35						
ZALV	**Zalesovo Beam**	**47.34**	**333**	P	**P**	**23 12 23.1**	**-0.4**
	0.3nm,0.4s,baz=115,slow=8.2,SNR=2.4						
PETK	**Petropavlovsk-**	**48.85**	**30**	P	**P**	**23 12 35.4**	**+0.2**
	4.3nm,0.7s,baz=213,slow=5.1,SNR=3.7						
ILAR	**Eielson Array**	**78.45**	**26**	P	**P**	**23 15 50.4**	**0.0**
	0.3nm,1.0s,baz=269,slow=6.0,SNR=3.1						
YKA	**Yellowknife Ar**	**92.36**	**22**	P	**P**	**23 17 00.4**	**+0.5**
	0.5nm,0.7s,baz=312,slow=4.3,SNR=11						

*ATH **27** 23:11:31.6, 40°.43N×20°.69E, h22km±5km, ML2.2/4, Error ellipse: s-maj=6.0km s-min=1.2km az=109.0*
*ISCJB **27** 23:11:32.3±0.4, 40°.43N±0°.02×20°.72E±0°.03, h6km±8km, Error ellipse: s-maj=4.1km s-min=3.5km az=37.7*
*THE **27** 23:11:32.4, 40°.43N×20°.70E, h12km±1km, ML2.0/5, Error ellipse: s-maj=1.4km s-min=0.4km az=132.0*
*TIR **27** 23:11:32.1, 40°.39N×20°.76E, h4km, Md2.5/4*
*SKO **27** 23:11:33.5, 40°.43N×20°.79E, h8km, M1.5, ML1.9*

ISC 27 23:11:32.8±0.9, 40°.41N±0°.02×20°.75E±0°.02, h17km±8km, n29, σ0°99/46, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.23**	**88**	P	**Pb**	**23 11 38.0**	**-0.6**
NEST				S	**Sg**	**23 11 42.1**	**+0.4**
NEST	**Nestorio**	**0.23**	**88**	P	**Pb**	**23 11 38.0**	**-0.6**
NEST				S	**Sg**	**23 11 42.7**	**+1.1**
NEST				AML	AML	23 11 43.4	
	comp=N,790μm,0.3s						
NEST				AML	AML	23 11 47.0	
	comp=E,931μm,0.3s						
PENT	**Pentalofos**	**0.36**	**125**	P	**Pg**	**23 11 40.0**	**-0.3**
PENT				S	**Sb**	**23 11 46.7**	**+0.4**
PENT	**Pentalofos**	**0.36**	**125**	P	**Pg**	**23 11 40.0**	**-0.3**
PENT				S	**Sb**	**23 11 46.5**	**+0.2**
PENT				AML	AML	23 11 48.8	
	comp=E,504μm,0.2s						
PENT				AML	AML	23 11 48.9	
	comp=N,596μm,0.2s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPE	**Tepelena**	**0.58**	**259**	*i* PG	**Pb**	**23 11 45.0**	**+0.5**
TPE				*i* SG	**Sb**	**23 11 53.0**	**+0.6**
FNA	**Florina**	**0.61**	**51**	P	**Pg**	**23 11 44.1**	**-0.7**
FNA				S	**Sb**	**23 11 54.1**	**+0.7**
FNA	**Florina**	**0.61**	**51**	*i* Pg	**Pg**	**23 11 44.1**	**-0.7**
FNA				*i* Sg	**Sb**	**23 11 52.7**	**-0.7**
FNA	**Florina**	**0.61**	**51**	*i* PG	**Pg**	**23 11 44.1**	**-0.7**
FNA				*i* SG	**Sb**	**23 11 53.8**	**+0.4**
FNA	**Florina**	**0.61**	**51**	P	**Pg**	**23 11 44.1**	**-0.7**
FNA				S	**Sb**	**23 11 53.6**	**+0.3**
FNA				AML	AML	23 11 57.1	
	comp=E,744μm,0.3s						
FNA				AML	AML	23 11 57.4	
	comp=N,601μm,0.3s						
KPRO	**Kipourio**	**0.65**	**134**	P	**Pg**	**23 11 45.0**	**-0.6**
KPRO				S	**Sb**	**23 11 56.2**	**+1.7**
KPRO				AML	AML	23 11 57.6	
	comp=N,869μm,0.1s						
KPRO				AML	AML	23 11 57.8	
	comp=E,819μm,0.2s						
OHR	**Ohrid**	**0.71**	**3**	*i* Pg	**Pg**	**23 11 45.6**	**-1.1**
OHR				*i* Sg	**Sb**	**23 11 56.2**	**0.0**
OHR				*eLg*	Lg	23 11 56.5	
	comp=E,82nm,0.8s						
OHR				*eLg*	Lg	23 11 56.9	
	comp=N,26nm,0.4s						
MEV	**Metsovon**	**0.72**	**149**	P	**Pg**	**23 11 46.5**	**-0.4**
BIA	**Bitola**	**0.75**	**35**	*i* Pg	**Pg**	**23 11 46.8**	**-0.7**
BIA				*i* Sg	**Sg**	**23 11 56.4**	**-1.1**
BIA				*eLg*	Lg	23 11 58.3	
	comp=E,84nm,0.5s						
BIA				*eLg*	Lg	23 11 58.4	
	comp=N,43nm,0.3s						
JAN	**Janina**	**0.75**	**174**	P	**Pg**	**23 11 46.4**	**-1.1**
SRN	**Sarande**	**0.78**	**228**	P	**Pg**	**23 11 46.5**	**-1.5**
SRN				S	**Sg**	**23 11 58.2**	**-0.1**
SRN	**Sarande**	**0.78**	**228**	*i* PG	**Pg**	**23 11 47.3**	**-0.7**
SRN				*i* SG	**Sb**	**23 11 59.9**	**+1.6**
KZN	**Kozani**	**0.78**	**97**	P	**Pb**	**23 11 48.2**	**+0.1**
KZN				S	**Sn**	**23 12 00.4**	**-0.2**
KZN	**Kozani**	**0.78**	**97**	P	**Pb**	**23 11 47.9**	**-0.2**
IGT	**Igoumenitsa**	**0.93**	**200**	P	**Pg**	**23 11 50.3**	**-0.6**
IGT	**Igoumenitsa**	**0.93**	**200**	*i* Pg	**Pb**	**23 11 50.9**	**+0.4**
IGT	**Igoumenitsa**	**0.93**	**200**	P	**Pg**	**23 11 50.0**	**-0.9**
KEK	**Kerkira**	**1.01**	**227**	P	**Pb**	**23 11 50.9**	**-0.9**
KEK	**Kerkira**	**1.01**	**227**	P	**Pb**	**23 11 50.5**	**-1.4**
KRUS	**Krusevo**	**1.03**	**21**	*i* Pg	**Pg**	**23 11 51.5**	**-1.4**
KRUS				*i* Sg	**Sb**	**23 12 05.3**	**-0.4**
KRUS				*eLg*	Lg	23 12 06.6	
	comp=E,17nm,0.4s						
KRUS				*eLg*	Lg	23 12 06.8	
	comp=N,21nm,0.4s						
KTI	**Kastanea**	**1.04**	**90**	P	**Pg**	**23 11 52.6**	**-0.4**
TIR	**Tirane**	**1.16**	**325**	*i* Pg	**Pb**	**23 11 54.0**	**-0.4**
THL	**Klokotos Trika**	**1.28**	**131**	P	**Pn**	**23 11 56.0**	**0.0**
PHP	**Peshkopia**	**1.30**	**350**	*i* PN	**Pg**	**23 11 57.9**	**0.0**
PHP				*i* SN	**Sg**	**23 12 18.8**	**+3.9**
STIP	**Stip**	**1.68**	**40**	*e*Pn	**Pg**	**23 12 05.2**	**0.0**
STIP				*eLg*	Lg	23 12 30.3	
	comp=E,5.7nm,0.4s						
STIP				*eLg*	Lg	23 12 30.3	
	comp=N,4.4nm,0.4s						

*IDC **27** 23:24:48.5±1.7, 4°.49S×133°.81E, h0km, mb3.4/1, mb1 4.0/6, mb1mx3.7/37, mbtmp3.8/6, ML3.8/5, MS2.8/2, Ms1 2.8/2, ms1mx2.5/22, Error ellipse: s-maj=64.6km s-min=20.4km az=68.0*
*ISCJB **27** 23:24:49.6±0.9, 4°.62S±0°.05×133°.6E±0°.1, h21km, mb3.3/1, MS2.6/1, Error ellipse: s-maj=18.5km s-min=6.7km az=166.6*

ISC 27 23:24:51.3±1.2, 4°.71S±0°.07×133°.5E±0°.2, h21km, n8, σ1°88/10, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.44**	**329**	Pn	**Pn**	**23 25 57.5**	**-0.1**
	1.4nm,0.3s,baz=323,slow=20,SNR=5.5						
SIJI				Sn	**Sn**	**23 26 47.5**	**-1.2**
	2.9nm,0.3s,baz=135,slow=20,SNR=3.3						
DAV	**Davao City (W)**	**14.15**	**326**	LR	LR	23 33 09.6	
	comp=Z,50nm,19.3s,baz=270,slow=36						
WRA	**Warramunga Arr**	**15.16**	**177**	Pn	**Pn**	**23 28 25.3**	**+0.9**
	0.2nm,0.3s,baz=358,slow=13,SNR=7.9						
WRA				Sn	**Sn**	**23 31 08.5**	**-3.3**
	0.1nm,0.3s,baz=359,slow=23,SNR=3.8						
FITZ	**Fitzroy Crossi**	**15.39**	**210**	Pn	**P**	**23 28 31.6**	**-0.2**
	0.6nm,0.3s,baz=31,slow=13,SNR=13						
FITZ				Sn	**Sn**	**23 31 18.9**	**+1.6**
	0.2nm,0.3s,baz=173,slow=16,SNR=4.5						
ASAR	**Alice Springs**	**18.85**	**179**	P	**Pn**	**23 29 12.9**	**+2.1**
	0.4nm,0.3s,baz=1.0,slow=10,SNR=28						
ASAR				S	**Sn**	**23 32 39.2**	**-2.1**
	0.1nm,0.3s,baz=8.5,slow=28,SNR=3.0						
CTA	**Charters Tower**	**19.67**	**142**	P	**P**	**23 29 19.4**	**+0.3

INK	**Inuvik**	**7.59**	**48**	*e*Pn		**Pn**	**23 26 59.5**	**+0.8**
INK				Lg		Lg	23 29 10.6	
INK	**Inuvik**	**7.59**	**48**	Pn		**Pn**	**23 26 58.6**	**-0.1**
	0.4nm,0.3s,baz=240,slow=14,SNR=14							
INK				Lg		Lg	23 29 10.6	
	0.0nm,0.3s,baz=194,slow=15,SNR=3.1							
YKA	**Yellowknife Ar**	**15.41**	**80**	Pn		**Pn**	**23 28 43.5**	**-1.9**
	0.0nm,0.3s,baz=293,slow=14,SNR=3.2							
NVAR	**Mina Array Bea**	**31.37**	**130**	P		**P**	**23 31 30.6**	**+1.2**
	0.3nm,0.6s,baz=320,slow=11,SNR=3.8							

AUST ***27*** *23:35:52.0±0.0,33°.47S×136°.94E,h20km, Error ellipse: s-maj=0.3km s-min=0.1km az=1.0*
ISCJB ***27*** *23:35:53.2±1.0,32°.64S±0°.07×137°.09E±0°.06,h10km, Error ellipse: s-maj=10.3km s-min=6.6km az=166.8*
IDC ***27*** *23:36:00.1±6.2,32°.26S×137°.47E,h0km,mb1 3.2/3, mb1mx3.1/24,mbtmp2.9/3,ML2.6/3, Error ellipse: s-maj=78.8km s-min=19.5km az=25.0*
ISC 27 23:35:54.4±1.2,32°.8S±0°.1×137°.06E±0°.05,h10km,n6, σ1s70/10,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBOO	**Buckleboo**	**0.84**	**267**	P	**Pg**	**23 36 09.7**	**-0.9**
	baz=1.0						
BBOO				S	**Sg**	**23 36 21.5**	**-0.1**
	baz=1.0						
STKA	**Stephens Creek**	**3.94**	**78**	P	**Pn**	**23 36 56.6**	**+1.6**
	baz=4.2						
STKA	**Stephens Creek**	**3.94**	**78**	Pn	**Pn**	**23 36 56.5**	**+1.5**
	0.1nm,0.3s,baz=286,slow=7.4,SNR=2.2						
STKA				Pg	**Pg**	**23 37 03.2**	**-0.8**
	0.3nm,0.3s,baz=217,slow=14,SNR=4.8						
STKA				Sn	**Sn**	**23 37 39.5**	**-1.9**
	1.0nm,0.3s,baz=240,slow=15,SNR=4.5						
STKA				Lg	Lg	23 37 52.8	
	1.4nm,0.3s,baz=199,slow=12,SNR=4.2						
ARPS	**Mount Arapiles**	**5.60**	**137**	P	Pn	23 37 10.1	-7.6
	baz=5.2						
ARPS				S	Sn	23 38 06.9	-15
	baz=5.2						
ASAR	**Alice Springs**	**9.49**	**342**	Pn	**Pn**	**23 38 13.9**	**+2.6**
	0.1nm,0.3s,baz=168,slow=9.5,SNR=3.3						
ASAR				Sn	**Sn**	**23 39 58.1**	**0.0**
	0.3nm,0.3s,baz=159,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**13.01**	**349**	Pn	**Pn**	**23 38 59.4**	**0.0**
	0.1nm,0.3s,baz=169,slow=11,SNR=4.8						
WRA				Sn	**Sn**	**23 41 22.3**	**-2.0**
	0.1nm,0.3s,baz=176,slow=23,SNR=4.2						

GUC ***27*** *23:40:24.9±0.6,25°.79S×70°.16W,h83km±7km,ML4.2*
ISCJB ***27*** *23:40:25.3±0.5,25°.84S±0°.03×70°.08W±0°.08,h63km±5km, mb4.2/14, Error ellipse: s-maj=11.6km s-min=4.7km az=179.4*
IDC ***27*** *23:40:26.5±0.5,25°.85S×70°.10W,h58km±4km,mb3.9/11, mb1 4.0/15,mb1mx3.9/28,mbtmp4.1/15,MS3.0/6, Ms1 3.0/6,ms1mx2.9/20, Error ellipse: s-maj=15.8km s-min=9.3km az=93.0*
NEIC ***27*** *23:40:26.5±2.1,25°.88S×70°.02W,h58km±5km,mb4.2/6, ML4.2(GUC), Error ellipse: s-maj=19.6km s-min=9.0km az=98.0*
NEIC Felt [III] at Copiapo, Taltal and Tierra Amarilla.
ISC 27 23:40:25.9±0.5,25°.87S±0°.04×70°.15W±0°.07,h54km±4km, h54km:pP-P,n58,σ1s41/74,mb4.2/14,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO02	**Mina Guanaco**	**0.87**	**36**	*e*Pn	**Pn**	**23 40 43.0**	**+0.7**
GO02				*e*Sn	**Sn**	**23 40 52.8**	**-1.6**
GO02	**Mina Guanaco**	**0.87**	**36**	*e*P	**Pn**	**23 40 42.7**	**+0.4**
GO02				*e*S	**Sn**	**23 40 55.4**	**+1.1**
GO02				IAML		23 40 59.7	
	comp=N,13μm,0.6s						
PB14	**IPOC Station P**	**1.26**	**350**	*e*P	**Pn**	**23 40 47.2**	**-0.4**
PB14				*e*S	**Sn**	**23 41 03.4**	**-0.3**
PB14				IAML		23 41 05.6	
	comp=E,6μm,0.3s						
GO03	**Copiap**	**1.72**	**182**	*e*Pn	**Pn**	**23 40 54.9**	**+1.3**
GO03				*e*Sn	**Sn**	**23 41 09.0**	**-5.4**
GO03	**Copiap**	**1.72**	**182**	*e*P	**Pn**	**23 40 54.8**	**+1.3**
GO03				*e*S	**Sn**	**23 41 17.4**	**+3.0**
GO03				IAML		23 41 21.7	
	comp=E,4μm,0.4s						
PB10	**IPOC Station P**	**2.38**	**351**	*e*Pn	**Pn**	**23 41 01.8**	**-0.7**
PB10	**IPOC Station P**	**2.38**	**351**	*e*P	**Pn**	**23 41 01.4**	**-1.1**
PB10				IAML		23 41 46.5	
	comp=N,955nm,0.6s						
PB05	**IPOC Station P**	**3.00**	**359**	*e*P	**Pn**	**23 41 09.9**	**-1.3**
LCO	**Las Campanas**	**3.17**	**189**	*e*Pn	**Pn**	**23 41 14.2**	**+0.7**
PB06	**IPOC Station P**	**3.19**	**10**	*e*P	**Pn**	**23 41 12.8**	**-1.0**
LVC	**Limon Verde**	**3.44**	**20**	P	**Pn**	**23 41 18.1**	**+0.8**
	comp=N,30nm,0.3s,baz=207,slow=9.8,SNR=102						
LVC				S	**Sn**	**23 41 58.0**	**+1.0**
	comp=N,51nm,0.3s,baz=180,slow=19,SNR=3.0						
LVC				LR	LR	23 42 49.1	
	comp=N,166nm,20.9s,baz=198,slow=42						
PB04	**IPOC Station P**	**3.52**	**0**	*e*Pn	**Pn**	**23 41 16.7**	**-1.7**
GO04	**Tololo Observa**	**4.32**	**187**	*e*Pn	**Pn**	**23 41 30.4**	**+1.0**
PB01	**IPOC Station P**	**4.84**	**7**	*e*Pn	**Pn**	**23 41 33.7**	**-2.7**
CFA	**Coronel Fontan**	**5.96**	**164**	P	**Pn**	**23 41 53.8**	**+2.2**
	comp=N,9.1nm,0.3s,baz=343,slow=13,SNR=49						
CFA				S	**Sn**	**23 43 01.4**	**+2.9**
	comp=N,6.5nm,0.3s,baz=190,slow=18,SNR=4.4						
PB11	**IPOC Station P**	**6.10**	**4**	*e*Pn	**Pn**	**23 41 57.6**	**+4.0**
GO01	**Chusmiza**	**6.24**	**8**	*e*Pn	**Pn**	**23 41 56.0**	**+0.1**
ROC1	**El Roble**	**7.12**	**186**	*e*Pn	**Pn**	**23 42 07.4**	**-0.3**
LPAZ	**La Paz**	**9.72**	**12**	*e*Pn	**Pn**	**23 42 42.7**	**-1.0**
LPAZ	**La Paz**	**9.72**	**12**	P	**Pn**	**23 42 43.2**	**-0.5**
	comp=N,0.8nm,0.3s,baz=214,slow=9.1,SNR=16						
LPAZ				LR	LR	23 46 26.6	
	comp=N,42nm,21.7s,baz=210,slow=37						
CPUP	**Villa Florida**	**11.54**	**95**	P	**Pn**	**23 43 07.0**	**-0.9**
	comp=N,0.1nm,0.3s,baz=304,slow=3.6,SNR=1.8						
CPUP				LR	LR	23 48 22.5	
	comp=N,51nm,19.2s,baz=234,slow=41						
SIV	**San Ignacio**	**12.98**	**43**	P	**Pn**	**23 43 23.6**	**-4.0**
	comp=N,1.4nm,0.3s,baz=258,slow=6.7,SNR=16						
TRQA	**Tornquist**	**13.98**	**152**	*e*Pn	**Pn**	**23 43 40.7**	**-0.5**
PLCA	**Paso Flores**	**14.83**	**181**	LR	LR	23 49 59.8	
	comp=N,154nm,18.9s,baz=71,slow=39						
NNA	**Nana**	**15.18**	**334**	LR	LR	23 48 35.2	
	comp=N,37nm,20.8s,baz=184,slow=32						
BDFB	**Brasilia**	**23.03**	**68**	P	**P**	**23 45 25.2**	**-1.6**
	comp=N,7.8nm,0.6s,baz=244,slow=8.7,SNR=15						
BDFB				pP	**pP**	**23 45 40.0**	**+0.2**
	comp=N,2.8nm,0.5s,baz=226,slow=5.9,SNR=2.4						
PTGA	**Pitinga**	**26.86**	**23**	*e*P	**P**	**23 46 03.6**	**+2.0**
	comp=N,6.0nm,0.9s						
PTGA	**Pitinga**	**26.86**	**23**	P	**P**	**23 46 01.5**	**-0.1**
	comp=N,3.5nm,0.5s,baz=186,slow=13,SNR=8.0						
PTGA				pP	**pP**	**23 46 17.0**	**+1.3**
	comp=N,1.8nm,0.5s,baz=150,slow=15,SNR=2.2						
USHA	**Ushuaia**	**28.96**	**178**	P	**P**	**23 46 20.4**	**+0.5**
	comp=N,1.4nm,0.4s,baz=356,slow=11,SNR=3.0						
TXAR	**Lajitas Array**	**63.62**	**327**	P	**P**	**23 50 51.7**	**+0.3**
	comp=N,0.2nm,0.7s,baz=140,slow=9.9,SNR=3.6						
TXAR				pP	**pP**	**23 51 07.1**	**+0.4**
	comp=N,0.4nm,0.8s,baz=156,slow=9.6,SNR=3.8						
CBKS	**Cedar Bluff**	**70.05**	**336**	*e*P	**P**	**23 51 34.0**	**+1.9**
	comp=N,12nm,0.7s						
LIC	**Lamto**	**70.73**	**73**	*e*P	**P**	**23 51 36.2**	**-0.5**
	comp=N,48nm,1.4s						
TIC	**Toumodi**	**70.95**	**72**	*e*P	**P**	**23 51 38.0**	**-0.1**
KIC	**Kosan Boka**	**71.04**	**73**	*e*P	**P**	**23 51 38.7**	**+0.1**
	comp=N,17nm,0.8s						
DBIC	**Dimbokro**	**71.10**	**73**	*e*P	**P**	**23 51 39.1**	**+0.1**
	comp=N,7.1nm,1.0s						
DBIC	**Dimbokro**	**71.10**	**73**	P	**P**	**23 51 39.1**	**+0.1**
	comp=N,4.8nm,0.5s,baz=212,slow=7.2,SNR=14						
DBIC				pP	**pP**	**23 51 55.6**	**+1.0**
	comp=N,2.3nm,0.6s,baz=192,slow=5.2,SNR=1.6						
DBIC				LR	LR	00 21 50.1	
	comp=N,26nm,18.2s,baz=120,slow=35						
PD31	**Pinedale Array**	**77.35**	**331**	*e*P	**P**	**23 52 15.8**	**+0.8**
	comp=N,0.2nm,0.4s						
PDAR	**Pinedale Array**	**77.35**	**331**	P	**P**	**23 52 15.8**	**+0.8**
	comp=N,0.2nm,0.6s,baz=116,slow=10,SNR=2.5						
NV01	**Mina Array Sit**	**78.26**	**323**	*e*P	**P**	**23 52 21.1**	**+1.0**
NVAR	**Mina Array Bea**	**78.26**	**323**	P	**P**	**23 52 21.1**	**+0.9**
	comp=N,0.5nm,0.8s,baz=164,slow=7.0,SNR=3.0						
NVAR				pP	**pP**	**23 52 36.4**	**+0.5**
	comp=N,0.3nm,0.5s,baz=152,slow=6.1,SNR=3.8						
TOA1	**Torodi Ar. Sit**	**79.90**	**70**	*e*P	**P**	**23 52 27.9**	**-1.5**
TORD	**Torodi Ar. Bea**	**79.90**	**70**	P	**P**	**23 52 27.9**	**-1.5**
	comp=N,10nm,0.6s,baz=258,slow=3.8,SNR=113						
TORD				pP	**pP**	**23 52 45.8**	**+0.5**
	comp=N,1.4nm,0.6s,baz=264,slow=5.5,SNR=2.4						
MAW	**Mawson**	**80.49**	**163**	*e*P	**P**	**23 52 32.3**	**+0.7**
	comp=N,1.0nm,0.9s						
MAW	**Mawson**	**80.49**	**163**	P	**P**	**23 52 32.3**	**+0.7**
	comp=N,3.8nm,0.7s,baz=219,slow=6.5,SNR=3.4						
BOSA	**Boshof**	**82.41**	**118**	P	**P**	**23 52 42.9**	**+0.1**
	comp=N,2.8nm,0.9s,baz=207,slow=2.3,SNR=5.7						
YKA	**Yellowknife Ar**	**94.92**	**341**	P	**P**	**23 53 41.2**	**-0.4**
	comp=N,0.1nm,0.5s,baz=142,slow=4.7,SNR=3.7						
YKA				pP	**pP**	**23 53 56.4**	**-1.4**
	comp=N,0.3nm,0.7s,baz=139,slow=4.4,SNR=4.6						
ASAR	**Alice Springs**	**125.53**	**207**	PKP	**PKPdf**	**23 59 21.3**	**-0.4**
	comp=N,0.7nm,0.8s,baz=140,slow=1.3,SNR=4.7						
ASAR				pPKP	**pPKPdf**	**23 59 37.5**	**-0.7**
	comp=N,0.8nm,0.6s,baz=136,slow=2.6,SNR=3.8						
H11S2	**WAKE ISLAND Hy**	**127.17**	**274**	T	T	02 19 13.4	
	baz=108						
H11S1	**WAKE ISLAND Hy**	**127.18**	**274**	T	T	02 19 12.8	
	baz=108						
H11S3	**WAKE ISLAND Hy**	**127.19**	**274**	T	T	02 19 13.4	
	baz=108						
WR1	**Warramunga Arr**	**128.62**	**210**	*e*PKPdf	**PKPdf**	**23 59 27.6**	**-0.1**
WR1				*ep*PKPdf	**pPKPdf**	**23 59 43.8**	**-0.4**
WRA	**Warramunga Arr**	**128.62**	**210**	PKP	**PKPdf**	**23 59 27.6**	**-0.1**
	comp=N,0.7nm,0.7s,baz=168,slow=1.6,SNR=6.0						
WRA				pPKP	**pPKPdf**	**23 59 43.8**	**-0.4**
	comp=N,1.1nm,0.6s,baz=152,slow=1.5,SNR=6.3						
ZAA1	**Zalesovo Array**	**146.36**	**27**	*e*PKPdf	**PKPdf**	**23 59 59.5**	**+0.5**
ZAA1				*ep*PKPdf	**pPKPdf**	**00 00 16.6**	**+1.0**
ZALV	**Zalesovo Beam**	**146.36**	**27**	PKPbc	**PKPdf**	**23 59 59.4**	**+0.5**
	comp=N,4.7nm,0.6s,baz=301,slow=3.6,SNR=24						
ZALV				pPKPbc	**pPKPdf**	**00 00 16.6**	**+0.9**
	comp=N,3.5nm,0.8s,baz=305,slow=3.7,SNR=4.3						
MK32	**Makanchi Array**	**149.78**	**39**	*e*PKPbc	**PKPbc**	**00 00 09.7**	**0.0**
MK32				*ep*PKPab	**pPKPbc**	**00 00 26.3**	**0.0**
MKAR	**Makanchi Array**	**149.78**	**39**	PKPbc	**PKPbc**	**00 00 09.7**	**0.0**
	comp=N,9.0nm,1.0s,baz=317,slow=2.5,SNR=41						
MKAR				pPKPbc	**pPKPbc**	**00 00 26.3**	**0.0**
	comp=N,2.4nm,0.7s,baz=314,slow=2.2,SNR=9.7						
SONA0	**Songino Array**	**157.91**	**6**	*e*PKPab	**PKPab**	**00 00 49.5**	**-0.1**
SONM	**Songino Array**	**157.91**	**6**	PKPab	**PKPab**	**00 00 49.5**	**-0.1**
	comp=N,0.4nm,0.8s,baz=357,slow=4.3,SNR=4.1						

IDC ***27*** *23:47:55.7±1.4,10°.76N×126°.31E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.7/34,mbtmp3.8/7,MS3.1/4,Ms1 3.2/4, ms1mx2.8/26, Error ellipse: s-maj=38.1km s-min=26.2km az=97.0*
ISCJB ***27*** *23:47:58.7±1.1,10°.09N±0°.04×126°.40E±0°.09, h55km±11km,mb3.7/6,MS2.9/2, Error ellipse: s-maj=14.4km s-min=6.5km az=179.4*
MAN ***27*** *23:47:58.2,10°.05N×126°.32E,h15km,MS3.7*
ISC 27 23:47:58.7±2.0,10°.06N±0°.05×126°.4E±0°.1,h46km±19km, n29,σ1s83/23,mb3.8/6,3C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.95**	**253**	*e*P	**Pn**	**23 48 13.0**	**-2.6**
BUTP	**Butuan**	**1.33**	**216**	*e*P	**Pn**	**23 48 17.8**	**-3.1**
BUTP				*e*S	**Sn**	**23 48 37.3**	**-0.2**
MSLP	**Maasin**	**1.53**	**273**	*e*P	**Pn**	**23 48 22.6**	**-0.9**
MSLP				*e*S	**Sn**	**23 48 42.4**	**+0.2**
PLP	**Palo**	**1.78**	**308**	*e*P	**Pn**	**23 48 27.9**	**+0.9**
PLP				*e*S	**Sn**	**23 48 52.3**	**+3.7**
BESP	**Borongan**	**1.81**	**328**	*e*P	**Pn**	**23 48 27.2**	**-0.2**
OCLP	**Ormoc**	**2.02**	**299**	*e*P	Pn	23 48 32.6	+2.2
CGP	**Cagayan de Oro**	**2.32**	**227**	*e*P	Pn	23 48 38.1	+3.6
CGP				*e*S	**Sn**	**23 49 02.4**	**+0.5**
LLP	**Lapu-Lapu**	**2.42**	**276**	*i*P	**Pn**	**23 48 36.7**	**+0.9**
LLP				*e*S	**Sn**	**23 49 06.1**	**+1.9**
BUKP	**Musuan**	**2.54**	**212**	*e*P	**Pn**	**23 48 38.5**	**+0.9**
BUKP				*e*S	**Sn**	**23 49 10.0**	**+2.7**
CNP	**Catarman**	**2.98**	**325**	*e*P	**Pn**	**23 48 43.0**	**-0.5**
CNP				*e*S	**Sn**	**23 49 17.8**	**-0.2**
DAV	**Davao City (W)**	**3.08**	**195**	Pn	Pn	23 48 54.8	+10
	baz=226,slow=15,SNR=4.4						
DAV				Sn	Sn	23 49 39.8	+19
	25nm,0.3s,baz=244,slow=17,SNR=4.4						
DAV				LR	LR	23 50 15.4	
	comp=Z,436nm,18.3s,baz=312,slow=37						
KCP	**Kidapawan**	**3.30**	**203**	*i*P	**Pn**	**23 48 50.0**	**+2.0**
KCP				*i*S	Sn	23 49 33.6	+7.6
PAGZ	**Pagadian**	**3.71**	**234**	*e*P	**Pn**	**23 48 54.6**	**+1.0**
RCP	**Roxas**	**3.90**	**293**	*i*P	Pn	23 48 58.2	+2.1
PVCP	**Virac**	**4.15**	**328**	*e*P	Pn	23 49 02.1	+2.6
TGY	**Tagaytay City**	**6.69**	**307**	LR	LR	23 52 29.0	
	comp=Z,187nm,19.1s,baz=254,slow=44						
CMAR	**Chiang Mai Arr**	**27.87**	**291**	P	**P**	**23 53 44.7**	**+0.3**
	0.5nm,0.3s,baz=103,slow=7.5,SNR=3.6						
CMAR				LR	LR	00 04 33.1	
	comp=Z,43nm,18.7s,baz=153,slow=36						
MJAR	**Matsushiro Arr**	**28.45**	**20**	LR	LR	00 03 07.5	
	comp=Z,22nm,21.6s,baz=195,slow=33						
H11S3	**WAKE ISLAND Hy**	**39.85**	**73**	T	T	00 38 21.1	
	baz=262,slow=75,SNR=8.2						
H11S1	**WAKE ISLAND Hy**	**39.87**	**73**	T	T	00 38 19.4	
	baz=262,slow=75,SNR=8.5						
H11S2	**WAKE ISLAND Hy**	**39.87**	**73**	T	T	00 38 22.7	
	baz=262,slow=75,SNR=8.7						
H11N1	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	00 38 46.2	
	baz=264,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hy**	**40.20**	**71**	T	T	00 38 47.7	
	baz=264,slow=74,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.21**	**71**	T	T	00 38 46.3	
	baz=264,slow=74,SNR=28						
SONM	**Songino Array**	**41.26**	**340**	P	**P**	**23 55 36.4**	**-3.2**
	0.5nm,0.6s,baz=142,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**52.28**	**323**	P	**P**	**23 57 04.9**	**-0.7**
	1.2nm,0.7s,baz=118,slow=8.8,SNR=16						
ILAR	**Eielson Array**	**79.57**	**26**	P	**P**	**00 00 01.5**	**+0.8**
	0.3nm,0.8s,baz=240,slow=5.4,SNR=5.1						
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**00 00 34.6**	**-0.1**
	0.6nm,0.7s,baz=67,slow=6.4,SNR=5.4						
YKA	**Yellowknife Ar**	**93.89**	**24**	P	**P**	**00 01 12.5**	**+1.3**
	0.3nm,0.7s,baz=299,slow=4.6,SNR=7.8						

IDC ***28*** *00:08:00.9±1.1,9°.86N×126°.11E,h0km,mb3.4/5, mb1 3.6/5,mb1mx3.4/24,mbtmp3.3/5,MS2.7/1,Ms1 2.9/1, ms1mx2.4/28, Error ellipse: s-maj=97.9km s-min=20.7km az=72.0*
MAN ***28*** *00:08:07.9,10°.08N×126°.30E,h20km,MS3.6*
ISC 28 00:08:09.1±1.9,10°.05N±0°.05×126°.3E±0°.1,h58km±19km, n17,σ2s11/20,mb3.3/6,1C-3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.86**	**252**	*e*P	**Pn**	**00 08 21.8**	**-3.6**
BUTP	**Butuan**	**1.27**	**213**	*e*P	**Pn**	**00 08 30.4**	**-0.3**
BUTP				*e*S	**Sn**	**00 08 48.4**	**+1.4**
MSLP	**Maasin**	**1.44**	**274**	*e*P	**Pn**	**00 08 31.7**	**-1.3**
MSLP				*e*S	**Sn**	**00 08 50.8**	**-0.2**
BESP	**Borongan**	**1.77**	**331**	*e*P	**Pn**	**00 08 37.2**	**-0.4**
BESP				*e*S	Sn	00 09 07.0	+8.1
OCLP	**Ormoc**	**1.96**	**301**	*e*P	**Pn**	**00 08 40.4**	**+0.3**
OCLP				*e*S	**Sn**	**00 09 08.1**	**+4.5**
CGP	**Cagayan de Oro**	**2.25**	**226**	*i*P	Pn	00 08 46.8	+2.7
CGP				*e*S	**Sn**	**00 09 12.6**	**+2.0**
BUKP	**Musuan**	**2.49**	**210**	*e*P	**Pn**	**00 08 47.8**	**+0.3**
BUKP				*e*S	**Sn**	**00 09 20.2**	**+3.6**
CNP	**Catarman**	**2.94**	**327**	*e*P	**Pn**	**00 08 52.8**	**-0.6**
CNP				*e*S	**Sn**	**00 09 29.5**	**+1.9**
KCP	**Kidapawan**	**3.25**	**202**	*i*P	**Pn**	**00 08 58.9**	**+1.1**
KCP				*i*S	Sn	00 09 51.5	+16
DCPH	**Dipolog City**	**3.27**	**244**	*i*P	Pn	00 09 02.0	+4.0
CMAR	**Chiang Mai Arr**	**27.79**	**291**	LR	LR	00 24 11.1	
	comp=Z,14nm,19.1s,baz=80,slow=35						
WRA	**Warramunga Arr**	**30.83**	**165**	P	**P**	**00 14 17.4**	**-2.5**
	0.4nm,0.8s,baz=341,slow=8.6,SNR=2.8						
ASAR	**Alice Springs**	**34.32**	**168**	P	**P**	**00 14 48.7**	**-1.6**
	0.1nm,0.3s,baz=348,slow=6.4,SNR=2.6						
SONM	**Songino Array**	**41.25**	**340**	P	**P**	**00 15 49.5**	**+0.8**
	0.1nm,0.3s,baz=151,slow=9.6,SNR=3.2						
MKAR	**Makanchi Array**	**52.24**	**323**	P	**P**	**00 17 13.2**	**-1.2**
	0.2nm,0.6s,baz=123,slow=7.1,SNR=3.8						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**00 20 43.9**	**+0.3**
	5.6nm,1.2s,baz=81,slow=4.4,SNR=3.3						
YKA	**Yellowknife Ar**	**93.94**	**24**	P	**P**	**00 21 21.0**	**+0.7**
	0.1nm,0.5s,baz=300,slow=4.7,SNR=3.7						

IDC 28 00:41:59.7±2.0,3°.89N×127°.34E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.4/31,mbtmp3.5/4,Error ellipse: s-maj=112.6km s-min=24.7km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**184**	P	P	00 46 55.5	+0.7
	2.2nm,0.9s,baz=8.3,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**24.66**	**164**	P	P	00 47 21.4	-1.0
	1.1nm,0.6s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.13**	**167**	P	P	00 47 54.2	+0.5
	0.2nm,0.3s,baz=342,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**57.77**	**325**	P	P	00 51 52.6	-0.1
	0.3nm,0.4s,baz=124,slow=7.6,SNR=6.1						

MAN 28 00:47:10.5,10°.01N×126°.29E,h1km,MS3.5,1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.82**	**254**	*e*P	Pb	00 47 27.6	0.0
BUTP	**Butuan**	**1.23**	**213**	*e*P	Pg	00 47 33.9	-0.2
BUTP				*e*S	Sn	00 47 52.4	+0.3
MSLP	**Maasin**	**1.41**	**275**	*e*P	Pn	00 47 37.1	-0.3
MSLP				*e*S	Sg	00 47 55.1	-0.9
BESP	**Borongan**	**1.79**	**332**	*e*P	Pn	00 47 42.9	+0.3
BESP				*e*S	Sb	00 48 07.1	0.0
OCLP	**Ormoc**	**1.95**	**302**	*e*P	Pn	00 47 44.7	-0.1
OCLP				*e*S	Sg	00 48 14.6	+1.3
CGP	**Cagayan de Oro**	**2.21**	**226**	*i*P	Pg	00 47 52.2	-0.7
CGP				*e*S	Sn	00 48 16.8	+0.5
BUKP	**Musuan**	**2.44**	**210**	*e*P	Pn	00 47 53.4	+1.8
BUKP				*e*S	Sb	00 48 25.9	-0.1
CNP	**Catarman**	**2.95**	**327**	*e*P	Pn	00 47 59.0	+0.4
CNP				*e*S	Sn	00 48 32.4	-2.3
KCP	**Kidapawan**	**3.21**	**202**	*i*P	Pn	00 48 03.0	+0.7
KCP				*i*S	Sb	00 48 47.2	-0.9
PAGZ	**Pagadian**	**3.59**	**233**	*e*P	Pn	00 48 10.3	+2.9
PVCP	**Virac**	**4.13**	**330**	*e*P	Pb	00 48 23.3	-0.8

IDC ***28*** *00:54:56.9±1.0,17°.55N×94°.12W,h149km±15km,mb3.1/6, mb1 3.4/8,mb1mx3.2/35,mbtmp3.5/8, Error ellipse: s-maj=43.3km s-min=16.2km az=48.0*
ISCJB ***28*** *00:54:57.1±0.5,17°.35N±0°.08×94°.47W±0°.06,h169km±6km, mb3.3/5, Error ellipse: s-maj=14.9km s-min=7.9km az=27.3*
NEIC ***28*** *00:55:00.5±0.0,17°.27N×94°.54W,h168km,MD4.2(MEX), After MEX.*
MEX ***28*** *00:55:00.4±0.6,17°.26N×94°.55W,h169km±5km,MD4.2*
ISC 28 00:54:58.1±0.7,17°.35N±0°.08×94°.49W±0°.05,h170km±7km, n23,σ2s04/29,mb3.4/5,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.46**	**236**	*i*P	**Pn**	**00 55 21.8**	**+0.2**
CMIG	**Matias Romero**	**0.46**	**236**	*i*P	**Pn**	**00 55 21.8**	**+0.2**
CMIG				*e*S	**Sn**	**00 55 39.0**	**-0.5**
CMIG	**Matias Romero**	**0.46**	**236**	P	**Pn**	**00 55 21.1**	**-0.4**
	239nm,0.3s,baz=90,slow=3.3,SNR=2142						
CMIG				S	**Sn**	**00 55 38.8**	**-0.6**
	232nm,0.3s,baz=342,slow=19,SNR=120						
CMIG				LR	LR	00 55 52.0	
	comp=Z,58nm,19.7s,baz=34,slow=64						
PCIG		**2.04**	**143**	*i*P	**Pn**	**00 55 35.5**	**+0.7**
PCIG		**2.04**	**143**	*i*P	**Pn**	**00 55 35.5**	**+0.7**
PCIG				*e*S	**Sn**	**00 56 02.8**	**-0.5**
VHO	**Vista Hermosa**	**2.17**	**263**	*e*P	**Pn**	**00 55 37.4**	**+0.9**
VHO				*e*S	**Sn**	**00 56 05.0**	**-1.2

KRX	**Arik**	**2.31**	**238**	*eP*	Pn	01 04 01.0	+2.7
UGLR	**Uglovaya**	**2.31**	**234**	*eP*	Pn	01 04 01.2	+2.9
UGLR				*eS*	Sn	01 04 29.3	+3.7
AVH	**Avacha**	**2.32**	**236**	*eP*	Pn	01 04 01.4	+3.0
AVH				*eS*	Sn	01 04 29.9	+4.2
KOK	**Koryaka**	**2.35**	**237**	*eP*	Pn	01 04 01.7	+2.9
KOK				*eS*	Sn	01 04 29.9	+3.3
BKI	**Bering**	**2.41**	**74**	*eP*	Pn	01 04 02.0	+2.5
BKI				*eS*	Sn	01 04 30.0	+2.2
DALK	**Dalny**	**2.46**	**231**	*eP*	Pn	01 04 02.8	+2.6
DALK				*eS*	Sn	01 04 31.3	+2.3
PET	**Petropavlovsk**	**2.51**	**232**	*eP*	Pn	01 04 03.5	+2.6
PET				*eS*	Sn	01 04 32.4	+2.1
KRMR	**Karymshinskiy**	**2.88**	**233**	*eP*	Pn	01 04 09.0	+3.1
KRMR				*eS*	Sn	01 04 32.9	+3.6
KDTR	**Khodutka, Kamc**	**3.64**	**221**	*eP*	Pn	01 04 21.5	+5.1

MEX 28 01:19:33.5±0.5, 14°.97N×94°.15W, h16km±11km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.16**	**51**	*iP*	Pn	01 19 51.2	-3.9
PCIG				*eS*	Sb	01 20 04.7	-5.3
HUIG	**Huatulco**	**2.05**	**293**	*eP*	Pn	01 20 03.7	-3.7
HUIG				*iS*	Sn	01 20 27.8	-4.9
CMIG	**Matias Romero**	**2.23**	**342**	*eP*	Pn	01 20 07.3	-2.5
CMIG				*eS*	Sn	01 20 31.7	-5.3

KRSC 28 01:35:46.4±10.0, 49°.77N×156°.59E, h39km±10km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.96**	**342**	*eP*	Pn	01 36 03.5	+0.1
SKR				*eS*	Sn	01 36 16.6	+0.7
ALID	**Alaid**	**1.29**	**329**	*eP*	Pn	01 36 07.9	-0.1
ALID				*eS*	Sn	01 36 25.2	+1.1
PAU	**Pauzhetka**	**1.71**	**5**	*eP*	Pn	01 36 15.3	+1.7
PAU				*eS*	Sn	01 36 37.7	+3.6
KDTR	**Khodutka, Kamc**	**2.25**	**24**	*eP*	Pn	01 36 23.5	+2.4
KDTR				*eS*	Sn	01 36 51.2	+3.7
ASAK	**Asacha**	**2.74**	**17**	*eP*	Pn	01 36 31.6	+3.6
MTVR	**Mutnovka**	**2.90**	**20**	*eP*	Pn	01 36 34.1	+4.0
MTVR				*eS*	Sn	01 37 08.2	+4.5
RUS	**Russkaya**	**2.93**	**24**	*eP*	Pn	01 36 32.9	+2.5
RUS				*eS*	Sn	01 37 07.4	+3.1
KRMR	**Karymshinskiy**	**3.21**	**17**	*eP*	Pn	01 36 37.8	+3.5
PET	**Petropavlovsk**	**3.51**	**21**	*S*	Sn	01 37 24.7	+6.2
DALK	**Dalny**	**3.54**	**22**	*P*	Pn	01 36 42.7	+4.0
DALK				*S*	Sn	01 37 25.0	+5.8
UGLR	**Uglovaya**	**3.72**	**21**	*eP*	Pn	01 36 46.1	+4.8
AVH	**Avacha**	**3.75**	**20**	*eP*	Pn	01 36 46.9	+5.2
KOK	**Koryaka**	**3.75**	**19**	*eP*	Pn	01 36 47.1	+5.3
SMAR	**Somma**	**3.76**	**21**	*eP*	Pn	01 36 46.3	+4.3
KRER	**Koryakskii**	**3.79**	**20**	*eP*	Pn	01 36 47.2	+4.8
SDLR	**Sedlovina**	**3.79**	**21**	*eP*	Pn	01 36 46.3	+3.9
SDLR				*S*	Sn	01 37 30.3	+4.5
KRX	**Arik**	**3.82**	**19**	*eP*	Pn	01 36 48.3	+5.6
NLC	**Nalytchevo**	**3.82**	**26**	*eS*	Sn	01 37 28.3	+2.2
KBTR	**Krutoberegovo**	**7.46**	**28**	*eP*	Pn	01 37 36.0	+3.4

*IDC **28** 01:42:29.9±2.1, 18°.66N×103°.03W, h0km, mb3.3/4, mb1 3.8/8, mb1mx3.6/50, mbtmp3.6/8, ML3.4/4, MS3.3/8, Ms1 3.3/8, ms1mx3.0/22, Error ellipse: s-maj=47.0km s-min=21.0km az=42.0*

*NEIC **28** 01:42:36.6±0.0, 18°.72N×102°.78W, h4km, MD4.2(MEX), After MEX.*

*MEX **28** 01:42:36.9±0.6, 18°.73N×102°.78W, h7km±5km, MD4.2*

ISC 28 01:42:34.9±1.3, 18°.77N±0°.04×102°.78W±0°.05, h25km±13km, n26, σ1ᾔ41/41, mb3.2/4, MS3.1/3, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.72**	**228**	*iP*	**Pb**	**01 42 48.9**	**+0.1**
MMIG				*eS*	**Sb**	**01 42 58.0**	**-0.3**
MMIG	**Aquila**	**0.72**	**228**	*iP*	**Pb**	**01 42 48.9**	**+0.1**
MMIG				*eS*	**Sb**	**01 42 58.0**	**-0.3**
EZ5V		**1.05**	**312**	*iP*	**Pb**	**01 42 54.9**	**+0.4**
R15V		**1.21**	**289**	*iP*	**Pb**	**01 42 56.9**	**-0.2**
R15V				*eS*	**Sb**	**01 43 12.3**	**0.0**
ZIIG	**Zihuatanejo**	**1.71**	**133**	*eP*	**Pn**	**01 43 02.7**	**-0.3**
ZIIG				*eS*	**Sn**	**01 43 24.1**	**+0.1**
ZIIG	**Zihuatanejo**	**1.71**	**133**	*eP*	**Pn**	**01 43 02.7**	**-0.3**
ZIIG				*eS*	**Sn**	**01 43 24.1**	**+0.1**
MOIG	**Morelia**	**1.75**	**59**	*eP*	**Pn**	**01 43 04.5**	**+0.6**
MOIG				*eS*	**Sn**	**01 43 25.9**	**+0.4**
MOIG	**Morelia**	**1.75**	**59**	*eP*	**Pn**	**01 43 04.5**	**+0.6**
MOIG				*eS*	**Sn**	**01 43 25.9**	**+0.4**
ARIG	**Puente Sto Nin**	**2.36**	**102**	*eP*	**Pn**	**01 43 12.4**	**+0.4**
ARIG				*eS*	**Sn**	**01 43 41.2**	**+1.0**
ARIG	**Puente Sto Nin**	**2.36**	**102**	*eP*	**Pn**	**01 43 12.4**	**+0.4**
ARIG				*eS*	**Sn**	**01 43 41.2**	**+1.0**
CAIG	**El Cayaco**	**2.94**	**125**	*eP*	**Pn**	**01 43 20.5**	**+0.5**
CAIG				*eS*	**Sn**	**01 43 56.0**	**+1.5**
CAIG	**El Cayaco**	**2.94**	**125**	*eP*	**Pn**	**01 43 20.5**	**+0.5**
CAIG				*eS*	**Sn**	**01 43 56.0**	**+1.5**
MEIG	**Mezcala**	**3.12**	**105**	*eP*	**Pn**	**01 43 24.0**	**+1.5**
MEIG				*eS*	**Sn**	**01 44 01.8**	**+2.8**
MEIG	**Mezcala**	**3.12**	**105**	*eP*	**Pn**	**01 43 24.0**	**+1.5**
MEIG				*iS*	**Sn**	**01 44 00.4**	**+1.4**
TLIG	**Tlapa**	**4.18**	**106**	*eP*	**Pn**	**01 43 39.1**	**+1.9**
TLIG				*eS*	**Sb**	**01 44 33.5**	**-4.5**
TLIG	**Tlapa**	**4.18**	**106**	*eP*	**Pn**	**01 43 39.1**	**+1.9**
TLIG				*eS*	**Sn**	**01 44 27.2**	**+1.9**
CMIG	**Matias Romero**	**7.70**	**101**	Pn	**Pn**	**01 44 27.4**	**+2.0**
	1.9nm,0.3s,baz=290,slow=12,SNR=19						
CMIG				Sn	**Sn**	**01 45 53.8**	**+1.9**
	0.5nm,0.3s,baz=222,slow=14,SNR=2.7						
CMIG				Lg	Lg	01 46 32.5	
	3.3nm,0.3s,baz=1.3,slow=7.9,SNR=4.6						
CMIG				LR	LR	01 47 40.4	
	comp=Z,190nm,18.3s,baz=253,slow=39						
LPIG	**La Paz**	**8.79**	**308**	LR	LR	01 47 39.5	
	comp=Z,127nm,21.2s,baz=128,slow=36						
TXAR	**Lajitas Array**	**10.54**	**356**	Pn	**Pn**	**01 45 05.9**	**+1.4**
	0.0nm,0.3s,baz=175,slow=14,SNR=2.7						
TXAR				Lg	Lg	01 48 07.8	
	0.1nm,0.3s,baz=174,slow=25,SNR=6.4						
TXAR				LR	LR	01 49 28.0	
	comp=Z,121nm,21.0s,baz=0.0,slow=39						
APG	**El Apazote**	**12.37**	**106**	Pn	**Pn**	**01 45 30.7**	**+1.0**
	0.4nm,0.3s,baz=306,slow=20,SNR=3.6						
APG				Lg	Lg	01 49 06.0	
	0.1nm,0.3s,baz=20,slow=18,SNR=3.7						
APG				LR	LR	01 50 18.2	
	comp=Z,142nm,18.7s,baz=316,slow=37						
ANMO	**Albuquerque**	**16.44**	**349**	Pn	**Pn**	**01 46 24.1**	**+0.1**
	0.1nm,0.3s,baz=166,slow=14,SNR=2.3						
ANMO				LR	LR	01 53 31.7	
	comp=Z,112nm,20.0s,baz=157,slow=40						
NVAR	**Mina Array Bea**	**23.80**	**329**	P	**P**	**01 47 44.0**	**-1.9**
	0.1nm,0.3s,baz=149,slow=12,SNR=2.2						
ELK	**Elko**	**24.37**	**337**	LR	LR	01 58 13.1	
	comp=Z,67nm,20.5s,baz=153,slow=39						
PDAR	**Pinedale Array**	**24.60**	**348**	P	**P**	**01 47 53.5**	**+0.2**
	0.7nm,0.9s,baz=153,slow=10.0,SNR=4.9						
PDAR				LR	LR	01 58 58.0	
	comp=Z,50nm,20.0s,baz=160,slow=40						
YKA	**Yellowknife Ar**	**44.45**	**352**	P	**P**	**01 50 41.4**	**-2.1**
	0.3nm,0.8s,baz=163,slow=7.3,SNR=6.7						
YKA				PcP	**PcP**	**01 52 27.1**	**+0.3**
	0.1nm,0.6s,baz=155,slow=3.2,SNR=3.9						
INK	**Inuvik**	**53.15**	**346**	P	**P**	**01 51 49.2**	**-1.0**
	0.9nm,0.6s,baz=130,slow=6.3,SNR=13						
INK				LR	LR	02 14 32.5	
	comp=Z,58nm,18.2s,baz=144,slow=36						

*ISCJB **28** 01:45:55.2±0.9, 0°.04S±0°.07×125°.41E±0°.07, h10km, mb3.4/4, Error ellipse: s-maj=12.6km s-min=6.8km az=39.8*

*IDC **28** 01:45:55.5±1.2, 0°.50S×124°.69E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/37, mbtmp3.3/4, Error ellipse: s-maj=137.6km s-min=21.9km az=67.0*

*DJA **28** 01:45:59.5±0.5, 0°.5S±3°×12°.5E±°, h10km, M3.7/6, MLv3.7/6*

ISC 28 01:45:57.0±1.1, 0°.16S±0°.08×125°.29E±0°.08, h10km, n10, σ1ᾔ53/12, mb3.3/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.50**	**299**	*P*	**Pn**	**01 46 24.0**	**0.0**
KMSI				*S*	**Sn**	**01 46 43.7**	**+0.1**
SANI	**Sanana**	**2.00**	**159**	*P*	**Pn**	**01 46 29.9**	**-1.0**
SANI				*S*	**Sn**	**01 46 58.8**	**+2.7**
LUWI	**Luwuk**	**2.66**	**251**	*P*	**Pn**	**01 46 41.0**	**+1.0**
LUWI				*S*	**Sb**	**01 47 15.7**	**-1.9**
MRSI	**Marisa**	**3.40**	**281**	*P*	**Pn**	**01 46 49.9**	**-0.3**
APSI	**Ampana**	**3.71**	**258**	*P*	**Pn**	**01 46 55.5**	**+1.0**
MPSI	**Mapaga**	**5.41**	**275**	*P*	Pn	01 47 25.9	+8.1
WRA	**Warramunga Arr**	**21.57**	**156**	*P*	**P**	**01 50 44.7**	**-2.2**
	0.4nm,0.5s,baz=334,slow=11,SNR=6.2						
ASAR	**Alice Springs**	**24.82**	**161**	*P*	**P**	**01 51 19.6**	**0.0**
	0.3nm,0.4s,baz=331,slow=10,SNR=3.5						
SONM	**Songino Array**	**50.55**	**344**	*P*	**P**	**01 54 57.2**	**+1.3**
	0.2nm,0.5s,baz=167,slow=8.7,SNR=3.3						
MKAR	**Makanchi Array**	**59.97**	**327**	*P*	**P**	**01 56 03.3**	**-0.5**
	0.4nm,0.5s,baz=128,slow=8.1,SNR=5.9						

*IDC **28** 02:04:01.7±3.1, 14°.15N×92°.63W, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.4/38, mbtmp3.2/5, ML3.1/3, MS1.9/1, Ms1 1.9/1, ms1mx1.9/15, Error ellipse: s-maj=53.6km s-min=20.4km az=21.0*

*MEX **28** 02:04:03.7±0.7, 14°.01N×92°.69W, h55km±34km, MD3.9*

ISC 28 02:04:07.3±1.7, 14°.2N±0°.1×92°.65W±0°.07, h35km, n8, σ1ᾔ97/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.77**	**29**	*iP*	**Pn**	**02 04 20.1**	**-1.6**
THIG				*eS*	**Sn**	**02 04 32.9**	**+0.8**
PCIG		**1.56**	**340**	*eP*	**Pn**	**02 04 30.0**	**-2.6**
PCIG				*eS*	**Sn**	**02 04 51.4**	**-0.2**
CCIG	**Comitan**	**2.10**	**14**	*eP*	**Pn**	**02 04 39.1**	**-1.1**
CCIG				*iS*	**Sn**	**02 05 06.0**	**+0.9**
APG	**El Apazote**	**2.25**	**70**	Pn	**Pn**	**02 04 40.7**	**-1.7**
	3.9nm,0.3s,baz=252,slow=6.8,SNR=27						
APG				Sn	**Sn**	**02 05 11.6**	**+2.5**
	6.5nm,0.3s,baz=142,slow=18,SNR=7.2						
APG				LR	LR	02 05 35.5	
	comp=Z,24nm,18.7s,baz=301,slow=42						
CMIG	**Matias Romero**	**3.56**	**323**	Pn	**Pn**	**02 04 58.8**	**-1.3**
	0.7nm,0.3s,baz=163,slow=8.0,SNR=11						
CMIG				Sn	**Sn**	**02 05 44.6**	**+3.6**
	2.9nm,0.3s,baz=81,slow=21,SNR=4.1						
CMIG				Lg	Lg	02 05 57.4	
	3.4nm,0.3s,baz=238,slow=23,SNR=5.6						
TXAR	**Lajitas Array**	**18.16**	**328**	*P*	**Pn**	**02 08 17.4**	**+0.6**
	0.0nm,0.3s,baz=147,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**33.09**	**321**	*P*	**P**	**02 10 41.4**	**+1.2**
	0.3nm,0.7s,baz=121,slow=8.5,SNR=2.8						
YKA	**Yellowknife Ar**	**50.65**	**347**	*P*	**P**	**02 13 01.9**	**-1.0**
	0.4nm,0.6s,baz=149,slow=7.2,SNR=12						

IDC 28 02:16:41.8±1.9, 11°.15S×161°.94E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/28, mbtmp3.6/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/20, Error ellipse: s-maj=131.0km s-min=25.0km az=144.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.96**	**248**	*P*	P	02 22 34.6	+0.4
	0.6nm,0.9s,baz=77,slow=9.6,SNR=4.0						
ASAR	**Alice Springs**	**29.44**	**241**	*P*	P	02 22 47.0	-0.5
	0.7nm,0.7s,baz=68,slow=9.5,SNR=5.8						
KSRS	**Korea Array**	**57.93**	**328**	LR	LR	02 50 28.2	
	comp=Z,9.4nm,19.4s,baz=5.0,slow=35						
ILAR	**Eielson Array**	**84.83**	**20**	*P*	P	02 29 18.0	+0.1
	0.3nm,0.7s,baz=242,slow=4.7,SNR=3.2						
NVAR	**Mina Array Bea**	**88.96**	**51**	*P*	P	02 29 38.5	-0.4
	0.3nm,0.6s,baz=251,slow=5.6,SNR=2.9						
YKA	**Yellowknife Ar**	**96.79**	**28**	*P*	P	02 30 14.3	+0.2
	0.2nm,0.6s,baz=257,slow=5.2,SNR=4.5						

SJA 28 02:35:51.1±1.1, 21°.33S×68°.73W, h119km±12km, ML4.3, MW3.2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.76**	**292**	*eP*	Pn	02 36 11.7	+0.7
PB01				*eS*	Sn	02 36 26.7	+0.7
PB02	**IPOC Station P**	**1.08**	**271**	*eP*	Pn	02 36 14.5	+0.5
PB02				*eS*	Sn	02 36 31.7	+0.4
LVC	**Limon Verde**	**1.28**	**187**	*eP*	Pn	02 36 17.1	+0.7
LVC				*eS*	Sn	02 36 36.1	+0.6
PB11	**IPOC Station P**	**1.79**	**331**	*eP*	Pn	02 36 22.9	+0.8
PB11				*eS*	Sn	02 36 46.9	+1.2
PB15	**IPOC Station P**	**1.99**	**200**	*eP*	Pn	02 36 25.6	+1.1
PB15				*eS*	Sn	02 36 51.7	+1.5
ACLC	**CERRO LA CRUZ**	**8.22**	**169**	*eP*	Pn	02 37 49.0	+1.3
TCA	**Tanti**	**10.63**	**160**	*eP*	Pn	02 38 14.0	-6.1
TCA				IAML		02 39 02.3	
	comp=Z,5.1nm,0.7s						

*ISCJB **28** 02:48:00.7±0.5, 37°.25N±0°.04×37°.09E±0°.03, h4km±5km, Error ellipse: s-maj=7.4km s-min=4.3km az=9.2*

*DDA **28** 02:48:00.1, 37°.31N×37°.13E, h4km±2km, ML2.8*

*ISK **28** 02:48:00.1, 37°.26N×37°.07E, h8km, ML2.2/8*

ISC 28 02:48:00.5±0.9, 37°.27N±0°.04×37°.10E±0°.02, h11km±8km, n24, σ0ᾔ59/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.13**	**137**	PG	**Pg**	**02 48 03.7**	**+0.1**
GAZ				SG	**Sg**	**02 48 06.0**	**+0.1**
HCB	**Kahramanmara**	**0.17**	**296**	*iP*	**Pg**	**02 48 04.0**	**-0.3**
HCB				IAML_P			
	comp=Z,13μm,0.2s						
KMRS	**Kahramanmaras**	**0.29**	**326**	PG	**Pg**	**02 48 05.9**	**-0.4**
GZT	**Gaziantep**	**0.38**	**76**	*iP*	**Pg**	**02 48 08.0**	**0.0**
GZT				*iS*	**Sg**	**02 48 13.1**	**-0.1**
GZT				IAML_P			
	comp=Z,5μm,0.1s						
KUZU	**Kuzuini**	**0.49**	**182**	*iP*	**Pb**	**02 48 11.2**	**-0.1**
ANDN	**Andirin**	**0.68**	**298**	*iP*	**Pb**	**02 48 14.1**	**-0.4**
ANDN				IAML_P			
	comp=Z,3μm,0.2s						
ATAB	**Bozova**	**0.97**	**78**	*iP*	**Pn**	**02 48 19.9**	**-0.3**
ATAB				*iS*	**Sb**	**02 48 32.5**	**+0.2**
KOZT	**Kozan**	**1.04**	**282**	PG	**Pb**	**02 48 20.3**	**-0.2**
ELBS	**KAHRAMANMARAS**	**1.05**	**1**	*iP*	**Pn**	**02 48 22.8**	**+1.4**
SAIM	**ADANA**	**1.07**	**312**	*iP*	**Pb**	**02 48 20.9**	**-0.4**
SAIM				IAML_P			
	comp=Z,1μm,0.3s						
CEYT	**Ceyhan**	**1.11**	**257**	PN	**Pg**	**02 48 21.4**	**-0.5**
AKCD	**Akcadag**	**1.22**	**32**	*iP*	**Pg**	**02 48 23.2**	**-0.7**
YURE	**YUREGIR**	**1.25**	**250**	PN	**Pg**	**02 48 23.9**	**-0.7**
SURC	**SANLIURFA_SURC**	**1.27**	**107**	*iP*	**Pb**	**02 48 24.9**	**+0.4**
AKO	**Adana**	**1.33**	**279**	*iP*	**Pg**	**02 48 27.0**	**+0.9**
AKO				IAML_P			
	comp=Z,363nm,0.3s						
DARE	**Darende-Malaty**	**1.34**	**13**	PN	**Pg**	**02 48 26.1**	**-0.1**
URFA	**Urfa**	**1.38**	**82**	PN	**Pg**	**02 48 26.5**	**-0.5**
CUGUR	**Gurin_SVAS**	**1.46**	**5**	*iP*	**Pg**	**02 48 29.1**	**+0.6**
SANL	**SANLIURFA_Merk**	**1.51**	**93**	*iP*	**Pn**	**02 48 27.5**	**-0.1**
SANL				IAML_P			
	comp=Z,1μm,0.2s						
YAHY	**KAYSERI_Yahyal**	**1.61**	**301**	*iP*	**Pg**	**02 48 30.8**	**-0.5**
YAHY				IAML_P			
	comp=Z,391nm,0.3s						
KARA	**Karaisali**	**1.63**	**270**	PN	**Pn**	**02 48 29.4**	**+0.2**
BNN	**Bunyan**	**1.87**	**328**	PN	**Pn**	**02 48 33.2**	**+0.6**
ELZG	**Elazig**	**1.93**	**50**	*iP*	**Pg**	**02 48 36.8**	**-0.8**
ELZG				IAML_P			
	comp=Z,311nm,0.1s						
CUALT	**Altinyayla-SIV**	**2.02**	**352**	*iP*	**Pg**	**02 48 38.2**	**-1.0**

*ISCJB **28** 02:48:26.0±0.9, 5°.2S±0°.1×153°.2E±0°.1, h37km, mb3.5/6, MS3.1/2, Error ellipse: s-maj=19.9km s-min=11.2km az=135.6*

*IDC **28** 02:48:29.6±5.2, 5°.19S×153°.15E, h54km±46km, mb3.3/6, mb1 3.7/8, mb1mx3.5/35, mbtmp3.8/8, ML2.9/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/17, Error ellipse: s-maj=31.8km s-min=27.9km az=20.0*

ISC 28 02:48:28.3±0.9, 5°.2S±0°.1×153°.2E±0°.1, h37km, n12, σ2ᾔ03/11, mb3.5/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.36**	**235**	*P*	**Pn**	**02 50 15.2**	**+2.1**
	3.3nm,0.3s,baz=55,slow=12,SNR=5.6						
PMG				S	**Sn**	**02 51 34.4**	**-1.0**
	2.5nm,0.3s,baz=211,slow=19,SNR=5.9						
HNR	**Honiara**	**7.89**	**123**	LR	LR	02 53 31.4	
	comp=Z,120nm,18.7s,baz=295,slow=38						
CTA	**Charters Tower**	**16.32**	**204**	*P*	**Pn**	**02 52 13.0**	**-1.7**
	0.1nm,0.3s,baz=90,slow=9.9,SNR=3.6						
DZM	**Mont Dzumac**	**21.12**	**144**	*P*	**P**	**02 53 10.9**	**+0.8**
	2.9nm,0.4s,baz=228,slow=11,SNR=8.1						
WRA	**Warramunga Arr**	**23.54**	**230**	*P*	**P**	**02 53 34.1**	**-1.3**
	1.3nm,0.9s,baz=52,slow=10,SNR=4.7						
WRA				PcP	**PcP**	**02 57 21.7**	**+1.4**
	0.8nm,0.9s,baz=51,slow=2.8,SNR=5.2						
ASAR	**Alice Springs**	**26.18**	**223**	*P*	**P**	**02 53 57.8**	**-1.8**
	0.4nm,0.5s,baz=57,slow=10,SNR=3.4						
MJAR	**Matsushiro Arr**	**43.80**	**342**	LR	LR	03 12 37.5	
	comp=Z,26nm,21.1s,baz=90,slow=33						
USRK	**Ussuriysk Ar.**	**52.73**	**341**	LR	LR	03 21 07.4	
	comp=Z,14nm,18.2s,baz=352,slow=37						
SONM	**Songino Array**	**66.86**	**328**	*P*	**P**	**02 59 17.1**	**+0.5**
	0.3nm,0.4s,baz=140,slow=4.8,SNR=5.1						
MKAR	**Makanchi Array**	**80.88**	**319**	*P*	**P**	**03 00 37.9**	**-0.7**
	0.4nm,0.7s,baz=93,slow=7.9,SNR=4.1						
ILAR	**Eielson Array**	**82.33**	**22**	*P*	**P**	**03 00 43.8**	**-2.1**
	0.3nm,0.9s,baz=238,slow=5.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**150.83**	**288**	PKPbc	**PKPdf**	**03 08 15.8**	**+3.5**
	1.1nm,0.4s,baz=57,slow=2.1,SNR=21						

*GCMT **28** 02:53:02.7±0.2, 13°.83N±0°.02×92°.35W±0°.02, h32km, MW5.2/83, Moment Tensor Solution. s71,c98; s83,c140; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.19±.20; $M_{\theta\theta}$-1.86±.14; $M_{\phi\phi}$-3.32±.15; $M_{r\theta}$1.31±.19; $M_{r\phi}$3.75±.10; $M_{\theta\phi}$-3.66±.20; Best double couple: M_w7.01600×10^{16} NP1:ϕs153.00000°, δ62.00000°, λ104.00000°. NP2: ϕs305.00000°, δ31.00000°, λ66.00000°. Principal axes: T 6.5480, Plg69.0000°, Azm92.0000°; N 0.9450, Plg12.0000°, Azm327.0000°; P -7.4830, Plg16.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UCR **28** 02:53:02.8±1.7, 13°.87N×91°.91W, h18km±16km, MD4.6, ML4.8, mb4.9(NEIC)*

*MEX **28** 02:53:03.0±0.4, 14°.11N×92°.01W, h84km±10km, MD5.0*

*MOS **28** 02:53:06.0±0.9, 14°.18N×91°.57W, h72km, mb5.1/77, Error ellipse: s-maj=7.6km s-min=4.2km az=105.1*

*ISCJB **28** 02:53:07.0±0.3, 14°.13N±0°.02×91°.63W±0°.02, h86km±2km, mb4.8/363, Error ellipse: s-maj=3.7km s-min=2.1km az=139.0*

*IDC **28** 02:53:08.5±1.8, 14°.13N×91°.48W, h86km±14km, mb4.5/25, mb1 4.6/27, mb1mx4.6/33, mbtmp4.8/27, MS4.3/20, Ms1 4.3/20, ms1mx4.2/28, Error ellipse: s-maj=20.3km s-min=9.2km az=60.0*

*BGR **28** 02:53:08.5±0.0, 14°.01N×89°.59W, h33km, mb4.7*

*NEIC **28** 02:53:08.7±0.5, 14°.09N×91°.62W, h85km±4km, mb4.9/299, MD4.9(MEX), Error ellipse: s-maj=3.9km s-min=2.5km az=224.0*

NEIC Felt [II] at Antigua Guatemala. Also felt at Amatitlan, Cahabon, Panajachel and Quetzaltenango.

ISC 28 02:53:02.5±0.3, 14°.00N±0°.04×92°.01W±0°.04, h36km±1km, h38km:pP-P, n1231, σ1ᾔ73/1288, mb5.0/373, MS4.4/22, 23C-7D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.94**	**345**	*eP*	**Pn**	**02 53 19.1**	**-0.1**
THIG		**0.94**	**345**	*eP*	**Pn**	**02 53 19.1**	**-0.1**
THIG				*iS*	**Sn**	**02 53 31.8**	**+0.4**
FUG	**Fuego 3**	**1.22**	**68**	*iP*	**Pn**	**02 53 24.4**	**+1.2**
PCG	**Pacaya**	**1.42**	**74**	*eP*	**Pn**	**02 53 27.3**	**+1.2**
IXG	**Ixpaco**	**1.52**	**83**	*eP*	**Pn**	**02 53 27.6**	**+0.3**
NBG	**Las Nubes**	**1.72**	**70**	*eP*	**Pn**	**02 53 32.7**	**+2.5**
APG	**El Apazote**	**1.81**	**56**	*P*	**Pn**	**02 53 32.3**	**+1.0**
	534nm,0.3s,baz=223,slow=11,SNR=2146						
APG				S	**Sn**	**02 53 58.0**	**+4.9**
	544nm,0.3s,baz=158,slow=6.0,SNR=7.9						
APG				LR	LR	02 54 08.8	
	comp=Z,9μm,19.1s,baz=172,slow=46						
PCIG		**2.06**	**326**	*eP*	**Pn**	**02 53 33.7**	**-0.9**
PCIG				*eSn*	**Sn**	**02 53 53.8**	**-5.2**
PCIG		**2.06**	**326**	*eP*	**Pn**	**02 53 33.7**	**-0.9**
PCIG				*iS*	**Sn**	**02 53 57.1**	**-1.9**
CCIG	**Comitan**	**2.27**	**357**	*ePn*	**Pn**	**02 53 40.5**	**+2.7**
CCIG				*eSn*	**Sn**	**02 54 06.0**	**+1.3**
CCIG	**Comitan**	**2.27**	**357**	*eP*	**Pn**	**02 53 40.6**	**+2.9**
CCIG				*eS*	**Sn**

JTS eSn Sn 02 56 24.6 +3.3
JTS JuntasAbangare 7.83 117 *i* P Pn 02 54 54.9 +1.0
JTS JuntasAbangare 7.83 117 P Pn 02 54 55.3 +1.4
comp=N,3.7nm,0.3s,baz=26,slow=10.0,SNR=19
JTS S Sn 02 56 22.1 +0.8
comp=N,3.9nm,0.3s,baz=3.6,slow=16,SNR=1.5
JTS JuntasAbangare 7.83 117 *e*P Pn 02 54 55.8 +1.9
HDC Heredia 8.69 116 *e*Pn Pn 02 55 08.4 +2.5
MOIG Morelia 10.44 304 *e*Pn Pn 02 55 34.3 +4.3
BCIP Isla Barro Col 12.86 111 *e*Pn Pn 02 56 04.3 +1.4
BCIP Isla Barro Col 12.86 111 *e*P Pn 02 56 02.9 0.0
BCIP Isla Barro Col 12.86 111 *e*P Pn 02 56 04.3 +1.4
BCIP Isla Barro Col 12.86 111 *e*P Pn 02 56 02.9 0.0
LNIG Linares 12.92 328 *e*Pn Pn 02 56 06.2 +2.6
ZAIG Zacatecas 13.28 313 *e*Pn P 02 56 14.2 -3.9
MTDJ Mount Denham 14.53 71 *e*P P 02 56 31.4 -0.4
061Z Ochoppi 15.75 40 *e*Pn Pn 02 56 42.0 +0.4
comp=N,262nm,1.1s
061Z Ochoppi 15.75 40 P Pn 02 56 42.6 +0.9
baz=222
059Z Ave Maria 15.77 37 P Pn 02 56 42.8 +0.8
baz=220
833A Chaparral WMA, 15.82 335 *e*Pn P 02 56 46.5 +0.5
comp=N,48nm,0.8s
833A Chaparral WMA, 15.82 335 P P 02 56 45.6 -0.5
baz=152
058A Arcadia 16.12 35 P Pn 02 56 46.3 -0.1
baz=217
HKT Hockley 16.27 348 *e*Pn Pn 02 56 48.4 +0.2
comp=N,31nm,1.4s
HKT Hockley 16.27 348 *e*P Pn 02 56 48.4 +0.2
HKT pmax pmax
comp=Z,31nm,1.4s
060Z West Palm Beac 16.36 39 P Pn 02 56 49.3 -0.1
baz=222
957A Wimauma 16.38 32 *e*Pn P 02 56 51.0 -1.2
comp=Z,133nm,1.0s
957A Wimauma 16.38 32 P Pn 02 56 49.3 -0.3
baz=215
059A Moore Haven 16.42 37 *e*Pn Pn 02 56 51.3 +1.1
comp=Z,128nm,0.9s
059A Moore Haven 16.42 37 P Pn 02 56 50.1 -0.2
baz=219
958A Wauchula 16.56 34 P Pn 02 56 51.7 -0.3
baz=216,SNR=6.7
857A Zephyrhills 16.87 31 P Pn 02 56 55.9 0.0
baz=214
060A Indiantown 16.94 38 *e*Pn P 02 56 59.1 +0.7
comp=Z,258nm,0.9s
060A Indiantown 16.94 38 P P 02 56 57.8 -0.5
baz=221
SJCC San Jacinto, C 16.96 102 *e*P Pn 02 56 55.2 -2.0
SJCC San Jacinto, C 16.96 102 *e*P Pn 02 56 55.2 -2.0
DBBC Dabeiba 17.01 112 *e*P P 02 56 58.7 -0.7
DBBC Dabeiba 17.01 112 *e*P P 02 56 58.7 -0.7
DWPF Disney Wildern 17.15 33 *e*Pn Pn 02 56 59.3 -0.1
comp=Z,98nm,0.8s
DWPF Disney Wildern 17.15 33 P Pn 02 56 58.2 -1.3
baz=216
DWPF Disney Wildern 17.15 33 *e*P P 02 57 00.1 -0.7
449A Pace 17.26 14 P P 02 57 01.6 -0.3
baz=195
858A St. Cloud 17.27 33 P P 02 57 01.4 -0.6
baz=216
448A Bay Minette 17.28 12 P P 02 57 02.5 +0.3
baz=192
859A Kempfer Cattle 17.40 35 P P 02 57 03.2 -0.4
baz=218
655A Horseshoe Beac 17.44 26 P P 02 57 03.4 -0.5
baz=208,SNR=6.1
450A Crestview 17.46 16 P P 02 57 05.1 +0.9
baz=197
435B Jarrell 17.48 344 *e*P P 02 57 07.5 +3.1
comp=Z,37nm,0.8s
435B Jarrell 17.48 344 P P 02 57 06.2 +1.8
baz=160
757A Oxford 17.50 30 P P 02 57 04.6 0.0
baz=213,SNR=6.1
451A Vernon 17.52 18 *e*Pn P 02 57 10.1 +5.3
comp=Z,147nm,1.1s
451A Vernon 17.52 18 P P 02 57 06.8 +2.0
baz=199
553A Crawfordville 17.57 22 P P 02 57 06.3 +0.9
baz=204,SNR=16
656A Willston 17.64 28 *e*P P 02 57 07.1 +1.0
comp=Z,170nm,1.0s
656A Willston 17.64 28 P P 02 57 05.9 -0.2
baz=211,SNR=13
BRAL Brewton 17.69 14 *e*P P 02 57 09.8 +3.1
comp=Z,119nm,0.8s
BRAL Brewton 17.69 14 P P 02 57 08.0 +1.3
baz=195,SNR=10
554A Perry 17.76 24 P P 02 57 08.5 +1.0
baz=206
349A Repton 17.83 14 P P 02 57 10.7 +2.4
baz=194,SNR=20
NATX Nacogdoches 17.85 353 *e*P P 02 57 11.0 +2.6
comp=Z,62nm,0.8s
NATX Nacogdoches 17.85 353 P P 02 57 09.9 +1.5
baz=170,SNR=9.3
JCT Junction City 17.91 338 *e*P P 02 57 11.3 +2.1
comp=Z,27nm,1.1s
JCT *e*Sn Sn 03 00 24.4 -3.1
JCT Junction City 17.91 338 *e*P P 02 57 11.3 +2.1
JCT *e* 03 00 24.4
JCT pmax pmax
comp=Z,27nm,1.1s
JCT Junction City 17.91 338 P P 02 57 11.9 +2.7
baz=154
452A Marianna 17.91 19 P P 02 57 11.0 +1.9
baz=201
758A Lake Helen 17.95 32 P P 02 57 10.4 +0.7
baz=215
HELC Santa Helena 17.98 114 *e*P Pn 02 57 09.3 -0.8
HELC Santa Helena 17.98 114 *e*P Pn 02 57 09.3 -0.8
ZARC Zaragoza, Cauc 18.05 109 *e*P Pn 02 57 09.1 -1.5
ZARC Zaragoza, Cauc 18.05 109 *e*P Pn 02 57 09.1 -1.5
555A McAlpin 18.09 26 *e*P P 02 57 13.3 +2.2
comp=Z,214nm,0.6s
555A McAlpin 18.09 26 P P 02 57 11.9 +0.8
baz=208,SNR=22
350A Dozier 18.11 16 P P 02 57 13.4 +2.1
baz=197,SNR=12
HPIG 18.12 317 *e*P P 02 57 15.4 +3.6
comp=Z,18nm,0.8s
657A Interlachen 18.13 30 P P 02 57 11.9 +0.3
baz=212
351A Pinckard 18.18 18 P P 02 57 13.8 +1.7
baz=199,SNR=12
VBMS Vicksburg 18.19 4 *e*P Pn 02 57 14.4 +2.2
comp=Z,62nm,0.7s
VBMS Vicksburg 18.19 4 P Pn 02 57 13.8 +1.6
baz=183
453A Whigham 18.21 22 *e*P Pn 02 57 13.8 +1.4
comp=Z,225nm,1.1s
453A Whigham 18.21 22 P Pn 02 57 13.7 +1.2
baz=203,SNR=8.5
556A Lake Butler 18.23 28 P Pn 02 57 13.7 +0.9
baz=210,SNR=29
SMLC San Martn de 18.33 104 *e*P P 02 57 10.5 -3.3
SMLC San Martn de 18.33 104 *e*P P 02 57 10.5 -3.3
454A Quitman 18.34 24 P Pn 02 57 15.4 +1.4
baz=206
YOTC Yotoco, Valle 18.38 121 *e*P Pn 02 57 15.5 +0.6
YOTC Yotoco, Valle 18.38 121 *e*P Pn 02 57 15.5 +0.6
249A Camden 18.45 13 P Pn 02 56 16.8 +1.4
baz=194
557A Orange Park 18.56 29 P Pn 02 57 16.7 +0.1
baz=212
352A Blakely 18.58 19 *e*P Pn 02 57 17.5 +0.6
comp=Z,139nm,1.0s
352A Blakely 18.58 19 P Pn 02 57 18.0 +1.1
baz=201,SNR=20
WHTX Lake Whitney, 18.59 345 *e*P Pn 02 57 19.2 +2.1
comp=Z,40nm,0.9s
WHTX Lake Whitney, 18.59 345 P Pn 02 57 18.8 +1.6
baz=162
CODC Agustn Codazz 18.61 100 *e*P P 02 57 14.6 -2.3
CODC Agustn Codazz 18.61 100 *e*P P 02 57 14.6 -2.3
455A Stateville 18.61 25 P Pn 02 57 19.0 +1.7
baz=207
250A Grady 18.66 15 *e*P Pn 02 57 20.7 +2.8
comp=Z,77nm,0.9s
250A Grady 18.66 15 P Pn 02 57 19.3 +1.5
baz=196,SNR=8.1
TX31 Lajitas Ar. Si 18.69 327 *e*P Pn 02 57 20.8 +2.4
comp=Z,56nm,1.2s
TXAR Lajitas Array 18.69 327 P Pn 02 57 21.3 +2.9
comp=Z,1.0nm,0.3s,baz=155,slow=11,SNR=90
TXAR LR LR 03 05 47.8
comp=Z,413nm,19.5s,baz=0.0,slow=40
353A Camilla 18.70 21 P Pn 02 57 19.0 +0.7
baz=203,SNR=12
RREF El Recreo 18.75 117 *e*P Pn 02 57 21.1 +1.4
RREF El Recreo 18.75 117 *e*P Pn 02 57 21.1 +1.4
PTBC PUERTO BERRIO, 18.79 111 *e*P Pn 02 57 19.6 -0.1
PTBC PUERTO BERRIO, 18.79 111 *e*P Pn 02 57 19.6 -0.1
NORC Norcasia 18.85 115 *e*P Pn 02 57 20.5 +0.1
NORC Norcasia 18.85 115 *e*P Pn 02 57 20.5 +0.1
147A Livingston 18.90 10 *e*P Pn 02 57 21.4 +0.5
comp=Z,82nm,0.8s
147A Livingston 18.90 10 P Pn 02 57 22.5 +1.6
baz=190,SNR=14
251A Midway 19.00 17 P Pn 02 57 22.1 +0.1
baz=199,SNR=14
148A Greensboro 19.00 12 P Pn 02 57 22.5 +0.4
baz=192,SNR=21
TIGA Tifton 19.00 23 *e*P Pn 02 57 22.8 +0.6
comp=Z,89nm,0.8s
TIGA Tifton 19.00 23 P Pn 02 57 22.7 +0.6
baz=205,SNR=21
456A Hilliard 19.02 27 *e*P P 02 57 17.8 -3.5
comp=Z,166nm,0.6s
456A Hilliard 19.02 27 P P 02 57 21.4 0.0
baz=210
252A Lumpkin 19.12 19 P Pn 02 57 23.6 +0.1
baz=201,SNR=20
149A Jones 19.12 14 P Pn 02 57 23.8 +0.3
baz=194,SNR=16
457A Yulee 19.14 28 P Pn 02 57 24.2 +0.5
baz=211,SNR=6.7
OTAV Otavalo 19.16 134 *e*P Pn 02 57 25.1 +0.5
comp=Z,15nm,1.0s
OTAV Otavalo 19.16 134 *e*P P 02 57 23.9 +0.4
OTAV Otavalo 19.16 134 *e*P Pn 02 57 25.1 +0.5
OTAV pmax pmax
comp=Z,15nm,1.0s
OTAV Otavalo 19.16 134 *e*P P 02 57 23.9 +0.4
Z41A Richland Creek 19.19 358 *e*P Pn 02 57 24.3 0.0
comp=Z,99nm,0.8s
Z41A Richland Creek 19.19 358 P Pn 02 57 24.2 -0.1
baz=176,SNR=16
355A Pearson 19.21 24 P Pn 02 57 24.2 -0.3
baz=207
OCAC Ocana 19.21 105 *e*P P 02 57 23.9 +0.2
OCAC Ocana 19.21 105 *e*P P 02 57 23.9 +0.2
BRRC Barranca, Sant 19.24 109 *e*P P 02 57 23.3 -0.7
BRRC Barranca, Sant 19.24 109 *e*P P 02 57 23.3 -0.7
SOTA Rioblanco 19.25 126 *e*P Pn 02 57 27.6 +1.9
SOTA Rioblanco 19.25 126 *e*P Pn 02 57 27.6 +1.9
GCUF Volcan Galeras 19.27 130 *e*P Pn 02 57 25.9 -0.1
GCUF Volcan Galeras 19.27 130 *e*P Pn 02 57 25.9 -0.1
PCON Cinco Dias 19.30 126 *e*P Pn 02 57 26.7 +0.3
PCON Cinco Dias 19.30 126 *e*P Pn 02 57 26.7 +0.3
150A Eclectic 19.32 15 P Pn 02 57 26.0 +0.2
baz=197,SNR=39
CRUC La Cruz 19.35 128 *e*P P 02 57 25.2 -0.2
CRUC La Cruz 19.35 128 *e*P P 02 57 25.2 -0.2
MARP Paez Belalcaza 19.35 123 *e*P Pn 02 57 27.0 +0.3
MARP Paez Belalcaza 19.35 123 *e*P Pn 02 57 27.0 +0.3
253A Americus 19.38 21 *e*P Pn 02 57 26.6 +0.1
comp=Z,139nm,1.1s
253A Americus 19.38 21 P Pn 02 57 26.7 +0.1
baz=203
151A Opelika 19.43 17 P Pn 02 57 27.4 +0.2
baz=199,SNR=35
356A Blackshear 19.49 26 P Pn 02 57 27.3 -0.6
baz=209,SNR=6.0
LRAL Lakeview Retre 19.50 13 *e*P Pn 02 57 28.2 +0.2
comp=Z,79nm,1.0s
LRAL Lakeview Retre 19.50 13 P Pn 02 57 28.2 +0.2
baz=194,SNR=37
254A Abbeville 19.57 23 P P 02 57 27.9 +0.5
baz=205,SNR=20
WLAR White Oak Lake 19.63 357 *e*P Pn 02 57 29.4 -0.1
comp=Z,115nm,1.0s
ROSC El Rosal 19.67 116 *e*P P 02 57 29.3 +0.4
comp=Z,115nm,0.9s
ROSC El Rosal 19.67 116 *e*P Pn 02 57 31.5 +0.9
ROSC El Rosal 19.67 116 *e*P Pn 02 57 31.5 +0.9
ROSC El Rosal 19.67 116 P Pn 02 57 30.9 +0.4
comp=Z,1.6nm,0.3s,baz=5.6,slow=3.3,SNR=60
ROSC LR LR 03 06 00.3
comp=Z,493nm,20.2s,baz=326,slow=40
152A Waverly Hall 19.74 18 *e*P Pn 02 57 30.6 -0.4
comp=Z,45nm,0.6s
152A Waverly Hall 19.74 18 P Pn 02 57 30.2 -0.7
baz=200,SNR=21
PRAC Prado 19.75 120 *e*P P 02 57 30.1 +0.6
PRAC Prado 19.75 120 *e*P P 02 57 30.1 +0.6
Z49A Columbiana 19.75 14 P Pn 02 57 31.1 0.0
baz=195,SNR=57
ABTX Abilene, Hawle 19.81 341 *e*P Pn 02 57 32.2 +0.5
comp=Z,31nm,0.9s
ABTX Abilene, Hawle 19.81 341 P Pn 02 57 31.8 +0.1
baz=157,SNR=13
CCAR Cane Creek 19.83 1 *e*P Pn 02 57 31.4 -0.5
comp=Z,91nm,0.8s
BETC Betania 19.86 123 *e*P P 02 57 27.9 -2.8
BETC Betania 19.86 123 *e*P P 02 57 27.9 -2.8
255A Hazlehurst 19.87 24 *e*P P 02 57 31.1 +0.4
comp=Z,83nm,1.0s
255A Hazlehurst 19.87 24 P P 02 57 31.3 +0.7
baz=207,SNR=7.5
BARC Barichara 19.92 110 *e*P Pn 02 57 33.9 +0.4
BARC Barichara 19.92 110 *e*P Pn 02 57 33.9 +0.4
Z50A Ashland 19.96 15 *e*P Pn 02 57 33.0 -0.5
comp=Z,58nm,0.9s
Z50A Ashland 19.96 15 P Pn 02 57 32.9 -0.5
baz=196,SNR=30
153A Fort Valley 20.02 21 P P 02 57 32.6 +0.4
baz=203,SNR=6.4
256A Glennville 20.16 26 P P 02 57 34.6 +0.9
baz=209,SNR=12
Z51A Franklin 20.22 17 P Pn 02 57 35.4 -1.0
baz=198,SNR=14
154A Montrose 20.24 22 *e*P Pn 02 57 35.7 -1.0
comp=Z,276nm,0.8s
154A Montrose 20.24 22 P Pn 02 57 35.7 -1.0
baz=205,SNR=30
CHIC Chingaza 20.28 116 *e*P Pn 02 57 37.9 0.0
CHIC Chingaza 20.28 116 *e*P Pn 02 57 37.9 0.0
RUSC La Rusia 20.30 112 *e*P P 02 57 35.9 0.0
RUSC La Rusia 20.30 112 *e*P P 02 57 35.9 0.0
Y48A Jasper 20.31 12 P Pn 02 57 36.9 -0.7
baz=193,SNR=12
Z52A Williamson 20.32 19 P P 02 57 36.4 +0.9
baz=201,SNR=18
FLOC Florencia 20.34 126 *e*P Pn 02 57 37.9 -0.3
FLOC Florencia 20.34 126 *e*P Pn 02 57 37.9 -0.3
X40A Basin Creek Fa 20.41 358 *e*P Pn 02 57 38.0 -0.8
comp=Z,28nm,1.0s
X40A Basin Creek Fa 20.41 358 P Pn 02 57 37.8 -1.0
baz=177,SNR=10.0
Y49A Blount Mountai 20.42 13 *e*P Pn 02 57 38.5 -0.4
comp=Z,38nm,0.8s
Y49A *e*S S 03 01 22.7 -0.6
Y49A Blount Mountai 20.42 13 P Pn 02 57 38.2 -0.7
baz=195,SNR=14
X43A Marvell 20.46 3 *e*P Pn 02 57 42.6 +3.3
comp=Z,226nm,1.5s
SDDR Presa de Saban 20.48 73 *e*P Pn 02 57 43.4 +3.7
comp=Z,30nm,0.8s
SDDR *es*P sP 02 57 53.4 +1.8
155A Kite 20.49 24 P P 02 57 37.7 +0.4
baz=206,SNR=33
MIAR Mount Ida 20.51 356 *e*P P 02 57 38.0 +0.5
comp=Z,77nm,1.0s
MIAR Mount Ida 20.51 356 *e*P P 02 57 38.0 +0.5
MIAR pmax pmax
comp=Z,77nm,1.0s
MIAR Mount Ida 20.51 356 P P 02 57 38.1 +0.6
baz=175,SNR=23
OXF Oxford 20.56 6 *e*P P 02 57 38.5 +0.3
comp=Z,145nm,1.1s
OXF Oxford 20.56 6 P P 02 57 37.9 -0.2
baz=186,SNR=24
VILC Villavicencio, 20.57 117 *e*P Pn 02 57 41.3 +0.4
VILC Villavicencio, 20.57 117 *e*P Pn 02 57 41.3 +0.4
Y50A Piedmont 20.61 15 P Pn 02 57 39.9 -1.2
baz=196,SNR=13
Z53A Monticello 20.68 20 P P 02 57 40.1 +0.7
baz=203,SNR=35
UALR University of 20.69 359 *e*P P 02 57 40.6 +1.1
comp=Z,40nm,0.8s
X46A Booneville 20.70 8 P P 02 57 40.3 +0.7
baz=188,SNR=12
X37A Clayton 20.73 352 *e*P P 02 57 41.2 +1.3
comp=Z,52nm,0.8s
X47A Russelville 20.77 10 P P 02 57 41.0 +0.6
baz=190,SNR=28
Y51A Rockmart 20.80 16 P P 02 57 41.4 +0.7
baz=198,SNR=27
GOGA Godfrey 20.83 20 *e*P P 02 57 42.2 +1.2
comp=Z,45nm,0.8s
GOGA Godfrey 20.83 20 *e*P P 02 57 42.3 +1.2
GOGA pmax pmax
comp=Z,45nm,0.8s
GOGA Godfrey 20.83 20 P P 02 57 41.8 +0.7
baz=203,SNR=30
X48A Hartselle 20.86 12 *e*P P 02 57 41.9 +0.6
comp=Z,69nm,0.8s
X48A Hartselle 20.86 12 P P 02 57 41.8 +0.4
baz=193,SNR=31
Z54A Sparta 20.89 22 P P 02 57 42.4 +0.7
baz=205,SNR=19
156A Sylvania 20.91 26 P P 02 57 42.5 +0.7
baz=209,SNR=5.1
Y52A Lilburn 21.05 19 *e*P P 02 57 44.9 +1.4
comp=Z,59nm,0.9s
Y52A Lilburn 21.05 19 P P 02 57 44.0 +0.5
baz=201,SNR=20
X49A Woodville 21.07 13 P P 02 57 44.1 +0.5
baz=194,SNR=20
W41B Gary Mavity, V 21.09 359 *e*P P 02 57 44.5 +0.7
comp=Z,86nm,1.4s
W41B Gary Mavity, V 21.09 359 P P 02 57 45.0 +1.2
baz=178,SNR=7.7
Z55A Blythe 21.15 23 P P 02 57 44.8 +0.4
baz=206,SNR=9.2
W39A Magazine 21.17 356 *e*P P 02 57 47.4 +2.8
comp=Z,27nm,0.8s
W39A Magazine 21.17 356 P P 02 57 45.5 +0.8
baz=174
CLNB Carlsbad 21.17 331 *e*P P 02 57 48.2 +3.3
X50B Fort Payne 21.17 15 P P 02 57 45.4 +0.7
baz=196,SNR=40
PLAL Pickwick Lake 21.20 9 *e*P P 02 57 45.3 +0.3
comp=Z,22nm,0.9s
Y53A Monroe 21.20 20 P P 02 57 45.3 +0.3
baz=202,SNR=30
WHAR Wooly Hollow 21.20 359 *e*P P 02 57 46.0 +1.0
comp=Z,62nm,1.2s
TAMC Tame, Arauca 21.26 109 *e*P P 02 57 44.7 -1.2
TAMC Tame, Arauca 21.26 109 *e*P P 02 57 44.7 -1.2
W46A Michie 21.30 8 P P 02 57 46.4 +0.3
baz=189,SNR=17
GDL2 Guadalupe Moun 21.35 330 *e*P P 02 57 49.7 +2.9
MNTX Cornudas Mount 21.46 327 *e*P P 02 57 50.1 +2.2
comp=Z,61nm,1.0s
MNTX Cornudas Mount 21.46 327 P P 02 57 49.9 +2.1
baz=141,SNR=86
X51A Calhoun 21.48 16 *e*P P 02 57 49.6 +1.6
comp=Z,121nm,1.1s
X51A Calhoun 21.48 16 P P 02 57 48.8 +0.8
baz=198,SNR=17
HBAR Harrisburg 21.50 3 *e*P P 02 57 49.5 +1.3
Y54A Tignall 21.51 22 P P 02 57 48.7 +0.4
baz=204,SNR=17
W47A Westpoint 21.54 10 P P 02 57 48.5 -0.1
baz=191,SNR=21
WMOK Wichita Mounta 21.54 345 *e*P P 02 57 49.7 +1.0
comp=Z,24nm,0.8s
WMOK *e*S S 03 01 44.4 -1.1
WMOK Wichita Mounta 21.54 345 *e*P P 02 57 49.7 +1.0
WMOK *e*S S 03 01 44.4 -1.1
WMOK pmax pmax
comp=Z,24nm,0.8s
WMOK Wichita Mounta 21.54 345 P P 02 57 49.1 +0.5
baz=161,SNR=17
Z56A Williston 21.54 25 P P 02 57 49.1 +0.5
baz=208,SNR=6.4
W48A Pulaski 21.54 11 P P 02 57 48.6 -0.1
baz=192,SNR=19
W49A Belvidere 21.66 13 P P 02 57 51.0 +1.0
baz=194,SNR=29
X52A Dahlonega 21.79 18 P P 02 57 51.7 +0.3
baz=201,SNR=16
Z57A Bowman 21.80 26 P P 02 57 51.7 +0.3
baz=210
CPRX Cap Rock 21.81 332 *e*P P 02 57 55.5 +3.8
SWET Sewanee 21.83 13 *e*P P 02 57 52.1 +0.3
comp=Z,48nm,0.6s
NHSC New Hope 21.87 28 *e*P P 02 57 54.3 +2.1
comp=Z,124nm,1.0s
X53A Estanollee 21.89 20 P P 02 57 52.4 +0.1
baz=202,SNR=10
Y55A Saluda 21.89 23 P P 02 57 52.6 +0.2
baz=206,SNR=6.6
PTLC Puerto Leguiza 21.89 127 *e*P P 02 57 56.4 +3.8
PTLC Puerto Leguiza 21.89 127 *e*P P 02 57 56.4 +3.8
W50A Signal Mountai 21.96 15 *e*P P 02 57 54.0 +0.8
comp=Z,99nm,1.3s
W50A Signal Mountai 21.96 15 P P 02 57 53.9 +0.6
baz=197,SNR=10
Y56A Pelion 21.98 24 P P 02 57 53.5 +0.2
baz=208
V46A Holladay 21.99 8 P P 02 57 52.7 -0.8
baz=189,SNR=46
HODGE Hodges 22.00 22 *e*P P 02 57 54.2 +0.6
comp=Z,43nm,0.8s
W51A Cleveland 22.07 16 P P 02 57 54.6 +0.3
baz=198,SNR=14
TUL1 Leonard 22.08 352 *e*P P 02 57 53.3 -1.2
comp=Z,44nm,0.9s
TUL1 Leonard 22.08 352 P P 02 57 54.3 -0.2
baz=169,SNR=8.1
V47A Nunnelly 22.11 10 P P 02 57 54.2 -0.5
baz=191,SNR=14
V48A Smith Brothers 22.15 11 *e*P P 02 57 55.1 -0.1
comp=Z,72nm,0.8s
V48A Smith Brothers 22.15 11 P P 02 57 55.1 -0.1
baz=192,SNR=70
MSTX Muleshoe 22.15 336 *e*P P 02 57 56.3 +0.9
comp=Z,42nm,0.8s
MSTX Muleshoe 22.15 336 P P 02 57 55.6 +0.3
baz=150,SNR=31
Z58A St. Stephen 22.22 28 P P 02 57 56.2 +0.2
baz=212
W52A Murphy 22.24 18 *e*P P 02 57 57.6 +1.4
comp=Z,28nm,0.9s
W52A Murphy 22.24 18 P P 02 57 56.9 +0.7
baz=200,SNR=9.7
X54A Belton 22.24 21 P P 02 57 56.2 0.0
baz=204,SNR=11
U41A Viola 22.25 0 P P 02 57 56.6 +0.2
baz=179,SNR=14
HHAR Hobbs 22.26 356 *e*P P 02 57 56.3 -0.1
comp=Z,32nm,1.1s
U40A Yellville 22.28 358 P P 02 57 56.8 +0.2
baz=177,SNR=14
GLAT Glass 22.31 6 *e*P P 02 57 57.5 +0.6
comp=Z,222nm,1.1s
WVT Waverly 22.36 9 *e*P P 02 57 56.7 -0.7
comp=Z,32nm,0.8s
WVT Waverly 22.36 9 *e*P P 02 57 56.7 -0.7
WVT pmax pmax
comp=Z,32nm,0.8s
WVT Waverly 22.36 9 P P 02 57 57.2 -0.2
baz=190
V49A McMinnville 22.36 13 P P 02 57 57.3 -0.2
baz=195,SNR=20
CPCT Cooper Cave 22.40 16 *e*P P 02 57 58.3 +0.4
comp=Z,79nm,1.1s
JSC Jenkinsville 22.42 24 *e*P P 02 57 58.5 +0.4
comp=Z,30nm,0.9s
UTMT University of 22.43 7 *e*P P 02 57 58.2 0.0
comp=Z,150nm,0.9s
X55A Gracelyn & Ava 22.44 23 P P 02 57 58.3 -0.1
baz=206,SNR=12
BG3 Lake Jocassee 22.46 20 *e*P P 02 57 59.5 +1.0
comp=Z,98nm,1.5s
V50A Pikevile 22.46 15 P P 02 57 58.7 +0.2
baz=197,SNR=13
U44A Portageville 22.51 5 P P 02 57 59.2 +0.1
baz=185,SNR=8.0
U46A Springville 22.53 8 P P 02 57 58.4 -0.9
baz=189,SNR=48
W53A Cullowhee 22.54 19 P P 02 58 00.1 +0.6
baz=202,SNR=9.2
Y57A Sumter 22.55 26 P P 02 57 59.8 +0.4

PARMO **Parma** 22.66 5 *e*P P 02 58 00.7 +0.1
comp=Z,158nm,0.7s
PAULI **Pauline** 22.69 22 *e*P P 02 58 01.4 +0.5
comp=Z,31nm,0.9s
X56A **White Oak** 22.70 24 P P 02 58 00.7 -0.4
baz=208
PBMO **Poplar Bluff** 22.73 3 *e*P P 02 58 00.1 -1.3
comp=Z,47nm,0.6s
U47A **Clarksville** 22.75 10 P P 02 58 00.9 -0.7
baz=191,SNR=15
Y58A **Scranton** 22.77 27 P P 02 58 01.5 -0.3
baz=212
V51A **Loudon** 22.78 16 *e*P P 02 58 02.4 +0.5
comp=Z,101nm,1.0s
V51A **Loudon** 22.78 16 P P 02 58 02.1 +0.1
baz=199,SNR=17
W54A **Cherokee Point** 22.79 21 P P 02 58 02.0 0.0
baz=204,SNR=12
TKL **Tuckaleechee C** 22.81 18 *e*P P 02 58 02.9 +0.7
comp=Z,50nn,0.9s
TKL **Tuckaleechee C** 22.81 18 *e*P P 02 58 02.9 +0.7
TKL pmax pmax
comp=Z,50nm,0.9s
TKL **Tuckaleechee C** 22.81 18 P P 02 58 01.6 -0.6
comp=Z,18nm,0.6s,baz=181,slow=11,SNR=33
U48A **Cassie Pea, Po** 22.95 11 P P 02 58 02.8 -0.9
baz=193,SNR=22
V52A **Sevierville** 23.03 18 *e*P P 02 58 04.6 +0.1
comp=Z,89nm,1.2s
V52A **Sevierville** 23.03 18 P P 02 58 04.4 -0.1
baz=200,SNR=12
T43A **Greenville** 23.04 4 P P 02 58 03.6 -1.0
baz=183,SNR=24
X57A **Johnson Farm,** 23.06 26 P P 02 58 04.1 -0.7
baz=210
SRIG **Santa Rosalia** 23.06 308 *e*P P 02 58 07.9 +3.0
comp=Z,69nm,1.1s
U49A **Red Boiling Sp** 23.11 13 P P 02 58 04.7 -0.6
baz=195,SNR=32
V53A **Saluda** 23.11 19 *e*P P 02 58 05.8 +0.4
comp=Z,54nm,1.0s
V53A **Saluda** 23.11 19 P P 02 58 05.8 +0.4
baz=202,SNR=9.8
T45A **Paducah** 23.12 7 *e*P P 02 58 05.5 0.0
comp=Z,105nm,0.6s
T45A **Paducah** 23.12 7 P P 02 58 04.5 -0.9
baz=187
KMSC **Kings Mountain** 23.15 23 *e*P P 02 58 06.0 +0.2
comp=Z,47nm,0.9s
KMSC **Kings Mountain** 23.15 23 P P 02 58 05.4 -0.3
baz=206,SNR=12
U50A **Jamestown** 23.23 15 P P 02 58 06.1 -0.5
baz=197,SNR=24
T46A **Princeton** 23.24 8 P P 02 58 06.1 -0.5
baz=189,SNR=27
T47A **Sharon Grove** 23.31 10 *e*P P 02 58 06.9 -0.4
comp=Z,112nm,0.8s
T47A **Sharon Grove** 23.31 10 P P 02 58 06.6 -0.7
baz=191,SNR=67
121A **Cookes Peak, D** 23.40 325 P P 02 58 11.4 +2.9
baz=138,SNR=48
U51A **La Follette** 23.41 16 P P 02 58 08.1 -0.2
baz=199,SNR=30
W56A **Indian Trail** 23.44 24 P P 02 58 08.2 -0.3
baz=208,SNR=6.7
319A **Douglas** 23.46 320 *e*P P 02 58 12.2 +3.3
comp=Z,99nm,0.9s
X58A **Rowland** 23.46 27 P P 02 58 08.2 -0.6
baz=212
S41A **Jillco Farms,** 23.50 1 P P 02 58 08.1 -1.0
baz=180,SNR=14
V54A **Nebo** 23.50 21 P P 02 58 09.3 +0.1
baz=204,SNR=13
S43A **Fulton Ridge,** 23.54 4 P P 02 58 07.9 -1.6
baz=184,SNR=14
T48A **Bowling Green** 23.56 11 P P 02 58 08.9 -0.8
baz=193,SNR=13
U52A **Thorn Hill** 23.61 18 P P 02 58 09.8 -0.4
baz=200,SNR=6.0
W57A **Gilead** 23.69 25 P P 02 58 09.8 -1.1
baz=209
TZTN **Tazewell** 23.70 17 *e*P P 02 58 10.8 -0.2
comp=Z,53nm,1.0s
TZTN **Tazewell** 23.70 17 P P 02 58 10.6 -0.4
baz=200,SNR=9.6
S42A **Caledonia** 23.70 2 P P 02 58 09.5 -1.5
baz=182,SNR=15
S44A **Carbondale** 23.73 5 P P 02 58 10.8 -0.4
baz=186,SNR=54
T49A **Edmonton** 23.73 13 *e*P P 02 58 10.6 -0.7
comp=Z,59nm,1.3s
T49A **Edmonton** 23.73 13 P P 02 58 10.6 -0.7
baz=195,SNR=17
SIUC **Southern Illin** 23.75 6 *e*P P 02 58 11.3 -0.2
comp=Z,196nm,0.8s
S45A **Carrier Mills** 23.78 7 P P 02 58 10.8 -1.0
baz=187
X59A **McDuffie Farm,** 23.81 28 P P 02 58 11.6 -0.4
baz=213
T50A **Nancy** 23.81 14 P P 02 58 11.0 -1.1
baz=196,SNR=21
U53A **Fall Branch** 23.83 19 P P 02 58 11.8 -0.4
baz=202,SNR=13
V55A **Taylorsville** 23.83 22 P P 02 58 12.2 -0.1
baz=206,SNR=29
W58A **Raeford** 23.90 27 P P 02 58 12.0 -0.9
baz=211
S46A **Don Dixon Farm** 23.90 8 P P 02 58 11.8 -1.1
baz=189,SNR=11
S47A **Hartford** 23.94 10 P P 02 58 12.7 -0.6
baz=191,SNR=13
CCM **Cathedral Cave** 23.97 1 *e*P P 02 58 12.4 -1.1
comp=Z,30nm,0.8s
CCM **Cathedral Cave** 23.97 1 *e*P P 02 58 12.4 -1.1
CCM pmax pmax
comp=Z,30nm,0.8s
CCM **Cathedral Cave** 23.97 1 P P 02 58 12.5 -1.1
baz=181
T51A **Gray** 23.98 16 P P 02 58 13.1 -0.6
baz=199,SNR=25
BNM **Barren Site** 24.04 329 *e*P P 02 58 17.6 +3.1
V56A **Mocksville** 24.06 23 P P 02 58 13.5 -0.9
baz=208,SNR=16
X60A **Albert Glenn T** 24.10 29 P P 02 58 13.8 -1.0
baz=214
S48A **Wiedeman Farm,** 24.15 12 P P 02 58 14.1 -1.1
baz=193,SNR=10
LPM **Los Pinos Moun** 24.17 329 *e*P P 02 58 19.0 +3.3
USIN **University of** 24.18 8 *e*P P 02 58 15.1 -0.4
comp=Z,85nm,0.8s
R41A **Rosebud** 24.21 1 P P 02 58 14.4 -1.4
baz=181,SNR=12
R42A **Luebbering** 24.21 2 P P 02 58 14.9 -0.9
baz=182,SNR=12
U54A **Nelsons Funny** 24.22 20 P P 02 58 15.6 -0.3
baz=204,SNR=18
LENM **Lemitar** 24.23 329 *e*P P 02 58 19.6 +3.4
R44A **Waltonville** 24.29 6 P P 02 58 15.4 -1.1
baz=186,SNR=7.4
T52A **Hallie** 24.39 18 P P 02 58 15.4 -2.0
baz=201
T53A **Wise** 24.41 19 P P 02 58 16.7 -0.9
baz=202
V57A **Coltrane Farms** 24.41 25 P P 02 58 16.9 -0.7
baz=209,SNR=12
R45A **Skylar, Fairfi** 24.43 7 P P 02 58 16.8 -0.9
baz=188,SNR=37
S49A **Springfield** 24.44 13 P P 02 58 16.6 -1.3
baz=195,SNR=26
R46A **Gibon Southern** 24.45 9 P P 02 58 17.2 -0.7
baz=190,SNR=11
U55A **TA2, Sparta** 24.47 22 P P 02 58 17.9 -0.4
baz=206,SNR=22
LAZ **Ladron** 24.50 329 *e*P P 02 58 22.3 +3.6
S50A **Richmond** 24.54 15 P P 02 58 18.4 -0.4
baz=197,SNR=16
SLM **Saint Louis** 24.59 3 *e*P P 02 58 19.6 +0.4
comp=Z,42nm,0.8s
ANMO **Albuquerque** 24.60 331 *e*P P 02 58 22.1 +2.5
comp=Z,27nm,0.8s
ANMO **Albuquerque** 24.60 331 *e*P P 02 58 22.1 +2.5
ANMO pmax pmax
comp=Z,27nm,0.8s
ANMO **Albuquerque** 24.60 331 P P 02 58 21.7 +2.1
baz=144
ANMO **Albuquerque** 24.60 331 P P 02 58 22.1 +2.5
comp=Z,31nm,0.8s,baz=140,slow=12,SNR=116

TASM **ASL Pad, Albuq** 24.60 331 P P 02 58 22.0 +2.4
baz=144,SNR=66
TASM **ASL Pad, Albuq** 24.60 331 P P 02 58 21.6 +2.0
baz=144,SNR=65
W60A **Pink Hill** 24.62 29 P P 02 58 18.3 -1.2
baz=214
WCI **Wyandotte Cave** 24.66 11 *e*P P 02 58 19.1 -0.8
comp=Z,78nm,0.8s
WCI **Wyandotte Cave** 24.66 11 *e*P P 02 58 19.1 -0.8
WCI pmax pmax
comp=Z,78nm,0.8s
WCI **Wyandotte Cave** 24.66 11 P P 02 58 19.0 -0.9
baz=192
CNNC **Cliffs of the** 24.69 29 *e*P P 02 58 19.8 -0.3
comp=Z,38nn,0.8s
CNNC **Cliffs of the** 24.69 29 P P 02 58 19.0 -1.1
baz=214
R47A **Wooly Knot Far** 24.69 10 P P 02 58 19.0 -1.1
baz=192,SNR=18
S51A **Beattyville** 24.71 16 *e*P P 02 58 20.0 -0.4
comp=Z,44nm,1.0s
S51A **Beattyville** 24.71 16 P P 02 58 19.7 -0.7
baz=199,SNR=12
T54A **Tazewell** 24.79 20 P P 02 58 20.7 -0.4
baz=204,SNR=5.9
Q42A **Golden Eagle** 24.85 3 P P 02 58 20.9 -0.7
baz=183,SNR=7.9
Q41A **Truxton** 24.87 1 P P 02 58 21.1 -0.6
baz=181,SNR=24
OLIL **Olney** 24.88 7 *e*P P 02 58 21.4 -0.5
comp=Z,152nm,0.9s
R48A **Northridge Ran** 24.91 12 P P 02 58 21.5 -0.7
baz=193,SNR=14
Q43A **New Douglas** 24.93 4 P P 02 58 21.6 -0.7
baz=184,SNR=11
R49A **Shelbyville** 24.95 13 P P 02 58 21.2 -1.3
baz=195,SNR=9.4
Q44A **Meyer Farm, Va** 24.95 6 *e*P P 02 58 21.6 -0.8
comp=Z,75nn,0.9s
Q44A **Meyer Farm, Va** 24.95 6 P P 02 58 21.3 -1.2
baz=186,SNR=18
V59A **Middlesex** 24.96 27 P P 02 58 21.8 -0.8
baz=212,SNR=7.4
ATAH **Atahualpa** 24.97 146 P P 02 58 24.4 +1.1
comp=Z,69nm,1.0s,baz=341,slow=6.5,SNR=27
TUC **Tucson** 25.03 320 *e*P P 02 58 26.3 +2.9
comp=Z,13nn,0.8s
TUC **Tucson** 25.03 320 *e*P P 02 58 26.3 +2.9
TUC pmax pmax
comp=Z,13nn,0.8s
TUC **Tucson** 25.03 320 P P 02 58 25.9 +2.5
baz=132
Q45A **Warren Harvey,** 25.03 7 P P 02 58 21.9 -1.3
baz=188,SNR=21
T55A **Pulaski** 25.11 22 P P 02 58 24.1 +0.1
baz=206
R50A **Paris** 25.13 14 P P 02 58 22.8 -1.3
baz=197,SNR=13
S53A **Williamson** 25.18 19 P P 02 58 24.1 -0.5
baz=202
T56A **Rocky Mt** 25.31 23 P P 02 58 25.2 -0.6
baz=207
BLA **Blacksburg** 25.33 22 *e*P P 02 58 26.0 0.0
comp=Z,37nn,0.9s
BLA **Blacksburg** 25.33 22 *e*P P 02 58 26.0 0.0
BLA pmax pmax
comp=Z,37nn,0.9s
BLA **Blacksburg** 25.33 22 P P 02 58 25.4 -0.6
baz=206
Q47A **Bedord North L** 25.33 10 P P 02 58 24.7 -1.2
baz=192,SNR=7.5
KSU1 **Kansas State U** 25.33 352 P P 02 58 25.4 -0.6
baz=169
R51A **Hillsboro** 25.34 16 P P 02 58 24.8 -1.2
baz=198,SNR=7.9
U58A **Oxford** 25.36 26 P P 02 58 25.3 -0.9
baz=211
Q48A **North Vernon** 25.45 11 P P 02 58 25.8 -1.2
baz=193,SNR=12
P42A **Winchester** 25.53 3 *e*P P 02 58 27.2 -0.5
comp=Z,38nn,1.0s
P42A **Winchester** 25.53 3 P P 02 58 26.7 -1.1
baz=183,SNR=14
BLO **Bloomington** 25.54 10 *e*P P 02 58 27.2 -0.6
comp=Z,34nm,0.6s
BLO **Bloomington** 25.54 10 *e*P P 02 58 27.2 -0.6
BLO pmax pmax
comp=Z,34nn,0.6s
P44A **Sand Creek, Wi** 25.55 6 P P 02 58 27.4 -0.5
baz=187,SNR=12
T25A **Trinidad** 25.57 337 *e*P P 02 58 31.9 +3.5
comp=Z,20nm,0.8s
T25A **Trinidad** 25.57 337 P P 02 58 31.4 +3.1
baz=150,SNR=19
T57A **Hurt** 25.59 24 P P 02 58 27.7 -0.6
baz=209,SNR=7.2
P41A **Barry, Barry** 25.59 2 P P 02 58 27.0 -1.3
baz=181,SNR=7.1
R52A **Catlettsburg** 25.63 17 P P 02 58 27.9 -0.8
baz=201
P43A **Skaggs, Pawnee** 25.64 4 P P 02 58 28.7 -0.1
baz=185
CBKS **Cedar Bluff** 25.65 346 *e*P P 02 58 28.6 -0.3
comp=Z,17nm,0.8s
CBKS **Cedar Bluff** 25.65 346 *e*P P 02 58 28.6 -0.3
CBKS pmax pmax
comp=Z,17nm,0.8s
CBKS **Cedar Bluff** 25.65 346 P P 02 58 27.8 -1.1
baz=162
U59A **Littleton** 25.65 27 P P 02 58 28.1 -0.7
baz=213
Q49A **Aurora** 25.69 13 P P 02 58 28.2 -1.0
baz=195
P45A **Graceland, Par** 25.71 8 *e*P P 02 58 28.8 -0.5
comp=Z,84nm,0.9s
P45A **Graceland, Par** 25.71 8 P P 02 58 28.4 -1.0
baz=189,SNR=21
Q50A **Georgetown** 25.75 15 P P 02 58 28.3 -1.4
baz=197,SNR=7.9
S55A **Lewisburg** 25.80 21 P P 02 58 28.8 -1.5
baz=206
R53A **Hurricane** 25.83 18 P P 02 58 27.1 -3.4
baz=202
P46A **Rosedale** 25.87 9 P P 02 58 29.9 -0.9
baz=190,SNR=9.6
P47A **Martinsville** 25.89 10 P P 02 58 29.7 -1.3
baz=192,SNR=8.9
R54A **Victor** 26.00 20 P P 02 58 30.3 -1.8
baz=204
P48A **Milroy** 26.02 12 P P 02 58 30.8 -1.4
baz=194,SNR=9.8
O41A **Passleys Farm,** 26.04 2 P P 02 58 31.0 -1.3
baz=182
Q51A **Peebles** 26.08 15 *e*P P 02 58 32.6 -0.2
comp=Z,36nn,0.8s
Q51A **Peebles** 26.08 15 P P 02 58 32.1 -0.7
baz=199,SNR=11
X18A **Snowflake** 26.09 325 *e*P P 02 58 36.4 +3.2
comp=Z,17nn,0.8s
214A **Organ Pipe Nat** 26.11 317 P P 02 58 35.2 +2.1
baz=128
O42A **Bath** 26.16 3 P P 02 58 32.3 -1.1
baz=183
P49A **Miami Univ. Ec** 26.24 13 P P 02 58 32.5 -1.7
baz=195,SNR=5.1
O44A **Mansfield** 26.24 6 P P 02 58 33.1 -1.1
baz=187,SNR=7.6
T59A **Double "B" Far** 26.27 27 P P 02 58 33.6 -0.9
baz=212,SNR=9.2
O43A **Sugar Creek Fa** 26.30 5 P P 02 58 33.9 -0.8
baz=185
Q52A **Bidwell** 26.32 17 P P 02 58 34.1 -0.8
baz=201,SNR=6.3
R55A **Marlinton** 26.39 21 P P 02 58 35.3 -0.3
baz=206,SNR=8.1
O45A **Potomac** 26.42 7 P P 02 58 34.8 -1.0
baz=188,SNR=18
Q53A **Leroy** 26.44 19 P P 02 58 36.1 0.0
baz=202
P50A **Jamestown** 26.52 14 P P 02 58 35.0 -1.7
baz=197
SDCO **Great Sand Dun** 26.52 336 *e*P P 02 58 39.8 +2.7
comp=Z,7.1nm,0.9s
SDCO **Great Sand Dun** 26.52 336 P P 02 58 40.1 +3.0
baz=149
HDIL **Hopedale** 26.57 5 *e*P P 02 58 36.7 -0.4
comp=Z,45nn,1.0s
HDIL **Hopedale** 26.57 5 P P 02 58 36.1 -1.0
baz=185,SNR=9.8
P51A **Williamsport** 26.58 16 *e*P P 02 58 36.9 -0.4
comp=Z,27nm,0.6s
P51A **Williamsport** 26.58 16 P P 02 58 36.4 -0.9
baz=199,SNR=9.1
KSCO **Kaye Shedlock'** 26.62 341 *e*P P 02 58 38.6 +0.8
comp=Z,30nn,0.9s
KSCO **Kaye Shedlock'** 26.62 341 P P 02 58 38.0 +0.2
baz=156,SNR=8.5
N41A **Harden Midland** 26.63 2 P P 02 58 37.2 -0.5
baz=182
SFIN **Lafayette** 26.63 8 *e*P P 02 58 37.0 -0.8
comp=Z,41nm,0.7s
SFIN **Lafayette** 26.63 8 P P 02 58 36.6 -1.1
baz=190,SNR=23
O47A **Sheridan** 26.64 10 P P 02 58 36.5 -1.3
baz=192,SNR=13
Q54A **Coxs Mills** 26.78 20 P P 02 58 38.6 -0.4
baz=204,SNR=7.0
T60A **Surry** 26.78 28 P P 02 58 38.6 -0.4
baz=214
N42A **Yates City** 26.79 3 P P 02 58 38.3 -0.8
baz=183,SNR=6.6
N40A **Mertquake, Sal** 26.79 1 P P 02 58 38.6 -0.5
baz=180
O48A **Farmland** 26.84 12 P P 02 58 37.8 -1.8
baz=194,SNR=6.0
X16A **Lo Mia Camp, P** 26.87 323 *e*P P 02 58 43.4 +3.2
comp=Z,20nm,0.9s
N44A **Piper City** 26.91 7 P P 02 58 39.2 -1.1
baz=188,SNR=19
O49A **Covington** 26.95 13 *e*P P 02 58 39.1 -1.5
comp=Z,28nn,1.1s
O49A **Covington** 26.95 13 P P 02 58 38.9 -1.7
baz=196,SNR=9.7
N43A **Stutzman Famil** 26.96 5 P P 02 58 40.2 -0.5
baz=185,SNR=18
R58B **Mineral** 26.97 25 *e*P P 02 58 41.4 +0.6
comp=Z,11nm,0.8s
R58B **Mineral** 26.97 25 P P 02 58 40.4 -0.4
baz=211,SNR=5.3
P52A **Corning** 26.98 17 P P 02 58 39.9 -0.9
baz=201
N45A **Kentland** 27.04 8 P P 02 58 40.0 -1.3
baz=189,SNR=11
Q55A **Buckhannon** 27.04 21 P P 02 58 40.9 -0.6
baz=205
P53A **Whipple** 27.06 18 *e*P P 02 58 41.6 0.0
comp=Z,18nm,1.0s
P53A *e*PcP PcP 03 02 01.2 -1.0
P53A **Whipple** 27.06 18 P P 02 58 41.0 -0.6
baz=202
O50A **Cable** 27.07 14 P P 02 58 40.6 -1.1
baz=197,SNR=6.2
S22A **4UR Ranch, Cre** 27.08 334 *e*P P 02 58 45.0 +2.9
comp=Z,23nm,1.1s
S22A **4UR Ranch, Cre** 27.08 334 P P 02 58 44.5 +2.4
baz=146,SNR=15
N46A **Monticello** 27.19 9 P P 02 58 41.7 -1.0
baz=190,SNR=14
M41A **Milan** 27.31 2 P P 02 58 43.2 -0.5
baz=182,SNR=8.3
ACSO **Alum Creek Sta** 27.31 15 *e*P P 02 58 43.3 -0.6
comp=Z,17nm,0.6s
ACSO **Alum Creek Sta** 27.31 15 P P 02 58 42.8 -1.0
baz=199
M40A **Post Highland** 27.31 1 P P 02 58 43.1 -0.7
baz=180
O51A **Pataskala** 27.33 16 P P 02 58 42.8 -1.2
baz=199,SNR=7.7
N47A **Urbana** 27.35 10 P P 02 58 42.2 -2.0
baz=193,SNR=5.6
M39A **Webster** 27.38 360 P P 02 58 43.9 -0.5
baz=179
CBN **Corbin Frederi** 27.39 26 *e*P P 02 58 45.2 +0.7
comp=Z,27nm,0.8s
CBN **Corbin Frederi** 27.39 26 P P 02 58 43.5 -1.0
baz=211
MVCO **Mesa Verde** 27.40 331 *e*P P 02 58 47.7 +2.8
comp=Z,64nm,1.0s
MVCO **Mesa Verde** 27.40 331 P P 02 58 47.5 +2.5
baz=142,SNR=42
N48A **Decatur** 27.45 12 P P 02 58 43.6 -1.4
baz=194,SNR=17
P54A **Burton** 27.45 20 P P 02 58 44.4 -0.7
baz=204,SNR=6.3
M43A **Waltham Townsh** 27.47 5 P P 02 58 44.4 -0.8
baz=186,SNR=13
M44A **Midewin, Midew** 27.51 6 *e*P P 02 58 45.0 -0.5
comp=Z,23nm,0.8s
M44A **Midewin, Midew** 27.51 6 P P 02 58 44.2 -1.4
baz=188,SNR=5.6
O52A **Adamsville** 27.51 17 *e*P P 02 58 44.1 -1.6
comp=Z,16nm,0.7s
O52A **Adamsville** 27.51 17 P P 02 58 44.2 -1.4
baz=201
P55A **Reedsville** 27.59 21 P P 02 58 44.4 -1.9
baz=206
M45A **Boilermakers S** 27.61 8 P P 02 58 45.8 -0.6
baz=189,SNR=6.0
WUAZ **Wupatki** 27.61 324 *e*P P 02 58 50.0 +3.2
comp=Z,27nn,1.0s
WUAZ **Wupatki** 27.61 324 P P 02 58 49.6 +2.8
baz=135,SNR=14
N49A **Columbus Grove** 27.68 13 P P 02 58 45.8 -1.3
baz=196
M46A **Old House Fiel** 27.75 9 P P 02 58 47.1 -0.7
baz=191
O53A **New Philadelph** 27.82 18 P P 02 58 47.2 -1.1
baz=202
L40A **Anamosa** 27.97 1 *e*P P 02 58 49.3 -0.4
comp=Z,18nm,0.9s
L40A **Anamosa** 27.97 1 P P 02 58 49.0 -0.7
baz=181
L42A **Oliver, Polo** 27.98 4 *e*P P 02 58 49.0 -0.7
comp=Z,22nm,0.8s
L42A **Oliver, Polo** 27.98 4 P P 02 58 49.2 -0.5
baz=184,SNR=8.4
L41A **Preston** 28.01 2 P P 02 58 49.9 -0.2
baz=182,SNR=6.8
O54A **Avella** 28.01 19 P P 02 58 49.6 -0.5
baz=204,SNR=6.5
L39A **Vinton** 28.03 0 P P 02 58 48.1 -2.0
baz=179
N51A **Ashland** 28.11 16 P P 02 58 49.4 -1.6
baz=199
M48A **Edgerton** 28.11 12 P P 02 58 49.5 -1.4
baz=194
N52A **McGinn's Farm,** 28.20 17 P P 02 58 50.2 -1.6
baz=201
L43A **Garden Prairie** 28.23 5 P P 02 58 51.1 -0.9
baz=186
M49A **Liberty Center** 28.26 13 P P 02 58 50.6 -1.6
baz=196
L44A **Lake County Fo** 28.30 6 P P 02 58 51.9 -0.8
baz=188
SMCO **Snowmass** 28.34 335 *e*P P 02 58 56.6 +3.0
comp=Z,16nn,1.2s
ISCO **Idaho Springs** 28.35 338 *e*P P 02 58 56.5 +3.0
comp=Z,9.3nm,1.1s
ISCO *e*PcP PcP 03 02 08.1 +2.3
ISCO **Idaho Springs** 28.35 338 *e*P P 02 58 56.5 +3.0
ISCO *e* 03 02 08.1
ISCO pmax pmax
comp=Z,9.0nm,1.1s
Y12C **Blythe** 28.35 318 *e*P P 02 58 56.5 +3.3
comp=Z,13nn,0.9s
Y12C *e*pP pP 02 59 03.6 0.0
O55A **Ligonier** 28.39 21 P P 02 58 52.3 -1.2
baz=206
M50A **Fremont** 28.40 14 P P 02 58 51.7 -1.8
baz=198
N53A **Lisbon** 28.44 18 P P 02 58 53.0 -1.0
baz=202
PDMCI **Parker Dam,Lak** 28.45 319 P P 02 58 56.6 +2.5
baz=129,SNR=9.9
L47A **Sherwood** 28.50 11 P P 02 58 53.3 -1.1
baz=193
K41A **Shullsburg** 28.55 3 P P 02 58 54.8 0.0
baz=183
K39A **Oelwein** 28.61 0 P P 02 58 54.2 -1.2
baz=179
L48A **N Adams** 28.61 12 P P 02 58 53.7 -1.8
baz=195,SNR=12
SDMD **Soldier's Deli** 28.63 25 *e*P P 02 58 55.7 +0.1
comp=Z,8.7nm,0.8s
O56A **Blue Knob Stat** 28.70 22 *e*P P 02 58 56.1 -0.2
comp=Z,21nm,0.9s

O56A **Blue Knob Stat** 28.70 22 P P 02 58 55.5 -0.8
baz=207,SNR=6.6
IKP **In-Ko-Pah, Jac** 28.77 314 P P 02 58 56.7 -0.4
baz=124
K42A **Prairie Point,** 28.77 4 P P 02 58 56.6 -0.2
baz=185
U15A **North Rim** 28.78 325 eP P 02 59 00.7 +3.4
comp=Z,11nm,0.8s
W13A **Hualapai Mount** 28.81 321 eP P 02 59 00.8 +3.2
comp=Z,20nm,1.1s
PLIO **Pelee Island,** 28.83 15 P P 02 58 56.9 -0.5
baz=198
N54A **Moraine State** 28.84 19 eP P 02 58 57.2 -0.3
comp=Z,18nm,0.8s
N54A **Moraine State** 28.84 19 P P 02 58 56.9 -0.6
baz=204,SNR=6.2
JFWS **Jewell Farm** 28.86 3 eP P 02 58 58.3 +0.7
comp=Z,12nm,0.6s
JFWS **Jewell Farm** 28.86 3 eP P 02 58 58.3 +0.7
JFWS pmax pmax
comp=Z,12nm,0.6s
JFWS **Jewell Farm** 28.86 3 P P 02 58 57.4 -0.2
baz=183
BC3 **Big Chuckawall** 28.91 317 P P 02 59 00.6 +2.3
baz=126,SNR=9.3
L49A **Milan** 28.91 13 P P 02 58 57.1 -0.9
baz=196
M52A **Chesterland** 28.97 17 P P 02 58 58.9 +0.3
baz=201
IRM **Iron Mountain** 29.01 318 P P 02 59 00.1 +1.0
baz=128
M53A **WI Miller and** 29.07 18 P P 02 58 58.9 -0.6
baz=202
K46A **Dorr** 29.09 9 P P 02 58 58.8 -0.9
baz=192
AAM **Ann Arbor** 29.12 13 eP P 02 58 58.8 -1.1
comp=Z,14nm,0.8s
AAM **Ann Arbor** 29.12 13 eP P 02 58 58.8 -1.1
AAM pmax pmax
comp=Z,14nm,0.8s
AAM **Ann Arbor** 29.12 13 P P 02 58 58.4 -1.5
baz=196
MONP2 **Monument Peak** 29.12 314 P P 02 59 01.0 +0.7
baz=124
K47A **Vermontville** 29.21 11 P P 02 58 58.9 -1.8
baz=193
J39A **Decorah** 29.24 0 P P 02 58 58.9 -2.1
baz=180
SSPA **Standing Stone** 29.27 22 eP P 02 59 01.1 -0.2
comp=Z,15nm,0.7s
SSPA **Standing Stone** 29.27 22 P P 02 58 59.4 -1.9
baz=208
ANWB **Willy Bob** 29.29 79 eP P 02 59 00.8 -0.9
ANWB eS pP 02 59 17.2 +5.1
J41A **Loganville** 29.32 3 P P 02 58 59.7 -1.9
baz=183
J40A **Soldiers Grove** 29.32 2 P P 02 59 00.3 -1.4
baz=182
J42A **Columbus** 29.32 4 P P 02 59 01.0 -0.7
baz=185
MVL **Millersville** 29.33 25 eP P 02 59 02.1 +0.3
comp=Z,14nm,0.9s
TBG **Guadaloupe-3** 29.39 83 eP P 02 58 59.4 -3.2
TBG eS pP 02 59 13.1 +0.2
N23A **Red Feather La** 29.43 338 eP P 02 59 05.0 +1.9
comp=Z,3.3nm,0.7s
N23A **Red Feather La** 29.43 338 P P 02 59 01.5 -1.5
baz=151
M54A **Oil Creek Stat** 29.44 19 P P 02 59 02.0 -0.8
baz=204
J43A **Natural Harves** 29.45 5 P P 02 59 02.0 -0.8
baz=186
BELC **Belle Mtn. Jos** 29.48 317 P P 02 59 03.5 +0.1
baz=126
KNB **Kanab** 29.50 325 eP P 02 59 07.1 +3.5
comp=Z,30nm,0.9s
KNB **Kanab** 29.50 325 eP P 02 59 07.1 +3.5
KNB pmax pmax
comp=Z,30nm,0.9s
K48A **Perry** 29.50 12 P P 02 59 01.0 -2.3
baz=195
PKCU **Pink Cliffs** 29.53 326 eP P 02 59 08.0 +4.0
comp=Z,38nm,1.4s
PFO **Pinyon Flats O** 29.56 316 P P 02 59 04.0 -0.1
baz=125
LDFC **Landfair** 29.56 319 eP P 02 59 08.1 +4.0
comp=Z,33nm,0.8s
BBL **Barber's Block** 29.56 83 eP P 02 59 02.1 -2.1
BBL eS pP 02 59 18.5 +4.0
MDPO **Dominica; Chan** 29.58 83 eP P 02 59 01.1 -3.2
MDPO eS pP 02 59 16.8 +2.2
PHWY **Pilot Hill** 29.62 339 eP P 02 59 08.1 +3.4
comp=Z,4.7nm,0.9s
PHWY ePcP PcP 03 02 10.6 +1.7
K49A **Clarkson** 29.62 13 P P 02 59 02.4 -2.0
baz=196
O20A **White River Ci** 29.68 334 eP P 02 59 07.9 +2.7
comp=Z,13nm,0.9s
O20A ePcP PcP 03 02 12.1 +3.2
O20A **White River Ci** 29.68 334 P P 02 59 06.1 +0.9
baz=146
M55A **Ridgway** 29.70 20 P P 02 59 02.5 -2.6
baz=206
GMRC **Granite Mounta** 29.73 318 P P 02 59 04.7 -0.9
baz=128
LCMT **Little Creek M** 29.74 324 eP P 02 59 09.1 +3.5
comp=Z,17nm,1.1s
J47A **Sunmer** 29.79 11 P P 02 59 03.9 -1.9
baz=193
SRU **San Rafael Swe** 29.87 330 eP P 02 59 09.8 +3.0
comp=Z,32nm,1.3s
SRU **San Rafael Swe** 29.87 330 eP P 02 59 09.9 +3.0
SRU pmax pmax
comp=Z,32nm,1.3s
ERPA **Erie** 29.89 18 P P 02 59 04.3 -2.5
baz=203
ECSD **EROS Data Cent** 29.90 353 eP P 02 59 07.2 +0.4
comp=Z,3.9nm,0.6s
ECSD **EROS Data Cent** 29.90 353 P P 02 59 07.2 +0.4
baz=170,SNR=6.2
MTPU **Mount Pierson** 29.90 327 eP P 02 59 10.6 +3.2
comp=Z,18nm,0.7s
I42A **Draeger Farm,** 29.91 4 eP P 02 59 06.2 -0.7
comp=Z,12nm,0.8s
I42A **Draeger Farm,** 29.91 4 P P 02 59 05.5 -1.4
baz=185
I43A **Langenfeld Bro** 29.97 6 P P 02 59 07.0 -0.4
baz=187
I41A **Arkdale** 30.02 3 eP P 02 59 07.3 -0.5
comp=Z,7.8nm,0.6s
I41A **Arkdale** 30.02 3 P P 02 59 07.1 -0.7
baz=183
Q16A **Castle Valley** 30.04 329 eP P 02 59 11.9 +3.5
comp=Z,36nm,1.1s
SZCU **Shurtz Canyon** 30.06 325 eP P 02 59 12.2 +3.6
comp=Z,24nm,0.9s
CCUT **Cedar City** 30.18 325 eP P 02 59 13.4 +3.7
comp=Z,27nm,1.0s
CCUT ePcP PcP 03 02 13.1 +2.7
HEC **Hector,Ludlow** 30.20 318 P P 02 59 06.1 -3.6
baz=127
LUPA **Lehigh Univers** 30.24 26 eP P 02 59 09.9 +0.1
comp=Z,1.6nm,0.8s
J49A **Marlette** 30.24 13 P P 02 59 07.5 -2.4
baz=196,SNR=7.0
MSU **Marysvale** 30.25 328 eP P 02 59 13.4 +3.2
MSU ePcP PcP 03 02 12.7 +2.2
MSU **Marysvale** 30.25 328 eP P 02 59 13.4 +3.2
MSU e 03 02 12.7
P17A **Butcher Ranch,** 30.26 330 eP P 02 59 13.4 +3.1
comp=Z,39nm,1.2s
K52A **Tillsonburg** 30.30 17 P P 02 59 09.4 -0.9
baz=201
N59A **State Game Lan** 30.34 25 P P 02 59 09.4 -1.4
baz=212
I45A **Fountain** 30.34 8 P P 02 59 09.6 -1.2
baz=190
TMUT **Trail Mountain** 30.35 330 eP P 02 59 14.4 +3.2
comp=Z,14nm,0.8s
I46A **Reed City** 30.37 9 P P 02 59 09.2 -1.7
baz=192
L55A **Hinsdale** 30.45 20 P P 02 59 08.6 -3.1
baz=206
TCRU **Three Creeks R** 30.46 327 eP P 02 59 16.1 +3.9
comp=Z,18nm,0.8s
TCRU ePcP PcP 03 02 13.4 +2.4
SHPR **Sheep Range** 30.52 321 eP P 02 59 15.8 +3.2
comp=Z,14nm,1.0s
SHPR ePcP PcP 03 02 13.3 +2.2
ELFO **Elginfield** 30.52 16 P P 02 59 10.2 -2.1
baz=200
H40A **Chili** 30.55 2 P P 02 59 10.9 -1.7
baz=182
H38A **Maiden Rock** 30.58 360 P P 02 59 11.3 -1.5
baz=179
H41A **Junction City** 30.58 3 P P 02 59 10.9 -1.9
baz=184
H43A **Windswept, Lux** 30.59 6 P P 02 59 11.6 -1.3
baz=187
RWWY **Rawlins** 30.59 337 eP P 02 59 16.4 +3.2
comp=Z,16nm,0.8s
RWWY ePcP PcP 03 02 14.2 +2.9
J52A **Paris** 30.79 17 P P 02 59 13.1 -1.6
baz=202
GSC **Goldstone, Bar** 30.79 318 eP P 02 59 18.4 +3.5
comp=Z,5.5nm,0.9s
GSC epP pP 02 59 26.2 +1.0
GSC ePcP PcP 03 02 13.7 +1.9
GSC **Goldstone, Bar** 30.79 318 eP P 02 59 18.4 +3.5
GSC e 03 02 13.7
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC **Goldstone, Bar** 30.79 318 P P 02 59 13.9 -1.0
baz=127
TYNO **Tyneside** 30.82 18 P P 02 59 14.1 -0.9
baz=203
KSPA **Keystone Colle** 30.88 24 eP P 02 59 14.7 -0.9
comp=Z,8.8nm,1.1s
KSPA ePcP PcP 03 02 13.1 +1.3
H46A **Fife Lake** 30.99 9 P P 02 59 14.9 -1.6
baz=192
K55A **Perry** 31.06 20 P P 02 59 16.0 -1.1
baz=206
MMNY **Mt. Morris Dam** 31.11 20 eP P 02 59 17.5 -0.1
comp=Z,24nm,1.0s
MPU **Maple Canyon** 31.11 330 eP P 02 59 20.7 +2.9
comp=Z,42nm,1.3s
MPU ePcP PcP 03 02 14.8 +2.1
SPMN **Marine on St.** 31.13 359 eP P 02 59 17.6 -0.1
comp=Z,12nm,0.6s
SPMN **Marine on St.** 31.13 359 P P 02 59 17.5 -0.2
baz=178,SNR=7.2
PSUT **Pine Spring** 31.16 326 eP P 02 59 21.7 +3.5
comp=Z,28nm,1.0s
I51A **Listowel** 31.16 15 P P 02 59 16.1 -1.9
baz=200
K22A **Casper** 31.18 339 eP P 02 59 19.3 +0.9
comp=Z,7.2nm,0.8s
K22A **Casper** 31.18 339 P P 02 59 18.1 -0.2
baz=151
G39A **Holcombe** 31.20 1 P P 02 59 16.4 -1.9
baz=181
BASO **Ashfield** 31.20 14 P P 02 59 16.8 -1.5
baz=199
G41A **Antigo** 31.21 4 P P 02 59 17.6 -0.8
baz=185
H47A **Mio** 31.22 11 P P 02 59 16.7 -1.8
baz=194
NLU **North Lily Min** 31.28 329 eP P 02 59 22.6 +3.3
comp=Z,24nm,1.5s
NLU ePcP PcP 03 02 15.2 +2.1
G42A **Mountain** 31.29 5 P P 02 59 17.5 -1.6
baz=186
MEDO **Medina** 31.32 19 P P 02 59 18.7 -0.6
baz=205
BINY **Binghamton** 31.34 23 eP P 02 59 19.3 -0.4
comp=Z,22nm,0.9s
BINY **Binghamton** 31.34 23 P P 02 59 18.9 -0.7
baz=210,SNR=5.6
GLMI **Grayling** 31.36 10 P P 02 59 17.8 -1.9
baz=193
G43A **Wallace** 31.37 6 P P 02 59 18.0 -1.8
baz=187
BWLO **Walkerton** 31.43 15 P P 02 59 18.8 -1.5
baz=200
TPNV **Topopah Spring** 31.47 321 eP P 02 59 24.6 +3.7
comp=Z,16nm,1.1s
TPNV ePcP PcP 03 02 15.7 +2.1
TPNV **Topopah Spring** 31.47 321 P P 02 59 24.2 +3.3
baz=130,SNR=8.1
JLU **Jordanelle** 31.48 331 eP P 02 59 24.2 +3.0
comp=Z,16nm,1.2s
FURC **Furnace Creek,** 31.54 320 P P 02 59 24.4 +3.0
baz=128,SNR=5.2
MPMC **Manual Prospec** 31.69 318 P P 02 59 25.5 +2.5
baz=127,SNR=21
CTU **Camp Tracy** 31.70 331 eP P 02 59 26.0 +3.0
comp=Z,16nm,0.8s
RSSD **Black Hills** 31.73 343 eP P 02 59 23.9 +0.6
comp=Z,7.9nm,0.7s
RSSD **Black Hills** 31.73 343 eP P 02 59 23.9 +0.6
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD **Black Hills** 31.73 343 P P 02 59 23.3 +0.1
baz=157
F41A **Three Lakes** 31.74 4 ePcP PcP 03 02 15.1 +1.1
F41A **Three Lakes** 31.74 4 P P 02 59 23.4 +0.4
baz=185
DUG **Dugway, Tooele** 31.83 329 eP P 02 59 27.2 +3.1
comp=Z,20nm,1.1s
DUG **Dugway, Tooele** 31.83 329 eP P 02 59 27.2 +3.1
DUG pmax pmax
comp=Z,20nm,1.1s
DUG **Dugway, Tooele** 31.83 329 P P 02 59 27.0 +2.9
baz=139,SNR=13
PKRO **Pickering** 31.86 18 P P 02 59 22.9 -1.1
baz=204
F38A **Pierce - Schro** 31.86 0 P P 02 59 22.4 -1.7
baz=180
F40A **Park Falls** 31.86 3 P P 02 59 23.2 -0.9
baz=183
DAC **Darwin (Calif)** 31.89 319 eP P 02 59 30.0 +5.3
comp=Z,13nm,1.0s
DAC **Darwin (Calif)** 31.89 319 eP P 02 59 30.0 +5.3
DAC pmax pmax
comp=Z,13nm,1.0s
F43A **Flat Rock, Esc** 32.00 6 P P 02 59 23.4 -1.8
baz=188
R11A **Troy Canyon, C** 32.00 324 eP P 02 59 29.0 +3.3
comp=Z,20nm,1.2s
R11A **Troy Canyon, C** 32.00 324 P P 02 59 28.9 +3.3
baz=132,SNR=13
ARVC **Arvin** 32.03 316 P P 02 59 28.2 +2.5
baz=124
COWI **Conover** 32.09 4 eP P 02 59 24.9 -1.3
comp=Z,16nm,0.7s
COWI ePcP PcP 03 02 16.2 +1.2
ISA **Isabella, Lake** 32.10 317 eP P 02 59 30.5 +4.1
comp=Z,10nm,1.3s
ISA ePcP PcP 03 02 17.4 +2.2
ISA **Isabella, Lake** 32.10 317 eP P 02 59 30.5 +4.1
ISA e 03 02 17.4
ISA pmax pmax
comp=Z,10.0nm,1.3s
ISA **Isabella, Lake** 32.10 317 P P 02 59 27.8 +1.3
baz=125
GRAC **Grapevine Rang** 32.19 320 P P 02 59 30.5 +3.4
baz=128,SNR=5.6
F44A **Big Bay de Noc** 32.22 7 P P 02 59 26.3 -1.0
baz=190
H52A **Wyevale** 32.24 16 P P 02 59 26.2 -1.2
baz=202
F46A **Macinaw City C** 32.26 10 P P 02 59 26.4 -1.2
baz=193
CWC **Cottonwood Cre** 32.30 318 P P 02 59 27.8 -0.5
baz=126
E39A **Mellen** 32.30 2 P P 02 59 27.6 -0.4
baz=182
HWUT **Hardware Ranch** 32.33 332 eP P 02 59 31.2 +2.7
comp=Z,9.2nm,0.8s
HWUT ePcP PcP 03 02 17.2 +1.3
E40A **Wakefield** 32.40 3 P P 02 59 27.9 -0.9
baz=183
BW06 **Boulder Array** 32.42 336 eP P 02 59 31.1 +1.8
comp=Z,5.0nm,0.9s
BW06 **Boulder Array** 32.42 336 P P 02 59 29.0 -0.3
baz=146,SNR=8.7
PD31 **Pinedale Array** 32.42 336 eP P 02 59 31.1 +1.8
comp=Z,5.0nm,0.9s
PD31 ePcP PcP 03 02 17.9 +1.7
PDAR **Pinedale Array** 32.42 336 eP P 02 59 30.5 +1.2
PDAR ePcP PcP 03 02 16.3 +0.1
PDAR **Pinedale Array** 32.42 336 P P 02 59 30.6 +1.2
comp=Z,3.6nm,0.7s,baz=132,slow=10,SNR=23
PDAR PcP PcP 03 02 17.3 +1.1
comp=Z,2.6nm,0.5s,baz=129,slow=5.5,SNR=15
PDAR PcS PcS 03 06 01.2 -0.1
comp=Z,1.2nm,0.9s,baz=128,slow=5.1,SNR=6.6
PDAR LR LR 03 14 51.9
comp=Z,545nm,20.3s,baz=153,slow=40
PECO **Prince Edward** 32.49 20 P P 02 59 28.2 -1.4
baz=207
BGU **Big Grassy Mou** 32.49 330 eP P 02 59 32.7 +2.8
comp=Z,16nm,0.9s
BGU ePcP PcP 03 02 18.6 +2.2
SPUT **South Promonto** 32.51 331 eP P 02 59 33.2 +3.1
comp=Z,37nm,1.3s
SPUT ePcP PcP 03 02 19.7 +3.3
E38A **The Farm, Brul** 32.51 1 eP P 02 59 29.4 -0.4
comp=Z,11nm,1.1s
E38A **The Farm, Brul** 32.51 1 P P 02 59 29.2 -0.5
baz=180
I55A **Frankford** 32.51 19 P P 02 59 28.6 -1.2
baz=206
E43A **Lone Tree Farm** 32.55 6 P P 02 59 29.3 -0.8
baz=188
SADO **Sadowa** 32.57 17 eP P 02 59 29.4 -0.9
comp=Z,25nm,1.2s
VES **Vestal, Richgr** 32.61 317 P P 02 59 33.9 +3.1
baz=124,SNR=8.2
DELO **Delorc Mine** 32.80 19 P P 02 59 31.1 -1.2
baz=206,SNR=8.1
KLBO **Killbear Provi** 32.82 15 P P 02 59 30.9 -1.6
baz=201
H55A **Tweed** 32.97 20 P P 02 59 33.2 -0.7
baz=206
HVU **Hansel Valley** 33.03 331 eP P 02 59 37.3 +2.7
comp=Z,29nm,1.0s
HVU ePcP PcP 03 02 21.0 +3.2
HVU **Hansel Valley** 33.03 331 eP P 02 59 37.3 +2.7
HVU e 03 02 21.0
HVU pmax pmax
comp=Z,29nm,1.0s
G53A **Haliburton** 33.04 18 P P 02 59 32.5 -2.0
baz=204
AHID **Auburn Hatcher** 33.06 334 eP P 02 59 37.0 +2.1
comp=Z,14nm,0.8s
AHID ePcP PcP 03 02 19.3 +1.4
BUKO **Buck Lake** 33.12 16 P P 02 59 33.5 -1.6
baz=202
BANO **Bancroft** 33.16 18 P P 02 59 33.4 -2.0
baz=205
E47A **Iron Bridge** 33.18 11 P P 02 59 33.8 -1.8
baz=195
H56A **Elgin** 33.32 21 P P 02 59 35.8 -1.0
baz=208,SNR=6.6
F51A **Arnstein** 33.43 15 P P 02 59 35.7 -2.1
baz=201
REDW **Red Top Meadow** 33.44 335 eP P 02 59 40.2 +2.0
comp=Z,25nm,0.7s
F52A **Sundridge** 33.46 16 P P 02 59 36.0 -2.1
baz=202
D46A **Sault St. Mari** 33.47 10 P P 02 59 36.5 -1.6
baz=193
SNOW **Snow King Moun** 33.48 335 eP P 02 59 41.0 +2.3
comp=Z,38nm,0.6s
ELK **Elko** 33.49 327 eP P 02 59 41.9 +3.2
comp=Z,19nm,0.9s
ELK ePcP PcP 03 02 21.1 +1.8
ELK **Elko** 33.49 327 eP P 02 59 41.9 +3.2
ELK e 03 02 21.1
ELK pmax pmax
comp=Z,19nm,0.9s
NCB **Newcomb** 33.53 24 eP P 02 59 37.8 -0.9
comp=Z,11nm,0.8s
NCB ePcP PcP 03 02 20.6 +1.7
LOHW **Long Hollow** 33.55 335 eP P 02 59 41.1 +1.9
comp=Z,9.7nm,0.8s
NV11 **Mina Array Sit** 33.58 321 eP P 02 59 43.1 +3.7
comp=Z,3.3nm,1.0s
NV11 ePcP PcP 03 02 21.2 +1.8
TPAW **Teton Pass** 33.59 335 eP P 02 59 42.1 +2.6
comp=Z,31nm,1.1s
OMMB **Old Mammoth Mi** 33.59 319 eP P 02 59 43.4 +3.6
comp=Z,15nm,1.2s
MDPB **Devils Postpil** 33.66 319 eP P 02 59 43.9 +3.7
comp=Z,16nm,0.9s
NV01 **Mina Array Sit** 33.66 321 eP P 02 59 43.0 +2.8
NV01 ePcP PcP 03 02 21.2 +1.5
NVAR **Mina Array Bea** 33.66 321 P P 02 59 43.6 +3.4
comp=Z,21nm,0.7s,baz=135,slow=8.4,SNR=156
NVAR PcP PcP 03 02 21.5 +1.7
comp=Z,8.3nm,0.8s,baz=144,slow=3.5,SNR=8.6
NVAR PcS PcS 03 06 06.7 +0.8
comp=Z,1.8nm,0.9s,baz=138,slow=4.7,SNR=5.5
NVAR LR LR 03 14 53.3
comp=Z,2µm,19.0s,baz=132,slow=39
E50A **Wahnapitae** 33.69 14 P P 02 59 37.8 -2.2
baz=199
MOOW **Moose Ponds** 33.72 335 eP P 02 59 42.6 +2.0
comp=Z,6.4nm,1.0s
MOOW ePcP PcP 03 02 21.3 +1.5
FXWY **Fox Creek** 33.74 335 eP P 02 59 43.1 +2.3
comp=Z,8.1nm,1.1s
FXWY ePcP PcP 03 02 21.6 +1.7
G55A **Calabogie** 33.75 20 P P 02 59 38.3 -2.2
baz=207
D47A **Chapleau** 33.79 11 P P 02 59 38.3 -2.7
baz=195
IMW **Indian Meadow** 33.92 335 eP P 02 59 44.4 +1.9
comp=Z,5.4nm,0.6s
IMW ePcP PcP 03 02 22.2 +1.8
RYN **Ryan** 33.92 321 eP P 02 59 45.9 +3.4
comp=Z,21nm,1.1s
KVN **Kaiserville** 33.94 322 eP P 02 59 45.9 +3.3
comp=Z,35nm,1.1s
KVN **Kaiserville** 33.94 322 eP P 02 59 45.9 +3.3
KVN pmax pmax
comp=Z,35nm,1.1s
LONY **Lake Ozonia** 33.94 23 eP P 02 59 41.6 -0.7
comp=Z,23nm,0.9s
LONY **Lake Ozonia** 33.94 23 P P 02 59 41.0 -1.3
baz=211,SNR=8.7
PEMO **Pembroke** 33.96 19 P P 02 59 39.9 -2.6
baz=206
ALGO **Algonquin Park** 33.97 18 P P 02 59 40.8 -1.6
baz=204,SNR=6.6
FLWY **Flagg Ranch** 33.97 336 eP P 02 59 45.3 +2.5
comp=Z,7.8nm,0.8s
E52A **Mattawa** 34.09 17 P P 02 59 42.3 -1.3
baz=203
E51A **G1948 Merrick** 34.10 15 P P 02 59 42.4 -1.3
baz=201,SNR=6.4
D48A **Paudash Townsh** 34.16 12 P P 02 59 42.3 -1.9
baz=197
YPP **Pitchstone Pla** 34.17 336 eP P 02 59 48.6 +4.0
comp=Z,3.9nm,1.0s
H17A **Grant Village** 34.19 336 eP P 02 59 47.8 +3.1
comp=Z,6.5nm,0.9s
LKWY **Lake** 34.26 336 eP P 02 59 48.3 +2.9
comp=Z,7.6nm,0.9s
LKWY **Lake** 34.26 336 eP P 02 59 48.3 +2.9
LKWY pmax pmax
comp=Z,8.0nm,0.9s
RLMT **Red Lodge** 34.31 338 eP P 02 59 47.1 +1.3
comp=Z,8.6nm,0.5s
RLMT ePcP PcP 03 02 23.4 +1.9
RLMT **Red Lodge** 34.31 338 P P 02 59 47.1 +1.3
baz=149,SNR=17
ORIO **Orleans, Innes** 34.33 21 P P 02 59 45.0 -0.6
baz=209,SNR=7.5
YFT **Old Faithful** 34.34 336 eP P 02 59 50.0 +4.0
comp=Z,13nm,1.1s
YFT ePcP PcP 03 02 24.8 +3.2
MDND **Maddock** 34.34 351 P P 02 59 44.5 -1.2
baz=166
BMN **Battle Mountai** 34.34 325 eP P 02 59 49.3 +3.2
comp=Z,21nm,0.9s
BMN **Battle Mountai** 34.34 325 eP P 02 59 49.3 +3.2
BMN pmax pmax
comp=Z,21nm,0.9s
AGMN **Agassiz Nation** 34.35 355 eP P 02 59 45.8 +0.1
comp=Z,16nm,1.4s
AGMN ePcP PcP 03 02 22.2 +1.0
AGMN **Agassiz Nation** 34.35 355 P P 02 59 44.8 -1.0
baz=173
F55A **Otter Lake** 34.38 20 P P 02 59 44.9 -1.2
baz=207
WAKR **Walker** 34.41 320 eP P 02 59 50.7 +4.0
comp=Z,31nm,1.4s
E53A **Dumoine, Ponti** 34.46 18 P P 02 59 44.2 -2.6

		baz=204								
YNR	Norris Junctio		34.49	336	eP		P		02 59 50.5	+3.1
	comp=Z,6.4nm,1.1s									
YMR	Madison River		34.57	336	eP		P		02 59 50.9	+2.9
	comp=Z,15nm,0.9s									
YERR	Yerington		34.58	321	eP		P		02 59 52.0	+3.7
	comp=Z,38nm,1.2s									
YHH	Holmes Hill		34.62	336	eP		P		02 59 51.3	+2.8
	comp=Z,4.0nm,0.8s									
YHH					ePcP		PcP		03 02 25.5	+3.0
E54A	Lac Daplat, Po		34.66	18	P		P		02 59 47.8	-0.7
	baz=205,SNR=7.5									
ALFO	Alfred		34.70	21	P		P		02 59 48.1	-0.7
	baz=210									
LAO	LASA Array		34.70	343	eP		P		02 59 51.0	+2.0
	comp=Z,18nm,0.8s									
LAO	LASA Array		34.70	343	P		P		02 59 49.6	+0.7
	baz=155									
CMB	Columbia Colle		34.73	319	eP		P		02 59 52.2	+2.9
	comp=Z,10nm,1.1s									
CMB	Columbia Colle		34.73	319	eP		P		02 59 52.2	+2.9
CMB					pmax		pmax			
	comp=Z,10.0nm,1.1s									
YHB	Horse Butte		34.73	336	eP		P		02 59 52.9	+3.5
	comp=Z,5.8nm,0.7s									
D52A	ZEK Kipawa Sen		34.80	16	P		P		02 59 48.4	-1.3
	baz=203,SNR=5.2									
PNTR	Pine Nut		34.87	321	eP		P		02 59 54.2	+3.5
	comp=Z,28nm,0.9s									
QLMT	Earthquake Lak		34.89	336	eP		P		02 59 54.0	+3.3
PTGA	Pitinga		34.95	112	eP		P		02 59 50.8	-0.6
	comp=Z,60nm,0.9s									
PTGA	Pitinga		34.95	112	eP		P		02 59 51.0	-0.4
GCMT	Greycliff		35.02	338	eP		P		02 59 52.8	+0.9
VCNR	Virginia City		35.03	321	eP		P		02 59 55.9	+3.8
	comp=Z,20nm,1.1s									
PAHR	Pah Rah Range		35.12	322	eP		P		02 59 56.1	+3.3
	comp=Z,16nm,1.0s									
HLID	Hailey		35.17	331	eP		P		02 59 55.5	+2.3
	comp=Z,20nm,1.0s									
HLID	Hailey		35.17	331	P		P		02 59 55.3	+2.1
	baz=140,SNR=51									
RUBR	Rubicon Trail		35.19	320	eP		P		02 59 58.0	+4.5
	comp=Z,53nm,1.3s									
TRQ	Mont Tremblant		35.33	21	eP		P		02 59 53.7	-0.7
D54A	Lac Fusel, La		35.46	18	P		P		02 59 54.7	-0.7
	baz=206,SNR=7.2									
MCMT	McKenzie Canyo		35.47	334	eP		P		02 59 59.1	+3.3
BOZ	Bozeman (W)		35.60	336	eP		P		02 59 59.2	+2.5
	comp=Z,12nm,1.0s									
BOZ	Bozeman (W)		35.60	336	eP		P		02 59 59.3	+2.5
BOZ					pmax		pmax			
	comp=Z,12nm,1.0s									
BOZ	Bozeman (W)		35.60	336	P		P		02 59 58.9	+2.1
	baz=145,SNR=12									
AFDM	Forest Hills D		35.63	320	epP		pP		03 00 09.0	+1.5
DLMT	Dillon		35.80	335	eP		P		03 00 00.8	+2.3
	comp=Z,18nm,1.0s									
BEKR	Beckworth		35.81	321	eP		P		03 00 02.0	+3.2
	comp=Z,23nm,1.1s									
DGMT	Dagmar		35.82	346	eP		P		02 59 58.8	+0.3
	comp=Z,18nm,0.7s									
DGMT					ePcP		PcP		03 02 27.4	+1.9
DGMT	Dagmar		35.82	346	P		P		02 59 58.3	-0.3
	baz=159,SNR=8.4									
ULM	Lac du Bonnet		36.29	356	P		P		03 00 02.0	-0.4
	comp=Z,5.2nm,0.7s,baz=180,slow=8.8,SNR=15									
ULM					PcP		PcP		03 02 27.0	+0.2
	comp=Z,17nm,0.9s,baz=174,slow=2.5,SNR=10									
ULM					PcS		PcS		03 06 14.2	0.0
	comp=Z,1.4nm,0.5s,baz=180,slow=2.2,SNR=4.4									
ULM					LR		LR		03 17 38.6	
	comp=Z,286nm,21.7s,baz=172,slow=41									
ORV	Oroville		36.32	320	eP		P		03 00 06.1	+3.2
	comp=Z,22nm,1.4s									
ORV	Oroville		36.32	320	eP		P		03 00 06.1	+3.2
ORV					pmax		pmax			
	comp=Z,22nm,1.4s									
WVOR	Wild Horse Val		36.49	326	eP		P		03 00 07.2	+2.8
	comp=Z,22nm,0.9s									
WVOR	Wild Horse Val		36.49	326	eP		P		03 00 07.2	+2.8
WVOR					pmax		pmax			
	comp=Z,23nm,0.9s									
HRY	Holter Researc		36.60	337	eP		P		03 00 06.8	+1.5
HRY					ePcP		PcP		03 02 30.2	+2.2
PKME	Peaks-Kenny Pk		36.63	27	eP		P		03 00 04.9	-0.6
	comp=Z,40nm,1.2s									
PKME	Peaks-Kenny Pk		36.63	27	P		P		03 00 04.2	-1.2
	baz=218									
O03E	Paynes Creek		36.95	321	P		P		03 00 09.6	+1.2
	baz=126									
LATQ	La Tuque		36.95	22	P		P		03 00 07.4	-0.7
	baz=212,SNR=5.5									
EGMT	Eagleton		36.99	340	eP		P		03 00 09.8	+1.3
	comp=Z,12nm,0.6s									
EGMT					ePcP		PcP		03 02 30.6	+1.5
EGMT	Eagleton		36.99	340	P		P		03 00 09.3	+0.8
	baz=150,SNR=10									
HOPS	Hopland Field		37.00	318	eP		P		03 00 12.8	+4.1
	comp=Z,26nm,1.5s									
J08A	Circle Bar Ran		37.04	327	eP		P		03 00 11.8	+2.8
	comp=Z,66nm,0.9s									
MOD	Modoc Plateau		37.06	324	eP		P		03 00 11.7	+2.3
	comp=Z,40nm,1.4s									
LSQQ	Lebel-sur-Quev		37.09	16	P		P		03 00 07.8	-1.5
	baz=204									
O02D	Mt. Diablo Mer		37.49	320	P		P		03 00 14.5	+1.6
	baz=125,SNR=5.2									
BMO	Blue Mountains		37.52	330	eP		P		03 00 14.5	+1.4
BMO	Blue Mountains		37.52	330	eP		P		03 00 14.5	+1.4
MSO	Missoula		37.53	335	eP		P		03 00 15.3	+2.1
	comp=Z,29nm,1.4s									
MSO					ePcP		PcP		03 02 34.1	+3.3
MSO	Missoula		37.53	335	P		P		03 00 14.1	+0.9
	baz=143									
M04C	Macdoel		37.88	323	P		P		03 00 16.9	+0.7
	baz=128									
K05A	Summer Lake		37.93	325	eP		P		03 00 21.0	+4.3
	comp=Z,13nm,1.1s									
I07A	Izee		38.08	327	eP		P		03 00 19.9	+2.1
	comp=Z,17nm,0.9s									
KMRM	Mail Ridge		38.10	319	eP		P		03 00 21.6	+3.5
	comp=Z,18nm,0.9s									
LPAZ	La Paz		38.24	141	eP		P		03 00 19.7	-0.4
	comp=Z,11nm,0.8s									
LPAZ					ePcP		PcP		03 02 34.2	+0.1
LPAZ	La Paz		38.24	141	eP		P		03 00 19.7	-0.4
LPAZ					e				03 02 34.2	
LPAZ					pmax		pmax			
	comp=Z,11nm,0.8s									
LPAZ	La Paz		38.24	141	P		P		03 00 19.2	-0.9
	comp=Z,9.4nm,0.7s,baz=328,slow=6.0,SNR=33									
LPAZ					PcP		PcP		03 02 34.2	+0.1
	comp=Z,3.0nm,0.9s,baz=342,slow=5.1,SNR=3.6									
LPAZ					LR		LR		03 16 39.8	
	comp=Z,296nm,20.6s,baz=330,slow=37									
LPAZ	La Paz		38.24	141	eP		P		03 00 18.8	-1.2
M02C	Callahan		38.24	321	P		P		03 00 20.0	+0.7
	baz=126									
F10A	Beach Ranch, E		38.31	331	eP		P		03 00 21.4	+1.6
	comp=Z,59nm,0.9s									
L04D	Klamath Falls		38.42	323	P		P		03 00 21.8	+1.0
	baz=128									
J05D	Fort Rock, OR		38.48	325	P		P		03 00 22.5	+1.2
	baz=130									
KHMM	Horse Mountain		38.48	320	eP		P		03 00 19.9	-1.4
	comp=Z,24nm,1.0s									
CHGQ	Chibougamau		38.61	18	P		P		03 00 20.3	-1.8
	baz=208									
G08A	Pilot Rock		38.64	329	eP		P		03 00 24.2	+1.6
	comp=Z,15nm,1.3s									
G08A					ePcP		PcP		03 02 36.3	+1.9
PINE	Pine Mountain		38.65	326	eP		P		03 00 25.0	+2.2
	comp=Z,19nm,0.9s									
J04D	Umpqua Nationa		38.94	324	P		P		03 00 26.7	+1.4
	baz=129									
E09A	Wood Farm, Sta		39.13	331	eP		P		03 00 28.1	+1.6
	comp=Z,16nm,0.8s									
LMN	Caledonia Moun		39.17	30	eP		P		03 00 26.3	-0.6
	comp=Z,43nm,1.0s									
I05D	Terrebonne, OR		39.23	326	P		P		03 00 30.1	+2.7
	baz=131,SNR=6.8									
WALA	Waterton Lakes		39.33	337	eP		P		03 00 30.6	+2.2
	comp=Z,7.1nm,0.8s									
G06A	Carlson Farm,		39.45	328	eP		P		03 00 31.6	+2.3
	comp=Z,13nm,1.3s									
I04A	Tendick Farm,		39.46	325	P		P		03 00 30.9	+1.5
	baz=129,SNR=8.4									
E08A	Dider Farm, El		39.55	330	eP		P		03 00 32.9	+2.8
	comp=Z,7.8nm,0.8s									
E08A					ePcP		PcP		03 02 40.3	+3.3
F07A	Phinny Hill Vi		39.55	329	eP		P		03 00 32.1	+2.1
	comp=Z,8.4nm,0.9s									
BATG	Bathurst New B		39.62	28	eP		P		03 00 29.9	-0.7
	comp=Z,38nm,1.3s									
MNMC	Minye Minye		39.64	146	eP		P		03 00 31.6	+0.2
	comp=Z,56nm,1.1s									
HAWA	Hanford		39.71	330	eP		P		03 00 32.9	+1.5
	comp=Z,10nm,0.9s									
G05D	Wamic, OR		39.81	327	P		P		03 00 35.1	+2.8
	baz=132,SNR=11									
D08A	Wollman Farm,		39.90	331	eP		P		03 00 34.8	+1.9
	comp=Z,13nm,1.0s									
H04A	Detroit Lake		39.91	326	eP		P		03 00 35.0	+2.0
	comp=Z,36nm,0.8s									
I03D	Drain, OR		39.93	324	P		P		03 00 35.4	+2.2
	baz=128,SNR=7.2									
J01E	Myrtle Point		39.94	323	P		P		03 00 35.3	+2.0
	baz=126									
E07A	Sunnyside		39.98	330	eP		P		03 00 35.6	+2.0
	comp=Z,16nm,0.9s									
NEW	Newport		39.99	334	eP		P		03 00 35.2	+1.5
	comp=Z,8.1nm,1.0s									
NEW					ePcP		PcP		03 02 40.3	+1.9
NEW	Newport		39.99	334	eP		P		03 00 35.2	+1.5
NEW					e				03 02 40.3	
NEW					pmax		pmax			
	comp=Z,8.0nm,1.0s									
NEW	Newport		39.99	334	P		P		03 00 34.9	+1.2
	baz=140,SNR=8.0									
KEBM	Edson Butte		40.01	322	eP		P		03 00 38.0	+4.0
	comp=Z,165nm,1.3s									
H04D	Lebanon		40.11	325	P		P		03 00 35.9	+1.2
	baz=129,SNR=10									
PB11	IPOC Station P		40.12	146	eP		P		03 00 34.5	-0.7
	comp=Z,34nm,1.1s									
PB11					ePcP		PcP		03 02 40.0	+0.6
C09A	Chrisman Ranch		40.15	332	eP		P		03 00 36.9	+1.9
	comp=Z,25nm,0.8s									
GO01	Chusmiza		40.29	146	eP		P		03 00 37.7	+0.7
	comp=Z,45nm,1.4s									
F05D	White Salmon		40.32	328	P		P		03 00 39.3	+2.8
	baz=132,SNR=9.8									
COR	Corvallis		40.46	325	eP		P		03 00 40.7	+3.1
	comp=Z,30nm,1.0s									
COR	Corvallis		40.46	325	eP		P		03 00 40.7	+3.1
COR					pmax		pmax			
	comp=Z,30nm,1.0s									
I02D	Swisshome		40.47	324	P		P		03 00 40.2	+2.5
	baz=128									
G03D	McMinnville, O		40.84	326	P		P		03 00 43.1	+2.4
	baz=129									
LTY	Liberty		40.87	330	eP		P		03 00 42.7	+1.6
	comp=Z,34nm,1.1s									
B08A	Colville Reser		41.04	332	eP		P		03 00 43.7	+1.4
	comp=Z,14nm,1.0s									
LON	Longmire		41.09	329	eP		P		03 00 44.9	+2.1
	comp=Z,17nm,0.9s									
LON					ePcP		PcP		03 02 44.8	+2.8
LON	Longmire		41.09	329	P		P		03 00 44.9	+2.1
LON					pmax		pmax			
	comp=Z,17nm,0.9s									
E04D	Cinebar		41.34	328	P		P		03 00 46.7	+1.9
	baz=131									
FFC	Flin Flon		41.38	351	eP		P		03 00 44.9	-0.1
	comp=Z,3.0nm,0.8s									
FFC	Flin Flon		41.38	351	eP		P		03 00 44.9	-0.1
FFC					pmax		pmax			
	comp=Z,3.0nm,0.8s									
C06D	Leavenworth		41.45	331	P		P		03 00 48.3	+2.6
	baz=134									
F03A	Seaside		41.45	327	eP		P		03 00 49.0	+3.2
	comp=Z,40nm,0.8s									
D05A	Emmclaw		41.47	329	eP		P		03 00 48.4	+2.5
	comp=Z,31nm,0.8s									
B06A	Marblemount		42.15	331	eP		P		03 00 53.2	+1.8
	comp=Z,48nm,1.0s									
D03D	Eldon		42.26	329	P		P		03 00 54.0	+1.7
	baz=131,SNR=12									
B05A	Bryant		42.26	330	P		P		03 00 53.3	+0.9
	baz=133,SNR=12									
NLWA	Neilton Lookou		42.56	328	eP		P		03 00 57.3	+2.5
	comp=Z,52nm,1.2s									
LVC	Limon Verde		42.85	148	eP		P		03 00 58.9	+1.1
	comp=Z,23nm,1.1s									
LVC	Limon Verde		42.85	148	eP		P		03 00 58.9	+1.1
LVC					pmax		pmax			
	comp=Z,23nm,1.1s									
A04D	Lummi Island		42.87	330	P		P		03 00 59.0	+1.7
	baz=133,SNR=39									
PGC	Sidney		43.19	330	eP		P		03 01 02.1	+2.3
	comp=Z,51nm,1.0s									
LLLB	Lillooet		43.82	333	eP		P		03 01 07.2	+2.3
	comp=Z,30nm,1.0s									
GO02	Mina Guanaco		44.64	151	eP		P		03 01 12.5	+0.4
	comp=Z,22nm,1.0s									
DRLN	Deer Lake		45.12	32	eP		P		03 01 13.6	-1.7
	comp=Z,51nm,1.0s									
SCHQ	Schefferville		45.23	20	eP		P		03 01 14.6	-1.6
	comp=Z,26nm,0.9s									
SCHQ					ePcP		PcP		03 02 55.1	-0.6
SCHQ	Schefferville		45.23	20	P		P		03 01 14.2	-1.9
	comp=Z,23nm,0.9s,baz=215,slow=5.8,SNR=16									
SCHQ					PcP		PcP		03 02 55.1	-0.6
	comp=Z,8.1nm,0.7s,baz=185,slow=2.8,SNR=4.0									
SCHQ					LR		LR		03 21 57.5	
	comp=Z,780nm,18.0s,baz=213,slow=38									
LCO	Las Campanas		47.46	154	eP		P		03 01 34.2	0.0
	comp=Z,26nm,1.0s									
LCO	Las Campanas		47.46	154	eP		P		03 01 34.2	0.0
LCO					pmax		pmax			
	comp=Z,26nm,1.0s									
LCO	Las Campanas		47.46	154	eP		P		03 01 34.3	+0.1
AQDB	Aquidauana		49.48	133	eP		P		03 01 48.3	-1.3
PEXB	Peixe		50.50	119	eP		P		03 01 55.9	-1.5
YKA	Yellowknife Ar		51.03	347	P		P		03 02 00.6	-0.1
	comp=Z,7.3nm,0.4s,baz=152,slow=7.4,SNR=250									
YKA					PcP		PcP		03 03 16.9	+0.6
	comp=Z,13nm,1.0s,baz=147,slow=3.6,SNR=18									
YKA					PcS		PcS		03 07 13.4	-0.1
	comp=Z,1.0nm,0.9s,baz=144,slow=4.3,SNR=7.5									
YKA					LR		LR		03 27 21.3	
	comp=Z,39nm,18.8s,baz=160,slow=40									
YKB5	Yellowknife Ar		51.03	347	eP		P		03 02 00.3	-0.4
YKB5					ePcP		PcP		03 03 16.9	+0.6
YKW3	Yellowknife Ar		51.09	347	eP		P		03 02 00.8	-0.4
	comp=Z,22nm,1.3s									
CPUP	Villa Florida		52.39	140	eP		P		03 02 09.7	-1.7
	comp=Z,30nm,1.0s									
CPUP	Villa Florida		52.39	140	eP		P		03 02 09.7	-1.7
CPUP					pmax		pmax			
	comp=Z,30nm,1.0s									
CPUP	Villa Florida		52.39	140	P		P		03 02 09.3	-2.0
	comp=Z,19nm,0.9s,baz=327,slow=7.8,SNR=35									
CPUP					LR		LR		03 26 23.6	
	comp=Z,185nm,18.1s,baz=327,slow=38									
CPUP	Villa Florida		52.39	140	eP		P		03 02 10.1	-1.3
BDFB	Brasilia		52.53	123	eP		P		03 02 12.3	-0.5
BDFB	Brasilia		52.53	123	eP		P		03 02 12.3	-0.5
BDFB	Brasilia		52.53	123	P		P		03 02 10.9	-1.9
	comp=Z,16nm,0.9s,baz=275,slow=7.5,SNR=19									
BDFB					LR		LR		03 25 54.5	
	comp=Z,303nm,20.1s,baz=289,slow=38									
DLBC	Dease Lake		52.65	336	eP		P		03 02 16.0	+3.0
	comp=Z,38nm,0.9s									
TAOE	Nuku Hiva Isla		52.88	247	eLR		LR		03 17 25.5	
	comp=Z,502nm,26.5s									
TAOE	Nuku Hiva Isla		52.88	247	eT		T		03 58 52.5	
	comp=Z,134nm,0.3s									
ITRB	Iturama		52.93	128	eP		P		03 02 14.6	-1.0
TRCB	Terra Rica		53.14	133	eP		P		03 02 15.6	-1.5
JIS	Juneau Island		54.34	334	eP		P		03 02 28.8	+3.5
	comp=Z,17nm,1.2s									
PTGB	Pitanga		54.77	134	eP		P		03 02 26.9	-2.2
BB19B	Bebedouro		55.12	128	eP		P		03 02 30.3	-1.3
JANB	Januaria		55.32	120	eP		P		03 02 32.3	-0.7
PMNB	Patos De Minas		55.34	125	eP		P		03 02 32.6	-0.6
FRTB	Fartura		55.70	131	eP		P		03 02 35.4	-0.3
RKT	Rikitea		55.93	229	eT		T		04 02 41.7	
	comp=Z,7.1nm,0.3s									
WHY	Whitehorse		55.98	336	eP		P		03 02 39.2	+2.0
	comp=Z,13nm,0.9s									
ITAB	Concordia		56.37	137	eP		P		03 02 39.1	-1.3
MCI8	Montes Claros		56.43	121	eP		P		03 02 40.3	-0.8
MCI9	Montes Claros		56.47	121	eP		P		03 02 40.6	-0.8
MCI6	Montes Claros		56.52	121	eP		P		03 02 41.3	-0.4
HYT	Haines Junctio		57.12	335	eP		P		03 02 48.2	+2.9
	comp=Z,21nm,1.2s									
BCPM	Bancas Point		57.52	334	eP		P		03 02 51.5	+3.4
	comp=Z,19nm,1.0s									
CPSB	Cacapava Do Su		57.68	140	eP		P		03 02 47.9	-1.7
PCA	Pinnacle		57.87	334	eP		P		03 02 53.1	+2.5
PLCA	Paso Flores		57.98	161	eP		P		03 02 51.5	0.0
	comp=Z,20nm,1.2s									
PLCA	Paso Flores		57.98	161	eP		P		03 02 51.5	0.0
PLCA					pmax		pmax			
	comp=Z,21nm,1.2s									
PLCA	Paso Flores		57.98	161	P		P		03 02 51.1	-0.4
	comp=Z,8.9nm,1.1s,baz=354,slow=7.5,SNR=10									
PLCA					LR		LR		03 22 57.9	
	comp=Z,286nm,18.3s,baz=15,slow=31									
PLCA	Paso Flores		57.98	161	eP		P		03 02 51.2	-0.3
BSCB	Bom Sucesso		57.98	126	eP		P		03 02 51.3	-0.7
PLTB	Pedras Altas		58.53	142	eP		P		03 02 54.2	-1.4
RCBR	Riachuelo		59.05	106	eP		P		03 03 00.0	+0.4
	comp=Z,40nm,0.8s									
RCBR	Riachuelo		59.05	106	eP		P		03 03 00.0	+0.4
RCBR					pmax		pmax			
	comp=Z,40nm,0.8s									
RCBR	Riachuelo		59.05	106	eP		P		03 02 58.8	-0.8
TGL	Tana Glacier		59.30	334	eP		P		03 03 02.8	+2.2
	comp=Z,23nm,1.0s									
DAWY	Dawson		59.68	338	eP		P		03 03 04.0	+1.0
	comp=Z,8.1nm,0.8s									
HMT	Hamilton		59.73	333	eP		P		03 03 07.0	+3.6
	comp=Z,42nm,1.1s									
EPYK	Eagle Plains		60.13	341	eP		P		03 03 07.5	+1.3
	comp=Z,14nm,0.9s									
EPYK	Eagle Plains		60.13	341	P		P		03 03 07.1	+1.0
	baz=128,SNR=9.5									
INK	Inuvik		60.44	344	eP		P		03 03 08.7	+0.6
	comp=Z,20nm,0.8s									
EYAK	Cordova Ski Ar		60.48	333	eP		P		03 03 11.4	+2.8
	comp=Z,40nm,1.0s									
RES	Resolute Bay		60.70	359	eP		P		03 03 08.5	-1.3
	comp=Z,8.6nm,0.8s									
RES	Resolute Bay		60.70	359	eP		P		03 03 08.5	-1.3
RES					pmax		pmax			
	comp=Z,9.0nm,0.8s									
MENT	Mentasta		60.73	336	eP		P		03 03 11.6	+1.3
	comp=Z,9.4nm,0.6s									
DIV	Divide		60.75	333	eP		P		03 03 13.5	+3.1
	comp=Z,36nm,1.3s									
KLU	Klutina		60.97	334	eP		P		03 03 14.1	+2.1
	comp=Z,54nm,1.3s									
HARP	HAARP		61.06	335	eP		P		03 03 14.9	+2.4
	comp=Z,39nm,1.0s									
DOT	Dot Lake		61.22	336	eP		P		03 03 15.2	+1.6
	comp=Z,30nm,1.0s									
SCRK	Sand Creek		61.35	337	eP		P		03 03 16.5	+1.9
	comp=Z,21nm,1.2s									
PAX	Paxson		61.45	335	eP		P		03 03 16.5	+1.2
	comp=Z,20nm,1.0s									
PAX	Paxson		61.45	335	eP		P		03 03 16.5	+1.2
PAX					pmax		pmax			
	comp=Z,20nm,1.0s									
RIDG	Independ'e Rid		61.57	336	eP		P		03 03 17.6	+1.6
	comp=Z,34nm,1.1s									
SCM	Sheep Creek Mo		61.73	334	eP		P		03 03 19.0	+1.9
	comp=Z,25nm,1.0s									
SCM	Sheep Creek Mo		61.73	334	eP		P		03 03 19.0	+1.9
SCM					pmax		pmax			
	comp=Z,25nm,1.0s									
KNK	Knik Glacier		62.05	333	eP		P		03 03 21.1	+1.9
	comp=Z,33nm,1.0s									
SML	Sawmill		62.15	333	eP		P		03 03 21.6	+1.7
	comp=Z,60nm,1.3s									
SML	Sawmill		62.15	333	eP		P		03 03 21.6	+1.7
SML					pmax		pmax			
	comp=Z,60nm,1.3s									
DHY	Denali Highway		62.28	335	eP		P		03 03 22.6	+1.7
	comp=Z,7.0nm,1.0s									
PMOR	Pomariorio Ree		62.33	245	eT		T		04 10 39.8	
	comp=Z,3.1nm,0.2s									
GHO	Glory Hole Cre		62.39	333	eP		P		03 03 22.7	+1.1
	comp=Z,53nm,0.9s									
PMR	Palmer		62.41	333	eP		P		03 03 22.6	+1.1
	comp=Z,20nm,1.0s									
PMR	Palmer		62.41	333	eP		P		03 03 22.6	+1.1
PMR					pmax		pmax			
	comp=Z,20nm,1.0s									
RC01	Rabbit Creek A		62.49	332	eP		P		03 03 23.7	+1.6
	comp=Z,40nm,1.0s									
BRLK	Bradley Lake		62.53	331	eP		P		03 03 24.5	+2.0
	comp=Z,40nm,0.7s									
PRP	Porcupine Dome		62.67	338	eP		P		03 03 25.3	+1.8
	comp=

	comp=Z,9.0nm,1.0s								
TBI	**Tubuai**	**67.34**	**237**	*e*LR		LR	03 24 12.3		
	comp=Z,498nm,27.5s								
TBI	**Tubuai**	**67.34**	**237**	*e*T		T	04 16 56.0		
	comp=Z,1.9nm,0.2s								
SCO	**Scoresbysund**	**70.27**	**20**	*e*P		**P**	**03 04 10.5**	**-1.2**	
	comp=Z,4.6nm,0.9s								
SCO	**Scoresbysund**	**70.27**	**20**	*i* P		**P**	**03 04 10.0**	**-1.7**	
	comp=Z,4.6nm,0.9s								
SCO	**Scoresbysund**	**70.27**	**20**	*e*P		**P**	**03 04 10.5**	**-1.2**	
SCO					pmax	pmax			
	comp=Z,5.0nm,0.9s								
DAG	**Danmarks Havn**	**72.67**	**13**	⇑*i*P		**P**	**03 04 24.4**	**-1.7**	
	comp=Z,20nm,1.0s								
DAG	**Danmarks Havn**	**72.67**	**13**	⇑*i*P		**P**	**03 04 24.4**	**-1.7**	
DAG					pmax	pmax			
	comp=Z,20nm,1.0s								
GAMB	**Gambell**	**72.99**	**333**	*e*P		**P**	**03 04 31.9**	**+3.7**	
	comp=Z,8.6nm,1.0s								
KPL	**Plockton**	**76.39**	**34**	*e*P		**P**	**03 04 45.8**	**-2.2**	
KPL					IAmb	IAmb	03 04 47.1		
	comp=Z,38nm,1.0s								
KAC	**Achnashellach**	**76.57**	**34**	*e*P		**P**	**03 04 46.5**	**-2.5**	
MDO	**Dochfour**	**77.08**	**34**	*e*P		**P**	**03 04 49.4**	**-2.5**	
BIGH	**Upper Bighouse**	**77.21**	**33**	*e*P		**P**	**03 04 50.6**	**-2.0**	
BIGH					IAmb	IAmb	03 04 52.0		
	comp=Z,40nm,1.1s								
INVG	**Invergeldie, C**	**77.35**	**35**	*e*P		**P**	**03 04 51.1**	**-2.4**	
INVG					IAmb	IAmb	03 04 52.5		
	comp=Z,25nm,0.9s								
ESK	**Eskdalemuir**	**77.95**	**36**	*e*P		**P**	**03 04 54.5**	**-2.3**	
	comp=Z,42nm,1.0s								
ESK	**Eskdalemuir**	**77.95**	**36**	*e*P		**P**	**03 04 54.3**	**-2.5**	
ESK					IAmb	IAmb	03 04 56.2		
	comp=Z,40nm,1.0s								
ESK	**Eskdalemuir**	**77.95**	**36**	*ce*P		**P**	**03 04 55.5**	**-1.3**	
BHH	**Howats Hill**	**77.97**	**36**	*e*P		**P**	**03 04 55.3**	**-1.7**	
DRUM	**Mains of Drumt**	**78.15**	**34**	*e*P		**P**	**03 04 55.3**	**-2.6**	
DRUM					IAmb	IAmb	03 04 56.5		
	comp=Z,48nm,0.9s								
ESY	**Stoneypath**	**78.21**	**35**	*e*P		**P**	**03 04 56.2**	**-2.0**	
ESY					IAmb	IAmb	03 04 58.4		
	comp=Z,59nm,1.1s								
ESDC	**Sonseca Array**	**79.73**	**52**	P		**P**	**03 05 04.3**	**-2.7**	
	comp=Z,5.3nm,1.0s,baz=287,slow=5.9,SNR=16								
GRR	**Gorron**	**80.44**	**43**	*e*P		**P**	**03 05 08.7**	**-1.9**	
GRR					pmax	pmax			
	comp=Z,14nm,0.9s								
FLN	**La Foliniere**	**80.62**	**42**	*e*P		**P**	**03 05 09.8**	**-1.7**	
FLN					pmax	pmax			
	comp=Z,16nm,0.9s								
LDF	**La Druitiere**	**80.88**	**42**	*e*P		**P**	**03 05 11.2**	**-1.8**	
LDF					pmax	pmax			
	comp=Z,20nm,1.2s								
MFF	**Saint Martin d**	**81.24**	**44**	*e*P		**P**	**03 05 12.9**	**-2.0**	
MFF					pmax	pmax			
	comp=Z,14nm,1.2s								
BILL	**Bilibino**	**81.46**	**338**	*e*P		**P**	**03 05 16.4**	**+0.8**	
BILL	**Bilibino**	**81.46**	**338**	*ce*P		**P**	**03 05 17.0**	**+1.4**	
BILL					pmax	pmax			
	comp=Z,98nm,1.3s								
LFF	**La Frestale**	**82.18**	**46**	*e*P		**P**	**03 05 19.0**	**-0.9**	
LFF					pmax	pmax			
	comp=Z,7.0nm,0.8s								
EPF	**Esparros**	**82.29**	**48**	*e*P		**P**	**03 05 24.5**	**+3.9**	
EPF					pmax	pmax			
	comp=Z,11nm,1.2s								
CLF	**Chambon-Foret**	**82.56**	**42**	*e*P		**P**	**03 05 20.3**	**-1.4**	
	comp=Z,36nm,1.2s								
RJF	**Les Rejaudoux**	**82.64**	**45**	*e*P		**P**	**03 05 19.4**	**-2.9**	
RJF					pmax	pmax			
	comp=Z,21nm,1.4s								
TCF	**Toulx Ste Croi**	**82.90**	**44**	*e*P		**P**	**03 05 21.5**	**-2.2**	
TCF					pmax	pmax			
	comp=Z,22nm,1.7s								
UCC	**Uccle**	**83.26**	**39**	⇑P		**P**	**03 05 24.6**	**-0.8**	
BGF	**Bois d'Agland**	**83.27**	**44**	*e*P		**P**	**03 05 22.6**	**-3.0**	
BGF					pmax	pmax			
	comp=Z,13nm,1.0s								
AVF	**Avril sur Loir**	**83.56**	**44**	*e*P		**P**	**03 05 23.6**	**-3.4**	
AVF					pmax	pmax			
	comp=Z,13nm,1.2s								
DOU	**Dourbes**	**83.58**	**40**	⇓P		**P**	**03 05 27.5**	**+0.5**	
SSF	**Saint Saulge**	**83.59**	**43**	*e*P		**P**	**03 05 25.0**	**-2.2**	
SSF					pmax	pmax			
	comp=Z,5.0nm,0.8s								
LOR	**Lormes**	**83.78**	**43**	*e*P		**P**	**03 05 26.3**	**-1.9**	
LOR					pmax	pmax			
	comp=Z,19nm,1.1s								
SMF	**Signal de Mont**	**83.92**	**44**	*e*P		**P**	**03 05 26.5**	**-2.4**	
SMF					pmax	pmax			
	comp=Z,9.0nm,1.1s								
BCLA	**Clavier**	**83.94**	**40**	⇑P		**P**	**03 05 26.7**	**-2.1**	
	comp=Z,11nm,0.9s								
NB2	**NORSAR Subarra**	**84.16**	**28**	P		**P**	**03 05 29.2**	**-0.6**	
	comp=Z,2.8nm,0.7s,baz=289,slow=5.3								
NB200	**NORSAR Array S**	**84.16**	**28**	*e*P		**P**	**03 05 29.2**	**-0.6**	
NOA	**NORSAR Array B**	**84.16**	**28**	P		**P**	**03 05 29.2**	**-0.6**	
	comp=Z,5.1nm,0.8s,baz=289,slow=5.2,SNR=28								
NOA					LR	LR	03 43 53.5		
	comp=Z,150nm,18.9s,baz=275,slow=36								
MEM	**Membach**	**84.32**	**39**	⇓P		**P**	**03 05 29.1**	**-1.8**	
	comp=Z,9.6nm,1.1s								
NC405	**NORSAR Array S**	**84.36**	**28**	*e*P		**P**	**03 05 30.9**	**+0.1**	
	comp=Z,13nm,0.9s								
NC602	**NORSAR Array S**	**84.40**	**29**	*e*P		**P**	**03 05 31.0**	**-0.1**	
	comp=Z,13nm,0.9s								
WLF	**Walferdange**	**84.66**	**40**	*e*P		**P**	**03 05 31.7**	**-0.9**	
	comp=Z,7.2nm,0.9s,baz=287,slow=5.0								
WLF	**Walferdange**	**84.66**	**40**	⇑P		**P**	**03 05 31.2**	**-1.3**	
BUG	**Bochum--Univer**	**84.87**	**38**	*e*P		**P**	**03 05 33.4**	**-0.1**	
	comp=Z,5.8nm,0.8s,baz=287,slow=5.0								
VIVF	**Saint-Julien-l**	**84.92**	**45**	*e*P		**P**	**03 05 33.0**	**-1.0**	
VIVF					pmax	pmax			
	comp=Z,12nm,1.4s								
HAU	**Haudompre**	**85.22**	**42**	*e*P		**P**	**03 05 33.8**	**-1.7**	
HAU					pmax	pmax			
	comp=Z,7.0nm,0.8s								
HINF	**Hinteralfeld**	**85.60**	**42**	*e*P		**P**	**03 05 35.6**	**-1.8**	
HINF					pmax	pmax			
	comp=Z,19nm,1.6s								
DBIC	**Dimbokro**	**85.67**	**84**	*e*P		**P**	**03 05 36.5**	**-1.7**	
	comp=Z,3.6nm,0.8s								
DBIC	**Dimbokro**	**85.67**	**84**	P		**P**	**03 05 36.5**	**-1.7**	
	comp=Z,2.6nm,0.7s,baz=260,slow=1.6,SNR=4.4								
DBIC					LR	LR	03 41 52.2		
	comp=Z,138nm,19.7s,baz=255,slow=34								
ECH	**Echery**	**85.69**	**41**	*e*P		**P**	**03 05 36.0**	**-1.8**	
	comp=Z,8.3nm,1.0s								
ECH	**Echery**	**85.69**	**41**	*e*P		**P**	**03 05 36.0**	**-1.8**	
ECH					pmax	pmax			
	comp=Z,8.0nm,1.0s								
CDF	**Champ du Feu**	**85.71**	**41**	*e*P		**P**	**03 05 35.5**	**-2.5**	
CDF					pmax	pmax			
	comp=Z,9.0nm,1.1s								
ORIF	**Oris-en-Rattie**	**85.73**	**45**	*e*P		**P**	**03 05 37.0**	**-1.2**	
ORIF					pmax	pmax			
	comp=Z,7.0nm,0.8s								
BSEG	**Bad Segeberg**	**85.91**	**35**	*e*P		**P**	**03 05 38.5**	**-0.2**	
	comp=Z,17nm,0.8s,baz=287,slow=5.0								
TNS	**Taunus Mts**	**85.93**	**39**	*e*P		**P**	**03 05 38.2**	**-0.8**	
	comp=Z,11nm,0.8s,baz=287,slow=5.0								
ARA0	**ARCESS Array S**	**86.14**	**18**	*e*P		**P**	**03 05 38.2**	**-1.4**	
ARCES	**ARCESS Array B**	**86.14**	**18**	P		**P**	**03 05 38.2**	**-1.4**	
	comp=Z,5.4nm,0.8s,baz=297,slow=2.9,SNR=14								
LPL	**La Plagne**	**86.15**	**44**	*e*P		**P**	**03 05 39.5**	**-0.9**	
LPL					pmax	pmax			
	comp=Z,23nm,1.8s								
LPG	**La Plagne**	**86.17**	**44**	*e*P		**P**	**03 05 39.8**	**-0.8**	
LPG					pmax	pmax			
	comp=Z,9.0nm,1.2s								
NRDL	**Niedersach Rie**	**86.24**	**37**	*e*P		**P**	**03 05 40.0**	**-0.3**	
	comp=Z,7.0nm,0.8s,baz=287,slow=5.0								
SENIN	**Lac Senin/Sane**	**86.30**	**43**	*e*P		**P**	**03 05 40.0**	**-1.1**	
	comp=Z,9.5nm,0.9s								
MBDF	**Montbardon**	**86.39**	**45**	*e*P		**P**	**03 05 39.4**	**-2.1**	
MBDF					pmax	pmax			
	comp=Z,8.0nm,1.0s								
BFO	**Black Forest**	**86.41**	**41**	*e*P		**P**	**03 05 39.4**	**-2.0**	
	comp=Z,6.2nm,1.0s								
BFO	**Black Forest**	**86.41**	**41**	*e*P		**P**	**03 05 39.7**	**-1.6**	
	comp=Z,4.4nm,0.9s,baz=287,slow=5.0								
BFO	**Black Forest**	**86.41**	**41**	*ce*P		**P**	**03 05 39.8**	**-1.6**	
GTTG	**Gyttingen**	**86.45**	**38**	*e*P		**P**	**03 05 40.9**	**-0.5**	
	comp=Z,26nm,0.8s,baz=287,slow=5.0								
CLZ	**Clausthal**	**86.60**	**37**	*e*P		**P**	**03 05 41.9**	**-0.3**	
	comp=Z,12nm,0.8s,baz=287,slow=5.0								
ASSE	**Asse, Remlinge**	**86.69**	**37**	*e*P		**P**	**03 05 42.2**	**-0.3**	
	comp=Z,5.9nm,0.8s,baz=287,slow=5.0								
UBBA	**Unterbreizbach**	**86.70**	**38**	*e*P		**P**	**03 05 41.8**	**-0.7**	
	comp=Z,1.6nm,0.6s,baz=287,slow=5.0								
STU	**Stuttgart**	**86.83**	**41**	*e*P		**P**	**03 05 41.5**	**-1.8**	
	comp=Z,13nm,0.8s								
STU	**Stuttgart**	**86.83**	**41**	*e*P		**P**	**03 05 42.0**	**-1.4**	
	comp=Z,13nm,0.9s,baz=287,slow=5.0								
STU	**Stuttgart**	**86.83**	**41**	*e*P		**P**	**03 05 41.5**	**-1.8**	
STU					pmax	pmax			
	comp=Z,13nm,0.8s								
TUE	**Stuetta**	**87.62**	**43**	*e*P		**P**	**03 05 46.6**	**-0.9**	
	comp=Z,8.9nm,0.8s								
NEUB	**Neuenburg**	**87.63**	**38**	*e*P		**P**	**03 05 46.6**	**-0.6**	
	comp=Z,7.9nm,0.8s,baz=287,slow=5.0								
DAVA	**Damuels**	**87.72**	**42**	*e*PcP		**P**	**03 05 46.7**	**-1.2**	
	comp=Z,15nm,0.9s								
MOX	**Moxa**	**87.72**	**38**	*e*P		**P**	**03 05 46.9**	**-0.7**	
	comp=Z,3.0nm,0.8s,baz=287,slow=5.0								
UBR	**Ueberruh**	**87.74**	**41**	*e*P		**P**	**03 05 46.9**	**-1.0**	
	comp=Z,10nm,0.9s,baz=287,slow=5.0								
GRFO	**Grafenberg**	**87.80**	**39**	*e*P		**P**	**03 05 47.0**	**-1.0**	
	comp=Z,9.6nm,0.9s								
GRFO	**Grafenberg**	**87.80**	**39**	*e*P		**P**	**03 05 47.0**	**-1.0**	
GRFO					pmax	pmax			
	comp=Z,10.0nm,0.9s								
GRA1	**Grafenberg Arr**	**87.80**	**39**	*e*P		**P**	**03 05 47.2**	**-0.8**	
	comp=Z,11nm,0.9s								
GRF	**Grafenberg Arr**	**87.80**	**39**	*e*P		**P**	**03 05 47.6**	**-0.4**	
	comp=Z,8.6nm,0.8s,baz=287,slow=5.0								
GRF	**Grafenberg Arr**	**87.80**	**39**	*e*P		**P**	**03 05 47.2**	**-0.8**	
GRF					pmax	pmax			
	comp=Z,11nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**88.17**	**42**	*e*P		**P**	**03 05 49.1**	**-1.1**	
	comp=Z,12nm,0.9s								
RETA	**Reute**	**88.22**	**41**	*e*P		**P**	**03 05 48.7**	**-1.5**	
	comp=Z,7.1nm,0.9s,SNR=6.8								
MANZ	**Manzenberg**	**88.24**	**39**	*e*P		**P**	**03 05 49.7**	**-0.5**	
	comp=Z,2.8nm,0.8s,baz=287,slow=5.0								
GUNZ	**Gunzen**	**88.25**	**38**	*e*P		**P**	**03 05 49.7**	**-0.5**	
	comp=Z,2.4nm,0.8s,baz=287,slow=5.0								
WERN	**Wernitzgruen**	**88.30**	**38**	*e*P		**P**	**03 05 50.0**	**-0.5**	
	comp=Z,2.8nm,0.8s,baz=287,slow=5.0								
TANN	**Tannenbergstha**	**88.31**	**38**	*e*P		**P**	**03 05 49.9**	**-0.6**	
	comp=Z,4.4nm,0.8s,baz=287,slow=5.0								
CLL	**Collm**	**88.33**	**37**	*e*P		**P**	**03 05 50.9**	**+0.5**	
	comp=Z,2.5nm,0.8s,baz=287,slow=5.0								
CLL	**Collm**	**88.33**	**37**	*i* P		**P**	**03 05 50.5**	**0.0**	
	comp=Z,3.0nm,0.8s								
CLL					LmH		03 45 00.0		
	comp=N,100nm,20.4s								
CLL					LmH		03 45 00.0		
	comp=E,100nm,20.0s								
CLL					LmV		03 46 00.0		
	comp=Z,200nm,19.4s								
CLL	**Collm**	**88.33**	**37**	*i* P		**P**	**03 05 50.5**	**0.0**	
CLL					pmax	pmax			
	comp=Z,3.0nm,0.8s								
FETA	**Feichten**	**88.35**	**42**	*e*P		**P**	**03 05 49.4**	**-1.5**	
	comp=Z,5.5nm,1.0s,SNR=12								
NKC	**Novy Kostel**	**88.36**	**38**	*e*P		**P**	**03 05 49.8**	**-0.9**	
NKC	**Novy Kostel**	**88.36**	**38**	*e*P		**P**	**03 05 49.8**	**-0.9**	
ROTZ	**Rotzenmuhle**	**88.38**	**39**	*e*P		**P**	**03 05 50.4**	**-0.4**	
	comp=Z,1.3nm,0.9s,baz=287,slow=5.0								
MOTA	**Mosalm**	**88.49**	**41**	*e*PcP		**P**	**03 05 50.5**	**-1.0**	
	comp=Z,5.6nm,0.8s,SNR=5.5								
SEY	**Seymchan**	**88.75**	**336**	*ce*P		**P**	**03 05 53.9**	**+1.7**	
SEY	**Seymchan**	**88.75**	**336**	P		**P**	**03 05 52.9**	**+0.7**	
	comp=Z,6.8nm,0.7s,baz=98,slow=4.7,SNR=22								
WET	**Wettzell**	**89.00**	**39**	*e*P		**P**	**03 05 53.3**	**-0.5**	
	comp=Z,1.7nm,0.8s,baz=287,slow=5.0								
BRG	**Berggiesshubel**	**89.03**	**38**	*e*(P)		**P**	**03 05 53.9**	**+0.1**	
	comp=Z,4.8nm,1.2s								
BRG	**Berggiesshubel**	**89.03**	**38**	*e*P		**P**	**03 05 53.9**	**+0.1**	
	comp=Z,1.6nm,0.8s,baz=287,slow=5.0								
BRG	**Berggiesshubel**	**89.03**	**38**	*e*P		**P**	**03 05 53.9**	**+0.1**	
BRG					pmax	pmax			
	comp=Z,5.0nm,1.2s								
KHC	**Kasperske Hory**	**89.44**	**39**	*e*P		**P**	**03 05 54.1**	**-1.7**	
	comp=Z,1.3nm,0.9s								
KHC	**Kasperske Hory**	**89.44**	**39**	*e*P		P	03 05 51.1	-4.7	
KHC					*e*pP	sP	03 06 20.8	+9.4	
KHC					AMS	AMS	03 41 50.0		
	comp=Z,300nm,22.1s								
KHC	**Kasperske Hory**	**89.44**	**39**	*e*P		**P**	**03 05 54.1**	**-1.7**	
KHC					pmax	pmax			
	comp=Z,1.0nm,0.9s								
GEC2	**GERESS Array S**	**89.61**	**39**	*e*P		**P**	**03 05 54.8**	**-1.9**	
GEC2	**GERESS Array S**	**89.61**	**39**	*e*P		**P**	**03 05 55.9**	**-0.8**	
	comp=Z,2.4nm,0.8s,baz=287,slow=5.0								
GEC2	**GERESS Array S**	**89.61**	**39**	*e*P		**P**	**03 05 54.8**	**-1.9**	
GERES	**GERESS Array B**	**89.61**	**39**	P		**P**	**03 05 54.8**	**-1.9**	
	comp=Z,2.2nm,0.9s,baz=305,slow=3.5,SNR=16								
GERES					LR	LR	03 42 20.6		
	comp=Z,164nm,21.3s,baz=288,slow=33								
PRU	**Pruhonice**	**89.71**	**38**	*e*P		**P**	**03 05 54.9**	**-2.1**	
PRU	**Pruhonice**	**89.71**	**38**	*e*P		**P**	**03 05 54.9**	**-2.1**	
KBA	**Koelnbreinsper**	**90.02**	**41**	*e*PcP		**P**	**03 05 57.7**	**-1.0**	
	comp=Z,3.4nm,0.8s								
TIXI	**Tiksi**	**90.26**	**348**	*e*P		**P**	**03 05 58.9**	**-0.2**	
	comp=Z,19nm,0.8s								
TIXI	**Tiksi**	**90.26**	**348**	*ce*P		**P**	**03 05 59.4**	**+0.3**	
TIXI					pmax	pmax			
	comp=Z,33nm,1.3s								
MOA	**Molln**	**90.32**	**40**	*e*P		**P**	**03 05 58.2**	**-1.8**	
	comp=Z,3.4nm,0.9s								
TOA1	**Torodi Ar. Sit**	**90.39**	**76**	*e*P		P	03 05 56.9	-4.0	
TOA0	**Torodi Ar. Sit**	**90.39**	**76**	*e*P		**P**	**03 05 58.2**	**-2.7**	
TORD	**Torodi Ar. Bea**	**90.39**	**76**	P		P	03 05 56.9	-4.0	
	comp=Z,0.7nm,0.6s,baz=289,slow=4.9,SNR=13								
TORD					LR	LR	03 43 40.3		
	comp=Z,190nm,21.1s,baz=315,slow=34								
FIA0	**FINESS Array S**	**90.51**	**25**	*e*P		**P**	**03 05 58.9**	**-1.6**	
FIA0	**FINESS Array S**	**90.51**	**25**	*e*P		**P**	**03 05 58.9**	**-1.6**	
FINES	**FINESS Array B**	**90.51**	**25**	P		**P**	**03 05 58.9**	**-1.6**	
	comp=Z,3.8nm,0.8s,baz=338,slow=1.0,SNR=9.6								
FINES					LR	LR	03 46 20.0		
	comp=Z,98nm,20.4s,baz=297,slow=35								
TREC	**Trest**	**90.54**	**39**	AMS		AMS	03 45 30.0		
	comp=Z,200nm,20.2s								
DPC	**Dobruska-Polom**	**90.64**	**37**	*e*P		**P**	**03 06 00.3**	**-1.1**	
DPC	**Dobruska-Polom**	**90.64**	**37**	*e*P		**P**	**03 06 00.3**	**-1.1**	
PEA1	**Petropavlovsk-**	**90.64**	**326**	*e*P		**P**	**03 06 02.4**	**+1.1**	
PETK	**Petropavlovsk-**	**90.64**	**326**	P		**P**	**03 06 02.4**	**+1.1**	
	comp=Z,6.7nm,0.9s,baz=87,slow=7.6,SNR=4.3								
KEST	**Kesra**	**90.91**	**53**	*e*P		**P**	**03 06 02.1**	**-0.9**	
	comp=Z,14nm,1.2s								
KEST	**Kesra**	**90.91**	**53**	P		**P**	**03 06 01.7**	**-1.3**	
	comp=Z,7.2nm,1.0s,baz=258,slow=3.9,SNR=7.4								
OBKA	**Obir**	**90.99**	**41**	*e*P		**P**	**03 06 01.3**	**-1.9**	
	comp=Z,3.3nm,0.8s								
MA2	**Magadan**	**91.09**	**333**	P		**P**	**03 06 04.2**	**+0.9**	
	comp=Z,9.9nm,0.6s,baz=80,slow=5.9,SNR=11								
TAM	**Tamanrasset**	**91.43**	**66**	*e*P		**P**	**03 06 05.1**	**-0.6**	
	comp=Z,4.3nm,1.4s								
MORC	**Moravsky Berou**	**91.58**	**38**	*e*P		**P**	**03 06 04.8**	**-1.0**	
	comp=Z,6.0nm,1.2s								
MORC	**Moravsky Berou**	**91.58**	**38**	⇑*i*P		**P**	**03 06 05.2**	**-0.6**	
MORC	**Moravsky Berou**	**91.58**	**38**	⇑P		**P**	**03 06 05.2**	**-0.6**	
MATE	**Matera**	**94.65**	**46**	⇑*i*P		P	03 06 30.6	+11	
TRPA	**Tarpa**	**95.27**	**38**	⇑*i*P		**P**	**03 06 21.0**	**-1.7**	
BZS	**Buzias**	**95.85**	**40**	⇑*i*P		**P**	**03 06 23.3**	**-2.1**	
BZS	**Buzias**	**95.85**	**40**	⇑P		**P**	**03 06 23.3**	**-2.1**	
DRGR		**95.99**	**39**	⇑*i*P		**P**	**03 06 25.2**	**-0.9**	
DRGR		**95.99**	**39**	⇑P		**P**	**03 06 25.2**	**-0.9**	
GZR	**Gura Zlata**	**96.68**	**40**	⇑*i*P		**P**	**03 06 28.3**	**-1.0**	
GZR	**Gura Zlata**	**96.68**	**40**	⇑P		**P**	**03 06 28.3**	**-1.0**	
NRIK	**Noril'sk**	**96.88**	**0**	LR		LR	03 54 57.2		
	comp=Z,262nm,18.0s,baz=14,slow=38								
BURAR	**Bucovina Array**	**97.10**	**37**	⇓*i*P		**P**	**03 06 28.0**	**-3.2**	
PRGR	**Permogore**	**97.55**	**19**	*e*P		**P**	**03 06 29.8**	**-2.9**	
PRGR					pmax	pmax			
	comp=Z,6.0nm,0.5s								
AKASG	**Malin Array Be**	**97.74**	**33**	P		**P**	**03 06 31.0**	**-2.8**	
	comp=Z,0.5nm,0.3s,baz=292,slow=3.9,SNR=2.4								
AKASG					LR	LR	03 52 30.2		
	comp=Z,113nm,19.9s,baz=300,slow=37								
AKBB	**Malin Array Si**	**97.74**	**33**	*e*P		**P**	**03 06 31.0**	**-2.8**	
	comp=Z,4.9nm,1.3s								
AKBB	**Malin Array Si**	**97.74**	**33**	*e*P		**P**	**03 06 31.0**	**-2.8**	
AKBB					pmax	pmax			
	comp=Z,5.0nm,1.3s								
ARR	**Arges**	**97.84**	**39**	⇓*i*P		**P**	**03 06 31.0**	**-3.6**	
OBN	**Obninsk**	**98.69**	**27**	*e*P		Pdif	03 06 38.5	+0.5	
OBN					pmax	pmax			
	comp=Z,3.0nm,0.9s								
OBN					MLR	MLR			
	comp=Z,164nm,20.0s								
BRVK	**Borovoye**	**111.50**	**11**	*i* PKIKP		**PKiKP**	**03 11 33.2**	**+0.2**	
KURK	**Kurchatov**	**115.05**	**7**	*i* PKIKP		**PKPdf**	**03 11 40.8**	**+1.0**	
SONA0	**Songino Array**	**116.29**	**346**	*e*PKPdf		**PKiKP**	**03 11 42.4**	**-0.1**	
SONM	**Songino Array**	**116.29**	**346**	PKP		**PKiKP**	**03 11 42.4**	**-0.1**	
	comp=Z,1.4nm,0.7s,baz=345,slow=1.4,SNR=12								
KS01	**Wonju Array Si**	**116.54**	**325**	*e*PKPdf		**PKiKP**	**03 11 43.2**	**+0.2**	
KSRS	**Korea Array**	**116.54**	**325**	PKIKP		**PKPdf**	**03 11 43.0**	**-0.1**	
KSRS	**Korea Array**	**116.54**	**325**	PKP		**PKPdf**	**03 11 43.0**	**-0.1**	
	comp=Z,2.7nm,0.8s,baz=27,slow=2.0,SNR=8.7								
KS15	**Wonju Array Si**	**116.57**	**325**	*e*PKPdf		**PKPdf**	**03 11 43.0**	**-0.2**	
DGZ	**Jazzator, Alta**	**116.58**	**0**	*i* PKIKP		**PKPdf**	**03 11 42.6**	**-0.4**	
MAKZ	**Makanchi**	**119.24**	**5**	*e*PKPdf		**PKPdf**	**03 11 47.7**	**-0.3**	
MAKZ	**Makanchi**	**119.24**	**5**	*e*PKIKP		**PKPdf**	**03 11 47.7**	**-0.3**	
MK31	**Makanchi Array**	**119.28**	**4**	*e*PKPdf		**PKPdf**	**03 11 48.0**	**-0.2**	
MK31	**Makanchi Array**	**119.28**	**4**	*e*PKIKP		**PKPdf**	**03 11 48.0**	**-0.2**	
MK32	**Makanchi Array**	**119.28**	**4**	*e*PKPdf		**PKPdf**	**03 11 47.2**	**-0.9**	
MKAR	**Makanchi Array**	**119.28**	**4**	PKP		**PKPdf**	**03 11 47.2**	**-0.9**	
	comp=Z,0.6nm,0.5s,baz=336,slow=2.6,SNR=10								
MK01	**Makanchi Array**	**119.30**	**4**	*e*PKPdf		**PKPdf**	**03 11 47.6**	**-0.6**	
BOSA	**Boshof**	**120.37**	**115**	PKP		**PKPdf**	**03 11 49.8**	**-1.0**	
	comp=Z,6.3nm,0.8s,baz=285,slow=3.8,SNR=8.3								
GEYT	**Alibeck**	**121.23**	**27**	PKP		**PKPdf**	**03 11 51.8**	**-0.4**	
	comp=Z,3.0nm,0.6s,baz=230,slow=6.9,SNR=4.8								
WMQ	**Urumqi**	**122.46**	**0**	*e*PKP		**PKiKP**	**03 11 55.0**	**+0.4**	
WMQ					LR	LR			
	comp=Z,230nm,29.9s								
WMQ					LR	LR			
	comp=Z,400nm,27.5s								
NRN	**Naryn**	**123.75**	**11**	*e*PKPdf		**PKiKP**	**03 11 58.5**	**+1.0**	
NRN	**Naryn**	**123.75**	**11**	*e*PKIKP		**PKiKP**	**03 11 58.5**	**+1.0**	
NJ2	**Nanjing**	**125.49**	**328**	*e*PKP		**PKiKP**	**03 12 01.0**	**+0.2**	
KSH	**Kashi**	**125.60**	**11**	PKP		**PKiKP**	**03 12 02.3**	**+1.3**	
KSH					sPKP		03 12 17.0		
KSH					PP	**PP**	**03 13 58.5**	**+7.6**	
KSH					AMB	AMB			
	comp=Z,79nm,5.0s								
GTA	**Gaotai**	**125.74**	**349**	*e*PKP		**PKiKP**	**03 12 02.5**	**+1.2**	
GTA					sPKP		03 12 17.3		
GTA				

-0.0620, Plg2.0000°, Azm27.0000°; P -1.4380, Plg16.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

*ISCJB **28** 03:34:28.2±0.1,23°.58S±0°.03×175°.42W±0°.03,h47km, mb5.0/218,MS5.2/172 Error ellipse: s-maj=5.1km s-min=3.1km az=144.9*

ISC 28 03:34:27.5±0.5,23°.61S±0°.04×175°.35W±0°.05,h31km±3km, h31km:pP-P,n770,σ1§57/714,mb5.0/218,MS5.2/176, 50C-17D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.07**	**202**	Pn		**Pn**	**03 35 55.2**	**+0.1**
	36nm,0.3s,baz=73,slow=19,SNR=2.8							
RAO				Sn		**Sn**	**03 37 07.8**	**+4.3**
	23nm,0.3s,baz=90,slow=20,SNR=3.6							
MSVF	**Nonsavu**	**8.51**	**312**	*e*Pn		**Pn**	**03 36 27.3**	**-1.4**
MSVF				*e*Sn		**Sn**	**03 38 06.2**	**+2.5**
MSVF	**Nonsavu**	**8.51**	**312**	*e*P		**Pn**	**03 36 27.3**	**-1.4**
MSVF				*e*			03 38 06.2	
RAR	**Rarotonga**	**14.60**	**84**	Pn		Pn	03 37 41.3	-11
	22nm,0.3s,baz=223,slow=5.2,SNR=26							
RAR				Sn		Sn	03 40 10.1	-23
	2.9nm,0.3s,baz=92,slow=18,SNR=4.4							
RAR				LR		LR	03 42 32.8	
	comp=Z,8μm,20.1s,baz=264,slow=34							
OUZ	**Omahuta**	**15.04**	**217**	*e*Pn		**Pn**	**03 37 51.6**	**-6.2**
	39nm,1.3s							
MARNC	**Mare, Loyalty**	**15.50**	**275**	*e*Pn		**Pn**	**03 38 00.9**	**-3.0**
	216nm,1.3s							
PINNC	**Pines Island,**	**15.86**	**270**	*e*Pn		**Pn**	**03 38 06.1**	**-2.4**
	131nm,1.5s							
URZ	**Urewera**	**15.96**	**202**	*e*Pn		**Pn**	**03 38 06.2**	**-3.5**
	21nm,0.7s							
URZ				*e*Sn		**Sn**	**03 41 03.2**	**-2.4**
URZ	**Urewera**	**15.96**	**202**	Pn		**Pn**	**03 38 06.2**	**-3.5**
	0.4nm,0.3s,baz=269,slow=5.1,SNR=5.8							
URZ				Sn		**Sn**	**03 40 57.1**	**-8.5**
	0.9nm,0.3s,baz=30,slow=16,SNR=3.8							
DZM	**Mont Dzumac**	**16.86**	**272**	*e*P		**P**	**03 38 24.3**	**+1.1**
	188nm,1.3s							
DZM				*e*LR		LR	03 42 22.4	
	comp=Z,6μm,25.4s							
DZM	**Mont Dzumac**	**16.86**	**272**	*e*Pn		**Pn**	**03 38 19.9**	**-1.5**
	80nm,1.3s							
DZM	**Mont Dzumac**	**16.86**	**272**	Pn		**P**	**03 38 24.0**	**+0.9**
	0.4nm,0.3s,baz=16,slow=7.4,SNR=6.5							
DZM				LR		LR	03 43 44.3	
	comp=Z,4μm,20.0s,baz=100,slow=33							
BKZ	**Black Stump Fm**	**16.98**	**202**	*e*Pn		**Pn**	**03 38 19.2**	**-3.6**
	8.3nm,0.7s							
BKZ				*e*Sn		**Sn**	**03 41 33.9**	**+3.3**
BFZ	**Birch Farm**	**18.43**	**201**	*e*P		**P**	**03 38 37.2**	**-3.1**
	46nm,0.9s							
SNZO	**South Karori**	**19.52**	**203**	*e*P		**P**	**03 38 50.0**	**-2.2**
	45nm,1.0s							
THZ	**Tophouse**	**20.59**	**206**	*e*P		**P**	**03 39 05.0**	**+1.1**
	14nm,0.7s							
KHZ	**Kahutara**	**20.91**	**204**	*e*P		**P**	**03 39 06.9**	**-0.4**
	38nm,0.9s							
KNTN	**Kanton**	**21.01**	**10**	*e*P		**P**	**03 39 06.4**	**-2.2**
	182nm,1.1s							
LTZ	**Lake Taylor**	**21.70**	**205**	*e*P		**P**	**03 39 15.7**	**-0.2**
	11nm,0.7s							
OXZ	**Oxford**	**22.25**	**205**	*e*P		**P**	**03 39 23.0**	**+1.3**
	20nm,0.6s							
OXZ				*e*PcP		**PcP**	**03 43 17.3**	**+0.1**
MQZ	**McQueen's Vall**	**22.35**	**203**	*e*P		**P**	**03 39 22.8**	**+0.1**
	20nm,1.0s							
RPZ	**Rata Peaks**	**22.97**	**206**	*e*P		**P**	**03 39 30.9**	**+1.5**
	24nm,1.1s							
RPZ	**Rata Peaks**	**22.97**	**206**	P		**P**	**03 39 31.0**	**+1.6**
	11nm,0.8s,baz=333,slow=2.3,SNR=4.1							
RPZ				S		**S**	**03 43 28.7**	**-8.9**
	5.1nm,0.8s,baz=60,slow=16,SNR=2.8							
FOZ	**Fox Glacier**	**23.33**	**208**	*e*P		**P**	**03 39 34.4**	**+1.4**
	52nm,0.9s							
TBI	**Tubuai**	**23.74**	**95**	*e*LQ		LQ	03 44 02.8	
	4μm,27.0s							
TBI				*e*LR		LR	03 45 11.9	
	comp=Z,6μm,22.0s,baz=263							
TBI	**Tubuai**	**23.74**	**95**	*e*T		T	04 04 13.3	
	4.1nm,0.3s							
LBZ	**Lake Benmore**	**23.87**	**206**	*e*P		**P**	**03 39 37.5**	**-0.7**
ODZ	**Otahua Downs**	**24.24**	**205**	*e*P		**P**	**03 39 41.1**	**-0.5**
	11nm,0.8s							
WKZ	**Wanaka**	**24.71**	**207**	*e*P		**P**	**03 39 45.7**	**-0.2**
	22nm,1.0s							
PAE	**Paea**	**24.81**	**81**	*e*T		T	04 05 27.1	
	3.5nm,0.3s							
PPT2	**Papeete2**	**24.84**	**81**	*e*LQ		LQ	03 44 38.9	
	4μm,24.2s							
PPT2				*e*LR		LR	03 45 46.9	
	comp=Z,6μm,21.8s,baz=250							
PPT2	**Papeete2**	**24.84**	**81**	*e*T		T	04 05 30.2	
	3.5nm,0.3s							
PPT	**Papeete**	**24.84**	**81**	LR		LR	03 47 15.7	
	comp=Z,5μm,20.5s,baz=264,slow=31							
TIAR	**Tiarei**	**25.05**	**81**	*e*P		**P**	**03 39 44.7**	**-4.6**
	24nm,1.3s							
TVO	**Taravao**	**25.07**	**82**	*e*P		**P**	**03 39 44.7**	**-4.8**
MLZ	**Mavora Lakes**	**25.53**	**208**	*e*P		**P**	**03 39 53.2**	**-0.1**
	37nm,1.0s							
TARA	**Tarawa**	**27.31**	**334**		PFAKE		03 40 20.0	+10
TARA					LR	LR		
	comp=Z,212nm,21.0s							
HNR	**Honiara**	**27.50**	**297**		PFAKE		03 40 20.0	+8.7
HNR					LR	LR		
	comp=Z,2μm,21.0s							
HNR	**Honiara**	**27.50**	**297**		LR	LR	03 50 35.9	
	comp=Z,2μm,19.6s,baz=155,slow=36							
ARMA	**Armidale**	**30.12**	**250**	*e*P		**P**	**03 40 35.3**	**+0.7**
	comp=Z,17nm,1.2s							
EIDS	**Eidsvold**	**30.56**	**260**	*e*P		**P**	**03 40 38.1**	**-0.3**
	comp=Z,22nm,1.1s							
CTA	**Charters Tower**	**35.74**	**268**	P		**P**	**03 41 23.1**	**-0.6**
	comp=Z,13nm,0.4s,baz=94,slow=11,SNR=21							
CTAO	**Charters Tower**	**35.74**	**268**	*e*P		**P**	**03 41 22.7**	**-1.1**
CTAO					LR	LR		
	comp=Z,3μm,19.0s							
CTAO	**Charters Tower**	**35.74**	**268**	*e*P		**P**	**03 41 22.7**	**-1.1**
CTAO					pmax	pmax		
	comp=Z,30nm,1.0s							
CTAO					MLR	MLR		
	comp=Z,3μm,19.0s							
TOO	**Toolangi**	**36.20**	**238**	*e*P		**P**	**03 41 30.3**	**+2.8**
	comp=Z,29nm,1.1s							
TOO	**Toolangi**	**36.20**	**238**	*e*P		**P**	**03 41 30.3**	**+2.8**
TOO					pmax	pmax		
	comp=Z,29nm,1.1s							
TAU	**Tasmania Unive**	**36.29**	**229**		PFAKE		03 41 40.0	+12
TAU					LR	LR		
	comp=Z,4μm,20.0s							
TAOE	**Nuku Hiva Isla**	**36.71**	**72**	*e*S		**S**	**03 47 08.8**	**-5.3**
	comp=Z,550nm,25.1s							
TAOE				*e*LR		LR	03 51 11.4	
	comp=Z,3μm,22.0s							
RKT	**Rikitea**	**36.98**	**98**	*e*LR		LR	03 51 14.1	
	comp=Z,4μm,22.0s							
RKT	**Rikitea**	**36.98**	**98**	*e*T		T	04 20 46.9	
	comp=Z,1.1nm,0.3s							
PMG	**Port Moresby**	**38.48**	**285**	*e*P		**P**	**03 41 47.6**	**+0.6**
	comp=Z,54nm,0.8s							
PMG					LR	LR		
	comp=Z,2μm,20.0s							
PMG	**Port Moresby**	**38.48**	**285**	*ce*P		**P**	**03 41 46.6**	**-0.4**
PMG					pmax	pmax		
	comp=Z,195nm,0.9s							
PMG	**Port Moresby**	**38.48**	**285**	P		**P**	**03 41 47.0**	**-0.1**
	comp=Z,54nm,0.9s,baz=266,slow=19,SNR=18							
STKA	**Stephens Creek**	**38.78**	**248**	*e*P		**P**	**03 41 49.2**	**-0.2**
	comp=Z,6.3nm,1.5s							
STKA	**Stephens Creek**	**38.78**	**248**	P		**P**	**03 41 49.0**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=94,slow=11,SNR=6.0							
STKA					LR	LR	03 56 28.2	
	comp=Z,3μm,20.7s,baz=81,slow=34							
COEN	**Coen**	**40.30**	**276**	*e*P		**P**	**03 42 02.4**	**+0.1**
	comp=Z,28nm,1.1s							
JOHN	**Johnston Islan**	**40.50**	**9**		PFAKE		03 42 10.0	+6.3
JOHN					LR	LR		
	comp=Z,371nm,21.0s							
PTCN	**Pitcairn Islan**	**41.11**	**102**		PFAKE		03 42 20.0	+11
PTCN					LR	LR		
	comp=Z,4μm,20.0s							
BBOO	**Buckleboo**	**43.47**	**247**	*e*P		**P**	**03 42 26.7**	**-1.4**
	comp=Z,28nm,0.9s							
AS01	**Alice Springs**	**46.24**	**259**	*e*P		**P**	**03 42 49.7**	**-0.5**
AS31	**Alice Springs**	**46.28**	**259**	*e*P		**P**	**03 42 50.0**	**-0.5**
	comp=Z,4.4nm,1.0s							
AS31				*e*S		**S**	**03 49 34.8**	**-1.0**
ASAR	**Alice Springs**	**46.28**	**259**	P		**P**	**03 42 50.4**	**-0.1**
	comp=Z,12nm,0.9s,baz=92,slow=7.6,SNR=46							
ASAR				S		**S**	**03 49 34.8**	**-1.0**
	comp=Z,3.9nm,0.9s,baz=95,slow=13,SNR=9.8							
ASAR				LR		LR	04 02 28.8	
	comp=Z,4μm,18.3s,baz=111,slow=36							
WB2	**Warramunga Arr**	**46.67**	**264**	*e*P		**P**	**03 42 52.6**	**-1.0**
WRAB	**Tennant Creek**	**46.67**	**264**	*e*P		**P**	**03 42 52.5**	**-1.1**
	comp=Z,24nm,1.0s							
WRAB				LR		LR		
	comp=Z,3μm,19.0s							
WRAB	**Tennant Creek**	**46.67**	**264**	*ce*P		**P**	**03 42 53.3**	**-0.3**
WRAB					pmax	pmax		
	comp=Z,19nm,0.9s							
WR1	**Warramunga Arr**	**46.68**	**264**	*e*P		**P**	**03 42 51.9**	**-1.7**
	comp=Z,23nm,0.6s							
WR1				*e*S		**S**	**03 49 37.4**	**-4.0**
WRA	**Warramunga Arr**	**46.68**	**264**	P		**P**	**03 42 51.9**	**-1.7**
	comp=Z,17nm,0.9s,baz=91,slow=8.4,SNR=70							
WRA				S		**S**	**03 49 37.4**	**-4.0**
	comp=Z,1.4nm,0.9s,baz=104,slow=13,SNR=3.0							
WRA				LR		LR	04 02 46.8	
	comp=Z,4μm,18.1s,baz=100,slow=36							
POHA	**Pohakuloa**	**47.24**	**26**	*e*P		**P**	**03 42 55.4**	**-2.8**
	comp=Z,108nm,1.3s							
POHA				LR		LR		
	comp=Z,2μm,19.0s							
JAY	**Jayapura**	**47.38**	**290**	P		**P**	**03 42 59.1**	**-0.1**
JAY	**Jayapura**	**47.38**	**290**	P		**P**	**03 42 57.5**	**-1.7**
	comp=Z,14nm,0.8s,baz=107,slow=22,SNR=6.0							
JAY				LR		LR	04 02 31.9	
	comp=Z,1μm,18.8s,baz=160,slow=36							
FORT	**Forrest**	**50.40**	**249**	*e*P		**P**	**03 43 21.1**	**-1.1**
	comp=Z,50nm,0.7s							
MIDW	**Midway**	**51.56**	**358**		PFAKE		03 43 40.0	+9.3
MIDW					LR	LR		
	comp=Z,3μm,22.0s							
MTN	**Manton Dam**	**51.69**	**272**	*e*P		**P**	**03 43 29.9**	**-2.1**
	comp=Z,21nm,0.9s							
GUMO	**Guam**	**53.67**	**309**		PFAKE		03 44 00.0	+13
GUMO					LR	LR		
	comp=Z,1μm,20.0s							
GUMO	**Guam**	**53.67**	**309**		LR	LR	04 04 58.4	
	comp=Z,721nm,19.9s,baz=126,slow=34							
FAKI	**Fak Fak**	**54.62**	**284**	*e*P		**P**	**03 43 53.0**	**-0.6**
	comp=Z,21nm,1.2s							
SBA	**Scott Base**	**54.96**	**185**		PFAKE		03 44 10.0	+15
SBA					LR	LR		
	comp=Z,2μm,22.0s							
VNDA	**Vanda**	**55.06**	**186**	*e*P		**P**	**03 43 59.5**	**+3.6**
	comp=Z,17nm,1.3s							
VNDA	**Vanda**	**55.06**	**186**	P		**P**	**03 43 58.9**	**+3.0**
	comp=Z,6.4nm,0.9s,baz=6.8,slow=6.9,SNR=18							
VNDA					LR	LR	04 05 58.4	
	comp=Z,583nm,19.2s,baz=21,slow=34							
FITZ	**Fitzroy Crossi**	**55.10**	**264**	*e*P		**P**	**03 43 58.2**	**+1.2**
	comp=Z,17nm,0.8s							
SIJI	**Sorong**	**56.42**	**286**	LR		LR	04 06 12.5	
	comp=Z,1μm,21.9s,baz=104,slow=34							
SOEI	**Soe**	**59.08**	**273**	*e*P		**P**	**03 44 27.0**	**+1.6**
	comp=Z,98nm,1.0s							
SOEI	**Soe**	**59.08**	**273**	P		**P**	**03 44 25.4**	**0.0**
NWAO	**Narrogin (SRO)**	**59.22**	**245**	*e*P		**P**	**03 44 24.0**	**-2.1**
	comp=Z,22nm,1.0s							
NWAO					LR	LR		
	comp=Z,1μm,20.0s							
NWAO	**Narrogin (SRO)**	**59.22**	**245**	*e*P		**P**	**03 44 24.0**	**-2.1**
NWAO					pmax	pmax		
	comp=Z,22nm,1.0s							
NWAO					MLR	MLR		
	comp=Z,1μm,20.0s							
PSAB3	**Pilbara Seismi**	**59.39**	**258**	*e*P		**P**	**03 44 26.1**	**-1.2**
	comp=Z,23nm,1.3s							
PSAA3	**Pilbara Seismi**	**59.39**	**258**	*e*P		**P**	**03 44 26.3**	**-1.0**
	comp=Z,56nm,1.4s							
PSAB2	**Pilbara Seismi**	**59.39**	**258**	*e*P		**P**	**03 44 25.2**	**-2.2**
	comp=Z,44nm,1.5s							
PSA00	**Pilbara Seismi**	**59.40**	**258**	*e*P		**P**	**03 44 26.2**	**-1.2**
	comp=Z,33nm,1.3s							
PSAC3	**Pilbara Seismi**	**59.40**	**258**	*e*P		**P**	**03 44 26.1**	**-1.3**
	comp=Z,50nm,1.5s							
PSAA1	**Pilbara Seismi**	**59.41**	**258**	*e*P		**P**	**03 44 25.6**	**-1.9**
	comp=Z,28nm,1.0s							
PSAB1	**Pilbara Seismi**	**59.42**	**258**	*e*P		**P**	**03 44 25.7**	**-1.9**
	comp=Z,47nm,1.4s							
PSAD1	**Pilbara Seismi**	**59.45**	**258**	*e*P		**P**	**03 44 26.1**	**-1.6**
	comp=Z,53nm,1.5s							
MORW	**Morawa**	**60.96**	**249**	*e*P		**P**	**03 44 36.8**	**-1.3**
	comp=Z,17nm,0.9s							
EDFI	**Ende, Flores**	**61.81**	**273**	P		**P**	**03 44 44.2**	**+0.1**
CASY	**Casey**	**62.24**	**206**		PFAKE		03 45 00.0	+14
CASY					LR	LR		
	comp=Z,359nm,21.0s							
LUWI	**Luwuk**	**63.93**	**281**	*e*P		**P**	**03 44 55.8**	**-2.2**
	comp=Z,52nm,0.6s							
GIRL	**Giralia**	**64.12**	**255**	*e*P		**P**	**03 44 58.3**	**-0.9**
	comp=Z,520nm,1.4s							
BKSI	**Bulukumba**	**64.56**	**275**	P		**P**	**03 45 02.6**	**+0.4**
KAPI	**Kappang**	**65.03**	**276**		PFAKE		03 45 20.0	+15
KAPI					LR	LR		
	comp=Z,608nm,19.0s							
DAV	**Davao City (W)**	**65.22**	**290**		PFAKE		03 45 20.0	+14
DAV					LR	LR		
	comp=Z,401nm,19.0s							
DAV	**Davao City (W)**	**65.22**	**290**		LR	LR	04 10 54.0	
	comp=Z,380nm,21.7s,baz=124,slow=34							
PLAI	**Plampang**	**65.37**	**271**	P		**P**	**03 45 07.9**	**+0.4**
KCP	**Kidapawan**	**65.61**	**290**	*e*P		**P**	**03 45 06.8**	**-2.2**
QSPA	**South Pole Qui**	**66.47**	**180**	*e*P		**P**	**03 45 16.8**	**+2.9**
	comp=Z,42nm,1.1s							
QSPA					LR	LR		
	comp=Z,2μm,19.0s							
MPSI	**Mapaga**	**67.11**	**281**	P		**P**	**03 45 19.1**	**+0.5**
JAGI	**Jajag, Banyuwa**	**68.83**	**270**	*e*P		**P**	**03 45 27.5**	**-1.9**
	comp=Z,69nm,1.5s							
MJAR	**Matsushiro Arr**	**74.16**	**323**	P		**P**	**03 45 59.7**	**-1.4**
	comp=Z,4.5nm,0.7s,baz=169,slow=6.2,SNR=14							
MJAR					LR	LR	04 14 37.3	
	comp=Z,346nm,22.0s,baz=125,slow=33							
MAJO	**Matsushiro**	**74.16**	**323**	*e*P		**P**	**03 46 01.5**	**+0.4**
	comp=Z,9.2nm,0.8s							
MAJO					LR	LR		
	comp=Z,891nm,21.0s							
MAJO	**Matsushiro**	**74.16**	**323**	*i* P		**P**	**03 46 00.4**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MAT	**Matsushiro**	**74.16**	**323**	P		**P**	**03 46 00.8**	**-0.3**
MAT					S	**S**	**03 55 35.6**	**+3.2**
MJB9	**Matsu-Tunnel**	**74.17**	**323**	*e*P		**P**	**03 46 02.0**	**+0.8**
	comp=Z,9.7nm,0.9s							
ADK	**Adak**	**75.18**	**359**		PFAKE		03 46 20.0	+13
ADK					LR	LR		
	comp=Z,2μm,19.0s							
ERM	**Erimo**	**75.73**	**329**		PFAKE		03 46 20.0	+10
ERM					LR	LR		
	comp=Z,935nm,21.0s							
YUK	**Yuzh-Kuril'sk**	**76.13**	**332**	*e*P		**P**	**03 46 10.3**	**-1.8**
YUK				*e*			03 46 26.8	
YUK				*e*			03 49 00.4	
YUK				*e*S		**S**	**03 55 48.8**	**-5.0**
YUK				MLR		MLR		
	comp=Z,1μm,21.0s							
YUK				MLR		MLR		
	comp=E,769nm,14.0s							
YUK				MLR		MLR		
	comp=N,802nm,15.0s							
JNU	**Nakatsue**	**76.21**	**316**	*e*P		**P**	**03 46 13.3**	**+0.3**
	comp=N,14nm,0.9s							
KSM	**Kuching**	**76.27**	**278**	*e*P		**P**	**03 46 14.5**	**+0.7**
	comp=N,14nm,0.9s							
TPUB	**Ta-pu**	**77.72**	**302**	*e*P		**P**	**03 46 21.4**	**-0.2**
	comp=N,38nm,0.7s							
SSLB	**Suanglung**	**77.73**	**303**	*e*P		**P**	**03 46 21.0**	**-0.7**
	comp=N,20nm,0.9s							
TATO	**Taipei**	**77.96**	**304**		PFAKE		03 46 30.0	+7.1
TATO					LR	LR		
	comp=Z,1μm,22.0s							
PKM	**Mcpherson Peak**	**78.47**	**44**	P		**P**	**03 46 25.6**	**-0.2**
	baz=230							
PPBI	**Pangkal Pinang**	**78.61**	**273**	P		**P**	**03 46 27.9**	**+1.0**
SAO	**San Andreas Ge**	**78.66**	**41**	*e*P		**P**	**03 46 26.9**	**+0.3**
	comp=Z,13nm,1.0s							
SAO	**San Andreas Ge**	**78.66**	**41**	*e*P		**P**	**03 46 26.9**	**+0.3**
SAO					pmax	pmax		
	comp=Z,13nm,1.0s							
HOPS	**Hopland Field**	**79.18**	**39**	*e*P		**P**	**03 46 30.3**	**+1.0**
	comp=Z,28nm,1.3s							
GDXM	**Geysers**	**79.21**	**39**	*e*P		**P**	**03 46 31.1**	**+1.4**
	comp=Z,10.0nm,1.2s							
MURC	**Murrieta**	**79.36**	**46**	P		**P**	**03 46 30.4**	**-0.2**
	baz=232							
BFSC	**Mount Baldy Ra**	**79.45**	**45**	P		**P**	**03 46 30.2**	**-0.9**
	baz=232							
MONP2	**Monument Peak**	**79.45**	**47**	P		**P**	**03 46 30.5**	**-0.7**
	baz=233							
MAW	**Mawson**	**79.47**	**199**	*e*P		**P**	**03 46 34.5**	**+3.9**
	comp=Z,5.5nm,0.9s							
MAW	**Mawson**	**79.47**	**199**	P		**P**	**03 46 31.7**	**+1.2**
	comp=Z,11nm,0.8s,baz=140,slow=5.6,SNR=10							
MAW					LR	LR	04 21 18.4	
	comp=Z,2μm,19.0s,baz=118,slow=35							
MDSI	**Maura Dua**	**79.50**	**270**	P		**P**	**03 46 32.6**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**79.52**	**47**	P		**P**	**03 46 30.6**	**-0.9**
	baz=233							
VES	**Vestal, Richgr**	**79.53**	**43**	P		**P**	**03 46 30.6**	**-0.8**
	baz=231							
PET	**Petropavlovsk**	**79.59**	**344**		PFAKE		03 46 40.0	+8.8
PET					LR	LR		
	comp=Z,2μm,20.0s							
EDW2	**Edwards Air Fo**	**79.63**	**45**	P		**P**	**03 46 31.5**	**-0.5**
	baz=232							
KMRM	**Mail Ridge**	**79.65**	**38**	*e*P		**P**	**03 46 32.1**	**+0.1**
	comp=Z,32nm,1.0s							
YSS	**Yuzh-Sakhalins**	**79.77**	**332**	*e*P		**P**	**03 46 33.8**	**+1.5**
	comp=Z,65nm,0.9s							
YSS					LR	LR		
	comp=Z,706nm,22.0s							
YSS	**Yuzh-Sakhalins**	**79.77**	**332**	*e*P		**P**	**03 46 33.8**	**+1.5**
YSS				*e*			03 46 46.8	
YSS				*e*S		**S**	**03 56 34.2**	**+1.2**
YSS				pmax		pmax		
	comp=Z,60nm,0.9s							
YSS				pmax		pmax		
	comp=Z,200nm,9.0s							
YSS				smax		smax		
	comp=N,600nm,11.0s							
YSS				smax		smax		
	comp=E,400nm,11.0s							
YSS				MLR		MLR		
	comp=Z,400nm,16.0s							
YSS				MLR		MLR		
	comp=N,200nm,16.0s							
YSS				MLR		MLR		
	comp=E,200nm,16.0s							
ISA	**Isabella, Lake**	**79.80**	**44**	*e*P		**P**	**03 46 33.0**	**+0.1**
	comp=E,14nm,1.2s							
ISA	**Isabella, Lake**	**79.80**	**44**	P		**P**	**03 46 33.0**	**+0.1**
ISA					pmax	pmax		
	comp=Z,14nm,1.2s							
ISA	**Isabella, Lake**	**79.80**	**44**	P		**P**	**03 46 32.8**	**-0.1**
	baz=231							
PFO	**Pinyon Flats O**	**79.86**	**47**	*e*P		**P**	**03 46 33.7**	**+0.4**
	comp=Z,12nm,1.4s							
PFO					LR	LR		
	comp=Z,2μm,20.0s							
PFO	**Pinyon Flats O**	**79.86**	**47**	*e*P		**P**	**03 46 33.7**	**+0.4**
PFO					pmax	pmax		
	comp=Z,12nm,1.4s							
PFO					MLR	MLR		
	comp=Z,2μm,20.0s							
PFO	**Pinyon Flats O**	**79.86**	**47**	P		**P**	**03 46 32.7**	**-0.6**
	baz=233							
XPFO	**Pion Flat**	**79.86**	**47**	*e*P		**P**	**03 46 33.3**	**-0.1**
	comp=Z,12nm,1.3s							
PETK	**Petropavlovsk-**	**79.91**	**344**	*e*P		**P**	**03 46 32.6**	**-0.3**
PETK	**Petropavlovsk-**	**79.91**	**344**	P		**P**	**03 46 32.5**	**-0.5**
	comp=Z,22nm,0.8s,baz=138,slow=7.4,SNR=18							
PETK					LR	LR	04 15 50.9	
	comp=Z,1μm,21.3s,baz=152,slow=31							
PEA1	**Petropavlovsk-**	**79.92**	**344**	*e*P		**P**	**03 46 32.5**	**-0.5**
CMB	**Columbia Colle**	**80.13**	**41**	*e*P		**P**	**03 46 34.5**	**-0.1**
	comp=Z,11nm,1.0s							
CMB	**Columbia Colle**	**80.13**	**41**	*e*P		**P**	**03 46 34.5**	**-0.1**
CMB					pmax	pmax		
	comp=Z,11nm,1.0s							
O02D	**Mt. Diablo Mer**	**80.14**	**38**	P		**P**	**03 46 35.1**	**+0.4**
	baz=228,SNR=14							
QZH	**Quanzhou**	**80.16**	**303**	*i* P		**P**	**03 46 36.0**	**+1.0**
QZH				S		**S**	**03 56 38.0**	**0.0**
QZH				pmax		pmax		
	comp=Z,340nm,10.6s							
QZH				LR		LR		
	comp=Z,500nm,15.7s							
QZH				LR		LR		
	comp=Z,430nm,20.2s							
QZH				LR		LR		
	comp=Z,610nm,19.9s							
AFDM	**Forest Hills D**	**80.37**	**40**	*e*P		**P**	**03 46 35.7**	**-0.2**
	comp=Z,7.6nm,1.0s							
BELC	**Belle Mtn. Jos**	**80.40**	**46**	P		**P**	**03 46 35.9**	**-0.4**
	baz=233							
ORV	**Oroville**	**80.46**	**39**	*e*P		**P**	**03 46 36.2**	**-0.1**
ORV	**Oroville**	**80.46**	**39**	*e*P		**P**	**03 46 36.2**	**-0.1**
TJN	**Taejon**	**80.51**	**316**	*i* P		**P**	**03 46 37.1**	**+0.5**
CWC	**Cottonwood Cre**	**80.54**	**43**	P		**P**	**03 46 36.5**	**-0.5**
	baz=231							
WDC	**Whiskeytown Da**	**80.55**	**38**	*e*P		**P**	**03 46 36.9**	**+0.2**
	comp=Z,17nm,1.2s							
WDC	**Whiskeytown Da**	**80.55**	**38**	*e*P		**P**	**03 46 36.9**	**+0.2**
WDC					pmax	pmax		
	comp=

K02D Willamette Mer 81.36 36 P P 03 46 41.1 -0.1
baz=227
VCNR Virginia City 81.38 40 eP P 03 46 42.3 +0.8
comp=Z,11nm,1.1s
214A Organ Pipe Nat 81.38 50 P P 03 46 41.1 -0.4
baz=235
J01E Myrtle Point 81.54 35 P P 03 46 42.0 +0.1
baz=226
SSE Sheshan 81.56 309 PFAKE 03 46 50.0 +7.7
SSE LR LR
comp=Z,493nm,20.0s
LDFC Landfair 81.63 46 eP P 03 46 43.4 +0.6
comp=Z,18nm,1.1s
RYN Ryan 81.63 42 eP P 03 46 42.9 +0.2
comp=Z,11nm,1.3s
NV01 Mina Array Sit 81.64 42 eP P 03 46 41.9 -1.1
NVAR Mina Array Bea 81.64 42 P P 03 46 41.8 -1.1
comp=Z,9.7nm,1.0s,baz=223,slow=8.7,SNR=45
NVAR LR LR 04 15 38.3
comp=Z,809nm,21.4s,baz=240,slow=30
HUMO Hull Mountain 81.68 36 eP P 03 46 43.5 +0.8
comp=Z,21nm,1.4s
NV11 Mina Array Sit 81.73 42 eP P 03 46 42.6 -0.7
comp=Z,1.0nm,1.0s
M04C Macdoel 81.74 37 P P 03 46 43.0 -0.2
baz=228,SNR=5.8
L04D Klamath Falls 81.78 37 P P 03 46 43.3 -0.1
baz=228,SNR=5.7
PAHR Pah Rah Range 81.80 40 eP P 03 46 43.6 0.0
comp=Z,11nm,1.2s
PDMCI Parker Dam,Lak 81.82 47 P P 03 46 43.4 -0.3
baz=234
TPNV Topopah Spring 82.01 44 eP P 03 46 44.3 -0.5
comp=Z,6.9nm,1.0s
TPNV Topopah Spring 82.01 44 eP P 03 46 44.3 -0.5
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 82.01 44 P P 03 46 44.0 -0.8
baz=233
KVN Kaiserville 82.16 41 eP P 03 46 45.4 -0.2
comp=Z,11nm,1.1s
KVN Kaiserville 82.16 41 eP P 03 46 45.4 -0.2
KVN pmax pmax
comp=Z,11nm,1.1s
I03D Drain, OR 82.22 35 P P 03 46 45.2 -0.3
baz=227
MYKOM Kota Tinggi 82.29 275 eP P 03 46 48.9 +2.3
comp=Z,22nm,0.9s
K04D Chiloquin, OR 82.35 37 P P 03 46 46.1 -0.3
baz=228
SHPR Sheep Range 82.44 45 eP P 03 46 47.5 +0.4
comp=Z,11nm,1.4s
W13A Hualapai Mount 82.45 47 eP P 03 46 47.5 +0.3
comp=Z,7.7nm,1.4s
J04D Umpqua Nationa 82.57 36 P P 03 46 47.5 -0.2
baz=228,SNR=7.1
MOD Modoc Plateau 82.69 38 eP P 03 46 48.1 -0.1
comp=Z,9.9nm,1.0s
I04A Tendick Farm, 82.78 36 P P 03 46 48.8 +0.3
baz=228
TYV Tymovskoe 82.88 335 eP P 03 46 49.7 +0.9
TYV pmax pmax
comp=Z,20nm,1.0s
K05A Summer Lake 82.89 37 eP P 03 46 49.6 +0.3
comp=Z,26nm,1.1s
USRK Ussuriysk Ar. 82.91 325 P P 03 46 49.3 +0.2
comp=Z,30nm,0.9s,baz=125,slow=3.2,SNR=34
USRK LR LR 04 18 01.0
comp=Z,585nm,21.9s,baz=125,slow=32
TUC Tucson 83.01 50 eP P 03 46 50.5 +0.5
comp=Z,9.1nm,1.3s
TUC LR LR
comp=Z,3μm,20.0s
TUC Tucson 83.01 50 eP P 03 46 50.5 +0.5
TUC pmax pmax
comp=Z,9.0nm,1.3s
TUC MLR MLR
comp=Z,3μm,20.0s
TUC Tucson 83.01 50 P P 03 46 49.3 -0.7
baz=237
J05D Fort Rock, OR 83.08 37 P P 03 46 49.9 -0.3
baz=228,SNR=18
H04D Lebanon 83.10 35 P P 03 46 50.0 -0.1
baz=227,SNR=5.1
COCO West Island 83.24 260 PFAKE 03 47 00.0 +8.5
COCO LR LR
comp=Z,2μm,19.0s
R11A Troy Canyon, C 83.28 43 eP P 03 46 51.1 -0.3
comp=Z,3.5nm,1.0s
R11A Troy Canyon, C 83.28 43 P P 03 46 50.7 -0.7
baz=233
KDAK Kodiak Island 83.29 12 PFAKE 03 47 00.0 +9.3
KDAK LR LR
comp=Z,1μm,22.0s
G03D McMinnville, O 83.30 34 P P 03 46 51.1 0.0
baz=227
GZH Guangzhou 83.37 299 P P 03 46 55.3 +3.3
GZH S S 03 57 17.5 +6.3
GZH LR LR
comp=Z,380nm,20.1s
GZH LR LR
comp=Z,540nm,20.2s
H04A Detroit Lake 83.50 35 eP P 03 46 52.0 -0.2
comp=Z,19nm,1.2s
BMN Battle Mountai 83.55 41 eP P 03 46 52.7 0.0
comp=Z,15nm,1.3s
BMN Battle Mountai 83.55 41 eP P 03 46 52.7 0.0
BMN pmax pmax
comp=Z,15nm,1.3s
PINE Pine Mountain 83.57 36 eP P 03 46 52.6 -0.2
comp=Z,22nm,1.0s
F03A Seaside 83.64 33 eP P 03 46 53.8 +1.0
comp=Z,34nm,1.2s
X16A Lo Mia Camp, P 83.72 48 eP P 03 46 53.7 -0.1
comp=Z,6.4nm,1.1s
I05D Terrebonne, OR 83.72 36 P P 03 46 53.0 -0.3
baz=228,SNR=6.6
NJ2 Nanjing 83.74 309 eP P 03 46 52.8 -0.9
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
WVOR Wild Horse Val 83.97 38 eP P 03 46 54.9 +0.1
comp=Z,21nm,1.2s
WVOR LR LR
comp=Z,1μm,19.0s
WVOR Wild Horse Val 83.97 38 eP P 03 46 54.9 +0.1
WVOR pmax pmax
comp=Z,21nm,1.2s
WVOR MLR MLR
comp=Z,1μm,19.0s
LCMT Little Creek M 83.98 45 eP P 03 46 55.5 +0.5
comp=Z,13nm,1.1s
CCUT Cedar City 84.22 45 eP P 03 46 56.6 +0.3
comp=Z,16nm,1.1s
SYO Syowa Base 84.23 192 ||iP P 03 46 56.2 +0.6
SYO Syowa Base 84.23 192 ||eX P 03 47 04.2 +8.6
KNB Kanab 84.26 46 eP P 03 46 57.0 +0.5
comp=Z,19nm,1.1s
KNB Kanab 84.26 46 eP P 03 46 57.0 +0.5
KNB pmax pmax
comp=Z,19nm,1.1s
U15A North Rim 84.28 46 eP P 03 46 56.7 0.0
comp=Z,19nm,1.0s
G05D Wamic, OR 84.33 35 P P 03 46 56.3 -0.1
baz=226
QIZ Qiongzhong 84.36 293 P P 03 46 56.3 -0.8
QIZ S S 03 57 19.8 -1.5
QIZ SS SS 04 02 51.3 -0.9
QIZ pmax pmax
comp=Z,19nm,1.9s
QIZ pmax pmax
comp=Z,390nm,7.6s
QIZ LR LR
comp=Z,450nm,22.6s
QIZ Qiongzhong 84.36 293 PFAKE 03 47 10.0 +13
QIZ LR LR
comp=Z,67nm,19.0s
WUAZ Wupatki 84.38 47 eP P 03 46 57.6 +0.6
comp=Z,8.1nm,1.0s
WUAZ LR LR
comp=Z,2μm,21.0s
WUAZ Wupatki 84.38 47 P P 03 46 56.6 -0.4
baz=236
SZCU Shurtz Canyon 84.42 45 eP P 03 46 58.0 +0.7
comp=Z,15nm,1.1s
MDJ Mudanjiang 84.47 324 P P 03 46 59.0 +2.0
MDJ S S 03 57 25.5 +4.1
comp=Z,49nm,1.0s
MDJ pmax pmax
comp=Z,490nm,5.7s
MDJ LR LR
comp=Z,560nm,13.5s
MDJ LR LR
comp=Z,590nm,14.9s
MDJ LR LR
comp=Z,870nm,18.4s
MDJ Mudanjiang 84.47 324 eP P 03 46 59.0 +2.0
comp=Z,36nm,0.9s
MDJ LR LR
comp=Z,677nm,20.0s
PSUT Pine Spring 84.48 44 eP P 03 46 57.9 +0.3
comp=Z,5.4nm,1.0s
NLWA Neilton Lookou 84.50 32 eP P 03 46 57.9 +0.7
comp=Z,16nm,1.1s
NLWA LR LR
comp=Z,1μm,19.0s
I07A Izee 84.55 37 eP P 03 46 57.1 -0.5
comp=Z,10nm,0.9s
E04D Cinebar 84.57 34 P P 03 46 57.3 -0.2
baz=227
J08A Circle Bar Ran 84.66 38 eP P 03 46 57.6 -0.6
comp=Z,21nm,1.1s
F05D White Salmon 84.69 35 P P 03 46 57.6 -0.6
baz=228
G06A Carlson Farm, 84.69 35 eP P 03 46 58.1 -0.2
comp=Z,13nm,1.0s
X18A Snowflake 84.81 49 eP P 03 46 59.9 +0.6
comp=Z,9.3nm,1.4s
SNAA Sanae 84.83 178 P P 03 47 00.3 +1.6
SNAA Sanae 84.83 178 eP P 03 46 59.6 +0.9
comp=Z,23nm,1.1s
SNAA Sanae 84.83 178 iP P 03 46 59.5 +0.8
PKCU Pink Cliffs 84.84 45 eP P 03 47 00.8 +1.3
comp=Z,22nm,1.1s
VNA3 Neumayer Olymp 84.87 175 P P 03 46 59.7 +0.8
ELK Elko 84.93 41 eP P 03 46 59.6 -0.2
comp=Z,8.9nm,1.1s
ELK Elko 84.93 41 eP P 03 46 59.6 -0.2
ELK pmax pmax
comp=Z,9.0nm,1.1s
ELK Elko 84.93 41 LR LR 04 17 41.3
comp=Z,858nm,21.8s,baz=215,slow=31
D03D Elen 84.98 33 P P 03 46 59.5 0.0
baz=227,SNR=5.6
LON Longmire 85.09 34 eP P 03 47 00.0 -0.2
comp=Z,6.3nm,1.2s
LON Longmire 85.09 34 eP P 03 47 00.0 -0.2
LON pmax pmax
comp=Z,6.0nm,1.2s
PAYG Puerto Ayora 85.20 89 PFAKE 03 47 10.0 +8.4
PAYG LR LR
comp=Z,1μm,20.0s
GO06 Curarrehue 85.25 131 eP P 03 47 02.8 +1.3
comp=Z,13nm,1.1s
MTPU Mount Pierson 85.27 45 eP P 03 47 02.3 +0.6
comp=Z,16nm,1.0s
D05A Enumclaw 85.29 33 eP P 03 47 02.4 +1.3
comp=Z,44nm,1.3s
VNA2 Neumayer--Watz 85.34 176 P P 03 47 02.8 +1.6
baz=190,slow=2.9
PLCA Paso Flores 85.36 133 eP P 03 47 03.5 +1.5
comp=Z,8nm,1.3s
PLCA Paso Flores 85.36 133 P P 03 47 02.2 +0.2
comp=Z,11nm,1.2s,baz=286,slow=3.9,SNR=7.3
PLCA LR LR 04 16 30.0
comp=Z,615nm,21.6s,baz=266,slow=30
TLIG Tlapa 85.38 69 eP P 03 47 03.1 +0.7
comp=Z,22nm,1.3s
NKL Nikolayevsk 85.43 335 eP P 03 47 02.0 +0.4
NKL eS S 03 57 30.0 -0.5
NKL pmax pmax
comp=Z,23nm,1.0s
NKL pmax pmax
comp=Z,1μm,6.0s
NKL smax smax
comp=N,1μm,11.0s
NKL MLR MLR
comp=E,700nm,14.0s
NKL MLR MLR
comp=Z,900nm,16.0s
MSU Marysvale 85.54 45 eP P 03 47 03.8 +0.9
MSU Marysvale 85.54 45 eP P 03 47 03.8 +0.9
VNA1 Neumayer--Stat 85.56 176 P P 03 47 04.2 +2.0
G08A Pilot Rock 85.62 36 eP P 03 47 02.3 -0.7
comp=Z,15nm,1.0s
DL2 Dalian 85.67 316 P P 03 47 04.3 +1.1
DL2 sP pwP 03 47 20.3 +2.0
DL2 S S 03 57 31.5 -2.0
DL2 pmax pmax
comp=Z,33nm,1.0s
DL2 pmax pmax
comp=Z,420nm,4.9s
DL2 LR LR
comp=Z,390nm,19.0s
DL2 LR LR
comp=Z,220nm,21.9s
DL2 LR LR
comp=Z,500nm,20.5s
MNSI Mandailing Nat 85.80 273 P P 03 47 05.5 +1.0
IPM Ipoh 85.95 277 eP P 03 47 07.1 +1.8
comp=Z,22nm,0.8s
B05A Bryant 85.96 32 P P 03 47 04.1 -0.4
baz=228
E07A Sunnyside 85.97 35 eP P 03 47 04.1 -0.5
comp=Z,12nm,1.1s
A04D Lummi Island 85.98 32 P P 03 47 04.2 -0.3
baz=227,SNR=7.0
LTY Liberty 86.01 34 eP P 03 47 04.4 -0.4
comp=Z,8.8nm,1.3s
HAWA Hanford 86.03 35 eP P 03 47 05.0 +0.2
comp=Z,15nm,1.4s
HAWA LR LR
comp=Z,1μm,20.0s
DUG Dugway, Tooele 86.10 43 PFAKE 03 47 20.0 +14
DUG LR LR
comp=Z,1μm,22.0s
BMO Blue Mountains 86.25 37 eP P 03 47 05.5 -0.5
comp=Z,11nm,1.5s
BMO LR LR
comp=Z,1μm,20.0s
BMO Blue Mountains 86.25 37 eP P 03 47 05.6 -0.5
BMO pmax pmax
comp=Z,11nm,1.5s
BMO MLR MLR
comp=Z,1μm,20.0s
WHN Wuhan 86.25 306 ||P P 03 47 08.5 +2.2
WHN S S 03 57 31.5 -8.1
WHN LR LR
comp=Z,1μm,16.9s
WHN LR LR
comp=Z,810nm,16.5s
WHN LR LR
comp=Z,1μm,20.5s
CN2 Changchun 86.25 321 eP P 03 47 07.0 +1.0
CN2 esP pwP 03 47 25.5 +4.4
CN2 SKS SKSac 03 57 26.8 -3.1
CN2 eS SKKSac 03 57 37.8 +0.2
CN2 eSS SS 04 03 21.8 +2.5
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,280nm,20.0s
CN2 LR LR
comp=Z,490nm,20.0s
CN2 LR LR
comp=Z,710nm,22.0s
KLR Kul'dur 86.45 328 iP P 03 47 08.5 +1.7
MNTX Cornudas Mount 86.58 53 eP P 03 47 08.0 0.0
comp=Z,7.5nm,1.1s
MNTX LR LR
comp=Z,982nm,20.0s
MNTX Cornudas Mount 86.58 53 P P 03 47 07.7 -0.3
baz=240
TMUT Trail Mountain 86.61 44 eP P 03 47 08.8 +0.6
comp=Z,12nm,1.0s
KULM Kulim 86.62 277 eP P 03 47 09.9 +1.3
comp=Z,15nm,0.8s
LENM Lemitar 86.69 51 eP P 03 47 09.6 +0.9
LTX Lajitas 86.70 56 eP P 03 47 08.2 -0.5
LTX Lajitas 86.70 56 eP P 03 47 08.2 -0.5
TX31 Lajitas Ar. Si 86.70 56 eP P 03 47 08.7 0.0
TXAR Lajitas Array 86.70 56 P P 03 47 08.2 -0.5
comp=Z,3.5nm,1.0s,baz=214,slow=6.0,SNR=20
TXAR LR LR 04 20 03.4
comp=Z,874nm,19.1s,baz=0.0,slow=32
LAZ Ladron 86.70 50 eP P 03 47 09.1 +0.3
D08A Wollman Farm, 86.78 35 eP P 03 47 08.7 +0.1
comp=Z,7.4nm,1.1s
E09A Wood Farm, Sta 86.84 36 eP P 03 47 08.7 -0.2
comp=Z,15nm,1.4s
RC01 Rabbit Creek A 86.91 12 eP P 03 47 10.6 +1.7
comp=Z,23nm,1.5s
BNM Barren Site 86.93 51 eP P 03 47 10.5 +0.6
SRU San Rafael Swe 86.94 45 eP P 03 47 09.8 0.0
comp=Z,8.8nm,1.0s
SRU San Rafael Swe 86.94 45 eP P 03 47 09.8 0.0
SRU pmax pmax
comp=Z,9.0nm,1.0s
SPUT South Promonto 86.97 42 eP P 03 47 09.7 -0.1
comp=Z,7.7nm,1.2s
F10A Beach Ranch, E 87.00 36 eP P 03 47 09.0 -0.8
comp=Z,11nm,1.1s
P17A Butcher Ranch, 87.00 44 eP P 03 47 10.3 +0.2
comp=Z,7.7nm,1.2s
HVU Hansel Valley 87.04 42 eP P 03 47 10.0 -0.2
comp=Z,6.3nm,1.3s
HVU Hansel Valley 87.04 42 eP P 03 47 10.0 -0.2
HVU pmax pmax
comp=Z,6.0nm,1.3s
HLID Hailey 87.11 40 eP P 03 47 10.6 +0.1
comp=Z,4.3nm,1.3s
HLID LR LR
comp=Z,919nm,21.0s
HLID Hailey 87.11 40 P P 03 47 10.3 -0.1
baz=233
GAMB Gambell 87.14 2 eP P 03 47 11.7 +1.9
comp=Z,13nm,1.2s
EFI East Falkland 87.14 146 PFAKE 03 47 20.0 +10
EFI LR LR
comp=Z,2μm,19.0s
PSI Prapat 87.20 274 eP P 03 47 12.1 +0.6
comp=Z,35nm,1.0s
MVCO Mesa Verde 87.24 47 PFAKE 03 47 20.0 +8.7
MVCO LR LR
comp=Z,2μm,20.0s
SKLT Songkhla 87.41 279 P P 03 47 16.8 +4.5
comp=Z,23nm,1.1s,comp=Z,828nm
B08A Colville Reser 87.41 34 eP P 03 47 11.1 -0.5
comp=Z,7.1nm,1.2s
TASM ASL Pad, Albuq 87.46 50 P P 03 47 12.0 -0.4
baz=239
TASM ASL Pad, Albuq 87.46 50 P P 03 47 11.9 -0.5
baz=239
ANMO Albuquerque 87.46 50 eP P 03 47 12.1 -0.3
comp=Z,10nm,1.2s
ANMO LR LR
comp=Z,2μm,19.0s
ANMO Albuquerque 87.46 50 ceP P 03 47 12.5 +0.1
ANMO pmax pmax
comp=Z,13nm,1.3s
ANMO Albuquerque 87.46 50 P P 03 47 12.2 -0.2
baz=239
ANMO Albuquerque 87.46 50 LR LR 04 18 35.7
comp=Z,2μm,21.0s,baz=250,slow=30
PMR Palmer 87.49 12 eP P 03 47 10.4 -1.2
comp=Z,16nm,1.4s
PMR Palmer 87.49 12 eP P 03 47 10.4 -1.2
PMR pmax pmax
comp=Z,16nm,1.4s
C09A Chrisman Ranch 87.59 34 eP P 03 47 12.4 0.0
comp=Z,8.8nm,1.1s
WRAK Wrangell Islan 87.61 22 PFAKE 03 47 20.0 +7.7
WRAK LR LR
comp=Z,1μm,21.0s
HWUT Hardware Ranch 87.68 42 PFAKE 03 47 20.0 +6.7
HWUT LR LR
comp=Z,1μm,19.0s
GHO Glory Hole Cre 87.70 12 eP P 03 47 13.0 +0.3
comp=Z,20nm,1.2s
GSI Gunungsitoli 87.83 272 eP P 03 47 16.0 +1.6
comp=Z,102nm,1.0s
GSI Gunungsitoli 87.83 272 P P 03 47 15.5 +1.1
LNIG Linares 87.91 62 eP P 03 47 13.8 -0.8
comp=Z,18nm,1.3s
SKNT Sakolnakorn 88.47 289 P P 03 47 19.5 +2.2
SKNT Sakolnakorn 88.47 289 P P 03 47 19.5 +2.2
NEW Newport 88.49 35 PFAKE 03 47 30.0 +13
NEW LR LR
comp=Z,2μm,20.0s
TRTT Trang 88.52 279 P P 03 47 21.0 +3.4
comp=Z,18nm,1.2s,comp=Z,329nm
KCSI Kotacane, Aceh 88.54 274 P P 03 47 18.8 +1.0
AHID Auburn Hatcher 88.62 42 PFAKE 03 47 30.0 +12
AHID LR LR
comp=Z,1μm,20.0s
S22A 4UR Ranch, Cre 88.66 48 eP P 03 47 18.4 +0.2
comp=Z,6.1nm,1.1s
S22A 4UR Ranch, Cre 88.66 48 P P 03 47 17.7 -0.4
baz=239
SRAK Srakaew 88.93 286 P P 03 47 21.4 +1.9
O20A White River Ci 88.98 45 P P 03 47 19.3 -0.2
baz=238
TRF Thorofare Moun 88.99 11 eP P 03 47 18.2 -0.7
comp=Z,22nm,1.1s
REDW Red Top Meadow 89.11 41 eP P 03 47 20.4 +0.4
comp=Z,6.0nm,1.2s
KRAB Krabi 89.12 279 P P 03 47 21.1 +0.6
comp=Z,299nm,0.5s,comp=Z,23μm
FXWY Fox Creek 89.16 41 eP P 03 47 20.4 +0.1
comp=Z,4.1nm,1.4s
DHY Denali Highway 89.19 12 eP P 03 47 19.6 -0.2
comp=Z,9.9nm,1.4s
KHON Khomkaen 89.21 288 P P 03 47 24.3 +3.5
KHON Khomkaen 89.21 288 P P 03 47 24.3 +3.5
RND Reindeer 89.21 12 eP P 03 47 20.0 +0.2
comp=Z,17nm,1.2s
RND Reindeer 89.21 12 eP P 03 47 20.0 +0.2
RND pmax pmax
comp=Z,17nm,1.2s
SMCO Snowmass 89.30 46 eP P 03 47 21.1 -0.2
comp=Z,2.7nm,0.8s
MSO Missoula 89.32 37 P P 03 47 21.1 +0.3
baz=234
IMW Indian Meadow 89.36 41 eP P 03 47 21.8 +0.5
comp=Z,1.9nm,1.0s
BPAW Bear Paw Mtn. 89.47 10 eP P 03 47 24.8 +3.8
comp=Z,4.1nm,1.2s
PAX Paxson 89.48 13 eP P 03 47 20.8 -0.3
comp=Z,6.8nm,1.3s
PAX Paxson 89.48 13 eP P 03 47 20.8 -0.3
PAX pmax pmax
comp=Z,7.0nm,1.3s
PATY Pattaya 89.52 284 P P 03 47 26.9 +4.6
SDCO Great Sand Dun 89.56 48 eP P 03 47 22.7 +0.3
comp=Z,8.9nm,1.5s
SDCO LR LR
comp=Z,1μm,20.0s
SDCO Great Sand Dun 89.56 48 P P 03 47 21.8 -0.6
baz=239
HYT Haines Junctio 89.56 17 eP P 03 47 22.8 +1.2
comp=Z,12nm,1.5s
BW06 Boulder Array 89.57 42 PFAKE 03 47 30.0 +7.8
BW06 LR LR
comp=Z,1μm,20.0s
BW06 Boulder Array 89.57 42 P P 03 47 22.0 -0.2
baz=237
PD31 Pinedale Array 89.57 42 eP P 03 47 21.9 -0.3
comp=Z,3.3nm,1.0s
PDAR Pinedale Array 89.57 42 P P 03 47 21.4 -0.8
comp=Z,1.6nm,0.8s,baz=207,slow=2.6,SNR=12
PDAR LR LR 04 20 31.6
comp=Z,466nm,21.7s,baz=259,slow=31
MSTX Muleshoe 89.61 52 eP P 03 47 22.4 -0.1
comp=Z,22nm,1.5s
MSTX Muleshoe 89.61 52 P P 03 47 21.6 -0.8
baz=241
NONG Nongkai 89.65 290 P P 03 47 25.7 +2.9
CHAI Chaiyaphum 89.76 287 P P 03 47 26.4 +3.0
CHAI Chaiyaphum 89.76 287 P P 03 47 26.4 +3.0
YMR Madison River 89.78 40 eP P 03 47 23.9 +0.8
comp=Z,7.6nm,1.4s
ENH Enshi 89.80 303 eP P 03 47 25.7 +2.3
comp=Z,61nm,1.0s
ENH LR LR
comp=Z,351nm,20.0s
BJT Baijiatuau 89.81 314 PFAKE 03 47 30.0 +6.9
BJT LR LR
comp=Z,435nm,19.0s

MENT Mentasta 89.83 14 *e*P P 03 47 23.0 +0.3
comp=Z,9.4nm,1.0s
H17A Grant Village 89.85 40 P P 03 47 22.8 -0.7
baz=236
YHH Holmes Hill 89.91 40 *e*P P 03 47 25.1 +1.3
comp=Z,7.2nm,1.4s
BOZ Bozeman (W) 89.91 39 *e*P P 03 47 23.6 -0.1
comp=Z,8.6nm,1.3s
BOZ LR LR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 89.91 39 *e*P P 03 47 23.6 -0.1
BOZ pmax pmax
comp=Z,9.0nm,1.3s
BOZ MLR MLR
comp=Z,1μm,19.0s
BOZ Bozeman (W) 89.91 39 P P 03 47 23.3 -0.4
baz=235
SEY Seymchan 89.96 346 *ce*P P 03 47 24.3 +1.1
DLBC Dease Lake 89.97 22 *e*P P 03 47 24.0 +0.5
comp=Z,9.5nm,1.1s
T25A Trinidad 90.00 49 P P 03 47 23.3 -1.1
baz=240
GO04 Tololo Observa 90.02 123 *e*P P 03 47 25.7 +0.9
comp=Z,35nm,1.3s
LKWY Lake 90.05 40 PFAKE 03 47 40.0 +16
LKWY LR LR
comp=Z,1μm,19.0s
MLSI Meulaboh, Aceh 90.08 275 P P 03 47 26.1 +1.1
WHY Whitehorse 90.17 19 *e*P P 03 47 24.9 +0.5
comp=Z,6.9nm,1.1s
JCT Junction City 90.19 57 PFAKE 03 47 40.0 +15
JCT LR LR
comp=Z,1μm,19.0s
RIDG Independ'e Rid 90.30 13 *e*P P 03 47 25.0 +0.1
comp=Z,21nm,1.5s
GYA Guiyang 90.31 299 *e*P P 03 47 26.3 +0.4
GYA pmax pmax
comp=Z,10.0nm,1.0s
WRH Wood River Hil 90.32 11 *e*P P 03 47 24.4 -0.5
comp=Z,28nm,1.4s
KVTX Kingsville 90.36 60 PFAKE 03 47 40.0 +14
KVTX LR LR
comp=Z,890nm,20.0s
DOT Dot Lake 90.38 13 *e*P P 03 47 25.3 +0.1
comp=Z,13nm,1.2s
Q24A Divide 90.41 47 *e*P P 03 47 24.8 -1.6
comp=Z,8.9nm,1.0s
HDA Harding Lake 90.48 12 *e*P P 03 47 25.7 +0.1
comp=Z,4.9nm,0.9s
HDA Harding Lake 90.48 12 P P 03 47 25.7 +0.1
baz=206
ISCO Idaho Springs 90.53 46 PFAKE 03 47 40.0 +13
ISCO LR LR
comp=Z,1μm,20.0s
CCB Clear Creek Bu 90.53 11 *e*P P 03 47 25.1 -0.7
comp=Z,9.9nm,1.1s
PHET Kaeng Krachan 90.62 284 P P 03 47 31.8 +4.4
comp=Z,16nm,0.9s,comp=Z,141nm
LCO Las Campanas 90.63 122 *e*P P 03 47 28.4 +0.7
comp=Z,30nm,1.3s
LCO LR LR
comp=Z,801nm,20.0s
LCO Las Campanas 90.63 122 *e*P P 03 47 28.4 +0.7
LCO pmax pmax
comp=Z,30nm,1.3s
LCO MLR MLR
comp=Z,801nm,20.0s
WALA Waterton Lakes 90.66 35 *e*P P 03 47 26.6 -0.4
comp=Z,14nm,1.2s
SCRK Sand Creek 90.68 13 *e*P P 03 47 26.8 0.0
comp=Z,8.7nm,1.2s
TCOL CIGO, UAF Yank 90.73 11 P P 03 47 26.5 -0.2
baz=205
COLA College 90.73 11 PFAKE 03 47 40.0 +13
COLA LR LR
comp=Z,2μm,21.0s
COLA College 90.73 11 *i* P P 03 47 26.0 -0.7
COLA pmax pmax
comp=Z,10.0nm,1.0s
MDM Murphy Dome 90.74 11 *e*P P 03 47 26.6 -0.3
comp=Z,11nm,1.2s
IL1 Eielson Array 90.82 12 *e*P P 03 47 25.9 -1.3
ILAR Eielson Array 90.82 12 P P 03 47 26.4 -0.8
comp=Z,5.3nm,1.1s,baz=229,slow=4.8,SNR=18
ILAR PP PP 03 51 02.8 -0.7
comp=Z,0.5nm,0.8s,baz=224,slow=7.1,SNR=4.3
ILAR LR LR 04 21 05.9
comp=Z,312nm,21.9s,baz=225,slow=31
ILB Eielson Array 90.82 12 *e*P P 03 47 27.0 -0.2
comp=Z,12nm,1.3s
ILB *e*PP PP 03 51 02.8 -0.7
IM3 Indian Mountai 90.82 9 *e*P P 03 47 27.1 0.0
PBKT Sadao Pong 90.92 288 P P 03 47 32.3 +3.5
comp=Z,27nm,1.3s
PBKT Sadao Pong 90.92 288 P P 03 47 32.3 +3.5
POKR Poker Flat Res 91.03 11 P P 03 47 28.2 +0.1
baz=206
RLMT Red Lodge 91.03 40 PFAKE 03 47 40.0 +11
RLMT LR LR
comp=Z,1μm,20.0s
RLMT Red Lodge 91.03 40 P P 03 47 28.8 -0.1
baz=237
TIY Taiyuan 91.17 311 *e*P P 03 47 32.0 +2.4
TIY PP PP 03 51 11.0 +3.9
TIY pmax pmax
comp=Z,33nm,0.8s
TIY pmax pmax
comp=Z,230nm,3.6s
TIY LR LR
comp=Z,170nm,10.5s
TIY LR LR
comp=Z,280nm,14.3s
TIY LR LR
comp=Z,510nm,17.0s
ABTX Abilene, Hawle 91.29 55 *e*P P 03 47 30.5 +0.3
comp=Z,15nm,1.2s
ABTX Abilene, Hawle 91.29 55 P P 03 47 29.4 -0.8
baz=243
SRDT SRDT 91.65 285 P P 03 47 36.3 +4.1
comp=Z,24nm,0.9s,comp=Z,8μm
UTTA Uttaradit 91.76 288 P P 03 47 36.4 +3.7
comp=Z,7.5nm,0.9s,comp=Z,76nm
UTTA Uttaradit 91.76 288 P P 03 47 36.4 +3.7
DAWY Dawson 91.79 15 *e*P P 03 47 32.2 +0.5
comp=Z,8.4nm,1.1s
UTHA Uthaitani 91.85 286 P P 03 47 37.2 +4.1
comp=Z,5.8nm,0.9s,comp=Z,61nm
XAN Xi'an 91.96 306 P P 03 47 35.0 +1.7
XAN pP pwP 03 47 47.3 -1.1
XAN PP PP 03 51 19.0 +5.7
XAN SKS SKSac 03 58 03.5 -0.8
XAN S S 03 58 29.8 -3.3
XAN SS SS 04 04 47.8 +5.1
XAN pmax pmax
comp=Z,36nm,0.8s
XAN pmax pmax
comp=Z,260nm,5.6s
XAN LR LR
comp=Z,330nm,20.4s
XAN LR LR
comp=Z,430nm,19.4s
XAN Xi'an 91.96 306 *e*P P 03 47 35.1 +1.8
comp=Z,30nm,0.8s
EGAK Eagle 91.99 14 PFAKE 03 47 40.0 +7.4
EGAK LR LR
comp=Z,1μm,20.0s
KSCO Kaye Shedlock' 92.14 48 *e*P P 03 47 34.6 +0.5
comp=Z,18nm,1.3s
KSCO Kaye Shedlock' 92.14 48 P P 03 47 33.6 -0.6
baz=241
EGMT Eagleton 92.34 38 *e*P P 03 47 35.2 +0.5
comp=Z,8.5nm,1.1s
EGMT LR LR
comp=Z,1μm,19.0s
EGMT Eagleton 92.34 38 P P 03 47 34.1 -0.7
baz=237
BILL Bilibino 92.39 353 *e*P P 03 47 34.4 0.0
comp=Z,6.6nm,1.0s
BILL LR LR
comp=Z,3μm,21.0s
BILL Bilibino 92.39 353 ⇓ *i* P P 03 47 31.7 -2.7
BILL *i* 03 51 17.1
BILL pmax pmax
comp=Z,7.0nm,1.0s
TRQA Tornquist 92.45 134 PFAKE 03 47 50.0 +14
TRQA LR LR
comp=Z,3.0nm,21.0s

SUKH Sukhothai 92.46 288 P P 03 47 39.7 +3.8
comp=Z,12nm,0.9s
SUKH Sukhothai 92.46 288 P P 03 47 39.7 +3.8
HIA Hailar 92.64 324 PFAKE 03 47 50.0 +14
HIA LR LR
comp=Z,763nm,20.0s
HIA Hailar 92.64 324 *i* P P 03 47 37.7 +1.6
HIA pmax pmax
comp=Z,8.0nm,0.8s
LAMP Lampang 92.88 289 P P 03 47 41.9 +4.1
comp=Z,23nm,0.9s,comp=Z,198nm
LAMP Lampang 92.88 289 P P 03 47 41.9 +4.1
WMOK Wichita Mounta 92.89 53 PFAKE 03 47 50.0 +12
WMOK LR LR
comp=Z,1μm,22.0s
WMOK Wichita Mounta 92.89 53 P P 03 47 36.8 -0.8
baz=243
NNA Nana 92.90 104 PFAKE 03 47 50.0 +12
NNA LR LR
comp=Z,899nm,20.0s
KMI Kunming 92.93 296 P P 03 47 41.0 +2.8
KMI pP pwP 03 47 54.5 +2.1
KMI sP sP 03 48 00.0 +11
KMI SKS SKSac 03 58 09.0 -1.5
KMI S S 03 58 40.0 -2.6
KMI SS SS 04 04 58.0 +0.6
KMI pmax pmax
comp=Z,31nm,1.0s
KMI pmax pmax
comp=Z,200nm,4.0s
KMI LR LR
comp=Z,190nm,16.8s
KMI LR LR
comp=Z,310nm,19.9s
KMI LR LR
comp=Z,480nm,22.4s
HHC Hu-ho-hao-te 93.27 313 *e*P P 03 47 40.3 +1.0
HHC sP pwP 03 47 58.0 +3.6
HHC S S 03 58 47.0 +2.4
HHC pmax pmax
comp=Z,29nm,1.0s
HHC pmax pmax
comp=Z,250nm,6.7s
HHC LR LR
comp=Z,290nm,16.4s
HHC LR LR
comp=Z,510nm,16.4s
HHC LR LR
comp=Z,810nm,18.1s
CM01 Chiang Mai Arr 93.42 288 *e*P P 03 47 41.8 +1.5
CMBY CAMPBELL BAY 93.43 276 *e*P P 03 47 40.8 +0.3
CMBY IAMs_20 IAMs_20 04 34 59.5
comp=Z,394nm,12.2s
CM31 Chiang Mai Arr 93.45 289 *e*P P 03 47 41.9 +1.4
comp=Z,32nm,1.0s
CMAR Chiang Mai Arr 93.45 289 *i* P P 03 47 44.0 +3.5
CMAR pmax pmax
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 93.45 289 P P 03 47 41.9 +1.4
comp=Z,19nm,0.9s,baz=132,slow=3.2,SNR=55
CMAR LR LR 04 30 24.9
comp=Z,265nm,19.2s,baz=136,slow=36
OGNE Ogallala 93.47 47 PFAKE 03 47 50.0 +10
OGNE LR LR
comp=Z,2μm,20.0s
CMMT Chiang Mai 93.59 289 P P 03 47 44.2 +3.1
CHTO Chiang Mai 93.59 289 PFAKE 03 47 50.0 +8.9
CHTO LR LR
comp=Z,442nm,19.0s
CHTO Chiang Mai 93.59 289 P P 03 47 43.3 +2.2
CHTO Chiang Mai 93.59 289 P P 03 47 44.3 +3.2
CHTO Chiang Mai 93.59 289 P P 03 47 44.3 +3.2
LAO LASA Array 93.66 40 *e*P P 03 47 41.7 +0.8
comp=Z,16nm,1.1s
LAO LR LR
comp=Z,859nm,20.0s
RSSD Black Hills 93.71 43 *e*P P 03 47 41.2 -0.1
comp=Z,11nm,1.0s
RSSD Black Hills 93.71 43 *e*P P 03 47 41.2 -0.1
RSSD pmax pmax
comp=Z,11nm,1.0s
RSSD Black Hills 93.71 43 P P 03 47 40.7 -0.6
baz=241
CBKS Cedar Bluff 94.05 49 PFAKE 03 47 50.0 +7.2
CBKS LR LR
comp=Z,2μm,22.0s
EPYK Eagle Plains 94.34 15 P P 03 47 43.4 -0.1
baz=215
JTS JuntasAbangare 94.41 81 PFAKE 03 48 00.0 +15
JTS LR LR
comp=Z,454nm,19.0s
CD2 Chengdu 94.52 302 P P 03 47 44.5 -0.7
CD2 pP pwP 03 47 59.8 -0.5
CD2 S S 03 58 58.8 +2.9
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,390nm,10.0s
CD2 LR LR
comp=Z,560nm,22.7s
CD2 LR LR
comp=Z,830nm,22.2s
CD2 LR LR
comp=Z,1μm,21.1s
NATX Nacogdoches 94.71 58 PFAKE 03 48 00.0 +14
NATX LR LR
comp=Z,2μm,19.0s
LVC Limon Verde 95.03 117 *e*P P 03 47 51.1 +2.9
comp=Z,17nm,1.4s
LVC LR LR
comp=Z,836nm,21.0s
LVC Limon Verde 95.03 117 *e*P P 03 47 51.1 +2.9
LVC pmax pmax
comp=Z,17nm,1.4s
LVC MLR MLR
comp=Z,836nm,21.0s
DGMT Dagmar 95.74 39 *e*P P 03 47 51.0 +0.7
comp=Z,16nm,1.0s
DGMT LR LR
comp=Z,1μm,19.0s
DGMT Dagmar 95.74 39 P P 03 47 49.7 -0.7
baz=241
MNMC Minye Minye 96.07 114 *e*P P 03 47 55.2 +2.3
comp=Z,16nm,1.3s
KSU1 Kansas State U 96.36 50 PFAKE 03 48 00.0 +6.7
KSU1 LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 96.42 93 PFAKE 03 48 10.0 +15
OTAV LR LR
comp=Z,836nm,20.0s
LZH Lanzhou 96.60 306 *e*P P 03 47 57.0 +2.3
LZH pP pwP 03 48 10.8 +1.0
LZH sP sP 03 48 15.0 +9.2
LZH SKS SKSac 03 58 27.5 -2.0
LZH *e*S ScS 03 59 14.5 +0.1
LZH sS sS 03 59 38.8 +11
LZH SS SS 04 05 44.5 -4.6
LZH pmax pmax
comp=Z,46nm,1.1s
LZH pmax pmax
comp=Z,290nm,6.0s
LZH LR LR
comp=Z,880nm,13.6s
LZH LR LR
comp=Z,1μm,11.9s
LZH LR LR
comp=Z,1μm,16.8s
MIAR Mount Ida 96.69 55 PFAKE 03 48 10.0 +15
MIAR LR LR
comp=Z,1μm,20.0s
DGPR DIGLIPUR 96.72 281 *e*P P 03 47 52.7 -2.8
DGPR IAMs_20 IAMs_20 04 36 48.3
comp=Z,531nm,8.0s
ECSD EROS Data Cent 98.31 46 PFAKE 03 48 10.0 +7.9
ECSD LR LR
comp=Z,1μm,20.0s
ECSD EROS Data Cent 98.31 46 P P 03 48 01.2 -0.8
baz=245
YKA Yellowknife Ar 98.31 24 P P 03 48 00.3 -1.2
comp=Z,0.8nm,0.9s,baz=235,slow=4.2,SNR=17
YKA PP PP 03 51 58.7 -3.2
comp=Z,1.6nm,1.2s,baz=234,slow=7.2,SNR=7.2
YKA PKKPbc PKKPbc 04 04 34.8 -0.3
comp=Z,0.2nm,0.8s,baz=34,slow=2.4,SNR=4.5
YKA LR LR 04 26 17.9
comp=Z,55nm,21.1s,baz=258,slow=32

YKB5 Yellowknife Ar 98.31 24 *e*P P 03 48 00.3 -1.2
YKB5 *e*PP PP 03 51 58.7 -3.2
LPAZ La Paz 98.61 112 LR LR 04 24 17.8
comp=Z,466nm,20.3s,baz=192,slow=30
BCIP Isla Barro Col 98.63 84 PFAKE 03 48 20.0 +16
BCIP LR LR
comp=Z,390nm,19.0s
ULN Ulaanbaatar 99.31 318 PFAKE 03 48 20.0 +13
ULN LR LR
comp=Z,415nm,20.0s
ULN Ulaanbaatar 99.31 318 *ce*P **Pdif** **03 48 06.9 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.9s
SONA0 Songino Array 99.70 318 *e*P **Pdif** **03 48 08.8 +0.5**
SONM Songino Array 99.70 318 P **Pdif** **03 48 08.8 +0.5**
comp=Z,0.7nm,0.6s,baz=110,slow=3.3,SNR=6.3
SONM LR LR 04 30 24.2
comp=Z,220nm,19.8s,baz=110,slow=34
SCIA State Center 99.86 49 PFAKE 03 48 20.0 +11
SCIA LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 99.91 34 PFAKE 03 48 20.0 +11
FFC LR LR
comp=Z,1μm,20.0s
AGMN Agassiz Nation 100.64 42 PFAKE 03 48 20.0 +7.7
AGMN LR LR
comp=Z,496nm,20.0s
AGMN Agassiz Nation 100.64 42 P **Pdif** **03 48 11.1 -1.2**
baz=247
GTA Gaotai 100.83 308 P **Pdif** **03 48 15.0 +1.5**
GTA pP pwP 03 48 28.0 -0.8
GTA sP sP 03 48 33.5 +8.8
GTA pmax pmax
comp=Z,3.0nm,1.3s
GTA pmax pmax
comp=Z,100nm,5.4s
GTA LR LR
comp=Z,200nm,21.3s
GTA LR LR
comp=Z,440nm,21.3s
GTA LR LR
comp=Z,580nm,20.9s
HDIL Hopedale 102.11 51 PFAKE 03 48 30.0 +11
HDIL LR LR
comp=Z,2μm,20.0s
SHL Shillong 102.18 293 *e*P **Pdif** **03 48 19.9 0.0**
JFWS Jewell Farm 102.28 49 PFAKE 03 48 30.0 +10
JFWS LR LR
comp=Z,1μm,21.0s
TIXI Tiksi 102.38 344 PFAKE 03 48 30.0 +11
TIXI LR LR
comp=Z,2μm,22.0s
TLY Talaya 102.85 321 PFAKE 03 48 30.0 +7.9
TLY LR LR
comp=Z,269nm,21.0s
EYMN Ely 103.23 43 PFAKE 03 48 40.0 +16
EYMN LR LR
comp=Z,1μm,20.0s
GOGA Godfrey 104.09 60 PFAKE 03 48 40.0 +12
GOGA LR LR
comp=Z,1μm,19.0s
COWI Conover 104.12 46 PFAKE 03 48 40.0 +12
COWI LR LR
comp=Z,2μm,22.0s
LSA Lhasa 104.19 296 PFAKE 03 48 40.0 +11
LSA LR LR
comp=Z,480nm,21.0s
ACSO Alum Creek Sta 106.57 53 PFAKE 03 53 00.0 +10
ACSO LR LR
comp=Z,1μm,20.0s
NHSC New Hope 106.61 61 PFAKE 03 53 00.0 +10
NHSC LR LR
comp=Z,985nm,19.0s
AAM Ann Arbor 106.69 51 PFAKE 03 53 00.0 +10
AAM LR LR
comp=Z,2μm,22.0s
BOK Bokaro 106.73 289 *e*P **Pdif** **03 48 37.0 -2.9**
BOK IAmb IAmb 03 48 40.4
comp=Z,2.1nm,0.7s
BOK IAMs_20 IAMs_20 04 40 20.4
comp=Z,539nm,36.7s
GLMI Grayling 106.75 48 PFAKE 03 53 00.0 +10
GLMI LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 107.02 254 PFAKE 03 53 00.0 +8.9
DGAR LR LR
comp=Z,727nm,21.0s
BLA Blacksburg 107.62 57 PFAKE 03 53 00.0 +8.3
BLA LR LR
comp=Z,880nm,20.0s
CNNC Cliffs of the 109.04 59 PFAKE 03 53 10.0 +16
CNNC LR LR
comp=Z,788nm,19.0s
SDDR Presa de Saban 109.86 77 PFAKE 03 53 10.0 +14
SDDR LR LR
comp=Z,633nm,22.0s
CBN Corbin Frederi 110.22 56 PFAKE 03 53 10.0 +14
CBN LR LR
comp=Z,784nm,19.0s
WMQ Urumqi 110.81 310 *e*PKP **PKiKP** **03 52 56.8 -0.7**
WMQ AMB AMB
comp=Z,340nm,4.7s
WMQ LR LR
comp=Z,540nm,21.1s
WMQ LR LR
comp=Z,1μm,23.7s
WMQ LR LR
comp=Z,2μm,24.3s
HYB Hyderabad 111.18 280 *e*P **PKiKP** **03 52 57.5 -1.4**
HYB IAmb IAmb 03 52 59.9
comp=Z,3.7nm,0.5s
BINY Binghamton 112.17 52 PFAKE 03 53 10.0 +10
BINY LR LR
comp=Z,2μm,20.0s
LONY Lake Ozonia 113.65 50 PFAKE 03 53 10.0 +7.2
LONY LR LR
comp=Z,1μm,19.0s
SJG San Juan 114.20 80 PFAKE 03 53 20.0 +15
SJG LR LR
comp=Z,325nm,20.0s
ZALV Zalesovo Beam 114.45 320 PKiKP PKPdf 03 53 03.0 -0.9
comp=Z,1.3nm,0.7s,baz=351,slow=1.7,SNR=5.3
ZAA1 Zalesovo Array 114.45 320 *e*PKiKP PKPdf 03 53 03.0 -0.9
MK32 Makanchi Array 115.11 312 *e*PKiKP **PKPdf** **03 53 05.2 -0.4**
MKAR Makanchi Array 115.11 312 PKiKP **PKPdf** **03 53 05.2 -0.4**
comp=Z,1.3nm,0.9s,baz=70,slow=1.8,SNR=8.1
DDI Dehra Dun 115.25 294 *e*P **PKPdf** **03 53 05.6 -0.8**
DDI IAMs_20 IAMs_20 04 38 18.6
comp=Z,357nm,3.6s
SMLA Simla 116.18 294 *e*P **PKPdf** **03 53 07.5 -0.5**
SMLA IAmb IAmb 03 53 09.5
comp=Z,10.0nm,1.3s
SMLA IAMs_20 IAMs_20 04 43 08.8
comp=Z,282nm,17.1s
GRGR Grenville 116.34 88 PFAKE 03 53 20.0 +11
GRGR LR LR
comp=Z,649nm,21.0s
PKME Peaks-Kenny Pk 117.46 50 PFAKE 03 53 20.0 +10
PKME LR LR
comp=Z,2μm,21.0s
KURK Kurchatov 117.94 316 *e*PKPdf **PKPdf** **03 53 10.5 -0.3**
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 117.94 316 *c i*PKIKP **PKPdf** **03 53 09.8 -1.0**
KURK pmax pmax
comp=Z,4.0nm,1.3s
ANWB Willy Bob 118.02 82 PFAKE 03 53 20.0 +8.1
ANWB LR LR
comp=Z,401nm,19.0s
BHJ Bhuj 120.85 284 *e*P **PKiKP** **03 53 18.1 +0.8**
BHJ IAMs_20 IAMs_20 04 37 13.5
comp=Z,126nm,10.4s
SUR Sutherland 122.22 196 PFAKE 03 53 30.0 +10
SUR LR LR
comp=Z,3μm,20.0s
MSEY Mahe Island 123.04 247 PFAKE 03 53 30.0 +8.0
MSEY LR LR
comp=Z,729nm,20.0s
KK31 Karatay Array 123.09 307 *e*PKPdf **PKiKP** **03 53 21.7 +0.5**
KK31 Karatay Array 123.09 307 *e*PKIKP **PKiKP** **03 53 21.7 +0.5**
KKAR Karatay Array 123.09 307 *e*PKPdf **PKiKP** **03 53 21.7 +0.5**
KKAR Karatay Array 123.09 307 *e*PKIKP **PKiKP** **03 53 21.7 +0.5**
BRVK Borovoye 123.09 319 *e*PKPdf **PKiKP** **03 53 21.3 +0.4**
BRVK LR LR
comp=Z,343nm,19.0s

BRVK	**Borovoye**	**123.09**	**319**	*c*	*i*PKIKP	**PKiKP**	**03 53 21.5**	**+0.7**
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.3s								
BOSA	**Boshof**	**124.41**	**202**		*e*PKIKP	**PKiKP**	**03 53 26.0**	**+1.5**
BOSA	**Boshof**	**124.41**	**202**		PKP	**PKiKP**	**03 53 26.0**	**+1.5**
	comp=Z,6.4nm,0.9s,baz=348,slow=3.0,SNR=7.2								
KBS	**Kingsbay**	**124.52**	**358**		PFAKE		03 53 30.0	+7.0	
KBS					LR	LR			
	comp=Z,654nm,20.0s								
SFJD	**Kangerlussuaq**	**124.86**	**23**		PFAKE		03 53 40.0	+16	
SFJD					LR	LR			
	comp=Z,1µm,21.0s								
ARU	**Arti**	**129.15**	**325**		PFAKE		03 53 40.0	+7.2	
ARU					LR	LR			
	comp=Z,462nm,20.0s								
ARU	**Arti**	**129.15**	**325**	*i*	PKIKP	**PKPdf**	**03 53 31.6**	**-0.5**	
ARU							04 00 39.8		
ABKAR	**Akbulak array**	**130.02**	**315**		*e*PKPdf	**PKiKP**	**03 53 34.6**	**-0.1**	
LVZ	**Lovozero**	**132.01**	**345**		PFAKE		03 53 50.0	+12	
LVZ					LR	LR			
	comp=Z,316nm,19.0s								
ARA0	**ARCESS Array S**	**132.40**	**350**		*e*PKPdf	**PKiKP**	**03 53 39.1**	**+0.1**	
ARCES	**ARCESS Array B**	**132.40**	**350**		PKP	**PKiKP**	**03 53 39.1**	**+0.1**	
	comp=Z,3.9nm,0.9s,baz=50,slow=1.9,SNR=7.0								
GEYT	**Alibeck**	**132.50**	**300**		PKP	**PKiKP**	**03 53 40.2**	**0.0**	
	comp=Z,3.7nm,0.8s,baz=11,slow=9.5,SNR=4.3								
LSZ	**Lusaka**	**135.02**	**213**		*e*PKPdf	**PKiKP**	**03 53 46.9**	**+0.8**	
LSZ					LR	LR			
	comp=Z,764nm,19.0s								
BORG	**Borgarnes**	**135.52**	**16**		PFAKE		03 54 00.0	+15	
BORG					LR	LR			
	comp=Z,381nm,19.0s								
TSUM	**Tsumeb**	**135.62**	**198**		PFAKE		03 54 00.0	+13	
TSUM					LR	LR			
	comp=Z,1µm,20.0s								
KLMR	**Klimovskoe**	**135.70**	**336**		*e*PKIKP	**PKPdf**	**03 53 43.0**	**-1.3**	
KLMR	**Klimovskoe**	**135.70**	**336**		*e*PKPdf	**PKPdf**	**03 53 43.0**	**-1.3**	
KLMR					AMP		03 53 54.5		
	comp=Z,13nm,1.6s								
KLMR					*e*SKP		03 57 29.0		
FIA1	**FINESS Array S**	**139.43**	**344**		*e*PKPdf	**PKPdf**	**03 53 51.9**	**+0.7**	
FIA0	**FINESS Array S**	**139.43**	**344**		*e*PKPpre	PKPpre	03 53 41.8		
FIA0	**FINESS Array S**	**139.43**	**344**		*e*PKHKP	PKPpre	03 53 41.8		
FINES	**FINESS Array B**	**139.43**	**344**	*c*	*i*PKIKP	**PKiKP**	**03 53 54.5**	**+1.0**	
FINES					pmax	pmax			
	comp=Z,1.0nm,0.7s								
FINES	**FINESS Array B**	**139.43**	**344**		PKhKP	PKPpre	03 53 41.8		
	comp=Z,0.8nm,0.6s,baz=48,slow=2.8,SNR=4.2								
MAK	**Makhachkala**	**139.83**	**309**		*e*P	**Pdif**	**03 51 05.6**	**-1.0**	
MAK					*i*		03 53 54.3		
MAK					*e*		03 56 46.5		
MAK					*e*PPP	PPP	03 59 50.5		
MAK					*e*SS	SS	04 15 10.8	+2.8	
MAK					*e*SSS	SSS	04 20 22.3		
KMBO	**Kilima Mbogo**	**139.89**	**237**		PFAKE		03 54 10.0	+14	
KMBO					LR	LR			
	comp=Z,557nm,21.0s								
OBN	**Obninsk**	**140.65**	**331**		PFAKE		03 54 10.0	+14	
OBN					LR	LR			
	comp=Z,469nm,21.0s								
OBN	**Obninsk**	**140.65**	**331**		*e*PKIKP	**PKPdf**	**03 53 53.9**	**+0.4**	
OBN					*e*		03 57 00.4		
OBN					*e*SS	SS	04 15 11.2	-5.1	
OBN					pmax	pmax			
	comp=Z,3.0nm,0.8s								
NB2	**NORSAR Subarra**	**142.32**	**355**		PKP	PKPpre	03 53 52.0		
	comp=Z,0.5nm,0.7s,baz=23,slow=3.3								
NB200	**NORSAR Array S**	**142.32**	**355**		*e*PKPpre	PKPpre	03 53 52.4		
NOA	**NORSAR Array B**	**142.32**	**355**		PKHKP	PKPpre	03 53 52.4		
	comp=Z,1.3nm,0.9s,baz=16,slow=4.6,SNR=5.6								
GNI	**Garni**	**142.53**	**306**		PFAKE		03 54 10.0	+9.2	
GNI					LR	LR			
	comp=Z,565nm,19.0s								
NEY	**Neytrino**	**143.09**	**311**	*i*	PKIKP	**PKPdf**	**03 53 59.6**	**+1.0**	
KARS	**Kars**	**143.63**	**307**		*e*PKPdf	**PKPdf**	**03 53 59.6**	**0.0**	
KARS	**Kars**	**143.63**	**307**		*e*PKIKP	**PKPdf**	**03 53 59.6**	**0.0**	
BATM	**Batumi**	**144.34**	**309**	⇑	*i*P	PKPbc	03 53 59.2	+0.2	
DAGI	**Agillar**	**144.35**	**308**	*i*	P	**PKPab**	**03 53 58.5**	**-0.4**	
DAGI					IAML_P				
	comp=Z,5.8nm,0.4s								
BCA	**Borcka**	**144.45**	**309**	⇓	*i*P	**PKPab**	**03 53 58.6**	**-0.5**	
DBAD	**Bademkaya**	**144.53**	**308**	*i*	P	PKPbc	03 54 00.0	+0.3	
DBAD					IAML_P				
	comp=Z,533nm,0.6s								
MICGM	**Minsk**	**144.60**	**337**		*e*	**PKPdf**	**03 54 02.0**	**+1.4**	
MICGM	**Minsk**	**144.60**	**337**		*e*	**PKPdf**	**03 54 02.0**	**+1.4**	
MNK	**Minsk**	**144.60**	**337**		*e*PKIKP	**PKPdf**	**03 54 02.0**	**+1.4**	
SIRT	**Sirnak**	**144.88**	**302**		*e*PKPdf	**PKPdf**	**03 54 01.8**	**0.0**	
SOC	**Sochi**	**145.00**	**313**		*e*PKIKP	**PKPdf**	**03 54 01.5**	**-0.2**	
SOC					*i*		03 54 05.2		
SOC					*e*		03 57 17.0		
SOC					*e*SS	SS	04 16 03.9	-3.9	
SOC					pmax	pmax			
	comp=Z,10.0nm,0.6s								
MBAR	**Mbarara**	**145.05**	**230**		PFAKE		03 54 10.0	+3.3	
MBAR					LR	LR			
	comp=Z,328nm,19.0s								
SRTM	**Siirt_Merkez**	**145.17**	**303**	*i*	P	**PKPdf**	**03 54 02.9**	**+0.6**	
SRTM					IAML_P				
	comp=Z,379nm,0.9s								
VRTB	**Varto-Mus**	**145.23**	**305**	*i*	P	**PKiKP**	**03 54 05.6**	**-0.7**	
VRTB					IAML_P				
	comp=Z,1µm,0.7s								
MUSM	**Mu-Merkez**	**145.31**	**304**	*i*	P	**PKPdf**	**03 54 03.5**	**+1.0**	
MUSM					IAML_P				
	comp=Z,281nm,0.7s								
BTMN	**Batman**	**145.70**	**303**	*i*	P	**PKPab**	**03 54 04.3**	**+0.4**	
BTMN					IAML_P				
	comp=Z,0.5nm,0.4s								
BAYB	**BAYBURT**	**145.80**	**308**	*i*	P	**PKiKP**	**03 54 06.3**	**-1.3**	
BAYB					IAML_P				
	comp=Z,662nm,0.7s								
ANN	**Anapa**	**145.97**	**316**		*e*PKP2	**PKPdf**	**03 54 03.4**	**+0.2**	
ANN					*e*		03 57 23.6		
ANN					pmax	pmax			
	comp=Z,91nm,1.4s								
HANI	**Diyarbakir_Han**	**146.23**	**304**	*i*	P	**PKPab**	**03 54 06.4**	**+0.5**	
HANI					IAML_P				
	comp=Z,17nm,0.5s								
KELT	**Kelkit**	**146.56**	**308**	*i*	P	**PKPab**	**03 54 07.1**	**-0.2**	
KELT					IAML_P				
	comp=Z,931nm,0.7s								
SUW	**Suwalki**	**146.60**	**340**		*e*PKP	**PKPbc**	**03 54 06.0**	**+0.4**	
SUW	**Suwalki**	**146.60**	**340**		*e*PKPdf	**PKPbc**	**03 54 05.6**	**0.0**	
SUW	**Suwalki**	**146.60**	**340**		*e*PKP2	**PKPbc**	**03 54 06.0**	**+0.4**	
TNCL	**Tunceli-Merkez**	**146.67**	**306**	*i*	P	**PKPab**	**03 54 08.0**	**+0.3**	
TNCL					IAML_P				
	comp=Z,134nm,0.5s								
AKASG	**Malin Array B**	**146.91**	**331**		PKPbc	**PKPdf**	**03 54 05.7**	**+1.0**	
	comp=Z,6.9nm,0.5s,baz=38,slow=4.0,SNR=18								
AKBB	**Malin Array Si**	**146.91**	**331**		*e*PKPdf	**PKPbc**	**03 54 06.0**	**-0.6**	
AKBB	**Malin Array Si**	**146.91**	**331**		*e*PKP2	**PKPbc**	**03 54 06.0**	**-0.6**	
KIEV	**Kiev**	**146.93**	**331**		*e*PKPdf	**PKPdf**	**03 54 05.3**	**+0.6**	
KIEV					LR	LR			
	comp=Z,756nm,22.0s								
KIEV	**Kiev**	**146.93**	**331**	⇑	*i*P	**PKPbc**	**03 54 06.5**	**-0.1**	
KIEV	**Kiev**	**146.93**	**331**		*e*PKP2	**PKPdf**	**03 54 05.3**	**+0.6**	
KIEV					MLR	MLR			
	comp=Z,756nm,22.0s								
AK11	**Malin Array Si**	**146.96**	**331**		*e*PKPdf	**PKPdf**	**03 54 05.5**	**+0.7**	
MUD	**Monsted U'grnd**	**147.03**	**355**	*i*	P	**PKPbc**	**03 54 06.3**	**-0.4**	
	comp=Z,34nm,1.1s								
MUD	**Monsted U'grnd**	**147.03**	**355**	*i*	PKP2	**PKPbc**	**03 54 06.3**	**-0.4**	
MUD					pmax	pmax			
	comp=Z,34nm,1.1s								
ELZG	**Elazig**	**147.27**	**305**	*i*	P	**PKPab**	**03 54 10.2**	**0.0**	
ELZG					IAML_P				
	comp=Z,679nm,0.8s								
SUSE	**Susehri**	**147.30**	**308**	*i*	P	**PKPab**	**03 54 09.6**	**-0.5**	
SUSE					IAML_P				
	comp=Z,7.2nm,0.1s								
KEMA	**Kemaliye**	**147.40**	**307**	*i*	P	**PKPab**	**03 54 10.6**	**+0.1**	
KEMA					IAML_P				
	comp=Z,388nm,0.3s								
CUZAR	**Zara_SIVAS**	**147.72**	**308**	*i*	P	**PKiKP**	**03 54 10.7**	**-0.7**	
ESK	**Eskdalemuir**	**147.80**	**8**		PFAKE		03 54 20.0	+8.6	
ESK					LR	LR			
	comp=Z,737nm,19.0s								
HEKM	**Malatya_Hekimh**	**147.92**	**306**	*i*	P	**PKiKP**	**03 54 11.8**	**-0.1**	
HEKM					IAML_P				
	comp=Z,233nm,0.3s								
SIM	**Simferopol'**	**147.94**	**319**	*c*	*i*PKP2	**PKPbc**	**03 54 10.7**	**+1.0**	
CUKAN	**kangal_SIVAS**	**148.14**	**307**	*i*	P	**PKiKP**	**03 54 12.6**	**+0.3**	
GKP	**Gorka Klasztor**	**148.88**	**345**		*e*PKP	**PKPbc**	**03 54 12.1**	**+0.3**	
GKP	**Gorka Klasztor**	**148.88**	**345**		*e*PKP2	**PKPbc**	**03 54 12.1**	**+0.3**	
BEL	**Belsk**	**149.21**	**340**		*e*PKP	**PKiKP**	**03 54 14.4**	**+0.5**	
BEL	**Belsk**	**149.21**	**340**		*e*PKP2	**PKiKP**	**03 54 14.4**	**+0.5**	
BSEG	**Bad Segeberg**	**149.42**	**353**		*e*PKPbc	**PKiKP**	**03 54 14.0**	**-0.2**	
	baz=11,slow=2.4								
KIS	**Kishinev**	**149.68**	**326**		*e*PKP	**PKPbc**	**03 54 13.0**	**-1.0**	
KIS	**Kishinev**	**149.68**	**326**		*e*PP	PP	03 57 52.0	+5.0	
KIS					*e*SKKS		04 05 10.0		
KIS					*e*L	L	04 56 30.0		
KIS					LRM	MLR	05 06 40.0		
	comp=Z,600nm,22.0s								
KIS	**Kishinev**	**149.68**	**326**		*e*PKP2	**PKPbc**	**03 54 13.0**	**-1.0**	
KIS					*e*		03 57 52.0		
LVV	**L'vov**	**149.76**	**335**		*e*PKP2	**PKPbc**	**03 54 13.5**	**-0.6**	
RUE	**Ruedersdorf**	**150.34**	**349**		*e*PKPbc	**PKiKP**	**03 54 16.2**	**0.0**	
	baz=11,slow=2.4								
KWP	**Kalwaria Pacla**	**150.42**	**336**		*e*PKP	**PKiKP**	**03 54 16.7**	**+0.2**	
KWP	**Kalwaria Pacla**	**150.42**	**336**		*e*PKPbc	**PKPbc**	**03 54 16.1**	**+0.4**	
KWP	**Kalwaria Pacla**	**150.42**	**336**		*e*PKIKP	**PKPbc**	**03 54 16.1**	**+0.4**	
RETH	**Rethem/Aller,**	**150.70**	**354**		*e*PKPbc	**PKiKP**	**03 54 17.1**	**+0.2**	
	baz=11,slow=2.4								
BR101	**Keskin Array S**	**150.73**	**310**		*e*PKPdf	**PKPdf**	**03 54 11.0**	**-0.4**	
BR101					*e*PKPbc	**PKPbc**	**03 54 17.1**	**+0.1**	
BR131	**Keskin Array S**	**150.73**	**310**		*e*PKPbc	**PKiKP**	**03 54 17.5**	**-0.2**	
BRTR	**Keskin Array B**	**150.73**	**310**		PKP	**PKPdf**	**03 54 11.0**	**-0.4**	
	comp=Z,5.7nm,1.1s,baz=76,slow=5.2,SNR=3.8								
BRTR					PKPbc	**PKPbc**	**03 54 17.1**	**+0.1**	
	comp=Z,8.6nm,0.9s,baz=133,slow=2.4,SNR=43								
TLCR		**150.86**	**324**	⇑	*i*P	**PKPbc**	**03 54 14.4**	**-2.5**	
TLCR		**150.86**	**324**	⇑	PKIKP	**PKPbc**	**03 54 14.4**	**-2.5**	
NRDL	**Niedersach Rie**	**150.86**	**353**		*e*PKPbc	**PKiKP**	**03 54 17.3**	**+0.2**	
	baz=11,slow=2.4								
OJC	**Ojcow**	**150.93**	**340**		*e*PKP	**PKiKP**	**03 54 17.7**	**+0.2**	
OJC	**Ojcow**	**150.93**	**340**		*e*PKPbc	**PKiKP**	**03 54 17.6**	**+0.1**	
OJC	**Ojcow**	**150.93**	**340**		*e*PKIKP	**PKiKP**	**03 54 17.7**	**+0.2**	
BUR08	**Bucovina Ar. S**	**150.95**	**331**		*e*PKPbc	**PKiKP**	**03 54 18.8**	**+1.0**	
BURAR	**Bucovina Array**	**150.97**	**331**	⇓	*i*P	**PKiKP**	**03 54 19.0**	**+1.2**	
BURAR	**Bucovina Array**	**150.97**	**331**	⇓	PKIKP	**PKiKP**	**03 54 19.0**	**+1.2**	
BIZ	**Bicaz**	**151.05**	**329**	⇑	*i*P	**PKiKP**	**03 54 18.0**	**+0.1**	
TESR	**Tescani**	**151.09**	**328**	⇓	*i*P	**PKPbc**	**03 54 17.1**	**-0.3**	
ASSE	**Asse, Remlinge**	**151.15**	**352**		*e*PKPbc	**PKiKP**	**03 54 18.2**	**+0.4**	
	baz=11,slow=2.4								
CFR	**Carcaliu**	**151.23**	**324**	⇓	*i*P	**PKPbc**	**03 54 15.4**	**-2.3**	
CFR	**Carcaliu**	**151.23**	**324**	⇓	PKIKP	**PKPbc**	**03 54 15.4**	**-2.3**	
IBBN	**Ibbenburen**	**151.25**	**356**		*e*PKPbc	**PKiKP**	**03 54 18.5**	**+0.4**	
	baz=11,slow=2.4								
ANTO	**Ankara**	**151.26**	**311**		*e*PKPbc	**PKiKP**	**03 54 19.2**	**+0.6**	
ANTO					LR	LR			
	comp=Z,453nm,22.0s								
ANTO	**Ankara**	**151.26**	**311**	⇓	*i*P	**PKiKP**	**03 54 18.7**	**+0.1**	
ANTO	**Ankara**	**151.26**	**311**	⇓	PKIKP	**PKiKP**	**03 54 18.7**	**+0.1**	
BR231	**Keskin MP Arra**	**151.28**	**311**		*e*PKPbc	**PKiKP**	**03 54 19.7**	**+1.0**	
KSP	**Ksiaz**	**151.35**	**345**		*e*PKP	**PKiKP**	**03 54 18.6**	**+0.2**	
KSP	**Ksiaz**	**151.35**	**345**		*e*PKIKP	**PKiKP**	**03 54 18.6**	**+0.2**	
UZH	**Uzhgorod**	**151.39**	**335**	⇑	*i*PKIKP	**PKiKP**	**03 54 18.5**	**0.0**	
UZH					*e*		03 54 23.7		
UZH					*e*		03 54 27.3		
NIE	**Niedzica**	**151.46**	**338**		*e*PKP	**PKiKP**	**03 54 19.1**	**+0.4**	
NIE	**Niedzica**	**151.46**	**338**		*e*PKIKP	**PKiKP**	**03 54 19.1**	**+0.4**	
CLZ	**Clausthal**	**151.47**	**353**		*e*PKPbc	**PKiKP**	**03 54 19.1**	**+0.4**	
	baz=11,slow=2.4								
VRI	**Vrincioaia**	**151.50**	**327**	⇑	*i*P	**PKPbc**	**03 54 18.7**	**+0.3**	
VRI	**Vrincioaia**	**151.50**	**327**	⇑	PKIKP	**PKPbc**	**03 54 18.7**	**+0.3**	
PLOR	**Plostina**	**151.55**	**327**	⇑	*i*P	**PKPbc**	**03 54 17.1**	**-1.5**	
PLOR	**Plostina**	**151.55**	**327**	⇑	PKIKP	**PKPbc**	**03 54 17.1**	**-1.5**	
CLL	**Collm**	**151.61**	**349**		*e*PKPbc	**PKiKP**	**03 54 19.2**	**+0.3**	
	baz=11,slow=2.4								
CLL					*ep*PKPbc	**pPKPbc**	**03 54 25.6**	**-1.3**	
CLL	**Collm**	**151.61**	**349**		*e*PKPdf	**PKPdf**	**03 54 13.0**	**+0.8**	
CLL				⇑	*i*PKPbc	**PKiKP**	**03 54 18.9**	**+0.1**	
	comp=Z,28nm,1.1s								
CLL					*ep*PKPbc	**sPKPdf**	**03 54 24.0**	**+0.6**	
CLL					*i* PKPab	**PKPab**	**03 54 27.0**	**0.0**	
	comp=Z,15nm,1.1s								
CLL					*ep*PKPab	**sPKPbc**	**03 54 29.0**	**-0.9**	
CLL					*e*		03 54 36.0		
	comp=Z,32nm,1.2s								
CLL					*e*		04 06 13.0		
CLL					*e*PSKS		04 08 23.0		
CLL					*e*PPS	PPS	04 10 53.0		
CLL					*e*SS	SS	04 17 15.0	-5.0	
CLL					*e*PSPS		04 18 30.0		
CLL					*e*SSS	SSS	04 23 06.0		
CLL					*e*SSSS		04 26 54.0		
CLL	**Collm**	**151.61**	**349**		*e*PKIKP	**PKPdf**	**03 54 13.0**	**+0.8**	
CLL					*i*		03 54 18.9		
CLL					*i*		03 54 27.0		
CLL					pmax	pmax			
	comp=Z,15nm,1.1s								
HARR	**Harsova**	**151.66**	**324**	⇑	*i*P	**PKiKP**	**03 54 20.2**	**+1.0**	
HARR	**Harsova**	**151.66**	**324**	⇑	PKIKP	**PKiKP**	**03 54 20.2**	**+1.0**	
TLB	**Topalu**	**151.67**	**323**	⇑	*i*P	**PKiKP**	**03 54 20.1**	**+0.9**	
TLB	**Topalu**	**151.67**	**323**	⇑	PKIKP	**PKiKP**	**03 54 20.1**	**+0.9**	
TRPA	**Tarpa**	**151.70**	**334**	⇑	*i*P	**PKPbc**	**03 54 17.6**	**-1.1**	
UPC	**Upice**	**151.73**	**345**	⇑	*e*PKP	**PKiKP**	**03 54 20.0**	**+0.8**	
UPC					*e*SS	SS	04 17 24.7	+3.1	
UPC					AMS	AMS	05 01 10.0		
	comp=Z,1µm,21.0s								
UPC	**Upice**	**151.73**	**345**		*e*PKIKP	**PKiKP**	**03 54 20.0**	**+0.8**	
UPC					*e*SS	SS	04 17 24.7	+3.1	
UPC					MLR	MLR			
	comp=Z,1µm,21.0s								
OKC	**Ostrava-Krasne**	**151.77**	**341**	⇑	*e*PKP	**PKiKP**	**03 54 19.2**	**0.0**	
OKC					*ep*PKPAB	**pPKPbc**	**03 54 27.1**	**-0.2**	
OKC					*ex*	x	03 54 38.1		
OKC					*e*SS	SS	04 17 21.2	-0.9	
OKC					AMS	AMS	04 57 30.0		
	comp=Z,600nm,22.5s								
OKC	**Ostrava-Krasne**	**151.77**	**341**		*e*PKIKP	**PKiKP**	**03 54 19.2**	**0.0**	
OKC					*e*		03 54 27.1		
OKC					*e*SS	SS	04 17 21.2	-0.9	
OKC					MLR	MLR			
	comp=Z,600nm,22.5s								
DPC	**Dobruska-Polom**	**151.80**	**344**	⇑	*e*PKP	**PKiKP**	**03 54 20.3**	**+0.9**	
DPC					*e*SS	SS	04 17 25.6	+3.1	
DPC					AMS	AMS	04 57 00.0		
	comp=Z,600nm,23.4s								
DPC	**Dobruska-Polom**	**151.80**	**344**		*e*PKIKP	**PKiKP**	**03 54 20.3**	**+0.9**	
DPC					*e*SS	SS	04 17 25.6	+3.1	
DPC					MLR	MLR			
	comp=Z,600nm,23.4s								
GTTG	**Gvttingen**	**151.81**	**353**		*e*PKPbc	**PKiKP**	**03 54 19.7**	**+0.4**	
	baz=11,slow=2.4								
GTTG					*ep*PKPbc	**pPKPbc**	**03 54 26.2**	**-1.2**	
BRG	**Berggiesshubel**	**151.84**	**347**		*e*PKP	**PKPdf**	**03 54 13.2**	**+0.7**	
	comp=Z,21nm,1.9s								
BRG					*i*		03 54 19.6		
	comp=Z,20nm,1.1s								
BRG					*e*		03 54 26.2		
	comp=Z,28nm,1.4s								
BRG	**Berggiesshubel**	**151.84**	**347**		*e*PKPbc	**PKiKP**	**03 54 19.9**	**+0.5**	
	baz=11,slow=2.4								
BRG					*ep*PKPbc	**pPKPbc**	**03 54 26.4**	**-1.1**	
BRG	**Berggiesshubel**	**151.84**	**347**		*e*PKIKP	**PKPdf**	**03 54 13.2**	**+0.7**	
BRG					*i*		03 54 19.6		
BRG					*e*		03 54 26.2		
BRG					pmax	pmax			
	comp=Z,21nm,1.9s								
BRG					pmax	pmax			
	comp=Z,29nm,1.5s								
NEUB	**Neuenburg**	**151.90**	**350**		*e*PKPbc	**PKiKP**	**03 54 19.8**	**+0.4**	
	baz=11,slow=2.4								
FBE	**Freiberg**	**151.91**	**348**		*e*PKPbc	**PKiKP**	**03 54 20.2**	**+0.8**	
	baz=11,slow=2.4								
FBE					*ep*PKPbc	**pPKPbc**	**03 54 26.9**	**-0.8**	
KRLC	**Kraliky**	**151.93**	**343**	⇑	*e*PKP	**PKiKP**	**03 54 20.1**	**+0.4**	
KRLC	**Kraliky**	**151.93**	**343**		*e*PKIKP	**PKiKP**	**03 54 20.1**	**+0.4**	
LANS	**Liptovska Anna**	**151.96**	**339**		*e*PKIKP	**PKiKP**	**03 54 21.0**	**+1.3**	
LANS	**Liptovska Anna**	**151.96**	**339**		*e*PKP	**PKiKP**	**03 54 21.0**	**+1.3**	
MORC	**Moravsky Berou**	**152.00**	**342**		*e*PKPbc	**PKiKP**	**03 54 20.4**	**+0.6**	
MORC	**Moravsky Berou**	**152.00**	**342**	⇑	*i*P	**PKPbc**	**03 54 19.7**	**+0.3**	
MORC	**Moravsky Berou**	**152.00**	**342**	⇑	PKIKP	**PKPbc**	**03 54 19.7**	**+0.3**	
MORC	**Moravsky Berou**	**152.00**	**342**		*e*PKP	**PKPbc**	**03 54 19.8**	**+0.3**	
SACV	**Santiago Islan**	**152.02**	**103**		PFAKE		03 54 30.0	+0.1	
SACV					LR	LR			
	comp=Z,337nm,19.0s								
PVCC	**Panska Ves**	**152.04**	**346**	⇑	*e*PKP	**PKiKP**	**03 54 21.0**	**+1.2**	
PVCC					*ex*	x	03 54 37.8		
PVCC					AMS	AMS	05 08 00.0		
	comp=Z,600nm,17.2s								
PVCC	**Panska Ves**	**152.04**	**346**		*e*PKIKP	**PKiKP**	**03 54 21.0**	**+1.2**	
PVCC					MLR	MLR			
	comp=Z,600nm,17.2s								
DOPR	**Dopca**	**152.10**	**328**	⇑	*i*P	**PKiKP**	**03 54 20.4**	**+0.3**	
BUG	**Bochum--Univer**	**152.14**	**356**		*e*PKPbc	**PKiKP**	**03 54 20.2**	**+0.3**	
	baz=11,slow=2.4								
MLR	**Muntele Rosu**	**152.16**	**327**		*e*PKPbc	**PKPbc**	**03 54 19.8**	**-0.3**	
MLR	**Muntele Rosu**	**152.16**	**327**	⇓	*i*P	**PKPdf**	**03 54 14.8**	**+1.4**	
MLR	**Muntele Rosu**	**152.16**	**327**	⇓	PKIKP	**PKPdf**	**03 54 14.8**	**+1.4**	
CJR	**Cluj-Napoca**	**152.37**	**331**	⇑	*i*P	**PKPbc**	**03 54 19.2**	**-1.2**	
CJR	**Cluj-Napoca**	**152.37**	**331**	⇑	PKIKP	**PKPbc**	**03 54 19.2**	**-1.2**	
MOX	**Moxa**	**152.47**	**350**		*e*PKPbc	**PKiKP**	**03 54 21.1**	**+0.4**	
	baz=11,slow=2.4								
MOX					*e*L	L	05 04 17.6		
	comp=Z,521nm,21.8s								
PLN	**Plauen**	**152.54**	**350**		*e*PKPbc	**PKiKP**	**03 54 21.4**	**+0.5**	
	baz=11,slow=2.4								
PRU	**Pruhonice**	**152.56**	**346**	⇑	*e*PKP	**PKiKP**	**03 54 21.6**	**+0.7**	
PRU					*ep*PKPAB	**pPKPbc**	**03 54 28.8**	**-0.3**	
PRU					*ep*PKP	**pPKPab**	**03 54 36.8**	**-2.5**	
PRU					*e*SS	SS	04 17 32.8	+2.2	
PRU					AMS	AMS	05 01 40.0		
	comp=Z,700nm,23.4s								
PRU	**Pruhonice**	**152.56**	**346**		*e*PKIKP	**PKiKP**	**03 54 21.6**	**+0.7**	
PRU					*e*		03 54 28.8		
PRU					*e*SS	SS	04 17 32.8	+2.2	
PRU					MLR	MLR			
	comp=Z,700nm,23.4s								
PRU					MLR	MLR			
	comp=Z,800nm,16.8s								
TANN	**Tannenbergstha**	**152.56**	**349**		*e*PKPbc	**PKiKP**	**03 54 21.4**	**+0.5**	
	baz=11,slow=2.4								
GOPC	**GO Pecny, Ondr**	**152.57**	**346**	⇑	*e*PKP	**PKiKP**	**03 54 21.9**	**+1.0**	
GOPC					*e*SS	SS	04 17 35.0	+4.2	
GOPC					AMS	AMS	05 01 50.0		
	comp=Z,900nm,22.1s								
GOPC	**GO Pecny, Ondr**	**152.57**	**346**		*e*PKIKP	**PKiKP**	**03 54 21.9**	**+1.0**	
GOPC					*e*SS	SS	04 17 35.0	+4.2	
GOPC					MLR	MLR			
	comp=Z,900nm,22.1s								
GUNZ	**Gunzen**	**152.63**	**349**		*e*PKPbc	**PKiKP**	**03 54 21.8**	**+0.7**	
	baz=11,slow=2.4								
VOIR		**152.64**	**328**	⇑	*i*P	**PKPdf**	**03 54 14.4**	**+0.4**	
VOIR		**152.64**	**328**	⇑

s-maj=117.4km s-min=27.0km az=157.0
*ISCJB **28** 03:41:46.8±0.7,23°.6S±0°.2×175°.6W±0°.2, h28km, mb4.0/6, Error ellipse: s-maj=24.3km s-min=23.2km az=178.4*

ISC 28 03:41:47.9±0.9, 23°.6S±0°.3×175°.5W±0°.2, h28km, n14, σ0^{6}64/13, mb4.0/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.71**	**84**	Pn	Pn	03 45 01.7	-12
	4.4nm,0.3s,baz=229,slow=5.4,SNR=8.3						
RAR				Sn	Sn	03 47 28.5	-28
	2.2nm,0.3s,baz=76,slow=19,SNR=5.1						
ASAR	**Alice Springs**	**46.18**	**259**	P	**P**	**03 50 10.6**	**0.0**
	1.0nm,0.5s,baz=94,slow=6.9,SNR=7.3						
WRA	**Warramunga Arr**	**46.57**	**264**	P	**P**	**03 50 12.8**	**-0.9**
	2.6nm,0.7s,baz=92,slow=8.4,SNR=26						
KSRS	**Korea Array**	**80.77**	**318**	P	**P**	**03 53 59.8**	**+0.9**
	0.5nm,0.3s,baz=131,slow=6.1,SNR=4.7						
NVAR	**Mina Array Bea**	**81.72**	**42**	P	**P**	**03 54 04.2**	**0.0**
	0.3nm,0.4s,baz=214,slow=6.8,SNR=4.4						
SNAA	**Sanae**	**84.83**	**178**	Pdiff	**P**	**03 54 20.0**	**+0.5**
VNA3	**Neumayer Olymp**	**84.87**	**175**	Pdiff	**P**	**03 54 19.4**	**-0.3**
VNA2	**Neumayer--Watz**	**85.34**	**176**	Pdiff	**P**	**03 54 22.6**	**+0.5**
	baz=185,slow=4.0						
VNA1	**Neumayer--Stat**	**85.55**	**176**	Pdiff	**P**	**03 54 23.5**	**+0.4**
PDAR	**Pinedale Array**	**89.65**	**42**	P	**P**	**03 54 42.9**	**-0.6**
	0.3nm,0.8s,baz=197,slow=2.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**93.35**	**289**	P	**P**	**03 55 01.2**	**+0.4**
	1.5nm,0.3s,baz=129,slow=2.8,SNR=12						
MKAR	**Makanchi Array**	**115.04**	**312**	PKP	**PKPdf**	**04 00 25.3**	**-1.0**
	0.2nm,0.6s,baz=61,slow=1.8,SNR=2.3						
AKASG	**Malin Array Be**	**146.87**	**331**	PKPbc	**PKPdf**	**04 01 25.7**	**+0.2**
	0.6nm,0.3s,baz=42,slow=3.8,SNR=2.7						
BRTR	**Keskin Array B**	**150.66**	**310**	PKPbc	**PKPbc**	**04 01 37.2**	**-0.4**
	0.8nm,0.8s,baz=175,slow=4.5,SNR=5.2						

JMA 28 03:54:21.2±0.3, 37°.31N×144°.41E, h67km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.54**	**294**	P	Pn	03 55 01.2	+1.2
JIKH				S	Sn	03 55 30.8	+1.0
JIO	**Ouri**	**2.68**	**296**	P	Pn	03 55 03.3	+1.4
JIO				S	Sn	03 55 34.7	+1.5
JKMT	**Kesennumamotoy**	**2.76**	**304**	P	Pn	03 55 02.9	-0.2
JKMT				S	Sn	03 55 36.2	+1.0
OFUJ	**Ofunato**	**2.79**	**310**	P	Pn	03 55 04.6	+1.1
JFK	**Kawauchi**	**2.82**	**272**	P	Pn	03 55 04.7	+0.8
JFK				S	Sn	03 55 37.4	+0.6
JMK	**Ichinoseki**	**3.00**	**304**	P	Pn	03 55 07.8	+1.4
JFT	**Otama**	**3.25**	**275**	P	Pn	03 55 11.9	+2.1
JFT				S	Sn	03 55 49.2	+1.9

*IDC **28** 03:55:00.8±0.8,21°.51N×143°.64E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.7/61, mbtmp3.8/11, Error ellipse: s-maj=28.2km s-min=20.5km az=90.0*
*ISCJB **28** 03:55:03.4±0.4,21°.50N±0°.06×143°.7E±0°.1, h33km, mb4.4/21, Error ellipse: s-maj=14.5km s-min=9.3km az=3.2*
*NEIC **28** 03:55:05.1±0.5,21°.51N×143°.79E, h35km, mb4.5/13, Error ellipse: s-maj=15.8km s-min=10.7km az=97.0*

ISC 28 03:55:04.9±0.6, 21°.59N±0°.09×143°.7E±0°.1, h35km, n38, σ1^{9}90/32, mb4.2/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**15.66**	**343**	*e*Pn	**Pn**	**03 58 39.8**	**-3.1**
	12nm,1.4s						
MJB9	**Matsu-Tunnel**	**15.66**	**343**	*e*Pn	**Pn**	**03 58 43.8**	**+0.8**
	12nm,1.4s						
JNU	**Nakatsue**	**16.18**	**318**	*e*Pn	**Pn**	**03 58 50.4**	**+0.7**
	22nm,1.4s						
KS15	**Wonju Array Si**	**20.92**	**322**	*e*P	**P**	**03 59 39.0**	**-5.5**
	9.0nm,1.3s						
H11N1	**WAKE ISLAND Hy**	**21.75**	**91**	T	T	04 22 16.1	
	baz=278,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**21.75**	**91**	T	T	04 22 25.1	
	baz=278,slow=74,SNR=7.5						
H11N3	**WAKE ISLAND Hy**	**21.77**	**91**	T	T	04 22 20.1	
	baz=278,slow=74,SNR=9.4						
H11S3	**WAKE ISLAND Hy**	**21.78**	**94**	T	T	04 22 25.7	
	baz=281,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**21.79**	**94**	T	T	04 22 23.5	
	baz=281,slow=74,SNR=11						
H11S2	**WAKE ISLAND Hy**	**21.80**	**94**	T	T	04 22 35.1	
	baz=281,slow=74,SNR=11						
PET	**Petropavlovsk**	**33.41**	**16**	*e*P	**P**	**04 01 39.3**	**-0.6**
	31nm,1.3s						
CTAO	**Charters Tower**	**41.50**	**176**	*e*P	**P**	**04 02 47.9**	**-0.9**
	20nm,1.4s						
WR1	**Warramunga Arr**	**42.29**	**193**	*e*P	**P**	**04 02 55.2**	**-0.1**
	11nm,1.4s						
WRA	**Warramunga Arr**	**42.29**	**193**	P	**P**	**04 02 55.2**	**-0.1**
	0.4nm,0.4s,baz=16,slow=9.0,SNR=6.1						
AS31	**Alice Springs**	**45.99**	**193**	*e*P	**P**	**04 03 25.1**	**+0.1**
	0.9nm,0.7s						
ASAR	**Alice Springs**	**45.99**	**193**	P	**P**	**04 03 25.1**	**+0.1**
	0.2nm,0.5s,baz=18,slow=12,SNR=3.1						
BKNI	**Bangkinang**	**46.68**	**249**	*e*P	**P**	**04 03 30.6**	**+0.1**
	106nm,0.4s						
XMIS	**Christmas Isla**	**49.13**	**233**	*e*P	**P**	**04 03 48.4**	**-1.0**
	306nm,1.5s						
MK32	**Makanchi Array**	**55.15**	**313**	*e*P	**P**	**04 04 34.9**	**+1.0**
MKAR	**Makanchi Array**	**55.15**	**313**	P	**P**	**04 04 34.9**	**+1.1**
	0.3nm,0.6s,baz=91,slow=7.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**57.95**	**317**	P	**P**	**04 04 54.2**	**+0.5**
	1.0nm,0.6s,baz=94,slow=7.7,SNR=9.8						
KNK	**Knik Glacier**	**60.67**	**31**	*e*P	**P**	**04 05 12.3**	**-0.1**
	8.7nm,0.6s						
ILAR	**Eielson Array**	**61.90**	**27**	P	**P**	**04 05 21.9**	**+1.3**
	0.3nm,0.7s,baz=260,slow=5.4,SNR=3.4						
ILB	**Eielson Array**	**61.90**	**27**	*e*P	**P**	**04 05 21.9**	**+1.3**
	2.9nm,1.3s						
BVAR	**Borovoye Array**	**63.08**	**320**	P	**P**	**04 05 30.5**	**+1.8**
	1.1nm,0.6s,baz=91,slow=8.8,SNR=6.0						
BBB	**Bella Bella**	**72.14**	**40**	*e*P	**P**	**04 06 21.8**	**-4.0**
	25nm,0.7s						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**04 06 52.0**	**+2.1**
	0.3nm,0.6s,baz=290,slow=5.8,SNR=9.5						
YKB5	**Yellowknife Ar**	**76.31**	**28**	*e*P	**P**	**04 06 52.0**	**+2.1**
ARA0	**ARCESS Array S**	**79.18**	**342**	*e*P	**P**	**04 07 08.1**	**+2.3**
ARCES	**ARCESS Array B**	**79.18**	**342**	P	**P**	**04 07 08.1**	**+2.3**
	5.2nm,1.0s,baz=42,slow=5.6,SNR=3.6						
YERR	**Yerington**	**81.92**	**51**	*e*P	**P**	**04 07 22.6**	**+1.2**
	6.6nm,0.7s						
NVAR	**Mina Array Bea**	**82.81**	**52**	P	**P**	**04 07 28.6**	**+2.5**
	1.0nm,0.7s,baz=290,slow=5.3,SNR=7.5						
NV01	**Mina Array Sit**	**82.81**	**52**	*e*P	**P**	**04 07 25.7**	**-0.4**
KBZ	**Khabaz**	**82.81**	**314**	P	**P**	**04 07 28.2**	**+2.6**
	1.7nm,0.7s,baz=209,slow=3.3,SNR=4.2						
FIA0	**FINESS Array S**	**83.50**	**335**	*e*P	**P**	**04 07 29.2**	**+0.3**
FINES	**FINESS Array B**	**83.50**	**335**	P	**P**	**04 07 29.2**	**+0.3**
	0.7nm,0.5s,baz=86,slow=5.9,SNR=7.0						
GLA	**Glamis**	**87.50**	**55**	*e*P	**P**	**04 07 47.8**	**-1.6**
	7.6nm,0.8s						
LPAZ	**La Paz**	**149.44**	**86**	PKPbc	**PKiKP**	**04 14 53.4**	**+0.4**
	1.0nm,0.6s,baz=319,slow=3.9,SNR=4.1						

IDC 28 03:56:06.0±12.0, 14°.76S×165°.92E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.6/47, mbtmp4.0/4, ML3.9/1, MS4.2/1, Ms1 4.2/1, ms1mx3.5/37, Error ellipse: s-maj=219.2km s-min=37.0km az=57.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.29**	**176**	Pn	Pn	03 57 54.3	+0.4
	2.1nm,0.3s,baz=1.0,slow=12,SNR=13						
DZM				Sn	Sn	03 59 18.2	+0.7
	2.4nm,0.3s,baz=85,slow=24,SNR=9.3						
STKA	**Stephens Creek**	**27.99**	**228**	P	P	04 01 58.0	-0.7
	0.7nm,0.3s,baz=30,slow=7.4,SNR=4.0						
WRA	**Warramunga Arr**	**30.55**	**256**	P	P	04 02 22.2	+0.6
	1.0nm,0.9s,baz=85,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**31.44**	**249**	P	P	04 02 29.4	-0.1
	0.6nm,0.4s,baz=77,slow=9.3,SNR=8.9						
RAR	**Rarotonga**	**33.21**	**106**	LR	LR	04 14 44.1	
	comp=Z,395nm,18.4s,baz=254,slow=34						

*ISK **28** 03:58:07.7, 38°.96N×43°.66E, h7km, ML2.1/8*
*ISCJB **28** 03:58:08.7±0.6, 39°.00N±0°.03×43°.66E±0°.05, h12km±4km,*

Error ellipse: s-maj=7.4km s-min=5.4km az=26.3
*DDA **28** 03:58:08.3, 39°.00N×43°.65E, h11km±1km, ML2.7*

ISC 28 03:58:06.9±1.0, 38°.93N±0°.04×43°.70E±0°.06, h17km±6km, n13, σ0^{9}45/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.11**	**300**	*i* P	**Pg**	**03 58 10.5**	**-0.2**
VMUR				*i* S	**Sg**	**03 58 13.6**	**+0.2**
VMUR				IAML_P			
	comp=Z,11μm,0.2s						
CLDR	**Caldiran**	**0.27**	**39**	PG	**Pb**	**03 58 13.3**	**-0.1**
CLDR				SG	**Sb**	**03 58 18.1**	**+0.2**
CLDR	**Caldiran**	**0.27**	**39**	*i* P	**Pb**	**03 58 13.6**	**+0.1**
CLDR				*i* S	**Sb**	**03 58 18.7**	**+0.9**
CLDR				IAML_P			
	comp=Z,8μm,0.1s						
VANB	**Van**	**0.41**	**216**	PG	**Pn**	**03 58 17.9**	**-0.3**
VANB				SG	**Sn**	**03 58 25.1**	**-0.5**
TVAN	**Van**	**0.46**	**210**	*i* P	**Pn**	**03 58 18.4**	**-0.6**
TVAN				*i* S	**Sn**	**03 58 27.4**	**+0.5**
TVAN				IAML_P			
	comp=Z,2μm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.77**	**261**	*i* P	**Pn**	**03 58 23.6**	**+0.5**
ADCV				IAML_P			
	comp=Z,254nm,0.1s						
AKDM	**Akdamar-Van**	**0.82**	**223**	PG	**Pn**	**03 58 23.7**	**-0.2**
TUTA	**Tutak**	**0.83**	**305**	*i* P	**Pn**	**03 58 23.7**	**-0.3**
TUTA				IAML_P			
	comp=Z,1μm,0.1s						
AGRB	**Hanur-Agry**	**0.84**	**320**	PG	**Pn**	**03 58 24.0**	**-0.2**
AGRB				SG	**Sn**	**03 58 35.4**	**-0.9**
MLAZ	**Malazgirt-MUS**	**0.92**	**283**	PG	**Pn**	**03 58 25.3**	**+0.2**
GURO	**Guroymak-BITLI**	**1.36**	**254**	PN	**Pg**	**03 58 33.2**	**+0.2**
GNI	**Garni**	**1.46**	**33**	PN	**Pg**	**03 58 34.9**	**-0.1**
CUKT	**Cukurca**	**1.69**	**182**	PN	**Pg**	**03 58 39.2**	**-0.1**

IDC 28 03:59:21.6±6.2, 22°.45S×176°.18W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.7/42, mbtmp4.1/3, Error ellipse: s-maj=291.0km s-min=60.7km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.76**	**258**	P	P	04 07 45.0	-0.1
	0.3nm,0.3s,baz=98,slow=7.9,SNR=4.7						
WRA	**Warramunga Arr**	**46.04**	**263**	P	P	04 07 47.0	-0.4
	0.6nm,0.6s,baz=99,slow=8.6,SNR=22						
CMAR	**Chiang Mai Arr**	**92.36**	**289**	P	P	04 12 35.4	+0.8
	1.1nm,0.3s,baz=142,slow=4.2,SNR=5.5						
BRTR	**Keskin Array B**	**149.40**	**311**	PKPbc	PKPbc	04 19 11.9	-1.1
	1.2nm,0.9s,baz=72,slow=2.0,SNR=6.3						

*TIR **28** 04:00:36.8, 42°.41N×18°.83E, h6km, Md3.2/4*
*SAR **28** 04:00:42.5±0.3, 42°.33N×18°.95E, h3km±1km, ML2.5/9*
*PDG **28** 04:00:42.2±0.2, 42°.36N×18°.95E, h4km±1km, MD2.5/5, ML2.4/10, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*BEO **28** 04:00:44.2±0.3, 42°.35N×18°.95E, h0km, ML2.0/10*

ISC 28 04:00:42.1±0.9, 42°.35N±0°.02×18°.93E±0°.02, h5km±7km, n62, σ1^{9}34/107, 17C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.06**	**209**	⇑*i* Pg	**Pg**	**04 00 43.0**	**-0.6**
CEME	**Cevo**	**0.20**	**357**	⇑*i* Pg	**Pg**	**04 00 46.1**	**+0.1**
CEME				*i* Sg	**Sg**	**04 00 49.5**	**+0.9**
DRME	**Dracevica, Mon**	**0.25**	**131**	⇑*i* Pg	**Pg**	**04 00 46.6**	**-0.4**
DRME				*e*Sg	**Sg**	**04 00 50.8**	**+0.6**
PDG	**Podgorica**	**0.25**	**72**	*e*Pg	**Pg**	**04 00 46.8**	**-0.2**
PDG				*e*Sg	**Sg**	**04 00 52.0**	**+1.7**
PDG	**Podgorica**	**0.25**	**72**	⇓*i* P	**Pg**	**04 00 46.9**	**-0.1**
PDG				S	**Sg**	**04 00 51.0**	**+0.6**
PDG	**Podgorica**	**0.25**	**72**	⇓*i* Pg	**Pg**	**04 00 46.7**	**-0.2**
PDG				*e*Sg	**Sg**	**04 00 50.9**	**+0.6**
TTG	**Podgorica**	**0.25**	**72**	⇑*i* Pg	**Pg**	**04 00 46.8**	**-0.2**
TTG				*i* Sg	**Sg**	**04 00 50.4**	**+0.1**
HCY	**Herceg Novi**	**0.34**	**287**	⇑*i* Pg	**Pg**	**04 00 48.9**	**+0.2**
HCY				*i* Sg	**Sg**	**04 00 54.3**	**+1.2**
HCY	**Herceg Novi**	**0.34**	**287**	⇓*i* Pg	**Pg**	**04 00 48.6**	**-0.1**
HCY				*e*Sg	**Sg**	**04 00 54.4**	**+1.3**
NKME	**Niksic**	**0.42**	**2**	⇑*i* Pg	**Pg**	**04 00 49.7**	**-0.5**
NKME				*i* Sg	**Sg**	**04 00 56.6**	**+1.0**
ULC	**Ulcinj**	**0.45**	**149**	⇓*i* Pg	**Pg**	**04 00 50.6**	**-0.2**
ULC				*i* Sg	**Sg**	**04 00 57.7**	**+1.0**
NKY	**Niksic**	**0.46**	**6**	⇑*i* Pg	**Pg**	**04 00 50.4**	**-0.7**
NKY				*i* Sg	**Sb**	**04 00 58.4**	**-1.7**
TREB	**Trebinje**	**0.56**	**311**	*e*Pg	**Pg**	**04 00 52.8**	**-0.2**
TREB				*e*Sg	**Sb**	**04 01 00.0**	**+0.1**
TREB	**Trebinje**	**0.56**	**311**	*e*Pg	**Pg**	**04 00 52.6**	**-0.4**
TREB				*e*Sg	**Sb**	**04 01 01.9**	**-1.0**
BRY	**Bratogost**	**0.62**	**332**	⇓*i* Pg	**Pg**	**04 00 53.5**	**-0.6**
BRY				*i* Sg	**Sb**	**04 01 03.8**	**-0.9**
BRY	**Bratogost**	**0.62**	**332**	⇑*i* Pg	**Pg**	**04 00 53.5**	**-0.6**
BRY				*e*Sg	**Sb**	**04 01 03.8**	**-0.9**
KOME	**Kolasin**	**0.66**	**41**	⇑*i* Pg	**Pg**	**04 00 54.0**	**-0.8**
KOME				*i* Sg	**Sb**	**04 01 05.0**	**-0.7**
PUK	**Puka**	**0.78**	**113**	*i* PG	**Pb**	**04 00 57.5**	**-0.7**
PUK				*i* SG	**Sn**	**04 01 11.1**	**-0.8**
PVY	**Plav**	**0.80**	**72**	⇑*i* Pg	**Pg**	**04 00 57.0**	**-0.4**
PVY				*i* Sg	**Sb**	**04 01 09.2**	**-0.5**
BCI	**Bajram Curri**	**0.84**	**89**	*i* PG	Pn	04 01 57.6	+57
BCI				*i* SG	**Sn**	**04 01 13.0**	**-0.4**
UPM	**Unac-Piva**	**0.85**	**359**	⇑*i* Pg	**Pg**	**04 00 57.8**	**-0.7**
UPM				*i* Sg	**Sb**	**04 01 11.2**	**-0.1**
IVA	**Berane**	**0.88**	**53**	⇑*i* Pg	**Pg**	**04 00 58.9**	**-0.1**
IVA				*i* Sg	**Sb**	**04 01 11.7**	**-0.3**
PLE	**Pljevlja**	**1.03**	**19**	⇓*i* Pg	**Pg**	**04 01 00.9**	**-1.1**
PLE				*i* Sg	**Sn**	**04 01 17.4**	**-0.9**
STON	**Ston**	**1.05**	**300**	*e*Pg	**Pg**	**04 01 00.7**	**-1.5**
STON				Sg	**Sn**	**04 01 18.1**	**-0.3**
STON	**Ston**	**1.05**	**300**	*e*Pg	**Pg**	**04 01 00.9**	**-1.3**
STON				*e*Sg	**Sb**	**04 01 16.9**	**+0.2**
SJES	**Sjenica**	**1.19**	**40**	*e*Pg	**Pn**	**04 01 05.3**	**-0.2**
SJES				*e*Sg	**Sn**	**04 01 22.0**	**-0.1**
TIR	**Tirane**	**1.22**	**145**	*e*Pg	**Pg**	**04 01 05.8**	**+0.3**
TIR				*e*Sg	**Sn**	**04 01 23.8**	**+1.1**
TIR	**Tirane**	**1.22**	**145**	S	**Sn**	**04 01 25.9**	**+3.2**
TIR	**Tirane**	**1.22**	**145**	*i* PN	**Pn**	**04 01 03.6**	**-2.3**
TIR				*i* SN	**Sb**	**04 01 21.1**	**-0.6**
PHP	**Peshkopia**	**1.31**	**120**	*i* PN	**Pn**	**04 01 06.2**	**-0.9**
PHP				*i* SN	**Sg**	**04 01 28.7**	**+4.6**
IVAS	**Ivanjica**	**1.52**	**36**	*e*Pn	**Pg**	**04 01 11.0**	**-0.2**
IVAS				*e*Sn	**Sg**	**04 01 32.8**	**+1.9**
BBLS	**Lazići**	**1.55**	**13**	*e*Pn	**Pg**	**04 01 12.3**	**+0.4**
BBLS				*e*Sn	**Sg**	**04 01 34.9**	**+2.9**
HAPS	**Han Pijesak,Bl**	**1.73**	**0**	*e*Pg	**Pb**	**04 01 14.7**	**+0.2**
HAPS				*e*Sg	**Sg**	**04 01 39.4**	**+1.6**
HAPS	**Han Pijesak,Bl**	**1.73**	**0**	*e*Pn	**Pb**	**04 01 13.7**	**-0.8**
HAPS				*e*Sn	**Sb**	**04 01 36.7**	**+0.1**
SELS	**Selova**	**1.83**	**61**	*e*Pn	**Pb**	**04 01 15.8**	**-0.3**
SELS				*e*Sn	**Sg**	**04 01 40.7**	**-0.2**
DIVS	**Divibare**	**1.91**	**24**	*e*Pn	**Pb**	**04 01 17.7**	**+0.2**
DIVS				*e*Sn	**Sg**	**04 01 42.9**	**-0.6**
KRUS	**Krusevo**	**1.99**	**119**	*e*Pn	**Pb**	**04 01 18.9**	**0.0**
GRUS	**Gruza**	**2.02**	**40**	*e*Pn	**Pb**	**04 01 19.6**	**+0.4**
GRUS				*e*Sn	**Sg**	**04 01 45.8**	**-1.1**
BARS	**Barje**	**2.18**	**77**	*e*Pn	**Pb**	**04 01 21.9**	**-0.1**
BARS				*e*Sn	**Sb**	**04 01 48.4**	**-0.9**
MATE	**Matera**	**2.38**	**225**	⇑*i* P	**Pb**	**04 01 26.6**	**+1.1**
MATE	**Matera**	**2.38**	**225**	S	**Sg**	**04 01 57.4**	**-1.3**
STIP	**Stip**	**2.51**	**104**	*e*Pn	**Pb**	**04 01 28.4**	**+0.7**
BOSS	**Bosilegrad**	**2.63**	**86**	*e*Pn	**Pb**	**04 01 28.5**	**-1.2**
BOSS				*e*Sn	**Sb**	**04 02 00.1**	**-2.2**
BLY	**Banja Luka**	**2.71**	**333**	*e*Pn	**Pb**	**04 01 30.5**	**-0.6**
BLY				*e*Sn	**Sb**	**04 02 04.5**	**-0.2**
BLY	**Banja Luka**	**2.71**	**333**	⇑*i* P	**Pb**	**04 01 29.7**	**-1.4**
BLY	**Banja Luka**	**2.71**	**333**	S	**Sb**	**04 02 04.1**	**-0.6**
BLY	**Banja Luka**	**2.71**	**333**	*e*Pn	**Pn**	**04 01 27.4**	**+1.0**
BLY				*e*Sn	**Sn**	**04 02 01.3**	**+1.8**
ZAPS	**Zavoj**	**2.88**	**70**	*e*Pn	**Pb**	**04 01 31.7**	**-2.2**
ZAPS				*e*Sn	**Sb**	**04 02 05.6**	**-3.8**
UDBI	**Udbina**	**3.17**	**314**	*e*Pn	**Pb**	**04 01 36.0**	**-3.0**
UDBI				Sn	**Sb**	**04 02 13.9**	**-4.0**
VTS	**Vitosha**	**3.19**	**84**	⇑*i* P	**Pn**	**04 01 34.5**	**+1.4**
VTS	**Vitosha**	**3.19**	**84**	S	**Sn**	**04 02 12.7**	**+1.1**
NVLJ	**Novalja**	**3.69**	**308**	*e*Pn	**Pn**	**04 01 41.4**	**+1.6**
NVLJ				*e*Sn	**Sn**	**04 02 26.2**	**+2.5**
BZS	**Buzias**	**3.80**	**30**	*e*Pn	**Pn**	**04 01 43.9**	**+2.7**
BZS				*e*Sn	**Sn**	**04 02 28.2**	**+1.9**
BZS	**Buzias**	**3.80**	**30**	⇓*i* P	**Pn**	**04 01 42.6**	**+1.4**
BZS	**Buzias**	**3.80**	**30**	S	**Sn**	**04 02 28.0**	**+1.7**
MORH	**Mrgy, Hungar**	**3.87**	**357**	*e*Pn	**Pn**	**04 01 42.4**	**+0.2**
MORH				*e*Sn	**Sn**	**04 02 28.8**	**+0.8**
GZR	**Gura Zlata**	**4.12**	**41**	⇑*i* P	**Pn**	**04 01 46.7**	**+0.9**
GZR	**Gura Zlata**	**4.12**	**41**	S	**Sn**	**04 02 35.3**	**+1.0**
CRES	**Cresnjev**	**4.28**	**325**	*e*Pn	**Pn**	**04 01 48.3**	**+0.4**
CRES				*e*Sn	**Sn**	**04 02 38.3**	**0.0**
CEY	**Cerknica**	**4.69**	**318**	*e*Pn	**Pn**	**04 01 54.5**	**+0.9**
CEY				*e*Sn	**Sn**	**04 02 48.1**	**-0.3**
DRGR		**5.20**	**30**	⇑*i* P	**Pn**	**04 02 02.7**	**+2.2**
MLR	**Muntele Rosu**	**5.96**	**56**	⇓*i* P	**Pn**	**04 02 09.1**	**-2.0**

*ISCJB **28** 04:03:25.8±0.3, 55°.45N±0°.02×135°.40W±0°.06, h10km, mb3.6/3, MS3.9/2, Error ellipse: s-maj=5.5km s-min=2.3km az=147.5*
*AEIC **28** 04:03:27.7±0.0, 55°.50N×135°.49W, h20km*
*IDC **28** 04:03:28.1±1.0, 55°.57N×135°.24W, h0km, mb3.4/5, mb1 3.6/11, mb1mx3.5/50, mbtmp3.4/11, ML2.9/6, MS3.9/2, Ms1 3.9/2, ms1mx2.9/35, Error ellipse: s-maj=15.3km s-min=10.0km az=56.0*
*NEIC **28** 04:03:29.0±0.0, 55°.53N×135°.25W, h1km, ML3.5(AEIC), ML3.7(OTT), After OTT.*
*PGC **28** 04:03:29.1±4.2, 55°.53N×135°.25W, h1km, ML3.7/12, 169km south of Sitka, Ak Off Coast Of Southeastern Alaska*

ISC 28 04:03:28.3±0.7, 55°.55N±0°.03×135°.23W±0°.05, h10km, n79, σ1^{9}90/99, mb3.6/3, Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAG	**Craig**	**1.20**	**93**	P	**Pn**	**04 03 51.1**	**0.0**
CRAG				S	**Sg**	**04 04 08.2**	**+1.3**
SIT	**Sitka**	**1.51**	**358**	P	**Pn**	**04 03 53.8**	**-1.7**
SIT				S	**Sn**	**04 04 15.7**	**+0.5**
WRAK	**Wrangell Islan**	**1.84**	**60**	P	**Pn**	**04 04 00.3**	**+0.4**
WRAK				S	**Sb**	**04 04 25.4**	**+0.3**
NDB	**Naden**	**2.07**	**139**	Pn	**Pn**	**04 04 02.8**	**-0.4**
JIS	**Juneau Island**	**2.77**	**9**	P	**Pn**	**04 04 12.5**	**-0.3**
JIS				S	**Sn**	**04 04 48.2**	**+1.9**
DIB	**Dawson Inlet,**	**2.85**	**144**	Pn	**Pn**	**04 04 13.0**	**-0.7**
DIB				Pg	**Pb**	**04 04 19.1**	**-0.1**
DIB				Sn	**Sn**	**04 04 46.5**	**-1.6**
H02S1	**DAWSON INLET T**	**2.85**	**144**	Pn	**Pn**	**04 04 13.1**	**-0.7**
H02S1				Sn	**Sn**	**04 04 46.4**	**-1.7**
BESE	**Bessie Mountai**	**3.05**	**4**	P	**Pn**	**04 04 16.9**	**+0.3**
BESE	**Bessie Mountai**	**3.05**	**4**	Pn	**Pb**	**04 04 21.5**	**-1.1**
BESE				Pg	**Pg**	**04 04 30.1**	**+3.4**
BESE				Sn	**Sb**	**04 05 01.9**	**+2.1**
MOBC	**Moresby Island**	**3.07**	**140**	Pn	**Pn**	**04 04 16.3**	**-0.6**
MOBC				Sn	**Sn**	**04 04 52.6**	**-1.1**
MOBC				Sg	**Sb**	**04 05 03.6**	**+3.0**
RUBB	**Prince Rupert**	**3.12**	**111**	Pn	**Pn**	**04 04 17.5**	**0.0**
RUBB				Pg	**Pb**	**04 04 25.6**	**+1.7**
RUBB				Sn	**Sn**	**04 04 56.2**	**+1.5**
RUBB				Sg	**Sg**	**04 05 07.5**	**-1.0**
HG1B	**Mitchell Dam**	**3.19**	**144**	Pn	**Pn**	**04 04 18.0**	**-0.4**
HG1B				Sn	**Sn**	**04 04 56.1**	**-0.3**
BNB	**Barry Inlet**	**3.61**	**144**	P	**Pn**	**04 04 23.8**	**-0.6**
BNB	**Barry Inlet**	**3.61**	**144**	Pn	**Pn**	**04 04 23.0**	**-1.4**
HG3B	**Hotspring**	**3.72**	**142**	Sn	**Sn**	**04 05 07.6**	**-1.9**
HG3B				Sg	**Sb**	**04 05 23.9**	**+4.8**
PLBC	**

	baz=28,slow=77							
H11S3	**WAKE ISLAND Hy**	**57.01**	**254**	T	T	05 15 14.4		
	baz=28,slow=77							
JCJ	**Chichijima**	**64.01**	**280**	LR	LR	04 38 11.7		
	comp=Z,43nm,20.6s,baz=108,slow=33							
MKAR	**Makanchi Array**	**73.25**	**334**	P	**P**	**04 14 59.6**	**+0.3**	
	0.4nm,0.7s,baz=39,slow=4.4,SNR=4.5							

NNC ***28*** *04:05:14.2±1.4, 55°.29N×82°.89E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=13.3km s-min=5.0km az=12.0, Suspected Mining explosion.*

IDC 28 04:05:12.2±2.3, 55°.41N×82°.97E, h0km, mb1 3.0/3, mb1mx2.9/47, mbtmp3.0/3, ML2.8/3, 3C-4D, Error ellipse: s-maj=24.0km s-min=11.3km az=25.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**143**	*i*		04 16 22.3	
	baz=324,slow=311,SNR=1.0						
ZAA0	**Zalesovo Array**	**1.81**	**143**	⇓Pn	Pb	04 05 45.6	-0.5
	0.9nm,0.9s						
ZAA0				⇑Sn	Sg	04 06 09.9	-0.4
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**1.81**	**143**	Pg	Pb	04 05 45.5	-0.7
	1.4nm,0.3s,baz=328,slow=18,SNR=16						
ZALV				Lg	Lg	04 06 09.8	
	3.2nm,0.3s,baz=328,slow=27,SNR=14						
KURBB	**Kurchatov Arra**	**5.49**	**211**	⇓Pn	Pn	04 06 35.8	+0.7
	1.4nm,0.9s						
KURBB				⇑Pg	Pb	04 06 51.5	+2.7
	3.5nm,1.0s						
KURBB				⇓Lg	Lg	04 08 04.4	
	10nm,0.7s						
KURBB	**Kurchatov Arra**	**5.49**	**211**	Pn	Pn	04 06 34.8	-0.2
	0.1nm,0.3s,baz=30,slow=12,SNR=6.4						
KURBB				Lg	Lg	04 08 03.5	
	0.1nm,0.3s,baz=33,slow=30,SNR=5.2						
BVAR	**Borovoye Array**	**7.75**	**257**	Pn	Pn	04 07 05.2	-0.9
	0.3nm,0.3s,baz=60,slow=15,SNR=6.7						
BVAR				Sn	Sn	04 08 31.6	-2.9
	0.2nm,0.3s,baz=66,slow=25,SNR=4.1						
MK31	**Makanchi Array**	**8.63**	**183**	⇓Pn	Pn	04 07 19.3	+1.1
	0.4nm,0.5s,baz=10,slow=12,SNR=4.6						
MK31				⇑Lg	Lg	04 09 43.9	
	1.1nm,0.8s,baz=6.9,slow=11,SNR=6.9						
MKAR	**Makanchi Array**	**8.63**	**183**	Pn	Pn	04 07 17.9	-0.4
	0.2nm,0.3s,baz=7.7,slow=12,SNR=6.7						
MKAR				Lg	Lg	04 09 47.2	
	0.1nm,0.3s,baz=9.3,slow=31,SNR=5.3						

IDC ***28*** *04:06:33.7±1.9, 23°.95S×175°.91W, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.8/30, mbtmp3.9/6, Error ellipse: s-maj=90.3km s-min=26.6km az=157.0*

ISCJB ***28*** *04:06:36.7±1.8, 24°.0S±0°.6×176°.0W±0°.3, h31km, mb3.9/6, Error ellipse: s-maj=90.1km s-min=23.9km az=157.7*

ISC 28 04:06:38.4±1.9, 24°.0S±0°.6×175°.9W±0°.3, h31km, n7, σ0s95/7, mb3.8/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.71**	**260**	P	**P**	**04 14 56.8**	**-0.1**
	0.2nm,0.3s,baz=95,slow=6.6,SNR=3.0						
WRA	**Warramunga Arr**	**46.13**	**265**	P	**P**	**04 14 59.0**	**-1.2**
	0.8nm,0.9s,baz=91,slow=8.5,SNR=8.8						
PETK	**Petropavlovsk-**	**80.12**	**344**	P	**P**	**04 18 44.9**	**-0.1**
	4.0nm,0.9s,baz=77,slow=6.2,SNR=2.8						
NVAR	**Mina Array Bea**	**82.26**	**42**	P	**P**	**04 18 56.8**	**-0.2**
	0.2nm,0.3s,baz=210,slow=5.2,SNR=3.9						
TXAR	**Lajitas Array**	**87.33**	**56**	P	**P**	**04 19 22.3**	**-0.3**
	0.7nm,1.1s,baz=199,slow=7.6,SNR=2.6						
CMAR	**Chiang Mai Arr**	**93.08**	**289**	P	**P**	**04 19 50.6**	**+0.9**
	1.0nm,0.3s,baz=109,slow=1.6,SNR=4.2						
BRTR	**Keskin Array B**	**150.57**	**309**	PKPbc	**PKiKP**	**04 26 29.2**	**+1.1**
	0.9nm,0.8s,baz=52,slow=4.8,SNR=6.1						

MEX 28 04:20:56.0±0.4, 13°.96N×91°.90W, h31km±14km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.00**	**340**	*i* P	Pn	04 21 11.4	-2.6
THIG				*i* S	Sn	04 21 23.9	-3.2
PCIG		**2.15**	**324**	*e*P	Pn	04 21 27.8	-2.0
PCIG				*i* S	Sn	04 21 53.0	-2.4
CCIG	**Comitan**	**2.32**	**354**	*i* P	Pn	04 21 30.8	-1.5
CCIG				*i* S	Sn	04 21 57.1	-2.7

BJI ***28*** *04:25:35.8, 28°.35S×175°.62W, h29km, mb5.5/41, mB5.8/20, Ms5.4/43, Ms7 5.1/40*

ISCJB ***28*** *04:25:36.1±1.1, 28°.26S±0°.02×176°.72W±0°.04, h4km±6km, mb5.2/200, MS5.5/425, Error ellipse: s-maj=5.8km s-min=2.7km az=28.3*

IDC ***28*** *04:25:37.0±0.3, 27°.87S×176°.56W, h0km, mb4.8/28, mb1 4.9/28, mb1mx4.9/40, mbtmp4.8/28, MS5.1/35, Ms1 5.1/35, ms1mx5.1/40, Error ellipse: s-maj=13.4km s-min=12.4km az=68.0*

WEL ***28*** *04:25:39.0, 28°.07S×176°.67W, h15km, ML5.8/2*

NEIC ***28*** *04:25:39.6±2.5, 28°.07S×176°.67W, h15km±3km, mb5.3/178, MS5.5/421, Error ellipse: s-maj=14.5km s-min=6.2km az=127.0*

MOS ***28*** *04:25:41.3±1.1, 27°.86S×176°.72W, h33km, mb5.5/44, MS5.4/30, Error ellipse: s-maj=9.4km s-min=8.4km az=84.9*

GCMT ***28*** *04:25:42.6±0.1, 27°.97S±0°.01×176°.12W±0°.01, h13km, MW5.5/124, Moment Tensor Solution. s111,c213; s124,c313; Duration: 1§4 Moment tensor: Scale 10^17 Nm; Mrr1.80±.03; Mθθ-0.03±.02; Mϕϕ-1.77±.02; Mrθ0.49±.04; Mrϕ-0.51±.02; Mθϕ1.40±.05; Best double couple: M○2.37300×10^17 NP1:ϕs18.00000°, δ64.00000°, λ92.00000°. NP2:ϕs192.00000°, δ26.00000°, λ85.00000°. Principal axes: T 2.3220, Plg71.0000°, Azm293.0000°; N 0.1030, Plg2.0000°, Azm197.0000°; P -2.4240, Plg19.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 28 04:25:39.5±0.6, 28°.19S±0°.04×176°.48W±0°.05, h16km±3km, h16km:pP-P, n972, σ2s21/714, mb5.2/200, MS5.5/426, 42C-13D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**230**	Pn	**Pb**	**04 26 09.7**	**+0.3**
	364nm,0.3s,baz=240,slow=20,SNR=13						
RAO				Sn	**Sg**	**04 26 34.8**	**+2.3**
	1μm,0.3s,baz=270,slow=20,SNR=12						
RIZ	**Raoul Island**	**1.65**	**230**	P	**Pg**	**04 26 11.7**	**+0.5**
RIZ				S	**Sg**	**04 26 37.7**	**+5.1**
GLKZ	**Green Lake**	**1.65**	**230**	P	**Pg**	**04 26 12.2**	**+0.9**
WMGZ	**Waiomatatini S**	**10.51**	**203**	P	**Pn**	**04 28 07.0**	**-2.3**
WMGZ				S	**Sn**	**04 30 07.1**	**+0.4**
HAZ	**Te Kaha**	**10.68**	**205**	P	**Pn**	**04 28 08.1**	**-3.6**
HAZ				S	**Sn**	**04 30 11.3**	**+0.3**
PKGZ	**Pakihiroa**	**10.69**	**204**	P	**Pn**	**04 28 08.7**	**-3.3**
KUZ	**Kuaotunu**	**10.77**	**216**	P	**Pn**	**04 28 15.9**	**+2.9**
PUZ	**Puketiti**	**10.79**	**203**	P	**Pn**	**04 28 10.0**	**-3.2**
PUZ				S	**Sn**	**04 30 13.0**	**-0.8**
NIUE	**Niue**	**10.88**	**35**	*e*Pn	Pn	04 28 04.8	-10
NIUE				*e*Sn	Sn	04 29 52.1	-24
WCZ	**Waipu Caves**	**10.96**	**223**	P	**Pn**	**04 28 19.6**	**+4.0**
OUZ	**Omahuta**	**10.97**	**228**	*e*Pn	**Pn**	**04 28 15.6**	**-0.2**
OUZ	**Omahuta**	**10.97**	**228**	P	Pn	04 28 21.1	+5.4
TWGZ	**Tauwhareparae**	**10.98**	**204**	P	**Pn**	**04 28 13.6**	**-2.3**
OPRZ	**Ohinepanea**	**11.26**	**209**	P	**Pn**	**04 28 19.6**	**0.0**
TKGZ	**Te Karaka**	**11.26**	**203**	P	**Pn**	**04 28 19.8**	**+0.1**
MWZ	**Matawai**	**11.28**	**205**	P	**Pn**	**04 28 15.6**	**-4.4**
MWZ				S	**Sn**	**04 30 24.7**	**-1.1**
MKAZ	**Moumakai**	**11.33**	**216**	P	**Pn**	**04 28 21.6**	**+0.9**
URZ	**Urewera**	**11.38**	**206**	Pn	**Pn**	**04 28 17.0**	**-4.3**
	2.2nm,0.3s,baz=261,slow=4.1,SNR=11						
URZ				Sn	**Sn**	**04 30 25.2**	**-2.9**
	6.0nm,0.3s,baz=171,slow=19,SNR=13						
URZ	**Urewera**	**11.38**	**206**	P	**Pn**	**04 28 18.4**	**-2.9**
RAGZ	**Rawiri**	**11.47**	**205**	P	**Pn**	**04 28 18.6**	**-4.0**
RAGZ				S	**Sn**	**04 30 28.4**	**-2.0**
RIGZ	**Rimuhau**	**11.53**	**203**	P	**Pn**	**04 28 21.1**	**-2.4**
RIGZ				S	**Sn**	**04 30 29.9**	**-2.0**
MSVF	**Nonsavu**	**11.56**	**333**	*e*Pn	**Pn**	**04 28 23.0**	**-1.0**
MSVF	**Nonsavu**	**11.56**	**333**	*e*P	**Pn**	**04 28 23.0**	**-1.0**
MUGZ	**Murupara**	**11.70**	**207**	P	**Pn**	**04 28 22.0**	**-3.8**
SNGZ	**Shannon Statio**	**11.75**	**204**	P	**Pn**	**04 28 25.0**	**-1.4**
RAHZ	**Arahi**	**11.96**	**205**	P	**Pn**	**04 28 27.8**	**-1.5**
MTHZ	**Maungataniwha**	**12.00**	**206**	P	**Pn**	**04 28 27.4**	**-2.4**
NMHZ	**Naumai**	**12.22**	**205**	P	**Pn**	**04 28 30.8**	**-2.1**
BKZ	**Black Stump Fm**	**12.40**	**206**	*e*Pn	Pn	04 28 30.2	-5.2
BKZ	**Black Stump Fm**	**12.40**	**206**	P	**Pn**	**04 28 30.9**	**-4.5**
MCHZ	**McNeill Hill**	**12.57**	**205**	P	**Pn**	**04 28 39.7**	**+2.1**
HIZ	**Hauiti**	**12.58**	**213**	*e*Pn	**Pn**	**04 28 36.8**	**-0.9**
HIZ	**Hauiti**	**12.58**	**213**	P	**Pn**	**04 28 40.4**	**+2.7**
HIZ				P	**Pn**	**04 28 41.1**	**+3.5**
KWHZ	**Kaweka Forest**	**12.65**	**206**	P	**Pn**	**04 28 35.2**	**-3.6**
TWVZ	**Taurewa**	**12.76**	**210**	P	**Pn**	**04 28 40.8**	**+0.6**
NGZ	**Ngauruhoe**	**12.78**	**209**	P	**Pn**	**04 28 40.1**	**-0.4**
KAHZ	**Kahuranaki**	**12.81**	**204**	P	**Pn**	**04 28 37.7**	**-3.2**
BHHZ	**Black Hill Sta**	**12.85**	**207**	P	**Pn**	**04 28 39.9**	**-1.6**
FWVZ	**Far West T-bar**	**12.86**	**209**	P	**Pn**	**04 28 39.9**	**-1.9**
KRHZ	**Kereru**	**12.86**	**206**	P	**Pn**	**04 28 39.6**	**-2.1**
PNHZ	**Pukenui**	**13.16**	**205**	P	**Pn**	**04 28 43.3**	**-2.5**
PRHZ	**Porangahau**	**13.31**	**203**	P	**Pn**	**04 28 44.2**	**-3.5**
TSZ	**Takapari Road**	**13.38**	**206**	P	**Pn**	**04 28 48.1**	**-0.6**
BFZ	**Birch Farm**	**13.82**	**204**	*e*Pn	**Pn**	**04 28 49.9**	**-4.8**
BFZ				*e*Sn	**Sn**	**04 31 27.9**	**+0.2**
TIWZ	**Tintock**	**14.03**	**205**	P	**Pn**	**04 28 56.0**	**-1.6**
HOWZ	**Holdsworth Sta**	**14.28**	**205**	P	**Pn**	**04 28 56.9**	**-4.1**
HOWZ				P	**Pn**	**04 28 57.0**	**-3.9**
TMWZ	**Te Maipa**	**14.32**	**204**	P	**Pn**	**04 28 59.8**	**-1.8**
OGWZ	**Otaki Gorge**	**14.34**	**206**	P	**Pn**	**04 29 01.1**	**-0.7**
CAW	**Cannon Point**	**14.63**	**206**	P	**Pn**	**04 29 04.5**	**-1.2**
TRWZ	**Traveller**	**14.65**	**204**	P	**Pn**	**04 29 09.6**	**-2.7**
PAWZ	**Paruwai Farm**	**14.73**	**205**	P	**Pn**	**04 29 03.9**	**-3.2**
MSWZ	**Moikau Station**	**14.82**	**205**	P	**Pn**	**04 29 08.1**	**-0.3**
MSWZ				P	**Pn**	**04 29 08.3**	**-0.1**
DUWZ	**D'Urville Isla**	**14.85**	**210**	P	**Pn**	**04 29 09.1**	**+0.4**
DUWZ				P	**Pn**	**04 29 09.5**	**+0.8**
SNZO	**South Karori**	**14.94**	**207**	*e*Pn	Pn	04 29 01.5	-8.4
SNZO				*e*Sn	**Sn**	**04 31 49.2**	**-5.9**
PLWZ	**Palliser**	**14.96**	**205**	P	**Pn**	**04 29 08.2**	**-2.0**
TCW	**Tory Channel**	**15.03**	**208**	P	**Pn**	**04 29 06.7**	**-4.4**
TUWZ	**Tuamarina**	**15.35**	**208**	P	**Pn**	**04 29 15.1**	**-0.3**
NNZ	**Nelson**	**15.42**	**210**	P	**Pn**	**04 29 14.3**	**-2.0**
QRZ	**Quartz Range**	**15.50**	**213**	P	**Pn**	**04 29 17.6**	**+0.2**
PINNC	**Pines Island,**	**15.54**	**287**	*e*Pn	**P**	**04 29 22.3**	**+0.1**
	745nm,1.4s						
MARNC	**Mare, Loyalty**	**15.56**	**292**	*e*Pn	**P**	**04 29 22.5**	**0.0**
	1μm,1.5s						
BSWZ	**Blackbirch Sta**	**15.62**	**208**	P	**Pn**	**04 29 20.4**	**+1.5**
THZ	**Tophouse**	**16.07**	**210**	*e*Pn	**Pn**	**04 29 21.5**	**-3.3**
	31nm,0.5s						
THZ	**Tophouse**	**16.07**	**210**	P	**Pn**	**04 29 24.4**	**-0.4**
KHZ	**Kahutara**	**16.34**	**207**	*e*Pn	**Pn**	**04 29 24.1**	**-4.1**
	98nm,0.7s						
KHZ	**Kahutara**	**16.34**	**207**	P	**Pn**	**04 29 25.1**	**-3.0**
KHZ				P	**P**	**04 29 26.8**	**-4.2**
DZM	**Mont Dzumac**	**16.61**	**288**	*e*P	**P**	**04 29 35.8**	**+1.6**
	467nm,1.3s						
DZM				*e*LR	LR	04 33 32.2	
	comp=Z,19μm,25.8s						
DZM	**Mont Dzumac**	**16.61**	**288**	*e*Pn	**Pn**	**04 29 30.9**	**-0.9**
	354nm,1.5s						
DZM	**Mont Dzumac**	**16.61**	**288**	LR	LR	04 34 57.5	
	comp=Z,12μm,18.9s,baz=120,slow=34						
RAR	**Rarotonga**	**16.69**	**69**	*e*Pn	Pn	04 29 21.7	-11
	152nm,1.2s						
RAR	**Rarotonga**	**16.69**	**69**	Pn	Pn	04 29 22.1	-11
	3.1nm,0.3s,baz=200,slow=8.3,SNR=6.6						
RAR				LR	LR	04 35 18.5	
	comp=Z,4μm,20.0s,baz=250,slow=35						
LTZ	**Lake Taylor**	**17.17**	**209**	*e*Pn	**Pn**	**04 29 35.1**	**-3.6**
	28nm,0.8s						
LTZ	**Lake Taylor**	**17.17**	**209**	P	**Pn**	**04 29 36.4**	**-2.3**
AMCZ	**Amberley**	**17.34**	**208**	P	**Pn**	**04 29 39.2**	**-1.5**
INZ	**Inchbonnie**	**17.49**	**211**	P	**Pn**	**04 29 42.7**	**+0.1**
OKCZ	**Okains Bay**	**17.64**	**206**	P	**Pn**	**04 29 42.7**	**-1.7**
CRLZ	**Canterbury Las**	**17.68**	**207**	*e*Pn	**P**	**04 29 46.0**	**+0.2**
	70nm,1.4s						
OXZ	**Oxford**	**17.71**	**209**	*e*Pn	**Pn**	**04 29 43.0**	**-2.4**
	72nm,0.8s						
OXZ	**Oxford**	**17.71**	**209**	P	**Pn**	**04 29 44.1**	**-1.3**
MQZ	**McQueen's Vall**	**17.78**	**207**	*e*Pn	**Pn**	**04 29 42.3**	**-3.9**
	21nm,1.0s						
MQZ				*e*Sn	Sn	04 32 51.2	-13
WVZ	**Waitaha Valley**	**18.09**	**211**	P	**P**	**04 29 50.4**	**+0.1**
RPZ	**Rata Peaks**	**18.45**	**210**	*e*P	**P**	**04 29 48.6**	**-5.7**
	33nm,0.8s						
RPZ				*e*Sn	**Sn**	**04 33 11.8**	**-8.4**
RPZ	**Rata Peaks**	**18.45**	**210**	P	P	04 29 44.9	-9.4
	0.6nm,0.3s,baz=243,slow=4.5,SNR=2.6						
RPZ				S	**Sn**	**04 33 11.8**	**-8.4**
	2.2nm,0.3s,baz=315,slow=8.6,SNR=3.5						
RPZ				LR	LR	04 37 50.3	
	comp=Z,11μm,18.6s,baz=28,slow=39						
RPZ	**Rata Peaks**	**18.45**	**210**	P	**Pn**	**04 29 55.0**	**+0.5**
FOZ	**Fox Glacier**	**18.87**	**212**	*e*P	**P**	**04 29 55.5**	**-3.4**
	19nm,0.7s						
ODZ	**Otahua Downs**	**19.70**	**208**	*e*P	**P**	**04 30 04.6**	**-3.3**
	33nm,0.7s						
WKZ	**Wanaka**	**20.23**	**211**	PFAKE			
WKZ				LR	LR	04 30 30.0	+14
	comp=Z,9μm,18.0s						
MLZ	**Mavora Lakes**	**21.05**	**211**	*e*P	**P**	**04 30 20.2**	**-2.6**
	comp=Z,16nm,0.9s						
MLZ				LR	LR		
	comp=Z,9μm,18.0s						
LHI	**Lord Howe Isla**	**21.46**	**255**	PFAKE			
LHI				LR	LR	04 30 40.0	+13
	comp=Z,7μm,18.0s						
WHZ	**Wether Hill Ro**	**21.53**	**211**	*e*P	**P**	**04 30 24.4**	**-3.4**
	comp=Z,16nm,0.7s						
WHZ				LR	LR		
	comp=Z,7μm,20.0s						
DCZ	**Deep Cove**	**21.58**	**213**	PFAKE			
DCZ				LR	LR	04 30 40.0	+12
	comp=Z,11μm,18.0s						
PYZ	**Puysegur Point**	**22.32**	**212**	PFAKE			
PYZ				LR	LR	04 30 50.0	+14
	comp=Z,8μm,18.0s						
TBI	**Tubuai**	**24.78**	**85**	*e*S	S	04 35 09.6	-13
	comp=Z,898nm,25.3s						
TBI				*e*LQ	LQ	04 35 37.9	
	comp=Z,5μm,28.2s						
TBI				*e*LR	LR	04 36 51.5	
	comp=Z,6μm,31.5s,baz=252						
TBI	**Tubuai**	**24.78**	**85**	*e*T	T	04 55 59.3	
	comp=Z,13nm,0.3s						
KNTN	**Kanton**	**25.68**	**11**	*e*P	**P**	**04 31 10.2**	**+1.4**
	comp=Z,139nm,0.9s						
PAE	**Paea**	**26.84**	**73**	*e*P	**P**	**04 31 13.4**	**-5.9**
	comp=Z,11nm,1.1s						
PAE	**Paea**	**26.84**	**73**	*e*T	T	04 58 35.0	
	comp=Z,18nm,0.3s						
PPT2	**Papeete2**	**26.88**	**73**	*e*P	**P**	**04 31 14.3**	**-5.5**
	comp=Z,97nm,1.6s						
PPT2				*e*S	S	04 35 44.8	-11
	comp=Z,614nm,23.0s						
PPT2				*e*LQ	LQ	04 36 26.4	
	comp=Z,7μm,24.0s						
PPT2				*e*LR	LR	04 37 47.0	
	comp=Z,7μm,31.0s,baz=236						
PPT2	**Papeete2**	**26.88**	**73**	*e*T	T	04 58 38.5	
	comp=Z,10nm,0.3s						
PPT	**Papeete**	**26.89**	**73**	LR	LR	04 41 22.0	
	comp=Z,4μm,18.5s,baz=246,slow=35						
TVO	**Taravao**	**27.07**	**73**	*e*P	**P**	**04 31 16.1**	**-5.3**
	comp=Z,35nm,1.4s						
TVO	**Taravao**	**27.07**	**73**	*e*T	T	04 58 51.6	
	comp=Z,2.0nm,0.3s						
TIAR	**Tiarei**	**27.09**	**73**	*e*P	**P**	**04 31 16.3**	**-5.3**
	comp=Z,51nm,1.4s						
TIAR	**Tiarei**	**27.09**	**73**	*e*T	T	04 58 53.7	
	comp=Z,2.3nm,0.3s						
ARMA	**Armidale**	**27.85**	**258**	*e*P	**P**	**04 31 31.3**	**+2.9**
	comp=Z,17nm,0.9s						
ARMA				LR	LR		
	comp=Z,11μm,18.0s						
HNR	**Honiara**	**28.99**	**305**	PFAKE			
HNR				LR	LR	04 31 50.0	+11
	comp=Z,6μm,19.0s						
HNR	**Honiara**	**28.99**	**305**	LR	LR	04 42 12.8	
	comp=Z,6μm,18.6s,baz=148,slow=35						
EIDS	**Eidsvold**	**29.05**	**268**	*e*P	**P**	**04 31 40.1**	**+1.1**
	comp=Z,37nm,0.9s						
EIDS				LR	LR		
	comp=Z,5μm,19.0s						
VAH	**Vaihoa**	**29.66**	**70**	*e*P	P	04 31 39.4	-5.1
	comp=Z,85nm,1.4s						
VAH	**Vaihoa**	**29.66**	**70**	*e*T	T	05 02 06.1	
	comp=Z,27nm,0.2s						
CAN	**Canberra**	**30.09**	**248**	*e*P	**P**	**04 31 49.8**	**+1.5**
	comp=Z,28nm,0.9s						
CAN				LR	LR		
	comp=Z,6μm,18.0s						
CAN	**Canberra**	**30.09**	**248**	*e*P	**P**	**04 31 49.8**	**+1.5**
CAN				pmax	pmax		
	comp=Z,28nm,0.9s						
CAN				MLR	MLR		
	comp=Z,6μm,18.0s						
TARA	**Tarawa**	**31.09**	**339**	PFAKE		04 32 10.0	+13
TARA				LR	LR		
	comp=Z,7μm,19.0s						
TAU	**Tasmania Unive**	**32.63**	**234**	*e*P	**P**	**04 32 08.5**	**-2.0**
	comp=Z,103nm,1.4s						
TAU	**Tasmania Unive**	**32.63**	**234**	*e*P	**P**	**04 32 08.5**	**-2.0**
TAU				pmax	pmax		
	comp=Z,103nm,1.4s						
TOO	**Toolangi**	**33.09**	**244**	*e*P	**P**	**04 32 13.8**	**-0.8**
	comp=Z,21nm,0.8s						
TOO				LR	LR		
	comp=Z,3μm,20.0s						
TOO	**Toolangi**	**33.09**	**244**	*e*P	**P**	**04 32 13.8**	**-0.8**
TOO				pmax	pmax		
	comp=Z,21nm,0.8s						
TOO				MLR	MLR		
	comp=Z,3μm,20.0s						
CTA	**Charters Tower**	**34.84**	**275**	P	**P**	**04 32 29.4**	**-0.6**
	comp=Z,10nm,0.7s,baz=103,slow=10,SNR=10						
CTAO	**Charters Tower**	**34.84**	**275**	*e*P	**P**	**04 32 29.9**	**-0.1**
	comp=Z,27nm,0.8s						
CTAO				LR	LR		
	comp=Z,10μm,19.0s						
CTAO	**Charters Tower**	**34.84**	**275**	*e*P	**P**	**04 32 29.9**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,27nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,10μm,19.0s						
XMAS	**Kiritimati**	**35.19**	**34**	PFAKE		04 32 50.0	+17
XMAS				LR	LR		
	comp=Z,6μm,18.0s						
STKA	**Stephens Creek**	**36.32**	**254**	*e*P	**P**	**04 32 43.4**	**+0.9**
	comp=Z,5.1nm,0.9s						
STKA	**Stephens Creek**	**36.32**	**254**	P	**P**	**04 32 42.9**	**+0.3**
	comp=Z,9.0nm,0.7s,baz=104,slow=11,SNR=7.7						
STKA				LR	LR	04 46 48.9	
	comp=Z,5μm,18.0s,baz=89,slow=35						
RKT	**Rikitea**	**37.62**	**92**	*e*LR	LR	04 42 47.1	
	comp=Z,4μm,30.0s						
RABL	**Rabaul**	**38.20**	**303**	PFAKE		04 33 10.0	+11
RABL				LR	LR		
	comp=Z,4μm,20.0s						
PMG	**Port Moresby**	**38.95**	**291**	*e*P	**P**	**04 33 05.9**	**+1.0**
	comp=Z,58nm,1.0s						
PMG				LR	LR		
	comp=Z,4μm,20.0s						
PMG	**Port Moresby**	**38.95**	**291**	*i* P	**P**	**04 33 03.9**	**-1.0**
PMG				pmax	pmax		
	comp=Z,143nm,1.0s						
PMG	**Port Moresby**	**38.95**	**291**	P	**P**	**04 33 04.0**	**-0.9**
	comp=Z,24nm,0.8s,baz=276,slow=18,SNR=11						
TAOE	**Nuku Hiva Isla**	**39.23**	**68**	*e*S	S	04 38 58.4	-9.1
	comp=Z,793nm,24.4s						
TAOE				*e*LR	LR	04 43 29.9	
	comp=Z,3μm,28.1s						
TAOE	**Nuku Hiva Isla**	**39.23**	**68**	PFAKE		04 33 20.0	+13
TAOE				LR	LR		
	comp=Z,3μm,19.0s						
KWAJ	**Kwajalein Atol**	**39.86**	**335**	PFAKE		04 33 20.0	+7.5
KWAJ				LR	LR		
	comp=Z,2μm,18.0s						
COEN	**Coen**	**40.02**	**282**	*e*P	**P**	**04 33 13.8**	**-0.1**
	comp=Z,33nm,0.8s						
COEN				LR	LR		
	comp=Z,7μm,19.0s						
BBOO	**Buckleboo**	**40.89**	**251**	PFAKE		04 33 30.0	+9.1
BBOO				LR	LR		
	comp=Z,5μm,18.0s						
PTCN	**Pitcairn Islan**	**41.39**	**97**	PFAKE		04 33 40.0	+15
PTCN				LR	LR		
	comp=Z,6μm,18.0s						
MANU	**Manus Island**	**43.20**	**301**	*e*P	**P**	**04 33 39.7**	**-0.3**
	comp=Z,118nm,1.4s						
MANU				LR	LR		
	comp=Z,2μm,22.0s						
AS31	**Alice Springs**	**44.60**	**264**	*e*P	**P**	**04 33 50.7**	**-0.5**
	comp=Z,11nm,1.0s						
ASAR	**Alice Springs**	**44.60**	**264**	P	**P**	**04 33 50.7**	**-0.5**
	comp=Z,13nm,0.8s,baz=107,slow=7.8,SNR=71						
ASAR				S	**S**	**04 40 23.9**	**-2.9**
	comp=Z,0.5nm,0.6s,baz=120,slow=15,SNR=2.2						
ASAR				LR	LR	04 52 08.8	
	comp=Z,5μm,18.3s,baz=104,slow=36						
WRAB	**Tennant Creek**	**45.39**	**269**	PFAKE		04 34 10.0	+12
WRAB				LR	LR		
	comp=Z,2μm,18.0s						
WRAB	**Tennant Creek**	**45.39**	**269**	*ce*P	**P**	**04 33 56.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,85nm,2.5s						
WR1	**Warramunga Arr**	**45.40**	**269**	*e*P	**P**	**04 33 56.2**	**-1.4**
	comp=Z,129nm,1.4s						
WRA	**Warramunga Arr**	**45.40**	**269**	P	**P**	**04 33 56.2**	**-1.4**
	comp=Z,5.6nm,0.4s,baz=107,slow=6.2,SNR=105						
WRA				S	**S**	**04 40 40.2**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=108,slow=13,SNR=3.0						
WRA				LR	LR	04 52 09.5	
	comp=Z,2μm,18.1s,baz=120,slow=35						
FORT	**Forrest**	**47.93**

NWAO Narrogin (SRO) 56.44 248 LR LR 04 58 07.7
comp=Z,2µm,18.9s,baz=90,slow=34
SIJI Sorong 56.81 289 LR LR 04 59 11.7
comp=Z,2µm,18.8s,baz=117,slow=36
PSAD2 Pilbara Seismi 57.46 261 PFAKE 04 35 40.0 +12
PSAD2 LR LR
comp=Z,8µm,19.0s
PSAC2 Pilbara Seismi 57.53 261 PFAKE 04 35 40.0 +12
PSAC2 LR LR
comp=Z,7µm,20.0s
PSAB3 Pilbara Seismi 57.56 261 PFAKE 04 35 40.0 +11
PSAB3 LR LR
comp=Z,8µm,20.0s
PSAA3 Pilbara Seismi 57.57 261 PFAKE 04 35 40.0 +11
PSAA3 LR LR
comp=Z,8µm,20.0s
PSAB2 Pilbara Seismi 57.57 261 PFAKE 04 35 40.0 +11
PSAB2 LR LR
comp=Z,7µm,19.0s
PSAC3 Pilbara Seismi 57.58 261 PFAKE 04 35 40.0 +11
PSAC3 LR LR
comp=Z,7µm,20.0s
PSA00 Pilbara Seismi 57.58 261 PFAKE 04 35 40.0 +11
PSA00 LR LR
comp=Z,7µm,20.0s
PSAA2 Pilbara Seismi 57.58 261 PFAKE 04 35 40.0 +11
PSAA2 LR LR
comp=Z,7µm,19.0s
PSAA1 Pilbara Seismi 57.58 261 PFAKE 04 35 40.0 +11
PSAA1 LR LR
comp=Z,7µm,20.0s
PSAB1 Pilbara Seismi 57.60 261 PFAKE 04 35 40.0 +11
PSAB1 LR LR
comp=Z,7µm,19.0s
PSAD3 Pilbara Seismi 57.61 261 PFAKE 04 35 40.0 +11
PSAD3 LR LR
comp=Z,7µm,19.0s
PSAC1 Pilbara Seismi 57.62 261 PFAKE 04 35 40.0 +11
PSAC1 LR LR
comp=Z,7µm,20.0s
PSAD1 Pilbara Seismi 57.63 261 PFAKE 04 35 40.0 +11
PSAD1 LR LR
comp=Z,7µm,20.0s
CASY Casey 57.70 207 *e*P **P 04 35 30.5 +1.6**
comp=Z,67nm,0.9s
SOEI Soe 58.40 276 PFAKE 04 35 50.0 +15
SOEI LR LR
comp=Z,4µm,18.0s
SOEI Soe 58.40 276 P **P 04 35 35.1 +0.4**
MORW Morawa 58.46 252 PFAKE 04 35 50.0 +15
MORW LR LR
comp=Z,2µm,19.0s
RPN Rapa Nui 58.76 106 LR LR 04 56 49.2
comp=Z,2µm,18.1s,baz=261,slow=32
SANI Sanana 60.64 285 P **P 04 35 48.4 -1.7**
MMRI Maumere 60.69 276 PFAKE 04 36 00.0 +10
MMRI LR LR
comp=Z,3µm,18.0s
EDFI Ende, Flores 61.12 276 P **P 04 35 51.5 -2.0**
QSPA South Pole Qui 61.91 180 *e*P **P 04 36 00.3 +2.2**
comp=Z,27nm,0.9s
QSPA LR LR
comp=Z,3µm,19.0s
QSPA South Pole Qui 61.91 180 LR LR 04 58 19.1
comp=Z,2µm,21.1s,baz=40,slow=32
GIRL Giralia 62.07 258 PFAKE 04 36 10.0 +10
GIRL LR LR
comp=Z,6µm,18.0s
BKSI Bulukumba 64.09 278 P **P 04 36 11.6 -1.6**
PLAI Plampang 64.53 274 P **P 04 36 13.0 -3.0**
BNSI Bone 64.55 279 P **P 04 36 15.0 -1.2**
KAPI Kappang 64.56 278 *e*P **P 04 36 15.7 -0.6**
comp=Z,27nm,1.2s
KAPI LR LR
comp=Z,1µm,19.0s
KAPI Kappang 64.56 278 *e*P **P 04 36 15.7 -0.6**
KAPI pmax pmax
comp=Z,27nm,1.2s
KAPI MLR MLR
comp=Z,1µm,19.0s
APSI Ampana 64.94 283 P **P 04 36 18.9 +0.2**
APSI pP **pP 04 36 21.8 -0.9**
MRSI Marisa 65.41 285 P **P 04 36 20.2 -1.5**
DAV Davao City (W) 65.95 293 LR LR 05 04 12.8
comp=Z,904nm,19.6s,baz=139,slow=35
MPSI Mapaga 67.08 283 P **P 04 36 30.6 -1.9**
SRBI Singaraja 67.12 273 P **P 04 36 32.0 -0.8**
JAGI Jajag, Banyuwa 67.89 272 *e*P **P 04 36 36.2 -1.4**
comp=Z,85nm,1.2s
JAGI LR LR
comp=Z,2µm,21.0s
GMJI Gumukmas 68.60 272 P **P 04 36 41.7 -0.3**
KMMI Kalianget 68.69 273 P **P 04 36 43.5 +0.9**
GRJI Gresik 70.07 273 P **P 04 36 51.7 +0.6**
PWJI Pagerwojo 70.16 271 P **P 04 36 51.7 0.0**
PWJI pP **pP 04 36 54.6 -1.2**
NGJI Ngawi 70.76 272 P **P 04 36 55.9 +0.5**
CMJI Cimerak 73.23 270 P **P 04 37 10.8 +0.6**
JHJ Hachijo jima 2 73.76 323 P **P 04 37 10.8 -2.0**
comp=Z,173nm,0.7s,baz=69,slow=7.0,SNR=3.9
CISI Cisompet, Garu 73.89 270 *e*P **P 04 37 13.1 -1.1**
comp=Z,98nm,0.8s
CISI LR LR
comp=Z,2µm,19.0s
CISI Cisompet, Garu 73.89 270 P **P 04 37 12.7 -1.5**
SBUM Sibu 74.76 281 *e*P **P 04 37 18.9 -0.3**
comp=Z,23nm,1.1s
SBUM LR LR
comp=Z,500nm,19.0s
SBUM Sibu 74.76 281 P **P 04 37 19.3 +0.1**
MAW Mawson 74.83 200 *e*P **P 04 37 22.6 +3.9**
comp=Z,12nm,1.1s
MAW Mawson 74.83 200 P **P 04 37 21.7 +3.1**
comp=Z,7.1nm,0.7s,baz=120,slow=6.8,SNR=10
MAW LR LR 05 10 38.8
comp=Z,3µm,18.3s,baz=116,slow=36
SKJI Sukabumi 75.25 270 P **P 04 37 21.1 -0.9**
KSM Kuching 75.94 279 *e*P **P 04 37 25.4 -0.6**
comp=Z,64nm,1.0s
KSM LR LR
comp=Z,1µm,20.0s
KSM Kuching 75.94 279 P **P 04 37 25.5 -0.5**
JOW Kunigami 76.19 311 *e*P **P 04 37 25.2 -1.9**
comp=Z,41nm,1.2s
JOW Kunigami 76.19 311 P **P 04 37 25.2 -1.9**
comp=Z,2.7nm,0.8s,baz=159,slow=12,SNR=4.7
INU Inuyama 76.94 323 *e*P **P 04 37 30.7 -0.4**
comp=Z,60nm,1.1s
INU LR LR
comp=Z,800nm,21.0s
USHA Ushuaia 76.99 146 P **P 04 37 33.8 +2.6**
comp=Z,14nm,1.0s,baz=14,slow=19,SNR=3.0
MJAR Matsushiro Arr 77.22 324 P **P 04 37 31.4 -1.2**
comp=Z,21nm,0.9s,baz=166,slow=5.7,SNR=25
MJAR LR LR 05 07 09.5
comp=Z,430nm,21.1s,baz=135,slow=32
MAJO Matsushiro 77.22 324 *e*P **P 04 37 31.9 -0.7**
comp=Z,55nm,1.0s
MAJO LR LR
comp=Z,600nm,21.0s
MAJO Matsushiro 77.22 324 *i* P **P 04 37 29.4 -3.2**
MAJO pmax pmax
comp=Z,24nm,0.9s
MAT Matsushiro 77.22 324 P **P 04 37 31.3 -1.3**
MAT S **S 04 47 25.4 +3.8**
MJB9 Matsu-Tunnel 77.22 324 PFAKE 04 37 40.0 +7.3
MJB9 LR LR
comp=Z,700nm,22.0s
PPBI Pangkal Pinang 77.86 274 P **P 04 37 36.3 -0.5**
comp=Z,37nm,1.1s,comp=Z,22µm
LWLI Liwa 78.36 271 P **P 04 37 38.5 -1.2**
LWLI pP **pP 04 37 42.1 -1.7**
JNU Nakatsue 78.82 317 *e*P **P 04 37 40.7 -1.0**
comp=Z,145nm,1.4s
JNU Nakatsue 78.82 317 P **P 04 37 40.1 -1.5**
comp=Z,39nm,1.1s,baz=71,slow=4.5,SNR=8.4
JNU LR LR 05 08 00.4
comp=Z,451nm,21.8s,baz=114,slow=32
NACB Ninganchiao 79.16 305 PFAKE 04 37 50.0 +6.3
NACB LR LR
comp=Z,600nm,20.0s
ERM Erimo 79.18 331 PFAKE 04 37 50.0 +6.7
ERM LR LR
comp=Z,2µm,20.0s
TPUB Ta-pu 79.34 304 PFAKE 04 38 00.0 +15
TPUB LR LR
comp=Z,400nm,22.0s
LHSI Lahat 79.39 271 P P 04 37 52.8 +7.6
SSLB Suanglung 79.39 304 PFAKE 04 38 00.0 +15
SSLB LR LR
comp=Z,600nm,20.0s
SYO Syowa Base 79.55 192⇑ *i*P P 04 37 36.2 -8.9
SYO Syowa Base 79.55 192⇑ *i*PcP **P 04 37 45.0 -0.1**
YHNB Yeheng 79.62 305 PFAKE 04 38 00.0 +14
YHNB LR LR
comp=Z,1µm,20.0s
TATO Taipei 79.73 305 PFAKE 04 38 00.0 +13
TATO LR LR
comp=Z,1µm,19.0s
KUR Kuril'sk 79.97 335 P **P 04 37 49.8 +2.3**
KUR S S 04 48 03.8 +13
KUR MLR MLR
comp=Z,934nm,18.0s
KUR MLR MLR
comp=N,923nm,16.0s
SNAA Sanae 80.31 178 Pdiff **P 04 37 49.9 +0.6**
SNAA Sanae 80.31 178 *e*P **P 04 37 49.9 +0.6**
comp=N,22nm,1.0s
SNAA LR LR
comp=Z,2µm,18.0s
SNAA Sanae 80.31 178 P **P 04 37 50.1 +0.8**
comp=Z,7.9nm,1.0s,baz=167,slow=18,SNR=2.5
VNA3 Neumayer Olymp 80.40 176 Pdiff **P 04 37 50.3 +0.6**
VNA2 Neumayer--Watz 80.86 176 Pdiff **P 04 37 53.0 +0.8**
baz=186,slow=3.1
VNA1 Neumayer--Stat 81.08 176 Pdiff **P 04 37 53.9 +0.6**
ASAJ Asahikawa 81.12 331 P **P 04 37 52.6 -1.2**
comp=Z,16nm,0.8s,baz=209,slow=8.2,SNR=7.5
COCO West Island 81.46 261 PFAKE 04 38 10.0 +14
COCO LR LR
comp=Z,2µm,20.0s
SNCC San Nicolas Is 81.56 45 PFAKE 04 38 10.0 +14
SNCC LR LR
comp=Z,3µm,20.0s
MYKOM Kota Tinggi 81.74 276 *e*P **P 04 37 57.6 -0.3**
comp=Z,52nm,1.0s
MYKOM LR LR
comp=Z,1µm,18.0s
MYKOM Kota Tinggi 81.74 276 P **P 04 37 58.0 +0.1**
QZH Quanzhou 81.81 304⇑ *i*P **P 04 37 57.8 -0.1**
QZH S **S 04 48 14.8 +4.1**
QZH pmax pmax
comp=Z,480nm,6.7s
QZH LR LR
comp=Z,460nm,17.5s
QZH LR LR
comp=Z,400nm,16.6s
QZH LR LR
comp=Z,590nm,18.0s
KRJI Kerinci 82.01 272 P **P 04 37 58.4 -1.0**
KGM Kluang 82.31 276 P **P 04 38 00.8 -0.1**
SRIG Santa Rosalia 82.72 54 PFAKE 04 38 10.0 +7.4
SRIG LR LR
comp=Z,1µm,18.0s
SAO San Andreas Ge 82.75 42 PFAKE 04 38 10.0 +7.4
SAO LR LR
comp=Z,4µm,18.0s
PAGB Antelope Grade 82.77 43 *e*P **P 04 38 04.5 +1.8**
comp=Z,50nm,1.5s
PAGB LR LR
comp=Z,3µm,18.0s
CPE Camp Elliot 82.86 47 PFAKE 04 38 10.0 +6.8
CPE LR LR
comp=Z,2µm,20.0s
MCCM Marconi Confer 82.88 40 PFAKE 04 38 10.0 +6.8
MCCM LR LR
comp=Z,3µm,18.0s
OSI Osito Audit: C 82.96 45 PFAKE 04 38 20.0 +16
OSI LR LR
comp=Z,3µm,18.0s
PPSI Pulau Pagai 82.98 271 P **P 04 38 04.6 +0.3**
PASC Pasadena Art C 83.00 45 PFAKE 04 38 20.0 +16
PASC LR LR
comp=Z,3µm,18.0s
BAR Barrett 83.00 47 PFAKE 04 38 20.0 +16
BAR LR LR
comp=Z,1µm,19.0s
PLCA Paso Flores 83.03 133 *e*P **P 04 38 06.1 +1.8**
comp=Z,34nm,1.1s
PLCA Paso Flores 83.03 133 *e*P **P 04 38 06.1 +1.8**
PLCA pmax pmax
comp=Z,34nm,1.1s
PLCA Paso Flores 83.03 133 P **P 04 38 06.1 +1.8**
comp=Z,11nm,0.9s,baz=210,slow=7.5,SNR=4.4
PLCA LR LR 05 09 06.6
comp=Z,843nm,18.1s,baz=266,slow=31
TJN Taejon 83.15 318 *ce*P **P 04 38 01.7 -2.9**
MURC Murrieta 83.26 46 P **P 04 38 06.7 +1.4**
baz=230
MONP2 Monument Peak 83.30 47 P **P 04 38 06.8 +1.0**
baz=230
YSS Yuzh-Sakhalins 83.36 333 *e*P **P 04 38 05.8 +0.4**
comp=Z,93nm,1.0s
YSS Yuzh-Sakhalins 83.36 333 *e*P **P 04 38 05.8 +0.4**
YSS pmax pmax
comp=Z,93nm,1.0s
HOPS Hopland Field 83.37 39 PFAKE 04 38 20.0 +14
HOPS LR LR
comp=Z,4µm,18.0s
BFSC Mount Baldy Ra 83.38 46 P **P 04 38 08.1 +2.0**
baz=230
GDXM Geysers 83.39 39 PFAKE 04 38 20.0 +14
GDXM LR LR
comp=Z,3µm,18.0s
PDSI Padang 83.45 272 P **P 04 38 05.2 -1.6**
BKNI Bangkinang 83.52 274 PFAKE 04 38 20.0 +13
BKNI LR LR
comp=Z,2µm,19.0s
VES Vestal, Richgr 83.54 44 P **P 04 38 09.0 +2.4**
baz=228
KSRS Korea Array 83.55 319 P **P 04 38 06.7 +0.1**
comp=Z,11nm,0.9s,baz=142,slow=5.8,SNR=26
KSRS LR LR 05 09 15.9
comp=Z,370nm,21.6s,baz=130,slow=31
KS15 Wonju Array Si 83.57 319 *e*P **P 04 38 06.7 0.0**
EDW2 Edwards Air Fo 83.58 45 P **P 04 38 06.8 -0.2**
baz=229
SSE Sheshan 83.68 310 PFAKE 04 38 20.0 +13
SSE LR LR
comp=Z,1µm,19.0s
PFO Pinyon Flats O 83.74 47 PFAKE 04 38 20.0 +12
PFO LR LR
comp=Z,3µm,20.0s
XPFO Pion Flat 83.74 47 PFAKE 04 38 20.0 +12
XPFO LR LR
comp=Z,3µm,20.0s
ISA Isabella, Lake 83.80 44 *e*P **P 04 38 08.8 +0.7**
comp=Z,38nm,1.4s
ISA LR LR
comp=Z,2µm,18.0s
ISA Isabella, Lake 83.80 44 *e*P **P 04 38 08.8 +0.7**
ISA pmax pmax
comp=Z,38nm,1.4s
ISA MLR MLR
comp=Z,2µm,18.0s
ISA Isabella, Lake 83.80 44 P **P 04 38 08.7 +0.6**
baz=229
KMRM Mail Ridge 83.88 38 PFAKE 04 38 20.0 +12
KMRM LR LR
comp=Z,3µm,18.0s
PETK Petropavlovsk- 84.03 345 P **P 04 38 08.0 -0.7**
PETK Petropavlovsk- 84.03 345 P **P 04 38 08.0 -0.7**
comp=Z,5.0nm,0.7s,baz=116,slow=6.8,SNR=5.7
PETK LR LR 05 11 31.4
comp=Z,674nm,20.2s,baz=155,slow=33
PEA1 Petropavlovsk- 84.03 345 *e*P **P 04 38 08.0 -0.8**
KTGM Kuala Trenggan 84.06 279 P **P 04 38 10.6 +0.7**
CMB Columbia Colle 84.24 41 PFAKE 04 38 20.0 +10
CMB LR LR
comp=Z,3µm,18.0s
KHMM Horse Mountain 84.33 37 PFAKE 04 38 20.0 +9.2
KHMM LR LR
comp=Z,2µm,18.0s
O02D Mt. Diablo Mer 84.35 38 P **P 04 38 11.7 +0.9**
baz=226
GLA Glamis 84.44 48 PFAKE 04 38 20.0 +8.6
GLA LR LR
comp=Z,2µm,18.0s
AFDM Forest Hills D 84.52 40 *e*P **P 04 38 11.3 -0.3**
comp=Z,23nm,1.2s
CWC Cottonwood Cre 84.55 44 P **P 04 38 12.1 +0.1**
baz=229
GSC Goldstone, Bar 84.60 45 *e*P **P 04 38 12.0 -0.2**
comp=Z,32nm,1.3s
GSC LR LR
comp=Z,3µm,19.0s
GSC Goldstone, Bar 84.60 45 P **P 04 38 12.2 0.0**
baz=230
ORV Oroville 84.64 39 *e*P **P 04 38 11.8 -0.3**
comp=Z,15nm,1.1s
ORV LR LR
comp=Z,2µm,18.0s
ORV Oroville 84.64 39 *e*P **P 04 38 11.8 -0.3**
ORV pmax pmax
comp=Z,15nm,1.1s
ORV MLR MLR
comp=Z,2µm,18.0s
HSIG 84.64 53 PFAKE 04 38 20.0 +7.6
HSIG LR LR
comp=Z,1µm,20.0s
MPMC Manual Prospec 84.66 44 P **P 04 38 12.6 0.0**
baz=230
GZH Guangzhou 84.70 300 P **P 04 38 13.5 +0.7**
GZH S **S 04 48 48.0 +8.0**
GZH LR LR
comp=Z,390nm,19.9s
GZH LR LR
comp=Z,590nm,19.2s
MDPB Devils Postpil 84.73 42 *e*P **P 04 38 14.7 +1.6**
comp=Z,8.8nm,0.9s
MDPB LR LR
comp=Z,3µm,18.0s
DAC Darwin (Calif) 84.74 44 PFAKE 04 38 20.0 +7.0
DAC LR LR
comp=Z,3µm,19.0s
OMMB Old Mammoth Mi 84.77 42 *e*P **P 04 38 13.8 +0.6**
comp=Z,9.5nm,1.1s
OMMB LR LR
comp=Z,4µm,18.0s
WDC Whiskeytown Da 84.77 38 *e*P **P 04 38 12.6 -0.2**
comp=Z,23nm,1.0s
WDC LR LR
comp=Z,2µm,18.0s
WDC Whiskeytown Da 84.77 38 *e*P **P 04 38 12.6 -0.2**
WDC pmax pmax
comp=Z,23nm,1.0s
WDC MLR MLR
comp=Z,2µm,18.0s
IRM Iron Mountain 84.93 47 P **P 04 38 14.3 +0.4**
baz=231
N02D Trinity Center 84.95 38 P **P 04 38 14.4 +0.6**
baz=226
O03E Paynes Creek 84.98 39 P **P 04 38 13.8 -0.2**
baz=226
GMRC Granite Mounta 84.99 46 P **P 04 38 14.5 +0.3**
baz=231
MNSI Mandailing Nat 85.03 274 P **P 04 38 12.9 -1.9**
RUBR Rubicon Trail 85.06 41 PFAKE 04 38 30.0 +15
RUBR LR LR
comp=Z,3µm,18.0s
Y12C Blythe 85.08 48 *e*P **P 04 38 17.5 +3.0**
comp=Z,11nm,0.9s
Y12C LR LR
comp=Z,1µm,19.0s
WAKR Walker 85.10 41 PFAKE 04 38 30.0 +15
WAKR LR LR
comp=Z,3µm,18.0s
M02C Callahan 85.17 37 P **P 04 38 15.9 +1.0**
baz=226
QIZ Qiongzhong 85.28 294 P **P 04 38 14.3 -1.5**
QIZ S **S 04 48 48.0 +2.1**
QIZ LR LR
comp=Z,180nm,10.1s
QIZ LR LR
comp=Z,390nm,27.8s
FURC Furnace Creek, 85.31 44 P **P 04 38 17.8 +2.3**
baz=230
GRAC Grapevine Rang 85.34 44 P **P 04 38 16.6 +0.7**
baz=230
PNTR Pine Nut 85.40 41 *e*P **P 04 38 16.3 0.0**
comp=Z,32nm,1.1s
PNTR LR LR
comp=Z,3µm,18.0s
YBH Yreka Blue Hor 85.48 37 *e*P **P 04 38 19.6 +3.2**
comp=Z,19nm,1.0s
YBH LR LR
comp=Z,1µm,19.0s
YBH Yreka Blue Hor 85.48 37 LR LR 05 08 48.2
comp=Z,1µm,21.5s,baz=250,slow=30
BEKR Beckworth 85.49 40 *e*P **P 04 38 16.3 -0.4**
comp=Z,18nm,1.2s
BEKR LR LR
comp=Z,2µm,18.0s
IPM Ipoh 85.50 277 *e*P **P 04 38 16.7 -0.4**
comp=Z,27nm,1.1s
IPM LR LR
comp=Z,900nm,18.0s
IPM Ipoh 85.50 277 P **P 04 38 17.2 +0.1**
VCNR Virginia City 85.51 41 *e*P **P 04 38 19.9 +3.1**
comp=Z,17nm,1.0s
VCNR LR LR
comp=Z,3µm,18.0s
LDFC Landfair 85.53 46 *e*P **P 04 38 17.7 +0.8**
comp=Z,48nm,1.1s
LDFC LR LR
comp=Z,2µm,18.0s
YERR Yerington 85.54 41 PFAKE 04 38 30.0 +13
YERR LR LR
comp=Z,3µm,18.0s
PDMCI Parker Dam,Lak 85.67 47 P **P 04 38 18.2 +0.7**
baz=232
NV01 Mina Array Sit 85.72 42 *e*P **P 04 38 17.3 -0.6**
NVAR Mina Array Bea 85.72 42 P **P 04 38 17.3 -0.6**
comp=Z,3.8nm,0.9s,baz=224,slow=8.1,SNR=15
NVAR LR LR 05 13 12.4
comp=Z,3µm,18.0s,baz=232,slow=33
RYN Ryan 85.72 42 *e*P **P 04 38 18.3 +0.4**
comp=Z,27nm,1.4s
RYN LR LR
comp=Z,2µm,19.0s
NJ2 Nanjing 85.84 310 *e*P **P 04 38 16.0 -2.3**
NJ2 pmax pmax
comp=Z,15nm,0.5s
PAHR Pah Rah Range 85.94 40 *e*P **P 04 38 18.4 -0.5**
comp=Z,18nm,1.1s
PAHR LR LR
comp=Z,3µm,18.0s
HUMO Hull Mountain 85.96 37 PFAKE 04 38 30.0 +11
HUMO LR LR
comp=Z,1µm,21.0s
TPNV Topopah Spring 86.00 44 *e*P **P 04 38 18.9 -0.4**
comp=Z,19nm,1.0s
TPNV LR LR
comp=Z,3µm,18.0s
TPNV Topopah Spring 86.00 44 *e*P **P 04 38 18.9 -0.4**
TPNV pmax pmax
comp=Z,19nm,1.0s
TPNV MLR MLR
comp=Z,3µm,18.0s
TPNV Topopah Spring 86.00 44 P **P 04 38 19.5 +0.2**
baz=230
USRK Ussuriysk Ar. 86.08 326 P **P 04 38 18.7 -0.5**
comp=Z,9.9nm,0.8s,baz=151,slow=4.4,SNR=12
USRK LR LR 05 13 10.7
comp=Z,600nm,20.4s,baz=126,slow=33
KULM Kulim 86.21 278 PFAKE 04 38 30.0 +9.4
KULM LR LR
comp=Z,900nm,20.0s
KULM Kulim 86.21 278 P **P 04 38 21.3 +0.7**
KVN Kaiserville 86.25 42 *e*P **P 04 38 20.4 -0.1**
comp=Z,20nm,0.9s
KVN Kaiserville 86.25 42 *e*P **P 04 38 20.4 -0.1**
KVN pmax pmax
comp=Z,20nm,0.9s
W13A Hualapai Mount 86.33 47 *e*P **P 04 38 21.7 +0.7**
comp=Z,13nm,1.1s
W13A LR LR
comp=Z,2µm,19.0s
PAYG Puerto Ayora 86.33 89 PFAKE 04 38 30.0 +8.7
PAYG LR LR
comp=Z,2µm,18.0s
SHPR Sheep Range 86.39 45 *e*P **P 04 38 22.1 +0.9**
comp=Z,19nm,1.2s
SHPR LR LR
comp=Z,2µm,18.0s
PSI Prapat 86.55 275 *e*P **P 04 38 21.2 -1.3**
comp=Z,40nm,1.0s
PSI LR LR
comp=Z,2µm,18.0s

PSI Prapat 86.55 275 eP P 04 38 21.2 -1.3
PSI pmax pmax
comp=Z,40nm,1.0s
PSI MLR MLR
comp=Z,2µm,18.0s
PSI Prapat 86.55 275 LR LR 05 20 50.2
comp=Z,1µm,18.7s,baz=130,slow=38
TYV Tymovskoe 86.59 335 eP P 04 38 18.2 -3.4
TYV pmax pmax
comp=Z,15nm,1.1s
TUC Tucson 86.70 51 eP P 04 38 23.1 +0.4
comp=Z,30nm,1.3s
TUC LR LR
comp=Z,1µm,19.0s
TUC Tucson 86.70 51 eP P 04 38 23.1 +0.4
TUC pmax pmax
comp=Z,30nm,1.3s
TUC MLR MLR
comp=Z,1µm,19.0s
TUC Tucson 86.70 51 P P 04 38 23.6 +0.9
baz=234
PEL Peldehue 86.89 126 PFAKE 04 38 40.0 +16
PEL LR LR
comp=Z,2µm,19.0s
MOD Modoc Plateau 86.90 38 eP P 04 38 22.8 -0.7
comp=Z,6.7nm,0.8s
MOD LR LR
comp=Z,2µm,19.0s
MOIG Morelia 86.91 66 PFAKE 04 38 40.0 +16
MOIG LR LR
comp=Z,1µm,18.0s
GSI Gunungsitoli 87.03 273 eP P 04 38 25.2 +0.4
comp=Z,127nm,0.9s
GSI LR LR
comp=Z,2µm,20.0s
GSI Gunungsitoli 87.03 273 P P 04 38 25.1 +0.4
K05A Summer Lake 87.14 37 eP P 04 38 25.1 +0.4
comp=Z,13nm,0.9s
COR Corvallis 87.18 35 PFAKE 04 38 40.0 +15
COR LR LR
comp=Z,3µm,18.0s
319A Douglas 87.19 52 eP P 04 38 27.6 +2.4
comp=Z,25nm,0.9s
319A LR LR
comp=Z,2µm,18.0s
HPIG 87.30 58 PFAKE 04 38 40.0 +14
HPIG LR LR
comp=Z,2µm,18.0s
R11A Troy Canyon, C 87.30 43 PFAKE 04 38 40.0 +14
R11A LR LR
comp=Z,2µm,18.0s
X16A Lo Mia Camp, P 87.51 49 eP P 04 38 27.1 +0.3
comp=Z,27nm,1.1s
X16A LR LR
comp=Z,2µm,18.0s
MDJ Mudanjiang 87.58 325 P P 04 38 26.8 +0.3
MDJ S S 04 49 09.0 +1.7
MDJ pmax pmax
comp=Z,28nm,0.8s
MDJ pmax pmax
comp=Z,700nm,2.9s
MDJ LR LR
comp=Z,650nm,19.4s
MDJ LR LR
comp=Z,290nm,9.2s
MDJ LR LR
comp=Z,890nm,18.6s
MDJ Mudanjiang 87.58 325 eP P 04 38 26.9 +0.3
comp=Z,49nm,1.0s
MDJ LR LR
comp=Z,900nm,22.0s
BMN Battle Mountai 87.66 41 eP P 04 38 31.3 +4.0
comp=Z,10nm,0.8s
BMN LR LR
comp=Z,2µm,18.0s
H04A Detroit Lake 87.82 35 eP P 04 38 31.2 +3.4
comp=Z,36nm,1.4s
H04A LR LR
comp=Z,2µm,18.0s
PINE Pine Mountain 87.85 37 eP P 04 38 27.9 -0.3
comp=Z,20nm,1.3s
PINE LR LR
comp=Z,1µm,19.0s
KCSI Kotacane, Aceh 87.90 275 P P 04 38 27.2 -1.7
LCMT Little Creek M 87.91 46 eP P 04 38 29.3 +0.7
comp=Z,15nm,1.0s
LCMT LR LR
comp=Z,2µm,18.0s
KDAK Kodiak Island 87.97 13 PFAKE 04 38 40.0 +12
KDAK LR LR
comp=Z,2µm,19.0s
TLIG Tlapa 87.97 69 PFAKE 04 38 40.0 +11
TLIG LR LR
comp=Z,2µm,19.0s
WHN Wuhan 88.10 306 ⇓P P 04 38 30.3 +0.9
WHN S S 04 49 05.5 -7.4
WHN LR LR
comp=Z,1µm,14.7s
WHN LR LR
comp=Z,760nm,15.4s
WHN LR LR
comp=Z,2µm,41.3s
U15A North Rim 88.16 47 eP P 04 38 30.2 +0.3
comp=Z,20nm,0.9s
CCUT Cedar City 88.17 45 eP P 04 38 32.0 +2.1
comp=Z,14nm,1.2s
CCUT LR LR
comp=Z,2µm,18.0s
WVOR Wild Horse Val 88.18 39 PFAKE 04 38 40.0 +10
WVOR LR LR
comp=Z,2µm,18.0s
KNB Kanab 88.18 46 eP P 04 38 30.3 +0.5
comp=Z,24nm,1.0s
KNB LR LR
comp=Z,2µm,18.0s
KNB Kanab 88.18 46 eP P 04 38 30.3 +0.5
KNB pmax pmax
comp=Z,24nm,1.0s
KNB MLR MLR
comp=Z,2µm,18.0s
WUAZ Wupatki 88.21 48 eP P 04 38 31.0 +1.0
comp=Z,18nm,1.0s
WUAZ LR LR
comp=Z,1µm,18.0s
DL2 Dalian 88.25 316 ⇑iP P 04 38 29.0 -0.9
DL2 S S 04 49 15.8 +1.9
DL2 pmax pmax
comp=Z,50nm,0.9s
DL2 pmax pmax
comp=Z,520nm,6.8s
DL2 LR LR
comp=Z,390nm,16.7s
DL2 LR LR
comp=Z,490nm,16.1s
DL2 LR LR
comp=Z,470nm,17.0s
UNM Universidad Na 88.36 67 PFAKE 04 38 40.0 +8.8
UNM LR LR
comp=Z,1µm,18.0s
SZCU Shurtz Canyon 88.37 45 eP P 04 38 32.9 +2.2
comp=Z,9.7nm,0.9s
SZCU LR LR
comp=Z,2µm,19.0s
GO04 Tololo Observa 88.37 123 PFAKE 04 38 40.0 +8.8
GO04 LR LR
comp=Z,2µm,18.0s
PSUT Pine Spring 88.47 44 eP P 04 38 35.7 +4.4
comp=Z,7.4nm,0.9s
PSUT LR LR
comp=Z,3µm,18.0s
X18A Snowflake 88.56 49 eP P 04 38 34.2 +2.4
comp=Z,32nm,1.4s
PKCU Pink Cliffs 88.76 46 eP P 04 38 35.5 +2.7
comp=Z,29nm,1.0s
PKCU LR LR
comp=Z,2µm,18.0s
I07A Izee 88.81 37 eP P 04 38 32.2 -0.4
comp=Z,11nm,1.2s
J08A Circle Bar Ran 88.88 38 eP P 04 38 36.0 +3.0
comp=Z,12nm,1.1s
J08A LR LR
comp=Z,2µm,18.0s
NLWA Neilton Lookou 88.89 33 PFAKE 04 38 40.0 +7.2
NLWA LR LR
comp=Z,2µm,18.0s
E04D Cinebar 88.93 34 P P 04 38 33.6 +0.7
baz=226

GRNR Gornyy 88.94 332 eP P 04 38 33.0 +0.1
GRNR pmax pmax
comp=Z,25nm,1.0s
G06A Carlson Farm, 88.99 36 eP P 04 38 33.4 +0.1
comp=Z,13nm,0.9s
ELK Elko 89.02 42 eP P 04 38 34.6 +0.8
comp=Z,11nm,1.3s
ELK LR LR
comp=Z,3µm,18.0s
ELK Elko 89.02 42 eP P 04 38 34.6 +0.8
ELK pmax pmax
comp=Z,11nm,1.3s
ELK MLR MLR
comp=Z,3µm,18.0s
LCO Las Campanas 89.05 123 PFAKE 04 38 50.0 +16
LCO LR LR
comp=Z,2µm,18.0s
NKL Nikolayevsk 89.16 336 eP P 04 38 33.2 -0.6
NKL e 04 48 57.0
NKL pmax pmax
comp=Z,110nm,1.5s
NKL pmax pmax
comp=Z,1µm,6.0s
MTPU Mount Pierson 89.21 45 eP P 04 38 35.8 +0.9
comp=Z,37nm,1.5s
MTPU LR LR
comp=Z,2µm,18.0s
CN2 Changchun 89.21 322 eP P 04 38 32.5 -1.8
CN2 epP pwP 04 38 43.0 -0.6
CN2 esP sP 04 38 47.0 +7.3
CN2 SKS **SKSac** **04 48 59.3 -4.1**
CN2 eS **S** **04 49 22.0 -0.8**
CN2 eSS **SS** **04 55 25.0 +7.3**
CN2 pmax pmax
comp=Z,20nm,1.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,410nm,16.0s
CN2 LR LR
comp=Z,310nm,16.0s
CN2 LR LR
comp=Z,680nm,18.0s
EPT El Paso 89.36 53 PFAKE 04 38 50.0 +15
EPT LR LR
comp=Z,1µm,19.0s
TCRU Three Creeks R 89.39 45 PFAKE 04 38 50.0 +14
TCRU LR LR
comp=Z,2µm,19.0s
LHMI Lhok Sumawe 89.43 276 PFAKE 04 38 50.0 +14
LHMI LR LR
comp=Z,2µm,19.0s
LON Longmire 89.44 34 eP P 04 38 37.7 +2.3
comp=Z,10nm,1.1s
MLSI Meulaboh, Aceh 89.45 275 P P 04 38 36.3 +0.1
CFA Coronel Fontan 89.47 126 P P 04 38 36.5 +0.5
comp=Z,8.0nm,0.9s,baz=253,slow=4.2,SNR=3.6
CFA LR LR 05 12 52.9
comp=Z,695nm,18.6s,baz=250,slow=32
MSU Marysvale 89.50 45 eP P 04 38 37.7 +1.6
D05A Enumclaw 89.66 34 eP P 04 38 37.3 +1.0
comp=Z,58nm,1.2s
F07A Phinny Hill Vi 89.81 36 PFAKE 04 38 50.0 +13
F07A LR LR
comp=Z,3µm,18.0s
KLR Kul'dur 89.82 329 eP P 04 38 35.1 -1.9
KLR Kul'dur 89.82 329 P P 04 38 36.9 -0.1
comp=Z,7.2nm,0.8s,baz=90,slow=2.1,SNR=20
KLR LR LR 05 17 04.2
comp=Z,741nm,18.9s,baz=146,slow=34
G08A Pilot Rock 89.90 37 eP P 04 38 37.2 -0.5
comp=Z,17nm,1.0s
PGC Sidney 89.99 32 eP P 04 38 37.9 +0.2
comp=Z,20nm,1.0s
LTX Lajitas 90.08 57 eP P 04 38 39.1 +0.3
LTX Lajitas 90.08 57 eP P 04 38 39.2 +0.3
TXAR Lajitas Array 90.08 57 P P 04 38 39.1 +0.3
comp=Z,4.2nm,1.1s,baz=199,slow=6.2,SNR=9.0
TXAR LR LR 05 14 03.0
comp=Z,543nm,18.1s,baz=0.0,slow=32
MNTX Cornudas Mount 90.12 54 eP P 04 38 40.3 +1.4
comp=Z,13nm,1.3s
MNTX LR LR
comp=Z,1µm,18.0s
MNTX Cornudas Mount 90.12 54 P P 04 38 38.8 -0.1
baz=237
DUG Dugway, Tooele 90.13 43 PFAKE 04 38 50.0 +11
DUG LR LR
comp=Z,3µm,18.0s
BRLK Bradley Lake 90.14 13 PFAKE 04 38 50.0 +12
BRLK LR LR
comp=Z,2µm,20.0s
GO03 Copiap 90.15 122 PFAKE 04 38 50.0 +11
GO03 LR LR
comp=Z,2µm,18.0s
E07A Sunnyside 90.29 35 PFAKE 04 38 50.0 +11
E07A LR LR
comp=Z,3µm,18.0s
HAWA Hanford 90.34 35 eP P 04 38 39.8 +0.3
comp=Z,27nm,1.3s
HAWA LR LR
comp=Z,3µm,18.0s
B05A Bryant 90.36 33 P P 04 38 40.0 +0.5
baz=226
Y22D IRIS PASSCAL I 90.36 51 PFAKE 04 38 50.0 +10
Y22D LR LR
comp=Z,1µm,18.0s
LTY Liberty 90.36 34 eP P 04 38 39.6 -0.1
comp=Z,10nm,1.0s
Q16A Castle Valley 90.37 45 eP P 04 38 42.0 +1.9
comp=Z,12nm,1.3s
Q16A LR LR
comp=Z,2µm,19.0s
LENM Lemitar 90.37 51 eP P 04 38 41.6 +1.4
A04D Lummi Island 90.39 32 P P 04 38 40.2 +0.6
baz=226
LAZ Ladron 90.39 51 eP P 04 38 41.8 +1.4
NLU North Lily Min 90.43 44 eP P 04 38 42.1 +1.7
comp=Z,8.9nm,1.1s
NLU LR LR
comp=Z,3µm,19.0s
BGU Big Grassy Mou 90.44 43 PFAKE 04 38 50.0 +10
BGU LR LR
comp=Z,3µm,18.0s
BMO Blue Mountains 90.50 38 eP P 04 38 39.3 -1.1
comp=Z,6.8nm,1.1s
BMO LR LR
comp=Z,2µm,21.0s
BMO Blue Mountains 90.50 38 eP P 04 38 39.3 -1.1
BMO pmax pmax
comp=Z,7.0nm,1.1s
BMO MLR MLR
comp=Z,2µm,21.0s
TMUT Trail Mountain 90.57 45 eP P 04 38 43.2 +2.0
comp=Z,27nm,1.1s
TMUT LR LR
comp=Z,2µm,20.0s
BNM Barren Site 90.60 51 eP P 04 38 42.6 +1.3
E08A Dider Farm, El 90.65 36 eP P 04 38 44.5 +3.5
comp=Z,16nm,1.1s
E08A LR LR
comp=Z,3µm,18.0s
MPU Maple Canyon 90.74 44 PFAKE 04 38 50.0 +8.2
MPU LR LR
comp=Z,3µm,18.0s
SEW Seward 90.74 13 PFAKE 04 38 50.0 +9.0
SEW LR LR
comp=Z,1µm,20.0s
CMIG Matias Romero 90.80 71 LR LR 05 11 43.6
comp=Z,587nm,19.3s,baz=242,slow=30
LVIG Laguna Verde 90.81 68 PFAKE 04 38 50.0 +7.7
LVIG LR LR
comp=Z,1µm,18.0s
B06A Marblemount 90.83 33 PFAKE 04 38 50.0 +8.3
B06A LR LR
comp=Z,2µm,20.0s
SRU San Rafael Swe 90.89 45 eP P 04 38 42.8 +0.3
comp=Z,8.0nm,0.9s
SRU LR LR
comp=Z,2µm,19.0s
SRU San Rafael Swe 90.89 45 eP P 04 38 42.8 +0.3
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU MLR MLR
comp=Z,2µm,19.0s
LNIG Linares 90.95 62 eP P 04 38 44.4 +1.5
comp=Z,19nm,1.2s
LNIG LR LR
comp=Z,1µm,18.0s
P17A Butcher Ranch, 90.97 45 PFAKE 04 38 50.0 +7.1
P17A LR LR
comp=Z,2µm,18.0s
SPUT South Promonto 91.03 43 eP P 04 38 43.3 +0.3
comp=Z,30nm,1.4s
SPUT LR LR
comp=Z,2µm,18.0s
MVCO Mesa Verde 91.08 48 PFAKE 04 39 00.0 +16
MVCO LR LR
comp=Z,2µm,18.0s
D08A Wollman Farm, 91.10 35 eP P 04 38 42.9 -0.2
comp=Z,23nm,0.9s
D08A LR LR
comp=Z,4µm,18.0s
HVU Hansel Valley 91.12 42 PFAKE 04 39 00.0 +17
HVU LR LR
comp=Z,2µm,18.0s
E09A Wood Farm, Sta 91.14 36 eP P 04 38 42.8 -0.4
comp=Z,32nm,1.4s
E09A LR LR
comp=Z,2µm,19.0s
TASM ASL Pad, Albuq 91.16 51 P P 04 38 44.1 +0.2
baz=236
TASM ASL Pad, Albuq 91.16 51 P P 04 38 43.9 0.0
baz=236
ANMO Albuquerque 91.16 51 eP P 04 38 43.6 -0.3
comp=Z,22nm,1.2s
ANMO LR LR
comp=Z,2µm,18.0s
ANMO Albuquerque 91.16 51 eP P 04 38 43.6 -0.3
ANMO pmax pmax
comp=Z,22nm,1.2s
ANMO MLR MLR
comp=Z,2µm,18.0s
JLU Jordanelle 91.20 44 eP P 04 38 45.9 +1.9
comp=Z,7.9nm,1.0s
JLU LR LR
comp=Z,3µm,18.0s
F10A Beach Ranch, E 91.27 37 eP P 04 38 42.8 -1.2
comp=Z,16nm,0.8s
HLID Hailey 91.27 40 eP P 04 38 44.1 -0.1
comp=Z,6.5nm,1.0s
HLID LR LR
comp=Z,2µm,18.0s
HLID Hailey 91.27 40 P P 04 38 44.2 +0.1
baz=231
ENH Enshi 91.47 304 eP P 04 38 45.9 +0.6
comp=Z,148nm,1.3s
ENH LR LR
comp=Z,600nm,20.0s
MA2 Magadan 91.53 344 LR LR 05 20 47.3
comp=Z,301nm,18.0s,baz=141,slow=36
RC01 Rabbit Creek A 91.59 13 eP P 04 38 45.0 +0.1
comp=Z,60nm,1.2s
RC01 LR LR
comp=Z,800nm,20.0s
GYA Guiyang 91.62 299 eP P 04 38 44.3 -1.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
GAMB Gambell 91.73 2 eP P 04 38 46.2 +0.7
comp=Z,20nm,1.1s
GAMB LR LR
comp=Z,600nm,18.0s
HWUT Hardware Ranch 91.73 43 PFAKE 04 39 00.0 +14
HWUT LR LR
comp=Z,2µm,18.0s
SUA Susitna One 91.75 12 eP P 04 38 44.9 -0.9
comp=Z,26nm,1.0s
SUA LR LR
comp=Z,2µm,20.0s
B08A Colville Reser 91.77 34 eP P 04 38 45.7 -0.4
comp=Z,5.8nm,0.8s
C09A Chrisman Ranch 91.92 35 PFAKE 04 39 00.0 +13
C09A LR LR
comp=Z,3µm,18.0s
EYAK Cordova Ski Ar 91.93 15 eP P 04 38 51.1 +4.6
comp=Z,42nm,1.0s
GO02 Mina Guanaco 91.93 120 eP P 04 38 49.4 +1.4
comp=Z,12nm,1.1s
GO02 LR LR
comp=Z,1µm,19.0s
PB10 IPOC Station P 92.06 118 PFAKE 04 39 00.0 +12
PB10 LR LR
comp=Z,1µm,18.0s
HMT Hamilton 92.08 15 PFAKE 04 39 00.0 +13
HMT LR LR
comp=Z,2µm,18.0s
LLLB Lillooet 92.09 31 PFAKE 04 39 00.0 +12
LLLB LR LR
comp=Z,2µm,18.0s
KNK Knik Glacier 92.14 13 eP P 04 38 47.0 -0.5
comp=Z,44nm,1.1s
KNK LR LR
comp=Z,1µm,19.0s
PMR Palmer 92.17 13 eP P 04 38 46.9 -0.7
comp=Z,37nm,1.3s
PMR LR LR
comp=Z,900nm,18.0s
PMR Palmer 92.17 13 eP P 04 38 46.9 -0.7
PMR pmax pmax
comp=Z,37nm,1.3s
PMR MLR MLR
comp=Z,900nm,18.0s
BJT Baijiatuau 92.29 315 eP P 04 38 49.3 +0.6
comp=Z,33nm,1.1s
BJT Baijiatuau 92.29 315 eP P 04 38 49.3 +0.6
BJT pmax pmax
comp=Z,33nm,1.1s
GHO Glory Hole Cre 92.37 13 eP P 04 38 48.2 -0.5
comp=Z,60nm,1.3s
GHO LR LR
comp=Z,1µm,18.0s
DIV Divide 92.44 14 eP P 04 38 49.1 +0.1
comp=Z,37nm,1.1s
S22A 4UR Ranch, Cre 92.47 48 eP P 04 38 50.5 +0.5
comp=Z,8.8nm,0.9s
S22A 4UR Ranch, Cre 92.47 48 P P 04 38 50.2 +0.1
baz=236
SML Sawmill 92.52 13 eP P 04 38 53.3 +4.0
comp=Z,22nm,1.2s
BMRM Bremner River 92.56 15 eP P 04 38 53.0 +3.4
comp=Z,8.3nm,0.8s
BMRM LR LR
comp=Z,100nm,21.0s
AHID Auburn Hatcher 92.70 42 PFAKE 04 39 00.0 +9.1
AHID LR LR
comp=Z,2µm,18.0s
CCIG Comitan 92.72 73 PFAKE 04 39 00.0 +8.5
CCIG LR LR
comp=Z,700nm,18.0s
NNA Nana 92.73 105 PFAKE 04 39 00.0 +8.5
NNA LR LR
comp=Z,900nm,18.0s
KLU Klutina 92.73 14 eP P 04 38 50.6 +0.2
comp=Z,22nm,1.1s
833A Chaparral WMA, 92.75 59 PFAKE 04 39 00.0 +8.9
833A LR LR
comp=Z,1µm,18.0s
SCM Sheep Creek Mo 92.75 13 eP P 04 38 50.0 -0.4
comp=Z,33nm,1.0s
SCM LR LR
comp=Z,1µm,18.0s
SCM Sheep Creek Mo 92.75 13 eP P 04 38 50.0 -0.4
SCM pmax pmax
comp=Z,33nm,1.0s
SCM MLR MLR
comp=Z,1µm,18.0s
TGL Tana Glacier 92.79 16 eP P 04 38 54.0 +3.4
comp=Z,22nm,1.1s
TGL LR LR
comp=Z,1µm,21.0s
NEW Newport 92.81 35 PFAKE 04 39 00.0 +9.0
NEW LR LR
comp=Z,3µm,18.0s
NEW Newport 92.81 35 P P 04 38 48.9 -2.1
comp=Z,0.9nm,0.6s,baz=186,slow=10,SNR=2.7
PPLA Purkeypile 92.83 11 PFAKE 04 39 00.0 +9.2
PPLA LR LR
comp=Z,1µm,20.0s
ANM Nome 92.86 5 PFAKE 04 39 00.0 +9.2
ANM LR LR
comp=Z,800nm,19.0s
PCA Pinnacle 92.86 17 PFAKE 04 39 00.0 +9.0
PCA LR LR

comp=Z,1µm,19.0s
BCPM Bancas Point 92.91 18 PFAKE 04 39 00.0 +8.9
BCPM LR LR
comp=Z,1µm,19.0s
O20A White River Ci 92.92 45 *eP* **P 04 38 56.5 +4.5**
comp=Z,6.9nm,0.9s
MCMT McKenzie Canyo 92.94 40 *eP* **P 04 38 53.6 +1.6**
PB04 IPOC Station P 92.99 117 PFAKE 04 39 10.0 +17
PB04 LR LR
comp=Z,1µm,19.0s
BALM Baldy 93.15 16 PFAKE 04 39 00.0 +7.7
BALM LR LR
comp=Z,800nm,19.0s
SMCO Snowmass 93.18 47 *eP* **P 04 38 56.6 +3.1**
comp=Z,9.2nm,1.0s
MSTX Muleshoe 93.19 53 *eP* **P 04 38 54.8 +1.6**
comp=Z,17nm,1.0s
MSTX LR LR
comp=Z,1µm,19.0s
REDW Red Top Meadow 93.20 42 *eP* **P 04 38 54.4 +1.2**
comp=Z,32nm,1.4s
TPAW Teton Pass 93.22 42 *eP* **P 04 38 50.8 -2.5**
comp=Z,7.7nm,0.9s
TPAW LR LR
comp=Z,2µm,18.0s
FXWY Fox Creek 93.27 41 *eP* **P 04 38 53.6 +0.1**
comp=Z,6.2nm,0.9s
SNOW Snow King Moun 93.32 42 *eP* **P 04 38 53.5 -0.3**
comp=Z,14nm,0.9s
SNOW LR LR
comp=Z,3µm,18.0s
CAST Castle Rocks 93.33 11 PFAKE 04 39 00.0 +7.0
CAST LR LR
comp=Z,1µm,19.0s
SDCO Great Sand Dun 93.35 49 *eP* **P 04 38 57.8 +3.7**
comp=Z,7.1nm,1.1s
SDCO LR LR
comp=Z,1µm,18.0s
TIY Taiyuan 93.40 311 *eP* **P 04 38 55.0 +1.0**
TIY S **S 04 50 01.5 +0.1**
TIY pmax pmax
comp=Z,25nm,0.5s
TIY LR LR
comp=Z,350nm,16.1s
TIY LR LR
comp=Z,190nm,11.5s
TIY LR LR
comp=Z,460nm,19.9s
IMW Indian Meadow 93.47 41 *eP* **P 04 38 54.2 -0.3**
comp=Z,8.4nm,0.9s
IMW LR LR
comp=Z,2µm,18.0s
MOOW Moose Ponds 93.50 41 *eP* **P 04 38 55.4 +0.8**
comp=Z,12nm,1.5s
LOHW Long Hollow 93.50 42 PFAKE 04 39 10.0 +15
LOHW LR LR
comp=Z,2µm,18.0s
KVTX Kingsville 93.50 61 PFAKE 04 39 10.0 +15
KVTX LR LR
comp=Z,2µm,18.0s
JCT Junction City 93.53 57 PFAKE 04 39 10.0 +15
JCT LR LR
comp=Z,2µm,18.0s
APG El Apazote 93.53 75 LR LR 05 13 08.1
comp=Z,435nm,18.9s,baz=275,slow=30
MSO Missoula 93.57 38 PFAKE 04 39 10.0 +15
MSO LR LR
comp=Z,2µm,19.0s
BW06 Boulder Array 93.62 43 *eP* **P 04 38 59.6 +4.5**
comp=Z,4.4nm,0.9s
BW06 LR LR
comp=Z,2µm,18.0s
BW06 Boulder Array 93.62 43 P **P 04 38 56.9 +1.8**
baz=235
PD31 Pinedale Array 93.62 43 *eP* **P 04 38 57.5 +2.3**
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 93.62 43 *eP* **P 04 38 57.1 +1.9**
PDAR Pinedale Array 93.62 43 P **P 04 38 54.5 -0.6**
comp=Z,0.9nm,0.8s,baz=211,slow=3.6,SNR=9.2
PDAR LR LR 05 18 34.7
comp=Z,1µm,18.0s,baz=256,slow=34
TRF Thorofare Moun 93.67 11 *eP* **P 04 38 53.3 -1.4**
comp=Z,22nm,1.2s
TRF LR LR
comp=Z,2µm,20.0s
SKAG Skagway 93.71 20 PFAKE 04 39 10.0 +15
SKAG LR LR
comp=Z,1µm,20.0s
FLWY Flagg Ranch 93.72 41 *eP* **P 04 38 55.5 0.0**
comp=Z,19nm,0.9s
FLWY LR LR
comp=Z,2µm,18.0s
ATAH Atahualpa 93.74 100 LR LR 05 14 03.0
comp=Z,1µm,18.1s,baz=254,slow=31
QLMT Earthquake Lak 93.74 40 *eP* **P 04 38 59.4 +3.7**
T25A Trinidad 93.75 50 PFAKE 04 39 10.0 +14
T25A LR LR
comp=Z,1µm,20.0s
T25A Trinidad 93.75 50 P **P 04 38 56.1 +0.2**
baz=237
YPP Pitchstone Pla 93.77 41 PFAKE 04 39 10.0 +14
YPP LR LR
comp=Z,3µm,18.0s
LVC Limon Verde 93.82 118 P **P 04 38 59.4 +2.6**
comp=Z,8.2nm,1.0s,baz=302,slow=2.4,SNR=4.2
YHB Horse Butte 93.83 40 *eP* **P 04 39 00.4 +4.4**
comp=Z,11nm,1.0s
XAN Xi'an 93.85 307 P **P 04 38 56.3 +0.1**
XAN sP pwP 04 39 10.0 +4.5
XAN SKS **SKSac 04 49 28.0 -2.4**
XAN S **ScS 04 50 07.0 +0.1**
XAN pmax pmax
comp=Z,11nm,1.5s
XAN pmax pmax
comp=Z,370nm,8.3s
XAN LR LR
comp=Z,290nm,18.6s
XAN LR LR
comp=Z,390nm,17.7s
XAN LR LR
comp=Z,450nm,19.8s
XAN Xi'an 93.85 307 *eP* **P 04 38 56.8 +0.6**
comp=Z,35nm,1.4s
XAN LR LR
comp=Z,500nm,19.0s
YFT Old Faithful 93.86 41 PFAKE 04 39 10.0 +14
YFT LR LR
comp=Z,3µm,18.0s
DHY Denali Highway 93.86 13 *eP* **P 04 38 54.9 -0.7**
comp=Z,9.7nm,1.0s
DHY LR LR
comp=Z,1µm,18.0s
RND Reindeer 93.88 12 *eP* **P 04 38 54.7 -0.9**
comp=Z,33nm,1.1s
RND LR LR
comp=Z,1µm,20.0s
RND Reindeer 93.88 12 *eP* **P 04 38 54.7 -0.9**
RND pmax pmax
comp=Z,33nm,1.1s
RND MLR MLR
comp=Z,1µm,20.0s
YMR Madison River 93.91 41 *eP* **P 04 38 59.1 +2.6**
comp=Z,19nm,1.1s
YMR LR LR
comp=Z,2µm,18.0s
CM31 Chiang Mai Arr 93.94 289 *eP* **P 04 38 58.0 +1.1**
CMAR Chiang Mai Arr 93.94 289 P **P 04 38 58.0 +1.1**
comp=Z,4.2nm,0.8s,baz=139,slow=3.6,SNR=13
H17A Grant Village 93.98 41 *eP* **P 04 38 57.5 +0.7**
comp=Z,5.4nm,0.8s
H17A LR LR
comp=Z,4µm,18.0s
H17A Grant Village 93.98 41 P **P 04 38 56.7 0.0**
baz=234
KMI Kunming 94.03 296 P **P 04 38 55.3 -2.1**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI Kunming 94.03 296 PFAKE 04 39 10.0 +13
KMI LR LR
comp=Z,400nm,19.0s
YHH Holmes Hill 94.05 41 *eP* **P 04 38 57.5 +0.3**
comp=Z,12nm,1.3s
YHH LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 94.09 40 *eP* **P 04 38 56.7 -0.4**
comp=Z,8.6nm,1.0s
BOZ Bozeman (W) 94.09 40 *eP* **P 04 38 56.7 -0.4**
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 94.09 40 P **P 04 38 56.7 -0.4**
baz=233
CHTO Chiang Mai 94.11 289 *eP* **P 04 38 58.9 +1.2**
comp=Z,15nm,1.1s
CHTO Chiang Mai 94.11 289 P **P 04 38 59.4 +1.8**
comp=Z,44nm,1.7s
BPAW Bear Paw Mtn. 94.15 11 PFAKE 04 39 10.0 +13
BPAW LR LR
comp=Z,1µm,18.0s
SEY Seymchan 94.15 346 *ceP* **P 04 38 54.2 -2.5**
SEY Seymchan 94.15 346 P **P 04 38 55.9 -0.9**
comp=Z,4.7nm,1.0s,baz=128,slow=6.0
PAX Paxson 94.15 14 *eP* **P 04 38 55.7 -1.2**
comp=Z,8.6nm,1.1s
PAX LR LR
comp=Z,700nm,19.0s
PAX Paxson 94.15 14 *eP* **P 04 38 55.7 -1.2**
PAX pmax pmax
comp=Z,9.0nm,1.1s
PAX MLR MLR
comp=Z,700nm,19.0s
MCK McKinley 94.17 12 PFAKE 04 39 10.0 +13
MCK LR LR
comp=Z,2µm,19.0s
LKWY Lake 94.18 41 *eP* **P 04 39 02.0 +4.3**
comp=Z,12nm,1.0s
LKWY LR LR
comp=Z,3µm,18.0s
LKWY Lake 94.18 41 *eP* **P 04 39 02.0 +4.3**
LKWY pmax pmax
comp=Z,12nm,1.0s
LKWY MLR MLR
comp=Z,3µm,18.0s
PB01 IPOC Station P 94.20 116 PFAKE 04 39 10.0 +12
PB01 LR LR
comp=Z,800nm,19.0s
Q24A Divide 94.25 48 PFAKE 04 39 10.0 +12
Q24A LR LR
comp=Z,2µm,18.0s
BWN Browne 94.47 12 *eP* **P 04 38 58.3 0.0**
comp=Z,38nm,1.2s
BWN LR LR
comp=Z,2µm,20.0s
MENT Mentasta 94.50 14 *eP* **P 04 38 58.2 -0.2**
comp=Z,8.2nm,0.9s
ABTX Abilene, Hawle 94.74 56 PFAKE 04 39 10.0 +10
ABTX LR LR
comp=Z,2µm,18.0s
PB11 IPOC Station P 94.74 115 *eP* **P 04 39 05.1 +4.3**
comp=Z,23nm,1.1s
PB11 LR LR
comp=Z,1µm,19.0s
N23A Red Feather La 94.79 46 PFAKE 04 39 10.0 +9.4
N23A LR LR
comp=Z,1µm,19.0s
WHY Whitehorse 94.82 19 PFAKE 04 39 10.0 +10
WHY LR LR
comp=Z,1µm,20.0s
RIDG Independ'e Rid 94.97 14 *eP* **P 04 39 00.0 -0.6**
comp=Z,18nm,1.1s
RIDG LR LR
comp=Z,900nm,18.0s
ZEA Zeya 94.98 330 *eP* **P** 04 39 05.8 +5.0
ZEA pmax pmax
comp=Z,24nm,1.6s
WRH Wood River Hil 95.00 12 *eP* **P 04 38 59.1 -1.4**
comp=Z,54nm,1.4s
MLY Manley 95.05 11 PFAKE 04 39 10.0 +9.1
MLY LR LR
comp=Z,700nm,20.0s
DOT Dot Lake 95.05 14 *eP* **P 04 39 00.3 -0.6**
comp=Z,12nm,1.0s
MNMC Minye Minye 95.12 115 PFAKE 04 39 20.0 +17
MNMC LR LR
comp=Z,1µm,18.0s
HDA Harding Lake 95.15 12 *eP* **P 04 39 00.2 -1.1**
comp=Z,9.4nm,1.0s
HDA LR LR
comp=Z,1µm,18.0s
HDA Harding Lake 95.15 12 P **P 04 39 00.1 -1.2**
baz=206
RLMT Red Lodge 95.16 41 *eP* **P 04 39 04.7 +2.6**
comp=Z,8.6nm,1.1s
RLMT LR LR
comp=Z,2µm,19.0s
GO01 Chusmiza 95.16 115 PFAKE 04 39 20.0 +17
GO01 LR LR
comp=Z,1µm,19.0s
CCB Clear Creek Bu 95.21 12 *eP* **P 04 39 00.2 -1.3**
comp=Z,18nm,1.3s
CCB LR LR
comp=Z,900nm,19.0s
435B Jarrell 95.34 58 PFAKE 04 39 10.0 +7.0
435B LR LR
comp=Z,2µm,18.0s
SCRK Sand Creek 95.36 14 *eP* **P 04 39 03.7 +1.3**
comp=Z,6.8nm,1.1s
SCRK LR LR
comp=Z,900nm,18.0s
K22A Casper 95.40 44 PFAKE 04 39 10.0 +6.8
K22A LR LR
comp=Z,4µm,19.0s
K22A Casper 95.40 44 P **P 04 39 05.8 +2.6**
baz=236
COLA College 95.41 12 PFAKE 04 39 10.0 +7.6
COLA LR LR
comp=Z,1µm,20.0s
COLA College 95.41 12 *i* P **P 04 38 58.6 -3.8**
COLA pmax pmax
comp=Z,8.0nm,1.0s
MDM Murphy Dome 95.42 12 *eP* **P 04 39 01.1 -1.5**
comp=Z,29nm,1.3s
MDM LR LR
comp=Z,2µm,19.0s
ILAR Eielson Array 95.49 12 P **P 04 39 01.1 -1.8**
comp=Z,1.7nm,0.9s,baz=224,slow=5.7,SNR=18
ILAR LR LR 05 16 60.0
comp=Z,315nm,19.2s,baz=202,slow=32
ILB Eielson Array 95.49 12 *eP* **P 04 39 01.1 -1.8**
HHC Hu-ho-hao-te 95.67 314 *eP* **P 04 39 02.3 -2.1**
HHC sP pwP 04 39 17.5 +3.8
HHC SKS **SKSac 04 49 35.5 -4.4**
HHC S **S 04 50 18.8 -2.3**
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,180nm,6.7s
HHC LR LR
comp=Z,460nm,18.6s
HHC LR LR
comp=Z,410nm,17.3s
HHC LR LR
comp=Z,500nm,18.1s
HIA Hailar 95.72 324 PFAKE 04 39 10.0 +5.7
HIA LR LR
comp=Z,600nm,18.0s
TGUH Tegucigalpa,Un 95.83 77 PFAKE 04 39 20.0 +14
TGUH LR LR
comp=Z,600nm,19.0s
WHTX Lake Whitney, 96.03 57 PFAKE 04 39 20.0 +14
WHTX LR LR
comp=Z,2µm,18.0s
CD2 Chengdu 96.05 302 P **P 04 39 03.5 -2.8**
CD2 sP pwP 04 39 18.0 +2.4
CD2 PP **PP 04 43 02.0 +2.6**
CD2 SKS **SKSac 04 49 40.0 -2.3**
CD2 S **S 04 50 18.0 -6.7**
CD2 sS sS 04 50 43.5 +12
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 LR LR
comp=Z,730nm,18.0s
CD2 LR LR
comp=Z,490nm,21.1s
CD2 LR LR
comp=Z,550nm,19.0s
PBA Port Blair 96.09 280 PFAKE 04 39 20.0 +13
PBA LR LR
comp=Z,2µm,19.0s
PBA Port Blair 96.09 280 *eP* P 04 39 04.7 -2.1
JTS JuntasAbangare 96.12 82 PFAKE 04 39 20.0 +13
JTS LR LR
comp=Z,2µm,18.0s
JTS JuntasAbangare 96.12 82 LR LR 05 14 39.2
comp=Z,1µm,18.1s,baz=330,slow=31
HKT Hockley 96.25 59 PFAKE 04 39 20.0 +13
HKT LR LR
comp=Z,1µm,19.0s
PRP Porcupine Dome 96.42 12 PFAKE 04 39 20.0 +13
PRP LR LR
comp=Z,800nm,18.0s
DAWY Dawson 96.46 15 *eP* **P 04 39 09.3 +1.9**
comp=Z,7.1nm,1.1s
DAWY LR LR
comp=Z,900nm,20.0s
RDOG Red Dog Mine 96.49 5 PFAKE 04 39 20.0 +13
RDOG LR LR
comp=Z,800nm,19.0s
EGMT Eagleton 96.56 38 PFAKE 04 39 20.0 +12
EGMT LR LR
comp=Z,2µm,18.0s
DGPR DIGLIPUR 96.62 281 *eP* **P 04 39 09.4 +0.2**
DGPR IAmb IAmb 04 39 12.1
comp=Z,7.4nm,0.7s
EGAK Eagle 96.67 14 *eP* P 04 39 13.1 +4.9
comp=Z,18nm,1.5s
HDC Heredia 96.72 82 PFAKE 04 39 20.0 +10
HDC LR LR
comp=Z,1µm,19.0s
BILL Bilibino 96.80 354 *eP* **P 04 39 08.2 -0.5**
comp=Z,16nm,1.4s
BILL LR LR
comp=Z,2µm,20.0s
BILL Bilibino 96.80 354 *i* P P 04 39 03.3 -5.4
BILL *i* 04 43 02.9
BILL *i* S S 04 50 18.9 -10
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,722nm,19.0s
MYIG Mrida 96.91 70 PFAKE 04 39 20.0 +10
MYIG LR LR
comp=Z,1µm,20.0s
U32A Winter Ranch, 97.07 53 PFAKE 04 39 20.0 +9.1
U32A LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 97.19 94 PFAKE 04 39 20.0 +7.5
OTAV LR LR
comp=Z,700nm,19.0s
OGNE Ogallala 97.33 47 PFAKE 04 39 20.0 +8.0
OGNE LR LR
comp=Z,2µm,19.0s
FYU Fort Yukon 97.41 12 PFAKE 04 39 20.0 +8.4
FYU LR LR
comp=Z,700nm,19.0s
ESPN Las Esperanzas 97.56 80 PFAKE 04 39 30.0 +17
ESPN LR LR
comp=Z,1µm,18.0s
RSSD Black Hills 97.72 44 *eP* Pdif 04 39 16.2 +2.4
comp=Z,15nm,0.9s
RSSD LR LR
comp=Z,4µm,18.0s
RSSD Black Hills 97.72 44 P Pdif 04 39 15.3 +1.4
baz=238
CBKS Cedar Bluff 97.77 50 PFAKE 04 39 30.0 +16
CBKS LR LR
comp=Z,2µm,18.0s
LAO LASA Array 97.80 41 PFAKE 04 39 30.0 +16
LAO LR LR
comp=Z,2µm,19.0s
LPAZ La Paz 97.81 113 P Pdif 04 39 16.2 +0.8
comp=Z,0.8nm,0.7s,baz=117,slow=2.3,SNR=3.0
LPAZ LR LR 05 15 23.6
comp=Z,321nm,19.5s,baz=256,slow=30
NATX Nacogdoches 98.00 58 PFAKE 04 39 30.0 +15
NATX LR LR
comp=Z,2µm,18.0s
LZH Lanzhou 98.48 306 *eP* Pdif 04 39 19.3 +2.0
LZH pP pwP 04 39 30.5 +3.9
LZH sP sP 04 39 35.8 +13
LZH PP **PP 04 43 25.3 +7.1**
LZH SKS **SKSac 04 49 55.5 +0.7**
LZH *eS* **ScS 04 50 47.5 +1.9**
LZH sS sS 04 50 58.8 +6.4
LZH pmax pmax
comp=Z,21nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.4s
LZH LR LR
comp=Z,450nm,14.1s
LZH LR LR
comp=Z,900nm,16.3s
LZH LR LR
comp=Z,1µm,18.7s
EPYK Eagle Plains 99.01 15 PFAKE 04 39 30.0 +11
EPYK LR LR
comp=Z,700nm,18.0s
EPYK Eagle Plains 99.01 15 P **Pdif 04 39 22.0 +3.2**
baz=215
TUL1 Leonard 99.12 54 PFAKE 04 39 30.0 +10
TUL1 LR LR
comp=Z,1µm,19.0s
DGMT Dagmar 99.91 40 PFAKE 04 39 30.0 +6.8
DGMT LR LR
comp=Z,1µm,20.0s
KSU1 Kansas State U 100.05 51 PFAKE 04 39 40.0 +16
KSU1 LR LR
comp=Z,2µm,18.0s
WLAR White Oak Lake 100.05 57 PFAKE 04 39 40.0 +16
WLAR LR LR
comp=Z,2µm,18.0s
BCIP Isla Barro Col 100.09 85 PFAKE 04 39 40.0 +15
BCIP LR LR
comp=Z,1µm,18.0s
MIAR Mount Ida 100.10 56 PFAKE 04 39 40.0 +16
MIAR LR LR
comp=Z,1µm,18.0s
W39A Magazine 100.24 56 PFAKE 04 39 40.0 +15
W39A LR LR
comp=Z,2µm,18.0s
X40A Basin Creek Fa 100.62 57 PFAKE 04 39 40.0 +13
X40A LR LR
comp=Z,2µm,18.0s
HHAR Hobbs 100.62 55 PFAKE 04 39 40.0 +13
HHAR LR LR
comp=Z,1µm,20.0s
CCAR Cane Creek 101.15 58 PFAKE 04 39 40.0 +11
CCAR LR LR
comp=Z,2µm,18.0s
INK Inuvik 101.31 15 *e*Pdif **Pdif 04 39 27.0 -1.9**
INK LR LR
comp=Z,1µm,19.0s
INK Inuvik 101.31 15 *eP* **Pdif 04 39 27.0 -1.9**
INK MLR MLR
comp=Z,1µm,19.0s
INK Inuvik 101.31 15 P **Pdif 04 39 27.0 -1.9**
comp=Z,0.5nm,0.6s,baz=248,slow=11,SNR=2.8
W41B Gary Mavity, V 101.35 56 PFAKE 04 39 40.0 +10
W41B LR LR
comp=Z,2µm,18.0s
X43A Marvell 102.08 57 PFAKE 04 39 50.0 +17
X43A LR LR
comp=Z,2µm,18.0s
ECSD EROS Data Cent 102.19 47 PFAKE 04 39 50.0 +17
ECSD LR LR
comp=Z,2µm,20.0s
SONA0 Songino Array 102.40 318 *e*Pdif **Pdif 04 39 34.2 -0.2**
SONM Songino Array 102.40 318 P **Pdif 04 39 34.2 -0.2**
comp=Z,0.3nm,0.6s,baz=132,slow=4.0,SNR=2.8
YKA Yellowknife Ar 102.89 25 P **Pdif 04 39 35.7 -0.4**
comp=Z,0.6nm,0.9s,baz=231,slow=3.9,SNR=7.7
YKA PP **PP 04 43 52.9 +2.3**
comp=Z,0.5nm,1.0s,baz=239,slow=6.7,SNR=4.0
YKA PKKPbc **PKKPbc 04 55 33.8 -1.9**
comp=Z,0.2nm,0.6s,baz=43,slow=2.7,SNR=6.5
YKB5 Yellowknife Ar 102.89 25 *e*Pdif **Pdif 04 39 35.6 -0.4**
YKB5 *e*PP **PP 04 43 52.9 +2.3**
SHL Shillong 102.97 292 *eP* **Pdif 04 39 36.2 -1.4**
SHL IAmb IAmb 04 39 39.8
comp=Z,2.9nm,0.8s
SHL Shillong 102.97 292 *eP* **Pdif 04 39 39.0 +1.4**
ROSC El Rosal 102.98 91 PFAKE 04 39 50.0 +12
ROSC LR LR
comp=Z,200nm,18.0s
OXF Oxford 103.17 58 PFAKE 04 39 50.0 +12
OXF LR LR
comp=Z,2µm,18.0s
GNAR Gosnell 103.33 56 PFAKE 04 39 50.0 +11
GNAR LR LR
comp=Z,2µm,18.0s

CCM	**Cathedral Cave**	**103.33**	**54**	PFAKE		04 39 50.0	+11		
CCM				LR	LR				
	comp=Z,2µm,18.0s								
PVMO	**Portageville**	**103.76**	**56**	PFAKE		04 39 50.0	+9.5		
PVMO				LR	LR				
	comp=Z,1µm,18.0s								
HALT	**Halls**	**103.81**	**57**	PFAKE		04 39 50.0	+9.2		
HALT				LR	LR				
	comp=Z,1µm,20.0s								
PARMO	**Parma**	**103.82**	**56**	PFAKE		04 39 50.0	+9.2		
PARMO				LR	LR				
	comp=Z,1µm,19.0s								
GLAT	**Glass**	**104.00**	**56**	PFAKE		04 39 50.0	+8.4		
GLAT				LR	LR				
	comp=Z,2µm,20.0s								
PLAL	**Pickwick Lake**	**104.36**	**58**	PFAKE		04 40 00.0	+17		
PLAL				LR	LR				
	comp=Z,2µm,18.0s								
P42A	**Winchester**	**104.62**	**53**	PFAKE		04 40 00.0	+16		
P42A				LR	LR				
	comp=Z,2µm,18.0s								
SIUC	**Southern Illin**	**104.65**	**55**	PFAKE		04 40 00.0	+16		
SIUC				LR	LR				
	comp=Z,2µm,18.0s								
PALK	**Pallekele**	**104.68**	**270**	PFAKE		04 40 00.0	+15		
PALK				LR	LR				
	comp=Z,2µm,19.0s								
AGMN	**Agassiz Nation**	**104.70**	**43**	PFAKE		04 40 00.0	+16		
AGMN				LR	LR				
	comp=Z,2µm,18.0s								
N41A	**Harden Midland**	**104.72**	**52**	PFAKE		04 40 00.0	+15		
N41A				LR	LR				
	comp=Z,2µm,18.0s								
T45A	**Paducah**	**104.78**	**56**	PFAKE		04 40 00.0	+15		
T45A				LR	LR				
	comp=Z,1µm,19.0s								
WVT	**Waverly**	**105.02**	**57**	PFAKE		04 44 10.0	+9.1		
WVT				LR	LR				
	comp=Z,1µm,18.0s								
Y49A	**Blount Mountai**	**105.16**	**60**	PFAKE		04 44 10.0	+8.7		
Y49A				LR	LR				
	comp=Z,900nm,18.0s								
Q44A	**Meyer Farm, Va**	**105.28**	**54**	PFAKE		04 44 10.0	+8.7		
Q44A				LR	LR				
	comp=Z,2µm,19.0s								
SPMN	**Marine on St.**	**105.30**	**47**	PFAKE		04 44 10.0	+8.8		
SPMN				LR	LR				
	comp=Z,2µm,19.0s								
I39A	**Houston**	**105.57**	**48**	PFAKE		04 44 10.0	+8.3		
I39A				LR	LR				
	comp=Z,1µm,18.0s								
V48A	**Smith Brothers**	**105.61**	**58**	PFAKE		04 44 10.0	+7.9		
V48A				LR	LR				
	comp=Z,2µm,18.0s								
HDIL	**Hopedale**	**105.75**	**52**	PFAKE		04 44 10.0	+7.9		
HDIL				LR	LR				
	comp=Z,2µm,18.0s								
USIN	**University of**	**105.87**	**55**	PFAKE		04 44 10.0	+7.5		
USIN				LR	LR				
	comp=Z,2µm,19.0s								
T47A	**Sharon Grove**	**105.89**	**56**	PFAKE		04 44 10.0	+7.5		
T47A				LR	LR				
	comp=Z,2µm,18.0s								
JFWS	**Jewell Farm**	**106.04**	**50**	PFAKE		04 44 10.0	+7.4		
JFWS				LR	LR				
	comp=Z,2µm,18.0s								
L42A	**Oliver, Polo**	**106.07**	**51**	PFAKE		04 44 10.0	+7.3		
L42A				LR	LR				
	comp=Z,2µm,18.0s								
P45A	**Graceland, Par**	**106.43**	**54**	PFAKE		04 44 20.0	+17		
P45A				LR	LR				
	comp=Z,2µm,18.0s								
TIXI	**Tiksi**	**106.50**	**344**	PFAKE		04 44 10.0	+7.4		
TIXI				LR	LR				
	comp=Z,600nm,20.0s								
W50A	**Signal Mountai**	**106.53**	**59**	PFAKE		04 44 20.0	+16		
W50A				LR	LR				
	comp=Z,2µm,18.0s								
Y52A	**Lilburn**	**106.96**	**60**	PFAKE		04 44 20.0	+15		
Y52A				LR	LR				
	comp=Z,800nm,19.0s								
G40A	**Rib Lake**	**107.00**	**47**	PFAKE		04 44 20.0	+16		
G40A				LR	LR				
	comp=Z,2µm,19.0s								
T49A	**Edmonton**	**107.10**	**57**	PFAKE		04 44 20.0	+15		
T49A				LR	LR				
	comp=Z,1µm,19.0s								
154A	**Montrose**	**107.21**	**62**	PFAKE		04 44 20.0	+15		
154A				LR	LR				
	comp=Z,700nm,20.0s								
CPCT	**Cooper Cave**	**107.22**	**59**	PFAKE		04 44 20.0	+15		
CPCT				LR	LR				
	comp=Z,1µm,18.0s								
SFIN	**Lafayette**	**107.22**	**53**	PFAKE		04 44 20.0	+15		
SFIN				LR	LR				
	comp=Z,1µm,18.0s								
EYMN	**Ely**	**107.22**	**45**	PFAKE		04 44 20.0	+15		
EYMN				LR	LR				
	comp=Z,2µm,18.0s								
GOGA	**Godfrey**	**107.24**	**61**	PFAKE		04 44 20.0	+15		
GOGA				LR	LR				
	comp=Z,1µm,18.0s								
H42A	**Shiocton**	**107.80**	**49**	PFAKE		04 44 20.0	+14		
H42A				LR	LR				
	comp=Z,2µm,18.0s								
V52A	**Sevierville**	**108.06**	**59**	PFAKE		04 44 20.0	+13		
V52A				LR	LR				
	comp=Z,1µm,19.0s								
M46A	**Old House Fiel**	**108.13**	**52**	PFAKE		04 44 20.0	+13		
M46A				LR	LR				
	comp=Z,2µm,19.0s								
TRD	**Trivandrum**	**108.54**	**270**	*e*P		**Pdif**		**04 40 01.0**	**-1.3**
TRD				IAmb	IAmb	04 40 01.6			
	comp=Z,184nm,0.1s								
V53A	**Saluda**	**108.59**	**59**	PFAKE		04 44 20.0	+12		
V53A				LR	LR				
	comp=Z,1µm,18.0s								
G43A	**Wallace**	**108.64**	**48**	PFAKE		04 44 20.0	+13		
G43A				LR	LR				
	comp=Z,1µm,18.0s								
C40A	**Isle Royale Na**	**108.67**	**45**	PFAKE		04 44 20.0	+13		
C40A				LR	LR				
	comp=Z,2µm,19.0s								
O49A	**Covington**	**109.11**	**54**	PFAKE		04 44 20.0	+12		
O49A				LR	LR				
	comp=Z,1µm,18.0s								
M48A	**Edgerton**	**109.30**	**53**	PFAKE		04 44 20.0	+11		
M48A				LR	LR				
	comp=Z,2µm,18.0s								
N49A	**Columbus Grove**	**109.48**	**53**	PFAKE		04 44 20.0	+11		
N49A				LR	LR				
	comp=Z,1µm,18.0s								
NHSC	**New Hope**	**109.68**	**62**	PFAKE		04 44 20.0	+10		
NHSC				LR	LR				
	comp=Z,1µm,20.0s								
ACSO	**Alum Creek Sta**	**110.10**	**54**	PFAKE		04 44 20.0	+10		
ACSO				LR	LR				
	comp=Z,2µm,18.0s								
AAM	**Ann Arbor**	**110.33**	**52**	PFAKE		04 44 20.0	+9.4		
AAM				LR	LR				
	comp=Z,2µm,18.0s								
M50A	**Fremont**	**110.45**	**53**	PFAKE		04 44 20.0	+9.1		
M50A				LR	LR				
	comp=Z,2µm,18.0s								
HYB	**Hyderabad**	**110.94**	**279**	*e*P		**PKiKP**		**04 44 12.3**	**-0.2**
MNCY	**Minicoy**	**111.89**	**268**	*e*P		**PKiKP**		**04 44 14.1**	**-0.4**
SDD	**Santo Domingo**	**112.76**	**81**	PFAKE		04 44 30.0	+14		
SDD				LR	LR				
	comp=Z,700nm,20.0s								
PTGA	**Pitinga**	**112.83**	**104**	PFAKE		04 44 30.0	+14		
PTGA				LR	LR				
	comp=Z,600nm,18.0s								
ERPA	**Erie**	**112.85**	**53**	PFAKE		04 44 30.0	+15		
ERPA				LR	LR				
	comp=Z,2µm,18.0s								
WMQ	**Urumqi**	**112.90**	**309**	*e*PKP		**PKiKP**		**04 44 10.0**	**-5.6**
WMQ				LR	LR				
	comp=Z,460nm,22.5s								
WMQ				LR	LR				
	comp=Z,640nm,22.5s								
WMQ				LR	LR				
	comp=Z,940nm,25.7s								
R58B	**Mineral**	**113.09**	**58**	PFAKE		04 44 30.0	+14		
R58B				LR	LR				
	comp=Z,1µm,19.0s								

O56A	**Blue Knob Stat**	**113.30**	**56**	PFAKE		04 44 30.0	+14		
O56A				LR	LR				
	comp=Z,2µm,18.0s								
CBN	**Corbin Frederi**	**113.55**	**58**	PFAKE		04 44 30.0	+13		
CBN				LR	LR				
	comp=Z,1µm,19.0s								
BDFB	**Brasilia**	**113.77**	**124**	PFAKE		04 44 30.0	+12		
BDFB				LR	LR				
	comp=Z,1µm,18.0s								
SSPA	**Standing Stone**	**113.91**	**55**	PFAKE		04 44 30.0	+12		
SSPA				LR	LR				
	comp=Z,2µm,18.0s								
GOA	**Goa**	**114.30**	**275**	*e*P	PKPdf	04 44 16.0	-2.9		
GOA				IAmb	IAmb	04 45 18.6			
	comp=Z,22nm,0.3s								
MPR	**Mayaguez**	**115.08**	**82**	PFAKE		04 44 30.0	+10		
MPR				LR	LR				
	comp=Z,700nm,19.0s								
PSUB	**Penn St. - Bra**	**115.49**	**57**	PFAKE		04 44 30.0	+9.4		
PSUB				LR	LR				
	comp=Z,1µm,19.0s								
POO	**Poona**	**115.49**	**278**	*e*P	**PKPdf**	**04 44 19.3**	**-1.9**		
POO				IAmb	IAmb	04 44 20.8			
	comp=Z,8.9nm,0.4s								
KSPA	**Keystone Colle**	**115.70**	**55**	PFAKE		04 44 30.0	+9.1		
KSPA				LR	LR				
	comp=Z,2µm,19.0s								
CBYP	**Canovanas**	**116.22**	**82**	PFAKE		04 44 30.0	+7.3		
CBYP				LR	LR				
	comp=Z,600nm,18.0s								
SMLA	**Simla**	**117.06**	**292**	*e*P	**PKPdf**	**04 44 22.5**	**-1.3**		
SMLA				IAmb	IAmb	04 44 23.6			
OPO	**Ambohidratompo**	**117.19**	**227**	PKP	**PKiKP**	**04 44 25.0**	**+0.2**		
	comp=Z,3.9nm,0.3s,baz=119,slow=19,SNR=3.6								
ZALV	**Zalesovo Beam**	**117.26**	**319**	PKP	**PKPdf**	**04 44 21.8**	**-1.7**		
	comp=Z,2.6nm,0.7s,baz=170,slow=0.4,SNR=13								
ZAA1	**Zalesovo Array**	**117.26**	**319**	*e*PKPdf	**PKPdf**	**04 44 21.8**	**-1.7**		
MK31	**Makanchi Array**	**117.36**	**311**	*i* PKIKP	**PKPdf**	**04 44 21.7**	**-2.3**		
MK31				pmax	pmax				
	comp=Z,8.0nm,0.9s								
MK32	**Makanchi Array**	**117.36**	**311**	*e*PKPdf	**PKPdf**	**04 44 22.4**	**-1.7**		
MKAR	**Makanchi Array**	**117.36**	**311**	PKP	**PKPdf**	**04 44 22.4**	**-1.7**		
	comp=Z,3.7nm,0.8s,baz=67,slow=2.5,SNR=26								
MKAR				PKKPbc	**PKKPab**	**04 54 52.6**	**+3.2**		
	comp=Z,0.9nm,0.9s,baz=276,slow=3.4,SNR=5.9								
SUR	**Sutherland**	**117.56**	**196**	PKP	**PKiKP**	**04 44 25.9**	**+0.6**		
	comp=Z,2.7nm,0.8s,baz=153,slow=6.8,SNR=3.2								
MAKZ	**Makanchi**	**117.57**	**311**	*e*PKPdf	**PKPdf**	**04 44 22.8**	**-1.6**		
MAKZ	**Makanchi**	**117.57**	**311**	PKIKP	**PKPdf**	**04 44 22.6**	**-1.8**		
MAKZ				pmax	pmax				
	comp=Z,10.0nm,1.0s								
DHRM	**DHARAMSHALA**	**118.10**	**293**	*e*P	**PKPdf**	**04 44 22.7**	**-3.4**		
DHRM				IAmb	IAmb	04 44 23.5			
	comp=Z,22nm,0.2s								
NVS	**Novosibirsk**	**118.33**	**320**	*e*PKIKP	**PKPdf**	**04 44 24.5**	**-1.0**		
SEUS	**St. Eustatius**	**118.44**	**84**	PFAKE		04 44 40.0	+13		
SEUS				LR	LR				
	comp=Z,600nm,21.0s								
FDF	**Fort de France**	**118.96**	**88**	PFAKE		04 44 40.0	+12		
FDF				LR	LR				
	comp=Z,700nm,18.0s								
WES	**Weston**	**119.12**	**55**	PFAKE		04 44 40.0	+12		
WES				LR	LR				
	comp=Z,2µm,18.0s								
BOSA	**Boshof**	**119.80**	**202**	PKP	**PKPdf**	**04 44 29.4**	**-0.1**		
	comp=Z,3.4nm,0.9s,baz=106,slow=10,SNR=3.8								
KSH	**Kashi**	**120.25**	**301**	PKP	**PKPdf**	**04 44 26.8**	**-3.1**		
KSH				sPKP		04 44 40.5			
KSH				PP	**PP**	**04 46 02.5**	**+6.4**		
KSH				AMB	AMB				
	comp=Z,170nm,6.7s								
KSH				LR	LR				
	comp=Z,150nm,11.5s								
KSH				LR	LR				
	comp=Z,200nm,12.6s								
KSH				LR	LR				
	comp=Z,190nm,14.1s								
MSEY	**Mahe Island**	**120.27**	**245**	PFAKE		04 44 40.0	+9.2		
MSEY				LR	LR				
	comp=Z,1µm,18.0s								
KURK	**Kurchatov**	**120.47**	**315**	*e*PKPdf	**PKPdf**	**04 44 28.6**	**-1.2**		
KURK	**Kurchatov**	**120.47**	**315**	PKIKP	**PKPdf**	**04 44 27.9**	**-1.9**		
KURBB	**Kurchatov Arra**	**120.51**	**314**	PKP	**PKPdf**	**04 44 27.9**	**-2.0**		
	comp=Z,4.3nm,0.7s,baz=105,slow=1.9,SNR=41								
KURBB				PKKPbc	**PKKPbc**	**04 54 39.6**	**+3.1**		
	comp=Z,1.0nm,1.1s,baz=281,slow=4.7,SNR=5.1								
NRN	**Naryn**	**120.64**	**304**	*e*PKPdf	**PKPdf**	**04 44 30.4**	**-0.4**		
NRN	**Naryn**	**120.64**	**304**	*e*PKIKP	**PKPdf**	**04 44 30.5**	**-0.4**		
NIL	**Nilore**	**120.95**	**294**	PFAKE		04 44 40.0	+8.5		
NIL				LR	LR				
	comp=Z,600nm,20.0s								
TULEG	**Thule**	**121.31**	**15**	*e*PKPdf	**PKPdf**	**04 44 29.7**	**-1.0**		
TULEG				LR	LR				
	comp=Z,1µm,20.0s								
BTK	**Batken**	**124.25**	**301**	*e*PKPdf	**PKPdf**	**04 44 36.2**	**-1.3**		
BTK				LR	LR				
	comp=Z,500nm,19.0s								
BTK	**Batken**	**124.25**	**301**	*e*PKIKP	**PKPdf**	**04 44 36.2**	**-1.3**		
BTK				MLR	MLR				
	comp=Z,500nm,19.0s								
KBL	**Kabul**	**124.55**	**294**	*e*PKPdf	**PKPdf**	**04 44 38.6**	**+0.1**		
KK31	**Karatay Array**	**124.94**	**305**	*i* PKIKP	**PKPdf**	**04 44 37.1**	**-1.6**		
KK31				pmax	pmax				
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**124.94**	**305**	*e*PKPdf	**PKPdf**	**04 44 38.0**	**-0.7**		
KKAR	**Karatay Array**	**124.94**	**305**	*e*PKIKP	**PKPdf**	**04 44 38.0**	**-0.7**		
BVA0	**Borovoye Array**	**125.73**	**317**	*i* PKIKP	**PKPdf**	**04 44 38.3**	**-1.6**		
BVA0				pmax	pmax				
	comp=Z,18nm,1.1s								
BVAR	**Borovoye Array**	**125.73**	**317**	PKP	**PKPdf**	**04 44 39.0**	**-0.8**		
	comp=Z,5.2nm,0.8s,baz=90,slow=3.0,SNR=26								
BRVK	**Borovoye**	**125.80**	**317**	*e*PKPdf	**PKPdf**	**04 44 39.3**	**-0.7**		
BRVK	**Borovoye**	**125.80**	**317**	*e*PKIKP	**PKPdf**	**04 44 39.3**	**-0.7**		
MATP	**Matopo**	**125.97**	**209**	PKP	**PKPdf**	**04 44 40.9**	**-0.7**		
	comp=Z,2.9nm,0.9s,baz=152,slow=4.0,SNR=4.2								
ILULI	**Ilulissat**	**128.42**	**22**	PFAKE		04 45 00.0	+15		
ILULI				LR	LR				
	comp=Z,1µm,19.0s								
RCBR	**Riachuelo**	**129.12**	**125**	PFAKE		04 45 00.0	+12		
RCBR				LR	LR				
	comp=Z,34µm,18.0s								
SPA0	**Spitsbergen Ar**	**129.59**	**357**	*e*PKPdf	**PKPdf**	**04 44 45.7**	**-0.9**		
SPITS	**Spitsbergen Ar**	**129.59**	**357**	PKP	**PKPdf**	**04 44 45.7**	**-0.9**		
	comp=Z,3.2nm,0.6s,baz=57,slow=5.3,SNR=3.0								
DAG	**Danmarks Havn**	**130.21**	**7**	*i* P	**PKiKP**	**04 44 53.8**	**+5.2**		
DAG	**Danmarks Havn**	**130.21**	**7**	*e*PKIKP	**PKiKP**	**04 44 53.8**	**+5.2**		
SUMG	**Summit**	**130.23**	**15**	*i* P	**PKiKP**	**04 44 55.7**	**+6.5**		
SUMG	**Summit**	**130.23**	**15**	*i* PKIKP	**PKiKP**	**04 44 55.7**	**+6.5**		
LSZ	**Lusaka**	**130.62**	**212**	*e*PKPdf	**PKPdf**	**04 44 50.6**	**+0.1**		
LSZ				LR	LR				
	comp=Z,1µm,20.0s								
LSZ	**Lusaka**	**130.62**	**212**	*e*PKIKP	**PKPdf**	**04 44 50.6**	**+0.1**		
LSZ				MLR	MLR				
	comp=Z,1µm,20.0s								
LSZ	**Lusaka**	**130.62**	**212**	PKP	**PKPdf**	**04 44 50.6**	**+0.1**		
	comp=Z,0.8nm,0.4s,baz=245,slow=8.2,SNR=3.2								
TSUM	**Tsumeb**	**130.96**	**198**	PFAKE		04 45 00.0	+8.0		
TSUM				LR	LR				
	comp=Z,2µm,18.0s								
ARU	**Arti**	**132.20**	**322**	*e*PKPdf	**PKPdf**	**04 44 51.2**	**-0.8**		
ARU				LR	LR				
	comp=Z,900nm,19.0s								
ARU	**Arti**	**132.20**	**322**	*i* PKIKP	**PKPdf**	**04 44 51.1**	**-0.9**		
ARU						04 47 19.7			
ARU				MLR	MLR				
	comp=Z,826nm,20.0s								
AB31	**Akbulak array**	**132.45**	**312**	*i* PKIKP	**PKPdf**	**04 44 50.1**	**-2.6**		
AB31				pmax	pmax				
	comp=Z,5.0nm,1.2s								
ABKAR	**Akbulak array**	**132.45**	**312**	*e*PKPdf	**PKPdf**	**04 44 51.2**	**-1.5**		
AKTO	**Aktyubinsk**	**133.56**	**314**	PKIKP	**PKPdf**	**04 44 53.5**	**-1.3**		
AKTO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
AKTO	**Aktyubinsk**	**133.56**	**314**	PKP	**PKPdf**	**04 44 54.3**	**-0.5**		
	comp=Z,4.5nm,0.8s,baz=87,slow=1.3,SNR=14								
GEYT	**Alibeck**	**133.79**	**297**	PKP	**PKPdf**	**04 44 55.3**	**-0.4**		
	comp=Z,3.0nm,0.6s,baz=316,slow=4.1,SNR=4.3								
SCO	**Scoresbysund**	**135.27**	**12**	*i* P	**PKiKP**	**04 45 04.4**	**+5.5**		
SCO	**Scoresbysund**	**135.27**	**12**	*e*PKIKP	**PKiKP**	**04 45 04.4**	**+5.5**		
KMBO	**Kilima Mbogo**	**136.45**	**234**	PFAKE		04 45 10.0	+6.6		
KMBO				LR	LR				
	comp=Z,600nm,18.0s								
PRGR	**Permogore**	**136.52**	**332**	*e*PKIKP	**PKPdf**	**04 44 58.4**	**-1.5**		
PRGR				*e*		04 47 41.1			
NAI	**Nairobi**	**136.66**	**233**	PFAKE		04 45 10.0	+6.2		

NAI				LR	LR				
	comp=Z,600nm,20.0s								
ARA0	**ARCESS Array S**	**136.70**	**349**	*e*PKPdf	**PKPdf**	**04 44 59.9**	**-0.3**		
ARCES	**ARCESS Array B**	**136.70**	**349**	PKP	**PKPdf**	**04 44 59.8**	**-0.3**		
	comp=Z,3.6nm,0.5s,baz=290,slow=0.9,SNR=23								
KLMR	**Klimovskoe**	**139.41**	**334**	*e*PKIKP	**PKPdf**	**04 45 03.9**	**-1.4**		
KLMR				*e*		04 47 56.6			
KLMR				pmax	pmax				
	comp=Z,28nm,1.3s								
KLMR	**Klimovskoe**	**139.41**	**334**	*e*PKPdf	**PKPdf**	**04 45 03.9**	**-1.4**		
KLMR				AMP		04 45 21.8			
	comp=Z,28nm,1.3s								
KLMR				*e*PP	**PP**	**04 47 56.7**	**-2.9**		
ATD	**Arta Tunnel**	**139.69**	**254**	PFAKE		04 45 20.0	+10		
ATD				LR	LR				
	comp=Z,700nm,19.0s								
MBAR	**Mbarara**	**141.26**	**227**	PFAKE		04 45 20.0	+6.9		
MBAR				LR	LR				
	comp=Z,900nm,20.0s								
FURI	**Furi**	**141.75**	**247**	PFAKE		04 45 20.0	+5.7		
FURI				LR	LR				
	comp=Z,1µm,20.0s								
MAK	**Makhachkala**	**141.75**	**305**	*e*P	**Pdif**	**04 42 24.8**	**-4.5**		
MAK				*i*		04 45 07.7			
MAK				*e*		04 48 11.1			
MAK				*e*PPP	PPP	04 51 19.7			
MAK				pmax	pmax				
	comp=Z,152nm,1.0s								
GROC	**Groznyy**	**142.95**	**305**	*e*PKIKP	**PKiKP**	**04 45 14.0**	**-1.4**		
GROC				*e*		04 48 19.2			
GROC				*e*		04 52 18.5			
GROC				pmax	pmax				
	comp=Z,27nm,0.5s								
MOS	**Moscow**	**143.22**	**328**	*e*PKIKP	PKPbc	04 45 10.2	+0.9		
VRH	**Novokhopyorsk**	**143.29**	**319**	*e*PKHKP	PKPpre	04 45 04.7			
VRH				pmax	pmax				
	comp=Z,7.0nm,0.7s								
FIA0	**FINESS Array S**	**143.50**	**342**	*e*PKPpre	PKPab	04 45 08.9	0.0		
FIA0	**FINESS Array S**	**143.50**	**342**	*e*PKIKP	PKPab	04 45 08.9	0.0		
FINES	**FINESS Array B**	**143.50**	**342**	PKhKP	PKPab	04 45 08.9	0.0		
	comp=Z,2.0nm,0.5s,baz=37,slow=5.0,SNR=16								
OBN	**Obninsk**	**144.07**	**328**	*e*PKIKP	**PKPab**	**04 45 09.8**	**-1.5**		
OBN				*e*		04 48 26.6			
OBN				pmax	pmax				
	comp=Z,74nm,1.6s								
GNI	**Garni**	**144.17**	**300**	*i* PKHKP	PKPpre	04 45 08.3			
GNI	**Garni**	**144.17**	**300**	PKP	PKPbc	04 45 13.2	+0.4		
	comp=Z,5.2nm,0.7s,baz=226,slow=6.2,SNR=5.6								
LPSR	**Galich'ya Gora**	**144.22**	**323**	*e*PHKHP	PKPpre	04 45 08.6			
LPSR				pmax	pmax				
	comp=Z,10.0nm,1.0s								
ZEI	**Tsey**	**144.40**	**305**	*i* PKIKP	**PKPab**	**04 45 12.5**	**-0.8**		
ZEI				pmax	pmax				
	comp=Z,35nm,1.0s								
GOF	**Gofitskoye**	**144.50**	**309**	*e*PKIKP	**PKPab**	**04 45 13.2**	**-0.1**		
GOF				pmax	pmax				
	comp=Z,40nm,0.9s								
VSR	**Storozhevoye**	**144.74**	**321**	*e*PKIKP	**PKPab**	**04 45 11.7**	**-2.2**		
VSR				pmax	pmax				
	comp=Z,20nm,0.9s								
KBZ	**Khabaz**	**144.92**	**307**	PKP	**PKPab**	**04 45 14.2**	**-0.6**		
	comp=Z,13nm,0.9s,baz=336,slow=1.3,SNR=14								
KVAR	**Kislovodsk Arr**	**145.01**	**307**	PKP	**PKPdf**	**04 45 16.0**	**0.0**		
	comp=Z,9.4nm,0.7s,baz=263,slow=20,SNR=6.2								
KIV	**Kislovodsk**	**145.02**	**307**	*e*PKPdf	**PKPdf**	**04 45 16.0**	**0.0**		
KIV	**Kislovodsk**	**145.02**	**307**	*e*PKIKP	**PKPdf**	**04 45 16.0**	**0.0**		
NEY	**Neytrino**	**145.15**	**306**	*i* PKHKP	PKPpre	04 45 11.5			
KARS	**Kars**	**145.37**	**301**	*e*PKPbc	**PKPab**	**04 45 17.5**	**+0.7**		
KARS	**Kars**	**145.37**	**301**	*e*PKIKP	**PKPab**	**04 45 17.5**	**+0.7**		
SIRT	**Sirnak**	**146.21**	**296**	*e*PKPdf	**PKPbc**	**04 45 19.4**	**+0.1**		
BATM	**Batumi**	**146.23**	**303** ⇑	*i*P	**PKPdf**	**04 45 17.8**	**-0.2**		
BCA	**Borcka**	**146.31**	**303** ⇑	*i*P	**PKPbc**	**04 45 19.3**	**-0.1**		
NB2	**NORSAR Subarra**	**146.75**	**353**	PKP	**PKPdf**	**04 45 18.4**	**+0.1**		
	comp=Z,400nm,3.3s,baz=7.5,slow=3.0								
NB2	**NORSAR Subarra**	**146.75**	**353**	PKP	**PKPdf**	**04 45 18.4**	**+0.1**		
	baz=7.5,slow=3.0								
NB200	**NORSAR Array S**	**146.75**	**353**	*e*PKPdf	**PKPdf**	**04 45 18.3**	**0.0**		
NOA	**NORSAR Array B**	**146.75**	**353**	PKPbc	**PKPdf**	**04 45 18.3**	**0.0**		
	comp=Z,11nm,0.8s,baz=13,slow=4.4,SNR=53								
NORES	**NORESS Array B**	**147.01**	**353**	PKP2	**PKPdf**	**04 45 18.6**	**-0.1**		
NORES				pmax	pmax				
	comp=Z,2.0nm,0.4s								
SOC	**Sochi**	**147.19**	**308**	*c i*PKP2	**PKPdf**	**04 45 20.4**	**+0.9**		
SOC				*e*		04 48 42.9			
SOC				*e*PPP	PPP	04 52 03.8			
SOC				pmax	pmax				
	comp=Z,33nm,0.9s								
HFS	**Hagfors**	**147.32**	**351**	PKPbc	**PKPdf**	**04 45 19.9**	**+0.7**		
	comp=Z,18nm,0.7s,baz=48,slow=2.2,SNR=38								
KTUT	**Trabzon**	**147.78**

TRPA	Tarpa	155.23 329	⇓	*i*P	PKPab	04 45 52.2	-4.4
MLR	Muntele Rosu	155.23 320		*e*PKPbc	PKPbc	04 45 45.7	
MLR				*e*PKPab	PKPab	04 45 56.6	-0.3
MLR				*e*PKPab	PKPab	04 45 56.6	-0.3
MLR	Muntele Rosu	155.23 320	⇑	*i*P	PKPbc	04 45 46.7	
MLR	Muntele Rosu	155.23 320		PKPab	PKPab	04 45 56.6	-0.3
	comp=Z,8.0nm,1.0s,baz=20,slow=3.1,SNR=6.5						
DOPR	Dopca	155.25 322	⇑	*i*P	PKPdf	04 45 41.2	+9.4
YLV	Yalova	155.45 307	⇓	*i*P	PKPab	04 45 51.6	-6.4
YLV	Yalova	155.45 307	⇓	PKP2	PKPab	04 45 51.6	-6.4
ISP	Isparta	155.48 300		PFAKE		04 45 40.0	+7.5
ISP				LR	LR		
	comp=Z,700nm,20.0s						
PRD	Provadia	155.61 314		P	PKPab	04 45 55.1	-3.3
OKC	Ostrava-Krasne	155.67 337	⇑	*e*PKP	PKPbc	04 45 45.7	
OKC				*e*PKPAB	PKPab	04 45 56.7	-1.7
OKC				AMS	AMS	05 59 00.0	
	comp=Z,500nm,14.7s						
LANS	Liptovska Anna	155.75 334		*e*PKIKP	PKPdf	04 45 33.0	+0.6
LANS				*e*		04 45 56.7	
LANS	Liptovska Anna	155.75 334		*e*PKP	PKPdf	04 45 32.9	+0.6
LANS				*e*		04 45 56.6	
VOIR		155.76 321	⇑	*i*P	PKPdf	04 45 40.6	+8.0
UPC	Upice	155.78 340	⇑	*e*PKP	PKPbc	04 45 47.1	
UPC				*e*PKPAB	PKPab	04 45 56.7	-2.2
UPC				AMS	AMS	05 56 20.0	
	comp=Z,600nm,19.5s						
DPC	Dobruska-Polom	155.82 340		*e*PKPDF	PKPdf	04 45 32.5	0.0
DPC				*ex*	x	04 45 47.2	
DPC				*e*PKPAB	pPKPab	04 46 01.4	-1.7
DPC				*e*PP	PP	04 49 44.9	+9.2
DPC				AMS	AMS	06 08 40.0	
	comp=Z,500nm,17.6s						
DPC	Dobruska-Polom	155.82 340		*e*PKIKP	PKPdf	04 45 32.5	0.0
DPC				*e*		04 45 47.2	
DPC				MLR	MLR		
	comp=Z,500nm,17.6s						
CLL	Collm	155.83 345		*e*PKPdf	PKPdf	04 45 33.0	+0.6
CLL				*e*PKPdiff	pPKPbc	04 45 44.0	-1.9
CLL			⇓	*i*(PKPab)	PKPab	04 45 54.9	-4.1
	comp=Z,16nm,1.0s						
CLL				*i* pPKPab	sPKPab	04 46 04.2	-0.3
CLL				*e*PP	PP	04 49 34.0	-1.6
CLL				*e*		04 49 48.0	
CLL				LmV		05 55 00.0	
	comp=Z,600nm,20.3s						
CLL				LmH		06 04 00.0	
	comp=N,300nm,19.2s						
CLL				LmH		06 04 00.0	
	comp=E,400nm,19.4s						
CLL	Collm	155.83 345	⇓	*e*PKIKP	PKPdf	04 45 30.0	-2.4
CLL				*e*		04 45 44.0	
CLL				*i*		04 45 54.9	
CLL				pmax	pmax		
	comp=Z,16nm,1.0s						
CLL				MLR	MLR		
	comp=Z,600nm,20.3s						
KRLC	Kraliky	155.92 339		*e*PKPDF	PKPdf	04 45 35.5	+2.9
KRLC				*e*PKP	sPKPab	04 46 06.0	+1.0
KRLC	Kraliky	155.92 339		*e*PKIKP	PKPdf	04 45 35.5	+2.9
MORC	Moravsky Berou	155.93 337		*e*PKPdif	PKPdf	04 45 42.3	+10
MORC	Moravsky Berou	155.93 337		*e*PKP	PKPdf	04 45 31.6	-1.0
BRG	Berggiesshubel	156.01 344		*e*PKP	PKPdf	04 45 32.7	+0.1
	comp=Z,35nm,2.0s						
BRG				*e*		04 45 54.6	
	comp=Z,18nm,1.1s						
BRG				*e*		04 46 02.2	
	comp=Z,23nm,1.2s						
BRG	Berggiesshubel	156.01 344		*e*PKIKP	PKPdf	04 45 32.7	+0.1
BRG				*e*		04 45 54.6	
BRG				pmax	pmax		
	comp=Z,35nm,2.0s						
BRG				pmax	pmax		
	comp=Z,18nm,1.2s						
ARR	Arges	156.04 321	⇑	*i*P	PKPbc	04 45 42.7	
DRGR		156.10 326	⇑	*i*P	PKPbc	04 45 41.9	
PVCC	Panska Ves	156.17 342	⇑	*e*PKP	PKPbc	04 45 42.7	
PVCC				*ex*	x	04 45 53.8	
PVCC				*e*PKPAB	PKPab	04 46 02.2	+1.7
PVCC				AMS	AMS	06 12 40.0	
	comp=Z,600nm,16.2s						
PHSR	Pinarhisar	156.28 311	⇑	*i*P	PKPab	04 45 55.5	-5.9
SZH	Strazhica	156.50 316		P	PKPab	04 46 00.0	-2.2
JMB	Yambol	156.50 313		P	PKPbc	04 45 46.3	
VYHS	Vyhne	156.52 334		*e*PKIKP	PKPdf	04 45 33.3	-0.2
VYHS				*e*		04 45 59.8	
VYHS	Vyhne	156.52 334		*e*PKP	PKPdf	04 45 33.2	-0.2
VYHS				*e*		04 45 59.8	
PSZ	Piszkesteto	156.55 332		*e*PKPab	PKPab	04 46 01.9	-0.5
PSZ				LR	LR		
	comp=Z,700nm,20.0s						
PSZ	Piszkesteto	156.55 332	⇓	*i*P	PKPbc	04 45 43.3	
PSZ	Piszkesteto	156.55 332		*e*PKPdf	PKPdf	04 45 35.0	+1.5
VRAC	Vranov	156.65 338	⇑	*i*P	PKPbc	04 45 46.5	
VRAC	Vranov	156.65 338		PKP	PKPdf	04 45 32.9	-0.7
	comp=Z,1.2nm,0.4s,baz=205,slow=2.5,SNR=3.1						
VRAC				PKPab	PKPab	04 46 01.6	-1.1
	comp=Z,2.1nm,0.6s,baz=37,slow=2.3,SNR=7.9						
JAVC	Velka Javorina	156.66 336		*e*PKP	PKPdf	04 45 33.4	-0.2
PRU	Pruhonice	156.66 342		*e*PKPAB	PKPab	04 46 02.4	-0.3
PRU				AMS	AMS	06 04 10.0	
	comp=Z,800nm,16.8s						
LIC	Lamto	156.69 158		*e*PKIKP	PKPbc	04 45 47.9	
	comp=Z,78nm,1.3s						
MANT	Manisa	156.76 303		*e*PKPab	PKPab	04 46 04.0	+0.1
MANT				LR	LR		
	comp=Z,2μm,19.0s						
KIC	Kosan Boka	156.92 159		*e*PKIKP	PKPbc	04 45 48.3	
	comp=Z,62nm,1.2s						
KRUC	Moravsky	156.93 338		*e*PKP	PKPdf	04 45 32.4	-1.5
NKC	Novy Kostel	156.96 345		*e*PKPAB	PKPab	04 46 02.6	-1.4
NKC				AMS	AMS	06 04 00.0	
	comp=Z,700nm,19.1s						
NKC	Novy Kostel	156.96 345		*e*PKP2	PKPab	04 46 02.6	-1.4
NKC				MLR	MLR		
	comp=Z,700nm,19.1s						
TREC	Trest	157.01 340		AMS	AMS	06 08 40.0	
	comp=Z,700nm,17.7s						
GZR	Gura Zlata	157.02 323	⇑	*i*P	PKPdf	04 45 39.3	+5.1
GZR	Gura Zlata	157.02 323	⇑	PKIKP	PKPdf	04 45 39.3	+5.1
TIC	Toumodi	157.09 158		*e*PKIKP	PKPbc	04 45 48.7	
DBIC	Dimbokro	157.17 158		PKP	PKPdf	04 45 36.0	+0.8
	comp=Z,3.0nm,1.1s,baz=117,slow=9.0,SNR=1.9						
DBIC				PKPab	PKPab	04 46 06.5	+0.7
	comp=Z,6.7nm,0.9s,baz=195,slow=2.4,SNR=4.3						
MODS	Modra-Piesok	157.21 336		*e*PKP	PKPab	04 46 09.1	+4.0
UCC	Uccle	157.41 359		PFAKE		04 45 50.0	+16
UCC				LR	LR		
	comp=Z,800nm,18.0s						
MEM	Membach	157.53 356	⇓	PKP	PKPab	04 45 59.6	-6.8
KHC	Kasperske Hory	157.71 342		PFAKE		04 45 50.0	+15
KHC				LR	LR		
	comp=Z,400nm,19.0s						
KHC	Kasperske Hory	157.71 342		*e*PKPDF	PKPdf	04 45 34.8	-0.1
KHC				*ex*	x	04 45 54.0	
KHC				*e*PKPAB	PKPab	04 46 05.6	-1.6
KHC				*e*PP	PP	04 49 51.4	+5.3
KHC				AMS	AMS	06 04 50.0	
	comp=Z,1μm,21.4s						
KHC	Kasperske Hory	157.71 342		*e*PKIKP	PKPdf	04 45 34.8	-0.1
KHC				*e*		04 49 51.4	
KHC				MLR	MLR		
	comp=Z,1μm,21.4s						
GRA1	Grafenberg Arr	157.74 347		PFAKE		04 45 50.0	+15
GRA1				LR	LR		
	comp=Z,800nm,20.0s						
GRF	Grafenberg Arr	157.74 347		*e*PKPab	PKPab	04 46 06.7	-0.6
	baz=16,slow=4.0						
GRFO	Grafenberg	157.74 347		PFAKE		04 45 50.0	+15
GRFO				LR	LR		
	comp=Z,700nm,20.0s						
GEC2	GERESS Array S	157.93 342		*e*PKPdf	PKPdf	04 45 35.7	+0.4
GEC2				*e*PKPab	PKPab	04 46 07.0	-1.3
GEC2	GERESS Array S	157.93 342		*e*PKIKP	PKPdf	04 45 35.7	+0.4
GERES	GERESS Array B	157.93 342		PKP	PKPdf	04 45 35.7	+0.4
	comp=Z,0.4nm,0.7s,baz=35,slow=3.3,SNR=4.8						
GERES				PKPab	PKPab	04 46 07.0	-1.3
	comp=Z,3.6nm,1.1s,baz=46,slow=3.9,SNR=5.0						
PGB	Panagyurishte	157.97 316		P	PKPab	04 46 07.3	-1.4
CONA	Conrad Observa	158.08 337		*e*PKPab	PKPab	04 46 05.6	-3.4
	comp=Z,2.8nm,1.1s						
RZN	Rozhen	158.09 313		P	PKPab	04 45 57.8	-12
MORH	Mrgy, Hungar	158.42 330	⇑	*e*PKPdf	PKPdf	04 45 33.1	-2.7
VTS	Vitosha	158.50 317		*e*PKPab	PKPab	04 46 11.5	+0.4
VTS	Vitosha	158.50 317	⇓	*i*P	PKPab	04 46 11.2	+0.1
VTS	Vitosha	158.50 317	⇓	PKP2	PKPab	04 46 11.2	+0.1
VTS	Vitosha	158.50 317		P	PKPab	04 46 11.8	+0.7
KARP	Karpathos	158.66 296		*e*PKPab	PKPab	04 46 11.7	-0.2
MMB	Musomiste	158.77 314		P	PKPab	04 45 57.9	-14
KKB	Krupnik	159.02 316		P	PKPab	04 46 11.5	-1.7
SOKA	Soboth	159.45 337		*e*PKPab	PKPab	04 46 14.4	-0.5
	comp=Z,5.5nm,1.7s						
PERS	Pernice	159.46 337		*i* PKPbc	PKPab	04 46 20.6	+5.7
KBA	Koelnbreinsper	159.64 340		PKPab	PKPab	04 46 14.2	-1.7
	comp=Z,3.4nm,0.9s						
VAY	Valandovo	159.65 315		*i* PKP	PKPab	04 46 15.7	-0.2
VAY	Valandovo	159.65 315		*i* PKP	PKPab	04 46 15.6	-0.3
STIP	Stip	159.67 316		*i* PKP	PKPab	04 46 14.8	-1.3
STIP	Stip	159.67 316		*i* PKP	PKPab	04 46 14.9	-1.1
OBKA	Obir	159.76 338		*e*PKPab	PKPab	04 46 13.5	-2.8
	comp=Z,5.8nm,1.5s						
ECH	Echery	159.81 353		PFAKE		04 45 50.0	+13
ECH				LR	LR		
	comp=Z,700nm,18.0s						
WATA	Walderalm	159.88 344		PKPab	PKPab	04 46 14.8	-2.0
	comp=Z,1.4nm,0.5s						
RETA	Reutte	159.93 346		PKPab	PKPab	04 46 15.9	-1.0
	comp=Z,7.2nm,1.1s						
WTTA	Wattenberg	159.93 344		*e*PKPab	PKPab	04 46 16.6	-0.5
	comp=Z,12nm,1.1s						
MYKA	Terra Mystica	159.95 339		PKPab	PKPab	04 46 16.1	-1.0
	comp=Z,9.2nm,1.4s						
SKO	Skopje	159.95 318		*i* PKP	PKPab	04 46 17.7	+0.5
SKO	Skopje	159.95 318		*i* PKP	PKPab	04 46 17.8	+0.5
MOTA	Moosalm	159.98 345		*e*PKPab	PKPab	04 46 16.6	-0.7
	comp=Z,3.9nm,0.8s						
SQTA	Sankt Quirin	160.07 344		PKPab	PKPab	04 46 15.2	-2.4
	comp=Z,9.2nm,1.2s						
ABTA	Abfaltersbach	160.18 342		*e*PKPab	PKPab	04 46 16.6	-1.5
	comp=Z,18nm,1.5s						
VISS	Visnje	160.27 336		*i* PKPbc	PKPab	04 46 23.8	+5.3
DAVA	Damuels	160.30 347		*e*PKPab	PKPab	04 46 14.8	-3.8
	comp=Z,4.7nm,0.9s						
LIT	Litokhoron	160.36 312		*e*PKPab	PKPab	04 46 18.6	-0.5
FETA	Feichten	160.37 345		*e*PKPab	PKPab	04 46 16.9	-2.1
	comp=Z,9.6nm,1.2s						
BOJS	Bojanci	160.37 335		*i* PKPbc	PKPab	04 46 24.1	+5.2
KRUS	Krusevo	160.43 317		*i* PKP	PKPab	04 46 19.0	-0.5
KRUS	Krusevo	160.43 317		*i* PKP	PKPab	04 46 19.0	-0.5
JAVS	Javornik	160.46 338		*i* PKPbc	PKPab	04 46 23.6	+4.3
IDI	Anoyia	160.52 297		PKPab	PKPab	04 46 19.0	-1.1
	comp=Z,4.3nm,0.8s,baz=95,slow=12,SNR=3.8						
FNA	Florina	160.70 315		*i* PKP	PKPab	04 46 19.3	-1.3
DAVOX	Davos/Dischmat	160.78 347		PKPab	PKPab	04 46 20.3	-0.5
FUORN	Ofenpass-Fuorn	160.86 346		*e*PKPab	PKPab	04 46 20.1	-1.2
OHR	Ohrid	160.86 317		*i* PKP	PKPab	04 46 21.0	-0.3
OHR	Ohrid	160.86 317		*i* PKP	PKPab	04 46 21.0	-0.3
PDG	Podgorica	160.90 322	⇑	*i*P	PKPdf	04 45 45.9	+7.1
ITM	Ithomi	162.12 305		*e*PKPab	PKPab	04 46 28.0	+1.1
TIP	Timpagrande	164.48 318	⇑	*i*P	PKPab	04 46 36.6	-0.6
TORD	Torodi Ar. Bea	164.93 173		PKP	PKPdf	04 45 42.8	-0.7
	comp=Z,2.1nm,0.9s,baz=324,slow=2.0,SNR=7.6						
TORD				PKPab	PKPab	04 46 39.4	-0.1
	comp=Z,8.1nm,1.0s,baz=185,slow=2.7,SNR=12						
TORD				PP	PP	04 50 29.2	+4.7
	comp=Z,2.0nm,1.1s,baz=148,slow=7.8,SNR=3.8						
TOA1	Torodi Ar. Sit	164.94 173		*e*PKPdf	PKPdf	04 45 42.8	-0.7
TOA1				*e*PKPab	PKPab	04 46 39.4	-0.2
TOA1				*e*PP	PP	04 50 29.2	+4.6
ESDC	Sonseca Array	166.98 26		PKP	PKPdf	04 45 43.9	-0.6
	comp=Z,0.6nm,0.7s,baz=321,slow=3.6,SNR=5.1						
ESDC				PKPab	PKPab	04 46 47.3	-0.9
	comp=Z,1.0nm,0.7s,baz=313,slow=3.2,SNR=2.9						
ES06	SONSECA Array	166.98 26		*e*PKPdf	PKPdf	04 45 45.0	+0.5
TAM	Tamanrasset	174.32 199		*e*PKPdf	PKPdf	04 45 49.8	+0.7
TAM	Tamanrasset	174.32 199		*e*PKIKP	PKPdf	04 45 49.8	+0.7

IDC 28 04:31:03.5±2.0, 6°20S×130°09E, h0km, mb4.1/2, mb1 4.3/4, mb1mx3.8/56, mbtmp4.2/4, ML4.1/2, Error ellipse: s-maj=144.7km s-min=29.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.27	164	Pn	Pn	04 34 27.1	+0.1
	0.8nm,0.3s,baz=346,slow=13,SNR=5.7						
WRA				Sn	Sn	04 36 50.5	-16
	2.4nm,0.3s,baz=336,slow=23,SNR=9.7						
ASAR	Alice Springs	17.75	168	P	Pn	04 35 12.1	-0.1
	1.2nm,0.3s,baz=347,slow=11,SNR=14						
MKAR	Makanchi Array	67.61	327	P	P	04 42 02.6	+0.5
	2.7nm,0.6s,baz=114,slow=8.2,SNR=20						
KURBB	Kurchatov Arra	71.88	328	P	P	04 42 27.8	-0.5
	0.8nm,0.7s,baz=128,slow=4.8,SNR=6.3						

*ATH **28** 04:33:51.7, 36°25N×27°01E, h29km±3km, ML2.5/3, Error ellipse: s-maj=3.7km s-min=1.2km az=85.0*
*ISCJB **28** 04:33:52.8±0.5, 36°24N±0°03×27°04E±0°05, h27km±8km, Error ellipse: s-maj=6.7km s-min=5.5km az=1.4*
*THE **28** 04:33:52.1, 36°23N×27°04E, h10km±1km, ML2.3/5, Error ellipse: s-maj=1.7km s-min=0.6km az=91.0*

ISC 28 04:33:51.8±1.1, 36°24N±0°03×27°04E±0°03, h19km±3km, n19, σ0°62/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	Nisiros	0.38	11	P	Pg	04 33 59.9	0.0
NISR				S	Sb	04 34 05.7	+0.1
NISR	Nisiros	0.38	11	P	Pg	04 34 00.3	+0.3
NISR				S	Sb	04 34 06.2	+0.6
NISR				AML	AML	04 34 08.7	
	comp=E,2138μm,0.3s						
NISR				AML	AML	04 34 08.8	
	comp=N,870μm,0.1s						
DAT	Datca	0.65	41	*i* P	Pn	04 34 06.3	+0.1
DAT				*i* S	Sn	04 34 15.5	-0.5
DAT				IAML_P			
	comp=Z,362nm,0.1s						
KARP	Karpathos	0.69	172	P	Pg	04 34 05.8	+0.2
KARP				S	Sg	04 34 15.3	+0.4
KARP	Karpathos	0.69	172	P	Pg	04 34 05.8	+0.2
KARP				S	Sg	04 34 15.3	+0.4
BODT	Bodrum	0.85	15	P	Pg	04 34 08.5	0.0
BODT				S	Sn	04 34 20.5	-0.3
ARG	Arkhangelos	0.88	91	P	Pg	04 34 09.0	0.0
ARG				S	Sg	04 34 21.1	+0.5
ARG	Arkhangelos	0.88	91	P	Pn	04 34 09.6	+0.5
ARG				S	Sn	04 34 21.5	+0.1
ARG				AML	AML	04 34 22.3	
	comp=N,298μm,0.3s						
ARG				AML	AML	04 34 23.6	
	comp=E,473μm,0.2s						
BDRM	Kayabasi	0.89	21	*i* P	Pn	04 34 09.9	+0.6
BDRM				IAML_P			
	comp=Z,220nm,0.1s						
ANAF	Anafi Island	1.03	277	P	Pn	04 34 11.1	-0.2
ANAF				S	Sg	04 34 25.8	+0.3
ANAF	Anafi Island	1.03	277	P	Pg	04 34 11.8	-0.1
ANAF				AML	AML	04 34 29.9	
	comp=N,1138μm,0.2s						
ANAF				AML	AML	04 34 31.0	
	comp=E,1579μm,0.4s						
AMGA	Amorgos Island	1.10	303	P	Pb	04 34 11.8	-0.4
AMGA				S	Sg	04 34 27.6	0.0
AMGA	Amorgos Island	1.10	303	P	Pn	04 34 12.1	-0.1
AMGA				S	Sg	04 34 27.8	+0.2
ZKR	Zakros	1.30	211	P	Pg	04 34 16.8	-0.3
TURN	Turunc	1.41	63	*i* P	Pn	04 34 13.7	-2.7
TURN				IAML_P			
	comp=Z,531nm,0.3s						
APE	Apeiranthos	1.47	305	P	Pn	04 34 17.2	-0.1
APE	Apeiranthos	1.47	305	P	Pn	04 34 17.5	+0.1
SMG	Samos	1.48	354	P	Pn	04 34 17.6	+0.2
SMG	Samos	1.48	354	P	Pn	04 34 17.9	+0.5

*NNC **28** 04:34:26.2±1.4, 53°97N×90°64E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=13.3km s-min=8.1km az=27.0, Suspected Mining explosion.*

KRAR 28 04:34:23.5±0.1, 53°74N×91°01E, M2.4, 4C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAA0	Zalesovo Array	3.67	276	⇑	Pg	04 35 28.9	-0.3
ZAA0				⇓	Lg	04 36 16.0	
	1.9nm,0.8s						
KURBB	Kurchatov Arra	8.28	253	⇑	Pn	04 36 25.0	+0.3
KURBB				⇓	Sn	04 37 59.3	+0.4
	6.5nm,0.8s						
KURBB				⇑	Lg	04 38 44.5	
	16nm,1.3s						
MK31	Makanchi Array	8.91	222	⇓	Pn	04 36 37.0	+3.6
	1.1nm,0.9s,baz=33,slow=15,SNR=4.0						
MK31				⇑	Lg	04 39 09.9	
	1.3nm,1.1s,baz=30,slow=26,SNR=4.0						

*JMA **28** 04:34:41.1±0.3, 30°58N×138°24E, h530km, M3.9*
*ISCJB **28** 04:34:44.5±0.5, 30°63N±0°07×138°05E±0°09, h477km, mb3.4/7, Error ellipse: s-maj=11.6km s-min=6.7km az=143.7*
*IDC **28** 04:34:45.4±0.7, 30°62N×137°89E, h457km±11km, mb3.0/7, mb1 3.2/13, mb1mx3.0/66, mbtmp4.0/13, Error ellipse: s-maj=23.0km s-min=10.1km az=65.0*

ISC 28 04:34:45.7±0.8, 30°64N±0°09×138°09E±0°10, h477km, n24, σ18°25/26, mb3.5/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	Hachijojimakas	2.83	30	P	P	04 35 54.0	+0.4
JHJ	Hachijo jima 2	2.86	30	P	P	04 35 54.3	+0.5
	37nm,0.3s,baz=183,slow=22,SNR=15						
JHJ				S	S	04 36 48.1	-1.2
	11nm,0.3s,baz=72,slow=20,SNR=1.9						
JHJ2	Mitsune	2.87	30	P	P	04 35 54.2	+0.3
TTO1	TONANKAI O.B.S	3.18	340	P	P	04 35 56.9	+1.2
JTNC	Tanabenakahech	3.80	327	P	P	04 36 01.1	+0.2
BSO1	Boso 1	4.69	31	P	P	04 36 07.5	-0.4
JOD2	Odawara 2	4.69	10	P	P	04 36 07.9	-0.6
CBIJ	Chichi jima	5.03	133	eS	S	04 37 19.5	-2.6
JCJ	Chichijima	5.03	133	P	P	04 36 10.4	-1.4
	7.4nm,0.3s,baz=353,slow=19,SNR=9.0						
JCJ				S	S	04 37 20.2	-1.8
	25nm,0.3s,baz=264,slow=22,SNR=9.7						
JWT	Wachi	5.15	335	P	P	04 36 13.0	+0.2
JRY	Ryogami san	5.41	7	P	P	04 36 14.9	-0.3
JAG	Ashikaga	5.88	11	P	P	04 36 18.0	-1.8
MJAR	Matsushiro Arr	5.89	1	P	P	04 36 18.6	-1.3
	0.3nm,0.3s,baz=184,slow=11,SNR=16						
JHS	Saijyo	6.04	317	P	P	04 36 21.6	+0.2
JNU	Nakatsue	6.61	294	P	P	04 36 25.8	-1.4
	1.3nm,0.3s,baz=157,slow=2.7,SNR=8.6						
KSRS	Korea Array	10.83	312	P	P	04 37 10.5	-1.1
	0.6nm,0.3s,baz=127,slow=12,SNR=10.0						
USRK	Ussuriysk Ar.	14.37	342	P	P	04 37 49.7	+0.2
	0.8nm,0.3s,baz=198,slow=12,SNR=8.4						
SONM	Songino Array	29.68	314	P	P	04 40 10.4	-1.2
	1.3nm,0.8s,baz=112,slow=5.2,SNR=5.4						
MKAR	Makanchi Array	45.47	307	P	P	04 42 20.9	-0.1
	0.8nm,0.5s,baz=82,slow=11,SNR=12						
KURBB	Kurchatov Arra	48.01	312	P	P	04 42 40.1	-0.1
	1.4nm,0.5s,baz=92,slow=10.0,SNR=19						
WRA	Warramunga Arr	50.42	185	P	P	04 42 59.5	+1.0
	2.0nm,0.5s,baz=2.2,slow=7.9,SNR=19						
BVAR	Borovoye Array	53.01	316	P	P	04 43 16.6	-0.3
	0.8nm,0.4s,baz=109,slow=8.6,SNR=6.0						
ASAR	Alice Springs	54.14	185	P	P	04 43 27.1	+1.8
	1.1nm,0.5s,baz=18,slow=13,SNR=9.3						
YKA	Yellowknife Ar	70.73	28	P	P	04 45 14.9	+2.4
	0.2nm,0.6s,baz=304,slow=6.1,SNR=5.5						

KRSC 28 04:41:47.8±10.0, 50°67N×159°97E, h45km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.65	315	*e*P	Pn	04 42 16.7	+2.4
KDTR				*e*S	Sn	04 42 37.2	+3.0
RUS	Russkaya	1.99	333	P	Pn	04 42 21.1	+2.2
RUS				*e*S	Sn	04 42 44.9	+2.4
MTVR	Mutnovka	2.13	329	*e*P	Pn	04 42 24.1	+3.1
MTVR				*e*S	Sn	04 42 49.5	+3.2
PAU	Pauzhetka	2.15	293	*e*S	Sn	04 42 50.1	+3.6
ASAK	Asacha	2.15	324	*e*P	Pn	04 42 24.3	+3.1
ASAK				*e*S	Sn	04 42 50.8	+4.1
SPN	Mys Shipunski	2.43	1	*e*S	Sn	04 42 55.4	+1.9
KRMR	Karymshinskiy	2.45	333	*e*P	Pn	04 42 28.0	+2.8
KRMR				*e*S	Sn	04 42 57.0	+3.1
DALK	Dalny	2.48	343	*e*P	Pn	04 42 29.0	+3.3
DALK				*e*S	Sn	04 42 57.6	+2.9
PET	Petropavlovsk	2.50	341	*e*S	Sn	04 42 57.3	+2.2
NLC	Nalytchevo	2.54	351	*e*S	Sn	04 42 57.8	+1.8
UGLR	Uglovaya	2.64	345	*e*P	Pn	04 42 31.9	+3.9
SMAR	Somma	2.70	345	*e*P	Pn	04 42 32.4	+3.5
SDLR	Sedlovina	2.70	346	*e*P	Pn	04 42 31.5	+2.7
AVH	Avacha	2.71	344	*e*P	Pn	04 42 32.9	+4.0
AVH				*e*S	Sn	04 43 05.8	+5.3
KRER	Koryakskii	2.75	345	S	Sn	04 43 06.8	+5.3
KOK	Koryaka	2.75	343	*e*P	Pn	04 42 33.2	+3.7
ALID	Alaid	2.81	276	*e*S	Sn	04 43 07.0	+3.9
KZV	Kizimen	4.46	2	*e*P	Pn	04 42 56.8	+3.9
TUMR	T

	4.7nm,0.3s,baz=311,slow=28,SNR=41							
KURBB	**Kurchatov Arra**	**4.97**	**219**	⇑Pg		Pb	05 03 47.0	+3.3
	2.0nm,0.8s							
KURBB				⇑Lg		Lg	05 04 55.4	
	8.2nm,0.7s							
KURBB	**Kurchatov Arra**	**4.97**	**219**	Pn		Pn	05 03 32.2	+0.5
	0.1nm,0.3s,baz=41,slow=13,SNR=4.4							
KURBB				Lg		Lg	05 04 51.2	
	0.1nm,0.3s,baz=32,slow=32,SNR=4.3							
MK31	**Makanchi Array**	**7.82**	**186**	⇑Pn		Pn	05 04 10.5	-0.4
	0.8nm,0.7s,baz=15,slow=12,SNR=6.7							
MK31				⇓Lg		Lg	05 06 24.5	
	0.4nm,0.6s,baz=12,slow=12,SNR=5.3							
MKAR	**Makanchi Array**	**7.82**	**186**	Pn		Pn	05 04 11.0	+0.1
	0.1nm,0.3s,baz=6.4,slow=13,SNR=8.3							
MKAR				Lg		Lg	05 06 25.4	
	0.1nm,0.3s,baz=15,slow=28,SNR=3.6							

JMA 28 05:12:13.4±0.1, 35°.87N×140°.92E, h15km±2km, M3.5, 3C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.17**	**197**	⇑P	Pg	05 12 17.5	-0.1
CHOJ				S	Sg	05 12 20.4	0.0
JIHU	**Itakohorinouch**	**0.33**	**287**	P	Pb	05 12 20.8	-0.3
JIHU				S	Sb	05 12 26.4	+0.2
JSMT	**Sammumatsuo**	**0.45**	**240**	P	Pb	05 12 22.7	-0.2
JHYU	**Hitachinakayam**	**0.54**	**330**	S	Sg	05 12 31.7	+0.3
JYT	**Yasato**	**0.69**	**301**	⇑P	Pg	05 12 26.3	-0.6
JYT				S	Sg	05 12 35.3	-0.7
JCN	**Nagara**	**0.74**	**233**	P	Pn	05 12 28.7	-0.6
JCN				S	Sn	05 12 40.1	-0.1
JHO	**Hitachi**	**0.79**	**339**	⇑P	Pg	05 12 28.2	-0.6
JHO				S	Sb	05 12 39.4	0.0
BSO4	**Boso 4**	**1.00**	**209**	P	Pn	05 12 33.3	+0.5
BSO3	**Boso 3**	**1.12**	**198**	P	Pn	05 12 34.0	-0.3
MAT	**Matsushiro**	**2.29**	**288**	P	Pn	05 12 50.5	-0.2
MAT				S	Sn	05 13 20.2	+1.5

*ISK **28** 05:38:07.4, 38°.61N×43°.42E, h30km, ML1.4/3*
*ISCJB **28** 05:38:08.7±0.7, 38°.65N±0°.04×43°.36E±0°.09, h28km±6km, Error ellipse: s-maj=11.7km s-min=6.0km az=1.4*
*DDA **28** 05:38:09.1, 38°.69N×43°.27E, h7km±1km, ML2.6*
ISC 28 05:38:07.8±3.4, 38°.63N±0°.09×43°.4E±0°.2, h32km±19km, n6, σ0s42/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.04**	**202**	PG	**Pb**	**05 38 13.0**	**-0.3**
VANB				SG	**Sb**	**05 38 17.2**	**+0.2**
TVAN	**Van**	**0.10**	**180**	*i* P	**Pb**	**05 38 13.4**	**-0.3**
TVAN				*i* S	**Sb**	**05 38 17.7**	**0.0**
VMUR	**Van-Muradiye**	**0.38**	**20**	*i* P	**Pb**	**05 38 16.8**	**+0.1**
VMUR				*i* S	**Sb**	**05 38 23.2**	**+0.4**
VMUR				IAML_P			
	comp=Z,330nm,0.1s						
AKDM	**Akdamar-Van**	**0.45**	**228**	PG	**Pb**	**05 38 17.5**	**-0.1**
AKDM				SG	**Sb**	**05 38 25.0**	**+0.6**
TUTA	**Tutak**	**0.90**	**329**	*i* P	**Pb**	**05 38 25.2**	**+0.2**
TUTA				IAML_P			
	comp=Z,838nm,0.1s						
AGRB	**Hanur-Agry**	**1.00**	**341**	PG	**Pb**	**05 38 26.0**	**-0.7**
AGRB				SG	**Sb**	**05 38 39.6**	**0.0**

*ISCJB **28** 05:42:25.7±0.5, 42°.37N±0°.03×76°.49E±0°.03, h10km±5km, Error ellipse: s-maj=4.7km s-min=3.8km az=156.9*
*SOME **28** 05:42:25.7, 42°.35N×76°.50E, h15km*
*NNC **28** 05:42:25.6±0.1, 42°.36N×76°.48E, h21km, mb2.3*
*KRNET **28** 05:42:25.6±0.1, 42°.36N×76°.48E, h21km, mb2.3*
ISC 28 05:42:25.5±1.0, 42°.36N±0°.03×76°.49E±0°.03, h17km±9km, n29, σ0s41/56, 12C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**0.22**	**238**	⇑*i*P	**Pg**	**05 42 30.8**	**0.0**
	baz=38						
ULHL				⇑*i*S	**Sg**	**05 42 34.6**	**+0.2**
	baz=38						
BOOM	**Boomskoye usch**	**0.43**	**288**	⇓*i*P	**Pg**	**05 42 34.2**	**-0.1**
	baz=88						
BOOM				⇓*i*S	**Sg**	**05 42 40.3**	**+0.1**
	baz=88						
KDJ	**Kajisay**	**0.56**	**114**	⇑*i*P	**Pb**	**05 42 37.2**	**+0.2**
	baz=13						
KDJ				⇑*i*S	**Sb**	**05 42 45.1**	**+0.3**
	baz=13						
TNSS	**Tian-Shan**	**0.76**	**26**	P	**Pg**	**05 42 40.1**	**-0.3**
	1.3nm,0.1s						
TNSS				S	**Sg**	**05 42 50.6**	**+0.1**
	5.5nm,0.2s						
TNSS	**Tian-Shan**	**0.76**	**26**	⇓*i*P	**Pg**	**05 42 40.1**	**-0.3**
	baz=27						
TNSS				⇓*e*S	**Sg**	**05 42 50.6**	**+0.1**
TNSS	**Tian-Shan**	**0.76**	**26**	⇓*i*P	**Pg**	**05 42 40.1**	**-0.3**
	1.9nm,0.3s						
TNSS				*e*S	**Sg**	**05 42 50.5**	**+0.1**
	5.3nm,0.4s						
MTBS	**Maitube**	**0.77**	**357**	P	**Pg**	**05 42 40.3**	**-0.3**
	6.1nm,0.1s						
MTBS				S	**Sg**	**05 42 50.9**	**+0.1**
	14nm,0.3s						
MTBS	**Maitube**	**0.77**	**357**	*e*P	**Pg**	**05 42 40.3**	**-0.3**
	baz=57						
MTBS				*e*S	**Sg**	**05 42 50.9**	**+0.1**
	baz=57						
MTBS	**Maitube**	**0.77**	**357**	*e*P	**Pg**	**05 42 40.3**	**-0.3**
	6.8nm,0.2s						
MTBS				*e*S	**Sg**	**05 42 50.9**	**+0.1**
	14nm,0.3s						
KST	**Kastek**	**0.79**	**330**	P	**Pg**	**05 42 40.3**	**-0.5**
	1.8nm,0.1s						
KST				S	**Sg**	**05 42 50.6**	**-0.7**
	2.6nm,0.3s						
KST	**Kastek**	**0.79**	**330**	*e*P	**Pg**	**05 42 40.5**	**-0.4**
	baz=31						
KST				*e*S	**Sg**	**05 42 51.4**	**+0.1**
	baz=31						
KST	**Kastek**	**0.79**	**330**	*e*P	**Pg**	**05 42 40.5**	**-0.4**
	2.3nm,0.2s						
KST				*e*S	**Sg**	**05 42 51.3**	**+0.1**
	2.6nm,0.3s						
TKM2	**Tokmak 2**	**0.86**	**311**	⇑P	**Pg**	**05 42 41.8**	**-0.6**
	1.0nm,0.3s						
TKM2				⇑S	**Sg**	**05 42 53.9**	**0.0**
	1.4nm,0.2s						
TKM2	**Tokmak 2**	**0.86**	**311**	⇑*i*P	**Pg**	**05 42 42.0**	**-0.4**
	baz=11						
TKM2				⇑*i*S	**Sg**	**05 42 53.9**	**0.0**
	baz=11						
MDOK	**Medeo**	**0.90**	**27**	⇓S	**Sb**	**05 42 54.4**	**-0.1**
MDOK	**Medeo**	**0.90**	**27**	Pg	**Pb**	**05 42 42.6**	**-0.2**
	1.7nm,0.2s						
MDOK				Lg	Lg	05 42 54.1	
	5.5nm,0.9s						
MDOK	**Medeo**	**0.90**	**27**	*e*P	**Pb**	**05 42 42.3**	**-0.5**
	baz=27						
MDOK				*e*S	**Sb**	**05 42 54.4**	**-0.1**
	baz=27						
KZA	**Kyzart**	**0.96**	**253**	⇑*i*P	**Pb**	**05 42 43.8**	**-0.2**
	baz=53						
KZA				⇑*i*S	**Sb**	**05 42 56.8**	**+0.2**
	baz=53						
KOTS	**Kotyrbulak**	**0.98**	**27**	P	**Pb**	**05 42 44.3**	**+0.1**
	1.4nm,0.1s						
KOTS				S	**Sg**	**05 42 57.7**	**0.0**
	33nm,0.3s						
KOTS	**Kotyrbulak**	**0.98**	**27**	*e*P	**Pb**	**05 42 44.3**	**+0.1**
	baz=28						
KOTS				*e*S	**Sg**	**05 42 57.6**	**0.0**
	baz=28						
KOTS	**Kotyrbulak**	**0.98**	**27**	*e*P	**Pb**	**05 42 44.3**	**+0.1**
	1.5nm,0.2s						
KOTS				*e*S	**Sg**	**05 42 57.6**	**0.0**
	35nm,0.4s						
NRN	**Naryn**	**1.00**	**202**	⇑*i*P	**Pb**	**05 42 44.2**	**-0.3**
	baz=2.0						
NRN				⇑*i*S	**Sb**	**05 42 57.9**	**+0.5**
	baz=2.0						
DGS	**Degeres**	**1.03**	**329**	*e*P	**Pb**	**05 42 44.7**	**-0.2**
	baz=30						
DGS				*e*S	**Sb**	**05 42 58.5**	**+0.3**
	baz=30						
DGS	**Degeres**	**1.03**	**329**	*e*P	**Pb**	**05 42 44.7**	**-0.2**
	2.5nm,0.4s						
DGS				*e*S	**Sb**	**05 42 58.5**	**+0.3**
	4.3nm,0.3s						
CHKK	**Chushkaly**	**1.54**	**14**	*e*P	**Pb**	**05 42 54.1**	**+0.6**
	baz=14						
CHKK				*e*S	**Sg**	**05 43 14.4**	**-0.7**
	baz=14						
CHKK	**Chushkaly**	**1.54**	**14**	*e*P	**Pb**	**05 42 54.1**	**+0.6**
	1.6nm,0.2s						
CHKK				*e*S	**Sg**	**05 43 14.4**	**-0.7**
	12nm,0.2s						
KUU	**Kurty**	**1.54**	**356**	*e*P	**Pb**	**05 42 53.7**	**+0.2**
	baz=56						
KUU				*e*S	**Sb**	**05 43 14.0**	**+1.3**
	baz=56						
KUU	**Kurty**	**1.54**	**356**	*e*P	**Pb**	**05 42 53.7**	**+0.2**
	2.5nm,0.1s						
KUU				*e*S	**Sb**	**05 43 14.1**	**+1.3**
	3.9nm,0.2s						
SATY	**Saty**	**1.57**	**63**	*e*P	**Pb**	**05 42 53.9**	**-0.4**
	2.6nm,0.1s						
SATY				*e*S	**Sb**	**05 43 14.2**	**+0.3**
	4.8nm,0.1s						

*ISK **28** 05:43:23.6, 37°.31N×37°.12E, h6km, ML1.9/6*
*ISCJB **28** 05:43:24.3±0.5, 37°.29N±0°.04×37°.11E±0°.04, h4km±7km, Error ellipse: s-maj=7.3km s-min=4.8km az=31.6*
*DDA **28** 05:43:24.0, 37°.31N×37°.12E, h7km±3km, ML2.9*
ISC 28 05:43:24.2±1.0, 37°.30N±0°.04×37°.13E±0°.03, h9km±9km, n14, σ0s35/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.14**	**152**	PG	**Pg**	**05 43 27.4**	**0.0**
GAZ				SG	**Sg**	**05 43 29.6**	**0.0**
HCB	**Kahramanmara**	**0.18**	**285**	*i* P	**Pg**	**05 43 28.1**	**+0.1**
HCB				IAML_P			
	comp=Z,5μm,0.2s						
KMRS	**Kahramanmaras**	**0.27**	**319**	PG	**Pg**	**05 43 29.6**	**-0.1**
KMRS				SG	**Sg**	**05 43 33.2**	**-0.2**
GZT	**Gaziantep**	**0.35**	**81**	*i* P	**Pg**	**05 43 31.2**	**0.0**
GZT				*i* S	**Sg**	**05 43 36.0**	**+0.1**
GZT				IAML_P			
	comp=Z,3μm,0.1s						
KUZU	**Kuzuini**	**0.53**	**184**	*i* P	**Pb**	**05 43 35.6**	**-0.1**
ANDN	**Andirin**	**0.68**	**295**	*i* P	**Pb**	**05 43 38.0**	**-0.4**
ANDN				IAML_P			
	comp=Z,2μm,0.2s						
ATAB	**Bozova**	**0.95**	**79**	*i* P	**Pn**	**05 43 43.6**	**-0.2**
ATAB				IAML_P			
	comp=Z,4μm,0.1s						
ELBS	**KAHRAMANMARAS**	**1.02**	**0**	*i* P	**Pn**	**05 43 45.8**	**+0.9**
ELBS				IAML_P			
	comp=Z,966nm,0.2s						
KOZT	**Kozan**	**1.05**	**280**	PG	**Pb**	**05 43 44.2**	**-0.4**
CEYT	**Ceyhan**	**1.14**	**256**	PN	**Pb**	**05 43 45.9**	**-0.2**
AKCD	**Akcadag**	**1.18**	**32**	*i* P	**Pn**	**05 43 47.6**	**+0.6**
AKCD				*i* S	**Sn**	**05 44 03.4**	**+0.1**
AKCD				IAML_P			
	comp=Z,1μm,0.2s						
SURC	**SANLIURFA_SURC**	**1.26**	**109**	*i* P	**Pn**	**05 43 48.0**	**-0.1**
SURC				IAML_P			
	comp=Z,467nm,0.1s						
DARE	**Darende-Malaty**	**1.30**	**12**	PN	**Pg**	**05 43 48.8**	**-0.4**
URFA	**Urfa**	**1.36**	**83**	PN	**Pb**	**05 43 49.8**	**-0.1**

UCR 28 05:45:52.4±1.2, 13°.52N×90°.83W, h36km±999km, MD3.5, ML3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IXG	**Ixpaco**	**0.75**	**30**	*e*P	Pn	05 46 06.7	+0.1
PCG	**Pacaya**	**0.89**	**14**	*e*P	Pn	05 46 09.0	+0.2
FUG	**Fuego 3**	**0.92**	**359**	*e*P	Pn	05 46 09.2	+0.1
NBG	**Las Nubes**	**1.16**	**24**	*e*P	Pn	05 46 13.7	+1.3
CEVE	**Cerro Verde**	**1.21**	**75**	*e*P	Pn	05 46 12.9	-0.1
CEVE				IAML		05 46 30.9	
	comp=Z,7μm,0.4s						
RTR	**El Retiro**	**1.21**	**72**	*e*P	Pn	05 46 13.1	+0.2
RTR				*e*S	Sn	05 46 28.9	+0.8
SBLS	**San Blas**	**1.21**	**75**	*e*P	Pn	05 46 12.7	-0.3
SBLS				*e*S	Sn	05 46 29.1	+0.7
SNJE	**San Jose**	**1.23**	**73**	*e*P	Pn	05 46 13.3	0.0
UNIC	**Santa Ana**	**1.32**	**69**	*e*P	Pn	05 46 14.3	-0.1
UNIC				*e*S	Sn	05 46 31.7	+1.0
BOQS	**Boqueron**	**1.52**	**82**	*e*P	Pn	05 46 17.4	+0.1
BOQS				*e*S	Sn	05 46 37.4	+1.5
UEES	**San Salvador**	**1.55**	**82**	*e*P	Pn	05 46 17.7	+0.1
UEES				*e*S	Sn	05 46 37.5	+0.9
SNET	**Serv Nac Est T**	**1.56**	**84**	*e*P	Pn	05 46 17.7	0.0
SNET				*e*S	Sn	05 46 38.0	+1.3
SNET				IAML		05 46 39.6	
	comp=Z,2μm,0.3s						
UDBS	**Soyapango**	**1.63**	**83**	*e*P	Pn	05 46 19.1	+0.4
MTO3	**Montecristo**	**1.67**	**58**	*e*P	Pn	05 46 19.9	+0.5
MTO3				*e*S	Sn	05 46 41.8	+2.1
LFU	**La Fuente**	**1.68**	**82**	*e*P	Pn	05 46 20.0	+0.7
LFRS	**El Faro**	**1.72**	**86**	*e*P	Pn	05 46 19.7	-0.2
LBRS	**Las Brisas**	**1.75**	**83**	*e*P	Pn	05 46 21.2	+1.0
PAVA	**Las Pavas**	**1.85**	**84**	*e*P	Pn	05 46 22.5	+0.8
TECA	**Tecapa**	**2.26**	**90**	*e*P	Pn	05 46 27.9	+0.5
LCND	**La Caada**	**2.86**	**94**	*e*P	Pn	05 46 36.1	+0.6
CNCH	**Conchagua**	**2.92**	**94**	*e*P	Pn	05 46 37.3	+0.8

NNC 28 05:49:22.7±1.6, 38°.67N×71°.33E, h0km, mb3.8, mpv3.4, 2C-3D, Error ellipse: s-maj=11.5km s-min=7.9km az=3.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.47**	**352**	⇑Pg	Pb	05 50 44.0	+1.9
	4.3nm,0.6s,baz=174,slow=12,SNR=44						
KK31				Lg	Lg	05 51 45.3	
	5.9nm,0.5s,baz=163,slow=14,SNR=9.3						
AAK	**Ala-Archa**	**4.64**	**30**	⇓Pg	Pb	05 50 47.3	+2.4
	7.4nm,1.1s						
AAK				⇓Lg	Lg	05 51 50.0	
	14nm,0.9s						
TKM2	**Tokmak 2**	**5.34**	**36**	⇓Pg	Pb	05 51 00.3	+3.3
	2.5nm,0.5s						
TKM2				⇑Lg	Lg	05 52 11.9	
	6.9nm,0.8s						

NNC 28 05:56:10.8±7.5, 37°.92N×71°.33E, h0km, mb3.6, mpv3.2, 5C-1D, Error ellipse: s-maj=65.6km s-min=43.2km az=161.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.22**	**353**	⇑Pn	Pn	05 57 27.6	-2.5
	0.8nm,0.3s,baz=175,slow=12,SNR=25						
KK31				⇓Sn	Sn	05 58 32.7	+1.8
	4.0nm,0.6s,baz=169,slow=28,SNR=10.0						
AAK	**Ala-Archa**	**5.30**	**26**	⇑Pn	Pn	05 57 32.1	+0.8
	2.4nm,0.6s						
AAK				⇑Sn	Sn	05 58 34.6	+1.5
	7.6nm,1.1s						
TKM2	**Tokmak 2**	**5.96**	**32**	⇑Pn	Pn	05 57 41.9	+1.4
	1.4nm,0.4s						
TKM2				⇑Sn	Sn	05 58 50.6	+1.0
	4.3nm,0.8s						

MEX 28 06:00:41.0±0.5, 16°.06N×98°.28W, h2km±4km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.36**	**24**	*i* P	Pg	06 00 47.6	-0.4
PNIG				*e*S	Sg	06 00 53.2	+0.5

IDC 28 06:16:36.4±8.2, 21°.71S×177°.33W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/28, mbtmp4.0/4, Error ellipse: s-maj=274.9km s-min=85.1km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.02**	**266**	P	P	06 23 24.1	+1.9
	4.1nm,0.9s,baz=90,slow=12,SNR=2.1						
ASAR	**Alice Springs**	**44.87**	**258**	P	P	06 24 51.6	-1.2
	0.3nm,0.6s,baz=91,slow=7.4,SNR=3.3						
WRA	**Warramunga Arr**	**45.07**	**263**	P	P	06 24 53.4	-1.1
	1.0nm,0.9s,baz=95,slow=8.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**91.11**	**289**	P	P	06 29 43.8	+0.2
	0.9nm,0.3s,baz=117,slow=3.1,SNR=4.2						

*NEIC **28** 06:38:03.6±0.4, 25°.19S×174°.68W, h10km, mb4.1/2, Error ellipse: s-maj=17.9km s-min=8.0km az=161.0*
*ISCJB **28** 06:38:05.4±0.6, 25°.45S±0°.2×174°.63W±0°.10, h33km, Error ellipse: s-maj=22.8km s-min=10.3km az=159.2*
*IDC **28** 06:38:05.3±2.7, 23°.87S×175°.19W, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.0/48, mbtmp4.4/6, MS3.7/6, Ms1 3.6/6, ms1mx3.3/30, Error ellipse: s-maj=124.2km s-min=28.4km az=154.0*
ISC 28 06:38:06.4±0.6, 25°.3S±0°.2×174°.49W±0°.08, h35km, n37, σ2s12/32, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.99**	**217**	*e*Pn	**Pn**	**06 39 18.1**	**-0.8**
RAR	**Rarotonga**	**14.12**	**76**	*e*Pn	**Pn**	**06 41 25.8**	**+1.9**
RAR				*e*Sn	**Sn**	**06 43 55.4**	**-4.0**
RAR	**Rarotonga**	**14.12**	**76**	Pn	**Pn**	**06 41 25.2**	**+1.3**
	3.2nm,0.3s,baz=212,slow=6.9,SNR=7.6						
RAR				Sn	**Sn**	**06 43 55.4**	**-4.0**
	0.7nm,0.3s,baz=80,slow=17,SNR=2.5						
DZM	**Mont Dzumac**	**17.76**	**276**	*e*LR	LR	06 46 22.0	
	comp=Z,202nm,24.6s						
DZM	**Mont Dzumac**	**17.76**	**276**	*e*P	**Pn**	**06 42 09.7**	**-1.4**
	24nm,1.2s						
DZM	**Mont Dzumac**	**17.76**	**276**	LR	LR	06 47 14.1	
	comp=Z,186nm,18.1s,baz=100,slow=32						
PPT2	**Papeete2**	**24.39**	**77**	*e*LR	LR	06 49 25.5	
	comp=Z,215nm,21.8s						
PPT	**Papeete**	**24.40**	**77**	LR	LR	06 51 06.7	
	comp=Z,170nm,19.4s,baz=232,slow=32						
CTA	**Charters Tower**	**36.50**	**270**	P	**P**	**06 45 07.9**	**-0.7**
	4.0nm,0.5s,baz=94,slow=9.4,SNR=9.1						
STKA	**Stephens Creek**	**38.92**	**250**	LR	LR	07 00 56.3	
	comp=Z,98nm,18.6s,baz=34,slow=35						
AS01	**Alice Springs**	**46.72**	**261**	*e*P	**P**	**06 46 29.7**	**-2.6**
AS31	**Alice Springs**	**46.76**	**261**	*e*P	**P**	**06 46 32.5**	**-0.2**
	2.2nm,1.4s						
ASAR	**Alice Springs**	**46.76**	**261**	P	**P**	**06 46 34.0**	**+1.3**
	3.3nm,1.0s,baz=88,slow=8.3,SNR=15						
WR1	**Warramunga Arr**	**47.31**	**266**	*e*P	**P**	**06 46 35.4**	**-1.6**
	14nm,1.2s						
WRA	**Warramunga Arr**	**47.31**	**266**	P	**P**	**06 46 35.4**	**-1.6**
	3.7nm,1.0s,baz=94,slow=8.3,SNR=27						
WRA				LR	LR	07 05 50.9	
	comp=Z,103nm,18.4s,baz=170,slow=36						
JCJ	**Chichijima**	**66.76**	**318**	LR	LR	07 13 19.8	
	comp=Z,57nm,19.1s,baz=130,slow=32						
NV01	**Mina Array Sit**	**82.37**	**41**	*e*P	**P**	**06 50 25.9**	**+0.9**
NVAR	**Mina Array Bea**	**82.37**	**41**	P	**P**	**06 50 26.2**	**+1.2**
	0.8nm,0.9s,baz=221,slow=7.1,SNR=3.9						
KSRS	**Korea Array**	**82.59**	**317**	LR	LR	07 23 42.7	
	comp=Z,19nm,19.0s,baz=110,slow=34						
KS15	**Wonju Array Si**	**82.61**	**317**	*e*P	**P**	**06 50 26.0**	**0.0**
	78nm,2.0s						
USRK	**Ussuriysk Ar.**	**84.72**	**324**	P	**P**	**06 50 33.0**	**-3.6**
	8.0nm,1.1s,baz=101,slow=3.9,SNR=6.2						
RND	**Reindeer**	**90.69**	**11**	*e*P	**P**	**06 51 05.8**	**+0.8**
	25nm,1.9s						
CSGN	**Cosiguina Volc**	**92.72**	**77**	*e*P	**P**	**06 51 18.6**	**+3.0**
	242nm,0.8s						
UTTA	**Uttaradit**	**93.03**	**288**	P	**P**	**06 51 20.2**	**+3.4**
LAMP	**Lampang**	**94.15**	**288**	P	**P**	**06 51 25.6**	**+3.6**
CM01	**Chiang Mai Arr**	**94.69**	**288**	*e*P	**P**	**06 51 24.9**	**+0.5**
CM31	**Chiang Mai Arr**	**94.72**	**288**	*e*P	**P**	**06 51 25.1**	**+0.5**
	12nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.72**	**288**	P	**P**	**06 51 25.4**	**+0.8**
	2.2nm,0.4s,baz=126,slow=3.2,SNR=19						
CMMT	**Chiang Mai**	**94.86**	**288**	P	**P**	**06 51 27.4**	**+2.1**
CHTO	**Chiang Mai**	**94.87**	**288**	*e*P	**P**	**06 51 25.5**	**+0.2**
	7.6nm,1.2s						
CHTO	**Chiang Mai**	**94.87**	**288**	P	**P**	**06 51 27.4**	**+2.1**
AKASG	**Malin Array Be**	**148.75**	**330**	PKPbc	**PKPbc**	**06 57 48.8**	**-1.0**
	1.6nm,0.5s,baz=41,slow=4.1,SNR=3.3						
AKBB	**Malin Array Si**	**148.79**	**330**	*e*PKPdf	**PKPbc**	**06 57 47.2**	**-2.6**
AK11	**Malin Array Si**	**148.79**	**330**	*e*pPKPdf	**PKiKP**	**06 57 49.7**	**-1.6**
BR101	**Keskin Array S**	**152.39**	**308**	*e*PKPbc	**PKiKP**	**06 58 00.2**	**+0.9**
BRTR	**Keskin Array B**	**152.39**	**308**	PKPbc	**PKiKP**	**06 58 00.2**	**+0.9**
	2.1nm,1.0s,baz=108,slow=2.7,SNR=6.1						
CLL	**Collm**	**153.39**	**349**	*e*PKPbc	**PKiKP**	**06 58 03.0**	**+2.2**

*IDC **28** 06:49:55.3±0.7, 12°.85N×125°.33E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.0/57, mbtmp4.1/16, ML4.8/1, MS3.4/13, Ms1 3.5/13, ms1mx3.2/41, Error ellipse: s-maj=20.9km s-min=13.5km az=64.0*
*NEIC **28** 06:50:00.6±0.2, 12°.84N×125°.27E, h35km, mb4.3/13, Error ellipse: s-maj=8.1km s-min=4.7km az=68.0*
*MAN **28** 06:50:00.4, 12°.85N×124°.85E, h12km, MS4.7*
ISC 28 06:49:58.3±1.8, 12°.97N±0°.05×125°.08E±0°.07, h11km±11km, n67, σ1s97/64, mb4.3/27, MS3.6/10, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.61**	**222**	*e*P	**Pg**	**06 50 09.1**	**-1.1**
CNP				*e*S	**Sg**	**06 50 16.4**	**-1.8**
PVCP	**Virac**	**1.09**	**305**	*e*P	**Pb**	**06 50 18.5**	**-0.8**
PVCP				*e*S	**Sg**	**06 50 34.8**	**+1.2**
BESP	**Borongan**	**1.41**	**166**	*e*P	**Pn**	**06 50 21.9**	**-2.0**
BESP				*e*S	**Sb**	**06 50 43.9**	**+1.3**
OCLP	**Ormoc**	**1.96**	**194**	*e*P	**Pn**	**06 50 30.7**	**-0.9**
GQP	**Guinayangan**	**2.73**	**290**	⇑*e*P	**Pn**	**06 50 42.4**	**+0.4**
GQP				*e*S	**Sn**	**06 51 16.1**	**+1.0**
MSLP	**Maasin**	**2.83**	**184**	*e*P	**Pn**	**06 50 45.0**	**+1.5**
OTRP	**Odiongan**	**3.05**	**259**	*e*P	**Pn**	**06 50 44.2**	**-2.2**
OTRP				*e*S	**Sn**	**06 51 20.5**	**-2.6**
SJMP	**San Jose**	**3.90**	**263**	*e*P	**Pn**	**06 50 60.0**	**+1.7**
BUTP	**Butuan**	**4.01**	**172**	*e*P	**Pn**	**06 51

0.3nm,0.4s,baz=106,slow=9.3,SNR=2.2
KLR LR LR 07 12 26.9
comp=Z,94nm,18.1s,baz=228,slow=37
AS31 Alice Springs 37.42 167 *eP* **P 06 57 10.1 -1.6**
4.1nm,1.6s
ASAR Alice Springs 37.42 167 P **P 06 57 09.0 -2.8**
2.0nm,0.6s,baz=349,slow=6.6,SNR=25
AS01 Alice Springs 37.43 167 *eP* **P 06 57 09.6 -2.3**
SONA0 Songino Array 38.09 340 *eP* **P 06 57 18.1 +0.7**
SONM Songino Array 38.09 340 P **P 06 57 18.1 +0.7**
3.7nm,0.9s,baz=162,slow=6.8,SNR=2.6
H11N1 WAKE ISLAND Hy 40.60 75 T T 07 41 24.2
baz=267,slow=75,SNR=106
H11N2 WAKE ISLAND Hy 40.60 75 T T 07 41 24.7
baz=267,slow=75,SNR=78
H11N3 WAKE ISLAND Hy 40.62 75 T T 07 41 25.9
baz=267,slow=75,SNR=86
STKA Stephens Creek 47.32 161 *eP* **P 06 58 29.8 -2.5**
1.4nm,0.8s
STKA Stephens Creek 47.32 161 P **P 06 58 29.8 -2.5**
5.5nm,0.8s,baz=347,slow=6.6,SNR=6.6
MK01 Makanchi Array 49.17 322 *eP* **P 06 58 46.9 +0.5**
MK31 Makanchi Array 49.19 322 *eP* **P 06 58 47.5 +0.9**
3.0nm,1.0s
MK32 Makanchi Array 49.19 322 *eP* **P 06 58 46.5 0.0**
MKAR Makanchi Array 49.19 322 P **P 06 58 46.5 0.0**
2.2nm,0.8s,baz=116,slow=8.4,SNR=15
MAKZ Makanchi 49.38 322 *eP* **P 06 58 48.3 +0.3**
6.4nm,1.4s
ZAA0 Zalesovo Array 51.71 331 *eP* **P 06 59 05.5 +0.1**
5.1nm,0.8s
ZALV Zalesovo Beam 51.71 331 *eP* **P 06 59 05.4 -0.1**
ZALV Zalesovo Beam 51.71 331 P **P 06 59 06.0 +0.5**
4.2nm,0.7s,baz=115,slow=7.9,SNR=14
ZALV LR LR 07 21 53.9
comp=Z,65nm,18.4s,baz=70,slow=37
ZAA1 Zalesovo Array 51.71 331 *eP* **P 06 59 06.0 +0.5**
KURK Kurchatov 53.20 325 *eP* **P 06 59 16.0 -0.5**
9.1nm,0.9s
KURBB Kurchatov Arra 53.20 325 P **P 06 59 17.1 +0.5**
3.4nm,0.6s,baz=121,slow=7.9,SNR=25
BRVK Borovoye 58.87 325 *eP* **P 06 59 57.3 +0.1**
5.0nm,0.8s
NRIK Noril'sk 61.12 346 LR LR 07 28 07.1
comp=Z,57nm,18.7s,baz=142,slow=37
GEYT Alibeck 64.01 306 LR LR 07 30 40.0
comp=Z,42nm,19.9s,baz=225,slow=38
ABKAR Akbulak array 64.08 319 *eP* **P 07 00 32.2 -0.3**
2.9nm,1.1s
RND Reindeer 76.75 27 *eP* **P 07 01 48.6 -1.1**
4.4nm,0.4s
ILAR Eielson Array 77.53 26 P **P 07 01 52.6 -1.4**
0.2nm,0.6s,baz=245,slow=6.5,SNR=3.6
ILB Eielson Array 77.53 26 *eP* **P 07 01 52.2 -1.8**
8.4nm,1.6s
ARA0 ARCESS Array S 81.27 339 *eP* **P 07 02 14.9 +0.6**
ARCES ARCESS Array B 81.27 339 P **P 07 02 14.9 +0.6**
5.0nm,1.0s,baz=74,slow=6.7,SNR=3.6
FIA0 FINESS Array S 82.97 331 *eP* **P 07 02 23.0 -0.4**
FINES FINESS Array B 82.97 331 P **P 07 02 23.0 -0.4**
0.8nm,0.5s,baz=53,slow=7.6,SNR=4.7
FINES LR LR 07 40 15.6
comp=Z,28nm,20.2s,baz=46,slow=36
NB200 NORSAR Array S 89.83 334 *eP* **P 07 02 55.8 -1.4**
NOA NORSAR Array B 89.83 334 P **P 07 02 55.8 -1.4**
0.6nm,1.0s,baz=67,slow=4.8,SNR=2.7
NOA LR LR 07 46 15.4
comp=Z,34nm,20.2s,baz=60,slow=38
YKB5 Yellowknife Ar 91.77 24 *eP* **P 07 03 04.8 -1.2**
YKA Yellowknife Ar 91.77 24 P **P 07 03 04.4 -1.6**
0.1nm,0.6s,baz=304,slow=4.4,SNR=2.7

IDC 28 06:53:18.5±4.2, 17.63S×178.43W, h0km, mb3.9/3, mb1 4.3/3, mb1mx3.7/37, mbtmp3.9/3, Error ellipse: s-maj=314.8km s-min=28.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.67 259**		P	P	07 01 34.8	+1.3
	1.1nm,0.4s,baz=92,slow=8.3,SNR=32						
ASAR	**Alice Springs**	**44.85 254**		P	P	07 01 32.9	-2.1
	3.0nm,1.1s,baz=83,slow=8.5,SNR=8.1						
NVAR	**Mina Array Bea**	**79.24 44**		P	P	07 05 25.8	-0.2
	0.5nm,0.8s,baz=221,slow=7.1,SNR=2.6						
BRTR	**Keskin Array B**	**144.58 315**		PKP	PKPdf	07 12 58.6	+1.1
	0.9nm,0.7s,baz=131,slow=3.4,SNR=4.0						

MEX 28 06:56:46.2±0.5, 16.62N×98.34W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.30 138**		*eP*	Pg	06 56 51.3	-0.7
PNIG				*eS*	Sg	06 56 56.5	+0.6

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*ISCJB **28** 07:02:11.4±0.5, 64.03N±0.03×41.05E±0.07, h10km, mb3.0/1, MS3.4/1, Error ellipse: s-maj=5.0km s-min=4.7km az=12.5*
*KOLA **28** 07:02:15.2, 63.94N×41.09E, h0km*
*IDC **28** 07:02:16.4±1.5, 64.01N×41.18E, h0km, mb3.1/1, mb1 3.6/6, mb1mx3.2/52, mbtmp3.5/6, ML2.9/5, MS3.5/1, Ms1 3.5/1, ms1mx2.3/25, Error ellipse: s-maj=16.8km s-min=12.9km az=154.0*
*IEPN **28** 07:02:16.0, 63.99N×41.20E, h15km, station ARHR has station magnitude of 3.10 station TMCR has station magnitude of 1.40 station LSH has station magnitude of 3.40 station SLVR has station magnitude of 3.40 station KLMR has station magnitude of 3.50*
*HEL **28** 07:02:18.2±0.5, 64.10N×40.94E, h15km, ML2.8, Confirmed Earthquake*
*NAO **28** 07:02:18.3±2.8, 64.18N×40.67E, ML3.1*
ISC 28 07:02:12.6±0.7, 64.07N±0.04×41.31E±0.04, h10km, n44, σ2.94/82, 3C-4D, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARHR	**Arkhangelsk**	**0.60 325**		↑*iP*	Pn	**07 02 29.0**	**+1.9**
	228nm,0.6s						
ARHR				*eS*	Sn	**07 02 38.6**	**+1.8**
	626nm,0.3s						
TMCR	**Tamitsa**	**1.44 275**		*eP*	Pg	**07 02 44.0**	**+3.7**
	3.7nm,0.3s						
TMCR				*eS*	Sg	**07 03 03.6**	**+4.6**
	5.5nm,0.1s						
LSH	**Leshukonskoye**	**2.08 65**		↓*iP*	Pn	**07 02 48.5**	**+1.0**
	32nm,0.8s						
LSH				*eS*	Sn	**07 03 13.6**	**+0.2**
	196nm,0.3s						
SLVR	**Solovky**	**2.61 294**		↑*iP*	Pb	**07 03 00.1**	**+0.7**
	31nm,0.6s						
SLVR				*eS*	Sb	**07 03 31.4**	**0.0**
	129nm,0.5s						
KLMR	**Klimovskoe**	**3.33 195**		↓*iP*	Pn	**07 03 05.4**	**+0.7**
	142nm,4.8s						
KLMR				*eS*	Sn	**07 03 42.7**	**-1.6**
	86nm,0.2s						
KLMR	**Klimovskoe**	**3.33 195**		↑*iP*	Pn	**07 03 05.4**	**+0.7**
KLMR				↓*iP*	Pn	**07 03 05.4**	**+0.7**
KLMR				↓*iP*	Pn	**07 03 05.4**	**+0.7**
KLMR				AMP		07 03 05.8	
	comp=Z,4.0nm,0.1s						
KLMR				*eS*	Sn	**07 03 42.7**	**-1.6**
KLMR				*eS*	Sn	**07 03 42.7**	**-1.6**
KLMR				*eS*	Sn	**07 03 42.7**	**-1.6**
KLMR				AMP		07 03 44.1	
	comp=N,86nm,0.2s						
JOF	**Joensuu**	**4.63 260**		*eP*	Pn	**07 03 25.8**	**+3.2**
JOF				*eS*	Sn	**07 04 16.7**	**+0.5**
JOF	**Joensuu**	**4.63 260**		*eP*	Pn	**07 03 25.4**	**+2.9**
JOF				*eS*	Sn	**07 04 16.0**	**-0.2**
JOF				MSG		07 04 48.8	
	comp=Z,18nm,0.3s						
LVZ	**Lovozero**	**4.71 328**		*eP*	Pn	07 03 29.4	+5.7
LVZ				*eS*	Sn	**07 04 24.6**	**+6.3**
LVZ	**Lovozero**	**4.71 328**		*eP*	Pn	**07 03 27.5**	**+3.8**
LVZ				*eS*	Sn	**07 04 19.3**	**+1.0**
APA0	**Apatity Array**	**4.93 320**		Pn	Pn	**07 03 29.7**	**+3.1**
	baz=100,slow=14						
APA0				Sn	Sn	**07 04 25.6**	**+2.0**
	baz=153,slow=28						
APA0				Lg	Lg	07 04 43.5	
APA0	**Apatity Array**	**4.93 320**		P	Pn	**07 03 29.7**	**+3.1**
APA0				S	Sn	**07 04 25.6**	**+2.0**
KU6	**Riekki**	**5.22 297**		*eP*	Pn	**07 03 33.9**	**+3.3**
KU6				*eS*	Sn	**07 04 29.2**	**-1.6**
MSF	**Maaselka**	**5.53 295**		*eP*	Pn	**07 03 37.3**	**+2.4**
MSF				*eS*	Sn	**07 04 36.7**	**-1.6**
MSF	**Maaselka**	**5.53 295**		*eP*	Pn	**07 03 37.8**	**+3.0**
MSF				*eS*	Sn	**07 04 35.7**	**-2.6**
VRF	**Varrio**	**6.05 313**		*eP*	Pn	**07 03 45.3**	**+3.3**
VRF				*eS*	Sn	**07 04 49.9**	**-1.2**
VRF				MSG		07 05 36.6	
	comp=Z,8.3nm,0.3s						
RNF	**Rovaniemi**	**6.89 299**		*eP*	Pn	**07 03 56.8**	**+3.4**
RNF				*eS*	Sn	**07 05 08.4**	**-3.4**
SUF	**Sumiainen**	**6.94 266**		*eP*	Pn	**07 03 57.8**	**+3.5**
SUF				*eS*	Sn	**07 05 12.2**	**-1.0**
SUF	**Sumiainen**	**6.94 266**		*eP*	Pn	**07 03 57.5**	**+3.3**
SUF				*eS*	Sn	**07 05 12.0**	**-1.2**
SUF				MSG		07 05 56.5	
	comp=Z,9.5nm,0.4s						
SGF	**Sodankyl**	**6.96 306**		*eP*	Pn	**07 03 57.3**	**+2.8**
SGF				*eS*	Sn	**07 05 10.2**	**-3.4**
OUF	**Merijarvi**	**7.24 280**		*eP*	Pn	**07 04 01.4**	**+3.2**
OUF				*eS*	Sn	**07 05 17.7**	**-2.7**
OUF				MSG		07 06 08.5	
	comp=Z,16nm,0.5s						
FIA0	**FINESS Array S**	**7.47 256**		Pn	Pn	**07 04 02.4**	**+1.0**
	baz=79,slow=12						
FIA0				Sn	Sn	**07 05 23.3**	**-2.8**
FIA0				Lg	Lg	07 06 06.0	
	baz=78,slow=28						
FIA0	**FINESS Array S**	**7.47 256**		*eP*	Pn	**07 04 02.5**	**+1.0**
FIA0				*eS*	Sn	**07 05 24.2**	**-1.9**
FIA0				MSG		07 06 12.1	
	comp=Z,6.2nm,0.3s						
FINES	**FINESS Array B**	**7.47 256**		Pn	Pn	**07 04 02.7**	**+1.3**
	comp=Z,1.0nm,0.3s,baz=66,slow=11,SNR=38						
FINES				Sn	Sn	**07 05 25.1**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=67,slow=22,SNR=6.9						
FINES				Lg	Lg	07 06 04.7	
	comp=Z,1.9nm,0.3s,baz=63,slow=27,SNR=5.8						
KEF	**Keuruu**	**7.69 263**		*eP*	Pn	**07 04 06.6**	**+2.1**
KEF				*eS*	Sn	**07 05 29.0**	**-2.6**
KEV	**Kevo**	**7.99 322**		Pn	Pn	**07 04 10.3**	**+1.7**
KEV				Sn	Sn	**07 05 39.7**	**+0.8**
ARA0	**ARCESS Array S**	**8.29 318**		Pn	Pn	**07 04 14.1**	**+1.4**
	baz=125,slow=14						
ARA0				Sn	Sn	**07 05 41.8**	**-4.3**
	baz=124,slow=28						
ARA0				Lg	Lg	07 06 28.6	
	baz=124,slow=37						
ARCES	**ARCESS Array B**	**8.29 318**		Pn	Pn	**07 04 14.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=124,slow=14,SNR=6.3						
ARCES				Sn	Sn	**07 05 44.2**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=131,slow=20,SNR=4.1						
ARCES				Lg	Lg	07 06 27.7	
	comp=Z,1.1nm,0.3s,baz=118,slow=23,SNR=6.9						
ARE0	**ARCESS Array S**	**8.29 318**		*ePB*	Pb	**07 04 34.4**	**-1.6**
HEF	**Hetta**	**8.33 309**		*eP*	Pn	**07 04 13.9**	**+0.6**
HEF				*eS*	Sn	**07 05 44.0**	**-3.4**
SOKR	**Solikamsk**	**8.57 114**		*eP*	Pn	**07 04 18.3**	**+1.7**
SOKR				*eS*	Sn	**07 05 50.9**	**-2.3**
MEF	**Metsahovi**	**8.80 252**		*eP*	Pn	**07 04 19.3**	**-0.4**
MEF				*eS*	Sn	**07 05 55.0**	**-3.8**
KIF	**Kilpisjarvi**	**9.53 310**		Pn	Pn	**07 04 31.6**	**+2.0**
KIF				Sn	Sn	**07 06 14.4**	**-2.1**
AMDE	**Amderma**	**9.78 45**		*eP*	Pn	**07 04 31.3**	**-1.8**
	comp=Z,2.6nm,0.4s						
AMDE				*eS*	Sn	07 06 12.2	-11
	comp=Z,2.5nm,0.2s						
AAL	**Aland**	**10.69 258**		*eP*	Pn	**07 04 44.8**	**-0.8**
AAL				*eS*	Sn	**07 06 38.4**	**-6.8**
HFS	**Hagfors**	**13.46 266**		Pn	Pn	**07 05 22.0**	**-1.3**
	baz=60,slow=12						
HFS	**Hagfors**	**13.46 266**		Pn	Pn	**07 05 21.9**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=64,slow=12,SNR=8.2						
HFS				Sn	Sn	**07 07 44.1**	**-8.7**
	comp=Z,0.3nm,0.3s,baz=77,slow=27,SNR=4.4						
HFS				Lg	Lg	07 09 16.7	
	comp=Z,0.4nm,0.3s,baz=70,slow=29,SNR=5.2						
NRA0	**NORESS Array S**	**14.12 270**		Pn	Pn	**07 05 31.2**	**-1.2**
	baz=68,slow=14						
NB2	**NORSAR Subarra**	**14.13 271**		Pn	Pn	**07 05 31.1**	**-1.5**
	baz=67,slow=16						
NOA	**NORSAR Array B**	**14.13 271**		Pn	Pn	**07 05 31.4**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=65,slow=13,SNR=6.1						
NOA				Sn	Sn	**07 08 00.6**	**-8.6**
	comp=Z,0.0nm,0.3s,baz=132,slow=16,SNR=3.0						
NOA				Lg	Lg	07 09 38.4	
	comp=Z,0.0nm,0.3s,baz=58,slow=22,SNR=4.2						
SPA0	**Spitsbergen Ar**	**16.04 342**		*eP*	Pn	**07 05 58.5**	**+0.6**
SPA0				*eS*	Sn	**07 08 48.0**	**-7.5**
SPITS	**Spitsbergen Ar**	**16.04 342**		Pn	Pn	**07 05 57.8**	**-0.1**
	baz=138,slow=18,SNR=3.7						
KURBB	**Kurchatov Arra**	**23.74 107**		P	P	**07 07 29.4**	**+4.8**
	comp=Z,0.2nm,0.3s,baz=315,slow=12,SNR=4.5						
AAK	**Ala-Archa**	**28.63 123**		LR	LR	07 20 31.2	
	comp=Z,108nm,21.6s,baz=72,slow=38						

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*ISCJB **28** 07:07:54.8±0.4, 27.30N±0.04×140.40E±0.07, h450km, mb3.7/19, Error ellipse: s-maj=8.9km s-min=5.3km az=5.5*
*IDC **28** 07:07:55.5±0.5, 27.27N×140.32E, h442km±5km, mb3.4/19, mb1 3.5/23, mb1mx3.3/48, mbtmp4.2/23, Error ellipse: s-maj=15.5km s-min=8.6km az=71.0*
*JMA **28** 07:07:57.0±0.1, 27.53N×140.92E, h454km, M4.0*
ISC 28 07:07:55.8±0.5, 27.33N±0.06×140.47E±0.10, h450km, n50, σ1.93/64, mb3.7/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.55 98**		P	P	**07 08 54.7**	**+0.6**
CBIJ				*eS*	S	**07 09 39.4**	**-1.9**
JCJ	**Chichijima**	**1.55 98**		P	P	**07 08 55.3**	**+1.2**
	76nm,0.3s,baz=359,slow=20,SNR=127						
JCJ				S	S	**07 09 40.4**	**-0.9**
	81nm,0.3s,baz=306,slow=21,SNR=10						
JHJ	**Hachijo jima 2**	**5.80 354**		P	P	**07 09 29.5**	**+1.5**
	25nm,0.3s,baz=70,slow=21,SNR=4.6						
JHJ				S	S	**07 10 41.1**	**-2.2**
	16nm,0.3s,baz=240,slow=20,SNR=2.7						
BSO1	**Boso 1**	**7.32 3**		P	P	**07 09 44.8**	**+1.6**
BSO1				*eS*	S	**07 11 09.7**	**-1.6**
BSO3	**Boso 3**	**7.45 0**		P	P	**07 09 46.2**	**+1.3**
BSO3				*eS*	S	**07 11 12.2**	**-2.3**
BSO4	**Boso 4**	**7.64 359**		*eS*	S	**07 11 17.6**	**-0.8**
JIE	**Ise**	**7.75 336**		P	P	**07 09 51.3**	**+2.9**
JKN2	**Miekihoku**	**7.78 333**		P	P	**07 09 52.6**	**+3.9**
JOD2	**Odawara 2**	**8.00 352**		P	P	**07 09 52.8**	**+1.7**
JNY	**Yasuok**	**8.31 345**		P	P	**07 09 55.9**	**+1.4**
JEG	**Eigenji**	**8.53 337**		P	P	**07 09 59.9**	**+3.0**
JRY	**Ryogami san**	**8.77 352**		P	P	**07 09 59.5**	**+0.1**
JAG	**Ashikaga**	**9.11 355**		P	P	**07 10 03.0**	**-0.1**
JHO	**Hitachi**	**9.26 1**		P	P	**07 10 05.9**	**+1.2**
JHO				*eS*	S	**07 11 48.2**	**-2.6**
MJAR	**Matsushiro Arr**	**9.38 349**		P	P	**07 10 05.8**	**-0.4**
	0.4nm,0.3s,baz=184,slow=9.7,SNR=11						
MAT	**Matsushiro**	**9.39 349**		P	P	**07 10 07.0**	**+0.8**
MAT				*eS*	S	**07 11 52.5**	**-0.9**
JNU	**Nakatsue**	**10.10 307**		P	P	**07 10 13.7**	**-0.4**
	1.0nm,0.3s,baz=49,slow=1.0,SNR=5.2						
JOW	**Kunigami**	**10.88 270**		P	P	**07 10 22.9**	**+0.4**
	0.2nm,0.3s,baz=112,slow=13,SNR=3.5						
KSRS	**Korea Array**	**14.62 317**		P	P	**07 11 06.7**	**+3.9**
	0.2nm,0.3s,baz=136,slow=7.7,SNR=3.8						
USRK	**Ussuriysk Ar.**	**18.17 340**		P	P	**07 11 40.9**	**+0.9**
	0.4nm,0.3s,baz=148,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**33.49 317**		P	P	**07 13 55.9**	**-0.3**
	0.5nm,0.6s,baz=128,slow=9.6,SNR=3.8						
SONM				PcP	PcP	**07 16 25.3**	**+0.6**
	0.3nm,0.4s,baz=146,slow=2.8,SNR=5.7						
SEY	**Seymchan**	**36.46 9**		P	P	**07 14 22.6**	**+1.9**
	1.3nm,0.5s,baz=210,slow=7.0,SNR=7.1						
CMAR	**Chiang Mai Arr**	**39.11 266**		P	P	**07 14 42.5**	**-0.7**
	1.2nm,0.3s,baz=51,slow=9.6,SNR=4.9						
TAPN	**Taplejung**	**46.56 283**		*eP*	P	**07 15 42.2**	**0.0**
ODAN	**Odare**	**46.95 282**		*eP*	P	**07 15 44.8**	**-0.3**
WRA	**Warramunga Arr**	**47.36 188**		P	P	**07 15 47.2**	**-0.6**
	1.0nm,0.3s,baz=5.6,slow=7.7,SNR=27						
WRA				PcP	PcP	**07 17 10.3**	**+0.2**
	0.7nm,0.6s,baz=0.7,slow=3.8,SNR=6.6						
WRA				ScP	ScP	**07 20 19.4**	**-1.2**
	0.4nm,0.8s,baz=358,slow=4.1,SNR=3.4						
JIRN	**Jiri**	**47.81 284**		*eP*	P	**07 15 51.7**	**0.0**
	16nm,0.5s						
GUN	**Gumba**	**48.02 284**		*eP*	P	**07 15 53.3**	**0.0**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**48.31 319**		P	P	**07 15 54.2**	**-0.4**
	1.7nm,0.3s,baz=110,slow=6.7,SNR=9.4						
ZALV				PcP	PcP	**07 17 12.7**	**-0.4**
	1.2nm,0.5s,baz=122,slow=5.3,SNR=5.5						
MKAR	**Makanchi Array**	**49.15 309**		P	P	**07 16 00.9**	**-0.1**
	1.0nm,0.4s,baz=88,slow=9.9,SNR=17						
MKAR				PcP	PcP	**07 17 16.3**	**0.0**
	0.7nm,0.5s,baz=79,slow=5.9,SNR=6.2						
MKAR				ScP	ScP	**07 20 26.6**	**-1.4**
	0.3nm,0.6s,baz=84,slow=4.8,SNR=4.0						
DANN	**Dangsing**	**49.75 285**		*eP*	P	**07 16 06.3**	**+0.2**
	20nm,0.8s						
KOLN	**Koldanda**	**50.02 284**		*eP*	P	**07 16 07.7**	**-0.3**
PYUN	**Piuthan**	**50.47 285**		*eP*	P	**07 16 11.2**	**-0.1**
	16nm,0.4s						
ASAR	**Alice Springs**	**51.09 188**		P	P	**07 16 15.0**	**-0.6**
	0.5nm,0.3s,baz=0.7,slow=5.0,SNR=18						
ASAR				PcP	PcP	**07 17 24.6**	**+0.8**
	0.6nm,1.0s,baz=11,slow=3.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**51.78 314**		P	P	**07 16 20.1**	**-0.2**
	7.7nm,0.4s,baz=91,slow=7.9,SNR=59						
AAK	**Ala-Archa**	**54.87 305**		P	P	**07 16 42.8**	**+0.1**
	1.3nm,0.4s,baz=111,slow=5.5,SNR=4.1						
BVAR	**Borovoye Array**	**56.84 317**		P	P	**07 16 56.2**	**+0.2**
	9.0nm,0.4s,baz=91,slow=7.0,SNR=71						
STKA	**Stephens Creek**	**58.88 179**		P	P	**07 17 10.1**	**-0.1**
	0.8nm,0.5s,baz=340,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**72.66 28**		P	P	**07 18 37.8**	**+1.5**
	0.3nm,0.5s,baz=296,slow=6.1,SNR=9.9						
ARCES	**ARCESS Array B**	**72.82 341**		P	P	**07 18 37.9**	**+0.8**
	3.3nm,1.0s,baz=347,slow=9.0,SNR=4.9						
KBZ	**Khabaz**	**76.73 312**		P	P	**07 18 59.1**	**-0.5**
	2.4nm,0.8s,baz=84,slow=3.7,SNR=5.4						
FINES	**FINESS Array B**	**77.06 333**		P	P	**07 19 01.2**	**0.0**
	3.1nm,0.4s,baz=66,slow=5.2,SNR=41						
AKASG	**Malin Array Be**	**81.52 323**		P	P	**07 19 23.7**	**-1.4**
	0.6nm,0.3s,baz=52,slow=5.6,SNR=3.6						
NB2	**NORSAR Subarra**	**82.82 338**		P	P	**07 19 30.9**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=46,slow=4.8						
NOA	**NORSAR Array B**	**82.82 338**		P	P	**07 19 31.2**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=46,slow=4.9,SNR=10						
BRTR	**Keskin Array B**	**84.72 312**		P	P	**07 19 41.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=59,slow=3.2,SNR=4.0						
GERES	**GERESS Array B**	**90.51 328**		P	P	**07 20 08.2**	**-0.6**
	comp=Z,0.3nm,0.2s,baz=7.1,slow=4.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.27 310**		PKP	PKPdf	**07 26 00.5**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=354,slow=1.4,SNR=2.9						
PLCA	**Paso Flores**	**151.19 126**		PKPbc	PKiKP	**07 26 59.0**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=233,slow=1.3,SNR=5.2						
LPAZ	**La Paz**	**151.34 73**		PKPbc	PKiKP	**07 27 00.5**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=294,slow=10.0,SNR=3.2						

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*ISCJB **28** 07:08:14.2±0.9, 27.20N±0.09×140.2E±0.3, h350km, mb3.3/10, Error ellipse: s-maj=32.8km s-min=12.0km az=176.7*
*IDC **28** 07:08:15.6±13.0, 27.35N×140.41E, h350km±138km, mb3.1/10, mb1 3.2/10, mb1mx3.0/44, mbtmp3.9/10, Error ellipse: s-maj=49.1km s-min=16.9km az=72.0*
ISC 28 07:08:15.5±1.2, 27.3N±0.1×140.2E±0.3, h350km, n11, σ1.08/11, mb3.3/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**5.82 356**		S	S	**07 10 57.0**	**+1.0**
	33nm,0.3s,baz=303,slow=23,SNR=13						
SONM	**Songino Array**	**33.37 317**		P	P	**07 14 20.7**	**-1.5**
	0.4nm,0.6s,baz=133,slow=8.5,SNR=2.7						
WRA	**Warramunga Arr**	**47.30 188**		P	P	**07 16 15.5**	**+0.3**
	0.7nm,0.5s,baz=5.9,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**48.20 319**		P	P	**07 16 22.7**	**+1.1**
	0.8nm,0.3s,baz=116,slow=6.7,SNR=3.3						
MKAR	**Makanchi Array**	**49.00 310**		P	P	**07 16 28.6**	**+0.6**
	0.4nm,0.5s,baz=56,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**51.03 187**		P	P	**07 16 43.8**	**+0.6**
	0.2nm,0.4s,baz=1.1,slow=5.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**51.66 314**		P	P	**07 16 48.6**	**+1.1**
	2.1nm,0.3s,baz=91,slow=7.5,SNR=9.2						
BVAR	**Borovoye Array**	**56.72 317**		P	P	**07 17 24.5**	**+0.9**
	2.8nm,0.4s,baz=89,slow=7.4,SNR=9.3						
YKA	**Yellowknife Ar**	**72.79 28**		P	P	**07 19 05.9**	**-0.2**
	0.2nm,0.5s,baz=296,slow=6.0,SNR=5.1						
FINES	**FINESS Array B**	**76.99 333**		P	P	**07 19 29.6**	**-0.5**
	1.0nm,0.4s,baz=83,slow=5.6,SNR=6.3						
NOA	**NORSAR Array B**	**82.77 338**		P	P	**07 19 59.6**	**-1.2**
	0.3nm,0.5s,baz=45,slow=4.9,SNR=2.0						

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*IDC **28** 07:20:01.5±0.9, 62.31N×124.43W, h0km, mb3.0/3, mb1 3.4/6, mb1mx3.3/32, mbtmp3.0/6, ML2.9/3, Error ellipse: s-maj=18.9km s-min=9.9km az=7.0*
*PGC **28** 07:20:01.1±0.0, 62.26N×124.52W, h1km, ML3.8/6, 179km west of Fort Simpson, Nt Nw Territories - Nunavut, Canada*
ISC 28 07:20:00.3±0.6, 62.32N±0.04×124.40W±0.03, h8km, n29, σ3.42/58, mb3.1/3, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.51 168**		Pn	Pn	**07 20 55.0**	**-0.1**
FNBB				Sn	Sn	**07 21 35.8**	**-0.9**
FNBB				Sg	Sb	**07 21 47.5**	**+2.3**
YKW3	**Yellowknife Ar**	**4.55 83**		Pn	Pn	**07 21 11.3**	**+2.0**
YKW3				Pg	Pg	**07 21 26.3**	**-1.1**
YKW3				Sn	Sn	**07 22 03.3**	**+0.9**
YKW3				Sg	Sg	**07 22 25.4**	**-0.9**
YKA	**Yellowknife Ar**	**4.56 83**		Pn	Pn	**07 21 10.9**	**+1.4**
	0.5nm,0.3s,baz=269,slow=12,SNR=35						
YKA				Pg	Pg	**07 21 26.6**	**-0.9**
	2.2nm,0.3s

YUK2				Sg	Sg	07 23 58.9	-10	
ILAR	**Eielson Array**	**10.31**	**294**	Pn	**Pn**	**07 22 29.2**	**+1.0**	
	0.0nm,0.3s,baz=95,slow=11,SNR=3.4							
ILAR				Lg	Lg	07 25 25.5		
	0.0nm,0.3s,baz=96,slow=27,SNR=7.9							
PRDA	**Priddis**	**12.74**	**150**	Pn	**Pn**	**07 22 59.7**	**-1.8**	
PDAR	**Pinedale Array**	**21.46**	**149**	P	**P**	**07 24 53.2**	**+4.1**	
	0.3nm,0.7s,baz=2.3,slow=4.5,SNR=3.5							
NVAR	**Mina Array Bea**	**24.21**	**168**	P	**P**	**07 25 19.7**	**+2.4**	
	0.3nm,0.6s,baz=343,slow=8.8,SNR=2.9							
TXAR	**Lajitas Array**	**35.67**	**148**	P	**P**	**07 27 00.0**	**+1.2**	
	0.2nm,0.7s,baz=354,slow=7.3,SNR=2.8							

*ISCJB **28** 07:37:18.8±0.5, 15°.21N±0°.06×93°.31W±0°.04, h90km±5km, mb3.8/8, Error ellipse: s-maj=11.2km s-min=4.3km az=26.5*
*MEX **28** 07:37:19.2±0.7, 14°.88N×93°.40W, h68km±18km, MD4.1*
*NEIC **28** 07:37:19.6±0.0, 15°.01N×93°.31W, h85km, mb4.4/3, MD4.1(MEX), After MEX.*
*IDC **28** 07:37:20.6±1.0, 15°.41N×93°.16W, h83km±8km, mb3.4/6, mb1 3.7/9, mb1mx3.4/37, mbtmp3.7/9, MS2.4/1, Ms1 2.4/1, ms1mx2.2/33, Error ellipse: s-maj=24.3km s-min=6.6km az=32.0*
*UCR **28** 07:37:22.4±1.9, 15°.14N×93°.02W, h128km±99km, MD3.9, mb4.4(NEIC)*

ISC 28 07:37:19.3±0.7, 15°.12N±0°.06×93°.34W±0°.04, h83km±6km, n31, σ2s25/53, mb3.9/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.59**	**11**	*e*Pn		**Pn**	**07 37 34.5**	**+0.4**
PCIG				*e*Sn		**Sn**	**07 37 45.6**	**+0.5**
PCIG		**0.59**	**11**	*i* P		**Pn**	**07 37 34.5**	**+0.4**
PCIG				*e*S		**Sn**	**07 37 46.2**	**+1.1**
THIG		**1.06**	**101**	*e*Pn		**Pn**	**07 37 38.1**	**-1.1**
THIG				*e*Sn		**Sn**	**07 37 50.5**	**-3.5**
THIG		**1.06**	**101**	*e*P		**Pn**	**07 37 38.1**	**-1.1**
THIG				*i* S		**Sn**	**07 37 51.7**	**-2.3**
CCIG	**Comitan**	**1.63**	**45**	*e*Pn		**Pn**	**07 37 46.5**	**-0.1**
CCIG				*e*Sn		**Sn**	**07 38 04.7**	**-2.5**
CMIG	**Matias Romero**	**2.46**	**323**	*e*Pn		**Pn**	**07 37 58.0**	**+0.5**
CMIG				*e*Sn		**Sn**	**07 38 23.2**	**-3.5**
CMIG	**Matias Romero**	**2.46**	**323**	*e*P		**Pn**	**07 37 58.0**	**+0.5**
CMIG				*e*S		**Sn**	**07 38 27.8**	**+1.1**
CMIG	**Matias Romero**	**2.46**	**323**	P		**Pn**	**07 37 58.0**	**+0.5**
	7.0nm,0.3s,baz=160,slow=12,SNR=176							
CMIG				S		**Sn**	**07 38 25.4**	**-1.3**
	45nm,0.3s,baz=105,slow=16,SNR=16							
FUG	**Fuego 3**	**2.50**	**105**	*e*P		**Pn**	**07 37 59.1**	**+1.0**
FUG				*e*S		**Sn**	**07 38 27.8**	**-0.2**
PCG	**Pacaya**	**2.74**	**105**	*e*P		**Pn**	**07 37 58.6**	**-2.8**
PCG				*e*S		**Sn**	**07 38 35.4**	**+1.7**
HUIG	**Huatulco**	**2.75**	**284**	*e*Pn		**Pn**	**07 38 01.2**	**-0.1**
HUIG				*e*Sn		**Sn**	**07 38 28.8**	**-4.9**
HUIG	**Huatulco**	**2.75**	**284**	*e*P		**Pn**	**07 38 00.1**	**-1.2**
HUIG				*i* S		**Sn**	**07 38 31.0**	**-2.7**
APG	**El Apazote**	**2.78**	**92**	P		**Pn**	**07 38 01.6**	**-0.2**
	19nm,0.3s,baz=276,slow=11,SNR=222							
APG				S		**Sn**	**07 38 33.4**	**-1.2**
	49nm,0.3s,baz=38,slow=12,SNR=18							
APG				LR		LR	07 39 14.7	
	comp=Z,59nm,18.2s,baz=272,slow=43							
NBG	**Las Nubes**	**2.94**	**100**	*e*P		**Pn**	**07 38 05.4**	**+1.3**
NBG				*e*S		**Sn**	**07 38 30.0**	**-8.6**
IXG	**Ixpaco**	**2.94**	**108**	*e*P		**Pn**	**07 38 05.8**	**+1.7**
IXG				*e*S		**Sn**	**07 38 39.8**	**+1.3**
VHO	**Vista Hermosa**	**3.80**	**301**	*e*Pn		**Pn**	**07 38 15.9**	**+0.2**
VHO				*e*Sn		**Sn**	**07 38 53.5**	**-5.9**
VHO	**Vista Hermosa**	**3.80**	**301**	*e*P		**Pn**	**07 38 15.9**	**+0.2**
VHO				*i* S		**Sn**	**07 38 59.9**	**+0.5**
TLIG	**Tlapa**	**5.58**	**297**	*e*Pn		**Pn**	**07 38 40.4**	**+0.5**
TLIG				*e*Sn		**Sn**	**07 39 42.3**	**-0.4**
MYIG	**Mrida**	**6.74**	**30**	*e*Pn		**Pn**	**07 38 56.1**	**+0.6**
MYIG				*e*Sn		**Sn**	**07 40 07.2**	**-3.7**
TXAR	**Lajitas Array**	**17.06**	**328**	P		**P**	**07 41 14.1**	**+0.9**
	0.0nm,0.3s,baz=147,slow=14,SNR=6.4							
CLNB	**Carlsbad**	**19.58**	**332**	*e*P		**P**	**07 41 41.7**	**+0.8**
AMTX	**Amarillo**	**21.06**	**341**	*e*P		**P**	**07 41 56.6**	**-0.3**
	16nm,0.6s							
BANI	**BANI**	**22.24**	**78**	*e*P		**P**	**07 42 08.0**	**-1.6**
PDAR	**Pinedale Array**	**30.88**	**336**	P		**P**	**07 43 28.0**	**-0.1**
	0.3nm,0.6s,baz=121,slow=6.4,SNR=3.2							
REDW	**Red Top Meadow**	**31.89**	**335**	*e*P		**P**	**07 43 38.2**	**+1.2**
	1.8nm,0.8s							
SNOW	**Snow King Moun**	**31.93**	**336**	*e*P		**P**	**07 43 37.8**	**+0.4**
	5.2nm,0.6s							
NVAR	**Mina Array Bea**	**31.99**	**321**	P		**P**	**07 43 39.8**	**+1.8**
	0.9nm,0.6s,baz=138,slow=9.5,SNR=8.6							
SIV	**San Ignacio**	**44.40**	**133**	P		**P**	**07 45 22.0**	**-0.1**
	0.3nm,0.3s,baz=338,slow=14,SNR=3.3							
SIV				pP		**pP**	**07 45 42.4**	**+0.4**
	0.8nm,0.6s,baz=309,slow=12,SNR=3.5							
YKA	**Yellowknife Ar**	**49.65**	**347**	P		**P**	**07 46 00.7**	**-1.5**
	1.2nm,0.5s,baz=152,slow=7.3,SNR=52							
YKA				pP		**pP**	**07 46 22.4**	**-0.2**
	0.2nm,0.6s,baz=152,slow=7.5,SNR=3.1							
CFA	**Coronel Fontan**	**52.33**	**153**	P		**P**	**07 46 26.7**	**+3.8**
	0.8nm,0.5s,baz=258,slow=20,SNR=3.4							
ILAR	**Eielson Array**	**61.31**	**337**	P		**P**	**07 47 25.2**	**-0.7**
	0.3nm,0.6s,baz=114,slow=5.4,SNR=7.0							
ILAR				pP		**pP**	**07 47 47.9**	**+1.0**
	0.3nm,0.9s,baz=155,slow=4.3,SNR=2.1							

*ISCJB **28** 07:39:35.9±0.9, 7°.22N±0°.04×76°.12W±0°.05, h10km, Error ellipse: s-maj=9.0km s-min=3.9km az=32.9*
*RSNC **28** 07:39:36.2±0.9, 7°.18N×76°.09W, h0km±6km, ML2.6, Mw3.1*
*IDC **28** 07:39:37.3±8.0, 6°.83N×76°.74W, h0km, mb1 3.0/1, mb1mx2.8/31, mbtmp3.3/1, ML1.9/1, Error ellipse: s-maj=695.6km s-min=33.6km az=45.0*

ISC 28 07:39:37.2±0.9, 7°.15N±0°.04×76°.02W±0°.04, h10km, n14, σ1s50/24, 2C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DBBC	**Dabeiba**	**0.23**	**235**	*i* P		**Pg**	**07 39 40.7**	**-1.2**
DBBC				*e*S		**Sg**	**07 39 44.7**	**-0.4**
DBBC				*i*			07 39 45.4	
	comp=Z,3μm,0.3s							
UREC	**San Jos de Ur**	**0.77**	**39**	*i* P		**Pg**	**07 39 50.0**	**-2.1**
UREC				*e*S		**Sg**	**07 40 02.3**	**+0.1**
UREC				*i*			07 40 04.5	
	comp=Z,631nm,0.2s							
HELC	**Santa Helena**	**1.07**	**153**	*i* P		**Pg**	**07 39 56.1**	**-1.7**
HELC				*e*S		**Sg**	**07 40 12.7**	**+0.9**
HELC				*i*			07 40 16.0	
	comp=Z,26nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.21**	**73**	*e*P		**Pn**	**07 39 58.5**	**-1.6**
ZARC				*e*S		**Sb**	**07 40 15.5**	**-0.2**
ZARC				*i*			07 40 17.2	
	comp=Z,168nm,0.4s							
BRRC	**Barranca, Sant**	**2.29**	**91**	*e*P		**Pn**	**07 40 15.7**	**+0.5**
BRRC				*e*S		**Sn**	**07 40 45.7**	**+2.3**
BRRC				*i*			07 40 54.4	
	comp=Z,30nm,0.5s							
RREF	**El Recreo**	**2.33**	**163**	*e*P		**Pn**	**07 40 16.4**	**+0.3**
RREF				*e*S		**Sb**	**07 40 47.5**	**-1.3**
RREF				*i*			07 40 56.4	
	comp=Z,25nm,0.8s							
SMLC	**San Martn de**	**2.54**	**50**	*e*P		**Pn**	**07 40 18.6**	**+0.2**
SMLC				*e*S		**Sn**	**07 40 50.3**	**+0.9**
ROSC	**El Rosal**	**2.85**	**143**	*e*P		**Pb**	**07 40 27.2**	**-1.2**
ROSC				*i*			07 41 17.6	
	comp=Z,12nm,0.4s							
ROSC	**El Rosal**	**2.85**	**143**	Pn		**Pb**	**07 40 27.6**	**-0.8**
	comp=Z,2.8nm,0.3s,baz=311,slow=9.3,SNR=11							
ROSC				Sn		**Sg**	**07 41 07.8**	**-1.1**
	comp=Z,2.1nm,0.3s,baz=49,slow=19,SNR=5.1							
OCAC	**Ocana**	**2.89**	**68**	*e*P		**Pn**	**07 40 23.7**	**+0.2**
OCAC				*i*			07 41 13.8	
	comp=Z,34nm,0.5s							
YOTC	**Yotoco, Valle**	**3.16**	**186**	*e*P		**Pn**	**07 40 27.4**	**+0.2**
YOTC				*e*S		**Sn**	**07 41 05.7**	**+0.7**
YOTC				*i*			07 41 13.8	
	comp=Z,5.9nm,0.8s							
RUSC	**La Rusia**	**3.18**	**113**	*e*P		**Pn**	**07 40 28.5**	**+0.8**
RUSC				*e*S		**Sn**	**07 41 08.4**	**+2.5**
RUSC				*i*			07 41 25.8	
	comp=Z,16nm,0.5s							
ZALV	**Zalesovo Beam**	**117.03**	**13**	PKP		**PKiKP**	**07 58 26.3**	**+3.9**
	comp=Z,1.2nm,0.8s,baz=6.7,slow=3.5,SNR=4.7							
MKAR	**Makanchi Array**	**122.94**	**18**	PKP		**PKiKP**	**07 58 35.3**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=337,slow=1.9,SNR=3.6							

*ISCJB **28** 07:48:51.8±0.2, 20°.00S±0°.02×69°.03W±0°.04, h109km±2km, mb4.5/47, Error ellipse: s-maj=7.0km s-min=3.4km az=177.2*
*SJA **28** 07:48:53.3±1.1, 20°.04S×69°.24W, h97km±4km, MD3.3*
*GUC **28** 07:48:53.5±0.8, 20°.04S×69°.19W, h95km±4km, ML4.4*
*NEIC **28** 07:48:53.0±0.0, 20°.04S×69°.19W, h95km, mb4.7/43, ML4.4(GUC), After GUC.*
*IDC **28** 07:48:54.3±0.6, 19°.96S×68°.91W, h110km±6km, mb3.8/12, mb1 4.0/17, mb1mx3.8/39, mbtmp4.2/17, MS2.7/4, Ms1 2.8/4, ms1mx2.6/38, Error ellipse: s-maj=13.9km s-min=9.0km az=92.0*

ISC 28 07:48:52.9±0.5, 20.04S±0°.03×69.12W±0°.05, h102km±4km, h102km:pP-P, n134, σ1s38/166, mb4.6/47, 1C-7D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB08	**IPOC Station P**	**0.11**	**199**	*e*P		**Pn**	**07 49 07.7**	**+0.2**
PB08				*e*S		**Sn**	**07 49 19.1**	**+0.5**
PB08	**IPOC Station P**	**0.11**	**199**	↓*i*P		**Pn**	**07 49 07.8**	**+0.2**
PB08				*e*S		**Sn**	**07 49 18.6**	**0.0**
PB08				IAML			07 49 21.1	
	comp=E,20μm,0.2s							
GO01	**Chusmiza**	**0.37**	**349**	*e*Pn		**Pn**	**07 49 08.9**	**+0.2**
GO01				*e*Sn		**Sn**	**07 49 19.4**	**-1.1**
PB11	**IPOC Station P**	**0.58**	**298**	*e*Pn		**Pn**	**07 49 09.2**	**-0.5**
PB11				*e*Sn		**Sn**	**07 49 21.2**	**-1.0**
PB11	**IPOC Station P**	**0.58**	**298**	*e*P		**Pn**	**07 49 09.2**	**-0.5**
PB11				*e*S		**Sn**	**07 49 21.9**	**-0.3**
PB11	**IPOC Station P**	**0.58**	**298**	↓*i*P		**Pn**	**07 49 09.4**	**-0.3**
PB11				*i* S		**Sn**	**07 49 21.4**	**-0.8**
PB11				IAML			07 49 22.1	
	comp=E,22μm,0.5s							
MNMC	**Minye Minye**	**1.01**	**333**	*e*Pn		**Pn**	**07 49 14.5**	**+0.6**
MNMC				*e*Sn		**Sn**	**07 49 30.2**	**+0.6**
MNMC	**Minye Minye**	**1.01**	**333**	↓*i*P		**Pn**	**07 49 14.4**	**+0.6**
MNMC				*i* S		**Sn**	**07 49 29.6**	**0.0**
MNMC				IAML			07 49 32.0	
	comp=N,27μm,0.3s							
MNMCX	**Minye Minye**	**1.01**	**333**	↓*e*P		**Pn**	**07 49 14.6**	**+0.8**
MNMCX				*e*S		**Sn**	**07 49 30.1**	**+0.5**
PSGC	**Pisagua**	**1.04**	**295**	↑*e*P		**Pn**	**07 49 13.7**	**-0.4**
PSGC				*i* S		**Sn**	**07 49 29.1**	**-0.9**
PSGC				IAML			07 49 30.9	
	comp=E,13μm,0.4s							
PB01	**IPOC Station P**	**1.06**	**199**	*e*Pn		**Pn**	**07 49 14.7**	**+0.4**
PB01				*e*Sn		**Sn**	**07 49 30.4**	**0.0**
PB01	**IPOC Station P**	**1.06**	**199**	*e*P		**Pn**	**07 49 14.8**	**+0.5**
PB01				*e*S		**Sn**	**07 49 30.7**	**+0.4**
PB01	**IPOC Station P**	**1.06**	**199**	↓*i*P		**Pn**	**07 49 14.7**	**+0.5**
PB01				*i* S		**Sn**	**07 49 30.7**	**+0.4**
PB01				IAML			07 49 31.9	
	comp=E,8μm,0.3s							
PB02	**IPOC Station P**	**1.47**	**210**	↓*e*P		**Pn**	**07 49 18.8**	**-0.2**
PB02				*e*S		**Sn**	**07 49 39.1**	**+0.3**
PB02	**IPOC Station P**	**1.47**	**210**	*e*P		**Pn**	**07 49 19.5**	**+0.4**
PB02				*i* S		**Sn**	**07 49 38.8**	**0.0**
PB02				IAML			07 49 46.2	
	comp=E,11μm,0.2s							
PB09	**IPOC Station P**	**1.75**	**184**	*e*P		**Pn**	**07 49 23.7**	**+1.1**
PB09				*e*S		**Sn**	**07 49 46.9**	**+1.7**
PB09	**IPOC Station P**	**1.75**	**184**	*e*P		**Pn**	**07 49 23.9**	**+1.2**
PB09				*e*S		**Sn**	**07 49 46.5**	**+1.3**
PB09				IAML			07 49 53.2	
	comp=E,2μm,0.6s							
PB12	**IPOC Station P**	**1.82**	**321**	*e*P		**Pn**	**07 49 23.2**	**-0.1**
PB12	**IPOC Station P**	**1.82**	**321**	*e*P		**Pn**	**07 49 23.0**	**-0.4**
PB12				*e*S		**Sn**	**07 49 46.5**	**0.0**
PB12				IAML			07 49 53.0	
	comp=N,8μm,0.6s							
PB07	**IPOC Station P**	**1.83**	**203**	*e*P		**Pn**	**07 49 24.5**	**+0.9**
PB07				*e*S		**Sn**	**07 49 48.8**	**+1.9**
PB07	**IPOC Station P**	**1.83**	**203**	*e*P		**Pn**	**07 49 24.0**	**+0.5**
PB07				*e*S		**Sn**	**07 49 47.8**	**+0.9**
PB07				IAML			07 49 55.8	
	comp=E,5μm,0.3s							
PB03	**IPOC Station P**	**2.09**	**196**	*e*P		**Pn**	**07 49 27.9**	**+1.1**
PB03				*e*S		**Sn**	**07 50 47.0**	**+4.2**
PB03	**IPOC Station P**	**2.09**	**196**	*e*P		**Pn**	**07 49 27.8**	**+0.9**
PB03				*e*S		**Sn**	**07 49 54.0**	**+1.2**
PB03				IAML			07 50 05.6	
	comp=E,2μm,0.3s							
PB04	**IPOC Station P**	**2.48**	**203**	*e*Pn		**Pn**	**07 49 33.0**	**+1.1**
PB04				*e*Sn		**Sn**	**07 49 57.1**	**-4.9**
PB04	**IPOC Station P**	**2.48**	**203**	*e*P		**Pn**	**07 49 33.9**	**+1.9**
PB04	**IPOC Station P**	**2.48**	**203**	*e*P		**Pn**	**07 49 33.2**	**+1.2**
PB04				IAML			07 50 14.1	
	comp=E,2μm,0.5s							
LVC	**Limon Verde**	**2.57**	**176**	*e*Pn		**Pn**	**07 49 35.1**	**+1.7**
LVC				*e*Sn		**Sn**	**07 50 02.3**	**-2.0**
LVC	**Limon Verde**	**2.57**	**176**	*e*P		**Pn**	**07 49 35.0**	**+1.7**
LVC	**Limon Verde**	**2.57**	**176**	P		**Pn**	**07 49 35.1**	**+1.7**
	comp=E,54nm,0.3s,baz=354,slow=9.8,SNR=226							
LVC				S		**Sn**	**07 50 08.5**	**+4.2**
	comp=E,102nm,0.3s,baz=323,slow=20,SNR=17							
LVC				LR		LR	07 50 30.1	
	comp=E,48nm,20.3s,baz=78,slow=36							
PB06	**IPOC Station P**	**2.69**	**189**	↓*e*P		**Pn**	**07 49 35.9**	**+1.1**
PB06	**IPOC Station P**	**2.69**	**189**	*e*P		**Pn**	**07 49 36.0**	**+1.3**
PB06				*e*S		**Sn**	**07 50 08.8**	**+2.0**
PB06				IAML			07 50 13.0	
	comp=E,1μm,0.3s							
PB05	**IPOC Station P**	**2.98**	**200**	*e*P		**Pn**	**07 49 40.0**	**+1.4**
PB05	**IPOC Station P**	**2.98**	**200**	*e*P		**Pn**	**07 49 38.5**	**-0.1**
PB05				*e*S		**Sn**	**07 50 15.2**	**+1.5**
PB05				IAML			07 50 26.1	
	comp=E,1μm,0.5s							
PB10	**IPOC Station P**	**3.71**	**201**	*e*Pn		**Pn**	**07 49 47.5**	**-0.8**
PB10				*e*Sn		**Sn**	**07 50 27.5**	**-3.5**
PB10	**IPOC Station P**	**3.71**	**201**	*e*P		**Pn**	**07 49 47.4**	**-0.8**
PB10				*e*S		Sn	07 50 40.1	+9.1
LPAZ	**La Paz**	**3.84**	**14**	*e*P		**Pn**	**07 49 53.5**	**+2.9**
LPAZ	**La Paz**	**3.84**	**14**	P		**Pn**	**07 49 53.5**	**+2.9**
	comp=E,8.5nm,0.3s,baz=188,slow=4.7,SNR=117							
LPAZ				S		**Sn**	**07 50 35.4**	**+0.3**
	comp=E,1.9nm,0.3s,baz=315,slow=1.4,SNR=2.8							
LPAZ				LR		LR	07 51 24.2	
	comp=E,71nm,19.5s,baz=246,slow=40							
HJA	**Humahuaca**	**4.67**	**133**	*e*P		**Pn**	**07 50 05.0**	**+3.4**
GO02	**Mina Guanaco**	**5.12**	**185**	*e*Pn		**Pn**	**07 50 07.2**	**-0.3**
GO02				*e*Sn		**Sn**	**07 51 04.2**	**-1.4**
SIV	**San Ignacio**	**8.64**	**64**	P		**Pn**	**07 50 54.3**	**-0.9**
	comp=E,13nm,0.3s,baz=266,slow=10,SNR=416							
SIV				S		**Sn**	**07 52 27.8**	**-3.2**
	comp=E,0.4nm,0.3s,baz=347,slow=21,SNR=3.4							
LCO	**Las Campanas**	**9.05**	**189**	*e*Pn		**Pn**	**07 50 56.6**	**-4.3**
GO04	**Tololo Observa**	**10.21**	**188**	*e*Pn		Pn	07 51 10.3	-6.3
NNA	**Nana**	**10.92**	**316**	P		**Pn**	**07 51 29.5**	**+3.4**
	comp=E,0.6nm,0.3s,baz=323,slow=10,SNR=2.4							
NNA				S		**Sn**	**07 53 31.2**	**+4.8**
	comp=E,1.3nm,0.3s,baz=238,slow=9.5,SNR=3.6							
NNA				LR		LR	07 56 16.5	
	comp=E,120nm,19.5s,baz=252,slow=40							
CFA	**Coronel Fontan**	**11.55**	**176**	P		**Pn**	**07 51 36.4**	**+1.9**
	comp=E,0.4nm,0.3s,baz=321,slow=13,SNR=3.7							
CPUP	**Villa Florida**	**12.52**	**122**	*e*Pn		**Pn**	**07 51 46.3**	**-1.0**
CPUP	**Villa Florida**	**12.52**	**122**	P		**Pn**	**07 51 47.2**	**-0.2**
	comp=E,0.4nm,0.3s,baz=302,slow=11,SNR=22							
TRQA	**Tornquist**	**19.00**	**162**	*e*P		**P**	**07 53 05.2**	**-1.3**
	comp=E,18nm,1.4s							
GO06	**Curarrehue**	**19.59**	**185**	*e*P		**Pn**	**07 53 14.2**	**-1.1**
	comp=E,11nm,0.8s							
BDFB	**Brasilia**	**20.55**	**81**	*e*P		**P**	**07 53 24.2**	**+0.6**
BDFB	**Brasilia**	**20.55**	**81**	P		**P**	**07 53 23.6**	**0.0**
	comp=E,4.4nm,0.5s,baz=259,slow=12,SNR=10							
BDFB				LR		LR	08 03 05.7	
	comp=E,47nm,20.6s,baz=109,slow=42							
PLCA	**Paso Flores**	**20.67**	**183**	*e*P		**P**	**07 53 24.9**	**+0.4**
	comp=E,14nm,1.1s							
PLCA	**Paso Flores**	**20.67**	**183**	P		**P**	**07 53 25.9**	**+1.3**
	comp=E,6.6nm,0.6s,baz=26,slow=11,SNR=38							
PTGA	**Pitinga**	**21.17**	**26**	*e*P		**P**	**07 53 29.0**	**-1.1**
	comp=E,6.1nm,1.1s							
PTGA	**Pitinga**	**21.17**	**26**	P		**P**	**07 53 28.6**	**-1.6**
	comp=E,2.1nm,0.3s,baz=306,slow=22,SNR=5.8							
GO07	**Milladeo Hill,**	**23.33**	**188**	*e*P		**P**	**07 53 51.4**	**-0.6**
	comp=E,86nm,1.5s							
OBIP	**Obispado Ponce**	**37.92**	**4**	*e*P		**P**	**07 55 59.7**	**-0.7**
	comp=E,11nm,0.6s							
MTP	**Monte Pirata**	**38.06**	**6**	*e*P		**P**	**07 55 59.2**	**-2.4**
	comp=E,7.4nm,1.0s							
CBYP	**Canovanas**	**38.20**	**5**	*e*P		**P**	**07 56 01.2**	**-1.7**
	comp=E,9.8nm,1.0s							
BANI	**BANI**	**38.21**	**358**	*e*P		**P**	**07 56 00.1**	**-2.9**
SMRT	**St. Maarten**	**38.31**	**9**	*e*P		**P**	**07 56 00.7**	**-3.1**
	comp=E,16nm,1.0s							
656A	**Willston**	**50.79**	**345**	*e*P		**P**	**07 57 43.7**	**+0.9**
	comp=E,32nm,1.1s							
JSC	**Jenkinsville**	**55.24**	**348**	*e*P		**P**	**07 58 15.6**	**+0.2**
	comp=E,6.6nm,0.6s							
Z50A	**Ashland**	**55.37**	**343**	*e*P		**P**	**07 58 16.4**	**+0.1**
	comp=E,13nm,1.4s							
LRAL	**Lakeview Retre**	**55.47**	**342**	*e*P		**P**	**07 58 16.8**	**-0.3**
	comp=E,5.8nm,1.2s							
SWET	**Sewanee**	**57.22**	**344**	*e*P		**P**	**07 58 29.3**	**-0.2**
	comp=E,8.2nm,1.3s							
V52A	**Sevierville**	**57.24**	**346**	*e*P		**P**	**07 58 29.3**	**-0.3**
	comp=E,14nm,1.5s							
WVT	**Waverly**	**58.60**	**342**	*e*P		**P**	**07 58 38.5**	**-0.6**
	comp=E,6.6nm,0.8s							
T49A	**Edmonton**	**58.91**	**345**	*e*P		**P**	**07 58 41.0**	**-0.3**
	comp=E,5.4nm,0.6s							
MIAR	**Mount Ida**	**59.06**	**337**	*e*P		**P**	**07 58 42.5**	**+0.2**
	comp=E,9.1nm,1.4s							
W41B	**Gary Mavity, W**	**59.14**	**338**	*e*P		**P**	**07 58 42.7**	**-0.1**
	comp=E,3.2nm,1.2s							
LTX	**Lajitas**	**59.33**	**325**	*e*P		**P**	**07 58 44.9**	**+0.5**
TXAR	**Lajitas Array**	**59.33**	**325**	P		**P**	**07 58 44.9**	**+0.5**
	comp=E,0.3nm,0.5s,baz=149,slow=8.1,SNR=5.0							
TX31	**Lajitas Ar. Si**	**59.33**	**325**	*e*P		**P**	**07 58 44.8**	**+0.4**
SDMD	**Soldier's Deli**	**59.57**	**353**	*e*P		**P**	**07 58 46.6**	**+0.9**
	comp=E,3.7nm,0.9s							
X37A	**Clayton**	**59.79**	**335**	*e*P		**P**	**07 58 48.4**	**+1.1**
	comp=E,13nm,1.1s							
PBMO	**Poplar Bluff**	**59.99**	**340**	*e*P		**P**	**07 58 48.8**	**+0.2**
	comp=E,4.4nm,0.6s							
MCWV	**Mont Chateau**	**60.22**	**350**	*e*P		**P**	**07 58 51.2**	**+1.0**
	comp=E,6.7nm,1.2s							
P53A	**Whipple**	**60.31**	**349**	*e*P		**P**	**07 58 51.6**	**+0.8**
	comp=E,8.4nm,0.8s							
SSPA	**Standing Stone**	**60.91**	**352**	*e*P		**P**	**07 58 55.5**	**+0.6**
	comp=E,17nm,1.4s							
N54A	**Moraine State**	**61.52**	**351**	*e*P		**P**	**07 58 59.9**	**+0.9**
	comp=E,10nm,1.0s							
M54A	**Oil Creek Stat**	**62.01**	**351**	*e*P		**P**	**07 59 02.8**	**+0.6**
	comp=E,8.0nm,0.6s							
VNA2	**Neumayer--Watz**	**62.09**	**161**	P		**P**	**07 59 03.3**	**+0.8**
	baz=297,slow=6.8							
N49A	**Columbus Grove**	**62.24**	**347**	*e*P		**P**	**07 59 04.2**	**+0.4**
	comp=E,13nm,0.6s							
MMNY	**Mt. Morris Dam**	**62.98**	**353**	*e*P		**P**	**07 59 09.1**	**+0.5**
	comp=E,18nm,1.2s							
SNAA	**Sanae**	**63.72**	**161**	*e*P		**P**	**07 59 14.0**	**+0.6**
	comp=E,2.6nm,0.8s							
SADO	**Sadowa**	**65.14**	**352**	P		**P**	**07 59 22.8**	**+0.1**
	comp=E,10nm,1.3s							
SADO	**Sadowa**	**65.14**	**352**	P		**P**	**07 59 22.7**	**-0.1**
	comp=E,2.0nm,0.4s,baz=244,slow=3.9,SNR=3.7							
PLVO	**Plevna**	**65.17**	**354**	*e*P		**P**	**07 59 23.3**	**+0.3**
	comp=E,8.6nm,1.1s							
TRQ	**Mont Tremblant**	**66.13**	**356**	*e*P		**P**	**07 59 29.5**	**+0.3**
SDCO	**Great Sand Dun**	**66.90**	**329**	*e*P		**P**	**07 59 35.0**	**+0.4**
VLDQ	**Val d'Or**	**68.25**	**354**

ISC 28 08:02:00.5±1.1,53°03N±0°09×167°87W±0°06, h59km±9km, n29, σ1°56/32, mb3.4/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKTU	**Okmok Mt. Tuli**	**0.37**	**344**	*e*Pn	**Pn**	**08 02 11.7**	**+0.5**
OKER	**Okmok East Rim**	**0.44**	**346**	*e*Pn	**Pn**	**08 02 12.5**	**+0.6**
NIKH	**Nikolski High**	**0.60**	**265**	*e*Pn	**Pn**	**08 02 13.8**	**+0.3**
NIKH				*e*Sn	**Sn**	**08 02 23.6**	**+0.7**
OKAK	**Okmok**	**0.63**	**333**	*e*Pn	**Pn**	**08 02 12.9**	**-1.0**
OKAK				*e*Sn	**Sn**	**08 02 22.8**	**-0.7**
MGOD	**Makushin Gods**	**0.98**	**37**	*e*Pn	**Pn**	**08 02 18.3**	**0.0**
MGOD				*e*Sn	**Sn**	**08 02 31.8**	**+0.4**
MCIR	**Makushin Cirqu**	**1.10**	**32**	*e*Pn	**Pn**	**08 02 20.6**	**+0.8**
MSW	**Makushin Switc**	**1.10**	**36**	*e*Pn	**Pn**	**08 02 20.4**	**+0.5**
MSW				*e*Sn	**Sn**	**08 02 35.8**	**+1.5**
UNV	**Unalaska Valle**	**1.16**	**44**	*e*Pn	**Pn**	**08 02 21.0**	**+0.4**
UNV				*e*Sn	**Sn**	**08 02 36.4**	**+0.8**
MTBL	**Makushin Table**	**1.19**	**37**	*e*Pn	**Pn**	**08 02 21.9**	**+0.8**
AKMO	**Akutan Morgan**	**1.54**	**45**	*e*Pn	**Pn**	**08 02 26.8**	**+1.1**
AKMO				*e*Sn	**Sn**	**08 02 47.9**	**+3.2**
AKRB	**Akutan Reef Bi**	**1.54**	**43**	*e*Pn	**Pn**	**08 02 27.0**	**+1.2**
ZRO	**Akutan Zero**	**1.56**	**46**	*e*Pn	**Pn**	**08 02 27.1**	**+1.1**
AKUT	**Akutan**	**1.68**	**48**	*e*Pn	**Pn**	**08 02 29.0**	**+1.5**
AKUT				*e*Sn	**Sn**	**08 02 49.4**	**+1.5**
WESP	**Westdahl Peak**	**2.38**	**51**	*e*Pn	**Pn**	**08 02 38.7**	**+1.6**
FALS	**False Pass**	**3.21**	**53**	*e*Pn	**Pn**	**08 02 49.8**	**+1.4**
FALS				*e*Sn	**Sn**	**08 03 27.1**	**+1.8**
KOFP	**Korovin Flat P**	**3.87**	**261**	*e*Pn	**Pn**	**08 02 59.7**	**+2.3**
SPIA	**Saint Paul Isl**	**4.38**	**343**	*e*Pn	**Pn**	**08 03 05.8**	**+1.4**
SPIA				*e*Sn	**Sn**	**08 03 57.8**	**+3.7**
KDAK	**Kodiak Island**	**9.91**	**55**	Pn	**Pn**	**08 04 18.1**	**-1.9**
	0.6nm,0.3s,baz=240,slow=8.1,SNR=19						
KDAK				Sn	Sn	08 06 00.2	-9.3
	0.1nm,0.3s,baz=107,slow=19,SNR=3.5						
ILAR	**Eielson Array**	**15.90**	**34**	Pn	**Pn**	**08 05 39.5**	**-0.6**
	0.1nm,0.3s,baz=236,slow=12,SNR=6.3						
INK	**Inuvik**	**22.30**	**34**	P	**P**	**08 06 50.1**	**-2.4**
	1.5nm,0.5s,baz=249,slow=9.4,SNR=15						
YKA	**Yellowknife Ar**	**29.12**	**50**	P	**P**	**08 07 55.1**	**-0.2**
	0.2nm,0.4s,baz=275,slow=8.6,SNR=9.7						
H11N2	**WAKE ISLAND Hy**	**38.54**	**220**	T	T	08 50 29.5	
	baz=24,slow=76,SNR=70						
H11N3	**WAKE ISLAND Hy**	**38.55**	**220**	T	T	08 50 29.9	
	baz=24,slow=76,SNR=72						
H11N1	**WAKE ISLAND Hy**	**38.56**	**220**	T	T	08 50 30.7	
	baz=24,slow=76,SNR=53						
H11S1	**WAKE ISLAND Hy**	**39.73**	**220**	T	T	08 52 02.2	
	baz=24,slow=76,SNR=69						
H11S2	**WAKE ISLAND Hy**	**39.74**	**220**	T	T	08 52 00.1	
	baz=24,slow=76,SNR=56						
H11S3	**WAKE ISLAND Hy**	**39.74**	**220**	T	T	08 51 57.8	
	baz=24,slow=76,SNR=46						
TXAR	**Lajitas Array**	**51.83**	**91**	P	**P**	**08 11 03.0**	**+0.3**
	0.1nm,0.5s,baz=320,slow=4.0,SNR=2.9						
FINES	**FINESS Array B**	**65.34**	**353**	P	**P**	**08 12 34.0**	**-1.8**
	0.6nm,0.4s,baz=28,slow=6.3,SNR=5.3						

IDC 28 08:04:54.3±3.0, 7°32S×148°12E, h0km, mb4.0/2, mb1 4.1/3, mb1mx3.4/47, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=92.2km s-min=41.0km az=123.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.33**	**225**	P	P	08 09 10.8	+0.4
	0.3nm,0.3s,baz=52,slow=11,SNR=12						
ASAR	**Alice Springs**	**21.23**	**218**	P	P	08 09 42.1	+0.2
	2.2nm,0.6s,baz=52,slow=9.5,SNR=46						
FITZ	**Fitzroy Crossi**	**24.38**	**242**	P	P	08 10 13.0	-1.4
	2.1nm,0.3s,baz=61,slow=11,SNR=21						
TORD	**Torodi Ar. Bea**	**146.48**	**283**	PKPbc	PKPbc	08 24 38.7	+0.2
	0.4nm,0.6s,baz=66,slow=3.2,SNR=2.3						

*ISCJB **28** 08:09:05.5±0.6,23°.89N±0°.02×122°.52E±0°.02, h4km±4km, Error ellipse: s-maj=3.4km s-min=2.2km az=166.5*
*TAP **28** 08:09:06.9,23.87N×122.53E, h18km±1km, ML3.1, D*
*JMA **28** 08:09:07.2±0.3,23°.97N×122°.50E, h22km±5km, M2.5*

ISC 28 08:09:05.6±1.1, 23°90N±0°02×122°53E±0°02, h14km±9km, n57, σ0°54/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.67**	**34**	P	**Pb**	**08 09 19.4**	**+0.3**
JYNG				*e*S	**Sg**	**08 09 27.3**	**-0.3**
YOJ	**Yonaguni jima**	**0.71**	**38**	*e*P	**Pb**	**08 09 20.2**	**+0.3**
	baz=36						
YOJ				*e*S	**Sb**	**08 09 28.9**	**-0.6**
	baz=36						
YOJ	**Yonaguni jima**	**0.71**	**38**	P	**Pb**	**08 09 20.2**	**+0.3**
YOJ				*e*S	**Sb**	**08 09 28.8**	**-0.8**
EOS1	**EOS1**	**0.75**	**331**	P	**Pn**	**08 09 21.2**	**-0.5**
	baz=331						
EOS1				S	**Sn**	**08 09 31.8**	**-1.1**
	baz=331						
TWD	**Chiawan**	**0.87**	**282**	*e*P	**Pb**	**08 09 22.8**	**+0.2**
	baz=283						
TWD				*e*S	**Sb**	**08 09 34.4**	**+0.3**
	baz=283						
NANB	**Nanao**	**0.89**	**307**	P	**Pb**	**08 09 23.1**	**+0.3**
	baz=307						
NANB				S	**Sb**	**08 09 35.2**	**+0.6**
	baz=307						
ENA	**Nanau**	**0.89**	**306**	P	**Pb**	**08 09 23.2**	**+0.2**
	baz=307						
ENA				S	**Sb**	**08 09 35.2**	**+0.4**
	baz=307						
NACB	**Ninganchiao**	**0.90**	**288**	P	**Pb**	**08 09 23.1**	**+0.1**
	baz=289						
NACB				S	**Sb**	**08 09 35.3**	**+0.4**
	baz=289						
TWC	**Suao**	**0.94**	**319**	P	**Pb**	**08 09 23.5**	**-0.3**
	baz=320						
TWC				*e*S	**Sg**	**08 09 35.2**	**-1.0**
	baz=320						
ETLH	**Xiulin Townshi**	**1.01**	**288**	P	**Pg**	**08 09 25.0**	**-0.1**
	baz=289						
ETLH				*e*S	**Sb**	**08 09 38.3**	**+0.2**
	baz=289						
ESL	**Shilin**	**1.01**	**266**	P	**Pb**	**08 09 24.8**	**-0.1**
	baz=266						
ESL				*e*S	**Sb**	**08 09 37.8**	**-0.2**
	baz=266						
EGFH	**Guangfu**	**1.03**	**258**	*e*S	**Sg**	**08 09 39.5**	**+0.3**
	baz=258						
EGS		**1.09**	**330**	P	**Pg**	**08 09 26.7**	**+0.1**
	baz=331						
EGS				*e*S	**Sn**	**08 09 42.3**	**+0.9**
	baz=331						
HGSD	**Ruisui**	**1.09**	**249**	*e*P	**Pb**	**08 09 26.3**	**0.0**
	baz=249						
HGSD				*e*S	**Sb**	**08 09 40.0**	**-0.4**
	baz=249						
TWE	**Neicheng**	**1.14**	**316**	*e*P	**Pg**	**08 09 27.7**	**+0.2**
	baz=317						
NTC	**Toucheng**	**1.15**	**326**	*e*P	**Pg**	**08 09 28.1**	**+0.3**
	baz=326						
NTC				*e*S	**Sn**	**08 09 43.1**	**+0.3**
	baz=326						
ENTT	**Nioudou**	**1.15**	**310**	*e*P	**Pg**	**08 09 27.7**	**-0.1**
	baz=311						
ENTT				*e*S	**Sg**	**08 09 42.8**	**0.0**
	baz=311						
NDT	**Datong Townshi**	**1.16**	**307**	P	**Pg**	**08 09 28.3**	**+0.3**
	baz=308						
NDT				S	**Sg**	**08 09 43.2**	**-0.1**
	baz=308						
EHY	**Hungye**	**1.17**	**251**	P	**Pn**	**08 09 27.6**	**0.0**
	baz=251						
EHY				*e*S	**Sb**	**08 09 42.4**	**-0.4**
	baz=251						
NNSB	**Datong**	**1.17**	**297**	P	**Pb**	**08 09 27.9**	**+0.1**
	baz=297						
NNSB				*e*S	**Sg**	**08 09 43.5**	**-0.1**
	baz=297						
HATJ	**Hateruma jima**	**1.18**	**82**	P	**Pg**	**08 09 28.7**	**+0.4**
HATJ				S	**Sn**	**08 09 44.2**	**+0.7**
IRIF	**Iriomote-Funau**	**1.18**	**68**	P	**Pg**	**08 09 29.0**	**+0.6**
IRIF				S	**Sn**	**08 09 44.1**	**+0.5**
WHF	**Hehuan Shan**	**1.18**	**282**	P	**Pb**	**08 09 28.0**	**-0.1**
	baz=283						
WHF				S	**Sb**	**08 09 43.1**	**-0.3**
	baz=283						
NNS	**Nan Shan**	**1.19**	**297**	P	**Pb**	**08 09 28.1**	**+0.1**
	baz=298						
NNS				*e*S	**Sg**	**08 09 43.9**	**-0.1**
	baz=298						
YULB	**Yu-li**	**1.24**	**246**	P	**Pb**	**08 09 28.8**	**0.0**
	baz=247						
YULB				*e*S	**Sb**	**08 09 44.5**	**-0.2**
	baz=247						
OWD	**Renai**	**1.24**	**273**	*e*S	**Sb**	**08 09 44.0**	**-0.8**
	baz=273						
TIPB	**Shuangxi**	**1.25**	**329**	P	**Pg**	**08 09 29.5**	**-0.2**
	baz=329						
TIPB				S	**Sb**	**08 09 44.9**	**-0.1**
	baz=329						
CHGB	**Renai**	**1.25**	**278**	P	**Pn**	**08 09 29.0**	**+0.1**
	baz=278						
CHGB				S	**Sb**	**08 09 45.5**	**+0.2**
	baz=278						
TWF1	**Yuli**	**1.25**	**245**	P	**Pb**	**08 09 29.2**	**+0.1**
	baz=245						
TWF1				*e*S	**Sb**	**08 09 45.4**	**+0.3**
	baz=245						
VWDT	**VWDT**	**1.28**	**264**	*e*P	**Pb**	**08 09 29.6**	**+0.1**
	baz=264						
VWDT				*e*S	**Sb**	**08 09 45.6**	**-0.2**
	baz=264						
NWLT	**Wulai**	**1.28**	**313**	P	**Pg**	**08 09 30.0**	**-0.4**
	baz=313						
TDCB	**Techi**	**1.30**	**286**	*e*P	**Pb**	**08 09 29.9**	**-0.1**
	baz=286						
YHNB	**Yeheng**	**1.30**	**306**	*e*P	**Pb**	**08 09 29.9**	**-0.1**
	baz=307						
YHNB				*e*S	**Sn**	**08 09 46.9**	**+0.1**
	baz=307						
FULB	**Fuli**	**1.33**	**239**	*e*S	**Sb**	**08 09 47.5**	**+0.2**
	baz=239						
NWF	**Wu-fen Shan**	**1.35**	**330**	*e*P	**Pn**	**08 09 30.3**	**+0.1**
	baz=330						
NWF				S	**Sg**	**08 09 49.1**	**-0.2**
	baz=330						
WFSB	**Wu-fen Shan**	**1.35**	**330**	*e*P	**Pn**	**08 09 30.3**	**+0.2**
	baz=330						
WFSB				*e*S	**Sg**	**08 09 48.9**	**-0.5**
	baz=330						
JKRS	**Kuro-shima**	**1.39**	**76**	P	**Pg**	**08 09 32.8**	**+0.3**
JKRS				*e*S	**Sg**	**08 09 50.8**	**+0.2**
SSLB	**Suanglung**	**1.45**	**266**	*e*P	**Pn**	**08 09 31.9**	**+0.5**
	baz=266						
SSLB				*e*S	**Sn**	**08 09 49.6**	**-0.7**
	baz=266						
SMLT	**Sun Moon Lake**	**1.49**	**270**	*e*P	**Pn**	**08 09 32.6**	**+0.4**
	baz=270						
SMLT				*e*S	**Sn**	**08 09 51.1**	**-0.3**
	baz=270						
WHP	**Taichung City**	**1.50**	**285**	*e*P	**Pb**	**08 09 33.7**	**+0.5**
	baz=285						
WHP				*e*S	**Sn**	**08 09 51.9**	**+0.4**
	baz=285						
TYC	**Yuchr**	**1.53**	**271**	*e*P	**Pn**	**08 09 33.2**	**+0.7**
	baz=271						
JIJ	**Ishigaki jima**	**1.54**	**72**	P	**Pb**	**08 09 33.6**	**-0.5**
JIJ				*e*S	**Sn**	**08 09 52.4**	**-0.2**
ELDTW	**Lidau**	**1.56**	**243**	*e*P	**Pn**	**08 09 33.4**	**+0.4**
	baz=243						
ELDTW				*e*S	**Sn**	**08 09 52.3**	**-0.8**
	baz=243						
TWGBT	**Beinan**	**1.71**	**231**	*e*S	**Sn**	**08 09 56.0**	**-0.8**
	baz=231						
TWG	**Pinlang**	**1.71**	**232**	*e*P	**Pn**	**08 09 35.8**	**+0.7**
	baz=231						
TWG				*e*S	**Sn**	**08 09 56.5**	**-0.4**
	baz=231						
CHN5	**Tsauling**	**1.72**	**260**	*e*S	**Sb**	**08 09 59.6**	**+0.9**
	baz=260						
JISG	**Ishigakijimahi**	**1.77**	**67**	P	**Pb**	**08 09 36.8**	**-1.0**
JISG				S	**Sn**	**08 09 58.1**	**0.0**
WDLH	**Douliu**	**1.84**	**264**	*e*P	**Pb**	**08 09 39.0**	**0.0**
	baz=264						
WDLH				*e*S	**Sg**	**08 10 03.6**	**-1.2**
	baz=264						
TPUB	**Ta-pu**	**1.84**	**252**	*e*P	**Pb**	**08 09 39.8**	**+0.7**
	baz=251						
TPUB				*e*S	**Sb**	**08 10 01.9**	**-0.1**
	baz=251						
CHN4	**Tsaushan**	**1.86**	**253**	*e*P	**Pb**	**08 09 39.7**	**+0.3**
	baz=253						
CHN4				*e*S	**Sb**	**08 10 04.2**	**+1.7**
	baz=253						
WTP	**Ta-pu**	**1.87**	**250**	*e*P	**Pb**	**08 09 39.7**	**0.0**
	baz=250						
WTP				*e*S	**Sb**	**08 10 03.9**	**+0.9**
	baz=250						
SLGT	**Liugui**	**1.95**	**243**	*e*P	**Pb**	**08 09 40.7**	**-0.2**
	baz=243						
SLGT				*e*S	**Sb**	**08 10 06.9**	**+1.8**
	baz=243						
CHN1	**Nanshi**	**1.97**	**249**	*e*P	**Pb**	**08 09 41.5**	**+0.2**
	baz=249						
CHN1				*e*S	**Sb**	**08 10 05.9**	**+0.2**
	baz=249						
TWK	**Hsinying**	**1.98**	**252**	*e*P	**Pb**	**08 09 40.5**	**-0.9**
	baz=251						
TWK				*e*S	**Sb**	**08 10 05.9**	**-0.1**
	baz=251						
RLNB	**Erlin**	**1.99**	**270**	*e*S	**Sb**	**08 10 06.9**	**+0.7**
	baz=270						
LAY	**Lan-yu**	**2.06**	**206**	*e*P	**Pn**	**08 09 39.3**	**-0.6**
	baz=206						
LAY				*e*S	**Sn**	**08 10 03.8**	**-1.6**
	baz=206						
MASBT	**Mashibuluo**	**2.16**	**234**	*e*P	**Pn**	**08 09 42.1**	**+0.9**
	baz=234						
MASBT				*e*S	**Sb**	**08 10 11.3**	**0.0**
	baz=234						

*IDC **28** 08:23:17.6±1.4,24°.19S×174°.90W, h0km, mb4.1/12, mb1 4.3/14, mb1mx4.1/34, mbtmp4.2/14, ML3.5/2, MS3.8/20, Ms1 3.8/20, ms1mx3.7/37, Error ellipse: s-maj=56.7km s-min=19.7km az=157.0*
*NEIC **28** 08:23:18.5±0.8,24°.30S×175°.04W, h10km, mb4.5/11, Error ellipse: s-maj=17.5km s-min=15.2km az=98.0*

ISC 28 08:23:20.7±0.6, 24°13S±0°09×174°92W±0°09, h24km, n50, σ1°86/36, mb4.4/18, MS3.9/18, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**9.14**	**313**	*e*Pn	**Pn**	**08 25 29.5**	**-1.8**
RAR	**Rarotonga**	**14.28**	**81**	Pn	**Pn**	**08 26 38.9**	**-2.6**
	3.1nm,0.3s,baz=257,slow=14,SNR=8.6						
RAR				LR	LR	08 31 38.2	
	comp=Z,427nm,20.2s,baz=258,slow=35						
URZ	**Urewera**	**15.64**	**204**	*e*Pn	Pn	08 26 49.2	-10
	11nm,1.1s						
URZ				*e*Sn	**Sn**	**08 29 55.1**	**+3.0**
URZ	**Urewera**	**15.64**	**204**	Pn	Pn	08 26 49.3	-10
	0.4nm,0.3s,baz=67,slow=7.7,SNR=3.3						
URZ				Sn	**Sn**	**08 29 55.1**	**+3.0**
	0.4nm,0.3s,baz=198,slow=20,SNR=4.4						
DZM	**Mont Dzumac**	**17.27**	**273**	*e*LR	LR	08 31 16.5	
	comp=Z,372nm,24.6s						
DZM	**Mont Dzumac**	**17.27**	**273**	*e*Pn	**Pn**	**08 27 19.6**	**-0.8**
	15nm,1.2s						
DZM	**Mont Dzumac**	**17.27**	**273**	Pn	**P**	**08 27 21.4**	**-0.4**
	0.1nm,0.3s,baz=287,slow=19,SNR=2.6						
DZM				LR	LR	08 32 30.0	
	comp=Z,234nm,20.8s,baz=106,slow=32						
THZ	**Tophouse**	**20.30**	**207**	*e*P	**P**	**08 27 52.3**	**-2.6**
	13nm,1.4s						
KHZ	**Kahutara**	**20.60**	**205**	*e*P	**P**	**08 27 53.1**	**-4.9**
	12nm,1.1s						
TBI	**Tubuai**	**23.32**	**93**	*e*LR	LR	08 34 08.9	
	comp=Z,849nm,22.0s						
PPT2	**Papeete2**	**24.54**	**79**	*e*LR	LR	08 34 41.7	
	comp=Z,423nm,21.8s,baz=244						
PPT	**Papeete**	**24.55**	**79**	LR	LR	08 36 10.5	
	comp=Z,343nm,20.3s,baz=244,slow=32						
WHZ	**Wether Hill Ro**	**25.75**	**208**	*e*P	**P**	**08 28 47.0**	**-2.4**
	34nm,1.5s						
HNR	**Honiara**	**28.08**	**297**	LR	LR	08 39 31.6	
	comp=Z,156nm,19.5s,baz=146,slow=35						
CTA	**Charters Tower**	**36.12**	**269**	P	**P**	**08 30 21.5**	**+0.4**
	3.7nm,0.4s,baz=95,slow=10,SNR=12						
CTAO	**Charters Tower**	**36.12**	**269**	*e*P	**P**	**08 30 21.2**	**+0.1**
	16nm,1.3s						
TAOE	**Nuku Hiva Isla**	**36.50**	**71**	*e*LR	LR	08 40 17.4	
	comp=Z,457nm,32.0s						
STKA	**Stephens Creek**	**38.95**	**249**	P	**P**	**08 30 46.2**	**+1.2**
	1.9nm,0.6s,baz=145,slow=12,SNR=3.1						
STKA				LR	LR	08 45 13.8	
	comp=Z,216nm,20.0s,baz=37,slow=34						
BBOO	**Buckleboo**	**43.63**	**247**	*e*P	**P**	**08 31 23.1**	**-0.3**
	24nm,1.3s						
AS01	**Alice Springs**	**46.53**	**260**	*e*P	**P**	**08 31 44.9**	**-1.7**
ASAR	**Alice Springs**	**46.57**	**260**	P	**P**	**08 31 47.2**	**+0.3**
	2.1nm,0.9s,baz=91,slow=6.1,SNR=15						
ASAR				LR	LR	08 51 25.5	
	comp=Z,208nm,18.1s,baz=100,slow=36						
WB2	**Warramunga Arr**	**47.01**	**265**	*e*P	**P**	**08 31 48.9**	**-1.5**
WR1	**Warramunga Arr**	**47.02**	**265**	*e*P	**P**	**08 31 49.8**	**-0.7**
	10nm,1.1s						
WRA	**Warramunga Arr**	**47.02**	**265**	P	**P**	**08 31 49.8**	**-0.7**
	1.8nm,0.6s,baz=101,slow=8.4,SNR=34						
WRA				LR	LR	08 51 43.7	
	comp=Z,154nm,18.2s,baz=110,slow=36						
FORT	**Forrest**	**50.58**	**249**	*e*P	**P**	**08 32 17.5**	**-0.1**
	31nm,1.1s						
VNDA	**Vanda**	**54.59**	**186**	LR	LR	08 56 54.7	
	comp=Z,32nm,18.0s,baz=72,slow=37						
FITZ	**Fitzroy Crossi**	**55.43**	**264**	*e*P	**P**	**08 32 49.5**	**-4.1**
	1.9nm,0.8s						
SIJI	**Sorong**	**56.94**	**286**	LR	LR	08 54 57.2	
	comp=Z,74nm,21.2s,baz=144,slow=33						
QSPA	**South Pole Qui**	**65.96**	**180**	*e*P	**P**	**08 34 05.3**	**+0.5**
PETK	**Petropavlovsk-**	**80.51**	**344**	P	**P**	**08 35 30.9**	**+0.5**
	4.6nm,0.9s,baz=119,slow=8.6,SNR=4.1						
PETK				LR	LR	09 04 36.5	
	comp=Z,100nm,21.9s,baz=132,slow=31						
PEA1	**Petropavlovsk-**	**80.52**	**344**	*e*P	**P**	**08 35 30.9**	**+0.4**
YBH	**Yreka Blue Hor**	**81.41**	**37**	LR	LR	09 05 36.0	
	comp=Z,58nm,19.8s,baz=233,slow=31						
KSRS	**Korea Array**	**81.48**	**317**	P	**P**	**08 35 36.5**	**+0.5**
	0.8nm,0.6s,baz=149,slow=9.7,SNR=3.9						
KSRS				LR	LR	09 05 47.7	
	comp=Z,52nm,21.1s,baz=135,slow=31						
NVAR	**Mina Array Bea**	**81.77**	**42**	P	**P**	**08 35 39.3**	**+1.5**
	0.5nm,0.7s,baz=230,slow=8.1,SNR=2.6						
USRK	**Ussuriysk Ar.**	**83.55**	**325**	P	**P**	**08 35 48.0**	**+1.4**
	3.9nm,0.9s,baz=225,slow=1.6,SNR=5.4						
USRK				LR	LR	09 06 57.0	
	comp=Z,46nm,21.3s,baz=132,slow=31						
PLCA	**Paso Flores**	**84.73**	**132**	LR	LR	09 05 24.0	
	comp=Z,56nm,20.4s,baz=246,slow=30						
TCRU	**Three Creeks R**	**85.52**	**44**	*e*P	**P**	**08 35 57.6**	**+0.5**
	3.6nm,0.5s						
BBB	**Bella Bella**	**86.29**	**27**	LR	LR	09 05 47.0	
	comp=Z,44nm,21.9s,baz=197,slow=30						
TXAR	**Lajitas Array**	**86.66**	**56**	P	**P**	**08 36 03.0**	**+0.2**
	0.3nm,0.8s,baz=238,slow=5.2,SNR=2.3						
TXAR				LR	LR	09 08 48.2	
	comp=Z,56nm,19.8s,baz=0.0,slow=32						
LTX	**Lajitas**	**86.66**	**56**	*e*P	**P**	**08 36 03.0**	**+0.2**
KLR	**Kul'dur**	**87.09**	**328**	P	**P**	**08 36 05.4**	**+1.2**
	1.3nm,1.0s,baz=198,slow=20,SNR=3.0						
ANMO	**Albuquerque**	**87.50**	**50**	LR	LR	09 07 51.3	
	comp=Z,147nm,21.4s,baz=250,slow=30						
PDAR	**Pinedale Array**	**89.69**	**42**	LR	LR	09 08 42.4	
	comp=Z,45nm,21.5s,baz=256,slow=30						
ILAR	**Eielson Array**	**91.24**	**12**	P	**P**	**08 36 24.8**	**+1.4**
	0.1nm,0.6s,baz=204,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**93.98**	**288**	P	**P**	**08 36 39.9**	**+2.7**
	1.1nm,0.4s,baz=136,slow=4.0,SNR=10.0						
CMAR				LR	LR	09 20 06.3	
	comp=Z,16nm,18.6s,baz=140,slow=36						
LPAZ	**La Paz**	**98.06**	**112**	LR	LR	09 13 42.8	
	comp=Z,32nm,18.9s,baz=202,slow=31						
AKASG	**Malin Array Be**	**147.55**	**331**	PKPbc	**PKiKP**	**08 43 03.6**	**-1.2**
	1.1nm,0.5s,baz=41,slow=4.1,SNR=4.7						
BR101	**Keskin Array S**	**151.36**	**310**	*e*PKPbc	**PKiKP**	**08 43 14.5**	**+1.3**
BRTR	**Keskin Array B**	**151.36**	**310**	PKPbc	**PKiKP**	**08 43 14.5**	**+1.3**
	1.4nm,0.8s,baz=122,slow=3.8,SNR=6.0						
CLL	**Collm**	**152.19**	**349**	*e*PKPbc	**PKiKP**	**08 43 16.0**	**+1.7**

*NORS **28** 08:37:17.9±0.0, 43°.35N×43°.36E, h8km, MPVA3.6*
*MOS **28** 08:37:20.3±0.0, 43°.38N×43°.38E, h9km, MPVA3.6*

ISC 28 08:37:19.0±1.0, 43°35N±0°03×43°37E±0°03, h14km±8km, n16, σ0°72/31, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCK	**Nalchik**	**0.22**	**50**	*e*Pg	**Pg**	**08 37 23.5**	**-0.3**
NCK				*e*Sg	**Sg**	**08 37 27.1**	**0.0**
LSNR	**Lesken**	**0.34**	**102**	*e*Pg	**Pb**	**08 37 27.1**	**+0.2**
LSNR				*e*Sg	**Sb**	**08 37 32.4**	**+0.1**
KBTC	**Kuba-Taba**	**0.47**	**4**	*e*Pg	**Pb**	**08 37 29.2**	**+0.1**
KBTC				*e*Sg	**Sb**	**08 37 36.1**	**+0.3**
DIGR	**Digorskoe uzhe**	**0.48**	**161**	*e*Pg	**Pb**	**08 37 29.8**	**+0.5**
DIGR				*e*Sg	**Sb**	**08 37 36.5**	**+0.2**
NEY	**Neytrino**	**0.48**	**258**	*i* Pg	**Pn**	**08 37 30.2**	**-1.4**
NEY				*e*Sg	**Sb**	**08 37 37.0**	**+0.7**
STDR	**Stavd-Durt**	**0.51**	**88**	*e*Pg	**Pn**	**08 37 30.9**	**-0.9**
STDR				*e*Sg	**Sn**	**08 37 39.5**	**-0.9**
SHA1	**Shidzhatmaz**	**0.64**	**307**	*e*Pg	**Pb**	**08 37 32.4**	**+0.3**
SHA1				*e*Sg	**Sb**	**08 37 42.0**	**+0.9**
ZEI	**Tsey**	**0.69**	**145**	*e*Pg	**Pn**	**08 37 33.6**	**-0.9**
ZEI				*e*Sg	**Sb**	**08 37 42.7**	**+0.4**
PYA1	**Pyatigorsk**	**0.74**	**345**	*e*Pg	**Pb**	**08 37 33.6**	**-0.1**
PYA1				*e*Sg	**Sb**	**08 37 43.0**	**-0.6**
ONI	**Oni**	**0.76**	**175**	P	**Pn**	**08 37 35.9**	**+0.5**
ONI				S	**Sn**	**08 37 46.8**	**0.0**
ONI	**Oni**	**0.76**	**175**	*e*Pg	**Pn**	**08 37 35.9**	**+0.5**
ONI				*e*Sg	**Sn**	**08 37 46.8**	**0.0**
KIV0	**Kislovodsk Arr**	**0.77**	**321**	*e*Pg	**Pn**	**08 37 35.7**	**+0.1**
KIV0

	0.7nm,0.4s,baz=238,slow=10.0,SNR=32							
INK	**Inuvik**	**26.30**	**35**	P	P	09 04 08.2	-0.4	
	0.3nm,0.3s,baz=233,slow=5.4,SNR=5.3							
YKA	**Yellowknife Ar**	**33.99**	**47**	P	P	09 05 16.2	-0.5	
	0.1nm,0.7s,baz=275,slow=9.3,SNR=3.4							
NVAR	**Mina Array Bea**	**42.40**	**85**	P	P	09 06 28.9	+0.9	
	0.2nm,0.4s,baz=294,slow=6.8,SNR=2.8							
PDAR	**Pinedale Array**	**45.08**	**74**	P	P	09 06 49.0	-0.7	
	0.4nm,0.5s,baz=306,slow=3.5,SNR=4.1							
TXAR	**Lajitas Array**	**57.48**	**83**	P	P	09 08 22.7	0.0	
	0.3nm,0.8s,baz=318,slow=3.6,SNR=2.6							

IDC 28 09:14:28.9±26.0, 12°34'S×169°12'E, h420km±325km, mb3.3/6, mb1 3.6/6, mb1mx3.1/45, mbtmp4.1/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/18, Error ellipse: s-maj=181.3km s-min=53.0km az=171.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**34.20**	**253**	P		P		09 20 37.8	+0.1
	2.3nm,0.5s,baz=84,slow=8.7,SNR=49								
WRA				LR		LR		09 34 59.2	
	comp=Z,56nm,18.6s,baz=235,slow=36								
ASAR	**Alice Springs**	**35.24**	**246**	P		P		09 20 46.0	-0.4
	3.1nm,0.5s,baz=72,slow=9.6,SNR=62								
CMAR	**Chiang Mai Arr**	**75.67**	**293**	P		P		09 25 30.3	+0.1
	0.8nm,0.3s,baz=134,slow=5.6,SNR=5.0								
SONM	**Songino Array**	**81.68**	**323**	P		P		09 26 01.9	-0.2
	0.7nm,0.7s,baz=103,slow=4.6,SNR=4.4								
ILAR	**Eielson Array**	**83.72**	**17**	P		P		09 26 11.7	-0.2
	0.9nm,0.8s,baz=239,slow=5.4,SNR=6.9								
YKA	**Yellowknife Ar**	**94.61**	**27**	P		P		09 27 03.3	+0.2
	0.3nm,0.8s,baz=256,slow=4.8,SNR=4.1								

*ISCJB **28** 09:23:48.8±0.7, 33°08'N±0°04'×140°90'E±0°06, h35km, mb3.7/2, MS3.9/1, Error ellipse: s-maj=7.8km s-min=5.5km az=159.2*

*IDC **28** 09:23:49.0±1.4, 32°56'N×139°34'E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.3/56, mbtmp3.7/4, ML3.1/2, MS3.9/1, Ms1 3.9/1, ms1mx2.4/39, Error ellipse: s-maj=46.1km s-min=13.9km az=111.0*

*JMA **28** 09:23:50.8±0.1, 33°20'N×140°80'E, h49km, M3.3*

ISC 28 09:23:49.8±1.2, 33°10'N±0°05×140°87'E±0°07, h35km, n25, σ1°09/23, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JHJ2	**Mitsune**	**0.89**	**271**	P		P	**Pn**	**09 24 06.4**	**+0.6**
JHCJ	**Hachijojimakas**	**0.90**	**268**	P		P	**Pn**	**09 24 06.4**	**+0.4**
JHCJ				S		S	**Sn**	**09 24 17.1**	**-0.7**
JHJ	**Hachijo jima 2**	**0.91**	**271**	Pn		P	**Pn**	**09 24 06.5**	**+0.3**
	160nm,0.3s,baz=73,slow=19,SNR=106								
JHJ				Sn		S	**Sn**	**09 24 17.0**	**-1.1**
	218nm,0.3s,baz=73,slow=19,SNR=20								
JAOM	**Aogashimamukai**	**1.13**	**236**	P		P	**Pn**	**09 24 10.6**	**+1.4**
JMKN	**Mikurajimanish**	**1.33**	**307**	P		P	**Pn**	**09 24 11.8**	**-0.1**
BSO1	**Boso 1**	**1.55**	**3**	P		P	**Pn**	**09 24 14.9**	**+0.5**
BSO3	**Boso 3**	**1.72**	**350**	P		P	**Pn**	**09 24 17.2**	**+0.2**
JKO	**Kozu shima**	**1.81**	**307**	S		S	**Sn**	**09 24 39.8**	**-0.3**
BSO4	**Boso 4**	**1.93**	**347**	P		P	**Pn**	**09 24 20.9**	**+0.8**
JTHY	**Toshimahigashi**	**1.93**	**317**	P		P	**Pn**	**09 24 20.8**	**+0.6**
JTHY				*e*S		S	**Sn**	**09 24 42.3**	**-1.0**
JIM2	**Oshima 3**	**2.01**	**324**	P		P	**Pn**	**09 24 21.4**	**+0.2**
JIZS	**Izushimoda**	**2.31**	**315**	P		P	**Pn**	**09 24 26.2**	**+0.8**
JOD2	**Odawara 2**	**2.61**	**326**	P		P	**Pn**	**09 24 29.8**	**+0.2**
TK02	**Tokai 2**	**2.73**	**289**	P		P	**Pn**	**09 24 32.3**	**+1.3**
MJAR	**Matsushiro Arr**	**4.07**	**328**	Pn		P	**Pn**	**09 24 52.3**	**+2.7**
	0.3nm,0.3s,baz=160,slow=12,SNR=9.9								
MJAR				Sn			**Sn**	**09 25 37.2**	**+1.2**
	0.1nm,0.3s,baz=148,slow=26,SNR=3.4								
JCJ	**Chichijima**	**6.10**	**169**	Pn			**Pn**	**09 25 19.4**	**+1.9**
	1.7nm,0.3s,baz=283,slow=19,SNR=3.4								
JCJ				Sn			**Sn**	**09 26 25.4**	**-0.6**
	3.6nm,0.3s,baz=286,slow=22,SNR=3.3								
H11N2	**WAKE ISLAND Hy**	**26.76**	**113**	T		T		09 58 20.0	
	baz=306,slow=75,SNR=3.1								
H11N1	**WAKE ISLAND Hy**	**26.76**	**113**	T		T		09 58 13.8	
	baz=306,slow=75,SNR=3.5								
H11N3	**WAKE ISLAND Hy**	**26.77**	**113**	T		T		09 58 19.0	
	baz=306,slow=75,SNR=3.3								
H11S3	**WAKE ISLAND Hy**	**27.32**	**116**	T		T		09 59 06.8	
	baz=308								
H11S1	**WAKE ISLAND Hy**	**27.32**	**116**	T		T		09 59 02.9	
	baz=308								
H11S2	**WAKE ISLAND Hy**	**27.34**	**116**	T		T		09 59 00.3	
	baz=308								
BATI	**Baumata**	**46.09**	**204**	LR		LR		09 51 24.4	
	comp=Z,140nm,18.9s,baz=250,slow=37								
WRA	**Warramunga Arr**	**53.12**	**188**	P		P		**09 33 03.0**	**-1.0**
	0.6nm,0.4s,baz=4.6,slow=7.7,SNR=13								
ASAR	**Alice Springs**	**56.84**	**188**	P		P		**09 33 30.3**	**-0.6**
	0.2nm,0.4s,baz=3.9,slow=6.8,SNR=6.3								

*NNC **28** 09:24:10.8±1.5, 53°69'N×87°95'E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=16.0km s-min=6.7km az=36.0, Suspected Mining explosion.*

ASRS 28 09:24:09.8, 53°58'N×87°76'E, M2.9, 2C-6D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
ZAA0	**Zalesovo Array**	**1.79**	**283**	↑P			Pb	09 24 43.7	+0.3
	3.9nm,0.5s								
ZAA0				↑S			Sg	09 25 09.3	+2.1
	7.3nm,0.3s								
KURBB	**Kurchatov Arra**	**6.41**	**246**	↓Pn			Pn	09 25 48.3	+3.0
	9.7nm,0.6s								
KURBB				↓Lg			Lg	09 27 37.7	
	16nm,0.6s								
MK31	**Makanchi Array**	**7.64**	**210**	↓Pn			Pn	09 26 06.1	+3.7
	1.6nm,0.5s,baz=30,slow=12,SNR=43								
MK31				↓Lg			Lg	09 28 15.9	
	11nm,1.1s,baz=29,slow=29,SNR=6.3								
MAKZ	**Makanchi**	**7.72**	**211**	↓Pn			Pn	09 26 07.2	+3.8
	2.8nm,0.5s								
MAKZ				↓Lg			Lg	09 28 18.4	
	6.7nm,0.9s								

*ISCJB **28** 09:31:49.3±0.3, 29°04'S×0°02'×69°80'W±0°05, h126km±4km, mb3.8/9, Error ellipse: s-maj=7.6km s-min=3.7km az=172.9*

*SJA **28** 09:31:49.6±1.1, 29°07'S×69°80'W, h126km±7km, ML3.8, MW3.6*

*IDC **28** 09:31:50.7±1.3, 29°06'S×69°54'W, h109km±11km, mb3.7/9, mb1 3.9/15, mb1mx3.7/30, mbtmp4.1/15, MS3.5/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=22.1km s-min=9.9km az=80.0*

*NEIC **28** 09:31:50.0±0.0, 29°14'S×70°00'W, h125km, ML4.1(GUC), After GUC.*

*GUC **28** 09:31:50.5±0.6, 29°14'S×70°00'W, h125km±22km, ML4.4*

ISC 28 09:31:50.2±0.7, 29°10'S±0°04'×69°80'W±0°05, h115km±6km, n78, σ1°64/88, mb3.9/9, 3C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LCO	**Las Campanas**	**0.79**	**276**	*e*Pn			**Pn**	**09 32 11.6**	**+1.5**
LCO				*e*Sn			**Sn**	**09 32 26.5**	**+1.4**
LCO	**Las Campanas**	**0.79**	**276**	*e*P			**Pn**	**09 32 11.4**	**+1.3**
LCO	**Las Campanas**	**0.79**	**276**	↑*e*P			**Pn**	**09 32 11.4**	**+1.3**
LCO				*e*S			**Sn**	**09 32 26.3**	**+1.2**
LCO				IAML				09 32 28.4	
	comp=E,3μm,0.3s								
AROD	**Rodeo**	**1.10**	**165**	*e*P			**Pn**	**09 32 15.3**	**+2.0**
ACDV	**Cuesta del Vie**	**1.22**	**151**	*e*P			**Pn**	**09 32 16.4**	**+2.0**
ACDV				*e*S			**Sn**	**09 32 35.4**	**+2.7**
GO04	**Tololo Observa**	**1.38**	**219**	*e*Pn			**Pn**	**09 32 17.1**	**+0.9**
GO04				*e*Sn			**Sn**	**09 32 36.9**	**+1.0**
GO04	**Tololo Observa**	**1.38**	**219**	*e*P			**Pn**	**09 32 17.1**	**+0.9**
GO04				*e*S		↓	**Sn**	**09 32 37.3**	**+1.5**
GO04	**Tololo Observa**	**1.38**	**219**	↑*e*P			**Pn**	**09 32 16.9**	**+0.7**
GO04				*i* S			**Sn**	**09 32 36.7**	**+0.8**
GO04				IAML				09 32 38.5	
	comp=N,18μm,0.4s								
GO03	**Copiap**	**1.55**	**346**	*e*Pn			**Pn**	**09 32 19.6**	**+1.7**
GO03				*e*Sn			**Sn**	**09 32 40.8**	**+1.8**
GO03	**Copiap**	**1.55**	**346**	*e*P			**Pn**	**09 32 19.8**	**+1.8**
GO03				*e*S			**Sn**	**09 32 40.7**	**+1.7**
GO03	**Copiap**	**1.55**	**346**	↓*e*P			**Pn**	**09 32 19.5**	**+1.6**
GO03				*e*S			**Sn**	**09 32 40.5**	**+1.5**
GO03				IAML				09 32 42.1	
	comp=N,7μm,0.8s								
ACCO	**Cerro Coronel**	**1.62**	**157**	↓*e*P			**Pn**	**09 32 20.9**	**+1.8**
ACCO				*e*S			**Sn**	**09 32 43.0**	**+2.0**
CMCH	**Combarbala**	**2.32**	**206**	↑*e*P			**Pn**	**09 32 27.7**	**+0.2**
CMCH				*e*S			**Sn**	**09 32 55.7**	**-0.4**
RTLL	**Cerro Villicun**	**2.50**	**153**	*e*P			**Pn**	**09 32 31.1**	**+1.2**
ZON	**Zonda**	**2.63**	**159**	*e*P			**Pn**	**09 32 32.8**	**+1.3**
ZON				IAML				09 33 11.2	
	comp=Z,170nm,0.4s								
SJA	**San Juan**	**2.65**	**156**	IAML				09 33 16.1	
	comp=Z,171nm,0.5s								
RTLS	**Leoncito**	**2.73**	**171**	*e*P			**Pn**	**09 32 34.7**	**+1.6**
CFA	**Coronel Fontan**	**2.84**	**152**	*e*P			**Pn**	**09 32 35.9**	**+1.6**
CFA	**Coronel Fontan**	**2.84**	**152**	P			**Pn**	**09 32 35.3**	**+1.0**
	comp=Z,84nm,0.3s,baz=350,slow=9.8,SNR=449								
CFA				S			**Sn**	**09 33 07.4**	**-0.8**
	comp=Z,72nm,0.3s,baz=122,slow=22,SNR=25								
RTCV	**Cerro Valdivia**	**2.96**	**159**	*e*P			**Pn**	**09 32 37.3**	**+1.4**
APLL	**PUNTA DE LOS L**	**3.13**	**115**	*e*P			**Pn**	**09 32 38.9**	**+0.8**
APLL				IAML				09 33 17.2	
	comp=Z,186nm,0.5s								
AUSP	**Uspallata**	**3.14**	**174**	*e*P			**Pn**	**09 32 40.3**	**+1.9**
CYA	**Choya**	**3.57**	**80**	*e*P			**Pn**	**09 32 44.3**	**+0.4**
CYA				IAML				09 33 25.8	
	comp=Z,432nm,0.3s								
ASAL	**Salagasta**	**3.58**	**167**	*e*P			**Pn**	**09 32 45.7**	**+1.6**
ARCO	**CERRO ARCO**	**3.81**	**169**	*e*P			**Pn**	**09 32 48.5**	**+1.3**
ARCO				IAML				09 32 50.3	
	comp=Z,212nm,0.3s								
ACAN	**Cantantal**	**3.88**	**145**	*e*P			**Pn**	**09 32 49.4**	**+1.2**
GO02	**Mina Guanaco**	**3.92**	**3**	*e*Pn			**Pn**	**09 32 49.8**	**+0.8**
GO02	**Mina Guanaco**	**3.92**	**3**	↓*e*P			**Pn**	**09 32 49.7**	**+0.8**
ROCH	**El Roble**	**4.00**	**195**	*e*P			**Pn**	**09 32 48.5**	**-1.3**
ROC1	**El Roble**	**4.00**	**195**	*e*Pn			**Pn**	**09 32 48.6**	**-1.3**
ROC1	**El Roble**	**4.00**	**195**	*e*P			**Pn**	**09 32 48.6**	**-1.3**
AAGR	**Agrelo**	**4.06**	**168**	↓*e*P			**Pn**	**09 32 51.9**	**+1.3**
PEL	**Peldehue**	**4.10**	**190**	*e*Pn			**Pn**	**09 32 50.6**	**-0.4**
PEL	**Peldehue**	**4.10**	**190**	*e*P			**Pn**	**09 32 50.9**	**-0.2**
FCH	**Farellones**	**4.24**	**186**	*e*P			**Pn**	**09 32 53.9**	**+0.7**
PB14	**IPOC Station P**	**4.49**	**353**	*e*P			**Pn**	**09 32 56.0**	**-0.5**
FSA	**Cafayete**	**4.51**	**50**	IAML				09 32 58.6	
	comp=Z,61nm,0.3s								
AHML	**Horco Molle**	**4.57**	**61**	*e*P			**Pn**	**09 32 57.0**	**-0.4**
AHML				IAML				09 33 51.8	
	comp=Z,88nm,0.6s								
MRA	**San Martin**	**4.83**	**134**	IAML				09 33 54.6	
	comp=Z,78nm,0.3s								
TCA	**Tanti**	**5.03**	**118**	*e*P			**Pn**	**09 33 03.1**	**-0.5**
TCA				IAML				09 33 59.4	
	comp=Z,68nm,0.4s								
PB10	**IPOC Station P**	**5.60**	**353**	*e*Pn			**Pn**	**09 33 09.2**	**-2.0**
PB10	**IPOC Station P**	**5.60**	**353**	*e*P			**Pn**	**09 33 11.3**	**0.0**
SLA	**San Lorenzo**	**5.81**	**42**	IAML				09 33 18.2	
	comp=Z,26nm,0.5s								
PB05	**IPOC Station P**	**6.23**	**357**	*e*P			**Pn**	**09 33 17.9**	**-1.9**
LVC	**Limon Verde**	**6.51**	**7**	P			**Pn**	**09 33 22.9**	**-1.0**
	comp=Z,19nm,0.3s,baz=183,slow=8.4,SNR=108								
LVC				S			**Sn**	**09 34 36.2**	**-0.8**
	comp=Z,1.2nm,0.3s,baz=221,slow=20,SNR=2.3								
PB04	**IPOC Station P**	**6.74**	**357**	*e*Pn			**Pn**	**09 33 23.9**	**-3.0**
PB04	**IPOC Station P**	**6.74**	**357**	*e*P			**Pn**	**09 33 23.9**	**-3.0**
PB03	**IPOC Station P**	**7.02**	**0**	*e*P			**Pn**	**09 33 27.9**	**-2.7**
PB09	**IPOC Station P**	**7.29**	**4**	*e*P			**Pn**	**09 33 33.6**	**-0.6**
PB02	**IPOC Station P**	**7.75**	**359**	*e*P			**Pn**	**09 33 37.2**	**-3.2**
PB01	**IPOC Station P**	**8.02**	**2**	*e*Pn			**Pn**	**09 33 41.5**	**-2.7**
PB11	**IPOC Station P**	**9.30**	**1**	*e*Pn			**Pn**	**09 33 57.2**	**-4.2**
GO01	**Chusmiza**	**9.40**	**4**	*e*Pn			**Pn**	**09 34 00.1**	**-3.0**
MNMC	**Minye Minye**	**9.92**	**1**	*e*Pn			**Pn**	**09 34 06.6**	**-3.4**
GO06	**Curarrehue**	**10.55**	**187**	*e*Pn			**Pn**	**09 34 15.4**	**-2.9**
TRQA	**Tornquist**	**11.06**	**146**	*e*Pn			**Pn**	**09 34 23.6**	**-1.4**
CPUP	**Villa Florida**	**11.39**	**79**	P			**Pn**	**09 34 26.0**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=52,slow=13,SNR=2.8								
PLCA	**Paso Flores**	**11.62**	**183**	*e*Pn			**Pn**	**09 34 32.4**	**-0.2**
PLCA	**Paso Flores**	**11.62**	**183**	P			**Pn**	**09 34 32.6**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=8.5,SNR=11								
PLCA				LR			LR	09 39 43.8	
	comp=Z,129nm,18.3s,baz=238,slow=40								
LPAZ	**La Paz**	**12.84**	**7**	*e*Pn			**Pn**	**09 34 48.5**	**-0.7**
LPAZ	**La Paz**	**12.84**	**7**	P			**Pn**	**09 34 48.0**	**-1.2**
	comp=Z,2.5nm,0.3s,baz=191,slow=7.5,SNR=54								
GO07	**Miladeo Hill,**	**14.33**	**191**	*e*Pn			**Pn**	**09 35 05.4**	**-2.2**
SIV	**San Ignacio**	**15.32**	**34**	P			**Pn**	**09 35 19.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=4.3								
TXAR	**Lajitas Array**	**66.50**	**328**	P			**P**	**09 42 29.8**	**+2.1**
	comp=Z,0.3nm,0.7s,baz=160,slow=8.6,SNR=4.5								
DBIC	**Dimbokro**	**71.80**	**71**	P			**P**	**09 43 00.0**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=291,slow=15,SNR=3.0								
DBIC				LR			LR	10 12 53.5	
	comp=Z,42nm,19.5s,baz=334,slow=34								
SUR	**Sutherland**	**75.53**	**119**	P			**P**	**09 43 22.9**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=323,slow=5.1,SNR=2.2								
PDAR	**Pinedale Array**	**80.32**	**331**	P			**P**	**09 43 50.5**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=126,slow=7.5,SNR=3.9								
BOSA	**Boshof**	**80.64**	**117**	P			**P**	**09 43 50.8**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=349,slow=3.7,SNR=3.6								
TORD	**Torodi Ar. Bea**	**80.72**	**69**	P			**P**	**09 43 50.6**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=278,slow=6.6,SNR=11								
NVAR	**Mina Array Bea**	**81.03**	**323**	P			**P**	**09 43 54.7**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=150,slow=5.9,SNR=5.8								
ULM	**Lac du Bonnet**	**82.31**	**343**	P			**P**	**09 43 59.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=227,slow=1.3,SNR=4.3								
YKA	**Yellowknife Ar**	**98.06**	**341**	P			**P**	**09 45 14.1**	**+1.1**
	comp=Z,0.1nm,0.7s,baz=128,slow=4.8,SNR=4.2								
ASAR	**Alice Springs**	**122.79**	**206**	PKP			**PKiKP**	**09 50 33.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=138,slow=1.8,SNR=10.0								
WRA	**Warramunga Arr**	**125.97**	**208**	PKP			**PKiKP**	**09 50 40.2**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=145,slow=1.5,SNR=45								
FITZ	**Fitzroy Crossi**	**130.77**	**200**	PKP			**PKPdf**	**09 50 48.4**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=240,slow=0.3,SNR=3.6								
SIJI	**Sorong**	**144.03**	**218**	PKP			**PKPdf**	**09 51 13.1**	**+0.1**
	comp=Z,7.2nm,0.5s,baz=232,slow=18,SNR=3.7								
ZALV	**Zalesovo Beam**	**149.05**	**30**	PKPbc			**PKiKP**	**09 51 25.9**	**+0.3**
	comp=Z,6.1nm,0.6s,baz=302,slow=3.5,SNR=24								
MKAR	**Makanchi Array**	**151.99**	**43**	PKPbc			**PKiKP**	**09 51 32.8**	**+0.8**
	comp=Z,1.2nm,0.4s,baz=292,slow=2.1,SNR=14								
MKAR				PKPab			**PKPab**	**09 51 42.9**	**+1.4**
	comp=Z,0.9nm,0.6s,baz=289,slow=3.7,SNR=6.5								

*NIED **28** 09:39:00, 42°80'N×142°70'E, h104km, Mw3.8 Best double couple: M0:5.41000×10^14 NP1:φ=145.00000°, δ=67.00000°, λ=10.00000°. NP2:φ=51.00000°, δ=81.00000°, λ=157.00000°.*

*ISCJB **28** 09:39:04.2±0.3, 42°77'N±0°03'×142°68'E±0°04, h125km±2km, mb4.0/14, Error ellipse: s-maj=5.1km s-min=3.8km az=44.9*

*MOS **28** 09:39:04.7±1.0, 42°78'N×142°71'E, h134km, mb4.3/1, Error ellipse: s-maj=13.2km s-min=8.2km az=82.1*

*IDC **28** 09:39:05.8±1.2, 42°83'N×142°70'E, h122km±7km, mb3.6/15, mb1 3.7/21, mb1mx3.5/59, mbtmp4.0/21, Error ellipse: s-maj=17.8km s-min=13.0km az=128.0*

*JMA **28** 09:39:05.9±0.2, 42°83'N×142°76'E, h113km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φ=58.00000°, δ=88.00000°, λ=155.00000°. NP2: φ=149.00000°, δ=65.00000°, λ=2.00000°. Principal axes: T Plg19.0000°, Azm10.0000°; N Plg65.0000°, Azm233.0000°; P Plg16.0000°, Azm106.0000°;*

JMA Felt I J1.

ISC 28 09:39:05.3±0.6, 42°77'N±0°04'×142°69'E±0°04, h120km±5km, n54, σ0°91/70, mb3.9/14, 9C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JBT2	**Biratori 2**	**0.24**	**272**	↓P			Pn	**09 39 21.9**	**-0.1**
JBT2				*e*S			**Sn**	**09 39 34.3**	**-0.3**
JFR	**Furan**	**0.40**	**350**	↓P			Pn	**09 39 22.2**	**-0.5**
JFR				*e*S			**Sn**	**09 39 34.4**	**-1.5**
JNBK	**Urakawa-nobuka**	**0.49**	**174**	↑P			Pn	**09 39 24.0**	**+0.8**
JNBK				*e*S			**Sn**	**09 39 37.7**	**+1.0**
JCH	**Churui**	**0.52**	**107**	↑P			Pn	**09 39 22.9**	**-0.5**
JCH				*e*S			**Sn**	**09 39 35.7**	**-1.3**
JIAM	**Iburiatsuma**	**0.58**	**256**	P			Pn	**09 39 24.8**	**+1.1**
JIAM				*e*S			**Sn**	**09 39 39.2**	**+1.5**
JAB	**Ashibetsu**	**0.81**	**335**	↓P			Pn	**09 39 25.4**	**-0.1**
JAB				*e*S			**Sn**	**09 39 40.3**	**-0.6**
JEM	**Erimo**	**0.83**	**155**	↑P			Pn	**09 39 26.3**	**+0.6**
JEM				*e*S			**Sn**	**09 39 42.5**	**+1.4**
JOB	**Onbets**	**0.86**	**81**	↓P			Pn	**09 39 26.0**	**+0.1**
JOB				*e*S			**Sn**	**09 39 41.4**	**-0.1**
JEW	**Eniwo**	**0.91**	**275**	↓P			Pn	**09 39 26.5**	**+0.1**
JEW				*e*S			**Sn**	**09 39 42.2**	**-0.3**
JAR	**Ashorobuto**	**0.95**	**56**	↓P			Pn	**09 39 26.6**	**-0.2**
JAR				*e*S			**Sn**	**09 39 42.3**	**-0.9**
JKK2	**Kamakawa 2**	**1.10**	**2**	↑P			Pn	**09 39 28.5**	**+0.2**
JKK2				*e*S			**Sn**	**09 39 45.5**	**-0.4**
JHR	**Hokuryu**	**1.20**	**325**	↓P			Pn	**09 39 29.3**	**0.0**
JHR				*e*S			**Sn**	**09 39 48.1**	**+0.5**
ASAJ	**Asahikawa**	**1.35**	**357**	P			Pn	**09 39 31.3**	**+0.4**
	19nm,0.3s,baz=212,slow=9.2,SNR=181								
ASAJ				S			**Sn**	**09 39 50.0**	**-0.5**
	31nm,0.3s,baz=229,slow=20,SNR=38								
JAK	**Akkeshi**	**1.50**	**81**	↓P			Pn	**09 39 32.0**	**-0.6**
JAK				*e*S			**Sn**	**09 39 52.2**	**-1.2**
JTKR	**Abashiri--Toko**	**1.50**	**36**	↑P			Pn	**09 39 32.8**	**+0.2**
JTKR				*e*S			**Sn**	**09 39 53.0**	**-0.4**
JKB	**Kayabe**	**1.51**	**235**	↑P			Pn	**09 39 32.5**	**-0.3**
JKB				*e*S			**Sn**	**09 39 52.2**	**-1.5**
JSK	**Shakotan**	**1.72**	**291**	P			Pn	**09 39 34.9**	**-0.3**
JOT	**Ohata**	**1.85**	**222**	↑P			Pn	**09 39 36.3**	**-0.5**
JOT				*e*S			**Sn**	**09 39 59.0**	**-1.9**
JYG	**Yagishiri**	**1.89**	**332**	*e*S			**Sn**	**09 40 01.7**	**-0.2**
GRPR	**Tuman**	**2.56**	**60**	↑*i*PN			Pn	**09 39 46.4**	**+0.6**
GRPR				*e*S			**Sn**	**09 40 16.8**	**-0.2**
GRPR				pmax		pmax			
	comp=Z,285nm,0.3s								
GRPR				pmax		pmax			
	comp=N,61nm,0.4s								
GRPR				pmax		pmax			
	comp=E,83nm,0.1s								
GRPR				smax		smax			
	comp=N,906nm,0.4s								
GRPR				smax		smax			
	comp=E,706nm,0.2s								
YUK	**Yuzh-Kuril'sk**	**2.64**	**60**	*c i*PN			**Pn**	**09 39 47.6**	**+0.8**
YUK				*e*S			**Sn**	**09 40 19.6**	**+0.9**
YUK				pmax		pmax			
	comp=Z,201nm,0.2s								
YUK				pmax		pmax			
	comp=N,46nm,0.1s								
YUK				pmax		pmax			
	comp=E,55nm,0.1s								
YUK				smax		smax			
	comp=N,557nm,0.3s								
YUK				smax		smax			
	comp=E,434nm,0.3s								
YSS	**Yuzh-Sakhalins**	**4.18**	**1**	↓*i*PN			**Pn**	**09 40 08.4**	**+1.2**
YSS				*e*S			**Sn**	**09 40 55.8**	**+0.6**
YSS				pmax		pmax			
	comp=N,60nm,0.7s								
YSS				pmax		pmax			
	comp=E,80nm,0.7s								
YSS				pmax		pmax			
	comp=Z,90nm,0.7s								
YSS				smax		smax			
	comp=N,50nm,1.0s								
KUR	**Kuril'sk**	**4.48**	**55**	PN			**Pn**	**09 40 13.1**	**+2.0**
KUR				*e*S			**Sn**	**09 41 04.4**	**+2.2**
KUR				smax		smax			
	comp=E,72nm,0.2s								
KUR				smax		smax			
	comp=N,111nm,0.3s								
MAT	**Matsushiro**	**7.11**	**211**	P			**Pn**	**09 40 46.3**	**-0.4**
MAT				*e*S			**Sn**	**09 42 05.9**	**-0.2**
MJAR	**Matsushiro Arr**	**7.11**	**211**	P			**Pn**	**09 40 46.8**	**0.0**
	comp=N,0.3nm,0.

KRX	**Arik**	**4.66**	**14**	*e*P		Pn	09 53 05.4	+4.9
SPN	**Mys Shipunski**	**4.73**	**25**	*e*P		Pn	09 53 06.2	+5.0
SPN				*e*S		Sb	09 54 03.0	-6.7
MKZ	**Mys Kozlova**	**6.50**	**27**	*e*P		Pn	09 53 29.1	+3.7
MKZ				*e*S		Sn	09 54 43.9	+4.3
KZV	**Kizimen**	**6.64**	**18**	*e*P		Pn	09 53 33.7	+6.1
KBTR	**Krutoberegovo**	**8.24**	**24**	*e*P		Pn	09 53 52.8	+3.4

IDC 28 09:53:25.6±2.9, 18°.43N×81°.28W, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/28, mbtmp3.1/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/28, Error ellipse: s-maj=77.5km s-min=58.8km az=79.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**23.13**	**302**	P	P	09 58 33.9	+0.2
	2.3nm,0.6s,baz=113,slow=9.2,SNR=4.6						
YKA	**Yellowknife Ar**	**49.72**	**340**	P	P	10 02 19.4	+0.1
	0.2nm,0.7s,baz=130,slow=8.4,SNR=5.5						
RES	**Resolute Bay**	**56.77**	**356**	LR	LR	10 29 41.7	
	comp=Z,22nm,21.8s,baz=332,slow=38						
ILAR	**Eielson Array**	**63.13**	**334**	P	P	10 03 54.6	-0.4
	0.2nm,0.7s,baz=141,slow=5.8,SNR=4.7						
WRA	**Warramunga Arr**	**146.36**	**262**	PKPbc	PKPdf	10 13 08.5	+0.4
	0.3nm,0.7s,baz=79,slow=4.3,SNR=3.4						

SJA 28 09:58:45.0±0.7, 31°.67S×69°.24W, h102km±3km, ML3.7, MW3.5, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.14**	**201**	*e*P	Pn	09 59 00.5	+0.8
RTLS				*e*S	Sn	09 59 12.3	+1.8
RTLS				IAML		09 59 12.8	
	comp=Z,6μm,0.2s						
ZON	**Zonda**	**0.49**	**76**	*e*P	Pn	09 59 01.6	+0.6
ZON				*e*S	Sn	09 59 13.9	+1.0
AUSP	**Uspallata**	**0.57**	**193**	*e*P	Pn	09 59 02.8	+1.0
AUSP				*e*S	Sn	09 59 15.8	+1.4
RTCV	**Cerro Valdivia**	**0.62**	**108**	*e*P	Pn	09 59 02.8	+0.8
RTCV				*e*S	Sn	09 59 15.9	+1.2
RTLL	**Cerro Villicun**	**0.73**	**63**	*e*P	Pn	09 59 03.4	+0.5
RTLL				*e*S	Sn	09 59 17.3	+0.9
RTLL				IAML		09 59 18.1	
	comp=Z,3μm,0.3s						
CFA	**Coronel Fontan**	**0.85**	**86**	*e*P	Pn	09 59 04.5	+0.4
CFA				*e*S	Sn	09 59 19.8	+1.3
AMOG	**MOGNA**	**0.97**	**41**	*e*P	Pn	09 59 06.0	+0.8
AMOG				*e*S	Sn	09 59 21.4	+0.9
ASAL	**Salagasta**	**0.98**	**160**	*e*P	Pn	09 59 06.4	+1.0
ASAL				*e*S	Sn	09 59 22.7	+1.9
AAGR	**Agrelo**	**1.46**	**166**	*e*P	Pn	09 59 11.9	+1.0
ACDV	**Cuesta del Vie**	**1.50**	**4**	*e*P	Pn	09 59 12.8	+1.3
ACDV				*e*S	Sn	09 59 33.6	+2.1
ACDV				IAML		09 59 35.3	
	comp=Z,220nm,0.5s						

MEX 28 10:00:10.1±0.6, 18°.71N×102°.73W, h13km±6km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.72**	**235**	*i* P	Pg	10 00 22.0	-2.2
MMIG				*e*S	Sg	10 00 31.9	-1.8
EZ5V		**1.13**	**313**	*e*P	Pb	10 00 28.0	-3.6
EZ5V				*e*S	Sb	10 00 42.2	-4.1
R15V		**1.27**	**291**	*i* P	Pn	10 00 30.1	-3.5
R15V				*e*S	Sb	10 00 44.5	-5.8
ZIIG	**Zihuatanejo**	**1.62**	**132**	*e*P	Pn	10 00 34.3	-4.1
ZIIG				*e*S	Sn	10 00 54.4	-4.8
MOIG	**Morelia**	**1.74**	**56**	*i* P	Pn	10 00 36.5	-3.8
MOIG				*i* S	Sn	10 00 58.0	-4.4
ARIG	**Puente Sto Nin**	**2.30**	**100**	*e*P	Pn	10 00 44.8	-2.9
ARIG				*i* S	Sn	10 01 11.4	-4.4

*IDC **28** 10:00:58.9±1.1, 56°.17N×113°.54E, h0km, mb3.2/5, mb1 3.5/8, mb1mx3.3/42, mbtmp3.4/8, ML3.0/2, Error ellipse: s-maj=28.5km s-min=19.6km az=146.0*
*MOS **28** 10:00:58.6±1.2, 55°.96N×113°.69E, h11km, mb4.3/8, Error ellipse: s-maj=10.2km s-min=6.6km az=84.8*
MOS Felt (II) at Severomuisk.
*BYKL **28** 10:01:00.6±0.3, 55°.96N×113°.50E, FELT I=III MSK at Severomuisk*

ISC 28 10:00:59.7±0.5, 55°.89N±0°.02×113°.57E±0°.02, h10km, n75, σ2s55/111, mb3.9/15, 18C-7D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.23**	**359**	⇑*i*Pg	**Pg**	**10 01 05.9**	**+1.5**
SVKR				Pmax		10 01 06.7	
	2μm,0.2s						
SVKR				*e*Sg	**Sg**	**10 01 09.9**	**+2.4**
SVKR				Smax		10 01 10.3	
	51μm,0.3s						
SVKR	**Severomuysk**	**0.23**	**359**	⇑*i*PG	**Pg**	**10 01 05.9**	**+1.5**
SVKR				*e*		10 01 09.3	
SVKR				pmax	pmax		
	comp=Z,4μm,0.1s						
SVKR				smax	smax		
	comp=N,51μm,0.3s						
UKT	**Uakit**	**0.41**	**175**	⇑*i*Pg	**Pb**	**10 01 10.3**	**+1.3**
UKT				Pmax		10 01 10.9	
	comp=N,577nm,0.5s						
UKT				*e*Sg	**Sb**	**10 01 17.5**	**+2.2**
UKT				Smax		10 01 18.3	
	comp=N,7μm,0.8s						
UKT	**Uakit**	**0.41**	**175**	⇑*i*PG	**Pb**	**10 01 10.3**	**+1.3**
UKT				*e*		10 01 17.8	
UKT				pmax	pmax		
	comp=Z,189nm,0.1s						
UKT				smax	smax		
	comp=E,5μm,0.2s						
YOA	**Uoyan**	**1.06**	**284**	⇑*i*Pg	**Pg**	**10 01 19.6**	**-0.5**
YOA				Pmax		10 01 19.9	
	comp=E,1μm,0.2s						
YOA				*e*Sg	**Sg**	**10 01 34.1**	**+0.2**
YOA				Smax		10 01 37.7	
	comp=E,6μm,0.5s						
YOA	**Uoyan**	**1.06**	**284**	⇑*i*PG	**Pg**	**10 01 19.7**	**-0.4**
YOA				*i*		10 01 34.3	
YOA				pmax	pmax		
	comp=Z,1μm,0.2s						
YOA				smax	smax		
	comp=E,6μm,0.5s						
KMO	**Kumora**	**1.33**	**271**	⇑*i*Pg	**Pn**	**10 01 24.4**	**+0.1**
KMO				Pmax		10 01 25.4	
	comp=E,1μm,0.4s						
KMO				*e*Sg	**Sb**	**10 01 41.6**	**-0.3**
KMO				Smax		10 01 44.8	
	comp=E,4μm,1.1s						
KMO	**Kumora**	**1.33**	**271**	⇑*i*PG	**Pn**	**10 01 24.4**	**+0.1**
KMO				*e*		10 01 40.6	
KMO				pmax	pmax		
	comp=Z,1μm,0.4s						
KMO				smax	smax		
	comp=N,4μm,1.1s						
NLYR	**Nelyaty**	**1.34**	**62**	⇓*i*Pg	**Pb**	**10 01 24.8**	**-0.1**
NLYR				Pmax		10 01 25.6	
	comp=N,894nm,0.3s						
NLYR				*e*		10 01 32.5	
NLYR				*e*Sg	**Sg**	**10 01 42.8**	**+0.1**
NLYR				Smax		10 01 45.5	
	comp=N,2μm,0.7s						
NLYR	**Nelyaty**	**1.34**	**62**	*e*PG	**Pb**	**10 01 24.7**	**-0.1**
NLYR				*e*		10 01 42.8	
NLYR				pmax	pmax		
	comp=Z,889nm,0.3s						
NLYR				smax	smax		
	comp=N,2μm,0.8s						
YLYR	**Ulyunkhan**	**1.71**	**234**	*e*Pn	**Pb**	**10 01 31.4**	**+0.2**
YLYR				⇓*i*Pg	**Pb**	**10 01 31.8**	**+0.6**
YLYR				Pmax		10 01 41.4	
	comp=N,121nm,0.6s						
YLYR				*e*Sg	**Sg**	**10 01 55.1**	**+0.6**
YLYR				Smax		10 01 56.0	
	comp=N,2μm,0.4s						
YLYR	**Ulyunkhan**	**1.71**	**234**	⇓*i*PN	**Pb**	**10 01 31.7**	**+0.6**
YLYR				*e*		10 01 54.9	
YLYR				pmax	pmax		
	comp=Z,88nm,0.3s						
YLYR				smax	smax		
	comp=E,2μm,0.5s						
BOD	**Bodaibo**	**1.95**	**7**	⇓*i*Pn	**Pn**	**10 01 32.0**	**-0.8**
BOD				*e*Pg	**Pb**	**10 01 33.8**	**-1.4**
BOD				*e*		10 01 37.5	
BOD				Pmax		10 01 40.6	
	comp=E,118nm,0.3s						
BOD				*e*Sn	**Sn**	**10 01 55.3**	**-1.9**
BOD				*e*Sg	**Sb**	**10 01 58.2**	**-1.3**
BOD				Smax		10 01 58.9	
	comp=E,2μm,0.4s						
BOD	**Bodaibo**	**1.95**	**7**	*e*PN	**Pn**	**10 01 31.9**	**-0.8**
BOD				*e*		10 01 34.0	
BOD				*e*		10 01 58.0	
BOD				pmax	pmax		
	comp=Z,66nm,0.2s						
BOD				smax	smax		
	comp=E,2μm,0.4s						
NIZ	**Nizh Angarsk**	**2.27**	**269**	⇑*i*Pn	**Pn**	**10 01 37.8**	**+0.5**
NIZ				*e*Pg	**Pb**	**10 01 40.1**	**-0.7**
NIZ				*e*		10 01 42.1	
NIZ				Pmax		10 01 51.3	
	comp=E,109nm,0.8s						
NIZ				*e*Sg	**Sb**	**10 02 10.0**	**+1.1**
NIZ				Smax		10 02 19.0	
	comp=E,419nm,1.0s						
NIZ	**Nizh Angarsk**	**2.27**	**269**	*e*PN	**Pn**	**10 01 37.9**	**+0.6**
NIZ				*e*		10 01 40.1	
NIZ				*e*S	**Sn**	**10 02 06.3**	**+1.0**
NIZ				*e*		10 02 11.2	
NIZ				pmax	pmax		
	comp=Z,98nm,0.6s						
NIZ				smax	smax		
	comp=N,418nm,1.0s						
CRS	**Chara**	**2.80**	**67**	⇓*i*Pn	**Pn**	**10 01 45.3**	**+0.7**
CRS				*e*Pg	**Pg**	**10 01 51.4**	**-1.9**
CRS				*e*		10 01 57.7	
CRS				Pmax		10 01 58.4	
	comp=N,207nm,0.7s						
CRS				*e*Sg	**Sg**	**10 02 27.6**	**-2.0**
CRS				Smax		10 02 30.0	
	comp=N,1μm,1.1s						
CRS	**Chara**	**2.80**	**67**	*e*PN	**Pn**	**10 01 45.4**	**+0.8**
CRS				*e*		10 01 50.9	
CRS				*e*		10 02 27.2	
CRS				pmax	pmax		
	comp=Z,208nm,0.4s						
CRS				smax	smax		
	comp=E,777nm,0.4s						
SYVR	**Suvo**	**3.05**	**224**	*e*Pn	**Pn**	**10 01 48.7**	**+0.8**
SYVR				*e*Pg	**Pb**	**10 01 54.7**	**+0.8**
SYVR				Pmax		10 02 10.5	
	comp=E,47nm,0.6s						
SYVR				*e*Sg	**Sg**	**10 02 36.0**	**-1.4**
SYVR				Smax		10 02 44.2	
	comp=E,273nm,1.2s						
SYVR	**Suvo**	**3.05**	**224**	*e*PN	**Pn**	**10 01 49.3**	**+1.4**
SYVR				*e*		10 01 56.9	
SYVR				*e*		10 02 35.9	
SYVR				pmax	pmax		
	comp=Z,47nm,0.6s						
SYVR				smax	smax		
	comp=N,259nm,0.5s						
VTMR	**Vitim**	**3.60**	**352**	*e*Pn	**Pn**	**10 01 57.8**	**+2.4**
VTMR				*e*		10 02 09.2	
VTMR				*e*		10 02 30.2	
VTMR				*e*Sg	**Sb**	**10 02 49.7**	**+2.7**
KHNR	**Khani**	**3.71**	**71**	⇓*i*Pn	**Pn**	**10 01 58.2**	**+1.2**
KHNR				*e*Pg	**Pb**	**10 02 07.4**	**+2.1**
KHNR				*e*Sg	**Sg**	**10 02 55.7**	**-3.0**
MXMB	**Maximikha**	**3.85**	**229**	*e*	**Pn**	**10 02 03.1**	**+4.2**
MXMB				*e*Pg	**Pb**	**10 02 09.4**	**+1.8**
MXMB				*e*Sg	**Sg**	**10 03 00.8**	**-2.3**
CIT	**Chita**	**3.88**	**180**	*e*Sg	**Sg**	**10 03 03.4**	**-0.7**
CIT				Smax		10 03 06.9	
	comp=N,523nm,0.4s						
TUP	**Tupik**	**3.95**	**109**	*e*Pn	**Pn**	**10 02 01.1**	**+0.8**
TUP				*e*		10 02 09.2	
TUP				max		10 02 21.5	
	comp=N,50nm,0.5s						
TUP				*e*Sg	**Sg**	**10 03 05.0**	**-1.3**
TUP				Smax		10 03 09.9	
	comp=N,691nm,0.7s						
TUP	**Tupik**	**3.95**	**109**	*e*PN	**Pn**	**10 02 01.1**	**+0.8**
TUP				*e*		10 02 11.5	
TUP				*e*		10 03 05.2	
TUP				pmax	pmax		
	comp=Z,47nm,0.4s						
TUP				smax	smax		
	comp=N,689nm,0.8s						
OGRR	**Ongureny**	**4.13**	**239**	⇓*i*Pn	**Pn**	**10 02 04.8**	**+2.1**
OGRR				*e*Pg	**Pb**	**10 02 13.7**	**+1.3**
OGRR				*e*		10 02 19.8	
OGRR				max		10 02 22.1	
	comp=N,32nm,1.1s						
OGRR				*e*Sg	**Sg**	**10 03 08.7**	**-3.4**
OGRR				Smax		10 03 13.4	
	comp=N,206nm,0.9s						
OGRR	**Ongureny**	**4.13**	**239**	*e*PN	**Pn**	**10 02 04.9**	**+2.2**
OGRR				*e*		10 02 15.5	
OGRR				*e*		10 03 08.9	
OGRR				pmax	pmax		
	comp=Z,30nm,0.9s						
OGRR				smax	smax		
	comp=E,205nm,1.6s						
KELR	**Kotokel**	**4.49**	**228**	*e*Pg	**Pg**	**10 02 22.2**	**-3.4**
KELR				*e*Sg	**Sg**	**10 03 21.8**	**-1.9**
YKLR	**Yuktali**	**4.57**	**78**	*e*	**Pn**	**10 02 05.1**	**-3.7**
YKLR				*e*Pg	**Pb**	**10 02 21.9**	**+2.1**
YKLR				*e*Sg	**Sg**	**10 03 21.5**	**-4.7**
TRG	**Tyrgan**	**5.26**	**236**	*e*Pn	**Pn**	**10 02 19.4**	**+1.1**
TRG				*e*Pg	**Pb**	**10 02 34.8**	**+3.1**
TRG				Pmax		10 02 50.0	
	comp=E,10.0nm,0.7s						
TRG				*e*Sg	**Sg**	**10 03 43.5**	**-4.9**
TRG				Smax		10 03 49.7	
	comp=E,79nm,1.0s						
KAB	**Kabansk**	**5.61**	**230**	*e*Sg	**Sg**	**10 03 53.6**	**-5.9**
KAB				Smax		10 04 11.6	
	comp=E,346nm,1.0s						
HRMR	**Khuramsha**	**5.80**	**225**	*e*Pn	**Pn**	**10 02 26.3**	**+0.6**
HRMR				*e*Pg	**Pb**	**10 02 45.4**	**+4.6**
HRMR				Pmax		10 02 47.5	
	comp=E,20nm,0.6s						
HRMR				*e*Sg	**Sg**	**10 04 02.9**	**-2.7**
HRMR				Smax		10 04 16.9	
	comp=E,273nm,0.9s						
KPC	**Khapcheranga**	**6.24**	**187**	*e*Pn	**Pn**	**10 02 32.3**	**+0.5**
KPC				*e*Pg	**Pb**	**10 02 53.0**	**+4.6**
KPC				*e*Sn	**Sn**	**10 03 44.4**	**+1.2**
KPC				*e*Sg	**Sg**	**10 04 16.0**	**-3.9**
KPC				Smax		10 04 20.6	
	comp=E,146nm,1.4s						
KPC	**Khapcheranga**	**6.24**	**187**	*e*PN	**Pn**	**10 02 32.6**	**+0.8**
KPC				*e*		10 02 53.2	
KPC				*e*		10 04 16.1	
KPC				pmax	pmax		
	comp=Z,4.0nm,0.2s						
KPC				smax	smax		
	comp=E,143nm,1.8s						
IENR	**Iengra**	**6.33**	**82**	*e*Pn	**Pn**	**10 02 33.5**	**+0.4**
IENR				*e*Pg	**Pb**	**10 02 53.6**	**+3.6**
IENR				*e*Sg	**Sg**	**10 04 18.1**	**-4.7**
TNDR	**Tynda**	**6.38**	**92**	*e*Sg	**Sg**	**10 04 19.9**	**-4.4**
LSTR	**Listvyanka**	**6.55**	**236**	*e*Pn	**Pn**	**10 02 34.1**	**-1.9**
LSTR				*e*		10 03 01.7	
LSTR				max		10 03 07.9	
	comp=E,4.0nm,0.6s						
LSTR				*e*Sg	**Sg**	**10 04 25.1**	**-4.6**
LSTR				Smax		10 04 29.2	
	comp=E,77nm,2.2s						
IRK	**Irkutsk**	**6.58**	**240**	*e*Sg	**Sg**	**10 04 25.6**	**-5.0**
IRK				Smax		10 04 32.2	
	comp=E,223nm,0.5s						
IRK	**Irkutsk**	**6.58**	**240**	*e*PG	**Pg**	**10 03 01.3**	**-4.2**
IRK				*e*		10 04 26.5	
IRK				pmax	pmax		
	comp=Z,106nm,0.2s						
IRK				smax	smax		
	comp=E,214nm,0.3s						
IVK	**Ivanovka**	**6.79**	**237**	*e*	Pn	10 02 45.8	+6.5
IVK				*e*Pg	**Pb**	**10 03 01.0**	**+3.3**
IVK				*e*Sn	**Sn**	**10 03 57.8**	**+1.2**
IVK				*e*Sg	**Sg**	**10 04 28.7**	**-8.7**
TLY	**Talaya**	**7.23**	**238**	*e*Pg	Pb	10 03 11.4	+6.2
TLY				Pmax		10 03 18.5	
	comp=E,4.0nm,0.9s						
TLY				*e*Sg	**Sg**	**10 04 45.6**	**-6.0**
TLY				Smax		10 05 00.9	
	comp=E,43nm,1.3s						
TLY	**Talaya**	**7.23**	**238**	*e*PG	Pg	10 03 12.8	-5.2
TLY				*e*		10 04 45.5	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
HIA	**Hailar**	**7.62**	**148**	*e*Sg	**Sg**	**10 05 01.1**	**-3.1**
HIA	**Hailar**	**7.62**	**148**	*e*PN	**Pn**	**10 02 51.3**	**+0.5**
ARS	**Arshan**	**7.69**	**243**	*e*Pn	**Pn**	**10 02 48.8**	**-2.9**
ARS				*e*		10 03 19.1	
ARS				max		10 03 35.0	
	comp=Z,15nm,0.3s						
ARS				*e*		10 04 20.8	
ARS				*e*Sg	Sg	10 04 56.1	-10
ARS				Smax		10 05 10.4	
	comp=Z,154nm,0.8s						
MOY	**Mondy**	**8.56**	**246**	*e*Pn	**Pn**	**10 03 02.8**	**-0.9**
MOY				*e*Sn	**Sn**	**10 04 45.2**	**+4.9**
MOY				*e*Sg	Sg	10 05 24.4	-10
MOY				Smax		10 05 29.8	
	comp=Z,74nm,1.4s						
MOY	**Mondy**	**8.56**	**246**	*e*PN	Pn	10 03 08.7	+5.0
MOY				*i*		10 05 29.8	
ORL	**Orlik**	**8.73**	**253**	*e*Pn	**Pn**	**10 03 08.7**	**+2.7**
ORL				max		10 03 50.1	
	comp=Z,4.0nm,0.6s						
ORL				*e*		10 04 58.3	
ORL				*e*Sg	Sg	10 05 29.7	-10
ORL				Smax		10 05 40.3	
	comp=Z,56nm,1.4s						
ULN	**Ulaanbaatar**	**8.99**	**209**	*e*Sg	**Sg**	**10 05 41.2**	**-6.7**
SONM	**Songino Array**	**9.20**	**212**	Pn	**Pn**	**10 03 16.6**	**+4.1**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=3.0						
SONM				Lg	Lg	10 05 52.7	
	comp=Z,1.8nm,0.3s,baz=19,slow=28,SNR=17						
YAK	**Yakutsk**	**10.33**	**47**	*e*P	Pn	10 03 20.9	-6.8
YAK				pmax	pmax		
	comp=Z,24nm,0.8s						
YAK				pmax	pmax		
	comp=N,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,282nm,6.0s						
KLR	**Kul'dur**	**12.89**	**114**	Pn	**Pn**	**10 04 03.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=307,slow=18,SNR=3.6						
KLR				Lg	Lg	10 07 44.9	
	comp=Z,0.2nm,0.3s,baz=60,slow=13,SNR=5.5						
TIXI	**Tiksi**	**17.10**	**17**	*i* P	**Pn**	**10 04 56.3**	**-2.1**
TIXI	**Tiksi**	**17.10**	**17**	Pn	Pn	10 04 46.1	-12
	comp=Z,0.7nm,0.3s,baz=320,slow=1.5,SNR=4.0						
VLA	**Vladivostok**	**17.39**	**130**	*i* P	**Pn**	**10 05 02.3**	**+0.1**
VLA				pmax	pmax		
	comp=Z,22nm,0.7s						
MA2	**Magadan**	**20.02**	**64**	⇑*i*P	**P**	**10 05 30.9**	**-1.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,1.9s						
SEY	**Seymchan**	**20.69**	**54**	⇑*i*P	Pn	10 05 41.1	-0.7
SEY	**Seymchan**	**20.69**	**54**	P	**P**	**10 05 38.9**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=257,slow=18,SNR=9.2						
KURK	**Kurchatov**	**21.36**	**271**	⇑*i*P	**P**	**10 05 47.2**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**21.39**	**258**	P	**P**	**10 05 48.3**	**+1.1**
	comp=Z,0.2nm,0.2s,baz=67,slow=7.2,SNR=4.7						
KURBB	**Kurchatov Arra**	**21.45**	**271**	P	**P**	**10 05 48.1**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=59,slow=11,SNR=3.5						
BRVK	**Borovoye**	**25.00**	**282**	⇑*i*P	**P**	**10 06 24.3**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAJO	**Matsushiro**	**25.55**	**129**	*i* P	**P**	**10 06 28.7**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BILL	**Bilibino**	**26.63**	**42**	⇑*i*P	**P**	**10 06 39.9**	**+2.0**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.6s						
ARU	**Arti**	**29.95**	**294**	*i* P	**P**	**10 07 09.4**	**+1.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.6s						
OBN	**Obninsk**	**41.49**	**302**	*e*P	**P**	**10 08 46.5**	**+0.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PUL	**Pulkovo**	**41.74**	**311**	*e*P	**P**	**10 08 48.7**	**+0.3**
VSR	**Storozhevoye**	**42.47**	**296**	⇑*i*P	**P**	**10 08 55.1**	**+0.7**
VSR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VSU	**Vasula**	**44.01**	**311**	⇑*i*P	**P**	**10 09 07.5**	**+0.8**
VSU				pmax	pmax		
	comp=Z,22nm,0.9s						
COLA	**College**	**44.66**	**37**	⇑*i*P	**P**	**10 09 10.9**	**-1.0**
COLA				pmax	pmax		
	comp=Z,14nm,2.5s						
ILAR	**Eielson Array**	**45.05**	**37**	P	**P**	**10 09 14.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=302,slow=9.4,SNR=4.4						
KIEV	**Kiev**	**47.72**	**301**	⇑*i*P	**P**	**10 09 36.2**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,7.0nm,1.4s						
YKA	**Yellowknife Ar**	**56.13**	**25**	P	**P**	**10 10 37.4**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=330,slow=7.2,SNR=3.7						
HNR	**Honiara**	**75.59**	**132**	P	**P**	**10 12 46.5**	**+2.1**
	comp=Z,37nm,0.5s,baz=12,slow=14,SNR=2.8						

KRSC 28 10:08:52.8±10.0, 50°.72N×160°.33E, h97km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.79**	**308**	*e*P	Pn	10 09 23.7	+1.3
KDTR				*e*S	Sn	10 09 45.6	+0.6
RUS	**Russkaya**	**2.05**	**327**	*e*P	Pn	10 09 27.5	+1.6
RUS				*e*S	Sn	10 09 52.3	+1.1
MTVR	**Mutnovka**	**2.21**	**324**	*e*P	Pn	10 09 29.8	+1.6
MTVR				*e*S	Sn	10 09 56.5	+1.3
ASAK	**Asacha**	**2.25**	**319**	*e*P	Pn	10 09 30.7	+2.1
ASAK				*e*S	Sn	10 09 57.8	+1.9
PAU	**Pauzhetka**	**2.34**	**290**	*e*S	Sn	10 09 58.1	+0.2
SPN	**Mys Shipunski**	**2.38**	**356**	*e*P	Pn	10 09 31.8	+1.5
DALK	**Dalny**	**2.51**	**338**	*e*P	Pn	10 09 34.2	+2.3
DALK				*e*S	Sn	10 10 03.6	+1.7
KRMR	**Karymshinskiy**	**2.51**	**328**	*e*P	Pn	10 09 34.3	+2.4
KRMR				*e*S	Sn	10 10 03.3	+1.3
NLC	**Nalytchevo**	**2.53**	**346**	P	Pn	10 09 34.5	+2.4
NLC				S	Sn	10 10 05.6	+3.4
PET	**Petropavlovsk**	**2.53**	**336**	P	Pn	10 09 35.2	+3.1
UGLR	**Uglovaya**	**2.66**	**340**	*e*P	Pn	10 09 36.6	+2.6
SKR	**Severo-Kuril's**	**2.68**	**271**	*e*P	Pn	10 09 35.5	+1.4
SKR				*e*S	Sn	10 10 06.1	+0.2
SDLR	**Sedlovina**	**2.71**	**341**	*e*P	Pn	10 09 36.9	+2.2
SMAR	**Somma**	**2.71**	**340**	P	Pn	10 09 37.8	+3.0
AVH	**Avacha**	**2.73**	**339**	*e*P	Pn	10 09 38.2	+3.3
KRER	**Koryakskii**	**2.76**	**340**	*e*P	Pn	10 09 38.4	+2.9
KOK	**Koryaka**	**2.78**	**338**	*e*P	Pn	10 09 38.6	+3.0
KRX	**Arik**	**2.84**	**339**	P	Pn	10 09 39.7	+3.3
APC	**Apacha**	**2.96**	**319**	*e*P	Pn	10 09 41.3	+3.5
APC				*e*S	Sn	10 10 16.6	+4.1
ALID	**

LMEL	**Las Melosas**	**0.82**	**262**	⇓	*i* P		**Pb**	**10 13 58.0**	**+0.1**
LMEL					*i* S		**Sb**	**10 14 09.4**	**0.0**
LMEL					IAML			10 14 10.4	
	comp=N,765nm,0.1s								
ARCO	**CERRO ARCO**	**0.93**	**16**		*e*P		**Pg**	**10 13 58.7**	**+0.1**
ARCO					*e*S		**Sb**	**10 14 11.6**	**-0.9**
FCH	**Farellones**	**0.98**	**294**		*e*P		**Pb**	**10 14 00.5**	**-0.2**
FCH					*i* S		**Sn**	**10 14 14.2**	**-2.2**
FCH					IAML			10 14 15.0	
	comp=N,226nm,0.3s								
CLCH	**Cerro Calan**	**1.15**	**287**		*e*P		**Pn**	**10 14 03.4**	**-0.5**
CLCH					*i* S		**Sn**	**10 14 19.5**	**-0.7**
CLCH					IAML			10 14 20.6	
	comp=N,256nm,0.5s								
ASAL	**Salagasta**	**1.19**	**16**		*e*P		**Pg**	**10 14 03.6**	**-0.1**
ASAL					*e*S		**Sn**	**10 14 21.7**	**+0.3**
PEL	**Peldehue**	**1.35**	**296**		*e*P		**Pg**	**10 14 07.0**	**+0.2**
PEL	**Peldehue**	**1.35**	**296**		*e*P		**Pg**	**10 14 06.7**	**-0.1**
PEL					*i* S		**Sn**	**10 14 25.4**	**+0.1**
AUSP	**Uspallata**	**1.52**	**355**		*e*P		**Pb**	**10 14 09.4**	**-0.4**
AUSP					*e*S		**Sg**	**10 14 29.2**	**-0.4**
ROCH	**El Roble**	**1.68**	**297**		*e*P		**Pg**	**10 14 12.5**	**-0.5**
ROCH					*e*S		**Sg**	**10 14 35.6**	**+0.9**
ROCH					IAML			10 14 42.3	
	comp=N,131nm,0.5s								
ROC1	**El Roble**	**1.68**	**296**		*e*P		**Pg**	**10 14 12.6**	**-0.4**
ROC1					*e*S		**Sg**	**10 14 35.8**	**+1.0**
RTLS	**Leoncito**	**1.94**	**358**		*e*P		**Pb**	**10 14 16.7**	**-0.3**
RTLS					*e*S		**Sg**	**10 14 43.4**	**+0.4**
RTLS					IAML			10 14 47.0	
	comp=Z,129nm,0.5s								
RTCV	**Cerro Valdivia**	**1.96**	**17**		*e*P		**Pn**	**10 14 14.7**	**-0.4**
RTCV					*e*S		**Sb**	**10 14 42.7**	**+0.6**
ACAN	**Cantantal**	**2.25**	**50**		*e*P		**Pn**	**10 14 20.8**	**+1.6**
CFA	**Coronel Fontan**	**2.29**	**22**		*e*P		**Pn**	**10 14 19.5**	**-0.1**
RTLL	**Cerro Villicun**	**2.48**	**15**		*e*P		**Pn**	**10 14 22.7**	**+0.4**
RTLL					IAML			10 15 06.3	
	comp=Z,79nm,0.4s								
AMOG	**MOGNA**	**2.86**	**13**		*e*P		**Pn**	**10 14 28.2**	**+0.7**
ACCO	**Cerro Coronel**	**3.15**	**3**		*e*P		**Pn**	**10 14 33.3**	**+1.7**
MRA	**San Martin**	**3.23**	**67**		*e*P		**Pn**	**10 14 31.6**	**-1.0**
MRA					*e*S		**Sb**	**10 15 20.1**	**+1.4**
MRA					IAML			10 15 23.7	
	comp=Z,70nm,0.3s								
ACDV	**Cuesta del Vie**	**3.56**	**2**		*e*P		**Pn**	**10 14 40.6**	**+3.4**
AROD	**Rodeo**	**3.57**	**357**		*e*P		**Pn**	**10 14 39.6**	**+2.1**
AROD					*e*S		**Sg**	**10 15 32.0**	**-3.5**
GO04	**Tololo Observa**	**3.80**	**339**		*e*P		**Pn**	**10 14 43.6**	**+3.1**
CYA	**Choya**	**6.04**	**30**		*e*P		**Pn**	**10 15 09.9**	**-1.3**
CYA					IAML			10 16 59.0	
	comp=Z,5.9nm,0.7s								

NIED ***28*** *10:16:00, 32.80N×132.10E, h38km, Mw4.2 Best double couple: M0 2.53000×10^15 NP1:φ=78.00000°, δ=18.00000°, λ=-37.00000°. NP2:φ=204.00000°, δ=79.00000°, λ=-104.00000°.*

ISCJB ***28*** *10:16:48.1±0.3, 32.81N±0.04×132.01E±0.03, h56km±2km, mb3.9/20, MS3.3/1, Error ellipse: s-maj=6.3km s-min=4.1km az=152.8*

JMA ***28*** *10:16:49.4, 32.80N×132.03E, h42km, M4.1 Broadband fault plane solution: P waves. NP1:φ=247.00000°, δ=87.00000°, λ=-67.00000°. NP2:φ=343.00000°, δ=23.00000°, λ=-173.00000°. Principal axes: T Plg38.0000°, Azm316.0000°; N Plg23.0000°, Azm66.0000°; P Plg43.0000°, Azm179.0000°;*

JMA Felt III J1.

IDC ***28*** *10:16:51.8±1.0, 32.78N×131.74E, h71km±8km, mb3.6/20, mb1 3.8/21, mb1mx3.7/49, mbtmp3.9/21, MS3.2/6, Ms1 3.2/6, ms1mx2.8/47 Error ellipse: s-maj=17.6km s-min=11.0km az=79.0*

ISC 28 10:16:48.9±0.7, 32.80N±0.04×132.02E±0.03, h46km±6km, n51, σ1.916/58, mb3.9/20, 1C-10D, Shikoku

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSKE	**Saikikamae**	**0.10**	**272**	⇓P	**Pn**	**10 16 56.2**	**0.0**
JSKE				S	**Sn**	**10 17 01.1**	**-0.3**
JUS	**Usuki**	**0.35**	**320**	⇓P	**Pn**	**10 16 58.3**	**+0.1**
JUS				S	**Sn**	**10 17 05.0**	**+0.2**
JHHC	**Hyugahichiya**	**0.48**	**223**	⇓P	**Pn**	**10 16 59.9**	**+0.3**
JHHC				S	**Sn**	**10 17 07.7**	**+0.5**
JKIT	**Kitakata**	**0.51**	**251**	⇓P	**Pn**	**10 17 00.3**	**+0.3**
JKIT				S	**Sn**	**10 17 08.6**	**+0.7**
UWA2	**Uwa jima 2**	**0.66**	**50**	⇓P	**Pn**	**10 17 01.9**	**0.0**
UWA2				S	**Sn**	**10 17 11.5**	**+0.2**
JTO	**Tosashimizu**	**0.66**	**84**	⇑P	**Pn**	**10 17 02.0**	**+0.1**
JTO				S	**Sn**	**10 17 11.4**	**0.0**
JTSN	**Tsuno**	**0.70**	**219**	⇓P	**Pn**	**10 17 03.0**	**+0.5**
JTSN				S	**Sn**	**10 17 13.1**	**+0.8**
JNA	**Nagahama**	**0.85**	**27**	⇓P	**Pn**	**10 17 04.9**	**+0.4**
JNA				S	**Sn**	**10 17 16.0**	**+0.1**
JKU	**Kubokawa**	**1.01**	**59**	⇓P	**Pn**	**10 17 06.8**	**+0.1**
JKU				S	**Sn**	**10 17 19.9**	**0.0**
JNU	**Nakatsue**	**1.01**	**289**	P	**Pn**	**10 17 07.5**	**+0.8**
	598nm,0.3s,baz=53,slow=4.4,SNR=5135						
JNU				S	**Sn**	**10 17 21.2**	**+1.2**
	2μm,0.3s,baz=295,slow=7.0,SNR=25						
JNU				LR	LR	10 17 39.5	
	comp=Z,955nm,22.0s,baz=165,slow=60						
JTZ	**Takazaki**	**1.19**	**222**	⇓P	**Pn**	**10 17 10.4**	**+1.3**
JET	**Tanbara**	**1.30**	**41**	⇓P	**Pn**	**10 17 10.8**	**+0.1**
JHM	**Kurahashi**	**1.41**	**17**	P	**Pn**	**10 17 12.6**	**+0.6**
KSRS	**Korea Array**	**5.73**	**325**	P	**Pn**	**10 18 12.5**	**+1.1**
	8.4nm,0.3s,baz=145,slow=14,SNR=118						
KSRS				S	**Sn**	**10 19 16.1**	**+0.2**
	4.0nm,0.3s,baz=150,slow=25,SNR=6.5						
MAT	**Matsushiro**	**6.32**	**52**	P	**Pn**	**10 18 21.1**	**+1.6**
MAT				S	**Sn**	**10 19 28.7**	**-1.7**
MJAR	**Matsushiro Arr**	**6.32**	**52**	P	**Pn**	**10 18 21.2**	**+1.7**
	1.0nm,0.3s,baz=240,slow=14,SNR=61						
MJAR				S	**Sn**	**10 19 28.0**	**-2.4**
	baz=226,slow=17,SNR=2.7						
MJAR				LR	LR	10 21 08.1	
	comp=Z,167nm,18.7s,baz=245,slow=39						
JHJ	**Hachijo jima 2**	**6.53**	**85**	P	**Pn**	**10 18 23.1**	**+0.8**
	54nm,0.3s,baz=88,slow=22,SNR=15						
JHJ				S	**Sn**	**10 19 37.4**	**+1.9**
	11nm,0.3s,baz=50,slow=15,SNR=1.5						
JHJ				LR	LR	10 20 56.5	
	comp=Z,167nm,20.5s,baz=268,slow=36						
JOW	**Kunigami**	**6.78**	**210**	P	**Pn**	**10 18 26.1**	**+0.4**
	0.1nm,0.3s,baz=91,slow=15,SNR=3.9						
JOW				S	**Sn**	**10 19 38.5**	**-3.1**
	0.5nm,0.3s,baz=70,slow=25,SNR=3.7						
JCJ	**Chichijima**	**10.48**	**120**	LR	LR	10 22 48.8	
	comp=Z,178nm,20.4s,baz=136,slow=33						
ASAJ	**Asahikawa**	**14.00**	**33**	LR	LR	10 24 54.6	
	comp=Z,50nm,21.7s,baz=24,slow=34						
KLR	**Kul'dur**	**16.42**	**359**	P	**P**	**10 20 40.1**	**+2.0**
	0.7nm,0.3s,baz=176,slow=8.1,SNR=28						
KLR				LR	LR	10 26 30.6	
	comp=Z,53nm,19.1s,baz=228,slow=35						
SONM	**Songino Array**	**24.50**	**315**	P	**P**	**10 22 03.0**	**-0.8**
	2.0nm,0.6s,baz=123,slow=9.6,SNR=11						
SONM				LR	LR	10 32 17.8	
	comp=Z,96nm,19.2s,baz=204,slow=38						
SEY	**Seymchan**	**32.80**	**17**	P	**P**	**10 23 18.5**	**+1.1**
	0.3nm,0.3s,baz=197,slow=20,SNR=1.9						
CMAR	**Chiang Mai Arr**	**32.91**	**252**	P	**P**	**10 23 17.2**	**-1.7**
	1.0nm,0.3s,baz=54,slow=9.1,SNR=4.3						
H11N2	**WAKE ISLAND Hy**	**33.71**	**104**	T	T	10 59 21.5	
	baz=294						
H11N1	**WAKE ISLAND Hy**	**33.72**	**104**	T	T	10 59 31.5	
	baz=294						
H11N3	**WAKE ISLAND Hy**	**33.73**	**104**	T	T	10 59 39.5	
	baz=294						
H11S3	**WAKE ISLAND Hy**	**34.17**	**106**	T	T	10 59 57.2	
	baz=303,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**34.17**	**106**	T	T	10 59 57.6	
	baz=303,slow=75,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**34.19**	**106**	T	T	10 59 56.5	
	baz=303,slow=75,SNR=4.9						
MKAR	**Makanchi Array**	**40.03**	**305**	P	**P**	**10 24 18.3**	**-1.0**
	1.8nm,0.8s,baz=90,slow=11,SNR=9.7						
KURBB	**Kurchatov Arra**	**42.72**	**311**	P	**P**	**10 24 39.8**	**-1.4**
	0.5nm,0.6s,baz=99,slow=9.1,SNR=4.6						
AAK	**Ala-Archa**	**45.77**	**300**	P	**P**	**10 25 04.8**	**-1.2**
	1.3nm,0.5s,baz=112,slow=11						
WRA	**Warramunga Arr**	**52.49**	**177**	P	**P**	**10 25 57.4**	**+0.1**
	1.7nm,0.5s,baz=354,slow=8.1,SNR=24						
ASAR	**Alice Springs**	**56.17**	**178**	P	**P**	**10 26 24.3**	**+0.3**
	1.5nm,0.6s,baz=11,slow=13,SNR=26						
ILAR	**Eielson Array**	**57.12**	**30**	P	**P**	**10 26 31.1**	**+0.9**
	0.6nm,0.7s,baz=270,slow=5.9,SNR=10						
INK	**Inuvik**	**61.57**	**25**	P	**P**	**10 27 02.2**	**+1.3**
	0.9nm,0.9s,baz=286,slow=9.7,SNR=4.1						
STKA	**Stephens Creek**	**64.96**	**171**	P	**P**	**10 27 24.8**	**+1.0**
	4.1nm,0.6s,baz=332,slow=7.1,SNR=10						
ARCES	**ARCESS Array B**	**65.14**	**338**	P	**P**	**10 27 25.6**	**+1.0**
	4.3nm,0.9s,baz=62,slow=8.4,SNR=6.4						
KBZ	**Khabaz**	**67.63**	**308**	P	**P**	**10 27 40.2**	**-0.6**
	1.0nm,0.6s,baz=94,slow=3.9,SNR=3.3						
RES	**Resolute Bay**	**68.48**	**12**	P	**P**	**10 27 45.8**	**+0.1**
	1.1nm,0.8s,baz=301,slow=12,SNR=4.2						
FINES	**FINESS Array B**	**68.80**	**330**	P	**P**	**10 27 46.1**	**-1.8**
	1.8nm,0.8s,baz=57,slow=5.1,SNR=3.8						
YKA	**Yellowknife Ar**	**71.20**	**27**	P	**P**	**10 28 03.8**	**+1.2**
	1.1nm,0.8s,baz=304,slow=6.0,SNR=26						
AKASG	**Malin Array Be**	**72.70**	**319**	P	**P**	**10 28 09.5**	**-2.2**
	0.4nm,0.3s,baz=55,slow=6.4,SNR=2.0						
NB2	**NORSAR Subarra**	**74.87**	**334**	P	**P**	**10 28 21.9**	**-2.5**
	comp=Z,0.2nm,0.5s,baz=46,slow=5.9						
NOA	**NORSAR Array B**	**74.87**	**334**	P	**P**	**10 28 24.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=48,slow=5.7,SNR=3.6						
NVAR	**Mina Array Bea**	**83.63**	**48**	P	**P**	**10 29 14.1**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=290,slow=5.9,SNR=5.8						
PDAR	**Pinedale Array**	**86.01**	**40**	P	**P**	**10 29 25.7**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=282,slow=4.5,SNR=2.7						
QSPA	**South Pole Qui**	**122.55**	**180**	PKP	**PKPdf**	**10 35 37.7**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=270,slow=2.0,SNR=3.6						
LPAZ	**La Paz**	**155.45**	**53**	PKPab	**PKPab**	**10 37 04.2**	**0.0**
	comp=Z,0.8nm,0.7s,baz=330,slow=16,SNR=3.2						
PLCA	**Paso Flores**	**160.29**	**120**	PKPab	**PKPab**	**10 37 23.6**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=214,slow=4.9,SNR=3.4						

ISK ***28*** *10:17:37.2, 34.96N×34.05E, h30km, ML2.8/17*

ISCJB ***28*** *10:17:38.5±1.3, 35.01N±0.08×33.94E±0.08, h55km±8km, Error ellipse: s-maj=15.9km s-min=7.9km az=160.0*

NIC ***28*** *10:17:38.8±0.3, 35.11N×33.92E, h50km, ML2.3*

ISC 28 10:17:39.8±2.1, 35.03N±0.09×33.91E±0.07, h45km±13km, n23, σ0.964/28, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHNC	**Paralimni**	**0.10**	**107**	P	**Pn**	**10 17 46.6**	**-0.4**
	baz=318						
PHNC				S	**Sn**	**10 17 53.3**	**+1.2**
AKIN	**Akıncılar- Kıb**	**0.37**	**267**	PG	**Pn**	**10 17 48.1**	**-1.1**
LFK	**Lefkose**	**0.40**	**308**	PG	**Pn**	**10 17 48.9**	**-0.7**
LFK				SG	**Sn**	**10 17 57.6**	**+1.1**
CSS	**Mathiatis**	**0.48**	**262**	PG	**Pn**	**10 17 49.8**	**-0.8**
CSS				SG	**Sn**	**10 17 58.8**	**+0.6**
CSS	**Mathiatis**	**0.48**	**262**	P	**Pn**	**10 17 50.0**	**-0.6**
	baz=73						
CSS				S	**Sn**	**10 17 58.3**	**+0.1**
EREN	**Erenkoy**	**0.54**	**23**	PG	**Pn**	**10 17 50.1**	**-1.1**
MAMC	**Mammari**	**0.58**	**284**	P	**Pn**	**10 17 51.2**	**-0.6**
	baz=96						
AKDN	**Akdeniz- Kıbrı**	**0.82**	**289**	PG	**Pn**	**10 17 54.9**	**0.0**
LEF	**Lefka**	**0.84**	**276**	PG	**Pn**	**10 17 55.3**	**+0.1**
SZAC	**Souni**	**0.89**	**252**	P	**Pn**	**10 17 56.0**	**0.0**
	baz=67						
ALFC	**Alaka**	**1.08**	**277**	P	**Pn**	**10 17 57.8**	**-0.8**
	baz=92						
ALFC				S	**Sn**	**10 18 12.3**	**-0.1**
AKK2	**Akkuyu-Mersin**	**1.14**	**345**	PN	**Pn**	**10 17 59.1**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.16**	**345**	PN	**Pn**	**10 17 59.4**	**-0.2**
YESI	**Yesilovacik-Me**	**1.18**	**349**	PN	**Pn**	**10 17 59.6**	**-0.2**
IKL	**Isikli**	**1.22**	**351**	PN	**Pn**	**10 17 59.7**	**-0.6**
OREN	**Orenkoy-Mersin**	**1.23**	**343**	PN	**Pn**	**10 18 00.3**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.28**	**330**	PN	**Pn**	**10 18 00.8**	**-0.5**
PPCY	**Paphos**	**1.29**	**264**	P	**Pn**	**10 18 01.2**	**-0.2**
	baz=79						
KEBE	**Keben-Mersin**	**1.42**	**354**	PN	**Pn**	**10 18 02.7**	**-0.5**
BERE	**Bereket-Mersin**	**1.43**	**337**	PN	**Pn**	**10 18 03.2**	**-0.2**
TEVE	**Tevekalti-Mers**	**1.45**	**345**	PN	**Pn**	**10 18 03.4**	**-0.2**
KIZK	**Mersin**	**1.46**	**7**	PN	**Pn**	**10 18 02.8**	**-0.8**
MERS	**Mersin**	**1.90**	**15**	PN	**Pn**	**10 18 10.0**	**+0.3**

ISCJB ***28*** *10:26:41.7±0.2, 37.42N±0.03×97.17E±0.03, h10km, mb4.0/34, MS3.6/13, Error ellipse: s-maj=3.7km s-min=3.1km az=19.2*

IDC ***28*** *10:26:41.3±0.7, 37.25N×97.19E, h0km, mb3.9/17, mb1 4.1/23, mb1mx3.9/56, mbtmp4.0/23, ML4.0/6, MS3.6/17, Ms1 3.6/17, ms1mx3.4/43, Error ellipse: s-maj=20.1km s-min=13.5km az=34.0*

MOS ***28*** *10:26:42.9±1.1, 37.35N×97.14E, h22km, mb4.3/15, Error ellipse: s-maj=9.0km s-min=5.2km az=122.1*

NEIC ***28*** *10:26:43.6±2.0, 37.35N×97.10E, h10km±3km, mb4.2/17, Error ellipse: s-maj=18.7km s-min=4.7km az=61.0*

BJI ***28*** *10:26:44.1, 37.26N×97.14E, h6km, mb4.5/20, mB4.6/9, ML4.4/17, Ms4.1/25, Ms7 4.0/13*

ISC 28 10:26:43.9±0.3, 37.40N±0.04×97.18E±0.03, h10km, n139, σ2.620/153, mb4.1/34, MS3.5/13, 7C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.88**	**45**	Pn	**Pb**	**10 27 34.0**	**-1.4**
GTA				Pg	**Pg**	**10 27 38.5**	**-0.6**
GTA				Sn	**Sb**	**10 28 10.5**	**-0.3**
GTA				Sg	**Sg**	**10 28 16.3**	**-0.1**
GTA				*s*max	*s*max		
	comp=N,340nm,1.0s						
GTA				*s*max	*s*max		
	comp=E,500nm,0.8s						
GTA				LR	LR		
	comp=N,4μm,7.6s						
GTA				LR	LR		
	comp=E,5μm,8.9s						
LZH	**Lanzhou**	**5.51**	**102**	*e*Pn	**Pn**	**10 28 07.0**	**+0.9**
LZH				Pg	**Pb**	**10 28 19.8**	**-0.5**
LZH				Sn	**Sn**	**10 29 08.5**	**-1.1**
LZH				Sg	**Sb**	**10 29 27.5**	**+1.0**
LZH				*s*max	*s*max		
	comp=N,1μm,0.7s						
LZH				*s*max	*s*max		
	comp=E,2μm,0.7s						
LZH				LR	LR		
	comp=E,2μm,5.2s						
LZH				LR	LR		
	comp=Z,2μm,7.0s						
CD2	**Chengdu**	**8.46**	**138**	Pg	**Pg**	**10 29 22.5**	**-3.4**
CD2				Sg	**Sg**	**10 31 16.5**	**+1.1**
CD2				*s*max	*s*max		
	comp=N,40nm,1.4s						
CD2				*s*max	*s*max		
	comp=E,40nm,1.2s						
WMQ	**Urumqi**	**9.64**	**315**	P	**Pn**	**10 29 04.0**	**+1.3**
WMQ				pP		10 29 09.5	
WMQ				sP		10 29 12.0	
WMQ				PP	**PnPn**	**10 29 14.0**	**+3.7**
WMQ				S	**Sn**	**10 30 54.5**	**+3.3**
WMQ				sS		10 31 00.5	
WMQ	**Urumqi**	**9.64**	**315**	*e*Pn	**Pn**	**10 29 03.7**	**+1.0**
WMQ	**Urumqi**	**9.64**	**315**	*e*P	**Pn**	**10 29 03.7**	**+1.0**
XAN	**Xi'an**	**10.12**	**106**	P	**Pn**	**10 29 10.0**	**+0.8**
XAN				PP	**PnPn**	**10 29 17.0**	**+0.2**
XAN				*p*max	*p*max		
	comp=E,9.0nm,0.9s						
XAN				LR	LR		
	comp=E,820nm,12.4s						
XAN				LR	LR		
	comp=E,500nm,14.5s						
XAN	**Xi'an**	**10.12**	**106**	*e*Pn	**Pn**	**10 29 09.6**	**+0.4**
XAN	**Xi'an**	**10.12**	**106**	*e*P	**Pn**	**10 29 09.6**	**+0.4**
BTO	**Baotou**	**10.49**	**68**	*e*P	**Pn**	**10 29 11.8**	**-2.6**
HHC	**Hu-ho-hao-te**	**11.69**	**68**	*e*P	**Pn**	**10 29 31.5**	**+0.7**
HHC				sP		10 29 39.3	
HHC				S	**Sn**	**10 31 43.3**	**+1.9**
HHC				*p*max	*p*max		
	comp=E,24nm,1.0s						
HHC				*p*max	*p*max		
	comp=E,130nm,6.0s						
HHC				LR	LR		
	comp=E,470nm,7.5s						
HHC				LR	LR		
	comp=E,470nm,7.3s						
TIY	**Taiyuan**	**12.11**	**84**	*e*P	Pn	10 29 45.5	+8.9
TIY				S	**Sn**	**10 31 57.5**	**+5.8**
TIY				SS	**SnSn**	**10 32 14.0**	**+10**
TIY				LR	LR		
	comp=E,350nm,6.4s						
TIY				LR	LR		
	comp=E,520nm,10.5s						
SONA0	**Songino Array**	**12.43**	**30**	*e*Pn	**Pn**	**10 29 42.9**	**+2.0**
SONA0				*e*Sn	**Sn**	**10 31 57.6**	**-1.8**
SONM	**Songino Array**	**12.43**	**30**	Pn	**Pn**	**10 29 42.9**	**+2.0**
	comp=E,1.0nm,0.3s,baz=214,slow=15,SNR=39						
SONM				Sn	**Sn**	**10 31 57.6**	**-1.8**
	comp=E,0.1nm,0.3s,baz=209,slow=25,SNR=2.1						
SONM				Lg	Lg	10 33 11.0	
	baz=222,slow=28,SNR=3.6						
ENH	**Enshi**	**12.45**	**121**	*e*Pn	**Pn**	**10 29 42.1**	**+0.9**
SHL	**Shillong**	**12.63**	**202**	*e*P	Pn	10 29 38.6	-5.2
SHL				*e*S	Sn	10 31 47.0	-18
SHL				IAML		10 32 18.1	
	comp=E,31nm,0.2s						
SHL				IAML		10 32 18.4	
	comp=N,31nm,0.1s						
ULN	**Ulaanbaatar**	**12.72**	**32**	*e*Pn	**Pn**	**10 29 47.0**	**+2.1**
ULN	**Ulaanbaatar**	**12.72**	**32**	*e*P	**Pn**	**10 29 47.0**	**+2.1**
KMI	**Kunming**	**13.13**	**157**	P	**Pn**	**10 29 53.8**	**+3.2**
KMI				pP	P	10 29 56.0	-4.9
KMI				sP		10 29 57.5	
KMI				S	**Sn**	**10 32 20.3**	**+3.5**
KMI				*p*max	*p*max		
	comp=N,27nm,0.5s						
KMI				*p*max	*p*max		
	comp=N,90nm,5.4s						
KMI				LR	LR		
	comp=N,740nm,13.8s						
KMI				LR	LR		
	comp=N,390nm,12.2s						
ZAK	**Zakamensk**	**13.69**	**17**	*e*P	**Pn**	**10 30 00.7**	**+2.6**
ZAK				*p*max	*p*max		
	comp=Z,2.0nm,1.1s						
DGZ	**Jazzator, Alta**	**14.16**	**333**	*c* P	**Pn**	**10 30 02.9**	**-1.7**
MK01	**Makanchi Array**	**14.46**	**315**	*e*Pn	**Pn**	**10 30 06.1**	**-2.4**
MK31	**Makanchi Array**	**14.48**	**315**	*e*Pn	**Pn**	**10 30 07.1**	**-1.7**
MK31	**Makanchi Array**	**14.48**	**315**	*e*P	**Pn**	**10 30 07.1**	**-1.7**
MK32	**Makanchi Array**	**14.48**	**315**	*e*Pn	**Pn**	**10 30 06.1**	**-2.7**
MK32				*e*Sn	Sn	10 32 39.2	-10
MKAR	**Makanchi Array**	**14.48**	**315**	Pn	**Pn**	**10 30 06.1**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=126,slow=14,SNR=36						
MKAR				Sn	Sn	10 32 39.2	-10
	baz=131,slow=26,SNR=2.2						
MKAR				Lg	Lg	10 34 29.7	
	baz=123,slow=26,SNR=2.4						
MKAR				LR	LR	10 35 57.5	
	comp=Z,43nm,20.6s,baz=119,slow=38						
MOY	**Mondy**	**14.52**	**10**	*e*P	**P**	**10 30 19.2**	**+3.2**
MOY				*p*max	*p*max		
	comp=Z,11nm,1.9s						
MAKZ	**Makanchi**	**14.66**	**315**	*e*Pn	**Pn**	**10 30 09.2**	**-2.1**
MAKZ	**Makanchi**	**14.66**	**315**	*e*P	**Pn**	**10 30 09.2**	**-2.1**
TLY	**Talaya**	**14.99**	**16**	*e*P	**Pn**	**10 30 13.3**	**-2.4**
PRZ	**Przheval'sk**	**15.27**	**295**	*e*Pn	**Pn**	**10 30 18.6**	**-1.0**
	comp=Z,19nm,0.6s						
PRZ	**Przheval'sk**	**15.27**	**295**	*e*P	**Pn**	**10 30 18.6**	**-1.0**
PRZ				*p*max	*p*max		
	comp=Z,19nm,0.6s						
BRDH	**Bariadhala**	**15.43**	**200**	LR	LR	10 37 04.4	
	comp=Z,230nm,18.4s,baz=346,slow=41						
KDJ	**Kajisay**	**16.08**	**293**	*e*Pn	**Pn**	**10 30 28.3**	**-1.9**
	comp=Z,23nm,0.9s						
KDJ	**Kajisay**	**16.08**	**293**	*e*P	**Pn**	**10 30 28.3**	**-1.9**
KDJ				*p*max	*p*max		
	comp=Z,23nm,0.9s						
BOK	**Bokaro**	**16.67**	**219**	*e*P	**Pn**	**10 30 35.7**	**-1.9**
KSH	**Kashi**	**16.74**	**284**	P	**P**	**10 30 39.8**	**-1.1**
KSH				pP	pP	10 30 43.5	-1.3
KSH				sP	sP	10 30 47.0	+0.4
KSH				S	**Sn**	**10 33 47.3**	**+2.7**
KSH				SS	**SnSn**	**10 34 08.3**	**+11**
KSH				*p*max	*p*max		
	comp=Z,9.0nm,0.7s						
KSH				*p*max	*p*max		
	comp=E,81nm,3.4s						
KSH				LR	LR		
	comp=N,500nm,9.8s						
KSH				LR	LR		
	comp=E,440nm,10.6s						
KSH				LR	LR		
	comp=Z,480nm,11.0s						
NRN	**Naryn**	**16.85**	**290**	*e*Pn	**Pn**	**10 30 37.9**	**-2.2**
	comp=Z,17nm,1.1s						
NRN	**Naryn**	**16.85**	**290**	*e*P	**Pn**	**10 30 37.9**	**-2.2**
NRN				*p*max	*p*max		
	comp=Z,17nm,1.1s						
DDI	**Dehra Dun**	**17.37**	**252**	*e*P	**Pn**	**10 30 44.6**	**-1.8**
TKM2	**Tokmak 2**	**17.38**	**295**	P	**Pn**	**10 30 45.7**	**-0.9**
	SNR=18						
TKM2	**Tokmak 2**	**17.38**	**295**	*i* P	**Pn**	**10 30 44.6**	**-2.0**
TKM2				*p*max	*p*max		
	comp=Z,9.0nm,0.5s						
KZA	**Kyzart**	**17.49**	**292**	P	**Pn**	**10 30 47.0**	**-1.2**
	SNR=8.7						
SMLA	**Simla**	**17.67**	**255**	*e*P	**P**	**10 30 49.6**	**-1.4**
SMLA				IAmb	IAmb	10 30 50.5	
	comp=Z,17nm,0.8s						
KBK	**Karagayb

BTK				pmax	pmax	
	comp=Z,7.0nm,0.9s					
KK31	**Karatay Array**	**21.09 294**	*eP*	**P**	**10 31 27.7**	**-0.7**
	comp=Z,4.6nm,0.8s					
KK31	**Karatay Array**	**21.09 294**	*eP*	**P**	**10 31 28.4**	**0.0**
KK31				pmax	pmax	
	comp=Z,3.0nm,0.7s					
KKAR	**Karatay Array**	**21.09 294**	*eP*	**P**	**10 31 28.1**	**-0.3**
	comp=Z,4.6nm,0.8s					
KKAR	**Karatay Array**	**21.09 294**	*eP*	**P**	**10 31 28.1**	**-0.3**
KKAR				pmax	pmax	
	comp=Z,5.0nm,0.8s					
OTUK	**Ortayu**	**21.11 309**	P	**P**	**10 31 28.0**	**-0.5**
OTUK				pmax	pmax	
	comp=Z,11nm,1.2s					
SKNT	**Sakolnakorn**	**21.22 162**	P	**P**	**10 31 32.0**	**+2.2**
	comp=Z,4.9nm,0.9s					
QIZ	**Qiongzhong**	**21.40 145**	P	**P**	**10 31 33.0**	**+1.2**
QIZ			S	**S**	**10 35 31.5**	**+2.2**
QIZ			LR	LR		
	comp=Z,310nm,13.2s					
QIZ			LR	LR		
	comp=Z,480nm,13.7s					
CHAI	**Chaiyaphum**	**21.84 167**	P	**P**	**10 31 39.8**	**+3.3**
	comp=Z,3.1nm,0.9s					
UTHA	**Uthaitani**	**21.85 174**	P	**P**	**10 31 39.1**	**+2.5**
	comp=Z,4.0nm,0.8s,comp=Z,61nm					
BHPL	**Bhopal**	**22.07 236**	*eP*	**P**	**10 31 36.8**	**-2.3**
KBL	**Kabul**	**22.92 271**	*eP*	**P**	**10 31 47.4**	**-0.8**
	comp=Z,17nm,0.8s					
KBL	**Kabul**	**22.92 271**	*eP*	**P**	**10 31 47.4**	**-0.8**
KBL				pmax	pmax	
	comp=Z,17nm,0.8s					
SRDT	**SRDT**	**23.02 175**	P	P	10 31 55.7	+6.6
	comp=Z,14nm,1.8s					
BOD	**Bodaibo**	**23.24 23**	*eP*	**P**	**10 31 44.9**	**-6.1**
BOD				pmax	pmax	
	comp=Z,6.0nm,2.0s					
BVA0	**Borovoye Array**	**24.30 319**	*i* P	**P**	**10 32 01.7**	**+0.4**
BVA0				pmax	pmax	
	comp=Z,14nm,1.1s					
BVAR	**Borovoye Array**	**24.30 319**	P	**P**	**10 32 01.6**	**+0.3**
	comp=Z,3.3nm,0.6s,baz=110,slow=9.2,SNR=17					
BVAR			LR	LR	10 42 18.0	
	comp=Z,194nm,19.2s,baz=116,slow=38					
KS01	**Wonju Array Si**	**24.34 80**	*eP*	**P**	**10 32 02.4**	**+0.6**
KSRS	**Korea Array**	**24.36 80**	P	**P**	**10 32 01.2**	**-0.8**
	comp=Z,12nm,1.0s,baz=270,slow=9.2,SNR=15					
KSRS			LR	LR	10 42 53.2	
	comp=Z,121nm,18.0s,baz=294,slow=40					
BRVK	**Borovoye**	**24.37 319**	*eP*	**P**	**10 32 02.6**	**+0.6**
	comp=Z,14nm,0.9s					
BRVK	**Borovoye**	**24.37 319**	*c iP*	**P**	**10 32 02.2**	**+0.3**
BRVK				pmax	pmax	
	comp=Z,8.0nm,0.8s					
DGPR	**DIGLIPUR**	**24.42 190**	*eP*	**P**	**10 32 00.8**	**-1.9**
HYB	**Hyderabad**	**25.79 225**	*eP*	**P**	**10 32 15.6**	**+0.5**
HYB			IAmb	IAmb	10 32 18.1	
USRK	**Ussuriysk Ar.**	**27.07 64**	LR	LR	10 44 07.2	
	comp=Z,206nm,19.8s,baz=282,slow=39					
BHJ	**Bhuj**	**27.51 247**	*eP*	**P**	**10 32 30.6**	**0.0**
KLR	**Kul'dur**	**27.55 54**	⇑*iP*	**P**	**10 32 30.0**	**-0.7**
KLR	**Kul'dur**	**27.55 54**	P	**P**	**10 32 31.1**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=276,slow=10,SNR=3.0					
JNU	**Nakatsue**	**27.76 89**	LR	LR	10 44 32.7	
	comp=Z,96nm,19.4s,baz=292,slow=39					
AB31	**Akbulak array**	**29.27 306**	*i* P	**P**	**10 32 45.9**	**-0.1**
AB31				pmax	pmax	
	comp=Z,1.0nm,0.9s					
AKTO	**Aktyubinsk**	**30.70 308**	P	**P**	**10 32 58.2**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=97,slow=10.0,SNR=10.0					
GEYT	**Alibeck**	**30.77 283**	LR	LR	10 48 58.9	
	comp=Z,110nm,19.0s,baz=90,slow=43					
ARU	**Arti**	**31.94 319**	*c iP*	**P**	**10 33 09.4**	**-0.1**
ARU					10 34 11.8	
ARU			S	**S**	**10 38 21.4**	**+0.9**
ARU			SS	**SnSn**	**10 40 05.1**	**-3.7**
ARU			pmax	pmax		
	comp=Z,5.0nm,0.8s					
NRIK	**Noril'sk**	**32.42 354**	LR	LR	10 46 33.2	
	comp=Z,94nm,18.0s,baz=203,slow=37					
MJAR	**Matsushiro Arr**	**32.61 79**	LR	LR	10 47 17.4	
	comp=Z,81nm,19.1s,baz=240,slow=38					
KIRV	**Kirov**	**37.29 320**	LR	LR	10 50 17.4	
	comp=Z,100nm,21.6s,baz=162,slow=38					
KLMR	**Klimovskoe**	**42.61 322**	*eP*	**P**	**10 34 38.3**	**-1.6**
KLMR				pmax	pmax	
	comp=Z,16nm,1.6s					
KLMR	**Klimovskoe**	**42.61 322**	*eP*	**P**	**10 34 38.3**	**-1.6**
KLMR				AMP		10 34 40.3
	comp=Z,16nm,1.6s					
OBN	**Obninsk**	**43.98 314**	⇑*eP*	**P**	**10 34 50.7**	**-0.3**
OBN				pmax	pmax	
	comp=Z,6.0nm,1.0s					
BR101	**Keskin Array S**	**48.80 293**	*eP*	**P**	**10 35 29.4**	**+0.1**
BRTR	**Keskin Array B**	**48.80 293**	P	**P**	**10 35 29.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=105,slow=5.4,SNR=7.6					
BRTR			LR	LR	10 58 49.3	
	comp=Z,30nm,21.1s,baz=65,slow=40					
AKASG	**Malin Array Be**	**48.94 309**	P	**P**	**10 35 29.5**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=72,slow=7.5,SNR=3.0					
AKASG			LR	LR	10 56 26.7	
	comp=Z,39nm,19.5s,baz=10.0,slow=36					
FIA0	**FINESS Array S**	**49.13 323**	*eP*	**P**	**10 35 31.4**	**+0.1**
FIA0	**FINESS Array S**	**49.13 323**	*eP*	**P**	**10 35 31.4**	**+0.1**
FINES	**FINESS Array B**	**49.13 323**	*ceP*	**P**	**10 35 31.6**	**+0.3**
FINES				pmax	pmax	
	comp=Z,2.0nm,0.5s					
FINES	**FINESS Array B**	**49.13 323**	P	**P**	**10 35 31.4**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=95,slow=9.3,SNR=12					
ARA0	**ARCESS Array S**	**49.14 334**	*eP*	**P**	**10 35 31.2**	**-0.1**
ARCES	**ARCESS Array B**	**49.14 334**	P	**P**	**10 35 31.2**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=79,slow=7.5,SNR=14					
NB2	**NORSAR Subarra**	**56.24 324**	P	**P**	**10 36 23.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=70,slow=7.4					
NB2	**NORSAR Subarra**	**56.24 324**	P	**P**	**10 36 23.5**	**-0.5**
NB2				pmax	pmax	
	comp=Z,1.0nm,0.5s					
NB200	**NORSAR Array S**	**56.24 324**	*eP*	**P**	**10 36 23.6**	**-0.4**
NOA	**NORSAR Array B**	**56.24 324**	P	**P**	**10 36 23.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=72,slow=7.1,SNR=9.6					
GEC2	**GERESS Array S**	**59.08 310**	*eP*	**P**	**10 36 44.3**	**+0.1**
GEC2	**GERESS Array S**	**59.08 310**	*eP*	**P**	**10 36 44.3**	**+0.1**
GERES	**GERESS Array B**	**59.08 310**	P	**P**	**10 36 44.3**	**+0.1**
	comp=Z,0.3nm,0.2s,baz=64,slow=9.1,SNR=4.5					
GERES			LR	LR	11 03 20.4	
	comp=Z,84nm,19.2s,baz=70,slow=37					
ILAR	**Eielson Array**	**66.60 25**	P	**P**	**10 37 33.0**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=297,slow=5.1,SNR=9.1					
ILAR			LR	LR	11 11 51.5	
	comp=Z,68nm,19.4s,baz=322,slow=41					
WRAB	**Tennant Creek**	**66.92 142**	*eP*	**P**	**10 37 37.0**	**+0.5**
	comp=Z,20nm,1.0s					
WRAB	**Tennant Creek**	**66.92 142**	*eP*	**P**	**10 37 37.0**	**+0.5**
WRAB				pmax	pmax	
	comp=Z,20nm,1.0s					
WR1	**Warramunga Arr**	**66.92 142**	*eP*	**P**	**10 37 34.9**	**-1.6**
	comp=Z,3.8nm,1.0s					
WRA	**Warramunga Arr**	**66.92 142**	*i* P	**P**	**10 37 38.0**	**+1.5**
WRA				pmax	pmax	
	comp=Z,1.0nm,0.8s					
WRA	**Warramunga Arr**	**66.92 142**	P	**P**	**10 37 34.9**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=336,slow=6.6,SNR=5.7					
INK	**Inuvik**	**68.04 18**	*eP*	**P**	**10 37 42.8**	**-0.2**
	comp=Z,2.1nm,1.0s					
INK	**Inuvik**	**68.04 18**	*eP*	**P**	**10 37 42.8**	**-0.2**
INK				pmax	pmax	
	comp=Z,2.0nm,1.0s					
INK	**Inuvik**	**68.04 18**	P	**P**	**10 37 42.8**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=327,slow=6.8,SNR=6.7					
ASAR	**Alice Springs**	**69.89 144**	P	**P**	**10 37 53.4**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=329,slow=6.2,SNR=5.9					
ESDC	**Sonseca Array**	**74.58 308**	P	**P**	**10 38 23.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=47,slow=5.9,SNR=6.4					
YKA	**Yellowknife Ar**	**77.21 15**	P	**P**	**10 38 37.0**	**-0.6**
YKA	**Yellowknife Ar**	**77.21 15**	P	**P**	**10 38 37.0**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=340,slow=5.7,SNR=8.0					
YKB5	**Yellowknife Ar**	**77.21 15**	*eP*	**P**	**10 38 37.0**	**-0.6**
TOA1	**Torodi Ar. Sit**	**86.41 284**	*eP*	**P**	**10 39 25.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**86.41 284**	P	**P**	**10 39 25.0**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=57,slow=6.4,SNR=2.4					

*IDC **28** 10:29:22.1±2.3,23.°69S×67.°84W,h120km±19km,mb3.6/3, mb1 3.6/5,mb1mx3.3/34,mbtmp3.8/5, Error ellipse: s-maj=32.4km s-min=21.6km az=161.0*

*GUC **28** 10:29:22.7±0.6,23.°80S×68.°36W,h141km±7km, ML3.3*

ISC 28 10:29:21.0±1.3,23.°80S±0.°08×67.°97W±0.°10, h118km±11km,n21,σ1s77/33,mb3.5/4,3C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.47**	**324**	P		P	**Pn**	**10 29 49.7**	**+1.4**
	27nm,0.3s,baz=157,slow=9.1,SNR=218								
LVC				S			**Sn**	**10 30 09.9**	**+0.9**
	106nm,0.3s,baz=106,slow=22,SNR=28								
PB15	**IPOC Station P**	**1.50**	**293**	⇑*eP*			**Pn**	**10 29 49.2**	**+0.7**
PB15				*eS*			**Sn**	**10 30 09.4**	**0.0**
PB06	**IPOC Station P**	**1.83**	**306**	⇑*eP*			**Pn**	**10 29 53.0**	**+0.6**
PB06				*eS*			**Sn**	**10 30 16.2**	**-0.2**
PB06				IAML				10 30 19.0	
	comp=N,421nm,0.4s								
PB05	**IPOC Station P**	**2.26**	**294**	*eP*			**Pn**	**10 29 57.6**	**-0.1**
PB05				*eS*			**Sn**	**10 30 24.1**	**-1.8**
PB05				IAML				10 30 31.1	
	comp=N,172nm,0.4s								
PB09	**IPOC Station P**	**2.31**	**329**	*eP*			**Pn**	**10 30 00.2**	**+1.7**
PB09				*eS*			**Sn**	**10 30 28.6**	**+1.4**
PB09				IAML				10 30 33.1	
	comp=N,77nm,0.4s								
PB14	**IPOC Station P**	**2.37**	**249**	*eP*			**Pn**	**10 29 58.9**	**-0.5**
PB14				*eS*			**Sn**	**10 30 26.7**	**-2.0**
PB14				IAML				10 30 28.3	
	comp=E,237nm,0.3s								
PB10	**IPOC Station P**	**2.39**	**276**	*eP*			**Pn**	**10 29 59.0**	**-0.3**
PB10				*eS*			**Sn**	**10 30 25.6**	**-3.1**
PB10				IAML				10 30 36.8	
	comp=E,184nm,0.4s								
PB03	**IPOC Station P**	**2.39**	**316**	⇑*eP*			**Pn**	**10 29 60.0**	**+0.4**
PB03				*eS*			**Sn**	**10 30 28.5**	**-0.6**
PB03				IAML				10 30 30.1	
	comp=E,160nm,0.3s								
PB04	**IPOC Station P**	**2.48**	**306**	*eP*			**Pn**	**10 30 00.8**	**+0.1**
PB04				*eS*			**Sn**	**10 30 29.8**	**-1.3**
PB04				IAML				10 30 32.4	
	comp=E,197nm,0.5s								
PB07	**IPOC Station P**	**2.72**	**319**	*eP*			**Pn**	**10 30 04.1**	**+0.3**
PB07				*i* S			**Sn**	**10 30 36.3**	**-0.3**
PB07				IAML				10 30 42.4	
	comp=E,176nm,0.3s								
PB02	**IPOC Station P**	**3.04**	**324**	*eP*			**Pn**	**10 30 08.2**	**+0.2**
PB01	**IPOC Station P**	**3.08**	**333**	*eP*			**Pn**	**10 30 08.9**	**+0.5**
PB01				IAML				10 30 46.2	
	comp=N,99nm,0.4s								
LPAZ	**La Paz**	**7.47**	**359**	P			**Pn**	**10 31 08.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=162,slow=7.7,SNR=2.8								
LPAZ				S			**Sn**	**10 32 24.7**	**-6.9**
	comp=N,0.1nm,0.3s,baz=126,slow=8.1,SNR=3.5								
SIV	**San Ignacio**	**10.12**	**41**	P			**Pn**	**10 31 42.3**	**-1.0**
	comp=N,1.5nm,0.3s,baz=255,slow=9.9,SNR=21								
SIV				S			**Sn**	**10 33 31.7**	**-3.2**
	comp=N,0.1nm,0.3s,baz=215,slow=21,SNR=1.9								
TXAR	**Lajitas Array**	**63.00**	**325**	P			**P**	**10 39 36.2**	**+0.6**
	comp=N,0.1nm,0.5s,baz=153,slow=8.1,SNR=1.9								
TORD	**Torodi Ar. Bea**	**77.33**	**69**	P			**P**	**10 41 03.2**	**0.0**
	comp=N,0.4nm,0.5s,baz=252,slow=5.3,SNR=6.0								
MAW	**Mawson**	**81.89**	**163**	P			**P**	**10 41 28.3**	**+1.4**
	comp=N,4.3nm,0.7s,baz=233,slow=10,SNR=3.7								
YKA	**Yellowknife Ar**	**93.63**	**340**	P			**P**	**10 42 24.6**	**+1.2**
	comp=N,0.1nm,0.4s,baz=134,slow=4.9,SNR=4.1								
ASAR	**Alice Springs**	**128.26**	**206**	PKP			**PKPdf**	**10 48 14.1**	**-0.2**
	comp=N,0.4nm,0.8s,baz=150,slow=3.9,SNR=2.5								
WRA	**Warramunga Arr**	**131.39**	**208**	PKP			**PKiKP**	**10 48 21.3**	**0.0**
	comp=N,0.2nm,0.4s,baz=152,slow=1.8,SNR=6.4								
MKAR	**Makanchi Array**	**146.93**	**39**	PKPbc			**PKPbc**	**10 48 49.2**	**-0.5**
	comp=N,0.4nm,0.4s,baz=295,slow=4.3,SNR=5.8								

IDC 28 10:41:55.0±5.0,26.°02S×177.°15W,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.4/19,mbtmp3.4/2,Error ellipse: s-maj=283.2km s-min=73.2km az=161.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.27**	**262**	P		P		10 50 06.1	-0.7
	0.2nm,0.5s,baz=110,slow=8.0,SNR=11								
WRA	**Warramunga Arr**	**44.87**	**267**	P		P		10 50 12.0	+0.5
	0.5nm,0.8s,baz=106,slow=7.7,SNR=7.0								
NOA	**NORSAR Array B**	**144.53**	**353**	PKP		PKPdf		11 01 32.5	-0.4
	0.3nm,0.8s,baz=13,slow=4.5,SNR=3.6								

IDC 28 11:00:03.6±5.8,48.°57N×33.°55E,h0km,mb1 2.0/1, mb1mx2.0/36,mbtmp2.0/1,Error ellipse: s-maj=61.3km s-min=46.8km az=37.0,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**3.53**	**309**			Pn	Pn	11 01 00.3	+0.6
	baz=124,slow=18,SNR=1.8								
AKASG				Lg		Lg		11 01 55.1	
	1.1nm,0.3s,baz=128,slow=29,SNR=3.7								
AKASG				Rg		Rg		11 02 13.2	
	0.5nm,0.3s,baz=126,slow=28,SNR=4.3								
I43RU	**DUBNA INFRASON**	**9.47**	**14**	*i*				11 52 30.0	
	baz=191,slow=323,SNR=0.4								
I31KZ	**AKTYUBINSK INF**	**16.00**	**74**	*i*				12 36 00.0	
	baz=274,slow=320,SNR=0.7								

IDC 28 11:03:45.9±1.8,2.°92S×130.°27E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.5/40,mbtmp3.7/4,ML3.7/1,Error ellipse: s-maj=106.1km s-min=25.2km az=71.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.38**	**167**	P		P	Pn	11 07 50.0	0.0
	0.3nm,0.3s,baz=347,slow=11,SNR=18								
WRA				S			Sn	11 10 50.2	-14
	0.1nm,0.3s,baz=346,slow=19,SNR=1.0								
ASAR	**Alice Springs**	**20.92**	**171**	P		P		11 08 30.3	0.0
	2.8nm,0.5s,baz=350,slow=11,SNR=50								
ASAR				S				11 12 18.0	-6.5
	0.3nm,0.8s,baz=348,slow=22,SNR=1.4								
MKAR	**Makanchi Array**	**65.00**	**326**	P		P		11 14 27.2	-0.7
	0.2nm,0.4s,baz=117,slow=8.2,SNR=2.1								
KURBB	**Kurchatov Arra**	**69.21**	**328**	P		P		11 14 55.0	+0.5
	0.5nm,0.3s,baz=128,slow=5.8,SNR=5.4								

*IDC **28** 11:13:53.9±0.9, 11.°46S×164.°92E,h0km,mb4.1/10, mb1 4.2/13,mb1mx4.0/39,mbtmp4.1/13,ML4.0/3,MS3.4/6, Ms1 3.4/6,ms1mx3.0/37,Error ellipse: s-maj=24.5km s-min=20.6km az=114.0*

*NEIC **28** 11:13:54.9±0.8, 11.°43S×165.°05E,h10km,mb4.1/4,Error ellipse: s-maj=33.7km s-min=12.7km az=69.0*

*ISCJB **28** 11:13:57.2±0.5, 11.°67S±0.°06×164.°86E±0.°07,h34km, mb4.1/13,MS3.6/4,Error ellipse: s-maj=11.5km s-min=6.3km az=149.7*

ISC 28 11:13:58.8±0.7,11.°58S±0.°08×164.°92E±0.°10,h34km,n34, σ0s72/28,mb4.1/13,MS3.7/4,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.34**	**293**	Pn		Pn		**11 15 15.5**	**-0.6**
	12nm,0.3s,baz=108,slow=9.6,SNR=3.1								
HNR				Sn			**Sn**	**11 16 16.2**	**-0.2**
	9.2nm,0.3s,baz=150,slow=8.9,SNR=1.5								
HNR				LR		LR		11 17 25.4	
	comp=Z,121nm,20.6s,baz=150,slow=40								
MARNC	**Mare, Loyalty**	**10.29**	**164**	*ePn*			**Pn**	**11 16 22.6**	**-1.5**
DZM	**Mont Dzumac**	**10.54**	**172**	*ePn*			**Pn**	**11 16 28.2**	**+0.5**
	6.7nm,0.3s								
DZM				*eLR*		LR		11 18 54.0	
	comp=Z,153nm,26.2s								
DZM	**Mont Dzumac**	**10.54**	**172**	Pn			**Pn**	**11 16 28.2**	**+0.5**
	1.8nm,0.3s,baz=312,slow=15,SNR=48								
DZM				Sn			**Sn**	**11 18 23.0**	**-1.6**
	0.1nm,0.3s,baz=155,slow=16,SNR=1.1								
DZM				LR		LR		11 20 08.8	
	comp=Z,98nm,18.4s,baz=17,slow=35								
ONTNC	**Ouen Toro**	**10.77**	**172**	*ePn*			**Pn**	**11 16 31.1**	**+0.3**
PINNC	**Pines Island,**	**11.24**	**168**	*ePn*			**Pn**	**11 16 38.4**	**+1.3**
CTA	**Charters Tower**	**19.84**	**242**	P			**Pn**	**11 18 28.1**	**-0.6**
	0.1nm,0.3s,baz=80,slow=11,SNR=3.4								
COEN	**Coen**	**21.34**	**261**	*eP*		P		**11 18 44.5**	**+1.2**
	5.8nm,0.7s								

STKA	**Stephens Creek**	**29.50**	**223**	P			**P**	**11 20 00.3**	**+0.2**
	1.6nm,0.5s,baz=66,slow=5.9,SNR=3.1								
STKA				LR		LR		11 31 07.3	
	comp=Z,134nm,18.2s,baz=25,slow=35								
H11S2	**WAKE ISLAND Hy**	**29.93**	**3**	T			T	11 51 29.0	
	baz=184,slow=76,SNR=9.7								
H11S3	**WAKE ISLAND Hy**	**29.93**	**3**	T			T	11 51 22.3	
	baz=184,slow=76,SNR=8.3								
H11S1	**WAKE ISLAND Hy**	**29.94**	**3**	T			T	11 51 29.9	
	baz=184,slow=76,SNR=9.6								
H11N1	**WAKE ISLAND Hy**	**31.15**	**4**	T			T	11 52 55.7	
	baz=184,slow=76,SNR=9.8								
H11N3	**WAKE ISLAND Hy**	**31.16**	**4**	T			T	11 53 00.8	
	baz=184,slow=76,SNR=8.4								
H11N2	**WAKE ISLAND Hy**	**31.17**	**4**	T			T	11 53 01.5	
	baz=184,slow=76,SNR=7.9								
AS31	**Alice Springs**	**31.83**	**244**	*eP*			**P**	**11 20 20.7**	**-0.1**
	1.0nm,0.8s								
ASAR	**Alice Springs**	**31.84**	**244**	P			**P**	**11 20 20.7**	**-0.1**
	2.4nm,0.8s,baz=67,slow=10,SNR=29								
ASAR				PcP			**PcP**	**11 23 12.1**	**+0.7**
	0.6nm,0.9s,baz=72,slow=3.0,SNR=3.4								
ASAR				LR		LR		11 31 45.5	
	comp=Z,53nm,21.6s,baz=82,slow=34								
RPZ	**Rata Peaks**	**32.46**	**172**	*eP*			**P**	**11 20 26.2**	**+0.2**
	5.3nm,0.8s								
RPZ	**Rata Peaks**	**32.46**	**172**	P			**P**	**11 20 26.9**	**+0.9**
	5.4nm,0.7s,baz=135,slow=2.7,SNR=3.8								
RAR	**Rarotonga**	**35.13**	**110**	LR			LR	11 31 30.0	
	comp=Z,175nm,20.4s,baz=266,slow=30								
BATI	**Baumata**	**40.52**	**268**	LR			LR	11 38 33.9	
	comp=Z,124nm,18.4s,baz=276,slow=36								
PPT2	**Papeete2**	**44.36**	**103**	*e*LR			LR	11 34 25.3	
	comp=Z,67nm,22.5s								
CMAR	**Chiang Mai Arr**	**71.58**	**294**	P			**P**	**11 25 17.2**	**0.0**
	0.7nm,0.3s,baz=101,slow=4.7,SNR=3.5								
QSPA	**South Pole Qui**	**78.43**	**180**	*eP*			**P**	**11 25 56.4**	**+0.3**
	14nm,1.1s								
SONA0	**Songino Array**	**78.62**	**324**	*eP*			**P**	**11 25 57.6**	**+0.3**
SONM	**Songino Array**	**78.62**	**324**	P			**P**	**11 25 57.6**	**+0.3**
	0.7nm,0.8s,baz=132,slow=4.3,SNR=3.9								
ILAR	**Eielson Array**	**84.27**	**19**	P			**P**	**11 26 26.6**	**-0.2**
	0.4nm,0.6s,baz=239,slow=4.9,SNR=13								
NVAR	**Mina Array Bea**	**86.98**	**50**	P			**P**	**11 26 41.8**	**+0.6**
	0.7nm,0.9s,baz=240,slow=7.2,SNR=3.7								
MK01	**Makanchi Array**	**93.34**	**317**	*eP*			**P**	**11 27 10.2**	**-0.3**
MK32	**Makanchi Array**	**93.35**	**317**	*eP*			**P**	**11 27 10.1**	**-0.4**
MKAR	**Makanchi Array**	**93.35**	**317**	P			**P**	**11 27 10.1**	**-0.4**
	1.4nm,0.7s,baz=102,slow=5.1,SNR=12								
ZALV	**Zalesovo Beam**	**93.51**	**324**	P			**P**	**11 27 10.6**	**-0.4**
	0.4nm,0.3s,baz=87,slow=6.1,SNR=3.0								
ZAA1	**Zalesovo Array**	**93.51**	**324**	*eP*			**P**	**11 27 10.6**	**-0.4**
YKA	**Yellowknife Ar**	**95.81**	**27**	P			**P**	**11 27 20.6**	**-0.8**
	0.2nm,0.8s,baz=251,slow=4.0,SNR=3.1								

IDC 28 11:16:43.9±2.5,6.°88S×128.°22E,h0km,mb4.0/1, mb1 3.8/3,mb1mx3.3/37,mbtmp3.6/3,ML3.6/2,MS3.3/2, Ms1 3.2/2,ms1mx2.6/35,Error ellipse: s-maj=283.9km s-min=30.6km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.28**	**156**			Pn	Pn	11 20 06.2	-1.4
	0.3nm,0.3s,baz=330,slow=13,SNR=19								
WRA							Sn	11 22 32.6	-14
	0.5nm,0.3s,baz=333,slow=23,SNR=6.6								
ASAR	**Alice Springs**	**17.57**	**162**	P		P		11 20 51.4	-0.1
	0.2nm,0.3s,baz=348,slow=13,SNR=17								
ASAR				S			Sn	11 23 53.3	-13
	0.0nm,0.3s,baz=354,slow=33,SNR=3.8								
GUMO	**Guam**	**26.21**	**39**	LR		LR		11 34 01.0	
	comp=Z,26nm,18.2s,baz=106,slow=40								
MKAR	**Makanchi Array**	**67.16**	**328**	P		P		11 27 39.7	0.0
	0.8nm,0.5s,baz=115,slow=7.9,SNR=9.1								
BOSA	**Boshof**	**98.00**	**240**	LR		LR		12 12 26.1	
	comp=Z,23nm,18.1s,baz=166,slow=34								

*JMA **28** 11:19:02.5,42.°52N×145.°04E,h45km±1km,M3.3*

*IDC **28** 11:19:05.0±3.4,42.°34N×144.°93E,h60km±26km,mb3.2/6, mb1 3.4/8,mb1mx3.1/52,mbtmp3.5/8,ML3.4/2,MS2.2/1, Ms1 2.2/1,ms1mx1.8/29,Error ellipse: s-maj=26.0km s-min=23.5km az=77.0*

ISC 28 11:19:01.9±1.9,42.°56N±0.°06×145.°03E±0.°07,h24km±13km, n24,σ0s91/24,mb3.5/6,Hokkaido region

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

	baz=58							
UCH				⇑*i*S		**Sb**	**11 20 55.2**	**-0.3**
	baz=58							
AML	**Almayashu**	**1.10**	**324**	⇓P		**Pb**	**11 20 44.1**	**-0.1**
	9.3nm,0.2s,SNR=46							
AML				⇑S		**Sg**	**11 20 58.6**	**0.0**
	10nm,0.3s							
AML	**Almayashu**	**1.10**	**324**	⇑*i*P		**Pb**	**11 20 44.2**	**-0.1**
AML	baz=24			⇑*i*S		**Sg**	**11 20 58.7**	**+0.1**
	baz=24							
NRN	**Naryn**	**1.10**	**79**	⇑*i*P		**Pb**	**11 20 44.1**	**-0.1**
NRN	baz=81			⇑*i*S		**Sb**	**11 20 58.3**	**-0.4**
	baz=81							
ARSB	**Arslanbob**	**1.19**	**275**	⇑*i*P		**Pn**	**11 20 45.6**	**0.0**
ARSB	baz=74			⇑*i*S		**Sb**	**11 21 01.2**	**+0.2**
	baz=74							
AAK	**Ala-Archa**	**1.40**	**358**	⇓P		**Pg**	**11 20 50.1**	**+0.3**
	2.2nm,0.6s							
AAK				⇓S		**Sg**	**11 21 07.3**	**-0.8**
	3.0nm,0.5s							
AAK	**Ala-Archa**	**1.40**	**358**	⇓*i*P		**Pb**	**11 20 49.3**	**+0.2**
AAK	baz=58			⇓*i*S		**Sg**	**11 21 07.8**	**-0.3**
	baz=58							
KBK	**Karagaybulak**	**1.45**	**12**	⇑P		**Pg**	**11 20 50.8**	**0.0**
	6.5nm,0.1s,SNR=5.6							
KBK				⇓S		**Sg**	**11 21 09.8**	**+0.1**
	13nm,0.1s							
KBK	**Karagaybulak**	**1.45**	**12**	⇑*i*P		**Pb**	**11 20 50.1**	**+0.1**
KBK	baz=12			⇑*i*S		**Sg**	**11 21 09.1**	**-0.5**
	baz=12							
EKS2	**Erkin-Say**	**1.54**	**338**	⇑P		**Pb**	**11 20 52.1**	**+0.6**
	0.9nm,0.1s,SNR=6.8							
EKS2	**Erkin-Say**	**1.54**	**338**	⇓*i*P		**Pb**	**11 20 51.8**	**+0.3**
EKS2	baz=38			⇓*i*S		**Sg**	**11 21 12.0**	**-0.5**
	baz=38							
ULHL	**Ulahol**	**1.61**	**51**	⇓P		**Pb**	**11 20 53.3**	**+0.5**
	4.2nm,0.1s,SNR=19							
ULHL	**Ulahol**	**1.61**	**51**	⇑*i*P		**Pb**	**11 20 53.2**	**+0.4**
ULHL	baz=52			⇑*i*S		**Sg**	**11 21 14.2**	**-0.7**
	baz=52							
BOOM	**Boomskoye usch**	**1.62**	**39**	⇓*i*P		**Pb**	**11 20 53.4**	**+0.4**
BOOM	baz=40			⇓*i*S		**Sg**	**11 21 14.4**	**-0.8**
	baz=40							
CHMS	**Chumysh**	**1.77**	**5**	⇑*i*P		**Pb**	**11 20 55.5**	**+0.2**
CHMS	baz=5.0			⇑*i*S		**Sg**	**11 21 18.6**	**-1.2**
	baz=5.0							
TKM2	**Tokmak 2**	**1.85**	**24**	⇓Pg		**Pg**	**11 20 58.8**	**+0.3**
	1.2nm,0.3s							
TKM2				⇑Lg		Lg	11 21 24.2	
	2.8nm,0.3s							
TKM2	**Tokmak 2**	**1.85**	**24**	⇑*i*P		**Pb**	**11 20 57.1**	**+0.2**
TKM2	baz=25			⇑*i*S		**Sg**	**11 21 21.1**	**-1.4**
	baz=25							
KST	**Kastek**	**2.08**	**30**	Pg		**Pg**	**11 21 03.0**	**0.0**
	6.1nm,0.4s							
KST				Lg		Lg	11 21 31.8	
	8.8nm,0.6s							
KST	**Kastek**	**2.08**	**30**	*e*P		**Pg**	**11 21 02.6**	**-0.3**
	6.1nm,0.4s							
KST				*e*S		**Sg**	**11 21 31.8**	**+1.8**
	6.3nm,0.4s							
KDJ	**Kajisay**	**2.16**	**65**	⇑*i*P		**Pb**	**11 21 01.5**	**-0.6**
KDJ	baz=66			⇑*i*S		**Sb**	**11 21 28.7**	**-0.2**
	baz=66							
DGS	**Degeres**	**2.20**	**24**	Pg		**Pg**	**11 21 04.3**	**-0.8**
	9.0nm,0.3s							
DGS				Lg		Lg	11 21 34.4	
	10.0nm,0.5s							
DGS	**Degeres**	**2.20**	**24**	*e*P		**Pg**	**11 21 04.3**	**-0.8**
	9.0nm,0.3s							
DGS				*e*S		**Sg**	**11 21 34.4**	**+0.8**
	9.5nm,0.4s							
IZV	**Izvestkoviy**	**2.36**	**40**	Pg		**Pb**	**11 21 06.7**	**+1.2**
	2.7nm,0.4s							
IZV				Lg		Lg	11 21 38.5	
	6.7nm,0.3s							
IZV	**Izvestkoviy**	**2.36**	**40**	*e*P		**Pb**	**11 21 06.7**	**+1.2**
	2.8nm,0.5s							
IZV				*e*S		**Sg**	**11 21 38.5**	**-0.3**
	6.0nm,0.3s							
TNSS	**Tian-Shan**	**2.53**	**44**	Pg		**Pb**	**11 21 09.9**	**+1.4**
	5.4nm,0.4s							
TNSS				Lg		Lg	11 21 44.1	
	4.5nm,0.3s							
TNSS	**Tian-Shan**	**2.53**	**44**	*e*P		**Pb**	**11 21 09.9**	**+1.4**
	5.4nm,0.4s							
TNSS				*e*S		**Sg**	**11 21 44.1**	**-0.1**
	5.2nm,0.3s							
MDOK	**Medeo**	**2.67**	**43**	Pg		**Pb**	**11 21 12.4**	**+1.6**
	3.6nm,0.3s							
MDOK				Lg		Lg	11 21 47.5	
	3.7nm,0.3s							
MDOK	**Medeo**	**2.67**	**43**	*e*P		**Pb**	**11 21 12.4**	**+1.6**
	3.9nm,0.3s							
MDOK				*e*S		**Sg**	**11 21 48.3**	**-0.5**
	3.7nm,0.3s							
KOTS	**Kotyrbulak**	**2.75**	**43**	Pg		**Pb**	**11 21 14.3**	**+2.0**
	5.0nm,0.5s							
KOTS				Lg		Lg	11 21 51.2	
	13nm,0.5s							
KOTS	**Kotyrbulak**	**2.75**	**43**	*e*P		**Pb**	**11 21 14.2**	**+1.9**
	5.0nm,0.5s							
KOTS				*e*S		**Sg**	**11 21 51.2**	**-0.3**
	14nm,0.5s							
KTBS	**Karatobe**	**2.93**	**32**	Pg		**Pb**	**11 21 16.2**	**+1.0**
	1.0nm,0.2s							
KTBS				Lg		Lg	11 21 55.4	
	11nm,0.3s							
KTBS	**Karatobe**	**2.93**	**32**	*e*P		**Pb**	**11 21 16.2**	**+1.0**
	1.0nm,0.2s							
KTBS				*e*S		**Sg**	**11 21 55.3**	**-1.8**
	11nm,0.3s							
KUU	**Kurty**	**2.96**	**26**	Pg		**Pb**	**11 21 16.1**	**+0.4**
	1.1nm,0.1s							
KUU				Lg		Lg	11 21 55.7	
	9.5nm,0.5s							
KUU	**Kurty**	**2.96**	**26**	*e*P		**Pb**	**11 21 17.1**	**+1.4**
	2.4nm,0.1s							
KUU				*e*S		**Sg**	**11 21 56.3**	**-1.8**
	9.5nm,0.5s							
CHKK	**Chushkaly**	**3.17**	**34**	Pg		**Pb**	**11 21 21.2**	**+2.0**
	1.5nm,0.2s							
CHKK				Lg		Lg	11 22 03.3	
	6.6nm,0.3s							
CHKK	**Chushkaly**	**3.17**	**34**	*e*P		**Pb**	**11 21 21.0**	**+1.7**
	1.5nm,0.2s							
CHKK				*e*S		**Sg**	**11 22 03.1**	**-1.7**
	6.6nm,0.3s							
SATY	**Saty**	**3.39**	**56**	Pg		**Pb**	**11 21 23.1**	**0.0**
	3.2nm,0.3s							
SATY				Lg		Lg	11 22 08.0	
	5.7nm,0.2s							
SATY	**Saty**	**3.39**	**56**	*e*P		**Pb**	**11 21 23.6**	**+0.6**
	1.8nm,0.2s							
SATY				*e*S		**Sb**	**11 22 07.9**	**+3.6**
	5.6nm,0.2s							
IUG	**Iuzhnay**	**3.51**	**286**	*e*P		**Pb**	**11 21 26.7**	**+1.7**
	8.2nm,0.4s							
IUG				*e*S		**Sg**	**11 22 12.7**	**-3.0**
	8.5nm,0.4s							
KK31	**Karatay Array**	**3.54**	**303**	⇑Pg		**Pb**	**11 21 27.6**	**+2.1**
	0.2nm,0.3s,baz=116,slow=17,SNR=5.8							
KK31				Lg		Lg	11 22 14.7	
	1.5nm,0.7s,baz=123,slow=30,SNR=6.8							

*IDC **28** 11:29:49.4±1.3, 12°.19S×165°.95E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/46, mbtmp3.9/8, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/28, Error ellipse: s-maj=33.2km s-min=27.0km az=128.0*
*ISCJB **28** 11:29:52.5±0.9, 12°.3S±0°.1×165°.9E±0°.1, h30km, mb3.7/6, MS3.4/1, Error ellipse: s-maj=20.1km s-min=11.3km az=42.4*
ISC 28 11:29:54.0±1.0, **12°.2S**±0°.1×**166°.0E**±0°.1, **h30**km, **n10, σ0s68/10, mb3.6/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.52**	**295**	Pn	**Pn**	**11 31 27.5**	**-0.5**
	15nm,0.3s,baz=154,slow=3.4,SNR=4.1						
HNR				Sn	**Sn**	**11 32 42.2**	**+0.8**
	9.0nm,0.3s,baz=310,slow=17,SNR=1.7						
DZM	**Mont Dzumac**	**9.81**	**177**	Pn	**Pn**	**11 32 13.6**	**+0.4**
	0.3nm,0.3s,baz=313,slow=23,SNR=6.3						
WRA	**Warramunga Arr**	**31.30**	**252**	P	**P**	**11 36 10.8**	**-1.0**
	0.9nm,1.3s,baz=84,slow=8.7,SNR=3.3						
ASAR	**Alice Springs**	**32.47**	**245**	P	**P**	**11 36 21.9**	**-0.2**
	0.6nm,0.7s,baz=68,slow=9.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**39.30**	**256**	LR	LR	11 52 07.2	
	comp=Z,57nm,19.3s,baz=90,slow=34						
SONM	**Songino Array**	**79.73**	**324**	P	**P**	**11 41 59.6**	**+0.4**
	0.2nm,0.4s,baz=108,slow=4.7,SNR=2.9						
ILAR	**Eielson Array**	**84.55**	**18**	P	**P**	**11 42 23.7**	**-0.2**
	0.2nm,0.7s,baz=224,slow=3.8,SNR=2.2						
MKAR	**Makanchi Array**	**94.51**	**317**	P	**P**	**11 43 12.5**	**+0.9**
	0.9nm,0.6s,baz=94,slow=6.9,SNR=8.2						
ZALV	**Zalesovo Beam**	**94.62**	**324**	P	**P**	**11 43 11.9**	**0.0**
	0.4nm,0.4s,baz=114,slow=3.5,SNR=3.2						
ARCES	**ARCESS Array B**	**117.51**	**345**	PKP	**PKPdf**	**11 48 35.8**	**-0.5**
	1.8nm,0.8s,baz=70,slow=3.0,SNR=4.2						

*IDC **28** 11:30:46.2±0.8, 11°.56S×164°.98E, h0km, mb4.1/16, mb1 4.3/19, mb1mx4.1/46, mbtmp4.1/19, ML4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/27, Error ellipse: s-maj=22.5km s-min=16.7km az=122.0*
*NEIC **28** 11:30:48.1±0.5, 11°.53S×164°.97E, h10km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=6.5km az=67.0*
*ISCJB **28** 11:30:49.6±0.4, 11°.67S±0°.05×164°.92E±0°.08, h34km, mb4.1/21, Error ellipse: s-maj=12.0km s-min=6.2km az=163.1*
ISC 28 11:30:51.4±0.6, **11°.59S**±0°.07×**164°.9E**±0°.1, **h34**km, **n44, σ0s61/38, mb4.1/21, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.36**	**293**	*e*Pn	**Pn**	**11 32 09.2**	**+0.2**
HNR	**Honiara**	**5.36**	**293**	Pn	**Pn**	**11 32 08.1**	**-0.9**
	13nm,0.3s,baz=121,slow=19,SNR=3.1						
MARNC	**Mare, Loyalty**	**10.27**	**164**	*e*Pn	**Pn**	**11 33 16.6**	**+0.2**
DZM	**Mont Dzumac**	**10.52**	**172**	*e*Pn	**Pn**	**11 33 20.2**	**+0.3**
	6.9nm,0.2s						
DZM				*e*LR	LR	11 35 45.5	
	comp=Z,156nm,27.6s						
DZM	**Mont Dzumac**	**10.52**	**172**	*e*Pn	**Pn**	**11 33 20.3**	**+0.3**
DZM	**Mont Dzumac**	**10.52**	**172**	Pn	**Pn**	**11 33 20.0**	**+0.1**
	1.7nm,0.3s,baz=328,slow=12,SNR=28						
DZM				Sn	**Sn**	**11 35 16.0**	**-0.7**
	baz=230,slow=8.7,SNR=1.5						
DZM				LR	LR	11 36 50.9	
	comp=Z,130nm,19.1s,baz=338,slow=35						
ONTNC	**Ouen Toro**	**10.76**	**172**	*e*Pn	**Pn**	**11 33 23.3**	**+0.3**
PINNC	**Pines Island,**	**11.22**	**168**	*e*Pn	**Pn**	**11 33 30.4**	**+1.0**
CTA	**Charters Tower**	**19.85**	**242**	P	**Pn**	**11 35 21.2**	**-0.1**
	0.2nm,0.3s,baz=34,slow=14,SNR=3.3						
BKZ	**Black Stump Fm**	**29.32**	**161**	*e*P	**P**	**11 36 49.9**	**-1.0**
	8.0nm,1.0s						
STKA	**Stephens Creek**	**29.50**	**223**	P	**P**	**11 36 52.7**	**+0.1**
	2.0nm,0.8s,baz=62,slow=12,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**29.94**	**3**	T	T	12 08 18.0	
	baz=184,slow=76,SNR=12						
H11S3	**WAKE ISLAND Hy**	**29.94**	**3**	T	T	12 08 19.4	
	baz=184,slow=76,SNR=8.9						
H11S1	**WAKE ISLAND Hy**	**29.96**	**3**	T	T	12 08 18.9	
	baz=184,slow=76,SNR=11						
WR1	**Warramunga Arr**	**30.55**	**250**	*e*P	**P**	**11 37 01.6**	**-0.4**
	4.5nm,1.1s						
WRA	**Warramunga Arr**	**30.55**	**250**	P	**P**	**11 37 01.6**	**-0.4**
	2.6nm,0.8s,baz=80,slow=9.2,SNR=11						
H11N1	**WAKE ISLAND Hy**	**31.17**	**4**	T	T	12 09 54.3	
	baz=184,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**31.17**	**4**	T	T	12 09 46.0	
	baz=184,slow=76,SNR=12						
H11N2	**WAKE ISLAND Hy**	**31.18**	**4**	T	T	12 09 46.6	
	baz=184,slow=76,SNR=8.2						
AS31	**Alice Springs**	**31.84**	**244**	*e*P	**P**	**11 37 12.8**	**-0.6**
	1.1nm,0.9s						
ASAR	**Alice Springs**	**31.84**	**244**	P	**P**	**11 37 12.8**	**-0.6**
	2.3nm,0.8s,baz=71,slow=9.5,SNR=12						
RPZ	**Rata Peaks**	**32.44**	**172**	P	**P**	**11 37 18.2**	**-0.1**
	6.6nm,0.8s,baz=1.2,slow=3.5,SNR=4.1						
SIJI	**Sorong**	**35.08**	**285**	P	**P**	**11 37 41.8**	**+0.1**
	8.4nm,0.4s,baz=208,slow=2.1,SNR=8.4						
FITZ	**Fitzroy Crossi**	**38.48**	**256**	*e*P	**P**	**11 38 10.4**	**-0.1**
	6.6nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.48**	**256**	P	**P**	**11 38 10.4**	**-0.1**
	2.6nm,0.8s,baz=108,slow=9.6,SNR=3.2						
PPT2	**Papeete2**	**44.34**	**103**	*e*LR	LR	11 51 42.7	
	comp=Z,74nm,23.0s						
MJAR	**Matsushiro Arr**	**54.09**	**333**	P	**P**	**11 40 12.0**	**-0.9**
	1.3nm,0.7s,baz=167,slow=9.1,SNR=5.2						
MAJO	**Matsushiro**	**54.10**	**333**	*e*P	**P**	**11 40 12.0**	**-1.0**
KLR	**Kul'dur**	**67.24**	**337**	P	**P**	**11 41 42.4**	**+0.1**
	1.2nm,0.8s,baz=137,slow=5.2,SNR=4.4						
CMAR	**Chiang Mai Arr**	**71.61**	**294**	P	**P**	**11 42 10.4**	**+0.5**
	0.4nm,0.4s,baz=134,slow=5.2,SNR=2.4						
SEY	**Seymchan**	**74.93**	**354**	P	**P**	**11 42 29.6**	**+1.1**
	1.0nm,0.9s,baz=157,slow=16,SNR=3.7						
QSPA	**South Pole Qui**	**78.42**	**180**	*e*P	**P**	**11 42 49.7**	**+1.2**
	7.2nm,1.0s						
SONA0	**Songino Array**	**78.64**	**324**	*e*P	**P**	**11 42 50.9**	**+0.9**
SONM	**Songino Array**	**78.64**	**324**	P	**P**	**11 42 50.9**	**+0.9**
	0.9nm,0.8s,baz=140,slow=7.0,SNR=6.0						
ILAR	**Eielson Array**	**84.28**	**19**	P	**P**	**11 43 19.0**	**-0.3**
	0.7nm,0.7s,baz=234,slow=5.0,SNR=5.7						
NVAR	**Mina Array Bea**	**86.98**	**50**	P	**P**	**11 43 32.9**	**-0.7**
	0.1nm,0.3s,baz=226,slow=7.1,SNR=2.9						
MK01	**Makanchi Array**	**93.36**	**317**	*e*P	**P**	**11 44 02.7**	**-0.4**
MK32	**Makanchi Array**	**93.38**	**317**	*e*P	**P**	**11 44 03.7**	**+0.5**
MKAR	**Makanchi Array**	**93.38**	**317**	P	**P**	**11 44 03.7**	**+0.5**
	1.8nm,0.7s,baz=99,slow=6.8,SNR=9.8						
ZALV	**Zalesovo Beam**	**93.53**	**324**	P	**P**	**11 44 03.5**	**-0.2**
	1.6nm,0.9s,baz=64,slow=4.1,SNR=5.1						
ZAA1	**Zalesovo Array**	**93.53**	**324**	*e*P	**P**	**11 44 03.5**	**-0.2**
MAKZ	**Makanchi**	**93.59**	**317**	*e*P	**P**	**11 44 04.5**	**+0.4**
	4.4nm,1.1s						
YKA	**Yellowknife Ar**	**95.82**	**27**	P	**P**	**11 44 13.3**	**-0.6**
	0.2nm,0.7s,baz=259,slow=4.5,SNR=4.3						
ESDC	**Sonseca Array**	**150.35**	**343**	PKPbc	**PKiKP**	**11 50 40.6**	**+0.2**
	0.2nm,0.4s,baz=54,slow=2.4,SNR=3.2						

MEX 28 11:31:23.4±0.4, **16°.61N**×**98°.39W, h7**km±6km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.33**	**130**	*i* P	Pg	11 31 29.3	-0.5
PNIG				*e*S	Sg	11 31 34.5	+0.3

IDC 28 11:44:11.7±2.7, **6°.55S**×**130°.04E, h47**km±42km, **mb3.2**/1, **mb1 3.4**/5, **mb1mx3.1**/49, **mbtmp3.4**/5, **ML3.0**/4, **Error ellipse: s-maj=82.0km s-min=25.4km az=92.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.77**	**12**	P	Pn	11 45 34.6	-0.3
	0.8nm,0.3s,baz=198,slow=20,SNR=8.3						
SIJI				S	Sn	11 46 34.0	-5.9
	0.5nm,0.3s,baz=295,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**12.26**	**200**	P	Pn	11 47 04.8	+1.1
	0.1nm,0.3s,baz=27,slow=13,SNR=1.1						
FITZ				S	Sn	11 49 13.8	-5.1
	0.0nm,0.3s,baz=12,slow=21,SNR=1.5						
WRA	**Warramunga Arr**	**13.96**	**163**	P	Pn	11 47 26.5	-0.4
	0.1nm,0.3s,baz=342,slow=13,SNR=2.7						
WRA				S	Sn	11 49 53.6	-6.8
	0.1nm,0.3s,baz=347,slow=25,SNR=6.6						
ASAR	**Alice Springs**	**17.42**	**168**	P	Pn	11 48 10.8	-0.7
	0.0nm,0.3s,baz=352,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**67.87**	**327**	P	P	11 55 05.4	+0.1
	0.2nm,0.5s,baz=137,slow=7.1,SNR=1.4						

*IDC **28** 11:44:14.5±0.7, 23°.61N×143°.77E, h0km, mb3.7/11, mb1 3.9/14, mb1mx3.8/60, mbtmp3.7/14, ML3.3/3, Error ellipse: s-maj=25.9km s-min=16.8km az=86.0*
*ISCJB **28** 11:44:17.2±0.7, 23°.69N±0°.08×143°.7E±0°.2, h28km, mb3.6/11, Error ellipse: s-maj=21.6km s-min=9.8km az=163.6*
ISC 28 11:44:19.0±0.8, **23°.7N**±0°.1×**143°.7E**±0°.2, **h28**km, **n15, σ0s85/16, mb3.8/11, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**3.65**	**339**	Pn	**Pn**	**11 45 13.9**	**+0.3**
	7.1nm,0.3s,baz=5.8,slow=22,SNR=8.5						
JCJ				Sn	**Sn**	**11 45 54.2**	**-1.6**
	11nm,0.3s,baz=289,slow=21,SNR=4.8						
MJAR	**Matsushiro Arr**	**13.65**	**341**	Pn	**Pn**	**11 47 29.9**	**-0.9**
	0.0nm,0.3s,baz=152,slow=11,SNR=3.7						
KSRS	**Korea Array**	**19.26**	**319**	P	**Pn**	**11 48 42.8**	**+0.4**
	0.1nm,0.3s,baz=130,slow=11,SNR=5.1						
KLR	**Kul'dur**	**27.17**	**343**	P	**P**	**11 50 01.3**	**+1.4**
	1.8nm,0.7s,baz=161,slow=8.8,SNR=9.4						
PETK	**Petropavlovsk-**	**31.24**	**16**	P	**P**	**11 50 37.0**	**+0.9**
	4.6nm,1.0s,baz=197,slow=4.5,SNR=3.0						
SONM	**Songino Array**	**38.13**	**319**	P	**P**	**11 51 36.2**	**+0.4**
	0.2nm,0.5s,baz=125,slow=9.0,SNR=1.9						
WRA	**Warramunga Arr**	**44.32**	**193**	P	**P**	**11 52 25.5**	**-1.2**
	0.8nm,0.6s,baz=12,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**48.02**	**192**	P	**P**	**11 52 55.4**	**-0.5**
	0.4nm,0.6s,baz=16,slow=13,SNR=12						
MKAR	**Makanchi Array**	**53.71**	**312**	P	**P**	**11 53 38.9**	**+0.4**
	0.2nm,0.3s,baz=81,slow=8.9,SNR=3.8						
ILAR	**Eielson Array**	**60.06**	**28**	P	**P**	**11 54 22.6**	**-0.6**
	0.7nm,0.9s,baz=233,slow=7.6,SNR=7.4						
YKA	**Yellowknife Ar**	**74.48**	**28**	P	**P**	**11 55 54.8**	**+0.2**
	0.4nm,0.6s,baz=292,slow=5.9,SNR=11						
KBZ	**Khabaz**	**81.32**	**314**	P	**P**	**11 56 33.6**	**+0.7**
	1.6nm,0.8s,baz=90,slow=3.0,SNR=3.2						
NVAR	**Mina Array Bea**	**81.55**	**52**	P	**P**	**11 56 34.4**	**-0.2**
	0.1nm,0.4s,baz=287,slow=6.5,SNR=2.5						
NOA	**NORSAR Array B**	**87.26**	**339**	P	**P**	**11 57 02.3**	**-0.5**
	0.8nm,1.0s,baz=50,slow=4.4,SNR=3.1						
LPAZ	**La Paz**	**149.26**	**82**	PKPbc	**PKPbc**	**12 04 06.6**	**0.0**
	0.5nm,0.5s,baz=263,slow=3.4,SNR=2.6						

*IDC **28** 11:52:52.3±4.7, 21°.03S×178°.39W, h522km±49km, mb3.4/8, mb1 3.5/10, mb1mx3.2/33, mbtmp4.3/10, Error ellipse: s-maj=33.3km s-min=19.5km az=57.0*
*ISCJB **28** 11:52:56.1±1.0, 21°.2S±0°.2×178°.6W±0°.2, h579km, mb3.9/8, Error ellipse: s-maj=21.7km s-min=19.9km az=164.4*
ISC 28 11:52:57.3±1.0, **21°.2S**±0°.2×**178°.6W**±0°.2, **h579**km, **n13, σ1s03/14, mb4.0/8, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.90**	**264**	P	**P**	**11 55 54.2**	**-1.4**
	0.2nm,0.3s,baz=90,slow=20,SNR=3.4						
URZ	**Urewera**	**17.42**	**191**	P	**P**	**11 56 26.6**	**-1.8**
	1.3nm,0.3s,baz=262,slow=2.6,SNR=13						
CTA	**Charters Tower**	**32.83**	**265**	P	**P**	**11 58 44.8**	**+0.3**
	2.3nm,0.3s,baz=72,slow=8.3,SNR=4.4						
PMG	**Port Moresby**	**34.92**	**284**	P	**P**	**11 59 02.2**	**+0.3**
	9.0nm,0.7s,baz=69,slow=14,SNR=2.9						
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**12 00 13.8**	**+0.9**
	3.0nm,0.6s,baz=95,slow=7.9,SNR=60						
ASAR				PcP	**PcP**	**12 01 47.9**	**+1.3**
	0.2nm,0.4s,baz=92,slow=4.7,SNR=4.3						
WRA	**Warramunga Arr**	**43.92**	**263**	P	**P**	**12 00 14.3**	**+0.3**
	0.9nm,0.3s,baz=94,slow=6.7,SNR=141						
SIJI	**Sorong**	**52.83**	**286**	P	**P**	**12 01 20.8**	**+0.5**
	6.6nm,0.7s,baz=104,slow=19,SNR=3.0						
QSPA	**South Pole Qui**	**68.90**	**180**	P	**P**	**12 03 06.0**	**+1.3**
	2.2nm,0.9s,baz=42,slow=12,SNR=6.1						
SEY	**Seymchan**	**86.89**	**347**	P	**P**	**12 04 40.3**	**-0.5**
	0.6nm,0.3s,baz=146,slow=15,SNR=5.4						
ILAR	**Eielson Array**	**89.10**	**13**	P	**P**	**12 04 50.9**	**-0.2**
	0.2nm,0.5s,baz=216,slow=5.0,SNR=3.4						
BVAR	**Borovoye Array**	**119.20**	**320**	PKP	**PKiKP**	**12 10 41.4**	**+0.4**
	0.4nm,0.3s,baz=64,slow=3.4,SNR=3.6						
AKASG	**Malin Array Be**	**143.30**	**330**	PKP	**PKPdf**	**12 11 24.9**	**-1.2**
	0.6nm,0.4s,baz=36,slow=3.6,SNR=6.4						
BRTR	**Keskin Array B**	**146.84**	**311**	PKPbc	**PKPbc**	**12 11 35.4**	**-0.2**
	0.5nm,0.4s,baz=90,slow=4.3,SNR=3.0						

*ISCJB **28** 12:07:37.0±1.0, 17°.8S±0°.3×178°.6W±0°.2, h600km, mb4.2/14, Error ellipse: s-maj=39.4km s-min=11.8km az=150.6*
*IDC **28** 12:07:38.7±4.6, 17°.86S×178°.56W, h611km±57km, mb3.6/13, mb1 3.8/14, mb1mx3.3/45, mbtmp4.5/14, Error ellipse: s-maj=36.2km s-min=22.9km az=153.0*
ISC 28 12:07:37.2±1.1, **17°.9S**±0°.3×**178°.5W**±0°.2, **h600**km, **n28, σ1s11/28, mb4.1/14, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.78**	**251**	P	**P**	**12 10 43.9**	**+0.4**
	0.7nm,0.3s,baz=79,slow=19,SNR=6.4						
CTA	**Charters Tower**	**33.39**	**260**	P	**P**	**12 13 27.8**	**-0.1**
	3.4nm,0.4s,baz=100,slow=12,SNR=10.0						
PMG	**Port Moresby**	**34.39**	**280**	P	**P**	**12 13 37.4**	**+1.1**
	24nm,0.8s,baz=84,slow=5.2,SNR=7.6						

AKCD				*i* S		**Sb**	**12 08 14.1**	**+0.4**
AKCD				IAML_P				
	comp=Z,1μm,0.1s							
HEKM	**Malatya_Hekimh**	**0.47**	**46**	*i* P		**Pb**	**12 08 07.8**	**-0.5**
HEKM				*i* S		**Sb**	**12 08 15.5**	**-0.4**
HEKM				IAML_P				
	comp=Z,2μm,0.1s							
CUKAN	**kangal_SIVAS**	**0.77**	**357**	*i* P		**Pg**	**12 08 12.0**	**+0.4**
KEMA	**Kemaliye**	**1.04**	**46**	*i* P		**Pg**	**12 08 15.7**	**-1.2**
KEMA				*i* S		**Sb**	**12 08 33.1**	**+1.0**
GZT	**Gaziantep**	**1.19**	**178**	*i* P		**Pn**	**12 08 21.3**	**+0.3**
GZT				*i* S		**Sn**	**12 08 38.0**	**+0.2**
GZT				IAML_P				
	comp=Z,329nm,0.2s							
HCB	**Kahramanmara**	**1.30**	**202**	*i* P		**Pb**	**12 08 23.9**	**+1.7**
HCB				IAML_P				
	comp=Z,222nm,0.1s							
BNN	**Bunyan**	**1.34**	**283**	PN		**Pb**	**12 08 22.7**	**-0.3**
SVSK	**Karacayir**	**1.42**	**344**	PN		**Pg**	**12 08 24.5**	**+0.3**
KOZT	**Kozan**	**1.71**	**232**	PN		**Pn**	**12 08 27.8**	**-0.1**

*IDC **28** 12:15:07.9±0.7,23°.64N×143°.79E, h0km, mb4.1/20, mb1 4.3/23, mb1mx4.1/52, mbtmp4.1/23, ML3.8/3, MS3.0/11, Ms1 3.1/11, ms1mx2.9/39, Error ellipse: s-maj=22.0km s-min=13.9km az=87.0*

*ISCJB **28** 12:15:10.7±0.4,23°.69N±0°.05×143°.67E±0°.10, h28km, mb4.2/30, MS3.1/8, Error ellipse: s-maj=13.3km s-min=6.4km az=163.5*

*NEIC **28** 12:15:13.5±1.2,23°.65N×143°.71E, h35km±4km, mb4.3/13, Error ellipse: s-maj=24.2km s-min=8.5km az=86.0*

ISC 28 12:15:12.5±0.7,23°.69N±0°.08×143°.7E±0°.1, h28km, n55, σ0s61/50, mb4.3/30, MS3.1/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.67**	**338**	*e*Pn		**Pn**	**12 16 07.3**	**0.0**
CBIJ				*e*Sn		**Sn**	**12 16 48.7**	**-0.9**
JCJ	**Chichijima**	**3.67**	**338**	P		**Pn**	**12 16 07.3**	**0.0**
	30nm,0.3s,baz=15,slow=22,SNR=22							
JCJ				Sn		**Sn**	**12 16 48.7**	**-0.9**
	41nm,0.3s,baz=292,slow=23,SNR=9.4							
JHJ	**Hachijo jima 2**	**10.01**	**341**	LR		LR	12 21 16.6	
	comp=Z,58nm,18.0s,baz=360,slow=37							
GUMO	**Guam**	**10.11**	**174**	LR		LR	12 20 25.2	
	comp=Z,29nm,21.3s,baz=52,slow=32							
MJAR	**Matsushiro Arr**	**13.66**	**341**	Pn		**Pn**	**12 18 22.9**	**-1.5**
	0.2nm,0.3s,baz=162,slow=11,SNR=9.0							
MJAR				LR		LR	12 23 33.0	
	comp=Z,44nm,19.9s,baz=175,slow=37							
MAJO	**Matsushiro**	**13.66**	**341**	*e*Pn		**Pn**	**12 18 24.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**13.67**	**341**	*e*Pn		**Pn**	**12 18 24.9**	**+0.4**
KSRS	**Korea Array**	**19.28**	**319**	P		**P**	**12 19 35.3**	**+0.3**
	0.2nm,0.3s,baz=134,slow=12,SNR=15							
KS01	**Wonju Array Si**	**19.31**	**319**	*e*P		**Pn**	**12 19 37.1**	**+0.5**
ASAJ	**Asahikawa**	**20.40**	**358**	LR		LR	12 27 15.0	
	comp=Z,34nm,20.8s,baz=180,slow=36							
USRK	**Ussuriysk Ar.**	**22.61**	**338**	P		**P**	**12 20 10.6**	**-0.3**
	1.9nm,0.8s,baz=154,slow=8.0,SNR=4.2							
DAV	**Davao City (W)**	**24.01**	**229**	LR		LR	12 28 39.3	
	comp=Z,68nm,20.0s,baz=350,slow=34							
KLR	**Kul'dur**	**27.18**	**343**	P		**P**	**12 20 54.5**	**+0.9**
	7.4nm,0.7s,baz=153,slow=8.5,SNR=25							
KLR				LR		LR	12 31 51.8	
	comp=Z,30nm,18.4s,baz=122,slow=37							
PETK	**Petropavlovsk-**	**31.23**	**16**	LR		LR	12 37 08.3	
	comp=Z,20nm,18.2s,baz=166,slow=42							
SONA0	**Songino Array**	**38.15**	**319**	*e*P		**P**	**12 22 29.3**	**-0.1**
SONM	**Songino Array**	**38.15**	**319**	P		**P**	**12 22 29.3**	**-0.1**
	0.7nm,0.6s,baz=104,slow=4.8,SNR=5.9							
SEY	**Seymchan**	**39.66**	**6**	P		**P**	**12 22 42.1**	**+0.4**
	0.3nm,0.3s,baz=154,slow=6.3,SNR=3.6							
CMAR	**Chiang Mai Arr**	**41.98**	**272**	P		**P**	**12 23 02.1**	**+0.7**
	0.7nm,0.4s,baz=54,slow=6.9,SNR=6.6							
CMAR				LR		LR	12 41 05.8	
	comp=Z,26nm,18.2s,baz=192,slow=37							
WR1	**Warramunga Arr**	**44.32**	**193**	*e*P		**P**	**12 23 19.6**	**-0.5**
	4.9nm,0.9s							
WRA	**Warramunga Arr**	**44.32**	**193**	P		**P**	**12 23 19.6**	**-0.5**
	1.9nm,0.8s,baz=17,slow=9.5,SNR=20							
ASAR	**Alice Springs**	**48.03**	**192**	P		**P**	**12 23 48.3**	**-1.0**
	0.4nm,0.5s,baz=15,slow=12,SNR=11							
ZALV	**Zalesovo Beam**	**52.98**	**321**	P		**P**	**12 24 26.1**	**-0.4**
	1.9nm,0.6s,baz=117,slow=6.4,SNR=7.3							
ZAA1	**Zalesovo Array**	**52.98**	**321**	*e*P		**P**	**12 24 26.1**	**-0.4**
MK32	**Makanchi Array**	**53.73**	**312**	*e*P		**P**	**12 24 32.1**	**0.0**
MKAR	**Makanchi Array**	**53.73**	**312**	P		**P**	**12 24 32.2**	**0.0**
	1.3nm,0.7s,baz=90,slow=9.6,SNR=13							
MAKZ	**Makanchi**	**53.95**	**312**	*e*P		**P**	**12 24 34.5**	**+0.7**
	4.9nm,1.0s							
STKA	**Stephens Creek**	**55.29**	**182**	*e*P		**P**	**12 24 42.9**	**-0.5**
	0.3nm,1.0s							
STKA	**Stephens Creek**	**55.29**	**182**	P		**P**	**12 24 42.9**	**-0.5**
	1.2nm,0.5s,baz=348,slow=9.2,SNR=7.3							
NRIK	**Noril'sk**	**56.31**	**339**	LR		LR	12 49 57.6	
	comp=Z,24nm,19.6s,baz=124,slow=37							
KURK	**Kurchatov**	**56.37**	**316**	*e*P		**P**	**12 24 51.4**	**+0.4**
	6.8nm,0.9s							
KURBB	**Kurchatov Arra**	**56.43**	**316**	P		**P**	**12 24 51.7**	**+0.2**
	7.0nm,0.7s,baz=93,slow=7.8,SNR=64							
BOOM	**Boomskoye usch**	**58.31**	**306**	*e*P		**P**	**12 25 05.9**	**+0.8**
	2.3nm,0.8s							
ILAR	**Eielson Array**	**60.05**	**28**	P		**P**	**12 25 16.0**	**-0.6**
	1.6nm,0.7s,baz=255,slow=5.3,SNR=21							
ILB	**Eielson Array**	**60.05**	**28**	*e*P		**P**	**12 25 16.1**	**-0.6**
	3.1nm,1.1s							
SCRK	**Sand Creek**	**61.22**	**29**	*e*P		**P**	**12 25 25.1**	**+0.4**
	4.7nm,0.8s							
BVAR	**Borovoye Array**	**61.49**	**319**	P		**P**	**12 25 27.4**	**+0.7**
	4.6nm,0.7s,baz=90,slow=8.0,SNR=25							
BRVK	**Borovoye**	**61.56**	**319**	*e*P		**P**	**12 25 27.4**	**+0.4**
	9.7nm,1.0s							
INK	**Inuvik**	**65.56**	**24**	*e*P		**P**	**12 25 53.5**	**+0.4**
	1.4nm,0.7s							
INK	**Inuvik**	**65.56**	**24**	P		**P**	**12 25 53.5**	**+0.4**
	1.5nm,0.7s,baz=269,slow=4.7,SNR=13							
ARU	**Arti**	**67.96**	**323**	*e*P		**P**	**12 26 08.8**	**+0.1**
	8.7nm,1.0s							
ABKAR	**Akbulak array**	**68.47**	**316**	*e*P		**P**	**12 26 12.2**	**+0.2**
	2.5nm,0.7s							
YKA	**Yellowknife Ar**	**74.47**	**28**	P		**P**	**12 26 48.0**	**0.0**
	1.3nm,0.5s,baz=292,slow=5.9,SNR=34							
YKB5	**Yellowknife Ar**	**74.47**	**28**	*e*P		**P**	**12 26 47.9**	**-0.1**
ARA0	**ARCESS Array S**	**77.20**	**341**	*e*P		**P**	**12 27 04.0**	**+0.5**
ARCES	**ARCESS Array B**	**77.20**	**341**	P		**P**	**12 27 04.0**	**+0.5**
	3.0nm,0.9s,baz=58,slow=5.4,SNR=3.6							
BEKR	**Beckworth**	**79.50**	**51**	*e*P		**P**	**12 27 17.7**	**+0.7**
	2.8nm,0.9s							
CMB	**Columbia Colle**	**80.17**	**53**	*e*P		**P**	**12 27 21.3**	**+0.9**
	3.2nm,1.1s							
KBZ	**Khabaz**	**81.35**	**314**	P		**P**	**12 27 27.3**	**+0.8**
	3.7nm,0.8s,baz=68,slow=5.6,SNR=11							
FIA0	**FINESS Array S**	**81.60**	**335**	*e*P		**P**	**12 27 27.4**	**-0.1**
FINES	**FINESS Array B**	**81.60**	**335**	P		**P**	**12 27 27.4**	**-0.1**
	2.3nm,0.6s,baz=69,slow=6.3,SNR=9.2							
PDAR	**Pinedale Array**	**85.64**	**45**	LR		LR	13 02 05.3	
	comp=Z,23nm,20.3s,baz=28,slow=33							
NB2	**NORSAR Subarra**	**87.27**	**339**	P		**P**	**12 27 55.1**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=44,slow=5.1							
NOA	**NORSAR Array B**	**87.27**	**339**	P		**P**	**12 27 55.1**	**-1.3**
	comp=Z,1.0nm,0.9s,baz=52,slow=4.4,SNR=8.8							
NOA				LR		LR	13 11 15.2	
	comp=Z,9.7nm,18.1s,baz=270,slow=39							
BR101	**Keskin Array S**	**89.34**	**314**	*e*P		**P**	**12 28 06.3**	**-0.4**
BRTR	**Keskin Array B**	**89.34**	**314**	P		**P**	**12 28 06.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=101,slow=1.3,SNR=4.1							

*ISCJB **28** 12:35:02.4±1.4,29°.4S±0°.2×175°.9W±0°.1, h100km, mb3.6/3, Error ellipse: s-maj=23.7km s-min=15.5km az=2.9*

*IDC **28** 12:35:06.5±2.4,29°.42S×176°.29W, h130km±15km, mb3.4/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.8/4, MS3.7/1, Ms1 3.7/1, ms1mx2.9/9, Error ellipse: s-maj=40.5km s-min=26.7km az=154.0*

ISC 28 12:35:04.2±1.0,29°.4S±0°.2×176°.1W±0°.1, h100km, n10, σ2s46/11, mb3.7/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.63**	**274**	P		**Pn**	**12 35 32.4**	**+0.4**
	220nm,0.3s,baz=30,slow=20,SNR=8.0							
RAO				S		**Sn**	**12 35 54.8**	**+1.7**
	342nm,0.3s,baz=272,slow=22,SNR=7.6							
URZ	**Urewera**	**10.51**	**211**	P		**Pn**	**12 37 32.1**	**+0.3**
	0.2nm,0.3s,baz=16,slow=15,SNR=4.1							
URZ				S		Sn	12 39 41.5	+14
	1.7nm,0.3s,baz=189,slow=22,SNR=9.1							
ASAR	**Alice Springs**	**44.86**	**265**	P		**P**	**12 43 06.4**	**-2.4**
	1.1nm,0.8s,baz=104,slow=6.7,SNR=22							
ASAR				LR		LR	13 00 16.2	
	comp=Z,85nm,19.9s,baz=172,slow=34							
WRA	**Warramunga Arr**	**45.76**	**270**	P		**P**	**12 43 12.5**	**-3.4**
	0.6nm,0.3s,baz=108,slow=7.8,SNR=24							
NVAR	**Mina Array Bea**	**86.36**	**42**	P		**P**	**12 47 34.6**	**-0.7**
	0.3nm,0.6s,baz=231,slow=5.7,SNR=3.3							
MKAR	**Makanchi Array**	**118.41**	**310**	PKP		**PKPdf**	**12 53 38.5**	**-1.2**
	0.2nm,0.2s,baz=98,slow=3.2,SNR=3.3							
NB2	**NORSAR Subarra**	**147.97**	**353**	PKP		**PKPdf**	**12 54 35.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=10,slow=2.9							
NOA	**NORSAR Array B**	**147.97**	**353**	PKPbc		**PKPdf**	**12 54 35.0**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=13,slow=4.4,SNR=7.6							
AKASG	**Malin Array Be**	**151.47**	**325**	PKPbc		**PKPdf**	**12 54 44.7**	**+4.9**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.2,SNR=4.1							
BRTR	**Keskin Array B**	**153.56**	**301**	PKPbc		**PKPbc**	**12 54 50.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=48,slow=2.1,SNR=2.3							

KRSC 28 12:39:29.4±10.0, 59°.98N×163°.51E, h52km±10km, ML4.1, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OSSR	**Ossora**	**0.77**	**198**	*e*P		**Pn**	**12 39 44.2**	**+0.2**
OSSR				*e*S		Sn	12 39 55.6	+0.9
TILK	**Tilichiki**	**1.40**	**69**	*e*P		**Pn**	**12 39 53.8**	**+1.3**
TILK				*e*S		Sn	12 40 13.2	+3.4
PALN	**Palana**	**2.01**	**245**	P		**Pn**	**12 40 03.6**	**+2.7**
KMSK	**Kamenskaya**	**2.82**	**26**	P		**Pn**	**12 40 14.7**	**+2.8**
KBTR	**Krutoberegovo**	**3.80**	**186**	*e*P		**Pn**	**12 40 29.8**	**+4.4**
BKI	**Bering**	**4.97**	**163**	P		**Pn**	**12 40 44.9**	**+3.6**

*ISCJB **28** 12:42:28.9±0.4,49°.96S±0°.05×127°.5E±0°.2, h10km, mb4.7/21, MS3.8/8, Error ellipse: s-maj=22.1km s-min=7.3km az=7.5*

*IDC **28** 12:42:29.0±0.7,49°.92S×127°.27E, h0km, mb4.7/10, mb1 4.8/11, mb1mx4.5/23, mbtmp4.7/11, ML2.3/1, MS3.8/8, Ms1 3.8/8, ms1mx3.5/21, Error ellipse: s-maj=38.0km s-min=14.4km az=98.0*

*NEIC **28** 12:42:30.6±1.1,49°.93S×127°.35E, h10km±1km, mb4.7/11, Error ellipse: s-maj=28.1km s-min=15.9km az=96.0*

ISC 28 12:42:30.8±0.5,49°.97S±0°.08×127°.5E±0°.2, h10km, n53, σ0s94/48, mb4.7/21, MS3.8/8, 1D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.94**	**322**	T		T	13 04 40.8	
	baz=151,slow=75,SNR=44							
H01W2	**Cape Leeuwin H**	**17.94**	**322**	T		T	13 04 41.1	
	baz=151,slow=75,SNR=32							
H01W3	**Cape Leeuwin H**	**17.95**	**322**	T		T	13 04 42.0	
	baz=151,slow=75,SNR=36							
NWAO	**Narrogin (SRO)**	**18.64**	**332**	P		**P**	**12 46 48.2**	**-0.3**
	0.4nm,0.3s,baz=150,slow=11,SNR=3.7							
NWAO				LR		LR	12 52 20.6	
	comp=Z,445nm,18.6s,baz=146,slow=32							
FORT	**Forrest**	**19.17**	**2**	*e*P		**P**	**12 46 53.5**	**-0.9**
	82nm,0.9s							
STKA	**Stephens Creek**	**20.93**	**36**	*e*P		Pn	12 47 15.3	-0.8
	13nm,0.8s							
STKA	**Stephens Creek**	**20.93**	**36**	P		Pn	12 47 14.9	-1.2
	46nm,0.9s,baz=201,slow=11,SNR=52							
STKA				LR		LR	12 53 56.8	
	comp=Z,350nm,20.7s,baz=204,slow=33							
ASAR	**Alice Springs**	**26.73**	**13**	P		**P**	**12 48 09.7**	**-0.8**
	35nm,0.9s,baz=186,slow=9.2,SNR=98							
ASAR				PcP		**PcP**	**12 51 32.1**	**-1.5**
	0.4nm,0.7s,baz=210,slow=3.9,SNR=3.7							
AS31	**Alice Springs**	**26.74**	**13**	*e*P		**P**	**12 48 09.8**	**-0.7**
	11nm,0.9s							
AS01	**Alice Springs**	**26.74**	**13**	*e*P		**P**	**12 48 09.3**	**-1.2**
WR1	**Warramunga Arr**	**30.46**	**13**	*e*P		**P**	**12 48 42.1**	**-1.5**
	12nm,1.1s							
WRA	**Warramunga Arr**	**30.46**	**13**	P		**P**	**12 48 42.1**	**-1.5**
	4.4nm,1.0s,baz=194,slow=8.0,SNR=14							
VNDA	**Vanda**	**30.55**	**166**	*e*P		**P**	**12 48 44.9**	**+1.0**
VNDA				*ep*P		**P**	**12 48 45.1**	**+1.3**
VNDA	**Vanda**	**30.55**	**166**	P		**P**	**12 48 44.5**	**+0.7**
	8.9nm,1.0s,baz=351,slow=1.4,SNR=3.1							
VNDA				LR		LR	12 59 57.8	
	comp=Z,185nm,18.8s,baz=324,slow=34							
FITZ	**Fitzroy Cross**	**31.83**	**357**	*e*P		**P**	**12 48 55.3**	**-0.3**
	7.3nm,1.0s							
CTA	**Charters Tower**	**33.36**	**33**	LR		LR	13 02 41.7	
	comp=Z,244nm,21.8s,baz=172,slow=36							
MAW	**Mawson**	**35.76**	**216**	P		**P**	**12 49 28.0**	**-1.3**
	9.6nm,1.1s,baz=99,slow=9.7,SNR=4.1							
MAW				LR		LR	13 00 54.4	
	comp=Z,155nm,20.9s,baz=82,slow=31							
MTN	**Manton Dam**	**37.14**	**6**	*e*P		**P**	**12 49 41.1**	**-0.5**
	24nm,0.9s							
QSPA	**South Pole Qui**	**40.15**	**180**	*e*P		**P**	**12 50 06.8**	**+0.1**
QSPA				*e*P		**P**	**12 50 07.2**	**+0.5**
QSPA	**South Pole Qui**	**40.15**	**180**	P		**P**	**12 50 06.8**	**+0.1**
	11nm,1.0s,baz=343,slow=6.1,SNR=17							
SYO	**Syowa Base**	**43.87**	**211**	*e*P		**P**	**12 50 35.6**	**-1.1**
KAPI	**Kappang**	**45.27**	**349**	*e*P		**P**	**12 50 49.1**	**+0.7**
	16nm,1.0s							
SNAA	**Sanae**	**53.69**	**197**	P		**P**	**12 51 52.3**	**+0.1**
SNAA	**Sanae**	**53.69**	**197**	P		**P**	**12 51 52.3**	**+0.1**
	34nm,1.0s,baz=151,slow=10,SNR=30							
VNA2	**Neumayer--Watz**	**55.15**	**196**	P		**P**	**12 52 02.6**	**-0.2**
	baz=142,slow=6.5							
VNA3	**Neumayer Olymp**	**55.29**	**196**	P		**P**	**12 52 03.4**	**-0.4**
VNA1	**Neumayer--Stat**	**55.54**	**196**	P		**P**	**12 52 05.5**	**0.0**
PPT	**Papeete**	**72.27**	**96**	LR		LR	13 21 52.9	
	comp=Z,48nm,19.1s,baz=246,slow=33							
CMAR	**Chiang Mai Arr**	**72.64**	**332**	P		**P**	**12 53 58.4**	**0.0**
	1.5nm,0.7s,baz=179,slow=5.9,SNR=9.8							
CMAR				LR		LR	13 25 15.7	
	comp=Z,30nm,19.2s,baz=196,slow=35							
BOSA	**Boshof**	**75.89**	**242**	LR		LR	13 21 32.7	
	comp=Z,71nm,18.0s,baz=194,slow=31							
KMI	**Kunming**	**77.92**	**337**	P		**P**	**12 54 32.0**	**+3.1**
KMI				pmax		pmax		
	comp=Z,15nm,0.5s							
NJ2	**Nanjing**	**82.01**	**353**	*e*P		**P**	**12 54 51.3**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
CD2	**Chengdu**	**83.23**	**340**	P		**P**	**12 54 58.0**	**+1.0**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
XAN	**Xi'an**	**85.24**	**345**	P		**P**	**12 55 07.5**	**+0.3**
XAN				pP		pwP	12 55 15.5	+1.3
XAN				pmax		pmax		
	comp=Z,6.0nm,1.1s							
XAN				pmax		pmax		
	comp=Z,63nm,3.8s							
MAJO	**Matsushiro**	**86.66**	**9**	*e*P		**P**	**12 55 13.4**	**-0.7**
MJAR	**Matsushiro Arr**	**86.66**	**9**	P		**P**	**12 55 13.4**	**-0.7**
	1.8nm,0.7s,baz=183,slow=7.1,SNR=5.2							
LZH	**Lanzhou**	**88.19**	**341**	*e*P		**P**	**12 55 23.0**	**+1.3**
LZH				pP		pwP	12 55 27.5	-1.3
LZH				sP		sP	12 55 30.5	+5.9
LZH				pmax		pmax		
	comp=Z,27nm,1.0s							
PLCA	**Paso Flores**	**88.30**	**166**	P		**P**	**12 55 22.1**	**-0.3**
	3.9nm,1.0s,baz=228,slow=3.4,SNR=4.8							
HHC	**Hu-ho-hao-te**	**91.51**	**348**	*e*P		**P**	**12 55 38.3**	**+1.3**
HHC				pmax		pmax		
	comp=Z,11nm,1.0s							
HHC				pmax		pmax		
	comp=Z,74nm,5.6s							
GTA	**Gaotai**	**92.27**	**339**	*e*P		**P**	**12 55 40.8**	**+0.2**
GTA				pP		pwP	12 55 52.8	+5.1
GTA				sP		sP	12 55 56.5	+13
GTA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
WMQ	**Urumqi**	**99.64**	**332**	*e*P		**Pdif**	**12 56 15.8**	**+1.8**
WMQ				LR		LR		
	comp=N,65nm,23.7s							
WMQ				LR		LR		
	comp=E,54nm,27.3s							
WMQ				LR		LR		
	comp=Z,67nm,18.1s							
NV01	**Mina Array Sit**	**132.91**	**78**	*e*PKPdf		**PKiKP**	**13 01 46.8**	**-0.4**
NVAR	**Mina Array Bea**	**132.91**	**78**	PKP		**PKiKP**	**13 01 46.8**	**-0.4**
	0.2nm,0.6s,baz=252,slow=1.8,SNR=2.4							
LTX	**Lajitas**	**136.56**	**99**	*e*PKPdf		**PKPdf**	**13 01 53.0**	**+0.1**
TXAR	**Lajitas Array**	**136.56**	**99**	PKP		**PKPdf**	**13 01 53.0**	**+0.1**
	0.2nm,0.8s,baz=204,slow=2.0,SNR=2.5							
PDAR	**Pinedale Array**	**140.85**	**78**	PKP		**PKPdf**	**13 02 01.4**	**+0.9**
	0.2nm,0.5s,baz=126,slow=2.3,SNR=2.5							
ESDC	**Sonseca Array**	**144.61**	**272**	PKP		**PKPab**	**13 02 05.0**	**-0.6**
	0.1nm,0.3s,baz=134,slow=3.7,SNR=3.9							
YKA	**Yellowknife Ar**	**144.76**	**45**	PKP		**PKPdf**	**13 02 06.0**	**-0.5**
	5.2nm,0.9s,baz=264,slow=3.1,SNR=44							
YKB5	**Yellowknife Ar**	**144.76**	**45**	*e*PKPdf		**PKPdf**	**13 02 06.5**	**0.0**
YKW3	**Yellowknife Ar**	**144.76**	**45**	*e*PKPdf		**PKPdf**	**13 02 06.0**	**-0.4**
RSSD	**Black Hills**	**145.01**	**79**	*e*PKPbc		**PKPdf**	**13 02 08.7**	**+0.9**
RES	**Resolute Bay**	**149.65**	**21**	*e*PKPbc		**PKPbc**	**13 02 18.6**	**-0.3**
FFC	**Flin Flon**	**149.95**	**62**	*e*PKPbc		**PKPbc**	**13 02 19.1**	**-1.1**

*ISCJB **28** 12:56:55.4±0.7,12°.2S±0°.1×167°.0E±0°.1, h300km, mb3.9/12, Error ellipse: s-maj=21.5km s-min=12.5km az=28.0*

*IDC **28** 12:56:57.3±4.3,12°.25S×167°.10E, h308km±46km, mb3.6/12, mb1 3.8/13, mb1mx3.4/39, mbtmp4.2/13, Error ellipse: s-maj=28.3km s-min=18.4km az=149.0*

ISC 28 12:56:56.5±0.7,12°.2S±0°.1×167°.1E±0°.2, h300km, n14, σ0s80/14, mb3.9/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.82**	**184**	P		**Pn**	**12 59 12.5**	**-0.1**
	0.6nm,0.3s,baz=100,slow=20,SNR=24							
CTA	**Charters Tower**	**21.50**	**246**	P		**P**	**13 01 22.9**	**+0.8**
	2.2nm,0.4s,baz=68,slow=12,SNR=5.9							
STKA	**Stephens Creek**	**30.57**	**226**	P		**P**	**13 02 43.5**	**+0.5**
	1.9nm,0.5s,baz=16,slow=9.9,SNR=6.3							
WRA	**Warramunga Arr**	**32.38**	**252**	P		**P**	**13 02 58.2**	**-0.7**
	0.9nm,0.6s,baz=80,slow=8.8,SNR=18							
ASAR	**Alice Springs**	**33.50**	**245**	P		**P**	**13 03 07.9**	**-0.7**
	1.0nm,0.5s,baz=72,slow=9.9,SNR=34							
MJAR	**Matsushiro Arr**	**55.62**	**332**	P		**P**	**13 06 00.9**	**-1.0**
	1.6nm,0.7s,baz=173,slow=7.9,SNR=4.0							
ASAJ	**Asahikawa**	**60.34**	**340**	P		**P**	**13 06 34.5**	**+0.3**
	7.8nm,0.8s,baz=249,slow=8.4,SNR=4.5							
KLR	**Kul'dur**	**68.66**	**336**	P		**P**	**13 07 29.0**	**+1.3**
	1.8nm,0.8s,baz=157,slow=1.5,SNR=6.8							
SEY	**Seymchan**	**75.78**	**353**	P		**P**	**13 08 09.6**	**+0.3**
	3.3nm,0.5s,baz=148,slow=8.6,SNR=14							
ILAR	**Eielson Array**	**84.19**	**18**	P		**P**	**13 08 53.6**	**-0.5**
	5.0nm,0.6s,baz=246,slow=5.2,SNR=118							
NVAR	**Mina Array Bea**	**85.75**	**49**	P		**P**	**13 09 03.1**	**+0.4**
	1.2nm,0.8s,baz=232,slow=9.3,SNR=8.9							
TXAR	**Lajitas Array**	**95.21**	**61**	P		**P**	**13 09 47.1**	**+0.4**
	0.4nm,0.8s,baz=220,slow=5.7,SNR=4.9							
YKA	**Yellowknife Ar**	**95.39**	**27**	P		**P**	**13 09 45.8**	**-0.8**
	0.5nm,0.6s,baz=258,slow=4.8,SNR=15							
ARCES	**ARCESS Array B**	**117.79**	**346**	PKP		**PKPdf**	**13 15 05.7**	**-1.0**
	1.5nm,0.7s,baz=59,slow=3.5,SNR=4.4							

*IDC **28** 13:10:32.1±9.5,35°.30N×97°.69E, h0km, mb3.5/3, mb1 3.5/5, mb1mx3.2/53, mbtmp3.5/5, ML3.3/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/32, Error ellipse: s-maj=135.3km s-min=43.8km az=143.0*

*ISCJB **28** 13:10:49.7±2.6, 37°.2N±0°.2×97°.24E±0°.10, h10km, mb3.1/1, MS2.5/1, Error ellipse: s-maj=32.5km s-min=11.0km az=2.2*

*BJI **28** 13:10:55.2, 37°.28N×97°.15E, h7km, ML3.6/14*

ISC 28 13:10:54.0±1.2, 37°.23N±0°.08×97°.09E±0°.06, h10km, n10, σ1s98/15, Qinghai

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

MKZ				*e*S		Sn	13 28 18.2	+2.3
KZV	**Kizimen**	**0.57**	**310**	*e*P		Pn	13 28 04.8	+1.0
KZV				*e*S		Sn	13 28 18.4	+0.6
TUMD	**Tumrok D**	**0.59**	**321**	*e*P		Pn	13 28 04.3	+0.5
TUMD				*e*S		Sn	13 28 18.0	+0.2
TUMR	**Tumrok**	**0.75**	**316**	*e*P		Pn	13 28 06.2	+1.1
TUMR				*e*S		Sn	13 28 20.5	+0.4
BZGR	**Bezymyannyi-Gr**	**1.22**	**350**	*e*P		Pn	13 28 10.9	+1.4
BZGR				*e*S		Sn	13 28 29.5	+1.5
BZMR	**Bezymyannaya**	**1.24**	**345**	*e*P		Pn	13 28 11.2	+1.4
LGNR	**Loginova**	**1.36**	**351**	*e*P		Pn	13 28 13.2	+1.9
LGNR				*e*S		Sn	13 28 33.2	+2.2
CIRR	**Tsirk**	**1.38**	**353**	*e*P		Pn	13 28 13.2	+1.8
CIRR				*e*S		Sn	13 28 33.8	+2.5
KOZ	**Kozyrevsk**	**1.48**	**333**	*e*P		Pn	13 28 13.1	+0.7
KLY	**Klyuchi**	**1.59**	**352**	*e*P		Pn	13 28 14.6	+1.0
KLY				*e*S		Sn	13 28 36.4	+1.2
SRDR	**Sredinnyy**	**1.75**	**335**	*e*P		Pn	13 28 15.9	+0.3
SPN	**Mys Shipunski**	**1.76**	**201**	*e*P		Pn	13 28 16.3	+0.6
SPN				*e*S		Sn	13 28 39.1	+0.2
KBTR	**Krutoberegovo**	**1.78**	**34**	*e*P		Pn	13 28 17.8	+1.9
KBTR				*e*S		Sn	13 28 40.8	+1.5
KBG	**Krutoberegovo**	**1.78**	**31**	*e*P		Pn	13 28 17.9	+2.0
KBG				*e*S		Sn	13 28 40.6	+1.3
BDR	**Baidarnaya**	**1.83**	**3**	*e*P		Pn	13 28 17.8	+1.2
BDR				*e*S		Sn	13 28 42.0	+1.4
SMKR	**Semkarok**	**1.86**	**7**	*e*P		Pn	13 28 18.3	+1.4
NLC	**Nalytchevo**	**1.87**	**213**	*e*P		Pn	13 28 18.4	+1.4
NLC				*e*S		Sn	13 28 42.2	+0.9
SRKR	**Sorokina**	**1.92**	**2**	*e*P		Pn	13 28 19.0	+1.4
SRKR				*e*S		Sn	13 28 44.3	+1.9
SDLR	**Sedlovina**	**1.95**	**222**	*e*P		Pn	13 28 19.9	+1.8
SDLR				*e*S		Sn	13 28 44.9	+1.6
KRER	**Koryakskii**	**1.98**	**224**	*e*P		Pn	13 28 20.3	+1.7
KRER				S		Sn	13 28 46.9	+2.8
KRX	**Arik**	**1.98**	**227**	*e*P		Pn	13 28 21.5	+2.9
SMAR	**Somma**	**1.99**	**223**	*e*P		Pn	13 28 20.7	+1.9
AVH	**Avacha**	**2.02**	**224**	*e*P		Pn	13 28 20.9	+2.0
AVH				*e*S		Sn	13 28 46.7	+2.0
UGLR	**Uglovaya**	**2.03**	**221**	*e*P		Pn	13 28 20.9	+1.8
UGLR				*e*S		Sn	13 28 47.1	+2.2
KOK	**Koryaka**	**2.04**	**225**	*e*P		Pn	13 28 21.1	+1.9
DALK	**Dalny**	**2.19**	**219**	*e*P		Pn	13 28 22.4	+1.4
DALK				*e*S		Sn	13 28 49.4	+1.0
PET	**Petropavlovsk**	**2.23**	**220**	*e*S		Sn	13 28 50.4	+1.0
KRMR	**Karymshinskiy**	**2.59**	**223**	*e*P		Pn	13 28 27.1	+1.0
KRMR				*e*S		Sn	13 28 58.6	+1.2
RUS	**Russkaya**	**2.77**	**214**	*e*S		Sn	13 29 01.2	-0.4
MTVR	**Mutnovka**	**2.84**	**218**	S		Sn	13 29 04.0	+0.4
BKI	**Bering**	**2.87**	**79**	*e*P		Pn	13 28 31.3	+1.6
BKI				*e*S		Sn	13 29 05.2	+1.2
ASAK	**Asacha**	**3.02**	**220**	P		Pn	13 28 34.4	+2.5
KDTR	**Khodutka, Kamc**	**3.44**	**212**	*e*S		Sn	13 29 16.1	-1.4

IDC 28 13:42:03.9±60.0, **18°55.S**×178°29.E, **h0**km, **mb4.1**/3, **mb1 4.2**/3, **mb1mx3.6**/35, **mbtmp4.1**/3, **Error ellipse: s-maj=1067.0km s-min=148.3km az=78.0, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.58**	**241**	P	P	13 49 02.9	-0.3
	0.7nm,0.3s,baz=91,slow=8.2,SNR=3.6						
WRA	**Warramunga Arr**	**41.43**	**261**	P	P	13 49 52.0	-0.6
	0.3nm,0.2s,baz=95,slow=7.9,SNR=27						
ASAR	**Alice Springs**	**41.60**	**255**	P	P	13 49 54.4	+0.4
	2.4nm,0.4s,baz=89,slow=7.8,SNR=109						

*NIED **28** 13:49:00, 35°.50N×141°.20E, h26km, Mw4.1 Best double couple: M0 1.23000×10^15 NP1:φs320.00000°, δ39.00000°, λ173.00000°. NP2:φs56.00000°, δ85.00000°, λ51.00000°.*
*IDC **28** 13:49:07.3±0.7, 35°.45N×141°.13E, h0km, mb3.8/14, mb1 3.9/20, mb1mx3.8/56, mbtmp3.8/20, ML3.4/4, MS3.3/11, Ms1 3.3/11, ms1mx3.0/65, Error ellipse: s-maj=19.0km s-min=13.5km az=95.0*
*NEIC **28** 13:49:08.6±0.3, 35°.43N×141°.12E, h10km, mb4.5/2, Error ellipse: s-maj=7.6km s-min=6.0km az=71.0*
*MOS **28** 13:49:08.9±1.0, 35°.55N×141°.15E, h24km, mb4.3/11, Error ellipse: s-maj=13.9km s-min=7.1km az=105.4*
*ISCJB **28** 13:49:09.7±0.4, 35°.51N±0°.03×141°.25E±0°.05, h33km, mb3.9/22, MS3.5/7, Error ellipse: s-maj=6.0km s-min=4.5km az=8.7*
*JMA **28** 13:49:10.5±0.2, 35°.53N×141°.17E, h28km±1km, M3.5*
ISC 28 13:49:11.4±0.5, **35°.47N**±0°.05×**141°.22E**±0°.06, **h33**km, **n74,** σ1§**93**/72, **mb4.0**/22, **MS3.4**/7, **7C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.37**	**308**	⇑P	**Pb**	**13 49 17.7**	**-2.4**
CHOJ				*e*S	**Sb**	**13 49 22.2**	**-3.5**
JSMT	**Sammumatsuo**	**0.65**	**285**	P	**Pn**	**13 49 22.4**	**-1.9**
JIHU	**Itakohorinouch**	**0.75**	**311**	P	**Pn**	**13 49 24.2**	**-1.5**
KTR	**Katsuura**	**0.81**	**247**	P	**Pn**	**13 49 25.5**	**-0.9**
JCN	**Nagara**	**0.83**	**267**	⇑P	**Pn**	**13 49 26.4**	**-0.4**
BSO1	**Boso 1**	**0.84**	**194**	P	**Pn**	**13 49 25.8**	**-0.6**
BSO4	**Boso 4**	**0.86**	**237**	P	**Pn**	**13 49 26.5**	**-0.7**
BSO3	**Boso 3**	**0.88**	**221**	P	**Pn**	**13 49 26.6**	**-0.7**
JYT	**Yasato**	**1.12**	**313**	P	**Pn**	**13 49 28.9**	**-1.9**
JHJ	**Hachijo jima 2**	**2.63**	**207**	Pn	**Pn**	**13 49 52.3**	**+0.8**
	19nm,0.3s,baz=78,slow=21,SNR=6.5						
JHJ				Sn	**Sn**	**13 50 23.8**	**+1.4**
	38nm,0.3s,baz=225,slow=20,SNR=4.6						
JHJ				LR	LR	13 50 30.3	
	comp=Z,73nm,19.3s,baz=98,slow=32						
MJAR	**Matsushiro Arr**	**2.66**	**295**	Pn	**Pn**	**13 49 52.0**	**0.0**
	0.8nm,0.3s,baz=101,slow=7.9,SNR=29						
MJAR				Sn	**Sb**	**13 50 33.0**	**+2.3**
	1.0nm,0.3s,baz=217,slow=24,SNR=6.1						
MJAR				LR	LR	13 50 54.3	
	comp=Z,198nm,20.2s,baz=130,slow=42						
MAJO	**Matsushiro**	**2.66**	**295**	*e*Pn	**Pn**	**13 49 50.2**	**-1.8**
MAJO	**Matsushiro**	**2.66**	**295**	*i*P	**Pn**	**13 49 49.8**	**-2.2**
MAT	**Matsushiro**	**2.66**	**295**	P	**Pn**	**13 49 51.5**	**-0.5**
MAT				S	**Sn**	**13 50 25.3**	**+2.1**
MJB9	**Matsu-Tunnel**	**2.67**	**295**	*e*Pn	**Pn**	**13 49 50.5**	**-1.6**
ERM	**Erimo**	**6.71**	**12**	*e*Pn	**Pn**	**13 50 47.2**	**-0.3**
ERM	**Erimo**	**6.71**	**12**	*i*P	**Pn**	**13 50 47.6**	**+0.1**
CBIJ	**Chichi jima**	**8.39**	**174**	*e*Pn	**Pn**	**13 51 09.8**	**-0.9**
CBIJ				Sn	**Sn**	**13 52 37.8**	**-6.5**
JCJ	**Chichijima**	**8.39**	**174**	Pn	**Pn**	**13 51 09.8**	**-0.9**
	8.7nm,0.3s,baz=279,slow=22,SNR=7.7						
JCJ				Sn	**Sn**	**13 52 37.8**	**-6.5**
	5.0nm,0.3s,baz=225,slow=20,SNR=2.6						
ASAJ	**Asahikawa**	**8.70**	**7**	P	**Pn**	**13 51 14.0**	**-0.9**
ASAJ	**Asahikawa**	**8.70**	**7**	Pn	**Pn**	**13 51 13.9**	**-0.9**
	1.2nm,0.3s,baz=222,slow=8.0,SNR=12						
KSRS	**Korea Array**	**10.89**	**284**	LR	LR	13 55 60.0	
	comp=Z,106nm,20.6s,baz=99,slow=38						
USRK	**Ussuriysk Ar.**	**11.23**	**324**	Pn	**Pn**	**13 51 50.4**	**+0.9**
	0.2nm,0.3s,baz=122,slow=11,SNR=4.5						
YSS	**Yuzh-Sakhalins**	**11.53**	**5**	*e*P	**Pn**	**13 51 52.3**	**-1.3**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KLR	**Kul'dur**	**15.41**	**336**	Pn	**Pn**	**13 52 45.5**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=125,slow=13,SNR=5.4						
KLR				LR	LR	13 58 41.9	
	comp=Z,93nm,18.3s,baz=142,slow=37						
TYV	**Tymovskoe**	**15.42**	**3**	*e*P	**Pn**	**13 52 42.3**	**-4.1**
TYV				*e*S	**Sn**	**13 55 28.8**	**-7.2**
TYV				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TYV				smax	smax		
	comp=Z,3.0nm,1.0s						
ZEA	**Zeya**	**20.73**	**336**	*e*P	**P**	**13 53 49.4**	**+0.5**
MA2	**Magadan**	**24.91**	**12**	*ce*P	**P**	**13 54 31.8**	**+0.7**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MA2	**Magadan**	**24.91**	**12**	P	**P**	**13 54 33.0**	**+1.9**
	comp=Z,4.8nm,1.0s,baz=188,slow=14,SNR=4.1						
H11N2	**WAKE ISLAND Hy**	**27.52**	**118**	T	T	14 23 51.8	
	baz=310,slow=75,SNR=174						
H11N1	**WAKE ISLAND Hy**	**27.53**	**118**	T	T	14 23 55.4	
	baz=310,slow=75,SNR=176						
H11N3	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	14 23 58.1	
	baz=310,slow=75,SNR=172						
ULN	**Ulaanbaatar**	**28.13**	**307**	*ce*P	**P**	**13 54 59.8**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.7s						
H11S1	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	14 24 40.4	
	baz=312,slow=75,SNR=1059						
H11S3	**WAKE ISLAND Hy**	**28.18**	**120**	T	T	14 24 40.4	
	baz=312,slow=75,SNR=927						
H11S2	**WAKE ISLAND Hy**	**28.20**	**120**	T	T	14 24 33.2	
	baz=312,slow=75,SNR=661						
SEY	**Seymchan**	**28.35**	**11**	*i*P	**P**	**13 55 01.5**	**-0.5**
SONA0	**Songino Array**	**28.55**	**306**	*e*P	**P**	**13 55 05.4**	**+1.2**
SONM	**Songino Array**	**28.55**	**306**	P	**P**	**13 55 05.4**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=99,slow=8.7,SNR=8.0						
SONM				LR	LR	14 06 52.6	
	comp=Z,57nm,18.2s,baz=108,slow=37						
BILL	**Bilibino**	**35.57**	**16**	*i*P	**P**	**13 56 07.4**	**+2.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TIXI	**Tiksi**	**36.82**	**354**	*ce*P	**P**	**13 56 16.5**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s						
TIXI	**Tiksi**	**36.82**	**354**	LR	LR	14 12 15.3	
	comp=Z,60nm,18.2s,baz=172,slow=38						
SIJI	**Sorong**	**37.33**	**197**	LR	LR	14 09 05.5	
	comp=Z,39nm,18.6s,baz=129,slow=32						
DGZ	**Jazzator, Alta**	**41.19**	**307**	*i*P	**P**	**13 56 53.1**	**+0.2**
DGZ				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ZAA1	**Zalesovo Array**	**42.86**	**314**	*e*P	**P**	**13 57 06.3**	**0.0**
ZALV	**Zalesovo Beam**	**42.86**	**314**	*i*P	**P**	**13 57 06.6**	**+0.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.86**	**314**	P	**P**	**13 57 06.3**	**0.0**
	comp=Z,1.3nm,0.5s,baz=85,slow=8.1,SNR=5.5						
MK01	**Makanchi Array**	**44.83**	**303**	*e*P	**P**	**13 57 22.2**	**0.0**
MK32	**Makanchi Array**	**44.83**	**303**	*e*P	**P**	**13 57 21.7**	**-0.6**
MKAR	**Makanchi Array**	**44.83**	**303**	*ce*P	**P**	**13 57 22.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.83**	**303**	P	**P**	**13 57 21.7**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=88,slow=9.4,SNR=12						
MKAR				LR	LR	14 16 48.5	
	comp=Z,38nm,18.3s,baz=86,slow=37						
KURK	**Kurchatov**	**46.78**	**309**	*e*P	**P**	**13 57 37.5**	**-0.1**
	comp=Z,2.4nm,0.6s						
KURK	**Kurchatov**	**46.78**	**309**	*ce*P	**P**	**13 57 36.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.7s						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**13 58 10.3**	**+1.4**
	comp=Z,0.8nm,1.0s,baz=262,slow=6.2,SNR=6.9						
BRVK	**Borovoye**	**51.57**	**313**	*i*P	**P**	**13 58 12.0**	**-2.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
CTA	**Charters Tower**	**55.46**	**174**	LR	LR	14 20 11.7	
	comp=Z,168nm,21.2s,baz=166,slow=34						
WR1	**Warramunga Arr**	**55.49**	**188**	*e*P	**P**	**13 58 43.2**	**0.0**
	comp=Z,5.2nm,1.0s						
WRA	**Warramunga Arr**	**55.49**	**188**	*i*P	**P**	**13 58 45.9**	**+2.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
WRA	**Warramunga Arr**	**55.49**	**188**	P	**P**	**13 58 43.2**	**0.0**
	comp=Z,1.2nm,0.8s,baz=6.0,slow=7.7,SNR=20						
ARU	**Arti**	**57.43**	**319**	*di*P	**P**	**13 58 55.9**	**-0.7**
ARU						14 00 58.8	
ARU				S	**S**	**14 06 50.1**	**-1.1**
ARU				SS	**SS**	**14 10 40.1**	**-0.4**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.9s						
ASAR	**Alice Springs**	**59.22**	**188**	P	**P**	**13 59 09.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=5.1,slow=7.6,SNR=5.7						
PALK	**Pallekele**	**61.89**	**258**	*i*P	**P**	**13 59 28.7**	**+0.7**
RES	**Resolute Bay**	**64.15**	**14**	P	**P**	**13 59 42.9**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=313,slow=6.1,SNR=5.8						
YKA	**Yellowknife Ar**	**65.24**	**30**	P	**P**	**13 59 50.7**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=299,slow=6.3,SNR=4.7						
FIA0	**FINESS Array S**	**70.12**	**332**	*e*P	**P**	**14 00 20.6**	**+0.5**
FIA0	**FINESS Array S**	**70.12**	**332**	*e*P	**P**	**14 00 20.6**	**+0.5**
FINES	**FINESS Array B**	**70.12**	**332**	P	**P**	**14 00 20.6**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=26,slow=4.9,SNR=4.3						
AKASG	**Malin Array Be**	**75.44**	**322**	P	**P**	**14 00 51.8**	**0.0**
	comp=Z,0.6nm,0.4s,baz=44,slow=5.6,SNR=3.0						
NB2	**NORSAR Subarra**	**75.56**	**337**	P	**P**	**14 00 53.0**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=39,slow=5.9						
NB200	**NORSAR Array S**	**75.56**	**337**	*e*P	**P**	**14 00 53.0**	**+0.6**
NOA	**NORSAR Array B**	**75.56**	**337**	P	**P**	**14 00 53.0**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=39,slow=5.7,SNR=7.0						
NOA				LR	LR	14 37 04.3	
	comp=Z,29nm,19.6s,baz=290,slow=38						
NVAR	**Mina Array Bea**	**76.06**	**53**	P	**P**	**14 00 58.8**	**+2.8**
	comp=Z,0.2nm,0.5s,baz=309,slow=5.7,SNR=2.3						
PDAR	**Pinedale Array**	**78.88**	**45**	P	**P**	**14 01 12.7**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=335,slow=4.0,SNR=3.0						
TKL	**Tuckaleechee C**	**97.75**	**36**	LR	LR	14 53 11.4	
	comp=Z,18nm,18.8s,baz=344,slow=39						

*IDC **28** 13:59:06.2±1.3, 50°.64N×160°.26E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.1/60, mbtmp3.2/4, ML2.4/1, Error ellipse: s-maj=38.0km s-min=27.6km az=47.0*
*KRSC **28** 13:59:07.1±10.0, 50°.71N×160°.28E, h99km±10km, ML3.6*
*ISCJB **28** 13:59:08.6±0.8, 50°.71N±0°.05×160°.38E±0°.07, h33km, mb3.2/3, Error ellipse: s-maj=7.1km s-min=6.2km az=137.5*
ISC 28 13:59:09.8±1.1, **50°.65N**±0°.07×**160°.40E**±0°.05, **h35**km, **n28,** σ1§**79**/43, **mb3.2**/3, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.86**	**309**	*e*P	**Pn**	**13 59 37.9**	**-1.2**
KDTR				*e*S	**Sn**	**13 59 59.7**	**-1.7**
RUS	**Russkaya**	**2.14**	**327**	*e*P	**Pn**	**13 59 41.5**	**-1.4**
RUS				*e*S	**Sn**	**14 00 06.8**	**-1.4**
MTVR	**Mutnovka**	**2.30**	**324**	*e*P	**Pn**	**13 59 44.1**	**-1.2**
MTVR				*e*S	**Sn**	**14 00 10.9**	**-1.5**
ASAK	**Asacha**	**2.33**	**319**	*e*P	**Pn**	**13 59 44.9**	**-0.8**
ASAK				*e*S	**Sn**	**14 00 12.5**	**-0.7**
PAU	**Pauzhetka**	**2.41**	**291**	P	**Pn**	**13 59 43.9**	**-2.7**
PAU				S	**Sn**	**14 00 11.7**	**-3.1**
SPN	**Mys Shipunski**	**2.46**	**355**	P	**Pn**	**13 59 46.4**	**-1.0**
SPN				S	**Sn**	**14 00 14.3**	**-2.0**
DALK	**Dalny**	**2.59**	**338**	*e*P	**Pn**	**13 59 48.3**	**-0.9**
DALK				*e*S	**Sn**	**14 00 17.6**	**-1.9**
KRMR	**Karymshinskiy**	**2.60**	**328**	*e*P	**Pn**	**13 59 48.6**	**-0.7**
KRMR				*e*S	**Sn**	**14 00 18.7**	**-0.9**
NLC	**Nalytchevo**	**2.61**	**346**	*e*S	**Sn**	**14 00 19.0**	**-0.8**
PET	**Petropavlovsk**	**2.61**	**336**	*e*P	**Pn**	**13 59 48.1**	**-1.3**
PET				*e*S	**Sn**	**14 00 19.0**	**-0.9**
SKR	**Severo-Kuril's**	**2.72**	**272**	*e*P	**Pn**	**13 59 49.4**	**-1.5**
SKR				*e*S	**Sn**	**14 00 18.8**	**-3.8**
UGLR	**Uglovaya**	**2.74**	**340**	*e*P	**Pn**	**13 59 51.3**	**-0.1**
SDLR	**Sedlovina**	**2.79**	**341**	*e*P	**Pn**	**13 59 51.6**	**-0.5**
SMAR	**Somma**	**2.80**	**340**	P	**Pn**	**13 59 52.1**	**-0.1**
AVH	**Avacha**	**2.81**	**339**	P	**Pn**	**13 59 52.3**	**0.0**
KRER	**Koryakskii**	**2.85**	**340**	P	**Pn**	**13 59 52.8**	**-0.1**
KOK	**Koryaka**	**2.86**	**338**	P	**Pn**	**13 59 53.1**	**+0.1**
KRX	**Arik**	**2.92**	**339**	P	**Pn**	**13 59 53.5**	**-0.3**
PETK	**Petropavlovsk-**	**2.98**	**327**	Pn	**Pn**	**13 59 54.4**	**0.0**
	2.4nm,0.3s,baz=120,slow=17,SNR=49						
PETK				Sn	**Sn**	**14 00 30.1**	**+1.2**
	1.5nm,0.3s,baz=123,slow=24,SNR=7.7						
APC	**Apacha**	**3.04**	**320**	*e*P	**Pn**	**13 59 55.4**	**+0.1**
APC				S	**Sn**	**14 00 30.3**	**-0.1**
MKZ	**Mys Kozlova**	**4.00**	**11**	*e*P	**Pn**	**14 00 07.4**	**-1.0**
MKZ				*e*S	**Sn**	**14 00 50.3**	**-3.7**
TUMD	**Tumrok D**	**4.56**	**0**	P	**Pn**	**14 00 16.1**	**-0.2**
TUMD				S	**Sn**	**14 01 06.6**	**-1.4**
TUMR	**Tumrok**	**4.65**	**358**	*e*P	**Pn**	**14 00 18.3**	**+0.8**
BKI	**Bering**	**5.67**	**34**	P	**Pn**	**14 00 30.1**	**-1.3**
BKI				S	**Sn**	**14 01 29.2**	**-6.1**
KBTR	**Krutoberegovo**	**5.75**	**14**	*e*P	**Pn**	**14 00 32.2**	**-0.4**
MKAR	**Makanchi Array**	**49.42**	**298**	P	**P**	**14 07 56.9**	**+1.0**
	0.1nm,0.4s,baz=57,slow=7.0,SNR=4.5						
TXAR	**Lajitas Array**	**71.44**	**66**	P	**P**	**14 10 28.9**	**+2.3**
	0.1nm,0.4s,baz=282,slow=4.5,SNR=3.3						
ASAR	**Alice Springs**	**77.61**	**205**	P	**P**	**14 11 03.7**	**+1.6**
	0.3nm,0.8s,baz=17,slow=5.7,SNR=4.2						

*IDC **28** 14:02:58.8±4.2, 4°.66N×95°.28E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.2/56, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=125.9km s-min=32.4km az=65.0*
*ISCJB **28** 14:03:01.0±1.2, 4°.92N±0°.07×95°.74E±0°.08, h10km, mb3.3/3, Error ellipse: s-maj=11.2km s-min=9.6km az=16.0*
*DJA **28** 14:03:03.7±0.9, 5°.N±5°×9°.6E±°, h10km, M3.7/6, MLv3.7/6*
ISC 28 14:03:02.7±1.4, **4°.86N**±0°.07×**95°.84E**±0°.09, **h10**km, **n13,** σ1§**79**/13, **mb3.3**/3, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.81**	**136**	P	**Pg**	**14 03 19.2**	**+0.8**
MLSI				S	**Sg**	**14 03 29.7**	**+0.7**
LHMI	**Lhok Sumawe**	**1.16**	**72**	P	**Pb**	**14 03 24.0**	**-0.9**
LHMI				S	**Sg**	**14 03 39.3**	**-0.8**
TPTI		**2.08**	**140**	P	**Pn**	**14 03 38.0**	**+0.4**
KCSI	**Kotacane, Aceh**	**2.34**	**125**	P	**Pn**	**14 03 42.6**	**+1.4**
SNSI	**Sinabang, Aceh**	**2.48**	**169**	P	**Pn**	**14 03 42.2**	**-1.0**
PSI	**Prapat**	**3.69**	**123**	Pn	**Pn**	**14 04 03.5**	**+3.5**
	2.0nm,0.3s,baz=298,slow=17,SNR=4.9						
PSI				Sn	**Sb**	**14 04 49.6**	**-3.4**
	1.4nm,0.3s,baz=89,slow=18,SNR=2.1						
GSI	**Gunungsitoli**	**3.93**	**154**	P	**Pn**	**14 04 04.7**	**+1.5**
H08S2	**Diego Garcia H**	**26.40**	**242**	T	T	14 35 46.0	
	baz=61,slow=76,SNR=4.3						
H08S3	**Diego Garcia H**	**26.40**	**242**	T	T	14 35 46.3	
	baz=61,slow=76,SNR=5.3						
H08S1	**Diego Carcia H**	**26.42**	**242**	T	T	14 35 48.4	
	baz=61,slow=76,SNR=5.6						
SONM	**Songino Array**	**43.77**	**10**	P	**P**	**14 11 08.5**	**-0.1**
	0.3nm,0.7s,baz=188,slow=5.4,SNR=2.2						
WRA	**Warramunga Arr**	**45.16**	**124**	P	**P**	**14 11 19.9**	**-0.1**
	0.3nm,0.8s,baz=303,slow=9.0,SNR=1.7						
ASAR	**Alice Springs**	**46.70**	**129**	P	**P**	**14 11 32.4**	**+0.2**
	0.4nm,0.5s,baz=302,slow=7.5,SNR=16						

*IDC **28** 14:05:40.5±1.2, 26°.96N×67°.18E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/55, mbtmp3.5/6, ML3.4/1, MS2.8/1, Ms1 3.0/1, ms1mx2.4/29, Error ellipse: s-maj=35.2km s-min=26.4km az=138.0*
*ISCJB **28** 14:05:43.7±0.9, 27°.0N±0°.2×67°.0E±0°.2, h33km, mb3.4/5, MS2.7/1, Error ellipse: s-maj=28.1km s-min=15.8km az=144.6*
ISC 28 14:05:45.6±1.1, **27°.0N**±0°.2×**67°.0E**±0°.1, **h35**km, **n7,** σ1§**76**/7, **mb3.4**/5, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**8.42**	**246**	Pn	**Pn**	**14 07 46.6**	**+1.4**
	0.4nm,0.3s,baz=84,slow=7.3,SNR=5.3						
WSAR				Sn	**Sn**	**14 09 16.4**	**-2.7**
	0.2nm,0.3s,baz=101,slow=4.6,SNR=3.1						
MKAR	**Makanchi Array**	**23.21**	**27**	P	**P**	**14 10 48.5**	**-0.9**
	1.2nm,0.9s,baz=209,slow=8.3,SNR=7.4						
KURBB	**Kurchatov Array**	**25.23**	**17**	P	**P**	**14 11 07.4**	**-0.7**
	0.8nm,0.9s,baz=212,slow=8.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**30.61**	**99**	LR		14 26 44.2	
	comp=Z,18nm,19.2s,baz=65,slow=42						
TORD	**Torodi Ar. Bea**	**62.26**	**271**	P	**P**	**14 16 05.7**	**+1.3**
	0.6nm,0.8s,baz=85,slow=5.8,SNR=3.4						
WRA	**Warramunga Arr**	**80.19**	**118**	P	**P**	**14 17 52.7**	**0.0**
	0.7nm,0.8s,baz=316,slow=5.4,SNR=3.7						
ASAR	**Alice Springs**	**81.91**	**122**	P	**P**	**14 18 01.2**	**-0.6**
	0.2nm,0.7s,baz=311,slow=5.6,SNR=2.3						

MEX 28 14:10:13.2±0.5, **16°.41N**×**94°.08W**, **h143**km±6km, **MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.03**	**311**	*e*P	Pn	14 10 36.6	-1.0
CMIG				*e*S	Sn	14 10 54.1	-2.1
PCIG		**1.08**	**130**	*e*P	Pn	14 10 36.4	-1.7
PCIG				*e*S	Sn	14 10 55.2	-1.8
HUIG	**Huatulco**	**2.05**	**252**	*e*P	Pn

APLL				*e*S		**Sb**	**14 29 16.7**	**+0.1**
APLL				IAML			14 29 18.2	
	comp=Z,4μm,0.4s							
ARCO	**CERRO ARCO**	**2.53**	**171**	*e*P		**Pb**	**14 28 46.2**	**-1.4**
ARCO				*e*S		**Sb**	**14 29 22.8**	**+4.4**
ARCO				IAML			14 29 24.4	
	comp=Z,2μm,0.6s							
ACAN	**Cantantal**	**2.70**	**136**	*e*P		**Pb**	**14 28 47.4**	**-3.0**
ACAN				*e*S		**Sb**	**14 29 23.2**	**+0.1**
AAGR	**Agrelo**	**2.79**	**170**	*e*P		**Pb**	**14 28 49.2**	**-2.7**
GO03	**Copiap**	**2.83**	**345**	*e*Pn		**Sb**	**14 28 49.1**	**+3.6**
GO03				*e*Sn		**Sb**	**14 29 24.4**	**-2.3**
GO03	**Copiap**	**2.83**	**345**	*e*P		**Pn**	**14 28 48.5**	**+3.1**
GO03				*e*S		**Sb**	**14 29 24.5**	**-2.3**
GO03	**Copiap**	**2.83**	**345**	*i*P		**Pn**	**14 28 48.9**	**+3.4**
GO03				*e*S		**Sb**	**14 29 24.1**	**-2.6**
ROCH	**El Roble**	**2.97**	**207**	*i* P		**Pn**	**14 28 50.7**	**+3.0**
ROC1	**El Roble**	**2.98**	**207**	*e*Pn		**Pn**	**14 28 51.0**	**+3.3**
ROC1	**El Roble**	**2.98**	**207**	*e*P		**Pn**	**14 28 51.5**	**+3.8**
PEL	**Peldehue**	**3.01**	**201**	*e*Pn		**Pn**	**14 28 51.9**	**+3.9**
PEL	**Peldehue**	**3.01**	**201**	*e*P		**Pn**	**14 28 51.9**	**+3.9**
PEL				*e*S		**Sb**	**14 29 35.6**	**+3.5**
AVIZ	**Vizcacheras**	**3.22**	**167**	*e*P		**Pn**	**14 28 54.6**	**+3.8**
CYA	**Choya**	**3.65**	**60**	*e*P		**Pn**	**14 28 59.6**	**+2.8**
CYA				*e*P		**Pn**	**14 28 59.8**	**+3.0**
CYA				*e*S		**Sb**	**14 29 52.4**	**+2.0**
CYA				IAML			14 29 55.1	
	comp=Z,968nm,0.8s							
CYA				IAML			14 29 55.1	
	comp=Z,918nm,0.8s							
MRA	**San Martin**	**3.77**	**124**	*e*P		**Pn**	**14 29 00.9**	**+2.5**
MRA				*i* S		**Sn**	**14 29 45.4**	**+3.7**
MRA				IAML			14 30 00.2	
	comp=Z,1μm,0.6s							
TCA	**Tanti**	**4.24**	**105**	*e*P		**Pn**	**14 29 07.3**	**+2.4**
TCA				*e*S		**Sb**	**14 30 09.9**	**+2.5**
TCA				IAML			14 30 16.4	
	comp=Z,2μm,0.6s							
TCA	**Tanti**	**4.24**	**105**	‖ *i*P		**Pn**	**14 29 07.1**	**+2.2**
AHML	**Horco Molle**	**5.02**	**46**	*e*P		**Pn**	**14 29 18.1**	**+2.5**
AHML				*i* S		**Sb**	**14 30 31.9**	**+2.2**
AHML				IAML			14 30 50.2	
	comp=Z,281nm,0.7s							
AHML	**Horco Molle**	**5.02**	**46**	‖ *i*P		**Pn**	**14 29 18.2**	**+2.6**
GO02	**Mina Guanaco**	**5.15**	**358**	*e*Pn		**Pn**	**14 29 21.4**	**+3.7**
FSA	**Cafayete**	**5.17**	**36**	*e*P		**Pn**	**14 29 22.1**	**+4.3**
SLA	**San Lorenzo**	**6.57**	**33**	*e*P		**Pn**	**14 29 41.6**	**+4.7**
SLA				*e*S		Sb	14 31 30.3	+16
PB10	**IPOC Station P**	**6.87**	**351**	*e*Pn		**Pn**	**14 29 41.4**	**+0.4**
LVC	**Limon Verde**	**7.70**	**3**	P		**Pn**	**14 29 54.6**	**+1.8**
	comp=Z,3.3nm,0.3s,baz=179,slow=6.2,SNR=29							
LVC				S		**Sn**	**14 31 20.7**	**+1.7**
	comp=Z,7.8nm,0.3s,baz=238,slow=22,SNR=5.5							
LVC				LR		LR	14 33 27.0	
	comp=Z,128nm,21.8s,baz=184,slow=43							
PB04	**IPOC Station P**	**7.99**	**355**	*e*Pn		**Pn**	**14 29 56.1**	**-0.5**
PB01	**IPOC Station P**	**9.25**	**359**	*e*Pn		**Pn**	**14 30 13.5**	**-0.3**
GO06	**Curarrehue**	**9.39**	**190**	*e*Pn		**Pn**	**14 30 16.9**	**+1.3**
TRQA	**Tornquist**	**9.85**	**143**	*e*Pn		**Pn**	**14 30 22.5**	**+0.7**
PLCA	**Paso Flores**	**10.42**	**185**	P		**Pn**	**14 30 31.9**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=15,slow=11,SNR=5.0							
PLCA				LR		LR	14 34 34.8	
	comp=Z,226nm,18.1s,baz=34,slow=37							
PLCA	**Paso Flores**	**10.42**	**185**	*e*P		Pn	14 30 20.8	-8.9
PB11	**IPOC Station P**	**10.53**	**359**	*e*Pn		**Pn**	**14 30 30.1**	**-1.2**
MNMC	**Minye Minye**	**11.15**	**359**	*e*Pn		**Pn**	**14 30 39.7**	**-0.3**
CPUP	**Villa Florida**	**11.35**	**72**	*e*Pn		**Pn**	**14 30 40.6**	**-1.8**
CPUP	**Villa Florida**	**11.35**	**72**	P		**Pn**	**14 30 40.7**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=248,slow=11,SNR=25							
CPUP				LR		LR	14 35 35.7	
	comp=Z,365nm,20.6s,baz=246,slow=40							
PLTB	**Pedras Altas**	**13.61**	**100**	*e*P		**Pn**	**14 31 11.0**	**-2.3**
CPSB	**Cacapava Do Su**	**13.77**	**94**	*e*P		**Pn**	**14 31 13.3**	**-2.2**
LPAZ	**La Paz**	**14.03**	**5**	*e*Pn		**Pn**	**14 31 23.6**	**+4.0**
LPAZ	**La Paz**	**14.03**	**5**	P		**Pn**	**14 31 22.9**	**+3.3**
	comp=Z,0.3nm,0.3s,baz=178,slow=6.1,SNR=12							
LPAZ	**La Paz**	**14.03**	**5**	*e*P		**P**	**14 31 24.8**	**-2.2**
ITAB	**Concordia**	**15.44**	**83**	*e*P		**Pn**	**14 31 37.9**	**-0.1**
AQDB	**Aquidauana**	**15.77**	**55**	*e*P		**Pn**	**14 31 43.9**	**+1.7**
CNLB	**Canela**	**16.12**	**91**	*e*P		**Pn**	**14 31 45.1**	**-1.6**
SIV	**San Ignacio**	**16.18**	**30**	P		**Pn**	**14 31 45.9**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=215,slow=9.4,SNR=4.2							
SIV				LR		LR	14 39 02.2	
	comp=Z,190nm,19.4s,baz=152,slow=41							
PTGB	**Pitanga**	**16.35**	**74**	*e*P		**Pn**	**14 31 51.1**	**+1.4**
TRCB	**Terra Rica**	**16.75**	**67**	*e*P		**P**	**14 31 56.6**	**-0.1**
FRTB	**Fartura**	**19.00**	**73**	*e*P		**Pn**	**14 32 22.1**	**-0.2**
NNA	**Nana**	**19.52**	**338**	P		**Pn**	**14 32 29.3**	**+0.6**
	comp=Z,1.7nm,0.3s,baz=196,slow=7.8,SNR=3.9							
NNA				LR		LR	14 38 36.7	
	comp=Z,113nm,21.6s,baz=164,slow=33							
ITRB	**Iturama**	**20.20**	**63**	*e*P		**P**	**14 32 34.7**	**+0.1**
SPB	**Sao Paulo**	**20.67**	**76**	*e*P		**P**	**14 32 40.3**	**+0.6**
BB19B	**Bebedouro**	**20.91**	**69**	*e*P		**P**	**14 32 41.5**	**-0.8**
RCLB	**Rio Claro- Sao**	**21.09**	**73**	*e*P		**P**	**14 32 44.4**	**+0.1**
BSCB	**Bom Sucesso**	**24.01**	**73**	*e*P		**P**	**14 33 14.4**	**-0.1**
BDFB	**Brasilia**	**24.45**	**58**	P		**P**	**14 33 17.9**	**-0.7**
	comp=Z,9.9nm,0.9s,baz=231,slow=7.4,SNR=9.5							
BDFB				LR		LR	14 43 55.0	
	comp=Z,236nm,19.0s,baz=163,slow=39							
USHA	**Ushuaia**	**24.50**	**179**	LR		LR	14 44 41.6	
	comp=Z,235nm,18.4s,baz=346,slow=40							
PEXB	**Peixe**	**26.66**	**52**	*e*P		**P**	**14 33 39.7**	**+1.2**
MCI6	**Montes Claros**	**26.89**	**66**	*e*P		**P**	**14 33 40.1**	**-0.5**
MCI8	**Montes Claros**	**26.95**	**65**	*e*P		**P**	**14 33 40.3**	**-0.8**
MCI9	**Montes Claros**	**26.95**	**66**	*e*P		**P**	**14 33 41.0**	**-0.1**
JANB	**Januaria**	**27.59**	**62**	*e*P		**P**	**14 33 46.5**	**-0.4**
SJMB	**Sao Joao De Ma**	**28.07**	**72**	*e*P		**P**	**14 33 51.1**	**0.0**
PTGA	**Pitinga**	**30.77**	**19**	*e*P		**P**	**14 34 17.8**	**+2.8**
APG	**El Apazote**	**49.43**	**333**	P		**P**	**14 36 50.9**	**+1.2**
	comp=Z,4.6nm,0.7s,baz=207,slow=7.8,SNR=4.7							
QSPA	**South Pole Qui**	**59.90**	**180**	*e*P		**P**	**14 38 05.4**	**+0.5**
	comp=Z,5.1nm,0.8s							
LPIG	**La Paz**	**66.86**	**319**	LR		LR	15 00 58.9	
	comp=Z,51nm,18.1s,baz=152,slow=30							
JCT	**Junction City**	**67.04**	**332**	*e*P		**P**	**14 38 53.7**	**+1.3**
	comp=Z,8.9nm,0.6s							
TXAR	**Lajitas Array**	**67.73**	**328**	P		**P**	**14 38 57.9**	**+1.0**
	comp=Z,2.1nm,0.6s,baz=152,slow=8.6,SNR=30							
TX31	**Lajitas Ar. Si**	**67.73**	**328**	*e*P		**P**	**14 38 57.6**	**+0.7**
WVT	**Waverly**	**68.34**	**344**	*e*P		**P**	**14 39 00.3**	**-0.1**
	comp=Z,8.1nm,0.6s							
SYO	**Syowa Base**	**68.44**	**159**	‖ *e*P		**P**	**14 38 56.8**	**-3.9**
SYO	**Syowa Base**	**68.44**	**159**	‖ *e*pP		pP	14 39 07.0	-5.1
MNTX	**Cornudas Mount**	**70.52**	**328**	*e*P		**P**	**14 39 13.9**	**-0.1**
	comp=Z,4.8nm,0.6s							
LIC	**Lamto**	**71.47**	**71**	*e*P		**P**	**14 39 19.8**	**-0.3**
	comp=Z,27nm,1.0s							
TIC	**Toumodi**	**71.71**	**71**	*e*P		**P**	**14 39 20.3**	**-1.3**
KIC	**Kosan Boka**	**71.78**	**71**	*e*P		**P**	**14 39 21.6**	**-0.4**
	comp=Z,37nm,1.2s							
DBIC	**Dimbokro**	**71.86**	**71**	*e*P		**P**	**14 39 22.5**	**0.0**
	comp=Z,19nm,1.4s							
DBIC				pP		**pP**	**14 39 34.2**	**+0.3**
DBIC	**Dimbokro**	**71.86**	**71**	P		**P**	**14 39 22.5**	**0.0**
	comp=Z,4.8nm,0.5s,baz=218,slow=7.7,SNR=7.3							
DBIC				pP		**pP**	**14 39 34.2**	**+0.3**
	comp=Z,5.4nm,0.6s,baz=204,slow=5.1,SNR=5.1							
DBIC				LR		LR	15 08 16.7	
	comp=Z,78nm,20.5s,baz=202,slow=34							
DBIC	**Dimbokro**	**71.86**	**71**	*e*P		**P**	**14 39 22.5**	**0.0**
SDCO	**Great Sand Dun**	**75.68**	**331**	*e*P		**P**	**14 39 45.3**	**+0.6**
	comp=Z,14mm,1.8s							
S22A	**4UR Ranch, Cre**	**76.24**	**330**	*e*P		**P**	**14 39 47.5**	**-0.4**
	comp=Z,5.7nm,1.6s							
ECSD	**EROS Data Cent**	**77.81**	**340**	*e*P		**P**	**14 39 56.5**	**+0.3**
	comp=Z,5.1nm,0.6s							
MTPU	**Mount Pierson**	**78.90**	**327**	*e*P		**P**	**14 40 03.8**	**+1.0**
	comp=Z,4.1nm,1.0s							
MSU	**Marysvale**	**79.27**	**327**	*e*P		**P**	**14 40 05.1**	**+0.4**
BOSA	**Boshof**	**79.76**	**117**	P		**P**	**14 40 07.4**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=233,slow=5.0,SNR=6.9							
BOSA	**Boshof**	**79.76**	**117**	*e*P		**P**	**14 40 05.5**	**-2.1**
TOA0	**Torodi Ar. Sit**	**80.82**	**69**	*e*P		**P**	**14 40 11.4**	**-1.9**
	comp=Z,7.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**80.82**	**69**	P		**P**	**14 40 11.5**	**-1.9**
	comp=Z,4.0nm,0.6s,baz=268,slow=2.3,SNR=21							
TORD				pP		**pP**	**14 40 24.2**	**-0.6**
	comp=Z,5.3nm,0.8s,baz=293,slow=6.0,SNR=9.8							
TORD				LR		LR	15 13 52.2	
	comp=Z,60nm,20.2s,baz=295,slow=34							
TOA1	**Torodi Ar. Sit**	**80.82**	**69**	*e*P		**P**	**14 40 11.5**	**-1.9**
PD31	**Pinedale Array**	**81.57**	**331**	*e*P		**P**	**14 40 16.8**	**-0.2**
	comp=Z,5.2nm,0.8s							
PDAR	**Pinedale Array**	**81.57**	**331**	*e*P		**P**	**14 40 16.0**	**-1.0**
PDAR				pP		**pP**	**14 40 28.1**	**-0.6**
PDAR	**Pinedale Array**	**81.57**	**331**	P		**P**	**14 40 16.9**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=131,slow=7.2,SNR=9.0							
PDAR				pP		**pP**	**14 40 28.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=130,slow=8.4,SNR=3.6							
PDAR				LR		LR	15 17 07.8	
	comp=Z,25nm,18.0s,baz=78,slow=36							
NVAR	**Mina Array Bea**	**82.23**	**323**	P		**P**	**14 40 21.5**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=164,slow=5.8,SNR=13							
ELK	**Elko**	**82.48**	**327**	*e*P		**P**	**14 40 20.8**	**-1.0**
	comp=Z,2.3nm,0.8s							
ELK	**Elko**	**82.48**	**327**	P		**P**	**14 40 22.5**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=120,slow=2.3,SNR=11							
ULM	**Lac du Bonnet**	**83.60**	**343**	P		**P**	**14 40 26.7**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=146,slow=5.8,SNR=5.1							
YHH	**Holmes Hill**	**83.77**	**332**	*e*P		**P**	**14 40 29.9**	**+1.4**
	comp=Z,4.6nm,0.7s							
BMO	**Blue Mountains**	**86.62**	**328**	*e*P		**P**	**14 40 42.2**	**-0.3**
	comp=Z,6.0nm,1.7s							
K05A	**Summer Lake**	**86.74**	**325**	*e*P		**P**	**14 40 43.1**	**-0.1**
	comp=Z,10nm,1.0s							
YBH	**Yreka Blue Hor**	**86.94**	**323**	P		**P**	**14 40 43.8**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=55,slow=0.8,SNR=6.9							
SNZO	**South Karori**	**87.37**	**223**	*e*P		**P**	**14 40 42.9**	**-3.4**
WALA	**Waterton Lakes**	**88.45**	**333**	*e*P		**P**	**14 40 50.9**	**-0.3**
	comp=Z,6.8nm,0.8s							
YKA	**Yellowknife Ar**	**99.34**	**340**	P		**Pdif**	**14 41 40.2**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=140,slow=4.3,SNR=11							
YKA				pP		**pP**	**14 41 52.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=138,slow=4.7,SNR=5.1							
ILAR	**Eielson Array**	**111.95**	**333**	PP		**PP**	**14 47 13.2**	**-4.4**
	comp=Z,0.3nm,0.9s,baz=186,slow=12,SNR=4.4							
ASAR	**Alice Springs**	**121.84**	**205**	PKP		**PKPdf**	**14 46 52.7**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=130,slow=1.6,SNR=4.6							
ASAR				PKKPab		PKKPab	14 57 03.5	+8.4
	comp=Z,0.4nm,0.6s,baz=329,slow=3.2,SNR=7.8							
WR1	**Warramunga Arr**	**125.05**	**208**	*e*PKPdf		**PKPdf**	**14 46 58.8**	**-1.2**
WRA	**Warramunga Arr**	**125.05**	**208**	PKP		**PKPdf**	**14 46 58.8**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=164,slow=1.4,SNR=9.2							
WRA				pPKP		**pPKPdf**	**14 47 12.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=161,slow=1.5,SNR=3.2							
KURBB	**Kurchatov Arra**	**148.65**	**41**	PKPbc		**PKPbc**	**14 47 46.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=303,slow=3.4,SNR=9.2							
KURBB				pPKPbc		**sPKPdf**	**14 47 58.9**	**+0.8**
	comp=Z,3.7nm,0.8s,baz=300,slow=3.1,SNR=11							
AAK	**Ala-Archa**	**148.70**	**57**	PKPbc		**PKPbc**	**14 47 46.2**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=174,slow=16,SNR=6.0							
ZAA1	**Zalesovo Array**	**149.93**	**31**	*e*PKPbc		**PKPbc**	**14 47 49.2**	**+0.4**
ZAA1				*e*PKPab		**PKPab**	**14 47 54.8**	**+0.2**
ZAA0	**Zalesovo Array**	**149.93**	**31**	*e*PKPbc		**PKPbc**	**14 47 49.3**	**+0.4**
ZALV	**Zalesovo Beam**	**149.93**	**31**	PKPbc		**PKPbc**	**14 47 49.2**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=301,slow=3.7,SNR=12							
ZALV				PKPab		**PKPab**	**14 47 54.8**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=311,slow=3.0,SNR=7.8							
ZALV				pPKPbc		**pPKPbc**	**14 48 01.6**	**+0.7**
	comp=Z,12nm,0.8s,baz=297,slow=3.4,SNR=14							
ZALV				pPKPab		**pPKPab**	**14 48 07.7**	**+1.2**
	comp=Z,3.5nm,0.6s,baz=301,slow=4.4,SNR=4.3							
KSH	**Kashi**	**150.31**	**63**	PKPbc		**PKPdf**	**14 47 46.8**	**+1.6**
KSH				pPKP		pPKPdf	14 47 57.8	+0.5
KSH				sPKP			14 48 01.3	
KSH				PP		**PP**	**14 51 29.8**	**+3.4**
KSH				AMB		AMB		
	comp=Z,130nm,6.3s							
KSH				LR		LR		
	comp=N,120nm,9.3s							
KSH				LR		LR		
	comp=E,99nm,8.8s							
KSH				LR		LR		
	comp=Z,59nm,11.7s							
MAKZ	**Makanchi**	**152.43**	**45**	*e*PKPbc		**PKPbc**	**14 47 54.8**	**-0.1**
MK31	**Makanchi Array**	**152.62**	**45**	*e*PKPbc		**PKPbc**	**14 47 55.5**	**0.0**
MK32	**Makanchi Array**	**152.62**	**45**	*e*PKPbc		**PKPbc**	**14 47 55.4**	**0.0**
MKAR	**Makanchi Array**	**152.62**	**45**	PKPbc		**PKPbc**	**14 47 55.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=294,slow=1.8,SNR=8.6							
MKAR				PKPab		**PKPab**	**14 48 06.2**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=298,slow=2.5,SNR=13							
MKAR				pPKPbc		**pPKPbc**	**14 48 08.0**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=288,slow=2.2,SNR=16							
MKAR				pPKPab		**pPKPab**	**14 48 18.6**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=320,slow=2.8,SNR=10							
MK01	**Makanchi Array**	**152.64**	**45**	*e*PKPbc		**PKPbc**	**14 47 55.1**	**-0.3**
MJAR	**Matsushiro Arr**	**156.20**	**292**	PKPab		**PKPab**	**14 48 20.1**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=87,slow=3.4,SNR=3.4							
CHTO	**Chiang Mai**	**164.39**	**135**	*e*P		**PKPdf**	**14 48 03.8**	**+0.6**

*ISCJB **28** 14:38:10.8±1.3,30°.92S±0°.03×71°.61W±0°.08,h32km±7km, Error ellipse: s-maj=11.4km s-min=4.7km az=8.1*
*SJA **28** 14:38:10.5±0.4,30°.92S×71°.54W,h40km±999km,ML4.1, MW4.1*
*GUC **28** 14:38:11.8±0.5,30°.91S×71°.39W,h52km±2km,ML2.9*
ISC 28 14:38:09.5±1.8,30°.92S±0°.04×71°.57W±0°.08,h13km±12km, n18,σ0°96/29,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.55**	**117**	*e*P		**Pn**	**14 38 22.5**	**-0.7**
CMCH				*e*S		**Sb**	**14 38 30.4**	**+1.4**
GO04	**Tololo Observa**	**1.00**	**42**	*e*P		**Pg**	**14 38 28.7**	**-0.2**
GO04				*e*S		**Sg**	**14 38 41.2**	**-0.7**
GO04				IAML			14 38 43.4	
	comp=E,624nm,0.3s							
AROD	**Rodeo**	**1.96**	**68**	*e*P		**Pn**	**14 38 43.6**	**+0.8**
AROD				*e*S		**Sn**	**14 39 07.5**	**0.0**
LCO	**Las Campanas**	**2.05**	**22**	*e*P		**Pn**	**14 38 44.2**	**+0.2**
LCO	**Las Campanas**	**2.05**	**22**	*e*P		**Pn**	**14 38 44.2**	**+0.2**
LCO				*e*S		**Sn**	**14 39 09.1**	**-0.5**
LCO				IAML			14 39 11.4	
	comp=E,66nm,0.2s							
ROCH	**El Roble**	**2.10**	**167**	*e*P		**Pn**	**14 38 44.6**	**0.0**
ROCH				*i* S		**Sn**	**14 39 08.8**	**-1.9**
ROCH				IAML			14 39 15.8	
	comp=N,61nm,0.4s							
ROC1	**El Roble**	**2.10**	**167**	*e*P		**Pn**	**14 38 45.2**	**+0.5**
RTLS	**Leoncito**	**2.13**	**115**	*e*P		**Pn**	**14 38 45.9**	**+0.7**
RTLS				*e*S		**Sb**	**14 39 12.1**	**-2.7**
RTLS				IAML			14 39 15.3	
	comp=Z,27nm,0.4s							
ACCO	**Cerro Coronel**	**2.19**	**82**	*e*P		**Pn**	**14 38 46.7**	**+0.8**
ACCO				IAML			14 39 15.2	
	comp=Z,53μm,0.2s							
ACDV	**Cuesta del Vie**	**2.25**	**71**	*e*P		**Pn**	**14 38 47.2**	**+0.6**
AUSP	**Uspallata**	**2.27**	**125**	*e*P		**Pn**	**14 38 48.0**	**+0.9**
AUSP				*e*S		**Sn**	**14 39 15.4**	**+0.3**
PEL	**Peldehue**	**2.34**	**161**	*e*P		**Pb**	**14 38 52.5**	**+0.8**
PEL				*e*S		**Sn**	**14 39 16.5**	**0.0**
FCH	**Farellones**	**2.63**	**156**	*e*P		**Pn**	**14 38 52.8**	**+0.7**
FCH				*e*S		**Sn**	**14 39 24.1**	**0.0**
FCH				IAML			14 39 31.2	
	comp=E,51nm,0.2s							
AMOG	**MOGNA**	**2.65**	**91**	*e*P		**Pn**	**14 38 52.6**	**+0.6**
RTLL	**Cerro Villicun**	**2.69**	**99**	*e*P		**Pn**	**14 38 53.2**	**+0.7**
AGUA	**GUANDACOL**	**3.03**	**63**	*e*P		**Pn**	**14 38 58.0**	**+0.8**
LMEL	**Las Melosas**	**3.14**	**159**	*e*P		**Pn**	**14 38 59.2**	**+0.4**
LMEL				*i* S		**Sn**	**14 39 35.7**	**-0.6**
LMEL				IAML			14 39 46.4	
	comp=N,51nm,0.1s							
VCA	**Vinchina**	**3.65**	**54**	*e*P		**Pn**	**14 39 07.0**	**+1.1**
VCA				*e*S		**Sn**	**14 39 47.8**	**-1.1**
VCA				IAML			14 40 00.4	
	comp=N,34nm,0.4s							

IDC 28 14:38:20.5±62.0,21°.13S×179°.77W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/31,mbtmp4.1/3,Error ellipse: s-maj=1121.0km s-min=152.6km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.02**	**245**	P		P	14 45 21.6	-2.0
	1.7nm,0.9s,baz=73,slow=11,SNR=5.2							
ASAR	**Alice Springs**	**42.76**	**258**	P		P	14 46 20.1	0.0
	1.1nm,0.4s,baz=95,slow=7.4,SNR=58							
WRA	**Warramunga Arr**	**42.87**	**263**	P		P	14 46 22.1	+1.1
	1.5nm,0.4s,baz=91,slow=8.5,SNR=132							

*GUC **28** 14:44:16.2±0.3,30°.33S×72°.27W,h38km±5km,ML3.6*
*SJA **28** 14:44:17.1±0.5,30°.19S×72°.26W,h10km,ML3.5,MW3.5*
ISC 28 14:44:15.1±2.5,30°.36S±0°.04×72°.3W±0°.1,h5km±15km,n16, σ1§43/25,1C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**1.31**	**82**	*e*P		**Pg**	**14 44 40.7**	**+0.4**
GO04				*e*S		**Sn**	**14 44 59.1**	**+0.8**
GO04	**Tololo Observa**	**1.31**	**82**	‖ *e*P		**Pn**	**14 44 39.9**	**-0.5**
GO04				*e*S		**Sn**	**14 44 58.0**	**-0.4**
GO04				IAML			14 45 03.4	
	comp=N,4μm,0.6s							
CMCH	**Combarbala**	**1.38**	**126**	*e*P		**Pn**	**14 44 41.1**	**0.0**
CMCH				*e*S		**Sb**	**14 44 58.9**	**-0.6**
LCO	**Las Campanas**	**1.94**	**46**	*e*P		**Pn**	**14 44 50.4**	**-0.6**
LCO				*e*S		**Sb**	**14 45 15.5**	**-0.1**
LCO	**Las Campanas**	**1.94**	**46**	‖ *e*P		**Pn**	**14 44 49.2**	**+0.3**
LCO				*e*S		**Sb**	**14 45 14.3**	**-1.3**
LCO				IAML			14 45 22.5	
	comp=E,407nm,0.3s							
AROD	**Rodeo**	**2.45**	**86**	*e*P		**Pb**	**14 44 59.6**	**-0.3**
AROD				*e*S		**Sb**	**14 45 31.7**	**+1.1**
ACDV	**Cuesta del Vie**	**2.76**	**87**	*e*P		**Pb**	**14 45 03.8**	**-1.2**
ACDV				*e*S		**Sb**	**14 45 38.0**	**-1.2**
ACCO	**Cerro Coronel**	**2.80**	**95**	*e*P		**Pb**	**14 45 05.2**	**-0.7**
ROCH	**El Roble**	**2.83**	**157**	*i* P		**Pn**	**14 45 02.5**	**+1.4**
ROCH				*e*S		**Sn**	**14 45 35.5**	**-0.2**
ROCH				IAML			14 45 55.8	
	comp=N,166nm,0.7s							
RTLS	**Leoncito**	**2.95**	**120**	*e*P		**Pb**	**14 45 08.2**	**-0.2**
RTLS				IAML			14 45 56.6	
	comp=Z,115nm,0.6s							
AUSP	**Uspallata**	**3.11**	**127**	*e*P		**Pb**	**14 45 10.9**	**-0.1**
GO03	**Copiap**	**3.30**	**34**	*e*P		**Pn**	**14 45 07.5**	**+0.1**
GO03				*e*S		**Sn**	**14 45 46.5**	**-0.6**
GO03				IAML			14 46 07.4	
	comp=E,134nm,0.6s							
AMOG	**MOGNA**	**3.33**	**101**	*e*P		**Pb**	**14 45 12.4**	**-2.3**
AGUA	**GUANDACOL**	**3.42**	**76**	*e*P		**Pn**	**14 45 12.4**	**+3.3**
RTCV	**Cerro Valdivia**	**3.56**	**116**	*e*P		**Pb**	**14 45 15.9**	**-2.7**
VCA	**Vinchina**	**3.92**	**67**	*e*P		**Pn**	**14 45 19.1**	**+3.1**
VCA				IAML			14 46 28.7	
	comp=Z,109nm,0.5s							

*TAP **28** 15:04:23.9,25°.39N×122°.47E,h220km,ML3.0,C*
*ISCJB **28** 15:04:25.5±0.8,25°.22N±0°.08×122°.54E±0°.03, h203km±6km,Error ellipse: s-maj=13.5km s-min=4.3km az=172.1*
*JMA **28** 15:04:25.6±0.3,25°.16N×122°.48E,h

ALS	**Alishan**	**2.33**	**222**	*eP*	**Pn**	**15 05 08.1**	**0.0**
	baz=221						
CHN5	**Tsauling**	**2.35**	**226**	*eP*	**Pn**	**15 05 08.2**	**+0.1**
	baz=220						
CHN5				*eS*	**S**	**15 05 41.6**	**+0.6**
	baz=220						
JIRB	**Irabujima**	**2.45**	**99**	P	**Pn**	**15 05 09.2**	**+0.2**
JIRB				*eS*	**S**	**15 05 41.8**	**-0.7**
ELDTW	**Lidau**	**2.47**	**214**	*eP*	**Pn**	**15 05 08.9**	**-0.6**
	baz=207						
TPUB	**Ta-pu**	**2.60**	**222**	*eP*	**Pn**	**15 05 10.5**	**-0.3**
	baz=217						
JOGS	**Gusukube**	**2.67**	**100**	*eS*	**S**	**15 05 46.9**	**0.0**

*IDC **28** 15:21:21.3±1.4, 10˚.17S×112˚.16E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/30, mbtmp3.6/7, ML3.2/1, Error ellipse: s-maj=64.3km s-min=20.1km az=54.0*

*ISCJB **28** 15:21:22.9±0.7, 10˚.56S±0˚.06×111˚.67E±0˚.07, h33km, mb3.6/6, Error ellipse: s-maj=11.8km s-min=6.7km az=139.5*

*DJA **28** 15:21:26.9±1.5, 10˚S±8˚×11˚2E±˚, h39km±72km, M4.1/16, ML4.1/16*

ISC 28 15:21:25.3±0.9, **10˚.47S**±0˚.08×**111˚.69E**±0˚.06, **h35**km, **n24, σ1s20/22, mb3.5/6, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**2.31**	**347**	P	**Pn**	**15 22 00.4**	**-0.5**
PCJI				S	**Sn**	**15 22 27.7**	**-0.4**
WOJI	**Wonogiri, Jawa**	**2.72**	**344**	P	**Pn**	**15 22 06.6**	**+0.1**
GMJI	**Gumukmas**	**2.78**	**39**	P	**Pn**	**15 22 08.0**	**+0.6**
UGM	**Wanagama**	**2.79**	**335**	P	**Pn**	**15 22 07.7**	**+0.2**
YOGI	**Yogyakarta**	**2.97**	**332**	P	**Pn**	**15 22 10.2**	**+0.2**
NGJI	**Ngawi**	**3.09**	**356**	P	**Pn**	**15 22 11.6**	**0.0**
JAGI	**Jajag, Banyuwa**	**3.13**	**51**	P	**Pn**	**15 22 13.1**	**+0.8**
BLJI	**Banyuglugur**	**3.29**	**35**	P	**Sn**	**15 22 52.8**	**+0.4**
SMRI	**Semarang**	**3.61**	**340**	P	**Pn**	**15 22 19.0**	**+0.2**
GRJI	**Gresik**	**3.61**	**13**	P	**Pn**	**15 22 18.9**	**+0.1**
KMMI	**Kalianget**	**4.07**	**34**	P	**Pn**	**15 22 25.3**	**+0.2**
CMJI	**Cimerak**	**4.16**	**310**	P	**Pn**	**15 22 26.5**	**+0.1**
SRBI	**Singaraja**	**4.21**	**56**	P	**Pn**	**15 22 28.0**	**+1.0**
CISI	**Cisompet, Garu**	**4.80**	**307**	P	**Pn**	**15 22 35.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**15.50**	**121**	Pn	**Pn**	**15 24 58.1**	**-3.2**
	0.1nm,0.3s,baz=306,slow=8.7,SNR=1.4						
WRA	**Warramunga Arr**	**23.77**	**116**	P	**P**	**15 26 32.8**	**-2.1**
	1.3nm,0.9s,baz=289,slow=12,SNR=8.3						
ASAR	**Alice Springs**	**24.92**	**125**	P	**P**	**15 26 44.4**	**-1.0**
	0.6nm,0.5s,baz=303,slow=9.5,SNR=18						
STKA	**Stephens Creek**	**34.89**	**132**	P	**P**	**15 28 13.7**	**0.0**
	1.9nm,0.8s,baz=290,slow=9.3,SNR=3.0						
H08S2	**Diego Garcia H**	**38.79**	**271**	T	T	16 10 13.9	
	baz=96,slow=75,SNR=6.1						
H08S3	**Diego Garcia H**	**38.80**	**271**	T	T	16 10 15.8	
	baz=96,slow=75,SNR=3.8						
H08S1	**Diego Garcia H**	**38.81**	**271**	T	T	16 10 15.4	
	baz=96,slow=75,SNR=5.0						
SONM	**Songino Array**	**58.23**	**356**	P	**P**	**15 31 16.3**	**+0.1**
	0.3nm,0.6s,baz=184,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**62.77**	**338**	P	**P**	**15 31 47.5**	**+0.4**
	0.4nm,0.4s,baz=153,slow=7.9,SNR=9.0						
VNDA	**Vanda**	**71.75**	**170**	P	**P**	**15 32 46.4**	**+2.8**
	0.2nm,0.4s,baz=281,slow=5.2,SNR=1.1						

*NSSC **28** 15:31:02.1±1.1, 34˚.01N×35˚.76E, h1km±947km, ML1.4*

*GRAL **28** 15:31:06.0±0.3, 33.88N×35.85E, h0km±49km, MD2.6*

ISC 28 15:31:03.5±1.4, **33˚.97N**±0˚.06×**35˚.85E**±0˚.08, **h14**km±11km, **n7, σ0s83/12, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHL	**Bhannes**	**0.17**	**248**	*eP*	**Pb**	**15 31 08.9**	**+0.4**
BHL				*eS*	**Sg**	**15 31 11.1**	**+0.6**
HWG	**Hawqa**	**0.32**	**15**	*eP*	**Pn**	**15 31 13.3**	**-0.6**
DQRL	**Deir Qamar**	**0.35**	**221**	*eP*	**Pb**	**15 31 11.2**	**-0.3**
RCY	**Rachaya**	**0.47**	**181**	*eP*	**Pg**	**15 31 12.9**	**0.0**
RCY				*eS*	**Sg**	**15 31 18.0**	**-1.2**
BRBR	**Barbar**	**0.56**	**171**	*eP*	**Pg**	**15 31 14.3**	**-0.3**
BRBR				*eS*	**Sb**	**15 31 23.4**	**+0.1**
BRBR				AML	AML	15 31 25.0	
	comp=N,26nm,0.3s						
BRBR				AML	AML	15 31 26.3	
	comp=E,40nm,0.5s						
QASN	**Qassioun**	**0.56**	**141**	*eP*	**Pg**	**15 31 14.5**	**0.0**
QASN				*eS*	**Sb**	**15 31 24.5**	**+1.3**
QASN				AML	AML	15 31 25.4	
	comp=N,26nm,0.6s						
QASN				AML	AML	15 31 37.1	
	comp=E,56nm,0.3s						
TOTH	**TOTAH**	**0.78**	**141**	*eP*	**Pn**	**15 31 19.9**	**-0.2**
TOTH				*eS*	**Sb**	**15 31 30.3**	**+1.1**
TOTH				AML	AML	15 31 41.0	
	comp=N,6.0nm,0.4s						
TOTH				AML	AML	15 31 48.2	
	comp=E,7.3nm,0.6s						

IDC 28 15:32:26.3±4.9, **6.70S**×**154˚.05E**, **h0**km, **mb3.4**/4, **mb1 3.7**/4, **mb1mx3.4**/29, **mbtmp3.5**/4, **Error ellipse: s-maj=124.4km s-min=36.8km az=105.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.22**	**234**	P	P	15 37 34.7	-0.6
	0.4nm,0.5s,baz=55,slow=10.0,SNR=2.2						
ASAR	**Alice Springs**	**25.68**	**227**	P	P	15 37 57.8	-0.5
	0.3nm,0.5s,baz=57,slow=9.4,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**27.97**	**26**	T	T	16 06 27.2	
	baz=208,slow=76,SNR=14						
H11S2	**WAKE ISLAND Hy**	**27.97**	**26**	T	T	16 06 25.1	
	baz=208,slow=76,SNR=33						
H11S1	**WAKE ISLAND Hy**	**27.99**	**26**	T	T	16 06 27.7	
	baz=208,slow=76,SNR=16						
CMAR	**Chiang Mai Arr**	**59.81**	**296**	P	P	15 42 35.8	+1.8
	0.3nm,0.3s,baz=127,slow=5.8,SNR=5.1						
MKAR	**Makanchi Array**	**82.56**	**319**	P	P	15 44 50.0	-1.3
	0.6nm,0.9s,baz=90,slow=5.8,SNR=4.1						

*NIED **28** 15:48:00, 35˚.70N×141˚.00E, h11km, Mw3.9 Best double couple: M0 9.42000×10^14 NP1:φs342.00000°, δ43.00000°, λ-123.00000°. NP2:φs204.00000°, δ55.00000°, λ-63.00000°.*

*ISCJB **28** 15:48:29.6±0.6, 35˚.70N±0˚.03×140˚.96E±0˚.05, h19km±4km, mb3.6/14, Error ellipse: s-maj=7.4km s-min=4.8km az=175.9*

*JMA **28** 15:48:30.1±0.2, 35˚.71N×140˚.92E, h13km±1km, M4.2*

JMA Felt III J1.

*IDC **28** 15:48:34.7±1.7, 35˚.63N×140˚.73E, h46km±18km, mb3.4/14, mb1 3.6/18, mb1mx3.5/56, mbtmp3.6/18, ML3.3/3, MS2.5/2, Ms1 2.5/2, ms1mx2.3/25, Error ellipse: s-maj=18.8km s-min=9.6km az=76.0*

ISC 28 15:48:30.5±0.8, **35˚.69N**±0˚.04×**140˚.85E**±0˚.06, **h13**km±5km, **n40, σ1s25/42, mb3.7**/14, **3C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.01**	**22**	⇓P	**Pg**	**15 48 32.5**	**-0.2**
CHOJ				S	**Sg**	**15 48 34.1**	**-0.1**
JSMT	**Sammumatsuo**	**0.33**	**261**	P	**Pb**	**15 48 38.3**	**0.0**
JIHU	**Itakohorinouch**	**0.38**	**316**	P	**Pb**	**15 48 38.7**	**-0.4**
JIHU				S	**Sb**	**15 48 45.4**	**+0.4**
JCN	**Nagara**	**0.60**	**243**	⇑P	**Pn**	**15 48 43.6**	**-1.1**
JCN				S	**Sn**	**15 48 54.0**	**-0.3**
JHYU	**Hitachinakayam**	**0.68**	**342**	P	**Pg**	**15 48 43.4**	**-0.4**
JHYU				S	**Sg**	**15 48 52.7**	**0.0**
JYT	**Yasato**	**0.76**	**315**	⇑P	**Pg**	**15 48 44.5**	**-0.6**
JYT				S	**Sb**	**15 48 54.9**	**-0.9**
BSO4	**Boso 4**	**0.82**	**211**	P	**Pn**	**15 48 47.1**	**-0.6**
BSO3	**Boso 3**	**0.93**	**198**	P	**Pn**	**15 48 48.2**	**-0.9**
JHO	**Hitachi**	**0.94**	**346**	⇑P	**Pg**	**15 48 47.0**	**-1.7**
JHO				S	**Sg**	**15 48 59.6**	**-1.5**
MJAR	**Matsushiro Arr**	**2.30**	**292**	P	**Pn**	**15 49 07.3**	**-0.9**
	5.0nm,0.3s,baz=94,slow=7.9,SNR=121						
MJAR				S	**Sn**	**15 49 35.5**	**-1.0**
	3.6nm,0.3s,baz=94,slow=20,SNR=2.1						
MAT	**Matsushiro**	**2.31**	**292**	P	**Pn**	**15 49 08.0**	**-0.2**
MAT				S	**Sn**	**15 49 37.4**	**+0.9**
JHJ	**Hachijo jima 2**	**2.72**	**199**	P	**Pn**	**15 49 14.8**	**+0.9**
	40nm,0.3s,baz=118,slow=22,SNR=8.1						
JHJ				S	**Sn**	**15 49 45.8**	**-0.8**
	32nm,0.3s,baz=66,slow=23,SNR=2.5						
ASAJ	**Asahikawa**	**8.52**	**9**	P	**Pn**	**15 50 32.9**	**-0.7**
	1.3nm,0.3s,baz=182,slow=17,SNR=11						
JNU	**Nakatsue**	**8.63**	**256**	LR	LR	15 54 37.5	
	comp=Z,29nm,18.8s,baz=64,slow=43						
JCJ	**Chichijima**	**8.65**	**172**	P	**Pn**	**15 50 34.0**	**-1.3**
	8.8nm,0.3s,baz=114,slow=22,SNR=1.7						
KSRS	**Korea Array**	**10.55**	**283**	P	**Pn**	**15 51 05.3**	**+3.9**
	0.2nm,0.3s,baz=96,slow=14,SNR=2.8						
KSRS				LR	LR	15 53 54.1	
	comp=Z,21nm,20.4s,baz=349,slow=30						
USRK	**Ussuriysk Ar.**	**10.88**	**324**	P	**Pn**	**15 51 09.0**	**+3.2**
	0.1nm,0.3s,baz=174,slow=30,SNR=3.5						
KLR	**Kul'dur**	**15.09**	**337**	P	**Pn**	**15 52 05.3**	**+2.1**
	0.1nm,0.3s,baz=174,slow=9.2,SNR=1.8						
PETK	**Petropavlovsk-**	**21.07**	**29**	P	**P**	**15 53 17.2**	**+2.9**
	1.7nm,0.8s,baz=195,slow=10,SNR=1.8						
MA2	**Magadan**	**24.76**	**12**	P	**P**	**15 53 52.4**	**+0.8**
	2.3nm,0.6s,baz=193,slow=13,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	16 23 15.7	
	baz=311,slow=75,SNR=343						
H11N1	**WAKE ISLAND Hy**	**27.89**	**118**	T	T	16 23 10.0	
	baz=311,slow=75,SNR=320						
H11N3	**WAKE ISLAND Hy**	**27.90**	**118**	T	T	16 23 13.7	
	baz=311,slow=75,SNR=428						
SONM	**Songino Array**	**28.18**	**306**	P	**P**	**15 54 22.6**	**-0.2**
	0.6nm,0.5s,baz=105,slow=8.9,SNR=4.1						
SEY	**Seymchan**	**28.19**	**11**	P	**P**	**15 54 23.0**	**+0.5**
	0.2nm,0.2s,baz=232,slow=18,SNR=2.4						
H11S1	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	16 24 04.3	
	baz=312,slow=75,SNR=1438						
H11S3	**WAKE ISLAND Hy**	**28.55**	**120**	T	T	16 24 04.3	
	baz=312,slow=75,SNR=918						
H11S2	**WAKE ISLAND Hy**	**28.56**	**120**	T	T	16 24 06.4	
	baz=312,slow=75,SNR=889						
ZALV	**Zalesovo Beam**	**42.49**	**313**	P	**P**	**15 56 24.9**	**-0.4**
	1.6nm,0.7s,baz=86,slow=6.1,SNR=4.2						
MKAR	**Makanchi Array**	**44.46**	**303**	P	**P**	**15 56 41.2**	**-0.1**
	2.5nm,0.6s,baz=87,slow=9.0,SNR=9.5						
ILAR	**Eielson Array**	**50.87**	**32**	P	**P**	**15 57 30.8**	**+0.1**
	0.7nm,0.6s,baz=267,slow=5.7,SNR=7.7						
WRA	**Warramunga Arr**	**55.67**	**187**	P	**P**	**15 58 05.0**	**-1.5**
	1.2nm,0.7s,baz=7.3,slow=7.4,SNR=7.7						
ASAR	**Alice Springs**	**59.40**	**187**	P	**P**	**15 58 32.0**	**-0.8**
	0.4nm,0.7s,baz=17,slow=11,SNR=8.6						
YKA	**Yellowknife Ar**	**65.19**	**30**	P	**P**	**15 59 10.7**	**-0.4**
	0.1nm,0.5s,baz=300,slow=6.7,SNR=1.4						
FINES	**FINESS Array B**	**69.79**	**332**	P	**P**	**15 59 39.6**	**-0.6**
	2.3nm,1.0s,baz=44,slow=8.3,SNR=2.4						
NB2	**NORSAR Subarra**	**75.25**	**337**	P	**P**	**16 00 12.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=41,slow=6.2						
NOA	**NORSAR Array B**	**75.25**	**337**	P	**P**	**16 00 12.1**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=41,slow=5.9,SNR=2.8						
NVAR	**Mina Array Bea**	**76.16**	**53**	P	**P**	**16 00 19.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=283,slow=5.2,SNR=2.0						
PDAR	**Pinedale Array**	**78.93**	**45**	P	**P**	**16 00 33.9**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=44,slow=0.6,SNR=4.2						
LPAZ	**La Paz**	**147.75**	**61**	PKPbc	**PKPbc**	**16 08 16.1**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=277,slow=1.3,SNR=5.4						

*IDC **28** 15:52:12.1±1.8, 27˚.60S×176˚.69W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/28, mbtmp4.0/4, ML3.2/1, Error ellipse: s-maj=52.0km s-min=29.2km az=139.0*

*NEIC **28** 15:52:17.2±3.0, 27˚.79S×176˚.64W, h42km±22km, mb4.6/8, Error ellipse: s-maj=27.4km s-min=18.7km az=63.0*

ISC 28 15:52:14.3±0.7, **28˚.0S**±0˚.1×**176˚.2W**±0˚.1, **h37**km, **n21, σ2s28/22, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.97**	**230**	Pn	**Pn**	**15 52 46.4**	**+1.2**
	46nm,0.3s,baz=114,slow=23,SNR=1.1						
RAO				Sn	**Sn**	**15 53 09.7**	**+1.0**
	155nm,0.3s,baz=100,slow=22,SNR=4.9						
NIUE	**Niue**	**10.56**	**34**	*ePn*	**Pn**	**15 54 42.3**	**-0.9**
URZ	**Urewera**	**11.68**	**207**	*ePn*	**Pn**	**15 54 54.7**	**-3.6**
BKZ	**Black Stump Fm**	**12.70**	**207**	*ePn*	**Pn**	**15 55 08.5**	**-3.9**
RAR	**Rarotonga**	**16.38**	**69**	*ePn*	**Pn**	**15 55 58.5**	**-3.0**
	36nm,1.3s						
RAR	**Rarotonga**	**16.38**	**69**	Pn	**P**	**15 56 06.8**	**+2.9**
	0.9nm,0.3s,baz=323,slow=5.6,SNR=3.1						
THZ	**Tophouse**	**16.38**	**210**	*ePn*	**Pn**	**15 55 58.3**	**-3.1**
	60nm,1.8s						
KHZ	**Kahutara**	**16.64**	**207**	*ePn*	**Pn**	**15 56 00.8**	**-3.8**
	85nm,1.7s						
CRLZ	**Canterbury Las**	**17.98**	**207**	*ePn*	**Pn**	**15 56 19.2**	**-2.0**
	76nm,1.5s						
OXZ	**Oxford**	**18.02**	**209**	*ePn*	**P**	**15 56 21.1**	**-0.8**
	51nm,1.9s						
ASAR	**Alice Springs**	**44.88**	**264**	P	**P**	**16 00 25.7**	**+0.2**
	1.3nm,0.9s,baz=107,slow=9.3,SNR=8.4						
WB2	**Warramunga Arr**	**45.65**	**269**	*eP*	**P**	**16 00 31.0**	**-0.5**
WR1	**Warramunga Arr**	**45.66**	**269**	*eP*	**P**	**16 00 30.7**	**-0.9**
	36nm,1.9s						
WRA	**Warramunga Arr**	**45.66**	**269**	P	**P**	**16 00 30.7**	**-0.9**
	0.8nm,0.7s,baz=108,slow=6.3,SNR=5.1						
CASY	**Casey**	**58.00**	**207**	*eP*	**P**	**16 02 05.3**	**+2.4**
	28nm,1.8s						
QSPA	**South Pole Qui**	**62.12**	**180**	*eP*	**P**	**16 02 34.8**	**+3.5**
	28nm,1.9s						
MJAR	**Matsushiro Arr**	**77.20**	**324**	P	**P**	**16 04 04.2**	**-0.1**
	1.3nm,0.6s,baz=158,slow=6.0,SNR=4.5						
MAJO	**Matsushiro**	**77.20**	**324**	*eP*	**P**	**16 04 04.2**	**-0.2**
NB2	**NORSAR Subarra**	**146.57**	**353**	PKP	**PKiKP**	**16 11 53.3**	**-0.8**
	comp=Z,6nm,0.6s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**146.57**	**353**	PKPbc	**PKiKP**	**16 11 53.7**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=12,slow=4.4,SNR=6.9						
CLL	**Collm**	**155.69**	**346**	*e*PKPab	**PKPab**	**16 12 31.0**	**+0.8**

*IDC **28** 15:55:05.5±2.2, 27˚.53S×176˚.75W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.8/25, mbtmp3.9/3, ML4.0/1, Error ellipse: s-maj=65.8km s-min=34.2km az=131.0*

*ISCJB **28** 15:55:19.6±0.5, 28˚.84S±0˚.06×177˚.3W±0˚.1, h100km, mb4.5/8, Error ellipse: s-maj=15.9km s-min=5.0km az=24.1*

*NEIC **28** 15:55:22.4±0.8, 28˚.87S×177˚.33W, h108km±8km, mb4.7/14, Error ellipse: s-maj=15.0km s-min=6.9km az=124.0*

ISC 28 15:55:20.7±1.0, **28˚.9S**±0˚.1×**177˚.2W**±0˚.2, **h100**km, **n34, σ2s17/39, mb4.7/8, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.72**	**244**	Pn	**Pn**	**15 55 40.4**	**+2.1**
	58nm,0.3s,baz=107,slow=22,SNR=2.0						
RAO				Sn	Sn	15 56 04.0	+12
	412nm,0.3s,baz=66,slow=21,SNR=8.8						
URZ	**Urewera**	**10.45**	**206**	*ePn*	**Pn**	**15 57 45.8**	**-1.6**
URZ				*eSn*	**Sn**	**15 59 46.3**	**+4.0**
BKZ	**Black Stump Fm**	**11.47**	**206**	*ePn*	**Pn**	**15 58 00.5**	**-0.7**
BKZ				*eSn*	**Sn**	**16 00 04.9**	**-2.5**
MSVF	**Nonsavu**	**11.98**	**338**	*eP*	Pn	15 57 58.3	-10
THZ	**Tophouse**	**15.13**	**210**	*ePn*	**Pn**	**15 58 49.9**	**+0.9**
	62nm,2.0s						
THZ				*eSn*	**Sn**	**16 01 37.6**	**+1.7**
KHZ	**Kahutara**	**15.41**	**207**	*ePn*	**Pn**	**15 58 52.1**	**-0.3**
	125nm,2.0s						
KHZ				*eSn*	**Sn**	**16 01 41.4**	**-1.1**
CRLZ	**Canterbury Las**	**16.75**	**207**	*eP*	**Pn**	**15 59 10.4**	**+1.4**
	91nm,1.5s						
OXZ	**Oxford**	**16.77**	**208**	*eP*	**Pn**	**15 59 10.2**	**+0.8**
	87nm,2.0s						
OXZ				*eS*	**Sn**	**16 02 08.0**	**-7.6**
MQZ	**McQueen's Vall**	**16.84**	**206**	*eP*	**Pn**	**15 59 09.2**	**-1.0**
	47nm,1.5s						
MQZ				*eS*	**Sn**	**16 02 15.8**	**-1.4**
RPZ	**Rata Peaks**	**17.51**	**209**	*eP*	**P**	**15 59 19.3**	**+1.3**
	32nm,1.7s						
FOZ	**Fox Glacier**	**17.92**	**212**	*eP*	**Pn**	**15 59 24.7**	**+1.5**
	62nm,1.7s						
ODZ	**Otahua Downs**	**18.76**	**208**	*eP*	**P**	**15 59 31.9**	**+0.2**
	33nm,1.6s						
WKZ	**Wanaka**	**19.28**	**211**	*eP*	**P**	**15 59 37.4**	**0.0**
	63nm,1.4s						
CTAO	**Charters Tower**	**34.31**	**277**	*eP*	**P**	**16 01 56.4**	**-1.4**
	31nm,1.5s						
AS01	**Alice Springs**	**43.89**	**265**	*eP*	**P**	**16 03 18.8**	**+1.3**
AS31	**Alice Springs**	**43.93**	**265**	*eP*	**P**	**16 03 19.6**	**+1.7**
	2.0nm,1.4s						
ASAR	**Alice Springs**	**43.93**	**265**	P	**P**	**16 03 18.9**	**+1.1**
	0.5nm,0.5s,baz=107,slow=8.8,SNR=13						
WB2	**Warramunga Arr**	**44.77**	**270**	*eP*	**P**	**16 03 24.0**	**-0.6**
WRAB	**Tennant Creek**	**44.78**	**270**	*eP*	**P**	**16 03 23.5**	**-1.1**
	17nm,1.5s						
WR1	**Warramunga Arr**	**44.78**	**270**	*eP*	**P**	**16 03 23.7**	**-1.0**
	29nm,1.7s						
WRA	**Warramunga Arr**	**44.78**	**270**	P	**P**	**16 03 23.7**	**-1.0**
	2.6nm,1.2s,baz=109,slow=7.0,SNR=16						
RIM	**Rim**	**52.50**	**26**	*eP*	**P**	**16 04 24.3**	**+0.5**
	155nm,0.7s						
NPH	**North Pit**	**52.51**	**26**	*eP*	**P**	**16 04 23.6**	**-0.2**
	112nm,0.7s						
OBL	**Observatory Le**	**52.51**	**26**	*eP*	**P**	**16 04 25.3**	**+1.4**
	358nm,0.9s						
UWE	**Uwekahuna**	**52.51**	**26**	*eP*	**P**	**16 04 25.3**	**+1.4**
	168nm,0.6s						
BYL	**Byron's Ledge**	**52.52**	**26**	*eP*	**P**	**16 04 25.1**	**+1.2**
	216nm,0.8s						
UWB	**Uwekahuna B**	**52.52**	**26**	*eP*	**P**	**16 04 24.8**	**+0.9**
	183nm,0.9s						
HATHI	**Halema'uma'u T**	**52.53**	**26**	*eP*	**P**	**16 04 24.7**	**+0.7**
	196nm,0.9s						
SBLHI	**Steaming Bluff**	**52.53**	**26**	*eP*	**P**	**16 04 25.0**	**+1.1**
	197nm,0.9s						
CASY	**Casey**	**56.77**	**207**	*eP*	**P**	**16 04 56.3**	**+2.4**
	35nm,1.6s						
NB2	**NORSAR Subarra**	**147.41**	**352**	PKP	**PKPdf**	**16 14 46.6**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=8.0,slow=2.9						
NB200	**NORSAR Array S**	**147.41**	**352**	*e*PKPdf	**PKPdf**	**16 14 46.2**	**-3.4**
NOA	**NORSAR Array B**	**147.41**	**352**	PKPbc	**PKPdf**	**16 14 46.2**	**-3.4**
	comp=Z,0.5nm,0.6s,baz=13,slow=4.4,SNR=4.2						
HFS	**Hagfors**	**147.95**	**350**	PKPbc	**PKPdf**	**16 14 47.4**	**-3.1**
	comp=Z,1.8nm,0.8s,baz=48,slow=2.1,SNR=3.7						

IDC 28 16:11:04.0±1.8, **10˚.66S**×**166˚.24E**, **h0**km, **mb3.4**/3, **mb1 3.8**/4, **mb1mx3.5**/27, **mbtmp3.6**/4, **ML3.6/1, Error ellipse: s-maj=56.2km s-min=32.1km az=127.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.35**	**179**	Pn	Pn	16 13 47.8	+0.1
	0.4nm,0.3s,baz=298,slow=7.3,SNR=9.4						
WRA	**Warramunga Arr**	**32.07**	**249**	P	P	16 17 33.6	+0.6
	0.3nm,0.9s,baz=80,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**33.40**	**243**	P	P	16 17 44.0	-0.7
	0.3nm,0.7s,baz=69,slow=9.6,SNR=7.6						
ILAR	**Eielson Array**	**82.99**	**18**	P	P	16 23 30.8	0.0
	0.3nm,0.6s,baz=232,slow=5.7,SNR=5.0						

*ISCJB **28** 16:13:39.7±0.2, 42˚.325N±0˚.009×18˚.80E±0˚.01, h7km±1km, mb4.1/29, Error ellipse: s-maj=1.7km s-min=1.4km az=135.2*

*MOS **28** 16:13:39.8±1.0, 42˚.30N×18˚.79E, h11km, mb4.2/12, Error ellipse: s-maj=4.5km s-min=2.8km az=99.1*

*LDG **28** 16:13:39.3±0.2, 42˚.31N×18˚.90E, h25km, Ml3.9/11, Error ellipse: s-maj=4.4km s-min=2.5km az=178.0*

*TIR **28** 16:13:39.8, 42˚.44N×18˚.81E, h34km, Md4.0/4*

*IDC **28** 16:13:39.6±0.7, 42˚.22N×18˚.79E, h0km, mb3.9/10, mb1 4.0/21, mb1mx3.9/40, mbtmp3.9/21, ML3.7/10, MS3.0/8, Ms1 3.0/8, ms1mx2.6/68, Error ellipse: s-maj=12.2km s-min=8.8km az=43.0*

*THE **28** 16:13:40.2, 42˚.39N×18˚.62E, h12km±15km, ML3.7/2, Error ellipse: s-maj=20.3km s-min=2.5km az=322.0*

*NEIC **28** 16:13:40.9±0.9, 42˚.34N×18˚.84E, h5km±6km, mb4.3/18, Error ellipse: s-maj=4.4km s-min=2.9km az=219.0*

*BEO **28** 16:13:40.8±0.3, 42˚.28N×18˚.85E, h0km, ML3.4/21*

*PDG **28** 16:13:40.8±0.2, 42˚.35N×18˚.93E, h3km, MD3.8/10, ML3.8/9, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*

*SAR **28** 16:13:41.0±0.3, 42˚.33N×18˚.94E, h2km±1km, ML4.0/1*

*PRU **28** 16:13:42.8±0.0, 42˚.24N×18˚.93E, h0km*

ISC 28 16:13:40.9±0.7, **42˚.33N**±0˚.01×**18˚.89E**±0˚.01, **h7**km±4km, **n413, σ1s66/554, mb4.1/29, 40C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUM	**Brajici-Budva**	**0.03**	**178**	⇑*i*Pg	**Pg**	**16 13 41.8**	**-0.5**
BUM				*i* Sg	**Sg**	**16 13 42.8**	**-0.5**
CEME	**Cevo**	**0.22**	**5**	⇓*i*Pg	**Pg**	**16 13 44.7**	**-0.6**
CEME				*i* Sg	**Sg**	**16 13 48.2**	**0.0**
DRME	**Dracevica, Mon**	**0.26**	**123**	⇑*i*Pg	**Pg**	**16 13 45.5**	**-0.5**
DRME				*i*

PHP S Sn 16 14 26.9 +3.2
PHP Peshkopia 1.32 119 P Pn 16 14 04.6 -1.2
PHP Peshkopia 1.32 119 i PN Pn 16 14 04.7 -1.1
PHP i SN Sn 16 14 27.3 +3.6
IVAS Ivanjica 1.55 36 ePn Pn 16 14 08.6 -0.4
IVAS eSn Sg 16 14 32.5 +1.7
BBLS Lazići 1.58 14 ePn Pb 16 14 10.3 -0.2
BBLS eSn Sg 16 14 33.3 +1.6
HAPS Han Pijesak,Bl 1.76 1 ePn Pn 16 14 12.5 +0.6
HAPS eSn Sg 16 14 36.7 -0.7
HAPS Han Pijesak,Bl 1.76 1 ePn Pn 16 14 11.8 -0.1
HAPS eSn Sb 16 14 35.3 -0.6
SELS Selova 1.87 61 ePn Pn 16 14 14.1 +0.8
SELS eSn Sb 16 14 39.1 +0.2
OHR Ohrid 1.88 130 i Pn Pb 16 14 15.7 +0.2
OHR i Sn Sg 16 14 42.8 +1.6
FASA Fasano 1.90 218 ePn Pn 16 14 13.6 -0.1
SKO Skopje 1.93 100 i Pn Pb 16 14 16.2 -0.1
SKO i Sn Sg 16 14 44.0 +1.2
SKO Skopje 1.93 100 P Pn 16 14 14.6 +0.5
BAI Bari 1.94 232⇑iPn Pn 16 14 13.9 -0.3
BAI Sn Sn 16 14 37.1 -1.7
DIVS Divibare 1.94 24 ePn Pn 16 14 15.0 +0.6
DIVS eSn Sb 16 14 41.6 +0.4
CGL1 Ceglie Messapi 1.98 213 ePn Pg 16 14 19.9 +1.1
KRUS Krusevo 2.00 118 i Pn Pb 16 14 17.3 -0.4
KRUS i Sn Sg 16 14 45.1 -0.2
GRUS Gruza 2.05 40 ePn Pn 16 14 16.4 +0.6
GRUS eSn Sb 16 14 43.9 -0.3
MASS Massafra 2.14 218 ePn Pn 16 14 16.5 -0.6
TAR1 Taranto 2.17 214 ePn Pg 16 14 21.6 -0.8
TRUS Trudelj 2.19 30 ePn Pn 16 14 18.4 +0.6
TRUS eSn Sb 16 14 47.8 -0.5
TPE Tepelena 2.20 157 P Pn 16 14 18.9 +1.1
BARS Barje 2.21 76 ePn Pn 16 14 19.5 +1.4
BARS Barje 2.21 76 ePn Pg 16 14 29.3 +6.0
BARS eSn Sb 16 14 48.1 -0.8
BARS eSn Sg 16 15 04.7 +13
SG1 Sgolgore (BA) 2.23 229⇑iPn Pn 16 14 18.0 -0.3
SG1 Sn Sn 16 14 45.2 -0.9
BIA Bitola 2.24 125 i Pn Pb 16 14 21.4 -0.4
BIA i Sn Sn 16 14 47.5 +1.1
MATE Matera 2.35 225⇑iP Pn 16 14 19.4 -0.5
FNA Florina 2.42 129 ePn Pn 16 14 22.6 +1.7
FNA eSn Sg 16 14 57.7 -0.9
FNA Florina 2.42 129 P Pn 16 14 22.8 +1.9
FNA S Sb 16 14 56.3 +1.5
FNA Florina 2.42 129 eP Pn 16 14 22.6 +1.7
FNA e 16 14 57.7
FNA Florina 2.42 129 i PN Pn 16 14 22.4 +1.4
FNA i SN Sb 16 14 55.3 +0.4
DOB Doboj 2.47 347 ePn Pn 16 14 23.2 +1.6
NEST Nestorio 2.51 139 P Pn 16 14 24.0 +1.8
STIP Stip 2.54 103 i Pn Pb 16 14 26.2 -0.5
STIP i Sn Sg 16 15 01.5 -0.8
SRN Sarande 2.58 161 P Pn 16 14 23.2 +0.1
SRN S Sn 16 14 55.7 +0.9
BOSS Bosilegrad 2.66 85 ePn Pn 16 14 25.7 +1.5
BOSS eSn Sn 16 14 58.6 +1.8
KEK Kerkira 2.70 165 P Pn 16 14 24.6 -0.1
KEK S Sn 16 14 58.4 +0.7
BLY Banja Luka 2.72 333 ePn Pb 16 14 27.6 -2.3
BLY eSn Sb 16 15 01.1 -2.3
BLY Banja Luka 2.72 333 ePn Pn 16 14 27.3 +2.3
BLY eSn Sb 16 15 04.7 +1.3
BLY Banja Luka 2.72 333⇑iP Pn 16 14 26.0 +1.0
BLY Banja Luka 2.72 333 S Sn 16 14 58.3 +0.2
BLY Banja Luka 2.72 333 ePn Pn 16 14 26.5 +1.5
BLY eSn Sn 16 14 59.6 +1.5
PENT Pentalofos 2.72 141 P Pn 16 14 27.1 +2.0
BEO Beograd 2.73 24 ePn Pn 16 14 26.0 +0.8
BEO eSn Sn 16 15 00.7 +2.3
BEO Beograd 2.73 24 eP Pn 16 14 26.0 +0.8
BEO eSN Sn 16 15 00.7 +2.3
ZAGS Zajecar 2.86 58 ePn Pn 16 14 28.1 +1.2
ZAGS eSn Sn 16 15 03.4 +1.7
FRGS Fruska Gora 2.91 13 ePn Pn 16 14 28.7 +1.1
FRGS eSn Sn 16 15 05.6 +2.8
ZAPS Zavoj 2.91 70 ePn Pn 16 14 29.8 +2.1
ZAPS eSn Sn 16 15 05.0 +2.1
VAY Valandovo 2.93 109 i Pn Pn 16 14 30.1 +2.3
VAY i Sn Sb 16 15 07.9 -1.5
VAY Valandovo 2.93 109 P Pn 16 14 29.7 +1.9
KZN Kozani 2.96 132 P Pn 16 14 30.0 +1.6
KZN Kozani 2.96 132 P Pn 16 14 30.0 +1.6
KPRO Kipourio 3.02 141 P Pn 16 14 31.1 +1.9
MRAK Mrakovica 3.05 332 ePn Pn 16 14 30.9 +1.3
MRAK eSn Sn 16 15 07.4 +1.0
KTI Kastanea 3.10 127 P Pn 16 14 32.0 +1.6
KKB Krupnik 3.15 97 P Pn 16 14 34.0 +3.0
UDBI Udbina 3.17 315 i Pn Pn 16 14 33.7 +2.5
UDBI Sn Sb 16 15 14.8 -1.6
MDVR Moldovita 3.20 39⇑iP Pn 16 14 32.3 +0.7
MDVR Moldovita 3.20 39 S Sn 16 15 11.8 +1.8
VTS Vitosha 3.23 83 ePn Pn 16 14 33.9 +1.8
VTS eSn Sn 16 15 13.0 +2.1
VTS Vitosha 3.23 83 ePn Pn 16 14 34.2 +2.2
VTS eSn Sn 16 15 13.2 +2.3
VTS Vitosha 3.23 83⇓iP Pn 16 14 33.8 +1.7
VTS Vitosha 3.23 83 S Sn 16 15 14.3 +3.4
VTS Vitosha 3.23 83 eP Pn 16 14 34.3 +2.2
VTS e 16 15 13.2
BANR Banloc 3.46 27⇑iP Pn 16 14 37.1 +2.0
BANR Banloc 3.46 27 S Sn 16 15 18.5 +2.2
THE Thessaloniki 3.50 118 P Pn 16 14 36.9 +1.2
LIT Litokhoron 3.51 128 ePn Pn 16 14 37.3 +1.4
LIT Litokhoron 3.51 128 P Pn 16 14 37.7 +1.8
LIT Litokhoron 3.51 128 eP Pn 16 14 37.3 +1.4
TIP Timpagrande 3.54 208 ePn Pn 16 14 36.2 -0.1
TIP eSn Sn 16 15 18.7 +0.2
TIP Timpagrande 3.54 208⇑iP Pn 16 14 36.8 +0.5
TIP Timpagrande 3.54 208 S Sn 16 15 18.2 -0.3
TIP Timpagrande 3.54 208 P Pn 16 14 36.1 -0.2
HERR Herculane 3.61 44⇑iP Pn 16 14 38.0 +0.7
HERR Herculane 3.61 44 S Sn 16 15 22.3 +2.1
THL Klokotos Trika 3.63 138 P Pn 16 14 38.1 +0.5
SOH Sokhos 3.67 113 P Pn 16 14 39.8 +1.7
SOH Sokhos 3.67 113 P Pn 16 14 39.8 +1.7
NVLJ Novalja 3.68 309 i Pn Pn 16 14 40.3 +2.1
NVLJ Sn Sn 16 15 25.0 +3.2
SRS Serrai 3.72 107 P Pn 16 14 40.5 +1.7
SRS Serrai 3.72 107 P Pn 16 14 40.5 +1.7
LKD2 Lefkada island 3.78 159 P Pn 16 14 39.3 -0.3
BZS Buzias 3.83 30 ePn Pn 16 14 41.9 +1.6
BZS eSn Sn 16 15 27.0 +1.5
BZS Buzias 3.83 30⇑iP Pn 16 14 41.2 +0.9
BZS Buzias 3.83 30 S Sn 16 15 26.0 +0.5
BZS Buzias 3.83 30 eP Pn 16 14 41.9 +1.6
BZS eSN Sn 16 15 27.0 +1.5
NVR Nevrokopi 3.84 103 P Pn 16 14 42.6 +2.2
MORH Mrgy, Hungar 3.89 357 ePn Pn 16 14 41.4 +0.3
MORH eSn Sn 16 15 26.9 -0.1
MORH Mrgy, Hungar 3.89 357 ePn Pn 16 14 40.0 -1.0
MORH Sn Sn 16 15 28.0 +1.1
EVGI Lefkada island 3.94 159 P Pn 16 14 41.1 -0.7
AQU L'Aquila 4.07 272 ePn Pn 16 14 44.8 +1.2
AQU L'Aquila 4.07 272 eP Pn 16 14 44.8 +1.2
AQU L'Aquila 4.07 272 ePn Pn 16 14 45.0 +1.4
AQU eSn Sn 16 15 31.5 0.0
OZLJ Ozalj 4.11 324 ePn Pn 16 14 46.5 +2.4
OZLJ Sn Sn 16 15 36.5 +4.1
BOJS Bojanci 4.12 322 i Pn Pn 16 14 46.4 +2.1
BOJS i Sn Sn 16 15 36.8 +4.1
GZR Gura Zlata 4.16 41⇑iP Pn 16 14 45.5 +0.7
GZR Gura Zlata 4.16 41 S Sn 16 15 34.8 +1.1
AGG Agios Georgios 4.21 140 ePn Pn 16 14 46.4 +0.8
AGG eSn Sn 16 15 35.9 +0.9
AGG Agios Georgios 4.21 140 P Pn 16 14 46.8 +1.3
AGG S Sn 16 15 37.8 +2.8
AGG Agios Georgios 4.21 140 eP Pn 16 14 46.4 +0.8
AGG e 16 15 35.9
PVO Paravola 4.22 151 P Pn 16 14 46.0 +0.4
AMBH Ambrzfalva 4.23 17 ePn Pn 16 14 47.0 +1.3
AMBH eSn Sn 16 15 38.0 +2.7
CRES Cresnjev 4.28 326 ePn Pn 16 14 47.1 +0.6
CRES eSn Sn 16 15 36.1 -0.6
PLD Plovdiv 4.32 91 P Pn 16 14 49.4 +2.4
VLS Valsamata 4.34 162 P Pn 16 14 46.4 -1.0
VLS Valsamata 4.34 162 P Pn 16 14 46.4 -1.0

GBRS Gornja Briga 4.35 319 i Pn Pn 16 14 50.2 +2.7
GBRS i Sn Sn 16 15 43.8 +5.3
RIY Rijeka 4.38 315 ePn Pn 16 14 48.7 +1.0
RIY eSn Sn 16 15 39.4 +0.4
RZN Rozhen 4.39 96 P Pn 16 14 50.5 +2.4
ANX Ano Chora 4.39 147 P Pn 16 14 49.9 +1.9
BEHE Becsehely 4.41 341 ePn Pn 16 14 49.0 +0.8
BEHE eSn Sn 16 15 39.5 -0.3
BEHE Becsehely 4.41 341 ePn Pn 16 14 49.0 +0.8
BEHE Sn Sn 16 15 41.1 +1.3
SIRR Siria 4.41 26⇑iP Pn 16 14 48.4 +0.1
SIRR Siria 4.41 26 S Sn 16 15 41.3 +1.4
EFP Efpalio 4.53 148 P Pn 16 14 51.1 +1.3
VISS Visnje 4.54 321 i Pn Pn 16 14 52.8 +2.8
VISS i Sn Sn 16 15 48.2 +5.2
DEV Deva 4.58 38 S Sn 16 15 46.5 +2.5
TIH Tihany 4.63 351 ePn Pn 16 14 52.1 +0.9
TIH Sn Sn 16 15 48.1 +3.0
CEL Celeste 4.67 210 ePn Pn 16 14 53.2 +1.4
CEY Cerknica 4.69 318 ePn Pn 16 14 53.2 +1.1
CEY eSn Sn 16 15 46.5 -0.2
LOT Lotru 4.71 47⇓iP Pn 16 14 54.5 +2.1
LOT Lotru 4.71 47 S Sn 16 15 49.4 +2.1
LAKA Lakka 4.72 149 P Pn 16 14 53.3 +0.8
DSF Desfina 4.80 143 P Pn 16 14 53.0 -0.6
LJU Ljubljana 4.86 321 eP Pn 16 14 55.0 +0.6
LJU eSN Sn 16 15 50.0 -0.9
LJU Ljubljana 4.86 321 ePn Pn 16 14 55.1 +0.6
LJU eSn Sn 16 15 50.1 -0.9
DRO Drossia 4.88 153 P Pn 16 14 54.8 +0.1
HUMR Humele 4.95 62⇑iP Pn 16 14 57.5 +1.9
HUMR Humele 4.95 62 S Sn 16 15 56.4 +3.3
KLV Kalavryta, Ach 4.95 149 P Pn 16 14 56.7 +0.9
TRI Trieste 5.01 314 ePn Pn 16 14 56.7 +0.2
TRI eSn Sn 16 15 54.1 -0.5
TRI Trieste 5.01 314 eP Pn 16 14 56.7 +0.2
TRI e 16 15 54.1
CSKK Cskako 5.05 355 ePn Pn 16 14 58.1 +1.0
CSKK Sn Sn 16 15 55.1 -0.6
ARR Arges 5.14 52⇓iP Pn 16 15 00.6 +2.2
ARR Arges 5.14 52 S Sn 16 16 02.2 +4.2
SOKA Soboth 5.15 329 ePn Pn 16 14 59.4 +0.9
comp=N,23nm,0.5s,SNR=41
SOKA Sn Sn 16 15 59.6 +1.4
comp=N,20nm,0.6s
BUD Budapest 5.16 1 P Pn 16 15 01.4 +2.9
BUD pmax pmax
comp=Z,51nm,0.6s
OBKA Obir 5.21 325 i Pn Pn 16 14 58.9 -0.4
comp=Z,1.4nm,0.2s,SNR=9.8
OBKA eSn Sn 16 16 02.8 +3.1
comp=Z,39nm,0.5s
DRGR 5.23 30⇑iP Pn 16 15 01.2 +1.6
DRGR 5.23 30 S Sn 16 16 00.8 +0.7
DRGR 5.23 30 P Pn 16 15 00.9 +1.3
AMT Artemida-Makis 5.26 155 P Pn 16 15 00.1 +0.2
VOIR 5.43 53⇑iP Pn 16 15 04.5 +2.2
VOIR 5.43 53 P Pn 16 15 04.4 +2.2
VOIR pmax pmax
comp=Z,12nm,0.7s
ARSA Arzberg 5.47 335 ePn Pn 16 15 02.9 +0.1
comp=Z,40nm,0.6s,SNR=24
ARSA eSn Sn 16 16 07.0 +0.9
comp=Z,9.6nm,0.6s
LTVH Ltavrtes, Hu 5.49 22 ePn Pn 16 14 58.1 -5.0
LTVH Sn Sn 16 15 55.1 -11
SGRR Singureni 5.51 67⇑iP Pn 16 15 05.8 +2.5
CJR Cluj-Napoca 5.53 36 S Sn 16 16 10.4 +3.0
ALN Alexandroupoli 5.55 103 ePn Pn 16 15 05.5 +1.7
SOP Sopron 5.60 344 ePn Pn 16 15 03.1 -1.6
SOP Sn Sn 16 16 11.1 +1.8
PSZ Piszkesteto 5.63 7 ePn Pn 16 15 05.4 +0.3
PSZ eSn Sn 16 16 10.4 +0.3
PSZ Piszkesteto 5.63 7⇓iP Pn 16 15 05.4 +0.3
PSZ Piszkesteto 5.63 7 eP Pn 16 15 05.4 +0.3
PSZ e 16 16 10.4
PSZ Piszkesteto 5.63 7 ePn Pn 16 15 06.0 +0.9
PSZ Sn Sn 16 16 10.1 -0.1
ITM Ithomi 5.65 155 ePn Pn 16 15 05.0 -0.2
ITM eSn Sn 16 16 09.5 -0.9
MYKA Terra Mystica 5.71 321 ePn Pn 16 15 07.7 +1.5
comp=Z,4.5nm,0.4s
MYKA eSn Sn 16 16 13.4 +1.5
comp=Z,6.8nm,0.5s
SULR 5.85 64⇓iP Pn 16 15 09.0 +1.1
DID Didima 5.86 144 P Pn 16 15 07.6 -0.6
DOPR Dopca 5.92 50⇓iP Pn 16 15 11.2 +2.2
DOPR Dopca 5.92 50 S Sn 16 16 19.0 +1.9
VAE Valguarnera 5.94 217 Sn Sn 16 16 21.9 +4.2
comp=Z,5.9nm,0.3s,baz=81,slow=2.9,SNR=3.3
CONA Conrad Observa 6.00 340 ePn Pn 16 15 12.1 +2.0
comp=Z,4.6nm,0.4s,SNR=9.2
CONA eSn Sn 16 16 20.3 +1.3
comp=Z,15nm,0.5s
MLR Muntele Rosu 6.00 56 ePn Pn 16 15 13.3 +3.2
MLR eSn Sn 16 16 15.7 -3.4
MLR Muntele Rosu 6.00 56⇑iP Pn 16 15 12.4 +2.3
MLR Muntele Rosu 6.00 56 S Sn 16 16 21.3 +2.2
MLR Muntele Rosu 6.00 56 eP Pn 16 15 13.3 +3.2
MLR e 16 16 15.7
MLR Muntele Rosu 6.00 56 Pn Pn 16 15 13.3 +3.2
comp=Z,1.7nm,0.3s,baz=179,slow=8.1,SNR=14
MLR Sn Sn 16 16 23.9 +4.8
comp=Z,2.2nm,0.3s,baz=68,slow=22,SNR=7.0
MLR LR LR 16 17 52.3
comp=Z,98nm,18.3s,baz=268,slow=41
ZST Bratislava 6.00 348 eP Pn 16 15 12.0 +1.9
ZST e 16 16 17.8
ZST Bratislava 6.00 348 ePN Pn 16 15 12.0 +1.9
ZST eSN Sn 16 16 17.8 -1.2
MODS Modra-Piesok 6.15 350 eP Pn 16 15 13.6 +1.4
MODS e 16 16 22.3
MODS Modra-Piesok 6.15 350 ePN Pn 16 15 13.6 +1.4
MODS eSN Sn 16 16 22.2 -0.6
MODS eLG Lg 16 16 28.5
VYHS Vyhne 6.17 360 eP Pn 16 15 14.7 +2.3
VYHS e 16 16 23.6
VYHS Vyhne 6.17 360 ePN Pn 16 15 14.7 +2.3
VYHS eSN Sn 16 16 23.6 +0.5
VYHS eLG Lg 16 16 28.1
KBA Koelnbreinsper 6.18 322 ePn Pn 16 15 14.9 +2.2
comp=Z,2.9nm,0.3s
KBA eSn Sn 16 16 22.2 -1.4
comp=Z,19nm,0.8s
KBA Koelnbreinsper 6.18 322 P Pn 16 15 14.6 +1.9
KBA pmax pmax
comp=Z,22nm,0.6s
ISR Istrita 6.21 61⇑iP Pn 16 15 15.3 +2.4
ISR Istrita 6.21 61 P Pn 16 15 15.1 +2.2
ISR pmax pmax
comp=Z,28nm,0.6s
SMOL Smolenice 6.27 351 P Pn 16 15 17.3 +3.5
SMOL pmax pmax
comp=Z,86nm,0.6s
SMOL Smolenice 6.27 351 eSN Sn 16 16 27.2 +1.5
ABTA Abfaltersbach 6.35 316 ePn Pn 16 15 16.2 +1.3
comp=Z,2.0nm,0.3s,SNR=8.1
ABTA eSn Sn 16 16 28.4 +0.7
comp=Z,21nm,0.6s
MOA Molln 6.42 331 ePn Pn 16 15 15.3 -0.5
comp=Z,2.0nm,0.3s,SNR=14
MOA eSn Sn 16 16 30.4 +1.1
comp=Z,15nm,0.4s
VLC Villacollemand 6.48 289 ePn Pn 16 15 15.8 -0.8
JAVC Velka Javorina 6.59 353 ePN Pn 16 15 17.4 -0.8
PLOR Plostina 6.60 55⇑iP Pn 16 15 20.4 +2.0
PLOR Plostina 6.60 55 P Pn 16 15 20.3 +1.9
VRI Vrincioaia 6.66 55⇑iP Pn 16 15 20.9 +1.8
VRI Vrincioaia 6.66 55 S Sn 16 16 39.0 +3.8
VRI Vrincioaia 6.66 55 P Pn 16 15 20.8 +1.7
UZH Uzhgorod 6.74 20 eP Pn 16 15 22.2 +2.0
UZH eS Sn 16 16 39.0 +1.8
ICOR Ion Corvin 6.75 72⇑iP Pn 16 15 22.9 +2.6
LANS Liptovska Anna 6.83 3 eP Pn 16 15 24.3 +2.7
LANS e 16 16 42.3
LANS Liptovska Anna 6.83 3 ePN Pn 16 15 24.3 +2.7
LANS eSN Sn 16 16 42.3 +2.7
BURAR Bucovina Array 6.93 38⇑iP Pn 16 15 24.9 +2.0
BURAR Bucovina Array 6.93 38 S Sn 16 16 44.7 +2.6
BURAR Bucovina Array 6.93 38 P Pn 16 15 24.9 +2.0
BURAR S Sn 16 16 44.7 +2.6
BUR08 Bucovina Ar. S 6.95 38 ePn Pn 16 15 25.1 +1.9

BUR08 eSn Sn 16 16 37.7 -4.7
KRUC Moravsky 6.96 346 P Pn 16 15 24.7 +1.5
KRUC pmax pmax
comp=Z,8.0nm,0.9s
KRUC Moravsky 6.96 346 ePN Pn 16 15 22.9 -0.3
KRUC eSN Sn 16 16 41.1 -1.4
TLB Topalu 7.03 68⇑iP Pn 16 15 26.7 +2.5
TLB Topalu 7.03 68 P Pn 16 15 26.7 +2.5
WTTA Wattenberg 7.14 316 i Pn Pn 16 15 27.5 +1.6
comp=Z,12nm,0.4s
WTTA eSn Sn 16 16 47.9 +0.6
comp=Z,61nm,0.7s
NIE Niedzica 7.16 7 P Pn 16 15 27.9 +1.9
VRAC Vranov 7.16 348 ePN Pn 16 15 25.4 -0.6
VRAC eSN Sn 16 16 46.6 -1.0
VRAC Vranov 7.16 348 Pn Pn 16 15 27.5 +1.5
comp=Z,0.4nm,0.3s,baz=165,slow=10.0,SNR=5.1
VRAC Sn Sn 16 16 51.0 +3.4
comp=Z,0.9nm,0.3s,baz=107,slow=2.5,SNR=6.0
VRAC LR LR 16 17 58.8
comp=Z,56nm,21.2s,baz=208,slow=36
WATA Walderalm 7.22 316 ePn Pn 16 15 29.3 +2.4
comp=Z,15nm,0.3s,SNR=12
WATA eSn Sn 16 16 49.2 0.0
comp=Z,7.2nm,0.4s
TIRR Tirgusor 7.25 70 ePn Pn 16 15 27.9 +0.7
TIRR Tirgusor 7.25 70 P Pn 16 15 28.0 +0.7
CFR Carcaliu 7.27 64⇓iP Pn 16 15 30.0 +2.5
CFR Carcaliu 7.27 64 P Pn 16 15 29.7 +2.2
CFR pmax pmax
comp=Z,8.0nm,0.8s
PGF Pioggiola 7.32 275 eP Pn 16 15 28.8 +0.5
APE Apeiranthos 7.33 134 i P Pn 16 15 27.5 -0.9
SQTA Sankt Quirin 7.33 314 ePn Pn 16 15 30.9 +2.4
comp=Z,14nm,0.5s,SNR=7.0
SQTA eSn Sn 16 16 53.2 +1.2
comp=Z,16nm,0.5s
GEA0 GERESS Array S 7.46 333 ePn Pn 16 15 31.3 +1.2
GEA0 eSn Sn 16 16 59.8 +4.8
GEC2 GERESS Array S 7.46 333 ePn Pn 16 15 30.4 +0.2
GEC2 eSn Sn 16 16 56.4 +1.2
GEC2 GERESS Array S 7.46 333 eP Pn 16 15 30.4 +0.2
GEC2 e 16 16 56.4
GERES GERESS Array B 7.46 333 Pn Pn 16 15 31.3 +1.1
comp=Z,1.5nm,0.3s,baz=153,slow=15,SNR=39
GERES Sn Sn 16 16 58.1 +3.0
comp=Z,1.1nm,0.3s,baz=149,slow=23,SNR=6.5
GERES LR LR 16 18 46.6
comp=Z,110nm,19.1s,baz=155,slow=41
MOTA Moosalm 7.47 315 ePn Pn 16 15 32.4 +2.0
comp=Z,8.2nm,0.5s,SNR=13
MOTA eSn Sn 16 16 56.9 +1.5
comp=Z,9.9nm,0.5s
FETA Feichten 7.47 312 ePn Pn 16 15 32.0 +1.6
comp=Z,0.2nm,0.2s
FETA eSn Sn 16 16 55.0 -0.5
comp=Z,11nm,0.8s
MORC Moravsky Berou 7.51 353 ePn Pn 16 15 30.5 -0.3
MORC eSn Sn 16 16 56.3 +0.1
MORC Moravsky Berou 7.51 353⇑iP Pn 16 15 31.9 +1.1
MORC Moravsky Berou 7.51 353 eP Pn 16 15 30.5 -0.3
MORC e 16 16 56.3
MORC Moravsky Berou 7.51 353 ePN Pn 16 15 31.2 +0.4
MORC eSN Sn 16 16 56.9 +0.7
FUORN Ofenpass-Fuorn 7.51 308 ePn Pn 16 15 30.8 -0.3
OKC Ostrava-Krasne 7.53 356 ePN Pn 16 15 35.2 +4.2
OKC eSN Sn 16 16 58.4 +1.8
OKC Ostrava-Krasne 7.53 356 eP Pn 16 15 35.2 +4.2
OKC e 16 16 58.4
RETA Reutte 7.74 315 ePn Pn 16 15 36.3 +2.4
comp=Z,0.3nm,0.2s
RETA eSn Sn 16 17 03.3 +1.4
comp=Z,13nm,0.5s
KHC Kasperske Hory 7.75 333 ePn Pn 16 15 33.4 -0.7
KHC eSn Sn 16 17 00.4 -1.7
KHC Kasperske Hory 7.75 333 ePN Pn 16 15 35.5 +1.4
KHC ex x 16 15 45.4
KHC eSN Sn 16 17 03.7 +1.6
KHC Kasperske Hory 7.75 333 eP Pn 16 15 35.5 +1.4
KHC e 16 17 03.7
DAVOX Davos/Dischmat 7.82 308 Pn Pn 16 15 35.5 +0.3
comp=Z,1.9nm,0.3s,baz=122,slow=9.7,SNR=14
DAVOX Sn Sn 16 17 06.7 +2.5
comp=Z,1.6nm,0.3s,baz=183,slow=19,SNR=2.9
KRLC Kraliky 7.88 350 eSN Sn 16 17 06.7 +1.2
OJC Ojcow 7.92 4 ePn Pn 16 15 36.5 +0.1
OJC eSn Sn 16 17 01.4 -4.8
OJC Ojcow 7.92 4 eP Pn 16 15 36.5 +0.1
OJC e 16 17 01.4
TUE Stuetta 7.99 304 ePn Pn 16 15 38.4 +0.8
WET Wettzell 8.01 330 P Pn 16 15 39.6 +2.0
WET pmax pmax
comp=Z,12nm,0.6s
DAVA Damuels 8.10 311 ePn Pn 16 15 38.8 -0.3
comp=Z,4.2nm,0.5s
DAVA eSn Sn 16 17 12.3 +1.4
comp=Z,3.6nm,0.4s
DPC Dobruska-Polom 8.22 348 ePN Pn 16 15 42.9 +2.4
DPC eSN Sn 16 17 13.9 +0.3
DPC Dobruska-Polom 8.22 348 eP Pn 16 15 42.9 +2.4
DPC e 16 17 13.9
MANT Manisa 8.31 114 ePn Pn 16 15 43.5 +1.6
IDI Anoyia 8.44 144 Pn Pn 16 15 40.6 -3.1
comp=Z,0.5nm,0.3s,baz=337,slow=16,SNR=4.8
IDI Sn Sn 16 17 13.6 -5.7
comp=Z,0.9nm,0.3s,baz=108,slow=20,SNR=3.2
IDI LR LR 16 20 26.1
comp=Z,20nm,19.1s,baz=332,slow=48
SAOF Saorge 8.45 285 P Pn 16 15 45.0 +1.2
SAOF pmax pmax
comp=Z,13nm,1.6s
SBF Sospel 8.52 284 eP Pn 16 15 44.6 -0.2
SBF eSn Sn 16 17 07.4 -14
comp=Z,1.2nm,0.2s
FRF La Foret Royal 9.07 282 eP Pn 16 15 51.0 -1.1
FRF eSn Sn 16 17 20.1 -14
comp=Z,3.0nm,0.4s
GRA1 Grafenberg Arr 9.09 327 ePn Pn 16 15 52.4 -0.1
GRF Grafenberg Arr 9.09 327 eP Pn 16 15 52.4 -0.1
GRFO Grafenberg 9.09 327 ePn Pn 16 15 52.0 -0.5
GRFO Grafenberg 9.09 327 eP Pn 16 15 52.0 -0.5
MBDF Montbardon 9.13 289 eP Pn 16 15 52.3 -0.8
MBDF eSn Sn 16 17 22.6 -14
comp=Z,38nm,1.2s
SLE Schleitheim 9.15 310 P Pn 16 15 54.4 +1.1
SLE pmax pmax
comp=Z,9.0nm,0.9s
LMR La Mourre 9.16 280 eP Pn 16 15 53.9 +0.5
LMR eSn Sn 16 17 22.4 -14
comp=Z,4.0nm,0.5s
BRG Berggiesshubel 9.20 340 eP Pn 16 15 57.9 +4.0
comp=Z,2.5nm,0.8s
BRG e 16 17 57.1
comp=Z,5.6nm,1.1s
BRG Berggiesshubel 9.20 340 eP Pn 16 15 57.9 +4.0
BRG pmax pmax
comp=Z,3.0nm,0.9s
SENIN Lac Senin/Sane 9.23 300 ePn Pn 16 15 55.1 +0.5
SENIN eSn Sn 16 17 34.8 -4.1
BNI Bardonecchia 9.26 291 ePn Pn 16 15 52.9 -2.0
BNI Bardonecchia 9.26 291 eP Pn 16 15 52.9 -2.0
LPG La Plagne 9.32 294 eP Pn 16 15 56.1 +0.3
LPG eSn Sn 16 17 27.1 -14
comp=Z,16nm,0.6s
LPL La Plagne 9.34 294 eP Pn 16 15 56.4 +0.4
LPL eSn Sn 16 17 28.3 -13
LPL eS 16 17 42.8
comp=Z,25nm,0.6s
KARP Karpathos 9.34 134 ePn Pn 16 15 55.7 -0.3
STU Stuttgart 9.37 317 ePn Pn 16 15 53.9 -2.3
STU Stuttgart 9.37 317 eP Pn 16 15 53.9 -2.3
BFO Black Forest 9.55 313 ePn Pn 16 15 57.2 -1.5
BFO Black Forest 9.55 313 eP Pn 16 15 57.3 -1.5
BEL Belsk 9.60 7 P Pn 16 15 59.8 +0.4
BEL pmax pmax
comp=Z,96nm,0.7s
MOX Moxa 9.71 331 P Pn 16 16 03.4 +2.5
MOX pmax pmax
comp=Z,9.0nm,1.7s
ORIF Oris-en-Rattie 9.79 290 eP Pn 16 16 01.8 -0.3
ORIF eSn Sn 16 17 38.8 -13
comp=Z,13nm,0.7s
CLL Collm 9.84 338 e(Pn) Pn 16 16 08.0 +5.3
CLL eSn Sn 16 17 25.0 -28

CLL				*e*			16 17 55.0		
CLL				*e*Sb			16 18 13.0		
CLL				*e*			16 18 26.0		
CLL				*e*Sg			16 18 58.0		
CLL				*e*Sglp			16 19 10.0		
CLL	**Collm**	**9.84**	**338**	*e*P		Pn	16 16 08.0	+5.3	
SMRF	**Simiane la Rot**	**9.87**	**284**	*e*P		**Pn**	**16 16 02.6**	**-0.6**	
CABF	**La Chapelle**	**10.10**	**299**	*e*P		**Pn**	**16 16 06.1**	**-0.3**	
CABF				*e*Sn		Sn	16 17 46.9	-13	
	comp=Z,28nm,1.0s								
HINF	**Hinteralfeld**	**10.13**	**307**	*e*P		**Pn**	**16 16 08.0**	**+1.3**	
	comp=Z,27nm,1.0s								
HINF				*e*Sn		Sn	16 17 47.3	-13	
	comp=Z,26nm,0.9s								
ECH	**Echery**	**10.15**	**309**	*e*Pn		**Pn**	**16 16 06.7**	**-0.3**	
ECH				*e*Sn		**Sn**	**16 17 55.2**	**-5.8**	
ECH	**Echery**	**10.15**	**309**	*e*P		**Pn**	**16 16 06.7**	**-0.3**	
ECH				*e*			16 17 55.2		
CDF	**Champ du Feu**	**10.18**	**311**	*e*P		**Pn**	**16 16 07.5**	**0.0**	
HAU	**Haudompre**	**10.52**	**307**	*e*P		**Pn**	**16 16 13.0**	**+1.0**	
HAU				*e*Sn		Sn	16 17 56.5	-13	
	comp=Z,27nm,0.7s								
VIVF	**Saint-Julien-l**	**10.62**	**289**	*e*P		**Pn**	**16 16 13.4**	**-0.1**	
SSB	**Saint Sauveur**	**10.78**	**291**	*e*Pn		**Pn**	**16 16 15.0**	**-0.7**	
SSB	**Saint Sauveur**	**10.78**	**291**	*e*P		**Pn**	**16 16 15.0**	**-0.7**	
BR101	**Keskin Array S**	**11.44**	**98**	*e*Pn		**Pn**	**16 16 26.9**	**+2.0**	
BRTR	**Keskin Array B**	**11.44**	**98**	Pn		**Pn**	**16 16 26.9**	**+2.0**	
	comp=Z,0.2nm,0.3s,baz=274,slow=14,SNR=5.7								
SMF	**Signal de Mont**	**11.58**	**297**	*e*P		**Pn**	**16 16 26.9**	**+0.3**	
SMF				*e*S		**Sn**	**16 18 35.1**	**-1.0**	
	comp=Z,30nm,1.0s								
LOR	**Lormes**	**11.76**	**300**	*e*P		**Pn**	**16 16 27.9**	**-1.1**	
LOR				*e*Sn		Sn	16 18 26.6	-14	
	comp=Z,25nm,0.9s								
SSF	**Saint Saulge**	**11.92**	**299**	*e*P		**Pn**	**16 16 30.2**	**-1.0**	
SSF				*e*Sn		Sn	16 18 30.5	-14	
	comp=Z,3.2nm,0.5s								
AVF	**Avril sur Loir**	**11.95**	**297**	*e*P		**Pn**	**16 16 30.6**	**-0.9**	
AVF				*e*S		**Sn**	**16 18 46.7**	**+1.7**	
	comp=Z,10.0nm,0.9s								
MMAI	**Mount Meron Ar**	**16.02**	**120**	Pn		**Pn**	**16 17 27.9**	**+1.2**	
	comp=Z,0.6nm,0.3s,baz=308,slow=7.0,SNR=2.5								
VSU	**Vasula**	**16.89**	**14**	*ce*P		**Pn**	**16 17 38.5**	**+1.0**	
VSU				pmax	pmax				
	comp=Z,26nm,0.8s								
OBN	**Obninsk**	**17.24**	**36**	*ce*P		**P**	**16 17 45.0**	**+1.5**	
OBN				pmax	pmax				
	comp=Z,37nm,2.5s								
HFS	**Hagfors**	**18.11**	**352**	P		**Pn**	**16 17 52.5**	**-0.2**	
	comp=Z,1.1nm,0.3s,baz=172,slow=12,SNR=28								
HFS				LR		LR	16 26 21.6		
	comp=Z,60nm,19.4s,baz=158,slow=42								
KONO	**Kongsberg**	**18.27**	**345**	*e*Pn		**Pn**	**16 17 54.1**	**-0.5**	
	comp=Z,8.7nm,1.0s								
KONO	**Kongsberg**	**18.27**	**345**	*ce*P		**P**	**16 17 55.3**	**+0.4**	
KONO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
NC602	**NORSAR Array S**	**18.97**	**349**	*e*P		**P**	**16 18 02.1**	**-0.4**	
	comp=Z,10nm,1.2s								
NORES	**NORESS Array B**	**18.97**	**349**	P		**Pn**	**16 18 05.9**	**+2.7**	
NORES				pmax	pmax				
	comp=Z,4.0nm,0.5s								
NAO01	**NORSAR Array S**	**19.17**	**348**	*e*P		**P**	**16 18 04.7**	**0.0**	
	comp=Z,76nm,1.9s								
NB201	**NORSAR Array S**	**19.31**	**349**	*e*P		**P**	**16 18 06.0**	**-0.3**	
	comp=Z,91nm,2.0s								
NB2	**NORSAR Subarra**	**19.31**	**349**	P		**P**	**16 18 05.8**	**-0.5**	
	comp=Z,4.2nm,1.0s,baz=165,slow=11								
NB2	**NORSAR Subarra**	**19.31**	**349**	P		**P**	**16 18 02.5**	**-3.8**	
NB2				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NB200	**NORSAR Array S**	**19.31**	**349**	*e*P		**P**	**16 18 05.9**	**-0.4**	
NC405	**NORSAR Array S**	**19.31**	**349**	*e*P		**P**	**16 18 05.9**	**-0.4**	
	comp=Z,62nm,1.6s								
NOA	**NORSAR Array B**	**19.31**	**349**	P		**P**	**16 18 05.9**	**-0.4**	
	comp=Z,0.1nm,0.3s,baz=157,slow=10,SNR=11								
NOA				LR		LR	16 27 07.2		
	comp=Z,25nm,18.6s,baz=155,slow=42								
NBO00	**NORSAR Array S**	**19.36**	**348**	*e*P		**P**	**16 18 06.5**	**-0.3**	
	comp=Z,24nm,1.2s								
ESK	**Eskdalemuir**	**19.40**	**320**	*e*P		**Pn**	**16 18 08.3**	**-0.1**	
	comp=Z,61nm,1.6s								
ESK	**Eskdalemuir**	**19.40**	**320**	*e*P		**Pn**	**16 18 08.3**	**-0.1**	
ESK				pmax	pmax				
	comp=Z,61nm,1.6s								
NC303	**NORSAR Array S**	**19.46**	**349**	*e*P		**P**	**16 18 07.9**	**-0.1**	
	comp=Z,62nm,1.8s								
GNI	**Garni**	**19.54**	**88**	*e*P		**P**	**16 18 09.5**	**+0.4**	
	comp=Z,8.6nm,0.8s								
GNI	**Garni**	**19.54**	**88**	*i* P		**Pn**	**16 18 11.4**	**+1.0**	
GNI				pmax	pmax				
	comp=Z,27nm,0.9s								
GNI	**Garni**	**19.54**	**88**	P		**Pn**	**16 18 10.2**	**-0.2**	
	comp=Z,0.4nm,0.3s,baz=307,slow=2.9,SNR=7.1								
NC204	**NORSAR Array S**	**19.60**	**348**	*e*P		**P**	**16 18 09.3**	**-0.2**	
	comp=Z,66nm,1.7s								
FIA0	**FINESS Array S**	**19.63**	**10**	*e*P		**P**	**16 18 10.1**	**+0.4**	
FIA0	**FINESS Array S**	**19.63**	**10**	*e*P		**P**	**16 18 10.1**	**+0.4**	
FINES	**FINESS Array B**	**19.63**	**10**	*i* P		**Pn**	**16 18 11.3**	**+0.2**	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**19.63**	**10**	P		**P**	**16 18 10.1**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=180,slow=9.5,SNR=6.8								
FINES				LR		LR	16 26 51.2		
	comp=Z,56nm,20.9s,baz=210,slow=40								
FIA1	**FINESS Array S**	**19.63**	**10**	*e*P		**P**	**16 18 10.2**	**+0.5**	
VAF	**Ylistaro**	**20.87**	**5**	P		**P**	**16 18 23.4**	**+0.2**	
SUF	**Sumiainen**	**20.87**	**9**	P		**P**	**16 18 23.7**	**+0.5**	
SUF				pmax	pmax				
	comp=Z,15nm,2.8s								
JOF	**Joensuu**	**21.88**	**15**	P		**P**	**16 18 35.7**	**+1.6**	
KLMR	**Klimovskoe**	**22.37**	**27**	*e*P		**P**	**16 18 39.7**	**+0.4**	
KLMR				pmax	pmax				
	comp=Z,15nm,1.3s								
KLMR	**Klimovskoe**	**22.37**	**27**	*e*P		**P**	**16 18 39.8**	**+0.4**	
KLMR				AMP			16 18 46.1		
	comp=Z,15nm,1.2s								
MSF	**Maaselka**	**24.30**	**10**	P		**P**	**16 18 58.8**	**+0.1**	
PRGR	**Permogore**	**25.08**	**30**	*e*P		**P**	**16 19 05.5**	**-0.2**	
PRGR				pmax	pmax				
	comp=Z,15nm,0.6s								
ARA0	**ARCESS Array S**	**27.49**	**5**	*e*P		**P**	**16 19 26.5**	**-1.0**	
ARCES	**ARCESS Array B**	**27.49**	**5**	P		**P**	**16 19 26.5**	**-1.0**	
	comp=Z,1.2nm,0.8s,baz=186,slow=11,SNR=5.3								
ARU	**Arti**	**28.96**	**47**	*e*P		**P**	**16 19 40.8**	**+0.1**	
	comp=Z,3.4nm,0.8s								
ARU	**Arti**	**28.96**	**47**	*c i*P		**P**	**16 19 39.7**	**-1.0**	
ARU							16 20 28.5		
ARU				S		**S**	**16 24 33.8**	**+2.2**	
ARU				SS		**SnSn**	**16 25 58.5**	**+4.7**	
ARU				pmax	pmax				
	comp=Z,4.0nm,0.8s								
GEYT	**Alibeck**	**30.12**	**85**	P		**P**	**16 19 51.0**	**-0.3**	
	comp=Z,3.8nm,0.5s,baz=287,slow=7.6,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**32.68**	**212**	*e*P		**P**	**16 20 14.0**	**+0.2**	
TOA0	**Torodi Ar. Sit**	**32.68**	**212**	*e*P		**P**	**16 20 14.8**	**+1.0**	
	comp=Z,9.5nm,1.6s								
TORD	**Torodi Ar. Bea**	**32.68**	**212**	P		**P**	**16 20 14.0**	**+0.1**	
	comp=Z,0.4nm,0.5s,baz=18,slow=9.8,SNR=6.0								
BRVK	**Borovoye**	**35.49**	**54**	*i* P		**P**	**16 20 38.1**	**+0.2**	
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ARSB	**Arslanbob**	**39.74**	**73**	*e*P		**P**	**16 21 15.7**	**+1.5**	
	comp=Z,3.6nm,0.7s								
AAK	**Ala-Archa**	**40.37**	**70**	*e*P		**P**	**16 21 20.2**	**+0.8**	
	comp=Z,2.2nm,0.8s								
AAK	**Ala-Archa**	**40.37**	**70**	*e*P		**P**	**16 21 20.2**	**+0.8**	
AAK				pmax	pmax				
	comp=Z,2.0nm,0.8s								
KURK	**Kurchatov**	**40.93**	**57**	*i* P		**P**	**16 21 24.4**	**+0.7**	
KURK				pmax	pmax				
	comp=Z,1.0nm,0.8s								
DBIC	**Dimbokro**	**41.27**	**217**	*e*P		**P**	**16 21 27.4**	**+0.5**	
	comp=Z,26nm,1.6s								
DBIC	**Dimbokro**	**41.27**	**217**	*e*P		**P**	**16 21 27.4**	**+0.5**	
DBIC				pmax	pmax				
	comp=Z,26nm,1.6s								
DBIC	**Dimbokro**	**41.27**	**217**	P		**P**	**16 21 26.9**	**+0.1**	
	comp=Z,1.2nm,0.4s,baz=342,slow=7.2,SNR=5.4								
KDJ	**Kajisay**	**42.41**	**70**	*e*P		**P**	**16 21 38.0**	**+1.8**	
	comp=Z,2.5nm,0.7s								
KDJ	**Kajisay**	**42.41**	**70**	*e*P		**P**	**16 21 38.0**	**+1.8**	
KDJ				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ZAA1	**Zalesovo Array**	**43.95**	**51**	*e*P		**P**	**16 21 47.8**	**-0.5**	
ZAA0	**Zalesovo Array**	**43.95**	**51**	*e*P		**P**	**16 21 46.5**	**-1.8**	
	comp=Z,1.9nm,0.5s								
ZALV	**Zalesovo Beam**	**43.95**	**51**	*e*P		**P**	**16 21 47.6**	**-0.6**	
ZALV	**Zalesovo Beam**	**43.95**	**51**	*i* P		**P**	**16 21 48.4**	**+0.1**	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ZALV	**Zalesovo Beam**	**43.95**	**51**	P		**P**	**16 21 47.8**	**-0.5**	
	comp=Z,1.5nm,0.5s,baz=286,slow=9.3,SNR=8.0								
MK31	**Makanchi Array**	**44.31**	**62**	*e*P		**P**	**16 21 50.4**	**-0.9**	
	comp=Z,1.1nm,0.8s								
MK31	**Makanchi Array**	**44.31**	**62**	*e*P		**P**	**16 21 50.4**	**-0.9**	
MK31				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MK32	**Makanchi Array**	**44.31**	**62**	*e*P		**P**	**16 21 51.8**	**+0.5**	
MKAR	**Makanchi Array**	**44.31**	**62**	P		**P**	**16 21 51.8**	**+0.5**	
	comp=Z,1.2nm,0.7s,baz=287,slow=5.9,SNR=15								
MK01	**Makanchi Array**	**44.32**	**62**	*e*P		**P**	**16 21 51.2**	**-0.2**	
DGZ	**Jazzator, Alta**	**46.65**	**56**	*i* P		**P**	**16 22 10.5**	**+0.5**	
DGZ				pmax	pmax				
	comp=Z,1.0nm,0.7s								
WMQ	**Urumqi**	**48.93**	**64**	*e*P		**P**	**16 22 30.0**	**+2.4**	
WMQ				LR		LR			
	comp=N,56nm,18.7s								
WMQ				LR		LR			
	comp=Z,48nm,20.7s								
PYUN	**Piuthan**	**53.09**	**84**	*e*P		**P**	**16 22 59.2**	**-0.1**	
	comp=Z,13nm,0.8s								
DANN	**Dangsing**	**53.52**	**83**	*e*P		**P**	**16 23 02.5**	**-0.1**	
	comp=Z,28nm,0.7s								
KOLN	**Koldanda**	**53.72**	**84**	*e*P		**P**	**16 23 03.7**	**-0.2**	
	comp=Z,11nm,0.5s								
DMN	**Daman**	**54.92**	**83**	*e*P		**P**	**16 23 12.9**	**+0.2**	
	comp=Z,14nm,0.7s								
KKN	**Kakani**	**54.95**	**83**	*e*P		**P**	**16 23 12.5**	**-0.4**	
	comp=Z,15nm,0.7s								
PKIN	**Phulchoki**	**55.15**	**83**	*e*P		**P**	**16 23 14.0**	**-0.4**	
	comp=Z,9.1nm,0.7s								
PKI	**Pulchoki**	**55.17**	**83**	*e*P		**P**	**16 23 14.2**	**-0.4**	
	comp=Z,10nm,0.7s								
GUN	**Gumba**	**55.32**	**82**	*e*P		**P**	**16 23 15.8**	**+0.1**	
	comp=Z,21nm,0.7s								
JIRN	**Jiri**	**55.69**	**82**	*e*P		**P**	**16 23 18.2**	**-0.2**	
	comp=Z,24nm,0.7s								
TIXI	**Tiksi**	**56.21**	**21**	*i* P		**P**	**16 23 21.7**	**+0.7**	
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.1s								
RAMN	**Ramite**	**56.39**	**83**	*e*P		**P**	**16 23 23.0**	**-0.3**	
	comp=Z,28nm,0.7s								
SONA0	**Songino Array**	**58.83**	**52**	*e*P		**P**	**16 23 39.8**	**-0.3**	
SONM	**Songino Array**	**58.83**	**52**	P		**P**	**16 23 39.8**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=294,slow=9.0,SNR=12								
GTA	**Gaotai**	**59.01**	**63**	*e*P		**P**	**16 23 43.0**	**+1.6**	
GTA				pP	sP		16 23 48.0	+3.5	
GTA				sP	pP		16 23 50.3	+6.5	
GTA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**65.74**	**56**	*e*P		**P**	**16 24 26.0**	**-0.4**	
HHC				sP	sP		16 24 36.5	+7.0	
HHC				S	S		**16 33 08.8**	**-4.2**	
HHC				pmax	pmax				
	comp=Z,20nm,1.0s								
HHC				pmax	pmax				
	comp=Z,87nm,5.2s								
HHC				LR	LR				
	comp=N,190nm,17.7s								
HHC				LR	LR				
	comp=E,150nm,17.1s								
HHC				LR	LR				
	comp=Z,180nm,16.3s								
CD2	**Chengdu**	**66.42**	**69**	P		**P**	**16 24 29.5**	**-1.4**	
CD2				pmax	pmax				
	comp=Z,1.0nm,0.6s								
YKA	**Yellowknife Ar**	**69.07**	**339**	P		**P**	**16 24 46.5**	**-0.5**	
	comp=Z,0.2nm,0.6s,baz=38,slow=5.8,SNR=4.3								
KMI	**Kunming**	**69.19**	**75**	P		**P**	**16 24 49.3**	**+0.7**	
KMI				pmax	pmax				
	comp=Z,11nm,0.5s								
CHTO	**Chiang Mai**	**70.34**	**82**	P		**P**	**16 24 56.2**	**+0.7**	
	comp=Z,27nm,0.9s								
CMMT	**Chiang Mai**	**70.34**	**82**	P		**P**	**16 24 56.1**	**+0.5**	
	comp=Z,5.9nm,0.8s								
CMAR	**Chiang Mai Arr**	**70.56**	**82**	*ce*P		**P**	**16 24 57.2**	**+0.4**	
CMAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**70.56**	**82**	P		**P**	**16 24 57.3**	**+0.4**	
	comp=Z,3.3nm,0.8s,baz=306,slow=7.5,SNR=32								
LAMP	**Lampang**	**71.03**	**82**	P		**P**	**16 25 01.0**	**+1.3**	
ILAR	**Eielson Array**	**72.66**	**354**	P		**P**	**16 25 08.2**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=2.6,slow=5.0,SNR=6.4								
TEY	**Ternei**	**76.78**	**40**	*e*P		**P**	**16 25 28.4**	**-4.6**	
ELK	**Elko**	**87.48**	**327**	LR		LR	17 08 57.1		
	comp=Z,62nm,19.0s,baz=101,slow=38								

*KRNET **28** 16:38:29.1±0.1,39°.26N×73°.30E,mb3.3*
*NNC **28** 16:38:34.4±2.4,39°.66N×73°.08E,h0km,mb3.6,mpv3.2,*
Error ellipse: s-maj=18.6km s-min=9.2km az=178.0
ISC 28 16:38:34.5±2.0,39°.3N±0°.1×73°.21E±0°.04,h33km,n45,
σ1§48/60,34C-11D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BTK	**Batken**	**2.01**	**294**	⇑*i*P		**Pn**	**16 39 07.2**	**+1.0**
	baz=93							
BTK				⇑*i*S		**Sb**	**16 39 35.1**	**0.0**
	baz=93							
ARSB	**Arslanbob**	**2.06**	**355**	⇑*i*P		**Pn**	**16 39 07.0**	**0.0**
	baz=53							
ARSB				⇑*i*S		**Sb**	**16 39 35.1**	**-1.7**
	baz=53							
ARK	**Arkit**	**2.70**	**340**	⇑*i*P		**Pn**	**16 39 16.3**	**+0.5**
	baz=39							
ARK				⇑*i*S		**Sn**	**16 39 50.3**	**+2.9**
	baz=39							
AML	**Almayashu**	**2.89**	**7**	P		**Pn**	**16 39 18.3**	**-0.3**
	SNR=36							
AML	**Almayashu**	**2.89**	**7**	⇑*i*P		**Pn**	**16 39 18.5**	**-0.1**
	baz=6.0							
AML				⇑*i*S		**Sn**	**16 39 54.8**	**+2.5**
	baz=6.0							
NRN	**Naryn**	**3.04**	**44**	⇑*i*P		**Pn**	**16 39 19.8**	**-0.8**
	baz=43							
NRN				⇑*i*S		**Sn**	**16 39 56.8**	**+0.8**
	baz=43							
UCH	**Uchtor**	**3.12**	**18**	P		**Pn**	**16 39 22.1**	**+0.3**
	SNR=11							
UCH	**Uchtor**	**3.12**	**18**	⇑*i*P		**Pn**	**16 39 21.9**	**+0.1**
	baz=17							
UCH				⇑*i*S		**Sn**	**16 40 00.2**	**+2.0**
	baz=17							
KZA	**Kyzart**	**3.21**	**28**	P		**Pn**	**16 39 25.1**	**+2.1**
	SNR=10							
KZA	**Kyzart**	**3.21**	**28**	⇑*i*P		**Pn**	**16 39 22.7**	**-0.3**
	baz=27							
KZA				⇑*i*S		**Sn**	**16 40 01.8**	**+1.5**
	baz=27							
EKS2	**Erkin-Say**	**3.42**	**7**	P		**Pn**	**16 39 27.8**	**+2.1**
	SNR=6.5							
EKS2	**Erkin-Say**	**3.42**	**7**	⇓*i*P		**Pn**	**16 39 25.8**	**+0.2**
	baz=6.0							
EKS2				⇓*i*S		**Sn**	**16 40 07.2**	**+2.1**
	baz=6.0							
MRKS	**Merke**	**3.48**	**0**	Pg		**Pn**	**16 39 27.9**	**+1.5**
	4.1nm,0.4s							
MRKS				Lg		Lg	16 40 10.8	
	8.8nm,0.2s							
AAK	**Ala-Archa**	**3.51**	**16**	P		**Pn**	**16 39 27.6**	**+0.8**
	SNR=18							
AAK	**Ala-Archa**	**3.51**	**16**	⇑Pn		**Pn**	**16 39 27.3**	**+0.5**
	8.0nm,0.5s							
AAK				⇑Lg		Lg	16 40 13.8	
	24nm,0.7s							
AAK	**Ala-Archa**	**3.51**	**16**	⇑*i*P		**Pn**	**16 39 26.9**	**0.0**
	baz=15							
AAK				⇑*i*S		**Sn**	**16 40 09.1**	**+1.8**
	baz=15							
KBK	**Karagaybulak**	**3.63**	**21**	P		**Pn**	**16 39 32.1**	**+3.5**
	SNR=9.1							
KBK	**Karagaybulak**	**3.63**	**21**	⇑*i*P		**Pn**	**16 39 28.7**	**+0.1**
	baz=20							
KBK				⇑*i*S		**Sn**	**16 40 12.2**	**+1.7**
	baz=20							
FRU1	**Bishkek**	**3.70**	**16**	⇑*i*P		**Pn**	**16 39 29.9**	**+0.5**
	baz=15							
FRU1				⇑*i*S		**Sn**	**16 40 14.1**	**+2.2**
	baz=15							
IUG	**Iuzhnay**	**3.76**	**321**	Pg		**Pn**	**16 39 30.5**	**+0.2**
	8.4nm,0.4s							
IUG				Lg		Lg	16 40 15.9	
	24nm,0.5s							
ULHL	**Ulahol**	**3.76**	**37**	P		**Pb**	**16 39 37.9**	**-2.5**
	SNR=10							
ULHL	**Ulahol**	**3.76**	**37**	⇑*i*P		**Pn**	**16 39 30.1**	**-0.3**
	baz=36							
ULHL				⇑*i*S		**Sn**	**16 40 14.7**	**+1.0**
	baz=36							
BOOM	**Boomskoye usch**	**3.83**	**32**	⇑*i*P		**Pn**	**16 39 31.0**	**-0.3**
	baz=31							
BOOM				⇑*i*S		**Sn**	**16 40 16.3**	**+1.1**
	baz=31							
CHMS	**Chumysh**	**3.91**	**17**	P		**Pn**	**16 39 33.0**	**+0.8**
	SNR=6.7							
CHMS	**Chumysh**	**3.91**	**17**	⇓*i*P		**Pn**	**16 39 32.5**	**+0.3**
	baz=16							
CHMS				⇓*i*S		**Sn**	**16 40 18.5**	**+1.5**
	baz=16							
TKM2	**Tokmak 2**	**4.07**	**25**	⇓Pn		**Pn**	**16 39 35.6**	**+0.9**
	2.4nm,0.7s							
TKM2				⇓Pg		**Pb**	**16 39 43.2**	**-2.4**
	7.7nm,1.0s							
TKM2				⇓Lg		Lg	16 40 34.2	
	9.5nm,0.7s							
TKM2	**Tokmak 2**	**4.07**	**25**	⇓*i*P		**Pn**	**16 39 34.8**	**+0.1**
	baz=25							
TKM2				⇓*i*S		**Sn**	**16 40 22.4**	**+1.1**
	baz=25							
KDJ	**Kajisay**	**4.16**	**45**	⇓*i*P		**Pn**	**16 39 35.8**	**0.0**
	baz=45							
KDJ				⇓*e*S		**Sn**	**16 40 24.5**	**+1.1**
	baz=45							
KST	**Kastek**	**4.31**	**28**	Pg		**Pb**	**16 39 47.4**	**-2.2**
	3.6nm,0.6s							
KST				Lg		Lg	16 40 43.8	
	13nm,0.5s							
KK31	**Karatay Array**	**4.34**	**333**	Pn		**Pn**	**16 39 38.3**	**+0.1**
	0.8nm,0.3s,baz=149,slow=13,SNR=22							
KK31				⇑Pg		**Pb**	**16 39 48.3**	**-1.8**
	1.4nm,0.3s,baz=162,slow=14,SNR=12							
KK31				⇑Sn		**Sn**	**16 40 26.4**	**-1.2**
	4.1nm,0.3s,baz=152,slow=24,SNR=6.4							
DGS	**Degeres**	**4.42**	**25**	Pg		**Pb**	**16 39 50.8**	**-0.6**
	5.2nm,0.5s							
DGS				Lg		Lg	16 40 49.3	
	17nm,1.1s							
BRLS	**Borolday**	**4.54**	**327**	Pg		Pn	16 39 47.3	+6.4
	0.5nm,0.2s							
BRLS				Lg		Lg	16 40 44.3	
	2.5nm,0.5s							
TNSS	**Tian-Shan**	**4.71**	**36**	Pg		**Pb**	**16 39 53.2**	**-3.3**
	5.2nm,0.5s							
TNSS				Lg		Lg	16 40 54.5	
	9.8nm,0.6s							
MDOK	**Medeo**	**4.85**	**35**	⇑Pg		**Pb**	**16 39 57.4**	**-1.4**
	4.9nm,0.9s							
MDOK				Lg		Lg	16 41 00.5	
MDOK	**Medeo**	**4.85**	**35**	Pg		**Pb**	**16 39 56.7**	**-2.1**
	3.1nm,0.6s							
MDOK				Lg		Lg	16 41 00.1	
	10.0nm,0.9s							
KNDC	**Almaty**	**4.86**	**34**	⇑Lg		Lg	16 40 59.8	
KOTS	**Kotyrbulak**	**4.94**	**35**	Pg		**Pb**	**16 39 58.8**	**-1.5**
	2.7nm,0.5s							
KOTS				Lg		Lg	16 41 03.4	
	14nm,0.7s							
KTBS	**Karatobe**	**5.15**	**29**	Pg		**Pb**	**16 40 02.6**	**-1.2**
	1.6nm,0.5s							
KTBS				Lg		Lg	16 41 10.0	
	12nm,0.8s							
KUU	**Kurty**	**5.18**	**26**	Pg		**Pb**	**16 40 03.0**	**-1.4**
	1.2nm,0.2s							
KUU				Lg		Lg	16 41 10.8	
	11nm,0.6s							
CHKK	**Chushkaly**	**5.39**	**30**	Pg		**Pb**	**16 40 07.2**	**-0.7**
	1.6nm,0.6s							
CHKK				Lg		Lg	16 41 17.6	
	4.7nm,0.7s							
SATY	**Saty**	**5.45**	**44**	Pg		**Pb**	**16 40 07.8**	**-1.3**
	4.4nm,1.0s							
SATY				Lg		Lg	16 41 19.9	
	11nm,0.8s							
KURS	**Kuram**	**5.63**	**40**	Pg		**Pb**	**16 40 12.0**	**0.0**
	2.2nm,0.8s							
KURS				Lg		Lg	16 41 26.1	
	5.5nm,1.5s							
PDGK	**Podgornoye**	**6.23**	**47**	⇑Pg		**Pb**	**16 40 24.0**	**+1.7**
	1.6nm,0.6s							
PDGK				⇑Lg		Lg	16 41 44.0	
	5.1nm,0.8s							
OTUK	**Ortayu**	**9.00**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	baz=335						
MORC				eSg	Sn	16 50 00.7	+0.8
	comp=Z,37nm,0.5s,baz=335						
OKC	Ostrava-Krasne	2.15	141⇓	ePG	Pb	16 49 39.5	+0.4
OKC				eSG	Sb	16 50 06.3	0.0
	comp=Z,37nm,0.6s						
CHZP	Chorzow	2.23	123	ePg	Pg	16 49 42.4	+0.4
CHZP				eSg	Sg	16 50 11.9	+1.1
VRAC	Vranov	2.25	171⇑	iP	Pn	16 49 38.7	+0.9
VRAC	Vranov	2.25	171	S	Sb	16 50 10.0	+0.8
VRAC	Vranov	2.25	171	ePN	Pn	16 49 38.2	+0.4
VRAC				eSG	Sb	16 50 09.8	+0.6
VRAC	Vranov	2.25	171	ePn	Pn	16 49 38.2	+0.4
	baz=354						
VRAC				eSg	Sb	16 50 09.8	+0.6
	comp=Z,17nm,0.2s,baz=354						
VRAC	Vranov	2.25	171	Pn	Pn	16 49 37.9	+0.1
	comp=Z,2.3nm,0.3s,baz=333,slow=16,SNR=18						
VRAC				Lg	Lg	16 50 10.5	
	comp=Z,3.9nm,0.3s,baz=98,slow=23,SNR=8.7						
TREC	Trest	2.27	190⇓	ePN	Pn	16 49 40.0	+2.0
TREC				ePG	Pb	16 49 42.3	+1.2
TREC				eSG	Sb	16 50 10.8	+1.0
	comp=Z,26nm,0.2s						
KRUC	Moravsky	2.48	175	ePN	Pn	16 49 41.6	+0.6
KRUC				eSG	Sb	16 50 17.3	+1.5
KRUC	Moravsky	2.48	175	ePn	Pn	16 49 41.5	+0.6
	baz=358						
KRUC				eSg	Sb	16 50 17.3	+1.5
	comp=Z,19nm,0.5s,baz=358						
NKC	Novy Kostel	2.64	242⇓	ePN	Pn	16 49 44.6	+1.5
NKC				ePG	Pg	16 49 50.7	+0.9
NKC				eSG	Sg	16 50 26.3	+2.4
	comp=Z,42nm,0.3s						
OJC	Ojcow	2.71	118	ePn	Pn	16 49 44.1	+0.1
OJC				ePg	Pg	16 49 52.3	+1.2
OJC				eSg	Sg	16 50 27.8	+1.7
KHC	Kasperske Hory	2.88	215⇓	ePN	Pn	16 49 47.8	+1.3
KHC				ePG	Pb	16 49 53.7	+2.1
KHC				eSN	Sn	16 50 21.6	-0.3
KHC				eSG	Sg	16 50 31.9	0.0
	comp=Z,19nm,0.3s						
GERES	GERESS Array B	3.09	210	Pn	Pn	16 49 50.8	+1.4
	comp=Z,1.1nm,0.3s,baz=25,slow=13,SNR=24						
GERES				Pg	Pb	16 49 56.8	+1.6
	comp=Z,4.5nm,0.3s,baz=28,slow=21,SNR=44						
GERES				Lg	Lg	16 50 38.5	
	comp=Z,4.5nm,0.3s,baz=30,slow=28,SNR=9.0						
LANS	Liptovska Anna	3.23	136	ePN	Pn	16 49 52.0	+0.8
LANS				ePG	Pg	16 50 01.1	0.0
LANS				eSG	Sg	16 50 41.3	-1.7
MODS	Modra-Piesok	3.26	166	ePN	Pn	16 49 51.1	-0.5
MODS				ePG	Pb	16 50 00.1	+2.2
MODS				eSG	Sb	16 50 40.6	+2.5
NIE	Niedzica	3.43	126	eP	Pg	16 50 04.7	-0.3
NIE				eS	Sg	16 50 48.7	-0.8
VYHS	Vyhne	3.53	149	ePN	Pn	16 49 55.2	-0.1
VYHS				ePG	Pg	16 50 05.7	-1.1
VYHS				eSG	Sg	16 50 51.0	-1.5
CONA	Conrad Observa	3.61	182	i Pn	Pn	16 49 57.5	+1.0
	comp=Z,0.7nm,0.2s						
CONA				Sg	Sb	16 50 51.6	+3.2
	comp=Z,8.1nm,0.4s						
BSD	Bornholm Skovb	3.65	350	i P	Pn	16 49 58.0	+1.0
BSD				i S	Sn	16 50 38.3	-2.4
MOA	Molln	3.87	198	ePn	Pn	16 50 01.1	+1.1
	comp=Z,2.0nm,0.2s						
MOA				Sg	Sb	16 50 58.9	+3.2
	comp=Z,9.6nm,0.4s						
ARSA	Arzberg	4.30	185	i Pn	Pn	16 50 09.3	+3.4
	comp=Z,1.8nm,0.2s						
ARSA				Sg	Sg	16 51 14.0	-3.4
	comp=Z,5.9nm,0.5s						
KBA	Koelnbreinsper	4.80	203	ePn	Pn	16 50 11.9	-1.1
	comp=Z,0.9nm,0.2s						
KBA				Sg	Sb	16 51 18.9	-3.8
	comp=Z,1.3nm,0.3s						
SOKA	Soboth	4.91	188	Sg	Sg	16 51 33.0	-3.8
	comp=Z,1.1nm,0.5s						
OBKA	Obir	5.13	192	ePn	Pb	16 50 31.2	+1.4
	comp=Z,0.7nm,0.2s						
OBKA				Sg	Sg	16 51 40.8	-3.1
	comp=Z,2.8nm,0.5s						
MYKA	Terra Mystica	5.16	199	Sg	Sg	16 51 42.3	-2.7
	comp=Z,1.1nm,0.4s						
WTTA	Wattenberg	5.16	216	eSn	Sn	16 51 13.8	-4.4
	comp=Z,3.2nm,0.4s						
MOTA	Moosalm	5.30	220	ePn	Pn	16 50 20.4	+0.7
	comp=Z,0.8nm,0.1s						
MOTA				Sg	Sg	16 51 44.8	-4.5
	comp=Z,1.6nm,0.3s						
RETA	Reutte	5.32	223	i Pn	Pn	16 50 20.5	+0.5
	comp=Z,0.7nm,0.2s						
RETA				Sg	Sg	16 51 46.9	-3.2
	comp=Z,2.1nm,0.5s						
ABTA	Abfaltersbach	5.33	207	Sg	Sg	16 51 48.0	-2.3
	comp=Z,4.5nm,0.6s						
FETA	Feichten	5.71	220	ePn	Pn	16 50 27.3	+1.9
	comp=Z,1.2nm,0.4s						
FETA				Sg	Sb	16 51 44.6	-4.2
	comp=Z,0.8nm,0.3s						
DAVOX	Davos/Dischmat	6.25	223	Pn	Pn	16 50 32.9	+0.1
	baz=126,slow=19						
BURAR	Bucovina Array	7.12	120⇑	iP	Pn	16 50 45.1	+0.3
AKASG	Malin Array Be	8.32	91	Pn	Pn	16 51 00.7	-0.4
	comp=Z,0.6nm,0.3s,baz=278,slow=12,SNR=2.6						
HFS	Hagfors	8.72	352	Pn	Pn	16 51 06.8	+0.2
	comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=4.5						
NOA	NORSAR Array B	9.90	346	Pn	Pn	16 51 21.9	-0.8
	comp=Z,0.0nm,0.3s,baz=162,slow=11,SNR=6.2						
FINES	FINESS Array B	11.35	25	Pn	Pn	16 51 41.5	-1.0
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=7.2						
ARCES	ARCESS Array B	18.61	10	Pn	P	16 53 15.7	-2.1
	comp=Z,0.2nm,0.3s,baz=187,slow=14,SNR=7.1						

NEIC ***28*** *16:49:03.2±0.7, 11°.62S×116°.78E, h30km, mb4.5/3, Error ellipse: s-maj=12.1km s-min=9.7km az=217.0*
IDC ***28*** *16:49:06.4±2.8, 12°.89S×116°.61E, h0km, mb3.9/4, mb1 3.7/7, mb1mx3.5/56, mbtmp3.7/7, ML3.4/3, Error ellipse: s-maj=155.3km s-min=21.2km az=43.0*
ISC 28 16:49:00.7±1.0**, 11°.59S**±0°.09×**116°.88E**±0°.08**, h10km, n19, σ1s.73**/16**, mb4.1**/5**, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
JAGI	Jajag, Banyuwa	4.10	319	ePn	Pn	16 50 01.6	-2.0
JAGI				eSn	Sn	16 50 43.7	-8.0
MMRI	Maumere	6.04	61	ePn	Pn	16 50 31.6	+1.4
MMRI				eSn	Sn	16 51 36.1	-3.4
UGM	Wanagama	7.25	300	ePn	Pn	16 50 48.2	+1.2
UGM				eSn	Sn	16 51 58.3	-11
SOEI	Soe	7.49	77	ePn	Pn	16 50 52.6	+2.4
SOEI				eSn	Sn	16 52 09.6	-5.7
FITZ	Fitzroy Crossi	10.65	128	ePn	Pn	16 51 33.4	-0.1
FITZ				eSn	Sn	16 53 25.6	-7.4
FITZ	Fitzroy Crossi	10.65	128	Pn	Pn	16 51 33.6	0.0
	0.4nm,0.3s,baz=283,slow=7.2,SNR=29						
FITZ				Sn	Sn	16 53 24.1	-8.9
	0.5nm,0.3s,baz=29,slow=22,SNR=11						
GIRL	Giralia	11.28	193	ePn	Pn	16 51 41.8	-0.3
GIRL				eSn	Sn	16 53 36.3	-12
MORW	Morawa	17.41	182	ePn	Pn	16 53 02.6	-1.3
	72nm,1.8s						
WRA	Warramunga Arr	18.73	118	P	P	16 53 21.4	+1.5
	0.1nm,0.3s,baz=289,slow=13,SNR=7.8						
WRA				S	Sn	16 56 36.4	-14
	0.1nm,0.3s,baz=296,slow=24,SNR=6.0						
WR1	Warramunga Arr	18.73	118	eP	P	16 53 21.4	+1.5
	13nm,1.4s						
WR1				eSn	Sn	16 56 36.4	-14
WB2	Warramunga Arr	18.74	118	eP	P	16 53 19.6	-0.3
ASAR	Alice Springs	20.16	129	P	P	16 53 37.4	+1.9
	0.1nm,0.3s,baz=299,slow=10.0,SNR=14						
ASAR				S	S	16 57 11.8	-10
	0.1nm,0.3s,baz=296,slow=22,SNR=5.9						
AS31	Alice Springs	20.16	129	eP	P	16 53 34.3	-1.1
	1.2nm,1.1s						
AS31				eS	S	16 57 12.1	-10
AS01	Alice Springs	20.19	129	eP	P	16 53 37.6	+1.7
NWAO	Narrogin (SRO)	21.24	179	eP	P	16 53 47.0	0.0
	61nm,1.5s						
MKAR	Makanchi Array	65.85	335	P	P	17 00 00.5	+14
	0.7nm,0.5s,baz=142,slow=7.7,SNR=7.3						
KURBB	Kurchatov Arra	70.39	335	P	P	17 00 28.9	+14
	0.7nm,0.6s,baz=148,slow=5.5,SNR=5.3						
ZALV	Zalesovo Beam	70.74	341	P	P	17 00 30.3	+13
	1.3nm,0.8s,baz=156,slow=5.6,SNR=4.0						
BVAR	Borovoye Array	75.62	333	P	P	17 00 59.3	+13
	0.6nm,0.7s,baz=145,slow=10,SNR=4.3						

ISCJB ***28*** *16:50:07.9±0.8, 37°.40N±0°.07×97°.25E±0°.07, h10km, mb3.7/5, MS2.8/2, Error ellipse: s-maj=10.6km s-min=7.0km az=158.3*
IDC ***28*** *16:50:08.9±1.4, 37°.35N×97°.00E, h0km, mb3.7/5, mb1 3.8/11, mb1mx3.5/84, mbtmp3.7/11, ML3.3/6, MS2.9/5, Ms1 3.0/5, ms1mx2.6/46, Error ellipse: s-maj=34.7km s-min=22.4km az=38.0*
BJI ***28*** *16:50:10.0, 37°.27N×97°.17E, h6km, mb3.8/1, ML3.8/12, Ms7 3.5/4*
ISC 28 16:50:10.7±0.9**, 37°.30N**±0°.08×**97°.04E**±0°.06**, h10km, n14, σ1s.16**/18**, mb3.8**/5**, Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA	Gaotai	3.03	45	Pn	Pn	16 51 00.5	+1.6
GTA				Pg	Pb	16 51 04.5	-0.4
GTA				Sn	Sn	16 51 35.0	-0.4
GTA				Sg	Sb	16 51 42.0	-0.1
LZH	Lanzhou	5.60	100	ePg	Pb	16 51 48.5	-0.2
LZH				Sg	Sb	16 52 57.0	+1.1
LZH				smax	smax		
	comp=N,290nm,0.7s						
LZH				smax	smax		
	comp=E,300nm,0.8s						
LZH				LR	LR		
	comp=Z,300nm,4.6s						
WMQ	Urumqi	9.64	315	P	Pn	16 52 30.5	+1.0
WMQ				pP		16 52 33.0	
WMQ				sP		16 52 38.0	
WMQ				S	Sn	16 54 20.5	+2.6
WMQ				sS		16 54 26.8	
WMQ				LR	LR		
	comp=Z,340nm,8.3s						
SONM	Songino Array	12.57	30	Pn	Pn	16 53 08.9	-0.8
	0.3nm,0.3s,baz=215,slow=15,SNR=11						
SONM				LR	LR	16 58 46.2	
	comp=Z,13nm,19.2s,baz=58,slow=41						
MKAR	Makanchi Array	14.47	316	Pn	Pn	16 53 31.5	-4.1
	0.1nm,0.3s,baz=128,slow=13,SNR=14						
AAK	Ala-Archa	18.07	294	P	Pn	16 54 21.9	0.0
	0.1nm,0.3s,baz=339,slow=5.1,SNR=7.5						
AAK				LR	LR	17 01 52.6	
	comp=Z,62nm,21.6s,baz=101,slow=39						
ZALV	Zalesovo Beam	18.67	337	P	P	16 54 28.2	-0.5
	0.3nm,0.3s,baz=146,slow=11,SNR=11						
KURBB	Kurchatov Arra	18.77	321	P	P	16 54 28.6	-1.3
	0.1nm,0.3s,baz=132,slow=11,SNR=9.2						
CMAR	Chiang Mai Arr	18.84	174	P	P	16 54 31.2	+0.3
	0.0nm,0.3s,baz=351,slow=11,SNR=4.2						
CMAR				LR	LR	17 02 20.6	
	comp=Z,72nm,18.4s,baz=220,slow=39						
BVAR	Borovoye Array	24.30	319	P	P	16 55 26.7	-1.5
	0.7nm,0.6s,baz=126,slow=10,SNR=6.9						
BVAR				LR	LR	17 05 55.2	
	comp=Z,37nm,19.2s,baz=106,slow=39						
KSRS	Korea Array	24.49	80	P	P	16 55 30.1	0.0
	1.5nm,0.7s,baz=284,slow=8.7,SNR=5.2						
KSRS				LR	LR	17 05 53.6	
	comp=Z,26nm,19.1s,baz=270,slow=39						
FINES	FINESS Array B	49.15	323	P	P	16 58 57.5	-0.8
	0.9nm,0.8s,baz=110,slow=12,SNR=3.4						
ARCES	ARCESS Array B	49.18	334	P	P	16 58 57.7	-0.8
	3.2nm,0.9s,baz=84,slow=10,SNR=4.5						
NOA	NORSAR Array B	56.27	324	P	P	16 59 49.5	-1.6
	0.4nm,0.8s,baz=72,slow=7.1,SNR=3.3						

IDC ***28*** *16:53:56.3±1.5, 32°.01S×179°.94W, h322km±20km, mb3.1/2, mb1 3.7/5, mb1mx3.1/42, mbtmp4.3/5, Error ellipse: s-maj=42.7km s-min=18.3km az=119.0*
WEL ***28*** *16:53:58.9±0.9, 32°S±6°×17°9W±1°3, h323km±13km*
ISC 28 16:53:57.7±0.9**, 32°.29S**±0°.08×**179°.1W**±0°.1**, h350km, n90, σ1s.96**/94**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GLKZ	Green Lake	3.19	19	P	Pn	16 54 58.5	-0.4
GLKZ				S	S	16 55 47.2	-0.8
RAO	Raoul Island	3.20	19	P	Pn	16 54 55.9	-3.1
	114nm,0.3s,baz=98,slow=23,SNR=8.0						
RAO				S	S	16 55 47.8	-0.5
	33nm,0.3s,baz=270,slow=20,SNR=3.9						
RIZ	Raoul Island	3.21	19	P	Pn	16 54 56.1	-2.9
MXZ	Matakaoa Point	5.66	201	P	Pn	16 55 26.6	+2.1
MXZ				S	S	16 56 35.1	+0.2
WMGZ	Waiomatatini S	5.87	199	P	Pn	16 55 28.3	+1.4
GRZ	Great Barrier	5.97	227	P	Pn	16 55 28.6	+0.6
HAZ	Te Kaha	6.01	204	P	Pn	16 55 28.5	0.0
HAZ				S	S	16 56 41.9	-0.2
PKGZ	Pakihiroa	6.04	201	P	Pn	16 55 28.9	+0.1
KUZ	Kuaotunu	6.14	222	P	Pn	16 55 29.3	-0.7
PUZ	Puketiti	6.15	200	P	Pn	16 55 30.2	+0.1
PUZ				S	S	16 56 44.1	-1.0
TWGZ	Tauwhareparae	6.33	201	P	Pn	16 55 34.4	+2.2
WCZ	Waipu Caves	6.52	234	P	Pn	16 55 34.5	+0.2
WIAZ	Waiheke Island	6.52	225	P	Pn	16 55 35.8	+1.4
CNGZ	Carnagh Statio	6.55	199	P	Pn	16 55 35.9	+1.2
OPRZ	Ohinepanea	6.57	211	P	Pn	16 55 35.0	+0.1
TKGZ	Te Karaka	6.61	201	P	Pn	16 55 35.0	-0.4
MWZ	Matawai	6.62	203	P	Pn	16 55 35.0	-0.5
MARZ	Manawahe	6.64	210	P	Pn	16 55 38.0	+2.2
MBAZ	Motutapu North	6.65	226	P	Pn	16 55 37.7	+1.9
URZ	Urewera	6.70	206	P	Pn	16 55 35.2	-1.2
	6.3nm,0.3s,baz=277,slow=4.1,SNR=50						
URZ				S	S	16 56 53.5	-3.2
	4.0nm,0.3s,baz=253,slow=23,SNR=11						
URZ	Urewera	6.70	206	P	Pn	16 55 35.0	-1.4
EDRZ	Edgecumbe	6.71	209	P	Pn	16 55 39.4	+2.8
MKAZ	Moumakai	6.72	223	P	Pn	16 55 38.3	+1.7
OUZ	Omahuta	6.72	242	P	Pn	16 55 35.6	-1.1
ETAZ	East Tamaki Re	6.75	225	P	Pn	16 55 38.6	+1.6
RAGZ	Rawiri	6.80	203	P	Pn	16 55 36.9	-0.7
KARZ	Kaharoa	6.86	212	P	Pn	16 55 40.5	+2.3
MKRZ	Makatiti	6.86	210	P	Pn	16 55 40.6	+2.3
KMRZ	Kaimai	6.86	215	P	Pn	16 55 40.7	+2.4
OMRZ	Omania	6.87	211	P	Pn	16 55 42.0	+3.5
RIGZ	Rimuhau	6.88	201	P	Pn	16 55 37.9	-0.7
TARZ	Mount Tarawera	6.92	210	P	Pn	16 55 42.1	+3.0
NGRZ	Ngongotaha	6.95	212	P	Pn	16 55 42.4	+3.1
TOZ	Tahuroa Road	6.99	218	P	Pn	16 55 42.6	+2.9
HLRZ	Highlands Stat	7.00	211	P	Pn	16 55 43.5	+3.5
RRRZ	Republican Roa	7.00	209	P	Pn	16 55 42.7	+2.8
UTU	Utuhina	7.01	212	P	Pn	16 55 44.1	+4.2
RTZ	Ruatahuna	7.06	206	P	Pn	16 55 39.6	-1.1
SNGZ	Shannon Statio	7.08	203	P	Pn	16 55 40.4	-0.6
HSRZ	Hossack Road	7.09	211	P	Pn	16 55 44.4	+3.3
HRRZ	Handcock Road	7.14	210	P	Pn	16 55 44.3	+2.6
GRRZ	Galatos Road	7.19	211	P	Pn	16 55 44.5	+2.4
PRRZ	Plateau Road	7.19	209	P	Pn	16 55 44.2	+2.1
KNZ	Kokohu	7.20	200	P	Pn	16 55 41.1	-1.1
MHGZ	Mahia Peninsul	7.26	199	P	Pn	16 55 45.1	+2.2
ALRZ	Allen Road	7.26	209	P	Pn	16 55 44.6	+1.6
RAHZ	Arahi	7.29	204	P	Pn	16 55 43.9	+0.6
WPRZ	Whakapapatarin	7.30	210	P	Pn	16 55 45.6	+2.1
MTHZ	Maungataniwha	7.32	205	P	Pn	16 55 42.7	-1.0
WHHZ	Waihua	7.39	203	P	Pn	16 55 45.6	+1.1
KUTZ	Kaahu Road	7.43	212	P	Pn	16 55 47.3	+2.3
TLZ	Tolley Road	7.43	214	P	Pn	16 55 45.6	+0.6
MRHZ	Matea Rd	7.47	208	P	Pn	16 55 44.1	-1.4
NMHZ	Naumai	7.55	205	P	Pn	16 55 45.3	-1.2
ARHZ	Aropaoanui	7.63	203	P	Pn	16 55 47.9	+0.6
WATZ	Wairara	7.65	212	P	Pn	16 55 48.4	+0.9
BKZ	Black Stump Fm	7.73	206	P	Pn	16 55 46.4	-2.1
RATZ	Rangitukua	7.76	211	P	Pn	16 55 49.3	+0.4
RITZ	Rihia Road	7.82	210	P	Pn	16 55 50.2	+0.7
KATZ	Kakaramea	7.88	211	P	Pn	16 55 52.0	+1.5
MCHZ	McNeill Hill	7.90	204	P	Pn	16 55 49.7	-0.8
KWHZ	Kaweka Forest	7.98	206	P	Pn	16 55 49.7	-1.8
KRVZ	Karewarewa	8.01	211	P	Pn	16 55 52.5	+0.7
WTVZ	West Tongariro	8.05	211	P	Pn	16 55 50.7	-1.7
NGZ	Ngauruhoe	8.09	210	P	Pn	16 55 51.7	-1.2
TUVZ	Tukino	8.15	210	P	Pn	16 55 51.6	-1.9
KAHZ	Kahuranaki	8.15	202	P	Pn	16 55 52.0	-1.5
BHHZ	Black Hill Sta	8.17	207	P	Pn	16 55 50.9	-2.9
WHVZ	Whangaehu Hut	8.19	210	P	Pn	16 55 52.3	-1.8
KRHZ	Kereru	8.19	205	P	Pn	16 55 51.6	-2.3
TRVZ	Turoa	8.22	210	P	Pn	16 55 54.7	+0.2
MOVZ	Moawhango	8.22	209	P	Pn	16 55 51.9	-2.4
MTVZ	Mangateitei	8.32	210	P	Pn	16 55 53.7	-1.9
PXZ	Pawanui	8.37	202	P	Pn	16 55 54.5	-1.6
PNHZ	Pukenui	8.49	205	P	Pn	16 55 55.1	-2.5
WPHZ	Waipukurau	8.54	203	P	Pn	16 55 58.3	+0.2
PRHZ	Porangahau	8.66	202	P	Pn	16 55 57.6	-1.9
TSZ	Takapari Road	8.71	206	P	Pn	16 55 57.0	-3.0
WAZ	Wanganui	8.84	211	P	Pn	16 55 59.7	-1.9
DVHZ	Dannevirke	8.85	204	P	Pn	16 55 59.1	-2.6
PKE	Pukeiti	8.87	217	P	Pn	16 56 03.0	+1.0
ANWZ	Angora Road	8.89	202	P	Pn	16 56 01.7	-0.4
PRWZ	Pori Road	9.14	204	P	Pn	16 56 03.2	-2.0
BFZ	Birch Farm	9.16	203	P	Pn	16 56 03.9	-1.5
RPZ	Rata Peaks	13.77	211	P	P	16 56 56.2	-2.4
	1.2nm,0.3s,baz=306,slow=3.1,SNR=10.0						
RPZ				S	S	16 59 20.2	-8.4
	1.1nm,0.3s,baz=352,slow=18,SNR=7.1						
ASAR	Alice Springs	42.08	270	P	P	17 01 12.3	-4.4
	0.5nm,0.4s,baz=108,slow=7.2,SNR=13						
WRA	Warramunga Arr	43.24	275	P	P	17 01 21.1	-4.8
	0.9nm,0.3s,baz=112,slow=8.0,SNR=42						
VNA3	Neumayer Olymp	76.49	177	P	P	17 05 13.0	+3.8
VNA2	Neumayer--Watz	76.91	177	P	P	17 05 15.6	+4.1
	baz=180,slow=5.2						
FINES	FINESS Array B	146.56	338	PKPbc	PKPdf	17 12 57.1	+1.7
	0.4nm,0.3s,baz=20,slow=4.4,SNR=8.3						

MEX 28 16:57:57.7±0.8**, 16°.09N**×**98°.26W, h2km, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PNIG	Pinotepa	0.32	24	i P	Pg	16 58 02.9	-1.1
PNIG				i S	Sg	16 58 08.4	+0.2
TLIG	Tlapa	1.49	349	eP	Pn	16 58 22.1	-3.6
TLIG				i S	Sg	16 58 41.0	-4.6

MEX 28 17:03:52.4±0.9**, 18°.95N**×**104°.40W, h5km, MD3.8, Near coast of Jalisco**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
R15V		0.46	61	eP	Pg	17 04 00.3	-0.9
R15V				eS	Sg	17 04 06.9	-0.2
CJM	Chamela	0.82	312	eP	Pg	17 04 06.0	-2.2
CJM				eS	Sg	17 04 17.6	-1.2
EZ5V		0.92	55	eP	Pg	17 04 08.7	-1.5
EZ5V				i S	Sg	17 04 21.1	-1.1
MMIG	Aquila	1.20	123	eP	Pg	17 04 12.6	-2.8
MMIG				eS	Sg	17 04 26.9	-4.0
ANIG	Ahuacatlan	2.10	357	i P	Pn	17 04 25.1	-3.2
ANIG				i S	Sn	17 04 51.3	-3.6

IDC 28 17:09:01.0±1.6**, 11°.48S**×**164°.83E, h0km, mb3.4**/4**, mb1 3.7**/5**, mb1mx3.5**/42**, mbtmp3.5**/5**, ML3.0**/1**, Error ellipse: s-maj=49.5km s-min=30.5km az=125.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DZM	Mont Dzumac	10.64	172	Pn	Pn	17 11 34.9	-0.1
	0.1nm,0.3s,baz=120,slow=20,SNR=3.3						
WRA	Warramunga Arr	30.49	250	P	P	17 15 16.3	+0.2
	0.2nm,0.6s,baz=78,slow=9.0,SNR=3.6						
ASAR	Alice Springs	31.79	243	P	P	17 15 26.9	-0.6
	0.2nm,0.7s,baz=68,slow=9.9,SNR=4.2						
ILAR	Eielson Array	84.21	19	P	P	17 21 33.8	-0.2
	0.4nm,0.9s,baz=235,slow=4.3,SNR=3.5						
MKAR	Makanchi Array	93.22	317	P	P	17 22 18.1	+0.5
	0.4nm,0.8s,baz=101,slow=6.3,SNR=3.8						

IDC 28 17:14:45.5±2.5**, 7°.29S**×**120°.03E, h545km**±28km**, mb2.6**/4**, mb1 2.8**/7**, mb1mx2.6**/41**, mbtmp3.6**/7**, Error ellipse: s-maj=111.0km s-min=17.6km az=60.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BATI	Baumata	4.61	129	P	P	17 16 12.0	+0.1
	7.2nm,0.3s,baz=285,slow=2.0,SNR=18						
BATI				S	S	17 17 17.7	-4.6
	1.7nm,0.3s,baz=315,slow=5.7,SNR=2.5						
FITZ	Fitzroy Crossi	12.05	154	P	P	17 17 24.5	-0.1
	0.1nm,0.3s,baz=324,slow=8.7,SNR=2.8						
WRA	Warramunga Arr	18.73	134	P	P	17 18 30.3	-0.1
	0.3nm,0.3s,baz=311,slow=10,SNR=23						
ASAR	Alice Springs	21.04	142	P	P	17 18 51.2	-0.2
	0.5nm,0.5s,baz=321,slow=8.1,SNR=18						
STKA	Stephens Creek	31.66	143	P	P	17 20 24.7	+0.1
	0.7nm,0.3s,baz=329,slow=9.6,SNR=4.6						
SONM	Songino Array	56.20	349	P	P	17 23 34.2	+0.1
	0.2nm,0.4s,baz=163,slow=7.8,SNR=4.1						
MKAR	Makanchi Array	63.42	332	P	P	17 24 21.9	-0.2
	0.3nm,0.5s,baz=142,slow=5.7,SNR=5.6						

ISC 28 17:37:02.0±1.4**, 49°.86N**±0°.07×**18°.53E**±0°.05**, h11km, n10, σ0s.57**/19**, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OKC	Ostrava-Krasne	0.25	266	ePG	Pg	17 37 07.5	+0.4
OKC				eSG	Sg	17 37 11.1	+0.5
	comp=Z,18nm,0.5s						
MORC	Moravsky Berou	0.64	263	ePG	Pg	17 37 14.6	+0.1
MORC				eSG	Sg	17 37 22.6	-0.4
LANS	Liptovska Anna	0.94	139	ePG	Pg	17 37 19.8	-0.2
LANS				eSG	Sb	17 37 33.1	+0.4
KRLC	Kraliky	1.15	282	ePG	Pb	17 37 22.8	-1.1
KRLC				eSG	Sb	17 37 38.9	0.0
	comp=Z,1.8nm,0.4s						
VRAC	Vranov	1.37	247	ePG	Pb	17 37 27.6	-0.1
VRAC				eSG	Sn	17 37 45.2	-0.1
VYHS	Vyhne	1.38	171	ePG	Pb	17 37 27.5	-0.3
VYHS				eSG	Sb	17 37 45.8	+0.4
VYHS				eLG	Lg	17 37 47.6	
DPC	Dobruska-Polom	1.50	290	ePG	Pb	17 37 29.6	-0.4
DPC				eSG	Sg	17 37 50.0	-0.4
	comp=Z,2.5nm,0.3s						
KRUC	Moravsky	1.60	241	ePG	Pn	17 37 30.9	+0.6
KRUC				eSG	Sb	17 37 52.2	+0.3
UPC	Upice	1.74	293	ePG	Pb	17 37 34.1	+0.1
UPC				eSG	Sg	17 37 58.4	+0.3
	comp=Z,3.2nm,0.3s						
KHC	Kasperske Hory	3.31	259	eSG	Sg	17 38 46.8	-1.4

NIED ***28*** *18:00:00, 38°.20N×144°.50E, h8km, Mw3.6 Best double couple: M0 3.26000×10^14 NP1:φs348.00000°, δ25.00000°, λ-108.00000°. NP2:φs188.00000°, δ67.00000°, λ-82.00000°.*
IDC ***28*** *18:00:54.6±1.2, 38°.02N×144°.82E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.5/45, mbtmp3.8/8, ML3.7/3, MS2.9/5, Ms1 2.9/5, ms1mx2.7/36, Error ellipse: s-maj=31.2km s-min=19.1km az=118.0*
ISCJB ***28*** *18:00:58.4±0.7, 38°.22N±0°.05×144°.61E±0°.05, h33km, mb3.6/5, MS3.4/2, Error ellipse: s-maj=7.2km s-min=5.0km az=143.9*
JMA ***28*** *18:00:59.5±0.1, 38°.19N×144°.52E, h54km, M3.7*
ISC 28 18:00:59.9±1.1**, 38°.21N**±0°.06×**144°.61E**±0°.09**, h35km, n27, σ2s.10**/40**, mb3.6**/5**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OFUJ	Ofunato	2.46	292	P	Pn	18 01 37.6	+0.1
JIKH	Ishinomakikobu	2.48	273	P	Pn	18 01 37.4	-0.3
JIKH				eS	Sn	18 02 05.7	-1.0
JKMT	Kesennumamotoy	2.53	285	P	Pn	18 01 38.4	-0.1
JKMT				eS	Sn	18 02 07.6	-0.4
MIYJ	Miyakonagasawa	2.57	303	P	Pn	18 01 39.0	0.0
MIYJ				eS	Sn	18 02 08.2	-0.8
JIO	Ouri	2.57	276	P	Pn	18 01 39.0	-0.1
JIO				eS	Sn	18 02 08.6	-0.5
JMK	Ichinoseki	2.75	287	P	Pn	18 01 41.9	+0.3
JOM	Ohasama	2.88	297	P	Pn	18 01 43.6	+0.3
JOM				eS	Sn	18 02 16.9	+0.2
JANG	Nango	3.23	313	P	Pn	18 01 48.2	+0.1
JANG				eS	Sn	18 02 24.6	-0.7

JYK	**Kaneyama**	**3.40**	**283**	P		**Pn**	**18 01 51.1 +0.6**
JYK				*eS*		**Sn**	**18 02 30.3 +0.7**
JFT	**Otama**	**3.45**	**260**	P		**Pn**	**18 01 51.0 -0.1**
JFT				*eS*		**Sn**	**18 02 30.9 +0.1**
JCH	**Churui**	**4.50**	**348**	P		**Pn**	**18 02 04.8 -0.7**
JCH				*eS*		**Sn**	**18 02 53.6 -3.0**
JRY	**Ryogami san**	**5.06**	**246**	P		**Pn**	**18 02 13.0 -0.3**
JRY				*eS*		**Sn**	**18 03 07.4 -3.1**
NEM2	**Nemuro 2**	**5.22**	**9**	P		**Pn**	**18 02 11.8 -3.6**
NEM2				*eS*		**Sn**	**18 03 08.4 -5.9**
MJAR	**Matsushiro Arr**	**5.36**	**254**	Pn		**Pn**	**18 02 18.7 +1.2**
	0.5nm,0.3s,baz=79,slow=15,SNR=23						
MJAR				Sn		**Sn**	**18 03 20.5 +2.6**
	baz=93,slow=26,SNR=2.5						
MAT	**Matsushiro**	**5.36**	**254**	P		**Pn**	**18 02 18.9 +1.5**
MAT				S		**Sn**	**18 03 20.5 +2.5**
JTKR	**Abashiri--Toko**	**5.78**	**355**	P		**Pn**	**18 02 22.0 -1.1**
JTKR				*eS*		**Sn**	**18 03 24.5 -3.6**
JHR	**Hokuryu**	**5.94**	**339**	P		**Pn**	**18 02 27.0 +1.7**
ASAJ	**Asahikawa**	**6.09**	**346**	Pn		**Pn**	**18 02 27.9 +0.5**
	2.2nm,0.3s,baz=197,slow=15,SNR=28						
ASAJ				Sn		**Sn**	**18 03 38.1 +2.3**
	1.0nm,0.3s,baz=88,slow=16,SNR=3.2						
JHJ	**Hachijo jima 2**	**6.42**	**219**	Pn		**Pn**	**18 02 30.1 -1.9**
	11nm,0.3s,baz=266,slow=19,SNR=4.1						
JHJ				Sn		**Sn**	**18 03 37.7 -6.3**
	11nm,0.3s,baz=102,slow=22,SNR=5.7						
JHJ				LR		LR	18 04 57.8
	comp=Z,31nm,20.6s,baz=264,slow=38						
JNU	**Nakatsue**	**12.26**	**250**	LR		LR	18 08 27.7
	comp=Z,26nm,21.3s,baz=24,slow=37						
KSRS	**Korea Array**	**13.21**	**272**	LR		LR	18 09 05.9
	comp=Z,26nm,18.3s,baz=26,slow=37						
MA2	**Magadan**	**21.74**	**8**	P		**P**	**18 05 50.5 +2.5**
	2.7nm,0.6s,baz=183,slow=6.3,SNR=3.9						
SEY	**Seymchan**	**25.20**	**8**	P		**P**	**18 06 23.2 +1.4**
	2.1nm,0.7s,baz=191,slow=5.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**44.24**	**257**	LR		LR	18 30 01.8
	comp=Z,42nm,18.4s,baz=186,slow=39						
MKAR	**Makanchi Array**	**45.65**	**302**	P		**P**	**18 09 17.8 +0.9**
	0.5nm,0.8s,baz=88,slow=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**58.64**	**191**	P		**P**	**18 10 52.4 -1.2**
	0.3nm,0.6s,baz=12,slow=7.4,SNR=4.2						
WRA				LR		LR	18 35 28.3
	comp=Z,34nm,20.8s,baz=120,slow=36						
PDAR	**Pinedale Array**	**75.02**	**47**	P		**P**	**18 12 38.0 -0.1**
	0.4nm,0.7s,baz=330,slow=3.4,SNR=4.4						

IDC 28 18:01:06.1±2.6, 5.73S×130.40E, h0km, mb3.3/1, mb1 3.2/3, mb1mx3.0/35, mbtmp3.0/3, ML2.9/2, Error ellipse: s-maj=165.4km s-min=32.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.64**	**165**	Pn	Pn	18 04 34.0	-0.6
	0.1nm,0.3s,baz=348,slow=13,SNR=4.2						
WRA				Sn	Sn	18 07 07.6	-10
	0.1nm,0.3s,baz=346,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**18.15**	**170**	P	P	18 05 20.1	-0.1
	0.1nm,0.3s,baz=350,slow=9.4,SNR=4.4						
MKAR	**Makanchi Array**	**67.39**	**326**	P	P	18 12 03.4	0.0
	0.1nm,0.4s,baz=119,slow=7.0,SNR=4.2						

*ISCJB **28** 18:03:38.8±0.3, 67.05N×0.02×20.79E±0.07, h0km, Error ellipse: s-maj=3.8km s-min=2.8km az=173.4*
*HEL **28** 18:03:40.3±0.3, 67.07N×20.83E, h0km, ML1.9, ML1.4(UPP), Explosion*
*IDC **28** 18:03:40.3±0.9, 67.15N×20.74E, h0km, mb1 2.7/3, mb1mx2.6/46, mbtmp2.5/3, ML1.7/3, Error ellipse: s-maj=17.5km s-min=6.7km az=116.0*
*NAO **28** 18:03:40.1±1.0, 67.10N×21.48E, ML2.1*
*BER **28** 18:03:42.5±3.0, 67.08N×20.85E, h0km, ML1.6, ML2.1(NAO), Suspected explosion*

ISC 28 18:03:38.9±0.8, 67.08N±0.02×20.94E±0.03, h0km, n46, σ1°51/65, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERTU	**Ertsjaerv**	**0.72**	**136**	*i* P	**Pg**	**18 03 52.4**	**-0.4**
PAJU	**Pajala**	**0.85**	**93**	*i* P	**Pg**	**18 03 54.9**	**-0.3**
PAJU				*i* S	**Sg**	**18 04 06.5**	**+0.1**
KUA	**Kurravaara**	**0.91**	**346**	*e*P	**Pg**	**18 03 56.1**	**-0.2**
RATU	**Laukkuluspa**	**0.91**	**326**	*e*P	**Pg**	**18 03 56.2**	**-0.1**
HARU	**Harads**	**0.92**	**179**	*e*P	**Pg**	**18 03 55.8**	**-0.7**
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pg**	**18 03 58.1**	**+0.1**
LANU	**Lannavaara**	**1.06**	**22**	*e*P	**Pg**	**18 03 58.7**	**-0.5**
LANU				*e*S	**Sn**	**18 04 15.6**	**-0.8**
NIKU	**Nikkaluokta**	**1.08**	**318**	*e*P	**Pg**	**18 03 59.2**	**-0.4**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**18 04 07.5**	**-0.4**
TOF	**Tornio**	**1.68**	**125**	*e*P	**Pg**	**18 04 11.1**	**0.0**
TOF				*e*S	**Sg**	**18 04 35.4**	**+2.4**
TOF				MSG		18 04 41.3	
	comp=Z,7.7nm,0.2s						
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pb**	**18 04 10.3**	**-0.6**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pb**	**18 04 10.0**	**-0.9**
HEF				*e*S	**Sg**	**18 04 34.1**	**+0.9**
LILU	**Lilltraesk**	**1.85**	**194**	*e*P	**Pn**	**18 04 12.2**	**+0.3**
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn	**Pb**	**18 04 15.2**	**+0.1**
KIF				Lg	Lg	18 04 42.5	
KIF	**Kilpisjarvi**	**1.94**	**359**	Pn	**Pb**	**18 04 15.2**	**+0.1**
KIF				Sg	**Sg**	**18 04 42.5**	**+1.4**
KIF	**Kilpisjarvi**	**1.94**	**359**	*e*P	**Pb**	**18 04 14.9**	**-0.1**
KIF				*e*S	**Sg**	**18 04 41.1**	**0.0**
RNF	**Rovaniemi**	**2.06**	**101**	*e*P	**Pb**	**18 04 16.2**	**-0.9**
RNF				*e*S	**Sg**	**18 04 46.0**	**+0.9**
KTK1	**Kautokeino**	**2.13**	**23**	*e*P	**Pb**	**18 04 17.9**	**-0.4**
KTK1				IAML		18 04 55.0	
	comp=Z,11nm,0.2s						
SGF	**Sodankyl**	**2.20**	**78**	*e*P	**Pn**	**18 04 17.8**	**+1.1**
SGF				*e*S	**Sg**	**18 04 48.7**	**-0.9**
STEI	**Steigen**	**2.35**	**294**	*e*P	**Pn**	**18 04 20.4**	**+1.7**
BURU	**Burvik**	**2.51**	**176**	*e*P	**Pn**	**18 04 22.0**	**+1.1**
MOR8	**Moi Rana**	**2.75**	**254**	*e*P	**Pn**	**18 04 24.4**	**+0.2**
MOR8				IAML		18 05 11.7	
	comp=Z,5.2nm,0.2s						
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pb**	**18 04 29.9**	**-0.5**
OUL				*e*S	**Sb**	**18 05 04.1**	**-1.7**
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 04 28.2**	**+0.6**
	baz=213,slow=14						
ARA0				Lg	Lg	18 05 09.3	
	baz=210,slow=28						
ARA0	**ARCESS Array S**	**3.00**	**32**	Pn	**Pn**	**18 04 28.2**	**+0.6**
	baz=213,slow=14						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**18 04 28.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=14,SNR=14						
ARCES				Pg	**Pb**	**18 04 32.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=214,slow=14,SNR=27						
ARCES				Sn	**Sn**	**18 05 06.1**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=208,slow=26,SNR=3.9						
ARCES				Lg	Lg	18 05 14.2	
	comp=Z,1.0nm,0.3s,baz=218,slow=34,SNR=9.9						
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pb**	**18 04 31.1**	**-2.0**
ARE0	**ARCESS Array S**	**3.00**	**32**	*e*P	**Pb**	**18 04 30.5**	**-2.6**
LOF	**Lofoten**	**3.02**	**294**	*e*P	**Pn**	**18 04 30.0**	**+2.1**
OUF	**Merijarvi**	**3.14**	**148**	*e*P	**Pn**	**18 04 31.2**	**+1.6**
OUF				*e*S	**Sn**	**18 05 10.5**	**+2.8**
OUF				MSG		18 05 25.1	
	comp=Z,3.1nm,0.2s						
KONS	**Konsvik**	**3.15**	**263**	*e*P	**Pb**	**18 04 34.6**	**-1.1**
MSF	**Maaselka**	**3.45**	**106**	*e*PB	**Pb**	**18 04 40.7**	**-0.2**
KU6	**Riekki**	**3.73**	**102**	*e*P	**Pb**	**18 04 42.8**	**-2.8**
VAF	**Ylistaro**	**4.12**	**169**	*e*P	**Pn**	**18 04 44.8**	**+1.8**
VAF				*e*S	**Sn**	**18 05 32.0**	**+0.2**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 05 10.2**	**+0.3**
FIA0				Sn	**Sn**	**18 06 19.9**	**-0.2**
	baz=340,slow=18						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 05 10.2**	**+0.3**
FIA0				Sn	**Sn**	**18 06 19.9**	**-0.2**
	baz=340,slow=18						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 05 12.4**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=16,SNR=3.2						
FINES				Sn	**Sn**	**18 06 24.4**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=343,slow=22,SNR=5.6						
RAF	**Rauma**	**6.09**	**176**	*e*P	**Pn**	**18 05 11.6**	**+1.5**
RAF				*e*S	**Sn**	**18 06 20.7**	**+0.4**
AAL	**Aland**	**6.94**	**184**	*e*P	**Pn**	**18 05 24.5**	**+2.8**
AAL				*e*S	**Sn**	**18 06 39.4**	**-1.8**
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 05 27.6**	**-0.5**
NB2	**NORSAR Subarra**	**7.40**	**220**	Pn	**Pn**	**18 05 27.6**	**-0.5**
NOA	**NORSAR Array B**	**7.40**	**220**	Pn	**Pn**	**18 05 29.2**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=54,slow=18,SNR=5.3						
NOA				Sn	**Sn**	**18 06 48.3**	**-4.4**
	comp=Z,0.0nm,0.3s,baz=219,slow=21,SNR=2.4						
NRA0	**NORESS Array S**	**7.59**	**217**	Pn	**Pn**	**18 05 32.9**	**+2.3**
	baz=23,slow=10						
NRA0	**NORESS Array S**	**7.59**	**217**	Pn	**Pn**	**18 05 32.9**	**+2.3**
	baz=23,slow=10						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 05 33.4**	**+1.6**
	baz=12,slow=12						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 05 33.4**	**+1.6**
	baz=12,slow=12						

MEX 28 18:12:16.5±0.6, 13.99N×92.31W, h70km±20km, MD3.5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.92**	**3**	*e*P	Pn	18 12 32.8	-1.2
THIG				*i* S	Sn	18 12 45.0	-1.9
PCIG		**1.92**	**333**	*e*P	Pn	18 12 45.3	-1.8
PCIG				*i* S	Sn	18 13 08.7	-1.6
CCIG	**Comitan**	**2.29**	**4**	*e*P	Pn	18 12 50.5	-1.7
CCIG				*i* S	Sn	18 13 18.1	-1.4

*IDC **28** 18:14:28.3±2.9, 13.87N×92.51W, h0km, mb3.7/4, mb1 4.0/7, mb1mx3.7/40, mbtmp3.7/7, ML3.4/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=63.4km s-min=30.0km az=16.0*
*MEX **28** 18:14:33.3±0.6, 14.03N×92.36W, h70km±24km, MD4.1*

ISC 28 18:14:36.5±1.5, 14.2N±0.1×92.42W±0.08, h46km, n12, σ1°63/15, mb3.9/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.70**	**12**	*e*P	**Pn**	**18 14 49.2**	**-1.0**
THIG				*i* S	**Sn**	**18 15 01.2**	**+1.2**
PCIG		**1.67**	**333**	*e*P	**Pn**	**18 15 01.7**	**-1.7**
PCIG				*i* S	**Sn**	**18 15 23.8**	**+0.3**
APG	**El Apazote**	**2.05**	**67**	Pn	**Pn**	**18 15 08.8**	**+0.1**
	12nm,0.3s,baz=253,slow=6.6,SNR=55						
APG				LR	LR	18 16 14.8	
	comp=Z,209nm,20.0s,baz=264,slow=47						
CCIG	**Comitan**	**2.07**	**8**	*i* P	**Pn**	**18 15 07.5**	**-1.5**
CCIG				*e*P		18 15 11.9	
CCIG				*e*S	**Sn**	**18 15 34.1**	**+0.4**
CMIG	**Matias Romero**	**3.71**	**321**	Pn	**Pn**	**18 15 29.9**	**-1.5**
	baz=135,slow=11,SNR=1.6						
CMIG				Sn	**Sn**	**18 16 17.7**	**+3.8**
	3.2nm,0.3s,baz=94,slow=20,SNR=4.1						
JTS	**JuntasAbangare**	**8.28**	**117**	Lg	Lg	18 18 36.3	
	0.4nm,0.3s,baz=201,slow=17,SNR=3.0						
TXAR	**Lajitas Array**	**18.29**	**327**	P	**Pn**	**18 18 48.3**	**+1.2**
	0.0nm,0.3s,baz=156,slow=10.0,SNR=6.6						
NVAR	**Mina Array Bea**	**33.25**	**321**	P	**P**	**18 21 11.0**	**+1.3**
	0.5nm,0.7s,baz=133,slow=8.1,SNR=4.6						
YKA	**Yellowknife Ar**	**50.72**	**347**	P	**P**	**18 23 30.1**	**-1.3**
	1.3nm,0.6s,baz=151,slow=7.4,SNR=19						
INK	**Inuvik**	**60.12**	**344**	P	**P**	**18 24 38.6**	**-0.3**
	1.0nm,0.7s,baz=107,slow=6.5,SNR=5.4						
ILAR	**Eielson Array**	**62.48**	**337**	P	**P**	**18 24 55.6**	**+0.7**
	0.4nm,0.7s,baz=138,slow=5.4,SNR=5.8						
CMAR	**Chiang Mai Arr**	**145.65**	**341**	PKPbc	**PKPab**	**18 34 09.9**	**-1.5**
	1.0nm,0.7s,baz=329,slow=3.8,SNR=6.5						

*NIED **28** 18:19:00, 39.60N×143.80E, h23km, Mw3.4 Best double couple: M0 1.65000×10^14 NP1:φs 192.00000°, δ43.00000°, λ73.00000°. NP2:φs 35.00000°, δ49.00000°, λ105.00000°.*
*JMA **28** 18:19:53.4±0.2, 39.64N×143.77E, h23km, M3.6*
*IDC **28** 18:19:57.1±1.8, 39.76N×143.05E, h0km, mb3.5/5, mb1 3.6/8, mb1mx3.4/39, mbtmp3.6/8, ML3.2/3, Error ellipse: s-maj=38.8km s-min=22.2km az=127.0*

ISC 28 18:19:57.4±1.2, 39.71N±0.07×143.3E±0.1, h11km, n19, σ1°21/19, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.14**	**282**	P	**Pn**	**18 20 19.3**	**0.0**
MIYJ	**Miyakonagasawa**	**1.17**	**264**	P	**Pn**	**18 20 19.7**	**+0.1**
JKEN	**Kujiedanarisaw**	**1.33**	**292**	P	**Pn**	**18 20 22.0**	**+0.1**
OFUJ	**Ofunato**	**1.43**	**244**	P	**Pn**	**18 20 22.6**	**-0.6**
JANG	**Nango**	**1.53**	**196**	P	**Pn**	**18 20 24.9**	**+0.2**
JOM	**Ohasama**	**1.58**	**262**	P	**Pn**	**18 20 26.0**	**+0.6**
JMK	**Ichinoseki**	**1.80**	**246**	P	**Pn**	**18 20 28.1**	**-0.2**
JYK	**Kaneyama**	**2.43**	**252**	P	**Pn**	**18 20 37.7**	**+0.7**
JFT	**Otama**	**3.20**	**228**	P	**Pn**	**18 20 46.8**	**-0.8**
JAK	**Akkeshi**	**3.44**	**17**	*e*S	**Sn**	**18 21 28.5**	**-3.1**
JAR	**Ashorobuto**	**3.60**	**5**	*e*S	**Sn**	**18 21 33.7**	**-1.8**
ASAJ	**Asahikawa**	**4.43**	**353**	Pn	**Pn**	**18 21 05.3**	**+0.8**
	1.1nm,0.3s,baz=201,slow=5.1,SNR=9.5						
MJAR	**Matsushiro Arr**	**5.12**	**233**	Pn	**Pn**	**18 21 14.1**	**+0.1**
	0.1nm,0.3s,baz=42,slow=11,SNR=11						
JHJ	**Hachijo jima 2**	**7.17**	**204**	Pn	**Pn**	**18 21 41.5**	**-0.6**
	7.5nm,0.3s,baz=117,slow=2.3,SNR=4.2						
SEY	**Seymchan**	**23.89**	**10**	P	**P**	**18 25 10.7**	**0.0**
	1.1nm,0.8s,baz=254,slow=22,SNR=5.3						
SONM	**Songino Array**	**27.66**	**299**	P	**P**	**18 25 45.1**	**-0.1**
	0.4nm,0.7s,baz=92,slow=8.5,SNR=4.5						
ZALV	**Zalesovo Beam**	**41.28**	**310**	P	**P**	**18 27 42.2**	**-0.2**
	0.3nm,0.3s,baz=86,slow=6.4,SNR=3.0						
MKAR	**Makanchi Array**	**44.02**	**300**	P	**P**	**18 28 04.2**	**-0.7**
	0.6nm,0.8s,baz=87,slow=8.6,SNR=5.7						
ILAR	**Eielson Array**	**46.44**	**34**	P	**P**	**18 28 26.4**	**+2.6**
	0.3nm,0.9s,baz=251,slow=8.3,SNR=2.9						

*IDC **28** 18:29:11.8±3.2, 20.46S×177.84W, h567km±31km, mb3.2/8, mb1 3.4/9, mb1mx3.1/28, mbtmp4.2/9, Error ellipse: s-maj=47.9km s-min=19.8km az=145.0*

ISC 28 18:29:09.2±1.8, 20.5S±0.3×177.6W±0.2, h550km, n11, σ1°11/13, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.92**	**261**	P	**P**	**18 32 18.8**	**+0.8**
	0.4nm,0.3s,baz=139,slow=20,SNR=5.5						
CTA	**Charters Tower**	**33.83**	**264**	P	**P**	**18 35 06.8**	**+0.4**
	4.3nm,0.4s,baz=92,slow=13,SNR=15						
STKA	**Stephens Creek**	**38.09**	**244**	P	**P**	**18 35 41.9**	**+0.4**
	0.8nm,0.6s,baz=106,slow=16,SNR=3.8						
JAY	**Jayapura**	**44.38**	**288**	P	**P**	**18 36 31.1**	**-0.4**
	12nm,0.6s,baz=126,slow=3.7,SNR=7.5						
ASAR	**Alice Springs**	**44.84**	**257**	P	**P**	**18 36 35.1**	**+0.2**
	2.4nm,0.5s,baz=90,slow=7.9,SNR=76						
ASAR				PcP	**PcP**	**18 38 05.7**	**+0.7**
	0.4nm,0.6s,baz=112,slow=4.2,SNR=4.9						
ASAR				S	**S**	**18 42 31.1**	**-1.8**
	0.8nm,1.0s,baz=89,slow=16,SNR=4.5						
WRA	**Warramunga Arr**	**44.94**	**262**	P	**P**	**18 36 34.8**	**-0.9**
	1.9nm,0.7s,baz=96,slow=7.5,SNR=48						
MJAR	**Matsushiro Arr**	**70.43**	**323**	P	**P**	**18 39 28.6**	**+0.2**
	1.2nm,0.6s,baz=167,slow=7.1,SNR=5.8						
ILAR	**Eielson Array**	**88.26**	**13**	P	**P**	**18 41 02.0**	**+0.4**
	0.2nm,0.4s,baz=208,slow=5.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**90.44**	**289**	P	**P**	**18 41 14.0**	**+1.1**
	0.6nm,0.8s,baz=104,slow=3.8,SNR=4.8						
AKASG	**Malin Array Be**	**143.20**	**331**	PKP	**PKPdf**	**18 47 38.7**	**-2.0**
	0.7nm,0.6s,baz=41,slow=4.1,SNR=3.4						
BRTR	**Keskin Array B**	**147.11**	**313**	PKPbc	**PKiKP**	**18 47 51.8**	**-1.1**
	0.5nm,0.5s,baz=105,slow=5.3,SNR=2.8						

*IDC **28** 18:51:56.0±3.3, 6.20S×146.66E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.5/30, mbtmp3.8/6, ML2.7/2, Error ellipse: s-maj=53.6km s-min=26.6km az=55.0*

ISC 28 18:51:57.1±2.7, 6.2S±0.2×146.6E±0.3, h10km, n7, σ0°94/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.25**	**170**	Pn	**Pn**	**18 52 49.0**	**+0.8**
	8.3nm,0.3s,baz=22,slow=10,SNR=23						
PMG				Pg	**Pb**	**18 52 53.9**	**-1.0**
	8.4nm,0.3s,baz=10,slow=10,SNR=22						
SIJI	**Sorong**	**16.18**	**288**	Pn	**P**	**18 55 47.0**	**-1.1**
	0.6nm,0.3s,baz=115,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**18.14**	**220**	P	**P**	**18 56 09.3**	**-0.3**
	0.1nm,0.3s,baz=39,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**21.24**	**214**	P	**P**	**18 56 44.5**	**+0.9**
	0.4nm,0.6s,baz=49,slow=9.0,SNR=12						
BATI	**Baumata**	**23.04**	**259**	P	**P**	**18 57 03.6**	**+0.7**
	10nm,0.6s,baz=135,slow=4.3,SNR=3.6						
FITZ	**Fitzroy Crossi**	**23.63**	**238**	P	**P**	**18 57 08.8**	**+0.1**
	2.7nm,0.6s,baz=67,slow=10,SNR=9.1						
TORD	**Torodi Ar. Bea**	**144.75**	**284**	PKP	**PKPdf**	**19 11 35.7**	**+0.3**
	0.2nm,0.6s,baz=62,slow=3.4,SNR=2.3						

*ISCJB **28** 18:59:01.4±0.4, 42.35N±0.02×18.89E±0.02, h0km±2km, Error ellipse: s-maj=2.9km s-min=2.4km az=141.3*
*SAR **28** 18:59:01.7±0.3, 42.35N×18.95E, h3km±1km, ML2.9/1*
*PDG **28** 18:59:01.2±0.2, 42.35N×18.91E, h6km±1km, MD2.9/7, ML2.8/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **28** 18:59:03.2±0.3, 42.35N×18.97E, h0km, ML2.3/16*

ISC 28 18:59:01.0±0.9, 42.36N±0.02×18.92E±0.02, h4km±7km, n73, σ1°50/122, 21C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUM	**Brajici-Budva**	**0.06**	**196**	⇑*i*Pg	**Pg**	**18 59 02.5**	**+0.1**
BUM				*i* Sg	**Sg**	**18 59 03.3**	**-0.1**
CEME	**Cevo**	**0.19**	**1**	⇑*i*Pg	**Pg**	**18 59 05.3**	**+0.5**
CEME				*i* Sg	**Sg**	**18 59 08.6**	**+1.3**
DRME	**Dracevica, Mon**	**0.26**	**130**	⇑*i*Pg	**Pg**	**18 59 06.0**	**-0.1**
DRME				*i* Sg	**Sg**	**18 59 10.3**	**+0.7**
DRME	**Dracevica, Mon**	**0.26**	**130**	⇑*i*Pg	**Pg**	**18 59 05.9**	**-0.1**
DRME				*e*Sg	**Sg**	**18 59 10.2**	**+0.7**
PDG	**Podgorica**	**0.26**	**74**	*e*Pg	**Pg**	**18 59 06.4**	**+0.3**
PDG				*e*Sg	**Sg**	**18 59 10.2**	**+0.7**
PDG	**Podgorica**	**0.26**	**74**	⇑*i*P	**Pg**	**18 59 05.9**	**-0.1**
PDG				S	**Sg**	**18 59 10.3**	**+0.7**
PDG	**Podgorica**	**0.26**	**74**	⇑*i*Pg	**Pg**	**18 59 06.0**	**-0.1**
PDG				*e*Sg	**Sg**	**18 59 10.0**	**+0.4**
TTG	**Podgorica**	**0.26**	**74**	⇑*i*Pg	**Pg**	**18 59 06.0**	**-0.1**
TTG				*i* Sg	**Sg**	**18 59 10.2**	**+0.7**
HCY	**Herceg Novi**	**0.33**	**286**	⇓*i*Pg	**Pg**	**18 59 08.0**	**+0.7**
HCY				*i* Sg	**Sg**	**18 59 12.6**	**+1.0**
HCY	**Herceg Novi**	**0.33**	**286**	⇓*i*Pg	**Pg**	**18 59 07.9**	**+0.7**
HCY				*e*Sg	**Sb**	**18 59 13.6**	**-1.4**
NKME	**Niksic**	**0.41**	**4**	⇑*i*Pg	**Pg**	**18 59 09.0**	**0.0**
NKME				*i* Sg	**Sg**	**18 59 15.7**	**+1.3**
NKY	**Niksic**	**0.46**	**7**	⇑*i*Pg	**Pg**	**18 59 09.8**	**-0.1**
NKY				*i* Sg	**Sg**	**18 59 17.0**	**+1.1**
ULC	**Ulcinj**	**0.46**	**148**	⇓*i*Pg	**Pg**	**18 59 10.0**	**+0.1**
ULC				*i* Sg	**Sg**	**18 59 16.9**	**+1.0**
TREB	**Trebinje**	**0.55**	**311**	*e*Pg	**Pb**	**18 59 14.2**	**+1.0**
TREB				*e*Sg	**Sb**	**18 59 22.0**	**+0.5**
TREB	**Trebinje**	**0.55**	**311**	⇓*i*Pg	**Pg**	**18 59 11.8**	**+0.2**
TREB				*e*Sg	**Sb**	**18 59 20.3**	**-1.2**
BRY	**Bratogost**	**0.61**	**333**	⇑*i*Pg	**Pg**	**18 59 12.8**	**0.0**
BRY				*i* Sg	**Sg**	**18 59 22.8**	**-0.6**
BRY	**Bratogost**	**0.61**	**333**	⇑*i*Pg	**Pg**	**18 59 12.7**	**0.0**
BRY				*e*Sg	**Sb**	**18 59 22.4**	**-1.0**
KOME	**Kolasin**	**0.66**	**42**	⇑*i*Pg	**Pg**	**18 59 13.6**	**-0.2**
KOME				*i* Sg	**Sb**	**18 59 24.4**	**-0.4**
PVY	**Plav**	**0.81**	**73**	⇓*i*Pg	**Pg**	**18 59 16.2**	**-0.3**
PVY				*i* Sg	**Sb**	**18 59 29.0**	**0.0**
IVA	**Berane**	**0.89**	**54**	⇑*i*Pg	**Pb**	**18 59 18.9**	**-0.1**
IVA				*i* Sg	**Sb**	**18 59 32.1**	**+0.9**
PLE	**Pljevlja**	**1.03**	**20**	⇑*i*Pg	**Pg**	**18 59 20.8**	**0.0**
PLE				*i* Sg	**Sn**	**18 59 37.1**	**-0.3**
STON	**Ston**	**1.03**	**300**	*e*Pg	**Pg**	**18 59 20.2**	**-0.6**
STON				Sg	**Sn**	**18 59 37.5**	**+0.4**
STON	**Ston**	**1.03**	**300**	*e*Pg	**Pg**	**18 59 20.3**	**-0.6**
STON				*e*Sg	**Sb**	**18 59 35.6**	**+0.3**
SJES	**Sjenica**	**1.19**	**40**	*e*Pn	**Pn**	**18 59 27.3**	**+2.7**
SJES				*e*Sn	**Sn**	**18 59 42.7

NRN	**Naryn**	**2.24**	**32**	⇓*iP*	**Pn**	**19 06 23.6**	**+0.8**	
	baz=32							
NRN				⇓*iS*	**Sn**	**19 06 51.5**	**+0.8**	
	baz=32							
ARLS	**Aral**	**2.31**	**358**	⇑*eP*	**Pn**	**19 06 24.8**	**+1.2**	
	baz=59							
ARLS				⇑*iS*	**Sn**	**19 06 53.1**	**+1.0**	
	baz=59							
KZA	**Kyzart**	**2.60**	**14**	⇑*iP*	**Pn**	**19 06 28.8**	**+0.9**	
	baz=14							
KZA				⇑*iS*	**Sn**	**19 07 01.2**	**+1.4**	
	baz=14							
AML	**Almayashu**	**2.63**	**348**	⇓*iP*	**Pn**	**19 06 29.3**	**+1.0**	
	baz=48							
AML				⇓*iS*	**Sn**	**19 07 02.4**	**+1.9**	
	baz=48							
UCH	**Uchtor**	**2.67**	**2**	⇓*iP*	**Pn**	**19 06 30.0**	**+1.1**	
	baz=2.0							
UCH				⇓*iS*	**Sn**	**19 07 03.5**	**+1.9**	
	baz=2.0							
BTK	**Batken**	**2.81**	**281**	⇓*iP*	**Pn**	**19 06 31.3**	**+0.9**	
	baz=82							
BTK				⇓*iS*	**Sn**	**19 07 05.9**	**+1.5**	
	baz=82							
ARK	**Arkit**	**2.91**	**321**	⇑*iP*	**Pn**	**19 06 32.4**	**+0.5**	
	baz=21							
ARK				⇑*iS*	**Sn**	**19 07 07.6**	**+0.6**	
	baz=21							
ULHL	**Ulahol**	**3.03**	**27**	⇓*iP*	**Pn**	**19 06 34.4**	**+0.8**	
	baz=26							
ULHL				⇓*iS*	**Sn**	**19 07 11.5**	**+1.5**	
	baz=26							
KBK	**Karagaybulak**	**3.13**	**7**	⇓*iP*	**Pn**	**19 06 36.0**	**+1.1**	
	baz=7.0							
KBK				⇓*iS*	**Sn**	**19 07 14.3**	**+1.9**	
	baz=7.0							
BOOM	**Boomskoye usch**	**3.15**	**21**	⇑*eP*	**Pn**	**19 06 36.6**	**+1.3**	
	baz=21							
BOOM				⇑*eS*	**Sn**	**19 07 13.6**	**+0.5**	
	baz=21							
KDJ	**Kajisay**	**3.33**	**38**	⇓*eP*	**Pn**	**19 06 38.7**	**+1.1**	
	baz=38							
KDJ				⇓*iS*	**Sn**	**19 07 18.3**	**+1.0**	
	baz=38							
TKM2	**Tokmak 2**	**3.48**	**15**	⇑Pg	**Pn**	**19 06 40.8**	**+1.0**	
	0.5nm,0.5s							
TKM2				⇑Lg	Lg	19 07 19.6		
	2.8nm,0.8s							
KST	**Kastek**	**3.68**	**18**	Pg	**Pn**	**19 06 43.6**	**+1.1**	
	1.0nm,0.1s							
KST				Lg	Lg	19 07 28.8		
	5.6nm,0.6s							
TNSS	**Tian-Shan**	**3.97**	**28**	Pg	**Pb**	**19 06 54.1**	**-1.6**	
	1.5nm,0.6s							
TNSS				Lg	Lg	19 07 47.4		
	3.1nm,0.6s							
KOTS	**Kotyrbulak**	**4.20**	**28**	Pg	**Pb**	**19 06 58.8**	**-0.7**	
	4.4nm,0.4s							
KOTS				Lg	Lg	19 07 54.1		
	12nm,0.6s							
IUG	**Iuzhnay**	**4.21**	**309**	Pg	Pn	19 06 20.6	-29	
	2.3nm,0.4s							
IUG				Lg	Lg	19 06 50.2		
	6.0nm,0.8s							
KTBS	**Karatobe**	**4.49**	**22**	Pg	**Pb**	**19 07 00.6**	**-3.7**	
	0.6nm,0.3s							
KTBS				Lg	Lg	19 07 57.6		
	1.8nm,0.4s							

IDC ***28*** *19:13:56.3±3.5, 32.°13S×68.°43W, h99km±31km, mb3.3/2, mb1 3.4/4, mb1mx3.3/20, mbtmp3.5/4, MS3.4/1, Ms1 3.4/1, ms1mx2.9/7, Error ellipse: s-maj=43.5km s-min=30.3km az=134.0*

ISCJB ***28*** *19:13:57.2±0.6, 32.°09S±0.°06×68.°46W±0.°06, h124km±5km, mb3.5/2, Error ellipse: s-maj=10.1km s-min=8.7km az=14.6*

SJA ***28*** *19:13:57.7±0.6, 32.°04S×68.°50W, h114km±3km, ML3.5, MW5.0*

ISC 28 19:13:57.8±0.8, 32.°08S±0.°07×68.°47W±0.°06, h117km±6km, n21, σ0°87/25, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.22**	**345**	*eP*		**Pn**	**19 14 14.0**	**-0.2**
RTCV				*eS*		**Sn**	**19 14 26.3**	**-0.2**
RTLS	**Leoncito**	**0.75**	**291**	*eP*		**Pn**	**19 14 18.2**	**+0.6**
RTLS				*eS*		**Sn**	**19 14 33.3**	**+0.8**
RTLS				IAML			19 14 36.2	
	comp=Z,799nm,0.3s							
AUSP	**Uspallata**	**0.79**	**259**	*eP*		**Pn**	**19 14 18.7**	**+0.8**
AUSP				*eS*		**Sn**	**19 14 33.7**	**+0.7**
ACAN	**Cantantal**	**1.11**	**101**	*eP*		**Pn**	**19 14 21.6**	**+0.9**
ACAN				*eS*		**Sn**	**19 14 39.1**	**+1.1**
AMOG	**MOGNA**	**1.13**	**359**	*eP*		**Pn**	**19 14 21.2**	**+0.2**
AMOG				*eS*		**Sn**	**19 14 38.5**	**-0.1**
ACCO	**Cerro Coronel**	**1.57**	**341**	*eP*		**Pn**	**19 14 27.1**	**+0.9**
ACDV	**Cuesta del Vie**	**1.98**	**344**	*eP*		**Pn**	**19 14 31.6**	**+0.6**
AROD	**Rodeo**	**2.09**	**335**	*eP*		**Pn**	**19 14 33.4**	**+0.9**
MRA	**San Martin**	**2.36**	**99**	*eP*		**Pn**	**19 14 36.8**	**+1.1**
APLL	**PUNTA DE LOS L**	**2.36**	**45**	*eP*		**Pn**	**19 14 36.8**	**+1.1**
AGUA	**GUANDACOL**	**2.58**	**360**	*eP*		**Pn**	**19 14 39.1**	**+0.5**
ACLC	**CERRO LA CRUZ**	**2.95**	**27**	*eP*		**Pn**	**19 14 43.6**	**+0.2**
PLCA	**Paso Flores**	**8.80**	**190**	P		**Pn**	**19 16 00.8**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=28,slow=10,SNR=3.7							
CPUP	**Villa Florida**	**11.29**	**62**	P		**Pn**	**19 16 33.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=228,slow=18,SNR=3.1							
ROSC	**El Rosal**	**37.13**	**350**	LR		LR	19 37 25.5	
	comp=Z,56nm,19.1s,baz=232,slow=38							
TXAR	**Lajitas Array**	**69.62**	**328**	P		**P**	**19 24 55.4**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=147,slow=7.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**80.73**	**68**	P		**P**	**19 25 58.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=235,slow=5.1,SNR=3.7							
WRA	**Warramunga Arr**	**123.85**	**206**	PKP		**PKPdf**	**19 32 41.5**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=156,slow=1.4,SNR=4.7							
AAK	**Ala-Archa**	**148.96**	**60**	PKPbc		**PKiKP**	**19 33 33.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=243,slow=2.3,SNR=4.5							
KURBB	**Kurchatov Arra**	**149.42**	**43**	PKPbc		**PKiKP**	**19 33 33.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=305,slow=3.2,SNR=6.3							
ZALV	**Zalesovo Beam**	**150.99**	**33**	PKPbc		**PKiKP**	**19 33 37.0**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=297,slow=4.4,SNR=7.0							

IDC 28 19:26:03.8±335.0, 38.°08N×118.°45W, h0km, Error ellipse: s-maj=158.5km s-min=90.1km az=160.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVAR	**Mina Array Bea**	**0.36**	**18**	*i*			19 26 43.2	
	4.6nm,0.3s,baz=215,slow=9.8,SNR=64							
I57US	**PINON FLAT INF**	**4.75**	**159**	*i*			19 58 10.0	
	baz=338,slow=378,SNR=0.3							
I56US	**NEWPORT INFRAS**	**10.22**	**5**	*i*			20 26 50.0	
	baz=183,slow=384,SNR=0.5							
I10CA	**LAC DU BONNET**	**20.05**	**46**	*i*			21 31 30.0	
	baz=236,slow=319,SNR=0.8							

TIF ***28*** *19:26:04.8, 42.°30N×43.°07E, h0km±1km*

ISK ***28*** *19:26:04.7, 42.°72N×42.°99E, h30km, ML2.8/7*

NORS ***28*** *19:26:05.8±0.0, 42.°32N×43.°00E, h7km, MPVA3.3*

ISCJB ***28*** *19:26:06.4±0.5, 42.°35N±0.°03×43.°04E±0.°03, h1km±5km, Error ellipse: s-maj=5.5km s-min=2.9km az=152.9*

DDA ***28*** *19:26:06.5, 42.°24N×43.°07E, h3km±1km, ML2.8*

ISC 28 19:26:05.8±0.9, 42.°33N±0.°02×43.°06E±0.°02, h4km±8km, n35, σ0°88/55, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TKB	**Tkibuli**	**0.06**	**297**	P		**Pg**	**19 26 06.9**	**-0.2**
TKB				S		**Sg**	**19 26 08.1**	**+0.1**
ONI	**Oni**	**0.39**	**47**	PG		**Pg**	**19 26 13.7**	**+0.3**
ONI				SG		**Sb**	**19 26 20.3**	**-1.6**
ONI	**Oni**	**0.39**	**47**	P		**Pg**	**19 26 13.7**	**+0.3**
ONI				S		**Sb**	**19 26 21.7**	**-0.2**
DIGR	**Digorskoe uzhe**	**0.69**	**34**	*e*Pg		**Pg**	**19 26 19.1**	**0.0**
DIGR				*e*Sg		**Sb**	**19 26 29.3**	**-1.3**
ZEI	**Tsey**	**0.77**	**53**	*e*Pg		**Pg**	**19 26 21.1**	**+0.4**
ZEI				*e*Sg		**Sb**	**19 26 33.3**	**+0.3**
EPOS	**Posof**	**0.86**	**197**	*i* P		**Pg**	**19 26 21.7**	**-0.6**
NEY	**Neytrino**	**0.96**	**345**	*e*Pg		**Pg**	**19 26 24.2**	**0.0**
NEY				*e*Sg		**Sg**	**19 26 37.0**	**+0.4**
LACR	**Lac**	**1.04**	**61**	*e*Pg		**Pb**	**19 26 26.6**	**0.0**
LACR				*e*Sg		**Sn**	**19 26 42.1**	**-0.4**
GUDG	**Gudauri**	**1.06**	**82**	P		**Pn**	**19 26 27.6**	**-0.1**
KORR	**Kora**	**1.06**	**44**	*e*Pg		**Pb**	**19 26 26.9**	**0.0**
KORR				*e*Sg		**Sn**	**19 26 42.3**	**-0.6**
LSNR	**Lesken**	**1.11**	**30**	*e*Pg		**Pn**	**19 26 27.7**	**-0.5**
LSNR				*e*Sg		**Sn**	**19 26 43.9**	**-0.1**
BATM	**Batumi**	**1.25**	**235**	PN		**Pn**	**19 26 29.3**	**-0.8**
BATM				SN		**Sn**	**19 26 48.1**	**+0.7**
STDR	**Stavd-Durt**	**1.28**	**35**	*e*Pg		**Pg**	**19 26 31.3**	**+1.0**
STDR				*e*Sg		**Sn**	**19 26 49.1**	**+1.0**
TBLG	**Delisi**	**1.38**	**115**	PN		**Pg**	**19 26 32.3**	**-0.1**
TBLG				SN		**Sg**	**19 26 51.6**	**+1.3**
TBLG	**Delisi**	**1.38**	**115**	P		**Pg**	**19 26 32.4**	**+0.1**
TBLG				S		**Sg**	**19 26 52.0**	**+1.7**
TBLG	**Delisi**	**1.38**	**115**	*i* P		**Pg**	**19 26 32.6**	**+0.3**
TBLG				IAML_P				
	comp=Z,2μm,0.2s							
BCA	**Borcka**	**1.39**	**231**	PN		**Pn**	**19 26 31.7**	**-0.3**
BCA				SN		**Sg**	**19 26 51.9**	**+1.5**
DBOC	**Borcka**	**1.43**	**227**	*i* P		**Pg**	**19 26 33.5**	**+0.3**
DBOC				*i* S		**Sg**	**19 26 53.3**	**+1.5**
DBOC				IAML_P				
	comp=Z,1μm,0.2s							
SHA1	**Shidzhatmaz**	**1.44**	**348**	*e*Pg		**Pg**	**19 26 33.7**	**+0.2**
SHA1				*e*Sg		**Sg**	**19 26 53.4**	**+1.1**
BTNK	**Botanikuri**	**1.45**	**116**	P		**Pb**	**19 26 32.9**	**-0.4**
BTNK				S		**Sg**	**19 26 52.1**	**-0.2**
BTNK	**Botanikuri**	**1.45**	**116**	*i* P		**Pg**	**19 26 33.4**	**-0.2**
DAGI	**Agillar**	**1.51**	**215**	*i* P		**Pg**	**19 26 35.1**	**+0.2**
DAGI				IAML_P				
	comp=Z,2μm,0.4s							
DBAD	**Bademkaya**	**1.66**	**219**	*i* P		**Pg**	**19 26 38.0**	**+0.3**
DBAD				*i* S		**Sg**	**19 27 00.4**	**+1.2**
EAK	**Akyaka**	**1.69**	**166**	*i* P		**Pg**	**19 26 38.6**	**+0.4**
EAK				IAML_P				
	comp=Z,662nm,0.3s							
KARS	**Kars**	**1.70**	**180**	PN		**Pg**	**19 26 38.7**	**+0.4**
DDEM	**Demirkent**	**1.74**	**215**	*i* P		**Pb**	**19 26 38.4**	**+0.1**
DDEM				IAML_P				
	comp=Z,2μm,0.3s							
SENK	**Senkaya-Erzuru**	**1.84**	**197**	PN		**Pb**	**19 26 40.3**	**+0.1**
CHOM	**Cayeli-Rize**	**2.11**	**235**	PN		**Pn**	**19 26 42.3**	**+0.3**
LGD	**Lagodekhi**	**2.42**	**101**	P		**Pb**	**19 26 49.8**	**-0.1**
LGD				S		**Sg**	**19 27 23.0**	**-0.5**
DDFL	**Dedoflistskaro**	**2.45**	**110**	P		**Pn**	**19 26 47.6**	**+1.0**
DDFL				S		**Sg**	**19 27 24.7**	**+0.3**
TASB	**TASBURUN-IGDIR**	**2.50**	**159**	PN		**Pb**	**19 26 49.0**	**-2.4**
GNI	**Garni**	**2.52**	**149**	PN		**Pb**	**19 26 49.8**	**-1.9**
KRIK	**Erzurum-spir**	**2.56**	**220**	*i* P		**Pb**	**19 26 53.0**	**+0.6**
BAYB	**BAYBURT**	**2.95**	**227**	*i* P		**Pb**	**19 26 56.9**	**-2.3**
BAYB				IAML_P				
	comp=Z,12nm,0.1s							
VMUR	**Van-Muradiye**	**3.35**	**173**	*i* P		**Pb**	**19 27 06.8**	**+0.8**

MEX 28 19:39:39.1±0.5, 15.°81N×98.°53W, h11km±8km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.69**	**34**	*e*P		Pg	19 39 50.4	-2.2
PNIG				*e*S		Sg	19 39 60.0	-1.8
TLIG	**Tlapa**	**1.74**	**359**	*e*P		Pn	19 40 06.3	-3.1
TLIG				*e*S		Sn	19 40 27.1	-4.8
CAIG	**El Cayaco**	**2.08**	**307**	*i* P		Pn	19 40 10.7	-3.3
CAIG				*i* S		Sn	19 40 35.2	-4.6
VHO	**Vista Hermosa**	**2.13**	**54**	*i* P		Pn	19 40 11.9	-2.9
VHO				*i* S		Sn	19 40 37.1	-4.4
HUIG	**Huatulco**	**2.33**	**91**	*e*P		Pn	19 40 14.1	-3.3
HUIG				*e*S		Sn	19 40 41.6	-4.5
TPIG	**Tehuac#an**	**2.82**	**23**	*i* P		Pn	19 40 20.9	-3.5
TPIG				*i* S		Sn	19 40 54.6	-4.0

IDC 28 19:43:34.2±1.9, 32.°39S×178.°67W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/45, mbtmp3.6/3, ML3.3/1, Error ellipse: s-maj=45.4km s-min=41.7km az=61.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**6.80**	**209**	Pn		Pn	19 45 14.9	-0.2
	0.6nm,0.3s,baz=270,slow=5.2,SNR=16							
URZ				Sn		Sn	19 46 29.3	-3.9
	0.3nm,0.3s,baz=270,slow=20,SNR=4.2							
ASAR	**Alice Springs**	**42.47**	**269**	P		P	19 51 29.8	-1.4
	0.2nm,0.5s,baz=111,slow=7.9,SNR=7.5							
WRA	**Warramunga Arr**	**43.64**	**275**	P		P	19 51 41.7	+1.0
	0.8nm,0.4s,baz=113,slow=8.1,SNR=14							
FINES	**FINESS Array B**	**146.79**	**338**	PKPbc		PKPbc	20 03 17.1	-0.3
	0.6nm,0.6s,baz=55,slow=5.3,SNR=3.8							
TORD	**Torodi Ar. Bea**	**160.85**	**181**	PKPab		PKPab	20 04 18.2	-0.8
	1.8nm,0.7s,baz=178,slow=2.5,SNR=8.7							

WEL 28 19:44:43.0±0.9, 46.°5S±4.°×16.°6E±.°, h5km, ML4.3/15, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.35**	**152**	P		Pb	19 44 51.0	-0.8
PYZ				S		Sg	19 44 55.7	+1.3
DCZ	**Deep Cove**	**0.63**	**52**	P		Pg	19 44 55.5	+0.3
DCZ				S		Sg	19 45 03.1	-0.3
WHZ	**Wether Hill Ro**	**1.05**	**92**	P		Pg	19 45 02.6	-0.6
WHZ				S		Sb	19 45 17.6	-0.1
MLZ	**Mavora Lakes**	**1.27**	**68**	P		Pg	19 45 06.7	-0.7
MLZ				S		Sn	19 45 26.2	+1.2
MSZ	**Milford Sound**	**1.58**	**42**	P		Pn	19 45 10.2	-1.7
SYZ	**Scrubby Hill**	**1.99**	**111**	P		Pn	19 45 16.5	-0.8
WKZ	**Wanaka**	**2.09**	**61**	P		Pb	19 45 20.1	-1.3
EAZ	**Earnscleugh**	**2.11**	**74**	P		Pn	19 45 20.1	+1.2
EAZ				S		Sb	19 45 47.3	-0.8
TUZ	**Tuapeka**	**2.23**	**94**	P		Pn	19 45 20.4	-0.1
TUZ				S		Sn	19 45 48.0	-0.5
JCZ	**Jackson Bay**	**2.44**	**44**	P		Pn	19 45 24.8	+1.2
HHSZ	**Highcliff Hill**	**2.90**	**92**	P		Pn	19 45 29.6	-0.2
LBZ	**Lake Benmore**	**3.03**	**62**	P		Pn	19 45 31.8	+0.2
ODZ	**Otahua Downs**	**3.07**	**76**	P		Pn	19 45 31.3	-0.8
FOZ	**Fox Glacier**	**3.34**	**47**	P		Pn	19 45 36.6	+0.7
RPZ	**Rata Peaks**	**3.92**	**58**	P		Pn	19 45 43.5	-0.4
OXZ	**Oxford**	**4.73**	**60**	P		Pn	19 45 53.9	-1.0
INZ	**Inchbonnie**	**4.76**	**51**	P		Pn	19 45 55.3	-0.1
MQZ	**McQueen's Vall**	**4.92**	**66**	P		Pn	19 45 56.5	-1.0
LTZ	**Lake Taylor**	**5.19**	**56**	P		Pn	19 46 00.9	-0.5
DSZ	**Denniston Nort**	**5.65**	**45**	P		Pn	19 46 07.4	-0.2
KHZ	**Kahutara**	**6.16**	**59**	P		Pn	19 46 13.0	-0.7
THZ	**Tophouse**	**6.21**	**51**	P		Pn	19 46 14.0	-1.4
QRZ	**Quartz Range**	**6.71**	**44**	P		Pn	19 46 22.6	+0.5
DUWZ	**D'Urville Isla**	**7.43**	**50**	P		Pn	19 46 35.0	+2.9

ISCJB ***28*** *19:49:12.9±0.9, 24.°82N±0.°05×122.°92E±0.°02, h8km±5km, Error ellipse: s-maj=8.0km s-min=3.0km az=12.1*

TAP ***28*** *19:49:12.4, 24.°81N×122.°97E, h14km, ML2.6, C*

JMA ***28*** *19:49:12.4±0.1, 24.°81N×122.°90E, h2km±2km, M2.1*

ISC 28 19:49:12.4±1.4, 24.°83N±0.°06×122.°93E±0.°03, h9km±9km, n28, σ0°44/52, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.38**	**168**	P		**Pg**	**19 49 19.8**	**0.0**
	baz=175							
YOJ				S		**Sg**	**19 49 25.0**	**+0.2**
	baz=175							
YOJ	**Yonaguni jima**	**0.38**	**168**	P		**Pg**	**19 49 19.7**	**0.0**
YOJ				S		**Sg**	**19 49 24.9**	**+0.2**
JYNG	**Yonagunijimaku**	**0.38**	**177**	P		**Pg**	**19 49 19.9**	**+0.1**
JYNG				S		**Sg**	**19 49 25.0**	**+0.2**
EOS1	**EOS1**	**0.78**	**249**	P		**Pb**	**19 49 28.4**	**+0.3**
	baz=250							
EOS1				S		**Sb**	**19 49 39.5**	**+0.7**
	baz=250							
IRIF	**Iriomote-Funau**	**0.88**	**124**	P		**Pb**	**19 49 30.0**	**+0.1**
IRIF				*e*S		**Sb**	**19 49 41.6**	**-0.2**
TWC	**Suao**	**1.00**	**258**	P		**Pg**	**19 49 31.3**	**-0.4**
	baz=258							
TWC				S		**Sg**	**19 49 45.1**	**+0.4**
	baz=258							
TIPB	**Shuangxi**	**1.01**	**278**	*e*P		**Pg**	**19 49 31.6**	**-0.2**
	baz=277							
TIPB				*e*S		**Sg**	**19 49 44.2**	**-0.7**
	baz=277							
ILA	**Ilan**	**1.07**	**267**	*e*S		**Sb**	**19 49 48.1**	**+0.8**
	baz=266							
HATJ	**Hateruma jima**	**1.11**	**134**	*e*S		**Sb**	**19 49 48.0**	**-0.4**
NANB	**Nanao**	**1.14**	**250**	*e*P		**Pg**	**19 49 34.0**	**-0.3**
	baz=250							
NANB				*e*S		**Sg**	**19 49 48.6**	**-0.6**
	baz=250							
TWE	**Neicheng**	**1.15**	**265**	P		**Pg**	**19 49 34.5**	**+0.1**
	baz=264							
TWE				*e*S		**Sg**	**19 49 49.2**	**-0.2**
	baz=264							
ENA	**Nanau**	**1.15**	**250**	*e*P		**Pg**	**19 49 34.4**	**-0.1**
	baz=250							
ENA				*e*S		**Sg**	**19 49 48.5**	**-0.9**
	baz=250							
JKRS	**Kuro-shima**	**1.15**	**121**	S		**Sn**	**19 49 50.0**	**-0.6**
JIJ	**Ishigaki jima**	**1.20**	**112**	P		**Pn**	**19 49 35.8**	**+0.4**
JIJ				S		**Sb**	**19 49 50.7**	**-0.3**
ENTT	**Nioudou**	**1.25**	**262**	*e*P		**Pn**	**19 49 35.9**	**-0.2**
	baz=261							
ENTT				*e*S		**Sb**	**19 49 52.7**	**+0.2**
	baz=261							
YM01	**YM01**	**1.27**	**285**	*e*P		**Pg**	**19 49 37.2**	**+0.4**
	baz=285							
NWLT	**Wulai**	**1.29**	**268**	*e*P		**Pn**	**19 49 36.6**	**-0.1**
	baz=250							
NWLT				*e*S		**Sb**	**19 49 53.8**	**0.0**
	baz=250							
NDT	**Datong Townshi**	**1.30**	**260**	*e*P		**Pb**	**19 49 37.2**	**+0.1**
	baz=260							
NDT				*e*S		**Sb**	**19 49 54.0**	**-0.1**
	baz=260							
NACB	**Ninganchiao**	**1.38**	**242**	*e*P		**Pb**	**19 49 38.5**	**+0.2**
	baz=242							
NACB				*e*S		**Sn**	**19 49 56.5**	**+0.3**
	baz=242							
YHNB	**Yeheng**	**1.42**	**264**	*e*P		**Pn**	**19 49 38.7**	**+0.2**
	baz=263							
YHNB				*e*S		**Sb**	**19 49 56.6**	**-0.7**
	baz=263							
ETLH	**Xiulin Townshi**	**1.45**	**245**	*e*P		**Pb**	**19 49 40.0**	**+0.2**
	baz=255							
ETLH				*e*S		**Sg**	**19 49 59.1**	**-0.1**
	baz=255							
NNSB	**Datong**	**1.46**	**254**	*e*P		**Pn**	**19 49 39.4**	**+0.3**
	baz=254							
NNSB				*e*S		**Sn**	**19 49 57.7**	**-0.7**
	baz=254							
NNS	**Nan Shan**	**1.47**	**255**	*e*P		**Pb**	**19 49 39.8**	**-0.1**
	baz=254							
NNS				*e*S		**Sn**	**19 49 58.5**	**-0.1**
	baz=254							
WHF	**Hehuan Shan**	**1.66**	**246**	*e*P		**Pn**	**19 49 42.7**	**+0.5**
	baz=245							
WHF				*e*S		**Sn**	**19 50 04.4**	**+0.6**
	baz=245							
LIOB	**Emei**	**1.75**	**264**	*e*P		**Pn**	**19 49 43.7**	**+0.7**
	baz=263							
LIOB				*e*S		**Sn**	**19 50 06.1**	**+0.7**
	baz=263							
NSTT	**Nanjuang**	**1.76**	**264**	*e*P		**Pb**	**19 49 45.0**	**+0.1**
	baz=263							
NSTT				*e*S		**Sn**	**19 50 05.8**	**+0.1**
	baz=263							
CHGB	**Renai**	**1.77**	**245**	*e*P		**Pb**	**19 49 45.1**	**-0.1**
	baz=244							
CHGB				*e*S		**Sb**	**19 50 07.2**	**-0.4**
	baz=244							
OWD	**Renai**	**1.82**	**242**	*e*P		**Pn**	**19 49 43.0**	**-1.0**
	baz=241							
OWD				*e*S		**Sn**	**19 50 07.1**	**-0.2**
	baz=241							

OTT 28 19:50:01.4±0.2, 70.°15N×89.°64W, h18km, MN3.6/7, 105km east from Thom Bay, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILON	**Igloolik, Nuna**	**2.83**	**102**	PN		Pn	19 50 45.4	-0.2
ILON				SN		Sn	19 51 18.3	-0.8
ILON				LG		Lg	19 51 30.5	
ILON				Trac			19 51 31.6	
	comp=Z,65nm,0.1s							
RES	**Resolute Bay**	**4.83**	**343**	PN		Pn	19 51 12.9	-0.2
RES				SN		Sn	19 52 05.5	-2.9
RES				LG		Lg	19 52 30.4	
RES				Trac			19 52 38.5	
	comp=Z,21nm,0.2s							
CB31	**Cambridge Bay**	**5.50**	**267**	PN		Pn	19 51 20.7	-1.5
CB31				SN		Sn	19 52 21.9	-2.9
CB31				LG		Lg	19 52 51.0	
CB31				Trac			19 52 54.0	
	comp=Z,72nm,0.3s							
CLRN	**Clyde River**	**7.11**	**77**	PN		Pn	19 51 45.2	+0.9
CLRN				SN		Sn	19 52 59.9	-4.6
CLRN				LG		Lg	19 53 42.5	
TULEG	**Thule**	**8.70**	**33**	PN		Pn	19 52 04.7	-1.4
TULEG				SN		Sn	19 53 36.4	-7.1
TULEG				Trac			19 53 40.9	
	comp=Z,2.1nm,0.2s							
KUKN	**Kugluktuk,NWT**	**9.40**	**268**	PN		Pn	19 52 14.9	-0.8
KUKN				SN		Sn	19 53 53.0	-7.7
KUKN				LG		Lg	19 54 54.8	
KUKN				Trac			19 54 54.8	
	comp=Z,34nm,0.8s	

CAUP				*e*S	Sn	19 54 58.1	+10	
PALP	**Palanan**	**3.81**	**27**	*e*P	**Pn**	**19 54 12.3**	**+0.3**	
APYP	**Conner**	**4.22**	**8**	*e*P	**Pn**	**19 54 19.2**	**+1.7**	
APYP				*e*S	**Sn**	**19 55 09.4**	**+3.4**	
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**19 57 55.0**	**+2.4**	
	0.9nm,0.8s,baz=97,slow=7.1,SNR=8.3							
BATI	**Baumata**	**23.91**	**173**	P	**P**	**19 58 17.6**	**-0.1**	
	38nm,0.5s,baz=342,slow=2.1,SNR=20							
WRA	**Warramunga Arr**	**36.02**	**158**	P	**P**	**20 00 03.4**	**-1.2**	
	1.1nm,0.5s,baz=336,slow=9.6,SNR=17							
SONM	**Songino Array**	**36.07**	**344**	P	**P**	**20 00 05.3**	**+0.5**	
	1.4nm,0.8s,baz=160,slow=9.6,SNR=13							
KLR	**Kul'dur**	**36.64**	**12**	P	**P**	**20 00 09.4**	**0.0**	
	0.8nm,0.7s,baz=247,slow=7.2,SNR=4.2							
ASAR	**Alice Springs**	**39.31**	**161**	P	**P**	**20 00 31.7**	**-0.5**	
	0.6nm,0.4s,baz=336,slow=6.9,SNR=28							
ASAR				PcP	**PcP**	**20 02 38.0**	**-0.6**	
	0.3nm,0.6s,baz=339,slow=2.9,SNR=4.4							
MKAR	**Makanchi Array**	**46.01**	**324**	P	**P**	**20 01 27.4**	**+1.3**	
	2.7nm,0.7s,baz=133,slow=9.2,SNR=24							
ZALV	**Zalesovo Beam**	**49.05**	**333**	P	**P**	**20 01 49.5**	**+0.1**	
	2.0nm,0.3s,baz=122,slow=6.4,SNR=11							
KURBB	**Kurchatov Arra**	**50.17**	**326**	P	**P**	**20 01 59.1**	**+1.2**	
	4.4nm,0.6s,baz=129,slow=8.1,SNR=49							
BVAR	**Borovoye Array**	**55.76**	**326**	P	**P**	**20 02 39.9**	**+1.0**	
	0.9nm,0.5s,baz=147,slow=11,SNR=8.2							
TIXI	**Tiksi**	**58.18**	**3**	P	**P**	**20 02 54.6**	**-1.1**	
	1.4nm,0.6s,baz=165,slow=3.9,SNR=11							
GEYT	**Alibeck**	**60.09**	**306**	P	**P**	**20 03 10.7**	**+1.2**	
	2.9nm,0.9s,baz=139,slow=4.9,SNR=5.4							
AKTO	**Aktyubinsk**	**62.19**	**320**	P	**P**	**20 03 23.9**	**+0.5**	
	1.5nm,0.5s,baz=99,slow=10,SNR=4.5							
ARCES	**ARCESS Array B**	**79.09**	**339**	P	**P**	**20 05 04.0**	**-1.5**	
	1.0nm,0.5s,baz=46,slow=3.5,SNR=6.9							
FINES	**FINESS Array B**	**80.28**	**331**	P	**P**	**20 05 11.7**	**-0.3**	
	0.6nm,0.6s,baz=90,slow=7.6,SNR=3.9							
NB2	**NORSAR Subarra**	**87.25**	**333**	P	**P**	**20 05 46.3**	**-1.3**	
	comp=Z,2.1nm,1.0s,baz=69,slow=4.4							
NOA	**NORSAR Array B**	**87.25**	**333**	P	**P**	**20 05 46.4**	**-1.2**	
	comp=Z,0.6nm,0.8s,baz=27,slow=4.8,SNR=3.7							
YKA	**Yellowknife Ar**	**92.85**	**22**	P	**P**	**20 06 13.3**	**-0.4**	
	comp=Z,0.2nm,0.6s,baz=304,slow=4.7,SNR=4.5							
TXAR	**Lajitas Array**	**119.56**	**44**	PKP	**PKPdf**	**20 11 50.9**	**-0.1**	
	comp=Z,0.1nm,0.5s,baz=151,slow=2.1,SNR=3.3							
PLCA	**Paso Flores**	**151.32**	**162**	PKPbc	**PKPbc**	**20 12 54.2**	**-0.4**	
	comp=Z,1.2nm,0.6s,baz=24,slow=3.6,SNR=4.3							

DSN ***28*** *19:53:25.8±1.4,27.˚26N×54.˚47E, h15km, ML3.9/10, Error ellipse: s-maj=17.8km s-min=6.0km az=8.0*
IDC ***28*** *19:53:26.2±0.9,26.˚68N×54.˚47E, h0km, mb4.0/18, mb1 4.1/24, mb1mx3.9/59, mbtmp4.0/24, ML3.6/5, MS3.2/10, Ms1 3.2/10, ms1mx2.9/42, Error ellipse: s-maj=18.2km s-min=14.0km az=166.0*
THR ***28*** *19:53:27.6,26.˚70N×54.˚40E, h14km, ML3.9*
NEIC ***28*** *19:53:28.7±0.0,26.˚83N×54.˚55E, h9km, mb4.3/6, MN3.9(TEH), After TEH.*
TEH ***28*** *19:53:28.0,26.˚83N×54.˚46E, h10km, ML3.9*
ISCJB ***28*** *19:53:28.4±0.2,26.˚74N±0.˚03×54.˚33E±0.˚03, h18km, mb4.1/30, MS3.2/6, Error ellipse: s-maj=4.9km s-min=3.1km az=143.6*
OMAN ***28*** *19:53:33.5±1.4,26.˚44N×54.˚45E, h9km, Error ellipse: s-maj=23.2km s-min=5.6km az=336.0*

ISC 28 19:53:29.3±0.5, 26.˚76N±0.˚03×54.˚46E±0.˚04, h18km, n118, σ1ᵖ49/123, mb4.2/31, MS3.2/6, 5C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UMQ	**Umm Al-Quwin**	**1.64**	**138**	*e*P	**Pb**	**19 53 58.8**	**-0.1**
	SNR=7.4						
UMQ	**Umm Al-Quwin**	**1.64**	**138**	*e*Pn	**Pb**	**19 53 58.8**	**-0.1**
GENO	**Geno**	**1.66**	**67**	*e*Pn	**Pb**	**19 53 58.3**	**-1.2**
GENO				IAMB	IAmb	19 54 37.1	
	comp=Z,0.0nm,0.8s						
SHME	**Shamm**	**1.67**	**115**	*e*P	**Pn**	**19 53 57.8**	**+0.2**
	SNR=15						
SHME				S	**Sg**	**19 54 22.8**	**-0.3**
SHME	**Shamm**	**1.67**	**115**	*e*Pn	**Pn**	**19 53 57.9**	**+0.2**
JHRM	**Jahrom**	**1.91**	**336**	*e*Pn	**Pb**	**19 54 03.5**	**-0.2**
JHRM				IAMB	IAmb	19 54 41.1	
	comp=Z,0.0nm,0.5s						
GHIR	**Ghir-Karzin**	**2.01**	**320**	*e*AML	AML	19 54 41.5	
	comp=N,1μm,0.5s						
GHIR				*e*Pg	**Pb**	**19 54 04.4**	**-1.0**
GHIR				*e*Sg	**Sb**	**19 54 31.4**	**+1.2**
GHIR				*e*AML	AML	19 54 50.4	
	comp=E,850nm,0.6s						
MSFE	**Esma-Masafi**	**2.07**	**132**	*e*P	**Pb**	**19 54 05.5**	**-0.9**
	SNR=13						
MSFE	**Esma-Masafi**	**2.07**	**132**	*e*Pn	**Pb**	**19 54 05.8**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.07**	**148**	P	**Pb**	**19 54 05.7**	**-0.7**
NAZ	**Nazwa, Dubai**	**2.07**	**148**	*e*Pn	**Pb**	**19 54 06.8**	**+0.5**
MDH	**Madha**	**2.20**	**131**	P	**Pb**	**19 54 07.0**	**-1.6**
MDH	**Madha**	**2.20**	**131**	P	**Pb**	**19 54 08.6**	**0.0**
MDH	**Madha**	**2.20**	**131**	*e*Pn	**Pb**	**19 54 08.2**	**-0.4**
AJN	**Ajban**	**2.23**	**168**	*e*P	**Pb**	**19 54 09.1**	**-0.1**
	SNR=11						
AJN	**Ajban**	**2.23**	**168**	*e*Pn	**Pb**	**19 54 11.9**	**+2.7**
FAQ	**Al Faqa, Dubai**	**2.25**	**153**	*e*P	**Pb**	**19 54 08.8**	**-0.6**
	SNR=16						
FAQ	**Al Faqa, Dubai**	**2.25**	**153**	P	**Pb**	**19 54 10.4**	**+1.0**
FAQ	**Al Faqa, Dubai**	**2.25**	**153**	*e*Pn	**Pb**	**19 54 09.7**	**+0.3**
ASUD	**Al Ashush, Dub**	**2.26**	**159**	*e*P	**Pb**	**19 54 10.0**	**+0.3**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.26**	**159**	P	**Pb**	**19 54 10.7**	**+1.0**
	SNR=29						
ASUD	**Al Ashush, Dub**	**2.26**	**159**	*e*Pn	**Pb**	**19 54 10.5**	**+0.8**
NIAN	**Nian**	**2.26**	**69**	*e*Pn	**Pn**	**19 54 06.4**	**+0.5**
HATD	**Hatta, Dubai**	**2.44**	**142**	*e*P	**Pb**	**19 54 11.1**	**-1.6**
	SNR=8.2						
HATD	**Hatta, Dubai**	**2.44**	**142**	P	**Pb**	**19 54 12.1**	**-0.6**
HATD	**Hatta, Dubai**	**2.44**	**142**	*e*Pn	**Pb**	**19 54 13.2**	**+0.4**
ASHO	**Ashiyiah**	**2.52**	**145**	*e*P	**Pn**	**19 54 11.7**	**+2.3**
	SNR=22						
ASHO	**Ashiyiah**	**2.52**	**145**	P	**Pb**	**19 54 13.7**	**-0.3**
	SNR=25						
ASHO	**Ashiyiah**	**2.52**	**145**	*e*Pn	**Pb**	**19 54 12.5**	**-1.6**
ISRV	**Sarvestan**	**2.87**	**336**	*e*Pn	**Pn**	**19 54 15.9**	**+1.3**
ISRV				IAMB	IAmb	19 55 20.7	
	comp=Z,12μm,1.1s						
ALNE	**Al Ain**	**2.93**	**156**	*e*Pn	**Pn**	**19 54 18.9**	**+3.8**
SOHO	**SOHO**	**3.21**	**144**	P	**Pn**	**19 54 22.2**	**+3.3**
NGRK	**Negar Kerman**	**3.51**	**34**	*e*Pn	**Pn**	**19 54 25.4**	**+2.1**
NGRK				IAMB	IAmb	19 55 43.8	
	comp=Z,0.0nm,0.6s						
IKAZ	**Kazeroun**	**3.80**	**323**	*e*Pn	**Pn**	**19 54 29.1**	**+1.8**
IKAZ				IAMB	IAmb	19 55 59.7	
	comp=N,17μm,1.5s						
KRBR	**Kerman**	**3.80**	**32**	*e*Pn	**Pn**	**19 54 29.2**	**+1.9**
KRBR	**Kerman**	**3.80**	**32**	*e*Pn	**Pn**	**19 54 29.1**	**+1.9**
TVBK	**TV Kerman**	**3.80**	**32**	*e*Pn	**Pn**	**19 54 29.0**	**+1.6**
TVBK				IAMB	IAmb	19 54 36.2	
	comp=Z,0.0nm,0.4s						
KHGB	**Koh Gabri**	**4.02**	**26**	*e*Pn	**Pn**	**19 54 32.5**	**+2.3**
KHGB				IAMB	IAmb	19 55 44.3	
	comp=Z,0.0nm,0.8s						
HOQ	**Hoqain**	**4.08**	**140**	*e*Pn	**Pb**	**19 54 37.2**	**-3.5**
CHMN	**Cheshme madani**	**4.12**	**41**	*e*Pn	**Pn**	**19 54 34.3**	**+2.6**
CHMN				IAMB	IAmb	19 54 36.9	
	comp=Z,0.0nm,0.3s						
IMEH	**Mehriz**	**4.62**	**2**	*e*Pn	**Pn**	**19 54 40.7**	**+2.2**
IMEH				IAMB	IAmb	19 56 01.7	
	comp=Z,626nm,0.9s						
SMDO	**Samad**	**4.92**	**138**	P	**Pn**	**19 54 46.7**	**+4.2**
SMDO				S	**Sn**	**19 55 42.5**	**+3.5**
WSAR	**Wadi Sarin**	**5.16**	**132**	P	**Pn**	**19 54 46.6**	**+0.9**
WSAR				S	**Sn**	**19 55 44.8**	**+0.1**
WSAR	**Wadi Sarin**	**5.16**	**132**	Pn	**Pn**	**19 54 45.8**	**+0.1**
	comp=Z,1.8nm,0.3s,baz=324,slow=11,SNR=22						
WSAR				Sn	**Sn**	**19 55 44.9**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=111,slow=15,SNR=4.0						
WSAR				LR	LR	19 57 18.9	
	comp=Z,143nm,20.1s,baz=324,slow=46						
ISAD	**Sadrabad**	**5.18**	**353**	*e*Pn	**Pn**	**19 54 48.9**	**+2.6**
ISAD				IAMB	IAmb	19 54 52.5	
	comp=Z,665nm,0.3s						
IRAM	**Ramesheh**	**5.35**	**341**	*e*Pn	**Pn**	**19 54 49.5**	**+1.0**
IRAM				IAMB	IAmb	19 56 01.7	
	comp=Z,357nm,0.4s						
ICHK	**Chekchek**	**5.47**	**360**	*e*Pn	**Pn**	**19 54 51.7**	**+1.5**
ICHK				IAMB	IAmb	19 55 24.0	
	comp=Z,455nm,0.5s						
JMDO	**Jabal Madar**	**5.48**	**142**	P	**Pn**	**19 54 52.5**	**+2.4**
YZKH	**Yazd**	**5.62**	**1**	*e*Pn	**Pn**	**19 54 53.9**	**+1.8**
YZKH	**Yazd**	**5.62**	**1**	*e*Pn	**Pn**	**19 54 53.9**	**+1.8**
JLN	**Jalan Bani Buh**	**6.43**	**134**	P	**Pn**	**19 55 04.9**	**+1.7**
TPRV	**Parvadeh(Tabas**	**6.54**	**17**	*e*Pn	**Pn**	**19 55 05.7**	**+0.9**
MHTO	**MHTO**	**6.58**	**150**	P	**Pn**	**19 55 07.0**	**+1.8**
IPIR	**Pirpir**	**6.67**	**333**	*e*Pn	**Pn**	**19 55 07.0**	**+0.2**
IPIR				IAMB	IAmb	19 56 27.8	
	comp=Z,339nm,0.5s						
IKLH	**Kolahrood**	**7.00**	**340**	*e*Pn	**Pn**	**19 55 13.3**	**+2.1**
IKLH				IAMB	IAmb	19 55 59.3	
	comp=Z,199nm,0.6s						
DQM	**DQM**	**7.36**	**157**	P	**Pn**	**19 55 17.1**	**+1.1**
WHFO	**Wadi Hawf**	**8.82**	**184**	P	**Pn**	**19 55 38.0**	**+2.0**
WHFO				S	**Sn**	**19 57 11.7**	**-3.3**
DMTO	**DMTO**	**9.01**	**177**	P	**Pn**	**19 55 40.1**	**+1.5**
DMTO				S	**Sn**	**19 57 18.7**	**-0.9**
ABTO	**Aybut**	**9.42**	**187**	P	**Pn**	**19 55 44.9**	**+0.6**
ABTO				S	**Sn**	**19 57 24.4**	**-5.4**
GEYT	**Alibeck**	**11.56**	**15**	LR	LR	20 01 32.8	
	comp=Z,139nm,19.5s,baz=195,slow=42						
SIRT	**Sirnak**	**14.77**	**319**	*e*Pn	**Pn**	**19 56 58.9**	**+1.6**
GNI	**Garni**	**15.61**	**331**	*e*Pn	**Pn**	**19 57 09.7**	**+1.1**
	comp=Z,9.5nm,0.8s						
GNI	**Garni**	**15.61**	**331**	Pn	**P**	**19 57 11.6**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=76,slow=4.2,SNR=6.8						
ASF	**Jabal al Asfar**	**16.21**	**294**	Pn	**Pn**	**19 57 15.3**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=69,slow=8.6,SNR=3.3						
EIL	**Elat**	**17.44**	**284**	P	**Pn**	**19 57 32.3**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=85,slow=11,SNR=5.7						
MMAI	**Mount Meron Ar**	**17.65**	**295**	P	**Pn**	**19 57 34.9**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=107,slow=14,SNR=5.6						
MMAI				LR	LR	20 05 26.4	
	comp=Z,22nm,19.0s,baz=115,slow=41						
ATD	**Arta Tunnel**	**18.68**	**218**	LR	LR	20 06 42.3	
	comp=Z,50nm,20.2s,baz=103,slow=43						
KBZ	**Khabaz**	**19.36**	**334**	P	**P**	**19 57 54.2**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=135,slow=7.2,SNR=3.8						
BR101	**Keskin Array S**	**21.63**	**312**	*e*P	**P**	**19 58 19.4**	**+0.7**
BR131	**Keskin Array S**	**21.63**	**312**	*e*P	**P**	**19 58 20.0**	**+1.3**
	comp=Z,7.1nm,0.8s						
BRTR	**Keskin Array B**	**21.63**	**312**	P	**P**	**19 58 19.4**	**+0.7**
	comp=Z,5.9nm,0.8s,baz=136,slow=12,SNR=24						
AAK	**Ala-Archa**	**22.77**	**41**	P	**P**	**19 58 31.1**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=179,slow=8.8,SNR=10						
ABKAR	**Akbulak array**	**22.86**	**9**	*e*P	**P**	**19 58 30.8**	**-0.8**
	comp=Z,4.4nm,0.9s						
AKTO	**Aktyubinsk**	**23.80**	**6**	P	**P**	**19 58 42.2**	**+1.2**
	comp=Z,1.8nm,0.6s,baz=184,slow=11,SNR=7.4						
AKTO				LR	LR	20 08 25.8	
	comp=Z,50nm,21.0s,baz=183,slow=38						
KARP	**Karpathos**	**24.89**	**297**	*e*P	**P**	**19 58 52.3**	**+1.1**
	comp=Z,32nm,0.9s						
IDI	**Anoyia**	**26.65**	**296**	P	**P**	**19 59 08.2**	**+1.0**
	comp=Z,2.8nm,0.5s,baz=77,slow=9.0,SNR=9.1						
BVAR	**Borovoye Array**	**28.81**	**20**	P	**P**	**19 59 27.7**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=237,slow=8.1,SNR=3.7						
BVAR				LR	LR	20 12 49.2	
	comp=Z,76nm,18.4s,baz=225,slow=40						
PLOR	**Plostina**	**29.19**	**318**	‖ *i*P	**P**	**19 59 30.3**	**+0.6**
MLR	**Muntele Rosu**	**29.43**	**317**	*e*P	**P**	**19 59 33.6**	**+1.6**
	comp=Z,22nm,1.9s						
MLR	**Muntele Rosu**	**29.43**	**317**	‖ *i*P	**P**	**19 59 32.9**	**+0.9**
MLR	**Muntele Rosu**	**29.43**	**317**	P	**P**	**19 59 33.7**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=357,slow=10,SNR=5.0						
MK32	**Makanchi Array**	**29.70**	**40**	*e*P	**P**	**19 59 34.1**	**-0.1**
MKAR	**Makanchi Array**	**29.70**	**40**	P	**P**	**19 59 34.1**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=223,slow=9.8,SNR=5.4						
VOIR			**29.96**	**316**	‖ *i*P	**P**	**19 59 37.8**	**+1.2**
KURBB	**Kurchatov Arra**	**30.09**	**31**	P	**P**	**19 59 37.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=231,slow=8.7,SNR=6.5						
BURAR	**Bucovina Array**	**30.95**	**320**	‖ *i*P	**P**	**19 59 45.7**	**+0.3**
GZR	**Gura Zlata**	**31.36**	**315**	‖ *i*P	**P**	**19 59 49.7**	**+0.7**
BZS	**Buzias**	**32.20**	**314**	‖ *i*P	**P**	**19 59 56.5**	**+0.3**
ZAA0	**Zalesovo Array**	**35.19**	**31**	*e*P	**P**	**20 00 21.7**	**-0.5**
	comp=Z,4.2nm,1.0s						
ZALV	**Zalesovo Beam**	**35.19**	**31**	P	**P**	**20 00 21.4**	**-0.8**
	comp=Z,2.3nm,0.5s,baz=241,slow=9.3,SNR=12						
ZALV				LR	LR	20 18 16.5	
	comp=Z,24nm,19.9s,baz=244,slow=42						
ZAA1	**Zalesovo Array**	**35.19**	**31**	*e*P	**P**	**20 00 21.4**	**-0.8**
MYKA	**Terra Mystica**	**37.74**	**313**	P	**P**	**20 00 42.8**	**-1.3**
	comp=Z,6.5nm,1.0s						
KBA	**Koelnbreinsper**	**38.07**	**313**	pP	**P**	**20 00 50.0**	**+3.0**
	comp=Z,8.7nm,1.3s						
GERES	**GERESS Array B**	**38.41**	**316**	P	**P**	**20 00 49.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=120,slow=5.8,SNR=3.0						
ABTA	**Abfaltersbach**	**38.52**	**312**	P	**P**	**20 00 50.0**	**-0.7**
	comp=Z,7.2nm,1.1s						
WTTA	**Wattenberg**	**39.24**	**313**	*e*P	**P**	**20 00 57.0**	**+0.1**
	comp=Z,7.1nm,0.7s						
WATA	**Walderalm**	**39.30**	**313**	P	**P**	**20 00 56.7**	**-0.6**
	comp=Z,2.8nm,0.5s						
SQTA	**Sankt Quirin**	**39.51**	**313**	*e*P	**P**	**20 00 58.9**	**-0.1**
	comp=Z,7.5nm,0.7s						
FIA0	**FINESS Array S**	**39.58**	**339**	*e*P	**P**	**20 00 59.2**	**0.0**
FINES	**FINESS Array B**	**39.58**	**339**	P	**P**	**20 00 59.2**	**0.0**
	comp=Z,2.0nm,0.5s,baz=144,slow=10,SNR=36						
MOTA	**Moosalm**	**39.61**	**313**	*e*P	**P**	**20 00 59.8**	**-0.1**
	comp=Z,3.6nm,0.7s						
FETA	**Feichten**	**39.77**	**312**	*e*P	**P**	**20 01 01.3**	**0.0**
	comp=Z,9.6nm,1.1s						
RETA	**Reutte**	**39.87**	**313**	*e*P	**P**	**20 01 01.6**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=0,slow=5.5						
DAVA	**Damuels**	**40.40**	**312**	*e*P	**P**	**20 01 06.3**	**-0.1**
	comp=Z,9.7nm,0.5s						
NB2	**NORSAR Subarra**	**44.91**	**332**	P	**P**	**20 01 42.1**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=118,slow=7.9						
NB200	**NORSAR Array S**	**44.91**	**332**	*e*P	**P**	**20 01 41.9**	**-0.9**
NOA	**NORSAR Array B**	**44.91**	**332**	P	**P**	**20 01 41.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=121,slow=7.9,SNR=5.4						
NOA				LR	LR	20 22 06.3	
	comp=Z,23nm,18.6s,baz=285,slow=38						
SONA0	**Songino Array**	**45.39**	**48**	*e*P	**P**	**20 01 46.5**	**-0.4**
SONM	**Songino Array**	**45.39**	**48**	P	**P**	**20 01 46.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=258,slow=6.4,SNR=9.3						
SONM				LR	LR	20 22 24.4	
	comp=Z,37nm,18.7s,baz=342,slow=38						
ARA0	**ARCESS Array S**	**46.02**	**346**	*e*P	**P**	**20 01 51.4**	**0.0**
ARCES	**ARCESS Array B**	**46.02**	**346**	P	**P**	**20 01 51.4**	**0.0**
	comp=Z,4.2nm,0.9s,baz=153,slow=10.0,SNR=6.2						
NRIK	**Noril'sk**	**46.80**	**15**	LR	LR	20 25 09.9	
	comp=Z,68nm,19.3s,baz=98,slow=41						
TOA0	**Torodi Ar. Sit**	**51.08**	**265**	*e*P	**P**	**20 02 30.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**51.08**	**265**	P	**P**	**20 02 29.4**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=51,slow=8.1,SNR=18						
TOA1	**Torodi Ar. Sit**	**51.08**	**265**	*e*P	**P**	**20 02 29.4**	**-1.7**
DBIC	**Dimbokro**	**59.67**	**262**	P	**P**	**20 03 32.1**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=42,slow=9.6,SNR=4.6						
BOSA	**Boshof**	**61.78**	**209**	P	**P**	**20 03 47.0**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=133,slow=3.6,SNR=3.6						
YKA	**Yellowknife Ar**	**90.63**	**355**	P	**P**	**20 06 30.6**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=2.6,slow=4.6,SNR=4.6						

ISCJB ***28*** *20:08:06.6±0.9, 67.˚76N±0.˚04×34.˚1E±0.˚1, h0km, Error ellipse: s-maj=6.7km s-min=5.5km az=170.6*
HEL ***28*** *20:08:09.4±0.7, 68.˚00N×34.˚05E, h0km, ML2.0, Explosion*
NAO ***28*** *20:08:12.9±1.2, 67.˚68N×33.˚69E, ML2.7*
KOLA ***28*** *20:08:12.7, 67.˚67N×33.˚78E, M1.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC ***28*** *20:08:13.9±2.7, 67.˚75N×33.˚72E, h0km, mb1 3.0/3, mb1mx2.8/48, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=29.5km s-min=10.2km az=73.0*

ISC 28 20:08:10.0±1.3, 67.˚56N±0.˚04×34.˚01E±0.˚07, h0km, n33, σ1ᵖ60/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APZ9	**Apatity**	**0.23**	**272**	Pg	**Pg**	**20 08 15.8**	**+1.4**
APZ9				Lg	Lg	20 08 18.3	
APZ9	**Apatity**	**0.23**	**272**	Pg	**Pg**	**20 08 15.8**	**+1.4**
APZ9				Sg	**Sg**	**20 08 18.3**	**+0.8**
APA0	**Apatity Array**	**0.39**	**277**	Pg	**Pg**	**20 08 18.2**	**+0.7**
APA0				Lg	Lg	20 08 22.4	
APA0				Rg	Rg	20 08 23.6	
APA0	**Apatity Array**	**0.39**	**277**	Pg	**Pg**	**20 08 18.2**	**+0.7**
APA0				Sg	**Sg**	**20 08 22.4**	**-0.2**
APA0				Rg	Rg	20 08 23.6	
VRF	**Varrio**	**1.69**	**278**	PG	**Pn**	**20 08 40.9**	**+0.1**
	baz=78						
VRF				MSG		20 09 00.2	
	comp=Z,11nm,0.2s						
VRF				SG	**Sn**	**20 09 01.3**	**-1.8**
KU6	**Riekki**	**2.25**	**229**	PN	**Pb**	**20 08 51.5**	**+0.1**
KU6				SN	**Sg**	**20 09 22.0**	**-0.1**
KU6				MSG		20 09 25.1	
	comp=Z,6.7nm,0.2s						
MSF	**Maaselka**	**2.58**	**232**	PN	**Pb**	**20 08 56.4**	**-0.6**
MSF				SN	**Sg**	**20 09 32.0**	**-0.7**
SGF	**Sodankyl**	**2.88**	**271**	PB	**Pn**	**20 08 58.7**	**+1.6**
	baz=80						
SGF				SB	**Sb**	**20 09 36.9**	**-1.0**
RNF	**Rovaniemi**	**3.27**	**257**	PN	**Pn**	**20 09 04.0**	**+1.6**
RNF				SN	**Sn**	**20 09 43.1**	**+1.1**
KEV	**Kevo**	**3.38**	**314**	Pn	**Pn**	**20 09 05.0**	**+1.2**
KEV				Sn	**Sn**	**20 09 43.2**	**-1.3**
KEV				Lg	Lg	20 09 51.4	
KEV	**Kevo**	**3.38**	**314**	Pn	**Pn**	**20 09 05.0**	**+1.2**
KEV				Sn	**Sn**	**20 09 43.2**	**-1.3**
KEV				Sg	**Sb**	**20 09 51.4**	**-0.8**
KEV	**Kevo**	**3.38**	**314**	PG	**Pn**	**20 09 05.2**	**+1.4**
KEV				MSG		20 09 40.6	
	comp=Z,4.4nm,0.2s						
KEV				SG	**Sn**	**20 09 43.8**	**-0.8**
ARA0	**ARCESS Array S**	**3.70**	**306**	Pn	**Pn**	**20 09 08.8**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**20 09 16.6**	**+0.5**
	baz=113,slow=16						
ARA0				Sn	**Sn**	**20 09 50.0**	**-2.6**
	baz=120,slow=28						
ARA0				Lg	Lg	20 10 01.7	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.70**	**306**	Pn	**Pn**	**20 09 08.8**	**+0.5**
	baz=122,slow=16						
ARA0				Pg	**Pb**	**20 09 16.6**	**+0.5**
	baz=113,slow=16						
ARA0				Sn	**Sn**	**20 09 50.0**	**-2.6**
	baz=120,slow=28						
ARA0				Sg	**Sb**	**20 10 01.7**	**+0.2**
	baz=113,slow=37						
ARCES	**ARCESS Array B**	**3.70**	**306**	Pn	**Pn**	**20 09 08.9**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=121,slow=15,SNR=65						
ARCES				Pg	**Pb**	**20 09 17.5**	**+1.4**
	comp=Z,1.9nm,0.3s,baz=112,slow=16,SNR=17						
ARCES				Sn	**Sn**	**20 09 50.2**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=120,slow=24,SNR=13						
ARCES				Lg	Lg	20 10 01.7	
	comp=Z,6.0nm,0.3s,baz=113,slow=30,SNR=16						
ARE0	**ARCESS Array S**	**3.70**	**306**	PB	**Pn**	**20 09 08.9**	**+0.6**
ARE0				SB	**Sn**	**20 09 50.0**	**-2.6**
HEF	**Hetta**	**3.99**	**287**	Pn	**Pn**	**20 09 13.2**	**+0.9**
HEF				Sn	**Sn**	**20 09 57.1**	**-2.6**
HEF				Lg	Lg	20 10 10.9	
HEF	**Hetta**	**3.99**	**287**	Pn	**Pn**	**20 09 13.2**	**+0.9**
HEF				Sn	**Sn**	**20 09 57.1**	**-2.6**
HEF				Sg	**Sb**	**20 10 10.9**	**+1.1**

LMR					*e*Sn		**Sn**	**20 20 30.7**	**-3.5**
	3.3nm,0.4s								
LMR	**La Mourre**	**6.49**	**9**	P			**Pn**	**20 19 22.8**	**+2.7**
LMR					S		**Sn**	**20 20 30.7**	**-3.5**
	1.7nm,0.4s								
ESAC	**San Caprasio**	**6.50**	**319**	P			**Pn**	**20 19 21.9**	**+1.6**
	0.8nm,0.2s,SNR=4.0								
EQES	**Quesada**	**6.64**	**280**	P			**Pn**	**20 19 24.1**	**+1.9**
EQES	0.5nm,0.2s,SNR=7.9				S		**Sn**	**20 20 40.7**	**+2.6**
	0.3nm,0.2s,SNR=7.9								
FRF	**La Foret Royal**	**6.73**	**9**	*e*Pn			**Pn**	**20 19 25.8**	**+2.4**
FRF					*e*Sn		**Sn**	**20 20 34.8**	**-5.3**
	0.9nm,0.2s								
FRF	**La Foret Royal**	**6.73**	**9**	P			**Pn**	**20 19 25.8**	**+2.4**
MTLF	**Montolieu**	**6.81**	**341**	*e*Pn			**Pn**	**20 19 27.1**	**+2.6**
MTLF					*e*Sn		**Sn**	**20 20 38.2**	**-3.9**
	0.5nm,0.2s								
MTLF	**Montolieu**	**6.81**	**341**	P			**Pn**	**20 19 27.1**	**+2.6**
MTLF					S		**Sn**	**20 20 38.2**	**-3.9**
	0.2nm,0.2s								
SMRF	**Simiane la Rot**	**7.06**	**2**	*e*Pn			**Pn**	**20 19 31.6**	**+3.6**
SMRF	**Simiane la Rot**	**7.06**	**2**	P			**Pn**	**20 19 31.6**	**+3.6**
SBF	**Sospel**	**7.15**	**13**	*e*Pn			**Pn**	**20 19 32.3**	**+3.1**
SBF					*e*Sn		**Sn**	**20 20 44.7**	**-5.8**
	1.1nm,0.2s								
SBF	**Sospel**	**7.15**	**13**	P			**Pn**	**20 19 32.3**	**+3.1**
EPF	**Esparros**	**7.15**	**330**	*e*Pn			**Pn**	**20 19 32.5**	**+3.3**
EPF					*e*Sn		**Sn**	**20 20 46.1**	**-4.5**
	1.6nm,0.3s								
EPF	**Esparros**	**7.15**	**330**	P			**Pn**	**20 19 32.5**	**+3.3**
EPF					S		**Sn**	**20 20 46.1**	**-4.5**
	0.8nm,0.3s								
LASF	**Ste Croix**	**7.22**	**352**	*e*Pn			**Pn**	**20 19 32.8**	**+2.6**
LASF					*e*Sn		**Sn**	**20 20 46.3**	**-6.0**
LASF	**Ste Croix**	**7.22**	**352**	P			**Pn**	**20 19 32.8**	**+2.6**
ETSF	**Etsaut**	**7.43**	**325**	*e*Pn			**Pn**	**20 19 35.5**	**+2.4**
ETSF	**Etsaut**	**7.43**	**325**	P			**Pn**	**20 19 35.5**	**+2.4**
SJPF	**Ste Jean**	**7.91**	**324**	*e*Pn			**Pn**	**20 19 41.9**	**+2.4**
SJPF	**Ste Jean**	**7.91**	**324**	P			**Pn**	**20 19 41.9**	**+2.4**
LFF	**La Frestale**	**8.69**	**339**	*e*Pn			**Pn**	**20 19 51.2**	**+0.9**
LFF	**La Frestale**	**8.69**	**339**	Pn			**Pn**	**20 19 51.2**	**+0.9**

*IDC **28** 20:17:53.7±0.8, 16°.55S×72°.69W, h26km±4km, mb4.0/9, mb1 4.2/13, mb1mx3.9/40, mbtmp4.2/13, ML4.3/4, MS3.4/5, Ms1 3.4/5, ms1mx3.1/32, Error ellipse: s-maj=23.2km s-min=16.9km az=53.0*
*NEIC **28** 20:17:53.6±0.3, 16°.59S×72°.75W, mb4.4/1, Error ellipse: s-maj=11.7km s-min=5.6km az=61.0*
ISC 28 20:17:53.5±0.7, 16°.61S±0°.07×72°.60W±0°.08, h24km±5km, h24km:pP-P, n56, σ1°42/57, mb4.2/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**2.94**	**133**	*e*P	**Pn**	**20 18 41.4**	**+2.5**
PSGCX	**Pisagua**	**3.79**	**142**	*e*P	**Pn**	**20 18 51.5**	**+0.9**
PSGCX				*e*S	**Sn**	**20 19 34.5**	**0.0**
MNMC	**Minye Minye**	**3.80**	**132**	*e*Pn	**Pn**	**20 18 53.6**	**+2.7**
MNMCX	**Minye Minye**	**3.80**	**132**	*e*P	**Pn**	**20 18 52.6**	**+1.7**
PB11	**IPOC Station P**	**4.20**	**139**	*e*Pn	**Pn**	**20 18 58.0**	**+1.8**
PB11	**IPOC Station P**	**4.20**	**139**	*e*P	**Pn**	**20 18 56.8**	**+0.6**
LPAZ	**La Paz**	**4.30**	**86**	*e*Pn	**Pb**	**20 19 06.6**	**-2.2**
LPAZ	**La Paz**	**4.30**	**86**	Pn	**Pb**	**20 19 05.7**	**-3.1**
	21nm,0.3s,baz=304,slow=7.2,SNR=238						
LPAZ				LR	LR	20 20 29.9	
	comp=Z,155nm,19.1s,baz=290,slow=36						
GO01	**Chusmiza**	**4.44**	**134**	*e*Pn	**Pn**	**20 19 02.7**	**+2.8**
PB08	**IPOC Station P**	**4.80**	**138**	*e*P	**Pn**	**20 19 04.7**	**0.0**
PB01	**IPOC Station P**	**5.30**	**147**	*e*Pn	**Pn**	**20 19 12.4**	**+1.1**
PB01	**IPOC Station P**	**5.30**	**147**	*e*P	**Pn**	**20 19 13.5**	**+2.1**
PB01				*e*S	**Sn**	**20 20 12.7**	**+0.9**
PB02	**IPOC Station P**	**5.34**	**152**	*e*P	**Pn**	**20 19 09.9**	**-1.9**
PB04	**IPOC Station P**	**6.14**	**158**	*e*Pn	**Pn**	**20 19 22.5**	**-0.4**
NNA	**Nana**	**6.17**	**318**	Pn	**Pn**	**20 19 23.3**	**+0.1**
	16nm,0.3s,baz=143,slow=8.8,SNR=31						
NNA					Sn		**Sn**	**20 20 37.2**	**+4.2**
	17nm,0.3s,baz=199,slow=12,SNR=5.3						
LVC	**Limon Verde**	**6.91**	**150**	*e*Pn	**Pn**	**20 19 35.1**	**+1.5**
LVC				*e*Sn	**Sn**	**20 20 52.8**	**+1.1**
LVC	**Limon Verde**	**6.91**	**150**	Pn	**Pn**	**20 19 35.4**	**+1.8**
	8.2nm,0.3s,baz=323,slow=11,SNR=78						
LVC					Sn		**Sn**	**20 20 52.8**	**+1.1**
	12nm,0.3s,baz=99,slow=15,SNR=9.5						
PB10	**IPOC Station P**	**7.13**	**165**	*e*Pn	**Pn**	**20 19 34.9**	**-1.5**
GO02	**Mina Guanaco**	**8.96**	**162**	*e*Pn	**Pn**	**20 20 01.9**	**+0.1**
ATAH	**Atahualpa**	**10.99**	**328**	LR	LR	20 25 15.5	
	comp=Z,154nm,18.3s,baz=142,slow=41						
SIV	**San Ignacio**	**11.09**	**88**	Pn	**Pn**	**20 20 33.3**	**+2.6**
	2.5nm,0.3s,baz=275,slow=11,SNR=20						
SIV					LR	LR	20 25 27.7	
	comp=Z,199nm,20.6s,baz=322,slow=41						
CFA	**Coronel Fontan**	**15.45**	**166**	Pn	**Pn**	**20 21 31.1**	**+1.1**
	0.4nm,0.3s,baz=333,slow=9.9,SNR=4.6						
PTGA	**Pitinga**	**20.10**	**40**	P	**P**	**20 22 25.6**	**0.0**
	3.4nm,0.4s,baz=216,slow=14,SNR=8.5						
PLCA	**Paso Flores**	**24.10**	**176**	P	**P**	**20 23 08.0**	**+0.6**
	3.1nm,0.8s,baz=10,slow=9.8,SNR=10						
PLCA					LR	LR	20 31 02.2	
	comp=Z,67nm,18.9s,baz=222,slow=33						
LTX	**Lajitas**	**54.65**	**326**	*e*P	**P**	**20 27 19.4**	**-1.3**
TXAR	**Lajitas Array**	**54.65**	**326**	P	**P**	**20 27 19.4**	**-1.3**
	0.5nm,0.7s,baz=149,slow=10,SNR=6.4						
TX31	**Lajitas Ar. Si**	**54.65**	**326**	*e*P	**P**	**20 27 20.0**	**-0.7**
NVAR	**Mina Array Bea**	**69.51**	**323**	P	**P**	**20 29 00.5**	**0.0**
	0.2nm,0.4s,baz=125,slow=6.7,SNR=5.2						
ULM	**Lac du Bonnet**	**69.66**	**344**	P	**P**	**20 28 59.5**	**-1.4**
	2.0nm,0.7s,baz=194,slow=4.2,SNR=3.3						
DBIC	**Dimbokro**	**70.86**	**77**	P	**P**	**20 29 09.0**	**0.0**
	10.0nm,1.2s,baz=239,slow=5.9,SNR=4.1						
TOA1	**Torodi Ar. Sit**	**79.13**	**73**	*e*P	**P**	**20 29 56.5**	**-0.3**
TOA1				*ep*P	**pP**	**20 30 05.6**	**+1.1**
TOA0	**Torodi Ar. Sit**	**79.13**	**73**	*e*P	**P**	**20 29 55.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**79.13**	**73**	P	**P**	**20 29 56.5**	**-0.3**
	3.8nm,0.4s,baz=274,slow=4.5,SNR=67						
TORD				pP	**pP**	**20 30 05.6**	**+1.1**
	2.0nm,0.5s,baz=242,slow=5.6,SNR=6.3						
SBA	**Scott Base**	**79.97**	**191**	P	**P**	**20 30 00.8**	**+0.6**
	1.0nm,0.3s						
ESDC	**Sonseca Array**	**84.90**	**46**	P	**P**	**20 30 27.1**	**+0.4**
	0.2nm,0.5s,baz=276,slow=7.1,SNR=4.4						
YKA	**Yellowknife Ar**	**85.46**	**342**	P	**P**	**20 30 28.1**	**-0.7**
	1.2nm,0.7s,baz=134,slow=5.2,SNR=29						
YKA				pP	**pP**	**20 30 36.4**	**-0.3**
	1.0nm,0.6s,baz=135,slow=5.2,SNR=12						
YKB5	**Yellowknife Ar**	**85.46**	**342**	*e*P	**P**	**20 30 28.2**	**-0.6**
DLBC	**Dease Lake**	**88.29**	**334**	LR	LR	21 14 42.6	
	comp=Z,82nm,18.2s,baz=50,slow=39						
H11N3	**WAKE ISLAND Hyd**	**23.61**	**283**	T	T	22 52 09.0	
	baz=98,slow=75,SNR=33						
H11N2	**WAKE ISLAND Hyd**	**23.63**	**283**	T	T	22 52 09.6	
	baz=98,slow=75,SNR=35						
H11N1	**WAKE ISLAND Hyd**	**23.63**	**283**	T	T	22 52 03.1	
	baz=98,slow=75,SNR=27						
H11S2	**WAKE ISLAND Hyd**	**23.64**	**281**	T	T	22 52 12.2	
	baz=99,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hyd**	**23.65**	**281**	T	T	22 52 17.5	
	baz=99,slow=75,SNR=30						
H11S3	**WAKE ISLAND Hyd**	**23.66**	**281**	T	T	22 52 13.3	
	baz=99,slow=75,SNR=28						
ASAR	**Alice Springs**	**132.32**	**214**	PKP	**PKPdf**	**20 37 05.7**	**-0.9**
	0.2nm,0.5s,baz=123,slow=1.7,SNR=6.5						
ASAR				pPKP	**pPKPdf**	**20 37 14.2**	**-0.4**
	0.2nm,0.5s,baz=154,slow=2.0,SNR=2.2						
WR1	**Warramunga Arr**	**135.05**	**217**	*e*PKPdf	**PKPdf**	**20 37 11.1**	**-0.7**
WR1				*ep*PKPdf	**pPKPdf**	**20 37 20.2**	**+0.5**
WRA	**Warramunga Arr**	**135.05**	**217**	PKP	**PKPdf**	**20 37 11.1**	**-0.7**
	0.7nm,0.6s,baz=143,slow=1.8,SNR=7.0						
WRA				pPKP	**pPKPdf**	**20 37 20.2**	**+0.5**
	0.4nm,0.7s,baz=136,slow=1.7,SNR=2.1						
ZAA1	**Zalesovo Array**	**138.80**	**20**	*e*PKPdf	**PKPdf**	**20 37 18.1**	**+0.6**
ZALV	**Zalesovo Beam**	**138.81**	**20**	*e*PKPdf	**PKPdf**	**20 37 17.4**	**-0.2**
ZALV	**Zalesovo Beam**	**138.81**	**20**	PKP	**PKPdf**	**20 37 18.1**	**+0.6**
	0.9nm,0.5s,baz=311,slow=3.1,SNR=5.1						
MK32	**Makanchi Array**	**143.41**	**29**	*e*PKPpre	PKPbc	20 37 23.2	-0.1
MKAR	**Makanchi Array**	**143.41**	**29**	PKP	PKPbc	20 37 23.2	-0.1
	0.2nm,0.4s,baz=2.6,slow=3.9,SNR=5.5						
MJAR	**Matsushiro Arr**	**146.26**	**312**	PKPbc	**PKPdf**	**20 37 30.7**	**-0.7**
	2.0nm,0.5s,baz=122,slow=0.8,SNR=8.4						
MAJO	**Matsushiro**	**146.26**	**312**	*e*PKPdf	**PKPdf**	**20 37 30.7**	**-0.7**
SONA0	**Songino Array**	**148.85**	**1**	*e*PKPbc	**PKPbc**	**20 37 39.8**	**+0.5**
SONM	**Songino Array**	**148.85**	**1**	PKPbc	**PKPbc**	**20 37 39.8**	**+0.5**
	2.1nm,0.7s,baz=325,slow=2.0,SNR=18						

*MOS **28** 20:23:32.4±0.0, 41°.94N×46°.49E, h13km, MPVA3.5*
*TIF **28** 20:23:32.6, 41°.98N×46°.43E, h19km*
*ISCJB **28** 20:23:32.6±0.5, 41°.86N±0°.03×46°.45E±0°.03, h1km±6km, Error ellipse: s-maj=4.3km s-min=3.6km az=177.5*
*DRS **28** 20:23:33.2±0.0, 41°.88N×46°.48E, h12km, ML2.6/2*
*NORS **28** 20:23:33.5±0.0, 41°.85N×46°.61E, h18km, MPVA3.5*
*DDA **28** 20:23:47.9, 41°.85N×44°.95E, h7km, ML2.0*
ISC 28 20:23:33.2±1.0, 41°.85N±0°.03×46°.46E±0°.02, h14km±9km, n27, σ1°12/53, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LGD	**Lagodekhi**	**0.16**	**263**	P	**Pb**	**20 23 38.2**	**+0.2**
LGD				S	**Sb**	**20 23 42.0**	**+0.7**
LGD	**Lagodekhi**	**0.16**	**263**	*e*Pg	**Pb**	**20 23 38.2**	**+0.2**
LGD				*e*Sg	**Sb**	**20 23 42.0**	**+0.7**
DDFL	**Dedoflistskaro**	**0.48**	**212**	P	**Pg**	**20 23 41.3**	**-1.4**
DDFL				S	**Sn**	**20 23 53.2**	**-0.8**
KMKR	**Kumukh**	**0.55**	**60**	*e*Pg	**Pg**	**20 23 43.5**	**-0.7**
KMKR				*e*Sg	**Sg**	**20 23 51.5**	**-0.1**
GNBR	**Gunib**	**0.66**	**35**	*e*Pg	**Pg**	**20 23 45.6**	**-0.4**
	22nm,0.6s						
GNBR				*e*Sg	**Sg**	**20 23 54.5**	**-0.3**
	427nm,0.5s						
XNZR	**Khunzakh**	**0.71**	**15**	*e*Pg	**Pn**	**20 23 50.9**	**+1.8**
XNZR				*e*Sg	**Sg**	**20 23 56.5**	**-0.1**
BTLR	**Botlikh**	**0.83**	**348**	*i* Pg	**Pb**	**20 23 48.8**	**-0.7**
BTLR				*e*Sg	**Sb**	**20 23 59.8**	**-0.8**
UNCR	**Uncukul**	**0.90**	**16**	*e*Pg	**Pb**	**20 23 50.0**	**-0.6**
UNCR				*e*Sg	**Sb**	**20 24 01.8**	**-0.7**
URKR	**Urkarakh**	**0.93**	**70**	*e*Pg	**Pb**	**20 23 50.9**	**-0.4**
URKR				*e*Sg	**Sn**	**20 24 04.6**	**-0.8**
AKT	**Akhty**	**1.03**	**111**	*i* Pg	**Pb**	**20 23 51.4**	**-1.5**
AKT				*e*Sg	**Sb**	**20 24 03.7**	**-2.5**
KRNR	**Karanay**	**1.03**	**19**	*e*Pg	**Pn**	**20 23 53.0**	**-0.4**
KRNR				*e*Sg	**Sg**	**20 24 06.5**	**-0.1**
DVE	**Vedeno**	**1.13**	**348**	*e*Pg	**Pb**	**20 23 54.4**	**-0.2**
DVE				*e*Sg	**Sg**	**20 24 09.6**	**-0.1**
DBC	**Dubki**	**1.20**	**13**	*e*Pg	**Pg**	**20 23 56.2**	**-0.1**
DBC				*e*Sg	**Sg**	**20 24 11.8**	**-0.1**
DLMR	**Dylym**	**1.22**	**6**	*e*Pg	**Pg**	**20 23 57.0**	**+0.2**
DLMR				*e*Sg	**Sg**	**20 24 13.0**	**+0.3**
BTNK	**Botanikuri**	**1.25**	**263**	P	**Pn**	**20 23 56.1**	**-0.2**
BTNK				S	**Sn**	**20 24 13.5**	**+0.5**
BTNK	**Botanikuri**	**1.25**	**263**	*i* P	**Pn**	**20 23 56.3**	**-0.1**
KSMR	**Kasumkent**	**1.28**	**101**	*e*Pg	**Pg**	**20 23 59.0**	**+1.2**
KSMR				*e*Sg	**Sg**	**20 24 20.0**	**+5.6**
TBLG	**Delisi**	**1.29**	**265**	P	**Pn**	**20 23 56.9**	**0.0**
TBLG				S	**Sg**	**20 24 14.9**	**0.0**
TBLG	**Delisi**	**1.29**	**265**	*i* P	**Pn**	**20 23 57.1**	**+0.2**
TBLG				*i* S	**Sg**	**20 24 15.3**	**+0.5**
TBLG				IAML_P			
	comp=Z,2μm,0.1s						
TBLG	**Delisi**	**1.29**	**265**	*e*Pg	**Pn**	**20 23 56.9**	**0.0**
TBLG				*e*Sg	**Sg**	**20 24 14.9**	**0.0**
DRN	**Derbent**	**1.41**	**82**	*e*Pg	**Pg**	**20 24 00.3**	**0.0**
DRN				*e*Sg	**Sg**	**20 24 20.4**	**+1.8**
GROC	**Groznyy**	**1.43**	**340**	*e*Pg	**Pg**	**20 24 01.7**	**+0.9**
GROC				*e*Sg	**Sg**	**20 24 21.1**	**+1.7**
KZRT	**Kazreti**	**1.61**	**254**	P	**Pn**	**20 24 00.9**	**-0.4**
KZRT				S	**Sb**	**20 24 22.9**	**-0.1**
TRLG	**Trialeti**	**1.79**	**261**	P	**Pn**	**20 24 04.0**	**0.0**
TRLG				S	**Sn**	**20 24 27.3**	**+0.7**
LACR	**Lac**	**1.87**	**302**	*e*Pg	**Pg**	**20 24 08.7**	**-0.5**
LACR				*e*Sg	**Sg**	**20 24 33.8**	**+0.4**
ZEI	**Tsey**	**2.11**	**297**	*e*Pg	**Pb**	**20 24 10.9**	**-0.5**
ZEI				*e*Sg	**Sb**	**20 24 38.0**	**+0.4**
EAK	**Akyaka**	**2.44**	**242**	*i* P	**Pb**	**20 24 16.7**	**-0.4**
EAK				*i* S	**Sb**	**20 24 47.4**	**+0.3**
EAK				IAML_P			
	comp=Z,275nm,0.3s						

GUC 28 20:27:12.7±0.6, 23°.99S×67°.58W, h212km±8km, ML3.6, 4C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**1.84**	**318**	*e*P	Pn	20 27 51.8	+0.8
LVC				*e*S	S	20 28 22.2	+1.7
PB15	**IPOC Station P**	**1.90**	**294**	⇑*e*P	Pn	20 27 52.7	+1.3
PB15				*e*S	S	20 28 23.2	+2.0
GO02	**Mina Guanaco**	**2.17**	**237**	IAML		20 28 26.1	
	comp=N,230nm,0.3s						
PB06	**IPOC Station P**	**2.23**	**304**	⇑*e*P	Pn	20 27 56.4	+1.7
PB06				*e*S	S	20 28 29.4	+2.4
PB06				IAML		20 28 31.8	
	comp=E,167nm,0.1s						
PB05	**IPOC Station P**	**2.66**	**295**	⇑*i*P	Pn	20 28 01.1	+1.8
PB05				*i* S	S	20 28 37.2	+2.0
PB05				IAML		20 28 40.7	
	comp=E,44nm,0.3s						
PB09	**IPOC Station P**	**2.67**	**325**	*e*P	Pn	20 28 01.8	+2.4
PB09				*e*S	S	20 28 39.1	+3.6
PB10	**IPOC Station P**	**2.77**	**279**	*e*P	Pn	20 28 02.2	+1.9
PB10				*e*S	S	20 28 39.2	+2.0
PB03	**IPOC Station P**	**2.78**	**314**	⇑*e*P	Pn	20 28 02.9	+2.2
PB03				*e*S	S	20 28 40.3	+2.5
PB03				IAML		20 28 41.8	
	comp=E,91nm,0.2s						
PB04	**IPOC Station P**	**2.88**	**304**	*e*P	Pn	20 28 03.9	+2.0
PB04				*e*S	S	20 28 42.5	+2.7
PB04				IAML		20 28 44.9	
	comp=N,95nm,0.2s						
PB07	**IPOC Station P**	**3.10**	**316**	*e*P	Pn	20 28 06.4	+2.0
PB07				*e*S	S	20 28 46.6	+2.3
PB07				IAML		20 28 48.6	
	comp=N,90nm,0.4s						
PB02	**IPOC Station P**	**3.41**	**321**	*e*P	Pn	20 28 09.7	+1.8
PB02				IAML		20 28 57.9	
	comp=E,104nm,0.4s						
PB01	**IPOC Station P**	**3.42**	**329**	*e*P	Pn	20 28 09.5	+1.4
PB01				*e*S	S	20 28 53.0	+1.9

IDC 28 20:30:31.4±27.0, 19°.85S×179°.10W, h627km±255km, mb3.3/3, mb1 3.5/3, mb1mx2.9/18, mbtmp4.4/3, Error ellipse: s-maj=214.9km s-min=100.9km az=86.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.15**	**243**	P	P	20 36 50.7	-0.7
	2.0nm,0.8s,baz=78,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**43.66**	**256**	P	P	20 37 43.3	+0.2
	3.6nm,0.5s,baz=88,slow=8.5,SNR=97						
ASAR				PcP	PcP	20 39 15.2	-0.6
	0.5nm,0.5s,baz=103,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**43.67**	**262**	P	P	20 37 43.3	+0.2
	2.6nm,0.3s,baz=96,slow=7.6,SNR=89						
BRTR	**Keskin Array B**	**145.64**	**312**	PKPbc	PKPdf	20 49 00.9	+0.8
	0.3nm,0.4s,baz=30,slow=2.1,SNR=3.2						
MMAI	**Mount Meron Ar**	**146.60**	**300**	PKPbc	PKPbc	20 49 04.3	-0.3
	0.8nm,0.4s,baz=55,slow=6.0,SNR=5.4						

IDC 28 20:36:31.9±462.0, 45°.63N×63°.36E, h0km, Error ellipse: s-maj=200.4km s-min=115.9km az=160.0, Western Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I31KZ	**AKTYUBINSK INF**	**5.96**	**325**	*i*		21 12 00.0	
	baz=140,slow=335,SNR=0.6						
I46RU	**ZALESOVO INFRA**	**16.12**	**51**	*i*		22 15 50.0	
	baz=245,slow=378,SNR=2.3						
I34MN	**SONGINO INFRAS**	**29.32**	**70**	*i*		23 38 00.0	
	baz=281,slow=337,SNR=0.4						

*ISCJB **28** 21:22:02.6±0.5, 24°.15S±0°.06×67°.16W±0°.06, h181km, mb3.2/1, Error ellipse: s-maj=9.9km s-min=6.7km az=34.2*
*SJA **28** 21:22:02.2±0.3, 24°.18S×67°.17W, h188km±5km, ML2.4, MW2.9*
*IDC **28** 21:22:03.2±1.4, 24°.09S×67°.20W, h183km±26km, mb3.2/1, mb1 3.2/7, mb1mx3.1/22, mbtmp3.7/7, Error ellipse: s-maj=34.7km s-min=19.1km az=100.0*
ISC 28 21:22:02.4±0.9, 24°.17S±0°.06×67°.15W±0°.06, h181km, n15, σ1°87/20, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.60**	**111**	*e*P	**Pn**	**21 22 36.8**	**+1.2**
HJA	**Humahuaca**	**1.86**	**60**	*e*P	**Pn**	**21 22 40.0**	**+1.6**
HJA				IAML		21 22 41.1	
	comp=Z,36nm,0.5s						
FSA	**Cafayete**	**2.21**	**152**	*e*P	**Pn**	**21 22 43.1**	**+1.1**
FSA				IAML		21 22 48.6	
	comp=Z,6.0nm,0.3s						
LVC	**Limon Verde**	**2.24**	**313**	*e*P	**Pn**	**21 22 43.3**	**+0.8**
LVC				*e*S	**Sn**	**21 23 13.8**	**+0.1**
LVC	**Limon Verde**	**2.24**	**313**	P	**Pn**	**21 22 43.8**	**+1.2**
	comp=Z,10.0nm,0.3s,baz=168,slow=5.9,SNR=16						
LVC				S	**Sn**	**21 23 13.0**	**-0.7**
	comp=Z,34nm,0.3s,baz=21,slow=21,SNR=21						
PB15	**IPOC Station P**	**2.33**	**294**	*e*P	**Pn**	**21 22 44.2**	**+0.8**
PB15				*e*S	**Sn**	**21 23 15.0**	**-0.2**
PB06	**IPOC Station P**	**2.66**	**303**	*e*P	**Pn**	**21 22 48.0**	**+0.8**
PB05	**IPOC Station P**	**3.09**	**294**	*e*P	**Pn**	**21 22 52.7**	**+0.4**
PB10	**IPOC Station P**	**3.18**	**281**	*e*P	**Pn**	**21 22 53.9**	**+0.6**
CFA	**Coronel Fontan**	**7.47**	**187**	P	**Pn**	**21 23 50.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=23,slow=15,SNR=7.7						
CFA				S	**Sn**	**21 25 08.9**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=180,slow=15,SNR=3.9						
LPAZ	**La Paz**	**7.89**	**353**	P	**Pn**	**21 23 56.1**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=168,slow=7.9,SNR=10						
LPAZ				S	**Sn**	**21 25 18.7**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=107,slow=11,SNR=1.8						
SIV	**San Ignacio**	**9.94**	**36**	P	**Pn**	**21 24 20.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=251,slow=11,SNR=8.4						
PLCA	**Paso Flores**	**16.77**	**189**	P	**Pn**	**21 25 47.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=30,slow=8.1,SNR=3.3						
BDFB	**Brasilia**	**19.88**	**68**	P	**P**	**21 26 21.5**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=232,slow=13,SNR=10						
TORD	**Torodi Ar. Bea**	**76.76**	**69**	P	**P**	**21 33 34.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=255,slow=5.1,SNR=11						

*JMA **28** 21:37:37.6±0.2, 23°.91N×121°.03E, h0km*
*TAP **28** 21:37:38.3, 23°.91N×121°.01E, h14km, ML3.6, B*
*ISCJB **28** 21:37:39.1±0.1, 23°.910N±0°.010×121°.03E±0°.01, h16km±2km, Error ellipse: s-maj=2.0km s-min=1.4km az=37.2*
ISC 28 21:37:38.6±0.8, 23°.91N±0°.01×121°.02E±0°.01, h16km±4km, n111, σ0°79/173, 19C-19D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMLT	**Sun Moon Lake**	**0.11**	**257**	⇑*i*P	**Pg**	**21 37 41.9**	**-0.4**
	baz=251						
SMLT				S	**Sg**	**21 37 44.2**	**-0.4**
	baz=251						
SSLB	**Suanglung**	**0.13**	**205**	⇑P	**Pg**	**21 37 42.0**	**-0.5**
	baz=201						
SSLB				S	**Sg**	**21 37 44.3**	**-0.7**
	baz=201						
OWD	**Renai**	**0.15**	**72**	⇑*i*P	**Pg**	**21 37 42.9**	**0.0**
	baz=75						
OWD				S	**Sg**	**21 37 45.8**	**+0.1**
	baz=75						
VWDT	**VWDT**	**0.19**	**143**	⇓P	**Pg**	**21 37 43.7**	**+0.4**
	baz=142						
VWDT				S	**Sg**	**21 37 46.9**	**+0.6**
	baz=142						
CHGB	**Renai**	**0.21**	**44**	⇑P	**Pg**	**21 37 43.5**	**-0.2**
	baz=52						
CHGB				S	**Sg**	**21 37 46.7**	**-0.4**
	baz=52						
WHYT	**Xinyi Township**	**0.26**	**215**	*e*P	**Pb**	**21 37 44.3**	**-0.6**
	baz=212						
WJS	**Zhushan**	**0.28**	**252**	P	**Pb**	**21 37 45.1**	**-0.2**
	baz=250						
WJS				S	**Sb**	**21 37 50.1**	**+0.4**
	baz=250						
WNT	**Mingjian**	**0.30**	**264**	⇓*i*P	**Pb**	**21 37 45.6**	**-0.1**
	baz=263					

	baz=39							
CHN2	**Minshiung**	**0.62**	**233**	P	**Pb**	**21 37 51.1**	**+0.1**
	baz=232							
CHN2				S	**Sb**	**21 38 00.7**	**+1.2**
	baz=232							
NNS	**Nan Shan**	**0.62**	**32**	⇑P	**Pg**	**21 37 50.1**	**-0.8**
	baz=41							
NNS				*e*S	**Sg**	**21 37 58.2**	**-1.1**
	baz=41							
NMLH	**Miaoli**	**0.66**	**342**	*e*P	**Pb**	**21 37 52.6**	**+0.8**
	baz=343							
WTCT	**Ta-ch'eng**	**0.67**	**266**	*e*P	**Pg**	**21 37 51.4**	**-0.4**
	baz=265							
CHN4	**Tsaushan**	**0.68**	**215**	⇑P	**Pb**	**21 37 51.9**	**-0.2**
	baz=213							
CHY	**Chiayi**	**0.68**	**233**	*e*P	**Pb**	**21 37 51.9**	**-0.1**
	baz=231							
TPUB	**Ta-pu**	**0.70**	**210**	⇑P	**Pb**	**21 37 52.2**	**-0.3**
	baz=210							
TPUB				*e*S	**Sb**	**21 38 02.5**	**+0.6**
	baz=210							
ELDTW	**Lidau**	**0.72**	**180**	*e*P	**Pg**	**21 37 51.8**	**-0.9**
	baz=185							
ELDTW				*e*S	**Sb**	**21 38 03.1**	**+0.7**
	baz=185							
NSTT	**Nanjuang**	**0.72**	**359**	*e*P	**Pb**	**21 37 53.0**	**+0.1**
	baz=9.0							
NSTT				*e*S	**Sb**	**21 38 02.2**	**-0.2**
	baz=9.0							
WMLT	**Mailiao**	**0.73**	**262**	*e*P	**Pg**	**21 37 52.5**	**-0.5**
	baz=261							
FULB	**Fuli**	**0.75**	**160**	⇓*i*P	**Pb**	**21 37 54.1**	**+0.8**
	baz=160							
FULB				S	**Sn**	**21 38 05.4**	**-0.3**
	baz=160							
WTP	**Ta-pu**	**0.76**	**209**	P	**Pg**	**21 37 52.9**	**-0.5**
	baz=207							
WSF	**Szhu**	**0.78**	**250**	*e*P	**Pg**	**21 37 53.1**	**-0.7**
	baz=249							
WSF				*e*S	**Sb**	**21 38 04.5**	**+0.4**
	baz=249							
STYT	**Tauyuan**	**0.78**	**198**	P	**Pb**	**21 37 53.7**	**-0.1**
	baz=195							
WLGB	**Puzi**	**0.78**	**237**	*e*P	**Pg**	**21 37 53.3**	**-0.6**
	baz=235							
TWK	**Hsinying**	**0.80**	**217**	⇑P	**Pb**	**21 37 53.9**	**-0.4**
	baz=215							
NDT	**Datong Townshi**	**0.83**	**33**	*e*P	**Pg**	**21 37 53.8**	**-0.9**
	baz=35							
YHNB	**Yeheng**	**0.83**	**23**	⇑P	**Pg**	**21 37 53.8**	**-1.0**
	baz=25							
SNST	**Tainan City**	**0.83**	**215**	*e*P	**Pb**	**21 37 54.5**	**-0.3**
	baz=213							
ENA	**Nanau**	**0.84**	**52**	P	**Pg**	**21 37 54.2**	**-0.8**
	baz=54							
CHN1	**Nanshi**	**0.85**	**212**	*e*P	**Pb**	**21 37 54.7**	**-0.2**
	baz=222							
CHN1				*e*S	**Sg**	**21 38 06.0**	**-0.3**
	baz=222							
NANB	**Nanao**	**0.85**	**52**	⇑P	**Pg**	**21 37 54.3**	**-0.9**
	baz=53							
NANB				*e*S	**Sg**	**21 38 05.0**	**-1.3**
	baz=53							
CHKT	**Chengkung**	**0.87**	**158**	⇓*i*P	**Pn**	**21 37 56.0**	**-0.2**
	baz=144							
SBCB	**Hsinchu**	**0.88**	**358**	*e*P	**Pn**	**21 37 56.5**	**+0.1**
	baz=359							
SBCB				*e*S	**Sn**	**21 38 08.8**	**-0.1**
	baz=359							
ENTT	**Nioudou**	**0.89**	**34**	⇑P	**Pg**	**21 37 54.8**	**-1.1**
	baz=31							
HSN	**Hsinchu**	**0.89**	**357**	*e*P	**Pn**	**21 37 57.4**	**+0.8**
HSN				*e*S	**Sn**	**21 38 09.6**	**+0.5**
SGST	**Jiashian**	**0.91**	**206**	*e*P	**Pb**	**21 37 56.0**	**-0.1**
	baz=215							
CHN8	**Yiju**	**0.93**	**233**	*e*P	**Pg**	**21 37 56.0**	**-0.7**
	baz=242							
SLGT	**Liugui**	**0.97**	**200**	*e*P	**Pb**	**21 37 57.3**	**+0.2**
	baz=198							
NWLT	**Wulai**	**0.97**	**27**	*e*P	**Pg**	**21 37 55.9**	**-1.6**
	baz=29							
TWE	**Neicheng**	**1.00**	**36**	⇑P	**Pg**	**21 37 57.2**	**-0.9**
	baz=35							
CHN3	**Shinhua**	**1.02**	**216**	*e*P	**Pn**	**21 37 58.8**	**+0.5**
	baz=227							
CHN3				*e*S	**Sn**	**21 38 14.8**	**+2.5**
	baz=227							
TWC	**Suao**	**1.03**	**47**	*e*P	**Pg**	**21 37 57.9**	**-0.8**
	baz=49							
TWC				*e*S	**Sb**	**21 38 11.8**	**+0.3**
	baz=49							
SCLT	**Jiali**	**1.05**	**226**	P	**Pb**	**21 37 58.8**	**+0.4**
	baz=225							
SCLT				S	**Sn**	**21 38 14.1**	**+1.2**
	baz=225							
NCUH	**Zhongli**	**1.07**	**8**	*e*P	**Pn**	**21 37 59.8**	**+0.9**
	baz=9.0							
NCUH				*e*S	**Sn**	**21 38 14.7**	**+1.2**
	baz=9.0							
NCU	**National Centr**	**1.07**	**8**	*e*P	**Pb**	**21 37 58.9**	**+0.1**
	baz=9.0							
NCU				*e*S	**Sb**	**21 38 13.2**	**+0.7**
	baz=9.0							
TWG	**Pinlang**	**1.08**	**177**	⇓P	**Pb**	**21 37 59.2**	**+0.2**
	baz=164							
TWGBT	**Beinan**	**1.09**	**177**	⇓P	**Pn**	**21 37 59.1**	**+0.1**
	baz=168							
TWGBT				S	**Sn**	**21 38 14.7**	**+0.8**
	baz=168							
TAI1	**Yung-k'ang**	**1.13**	**220**	*e*P	**Pn**	**21 38 00.1**	**+0.4**
	baz=219							
TAI1				*e*S	**Sn**	**21 38 17.0**	**+2.2**
	baz=219							
TATO	**Taipei**	**1.15**	**22**	*e*P	**Pn**	**21 38 00.8**	**+0.8**
	baz=28							
NHDH	**Xindian Distri**	**1.15**	**24**	*e*P	**Pn**	**21 38 00.8**	**+0.7**
	baz=30							
TTN	**Taitung**	**1.16**	**174**	*e*P	**Pg**	**21 38 00.1**	**-0.9**
	baz=172							
TWA	**Mucha**	**1.19**	**26**	*e*P	**Pn**	**21 38 01.2**	**+0.6**
	baz=42							
TWA				*e*S	**Sn**	**21 38 18.4**	**+2.0**
	baz=42							
EOS1	**EOS1**	**1.20**	**58**	*e*P	**Pn**	**21 38 01.6**	**+0.8**
	baz=60							
NTC	**Toucheng**	**1.20**	**38**	*e*P	**Pn**	**21 38 01.6**	**+0.9**
	baz=31							
TWM1	**Shoushan**	**1.21**	**207**	*e*P	**Pg**	**21 38 00.9**	**-1.1**
	baz=204							
TWS1	**Kuangyinshan**	**1.24**	**17**	*e*P	**Pb**	**21 38 01.6**	**-0.1**
	baz=2.0							
TIPB	**Shuangxi**	**1.29**	**35**	*e*P	**Pn**	**21 38 02.2**	**+0.2**
	baz=35							
TIPB				*e*S	**Sn**	**21 38 20.3**	**+1.3**
	baz=35							
ECL	**Taimali**	**1.31**	**182**	P	**Pg**	**21 38 03.3**	**-0.5**
	baz=182							
ECL				*e*S	**Sn**	**21 38 21.1**	**+1.8**
	baz=182							
YM04	**YM04**	**1.33**	**21**	*e*P	**Pn**	**21 38 02.7**	**+0.1**
	baz=4.0							
YM01	**YM01**	**1.33**	**22**	*e*P	**Pn**	**21 38 03.1**	**+0.4**
	baz=25							
MASBT	**Mashibuluo**	**1.34**	**195**	*e*P	**Pn**	**21 38 03.0**	**+0.4**
	baz=195							
MASBT				*e*S	**Sn**	**21 38 21.2**	**+1.1**
	baz=195							
YM05	**YM05**	**1.35**	**22**	⇑*e*P	**Pn**	**21 38 02.9**	**+0.1**
	baz=22							
YM05				*e*S	**Sb**	**21 38 20.5**	**-0.1**
	baz=22							
NWF	**Wu-fen Shan**	**1.35**	**31**	*e*P	**Pg**	**21 38 04.6**	**-0.1**
	baz=34							
WFSB	**Wu-fen Shan**	**1.35**	**31**	*e*P	**Pg**	**21 38 04.3**	**-0.4**
	baz=34							
YM11	**YM11**	**1.35**	**22**	*e*P	**Pn**	**21 38 02.8**	**-0.2**
	baz=25							
ANP	**Anpu**	**1.35**	**20**	*e*P	**Pn**	**21 38 03.3**	**+0.4**
	baz=23							
PHUB	**P'eng-hu**	**1.38**	**254**	*e*P	**Pn**	**21 38 02.4**	**-0.9**
	baz=253							
PHUB				*e*S	**Sb**	**21 38 19.8**	**-1.6**
	baz=253							
PNG	**Penghu**	**1.38**	**256**	*e*P	**Pn**	**21 38 02.4**	**-0.8**
	baz=248							
PNG				*e*S	**Sb**	**21 38 20.8**	**-0.7**
	baz=248							
WDGT	**Dungji**	**1.40**	**243**	⇓P	**Pn**	**21 38 03.0**	**-0.5**
	baz=242							
WDGT				*e*S	**Sb**	**21 38 21.3**	**-0.7**
	baz=242							
TWB1	**Santiao Chiao**	**1.41**	**39**	*e*P	**Pg**	**21 38 05.2**	**-0.6**
	baz=40							
TWB1				*e*S	**Sg**	**21 38 24.5**	**+0.3**
	baz=40							
TWY	**Chenhua**	**1.46**	**21**	*e*P	**Pb**	**21 38 05.3**	**-0.2**
	baz=24							
SSPT	**Xinbi**	**1.48**	**196**	*e*P	**Pb**	**21 38 05.5**	**-0.2**
	baz=205							
EAST	**Anshuo**	**1.53**	**186**	⇓P	**Pb**	**21 38 06.3**	**-0.2**
	baz=185							
EAST				*e*S	**Sg**	**21 38 27.2**	**-0.6**
	baz=185							
TAW	**Tawu**	**1.55**	**184**	*e*P	**Pb**	**21 38 07.1**	**+0.2**
	baz=172							
SCZT	**Fangliau**	**1.57**	**193**	*e*P	**Pn**	**21 38 06.3**	**+0.4**
	baz=182							
VCHM	**Qimei**	**1.61**	**245**	⇓*e*P	**Pn**	**21 38 05.8**	**-0.6**
	baz=235							
VCHM				*e*S	**Sn**	**21 38 26.9**	**0.0**
	baz=235							
WLCH	**Liuqiu**	**1.66**	**201**	*e*P	**Pb**	**21 38 08.9**	**+0.1**
	baz=199							
VWUC	**VWUC**	**1.79**	**307**	*e*P	**Pn**	**21 38 07.1**	**-1.8**
	baz=307							
YOJ	**Yonaguni jima**	**1.90**	**73**	P	**Pb**	**21 38 12.2**	**-0.8**
LAY	**Lan-yu**	**1.93**	**165**	*e*P	**Pn**	**21 38 10.3**	**-0.4**
	baz=151							
TWK1	**Hengchun**	**1.96**	**186**	*e*P	**Pb**	**21 38 13.1**	**-0.9**
	baz=200							
TWKBT	**Hengchun**	**1.97**	**185**	*e*P	**Pb**	**21 38 13.2**	**-0.9**
	baz=200							
KNM	**Kinmen**	**2.41**	**283**	*e*P	**Pn**	**21 38 18.2**	**+0.8**
	baz=279							
MATB	**Ma-tsu**	**2.44**	**337**	*e*P	**Pn**	**21 38 16.4**	**-1.4**
	baz=336							
KNMB	**Chin-men Tao**	**2.46**	**284**	*e*P	**Pn**	**21 38 17.1**	**-1.0**
	baz=281							
IRIF	**Iriomote-Funau**	**2.52**	**80**	P	**Pn**	**21 38 19.8**	**+0.9**
IRIF				S	**Sn**	**21 38 51.3**	**+2.1**
JKRS	**Kuro-shima**	**2.76**	**83**	P	**Pn**	**21 38 22.3**	**+0.1**
JKRS				S	**Sn**	**21 38 57.5**	**+2.4**
JIJ	**Ishigaki jima**	**2.89**	**80**	P	**Pn**	**21 38 25.4**	**+1.4**
JIJ				S	**Sn**	**21 38 59.1**	**+0.6**
JISG	**Ishigakijimahi**	**3.08**	**77**	P	**Pn**	**21 38 27.2**	**+0.5**
JISG				S	**Sn**	**21 39 04.1**	**+0.9**

*ISCJB **28** 22:05:52.6±0.9, 22°.47S±0°.07×66°.03W±0°.09, h250km, mb3.4/1, Error ellipse: s-maj=11.5km s-min=9.3km az=28.5*
*SJA **28** 22:05:53.0±0.5, 22°.30S×66°.11W, h272km±12km, ML2.8, MW3.2*
*IDC **28** 22:05:53.2±1.4, 22°.43S×66°.12W, h249km±23km, mb3.2/1, mb1 3.0/5, mb1mx2.9/26, mbtmp3.6/5, Error ellipse: s-maj=34.6km s-min=16.8km az=107.0*

ISC 28 22:05:53.3±1.0, **22°.48S**±0°.07×**66°.23W**±0°.08, **h250**km, **n14, s46**/18, **Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.04**	**134**	*e*P			**Pn**	**22 06 31.8**	**+2.8**
HJA				IAML				22 06 33.5	
	comp=Z,34nm,0.3s								
HJA				*e*S			**S**	**22 07 00.7**	**+3.5**
LVC	**Limon Verde**	**2.48**	**266**	P			**Pn**	**22 06 43.2**	**+2.4**
	comp=Z,6.3nm,0.3s,baz=76,slow=5.5,SNR=20								
LVC				S			**S**	**22 07 19.8**	**+1.6**
	comp=Z,7.5nm,0.3s,baz=230,slow=22,SNR=27								
PB06	**IPOC Station P**	**3.10**	**265**	*e*P			**Pn**	**22 06 49.9**	**+2.8**
PB03	**IPOC Station P**	**3.29**	**277**	*e*P			**Pn**	**22 06 51.2**	**+2.0**
PB01	**IPOC Station P**	**3.35**	**295**	*e*P			**Pn**	**22 06 50.0**	**+0.2**
PB07	**IPOC Station P**	**3.48**	**282**	*e*P			**Pn**	**22 06 53.3**	**+2.0**
PB02	**IPOC Station P**	**3.60**	**288**	*e*P			**Pn**	**22 06 53.9**	**+1.3**
PB11	**IPOC Station P**	**4.19**	**310**	*e*P			**Pn**	**22 07 00.2**	**+0.6**
MNMCX	**Minye Minye**	**4.59**	**316**	*e*P			**Pn**	**22 07 04.9**	**+0.4**
LPAZ	**La Paz**	**6.42**	**343**	P			**Pn**	**22 07 28.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=158,slow=5.4,SNR=4.1								
LPAZ				S			**S**	**22 08 40.3**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=310,slow=22,SNR=3.9								
SIV	**San Ignacio**	**8.08**	**38**	P			**Pn**	**22 07 46.9**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=240,slow=12,SNR=20								
CFA	**Coronel Fontan**	**9.26**	**191**	P			**Pn**	**22 08 02.2**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=338,slow=11,SNR=12								
CFA				S			**S**	**22 09 41.2**	**-6.0**
	comp=Z,0.5nm,0.3s,baz=252,slow=19,SNR=3.9								
TORD	**Torodi Ar. Bea**	**75.36**	**69**	P			**P**	**22 17 09.0**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=257,slow=5.5,SNR=14								
MKAR	**Makanchi Array**	**144.90**	**39**	PKP			**PKPdf**	**22 25 01.1**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=290,slow=3.4,SNR=3.9								

*ISCJB **28** 22:24:55.5±0.3, 51°.55N±0°.02×6°.74E±0°.03, h0km, Error ellipse: s-maj=3.0km s-min=2.1km az=24.6*
*BNS **28** 22:24:56.7±0.5, 51°.60N×6°.81E, h1km, ML2.1*
*BUG **28** 22:24:56.2±0.0, 51°.60N×6°.84E, h1km, ML1.9*
*LDG **28** 22:24:57.2±0.2, 51°.62N×6°.86E, h1km, Ml2.8/12, Error ellipse: s-maj=3.7km s-min=3.3km az=146.0, Suspected Mining induced.*
*BGR **28** 22:24:57.4±0.3, 51°.57N×6°.81E, h1km, ML2.3/7, Error ellipse: s-maj=4.4km s-min=2.2km az=106.0*

ISC 28 22:24:55.2±0.8, **51°.61N**±0°.02×**6°.74E**±0°.03, **h0**km, **n56,** σ1**9**08/92, **1C-1D, Germany**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BZER	**Hlnxe**	**0.08**	**85**	Pg			**Pg**	**22 24 57.1**	**+0.4**
BZER				Sg			**Sg**	**22 24 58.1**	**+0.3**
LAUG	**Laupendahl**	**0.29**	**154**	⇓*e*Pg			**Pg**	**22 25 01.8**	**+1.0**
LAUG				*e*Sg			**Sg**	**22 25 05.6**	**+1.1**
	112nm,0.4s								
WTSB	**Winterswijk**	**0.35**	**6**	*e*Pg			**Pb**	**22 25 04.3**	**-0.1**
WTSB				*e*Sg			**Sb**	**22 25 09.7**	**-0.8**
BUG	**Bochum--Univer**	**0.37**	**118**	*e*Pg			**Pg**	**22 25 03.1**	**+0.8**
BUG				Sg			**Sg**	**22 25 07.9**	**+0.8**
ENTS	**Ennepetalsperr**	**0.56**	**131**	*e*Pg			**Pg**	**22 25 06.5**	**+0.6**
ENTS				*e*Sg			**Sg**	**22 25 13.4**	**+0.2**
PLH	**Pulheim**	**0.61**	**175**	*e*Pg			**Pb**	**22 25 08.1**	**-0.7**
PLH				*e*Sg			**Sg**	**22 25 16.1**	**+1.3**
BNS	**Bensberg**	**0.70**	**157**	⇑*e*Pg			**Pb**	**22 25 10.0**	**-0.3**
HOBG	**Hohbusch**	**0.73**	**149**	*e*Pg			**Pg**	**22 25 10.1**	**+0.9**
SORT	**Sorpetalsperre**	**0.81**	**108**	*e*Pg			**Pg**	**22 25 10.9**	**+0.1**
SORT				*e*Sg			**Sg**	**22 25 20.8**	**-0.5**
	31nm,0.2s								
WBS	**Wahnbachtalspe**	**0.88**	**157**	*e*Pg			**Pg**	**22 25 12.9**	**+0.9**
WBS				*e*Sg			**Sg**	**22 25 23.8**	**+0.4**
	44nm,0.3s								
GSH	**Grosshau**	**0.91**	**195**	*e*Pg			**Pb**	**22 25 14.2**	**+0.4**
GSH				*e*Sg			**Sb**	**22 25 26.2**	**-0.2**
	46nm,0.3s								
IBBN	**Ibbenburen**	**0.94**	**42**	*e*Pg			**Pg**	**22 25 13.8**	**+0.7**
IBBN				*e*Sg			**Sb**	**22 25 28.1**	**+0.9**
HGN	**Heimansgroeve**	**0.99**	**211**	*e*Pg			**Pn**	**22 25 16.0**	**-0.4**
HGN				*e*Sg			**Sb**	**22 25 29.2**	**+0.4**
HGN	**Heimansgroeve**	**0.99**	**211**	*e*Pg			**Pn**	**22 25 16.2**	**-0.1**
HGN				*e*Sg			**Sn**	**22 25 30.3**	**-0.8**
DREG	**Dreilaegerbach**	**1.00**	**199**	*e*Pg			**Pb**	**22 25 15.8**	**+0.3**
KLL	**Kalltalsperre**	**1.01**	**196**	*e*Pg			**Pb**	**22 25 15.8**	**+0.3**
TDN	**Todenfeld**	**1.05**	**173**	*e*Pg			**Pb**	**22 25 16.5**	**+0.3**
TDN				*e*Sg			**Sg**	**22 25 29.8**	**+1.0**
	34nm,0.3s								
BEBN	**Eben Emael**	**1.06**	**220**	P			**Pn**	**22 25 18.1**	**+0.8**
MEM	**Membach**	**1.11**	**205**	*e*Pg			**Pb**	**22 25 17.5**	**+0.3**
MEM				*e*Sg			**Sn**	**22 25 32.8**	**-1.1**
OLFT	**Oleftalsperre**	**1.14**	**190**	*e*Sg			**Sb**	**22 25 33.5**	**+0.4**
WIT	**Witteveen**	**1.20**	**358**	*e*Sg			**Sn**	**22 25 38.2**	**+1.9**
BHE	**Schloss Buerre**	**1.29**	**167**	*e*Pg			**Pg**	**22 25 20.2**	**+0.2**
BHE				*e*Sg			**Sg**	**22 25 37.0**	**+0.3**
	31nm,0.2s								
BHOU	**Houvegnez**	**1.34**	**201**	P			**Pn**	**22 25 21.9**	**+0.6**
LOH	**Wallersheim-Lo**	**1.44**	**185**	*e*Pg			**Pb**	**22 25 23.0**	**+0.1**
LOH				*e*Sg			**Sb**	**22 25 41.7**	**-0.1**
	59nm,0.4s								
BCLA	**Clavier**	**1.50**	**218**	P			**Pb**	**22 25 24.4**	**+0.4**
BGES	**Gesves**	**1.61**	**221**	P			**Pg**	**22 25 28.3**	**+2.2**
TNS	**Taunus Mts**	**1.76**	**142**	*e*Pn			**Pn**	**22 25 27.2**	**+0.2**
TNS				*e*Sg			**Sn**	**22 25 51.0**	**+0.9**
GIVF	**Givet**	**1.94**	**220**	*e*Pn			**Pb**	**22 25 31.0**	**-0.4**
GIVF	**Givet**	**1.94**	**220**	*e*Pg			**Pg**	**22 25 34.3**	**+1.9**
GIVF				*e*Sn			**Sn**	**22 25 54.9**	**+0.4**
	27nm,0.2s								
WLF	**Walferdange**	**1.99**	**191**	*e*Pn			**Pn**	**22 25 30.9**	**+0.8**
WLF				*e*Pg			**Pg**	**22 25 33.8**	**+0.5**
WLF				*e*Sg			**Sb**	**22 25 57.6**	**+0.1**
BAIF	**Baives**	**2.24**	**227**	*e*Pn			**Pb**	**22 25 34.9**	**-1.6**
BAIF	**Baives**	**2.24**	**227**	*e*Pg			**Pg**	**22 25 40.3**	**+2.2**
BAIF				*e*Sn			**Sn**	**22 26 01.9**	**+0.1**
	17nm,0.5s								
PAGF	**Fort de Pagny**	**3.13**	**192**	*e*Pn			**Pn**	**22 25 46.1**	**+0.3**
PAGF	**Fort de Pagny**	**3.13**	**192**	*e*Pg			**Pg**	**22 25 56.3**	**+1.1**
	baz=13								
PAGF				*e*Sn			**Sn**	**22 26 22.7**	**-1.2**
PAGF				*e*Sg			**Sg**	**22 26 36.1**	**+0.3**
	6.9nm,0.5s								
CDF	**Champ du Feu**	**3.22**	**174**	*e*Pn			**Pn**	**22 25 46.8**	**-0.3**
CDF	**Champ du Feu**	**3.22**	**174**	*e*Pg			**Pg**	**22 25 57.8**	**+0.8**
CDF				*e*Sn			**Sn**	**22 26 24.4**	**-1.9**
CDF				*e*Sg			**Sg**	**22 26 38.6**	**-0.1**
	3.7nm,0.3s								
MEZF	**Maizieres J'vi**	**3.30**	**200**	*e*Pn			**Pn**	**22 25 48.7**	**+0.6**
MEZF	**Maizieres J'vi**	**3.30**	**200**	*e*Pg			**Pg**	**22 25 59.9**	**+1.5**
	baz=10								
MEZF				*e*Sn			**Sn**	**22 26 26.7**	**-1.3**
SFTF	**Sexfontaines**	**3.58**	**199**	*e*Pn			**Pn**	**22 25 52.8**	**+0.8**
SFTF	**Sexfontaines**	**3.58**	**199**	*e*Pg			**Pg**	**22 26 04.7**	**+0.8**
SFTF				*e*Sg			**Sg**	**22 26 50.2**	**-0.1**
	4.7nm,0.3s								
HAU	**Haudompre**	**3.62**	**184**	*e*Pn			**Pn**	**22 25 53.1**	**+0.5**
HAU	**Haudompre**	**3.62**	**184**	*e*Pg			**Pg**	**22 26 05.6**	**+1.0**
HAU				*e*Sg			**Sg**	**22 26 51.5**	**0.0**
	4.1nm,0.3s								
HINF	**Hinteralfeld**	**3.80**	**179**	*e*Pn			**Pn**	**22 25 55.2**	**+0.1**
HINF	**Hinteralfeld**	**3.80**	**179**	*e*Pg			**Pg**	**22 26 08.9**	**+0.9**
HINF				*e*Sg			**Sg**	**22 26 57.2**	**-0.1**
	1.9nm,0.3s								
LOR	**Lormes**	**4.74**	**205**	*e*Pn			**Pn**	**22 26 07.9**	**0.0**
	baz=24								
LOR	**Lormes**	**4.74**	**205**	*e*Pg			**Pg**	**22 26 28.7**	**+2.7**
LOR				*e*Sn			**Sn**	**22 27 01.2**	**-2.3**
LOR				*e*Sg			**Sg**	**22 27 26.6**	**-0.8**
	7.2nm,0.5s								
SSF	**Saint Saulge**	**5.02**	**206**	*e*Pn			**Pn**	**22 26 11.5**	**-0.3**
SSF				*e*Sn			**Sn**	**22 27 08.1**	**-2.4**
SSF				*e*Sg			**Sg**	**22 27 35.5**	**-1.0**
	4.9nm,0.5s								
CABF	**La Chapelle**	**5.03**	**185**	*e*Pn			**Pn**	**22 26 11.6**	**-0.3**
AVF	**Avril sur Loir**	**5.31**	**206**	*e*Pn			**Pn**	**22 26 15.8**	**0.0**
SMF	**Signal de Mont**	**5.32**	**202**	*e*Pn			**Pn**	**22 26 15.4**	**-0.5**
LDF	**La Druitiere**	**5.35**	**238**	*e*Pn			**Pn**	**22 26 14.4**	**-1.9**
LDF				*e*Sn			**Sn**	**22 27 16.3**	**-2.3**
	1.0nm,0.2s								
FLN	**La Foliniere**	**5.45**	**241**	*e*Pn			**Pn**	**22 26 18.6**	**+1.0**
	baz=57								
FLN				*e*Sn			**Sn**	**22 27 18.5**	**-2.4**
	0.6nm,0.2s								
BGF	**Bois d'Agland**	**5.67**	**208**	*e*Pn			**Pn**	**22 26 20.5**	**-0.2**
GRR	**Gorron**	**5.87**	**240**	*e*Pn			**Pn**	**22 26 21.5**	**-1.9**
GRR				*e*Sn			**Sn**	**22 27 28.0**	**-3.3**
	6.6nm,0.3s								
TCF	**Toulx Ste Croi**	**6.11**	**211**	*e*Pn			**Pn**	**22 26 26.2**	**-0.5**
MFF	**Saint Martin d**	**6.75**	**225**	*e*Pn			**Pn**	**22 26 34.7**	**-0.8**

MEX 28 22:25:08.4±0.6, **19°.44N**×**103°.85W**, **h31**km±6km, **MD3.5, Jalisco**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EZ5V		**0.23**	**81**	*e*P			Pb	22 25 14.0	-1.4
EZ5V				*e*S			Sb	22 25 18.1	-2.1
R15V		**0.30**	**206**	*e*P			Pb	22 25 14.5	-1.6
R15V				*i* S			Sb	22 25 19.7	-1.6
CJM	**Chamela**	**1.13**	**273**	*e*P			Pn	22 25 27.1	-0.9
CJM				*i* S			Sn	22 25 39.9	-2.7
MMIG	**Aquila**	**1.24**	**158**	*i* P			Pn	22 25 28.3	-1.3
MMIG				*i* S			Sn	22 25 43.1	-2.2

SJA 28 22:34:14.5±0.5, **32°.15S**×**68°.65W**, **h4**km±3km, **ML2.8, MW3.6, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RTCV	**Cerro Valdivia**	**0.30**	**18**	*e*P			Pg	22 34 21.2	+0.9
RTCV				IAML				22 34 34.1	
	comp=Z,11μm,0.2s								
ASAL	**Salagasta**	**0.47**	**200**	*e*P			Pb	22 34 24.9	-0.6
ASAL				*e*S			Sb	22 34 32.6	-0.2
AUSP	**Uspallata**	**0.63**	**263**	*e*P			Pb	22 34 28.6	+0.2
ARCO	**CERRO ARCO**	**0.74**	**199**	*e*P			Pb	22 34 30.0	+0.1
ARCO				IAML				22 34 40.3	
	comp=Z,55nm,0.2s								
AMOG	**MOGNA**	**1.21**	**6**	*e*P			Pb	22 34 38.0	0.0
ACCO	**Cerro Coronel**	**1.59**

*TIR **28** 22:56:36.5,42.05N×20.50E,h7km,Md2.7/4*
*PDG **28** 22:56:37.9±0.3,42.03N×20.43E,h15km,ML2.3/12,Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*
*SKO **28** 22:56:38.5,42.10N×20.44E,h20km,M1.2,ML2.4*
*SAR **28** 22:56:39.5±1.0,42.09N×20.43E,h6km×4km,ML2.2/5*
*BEO **28** 22:56:40.9±0.3,42.05N×20.46E,h0km,ML1.8/7*

ISC 28 22:56:38.3±1.1,42.04N±0.02×20.43E±0.02,h4km±10km, n40,σ0°89/78,7C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHP	**Peshkopia**	**0.36**	**178**	*i*	Pg	**Pg**	**22 56 44.8**	**-0.4**
PHP				*i*	Sg	**Sg**	**22 56 50.4**	**+0.4**
BCI	**Bajram Curri**	**0.42**	**321**	*i*	Pg	**Pg**	**22 56 46.0**	**-0.4**
BCI				*i*	Sg	**Sb**	**22 56 53.5**	**-1.5**
PVY	**Plav**	**0.65**	**328**	⇓*i*	Pg	**Pg**	**22 56 50.0**	**-0.8**
PVY				*i*	Sg	**Sb**	**22 57 01.2**	**-0.6**
SKO	**Skopje**	**0.76**	**95**	*i*	Pg	**Pg**	**22 56 52.4**	**-0.5**
SKO				*i*	Sg	**Sb**	**22 57 04.0**	**-0.7**
SKO				*e*Lg		Lg	22 57 04.4	
	comp=E,4.7nm,0.7s							
SKO				*e*Lg		Lg	22 57 04.5	
	comp=N,5.6nm,0.3s							
TIR	**Tirane**	**0.81**	**211**	*e*Pg		**Pb**	**22 56 55.5**	**+0.5**
TIR				*e*Sg		**Sb**	**22 57 07.5**	**+1.2**
TIR	**Tirane**	**0.81**	**211**	*i*	Pg	**Pg**	**22 56 53.6**	**-0.3**
TIR				*i*	Sg	**Sb**	**22 57 07.2**	**+0.9**
ULC	**Ulcinj**	**0.89**	**265**	⇑*i*	Pg	**Pg**	**22 56 54.4**	**-0.9**
ULC				*i*	Sg	**Sb**	**22 57 08.1**	**-0.3**
KRUS	**Krusevo**	**0.91**	**137**	*i*	Pg	**Pg**	**22 56 56.0**	**+0.2**
KRUS				*i*	Sg	**Sb**	**22 57 09.0**	**-0.3**
KRUS				*e*Lg		Lg	22 57 10.0	
	comp=E,13nm,0.3s							
KRUS				*e*Lg		Lg	22 57 10.0	
	comp=N,10nm,0.6s							
IVA	**Berane**	**0.92**	**335**	⇑*i*	Pg	**Pg**	**22 56 56.0**	**+0.1**
IVA				*i*	Sg	**Sb**	**22 57 09.9**	**+0.5**
DRME	**Dracevica, Mon**	**0.94**	**279**	⇑*i*	Pg	**Pg**	**22 56 55.5**	**-0.7**
DRME				*i*	Sg	**Sb**	**22 57 10.1**	**+0.3**
DRME	**Dracevica, Mon**	**0.94**	**279**	*e*Pg		**Pg**	**22 56 55.8**	**-0.4**
DRME				*e*Sg		**Sg**	**22 57 09.3**	**+0.9**
PDG	**Podgorica**	**0.95**	**294**	*e*Pg		**Pb**	**22 56 57.9**	**+0.6**
PDG				*e*Sg		**Sn**	**22 57 11.9**	**-0.5**
PDG	**Podgorica**	**0.95**	**294**	*e*Pg		**Pg**	**22 56 55.8**	**-0.8**
PDG				*i*	Sg	**Sg**	**22 57 08.6**	**-0.3**
PDG	**Podgorica**	**0.95**	**294**	*e*Pg		**Pg**	**22 56 55.5**	**-1.1**
PDG				*e*Sg		**Sg**	**22 57 09.3**	**+0.4**
TTG	**Podgorica**	**0.95**	**294**	⇓*i*	Pg	**Pg**	**22 56 54.5**	**-2.1**
TTG				*i*	Sg	**Sb**	**22 57 11.0**	**+0.7**
OHR	**Ohrid**	**0.97**	**163**	*i*	Pg	**Pg**	**22 56 57.0**	**0.0**
OHR				*i*	Sg	**Sb**	**22 57 11.2**	**+0.3**
OHR				*e*Lg		Lg	22 57 12.3	
	comp=E,59nm,0.6s							
OHR				*e*Lg		Lg	22 57 12.4	
	comp=N,33nm,0.4s							
KOME	**Kolasin**	**1.05**	**320**	⇓*i*	Pg	**Pg**	**22 56 57.6**	**-0.9**
KOME				*i*	Sg	**Sn**	**22 57 14.5**	**-0.5**
BUM	**Brajici-Budva**	**1.17**	**283**	⇑*i*	Pg	**Pg**	**22 57 00.0**	**-0.7**
BUM				*i*	Sg	**Sn**	**22 57 18.1**	**+0.2**
CEME	**Cevo**	**1.23**	**295**	⇓*i*	Pg	**Pg**	**22 57 00.5**	**-1.3**
CEME				*i*	Sg	**Sn**	**22 57 20.2**	**+0.9**
SJES	**Sjenica**	**1.26**	**345**	*e*Pg		**Pb**	**22 57 02.5**	**-0.2**
SJES				*e*Sg		**Sn**	**22 57 21.3**	**+1.0**
BARS	**Barje**	**1.29**	**53**	*e*Pg		**Pg**	**22 57 04.5**	**+1.5**
BARS				*e*Sg		**Sn**	**22 57 20.6**	**-0.1**
NKME	**Niksic**	**1.31**	**304**	⇑*i*	Pg	**Pn**	**22 57 01.6**	**-1.8**
NKME				*i*	Sg	**Sn**	**22 57 22.8**	**+1.5**
NKY	**Niksic**	**1.31**	**306**	⇑*i*	Pg	**Pn**	**22 57 03.0**	**-0.5**
NKY				*i*	Sg	**Sn**	**22 57 22.8**	**+1.3**
FNA	**Florina**	**1.45**	**150**	*i*	PN	**Pn**	**22 57 02.2**	**-3.1**
FNA				*i*	SN	**Sg**	**22 57 26.0**	**+1.2**
HCY	**Herceg Novi**	**1.49**	**286**	⇓*i*	Pg	**Pn**	**22 57 05.2**	**-0.4**
HCY				*i*	Sg	**Sg**	**22 57 27.0**	**+0.8**
HCY	**Herceg Novi**	**1.49**	**286**	*e*Pg		**Pn**	**22 57 06.1**	**+0.2**
HCY				*e*Sg		**Sg**	**22 57 26.8**	**+0.6**
IVAS	**Ivanjica**	**1.54**	**353**	*e*Pg		**Pg**	**22 57 07.9**	**0.0**
IVAS				*e*Sg		**Sg**	**22 57 29.3**	**+1.3**
BOSS	**Bosilegrad**	**1.59**	**73**	*e*Pg		**Pb**	**22 57 07.8**	**-0.4**
BRY	**Bratogost**	**1.64**	**302**	⇑*i*	Pn	**Pn**	**22 57 07.3**	**-0.7**
BRY				*i*	Sn	**Sb**	**22 57 30.7**	**+0.5**
BRY	**Bratogost**	**1.64**	**302**	*e*Pn		**Pn**	**22 57 08.3**	**+0.3**
BRY				*e*Sn		**Sb**	**22 57 29.8**	**-0.4**
TREB	**Trebinje**	**1.68**	**294**	*e*Pn		**Pg**	**22 57 11.5**	**+1.0**
TREB				*e*Sn		**Sg**	**22 57 34.2**	**+1.9**
TREB	**Trebinje**	**1.68**	**294**	*e*Pn		**Pb**	**22 57 09.4**	**-0.4**
TREB				*e*Sn		**Sn**	**22 57 30.7**	**+0.3**
GRUS	**Gruza**	**1.86**	**6**	*e*Pn		**Pg**	**22 57 13.9**	**0.0**
GRUS				*e*Sn		**Sg**	**22 57 37.9**	**0.0**
ZAPS	**Zavoj**	**2.04**	**52**	*e*Pg		**Pg**	**22 57 17.6**	**+0.2**
ZAPS				*e*Sg		**Sg**	**22 57 44.7**	**+0.9**
DIVS	**Divibare**	**2.08**	**351**	*e*Pn		**Pb**	**22 57 16.6**	**0.0**
DIVS				*e*Sn		**Sg**	**22 57 43.8**	**-1.3**
VTS	**Vitosha**	**2.13**	**74**	*e*Pn		**Pb**	**22 57 17.4**	**-0.2**
VTS				*e*Sn		**Sb**	**22 57 45.0**	**+0.5**
STON	**Ston**	**2.18**	**293**	*i*	Pn	**Pb**	**22 57 17.7**	**-0.6**
STON					Sn	**Sg**	**22 57 48.6**	**+0.2**
STON	**Ston**	**2.18**	**293**	*e*Pn		**Pn**	**22 57 16.7**	**+1.4**
STON				*e*Sn		**Sn**	**22 57 42.9**	**+0.2**
HAPS	**Han Pijesak,BI**	**2.31**	**333**	*e*Pn		**Pb**	**22 57 20.5**	**-0.1**
HAPS	**Han Pijesak,BI**	**2.31**	**333**	*e*Pn		**Pn**	**22 57 17.7**	**+0.5**
HAPS				*e*Sn		**Sn**	**22 57 45.7**	**-0.4**

IDC 28 22:59:28.9±50.0,19.21S×171.39W,h0km,mb4.2/3, mb1 4.4/3,mb1mx3.7/33,mbtmp4.2/3,Error ellipse: s-maj=972.9km s-min=191.9km az=83.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.94**	**244**	P		P	23 07 36.5	-1.3
	0.9nm,0.4s,baz=58,slow=9.5,SNR=2.8							
ASAR	**Alice Springs**	**50.86**	**255**	P		P	23 08 32.4	+0.4
	2.4nm,0.5s,baz=91,slow=8.1,SNR=61							
WRA	**Warramunga Arr**	**50.95**	**260**	P		P	23 08 32.6	0.0
	1.0nm,0.3s,baz=96,slow=6.8,SNR=57							

*ISCJB **28** 23:34:43.2±0.5,76.95N±0.04×18.5E±0.1,h10km,Error ellipse: s-maj=6.2km s-min=3.3km az=35.7*
*IEPN **28** 23:34:44.0,76.91N×18.52E,h10km,station ZFI2 has station magnitude of 2.60*
*NAO **28** 23:34:44.2±1.2,76.95N×18.46E,h10km±10km,ML2.5*
*BER **28** 23:34:47.3±2.8,76.98N×18.32E,h23km±15km,ML2.2, ML2.5(NAO),Confirmed Earthquake*

ISC 28 23:34:43.3±0.8,76.90N±0.05×18.48E±0.03,h10km,n17, σ1°67/29,1C,Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.67**	**281**	Pg		**Pb**	**23 34 57.6**	**+0.5**
HSP				Lg		Lg	23 35 05.8	
HSPB	**Hornsund (broa**	**0.68**	**280**	*e*P		**Pg**	**23 34 57.5**	**+1.2**
HSPB				*e*S		**Sg**	**23 35 05.8**	**+0.6**
HSPB				IAML			23 35 10.3	
	comp=Z,44nm,0.3s							
SPA0	**Spitsbergen Ar**	**1.36**	**341**	Pn		**Pn**	**23 35 08.3**	**-0.1**
	baz=150,slow=18							
SPA0				Lg		Lg	23 35 25.6	
	baz=151,slow=37							
SPA0	**Spitsbergen Ar**	**1.36**	**341**	⇑*i*P		**Pn**	**23 35 08.5**	**+0.1**
SPA0				*e*S		**Sb**	**23 35 26.4**	**0.0**
SPA0	**Spitsbergen Ar**	**1.36**	**341**	Pn		**Pn**	**23 35 08.3**	**-0.1**
	baz=150,slow=18							
SPA0				Sg		**Sb**	**23 35 25.6**	**-0.8**
	baz=151,slow=37							
BRBA	**Barentsburg A**	**1.49**	**324**	Pn		**Pb**	**23 35 11.5**	**+0.5**
BRBA				Lg		Lg	23 35 30.1	
BRBA	**Barentsburg A**	**1.49**	**324**	Pn		**Pb**	**23 35 11.5**	**+0.5**
BRBA				Sg		**Sn**	**23 35 30.1**	**+0.6**
HOPEN	**Hopen**	**1.56**	**101**	Pn		**Pb**	**23 35 12.5**	**+0.3**
HOPEN				Sn		**Sb**	**23 35 32.3**	**+0.4**
HOPEN				Lg		Lg	23 35 34.8	
HOPEN	**Hopen**	**1.56**	**101**	*e*P		**Pb**	**23 35 12.5**	**+0.3**
HOPEN				*e*Pg		**Pg**	**23 35 15.9**	**+2.7**
HOPEN				*e*S		**Sb**	**23 35 32.5**	**+0.5**
HOPEN				*e*Sg		**Sg**	**23 35 35.2**	**+1.8**
HOPEN				IAML			23 35 36.8	
	comp=Z,110nm,0.3s							
BJO	**Bjornoya**	**2.42**	**175**	Sg		**Sg**	**23 36 02.9**	**+2.2**
BJO1	**Bjornoya**	**2.42**	**177**	Lg		Lg	23 36 02.9	
KBS	**Kingsbay**	**2.46**	**329**	Pn		**Pn**	**23 35 22.8**	**-0.5**
KBS				Pg		**Pb**	**23 35 28.6**	**+1.2**
KBS				Lg		Lg	23 35 58.3	
KBS	**Kingsbay**	**2.46**	**329**	*e*P		**Pn**	**23 35 22.9**	**-0.5**
KBS				*i* S		**Sn**	**23 35 52.0**	**-1.3**
KBS	**Kingsbay**	**2.46**	**329**	*e*P		**Pn**	**23 35 22.8**	**-0.5**
KBS				*e*Pg		**Pb**	**23 35 28.6**	**+1.2**
KBS				*e*Sg		**Sb**	**23 35 58.4**	**+0.7**
KBS				IAML			23 36 02.1	
	comp=Z,34nm,0.3s							
ZFI2	**Zemlya Franca-**	**6.79**	**42**	*e*P		**Pn**	**23 36 22.3**	**-0.5**
ZFI2				*e*S		**Sn**	**23 37 35.6**	**-4.4**
	comp=Z,1.5nm,1.8s							
ARA0	**ARCESS Array S**	**7.67**	**161**	Sn		**Sn**	**23 37 57.9**	**-3.8**
	baz=350,slow=22							
ARA0	**ARCESS Array S**	**7.67**	**161**	Sn		**Sn**	**23 37 57.9**	**-3.8**
	baz=350,slow=22							

*NEIC **28** 23:35:45.9±1.1,43.95N×105.43W,h0km,ML3.2,Error ellipse: s-maj=18.2km s-min=14.1km az=164.0,Suspected Mining explosion.*
NEIC 39 km [24 miles] S of Gillette.
*IDC **28** 23:35:45.1±0.9,44.06N×105.77W,h0km,mb3.8/2, mb1 3.5/7,mb1mx3.3/61,mbtmp3.3/7,ML3.0/5,MS3.2/1, Ms1 3.2/1,ms1mx2.5/48,Error ellipse: s-maj=25.1km s-min=8.7km az=145.0*

ISC 28 23:35:43.7±0.7,43.83N±0.05×105.26W±0.05,h0km,n14, σ1°33/19,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**72**	*e*Pg		**Pb**	**23 36 02.9**	**0.0**
RSSD				*e*Sg		**Sn**	**23 36 19.0**	**+0.5**
LAO	**LASA Array**	**2.94**	**347**	*e*Pn		**Pn**	**23 36 32.7**	**+1.0**
LAO				*e*Pg		**Pg**	**23 36 40.5**	**+0.5**
BW06	**Boulder Array**	**3.31**	**253**	*e*Pn		**Pn**	**23 36 37.5**	**+0.4**
BW06				*e*Pg		**Pg**	**23 36 46.3**	**-0.9**
BW06				*e*Sn		**Sn**	**23 37 18.7**	**+1.5**
BW06				*e*Sb		**Sb**	**23 37 24.5**	**+0.1**
PDAR	**Pinedale Array**	**3.31**	**253**	Pn		**Pn**	**23 36 36.7**	**-0.3**
	2.1nm,0.3s,baz=76,slow=16,SNR=42							
PDAR				Lg		Lg	23 37 21.3	
	4.4nm,0.3s,baz=70,slow=24,SNR=6.8							
OGNE	**Ogallala**	**3.75**	**139**	*e*Pn		**Pb**	**23 36 49.8**	**-1.1**
DGMT	**Dagmar**	**4.70**	**9**	*e*Pn		**Pn**	**23 36 57.9**	**+2.0**
DGMT				*e*Pg		**Pg**	**23 37 14.2**	**+0.5**
DGMT				*e*Sg		**Sg**	**23 38 10.6**	**-4.0**
ANMO	**Albuquerque**	**8.92**	**186**	LR		LR	23 41 31.6	
	comp=Z,164nm,21.1s,baz=52,slow=38							
I10CA	**LAC DU BONNET**	**8.96**	**41**	*i*			00 32 55.0	
	baz=221,slow=322,SNR=5.9							
ULM	**Lac du Bonnet**	**9.07**	**42**	Pn		**Pn**	**23 37 56.2**	**+0.4**
	0.4nm,0.3s,baz=244,slow=10,SNR=8.5							
ULM				Pg			23 38 24.5	
	0.3nm,0.3s,baz=72,slow=19,SNR=3.0							
ULM				Lg		Lg	23 40 22.0	
	0.3nm,0.3s,baz=168,slow=19,SNR=2.3							
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn		**Pn**	**23 38 26.9**	**+1.5**
	0.1nm,0.3s,baz=52,slow=12,SNR=3.3							
TXAR	**Lajitas Array**	**14.53**	**174**	Pn		**P**	**23 39 17.6**	**+0.1**
	0.0nm,0.3s,baz=352,slow=7.8,SNR=3.5							
YKA	**Yellowknife Ar**	**19.48**	**347**	P		**P**	**23 40 11.7**	**-0.2**
	0.1nm,0.3s,baz=157,slow=13,SNR=4.5							
ZALV	**Zalesovo Beam**	**82.21**	**354**	P		**P**	**23 48 05.9**	**-0.5**
	0.5nm,0.6s,baz=28,slow=6.5,SNR=3.2							
MKAR	**Makanchi Array**	**89.51**	**355**	P		**P**	**23 48 42.7**	**0.0**
	0.4nm,0.8s,baz=24,slow=5.2,SNR=4.4							

*MEX **28** 23:40:50.6±0.5,13.40N×91.98W,h26km±23km,MD4.1*
*ISCJB **28** 23:40:52.7±0.6,13.58N±0.06×92.10W±0.06,h35km, mb4.3/34,MS3.8/7,Error ellipse: s-maj=8.8km s-min=8.4km az=157.1*
*NEIC **28** 23:40:56.7±1.5,13.87N×92.05W,h35km,mb4.4/27, MD4.1(MEX),Error ellipse: s-maj=23.9km s-min=12.9km az=169.0*
*IDC **28** 23:41:00.4±3.0,13.90N×91.99W,h74km±23km,mb3.7/10, mb1 3.9/12,mb1mx3.6/42,mbtmp4.0/12,MS3.7/8, Ms1 3.7/8,ms1mx3.3/39,Error ellipse: s-maj=27.7km s-min=18.5km az=20.0*

ISC 28 23:40:55.7±0.9,13.74N±0.10×92.16W±0.07,h35km,n61, σ1°30/59,mb4.3/34,MS3.6/7,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**1.17**	**355**	*e*P		**Pn**	**23 41 14.7**	**-0.8**
THIG		**1.17**	**355**	*e*P		**Pn**	**23 41 13.5**	**-2.0**
THIG				*i* S		**Sn**	**23 41 32.3**	**+2.0**
APG	**El Apazote**	**2.07**	**52**	P		**Pn**	**23 41 30.4**	**+2.3**
	5.0nm,0.3s,baz=230,slow=7.6,SNR=112							
APG				S		**Sn**	**23 41 53.4**	**+0.5**
	18nm,0.3s,baz=352,slow=3.3,SNR=6.7							
APG				LR		LR	23 41 57.9	
	comp=Z,113nm,20.5s,baz=128,slow=31							
PCIG		**2.21**	**332**	*e*P		**Pn**	**23 41 27.3**	**-2.6**
PCIG		**2.21**	**332**	*i* P		**Pn**	**23 41 29.0**	**-0.9**
PCIG				*i* S		**Sn**	**23 41 58.6**	**+2.6**
CCIG	**Comitan**	**2.53**	**0**	*e*Pn		**Pn**	**23 41 36.4**	**+1.9**
CCIG	**Comitan**	**2.53**	**0**	*i* P		**Pn**	**23 41 32.7**	**-1.8**
CCIG				*i* S		**Sn**	**23 42 06.5**	**+2.3**
CMIG	**Matias Romero**	**4.25**	**322**	P		**Pn**	**23 42 00.4**	**+2.5**
	0.8nm,0.3s,baz=161,slow=17,SNR=5.3							
CMIG				LR		LR	23 43 38.3	
	comp=Z,226nm,18.4s,baz=140,slow=37							
TXAR	**Lajitas Array**	**18.83**	**327**	P		**Pn**	**23 45 14.1**	**+0.7**
	0.0nm,0.3s,baz=158,slow=12,SNR=12							
TX31	**Lajitas Ar. Si**	**18.83**	**327**	*e*P		**Pn**	**23 45 14.4**	**+1.0**
MNTX	**Cornudas Mount**	**21.60**	**328**	*e*P		**P**	**23 45 42.6**	**-0.1**
	4.7nm,1.0s							
WMOK	**Wichita Mounta**	**21.75**	**345**	*e*P		**P**	**23 45 43.6**	**-0.6**
	16nm,1.8s							
SWET	**Sewanee**	**22.11**	**14**	*e*P		**P**	**23 45 47.6**	**-0.5**
	15nm,0.8s							
W50A	**Signal Mountai**	**22.25**	**15**	*e*P		**P**	**23 45 49.6**	**0.0**
	7.6nm,0.8s							
V48A	**Smith Brothers**	**22.43**	**11**	*e*P		**P**	**23 45 50.6**	**-0.9**
	11nm,0.9s							
CPCT	**Cooper Cave**	**22.69**	**16**	*e*P		**P**	**23 45 54.0**	**-0.3**
	7.7nm,0.7s							
AMTX	**Amarillo**	**22.75**	**339**	*e*P		**P**	**23 45 54.3**	**-0.7**
	21nm,0.8s							
TKL	**Tuckaleechee C**	**23.09**	**18**	P		**P**	**23 45 57.8**	**-0.7**
	4.3nm,0.8s,baz=203,slow=11,SNR=5.8							
TKL				LR		LR	23 55 03.5	
	comp=Z,228nm,18.9s,baz=166,slow=37							
V52A	**Sevierville**	**23.32**	**18**	*e*P		**P**	**23 46 00.0**	**-0.7**
	53nm,1.8s							
T47A	**Sharon Grove**	**23.59**	**10**	*e*P		**P**	**23 46 02.3**	**-1.0**
	8.8nm,0.8s							
TZTN	**Tazewell**	**23.99**	**17**	*e*P		**P**	**23 46 06.5**	**-0.5**
	18nm,1.2s							
BNM	**Barren Site**	**24.19**	**330**	*e*P		**P**	**23 46 09.3**	**+0.1**
ANMO	**Albuquerque**	**24.75**	**331**	*e*P		**P**	**23 46 15.2**	**+0.9**
	3.0nm,1.0s							
ANMO	**Albuquerque**	**24.75**	**331**	P		**P**	**23 46 16.1**	**+1.8**
	1.4nm,0.9s,baz=152,slow=12,SNR=4.0							
WCI	**Wyandotte Cave**	**24.94**	**11**	*e*P		**P**	**23 46 14.8**	**-1.0**
	21nm,0.8s							
S51A	**Beattyville**	**25.00**	**16**	*e*P		**P**	**23 46 16.4**	**+0.1**
	8.6nm,0.8s							
SJG	**San Juan**	**25.37**	**77**	LR		LR	23 57 09.2	
	comp=Z,129nm,18.1s,baz=274,slow=38							
T25A	**Trinidad**	**25.75**	**337**	*e*P		**P**	**23 46 23.6**	**+0.3**
	7.8nm,0.8s							
SDCO	**Great Sand Dun**	**26.70**	**336**	*e*P		**P**	**23 46 32.5**	**+0.5**
	5.0nm,1.3s							
MVCO	**Mesa Verde**	**27.55**	**331**	*e*P		**P**	**23 46 40.0**	**+0.4**
	6.9nm,1.0s							
NNA	**Nana**		**29.73**	**149**	LR	LR	23 57 02.1	
	comp=Z,51nm,18.7s,baz=274,slow=32							
PDAR	**Pinedale Array**	**32.59**	**336**	*e*P		**P**	**23 47 23.4**	**-0.8**
PDAR	**Pinedale Array**	**32.59**	**336**	P		**P**	**23 47 23.2**	**-0.9**
	0.7nm,0.9s,baz=134,slow=8.4,SNR=4.6							
SADO	**Sadowa**	**32.86**	**17**	P		**P**	**23 47 23.4**	**-2.7**
	2.5nm,0.6s,baz=247,slow=3.2,SNR=3.8							
HVU	**Hansel Valley**	**33.19**	**331**	*e*P		**P**	**23 47 30.6**	**+1.4**
	5.0nm,1.3s							
REDW	**Red Top Meadow**	**33.61**	**335**	*e*P		**P**	**23 47 33.8**	**+0.7**
	15nm,1.1s							
SNOW	**Snow King Moun**	**33.66**	**335**	*e*P		**P**	**23 47 34.8**	**+1.3**
	15nm,0.9s							
LOHW	**Long Hollow**	**33.72**	**336**	*e*P		**P**	**23 47 34.8**	**+0.8**
	4.2nm,0.9s							
TPAW	**Teton Pass**	**33.76**	**335**	*e*P		**P**	**23 47 35.4**	**+1.0**
	13nm,1.4s							
MDND	**Maddock**	**34.57**	**351**	*e*P		**P**	**23 47 39.4**	**-1.6**
	82nm,1.9s							
TRQ	**Mont Tremblant**	**35.62**	**21**	*e*P		**P**	**23 47 48.9**	**-1.2**
MCMT	**McKenzie Canyo**	**35.64**	**334**	*e*P		**P**	**23 47 51.8**	**+1.2**
ULM	**Lac du Bonnet**	**36.54**	**356**	LR		LR	00 03 38.1	
	comp=Z,101nm,18.5s,baz=74,slow=37							
I07A	**Izee**	**38.22**	**328**	*e*P		**P**	**23 48 13.7**	**+1.3**
	2.6nm,1.0s							
LON	**Longmire**	**41.23**	**329**	*e*P		**P**	**23 48 38.9**	**+1.6**
	4.4nm,1.3s							
SIV	**San Ignacio**	**42.62**	**133**	P		**P**	**23 48 49.2**	**+0.2**
	0.8nm,0.7s,baz=332,slow=8.5,SNR=3.7							
SCHQ	**Schefferville**	**45.52**	**20**	LR		LR	00 09 28.3	
	comp=Z,311nm,18.4s,baz=122,slow=38							
YKA	**Yellowknife Ar**	**51.24**	**347**	P		**P**	**23 49 55.4**	**-0.3**
	3.4nm,0.8s,baz=150,slow=7.5,SNR=61							
YKB5	**Yellowknife Ar**	**51.24**	**347**	*e*P		**P**	**23 49 55.2**	**-0.5**
YKW3	**Yellowknife Ar**	**51.31**	**347**	*e*P		**P**	**23 49 55.7**	**-0.4**
	3.7nm,0.7s							
FRB	**Frobisher Bay**	**52.60**	**13**	P		**P**	**23 50 03.6**	**-2.1**
	1.8nm,0.7s,baz=207,slow=8.5,SNR=5.4							
DLBC	**Dease Lake**	**52.83**	**336**	*e*P		**P**	**23 50 08.7**	**+1.1**
	3.9nm,0.9s							
DLBC	**Dease Lake**	**52.83**	**336**	P		**P**	**23 50 09.4**	**+1.8**
	4.5nm,1.0s,baz=118,slow=7.0,SNR=8.2							
INK	**Inuvik**	**60.65**	**344**	*e*P		**P**	**23 51 03.2**	**+0.4**
	4.4nm,1.0s							
INK	**Inuvik**	**60.65**	**344**	P		**P**	**23 51 02.6**	**-0.2**
	1.2nm,0.7s,baz=129,slow=8.1,SNR=7.5							
IL1	**Eielson Array**	**63.02**	**337**	*e*P		**P**	**23 51 18.9**	**0.0**
ILAR	**Eielson Array**	**63.02**	**337**	P		**P**	**23 51 18.4**	**-0.6**
	3.0nm,1.2s,baz=138,slow=4.4,SNR=8.4							
PPT	**Papeete**	**64.63**	**243**	LR		LR	00 12 52.1	
	comp=Z,75nm,18.9s,baz=80,slow=30							
NRIK	**Norilʹsk**	**97.14**	**0**	LR		LR	00 42 34.9	
	comp=Z,60nm,18.7s,baz=26,slow=38							
CD2	**Chengdu**	**133.05**	**341**	PKP		**PKPdf**	**00 00 07.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**146.19**	**341**	PKPbc		**PKPdf**	**00 00 33.2**	**+1.0**
	2.6nm,0.7s,baz=348,slow=3.3,SNR=9.8							

*BJI **28** 23:42:34.8,6.68S×129.31E,h228km,mb4.4/13,mB4.5/7*
*ISCJB **28** 23:42:38.8±0.3,6.15S±0.03×129.35E±0.04,h250km, mb4.1/18,Error ellipse: s-maj=5.5km s-min=3.9km az=159.2*
*NEIC **28** 23:42:38.7±0.6,6.08S×129.26E,h224km±7km,mb4.7/9, Error ellipse: s-maj=9.5km s-min=7.3km az=48.0*
*DJA **28** 23:42:38.4±0.2,6°S±3°×129°E±°,h254km±5km,M4.8/19, mb4.7/19,mB5.2/10,MLv5.1/13,Mw(mB)4.6/10*
*IDC **28** 23:42:38.7±1.6,6.09S×129.28E,h228km±16km,mb3.4/9, mb1 3.8/12,mb1mx3.6/38,mbtmp4.3/12,Error ellipse: s-maj=21.9km s-min=9.9km az=65.0*

ISC 28 23:42:40.1±0.4,6.24S±0.05×129.28E±0.06,h250km,n63, σ1°90/68,mb4.2/18,2C-3D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.81**	**20**	P		**Pn**	**23 43 18.7**	**-2.2**
BNDI				S		**S**	**23 43 51.5**	**-1.7**
SAUI	**Saumlaki**	**2.65**	**131**	*e*Pn		**Pn**	**23 43 27.3**	**-1.6**
SAUI	**Saumlaki**	**2.65**	**131**	P		**Pn**	**23 43 27.3**	**-1.6**
SAUI				S		**S**	**23 44 05.6**	**-1.9**
FAKI	**Fak Fak**	**4.43**	**42**	*e*Pn		**Pn**	**23 43 44.4**	**-4.7**
FAKI	**Fak Fak**	**4.43**	**42**	P		**Pn**	**23 43 44.3**	**-4.7**
SANI	**Sanana**	**5.30**	**322**	P		**Pn**	**23 43 58.0**	**-1.6**
SIJI	**Sorong**	**5.69**	**20**	P		**Pn**	**23 43 59.9**	**-4.5**
	94nm,0.3s,baz=269,slow=22,SNR=225							
SIJI				S		S	23 45 00.1	-12
	33nm,0.3s,baz=273,slow=22,SNR=4.5							
SWI	**Sorong**	**5.69**

1.0nm,0.8s
MKAR Makanchi Array 67.20 327 P **P** 23 53 07.6 +0.1
1.0nm,0.6s,baz=121,slow=7.9,SNR=14
MAKZ Makanchi 67.38 327 *eP* **P** 23 53 09.4 +0.8
8.9nm,1.9s
ZALV Zalesovo Beam 70.59 334 P **P** 23 53 27.3 -0.7
0.5nm,0.4s,baz=134,slow=6.2,SNR=3.0
KURBB Kurchatov Arra 71.49 329 P **P** 23 53 33.2 -0.3
0.9nm,0.6s,baz=134,slow=5.1,SNR=12
VNDA Vanda 73.29 173 P **P** 23 53 45.0 +1.3
0.7nm,0.3s,baz=352,slow=8.2,SNR=5.0
BVAR Borovoye Array 77.04 328 P **P** 23 54 05.1 -0.4
0.3nm,0.5s,baz=127,slow=9.4,SNR=4.4
SYO Syowa Base 84.11 201‖ *eX* **P** 23 54 42.0 -0.6
SYO Syowa Base 84.11 201‖ *eP* **PcP** 23 54 47.9 +2.0
SYO Syowa Base 84.11 201‖ *epP* pP 23 55 40.8 -0.6
TXAR Lajitas Array 125.15 58 PKP **PKiKP** 00 01 12.5 +0.5
0.1nm,0.5s,baz=52,slow=1.6,SNR=2.9
CPUP Villa Florida 147.00 169 PKPbc **PKiKP** 00 01 55.3 -1.0
3.7nm,0.8s,baz=200,slow=7.1,SNR=6.1
LPAZ La Paz 151.76 143 PKPbc **PKiKP** 00 02 07.8 +0.6
0.9nm,0.4s,baz=32,slow=5.0,SNR=7.2
LPAZ PKPab **PKPab** 00 02 17.9 +1.3
1.7nm,0.7s,baz=141,slow=3.1,SNR=5.3

IDC 29 00:04:27.0±2.1, 0.70N×67.01E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.4/43, mbtmp3.7/6, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.6/39, Error ellipse: s-maj=64.3km s-min=28.6km az=67.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08N2	**Diego Garcia H**	**8.04**	**150**	T	T	00 14 29.6	
	baz=331,slow=75,SNR=37						
H08N3	**Diego Garcia H**	**8.05**	**150**	T	T	00 14 34.5	
	baz=331,slow=75,SNR=47						
H08N1	**Diego Garcia H**	**8.06**	**150**	T	T	00 14 25.1	
	baz=331,slow=75,SNR=40						
PALK	**Pallekele**	**15.13**	**64**	Pn	Pn	00 08 01.0	-1.4
	0.6nm,0.3s,baz=303,slow=5.3,SNR=4.1						
PALK				LR	LR	00 12 33.1	
	comp=Z,67nm,19.0s,baz=296,slow=32						
MKAR	**Makanchi Array**	**47.81**	**14**	P	P	00 13 06.3	0.0
	0.4nm,0.8s,baz=204,slow=5.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**55.07**	**13**	P	P	00 13 59.6	-1.0
	0.7nm,0.7s,baz=206,slow=6.4,SNR=4.4						
SONM	**Songino Array**	**58.02**	**30**	P	P	00 14 22.7	+0.8
	0.4nm,0.7s,baz=238,slow=2.7,SNR=3.3						
WRA	**Warramunga Ar**	**68.99**	**112**	P	P	00 15 35.0	+0.1
	1.0nm,0.9s,baz=285,slow=6.5,SNR=3.8						
ASAR	**Alice Springs**	**69.21**	**116**	P	P	00 15 36.2	0.0
	0.3nm,0.6s,baz=296,slow=6.2,SNR=4.2						
TXAR	**Lajitas Array**	**148.83**	**344**	PKPbc	PKPbc	00 24 16.9	-0.7
	0.3nm,0.8s,baz=14,slow=1.1,SNR=4.4						

IDC 29 00:09:27.1±15.0, 20.60S×179.85W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.8/25, mbtmp4.2/5, ML3.9/1, Error ellipse: s-maj=296.9km s-min=38.3km az=56.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.80**	**188**	P	P	00 13 36.7	-0.4
	0.4nm,0.3s,baz=342,slow=1.9,SNR=3.6						
RPZ	**Rata Peaks**	**24.27**	**196**	P	P	00 14 46.0	-0.1
	3.8nm,0.3s,baz=1.7,slow=2.2,SNR=4.4						
STKA	**Stephens Creek**	**36.18**	**244**	P	P	00 16 29.9	-1.8
	2.1nm,0.6s,baz=59,slow=5.9,SNR=3.8						
ASAR	**Alice Springs**	**42.80**	**257**	P	P	00 17 26.9	-0.2
	1.1nm,0.5s,baz=94,slow=6.6,SNR=16						
WRA	**Warramunga Arr**	**42.87**	**263**	P	P	00 17 28.5	+0.9
	1.0nm,0.3s,baz=93,slow=8.3,SNR=42						

MEX 29 00:31:30.0±0.3, 16.00N×98.62W, h16km±7km, MD3.7, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.61**	**50**	*i* P	Pg	00 31 39.8	-2.4
PNIG				*e*S	Sg	00 31 47.9	-2.4
TLIG	**Tlapa**	**1.56**	**2**	*i* P	Pn	00 31 53.5	-3.7
TLIG				*i* S	Sn	00 32 11.9	-5.2
CAIG	**El Cayaco**	**1.90**	**304**	*e*P	Pn	00 31 57.9	-3.8
CAIG				*i* S	Sn	00 32 20.5	-4.8
VHO	**Vista Hermosa**	**2.10**	**59**	*i* P	Pn	00 32 01.7	-3.0
VHO				*i* S	Sn	00 32 25.4	-5.2
MEIG	**Mezcala**	**2.14**	**334**	*i* P	Pn	00 32 01.8	-3.5
MEIG				*e*S	Sn	00 32 27.2	-4.4
TPIG	**Tehuac#an**	**2.69**	**26**	*i* P	Pn	00 32 10.1	-2.8
TPIG				*e*S	Sn	00 32 40.7	-4.5

*ISCJB **29** 00:49:38.8±0.5, 10.28N±0.02×126.19E±0.04, h64km±4km, mb4.3/47, Error ellipse: s-maj=7.0km s-min=3.4km az=167.6*
*MAN **29** 00:49:38.1, 10.29N×126.18E, h22km, mb5.3, ML4.3, MS4.5*
MAN INTENSITY IV - BURGOS SURIGAO DEL NORTE; INTENSITY III - DEL CARMEN SURIGAO DEL NORTE; INTENSITY II - SOCORRO SURIGAO DEL NORTE.
*NEIC **29** 00:49:42.7±1.3, 10.18N×125.95E, h84km±6km, mb4.6/20, Error ellipse: s-maj=21.4km s-min=12.8km az=78.0*
NEIC Felt [IV PIVS] at San Isidro, [III PIVS] at Del Carmen and [II PIVS] at Socorro, Mindanao.
*IDC **29** 00:49:42.4±2.1, 10.20N×126.04E, h81km±18km, mb3.9/24, mb1 4.1/26, mb1mx4.0/44, mbtmp4.3/26, MS3.5/17, Ms1 3.5/17, ms1mx3.3/42, Error ellipse: s-maj=22.5km s-min=8.5km az=79.0*

ISC 29 00:49:39.4±1.2, 10.27N±0.03×126.22E±0.07, h54km±10km, n121, σ1s41/134, mb4.3/47, MS3.3/14, 4C-5D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.87**	**236**‖	*e*P	Pn	00 49 52.6	-2.9
SCPH				*e*S	**Sn**	**00 50 03.4**	**-3.9**
MSLP	**Maasin**	**1.35**	**264**	*e*P	**Pn**	**00 50 00.3**	**-1.6**
MSLP				*e*S	**Sn**	**00 50 18.7**	**0.0**
BUTP	**Butuan**	**1.42**	**205**	*e*P	**Pn**	**00 50 01.5**	**-1.4**
BUTP				*e*S	**Sn**	**00 50 20.4**	**-0.2**
PLP	**Palo**	**1.51**	**306**‖	*e*P	**Pn**	**00 50 02.1**	**-2.0**
PLP				*e*S	**Sn**	**00 50 21.6**	**-1.1**
BESP	**Borongan**	**1.53**	**330**	*e*P	**Pn**	**00 50 04.5**	**+0.1**
BESP				*e*S	**Sn**	**00 50 23.3**	**+0.1**
OCLP	**Ormoc**	**1.76**	**296**	*e*P	**Pn**	**00 50 08.0**	**+0.4**
OCLP				*e*S	**Sn**	**00 50 27.1**	**-1.9**
BIPH	**Bislig**	**2.08**	**176**	*e*P	**Pn**	**00 50 11.7**	**-0.2**
BIPH				*e*S	**Sn**	**00 50 35.6**	**-0.9**
LLP	**Lapu-Lapu**	**2.22**	**271**‖	*e*P	**Pn**	**00 50 13.7**	**-0.1**
LLP				*e*S	**Sn**	**00 50 41.5**	**+1.5**
CGP	**Cagayan de Oro**	**2.35**	**220**↑	*e*P	**Pn**	**00 50 15.6**	**0.0**
CGP				*e*S	**Sn**	**00 50 44.5**	**+1.3**
TBP	**Tagbilaran**	**2.39**	**256**	*e*P	**Pn**	**00 50 16.3**	**+0.1**
TBP				*i* S	**Sn**	**00 50 45.6**	**+1.2**
BUKP	**Musuan**	**2.64**	**206**	*e*P	**Pn**	**00 50 20.1**	**+0.5**
BUKP				*e*S	**Sn**	**00 50 49.5**	**-0.9**
CNP	**Catarman**	**2.70**	**326**	*e*P	**Pn**	**00 50 19.5**	**-0.8**
CNP				*e*S	**Sn**	**00 50 52.8**	**+0.9**
SNPH	**Sibulan**	**3.08**	**253**↓	*e*P	**Pn**	**00 50 27.4**	**+1.7**
SNPH				*i* S	**Sn**	**00 51 06.1**	**+4.8**
DAV	**Davao City (W)**	**3.24**	**191**	*e*Pn	**Pn**	**00 50 28.8**	**+0.9**
DAV	**Davao City (W)**	**3.24**	**191**	P	**Pn**	**00 50 29.2**	**+1.3**
	69nm,0.3s,baz=59,slow=6.9,SNR=4.2						
DAV				S	Sn	00 51 21.5	+16
	39nm,0.3s,baz=261,slow=23,SNR=6.9						
DAV				LR	LR	00 52 07.4	
	comp=Z,1μm,20.8s,baz=344,slow=46						
DMPH	**Davao City--Mi**	**3.24**	**193**↑	*e*P	**Pn**	**00 50 31.3**	**+3.4**
DMPH				*e*S	**Sn**	**00 51 09.1**	**+3.8**
MATI	**Mati**	**3.30**	**179**	*e*P	**Pn**	**00 50 30.9**	**+2.3**
MATI				*e*S	Sn	00 51 19.6	+13
KCP	**Kidapawan**	**3.43**	**199**↓	*e*P	**Pn**	**00 50 32.0**	**+1.6**
KCP				*i* S	Sn	00 51 28.7	+19
GUIM	**Jordan**	**3.59**	**276**	*e*P	**Pn**	**00 50 33.2**	**+0.6**
RCP	**Roxas**	**3.65**	**291**↑	*e*P	**Pn**	**00 50 33.8**	**+0.4**
PAGZ	**Pagadian**	**3.69**	**230**	*e*P	**Pn**	**00 50 34.9**	**+0.9**
PAGZ				*e*S	**Sn**	**00 51 18.6**	**+2.3**
PVCP	**Virac**	**3.88**	**329**	*e*P	**Pn**	**00 50 37.5**	**+1.0**
SKMP	**Bagumbayan, Su**	**4.08**	**204**	*e*P	**Pn**	**00 50 41.3**	**+2.0**
SKMP				*e*S	Sn	00 51 46.8	+21
DDMP	**Don Marcelino,**	**4.17**	**187**	*e*P	Pn	00 50 45.4	+4.8
JAP	**San Jose, Anti**	**4.23**	**277**‖	*e*P	**Pn**	**00 50 42.9**	**+1.6**
IPIL	**Ipil**	**4.37**	**236**	*e*P	**Pn**	**00 50 45.0**	**+1.8**
OTRP	**Ódiongan**	**4.61**	**297**	*e*P	**Pn**	**00 50 46.6**	**0.0**
CUYO	**Cuyo Island**	**5.15**	**277**	*e*P	**Pn**	**00 50 54.2**	**+0.2**
SJMP	**San Jose**	**5.46**	**294**	*e*P	**Pn**	**00 50 59.6**	**+1.4**
BUSP	**Coron**	**6.16**	**287**	*e*P	**Pn**	**00 51 09.1**	**+1.3**
TGY	**Tagaytay City**	**6.42**	**307**	P	**Pn**	**00 51 13.7**	**+2.2**
	31nm,0.3s,baz=326,slow=7.3,SNR=2.7						
TGY				LR	LR	00 53 58.4	
	comp=Z,848nm,19.1s,baz=40,slow=40						
ENPP	**El Nido**	**6.74**	**279**	*e*P	**Pn**	**00 51 15.6**	**-0.2**
CAUP	**Cauayan**	**7.89**	**328**	*e*P	**Pn**	**00 51 30.4**	**-1.1**
SMPP	**San Manuel, Pa**	**7.95**	**318**	*e*P	**Pn**	**00 51 32.1**	**-0.3**
KKM	**Kota Kinabalu**	**10.76**	**248**	*e*Pn	**Pn**	**00 52 10.8**	**-0.1**
GUMO	**Guam**	**18.54**	**78**	LR	LR	00 59 35.0	
	comp=Z,102nm,21.1s,baz=220,slow=32						
BATI	**Baumata**	**20.50**	**187**	LR	LR	01 02 28.3	
	comp=Z,122nm,20.5s,baz=1.5,slow=38						
JNU	**Nakatsue**	**23.14**	**10**	LR	LR	01 03 16.2	
	comp=Z,56nm,20.6s,baz=194,slow=35						
MTN	**Manton Dam**	**23.48**	**168**	*e*P	**P**	**00 54 44.8**	**+0.4**
	18nm,1.0s						
KHON	**Khomkaen**	**23.54**	**287**	P	**P**	**00 54 46.2**	**+1.1**
	12nm,0.8s						
NONG	**Nongkai**	**23.66**	**292**	P	**P**	**00 54 45.5**	**-0.6**
	0.3nm,0.8s						
CHAI	**Chaiyaphum**	**24.25**	**286**	P	**P**	**00 54 51.5**	**-0.1**
	6.4nm,1.0s,122nm						
LEM	**Lembang**	**25.13**	**228**	LR	LR	01 06 10.7	
	comp=Z,77nm,18.6s,baz=46,slow=40						
PBKT	**Sadao Pong**	**25.33**	**287**	P	**P**	**00 55 01.7**	**+0.3**
	13nm,1.2s,999nm						
PHET	**Kaeng Krachan**	**26.17**	**278**	P	**P**	**00 55 13.3**	**+4.2**
	5.3nm,0.9s						
UTHA	**Uthaitani**	**26.61**	**284**	P	**P**	**00 55 15.4**	**+2.4**
	3.5nm,1.0s						
SRDT	**SRDT**	**26.77**	**281**	P	P	00 55 26.6	+12
LAMP	**Lampang**	**27.00**	**291**	P	**P**	**00 55 21.3**	**+4.8**
KS15	**Wonju Array Si**	**27.10**	**3**	*e*P	**P**	**00 55 18.6**	**+1.5**
KSRS	**Korea Array**	**27.11**	**3**	P	**P**	**00 55 18.6**	**+1.4**
	1.7nm,0.8s,baz=189,slow=8.4,SNR=4.5						
KSRS				LR	LR	01 05 48.8	
	comp=Z,74nm,20.6s,baz=194,slow=36						
KS01	**Wonju Array Si**	**27.13**	**3**	*e*P	**P**	**00 55 17.5**	**0.0**
CM01	**Chiang Mai Arr**	**27.60**	**290**	*e*P	**P**	**00 55 20.8**	**-1.1**
CM31	**Chiang Mai Arr**	**27.62**	**290**	*e*P	**P**	**00 55 21.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.62**	**290**	P	**P**	**00 55 21.9**	**-0.2**
	2.4nm,0.4s,baz=104,slow=7.2,SNR=22						
CMAR				LR	LR	01 06 12.9	
	comp=Z,61nm,19.4s,baz=141,slow=36						
PSI	**Prapat**	**28.09**	**257**	LR	LR	01 08 32.4	
	comp=Z,163nm,18.0s,baz=120,slow=40						
FITZ	**Fitzroy Crossi**	**28.19**	**181**	*e*P	**P**	**00 55 27.1**	**+0.1**
	7.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**28.19**	**181**	P	**P**	**00 55 26.9**	**-0.2**
	2.8nm,0.5s,baz=27,slow=10,SNR=16						
MAJO	**Matsushiro**	**28.32**	**21**	*e*P	**P**	**00 55 29.6**	**+1.5**
MJAR	**Matsushiro Arr**	**28.32**	**21**	P	**P**	**00 55 29.6**	**+1.5**
	0.7nm,0.3s,baz=185,slow=11,SNR=3.5						
MJAR				LR	LR	01 06 42.7	
	comp=Z,60nm,18.2s,baz=210,slow=36						
WR1	**Warramunga Arr**	**31.07**	**165**	*e*P	**P**	**00 55 51.1**	**-1.4**
	3.4nm,1.0s						
WR1				*e*PcP	**PcP**	**00 58 47.0**	**-0.3**
WRA	**Warramunga Arr**	**31.07**	**165**	P	**P**	**00 55 51.1**	**-1.4**
	0.7nm,0.4s,baz=344,slow=9.2,SNR=10						
WRA				PcP	**PcP**	**00 58 47.0**	**-0.3**
	0.5nm,0.4s,baz=339,slow=2.7,SNR=4.6						
WRA				LR	LR	01 09 58.8	
	comp=Z,35nm,21.5s,baz=215,slow=39						
PSAA3	**Pilbara Seismi**	**32.26**	**191**	*e*P	**P**	**00 56 01.7**	**-1.3**
	21nm,1.0s						
PSAB3	**Pilbara Seismi**	**32.27**	**191**	*e*P	**P**	**00 56 02.4**	**-0.8**
	12nm,1.0s						
USRK	**Ussuriysk Ar.**	**34.17**	**7**	P	**P**	**00 56 19.6**	**+0.1**
	2.8nm,0.8s,baz=178,slow=5.3,SNR=5.4						
AS31	**Alice Springs**	**34.55**	**168**	*e*PcP	**PcP**	**00 58 57.0**	**+0.1**
AS31				*e*S	**S**	**01 01 45.2**	**-3.1**
ASAR	**Alice Springs**	**34.55**	**168**	P	**P**	**00 56 22.7**	**-0.3**
	0.9nm,0.4s,baz=350,slow=6.8,SNR=46						
ASAR				PcP	**PcP**	**00 58 57.0**	**+0.1**
	0.7nm,0.3s,baz=336,slow=2.9,SNR=5.8						
ASAR				S	**S**	**01 01 45.2**	**-3.2**
	1.4nm,0.9s,baz=356,slow=22,SNR=7.4						
AS01	**Alice Springs**	**34.56**	**167**	*e*P	**P**	**00 56 22.5**	**-0.6**
HNR	**Honiara**	**38.85**	**119**	LR	LR	01 10 45.3	
	comp=Z,78nm,20.7s,baz=290,slow=32						
H11N1	**WAKE ISLAND Hy**	**40.30**	**72**	T	T	01 40 32.8	
	baz=265,slow=74,SNR=224						
H11N2	**WAKE ISLAND Hy**	**40.31**	**72**	T	T	01 40 31.4	
	baz=265,slow=74,SNR=122						
H11N3	**WAKE ISLAND Hy**	**40.32**	**72**	T	T	01 40 35.8	
	baz=265,slow=74,SNR=228						
ULN	**Ulaanbaatar**	**40.81**	**340**	*e*P	**P**	**00 57 14.7**	**-1.0**
	5.6nm,0.8s						
FORT	**Forrest**	**40.85**	**178**	*e*P	**P**	**00 57 15.8**	**-0.2**
	34nm,0.7s						
SONA0	**Songino Array**	**41.00**	**340**	*e*P	**P**	**00 57 17.5**	**+0.2**
SONA0				*e*PcP	**PcP**	**00 59 17.1**	**+0.5**
SONM	**Songino Array**	**41.00**	**340**	P	**P**	**00 57 17.5**	**+0.2**
	1.6nm,0.5s,baz=160,slow=8.9,SNR=19						
SONM				PcP	**PcP**	**00 59 17.1**	**+0.5**
	1.5nm,0.7s,baz=160,slow=3.8,SNR=6.9						
NWAO	**Narrogin (SRO)**	**43.80**	**191**	P	**P**	**00 57 39.5**	**-0.5**
	4.0nm,0.3s,baz=32,slow=7.6,SNR=13						
BBOO	**Buckleboo**	**43.85**	**168**	*e*P	**P**	**00 57 40.7**	**+0.2**
	13nm,1.1s						
STKA	**Stephens Creek**	**44.42**	**161**	*e*P	**P**	**00 57 45.5**	**+0.6**
	1.6nm,1.1s						
STKA	**Stephens Creek**	**44.42**	**161**	P	**P**	**00 57 45.5**	**+0.6**
	0.9nm,0.3s,baz=332,slow=12,SNR=4.8						
TLY	**Talaya**	**45.22**	**340**	*e*P	**P**	**00 57 51.8**	**+0.6**
	9.9nm,0.8s						
PETK	**Petropavlovsk-**	**49.66**	**24**	LR	LR	01 20 55.2	
	comp=Z,31nm,18.1s,baz=35,slow=38						
MK01	**Makanchi Array**	**51.98**	**323**	*e*P	**P**	**00 58 42.1**	**-1.1**
MK01				*e*PcP	**PcP**	**00 59 53.7**	**-1.4**
MK32	**Makanchi Array**	**52.00**	**323**	*e*P	**P**	**00 58 42.8**	**-0.6**
MK32				*e*PcP	**PcP**	**00 59 54.8**	**-0.3**
MKAR	**Makanchi Array**	**52.00**	**323**	P	**P**	**00 58 42.8**	**-0.6**
	3.4nm,0.7s,baz=124,slow=7.9,SNR=39						
MKAR				PcP	**PcP**	**00 59 54.8**	**-0.3**
	2.8nm,0.8s,baz=109,slow=4.5,SNR=5.4						
MKAR				LR	LR	01 22 46.5	
	comp=Z,58nm,19.4s,baz=82,slow=38						
MAKZ	**Makanchi**	**52.19**	**323**	*e*P	**P**	**00 58 44.4**	**-0.3**
	4.6nm,1.1s						
ZALV	**Zalesovo Beam**	**54.60**	**331**	*e*P	**P**	**00 59 00.8**	**-1.5**
ZALV				*e*PcP	**PcP**	**01 00 03.2**	**-1.6**
ZALV	**Zalesovo Beam**	**54.60**	**331**	P	**P**	**00 59 01.1**	**-1.2**
	1.7nm,0.3s,baz=126,slow=6.8,SNR=12						
ZALV				LR	LR	01 24 49.5	
	comp=Z,62nm,18.4s,baz=70,slow=39						
ZAA1	**Zalesovo Array**	**54.60**	**331**	*e*P	**P**	**00 59 01.1**	**-1.2**
KURK	**Kurchatov**	**56.04**	**326**	*e*P	**P**	**00 59 12.1**	**-0.6**
	6.7nm,0.8s						
KK31	**Karatay Array**	**58.22**	**315**	*e*P	**P**	**00 59 27.4**	**-0.8**
KKAR	**Karatay Array**	**58.22**	**315**	*e*P	**P**	**00 59 27.4**	**-0.8**
	2.5nm,0.9s						
KIWB	**Kanaga Island**	**61.66**	**36**	*e*P	**P**	**00 59 53.3**	**+1.6**
BRVK	**Borovoye**	**61.71**	**325**	*e*P	**P**	**00 59 51.3**	**-0.7**
	3.8nm,0.9s						
NRIK	**Noril'sk**	**64.00**	**346**	P	**P**	**01 00 07.1**	**+0.1**
	2.0nm,0.4s,baz=136,slow=6.9,SNR=5.2						
IM3	**Indian Mountai**	**76.62**	**24**	*e*P	**P**	**01 01 25.6**	**+1.5**
MCK	**McKinley**	**78.58**	**27**	*e*P	**P**	**01 01 36.0**	**+1.0**
	9.1nm,1.1s						
IL1	**Eielson Array**	**79.46**	**26**	*e*P	**P**	**01 01 39.6**	**-0.3**
ILAR	**Eielson Array**	**79.46**	**26**	P	**P**	**01 01 40.6**	**+0.8**
	0.7nm,0.8s,baz=239,slow=6.3,SNR=9.0						
CTGM	**Chitina Glacie**	**82.29**	**29**	*e*P	**P**	**01 01 56.4**	**+1.2**
	9.7nm,1.1s						
SPA0	**Spitsbergen Ar**	**84.01**	**349**	*e*P	**P**	**01 02 04.1**	**+0.5**
SPITS	**Spitsbergen Ar**	**84.01**	**349**	P	**P**	**01 02 04.1**	**+0.5**
	12nm,1.0s,baz=89,slow=7.4,SNR=12						
ARA0	**ARCESS Array S**	**84.18**	**340**	*e*P	**P**	**01 02 04.3**	**-0.3**
ARCES	**ARCESS Array B**	**84.18**	**340**	P	**P**	**01 02 04.3**	**-0.3**
	1.0nm,0.4s,baz=87,slow=6.7,SNR=13						
WHY	**Whitehorse**	**85.46**	**29**	*e*P	**P**	**01 02 12.7**	**+1.3**
	4.5nm,0.9s						
BR101	**Keskin Array S**	**85.49**	**309**	*e*P	**P**	**01 02 10.7**	**-1.3**
BRTR	**Keskin Array B**	**85.49**	**309**	P	**P**	**01 02 10.7**	**-1.3**
	0.9nm,0.8s,baz=127,slow=5.5,SNR=5.3						
FINES	**FINESS Array B**	**85.87**	**332**	P	**P**	**01 02 12.5**	**-0.6**
	0.7nm,0.4s,baz=72,slow=4.5,SNR=11						
AKASG	**Malin Array Be**	**86.53**	**321**	P	**P**	**01 02 14.9**	**-1.8**
	0.4nm,0.3s,baz=63,slow=4.8,SNR=4.6						
CSS	**Mathiatis**	**86.54**	**305**	*e*P	**P**	**01 02 16.2**	**-0.9**
	8.5nm,0.7s						
MAW	**Mawson**	**89.68**	**200**	P	**P**	**01 02 31.6**	**+0.5**
	2.3nm,0.5s,baz=63,slow=6.8,SNR=6.7						
VNDA	**Vanda**	**89.94**	**173**	P	**P**	**01 02 32.9**	**+0.7**
	0.9nm,0.6s,baz=328,slow=4.3,SNR=4.6						
VNDA				LR	LR	01 41 44.9	
	comp=Z,66nm,20.8s,baz=284,slow=35						
RES	**Resolute Bay**	**91.51**	**10**	*e*P	**P**	**01 02 41.0**	**+1.4**
	3.3nm,1.0s						
NOA	**NORSAR Array B**	**92.74**	**334**	P	**P**	**01 02 44.4**	**-1.2**
	0.2nm,0.6s,baz=53,slow=6.0,SNR=3.3						
NOA				LR	LR	01 47 01.0	
	comp=Z,36nm,18.4s,baz=290,slow=37						
YKA	**Yellowknife Ar**	**93.78**	**24**	P	**P**	**01 02 51.3**	**+0.9**
	1.4nm,0.7s,baz=301,slow=4.8,SNR=33						
YKB5	**Yellowknife Ar**	**93.78**	**24**	*e*P	**P**	**01 02 51.3**	**+0.9**
GERES	**GERESS Array B**	**96.66**	**322**	P	**P**	**01 03 03.8**	**-0.2**
	0.1nm,0.4s,baz=30,slow=4.5,SNR=3.6						
TXAR	**Lajitas Array**	**117.86**	**49**	PKP	**PKiKP**	**01 08 20.9**	**+0.2**
	0.2nm,0.6s,baz=252,slow=1.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**120.22**	**292**	PKP	**PKPdf**	**01 08 23.9**	**-1.6**
	0.7nm,0.3s,baz=70,slow=2.0,SNR=29						
TOA1	**Torodi Ar. Sit**	**120.22**	**292**	*e*PKPdf	**PKPdf**	**01 08 23.9**	**-1.6**
DBIC	**Dimbokro**	**128.46**	**287**	PKP	**PKiKP**	**01 08 41.4**	**-0.5**
	3.9nm,1.0s,baz=124,slow=3.6,SNR=3.4						
PLCA	**Paso Flores**	**146.22**	**157**	PKPbc	**PKPab**	**01 09 15.3**	**+0.3**
	2.4nm,0.8s,baz=245,slow=2.2,SNR=9.7						

*IDC **29** 01:14:51.3±1.5, 37.69N×21.56E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.2/32, mbtmp3.3/6, ML3.5/1, Error ellipse: s-maj=35.4km s-min=26.6km az=112.0*
*ISCJB **29** 01:14:56.6±0.4, 37.78N±0.02×20.94E±0.03, h28km±2km, mb3.2/5, Error ellipse: s-maj=4.0km s-min=2.6km az=135.7*
*ATH **29** 01:14:56.7, 37.83N×21.10E, h28km, ML3.2/12, Error ellipse: s-maj=1.4km s-min=0.7km az=237.0*
*THE **29** 01:14:57.4, 37.79N×21.03E, h12km, ML3.2/19, Error ellipse: s-maj=0.9km s-min=0.6km az=5.0*

ISC 29 01:14:56.7±0.8, 37.81N±0.02×21.01E±0.02, h28km±5km, n117, σ1s58/167, mb3.3/5, 7C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTN	**Vitineika**	**0.17**	**52**	P	**Pb**	**01 15 02.5**	**+0.1**
VTN				S	**Sb**	**01 15 04.8**	**-1.4**
VTN	**Vitineika**	**0.17**	**52**	P	**Pb**	**01 15 02.5**	**+0.1**
VTN				S	**Sb**	**01 15 06.3**	**+0.1**
RLS	**Riolos of Patr**	**0.43**	**55**	P	**Pb**	**01 15 05.0**	**-1.0**
RLS				S	**Sb**	**01 15 11.8**	**-0.5**
RLS	**Riolos of Patr**	**0.43**	**55**	P	**Pb**	**01 15 05.0**	**-1.0**
RLS				S	**Sb**	**01 15 11.6**	**-0.7**
RLS				AML	AML	01 15 18.6	
	comp=N,4637μm,0.3s						
RLS				AML	AML	01 15 19.3	
	comp=E,4828μm,0.5s						
VLS	**Valsamata**	**0.50**	**318**	P	**Pb**	**01 15 07.4**	**+0.4**
VLS				S	**Sn**	**01 15 15.7**	**0.0**
VLS	**Valsamata**	**0.50**	**318**	P	**Pb**	**01 15 07.5**	**+0.6**
VLS				S	**Sn**	**01 15 16.4**	**+0.7**
VLS				AML	AML	01 15 21.2	
	comp=N,3579μm,0.5s						
VLS				AML	AML	01 15 21.6	
	comp=E,3679μm,0.2s						
DRO	**Drossia**	**0.57**	**75**	P	**Pb**	**01 15 07.2**	**-1.0**
DRO	**Drossia**	**0.57**	**75**	P	**Pb**	**01 15 07.2**	**-1.0**
DRO				S	**Sb**	**01 15 14.2**	**-1.9**
DRO				AML	AML	01 15 19.3	
	comp=E,7863μm,0.5s						
DRO				AML	AML	01 15 20.8	
	comp=N,10949μm,0.4s						
AMT	**Artemida-Makis**	**0.62**	**116**	P	**Pb**	**01 15 08.3**	**-0.7**
AMT				S	**Sb**	**01 15 18.2**	**+0.9**

comp=E,1817µm,0.7s
MES2 Methoni 1.13 150 P **Pn** 01 15 17.5 **+0.9**
VLX Vlachokerasia 1.17 112 P **Pn** 01 15 18.3 **+1.0**
VLX S **Sn** 01 15 35.6 **+3.2**
VLX Vlachokerasia 1.17 112 P **Pb** 01 15 18.5 **+0.1**
EVR Evrytania 1.27 29 P **Pn** 01 15 19.9 **+1.2**
EVR S **Sb** 01 15 39.2 **+3.2**
EVR Evrytania 1.27 29 P **Pn** 01 15 19.6 **+0.9**
DSF Desfina 1.34 63 P **Pn** 01 15 20.8 **+1.2**
DSF S **Sb** 01 15 39.5 **+1.6**
DSF Desfina 1.34 63 P **Pn** 01 15 20.4 **+0.8**
PROD Prodromos 1.56 73 P **Pb** 01 15 24.3 **-0.6**
PROD S **Sb** 01 15 44.0 **-0.1**
PROD Prodromos 1.56 73 P **Pb** 01 15 24.2 **-0.6**
PROD S **Sb** 01 15 44.2 **+0.1**
PROD AML AML 01 15 47.8
comp=E,1412µm,0.7s
PROD AML AML 01 15 50.2
comp=N,1325µm,0.3s
LTK Loutraki 1.56 82 P **Pb** 01 15 24.3 **-0.6**
LTK Loutraki 1.56 82 P **Pb** 01 15 24.3 **-0.6**
LOUT Loutraki 1.56 83 P **Pb** 01 15 24.8 **-0.1**
LOUT S **Sb** 01 15 44.4 **+0.1**
LOUT Loutraki 1.56 83 P **Pb** 01 15 24.3 **-0.6**
AGG Agios Georgios 1.59 40 P **Pb** 01 15 24.9 **-0.6**
AGG Agios Georgios 1.59 40 P **Pb** 01 15 24.9 **-0.6**
EPID Epidavros 1.68 96 P **Pb** 01 15 25.6 **+1.3**
EPID S **Sb** 01 15 47.0 **-0.7**
KRND KRANIDI 1.75 103 P **Pn** 01 15 26.8 **+1.6**
KRND S **Sb** 01 15 50.4 **+0.7**
KRND KRANIDI 1.75 103 P **Pn** 01 15 26.5 **+1.3**
LKR Lokris 1.77 61 P **Pn** 01 15 26.9 **+1.4**
LKR S **Sb** 01 15 49.6 **-0.8**
LKR Lokris 1.77 61 P **Pn** 01 15 27.0 **+1.4**
DID Didima 1.79 99 P **Pn** 01 15 26.9 **+1.1**
DID S **Sb** 01 15 50.2 **-0.7**
DID Didima 1.79 99 P **Pn** 01 15 26.8 **+1.0**
ATAL Atalanti 1.81 60 P **Pn** 01 15 27.3 **+1.3**
VIL2 Platees 1.82 77 P **Pn** 01 15 27.9 **+1.7**
VIL2 S **Sb** 01 15 51.4 **-0.4**
VIL2 AML AML 01 15 57.7
comp=N,605µm,0.6s
VIL2 AML AML 01 15 58.5
comp=E,835µm,0.8s
VILL Villia 1.85 78 P **Pn** 01 15 27.6 **+1.0**
VLI Veliai 1.88 125 P **Pn** 01 15 29.0 **+2.0**
VLI Veliai 1.88 125 P **Pn** 01 15 27.8 **+0.8**
THL Klokotos Trika 1.92 24 P **Pn** 01 15 29.2 **+1.7**
THL Klokotos Trika 1.92 24 P **Pn** 01 15 29.0 **+1.5**
MEV Metsovon 1.98 5 P **Pn** 01 15 30.6 **+2.1**
SMIA Simia 2.03 58 P **Pn** 01 15 30.5 **+1.4**
SMIA S **Sn** 01 15 56.0 **+2.5**
SMIA Simia 2.03 58 P **Pn** 01 15 30.3 **+1.2**
SMIA S **Sn** 01 15 54.1 **+0.6**
SMIA AML AML 01 15 56.9
comp=E,1178µm,0.4s
SMIA AML AML 01 15 58.0
comp=N,1310µm,0.4s
KPRO Kipourio 2.16 7 P **Pn** 01 15 33.1 **+2.2**
FYTO Fytoko, Volos 2.20 43 P **Pn** 01 15 31.9 **+0.6**
VLY Voula,Athens 2.20 88 P **Pn** 01 15 32.1 **+0.6**
SRN Sarande 2.21 339 P **Pn** 01 15 32.9 **+1.3**
KTHR Kythira 2.22 134 P **Pb** 01 15 34.7 **-1.4**
KTHR S **Sb** 01 16 02.5 **-0.7**
KYTH Kithira 2.24 133 P **Pb** 01 15 35.0 **-1.5**
XOR Xorichti 2.31 47 P **Pn** 01 15 33.4 **+0.4**
SKIA Skiathos 2.35 54 P **Pn** 01 15 34.2 **+0.7**
KZN Kozani 2.56 13 P **Pn** 01 15 38.0 **+1.5**
NEST Nestorio 2.60 1 P **Pn** 01 15 39.3 **+2.3**
ANKY Antikythira Is 2.67 136 P **Pn** 01 15 39.9 **+2.1**
SERI Serifos 2.84 102 P **Pn** 01 15 41.0 **+0.8**
FNA Florina 2.98 5 P **Pn** 01 15 43.4 **+1.1**
BIA Bitola 3.21 4 *i* Pn **Pn** 01 15 47.1 **+1.7**
OHR Ohrid 3.30 357 *i* Pn **Pb** 01 15 57.1 **+2.5**
KRUS Krusevo 3.56 3 *i* Pn **Pn** 01 15 51.0 **+0.8**
TIP Timpagrande 3.61 294 ⇑*i*P **Pn** 01 15 50.0 **-0.8**
TIP Timpagrande 3.61 294 S **Sn** 01 16 32.5 **-0.1**
TIR Tirane 3.64 346 S **Sn** 01 16 30.5 **-2.8**
APE Apeiranthos 3.67 100 ⇑*i*P **Pn** 01 15 52.3 **+0.6**
APE Apeiranthos 3.67 100 S **Sn** 01 16 36.3 **+2.3**
VAY Valandovo 3.71 18 *e*Pn **Pb** 01 15 59.9 **-1.6**
SANT Santorini 3.83 111 ⇑*i*P **Pn** 01 15 55.2 **+1.3**
SANT Santorini 3.83 111 S **Sn** 01 16 40.3 **+2.3**
STIP Stip 3.98 13 *e*Pn **Pn** 01 15 57.7 **+1.8**
MMB Musomiste 4.32 28 *e*P **Pn** 01 16 00.7 **+0.2**
KKB Krupnik 4.35 21 *e*P **Pn** 01 16 02.3 **+1.3**
MATE Matera 4.39 312 ⇑*i*P **Pn** 01 15 59.4 **-2.0**
MATE Matera 4.39 312 S **Sn** 01 16 50.1 **-1.5**
RZN Rozhen 4.81 35 *e*P **Pn** 01 16 08.2 **+0.7**
VTS Vitosha 5.09 19 ⇑*i*P **Pn** 01 16 09.6 **-1.7**
VTS Vitosha 5.09 19 S **Sn** 01 17 06.0 **-3.3**
VTS Vitosha 5.09 19 *e*P **Pn** 01 16 12.2 **+0.9**
KDZ Kurdzhali 5.12 40 *e*P **Pn** 01 16 15.2 **+3.6**
VOIR 8.20 20 ⇑*i*P **Pn** 01 16 51.6 **-2.2**
MLR Muntele Rosu 8.51 24 ⇑*i*P **Pn** 01 16 56.5 **-1.7**
GERES GERESS Array B 12.24 337 Pn **Pn** 01 17 53.8 **+4.6**
comp=N,0.1nm,0.3s,baz=161,slow=12,SNR=1.6
FINES FINESS Array B 23.87 6 P **P** 01 20 05.6 **-1.9**
comp=N,0.3nm,0.3s,baz=179,slow=11,SNR=7.4
NOA NORSAR Array B 24.06 348 P **P** 01 20 09.7 **+0.3**
comp=N,0.3nm,0.8s,baz=157,slow=10,SNR=1.3
TORD Torodi Ar. Bea 29.99 220 P **P** 01 21 03.3 **+0.3**
comp=N,0.4nm,1.0s,baz=25,slow=11,SNR=4.2
MKAR Makanchi Array 45.16 58 P **P** 01 23 07.5 **-3.4**
comp=N,0.2nm,0.4s,baz=281,slow=6.9,SNR=2.1
ZALV Zalesovo Beam 45.65 48 P **P** 01 23 11.7 **-2.8**
comp=N,0.5nm,0.5s,baz=260,slow=8.2,SNR=3.7

*ISCJB **29** 01:22:37.7±0.4,35°.65N±0°.02×121°.10W±0°.04,h10km, mb3.8/3,MS3.6/1,Error ellipse: s-maj=4.7km s-min=2.5km az=147.3*
*IDC **29** 01:22:38.4±1.8,35°.42N×121°.22W,h0km,mb3.8/3, mb1 3.8/6,mb1mx3.5/39,mbtmp3.5/6,ML3.7/3,MS3.5/1, Ms1 3.5/1,ms1mx2.9/32,Error ellipse: s-maj=28.0km s-min=18.4km az=139.0*
*NEIC **29** 01:22:39.2±0.0,35°.73N×121°.11W,h7km,MW3.6(BRK), After NCEDC.*
NEIC Felt [III] at Cambria and [II] at Bradley, Paso Robles and San Luis Obispo. Also felt at Arroyo Grande, Atascadero, San Simeon and Templeton.
*NCEDC **29** 01:22:39.2,35°.73N×121°.11W,h7km,MW3.6(BRK)*
*ANF **29** 01:22:40.9±0.5,35°.66N×121°.03W,h23km±4km,ML3.6/38, Error ellipse: s-maj=3.8km s-min=2.8km az=93.0*

ISC 29 01:22:39.0±0.8,35°.69N±0°.03×121°.08W±0°.04,h10km, n101,σ1§10/113,mb3.8/3,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGB	**Antelope Grade**	**0.68**	**86**	*e*Pg	**Pb**	01 22 52.3	**-0.6**
SMMC	**Simmler**	**0.96**	**112**	P	**Pn**	01 22 57.9	**-0.7**
	baz=295,SNR=342						
SMMC				S	**Sn**	01 23 12.3	**0.0**
	baz=295						
SAO	**San Andreas Ge**	**1.11**	**345**	*e*Pg	**Pb**	01 22 58.9	**-1.5**
PKM	**Mcpherson Peak**	**1.31**	**127**	P	**Pg**	01 23 03.2	**-0.9**
	baz=309,SNR=290						
PKM				S	**Sg**	01 23 21.0	**-0.1**
	baz=309						
VOG	**Valley Oaks Go**	**1.52**	**65**	P	**Pb**	01 23 05.9	**-1.3**
	baz=247,SNR=13						
VOG				S	**Sn**	01 23 25.1	**-0.8**
	baz=247						
VES	**Vestal, Richgr**	**1.63**	**84**	P	**Pn**	01 23 06.9	**-0.8**
	baz=267,SNR=76						
VES				S	**Sn**	01 23 27.8	**-1.0**
	baz=267						
SBC	**Santa Barbara**	**1.68**	**138**	P	**Pn**	01 23 07.8	**-0.5**
	baz=319						
ARVC	**Arvin**	**1.92**	**106**	P	**Pn**	01 23 11.2	**-0.6**
	baz=288,SNR=12						
SCZ2	**Santa Cruz Isl**	**2.07**	**144**	P	**Pn**	01 23 13.0	**-0.7**
	baz=325						
ISA	**Isabella, Lake**	**2.12**	**90**	*e*Pn	**Pn**	01 23 14.3	**-0.3**
ISA	**Isabella, Lake**	**2.12**	**90**	P	**Pn**	01 23 14.2	**-0.4**
	baz=272,SNR=109						
ISA				S	**Sn**	01 23 41.0	**-0.1**
	baz=272						
OSI	**Osito Audit: C**	**2.21**	**118**	*e*Pn	**Pn**	01 23 16.3	**+0.6**
BLG	**Laguna Peak, P**	**2.29**	**133**	P	**Pn**	01 23 16.1	**-0.7**
	baz=314,SNR=8.5						
BLG				S	**Sn**	01 23 44.3	**-0.7**
	baz=314						
CMB	**Columbia Colle**	**2.41**	**13**	*e*Pn	**Pn**	01 23 18.2	**-0.3**
MDPB	**Devils Postpil**	**2.52**	**39**	*e*Pn	**Pn**	01 23 20.8	**+0.6**
CWC	**Cottonwood Cre**	**2.54**	**72**	P	**Pn**	01 23 21.2	**+0.8**
	baz=255						
OMMB	**Old Mammoth Mi**	**2.55**	**40**	*e*Pn	**Pn**	01 23 21.1	**+0.4**
MLAC	**Mammoth, Mammo**	**2.65**	**42**	P	**Pb**	01 23 23.3	**-3.4**
	baz=224						
EDW2	**Edwards Air Fo**	**2.65**	**107**	P	**Pn**	01 23 21.7	**-0.1**
	baz=289,SNR=21						
EDW2				S	**Sn**	01 23 53.3	**-0.8**
	baz=289						
DECC	**Green Verdugo**	**2.67**	**122**	P	**Pn**	01 23 22.1	**0.0**
	baz=304						
TIN	**Tinemaha, Big**	**2.67**	**59**	P	**Pb**	01 23 23.7	**-3.3**
	baz=241						
TIN				S	**Sn**	01 23 53.1	**-1.7**
	baz=241						
SNCC	**San Nicolas Is**	**2.75**	**152**	*e*Pn	**Pn**	01 23 22.9	**-0.2**
SNCC	**San Nicolas Is**	**2.75**	**152**	P	**Pn**	01 23 22.6	**-0.5**
	baz=333						
SNCC				S	**Sn**	01 23 55.8	**-0.7**
	baz=333						
LRMC	**Laurel Mtn Rad**	**2.78**	**93**	Sb	**Sb**	01 24 02.6	**-0.3**
	baz=276						
PASC	**Pasadena Art C**	**2.82**	**122**	*e*Pn	**Pn**	01 23 24.1	**0.0**
MCCM	**Marconi Confer**	**2.84**	**330**	*e*Pn	**Pn**	01 23 22.6	**-1.8**
MWC	**Mount Wilson**	**2.88**	**120**	*e*Pn	**Pn**	01 23 24.9	**-0.2**
DAC	**Darwin (Calif)**	**2.89**	**77**	*e*Pn	**Pn**	01 23 26.4	**+1.2**
MPMC	**Manual Prospec**	**2.94**	**82**	P	**Pn**	01 23 26.3	**+0.4**
	baz=265,SNR=91						
WAKR	**Walker**	**3.10**	**25**	*e*Pn	**Pn**	01 23 28.8	**+0.6**
BFSC	**Mount Baldy Ra**	**3.16**	**116**	P	**Pn**	01 23 29.2	**+0.3**
	baz=299,SNR=65						
BFSC				S	**Sn**	01 24 05.8	**-0.9**
	baz=299						
CIS	**Catalina Islan**	**3.17**	**135**	P	**Pn**	01 23 28.1	**-0.8**
	baz=317						
CIS				S	**Sn**	01 24 05.2	**-1.6**
	baz=317						
AFDM	**Forest Hills D**	**3.26**	**2**	*e*Pn	**Pn**	01 23 30.0	**-0.1**
GRAC	**Grapevine Rang**	**3.27**	**65**	Sb	**Sb**	01 24 18.6	**+1.5**
	baz=248						
GDXM	**Geysers**	**3.40**	**337**	*e*Pn	**Pn**	01 23 30.2	**-1.9**
SCI2	**San Clemente I**	**3.42**	**141**	P	**Pn**	01 23 33.0	**+0.6**
	baz=323,SNR=10						
RUBR	**Rubicon Trail**	**3.44**	**12**	*e*Pn	**Pn**	01 23 33.2	**+0.4**
FURC	**Furnace Creek,**	**3.50**	**76**	Sb	**Sb**	01 24 25.8	**+2.1**
	baz=259						
GSC	**Goldstone, Bar**	**3.51**	**95**	*e*Pn	**Pn**	01 23 33.4	**-0.3**
GSC	**Goldstone, Bar**	**3.51**	**95**	P	**Pn**	01 23 33.4	**-0.3**
	baz=278						
NV01	**Mina Array Sit**	**3.52**	**38**	*e*Pn	**Pn**	01 23 34.8	**+0.8**
NVAR	**Mina Array Bea**	**3.52**	**38**	Pn	**Pb**	01 23 39.0	**-2.6**
	3.2nm,0.3s,baz=222,slow=20,SNR=46						
NVAR				Pg	**Pg**	01 23 44.5	**-2.0**
	7.2nm,0.3s,baz=234,slow=20,SNR=36						
NVAR				Sn	**Sb**	01 24 22.1	**-2.5**
	baz=198,slow=38,SNR=2.4						
NVAR				Lg	Lg	01 24 29.8	
	6.5nm,0.3s,baz=125,slow=16,SNR=4.6						
RYN	**Ryan**	**3.58**	**34**	*e*Pn	**Pn**	01 23 35.2	**+0.5**
PNTR	**Pine Nut**	**3.59**	**19**	*e*Pn	**Pn**	01 23 35.0	**0.0**
NV11	**Mina Array Sit**	**3.60**	**40**	*e*Pn	**Pn**	01 23 35.9	**+0.8**
YERR	**Yerington**	**3.60**	**23**	*e*Pn	**Pn**	01 23 35.4	**+0.4**
HOPS	**Hopland Field**	**3.66**	**335**	*e*Pn	**Pn**	01 23 35.9	**+0.3**
BBRC	**Big Bear Solar**	**3.70**	**111**	P	**Pn**	01 23 37.0	**+0.5**
	baz=294						
VCNR	**Virginia City**	**3.78**	**17**	*e*Pn	**Pn**	01 23 38.0	**+0.6**
MURC	**Murrieta**	**3.82**	**122**	P	**Pn**	01 23 37.1	**-0.8**
	baz=304						
MURC				S	**Sn**	01 24 22.0	**-0.9**
	baz=304						
ORV	**Oroville**	**3.87**	**355**	*e*Pn	**Pn**	01 23 38.5	**-0.1**
SHOC	**Shoshone, Teco**	**3.91**	**86**	P	**Pn**	01 23 38.9	**-0.3**
	baz=269						
HEC	**Hector,Ludlow**	**3.98**	**101**	P	**Pn**	01 23 39.7	**-0.4**
	baz=284,SNR=16						
TPNV	**Topopah Spring**	**4.10**	**71**	*e*Pn	**Pn**	01 23 43.0	**+1.1**
TPNV	**Topopah Spring**	**4.10**	**71**	P	**Pn**	01 23 42.6	**+0.8**
	baz=254,SNR=22						
KVN	**Kaiserville**	**4.11**	**34**	*e*Pn	**Pn**	01 23 42.8	**+0.7**
BEKR	**Beckworth**	**4.21**	**8**	*e*Pn	**Pn**	01 23 43.6	**+0.3**
TUQ	**Turquoise Moun**	**4.21**	**92**	P	**Pn**	01 23 43.0	**-0.4**
	baz=275,SNR=6.1						
PAHR	**Pah Rah Range**	**4.23**	**18**	*e*Pn	**Pn**	01 23 44.7	**+1.1**
109C	**Camp Elliot, M**	**4.32**	**129**	P	**Pn**	01 23 44.7	**0.0**
	baz=312						
109C				S	**Sn**	01 24 32.7	**-2.3**
	baz=312						
CPE	**Camp Elliot**	**4.32**	**129**	*e*Pn	**Pn**	01 23 45.4	**+0.8**
PFO	**Pinyon Flats O**	**4.34**	**117**	*e*Pn	**Pn**	01 23 45.7	**+0.6**
PFO	**Pinyon Flats O**	**4.34**	**117**	P	**Pn**	01 23 45.0	**0.0**
	baz=300,SNR=8.5						
PFO				S	**Sn**	01 24 34.5	**-1.3**
	baz=300						
XPFO	**Pion Flat**	**4.34**	**117**	*e*Pn	**Pn**	01 23 45.7	**+0.6**
BELC	**Belle Mtn. Jos**	**4.51**	**110**	P	**Pn**	01 23 46.8	**-0.7**
	baz=294,SNR=12						
GMRC	**Granite Mounta**	**4.53**	**100**	P	**Pn**	01 23 47.0	**-0.7**
	baz=284						
GMRC				S	**Sn**	01 24 38.5	**-2.0**
	baz=284						
O03E	**Paynes Creek**	**4.63**	**353**	P	**Pn**	01 23 49.7	**+0.6**
	baz=173						
O02D	**Mt. Diablo Mer**	**4.68**	**344**	P	**Pn**	01 23 50.8	**+1.0**
	baz=163						
BAR	**Barrett**	**4.73**	**128**	*e*Pn	**Pn**	01 23 50.2	**-0.2**
MONP2	**Monument Peak**	**4.76**	**125**	P	**Pn**	01 23 50.7	**-0.2**
	baz=308,SNR=12						
MONP2				S	**Sn**	01 24 46.4	**+0.1**
	baz=308						
SHPR	**Sheep Range**	**4.86**	**79**	*e*Pn	**Pn**	01 23 53.4	**+1.0**
WDC	**Whiskeytown Da**	**5.02**	**347**	*e*Pn	**Pn**	01 23 54.4	**+0.1**
BC3	**Big Chuckawall**	**5.06**	**112**	P	**Pn**	01 23 55.0	**0.0**
	baz=296						
IRM	**Iron Mountain**	**5.11**	**106**	P	**Pn**	01 23 55.7	**+0.1**
	baz=290						
IRM				S	**Sn**	01 24 54.3	**-0.4**
	baz=290						
IKP	**In-Ko-Pah, Jac**	**5.12**	**125**	P	**Pn**	01 23 56.1	**+0.3**
	baz=308						
IKP				S	**Sn**	01 24 54.8	**0.0**
	baz=308						
R11A	**Troy Canyon, C**	**5.14**	**57**	*e*Pn	**Pn**	01 23 57.1	**+1.0**
BMN	**Battle Mountai**	**5.63**	**32**	*e*Pn	**Pn**	01 24 03.5	**+0.6**
Y12C	**Blythe**	**5.74**	**108**	P	**Pn**	01 24 03.7	**-0.5**
	baz=292						
GLA	**Glamis**	**5.80**	**115**	*e*Pn	**Pn**	01 24 06.4	**+1.2**
GLA	**Glamis**	**5.80**	**115**	P	**Pn**	01 24 05.5	**+0.4**
	baz=299						
W13A	**Hualapai Mount**	**5.91**	**94**	*e*Pn	**Pn**	01 24 06.7	**0.0**
MOD	**Modoc Plateau**	**6.24**	**5**	*e*Pn	**Pn**	01 24 10.6	**-0.5**
PSUT	**Pine Spring**	**6.44**	**62**	*e*Pn	**Pn**	01 24 15.3	**+1.3**
LCMT	**Little Creek M**	**6.46**	**76**	*e*Pn	**Pn**	01 24 15.2	**+1.0**
ELK	**Elko**	**6.83**	**41**	*e*Pn	**Pn**	01 24 19.9	**+0.5**
U15A	**North Rim**	**7.16**	**82**	*e*Pn	**Pn**	01 24 24.9	**+0.9**
MSU	**Marysvale**	**7.65**	**66**	*e*Pn	**Pn**	01 24 31.1	**+0.4**
PDAR	**Pinedale Array**	**11.39**	**48**	Pn	Pn	01 25 30.7	**+8.8**
	0.1nm,0.3s,baz=241,slow=16,SNR=2.5						
TXAR	**Lajitas Array**	**15.99**	**108**	Pn	**P**	01 26 27.1	**-0.5**
	0.1nm,0.3s,baz=289,slow=11,SNR=2.1						
ULM	**Lac du Bonnet**	**23.34**	**44**	P	**P**	01 27 49.5	**+2.2**
	3.2nm,0.9s,baz=256,slow=9.7,SNR=5.3						
ILAR	**Eielson Array**	**32.98**	**340**	P	**P**	01 29 16.2	**+2.5**
	0.7nm,0.7s,baz=156,slow=9.2,SNR=12						
ILB	**Eielson Array**	**32.98**	**340**	*e*P	**P**	01 29 16.2	**+2.5**
RPN	**Rapa Nui**	**63.45**	**168**	LR	LR	01 54 30.2	
	comp=Z,43nm,21.4s,baz=68,slow=30						
H11N3	**WAKE ISLAND Hy**	**64.43**	**277**	T	T	02 43 03.4	
	baz=58,slow=75,SNR=29						
H11N2	**WAKE ISLAND Hy**	**64.43**	**277**	T	T	02 43 10.4	
	baz=58,slow=75,SNR=23						
H11N1	**WAKE ISLAND Hy**	**64.44**	**277**	T	T	02 43 10.9	
	baz=58,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**65.22**	**276**	T	T	02 44 09.7	
	baz=58,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**65.22**	**276**	T	T	02 44 10.3	
	baz=58,slow=75,SNR=14						
H11S3	**WAKE ISLAND Hy**	**65.23**	**276**	T	T	02 44 11.2	
	baz=58,slow=75,SNR=13						
SONA0	**Songino Array**	**86.65**	**330**	*e*P	**P**	01 35 24.8	**+1.9**
SONM	**Songino Array**	**86.65**	**330**	P	**P**	01 35 24.8	**+1.9**
	0.4nm,0.6s,baz=17,slow=4.2,SNR=3.7						

MAN 29 01:31:23.5,9°.24N×122°.41E,h33km,mb3.7,ML2.4,MS1.9, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**0.82**	**83**	⇓*i*P	Pn	01 31 39.0	+0.1
SNPH				*i* S	Sn	01 31 49.5	-0.4
GUIM	**Jordan**	**1.39**	**7**	*e*P	Pn	01 31 47.1	+0.5
GUIM				*e*S	Sn	01 32 03.6	-0.2
IPIL	**Ipil**	**1.45**	**174**	*e*P	Pn	01 31 47.8	+0.3
IPIL				*e*S	Sn	01 32 04.9	-0.5
TBP	**Tagbilaran**	**1.50**	**73**	*e*P	Pn	01 31 48.2	+0.1
TBP				*i* S	Sn	01 32 07.7	+1.0
PAGZ	**Pagadian**	**1.69**	**145**	*e*P	Pn	01 31 52.3	+1.6
PAGZ				*e*S	Sn	01 32 11.9	+0.8
CUYO	**Cuyo Island**	**2.10**	**319**	*e*P	Pn	01 31 57.3	+0.8
CUYO				*e*S	Sn	01 32 22.1	+0.5

IDC 29 01:34:53.6±2.4,18°.96S×177°.84W,h0km,mb3.6/6, mb1 4.0/6,mb1mx3.8/31,mbtmp3.6/6,Error ellipse: s-maj=150.9km s-min=25.3km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.98**	**260**	P	P	01 43 11.6	+0.5
	0.3nm,0.3s,baz=95,slow=7.7,SNR=9.0						
ASAR	**Alice Springs**	**45.04**	**255**	P	P	01 43 10.8	-0.7
	0.2nm,0.5s,baz=98,slow=6.7,SNR=4.6						
NVAR	**Mina Array Bea**	**79.81**	**43**	P	P	01 47 05.9	+1.6
	0.7nm,0.8s,baz=209,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**86.10**	**57**	P	P	01 47 36.0	-1.0
	0.4nm,0.8s,baz=206,slow=6.0,SNR=3.1						
ILAR	**Eielson Array**	**86.79**	**13**	P	P	01 47 38.6	-0.8
	0.4nm,0.5s,baz=213,slow=5.0,SNR=5.8						
PDAR	**Pinedale Array**	**87.74**	**43**	P	P	01 47 44.5	-0.3
	0.3nm,0.6s,baz=224,slow=5.8,SNR=2.9						

IDC 29 01:38:32.8±7.3,7°.32S×148°.79E,h93km±48km,mb3.4/2, mb1 3.4/4,mb1mx3.1/30,mbtmp3.5/4,Error ellipse: s-maj=114.6km s-min=69.8km az=125.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.62**	**218**	P	Pn	01 39 13.3	0.0
	3.3nm,0.3s,baz=1.2,slow=5.6,SNR=6.2						
PMG				S	Sn	01 39 50.2	+5.7
	3.9nm,0.3s,baz=289,slow=7.3,SNR=3.3						
WRA	**Warramunga Arr**	**18.81**	**227**	P	P	01 42 45.4	+0.2
	0.1nm,0.3s,baz=53,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**21.64**	**220**	P	P	01 43 16.2	+0.5
	1.2nm,0.7s,baz=57,slow=9.6,SNR=10						
FITZ	**Fitzroy Crossi**	**24.96**	**242**	P	P	01 43 47.4	-0.4
	1.7nm,0.5s,baz=60,slow=6.7,SNR=14						
TORD	**Torodi Ar. Bea**	**147.13**	**283**	PKPbc	PKPbc	01 58 05.5	-0.7
	0.5nm,0.9s,baz=58,slow=5.4,SNR=2.6						

*IDC **29** 01:41:46.9±2.1,23°.97S×179°.72W,h515km±18km,mb3.7/6, mb1 3.8/7,mb1mx3.4/33,mbtmp4.6/7,Error ellipse: s-maj=30.0km s-min=18.5km az=24.0*
*ISCJB **29** 01:41:47.2±1.2,24°.0S±0°.1×180°.0W±0°.2,h512km,mb4.2/6, Error ellipse: s-maj=23.9km s-min=13.1km az=146.3*

ISC 29 01:41:46.8±0.8,24°.0S±0°.1×179°.8W±0°.2,h512km,n21, σ1§42/25,mb4.1/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.47**	**163**	P	**P**	01 43 21.0	**+2.4**
	132nm,0.3s,baz=64,slow=12,SNR=13						
URZ	**Urewera**	**14.45**	**190**	P	**P**	01 44 52.0	**+1.2**
	3.8nm,0.3s,baz=356,slow=1.5,SNR=30						
URZ				S	**S**	01 47 18.8	**-3.8**
	1.4nm,0.3s,baz=0.0,slow=20,SNR=6.7						
CTA	**Charters Tower**	**31.68**	**270**	P	**P**	01 47 28.9	**+0.8**
	7.2nm,0.4s,baz=92,slow=11,SNR=27						
STKA	**Stephens Creek**	**34.87**	**248**	P	**P**	01 47 55.6	**+0.7**
	2.0nm,0.6s,baz=88,slow=8.4,SNR=7.8						
ASAR	**Alice Springs**	**42.22**	**261**	P	**P**	01 48 54.8	**0.0**
	4.8nm,0.7s,baz=98,slow=7.3,SNR=64						
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	01 48 57.3	**-0.5**
	5.6nm,0.4s,baz=97,slow=8.4,SNR=121						
WRA				ScP	**ScP**	01 53 42.4	**+1.9**
	0.5nm,0.5s,baz=99,slow=3.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**51.02**	**266**	P	**P**	01 50 01.9	**+0.4**
	4.2nm,0.6s,baz=104,slow=6.5,SNR=16						
MAW	**Mawson**	**77.71**	**200**	P	**P**	01 52 50.9	**+0.9**
	3.6nm,0.5s,baz=148,slow=6.3,SNR=7.4						
SNAA	**Sanae**	**84.55**	**179**	P	**P**	01 53 25.3	**0.0**
VNA3	**Neumayer Olymp**	**84.75**	**177**	P	**P**	01 53 26.5	**+0.2**
VNA2	**Neumayer--Watz**	**85.17**	**177**	P	**P**	01 53 28.7	**+0.5**
	baz=192,slow=3.8						
VNA1	**Neumayer--Stat**	**85.41**	**177**	P	**P**	01 53 30.2	**+0.8**
MKAR	**Makanchi Array**	**112.38**	**313**	PKiKP	**PKiKP**	01 59 22.9	**-1.4**
	0.1nm,0.4s,baz=58,slow=3.6,SNR=3.9						
BOSA	**Boshof**	**122.39**	**206**	PKP	**PKPdf**	01 59 41.9	**-2.4**
	1.1nm,0.5s,baz=126,slow=8.7,SNR=3.1						

WRA				Sn	Sn	02 13 35.0	-14	
	0.4nm,0.3s,baz=300,slow=28,SNR=2.7							
ASAR	**Alice Springs**	**16.56**	**144**	Pn	**Pn**	**02 11 43.8**	**-0.8**	
	0.3nm,0.3s,baz=318,slow=12,SNR=10.0							
ASAR				Sn	Sn	02 14 34.0	-13	
	0.2nm,0.3s,baz=315,slow=21,SNR=5.4							
DZM	**Mont Dzumac**	**42.75**	**111**	LR	LR	02 35 09.7		
	comp=Z,33nm,20.0s,baz=360,slow=38							
MKAR	**Makanchi Array**	**67.73**	**331**	P	**P**	**02 18 48.3**	**-0.5**	
	0.7nm,0.5s,baz=136,slow=7.5,SNR=12							

MEX 29 02:20:00.5±0.5, 13°.84N × 91°.98W, h57km ± 34km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.10**	**345**	*eP*	Pn	02 20 18.9	-0.9
THIG				*i* S	Sn	02 20 31.8	-2.3
PCIG		**2.21**	**327**	*eP*	Pn	02 20 33.4	-1.4
PCIG				*i* S	Sn	02 20 59.3	-1.7
CCIG	**Comitan**	**2.44**	**356**	*i* P	Pn	02 20 36.3	-1.8
CCIG				*i* S	Sn	02 21 05.2	-1.7
CMIG	**Matias Romero**	**4.28**	**319**	*i* P	Pn	02 21 02.2	-1.0
CMIG				*i* S	Sn	02 21 50.5	-1.4

DJA 29 02:30:47.1±1.1, 9°S ± 12°, × 11°1E ± °, h10km, M3.5/8, MLv3.5/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.03**	**30**	P	Pg	02 31 06.0	-1.0
UGM	**Wanagama**	**1.18**	**354**	P	Pb	02 31 08.5	-1.1
WOJI	**Wonogiri, Jawa**	**1.27**	**12**	P	Pn	02 31 09.9	-1.1
PWJI	**Pagerwojo**	**1.56**	**47**	P	Pn	02 31 14.1	-0.8
NGJI	**Ngawi**	**1.89**	**25**	P	Pb	02 31 22.5	+0.8
SMRI	**Semarang**	**2.04**	**354**	P	Pn	02 31 20.4	-1.1
KPJI	**Karang Pucung**	**2.44**	**316**	P	Pn	02 31 27.9	+0.9
CMJI	**Cimerak**	**2.54**	**301**	P	Pn	02 31 27.5	-0.8
CISI	**Cisompet, Garu**	**3.19**	**298**	P	Pn	02 31 36.9	-0.6

MEX 29 02:37:22.0±0.5, 16°.55N × 98°.46W, h6km ± 5km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.35**	**116**	*eP*	Pg	02 37 28.4	-0.5
PNIG				*eS*	Sg	02 37 33.8	+0.2
TLIG	**Tlapa**	**1.01**	**354**	*eP*	Pg	02 37 38.7	-2.8
TLIG				*i* S	Sg	02 37 52.0	-2.7
VHO	**Vista Hermosa**	**1.73**	**72**	*i* P	Pn	02 37 49.1	-3.7
VHO				*i* S	Sn	02 38 10.9	-4.5
MEIG	**Mezcala**	**1.76**	**321**	*eP*	Pn	02 37 49.8	-3.4
MEIG				*i* S	Sn	02 38 10.5	-5.5
CAIG	**El Cayaco**	**1.80**	**286**	*i* P	Pn	02 37 49.5	-4.1
CAIG				*i* S	Sn	02 38 12.5	-4.4
TPIG	**Tehuac#an**	**2.13**	**29**	*i* P	Pn	02 37 55.5	-2.9
TPIG				*i* S	Sn	02 38 20.8	-4.4
HUIG	**Huatulco**	**2.39**	**109**	*i* P	Pn	02 37 57.7	-4.0
HUIG				*i* S	Sn	02 38 27.6	-3.8

MEX 29 02:42:41.4±0.5, 15°.63N × 94°.39W, h59km ± 13km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.13**	**86**	*eP*	Pn	02 42 59.5	-1.6
PCIG				*eS*	Sn	02 43 14.2	-1.7
CMIG	**Matias Romero**	**1.53**	**342**	*i* P	Pn	02 43 05.0	-1.5
CMIG				*eS*	Sn	02 43 23.3	-2.0
HUIG	**Huatulco**	**1.66**	**275**	*eP*	Pn	02 43 07.1	-1.2
HUIG				*eS*	Sn	02 43 26.0	-2.5
THIG		**2.17**	**109**	*eP*	Pn	02 43 14.3	-1.0
THIG				*i* S	Sn	02 43 39.8	-1.3
CCIG	**Comitan**	**2.26**	**73**	*eP*	Pn	02 43 15.4	-1.2
CCIG				*i* S	Sn	02 43 42.5	-1.0
VHO	**Vista Hermosa**	**2.67**	**303**	*eP*	Pn	02 43 21.3	-0.8
VHO				*eS*	Sn	02 43 51.0	-2.4

*IDC **29** 02:47:41.7±2.2, 50°.33N × 173°.54W, h0km, mb3.5/10, mb1 3.7/10, mb1mx3.5/43, mbtmp3.5/10, Error ellipse: s-maj=58.3km s-min=21.1km az=168.0*
*ISCJB **29** 02:47:42.2±1.7, 50°.5N ± 0°.3 × 173°.5W ± 0°.2, h10km, mb3.6/9, Error ellipse: s-maj=44.8km s-min=16.5km az=166.2*
ISC 29 02:47:43.7±1.9, 50°.5N ± 0°.4 × 173°.4W ± 0°.1, h10km, n11, σ1s51/11, mb3.6/9, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**14.15**	**51**	Pn	**Pn**	**02 51 01.1**	**-2.8**
	0.1nm,0.3s,baz=128,slow=16,SNR=3.5						
ILAR	**Eielson Array**	**19.90**	**34**	P	**P**	**02 52 15.6**	**+0.6**
	0.2nm,0.4s,baz=230,slow=9.0,SNR=8.2						
INK	**Inuvik**	**26.27**	**33**	P	**P**	**02 53 20.5**	**+1.8**
	0.6nm,0.5s,baz=231,slow=6.0,SNR=5.7						
YKA	**Yellowknife Ar**	**33.34**	**46**	P	**P**	**02 54 23.2**	**+1.8**
	0.2nm,0.7s,baz=270,slow=8.0,SNR=5.6						
KSRS	**Korea Array**	**43.11**	**276**	P	**P**	**02 55 43.3**	**-0.6**
	1.5nm,0.4s,baz=85,slow=14,SNR=4.1						
PDAR	**Pinedale Array**	**43.27**	**75**	P	**P**	**02 55 45.6**	**+0.2**
	0.4nm,0.7s,baz=305,slow=5.2,SNR=4.2						
SONM	**Songino Array**	**50.08**	**300**	P	**P**	**02 56 37.9**	**-0.7**
	0.3nm,0.7s,baz=36,slow=8.6,SNR=3.0						
ARCES	**ARCESS Array B**	**59.46**	**352**	P	**P**	**02 57 46.5**	**+0.4**
	2.3nm,0.8s,baz=36,slow=6.7,SNR=4.6						
MKAR	**Makanchi Array**	**63.21**	**312**	P	**P**	**02 58 11.4**	**-0.5**
	0.2nm,0.7s,baz=72,slow=4.7,SNR=2.5						
FINES	**FINESS Array B**	**67.31**	**350**	P	**P**	**02 58 38.9**	**+0.8**
	0.9nm,0.7s,baz=357,slow=11,SNR=2.9						
NOA	**NORSAR Array B**	**68.73**	**358**	P	**P**	**02 58 48.5**	**+1.3**
	0.3nm,0.6s,baz=3.9,slow=6.6,SNR=3.4						

*DDA **29** 02:47:53.8, 39°.52N × 40°.23E, h7km ± 2km, ML2.6*
*ISK **29** 02:47:53.2, 39°.53N × 40°.26E, h6km, ML2.4/12*
ISC 29 02:47:53.7±1.1, 39°.53N ± 0°.03 × 40°.26E ± 0°.02, h9km ± 11km, n25, σ0s86/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.24**	**114**	PG	**Pg**	**02 47 58.5**	**-0.1**
YEDI				SG	**Sg**	**02 48 02.1**	**+0.2**
ERZN	**Erzincan**	**0.42**	**277**	PG	**Pg**	**02 48 01.7**	**-0.3**
ERZN				SG	**Sb**	**02 48 08.4**	**-1.6**
EUZM	**Uzumlu**	**0.47**	**292**	*i* P	**Pb**	**02 48 03.4**	**-0.9**
EUZM				*i* S	**Sg**	**02 48 09.7**	**+0.6**
KOPT	**Kop Dagi**	**0.52**	**20**	*i* P	**Pg**	**02 48 04.3**	**+0.5**
BNGB	**Bingl**	**0.63**	**149**	PG	**Pg**	**02 48 05.4**	**-0.5**
BNGB				SG	**Sb**	**02 48 14.9**	**-1.1**
KARO	**Karliova-Bingo**	**0.65**	**110**	PG	**Pg**	**02 48 06.0**	**-0.3**
KARO				SG	**Sb**	**02 48 16.5**	**-0.1**
TNCL	**Tunceli-Merkez**	**0.70**	**233**	*i* P	**Pb**	**02 48 07.8**	**-0.4**
BAYB	**BAYBURT**	**0.72**	**360**	*i* P	**Pg**	**02 48 07.5**	**-0.2**
BAYB				IAML_P			
	comp=Z,708nm,0.2s						
BAYT	**Aydıntepe-Bayb**	**0.86**	**354**	PG	**Pg**	**02 48 10.2**	**-0.2**
KRIK	**Erzurum-spir**	**0.95**	**32**	*i* P	**Pn**	**02 48 13.4**	**-0.1**
KELT	**Kelkit**	**0.99**	**309**	*i* P	**Pb**	**02 48 12.8**	**-0.4**
VRTB	**Varto-Mus**	**1.00**	**112**	PG	**Pg**	**02 48 12.9**	**0.0**
HANI	**Diyarbakir_Han**	**1.12**	**175**	*i* P	**Pn**	**02 48 18.1**	**+2.3**
HANI				IAML_P			
	comp=Z,480nm,0.3s						
REFA	**Refahiye_ERZN**	**1.17**	**264**	*i* P	**Pn**	**02 48 18.0**	**+1.5**
REFA				IAML_P			
	comp=Z,728nm,0.2s						
KOPR	**Koprukoy-ERZUR**	**1.31**	**69**	PN	**Pn**	**02 48 18.2**	**-0.2**
KEMA	**Kemaliye**	**1.40**	**260**	*i* P	**Pg**	**02 48 20.5**	**-0.1**
KEMA				IAML_P			
	comp=Z,1μm,0.2s						
ELZG	**Elazig**	**1.44**	**224**	*i* P	**Pg**	**02 48 20.9**	**-0.4**
MACK	**Trabzon**	**1.46**	**345**	*i* P	**Pg**	**02 48 22.5**	**+0.8**
CHOM	**Cayeli-Rize**	**1.61**	**14**	PN	**Pn**	**02 48 23.1**	**+0.7**
SUSE	**Susehri**	**1.72**	**294**	*i* P	**Pg**	**02 48 26.4**	**-0.4**
SUSE				IAML_P			
	comp=Z,330nm,0.1s						
CUZAR	**Zara_SIVAS**	**1.96**	**281**	*i* P	**Pg**	**02 48 31.0**	**-0.2**
BCA	**Borcka**	**2.17**	**28**	PN	**Pn**	**02 48 31.1**	**+1.0**
DARE	**Darende-Malaty**	**2.37**	**247**	PN	**Pn**	**02 48 33.8**	**+0.9**
KARS	**Kars**	**2.42**	**62**	PN	**Pn**	**02 48 34.6**	**+0.9**
SVSK	**Karacayir**	**2.55**	**280**	PN	**Pn**	**02 48 36.2**	**+1.0**

MAN 29 02:48:40.9, 7°.12N × 125°.68E, h26km, mb4.3, ML3.1, MS2.8, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.17**	**259**	*eP*	Pn	02 48 48.2	+0.4
KCP	**Kidapawan**	**0.59**	**260**	*eP*	Pb	02 48 52.5	-0.2
KCP				*i* S	Sb	02 49 01.6	+0.8
MATI	**Mati**	**0.60**	**106**	*eP*	Pn	02 48 53.6	-0.2
MATI				*eS*	Sn	02 49 03.7	+1.0
BUKP	**Musuan**	**0.97**	**321**	*eP*	Pn	02 48 58.3	-0.6
BUKP				*eS*	Sn	02 49 12.3	+0.4
DDMP	**Don Marcelino,**	**1.01**	**178**	*eP*	Pb	02 48 59.5	-0.2
DDMP				*eS*	Sn	02 49 18.6	+5.9
GSPH	**General Santos**	**1.25**	**215**	*i* P	Pn	02 49 03.2	+0.3
GSPH				*i* S	Sb	02 49 21.1	+1.4
SKMP	**Bagumbayan, Su**	**1.27**	**242**	*eP*	Pn	02 49 02.7	-0.3
SKMP				*eS*	Sb	02 49 19.9	-0.2
CTBH	**Cotabato--PC H**	**1.42**	**274**	*i* P	Pn	02 49 04.7	-0.3
CTBH				*i* S	Sn	02 49 23.3	+0.4

*INMG **29** 02:51:34.0±0.9, 27°.79N × 18°.35W, h21km ± 10km, ML3.6, Error ellipse: s-maj=7.7km s-min=6.9km az=164.0*
ISC 29 02:51:40.3±3.1, 29°.1N ± 0°.1 × 18°.0W ± 0°.2, h10km, n11, σ1s75/22, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**3.65**	**15**	*eP*	**Pb**	**02 52 43.2**	**-1.7**
FUL				S	**Sg**	**02 53 37.5**	**0.0**
FUL				A	A	02 53 42.2	
	75nm,0.2s						
PMAR	**Madeira**	**3.72**	**14**	*eP*	**Pb**	**02 52 46.5**	**+0.3**
PMAR				S	**Sg**	**02 53 39.9**	**+0.2**
PMAR				A	A	02 53 48.0	
	125nm,0.2s						
PMAR	**Madeira**	**3.72**	**14**	P	**Pb**	**02 52 46.2**	**0.0**
PMAR				S	**Sg**	**02 53 36.8**	**-3.0**
PMOZ	**Porto Moniz, M**	**3.76**	**10**	*eP*	**Pb**	**02 52 47.6**	**+0.7**
PMOZ				*eS*	**Sg**	**02 53 40.8**	**-0.4**
PMOZ				A	A	02 53 50.2	
	152nm,0.4s						
PMOZ	**Porto Moniz, M**	**3.76**	**10**	P	**Pb**	**02 52 44.9**	**-2.0**
PMOZ				S	**Sb**	**02 53 36.8**	**+4.2**
PMPS	**Porto Santo**	**4.18**	**19**	*eP*	**Pb**	**02 52 53.0**	**-1.0**
PMPS				*eS*	**Sg**	**02 53 51.4**	**-3.2**
PMPS				A	A	02 54 02.3	
	31nm,0.7s						
TTIG	**Tnine Tigouga,**	**8.42**	**78**	P	**Pn**	**02 53 42.5**	**+0.1**
TTIG				S	**Sn**	**02 55 17.3**	**-0.3**
OUK	**Oukaimeden**	**9.01**	**74**	P	**Pn**	**02 53 50.9**	**+0.1**
OUK				S	**Sn**	**02 55 33.7**	**+1.2**
SRHM	**Skhour des Reh**	**9.30**	**66**	P	**Pn**	**02 53 52.6**	**-1.9**
SRHM				S	**Sn**	**02 55 37.9**	**-1.4**
MD31	**MD31**	**11.95**	**68**	P	**Pn**	**02 54 31.1**	**+0.2**
MD31				S	**Sn**	**02 56 46.5**	**+2.2**
MDT	**Midelt**	**12.06**	**69**	P	**Pn**	**02 54 32.8**	**+0.5**
MDT				S	**Sn**	**02 56 47.9**	**+0.8**

KRSC 29 03:17:14.1±10.0, 50°.66N × 160°.24E, h82km ± 10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.08**	**329**	*eP*	Pn	03 17 48.5	+1.5
RUS				*eS*	Sn	03 18 13.4	+1.3
MTVR	**Mutnovka**	**2.23**	**326**	*eP*	Pn	03 17 51.1	+1.9
MTVR				*eS*	Sn	03 18 17.8	+1.8
ASAK	**Asacha**	**2.26**	**321**	*eP*	Pn	03 17 51.8	+2.3
PAU	**Pauzhetka**	**2.31**	**292**	*eS*	Sn	03 18 20.2	+2.6
KRMR	**Karymshinskiy**	**2.54**	**330**	*eP*	Pn	03 17 55.5	+2.4
KRMR				*eS*	Sn	03 18 25.4	+2.3
UGLR	**Uglovaya**	**2.70**	**342**	*eP*	Pn	03 17 58.2	+2.8
SDLR	**Sedlovina**	**2.75**	**343**	*eP*	Pn	03 17 58.3	+2.1
SMAR	**Somma**	**2.75**	**342**	P	Pn	03 17 58.8	+2.5
AVH	**Avacha**	**2.77**	**341**	*eP*	Pn	03 17 59.3	+3.0
KOK	**Koryaka**	**2.82**	**340**	*eP*	Pn	03 17 59.8	+2.8
MKZ	**Mys Kozlova**	**4.01**	**13**	P	Pn	03 18 14.1	+1.1
TUMR	**Tumrok**	**4.63**	**359**	P	Pn	03 18 24.8	+3.2

*IDC **29** 03:20:19.2±2.6, 0°.79S × 98°.57E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/35, mbtmp3.6/6, ML2.9/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/32, Error ellipse: s-maj=99.4km s-min=22.5km az=60.0*
*DJA **29** 03:20:23.7±0.5, 1°S ± 5° × 98°E ± °, h10km, M3.2/7, MLv3.2/7*
ISC 29 03:20:21.6±1.0, 0°.65S ± 0°.08 × 98°.69E ± 0°.09, h10km, n16, σ1s15/13, mb3.9/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.72**	**326**	P	**Pn**	**03 20 37.0**	**-0.8**
SISI	**Saibi**	**0.79**	**149**	P	**Pn**	**03 20 39.5**	**+0.8**
MNSI	**Mandailing Nat**	**1.69**	**32**	P	**Pb**	**03 20 52.9**	**+0.1**
PPI	**Padang Pangang**	**1.72**	**84**	P	**Pb**	**03 20 53.1**	**-0.2**
PDSI	**Padang**	**1.80**	**98**	P	**Pb**	**03 20 54.1**	**-0.5**
GSI	**Gunungsitoli**	**2.23**	**330**	P	**Pb**	**03 21 01.8**	**-0.3**
PSI	**Prapat**	**3.44**	**4**	Pn	**Pn**	**03 21 14.4**	**-0.9**
	1.0nm,0.3s,baz=217,slow=4.7,SNR=4.4						
PSI				LR	LR	03 22 49.1	
	comp=Z,138nm,20.9s,baz=107,slow=43						
KCSI	**Kotacane, Aceh**	**4.24**	**348**	P	**Pn**	**03 21 28.5**	**+2.2**
H08S2	**Diego Garcia H**	**27.02**	**254**	T	T	03 54 03.5	
	baz=76,slow=76,SNR=205						
H08S3	**Diego Garcia H**	**27.02**	**254**	T	T	03 53 45.3	
	baz=76,slow=76,SNR=322						
H08S1	**Diego Garcia H**	**27.03**	**254**	T	T	03 54 05.0	
	baz=76,slow=76,SNR=242						
WRA	**Warramunga Arr**	**39.81**	**121**	P	**P**	**03 27 54.1**	**-1.3**
	0.5nm,0.8s,baz=304,slow=9.1,SNR=2.7						
ASAR	**Alice Springs**	**41.11**	**126**	P	**P**	**03 28 05.5**	**-0.6**
	0.2nm,0.5s,baz=290,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**48.75**	**7**	P	**P**	**03 29 08.5**	**+1.9**
	0.7nm,0.6s,baz=189,slow=11,SNR=5.5						
MKAR	**Makanchi Array**	**49.39**	**345**	P	**P**	**03 29 11.0**	**-0.5**
	1.1nm,0.5s,baz=151,slow=8.6,SNR=15						
ZALV	**Zalesovo Beam**	**55.61**	**350**	P	**P**	**03 29 56.7**	**-0.7**
	0.7nm,0.5s,baz=187,slow=5.8,SNR=3.8						

*NEIC **29** 03:33:39.5±0.0, 31°.08N × 53°.37E, h8km, mb4.1/3, ML3.7(THR), MN3.9(TEH), After TEH.*
*TEH **29** 03:33:39.5, 31°.06N × 53°.39E, h10km, ML3.9*
*ISCJB **29** 03:33:40.2±0.2, 31°.01N ± 0°.02 × 53°.43E ± 0°.03, h10km, mb3.7/13, Error ellipse: s-maj=4.2km s-min=3.0km az=170.9*
*IDC **29** 03:33:40.0±1.1, 30°.97N × 53°.42E, h0km, mb3.7/11, mb1 3.8/17, mb1mx3.6/51, mbtmp3.8/17, ML3.8/6, MS2.8/2, Ms1 2.8/2, ms1mx2.4/42, Error ellipse: s-maj=23.0km s-min=15.8km az=139.0*
*THR **29** 03:33:41.4, 31°.08N × 53°.47E, h15km, ML3.7*
*OMAN **29** 03:33:44.0±0.5, 30°.68N × 53°.22E, h10km, Error ellipse: s-maj=11.8km s-min=8.5km az=229.0*
*DSN **29** 03:33:47.3±1.4, 30°.65N × 53°.51E, h15km, ML3.6/10, Error ellipse: s-maj=28.3km s-min=8.5km az=51.0*
ISC 29 03:33:40.3±0.5, 31°.07N ± 0°.03 × 53°.39E ± 0°.03, h10km, n119, σ2s08/110, mb3.8/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISAD	**Sadrabad**	**0.88**	**17**	Pg	Pg	03 33 52.0	-5.3
ISAD	**Sadrabad**	**0.88**	**17**	*eP*g	**Pb**	**03 33 57.2**	**-0.7**
ISAD				*eS*g	**Sn**	**03 34 10.1**	**-2.0**
ISAD				IAMB	IAmb	03 34 11.4	
	comp=Z,56μm,0.3s						
IMEH	**Mehriz**	**1.10**	**73**	Pg	Pg	03 33 55.0	-6.5
IMEH				Sg	**Sg**	**03 34 10.1**	**-5.7**
IMEH	**Mehriz**	**1.10**	**73**	*eP*g	**Pg**	**03 34 00.0**	**-1.5**
IMEH				IAMB	IAmb	03 34 16.3	
	comp=Z,71μm,0.3s						
IRAM	**Ramesheh**	**1.13**	**311**	Pg	Pg	03 33 55.8	-6.3
IRAM	**Ramesheh**	**1.13**	**311**	*eP*g	**Pg**	**03 34 00.3**	**-1.8**
IRAM				IAMB	IAmb	03 34 22.8	
	comp=Z,15μm,0.3s						
IPAR	**Pars**	**1.25**	**193**	Pg	Pn	03 33 58.6	-5.6
IPAR	**Pars**	**1.25**	**193**	*eP*g	**Pn**	**03 34 02.3**	**-1.9**
IPAR				IAMB	IAmb	03 34 27.3	
	comp=Z,14μm,0.6s						
ICHK	**Chekchek**	**1.46**	**36**	Pn	**Pn**	**03 34 02.4**	**-4.6**
ICHK	**Chekchek**	**1.46**	**36**	IAMB	IAmb	03 34 08.1	
	comp=Z,48μm,0.4s						
ICHK				*eP*g	**Pg**	**03 34 07.5**	**-0.9**
SHI	**Shiraz**	**1.61**	**208**	IAMB	IAmb	03 34 39.4	
	comp=Z,13μm,0.7s						
SHI				*eP*n	**Pb**	**03 34 09.5**	**-0.7**
YZKH	**Yazd**	**1.67**	**38**	*eP*n	**Pg**	**03 34 11.2**	**-1.2**
YZKH	**Yazd**	**1.67**	**38**	*e*AML	AML	03 34 35.2	
	comp=E,1μm,0.4s						
YZKH				*e*AML	AML	03 34 37.3	
	comp=N,786nm,0.4s						
YZKH	**Yazd**	**1.67**	**38**	*eP*n	**Pg**	**03 34 11.2**	**-1.2**
ISRV	**Sarvestan**	**1.70**	**188**	*eP*n	**Pb**	**03 34 11.4**	**-0.4**
ISRV				IAMB	IAmb	03 34 44.9	
	comp=Z,23μm,0.4s						
IGAR	**Gharneh**	**1.76**	**320**	*eP*n	**Pb**	**03 34 11.8**	**-1.0**
IGAR				IAMB	IAmb	03 34 39.7	
	comp=Z,13μm,0.3s						
IKAZ	**Kazeroun**	**1.85**	**227**	Pn	**Pn**	**03 34 09.1**	**-3.3**
IKAZ	**Kazeroun**	**1.85**	**227**	*eP*n	**Pb**	**03 34 14.2**	**-0.2**
IKAZ				IAMB	IAmb	03 34 53.2	
	comp=Z,9μm,0.6s						
IBRJ	**Brojen**	**2.00**	**295**	IAMB	IAmb	03 34 55.6	
	comp=Z,3μm,0.6s						
IZEF	**Zefreh**	**2.03**	**334**	Pn	**Pn**	**03 34 11.9**	**-2.9**
IZEF	**Zefreh**	**2.03**	**334**	*eP*n	**Pb**	**03 34 16.1**	**-1.4**
IZEF				IAMB	IAmb	03 34 49.4	
	comp=Z,8μm,0.2s						
ROKH	**ROKH**	**2.38**	**303**	*eP*n	**Pb**	**03 34 22.1**	**-1.2**
ROKH				IAMB	IAmb	03 35 11.3	
	comp=Z,0.0nm,0.6s						
ZNGN	**Zangian**	**2.40**	**297**	*eP*n	**Pb**	**03 34 23.8**	**0.0**
ZNGN				IAMB	IAmb	03 35 08.6	
	comp=Z,0.0nm,0.9s						
JHRM	**Jahrom**	**2.56**	**176**	IAMB	IAmb	03 35 15.1	
	comp=Z,0.0nm,0.4s						
JHBN	**Jahan bin**	**2.59**	**297**	IAMB	IAmb	03 35 25.7	
	comp=Z,0.0nm,0.4s						
IPIR	**Pirpir**	**2.67**	**308**	*eP*n	**Pb**	**03 34 27.3**	**-1.0**
IPIR				IAMB	IAmb	03 35 22.6	
	comp=Z,3μm,0.7s						
IKLH	**Kolahrood**	**2.72**	**326**	Pn	**Pn**	**03 34 23.5**	**-0.8**
IKLH	**Kolahrood**	**2.72**	**326**	*eP*n	**Pb**	**03 34 27.8**	**-1.4**
IKLH				IAMB	IAmb	03 35 12.7	
	comp=Z,4μm,0.4s						
KHGB	**Koh Gabri**	**2.75**	**104**	*eP*n	**Pn**	**03 34 26.1**	**+1.4**
KHGB				IAMB	IAmb	03 35 08.9	
	comp=Z,0.0nm,0.3s						
GHIR	**Ghir-Karzin**	**2.79**	**187**	Pn	**Pn**	**03 34 27.0**	**+1.8**
GHIR	**Ghir-Karzin**	**2.79**	**187**	*eP*n	**Pb**	**03 34 27.4**	**-3.0**
GHIR	**Ghir-Karzin**	**2.79**	**187**	*eP*n	**Pb**	**03 34 27.4**	**-3.0**
KRSH	**Karshahi**	**3.08**	**340**	*eP*n	**Pb**	**03 34 31.7**	**-3.6**
KRSH				IAMB	IAmb	03 35 25.3	
	comp=Z,0.0nm,0.4s						
KRBR	**Kerman**	**3.11**	**110**	Pn	**Pn**	**03 34 31.0**	**+1.4**
KRBR	**Kerman**	**3.11**	**110**	*eP*n	**Pn**	**03 34 31.5**	**+1.9**
KRBR	**Kerman**	**3.11**	**110**	*e*AML	AML	03 35 27.5	
	comp=E,166nm,0.5s						
KRBR				*e*AML	AML	03 35 35.8	
	comp=N,217nm,0.6s						
KRBR	**Kerman**	**3.11**	**110**	*eP*n	**Pn**	**03 34 31.5**	**+1.9**
TVBK	**TV Kerman**	**3.11**	**109**	*eP*n	**Pn**	**03 34 32.0**	**+2.3**
TVBK				IAMB	IAmb	03 34 41.7	
	comp=Z,0.0nm,0.2s						
NGRK	**Negar Kerman**	**3.22**	**115**	IAMB	IAmb	03 34 39.1	
	comp=Z,0.0nm,0.3s						
ISFB	**Sefidab**	**3.42**	**344**	*eP*n	**Pb**	**03 34 36.5**	**-4.4**
ISFB				IAMB	IAmb	03 35 33.2	
	comp=Z,3μm,0.4s						
TPRV	**Parvadeh(Tabas**	**3.42**	**54**	*eP*n	**Pn**	**03 34 35.5**	**+1.8**
TPRV				IAMB	IAmb	03 35 34.9	
	comp=Z,0.0nm,0.6s						
CHMN	**Cheshme madani**	**3.78**	**107**	*eP*n	**Pn**	**03 34 40.5**	**+1.5**
CHMN				IAMB	IAmb	03 35 47.1	
	comp=Z,0.0nm,0.6s						
TNSJ	**Nastanj**	**3.97**	**42**	*eP*n	**Pn**	**03 34 43.1**	**+1.8**
TNSJ				IAMB	IAmb	03 35 50.5	
	comp=Z,0.0nm,0.6s						
TKDS	**Koohdasht(Taba**	**4.06**	**50**	*eP*n	**Pn**	**03 34 44.0**	**+1.5**
TKDS				IAMB	IAmb	03 34 59.1	
	comp=Z,0.0nm,0.6s						
TABS	**Tabas**	**4.08**	**50**	Pn	**Pn**	**03 34 45.0**	**+2.2**
TABS	**Tabas**	**4.08**	**50**	*eP*n	**Pn**	**03 34 45.2**	**+2.4**
TABS	**Tabas**	**4.08**	**50**	*eP*n	**Pn**	**03 34 45.2**	**+2.4**
GENO	**Geno**	**4.39**	**146**	*eP*n	**Pn**	**03 34 48.2**	**+1.0**
GENO				IAMB	IAmb	03 34 57.8	
	comp=Z,0.0nm,0.2s						
IANJ	**Anjilo**	**4.41**	**6**	*eP*n	**Pn**	**03 34 49.4**	**+1.9**
IANJ				IAMB	IAmb	03 36 07.2	
	comp=Z,733nm,0.6s						
NIAN	**Nian**	**4.61**	**138**	*eP*n	**Pn**	**03 34 50.8**	**+0.7**
NIAN				IAMB	IAmb	03 34 52.7	
	comp=Z,0.0nm,0.2s			

GEYT				Lg	Lg		03 37 53.8	
	comp=Z,1.2nm,0.3s,baz=186,slow=25,SNR=3.0							
MZR	**Muzera**	**8.03**	**179**	P	**Pn**		**03 35 37.8**	**+0.7**
MZR	**Muzera**	**8.03**	**179**	*e*Pn	**Pn**		**03 35 37.6**	**+0.5**
WSAR	**Wadi Sarin**	**9.09**	**148**	P	**Pn**		**03 35 51.1**	**-0.5**
WSAR	**Wadi Sarin**	**9.09**	**148**	Pn	**Pn**		**03 35 51.3**	**-0.3**
	comp=Z,6.2nm,0.3s,baz=339,slow=12,SNR=39							
WSAR				Sn	**Sn**		**03 37 29.5**	**-4.5**
	comp=Z,0.8nm,0.3s,baz=198,slow=20,SNR=4.7							
GNI	**Garni**	**11.47**	**325**	LR	LR		03 41 35.4	
	comp=Z,29nm,19.6s,baz=188,slow=41							
ASF	**Jabal al Asfar**	**14.10**	**279**	Pn	**Pn**		**03 37 00.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=270,slow=1.0,SNR=3.4							
ASF				Sn	**Sn**		**03 39 31.5**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=202,slow=19,SNR=3.0							
MMAI	**Mount Meron Ar**	**15.38**	**282**	Pn	**P**		**03 37 19.6**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=100,slow=17,SNR=3.0							
MMAI				LR	LR		03 44 37.5	
	comp=Z,48nm,18.3s,baz=285,slow=43							
BR101	**Keskin Array S**	**18.24**	**304**	*e*P	**P**		**03 37 57.0**	**+3.1**
BRTR	**Keskin Array B**	**18.24**	**304**	P	**P**		**03 37 57.0**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=117,slow=10,SNR=8.0							
AKTO	**Aktyubinsk**	**19.66**	**9**	P	**Pn**		**03 38 12.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=14,SNR=5.1							
AAK	**Ala-Archa**	**20.40**	**50**	*e*P	Pn		03 38 19.7	+0.1
	comp=Z,2.1nm,0.8s							
ATD	**Arta Tunnel**	**21.75**	**209**	P	**P**		**03 38 33.1**	**+1.0**
	comp=Z,4.5nm,0.3s,baz=252,slow=20,SNR=3.4							
KARP	**Karpathos**	**22.34**	**289**	*e*P	**P**		**03 38 40.1**	**+1.8**
	comp=Z,17nm,0.9s							
IDI	**Anoyia**	**24.18**	**288**	P	**P**		**03 39 00.3**	**+3.4**
	comp=Z,6.0nm,0.7s,baz=114,slow=10,SNR=12							
BRVK	**Borovoye**	**25.18**	**24**	*e*P	**P**		**03 39 06.0**	**+0.3**
	comp=Z,3.9nm,0.8s							
BVAR	**Borovoye Array**	**25.19**	**25**	P	**P**		**03 39 07.0**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=212,slow=8.0,SNR=3.6							
AKASG	**Malin Array Be**	**26.60**	**324**	P	**P**		**03 39 21.3**	**+2.8**
	comp=Z,0.7nm,0.4s,baz=131,slow=8.6,SNR=3.4							
KURBB	**Kurchatov Arra**	**27.05**	**37**	P	**P**		**03 39 25.1**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=230,slow=7.2,SNR=3.4							
MK32	**Makanchi Array**	**27.22**	**47**	*e*P	**P**		**03 39 27.7**	**+3.4**
MKAR	**Makanchi Array**	**27.22**	**47**	P	**P**		**03 39 27.7**	**+3.4**
	comp=Z,0.1nm,0.3s,baz=251,slow=4.4,SNR=2.5							
ZALV	**Zalesovo Beam**	**32.12**	**35**	P	**P**		**03 40 08.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=268,slow=11,SNR=2.6							
ZAA1	**Zalesovo Array**	**32.12**	**35**	*e*P	**P**		**03 40 08.6**	**+1.0**
FIA0	**FINESS Array S**	**35.24**	**338**	*e*P	**P**		**03 40 36.3**	**+1.6**
FINES	**FINESS Array B**	**35.24**	**338**	P	**P**		**03 40 36.3**	**+1.6**
	comp=Z,1.9nm,1.0s,baz=145,slow=10.0,SNR=2.7							
NB200	**NORSAR Array S**	**40.70**	**330**	*e*P	**P**		**03 41 22.1**	**+1.3**
NOA	**NORSAR Array B**	**40.70**	**330**	P	**P**		**03 41 22.1**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=120,slow=8.6,SNR=3.0							
TOA1	**Torodi Ar. Sit**	**50.64**	**261**	*e*P	**P**		**03 42 40.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**50.64**	**261**	P	**P**		**03 42 40.5**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=56,slow=7.5,SNR=8.6							
YKA	**Yellowknife Ar**	**86.27**	**354**	P	**P**		**03 46 22.0**	**+0.2**
	comp=Z,0.2nm,0.8s,baz=3.5,slow=5.7,SNR=2.9							
YKB5	**Yellowknife Ar**	**86.27**	**354**	*e*P	**P**		**03 46 22.1**	**+0.2**

ISCJB ***29*** *03:35:09.1±0.7, 31.°14S±0.°09×179.°1W±0.°2, h33km, mb3.8/2, Error ellipse: s-maj=24.3km s-min=7.2km az=25.6*

IDC ***29*** *03:35:10.4±1.6, 31.°16S×178.°77W, h47km±17km, mb3.7/2, mb1 4.1/4, mb1mx3.6/36, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=38.8km s-min=12.4km az=116.0*

ISC 29 03:35:10.2±0.8, 31.°1S±0.°1×179.°0W±0.°2, h35km, n11, σ1§60/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**2.06**	**28**	P		**Pn**	**03 35 42.9**	**+0.6**
	180nm,0.3s,baz=45,slow=20,SNR=16							
RAO				S		**Sn**	**03 36 07.0**	**+0.1**
	230nm,0.3s,baz=41,slow=19,SNR=4.3							
URZ	**Urewera**	**7.83**	**203**	P		**Pn**	**03 37 01.9**	**+0.3**
	1.2nm,0.3s,baz=269,slow=5.5,SNR=13							
URZ				S		**Sn**	**03 38 28.4**	**-0.6**
	1.1nm,0.3s,baz=351,slow=19,SNR=3.7							
ASAR	**Alice Springs**	**42.20**	**268**	P		**P**	**03 43 00.2**	**+0.3**
	0.9nm,0.5s,baz=104,slow=7.8,SNR=21							
WRA	**Warramunga Arr**	**43.26**	**273**	P		**P**	**03 43 09.9**	**+1.3**
	1.8nm,0.6s,baz=111,slow=8.1,SNR=21							
SNAA	**Sanae**	**77.49**	**179**	P		**P**	**03 47 01.1**	**-0.7**
VNA3	**Neumayer Olymp**	**77.68**	**176**	P		**P**	**03 47 04.5**	**+1.8**
VNA2	**Neumayer--Watz**	**78.10**	**177**	P		**P**	**03 47 06.8**	**+1.6**
	baz=180,slow=5.7							
VNA1	**Neumayer--Stat**	**78.33**	**177**	P		**P**	**03 47 08.3**	**+2.0**
FINES	**FINESS Array B**	**145.48**	**339**	PKPbc		**PKPdf**	**03 54 40.5**	**-3.3**
	0.9nm,0.4s,baz=50,slow=4.7,SNR=17							
NOA	**NORSAR Array B**	**149.29**	**350**	PKPbc		**PKPbc**	**03 54 53.3**	**-1.3**
	0.1nm,0.5s,baz=14,slow=4.3,SNR=2.9							
TORD	**Torodi Ar. Bea**	**162.13**	**182**	PKPab		**PKPab**	**03 55 54.4**	**-0.6**
	0.7nm,1.1s,baz=178,slow=4.3,SNR=4.0							

VAO ***29*** *03:45:56.2±0.4, 29.°55S×69.°20W, h10km, mb4.8*

NEIC ***29*** *03:45:59.0±0.3, 29.°31S×69.°29W, h90km±2km, mb4.6/123, ML4.6(GUC), Error ellipse: s-maj=5.1km s-min=2.9km az=90.0*

NEIC Felt [III] at Paiguano and Vicuna and [II] at La Higuera and Vallenar, Chile.

ISCJB ***29*** *03:45:59.1±0.2, 29.°17S±0.°02×69.°36W±0.°03, h102km±2km, mb4.5/135, Error ellipse: s-maj=4.8km s-min=3.5km az=161.6*

SJA ***29*** *03:45:59.8±1.1, 29.°32S×69.°57W, h113km±7km, ML4.2, MW4.1*

GUC ***29*** *03:46:00.2±0.6, 29.°30S×69.°93W, h133km±6km, ML4.6*

IDC ***29*** *03:46:02.4±0.5, 29.°30S×69.°25W, h120km±4km, mb4.2/19, mb1 4.2/24, mb1mx4.1/37, mbtmp4.5/24, MS3.1/3, Ms1 3.1/3, ms1mx2.8/28, Error ellipse: s-maj=14.2km s-min=7.7km az=72.0*

ISC 29 03:46:00.8±0.4, 29.°31S±0.°03×69.°52W±0.°03, h110km±4km, h110km:pP-P, n643, σ1§01/672, mb4.5/135, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AROD	**Rodeo**	**0.85**	**177**	*e*P		**Pn**	**03 46 21.6**	**+0.6**
AROD				*e*S		**Sn**	**03 46 36.5**	**+0.5**
AGUA	**GUANDACOL**	**0.91**	**101**	*e*P		**Pn**	**03 46 22.4**	**+1.1**
ACDV	**Cuesta del Vie**	**0.92**	**158**	*e*P		**Pn**	**03 46 22.2**	**+0.8**
LCO	**Las Campanas**	**1.08**	**286**	*e*Pn		**Pn**	**03 46 22.7**	**-0.4**
LCO				*e*Sn		**Sn**	**03 46 39.5**	**-0.4**
LCO	**Las Campanas**	**1.08**	**286**	⇑ *i*P		**Pn**	**03 46 22.8**	**-0.4**
LCO				*e*S		**Sn**	**03 46 39.2**	**-0.7**
LCO				IAML			03 46 40.7	
	comp=N,19μm,0.2s							
LCO	**Las Campanas**	**1.08**	**286**	*e*P		**Pn**	**03 46 22.5**	**-0.6**
ACCO	**Cerro Coronel**	**1.33**	**163**	*e*P		**Pn**	**03 46 26.6**	**+0.6**
GO04	**Tololo Observa**	**1.41**	**232**	*e*Pn		**Pn**	**03 46 26.4**	**-0.4**
GO04				*e*Sn		**Sn**	**03 46 45.5**	**-0.9**
GO04	**Tololo Observa**	**1.41**	**232**	*e*P		**Pn**	**03 46 26.4**	**-0.4**
GO04				⇓ *e*S		**Sn**	**03 46 45.9**	**-0.5**
GO04	**Tololo Observa**	**1.41**	**232**	⇑ *i*P		**Pn**	**03 46 26.2**	**-0.6**
GO04				*i* S		**Sn**	**03 46 45.5**	**-0.9**
GO03	**Copiap**	**1.82**	**340**	*e*Pn		**Pn**	**03 46 32.1**	**+0.3**
GO03				*e*Sn		**Sn**	**03 46 55.5**	**+0.3**
GO03	**Copiap**	**1.82**	**340**	*e*P		**Pn**	**03 46 31.9**	**+0.2**
GO03				*e*S		**Sn**	**03 46 55.2**	**+0.1**
GO03	**Copiap**	**1.82**	**340**	⇑ *i*P		**Pn**	**03 46 31.8**	**+0.1**
GO03				*i* S		**Sn**	**03 46 55.3**	**+0.1**
GO03				IAML			03 46 56.1	
	comp=N,3μm,0.3s							
AMOG	**MOGNA**	**1.85**	**151**	*e*P		**Pn**	**03 46 32.3**	**+0.4**
AMOG				*e*S		**Sn**	**03 46 54.5**	**-1.2**
RTLL	**Cerro Villicun**	**2.20**	**156**	*e*P		**Pn**	**03 46 36.5**	**0.0**
RTLL				*e*S		**Sn**	**03 47 04.1**	**+0.3**
RTLL				IAML			03 47 07.7	
	comp=Z,2μm,0.4s							
RTLL	**Cerro Villicun**	**2.20**	**156**	*e*S		**Sn**	**03 47 02.9**	**-0.9**
RTLL				IAML			03 47 06.2	
	comp=N,8μm,0.4s							
ACLC	**CERRO LA CRUZ**	**2.24**	**93**	*e*P		**Pn**	**03 46 38.0**	**+0.9**
CMCH	**Combarbala**	**2.25**	**214**	⇓ *i*P		**Pn**	**03 46 36.3**	**-0.8**
CMCH				*e*S		**Sn**	**03 47 03.3**	**-1.6**
ZON	**Zonda**	**2.34**	**162**	*e*P		**Pn**	**03 46 38.5**	**+0.3**
ZON				IAML			03 47 15.1	
	comp=Z,974nm,0.6s							
SJA	**San Juan**	**2.36**	**160**	*e*P		**Pn**	**03 46 38.9**	**+0.4**
SJA				*e*S		**Sn**	**03 47 09.2**	**+1.9**
SJA				IAML			03 47 10.6	
	comp=Z,1μm,0.3s							
CFA	**Coronel Fontan**	**2.54**	**154**	*e*P		**Pn**	**03 46 41.2**	**+0.4**
CFA				*e*S		**Sn**	**03 47 12.7**	**+1.2**
CFA	**Coronel Fontan**	**2.54**	**154**	P		**Pn**	**03 46 41.0**	**+0.2**
	comp=Z,204nm,0.3s,baz=340,slow=12,SNR=3139							
CFA				S		**Sn**	**03 47 12.1**	**+0.6**
	comp=Z,293nm,0.3s,baz=328,slow=11,SNR=4.6							
RTCV	**Cerro Valdivia**	**2.68**	**162**	*e*P		**Pn**	**03 46 43.3**	**+0.6**
RTCV				*e*S		**Sn**	**03 47 13.5**	**-1.3**
APLL	**PUNTA DE LOS L**	**2.81**	**113**	*e*P		**Pn**	**03 46 44.8**	**+0.4**
APLL				IAML			03 46 45.4	
	comp=Z,778nm,0.4s							
AUSP	**Uspallata**	**2.90**	**178**	*e*P		**Pn**	**03 46 46.7**	**+0.9**
AUSP				⇓ *e*S		**Sn**	**03 47 16.8**	**-3.7**
CYA	**Choya**	**3.37**	**76**	*e*P		**Pn**	**03 46 52.1**	**+0.3**
CYA				IAML			03 47 34.5	
	comp=Z,333nm,0.4s							
ARCO	**CERRO ARCO**	**3.55**	**172**	*e*P		**Pn**	**03 46 55.4**	**+1.0**
ARCO				IAML			03 47 40.5	
	comp=Z,670nm,0.3s							
ACAN	**Cantantal**	**3.57**	**146**	*e*P		**Pn**	**03 46 54.9**	**+0.5**
AAGR	**Agrelo**	**3.81**	**171**	*e*P		**Pn**	**03 46 58.2**	**+0.5**
ROC1	**El Roble**	**3.87**	**199**	*e*Pn		**Pn**	**03 46 56.8**	**-1.9**
ROC1	**El Roble**	**3.87**	**199**	*e*P		**Pn**	**03 46 57.0**	**-1.6**
PEL	**Peldehue**	**3.95**	**194**	*e*Pn		**Pn**	**03 46 58.4**	**-1.1**
PEL	**Peldehue**	**3.95**	**194**	*e*P		**Pn**	**03 46 58.5**	**-1.0**
FCH	**Farellones**	**4.06**	**189**	*e*P		**Pn**	**03 47 01.4**	**+0.2**
GO02	**Mina Guanaco**	**4.13**	**359**	*e*Pn		**Pn**	**03 47 01.8**	**-0.5**
AHML	**Horco Molle**	**4.47**	**57**	*e*P		**Pn**	**03 47 04.8**	**-1.9**
AHML				IAML			03 48 01.3	
	comp=Z,129nm,0.6s							
FSA	**Cafayete**	**4.47**	**45**	*e*P		**Pn**	**03 47 07.8**	**+1.0**
FSA				IAML			03 47 08.6	
	comp=Z,75nm,0.4s							
MRA	**San Martin**	**4.50**	**134**	*e*P		**Pn**	**03 47 06.7**	**-0.3**
MRA				IAML			03 48 31.2	
	comp=Z,447nm,0.7s							
TCA	**Tanti**	**4.71**	**117**	*e*P		**Pn**	**03 47 08.9**	**-0.9**
TCA				IAML			03 47 09.9	
	comp=Z,320nm,0.5s							
PB10	**IPOC Station P**	**5.85**	**351**	*e*Pn		**Pn**	**03 47 22.6**	**-2.6**
LVC	**Limon Verde**	**6.70**	**5**	P		**Pn**	**03 47 35.1**	**-1.9**
	comp=Z,4.1nm,0.3s,baz=178,slow=9.1,SNR=40							
LVC				S		**Sn**	**03 48 47.6**	**-4.4**
	comp=Z,4.8nm,0.3s,baz=333,slow=17,SNR=3.8							
LVC				LR		LR	03 50 58.1	
	comp=Z,76nm,19.5s,baz=179,slow=44							
PB04	**IPOC Station P**	**6.97**	**355**	*e*Pn		**Pn**	**03 47 36.9**	**-3.7**
PB01	**IPOC Station P**	**8.23**	**0**	*e*Pn		**Pn**	**03 47 54.7**	**-2.9**
PB11	**IPOC Station P**	**9.51**	**359**	*e*Pn		**Pn**	**03 48 10.4**	**-4.6**
GO01	**Chusmiza**	**9.61**	**2**	*e*Pn		**Pn**	**03 48 13.8**	**-2.8**
MNMC	**Minye Minye**	**10.14**	**360**	*e*Pn		**Pn**	**03 48 19.9**	**-3.7**
GO06	**Curarrehue**	**10.37**	**188**	*e*Pn		**Pn**	**03 48 25.4**	**-1.1**
CPUP	**Villa Florida**	**11.19**	**78**	*e*Pn		**Pn**	**03 48 34.8**	**-2.8**
CPUP				S		**Sn**	**03 50 37.5**	**-3.2**
CPUP	**Villa Florida**	**11.19**	**78**	P		**Pn**	**03 48 34.5**	**-3.1**
	comp=Z,0.8nm,0.3s,baz=254,slow=12,SNR=14							
CPUP				S		**Sn**	**03 50 37.5**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=304,slow=14,SNR=2.5							
CPUP				LR		LR	03 53 08.0	
	comp=Z,57nm,21.6s,baz=230,slow=39							
CPUP	**Villa Florida**	**11.19**	**78**	*e*P		**Pn**	**03 48 33.5**	**-4.1**
PLCA	**Paso Flores**	**11.43**	**184**	*e*Pn		**Pn**	**03 48 38.8**	**-1.8**
PLCA	**Paso Flores**	**11.43**	**184**	P		**Pn**	**03 48 40.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=17,slow=16,SNR=7.2							
PLCA	**Paso Flores**	**11.43**	**184**	*e*P		Pn	03 48 35.9	-4.8
LPAZ	**La Paz**	**13.03**	**6**	*e*Pn		**Pn**	**03 49 03.0**	**+0.6**
LPAZ	**La Paz**	**13.03**	**6**	P		**Pn**	**03 49 01.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=178,slow=8.3,SNR=9.2							
LPAZ	**La Paz**	**13.03**	**6**	*e*P		**Pn**	**03 49 03.0**	**+0.6**
PLTB	**Pedras Altas**	**13.93**	**104**	*e*P		**Pn**	**03 49 09.8**	**-3.8**
CPSB	**Cacapava Do Su**	**14.00**	**98**	*e*P		**Pn**	**03 49 10.3**	**-4.1**
GO07	**Milladeo Hill,**	**14.17**	**192**	*e*Pn		**Pn**	**03 49 14.8**	**-1.6**
SIV	**San Ignacio**	**15.37**	**32**	P		**Pn**	**03 49 30.2**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=231,slow=15,SNR=3.2							
PTGB	**Pitanga**	**16.21**	**78**	*e*P		**Pn**	**03 49 41.2**	**-1.2**
CNLB	**Canela**	**16.29**	**95**	*e*P		**Pn**	**03 49 41.4**	**-1.8**
TRCB	**Terra Rica**	**16.50**	**71**	*e*P		**P**	**03 49 46.8**	**+0.3**
NNA	**Nana**	**18.54**	**337**	P		**Pn**	**03 50 10.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=151,slow=19,SNR=3.1							
FRTB	**Fartura**	**18.84**	**76**	*e*P		**Pn**	**03 50 13.8**	**-0.3**
RCLB	**Rio Claro- Sao**	**20.93**	**76**	*e*P		**P**	**03 50 35.9**	**+1.0**
BDFB	**Brasilia**	**24.03**	**60**	*e*P		**P**	**03 51 05.4**	**-0.5**
	comp=Z,15nm,1.1s							
BDFB	**Brasilia**	**24.03**	**60**	P		**P**	**03 51 05.4**	**-0.5**
	comp=Z,13nm,1.0s,baz=227,slow=8.6,SNR=11							
USHA	**Ushuaia**	**25.51**	**179**	P		**P**	**03 51 19.2**	**+0.4**
	comp=Z,7.0nm,0.6s,baz=15,slow=11,SNR=7.2							
PTGA	**Pitinga**	**29.85**	**19**	P		**P**	**03 51 57.5**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=224,slow=8.5,SNR=6.1							
PTGA				LR		LR	04 03 31.3	
	comp=Z,104nm,19.2s,baz=264,slow=35							
ROSC	**El Rosal**	**34.27**	**351**	*e*P		**P**	**03 52 38.4**	**+1.4**
	comp=Z,3.6nm,0.6s							
ROSC	**El Rosal**	**34.27**	**351**	P		**P**	**03 52 38.5**	**+1.5**
	comp=Z,4.1nm,0.6s,baz=19,slow=22,SNR=6.9							
MDP	**Montagnes des**	**37.87**	**28**	P		**P**	**03 53 06.9**	**-0.3**
	comp=Z,8.1nm,0.8s,baz=208,slow=8.6,SNR=5.6							
VNA3	**Neumayer Olymp**	**52.93**	**159**	P		**P**	**03 55 05.7**	**+0.3**
VNA2	**Neumayer--Watz**	**53.54**	**159**	P		**P**	**03 55 10.2**	**+0.4**
	baz=289,slow=8.6							
SNAA	**Sanae**	**55.15**	**159**	P		**P**	**03 55 21.8**	**+0.2**
SNAA	**Sanae**	**55.15**	**159**	*e*P		**P**	**03 55 21.5**	**-0.1**
	comp=Z,14nm,1.1s							
SNAA	**Sanae**	**55.15**	**159**	P		**P**	**03 55 21.9**	**+0.4**
	comp=Z,6.6nm,0.5s,baz=280,slow=8.8,SNR=47							
857A	**Zephyrhills**	**58.53**	**347**	P		**P**	**03 55 45.8**	**+0.1**
	baz=167							
658A	**Bunnell**	**59.47**	**348**	P		**P**	**03 55 52.4**	**+0.2**
	baz=168							
656A	**Willston**	**59.66**	**347**	P		**P**	**03 55 53.5**	**0.0**
	baz=167							
657A	**Interlachen**	**59.74**	**348**	P		**P**	**03 55 53.7**	**-0.3**
	baz=167							
557A	**Orange Park**	**60.14**	**348**	P		**P**	**03 55 56.5**	**-0.2**
	baz=168							
556A	**Lake Butler**	**60.25**	**347**	P		**P**	**03 55 57.7**	**+0.1**
	baz=167							
555A	**McAlpin**	**60.48**	**347**	P		**P**	**03 55 59.5**	**+0.4**
	baz=166							
553A	**Crawfordville**	**60.85**	**345**	P		**P**	**03 56 01.9**	**+0.3**
	baz=165							
QSPA	**South Pole Qui**	**60.91**	**180**	*e*P		**P**	**03 56 01.7**	**-0.2**
	comp=Z,8.6nm,0.8s							
455A	**Stateville**	**61.09**	**347**	P		**P**	**03 56 01.8**	**-1.4**
	baz=166							
454A	**Quitman**	**61.19**	**346**	P		**P**	**03 56 03.1**	**-0.8**
	baz=166							
453A	**Whigham**	**61.47**	**346**	P		**P**	**03 56 05.4**	**-0.4**
	baz=165							
356A	**Blackshear**	**61.48**	**348**	P		**P**	**03 56 06.4**	**+0.5**
	baz=167							
353A	**Camilla**	**61.92**	**346**	P		**P**	**03 56 09.5**	**+0.6**
	baz=165							
351A	**Pinckard**	**62.17**	**344**	P		**P**	**03 56 10.8**	**+0.3**
	baz=164							
352A	**Blakely**	**62.21**	**345**	P		**P**	**03 56 11.1**	**+0.4**
	baz=165							
254A	**Abbeville**	**62.31**	**347**	P		**P**	**03 56 11.7**	**+0.3**
	baz=166							
349A	**Repton**	**62.63**	**343**	P		**P**	**03 56 13.8**	**+0.3**
	baz=162							
252A	**Lumpkin**	**62.66**	**345**	P		**P**	**03 56 13.6**	**-0.2**
	baz=165							
156A	**Sylvania**	**62.67**	**349**	P		**P**	**03 56 13.4**	**-0.4**
	baz=168							
155A	**Kite**	**62.81**	**348**	P		**P**	**03 56 14.1**	**-0.6**
	baz=167							
NHSC	**New Hope**	**62.90**	**350**	P		**P**	**03 56 14.1**	**-1.2**
	baz=169							
Z59A	**Georgetown, SC**	**62.90**	**351**	P		**P**	**03 56 14.3**	**-1.0**
	baz=170							
251A	**Midway**	**62.91**	**345**	P		**P**	**03 56 15.0**	**-0.4**
	baz=164							
154A	**Montrose**	**62.92**	**347**	P		**P**	**03 56 15.2**	**-0.3**
	baz=166							
249A	**Camden**	**63.20**	**343**	P		**P**	**03 56 17.5**	**+0.2**
	baz=163							
151A	**Opelika**	**63.30**	**345**	P		**P**	**03 56 18.0**	**0.0**
	baz=164							
152A	**Waverly Hall**	**63.31**	**346**	P		**P**	**03 56 18.1**	**+0.1**
	baz=165							
Z54A	**Sparta**	**63.48**	**348**	P		**P**	**03 56 19.5**	**+0.4**
	baz=167							
150A	**Eclectic**	**63.54**	**344**	P		**P**	**03 56 19.5**	**0.0**
	baz=164							
Z52A	**Williamson**	**63.75**	**346**	P		**P**	**03 56 20.4**	**-0.5**
	baz=165							
148A	**Greensboro**	**63.96**	**343**	P		**P**	**03 56 21.8**	**-0.5**
	baz=162							
Y55A	**Saluda**	**63.98**	**349**	P		**P**	**03 56 22.0**	**-0.4**
	baz=168							
833A	**Chaparral WMA,**	**64.04**	**331**	*e*P		**P**	**03 56 24.4**	**+1.5**
	comp=Z,18nm,0.9s							
833A	**Chaparral WMA,**	**64.04**	**331**	P		**P**	**03 56 24.2**	**+1.3**
	baz=151							
Y54A	**Tignall**	**64.06**	**348**	P		**P**	**03 56 22.5**	**-0.4**
	baz=167							
Z50A	**Ashland**	**64.14**	**345**	*e*P		**P**	**03 56 23.6**	**+0.1**
	comp=Z,8.3nm,0.8s							
Z50A	**Ashland**	**64.14**	**345**	P		**P**	**03 56 22.4**	**-1.1**
	baz=164							
147A	**Livingston**	**64.16**	**342**	P		**P**	**03 56 22.8**	**-0.8**
	baz=162							
LRAL	**Lakeview Retre**	**64.18**	**344**	P		**P**	**03 56 23.5**	**-0.2**
	baz=163							
X58A	**Rowland**	**64.20**	**351**	P		**P**	**03 56 24.3**	**+0.5**
	baz=170							
X57A	**Johnson Farm,**	**64.22**	**350**	P		**P**	**03 56 24.1**	**+0.2**
	baz=170							
Y53A	**Monroe**	**64.22**	**347**	P		**P**	**03 56 23.8**	**-0.1**
	baz=166							
Z49A	**Columbiana**	**64.22**	**344**	P		**P**	**03 56 23.9**	**-0.1**
	baz=163							
Y52A	**Lilburn**	**64.33**	**347**	P		**P**	**03 56 24.2**	**-0.5**
	baz=166							
X56A	**White Oak**	**64.39**	**349**	P		**P**	**03 56 25.4**	**+0.3**
	baz=169							
X55A	**Gracelyn & Ava**	**64.46**	**349**	P		**P**	**03 56 26.1**	**+0.5**
	baz=168							
W60A	**Pink Hill**	**64.49**	**353**	P		**P**	**03 56 26.1**	**+0.4**
	baz=172							
Y51A	**Rockmart**	**64.57**	**346**	P		**P**	**03 56 25.9**	**-0.4**
	baz=165							
W58A	**Raeford**	**64.64**	**351**	P		**P**	**03 56 27.2**	**+0.5**
	baz=170							
X54A	**Belton**	**64.67**	**348**	P		**P**	**03 56 27.4**	**+0.5**
	baz=167							
Y50A	**Piedmont**	**64.71**	**345**	P		**P**	**03 56 26.9**	**-0.3**
	baz=164,SNR=5.2							
X53A	**Estanollee**	**64.80**	**347**	P		**P**	**03 56 28.3**	**+0.5**
	baz=166							
Y49A	**Blount Mountai**	**64.83**	**345**	P		**P**	**03 56 27.8**	**-0.1**
	baz=164							
W57A	**Gilead**	**64.88**	**351**	P		**P**	**03 56 28.5**	**+0.3**
	baz=170							
X52A	**Dahlonega**	**65.01**	**347**	P		**P**	**03 56 29.5**	**+0.4**
	baz=166							
Y48A	**Jasper**	**65.06**	**344**	P		**P**	**03 56 29.8**	**+0.3**
	baz=163							
KMSC	**Kings Mountain**	**65.07**	**349**	P		**P**	**03 56 29.5**	**0.0**
	baz=168							
V61A	**Roper**	**65.10**	**354**	P		**P**	**03 56 30.0**	**+0.4**
	baz=173							
W54A	**Cherokee Point**	**65.16**	**349**	P		**P**	**03 56 30.5**	**+0.4**
	baz=168							
X51A	**Calhoun**	**65.17**	**346**	*e*P		**P**	**03 56 30.2**	**+0.1**
	comp=Z,16nm,0.9s							
X51A	**Calhoun**	**65.17**	**346**	P		**P**	**03 56 30.7**	**+0.6**
	baz=165				

U49A	Red Boiling Sp baz=164	67.24 346	P		P	03 56 43.1	-0.2
T51A	Gray baz=166	67.31 348	P		P	03 56 43.9	+0.1
WVT	Waverly comp=Z,19nm,0.8s	67.34 344	eP		P	03 56 43.9	-0.1
WVT	Waverly baz=163	67.34 344	P		P	03 56 44.3	+0.4
R58B	Mineral comp=Z,24nm,1.2s	67.38 353	eP		P	03 56 45.1	+0.9
R58B	Mineral baz=172	67.38 353	P		P	03 56 45.3	+1.1
U48A	Cassie Pea, Po baz=164	67.40 345	P		P	03 56 44.8	+0.5
MIAR	Mount Ida comp=Z,7.1nm,1.0s	67.46 339	eP		P	03 56 45.7	+0.9
MIAR	Mount Ida baz=157	67.46 339	P		P	03 56 45.7	+0.9
U47A	Clarksville baz=163,SNR=9.6	67.51 345	P		P	03 56 45.0	0.0
S55A	Lewisburg baz=169	67.52 351	P		P	03 56 45.6	+0.5
T50A	Nancy baz=165	67.53 347	P		P	03 56 45.1	-0.1
W41B	Gary Mavity, V baz=158	67.63 340	P		P	03 56 46.5	+0.7
U46A	Springville baz=162,SNR=6.8	67.64 344	P		P	03 56 45.8	0.0
T49A	Edmonton comp=Z,7.7nm,0.6s	67.76 346	eP		P	03 56 46.4	-0.2
T49A	Edmonton baz=165,SNR=5.7	67.76 346	P		P	03 56 46.4	-0.2
S51A	Beattyville baz=167	67.89 348	P		P	03 56 47.4	0.0
ABTX	Abilene, Hawle baz=152	67.91 333	P		P	03 56 48.6	+0.9
T48A	Bowling Green baz=164	67.94 346	P		P	03 56 47.9	+0.2
R55A	Marlinton baz=170	67.97 351	P		P	03 56 48.9	+0.9
T47A	Sharon Grove baz=163	67.99 345	P		P	03 56 48.4	+0.4
S50A	Richmond baz=166	68.08 347	P		P	03 56 49.1	+0.5
W39A	Magazine comp=Z,6.9nm,0.8s	68.12 339	eP		P	03 56 49.6	+0.7
W39A	Magazine baz=157	68.12 339	P		P	03 56 50.2	+1.3
T46A	Princeton baz=163	68.22 344	P		P	03 56 50.2	+0.7
PARMO	Parma comp=Z,52nm,0.8s	68.33 343	eP		P	03 56 51.2	+1.1
S48A	Wiedeman Farm, baz=164	68.40 346	P		P	03 56 50.4	-0.2
S47A	Hartford baz=164	68.52 345	P		P	03 56 51.0	-0.3
R51A	Hillsboro baz=167	68.54 348	P		P	03 56 51.3	-0.1
PBMO	Poplar Bluff comp=Z,23nm,0.8s	68.61 342	eP		P	03 56 52.2	+0.3
U41A	Viola baz=159,SNR=8.4	68.62 341	P		P	03 56 52.1	+0.1
Q53A	Leroy baz=169	68.74 350	P		P	03 56 52.7	0.0
Q54A	Coxs Mills baz=169	68.76 351	P		P	03 56 52.3	-0.4
S46A	Don Dixon Farm baz=163	68.79 345	P		P	03 56 52.6	-0.4
R49A	Shelbyville baz=165	68.83 347	P		P	03 56 53.0	-0.2
T43A	Greenville baz=160,SNR=25	68.86 342	P		P	03 56 53.9	+0.4
U40A	Yellville baz=158,SNR=6.4	68.91 340	P		P	03 56 54.4	+0.6
Q52A	Bidwell baz=168	68.96 349	P		P	03 56 54.3	+0.3
WCI	Wyandotte Cave baz=164	69.00 346	P		P	03 56 54.1	-0.2
R48A	Northridge Ran baz=165	69.07 346	P		P	03 56 54.8	+0.1
VNDA	Vanda comp=Z,1.7nm,0.8s,baz=112,slow=6.2,SNR=6.0	69.09 190	P		P	03 56 55.6	+1.1
R47A	Wooly Knot Far baz=164	69.11 346	P		P	03 56 54.1	-0.8
P55A	Reedsville baz=170	69.14 351	P		P	03 56 55.8	+0.7
HHAR	Hobbs comp=Z,5.7nm,0.8s	69.17 339	eP		P	03 56 55.8	+0.4
S44A	Carbondale baz=162,SNR=6.9	69.17 343	P		P	03 56 55.5	+0.2
SIUC	Southern Illin comp=Z,17nm,0.6s	69.18 343	eP		P	03 56 54.8	-0.7
Q51A	Peebles comp=Z,13nm,1.0s	69.20 349	eP		P	03 56 55.3	-0.2
Q51A	Peebles baz=167	69.20 349	P		P	03 56 55.5	0.0
S43A	Fulton Ridge, baz=161,SNR=12	69.27 343	P		P	03 56 56.0	0.0
MCWV	Mont Chateau baz=170	69.29 351	P		P	03 56 56.5	+0.5
P54A	Burton baz=170	69.32 351	P		P	03 56 56.6	+0.4
P53A	Whipple baz=169	69.33 350	P		P	03 56 56.8	+0.5
TUL1	Leonard baz=156	69.43 337	P		P	03 56 57.6	+0.6
SYO	Syowa Base	69.43 159	eP		P	03 56 55.4	-1.2
SYO	Syowa Base	69.43 159	epP	pP		03 57 17.6	-7.5
WMOK	Wichita Mounta baz=153	69.44 335	P		P	03 56 58.2	+1.1
Q49A	Aurora baz=166	69.46 347	P		P	03 56 57.0	-0.2
R45A	Skylar, Fairfi baz=162,SNR=5.0	69.50 344	P		P	03 56 57.0	-0.4
Q48A	North Vernon baz=165	69.56 347	P		P	03 56 57.4	-0.3
P52A	Corning baz=168	69.59 350	P		P	03 56 57.8	-0.1
P51A	Williamsport baz=167	69.59 349	P		P	03 56 57.6	-0.3
MNTX	Cornudas Mount comp=Z,3.3nm,1.0s	69.60 328	eP		P	03 56 58.2	0.0
MNTX	Cornudas Mount baz=147	69.60 328	P		P	03 56 58.1	0.0
S42A	Caledonia baz=160,SNR=9.8	69.64 342	P		P	03 56 58.2	0.0
R44A	Waltonville baz=162	69.66 344	P		P	03 56 58.2	-0.1
Q47A	Bedord North L baz=164	69.71 346	P		P	03 56 57.8	-0.8
S41A	Jillco Farms, baz=159,SNR=12	69.73 341	P		P	03 56 59.2	+0.4
O56A	Blue Knob Stat baz=171	69.74 353	P		P	03 56 59.5	+0.6
FVM	French Village comp=Z,25nm,0.6s	69.75 343	eP		P	03 56 59.4	+0.5
O55A	Ligonier baz=171	69.76 352	P		P	03 56 59.4	+0.4
P50A	Jamestown baz=167	69.85 348	P		P	03 56 59.5	0.0
O54A	Avella baz=170	69.87 351	P		P	03 56 59.3	-0.3
P49A	Miami Univ. Ec baz=166	69.94 348	P		P	03 56 59.8	-0.3
P48A	Milroy baz=165	70.01 347	P		P	03 57 00.1	-0.4
O52A	Adamsville baz=168	70.02 350	P		P	03 57 00.5	0.0
CCM	Cathedral Cave comp=Z,17nm,0.9s	70.03 342	eP		P	03 57 00.7	0.0
CCM	Cathedral Cave baz=160	70.03 342	P		P	03 57 01.2	+0.5
Q45A	Warren Harvey, baz=163,SNR=6.1	70.05 345	P		P	03 57 00.3	-0.4
N59A	State Game Lan baz=174	70.11 355	P		P	03 57 02.3	+1.2
R42A	Luebbering baz=160,SNR=8.2	70.12 342	P		P	03 57 01.6	+0.4
O51A	Pataskala baz=168	70.17 349	P		P	03 57 01.0	-0.4
P47A	Martinsville baz=164	70.20 346	P		P	03 57 01.3	-0.4
Q44A	Meyer Farm, Va baz=162	70.26 344	P		P	03 57 01.4	-0.6
N55A	Marion Center baz=171	70.29 352	P		P	03 57 03.1	+0.9
R41A	Rosebud baz=160,SNR=8.3	70.30 342	P		P	03 57 02.8	+0.5
ACSO	Alum Creek Sta baz=167	70.31 349	P		P	03 57 02.4	0.0
O50A	Cable baz=167	70.34 349	P		P	03 57 02.6	+0.1
MSTX	Muleshoe comp=Z,12nm,0.8s	70.36 331	eP		P	03 57 03.4	+0.5
MSTX	Muleshoe baz=149,SNR=8.2	70.36 331	P		P	03 57 03.6	+0.7
Q43A	New Douglas baz=161	70.47 343	P		P	03 57 03.6	+0.3
O49A	Covington baz=166	70.50 348	P		P	03 57 03.4	-0.1
P46A	Rosedale baz=164	70.53 346	P		P	03 57 03.1	-0.5
P45A	Graceland, Par comp=Z,12nm,0.8s	70.56 345	eP		P	03 57 03.4	-0.4
P45A	Graceland, Par baz=163	70.56 345	P		P	03 57 03.4	-0.4
N54A	Moraine State baz=170	70.59 352	P		P	03 57 04.3	+0.3
Q42A	Golden Eagle baz=160	70.65 343	P		P	03 57 04.8	+0.4
N52A	McGinn's Farm, baz=169	70.68 350	P		P	03 57 04.4	-0.1
AMTX	Amarillo baz=150	70.70 332	P		P	03 57 04.9	0.0
P44A	Sand Creek, Wi baz=162	70.70 344	P		P	03 57 04.8	+0.1
O48A	Farmland baz=165,SNR=6.7	70.72 347	P		P	03 57 04.6	-0.2
N50A	Nevada baz=167	70.87 349	P		P	03 57 05.6	-0.1
Q41A	Truxton baz=160	70.87 342	P		P	03 57 05.9	+0.2
N51A	Ashland baz=168	70.89 350	P		P	03 57 05.6	-0.2
O47A	Sheridan baz=164,SNR=8.8	70.91 347	P		P	03 57 05.3	-0.6
M55A	Ridgway baz=171	70.94 353	P		P	03 57 06.8	+0.7
P43A	Skaggs, Pawnee baz=161,SNR=5.3	71.08 344	P		P	03 57 07.0	0.0
M54A	Oil Creek Stat baz=170	71.09 352	P		P	03 57 07.5	+0.5
M53A	W I Miller and baz=170	71.15 351	P		P	03 57 07.8	+0.5
N49A	Columbus Grove comp=Z,27nm,1.1s	71.19 348	eP		P	03 57 07.9	+0.3
N49A	Columbus Grove baz=166	71.19 348	P		P	03 57 07.7	+0.1
319A	Douglas comp=Z,12nm,0.9s	71.22 325	eP		P	03 57 09.8	+1.6
SFIN	Lafayette baz=164	71.23 346	P		P	03 57 07.4	-0.5
P42A	Winchester baz=161	71.24 343	P		P	03 57 08.1	+0.2
O45A	Potomac baz=163	71.25 345	P		P	03 57 07.2	-0.7
N48A	Decatur baz=166,SNR=5.1	71.28 348	P		P	03 57 07.7	-0.4
O44A	Mansfield baz=162	71.32 345	P		P	03 57 07.9	-0.5
M52A	Chesterland baz=169	71.34 351	P		P	03 57 08.2	-0.3
BINY	Binghamton baz=174	71.41 355	P		P	03 57 08.5	-0.4
121A	Cookes Peak, D baz=145	71.42 327	P		P	03 57 10.9	+1.5
N47A	Urbana baz=165,SNR=5.1	71.43 347	P		P	03 57 08.6	-0.4
M50A	Fremont baz=167	71.47 349	P		P	03 57 09.3	+0.1
HRV	Adam Dziewonsk baz=178	71.49 358	P		P	03 57 09.9	+0.5
P41A	Barry, Barry baz=160	71.50 343	P		P	03 57 09.5	0.0
L55A	Hinsdale baz=172	71.61 353	P		P	03 57 10.9	+0.8
DBIC	Dimbokro comp=Z,11nm,0.8s	71.64 71	eP		P	03 57 10.4	-0.5
DBIC	Dimbokro comp=Z,9.2nm,0.5s,baz=205,slow=5.8,SNR=22	71.64 71	P		P	03 57 09.8	-1.1
O43A	Sugar Creek Fa baz=162	71.64 344	P		P	03 57 10.3	0.0
N46A	Monticello baz=164,SNR=5.5	71.65 346	P		P	03 57 09.8	-0.6
M49A	Liberty Center baz=167,SNR=6.1	71.69 349	P		P	03 57 10.6	0.0
PLIO	Pelee Island, baz=168	71.74 350	P		P	03 57 10.8	0.0
O42A	Bath baz=161	71.75 344	P		P	03 57 11.2	+0.2
N45A	Kentland baz=163	71.77 346	P		P	03 57 10.5	-0.6
N44A	Piper City baz=163	71.86 345	P		P	03 57 11.1	-0.5
O41A	Passleys Farm, baz=160	71.87 343	P		P	03 57 11.5	-0.3
HDIL	Hopedale comp=Z,15nm,0.6s	71.90 344	eP		P	03 57 11.8	-0.1
HDIL	Hopedale baz=162	71.90 344	P		P	03 57 11.9	+0.1
L50A	Kingsville baz=168	72.05 350	P		P	03 57 12.6	-0.2
M46A	Old House Fiel baz=164	72.07 347	P		P	03 57 12.7	-0.1
K55A	Perry baz=172	72.12 353	P		P	03 57 13.8	+0.7
L48A	N Adams baz=166	72.23 348	P		P	03 57 13.6	-0.2
N43A	Stutzman Famil baz=162	72.23 344	P		P	03 57 14.0	+0.2
L49A	Milan baz=167	72.27 349	P		P	03 57 14.2	+0.2
N42A	Yates City baz=161	72.33 344	P		P	03 57 14.2	-0.2
L47A	Sherwood baz=SNR=5.3	72.40 348	P		P	03 57 14.5	-0.3
M44A	Midewin, Midew baz=163	72.41 345	P		P	03 57 14.5	-0.4
K52A	Tillsonburg baz=170	72.47 351	P		P	03 57 15.7	+0.5
L46A	Eue Claire baz=164	72.64 347	P		P	03 57 15.9	-0.4
M43A	Waltham Townsh baz=162	72.66 345	P		P	03 57 16.4	+0.1
LAZ	Ladron	72.66 328	eP		P	03 57 17.6	+0.8
TYNO	Tyneside baz=170	72.68 352	P		P	03 57 16.7	+0.3
N40A	Mertquake, Sal baz=160	72.78 343	P		P	03 57 17.5	+0.4
ANMO	Albuquerque comp=Z,6.6nm,1.3s	72.80 329	eP		P	03 57 18.7	+1.1
ANMO	Albuquerque baz=147	72.80 329	P		P	03 57 19.0	+1.4
ANMO	Albuquerque comp=Z,7nm,1.0s,baz=147,slow=8.1,SNR=6.1	72.80 329	P		P	03 57 18.7	+1.1
TASM	ASL Pad, Albuq baz=147	72.80 329	P		P	03 57 19.1	+1.5
TASM	ASL Pad, Albuq baz=147	72.80 329	P		P	03 57 19.1	+1.5
J52A	Paris baz=170	72.90 352	P		P	03 57 18.0	+0.3
M41A	Milan baz=161	72.97 344	P		P	03 57 18.4	+0.2
K48A	Perry baz=166	73.01 349	P		P	03 57 17.8	-0.6
K47A	Vermontville baz=166	73.03 348	P		P	03 57 18.4	-0.2
K46A	Dorr baz=165	73.19 348	P		P	03 57 18.8	-0.7
ACTO	Acton baz=170	73.21 352	P		P	03 57 19.6	0.0
PECO	Prince Edward baz=173	73.21 354	P		P	03 57 19.7	+0.2
LBNH	Lisbon baz=178	73.23 358	P		P	03 57 20.3	+0.6
M40A	Post Highland baz=160,SNR=6.1	73.25 343	P		P	03 57 19.9	+0.1
L43A	Garden Prairie baz=162	73.32 345	P		P	03 57 19.9	-0.4
J49A	Marlette baz=167	73.39 350	P		P	03 57 19.7	-1.0
CBKS	Cedar Bluff baz=153	73.41 336	P		P	03 57 21.8	+0.9
J48A	Bridge Port baz=167	73.43 349	P		P	03 57 20.6	-0.3
PKRO	Pickering baz=171	73.44 353	P		P	03 57 21.9	+1.0
214A	Organ Pipe Nat baz=141	73.51 323	P		P	03 57 23.9	+2.3
I51A	Listowel baz=169	73.52 351	P		P	03 57 21.8	+0.4
J47A	Sunmer baz=166	73.55 348	P		P	03 57 21.8	+0.2
I55A	Frankford baz=172	73.55 354	P		P	03 57 21.9	+0.4
L41A	Preston baz=161	73.62 344	P		P	03 57 22.2	+0.2
I52A	Shelburne baz=170	73.67 352	P		P	03 57 22.9	+0.6
LONY	Lake Ozonia baz=175	73.72 356	P		P	03 57 23.3	+0.8
K43A	Burlington baz=163	73.72 346	P		P	03 57 23.1	+0.5
T25A	Trinidad comp=Z,9.4nm,1.2s	73.76 332	eP		P	03 57 24.6	+1.4
T25A	Trinidad baz=149	73.76 332	P		P	03 57 24.4	+1.2
L40A	Anamosa comp=Z,29nm,0.8s	73.79 343	eP		P	03 57 23.2	+0.2
L40A	Anamosa baz=160,SNR=13	73.79 343	P		P	03 57 23.2	+0.2
J46A	Howard City baz=165	73.81 348	P		P	03 57 22.8	-0.3
H56A	Elgin baz=174	73.81 355	P		P	03 57 23.6	+0.6
BASO	Ashfield baz=169	73.81 351	P		P	03 57 22.9	-0.2
H55A	Tweed baz=173	73.84 354	P		P	03 57 23.7	+0.5
BWLO	Walkerton baz=169	73.84 351	P		P	03 57 23.7	+0.4
I49A	Point Hope baz=168	73.91 350	P		P	03 57 23.3	-0.4
K42A	Prairie Point, baz=162,SNR=5.8	74.02 345	P		P	03 57 24.5	+0.2
L39A	Vinton baz=160	74.05 343	P		P	03 57 24.9	+0.4
K41A	Shullsburg baz=161	74.08 344	P		P	03 57 24.8	+0.1
X18A	Snowflake comp=Z,4.7nm,0.8s	74.10 326	eP		P	03 57 27.2	+1.9
SCIA	State Center baz=158	74.17 342	P		P	03 57 25.7	+0.5
H52A	Wyevale baz=170	74.21 352	P		P	03 57 25.7	+0.4
PKME	Peaks-Kenny Pk baz=180	74.22 0	P		P	03 57 26.4	+1.0
SADO	Sadowa comp=Z,5.1nm,0.6s,baz=176,slow=2.4,SNR=9.9	74.25 353	P		P	03 57 25.7	+0.1
I47A	Gladwin baz=166	74.26 349	P		P	03 57 25.9	+0.2
I48A	Sherman Twp baz=167	74.29 349	P		P	03 57 26.1	+0.3
PLVO	Plevna baz=173	74.32 354	P		P	03 57 26.8	+0.8
BMRO	Meriville Lake baz=169	74.32 351	P		P	03 57 26.4	+0.4
I46A	Reed City baz=165	74.34 348	P		P	03 57 25.1	-1.1
JFWS	Jewell Farm baz=161	74.36 344	P		P	03 57 26.6	+0.3
K40A	Colesburg baz=160	74.37 344	P		P	03 57 26.6	+0.2
J42A	Columbus baz=162	74.48 345	P		P	03 57 27.3	+0.3
G53A	Haliburton baz=172	74.54 353	P		P	03 57 27.8	+0.5
K39A	Oelwein baz=160,SNR=6.1	74.56 343	P		P	03 57 27.4	-0.1
H48A	Harrisville baz=167	74.73 350	P		P	03 57 28.7	+0.3
J41A	Loganville baz=161,SNR=5.6	74.73 345	P		P	03 57 28.8	+0.3
SDCO	Great Sand Dun comp=Z,2.8nm,0.8s	74.73 331	eP		P	03 57 30.1	+1.2
SDCO	Great Sand Dun baz=148	74.73 331	P		P	03 57 30.6	+1.7
X16A	Lo Mia Camp, P comp=Z,7.8nm,0.9s	74.74 325	eP		P	03 57 29.9	+1.0
I43A	Langenfeld Bro baz=163	74.81 346	P		P	03 57 29.7	+0.8
J40A	Soldiers Grove baz=161,SNR=13	74.93 344	P		P	03 57 29.8	+0.2
LMN	Caledonia Moun comp=Z,71nm,1.8s	74.93 3	eP		P	03 57 30.2	+0.7
BUKO	Buck Lake baz=171	74.94 353	P		P	03 57 30.5	+1.0
KLBO	Killbear Provi baz=170	74.95 352	P		P	03 57 30.3	+0.6
PEMO	Pembroke baz=173	74.96 354	P		P	03 57 30.5	+0.8
I42A	Draeger Farm, comp=Z,7.6nm,0.6s	74.98 346	eP		P	03 57 29.3	-0.6
I42A	Draeger Farm, baz=162,SNR=5.1	74.98 346	P		P	03 57 30.1	+0.2
TOBO	Tobermory, Bru baz=169	74.98 351	P		P	03 57 30.5	+0.6
J39A	Decorah baz=160,SNR=7.4	75.11 343	P		P	03 57 30.5	-0.1
BGNE	Belgrade comp=Z,31nm,0.9s	75.19 338	eP		P	03 57 31.9	+0.7
G47A	Hillman baz=167	75.27 350	P		P	03 57 31.8	+0.3
F52A	Sundridge baz=171	75.28 353	P		P	03 57 32.0	+0.5
H43A	Windswept, Lux baz=163,SNR=5.2	75.30 347	P		P	03 57 31.6	-0.1
S22A	4UR Ranch, Cre baz=147	75.30 330	P		P	03 57 31.8	-0.4
ALGO	Algonquin Park baz=172	75.31 354	P		P	03 57 32.1	+0.4
TRQ	Mont Tremblant	75.32 356	eP		P	03 57 32.2	+0.4
I40A	Norwalk baz=161	75.37 344	P		P	03 57 31.7	-0.4
F51A	Arnstein baz=170	75.48 353	P		P	03 57 33.0	+0.4
H42A	Shiocton comp=Z,6.5nm,0.7s	75.49 346	eP		P	03 57 33.0	+0.2
H42A	Shiocton baz=163	75.49 346	P		P	03 57 33.0	+0.2
I39A	Houston comp=Z,12nm,0.6s	75.55 344	eP		P	03 57 33.2	+0.1
I39A	Houston baz=160,SNR=5.8	75.55 344	P		P	03 57 33.4	+0.2
F49A	Sandfield baz=169	75.58 351	P		P	03 57 33.2	0.0
WUAZ	Wupatki comp=Z,10nm,1.0s	75.58 326	eP		P	03 57 35.5	+1.7
WUAZ	Wupatki baz=143,SNR=5.4	75.58 326	P		P	03 57 35.7	+1.9
MVCO	Mesa Verde comp=Z,7.6nm,0.9s	75.60 329	eP		P	03 57 35.4	+1.5
MVCO	Mesa Verde baz=145,SNR=6.5	75.60 329	P		P	03 57 35.8	+1.9
Q24A	Divide baz=148	75.62 332	P		P	03 57 35.8	+1.7
E52A	Mattawa baz=172	75.70 353	P		P	03 57 34.4	+0.5
E53A	Dumoine, Ponti baz=172	75.70 354	P		P	03 57 34.4	+0.5
E54A	Lac Daplat, Po baz=173	75.71 355	P		P	03 57 34.6	+0.6
F48A	Evansville baz=168	75.73 351	P		P	03 57 34.3	+0.2
Y12C	Blythe comp=Z,7.2nm,0.8s	75.81 323	eP		P	03 57 36.0	+1.1
Y12C	Blythe baz=140	75.81 323	P		P	03 57 37.2	+2.3
H41A	Junction City baz=162	75.84 345	P		P	03 57 34.8	+0.1
SWSC	Sam W. Stewart baz=139	75.88 321	P		P	03 57 36.6	+1.3
F46A	Macinaw City C baz=166	76.00 349	P		P	03 57 36.2	+0.5
H40A	Chili baz=161	76.01 345	P		P	03 57 35.8	+0.1
E51A	G1948 Merrick baz=171	76.03 353	P		P	03 57 36.4	+0.6
G43A	Wallace baz=164	76.04 347	P		P	03 57 36.5	+0.7
E50A	Wahnapitae baz=170	76.06 352	P		P	03 57 36.4	+0.4
G42A	Mountain comp=Z,11nm,0.9s	76.17 346	eP		P	03 57 36.9	+0.3

G42A	Mountain baz=163	76.17 346	P	P	03 57 37.2	+0.5
MONP2	Monument Peak baz=139	76.19 321	P	P	03 57 38.7	+1.4
BC3	Big Chuckawall baz=140,SNR=5.5	76.23 322	P	P	03 57 39.2	+1.8
G41A	Antigo baz=162	76.30 346	P	P	03 57 37.7	+0.3
E48A	Lockeyer baz=168	76.30 351	P	P	03 57 38.0	+0.6
D52A	ZEK Kipawa Sen baz=172	76.36 354	P	P	03 57 38.5	+0.8
D54A	Lac Fusel, La baz=173	76.38 355	P	P	03 57 37.7	-0.1
LATQ	La Tuque baz=177	76.40 358	P	P	03 57 38.5	+0.7
E47A	Iron Bridge baz=168	76.44 350	P	P	03 57 38.7	+0.6
IRM	Iron Mountain baz=140	76.45 322	P	P	03 57 39.8	+1.2
F43A	Flat Rock, Esc baz=164	76.49 347	P	P	03 57 38.6	+0.2
E46A	Sault Ste Mari baz=167	76.51 350	P	P	03 57 38.8	+0.3
ISCO	Idaho Springs comp=Z,3.1nm,0.9s	76.52 332	eP	P	03 57 39.4	+0.2
ISCO	Idaho Springs baz=148	76.52 332	P	P	03 57 41.0	+1.9
W13A	Hualapai Mount comp=Z,4.5nm,0.8s	76.52 324	eP	P	03 57 40.5	+1.4
SMCO	Snowmass comp=Z,8.7nm,1.0s	76.56 331	eP	P	03 57 40.4	+0.9
D51A	Lot 18 Range I baz=171	76.57 353	P	P	03 57 39.4	+0.6
G40A	Rib Lake baz=161	76.58 345	P	P	03 57 39.7	+0.7
E45A	Wooded Hills, baz=166	76.64 349	P	P	03 57 39.9	+0.7
XPFO	Pion Flat comp=Z,6.8nm,1.1s	76.74 321	eP	P	03 57 41.3	+1.0
PFO	Pinyon Flats O comp=Z,7.0nm,1.2s	76.75 321	eP	P	03 57 41.8	+1.5
PFO	Pinyon Flats O baz=139	76.75 321	P	P	03 57 42.2	+1.9
U15A	North Rim comp=Z,7.6nm,0.9s	76.76 326	eP	P	03 57 41.3	+0.8
F41A	Three Lakes baz=162	76.79 346	P	P	03 57 40.8	+0.7
BELC	Belle Mtn. Jos baz=139	76.79 322	P	P	03 57 40.5	-0.1
ECSD	EROS Data Cent comp=Z,12nm,0.8s	76.82 340	eP	P	03 57 40.4	+0.1
ECSD	EROS Data Cent baz=156,SNR=14	76.82 340	P	P	03 57 40.7	+0.3
G39A	Holcombe baz=160	76.82 344	P	P	03 57 40.5	+0.2
G38A	Ridgeland baz=160	76.87 344	P	P	03 57 40.9	+0.3
D48A	Paudash Townsh baz=169	76.94 351	P	P	03 57 41.2	+0.3
D49A	Beulah Townshi baz=169	76.97 352	P	P	03 57 41.7	+0.6
D46A	Sault St. Mari baz=167	76.97 350	P	P	03 57 41.2	+0.1
E43A	Lone Tree Farm baz=164	76.98 348	P	P	03 57 41.7	+0.5
MAW	Mawson comp=Z,4.5nm,0.5s,baz=193,slow=6.2,SNR=8.9	77.04 163	P	P	03 57 41.9	+0.6
MURC	Murrieta baz=138	77.14 321	P	P	03 57 44.4	+2.0
SPMN	Marine on St. comp=Z,9.3nm,0.6s	77.15 343	eP	P	03 57 42.0	-0.1
SPMN	Marine on St. baz=159	77.15 343	P	P	03 57 42.5	+0.3
F40A	Park Falls baz=162	77.18 345	P	P	03 57 42.7	+0.4
GMRC	Granite Mounta baz=140	77.20 323	P	P	03 57 44.8	+1.9
E42A	Champion baz=163	77.21 347	P	P	03 57 43.1	+0.6
F39A	Loretta baz=161,SNR=5.2	77.35 345	P	P	03 57 43.5	+0.3
E41A	Kenton baz=162	77.45 346	P	P	03 57 44.1	+0.3
KNB	Kanab comp=Z,18nm,1.0s	77.48 326	eP	P	03 57 45.7	+1.3
PKCU	Pink Cliffs comp=Z,7.1nm,0.8s	77.57 326	eP	P	03 57 46.1	+1.0
F37A	Hinrichs Farm, baz=159	77.58 344	P	P	03 57 45.3	+0.8
N23A	Red Feather La baz=148	77.58 333	P	P	03 57 47.2	+2.3
F38A	Pierce - Schro baz=160,SNR=5.7	77.62 344	P	P	03 57 45.1	+0.4
E40A	Wakefield baz=162,SNR=6.1	77.63 346	P	P	03 57 45.4	+0.6
LCMT	Little Creek M comp=Z,6.5nm,1.0s	77.69 326	eP	P	03 57 47.0	+1.5
E39A	Mellen baz=161,SNR=5.5	77.71 345	P	P	03 57 45.7	+0.5
TUQ	Turquoise Moun baz=140	77.84 323	P	P	03 57 48.1	+1.7
BFSC	Mount Baldy Ra baz=138	77.88 321	P	P	03 57 48.6	+2.0
O20A	White River Ci comp=Z,8.5nm,0.9s	77.90 331	eP	P	03 57 47.5	+0.8
O20A	White River Ci baz=146,SNR=6.2	77.90 331	P	P	03 57 48.2	+1.5
D41A	Chassel comp=Z,21nm,0.8s	77.94 347	eP	P	03 57 47.2	+0.8
D41A	Chassel baz=163,SNR=8.2	77.94 347	P	P	03 57 47.3	+0.8
MTPU	Mount Pierson comp=Z,6.6nm,0.9s	77.98 327	eP	P	03 57 48.8	+1.4
SRU	San Rafael Swe comp=Z,7.1nm,0.9s	78.07 329	eP	P	03 57 48.7	+1.0
SZCU	Shurtz Canyon comp=Z,6.1nm,1.0s	78.07 326	eP	P	03 57 48.9	+1.2
E38A	The Farm, Brul baz=160	78.15 345	P	P	03 57 48.1	+0.4
CCUT	Cedar City comp=Z,12nm,0.9s	78.17 326	eP	P	03 57 50.4	+2.1
GSC	Goldstone, Bar comp=Z,11nm,1.5s	78.21 322	eP	P	03 57 50.3	+1.9
GSC	Goldstone, Bar baz=139	78.21 322	P	P	03 57 50.2	+1.9
SHPR	Sheep Range comp=Z,6.2nm,1.1s	78.26 324	eP	P	03 57 49.5	+0.8
LSQQ	Lebel-sur-Quev baz=173	78.30 355	P	P	03 57 49.1	+0.7
MSU	Marysvale	78.36 327	eP	P	03 57 50.3	+1.0
TSUM	Tsumeb	78.41 106	eP	P	03 57 49.3	-0.7
P17A	Butcher Ranch, comp=Z,8.4nm,1.0s	78.46 329	eP	P	03 57 51.4	+1.6
TMUT	Trail Mountain comp=Z,2.9nm,0.8s	78.53 328	eP	P	03 57 51.5	+1.2
EDW2	Edwards Air Fo baz=138	78.54 321	P	P	03 57 51.4	+1.3
RWWY	Rawlins comp=Z,11nm,0.8s	78.76 332	eP	P	03 57 52.6	+1.1
CHGQ	Chibougamau baz=176	78.99 357	P	P	03 57 52.6	+0.4
FURC	Furnace Creek, baz=139	79.12 323	P	P	03 57 55.3	+2.1
MPMC	Manual Prospec baz=139	79.14 322	P	P	03 57 54.9	+1.2
TPNV	Topopah Spring comp=Z,5.0nm,0.9s	79.16 324	eP	P	03 57 54.5	+0.8
TPNV	Topopah Spring baz=140,SNR=8.6	79.16 324	P	P	03 57 55.8	+2.1
SBC	Santa Barbara baz=137	79.17 320	P	P	03 57 54.6	+1.1
PSUT	Pine Spring comp=Z,6.9nm,0.9s	79.18 326	eP	P	03 57 54.8	+1.0
K22A	Casper comp=Z,6.9nm,0.8s	79.30 333	eP	P	03 57 55.7	+1.4
K22A	Casper baz=148	79.30 333	P	P	03 57 56.2	+1.9
MPU	Maple Canyon comp=Z,3.4nm,0.9s	79.30 328	eP	P	03 57 55.7	+1.3
DAC	Darwin (Calif) comp=Z,4.9nm,0.9s	79.36 322	eP	P	03 57 56.8	+2.0
ISA	Isabella, Lake comp=Z,4.5nm,1.0s	79.38 321	eP	P	03 57 56.0	+1.3
ISA	Isabella, Lake baz=138,SNR=5.4	79.38 321	P	P	03 57 56.5	+1.8
EYMN	Ely	79.40 345	eP	P	03 57 55.2	+0.7
	comp=Z,24nm,1.6s					
EYMN	Ely baz=160	79.40 345	P	P	03 57 55.2	+0.7
PKM	Mcpherson Peak baz=137,SNR=9.0	79.55 320	P	P	03 57 57.6	+1.7
RSSD	Black Hills comp=Z,5.1nm,0.8s	79.61 335	eP	P	03 57 56.4	+0.4
RSSD	Black Hills baz=150	79.61 335	P	P	03 57 57.9	+1.9
JLU	Jordanelle comp=Z,3.9nm,0.9s	79.69 329	eP	P	03 57 58.0	+1.4
CWC	Cottonwood Cre baz=138	79.74 322	P	P	03 57 59.0	+2.2
GRAC	Grapevine Rang baz=139	79.78 323	P	P	03 57 59.0	+2.1
VES	Vestal, Richgr baz=138	79.85 321	P	P	03 57 59.3	+2.2
R11A	Troy Canyon, C comp=Z,6.4nm,1.2s	79.89 325	eP	P	03 57 58.9	+1.3
R11A	Troy Canyon, C baz=140	79.89 325	P	P	03 57 59.7	+2.1
SMMC	Simmler baz=137	79.97 320	P	P	03 58 00.2	+2.3
DUG	Dugway, Tooele comp=Z,22nm,2.0s	79.99 328	eP	P	03 57 58.9	+0.9
DUG	Dugway, Tooele baz=142	79.99 328	P	P	03 58 00.0	+2.0
BOSA	Boshof comp=Z,6.9nm,0.5s,baz=253,slow=3.6,SNR=38	80.32 117	P	P	03 58 00.2	-0.1
TOA0	Torodi Ar. Sit	80.57 69	eP	P	03 58 00.2	-1.4
TORD	Torodi Ar. Bea comp=Z,12nm,0.6s,baz=250,slow=3.6,SNR=105	80.57 69	P	P	03 58 00.0	-1.5
TORD	comp=Z,1.9nm,0.8s,baz=270,slow=4.3,SNR=2.2		pP	pP	03 58 31.3	+0.6
BW06	Boulder Array comp=Z,21nm,2.0s	80.63 331	eP	P	03 58 01.6	+0.1
BW06	Boulder Array baz=145	80.63 331	P	P	03 58 01.9	+0.4
PD31	Pinedale Array comp=Z,10nm,1.7s	80.63 331	eP	P	03 58 02.0	+0.5
PDAR	Pinedale Array comp=Z,2.0nm,0.8s,baz=129,slow=6.9,SNR=18	80.63 331	P	P	03 58 02.5	+0.9
PDAR	comp=Z,0.9nm,0.7s,baz=131,slow=6.1,SNR=2.9		pP	pP	03 58 33.4	+2.3
SPUT	South Promonto comp=Z,3.9nm,0.9s	80.71 329	eP	P	03 58 02.6	+0.7
AGMN	Agassiz Nation comp=Z,7.9nm,0.6s	80.79 343	eP	P	03 58 02.5	+0.6
AGMN	Agassiz Nation baz=157	80.79 343	P	P	03 58 02.5	+0.6
OMMB	Old Mammoth Mi comp=Z,6.3nm,0.9s	81.11 322	eP	P	03 58 05.9	+1.6
NV11	Mina Array Sit comp=Z,0.3nm,1.1s	81.27 323	eP	P	03 58 05.6	+0.6
NV01	Mina Array Sit	81.35 323	eP	P	03 58 06.3	+0.9
NVAR	Mina Array Bea comp=Z,3.1nm,0.8s,baz=158,slow=6.0,SNR=19	81.35 323	P	P	03 58 06.9	+1.5
NVAR	comp=Z,1.6nm,0.9s,baz=161,slow=6.2,SNR=3.7		pP	pP	03 58 38.5	+3.5
MDND	Maddock baz=154	81.43 340	P	P	03 58 06.9	+1.6
ELK	Elko comp=Z,4.1nm,1.0s	81.57 327	eP	P	03 58 07.3	+0.8
ELK			pP	pP	03 58 38.4	+2.4
ELK	Elko comp=Z,3.2nm,0.8s,baz=106,slow=3.0,SNR=14	81.57 327	P	P	03 58 07.7	+1.1
ELK	comp=Z,2.6nm,0.8s,baz=90,slow=3.4,SNR=5.7		pP	pP	03 58 38.4	+2.4
REDW	Red Top Meadow comp=Z,6.8nm,1.3s	81.66 331	eP	P	03 58 07.7	+0.7
KVN	Kaiserville comp=Z,7.0nm,1.2s	81.70 324	eP	P	03 58 08.1	+0.8
LOHW	Long Hollow comp=Z,2.2nm,0.8s	81.76 331	eP	P	03 58 07.6	+0.2
TPAW	Teton Pass comp=Z,3.9nm,0.9s	81.81 331	eP	P	03 58 08.7	+0.9
MOOW	Moose Ponds comp=Z,11nm,1.8s	81.93 331	eP	P	03 58 09.2	+0.8
WAKR	Walker comp=Z,4.7nm,0.9s	82.00 323	eP	P	03 58 10.3	+1.5
IMW	Indian Meadow comp=Z,4.9nm,1.0s	82.13 331	eP	P	03 58 10.8	+1.3
FLWY	Flagg Ranch comp=Z,6.3nm,0.7s	82.18 331	eP	P	03 58 10.6	+1.0
YERR	Yerington comp=Z,9.5nm,0.6s	82.25 323	eP	P	03 58 11.5	+1.4
H17A	Grant Village baz=145	82.39 332	P	P	03 58 12.5	+1.7
RLMT	Red Lodge comp=Z,7.3nm,0.6s	82.45 333	eP	P	03 58 12.0	+1.0
RLMT	Red Lodge baz=146,SNR=9.1	82.45 333	P	P	03 58 12.2	+1.1
LKWY	Lake comp=Z,24nm,1.8s	82.45 332	eP	P	03 58 13.1	+2.0
PNTR	Pine Nut comp=Z,12nm,0.7s	82.51 323	eP	P	03 58 13.1	+1.6
ULM	Lac du Bonnet comp=Z,8.5nm,0.9s	82.59 343	eP	P	03 58 11.7	+0.4
ULM	Lac du Bonnet comp=Z,5.7nm,0.8s,baz=155,slow=5.9,SNR=12	82.59 343	P	P	03 58 11.5	+0.1
YMR	Madison River comp=Z,9.7nm,0.8s	82.77 332	eP	P	03 58 14.4	+1.7
YHH	Holmes Hill comp=Z,5.7nm,0.7s	82.82 332	eP	P	03 58 14.5	+1.4
PAHR	Pah Rah Range comp=Z,6.6nm,0.9s	82.86 324	eP	P	03 58 15.0	+1.9
YHB	Horse Butte comp=Z,20nm,1.8s	82.93 331	eP	P	03 58 15.2	+1.7
AFDM	Forest Hills D comp=Z,2.5nm,0.8s	83.14 322	eP	P	03 58 15.3	+0.7
HLID	Hailey comp=Z,5.3nm,1.2s	83.38 329	eP	P	03 58 17.1	+1.3
HLID	Hailey baz=142,SNR=7.5	83.38 329	P	P	03 58 17.2	+1.4
DGMT	Dagmar comp=Z,19nm,0.7s	83.43 338	eP	P	03 58 16.9	+1.2
DGMT	Dagmar baz=150,SNR=6.9	83.43 338	P	P	03 58 17.0	+1.2
BEKR	Beckworth comp=Z,5.3nm,1.0s	83.48 323	eP	P	03 58 17.6	+1.1
MCMT	McKenzie Canyo	83.69 331	eP	P	03 58 19.1	+1.6
BOZ	Bozeman (W) baz=144	83.80 332	P	P	03 58 18.1	+0.2
ORV	Oroville comp=Z,8.0nm,1.2s	83.86 322	eP	P	03 58 19.4	+1.2
O03E	Paynes Creek baz=136	84.56 323	P	P	03 58 22.6	+0.8
CASY	Casey comp=Z,12nm,1.0s	84.71 180	eP	P	03 58 22.9	+0.8
O02D	Mt. Diablo Mer baz=135	85.00 322	P	P	03 58 24.3	+0.4
EGMT	Eagleton baz=145	85.03 334	P	P	03 58 25.1	+1.1
J08A	Circle Bar Ran comp=Z,9.5nm,0.9s	85.12 326	eP	P	03 58 25.9	+1.4
M04C	Macdoel baz=136	85.64 324	P	P	03 58 28.4	+1.2
MSO	Missoula baz=142	85.75 331	P	P	03 58 28.9	+1.4
K05A	Summer Lake comp=Z,20nm,1.4s	85.84 325	eP	P	03 58 29.8	+1.5
I07A	Izee comp=Z,3.3nm,0.8s	86.16 326	eP	P	03 58 30.9	+1.3
J05D	Fort Rock, OR baz=137	86.42 325	P	P	03 58 32.6	+1.5
F10A	Beach Ranch, E comp=Z,3.8nm,1.0s	86.52 329	eP	P	03 58 32.4	+1.1
PINE	Pine Mountain comp=Z,8.2nm,0.8s	86.65 325	eP	P	03 58 33.6	+1.4
G08A	Pilot Rock comp=Z,3.0nm,1.1s	86.80 328	eP	P	03 58 33.2	+0.5
I05D	Terrebonne, OR baz=136	87.24 326	P	P	03 58 36.5	+1.6
I04A	Tendick Farm, baz=136	87.38 325	P	P	03 58 36.3	+0.7
WALA	Waterton Lakes comp=Z,10nm,0.9s	87.50 333	eP	P	03 58 35.8	-0.3
H04A	Detroit Lake comp=Z,6.6nm,0.9s	87.91 325	eP	P	03 58 38.7	+0.7
NEW	Newport baz=140	88.22 330	P	P	03 58 39.1	-0.3
C09A	Chrisman Ranch comp=Z,6.9nm,1.1s	88.37 330	eP	P	03 58 40.6	+0.5
TAM	Tamanrasset comp=Z,2.4nm,0.8s	88.83 63	eP	P	03 58 42.8	-0.3
LTY	Liberty comp=Z,3.3nm,0.8s	89.05 328	eP	P	03 58 43.4	0.0
LON	Longmire	89.22 327	eP	P	03 58 44.6	+0.4
	comp=Z,2.5nm,0.8s					
D03D	Eldon baz=135	90.39 327	P	P	03 58 50.4	+0.9
B05A	Bryant baz=136	90.44 328	P	P	03 58 50.2	+0.5
A04D	Lummi Island baz=136	91.05 328	P	P	03 58 53.4	+0.9
YKA	Yellowknife Ar comp=Z,0.9nm,0.7s,baz=137,slow=4.5,SNR=22	98.34 341	P	P	03 59 25.1	-0.4
YKB5	Yellowknife Ar	98.34 341	eP	P	03 59 23.9	-1.7
VYHS	Vyhne	110.31 45	ePDIF	Pdif	04 00 21.3	+2.2
TOLK	Toolik Lake Re baz=110	113.45 337	P	PKiKP	04 04 25.7	+0.6
FINES	FINESS Array B comp=Z,0.9nm,0.8s,baz=84,slow=5.7,SNR=4.3	117.91 33	PKKPbc	PKKPbc	04 14 57.5	+1.5
ASAR	Alice Springs comp=Z,0.8nm,0.5s,baz=131,slow=1.7,SNR=15	122.71 206	PKP	PKPdf	04 04 43.9	-0.5
ASAR	comp=Z,0.7nm,0.8s,baz=183,slow=1.1,SNR=3.6		pPKP	pPKPdf	04 05 17.1	+1.5
WRA	Warramunga Arr comp=Z,2.4nm,0.5s,baz=152,slow=1.6,SNR=42	125.89 208	PKP	PKPdf	04 04 50.3	-0.3
WRA	comp=Z,0.6nm,0.5s,baz=156,slow=1.6,SNR=3.5		pPKP	pPKPdf	04 05 23.1	+1.3
WRAB	Tennant Creek	125.90 208	ePKPdf	PKPdf	04 04 50.6	0.0
BILL	Bilibino	129.49 336	ePKPdf	PKiKP	04 04 56.6	0.0
BRVK	Borovoye	142.28 40	ePKPdf	PKPdf	04 05 19.6	-0.4
KAPI	Kappang	144.73 196	ePKPdf	PKPdf	04 05 25.2	-0.3
EKS2	Erkin-Say SNR=6.4	147.71 56	P	PKiKP	04 05 34.2	-0.5
AML	Almayashu SNR=7.1	147.76 57	P	PKiKP	04 05 34.5	-0.7
KURK	Kurchatov	147.95 39	ePKPdf	PKPdf	04 05 30.8	+1.1
AAK	Ala-Archa SNR=8.3	148.23 55	P	PKiKP	04 05 35.6	-0.2
AAK	Ala-Archa	148.23 55	ePKPbc	PKPbc	04 05 34.6	+0.4
UCH	Uchtor SNR=13	148.34 56	P	PKiKP	04 05 36.3	-0.1
KBK	Karagaybulak SNR=5.6	148.56 55	P	PKiKP	04 05 36.7	+0.1
TKM2	Tokmak 2 SNR=10	148.96 55	P	PKiKP	04 05 37.3	0.0
ZALV	Zalesovo Beam comp=Z,1.0nm,0.6s,baz=259,slow=1.5,SNR=5.3	149.12 30	PKP	PKPdf	04 05 31.2	-0.3
ZALV	comp=Z,14nm,0.5s,baz=302,slow=3.6,SNR=59		PKPbc	PKiKP	04 05 36.4	-0.6
ZALV	comp=Z,3.1nm,0.5s,baz=319,slow=3.4,SNR=3.4		pPKPbc	pPKPbc	04 06 07.8	+0.9
ULHL	Ulahol SNR=12	149.58 56	P	PKiKP	04 05 39.0	+0.3
KSH	Kashi	149.93 61	PKPbc	PKiKP	04 05 39.3	-0.1
KSH			PP	PP	04 09 21.8	+7.9
KSH	comp=Z,84nm,4.7s		AMB	AMB		
MKAR	Makanchi Array comp=Z,0.1nm,0.2s,baz=258,slow=4.1,SNR=2.7	151.98 44	PKP	PKPdf	04 05 36.0	-0.3
MKAR	comp=Z,5.7nm,0.8s,baz=316,slow=2.2,SNR=48		PKPbc	PKiKP	04 05 43.1	-0.1
WMQ	Urumqi	156.77 45	eP	PKPdf	04 05 43.0	-0.1
SONM	Songino Array comp=Z,0.4nm,0.6s,baz=207,slow=0.6,SNR=3.4	161.24 9	PKP	PKPdf	04 05 48.4	+0.1
SONM	comp=Z,1.1nm,0.8s,baz=334,slow=3.9,SNR=7.8		PKPab	PKPab	04 06 33.3	+0.9
GTA	Gaotai	166.63 38	eP	PKPdf	04 05 54.3	+0.8
GTA			pP	pPKPdf	04 05 58.3	-26
GTA			sP	sPKPdf	04 06 01.5	-35
HHC	Hu-ho-hao-te	168.46 356	eP	PKPdf	04 05 54.0	-0.7
NJ2	Nanjing	172.29 293	eP	PKPdf	04 05 58.3	+1.4
CD2	Chengdu	173.96 73	PKP	PKPdf	04 05 57.3	-0.4

*ISCJB **29** 04:00:44.2±0.7, 15°.42N±0°.08×93°.77W±0°.04, h80km±6km, mb3.7/7, Error ellipse: s-maj=14.2km s-min=5.6km az=14.1*

*IDC **29** 04:00:46.0±1.7, 15°.62N×93°.63W, h77km±12km, mb3.5/7, mb1 3.8/9, mb1mx3.5/36, mbtmp3.8/9, Error ellipse: s-maj=34.3km s-min=6.6km az=33.0*

*NEIC **29** 04:00:46.5±0.0, 15°.47N×93°.77W, h82km, MD4.1(MEX), After MEX.*

*MEX **29** 04:00:46.9±0.5, 15°.48N×93°.78W, h77km±8km, MD4.2*

ISC 29 04:00:45.3±0.9, 15°.47N±0°.08×93°.76W±0°.04, h78km±8km, n20, o0°97/28, mb3.7/7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		0.57	66	eP	Pn	04 00 59.6	+0.1
PCIG				i S	Sn	04 01 10.3	+0.3
PCIG		0.57	66	eP	Pn	04 00 59.6	+0.1
PCIG				i S	Sn	04 01 09.9	0.0
CCIG	Comitan	1.75	63	eP	Pn	04 01 13.8	-0.3
CCIG	Comitan	1.75	63	i S	Sn	04 01 35.9	0.0
CMIG	Matias Romero	1.94	326	eP	Pn	04 01 16.6	+0.2
CMIG				eS	Sn	04 01 39.8	-0.2
CMIG	Matias Romero 35nm,0.3s,baz=146,slow=10,SNR=334	1.94	326	P	Pn	04 01 16.6	+0.2
CMIG				S	Sn	04 01 39.7	-0.2
	88nm,0.3s,baz=126,slow=12,SNR=17						
CMIG				LR	LR	04 01 58.4	
	comp=Z,91nm,21.5s,baz=70,slow=38						
HUIG	Huatulco	2.28	278	eP	Pn	04 01 21.1	+0.1
HUIG				i S	Sn	04 01 46.4	-1.9
HUIG	Huatulco	2.28	278	eP	Pn	04 01 21.1	+0.1
HUIG				i S	Sn	04 01 47.4	-0.9
APG	El Apazote 9.5nm,0.3s,baz=89,slow=17,SNR=63	3.21	98	P	Pn	04 01 34.4	+0.6
APG				S	Sn	04 02 09.8	-1.3
	85nm,0.3s,baz=87,slow=18,SNR=25						
VHO	Vista Hermosa	3.27	299	eP	Pn	04 01 36.0	+1.5
VHO	Vista Hermosa	3.27	299	i P	Pn	04 01 34.9	+0.4
VHO				i S	Sn	04 02 11.9	-0.6
TXAR	Lajitas Array 0.0nm,0.3s,baz=149,slow=12,SNR=11	16.55	328	P	P	04 04 33.9	0.0
X48A	Hartselle	19.84	17	eS	P	04 05 08.4	-1.6
ANMO	Albuquerque 1.2nm,0.6s,baz=1.3,slow=3.7,SNR=3.1	22.50	332	P	P	04 05 39.6	+0.9
PDAR	Pinedale Array 0.2nm,0.7s,baz=115,slow=10.0,SNR=4.3	30.39	337	P	P	04 06 51.7	+1.4
NVAR	Mina Array Bea 0.5nm,0.7s,baz=131,slow=9.4,SNR=3.8	31.46	321	P	P	04 07 01.8	+2.0
SIV	San Ignacio 0.7nm,0.6s,baz=278,slow=8.3,SNR=3.9	44.93	133	P	P	04 08 52.5	-0.4
YKA	Yellowknife Ar 1.8nm,0.6s,baz=152,slow=7.4,SNR=56	49.22	347	P	P	04 09 24.4	-1.1
PLCA	Paso Flores 1.6nm,1.0s,baz=321,slow=13,SNR=3.3	59.93	160	P	P	04 10 44.7	+1.3
ARCES	ARCESS Array B 4.3nm,0.8s,baz=347,slow=7.0,SNR=6.8	85.27	18	P	P	04 13 12.3	-1.0

DJA 29 04:23:44.5±0.5, 3°S±8°×10°2E±°, h39km±17km, M3.9/7, MLv3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	Kerinci	1.30	340	P	Pn	04 24 07.0	+0.8
MNAI	Manna	1.48	134	P	Pn	04 24 08.1	-0.5
LHSI	Lahat	1.70	107	P	Pn	04 24 10.8	-0.8
PPSI	Pulau Pagai	1.97	286	P	Pn	04 24 16.4	+1.1
MDSI	Maura Dua	2.55	117	P	Pn	04 24 23.1	-0.3
LWLI	Liwa	2.73	128	P	Pn	04 24 31.9	+5.9
PDSI	Padang	2.79	329	P	Pn	04 24 26.8	+0.1
KASI	Kota Agung	3.39	130	P	Pn	04 24 35.7	+0.8
SISI	Saibi	3.44	305	P	Pn	04 24 34.9	-0.6
BKNI	Bangkinang	3.72	347	P	Pn	04 24 42.9	+3.4
DSRI	Dabo	3.89	44	P	Pn	04 24 41.6	-0.2
PBSI	Pulau Batu	4.86	312	P	Pn	04 24 54.3	-0.8

*ATH **29** 04:26:21.9, 36°.43N×25°.46E, h6km±2km, ML1.2/2, Error ellipse: s-maj=4.1km s-min=1.4km az=247.0*

THE 29 04:26:21.7, 36°.43N×25°.49E, h5km±1km, ML0.9/5, Error ellipse: s-maj=2.0km s-min=0.4km az=245.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAP2K	Karterados	0.04	246	P	Pg	04 26 23.0	+0.2
THR2	Thira island,	0.05	294	P	Pg	04 26 23.0	+0.1
THR2	Thira island,	0.05	294	P	Pg	04 26 22.9	0.0
THR2	Thira island,	0.05	294	P	Pg	04 26 22.9	0.0
SFIR	Foira Santorin	0.05	265	P	Pg	04 26 23.2	+0.2
SFIR				S	Sg	04 26 24.4	+0.5
THR7	Fira-Santorini	0.05	265	P	Pg	04 26 23.1	+0.1
THR7	Fira-Santorini	0.05	265	P	Pg	04 26 23.1	+0.1
THR7	Fira-Santorini	0.05	265	P	Pg	04 26 23.2	+0.2

THT2	**Imerovigli**	**0.06**	**279**	P	Pg	04 26 23.2	+0.1
THT2				S	Sg	04 26 24.4	+0.4
THT2	**Imerovigli**	**0.06**	**279**	P	Pg	04 26 23.1	+0.1
THT2				S	Sg	04 26 24.6	+0.6
THT2				AML	AML	04 26 24.8	
	comp=N,1055μm,0.2s						
THT2				AML	AML	04 26 24.8	
	comp=E,1477μm,0.3s						
THT2	**Imerovigli**	**0.06**	**279**	P	Pg	04 26 23.3	+0.2
THT2				S	Sg	04 26 24.0	0.0
THT2				AML	AML	04 26 24.8	
	comp=N,1055μm,0.2s						
THT2				AML	AML	04 26 24.8	
	comp=E,1477μm,0.3s						
SANT	**Santorini**	**0.06**	**204**	P	Pg	04 26 23.4	+0.2
SANT				S	Sg	04 26 24.6	+0.4
SANT	**Santorini**	**0.06**	**204**	P	Pg	04 26 23.4	+0.2
SANT	**Santorini**	**0.06**	**204**	P	Pg	04 26 23.4	+0.2
SANT				S	Sg	04 26 24.5	+0.3
THT1	**Athinios (Pele**	**0.06**	**230**	P	Pg	04 26 23.1	0.0
THT1				S	Sg	04 26 24.2	+0.1
THR3	**Thira Island,**	**0.07**	**256**	P	Pg	04 26 23.5	+0.2
THR3	**Thira Island,**	**0.07**	**256**	P	Pg	04 26 23.5	+0.2
THR3	**Thira Island,**	**0.07**	**256**	P	Pg	04 26 23.5	+0.2
CMBO	**Columbo, Santo**	**0.08**	**303**	P	Pg	04 26 23.5	0.0
CMBO				S	Sg	04 26 24.9	+0.2
CMBO	**Columbo, Santo**	**0.08**	**303**	P	Pg	04 26 23.3	-0.2
CMBO				S	Sg	04 26 24.7	0.0
CMBO	**Columbo, Santo**	**0.08**	**303**	P	Pg	04 26 23.3	-0.2
CMBO				AML	AML	04 26 25.1	
	comp=E,291μm,0.2s						
CMBO				AML	AML	04 26 25.2	
	comp=N,628μm,0.2s						
THR6	**Thira Island,**	**0.10**	**227**	P	Pg	04 26 24.2	+0.4
THR6	**Thira Island,**	**0.10**	**227**	P	Pg	04 26 24.2	+0.4
THR6	**Thira Island,**	**0.10**	**227**	P	Pg	04 26 24.3	+0.5
THR5	**Thira Island,**	**0.12**	**265**	P	Pg	04 26 24.3	+0.2
THR5	**Thira Island,**	**0.12**	**265**	P	Pg	04 26 24.2	+0.1
THR5	**Thira Island,**	**0.12**	**265**	P	Pg	04 26 24.2	+0.2
ANAF	**Anafi Island**	**0.24**	**107**	P	Pg	04 26 26.7	+0.4
ANAF				S	Sg	04 26 30.2	+0.7
ANAF	**Anafi Island**	**0.24**	**107**	P	Pg	04 26 26.7	+0.4
ANAF				S	Sg	04 26 30.2	+0.7
AMGA	**Amorgos Island**	**0.52**	**39**	P	Pb	04 26 33.2	-0.2

*ISK **29** 04:29:04.1,38°.71N×43°.21E,h5km,ML2.4/7*
*ISCJB **29** 04:29:05.7±0.4,38°.72N±0°.03×43°.18E±0°.04,h12km±6km, Error ellipse: s-maj=5.5km s-min=4.5km az=149.3*
*DDA **29** 04:29:05.5,38°.68N×43°.16E,h7km±4km,ML2.7*
ISC 29 04:29:05.2±1.0,38°.71N±0°.04×43°.21E±0°.03,h23km±9km, n15,σ0962/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.18**	**129**	PG	**Pb**	**04 29 10.5**	**-0.1**
VANB				SG	**Sb**	**04 29 15.0**	**+0.8**
TVAN	**Van**	**0.23**	**140**	*i* P	**Pb**	**04 29 11.2**	**-0.2**
TVAN				*i* S	**Sb**	**04 29 15.0**	**-0.5**
ADCV	**BITLIS_Adilcev**	**0.40**	**285**	*i* P	**Pb**	**04 29 14.3**	**+0.6**
ADCV				IAML_P			
	comp=Z,2μm,0.1s						
VMUR	**Van-Muradiye**	**0.40**	**45**	*i* P	**Pb**	**04 29 14.3**	**+0.5**
VMUR				*i* S	**Sn**	**04 29 22.9**	**+0.4**
GEVA	**Gevas**	**0.41**	**197**	*i* P	**Pb**	**04 29 13.5**	**-0.5**
AKDM	**Akdamar-Van**	**0.42**	**206**	PG	**Pb**	**04 29 13.5**	**-0.6**
MLAZ	**Malazgirt-MUS**	**0.68**	**310**	PG	**Pb**	**04 29 18.2**	**-0.2**
MLAZ				SG	**Sn**	**04 29 28.7**	**-0.7**
CLDR	**Caldiran**	**0.70**	**51**	PG	**Pb**	**04 29 18.7**	**-0.2**
CLDR				SG	**Sn**	**04 29 29.6**	**-0.5**
TUTA	**Tutak**	**0.76**	**336**	*i* P	**Pb**	**04 29 20.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.88**	**349**	PG	**Pb**	**04 29 21.9**	**-0.1**
AGRB				SG	**Sn**	**04 29 35.2**	**+0.6**
BASK	**Baskale_VAN**	**0.90**	**136**	*i* P	**Pb**	**04 29 22.6**	**+0.3**
BASK				IAML_P			
	comp=Z,1μm,0.1s						
BLIS	**Bitlis-Merkez**	**0.91**	**252**	*i* P	**Pb**	**04 29 22.4**	**0.0**
BLIS				*i* S	**Sb**	**04 29 35.4**	**+1.3**
BLIS				IAML_P			
	comp=Z,2μm,0.2s						
GURO	**Guroymak-BITLI**	**0.94**	**261**	PG	**Pb**	**04 29 22.7**	**-0.2**
MUSM	**Mu-Merkez**	**1.33**	**271**	*i* P	**Pb**	**04 29 29.9**	**+0.4**
MUSM				IAML_P			
	comp=Z,156nm,0.2s						
CUKT	**Cukurca**	**1.49**	**168**	PN	**Pb**	**04 29 33.3**	**+1.0**

*IDC **29** 04:29:22.5±1.9,22°.44S×148°.11E,h0km,mb3.8/1, mb1 3.7/5,mb1mx3.6/26,mbtmp3.6/5,ML3.4/4,Error ellipse: s-maj=30.5km s-min=18.5km az=76.0*
*ISCJB **29** 04:29:24.3±1.5,22°.54S±0°.07×147°.7E±0°.1,h10km, mb3.6/2,Error ellipse: s-maj=17.0km s-min=9.9km az=1.1*
ISC 29 04:29:25.3±1.6,22°.49S±0°.08×147°.9E±0°.1,h10km,n8, σ1956/10,Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.84**	**327**	Pn	**Pn**	**04 30 10.8**	**0.0**
	4.0nm,0.3s,baz=132,slow=17,SNR=40						
CTA				Pg	**Pb**	**04 30 16.7**	**+0.5**
	11nm,0.3s,baz=143,slow=18,SNR=33						
CTA				Lg	Lg	04 30 55.3	
	17nm,0.3s,baz=68,slow=20,SNR=9.4						
STKA	**Stephens Creek**	**10.91**	**210**	Pn	**Pn**	**04 32 01.6**	**+0.1**
	0.2nm,0.3s,baz=19,slow=16,SNR=4.2						
STKA				Sn	**Sn**	**04 34 03.5**	**-0.3**
	0.2nm,0.3s,baz=277,slow=22,SNR=3.4						
STKA				Lg	Lg	04 35 11.8	
	0.2nm,0.3s,baz=127,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**12.91**	**279**	Pn	**Pn**	**04 32 27.8**	**-1.2**
	0.1nm,0.3s,baz=98,slow=12,SNR=8.0						
WRA				Sn	**Sn**	**04 34 51.5**	**-1.4**
	0.1nm,0.3s,baz=108,slow=22,SNR=3.3						
WRA				Lg	Lg	04 36 21.7	
	0.3nm,0.3s,baz=106,slow=30,SNR=5.5						
ASAR	**Alice Springs**	**12.95**	**262**	Pn	**Pn**	**04 32 30.5**	**+1.0**
	0.1nm,0.3s,baz=89,slow=13,SNR=14						
ASAR				Lg	Lg	04 36 20.1	
	0.2nm,0.3s,baz=85,slow=27,SNR=4.5						
I22FR	**PORTLAGUERRE I17.52**	**93**	*i*			06 15 00.0	
	baz=267,slow=313,SNR=3.4						
FITZ	**Fitzroy Crossi**	**21.34**	**278**	P	**P**	**04 34 15.6**	**+2.9**
	2.1nm,0.8s,baz=122,slow=9.5,SNR=4.2						
SONM	**Songino Array**	**79.31**	**333**	P	**P**	**04 41 30.8**	**-0.3**
	0.6nm,0.6s,baz=155,slow=6.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**146.60**	**260**	PKPbc	**PKPbc**	**04 49 06.0**	**-1.9**
	2.1nm,1.0s,baz=97,slow=2.2,SNR=8.7						

*ISCJB **29** 04:34:26.7±1.1,14°.84N±0°.08×93°.48W±0°.05,h45km±13km, mb3.5/2,Error ellipse: s-maj=13.7km s-min=7.2km az=12.2*
*NEIC **29** 04:34:28.2±0.0,14°.77N×93°.47W,h43km,MD4.0(MEX), After MEX.*
*MEX **29** 04:34:28.3±0.8,14°.77N×93°.46W,h36km±52km,MD4.0*
*IDC **29** 04:34:30.2±1.9,16°.19N×92°.82W,h0km,mb3.4/2, mb1 3.7/5,mb1mx3.4/34,mbtmp3.4/5,ML3.5/3,Error ellipse: s-maj=73.9km s-min=14.3km az=30.0*
ISC 29 04:34:26.5±2.7,14°.82N±0°.09×93°.48W±0°.04,h28km±19km, n14,σ1920/21,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.91**	**16**	*e*P	**Pn**	**04 34 43.6**	**+0.1**
PCIG				*e*S	**Sb**	**04 34 55.2**	**-0.3**
PCIG		**0.91**	**16**	*e*P	**Pn**	**04 34 43.6**	**+0.1**
PCIG				*e*S	**Sb**	**04 34 55.2**	**-0.3**
THIG		**1.18**	**86**	*i* P	**Pn**	**04 34 47.1**	**0.0**
THIG		**1.18**	**86**	*i* P	**Pn**	**04 34 47.1**	**0.0**
THIG				*i* S	**Sn**	**04 34 50.2**	**-2.0**
CCIG	**Comitan**	**1.94**	**42**	*e*P	**Pn**	**04 34 59.9**	**+2.1**
CCIG	**Comitan**	**1.94**	**42**	*e*P	**Pn**	**04 34 58.2**	**+0.4**
CCIG				*i* S	**Sn**	**04 35 20.1**	**-1.3**
CMIG	**Matias Romero**	**2.63**	**329**	*e*P	**Pn**	**04 35 07.9**	**+0.8**
CMIG				*i* S	**Sn**	**04 35 38.7**	**+0.6**
CMIG	**Matias Romero**	**2.63**	**329**	Pn	**Pn**	**04 35 07.9**	**+0.8**
	8.3nm,0.3s,baz=166,slow=14,SNR=83						
CMIG				Sn	**Sn**	**04 35 36.0**	**-2.2**
	19nm,0.3s,baz=126,slow=14,SNR=7.6						
HUIG	**Huatulco**	**2.71**	**291**	*e*P	**Pn**	**04 35 07.8**	**-0.4**
HUIG	**Huatulco**	**2.71**	**291**	*e*P	**Pn**	**04 35 07.8**	**-0.4**
HUIG				*i* S	**Sn**	**04 35 40.0**	**0.0**
APG	**El Apazote**	**2.92**	**86**	Pn	**Pn**	**04 35 12.8**	**+1.5**
	7.4nm,0.3s,baz=324,slow=13,SNR=41						
APG				Lg	Lg	04 35 51.9	
	9.9nm,0.3s,baz=190,slow=22,SNR=7.6						
TXAR	**Lajitas Array**	**17.24**	**329**	Pn	**Pn**	**04 38 25.4**	**-0.1**
	0.1nm,0.3s,baz=146,slow=11,SNR=2.9						
NVAR	**Mina Array Bea**	**32.14**	**322**	P	**P**	**04 40 53.9**	**+1.9**
	0.6nm,0.8s,baz=131,slow=3.7,SNR=3.7						
YKA	**Yellowknife Ar**	**49.91**	**347**	P	**P**	**04 43 16.1**	**-1.3**
	0.2nm,0.5s,baz=152,slow=7.4,SNR=6.2						

IDC 29 04:45:21.2±7.5,19°.28S×178°.01W,h530km±81km, mb2.8/5,mb1 3.2/5,mb1mx2.9/33,mbtmp3.7/5,Error ellipse: s-maj=101.9km s-min=29.6km az=153.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.77**	**261**	P	P	04 52 47.6	-0.3
	0.4nm,0.3s,baz=97,slow=7.6,SNR=13						
ASAR	**Alice Springs**	**44.80**	**256**	P	P	04 52 48.1	0.0
	1.9nm,0.6s,baz=97,slow=7.6,SNR=34						
ASAR				PcP	PcP	04 54 17.7	-1.1
	0.2nm,0.6s,baz=99,slow=4.8,SNR=3.4						
TXAR	**Lajitas Array**	**86.41**	**57**	P	P	04 57 08.7	+0.8
	0.2nm,0.6s,baz=211,slow=7.1,SNR=3.6						
ILAR	**Eielson Array**	**87.14**	**13**	P	P	04 57 09.7	-0.6
	0.3nm,0.6s,baz=225,slow=5.2,SNR=5.5						
PDAR	**Pinedale Array**	**88.08**	**43**	P	P	04 57 14.9	-0.7
	0.1nm,0.5s,baz=272,slow=5.3,SNR=2.7						
BRTR	**Keskin Array B**	**146.01**	**314**	PKPbc	PKPbc	05 04 01.8	-0.3
	0.5nm,0.5s,baz=151,slow=4.5,SNR=3.9						
GERES	**GERESS Array B**	**149.03**	**345**	PKPbc	PKPbc	05 04 09.4	-0.1
	0.8nm,0.6s,baz=28,slow=4.4,SNR=5.9						

MEX 29 04:45:43.0±0.4,16°.92N×100°.36W,h21km±4km,MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.15**	**34**	*i* P	Pb	04 45 46.6	-2.4
CAIG				*e*S	Sb	04 45 49.6	-3.5
MEIG	**Mezcala**	**1.22**	**35**	*e*P	Pn	04 46 01.8	-3.2
MEIG				*e*S	Sb	04 46 16.7	-4.3
ZIIG	**Zihuatanejo**	**1.26**	**303**	*i* P	Pn	04 46 02.3	-3.1
ZIIG				*e*S	Sn	04 46 18.1	-3.6
ARIG	**Puente Sto Nin**	**1.35**	**0**	*e*P	Pn	04 46 03.7	-3.0
ARIG				*e*S	Sn	04 46 19.7	-4.4
PLIG	**Platanillo**	**1.68**	**29**	*i* P	Pn	04 46 08.2	-3.1
PLIG				*i* S	Sn	04 46 27.6	-4.6
TLIG	**Tlapa**	**1.83**	**69**	*i* P	Pn	04 46 10.0	-3.3
TLIG				*i* S	Sn	04 46 32.8	-3.1
PNIG	**Pinotepa**	**2.20**	**103**	*e*P	Pn	04 46 15.3	-3.1
PNIG				*i* S	Sn	04 46 42.4	-2.7

*IDC **29** 04:52:21.1±1.4,3°.50N×83°.01W,h0km,mb3.8/5,mb1 4.1/8, mb1mx3.8/37,mbtmp4.0/8,ML2.9/2,MS3.5/12,Ms1 3.5/12, ms1mx3.4/47,Error ellipse: s-maj=44.6km s-min=18.8km az=51.0*
*NEIC **29** 04:52:25.1±1.0,3°.56N×82°.88W,h25km±7km,mb4.2/3, Error ellipse: s-maj=28.3km s-min=15.7km az=55.0*
ISC 29 04:52:23.9±0.8,3°.43N±0°.07×83°.0W±0°.1,h24km,n49, σ1964/39,mb3.7/7,MS3.4/7,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAPC	**Malpelo**	**1.51**	**68**	*e*P	Pn	04 52 43.5	-6.0
MAPC	**Malpelo**	**1.51**	**68**	*e*P	Pn	04 52 43.5	-6.0
OTAV	**Otavalo**	**5.55**	**125**	*e*Pn	**Pn**	**04 53 43.7**	**-1.9**
OTAV	**Otavalo**	**5.55**	**125**	*e*P	**Pn**	**04 53 43.5**	**-2.1**
OTAV	**Otavalo**	**5.55**	**125**	*e*P	**Pn**	**04 53 43.5**	**-2.1**
GCUF	**Volcan Galeras**	**6.07**	**111**	*e*P	**Pn**	**04 53 51.8**	**-0.9**
GCUF	**Volcan Galeras**	**6.07**	**111**	*e*P	**Pn**	**04 53 51.8**	**-0.9**
CRUC	**La Cruz**	**6.33**	**107**	*e*P	**Pn**	**04 53 54.9**	**-1.2**
CRUC	**La Cruz**	**6.33**	**107**	*e*P	**Pn**	**04 53 54.9**	**-1.2**
BCIP	**Isla Barro Col**	**6.51**	**29**	*e*Pn	**Pn**	**04 53 56.9**	**-1.4**
YOTC	**Yotoco, Valle**	**6.67**	**85**	*e*P	**Pn**	**04 53 57.5**	**-3.2**
YOTC	**Yotoco, Valle**	**6.67**	**85**	*e*P	**Pn**	**04 53 57.5**	**-3.2**
PCON	**Cinco Dias**	**6.69**	**99**	*e*P	**Pn**	**04 54 00.4**	**-1.0**
PCON	**Cinco Dias**	**6.69**	**99**	*e*P	**Pn**	**04 54 00.4**	**-1.0**
JTS	**JuntasAbangare**	**7.08**	**344**	*e*Pn	**Pn**	**04 54 04.4**	**-1.7**
JTS				*e*		04 54 04.6	
JTS	**JuntasAbangare**	**7.08**	**344**	Pn	**Pn**	**04 54 03.7**	**-2.4**
	9.3nm,0.3s,baz=175,slow=23,SNR=35						
JTS				Sn	**Sn**	**04 55 23.0**	**-3.0**
	2.1nm,0.3s,baz=29,slow=19,SNR=3.5						
FLOC	**Florencia**	**7.58**	**104**	*e*P	**Pn**	**04 54 10.9**	**-2.1**
FLOC	**Florencia**	**7.58**	**104**	*e*P	**Pn**	**04 54 10.9**	**-2.1**
HELC	**Santa Helena**	**7.94**	**70**	*e*P	**Pn**	**04 54 17.9**	**-0.3**
HELC	**Santa Helena**	**7.94**	**70**	*e*P	**Pn**	**04 54 17.9**	**-0.3**
PRAC	**Prado**	**8.11**	**88**	*e*P	**Pn**	**04 54 18.5**	**-1.9**
PRAC	**Prado**	**8.11**	**88**	*e*P	**Pn**	**04 54 18.5**	**-1.9**
NORC	**Norcasia**	**8.38**	**75**	*e*P	**Pn**	**04 54 25.6**	**+1.5**
NORC	**Norcasia**	**8.38**	**75**	*e*P	**Pn**	**04 54 25.6**	**+1.5**
ROSC	**El Rosal**	**8.78**	**81**	*e*Pn	**Pn**	**04 54 30.9**	**-0.9**
ROSC	**El Rosal**	**8.78**	**81**	Pn	**Pn**	**04 54 30.9**	**+1.0**
	0.8nm,0.3s,baz=321,slow=23,SNR=9.4						
ROSC				LR	LR	04 57 43.9	
	comp=Z,108nm,19.6s,baz=336,slow=37						
PTBC	**PUERTO BERRIO,**	**9.06**	**70**	*e*P	**Pn**	**04 54 34.5**	**+1.2**
PTBC	**PUERTO BERRIO,**	**9.06**	**70**	*e*P	**Pn**	**04 54 34.5**	**+1.2**
ATAH	**Atahualpa**	**11.46**	**156**	LR	LR	04 59 23.2	
	comp=Z,366nm,19.9s,baz=337,slow=37						
APG	**El Apazote**	**13.64**	**328**	LR	LR	05 00 04.4	
	comp=Z,163nm,19.0s,baz=356,slow=34						
NNA	**Nana**	**16.50**	**158**	*e*Pn	**Pn**	**04 56 14.0**	**0.0**
NNA				*e*Pn	**P**	**04 56 17.2**	**+0.6**
NNA	**Nana**	**16.50**	**158**	Pn	**Pn**	**04 56 14.0**	**0.0**
	0.3nm,0.3s,baz=250,slow=15,SNR=2.0						
NNA				LR	LR	05 02 13.4	
	comp=Z,104nm,18.6s,baz=316,slow=36						
CMIG	**Matias Romero**	**17.89**	**320**	LR	LR	05 02 05.8	
	comp=Z,101nm,18.9s,baz=122,slow=33						
SJG	**San Juan**	**22.03**	**47**	LR	LR	05 05 06.3	
	comp=Z,90nm,21.0s,baz=274,slow=35						
PTGA	**Pitinga**	**23.40**	**100**	P	**P**	**04 57 32.3**	**+1.0**
	2.2nm,0.8s,baz=285,slow=16,SNR=2.3						
PTGA				LR	LR	05 06 29.0	
	comp=Z,126nm,19.0s,baz=244,slow=36						
LPAZ	**La Paz**	**24.50**	**144**	*e*P	**P**	**04 57 43.8**	**+1.5**
	9.1nm,1.3s						
LPAZ	**La Paz**	**24.50**	**144**	P	**P**	**04 57 43.4**	**+1.0**
	3.0nm,1.0s,baz=329,slow=7.3,SNR=7.6						
LPAZ				LR	LR	05 07 06.4	
	comp=Z,108nm,18.5s,baz=318,slow=36						
SIV	**San Ignacio**	**29.04**	**132**	LR	LR	05 10 51.2	
	comp=Z,182nm,18.4s,baz=294,slow=38						
LVC	**Limon Verde**	**29.32**	**153**	LR	LR	05 10 22.9	
	comp=Z,90nm,18.2s,baz=267,slow=37						
MDP	**Montagnes des**	**30.33**	**86**	LR	LR	05 11 07.5	
	comp=Z,97nm,18.7s,baz=358,slow=37						
CPUP	**Villa Florida**	**38.64**	**141**	LR	LR	05 15 55.1	
	comp=Z,71nm,18.4s,baz=255,slow=36						
SDCO	**Great Sand Dun**	**39.88**	**332**	*e*P	**P**	**04 59 57.1**	**+0.8**
	5.3nm,1.4s						
NV01	**Mina Array Sit**	**47.41**	**322**	*e*P	**P**	**05 00 58.7**	**+1.9**
NVAR	**Mina Array Bea**	**47.41**	**322**	P	**P**	**05 00 58.7**	**+1.9**
	0.6nm,0.8s,baz=146,slow=7.3,SNR=4.4						
ULM	**Lac du Bonnet**	**47.90**	**349**	P	**P**	**05 00 59.7**	**-0.5**
	2.0nm,0.8s,baz=157,slow=13,SNR=3.5						
YKA	**Yellowknife Ar**	**63.42**	**344**	P	**P**	**05 02 51.6**	**+0.3**
	0.6nm,0.9s,baz=139,slow=6.5,SNR=9.7						
YKB5	**Yellowknife Ar**	**63.42**	**344**	*e*P	**P**	**05 02 51.6**	**+0.3**
TOA1	**Torodi Ar. Sit**	**84.07**	**77**	*e*P	P	05 04 59.1	+5.6
TORD	**Torodi Ar. Bea**	**84.08**	**77**	P	P	05 04 59.1	+5.6
	0.2nm,0.6s,baz=261,slow=3.6,SNR=2.8						

*MEX **29** 05:00:31.8±0.6,13°.87N×91°.98W,h91km±15km,MD4.1*
*NEIC **29** 05:00:31.9±0.0,13°.84N×91°.98W,h82km,MD4.1(MEX), After MEX.*
*ISCJB **29** 05:00:34.6±1.2,13°.94N±0°.08×92°.27W±0°.07,h46km, mb3.8/1,Error ellipse: s-maj=13.1km s-min=8.4km az=32.9*
*IDC **29** 05:00:35.2±10.0,14°.08N×92°.05W,h29km±54km,mb3.6/1, mb1 3.7/3,mb1mx3.3/38,mbtmp3.4/3,ML3.5/2,Error ellipse: s-maj=111.5km s-min=38.6km az=22.0*
ISC 29 05:00:37.0±1.7,14°.0N±0°.1×92°.27W±0°.07,h46km,n15, σ1979/19,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.87**	**0**	*e*P	**Pn**	**05 00 51.2**	**-1.7**
THIG		**0.87**	**0**	*e*P	**Pn**	**05 00 51.2**	**-1.7**
THIG				*i* S	**Sn**	**05 01 06.3**	**+1.9**
PCIG		**1.90**	**331**	*e*P	**Pn**	**05 01 04.9**	**-2.0**
PCIG		**1.90**	**331**	*e*P	**Pn**	**05 01 04.5**	**-2.4**
PCIG				*i* S	**Sn**	**05 01 31.3**	**+1.7**
APG	**El Apazote**	**2.00**	**61**	Pg	**Pn**	**05 01 08.3**	**-0.2**
	15nm,0.3s,baz=232,slow=8.2,SNR=193						
CCIG	**Comitan**	**2.24**	**3**	*e*P	**Pn**	**05 01 13.7**	**+1.9**
CCIG	**Comitan**	**2.24**	**3**	*e*P	**Pn**	**05 01 08.4**	**-3.4**
CCIG				*i* S	**Sn**	**05 01 37.0**	**-1.4**
CMIG	**Matias Romero**	**3.95**	**321**	*e*P	**Pn**	**05 01 33.9**	**-1.2**
CMIG	**Matias Romero**	**3.95**	**321**	*e*P	**Pn**	**05 01 33.9**	**-1.2**
CMIG				*i* S	**Sn**	**05 02 21.6**	**+1.4**
CMIG	**Matias Romero**	**3.95**	**321**	Pn	**Pn**	**05 01 33.9**	**-1.2**
	2.3nm,0.3s,baz=142,slow=12,SNR=22						
TGUH	**Tegucigalpa,Un**	**4.85**	**89**	*e*Pn	**Pn**	**05 01 47.1**	**-0.4**
TLIG	**Tlapa**	**7.00**	**301**	*e*Pn	**Pn**	**05 02 18.6**	**+1.4**
TXAR	**Lajitas Array**	**18.52**	**327**	P	**Pn**	**05 04 52.3**	**+2.0**
	0.1nm,0.3s,baz=167,slow=9.0,SNR=2.9						
YKA	**Yellowknife Ar**	**50.93**	**347**	P	**P**	**05 09 32.9**	**-0.5**
	0.8nm,0.7s,baz=152,slow=7.3,SNR=18						
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc	**PKPab**	**05 20 12.3**	**-0.3**
	1.3nm,0.7s,baz=330,slow=3.6,SNR=5.5						

*BGR **29** 05:01:05.7±0.0,43°.04N×87°.65E,h32km±1km,mb5.3, Ms5.1*
*IDC **29** 05:01:05.9±0.4,43°.41N×86°.84E,h0km,mb5.1/31, mb1 5.3/37,mb1mx5.3/39,mbtmp5.1/37,ML4.6/6,MS4.9/38, Ms1 4.9/38,ms1mx4.8/47,Error ellipse: s-maj=11.6km s-min=8.5km az=31.0*
*MOS **29** 05:01:06.6±0.9,43°.45N×86°.83E,h12km,mb5.6/118, MS5.1/58,Error ellipse: s-maj=4.1km s-min=2.9km az=40.9*
*ISCJB **29** 05:01:07.8±0.5,43°.45N±0°.01×86°.85E±0°.02,h20km±3km, mb5.3/439,MS5.1/240,Error ellipse: s-maj=2.5km s-min=1.7km az=22.2*
*BJI **29** 05:01:07.1,43°.40N×86°.80E,h10km,mb5.3/76,mB5.3/45, ML5.8/12,Ms5.6/87,Ms7 5.3/80*
*NNC **29** 05:01:07.6±1.1,43°.65N×86°.89E,h0km,mb6.1,mpv5.9, Error ellipse: s-maj=9.2km s-min=6.1km az=126.0*
*SOME **29** 05:01:09.6,43°.45N×86°.67E,h20km*
*NEIC **29** 05:01:09.6±0.1,43°.46N×86°.85E,h20km,mb5.5/280, MS5.1/163,MW5.2,Error ellipse: s-maj=2.6km s-min=2.1km az=204.0,Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁶Nm; Mrr-1.48; Mθθ-1.75; Mϕϕ3.23; Mrθ-4.89; Mθϕ5.79; Mϕr-1.18; Best double couple: Mo8.20000×10¹⁶ NP1:ϕs75.00000°,δ83.00000°, λ-40.00000°. NP2:ϕs170.00000°,δ50.00000°, λ-171.00000°. Principal axes: T 8.5100, Plg22.0000°, Azm129.0000°; N -0.7600, Plg49.0000°, Azm247.0000°; P -7.7600, Plg32.0000°, Azm24.0000°;*
NEIC Felt at Changji and Urumqi.
*GCMT **29** 05:01:10.6±0.1,43°.52N±0°.01×86°.96E±0°.01,h38km, MW5.5/115,Moment Tensor Solution. s95,c158; s115,c241; Duration: 1ᵗ3 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.02±.02; Mθθ-0.72±.02; Mϕϕ0.73±.02; Mrθ-1.17±.04; Mϕϕ1.25±.02; Mϕr-0.13±.03; Best double couple: Mo1.85900×10¹⁷ NP1:ϕs75.00000°,δ88.00000°, λ-39.00000°. NP2:ϕs167.00000°,δ51.00000°, λ-177.00000°. Principal axes: T 1.7740, Plg25.0000°, Azm128.0000°; N 0.1690, Plg51.0000°, Azm252.0000°; P -1.9440, Plg28.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 29 05:01:10.4±0.4,43°.47N±0°.03×86°.90E±0°.02,h26km±2km, h26km:pP-P,n1597,σ1942/1655,mb5.4/452,MS5.1/244, 113C-64D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.68**	**59**	Pg	**Pb**	**05 01 23.0**	**-0.7**
WMQ				Sg	**Sn**	**05 01 34.5**	**+0.4**
WMQ				smax	smax		
	comp=N,70μm,0.7s						
WMQ				smax	smax		
	comp=E,55μm,0.7s						
WMQ	**Urumqi**	**0.68**	**59**	*e*Pg	**Pb**	**05 01 23.4**	**-0.3**
WMQ				*e*Sg	**Sn**	**05 01 35.0**	**+0.9**
WMQ	**Urumqi**	**0.68**	**59**	*e*P	**Pb**	**05 01 23.4**	**-0.3**
WMQ				*e*		05 01 35.0	
ZSN	**Zaisan**	**4.23**	**341**	Pg	**Pb**	**05 02 27.2**	**+3.2**
	552nm,0.6s						
ZSN				Lg	Lg	05 03 24.5	
	13μm,0.8s						
ZSN	**Zaisan**	**4.23**	**341**	*e*P	**Pn**	**05 02 14.1**	**+1.0**
ZSN				pmax	pmax		
	comp=Z,6μm,0

comp=Z,2µm,0.8s
PDGK ⇑Lg Lg 05 03 58.3
comp=Z,13µm,1.1s
PDGK Podgornoye 5.40 271 P **Pn** **05 02 29.9 +0.6**
PDGK pmax pmax
comp=Z,218nm,0.5s
PDGK pmax pmax
comp=N,13µm,1.1s
SHLS Shalkode 5.43 269 eLR LR 05 04 06.2
comp=N,5µm,4.2s
SHLS Shalkode 5.43 269 eP Pb 05 02 38.9 -5.7
comp=N,5µm,0.8s
SHLS eS **Sb** **05 03 43.6 -5.8**
comp=N,26µm,0.7s
KAPS Kapalarasan 5.70 291 Pg **Pb** **05 02 51.2 +2.1**
comp=N,607nm,1.1s
KAPS Lg Lg 05 04 04.5
comp=N,5µm,0.6s
KAPS Kapalarasan 5.70 291 ⇓*i*P **Pb** **05 02 51.2 +2.1**
comp=N,607nm,1.1s
KAPS ⇓*i*S **Sb** **05 04 04.5 +7.5**
comp=N,5µm,0.6s
UZB Uzynbulak 5.76 269 Pg **Pb** **05 02 54.0 +3.8**
comp=N,771nm,0.6s
UZB Lg Lg 05 04 09.3
comp=N,5µm,0.9s
UZB Uzynbulak 5.76 269 eP **Pn** **05 02 33.5 -0.7**
UZB pmax pmax
comp=Z,2µm,0.7s
UZB MLR MLR
comp=Z,4µm,10.0s
UZB Uzynbulak 5.76 269 eP **Pn** **05 02 33.5 -0.7**
comp=Z,2µm,0.7s
UZB eLR LR 05 04 41.1
comp=Z,4µm,10.5s
UZB Uzynbulak 5.76 269 eP **Pb** **05 02 54.0 +3.8**
comp=Z,771nm,0.6s
UZB eS Sb 05 04 09.3 +11
comp=Z,5µm,0.9s
KPKS Kokpek 5.98 273 eP **Pn** **05 02 37.1 -0.1**
KPKS pmax pmax
comp=Z,1µm,0.6s
KPKS Kokpek 5.98 273 eP **Pn** **05 02 37.2 -0.1**
comp=Z,1µm,0.6s
ZHN Zhinishke 6.18 270 Pg Pb 05 03 01.8 +4.5
comp=Z,590nm,0.4s
ZHN Lg Lg 05 04 22.7
comp=Z,1µm,0.5s
ZHN Zhinishke 6.18 270 eP **Pn** **05 02 40.2 +0.2**
ZHN pmax pmax
comp=Z,2µm,0.6s
ZHN MLR MLR
comp=Z,4µm,11.0s
ZHN Zhinishke 6.18 270 eP **Pn** **05 02 40.3 +0.2**
comp=Z,2µm,0.6s
ZHN eLR LR 05 04 53.6
comp=Z,4µm,11.0s
MNBS Baschi 6.18 279 Pg **Pb** **05 03 00.0 +2.7**
comp=Z,505nm,0.7s
MNBS Lg Lg 05 04 19.7
comp=Z,3µm,0.8s
MNBS Baschi 6.18 279 eP **Pb** **05 03 00.0 +2.7**
comp=Z,505nm,0.7s
MNBS eS Sb 05 04 19.7 +8.8
comp=Z,3µm,0.8s
SATY Saty 6.21 269 Pg **Pb** **05 03 01.6 +3.7**
comp=Z,1µm,0.7s
SATY Lg Lg 05 04 22.8
comp=Z,5µm,0.5s
SATY Saty 6.21 269 eP **Pn** **05 02 39.7 -0.8**
SATY pmax pmax
comp=Z,2µm,1.1s
SATY MLR MLR
comp=Z,5µm,7.0s
SATY Saty 6.21 269 eP **Pn** **05 02 39.8 -0.8**
comp=Z,2µm,1.1s
SATY eLR LR 05 04 52.6
comp=Z,5µm,6.5s
DGZ Jazzator, Alta 6.24 3*d* i P **Pn** **05 02 43.4 +2.5**
TDK Taldygorghan 6.29 287 Pg **Pb** **05 03 02.3 +3.2**
comp=Z,5µm,0.6s
TDK Lg Lg 05 04 24.6
comp=Z,30µm,1.5s
TDK Taldyqorghan 6.29 287 eP **Pn** **05 02 41.5 +0.1**
TDK pmax pmax
comp=Z,3µm,0.5s
TDK MLR MLR
comp=Z,10µm,11.0s
TDK Taldygorghan 6.29 287 eP **Pn** **05 02 41.6 +0.1**
comp=Z,3µm,0.5s
TDK eLR LR 05 04 45.1
comp=Z,10µm,11.4s
PRZ Przheval'sk 6.31 264 ePn **Pn** **05 02 43.9 +2.0**
PRZ Przheval'sk 6.31 264 eP **Pn** **05 02 43.9 +2.0**
KURS Kuram 6.35 273 Pg **Pb** **05 03 02.2 +2.0**
comp=Z,872nm,0.8s
KURS Lg Lg 05 04 23.2
comp=Z,3µm,0.8s
ARXS Arharly 6.60 280 Pg Pb 05 03 09.1 +4.6
comp=Z,898nm,0.4s
ARXS Lg Lg 05 04 35.5
comp=Z,6µm,0.4s
KOTS Kotyrbulak 7.14 271 Pg Pb 05 03 18.8 +5.2
comp=Z,644nm,0.5s
KOTS Lg Lg 05 04 52.4
comp=Z,5µm,0.6s
MDOK Medeo 7.19 271 ⇑Pn **Pn** **05 02 54.0 +0.1**
comp=Z,229nm,0.6s
MDOK ⇓Lg Lg 05 04 55.5
comp=Z,6µm,0.8s
MDOK Medeo 7.19 271 eP **Pn** **05 02 53.5 -0.4**
MDOK pmax pmax
comp=Z,1µm,0.9s
MDOK MLR MLR
comp=Z,6µm,12.0s
MDOK Medeo 7.19 271 eP **Pn** **05 02 53.6 -0.4**
comp=Z,1µm,0.9s
MDOK eLR LR 05 05 26.5
CHKK Chushkaly 7.20 276 Pg Pb 05 03 20.3 +5.7
comp=Z,402nm,0.7s
CHKK Lg Lg 05 04 56.3
comp=Z,2µm,0.3s
CHKK Chushkaly 7.20 276 eP **Pn** **05 02 53.4 -0.5**
CHKK pmax pmax
comp=Z,1µm,1.0s
CHKK Chushkaly 7.20 276 eP **Pn** **05 02 53.4 -0.5**
comp=Z,1µm,1.0s
KNDC Almaty 7.25 271 ⇓Pn **Pn** **05 02 56.5 +1.9**
comp=Z,776nm,0.8s
KNDC ⇑Lg Lg 05 04 56.7
comp=Z,6µm,0.8s
KDJ Kajisay 7.27 263 ePn **Pn** **05 02 56.8 +1.7**
KDJ Kajisay 7.27 263 eP **Pn** **05 02 56.8 +1.7**
AAA Alma-Ata 7.28 271 Pg Pb 05 03 21.7 +5.6
comp=Z,534nm,0.5s
AAA Lg Lg 05 04 57.0
comp=Z,3µm,0.9s
AAA Alma-Ata 7.28 271 eP **Pn** **05 02 55.9 +0.8**
AAA pmax pmax
comp=Z,1µm,0.8s
AAA MLR MLR
comp=Z,4µm,10.0s
AAA Alma-Ata 7.28 271 ePn **Pn** **05 02 56.0 +0.8**
comp=Z,1µm,0.8s
AAA eLR LR 05 05 30.4
comp=Z,4µm,10.5s
KTBS Karatobe 7.42 275 Pg Pb 05 03 24.2 +5.7
comp=Z,400nm,0.4s
KTBS Lg Lg 05 05 01.8
comp=Z,2µm,0.8s
IZV Izvestkoviy 7.52 270 Pg Pb 05 03 26.0 +5.8
comp=Z,682nm,0.6s
IZV Lg Lg 05 05 04.5
comp=Z,2µm,0.8s
MTBS Maitube 7.64 271 Pg Pb 05 03 27.0 +4.8
comp=Z,180nm,0.7s
MTBS Lg Lg 05 05 07.8
comp=Z,2µm,1.0s
KUU Kurty 7.67 277 eP **Pn** **05 02 58.8 -1.5**
KUU pmax pmax
comp=Z,679nm,0.9s
KUU MLR MLR
comp=Z,2µm,5.0s
KUU Kurty 7.67 277 eP **Pn** **05 02 58.9 -1.5**
comp=Z,679nm,0.9s
KUU eLR LR 05 05 38.4
comp=Z,2µm,5.5s

ULHL Ulahol 7.92 265 P **Pn** **05 03 04.6 +0.6**
SNR=32
KST Kastek 7.99 271 Pg Pb 05 03 36.4 +8.2
comp=Z,934nm,0.6s
KST Lg Lg 05 05 22.5
comp=Z,4µm,0.9s
BOOM Boomskoye usch 8.10 267 P **Pn** **05 03 05.9 -0.5**
DGS Degeres 8.11 272 Pg Pb 05 03 36.8 +6.6
comp=Z,475nm,0.7s
DGS Lg Lg 05 05 23.4
comp=Z,3µm,0.4s
TKM2 Tokmak 2 8.28 270 P **Pn** **05 03 11.7 +2.8**
SNR=236
TKM2 Tokmak 2 8.28 270 ⇑Pn **Pn** **05 03 09.2 +0.3**
comp=Z,163nm,0.6s
TKM2 ⇓Pg Pb 05 03 37.8 +4.7
comp=Z,271nm,0.8s
TKM2 ⇓Sn **Sn** **05 04 45.6 +4.0**
comp=Z,1µm,1.1s
TKM2 ⇑Lg Lg 05 05 32.7
comp=Z,2µm,1.2s
TKM2 Tokmak 2 8.28 270 *i* P **Pn** **05 03 11.0 +2.1**
TKM2 pmax pmax
comp=Z,163nm,0.5s
SEM Semipalatinsk 8.29 329 eP **Pn** **05 03 07.3 -1.8**
SEM pmax pmax
comp=Z,771nm,1.0s
SEM MLR MLR
comp=Z,8µm,15.0s
SEM Semipalatinsk 8.29 329 eP **Pn** **05 03 07.4 -1.8**
comp=Z,771nm,1.0s
SEM eLR LR 05 06 05.8
comp=Z,8µm,14.9s
NRN Naryn 8.31 260 ePn **Pn** **05 03 10.0 +0.5**
NRN Naryn 8.31 260 eP **Pn** **05 03 10.0 +0.5**
KZA Kyzart 8.68 265 P **Pn** **05 03 14.8 +0.2**
SNR=329
KBK Karagaybulak 8.79 269 P **Pn** **05 03 16.5 +0.7**
SNR=83
CHMS Chumysh 8.88 271 P **Pn** **05 03 17.4 +0.4**
SNR=21
FRU1 Bishkek 8.99 270 ePn **Pn** **05 03 18.5 -0.1**
FRU1 Bishkek 8.99 270 eP **Pn** **05 03 18.5 -0.1**
USP Ospenovka 9.04 273 P **Pn** **05 03 19.4 +0.3**
SNR=23
KSH Kashi 9.10 248 P Pn 05 03 26.3 +6.2
KSH sP 05 03 32.5
KSH S **Sn** **05 05 06.0 +4.3**
KSH pmax pmax
comp=Z,27nm,0.5s
KSH smax smax
comp=Z,8µm,2.0s
KSH smax smax
comp=Z,10µm,1.7s
AAK Ala-Archa 9.12 269 P **Pn** **05 03 20.6 +0.2**
SNR=56
AAK Ala-Archa 9.12 269 ePn **Pn** **05 03 21.1 +0.6**
AAK Ala-Archa 9.12 269 ⇑Pn **Pn** **05 03 20.1 -0.3**
comp=Z,337nm,1.0s
AAK Lg Lg 05 06 00.0
comp=Z,2µm,1.0s
AAK Ala-Archa 9.12 269 P **Pn** **05 03 21.2 +0.8**
AAK Ala-Archa 9.12 269 Pn **Pn** **05 03 20.5 +0.2**
comp=Z,5.1nm,0.3s,baz=79,slow=6.5,SNR=70
AAK Lg Lg 05 05 52.1
comp=Z,15nm,0.3s,baz=245,slow=19,SNR=2.8
KURBB Kurchatov Arra 9.15 324 ⇓Pn **Pn** **05 03 19.4 -1.2**
comp=Z,408nm,0.7s
KURBB ⇓Pg 05 03 49.0
comp=Z,481nm,0.7s
KURBB ⇑Lg Lg 05 05 56.2
comp=Z,12µm,0.8s
KURBB Kurchatov Arra 9.15 324 Pn **Pn** **05 03 19.8 -0.8**
comp=Z,6.0nm,0.3s,baz=132,slow=13,SNR=1068
KURBB Sn **Sn** **05 04 55.9 -6.7**
comp=Z,7.8nm,0.3s,baz=130,slow=15,SNR=4.4
KURBB Lg Lg 05 05 50.3
comp=Z,15nm,0.3s,baz=137,slow=33,SNR=5.1
KURK Kurchatov 9.18 325 ePn **Pn** **05 03 19.9 -1.1**
KURK *e*Sn **Sn** **05 05 01.4 -2.0**
KURK Kurchatov 9.18 325 ⇓Pn **Pn** **05 03 19.3 -1.8**
comp=Z,292nm,0.7s
KURK ⇑Sn **Sn** **05 05 00.8 -2.6**
comp=Z,1µm,0.7s
KURK ⇑Lg Lg 05 05 56.7
comp=Z,3µm,0.8s
KURK Kurchatov 9.18 325 ⇑*i*P **Pn** **05 03 20.2 -0.8**
UCH Uchtor 9.18 266 P **Pn** **05 03 21.4 -0.2**
SNR=131
BTLS Baital 9.36 284 Pg Pn 05 04 00.2 +37
comp=Z,270nm,0.5s
BTLS Lg Lg 05 06 03.7
comp=Z,942nm,1.1s
BTLS Baital 9.36 284 eP **Pn** **05 03 22.3 -1.2**
BTLS pmax pmax
comp=Z,220nm,1.0s
BTLS MLR MLR
comp=Z,2µm,10.0s
BTLS Baital 9.36 284 eP **Pn** **05 03 22.3 -1.2**
comp=Z,220nm,1.0s
BTLS eLR LR 05 06 35.7
comp=Z,2µm,10.5s
EKS2 Erkin-Say 9.64 270 P **Pn** **05 03 27.8 +0.3**
SNR=38
AML Almayashu 9.80 267 P **Pn** **05 03 31.0 +1.1**
SNR=39
GTA Gaotai 10.51 108 ⇑P **Pn** **05 03 39.0 -0.4**
GTA S **Sn** **05 05 35.8 -0.5**
GTA pmax pmax
comp=Z,89nm,1.2s
GTA pmax pmax
comp=Z,470nm,10.2s
GTA LR LR
comp=Z,23µm,9.8s
GTA LR LR
comp=Z,16µm,10.5s
GTA LR LR
comp=Z,13µm,13.0s
ZAA0 Zalesovo Array 10.57 353 ePn **Pn** **05 03 38.8 -1.3**
ZAA0 *e*Sn **Sn** **05 05 34.8 -2.8**
ZAA0 Zalesovo Array 10.57 353 ⇓Pn **Pn** **05 03 38.2 -1.9**
comp=Z,98nm,0.8s
ZAA0 ⇓Sn **Sn** **05 05 33.1 -4.5**
comp=Z,55nm,0.8s
ZAA0 ⇓Lg Lg 05 06 38.6
comp=Z,81nm,0.8s
ZALV Zalesovo Beam 10.57 353 ePn **Pn** **05 03 39.2 -0.9**
ZALV *e*Sn **Sn** **05 05 35.3 -2.2**
ZALV Zalesovo Beam 10.57 353 eP **Pn** **05 03 39.2 -0.9**
ZALV *e* 05 05 35.3
ZALV Zalesovo Beam 10.57 353 Pn **Pn** **05 03 38.5 -1.6**
comp=Z,42nm,0.3s,baz=176,slow=14,SNR=846
ZALV Sn **Sn** **05 05 33.5 -4.1**
comp=Z,50nm,0.3s,baz=170,slow=24,SNR=8.4
ZALV Lg Lg 05 06 42.1
baz=197,slow=24,SNR=2.6
ZALV LR LR 05 08 28.6
comp=Z,10µm,20.2s,baz=172,slow=42
ZAA1 Zalesovo Array 10.58 353 ePn **Pn** **05 03 38.5 -1.6**
ZAA1 *e*Sn **Sn** **05 05 33.5 -4.2**
ZAA1 *e*Lg Lg 05 06 42.1
OTUK Ortayu 11.22 300 ⇑Pn **Pn** **05 03 46.4 -2.5**
comp=Z,109nm,0.6s
OTUK ⇓Sn **Sn** **05 05 53.3 -0.1**
comp=Z,374nm,0.7s
OTUK ⇓Lg Lg 05 07 02.6
comp=Z,3µm,1.2s
OTUK Ortayu 11.22 300 P **Pn** **05 03 46.7 -2.2**
OTUK pmax pmax
comp=Z,164nm,0.9s
DZA Taraz 11.38 272 eP **Pn** **05 03 51.8 +0.5**
DZA pmax pmax
comp=Z,356nm,1.0s
DZA MLR MLR
comp=Z,2µm,10.0s
DZA Taraz 11.38 272 eP **Pn** **05 03 51.9 +0.5**
comp=Z,356nm,1.0s
DZA eLR LR 05 07 43.5
comp=Z,2µm,10.0s
NVS Novosibirsk 11.63 349 eP **Pn** **05 03 52.7 -1.8**
NVS *e* 05 05 57.8
BRZS Berezniki 11.72 309 eP **Pn** **05 03 53.8 -2.0**
BRZS pmax pmax
comp=Z,614nm,0.8s
BRZS MLR MLR
comp=Z,6µm,11.0s
BRZS Berezniki 11.72 309 eP **Pn** **05 03 53.9 -2.0**
comp=Z,614nm,0.8s
BRZS eLR LR 05 08 03.0
comp=Z,6µm,11.0s
KK31 Karatay Array 11.95 274 ePn **Pn** **05 04 00.9 +1.9**
KK31 Karatay Array 11.95 274 ⇑Pn **Pn** **05 04 00.1 +1.1**
comp=Z,54nm,0.8s,baz=64,slow=9.9,SNR=311
KK31 ⇓Lg Lg 05 07 28.3
comp=Z,1µm,1.1s,baz=76,slow=28,SNR=4.7
KK31 Karatay Array 11.95 274 eP **Pn** **05 04 00.9 +1.9**
KKAR Karatay Array 11.95 274 ePn **Pn** **05 04 00.3 +1.3**
KKAR Karatay Array 11.95 274 eP **Pn** **05 04 00.3 +1.3**
BRLS Borolday 12.45 274 eLR LR 05 08 32.4
comp=Z,37nm,12.0s
IUG Iuzhnay 12.46 270 eP **Pn** **05 04 07.3 +1.3**
IUG pmax pmax
comp=Z,206nm,0.8s
IUG MLR MLR
comp=Z,2µm,5.0s
IUG Iuzhnay 12.46 270 eP **Pn** **05 04 07.4 +1.3**
comp=Z,206nm,0.8s
IUG eLR LR 05 08 21.4
comp=Z,2µm,5.4s
BTK Batken 12.48 260 ePn **Pn** **05 04 06.4 +0.1**
BTK Batken 12.48 260 eP **Pn** **05 04 06.4 +0.1**
MOY Mondy 12.55 44 eP **Pn** **05 04 10.3 +3.1**
CHM Chimkent 12.74 271 eLR LR 05 08 22.9
comp=Z,2µm,10.5s
ZAK Zakamensk 13.14 53 eP **Pn** **05 04 18.1 +2.8**
ZAK pmax pmax
comp=Z,94nm,1.1s
TLY Talaya 13.95 48 ePn **Pn** **05 04 29.0 +2.7**
TLY Talaya 13.95 48*d* i P **Pn** **05 04 27.3 +1.1**
LSA Lhasa 14.16 165 P **Pn** **05 04 32.3 +2.7**
LSA pmax pmax
comp=Z,70nm,1.8s
LSA LR LR
comp=Z,4µm,14.9s
LSA LR LR
comp=Z,5µm,9.7s
LSA LR LR
comp=Z,13µm,19.4s
LSA Lhasa 14.16 165 ePn **Pn** **05 04 31.7 +2.1**
LSA Lhasa 14.16 165 *i* P **Pn** **05 04 31.8 +2.1**
SNR=32
SONA0 Songino Array 14.31 65 ePn **Pn** **05 04 32.7 +1.4**
SONA0 *e*Sn **Sn** **05 07 05.6 -3.5**
SONM Songino Array 14.31 65 Pn **Pn** **05 04 32.7 +1.4**
comp=Z,1.1nm,0.3s,baz=262,slow=12,SNR=104
SONM Sn **Sn** **05 07 05.6 -3.5**
comp=Z,0.8nm,0.3s,baz=257,slow=19,SNR=2.8
SONM Lg Lg 05 08 39.4
comp=Z,1.5nm,0.3s,baz=254,slow=33,SNR=5.0
SONM LR LR 05 10 43.5
comp=Z,5µm,19.8s,baz=262,slow=40
CHCP Chirah Chowk 14.46 232 P **Pn** **05 04 30.4 -3.0**
NIL Nilore 14.48 232 ePn **Pn** **05 04 30.5 -3.1**
NIL Nilore 14.48 232 eP **Pn** **05 04 30.5 -3.1**
BVA0 Borovoye Array 14.54 317 ⇓Pn **Pn** **05 04 31.4 -2.9**
comp=Z,82nm,0.6s,baz=130,slow=12,SNR=550
BVA0 ⇑Sn **Sn** **05 07 15.5 +1.1**
comp=Z,199nm,1.1s,baz=114,slow=22,SNR=5.0
BVA0 ⇑Lg Lg 05 08 46.0
comp=Z,1µm,1.5s
BVAR Borovoye Array 14.54 317 Pn **Pn** **05 04 31.8 -2.4**
comp=Z,3.7nm,0.3s,baz=129,slow=12,SNR=86
BVAR Sn **Sn** **05 07 06.6 -7.8**
comp=Z,11nm,0.3s,baz=108,slow=22,SNR=3.6
BVAR Lg Lg 05 08 35.3
comp=Z,10nm,0.3s,baz=133,slow=18,SNR=3.5
BVAR LR LR 05 10 28.3
comp=Z,14µm,19.9s,baz=124,slow=39
IRK Irkutsk 14.56 47 eP **Pn** **05 04 36.9 +2.3**
BRVK Borovoye 14.61 317 ePn **Pn** **05 04 33.2 -2.1**
BRVK Borovoye 14.61 317 ⇑Pn **Pn** **05 04 31.9 -3.3**
comp=Z,107nm,0.6s
BRVK ⇓Sn **Sn** **05 07 15.0 -1.1**
comp=Z,351nm,1.0s
BRVK ⇑Lg Lg 05 08 45.7
comp=Z,1µm,1.2s
BRVK Borovoye 14.61 317*d* i P **Pn** **05 04 32.5 -2.7**
BRVK Borovoye 14.61 317 P **Pn** **05 04 32.8 -2.4**
SNR=89
BHK Bhakra 14.62 218 eP **Pn** **05 04 35.2 -0.2**
BHK *e*S **S** **05 07 38.0 +2.8**
ULN Ulaanbaatar 14.75 66 ePn **Pn** **05 04 38.3 +0.9**
ULN Ulaanbaatar 14.75 66*d* i P **Pn** **05 04 37.9 +0.6**
LZH Lanzhou 14.96 114 eP **Pn** **05 04 41.0 +0.8**
LZH pP P 05 04 44.8 -0.7
LZH sP 05 04 48.0
LZH PP **PnPn** **05 04 54.0 +5.9**
LZH S **Sn** **05 07 26.3 +1.3**
LZH sS S 05 07 34.5 -7.9
LZH SS **SnSn** **05 07 42.0 +4.5**
LZH pmax pmax
comp=Z,250nm,1.3s
LZH pmax pmax
comp=Z,2µm,5.4s
LZH LR LR
comp=Z,16µm,11.9s
LZH LR LR
comp=Z,12µm,9.2s
LZH LR LR
comp=Z,16µm,11.9s
CEP Cherat 15.14 236 P **Pn** **05 04 39.2 -3.4**
CEP S Sn 05 07 16.0 -14
DANN Dangsing 15.30 191 eP **Pn** **05 04 42.2 -2.7**
comp=Z,634nm,0.8s
GUN Gumba 15.55 183 eP **Pn** **05 04 45.4 -2.8**
comp=Z,757nm,0.7s
PYUN Piuthan 15.66 193 eP **Pn** **05 04 46.4 -3.1**
comp=Z,431nm,0.9s
KKN Kakani 15.70 185 eP **Pn** **05 04 47.2 -2.8**
comp=Z,179nm,0.5s
JIRN Jiri 15.79 182 eP **Pn** **05 04 48.6 -2.7**
comp=Z,357nm,0.8s
KOLN Koldanda 15.89 191 eP **Pn** **05 04 49.5 -3.0**
comp=Z,180nm,0.7s
DMN Daman 15.89 186 eP **Pn** **05 04 49.6 -2.9**
comp=Z,170nm,0.8s
PKIN Phulchoki 15.91 185 eP **Pn** **05 04 49.9 -2.8**
comp=Z,192nm,0.7s
PKI Pulchoki 15.91 185 eP **Pn** **05 04 49.8 -3.0**
comp=Z,385nm,0.9s
THW Thamme Wali 15.97 233 P **Pn** **05 04 49.1 -4.1**
SARP Sargodha 16.09 229 P **Pn** **05 04 50.9 -3.8**
TAPN Taplejung 16.10 177 eP **Pn** **05 04 52.2 -3.0**
comp=Z,183nm,0.6s
KBL Kabul 16.47 243 ePn **Pn** **05 04 57.3 -2.5**
comp=Z,119nm,0.8s
KBL Kabul 16.47 243 eP **Pn** **05 04 57.3 -2.5**
KBL pmax pmax
comp=Z,119nm,0.8s
RAMN Ramite 16.48 181 eP **Pn** **05 04 57.3 -2.8**
comp=Z,263nm,0.8s
ODAN Odare 16.58 178 eP **Pn** **05 04 58.4 -2.8**
comp=Z,331nm,1.0s
BTO Baotou 17.40 92 eP **Pn** **05 05 08.0 -3.4**
BTO S **Sn** **05 08 22.8 -1.5**
SHL Shillong 18.32 166 P **P** **05 05 21.1 -1.7**
SHL pmax pmax
comp=Z,437nm,1.3s
SHL Shillong 18.32 166 eP **P** **05 05 21.0 -1.7**
SHL *e*S **Sn** **05 08 40.0 -6.7**
CD2 Chengdu 18.33 128 P **Pn** **05 05 24.3 +1.5**
CD2 sP sP 05 05 37.3 +3.0
CD2 S **S** **05 08 50.5 -0.4**
CD2 pmax pmax
comp=Z,200nm,1.1s
CD2 pmax pmax
comp=Z,2µm,6.4s
CD2 LR LR
comp=Z,7µm,10.0s
CD2 LR LR
comp=Z,11µm,7.4s
CD2 LR LR
comp=Z,9µm,14.5s
HHC Hu-ho-hao-te 18.46 90 eP **P** **05 05 24.0 -0.1**
HHC sP sP 05 05 33.3 -2.3
HHC PP **PnPn** **05 05 40.8 +4.8**
HHC S **Sn** **05 08 50.3 +0.5**
HHC SS **SnSn** **05 09 11.5 +8.1**
HHC pmax pmax
comp=Z,170nm,0.9s
HHC pmax pmax
comp=Z,2µm,4.0s
HHC LR LR

HHC LR LR
comp=Z,6µm,7.2s
HHC LR LR
comp=Z,5µm,8.5s
AB31 Akbulak array 19.42 297 ⇓Pn **P 05 05 33.4 -1.1**
comp=Z,45nm,0.5s
AB31 Akbulak array 19.42 297 P **P 05 05 33.5 -1.1**
AB31 pmax pmax
comp=Z,45nm,0.5s
ABKAR Akbulak array 19.42 297 *e*P **P 05 05 33.7 -0.8**
comp=Z,232nm,1.4s
XAN Xi'an 19.54 111 P **P 05 05 35.8 -0.2**
XAN pP pP 05 05 44.5 +0.7
XAN S **Sn 05 09 16.5 +0.6**
XAN pmax pmax
comp=Z,81nm,1.1s
XAN pmax pmax
comp=Z,1µm,3.6s
XAN LR LR
comp=Z,6µm,9.5s
XAN LR LR
comp=Z,6µm,6.0s
XAN LR LR
comp=Z,5µm,10.8s
XAN Xi'an 19.54 111 *e*P **P 05 05 36.1 +0.1**
comp=Z,176nm,1.3s
XAN Xi'an 19.54 111 *e*P **P 05 05 36.1 +0.1**
XAN pmax pmax
comp=Z,176nm,1.3s
CIT Chita 19.77 55 *e*P **Pn 05 05 40.3 +0.3**
CIT pmax pmax
comp=Z,582nm,1.2s
TIY Taiyuan 20.19 98 *e*P **P 05 05 41.5 -1.5**
TIY PP **PnPn 05 06 06.5 +6.8**
TIY S **S 05 09 28.8 +0.4**
TIY ScS **ScS 05 17 16.3 +2.3**
TIY pmax pmax
comp=Z,27nm,0.5s
TIY LR LR
comp=Z,8µm,4.7s
TIY LR LR
comp=Z,4µm,6.6s
TIY LR LR
comp=Z,5µm,5.4s
AKTO Aktyubinsk 20.82 300 ⇑Pn **P 05 05 48.9 -0.8**
comp=Z,158nm,0.8s
AKTO Aktyubinsk 20.82 300 P **P 05 05 49.5 -0.2**
comp=Z,75nm,0.6s,baz=96,slow=9.9,SNR=52
AKTO Lg Lg 05 11 56.8
comp=Z,45nm,1.0s,baz=241,slow=19,SNR=1.8
AKTO LR LR 05 14 13.7
comp=Z,6µm,18.4s,baz=107,slow=38
BRDH Bariadhala 21.11 168 P **P 05 05 52.2 -0.8**
comp=Z,170nm,0.6s,baz=41,slow=8.9,SNR=22
BRDH LR LR 05 16 25.5
comp=Z,7µm,18.1s,baz=7.0,slow=44
SVE Sverdlovsk 21.32 318*c* *i*P **P 05 05 54.7 -0.3**
SVE *e*S **S 05 09 46.1 -4.1**
SVE pmax pmax
comp=Z,555nm,0.8s
SVE MLR MLR
comp=Z,9µm,18.0s
BJT Baijiatuan 22.06 89 *e*P **P 05 06 04.9 +1.8**
comp=Z,230nm,1.2s
BJT LR LR
comp=Z,299nm,18.0s
ARU Arti 22.18 316 *e*P **P 05 06 03.7 -0.6**
comp=Z,284nm,0.6s
ARU LR LR
comp=Z,10µm,19.0s
ARU Arti 22.18 316*d* *i*P **P 05 06 03.9 -0.3**
ARU 05 06 27.0
ARU PPP PPP 05 06 34.5
ARU *e*S **S 05 10 08.1 +1.2**
ARU SS **SnSn 05 10 36.9 +2.6**
ARU pmax pmax
comp=Z,283nm,0.7s
ARU MLR MLR
comp=Z,7µm,16.0s
BOD Bodaibo 22.19 40 *e*P **P 05 06 03.9 -0.4**
BOD *e* 05 10 56.3
BOD pmax pmax
comp=Z,210nm,1.2s
ENH Enshi 22.28 119 *e*P **P 05 06 06.0 +0.5**
comp=Z,329nm,1.0s
ENH LR LR
comp=Z,5µm,22.0s
KMI Kunming 22.43 140 P **P 05 06 07.0 -0.4**
KMI pP sP 05 06 17.3 -1.8
KMI PP **PnPn 05 06 36.0 +5.3**
KMI S **S 05 10 09.8 -2.6**
KMI pmax pmax
comp=Z,190nm,1.1s
KMI pmax pmax
comp=Z,560nm,3.1s
KMI LR LR
comp=Z,4µm,18.0s
KMI LR LR
comp=Z,3µm,15.5s
KMI LR LR
comp=Z,5µm,16.5s
KMI Kunming 22.43 140 *e*P **P 05 06 07.7 +0.3**
comp=Z,156nm,0.9s
KMI LR LR
comp=Z,6µm,21.0s
KMI Kunming 22.43 140 *e*P **P 05 06 07.7 +0.3**
KMI pmax pmax
comp=Z,156nm,0.9s
KMI MLR MLR
comp=Z,6µm,21.0s
GEYT Alibeck 22.45 266 P **P 05 06 06.7 -0.7**
comp=Z,35nm,0.8s,baz=90,slow=4.9,SNR=25
GEYT S **S 05 10 08.0 -4.3**
comp=Z,10nm,0.7s,baz=58,slow=14,SNR=3.3
GEYT Lg Lg 05 12 59.9
comp=Z,9.2nm,0.9s,baz=196,slow=41,SNR=2.4
GEYT LR LR 05 16 11.9
comp=Z,3µm,18.5s,baz=70,slow=40
GYA0B ALIBECK ARRAY 22.45 266 *e*P **P 05 06 06.6 -0.7**
comp=Z,73nm,0.9s
GYA0B LR LR
comp=Z,500nm,19.0s
HIA Hailar 23.27 64 *e*P **P 05 06 15.6 -0.2**
comp=Z,53nm,0.8s
HIA LR LR
comp=Z,5µm,18.0s
HIA Hailar 23.27 64 *e*P **P 05 06 15.6 -0.2**
HIA pmax pmax
comp=Z,53nm,0.8s
HIA MLR MLR
comp=Z,5µm,18.0s
GYA Guiyang 23.37 130⇑ *i*P **P 05 06 16.3 -0.7**
GYA pP sP 05 06 28.5 -0.3
GYA PP **PnPn 05 06 50.0 +6.6**
GYA S **S 05 10 29.0 +0.6**
GYA SS **SnSn 05 11 13.3 +9.1**
GYA pmax pmax
comp=Z,160nm,0.9s
GYA pmax pmax
comp=Z,740nm,4.7s
GYA LR LR
comp=Z,4µm,16.1s
GYA LR LR
comp=Z,3µm,15.5s
GYA LR LR
comp=Z,6µm,16.5s
TIA Tai'an 24.22 97 P **P 05 06 25.5 +0.6**
TIA S **S 05 10 44.3 +2.5**
TIA pmax pmax
comp=Z,67nm,0.8s
TIA pmax pmax
comp=Z,350nm,3.9s
TIA LR LR
comp=Z,2µm,12.7s
TIA LR LR
comp=Z,2µm,13.8s
TIA LR LR
comp=Z,4µm,14.7s
WHN Wuhan 25.31 112 ⇓P **P 05 06 35.3 +0.5**
WHN pP **pP 05 06 41.0 -2.0**
WHN S **S 05 10 59.3 +0.1**
WHN LR LR
comp=Z,8µm,5.1s
WHN LR LR
comp=Z,13µm,6.4s
WHN LR LR
comp=Z,13µm,12.1s
NRIK Noril'sk 25.94 1 P **P 05 06 40.3 +0.2**
comp=Z,583nm,0.7s,baz=170,slow=6.4,SNR=288
NRIK S **S 05 11 08.7 +0.2**
comp=Z,9.7nm,0.7s,baz=240,slow=20,SNR=1.6
NRIK Lg Lg 05 14 53.3
comp=Z,3.7nm,0.4s,baz=107,slow=19,SNR=2.3
NRIK LR LR 05 18 06.3
comp=Z,8µm,19.2s,baz=184,slow=39
DL2 Dalian 26.41 88 P **P 05 06 46.5 +1.8**
DL2 S **S 05 11 18.8 +2.3**
DL2 pmax pmax
comp=Z,120nm,0.9s
DL2 pmax pmax
comp=Z,420nm,5.5s
DL2 LR LR
comp=Z,5µm,18.6s
DL2 LR LR
comp=Z,3µm,19.4s
DL2 LR LR
comp=Z,3µm,16.2s
CHTO Chiang Mai 26.60 154 *e*P **P 05 06 46.4 -0.2**
comp=Z,114nm,1.3s
CHTO LR LR
comp=Z,3µm,22.0s
CHTO Chiang Mai 26.60 154 *e*P **P 05 06 46.4 -0.2**
CHTO pmax pmax
comp=Z,114nm,1.3s
CHTO MLR MLR
comp=Z,3µm,22.0s
CHTO Chiang Mai 26.60 154 P **P 05 06 47.0 +0.5**
SNR=47
CHTO Chiang Mai 26.60 154 P **P 05 06 46.9 +0.4**
comp=Z,307nm,1.0s,comp=Z,5µm
CHTO Chiang Mai 26.60 154 *e*P **P 05 06 46.6 0.0**
CMMT Chiang Mai 26.60 154 P **P 05 06 46.9 +0.3**
comp=Z,69nm,1.0s,comp=Z,1µm
SNY Shenyang 26.89 81 ⇓P **P 05 06 51.0 +2.0**
SNY S **S 05 11 24.5 +0.4**
SNY pmax pmax
comp=Z,49nm,0.8s
SNY pmax pmax
comp=Z,170nm,3.9s
SNY LR LR
comp=Z,19µm,16.7s
SNY LR LR
comp=Z,6µm,15.2s
SNY LR LR
comp=Z,10µm,11.6s
HYB Hyderabad 26.92 198 *i* P **P 05 06 48.0 -1.5**
HYB *e*S **S 05 11 30.0 +5.1**
CM31 Chiang Mai Arr 26.93 154 *e*P **P 05 06 50.7 +1.1**
comp=Z,104nm,1.0s
CM31 Chiang Mai Arr 26.93 154 P **P 05 06 50.8 +1.3**
SNR=37
CMAR Chiang Mai Arr 26.93 154 P **P 05 06 49.6 +0.1**
comp=Z,36nm,0.8s,baz=333,slow=8.6,SNR=130
CMAR LR LR 05 18 35.1
comp=Z,3µm,19.5s,baz=343,slow=39
CM01 Chiang Mai Arr 26.97 154 *e*P **P 05 06 49.6 -0.3**
LAMP Lampang 27.09 153 P **P 05 06 51.9 +0.9**
comp=Z,24nm,0.8s,comp=Z,178nm
KIRV Kirov 27.55 316 P **P 05 06 54.3 -0.5**
comp=Z,258nm,0.6s,baz=109,slow=1.7,SNR=67
KIRV S **S 05 11 32.8 -1.3**
comp=Z,14nm,0.8s,baz=298,slow=17,SNR=1.9
KIRV Lg Lg 05 15 31.4
comp=Z,11nm,0.4s,baz=29,slow=19,SNR=2.0
NJ2 Nanjing 27.55 104 *e*P **P 05 06 55.3 +0.3**
NJ2 sP **sP 05 07 08.3 +1.4**
NJ2 S **S 05 11 35.8 +1.1**
NJ2 pmax pmax
comp=Z,30nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,3.6s
NJ2 LR LR
comp=Z,3µm,11.9s
NJ2 LR LR
comp=Z,5µm,13.6s
NJ2 LR LR
comp=Z,7µm,13.6s
CN2 Changchun 27.74 76 *e*P **P 05 07 00.0 +3.4**
CN2 *e*S **S 05 11 39.0 +1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,4µm,10.0s
CN2 LR LR
comp=Z,4µm,10.0s
CN2 LR LR
comp=Z,5µm,10.0s
SUKH Sukhothai 28.06 153 P **P 05 07 01.3 +1.6**
comp=Z,14nm,1.4s
UTTA Uttaradit 28.13 151 P **P 05 07 01.4 +1.1**
comp=Z,14nm,0.9s,comp=Z,173nm
ZEA Zeya 28.23 54 *e*P **P 05 07 00.5 -0.4**
ZEA *e*S **S 05 11 45.0 0.0**
ZEA pmax pmax
comp=Z,37nm,1.4s
ZEA smax smax
comp=N,400nm,7.0s
ZEA MLR MLR
comp=E,3µm,15.0s
ZEA MLR MLR
comp=Z,4µm,15.0s
ZEA MLR MLR
comp=N,3µm,11.0s
MAK Makhachkala 28.53 283 *e*P **P 05 07 02.3 -1.4**
MAK *e* 05 07 52.2
MAK *e*S **S 05 11 49.3 -0.6**
MAK *e*SS **SnSn 05 13 10.0 +0.2**
MAK pmax pmax
comp=Z,143nm,1.4s
MAK MLR MLR
comp=Z,1µm,13.0s
NONG Nongkai 28.81 146 P **P 05 07 07.2 +0.9**
comp=Z,1.2nm,0.9s,comp=Z,68nm
UMPA Umpang Tak 29.02 156 P **P 05 07 11.1 +2.8**
comp=Z,13nm,0.8s,comp=Z,1µm
PBKT Sadao Pong 29.36 152 P **P 05 07 12.1 +0.9**
comp=Z,30nm,0.7s,comp=Z,1µm
GROC Groznyy 29.68 284 *e*P **P 05 07 12.5 -1.4**
GROC *e* 05 08 10.7
GROC *e* 05 10 20.6
SSE Sheshan 29.74 103 P **P 05 07 15.0 +0.5**
SSE S **S 05 12 09.5 +0.5**
SSE pmax pmax
comp=Z,30nm,0.6s
SSE LR LR
comp=Z,2µm,16.6s
SSE LR LR
comp=Z,1µm,16.4s
SSE LR LR
comp=Z,2µm,15.5s
SSE Sheshan 29.74 103 *e*P **P 05 07 16.8 +2.3**
comp=Z,172nm,0.8s
SSE LR LR
comp=Z,999nm,19.0s
UTHA Uthaitani 29.81 155 P **P 05 07 16.5 +1.3**
comp=Z,33nm,0.9s,comp=Z,318nm
GZH Guangzhou 29.82 124 P **P 05 07 14.3 -1.0**
GZH S **S 05 12 07.5 -3.0**
GZH LR LR
comp=Z,4µm,20.4s
GZH LR LR
comp=Z,5µm,20.3s
SKNT Sakolnakorn 30.13 146 P **P 05 07 18.9 +0.8**
comp=Z,19nm,1.0s,comp=Z,739nm
PANO Nakornpanom 30.24 145 P **P 05 07 20.1 +1.1**
comp=Z,1.1nm,0.9s,comp=Z,35nm
KHON Khomkaen 30.25 148 P **P 05 07 20.3 +1.2**
comp=Z,16nm,0.9s
PRGR Permogore 30.27 321⇑ *i*P **P 05 07 15.9 -3.0**
PRGR *e*S **S 05 12 17.5 +0.7**
PRGR pmax pmax
comp=Z,88nm,0.8s
CHAI Chaiyaphum 30.34 150 P **P 05 07 20.3 +0.4**
comp=Z,14nm,0.7s,comp=Z,127nm
SHME Shamm 30.43 245 P **P 05 07 20.7 0.0**
MDJ Mudanjiang 30.46 73 P **P 05 07 22.3 +1.6**
MDJ pP sP 05 07 33.5 +0.6
MDJ sP pP 05 07 37.3 +8.3
MDJ pmax pmax
comp=Z,9.0nm,0.7s
MDJ pmax pmax
comp=Z,210nm,5.3s
MDJ LR LR
comp=Z,3µm,10.3s
MDJ LR LR
comp=Z,5µm,11.5s
MDJ LR LR
comp=Z,7µm,11.1s
MDJ Mudanjiang 30.46 73 PFAKE 05 07 30.0 +9.2
MDJ LR LR
comp=Z,200nm,20.0s
MCO Taipa Grande 30.69 125 P **P 05 07 23.0 +0.1**
TBLG Delisi 30.84 282 *e*P **P 05 07 24.2 0.0**
comp=Z,26nm,0.7s
TBLG Delisi 30.84 282 *e*P **P 05 07 24.2 0.0**
TBLG pmax pmax
comp=Z,26nm,0.7s
SRDT SRDT 30.86 156 P **P 05 07 25.5 +1.0**
comp=Z,62nm,1.1s,comp=Z,3µm
YAK Yakutsk 31.08 38 *e*P **P 05 07 26.0 0.0**
YAK *e**PP **pP 05 07 33.7 -0.6**
YAK *e* 05 08 34.7
YAK *e*PPP PPP 05 08 39.5
YAK *e*S **S 05 12 29.7 +0.3**
YAK *e*SS **SnSn 05 14 17.1 +5.8**
YAK *e*SSS SSS 05 14 32.3
YAK pmax pmax
comp=E,324nm,1.1s
YAK pmax pmax
comp=N,230nm,1.1s
YAK pmax pmax
comp=Z,346nm,0.8s
YAK pmax pmax
comp=E,329nm,1.0s
YAK pmax pmax
comp=N,231nm,1.2s
YAK smax smax
comp=N,839nm,2.4s
YAK smax smax
comp=E,325nm,1.8s
YAK MLR MLR
comp=Z,13µm,17.0s
YAK MLR MLR
comp=E,11µm,18.0s
YAK MLR MLR
comp=N,5µm,17.0s
QIZ Qiongzhong 31.08 134 P **P 05 07 27.3 +0.8**
QIZ S **S 05 12 32.5 +2.2**
QIZ pmax pmax
comp=N,46nm,0.7s
QIZ LR LR
comp=N,2µm,17.1s
QIZ LR LR
comp=N,970nm,10.8s
QIZ LR LR
comp=N,2µm,21.1s
QIZ Qiongzhong 31.08 134 PFAKE 05 07 40.0 +14
QIZ LR LR
comp=Z,2µm,20.0s
KLR Kul'dur 31.13 63*ce*P **P 05 07 26.6 0.0**
ZEI Tsey 31.13 284 *e*P **P 05 07 26.3 -0.7**
ZEI pmax pmax
comp=Z,20nm,0.7s
NCK Nalchik 31.16 285 *i* P **P 05 07 26.6 -0.4**
NCK pmax pmax
comp=Z,28nm,0.7s
VRH Novokhopyorsk 31.16 300 *e*P **P 05 07 26.2 -0.6**
VRH *e**PP **pP 05 07 34.2 -1.0**
VRH pmax pmax
comp=Z,160nm,0.6s
VRH MLR MLR
comp=Z,3µm,18.0s
GOF Gofitskoye 31.16 288 *e*P **P 05 07 27.7 +0.7**
GOF pmax pmax
comp=Z,50nm,0.9s
GNI Garni 31.35 279 *e*P **P 05 07 30.8 +1.8**
comp=Z,46nm,0.9s
GNI LR LR
comp=Z,2µm,22.0s
GNI Garni 31.35 279 P **P 05 07 29.8 +0.9**
GNI Garni 31.35 279*c* *i*P **P 05 07 29.3 +0.4**
GNI pmax pmax
comp=Z,98nm,0.9s
GNI Garni 31.35 279 P **P 05 07 30.9 +2.0**
SNR=12
ASHO Ashiyiah 31.42 243 *i* P **P 05 07 30.1 +0.6**
SNR=9.4
NAZ Nazwa, Dubai 31.47 244 P **P 05 07 30.6 +0.8**
KS01 Wonju Array Si 31.52 87 *e*P **P 05 07 31.0 +0.8**
KS15 Wonju Array Si 31.52 87 *e*P **P 05 07 32.1 +1.9**
comp=Z,39nm,0.8s
KSRS Korea Array 31.55 87 P **P 05 07 31.2 +0.8**
comp=Z,30nm,0.9s,baz=282,slow=8.6,SNR=55
KSRS LR LR 05 21 51.6
comp=Z,2µm,18.6s,baz=288,slow=40
KBZ Khabaz 31.59 286 P **P 05 07 30.3 -0.4**
comp=Z,18nm,0.7s,baz=114,slow=3.8,SNR=36
KBZ LR LR 05 22 16.8
comp=Z,3µm,18.5s,baz=68,slow=40
TJN Taejon 31.59 89*c* *i*P **P 05 07 31.3 +0.5**
FAQ Al Faqa, Dubai 31.68 244 P **P 05 07 32.3 +0.6**
QZH Quanzhou 31.80 115⇑ *i*P **P 05 07 32.3 -0.5**
QZH S **S 05 12 43.0 +1.5**
QZH pmax pmax
comp=Z,420nm,2.8s
QZH LR LR
comp=Z,2µm,6.6s
QZH LR LR
comp=Z,3µm,7.1s
QZH LR LR
comp=Z,2µm,15.2s
NEY Neytrino 31.84 285*c* *i*P **P 05 07 32.6 -0.5**
NEY pmax pmax
comp=Z,7.0nm,0.8s
ASUD Al Ashush, Dub 31.94 244 P **P 05 07 34.9 +0.9**
ALNE Al Ain 32.06 243 *i* P **P 05 07 36.3 +1.2**
SNR=5.0
ARQ Araqi 32.08 241 P P 05 07 43.5 +8.3
SNR=6.6
USA0B Ussuriysk Arra 32.23 73 *e*P **P 05 07 38.9 +2.6**
comp=Z,8.8nm,0.9s
USA0B LR LR
comp=Z,600nm,22.0s
USA0B Ussuriysk Arra 32.23 73 *e*P **P 05 07 38.9 +2.6**
USA0B pmax pmax
comp=Z,9.0nm,0.9s
USA0B MLR MLR
comp=Z,600nm,22.0s
USRK Ussuriysk Ar. 32.23 73 P **P 05 07 37.5 +1.2**
comp=Z,4.3nm,0.7s,baz=284,slow=8.7,SNR=9.7
USRK LR LR 05 21 31.3
comp=Z,1µm,19.4s,baz=275,slow=38
CLDR Calderan 32.31 277 *i* P **P 05 07 39.4 +2.1**
PHET Kaeng Krachan 32.37 156 P **P 05 07 39.3 +1.5**
comp=Z,21nm,1.1s,comp=Z,204nm
KARS Kars 32.38 280 *e*P **P 05 07 39.9 +1.9**
comp=Z,342nm,1.2s
KARS LR LR
comp=Z,3µm,22.0s
KARS Kars 32.38 280 *e*P **P 05 07 39.9 +1.9**
KARS pmax pmax
comp=Z,342nm,1.2s
KARS MLR MLR
comp=Z,3µm,22.0s
VORR Voronezh 32.69 302 *e*P **P 05 07 39.0 -1.3**
VORR pmax pmax
comp=Z,250nm,1.0s
PATY Pattaya 32.73 154 P **P 05 07 43.3 +2.3**
comp=Z,18nm,0.9s,comp=Z,2µm
VSR Storozhevoye 32.76 301 *e*P **P 05 07 39.7 -1.2**
VSR *e**PP **pP 05 07 47.8 -1.5**
VSR pmax pmax
comp=Z,130nm,0.9s
VSR MLR MLR
comp=Z,4µm,23.0s
LPSR Galich'ya Gora 32.80 303 *e*P **P 05 07 41.0 -0.2**
LPSR *e**PP **pP 05 07 48.4 -1.2**
LPSR pmax pmax
comp=Z,220nm,0.7s
LPSR MLR MLR
comp=Z,3µm,21.0s
MHTO MHTO 32.91 236 P P 05 07 50.6 +8.1
SNR=17
KLMR Klimovskoe 32.95 319⇓ *i*P **P 05 07 41.9 -0.5**
KLMR *i* *PP **pP 05 07 49.7 -1.1**
KLMR *e*S **S 05 12 57.1 -1.6**

KLMR pmax pmax
comp=Z,203nm,0.6s
KLMR Klimovskoe 32.95 319 ⇓*i*P **P 05 07 42.0 -0.5**
KLMR *e*P **P 05 07 42.0 -0.5**
KLMR *e*P **P 05 07 42.0 -0.5**
KLMR AMP 05 07 43.7
comp=Z,203nm,0.6s
KLMR ⇓*i*pP **pP 05 07 49.8 -1.1**
KLMR *e*S **S 05 12 57.2 -1.5**
KLMR *e*S **S 05 12 57.2 -1.5**
DAGI Agillar 33.07 282 *i*P **P 05 07 45.3 +1.5**
DAGI IAML_P
comp=Z,552nm,0.7s
DBAD Bademkaya 33.24 282 *i*P **P 05 07 46.3 +0.9**
DBAD IAML_P
comp=Z,410nm,0.7s
TATO Taipei 33.72 112 PFAKE 05 08 00.0 +11
TATO LR LR
comp=Z,1μm,18.0s
YHNB Yeheng 33.84 112 *e*P **P 05 07 51.0 +0.3**
comp=Z,54nm,0.7s
YHNB LR LR
comp=Z,2μm,19.0s
SOC Sochi 33.85 287 *e*P **P 05 07 49.8 -0.7**
SOC *e**PP **pP 05 07 57.1 -1.8**
SOC *e*PPP PPP 05 09 09.3
SOC *e*S **S 05 13 12.7 -0.2**
SOC pmax pmax
comp=Z,62nm,0.7s
SOC MLR MLR
comp=Z,3μm,21.0s
GRNR Gornyy 33.93 60 *e*P **P 05 07 52.8 +1.6**
GRNR pmax pmax
comp=Z,36nm,1.0s
SIRT Sirnak 34.02 275 *e*P **P 05 07 53.0 +0.9**
comp=Z,98nm,1.0s
SIRT LR LR
comp=Z,4μm,21.0s
KRIK Erzurum-spir 34.02 281 *i*P P 05 08 03.7 +11
KRIK IAML_P
comp=Z,945nm,0.5s
OBN Obninsk 34.09 308 *e*P **P 05 07 51.9 -0.5**
comp=Z,267nm,1.3s
OBN LR LR
comp=Z,8μm,19.0s
OBN Obninsk 34.09 308 ⇓*i*P **P 05 07 52.4 0.0**
OBN Obninsk 34.09 308*d i*P **P 05 07 52.1 -0.3**
OBN *i* 05 07 59.0
OBN *e* 05 09 02.3
OBN *e*S **S 05 13 14.1 -2.3**
OBN *e*SS **SnSn 05 15 25.5 +0.9**
OBN pmax pmax
comp=Z,87nm,1.2s
OBN MLR MLR
comp=Z,7μm,19.0s
SSLB Suanglung 34.16 114 *e*P **P 05 07 53.8 +0.4**
comp=Z,120nm,1.2s
SSLB LR LR
comp=Z,2μm,19.0s
SRTM Siirt_Merkez 34.19 276 *i*P **P 05 07 54.1 +0.4**
SRTM IAML_P
comp=Z,128nm,0.6s
MUSM Mu-Merkez 34.20 278 *i*P P 05 07 47.5 -6.3
MUSM IAML_P
comp=Z,53nm,0.1s
TPUB Ta-pu 34.28 115 PFAKE 05 08 10.0 +16
TPUB LR LR
comp=Z,1μm,21.0s
TMCR Tamitsa 34.30 324 *e*P **P 05 07 53.0 -1.1**
TMCR *e*S **S 05 13 22.6 +3.1**
TMCR pmax pmax
comp=Z,111nm,0.7s
NACB Ninganchiao 34.33 113 *e*P **P 05 07 57.6 +2.8**
comp=Z,89nm,1.0s
NACB LR LR
comp=Z,2μm,19.0s
KOPT Kop Dagi 34.45 281 *i*P **P 05 07 58.5 +2.4**
KOPT IAML_P
comp=Z,6.8nm,0.3s
BAYB BAYBURT 34.53 281 *i*P **P 05 07 58.1 +1.3**
BAYB IAML_P
comp=Z,5.5nm,0.2s
YULB Yu-li 34.66 114 PFAKE 05 08 10.0 +12
YULB LR LR
comp=Z,1μm,19.0s
BTMN Batman 34.71 277 *i*P **P 05 07 59.6 +1.5**
BTMN IAML_P
comp=Z,191nm,0.5s
TIXI Tiksi 34.74 22 *e*P **P 05 07 57.3 -0.6**
comp=Z,160nm,1.3s
TIXI LR LR
comp=Z,8μm,18.0s
TIXI Tiksi 34.74 22*d i*P **P 05 07 57.6 -0.3**
TIXI pmax pmax
comp=Z,86nm,1.0s
TWG Pinlang 34.91 115 *e*P **P 05 08 01.8 +1.9**
comp=Z,328nm,0.9s
TWG LR LR
comp=Z,4μm,18.0s
ANN Anapa 35.09 290 *e*P **P 05 08 00.8 -0.4**
ANN *e*S **S 05 13 31.4 -0.6**
ANN pmax pmax
comp=Z,104nm,0.9s
ANN MLR MLR
comp=Z,2μm,14.0s
HANI Diyarbakir_Han 35.12 278 *i*P **P 05 08 04.0 +2.3**
HANI IAML_P
comp=Z,50nm,0.2s
TEY Ternei 35.19 70 ⇑*e*P **P 05 07 59.0 -3.0**
TEY pmax pmax
comp=Z,10.0nm,1.4s
TEY MLR MLR
comp=E,300nm,9.0s
TEY MLR MLR
comp=Z,300nm,12.0s
KELT Kelkit 35.29 281 *i*P **P 05 08 04.2 +1.0**
KELT IAML_P
comp=Z,607nm,0.8s
MARD Mardin 35.30 276 *i*P **P 05 08 04.0 +0.7**
MARD IAML_P
comp=Z,2μm,0.6s
TNCL Tunceli-Merkez 35.47 280 *i*P **P 05 08 05.8 +1.1**
TNCL IAML_P
comp=Z,124nm,0.2s
JNU Nakatsue 35.66 92 *e*P **P 05 08 07.3 +1.0**
comp=Z,42nm,1.0s
JNU LR LR
comp=Z,2μm,18.0s
SUSE Susehri 36.02 282 *i*P **P 05 08 10.9 +1.4**
SUSE IAML_P
comp=Z,601nm,0.6s
ELZG Elazig 36.11 279 *i*P **P 05 08 12.6 +2.3**
ELZG IAML_P
comp=Z,32nm,0.2s
KEMA Kemaliye 36.16 280 *i*P **P 05 08 12.5 +1.9**
KEMA IAML_P
comp=Z,599nm,0.7s
NKL Nikolayevsk 36.26 55 *e*P **P 05 08 11.0 -0.1**
NKL pmax pmax
comp=Z,65nm,1.0s
NKL MLR MLR
comp=N,2μm,10.0s
NKL MLR MLR
comp=E,2μm,10.0s
NKL MLR MLR
comp=Z,3μm,10.0s
CUZAR Zara_SIVAS 36.44 282 *i*P **P 05 08 14.2 +1.1**
PALK Pallekele 36.46 190 *e*P **P 05 08 14.0 +0.8**
comp=Z,31nm,0.8s
PALK LR LR
comp=Z,2μm,22.0s
PALK Pallekele 36.46 190 *i*P **P 05 08 14.1 +0.9**
SNR=12
LVZ Lovozero 36.56 330 *e*P **P 05 08 13.2 -0.4**
comp=Z,123nm,1.2s
LVZ LR LR
comp=Z,4μm,18.0s
LVZ Lovozero 36.56 330*d i*P **P 05 08 13.5 -0.1**
LVZ pmax pmax
comp=Z,69nm,1.0s
HEKM Malatya_Hekimh 36.70 280 *i*P **P 05 08 17.5 +2.2**
HEKM IAML_P
comp=Z,106nm,0.1s
PKDT Phuket 36.83 161 P **P 05 08 17.2 +0.9**
comp=Z,28nm,1.0s,comp=Z,3μm
ERBA Erbaa 36.87 283 *i*P **P 05 08 17.4 +0.9**

ERBA IAML_P
comp=Z,1μm,0.4s
CUKAN kangal_SIVAS 36.88 281 *i*P **P 05 08 18.2 +1.4**
APA Apatity 36.94 329 ⇓*i*P **P 05 08 16.4 -0.4**
APA *i* 05 09 43.3
APA *i*S **S 05 13 57.0 -2.9**
APA pmax pmax
comp=Z,46nm,0.6s
APA MLR MLR
comp=Z,5μm,5.7s
AKCD Akcadag 36.96 279 *i*P **P 05 08 18.4 +0.9**
AKCD IAML_P
comp=Z,28nm,0.1s
SURC SANLIURFA_SURC 37.05 277 *i*P **P 05 08 19.5 +1.3**
SURC IAML_P
comp=Z,178nm,0.5s
JOF Joensuu 37.07 321 P **P 05 08 18.0 0.0**
JOF pmax pmax
comp=Z,284nm,1.0s
TRTT Trang 37.23 159 P **P 05 08 20.0 +0.3**
comp=Z,22nm,0.9s,comp=Z,271nm
SIM Simferopol' 37.31 291*ce*P **P 05 08 20.6 +0.4**
SIM *e*S S 05 16 34.0
SIM pmax pmax
comp=Z,142nm,0.8s
PUL Pulkovo 37.42 316 *i*P **P 05 08 20.3 -0.6**
PUL pmax pmax
comp=Z,225nm,0.8s
HAVZ Havza 37.46 284 *i*P **P 05 08 22.4 +0.8**
HAVZ IAML_P
comp=Z,762nm,0.5s
SNOP Sinop 37.49 286 *e*P **P 05 08 21.9 +0.1**
comp=Z,76nm,0.8s
SNOP LR LR
comp=Z,1μm,20.0s
CUSAR Sarkisla-SIVAS 37.71 282 *i*P **P 05 08 25.2 +1.4**
TYV Tymovskoe 37.82 59 *e*P **P 05 08 25.1 +0.7**
TYV pmax pmax
comp=Z,16nm,0.9s
TYV pmax pmax
comp=Z,500nm,3.6s
HCB Kahramanmara 38.08 278 *i*P **P 05 08 27.0 +0.1**
HCB IAML_P
comp=Z,182nm,0.6s
SKLT Songkhla 38.11 158 P **P 05 08 27.9 +0.7**
comp=Z,34nm,1.1s,comp=Z,717nm
COAL Corum-Alaca 38.28 284 *i*P **P 05 08 29.3 +0.7**
COAL IAML_P
comp=Z,174nm,0.8s
ANDN Andirin 38.39 279 *i*P **P 05 08 30.3 +0.8**
ANDN IAML_P
comp=Z,0.9nm,0.5s
SIRC Yozgat 38.52 282 *i*P **P 05 08 30.7 +0.1**
SIRC IAML_P
comp=Z,492nm,0.6s
YSS Yuzh-Sakhalins 38.80 65 PFAKE 05 08 40.0 +7.3
YSS LR LR
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 38.80 65 ⇓*e*P **P 05 08 28.8 -3.9**
YSS *e* 05 08 34.2
YSS *e*S **S 05 14 23.6 -4.9**
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS smax smax
comp=N,700nm,6.2s
YSS MLR MLR
comp=Z,3μm,15.0s
YSS MLR MLR
comp=N,2μm,14.0s
YSS MLR MLR
comp=E,3μm,16.0s
YAHY KAYSERI_Yahyal 38.88 280 *i*P **P 05 08 35.1 +1.5**
YAHY IAML_P
comp=Z,474nm,0.6s
ILGA Ilgaz 38.88 285 *e*P **P 05 08 34.3 +0.6**
comp=Z,123nm,0.9s
ILGA LR LR
comp=Z,2μm,21.0s
ILGA Ilgaz 38.88 285 *i*P **P 05 08 34.9 +1.1**
ILGA IAML_P
comp=Z,2μm,0.7s
CDAG Cicekdag 38.96 283 *i*P **P 05 08 34.0 -0.3**
CDAG IAML_P
comp=Z,118nm,0.5s
AKASG Malin Array Be 39.05 301 P **P 05 08 34.2 -0.5**
comp=Z,50nm,0.6s,baz=62,slow=8.6,SNR=76
AKASG LR LR 05 25 51.2
comp=Z,2μm,18.6s,baz=70,slow=38
AKBB Malin Array Si 39.05 301 *e*P **P 05 08 34.2 -0.5**
comp=Z,84nm,0.9s
AKBB LR LR
comp=Z,2μm,21.0s
KIEV Kiev 39.06 301 *e*P **P 05 08 34.0 -0.8**
KIEV LR LR
comp=Z,2μm,21.0s
KIEV Kiev 39.06 301 ⇑*i*P **P 05 08 34.2 -0.6**
KIEV Kiev 39.06 301 *i*P **P 05 08 34.2 -0.6**
SNR=57
KIEV Kiev 39.06 301*d i*P **P 05 08 33.5 -1.3**
KIEV pmax pmax
comp=Z,41nm,0.8s
INU Inuyama 39.06 85 PFAKE 05 08 50.0 +15
INU LR LR
comp=Z,1μm,19.0s
AK11 Malin Array Si 39.09 301 *e*P **P 05 08 34.6 -0.4**
LHMI Lhok Sumawe 39.11 164 *e*P **P 05 08 37.4 +1.8**
comp=Z,114nm,0.8s
LHMI LR LR
comp=Z,1μm,21.0s
LHMI Lhok Sumawe 39.11 164 P **P 05 08 35.9 +0.4**
DELI KIRIKKALE 39.13 284 *i*P **P 05 08 36.4 +0.7**
DELI IAML_P
comp=Z,529nm,0.6s
MICGM Minsk 39.15 308 *e*P **P 05 08 36.0 +0.4**
MICGM *e*S **S 05 14 34.0 +0.4**
MICGM *e*LR LR 05 24 20.0
MICGM LRM MLR 05 25 10.0
comp=Z,10nm,18.0s
MNK Minsk 39.15 308 *e*P **P 05 08 36.0 +0.4**
MNK *e*S **S 05 14 34.0 +0.4**
MNK MLR MLR
comp=Z,10μm,16.0s
ELDT Eldivan 39.29 285 *i*P **P 05 08 38.1 +0.9**
ELDT IAML_P
comp=Z,2μm,0.7s
VSU Vasula 39.32 314*d i*P **P 05 08 36.4 -0.5**
VSU pmax pmax
comp=Z,347nm,0.9s
MJB9 Matsu-Tunnel 39.38 82 PFAKE 05 08 50.0 +12
MJB9 LR LR
comp=Z,2μm,19.0s
MAJO Matsushiro 39.38 82 *e*P **P 05 08 38.0 +0.2**
MAJO LR LR
comp=Z,2μm,18.0s
MAJO Matsushiro 39.38 82 *i*P **P 05 08 37.8 0.0**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 39.38 82 *e*P P 05 08 42.8 +5.1
MAT Matsushiro 39.38 82 P **P 05 08 37.7 -0.1**
MAT S **S 05 14 37.8 +0.2**
MJAR Matsushiro Arr 39.38 82 P **P 05 08 38.0 +0.2**
MJAR Matsushiro Arr 39.38 82 P **P 05 08 38.0 +0.2**
comp=Z,5.7nm,0.8s,baz=288,slow=9.5,SNR=11
MJAR LR LR 05 25 45.9
comp=Z,1μm,18.6s,baz=290,slow=38
BR101 Keskin Array S 39.44 283 *e*P **P 05 08 38.4 0.0**
BR131 Keskin Array S 39.44 283 *e*P **P 05 08 37.4 -1.0**
comp=Z,59nm,1.0s
BR131 Keskin Array S 39.44 283 P **P 05 08 38.4 0.0**
SNR=39
BRTR Keskin Array B 39.44 283 P **P 05 08 38.4 0.0**
comp=Z,20nm,0.8s,baz=108,slow=6.8,SNR=87
BRTR LR LR 05 28 08.6
comp=Z,699nm,18.1s,baz=50,slow=41
KIRS Kırehir-Merke 39.48 282 *i*P **P 05 08 39.0 +0.4**
KIRS IAML_P
comp=Z,551nm,0.7s
FIA1 FINESS Array S 39.48 319 *e*P **P 05 08 37.4 -0.8**
FIA0 FINESS Array S 39.49 319 *e*P **P 05 08 37.7 -0.6**
FIA0 FINESS Array S 39.49 319 *e*P **P 05 08 37.7 -0.6**
FINES FINESS Array B 39.49 319 P **P 05 08 37.7 -0.6**
comp=Z,44nm,0.8s,baz=99,slow=9.8,SNR=122
FINES LR LR 05 25 38.1
comp=Z,4μm,18.2s,baz=86,slow=37
GULE Gulek 39.64 279 *i*P **P 05 08 42.1 +2.0**

GULE IAML_P
comp=Z,2μm,0.8s
KEV Kevo 39.66 332 *e*P **P 05 08 40.0 +0.4**
comp=Z,123nm,0.8s
KEV LR LR
comp=Z,5μm,20.0s
KEV Kevo 39.66 332 *e*P **P 05 08 40.0 +0.4**
KEV pmax pmax
comp=Z,123nm,0.8s
KEV MLR MLR
comp=Z,5μm,20.0s
KEV Kevo 39.66 332 *e*P **P 05 08 40.0 +0.4**
BTIN Bartın 39.69 287 *i*P **P 05 08 41.0 +0.8**
BTIN IAML_P
comp=Z,2μm,0.7s
NACGM Naroch 39.72 308 *e*P **P 05 08 39.0 -1.3**
NACGM PM 05 08 40.0
comp=Z,0.4nm,1.0s
NACGM *e*PP **PP 05 10 08.0 -3.5**
NACGM *e*PPP PPP 05 11 02.0
NACGM *e*S **S 05 14 36.0 -6.2**
NACGM *e*SS SS 05 17 06.0 -32
NACGM *e*SSS SSS 05 17 52.0
NACGM *e*LQ LQ 05 22 20.0
NACGM *e*LR LR 05 24 26.0
NACGM LRM MLR 05 25 30.0
comp=E,9.7nm,20.0s
NACGM LRM MLR 05 25 34.0
comp=Z,13nm,20.0s
AKSY AKSARAY - Alti 39.79 282 *i*P **P 05 08 41.5 +0.3**
AKSY IAML_P
comp=Z,265nm,0.8s
KULM Kulim 39.92 158 *e*P **P 05 08 41.8 -0.5**
comp=Z,116nm,1.2s
KULM LR LR
comp=Z,2μm,21.0s
KULM Kulim 39.92 158 P **P 05 08 42.8 +0.5**
CMDR Camlidere-ANKA 39.96 285 *i*P **P 05 08 43.9 +1.2**
CMDR IAML_P
comp=Z,2μm,0.6s
ANTO Ankara 39.98 284 *e*P **P 05 08 43.1 +0.3**
comp=Z,50nm,0.8s
ANTO Ankara 39.98 284 ⇑*i*P **P 05 08 43.3 +0.5**
ANTO Ankara 39.98 284 *e*P **P 05 08 43.1 +0.3**
ANTO pmax pmax
comp=Z,50nm,0.8s
ANTO Ankara 39.98 284 P **P 05 08 43.4 +0.6**
SNR=15
ANTO Ankara 39.98 284 *e*P **P 05 08 41.7 -1.1**
BR231 Keskin MP Arra 40.01 284 *e*P **P 05 08 43.8 +0.8**
comp=Z,45nm,0.8s
BCAM Yenicaga 40.13 286 *i*P **P 05 08 44.4 +0.4**
BCAM IAML_P
comp=Z,352nm,0.6s
ARA0 ARCESS Array S 40.15 331 *e*P **P 05 08 43.5 -0.2**
ARCES ARCESS Array B 40.15 331 *e*P **P 05 08 43.3 -0.4**
ARCES ARCESS Array B 40.15 331 P **P 05 08 43.5 -0.2**
comp=Z,110nm,0.6s,baz=87,slow=0.8,SNR=256
ARCES LR LR 05 26 50.1
comp=Z,5μm,20.1s,baz=100,slow=38
ARE0 ARCESS Array S 40.15 331 *e*P **P 05 08 44.1 +0.4**
comp=Z,6.6nm,0.8s
ARE0 LR LR
comp=Z,300nm,21.0s
ARE0 ARCESS Array S 40.15 331 *e*P **P 05 08 44.3 +0.6**
KIS Kishinev 40.25 296 ⇑*i*P **P 05 08 44.0 -0.8**
comp=Z,300nm,1.0s
KIS Kishinev 40.25 296 *e*PcS PcS 05 13 48.0 -50
KIS *i*S S 05 13 56.0 -54
comp=Z,600nm,2.0s
KIS Kishinev 40.25 296 ⇑*i*P **P 05 08 44.0 -0.8**
KIS *i* 05 08 52.0
KIS *e* 05 10 20.0
KIS *e* 05 10 52.0
KIS pmax pmax
comp=Z,300nm,1.0s
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=N,2μm,16.0s
YIGI Dzce 40.50 286 *i*P **P 05 08 47.7 +0.7**
YIGI IAML_P
comp=Z,3μm,0.7s
KTGM Kuala Trenggan 40.60 155 P **P 05 08 49.2 +1.2**
ERM Erimo 40.67 72 PFAKE 05 09 00.0 +12
ERM LR LR
comp=Z,2μm,18.0s
ERM Erimo 40.67 72 *i*P **P 05 08 50.1 +1.8**
ERM pmax pmax
comp=Z,41nm,1.0s
LEOM Leova 40.78 295 ⇓*i*P **P 05 08 49.5 +0.3**
LEOM Leova 40.78 295 P **P 05 08 49.4 +0.3**
IPM Ipoh 40.79 158 *e*P **P 05 08 48.2 -1.3**
comp=Z,49nm,0.6s
IPM LR LR
comp=Z,2μm,20.0s
IPM Ipoh 40.79 158 P **P 05 08 49.3 -0.3**
TLCR 40.81 293 P **P 05 08 49.4 0.0**
KTK1 Kautokeino 40.90 330 *e*P **P 05 08 50.1 +0.2**
AUMIH MIHALICIK 40.91 285 *i*P **P 05 08 50.9 +0.4**
HAMF Hammerfest 40.91 333 *e*P **P 05 08 50.8 +0.9**
SAHE Sakarya_HENDEK 40.96 286 *i*P **P 05 08 51.4 +0.6**
SAHE IAML_P
comp=Z,622nm,0.8s
IAS Iasi 41.01 297 ⇑*i*P **P 05 08 51.1 0.0**
IAS Iasi 41.01 297 P **P 05 08 51.1 0.0**
KDHN Kadinhani 41.01 282 *i*P **P 05 08 51.2 -0.2**
KDHN IAML_P
comp=Z,877nm,0.7s
TPTI 41.07 164 P **P 05 08 49.4 -2.4**
KONT Konya--Tatoy 41.09 282 *i*P **P 05 08 52.7 +0.9**
KONT IAML_P
comp=Z,927nm,0.7s
MA2 Magadan 41.12 44 *i*P **P 05 08 51.7 -0.2**
MA2 pmax pmax
comp=Z,24nm,0.9s
KMER Konya-Meram 41.16 281 *i*P **P 05 08 52.5 -0.1**
KMER IAML_P
comp=Z,73nm,0.1s
BIR Birlad 41.25 295 ⇑*i*P **P 05 08 53.7 +0.6**
BIR Birlad 41.25 295 P **P 05 08 53.7 +0.6**
CFR Carcaliu 41.26 294 ⇑*i*P **P 05 08 53.0 -0.2**
CFR Carcaliu 41.26 294 P **P 05 08 53.0 -0.2**
ERMK Ermenek 41.26 279 *i*P **P 05 08 54.0 +0.4**
ERMK IAML_P
comp=Z,974nm,0.6s
EFOR EFORIE 41.30 292 ⇓*i*P **P 05 08 54.0 +0.5**
TIRR Tirgusor 41.32 292 *e*P **P 05 08 53.0 -0.6**
comp=Z,22nm,0.8s
TIRR Tirgusor 41.32 292 ⇑*i*P **P 05 08 53.5 -0.1**
TIRR Tirgusor 41.32 292 *e*P **P 05 08 53.1 -0.6**
TIRR pmax pmax
comp=Z,22nm,0.8s
MFTR Murfatlar 41.41 292 ⇑*i*P **P 05 08 54.5 +0.1**
DOGA KONYA_Doganhis 41.51 282 *i*P **P 05 08 55.5 0.0**
DOGA IAML_P
comp=Z,1μm,0.5s
TLB Topalu 41.53 293 ⇑*i*P **P 05 08 55.2 -0.1**
TLB Topalu 41.53 293 P **P 05 08 55.2 -0.1**
HARR Harsova 41.56 293 ⇑*i*P **P 05 08 55.7 +0.1**
HARR Harsova 41.56 293 P **P 05 08 55.7 +0.1**
SEY Seymchan 41.60 39 *i*P **P 05 08 56.0 +0.3**
BORA Eskisehir 41.63 285 *i*P **P 05 08 56.5 +0.1**
BORA IAML_P
comp=Z,775nm,0.5s
HOPEN Hopen 41.68 342 *e*P **P 05 08 57.9 +1.7**
PETR Petresti 41.69 295 ⇓*i*P **P 05 08 57.9 +1.3**
SILT Sile 41.69 287 ⇑*i*P **P 05 08 57.3 +0.6**
CSS Mathiatis 41.74 277 *e*P **P 05 08 57.6 +0.4**
comp=Z,36nm,0.7s
CSS Mathiatis 41.74 277 P P 05 09 05.5 +8.3
comp=Z,13nm,0.9s
PSN Preselentsi 41.75 291 *i*P P 05 09 06.2 +9.0
PSN Preselentsi 41.75 291 *i*P P 05 09 06.2 +9.0
ODBI Odobesti 41.79 295 ⇑*i*P **P 05 08 58.9 +1.4**
YUK Yuzh-Kuril'sk 41.79 68 P **P 05 08 57.4 -0.1**
YUK S **S 05 15 11.3 -1.9**
TESR Tescani 41.81 296 ⇑*i*P **P 05 08 57.7 0.0**
PSI Prapat 41.88 162 *e*P **P 05 08 57.8 -0.9**
comp=Z,9.8nm,0.7s
PSI LR LR
comp=Z,1μm,21.0s
PSI Prapat 41.88 162 *e*P **P 05 08 57.8 -0.9**
PSI pmax pmax

comp=Z,10.0nm,0.7s
PSI MLR MLR
comp=Z,1µm,21.0s
GHAJ Ghor Haditha 41.94 271 P P 05 09 07.3 +8.4
comp=Z,42nm,1.0s
SUW Suwalki 41.95 308 *eP* **P 05 08 59.2 +0.5**
SUW LMZ LR 05 26 42.8
comp=Z,7µm,20.6s
SUW Suwalki 41.95 308 *eP* **P 05 08 58.6 -0.1**
comp=Z,232nm,1.0s
SUW LR LR
comp=Z,8µm,19.0s
SUW Suwalki 41.95 308 *eP* **P 05 08 59.2 +0.5**
SUW MLR MLR
comp=Z,7µm,20.6s
GRER 41.97 294⇑ *iP* **P 05 09 00.2 +1.2**
VRI Vrincioaia 41.97 295⇑ *iP* **P 05 08 59.4 +0.4**
VRI Vrincioaia 41.97 295 P P **05 08 59.3 +0.3**
LEF Lefka 41.98 277⇑ *iP* **P 05 08 59.7 +0.5**
AMRR Amara 41.99 293⇓ *iP* **P 05 08 58.5 -0.6**
PLOR Plostina 42.03 295⇑ *iP* **P 05 08 59.8 +0.2**
PLOR Plostina 42.03 295 P P **05 08 59.7 +0.2**
BIZ Bicaz 42.03 297⇑ *iP* **P 05 08 59.9 +0.4**
KLYT Kilyos 42.06 288⇑ *iP* **P 05 09 00.6 +0.8**
YLV Yalova 42.11 287⇑ *iP* **P 05 09 00.6 +0.4**
FRIM Kepong 42.15 158 P P **05 09 02.0 +1.4**
BAGO Egridir - ISPA 42.19 282 *i P* **P 05 09 01.1 +0.1**
BAGO IAML_P
comp=Z,672nm,0.6s
ISR Istrita 42.35 294⇓ *iP* **P 05 09 03.5 +1.4**
ISR Istrita 42.35 294 P P **05 09 03.7 +1.6**
ISR pmax pmax
comp=Z,126nm,1.0s
BURAR Bucovina Array 42.40 298⇓ *iP* **P 05 09 02.5 -0.1**
BUR08 Bucovina Ar. S 42.40 298 *eP* **P 05 09 01.9 -0.7**
comp=Z,43nm,0.8s
ISP Isparta 42.45 282 *eP* **P 05 09 02.8 -0.3**
comp=Z,174nm,1.2s
ISP Isparta 42.45 282⇓ *iP* **P 05 09 03.2 +0.1**
ISP Isparta 42.45 282 *eP* **P 05 09 02.8 -0.3**
ISP pmax pmax
comp=Z,174nm,1.2s
TRO Tromso 42.46 331 *eP* **P 05 09 02.6 0.0**
LVV L'vov 42.49 301 *eP* **P 05 09 03.3 +0.1**
LVV *eS* **S 05 15 21.0 -2.5**
LVV MLR MLR
comp=Z,1µm,17.0s
MLR Muntele Rosu 42.62 295 *eP* **P 05 09 04.7 +0.3**
comp=Z,76nm,0.9s
MLR LR LR
comp=Z,1µm,20.0s
MLR Muntele Rosu 42.62 295⇑ *iP* **P 05 09 04.9 +0.5**
MLR Muntele Rosu 42.62 295 *eP* **P 05 09 04.7 +0.3**
MLR pmax pmax
comp=Z,76nm,0.9s
MLR MLR MLR
comp=Z,1µm,20.0s
GDZ Gediz 42.64 285 *i P* **P 05 09 04.0 -0.7**
GDZ IAML_P
comp=Z,585nm,0.6s
SECR 42.69 294⇑ *iP* **P 05 09 06.0 +1.1**
SULR 42.69 294⇓ *iP* **P 05 09 06.4 +1.6**
BJO Bjornoya 42.73 338 *eP* **P 05 09 06.3 +1.5**
DOPR Dopca 42.82 296⇑ *iP* **P 05 09 06.7 +0.8**
BRDR BURDUR-Merkez 42.83 282 *i P* **P 05 09 06.3 +0.1**
BRDR IAML_P
comp=Z,23nm,0.1s
KHAL Karahalli 42.94 284 *i P* **P 05 09 07.0 -0.1**
KHAL IAML_P
comp=Z,223nm,0.6s
PHSR Pinarhisar 42.97 289⇑ *iP* **P 05 09 07.5 +0.4**
GSI Gunungsitoli 43.05 164 *eP* **P 05 09 08.2 +0.2**
comp=Z,116nm,0.8s
GSI LR LR
comp=Z,1µm,20.0s
ARCR ARCALIA 43.12 297⇑ *iP* **P 05 09 09.8 +1.5**
VOIR 43.23 295⇑ *iP* **P 05 09 09.7 +0.4**
VOIR 43.23 295 P P **05 09 09.6 +0.3**
AKUM Antalya-Kumluc 43.25 280 *i P* **P 05 09 07.9 -1.6**
EIL Elat 43.27 269 P P 05 09 18.5 +8.8
comp=Z,44nm,0.9s
MTUR Matau 43.29 295⇑ *iP* **P 05 09 10.1 +0.3**
MTUR Matau 43.29 295 P P **05 09 10.1 +0.3**
KWP Kalwaria Pacla 43.37 302 *eP* **P 05 09 10.5 +0.2**
KWP *eS* **S 05 15 36.6 +0.2**
KWP LMZ LR 05 27 49.3
comp=Z,1µm,21.7s
KWP Kalwaria Pacla 43.37 302 *eP* **P 05 09 10.5 +0.2**
comp=Z,2µm,0.7s
KWP Kalwaria Pacla 43.37 302 *eP* **P 05 09 10.5 +0.2**
SZH Strazhica 43.42 292 *i P* **P 05 09 10.8 0.0**
SZH Strazhica 43.42 292 *i P* **P 05 09 10.8 0.0**
GOLR 43.49 294⇑ *iP* **P 05 09 12.2 +0.9**
ARR Arges 43.52 295⇑ *iP* **P 05 09 11.9 +0.2**
HUMR Humele 43.59 294⇑ *iP* **P 05 09 12.5 +0.3**
ZIMR 43.66 292⇑ *iP* **P 05 09 13.4 +0.7**
CJR Cluj-Napoca 43.73 297⇑ *iP* **P 05 09 14.5 +1.2**
CJR Cluj-Napoca 43.73 297 P P **05 09 14.5 +1.2**
KGM Kluang 43.79 156 P P **05 09 15.0 +1.0**
KGM Kluang 43.79 156 P P **05 09 15.2 +1.2**
STEI Steigen 43.84 329 *eP* **P 05 09 14.0 +0.2**
SPA0 Spitsbergen Ar 43.88 344 *eP* **P 05 09 14.8 +0.8**
comp=Z,75nm,1.1s
SPA0 Spitsbergen Ar 43.88 344 *eP* **P 05 09 15.2 +1.2**
SPITS Spitsbergen Ar 43.88 344 P P **05 09 14.3 +0.3**
SPITS pmax pmax
comp=Z,3.0nm,0.4s
SPITS Spitsbergen Ar 43.88 344 LR LR 05 30 44.8
comp=Z,1µm,18.8s,baz=105,slow=40
BEL Belsk 43.90 305 *eP* **P 05 09 15.2 +0.7**
BEL LMZ LR 05 28 00.8
comp=Z,4µm,18.4s
BEL Belsk 43.90 305 *eP* **P 05 09 15.2 +0.7**
BEL MLR MLR
comp=Z,4µm,18.4s
HSPB Hornsund (broa 43.91 342 *eP* **P 05 09 15.5 +1.2**
HSPB MLR MLR
comp=Z,15µm,20.3s
HSPB Hornsund (broa 43.91 342 *eP* **P 05 09 15.3 +1.1**
UZH Uzhgorod 43.94 300⇑ *iP* **P 05 09 14.8 0.0**
UZH *e* 05 09 20.2
UZH *e* 05 11 06.0
UZH *ePPP* PPP 05 11 33.8
UZH *eS* **S 05 15 41.0 -3.6**
UZH *eSS* **SS 05 18 57.2 -4.1**
UZH MLR MLR
comp=N,200nm,16.0s
UZH MLR MLR
comp=E,500nm,16.0s
UZH MLR MLR
comp=Z,200nm,16.0s
TRPA Tarpa 43.94 300⇓ *iP* **P 05 09 15.5 +0.6**
LOT Lotru 44.06 295⇓ *iP* **P 05 09 16.5 +0.4**
MYKOM Kota Tinggi 44.17 155 *eP* **P 05 09 17.8 +0.8**
comp=Z,108nm,2.0s
MYKOM LR LR
comp=Z,1µm,18.0s
MYKOM Kota Tinggi 44.17 155 P P **05 09 18.1 +1.2**
VLAD Vladila 44.17 293⇓ *iP* **P 05 09 16.8 0.0**
ALN Alexandroupoli 44.28 289 *eP* **P 05 09 17.6 -0.1**
comp=Z,65nm,1.5s
ALN Alexandroupoli 44.28 289 *eP* **P 05 09 17.6 -0.1**
ALN pmax pmax
comp=Z,65nm,1.5s
DRGR 44.28 298⇑ *iP* **P 05 09 18.3 +0.6**
MOR8 Moi Rana 44.31 326 *eP* **P 05 09 16.4 -1.3**
LOF Lofoten 44.46 329 *eP* **P 05 09 18.4 -0.4**
EZN Ezine 44.54 287⇑ *iP* **P 05 09 19.9 +0.1**
EZN Ezine 44.54 287 P P **05 09 19.9 +0.1**
PLD Plovdiv 44.71 291 P P **05 09 21.6 +0.5**
GZR Gura Zlata 44.74 296⇑ *iP* **P 05 09 21.6 +0.2**
GZR Gura Zlata 44.74 296 P P **05 09 21.6 +0.2**
BKNI Bangkinang 44.78 160 *eP* **P 05 09 21.8 -0.1**
comp=Z,98nm,0.7s
BKNI LR LR
comp=Z,1µm,18.0s
KONS Konsvik 44.80 327 *eP* **P 05 09 21.4 -0.1**
KBS Kingsbay 44.84 345 *eP* **P 05 09 22.7 +1.1**
comp=Z,52nm,0.8s
KBS LR LR
comp=Z,2µm,20.0s
KBS Kingsbay 44.84 345 *eP* **P 05 09 22.7 +1.1**
KBS pmax pmax
comp=Z,52nm,0.8s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 44.84 345 *eP* **P 05 09 22.5 +0.9**
RZN Rozhen 44.87 290 *i* P **P 05 09 23.2 +0.6**
RZN Rozhen 44.87 290 *i* P **P 05 09 23.2 +0.6**
KDM Kudat 44.90 135 P P **05 09 23.4 +0.5**
PGB Panagyurishte 44.90 291 *i* P **P 05 09 23.4 +0.7**
PGB Panagyurishte 44.90 291 *i* P **P 05 09 23.4 +0.7**
OJC Ojcow 44.98 303 *eP* **P 05 09 23.4 +0.2**
OJC LMZ LR 05 28 52.0
comp=Z,3µm,18.0s
OJC Ojcow 44.98 303 *eP* **P 05 09 23.0 -0.1**
comp=Z,111nm,0.7s
OJC Ojcow 44.98 303 *eP* **P 05 09 23.0 -0.1**
OJC pmax pmax
comp=Z,111nm,0.7s
PUNG Punghina 45.05 294⇑ *iP* **P 05 09 23.1 -0.7**
BODT Bodrum 45.07 283 P P **05 09 23.0 -1.1**
SMG Samos 45.11 284 P P **05 09 23.0 -1.4**
SIRR Siria 45.15 297⇑ *iP* **P 05 09 24.1 -0.5**
KKM Kota Kinabalu 45.33 137 *eP* **P 05 09 26.3 -0.1**
comp=Z,112nm,1.3s
KKM Kota Kinabalu 45.33 137 P P **05 09 27.9 +1.5**
BZS Buzias 45.41 296⇑ *iP* **P 05 09 26.8 +0.1**
BZS Buzias 45.41 296 P P **05 09 26.8 +0.1**
VTS Vitosha 45.50 292 *eP* **P 05 09 27.8 +0.2**
comp=Z,90nm,1.3s
VTS Vitosha 45.50 292⇑ *iP* **P 05 09 28.3 +0.7**
VTS Vitosha 45.50 292 P P **05 09 28.1 +0.5**
VTS Vitosha 45.50 292 *eP* **P 05 09 27.8 +0.2**
VTS pmax pmax
comp=Z,90nm,1.3s
VTS Vitosha 45.50 292 *i P* **P 05 09 28.2 +0.7**
VTS Vitosha 45.50 292 *i P* **P 05 09 28.2 +0.7**
LANS Liptovska Anna 45.53 302 *eP* **P 05 09 28.7 +1.1**
LANS Liptovska Anna 45.53 302 *eP* **P 05 09 28.6 +1.0**
GKP Gorka Klasztor 45.56 308 *eP* **P 05 09 28.4 +0.7**
GKP LMZ LR 05 29 07.9
comp=Z,9µm,19.4s
GKP Gorka Klasztor 45.56 308 *eP* **P 05 09 28.4 +0.7**
GKP MLR MLR
comp=Z,9µm,19.4s
NSS Namsos 45.57 324 *eP* **P 05 09 27.1 -0.6**
MMB Musomiste 45.59 290 *i P* **P 05 09 28.3 +0.2**
MMB Musomiste 45.59 290 *i P* **P 05 09 28.3 +0.2**
NVR Nevrokopi 45.59 290 P P **05 09 29.6 +1.4**
MDVR Moldovita 45.66 295⇑ *iP* **P 05 09 28.6 -0.1**
HFS Hagfors 45.67 318 LR LR 05 29 10.8
comp=Z,3µm,19.0s,baz=70,slow=37
PSZ Piszkesteto 45.69 300 *eP* **P 05 09 29.4 +0.6**
comp=Z,230nm,1.9s
PSZ Piszkesteto 45.69 300⇑ *iP* **P 05 09 29.3 +0.4**
PSZ Piszkesteto 45.69 300 *eP* **P 05 09 29.5 +0.6**
PSZ pmax pmax
comp=Z,230nm,1.9s
SRS Serrai 45.88 290 P P **05 09 30.4 0.0**
SRS Serrai 45.88 290 P P **05 09 30.5 0.0**
KARP Karpathos 45.89 281 *eP* **P 05 09 29.9 -0.7**
comp=Z,129nm,0.9s
KARP LR LR
comp=Z,900nm,20.0s
KARP Karpathos 45.89 281 P P **05 09 30.7 +0.1**
KKB Krupnik 45.91 291 *i* P P **05 09 30.9 +0.2**
KKB Krupnik 45.91 291 *i* P P **05 09 30.9 +0.2**
OKC Ostrava-Krasne 46.11 303 *eP* **P 05 09 32.7 +0.6**
OKC *epP* **pP 05 09 41.0 +0.3**
OKC AMS AMS 05 29 20.0
comp=Z,3µm,13.9s
OKC Ostrava-Krasne 46.11 303 *eP* **P 05 09 32.7 +0.6**
OKC *e* 05 09 41.0
OKC MLR MLR
comp=Z,3µm,13.9s
SKR Severo-Kuril's 46.11 56 *eP* **P 05 09 35.1 +3.0**
SKR pmax pmax
comp=Z,1µm,4.3s
SKR pmax pmax
comp=Z,2µm,5.0s
SKR MLR MLR
comp=Z,2µm,18.0s
VYHS Vyhne 46.15 301 *eP* **P 05 09 33.1 +0.7**
VYHS pmax pmax
comp=Z,64nm,1.5s
VYHS Vyhne 46.15 301 *eP* **P 05 09 33.1 +0.7**
VYHS *epP* **pP 05 09 41.5 +0.5**
SDKM Sandakan 46.17 136 P P **05 09 33.6 +0.6**
AMGA Amorgos Island 46.18 283 P P **05 09 33.3 +0.4**
PEA1 Petropavlovsk- 46.27 52 *eP* **P 05 09 33.8 +0.5**
PETK Petropavlovsk- 46.27 52 *eP* **P 05 09 34.6 +1.3**
PETK Petropavlovsk- 46.27 52 P P **05 09 33.8 +0.5**
comp=Z,9.9nm,0.8s,baz=284,slow=3.8,SNR=5.1
PETK LR LR 05 30 12.9
comp=Z,730nm,18.2s,baz=278,slow=38
DAMY Dhamar 46.28 245 *eP* **P 05 09 34.0 -0.2**
comp=Z,29nm,0.7s
DAMY LR LR
comp=Z,1µm,21.0s
APE Apeiranthos 46.33 284⇑ *iP* **P 05 09 33.7 -0.4**
APE Apeiranthos 46.33 284 P P **05 09 33.7 -0.4**
BSD Bornholm Skovb 46.33 311 *i P* **P 05 09 36.4 +2.7**
comp=Z,7µm,18.0s
BSD Bornholm Skovb 46.33 311 *eP* **P 05 09 36.4 +2.7**
BSD MLR MLR
comp=Z,7µm,18.0s
KNT Kendrikon 46.33 290 P P **05 09 34.2 +0.2**
BUD Budapest 46.39 300 P P **05 09 35.7 +1.4**
NC405 NORSAR Array S 46.39 320 *eP* **P 05 09 33.9 -0.3**
comp=Z,204nm,0.8s
VAY Valandovo 46.49 291 *i P* **P 05 09 35.3 +0.2**
ANAF Anafi Island 46.49 283 P P 05 09 42.4 +7.1
MORC Moravsky Berou 46.50 303 *eP* **P 05 09 35.5 +0.3**
comp=Z,82nm,1.2s
MORC LR LR
comp=Z,2µm,19.0s
MORC Moravsky Berou 46.50 303⇑ *iP* **P 05 09 35.7 +0.5**
MORC Moravsky Berou 46.50 303 *eP* **P 05 09 35.5 +0.3**
MORC pmax pmax
comp=Z,82nm,1.2s
MORC MLR MLR
comp=Z,2µm,19.0s
MORC Moravsky Berou 46.50 303 *eP* **P 05 09 35.5 +0.3**
NC303 NORSAR Array S 46.53 320 *eP* **P 05 09 35.1 -0.2**
comp=Z,210nm,1.5s
NC602 NORSAR Array S 46.57 319 *eP* **P 05 09 34.8 -0.7**
comp=Z,186nm,0.8s
NC602 NORSAR Array S 46.57 319 *eP* **P 05 09 34.9 -0.7**
TBLU Trondheim 46.57 323 *eP* **P 05 09 34.3 -1.2**
STIP Stip 46.59 291 *i P* **P 05 09 34.6 -1.4**
NB201 NORSAR Array S 46.61 320 *eP* **P 05 09 35.3 -0.6**
comp=Z,122nm,1.1s
SBUM Sibu 46.64 144 *eP* **P 05 09 37.0 +0.4**
comp=Z,49nm,1.3s
SBUM LR LR
comp=Z,600nm,21.0s
SBUM Sibu 46.64 144 P P **05 09 38.7 +2.2**
NB2 NORSAR Subarra 46.65 320 P P **05 09 35.7 -0.5**
comp=Z,99nm,0.7s,baz=74,slow=7.9
NB2 NORSAR Subarra 46.65 320 P P **05 09 35.7 -0.5**
baz=74,slow=7.9
NB200 NORSAR Array S 46.65 320 *eP* **P 05 09 35.3 -0.9**
NOA NORSAR Array B 46.65 320 P P **05 09 35.3 -0.9**
comp=Z,93nm,0.7s,baz=75,slow=7.8,SNR=527
NOA LR LR 05 29 59.4
comp=Z,3µm,18.1s,baz=70,slow=37
BILL Bilibino 46.71 31 *eP* **P 05 09 37.4 +0.9**
comp=Z,55nm,1.1s
BILL LR LR
comp=Z,4µm,19.0s
BILL Bilibino 46.71 31 *d iP* **P 05 09 36.8 +0.2**
BILL *e* 05 11 09.1
BILL *e* 05 11 25.5
BILL *ePPP* PPP 05 12 10.9
BILL *eS* **S 05 16 24.3 +0.1**
BILL *eSS* **SS 05 19 52.7 +2.6**
BILL *eSSS* SSS 05 20 59.0
BILL pmax pmax
comp=Z,42nm,1.0s
BILL MLR MLR
comp=Z,3µm,16.0s
SANT Santorini 46.71 283 *eP* **P 05 09 36.4 -0.7**
comp=Z,345nm,1.9s
SANT Santorini 46.71 283⇑ *iP* **P 05 09 36.2 -0.8**
SRO Srobarova 46.72 300 *eP* **P 05 09 38.0 +1.1**
SRO *e* 05 09 46.6
SRO Srobarova 46.72 300 *eP* **P 05 09 38.0 +1.1**
SRO *epP* **sP 05 09 46.6 -2.3**
THR3 Thira Island, 46.73 283 P P **05 09 35.6 -1.6**
KSM Kuching 46.73 147 *eP* **P 05 09 38.1 +0.8**
comp=Z,30nm,0.9s
KSM LR LR
comp=Z,1µm,20.0s
KSM Kuching 46.73 147 P P **05 09 39.0 +1.6**
JAVC Velka Javorina 46.74 302 *eP* **P 05 09 38.7 +1.5**
THR6 Thira Island, 46.76 283 P P **05 09 36.0 -1.4**
ZKR Zakros 46.78 281 P P **05 09 37.3 -0.3**
NC204 NORSAR Array S 46.80 320 *eP* **P 05 09 36.5 -0.9**
comp=Z,97nm,0.8s
STIA Sitia Lasithi 46.83 281 P P **05 09 38.0 +0.1**
EREA Eretria 46.83 286 P P **05 09 37.9 0.0**
PET Petropavlovsk 46.84 52 *eP* **P 05 09 37.2 -0.6**
PET *eS* **S 05 16 22.3 -4.1**
PET pmax pmax
comp=Z,14nm,0.6s
PET MLR MLR
comp=Z,2µm,15.0s
NAO01 NORSAR Array S 46.85 319 *eP* **P 05 09 36.7 -1.0**
comp=Z,111nm,0.8s
NBO00 NORSAR Array S 46.85 320 *eP* **P 05 09 37.5 -0.4**
comp=Z,77nm,0.8s
KRLC Kraliky 46.86 304 *eP* **P 05 09 38.5 +0.5**
KRLC *epP* **pP 05 09 46.8 +0.2**
KRLC Kraliky 46.86 304 *eP* **P 05 09 38.5 +0.5**
KRLC *e* 05 09 46.8
KSP Ksiaz 46.89 305 *eP* **P 05 09 38.9 +0.7**
KSP LMZ LR 05 30 02.0
comp=Z,4µm,18.8s
KSP Ksiaz 46.89 305 *eP* **P 05 09 38.9 +0.7**
KSP MLR MLR
comp=Z,4µm,18.8s
SKO Skopje 46.98 292 *i* P P **05 09 40.2 +1.2**
SMOL Smolenice 47.01 302 *eP* **P 05 09 40.6 +1.4**
SMOL *e* 05 09 49.5
SMOL Smolenice 47.01 302 *eP* **P 05 09 40.6 +1.4**
SMOL *epP* **sP 05 09 49.5 -1.7**
DPC Dobruska-Polom 47.04 304 *eP* **P 05 09 40.2 +0.8**
DPC *epP* **pP 05 09 48.6 +0.6**
DPC AMS AMS 05 29 40.0
comp=Z,3µm,15.4s
DPC Dobruska-Polom 47.04 304 *eP* **P 05 09 40.2 +0.8**
DPC *e* 05 09 48.6
DPC MLR MLR
comp=Z,3µm,15.4s
LIT Litokhoron 47.07 289 *eP* **P 05 09 39.1 -0.7**
comp=Z,74nm,1.2s
LIT Litokhoron 47.07 289 *eP* **P 05 09 39.1 -0.7**
LIT pmax pmax
comp=Z,74nm,1.2s
MORH Mrgy, Hungar 47.11 298⇓ *iP* **P 05 09 40.0 0.0**
NPS Neapolis 47.14 282 P P **05 09 39.2 -1.2**
ATHU Athens Univers 47.14 286 P P **05 09 40.0 -0.4**
MODS Modra-Piesok 47.16 302 *eP* **P 05 09 40.3 -0.1**
MODS pmax pmax
comp=Z,137nm,1.4s
MODS Modra-Piesok 47.16 302 *eP* **P 05 09 40.3 -0.1**
MODS *epP* **pP 05 09 48.6 -0.4**
OSL Oslo 47.16 318 *eP* **P 05 09 40.4 +0.2**
UPC Upice 47.17 305 *eP* **P 05 09 40.9 +0.5**
UPC *epP* **pP 05 09 49.4 +0.4**
UPC AMS AMS 05 30 00.0
comp=Z,4µm,14.8s
UPC Upice 47.17 305 *eP* **P 05 09 40.9 +0.5**
UPC *e* 05 09 49.4
UPC MLR MLR
comp=Z,4µm,14.8s
VLY Voula,Athens 47.19 286 P P **05 09 40.0 -0.7**
VRAC Vranov 47.24 303⇑ *iP* **P 05 09 41.7 +0.7**
VRAC Vranov 47.24 303 P P **05 09 41.7 +0.7**
VRAC Vranov 47.24 303 *eP* **P 05 09 41.6 +0.6**
LAST Lasithi 47.28 282 P P **05 09 41.1 -0.5**
ZST Bratislava 47.33 301 *eP* **P 05 09 42.5 +0.8**
ZST *e* 05 09 49.5
ZST Bratislava 47.33 301 *eP* **P 05 09 42.5 +0.8**
ZST *epP* **pP 05 09 49.5 -0.8**
KRUS Krusevo 47.37 291 *i* P P **05 09 41.9 -0.3**
VILL Villia 47.38 286 P P **05 09 41.8 -0.5**
RGN Rugen 47.38 311 PFAKE 05 09 50.0 +8.1
RGN LR LR
comp=Z,8µm,18.0s
DOMB Dombas 47.39 321 *eP* **P 05 09 41.9 -0.1**
KRUC Moravsky 47.45 303 *eP* **P 05 09 43.3 +0.7**
FNA Florina 47.53 290 *eP* **P 05 09 42.6 -0.9**
comp=Z,27nm,0.8s
FNA LR LR
comp=Z,1µm,22.0s
FNA Florina 47.53 290 *eP* **P 05 09 42.6 -0.9**
FNA pmax pmax
comp=Z,27nm,0.8s
FNA MLR MLR
comp=Z,1µm,22.0s
IVA Berane 47.64 294⇑ *iP* **P 05 09 45.7 +1.4**
IDI Anoyia 47.64 282 P P **05 09 42.0 -2.3**
TSM Tawau 47.66 136 P P **05 09 45.6 +1.0**
AGG Agios Georgios 47.67 288 *eP* **P 05 09 43.6 -0.9**
comp=Z,126nm,1.3s
AGG Agios Georgios 47.67 288 P P **05 09 44.8 +0.3**
AGG Agios Georgios 47.67 288 *eP* **P 05 09 43.6 -0.9**
AGG pmax pmax
comp=Z,126nm,1.3s
PAGZ Pagadian 47.71 127 *eP* **P 05 09 45.9 +1.0**
PVY Plav 47.71 293⇑ *iP* **P 05 09 47.9 +3.0**
HAPS Han Pijesak,BI 47.76 296 *eP* **P 05 09 47.1 +1.9**
PLE Pljevlja 47.78 294⇑ *iP* **P 05 09 46.1 +0.7**
OHR Ohrid 47.78 291 *i P* **P 05 09 47.9 +2.5**
KONO Kongsberg 47.79 318 *eP* **P 05 09 44.9 -0.2**
comp=Z,51nm,0.8s
KONO LR LR
comp=Z,3µm,19.0s
KONO Kongsberg 47.79 318 *d iP* **P 05 09 44.3 -0.8**
KONO pmax pmax
comp=Z,63nm,1.1s
KONO Kongsberg 47.79 318 *eP* **P 05 09 45.0 0.0**
RUE Ruedersdorf 47.80 308 *eP* **P 05 09 45.6 +0.3**
comp=Z,63nm,0.9s,baz=67,slow=7.6
RUE *epP* **pP 05 09 54.0 +0.2**
baz=67,slow=7.5
SIVA Sivas 47.83 282 P P 05 09 40.7 -5.0
SOP Sopron 47.87 301 P P **05 09 46.6 +0.8**
KOME Kolasin 47.90 294⇑ *iP* **P 05 09 47.2 +0.9**
TREC Trest 47.92 303 *eP* **P 05 09 47.1 +0.8**
TREC AMS AMS 05 30 20.0
comp=Z,3µm,13.0s
TREC Trest 47.92 303 *eP* **P 05 09 47.1 +0.8**
TREC MLR MLR
comp=Z,3µm,13.0s
MOL Molde 47.94 322 *eP* **P 05 09 46.8 +0.6**
PVCC Panska Ves 48.02 305 *eP* **P 05 09 47.9 +0.9**
PVCC *epP* **pP 05 09 56.2 +0.6**
PVCC AMS AMS 05 30 20.0
comp=Z,4µm,14.0s
PVCC Panska Ves 48.02 305 *eP* **P 05 09 47.9 +0.9**
PVCC *e* 05 09 56.2
PVCC MLR MLR
comp=Z,4µm,14.0s
EVR Evrytania 48.08 288 P P **05 09 46.9 -0.8**
SKAR Skarslia 48.12 320 *eP* **P 05 09 48.4 +0.7**
GOPC GO Pecny, Ondr 48.12 304 *eP* **P 05 09 48.5 +0.7**
GOPC *epP* **pP 05 09 56.6 +0.2**
GOPC AMS AMS 05 30 40.0
comp=Z,3µm,14.4s
GOPC GO Pecny, Ondr 48.12 304 *eP* **P 05 09 48.5 +0.7**
GOPC *e* 05 09 56.6
GOPC MLR MLR
comp=Z,3µm,14.4s
SERG Sergoula 48.14 287 P P **05 09 46.6 -1.5**
BUTP Butuan 48.14 124 *eP* **P 05 09 49.3 +1.0**
ANX Ano Chora 48.15 288 P P **05 09 47.3 -1.0**
TRIZ Trizonia 48.15 287 P P **05 09 46.9 -1.2**
GUR Goura 48.16 287 P P **05 09 47.0 -1.4**
BEHE Becsehely 48.20 299⇓ *iP* **P 05 09 48.9 +0.5**
IMMV Iera Moni Meta 48.20 283 P P **05 09 47.7 -0.9**
CONA Conrad Observa 48.20 301 *i P* **P 05 09 49.2 +0.7**
comp=Z,32nm,0.8s,SNR=19
EFP Efpalio 48.24 287 P P **05 09 47.9 -0.9**
PRU Pruhonice 48.24 304 *eP* **P 05 09 49.1 +0.4**
PRU *epP* **pP 05 09 56.4 -0.9**
PRU AMS AMS 05 30 40.0
comp=Z,4µm,14.9s
PRU Pruhonice 48.24 304 *eP* **P 05 09 49.1 +0.4**

PRU *e* 05 09 56.4
PRU MLR MLR
comp=Z,4µm,14.9s
KLV Kalavryta, Ach 48.25 287 P **P** **05 09 47.7 -1.3**
PDG Podgorica 48.25 293 ⇓*i*P **P** **05 09 49.1 +0.2**
PDG Podgorica 48.25 293 ⇓*i*P **P** **05 09 49.0 +0.2**
TTG Podgorica 48.25 293 ⇑*i*P **P** **05 09 49.8 +0.9**
TTG Podgorica 48.25 293 *e*P **P** **05 09 49.0 +0.2**
comp=Z,106nm,1.3s
TTG LR LR
comp=Z,2µm,21.0s
TTG Podgorica 48.25 293 *e*P **P** **05 09 49.0 +0.2**
TTG pmax pmax
comp=Z,106nm,1.3s
TTG MLR MLR
comp=Z,2µm,21.0s
BRG Berggiesshubel 48.27 306 *i* P **P** **05 09 49.2 +0.2**
comp=Z,27nm,1.1s
BRG *i* 05 09 57.6
comp=Z,117nm,1.4s
BRG *e*PP **PP** **05 11 47.2 +6.0**
comp=Z,33nm,1.2s
BRG SS SS 05 20 14.0 -1.9
comp=N,2µm,15.5s
comp=E,3µm,14.4s
comp=Z,5µm,16.5s
BRG Berggiesshubel 48.27 306 *e*P **P** **05 09 49.2 +0.2**
comp=Z,63nm,1.7s,baz=67,slow=7.6
BRG *e*pP **pP** **05 09 57.6 0.0**
baz=67,slow=7.5
BRG Berggiesshubel 48.27 306 *i* P **P** **05 09 49.2 +0.2**
BRG *i* 05 09 57.6
BRG *e* 05 11 47.2
BRG SS SS 05 20 14.0 -1.9
BRG pmax pmax
comp=Z,27nm,1.1s
BRG pmax pmax
comp=Z,33nm,1.2s
BRG MLR MLR
comp=N,2µm,15.5s
BRG MLR MLR
comp=E,3µm,14.4s
BRG MLR MLR
comp=Z,5µm,16.5s
LAKA Lakka 48.27 287 P **P** **05 09 48.4 -0.8**
AKN Aaknes 48.29 322 *e*P **P** **05 09 49.1 +0.2**
TIR Tirane 48.31 292 PFAKE 05 10 00.0 +11
TIR LR LR
comp=Z,900nm,22.0s
TIR Tirane 48.31 292 P **P** **05 09 50.8 +1.4**
TIR pmax pmax
comp=Z,33nm,0.7s
VLI Veliai 48.33 285 P **P** **05 09 46.1 -3.4**
DRME Dracevica, Mon 48.40 293 ⇑*i*P **P** **05 09 52.1 +2.0**
DRME Dracevica, Mon 48.40 293 *e*P **P** **05 09 50.6 +0.5**
PVO Paravola 48.41 288 P **P** **05 09 49.7 -0.5**
CEME Cevo 48.43 294 ⇑*i*P **P** **05 09 50.7 +0.4**
BRY Bratogost 48.53 294 *e*P **P** **05 09 51.3 +0.1**
BUM Brajici-Budva 48.55 293 ⇑*i*P **P** **05 09 52.6 +1.3**
FBE Freiberg 48.60 306 *e*P **P** **05 09 52.0 +0.6**
comp=Z,52nm,1.1s,baz=67,slow=7.6
FBE *e*pP **pP** **05 10 00.7 +0.6**
baz=67,slow=7.5
BUKP Musuan 48.67 125 *e*P **P** **05 09 54.2 +1.8**
CLL Collm 48.67 307 *e*P **P** **05 09 51.9 0.0**
comp=Z,197nm,1.4s
CLL LR LR
comp=Z,4µm,18.0s
CLL Collm 48.67 307 *e*P **P** **05 09 52.0 0.0**
comp=Z,57nm,1.0s,baz=67,slow=7.6
CLL *e*pP **pP** **05 10 00.6 0.0**
baz=67,slow=7.5
CLL Collm 48.67 307 ⇑*i*P **P** **05 09 52.1 +0.1**
comp=Z,57nm,1.0s
CLL *i* sP **pP** **05 10 00.4 -0.2**
comp=Z,86nm,0.7s
CLL *i* (PcP) **PcP** **05 11 12.8 -4.1**
comp=Z,29nm,1.0s
CLL *e*(PP) 05 11 54.0
CLL *e*PPPP 05 12 43.0
CLL *e*S **S** **05 16 53.0 +0.6**
CLL *e*ScS **ScS** **05 19 46.0 +3.6**
CLL *e*SS **SS** **05 20 30.0 +7.7**
CLL *e*SSS SSS 05 21 42.0
CLL Lm MLR 05 31 00.0
comp=N,2µm,18.5s
CLL Lm MLR 05 31 00.0
comp=E,2µm,18.6s
CLL Lm MLR 05 31 00.0
comp=Z,4µm,18.1s
CLL Collm 48.67 307 ⇑*i*P **P** **05 09 52.1 +0.1**
CLL *i* 05 10 00.4
CLL *e*S **S** **05 16 53.0 +0.6**
CLL pmax pmax
comp=Z,57nm,1.0s
CLL MLR MLR
comp=Z,4µm,18.1s
ARSA Arzberg 48.68 301 *i* P **P** **05 09 52.6 +0.4**
comp=Z,17nm,0.8s
TREB Trebinje 48.73 294 *e*P **P** **05 09 54.1 +1.5**
HCY Herceg Novi 48.75 294 ⇑*i*P **P** **05 09 52.0 -0.8**
HCY Herceg Novi 48.75 294 *e*P **P** **05 09 52.4 -0.4**
ITM Ithomi 48.81 286 *e*P **P** **05 09 51.2 -2.1**
comp=Z,31nm,0.8s
SRN Sarande 48.88 290 P **P** **05 09 52.4 -1.3**
HYA Hoyanger 48.96 321 *e*P **P** **05 09 54.6 +0.6**
MUD Monsted U'grnd 48.99 314 *i* P **P** **05 09 54.9 +0.5**
comp=Z,63nm,0.9s
comp=Z,4µm,20.0s
MUD Monsted U'grnd 48.99 314 *i* P **P** **05 09 54.9 +0.5**
MUD pmax pmax
comp=Z,63nm,0.9s
MUD MLR MLR
comp=Z,4µm,20.0s
EVGI Lefkada island 49.01 288 P **P** **05 09 53.0 -1.8**
KHC Kasperske Hory 49.14 304 *e*P **P** **05 09 55.8 +0.1**
comp=Z,37nm,1.6s
KHC LR LR
comp=Z,900nm,18.0s
KHC Kasperske Hory 49.14 304 *e*P **P** **05 09 56.0 +0.3**
KHC *e*pP **pP** **05 10 04.3 0.0**
KHC AMS AMS 05 31 10.0
comp=Z,2µm,14.8s
KHC Kasperske Hory 49.14 304 *e*P **P** **05 09 56.0 +0.3**
KHC *e* 05 10 04.3
KHC MLR MLR
comp=Z,2µm,14.8s
ODD1 Odda 49.14 319 *e*P **P** **05 09 56.1 +0.5**
GEC2 GERESS Array S 49.18 303 *e*P **P** **05 09 55.6 -0.4**
comp=Z,65nm,1.4s
GEC2 LR LR
comp=Z,2µm,18.0s
GEC2 GERESS Array S 49.18 303 *e*P **P** **05 09 56.4 +0.3**
comp=Z,47nm,1.8s,baz=67,slow=7.6
GEC2 *e*pP **pP** **05 10 05.0 +0.3**
baz=67,slow=7.5
GEC2 *e*PP **PP** **05 11 56.9 +7.2**
GEC2 GERESS Array S 49.18 303 *e*P **P** **05 09 55.7 -0.4**
GEC2 pmax pmax
comp=Z,65nm,1.4s
GEC2 MLR MLR
comp=Z,2µm,18.0s
GERES GERESS Array B 49.18 303 P **P** **05 09 56.0 0.0**
comp=Z,7.4nm,0.7s,baz=60,slow=7.9,SNR=65
GERES LR LR 05 32 13.3
comp=Z,2µm,19.3s,baz=85,slow=38
GEA0 GERESS Array S 49.18 303 *e*P **P** **05 09 55.6 -0.5**
PERS Pernice 49.18 300 *i* P **P** **05 09 56.0 0.0**
PERS *e*pP **pP** **05 10 04.8 +0.1**
PERS *e* 05 28 27.1
SOKA Soboth 49.22 300 *i* P **P** **05 09 56.5 +0.1**
comp=Z,21nm,0.7s,SNR=7.3
MOA Molln 49.23 302 *i* P **P** **05 09 57.1 +0.8**
comp=Z,11nm,1.0s,SNR=5.5
BSEG Bad Segeberg 49.25 311 *e*P **P** **05 09 57.2 +0.9**
comp=Z,62nm,1.3s,baz=67,slow=7.6
BSEG *e*pP **pP** **05 10 05.4 +0.5**
baz=67,slow=7.5
BSEG *e*PP **PP** **05 11 56.9 +6.9**
VLS Valsamata 49.27 288 P **P** **05 09 54.5 -2.3**
CRES Cresnjev 49.30 299 ⇓*i*P **P** **05 09 57.0 +0.1**
TANN Tannenbergstha 49.32 306 *e*P **P** **05 09 57.3 +0.3**
comp=Z,61nm,1.2s,baz=67,slow=7.6
TANN *e*pP **pP** **05 10 06.1 +0.4**
baz=67,slow=7.5
TANN *e*PP **PP** **05 11 57.9 +7.1**

SNART Snartemo 49.37 317 *e*P **P** **05 09 57.7 +0.5**
KCP Kidapawan 49.38 126 ⇓*i*P **P** **05 09 59.7 +1.8**
BLS5 Blasjo 49.38 318 *e*P **P** **05 09 57.9 +0.5**
NKC Novy Kostel 49.40 305 *e*P **P** **05 09 58.0 +0.4**
NKC *e*pP **pP** **05 10 05.9 -0.3**
NKC AMS AMS 05 31 20.0
comp=Z,5µm,17.0s
NKC Novy Kostel 49.40 305 *e*P **P** **05 09 58.0 +0.4**
NKC *e* 05 10 05.9
NKC MLR MLR
comp=Z,5µm,17.0s
GUNZ Gunzen 49.41 306 *e*P **P** **05 09 58.2 +0.4**
comp=Z,43nm,1.2s,baz=67,slow=7.6
GUNZ *e*pP **pP** **05 10 06.8 +0.4**
baz=67,slow=7.5
GUNZ *e*PP PP 05 12 00.8 +9.1
WERN Wernitzgruen 49.42 306 *e*P **P** **05 09 58.2 +0.4**
comp=Z,40nm,1.5s,baz=67,slow=7.6
WERN *e*pP **pP** **05 10 06.8 +0.4**
baz=67,slow=7.5
WERN *e*PP PP 05 12 00.8 +9.1
NEUB Neuenburg 49.42 307 *e*P **P** **05 09 57.9 +0.2**
comp=Z,76nm,1.3s,baz=67,slow=7.6
NEUB *e*pP **pP** **05 10 06.5 +0.2**
baz=67,slow=7.5
SKMP Bagumbayan, Su 49.45 127 *e*P **P** **05 10 00.0 +1.6**
PLN Plauen 49.47 306 *e*P **P** **05 09 58.4 +0.3**
comp=Z,27nm,1.3s,baz=67,slow=7.6
PLN *e*pP **pP** **05 10 07.1 +0.3**
baz=67,slow=7.5
ATD Arta Tunnel 49.53 244 PFAKE 05 10 10.0 +11
ATD LR LR
comp=Z,800nm,22.0s
WET Wettzell 49.56 304 *e*P **P** **05 09 59.3 +0.4**
comp=Z,30nm,1.2s,baz=67,slow=7.6
WET *e*pP **pP** **05 10 07.8 +0.3**
baz=67,slow=7.5
WET *e*PP **PP** **05 11 59.8 +6.7**
BOJS Bojanci 49.56 299 *i* P **P** **05 09 59.3 +0.4**
BOJS *e*pP **pP** **05 10 07.7 +0.2**
OBKA Obir 49.59 300 *i* P **P** **05 09 59.7 +0.5**
comp=Z,23nm,0.8s
BER Bergen 49.60 320 *e*P **P** **05 09 59.2 +0.3**
DAV Davao City (W) 49.62 125 PFAKE 05 10 10.0 +10
DAV LR LR
comp=Z,2µm,20.0s
DAV Davao City (W) 49.62 125 *e*P **P** **05 10 02.3 +2.6**
ASK Askoy 49.64 320 *e*P **P** **05 09 59.6 +0.4**
MANZ Manzenberg 49.69 305 *e*P **P** **05 10 00.2 +0.3**
comp=Z,17nm,1.1s,baz=67,slow=7.6
MANZ *e*pP **pP** **05 10 08.7 +0.2**
baz=67,slow=7.5
ASSE Asse, Remlinge 49.71 308 *e*pP pP 05 10 08.5 0.0
baz=67,slow=7.5
ROTZ Rotzenmuhle 49.72 305 *e*P **P** **05 10 00.5 +0.5**
comp=Z,36nm,1.4s,baz=67,slow=7.6
ROTZ *e*pP **pP** **05 10 09.2 +0.5**
baz=67,slow=7.5
MOX Moxa 49.73 306 *e*P **P** **05 10 00.4 +0.3**
comp=Z,34nm,1.2s,baz=67,slow=7.6
MOX *e*pP **pP** **05 10 09.0 +0.3**
baz=67,slow=7.5
MOX *e*L L 05 31 19.0
comp=Z,1µm,22.0s
LJU Ljubljana 49.80 300 *e*P **P** **05 10 00.4 -0.3**
NRDL Niedersach Rie 49.89 309 *e*P **P** **05 10 02.0 +0.8**
comp=Z,69nm,1.2s,baz=67,slow=7.6
NRDL *e*pP **pP** **05 10 10.5 +0.6**
baz=67,slow=7.5
CEY Cerknica 49.99 299 ⇓*i*P **P** **05 10 01.2 -1.0**
CLZ Clausthal 49.99 308 *e*P **P** **05 10 02.5 +0.3**
comp=Z,24nm,1.3s,baz=67,slow=7.6
CLZ *e*pP **pP** **05 10 11.2 +0.4**
baz=67,slow=7.5
KMY Karmoy 50.04 318 *e*P **P** **05 10 03.4 +1.1**
KBA Koelnbreinsper 50.11 301 *i* P **P** **05 10 03.5 +0.2**
comp=Z,12nm,0.6s,SNR=8.3
KBA Koelnbreinsper 50.11 301 P **P** **05 10 03.5 +0.2**
MYKA Terra Mystica 50.11 301 *i* P **P** **05 10 03.0 -0.1**
comp=Z,11nm,0.7s
MATI Mati 50.12 125 *e*P **P** **05 10 04.2 +0.7**
RIY Rijeka 50.13 299 *e*P **P** **05 10 03.2 0.0**
RETH Rethem/Aller, 50.22 309 *e*P **P** **05 10 04.4 +0.6**
comp=Z,34nm,1.1s,baz=67,slow=7.6
RETH *e*pP **pP** **05 10 12.9 +0.4**
baz=67,slow=7.5
FASA Fasano 50.25 292 *e*P **P** **05 10 03.9 -0.3**
GRA1 Grafenberg Arr 50.34 305 *e*P **P** **05 10 05.2 +0.5**
comp=Z,90nm,0.9s
GRA1 LR LR
comp=Z,3µm,19.0s
GRF Grafenberg Arr 50.34 305 *e*P **P** **05 10 05.5 +0.8**
comp=Z,107nm,1.4s,baz=67,slow=7.6
GRF *e*pP **pP** **05 10 14.0 +0.6**
baz=67,slow=7.5
GRF *e*L L 05 32 32.1
comp=Z,2µm,19.1s
GRF Grafenberg Arr 50.34 305 P **P** **05 10 05.6 +0.8**
GRF pmax pmax
comp=Z,90nm,0.9s
GRFO Grafenberg 50.34 305 *e*P **P** **05 10 05.5 +0.7**
comp=Z,92nm,1.0s
GRFO LR LR
comp=Z,2µm,20.0s
GTTG Gvttingen 50.34 308 *e*P **P** **05 10 05.3 +0.6**
comp=Z,120nm,1.0s,baz=67,slow=7.6
GTTG *e*pP **pP** **05 10 14.1 +0.7**
baz=67,slow=7.5
TRI Trieste 50.42 300 *e*P **P** **05 10 05.0 -0.4**
comp=Z,50nm,1.0s
TRI LR LR
comp=Z,1µm,19.0s
TRI Trieste 50.42 300 *e*P **P** **05 10 05.0 -0.4**
TRI pmax pmax
comp=Z,51nm,1.0s
TRI MLR MLR
comp=Z,1µm,19.0s
TAR1 Taranto 50.43 292 *e*P **P** **05 10 05.4 -0.1**
BAI Bari 50.43 293 *e*P **P** **05 10 06.1 +0.6**
MASS Massafra 50.47 292 *e*P **P** **05 10 05.7 -0.2**
UBBA Unterbreizbach 50.60 307 *e*pP pP 05 10 15.3 +0.1
baz=67,slow=7.5
SG1 Sgolgore (BA) 50.69 293 *e*P **P** **05 10 07.3 -0.3**
MATE Matera 50.76 292 ⇑*i*P **P** **05 10 08.0 0.0**
ABTA Abfaltersbach 50.77 301 *i* P **P** **05 10 07.5 -0.6**
comp=Z,15nm,1.4s
FUR Furstenfeldbru 50.93 303 *e*P **P** **05 10 10.1 +0.8**
comp=Z,80nm,1.1s,baz=67,slow=7.6
FUR *e*pP **pP** **05 10 18.6 +0.6**
baz=67,slow=7.5
WTTA Wattenberg 51.09 302 *i* P **P** **05 10 11.1 +0.5**
comp=Z,77nm,0.7s
WATA Walderalm 51.09 302 *i* P **P** **05 10 10.9 +0.2**
comp=Z,28nm,0.7s,SNR=15
IBBN Ibbenburen 51.29 309 *e*P **P** **05 10 12.1 +0.3**
comp=Z,40nm,0.7s,baz=67,slow=7.6
KASI Kota Agung 51.30 157 P **P** **05 10 11.3 -1.0**
SQTA Sankt Quirin 51.37 302 *i* P **P** **05 10 12.8 +0.1**
comp=Z,59nm,0.7s,SNR=21
MOTA Moosalm 51.38 302 *i* P **P** **05 10 12.8 0.0**
comp=Z,16nm,0.6s,SNR=16
TIP Timpagrande 51.42 291 *e*P **P** **05 10 13.2 +0.1**
comp=Z,144nm,1.6s
TIP Timpagrande 51.42 291 ⇑*i*P **P** **05 10 12.8 -0.3**
TIP Timpagrande 51.42 291 P **P** **05 10 13.2 +0.1**
DAG Danmarks Havn 51.53 344 *i* P **P** **05 10 12.8 -0.5**
comp=Z,58nm,0.8s
DAG Danmarks Havn 51.53 344 *i* P **P** **05 10 12.8 -0.5**
DAG pmax pmax
comp=Z,44nm,0.8s
RETA Reutte 51.53 303 *i* P **P** **05 10 14.0 +0.2**
comp=Z,25nm,0.8s,SNR=8.8
FETA Feichten 51.75 302 *i* P **P** **05 10 15.0 -0.7**
comp=Z,34nm,0.8s,SNR=14
TNS Taunus Mts 51.75 307 *e*P **P** **05 10 15.6 +0.2**
comp=Z,53nm,1.6s,baz=67,slow=7.6
TNS *e*pP **pP** **05 10 24.3 +0.2**
baz=67,slow=7.5
UBR Ueberruh 51.85 303 *e*P **P** **05 10 16.4 +0.2**
comp=Z,57nm,0.9s,baz=67,slow=7.6
UBR *e*pP **pP** **05 10 25.3 +0.4**
baz=67,slow=7.5
BUG Bochum--Univer 51.92 309 *e*P **P** **05 10 16.9 +0.4**
comp=Z,45nm,1.1s,baz=67,slow=7.6
BUG *e*pP **pP** **05 10 25.4 +0.2**
baz=67,slow=7.5

STU Stuttgart 51.93 305 PFAKE 05 10 30.0 +13
STU LR LR
comp=Z,3µm,18.0s
STU Stuttgart 51.93 305 *e*P **P** **05 10 16.8 +0.2**
comp=Z,42nm,1.4s,baz=67,slow=7.6
STU *e*pP **pP** **05 10 25.4 +0.1**
baz=67,slow=7.5
STU Stuttgart 51.93 305 P **P** **05 10 17.4 +0.7**
STU pmax pmax
comp=Z,49nm,1.5s
WTSB Winterswijk 51.97 309 *e*P **P** **05 10 17.2 +0.3**
DAVA Damuels 52.16 303 *i* P **P** **05 10 18.6 0.0**
comp=Z,20nm,1.4s
AQU L'Aquila 52.16 296 *e*P **P** **05 10 19.0 +0.4**
comp=Z,30nm,0.7s
AQU LR LR
comp=Z,1µm,20.0s
AQU L'Aquila 52.16 296 *e*P **P** **05 10 19.0 +0.4**
AQU pmax pmax
comp=Z,30nm,0.7s
AQU MLR MLR
comp=Z,1µm,20.0s
AQU L'Aquila 52.16 296 *e*P P 05 10 25.9 +7.3
FUORN Ofenpass-Fuorn 52.22 302 *e*P **P** **05 10 19.2 0.0**
comp=Z,45nm,0.8s
FUORN LR LR
comp=Z,1µm,18.0s
DAVOX Davos/Dischmat 52.38 302 LR LR 05 34 28.6
comp=Z,2µm,18.7s,baz=68,slow=38
CEL Celeste 52.46 290 *e*P **P** **05 10 21.4 +0.5**
comp=Z,92nm,0.8s
BFO Black Forest 52.64 305 *e*P **P** **05 10 21.5 -0.5**
comp=Z,90nm,1.6s
BFO LR LR
comp=Z,1µm,19.0s
BFO Black Forest 52.64 305 *e*P **P** **05 10 21.7 -0.3**
comp=Z,20nm,1.1s,baz=67,slow=7.6
BFO *e*pP **pP** **05 10 30.4 -0.3**
baz=67,slow=7.5
BFO Black Forest 52.64 305 *i* P **P** **05 10 22.5 +0.5**
LRW Lerwick 52.72 321 *e*P **P** **05 10 22.2 -0.1**
LRW IAmb IAmb 05 10 23.4
comp=Z,58nm,0.9s
TUE Stuetta 52.85 302 *e*P **P** **05 10 23.1 -0.7**
comp=Z,72nm,0.7s
TUE LR LR
comp=Z,3µm,18.0s
HGN Heimansgroeve 52.98 308 *e*P **P** **05 10 24.4 +0.1**
HGN *e*pP **pP** **05 10 33.0 0.0**
HGN *e*S **S** **05 17 57.8 +5.7**
MEM Membach 53.00 308 ⇑P **P** **05 10 24.7 +0.1**
comp=Z,13nm,0.9s
MEM ⇑pP **pP** **05 10 34.1 +0.9**
BEBN Eben Emael 53.11 308 ⇑P **P** **05 10 25.6 +0.2**
BEBN ⇓pP **sP** **05 10 35.1 -2.4**
CDF Champ du Feu 53.23 305 *e*P **P** **05 10 25.5 -0.9**
CDF pmax pmax
comp=Z,19nm,1.0s
VLC Villacollemand 53.26 299 *e*P **P** **05 10 27.3 +0.7**
comp=Z,63nm,0.9s
VLC LR LR
comp=Z,2µm,19.0s
WLF Walferdange 53.33 307 PFAKE 05 10 40.0 +13
WLF LR LR
comp=Z,14µm,19.0s
WLF Walferdange 53.33 307 *e*pP pP 05 10 36.1 +0.3
baz=67,slow=7.5
WLF Walferdange 53.33 307 ⇑P **P** **05 10 26.9 -0.1**
ECH Echery 53.39 305 *e*P **P** **05 10 27.4 -0.1**
comp=Z,124nm,1.9s
ECH LR LR
comp=Z,2µm,18.0s
ECH Echery 53.39 305 *e*P **P** **05 10 27.4 -0.1**
ECH pmax pmax
comp=Z,124nm,1.9s
ECH MLR MLR
comp=Z,2µm,18.0s
BCLA Clavier 53.49 308 ⇑P **P** **05 10 28.2 0.0**
BCLA ⇓pP **pP** **05 10 37.9 +1.0**
HINF Hinteralfeld 53.75 305 *e*P **P** **05 10 29.2 -1.0**
HINF pmax pmax
comp=Z,19nm,1.2s
UCC Uccle 53.86 309 PFAKE 05 10 40.0 +9.2
UCC LR LR
comp=Z,7µm,19.0s
GIVF Givet 53.90 308 *e*P **P** **05 10 30.8 -0.4**
GIVF pmax pmax
comp=Z,14nm,0.8s
HAU Haudompre 53.97 305 *e*P **P** **05 10 30.8 -1.0**
HAU pmax pmax
comp=Z,29nm,1.1s
SNF Seneffe 54.03 309 ⇑P **P** **05 10 31.4 -0.7**
DOU Dourbes 54.04 308 ⇓P **P** **05 10 32.6 +0.4**
DOU ⇑pP **pP** **05 10 41.7 +0.8**
SENIN Lac Senin/Sane 54.16 303 *e*P **P** **05 10 33.3 -0.1**
comp=Z,113nm,1.9s
CISI Cisompet, Garu 54.22 154 PFAKE 05 10 50.0 +16
CISI LR LR
comp=Z,2µm,20.0s
FURI Furi 54.22 245 PFAKE 05 10 50.0 +16
FURI LR LR
comp=Z,1µm,19.0s
BAIF Baives 54.28 308 *e*P **P** **05 10 33.6 -0.4**
BAIF pmax pmax
comp=Z,25nm,1.0s
CLTB Caltabellotta 54.63 291 PFAKE 05 10 50.0 +13
CLTB LR LR
comp=Z,700nm,20.0s
WDD Wied Dalam 54.64 288 PFAKE 05 10 50.0 +13
WDD LR LR
comp=Z,300nm,21.0s
BIGH Upper Bighouse 54.69 320 *e*P **P** **05 10 36.9 +0.1**
BIGH IAmb IAmb 05 10 38.1
comp=Z,56nm,0.9s
CABF La Chapelle 54.78 304 *e*P **P** **05 10 36.6 -1.2**
CABF pmax pmax
comp=Z,6.0nm,0.6s
MCD Coleburn Disti 54.79 319 ⇑*e*P **P** **05 10 37.8 +0.2**
LPG La Plagne 54.90 302 *e*P **P** **05 10 38.6 -0.3**
LPG pmax pmax
comp=Z,91nm,0.8s
LPL La Plagne 54.91 302 *e*P **P** **05 10 38.6 -0.3**
LPL pmax pmax
comp=Z,80nm,0.7s
EDU Dundee 55.15 318 ⇑*e*P **P** **05 10 39.9 -0.3**
BNI Bardonecchia 55.16 302 *e*P **P** **05 10 40.4 -0.2**
comp=Z,52nm,1.0s
BNI LR LR
comp=Z,1µm,20.0s
BNI Bardonecchia 55.16 302 *e*P **P** **05 10 40.4 -0.2**
BNI pmax pmax
comp=Z,52nm,1.0s
BNI MLR MLR
comp=Z,1µm,20.0s
ESY Stoneypath 55.24 317 *e*P **P** **05 10 40.7 -0.2**
MBDF Montbardon 55.26 301 *e*P **P** **05 10 40.9 -0.5**
MBDF pmax pmax
comp=Z,33nm,0.7s
SBF Sospel 55.27 300 *e*P **P** **05 10 40.5 -0.9**
SBF pmax pmax
comp=Z,57nm,0.9s
MDO Dochfour 55.39 319 ⇑*e*P **P** **05 10 41.5 -0.4**
EDMD Edmundbyers 55.42 315 *e*P **P** **05 10 41.3 -0.8**
SCO Scoresbysund 55.48 337 *e*P **P** **05 10 43.6 +1.2**
comp=Z,41nm,0.9s
SCO Scoresbysund 55.48 337 *i* P **P** **05 10 43.6 +1.2**
comp=Z,47nm,1.0s
SCO Scoresbysund 55.48 337 *e*P **P** **05 10 43.6 +1.2**
SCO pmax pmax
comp=Z,41nm,0.9s
EBL Broad Law 55.53 317 ⇑*e*P **P** **05 10 42.7 -0.3**
EDI Edinburgh 55.53 317 *e*P **P** **05 10 42.5 -0.3**
EDI IAmb IAmb 05 10 43.6
comp=Z,54nm,0.8s
HPK Haverah Park 55.66 314 *e*P **P** **05 10 43.7 -0.2**
MSEY Mahe Island 55.68 219 PFAKE 05 11 00.0 +15
MSEY LR LR
comp=Z,800nm,18.0s
INVG Invergeldie, C 55.71 318 *e*P **P** **05 10 44.0 -0.3**
INVG IAmb IAmb 05 10 45.0
comp=Z,28nm,0.7s
ORIF Oris-en-Rattie 55.72 302 *e*P **P** **05 10 44.2 -0.4**
ORIF pmax pmax
comp=Z,26nm,0.8s
TNTI Ternate 55.74 128 *e*P **P** **05 10 45.7 +0.8**
comp=Z,159nm,1.3s

TNTI LR LR
comp=Z,200nm,21.0s
SPSI Sidrap Palu 55.74 139 P **P** **05 10 44.3 -0.6**
EKA Eskdalemuir Ar 55.79 316 P **P** **05 10 44.0 -0.8**
EKA pmax pmax
comp=Z,61nm,0.6s
EKA Eskdalemuir Ar 55.79 316 LR LR 05 36 31.7
comp=Z,1μm,18.4s,baz=75,slow=38
LOR Lormes 55.80 305 *e*P **P** **05 10 43.5 -1.5**
LOR pmax pmax
comp=Z,15nm,0.8s
KAC Achnashellach 55.81 319 *e*P **P** **05 10 44.4 -0.5**
ESK Eskdalemuir 55.82 316 *e*P **P** **05 10 44.6 -0.5**
comp=Z,50nm,0.8s
ESK Eskdalemuir 55.82 316 *e*P **P** **05 10 44.7 -0.3**
ESK IAmb IAmb 05 10 45.8
comp=Z,49nm,0.8s
ESK Eskdalemuir 55.82 316 *i* P **P** **05 10 45.7 +0.7**
FRF La Foret Royal 55.92 300 *e*P **P** **05 10 44.7 -1.2**
FRF pmax pmax
comp=Z,45nm,1.5s
BHH Howats Hill 55.94 316⇑ *e*P **P** **05 10 46.5 +0.6**
EAB Aberfoyle 55.97 318⇑ *e*P **P** **05 10 46.5 +0.4**
KPL Plockton 56.05 319 *e*P **P** **05 10 46.0 -0.6**
CWF Charnwood Fore 56.07 313 *e*P **P** **05 10 46.5 -0.4**
CWF IAmb IAmb 05 10 48.5
comp=Z,29nm,0.9s
SSF Saint Saulge 56.11 305 *e*P **P** **05 10 45.8 -1.4**
SSF pmax pmax
comp=Z,9.0nm,0.8s
SMF Signal de Mont 56.12 305 *e*P **P** **05 10 46.1 -1.2**
SMF pmax pmax
comp=Z,44nm,1.0s
KESW Keswick, Cumbr 56.12 315 *e*P **P** **05 10 46.9 -0.3**
KESW IAmb IAmb 05 10 50.2
comp=Z,47nm,0.8s
SARN Sarigan 56.20 99 PFAKE 05 11 00.0 +12
SARN LR LR
comp=Z,1μm,22.0s
AVF Avril sur Loir 56.34 305 *e*P **P** **05 10 47.6 -1.2**
AVF pmax pmax
comp=Z,19nm,0.9s
SSB Saint Sauveur 56.37 303 *e*P **P** **05 10 48.8 -0.4**
comp=Z,136nm,1.9s
SSB Saint Sauveur 56.37 303 *e*P **P** **05 10 48.8 -0.4**
SSB pmax pmax
comp=Z,136nm,1.9s
CLF Chambon-Foret 56.37 307 *e*P **P** **05 10 49.2 +0.2**
comp=Z,229nm,1.7s
CLF LR LR
comp=Z,2μm,20.0s
STNC Stoke 56.38 314 *e*P **P** **05 10 49.3 +0.3**
STNC IAmb IAmb 05 10 50.5
comp=Z,62nm,1.0s
LAWE Loch Awe, Argy 56.45 318 *e*P **P** **05 10 49.3 -0.2**
LAWE IAmb IAmb 05 10 50.6
comp=Z,49nm,0.8s
VIVF Saint-Julien-l 56.50 302 *e*P **P** **05 10 49.1 -1.0**
VIVF pmax pmax
comp=Z,12nm,0.8s
KAPI Kappang 56.65 140 *e*P **P** **05 10 50.8 -0.6**
comp=Z,44nm,1.4s
KAPI Kappang 56.65 140 *e*P **P** **05 10 50.8 -0.6**
KAPI pmax pmax
comp=Z,44nm,1.4s
BGF Bois d'Agland 56.75 305 *e*P **P** **05 10 50.6 -1.2**
BGF pmax pmax
comp=Z,21nm,1.0s
GAL1 Galloway 56.80 316 *e*P **P** **05 10 51.9 -0.1**
GAL1 IAmb IAmb 05 10 52.9
comp=Z,28nm,0.8s
FOEL Foel Wylfa 57.00 314 *e*P **P** **05 10 53.1 -0.4**
FOEL IAmb IAmb 05 10 54.6
comp=Z,65nm,0.9s
STRD Stroud 57.00 312 *e*P **P** **05 10 53.2 -0.3**
STRD IAmb IAmb 05 10 54.2
comp=Z,70nm,0.9s
BKSI Bulukumba 57.09 139 P **P** **05 10 53.9 -0.6**
WIM Isle of Man 57.14 316⇑ *e*P **P** **05 10 54.5 0.0**
BATH Bath 57.26 312 *e*P **P** **05 10 54.5 -0.8**
BATH IAmb IAmb 05 10 55.9
comp=Z,45nm,0.8s
RDOG Red Dog Mine 57.26 25 *e*P **P** **05 10 55.0 -0.2**
comp=Z,18nm,0.6s
RDOG LR LR
comp=Z,2μm,18.0s
LLW Llanuwchllyn 57.27 314 *e*P **P** **05 10 55.1 -0.2**
OLDB Oldbury-Upon-S 57.27 312 *e*P **P** **05 10 55.1 -0.3**
OLDB IAmb IAmb 05 10 56.1
comp=Z,151nm,1.1s
TCF Toulx Ste Croi 57.27 305 *e*P **P** **05 10 54.7 -0.8**
TCF pmax pmax
comp=Z,38nm,1.0s
MONM Monmouth 57.32 313⇑ *e*P **P** **05 10 54.8 -0.9**
MONM IAmb IAmb 05 10 56.5
comp=Z,85nm,0.8s
MCH1 Michaelchurch 57.34 313⇑ *e*P **P** **05 10 55.5 -0.3**
MCH1 IAmb IAmb 05 10 56.7
comp=Z,102nm,1.2s
YLL Llanberis 57.38 314⇑ *e*P **P** **05 10 56.2 +0.1**
FLN La Foliniere 57.59 308 *e*P **P** **05 10 56.4 -1.3**
FLN pmax pmax
comp=Z,23nm,0.8s
GRR Gorron 57.99 308 *e*P **P** **05 10 59.3 -1.2**
GRR pmax pmax
comp=Z,37nm,0.8s
IDGL Inch Island, C 58.09 318 *e*P **P** **05 11 00.5 -0.5**
RJF Les Rejaudoux 58.19 304 *e*P **P** **05 11 01.5 -0.5**
RJF pmax pmax
comp=Z,42nm,1.2s
SUMG Summit 58.21 343 *e*P **P** **05 11 02.7 +0.5**
comp=Z,139nm,1.6s
SUMG Summit 58.21 343 *i* P **P** **05 11 03.2 +1.0**
comp=Z,336nm,1.6s
SUMG Summit 58.21 343 *e*P **P** **05 11 02.7 +0.5**
SUMG pmax pmax
comp=Z,139nm,1.6s
KEST Kesra 58.25 291 P **P** **05 11 02.3 -0.3**
comp=Z,6.2nm,0.8s,baz=274,slow=5.9,SNR=4.4
KEST LR LR 05 38 30.4
comp=Z,536nm,21.9s,baz=0.0,slow=38
ANM Nome 58.49 29 *e*P **P** **05 11 05.1 +1.3**
comp=Z,33nm,0.9s
ANM LR LR
comp=Z,2μm,19.0s
ANM Nome 58.49 29 *e*P **P** **05 11 05.1 +1.3**
ANM pmax pmax
comp=Z,33nm,0.9s
ANM MLR MLR
comp=Z,2μm,19.0s
MFF Saint Martin d 58.51 306 *e*P **P** **05 11 04.0 -0.1**
MFF pmax pmax
comp=Z,57nm,1.4s
HTL Hartland 58.65 312 *e*P **P** **05 11 04.8 -0.2**
HTL IAmb IAmb 05 11 05.9
comp=Z,52nm,0.8s
TULEG Thule 59.27 354 *e*P **P** **05 11 08.2 -0.8**
comp=Z,52nm,0.8s
TULEG LR LR
comp=Z,3μm,21.0s
QUIF Quistinic 59.55 309 *e*P **P** **05 11 10.5 -0.9**
QUIF pmax pmax
comp=Z,127nm,1.6s
KULLO Kullorsuaq 59.82 350 *i* P **P** **05 11 12.9 +0.1**
comp=Z,100nm,0.9s
KULLO Kullorsuaq 59.82 350 *i* P **P** **05 11 12.9 +0.1**
KULLO pmax pmax
comp=Z,100nm,0.9s
IGLA Glengowla, Co 59.90 317 *e*P P 05 11 02.1 -12
TOLK Toolik Lake Re 60.62 21 *e*P **P** **05 11 18.4 0.0**
comp=Z,98nm,0.8s
TOLK LR LR
comp=Z,2μm,22.0s
TOLK Toolik Lake Re 60.62 21 P **P** **05 11 18.4 0.0**
baz=316,SNR=102
ETSF Etsaut 60.74 303 *e*P **P** **05 11 19.2 -0.5**
ETSF pmax pmax
comp=Z,12nm,0.8s
EDFI Ende, Flores 60.83 140 P **P** **05 11 18.0 -2.6**
MMRI Maumere 60.99 139 *e*P **P** **05 11 20.1 -1.4**
comp=Z,127nm,1.2s
VAL Valentia 61.16 315 *e*P P 05 11 04.6 -18
IM3 Indian Mountai 61.35 24 *e*P **P** **05 11 22.9 -0.5**
COLD Coldfoot 61.48 22 *e*P **P** **05 11 24.3 +0.1**
comp=Z,51nm,0.8s
FAKI Fak Fak 61.56 126 *e*P **P** **05 11 25.5 +0.1**
comp=Z,73nm,1.0s
FAKI Fak Fak 61.56 126 P **P** **05 11 25.5 +0.1**
RES Resolute Bay 62.13 1 *e*P **P** **05 11 28.6 +0.2**
comp=Z,34nm,1.3s
RES LR LR
comp=Z,2μm,19.0s
RES Resolute Bay 62.13 1 *e*P **P** **05 11 28.6 +0.2**
RES pmax pmax
comp=Z,34nm,1.3s
RES MLR MLR
comp=Z,2μm,19.0s
KMBO Kilima Mbogo 62.75 239 *e*P **P** **05 11 33.1 -0.6**
comp=Z,43nm,1.6s
KMBO LR LR
comp=Z,700nm,20.0s
KMBO Kilima Mbogo 62.75 239 *i* P **P** **05 11 33.8 +0.1**
SNR=7.7
KMBO Kilima Mbogo 62.75 239 *e*P **P** **05 11 33.1 -0.6**
KMBO pmax pmax
comp=Z,43nm,1.6s
KMBO MLR MLR
comp=Z,700nm,20.0s
KMBO Kilima Mbogo 62.75 239 P **P** **05 11 33.0 -0.6**
comp=Z,4.5nm,0.8s,baz=34,slow=11,SNR=15
MLY Manley 62.91 24 PFAKE 05 11 50.0 +16
MLY LR LR
comp=Z,2μm,19.0s
SOEI Soe 62.94 138 *e*P **P** **05 11 34.0 -0.8**
comp=Z,80nm,0.9s
BATI Baumata 63.04 139 P **P** **05 11 34.4 -0.9**
NAI Nairobi 63.14 239 PFAKE 05 11 50.0 +14
NAI LR LR
comp=Z,800nm,20.0s
FYU Fort Yukon 63.28 21 *e*P **P** **05 11 37.2 +1.0**
comp=Z,120nm,1.7s
FYU LR LR
comp=Z,1μm,21.0s
ILULI Ilulissat 63.44 345 *e*P **P** **05 11 37.3 +0.2**
comp=Z,136nm,0.8s
ILULI Ilulissat 63.44 345 *i* P **P** **05 11 37.4 +0.2**
comp=Z,155nm,0.9s
ILULI Ilulissat 63.44 345 *i* P **P** **05 11 37.4 +0.2**
ILULI pmax pmax
comp=Z,160nm,0.9s
BPAW Bear Paw Mtn. 63.52 25 *e*P **P** **05 11 38.5 +0.5**
comp=Z,50nm,1.0s
BPAW LR LR
comp=Z,1μm,18.0s
MDM Murphy Dome 63.69 23 *e*P **P** **05 11 39.4 +0.4**
comp=Z,37nm,0.8s
MDM LR LR
comp=Z,2μm,22.0s
POKR Poker Plat Res 63.80 23 P **P** **05 11 40.1 +0.4**
baz=319,SNR=15
TCOL CIGO, UAF Yank 63.86 23 P **P** **05 11 40.5 +0.4**
baz=319
COLA College 63.86 23 PFAKE 05 11 50.0 +10
COLA LR LR
comp=Z,2μm,21.0s
COLA College 63.86 23*d* *i*P **P** **05 11 40.3 +0.2**
COLA pmax pmax
comp=Z,66nm,0.9s
BWN Browne 63.92 24 *e*P **P** **05 11 41.3 +0.7**
comp=Z,161nm,0.8s
BWN LR LR
comp=Z,2μm,19.0s
PRP Porcupine Dome 64.01 22 *e*P **P** **05 11 41.6 +0.3**
comp=Z,38nm,1.0s
PRP LR LR
comp=Z,2μm,20.0s
PPLA Purkeypile 64.02 26 *e*P **P** **05 11 41.7 +0.3**
comp=Z,76nm,1.1s
CCB Clear Creek Bu 64.05 23 *e*P **P** **05 11 40.8 -0.5**
comp=Z,39nm,1.0s
CCB LR LR
comp=Z,2μm,22.0s
WRH Wood River Hil 64.10 23 *e*P **P** **05 11 40.9 -0.8**
comp=Z,30nm,0.8s
WRH LR LR
comp=Z,1μm,20.0s
SVW2 Sparrevohn 64.17 29 *e*P **P** **05 11 43.5 +1.3**
comp=Z,39nm,1.0s
SVW2 LR LR
comp=Z,1μm,20.0s
TRF Thorofare Moun 64.21 25 *e*P **P** **05 11 41.6 -1.0**
comp=Z,24nm,0.8s
TRF LR LR
comp=Z,1μm,18.0s
IL1 Eielson Array 64.21 23 *e*P **P** **05 11 41.8 -0.7**
ILAR Eielson Array 64.21 23 P **P** **05 11 42.0 -0.4**
comp=Z,34nm,0.8s,baz=310,slow=4.6,SNR=189
ILAR PKP2ab 05 40 41.4
comp=Z,0.6nm,1.0s,baz=145,slow=3.3,SNR=4.8
ILAR LR LR 05 43 51.9
comp=Z,2μm,18.2s,baz=328,slow=40
ILB Eielson Array 64.21 23 *e*P **P** **05 11 42.1 -0.4**
comp=Z,33nm,0.8s
HDA Harding Lake 64.47 23 *e*P **P** **05 11 43.2 -0.9**
comp=Z,25nm,0.9s
HDA LR LR
comp=Z,2μm,21.0s
HDA Harding Lake 64.47 23 P **P** **05 11 42.8 -1.3**
baz=319,SNR=13
INK Inuvik 64.51 15 *e*P **P** **05 11 44.0 -0.3**
comp=Z,64nm,1.0s
INK LR LR
comp=Z,1μm,19.0s
INK Inuvik 64.51 15 P **P** **05 11 44.6 +0.3**
comp=Z,39nm,0.9s,baz=338,slow=8.2,SNR=108
RND Reindeer 64.67 24 *e*P **P** **05 11 45.3 -0.3**
comp=Z,20nm,0.7s
RND Reindeer 64.67 24 *e*P **P** **05 11 45.3 -0.3**
RND pmax pmax
comp=Z,20nm,0.7s
ES06 SONSECA Array 64.68 301 *e*P **P** **05 11 45.3 -0.8**
ESDC Sonseca Array 64.69 301 P **P** **05 11 45.6 -0.4**
comp=Z,6.3nm,0.6s,baz=52,slow=6.7,SNR=58
ESDC LR LR 05 42 05.0
comp=Z,706nm,20.2s,baz=290,slow=38
ESLA Sonseca Array 64.69 301 *e*P **P** **05 11 45.6 -0.5**
comp=Z,28nm,1.0s
PAB San Pablo 65.01 301 *e*P **P** **05 11 47.0 -1.1**
comp=Z,28nm,1.1s
PAB San Pablo 65.01 301 *e*P **P** **05 11 47.0 -1.1**
PAB pmax pmax
comp=Z,28nm,1.1s
PBRG Braganca 65.12 305 *e*P **P** **05 11 48.8 0.0**
SFJD Kangerlussuaq 65.21 343 *e*P **P** **05 11 48.5 -0.3**
comp=Z,72nm,0.8s
SFJD Kangerlussuaq 65.21 343 *i* P **P** **05 11 48.9 +0.1**
comp=Z,67nm,0.8s
SFJD Kangerlussuaq 65.21 343 *i* P **P** **05 11 48.9 +0.1**
SFJD pmax pmax
comp=Z,67nm,0.8s
SFJD Kangerlussuaq 65.21 343 *e*P **P** **05 11 48.3 -0.5**
DHY Denali Highway 65.36 24 *e*P **P** **05 11 49.6 -0.5**
comp=Z,42nm,0.8s
DHY LR LR
comp=Z,1μm,20.0s
EPYK Eagle Plains 65.48 18 *e*P **P** **05 11 50.6 -0.2**
comp=Z,56nm,0.9s
EPYK Eagle Plains 65.48 18 P **P** **05 11 50.0 -0.7**
baz=327,SNR=48
RIDG Independ'e Rid 65.58 23 *e*P **P** **05 11 50.8 -0.6**
comp=Z,70nm,0.9s
RIDG LR LR
comp=Z,1μm,19.0s
SCRK Sand Creek 65.63 22 *e*P **P** **05 11 50.8 -1.0**
comp=Z,41nm,1.0s
SCRK LR LR
comp=Z,1μm,20.0s
MVO Moncorvo 65.68 304 *e*P **P** **05 11 52.4 0.0**
MVO Moncorvo 65.68 304 *e*LR LR 05 36 13.1
comp=Z,838nm,18.0s
EGAK Eagle 65.74 20 *e*P **P** **05 11 52.2 -0.1**
comp=Z,46nm,1.1s
EGAK LR LR
comp=Z,1μm,20.0s
DOT Dot Lake 65.87 22 *e*P **P** **05 11 52.7 -0.5**
comp=Z,19nm,0.8s
DOT LR LR
comp=Z,1μm,18.0s
GHO Glory Hole Cre 65.88 26 *e*P **P** **05 11 54.2 +0.8**
comp=Z,44nm,1.0s
GHO LR LR
comp=Z,1μm,20.0s
PGAV Gavieira, Arco 65.93 306 *e*LR LR 05 36 54.0
comp=Z,785nm,18.0s
PMR Palmer 65.95 26 *e*P **P** **05 11 53.9 +0.2**
comp=Z,20nm,0.9s
PMR LR LR
comp=Z,1μm,21.0s
PMR Palmer 65.95 26 *e*P **P** **05 11 53.9 +0.2**
PMR pmax pmax
comp=Z,20nm,0.9s
PMR MLR MLR
comp=Z,1μm,21.0s
PAX Paxson 66.00 23 *e*P **P** **05 11 53.9 -0.3**
comp=Z,34nm,1.1s
PAX LR LR
comp=Z,1μm,21.0s
PAX Paxson 66.00 23 *e*P **P** **05 11 53.9 -0.3**
PAX pmax pmax
comp=Z,34nm,1.1s
PAX MLR MLR
comp=Z,1μm,21.0s
SML Sawmill 66.04 25 *e*P **P** **05 11 54.4 0.0**
comp=Z,60nm,0.8s
SML LR LR
comp=Z,1μm,20.0s
SML Sawmill 66.04 25 *e*P **P** **05 11 54.4 0.0**
SML pmax pmax
comp=Z,61nm,0.8s
SML MLR MLR
comp=Z,1μm,20.0s
RC01 Rabbit Creek A 66.13 26 *e*P **P** **05 11 55.3 +0.3**
comp=Z,53nm,1.0s
SDPT Sand Point 66.25 35 *e*P **P** **05 11 55.3 -0.4**
comp=Z,26nm,0.8s
KNK Knik Glacier 66.30 26 *e*P **P** **05 11 56.4 +0.3**
comp=Z,31nm,0.8s
KNK LR LR
comp=Z,2μm,21.0s
SCM Sheep Creek Mo 66.33 25 *e*P **P** **05 11 56.4 +0.1**
comp=Z,75nm,0.7s
SCM LR LR
comp=Z,1μm,20.0s
SCM Sheep Creek Mo 66.33 25 *e*P **P** **05 11 56.4 +0.1**
SCM pmax pmax
comp=Z,75nm,0.7s
SCM MLR MLR
comp=Z,1μm,20.0s
JAY Jayapura 66.45 118 LR LR 05 41 17.8
comp=Z,282nm,20.1s,baz=5.0,slow=36
MTE Manteigas 66.45 304 *e*P **P** **05 11 58.1 +0.7**
MTE Manteigas 66.45 304 *e*LR LR 05 37 40.0
comp=Z,779nm,18.0s
MENT Mentasta 66.53 23 *e*P **P** **05 11 57.4 -0.1**
comp=Z,20nm,0.9s
MENT LR LR
comp=Z,2μm,19.0s
MBAR Mbarara 66.53 245 PFAKE 05 12 10.0 +12
MBAR LR LR
comp=Z,700nm,19.0s
HARP HAARP 66.53 24 *e*P **P** **05 11 58.0 +0.5**
comp=Z,74nm,0.9s
BRLK Bradley Lake 66.74 28 *e*P **P** **05 11 59.6 +0.7**
comp=Z,37nm,1.0s
PCBR Castelo Branco 66.75 303 *e*P **P** **05 11 59.9 +0.6**
DAWY Dawson 66.77 20 *e*P **P** **05 11 58.8 -0.2**
comp=Z,47nm,1.1s
DAWY LR LR
comp=Z,1μm,18.0s
PMRV Marv??o 66.95 303 *e*P **P** **05 12 01.3 +0.7**
PMRV Marv??o 66.95 303 *e*LR LR 05 39 59.5
comp=Z,922nm,18.0s
SEW Seward 66.97 27 *e*P **P** **05 12 00.5 +0.2**
comp=Z,101nm,1.5s
COI Coimbra 67.09 304 *e*P **P** **05 12 02.0 +0.6**
PCAS Casmilo, Conde 67.24 304 *e*P **P** **05 12 02.8 +0.4**
comp=Z,95nm,1.9s
DIV Divide 67.35 25 *e*P **P** **05 12 02.1 -0.7**
comp=Z,25nm,0.7s
PESTR Estremoz 67.42 303 *e*P **P** **05 12 04.2 +0.6**
comp=Z,57nm,1.6s
PESTR Estremoz 67.42 303 *e*P **P** **05 12 04.7 +1.1**
comp=Z,32nm,1.5s
KDAK Kodiak Island 67.61 30 *e*P **P** **05 12 04.9 +0.5**
comp=Z,38nm,0.8s
KDAK LR LR
comp=Z,2μm,19.0s
KDAK Kodiak Island 67.61 30 *i* P **P** **05 12 04.7 +0.3**
EYAK Cordova Ski Ar 67.81 25 *e*P **P** **05 12 06.7 +1.1**
comp=Z,83nm,1.3s
EYAK LR LR
comp=Z,3μm,20.0s
BMRM Bremner River 67.83 24 PFAKE 05 12 20.0 +14
BMRM LR LR
comp=Z,100nm,18.0s
EVO Evora 67.89 302 *e*P **P** **05 12 08.7 +2.2**
SII Sitkinak Islan 67.92 32 *e*P **P** **05 12 07.3 +1.0**
comp=Z,88nm,1.0s
SFS San Fernando 68.04 300 PFAKE 05 12 20.0 +13
SFS LR LR
comp=Z,900nm,19.0s
PBEJ Beja 68.11 302 *e*P **P** **05 12 09.3 +1.4**
BALM Baldy 68.44 23 *e*P **P** **05 12 10.4 +0.7**
comp=Z,40nm,0.8s
BALM Baldy 68.44 23 *e*P **P** **05 12 10.4 +0.7**
BALM pmax pmax
comp=Z,40nm,0.8s
PNCL Nicolau / Gran 68.47 302 *e*P **P** **05 12 10.8 +0.7**
TGL Tana Glacier 68.52 24 *e*P **P** **05 12 10.6 +0.4**
comp=Z,31nm,0.8s
TAM Tamanrasset 68.60 281 *e*P **P** **05 12 11.0 -0.4**
comp=Z,12nm,1.0s
TAM Tamanrasset 68.60 281 *e*P **P** **05 12 11.0 -0.4**
TAM pmax pmax
comp=Z,12nm,1.0s
NRS Narsarsuaq 68.78 337 *e*P **P** **05 12 11.9 +0.3**
comp=Z,164nm,1.4s
NRS Narsarsuaq 68.78 337 *i* P **P** **05 12 11.6 0.0**
NRS Narsarsuaq 68.78 337 *e*P **P** **05 12 11.9 +0.3**
NRS pmax pmax
comp=Z,164nm,1.4s
MTN Manton Dam 69.06 133 *e*P **P** **05 12 13.6 -0.4**
comp=Z,129nm,1.9s
IVI Ivigtut 69.49 339 *e*P **P** **05 12 16.2 +0.1**
comp=Z,73nm,0.9s
PCA Pinnacle 69.81 23 *e*P **P** **05 12 18.3 +0.2**
comp=Z,31nm,0.8s
HYT Haines Junctio 69.95 21 PFAKE 05 12 30.0 +11
HYT LR LR
comp=Z,1μm,20.0s
GIRL Giralia 70.42 153 *e*P **P** **05 12 22.3 +0.1**
comp=Z,810nm,1.8s
YKU2 Yakutat 70.46 23 PFAKE 05 12 30.0 +8.0
YKU2 LR LR
comp=Z,1μm,19.0s
WHY Whitehorse 70.78 20 *e*P **P** **05 12 23.8 -0.3**
comp=Z,29nm,1.4s
WHY LR LR
comp=Z,1μm,18.0s
FITZ Fitzroy Crossi 70.83 141 *e*P **P** **05 12 24.1 -0.6**
comp=Z,36nm,0.7s
FITZ Fitzroy Crossi 70.83 141 LR LR 05 46 46.6
comp=Z,406nm,21.0s,baz=317,slow=39
PSAD1 Pilbara Seismi 71.34 148 *e*P **P** **05 12 26.9 -0.9**
comp=Z,83nm,1.4s
PSAC1 Pilbara Seismi 71.41 148 *e*P **P** **05 12 28.1 -0.1**
comp=Z,56nm,1.4s
PSAB1 Pilbara Seismi 71.44 148 *e*P **P** **05 12 28.1 -0.3**
comp=Z,72nm,1.4s
PSAB2 Pilbara Seismi 71.44 148 *e*P **P** **05 12 27.8 -0.6**
comp=Z,40nm,1.1s
PSAA2 Pilbara Seismi 71.45 148 *e*P **P** **05 12 28.4 0.0**
comp=Z,36nm,1.1s
PSA00 Pilbara Seismi 71.45 148 *e*P **P** **05 12 28.4 -0.1**
comp=Z,58nm,1.4s
PSAA1 Pilbara Seismi 71.45 148 *e*P **P** **05 12 27.6 -0.9**
comp=Z,69nm,1.4s
PSAA3 Pilbara Seismi 71.46 148 *e*P **P** **05 12 28.5 -0.1**
comp=Z,54nm,1.4s
PSAA3 LR LR
comp=Z,1μm,22.0s
PSAC2 Pilbara Seismi 71.47 148 *e*P **P** **05 12 28.1 -0.4**
comp=Z,51nm,1.4s
PSAB3 Pilbara Seismi 71.48 148 *e*P **P** **05 12 28.5 -0.1**
comp=Z,100nm,1.8s
PSAC3 Pilbara Seismi 71.49 148 *e*P **P** **05 12 28.7 0.0**
comp=Z,40nm,1.1s
PSAD3 Pilbara Seismi 71.49 148 *e*P **P** **05 12 28.5 -0.2**
comp=Z,55nm,1.4s
PSAD2 Pilbara Seismi 71.54 148 *e*P **P** **05 12 28.6 -0.5**
comp=Z,35nm,1.3s

SKAG Skagway 71.69 21 *e*P P 05 12 30.5 +1.0
comp=Z,25nm,0.9s
SKAG LR LR
comp=Z,900nm,22.0s
BESE Bessie Mountai 72.58 21 *e*P P 05 12 36.3 +1.3
comp=Z,30nm,1.2s
YKW3 Yellowknife Ar 72.92 10 *e*P P 05 12 36.4 -0.3
comp=Z,47nm,1.0s
JIS Juneau Island 72.97 21 *e*P P 05 12 37.6 +0.6
comp=Z,10nm,0.8s
YKA Yellowknife Ar 72.98 10 P P 05 12 36.4 -0.7
comp=Z,30nm,0.8s,baz=337,slow=5.9,SNR=360
YKA PKPPKP P'P'df 05 40 28.4 +3.8
comp=Z,0.4nm,0.9s,baz=153,slow=2.4,SNR=3.9
YKA LR LR 05 45 34.9
comp=Z,122nm,21.9s,baz=350,slow=37
YKB5 Yellowknife Ar 72.98 10 *e*P P 05 12 36.8 -0.3
SIT Sitka 73.76 22 *e*P P 05 12 43.0 +1.2
comp=Z,24nm,0.9s
SIT Sitka 73.76 22 *e*P P 05 12 43.0 +1.2
SIT pmax pmax
comp=Z,24nm,0.9s
DLBC Dease Lake 73.92 19 *e*P P 05 12 43.6 +0.7
comp=Z,14nm,1.1s
PMG Port Moresby 75.82 118 *e*P P 05 12 54.4 +0.1
comp=Z,37nm,0.9s
PMG Port Moresby 75.82 118 *c i*P P 05 12 54.3 0.0
PMG pmax pmax
comp=Z,116nm,0.9s
WRAB Tennant Creek 76.65 135 *e*P P 05 12 58.1 -0.8
comp=Z,99nm,0.7s
WRAB Tennant Creek 76.65 135 *c i*P P 05 12 58.0 -0.9
WRAB pmax pmax
comp=Z,66nm,0.8s
WRA Warramunga Arr 76.66 135 P P 05 12 58.0 -0.9
comp=Z,61nm,0.6s,baz=334,slow=4.9,SNR=346
WR1 Warramunga Arr 76.66 135 *e*P P 05 12 58.0 -0.9
comp=Z,102nm,0.6s
COEN Coen 76.81 124 *e*P P 05 12 59.3 -0.6
comp=Z,66nm,1.1s
MORW Morawa 76.98 154 *e*P P 05 13 00.1 -0.4
comp=Z,132nm,1.9s
TOA1 Torodi Ar. Sit 77.63 276 *e*P P 05 13 02.4 -2.3
TOA0 Torodi Ar. Sit 77.63 276 *e*P P 05 13 03.3 -1.3
comp=Z,21nm,0.6s
TOA0 Torodi Ar. Sit 77.63 276 P P 05 13 03.5 -1.2
SNR=5.1
TORD Torodi Ar. Bea 77.63 276 P P 05 13 02.4 -2.3
comp=Z,17nm,1.0s,baz=30,slow=5.2,SNR=53
TORD LR LR 05 52 23.2
comp=Z,170nm,20.4s,baz=0.0,slow=40
LSZ Lusaka 79.31 237 *e*P P 05 13 13.3 -0.6
comp=Z,21nm,1.1s
LSZ Lusaka 79.31 237 *e*P P 05 13 13.3 -0.6
LSZ pmax pmax
comp=Z,21nm,1.1s
AS31 Alice Springs 79.54 137 *e*P P 05 13 14.2 -0.7
comp=Z,10.0nm,0.6s
ASAR Alice Springs 79.54 137 P P 05 13 13.8 -1.1
comp=Z,28nm,0.6s,baz=332,slow=5.7,SNR=382
ASAR PKKPbc PKKPbc 05 32 01.8 -1.2
comp=Z,0.4nm,0.6s,baz=131,slow=2.1,SNR=4.8
ASAR LR LR 05 51 51.6
comp=Z,216nm,20.8s,baz=324,slow=38
SCHQ Schefferville 79.55 345 *e*P P 05 13 14.4 -0.2
comp=Z,57nm,1.4s
SCHQ Schefferville 79.55 345 P P 05 13 13.0 -1.6
comp=Z,18nm,0.9s,baz=24,slow=4.5,SNR=10.0
SCHQ LR LR 05 53 55.3
comp=Z,1µm,18.2s,baz=18,slow=40
AS01 Alice Springs 79.56 137 *e*P P 05 13 14.0 -1.0
NWAO Narrogin (SRO) 80.93 155 *e*P P 05 13 21.5 -0.6
comp=Z,59nm,1.6s
NWAO Narrogin (SRO) 80.93 155 *e*P P 05 13 21.5 -0.6
NWAO pmax pmax
comp=Z,59nm,1.6s
FFC Flin Flon 81.89 5 *e*P P 05 13 26.3 -0.8
comp=Z,69nm,1.2s
FFC Flin Flon 81.89 5 *i*P P 05 13 26.4 -0.7
FORT Forrest 82.95 145 *e*P P 05 13 32.1 -0.7
comp=Z,58nm,0.6s
LLLB Lillooet 83.00 18 *e*P P 05 13 33.5 +0.4
comp=Z,11nm,1.0s
CTAO Charters Tower 83.41 126 *e*P P 05 13 35.4 -0.1
comp=Z,21nm,0.8s
CTAO Charters Tower 83.41 126 *e*P P 05 13 35.4 -0.1
CTAO pmax pmax
comp=Z,21nm,0.8s
PGC Sidney 84.46 20 *e*P P 05 13 41.6 +1.2
comp=Z,21nm,0.9s
A04D Lummi Island 84.58 19 P P 05 13 41.6 +0.5
baz=339,SNR=13
B05A Bryant 85.15 19 P P 05 13 44.6 +0.7
baz=339,SNR=8.0
NLWA Neilton Lookou 85.53 20 *e*P P 05 13 48.0 +2.1
comp=Z,2nm,0.9s
CHGQ Chibougamau 85.57 348 P P 05 13 45.3 -0.7
baz=14
D03D Eldon 85.59 20 P P 05 13 47.3 +1.1
baz=339
B08A Colville Reser 85.69 17 *e*P P 05 13 47.8 +1.1
comp=Z,24nm,0.8s
C06D Leavenworth 85.75 18 P P 05 13 46.7 -0.3
baz=340
D04E Lakebay 86.00 20 P P 05 13 47.1 -1.1
baz=339
WALA Waterton Lakes 86.06 14 *e*P P 05 13 49.0 +0.3
comp=Z,41nm,1.7s
D05A Enumclaw 86.18 19 *e*P P 05 13 50.7 +1.5
comp=Z,22nm,1.1s
NEW Newport 86.23 16 *e*P P 05 13 49.5 +0.1
comp=Z,26nm,1.3s
NEW Newport 86.23 16 *e*P P 05 13 49.5 +0.1
NEW pmax pmax
comp=Z,26nm,1.3s
NEW Newport 86.23 16 P P 05 13 49.4 -0.1
baz=343,SNR=13
E03A Lebam 86.39 21 PFAKE 05 14 00.0 +10
E03A LR LR
comp=Z,1µm,20.0s
LTY Liberty 86.43 18 *e*P P 05 13 50.8 +0.3
comp=Z,10.0nm,1.1s
C09A Chrisman Ranch 86.44 17 *e*P P 05 13 51.9 +1.5
comp=Z,23nm,0.8s
BATG Bathurst New B 86.53 342 *e*P P 05 13 51.0 +0.2
comp=Z,40nm,1.4s
ULM Lac du Bonnet 86.63 2 *e*P P 05 13 50.3 -0.9
comp=Z,16nm,0.9s
ULM Lac du Bonnet 86.63 2 *e*P P 05 13 50.3 -0.9
ULM pmax pmax
comp=Z,16nm,0.9s
ULM Lac du Bonnet 86.63 2 P P 05 13 49.4 -1.9
comp=Z,12nm,0.9s,baz=350,slow=4.4,SNR=21
ULM LR LR 05 55 23.7
comp=Z,613nm,19.9s,baz=5.0,slow=38
E04D Cinebar 86.63 20 P P 05 13 51.3 0.0
baz=339
LON Longmire 86.64 19 *e*P P 05 13 52.2 +0.8
comp=Z,5.7nm,0.9s
LON Longmire 86.64 19 P P 05 13 52.0 +0.5
DBIC Dimbokro 86.73 276 *e*P P 05 13 50.9 -1.5
comp=Z,64nm,1.2s
DBIC Dimbokro 86.73 276 P P 05 13 51.0 -1.4
DBIC Dimbokro 86.73 276 P P 05 13 51.0 -1.4
comp=Z,17nm,0.8s,baz=19,slow=6.5,SNR=23
DBIC LR LR 05 57 32.6
comp=Z,287nm,19.2s,baz=34,slow=39
DBIC Dimbokro 86.73 276 *e*P P 05 13 52.0 -0.4
LSQQ Lebel-sur-Quev 86.77 349 P P 05 13 51.3 -0.7
baz=12
KIC Kosan Boka 86.86 276 *e*P P 05 13 51.5 -1.5
comp=Z,108nm,1.0s
TIC Toumodi 86.87 276 *e*P P 05 13 51.5 -1.5
D08A Wollman Farm, 87.01 17 PFAKE 05 14 00.0 +6.8
D08A LR LR
comp=Z,1µm,18.0s
LIC Lamto 87.16 276 *e*P P 05 13 52.8 -1.6
comp=Z,94nm,1.0s
G03D McMinnville, O 87.71 21 P P 05 13 55.1 -1.5
baz=339
EGMT Eagleton 87.71 11 *e*P P 05 13 56.5 -0.2
comp=Z,40nm,1.4s
EGMT Eagleton 87.71 11 P P 05 13 55.8 -0.9
baz=348
LATQ La Tuque 87.77 346 P P 05 13 56.7 -0.1
baz=15,SNR=5.6
DGMT Dagmar 87.92 7 *e*P P 05 13 58.5 +0.9
comp=Z,68nm,1.1s
DGMT Dagmar 87.92 7 P P 05 13 57.5 -0.2
baz=352
G05D Wamic, OR 88.17 20 P P 05 13 57.4 -1.4
baz=340
MSO Missoula 88.21 14 *e*P P 05 13 59.0 -0.1
comp=Z,17nm,1.3s
MSO Missoula 88.21 14 P P 05 13 58.9 -0.2
baz=345,SNR=8.6
COR Corvallis 88.28 21 *e*P P 05 14 01.9 +2.6
comp=Z,23nm,0.8s
COR Corvallis 88.28 21 *e*P P 05 14 01.9 +2.6
COR pmax pmax
comp=Z,23nm,0.8s
G06A Carlson Farm, 88.34 19 *e*P P 05 14 01.5 +1.8
comp=Z,14nm,1.0s
LBTB Lobatse 88.34 233 *e*P P 05 13 59.9 +0.1
comp=Z,68nm,1.4s
LBTB Lobatse 88.34 233 *e*P P 05 13 59.9 +0.1
LBTB pmax pmax
comp=Z,68nm,1.4s
F10A Beach Ranch, E 88.40 17 *e*P P 05 14 01.2 +1.2
comp=Z,20nm,1.1s
H04A Detroit Lake 88.48 20 *e*P P 05 14 01.6 +1.2
comp=Z,21nm,1.0s
H04D Lebanon 88.49 21 P P 05 14 00.9 +0.6
baz=339,SNR=6.5
AGMN Agassiz Nation 88.58 2 *e*P P 05 13 59.8 -0.9
comp=Z,19nm,1.0s
AGMN Agassiz Nation 88.58 2 P P 05 13 59.6 -1.0
baz=358
D54A Lac Fusel, La 88.60 349 P P 05 13 59.9 -0.9
baz=12
G08A Pilot Rock 88.67 18 *e*P P 05 14 01.5 +0.2
comp=Z,5.3nm,1.0s
HRY Holter Researc 88.68 13 *e*P P 05 14 01.0 -0.4
MDND Maddock 88.88 4 P P 05 14 01.1 -1.1
baz=355
TSUM Tsumeb 88.92 242 *e*P P 05 14 02.9 +0.2
comp=Z,6.8nm,0.9s
C40A Isle Royale Na 88.93 357 *e*P P 05 14 01.6 -0.6
comp=Z,22nm,0.8s
C40A Isle Royale Na 88.93 357 P P 05 14 01.7 -0.6
baz=2.9,SNR=5.9
EYMN Ely 88.96 359 *e*P P 05 14 02.0 -0.4
comp=Z,18nm,0.8s
EYMN Ely 88.96 359 P P 05 14 01.7 -0.7
baz=1.2
D52A ZEK Kipawa Sen 89.00 350 P P 05 14 01.9 -0.8
baz=11
D51A Lot 18 Range I 89.01 351 P P 05 14 01.9 -0.8
baz=10.0
I05D Terrebonne, OR 89.01 20 P P 05 14 03.4 +0.5
baz=340,SNR=10
D49A Beulah Townshi 89.05 352 P P 05 14 01.2 -1.7
baz=8.5
I03D Drain, OR 89.10 21 P P 05 14 04.0 +0.9
baz=339,SNR=9.3
PKME Peaks-Kenny Pk 89.14 343 P P 05 14 02.7 -0.6
baz=17
TRQ Mont Tremblant 89.19 347 *e*P P 05 14 02.9 -0.8
D48A Paudash Townsh 89.19 352 P P 05 14 02.8 -0.8
baz=8.2
I04A Tendick Farm, 89.25 21 P P 05 14 04.2 +0.2
baz=339,SNR=9.9
E54A Lac Daplat, Po 89.37 349 P P 05 14 03.8 -0.6
baz=12
D47A Chapleau 89.42 353 P P 05 14 03.9 -0.8
baz=7.3
BMO Blue Mountains 89.45 17 *e*P P 05 14 04.5 -0.5
comp=Z,13nm,1.4s
BMO Blue Mountains 89.45 17 *e*P P 05 14 04.5 -0.5
BMO pmax pmax
comp=Z,13nm,1.4s
LAO LASA Array 89.48 9 P P 05 14 04.7 -0.3
baz=351
E53A Dumoine, Ponti 89.49 349 P P 05 14 04.6 -0.4
baz=11
E51A G1948 Merrick 89.57 351 P P 05 14 04.5 -0.9
baz=9.9
PINE Pine Mountain 89.62 20 *e*P P 05 14 07.7 +1.8
comp=Z,28nm,0.9s
D46A Sault St. Mari 89.67 354 P P 05 14 04.9 -0.9
baz=6.6
MOQ Mont Orford 89.67 345 *e*P P 05 14 06.5 +0.6
I07A Izee 89.69 19 *e*P P 05 14 06.6 +0.4
comp=Z,24nm,1.1s
D41A Chassel 89.76 357 *e*P P 05 14 05.7 -0.5
comp=Z,17nm,1.1s
D41A Chassel 89.76 357 P P 05 14 05.4 -0.8
baz=3.3
BOZ Bozeman (W) 89.80 13 *e*P P 05 14 06.4 -0.3
comp=Z,21nm,1.4s
BOZ Bozeman (W) 89.80 13 *e*P P 05 14 06.4 -0.3
BOZ pmax pmax
comp=Z,21nm,1.4s
BOZ Bozeman (W) 89.80 13 P P 05 14 06.2 -0.4
baz=347,SNR=13
ALFO Alfred 89.82 347 P P 05 14 06.3 -0.2
baz=13,SNR=8.0
E50A Wahnapitae 89.82 351 P P 05 14 06.0 -0.5
baz=9.0
J04D Umpqua Nationa 89.85 21 P P 05 14 07.8 +0.8
baz=339,SNR=12
DLMT Dillon 89.87 14 *e*P P 05 14 07.7 +0.8
comp=Z,11nm,0.9s
E48A Lockeyer 89.91 352 P P 05 14 06.0 -1.0
baz=8.0
GCMT Greycliff 89.91 12 *e*P P 05 14 07.1 -0.1
K02D Willamette Mer 89.94 22 P P 05 14 07.8 +0.5
baz=338
ALGO Algonquin Park 89.96 350 P P 05 14 05.9 -1.3
baz=11
J05D Fort Rock, OR 90.03 20 P P 05 14 08.8 +1.0
baz=340,SNR=15
E47A Iron Bridge 90.04 353 P P 05 14 06.9 -0.6
baz=7.2
ORIO Orleans, Innes 90.09 348 P P 05 14 06.9 -0.8
baz=13
PEMO Pembroke 90.12 349 P P 05 14 07.1 -0.9
baz=12
STKA Stephens Creek 90.13 136 *e*P P 05 14 06.6 -1.3
comp=Z,7.2nm,1.3s
STKA Stephens Creek 90.13 136 *e*P P 05 14 06.6 -1.3
STKA pmax pmax
comp=Z,7.0nm,1.3s
STKA Stephens Creek 90.13 136 P P 05 14 06.3 -1.7
comp=Z,10nm,0.5s,baz=332,slow=4.5,SNR=46
E46A Sault Ste Mari 90.21 354 P P 05 14 07.7 -0.6
baz=6.4
HUMO Hull Mountain 90.22 22 *e*P P 05 14 10.3 +1.8
comp=Z,14nm,0.8s
F51A Arnstein 90.22 351 P P 05 14 07.6 -0.8
baz=9.6
F52A Sundridge 90.28 350 P P 05 14 07.8 -0.9
baz=10.0
E45A Wooded Hills, 90.28 355 P P 05 14 07.5 -1.2
baz=5.8
E38A The Farm, Brul 90.30 359 *e*P P 05 14 07.7 -1.0
comp=Z,9.9nm,0.8s
E38A The Farm, Brul 90.30 359 P P 05 14 07.5 -1.3
baz=1.2,SNR=6.6
MCMT McKenzie Canyo 90.34 14 *e*P P 05 14 08.9 -0.4
E42A Champion 90.36 356 P P 05 14 08.0 -1.1
baz=3.8
E41A Kenton 90.37 357 P P 05 14 07.8 -1.3
baz=3.0
E43A Lone Tree Farm 90.37 356 P P 05 14 08.0 -1.1
baz=4.5
E40A Wakefield 90.42 358 P P 05 14 08.6 -0.8
baz=2.4,SNR=15
L02E Cave Junction 90.46 22 P P 05 14 08.4 -1.2
baz=338
G55A Calabogie 90.46 349 P P 05 14 08.9 -0.6
baz=12
E39A Mellen 90.51 358 P P 05 14 08.7 -1.0
baz=1.9,SNR=13
F49A Sandfield 90.61 352 P P 05 14 09.2 -1.0
baz=8.0
J08A Circle Bar Ran 90.62 18 *e*P P 05 14 11.3 +0.8
comp=Z,30nm,1.1s
J08A LR LR
comp=Z,800nm,18.0s
RLMT Red Lodge 90.62 11 *e*P P 05 14 11.0 +0.4
comp=Z,27nm,1.4s
RLMT Red Lodge 90.62 11 P P 05 14 10.2 -0.4
baz=348,SNR=7.1
BUKO Buck Lake 90.64 350 P P 05 14 09.2 -1.1
baz=9.9
LBNH Lisbon 90.65 345 P P 05 14 10.2 -0.2
baz=15
YHH Holmes Hill 90.71 13 *e*P P 05 14 11.5 +0.3
comp=Z,5.4nm,0.9s
PLVO Plevna 90.72 349 P P 05 14 10.1 -0.7
baz=12
F44A Big Bay de Noc 90.74 355 P P 05 14 09.8 -1.0
baz=4.9
LONY Lake Ozonia 90.75 347 *e*P P 05 14 10.3 -0.6
comp=Z,23nm,1.0s
LONY Lake Ozonia 90.75 347 P P 05 14 10.7 -0.2
baz=13,SNR=7.3
L04D Klamath Falls 90.75 21 P P 05 14 10.7 -0.4
baz=339,SNR=12
KLBO Killbear Provi 90.82 351 P P 05 14 10.8 -0.4
baz=9.3
G53A Haliburton 90.85 350 P P 05 14 10.5 -0.9
baz=10
BANO Bancroft 90.86 349 P P 05 14 11.0 -0.4
baz=11
F43A Flat Rock, Esc 90.93 356 P P 05 14 10.9 -0.8
baz=4.3
F38A Pierce - Schro 90.95 359 P P 05 14 11.3 -0.5
baz=0.9,SNR=8.9
F40A Park Falls 90.95 358 P P 05 14 10.7 -1.1
baz=2.2
F39A Loretta 90.98 358 P P 05 14 11.0 -1.0
baz=1.6,SNR=9.6
LKWY Lake 91.00 12 *e*P P 05 14 13.5 +1.1
comp=Z,24nm,0.7s
H56A Elgin 91.04 348 P P 05 14 11.2 -1.0
baz=12
YBH Yreka Blue Hor 91.10 22 *e*P P 05 14 13.8 +1.1
comp=Z,6.9nm,1.1s
F41A Three Lakes 91.10 357 *e*P P 05 14 12.1 -0.5
comp=Z,36nm,1.7s
F41A Three Lakes 91.10 357 P P 05 14 11.5 -1.0
baz=2.9
H17A Grant Village 91.14 12 P P 05 14 14.0 +0.9
baz=347,SNR=9.9
F37A Hinrichs Farm, 91.19 360 P P 05 14 12.3 -0.6
baz=0.4
H55A Tweed 91.22 349 P P 05 14 12.2 -0.9
baz=12
YPP Pitchstone Pla 91.22 13 *e*P P 05 14 15.3 +1.8
comp=Z,10nm,1.1s
HLID Hailey 91.28 15 *e*P P 05 14 13.4 -0.2
comp=Z,2.9nm,0.8s
HLID Hailey 91.28 15 P P 05 14 12.7 -0.9
baz=345
M04C Macdoel 91.28 21 P P 05 14 14.3 +0.7
baz=340,SNR=14
G46A Petoskey 91.29 354 P P 05 14 12.3 -1.1
baz=6.0
BOSA Boshof 91.29 231 P P 05 14 13.3 -0.3
comp=Z,1.6nm,0.5s,baz=36,slow=4.2,SNR=5.2
BOSA LR LR 05 57 50.0
comp=Z,261nm,18.9s,baz=22,slow=37
BOSA Boshof 91.29 231 *e*P P 05 14 13.2 -0.3
DELO Deloro Mine 91.31 349 P P 05 14 12.4 -1.1
baz=11
G47A Hillman 91.36 353 P P 05 14 12.8 -0.9
baz=6.7
M02C Callahan 91.38 22 P P 05 14 15.0 +1.0
baz=339,SNR=6.7
FLWY Flagg Ranch 91.42 13 *e*P P 05 14 15.2 +0.9
comp=Z,14nm,0.9s
WVOR Wild Horse Val 91.46 19 *e*P P 05 14 14.8 +0.4
comp=Z,16nm,1.0s
WVOR Wild Horse Val 91.46 19 *e*P P 05 14 14.8 +0.4
WVOR pmax pmax
comp=Z,16nm,1.0s
G43A Wallace 91.53 356 P P 05 14 13.2 -1.2
baz=4.0
MOD Modoc Plateau 91.56 20 *e*P P 05 14 15.5 +0.6
comp=Z,8.3nm,0.9s
IMW Indian Meadow 91.57 13 *e*P P 05 14 15.9 +0.8
comp=Z,13nm,1.1s
G42A Mountain 91.57 357 P P 05 14 13.9 -0.8
baz=3.4
G40A Rib Lake 91.61 358 *e*P P 05 14 14.3 -0.6
comp=Z,29nm,1.7s
G40A Rib Lake 91.61 358 P P 05 14 14.0 -0.9
baz=2.1
G39A Holcombe 91.61 359 P P 05 14 13.8 -1.1
baz=1.4
G45A Suttons Bay 91.62 355 P P 05 14 13.9 -1.0
baz=5.4
G41A Antigo 91.63 357 P P 05 14 14.0 -1.0
baz=2.9
BMRO Merriville Lake 91.68 352 P P 05 14 14.2 -1.0
baz=8.6
SPMN Marine on St. 91.69 360 P P 05 14 14.2 -1.0
baz=0.2
G38A Ridgeland 91.74 359 P P 05 14 14.5 -1.0
baz=0.9
MOOW Moose Ponds 91.74 13 *e*P P 05 14 16.2 +0.4
comp=Z,36nm,2.0s
GLMI Grayling 91.76 354 P P 05 14 14.6 -1.0
baz=6.2
H48A Harrisville 91.78 353 P P 05 14 14.9 -0.8
baz=7.1
ACCN Adirondack Com 91.80 346 *e*P P 05 14 16.2 +0.4
comp=Z,15nm,0.9s
PECO Prince Edward 91.80 348 P P 05 14 15.0 -0.8
baz=12
FXWY Fox Creek 91.80 13 *e*P P 05 14 16.8 +0.6
comp=Z,11nm,1.4s
LOHW Long Hollow 91.90 13 *e*P P 05 14 16.6 +0.1
comp=Z,4.3nm,0.9s
H47A Mio 91.96 354 P P 05 14 15.5 -1.0
baz=6.5
TPAW Teton Pass 91.96 13 *e*P P 05 14 18.4 +1.5
comp=Z,25nm,1.8s
WLVO Wesleyville 92.00 349 P P 05 14 15.8 -0.9
baz=11
PKRO Pickering 92.05 350 P P 05 14 16.8 -0.1
baz=10
H45A Beulah 92.06 355 P P 05 14 16.1 -0.9
baz=5.2
I52A Shelburne 92.08 351 P P 05 14 15.8 -1.3
baz=9.4
H46A Fife Lake 92.09 354 P P 05 14 16.4 -0.7
baz=5.8
H39A Augusta 92.22 359 P P 05 14 17.4 -0.3
baz=1.4
H38A Maiden Rock 92.24 359 P P 05 14 16.9 -0.9
baz=0.6
RSSD Black Hills 92.25 8 *e*P P 05 14 18.0 -0.2
comp=Z,12nm,0.7s
RSSD Black Hills 92.25 8 *e*P P 05 14 18.0 -0.2
RSSD pmax pmax
comp=Z,12nm,0.7s
RSSD Black Hills 92.25 8 P P 05 14 17.9 -0.2
baz=352
HRV Adam Dziewonsk 92.25 344 P P 05 14 17.4 -0.5
baz=16
H40A Chili 92.26 358 P P 05 14 17.3 -0.6
baz=2.0
SUSD Miller 92.31 4 P P 05 14 17.8 -0.3
baz=356
I51A Listowel 92.44 351 P P 05 14 18.2 -0.6
baz=8.8
I49A Point Hope 92.49 353 P P 05 14 18.7 -0.2
baz=7.5
O02D Mt. Diablo Mer 92.53 22 P P 05 14 19.6 +0.3
baz=339
I47A Gladwin 92.56 354 P P 05 14 18.8 -0.5
baz=6.3
J55A Hilton 92.57 349 P P 05 14 18.9 -0.4
baz=11
O03E Paynes Creek 92.68 22 P P 05 14 19.4 -0.7
baz=340
I46A Reed City 92.70 354 P P 05 14 19.5 -0.5
baz=5.6
I41A Arkdale 92.81 358 P P 05 14 19.1 -1.4
baz=2.4
BW06 Boulder Array 92.89 12 *e*P P 05 14 21.0 -0.1
comp=Z,9.4nm,1.5s
BW06 Boulder Array 92.89 12 P P 05 14 19.4 -1.7
baz=348
PD31 Pinedale Array 92.89 12 *e*P P 05 14 20.6 -0.5
comp=Z,9.9nm,1.6s
PDAR Pinedale Array 92.89 12 *e*P P 05 14 20.8 -0.3
PDAR Pinedale Array 92.89 12 P P 05 14 20.2 -0.9
comp=Z,2.1nm,0.7s,baz=37,slow=3.0,SNR=22
PDAR LR LR 05 57 47.8

comp=Z,884nm,21.6s,baz=12,slow=37
I43A **Langenfeld Bro** 92.92 356 P P 05 14 19.8 -1.1
baz=3.6
J52A **Paris** 92.93 351 P P 05 14 19.9 -1.2
baz=9.2
I42A **Draeger Farm,** 92.94 357 eP P 05 14 20.1 -0.9
comp=Z,13nm,0.9s
I42A **Draeger Farm,** 92.94 357 P P 05 14 20.2 -0.8
baz=3.1
I40A **Norwalk** 92.99 358 P P 05 14 20.4 -0.9
baz=1.8
TYNO **Tyneside** 93.01 350 P P 05 14 20.4 -0.9
baz=9.6
I39A **Houston** 93.05 359 eP P 05 14 21.3 -0.3
comp=Z,28nm,1.4s
I39A **Houston** 93.05 359 P P 05 14 20.6 -0.9
baz=1.2
ELFO **Elginfield** 93.08 351 P P 05 14 21.1 -0.6
baz=8.6
J49A **Marlette** 93.09 353 P P 05 14 20.1 -1.6
baz=7.3
MMNY **Mt. Morris Dam** 93.11 349 eP P 05 14 21.8 0.0
comp=Z,17nm,0.9s
ECSD **EROS Data Cent** 93.12 3 eP P 05 14 21.3 -0.6
comp=Z,14nm,0.9s
ECSD **EROS Data Cent** 93.12 3 P P 05 14 21.5 -0.4
baz=358,SNR=14
K55A **Perry** 93.13 349 P P 05 14 21.3 -0.6
baz=11
J45A **Montague** 93.27 355 P P 05 14 22.0 -0.6
baz=4.9
HVU **Hansel Valley** 93.31 15 P P 05 14 23.4 +0.4
J46A **Howard City** 93.31 355 P P 05 14 22.0 -0.7
baz=5.5
BINY **Binghamton** 93.34 347 P P 05 14 22.2 -0.8
baz=12
J47A **Sunmer** 93.36 354 P P 05 14 21.8 -1.2
baz=6.0
K52A **Tillsonburg** 93.42 351 P P 05 14 22.9 -0.4
baz=9.0
K22A **Casper** 93.42 10 eP P 05 14 23.4 -0.1
comp=Z,7.8nm,0.8s
K22A **Casper** 93.42 10 P P 05 14 22.6 -0.9
baz=350,SNR=5.2
J43A **Natural Harves** 93.43 357 P P 05 14 22.5 -0.8
baz=3.4
BEKR **Beckworth** 93.46 21 eP P 05 14 23.7 0.0
comp=Z,6.1nm,0.9s
BEKR LR LR
comp=Z,700nm,22.0s
J40A **Soldiers Grove** 93.49 358 P P 05 14 22.1 -1.5
baz=1.8
J41A **Loganville** 93.50 358 P P 05 14 23.1 -0.6
baz=2.3
K51A **Iona Station** 93.56 351 P P 05 14 22.8 -1.2
baz=8.4
J39A **Decorah** 93.57 359 P P 05 14 22.9 -1.0
baz=1.1
HWUT **Hardware Ranch** 93.69 14 eP P 05 14 25.3 +0.5
comp=Z,12nm,0.8s
K49A **Clarkson** 93.69 353 P P 05 14 23.2 -1.3
baz=7.0
L55A **Hinsdale** 93.72 349 P P 05 14 24.1 -0.6
baz=11
K48A **Perry** 93.73 353 P P 05 14 23.9 -0.8
baz=6.5
ELK **Elko** 93.82 17 eP P 05 14 26.1 +0.6
comp=Z,9.5nm,1.2s
SPUT **South Promonto** 93.82 14 eP P 05 14 26.1 +0.7
comp=Z,13nm,1.2s
K47A **Vermontville** 93.94 354 P P 05 14 24.9 -0.7
baz=5.9
JFWS **Jewell Farm** 93.96 358 eP P 05 14 25.0 -0.8
comp=Z,19nm,0.8s
JFWS **Jewell Farm** 93.96 358 eP P 05 14 25.0 -0.8
JFWS pmax pmax
comp=Z,19nm,0.8s
JFWS **Jewell Farm** 93.96 358 P P 05 14 24.9 -0.8
baz=2.1
K46A **Dorr** 93.98 355 P P 05 14 24.9 -0.9
baz=5.3
K42A **Prairie Point,** 94.07 357 P P 05 14 25.2 -1.1
baz=2.8
K43A **Burlington** 94.10 356 eP P 05 14 25.7 -0.7
comp=Z,10nm,0.8s
K43A **Burlington** 94.10 356 P P 05 14 25.2 -1.2
baz=3.5
PAL **Palisades** 94.14 346 P P 05 14 25.4 -1.2
baz=14
L53A **Girard** 94.18 350 P P 05 14 25.1 -1.7
baz=9.3
AAM **Ann Arbor** 94.19 353 PFAKE 05 14 40.0 +13
AAM LR LR
comp=Z,2µm,20.0s
K39A **Oelwein** 94.20 359 P P 05 14 25.6 -1.3
baz=0.9
K41A **Shullsburg** 94.27 358 P P 05 14 26.0 -1.2
baz=2.1
L50A **Kingsville** 94.37 352 P P 05 14 26.5 -1.1
baz=7.5,SNR=6.0
PNTR **Pine Nut** 94.39 20 eP P 05 14 28.6 +0.5
comp=Z,7.8nm,0.8s
L49A **Milan** 94.39 353 P P 05 14 26.4 -1.3
baz=6.8
M55A **Ridgway** 94.46 349 P P 05 14 27.1 -1.0
baz=10
M54A **Oil Creek Stat** 94.54 350 eP P 05 14 27.9 -0.6
comp=Z,20nm,0.7s
M54A **Oil Creek Stat** 94.54 350 P P 05 14 27.5 -1.0
baz=9.8,SNR=7.4
CTU **Camp Tracy** 94.55 14 PFAKE 05 14 40.0 +11
CTU LR LR
comp=Z,1µm,19.0s
N59A **State Game Lan** 94.55 347 P P 05 14 27.4 -1.1
baz=13
L48A **N Adams** 94.61 354 P P 05 14 27.6 -1.2
baz=6.3
L43A **Garden Prairie** 94.64 357 P P 05 14 27.7 -1.2
baz=3.2
PLIO **Pelee Island,** 94.64 352 P P 05 14 27.8 -1.1
baz=7.6
L47A **Sherwood** 94.64 354 P P 05 14 27.7 -1.2
baz=5.8,SNR=6.4
L46A **Eue Claire** 94.68 355 P P 05 14 28.2 -0.8
baz=5.0
JLU **Jordanelle** 94.69 14 eP P 05 14 29.8 +0.4
comp=Z,15nm,1.8s
M52A **Chesterland** 94.71 351 P P 05 14 28.6 -0.7
baz=8.6,SNR=5.5
M53A **WI Miller and** 94.73 351 P P 05 14 28.2 -1.1
baz=9.1
L39A **Vinton** 94.78 359 P P 05 14 28.1 -1.4
baz=0.8
KVN **Kaiserville** 94.80 19 eP P 05 14 30.2 +0.3
comp=Z,4.8nm,0.9s
KVN **Kaiserville** 94.80 19 P P 05 14 30.2 +0.3
L41A **Preston** 94.81 358 P P 05 14 28.4 -1.2
baz=1.9
L40A **Anamosa** 94.83 359 P P 05 14 28.6 -1.2
baz=1.4
DUG **Dugway, Tooele** 94.83 15 eP P 05 14 30.0 0.0
comp=Z,8.6nm,0.9s
DUG LR LR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 94.83 15 eP P 05 14 30.0 0.0
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG **Dugway, Tooele** 94.83 15 P P 05 14 30.1 +0.1
baz=346,SNR=11
L42A **Oliver, Polo** 94.85 357 eP P 05 14 29.0 -0.9
comp=Z,13nm,0.8s
L42A **Oliver, Polo** 94.85 357 P P 05 14 28.5 -1.3
baz=2.5
PHWY **Pilot Hill** 94.88 9 eP P 05 14 30.1 -0.3
comp=Z,11nm,1.0s
M51A **Elyria** 95.01 352 P P 05 14 29.7 -0.9
baz=8.0
M49A **Liberty Center** 95.04 353 P P 05 14 29.9 -0.9
baz=6.7
N54A **Moraine State** 95.12 350 P P 05 14 30.1 -1.0
baz=9.6
MWH **Moku'aweowe** 95.16 57 PFAKE 05 14 40.0 +7.7
MWH LR LR
comp=Z,1µm,18.0s
SSPA **Standing Stone** 95.16 348 P P 05 14 30.5 -0.8
baz=11
N55A **Marion Center** 95.17 349 P P 05 14 30.6 -0.8
baz=10
NLU **North Lily Min** 95.20 15 eP P 05 14 32.9 +1.0
comp=Z,7.8nm,1.1s
N23A **Red Feather La** 95.22 10 eP P 05 14 32.8 +0.9
comp=Z,6.9nm,0.9s
M47A **Cromwell** 95.28 354 P P 05 14 31.1 -0.8
baz=5.5
M46A **Old House Fiel** 95.29 355 P P 05 14 31.3 -0.5
baz=5.0
NV01 **Mina Array Sit** 95.34 20 eP P 05 14 32.2 -0.2
NVAR **Mina Array Bea** 95.34 20 P P 05 14 32.7 +0.3
comp=Z,4.1nm,0.9s,baz=344,slow=4.4,SNR=20
NVAR LR LR 06 02 08.0
comp=Z,436nm,18.0s,baz=344,slow=38
M45A **Boilermakers S** 95.36 356 P P 05 14 31.7 -0.5
baz=4.3
N53A **Lisbon** 95.38 351 P P 05 14 31.5 -0.8
baz=8.9
BGNE **Belgrade** 95.38 4 P P 05 14 31.8 -0.6
baz=356
M43A **Waltham Townsh** 95.39 357 P P 05 14 31.1 -1.2
baz=3.0
WRMHI **West Rim** 95.40 57 PFAKE 05 14 40.0 +7.1
WRMHI LR LR
comp=Z,1µm,22.0s
M44A **Midewin, Midew** 95.40 356 P P 05 14 31.4 -1.0
baz=3.7
NPH **North Pit** 95.41 57 PFAKE 05 14 40.0 +7.1
NPH LR LR
comp=Z,2µm,21.0s
SDHHI **Sand Hill** 95.42 57 PFAKE 05 14 40.0 +7.0
SDHHI LR LR
comp=Z,1µm,22.0s
KKO **Keanakako`i** 95.43 57 PFAKE 05 14 40.0 +7.0
KKO LR LR
comp=Z,700nm,18.0s
M39A **Webster** 95.43 359 P P 05 14 31.6 -0.9
baz=0.7
N51A **Ashland** 95.44 352 P P 05 14 31.3 -1.2
baz=7.8
N52A **McGinn's Farm,** 95.47 351 P P 05 14 31.2 -1.5
baz=8.3
M41A **Milan** 95.51 358 P P 05 14 31.6 -1.2
baz=1.9
OGNE **Ogallala** 95.58 7 P P 05 14 32.6 -0.7
baz=354
N49A **Columbus Grove** 95.61 353 eP P 05 14 31.9 -1.4
comp=Z,20nm,0.8s
N49A **Columbus Grove** 95.61 353 P P 05 14 32.3 -1.1
baz=6.5,SNR=6.2
O56A **Blue Knob Stat** 95.61 349 eP P 05 14 33.6 +0.2
comp=Z,13nm,0.9s
O56A **Blue Knob Stat** 95.61 349 P P 05 14 32.5 -1.0
baz=11
O20A **White River Ci** 95.66 12 P P 05 14 32.1 -1.8
baz=349
N50A **Nevada** 95.66 352 P P 05 14 32.6 -1.0
baz=7.3,SNR=6.3
N48A **Decatur** 95.74 354 P P 05 14 32.8 -1.1
baz=5.9
N47A **Urbana** 95.77 354 P P 05 14 33.0 -1.1
baz=5.4,SNR=5.9
O55A **Ligonier** 95.78 349 P P 05 14 32.8 -1.4
baz=10
N46A **Monticello** 95.82 355 P P 05 14 33.4 -0.9
baz=4.7,SNR=10
P17A **Butcher Ranch,** 95.91 14 PFAKE 05 14 50.0 +15
P17A LR LR
comp=Z,1µm,18.0s
N45A **Kentland** 95.91 356 P P 05 14 34.1 -0.6
baz=4.1,SNR=5.5
O54A **Avella** 95.94 350 P P 05 14 33.7 -1.1
baz=9.3
O53A **New Philadelph** 95.97 351 P P 05 14 34.0 -1.0
baz=8.7
N44A **Piper City** 96.00 356 P P 05 14 33.9 -1.2
baz=3.7
N42A **Yates City** 96.04 358 P P 05 14 34.1 -1.2
baz=2.3
R11A **Troy Canyon, C** 96.05 18 eP P 05 14 36.1 +0.4
comp=Z,2.9nm,0.8s
R11A **Troy Canyon, C** 96.05 18 P P 05 14 35.8 +0.2
baz=344,SNR=7.3
O52A **Adamsville** 96.17 351 P P 05 14 34.3 -1.6
baz=8.2
ACSO **Alum Creek Sta** 96.18 352 eP P 05 14 35.4 -0.5
comp=Z,13nm,0.8s
ACSO **Alum Creek Sta** 96.18 352 P P 05 14 34.7 -1.3
baz=7.4
N41A **Harden Midland** 96.18 358 P P 05 14 34.6 -1.3
baz=1.7
O51A **Pataskala** 96.23 352 P P 05 14 34.9 -1.2
baz=7.7,SNR=5.4
PSUT **Pine Spring** 96.23 16 PFAKE 05 14 50.0 +13
PSUT LR LR
comp=Z,700nm,22.0s
HDIL **Hopedale** 96.28 357 P P 05 14 34.7 -1.7
baz=2.8
O50A **Cable** 96.32 353 P P 05 14 35.7 -0.9
baz=6.9,SNR=9.3
ISCO **Idaho Springs** 96.34 10 eP P 05 14 37.6 +0.5
comp=Z,5.0nm,0.9s
ISCO **Idaho Springs** 96.34 10 eP P 05 14 37.6 +0.5
ISCO pmax pmax
comp=Z,5.0nm,0.9s
ISCO **Idaho Springs** 96.34 10 P P 05 14 36.3 -0.8
baz=351
O48A **Farmland** 96.35 354 P P 05 14 35.1 -1.6
baz=5.8
O49A **Covington** 96.35 353 eP P 05 14 36.0 -0.7
comp=Z,25nm,0.8s
O49A **Covington** 96.35 353 P P 05 14 35.6 -1.2
baz=6.4,SNR=9.1
MCWV **Mont Chateau** 96.39 350 P P 05 14 35.8 -1.1
baz=9.7
O47A **Sheridan** 96.44 355 P P 05 14 35.8 -1.4
baz=5.1
P54A **Burton** 96.52 350 P P 05 14 36.7 -0.8
baz=9.2,SNR=6.4
P55A **Reedsville** 96.53 350 P P 05 14 36.2 -1.4
baz=9.7
O43A **Sugar Creek Fa** 96.56 357 P P 05 14 36.4 -1.2
baz=2.8
MSU **Marysvale** 96.58 15 eP P 05 14 39.0 +0.9
MSU **Marysvale** 96.58 15 eP P 05 14 39.0 +0.9
O44A **Mansfield** 96.65 356 P P 05 14 36.9 -1.1
baz=3.4
P52A **Corning** 96.68 351 P P 05 14 36.7 -1.5
baz=8.0
P53A **Whipple** 96.75 351 P P 05 14 37.3 -1.3
baz=8.6
O41A **Passleys Farm,** 96.77 358 P P 05 14 37.3 -1.3
baz=1.7,SNR=7.3
SMCO **Snowmass** 96.78 11 eP P 05 14 39.6 +0.4
comp=Z,3.9nm,1.0s
P50A **Jamestown** 96.88 353 P P 05 14 37.9 -1.2
baz=6.8,SNR=6.2
P51A **Williamsport** 96.93 352 P P 05 14 38.2 -1.2
baz=7.4
P46A **Rosedale** 97.12 355 P P 05 14 39.6 -0.6
baz=4.3,SNR=5.4
P48A **Milroy** 97.16 354 P P 05 14 39.2 -1.2
baz=5.6,SNR=5.6
Q54A **Coxs Mills** 97.18 350 P P 05 14 39.8 -0.7
baz=9.0
P47A **Martinsville** 97.19 355 P P 05 14 39.3 -1.3
baz=5.0
P43A **Skaggs, Pawnee** 97.21 357 P P 05 14 39.2 -1.4
baz=2.6,SNR=6.7
P41A **Barry, Barry** 97.22 358 P P 05 14 39.5 -1.1
baz=1.5
Q24A **Divide** 97.22 9 P P 05 14 39.2 -1.9
baz=351
P45A **Graceland, Par** 97.24 356 eP P 05 14 40.7 -0.1
comp=Z,15nm,0.8s
P45A **Graceland, Par** 97.24 356 P P 05 14 40.1 -0.6
baz=4.0,SNR=5.5
P42A **Winchester** 97.29 358 eP P 05 14 40.4 -0.5
comp=Z,13nm,0.8s
P42A **Winchester** 97.29 358 P P 05 14 39.8 -1.2
baz=2.0,SNR=5.6
P44A **Sand Creek, Wi** 97.34 357 P P 05 14 39.5 -1.7
baz=3.3
Q52A **Bidwell** 97.36 352 P P 05 14 39.8 -1.5
baz=7.9
Q53A **Leroy** 97.38 351 P P 05 14 40.8 -0.6
baz=8.5
Q51A **Peebles** 97.41 352 P P 05 14 40.8 -0.7
baz=7.2
KSCO **Kaye Shedlock'** 97.45 7 P P 05 14 41.4 -0.5
baz=353
Q48A **North Vernon** 97.71 354 P P 05 14 42.1 -0.7
baz=5.4
KSU1 **Kansas State U** 97.75 3 P P 05 14 42.5 -0.6
baz=355
Q47A **Bedord North L** 97.75 355 P P 05 14 42.7 -0.4
baz=4.9
CBKS **Cedar Bluff** 97.88 5 P P 05 14 42.6 -1.1
baz=355
Q45A **Warren Harvey,** 97.89 356 P P 05 14 43.3 -0.4
baz=3.7
SHPR **Sheep Range** 97.91 18 PFAKE 05 15 00.0 +16
SHPR LR LR
comp=Z,1µm,18.0s
Q43A **New Douglas** 97.91 357 P P 05 14 42.0 -1.7
baz=2.5
Q44A **Meyer Farm, Va** 97.92 357 P P 05 14 42.0 -1.9
baz=3.0
Q41A **Truxton** 97.94 359 P P 05 14 42.8 -1.1
baz=1.4
Q42A **Golden Eagle** 97.96 358 P P 05 14 43.2 -0.8
baz=1.9
S22A **4UR Ranch, Cre** 98.21 11 eP Pdif 05 14 46.6 +1.1
comp=Z,13nm,1.7s
S22A **4UR Ranch, Cre** 98.21 11 P P 05 14 45.0 -0.5
baz=350
R48A **Northridge Ran** 98.25 354 P P 05 14 45.0 -0.3
baz=5.3
R49A **Shelbyville** 98.30 354 P P 05 14 44.7 -0.9
baz=5.8
SDCO **Great Sand Dun** 98.38 10 eP Pdif 05 14 46.6 +0.2
comp=Z,4.0nm,0.9s
SDCO **Great Sand Dun** 98.38 10 P P 05 14 45.9 -0.4
baz=351,SNR=8.7
R47A **Wooly Knot Far** 98.39 355 P P 05 14 44.9 -1.1
baz=4.8
T60A **Surry** 98.40 347 P P 05 14 45.2 -0.7
baz=12
WCI **Wyandotte Cave** 98.44 355 P P 05 14 45.6 -0.6
baz=5.0
R45A **Skylar, Fairfi** 98.50 356 P P 05 14 45.7 -0.7
baz=3.6
R44A **Waltonville** 98.58 357 P P 05 14 46.1 -0.6
baz=3.0
U15A **North Rim** 98.58 16 PFAKE 05 15 00.0 +13
U15A LR LR
comp=Z,900nm,18.0s
R41A **Rosebud** 98.60 359 P P 05 14 46.0 -0.9
baz=1.3
R42A **Luebbering** 98.60 358 P P 05 14 46.1 -0.8
baz=1.7
T59A **Double "B" Far** 98.70 347 P P 05 14 46.1 -1.2
baz=11
S51A **Beattyville** 98.81 352 P P 05 14 46.8 -1.0
baz=7.0
S48A **Wiedeman Farm,** 99.00 354 P P 05 14 47.8 -0.9
baz=5.2
T56A **Rocky Mt** 99.00 349 P Pdif 05 14 47.1 -1.6
baz=9.6
T55A **Pulaski** 99.01 350 P Pdif 05 14 46.9 -1.9
baz=9.1
S42A **Caledonia** 99.11 358 P Pdif 05 14 47.9 -1.3
baz=1.7
T25A **Trinidad** 99.11 9 eP Pdif 05 14 49.6 +0.1
comp=Z,4.1nm,0.8s
T25A **Trinidad** 99.11 9 P Pdif 05 14 48.8 -0.7
baz=352
S45A **Carrier Mills** 99.13 356 P Pdif 05 14 47.8 -1.5
baz=3.4
T54A **Tazewell** 99.16 351 P Pdif 05 14 48.0 -1.6
baz=8.5
S41A **Jillco Farms,** 99.31 359 P Pdif 05 14 49.0 -1.1
baz=1.0,SNR=5.8
T51A **Gray** 99.51 353 P Pdif 05 14 49.9 -1.1
baz=6.8
T48A **Bowling Green** 99.57 355 P Pdif 05 14 50.8 -0.5
baz=5.0
U55A **TA2, Sparta** 99.65 350 P Pdif 05 14 50.8 -0.9
baz=8.9
T43A **Greenville** 99.78 358 P Pdif 05 14 51.5 -0.7
baz=2.1
U50A **Jamestown** 100.14 353 P Pdif 05 14 53.1 -0.7
baz=6.1
U48A **Cassie Pea, Po** 100.17 355 P Pdif 05 14 53.0 -0.9
baz=4.9
V56A **Mocksville** 100.26 350 P Pdif 05 14 53.8 -0.6
baz=9.3
U47A **Clarksville** 100.29 355 P Pdif 05 14 53.4 -1.0
baz=4.3
U40A **Yellville** 100.55 360 P Pdif 05 14 54.7 -0.9
baz=0.2
U41A **Viola** 100.55 359 P Pdif 05 14 54.7 -0.9
baz=0.9
V52A **Sevierville** 100.59 352 P Pdif 05 14 54.9 -1.0
baz=7.0
WVT **Waverly** 100.63 356 PFAKE 05 15 10.0 +14
WVT LR LR
comp=Z,1µm,21.0s
V53A **Saluda** 100.68 351 P Pdif 05 14 55.5 -0.8
baz=7.6
V51A **Loudon** 100.70 353 P Pdif 05 14 55.2 -1.1
baz=6.5
TKL **Tuckaleechee C** 100.79 352 P Pdif 05 14 56.5 -0.2
comp=Z,3.1nm,0.9s,baz=125,slow=3.8,SNR=4.3
V47A **Nunnelly** 100.91 355 P Pdif 05 14 56.6 -0.6
baz=4.2
V46A **Holladay** 100.97 356 P Pdif 05 14 56.9 -0.6
baz=3.7
ANMO **Albuquerque** 101.01 11 P Pdif 05 14 58.1 +0.1
baz=350
ANMO **Albuquerque** 101.01 11 P Pdif 05 14 59.3 +1.4
comp=Z,1.8nm,0.6s,baz=345,slow=3.7,SNR=9.2
TASM **ASL Pad, Albuq** 101.01 11 P Pdif 05 14 58.2 +0.2
baz=350
TASM **ASL Pad, Albuq** 101.01 11 P Pdif 05 14 58.2 +0.2
baz=350
X60A **Albert Glenn T** 101.11 347 P Pdif 05 14 57.4 -0.7
baz=11
W54A **Cherokee Point** 101.19 351 P Pdif 05 14 57.7 -0.7
baz=8.1
W41B **Gary Mavity, V** 101.72 359 P Pdif 05 14 59.7 -1.2
baz=0.7
X54A **Belton** 101.74 351 P Pdif 05 14 60.0 -1.0
baz=8.0
X52A **Dahlonega** 101.84 352 P Pdif 05 15 00.4 -1.0
baz=6.8
X53A **Estanollee** 101.88 352 P Pdif 05 15 00.6 -1.0
baz=7.3
Z57A **Bowman** 102.76 349 P Pdif 05 15 03.7 -1.8
baz=9.2
MNTX **Cornudas Mount** 104.35 11 PFAKE 05 15 20.0 +7.3
MNTX LR LR
comp=Z,1µm,20.0s
250A **Grady** 104.66 354 PFAKE 05 15 30.0 +16
250A LR LR
comp=Z,2µm,21.0s
352A **Blakely** 105.04 353 PFAKE 05 19 40.0 +10
352A LR LR
comp=Z,2µm,21.0s
451A **Vernon** 105.97 353 PFAKE 05 19 40.0 +8.1
451A LR LR
comp=Z,2µm,19.0s
DWPF **Disney Wildern** 107.97 349 PFAKE 05 19 50.0 +14
DWPF LR LR
comp=Z,1µm,19.0s
061Z **Ochoppi** 110.10 348 PFAKE 05 19 50.0 +10
061Z LR LR
comp=Z,700nm,19.0s
LNIG **Linares** 111.72 6 PFAKE 05 19 50.0 +7.1
LNIG LR LR
comp=Z,900nm,18.0s
SMRT **St. Maarten** 112.86 329 PFAKE 05 20 00.0 +15
SMRT LR LR
comp=Z,700nm,20.0s
RAO **Raoul Island** 113.00 109 PFAKE 05 20 00.0 +15
RAO LR LR
comp=Z,5µm,21.0s
STVI **Saint Thomas** 113.28 331 PFAKE 05 20 00.0 +14
STVI LR LR
comp=Z,700nm,19.0s
SEUS **St. Eustatius** 113.34 329 PFAKE 05 20 00.0 +14
SEUS LR LR
comp=Z,600nm,21.0s
MPR **Mayaguez** 114.16 333 PFAKE 05 20 00.0 +12
MPR LR LR

comp=Z,1µm,21.0s
OXZ **Oxford** **115.07 127** PFAKE 05 20 00.0 +11
OXZ LR LR
comp=Z,3µm,18.0s
FDF **Fort de France** **115.11 326** PFAKE 05 20 00.0 +10
FDF LR LR
comp=Z,700nm,18.0s
MYIG **Mrida** **115.82 357** PFAKE 05 20 00.0 +9.2
MYIG LR LR
comp=Z,1µm,20.0s
TEIG **Tepich** **116.46 355** PFAKE 05 20 00.0 +7.9
TEIG LR LR
comp=Z,900nm,21.0s
SYO **Syowa Base** **117.49 197**⇑ *e*Pdiff **Pdif** **05 16 11.0 +1.2**
CCIG **Comitan** **120.54 359** PFAKE 05 20 10.0 +10
CCIG LR LR
comp=Z,1µm,20.0s
TGUH **Tegucigalpa,Un** **122.51 353** PFAKE 05 20 20.0 +16
TGUH LR LR
comp=Z,700nm,22.0s
CSGN **Cosiguina Volc** **123.60 354** PFAKE 05 20 20.0 +14
CSGN LR LR
comp=Z,300nm,19.0s
ESPN **Las Esperanzas** **124.02 350** PFAKE 05 20 20.0 +13
ESPN LR LR
comp=Z,800nm,21.0s
PPT2 **Papeete2** **126.12 80** *e*LR LR 05 59 44.5
comp=Z,265nm,23.0s
TAOE **Nuku Hiva Isla** **126.52 64** *e*LR LR 06 00 00.5
comp=Z,292nm,24.1s
PTGA **Pitinga** **128.19 316** PFAKE 05 20 30.0 +15
PTGA LR LR
comp=Z,600nm,21.0s
PTGA **Pitinga** **128.19 316** *e*P **PKiKP** **05 20 15.1 -0.2**
VNDA **Vanda** **128.90 164** PKP **PKPdf** **05 20 13.6 -0.5**
comp=Z,1.8nm,1.0s,baz=222,slow=2.0,SNR=4.2
ROSC **El Rosal** **129.00 336** PFAKE 05 20 30.0 +13
ROSC LR LR
comp=Z,200nm,18.0s
ROSC **El Rosal** **129.00 336** PKP **PKPdf** **05 20 17.0 +0.2**
comp=Z,9.9nm,0.8s,baz=152,slow=5.4,SNR=14
JANB **Januaria** **129.82 289** *e*P **PKPdf** **05 20 17.4 -0.3**
SNAA **Sanae** **130.49 205** *e*PKPdf **PKPdf** **05 20 17.4 +0.1**
SNAA **Sanae** **130.49 205** *e*PKIKP **PKPdf** **05 20 17.4 +0.1**
BDFB **Brasilia** **132.76 292** SKPbc **SKPbc** **05 23 47.5 -1.3**
comp=Z,6.4nm,0.9s,baz=93,slow=3.8,SNR=6.2
QSPA **South Pole Qui** **133.24 180** *e*PKPdf **PKPdf** **05 20 21.1 -1.5**
QSPA **South Pole Qui** **133.24 180** PKP **PKPdf** **05 20 20.9 -1.7**
comp=Z,3.4nm,0.8s,baz=229,slow=1.8,SNR=8.0
QSPA SKPbc **SKPbc** **05 23 46.7 -2.1**
comp=Z,5.9nm,1.0s,baz=266,slow=1.5,SNR=4.0
AQDB **Aquidauana** **141.32 294** *e*P **PKPdf** **05 20 40.3 +1.4**
LPAZ **La Paz** **145.58 314** *e*PKPdf **PKPdf** **05 20 45.7 -1.6**
LPAZ **La Paz** **145.58 314** *e*PKIKP **PKPdf** **05 20 45.7 -1.6**
LPAZ **La Paz** **145.58 314** PKPbc **PKPdf** **05 20 46.1 -1.2**
comp=Z,20nm,0.9s,baz=18,slow=2.3,SNR=62
LPAZ SKP 05 24 22.8
comp=Z,3.0nm,0.8s,baz=88,slow=2.0,SNR=3.3
LPAZ **La Paz** **145.58 314** *e*P **PKPdf** **05 20 47.0 -0.3**
NNA **Nana** **145.62 331** *e*PKPdf **PKPdf** **05 20 46.2 -0.5**
NNA **Nana** **145.62 331** *e*PKIKP **PKPdf** **05 20 46.2 -0.5**
NNA **Nana** **145.62 331** PKPbc **PKPdf** **05 20 46.6 -0.1**
comp=Z,37nm,0.9s,baz=334,slow=5.4,SNR=18
CPUP **Villa Florida** **146.36 289** *e*PKPdf **PKPdf** **05 20 47.2 -0.3**
CPUP **Villa Florida** **146.36 289** *e*PP2 **PKPdf** **05 20 47.3 -0.3**
CPUP **Villa Florida** **146.36 289** PKPbc **PKPdf** **05 20 47.4 -0.2**
comp=Z,33nm,0.8s,baz=56,slow=2.3,SNR=63
CPUP **Villa Florida** **146.36 289** *e*P **PKPbc** **05 20 48.6 -0.2**
PLTB **Pedras Altas** **146.89 277** *e*P **PKPbc** **05 20 49.9 -0.3**
MNMC **Minye Minye** **148.71 313** *e*PKPdf **PKPdf** **05 20 52.2 +0.2**
MNMC *e*PKPbc **PKPbc** **05 20 55.4 -0.4**
GO01 **Chusmiza** **148.93 312** *e*PKPdf **PKPdf** **05 20 53.2 +0.6**
GO01 *e*PKPbc **PKPbc** **05 20 56.3 -0.4**
PB11 **IPOC Station P** **149.26 313** *e*PKPdf **PKPdf** **05 20 52.4 -0.4**
PB11 *e*PKPbc **PKPbc** **05 20 56.4 -0.6**
PB01 **IPOC Station P** **150.21 311** *e*PKPbc **PKPbc** **05 20 58.8 -0.5**
LVC **Limon Verde** **151.13 308** *e*PKPbc **PKPbc** **05 21 01.7 0.0**
LVC **Limon Verde** **151.13 308** *e*PKIKP **PKPbc** **05 21 01.7 0.0**
PB04 **IPOC Station P** **151.61 311** *e*PKPbc **PKPbc** **05 21 02.6 0.0**
GO02 **Mina Guanaco** **153.49 306** *e*PKPbc **PKPbc** **05 21 06.6 -0.3**
LCO **Las Campanas** **156.97 301** *e*PKPdf **PKPdf** **05 21 04.0 +0.2**
LCO **Las Campanas** **156.97 301** *e*PKIKP **PKPdf** **05 21 04.0 +0.2**
PLCA **Paso Flores** **163.05 272** *e*PKPdf **PKPdf** **05 21 10.5 +0.5**
PLCA *e*PKPab **PKPab** **05 21 59.7 -0.3**
PLCA **Paso Flores** **163.05 272** PKP **PKPdf** **05 21 10.0 0.0**
comp=Z,4.0nm,1.0s,baz=91,slow=5.1,SNR=6.7
PLCA PKPab **PKPab** **05 21 59.9 -0.1**
comp=Z,2.2nm,0.8s,baz=147,slow=2.1,SNR=4.1

MEX 29 05:07:47.4±0.7, **13°.65N**×**92°.07W**, **h24**km±34km, **MD3.9, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.27**	**351**	*i* P	Pn	05 08 06.8	-2.8
THIG				*i* S	Sn	05 08 22.0	-4.0
PCIG		**2.33**	**332**	*i* P	Pn	05 08 21.6	-2.7
PCIG				*i* S	Sn	05 08 49.7	-2.5
CCIG	**Comitan**	**2.62**	**359**	*i* P	Pn	05 08 25.9	-2.6
CCIG				*i* S	Sn	05 08 57.2	-2.5
CMIG	**Matias Romero**	**4.37**	**322**	*e*P	Pn	05 08 50.0	-2.4
CMIG				*i* S	Sn	05 09 39.5	-3.1

SKO ***29*** *05:11:57.9, 40°.74N×21°.37E, h17km, M2.0, ML2.8*
ISCJB ***29*** *05:11:58.9±0.4, 40°.77N±0°.02×21°.37E±0°.04, h6km±4km, Error ellipse: s-maj=4.8km s-min=3.5km az=176.7*
ATH ***29*** *05:11:58.3, 40°.78N×21°.36E, h12km±1km, ML2.6/4, Error ellipse: s-maj=3.3km s-min=1.5km az=316.0*
THE ***29*** *05:11:58.9, 40°.80N×21°.35E, h6km, ML2.5/5, Error ellipse: s-maj=0.9km s-min=0.8km az=47.0*

ISC 29 05:11:58.6±0.8, **40°.77N**±0°.02×**21°.37E**±0°.03, **h7**km±4km, **n32**, σ1§**06**/48, **5C-1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.02**	**13**	P	**Pg**	**05 12 00.3**	**+0.3**
FNA				S	**Sg**	**05 12 01.2**	**+0.2**
FNA	**Florina**	**0.02**	**13**	⇓ *i* Pg	**Pg**	**05 12 00.4**	**+0.3**
FNA				*i* Sg	**Sg**	**05 12 01.3**	**+0.2**
FNA	**Florina**	**0.02**	**13**	P	**Pg**	**05 12 00.4**	**+0.3**
FNA				S	**Sg**	**05 12 01.3**	**+0.2**
FNA				AML	AML	05 12 01.4	
	comp=N,67357µm,0.2s						
FNA				AML	AML	05 12 01.4	
	comp=E,61736µm,0.2s						
BIA	**Bitola**	**0.26**	**352**	⇑ *i* Pg	**Pb**	**05 12 04.6**	**-1.0**
BIA				*i* Sg	**Sg**	**05 12 08.3**	**+1.2**
BIA				*e*Lg	Lg	05 12 09.2	
	comp=E,501nm,0.2s						
BIA				*e*Lg	Lg	05 12 09.3	
	comp=N,346nm,0.4s						
NEST	**Nestorio**	**0.43**	**215**	P	**Pg**	**05 12 07.2**	**+0.2**
NEST				S	**Sb**	**05 12 14.2**	**-1.0**
NEST	**Nestorio**	**0.43**	**215**	P	**Pg**	**05 12 07.1**	**+0.2**
NEST				S	**Sg**	**05 12 13.1**	**+0.5**
NEST				AML	AML	05 12 14.9	
	comp=E,2064µm,0.2s						
NEST				AML	AML	05 12 17.2	
	comp=N,1105µm,0.4s						
KZN	**Kozani**	**0.55**	**146**	P	**Pg**	**05 12 09.7**	**+0.5**
KZN				S	**Sb**	**05 12 18.0**	**-0.7**
KZN	**Kozani**	**0.55**	**146**	P	**Pg**	**05 12 09.7**	**+0.5**
KZN				S	**Sb**	**05 12 17.6**	**-1.1**
KZN				AML	AML	05 12 20.9	
	comp=E,1310µm,0.3s						
KZN				AML	AML	05 12 21.0	
	comp=N,1226µm,0.3s						
OHR	**Ohrid**	**0.55**	**309**	⇑ *i* Pg	**Pb**	**05 12 09.7**	**-0.9**
OHR				*i* Sg	**Sb**	**05 12 17.9**	**-0.9**
OHR				*e*Lg	Lg	05 12 18.8	
	comp=E,340nm,0.5s						
OHR				*e*Lg	Lg	05 12 18.8	
	comp=N,238nm,0.3s						
PENT	**Pentalofos**	**0.60**	**197**	P	**Pb**	**05 12 10.6**	**-0.8**
PENT				S	**Sb**	**05 12 19.8**	**-0.2**
PENT	**Pentalofos**	**0.60**	**197**	P	**Pg**	**05 12 10.4**	**+0.3**
PENT				S	**Sg**	**05 12 18.5**	**+0.6**
PENT				AML	AML	05 12 23.1	
	comp=N,428µm,0.2s						
PENT				AML	AML	05 12 26.2	
	comp=E,413µm,0.3s						
KRUS	**Krusevo**	**0.61**	**351**	⇑ *i* Pg	**Pb**	**05 12 10.4**	**-1.2**
KRUS				*i* Sg	**Sb**	**05 12 19.5**	**-0.9**
KRUS				*e*Lg	Lg	05 12 19.7	
	comp=E,128nm,0.3s						
KRUS				*e*Lg	Lg	05 12 19.8	
	comp=N,145nm,0.3s						
KTI	**Kastanea**	**0.68**	**123**	P	**Pb**	**05 12 12.3**	**-0.5**
KPRO	**Kipourio**	**0.81**	**180**	P	**Pg**	**05 12 14.4**	**+0.3**
KPRO	**Kipourio**	**0.81**	**180**	P	**Pg**	**05 12 14.2**	**0.0**
MEV	**Metsovon**	**0.99**	**186**	P	**Pg**	**05 12 17.5**	**0.0**
VAY	**Valandovo**	**1.06**	**58**	⇑ *i* Pg	**Pn**	**05 12 19.0**	**-0.9**
VAY				*i* Sg	**Sn**	**05 12 33.8**	**-1.1**
VAY				*e*Lg	Lg	05 12 36.0	
	comp=N,80nm,0.8s						
VAY				*e*Lg	Lg	05 12 36.1	
	comp=Z,25nm,0.6s						
LIT	**Litokhoron**	**1.08**	**128**	P	**Pn**	**05 12 19.7**	**-0.4**
LIT				S	**Sn**	**05 12 36.2**	**+0.8**
LIT	**Litokhoron**	**1.08**	**128**	*i* Pg	**Pg**	**05 12 19.4**	**+0.1**
LIT	**Litokhoron**	**1.08**	**128**	P	**Pb**	**05 12 19.1**	**-0.5**
STIP	**Stip**	**1.11**	**33**	⇑ *i* Pg	**Pn**	**05 12 22.6**	**+2.1**
STIP				*i* Sg	**Sn**	**05 12 40.2**	**+4.1**
STIP				*e*Lg	Lg	05 12 40.7	
	comp=E,14nm,0.4s						
STIP				*e*Lg	Lg	05 12 40.8	
	comp=N,11nm,0.3s						
PHP	**Peshkopia**	**1.16**	**323**	P	**Pb**	**05 12 19.5**	**-1.4**
KNT	**Kendrikon**	**1.22**	**71**	P	**Pg**	**05 12 21.9**	**-0.1**
KNT	**Kendrikon**	**1.22**	**71**	*i* Pg	**Pg**	**05 12 22.0**	**0.0**
KNT	**Kendrikon**	**1.22**	**71**	P	**Pg**	**05 12 21.8**	**-0.2**
THL	**Klokotos Trika**	**1.30**	**157**	P	**Pb**	**05 12 22.7**	**-0.5**
THL				S	**Sg**	**05 12 42.8**	**+2.5**
THL	**Klokotos Trika**	**1.30**	**157**	P	**Pn**	**05 12 22.4**	**-0.6**
HORT	**Hortiatis**	**1.32**	**97**	P	**Pb**	**05 12 23.5**	**-0.3**
HORT	**Hortiatis**	**1.32**	**97**	P	**Pg**	**05 12 23.7**	**-0.3**
PLG	**Polygyros**	**1.63**	**103**	P	**Pg**	**05 12 29.1**	**-0.7**
AGG	**Agios Georgios**	**1.89**	**157**	P	**Pb**	**05 12 32.5**	**-0.9**
PAIG	**Paliouri**	**1.95**	**115**	P	**Pb**	**05 12 32.7**	**-1.7**

ISCJB ***29*** *05:19:27.6±0.8, 64°.3S±0°.1×175°.1E±0°.4, h10km, mb4.1/8, MS3.7/4, Error ellipse: s-maj=27.5km s-min=10.3km az=156.2*
IDC ***29*** *05:19:27.2±1.0, 64°.27S×175°.47E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/20, mbtmp4.1/5, ML3.3/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/27, Error ellipse: s-maj=54.5km s-min=25.7km az=44.0*
NEIC ***29*** *05:19:29.5±0.5, 64°.23S×175°.36E, h10km, mb4.2/5, Error ellipse: s-maj=20.5km s-min=9.4km az=66.0*

ISC 29 05:19:28.6±0.8, **64°.2S**±0°.1×**175°.4E**±0°.2, **h10**km, **n33,** σ0§**82**/23, **mb4.1/8, MS3.6**/4, **Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCQ	**Macquarie Isla**	**12.80**	**312**	*e*Pn	**Pn**	**05 22 29.9**	**-0.5**
SBA	**Scott Base**	**13.98**	**188**	*e*Pn	**Pn**	**05 22 45.2**	**-1.1**
VNDA	**Vanda**	**14.03**	**192**	*e*Pn	**Pn**	**05 22 47.8**	**+0.7**
VNDA	**Vanda**	**14.03**	**192**	Pn	**Pn**	**05 22 46.5**	**-0.6**
	0.1nm,0.3s,baz=23,slow=13,SNR=8.2						
RPZ	**Rata Peaks**	**20.68**	**351**	LR	LR	05 32 09.6	
	comp=Z,258nm,18.2s,baz=206,slow=37						
QSPA	**South Pole Qui**	**25.89**	**180**	LR	LR	05 33 40.0	
	comp=Z,166nm,18.5s,baz=66,slow=33						
URZ	**Urewera**	**26.00**	**3**	LR	LR	05 33 25.2	
	comp=Z,118nm,21.5s,baz=164,slow=32						
SNAA	**Sanae**	**44.39**	**181**	*e*P	**P**	**05 27 40.0**	**+1.3**
	1.0nm,0.9s						
H01W1	**Cape Leeuwin H**	**46.77**	**278**	T	T	06 18 26.4	
	baz=148,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**46.77**	**278**	T	T	06 18 26.3	
	baz=148,slow=76,SNR=20						
H01W3	**Cape Leeuwin H**	**46.78**	**278**	T	T	06 18 27.4	
	baz=148,slow=76,SNR=22						
AS01	**Alice Springs**	**48.73**	**306**	*e*P	**P**	**05 28 14.1**	**+0.9**
ASAR	**Alice Springs**	**48.75**	**306**	P	**P**	**05 28 14.1**	**+0.8**
	1.0nm,0.8s,baz=152,slow=6.5,SNR=9.5						
AS31	**Alice Springs**	**48.75**	**306**	*e*P	**P**	**05 28 14.3**	**+1.0**
	0.7nm,1.0s						
WB2	**Warramunga Arr**	**52.03**	**308**	*e*P	**P**	**05 28 39.3**	**+1.2**
	baz=148,slow=76,SNR=11						
WR1	**Warramunga Arr**	**52.03**	**308**	*e*P	**P**	**05 28 38.5**	**+0.3**
	6.8nm,1.1s						
WRA	**Warramunga Arr**	**52.03**	**308**	P	**P**	**05 28 38.5**	**+0.3**
	1.2nm,0.6s,baz=154,slow=6.6,SNR=9.4						
CPUP	**Villa Florida**	**80.85**	**134**	P	**P**	**05 31 41.8**	**-0.7**
	2.7nm,1.1s,baz=185,slow=9.0,SNR=3.5						
GUMO	**Guam**	**81.00**	**330**	LR	LR	06 06 45.0	
	comp=Z,114nm,18.5s,baz=60,slow=35						
LPAZ	**La Paz**	**86.36**	**121**	*e*P	**P**	**05 32 11.8**	**+0.2**
	2.8nm,0.9s						
LPAZ	**La Paz**	**86.36**	**121**	P	**P**	**05 32 11.7**	**+0.2**
	1.9nm,0.9s,baz=194,slow=4.0,SNR=5.3						
H08S2	**Diego Garcia H**	**88.75**	**255**	T	T	07 11 04.5	
	baz=154,slow=76,SNR=9.6						
H08S1	**Diego Garcia H**	**88.76**	**255**	T	T	07 11 03.3	
	baz=154,slow=76,SNR=6.5						
H08S3	**Diego Garcia H**	**88.77**	**255**	T	T	07 11 06.0	
	baz=154,slow=76,SNR=11						
ILAR	**Eielson Array**	**131.60**	**21**	PKP	**PKiKP**	**05 38 40.9**	**+0.2**
	0.9nm,0.8s,baz=222,slow=3.5,SNR=6.8						
AKTO	**Aktyubinsk**	**145.09**	**277**	PKPbc	**PKPbc**	**05 39 02.4**	**-1.9**
	3.6nm,0.9s,baz=154,slow=4.4,SNR=4.8						
KARP	**Karpathos**	**145.48**	**229**	*e*PKPdf	**PKPab**	**05 39 06.3**	**0.0**
IDI	**Anoyia**	**145.98**	**226**	PKPbc	**PKPbc**	**05 39 07.9**	**+0.2**
	3.2nm,0.7s,baz=185,slow=3.6,SNR=3.8						
KBZ	**Khabaz**	**146.49**	**255**	PKPbc	**PKPbc**	**05 39 09.0**	**+0.1**
	3.2nm,0.9s,baz=286,slow=3.5,SNR=6.0						
BR101	**Keskin Array S**	**146.88**	**241**	*e*PKPdf	**PKPbc**	**05 39 09.8**	**-0.5**
BR131	**Keskin Array S**	**146.88**	**241**	*e*PKPdf	**PKPbc**	**05 39 10.2**	**-0.2**
BRTR	**Keskin Array B**	**146.88**	**241**	PKPbc	**PKPbc**	**05 39 09.8**	**-0.5**
	2.7nm,0.9s,baz=152,slow=5.6,SNR=12						
RES	**Resolute Bay**	**150.02**	**32**	*e*PKPbc	**PKPbc**	**05 39 17.6**	**+0.3**

ISCJB ***29*** *05:28:08.2±0.3, 70°.82N±0°.05×6°.27W±0°.08, h9km, mb3.2/5, Error ellipse: s-maj=7.0km s-min=3.5km az=13.8*
IDC ***29*** *05:28:09.4±0.9, 70°.98N×6°.38W, h0km, mb3.5/5, mb1 3.7/9, mb1mx3.4/59, mbtmp3.6/9, ML3.0/4, Error ellipse: s-maj=26.7km s-min=8.1km az=8.0*
NAO ***29*** *05:28:09.7±4.8, 70°.73N×6°.55W, h6km±55km, ML3.8*
BER ***29*** *05:28:13.3±2.4, 70°.88N×6°.76W, h10km, ML3.2, ML3.8(NAO), Confirmed Earthquake*

ISC 29 05:28:09.8±0.6, **70°.85N**±0°.07×**6°.39W**±0°.05, **h9**km, **n53,** σ2§**42**/64, **mb3.3**/5, **2C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.65**	**284**	⇑ *e*P	**Pg**	**05 28 22.3**	**0.0**
JNE				IAML		05 28 33.8	
	comp=Z,6µm,0.5s						
JNW	**Jan Mayen West**	**0.70**	**286**	*e*P	**Pg**	**05 28 22.5**	**-0.8**
JNW				IAML		05 28 32.2	
	comp=Z,9µm,0.3s						
JMIC	**Jan Mayen**	**0.71**	**283**	Pg	**Pg**	**05 28 23.2**	**-0.3**
JMIC				Lg	Lg	05 28 32.1	
JMIC	**Jan Mayen**	**0.71**	**283**	Pg	**Pg**	**05 28 23.1**	**-0.5**
	comp=Z,472nm,0.3s,baz=107,slow=3.2,SNR=290						
JMIC				Lg	Lg	05 28 31.4	
	comp=Z,685nm,0.3s,baz=52,slow=19,SNR=92						
JMIC	**Jan Mayen**	**0.71**	**283**	⇑ *i*P	**Pg**	**05 28 23.1**	**-0.5**
JMIC				*e*S	**Sg**	**05 28 32.4**	**-0.4**
JMIC				IAML		05 28 36.3	
	comp=Z,2µm,0.5s						
JMI	**Jan Mayen**	**0.78**	**277**	*e*P	**Pg**	**05 28 24.9**	**+0.1**
JMI				*e*S	**Sg**	**05 28 34.8**	**-0.1**
JMI				IAML		05 28 38.2	
	comp=Z,3µm,0.3s						
DAG	**Danmarks Havn**	**6.85**	**336**	*i* P	**Pn**	**05 29 49.4**	**-0.9**
DAG				*e*S	**Sn**	**05 31 01.1**	**-7.1**
LOF	**Lofoten**	**7.49**	**102**	*e*P	**Pn**	**05 29 59.9**	**+0.8**
LOF				*e*S	**Sn**	**05 31 20.4**	**-3.6**
LOF				IAML		05 31 27.8	
	comp=Z,6.9nm,0.4s						
STEI	**Steigen**	**8.15**	**101**	*e*P	**Pn**	**05 30 08.6**	**+0.6**
STEI				*e*S	**Sn**	**05 31 34.9**	**-5.1**
STEI				IAML		05 31 40.0	
	comp=Z,5.5nm,0.5s						
KONS	**Konsvik**	**8.31**	**112**	*e*P	**Pn**	**05 30 11.2**	**+0.9**
BJO1	**Bjornoya**	**8.36**	**52**	Pn	**Pn**	**05 30 12.8**	**+1.8**
BJO	**Bjornoya**	**8.41**	**52**	Pn	**Pn**	**05 30 12.8**	**+1.1**
HSPB	**Hornsund (broa**	**8.60**	**34**	*e*P	**Pn**	**05 30 16.3**	**+2.2**
HSP	**Hornsund**	**8.60**	**34**	Pn	**Pn**	**05 30 16.4**	**+2.1**
TRO	**Tromso**	**8.63**	**86**	*e*P	**Pn**	**05 30 13.8**	**-0.8**
MOR8	**Moi Rana**	**8.93**	**111**	*e*P	**Pn**	**05 30 20.5**	**+1.7**
MOR8				*e*S	**Sn**	**05 31 54.8**	**-4.5**
MOR8				IAML		05 32 04.0	
	comp=Z,9.6nm,0.3s						
BRBA	**Barentsburg A**	**9.03**	**28**	Pn	**Pn**	**05 30 24.1**	**+3.9**
BRBA	**Barentsburg A**	**9.03**	**28**	Pn	**Pn**	**05 30 24.1**	**+3.9**
KBS	**Kingsbay**	**9.35**	**22**	Pn	**Pn**	**05 30 26.4**	**+2.0**
KBS	**Kingsbay**	**9.35**	**22**	Pn	**Pn**	**05 30 26.4**	**+2.0**
NSS	**Namsos**	**9.39**	**123**	*e*P	**Pn**	**05 30 26.2**	**+1.2**
NSS				*e*S	**Sn**	**05 32 05.4**	**-5.1**
NSS				IAML		05 32 10.1	
	comp=Z,15nm,0.4s						
SPA0	**Spitsbergen Ar**	**9.45**	**29**	Pn	**Pn**	**05 30 29.0**	**+3.1**
	baz=217,slow=14						
SPA0	**Spitsbergen Ar**	**9.45**	**29**	Pn	**Pn**	**05 30 29.0**	**+3.1**
	baz=217,slow=14						
SPITS	**Spitsbergen Ar**	**9.45**	**29**	Pn	**Pn**	**05 30 29.0**	**+3.1**
	baz=215,slow=12,SNR=39						
KIF	**Kilpisjarvi**	**9.48**	**88**	Pn	**Pn**	**05 30 26.6**	**+0.3**
KIF				Sn	**Sn**	**05 32 10.1**	**-2.7**
KIF	**Kilpisjarvi**	**9.48**	**88**	Pn	**Pn**	**05 30 26.6**	**+0.3**
KIF				Sn	**Sn**	**05 32 10.1**	**-2.7**
AKN	**Aaknes**	**10.18**	**142**	Pn	**Pn**	**05 30 35.4**	**-0.5**
AKN				Sn	**Sn**	**05 32 24.4**	**-5.6**
AKN	**Aaknes**	**10.18**	**142**	Pn	**Pn**	**05 30 35.4**	**-0.5**
AKN				Sn	**Sn**	**05 32 24.4**	**-5.6**
KTK1	**Kautokeino**	**10.28**	**86**	*e*P	**Pn**	**05 30 37.7**	**+0.4**
HOPEN	**Hopen**	**10.35**	**43**	*e*	Pn	05 30 29.1	-9.1
HEF	**Hetta**	**10.68**	**89**	*e*P	**Pn**	**05 30 43.1**	**+0.3**
ARA0	**ARCESS Array S**	**10.82**	**82**	Pn	**Pn**	**05 30 44.9**	**+0.2**
	baz=282,slow=12						
ARA0	**ARCESS Array S**	**10.82**	**82**	Pn	**Pn**	**05 30 44.9**	**+0.2**
	baz=282,slow=12						
ARCES	**ARCESS Array B**	**10.82**	**82**	Pn	**Pn**	**05 30 44.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=289,slow=12,SNR=21						
NOD	**Norderasen**	**11.04**	**122**	*e*P	**Pn**	**05 30 49.6**	**+2.0**
NOD				*e*S	**Sn**	**05 32 46.6**	**-4.4**
KEV	**Kevo**	**11.23**	**80**	Pn	**Pn**	**05 30 50.8**	**+0.6**
KEV	**Kevo**	**11.23**	**80**	Pn	**Pn**	**05 30 50.8**	**+0.6**
NB2	**NORSAR Subarra**	**12.11**	**135**	Pn	**Pn**	**05 31 02.2**	**-0.2**
NB2	**NORSAR Subarra**	**12.11**	**135**	Pn	**Pn**	**05 31 02.2**	**-0.2**
NOA	**NORSAR Array B**	**12.11**	**135**	Pn	**Pn**	**05 31 04.0**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=336,slow=13,SNR=3.8						
NRA0	**NORESS Array S**	**12.46**	**135**	Pn	**Pn**	**05 31 07.0**	**0.0**
	baz=329,slow=11						
NRA0	**NORESS Array S**	**12.46**	**135**	Pn	**Pn**	**05 31 07.0**	**0.0**
	baz=329,slow=11						
HFS	**Hagfors**	**13.50**	**133**	Pn	**Pn**	**05 31 22.3**	**+1.1**
	baz=338,slow=11						
HFS	**Hagfors**	**13.50**	**133**	Pn	**Pn**	**05 31 22.1**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=331,slow=12,SNR=16						
HFS	**Hagfors**	**13.50**	**133**	Pn	**Pn**	**05 31 22.3**	**+1.1**
	baz=338,slow=11						
FIA0	**FINESS Array S**	**15.92**	**110**	Pn	**Pn**	**05 31 54.4**	**+0.7**
	baz=320,slow=11						
FIA0	**FINESS Array S**	**15.92**	**110**	Pn	**Pn**	**05 31 54.4**	**+0.7**
	baz=320,slow=11						
FINES	**FINESS Array B**	**15.92**	**110**	Pn	**Pn**	**05 31 53.5**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=333,slow=15,SNR=8.9						
GERES	**GERESS Array B**	**24.01**	**146**	P	**P**	**05 33 28.2**	**+3.5**
	comp=Z,0.4nm,0.4s,baz=330,slow=7.7,SNR=5.6						
AKASG	**Malin Array Be**	**25.95**	**122**	P	**P**	**05 33 43.6**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=22,slow=32,SNR=3.6						
YKA	**Yellowknife Ar**	**37.99**	**314**	P	**P**	**05 35 28.7**	**+1.3**
	comp=Z,0.2nm,0.8s,baz=31,slow=8.6,SNR=3.6						
KURBB	**Kurchatov Arra**	**41.73**	**72**	P	**P**	**05 35 58.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=342,slow=5.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**57.88**	**171**	P	**P**	**05 38 03.8**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=349,slow=9.0,SNR=4.9						

ISCJB ***29*** *05:37:23.7±0.4, 2°.07S±0°.06×102°.16E±0°.08, h150km, Error ellipse: s-maj=13.2km s-min=5.1km az=141.9*
IDC ***29*** *05:37:23.7±3.2, 2°.45S×101°.80E, h165km±29km, mb3.3/6, mb1 3.3/7, mb1mx3.1/64, mbtmp3.8/7, MS3.7/1, Ms1 3.7/1, ms1mx3.0/25, Error ellipse: s-maj=60.8km s-min=16.7km az=59.0*
DJA ***29*** *05:37:24.2±0.4, 2°.S±5°×10°.2E±°, h174km±7km, M4.1/14, mb4.2/7, mB5.1/1, MLv4.0/14, Mw(mB)4.4/1*

ISC 29 05:37:23.7±0.8, **2°.18S**±0°.07×**102°.00E**±0°.10, **h150**km, **n27,** σ1§**80**/27, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.55**	**280**	P	**Pn**	**05 37 49.1**	**+3.7**
SDSI	**Sungai Dareh**	**1.37**	**335**	P	**Pn**	**05 37 55.1**	**+3.1**
PDSI	**Padang**	**1.99**	**309**	P	**Pn**	**05 38 01.2**	**+2.4**
PPSI	**Pulau Pagai**	**2.07**	**254**	P	**Pn**	**05 38 01.8**	**+2.1**
LHSI	**Lahat**	**2.23**	**137**	P	**Pn**	**05 38 04.0**	**+2.4**
MNAI	**Manna**	**2.36**	**156**	P	**Pn

MTVR **Mutnovka** 1.64 13 *e*P **Pn** 05 42 52.1 -0.1
MTVR *e*S **Sn** 05 43 12.7 +0.4
MTVR **Mutnovka** 1.64 13 PN **Pn** 05 42 52.1 -0.1
MTVR S **Sn** 05 43 12.7 +0.4
RUS **Russkaya** 1.65 20 *e*P **Pn** 05 42 51.7 -0.5
RUS *e*S **Sn** 05 43 11.5 -0.8
RUS **Russkaya** 1.65 20 PN **Pn** 05 42 51.7 -0.5
RUS S **Sn** 05 43 11.5 -0.8
GRL **Gorelyy** 1.69 10 *e*P **Pn** 05 42 53.5 +0.6
GRL *e*S **Sn** 05 43 14.6 +1.0
GRL **Gorelyy** 1.69 10 PN **Pn** 05 42 53.5 +0.6
GRL S **Sn** 05 43 14.6 +1.0
KRMR **Karymshinskiy** 1.97 10 *e*P **Pn** 05 42 57.5 +0.9
KRMR *e*S **Sn** 05 43 23.6 +3.5
KRMR **Karymshinskiy** 1.97 10 PN **Pn** 05 42 57.5 +0.9
KRMR S **Sn** 05 43 23.6 +3.5
APC **Apacha** 2.05 353 *e*P **Pn** 05 42 58.9 +1.2
APC *e*S **Sn** 05 43 25.7 +3.5
APC **Apacha** 2.05 353 PN **Pn** 05 42 58.9 +1.2
PEA0B **Petropavlovsk-** 2.22 2 *e*Pn **Pn** 05 43 01.1 +1.1
PEA0B **Petropavlovsk-** 2.22 2 PN **Pn** 05 43 01.0 +1.0
PEA0B S **Sn** 05 43 24.4 -1.9
PETK **Petropavlovsk-** 2.22 2 *e*Pn **Pn** 05 43 01.0 +0.9
PETK *e*Sn **Sn** 05 43 24.4 -1.9
PETK S 05 43 29.4
PETK **Petropavlovsk-** 2.22 2 *e*PN **Pn** 05 43 01.0 +0.9
PETK *e*SN **Sn** 05 43 24.4 -1.9
PETK **Petropavlovsk-** 2.22 2 P **Pn** 05 43 01.1 +1.1
comp=N,38nm,0.3s,baz=175,slow=12,SNR=82
PETK S **Sn** 05 43 29.4 +3.1
comp=N,59nm,0.3s,baz=140,slow=18,SNR=8.5
PEA1 **Petropavlovsk-** 2.23 2 *e*Pn **Pn** 05 43 01.1 +1.0
PEA1 *e*Sn **Sn** 05 43 29.4 +3.0
PET **Petropavlovsk** 2.23 17 *e*Pn **Pn** 05 43 00.5 +0.4
PET *e*Sn **Sn** 05 43 27.1 +0.5
PET **Petropavlovsk** 2.23 17 PN **Pn** 05 43 00.6 +0.4
PET S **Sn** 05 43 27.0 +0.4
DALK **Dalny** 2.26 18 *e*P **Pn** 05 43 01.0 +0.5
DALK *e*S **Sn** 05 43 28.1 +0.9
DALK **Dalny** 2.26 18 PN **Pn** 05 43 01.0 +0.5
DALK S **Sn** 05 43 28.1 +0.9
UGLR **Uglovaya** 2.44 18 *e*P **Pn** 05 43 04.0 +0.8
UGLR *e*S **Sn** 05 43 34.3 +2.4
UGLR **Uglovaya** 2.44 18 PN **Pn** 05 43 04.0 +0.8
UGLR S **Sn** 05 43 34.3 +2.4
AVH **Avacha** 2.48 16 *e*P **Pn** 05 43 05.3 +1.7
AVH *e*S **Sn** 05 43 34.7 +1.9
AVH **Avacha** 2.48 16 PN **Pn** 05 43 05.3 +1.7
AVH S **Sn** 05 43 34.7 +1.9
KOK **Koryaka** 2.49 15 *e*P **Pn** 05 43 05.9 +2.1
KOK *e*S **Sn** 05 43 36.1 +3.1
KOK **Koryaka** 2.49 15 PN **Pn** 05 43 05.9 +2.1
KOK S **Sn** 05 43 36.1 +3.1
SMAR **Somma** 2.49 17 *e*P **Pn** 05 43 04.8 +0.9
SMAR *e*S **Sn** 05 43 35.7 +2.5
SMAR **Somma** 2.49 17 PN **Pn** 05 43 04.8 +0.9
SMAR S **Sn** 05 43 35.7 +2.5
KRER **Koryakskii** 2.52 16 *e*P **Pn** 05 43 05.5 +1.2
KRER *e*S **Sn** 05 43 36.2 +2.3
KRER **Koryakskii** 2.52 16 PN **Pn** 05 43 05.5 +1.2
KRER S **Sn** 05 43 36.2 +2.3
SDLR **Sedlovina** 2.52 18 *e*P **Pn** 05 43 04.6 +0.4
SDLR *e*S **Sn** 05 43 33.9 +0.1
SDLR **Sedlovina** 2.52 18 PN **Pn** 05 43 04.6 +0.4
SDLR S **Sn** 05 43 33.9 +0.1
NLC **Nalytchevo** 2.53 25 *e*P **Pn** 05 43 03.5 -0.7
NLC *e*S **Sn** 05 43 31.9 -1.9
NLC **Nalytchevo** 2.53 25 PN **Pn** 05 43 03.5 -0.7
NLC S **Sn** 05 43 31.9 -1.9
KRX **Arik** 2.56 14 *e*P **Pn** 05 43 06.0 +1.3
KRX *e*S **Sn** 05 43 38.3 +3.6
KRX **Arik** 2.56 14 PN **Pn** 05 43 06.0 +1.3
KRX S **Sn** 05 43 38.3 +3.6
SPN **Mys Shipunski** 2.67 33 *e*P **Pn** 05 43 06.6 +0.4
SPN *e*S **Sn** 05 43 36.8 -0.6
SPN **Mys Shipunski** 2.67 33 PN **Pn** 05 43 06.6 +0.4
SPN S **Sn** 05 43 36.8 -0.6
MKZ **Mys Kozlova** 4.45 33 *e*P **Pn** 05 43 30.8 +0.3
MKZ *e*S **Sn** 05 44 19.4 -1.5
MKZ **Mys Kozlova** 4.45 33 PN **Pn** 05 43 30.8 +0.3
MKZ S **Sn** 05 44 19.4 -1.5
KZV **Kizimen** 4.53 20 *e*P **Pn** 05 43 33.4 +1.6
KZV *e*S **Sn** 05 44 25.1 +1.9
KZV **Kizimen** 4.53 20 PN **Pn** 05 43 33.4 +1.6
KZV S **Sn** 05 44 25.1 +1.9
TUMD **Tumrok D** 4.64 20 *e*P **Pn** 05 43 34.1 +1.0
TUMD *e*S **Sn** 05 44 27.1 +1.5
TUMR **Tumrok** 4.66 18 *e*P **Pn** 05 43 35.4 +1.9
TUMR **Tumrok** 4.66 18 PN **Pn** 05 43 34.1 +0.6
TUMR S **Sn** 05 44 27.1 +0.8
ESO **Esso** 5.09 7 *e*P **Pn** 05 43 41.8 +2.6
ESO **Esso** 5.09 7 PN **Pn** 05 43 41.8 +2.6
KOZ **Kozyrevsk** 5.35 14 *e*P **Pn** 05 43 46.5 +3.7
KOZ **Kozyrevsk** 5.35 14 PN **Pn** 05 43 46.5 +3.7
BZGR **Bezymyannyi-Gr** 5.39 19 *e*P **Pn** 05 43 46.4 +3.0
BZGR **Bezymyannyi-Gr** 5.39 19 PN **Pn** 05 43 46.4 +3.0
SRDR **Sredinnyy** 5.58 12 *e*P **Pn** 05 43 48.6 +2.6
SRDR **Sredinnyy** 5.58 12 PN **Pn** 05 43 48.6 +2.6
BDR **Baidarnaya** 6.08 19 *e*P **Pn** 05 43 55.8 +3.0
BDR **Baidarnaya** 6.08 19 PN **Pn** 05 43 55.8 +3.0
SMKR **Semkarok** 6.15 20 *e*P **Pn** 05 43 55.8 +2.0
SMKR **Semkarok** 6.15 20 PN **Pn** 05 43 55.8 +2.0
SRKR **Sorokina** 6.15 19 *e*P **Pn** 05 43 56.2 +2.4
SRKR **Sorokina** 6.15 19 PN **Pn** 05 43 56.2 +2.4
KBTR **Krutoberegovo** 6.17 28 *e*P **Pn** 05 43 55.6 +1.6
KBTR *e*S **Sn** 05 45 02.6 -0.5
KBTR **Krutoberegovo** 6.17 28 PN **Pn** 05 43 55.6 +1.6
KBG **Krutoberegovo** 6.18 28 *e*P **Pn** 05 43 55.0 +0.9
KBG *e*S **Sn** 05 45 02.8 -0.4
KBG **Krutoberegovo** 6.18 28 PN **Pn** 05 43 55.0 +0.9
BKI **Bering** 6.65 46 *e*P **Pn** 05 43 59.9 -0.6
BKI *e*S **Sn** 05 45 07.9 -6.9
BKI **Bering** 6.65 46 PN **Pn** 05 43 59.9 -0.6
MA2 **Magadan** 9.53 339 *i* PN **Pn** 05 44 37.2 -2.7
MA2 pmax pmax
comp=Z,12nm,0.9s
MA2 **Magadan** 9.53 339 P **Pn** 05 44 38.6 -1.3
comp=Z,0.4nm,0.3s,baz=159,slow=19,SNR=4.2
MA2 LR LR 05 48 41.6
comp=Z,280nm,19.1s,baz=152,slow=40
SMY **Shemya** 10.39 73 *e*Pn **Pn** 05 44 51.0 -0.7
SMY **Shemya** 10.39 73 *e*PN **Pn** 05 44 51.0 -0.7
YSS **Yuzh-Sakhalins** 10.52 254 *e*PN **Pn** 05 44 57.5 +4.0
YSS pmax pmax
comp=Z,10.0nm,0.8s
SEY **Seymchan** 12.39 349 *i* PN **Pn** 05 45 17.7 -1.3
SEY **Seymchan** 12.39 349 P **Pn** 05 45 22.9 +3.9
comp=Z,0.2nm,0.3s,baz=162,slow=10.0,SNR=6.9
KIWB **Kanaga Island** 15.79 77 *e*Pn **Pn** 05 46 03.1 -0.8
KLR **Kul'dur** 16.65 274 *i* P **Pn** 05 46 13.3 -1.5
KLR **Kul'dur** 16.65 274 P **P** 05 46 15.5 -0.9
comp=Z,0.1nm,0.3s,baz=111,slow=14,SNR=4.0
KLR LR LR 05 53 25.0
comp=Z,184nm,19.2s,baz=312,slow=40
BILL **Bilibino** 17.72 11 *e*P **Pn** 05 46 27.7 -0.2
comp=Z,6.3nm,0.7s
BILL **Bilibino** 17.72 11 *ce*P **Pn** 05 46 27.4 -0.6
BILL pmax pmax
comp=Z,8.0nm,1.0s
USRK **Ussuriysk Ar.** 18.47 259 LR LR 05 53 11.8
comp=Z,218nm,20.7s,baz=357,slow=35
ZEA **Zeya** 18.69 291 *e*P **Pn** 05 46 44.2 +4.4
YAK **Yakutsk** 18.85 317 *e*P **P** 05 46 37.4 -3.1
YAK pmax pmax
comp=Z,88nm,0.9s
YAK pmax pmax
comp=E,61nm,1.2s
MDJ **Mudanjiang** 19.77 262 P **P** 05 46 49.5 -1.2
MDJ sP pP 05 47 03.3 0.0
MDJ S **S** 05 50 23.8 -6.3
MDJ PcS **PcS** 05 54 50.3 +6.4
MDJ pmax pmax
comp=Z,7.0nm,0.7s
MDJ pmax pmax
comp=Z,190nm,6.2s
MDJ LR LR
comp=N,340nm,8.4s
MDJ LR LR
comp=Z,280nm,14.3s
MJAR **Matsushiro Arr** 19.96 232 P **P** 05 46 52.8 0.0
comp=Z,0.1nm,0.3s,baz=17,slow=9.7,SNR=6.3

MAJO **Matsushiro** 19.96 232 *e*P **P** 05 46 52.8 0.0
MAJO **Matsushiro** 19.96 232 *i* P **Pn** 05 46 54.2 -0.8
MAJO pmax pmax
comp=Z,5.0nm,0.9s
GAMB **Gambell** 20.74 40 *e*P **P** 05 47 02.0 +1.1
comp=Z,6.2nm,0.9s
ANM **Nome** 23.61 41 *e*P **P** 05 47 31.8 +0.9
comp=Z,5.6nm,0.8s
ANM **Nome** 23.61 41 *e*P **P** 05 47 31.8 +0.9
ANM pmax pmax
comp=Z,6.0nm,0.8s
TIXI **Tiksi** 24.50 338 *e*P **P** 05 47 37.5 -1.4
comp=Z,4.5nm,0.8s
TIXI **Tiksi** 24.50 338 *ce*P **P** 05 47 36.4 -2.5
TIXI pmax pmax
comp=Z,5.0nm,0.7s
TIXI **Tiksi** 24.50 338 P **P** 05 47 37.3 -1.6
comp=Z,2.1nm,0.3s,baz=128,slow=8.9,SNR=9.7
TIXI LR LR 05 57 36.2
comp=Z,208nm,19.9s,baz=282,slow=38
KSRS **Korea Array** 24.96 249 P **P** 05 47 44.8 +1.4
comp=Z,1.7nm,0.7s,baz=46,slow=8.9,SNR=4.7
KS15 **Wonju Array Si** 24.99 249 *e*P **P** 05 47 43.1 -0.6
comp=Z,9.5nm,1.1s
KSAR **Wonju Array Be** 24.99 249 P **P** 05 47 44.8 +1.1
KSAR **Wonju Array Be** 24.99 249 P **P** 05 47 44.8 +1.1
RDOG **Red Dog Mine** 25.74 33 *e*P **P** 05 47 50.7 +0.5
comp=Z,8.4nm,0.7s
BOD **Bodaibo** 25.94 302 *e*P **P** 05 47 49.1 -3.0
BOD pmax pmax
comp=Z,9.0nm,1.3s
SVW2 **Sparrevohn** 27.51 50 *e*P **P** 05 48 07.6 +1.3
comp=Z,1.4nm,1.2s
IM3 **Indian Mountai** 28.68 40 *e*P **P** 05 48 16.7 +0.1
CAST **Castle Rocks** 29.19 45 *e*P **P** 05 48 22.2 +1.0
comp=Z,4.9nm,1.0s
BPAW **Bear Paw Mtn.** 29.69 44 *e*P **P** 05 48 26.6 +1.0
SUA **Susitna One** 29.84 49 *e*P **P** 05 48 24.6 -2.4
comp=Z,10nm,1.2s
MLY **Manley** 29.84 42 *e*P **P** 05 48 27.8 +0.8
comp=Z,4.0nm,0.9s
TRF **Thorofare Moun** 30.00 45 *e*P **P** 05 48 28.9 +0.5
comp=Z,8.3nm,1.2s
BWN **Browne** 30.36 44 *e*P P 05 48 36.8 +5.3
comp=Z,39nm,0.8s
RND **Reindeer** 30.64 45 *e*P **P** 05 48 33.9 -0.1
comp=Z,6.6nm,1.0s
RND **Reindeer** 30.64 45 *e*P **P** 05 48 33.9 -0.1
RND pmax pmax
comp=Z,7.0nm,1.0s
TOLK **Toolik Lake Re** 30.66 35 *e*P **P** 05 48 34.3 +0.2
comp=Z,4.3nm,0.6s
GHO **Glory Hole Cre** 30.69 48 *e*P **P** 05 48 34.8 +0.3
comp=Z,12nm,1.2s
MDM **Murphy Dome** 30.90 42 *e*P **P** 05 48 37.7 +1.4
comp=Z,4.4nm,0.9s
KNK **Knik Glacier** 30.94 49 *e*P **P** 05 48 36.8 +0.2
comp=Z,7.8nm,0.9s
WRH **Wood River Hil** 30.96 43 *e*P **P** 05 48 38.6 +1.9
comp=Z,4.9nm,0.8s
SML **Sawmill** 30.96 48 *e*P **P** 05 48 37.1 +0.3
comp=Z,13nm,0.8s
SML **Sawmill** 30.96 48 *e*P **P** 05 48 37.1 +0.3
SML pmax pmax
comp=Z,13nm,0.8s
COLA **College** 31.07 42 *i* P **P** 05 48 37.9 +0.3
COLA pmax pmax
comp=Z,8.0nm,0.8s
CCB **Clear Creek Bu** 31.09 43 *e*P **P** 05 48 38.2 +0.3
comp=Z,4.4nm,0.8s
DHY **Denali Highway** 31.32 46 *e*P **P** 05 48 40.3 +0.2
comp=Z,6.0nm,1.2s
SCM **Sheep Creek Mo** 31.44 48 *e*P **P** 05 48 41.6 +0.5
comp=Z,6.6nm,0.9s
HDA **Harding Lake** 31.46 43 *e*P **P** 05 48 41.4 +0.3
comp=Z,3.3nm,0.8s
IL1 **Eielson Array** 31.48 43 *e*P **P** 05 48 41.2 -0.1
ILAR **Eielson Array** 31.48 43 P **P** 05 48 41.1 -0.2
comp=Z,3.5nm,0.8s,baz=261,slow=8.0,SNR=42
ILAR pP **pP** 05 48 55.1 -0.6
comp=Z,1.4nm,0.7s,baz=270,slow=7.0,SNR=5.2
ILAR sP **sP** 05 49 00.4 -2.2
comp=Z,3.2nm,0.7s,baz=264,slow=7.4,SNR=9.7
ILB **Eielson Array** 31.48 43 *e*P **P** 05 48 41.8 +0.5
comp=Z,4.9nm,0.9s
H11N2 **WAKE ISLAND Hy** 31.96 163 T T 06 22 41.6
baz=349,slow=76,SNR=322
H11N3 **WAKE ISLAND Hy** 31.97 163 T T 06 22 42.8
baz=349,slow=76,SNR=304
H11N1 **WAKE ISLAND Hy** 31.97 163 T T 06 22 44.0
baz=349,slow=76,SNR=210
PRP **Porcupine Dome** 32.04 41 *e*P **P** 05 48 46.9 +0.5
comp=Z,11nm,0.8s
FYU **Fort Yukon** 32.16 39 *e*P **P** 05 48 47.8 +0.6
comp=Z,14nm,0.8s
DIV **Divide** 32.26 49 *e*P **P** 05 48 49.2 +1.0
comp=Z,9.9nm,1.2s
HARP **HAARP** 32.40 47 *e*P **P** 05 48 50.6 +1.2
RIDG **Independ'e Rid** 32.42 44 *e*P **P** 05 48 49.6 0.0
comp=Z,6.3nm,1.0s
ULN **Ulaanbaatar** 32.52 285 *ce*P **P** 05 48 49.7 -1.1
ULN pmax pmax
comp=Z,2.0nm,0.8s
DOT **Dot Lake** 32.77 45 *e*P **P** 05 48 52.5 -0.2
comp=Z,2.6nm,0.8s
SCRK **Sand Creek** 32.78 44 *e*P **P** 05 48 52.8 -0.1
comp=Z,6.2nm,1.0s
SONA0 **Songino Array** 32.93 285 *e*P **P** 05 48 53.7 -0.7
SONA0 *e*PcP **PcP** 05 51 37.0 -0.3
SONM **Songino Array** 32.93 285 P **P** 05 48 53.7 -0.7
comp=Z,0.4nm,0.4s,baz=55,slow=8.6,SNR=4.1
SONM PcP **PcP** 05 51 37.0 -0.3
comp=Z,1.4nm,0.8s,baz=68,slow=2.1,SNR=7.7
SONM LR LR 06 02 25.9
comp=Z,174nm,18.5s,baz=29,slow=37
HHC **Hu-ho-hao-te** 33.09 271 *e*P **P** 05 48 55.5 -0.3
HHC pP pP 05 49 11.8 +1.5
HHC S **S** 05 54 09.0 -1.6
HHC SS **SnSn** 05 56 08.8 -4.9
HHC pmax pmax
comp=Z,17nm,0.9s
HHC pmax pmax
comp=Z,81nm,5.2s
HHC LR LR
comp=N,220nm,13.2s
HHC LR LR
comp=E,340nm,14.8s
HHC LR LR
comp=Z,460nm,13.2s
TLY **Talaya** 33.10 293 *i* P **P** 05 48 54.3 -1.4
TLY pmax pmax
comp=Z,5.0nm,0.9s
H11S1 **WAKE ISLAND Hy** 33.12 164 T T 06 24 16.3
baz=350,slow=76,SNR=107
H11S3 **WAKE ISLAND Hy** 33.13 164 T T 06 24 13.8
baz=350,slow=76,SNR=166
H11S2 **WAKE ISLAND Hy** 33.13 164 T T 06 24 17.7
baz=350,slow=76,SNR=78
EGAK **Eagle** 33.93 42 *e*P **P** 05 49 02.5 -0.2
comp=Z,6.2nm,0.7s
DAWY **Dawson** 34.78 43 *e*P **P** 05 49 11.0 +0.9
comp=Z,2.3nm,0.9s
PCA **Pinnacle** 35.12 50 *e*P **P** 05 49 14.5 +1.4
comp=Z,13nm,1.1s
BCPM **Bancas Point** 35.46 50 *e*P **P** 05 49 16.2 +0.2
comp=Z,20nm,0.8s
HYT **Haines Junctio** 36.27 49 *e*P **P** 05 49 24.7 +1.7
comp=Z,2.2nm,1.1s
INK **Inuvik** 36.56 36 *e*P **P** 05 49 25.8 +0.6
comp=Z,5.5nm,0.9s
INK PcP **PcP** 05 51 47.5 +0.3
INK **Inuvik** 36.56 36 P **P** 05 49 25.8 +0.6
comp=Z,4.9nm,0.8s,baz=290,slow=6.5,SNR=32
INK PcP **PcP** 05 51 47.5 +0.3
comp=Z,1.1nm,0.9s,baz=336,slow=3.8,SNR=3.2
WHY **Whitehorse** 37.56 48 *e*P **P** 05 49 35.4 +1.5
comp=Z,3.4nm,0.9s
JIS **Juneau Island** 38.54 52 *e*P **P** 05 49 44.6 +2.6
comp=Z,1.9nm,0.7s
DLBC **Dease Lake** 40.63 50 *e*P **P** 05 50 01.6 +2.1
comp=Z,2.9nm,1.1s
ZAA1 **Zalesovo Array** 42.68 304 *e*P **P** 05 50 14.4 -1.8
ZALV **Zalesovo Beam** 42.68 304 P **P** 05 50 14.4 -1.9
comp=Z,1.2nm,0.8s,baz=79,slow=7.5,SNR=4.2
DGZ **Jazzator, Alta** 43.27 297 *i* P **P** 05 50 20.2 -1.0
DGZ pmax pmax
comp=Z,1.0nm,0.9s

CD2 **Chengdu** 44.20 264 P **P** 05 50 27.5 -1.3
CD2 pmax pmax
comp=Z,5.0nm,0.5s
YKW3 **Yellowknife Ar** 45.80 40 *e*P **P** 05 50 42.0 +0.9
comp=Z,5.7nm,0.8s
YKA **Yellowknife Ar** 45.84 40 P **P** 05 50 41.8 +0.5
comp=Z,4.0nm,0.7s,baz=299,slow=7.7,SNR=75
YKA PcP **PcP** 05 52 18.1 +0.4
comp=Z,0.6nm,0.7s,baz=304,slow=3.2,SNR=6.4
YKB5 **Yellowknife Ar** 45.84 40 *e*P **P** 05 50 42.2 +0.8
RES **Resolute Bay** 45.94 21 *e*P **P** 05 50 42.5 +0.5
comp=Z,4.4nm,0.8s
RES **Resolute Bay** 45.94 21 P **P** 05 50 42.1 +0.1
comp=Z,4.2nm,0.7s,baz=292,slow=7.2,SNR=23
WMQ **Urumqi** 46.24 290 *e*P **P** 05 50 47.0 +2.1
WMQ pmax pmax
comp=Z,22nm,0.9s
KURK **Kurchatov** 47.59 302 *e*P **P** 05 50 53.6 -1.6
comp=Z,7.2nm,0.9s
KURK **Kurchatov** 47.59 302 *ce*P **P** 05 50 53.3 -1.9
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURBB **Kurchatov Arra** 47.69 302 P **P** 05 50 54.5 -1.5
comp=Z,2.1nm,0.6s,baz=60,slow=7.6,SNR=13
MK31 **Makanchi Array** 47.72 296 *e*P **P** 05 50 55.2 -1.1
comp=Z,1.4nm,1.0s
MK31 **Makanchi Array** 47.72 296 *e*P **P** 05 50 55.2 -1.1
MK31 pmax pmax
comp=Z,1.0nm,1.0s
MK32 **Makanchi Array** 47.72 296 *e*P **P** 05 50 54.4 -1.9
MKAR **Makanchi Array** 47.72 296 P **P** 05 50 54.4 -1.9
comp=Z,0.5nm,0.5s,baz=61,slow=9.9,SNR=7.4
MK01 **Makanchi Array** 47.73 296 *e*P **P** 05 50 55.1 -1.3
KMI **Kunming** 48.90 260 P **P** 05 51 07.5 +1.6
KMI pmax pmax
comp=Z,15nm,0.5s
SPA0 **Spitsbergen Ar** 49.05 350 *e*P **P** 05 51 05.9 -0.2
comp=Z,12nm,1.0s
SPITS **Spitsbergen Ar** 49.05 350 P **P** 05 51 04.8 -1.3
comp=Z,13nm,1.1s,baz=59,slow=8.6,SNR=13
BVAR **Borovoye Array** 50.55 309 P **P** 05 51 15.3 -2.5
comp=Z,1.1nm,0.6s,baz=52,slow=9.6,SNR=8.5
BVAR LR LR 06 13 55.5
comp=Z,132nm,19.5s,baz=29,slow=38
BRVK **Borovoye** 50.58 309 *i* P **P** 05 51 15.5 -2.5
BRVK pmax pmax
comp=Z,2.0nm,0.8s
KDJ **Kajisay** 53.44 294 *e*P **P** 05 51 39.6 0.0
comp=Z,1.9nm,0.8s
KDJ **Kajisay** 53.44 294 *e*P **P** 05 51 39.6 0.0
KDJ pmax pmax
comp=Z,2.0nm,0.8s
WALA **Waterton Lakes** 53.58 55 *e*P **P** 05 51 41.5 +1.1
comp=Z,3.0nm,0.9s
NONG **Nongkai** 53.92 253 P **P** 05 51 45.2 +2.0
ARU **Arti** 53.96 317 *d* iP **P** 05 51 40.3 -2.7
ARU S **S** 05 59 10.3 -3.7
ARU SS **SKiKP** 06 02 50.3 +0.7
ARU pmax pmax
comp=Z,7.0nm,1.5s
BMO **Blue Mountains** 54.38 61 *e*P **P** 05 51 47.4 +1.1
comp=Z,1.7nm,0.9s
BMO **Blue Mountains** 54.38 61 *e*P **P** 05 51 47.4 +1.1
BMO pmax pmax
comp=Z,2.0nm,0.9s
MOD **Modoc Plateau** 54.56 65 *e*P **P** 05 51 50.3 +2.5
comp=Z,4.4nm,0.7s
FFC **Flin Flon** 55.68 44 *i* P **P** 05 51 57.1 +1.7
LAMP **Lampang** 55.72 257 P **P** 05 51 58.2 +2.0
comp=Z,4.9nm,0.9s
UTTA **Uttaradit** 55.74 255 P **P** 05 51 58.2 +1.9
KSH **Kashi** 55.81 292 *e*P **P** 05 52 02.3 +5.5
KSH S **S** 05 59 41.5 +2.0
KSH pmax pmax
comp=Z,170nm,8.9s
KSH LR LR
comp=N,130nm,10.2s
KSH LR LR
comp=E,140nm,8.8s
KSH LR LR
comp=Z,100nm,10.8s
CMMT **Chiang Mai** 55.92 258 P **P** 05 51 58.6 +0.9
comp=Z,18nm,0.9s
CHTO **Chiang Mai** 55.93 258 P **P** 05 51 58.7 +1.0
comp=Z,78nm,0.9s
CM31 **Chiang Mai Arr** 56.20 257 *e*P **P** 05 52 00.5 +0.9
comp=Z,14nm,1.0s
CMAR **Chiang Mai Arr** 56.20 257 P **P** 05 52 00.5 +0.9
comp=Z,3.1nm,0.3s,baz=25,slow=7.2,SNR=30
CM01 **Chiang Mai Arr** 56.21 257 *e*P **P** 05 52 00.5 +0.8
CHAI **Phaiyaphum** 56.29 253 P **P** 05 52 03.2 +3.0
PNTR **Pine Nut** 56.80 67 *e*P **P** 05 52 06.2 +2.3
comp=Z,3.4nm,0.8s
BOZ **Bozeman (W)** 56.98 57 *e*P **P** 05 52 06.6 +1.6
comp=Z,1.4nm,0.7s
BOZ **Bozeman (W)** 56.98 57 *e*P **P** 05 52 06.6 +1.6
BOZ pmax pmax
comp=Z,1.0nm,0.7s
JIRN **Jiri** 57.55 275 *e*P **P** 05 52 09.8 +0.3
comp=Z,4.4nm,0.3s
GUN **Gumba** 57.57 275 *e*P **P** 05 52 09.5 -0.1
BRDH **Bariadhala** 57.65 267 LR LR 06 22 01.0
comp=Z,180nm,20.1s,baz=134,slow=41
KVN **Kaiserville** 57.70 66 *e*P **P** 05 52 12.1 +1.9
comp=Z,2.1nm,0.8s
KVN **Kaiserville** 57.70 66 *e*P **P** 05 52 12.1 +1.9
KVN pmax pmax
comp=Z,2.0nm,0.8s
RYN **Ryan** 57.73 67 *e*P **P** 05 52 12.9 +2.4
comp=Z,1.9nm,0.8s
RAMN **Ramite** 57.79 274 *e*P **P** 05 52 12.0 +0.9
comp=Z,18nm,0.7s
YHH **Holmes Hill** 57.92 57 *e*P **P** 05 52 13.7 +1.8
comp=Z,2.6nm,1.2s
NV01 **Mina Array Sit** 57.99 67 *e*P **P** 05 52 13.8 +1.4
NVAR **Mina Array Bea** 57.99 67 P **P** 05 52 13.9 +1.5
comp=Z,1.6nm,0.7s,baz=296,slow=7.3,SNR=16
NVAR pP **pP** 05 52 28.2 +0.4
comp=Z,1.1nm,0.7s,baz=299,slow=7.1,SNR=5.2
ABKAR **Akbulak array** 58.03 310 *e*P **P** 05 52 12.4 +0.3
comp=Z,1.1nm,0.6s
ELK **Elko** 58.21 63 *e*P **P** 05 52 16.0 +2.2
comp=Z,1.2nm,0.8s
ELK **Elko** 58.21 63 *e*P **P** 05 52 16.0 +2.2
ELK pmax pmax
comp=Z,1.0nm,0.8s
DMN **Daman** 58.27 276 *e*P **P** 05 52 14.4 0.0
comp=Z,15nm,0.8s
DANN **Dangsing** 58.60 277 *e*P **P** 05 52 16.1 -0.7
comp=Z,18nm,0.8s
TPAW **Teton Pass** 58.74 58 *e*P **P** 05 52 20.1 +2.5
comp=Z,1.3nm,1.0s
SCO **Scoresbysund** 58.93 360 *e*P **P** 05 52 18.0 -0.1
comp=Z,3.8nm,0.9s
SCO **Scoresbysund** 58.93 360 *e*P **P** 05 52 18.0 -0.1
SCO pmax pmax
comp=Z,4.0nm,0.9s
KOLN **Koldanda** 59.10 277 *e*P **P** 05 52 19.3 -0.9
comp=Z,5.6nm,0.5s
PYUN **Piuthan** 59.25 278 *e*P **P** 05 52 20.5 -0.7
comp=Z,37nm,0.9s
R11A **Troy Canyon, C** 59.62 66 *e*P **P** 05 52 25.6 +2.0
comp=Z,1.5nm,0.8s
PD31 **Pinedale Array** 59.98 58 *e*P **P** 05 52 27.0 +0.9
comp=Z,1.9nm,1.0s
PDAR **Pinedale Array** 59.98 58 P **P** 05 52 26.9 +0.9
comp=Z,1.0nm,0.7s,baz=333,slow=3.1,SNR=11
PDAR pP **pP** 05 52 41.5 -0.1
comp=Z,1.5nm,0.9s,baz=316,slow=4.1,SNR=6.1
PHET **Kaeng Krachan** 60.04 253 P **P** 05 52 29.6 +3.2
ULM **Lac du Bonnet** 61.47 44 P **P** 05 52 36.4 +0.6
comp=Z,2.5nm,1.0s,baz=319,slow=5.1,SNR=3.9
FIA0 **FINESS Array S** 61.51 336 *e*P **P** 05 52 35.0 -0.8
FIA0 **FINESS Array S** 61.51 336 *e*P **P** 05 52 35.0 -0.8
FINES **FINESS Array B** 61.51 336 P **P** 05 52 35.0 -0.8
comp=Z,2.0nm,0.7s,baz=21,slow=6.5,SNR=8.1
SRU **San Rafael Swe** 61.97 62 *e*P **P** 05 52 41.3 +1.7
comp=Z,3.7nm,0.7s
SRU **San Rafael Swe** 61.97 62 *e*P **P** 05 52 41.3 +1.7
SRU pmax pmax
comp=Z,4.0nm,0.7s
OBN **Obninsk** 63.52 327 *e*P **P** 05 52 48.6 -0.7
OBN *e* 05 53 24.9
OBN *e* 05 55 05.0
OBN *e*PPP PPP 05 56 36.7
OBN pmax pmax

	comp=Z,3.0nm,0.9s									
X16A	**Lo Mia Camp, P**	**64.75**	**66**	*e*P		**P**		**05 53 00.2**	**+2.2**
	comp=Z,2.2nm,0.8s									
NB2	**NORSAR Subarra**	**65.20**	**343**	P		**P**		**05 52 58.8**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=23,slow=6.9									
NB200	**NORSAR Array S**	**65.20**	**343**	*e*P		**P**		**05 52 58.1**	**-2.2**
NOA	**NORSAR Array B**	**65.20**	**343**	P		**P**		**05 52 58.1**	**-2.2**
	comp=Z,0.6nm,0.7s,baz=21,slow=6.7,SNR=5.9									
HFS	**Hagfors**	**65.55**	**341**	P		**P**		**05 53 01.1**	**-1.4**
	comp=Z,0.9nm,0.5s,baz=28,slow=3.5,SNR=13									
ANMO	**Albuquerque**	**67.22**	**62**	*ce*P		**P**		**05 53 15.1**	**+1.3**
ANMO				pmax		pmax				
	comp=Z,3.0nm,2.5s									
AKASG	**Malin Array Be**	**69.68**	**328**	P		**P**		**05 53 27.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=5.8,SNR=2.9									
AKASG				LR		LR		06 26 41.1		
	comp=Z,92nm,18.7s,baz=280,slow=38									
AK11	**Malin Array Si**	**69.72**	**328**	*e*P		**P**		**05 53 30.5**	**+1.7**
EKA	**Eskdalemuir Ar**	**72.93**	**349**	P		**P**		**05 53 47.4**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=19,slow=5.1,SNR=14									
TX31	**Lajitas Ar. Si**	**72.96**	**65**	*e*P		**P**		**05 53 50.3**	**+1.4**
	comp=Z,3.1nm,0.7s									
TXAR	**Lajitas Array**	**72.96**	**65**	P		**P**		**05 53 49.8**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=301,slow=4.6,SNR=33									
TXAR				pP		**pP**		**05 54 04.4**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=296,slow=4.6,SNR=5.0									
WR1	**Warramunga Arr**	**73.44**	**203**	*e*P		**P**		**05 53 51.4**	**-0.2**
	comp=Z,2.3nm,0.9s									
WRA	**Warramunga Arr**	**73.44**	**203**	P		**P**		**05 53 51.4**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=18,slow=6.2,SNR=7.2									
FITZ	**Fitzroy Crossi**	**74.20**	**212**	*e*P		**P**		**05 53 56.8**	**+0.8**
	comp=Z,8.9nm,1.1s									
FITZ	**Fitzroy Crossi**	**74.20**	**212**	P		**P**		**05 53 56.6**	**+0.6**
	comp=Z,3.4nm,1.0s,baz=23,slow=7.7,SNR=2.5									
W41B	**Gary Mavity, V**	**74.64**	**53**	*e*P		**P**		**05 53 59.7**	**+1.2**
	comp=Z,3.3nm,1.1s									
N51A	**Ashland**	**74.65**	**43**	*e*P		**P**		**05 53 58.5**	**-0.1**
	comp=Z,11nm,0.6s									
VYHS	**Vyhne**	**74.86**	**333**	*e*P		**P**		**05 53 59.1**	**-0.5**
VYHS	**Vyhne**	**74.86**	**333**	*e*P		**P**		**05 53 59.1**	**-0.5**
MOQ	**Mont Orford**	**74.92**	**34**	*e*P		**P**		**05 54 00.7**	**+0.6**
MMNY	**Mt. Morris Dam**	**75.00**	**39**	*e*P		**P**		**05 54 00.2**	**-0.2**
	comp=Z,8.3nm,0.7s									
MLR	**Muntele Rosu**	**75.28**	**327**	P		**P**		**05 54 01.7**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=214,slow=8.8,SNR=3.5									
M54A	**Oil Creek Stat**	**75.31**	**41**	*e*P		**P**		**05 54 02.6**	**+0.3**
N54A	**Moraine State**	**75.63**	**41**	*e*P		**P**		**05 54 04.2**	**+0.1**
	comp=Z,5.0nm,0.8s									
GEC2	**GERESS Array S**	**75.94**	**336**	*e*P		**P**		**05 54 06.7**	**+0.8**
	comp=Z,2.6nm,1.1s									
GERES	**GERESS Array B**	**75.94**	**336**	P		**P**		**05 54 06.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=26,slow=6.9,SNR=3.6									
LBNH	**Lisbon**	**75.97**	**34**	*e*P		**P**		**05 54 06.5**	**+0.6**
	comp=Z,8.3nm,0.9s									
LBNH	**Lisbon**	**75.97**	**34**	*e*P		**P**		**05 54 06.6**	**+0.6**
LBNH				pmax		pmax				
	comp=Z,8.0nm,0.9s									
SSPA	**Standing Stone**	**76.77**	**40**	*e*P		**P**		**05 54 10.8**	**+0.2**
	comp=Z,9.1nm,1.0s									
GGN	**Saint George**	**76.92**	**31**	*e*P		**P**		**05 54 11.4**	**0.0**
	comp=Z,5.5nm,0.8s									
AS01	**Alice Springs**	**77.11**	**202**	*e*P		**P**		**05 54 13.6**	**+1.0**
AS31	**Alice Springs**	**77.12**	**202**	*e*P		**P**		**05 54 13.1**	**+0.5**
	comp=Z,0.7nm,0.9s									
ASAR	**Alice Springs**	**77.12**	**202**	P		**P**		**05 54 13.5**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=17,slow=5.2,SNR=7.1									
BR101	**Keskin Array S**	**77.30**	**319**	*e*P		**P**		**05 54 13.1**	**-0.7**
BRTR	**Keskin Array B**	**77.30**	**319**	P		**P**		**05 54 13.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=9.8,slow=9.4,SNR=3.1									
DAVOX	**Davos/Dischmat**	**78.80**	**338**	P		**P**		**05 54 20.0**	**-2.0**
DAVOX	**Davos/Dischmat**	**78.80**	**338**	P		**P**		**05 54 20.0**	**-2.0**
	comp=Z,3.7nm,0.7s,baz=2.9,slow=10,SNR=2.6									
BNI	**Bardonecchia**	**81.17**	**340**	*e*P		**P**		**05 54 34.3**	**-0.5**
	comp=Z,4.7nm,1.0s									
BNI	**Bardonecchia**	**81.17**	**340**	*e*P		**P**		**05 54 34.3**	**-0.5**
BNI				pmax		pmax				
	comp=Z,5.0nm,1.0s									
MMAI	**Mount Meron Ar**	**82.17**	**314**	P		**P**		**05 54 39.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=43,slow=6.2,SNR=6.1									
ASF	**Jabal al Asfar**	**82.19**	**313**	P		**P**		**05 54 39.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=231,slow=3.9,SNR=4.0									
ES06	**SONSECA Array**	**88.37**	**346**	*e*P		**P**		**05 55 10.0**	**-1.0**
ESDC	**Sonseca Array**	**88.37**	**346**	P		**P**		**05 55 09.2**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=3.7,slow=4.3,SNR=10									
PTGA	**Pitinga**	**120.79**	**45**	*e*PKPdf		**PKPdf**		**06 01 10.2**	**-1.1**
GO01	**Chusmiza**	**131.88**	**67**	*e*PKPdf		**PKiKP**		**06 01 34.3**	**+0.4**
PB01	**IPOC Station P**	**132.78**	**69**	*e*PKPdf		**PKPdf**		**06 01 34.0**	**0.0**
QSPA	**South Pole Qui**	**140.63**	**180**	*e*PKPpre		PKPpre		06 01 43.2		
PLCA	**Paso Flores**	**145.51**	**92**	*e*PKP2		**PKPab**		**06 01 57.3**	**+0.2**
PLCA	**Paso Flores**	**145.51**	**92**	PKPbc		**PKPab**		**06 01 57.4**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=360,slow=2.4,SNR=9.9									
PLCA				pPKPbc		**pPKPdf**		**06 02 13.0**	**-0.6**
	comp=Z,7.2nm,0.9s,baz=322,slow=3.1,SNR=11									

BJI ***29*** *06:01:01.3, 4.°81S×152.°22E, h141km, mb5.2/68, mB5.0/37*
IDC ***29*** *06:01:04.8±0.3, 4.°77S×151.°72E, h135km±2km, mb4.7/40, mb1 4.7/44, mb1mx4.7/50, mbtmp5.1/44, MS3.8/11, Ms1 3.8/11, ms1mx3.5/36, Error ellipse: s-maj=9.4km s-min=6.7km az=87.0*
ISCJB ***29*** *06:01:04.3±0.5, 4.°78S±0.°02×151.°58E±0.°02, h140km±4km, mb5.0/249, Error ellipse: s-maj=3.3km s-min=3.0km az=43.2*
GCMT ***29*** *06:01:04.9±0.2, 4.°94S±0.°02×151.°68E±0.°02, h140km±1km, MW5.2/98, Moment Tensor Solution. s60,c73; s98,c147; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-2.21±.21; Mθθ2.90±.23; Mφφ-0.69±.25; Mrθ-3.69±.15; Mθφ0.63±.23; Mφr-6.00±.16; Best double couple: M07.48200×10^16 NP1:φs37.00000°, δ83.00000°, λ-105.00000°. NP2:φs283.00000°, δ17.00000°, λ-25.00000°. Principal axes: T 6.9240, Plg36.0000°, Azm140.0000°; N 1.1090, Plg15.0000°, Azm39.0000°; P -8.0400, Plg50.0000°, Azm290.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***29*** *06:01:05.0±1.0, 4.°70S×151.°57E, h144km, mb5.0/56 Error ellipse: s-maj=7.0km s-min=5.0km az=102.9*
NEIC ***29*** *06:01:05.9±0.5, 4.°79S×151.°63E, h143km±4km, mb5.1/157, Error ellipse: s-maj=3.5km s-min=3.0km az=83.0*
DJA ***29*** *06:01:10.8±0.9, 5.°3S±4.°1×15.°1E±.°1, h177km±7km, M5.3/61, mb5.4/61, mB5.7/24, MLv5.6/1, Mw(mB)5.2/24*
ISC 29 06:01:04.9±0.3, **4.°77S**±0.°04×**151.°60E**±0.°04, **h134**km±2km, **h135**km:**pP-P, n725,** σ1**.918/789, mb5.0**/249**, 19C-17D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.80**	**44**	*e*Pn		**Pn**	**06 01 26.3**	**-0.3**
RABL				*e*Sn		**Sn**	**06 01 43.4**	**+0.4**
MANU	**Manus Island**	**5.02**	**302**	*e*Pn		**Pn**	**06 02 20.9**	**+2.4**
PMG	**Port Moresby**	**6.38**	**223**	*e*Pn		**Pn**	**06 02 37.3**	**+0.7**
PMG				*e*Sn		**Sn**	**06 03 47.7**	**-0.6**
PMG	**Port Moresby**	**6.38**	**223**	P		**Pn**	**06 02 37.7**	**+1.1**
	37nm,0.3s,baz=56,slow=4.1,SNR=63							
PMG				S		**Sn**	**06 03 47.7**	**-0.6**
	35nm,0.3s,baz=265,slow=11,SNR=6.0							
HNR	**Honiara**	**9.49**	**120**	*e*P		**Pn**	**06 03 16.0**	**-2.4**
HNR				*e*S		**Sn**	**06 05 09.0**	**+5.5**
HNR	**Honiara**	**9.49**	**120**	*e*P		**Pn**	**06 03 18.0**	**-0.4**
HNR	**Honiara**	**9.49**	**120**	P		**Pn**	**06 03 18.0**	**-0.4**
	5.0nm,0.3s,baz=252,slow=5.9,SNR=8.1							
JAY	**Jayapura**	**11.10**	**281**	P		**Pn**	**06 03 41.8**	**+1.8**
JAY	**Jayapura**	**11.10**	**281**	P		**Pn**	**06 03 41.6**	**+1.6**
	4.2nm,0.3s,baz=71,slow=2.2,SNR=27							
COEN	**Coen**	**12.34**	**222**	P		**Pn**	**06 03 57.9**	**+1.6**
	baz=12,SNR=20							
COEN	**Coen**	**12.34**	**222**	*e*Pn		**Pn**	**06 03 57.6**	**+1.3**
MTSU	**Mount Surprise**	**15.07**	**208**	P		**P**	**06 04 33.5**	**+0.3**
	baz=15,SNR=87							
SRPI	**Serui, Papua**	**15.60**	**280**	P		**P**	**06 04 38.8**	**-0.3**
CTA	**Charters Tower**	**16.09**	**198**	P		**P**	**06 04 45.5**	**+1.1**
	3.6nm,0.3s,baz=24,slow=14,SNR=45							
CTAO	**Charters Tower**	**16.09**	**198**	*e*Pn		**P**	**06 04 45.4**	**+0.9**
	183nm,1.7s							
CTAO	**Charters Tower**	**16.09**	**198**	*e*P		**P**	**06 04 45.4**	**+0.9**
CTAO				pmax		pmax		
	comp=Z,183nm,1.7s							
RKPI	**Ransiki, Papua**	**17.70**	**280**	P		**Pn**	**06 05 05.0**	**+1.8**
FAKI	**Fak Fak**	**19.40**	**275**	*e*P		**P**	**06 05 21.3**	**+0.6**
	comp=Z,1μm,1.4s							
FAKI	**Fak Fak**	**19.40**	**275**	P		**P**	**06 05 21.6**	**+0.9**
GUMO	**Guam**	**19.42**	**340**	*e*P		**Pn**	**06 05 23.5**	**0.0**
	comp=Z,1μm,0.9s							
GUMO	**Guam**	**19.42**	**340**	*e*P		**Pn**	**06 05 23.5**	**0.0**
GUMO				pmax		pmax		
	comp=Z,1μm,0.9s							
GUMO	**Guam**	**19.42**	**340**	P		**Pn**	**06 05 23.5**	**0.0**
	comp=Z,17nm,0.3s,baz=168,slow=7.5,SNR=34							
QIS	**Mount Isa**	**19.56**	**216**	P		**P**	**06 05 23.4**	**+1.0**
	baz=20,SNR=84							
KDU	**Kakadu**	**20.47**	**246**	P		**P**	**06 05 31.5**	**-0.7**
	baz=20,SNR=120							
EIDS	**Eidsvold**	**20.49**	**181**	P		**P**	**06 05 32.6**	**+0.3**
	baz=20,SNR=24							
EIDS	**Eidsvold**	**20.49**	**181**	*e*P		**P**	**06 05 32.4**	**0.0**
	comp=Z,88nm,0.8s							
SIJI	**Sorong**	**20.67**	**280**	P		**P**	**06 05 35.7**	**+1.2**
	comp=Z,376nm,0.8s,baz=88,slow=6.9,SNR=94							
SWI	**Sorong**	**20.68**	**280**	P		**P**	**06 05 35.8**	**+1.3**
PALU	**Palau**	**20.90**	**305**	P		**P**	**06 05 38.9**	**+2.0**
	baz=21,SNR=24							
MTN	**Manton Dam**	**21.75**	**247**	P		**P**	**06 05 45.5**	**-0.4**
	baz=22,SNR=63							
MTN	**Manton Dam**	**21.75**	**247**	*e*P		**P**	**06 05 45.6**	**-0.4**
	comp=Z,498nm,1.5s							
RMQ	**Roma**	**21.77**	**187**	P		**P**	**06 05 46.5**	**+0.5**
	baz=22,SNR=94							
ANA2	**Anatahan**	**21.77**	**345**	*e*P		**P**	**06 05 47.6**	**+1.5**
	comp=Z,367nm,0.6s							
SARN	**Sarigan**	**22.09**	**345**	*e*P		**P**	**06 05 51.0**	**+1.5**
	comp=Z,306nm,1.0s							
DZM	**Mont Dzumac**	**22.42**	**141**	*e*P		**P**	**06 05 51.6**	**-1.1**
	comp=Z,980nm,2.0s							
DZM	**Mont Dzumac**	**22.42**	**141**	P		**P**	**06 05 52.3**	**-0.4**
	comp=Z,69nm,0.5s,baz=277,slow=7.5,SNR=112							
WRAB	**Tennant Creek**	**22.57**	**227**	*e*P		**P**	**06 05 53.9**	**-0.3**
	comp=Z,228nm,0.6s							
WRAB	**Tennant Creek**	**22.57**	**227**	*d iP*		**P**	**06 05 54.0**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,231nm,0.9s							
WR1	**Warramunga Arr**	**22.58**	**227**	*e*P		**P**	**06 05 54.3**	**0.0**
	comp=Z,314nm,0.6s							
WR1				*e*S		**S**	**06 09 50.3**	**-1.7**
WR1				*e*ScP		**ScP**	**06 13 07.4**	**-1.0**
WRA	**Warramunga Arr**	**22.59**	**227**	P		**P**	**06 05 54.3**	**-0.1**
	comp=Z,144nm,0.4s,baz=51,slow=10,SNR=456							
WRA				S		**S**	**06 09 50.3**	**-1.7**
	comp=Z,34nm,0.9s,baz=45,slow=16,SNR=15							
WRA				ScP		**ScP**	**06 13 07.4**	**-1.0**
	comp=Z,12nm,0.9s,baz=46,slow=2.8,SNR=9.0							
MARNC	**Mare, Loyalty**	**23.02**	**138**	*e*P		**P**	**06 05 58.0**	**-0.4**
	comp=Z,592nm,0.9s							
PINNC	**Pines Island,**	**23.44**	**141**	*e*P		**P**	**06 06 02.3**	**0.0**
	comp=Z,373nm,1.3s							
TNTI	**Ternate**	**24.83**	**282**	*e*P		**P**	**06 06 15.8**	**+0.8**
	comp=Z,212nm,1.3s							
TNTI	**Ternate**	**24.83**	**282**	P		**P**	**06 06 16.5**	**+1.5**
KNRA	**Kununurra**	**24.92**	**243**	P		**P**	**06 06 15.8**	**0.0**
	baz=25,SNR=117							
AS01	**Alice Springs**	**25.35**	**220**	*e*P		**P**	**06 06 19.1**	**-0.5**
AS31	**Alice Springs**	**25.38**	**221**	*e*P		**P**	**06 06 19.6**	**-0.3**
	comp=Z,39nm,0.9s							
ASAR	**Alice Springs**	**25.38**	**221**	P		**P**	**06 06 20.1**	**+0.1**
	comp=Z,72nm,0.7s,baz=52,slow=8.8,SNR=453							
ASAR				pP		**pP**	**06 06 49.7**	**+1.2**
	comp=Z,92nm,0.8s,baz=55,slow=8.8,SNR=9.5							
ASAR				PcP		**PcP**	**06 09 49.9**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=57,slow=2.8,SNR=3.6							
ASAR				S		**S**	**06 10 33.3**	**-3.5**
	comp=Z,6.4nm,0.7s,baz=52,slow=14,SNR=5.6							
ASAR				ScP		**ScP**	**06 13 15.3**	**-0.8**
	comp=Z,13nm,1.0s,baz=50,slow=3.3,SNR=14							
ARMA	**Armidale**	**25.52**	**180**	P		**P**	**06 06 21.9**	**+0.8**
	baz=26,SNR=45							
ARMA	**Armidale**	**25.52**	**180**	*e*P		**P**	**06 06 21.9**	**+0.8**
	comp=Z,92nm,1.0s							
SANI	**Sanana**	**25.71**	**275**	P		**P**	**06 06 23.0**	**0.0**
CMSA	**Cobar Meteorol**	**27.20**	**191**	P		**P**	**06 06 35.8**	**-0.3**
	baz=27,SNR=17							
SGSI	**Sangihe**	**27.37**	**287**	P		**P**	**06 06 39.2**	**+1.3**
MNI	**Manado**	**27.44**	**282**	P		**P**	**06 06 39.4**	**+0.9**
MNI				pmax		pmax		
	comp=Z,380nm,1.2s							
SOEI	**Soe**	**27.55**	**258**	P		**P**	**06 06 41.1**	**+1.4**
MATI	**Mati**	**27.84**	**295**	*e*P		**P**	**06 06 41.9**	**-0.2**
KMSI	**Cibinong**	**28.10**	**280**	P		**P**	**06 06 44.4**	**0.0**
BATI	**Baumata**	**28.21**	**257**	P		**P**	**06 06 47.0**	**+1.7**
BATI	**Baumata**	**28.21**	**257**	P		**P**	**06 06 47.1**	**+1.7**
	comp=Z,68nm,0.7s,baz=270,slow=2.5,SNR=7.6							
BATI				LR		LR	06 18 40.9	
	comp=Z,177nm,21.1s,baz=73,slow=37							
MGCD	**Mangrove Creek**	**28.30**	**181**	P		**P**	**06 06 46.7**	**+0.8**
	baz=28,SNR=11							
STKA	**Stephens Creek**	**28.55**	**198**	P		**P**	**06 06 48.0**	**-0.2**
	baz=29,SNR=22							
STKA	**Stephens Creek**	**28.55**	**198**	*e*P		**P**	**06 06 47.3**	**-0.9**
	comp=Z,2.2nm,0.6s							
STKA				ScP		**ScP**	**06 13 22.9**	**-2.4**
STKA	**Stephens Creek**	**28.55**	**198**	P		**P**	**06 06 47.8**	**-0.4**
	comp=Z,9.9nm,0.5s,baz=9.5,slow=9.3,SNR=33							
STKA				ScP		**ScP**	**06 13 22.9**	**-2.4**
	comp=Z,7.6nm,1.0s,baz=333,slow=8.1,SNR=2.4							
FITZ	**Fitzroy Crossi**	**28.63**	**240**	P		**P**	**06 06 48.5**	**-0.5**
	baz=29,SNR=171							
FITZ	**Fitzroy Crossi**	**28.63**	**240**	*e*P		**P**	**06 06 47.9**	**-1.1**
	comp=Z,130nm,1.1s							
FITZ	**Fitzroy Crossi**	**28.63**	**240**	P		**P**	**06 06 48.5**	**-0.5**
	comp=Z,44nm,0.5s,baz=62,slow=6.8,SNR=298							
FITZ				LR		LR	06 18 52.6	
	comp=Z,163nm,19.3s,baz=68,slow=37							
MSVF	**Nonsavu**	**28.91**	**119**	*e*P		**P**	**06 06 51.8**	**+0.2**
	comp=Z,29nm,0.8s							
MSVF	**Nonsavu**	**28.91**	**119**	*e*P		**P**	**06 06 53.4**	**+1.8**
MSVF				pmax		pmax		
	comp=Z,34nm,0.9s							
LUWI	**Luwuk**	**29.02**	**276**	*e*P		**P**	**06 06 53.6**	**+1.0**
	comp=Z,204nm,1.0s							
LUWI	**Luwuk**	**29.02**	**276**	P		**P**	**06 06 53.8**	**+1.2**
SKMP	**Bagumbayan, Su**	**29.25**	**292**	*e*P		**P**	**06 06 54.9**	**+0.3**
BUTP	**Butuan**	**29.28**	**298**	*e*P		**P**	**06 06 55.9**	**+1.1**
BUKP	**Musuan**	**29.31**	**295**	*e*P		**P**	**06 06 56.0**	**+0.9**
MMRI	**Maumere**	**29.41**	**261**	P		**P**	**06 06 56.1**	**+0.1**
EDFI	**Ende, Flores**	**29.96**	**261**	P		**P**	**06 06 59.4**	**-1.6**
MRSI	**Marisa**	**30.08**	**279**	P		**P**	**06 07 02.2**	**+0.2**
WRKA	**Warakurna**	**30.12**	**226**	P		**P**	**06 07 01.7**	**-0.4**
	baz=30,SNR=224							
APSI	**Ampana**	**30.16**	**276**	P		**P**	**06 07 02.6**	**0.0**
CNB	**Canberra Magne**	**30.47**	**184**	P		**P**	**06 07 05.9**	**+0.8**
	baz=31,SNR=13							
MSLP	**Maasin**	**30.48**	**299**	*e*P		**P**	**06 07 06.3**	**+1.0**
CAN	**Canberra**	**30.50**	**184**	*e*P		**P**	**06 07 06.1**	**+0.7**
	comp=Z,30nm,0.8s							
CAN	**Canberra**	**30.50**	**184**	*e*P		**P**	**06 07 06.1**	**+0.7**
CAN				pmax		pmax		
	comp=Z,30nm,0.8s							
BESP	**Borongan**	**30.69**	**302**	*e*P		**P**	**06 07 08.7**	**+1.4**
PAGZ	**Pagadian**	**30.82**	**294**	*e*P		**P**	**06 07 09.7**	**+1.3**
HTT	**Hallett**	**30.87**	**201**	P		**P**	**06 07 08.6**	**-0.1**
	baz=31,SNR=28							
OCLP	**Ormoc**	**31.12**	**300**	*e*P		**P**	**06 07 11.9**	**+0.8**
BBOO	**Buckleboo**	**31.45**	**206**	P		**P**	**06 07 13.2**	**-0.6**
	baz=32,SNR=24							
BBOO	**Buckleboo**	**31.45**	**206**	*e*P		**P**	**06 07 13.0**	**-0.8**
	comp=Z,30nm,0.8s							
KAPI	**Kappang**	**31.73**	**268**	*e*P		**P**	**06 07 16.7**	**+0.2**
	comp=Z,14nm,0.9s							
KAPI	**Kappang**	**31.73**	**268**	*e*P		**P**	**06 07 16.7**	**+0.2**
KAPI				pmax		pmax		
	comp=Z,14nm,0.9s							
SPSI	**Sidrap Palu**	**31.75**	**270**	P		**P**	**06 07 16.8**	**+0.2**
CNP	**Catarman**	**31.80**	**303**	*e*P		**P**	**06 07 17.7**	**+0.6**
MPSI	**Mapaga**	**32.07**	**278**	P		**P**	**06 07 19.1**	**-0.3**
MILA	**Mila**	**32.21**	**184**	P		**P**	**06 07 21.5**	**+1.1**
	baz=32,SNR=3.5							
GUIM	**Jordan**	**32.69**	**298**	*e*P		**P**	**06 07 25.3**	**+0.5**
PVCP	**Virac**	**32.79**	**304**	*e*P		**P**	**06 07 25.6**	**-0.1**
CBIJ	**Chichi jima**	**32.96**	**344**	*e*P		**P**	**06 07 25.8**	**-1.2**
JCJ	**Chichijima**	**32.96**	**344**	P		**P**	**06 07 25.8**	**-1.2**
	comp=Z,34nm,0.5s,baz=114,slow=20,SNR=3.5							
RCP	**Roxas**	**32.97**	**300**	*e*P		**P**	**06 07 28.4**	**+1.2**
ARPS	**Mount Arapiles**	**33.09**	**194**	P		**P**	**06 07 28.2**	**+0.2**
	baz=33,SNR=17							
TOO	**Toolangi**	**33.12**	**189**	P		**P**	**06 07 29.1**	**+0.8**
TOO				pmax		pmax		
	comp=Z,19nm,1.1s							
PLAI	**Plampang**	**33.82**	**261**	P		**P**	**06 07 32.6**	**-2.0**
AUQP	**San Andres**	**33.88**	**302**	*e*P		**P**	**06 07 38.4**	**+3.3**
OTRP	**Odiongan**	**33.97**	**300**	*e*P		**P**	**06 07 36.8**	**+0.8**
FORT	**Forrest**	**34.07**	**218**	P		**P**	**06 07 36.0**	**-0.6**
	baz=34,SNR=94							
FORT	**Forrest**	**34.07**	**218**	*e*P		**P**	**06 07 35.7**	**-0.9**
	comp=Z,86nm,0.6s							
CUYO	**Cuyo Island**	**34.17**	**297**	*e*P		**P**	**06 07 39.1**	**+1.4**
BOAC	**Boac**	**34.65**	**302**	*e*P		**P**	**06 07 43.3**	**+1.5**
SJMP	**San Jose**	**34.80**	**300**	*e*P		**P**	**06 07 45.4**	**+2.4**
TSM	**Tawau**	**34.88**	**284**	P		**P**	**06 07 44.3**	**+0.5**
POLP	**Polillo Island**	**35.21**	**304**	*e*P		**P**	**06 07 47.5**	**+1.0**
BUSP	**Coron**	**35.39**	**298**	*e*P		**P**	**06 07 49.2**	**+1.1**
TGY	**Tagaytay City**	**35.73**	**302**	P		**P**	**06 07 53.2**	**+2.0**
	comp=Z,250nm,0.5s,baz=220,slow=4.3,SNR=12							
ENPP	**El Nido**	**35.74**	**297**	*e*P		**P**	**06 07 52.6**	**+1.5**
SDKM	**Sandakan**	**35.88**	**286**	P		**P**	**06 07 56.0**	**+3.6**
PALP	**Palanan**	**36.08**	**308**	*e*P		**P**	**06 07 55.2**	**+1.3**
BATP	**Bataraza**	**36.30**	**292**	*e*P		**P**	**06 07 56.8**	**+0.9**
CAUP	**Cauayan**	**36.49**	**307**	*e*P		**P**	**06 07 59.2**	**+1.7**
OUZ	**Omahuta**	**36.49**	**149**	*e*P		**P**	**06 07 58.2**	**+1.0**
	comp=Z,74nm,0.9s							
OUZ	**Omahuta**	**36.49**	**149**	P		**P**	**06 07 58.5**	**+1.3**
KKM	**Kota Kinabalu**	**36.93**	**287**	*e*P		**P**	**06 08 01.8**	**+0.3**
	comp=Z,195nm,1.5s							
KKM	**Kota Kinabalu**	**36.93**	**287**	P		**P**	**06 08 01.7**	**+0.3**
SMPP	**San Manuel, Pa**	**36.98**	**305**	*e*P		**P**	**06 08 01.8**	**+0.1**
WCZ	**Waipu Caves**	**37.43**	**149**	P		**P**	**06 08 06.1**	**+1.0**
APYP	**Conner**	**37.46**	**308**	*e*P		**P**	**06 08 06.2**	**+0.5**
MOO	**Moorlands**	**37.72**	**185**	P		**P**	**06 08 08.9**	**+1.3**
	baz=38,SNR=4.8							
BOLP	**Bolinao**	**37.73**	**305**	*e*P		**P**	**06 08 07.8**	**-0.1**
ABRA	**Dolores**	**37.76**	**307**	*e*P		**P**	**06 08 08.3**	**+0.2**
MEEK	**Meekatharra**	**38.28**	**232**	P		**P**	**06 08 12.3**	**-0.2**
	baz=38,SNR=661							
KMBL	**Kambalda**	**38.45**	**223**	P		**P**	**06 08 13.2**	**-0.7**
	baz=38,SNR=50							
WIAZ	**Waiheke Island**	**38.49**	**149**	P		**P**	**06 08 14.8**	**+0.7**
JOW	**Kunigami**	**38.68**	**326**	*e*P		**P**	**06 08 17.7**	**+2.0**
	comp=Z,173nm,1.0s							
JOW	**Kunigami**	**38.68**	**326**	P		**P**	**06 08 17.8**	**+2.0**
	comp=Z,29nm,0.9s,baz=149,slow=12,SNR=41							
MKAZ	**Moumakai**	**38.74**	**149**	P		**P**	**06 08 17.2**	**+1.0**
KUZ	**Kuaotunu**	**38.76**	**148**	P		**P**	**06 08 17.1**	**+0.8**
BTM	**Bintulu**	**39.29**	**281**	P		**P**	**06 08 21.1**	**0.0**

comp=Z,15nm,0.9s,baz=151,slow=9.0,SNR=33
KSRS ScP **ScP** **06 14 36.5 +0.4**
comp=Z,2.8nm,0.8s,baz=148,slow=5.3,SNR=5.7
KS15 Wonju Array Si 47.45 334 *eP* **P** **06 09 26.2 +0.1**
comp=Z,22nm,1.0s
KSAR Wonju Array Be 47.45 334 P **P** **06 09 27.1 +1.0**
KSAR ScP **ScP** **06 14 36.5 +0.3**
KSAR Wonju Array Be 47.45 334 P **P** **06 09 27.1 +1.0**
KS01 Wonju Array Si 47.47 334 *eP* **P** **06 09 26.7 +0.4**
LHSI Lahat 47.95 269 P **P** **06 09 30.1 -0.3**
NJ2 Nanjing 48.08 322 *eP* **P** **06 09 30.8 -0.2**
NJ2 pmax pmax
comp=Z,17nm,0.6s
MYKOM Kota Tinggi 48.15 277 *eP* **P** **06 09 32.6 +0.7**
comp=Z,50nm,0.9s
MYKOM Kota Tinggi 48.15 277 P **P** **06 09 33.0 +1.1**
KGM Kluang 48.71 277 P **P** **06 09 37.6 +1.3**
YUK Yuzh-Kuril'sk 48.85 355 *eP* **P** **06 09 36.3 -0.5**
KTGM Kuala Trenggan 49.43 281 P **P** **06 09 42.9 +1.2**
RAR Rarotonga 49.88 114 *eP* **P** **06 09 46.0 +0.9**
comp=Z,49nm,1.4s
RAR Rarotonga 49.88 114 *eP* **P** **06 09 46.0 +0.9**
RAR pmax pmax
comp=Z,49nm,1.4s
KUR Kuril'sk 49.89 357⇑ *iP* **P** **06 09 43.5 -1.1**
WHN Wuhan 50.01 317⇑ P **P** **06 09 48.0 +2.2**
WHN pmax pmax
comp=Z,100nm,0.9s
SDSI Sungai Dareh 50.24 273 P **P** **06 09 48.0 +0.1**
comp=Z,126nm,0.8s
MSHR Mys Shultsa 50.65 341 *eP* **P** **06 09 49.4 -1.0**
BKNI Bangkinang 50.76 274 *eP* **P** **06 09 52.0 +0.2**
comp=Z,125nm,0.9s
BKNI Bangkinang 50.76 274 P **P** **06 09 52.3 +0.5**
comp=Z,142nm,0.9s,comp=Z,2µm
VLA Vladivostok 50.90 341⇑ *iP* **P** **06 09 50.7 -1.5**
VLA pmax pmax
comp=Z,61nm,1.4s
PDSI Padang 51.21 273 P **P** **06 09 53.7 -1.5**
comp=Z,78nm,0.6s,comp=Z,2µm
PANO Nakornpanom 51.26 296 P **P** **06 09 57.6 +2.2**
comp=Z,1.9nm,1.1s
IPM Ipoh 51.35 280 *eP* **P** **06 09 56.3 +0.1**
comp=Z,53nm,1.0s
IPM Ipoh 51.35 280 P **P** **06 09 57.0 +0.8**
DL2 Dalian 51.54 330 P **P** **06 09 58.5 +1.4**
DL2 pP **pwP** **06 10 33.0 +2.4**
DL2 *e*S **S** **06 17 08.0 +0.6**
DL2 pmax pmax
comp=Z,61nm,1.0s
SKNT Sakolnakorn 51.77 296 P **P** **06 10 00.9 +1.7**
comp=Z,25nm,1.2s
USA0B Ussuriysk Arra 51.84 342 *eP* **P** **06 09 60.0 +0.7**
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 51.84 342 *eP* **P** **06 10 00.0 +0.7**
USA0B pmax pmax
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 51.84 342 P **P** **06 09 59.8 +0.5**
comp=Z,15nm,0.8s,baz=180,slow=8.7,SNR=26
KULM Kulim 51.86 280 *eP* **P** **06 09 59.8 -0.2**
comp=Z,38nm,0.9s
KULM Kulim 51.86 280 P **P** **06 10 00.3 +0.4**
SKLT Songkhla 52.24 283 P **P** **06 10 03.5 +0.7**
comp=Z,37nm,1.4s
MNSI Mandailing Nat 52.26 275 P **P** **06 10 02.3 -0.7**
comp=Z,118nm,0.9s
SISI Saibi 52.54 272 P **P** **06 10 06.1 +1.1**
comp=Z,87nm,1.0s
SRAK Srakaew 52.58 292 P **P** **06 10 02.6 -2.7**
comp=Z,38nm,0.8s,comp=Z,423nm
KHON Khomkaen 52.59 295 P **P** **06 10 07.7 +2.4**
NONG Nongkai 52.89 297 P **P** **06 10 09.1 +1.6**
comp=Z,1.6nm,0.9s,comp=Z,52nm
MDJ Mudanjiang 52.98 340 P **P** **06 10 08.3 +0.6**
MDJ pP pP 06 10 40.5 +1.9
MDJ sP sP 06 10 56.0 +2.7
MDJ S **S** **06 17 31.5 +4.6**
MDJ pmax pmax
comp=Z,27nm,1.2s
MDJ pmax pmax
comp=Z,220nm,3.7s
MDJ Mudanjiang 52.98 340 *eP* **P** **06 10 08.9 +1.2**
comp=Z,21nm,0.9s
PSI Prapat 53.16 277 *eP* **P** **06 10 08.6 -1.2**
comp=Z,34nm,1.0s
PSI Prapat 53.16 277 *eP* **P** **06 10 08.6 -1.2**
PSI pmax pmax
comp=Z,34nm,1.0s
PSI Prapat 53.16 277 LR LR 06 36 30.8
comp=Z,127nm,18.0s,baz=58,slow=40
CHAI Chaiyaphum 53.21 294 P **P** **06 10 11.1 +1.2**
comp=Z,11nm,0.9s,comp=Z,106nm
ENH Enshi 53.26 314 *eP* **P** **06 10 11.3 +1.3**
comp=Z,84nm,1.0s
TRTT Trang 53.28 283 P **P** **06 10 10.9 +0.5**
comp=Z,13nm,1.4s,comp=Z,195nm
GYA Guiyang 53.43 308⇑ *iP* **P** **06 10 13.5 +2.0**
GYA pmax pmax
comp=Z,20nm,0.8s
CN2 Changchun 53.79 337 *eP* **P** **06 10 13.8 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s
GSI Gunungsitoli 54.31 275 *eP* **P** **06 10 16.8 -1.2**
comp=Z,135nm,1.1s
GSI Gunungsitoli 54.31 275 P **P** **06 10 17.2 -0.8**
comp=Z,116nm,1.1s
KCSI Kotacane, Aceh 54.41 278 P **P** **06 10 17.0 -1.7**
comp=Z,59nm,0.7s
PHET Kaeng Krachan 54.53 289 P **P** **06 10 21.4 +1.9**
comp=Z,16nm,1.0s,comp=Z,152nm
PKDT Phuket 54.60 283 P **P** **06 10 20.9 +0.8**
comp=Z,13nm,1.2s,comp=Z,1µm
TPTI 54.95 277 P **P** **06 10 21.0 -1.6**
comp=Z,28nm,0.9s
UTTA Uttaradit 55.10 295 P **P** **06 10 25.4 +1.8**
comp=Z,16nm,0.9s,comp=Z,158nm
BJI Beijing 55.21 327⇑ *eP* **P** **06 10 25.0 +1.1**
BJI pmax pmax
comp=Z,6.0nm,1.2s
SKR Severo-Kuril's 55.37 3⇑ *eP* **P** **06 10 26.7 +1.9**
SRDT SRDT 55.40 291 P **P** **06 10 27.6 +1.9**
comp=Z,69nm,0.9s,comp=Z,2µm
UTHA Uthaitani 55.44 292 P **P** **06 10 27.4 +1.4**
comp=Z,18nm,0.7s,comp=Z,147nm
LHMI Lhok Sumawe 55.48 280 *eP* **P** **06 10 26.1 -0.2**
comp=Z,128nm,0.9s
LHMI Lhok Sumawe 55.48 280 P **P** **06 10 27.3 +0.9**
comp=Z,145nm,1.1s
XAN Xi'an 55.78 317 P **P** **06 10 29.0 +0.8**
XAN pP pP 06 11 00.5 +1.3
XAN sP sP 06 11 18.0 +4.3
XAN S **S** **06 18 10.0 +5.1**
XAN pmax pmax
comp=Z,44nm,1.6s
XAN Xi'an 55.78 317 *eP* **P** **06 10 29.2 +1.0**
comp=Z,39nm,0.8s
XAN Xi'an 55.78 317 *eP* **P** **06 10 29.2 +1.0**
XAN pmax pmax
comp=Z,39nm,0.8s
SUKH Sukhothai 55.85 295 P **P** **06 10 30.9 +2.0**
comp=Z,12nm,0.9s
MLSI Meulaboh, Aceh 55.87 278 P **P** **06 10 27.7 -1.4**
comp=Z,230nm,0.9s
TYV Tymovskoe 55.94 353 *eP* **P** **06 10 27.9 -1.0**
TYV pmax pmax
comp=Z,14nm,1.2s
KMI Kunming 55.98 305 P **P** **06 10 32.5 +2.5**
KMI pP pwP 06 11 07.3 +3.5
KMI pmax pmax
comp=Z,71nm,1.0s
UMPA Umpang Tak 56.17 293 P **P** **06 10 33.1 +1.9**
comp=Z,9.8nm,1.0s
LAMP Lampang 56.19 296 P **P** **06 10 33.2 +1.9**
comp=Z,20nm,0.8s,comp=Z,168nm
KLR Kul'dur 56.49 345 P **P** **06 10 33.0 +0.2**
comp=Z,10nm,0.7s,baz=169,slow=4.3,SNR=34
KLR pP **pwP** **06 11 06.0 -0.6**
comp=Z,14nm,1.1s,baz=145,slow=6.6,SNR=5.1
KLR ScP **ScP** **06 15 12.9 -2.1**
comp=Z,2.4nm,0.9s,baz=214,slow=3.6,SNR=4.1
KLR LR LR 06 34 14.2
comp=Z,36nm,19.7s,baz=254,slow=35
CM01 Chiang Mai Arr 56.76 296 *eP* **P** **06 10 37.4 +2.0**
CM31 Chiang Mai Arr 56.78 296 *eP* **P** **06 10 37.6 +2.1**
comp=Z,48nm,0.9s
CM31 Chiang Mai Arr 56.78 296 P **P** **06 10 37.6 +2.1**
SNR=16
CMAR Chiang Mai Arr 56.78 296 P **P** **06 10 37.5 +1.9**
comp=Z,24nm,0.8s,baz=118,slow=5.3,SNR=108
CMAR ScP **ScP** **06 15 16.9 -0.1**
comp=Z,0.7nm,0.3s,baz=110,slow=3.1,SNR=4.9
CMMT Chiang Mai 56.89 296 P **P** **06 10 37.9 +1.6**
comp=Z,40nm,1.4s,comp=Z,511nm
CHTO Chiang Mai 56.90 296 *eP* **P** **06 10 38.0 +1.6**
comp=Z,48nm,1.1s
CHTO Chiang Mai 56.90 296 *eP* **P** **06 10 38.0 +1.6**
CHTO pmax pmax
comp=Z,48nm,1.1s
CHTO Chiang Mai 56.90 296 P **P** **06 10 37.5 +1.1**
SNR=17
CHTO Chiang Mai 56.90 296 P **P** **06 10 38.0 +1.6**
comp=Z,180nm,1.4s,comp=Z,2µm
CD2 Chengdu 57.81 311⇑ *iP* **P** **06 10 42.8 +0.2**
CD2 pmax pmax
comp=Z,80nm,0.8s
PEA0B Petropavlovsk- 57.89 4 *eP* **P** **06 10 43.8 +1.2**
comp=Z,121nm,1.5s
PEA0B Petropavlovsk- 57.89 4 *eP* **P** **06 10 43.8 +1.2**
PEA0B pmax pmax
comp=Z,121nm,1.5s
PETK Petropavlovsk- 57.89 4 *eP* **P** **06 10 43.8 +1.2**
PETK pP **pP** **06 11 14.1 -0.1**
PETK Petropavlovsk- 57.89 4 *eP* **P** **06 10 43.8 +1.2**
PETK *PP **pP** **06 11 14.1 -0.1**
PETK Petropavlovsk- 57.89 4 P **P** **06 10 42.4 -0.3**
comp=Z,3.1nm,0.4s,baz=146,slow=5.2,SNR=8.0
PETK pP **pP** **06 11 14.1 -0.1**
comp=Z,16nm,0.9s,baz=182,slow=10,SNR=4.9
PEA1 Petropavlovsk- 57.89 4 *eP* **P** **06 10 42.4 -0.3**
HHC Hu-ho-hao-te 58.33 325 *eP* **P** **06 10 47.3 +1.2**
HHC pP pwP 06 11 25.0 +4.7
HHC S **S** **06 18 39.5 +1.2**
HHC sS sS 06 19 43.3 +11
HHC pmax pmax
comp=Z,49nm,1.0s
HHC pmax pmax
comp=Z,190nm,5.1s
PPT Papeete 58.87 108 P **P** **06 10 52.0 +1.9**
comp=Z,18nm,0.7s,baz=37,slow=5.1,SNR=5.1
PPT2 Papeete2 58.88 108 *eP* **P** **06 10 51.5 +1.2**
comp=Z,40nm,1.3s
PAE Paea 58.88 108 *eP* **P** **06 10 51.1 +0.9**
comp=Z,4.0nm,1.0s
BTO Baotou 59.07 324 *eP* **P** **06 10 52.5 +1.3**
TIAR Tiarei 59.09 108 *eP* **P** **06 10 53.0 +1.3**
comp=Z,16nm,1.1s
TIAR *e*pP **pP** **06 11 23.5 -0.2**
comp=Z,7.6nm,1.0s
TVO Taravao 59.20 108 *eP* **P** **06 10 53.9 +1.4**
comp=Z,6.4nm,0.8s
PMOR Pomariorio Ree 60.30 104 *eP* **P** **06 11 00.9 +0.9**
comp=Z,99nm,1.2s
LZH Lanzhou 60.38 316 *eP* **P** **06 11 02.0 +1.6**
LZH pP pP 06 11 32.3 +0.5
LZH PP **PP** **06 13 15.5 +0.4**
LZH SS SS 06 23 10.8 +5.7
LZH pmax pmax
comp=Z,62nm,1.1s
LZH pmax pmax
comp=Z,460nm,4.9s
LZH LR LR
comp=Z,320nm,13.6s
LZH LR LR
comp=Z,290nm,14.1s
LZH LR LR
comp=Z,350nm,15.2s
HIA Hailar 60.52 337 *eP* **P** **06 11 01.4 +0.5**
comp=Z,24nm,0.8s
HIA Hailar 60.52 337 *eP* **P** **06 11 01.4 +0.5**
HIA pmax pmax
comp=Z,24nm,0.8s
VAH Vaihoa 60.57 105 *eP* **P** **06 11 02.6 +0.8**
comp=Z,40nm,1.2s
ZEA Zeya 61.77 344 *eP* **P** **06 11 09.0 -0.2**
ZEA pmax pmax
comp=Z,73nm,1.6s
MA2 Magadan 64.15 360⇑ *eP* **P** **06 11 24.0 -0.8**
MA2 pmax pmax
comp=Z,15nm,0.8s
MA2 Magadan 64.15 360 P **P** **06 11 23.9 -0.8**
baz=136,slow=7.1
MA2 pP **pP** **06 11 57.6 +0.5**
comp=Z,15nm,0.8s,baz=143,slow=20,SNR=4.5
GTA Gaotai 64.83 318 *eP* **P** **06 11 31.0 +1.2**
GTA pP PcP 06 12 02.8 +0.7
GTA sP sP 06 12 21.0 +5.1
GTA ScP 06 15 52.3
GTA pmax pmax
comp=Z,15nm,1.2s
SHL Shillong 65.26 301 *iP* **P** **06 11 34.0 +1.1**
ULN Ulaanbaatar 65.34 329 *eP* **P** **06 11 34.6 +1.6**
comp=Z,33nm,1.0s
ULN Ulaanbaatar 65.34 329 *diP* **P** **06 11 33.9 +0.9**
ULN pmax pmax
comp=Z,39nm,1.0s
ULN Ulaanbaatar 65.34 329 P **P** **06 11 34.5 +1.6**
SNR=18
SONA0 Songino Array 65.67 328 *eP* **P** **06 11 36.1 +1.1**
SONM Songino Array 65.67 328 P **P** **06 11 36.1 +1.1**
comp=Z,21nm,0.6s,baz=142,slow=5.9,SNR=110
SONM LR LR 06 41 47.9
comp=Z,59nm,18.3s,baz=44,slow=37
LSA Lhasa 67.24 305 *eP* **P** **06 11 47.0 +1.2**
comp=Z,8.5nm,0.6s
SEY Seymchan 67.52 0⇓ *eP* **P** **06 11 46.4 +0.2**
SEY Seymchan 67.52 0 P **P** **06 11 46.1 -0.1**
comp=Z,2.0nm,0.4s,baz=166,slow=8.3,SNR=4.6
SEY pP **pP** **06 12 19.7 +0.6**
comp=Z,12nm,1.1s,baz=154,slow=5.5,SNR=6.6
CASY Casey 67.70 197 *eP* **P** **06 11 47.4 0.0**
comp=Z,31nm,1.8s
UNV Unalaska Valle 68.10 25 *eP* **P** **06 11 51.0 +0.9**
comp=Z,108nm,1.6s
YAK Yakutsk 68.71 349 *eP* **P** **06 11 53.9 +0.2**
YAK *e* 06 12 27.7
YAK pmax pmax
comp=Z,170nm,0.9s
YAK pmax pmax
comp=N,103nm,1.4s
YAK pmax pmax
comp=E,50nm,1.2s
ZAK Zakamensk 68.85 329 *eP* **P** **06 11 55.2 +0.2**
ZAK *e* 06 12 30.0
ZAK pmax pmax
comp=Z,65nm,1.1s
ZAK pmax pmax
comp=Z,15nm,1.3s
SPIA Saint Paul Isl 69.05 21 *eP* **P** **06 11 58.0 +2.1**
comp=Z,347nm,1.7s
BOD Bodaibo 69.34 340 *eP* **P** **06 11 57.3 -0.4**
BOD pmax pmax
comp=Z,28nm,1.4s
TAPN Taplejung 69.37 301 *eP* **P** **06 11 59.3 +0.4**
comp=Z,86nm,1.0s
TLY Talaya 69.46 330 *diP* **P** **06 11 59.0 +0.4**
TLY pmax pmax
comp=Z,59nm,1.1s
TLY Talaya 69.46 330 P **P** **06 11 59.5 +0.8**
SNR=12
IRK Irkutsk 69.50 331 *eP* **P** **06 11 58.1 -0.7**
IRK pmax pmax
comp=Z,40nm,1.9s
ODAN Odare 69.50 301 *eP* **P** **06 11 59.9 +0.2**
comp=Z,107nm,0.9s
RAMN Ramite 70.20 301 *eP* **P** **06 12 04.0 0.0**
JIRN Jiri 70.75 301 *eP* **P** **06 12 07.8 +0.4**
comp=Z,62nm,0.9s
MOY Mondy 70.77 329 *eP* **P** **06 12 07.3 +0.5**
MOY pmax pmax
comp=Z,63nm,1.5s
GUN Gumba 71.08 301 *eP* **P** **06 12 09.6 +0.2**
comp=Z,115nm,0.9s
PKI Pulchoki 71.39 301 *eP* **P** **06 12 11.2 -0.1**
comp=Z,98nm,1.2s
PKIN Phulchoki 71.40 301 *eP* **P** **06 12 11.1 -0.2**
comp=Z,55nm,1.0s
KKN Kakani 71.56 301 *eP* **P** **06 12 12.3 +0.2**
comp=Z,57nm,0.9s
DMN Daman 71.66 301 *eP* **P** **06 12 13.0 +0.2**
comp=Z,130nm,0.9s
SDPT Sand Point 71.72 27 *eP* **P** **06 12 12.2 +0.1**
comp=Z,82nm,1.3s
PALK Pallekele 71.75 279 *eP* **P** **06 12 13.0 -0.3**
comp=Z,34nm,1.4s
PALK Pallekele 71.75 279 *eP* **P** **06 12 13.0 -0.3**
PALK pmax pmax
comp=Z,34nm,1.4s
VNDA Vanda 72.91 178 P **P** **06 12 19.3 +0.4**
comp=Z,4.2nm,0.7s,baz=324,slow=6.4,SNR=23
VNDA pP **pP** **06 12 51.8 -0.6**
comp=Z,12nm,1.0s,baz=331,slow=7.6,SNR=12
KOLN Koldanda 72.99 301 *eP* **P** **06 12 20.3 -0.3**
comp=Z,76nm,1.0s
DANN Dangsing 73.00 301 *eP* **P** **06 12 20.4 -0.4**
comp=Z,68nm,0.9s
CHGN Chignik 73.22 26 *eP* **P** **06 12 20.6 -0.4**
comp=Z,85nm,1.4s
BILL Bilibino 73.37 6 *eP* **P** **06 12 22.1 +0.3**
comp=Z,10.0nm,0.9s
BILL Bilibino 73.37 6 *diP* **P** **06 12 21.0 -0.7**
BILL *i* *PP **pP** **06 12 56.7 +1.7**
BILL pmax pmax
comp=Z,12nm,1.0s
SBA Scott Base 73.47 177 *eP* **P** **06 12 23.8 +1.6**
comp=Z,22nm,1.8s
SBA Scott Base 73.47 177 *eP* **P** **06 12 23.8 +1.6**
SBA pmax pmax
comp=Z,22nm,1.8s
PYUN Piuthan 73.60 301 *eP* **P** **06 12 23.7 -0.5**
comp=Z,120nm,0.9s
GAMB Gambell 73.68 16 *eP* **P** **06 12 24.1 +0.6**
comp=Z,8.7nm,0.9s
WMQ Urumqi 74.91 318 P **P** **06 12 32.3 +1.0**
WMQ PcP **PcP** **06 12 47.3 +2.8**
WMQ pP pP 06 13 03.3 -0.7
WMQ pmax pmax
comp=Z,74nm,1.3s
WMQ pmax pmax
comp=Z,380nm,4.5s
WMQ LR LR
comp=Z,260nm,23.7s
WMQ LR LR
comp=Z,120nm,26.5s
WMQ Urumqi 74.91 318 *eP* **P** **06 12 32.2 +0.9**
comp=Z,16nm,0.8s
WMQ Urumqi 74.91 318 *eP* **P** **06 12 32.2 +0.9**
WMQ pmax pmax
comp=Z,16nm,0.8s
SII Sitkinak Islan 75.29 28 *eP* **P** **06 12 34.2 +1.1**
comp=Z,255nm,1.7s
HYB Hyderabad 75.35 289 *iP* **P** **06 12 33.0 -1.3**
ANM Nome 76.10 18 *eP* **P** **06 12 38.3 +0.7**
comp=Z,29nm,1.5s
ANM Nome 76.10 18 *eP* **P** **06 12 38.3 +0.7**
ANM pmax pmax
comp=Z,29nm,1.5s
KDAK Kodiak Island 76.69 27 *eP* **P** **06 12 40.4 -0.5**
comp=Z,57nm,1.3s
KDAK Kodiak Island 76.69 27 *eP* **P** **06 12 40.4 -0.5**
KDAK pmax pmax
comp=Z,57nm,1.3s
KDAK Kodiak Island 76.69 27 P **P** **06 12 40.9 -0.1**
comp=Z,16nm,0.9s,baz=198,slow=7.9,SNR=4.2
SVW2 Sparrevohn 77.27 23 *eP* **P** **06 12 44.6 +0.4**
comp=Z,26nm,1.2s
DGZ Jazzator, Alta 77.34 323 *diP* **P** **06 12 45.1 +0.1**
DGZ pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 77.71 353 *eP* **P** **06 12 45.5 -0.9**
comp=Z,16nm,1.1s
TIXI Tiksi 77.71 353⇓ *iP* **P** **06 12 46.0 -0.4**
TIXI pmax pmax
comp=Z,15nm,1.1s
TIXI Tiksi 77.71 353 P **P** **06 12 45.1 -1.3**
comp=Z,7.2nm,0.7s,baz=176,slow=4.0,SNR=10
TIXI LR LR 06 46 04.6
comp=Z,33nm,20.4s,baz=230,slow=35
BRLK Bradley Lake 78.48 26 *eP* **P** **06 12 51.9 +1.0**
comp=Z,111nm,1.5s
RDOG Red Dog Mine 79.27 16 *eP* **P** **06 12 55.6 +0.5**
comp=Z,42nm,1.3s
SEW Seward 79.28 26 *eP* **P** **06 12 55.8 +0.6**
comp=Z,143nm,1.8s
SUA Susitna One 79.42 24 *eP* **P** **06 12 54.7 -1.4**
comp=Z,97nm,1.9s
MK01 Makanchi Array 79.50 319 *eP* **P** **06 12 57.4 +0.5**
MK31 Makanchi Array 79.52 319 *eP* **P** **06 12 57.5 +0.6**
comp=Z,19nm,0.9s
MK31 Makanchi Array 79.52 319 *eP* **P** **06 12 57.5 +0.6**
MK31 pmax pmax
comp=Z,19nm,0.9s
MK32 Makanchi Array 79.52 319 *eP* **P** **06 12 57.0 +0.1**
MK32 *e*PP **PP** **06 15 57.1 -2.2**
MKAR Makanchi Array 79.52 319 P **P** **06 12 57.0 +0.1**
comp=Z,25nm,1.0s,baz=101,slow=6.4,SNR=103
MKAR PP **PP** **06 15 57.1 -2.2**
comp=Z,3.0nm,1.0s,baz=104,slow=10,SNR=3.8
PPLA Purkeypile 79.60 23 *eP* **P** **06 12 56.2 -0.9**
comp=Z,14nm,1.1s
RC01 Rabbit Creek A 79.65 25 *eP* **P** **06 12 56.5 -0.7**
comp=Z,40nm,1.2s
MAKZ Makanchi 79.73 319 *eP* **P** **06 12 58.2 +0.2**
comp=Z,37nm,1.0s
MAKZ Makanchi 79.73 319 *eP* **P** **06 12 58.2 +0.2**
MAKZ pmax pmax
comp=Z,37nm,1.0s
CAST Castle Rocks 79.92 22 *eP* **P** **06 12 57.7 -1.0**
comp=Z,14nm,1.0s
PMR Palmer 80.15 25 *eP* **P** **06 12 59.3 -0.6**
comp=Z,18nm,1.1s
PMR Palmer 80.15 25 *eP* **P** **06 12 59.3 -0.6**
PMR pmax pmax
comp=Z,18nm,1.1s
GHO Glory Hole Cre 80.33 25 *eP* **P** **06 13 00.5 -0.5**
comp=Z,116nm,2.0s
KNK Knik Glacier 80.34 25 *eP* **P** **06 13 00.7 -0.3**
comp=Z,28nm,1.3s
PDGK Podgornoye 80.39 315 P **P** **06 13 01.2 -0.6**
PDGK pmax pmax
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 80.47 327 *eP* **P** **06 13 01.2 -0.6**
comp=Z,21nm,0.8s
ZALV Zalesovo Beam 80.47 327 P **P** **06 13 00.8 -0.9**
comp=Z,19nm,0.7s,baz=110,slow=5.5,SNR=64
ZALV pP **pP** **06 13 36.0 +1.0**
comp=Z,7.2nm,0.8s,baz=115,slow=6.5,SNR=3.3
ZAA1 Zalesovo Array 80.47 327 *eP* **P** **06 13 00.8 -0.9**
ZAA1 *e*pP **pP** **06 13 36.0 +1.0**
SML Sawmill 80.59 25 *eP* **P** **06 13 01.6 -0.6**
comp=Z,142nm,1.8s
SML Sawmill 80.59 25 *eP* **P** **06 13 01.7 -0.6**
SML pmax pmax
comp=Z,142nm,1.8s
TRF Thorofare Moun 80.63 23 *eP* **P** **06 13 01.1 -1.5**
comp=Z,12nm,0.9s
BPAW Bear Paw Mtn. 80.70 22 *eP* **P** **06 13 02.6 -0.3**
comp=Z,8.8nm,1.1s
IM3 Indian Mountai 80.75 20 *eP* **P** **06 13 02.6 -0.5**
SCM Sheep Creek Mo 81.02 25 *eP* **P** **06 13 04.9 +0.2**
comp=Z,16nm,1.0s
RND Reindeer 81.16 23 *eP* **P** **06 13 04.3 -1.1**
comp=Z,50nm,1.4s
RND Reindeer 81.16 23 *eP* **P** **06 13 04.3 -1.1**
RND pmax pmax
comp=Z,51nm,1.4s
MLY Manley 81.28 21 *eP* **P** **06 13 05.4 -0.6**
comp=Z,15nm,0.7s
MCK McKinley 81.29 23 *eP* **P** **06 13 05.0 -1.0**
comp=Z,30nm,0.9s
MCK McKinley 81.29 23 *eP* **P** **06 13 05.0 -1.0**
MCK pmax pmax
comp=Z,30nm,0.9s
KLU Klutina 81.46 25 *eP* **P** **06 13 08.0 +1.0**
comp=Z,12nm,0.9s
DHY Denali Highway 81.59 24 *eP* **P** **06 13 06.9 -0.8**
comp=Z,9.6nm,0.9s
NVS Novosibirsk 81.65 327 *eP* **P** **06 13 07.2 -0.8**
NVS *e* 06 13 42.8
NVS pmax pmax
comp=Z,44nm,1.6s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,23nm,1.4s
HMT Hamilton 81.69 27 *eP* **P** **06 13 09.5 +1.4**
comp=E,118nm,1.6s
KDJ Kajisay 81.73 314 *eP* **P** **06 13 11.2 +2.2**
comp=E,48nm,0.9s
WRH Wood River Hil 81.98 22 *eP* **P** **06 13 08.1 -1.5**

comp=E,25nm,1.2s
KSH Kashi 82.01 311 P P 06 13 12.5 +2.1
KSH sP sP 06 14 03.3 +5.5
KSH PP **PP 06 16 24.5 +4.4**
KSH S **S 06 23 10.5 -3.3**
KSH pmax pmax
comp=E,39nm,1.2s
KSH pmax pmax
comp=E,93nm,5.9s
KSH LR LR
comp=E,130nm,9.6s
KSH LR LR
comp=E,79nm,10.6s
MDM Murphy Dome 82.17 22 *e*P **P 06 13 11.5 +1.0**
comp=E,15nm,1.5s
CCB Clear Creek Bu 82.17 22 *e*P **P 06 13 09.0 -1.5**
comp=E,9.8nm,0.7s
HARP HAARP 82.19 25 *e*P **P 06 13 11.3 +0.6**
comp=E,19nm,0.9s
TCOL CIGO_UAF Yank 82.26 22 P **P 06 13 09.4 -1.6**
baz=241
COLA College 82.27 22 *e*P **P 06 13 09.2 -1.8**
comp=E,16nm,0.8s
COLA College 82.27 22*d i*P **P 06 13 08.8 -2.2**
PAX Paxson 82.31 24 *e*P **P 06 13 11.7 +0.3**
comp=E,11nm,1.4s
HDA Harding Lake 82.39 23 *e*P **P 06 13 10.5 -1.2**
comp=E,6.6nm,0.6s
HDA Harding Lake 82.39 23 P **P 06 13 10.4 -1.2**
baz=242
ULHL Ulahol 82.43 314 P **P 06 13 13.2 +0.5**
SNR=19
TGL Tana Glacier 82.50 27 *e*P **P 06 13 13.0 +0.6**
comp=E,45nm,1.6s
POKR Poker Plat Res 82.54 22 P **P 06 13 12.1 -0.4**
baz=241
IL1 Eielson Array 82.58 22 *e*P **P 06 13 10.4 -2.2**
ILAR Eielson Array 82.58 22 P **P 06 13 10.5 -2.2**
comp=E,9.7nm,0.6s,baz=248,slow=5.2,SNR=73
ILAR pP **pP 06 13 45.0 -1.7**
comp=E,4.0nm,0.9s,baz=246,slow=4.2,SNR=3.3
ILB Eielson Array 82.58 22 *e*P **P 06 13 10.8 -1.9**
comp=E,13nm,0.7s
BALM Baldy 82.83 27 *e*P **P 06 13 13.9 -0.3**
comp=E,67nm,2.0s
BALM Baldy 82.83 27 *e*P **P 06 13 13.9 -0.3**
BALM pmax pmax
comp=Z,67nm,2.0s
RIDG Independ'e Rid 82.91 24 *e*P **P 06 13 13.5 -1.0**
comp=Z,50nm,1.8s
KURK Kurchatov 83.01 322 *e*P **P 06 13 15.1 -0.1**
comp=Z,46nm,0.9s
KURK Kurchatov 83.01 322*d i*P **P 06 13 14.5 -0.7**
KURK pmax pmax
comp=Z,55nm,1.0s
KURK Kurchatov 83.01 322 P **P 06 13 14.9 -0.3**
SNR=21
MENT Mentasta 83.02 25 *e*P **P 06 13 15.1 +0.1**
comp=Z,8.8nm,1.1s
KURBB Kurchatov Arra 83.04 322 P **P 06 13 15.2 -0.2**
comp=Z,22nm,0.9s,baz=110,slow=4.3,SNR=102
TKM2 Tokmak 2 83.05 314 P **P 06 13 16.3 +0.4**
SNR=30
TKM2 Tokmak 2 83.05 314 P **P 06 13 15.9 0.0**
TKM2 pmax pmax
comp=Z,28nm,1.2s
KZA Kyzart 83.11 313 P **P 06 13 17.7 +1.3**
SNR=73
DOT Dot Lake 83.18 24 *e*P **P 06 13 15.3 -0.6**
comp=Z,16nm,0.8s
SCRK Sand Creek 83.35 24 *e*P **P 06 13 16.1 -0.8**
comp=Z,10nm,1.1s
KBK Karagaybulak 83.46 314 P **P 06 13 18.5 +0.6**
SNR=10
TOLK Toolik Lake Re 83.56 18 *e*P **P 06 13 17.6 -0.1**
comp=Z,8.0nm,0.8s
TOLK Toolik Lake Re 83.56 18 P **P 06 13 18.0 +0.3**
baz=239
CHMS Chumysh 83.67 314 P **P 06 13 19.3 +0.4**
SNR=14
UCH Uchtor 83.68 313 P **P 06 13 20.5 +1.1**
SNR=50
AAK Ala-Archa 83.78 314 P **P 06 13 20.2 +0.6**
SNR=20
AAK Ala-Archa 83.78 314 *e*P **P 06 13 21.3 +1.7**
comp=Z,27nm,0.8s
AAK Ala-Archa 83.78 314 P **P 06 13 20.1 +0.6**
comp=Z,19nm,0.8s,baz=112,slow=5.0,SNR=51
USP Ospenovka 83.91 314 P **P 06 13 20.3 +0.3**
SNR=28
FYU Fort Yukon 84.02 21 *e*P **P 06 13 19.9 -0.1**
comp=Z,12nm,0.8s
AML Almayashu 84.25 313 P **P 06 13 23.2 +1.0**
SNR=116
EKS2 Erkin-Say 84.30 314 P **P 06 13 23.0 +0.9**
SNR=49
EGAK Eagle 84.80 23 *e*P **P 06 13 23.8 -0.2**
comp=Z,12nm,0.8s
HYT Haines Junctio 84.96 28 *e*P **P 06 13 25.4 +0.4**
comp=Z,41nm,1.6s
MAW Mawson 85.14 203 P **P 06 13 25.2 -0.5**
comp=Z,4.6nm,0.8s,baz=111,slow=8.3,SNR=5.8
MAW pP **pP 06 13 58.9 -1.1**
comp=Z,7.7nm,0.9s,baz=65,slow=4.3,SNR=4.0
QSPA South Pole Qui 85.19 180 *e*P **P 06 13 25.8 -0.4**
comp=Z,39nm,1.6s
DAWY Dawson 85.25 24 *e*P **P 06 13 26.2 0.0**
comp=Z,38nm,1.6s
NRIK Noril'sk 85.55 341 P **P 06 13 27.0 -0.6**
NRIK Noril'sk 85.55 341 P **P 06 13 27.0 -0.6**
comp=Z,18nm,0.7s,baz=106,slow=4.0,SNR=28
WHY Whitehorse 86.14 28 *e*P **P 06 13 31.1 +0.3**
comp=Z,29nm,1.8s
WRAK Wrangell Islan 86.28 33 *e*P **P 06 13 33.4 +2.0**
comp=Z,15nm,1.1s
KBL Kabul 86.56 305 *e*P **P 06 13 32.1 -1.6**
comp=Z,18nm,1.3s
KBL Kabul 86.56 305 *e*P **P 06 13 32.1 -1.6**
KBL pmax pmax
comp=Z,18nm,1.3s
KK31 Karatay Array 86.74 314 *e*P **P 06 13 34.4 +0.3**
comp=Z,28nm,1.1s
KK31 Karatay Array 86.74 314 *e*P **P 06 13 34.4 +0.3**
KK31 pmax pmax
comp=Z,28nm,1.1s
KKAR Karatay Array 86.74 314 *e*P **P 06 13 34.4 +0.3**
comp=Z,28nm,1.1s
KKAR Karatay Array 86.74 314 *e*P **P 06 13 34.4 +0.3**
KKAR pmax pmax
comp=Z,28nm,1.1s
EPYK Eagle Plains 87.09 23 *e*P **P 06 13 35.3 0.0**
comp=Z,18nm,0.8s
EPYK Eagle Plains 87.09 23 P **P 06 13 35.0 -0.3**
baz=251
BBB Bella Bella 87.80 37 LR LR 06 52 44.0
comp=Z,97nm,18.1s,baz=76,slow=35
DLBC Dease Lake 87.97 31 *e*P **P 06 13 40.4 +0.7**
comp=Z,9.7nm,1.1s
DLBC pP **pP 06 14 13.3 -1.0**
DLBC Dease Lake 87.97 31 P **P 06 13 40.0 +0.4**
comp=Z,5.3nm,1.0s,baz=230,slow=5.6,SNR=10
DLBC pP **pP 06 14 13.3 -1.0**
comp=Z,5.0nm,1.0s,baz=252,slow=10,SNR=4.3
BVA0 Borovoye Array 88.50 323 *i* P **P 06 13 40.8 -1.4**
BVA0 pmax pmax
comp=Z,29nm,0.9s
BVAR Borovoye Array 88.50 323 P **P 06 13 41.1 -1.1**
comp=Z,21nm,0.7s,baz=101,slow=6.2,SNR=104
BVAR PP **PP 06 17 08.2 -4.0**
comp=Z,1.5nm,0.8s,baz=107,slow=7.9,SNR=3.9
BRVK Borovoye 88.57 323 *e*P **P 06 13 41.8 -0.7**
comp=Z,20nm,0.8s
BRVK Borovoye 88.57 323*d i*P **P 06 13 41.0 -1.5**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 88.57 323 P **P 06 13 41.6 -0.9**
SNR=10
INK Inuvik 88.85 21 *e*P **P 06 13 42.8 -0.7**
comp=Z,15nm,1.2s
INK pP **pP 06 14 17.6 -0.5**
INK Inuvik 88.85 21 *e*P **P 06 13 42.8 -0.7**
INK *PP **pP 06 14 17.6 -0.5**
INK pmax pmax
comp=Z,15nm,1.2s
INK Inuvik 88.85 21 P **P 06 13 42.2 -1.3**
comp=Z,9.5nm,1.1s,baz=227,slow=7.2,SNR=16
INK pP **pP 06 14 17.6 -0.5**
comp=Z,6.0nm,1.1s,baz=217,slow=8.2,SNR=4.2
I03D Drain, OR 89.68 46 P **P 06 13 48.4 +0.4**
baz=263
O02D Mt. Diablo Mer 89.69 50 P **P 06 13 49.1 +0.9**
baz=264
NLWA Neilton Lookou 89.77 43 *e*P **P 06 13 49.1 +0.8**
comp=Z,6.5nm,0.9s
M02C Callahan 89.78 49 P **P 06 13 49.5 +0.9**
baz=263
N02D Trinity Center 89.84 49 P **P 06 13 49.7 +0.8**
baz=264
G03D McMinnville, O 89.92 45 P **P 06 13 49.1 +0.1**
baz=263
YBH Yreka Blue Hor 89.92 48 P **P 06 13 49.7 +0.4**
comp=Z,4.8nm,0.9s,baz=220,slow=9.4,SNR=3.8
YBH LR LR 06 47 32.8
comp=Z,70nm,20.4s,baz=5.5,slow=31
D03D Eldon 90.31 42 P **P 06 13 51.1 +0.4**
baz=263
O03E Paynes Creek 90.45 50 P **P 06 13 51.9 +0.1**
baz=264
J04D Umpqua Nationa 90.53 47 P **P 06 13 52.6 +0.4**
baz=264
M04C Macdoel 90.58 48 P **P 06 13 52.7 +0.4**
baz=264
ORV Oroville 90.61 51 P **P 06 13 52.4 0.0**
ORV pmax pmax
comp=Z,13nm,1.9s
B05A Bryant 91.06 42 P **P 06 13 54.3 +0.1**
baz=264
LON Longmire 91.10 43 *e*P **P 06 13 54.6 +0.1**
comp=Z,2.5nm,0.7s
LON Longmire 91.10 43 *e*P **P 06 13 54.6 +0.1**
LON pmax pmax
comp=Z,3.0nm,0.7s
J05D Fort Rock, OR 91.17 47 P **P 06 13 55.7 +0.6**
baz=265
CMB Columbia Colle 91.34 52 *e*P **P 06 13 56.4 +0.5**
comp=Z,1.8nm,0.8s
CMB Columbia Colle 91.34 52 *e*P **P 06 13 56.4 +0.5**
CMB pmax pmax
comp=Z,2.0nm,0.8s
K05A Summer Lake 91.37 47 *e*P **P 06 13 56.9 +0.8**
comp=Z,9.9nm,0.8s
PINE Pine Mountain 91.43 46 *e*P **P 06 13 57.0 +0.6**
comp=Z,7.8nm,0.9s
BEKR Beckworth 91.52 50 *e*P **P 06 13 56.4 -0.4**
comp=Z,9.8nm,1.5s
MOD Modoc Plateau 91.73 48 *e*P **P 06 13 58.4 +0.6**
comp=Z,6.6nm,0.8s
LTY Liberty 91.92 43 *e*P **P 06 13 58.5 +0.1**
comp=Z,2.6nm,0.6s
WAKR Walker 92.12 52 *e*P **P 06 14 00.8 +1.1**
PAHR Pah Rah Range 92.25 51 *e*P **P 06 14 00.7 +0.5**
comp=Z,3.2nm,1.0s
YERR Yerington 92.31 51 *e*P **P 06 14 01.2 +0.7**
comp=Z,6.2nm,1.1s
I07A Izee 92.49 46 *e*P **P 06 14 01.5 +0.4**
comp=Z,3.6nm,1.0s
ISA Isabella, Lake 92.69 55 P **P 06 14 02.9 +0.7**
ISA pmax pmax
comp=Z,4.0nm,1.2s
NV01 Mina Array Sit 93.00 52 *e*P **P 06 14 04.2 +0.5**
NVAR Mina Array Bea 93.00 52 P **P 06 14 03.6 -0.1**
comp=Z,3.0nm,0.7s,baz=250,slow=5.9,SNR=20
NVAR pP **pP 06 14 36.7 -1.7**
comp=Z,3.5nm,0.9s,baz=258,slow=5.9,SNR=4.8
EDW2 Edwards Air Fo 93.03 55 P **P 06 14 04.1 +0.4**
baz=266
CWC Cottonwood Cre 93.06 54 P **P 06 14 04.0 0.0**
baz=266
NV11 Mina Array Sit 93.12 52 *e*P **P 06 14 04.4 +0.2**
comp=Z,0.3nm,0.9s
KVN Kaiserville 93.20 51 *e*P **P 06 14 04.6 0.0**
comp=Z,11nm,1.6s
KVN Kaiserville 93.20 51 *e*P **P 06 14 04.6 0.0**
KVN pmax pmax
comp=Z,11nm,1.6s
SYO Syowa Base 93.30 200⇓*i*P **P 06 14 03.8 -0.4**
SYO Syowa Base 93.30 200⇓*i*pP pP 06 14 39.4 +0.7
LRMC Laurel Mtn Rad 93.32 55 P **P 06 14 04.6 -0.6**
baz=266
DAC Darwin (Calif) 93.44 54 P **P 06 14 07.8 +2.0**
DAC pmax pmax
comp=Z,6.0nm,0.9s
MPMC Manual Prospec 93.51 54 P **P 06 14 06.3 +0.2**
baz=267
E09A Wood Farm, Sta 93.60 44 *e*P **P 06 14 07.3 +1.3**
comp=Z,3.7nm,0.7s
GRAC Grapevine Rang 93.66 53 P **P 06 14 06.8 +0.2**
baz=267
GSC Goldstone, Bar 94.02 55 P **P 06 14 08.9 +0.5**
GSC pmax pmax
comp=Z,8.0nm,1.4s
GSC Goldstone, Bar 94.02 55 P **P 06 14 08.5 +0.1**
baz=267
FURC Furnace Creek, 94.04 54 P **P 06 14 08.7 +0.5**
baz=267
BMO Blue Mountains 94.10 45 P **P 06 14 06.7 -1.8**
BMO pmax pmax
comp=Z,3.0nm,1.0s
F10A Beach Ranch, E 94.21 44 *e*P **P 06 14 08.7 -0.3**
comp=Z,3.4nm,0.8s
MONP2 Monument Peak 94.22 57 P **P 06 14 10.8 +1.4**
baz=267
PFO Pinyon Flats O 94.22 57 P **P 06 14 09.9 +0.6**
baz=267
TPFO Pinon Flats 94.23 57 P **P 06 14 09.7 +0.3**
baz=267
NEW Newport 94.37 42 P **P 06 14 10.0 +0.4**
baz=268
NEW Newport 94.37 42 P **P 06 14 10.2 +0.6**
comp=Z,2.0nm,0.7s,baz=273,slow=5.7,SNR=4.7
SHOC Shoshone, Teco 94.48 54 P **P 06 14 10.5 +0.2**
baz=267
TPNV Topopah Spring 94.55 53 *e*P **P 06 14 11.6 +0.7**
comp=Z,6.3nm,0.9s
TPNV Topopah Spring 94.55 53 *e*P **P 06 14 11.6 +0.7**
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 94.55 53 P **P 06 14 11.0 +0.2**
baz=267
BELC Belle Mtn. Jos 94.62 56 P **P 06 14 11.5 +0.3**
baz=267
ABKAR Akbulak array 94.66 319 *e*P **P 06 14 10.1 -0.7**
comp=Z,6.4nm,1.0s
TUQ Turquoise Moun 94.75 55 P **P 06 14 11.9 +0.1**
baz=268
GMRC Granite Mounta 94.94 56 P **P 06 14 13.4 +0.8**
baz=268
BC3 Big Chuckawall 95.06 57 P **P 06 14 14.6 +1.4**
baz=268
R11A Troy Canyon, C 95.13 52 P **P 06 14 13.8 +0.3**
baz=268
IRM Iron Mountain 95.34 56 P **P 06 14 15.3 +1.0**
baz=268
SHPR Sheep Range 95.41 54 *e*P **P 06 14 16.0 +1.2**
comp=Z,3.1nm,0.9s
ELK Elko 95.47 50 P **P 06 14 16.0 +0.9**
ELK Elko 95.47 50 P **P 06 14 16.0 +0.9**
comp=Z,0.7nm,0.5s,baz=325,slow=7.7,SNR=4.2
ELK LR LR 06 55 04.3
comp=Z,78nm,18.1s,baz=10,slow=34
ARU Arti 95.62 326 P **P 06 14 12.5 -2.5**
ARU *PP **pP 06 14 46.8 -2.3**
ARU 06 18 04.6
ARU S **SKSac 06 24 34.7 -3.8**
ARU PS **PS 06 26 44.3 -12**
ARU SS **SS 06 31 49.8 -2.4**
Y12C Blythe 95.84 57 P **P 06 14 17.7 +1.1**
baz=268
AKTO Aktyubinsk 95.93 320 P **P 06 14 14.8 -1.8**
comp=Z,4.1nm,1.0s,baz=89,slow=5.5,SNR=9.2
YKA Yellowknife Ar 95.95 28 P **P 06 14 15.5 -0.9**
comp=Z,1.3nm,0.8s,baz=272,slow=4.7,SNR=37
YKA pP **pP 06 14 49.5 -1.6**
comp=Z,1.0nm,0.8s,baz=266,slow=4.8,SNR=4.1
YKA PKiKP **PKiKP 06 18 53.8 -0.7**
comp=Z,0.2nm,0.6s,baz=271,slow=1.3,SNR=6.3
YKB5 Yellowknife Ar 95.95 28 *e*P **P 06 14 15.4 -1.0**
HLID Hailey 96.14 47 P **P 06 14 17.9 0.0**
baz=269
KNB Kanab 97.30 53 *e*P Pdif 06 14 25.1 +1.7
comp=Z,29nm,1.9s
KNB Kanab 97.30 53 *e*P Pdif 06 14 25.1 +1.7
KNB pmax pmax
comp=Z,29nm,1.9s
HVU Hansel Valley 97.34 49 P Pdif 06 14 24.1 +0.6
HVU pmax pmax
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 99.71 48 *e*Pdif **Pdif 06 14 32.8 -1.3**
PDAR pP **pP 06 15 05.8 -3.0**
PDAR Pinedale Array 99.71 48 P **Pdif 06 14 33.1 -0.9**
comp=Z,1.1nm,0.7s,baz=245,slow=2.5,SNR=11
PDAR pP **pP 06 15 05.8 -3.0**
comp=Z,1.0nm,0.9s,baz=259,slow=3.0,SNR=3.6
TXAR Lajitas Array 105.16 61 PKKPbc PKKPbc 06 30 34.3 -5.2
comp=Z,0.3nm,0.8s,baz=152,slow=5.7,SNR=3.7
TXAR PKKPab **PKKPab 06 30 56.4 -0.6**
comp=Z,1.6nm,0.8s,baz=115,slow=6.8,SNR=14
ARA0 ARCESS Array S 106.49 343 *e*PKiKP **PKiKP 06 19 12.9 -0.5**
ARCES ARCESS Array B 106.49 343 PKiKP **PKiKP 06 19 12.9 -0.5**
comp=Z,2.6nm,0.7s,baz=82,slow=2.6,SNR=6.1
FIA0 FINESS Array S 110.53 335 *e*PKiKP **PKiKP 06 19 20.6 -0.6**
FIA0 FINESS Array S 110.53 335 *e*PKiKP **PKiKP 06 19 20.6 -0.6**
FINES FINESS Array B 110.53 335 PKiKP **PKiKP 06 19 20.6 -0.6**
comp=Z,2.1nm,0.7s,baz=338,slow=1.0,SNR=7.4
F40A Park Falls 112.87 42 P **PKiKP 06 19 25.9 -0.3**
baz=288
AKASG Malin Array Be 113.77 324 PKiKP **PKiKP 06 19 26.7 -1.0**
comp=Z,1.2nm,0.4s,baz=62,slow=2.1,SNR=11
KIEV Kiev 113.78 324⇓*i*PKiKP **PKiKP 06 19 26.7 -1.0**
Q41A Truxton 113.98 49 P **PKiKP 06 19 28.4 -0.1**
baz=284
BR101 Keskin Array S 114.39 312 *e*PKiKP PKPdf 06 19 28.1 -1.3
BRTR Keskin Array B 114.39 312 PKP PKPdf 06 19 28.1 -1.3
comp=Z,1.7nm,0.6s,baz=94,slow=1.2,SNR=8.6
ANTO Ankara 114.98 312⇑PKiKP **PKiKP 06 19 30.2 -0.3**
NC303 NORSAR Array S 116.29 340 *e*PKPdf **PKiKP 06 19 32.3 0.0**
NC204 NORSAR Array S 116.46 340 *e*PKPdf **PKPdf 06 19 32.1 -0.5**
NB2 NORSAR Subarra 116.47 340 PKPdf **PKPdf 06 19 31.1 -1.6**
comp=Z,4.1nm,0.8s,baz=45,slow=1.9
NB200 NORSAR Array S 116.47 340 *e*PKPdf **PKPdf 06 19 31.5 -1.2**
NOA NORSAR Array B 116.47 340 PKP **PKPdf 06 19 31.5 -1.2**
comp=Z,2.2nm,0.7s,baz=47,slow=1.9,SNR=17
CFR Carcaliu 116.56 319⇑PKiKP **PKPdf 06 19 32.4 -0.8**
NC602 NORSAR Array S 116.57 339 *e*PKPdf **PKPdf 06 19 31.6 -1.2**
NBO00 NORSAR Array S 116.63 340 *e*PKPdf **PKPdf 06 19 32.5 -0.5**
NAO01 NORSAR Array S 116.72 340 *e*PKPdf **PKiKP 06 19 33.1 0.0**
TLB Topalu 116.83 318⇑PKiKP **PKPdf 06 19 33.5 +0.3**
BUR08 Bucovina Ar. S 117.44 322 *e*PKPdf **PKiKP 06 19 36.3 +1.3**
BURAR Bucovina Array 117.44 322⇑PKiKP **PKPdf 06 19 35.8 +0.8**
R47A Wooly Knot Far 117.71 49 P **PKPdf 06 19 35.5 -0.2**
baz=287
MLR Muntele Rosu 117.86 320 *e*PKPdf **PKPdf 06 19 35.2 -0.7**
MLR Muntele Rosu 117.86 320 *e*PKiKP **PKPdf 06 19 35.2 -0.7**
K48A Perry 117.97 44 P **PKPdf 06 19 35.5 -0.6**
baz=291
KWP Kalwaria Pacla 118.01 325 *e*PKPdf **PKPdf 06 19 35.8 -0.1**
KWP Kalwaria Pacla 118.01 325 *e*PKiKP **PKPdf 06 19 35.8 -0.1**
N48A Decatur 118.01 46 P **PKPdf 06 19 35.6 -0.6**
baz=290
L48A N Adams 118.06 45 P **PKPdf 06 19 36.0 -0.2**
baz=290
O48A Farmland 118.11 47 P **PKPdf 06 19 36.0 -0.4**
baz=289
VOIR 118.46 320⇓PKiKP **PKPdf 06 19 36.2 -0.8**
N49A Columbus Grove 118.59 46 P **PKPdf 06 19 37.3 0.0**
baz=290
BOSA Boshof 118.68 234 PKP **PKPdf 06 19 37.5 -0.5**
comp=Z,1.1nm,0.6s,baz=171,slow=5.9,SNR=3.1
W49A Belvidere 118.81 52 P **PKPdf 06 19 36.7 -1.2**
baz=286
U50A Jamestown 119.55 51 P **PKPdf 06 19 39.2 -0.2**
baz=287
ALN Alexandroupoli 119.55 315 *e*PKPdf **PKPdf 06 19 37.6 -1.5**
ALN Alexandroupoli 119.55 315 *e*PKiKP **PKPdf 06 19 37.6 -1.5**
Z50A Ashland 119.57 54 *e*PKPdf **PKPdf 06 19 39.2 -0.2**
EZN Ezine 119.73 314⇑PKiKP **PKPdf 06 19 38.5 -1.0**
GZR Gura Zlata 119.92 321⇑PKiKP **PKPdf 06 19 37.6 -2.2**
OKC Ostrava-Krasne 120.45 327 *e*PKPDF **PKPdf 06 19 39.6 -1.0**
OKC Ostrava-Krasne 120.45 327 *e*PKiKP **PKPdf 06 19 39.6 -1.0**
SADO Sadowa 120.47 40 *e*PKPdf **PKPdf 06 19 40.8 0.0**
KARP Karpathos 120.49 309 *e*PKPdf **PKPdf 06 19 40.3 -0.8**
PLCA Paso Flores 120.52 144 *e*PKPdf **PKiKP 06 19 41.5 +0.3**
PLCA Paso Flores 120.52 144 PKP **PKPdf 06 19 40.5 -0.7**
comp=Z,1.2nm,0.9s,baz=284,slow=4.2,SNR=3.3
LSZ Lusaka 120.53 249 *e*PKPdf **PKiKP 06 19 43.3 +1.4**
BZS Buzias 120.55 321⇑PKiKP **PKPdf 06 19 40.4 -0.5**
TKL Tuckaleechee C 120.60 51 *e*PKPdf **PKiKP 06 19 41.6 +0.2**
TKL Tuckaleechee C 120.60 51 PKP **PKPdf 06 19 40.3 -1.0**
comp=Z,1.9nm,0.7s,baz=150,slow=8.7,SNR=5.2
W52A Murphy 120.65 52 *e*PKPdf **PKiKP 06 19 41.6 0.0**
V52A Sevierville 120.68 51 *e*PKPdf **PKiKP 06 19 41.9 +0.3**
VYHS Vyhne 120.78 325 *e*PKiKP **PKPdf 06 19 38.4 -2.9**
VYHS Vyhne 120.78 325 *e*PKP **PKPdf 06 19 38.4 -2.9**
MORC Moravsky Berou 120.81 327 *e*PKP **PKPdf 06 19 41.1 -0.3**
VTS Vitosha 120.82 318 *e*PKPdf **PKPdf 06 19 41.4 -0.4**
VTS Vitosha 120.82 318⇑PKiKP **PKPdf 06 19 40.8 -0.9**
N53A Lisbon 120.99 45 P **PKPdf 06 19 41.8 -0.1**
baz=293
KRLC Kraliky 121.05 328 *e*PKPDF **PKPdf 06 19 41.6 -0.2**
KRLC Kraliky 121.05 328 *e*PKiKP **PKPdf 06 19 41.6 -0.2**
P53A Whipple 121.10 46 *e*PKPdf **PKPdf 06 19 42.0 -0.1**
P53A Whipple 121.10 46 P **PKiKP 06 19 42.3 0.0**
baz=292
DPC Dobruska-Polom 121.13 328 *e*PKPDF **PKPdf 06 19 41.7 -0.3**
DPC Dobruska-Polom 121.13 328 *e*PKiKP **PKPdf 06 19 41.7 -0.3**
JAVC Velka Javorina 121.24 326 *e*PKP **PKiKP 06 19 43.0 +0.6**
U53A Fall Branch 121.30 50 P **PKPdf 06 19 42.3 -0.4**
baz=289
V53A Saluda 121.34 51 *e*PKPdf **PKiKP 06 19 43.2 +0.2**
GOGA Godfrey 121.50 54 *e*PKPdf **PKiKP 06 19 43.3 0.0**
N54A Moraine State 121.52 44 *e*PKPdf **PKiKP 06 19 43.4 +0.2**
M54A Oil Creek Stat 121.52 43 *e*PKPdf **PKiKP 06 19 43.1 0.0**
O54A Avella 121.56 45 P **PKPdf 06 19 43.0 0.0**
baz=293
Q54A Coxs Mills 121.69 47 P **PKPdf 06 19 43.0 -0.4**
baz=292
MODS Modra-Piesok 121.72 326 *e*PKiKP **PKPdf 06 19 42.0 -1.1**
MODS Modra-Piesok 121.72 326 *e*PKP **PKPdf 06 19 42.0 -1.1**
BSEG Bad Segeberg 121.76 334 *e*PKPdf **PKiKP 06 19 43.1 0.0**
baz=50,slow=1.9
VAY Valandovo 121.81 316 *i* PKP **PKPdf 06 19 41.6 -1.8**
KRUC Moravsky 121.83 327 *e*PKP **PKPdf 06 19 42.9 -0.4**
BRG Berggiesshubel 122.05 330 *e*PKP **PKPdf 06 19 43.3 -0.3**
comp=Z,7.3nm,0.9s
BRG Berggiesshubel 122.05 330 *e*PKPdf **PKPdf 06 19 43.4 -0.3**
baz=50,slow=1.9
BRG Berggiesshubel 122.05 330 *e*PKiKP **PKPdf 06 19 43.3 -0.3**
BRG pmax pmax
comp=Z,7.0nm,0.9s
MORH Mrgy, Hungar 122.07 323⇓*e*PKiKP **PKPdf 06 19 42.1 -1.7**
GOPC GO Pecny, Ondr 122.19 328 *e*PKPDF **PKPdf 06 19 43.3 -0.7**
GOPC GO Pecny, Ondr 122.19 328 *e*PKiKP **PKPdf 06 19 43.3 -0.7**
CLL Collm 122.24 331 *e*PKPdf **PKPdf 06 19 44.0 0.0**
CLL Collm 122.24 331 *e*PKPdf **PKPdf 06 19 43.5 -0.5**
baz=50,slow=1.9
CLL Collm 122.24 331 *i* PKPdf **PKPdf 06 19 43.2 -0.8**
comp=Z,11nm,0.7s
CLL Collm 122.24 331 *i* PKiKP **PKPdf 06 19 43.2 -0.8**
CLL pmax pmax
comp=Z,11nm,0.7s
PRU Pruhonice 122.28 329 *e*PKPDF **PKPdf 06 19 43.7 -0.4**
PRU Pruhonice 122.28 329 *e*PKiKP **PKPdf 06 19 43.7 -0.4**
FBE Freiberg 122.31 330 *e*PKPdf **PKPdf 06 19 44.2 0.0**
baz=50,slow=1.9
LIT Litokhoron 122.36 315 *e*PKPdf **PKPdf 06 19 43.2 -1.4**
LIT Litokhoron 122.36 315 *e*PKiKP **PKPdf 06 19 43.2 -1.4**
BLA Blacksburg 122.64 48 *e*PKPdf **PKiKP 06 19 45.8 +0.3**
KRUS Krusevo 122.69 317 *i* PKP **PKPdf 06 19 44.1 -1.2**
CONA Conrad Observa 122.76 326 *i* PKiKP **PKPdf 06 19 44.7 -0.5**
comp=Z,6.2nm,0.7s
NRDL Niedersach Rie 122.83 333 *e*PKPdf **PKPdf 06 19 45.0 +0.1**
baz=50,slow=1.9
FNA Florina 122.85 316 *e*PKPdf **PKPdf 06 19 44.6 -1.0**
FNA Florina 122.85 316 *e*PKiKP **PKPdf 06 19 44.6 -1.0**
AGG Agios Georgios 122.90 314 *e*PKPdf **PKPdf 06 19 44.8 -0.9**
AGG Agios Georgios 122.90 314 *e*PKiKP **PKPdf 06 19 44.8 -0.9**
JSC Jenkinsville 122.99 52 *e*PKPdf **PKiKP 06 19 46.1 -0.1**
RETH Rethem/Aller, 123.00 334 *e*PKPdf **PKPdf 06 19 45.3 -0.1**
baz=50,slow=1.9
TANN Tannenbergstra 123.07 330 *e*PKPdf **PKPdf 06 19 45.5 -0.3**
baz=50,slow=1.9
OHR Ohrid 123.10 317 *i* PKP **PKPdf 06 19 45.2 -0.9**
SSPA Standing Stone 123.11 44 *e*PKPdf **PKiKP 06 19 46.5 +0.2**
CLZ Clausthal 123.15 332 *e*PKPdf **PKPdf 06 19 45.6 -0.2**
baz=50,slow=1.9
PLN Plauen 123.18 330 *e*PKPdf **PKPdf 06 19 45.5 -0.4**
baz=50,slow=1.9
NKC Novy Kostel 123.19 330 *e*PKPDF **PKPdf 06 19 45.7 -0.2**

NKC	Novy Kostel	123.19	330	ePKIKP	PKPdf	06 19 45.7	-0.2	
WERN	Wernitzgruen	123.19	330	ePKPdf	PKPdf	06 19 45.7	-0.3	
	baz=50,slow=1.9							
KHC	Kasperske Hory	123.29	328	ePKPdf	PKPdf	06 19 46.2	+0.1	
KHC	Kasperske Hory	123.29	328	ePKPDF	PKPdf	06 19 45.2	-0.9	
KHC	Kasperske Hory	123.29	328	ePKIKP	PKPdf	06 19 45.2	-0.9	
GEC2	GERESS Array S	123.40	328	ePKPdf	PKPdf	06 19 46.1	-0.3	
GEC2	GERESS Array S	123.40	328	ePKPdf	PKPdf	06 19 45.9	-0.5	
	baz=50,slow=1.9							
GEC2	GERESS Array S	123.40	328	ePKIKP	PKPdf	06 19 46.2	-0.3	
GERES	GERESS Array B	123.40	328	PKP	PKPdf	06 19 45.9	-0.5	
	comp=Z,7.1nm,0.6s,baz=67,slow=1.6,SNR=59							
GERES				SKP		06 23 07.1		
	comp=Z,0.6nm,0.6s,baz=90,slow=2.7,SNR=3.6							
GEA0	GERESS Array S	123.40	328	ePKPdf	PKPdf	06 19 45.9	-0.5	
MANZ	Manzenberg	123.52	330	ePKPdf	PKPdf	06 19 46.3	-0.3	
	baz=50,slow=1.9							
WET	Wettzell	123.65	329	ePKPdf	PKPdf	06 19 46.6	-0.3	
	baz=50,slow=1.9							
MOA	Molln	123.69	327	*i* PKPdf	PKPdf	06 19 45.5	-1.5	
	comp=Z,4.0nm,0.9s							
ITM	Ithomi	123.91	312	ePKPdf	PKPdf	06 19 46.9	-0.7	
SOKA	Soboth	123.93	325	*i* PKPdf	PKPdf	06 19 46.7	-0.8	
	comp=Z,7.4nm,0.9s							
OBKA	Obir	124.30	325	*i* PKPdf	PKPdf	06 19 46.7	-1.6	
	comp=Z,12nm,1.3s							
N59A	State Game Lan	124.43	43	ePKPdf	PKiKP	06 19 49.2	+0.4	
MOQ	Mont Orford	124.44	36	ePKPdf	PKPdf	06 19 48.6	+0.1	
KBA	Koelnbreinsper	124.64	326	*i* PKiKP	PKPdf	06 19 48.7	-0.3	
	comp=Z,4.4nm,0.6s							
MYKA	Terra Mystica	124.74	326	*i* PKPdf	PKPdf	06 19 47.7	-1.4	
	comp=Z,5.1nm,0.9s							
TRI	Trieste	125.21	325	ePKPdf	PKPdf	06 19 49.9	0.0	
ABTA	Abfaltersbach	125.30	327	*i* PKPdf	PKPdf	06 19 49.1	-1.0	
	comp=Z,14nm,1.0s							
WATA	Walderalm	125.45	328	ePKPdf	PKPdf	06 19 49.1	-1.4	
	comp=Z,3.7nm,0.5s							
EKA	Eskdalemuir Ar	125.65	343	PKP	PKPdf	06 19 49.6	-0.8	
	comp=Z,1.8nm,0.4s,baz=8.4,slow=2.3,SNR=28							
MOTA	Moosalm	125.69	328	*i* PKiKP	PKPdf	06 19 50.4	-0.6	
	comp=Z,6.7nm,0.6s							
SQTA	Sankt Quirin	125.72	328	*i* PKiKP	PKPdf	06 19 50.9	-0.1	
	comp=Z,6.5nm,0.6s							
STU	Stuttgart	125.75	330	ePKPdf	PKPdf	06 19 50.7	-0.2	
	baz=50,slow=1.9							
MEM	Membach	125.98	334	⇑PKiKP	PKPdf	06 19 51.0	-0.1	
UBR	Ueberruh	126.00	329	ePKPdf	PKPdf	06 19 50.7	-0.7	
	baz=50,slow=1.9							
FETA	Feichten	126.10	328	*i* PKPdf	PKPdf	06 19 50.9	-0.8	
	comp=Z,17nm,1.2s							
DAVA	Damuels	126.38	328	*i* PKiKP	PKPdf	06 19 52.0	-0.3	
	comp=Z,8.6nm,0.6s							
BCLA	Clavier	126.43	334	⇑PKiKP	PKPdf	06 19 51.4	-0.7	
BFO	Black Forest	126.48	330	ePKPdf	PKPdf	06 19 52.2	-0.1	
BFO	Black Forest	126.48	330	ePKIKP	PKPdf	06 19 52.2	-0.1	
TIP	Timpagrande	126.74	317	ePKPdf	PKiKP	06 19 53.5	-0.1	
CFA	Coronel Fontan	127.58	136	PKP	PKPdf	06 19 55.0	+0.1	
	comp=Z,1.4nm,0.7s,baz=301,slow=5.9,SNR=4.6							
ATAH	Atahualpa	128.72	103	PKP	PKiKP	06 19 59.3	+0.6	
	comp=Z,6.4nm,0.8s,baz=132,slow=5.3,SNR=4.4							
ATAH				SKPbc	SKPbc	06 23 07.7		
	comp=Z,17nm,0.9s,baz=271,slow=3.8,SNR=12							
DRLN	Deer Lake	129.26	24	ePKPdf	PKPdf	06 19 57.1	-0.4	
BNI	Bardonecchia	129.52	328	ePKPdf	PKiKP	06 19 58.9	-0.2	
BNI	Bardonecchia	129.52	328	ePKIKP	PKiKP	06 19 58.9	-0.2	
KEST	Kesra	133.56	317	ePKPdf	PKiKP	06 20 07.6	+0.1	
KEST				SKPbc	SKPbc	06 23 20.8	-1.8	
KEST	Kesra	133.56	317	PKP	PKPdf	06 20 06.6	+0.4	
	comp=Z,5.3nm,0.7s,baz=330,slow=12,SNR=4.7							
KEST				SKPbc	SKPbc	06 23 20.8	-1.8	
	comp=Z,18nm,1.1s,baz=30,slow=1.6,SNR=6.7							
ROSC	El Rosal	134.25	88	ePKPdf	PKiKP	06 20 09.6	-0.2	
ROSC				SKP		06 23 28.4		
ROSC	El Rosal	134.25	88	PKP	PKPdf	06 20 08.8	+0.4	
	comp=Z,2.7nm,0.5s,baz=100,slow=9.9,SNR=7.2							
ROSC				SKP		06 23 28.4		
	comp=Z,19nm,0.9s,baz=123,slow=5.9,SNR=29							
LPAZ	La Paz	135.48	119	PKP	PKPdf	06 20 11.4	+0.5	
	comp=Z,2.5nm,0.8s,baz=12,slow=1.4,SNR=9.3							
LPAZ				pPKP	pPKPdf	06 20 45.5	-1.4	
	comp=Z,2.1nm,0.8s,baz=298,slow=4.7,SNR=3.3							
LPAZ				SKPab	SKPab	06 23 33.2	-1.3	
	comp=Z,3.1nm,1.0s,baz=153,slow=2.3,SNR=6.0							
ESDC	Sonseca Array	138.83	331	PKP	PKPdf	06 20 16.1	+0.4	
	comp=Z,0.4nm,0.4s,baz=38,slow=3.0,SNR=5.0							
ESDC				PP	PP	06 23 07.3	-0.6	
	comp=Z,3.5nm,0.9s,baz=34,slow=6.5,SNR=12							
SIV	San Ignacio	141.65	123	PKhKP	PKPpre	06 20 16.9		
	comp=Z,1.2nm,0.6s,baz=218,slow=6.7,SNR=6.5							
SIV				SKPbc	SKPbc	06 23 47.0	+0.5	
	comp=Z,2.5nm,0.8s,baz=257,slow=4.3,SNR=6.5							
PTGA	Pitinga	147.99	99	PKPbc	PKPbc	06 20 35.6	-0.2	
	comp=Z,11nm,0.6s,baz=236,slow=3.6,SNR=16							
PTGA				pPKPbc	pPKPdf	06 21 09.2	+0.7	
	comp=Z,16nm,1.0s,baz=261,slow=3.6,SNR=4.6							
TOA0	Torodi Ar. Sit	149.16	288	ePKPdf	PKPdf	06 20 33.7	-0.6	
TOA0				ePKPbc	PKPbc	06 20 37.8	-0.8	
TORD	Torodi Ar. Bea	149.16	288	PKP	PKPdf	06 20 34.2	-0.1	
	comp=Z,35nm,1.0s,baz=126,slow=3.7,SNR=78							
TORD				PKPbc	PKPbc	06 20 38.0	-0.6	
	comp=Z,32nm,1.0s,baz=37,slow=3.3,SNR=79							
TORD				pPKPbc	pPKPbc	06 21 14.5	+0.4	
	comp=Z,8.9nm,0.9s,baz=22,slow=2.8,SNR=3.4							
TORD				SKP		06 24 00.3		
	comp=Z,1.7nm,0.7s,baz=35,slow=2.8,SNR=4.9							
TOA1	Torodi Ar. Sit	149.16	288	ePKPdf	PKPdf	06 20 34.2	-0.1	
TOA1				ePKPbc	PKPbc	06 20 38.0	-0.6	
TOA1				*ep*PKPdf	pPKPbc	06 21 14.5	+0.4	
TOA1				*e*SKPdf	SKPdf	06 24 00.3	+4.5	
BDFB	Brasilia	151.92	137	PKPbc	PKPbc	06 20 44.8	-0.5	
	comp=Z,1.8nm,0.4s,baz=258,slow=9.3,SNR=5.1							
BDFB				pPKPbc	pPKPbc	06 21 20.0	-1.1	
	comp=Z,6.1nm,0.8s,baz=200,slow=4.3,SNR=3.7							
KIC	Kosan Boka	156.40	275	ePKP2	PKPab	06 21 13.2	-0.8	
	comp=Z,32nm,0.9s							
DBIC	Dimbokro	156.50	276	ePKPdf	PKPdf	06 20 43.8	-1.2	
DBIC				PKPab	PKPab	06 21 13.6	-0.9	
DBIC	Dimbokro	156.50	276	ePKIKP	PKPdf	06 20 43.8	-1.2	
DBIC	Dimbokro	156.50	276	PKP	PKPdf	06 20 45.1	+0.1	
	comp=Z,2.6nm,0.8s,baz=100,slow=6.1,SNR=3.9							
DBIC				PKPab	PKPab	06 21 13.6	-0.9	
	comp=Z,10nm,1.0s,baz=76,slow=5.1,SNR=5.2							
TIC	Toumodi	156.66	276	ePKP2	PKPab	06 21 14.2	-1.0	
LIC	Lamto	156.69	275	ePKP2	PKPab	06 21 14.4	-0.9	
	comp=Z,40nm,1.0s							

ISCJB ***29*** *06:17:43.4±0.3,49°.87N±0°.04×50°.14W±0°.04,h10km, mb4.1/69,MS3.9/1,Error ellipse: s-maj=6.3km s-min=3.3km az=157.6*

IDC ***29*** *06:17:44.5±0.5,49°.86N×49°.74W,h0km,mb4.0/25, mb1 4.1/28,mb1mx4.0/61,mbtmp4.0/28,ML3.6/3,MS3.9/1, Ms1 4.0/1,ms1mx2.9/53,Error ellipse: s-maj=15.2km s-min=10.7km az=169.0*

NEIC ***29*** *06:17:45.9±0.2,49°.82N×49°.78W,h10km,mb4.2/52, ML4.3(OTT),Error ellipse: s-maj=6.6km s-min=3.8km az=161.0*

OTT ***29*** *06:17:46.4±0.3,49°.86N×49°.90W,h18km,ML4.3/15, Offshore Newfoundland. 270km northeast from Bonavista, NI Eastern Background Seismic Zone.*

ISC 29 06:17:46.1±0.4,49°.96N±0°.05×50°.02W±0°.05,h10km,n165,
α2s12/180,mb4.2/69,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJNN	Saint John's	2.95	218	Pn	Pn	06 18 32.4	-0.6
SJNN				Sn	Sn	06 19 05.5	-2.8
SJNN	Saint John's	2.95	218	PN	Pn	06 18 32.4	-0.6
SJNN				SN	Sn	06 19 05.5	-2.8
SJNN				Trac		06 19 07.3	
	comp=Z,159nm,0.2s						
DRLN	Deer Lake	4.92	265	ePn	Pn	06 18 60.0	0.0
DRLN				Sn	Sn	06 19 53.7	-3.2
DRLN	Deer Lake	4.92	265	PN	Pn	06 18 59.9	0.0
DRLN				SN	Sn	06 19 53.7	-3.2
DRLN				Trac		06 19 56.2	
	comp=Z,39nm,0.1s						
NWRL	North West Riv	7.23	303	Sn	Sn	06 20 50.2	-3.4
NWRL	North West Riv	7.23	303	SN	Sn	06 20 50.2	-3.4
MKVL	Makkovik	7.59	316	Pn	Pn	06 19 37.3	+0.7
MKVL				Sn	Sn	06 20 58.9	-3.7
MKVL	Makkovik	7.59	316	PN	Pn	06 19 37.3	+0.7
MKVL				SN	Sn	06 20 58.9	-3.7
MKVL				Trac		06 21 26.7	
	comp=Z,185nm,0.9s						
CHEG	Cheticamp, Nov	7.76	250	Pn	Pn	06 19 37.1	-2.0
CHEG				Sn	Sn	06 21 01.6	-5.4
CHEG	Cheticamp, Nov	7.76	250	PN	Pn	06 19 37.5	-1.6
CHEG				SN	Sn	06 21 01.6	-5.4
CHEG				Trac		06 21 52.3	
	comp=Z,151nm,1.3s						
NATG	Natashquan Que	8.23	277	Pn	Pn	06 19 44.8	-0.6
NATG				Sn	Sn	06 21 13.2	-5.1
NATG	Natashquan Que	8.23	277	PN	Pn	06 19 44.8	-0.6
NATG				SN	Sn	06 21 13.2	-5.1
NATG				Trac		06 21 16.3	
	comp=Z,12nm,0.1s						
GBN	Guysborough	8.99	244	ePn	Pn	06 19 55.1	-0.7
GBN				eSn	Sn	06 21 30.5	-6.5
GBN	Guysborough	8.99	244	PN	Pn	06 19 54.8	-1.1
GBN				SN	Sn	06 21 30.9	-6.2
GBN				Trac		06 21 37.0	
	comp=Z,15nm,0.3s						
NANL	Nain	9.60	318	ePn	Pn	06 20 03.8	-0.4
NANL				eSn	Sn	06 21 47.2	-4.8
NANL	Nain	9.60	318	PN	Pn	06 20 03.8	-0.4
NANL				SN	Sn	06 21 47.2	-4.8
NANL				Trac		06 21 51.5	
	comp=Z,1.2nm,0.0s						
HAL	Halifax	10.64	245	ePn	Pn	06 20 16.9	-1.5
HAL				eSn	Sn	06 22 07.4	-10
HAL	Halifax	10.64	245	PN	Pn	06 20 17.0	-1.5
HAL				SN	Sn	06 22 09.1	-8.5
HAL				Trac		06 22 13.9	
	comp=Z,1.7nm,0.1s						
SMQ	Clarke City	10.72	278	PN	Pn	06 20 16.7	-2.9
SMQ				SN	Sn	06 22 10.7	-9.0
SMQ				Trac		06 22 18.7	
	comp=Z,7.1nm,0.2s						
LMN	Caledonia Moun	10.74	253	ePn	Pn	06 20 19.3	-0.6
LMN				eSn	Sn	06 22 10.8	-9.3
LMN	Caledonia Moun	10.74	253	PN	Pn	06 20 18.3	-1.6
LMN				SN	Sn	06 22 10.1	-10
LMN				Trac		06 22 17.1	
	comp=Z,78nm,0.9s						
BATG	Bathurst New B	10.95	262	ePn	Pn	06 20 21.0	-1.7
BATG				eSn	Sn	06 22 16.9	-8.4
BATG	Bathurst New B	10.95	262	PN	Pn	06 20 21.4	-1.4
BATG				SN	Sn	06 22 15.7	-10
BATG				Trac		06 22 20.6	
	comp=Z,9.3nm,0.2s						
ELNB	Elgin, New Bru	10.95	254	PN	Pn	06 20 19.9	-2.9
ELNB				SN	Sn	06 22 16.5	-8.8
ELNB				Trac		06 22 16.5	
	comp=Z,3.1nm,0.2s						
ICQ	Pointe Anglais	11.18	274	PN	Pn	06 20 24.4	-1.4
ICQ				SN	Sn	06 22 23.6	-7.1
ICQ				Trac		06 23 01.5	
	comp=Z,790nm,3.2s						
GSQ	Grosses Roches	11.18	271	PN	Pn	06 20 24.6	-1.3
GSQ				SN	Sn	06 22 23.1	-7.7
GSQ				Trac		06 22 43.4	
	comp=Z,4.7nm,0.2s						
IVI	Ivigtut	11.32	5	ePn	Pn	06 20 27.3	-0.4
IVI				eSn	Sn	06 22 21.5	-13
SCHQ	Schefferville	11.36	302	ePn	Pn	06 20 27.6	-0.7
SCHQ				eSn	Sn	06 22 30.0	-5.2
SCHQ	Schefferville	11.36	302	PN	Pn	06 20 27.6	-0.7
SCHQ				SN	Sn	06 22 28.1	-7.2
SCHQ				Trac		06 22 47.8	
	comp=Z,893nm,3.2s						
SCHQ	Schefferville	11.36	302	Pn	Pn	06 20 27.6	-0.7
	3.0nm,0.3s,baz=106,slow=7.9,SNR=22						
SCHQ				Sn	Sn	06 22 27.2	-8.0
	2.9nm,0.3s,baz=297,slow=19,SNR=4.7						
CNQ	Baie Comeau	11.73	274	ePn	Pn	06 20 31.7	-1.7
CNQ				eSn	Sn	06 22 35.8	-8.4
CNQ	Baie Comeau	11.73	274	PN	Pn	06 20 31.7	-1.7
CNQ				SN	Sn	06 22 35.8	-8.4
CNQ				Trac		06 22 53.6	
	comp=Z,7.1nm,0.3s						
GGN	Saint George	12.35	253	ePn	Pn	06 20 38.2	-3.6
GGN				eSn	Sn	06 22 47.3	-12
GGN	Saint George	12.35	253	PN	Pn	06 20 38.8	-3.0
GGN				SN	Sn	06 22 48.2	-11
GGN				Trac		06 22 52.8	
	comp=Z,4.6nm,0.2s						
PQI	Presque Isle	12.42	262	ePn	Pn	06 20 40.3	-2.5
PQI				eSn	Sn	06 22 52.5	-8.7
EMMW	East Machias	12.93	253	ePn	Pn	06 20 46.8	-2.9
EMMW				eSn	Sn	06 23 03.3	-10
A21	Saint Andre	13.15	268	ePn	Pn	06 20 50.0	-2.7
A21				eSn	Sn	06 23 10.0	-8.9
A21	Saint Andre	13.15	268	PN	Pn	06 20 50.0	-2.7
A21				SN	Sn	06 23 10.0	-8.9
A21				Trac		06 23 15.9	
	comp=Z,678nm,2.6s						
A64	Saint Simeon	13.25	268	ePn	Pn	06 20 52.2	-1.9
A64	Saint Simeon	13.25	268	PN	Pn	06 20 52.2	-1.9
A61	Sainte Mathild	13.41	268	SN	Sn	06 23 16.4	-9.0
A16	Riviere Ouelle	13.43	267	ePn	Pn	06 20 55.5	-1.0
A16	Riviere Ouelle	13.43	267	PN	Pn	06 20 55.5	-1.0
A16				Trac		06 23 26.3	
	comp=Z,136nm,1.3s						
LMQ	La Malbaie	13.61	268	ePn	Pn	06 20 55.8	-3.3
LMQ				eSn	Sn	06 23 19.3	-11
LMQ	La Malbaie	13.61	268	PN	Pn	06 20 55.8	-3.3
LMQ				SN	Sn	06 23 19.3	-11
LMQ				Trac		06 23 21.7	
	comp=Z,508nm,2.6s						
PKME	Peaks-Kenny Pk	13.81	257	ePn	Pn	06 20 58.4	-3.4
PKME				eSn	Sn	06 23 22.1	-13
PKME	Peaks-Kenny Pk	13.81	257	PN	Pn	06 20 59.3	-2.5
PKME				SN	Sn	06 23 23.6	-11
PKME				Trac		06 23 30.4	
	comp=Z,124nm,1.6s						
DAQ	Lac Daran	14.08	270	ePn	Pn	06 21 01.3	-4.3
DAQ				eSn	Sn	06 23 30.6	-11
DAQ	Lac Daran	14.08	270	PN	Pn	06 21 01.3	-4.3
DAQ				SN	Sn	06 23 30.6	-11
DAQ				Trac		06 23 36.4	
	comp=Z,1.7nm,0.2s						
MOQ	Mont Orford	15.67	261	ePn	Pn	06 21 25.0	-1.9
LBNH	Lisbon	15.95	257	ePn	P	06 21 35.7	+1.7
	5.5nm,1.0s						
FRNY	Flat Rock	16.73	261	ePn	Pn	06 21 40.9	+0.5
	4.8nm,1.0s						
TRQ	Mont Tremblant	16.79	267	ePn	Pn	06 21 39.7	-1.5
FRB	Frobisher Bay	17.03	331	P	Pn	06 21 44.3	+0.3
	0.3nm,0.3s,baz=131,slow=15,SNR=5.9						
FRB				S	Sn	06 24 44.0	-9.0
	0.3nm,0.3s,baz=60,slow=20,SNR=3.9						
SFJD	Kangerlussuaq	17.09	359	eP	P	06 21 48.0	+1.5
	12nm,1.0s						
SFJD				eSn	Sn	06 24 43.6	-11
SFJD	Kangerlussuaq	17.09	359	P	P	06 21 47.3	+0.8
	0.6nm,0.3s,baz=171,slow=13,SNR=3.4						
SFJD				S	Sn	06 24 43.6	-11
	0.4nm,0.3s,baz=32,slow=15,SNR=4.5						
LONY	Lake Ozonia	17.46	262	ePn	Pn	06 21 50.4	+0.8
	4.4nm,0.8s						
VLDQ	Val d'Or	18.05	275	eP	P	06 21 59.0	+1.9
	3.2nm,1.1s						
ILULI	Ilulissat	19.32	359	eP	P	06 22 11.9	+0.9
	19nm,1.1s						
SADO	Sadowa	20.32	266	P	P	06 22 23.6	+1.5
	4.2nm,1.0s,baz=88,slow=15,SNR=2.2						
BORG	Borgarnes	21.14	35	eP	P	06 22 29.5	-1.3
	21nm,1.0s						
BORG	Borgarnes	21.14	35	P	P	06 22 32.1	+1.3
	26nm,1.0s,baz=232,slow=6.1,SNR=3.7						
M54A	Oil Creek Stat	22.23	259	eP	P	06 22 44.0	+1.2
	5.8nm,1.0s						
SUMG	Summit	23.28	9	eP	P	06 22 53.7	-0.2
	6.2nm,0.9s						
SUMG	Summit	23.28	9	*i* P	P	06 22 53.1	-0.8
E43A	Lone Tree Farm	24.75	276	eP	P	06 23 09.7	+2.0
	6.6nm,1.1s						
DSB	Dublin	26.99	66	eP	P	06 23 26.7	-1.0
	54nm,1.1s						
JSC	Jenkinsville	27.71	247	eP	P	06 23 36.5	+2.1
	7.4nm,1.1s						
EKA	Eskdalemuir Ar	28.49	61	P	P	06 23 38.8	-2.4
	0.8nm,0.6s,baz=283,slow=7.6,SNR=4.0						
DAG	Danmarks Havn	29.55	14	*i* P	P	06 23 49.9	-0.4
	2.8nm,0.7s						
GOGA	Godfrey	29.64	249	eP	P	06 23 53.5	+2.0
ECSD	EROS Data Cent	32.04	277	eP	P	06 24 14.6	+1.9

OXF	Oxford	32.56	257	eP	P	06 24 18.9	+1.6
	14nm,1.1s						
ESDC	Sonseca Array	33.76	90	P	P	06 24 26.6	-1.2
	0.8nm,0.6s,baz=296,slow=8.5,SNR=5.5						
HHAR	Hobbs	34.34	264	eP	P	06 24 34.5	+1.7
	3.7nm,0.7s						
NC602	NORSAR Array S	35.31	48	eP	P	06 24 41.2	+0.3
	5.0nm,0.9s						
YKW3	Yellowknife Ar	36.39	315	eP	P	06 24 51.7	+1.6
	1.4nm,0.8s						
YKA	Yellowknife Ar	36.40	315	P	P	06 24 51.2	+1.0
	2.1nm,0.6s,baz=78,slow=8.8,SNR=50						
YKA				PcP	PcP	06 27 14.2	0.0
	0.6nm,0.9s,baz=77,slow=3.3,SNR=5.4						
YKA				ScP	ScP	06 31 02.7	+2.2
	0.5nm,0.8s,baz=88,slow=2.7,SNR=7.8						
YKB5	Yellowknife Ar	36.40	315	eP	P	06 24 51.6	+1.4
CLL	Collm	38.90	63	eP	P	06 25 10.0	-1.5
GCMT	Greycliff	39.30	288	eP	P	06 25 17.6	+2.5
ARCES	ARCESS Array B	39.52	32	eP	P	06 25 16.1	-0.4
ARCES	ARCESS Array B	39.52	32	P	P	06 25 16.0	-0.4
	2.4nm,0.5s,baz=277,slow=9.5,SNR=13						
ARE0	ARCESS Array S	39.52	32	eP	P	06 25 16.4	-0.1
GERES	GERESS Array B	40.36	66	P	P	06 25 22.9	-0.9
	1.5nm,0.8s,baz=309,slow=6.7,SNR=6.0						
PDAR	Pinedale Array	40.74	283	eP	P	06 25 28.5	+1.3
PDAR	Pinedale Array	40.74	283	P	P	06 25 28.1	+0.9
	0.9nm,0.6s,baz=62,slow=8.6,SNR=13						
LOHW	Long Hollow	40.96	285	eP	P	06 25 30.5	+1.5
	2.3nm,0.9s						
MOOW	Moose Ponds	40.98	285	eP	P	06 25 31.4	+2.3
IMW	Indian Meadow	41.02	286	eP	P	06 25 32.0	+2.4
	1.0nm,0.6s						
FXWY	Fox Creek	41.21	285	eP	P	06 25 33.2	+2.2
	2.1nm,0.9s						
TPAW	Teton Pass	41.24	285	eP	P	06 25 33.7	+2.3
	2.3nm,0.9s						
REDW	Red Top Meadow	41.24	285	eP	P	06 25 33.1	+1.8
	2.3nm,0.9s						
MCMT	McKenzie Canyo	41.73	288	eP	P	06 25 38.3	+3.0
FIA0	FINESS Array S	41.92	44	eP	P	06 25 35.8	-0.5
FINES	FINESS Array B	41.92	44	P	P	06 25 35.8	-0.5
	1.3nm,0.5s,baz=299,slow=7.3,SNR=16						
FIA1	FINESS Array S	41.92	44	eP	P	06 25 35.9	-0.4
	3.7nm,0.9s						
NEW	Newport	42.61	295	eP	P	06 25 44.9	+2.6
	1.4nm,1.0s						
INK	Inuvik	42.62	327	eP	P	06 25 43.0	+1.1
	5.5nm,1.1s						
INK	Inuvik	42.62	327	P	P	06 25 42.5	+0.6
	2.2nm,0.8s,baz=55,slow=5.8,SNR=11						
ANMO	Albuquerque	43.23	272	P	P	06 25 50.2	+2.7
	0.2nm,0.4s,baz=145,slow=16,SNR=1.8						
MPU	Maple Canyon	43.55	281	eP	P	06 25 52.0	+1.9
	1.7nm,0.7s						
F10A	Beach Ranch, E	43.81	292	eP	P	06 25 53.7	+1.7
	2.6nm,0.6s						
DUG	Dugway, Tooele	44.19	282	eP	P	06 25 57.8	+2.6
	2.5nm,0.8s						
MTPU	Mount Pierson	45.04	279	eP	P	06 26 05.1	+2.9
	2.3nm,0.8s						
TX31	Lajitas Ar. Si	45.06	263	eP	P	06 26 03.2	+1.0
	1.9nm,1.1s						
TXAR	Lajitas Array	45.06	263	P	P	06 26 03.4	+1.2
	0.7nm,0.8s,baz=59,slow=6.4,SNR=5.5						
TXAR				PcP	PcP	06 27 43.5	+0.6
	0.2nm,0.6s,baz=61,slow=5.6,SNR=2.8						
J08A	Circle Bar Ran	45.95	289	eP	P	06 26 11.7	+2.6
	4.8nm,0.8s						
WHY	Whitehorse	46.14	317	eP	P	06 26 27.6	-0.4
	1.3nm,0.7s						
G06A	Carlson Farm,	46.23	293	eP	P	06 26 13.7	+2.5
	2.2nm,1.1s						
DAWY	Dawson	46.46	323	eP	P	06 26 14.3	+1.5
	1.6nm,1.0s						
WVOR	Wild Horse Val	46.56	288	eP	P	06 26 16.6	+2.6
	3.0nm,1.0s						
NLWA	Neilton Lookou	46.98	297	eP	P	06 26 18.2	+1.2
	4.4nm,1.1s						
E03A	Lebam	47.25	296	eP	P	06 26 20.5	+1.4
TOLK	Toolik Lake Re	47.85	331	eP	P	06 26 25.1	+1.6
	2.7nm,0.8s						
AK11	Malin Array Si	48.23	57	eP	P	06 26 25.4	-1.2
KIEV	Kiev	48.25	57	eP	P	06 26 25.7	-1

IDC 29 06:18:07.3±18.0, 6°16S×126°58E, h237km±203km, mb3.0/1, mb1 3.0/4, mb1mx2.8/36, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=177.6km s-min=44.3km az=43.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.90**	**184**	P	Pn	06 20 48.8	-1.2
	0.1nm,0.3s,baz=11,slow=5.2,SNR=2.1						
WRA	**Warramunga Arr**	**15.64**	**152**	P	P	06 21 35.1	+0.1
	0.3nm,0.3s,baz=334,slow=11,SNR=18						
WRA				S	S	06 24 40.4	+13
	0.1nm,0.3s,baz=325,slow=25,SNR=3.1						
ASAR	**Alice Springs**	**18.78**	**159**	P	P	06 22 09.8	+0.6
	0.1nm,0.3s,baz=344,slow=12,SNR=9.4						
MKAR	**Makanchi Array**	**65.70**	**328**	P	P	06 28 26.5	0.0
	0.3nm,0.4s,baz=135,slow=8.1,SNR=3.6						

*ISCJB **29** 06:23:12.3±0.5, 21°.33S±0°.03×68°.56W±0°.09, h139km±7km, mb3.9/3, Error ellipse: s-maj=13.8km s-min=4.6km az=2.5*
*SJA **29** 06:23:12.7±0.8, 21°.30S×68°.60W, h136km±6km, MD3.0*
*IDC **29** 06:23:12.8±0.8, 21°.39S×68°.08W, h114km±10km, mb3.8/3, mb1 3.6/8, mb1mx3.4/32, mbtmp3.9/8, Error ellipse: s-maj=21.0km s-min=10.4km az=112.0*
*GUC **29** 06:23:13.3±0.6, 21°.32S×68°.61W, h128km±4km, ML3.9*

ISC 29 06:23:12.5±0.8, 21°.33S±0°.04×68°.52W±0°.08, h134km±8km, n36, σ0s98/55, mb4.1/3, 13C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.82**	**235**	*e*P	**Pn**	**06 23 35.3**	**+0.8**
PB09				*e*S	**Sn**	**06 23 51.4**	**+0.3**
PB09	**IPOC Station P**	**0.82**	**235**	↑*i*P	**Pn**	**06 23 35.2**	**+0.8**
PB09				*i* S	**Sn**	**06 23 51.2**	**+0.1**
PB09				IAML		06 23 53.1	
	comp=E,1μm,0.4s						
PB01	**IPOC Station P**	**0.95**	**287**	*e*P	**Pn**	**06 23 35.5**	**0.0**
PB01	**IPOC Station P**	**0.95**	**287**	↑*i*P	**Pn**	**06 23 35.5**	**0.0**
PB01				*e*S	**Sn**	**06 23 52.3**	**-0.5**
PB01				IAML		06 23 54.7	
	comp=N,1μm,0.5s						
PB02	**IPOC Station P**	**1.28**	**270**	*e*P	**Pn**	**06 23 39.2**	**+0.5**
PB02				*e*S	**Sn**	**06 23 58.6**	**0.0**
PB02	**IPOC Station P**	**1.28**	**270**	↑*i*P	**Pn**	**06 23 39.2**	**+0.5**
PB02				*e*S	**Sn**	**06 23 58.3**	**-0.3**
PB02				IAML		06 24 00.1	
	comp=E,4μm,0.5s						
PB08	**IPOC Station P**	**1.32**	**333**	*e*P	**Pn**	**06 23 40.4**	**+0.9**
PB08				*e*S	**Sn**	**06 23 59.6**	**-0.3**
PB08	**IPOC Station P**	**1.32**	**333**	↑*i*P	**Pn**	**06 23 40.4**	**+0.9**
PB08				*i* S	**Sn**	**06 24 00.5**	**+0.6**
LVC	**Limon Verde**	**1.33**	**196**	*e*P	**Pn**	**06 23 40.3**	**+0.8**
LVC	**Limon Verde**	**1.33**	**196**	P	**Pn**	**06 23 40.2**	**+0.8**
	comp=E,16nm,0.3s,baz=37,slow=11,SNR=251						
LVC				S	**Sn**	**06 23 59.3**	**-0.7**
	comp=E,100nm,0.3s,baz=133,slow=19,SNR=104						
PB07	**IPOC Station P**	**1.33**	**252**	*e*P	**Pn**	**06 23 39.9**	**+0.5**
PB07				*e*S	**Sn**	**06 23 59.3**	**-0.4**
PB07	**IPOC Station P**	**1.33**	**252**	↑*i*P	**Pn**	**06 23 39.8**	**+0.5**
PB07				*i* S	**Sn**	**06 23 59.5**	**-0.2**
PB07				IAML		06 24 00.0	
	comp=N,2μm,0.3s						
PB03	**IPOC Station P**	**1.35**	**238**	*e*P	**Pn**	**06 23 40.1**	**+0.6**
PB03				*e*S	**Sn**	**06 24 00.2**	**+0.1**
PB03	**IPOC Station P**	**1.35**	**238**	↑*i*P	**Pn**	**06 23 40.1**	**+0.6**
PB03				*i* S	**Sn**	**06 23 59.9**	**-0.1**
PB03				IAML		06 24 00.6	
	comp=N,2μm,0.3s						
PB06	**IPOC Station P**	**1.68**	**215**	↑*i*P	**Pn**	**06 23 43.9**	**+0.7**
PB06				*i* S	**Sn**	**06 24 07.0**	**+0.4**
PB06				IAML		06 24 08.3	
	comp=E,1μm,0.3s						
PB04	**IPOC Station P**	**1.81**	**236**	*e*P	**Pn**	**06 23 45.1**	**+0.4**
PB04	**IPOC Station P**	**1.81**	**236**	*e*P	**Pn**	**06 23 45.1**	**+0.4**
PB04				*e*S	**Sn**	**06 24 08.9**	**-0.4**
PB04				IAML		06 24 16.1	
	comp=N,744nm,0.2s						
PB11	**IPOC Station P**	**1.89**	**325**	↑*i*P	**Pn**	**06 23 45.9**	**+0.3**
PB11				*i* S	**Sn**	**06 24 11.0**	**+0.1**
PB11				IAML		06 24 11.9	
	comp=E,2μm,0.2s						
PB15	**IPOC Station P**	**2.07**	**205**	*e*P	**Pn**	**06 23 48.8**	**+1.1**
PB15				*e*S	**Sn**	**06 24 15.7**	**+0.9**
PB05	**IPOC Station P**	**2.18**	**225**	*e*P	**Pn**	**06 23 49.5**	**+0.5**
PB05	**IPOC Station P**	**2.18**	**225**	↑*e*P	**Pn**	**06 23 49.5**	**+0.5**
PB05				↑*i* S	**Sn**	**06 24 16.3**	**-0.7**
PB05				IAML		06 24 25.7	
	comp=E,346nm,0.4s						
PSGC	**Pisagua**	**2.29**	**319**	↑*e*P	**Pn**	**06 23 50.0**	**-0.4**
PSGC				*e*S	**Sn**	**06 24 18.4**	**-1.0**
PSGC				IAML		06 24 20.1	
	comp=E,875nm,0.3s						
PSGCX	**Pisagua**	**2.29**	**319**	*e*P	**Pn**	**06 23 50.2**	**-0.1**
MNMC	**Minye Minye**	**2.41**	**335**	↑*e*P	**Pn**	**06 23 52.8**	**+0.7**
MNMC				*i* S	**Sn**	**06 24 22.9**	**+0.5**
MNMC				IAML		06 24 24.7	
	comp=E,2μm,0.2s						
PB10	**IPOC Station P**	**2.88**	**220**	*e*P	**Pn**	**06 23 58.3**	**+0.6**
PB10				IAML		06 24 42.7	
	comp=N,164nm,0.5s						
PB12	**IPOC Station P**	**3.19**	**327**	↑*e*P	**Pn**	**06 24 00.9**	**-1.0**
PB12				IAML		06 24 48.4	
	comp=N,355nm,0.6s						
LPAZ	**La Paz**	**5.03**	**4**	P	**Pn**	**06 24 28.7**	**+2.0**
	comp=N,2.3nm,0.3s,baz=183,slow=6.1,SNR=49						
LPAZ				S	**Sn**	**06 25 25.1**	**+0.8**
	comp=N,0.6nm,0.3s,baz=311,slow=7.2,SNR=3.9						
SIV	**San Ignacio**	**8.83**	**54**	P	**Pn**	**06 25 13.9**	**-3.4**
	comp=N,1.1nm,0.3s,baz=266,slow=8.8,SNR=19						
SIV				S	Sn	06 26 47.1	-8.2
	comp=N,0.3nm,0.3s,baz=132,slow=21,SNR=6.4						
CFA	**Coronel Fontan**	**10.24**	**179**	P	**Pn**	**06 25 33.0**	**-3.0**
	comp=N,0.4nm,0.3s,baz=348,slow=10,SNR=5.1						
CFA				S	Sn	06 27 20.6	-8.5
	comp=N,0.5nm,0.3s,baz=180,slow=17,SNR=5.6						
CPUP	**Villa Florida**	**11.39**	**118**	P	Pn	06 25 45.6	-5.7
	comp=N,0.1nm,0.3s,baz=171,slow=19,SNR=2.5						
PLCA	**Paso Flores**	**19.42**	**185**	P	**Pn**	**06 27 30.1**	**-0.8**
	comp=N,0.1nm,0.3s,baz=25,slow=13,SNR=6.6						
BDFB	**Brasilia**	**20.25**	**77**	P	**P**	**06 27 37.0**	**-0.6**
	comp=N,0.9nm,0.3s,baz=244,slow=8.8,SNR=14						
DBIC	**Dimbokro**	**68.34**	**73**	P	**P**	**06 34 00.5**	**+0.7**
	comp=N,2.1nm,0.7s,baz=237,slow=8.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.96**	**70**	P	**P**	**06 34 49.9**	**-0.9**
	comp=N,3.8nm,0.5s,baz=258,slow=5.4,SNR=41						
YKA	**Yellowknife Ar**	**91.15**	**340**	P	**P**	**06 36 04.0**	**+2.4**
	comp=N,0.2nm,0.6s,baz=134,slow=4.6,SNR=8.3						
MKAR	**Makanchi Array**	**145.28**	**36**	PKPbc	**PKiKP**	**06 42 37.4**	**-0.9**
	comp=N,0.8nm,0.6s,baz=330,slow=3.7,SNR=9.8						

*IDC **29** 06:25:06.4±1.3, 9°.87N×90°.16E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.5/39, mbtmp3.7/6, ML3.9/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/46, Error ellipse: s-maj=34.2km s-min=23.7km az=66.0*
*ISCJB **29** 06:25:08.7±0.8, 9°.87N±0°.08×90°.1E±0°.1, h33km, mb3.6/4, MS3.4/2, Error ellipse: s-maj=14.6km s-min=11.4km az=160.4*

ISC 29 06:25:11.2±1.1, 9°.9N±0°.1×90°.1E±0°.1, h35km, n17, σ0s69/15, mb3.5/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**9.68**	**255**	Pn	**Pn**	**06 27 28.0**	**-0.2**
	0.5nm,0.3s,baz=296,slow=7.6,SNR=2.5						
PALK				Sn	Sn	06 29 04.0	-12
	2.1nm,0.3s,baz=0.0,slow=0.0,SNR=4.1						
PALK				LR	LR	06 30 32.1	
	comp=Z,134nm,21.2s,baz=113,slow=34						
CMAR	**Chiang Mai Arr**	**12.05**	**44**	Pn	**Pn**	**06 28 00.2**	**-0.3**
	0.3nm,0.3s,baz=238,slow=16,SNR=2.9						
RAMN	**Ramite**	**17.28**	**349**	*e*P	**Pn**	**06 29 08.9**	**-1.1**
	30nm,0.5s						
TAPN	**Taplejung**	**17.50**	**353**	*e*P	**Pn**	**06 29 12.1**	**-0.8**
	12nm,0.4s						
JIRN	**Jiri**	**18.05**	**349**	*e*P	**Pn**	**06 29 18.4**	**-1.3**
	14nm,0.4s						
PKI	**Pulchoki**	**18.13**	**346**	*e*P	**Pn**	**06 29 20.1**	**-0.5**
	5.9nm,0.2s						
PKIN	**Phulchoki**	**18.14**	**346**	*e*P	**Pn**	**06 29 20.1**	**-0.5**
	11nm,0.4s						
GUN	**Gumba**	**18.35**	**348**	*e*P	**P**	**06 29 23.2**	**0.0**
	16nm,0.5s						
KOLN	**Koldanda**	**18.80**	**342**	*e*P	**P**	**06 29 28.3**	**+0.3**
	15nm,0.5s						
DANN	**Dangsing**	**19.30**	**343**	*e*P	**P**	**06 29 34.4**	**+0.8**
	11nm,0.4s						
PYUN	**Piuthan**	**19.30**	**341**	*e*P	**Pn**	**06 29 34.7**	**0.0**
	13nm,0.5s						
MKAR	**Makanchi Array**	**37.36**	**351**	P	**P**	**06 32 20.8**	**+0.3**
	0.9nm,0.5s,baz=172,slow=8.5,SNR=11						
SONM	**Songino Array**	**40.22**	**17**	P	**P**	**06 32 45.4**	**+0.8**
	0.4nm,0.4s,baz=224,slow=8.1,SNR=3.7						
KSRS	**Korea Array**	**43.69**	**45**	LR	LR	06 54 17.3	
	comp=Z,42nm,18.8s,baz=240,slow=40						
MJAR	**Matsushiro Arr**	**50.84**	**51**	LR	LR	06 57 44.2	
	comp=Z,30nm,19.2s,baz=0.0,slow=38						
WRA	**Warramunga Arr**	**52.66**	**124**	P	**P**	**06 34 22.2**	**-0.3**
	0.7nm,1.0s,baz=306,slow=8.1,SNR=5.8						
ASAR	**Alice Springs**	**54.26**	**129**	P	**P**	**06 34 34.1**	**0.0**
	0.3nm,0.7s,baz=316,slow=6.5,SNR=3.9						

DJA 29 06:41:29.2±0.5, 0°S±3°×112°3E±°, h10km, M4.2/8, mb4.5/4, mB4.5/2, MLv4.0/8, Mw(mB)3.7/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.89**	**47**	P	Pg	06 41 45.6	-0.8
LUWI	**Luwuk**	**1.14**	**209**	P	Pn	06 41 51.8	+0.6
LUWI				S	Sn	06 42 07.1	+0.1
MRSI	**Marisa**	**1.48**	**290**	P	Pn	06 41 55.1	-0.8
APSI	**Ampana**	**1.89**	**243**	P	Pn	06 42 01.0	-0.6
SANI	**Sanana**	**3.32**	**127**	P	Pn	06 42 21.4	+0.1
SPSI	**Sidrap Palu**	**5.28**	**222**	P	Pn	06 42 47.1	-1.1
BNSI	**Bone**	**5.40**	**217**	P	Pn	06 42 49.8	0.0
BSSI	**Bau Bau, Buton**	**6.69**	**205**	P	Pn	06 43 07.6	0.0

*NEIC **29** 06:46:16.6±0.0, 15°.53N×98°.51W, h10km, MD4.1(MEX), After MEX.*

MEX 29 06:46:17.2±0.8, 15°.52N×98°.52W, h16km±10km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.95**	**24**	*i* P	Pb	06 46 31.0	-4.3
PNIG				*e*S	Sb	06 46 44.0	-3.6
PNIG	**Pinotepa**	**0.95**	**24**	*i* P	Pb	06 46 31.0	-4.3
PNIG				*e*S	Sb	06 46 43.4	-4.2
TLIG	**Tlapa**	**2.03**	**359**	*e*P	Pn	06 46 47.8	-3.1
TLIG	**Tlapa**	**2.03**	**359**	*e*P	Pn	06 46 47.8	-3.1
TLIG				*i* S	Sn	06 47 10.8	-5.2
CAIG	**El Cayaco**	**2.26**	**312**	*e*P	Pn	06 46 50.4	-3.5
CAIG	**El Cayaco**	**2.26**	**312**	*e*P	Pn	06 46 50.6	-3.4
CAIG				*i* S	Sn	06 47 16.8	-4.7
VHO	**Vista Hermosa**	**2.31**	**48**	*e*P	Pn	06 46 52.0	-2.9
VHO	**Vista Hermosa**	**2.31**	**48**	*e*P	Pn	06 46 51.9	-3.0
VHO				*i* S	Sn	06 47 18.0	-5.0
HUIG	**Huatulco**	**2.34**	**84**	*e*P	Pn	06 46 52.0	-3.0
HUIG	**Huatulco**	**2.34**	**84**	*e*P	Pn	06 46 52.0	-3.0
HUIG				*i* S	Sn	06 47 18.7	-4.8
MEIG	**Mezcala**	**2.61**	**336**	*i* P	Pn	06 46 55.2	-3.7
MEIG				*e*S	Sn	06 47 25.2	-5.1
TPIG	**Tehuac#an**	**3.09**	**21**	*e*P	Pn	06 47 03.8	-1.7
TPIG	**Tehuac#an**	**3.09**	**21**	*e*P	Pn	06 47 03.3	-2.2
TPIG				*e*S	Sn	06 47 38.8	-3.4

*DJA **29** 06:48:56.5±4.3, 5°S±20°×15°4E±3°7, h409km±24km, M4.8/8, mb4.8/8, mB5.3/6, Mw(mB)4.7/6*
*ISCJB **29** 06:48:58.1±0.6, 4°.83S±0°.04×154°.21E±0°.04, h413km±7km, mb4.3/89, Error ellipse: s-maj=6.6km s-min=5.5km az=170.4*
*IDC **29** 06:48:58.7±0.5, 4°.83S×154°.24E, h405km±5km, mb3.9/26, mb1 4.0/30, mb1mx3.9/43, mbtmp4.7/30, Error ellipse: s-maj=10.8km s-min=7.0km az=89.0*
*NEIC **29** 06:48:59.4±0.5, 4°.83S×154°.19E, h415km±5km, mb4.4/63, Error ellipse: s-maj=5.0km s-min=3.5km az=87.0*

ISC 29 06:48:58.9±0.5, 4°84S±0°05×154°22E±0°06, h410km±5km, h411km:pP-P, n166, σ0s93/190, mb4.4/89, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.15**	**287**	*e*P	**P**	**06 49 55.8**	**-0.9**
HNR	**Honiara**	**7.28**	**129**	P	**P**	**06 50 45.9**	**-0.4**
	9.7nm,0.3s,baz=103,slow=4.3,SNR=4.3						
MANU	**Manus Island**	**7.39**	**292**	*e*P	**P**	**06 50 48.6**	**+1.1**
PMG	**Port Moresby**	**8.35**	**237**	*e*P	**P**	**06 50 59.3**	**+1.3**
PMG				*e*S	**S**	**06 52 34.2**	**-1.4**
PMG	**Port Moresby**	**8.35**	**237**	P	**P**	**06 50 59.9**	**+2.0**
	5.7nm,0.3s,baz=50,slow=5.8,SNR=48						
PMG				S	**S**	**06 52 34.2**	**-1.4**
	2.0nm,0.3s,baz=358,slow=5.5,SNR=2.0						
JAY	**Jayapura**	**13.69**	**279**	P	**P**	**06 51 57.0**	**0.0**
JAY	**Jayapura**	**13.69**	**279**	P	**P**	**06 51 57.1**	**+0.2**
	20nm,0.3s,baz=115,slow=4.3,SNR=72						
JAY				S	**S**	**06 54 25.1**	**+0.9**
	0.5nm,0.3s,baz=246,slow=20,SNR=5.5						
COEN	**Coen**	**14.16**	**230**	*e*P	**P**	**06 52 04.0**	**+1.9**
CTA	**Charters Tower**	**17.02**	**206**	P	**P**	**06 52 34.1**	**+1.3**
	1.1nm,0.3s,baz=35,slow=11,SNR=17						
CTA				S	**S**	**06 55 32.1**	**+2.4**
	0.1nm,0.3s,baz=242,slow=17,SNR=3.8						
CTAO	**Charters Tower**	**17.02**	**206**	*e*P	**P**	**06 52 34.0**	**+1.2**
	15nm,0.8s						
EIDS	**Eidsvold**	**20.63**	**188**	*e*P	**P**	**06 53 09.0**	**+0.6**
	6.9nm,0.5s						
DZM	**Mont Dzumac**	**20.82**	**146**	*e*P	**P**	**06 53 10.9**	**+0.6**
	17nm,0.8s						
DZM	**Mont Dzumac**	**20.82**	**146**	P	**P**	**06 53 11.1**	**+0.8**
	9.0nm,0.5s,baz=315,slow=4.7,SNR=22						
FAKI	**Fak Fak**	**22.01**	**274**	*e*P	**P**	**06 53 20.7**	**-0.5**
	20nm,0.7s						
SIJI	**Sorong**	**23.26**	**279**	P	**P**	**06 53 32.2**	**-0.3**
	7.1nm,0.4s,baz=152,slow=23,SNR=3.9						
WR1	**Warramunga Arr**	**24.49**	**231**	*e*P	**P**	**06 53 43.4**	**-0.1**
	8.9nm,1.1s						
WR1				*e*PcP	**PcP**	**06 57 09.1**	**-0.1**
WRA	**Warramunga Arr**	**24.49**	**231**	P	**P**	**06 53 43.4**	**-0.1**
	2.6nm,0.5s,baz=54,slow=9.5,SNR=28						
WRA				PcP	**PcP**	**06 57 09.1**	**-0.1**
	1.9nm,0.7s,baz=61,slow=2.5,SNR=5.2						
ARMA	**Armidale**	**25.56**	**185**	*e*P	**P**	**06 53 54.0**	**+1.0**
	12nm,1.1s						
AS01	**Alice Springs**	**27.06**	**224**	*e*P	**P**	**06 54 05.7**	**-0.5**
AS01				*e*PcP	**PcP**	**06 57 15.5**	**+0.3**
AS31	**Alice Springs**	**27.09**	**224**	*e*P	**P**	**06 54 06.0**	**-0.5**
	0.9nm,0.8s						
AS31				*e*PcP	**PcP**	**06 57 15.4**	**+0.2**
ASAR	**Alice Springs**	**27.09**	**224**	P	**P**	**06 54 05.8**	**-0.8**
	1.4nm,0.6s,baz=55,slow=9.1,SNR=28						
ASAR				pP	**pP**	**06 55 18.9**	**+0.3**
	5.1nm,0.9s,baz=57,slow=9.7,SNR=5.8						
ASAR				PcP	**PcP**	**06 57 15.6**	**+0.3**
	1.4nm,0.7s,baz=67,slow=2.9,SNR=4.7						
ASAR				S	**S**	**06 58 11.2**	**-3.3**
	2.1nm,0.7s,baz=57,slow=14,SNR=6.9						
STKA	**Stephens Creek**	**29.38**	**202**	*e*P	**P**	**06 54 26.5**	**-0.1**
	0.3nm,0.7s						
STKA	**Stephens Creek**	**29.38**	**202**	P	**P**	**06 54 26.1**	**-0.4**
	1.0nm,0.4s,baz=14,slow=10,SNR=4.8						
SOEI	**Soe**	**30.10**	**259**	*e*P	**P**	**06 54 32.0**	**-1.2**
	28nm,1.0s						
SOEI				*e*PcP	**PcP**	**06 57 18.5**	**-4.7**
CAN	**Canberra**	**30.71**	**188**	*e*P	**P**	**06 54 39.3**	**+1.2**
	10nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.89**	**242**	*e*P	**P**	**06 54 38.6**	**-1.2**
	5.2nm,1.0s						
EDFI	**Ende, Flores**	**32.53**	**261**	P	**P**	**06 54 53.3**	**-0.9**
BBOO	**Buckleboo**	**32.59**	**209**	*e*P	**P**	**06 54 54.0**	**-0.3**
	4.4nm,0.7s						
APSI	**Ampana**	**32.76**	**276**	P	**P**	**06 54 56.9**	**+0.8**
BNSI	**Bone**	**34.01**	**269**	P	**P**	**06 55 08.6**	**+1.9**
KAPI	**Kappang**	**34.34**	**268**	*e*P	**P**	**06 55 08.9**	**-0.6**
	13nm,0.9s						
SPSI	**Sidrap Palu**	**34.36**	**270**	P	P	06 55 18.7	+9.0
MPSI	**Mapaga**	**34.67**	**278**	P	**P**	**06 55 12.0**	**-0.3**
FORT	**Forrest**	**35.66**	**221**	*e*P	**P**	**06 55 19.9**	**-0.5**
	15nm,1.0s						
TAU	**Tasmania Unive**	**38.40**	**188**	*e*P	**P**	**06 55 44.2**	**+1.3**
	18nm,1.0s						
URZ	**Urewera**	**39.25**	**151**	P	**P**	**06 55 50.2**	**+0.2**
	3.5nm,0.6s,baz=346,slow=4.2,SNR=2.9						
BKZ	**Black Stump Fm**	**39.68**	**153**	*e*P	**P**	**06 55 54.0**	**+0.5**
	8.4nm,1.1s						
THZ	**Tophouse**	**40.37**	**158**	*e*P	**P**	**06 55 59.2**	**+0.1**
	15nm,0.7s						
BFZ	**Birch Farm**	**40.80**	**154**	*e*P	**P**	**06 56 03.2**	**+0.7**
	47nm,1.1s						
LTZ	**Lake Taylor**	**41.04**	**160**	*e*P	**P**	**06 56 04.3**	**-0.1**
	24nm,0.8s						
KHZ	**Kahutara**	**41.17**	**158**	*e*P	**P**	**06 56 05.8**	**+0.4**
	16nm,0.9s						
RPZ	**Rata Peaks**	**41.46**	**162**	*e*P	**P**	**06 56 08.4**	**+0.6**
	18nm,0.9s						
RPZ	**Rata Peaks**	**41.46**	**162**	P	**P**	**06 56 08.4**	**+0.6**
	17nm,0.8s,baz=28,slow=6.1,SNR=6.0						
CRLZ	**Canterbury Las**	**41.86**	**160**	*e*P	**P**	**06 56 11.5**	**+0.6**
	6.9nm,0.8s						
WHZ	**Wether Hill Ro**	**42.60**	**166**	*e*P	**P**	**06 56 18.1**	**+1.2**
	2.5nm,0.7s						
MORW	**Morawa**	**43.43**	**232**	*e*P	**P**	**06 56 23.1**	**-0.5**
	7.5nm,1.1s						
UGM	**Wanagama**	**43.52**	**264**	*e*P	**P**	**06 56 24.5**	**-0.1**
	65nm,1.1s						
JNU	**Nakatsue**	**43.77**	**331**	*e*P	**P**	**06 56 26.0**	**-0.3**
	20nm,1.0s						
JNU	**Nakatsue**	**43.77**	**331**	P	**P**	**06 56 26.6**	**+0.3**
	13nm,0.8s,baz=102,slow=2.9,SNR=4.7						
MJAR	**Matsushiro Arr**	**43.81**	**341**	P	**P**	**06 56 25.7**	**-0.8**
	4.2nm,0.5s,baz=171,slow=8.3,SNR=12						
MJAR				PcP	**PcP**	**06 58 04.6**	**0.0**
	3.5nm,0.9s,baz=158,slow=3.8,SNR=4.1						
MAJO	**Matsushiro**	**43.81**	**341**	*e*P	**P**	**06 56 25.8**	**-0.8**
	13nm,1.0s						
MAJO				*e*PcP	**PcP**	**06 58 04.6**	**0.0**
MAT	**Matsushiro**	**43.81**	**341**	P	**P**	**06 56 25.7**	**-0.8**
MJB9	**Matsu-Tunnel**	**43.82**	**341**	*e*P	**P**	**06 56 25.8**	**-0.8**
	13nm,1.0s						
CISI	**Cisompet, Garu**	**46.20**	**264**	*e*P	**P**	**06 56 44.3**	**-1.2**
	39nm,0.7s						
KSRS	**Korea Array**	**48.69**	**332**	P	**P**	**06 57 04.5**	**+0.7**
	4.4nm,0.7s,baz=146,slow=7.7,SNR=12						
KSRS				PcP	**PcP**	**06 58 22.6**	**+0.7**
	1.0nm,0.5s,baz=145,slow=4.9,SNR=3.6						
KSAR	**Wonju Array Be**	**48.70**	**332**	P	**P**	**06 57 04.5**	**+0.6**
KSAR				PcP	**PcP**	**06 58 22.6**	**+0.6**
KS01	**Wonju Array Si**	**48.72**	**332**	*e*P	**P**	**06 57 03.3**	**-0.8**
ASAJ	**Asahikawa**	**49.85**	**349**	P	**P**	**06 57 13.5**	**+1.0**
	12nm,0.7s,baz=212,slow=7.6,SNR=6.6						
USRK	**Ussuriysk Ar.**	**52.76**	**340**	P	**P**	**06 57 34.4**	**+0.7**
	6.9nm,0.8s,baz=168,slow=9.8,SNR=8.6						
KLR	**Kul'dur**	**57.30**	**343**	P	**P**	**06 58 06.6**	**+0.9**
	5.7nm,0.9s,baz=162,slow=3.7,SNR=13						
XAN	**Xi'an**	**57.64**	**316**	P	**P**	**06 58 08.5**	**+0.1**
XAN				pP	PcP	06 58 15.8	-40
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PEA0B	**Petropavlovsk-**	**57.81**	**2**	*e*P	**P**	**06 58 09.9**	**+0.8**
	comp=Z,14nm,0.9s						
PETK	**Petropavlovsk-**	**57.81**	**2**	*e*P	**P**	**06 58 09.4**	**+0.3**
PETK	**Petropavlovsk-**	**57.81**	**2**	P	**P**	**06 58 09.6**	**+0.5**
	comp=Z,14nm,0.8s,baz=170,slow=7.7,SNR=11						
PEA1	**Petropavlovsk-**	**57.81**	**2**	*e*P	**P**	**06 58 09.6**	**+0.4**
KMI	**Kunming**	**58.19**	**303**	P	**P**	**06 58 15.0**	**+2.4**
KMI				pmax	pmax		
	comp=Z,20nm,0.5s						
CMAR	**Chiang Mai Arr**	**59.18**	**295**	P	**P**	**06 58 20.5**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=114,slow=4.8,SNR=3.1						
CD2	**Chengdu**	**59.85**	**310**	P	**P**	**06 58 24.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.5s						
HHC	**Hu-ho-hao-te**	**59.92**	**324**	*e*P	**P**	**06 58 24.3**	**+0.5**
HHC				pmax	pmax		
	comp=Z,21nm,1.1s						
HHC				pmax	pmax		
	comp=Z,170nm,5.8s						
LZH	**Lanzhou**	**62.26**	**315**	*e*P	**P**	**06 58 40.0**	**+0.5**
LZH				pP	PcP	06 58 48.0	-27
LZH				sP	sP	06 58 52.3	-118
LZH				pmax	pmax		
	comp=Z,28nm,1.1s						
MA2	**Magadan**	**64.28**	**358**	P	**P**	**06 58 52.1**	**+0.2**
	comp=Z,17nm,0.6s,baz=180,slow=5.3,SNR=14						
GTA	**Gaotai**	**66.66**	**317**	*e*P	**P**	**06 59 08.5**	**+1.0**
GTA				pP	PcP	06 59 12.8	-20
GTA				sP	sP	06 59 15.8	-123
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UNV	**Unalaska Valle**	**67.08**	**

DOT	**Dot Lake**	**82.20**	**23**	*e*P	**P**	07 00 34.9	-0.4
	comp=Z,13nm,1.0s							
SCRK	**Sand Creek**	**82.39**	**23**	*e*P	**P**	07 00 36.2	-0.1
	comp=Z,4.4nm,0.8s							
TOLK	**Toolik Lake Re**	**82.82**	**18**	*e*P	**P**	07 00 38.6	+0.3
	comp=Z,6.6nm,0.8s							
KDJ	**Kajisay**	**83.68**	**313**	*e*P	**P**	07 00 45.4	+2.0
	comp=Z,14nm,0.8s							
HYT	**Haines Junctio**	**83.82**	**27**	*e*P	**P**	07 00 44.8	+1.1
	comp=Z,10nm,0.8s							
EGAK	**Eagle**	**83.84**	**23**	*e*P	**P**	07 00 44.0	+0.5
	comp=Z,10nm,0.9s							
KSH	**Kashi**	**84.04**	**310**	P	**P**	07 00 47.8	+2.6
DAWY	**Dawson**	**84.25**	**24**	*e*P	**P**	07 00 46.4	+0.8
	comp=Z,4.9nm,0.9s							
KURK	**Kurchatov**	**84.68**	**322**	*e*P	**P**	07 00 47.5	-0.4
	comp=Z,7.5nm,1.0s							
QSPA	**South Pole Qui**	**85.12**	**180**	*e*P	**P**	07 00 50.2	+0.2
	comp=Z,18nm,0.9s							
AAK	**Ala-Archa**	**85.73**	**313**	*e*P	**P**	07 00 53.9	+0.4
	comp=Z,3.5nm,0.7s							
MAW	**Mawson**	**86.07**	**203**	P	**P**	07 00 54.4	0.0
	comp=Z,2.5nm,0.6s,baz=102,slow=8.0,SNR=7.5							
EPYK	**Eagle Plains**	**86.17**	**22**	*e*P	**P**	07 00 55.4	+0.5
	comp=Z,20nm,0.9s							
NRIK	**Noril'sk**	**86.47**	**341**	P	**P**	07 00 55.5	-0.7
	comp=Z,6.4nm,0.6s,baz=110,slow=3.2,SNR=10							
NRIK				pP	**pP**	07 02 29.4	+0.5	
	comp=Z,1.2nm,0.4s,baz=116,slow=4.9,SNR=1.7							
INK	**Inuvik**	**87.99**	**21**	*e*P	**P**	07 01 03.2	-0.2
	comp=Z,3.9nm,0.9s							
BRVK	**Borovoye**	**90.19**	**323**	*e*P	**P**	07 01 13.2	-0.9
	comp=Z,7.2nm,1.0s							
NV01	**Mina Array Sit**	**91.00**	**52**	*e*P	**P**	07 01 18.6	+0.2
NVAR	**Mina Array Bea**	**91.00**	**52**	P	**P**	07 01 18.9	+0.5
	comp=Z,1.9nm,0.8s,baz=258,slow=6.7,SNR=9.8							
NVAR				pP	**pP**	07 02 51.6	-0.5	
	comp=Z,1.2nm,1.0s,baz=280,slow=5.2,SNR=2.7							
KVN	**Kaiserville**	**91.21**	**51**	*e*P	**P**	07 01 19.8	+0.4
	comp=Z,3.3nm,1.0s							
YKA	**Yellowknife Ar**	**94.81**	**28**	P	**P**	07 01 34.6	-0.3
	comp=Z,1.0nm,0.7s,baz=270,slow=4.8,SNR=26							
YKA				pP	**pP**	07 03 09.3	+0.5	
	comp=Z,1.7nm,1.0s,baz=270,slow=4.7,SNR=11							
YKA				PKiKP	**PKiKP**	07 06 13.8	-0.7	
	comp=Z,0.2nm,0.8s,baz=264,slow=1.4,SNR=4.7							
YKA				PKKP	**PKKPdf**	07 18 28.3	-3.0	
	comp=Z,0.2nm,0.7s,baz=98,slow=3.1,SNR=5.1							
YKB5	**Yellowknife Ar**	**94.81**	**28**	*e*P	**P**	07 01 34.2	-0.7
AKASG	**Malin Array Be**	**115.35**	**325**	PKP	**PKPdf**	07 06 52.4	-0.3
	comp=Z,1.0nm,0.5s,baz=56,slow=2.4,SNR=5.8							
AK11	**Malin Array Si**	**115.39**	**325**	*e*PKPdf	**PKPdf**	07 06 51.9	-0.9
T47A	**Sharon Grove**	**115.66**	**51**	*e*PKPdf	**PKPdf**	07 06 53.6	-0.1
NB200	**NORSAR Array S**	**117.43**	**341**	*e*PKPdf	**PKPdf**	07 06 54.1	-2.3
NOA	**NORSAR Array B**	**117.43**	**341**	PKP	**PKPdf**	07 06 54.1	-2.3
	comp=Z,0.6nm,0.7s,baz=342,slow=1.7,SNR=3.6							
PLCA	**Paso Flores**	**118.88**	**142**	*e*PKPdf	**PKiKP**	07 07 00.4	+0.3
PLCA	**Paso Flores**	**118.88**	**142**	PKP	**PKiKP**	07 07 00.3	+0.2
	comp=Z,1.2nm,0.6s,baz=260,slow=5.2,SNR=6.4							
P53A	**Whipple**	**119.25**	**47**	*e*PKPdf	**PKPdf**	07 07 00.4	-0.2
V53A	**Saluda**	**119.35**	**52**	*e*PKPdf	**PKiKP**	07 07 01.1	0.0
JSC	**Jenkinsville**	**120.97**	**53**	*e*PKPdf	**PKPdf**	07 07 03.9	-0.2
O56A	**Blue Knob Stat**	**121.00**	**45**	*e*PKPdf	**PKPdf**	07 07 03.5	-0.5
TRQ	**Mont Tremblant**	**121.08**	**38**	*e*PKPdf	**PKiKP**	07 07 05.5	+1.4
SSPA	**Standing Stone**	**121.34**	**45**	*e*PKPdf	**PKPdf**	07 07 04.2	-0.4
GO04	**Tololo Observa**	**124.61**	**132**	*e*PKPdf	**PKPdf**	07 07 11.4	-0.1
PQI	**Presque Isle**	**124.67**	**34**	*e*PKPdf	**PKPdf**	07 07 10.3	-0.4
GEC2	**GERESS Array S**	**124.83**	**329**	*e*PKPdf	**PKPdf**	07 07 11.2	0.0
GERES	**GERESS Array B**	**124.83**	**329**	PKP	**PKPdf**	07 07 11.2	0.0
	comp=Z,2.0nm,0.7s,baz=48,slow=2.0,SNR=9.9							
GEA0	**GERESS Array S**	**124.83**	**329**	*e*PKPdf	**PKPdf**	07 07 10.7	-0.4
LCO	**Las Campanas**	**125.28**	**131**	*e*PKPdf	**PKiKP**	07 07 13.3	0.0
BATG	**Bathurst New B**	**125.38**	**33**	*e*PKPdf	**PKPdf**	07 07 12.2	+0.1
LPAZ	**La Paz**	**133.14**	**118**	*e*PKPdf	**PKiKP**	07 07 29.4	-0.4
LPAZ	**La Paz**	**133.14**	**118**	PKP	**PKiKP**	07 07 29.2	-0.5
	comp=Z,1.6nm,0.6s,baz=254,slow=3.4,SNR=10							
CPUP	**Villa Florida**	**136.47**	**137**	PKP	**PKPdf**	07 07 34.3	+0.6
	comp=Z,1.9nm,0.9s,baz=334,slow=4.6,SNR=3.2							
BDFB	**Brasilia**	**150.01**	**133**	*e*PKPab	**PKPab**	07 08 10.0	-0.4
BDFB	**Brasilia**	**150.01**	**133**	PKPbc	**PKPbc**	07 08 03.3	+0.2
	comp=Z,9.3nm,0.7s,baz=270,slow=1.7,SNR=18							
TOA0	**Torodi Ar. Sit**	**151.67**	**289**	*e*PKPdf	**PKPdf**	07 08 00.2	+0.2
TOA0				*e*PKPab	**PKPab**	07 08 16.8	-0.5	
TORD	**Torodi Ar. Bea**	**151.67**	**289**	PKPbc	**PKPbc**	07 08 05.9	-0.8
	comp=Z,7.1nm,0.8s,baz=45,slow=2.3,SNR=28							
TORD				pPKPbc	**pPKPbc**	07 09 44.4	-0.2	
	comp=Z,0.5nm,0.6s,baz=26,slow=3.7,SNR=2.5							
TOA1	**Torodi Ar. Sit**	**151.67**	**289**	*e*PKPbc	**PKPbc**	07 08 05.9	-0.8
TOA1				*ep*PKPdf	**pPKPbc**	07 09 44.4	-0.2	
DBIC	**Dimbokro**	**159.11**	**276**	PKPab	**PKPab**	07 08 49.1	-0.2
	comp=Z,2.1nm,0.6s,baz=107,slow=4.1,SNR=3.6							

KRSC 29 07:06:10.5±10.0, 50°.69N×160°.13E, h93km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.02**	**331**	*e*P	Pn	07 06 44.3	+1.4
RUS				*e*S	Sn	07 07 09.0	+1.3
MTVR	**Mutnovka**	**2.17**	**327**	*e*P	Pn	07 06 46.7	+1.6
MTVR				*e*S	Sn	07 07 12.9	+1.4
ASAK	**Asacha**	**2.19**	**322**	*e*P	Pn	07 06 47.5	+2.1
ASAK				*e*S	Sn	07 07 14.7	+2.7
KRMR	**Karymshinskiy**	**2.48**	**331**	*e*P	Pn	07 06 51.5	+2.5
KRMR				*e*S	Sn	07 07 21.2	+2.6
UGLR	**Uglovaya**	**2.65**	**343**	*e*P	Pn	07 06 52.7	+1.3
SDLR	**Sedlovina**	**2.71**	**344**	*e*P	Pn	07 06 55.0	+2.8
AVH	**Avacha**	**2.72**	**342**	*e*P	Pn	07 06 55.4	+3.1
KOK	**Koryaka**	**2.77**	**341**	*e*P	Pn	07 06 55.8	+2.8
MKZ	**Mys Kozlova**	**4.00**	**14**	*e*P	Pn	07 07 10.9	+1.5

*IDC **29** 07:29:38.1±2.1, 42°.18N×18°.45E, h0km, mb3.4/2, mb1 3.5/7, mb1mx3.4/48, mbtmp3.4/7, ML3.3/5, Error ellipse: s-maj=28.3km s-min=13.4km az=16.0*
*ISCJB **29** 07:29:39.9±0.3, 42°.37N±0°.02×18°.62E±0°.02, h4km±2km, mb3.3/2, Error ellipse: s-maj=2.9km s-min=2.1km az=26.3*
*SAR **29** 07:29:40.7±0.4, 42°.32N×18°.68E, h3km±1km, ML3.3/9*
*PDG **29** 07:29:40.7±0.1, 42°.38N×18°.70E, h4km, MD3.3/13, ML3.3/13, Error ellipse: s-maj=0.1km s-min=0.1km az=0.0*
*BEO **29** 07:29:41.2±0.4, 42°.34N×18°.67E, h0km, ML3.1/12*

ISC 29 07:29:40.4±0.9, 42°.35N±0°.02×18°.66E±0°.02, h6km±7km, n101, σ1°39/163, 20C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HCY	**Herceg Novi**	**0.15**	**307**	⇑*i*Pg	**Pg**	07 29 43.9	+0.4
HCY				*i* Sg	**Sg**	07 29 46.8	+1.2
HCY	**Herceg Novi**	**0.15**	**307**	⇑*i*Pg	**Pg**	07 29 43.9	+0.4
HCY				*e*Sg	**Sg**	07 29 46.9	+1.3
BUM	**Brajici-Budva**	**0.18**	**107**	⇓*i*Pg	**Pg**	07 29 43.8	-0.3
BUM				*i* Sg	**Sg**	07 29 46.4	-0.1
CEME	**Cevo**	**0.27**	**45**	⇓*i*Pg	**Pg**	07 29 45.4	-0.4
CEME				*i* Sg	**Sg**	07 29 48.7	-0.7
DRME	**Dracevica, Mon**	**0.42**	**113**	⇑*i*Pg	**Pg**	07 29 48.3	-0.3
DRME				*i* Sg	**Sg**	07 29 54.7	+0.5
DRME	**Dracevica, Mon**	**0.42**	**113**	⇑*i*Pg	**Pg**	07 29 48.0	-0.6
DRME				*e*Sg	**Sg**	07 29 54.3	+0.1
TREB	**Trebinje**	**0.43**	**328**	*e*Pg	**Pg**	07 29 48.9	+0.2
TREB				*e*Sg	**Sb**	07 29 56.0	-1.2
TREB	**Trebinje**	**0.43**	**328**	⇓*i*Pg	**Pg**	07 29 48.7	0.0
TREB				*e*Sg	**Sb**	07 29 56.2	-1.0
PDG	**Podgorica**	**0.45**	**80**	*e*Pg	**Pg**	07 29 48.5	-0.6
PDG				*e*Sg	**Sg**	07 29 55.0	0.0
PDG	**Podgorica**	**0.45**	**80**	⇓*i*P	**Pg**	07 29 49.0	-0.1
PDG				S	**Sg**	07 29 55.8	+0.9
PDG	**Podgorica**	**0.45**	**80**	⇓*i*Pg	**Pg**	07 29 48.2	-0.9
PDG				*e*Sg	**Sg**	07 29 54.9	0.0
TTG	**Podgorica**	**0.45**	**80**	⇓*i*Pg	**Pg**	07 29 48.4	-0.6
TTG				*i* Sg	**Sg**	07 29 54.9	0.0
NKME	**Niksic**	**0.47**	**28**	⇓*i*Pg	**Pg**	07 29 48.7	-0.7
NKME				*i* Sg	**Sg**	07 29 55.5	0.0
NKY	**Niksic**	**0.52**	**28**	⇓*i*Pg	**Pg**	07 29 49.8	-0.7
NKY				*i* Sg	**Sg**	07 29 57.3	0.0
BRY	**Bratogost**	**0.55**	**351**	⇓*i*Pg	**Pg**	07 29 50.6	-0.6
BRY				*i* Sg	**Sg**	07 29 59.2	+0.8
BRY	**Bratogost**	**0.55**	**351**	⇓*i*Pg	**Pg**	07 29 50.5	-0.6
BRY				*e*Sg	**Sb**	07 30 00.2	-0.8
ULC	**Ulcinj**	**0.58**	**132**	⇓*i*Pg	**Pg**	07 29 51.0	-0.7
ULC				*i* Sg	**Sb**	07 30 00.5	-1.2
KOME	**Kolasin**	**0.80**	**52**	⇓*i*Pg	**Pg**	07 29 54.5	-1.4
KOME				*i* Sg	**Sg**	07 30 06.9	+0.6
STON	**Ston**	**0.88**	**306**	*e*Pg	**Pg**	07 29 56.4	-0.9
STON				Sg	**Sb**	07 30 10.6	+0.5
STON	**Ston**	**0.88**	**306**	*e*Pg	**Pg**	07 29 56.4	-0.9
STON				*e*Sg	**Sb**	07 30 09.8	-0.3
PVY	**Plav**	**0.99**	**76**	⇑*i*Pg	**Pg**	07 29 59.1	-0.4
PVY				*i* Sg	**Sb**	07 30 13.5	0.0
IVA	**Berane**	**1.05**	**60**	⇑*i*Pg	**Pg**	07 29 59.4	-1.1
IVA				*i* Sg	**Sb**	07 30 15.2	+0.1
PLE	**Pljevlja**	**1.11**	**29**	⇑*i*Pg	**Pg**	07 30 00.5	-1.3
PLE				*i* Sg	**Sb**	07 30 17.6	+0.6
SJES	**Sjenica**	**1.33**	**46**	*e*Pn	**Pn**	07 30 05.4	-0.3
SJES				*e*Sn	**Sn**	07 30 26.2	+2.5
TIR	**Tirane**	**1.35**	**138**	*e*Pn	**Pg**	07 30 06.7	+0.4
TIR				*e*Sn	**Sn**	07 30 26.3	+2.2
TIR	**Tirane**	**1.35**	**138**	⇑*i*P	**Pg**	07 30 06.6	+0.3
TIR	**Tirane**	**1.35**	**138**	S	**Sn**	07 30 26.8	+2.7
BBLS	**Lazići**	**1.61**	**20**	*e*Pn	**Pg**	07 30 11.5	+0.3
BBLS				*e*Sn	**Sg**	07 30 33.4	+1.3
IVAS	**Ivanjica**	**1.64**	**41**	*e*Pn	**Pb**	07 30 10.7	-0.5
IVAS				*e*Sn	**Sg**	07 30 33.6	+0.4
HAPS	**Han Pijesak,Bl**	**1.74**	**7**	*e*Pn	**Pb**	07 30 12.8	-0.2
HAPS				*e*Sn	**Sg**	07 30 36.8	+0.3
HAPS	**Han Pijesak,Bl**	**1.74**	**7**	⇓*i*Pn	**Pb**	07 30 12.6	-0.4
HAPS				*e*Sn	**Sb**	07 30 35.3	+0.1
FASA	**Fasano**	**1.82**	**213**	*e*Pn	**Pb**	07 30 14.7	+0.5
BAI	**Bari**	**1.82**	**227**	*e*Pn	**Pn**	07 30 11.1	-1.3
DIVS	**Divibare**	**2.00**	**29**	*e*Pn	**Pb**	07 30 16.2	-1.0
DIVS				*e*Sn	**Sb**	07 30 42.6	+0.2
SELS	**Selova**	**2.01**	**64**	*e*Pn	**Pn**	07 30 16.1	+1.2
SELS				*e*Sn	**Sb**	07 30 41.9	-0.7
OHR	**Ohrid**	**2.03**	**127**	*e*Pn	**Pn**	07 30 17.0	-0.4
MASS	**Massafra**	**2.06**	**214**	*e*Pn	**Pn**	07 30 14.2	-1.5
SKO	**Skopje**	**2.10**	**100**	*e*Pn	**Pn**	07 30 14.2	-2.0
SG1	**Sgolgore (BA)**	**2.12**	**225**	*e*Pn	**Pn**	07 30 15.4	-1.1
GRUS	**Gruza**	**2.15**	**44**	*e*Pn	**Pb**	07 30 18.9	-0.9
GRUS				*e*Sn	**Sb**	07 30 46.3	-0.4
KRUS	**Krusevo**	**2.17**	**116**	*i* Pn	**Pb**	07 30 18.9	-1.3
MATE	**Matera**	**2.25**	**221**	⇑*i*P	**Pn**	07 30 17.9	-0.3
TRUS	**Trudelj**	**2.26**	**34**	*e*Pn	**Pn**	07 30 19.6	+1.2
TRUS				*e*Sn	**Sb**	07 30 48.8	-1.2
BARS	**Barje**	**2.38**	**78**	*e*Pn	**Pb**	07 30 21.9	-1.8
BARS	**Barje**	**2.38**	**78**	*e*Pn	**Pg**	07 30 29.5	+3.5
BARS				*e*Sn	**Sb**	07 30 51.9	-1.4
BARS				*e*Sn	Sg	07 31 06.1	+9.3
BIA	**Bitola**	**2.40**	**123**	*i* Pn	**Pb**	07 30 22.9	-1.2
STIP	**Stip**	**2.71**	**103**	*i* Pn	**Pb**	07 30 28.0	-1.4
BOSS	**Bosilegrad**	**2.83**	**86**	*e*Pn	**Pn**	07 30 27.4	+1.1
BOSS				*e*Sn	**Sn**	07 31 02.6	+1.8
FRGS	**Fruska Gora**	**2.92**	**16**	*e*Pn	**Pn**	07 30 28.6	+1.1
FRGS				*e*Sn	**Sn**	07 31 03.8	+0.8
ZAGS	**Zajecar**	**3.00**	**60**	*e*Pn	**Pn**	07 30 30.1	+1.6
ZAGS				*e*Sn	**Sn**	07 31 06.3	+1.6
KUBS	**Kucevo**	**3.01**	**46**	*e*Pn	**Pn**	07 30 28.2	-0.5
UDBI	**Udbina**	**3.03**	**317**	*e*Pn	**Pb**	07 30 32.6	-2.1
ZAPS	**Zavoj**	**3.06**	**71**	*e*Pn	**Pn**	07 30 31.7	+2.2
ZAPS				*e*Sn	**Sn**	07 31 07.5	+1.0
VTS	**Vitosha**	**3.40**	**84**	*e*Pn	**Pn**	07 30 35.9	+1.8
VTS				*e*Sn	**Sn**	07 31 15.1	+0.3
VTS	**Vitosha**	**3.40**	**84**	⇑*i*P	**Pn**	07 30 35.9	+1.8
VTS	**Vitosha**	**3.40**	**84**	S	**Sn**	07 31 17.7	+2.9
TIP	**Timpagrande**	**3.48**	**205**	⇑*i*P	**Pn**	07 30 35.3	0.0
NVLJ	**Novalja**	**3.53**	**310**	*i* Pn	**Pn**	07 30 37.9	+2.1
HERR	**Herculane**	**3.72**	**46**	⇑*i*P	**Pn**	07 30 38.8	+0.4
MORH	**Mrgy, Hungar**	**3.86**	**360**	*e*Pn	**Pn**	07 30 40.9	+0.6
MORH				*e*Sn	**Sn**	07 31 26.7	+0.7
MORH	**Mrgy, Hungar**	**3.86**	**360**	*e*Pn	**Pn**	07 30 41.0	+0.7
MORH				*e*Sg	**Pg**	07 30 54.0	+0.4
MORH				*e*Sn	**Sn**	07 31 28.0	+2.0
BZS	**Buzias**	**3.90**	**32**	*e*Pn	**Pn**	07 30 41.6	+0.7
BZS				*e*Sn	**Sn**	07 31 26.9	-0.1
BZS	**Buzias**	**3.90**	**32**	⇓*i*P	**Pn**	07 30 42.1	+1.2
BZS	**Buzias**	**3.90**	**32**	S	**Sn**	07 31 28.6	+1.6
OZLJ	**Ozalj**	**3.99**	**326**	*e*Pn	**Pn**	07 30 44.5	+2.4
CRES	**Cresnjev**	**4.17**	**327**	*e*Pn	**Pn**	07 30 45.7	+1.1
CRES				*e*Sn	**Sn**	07 31 33.6	0.0
RIY	**Rijeka**	**4.24**	**316**	*e*Sn	**Sn**	07 31 35.4	+0.1
GZR	**Gura Zlata**	**4.25**	**43**	⇑*i*P	**Pn**	07 30 47.2	+1.4
GZR	**Gura Zlata**	**4.25**	**43**	S	**Sn**	07 31 37.8	+2.0
BEHE	**Becsehely**	**4.33**	**342**	*e*Pn	**Pn**	07 30 47.3	+0.5
BEHE				*e*Sn	**Sn**	07 31 37.2	-0.4
CEY	**Cerknica**	**4.55**	**319**	*e*Pn	**Pn**	07 30 51.1	+1.1
CEY				*e*Sn	**Sn**	07 31 42.8	-0.4
TIH	**Tihany**	**4.58**	**353**	*e*Pn	**Pn**	07 30 52.1	+1.9
TIH				Sn	**Sn**	07 31 41.0	-2.7
LJU	**Ljubljana**	**4.74**	**323**	*e*Pn	**Pn**	07 30 53.1	+0.7
LJU				*e*Sn	**Sn**	07 31 47.7	+0.1
SOKA	**Soboth**	**5.04**	**330**	*e*Pn	**Pn**	07 30 58.6	+2.0
	5.3nm,0.3s						
SOKA				*e*Sn	**Sn**	07 31 57.8	+2.5
	3.4nm,0.6s						
OBKA	**Obir**	**5.09**	**326**	*i* Pn	**Pn**	07 31 00.0	+2.6
	1.3nm,0.1s						
OBKA				*i* Sn	**Sn**	07 31 57.0	+0.5
	7.3nm,0.4s						
ARR	**Arges**	**5.27**	**53**	⇑*i*P	**Pn**	07 31 01.5	+1.7
DRGR		**5.30**	**32**	⇑*i*P	**Pn**	07 31 01.7	+1.5
ARSA	**Arzberg**	**5.38**	**337**	*e*Pn	**Pn**	07 31 02.3	+1.1
	1.7nm,0.2s						
ARSA				*e*Sn	**Sn**	07 32 03.3	-0.3
	1.6nm,0.3s						
MYKA	**Terra Mystica**	**5.58**	**322**	*e*Pn	**Pn**	07 31 06.5	+2.4
	2.3nm,0.2s						
MYKA				*e*Sn	**Sn**	07 32 09.5	+1.0
	1.2nm,0.3s						
PSZ	**Piszkesteto**	**5.63**	**8**	*e*Pn	**Pn**	07 31 01.1	-3.7
PSZ				*e*Sg	**Pg**	07 31 26.0	-2.2
PSZ				Sn	**Sn**	07 32 09.1	-0.8
CONA	**Conrad Observa**	**5.91**	**341**	*e*Pn	**Pn**	07 31 09.9	+1.2
	0.5nm,0.2s						
CONA				*e*Sn	**Sn**	07 32 18.6	+1.9
	2.1nm,0.4s						
KBA	**Koelnbreinsper**	**6.05**	**323**	*e*Pn	**Pn**	07 31 13.0	+2.3
	1.6nm,0.2s						
KBA				*e*Sn	**Sn**	07 32 21.6	+1.3
	2.0nm,0.3s						
MODS	**Modra-Piesok**	**6.10**	**351**	*e*SN	**Sn**	07 32 20.0	-1.2
MLR	**Muntele Rosu**	**6.12**	**57**	⇑*i*P	**Pn**	07 31 13.7	+2.1
MLR	**Muntele Rosu**	**6.12**	**57**	Pn	**Pn**	07 31 14.7	+3.1
	1.2nm,0.3s,baz=90,slow=19,SNR=12						
MLR				Sn	**Sn**	07 32 25.9	+3.9
	0.7nm,0.3s,baz=177,slow=19,SNR=4.7						
VYHS	**Vyhne**	**6.14**	**1**	*e*PN	**Pn**	07 31 13.2	+1.5
VYHS				*e*SN	**Sn**	07 32 21.2	-1.1
VYHS				*e*LG	Lg	07 32 26.9	
MOA	**Molln**	**6.31**	**332**	*i* Pn	**Pn**	07 31 16.3	+2.2
	2.1nm,0.3s						
MOA				*e*Sn	**Sn**	07 32 28.8	+2.3
	3.7nm,0.6s						
PLOR	**Plostina**	**6.73**	**56**	⇑*i*P	**Pn**	07 31 21.6	+1.8
VRI	**Vrincioaia**	**6.79**	**56**	⇑*i*P	**Pn**	07 31 21.5	+0.9
BURAR	**Bucovina Array**	**7.02**	**39**	⇑*i*P	**Pn**	07 31 26.3	+2.5
WATA	**Walderalm**	**7.08**	**317**	*e*Pn	**Pn**	07 31 26.8	+2.1
	2.7nm,0.2s						
TLB	**Topalu**	**7.18**	**69**	⇑*i*P	**Pn**	07 31 27.7	+1.7
FETA	**Feichten**	**7.33**	**312**	*e*Pn	**Pn**	07 31 30.1	+2.0
	0.3nm,0.2s						
FETA				*e*Sn	**Sn**	07 32 52.1	+0.5
	1.2nm,0.6s						
MOTA	**Moosalm**	**7.33**	**315**	*e*Pn	**Pn**	07 31 29.2	+1.1
	3.0nm,0.4s						
MOTA				*e*Sn	**Sn**	07 32 54.6	+2.9
	2.2nm,0.4s						
GERES	**GERESS Array B**	**7.36**	**334**	Pn	**Pn**	07 31 30.0	+1.5
	0.6nm,0.3s,baz=160,slow=13,SNR=12						
GERES				Sn	**Sn**	07 32 51.9	-0.6
	0.2nm,0.3s,baz=149,slow=19,SNR=4.8						
DAVOX	**Davos/Dischmat**	**7.67**	**308**	Pn	**Pn**	07 31 35.9	+3.0
	0.7nm,0.3s,baz=144,slow=20,SNR=6.7						
HFS	**Hagfors**	**18.06**	**352**	P	**Pn**	07 33 52.0	+0.1
	0.2nm,0.3s,baz=166,slow=15,SNR=6.1						
NOA	**NORSAR Array B**	**19.25**	**349**	P	**P**	07 34 04.9	-0.5
	0.0nm,0.3s,baz=154,slow=10,SNR=2.6						
FINES	**FINESS Array B**	**19.63**	**11**	P	**P**	07 34 09.1	-0.4
	0.2nm,0.3s,baz=170,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	**44.45**	**62**	P	**P**	07 37 52.1	-0.1
	1.1nm,0.6s,baz=282,slow=7.9,SNR=11						
YKA	**Yellowknife Ar**	**68.98**	**339**	P	**P**	07 40 44.8	-1.4
	0.1nm,0.7s,baz=40,slow=5.5,SNR=2.9						

*IDC **29** 07:30:55.3±0.4, 35°.38S×72°.87W, h0km, mb4.8/20, mb1 4.8/25, mb1mx4.7/32, mbtmp4.7/25, ML4.3/5, MS4.9/25, Ms1 4.9/25, ms1mx4.8/30, Error ellipse: s-maj=19.3km s-min=9.4km az=94.0*
*MOS **29** 07:30:56.9±1.5, 35°.30S×72°.86W, h15km, mb5.5/45, MS5.2/12, Error ellipse: s-maj=13.3km s-min=6.5km az=92.0*
*NEIC **29** 07:30:56.9±0.2, 35°.37S×72°.73W, h9km, mb5.4/229, MS5.3/105, MW5.5, MW5.4, ML5.5(GUC), Error ellipse: s-maj=7.6km s-min=4.9km az=85.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}1.58; $M_{\theta\theta}$-0.23; $M_{\phi\phi}$-1.35; $M_{r\theta}$0.00; $M_{\theta\phi}$0.31; $M_{\phi r}$-1.23; Best double couple: $M_0$2.00000×10^{17} NP1:ϕ_s174.00000°, δ65.00000°, λ97.00000°. NP2:ϕ_s339.00000°, δ26.00000°, λ76.00000°. Principal axes: T 2.0400, Plg70.0000°, Azm98.0000°; N -0.1800, Plg6.0000°, Azm351.0000°; P -1.8600, Plg19.0000°, Azm259.0000°;*
NEIC Felt [IV] at Constitucion; [III] at Curico, Linares, Longavi, Molina, Parral, Rauco, Romeral, Talca and Villa Alegre; [II] at Pelarco and Santa Cruz.
*ISCJB **29** 07:30:57.9±1.4, 35°.26S±0°.03×72°.89W±0°.05, h30km±9km, mb5.2/235, MS5.2/134 Error ellipse: s-maj=6.6km s-min=4.2km az=163.9*
*GUC **29** 07:30:57.1±0.7, 35°.38S×73°.23W, h38km±4km, ML5.5, MW5.4*
*NEIC **29** 07:30:58.0±0.0, 35°.37S×72°.50W, h11km, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}0.68; $M_{\theta\theta}$-0.12; $M_{\phi\phi}$-0.56; $M_{r\theta}$-0.17; $M_{\theta\phi}$-0.27; $M_{\phi r}$-1.50; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s188.00000°, δ78.00000°, λ83.00000°. NP2:ϕ_s40.00000°, δ14.00000°, λ120.00000°. Principal axes: T 1.6900, Plg56.0000°, Azm89.0000°; N -0.0500, Plg6.0000°, Azm189.0000°; P -1.6400, Plg32.0000°, Azm284.0000°;*
*VAO **29** 07:30:58.7±0.4, 35°.38S×72°.64W, h10km, mb5.3*
*GCMT **29** 07:30:59.9±0.1, 35°.44S±0°.01×73°.28W±0°.01, h14km, MW5.4/105, Moment Tensor Solution. s89,c128; s105,c

CNLB Canela 19.64 78 *eP* **P 07 35 24.8 -0.9**
USHA Ushuaia 19.71 172 P **Pn 07 35 29.5 +1.7**
comp=Z,0.7nm,0.3s,baz=343,slow=17,SNR=8.5
USHA LR LR 07 43 52.1
comp=Z,4µm,18.2s,baz=349,slow=39
PTGB Pitanga 20.96 65 *eP* **P 07 35 39.8 -0.4**
AQDB Aquidauana 21.25 50 *eP* **P 07 35 42.9 -0.3**
TRCB Terra Rica 21.71 60 *eP* **P 07 35 47.1 -1.1**
SIV San Ignacio 22.05 32 P **P 07 35 51.1 -0.8**
comp=Z,208nm,1.1s,baz=230,slow=11,SNR=132
SIV LR LR 07 46 12.1
comp=Z,13µm,18.7s,baz=230,slow=42
NNA Nana 23.54 351 *eP* **P 07 36 06.6 -0.8**
comp=Z,182nm,1.8s
NNA Nana 23.54 351 *eP* **P 07 36 06.6 -0.8**
NNA pmax pmax
comp=Z,182nm,1.8s
NNA Nana 23.54 351 P **P 07 36 05.8 -1.6**
comp=Z,12nm,1.0s,baz=212,slow=10,SNR=3.2
NNA S **S 07 40 20.4 -0.6**
comp=Z,2.4nm,0.3s,baz=258,slow=19,SNR=1.9
NNA LR LR 07 43 46.1
comp=Z,2µm,18.2s,baz=184,slow=33
FRTB Fartura 23.61 66 *eP* **P 07 36 07.8 -0.3**
SALV Santo Antonio 24.81 43 *eP* **P 07 36 18.5 -0.7**
SPB Sao Paulo 25.08 69 *eP* **P 07 36 21.8 +0.3**
comp=Z,323nm,1.2s
SPB LR LR
comp=Z,5µm,19.0s
SPB Sao Paulo 25.08 69 *eP* **P 07 36 21.9 +0.3**
ITRB Iturama 25.33 58 *eP* **P 07 36 23.7 -0.2**
RCLB Rio Claro- Sao 25.67 67 *eP* **P 07 36 26.3 -0.7**
BB19B Bebedouro 25.75 63 *eP* **P 07 36 27.1 -0.6**
ESAR Angra dos Reis 27.69 71 *eP* **P 07 36 45.0 -0.1**
ATAH Atahualpa 28.54 349 P **P 07 36 55.2 +2.0**
comp=Z,4.0nm,0.7s,baz=179,slow=7.1,SNR=8.5
ATAH LR LR 07 46 01.7
comp=Z,1µm,20.2s,baz=191,slow=32
BSCB Bom Sucesso 28.58 67 *eP* **P 07 36 52.8 -0.4**
PMNB Patos De Minas 28.87 61 *eP* **P 07 36 55.1 -0.7**
BDFB Brasilia 29.76 55 *eP* **P 07 37 02.6 -1.1**
comp=Z,69nm,1.1s
BDFB Brasilia 29.76 55 *eP* **P 07 37 02.6 -1.1**
BDFB pmax pmax
comp=Z,69nm,1.1s
BDFB Brasilia 29.76 55 P **P 07 37 02.5 -1.2**
comp=Z,69nm,1.2s,baz=226,slow=7.1,SNR=34
BDFB LR LR 07 50 28.4
comp=Z,8µm,18.8s,baz=231,slow=40
PMSA Palmer Station 29.93 172 LR LR 07 49 15.6
comp=Z,3µm,18.3s,baz=344,slow=37
MCI6 Montes Claros 31.83 62 *eP* **P 07 37 22.1 +0.1**
MCI9 Montes Claros 31.90 62 *eP* **P 07 37 21.7 -0.9**
MCI8 Montes Claros 31.91 62 *eP* **P 07 37 21.7 -1.0**
RPN Rapa Nui 32.00 275 PFAKE 07 37 40.0 +17
RPN LR LR
comp=Z,4µm,18.0s
PEXB Peixe 32.19 50 *eP* **P 07 37 24.1 -1.0**
JANB Januaria 32.71 59 *eP* **P 07 37 28.8 -0.9**
PTLC Puerto Leguiza 35.40 357 *eP* **P 07 37 51.2 -1.8**
PTLC Puerto Leguiza 35.40 357 *eP* **P 07 37 51.2 -1.8**
OTAV Otavalo 35.79 351 *eP* **P 07 37 58.4 +1.6**
comp=Z,55nm,1.5s
OTAV LR LR
comp=Z,1µm,20.0s
OTAV Otavalo 35.79 351 *eP* **P 07 37 57.9 +1.1**
OTAV Otavalo 35.79 351 *ceP* **P 07 37 59.2 +2.4**
OTAV pmax pmax
comp=Z,44nm,1.7s
OTAV Otavalo 35.79 351 *eP* **P 07 37 57.9 +1.1**
OTAV Otavalo 35.79 351 *eP* **P 07 37 59.4 +2.6**
PTGA Pitinga 36.54 22 *eP* **P 07 38 01.6 -1.1**
comp=Z,113nm,1.2s
PTGA LR LR
comp=Z,3µm,18.0s
PTGA Pitinga 36.54 22 *eP* **P 07 38 02.2 -0.5**
GCUF Volcan Galeras 36.64 353 *eP* **P 07 38 08.0 +3.9**
GCUF Volcan Galeras 36.64 353 *eP* **P 07 38 08.0 +3.9**
FLOC Florencia 36.85 356 *eP* **P 07 38 05.3 -0.1**
FLOC Florencia 36.85 356 *eP* **P 07 38 05.3 -0.1**
SOTA Rioblanco 37.47 354 *eP* **P 07 38 11.4 +0.3**
SOTA Rioblanco 37.47 354 *eP* **P 07 38 11.4 +0.3**
PCON Cinco Dias 37.64 354 *eP* **P 07 38 15.0 +2.3**
PCON Cinco Dias 37.64 354 *eP* **P 07 38 15.0 +2.3**
PAYG Puerto Ayora 38.10 331 *eP* **P 07 38 18.8 +2.9**
comp=Z,66nm,1.3s
PAYG LR LR
comp=Z,3µm,18.0s
PRAC Prado 38.92 357 *eP* **P 07 38 23.7 +0.8**
PRAC Prado 38.92 357 *eP* **P 07 38 23.7 +0.8**
YOTC Yotoco, Valle 39.27 355 *eP* **P 07 38 26.1 +0.1**
YOTC Yotoco, Valle 39.27 355 *eP* **P 07 38 26.1 +0.1**
ROSC El Rosal 40.02 358 *eP* **P 07 38 35.3 +2.9**
comp=Z,19nm,1.1s
ROSC LR LR
comp=Z,900nm,18.0s
ROSC El Rosal 40.02 358 *eP* **P 07 38 33.9 +1.5**
ROSC El Rosal 40.02 358 *eP* **P 07 38 33.9 +1.5**
ROSC El Rosal 40.02 358 P **P 07 38 33.9 +1.5**
comp=Z,4.2nm,0.6s,baz=207,slow=11,SNR=6.5
RREF El Recreo 40.12 356 *eP* **P 07 38 33.5 0.0**
RREF El Recreo 40.12 356 *eP* **P 07 38 33.5 0.0**
RUSC La Rusia 41.05 360 *eP* **P 07 38 40.8 -0.3**
RUSC La Rusia 41.05 360 *eP* **P 07 38 40.8 -0.3**
HELC Santa Helena 41.41 356 *eP* **P 07 38 43.8 -0.1**
HELC Santa Helena 41.41 356 *eP* **P 07 38 43.8 -0.1**
TAMC Tame, Arauca 41.60 2 *eP* **P 07 38 44.4 -0.7**
TAMC Tame, Arauca 41.60 2 *eP* **P 07 38 44.4 -0.7**
PTBC PUERTO BERRIO, 41.71 358 *eP* **P 07 38 43.7 -2.2**
PTBC PUERTO BERRIO, 41.71 358 *eP* **P 07 38 43.7 -2.2**
ZARC Zaragoza, Cauc 42.67 357 *eP* **P 07 38 52.9 -0.9**
ZARC Zaragoza, Cauc 42.67 357 *eP* **P 07 38 52.9 -0.9**
OCAC Ocana 43.38 360 *eP* **P 07 38 58.4 -1.2**
OCAC Ocana 43.38 360 *eP* **P 07 38 58.4 -1.2**
SMLC San Martn de 43.95 358 *eP* **P 07 39 02.3 -1.8**
SMLC San Martn de 43.95 358 *eP* **P 07 39 02.3 -1.8**
MDP Montagnes des 44.58 30 P **P 07 39 07.3 -1.8**
comp=Z,80nm,0.9s,baz=209,slow=6.7,SNR=18
RCBR Riachuelo 45.03 58 *eP* **P 07 39 13.6 +0.7**
comp=Z,162nm,1.5s
RCBR LR LR
comp=Z,2µm,21.0s
RCBR Riachuelo 45.03 58 *eP* **P 07 39 13.6 +0.7**
RCBR pmax pmax
comp=Z,163nm,1.5s
RCBR MLR MLR
comp=Z,2µm,21.0s
RCBR Riachuelo 45.03 58 *eP* **P 07 39 13.7 +0.7**
JTS JuntasAbangare 46.80 344 *i* P **P 07 39 24.9 -1.8**
JTS pmax pmax
comp=Z,22nm,1.4s
VNA3 Neumayer Olymp 48.39 157 P **P 07 39 39.1 +0.6**
GRGR Grenville 48.45 15 PFAKE 07 39 50.0 +11
GRGR LR LR
comp=Z,2µm,19.0s
ESPN Las Esperanzas 48.51 345 PFAKE 07 39 50.0 +10
ESPN LR LR
comp=Z,600nm,20.0s
VNA1 Neumayer--Stat 48.73 156 P **P 07 39 41.8 +0.7**
VNA2 Neumayer--Watz 49.06 157 P **P 07 39 44.1 +0.5**
baz=286,slow=9.1
SVB Belmont 49.64 15 *eP* **P 07 39 48.3 -0.3**
comp=Z,365nm,1.6s
CSGN Cosiguina Volc 50.03 341 PFAKE 07 40 00.0 +8.4
CSGN LR LR
comp=Z,600nm,20.0s
SNAA Sanae 50.62 157 P **P 07 39 55.7 +0.2**
SNAA Sanae 50.62 157 *eP* **P 07 39 55.3 -0.2**
comp=Z,196nm,1.4s
SNAA LR LR
comp=Z,2µm,19.0s
SNAA Sanae 50.62 157 P **P 07 39 55.7 +0.2**
comp=Z,105nm,1.2s,baz=270,slow=6.5,SNR=58
TGUH Tegucigalpa,Un 50.99 342 *eP* **P 07 39 59.1 +0.3**
comp=Z,97nm,1.4s
FDF Fort de France 51.08 15 PFAKE 07 40 10.0 +10
FDF LR LR
comp=Z,2µm,19.0s
ICMP Isla Caja de M 53.32 8 PFAKE 07 40 30.0 +14
ICMP LR LR
comp=Z,900nm,18.0s
CRPR Cabo Rojo, PR 53.38 7 PFAKE 07 40 30.0 +14
CRPR LR LR
comp=Z,2µm,19.0s

SEUS St. Eustatius 53.43 12 PFAKE 07 40 30.0 +13
SEUS LR LR
comp=Z,2µm,18.0s
OBIP Obispado Ponce 53.47 8 PFAKE 07 40 30.0 +13
OBIP LR LR
comp=Z,800nm,22.0s
SJG San Juan 53.59 8 PFAKE 07 40 30.0 +12
SJG LR LR
comp=Z,2µm,20.0s
SDD Santo Domingo 53.61 4 *eP* **P 07 40 18.1 -0.1**
comp=Z,115nm,1.1s
MTP Monte Pirata 53.64 9 PFAKE 07 40 30.0 +12
MTP LR LR
comp=Z,2µm,20.0s
HUMP Col San Antoni 53.65 8 PFAKE 07 40 30.0 +12
HUMP LR LR
comp=Z,2µm,19.0s
CBYP Canovanas 53.78 8 PFAKE 07 40 30.0 +10
CBYP LR LR
comp=Z,2µm,19.0s
STVI Saint Thomas 53.97 9 PFAKE 07 40 30.0 +9.2
STVI LR LR
comp=Z,2µm,19.0s
SDDR Presa de Saban 54.08 2 PFAKE 07 40 30.0 +8.3
SDDR LR LR
comp=Z,2µm,18.0s
CCIG Comitan 54.49 337 PFAKE 07 40 40.0 +15
CCIG LR LR
comp=Z,2µm,21.0s
RKT Rikitea 54.66 265 *eT* T 08 39 05.6
comp=Z,0.7nm,0.2s
QSPA South Pole Qui 54.87 180 *eP* **P 07 40 27.5 +0.3**
comp=Z,62nm,1.4s
QSPA South Pole Qui 54.87 180 P **P 07 40 27.0 -0.1**
comp=Z,4.9nm,0.9s,baz=117,slow=2.5,SNR=6.8
QSPA LR LR 08 03 00.6
comp=Z,694nm,18.2s,baz=164,slow=35
TLIG Tlapa 57.97 331 PFAKE 07 41 00.0 +10
TLIG LR LR
comp=Z,2µm,18.0s
LVIG Laguna Verde 59.13 334 PFAKE 07 41 10.0 +12
LVIG LR LR
comp=Z,400nm,20.0s
UNM Universidad Na 59.81 331 PFAKE 07 41 20.0 +17
UNM LR LR
comp=Z,1µm,18.0s
MOIG Morelia 60.94 329 PFAKE 07 41 20.0 +10
MOIG LR LR
comp=Z,1µm,22.0s
060A Indiantown 62.46 353 P **P 07 41 20.4 +0.3**
baz=173
VNDA Vanda 62.60 192 *eP* **P 07 41 21.3 +0.7**
comp=Z,33nm,1.8s
VNDA Vanda 62.60 192 *eP* **P 07 41 21.3 +0.7**
VNDA pmax pmax
comp=Z,33nm,1.8s
VNDA Vanda 62.60 192 P **P 07 41 22.6 +2.1**
comp=Z,2.1nm,1.1s,baz=173,slow=7.0,SNR=3.1
VNDA LR LR 08 06 37.0
comp=Z,756nm,18.1s,baz=126,slow=34
DWPF Disney Wildern 63.64 352 P P 07 41 21.9 -6.0
baz=172
ZAIG Zacatecas 64.26 330 PFAKE 07 41 50.0 +17
ZAIG LR LR
comp=Z,900nm,18.0s
757A Oxford 64.54 351 P **P 07 41 31.2 -2.6**
baz=172
LNIG Linares 64.97 333 *eP* **P 07 41 38.5 +1.7**
comp=Z,45nm,1.9s
557A Orange Park 65.56 352 P **P 07 41 38.8 -1.6**
baz=172
555A McAlpin 65.82 351 P **P 07 41 40.1 -2.0**
baz=171
453A Whigham 66.73 349 P **P 07 41 46.2 -1.8**
baz=170
351A Pinckard 67.35 348 P **P 07 41 50.0 -1.9**
baz=169
352A Blakely 67.44 349 *eP* **P 07 41 51.6 -0.9**
comp=Z,106nm,1.8s
352A Blakely 67.44 349 P **P 07 41 50.7 -1.7**
baz=169
254A Abbeville 67.66 351 P **P 07 41 51.9 -1.9**
baz=171
349A Repton 67.70 347 P **P 07 41 52.6 -1.5**
baz=167
253A Americus 67.89 350 P **P 07 41 53.7 -1.5**
baz=170
252A Lumpkin 67.92 349 P **P 07 41 54.2 -1.2**
baz=170
833A Chaparral WMA, 68.08 335 P **P 07 41 56.7 +0.1**
baz=157
251A Midway 68.12 349 P **P 07 41 54.5 -2.2**
baz=169
156A Sylvania 68.14 352 P **P 07 41 53.2 -3.6**
baz=172
155A Kite 68.22 351 P **P 07 41 55.6 -1.7**
baz=172
154A Montrose 68.29 351 P **P 07 41 55.9 -1.9**
baz=171
249A Camden 68.30 347 P **P 07 41 55.3 -2.5**
baz=167
153A Fort Valley 68.43 350 P **P 07 41 56.6 -2.1**
baz=170
HKT Hockley 68.45 339 *eP* **P 07 42 00.2 +1.5**
comp=Z,40nm,1.9s
HKT Hockley 68.45 339 *eP* **P 07 42 00.2 +1.5**
HKT pmax pmax
comp=Z,40nm,1.9s
NHSC New Hope 68.45 354 P **P 07 41 57.3 -1.4**
baz=174
151A Opelika 68.53 349 P **P 07 41 57.6 -1.7**
baz=169
152A Waverly Hall 68.57 349 P **P 07 41 58.1 -1.5**
baz=170
Z57A Bowman 68.69 353 P **P 07 41 58.1 -2.1**
baz=173
150A Eclectic 68.72 348 P **P 07 41 59.4 -1.1**
baz=168
149A Jones 68.84 348 P **P 07 41 59.7 -1.5**
baz=168
Z54A Sparta 68.87 351 P **P 07 41 58.2 -3.2**
baz=171
TVO Taravao 68.91 263 *eT* T 08 56 53.8
comp=Z,0.5nm,0.2s
Z53A Monticello 69.01 351 P **P 07 42 00.2 -2.1**
baz=171
148A Greensboro 69.03 347 P **P 07 42 01.3 -1.1**
baz=167
Z52A Williamson 69.04 350 P **P 07 42 00.7 -1.8**
baz=170
TIAR Tiarei 69.10 263 *eT* T 08 57 08.0
comp=Z,1.9nm,0.3s
GOGA Godfrey 69.13 351 *eP* **P 07 42 02.2 -0.8**
comp=Z,60nm,1.8s
GOGA Godfrey 69.13 351 *eP* **P 07 42 02.2 -0.8**
GOGA pmax pmax
comp=Z,60nm,1.8s
GOGA Godfrey 69.13 351 P **P 07 42 01.4 -1.6**
baz=171
147A Livingston 69.19 346 *eP* **P 07 42 04.2 +0.8**
comp=Z,65nm,1.4s
147A Livingston 69.19 346 P **P 07 42 03.3 -0.1**
baz=166
VBMS Vicksburg 69.22 344 *eP* **P 07 42 03.8 +0.3**
comp=Z,41nm,1.2s
HPIG 69.24 329 *eP* **P 07 42 04.4 +0.3**
comp=Z,67nm,1.9s
PPT2 Papeete2 69.27 263 *eS* **S 07 51 08.0 -2.6**
comp=Z,903nm,23.0s
PPT2 Papeete2 69.27 263 *eLR* LR 08 03 08.2
comp=Z,2µm,25.8s,baz=121
PPT2 *eLR* LR 08 03 12.0
comp=Z,2µm,24.8s
Z51A Franklin 69.28 349 P **P 07 42 02.5 -1.4**
baz=169
PPT Papeete 69.28 263 LR LR 08 04 49.9
comp=Z,808nm,18.0s,baz=108,slow=29
LRAL Lakeview Retre 69.31 347 *eP* **P 07 42 05.8 +1.7**
comp=Z,69nm,1.8s
LRAL Lakeview Retre 69.31 347 P **P 07 42 02.6 -1.5**
baz=168
Z50A Ashland 69.34 348 *eP* **P 07 42 04.1 -0.2**
comp=Z,34nm,1.4s
Z50A Ashland 69.34 348 P **P 07 42 03.2 -1.1**
baz=169
Z49A Columbiana 69.38 348 P **P 07 42 02.8 -1.8**
baz=168

Y55A Saluda 69.45 352 P **P 07 42 03.7 -1.3**
baz=172
Y54A Tignall 69.47 351 P **P 07 42 02.9 -2.2**
baz=171
Y53A Monroe 69.58 351 P **P 07 42 02.7 -3.1**
baz=171
Y52A Lilburn 69.65 350 *eP* **P 07 42 06.2 -0.1**
comp=Z,66nm,1.6s
Y52A Lilburn 69.65 350 P **P 07 42 03.9 -2.3**
baz=170
435B Jarrell 69.75 338 *eP* **P 07 42 07.9 +1.0**
comp=Z,44nm,1.6s
HODGE Hodges 69.78 352 *eP* **P 07 42 08.3 +1.3**
comp=Z,27nm,1.4s
NATX Nacogdoches 69.81 340 *eP* **P 07 42 07.9 +0.6**
comp=Z,132nm,1.6s
NATX Nacogdoches 69.81 340 P **P 07 42 08.1 +0.9**
baz=161
Y51A Rockmart 69.83 349 P **P 07 42 05.7 -1.7**
baz=169
X56A White Oak 69.91 353 P **P 07 42 06.2 -1.6**
baz=173
Y50A Piedmont 69.93 349 P **P 07 42 06.1 -1.9**
baz=169
X55A Gracelyn & Ava 69.95 352 P **P 07 42 04.8 -3.3**
baz=172
Y49A Blount Mountai 70.01 348 P **P 07 42 08.4 0.0**
baz=168
X54A Belton 70.11 352 P **P 07 42 07.3 -1.7**
baz=172
X53A Estanollee 70.18 351 P **P 07 42 07.6 -1.9**
baz=171
Y48A Jasper 70.19 347 P **P 07 42 07.8 -1.7**
baz=168
JCT Junction City 70.20 336 *eP* **P 07 42 09.3 -0.4**
comp=Z,65nm,1.4s
JCT Junction City 70.20 336 *eP* **P 07 42 09.3 -0.4**
JCT pmax pmax
comp=Z,65nm,1.4s
JCT Junction City 70.20 336 P **P 07 42 10.0 +0.3**
baz=157
PAULI Pauline 70.32 352 *eP* **P 07 42 12.9 +2.6**
comp=Z,21nm,1.2s
X52A Dahlonega 70.36 350 P **P 07 42 08.8 -1.8**
baz=170
X51A Calhoun 70.46 350 *eP* **P 07 42 11.1 0.0**
comp=Z,101nm,1.6s
X51A Calhoun 70.46 350 P **P 07 42 11.2 +0.1**
baz=170
X50B Fort Payne 70.47 349 P **P 07 42 09.9 -1.4**
baz=169
TXAR Lajitas Array 70.56 332 P **P 07 42 12.2 +0.1**
comp=Z,1.5nm,0.7s,baz=152,slow=9.2,SNR=17
TXAR LR LR 08 08 23.9
comp=Z,708nm,18.5s,baz=0.0,slow=32
TX31 Lajitas Ar. Si 70.56 332 *eP* **P 07 42 12.7 +0.7**
comp=Z,88nm,2.0s
KMSC Kings Mountain 70.58 353 *eP* **P 07 42 11.3 -0.6**
comp=Z,27nm,1.4s
KMSC Kings Mountain 70.58 353 P **P 07 42 10.6 -1.3**
baz=173
BG3 Lake Jocassee 70.62 351 *eP* **P 07 42 12.5 +0.3**
comp=Z,48nm,1.7s
W54A Cherokee Point 70.62 352 P **P 07 42 10.9 -1.2**
baz=172
X49A Woodville 70.63 348 P **P 07 42 10.4 -1.8**
baz=168
X48A Hartselle 70.70 348 *eP* **P 07 42 10.7 -1.9**
comp=Z,38nm,1.2s
X48A Hartselle 70.70 348 P **P 07 42 12.0 -0.6**
baz=168,SNR=8.5
Z41A Richland Creek 70.75 342 *eP* **P 07 42 12.4 -0.6**
comp=Z,52nm,1.2s
Z41A Richland Creek 70.75 342 P **P 07 42 11.9 -1.1**
baz=163
W53A Cullowhee 70.82 351 P **P 07 42 12.0 -1.5**
baz=171
WHTX Lake Whitney, 70.84 338 *eP* **P 07 42 14.4 +0.8**
comp=Z,56nm,1.3s
WHTX Lake Whitney, 70.84 338 P **P 07 42 12.9 -0.6**
baz=159
W52A Murphy 70.84 351 P **P 07 42 11.5 -2.1**
baz=170
X47A Russelville 70.91 347 P **P 07 42 13.2 -0.6**
baz=167,SNR=6.9
V59A Middlesex 70.94 355 P **P 07 42 12.5 -1.6**
baz=175
W51A Cleveland 71.03 350 P **P 07 42 12.9 -1.7**
baz=170
X46A Booneville 71.08 346 P **P 07 42 13.9 -1.0**
baz=166
CCAR Cane Creek 71.14 344 *eP* **P 07 42 15.9 +0.6**
comp=Z,106nm,1.5s
W50A Signal Mountai 71.15 349 *eP* **P 07 42 15.2 -0.2**
comp=Z,24nm,1.0s
W50A LR LR
comp=Z,700nm,18.0s
W50A Signal Mountai 71.15 349 P **P 07 42 14.2 -1.2**
baz=169,SNR=7.7
V56A Mocksville 71.16 354 P **P 07 42 15.1 -0.3**
baz=173
OXF Oxford 71.20 346 *eP* **P 07 42 14.1 -1.6**
comp=Z,41nm,1.2s
OXF Oxford 71.20 346 *eP* **P 07 42 14.1 -1.6**
OXF pmax pmax
comp=Z,41nm,1.2s
OXF Oxford 71.20 346 P **P 07 42 13.4 -2.2**
baz=166
W49A Belvidere 71.22 349 P **P 07 42 14.2 -1.5**
baz=168
SWET Sewanee 71.26 349 *eP* **P 07 42 14.9 -1.2**
comp=Z,97nm,1.7s
V53A Saluda 71.27 352 *eP* **P 07 42 16.1 0.0**
comp=Z,25nm,1.3s
V53A Saluda 71.27 352 P **P 07 42 14.2 -2.0**
baz=171
V55A Taylorsville 71.27 353 P **P 07 42 14.6 -1.5**
baz=173
CPCT Cooper Cave 71.28 350 *eP* **P 07 42 14.7 -1.4**
comp=Z,70nm,1.8s
V54A Nebo 71.28 352 P **P 07 42 14.9 -1.2**
baz=172
W48A Pulaski 71.35 348 P **P 07 42 15.1 -1.5**
baz=168
PLAL Pickwick Lake 71.40 347 *eP* **P 07 42 15.7 -1.2**
comp=Z,45nm,1.5s
U59A Littleton 71.50 356 P **P 07 42 15.1 -2.4**
baz=176
X43A Marvell 71.51 344 *eP* **P 07 42 17.2 -0.4**
comp=Z,135nm,1.7s
X43A Marvell 71.51 344 P **P 07 42 16.8 -0.8**
baz=164
V52A Sevierville 71.54 351 *eP* **P 07 42 17.1 -0.6**
comp=Z,108nm,1.8s
V52A Sevierville 71.54 351 P **P 07 42 14.4 -3.3**
baz=171
W47A Westpoint 71.57 347 P **P 07 42 17.2 -0.7**
baz=167,SNR=5.7
V50A Pikeville 71.58 350 P **P 07 42 16.8 -1.2**
baz=169,SNR=7.4
U58A Oxford 71.59 355 P **P 07 42 15.9 -2.0**
baz=175
V51A Loudon 71.60 350 P **P 07 42 16.9 -1.2**
baz=170
W46A Michie 71.60 347 P **P 07 42 17.0 -1.1**
baz=167
V49A McMinnville 71.79 349 P **P 07 42 16.9 -2.3**
baz=169,SNR=7.3
U55A TA2, Sparta 71.90 353 P **P 07 42 19.6 -0.4**
baz=173
V48A Smith Brothers 71.92 348 *eP* **P 07 42 19.0 -1.0**
comp=Z,251nm,1.9s
V48A Smith Brothers 71.92 348 P **P 07 42 19.4 -0.6**
baz=168,SNR=16
U53A Fall Branch 71.93 352 P **P 07 42 16.6 -3.5**
baz=172
U54A Nelsons Funny 72.00 353 P **P 07 42 18.7 -1.8**
baz=172
U52A Thorn Hill 72.05 351 P **P 07 42 19.0 -1.9**
baz=171
MAW Mawson 72.09 164 *eP* **P 07 42 21.1 +0.4**
comp=Z,45nm,2.0s
MAW Mawson 72.09 164 *eP* **P 07 42 21.1 +0.4**
MAW pmax pmax
comp=Z,45nm,2.0s
MAW Mawson 72.09 164 P **P 07 42 21.4 +0.7**
comp=Z,11nm,1.0s,baz=203,slow=9.0,SNR=7.3
MAW LR LR 08 12 32.4

comp=Z,1µm,21.6s,baz=229,slow=35
T59A **Double "B" Far** 72.10 356 P P 07 42 20.0 -1.1
baz=176
ABTX **Abilene, Hawle** 72.11 337 eP P 07 42 21.9 +0.6
comp=Z,84nm,1.5s
ABTX **Abilene, Hawle** 72.11 337 P P 07 42 21.5 +0.2
baz=157
V47A **Nunnelly** 72.12 348 P P 07 42 20.5 -0.7
baz=167,SNR=12
U51A **La Follette** 72.12 351 P P 07 42 20.5 -0.8
baz=170
MIAR **Mount Ida** 72.17 342 eP P 07 42 21.5 0.0
comp=Z,27nm,1.4s
MIAR **Mount Ida** 72.17 342 eP P
MIAR pmax pmax 07 42 21.5 0.0
comp=Z,27nm,1.4s
MIAR **Mount Ida** 72.17 342 P P 07 42 20.5 -1.1
baz=162
V46A **Holladay** 72.20 347 P P 07 42 21.3 -0.3
baz=167
TZTN **Tazewell** 72.22 351 P P 07 42 20.5 -1.3
baz=171
T57A **Hurt** 72.24 355 P P 07 42 19.9 -1.9
baz=174
U50A **Jamestown** 72.27 350 P P 07 42 20.9 -1.2
baz=170
T56A **Rocky Mt** 72.33 354 P P 07 42 20.3 -2.1
baz=174
W41B **Gary Mavity, V** 72.45 344 eP P 07 42 22.9 -0.2
comp=Z,70nm,1.5s
W41B **Gary Mavity, V** 72.45 344 P P 07 42 22.7 -0.4
baz=163
WVT **Waverly** 72.47 347 eP P 07 42 22.5 -0.8
comp=Z,133nm,1.7s
WVT **Waverly** 72.47 347 eP P
WVT pmax pmax 07 42 22.5 -0.8
comp=Z,133nm,1.7s
WVT **Waverly** 72.47 347 P P 07 42 22.9 -0.3
baz=167
T55A **Pulaski** 72.49 353 P P 07 42 21.0 -2.4
baz=173
U49A **Red Boiling Sp** 72.50 349 P P 07 42 21.6 -1.8
baz=169
T54A **Tazewell** 72.51 353 P P 07 42 21.0 -2.6
baz=172
T53A **Wise** 72.53 352 P P 07 42 22.5 -1.2
baz=172
WHAR **Wooly Hollow** 72.57 344 eP P 07 42 23.9 +0.1
comp=Z,62nm,1.4s
U48A **Cassie Pea, Po** 72.62 349 P P 07 42 22.9 -1.2
baz=168
X37A **Clayton** 72.68 341 eP P 07 42 24.8 +0.2
comp=Z,40nm,1.6s
U47A **Clarksville** 72.68 348 P P 07 42 23.6 -0.9
baz=168,SNR=15
T51A **Gray** 72.69 351 P P 07 42 22.3 -2.3
baz=170
U46A **Springville** 72.75 347 P P 07 42 24.6 -0.3
baz=167
W39A **Magazine** 72.84 342 eP P 07 42 26.2 +0.7
comp=Z,61nm,1.3s
W39A **Magazine** 72.84 342 P P 07 42 25.6 +0.1
baz=162,SNR=7.0
T50A **Nancy** 72.86 350 P P 07 42 24.5 -1.2
baz=170
UTMT **University of** 72.86 347 eP P 07 42 25.5 -0.1
comp=Z,138nm,1.4s
T49A **Edmonton** 73.05 350 eP P 07 42 26.3 -0.4
comp=Z,71nm,1.9s
T49A **Edmonton** 73.05 350 P P 07 42 26.4 -0.4
baz=169
PVMO **Portageville** 73.10 346 eP P 07 42 27.1 +0.2
comp=Z,364nm,1.8s
R58B **Mineral** 73.11 356 eP P 07 42 27.5 +0.5
comp=Z,66nm,1.8s
R58B **Mineral** 73.11 356 P P 07 42 24.7 -2.3
baz=176
S55A **Lewisburg** 73.11 354 P P 07 42 25.2 -1.9
baz=173
T47A **Sharon Grove** 73.18 348 eP P 07 42 26.2 -1.3
comp=Z,35nm,1.3s
T47A **Sharon Grove** 73.18 348 P P 07 42 26.6 -0.9
baz=168
U44A **Portageville** 73.18 346 P P 07 42 28.1 +0.6
baz=166
T48A **Bowling Green** 73.18 349 P P 07 42 27.3 -0.2
baz=168
S52A **Salyersville** 73.28 352 P P 07 42 27.0 -1.1
baz=171
S51A **Beattyville** 73.31 351 eP P 07 42 27.9 -0.3
comp=Z,40nm,1.4s
S51A **Beattyville** 73.31 351 P P 07 42 26.7 -1.5
baz=171
MNTX **Cornudas Mount** 73.33 332 eP P 07 42 31.0 +2.5
comp=Z,14nm,1.3s
MNTX **Cornudas Mount** 73.33 332 P P 07 42 27.8 -0.7
baz=153
PARMO **Parma** 73.35 346 eP P 07 42 31.2 +2.7
comp=Z,31nm,0.8s
T46A **Princeton** 73.37 348 P P 07 42 27.9 -0.7
baz=167,SNR=5.6
HSIG 73.37 326 eP P 07 42 29.2 +0.5
comp=Z,44nm,1.6s
GDL2 **Guadalupe Moun** 73.39 333 eP P 07 42 30.6 +1.6
S50A **Richmond** 73.45 351 P P 07 42 28.1 -0.9
baz=170
T45A **Paducah** 73.48 347 eP P 07 42 29.1 -0.2
comp=Z,42nm,0.9s
U41A **Viola** 73.50 344 P P 07 42 28.4 -1.0
baz=164
R54A **Victor** 73.56 353 P P 07 42 27.7 -2.0
baz=173
R55A **Marlinton** 73.58 354 P P 07 42 27.5 -2.4
baz=174
PBMO **Poplar Bluff** 73.60 345 eP P 07 42 29.7 -0.2
comp=Z,31nm,1.2s
S48A **Wiedeman Farm,** 73.67 349 P P 07 42 28.8 -1.5
baz=169
S49A **Springfield** 73.68 350 P P 07 42 28.3 -2.1
baz=169
U40A **Yellville** 73.72 343 P P 07 42 30.5 -0.2
baz=163,SNR=8.6
S47A **Hartford** 73.74 349 P P 07 42 29.0 -1.7
baz=168
WMOK **Wichita Mounta** 73.79 338 eP P 07 42 33.0 +1.8
comp=Z,26nm,1.4s
WMOK **Wichita Mounta** 73.79 338 eP P
WMOK pmax pmax 07 42 33.0 +1.8
comp=Z,26nm,1.4s
WMOK **Wichita Mounta** 73.79 338 P P 07 42 31.3 +0.1
baz=158
R53A **Hurricane** 73.80 353 P P 07 42 28.4 -2.7
baz=172
EPT **El Paso** 73.84 331 PFAKE 07 42 40.0 +8.4
EPT LR LR
comp=Z,1µm,18.0s
T43A **Greenville** 73.86 346 P P 07 42 30.8 -0.7
baz=165,SNR=8.1
R52A **Catlettsburg** 73.88 352 P P 07 42 29.7 -1.8
baz=172
R51A **Hillsboro** 73.96 351 P P 07 42 31.5 -0.5
baz=171
S46A **Don Dixon Farm** 73.96 348 P P 07 42 31.2 -0.8
baz=167
R50A **Paris** 74.03 351 P P 07 42 30.8 -1.7
baz=170
TUL1 **Leonard** 74.03 341 eP P 07 42 28.3 -4.3
comp=Z,104nm,1.6s
TUL1 **Leonard** 74.03 341 P P 07 42 32.9 +0.4
baz=161
R49A **Shelbyville** 74.16 350 P P 07 42 30.8 -2.4
baz=170
WCI **Wyandotte Cave** 74.26 349 P P 07 42 31.5 -2.3
baz=169
Q53A **Leroy** 74.28 353 P P 07 42 32.5 -1.4
baz=173
Q55A **Buckhannon** 74.29 354 P P 07 42 32.9 -1.1
baz=174
S43A **Fulton Ridge,** 74.29 346 P P 07 42 33.2 -0.8
baz=165,SNR=12
R47A **Wooly Knot Far** 74.37 349 P P 07 42 32.4 -2.0
baz=168
R48A **Northridge Ran** 74.37 350 P P 07 42 33.4 -1.0
baz=169
MSTX **Muleshoe** 74.40 335 eP P 07 42 35.1 +0.2
comp=Z,17nm,0.9s
MSTX **Muleshoe** 74.40 335 P P 07 42 35.5 +0.6
baz=155
R46A **Gibon Southern** 74.44 348 P P 07 42 34.2 -0.6
baz=168
Q52A **Bidwell** 74.46 353 P P 07 42 33.6 -1.4
baz=172
S42A **Caledonia** 74.63 345 P P 07 42 35.1 -0.8
baz=165
Q51A **Peebles** 74.65 352 eP P 07 42 35.5 -0.5
comp=Z,24nm,1.2s
Q51A **Peebles** 74.65 352 P P 07 42 34.0 -2.0
baz=171
S41A **Jillco Farms,** 74.65 345 P P 07 42 35.6 -0.5
baz=164,SNR=10
R45A **Skylar, Fairfi** 74.65 348 P P 07 42 34.2 -1.8
baz=167
R44A **Waltonville** 74.75 347 P P 07 42 35.7 -1.0
baz=166
FVM **French Village** 74.76 346 eP P 07 42 36.5 -0.2
comp=Z,33nm,1.1s
FVM **French Village** 74.76 346 eP P
FVM pmax pmax 07 42 36.5 -0.2
comp=Z,33nm,1.1s
P55A **Reedsville** 74.78 355 P P 07 42 35.7 -1.1
baz=174
Q49A **Aurora** 74.82 350 P P 07 42 35.7 -1.4
baz=170
SUR **Sutherland** 74.85 119 eP P 07 42 38.6 +0.7
comp=Z,115nm,1.5s
SUR **Sutherland** 74.85 119 P P 07 42 38.5 +0.6
comp=Z,16nm,1.1s,baz=294,slow=3.2,SNR=3.4
AMTX **Amarillo** 74.86 336 eP P 07 42 38.3 +0.9
comp=Z,68nm,1.4s
AMTX **Amarillo** 74.86 336 P P 07 42 38.5 +1.0
baz=156
Q48A **North Vernon** 74.87 350 P P 07 42 36.0 -1.3
baz=169
P53A **Whipple** 74.89 353 P P 07 42 35.5 -1.9
baz=173
P54A **Burton** 74.92 354 P P 07 42 36.4 -1.2
baz=174
MCWV **Mont Chateau** 74.93 355 P P 07 42 35.6 -2.1
baz=174
PSUB **Penn St. - Bra** 74.96 358 eP P 07 42 38.1 +0.3
comp=Z,78nm,1.8s
Q47A **Bedord North L** 74.98 349 P P 07 42 38.0 0.0
baz=168
CCM **Cathedral Cave** 75.00 345 eP P 07 42 36.9 -1.1
comp=Z,41nm,1.1s
CCM **Cathedral Cave** 75.00 345 eP P
CCM pmax pmax 07 42 36.9 -1.1
comp=Z,41nm,1.1s
CCM **Cathedral Cave** 75.00 345 P P 07 42 37.0 -1.1
baz=164
121A **Cookes Peak, D** 75.02 330 P P 07 42 40.3 +1.7
baz=151
P51A **Williamsport** 75.06 352 eP P 07 42 36.5 -1.9
comp=Z,37nm,1.3s
P51A **Williamsport** 75.06 352 P P 07 42 37.6 -0.8
baz=171
MVL **Millersville** 75.06 357 eP P 07 42 38.8 +0.4
comp=Z,44nm,1.4s
P52A **Corning** 75.11 353 P P 07 42 37.2 -1.5
baz=172,SNR=5.8
R42A **Luebbering** 75.12 346 P P 07 42 37.7 -1.1
baz=165
Q45A **Warren Harvey,** 75.22 348 P P 07 42 37.7 -1.6
baz=167
R41A **Rosebud** 75.26 345 P P 07 42 38.8 -0.7
baz=164,SNR=8.3
P50A **Jamestown** 75.28 351 P P 07 42 38.2 -1.5
baz=171
P49A **Miami Univ. Ec** 75.32 351 P P 07 42 39.5 -0.4
baz=170
P48A **Milroy** 75.34 350 P P 07 42 38.8 -1.3
baz=169,SNR=6.6
Q44A **Meyer Farm, Va** 75.38 347 P P 07 42 38.2 -2.0
baz=166
O55A **Ligonier** 75.43 355 P P 07 42 39.2 -1.4
baz=174
O56A **Blue Knob Stat** 75.44 356 P P 07 42 38.9 -1.7
baz=175
O54A **Avella** 75.49 354 P P 07 42 36.6 -4.3
baz=174
P47A **Martinsville** 75.49 349 P P 07 42 41.2 +0.3
baz=169
Q43A **New Douglas** 75.54 347 P P 07 42 40.2 -0.9
baz=166
O52A **Adamsville** 75.56 353 eP P 07 42 40.8 -0.5
comp=Z,59nm,1.8s
O52A **Adamsville** 75.56 353 P P 07 42 40.4 -0.9
baz=172
O53A **New Philadelph** 75.63 354 P P 07 42 39.5 -2.2
baz=173
O51A **Pataskala** 75.67 352 P P 07 42 40.8 -1.1
baz=172
P45A **Graceland, Par** 75.77 348 P P 07 42 41.3 -1.1
baz=167
P46A **Rosedale** 75.77 349 P P 07 42 41.8 -0.6
baz=168
SSPA **Standing Stone** 75.77 356 eP P 07 42 41.1 -1.3
comp=Z,40nm,1.5s
SSPA **Standing Stone** 75.77 356 P P 07 42 42.3 -0.2
baz=176
O50A **Cable** 75.78 352 P P 07 42 42.1 -0.5
baz=171
ACSO **Alum Creek Sta** 75.80 352 eP P 07 42 42.1 -0.5
comp=Z,85nm,1.6s
ACSO **Alum Creek Sta** 75.80 352 P P 07 42 41.6 -1.0
baz=171,SNR=5.8
P44A **Sand Creek, Wi** 75.86 348 P P 07 42 42.2 -0.8
baz=167
Q41A **Truxton** 75.86 345 P P 07 42 42.4 -0.6
baz=165,SNR=7.4
O49A **Covington** 75.91 351 P P 07 42 42.6 -0.6
baz=170
LIC **Lamto** 75.95 72 eP P 07 42 43.9 -0.2
comp=Z,173nm,1.4s
N59A **State Game Lan** 75.96 358 eP P 07 42 44.0 +0.5
comp=Z,87nm,1.6s
N59A **State Game Lan** 75.96 358 P P 07 42 43.7 +0.1
baz=177
BNM **Barren Site** 75.98 332 eP P 07 42 45.4 +1.2
N55A **Marion Center** 75.98 355 P P 07 42 43.3 -0.4
baz=175,SNR=5.5
O48A **Farmland** 76.09 350 P P 07 42 42.4 -1.8
baz=170
TUC **Tucson** 76.10 328 PFAKE 07 43 00.0 +15
TUC LR LR
comp=Z,600nm,20.0s
TUC **Tucson** 76.10 328 P P 07 42 46.0 +1.3
baz=149
N53A **Lisbon** 76.15 354 P P 07 42 42.4 -2.2
baz=173
P43A **Skaggs, Pawnee** 76.19 347 P P 07 42 43.8 -1.0
baz=166,SNR=6.0
O47A **Sheridan** 76.21 350 P P 07 42 43.0 -2.0
baz=169
TIC **Toumodi** 76.22 71 eP P 07 42 45.8 +0.1
N52A **McGinn's Farm,** 76.23 353 P P 07 42 44.5 -0.6
baz=172
N54A **Moraine State** 76.23 355 P P 07 42 43.3 -1.8
baz=174
KIC **Kosan Boka** 76.26 72 eP P 07 42 45.0 -0.9
comp=Z,153nm,1.2s
P42A **Winchester** 76.29 346 P P 07 42 44.6 -0.9
baz=165
N50A **Nevada** 76.35 352 P P 07 42 44.3 -1.5
baz=171,SNR=6.8
DBIC **Dimbokro** 76.36 72 eP P 07 42 46.2 -0.3
comp=Z,68nm,1.2s
DBIC **Dimbokro** 76.36 72 eP P
DBIC pmax pmax 07 42 46.2 -0.3
comp=Z,68nm,1.2s
DBIC **Dimbokro** 76.36 72 P P 07 42 46.5 0.0
comp=Z,57nm,1.2s,baz=184,slow=5.1,SNR=16
DBIC LR LR 08 15 50.9
comp=Z,903nm,18.1s,baz=215,slow=35
DBIC **Dimbokro** 76.36 72 eP P 07 42 46.7 +0.2
N51A **Ashland** 76.41 353 eP P 07 42 45.0 -1.1
comp=Z,87nm,1.5s
N51A **Ashland** 76.41 353 P P 07 42 44.8 -1.3
baz=172
O45A **Potomac** 76.47 348 P P 07 42 44.3 -2.1
baz=168
O44A **Mansfield** 76.50 348 P P 07 42 46.6 0.0
baz=167
P41A **Barry, Barry** 76.52 346 P P 07 42 46.4 -0.3
baz=165
N49A **Columbus Grove** 76.62 351 eP P 07 42 45.9 -1.4
comp=Z,31nm,1.1s
N49A **Columbus Grove** 76.62 351 P P 07 42 46.4 -0.9
baz=170
ANMO **Albuquerque** 76.62 332 *d i* P P 07 42 48.6 +1.0
ANMO pmax pmax
comp=Z,16nm,1.6s
ANMO **Albuquerque** 76.62 332 P P 07 42 48.7 +1.0
baz=152
TASM **ASL Pad, Albuq** 76.62 332 P P 07 42 48.4 +0.8
baz=152
TASM **ASL Pad, Albuq** 76.62 332 P P 07 42 49.2 +1.5
baz=152
M55A **Ridgway** 76.65 356 P P 07 42 45.3 -2.2
baz=175
N48A **Decatur** 76.66 351 P P 07 42 46.2 -1.3
baz=170
214A **Organ Pipe Nat** 76.70 326 P P 07 42 49.8 +1.8
baz=147
M54A **Oil Creek Stat** 76.75 355 P P 07 42 45.7 -2.3
baz=174
M53A **WI Miller and** 76.77 354 P P 07 42 46.4 -1.7
baz=173
O43A **Sugar Creek Fa** 76.78 347 P P 07 42 46.7 -1.5
baz=166
N47A **Urbana** 76.78 350 P P 07 42 46.4 -1.7
baz=169,SNR=7.0
M51A **Elyria** 76.80 353 P P 07 42 47.2 -1.1
baz=172
O42A **Bath** 76.83 347 P P 07 42 48.8 +0.4
baz=166
O41A **Passleys Farm,** 76.91 346 P P 07 42 48.6 -0.3
baz=165
M52A **Chesterland** 76.92 354 P P 07 42 48.1 -0.9
baz=173
N46A **Monticello** 76.94 349 P P 07 42 47.9 -1.2
baz=168
N45A **Kentland** 77.02 349 P P 07 42 48.1 -1.4
baz=168
HDIL **Hopedale** 77.03 347 eP P 07 42 49.2 -0.4
comp=Z,45nm,1.3s
HDIL **Hopedale** 77.03 347 P P 07 42 49.9 +0.3
baz=166
N44A **Piper City** 77.07 348 P P 07 42 47.7 -2.1
baz=167
M49A **Liberty Center** 77.14 352 P P 07 42 49.5 -0.6
baz=171
M48A **Edgerton** 77.24 351 eP P 07 42 49.8 -0.9
comp=Z,18nm,1.0s
M48A **Edgerton** 77.24 351 P P 07 42 49.1 -1.6
baz=170
L53A **Girard** 77.24 354 P P 07 42 48.5 -2.2
baz=174
BINY **Binghamton** 77.25 358 P P 07 42 49.0 -1.9
baz=177
L55A **Hinsdale** 77.34 356 P P 07 42 50.7 -0.7
baz=175
ERPA **Erie** 77.38 355 P P 07 42 50.6 -1.0
baz=174
N43A **Stutzman Famil** 77.39 348 P P 07 42 51.1 -0.5
baz=166
N42A **Yates City** 77.43 347 P P 07 42 50.9 -0.9
baz=166
N41A **Harden Midland** 77.47 346 P P 07 42 51.0 -1.1
baz=165
HRV **Adam Dziewonsk** 77.52 1 P P 07 42 48.6 -3.7
baz=181
L50A **Kingsville** 77.57 353 P P 07 42 50.6 -2.0
baz=172
M44A **Midewin, Midew** 77.63 348 eP P 07 42 51.2 -1.7
comp=Z,71nm,1.5s
M44A **Midewin, Midew** 77.63 348 P P 07 42 52.4 -0.6
baz=167
X18A **Snowflake** 77.65 329 eP P 07 42 57.5 +4.1
comp=Z,60nm,1.8s
L48A **N Adams** 77.66 351 P P 07 42 50.9 -2.1
baz=170
TRY **Troy** 77.73 359 eP P 07 42 54.8 +1.4
comp=Z,66nm,1.4s
L49A **Milan** 77.74 352 P P 07 42 51.3 -2.2
baz=171
L47A **Sherwood** 77.78 351 P P 07 42 53.2 -0.5
baz=170
N40A **Mertquake, Sal** 77.79 346 P P 07 42 53.8 0.0
baz=164
T25A **Trinidad** 77.83 335 eP P 07 42 55.1 +0.7
comp=Z,55nm,1.1s
T25A **Trinidad** 77.83 335 P P 07 42 55.2 +0.7
baz=154,SNR=13
M43A **Waltham Townsh** 77.83 348 P P 07 42 53.2 -0.9
baz=166,SNR=7.3
CBKS **Cedar Bluff** 77.86 339 eP P 07 42 55.1 +0.8
comp=Z,39nm,1.0s
CBKS **Cedar Bluff** 77.86 339 P P 07 42 54.9 +0.6
baz=158
MMNY **Mt. Morris Dam** 77.86 356 eP P 07 42 53.0 -1.2
comp=Z,107nm,1.8s
K55A **Perry** 77.87 356 P P 07 42 52.6 -1.7
baz=176
AAM **Ann Arbor** 77.92 352 eP P 07 42 54.2 -0.3
comp=Z,49nm,1.5s
AAM **Ann Arbor** 77.92 352 eP P
AAM pmax pmax 07 42 54.2 -0.3
comp=Z,49nm,1.5s
L46A **Eue Claire** 77.97 350 P P 07 42 53.9 -1.0
baz=169
M42A **Sheffield** 77.99 347 P P 07 42 54.8 -0.2
baz=166
M41A **Milan** 78.06 347 P P 07 42 55.0 -0.4
baz=165
W18A **Petrified Fore** 78.07 330 eP P 07 42 56.8 +1.0
comp=Z,64nm,1.4s
W18A **Petrified Fore** 78.07 330 P P 07 42 59.0 +3.3
baz=150
K52A **Tillsonburg** 78.10 354 P P 07 42 54.6 -0.9
baz=173
X16A **Lo Mia Camp, P** 78.18 328 eP P 07 42 59.5 +3.1
comp=Z,27nm,1.4s
M40A **Post Highland** 78.28 346 P P 07 42 57.0 +0.5
baz=164
TYNO **Tyneside** 78.35 355 P P 07 42 54.6 -2.2
baz=174
L44A **Lake County Fo** 78.38 349 P P 07 42 55.7 -1.3
baz=167
ACCN **Adirondack Com** 78.39 359 eP P 07 42 57.6 +0.6
comp=Z,61nm,1.5s
J55A **Hilton** 78.39 356 P P 07 42 53.9 -3.1
baz=176
K47A **Vermontville** 78.44 351 P P 07 42 56.6 -0.8
baz=170
K48A **Perry** 78.47 352 P P 07 42 56.4 -1.1
baz=171
FFD **Franklin Falls** 78.48 1 eP P 07 42 59.0 +1.5
comp=Z,28nm,1.0s
M39A **Webster** 78.48 345 P P 07 42 57.4 -0.2
baz=164
L42A **Oliver, Polo** 78.51 347 eP P 07 42 57.4 -0.4
comp=Z,21nm,0.8s
L42A **Oliver, Polo** 78.51 347 P P 07 42 57.1 -0.7
baz=166
L43A **Garden Prairie** 78.52 348 P P 07 42 57.1 -0.8
baz=167,SNR=6.0
J52A **Paris** 78.54 354 P P 07 42 56.3 -1.7
baz=174
GLA **Glamis** 78.55 325 eP P 07 43 02.5 +4.2
comp=Z,13nm,1.0s
GLA **Glamis** 78.55 325 eP P
GLA pmax pmax 07 43 02.5 +4.2
comp=Z,13nm,1.0s
GLA **Glamis** 78.55 325 P P 07 42 59.6 +1.3
baz=146
CASY **Casey** 78.64 181 eP P 07 42 57.8 -0.5
comp=Z,79nm,2.0s
L41A **Preston** 78.73 347 P P 07 42 57.4 -1.6
baz=165,SNR=6.9
SDCO **Great Sand Dun** 78.75 334 eP P 07 43 00.1 +0.5
comp=Z,41nm,1.6s
SDCO **Great Sand Dun** 78.75 334 P P 07 43 00.6 +1.0
baz=153
L40A **Anamosa** 78.85 346 eP P 07 42 58.4 -1.2
comp=Z,63nm,1.6s
L40A **Anamosa** 78.85 346 P P 07 42 58.6 -1.1
baz=165
ACTO **Acton** 78.87 355 P P 07 42 58.8 -1.0
baz=174
J49A **Marlette** 78.90 352 P P 07 42 58.7 -1.2
baz=171
J48A **Bridge Port** 78.92 352 P P 07 42 58.2 -1.7
baz=171,SNR=5.9

KSCO **Kaye Shedlock'** 78.92 337 *e*P P 07 42 60.0 -0.4
comp=Z,70nm,1.4s
KSCO **Kaye Shedlock'** 78.92 337 P P 07 43 00.8 +0.4
baz=156
K43A **Burlington** 78.96 349 *e*P P 07 42 59.7 -0.5
comp=Z,57nm,1.5s
K43A **Burlington** 78.96 349 P P 07 42 59.5 -0.8
baz=167
J47A **Sumner** 78.98 351 P P 07 42 59.0 -1.3
baz=170
Y12C **Blythe** 78.99 326 *e*P P 07 43 04.9 +4.3
comp=Z,15nm,1.1s
Y12C **Blythe** 78.99 326 P P 07 43 02.5 +1.8
baz=146
DRWO **Darlington Wes** 79.04 356 P P 07 42 59.7 -1.0
baz=175
L39A **Vinton** 79.06 346 P P 07 43 00.3 -0.5
baz=164
WLVO **Wesleyville** 79.08 356 P P 07 43 01.1 +0.2
baz=175
WUAZ **Wupatki** 79.09 329 *e*P P 07 43 04.9 +3.6
comp=Z,31nm,1.4s
WUAZ **Wupatki** 79.09 329 P P 07 43 03.5 +2.1
baz=149
SCIA **State Center** 79.11 345 *e*P P 07 43 00.5 -0.6
comp=Z,42nm,1.2s
SCIA **State Center** 79.11 345 P P 07 43 01.7 +0.6
baz=163
I51A **Listowel** 79.14 354 P P 07 43 00.9 -0.4
baz=173
PKRO **Pickering** 79.16 356 P P 07 43 01.1 -0.2
baz=175
MONP2 **Monument Peak** 79.17 324 P P 07 43 03.9 +2.0
baz=145
J46A **Howard City** 79.19 351 P P 07 43 01.0 -0.5
baz=169
K42A **Prairie Point,** 79.20 348 P P 07 43 00.3 -1.3
baz=166,SNR=7.3
K41A **Shullsburg** 79.21 347 P P 07 43 01.5 -0.1
baz=166
S22A **4UR Ranch, Cre** 79.23 333 *e*P P 07 43 05.6 +3.3
comp=Z,14nm,1.2s
S22A **4UR Ranch, Cre** 79.23 333 P P 07 43 02.8 +0.5
baz=152
LBNH **Lisbon** 79.25 1 P P 07 43 02.5 +0.7
baz=181
I55A **Frankford** 79.33 357 P P 07 43 01.6 -0.6
baz=176
I52A **Shelburne** 79.34 355 P P 07 43 02.4 +0.1
baz=174
BC3 **Big Chuckawall** 79.34 325 P P 07 43 04.5 +1.7
baz=146
MVCO **Mesa Verde** 79.39 332 *e*P P 07 43 05.8 +2.7
comp=Z,31nm,1.3s
MVCO **Mesa Verde** 79.39 332 P P 07 43 04.1 +1.0
baz=151
I49A **Point Hope** 79.44 353 P P 07 42 59.9 -3.0
baz=172
K40A **Colesburg** 79.45 346 P P 07 43 01.2 -1.7
baz=165,SNR=5.7
BWLO **Walkerton** 79.46 354 P P 07 43 00.6 -2.4
baz=173
JFWS **Jewell Farm** 79.49 347 *e*P P 07 43 02.7 -0.5
comp=Z,22nm,0.9s
JFWS **Jewell Farm** 79.49 347 *e*P P 07 43 02.7 -0.5
JFWS pmax pmax
comp=Z,22nm,0.9s
JFWS **Jewell Farm** 79.49 347 P P 07 43 02.8 -0.5
baz=166
TSUM **Tsumeb** 79.59 106 *e*P P 07 43 04.3 -0.3
comp=Z,97nm,1.5s
TSUM LR LR
comp=Z,2μm,19.0s
K39A **Oelwein** 79.60 346 P P 07 43 03.0 -0.8
baz=164
IRM **Iron Mountain** 79.61 326 P P 07 43 07.2 +3.0
baz=146
DELO **Deloro Mine** 79.63 357 P P 07 43 03.8 -0.1
baz=176
LONY **Lake Ozonia** 79.63 359 *e*P P 07 43 04.5 +0.6
comp=Z,77nm,1.9s
LONY **Lake Ozonia** 79.63 359 P P 07 43 03.6 -0.4
baz=176
J43A **Natural Harves** 79.63 349 P P 07 43 02.9 -1.0
baz=167,SNR=5.9
H55A **Tweed** 79.64 357 P P 07 43 02.8 -1.1
baz=176
H56A **Elgin** 79.65 358 P P 07 43 03.5 -0.4
baz=177
J42A **Columbus** 79.69 348 P P 07 43 03.1 -1.2
baz=166,SNR=12
I47A **Gladwin** 79.71 352 P P 07 43 02.7 -1.6
baz=170
Q24A **Divide** 79.72 335 *e*P P 07 43 05.6 +0.7
comp=Z,14nm,0.8s
Q24A **Divide** 79.72 335 P P 07 43 06.3 +1.4
baz=154
XPFO **Pion Flat** 79.78 324 *e*P P 07 43 09.6 +4.5
comp=Z,40nm,1.7s
PFO **Pinyon Flats O** 79.78 324 *e*P P 07 43 09.6 +4.5
comp=Z,37nm,1.7s
PFO **Pinyon Flats O** 79.78 324 P P 07 43 06.9 +1.8
baz=145
I48A **Sherman Twp** 79.78 352 P P 07 43 04.6 -0.1
baz=171
BGNE **Belgrade** 79.82 341 *e*P P 07 43 07.4 +2.3
comp=Z,74nm,1.4s
W13A **Hualapai Mount** 79.83 327 *e*P P 07 43 08.9 +3.4
comp=Z,15nm,1.5s
FRNY **Flat Rock** 79.84 360 *e*P P 07 43 05.5 +0.5
comp=Z,106nm,2.0s
BELC **Belle Mtn. Jos** 79.88 325 P P 07 43 08.4 +2.7
baz=145
H52A **Wyevale** 79.89 355 P P 07 43 03.8 -1.4
baz=174
J41A **Loganville** 79.89 347 P P 07 43 04.9 -0.4
baz=166
I45A **Fountain** 79.95 350 P P 07 43 04.9 -0.7
baz=169
SADO **Sadowa** 79.96 356 *e*P P 07 43 05.0 -0.7
comp=Z,30nm,1.4s
J40A **Soldiers Grove** 80.05 347 P P 07 43 04.6 -1.6
baz=165,SNR=9.2
I43A **Langenfeld Bro** 80.08 349 P P 07 43 06.3 -0.1
baz=167
BOSA **Boshof** 80.12 118 *e*P P 07 43 08.1 +0.7
comp=Z,67nm,1.3s
BOSA **Boshof** 80.12 118 *e*P P 07 43 08.1 +0.7
BOSA pmax pmax
comp=Z,67nm,1.3s
BOSA **Boshof** 80.12 118 P P 07 43 07.2 -0.2
comp=Z,27nm,1.0s,baz=234,slow=4.9,SNR=19
BOSA LR LR 08 14 30.6
comp=Z,756nm,19.5s,baz=230,slow=33
BOSA **Boshof** 80.12 118 *e*P P 07 43 06.9 -0.4
MURC **Murrieta** 80.12 324 P P 07 43 09.8 +2.9
baz=145
PLVO **Plevna** 80.12 357 *e*P P 07 43 07.0 +0.5
comp=Z,51nm,1.5s
PLVO **Plevna** 80.12 357 P P 07 43 06.4 -0.1
baz=176
BANO **Bancroft** 80.14 356 P P 07 43 06.8 +0.2
baz=176
J39A **Decorah** 80.17 346 P P 07 43 05.8 -1.1
baz=164
I42A **Draeger Farm,** 80.21 348 *e*P P 07 43 06.5 -0.5
comp=Z,22nm,1.1s
I42A **Draeger Farm,** 80.21 348 P P 07 43 06.5 -0.5
baz=167
H48A **Harrisville** 80.25 353 P P 07 43 06.0 -1.2
baz=171
U15A **North Rim** 80.25 329 *e*P P 07 43 11.5 +3.6
comp=Z,72nm,2.0s
G53A **Haliburton** 80.28 356 P P 07 43 05.6 -1.8
baz=175
H46A **Fife Lake** 80.31 351 P P 07 43 05.7 -1.8
baz=170
GGN **Saint George** 80.31 4 *e*P P 07 43 11.0 +3.5
comp=Z,98nm,1.8s
G55A **Calabogie** 80.32 357 P P 07 43 05.9 -1.7
baz=177
PKME **Peaks-Kenny Pk** 80.33 3 P P 07 43 06.4 -1.2
baz=183
LDFC **Landfair** 80.36 326 *e*P P 07 43 13.1 +4.9
comp=Z,90nm,1.9s
GMRC **Granite Mounta** 80.37 326 P P 07 43 11.2 +2.9
baz=146
ORIO **Orleans, Innes** 80.48 358 P P 07 43 07.0 -1.5
baz=178
OGNE **Ogallala** 80.50 338 *e*P P 07 43 12.2 +3.3
comp=Z,113nm,1.9s
I40A **Norwalk** 80.51 347 P P 07 43 09.0 +0.4
baz=165
I41A **Arkdale** 80.54 348 *e*P P 07 43 08.4 -0.3
comp=Z,12nm,0.8s
SMCO **Snowmass** 80.55 334 *e*P P 07 43 10.7 +1.2
comp=Z,48nm,1.3s
H43A **Windswept, Lux** 80.59 349 *e*P P 07 43 08.7 -0.4
comp=Z,34nm,1.3s
H43A **Windswept, Lux** 80.59 349 P P 07 43 08.2 -0.9
baz=168
KLBO **Killbear Provi** 80.62 355 P P 07 43 08.3 -0.9
baz=174
ISCO **Idaho Springs** 80.63 335 *e*P P 07 43 11.1 +1.3
comp=Z,16nm,1.4s
ISCO **Idaho Springs** 80.63 335 *e*P P 07 43 11.1 +1.3
ISCO pmax pmax
comp=Z,16nm,1.4s
ISCO **Idaho Springs** 80.63 335 P P 07 43 10.7 +0.8
baz=153
I39A **Houston** 80.64 347 *e*P P 07 43 07.7 -1.7
comp=Z,26nm,0.9s
I39A **Houston** 80.64 347 P P 07 43 08.0 -1.3
baz=165,SNR=7.4
ALFO **Alfred** 80.64 359 P P 07 43 08.8 -0.5
baz=178
BUKO **Buck Lake** 80.65 355 P P 07 43 08.7 -0.7
baz=174
H42A **Shiocton** 80.75 349 *e*P P 07 43 11.8 +1.8
comp=Z,36nm,1.4s
H42A **Shiocton** 80.75 349 P P 07 43 09.4 -0.5
baz=167
PEMO **Pembroke** 80.77 357 P P 07 43 10.1 +0.2
baz=176
G47A **Hillman** 80.77 352 P P 07 43 09.9 -0.1
baz=171
G45A **Suttons Bay** 80.86 351 P P 07 43 09.0 -1.5
baz=169
BFSC **Mount Baldy Ra** 80.87 324 P P 07 43 12.8 +1.8
baz=144
F55A **Otter Lake** 80.89 358 P P 07 43 10.2 -0.4
baz=177
KNB **Kanab** 80.98 329 *e*P P 07 43 15.3 +3.7
comp=Z,32nm,1.2s
KNB **Kanab** 80.98 329 *e*P P 07 43 15.3 +3.7
KNB pmax pmax
comp=Z,32nm,1.2s
F52A **Sundridge** 81.00 356 P P 07 43 10.0 -1.2
baz=175
TUQ **Turquoise Moun** 81.03 326 P P 07 43 15.7 +3.9
baz=146
H41A **Junction City** 81.04 348 P P 07 43 11.8 +0.3
baz=166
ALGO **Algonquin Park** 81.08 356 P P 07 43 10.2 -1.5
baz=176,SNR=5.4
PKCU **Pink Cliffs** 81.12 329 *e*P P 07 43 12.2 -0.4
comp=Z,30nm,1.5s
LCMT **Little Creek M** 81.15 328 *e*P P 07 43 15.8 +3.3
comp=Z,20nm,1.4s
F51A **Arnstein** 81.17 355 P P 07 43 11.7 -0.4
baz=174
H40A **Chili** 81.17 348 P P 07 43 11.5 -0.7
baz=166
F49A **Sandfield** 81.17 354 P P 07 43 11.9 -0.2
baz=172
LMN **Caledonia Moun** 81.19 6 *e*P P 07 43 13.1 +0.9
comp=Z,161nm,1.9s
TRQ **Mont Tremblant** 81.23 359 *e*P P 07 43 12.0 -0.5
GSC **Goldstone, Bar** 81.33 325 *e*P P 07 43 17.4 +4.0
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 81.33 325 *e*P P 07 43 17.4 +4.0
GSC pmax pmax
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 81.33 325 P P 07 43 16.1 +2.7
baz=145
G43A **Wallace** 81.35 350 P P 07 43 11.7 -1.4
baz=168
G42A **Mountain** 81.45 349 *e*P P 07 43 15.2 +1.6
comp=Z,33nm,1.4s
G42A **Mountain** 81.45 349 P P 07 43 12.3 -1.3
baz=167
F45A **CMU Biological** 81.47 351 P P 07 43 12.7 -1.0
baz=170
E53A **Dumoine, Ponti** 81.49 357 P P 07 43 13.0 -0.8
baz=176
E54A **Lac Daplat, Po** 81.52 357 P P 07 43 13.1 -0.8
baz=176
G41A **Antigo** 81.54 349 P P 07 43 14.9 +0.7
baz=166
EDW2 **Edwards Air Fo** 81.55 324 P P 07 43 16.1 +1.6
baz=144
SHPR **Sheep Range** 81.57 327 *e*P P 07 43 18.5 +3.8
comp=Z,30nm,1.8s
H38A **Maiden Rock** 81.58 346 P P 07 43 14.5 +0.2
baz=164
SZCU **Shurtz Canyon** 81.58 329 *e*P P 07 43 18.6 +3.8
comp=Z,31nm,1.6s
MTPU **Mount Pierson** 81.58 330 *e*P P 07 43 17.9 +2.9
comp=Z,6.0nm,1.0s
ECSD **EROS Data Cent** 81.62 343 *e*P P 07 43 13.9 -0.7
comp=Z,53nm,1.3s
ECSD **EROS Data Cent** 81.62 343 P P 07 43 13.9 -0.7
baz=160,SNR=18
CCUT **Cedar City** 81.66 329 *e*P P 07 43 18.9 +3.7
comp=Z,89nm,1.8s
N23A **Red Feather La** 81.72 335 P P 07 43 15.4 -0.1
baz=153
E50A **Wahnapitae** 81.72 355 P P 07 43 14.7 -0.3
baz=173
E51A **G1948 Merrick** 81.74 355 P P 07 43 15.0 -0.2
baz=174
G40A **Rib Lake** 81.77 348 *e*P P 07 43 15.0 -0.4
comp=Z,20nm,1.4s
G40A **Rib Lake** 81.77 348 P P 07 43 14.6 -0.7
baz=166
SRU **San Rafael Swe** 81.83 331 *e*P P 07 43 18.9 +2.8
comp=Z,72nm,2.0s
SRU **San Rafael Swe** 81.83 331 *e*P P 07 43 18.9 +2.8
SRU pmax pmax
comp=Z,72nm,2.0s
F43A **Flat Rock, Esc** 81.84 350 P P 07 43 15.0 -0.6
baz=168
O20A **White River Ci** 81.86 333 *e*P P 07 43 19.6 +3.4
comp=Z,58nm,1.9s
O20A **White River Ci** 81.86 333 P P 07 43 16.3 +0.1
baz=151
F44A **Big Bay de Noc** 81.88 351 P P 07 43 14.7 -1.2
baz=169
E48A **Lockeyer** 81.90 354 P P 07 43 14.7 -1.3
baz=172
KOWA **Kowa** 81.92 66 PFAKE 07 43 30.0 +13
KOWA LR LR
comp=Z,1μm,18.0s
PHWY **Pilot Hill** 81.92 336 *e*P P 07 43 16.7 +0.1
comp=Z,36nm,1.5s
G39A **Holcombe** 81.96 347 P P 07 43 15.7 -0.6
baz=165
G38A **Ridgeland** 81.97 347 P P 07 43 16.1 -0.3
baz=164
MSU **Marysvale** 81.98 330 *e*P P 07 43 18.0 +1.1
MSU **Marysvale** 81.98 330 *e*P P 07 43 18.0 +1.1
E47A **Iron Bridge** 81.98 353 P P 07 43 15.5 -0.9
baz=171
E46A **Sault Ste Mari** 82.00 352 P P 07 43 15.5 -1.0
baz=170,SNR=12
F41A **Three Lakes** 82.04 349 P P 07 43 16.0 -0.8
baz=167
E45A **Wooded Hills,** 82.09 352 P P 07 43 16.7 -0.3
baz=170
RPZ **Rata Peaks** 82.10 221 LR LR 08 12 06.4
comp=Z,1μm,18.1s,baz=170,slow=30
D52A **ZEK Kipawa Sen** 82.12 356 P P 07 43 16.6 -0.5
baz=175
URZ **Urewera** 82.16 228 LR LR 08 10 50.1
comp=Z,824nm,20.5s,baz=185,slow=29
TCRU **Three Creeks R** 82.17 330 *e*P P 07 43 22.0 +4.1
comp=Z,10.0nm,1.1s
SPMN **Marine on St.** 82.21 346 *e*P P 07 43 16.9 -0.7
comp=Z,38nm,1.5s
SPMN **Marine on St.** 82.21 346 P P 07 43 17.4 -0.3
baz=164
D54A **Lac Fusel, La** 82.22 357 P P 07 43 16.7 -0.9
baz=177
TMUT **Trail Mountain** 82.26 331 *e*P P 07 43 21.7 +3.3
comp=Z,18nm,1.4s
MPMC **Manual Prospec** 82.27 325 P P 07 43 20.5 +2.1
baz=145
D51A **Lot 18 Range I** 82.29 356 P P 07 43 17.1 -0.9
baz=174
FURC **Furnace Creek,** 82.31 326 P P 07 43 19.4 +1.1
baz=145
E43A **Lone Tree Farm** 82.35 350 *e*P P 07 43 18.2 -0.2
comp=Z,42nm,1.3s
E43A **Lone Tree Farm** 82.35 350 P P 07 43 18.7 +0.4
baz=168
F40A **Park Falls** 82.38 348 P P 07 43 17.7 -0.9
baz=166,SNR=5.5
COWI **Conover** 82.40 349 *e*P P 07 43 18.9 +0.3
comp=Z,22nm,1.4s
ISA **Isabella, Lake** 82.41 324 *e*P P 07 43 23.0 +4.0
comp=Z,50nm,1.9s
ISA **Isabella, Lake** 82.41 324 *e*P P 07 43 23.0 +4.0
ISA **Isabella, Lake** 82.41 324 P P 07 43 21.3 +2.3
baz=144
TPNV **Topopah Spring** 82.42 326 *e*P P 07 43 22.3 +3.1
comp=Z,27nm,1.5s
TPNV **Topopah Spring** 82.42 326 *e*P P 07 43 22.3 +3.1
TPNV pmax pmax
comp=Z,27nm,1.5s
TPNV **Topopah Spring** 82.42 326 P P 07 43 22.0 +2.8
baz=146
LBTB **Lobatse** 82.44 115 *e*P P 07 43 19.6 -0.1
comp=Z,54nm,1.2s
LBTB **Lobatse** 82.44 115 *e*P P 07 43 19.6 -0.1
LBTB pmax pmax
comp=Z,54nm,1.2s
PKM **Mcpherson Peak** 82.44 323 P P 07 43 21.4 +2.0
baz=143
D46A **Sault St. Mari** 82.49 352 P P 07 43 17.9 -1.1
baz=171
F39A **Loretta** 82.52 347 P P 07 43 17.8 -1.4
baz=165
E42A **Champion** 82.53 350 P P 07 43 19.7 +0.4
baz=168
D48A **Paudash Townsh** 82.56 354 P P 07 43 18.4 -1.0
baz=173
D47A **Chapleau** 82.56 353 P P 07 43 18.7 -0.7
baz=172
D49A **Beulah Townshi** 82.61 354 P P 07 43 19.7 -0.1
baz=173
F37A **Hinrichs Farm,** 82.65 346 P P 07 43 19.4 -0.5
baz=164
PSUT **Pine Spring** 82.69 329 *e*P P 07 43 22.0 +1.4
comp=Z,8.8nm,1.0s
E41A **Kenton** 82.72 349 P P 07 43 17.5 -2.8
baz=167
F38A **Pierce - Schro** 82.73 347 P P 07 43 19.7 -0.6
baz=164,SNR=7.0
VES **Vestal, Richgr** 82.85 324 P P 07 43 23.9 +2.7
baz=144
CWC **Cottonwood Cre** 82.85 325 P P 07 43 23.8 +2.4
baz=144
E40A **Wakefield** 82.86 348 P P 07 43 20.2 -0.8
baz=166,SNR=7.4
RWWY **Rawlins** 82.86 335 *e*P P 07 43 22.6 +1.1
comp=Z,44nm,1.4s
E39A **Mellen** 82.90 348 P P 07 43 20.6 -0.6
baz=165,SNR=7.8
GRAC **Grapevine Rang** 82.97 326 P P 07 43 24.1 +2.2
baz=145
MPU **Maple Canyon** 83.04 331 *e*P P 07 43 22.9 +0.5
comp=Z,24nm,1.4s
NLU **North Lily Min** 83.17 331 *e*P P 07 43 24.0 +0.9
comp=Z,46nm,1.9s
NLU LR LR
comp=Z,600nm,19.0s
VLDQ **Val d'Or** 83.21 357 *e*P P 07 43 21.8 -0.9
comp=Z,37nm,1.4s
D41A **Chassel** 83.25 349 *e*P P 07 43 22.2 -0.8
comp=Z,40nm,1.2s
D41A **Chassel** 83.25 349 P P 07 43 22.3 -0.6
baz=167,SNR=6.6
R11A **Troy Canyon, C** 83.28 328 *e*P P 07 43 25.9 +2.2
comp=Z,70nm,2.0s
R11A **Troy Canyon, C** 83.28 328 P P 07 43 25.2 +1.5
baz=146,SNR=9.9
E38A **The Farm, Brul** 83.30 347 *e*P P 07 43 22.9 -0.3
comp=Z,44nm,1.5s
E38A **The Farm, Brul** 83.30 347 P P 07 43 22.4 -0.9
baz=165
PAGB **Antelope Grade** 83.33 323 *e*P P 07 43 28.5 +4.8
comp=Z,82nm,1.8s
HIZ **Hauiti** 83.36 227 PFAKE 07 43 40.0 +16
HIZ LR LR
comp=Z,1μm,19.0s
JLU **Jordanelle** 83.47 332 *e*P P 07 43 25.8 +1.1
comp=Z,60nm,1.9s
K22A **Casper** 83.48 336 *e*P P 07 43 24.4 -0.1
comp=Z,64nm,1.4s
K22A **Casper** 83.48 336 P P 07 43 24.9 +0.4
baz=153,SNR=6.0
DUG **Dugway, Tooele** 83.67 330 *e*P P 07 43 25.4 -0.1
comp=Z,35nm,1.4s
DUG **Dugway, Tooele** 83.67 330 *e*P P 07 43 25.4 -0.1
DUG pmax pmax
comp=Z,35nm,1.4s
DUG **Dugway, Tooele** 83.67 330 P P 07 43 26.2 +0.6
baz=148,SNR=6.4
RSSD **Black Hills** 84.00 338 *e*P P 07 43 26.9 -0.3
comp=Z,21nm,1.4s
RSSD **Black Hills** 84.00 338 *e*P P 07 43 27.0 -0.3
RSSD pmax pmax
comp=Z,21nm,1.4s
RSSD **Black Hills** 84.00 338 P P 07 43 27.4 +0.2
baz=155
LSQQ **Lebel-sur-Quev** 84.13 357 P P 07 43 25.9 -1.6
baz=176
OMMB **Old Mammoth Mi** 84.23 325 *e*P P 07 43 32.3 +3.6
comp=Z,18nm,1.4s
MDPB **Devils Postpil** 84.28 325 *e*P P 07 43 31.6 +2.7
comp=Z,8.3nm,1.3s
BGU **Big Grassy Mou** 84.38 331 *e*P P 07 43 32.0 +2.8
comp=Z,38nm,1.6s
HWUT **Hardware Ranch** 84.38 332 *e*P P 07 43 30.0 +0.8
comp=Z,31nm,1.7s
SPUT **South Promonto** 84.47 331 *e*P P 07 43 32.7 +3.1
comp=Z,40nm,1.5s
NV11 **Mina Array Sit** 84.50 326 *e*P P 07 43 31.1 +1.3
comp=Z,5.8nm,2.0s
NV01 **Mina Array Sit** 84.57 326 *e*P P 07 43 30.7 +0.4
NVAR **Mina Array Bea** 84.57 326 P P 07 43 31.5 +1.2
comp=Z,1.0nm,0.9s,baz=157,slow=5.4,SNR=6.3
NVAR LR LR 08 14 39.8
comp=Z,280nm,19.9s,baz=152,slow=31
EYMN **Ely** 84.58 348 P P 07 43 29.1 -0.7
baz=165
BW06 **Boulder Array** 84.64 334 *e*P P 07 43 29.9 -0.6
comp=Z,45nm,1.7s
BW06 **Boulder Array** 84.64 334 P P 07 43 30.8 +0.2
baz=151
PD31 **Pinedale Array** 84.64 334 *e*P P 07 43 30.5 0.0
comp=Z,42nm,1.7s
PDAR **Pinedale Array** 84.64 334 *e*P P 07 43 29.9 -0.6
PDAR **Pinedale Array** 84.64 334 P P 07 43 31.5 +1.0
comp=Z,0.7nm,0.9s,baz=186,slow=4.3,SNR=4.0
PDAR LR LR 08 17 13.0
comp=Z,564nm,18.9s,baz=153,slow=33
RYN **Ryan** 84.83 326 *e*P P 07 43 32.1 +0.6
comp=Z,18nm,1.4s
CHGQ **Chibougamau** 84.92 359 P P 07 43 29.7 -1.7
baz=179
KVN **Kaiserville** 84.98 326 *e*P P 07 43 34.9 +2.6
comp=Z,23nm,1.4s
KVN **Kaiserville** 84.98 326 *e*P P 07 43 34.9 +2.6
HVU **Hansel Valley** 85.00 331 *e*P P 07 43 32.1 -0.2
comp=Z,101nm,1.9s
HVU **Hansel Valley** 85.00 331 *e*P P 07 43 32.1 -0.2
HVU pmax pmax
comp=Z,101nm,1.9s
ELK **Elko** 85.13 329 *e*P P 07 43 33.7 +0.7
comp=Z,49nm,1.9s
ELK **Elko** 85.13 329 *e*P P 07 43 33.7 +0.7
ELK pmax pmax
comp=Z,49nm,1.9s
ELK **Elko** 85.13 329 LR LR 08 19 34.8
comp=Z,442nm,18.2s,baz=134,slow=34
WAKR **Walker** 85.15 325 PFAKE 07 43 50.0 +17
WAKR LR LR
comp=Z,1μm,19.0s
CMB **Columbia Colle** 85.23 324 *e*P P 07 43 36.2 +2.9
comp=Z,14nm,1.5s
CMB **Columbia Colle** 85.23 324 *e*P P 07 43 36.3 +2.9
CMB pmax pmax
comp=Z,14nm,1.5s

TOC5 Torodi Ar. Sit 85.38 70 PFAKE 07 43 50.0 +15
TOC5 LR LR
comp=Z,2µm,19.0s
TOA0 Torodi Ar. Sit 85.41 70 *e*P **P 07 43 33.9 -0.8**
comp=Z,39nn,1.2s
TORD Torodi Ar. Bea 85.41 70 P **P 07 43 33.2 -1.5**
comp=Z,12nn,1.1s,baz=167,slow=1.4,SNR=32
TORD LR LR 08 19 25.5
comp=Z,964nn,19.8s,baz=290,slow=34
TOA1 Torodi Ar. Sit 85.41 70 *e*P **P 07 43 33.2 -1.5**
TOA1 LR LR
comp=Z,1µm,20.0s
TOB3 Torodi Ar. Sit 85.41 70 PFAKE 07 43 50.0 +15
TOB3 LR LR
comp=Z,1µm,20.0s
TOB2 Torodi Ar. Sit 85.42 70 PFAKE 07 43 50.0 +15
TOB2 LR LR
comp=Z,1µm,20.0s
TOC3 Torodi Ar. Sit 85.42 71 PFAKE 07 43 50.0 +15
TOC3 LR LR
comp=Z,1µm,19.0s
TOC1 Torodi Ar. Sit 85.43 70 PFAKE 07 43 50.0 +15
TOC1 LR LR
comp=Z,2µm,19.0s
TOC2 Torodi Ar. Sit 85.44 70 PFAKE 07 43 50.0 +15
TOC2 LR LR
comp=Z,1µm,20.0s
YERR Yerington 85.45 326 *e*P **P 07 43 38.3 +3.7**
comp=Z,9.9nn,1.2s
REDW Red Top Meadow 85.63 333 *e*P **P 07 43 38.6 +3.1**
comp=Z,42nn,1.6s
PNTR Pine Nut 85.70 325 *e*P **P 07 43 37.6 +1.6**
comp=Z,52nn,1.9s
PNTR LR LR
comp=Z,800nn,20.0s
LOHW Long Hollow 85.75 334 *e*P **P 07 43 34.7 -1.4**
comp=Z,34nn,1.8s
AGMN Agassiz Nation 85.77 345 *e*P **P 07 43 34.6 -1.1**
comp=Z,57nn,1.7s
AGMN Agassiz Nation 85.77 345 P **P 07 43 35.3 -0.4**
baz=161
TPAW Teton Pass 85.77 333 *e*P **P 07 43 35.5 -0.7**
comp=Z,50nn,1.8s
VCNR Virginia City 85.89 326 *e*P **P 07 43 39.4 +2.6**
comp=Z,44nn,2.0s
MOOW Moose Ponds 85.92 334 *e*P **P 07 43 36.4 -0.5**
comp=Z,14nn,1.9s
FXWY Fox Creek 85.93 333 *e*P **P 07 43 36.9 -0.1**
comp=Z,24nn,1.6s
PAHR Pah Rah Range 86.09 326 *e*P **P 07 43 41.5 +3.7**
comp=Z,19nn,1.6s
PAHR LR LR
comp=Z,900nn,19.0s
IMW Indian Meadow 86.12 334 *e*P **P 07 43 38.1 +0.2**
comp=Z,19nn,1.3s
FLWY Flagg Ranch 86.19 334 *e*P **P 07 43 40.5 +2.2**
comp=Z,32nn,1.4s
AFDM Forest Hills D 86.23 325 *e*P **P 07 43 41.5 +3.3**
comp=Z,25nn,1.5s
YPP Pitchstone Pla 86.39 334 *e*P **P 07 43 42.4 +3.0**
comp=Z,20nn,1.8s
H17A Grant Village 86.42 334 *e*P **P 07 43 39.1 -0.2**
comp=Z,26nn,1.7s
YFT Old Faithful 86.56 334 *e*P **P 07 43 41.3 +1.3**
comp=Z,28nn,1.5s
RLMT Red Lodge 86.59 335 *e*P **P 07 43 39.4 -0.8**
comp=Z,26nn,1.4s
RLMT Red Lodge 86.59 335 P **P 07 43 39.5 -0.6**
baz=151
YMR Madison River 86.80 334 *e*P **P 07 43 42.5 +1.3**
comp=Z,40nn,1.4s
YHH Holmes Hill 86.86 334 *e*P **P 07 43 42.6 +1.1**
comp=Z,29nn,1.4s
ORV Oroville 86.96 325 *e*P **P 07 43 43.6 +1.8**
comp=Z,44nn,1.5s
LAO LASA Array 86.99 338 *e*P **P 07 43 41.2 -0.6**
comp=Z,38nn,1.3s
LAO LASA Array 86.99 338 P **P 07 43 41.7 -0.1**
baz=153
QLMT Earthquake Lak 87.10 334 *e*P **P 07 43 43.5 +0.9**
HLID Hailey 87.15 331 *e*P **P 07 43 43.4 +0.5**
comp=Z,66nn,1.8s
HLID Hailey 87.15 331 P **P 07 43 43.1 +0.2**
baz=147
MCMT McKenzie Canyo 87.62 333 *e*P **P 07 43 46.0 +0.8**
ULM Lac du Bonnet 87.62 346 *e*P **P 07 43 43.5 -1.2**
comp=Z,41nn,1.4s
ULM Lac du Bonnet 87.62 346 *e*P **P 07 43 43.5 -1.2**
ULM pmax pmax
comp=Z,41nn,1.4s
ULM Lac du Bonnet 87.62 346 P **P 07 43 43.5 -1.2**
comp=Z,9.7nn,1.0s,baz=177,slow=3.2,SNR=15
O03E Paynes Creek 87.69 325 P **P 07 43 47.0 +1.6**
baz=142
BOZ Bozeman (W) 87.83 334 *e*P **P 07 43 46.6 +0.5**
comp=Z,17nn,1.7s
BOZ Bozeman (W) 87.83 334 *e*P **P 07 43 46.6 +0.5**
BOZ pmax pmax
comp=Z,17nn,1.7s
BOZ Bozeman (W) 87.83 334 P **P 07 43 46.6 +0.5**
baz=149
WVOR Wild Horse Val 87.97 328 *e*P **P 07 43 48.0 +1.3**
comp=Z,18nn,1.4s
WVOR Wild Horse Val 87.97 328 *e*P **P 07 43 48.0 +1.3**
WVOR pmax pmax
comp=Z,18nn,1.4s
DLMT Dillon 87.98 333 *e*P **P 07 43 48.3 +1.5**
comp=Z,20nn,1.3s
DGMT Dagmar 87.99 340 *e*P **P 07 43 45.8 -0.8**
comp=Z,90nn,1.4s
DGMT Dagmar 87.99 340 P **P 07 43 46.3 -0.3**
baz=155,SNR=7.0
WDC Whiskeytown Da 88.26 325 *e*P **P 07 43 50.5 +2.5**
comp=Z,45nn,2.0s
WDC Whiskeytown Da 88.26 325 *e*P **P 07 43 50.5 +2.5**
WDC pmax pmax
comp=Z,45nn,2.0s
MOD Modoc Plateau 88.27 327 *e*P **P 07 43 49.8 +1.5**
comp=Z,29nn,1.4s
LRM Limekiln Ridge 88.32 334 *e*P **P 07 43 48.5 0.0**
N02D Trinity Center 88.64 325 P **P 07 43 50.2 +0.3**
baz=141
J08A Circle Bar Ran 88.64 329 *e*P **P 07 43 51.5 +1.6**
comp=Z,31nn,1.1s
M04C Macdoel 88.88 326 P **P 07 43 52.0 +1.0**
baz=142,SNR=5.5
M02C Callahan 89.04 325 P **P 07 43 52.6 +0.8**
baz=141
K05A Summer Lake 89.19 327 *e*P **P 07 43 54.7 +2.1**
comp=Z,40nn,1.3s
YBH Yreka Blue Hor 89.24 325 *e*P **P 07 43 55.9 +3.2**
comp=Z,3.9nn,0.9s
EGMT Eagleton 89.29 336 P **P 07 43 53.5 +0.7**
baz=151
BMO Blue Mountains 89.38 330 *e*P **P 07 43 53.4 +0.1**
comp=Z,22nn,1.6s
BMO Blue Mountains 89.38 330 *e*P **P 07 43 53.4 +0.1**
BMO pmax pmax
comp=Z,22nn,1.6s
I07A Izee 89.67 328 *e*P **P 07 43 57.0 +2.3**
comp=Z,47nn,1.8s
MSO Missoula 89.72 333 P **P 07 43 55.5 +0.6**
baz=148
J05D Fort Rock, OR 89.79 327 P **P 07 43 56.4 +1.0**
baz=142
PINE Pine Mountain 90.06 327 *e*P **P 07 43 58.1 +1.5**
comp=Z,93nn,2.0s
LSZ Lusaka 90.11 109 *e*P **P 07 43 58.8 +1.2**
comp=Z,71nn,1.5s
LSZ LR LR
comp=Z,2µm,20.0s
LSZ Lusaka 90.11 109 *e*P **P 07 43 58.8 +1.2**
LSZ pmax pmax
comp=Z,71nn,1.5s
LSZ MLR MLR
comp=Z,2µm,20.0s
F10A Beach Ranch, E 90.27 331 *e*P **P 07 43 58.0 +0.5**
comp=Z,27nn,2.0s
G08A Pilot Rock 90.42 330 *e*P **P 07 44 01.6 +3.4**
comp=Z,17nn,1.8s
J01E Myrtle Point 90.92 325 P **P 07 44 03.8 +3.4**
baz=140
I03D Drain, OR 91.06 326 P **P 07 44 03.1 +2.1**
baz=141
G06A Carlson Farm, 91.08 329 *e*P **P 07 44 05.3 +4.1**
comp=Z,56nn,1.9s
H04A Detroit Lake 91.31 327 *e*P **P 07 44 06.7 +4.4**
comp=Z,39nn,1.9s

HAWA Hanford 91.54 330 *e*P **P 07 44 03.1 -0.1**
comp=Z,28nn,1.5s
NEW Newport 92.11 332 LR LR 08 23 04.1
comp=Z,192nn,18.2s,baz=144,slow=34
RTC Rabat Centre 92.63 50 PFAKE 07 44 20.0 +11
RTC LR LR
comp=Z,3µm,20.0s
MDT Midelt 93.28 52 P **P 07 44 11.7 0.0**
comp=Z,5.0nm,1.1s,baz=187,slow=9.1,SNR=3.5
TAM Tamanrasset 94.12 65 *e*P **P 07 44 15.7 -0.2**
comp=Z,7.6nm,1.2s
TAM LR LR
comp=Z,1µm,18.0s
TAM Tamanrasset 94.12 65 *e*P **P 07 44 15.7 -0.2**
TAM pmax pmax
comp=Z,8.0nm,1.2s
TAM MLR MLR
comp=Z,1µm,18.0s
MSVF Nonsavu 94.51 245⇑ *i*P **P 07 44 17.4 -0.4**
MSVF pmax pmax
comp=Z,66nm,2.8s
STCH Steam Cracks 94.85 290 PFAKE 07 44 30.0 +11
STCH LR LR
comp=Z,2µm,20.0s
ESDC Sonseca Array 98.09 47 P Pdif 07 44 33.3 -0.2
comp=Z,0.6nm,0.8s,baz=228,slow=3.3,SNR=5.2
ESDC LR LR 08 27 50.0
comp=Z,857nn,19.1s,baz=250,slow=35
ES06 SONSECA Array 98.10 47 *e*P Pdif 07 44 33.7 +0.2
KIP Kipapa 98.23 290 *i* P Pdif 07 44 34.8 +0.3
KIP pmax pmax
comp=Z,71nn,1.7s
FRB Frobisher Bay 98.85 2 LR LR 08 29 16.2
comp=Z,188nn,20.1s,baz=178,slow=35
MBAR Mbarara 100.83 99 PFAKE 07 45 00.0 +13
MBAR LR LR
comp=Z,900nn,18.0s
YKA Yellowknife Ar 103.11 342 Pdiff **Pdif 07 44 55.4 +0.3**
comp=Z,0.5nm,0.9s,baz=142,slow=4.3,SNR=11
YKB5 Yellowknife Ar 103.11 342 *e*Pdif **Pdif 07 44 54.6 -0.5**
KEST Kesra 104.26 56 PFAKE 07 45 10.0 +8.9
KEST LR LR
comp=Z,3µm,20.0s
NAI Nairobi 105.30 103 PFAKE 07 49 30.0 +9.4
NAI LR LR
comp=Z,2µm,18.0s
KMBO Kilima Mbogo 105.75 103 PFAKE 07 49 30.0 +8.6
KMBO LR LR
comp=Z,1µm,18.0s
CLTB Caltabellotta 107.88 56 PFAKE 07 49 40.0 +16
CLTB LR LR
comp=Z,2µm,18.0s
WDD Wied Dalam 107.89 59 PFAKE 07 49 40.0 +16
WDD LR LR
comp=Z,2µm,20.0s
AQU L'Aquila 110.41 52 PFAKE 07 49 40.0 +11
AQU LR LR
comp=Z,1µm,22.0s
TIP Timpagrande 111.09 56 PFAKE 07 49 40.0 +10
TIP LR LR
comp=Z,2µm,20.0s
GRFO Grafenberg 112.62 44 PFAKE 07 49 40.0 +7.1
GRFO LR LR
comp=Z,800nm,20.0s
GRA1 Grafenberg Arr 112.63 44 PFAKE 07 49 40.0 +7.1
GRA1 LR LR
comp=Z,900nm,20.0s
FURI Furi 112.75 95 PFAKE 07 49 50.0 +15
FURI LR LR
comp=Z,800nm,20.0s
PAX Paxson 113.59 332 PFAKE 07 49 50.0 +16
PAX LR LR
comp=Z,300nm,19.0s
GERES GERESS Array B 113.67 46 PKiKP **PKiKP 07 49 35.1 +0.1**
comp=Z,1.3nm,0.9s,baz=321,slow=1.9,SNR=5.3
KHC Kasperske Hory 113.73 46 *e*PKP **PKiKP 07 49 34.9 -0.1**
KHC AMS AMS 08 42 10.0
comp=Z,700nm,17.1s
KHC Kasperske Hory 113.73 46 *e*PKIKP **PKiKP 07 49 34.9 -0.1**
KHC MLR MLR
comp=Z,700nm,17.1s
ITM Ithomi 113.75 60 PFAKE 07 49 50.0 +15
ITM LR LR
comp=Z,900nm,20.0s
TIR Tirane 114.20 56 PFAKE 07 49 50.0 +14
TIR LR LR
comp=Z,2µm,19.0s
TTG Podgorica 114.28 54 PFAKE 07 49 50.0 +14
TTG LR LR
comp=Z,800nm,20.0s
GHO Glory Hole Cre 114.37 330 PFAKE 07 49 50.0 +14
GHO LR LR
comp=Z,500nm,18.0s
CLL Collm 114.38 43 *e*PS PS 08 00 16.0 +5.4
CLL *e*PPS PPS 08 01 33.0
CLL *e*SS SS 08 06 28.0 +3.4
CLL *e*SSS SSS 08 10 40.0
CLL *e* 08 12 06.0
CLL LmH 08 35 00.0
comp=N,200nm,19.3s
CLL LmH 08 35 00.0
comp=E,700nm,21.7s
CLL LmV 08 37 00.0
comp=Z,900nm,19.8s
PRU Pruhonice 114.67 45 AMS AMS 08 35 20.0
comp=Z,500nm,16.3s
BRG Berggiesshubel 114.72 44 *e*(P) PKiKP 07 49 44.5 +7.7
comp=Z,9.3nm,1.7s
BRG Berggiesshubel 114.72 44 *e*PKIKP PKiKP 07 49 44.5 +7.7
BRG pmax pmax
comp=Z,9.0nm,1.7s
GOPC GO Pecny, Ondr 114.78 45 AMS AMS 08 39 50.0
comp=Z,600nm,21.2s
PVCC Panska Ves 114.93 45 AMS AMS 08 36 20.0
comp=Z,700nm,18.3s
PRP Porcupine Dome 114.94 334 PFAKE 07 49 50.0 +13
PRP LR LR
comp=Z,300nm,20.0s
FNA Florina 114.98 57 PFAKE 07 49 50.0 +12
FNA LR LR
comp=Z,1µm,19.0s
ILAR Eielson Array 115.06 333 PKP **PKiKP 07 49 37.8 +0.7**
comp=Z,0.4nm,0.7s,baz=194,slow=3.4,SNR=3.8
LIT Litokhoron 115.44 58 PFAKE 07 49 50.0 +11
LIT LR LR
comp=Z,1µm,22.0s
TRF Thorofare Moun 115.73 331 PFAKE 07 49 50.0 +11
TRF LR LR
comp=Z,500nm,20.0s
UPC Upice 115.75 45 AMS AMS 08 39 40.0
comp=Z,600nm,15.6s
DPC Dobruska-Polom 115.86 45 *e*PKP **PKiKP 07 49 39.4 +0.3**
DPC AMS AMS 08 43 30.0
comp=Z,600nm,16.6s
DPC Dobruska-Polom 115.86 45 *e*PKIKP **PKiKP 07 49 39.4 +0.3**
DPC MLR MLR
comp=Z,600nm,16.6s
ASAR Alice Springs 115.99 207 PKP **PKiKP 07 49 39.0 -1.3**
comp=Z,0.3nm,0.7s,baz=137,slow=2.9,SNR=4.4
ASAR PKKPbc **PKKPbc 08 00 09.9 -0.4**
comp=Z,0.5nm,0.6s,baz=346,slow=3.0,SNR=11
MORC Moravsky Berou 116.34 46 PFAKE 07 49 50.0 +10
MORC LR LR
comp=Z,700nm,20.0s
VYHS Vyhne 116.59 48 *e*PKIKP **PKiKP 07 49 40.9 +0.4**
VYHS Vyhne 116.59 48 *e*PKP **PKiKP 07 49 40.9 +0.4**
OKC Ostrava-Krasne 116.72 46 AMS AMS 08 42 20.0
comp=Z,700nm,19.0s
KARP Karpathos 116.81 64 PFAKE 07 49 50.0 +8.6
KARP LR LR
comp=Z,700nm,19.0s
PSZ Piszkesteto 117.01 49 PFAKE 07 49 50.0 +8.6
PSZ LR LR
comp=Z,500nm,19.0s
VTS Vitosha 117.01 55 PFAKE 07 49 50.0 +8.3
VTS LR LR
comp=Z,800nm,18.0s
MSEY Mahe Island 117.39 118 PFAKE 07 49 50.0 +6.7
MSEY LR LR
comp=Z,800nm,20.0s
NB200 NORSAR Array S 117.60 33 *e*PKPdf **PKPdf 07 49 41.8 -0.3**
NOA NORSAR Array B 117.60 33 PKP **PKPdf 07 49 41.8 -0.3**
comp=Z,0.8nm,0.9s,baz=242,slow=2.0,SNR=2.7
ATD Arta Tunnel 117.61 95 PFAKE 07 50 00.0 +16
ATD LR LR
comp=Z,800nm,19.0s

TOLK Toolik Lake Re 117.83 336 *e*PKPdf **PKiKP 07 49 42.6 +0.2**
IM3 Indian Mountai 118.17 333 *e*PKPdf **PKiKP 07 49 43.0 0.0**
ALN Alexandroupoli 118.24 58 PFAKE 07 50 00.0 +16
ALN LR LR
comp=Z,500nm,22.0s
UZH Uzhgorod 118.76 49 *e*PKIKP **PKiKP 07 49 47.4 +2.7**
MANT Manisa 119.05 62 PFAKE 07 50 00.0 +14
MANT LR LR
comp=Z,2µm,21.0s
WB2 Warramunga Arr 119.18 210 *e*PKPdf **PKiKP 07 49 47.2 +0.7**
WR1 Warramunga Arr 119.18 210 *e*PKPdf **PKPdf 07 49 45.8 -0.7**
WRA Warramunga Arr 119.18 210 PKP **PKPdf 07 49 45.8 -0.8**
comp=Z,2.0nm,1.0s,baz=154,slow=1.7,SNR=6.9
KWP Kalwaria Pacla 119.38 48 *e*PKPdf **PKiKP 07 49 47.7 +1.8**
KWP Kalwaria Pacla 119.38 48 *e*PKIKP **PKiKP 07 49 47.7 +1.8**
MLR Muntele Rosu 119.93 53 PFAKE 07 50 00.0 +13
MLR LR LR
comp=Z,1µm,20.0s
ISP Isparta 120.21 63 PFAKE 07 50 00.0 +12
ISP LR LR
comp=Z,600nm,20.0s
DAMY Dhamar 120.53 93 PFAKE 07 50 00.0 +10
DAMY LR LR
comp=Z,1µm,20.0s
SUW Suwalki 121.14 43 PFAKE 07 50 00.0 +11
SUW LR LR
comp=Z,2µm,19.0s
CSS Mathiatis 121.16 67 PFAKE 07 50 00.0 +10
CSS LR LR
comp=Z,400nm,19.0s
ANTO Ankara 122.62 62 PFAKE 07 50 00.0 +7.3
ANTO LR LR
comp=Z,500nm,20.0s
BR101 Keskin Array S 123.18 62 *e*PKPdf **PKiKP 07 49 54.1 +0.2**
BRTR Keskin Array B 123.18 62 PKP **PKiKP 07 49 54.1 +0.2**
comp=Z,0.8nm,0.6s,baz=182,slow=3.3,SNR=5.7
AK11 Malin Array Si 123.65 48 *e*PKPdf **PKiKP 07 49 54.1 -0.1**
KIEV Kiev 123.68 48⇓ *i*PKIKP **PKPdf 07 49 52.9 -1.1**
ILGA Ilgaz 123.69 61 PFAKE 07 50 10.0 +15
ILGA LR LR
comp=Z,800nm,20.0s
AKASG Malin Array Be 123.69 48 PKP **PKPdf 07 49 53.0 -1.1**
comp=Z,3.8nm,1.0s,baz=270,slow=2.6,SNR=12
FIA0 FINESS Array S 124.56 35 *e*PKPdf **PKPdf 07 49 55.3 -0.1**
FIA0 FINESS Array S 124.56 35 *e*PKIKP **PKPdf 07 49 55.3 -0.1**
FINES FINESS Array B 124.56 35 PKP **PKPdf 07 49 55.3 -0.1**
comp=Z,4.5nm,1.1s,baz=327,slow=3.2,SNR=5.2
FIA1 FINESS Array S 124.56 35 *e*PKPdf **PKiKP 07 49 56.2 +0.5**
H11S2 WAKE ISLAND Hyl 124.96 269 T T 10 07 28.1
baz=118
H11S1 WAKE ISLAND Hyl 124.97 269 T T 10 07 27.8
baz=118
H11S3 WAKE ISLAND Hyl 124.98 269 T T 10 07 31.5
baz=118
H11N3 WAKE ISLAND Hyl 125.41 270 T T 10 08 00.6
baz=122,slow=76,SNR=5.0
H11N1 WAKE ISLAND Hyl 125.42 270 T T 10 07 53.8
baz=122,slow=76,SNR=9.8
H11N2 WAKE ISLAND Hyl 125.43 270 T T 10 07 56.2
baz=122,slow=76,SNR=4.0
ARA0 ARCESS Array S 125.59 25 *e*PKPdf **PKPdf 07 49 56.6 -0.6**
ARCES ARCESS Array B 125.59 25 PKP **PKPdf 07 49 56.6 -0.6**
comp=Z,6.0nm,1.1s,baz=265,slow=3.3,SNR=4.5
KEV Kevo 126.13 25 *e*P **PKiKP 07 50 00.4 +1.8**
APA Apatity 128.37 28⇑ *i*PKIKP **PKiKP 07 50 03.7 +0.6**
APA pmax pmax
comp=Z,9.0nm,1.0s
OBN Obninsk 128.97 44 PFAKE 07 50 20.0 +15
OBN LR LR
comp=Z,700nm,21.0s
OBN Obninsk 128.97 44 *e*PKIKP **PKPdf 07 50 02.9 -1.1**
OBN *i* 07 50 04.8
OBN *e* 07 50 10.8
OBN *e* 07 52 10.0
OBN pmax pmax
comp=Z,13nm,1.1s
OBN MLR MLR
comp=Z,451nm,19.0s
TMCR Tamitsa 130.28 32 *e*PKIKP **PKPdf 07 50 05.1 -1.1**
TMCR pmax pmax
comp=Z,28nm,1.2s
KBZ Khabaz 130.97 60 PKP **PKPdf 07 50 07.1 -1.1**
comp=Z,4.0nm,1.1s,baz=236,slow=5.7,SNR=5.4
KLMR Klimovskoe 130.97 37 *e*PKIKP **PKPdf 07 50 05.0 -2.6**
KLMR pmax pmax
comp=Z,44nm,1.4s
KLMR Klimovskoe 130.97 37 *e*PKPdf **PKPdf 07 50 05.1 -2.6**
KLMR AMP 07 50 09.7
comp=Z,44nm,1.4s
KLMR *e*SKPbc **SKPbc 07 53 28.5 -2.8**
GOF Gofitskoye 131.36 58 *e*PKIKP **PKiKP 07 50 10.4 +0.5**
SOEI Soe 132.24 203 PFAKE 07 50 20.0 +7.2
SOEI LR LR
comp=Z,1µm,18.0s
BILL Bilibino 133.72 333 PFAKE 07 50 20.0 +6.1
BILL LR LR
comp=Z,300nm,20.0s
BILL Bilibino 133.72 333 *e*PKIKP **PKPdf 07 50 12.2 -0.5**
BILL *i* 07 50 14.3
BILL *e* 07 50 17.4
BILL *e* 07 52 39.3
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,192nm,17.0s
PRGR Permogore 133.89 36 *e*PKIKP **PKPdf 07 50 09.8 -3.3**
PRGR pmax pmax
comp=Z,26nm,0.4s
MAK Makhachkala 134.09 62 *e*P **Pdif 07 47 08.5 -4.9**
MAK *e* 07 57 18.7
MAK *e*SS SS 08 10 28.7 -5.2
MAK *e*SSS SSS 08 15 25.9
MAK pmax pmax
comp=Z,91nm,0.9s
KAPI Kappang 138.08 199*c* *i*PKIKP **PKiKP 07 50 25.9 +1.4**
KAPI pmax pmax
comp=Z,16nm,1.7s
ANA2 Anatahan 140.67 251 PFAKE 07 50 40.0 +10
ANA2 LR LR
comp=Z,2µm,22.0s
SARN Sarigan 140.83 252 PFAKE 07 50 40.0 +10
SARN LR LR
comp=Z,2µm,21.0s
GYA0B ALIBECK ARRAY 141.05 71 PFAKE 07 50 40.0 +10
GYA0B LR LR
comp=Z,600nm,19.0s
ARU Arti 141.29 42 PFAKE 07 50 40.0 +10
ARU LR LR
comp=Z,800nm,20.0s
ARU Arti 141.29 42 *i* PKIKP **PKPdf 07 50 27.7 +0.8**
ARU 07 53 29.7
ARU SS SS 08 11 55.9 -2.4
ARU MLR MLR
comp=Z,688nm,20.0s
AKTO Aktyubinsk 141.81 51 PKhKP PKPpre 07 50 24.1
comp=Z,0.9nm,0.5s,baz=338,slow=4.9,SNR=3.4
PALK Pallekele 143.06 133 PFAKE 07 50 40.0 +5.3
PALK LR LR
comp=Z,900nm,20.0s
NRIK Noril'sk 144.32 12 PKP **PKPab 07 50 29.9 -0.1**
comp=Z,9.3nm,1.0s,baz=355,slow=1.5,SNR=16
BKNI Bangkinang 144.69 170 PFAKE 07 50 50.0 +12
BKNI LR LR
comp=Z,600nm,18.0s
GSI Gunungsitoli 144.99 163 *e*PKPdf **PKPdf 07 50 34.4 -0.5**
KSM Kuching 146.13 186 PFAKE 07 50 50.0 +9.0
KSM LR LR
comp=Z,400nm,20.0s
MYKOM Kota Tinggi 146.46 174 PFAKE 07 50 50.0 +8.3
MYKOM LR LR
comp=Z,500nm,20.0s
MATI Mati 146.64 217 *e*P **PKiKP 07 50 47.5 +5.4**
PSI Prapat 146.73 165 *e*PKPdf **PKPdf 07 50 38.5 +0.5**
PSI LR LR
comp=Z,1µm,21.0s
PSI Prapat 146.73 165 *e*PKP2 **PKPdf 07 50 38.5 +0.5**
PSI MLR MLR
comp=Z,1µm,21.0s
PSI Prapat 146.73 165 PKPbc **PKPdf 07 50 36.6 -1.3**
comp=Z,18nm,1.0s,baz=198,slow=7.9,SNR=14
SBUM Sibu 146.89 190 PFAKE 07 50 50.0 +7.4
SBUM LR LR
comp=Z,200nm,19.0s
SKMP Bagumbayan, Su 147.07 213 *e*P **PKiKP 07 50 48.5 +5.6**
KCP Kidapawan 147.25 215⇓ *i*P **PKPdf 07 50 38.2 -0.5**

BUKP	**Musuan**	**148.02**	**215**	*e*P		**PKPbc**	**07 50 42.7**	**-0.4**
BRVK	**Borovoye**	**148.74**	**44**	*e*PKPbc		**PKPbc**	**07 50 44.0**	**+0.3**
BRVK				LR	LR			
	comp=Z,900nm,20.0s							
BRVK	**Borovoye**	**148.74**	**44**	*e*PKP2		**PKPbc**	**07 50 44.0**	**+0.3**
BRVK				MLR	MLR			
	comp=Z,900nm,20.0s							
PAGZ	**Pagadian**	**148.76**	**213**	*e*P		**PKPab**	**07 50 51.6**	**+3.0**
IPM	**Ipoh**	**148.76**	**168**	PFAKE			07 50 50.0	+1.4
IPM				LR	LR			
	comp=Z,600nm,20.0s							
HYB	**Hyderabad**	**149.03**	**118**	*i* PKP		**PKPbc**	**07 50 44.0**	**-1.6**
IPIL	**Ipil**	**149.06**	**211**	*e*P		**PKPab**	**07 50 52.0**	**+2.2**
KULM	**Kulim**	**149.49**	**167**	*e*pPKPdf		**PKPbc**	**07 50 45.3**	**-1.5**
KULM				LR	LR			
	comp=Z,500nm,21.0s							
YAK	**Yakutsk**	**149.74**	**339**	*e*PKHKP		PKPpre	07 50 44.8	
YAK				pmax	pmax			
	comp=Z,208nm,0.9s							
YAK				pmax	pmax			
	comp=N,10.0nm,0.6s							
YAK				pmax	pmax			
	comp=E,7.0nm,0.9s							
MSLP	**Maasin**	**150.07**	**217**	*e*P		**PKPbc**	**07 50 47.2**	**-0.9**
NKL	**Nikolayevsk**	**150.42**	**317**	*e*PKIKP		**PKPbc**	**07 50 47.0**	**-0.8**
NKL				*e*			07 50 55.0	
NKL				pmax	pmax			
	comp=Z,39nm,1.0s							
KK31	**Karatay Array**	**150.87**	**64**	*e*PKPbc		**PKPbc**	**07 50 49.2**	**-0.1**
KKAR	**Karatay Array**	**150.87**	**64**	*e*PKPbc		**PKPbc**	**07 50 49.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**150.95**	**304**	∥*i*PKIKP		**PKPbc**	**07 50 46.9**	**-2.4**
YSS				*e*			07 50 57.6	
BTK	**Batken**	**151.12**	**70**	*e*PKPbc		**PKiKP**	**07 50 50.4**	**-0.2**
BTK				LR	LR			
	comp=Z,400nm,18.0s							
BTK	**Batken**	**151.12**	**70**	*e*PKIKP		**PKiKP**	**07 50 50.4**	**-0.2**
BTK				MLR	MLR			
	comp=Z,400nm,18.0s							
BATP	**Bataraza**	**151.77**	**203**	*e*P		**PKPbc**	**07 50 52.1**	**-0.1**
NIL	**Nilore**	**152.20**	**84**	PKIKP		**PKiKP**	**07 50 53.1**	**+0.1**
AML	**Almayashu**	**153.27**	**65**	P		**PKiKP**	**07 50 55.8**	**+0.4**
	SNR=7.2							
EKS2	**Erkin-Say**	**153.30**	**64**	P		**PKiKP**	**07 50 55.5**	**+0.5**
	SNR=8.6							
USP	**Ospenovka**	**153.77**	**63**	P		**PKPbc**	**07 50 55.6**	**-0.3**
	SNR=6.1							
AAK	**Ala-Archa**	**153.83**	**64**	P		**PKiKP**	**07 50 56.9**	**+0.7**
	SNR=5.6							
AAK	**Ala-Archa**	**153.83**	**64**	*e*PKPdf		**PKPdf**	**07 50 48.2**	**0.0**
AAK				*e*PKPab		**PKPab**	**07 51 07.4**	**-1.9**
AAK				LR	LR			
	comp=Z,601nm,20.0s							
AAK	**Ala-Archa**	**153.83**	**64**	*e*PKIKP		**PKPdf**	**07 50 48.2**	**0.0**
AAK				*e*			07 51 07.4	
AAK				MLR	MLR			
	comp=Z,601nm,20.0s							
AAK	**Ala-Archa**	**153.83**	**64**	PKP		**PKPdf**	**07 50 48.2**	**0.0**
	comp=Z,0.8nm,0.5s,baz=187,slow=3.0,SNR=4.7							
AAK				PKPbc		**PKiKP**	**07 50 56.6**	**+0.4**
	comp=Z,6.7nm,1.0s,baz=202,slow=3.7,SNR=12							
UCH	**Uchtor**	**153.88**	**65**	P		**PKiKP**	**07 50 56.9**	**+0.2**
	SNR=6.2							
KURK	**Kurchatov**	**154.41**	**44**	*e*PKPdf		**PKPdf**	**07 50 49.0**	**+0.5**
KURK	**Kurchatov**	**154.41**	**44**	*e*PKIKP		**PKPdf**	**07 50 49.0**	**+0.5**
NVS	**Novosibirsk**	**154.52**	**33**	*e*PKIKP		**PKPdf**	**07 50 48.7**	**+0.2**
NVS				*e*			07 54 55.2	
NVS				pmax	pmax			
	comp=Z,64nm,1.8s							
NVS				pmax	pmax			
	comp=E,14nm,1.5s							
TKM2	**Tokmak 2**	**154.60**	**63**	P		**PKPbc**	**07 50 57.6**	**-0.3**
	SNR=5.2							
MAJO	**Matsushiro**	**154.77**	**282**	*e*P		**PKPdf**	**07 50 53.2**	**+3.6**
BOOM	**Boomskoye usch**	**154.90**	**64**	PKIKP		**PKiKP**	**07 51 00.1**	**+1.6**
KSH	**Kashi**	**155.08**	**71**	PKPbc		**PKPdf**	**07 50 51.0**	**+1.0**
KSH				PP		**PP**	**07 54 50.0**	**-1.3**
KSH				SS	SS		08 14 32.8	-2.2
KSH				AMB	AMB			
	comp=E,280nm,6.5s							
KSH				LR	LR			
	comp=E,180nm,10.8s							
KSH				LR	LR			
	comp=E,170nm,10.8s							
KSH				LR	LR			
	comp=E,230nm,12.9s							
ZAA1	**Zalesovo Array**	**155.80**	**33**	*e*PKPdf		**PKPdf**	**07 50 50.1**	**-0.2**
ZAA1				*e*PKPab		**PKPab**	**07 51 17.5**	**+0.5**
ZAA0	**Zalesovo Array**	**155.80**	**33**	PFAKE			07 51 00.0	+10
ZAA0				LR	LR			
	comp=Z,400nm,20.0s							
ZALV	**Zalesovo Beam**	**155.80**	**33**	PKP		**PKPdf**	**07 50 50.1**	**-0.2**
	comp=Z,9.1nm,1.1s,baz=267,slow=3.0,SNR=12							
ZALV				PKPab		**PKPab**	**07 51 17.5**	**+0.5**
	comp=Z,5.4nm,0.6s,baz=303,slow=5.1,SNR=5.9							
KDJ	**Kajisay**	**155.86**	**65**	PFAKE			07 51 00.0	+8.9
KDJ				LR	LR			
	comp=Z,500nm,19.0s							
KDJ	**Kajisay**	**155.86**	**65**	PKIKP		**PKPdf**	**07 50 52.4**	**+1.3**
BOD	**Bodaibo**	**157.06**	**350**	*e*PKP2		**PKPab**	**07 51 19.2**	**-3.1**
BOD				pmax	pmax			
	comp=Z,24nm,1.4s							
MAKZ	**Makanchi**	**158.04**	**51**	PFAKE			07 51 00.0	+6.5
MAKZ				LR	LR			
	comp=Z,800nm,21.0s							
MAKZ	**Makanchi**	**158.04**	**51**	PKIKP		**PKPdf**	**07 50 53.2**	**-0.3**
MK31	**Makanchi Array**	**158.25**	**51**	PKIKP		**PKPdf**	**07 50 53.4**	**-0.3**
MK32	**Makanchi Array**	**158.25**	**51**	*e*PKPdf		**PKPdf**	**07 50 53.5**	**-0.2**
MK32				*e*PKPab		**PKPab**	**07 51 28.1**	**+0.3**
MK32				*e*PP		**PP**	**07 55 08.3**	**+0.2**
MKAR	**Makanchi Array**	**158.25**	**51**	PKP		**PKPdf**	**07 50 53.5**	**-0.2**
	comp=Z,5.1nm,1.1s,baz=309,slow=2.5,SNR=14							
MKAR				PKPab		**PKPab**	**07 51 28.1**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=283,slow=3.0,SNR=4.7							
MKAR				PP		**PP**	**07 55 08.3**	**+0.2**
	comp=Z,4.0nm,1.2s,baz=276,slow=1.1,SNR=4.4							
PYUN	**Piuthan**	**158.35**	**103**	*e*P		**PKPab**	**07 51 28.0**	**-1.2**
KOLN	**Koldanda**	**158.69**	**104**	*e*P		**PKPab**	**07 51 29.3**	**-1.3**
	comp=Z,38nm,1.2s							
DANN	**Dangsing**	**159.07**	**103**	*e*P		**PKPab**	**07 51 32.5**	**+0.1**
DMN	**Daman**	**159.81**	**106**	*e*P		**PKPab**	**07 51 35.2**	**-0.3**
PKIN	**Phulchoki**	**160.02**	**107**	*e*P		**PKPab**	**07 51 35.7**	**-0.8**
	comp=Z,99nm,1.2s							
PKI	**Pulchoki**	**160.03**	**107**	*e*P		**PKPab**	**07 51 35.8**	**-0.8**
	comp=Z,259nm,1.4s							
KKN	**Kakani**	**160.03**	**106**	*e*P		**PKPab**	**07 51 35.8**	**-0.6**
	comp=Z,249nm,1.4s							
GUN	**Gumba**	**160.55**	**107**	*e*P		**PKPab**	**07 51 37.8**	**-1.1**
	comp=Z,199nm,1.6s							
RAMN	**Ramite**	**160.65**	**110**	*e*P		**PKPab**	**07 51 38.7**	**-0.5**
JIRN	**Jiri**	**160.68**	**108**	*e*P		**PKPab**	**07 51 38.6**	**-0.9**
	comp=Z,241nm,1.2s							
ODAN	**Odare**	**161.20**	**111**	*e*P		**PKPab**	**07 51 40.6**	**-1.0**
CMAR	**Chiang Mai Arr**	**161.69**	**155**	PKP		**PKPdf**	**07 50 58.4**	**0.0**
	comp=Z,0.9nm,0.3s,baz=242,slow=1.9,SNR=6.2							
CMAR				PKPab		**PKPab**	**07 51 42.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=225,slow=6.1,SNR=4.4							
CHTO	**Chiang Mai**	**162.02**	**154**	*e*P		**PKPdf**	**07 51 02.4**	**+3.6**
WMQ	**Urumqi**	**162.92**	**55**	*e*PKP		**PKPdf**	**07 50 59.3**	**+0.3**
WMQ				pPKP		sPKPdf	07 51 07.5	+1.3
WMQ				PP		**PP**	**07 55 35.8**	**+2.3**
WMQ				SS	SS		08 15 56.0	-1.2
WMQ				AMB	AMB			
	comp=Z,640nm,4.5s							
WMQ				LR	LR			
	comp=Z,990nm,20.1s							
WMQ				LR	LR			
	comp=Z,1μm,21.1s							
WMQ				LR	LR			
	comp=Z,750nm,21.1s							
TLY	**Talaya**	**163.52**	**7**	*e*PKP2		**PKPab**	**07 51 51.5**	**+0.9**
TLY				pmax	pmax			
	comp=Z,43nm,1.7s							
ZAK	**Zakamensk**	**164.75**	**9**	*e*PKP2		**PKPab**	**07 51 55.8**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
SNY	**Shenyang**	**165.54**	**301**	⇑PKP		PKPdf	07 51 09.8	+8.5
SNY				PKPab		sPKPab	07 52 16.3	+10
SNY				PP		PP	07 55 56.5	+9.3
ULN	**Ulaanbaatar**	**167.52**	**360**	PKP2		**PKPab**	**07 52 09.7**	**+1.2**
SONA0	**Songino Array**	**167.54**	**2**	*e*PKPdf		**PKPdf**	**07 51 02.1**	**-0.7**
SONA0				*e*PKPab		**PKPab**	**07 52 08.9**	**+0.4**
SONM	**Songino Array**	**167.54**	**2**	PKP		**PKPdf**	**07 51 02.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=270,slow=1.5,SNR=5.5							
SONM				PKPab		**PKPab**	**07 52 08.9**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=335,slow=3.3,SNR=8.5							
DL2	**Dalian**	**167.81**	**291**	*e*PKP		**PKPdf**	**07 51 05.5**	**+2.4**
DL2				AMB	AMB			
	comp=Z,210nm,6.1s							
DL2				LR	LR			
	comp=Z,200nm,17.7s							
DL2				LR	LR			
	comp=Z,240nm,16.5s							
DL2				LR	LR			
	comp=Z,520nm,18.1s							
NJ2	**Nanjing**	**169.59**	**255**	*e*PKP		**PKPdf**	**07 51 04.3**	**-0.2**
GYA	**Guiyang**	**171.11**	**178**	PKP		**PKPdf**	**07 51 05.3**	**-0.4**
GYA				PKPab		**PKPab**	**07 52 26.8**	**+2.0**
GYA				PKS			07 54 36.0	
GYA				PP		**PP**	**07 56 18.5**	**+4.1**
GYA				AMB	AMB			
	comp=Z,150nm,7.9s							
GTA	**Gaotai**	**173.00**	**53**	PKP		**PKPdf**	**07 51 07.0**	**+0.8**
GTA				LR	LR			
	comp=Z,250nm,21.3s							
GTA				LR	LR			
	comp=Z,310nm,22.9s							
GTA				LR	LR			
	comp=Z,390nm,23.2s							
HHC	**Hu-ho-hao-te**	**173.46**	**328**	*e*PKP		PKPdf	07 50 58.0	-8.3
HHC				PP		**PP**	**07 56 25.5**	**-1.1**
HHC				SKS		SKSdf	07 57 56.0	-13
CD2	**Chengdu**	**174.78**	**148**	PKP		**PKPdf**	**07 51 07.0**	**0.0**
CD2				sPKP			07 51 13.5	
CD2				SKS		**SKSdf**	**07 58 12.0**	**+2.5**
CD2				SKKS		**SKKSac**	**08 03 21.0**	**+1.7**
CD2				SS		**SS**	**08 17 50.0**	**-4.4**
CD2				AMB	AMB			
	comp=Z,270nm,14.3s							
CD2				LR	LR			
	comp=Z,530nm,19.0s							
CD2				LR	LR			
	comp=Z,410nm,19.0s							
CD2				LR	LR			
	comp=Z,620nm,19.0s							
LZH	**Lanzhou**	**177.33**	**74**	*e*PKP		**PKPdf**	**07 51 07.5**	**0.0**
LZH				pPKP		sPKPdf	07 51 16.5	+1.8
LZH				PP		**PP**	**07 56 45.5**	**-0.9**
LZH				SKKS			08 03 28.5	
LZH				AMB	AMB			
	comp=Z,590nm,8.1s							
LZH				LR	LR			
	comp=Z,670nm,17.9s							
LZH				LR	LR			
	comp=Z,650nm,17.9s							
LZH				LR	LR			
	comp=Z,750nm,19.5s							

IDC 29 07:53:03.4±1.0, 39.09S×78.14E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/42, mbtmp3.9/7, Error ellipse: s-maj=28.1km s-min=26.9km az=162.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**28.93**	**93**	T	T	08 29 14.0	
	baz=251,slow=74,SNR=322						
H01W3	**Cape Leeuwin H**	**28.94**	**93**	T	T	08 29 14.5	
	baz=251,slow=74,SNR=320						
H01W1	**Cape Leeuwin H**	**28.95**	**93**	T	T	08 29 15.3	
	baz=251,slow=74,SNR=273						
H08S2	**Diego Garcia H**	**31.71**	**349**	T	T	08 32 53.1	
	baz=172,slow=76,SNR=14						
H08S1	**Diego Garcia H**	**31.71**	**349**	T	T	08 32 52.2	
	baz=172,slow=76,SNR=17						
H08S3	**Diego Garcia H**	**31.73**	**349**	T	T	08 32 53.6	
	baz=172,slow=76,SNR=16						
BOSA	**Boshof**	**44.59**	**267**	P	P	08 01 16.2	-1.3
	3.5nm,0.9s,baz=117,slow=6.8,SNR=3.1						
ASAR	**Alice Springs**	**49.30**	**89**	P	P	08 01 53.5	-0.8
	0.7nm,0.6s,baz=240,slow=5.7,SNR=17						
VNDA	**Vanda**	**50.85**	**164**	P	P	08 02 04.9	-0.3
	1.0nm,0.9s,baz=279,slow=11,SNR=1.9						
QSPA	**South Pole Qui**	**51.08**	**180**	P	P	08 02 08.2	+0.9
	3.2nm,1.0s,baz=282,slow=4.9,SNR=4.5						
WRA	**Warramunga Arr**	**51.67**	**85**	P	P	08 02 11.9	-0.3
	1.6nm,0.6s,baz=236,slow=7.3,SNR=20						
MKAR	**Makanchi Array**	**85.58**	**3**	P	P	08 05 43.4	+0.3
	1.1nm,1.0s,baz=167,slow=5.9,SNR=4.1						
KURBB	**Kurchatov Arra**	**89.33**	**0**	P	P	08 06 01.9	+0.9
	0.6nm,0.9s,baz=190,slow=4.0,SNR=4.7						

*PGC **29** 08:09:45.5±0.0, 64.80N×139.33W, h1km, ML3.0/11, 82km northeast of Dawson, Yt Southern Yukon Territory, Canada*
*ANF **29** 08:09:46.1±1.5, 65.04N×139.46W, ML3.2/5, Error ellipse: s-maj=24.0km s-min=3.0km az=160.0*
ISC 29 08:09:44.3±0.7, 64.85N±0.03×139.06W±0.03, h10km, n29, σ2.06/59, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**0.80**	**191**	P	**Pg**	**08 09 59.4**	**-0.2**
DAWY				S	**Sg**	**08 10 09.0**	**-1.0**
EPYK	**Eagle Plains**	**1.81**	**31**	P	**Pb**	**08 10 17.6**	**+0.1**
	baz=216						
EPYK				S	**Sg**	**08 10 42.1**	**-0.3**
	baz=216						
DOT	**Dot Lake**	**2.50**	**243**	Pn	**Pn**	**08 10 25.1**	**+0.2**
DOT				Pg	**Pb**	**08 10 28.2**	**-0.9**
DOT				Sg	**Sn**	**08 10 58.2**	**+2.8**
BVCY	**Beaver Creek**	**2.57**	**199**	Pn	**Pn**	**08 10 26.4**	**+0.4**
BVCY				Sg	**Sb**	**08 11 02.1**	**0.0**
YUK3	**Moose Creek**	**3.15**	**192**	Pn	**Pn**	**08 10 34.6**	**+0.5**
YUK3				Sg	**Sb**	**08 11 19.9**	**+1.0**
YUK2	**White River**	**3.17**	**196**	Pn	**Pn**	**08 10 35.0**	**+0.7**
YUK2				Pg	**Pb**	**08 10 41.4**	**+0.6**
YUK2				Sg	**Sb**	**08 11 21.8**	**+2.3**
PAX	**Paxson**	**3.40**	**239**	Pn	**Pn**	**08 10 37.3**	**-0.1**
PAX				Sn	**Sn**	**08 11 16.1**	**-1.8**
PAX				Sg	**Sb**	**08 11 26.1**	**+0.1**
HDA	**Harding Lake**	**3.43**	**266**	Sb	**Sb**	**08 11 27.9**	**+1.3**
	baz=80						
YUK4	**Talbot Arm**	**3.52**	**177**	Pn	**Pn**	**08 10 39.4**	**+0.2**
YUK4				Sg	**Sb**	**08 11 30.3**	**+0.7**
POKR	**Poker Plat Res**	**3.57**	**278**	Sb	**Sb**	**08 11 30.1**	**-0.7**
	baz=92						
HARP	**HAARP**	**3.66**	**231**	Pn	**Pn**	**08 10 41.2**	**+0.3**
HARP				Pg	**Pb**	**08 10 49.2**	**+0.2**
HARP				Sg	**Sb**	**08 11 35.0**	**+1.6**
TCOL	**CIGO, UAF Yank**	**3.76**	**274**	Sb	**Sb**	**08 11 37.5**	**+1.4**
	baz=87						
YUK5	**Granite Creek**	**3.77**	**171**	Pn	**Pn**	**08 10 44.1**	**+1.6**
YUK5				Sg	**Sg**	**08 11 42.6**	**-2.6**
YUK6	**Outpost Mounta**	**3.93**	**175**	Pn	**Pn**	**08 10 46.4**	**+1.6**
YUK6				Sg	**Sg**	**08 11 46.7**	**-3.7**
PTPK	**Patty Peak**	**3.99**	**204**	Pn	**Pn**	**08 10 46.0**	**+0.5**
PTPK				Sg	**Sb**	**08 11 45.9**	**+2.9**
CTGM	**Chitina Glacie**	**4.03**	**196**	Pn	**Pn**	**08 10 47.8**	**+1.6**
CTGM				Sg	**Sb**	**08 11 48.0**	**+3.8**
HYT	**Haines Junctio**	**4.10**	**169**	Pn	**Pn**	**08 10 48.7**	**+1.6**
HYT				Sg	**Sg**	**08 11 51.4**	**-4.4**
BALM	**Baldy**	**4.11**	**203**	Pn	**Pn**	**08 10 48.6**	**+1.5**
BALM				Sg	**Sb**	**08 11 49.7**	**+3.4**
INK	**Inuvik**	**4.12**	**30**	Pn	**Pn**	**08 10 48.9**	**+1.8**
INK				Sn	**Sn**	**08 11 36.4**	**+1.2**
KIAG	**Kiagna River**	**4.22**	**203**	Pn	**Pn**	**08 10 50.9**	**+2.1**
KIAG				Sg	**Sb**	**08 11 54.0**	**+4.5**
YUK7	**Dusty Glacier**	**4.35**	**174**	Pn	**Pn**	**08 10 52.3**	**+1.7**
YUK7				Sg	**Sg**	**08 12 00.1**	**-3.8**
WHY	**Whitehorse**	**4.62**	**154**	Pn	**Pn**	**08 10 55.2**	**+1.1**
WHY				Sn	**Sn**	**08 11 48.6**	**+0.7**
WHY				Sg	**Sg**	**08 12 11.0**	**-1.4**
COLD	**Coldfoot**	**5.13**	**303**	Pn	**Pn**	**08 11 01.1**	**0.0**
COLD				Sn	**Sn**	**08 11 58.2**	**-2.1**
PLBC	**Pleasant Camp**	**5.55**	**166**	Sg	**Sg**	**08 12 37.2**	**-5.1**
TOLK	**Toolik Lake Re**	**5.64**	**317**	P	**Pn**	**08 11 09.8**	**+1.7**
	baz=129						
TOLK				Sb	**Sn**	**08 12 12.6**	**-0.3**
	baz=129						
DLBC	**Dease Lake**	**7.73**	**142**	Pn	**Pn**	**08 11 39.1**	**+2.4**
DLBC				Sn	**Sn**	**08 13 03.6**	**-0.6**
DHRN	**Dharma Camp**	**8.27**	**66**	Pn	**Pn**	**08 11 45.5**	**+1.4**
DHRN				Sn	**Sn**	**08 13 15.6**	**-1.8**
KUKN	**Kugluktuk,NWT**	**10.05**	**62**	Pn	**Pn**	**08 12 09.1**	**+0.6**
KUKN				Sn	**Sn**	**08 13 56.9**	**-4.3**
YKW3	**Yellowknife Ar**	**11.05**	**91**	Pn	**Pn**	**08 12 24.1**	**+2.0**
YKW3				Sn	**Sn**	**08 14 23.2**	**-2.4**

*ISK **29** 08:26:08.2, 35.87N×31.07E, h28km, ML2.9/12*
ISC 29 08:26:09.2±1.8, 35.96N±0.06×31.24E±0.03, h13km±15km, n30, σ1.47/42, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.81**	**296**	*i* P	**Pn**	**08 26 28.6**	**+2.3**
AKUM				*i* S	**Sn**	**08 26 41.8**	**+3.6**
AKUM				IAML_P			
	comp=Z,3μm,0.2s						
AKAS	**Kas**	**1.35**	**282**	*i* P	**Pg**	**08 26 35.2**	**0.0**
ERMK	**Ermenek**	**1.51**	**63**	*i* P	**Pn**	**08 26 36.5**	**+0.4**
TEKE	**Tekeli-Mersin**	**1.53**	**83**	PN	**Pn**	**08 26 36.4**	**+0.3**
TEKE				SN	**Sb**	**08 26 56.9**	**+0.3**
LEF	**Lefka**	**1.59**	**122**	PN	**Pn**	**08 26 36.1**	**-0.8**
LEF				SN	**Sn**	**08 26 55.5**	**-1.8**
BERE	**Bereket-Mersin**	**1.65**	**76**	PN	**Pn**	**08 26 38.3**	**+0.4**
BERE				SN	**Sn**	**08 27 00.2**	**+1.1**
TEVE	**Tevekalti-Mers**	**1.84**	**75**	PN	**Pn**	**08 26 41.2**	**+0.7**
GULN	**MERSIN_Gulnar**	**1.88**	**83**	*i* P	**Pn**	**08 26 42.0**	**+1.1**
GULN				*i* S	**Sn**	**08 27 04.6**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.88**	**83**	PN	**Pn**	**08 26 41.5**	**+0.5**
CSS	**Mathiatis**	**1.98**	**120**	PN	**Pn**	**08 26 41.9**	**-0.4**
IKL	**Isikli**	**2.00**	**81**	PN	**Pn**	**08 26 43.2**	**+0.6**
KMER	**Konya-Meram**	**2.02**	**26**	*i* P	**Pn**	**08 26 44.0**	**+1.0**
BAGO	**Egridir - ISPA**	**2.06**	**350**	*i* P	**Pn**	**08 26 44.4**	**+0.9**
BAGO				*i* S	**Sn**	**08 27 07.5**	**-1.6**
BAGO				IAML_P			
	comp=Z,587nm,0.3s						
KEBE	**Keben-Mersin**	**2.06**	**76**	PN	**Pn**	**08 26 44.3**	**+0.8**
DOGA	**KONYA_Doganhis**	**2.17**	**9**	*i* P	**Pn**	**08 26 45.1**	**0.0**
DOGA				*i* S	**Sn**	**08 27 09.2**	**-2.7**
KONT	**Konya--Tatoy**	**2.17**	**24**	PN	**Pn**	**08 26 45.5**	**+0.5**
KONT	**Konya--Tatoy**	**2.17**	**24**	*i* P	**Pn**	**08 26 45.0**	**-0.1**
TURN	**Turunc**	**2.31**	**294**	*i* P	**Pb**	**08 26 49.0**	**-1.1**
KIZK	**Mersin**	**2.40**	**77**	PN	**Pn**	**08 26 49.2**	**+1.0**
KIZK	**Mersin**	**2.40**	**77**	*i* P	**Pb**	**08 26 51.8**	**-0.5**
KIZK				*i* S	**Sn**	**08 27 19.6**	**+2.2**
LADK	**Ladik-KONYA**	**2.41**	**22**	PN	**Pn**	**08 26 48.8**	**+0.5**
EREN	**Erenkoy**	**2.42**	**99**	PN	**Pn**	**08 26 48.9**	**+0.5**
KZIL	**AFYON_Kizioren**	**2.45**	**339**	*i* P	**Pn**	**08 26 50.5**	**+1.5**
KDHN	**Kadinhani**	**2.65**	**15**	*i* P	**Pn**	**08 26 51.2**	**-0.5**
KERG	**Konya-Eregli**	**2.73**	**57**	*i* P	**Pn**	**08 26 55.5**	**+2.6**
KERG				*i* S	**Sn**	**08 27 26.4**	**+0.6**
KHAL	**Karahalli**	**2.78**	**330**	*i* P	**Pn**	**08 26 54.4**	**+0.9**
KHAL				*i* S	**Sn**	**08 27 26.2**	**-0.7**
GULE	**Gulek**	**3.13**	**64**	*i* P	**Pn**	**08 27 01.0**	**+2.6**
USAK	**Uak-Merkez**	**3.27**	**328**	*i* P	**Pn**	**08 27 00.8**	**+0.7**
MANT	**Manisa**	**3.31**	**320**	*i* P	**Pn**	**08 27 01.9**	**+1.0**
MANT				*i* S	**Sn**	**08 27 36.2**	**-4.0**
GDZ	**Gediz**	**3.42**	**336**	*i* P	**Pn**	**08 27 02.5**	**+0.2**
GDZ				*i* S	**Sn**	**08 27 42.0**	**-0.8**

MEX 29 08:27:55.5±0.8, 15.67N×97.88W, h16km±13km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.76**	**341**	*e*P	Pg	08 28 07.5	-2.8
PNIG				*i* S	Sg	08 28 16.7	-3.6
HUIG	**Huatulco**	**1.70**	**87**	*i* P	Pn	08 28 20.4	-4.1
HUIG				*i* S	Sn	08 28 41.4	-4.7
VHO	**Vista Hermosa**	**1.77**	**38**	*e*P	Pn	08 28 23.3	-2.4
VHO				*e*S	Sn	08 28 42.5	-5.5
TLIG	**Tlapa**	**1.99**	**341**	*e*P	Pn	08 28 25.8	-2.9
TLIG				*i* S	Sn	08 28 49.5	-4.0
CAIG	**El Cayaco**	**2.67**	**301**	*i* P	Pn	08 28 34.9	-3.0
CAIG				*i* S	Sn	08 29 05.0	-5.0
TPIG	**Tehuac#an**	**2.78**	**10**	*i* P	Pn	08 28 36.3	-3.2
TPIG				*i* S	Sn	08 29 08.8	-4.0
MEIG	**Mezcala**	**2.80**	**324**	*i* P	Pn	08 28 36.2	-3.5
MEIG				*i* S	Sn	08 29 09.3	-3.9

*IDC **29** 08:32:21.0±0.9, 67.64N×142.42E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.5/39, mbtmp3.6/11, ML3.0/2, Error ellipse: s-maj=20.9km s-min=17.5km az=147.0*
*ISCJB **29** 08:32:21.1±0.5, 67.62N±0.04×142.5E±0.1, h10km, mb3.5/8, Error ellipse: s-maj=6.6km s-min=6.0km az=163.1*
*YARS **29** 08:32:22.2±0.1, 67.650N±0.004×142.56E±0.01, h9km±1km*
ISC 29 08:32:22.1±0.7, 67.65N±0.04×142.45E±0.04, h10km, n18, σ2.03/26, mb3.5/8, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMR	**Moma**	**1.22**	**165**	*e*P	**Pn**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.37**	**320**	*e*P	Pg	08 35 02.7	-0.4
HUIG				*e*S	Sg	08 35 08.2	+0.3
VHO	**Vista Hermosa**	**1.79**	**332**	*e*P	Pn	08 35 24.6	-3.3
VHO				*i* S	Sn	08 35 46.4	-4.8
CMIG	**Matias Romero**	**1.85**	**30**	*e*P	Pn	08 35 25.2	-3.4
CMIG				*i* S	Sn	08 35 47.5	-5.0
PNIG	**Pinotepa**	**2.36**	**293**	*i* P	Pn	08 35 31.8	-3.7
PNIG				*i* S	Sn	08 36 00.6	-4.5

NNC ***29*** *08:38:33.4±3.8, 53°.90N×90°.41E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=29.0km s-min=22.6km az=45.0, Suspected Mining explosion.*

ASRS 29 08:38:25.1, 53°.82N×91°.06E, M3.0, 7C-3D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array** 1.6nm,0.8s	**3.70**	**274**	⇑Pg	Pb	08 39 33.3	+2.1
ZAA0				⇑Lg	Lg	08 40 17.7	
KURK	**Kurchatov** 3.3nm,1.0s	**8.24**	**253**	⇓Pn	Pn	08 40 29.8	+4.1
KURK				⇓Sn	Sn	08 42 03.6	+4.1
KURK				⇑Lg	Lg	08 42 45.3	
KURBB	**Kurchatov Arra** 4.4nm,1.1s	**8.34**	**252**	⇑Pn	Pn	08 40 31.4	+4.4
KURBB				⇑Sn	Sn	08 42 01.8	0.0
KURBB				⇑Lg	Lg	08 42 45.3	
MK31	**Makanchi Array** 1.8nm,0.8s,baz=28,slow=13,SNR=6.1	**8.99**	**222**	⇑Pn	Pn	08 40 40.9	+4.8
MK31				Sn	Sn	08 42 21.8	+3.7
MK31				⇓Lg	Lg	08 43 14.0	

ISCJB ***29*** *08:50:44.0±0.7, 32°.63S±0°.03×69°.42W±0°.04, h127km±5km, Error ellipse: s-maj=6.3km s-min=4.4km az=138.2*
SJA ***29*** *08:50:43.8±1.1, 32°.65S×69°.37W, h126km±5km, ML3.4, MW3.4*
GUC ***29*** *08:50:43.9±0.8, 32°.61S×69°.54W, h129km±16km, ML3.6*

ISC 29 08:50:43.2±1.7, 32°.66S±0°.05×69°.40W±0°.04, h135km±10km, n33, σ0.992/50, 5C-18D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCO	**CERRO ARCO**	**0.44**	**114**	⇓*e*P	**Pn**	**08 51 02.9**	**+0.2**
ARCO				*e*S	**Sn**	**08 51 16.5**	**-0.9**
ARCO				IAML		08 51 17.1	
	comp=Z,1μm,0.3s						
AUSP	**Uspallata**	**0.44**	**2**	*e*P	**Pn**	**08 51 03.1**	**+0.3**
AUSP				⇓*e*S	**Sn**	**08 51 17.0**	**-0.7**
ASAL	**Salagasta**	**0.48**	**82**	*e*P	**Pn**	**08 51 03.1**	**+0.3**
ASAL				⇓*e*S	**Sn**	**08 51 16.9**	**-0.8**
UTNM	**Universidad Te**	**0.52**	**117**	*e*P	**Pn**	**08 51 03.4**	**+0.4**
UTNM				⇓*e*S	**Sn**	**08 51 17.7**	**-0.3**
AAGR	**Agrelo**	**0.64**	**131**	⇓*e*P	**Pn**	**08 51 04.2**	**+0.4**
FCH	**Farellones**	**1.00**	**228**	⇑*i*P	**Pn**	**08 51 07.4**	**+0.5**
FCH				*i* S	**Sn**	**08 51 25.8**	**+0.9**
FCH				IAML		08 51 29.9	
	comp=E,804nm,0.1s						
RTCV	**Cerro Valdivia**	**1.08**	**43**	*e*P	**Pn**	**08 51 07.7**	**+0.3**
RTCV				⇓*e*S	**Sn**	**08 51 24.6**	**-1.1**
AVIZ	**Vizcacheras**	**1.10**	**138**	*e*P	**Pn**	**08 51 08.4**	**+0.9**
PEL	**Peldehue**	**1.18**	**246**	*e*P	**Pn**	**08 51 08.4**	**+0.1**
PEL				*e*S	**Sn**	**08 51 27.8**	**+0.4**
PEL	**Peldehue**	**1.18**	**246**	*e*P	**Pn**	**08 51 08.1**	**-0.2**
PEL				*e*S	**Sn**	**08 51 26.9**	**-0.5**
PEL				IAML		08 51 28.8	
	comp=E,1μm,0.4s						
CLCH	**Cerro Calan**	**1.20**	**232**	⇑*i*P	**Pn**	**08 51 09.3**	**+0.7**
CLCH				*e*S	**Sn**	**08 51 28.0**	**+0.2**
CLCH				IAML		08 51 29.5	
	comp=N,2μm,0.5s						
ZON	**Zonda**	**1.27**	**29**	*e*P	**Pn**	**08 51 09.8**	**+0.5**
ZON				IAML		08 51 10.0	
	comp=Z,437nm,0.2s						
ZON				⇓*e*S	**Sn**	**08 51 28.7**	**-0.4**
SJA	**San Juan**	**1.34**	**33**	*e*S	**Sn**	**08 51 30.4**	**+0.1**
SJA				IAML		08 51 30.7	
	comp=Z,268nm,0.3s						
LMEL	**Las Melosas**	**1.36**	**209**	⇓*i*P	**Pn**	**08 51 11.2**	**+0.9**
LMEL				IAML		08 51 42.9	
	comp=N,679nm,0.2s						
ROCH	**El Roble**	**1.39**	**257**	⇑*i*P	**Pn**	**08 51 10.5**	**-0.1**
ROCH				*e*S	**Sn**	**08 51 30.6**	**-0.9**
ROCH				IAML		08 51 33.1	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**1.39**	**257**	*e*P	**Pn**	**08 51 10.6**	**-0.1**
ROC1				*e*S	**Sn**	**08 51 30.7**	**-0.9**
CFA	**Coronel Fontan**	**1.45**	**44**	*e*P	**Pn**	**08 51 11.5**	**+0.4**
CFA				*e*S	**Sn**	**08 51 31.5**	**-0.8**
RTLL	**Cerro Villicun**	**1.55**	**31**	*e*P	**Pn**	**08 51 12.9**	**+0.7**
RTLL				IAML		08 51 13.2	
	comp=Z,481nm,0.4s						
RTLL				⇓*e*S	**Sn**	**08 51 34.3**	**0.0**
RTLL	**Cerro Villicun** comp=E,686nm,0.7s	**1.55**	**31**	IAML		08 51 35.4	
AMOG	**MOGNA**	**1.89**	**25**	⇓*e*P	**Pn**	**08 51 17.3**	**+1.1**
ACAN	**Cantantal**	**1.91**	**79**	⇓*e*P	**Pn**	**08 51 17.4**	**+1.0**
CMCH	**Combarbala**	**2.01**	**317**	⇓*i*P	**Pn**	**08 51 18.0**	**+0.4**
CMCH				*i* S	**Sn**	**08 51 43.6**	**-0.5**
ACCO	**Cerro Coronel**	**2.09**	**8**	⇓*e*P	**Pn**	**08 51 20.2**	**+1.4**
AROD	**Rodeo**	**2.49**	**359**	*e*P	**Pn**	**08 51 25.7**	**+1.9**
AROD				*e*S	**Sn**	**08 51 56.8**	**+1.9**
ACV	**Cuesta del Vie**	**2.50**	**6**	⇓*e*P	**Pn**	**08 51 25.3**	**+1.5**
GO04	**Tololo Observa**	**2.75**	**334**	*e*P	**Pn**	**08 51 28.0**	**+0.9**
GO04	**Tololo Observa**	**2.75**	**334**	⇑*i*P	**Pn**	**08 51 27.9**	**+0.8**
GO04				*i* S	**Sn**	**08 52 00.1**	**-0.7**
MRA	**San Martin**	**3.12**	**87**	*e*P	**Pn**	**08 51 32.2**	**+0.6**
MRA				⇑*e*S	Sn	08 52 01.3	-7.8
MRA				IAML		08 52 11.8	
	comp=Z,77nm,0.4s						
AGUA	**GUANDACOL**	**3.26**	**14**	⇓*e*P	**Pn**	**08 51 35.1**	**+1.7**
APLL	**PUNTA DE LOS L**	**3.34**	**48**	⇓*e*P	**Pn**	**08 51 34.9**	**+0.5**
APLL				IAML		08 52 15.5	
	comp=Z,80nm,0.6s						
LCO	**Las Campanas**	**3.81**	**343**	⇓*i*P	**Pn**	**08 51 41.1**	**+0.3**
LCO				*i* S	**Sn**	**08 52 23.2**	**-2.1**
ACLC	**CERRO LA CRUZ**	**3.85**	**34**	⇓*e*P	**Pn**	**08 51 41.4**	**+0.1**
AHML	**Horco Molle**	**6.84**	**32**	*e*P	**Pn**	**08 52 19.2**	**-2.0**
AHML				IAML		08 52 20.1	
	comp=Z,4.7nm,0.2s						

ISCJB ***29*** *09:00:43.2±0.8, 64°.69N±0°.03×30°.9E±0°.1, h0km, Error ellipse: s-maj=8.0km s-min=4.4km az=176.5*
HEL ***29*** *09:00:46.0±0.1, 64°.65N×30°.74E, h0km, ML1.9, Explosion*
IDC ***29*** *09:00:47.7±2.5, 64°.45N×31°.19E, h0km, mb1 3.0/4, mb1mx2.9/51, mbtmp3.0/4, ML2.0/4, Error ellipse: s-maj=34.0km s-min=11.8km az=111.0*

ISC 29 09:00:46.2±1.3, 64°.68N±0°.03×30°.62E±0°.08, h0km, n20, σ1.966/29, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.38**	**348**	PG	**Pg**	**09 01 11.4**	**-1.3**
KU6				MSG		09 01 28.8	
	comp=Z,6.8nm,0.2s						
KU6				SG	**Sg**	**09 01 29.3**	**-1.3**
MSF	**Maaselka** baz=149	**1.40**	**332**	PG	**Pg**	**09 01 12.1**	**-0.9**
MSF				SN	**Sb**	**09 01 31.6**	**0.0**
JOF	**Joensuu**	**1.80**	**170**	PG	**Pn**	**09 01 17.4**	**-1.0**
OUL	**Oulu**	**2.06**	**283**	PG	**Pb**	**09 01 23.7**	**-0.7**
OUL				SB	**Sb**	**09 01 50.0**	**-0.4**
OUF	**Merijarvi**	**2.57**	**266**	PN	**Pn**	**09 01 30.1**	**+1.2**
OUF				MSG		09 02 03.2	
	comp=Z,7.0nm,0.2s						
OUF				SB	**Sb**	**09 02 04.8**	**-0.3**
RNF	**Rovaniemi**	**2.72**	**317**	PG	**Pb**	**09 01 35.4**	**-0.2**
RNF				SB	**Sb**	**09 02 09.1**	**-0.4**
SUF	**Sumiainen**	**2.80**	**227**	PB	**Pb**	**09 01 35.3**	**-1.7**
SUF				MSG		09 02 08.9	
	comp=Z,3.6nm,0.2s						
SUF				SG	**Sb**	**09 02 13.1**	**+1.2**
TOF	**Tornio**	**2.99**	**301**	PG	**Pg**	**09 01 42.2**	**-1.2**
TOF				MSG		09 02 15.4	
	comp=Z,3.1nm,0.2s						
TOF				SB	**Sb**	**09 02 17.1**	**-0.1**
VRF	**Varrio**	**3.11**	**353**	PB	**Pn**	**09 01 38.5**	**+2.1**
VRF				SG	**Sb**	**09 02 21.4**	**+0.8**
KAF	**Kangasniemi**	**3.23**	**219**	PB	**Pb**	**09 01 42.3**	**-2.0**
SGF	**Sodankyl**	**3.24**	**331**	SN	**Sn**	**09 02 17.3**	**0.0**
KEF	**Keuruu**	**3.61**	**228**	PN	**Pn**	**09 01 45.5**	**+2.2**
FIA0	**FINESS Array S**	**3.85**	**215**	PN	**Pn**	**09 01 48.6**	**+2.0**
FIA0				SG	**Sb**	**09 02 46.2**	**+4.2**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=35,slow=15,SNR=5.4	**3.85**	**215**	Pn	**Pn**	**09 01 46.7**	**+0.1**
FINES				Lg	Lg	09 02 45.1	
	comp=Z,0.3nm,0.3s,baz=38,slow=28,SNR=5.4						
VAF	**Ylistaro** baz=59	**3.88**	**249**	PN	**Pn**	**09 01 48.7**	**+1.7**
ERTU	**Ertsjaerv**	**3.97**	**302**	PB	**Pn**	**09 01 51.9**	**+3.6**
UMAU	**Umeaa**	**4.41**	**264**	PN	**Pn**	**09 01 55.7**	**+1.5**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=154,slow=14,SNR=8.2	**5.27**	**340**	Pn	**Pn**	**09 02 07.8**	**+1.8**
HFS	**Hagfors** comp=Z,0.0nm,0.3s,baz=54,slow=13,SNR=4.1	**9.07**	**248**	Pn	**Pn**	**09 02 58.9**	**+0.8**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=53,slow=13,SNR=3.3	**9.57**	**257**	Pn	**Pn**	**09 03 05.6**	**+0.5**
NOA				Lg	Lg	09 05 50.7	
	comp=Z,0.0nm,0.3s,baz=47,slow=14,SNR=2.7						

ISCJB ***29*** *09:05:29.9±1.1, 44°.83N±0°.07×149°.7E±0°.1, h80km±9km, mb3.6/16, Error ellipse: s-maj=15.6km s-min=8.2km az=38.9*
MOS ***29*** *09:05:29.9±1.2, 44°.71N×149°.84E, h79km, mb4.0/3, Error ellipse: s-maj=12.1km s-min=9.8km az=57.6*
SKHL ***29*** *09:05:30.2±0.2, 44°.77N×149°.88E, h77km±3km, mb4.3/5*
IDC ***29*** *09:05:32.8±2.8, 44°.96N×149°.63E, h86km±24km, mb3.4/14, mb1 3.7/17, mb1mx3.5/47, mbtmp3.8/17, Error ellipse: s-maj=20.4km s-min=14.6km az=139.0*

ISC 29 09:05:30.1±1.4, 44°.77N±0°.07×149°.79E±0°.09, h68km±12km, n49, σ1.937/52, mb3.7/16, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.44**	**290**	*e*P	**Pn**	**09 05 54.0**	**-0.1**
KUR				AMB	AMB	09 05 55.0	
	59nm,0.3s						
KUR				*e*S	**Sn**	**09 06 12.0**	**-0.3**
KUR				A	A	09 06 14.0	
	183nm,0.3s						
KUR				A	A	09 06 14.0	
	1μm,0.3s						
KUR	**Kuril'sk**	**1.44**	**290**	*e*PN	**Pn**	**09 05 54.9**	**+0.8**
KUR				*e*S	**Sn**	**09 06 12.4**	**+0.1**
KUR				pmax	pmax		
	comp=Z,594nm,0.3s						
KUR				pmax	pmax		
	comp=E,129nm,0.4s						
KUR				pmax	pmax		
	comp=N,100nm,0.2s						
KUR				smax	smax		
	comp=E,1μm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.4s						
SHO	**Shikotan**	**2.30**	**248**	*e*P	**Pn**	**09 06 05.0**	**-0.8**
SHO				AMB	AMB	09 06 06.0	
	comp=N,52nm,0.3s						
SHO				*e*S	**Sn**	**09 06 31.0**	**-2.1**
SHO				A	A	09 06 37.0	
	comp=N,220nm,0.3s						
SHO				A	A	09 06 37.0	
	comp=N,170nm,0.3s						
SHO	**Shikotan**	**2.30**	**248**	*e*PN	**Pn**	**09 06 05.7**	**-0.1**
SHO				*e*S	**Sn**	**09 06 31.0**	**-2.1**
SHO				pmax	pmax		
	comp=Z,52nm,0.3s						
SHO				smax	smax		
	comp=E,207nm,0.4s						
SHO				smax	smax		
	comp=N,444nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**2.91**	**257**	*e*P	**Pn**	**09 06 15.1**	**+1.2**
YUK				AMB	AMB	09 06 16.0	
	comp=N,23nm,0.2s						
YUK				*e*S	**Sn**	**09 06 48.5**	**+0.8**
YUK				A	A	09 06 50.0	
	comp=N,200nm,0.4s						
YUK				A	A	09 06 50.0	
	comp=N,250nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.91**	**257**	PN	**Pn**	**09 06 14.9**	**+1.0**
YUK				*e*S	**Sn**	**09 06 47.8**	**+0.1**
YUK				pmax	pmax		
	comp=Z,196nm,0.1s						
YUK				smax	smax		
	comp=N,279nm,0.5s						
YUK				smax	smax		
	comp=E,273nm,0.5s						
GRPR	**Tuman**	**2.98**	**256**	*e*P	**Pn**	**09 06 16.0**	**+1.0**
GRPR				AMB	AMB	09 06 18.0	
	comp=E,42nm,0.3s						
GRPR				AMB	AMB	09 06 18.0	
	comp=E,35nm,0.3s						
GRPR				*e*S	**Sn**	**09 06 49.0**	**-0.5**
GRPR				A	A	09 06 54.0	
	comp=E,170nm,0.4s						
GRPR				A	A	09 06 54.0	
	comp=E,160nm,0.4s						
GRPR	**Tuman**	**2.98**	**256**	*e*PN	**Pn**	**09 06 16.0**	**+1.0**
GRPR				*e*S	**Sn**	**09 06 49.4**	**-0.1**
GRPR				pmax	pmax		
	comp=N,42nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,72nm,0.1s						
GRPR				smax	smax		
	comp=N,371nm,0.3s						
GRPR				smax	smax		
	comp=E,325nm,0.4s						
JKA	**Kamikawa-asahi**	**5.19**	**265**	*e*P	**Pn**	**09 06 47.3**	**+2.2**
ASAJ	**Asahikawa** comp=E,1.2nm,0.3s,baz=63,slow=24,SNR=9.7	**5.19**	**265**	P	**Pn**	**09 06 47.3**	**+2.2**
MYR	**Moyori**	**5.34**	**245**	*e*P	**Pn**	**09 06 48.6**	**+1.5**
MYR				*e*S	**Sn**	**09 07 45.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**5.38**	**296**	*e*P	**Pn**	**09 06 49.5**	**+1.9**
YSS				AMB	AMB	09 06 50.1	
	comp=E,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.38**	**296**	⇑*i*PN	**Pn**	**09 06 49.5**	**+1.9**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
ERM	**Erimo**	**5.56**	**243**	*e*P	**Pn**	**09 06 52.3**	**+2.1**
ERM	**Erimo**	**5.56**	**243**	*i* PN	**Pn**	**09 06 52.3**	**+2.1**
UGL	**Uglegorsk**	**6.82**	**312**	*e*P	**Pn**	**09 07 08.9**	**+1.5**
TYV	**Tymovskoe**	**7.76**	**324**	*e*P	**Pn**	**09 07 21.8**	**+1.6**
PETK	**Petropavlovsk-** comp=Z,1.1nm,0.3s,baz=211,slow=11,SNR=12	**9.83**	**29**	P	**Pn**	**09 07 48.6**	**+0.1**
SEY	**Seymchan** comp=Z,0.3nm,0.3s,baz=185,slow=14,SNR=8.6	**18.26**	**4**	P	**P**	**09 09 36.0**	**-1.8**
BILL	**Bilibino**	**24.88**	**15**	*e*P	**P**	**09 10 43.9**	**-2.0**
BILL	**Bilibino**	**24.88**	**15**	*i* P	**P**	**09 10 43.9**	**-2.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
H11N2	**WAKE ISLAND Hy** baz=335,slow=76,SNR=321	**28.73**	**145**	T	T	09 42 17.6	
H11N1	**WAKE ISLAND Hy** baz=335,slow=76,SNR=221	**28.75**	**145**	T	T	09 42 18.8	
H11N3	**WAKE ISLAND Hy** baz=335,slow=76,SNR=262	**28.75**	**145**	T	T	09 42 19.0	
H11S1	**WAKE ISLAND Hy** baz=336,slow=76,SNR=159	**29.75**	**146**	T	T	09 43 32.6	
H11S3	**WAKE ISLAND Hy** baz=336,slow=76,SNR=106	**29.76**	**146**	T	T	09 43 38.1	
H11S2	**WAKE ISLAND Hy** baz=336,slow=76,SNR=88	**29.77**	**146**	T	T	09 43 38.3	
SONM	**Songino Array** comp=Z,0.4nm,0.7s,baz=97,slow=6.0,SNR=3.2	**29.84**	**292**	P	**P**	**09 11 30.7**	**-0.1**
ILAR	**Eielson Array**	**39.54**	**37**	*e*P	**P**	**09 12 54.1**	**+0.2**
ILAR	**Eielson Array** comp=Z,0.7nm,0.5s,baz=269,slow=8.6,SNR=18	**39.54**	**37**	P	**P**	**09 12 54.2**	**+0.3**
INK	**Inuvik** comp=Z,0.9nm,0.3s,baz=285,slow=5.9,SNR=20	**44.56**	**31**	P	**P**	**09 13 35.4**	**+0.7**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=82,slow=8.4,SNR=3.4	**45.79**	**298**	P	**P**	**09 13 43.9**	**-0.9**
BRVK	**Borovoye**	**50.36**	**310**	*e*P	**P**	**09 14 20.8**	**+0.9**
BRVK	**Borovoye**	**50.36**	**310**	*i* P	**P**	**09 14 20.8**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.7s,baz=298,slow=6.9,SNR=12	**53.89**	**35**	P	**P**	**09 14 46.5**	**+0.6**
FINES	**FINESS Array B**	**64.81**	**334**	*e*P	**P**	**09 15 59.2**	**-1.9**
FINES	**FINESS Array B**	**64.81**	**334**	*e*P	**P**	**09 15 59.2**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B** comp=Z,1.2nm,0.6s,baz=37,slow=7.4,SNR=5.5	**64.81**	**334**	P	**P**	**09 15 58.6**	**-2.5**
WRA	**Warramunga Arr** comp=Z,0.6nm,0.7s,baz=15,slow=6.4,SNR=3.4	**65.92**	**196**	P	**P**	**09 16 09.9**	**+1.1**
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.4s,baz=28,slow=6.5	**69.32**	**340**	P	**P**	**09 16 28.2**	**-1.6**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.5s,baz=32,slow=6.7,SNR=14	**69.32**	**340**	P	**P**	**09 16 28.6**	**-1.2**
ASAR	**Alice Springs** comp=Z,0.3nm,0.7s,baz=13,slow=5.6,SNR=4.8	**69.63**	**196**	P	**P**	**09 16 34.0**	**+2.0**
KBZ	**Khabaz** comp=Z,2.1nm,0.9s,baz=44,slow=8.9,SNR=4.1	**70.52**	**313**	P	**P**	**09 16 37.9**	**+0.5**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,baz=30,slow=6.0,SNR=4.1	**71.86**	**325**	P	**P**	**09 16 44.2**	**-1.1**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.7s,baz=56,slow=3.6,SNR=3.3	**78.19**	**315**	P	**P**	**09 17 22.8**	**+0.6**
GERES	**GERESS Array B**	**79.17**	**332**	*e*P	**P**	**09 17 27.4**	**+0.1**
GERES	**GERESS Array B**	**79.17**	**332**	*e*P	**P**	**09 17 27.4**	**+0.1**
GERES	**GERESS Array B** comp=Z,0.4nm,0.4s,baz=31,slow=6.2,SNR=5.3	**79.17**	**332**	P	**P**	**09 17 26.9**	**-0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.6s,baz=306,slow=3.2,SNR=3.2	**80.51**	**58**	P	**P**	**09 17 35.2**	**+0.3**

ISCJB ***29*** *09:34:53.9±1.0, 7°.0S±0°.1×126°.7E±0°.1, h412km, mb3.4/2, Error ellipse: s-maj=17.4km s-min=12.4km az=152.1*
IDC ***29*** *09:34:57.3±4.1, 7°.18S×126°.26E, h434km±56km, mb3.1/2, mb1 3.1/6, mb1mx2.8/32, mbtmp3.9/6, Error ellipse: s-maj=91.7km s-min=21.2km az=51.0*

ISC 29 09:34:55.5±1.4, 7°.1S±0°.1×126°.6E±0°.2, h412km, n6, σ1.966/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 13nm,0.3s,baz=48,slow=3.2,SNR=8.4	**4.30**	**223**	P	**P**	**09 36 12.6**	**+1.5**
BATI				S	**S**	**09 37 10.6**	**-2.1**
	4.4nm,0.3s,baz=27,slow=4.5,SNR=2.8						
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=18,slow=12,SNR=4.9	**11.03**	**185**	P	**P**	**09 37 25.9**	**+1.7**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=325,slow=12,SNR=15	**14.84**	**151**	P	**P**	**09 38 06.2**	**+0.4**
WRA				S	**S**	**09 40 41.9**	**-1.5**
	0.1nm,0.3s,baz=314,slow=21,SNR=4.1						
ASAR	**Alice Springs** 0.7nm,0.3s,baz=331,slow=8.4,SNR=39	**17.93**	**158**	P	**P**	**09 38 39.9**	**+0.9**
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=134,slow=7.1,SNR=5.0	**66.48**	**328**	P	**P**	**09 45 02.3**	**-0.3**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=145,slow=5.3,SNR=3.1	**70.19**	**335**	P	**P**	**09 45 24.1**	**-0.9**

IDC ***29*** *09:41:45.1±0.8, 27°.68N×18°.09W, h0km, mb3.8/11, mb1 4.0/13, mb1mx3.7/47, mbtmp3.7/13, ML3.8/2, MS2.9/1, Ms1 3.0/1, ms1mx2.6/44, Error ellipse: s-maj=24.2km s-min=19.7km az=43.0*
ISCJB ***29*** *09:41:47.3±0.4, 28°.12N±0°.03×18°.06W±0°.04, h10km, mb3.9/15, MS2.9/1, Error ellipse: s-maj=5.2km s-min=4.1km az=2.4*
NEIC ***29*** *09:41:48.7±0.0, 27°.69N×18°.25W, h17km, mb4.1/6, MN4.4(MDD), After MDD.*
INMG ***29*** *09:41:48.4±2.3, 27°.57N×18°.30W, h18km±14km, ML4.1, Error ellipse: s-maj=10.4km s-min=9.0km az=26.0*

ISC 29 09:41:47.5±0.6, 28°.02N±0°.06×18°.09W±0°.05, h10km, n57, σ2.943/67, mb3.8/15, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTIG	**El Hierro**	**0.27**	**147**	*e*Pg	Pg	09 41 54.8	+1.7
CTIG				*e*Sg	**Sg**	**09 41 59.7**	**+2.9**
CHIE	**El Hierro**	**0.31**	**158**	*e*Pg	Pg	09 41 54.2	+0.4
MACI	**Morro de la Ar**	**1.42**	**80**	*e*Pn	**Pb**	**09 42 13.7**	**-0.5**
MACI				*e*Sn	**Sg**	**09 42 33.3**	**+0.2**
FUL	**Funchal**	**4.73**	**12**	*e*P	**Pn**	**09 42 59.8**	**+0.9**
FUL				*e*S	**Sn**	**09 43 51.9**	**-1.9**
FUL				A	A	09 43 56.5	
	220nm,0.5s						
PMAR	**Madeira**	**4.80**	**12**	*e*P	**Pn**	**09 43 00.6**	**+0.6**
PMAR				S	**Sn**	**09 43 54.4**	**-1.4**
PMAR				A	A	09 44 01.3	
	216nm,0.2s						
PMAR	**Madeira**	**4.80**	**12**	P	**Pn**	**09 43 01.5**	**+1.5**
PMAR				S	**Sn**	**09 43 56.5**	**+0.7**
PMOZ	**Porto Moniz, M**	**4.85**	**9**	*e*P	**Pn**	**09 43 02.2**	**+1.5**
PMOZ				S	**Sn**	**09 43 55.5**	**-1.5**
PMOZ				A	A	09 44 04.6	
	604nm,0.4s						
PMOZ	**Porto Moniz, M**	**4.85**	**9**	P	**Pn**	**09 43 02.3**	**+1.6**
PMOZ				S	**Sn**	**09 43 55.2**	**-1.8**
PMPS	**Porto Santo**	**5.25**	**16**	S	**Sn**	**09 44 06.0**	**-0.5**
PMPS				A	A	09 44 14.6	
	69nm,0.7s						
TANT	**Tantan**	**6.06**	**85**	P	**Pn**	**09 43 19.3**	**+2.1**
TANT				S	**Sn**	**09 44 28.4**	**+1.6**
EAH	**EAH**	**8.22**	**62**	P	**Pn**	**09 43 49.5**	**+2.6**
EAH				S	**Sn**	**09 45 19.9**	**-0.1**
TTIG	**Tnine Tigouga,**	**8.79**	**71**	P	**Pn**	**09 43 57.9**	**+3.0**
TTIG				S	**Sn**	**09 45 31.6**	**-2.6**
OUK	**Oukaimeden**	**9.45**	**68**	P	**Pn**	**09 44 06.9**	**+2.9**
OUK				S	**Sn**	**09 45 53.1**	**+2.5**
SRHM	**Skhour des Reh**	**9.87**	**61**	P	**Pn**	**09 44 09.5**	**0.0**
SRHM				S	**Sn**	**09 45 56.6**	**-3.9**
OUZM	**OUZ**	**10.29**	**71**	P	**Pn**	**09 44 16.7**	**+1.4**
OUZM				S	**Sn**	**09 46 08.3**	**-2.5**
ZHG	**ZHG**	**11.23**	**58**	P	**Pn**	**09 44 29.1**	**+0.8**
ZHG				S	**Sn**	**09 46 31.5**	**-2.4**
MD31	**MD31**	**12.47**	**64**	P	**Pn**	**09 44 47.1**	**+1.8**
MD31				S	**Sn**	**09 47 05.7**	**+1.3**
PBDV	**Barranco-do-Ve**	**12.56**	**40**	*e*S	**Sn**	**09 47 01.8**	**-4.5**
PBDV				A	A	09 47 19.1	
	5.7nm,0.6s						
MDT	**Midelt** 0.2nm,0.3s,baz=219,slow=6.5,SNR=

0.8nm,0.8s,baz=77,slow=6.5,SNR=7.2
INK Inuvik 72.98 339 *e*P **P 09 53 18.7 +1.8**
0.9nm,1.0s
INK Inuvik 72.98 339 P **P 09 53 18.4 +1.4**
0.3nm,0.5s,baz=78,slow=2.2,SNR=3.6
TX31 Lajitas Ar. Si 73.30 295 *e*P **P 09 53 19.9 +0.2**
4.7nm,1.5s
TXAR Lajitas Array 73.30 295 P **P 09 53 20.3 +0.6**
0.7nm,0.7s,baz=94,slow=6.6,SNR=10
MK32 Makanchi Array 76.70 44 *e*P **P 09 53 40.4 +1.5**
MKAR Makanchi Array 76.70 44 P **P 09 53 40.4 +1.5**
0.3nm,0.6s,baz=285,slow=2.4,SNR=4.0
IL1 Eielson Array 79.35 340 *e*P **P 09 53 54.3 +1.1**
ILAR Eielson Array 79.35 340 P **P 09 53 55.2 +2.0**
0.9nm,0.9s,baz=28,slow=4.6,SNR=9.9
PLCA Paso Flores 83.94 217 *e*P **P 09 54 16.1 -1.7**
3.3nm,1.1s
PLCA Paso Flores 83.94 217 P **P 09 54 15.5 -2.3**
2.0nm,0.8s,baz=57,slow=2.6,SNR=9.2
SONA0 Songino Array 89.54 34 *e*P **P 09 54 46.0 +0.6**
SONM Songino Array 89.54 34 P **P 09 54 45.9 +0.6**
0.4nm,0.7s,baz=317,slow=5.9,SNR=4.1

KRSC 29 09:51:30.4±10.0, 50.71N×160.25E, h82km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**2.04**	**329**	*e*P		Pn	09 52 04.2	+1.4
RUS				*e*S		Sn	09 52 28.7	+1.2
MTVR	**Mutnovka**	**2.20**	**325**	*e*P		Pn	09 52 07.1	+2.1
MTVR				*e*S		Sn	09 52 33.8	+2.3
ASAK	**Asacha**	**2.23**	**320**	*e*P		Pn	09 52 07.7	+2.3
PAU	**Pauzhetka**	**2.30**	**291**	*e*S		Sn	09 52 35.6	+2.0
KRMR	**Karymshinskiy**	**2.50**	**329**	*e*P		Pn	09 52 11.1	+2.1
KRMR				*e*S		Sn	09 52 40.9	+2.3
UGLR	**Uglovaya**	**2.66**	**341**	P		Pn	09 52 13.9	+2.7
SDLR	**Sedlovina**	**2.71**	**342**	*e*P		Pn	09 52 14.1	+2.2
AVH	**Avacha**	**2.73**	**341**	*e*P		Pn	09 52 15.4	+3.3
KOK	**Koryaka**	**2.78**	**340**	P		Pn	09 52 15.7	+2.9
MKZ	**Mys Kozlova**	**3.96**	**13**	*e*P		Pn	09 52 29.6	+0.9
KZV	**Kizimen**	**4.42**	**0**	*e*P		Pn	09 52 37.8	+2.8
TUMR	**Tumrok**	**4.59**	**359**	P		Pn	09 52 40.7	+3.4

*ISCJB **29** 09:55:03.1±0.3, 4.89N±0.02×76.91W±0.03, h79km±4km, mb3.7/13, Error ellipse: s-maj=5.4km s-min=3.6km az=20.6*
*RSNC **29** 09:55:04.1±0.9, 4.80N×76.91W, h32km±6km, ML3.4, Mw3.6*
*IDC **29** 09:55:07.6±2.0, 4.88N×76.65W, h105km±18km, mb3.6/13, mb1 3.7/16, mb1mx3.6/35, mbtmp4.0/16, Error ellipse: s-maj=22.3km s-min=12.2km az=44.0*
ISC 29 09:55:03.2±0.9, 4.86N±0.03×76.90W±0.04, h61km±8km, n44, σ1°70/66, mb3.9/13, 2C-10D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLMC	**San Jos del P**	**0.61**	**86**	⇓*i*P		Pn	09 55 15.6	-0.9
PLMC				*e*S		Sn	09 55 25.0	-1.3
MALC	**Bahia Malaga**	**0.95**	**207**	⇑*i*P		Pn	09 55 22.3	+1.7
MALC				*e*S		Sn	09 55 36.6	+3.1
YOTC	**Yotoco, Valle**	**1.03**	**148**	⇑*i*P		Pn	09 55 20.7	-1.1
YOTC				*e*S		Sn	09 55 33.1	-2.5
YOTC				*i*			09 55 36.3	
	comp=Z,933nm,0.5s							
SOLC	**Bahia Solano**	**1.45**	**339**	*e*P		Pn	09 55 28.1	+0.9
SOLC				*e*S		Sn	09 55 46.6	+1.4
SOLC				*i*			09 55 54.6	
	comp=Z,238nm,0.4s							
HELC	**Santa Helena**	**1.90**	**46**	⇓*i*P		Pn	09 55 34.2	+0.6
HELC				*e*S		Sn	09 55 58.0	+1.4
MARP	**Paez Belalcaza**	**2.21**	**155**	*e*P		Pn	09 55 39.5	+1.7
MARP				*e*S		Sn	09 56 06.3	+2.0
GRGC	**Isla de Gorgon**	**2.24**	**215**	*e*P		Pn	09 55 37.1	-0.8
GRGC				*e*S		Sn	09 56 03.2	-1.2
GRGC				*i*			09 56 04.3	
	comp=Z,71nm,0.1s							
DBBC	**Dabeiba**	**2.25**	**18**	⇓*i*P		Pn	09 55 39.3	+1.2
DBBC				*i*			09 56 12.3	
	comp=Z,307nm,0.5s							
PRAC	**Prado**	**2.31**	**120**	⇓*i*P		Pn	09 55 39.9	+1.0
PRAC				*e*S		Sn	09 56 07.2	+1.0
PRAC				*i*			09 56 13.0	
	comp=Z,263nm,0.5s							
PCON	**Cinco Dias**	**2.57**	**169**	*e*P		Pn	09 55 45.1	+2.2
PCON				*e*S		Sn	09 56 15.4	+2.2
PCON				*i*			09 56 26.7	
	comp=Z,294nm,0.6s							
ROSC	**El Rosal**	**2.57**	**90**	⇓*i*P		Pn	09 55 45.2	+2.5
ROSC				*i*			09 56 25.4	
	comp=Z,159nm,0.6s							
ROSC	**El Rosal**	**2.57**	**90**	P		Pn	09 55 45.4	+2.6
	comp=Z,59nm,0.3s,baz=315,slow=6.2,SNR=59							
ROSC				S		Sn	09 56 13.8	+0.8
	comp=Z,29nm,0.3s,baz=105,slow=22,SNR=4.3							
BETC	**Betania**	**2.61**	**146**	*e*P		Pn	09 55 44.9	+1.9
BETC				*e*S		Sn	09 56 14.1	+0.5
BETC				*i*			09 56 19.1	
	comp=Z,38nm,0.4s							
SOTA	**Rioblanco**	**2.72**	**174**	⇓*i*P		Pn	09 55 46.6	+1.6
SOTA				*e*S		Sn	09 56 19.8	+2.7
PTBC	**PUERTO BERRIO,**	**2.95**	**55**	⇓*i*P		Pn	09 55 48.8	+1.2
PTBC				*e*S		Sn	09 56 22.4	+0.6
PTBC				*i*			09 56 27.9	
	comp=Z,140nm,0.5s							
CRUC	**La Cruz**	**3.27**	**181**	*e*P		Pn	09 55 53.6	+1.3
VILC	**Villavicencio,**	**3.28**	**103**	*e*P		Pn	09 55 54.6	+2.4
VILC				*e*S		Sn	09 56 33.8	+3.7
VILC				*i*			09 56 37.0	
	comp=Z,222nm,0.5s							
ZARC	**Zaragoza, Cauc**	**3.31**	**38**	*e*P		Pn	09 55 54.1	+1.5
ZARC				*e*S		Sn	09 56 30.7	0.0
ZARC				*i*			09 56 35.7	
	comp=Z,159nm,0.4s							
FLOC	**Florencia**	**3.49**	**159**	⇓*i*P		Pn	09 55 56.3	+1.3
GCUF	**Volcan Galeras**	**3.64**	**187**	*e*P		Pn	09 55 57.9	+0.3
GCUF				*i*			09 56 46.3	
	comp=Z,82nm,0.4s							
BRRC	**Barranca, Sant**	**3.87**	**55**	⇓*i*P		Pn	09 56 01.2	+0.9
BRRC				*e*S		Sn	09 56 42.7	-1.9
BRRC				*i*			09 57 01.8	
	comp=Z,55nm,0.6s							
RUSC	**La Rusia**	**3.93**	**75**	⇓*i*P		Pn	09 56 03.6	+2.1
BARC	**Barichara**	**4.08**	**65**	*e*P		Pn	09 56 04.6	+1.3
BARC				*e*S		Sn	09 56 50.9	+1.0
BARC				*i*			09 56 53.7	
	comp=Z,164nm,0.4s							
SMLC	**San Martn de**	**4.81**	**35**	*e*P		Pn	09 56 14.3	+1.1
SMLC				*e*S		Sn	09 57 05.8	-1.9
OTAV	**Otavalo**	**4.85**	**199**	*e*P		Pn	09 56 13.4	-0.7
OTAV				*e*S		Sn	09 57 05.2	-3.9
OTAV				*i*			09 57 11.9	
	comp=Z,27nm,0.5s							
OCAC	**Ocana**	**4.89**	**46**	*e*P		Pn	09 56 15.9	+1.6
OCAC				*e*S		Sn	09 57 10.8	+1.1
OCAC				*i*			09 57 16.6	
	comp=Z,84nm,0.4s							
APG	**El Apazote**	**16.73**	**308**	P		P	09 58 58.7	+3.5
	comp=Z,0.5nm,0.3s,baz=45,slow=16,SNR=3.3							
PTGA	**Pitinga**	**17.80**	**108**	P		Pn	09 59 06.5	-0.4
	comp=Z,0.8nm,0.3s,baz=293,slow=15,SNR=9.1							
LPAZ	**La Paz**	**22.73**	**158**	P		P	10 00 01.6	+0.7
	comp=Z,0.8nm,0.7s,baz=323,slow=11,SNR=4.0							
MDP	**Montagnes des**	**24.16**	**88**	P		P	10 00 13.2	-0.8
	comp=Z,4.6nm,0.5s,baz=271,slow=9.1,SNR=6.3							
SIV	**San Ignacio**	**25.97**	**143**	P		P	10 00 28.4	-1.9
	comp=Z,1.0nm,0.5s,baz=324,slow=10,SNR=6.6							
TXAR	**Lajitas Array**	**35.13**	**317**	P		P	10 01 51.4	+0.3
	comp=Z,0.2nm,0.7s,baz=120,slow=8.5,SNR=3.8							
TXAR				PcP		PcP	10 04 22.6	+1.0
	comp=Z,0.6nm,0.8s,baz=142,slow=5.8,SNR=6.6							
PDAR	**Pinedale Array**	**47.57**	**327**	P		P	10 03 33.4	+0.4
	comp=Z,0.3nm,0.6s,baz=134,slow=5.2,SNR=3.4							
ULM	**Lac du Bonnet**	**47.97**	**344**	P		P	10 03 34.9	-0.8
	comp=Z,3.3nm,0.6s,baz=147,slow=6.0,SNR=9.0							
NVAR	**Mina Array Bea**	**50.28**	**318**	P		P	10 03 55.9	+2.0
	comp=Z,1.1nm,0.8s,baz=123,slow=5.5,SNR=8.3							
NVAR				PcP		PcP	10 05 12.6	+0.5
	comp=Z,0.8nm,0.7s,baz=131,slow=4.2,SNR=6.1							
SCHQ	**Schefferville**	**50.48**	**8**	P		P	10 03 55.5	+0.7
	comp=Z,1.3nm,0.5s,baz=189,slow=5.6,SNR=4.4							
YKA	**Yellowknife Ar**	**63.86**	**342**	P		P	10 05 28.6	-0.5
	comp=Z,1.5nm,0.5s,baz=134,slow=6.2,SNR=59							
DBIC	**Dimbokro**	**71.64**	**85**	P		P	10 06 16.7	-2.3
	comp=Z,1.5nm,0.5s,baz=255,slow=4.6,SNR=3.1							
INK	**Inuvik**	**73.62**	**341**	P		P	10 06 29.6	-0.1
	comp=Z,0.6nm,0.5s,baz=115,slow=6.2,SNR=10.0							
ILAR	**Eielson Array**	**77.16**	**336**	P		P	10 06 50.0	0.0
	comp=Z,0.8nm,0.6s,baz=115,slow=3.9,SNR=17							
TORD	**Torodi Ar. Bea**	**77.82**	**78**	P		P	10 06 52.1	-2.6
	comp=Z,0.6nm,0.4s,baz=290,slow=6.9,SNR=12							
ASAR	**Alice Springs**	**144.92**	**235**	PKPbc		**PKPab**	10 14 32.4	-1.2
	comp=Z,0.8nm,0.6s,baz=115,slow=3.8,SNR=14							
WRA	**Warramunga Arr**	**146.11**	**241**	PKPbc		**PKPdf**	10 14 36.2	-0.2
	comp=Z,0.5nm,0.6s,baz=108,slow=2.5,SNR=6.6							
CMAR	**Chiang Mai Arr**	**156.47**	**10**	PKPab		**PKPab**	10 15 20.2	-0.5
	comp=Z,1.1nm,0.7s,baz=336,slow=4.1,SNR=4.8							

*NNC **29** 09:58:13.6±0.5, 42.90N×78.27E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=4.9km s-min=1.7km az=173.0*
*ISCJB **29** 09:58:14.7±0.5, 42.95N±0.02×78.27E±0.03, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.4km az=45.0*
*KRNET **29** 09:58:14.7±0.1, 42.95N×78.27E, h21km, mb2.5*
*SOME **29** 09:58:15.1, 42.93N×78.28E, h15km*
ISC 29 09:58:13.4±0.9, 42.92N±0.02×78.27E±0.02, h17km±7km, n43, σ0°60/80, 12C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SATY	**Saty**	**0.17**	**36**	P		**Pb**	09 58 18.2	+0.1
SATY	21nm,0.1s			S		Sg	09 58 20.5	-0.5
	219nm,0.1s							
SATY	**Saty**	**0.17**	**36**	*e*P		**Pb**	09 58 18.2	+0.1
SATY	24nm,0.1s			*e*S		Sg	09 58 20.5	-0.5
	229nm,0.1s							
ZHN	**Zhinishke**	**0.27**	**26**	P		Pb	09 58 20.0	+0.1
ZHN	15nm,0.1s			S		Sb	09 58 23.9	-0.4
	51nm,0.2s							
ZHN	**Zhinishke**	**0.27**	**26**	*e*P		Pb	09 58 20.0	+0.1
ZHN	baz=30			*e*S		Sb	09 58 23.9	-0.4
	baz=30							
ZHN	**Zhinishke**	**0.27**	**26**	*e*P		Pb	09 58 20.0	+0.1
ZHN	15nm,0.1s			*e*S		Sb	09 58 23.9	-0.4
	51nm,0.2s							
PRZ	**Przheval'sk**	**0.45**	**168**	⇑*i*P		Pn	09 58 24.6	-0.6
PRZ	baz=67			⇑*i*S		Sb	09 58 31.3	+1.9
	baz=67							
KURS	**Kuram**	**0.57**	**352**	P		Pb	09 58 25.5	+0.6
KURS	1.4nm,0.1s			S		Sb	09 58 33.2	+0.4
	5.3nm,0.2s							
KURS	**Kuram**	**0.57**	**352**	*e*P		Pb	09 58 25.5	+0.6
KURS	baz=52			⇓*e*S		Sb	09 58 33.2	+0.4
	baz=52							
KURS	**Kuram**	**0.57**	**352**	*e*P		Pb	09 58 25.5	+0.6
KURS	1.4nm,0.1s			⇓*e*S		Sb	09 58 33.2	+0.4
	5.3nm,0.2s							
UZB	**Uzynbulak**	**0.59**	**68**	P		Pb	09 58 25.7	+0.3
UZB	3.9nm,0.1s			S		Sb	09 58 33.8	+0.3
	9.7nm,0.1s							
UZB	**Uzynbulak**	**0.59**	**68**	*e*P		Pb	09 58 25.7	+0.3
UZB	baz=70			*e*S		Sb	09 58 33.7	+0.2
	baz=70							
UZB	**Uzynbulak**	**0.59**	**68**	*e*P		Pb	09 58 25.7	+0.3
UZB	3.9nm,0.1s			*e*S		Sb	09 58 33.6	+0.2
	9.7nm,0.1s							
MDOK	**Medeo**	**0.93**	**285**	⇓P		Pn	09 58 32.0	+0.3
MDOK	0.6nm,0.3s			⇑S		Sn	09 58 44.5	-0.4
	1.0nm,0.3s							
MDOK	**Medeo**	**0.93**	**285**	*e*P		Pn	09 58 32.1	+0.3
MDOK	baz=84			*e*S		Sn	09 58 44.4	-0.4
	baz=84							
MDOK	**Medeo**	**0.93**	**285**	*e*P		Pn	09 58 32.1	+0.3
MDOK	2.0nm,0.3s			*e*S		Sn	09 58 44.4	-0.4
	3.0nm,0.2s							
PDGK	**Podgornoye**	**0.98**	**65**	P		Pn	09 58 32.6	+0.2
PDGK	1.5nm,0.2s			S		Sg	09 58 45.3	0.0
	1.9nm,0.1s							
PDGK	**Podgornoye**	**0.98**	**65**	⇓P		Pn	09 58 32.3	-0.2
PDGK	1.2nm,0.4s			⇓S		Sn	09 58 45.8	-0.1
	1.8nm,0.5s							
PDGK	**Podgornoye**	**0.98**	**65**	⇓*i*P		Pn	09 58 32.6	+0.2
PDGK	baz=67			⇓*i*S		Sn	09 58 46.4	+0.4
	baz=67							
KDJ	**Kajisay**	**1.13**	**226**	⇑*i*P		Pg	09 58 36.5	+1.2
KDJ	baz=24			⇑*i*S		Sg	09 58 51.4	+1.3
	baz=24							
MNBS	**Baschi**	**1.16**	**5**	P		Pb	09 58 34.6	-0.4
MNBS	1.0nm,0.1s			S		Sb	09 58 48.7	-1.1
	7.5nm,0.1s							
MNBS	**Baschi**	**1.16**	**5**	*e*P		Pb	09 58 34.6	-0.4
MNBS	baz=10.0			*e*S		Sb	09 58 48.7	-1.1
	baz=10.0							
MNBS	**Baschi**	**1.16**	**5**	*e*P		Pb	09 58 34.6	-0.4
MNBS	1.0nm,0.1s			*e*S		Sb	09 58 48.7	-1.1
	7.5nm,0.1s							
CHKK	**Chushkaly**	**1.32**	**315**	P		Pg	09 58 39.3	+0.5
CHKK	2.4nm,0.1s			S		Sg	09 58 57.0	+0.9
	12nm,0.2s							
CHKK	**Chushkaly**	**1.32**	**315**	*e*P		Pg	09 58 39.3	+0.5
CHKK	baz=15			*e*S		Sg	09 58 57.0	+0.9
	baz=15							
CHKK	**Chushkaly**	**1.32**	**315**	*e*P		Pg	09 58 39.3	+0.5
CHKK	2.4nm,0.1s			*e*S		Sg	09 58 57.0	+0.9
	12nm,0.2s							
ARXS	**Arharly**	**1.33**	**346**	P		Pg	09 58 39.4	+0.4
ARXS	1.9nm,0.2s			S		Sg	09 58 56.8	+0.5
	9.4nm,0.2s							
ARXS	**Arharly**	**1.33**	**346**	*e*P		Pg	09 58 39.4	+0.4
ARXS	1.9nm,0.2s			*e*S		Sg	09 58 56.8	+0.5
	9.4nm,0.2s							
KTBS	**Karatobe**	**1.40**	**305**	P		Pg	09 58 40.9	+0.5
KTBS	1.9nm,0.1s			S		Sg	09 58 59.4	+0.7
	5.5nm,0.1s							
KTBS	**Karatobe**	**1.40**	**305**	*e*P		Pg	09 58 41.0	+0.5
KTBS	baz=2.0			*e*S		Sg	09 58 59.5	+0.7
	baz=2.0							
KTBS	**Karatobe**	**1.40**	**305**	*e*P		Pg	09 58 41.0	+0.5
KTBS	1.9nm,0.1s			*e*S		Sg	09 58 59.4	+0.7
	5.5nm,0.1s							
KTMS	**Ketmen**	**1.61**	**70**	P		Pg	09 58 44.2	-0.1
KTMS	1.9nm,0.1s			S		Sg	09 59 05.4	+0.2
	4.2nm,0.1s							
KTMS	**Ketmen**	**1.61**	**70**	*e*P		Pg	09 58 44.2	-0.1
KTMS	baz=71			*e*S		Sg	09 59 05.4	+0.2
	baz=71							
KTMS	**Ketmen**	**1.61**	**70**	*e*P		Pg	09 58 44.2	-0.1
KTMS	1.9nm,0.1s			*e*S		Sg	09 59 05.4	+0.2
	4.2nm,0.1s							
ULHL	**Ulahol**	**1.65**	**246**	⇓*i*P		Pg	09 58 45.0	-0.1
ULHL	baz=45			⇓*i*S		Sg	09 59 06.1	-0.4
	baz=45							
BOOM	**Boomskoye usch**	**1.77**	**257**	⇑*i*P		Pg	09 58 46.9	-0.6
BOOM	baz=56			⇑*i*S		Sg	09 59 09.3	-1.2
	baz=56							
DJR	**Jarkent**	**1.79**	**38**	P		Pg	09 58 47.8	+0.1
DJR	0.7nm,0.1s			S		Sg	09 59 11.4	+0.4
	2.0nm,0.4s							
DJR	**Jarkent**	**1.79**	**38**	*e*P		Pg	09 58 47.8	+0.1
DJR	0.7nm,0.1s			⇑*i*S		Sg	09 59 11.4	+0.4
	2.0nm,0.4s							
TKM2	**Tokmak 2**	**1.97**	**271**	⇑Pg		Pb	09 58 48.1	-0.7
TKM2	1.1nm,0.8s			⇓Lg		Lg	09 59 18.3	
	1.7nm,0.4s							
KZA	**Kyzart**	**2.39**	**250**	⇓*i*P		Pb	09 58 55.2	-1.0
KZA	baz=50			⇓*e*S		Sb	09 59 24.3	-1.2
	baz=50							
KAPS	**Kapalarasan**	**2.49**	**18**	Pg		Pg	09 59 00.6	-0.4
KAPS	0.5nm,0.1s			Lg		Lg	09 59 33.2	
	5.1nm,0.4s							
KAPS	**Kapalarasan**	**2.49**	**18**	*e*P		Pg	09 59 00.6	-0.4
KAPS	0.5nm,0.1s			*e*S		Sg	09 59 33.2	-0.1
	5.1nm,0.4s							
KURBB	**Kurchatov Arra**	**7.70**	**1**	⇑Pg		Pn	10 00 13.1	+8.4
	1.5nm,0.6s,baz=274,slow=17							
KURBB				⇑Lg		Lg	10 00 41.7	
	1.1nm,0.5s							
KURK	**Kurchatov**	**7.80**	**2**	⇑Pg		Pn	10 00 13.2	+7.3
	1.3nm,0.8s							
KURK	2.0nm,1.0s			⇓Lg		Lg	10 00 42.0	

*ISCJB **29** 10:07:15.7±0.4, 53.36S±0.05×24.3E±0.2, h10km, mb4.5/24, MS4.0/12, Error ellipse: s-maj=13.8km s-min=7.8km az=3.8*
*IDC **29** 10:07:15.7±0.5, 53.42S×24.41E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.2/42, mbtmp4.3/16, MS4.0/12, Ms1 3.9/12, ms1mx3.6/39, Error ellipse: s-maj=22.7km s-min=13.6km az=86.0*
*NEIC **29** 10:07:17.0±0.2, 53.42S×24.37E, h10km, mb4.7/18, Error ellipse: s-maj=10.3km s-min=6.3km az=98.0*
ISC 29 10:07:17.2±0.5, 53.36S±0.07×24.4E±0.1, h10km, n113, σ0°85/122, mb4.5/24, MS3.9/12, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**21.12**	**352**	*e*P		**P**	**10 12 02.7**	**+0.6**
	40nm,0.9s							
SUR	**Sutherland**	**21.12**	**352**	P		**P**	**10 12 04.0**	**+1.8**
	33nm,0.8s,baz=165,slow=10,SNR=18							
SUR				S		**S**	**10 15 53.1**	**-4.1**
	6.1nm,1.0s,baz=255,slow=20,SNR=2.8							
SUR				LR		LR	10 18 16.5	
	comp=Z,431nm,21.3s,baz=190,slow=31							
SNAA	**Sanae**	**21.88**	**203**	P		**P**	**10 12 11.3**	**+1.5**
SNAA	**Sanae**	**21.88**	**203**	*e*P		**P**	**10 12 10.2**	**+0.4**
	62nm,1.0s							
SNAA	**Sanae**	**21.88**	**203**	P		**P**	**10 12 10.8**	**+1.0**
	42nm,0.9s,baz=51,slow=9.0,SNR=60							
VNA2	**Neumayer--Watz**	**22.55**	**207**	P		**P**	**10 12 18.2**	**+1.2**
VNA1	**Neumayer--Stat**	**22.64**	**208**	P		**P**	**10 12 20.9**	**+3.1**
MAW	**Mawson**	**23.20**	**143**	LR		LR	10 21 13.9	
	comp=Z,186nm,18.4s,baz=300,slow=36							
VNA3	**Neumayer Olymp**	**23.35**	**207**	P		**P**	**10 12 26.2**	**+1.0**
BOSA	**Boshof**	**24.73**	**2**	*e*P		**P**	**10 12 39.6**	**+0.9**
	15nm,1.2s							
BOSA	**Boshof**	**24.73**	**2**	P		**P**	**10 12 39.5**	**+0.9**
	5.4nm,0.8s,baz=169,slow=9.1,SNR=6.7							
BOSA				LR		LR	10 20 20.2	
	comp=Z,302nm,21.8s,baz=184,slow=32							
LBTB	**Lobatse**	**28.32**	**2**	*e*P		**P**	**10 13 10.9**	**-0.2**
	12nm,1.4s							
LBTB	**Lobatse**	**28.32**	**2**	P		**P**	**10 13 11.2**	**+0.1**
	4.7nm,0.9s,baz=170,slow=10,SNR=5.9							
LBTB				LR		LR	10 22 50.0	
	comp=Z,269nm,20.0s,baz=181,slow=33							
TSUM	**Tsumeb**	**34.50**	**349**	*e*P		**P**	**10 14 06.4**	**+0.9**
	16nm,1.4s							
TSUM	**Tsumeb**	**34.50**	**349**	P		**P**	**10 14 06.5**	**+1.1**
	6.6nm,1.0s,baz=174,slow=9.2,SNR=4.5							
QSPA	**South Pole Qui**	**36.86**	**180**	*e*P		**P**	**10 14 25.4**	**0.0**
	30nm,1.4s							
QSPA	**South Pole Qui**	**36.86**	**180**	P		**P**	**10 14 25.6**	**+0.3**
	2.8nm,0.7s,baz=300,slow=0.9,SNR=14							
LSZ	**Lusaka**	**38.12**	**6**	*e*P		**P**	**10 14 37.4**	**+1.0**
	4.8nm,0.7s							
VNDA	**Vanda**	**46.75**	**168**	*e*P		**P**	**10 15 45.5**	**-0.3**
	4.6nm,1.1s							
VNDA	**Vanda**	**46.75**	**168**	P		**P**	**10 15 44.6**	**-1.2**
	2.4nm,1.1s,baz=269,slow=5.3,SNR=8.7							
VNDA				LR		LR	10 34 43.1	
	comp=Z,318nm,20.8s,baz=232,slow=35							
H10S2	**ASCENSION HYDR**	**54.27**	**310**	T		T	11 15 22.4	
	baz=155,slow=74							
H10S3	**ASCENSION HYDR**	**54.29**	**310**	T		T	11 15 21.5	
	baz=155							
H10S1	**ASCENSION HYDR**	**54.29**	**310**	T		T	11 15 22.8	
	baz=155,slow=74							
TRQA	**Tornquist**	**58.57**	**247**	*e*P		**P**	**10 17 13.6**	**-0.2**
	11nm,1.1s							
PLCA	**Paso Flores**	**61.23**	**240**	*e*P		**P**	**10 17 31.9**	**-0.3**
	7.7nm,1.3s							
PLCA	**Paso Flores**	**61.23**	**240**	P		**P**	**10 17 31.8**	**-0.3**
	3.0nm,0.9s,baz=171,slow=7.1,SNR=7.6							
GO06	**Curarrehue**	**62.56**	**240**	*e*P		**P**	**10 17 40.4**	**-0.7**
	11nm,1.3s							
CPUP	**Villa Florida**	**64.48**	**260**	*e*P		**P**	**10 17 53.2**	**-0.7**
	15nm,1.6s							
CPUP	**Villa Florida**	**64.48**	**260**	P		**P**	**10 17 53.1**	**-0.7**
	2.0nm,0.7s,baz=151,slow=4.8,SNR=4.5							
CPUP				LR		LR	10 42 13.3	
	comp=Z,81nm,19.2s,baz=158,slow=32							
DBIC	**Dimbokro**	**64.71**	**328**	P		**P**	**10 17 55.0**	**-0.3**
	5.1nm,1.0s,baz=184,slow=7.5,SNR=3.5							
DBIC				LR		LR	10 39 41.6	
	comp=Z,80nm,18.9s,baz=168,slow=30							
TOA0	**Torodi Ar. Sit**	**69.03**	**336**	*e*P		**P**	**10 18 22.8**	**0.0**
	2.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**69.03**	**336**	P		**P**	**10 18 22.6**	**-0.3**
	2.1nm,0.7s,baz=168,slow=6.7,SNR=14							
TORD				LR		LR	10 44 41.2	
	comp=Z,70nm,19.3s,baz=315,slow=32							
TOA1	**Torodi Ar. Sit**	**69.04**	**336**	*e*P		**P**	**10 18 22.6

WUAZ	**Wupatki**	**144.41 258**	*e*PKPdf	PKPbc	10 26 51.7	0.0		
MDND	**Maddock**	**144.81 284**	*e*PKPdf	PKPbc	10 26 52.2	-0.2		
Y12C	**Blythe**	**144.98 253**	*e*PKPdf	**PKPab**	**10 26 52.2**	**-1.1**		
RSSD	**Black Hills**	**145.44 276**	*e*PKPbc	**PKPdf**	**10 26 54.1**	**-0.7**		
U15A	**North Rim**	**145.57 258**	*e*PKPdf	**PKPdf**	**10 26 54.3**	**-1.1**		
W13A	**Hualapai Mount**	**145.58 255**	*e*PKPdf	**PKPdf**	**10 26 54.6**	**-0.8**		
O20A	**White River Ci**	**145.59 267**	*e*PKPdf	**PKPdf**	**10 26 54.2**	**-1.0**		
RWWY	**Rawlins**	**145.93 270**	*e*PKPdf	**PKPdf**	**10 26 55.1**	**-0.7**		
XPFO	**Pion Flat**	**145.97 250**	*e*PKPdf	**PKPdf**	**10 26 55.4**	**-0.6**		
PFO	**Pinyon Flats O**	**145.98 250**	*e*PKPdf	**PKPdf**	**10 26 55.1**	**-0.8**		
LDFC	**Landfair**	**146.27 254**	*e*PKPdf	**PKPdf**	**10 26 56.5**	**+0.1**		
KNB	**Kanab**	**146.28 258**	*e*PKPdf	**PKPdf**	**10 26 55.9**	**-0.5**		
SRU	**San Rafael Swe**	**146.31 263**	*e*PKPdf	**PKPdf**	**10 26 56.0**	**-0.4**		
TMUT	**Trail Mountain**	**146.83 263**	*e*PKPdf	**PKPdf**	**10 26 57.7**	**+0.3**		
MSU	**Marysvale**	**146.90 261**	*e*PKPdf	**PKPdf**	**10 26 57.4**	**-0.1**		
CCUT	**Cedar City**	**146.96 259**	*e*PKPdf	**PKPdf**	**10 26 57.8**	**+0.2**		
SHPR	**Sheep Range**	**147.30 255**	*e*PKPdf	**PKPdf**	**10 26 58.2**	**+0.1**		
SHPR			*e*PKPbc	**PKPbc**	**10 27 01.3**	**+0.8**		
GSC	**Goldstone, Bar**	**147.40 252**	*e*PKPdf	**PKPdf**	**10 26 58.6**	**+0.4**		
GSC			*e*PKPbc	**PKPbc**	**10 27 01.3**	**+0.6**		
MPU	**Maple Canyon**	**147.54 264**	*e*PKPdf	**PKPdf**	**10 26 58.8**	**+0.3**		
MPU			*e*PKPbc	**PKPbc**	**10 27 01.5**	**+0.4**		
NLU	**North Lily Min**	**147.77 263**	*e*PKPbc	**PKPbc**	**10 27 02.5**	**+0.7**		
DGMT	**Dagmar**	**147.79 282**	*e*PKPbc	**PKPbc**	**10 27 01.3**	**0.0**		
JLU	**Jordanelle**	**147.80 265**	*e*PKPdf	**PKPdf**	**10 26 59.0**	**+0.1**		
JLU			*e*PKPbc	**PKPbc**	**10 27 02.5**	**+0.7**		
PSUT	**Pine Spring**	**147.91 260**	*e*PKPdf	**PKPdf**	**10 26 59.4**	**+0.2**		
PSUT			*e*PKPbc	**PKPbc**	**10 27 02.9**	**+0.7**		
PD31	**Pinedale Array**	**147.97 270**	*e*PKPdf	**PKPdf**	**10 26 59.2**	**+0.1**		
PDAR	**Pinedale Array**	**147.97 270**	*e*PKPdf	**PKPdf**	**10 26 58.8**	**-0.4**		
PDAR	**Pinedale Array**	**147.97 270**	PKPbc	**PKPbc**	**10 27 01.1**	**-1.2**		
	4.5nm,1.0s,baz=120,slow=4.3,SNR=4.0							
BW06	**Boulder Array**	**147.97 270**	*e*PKPdf	**PKPdf**	**10 26 59.2**	**+0.1**		
CTU	**Camp Tracy**	**148.04 265**	*e*PKPbc	**PiKiP**	**10 27 03.1**	**-1.1**		
LAO	**LASA Array**	**148.11 278**	*e*PKPbc	**PKPbc**	**10 27 02.3**	**0.0**		
RES	**Resolute Bay**	**148.16 334**	*e*PKPbc	**PKPbc**	**10 27 02.0**	**+0.6**		
TPNV	**Topopah Spring**	**148.24 255**	*e*PKPbc	**PiKiP**	**10 27 03.7**	**-1.0**		
DUG	**Dugway, Tooele**	**148.36 263**	*e*PKPbc	**PKPbc**	**10 27 03.2**	**0.0**		
HWUT	**Hardware Ranch**	**148.49 266**	*e*PKPbc	**PKPbc**	**10 27 03.6**	**0.0**		
BGU	**Big Grassy Mou**	**148.94 264**	*e*PKPbc	**PiKiP**	**10 27 05.2**	**-0.9**		
LOHW	**Long Hollow**	**149.08 270**	*e*PKPbc	**PKPbc**	**10 27 05.3**	**+0.2**		
RLMT	**Red Lodge**	**149.11 274**	*e*PKPbc	**PKPbc**	**10 27 05.3**	**+0.2**		
TPAW	**Teton Pass**	**149.22 270**	*e*PKPdf	**PKPdf**	**10 27 01.2**	**0.0**		
TPAW			*e*PKPbc	**PKPbc**	**10 27 06.2**	**+0.7**		
MOOW	**Moose Ponds**	**149.24 270**	*e*PKPbc	**PKPbc**	**10 27 05.4**	**-0.1**		
HVU	**Hansel Valley**	**149.31 265**	*e*PKPdf	**PKPdf**	**10 27 01.3**	**+0.1**		
FXWY	**Fox Creek**	**149.35 270**	*e*PKPdf	**PKPdf**	**10 27 00.9**	**-0.5**		
FXWY			*e*PKPbc	**PKPbc**	**10 27 06.0**	**+0.3**		
IMW	**Indian Meadow**	**149.44 270**	*e*PKPdf	**PKPdf**	**10 27 00.6**	**-0.9**		
YHH	**Holmes Hill**	**149.88 272**	*e*PKPdf	**PKPdf**	**10 27 01.3**	**-0.9**		
YHH			*e*PKPbc	**PKPbc**	**10 27 07.3**	**+0.2**		
ELK	**Elko**	**150.15 262**	*e*PKPdf	**PKPdf**	**10 27 01.8**	**-0.9**		
ELK			*e*PKPbc	**PKPbc**	**10 27 08.3**	**+0.6**		
OMMB	**Old Mammoth Mi**	**150.28 253**	*e*PKPbc	**PiKiP**	**10 27 09.0**	**-0.1**		
NV11	**Mina Array Sit**	**150.35 255**	*e*PKPdf	**PKPdf**	**10 27 02.3**	**-0.7**		
NV11			*e*PKPbc	**PiKiP**	**10 27 09.0**	**0.0**		
NV01	**Mina Array Sit**	**150.44 255**	*e*PKPdf	**PKPdf**	**10 27 03.1**	**-0.1**		
NV01			*e*PKPbc	**PKPbc**	**10 27 09.1**	**+0.6**		
NVAR	**Mina Array Bea**	**150.44 255**	PKP	**PKPdf**	**10 27 03.9**	**+0.7**		
	0.8nm,0.9s,baz=177,slow=1.8,SNR=4.7							
NVAR			PKPbc	**PKPbc**	**10 27 09.1**	**+0.6**		
	5.1nm,0.9s,baz=154,slow=3.4,SNR=1.1							
EGMT	**Eagleton**	**150.86 278**	*e*PKPdf	**PKPdf**	**10 27 03.0**	**-0.4**		
WAKR	**Walker**	**151.14 254**	*e*PKPdf	**PKPdf**	**10 27 04.7**	**+0.4**		
DLMT	**Dillon**	**151.23 271**	*e*PKPdf	**PKPdf**	**10 27 05.0**	**+0.9**		
DLMT			*e*PKPbc	**PKPbc**	**10 27 10.8**	**+0.7**		
DLMT			*e*PKPab	**PKPab**	**10 27 18.2**	**+0.1**		
HLID	**Hailey**	**151.34 267**	*e*PKPdf	**PKPdf**	**10 27 04.5**	**+0.2**		
HLID			*e*PKPbc	**PKPbc**	**10 27 11.3**	**+0.9**		
YERR	**Yerington**	**151.35 255**	*e*PKPdf	**PKPdf**	**10 27 05.2**	**+0.6**		
YERR			*e*PKPbc	**PKPbc**	**10 27 11.9**	**+1.3**		
HRY	**Holter Researc**	**151.46 274**	*e*PKPdf	**PKPdf**	**10 27 04.7**	**+0.3**		
HRY			*e*PKPbc	**PKPbc**	**10 27 11.3**	**+0.8**		
PNTR	**Pine Nut**	**151.63 254**	*e*PKPdf	**PKPdf**	**10 27 04.3**	**-0.7**		
PNTR			*e*PKPbc	**PKPbc**	**10 27 12.5**	**+1.2**		
VCNR	**Virginia City**	**151.80 255**	*e*PKPdf	**PKPdf**	**10 27 05.4**	**+0.1**		
VCNR			*e*PKPbc	**PKPbc**	**10 27 12.7**	**+1.1**		
YKA	**Yellowknife Ar**	**156.77 309**	PKP	**PKPdf**	**10 27 12.8**	**+1.6**		
	0.1nm,0.9s,baz=91,slow=2.2,SNR=2.8							
YKA			PKPab	**PKPab**	**10 27 41.1**	**+0.2**		
	0.6nm,0.6s,baz=89,slow=4.9,SNR=14							
YKB5	**Yellowknife Ar**	**156.77 309**	*e*PKPdf	**PKPdf**	**10 27 11.4**	**+0.3**		
YKB5			*e*PKPab	**PKPab**	**10 27 41.1**	**+0.2**		

*ISCJB **29** 10:07:53.0±0.9, 47°.8S±0°.2×103°.2E±0°.4, h10km, mb4.0/4, MS3.8/7, Error ellipse: s-maj=40.0km s-min=17.5km az=22.2*
*IDC **29** 10:07:53.4±1.1, 47°.79S×102°.97E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/28, mbtmp3.9/4, MS3.8/7, Ms1 3.8/7, ms1mx3.3/35, Error ellipse: s-maj=50.5km s-min=24.4km az=106.0*

ISC 29 10:07:55.0±1.0, **47°.8S**±0°.2×**103°.2E**±0°.3, **h10km, n21, σ0s82/10, mb4.0/4, MS3.8/7, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.24**	**36**	T	T	10 27 07.8	
	baz=209,slow=73,SNR=41						
H01W1	**Cape Leeuwin H**	**15.25**	**36**	T	T	10 27 08.7	
	baz=209,slow=73,SNR=44						
H01W3	**Cape Leeuwin H**	**15.25**	**36**	T	T	10 27 06.8	
	baz=209,slow=73,SNR=40						
STKA	**Stephens Creek**	**33.10**	**75**	LR	LR	10 25 56.8	
	comp=Z,132nm,18.7s,baz=202,slow=33						
VNDA	**Vanda**	**37.17**	**162**	P	**P**	**10 15 05.0**	**-0.5**
	1.2nm,0.8s,baz=295,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**37.49**	**53**	P	**P**	**10 15 09.1**	**+0.3**
	0.9nm,0.9s,baz=214,slow=9.3,SNR=3.7						
WRA				LR	LR	10 28 36.6	
	comp=Z,99nm,21.8s,baz=275,slow=33						
LEM	**Lembang**	**40.97**	**7**	LR	LR	10 28 08.0	
	comp=Z,100nm,20.3s,baz=84,slow=30						
H08S2	**Diego Garcia H**	**47.74**	**317**	T	T	11 07 15.9	
	baz=152,slow=75,SNR=5.9						
H08S1	**Diego Garcia H**	**47.75**	**317**	T	T	11 07 14.0	
	baz=152,slow=75,SNR=9.1						
H08S3	**Diego Garcia H**	**47.76**	**317**	T	T	11 07 17.5	
	baz=152,slow=75,SNR=7.4						
SNAA	**Sanae**	**50.11**	**203**	P	**P**	**10 16 50.1**	**+0.4**
SNAA	**Sanae**	**50.11**	**203**	P	**P**	**10 16 48.6**	**-1.1**
	2.6nm,0.8s,baz=98,slow=7.7,SNR=8.0						
VNA2	**Neumayer--Watz**	**51.74**	**203**	P	**P**	**10 17 02.3**	**+0.4**
	baz=130,slow=6.5						
VNA3	**Neumayer Olymp**	**52.14**	**202**	P	**P**	**10 17 06.0**	**+1.1**
LBTB	**Lobatse**	**63.77**	**261**	LR	LR	10 39 29.2	
	comp=Z,64nm,19.2s,baz=168,slow=30						
MATP	**Matopo**	**64.97**	**267**	LR	LR	10 40 09.0	
	comp=Z,78nm,19.1s,baz=182,slow=30						
CMAR	**Chiang Mai Arr**	**66.03**	**356**	P	**P**	**10 18 41.4**	**-0.3**
	0.9nm,0.4s,baz=195,slow=6.5,SNR=4.8						
CMAR				LR	LR	10 45 36.8	
	comp=Z,53nm,18.8s,baz=220,slow=34						
WSAR	**Wadi Sarin**	**81.23**	**319**	LR	LR	10 50 08.1	
	comp=Z,59nm,18.1s,baz=234,slow=31						
INK	**Inuvik**	**145.38**	**33**	PKPbc	**PKPab**	**10 27 31.5**	**-0.3**
	1.4nm,1.0s,baz=297,slow=2.9,SNR=4.9						
NVAR	**Mina Array Bea**	**148.62**	**92**	PKPbc	**PKiKP**	**10 27 43.0**	**-0.6**
	3.0nm,0.8s,baz=216,slow=4.5,SNR=5.4						
TXAR	**Lajitas Array**	**152.29**	**122**	PKPbc	**PKiKP**	**10 27 52.3**	**+1.1**
	0.2nm,0.7s,baz=188,slow=3.6,SNR=3.0						

IDC 29 10:14:16.0±2.1, **6°.73S**×**129°.11E, h0km, mb3.6**/1, **mb1 3.6**/3, **mb1mx3.3**/41, **mbtmp3.4**/3, **ML3.6/2, MS3.2**/2, **Ms1 3.2**/2, **ms1mx2.6**/35, **Error ellipse: s-maj=113.0km s-min=31.9km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.09**	**159**	Pn	Pn	10 17 36.8	-0.2
	0.3nm,0.3s,baz=338,slow=12,SNR=11						
ASAR	**Alice Springs**	**17.46**	**165**	P	Pn	10 18 21.4	+0.2
	0.2nm,0.3s,baz=345,slow=9.7,SNR=20						
ASAR				S	Sn	10 21 22.6	-14
	0.1nm,0.3s,baz=348,slow=27,SNR=4.4						
PSI	**Prapat**	**31.58**	**286**	LR	LR	10 34 59.8	
	comp=Z,38nm,19.2s,baz=334,slow=39						
DZM	**Mont Dzumac**	**39.11**	**117**	LR	LR	10 40 33.1	
	comp=Z,33nm,18.1s,baz=210,slow=40						
MKAR	**Makanchi Array**	**67.52**	**327**	P	P	10 25 14.1	0.0
	0.2nm,0.3s,baz=112,slow=7.3,SNR=4.7						

*IDC **29** 10:21:33.8±1.8, 5°.91S×151°.24E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/36, mbtmp3.8/6, ML1.4/1, Error ellipse: s-maj=73.1km s-min=22.2km az=125.0*

ISC 29 10:21:40.3±2.0, **6°.0S**±0°.4×**151°.1E**±0°.5, **h43km, n7, σ1s31/8, mb3.8/5, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.17**	**229**	Pn	**Pn**	**10 22 56.7**	**+1.4**
	0.8nm,0.3s,baz=76,slow=8.3,SNR=4.1						
PMG				Sn	**Sn**	**10 23 51.7**	**-2.1**
	1.3nm,0.3s,baz=147,slow=17,SNR=2.9						
WRA	**Warramunga Arr**	**21.39**	**228**	P	**P**	**10 26 24.7**	**+0.1**
	1.8nm,0.5s,baz=53,slow=11,SNR=32						
ASAR	**Alice Springs**	**24.14**	**222**	P	**P**	**10 26 53.1**	**+0.7**
	1.9nm,0.7s,baz=56,slow=8.9,SNR=31						
FITZ	**Fitzroy Crossi**	**27.61**	**242**	P	**P**	**10 27 23.9**	**-0.1**
	1.5nm,0.6s,baz=76,slow=10.0,SNR=4.7						
MKAR	**Makanchi Array**	**80.14**	**319**	P	**P**	**10 33 46.8**	**+0.7**
	0.1nm,0.5s,baz=121,slow=5.6,SNR=2.2						
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**10 34 04.3**	**-1.1**
	0.7nm,0.6s,baz=247,slow=5.0,SNR=12						
TORD	**Torodi Ar. Bea**	**149.06**	**286**	PKPbc	**PKPbc**	**10 41 24.6**	**-0.4**
	0.6nm,0.5s,baz=80,slow=3.4,SNR=5.4						

*NORS **29** 10:22:28.6±0.0, 42°.28N×48°.39E, h40km, MPVA3.5*

DRS 29 10:22:26.0±0.0, **42°.57N**×**48°.83E, h19km, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.66**	**215**	*i* Pg	Pb	10 22 37.4	-1.4
DRN				*e*Sg	Sb	10 22 44.2	-3.3
URKR	**Urkarakh**	**0.98**	**246**	*e*Pg	Pb	10 22 41.8	-2.6
URKR				*e*Sg	Sb	10 22 51.0	-5.9
KSMR	**Kasumkent**	**1.10**	**209**	*e*Pg	Pn	10 22 44.5	-2.0
KSMR				*e*Sg	Sb	10 22 56.5	-4.0
KMKR	**Kumukh**	**1.36**	**252**	*e*Pg	Pn	10 22 48.8	-1.4
KMKR				*e*Sg	Sn	10 23 02.8	-5.0
AKT	**Akhty**	**1.37**	**217**	*e*Pg	Pn	10 22 48.1	-2.1
AKT				*e*Sg	Sn	10 23 01.9	-5.9
GNBR	**Gunib**	**1.40**	**263**	*e*Pg	Pn	10 22 49.7	-0.8
GNBR				*e*Sg	Sn	10 23 04.8	-3.6
UNCR	**Uncukul**	**1.51**	**276**	*e*Pg	Pn	10 22 51.0	-1.1
UNCR				*e*Sg	Sn	10 23 06.0	-5.3
DBC	**Dubki**	**1.54**	**288**	*e*Pg	Pb	10 22 54.1	+0.2
DBC				*e*Sg	Sn	10 23 10.5	-1.5

*ISCJB **29** 10:37:15.0±0.7, 67°.61N±0°.03×34°.19E±0°.10, h0km, Error ellipse: s-maj=5.7km s-min=4.6km az=150.1*
*UPP **29** 10:37:16.8±2.8, 67°.59N×34°.32E, h0km, ML2.4, Suspected explosion*
*KOLA **29** 10:37:17.6, 67°.68N×34°.14E, M2.4, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*HEL **29** 10:37:19.6±0.4, 67°.73N×34°.06E, h0km, ML2.6, Explosion*
*NAO **29** 10:37:21.4±1.3, 67°.67N×33°.52E, ML3.1*
*IDC **29** 10:37:21.5±1.6, 67°.71N×33°.71E, h0km, mb1 3.5/5, mb1mx3.1/52, mbtmp3.6/5, ML3.0/5, Error ellipse: s-maj=17.1km s-min=8.2km az=88.0*

ISC 29 10:37:17.6±1.2, **67°.52N**±0°.04×**34°.06E**±0°.06, **h0km, n58, σ1s64/90, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.26**	**282**	P	**Pg**	**10 37 23.0**	**+0.5**
APA				S	**Sg**	**10 37 26.9**	**+1.1**
APZ9	**Apatity**	**0.26**	**282**	Pg	**Pg**	**10 37 23.0**	**+0.4**
APZ9				Lg	Lg	10 37 24.5	
APZ9				Rg	Rg	10 37 26.4	
APZ9	**Apatity**	**0.26**	**282**	Pg	**Pg**	**10 37 23.0**	**+0.4**
APZ9				Sg	**Sg**	**10 37 24.5**	**-1.3**
APZ9				Rg	Rg	10 37 26.4	
APA0	**Apatity Array**	**0.42**	**282**	Pg	**Pg**	**10 37 25.6**	**-0.1**
APA0	**Apatity Array**	**0.42**	**282**	P	**Pg**	**10 37 25.5**	**-0.1**
APA0				S	**Sg**	**10 37 31.3**	**+0.2**
APA0	**Apatity Array**	**0.42**	**282**	Pg	**Pg**	**10 37 25.6**	**-0.1**
VRF	**Varrio**	**1.72**	**280**	*e*P	**Pn**	**10 37 49.1**	**+0.4**
VRF				*e*S	**Sn**	**10 38 10.9**	**-0.5**
VRF				MSG		10 38 14.3	
	comp=Z,38nm,0.1s						
KU6	**Riekki**	**2.23**	**230**	*e*PB	**Pg**	**10 38 00.9**	**+0.6**
KU6				*e*SB	**Sg**	**10 38 31.0**	**+1.7**
KU6				MSG		10 38 33.9	
	comp=Z,14nm,0.1s						
MSF	**Maaselka**	**2.57**	**233**	*e*PB	**Pg**	**10 38 06.7**	**-0.1**
MSF				*e*SB	**Sg**	**10 38 40.5**	**+0.5**
SGF	**Sodankyl**	**2.90**	**272**	*e*P	**Pn**	**10 38 07.0**	**+2.0**
SGF				*e*SB	**Sb**	**10 38 46.7**	**+0.6**
RNF	**Rovaniemi**	**3.28**	**258**	*e*P	**Pn**	**10 38 11.4**	**+1.2**
RNF				*e*S	**Sn**	**10 38 52.6**	**+2.8**
KEV	**Kevo**	**3.42**	**314**	Pn	**Pn**	**10 38 12.4**	**+0.3**
KEV				Sn	**Sn**	**10 38 52.8**	**-0.5**
KEV				Lg	Lg	10 39 01.0	
KEV	**Kevo**	**3.42**	**314**	*e*P	**Pn**	**10 38 12.7**	**+0.6**
KEV				*e*S	**Sn**	**10 38 52.8**	**-0.5**
KEV	**Kevo**	**3.42**	**314**	*e*P	**Pn**	**10 38 12.5**	**+0.3**
KEV				*e*S	**Sn**	**10 38 52.5**	**-0.8**
KEV				MSG		10 39 03.3	
	comp=Z,31nm,0.2s						
ARA0	**ARCESS Array S**	**3.74**	**307**	Pn	**Pn**	**10 38 16.3**	**-0.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**10 38 59.1**	**-2.1**
	baz=120,slow=28						
ARA0				Lg	Lg	10 39 09.9	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.74**	**307**	Pn	**Pn**	**10 38 16.3**	**-0.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**10 38 59.1**	**-2.1**
	baz=120,slow=28						
ARA0				Sg	**Sb**	**10 39 09.9**	**-0.3**
	baz=116,slow=37						
ARCES	**ARCESS Array B**	**3.74**	**307**	Pn	**Pn**	**10 38 16.5**	**0.0**
	comp=Z,10nm,0.3s,baz=122,slow=15,SNR=235						
ARCES				Pg	**Pb**	**10 38 24.6**	**+0.1**
	comp=Z,5.1nm,0.3s,baz=122,slow=16,SNR=17						
ARCES				Sn	**Sn**	**10 38 58.2**	**-3.0**
	comp=Z,5.5nm,0.3s,baz=118,slow=26,SNR=16						
ARCES				Lg	Lg	10 39 10.9	
	comp=Z,12nm,0.3s,baz=115,slow=31,SNR=6.2						
ARE0	**ARCESS Array S**	**3.74**	**307**	*e*P	**Pn**	**10 38 16.4**	**-0.1**
ARE0	**ARCESS Array S**	**3.74**	**307**	*e*P	**Pn**	**10 38 16.4**	**-0.1**
ARE0				*e*S	**Sn**	**10 39 00.0**	**-1.2**
HEF	**Hetta**	**4.02**	**288**	Pn	**Pn**	**10 38 20.7**	**+0.3**
HEF				Sn	**Sn**	**10 39 06.6**	**-1.5**
HEF				Lg	Lg	10 39 21.1	
HEF	**Hetta**	**4.02**	**288**	Pn	**Pn**	**10 38 20.7**	**+0.3**
HEF				*e*P	**Pn**	**10 38 21.0**	**+0.6**
HEF				Sn	**Sn**	**10 39 06.6**	**-1.5**
HEF				Sg	**Sb**	**10 39 21.1**	**+2.8**
HEF	**Hetta**	**4.02**	**288**	MSG		10 39 23.2	
	comp=Z,26nm,0.2s						
TOF	**Tornio**	**4.11**	**254**	MSG		10 39 33.6	
	comp=Z,9.4nm,0.2s						
PAJU	**Pajala**	**4.28**	**268**	P	**Pn**	**10 38 23.6**	**-0.3**
PAJU				S	**Sn**	**10 39 14.5**	**+0.1**
KTK1	**Kautokeino**	**4.29**	**295**	*e*P	**Pn**	**10 38 24.2**	**+0.1**
KTK1				IAML		10 39 29.9	
	comp=Z,26nm,0.4s						
KALU	**Kalix**	**4.57**	**254**	P	**Pn**	**10 38 28.2**	**+0.3**
LANU	**Lannavaara**	**4.61**	**282**	P	**Pn**	**10 38 27.5**	**-1.0**
LANU				S	**Sn**	**10 39 23.1**	**+0.4**
MASU	**Masugnsbyn**	**4.64**	**275**	P	**Pn**	**10 38 28.1**	**-0.8**
ERTU	**Ertsjaerv**	**4.75**	**264**	P	**Pn**	**10 38 30.5**	**+0.1**
ERTU				S	**Sn**	**10 39 25.8**	**-0.2**
JOF	**Joensuu**	**4.76**	**195**	*e*S	**Sn**	**10 39 28.4**	**+2.0**
HAMF	**Hammerfest**	**4.86**	**315**	*e*P	**Pn**	**10 38 31.4**	**-0.5**
KIF	**Kilpisjarvi**	**5.15**	**293**	Pn	**Pn**	**10 38 35.5**	**-0.3**
KIF				Sn	**Sn**	**10 39 33.5**	**-2.3**
KIF				Lg	Lg	10 39 54.7	
KIF	**Kilpisjarvi**	**5.15**	**293**	Pn	**Pn**	**10 38 35.5**	**-0.3**
KIF				Sn	**Sn**	**10 39 33.5**	**-2.3**
KIF				Sg	**Sb**	**10 39 54.7**	**+4.0**
DUNU	**Dundret**	**5.24**	**272**	P	**Pn**	**10 38 36.9**	**-0.2**
KUA	**Kurravaara**	**5.24**	**281**	P	**Pn**	**10 38 36.8**	**-0.2**
HARU	**Harads**	**5.34**	**261**	P	**Pn**	**10 38 37.2**	**-1.2**
RATU	**Laukkuluspa**	**5.53**	**280**	P	**Pn**	**10 38 40.5**	**-0.5**
TRO	**Tromso**	**5.93**	**298**	*e*P	**Pn**	**10 38 47.9**	**+1.3**
SALU	**Saltoluokta**	**5.99**	**276**	*e*P	**Pn**	**10 38 47.7**	**+0.3**
FIA0	**FINESS Array S**	**7.00**	**213**	Pn	**Pn**	**10 39 04.5**	**+3.2**
	baz=27,slow=14						
FIA0				Sn	**Sn**	**10 40 22.4**	**+1.0**
	baz=33,slow=22						
FIA0				Lg	Lg	10 40 56.5	
	baz=20,slow=28						
FIA0	**FINESS Array S**	**7.00**	**213**	Pn	**Pn**	**10 39 04.5**	**+3.2**
	baz=27,slow=14						
FIA0				Sg	**Sg**	**10 40 56.5**	**-5.6**
	baz=20,slow=28						
FINES	**FINESS Array B**	**7.00**	**213**	Pn	**Pn**	**10 39 03.4**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=10						
FINES				Sn	**Sn**	**10 40 22.7**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=28,slow=24,SNR=3.8						
FINES				Lg	Lg	10 40 56.1	
	comp=Z,1.4nm,0.3s,baz=26,slow=26,SNR=12						
KLMR	**Klimovskoe**	**7.10**	**158**	*i* P	**Pn**	**10 39 04.7**	**+2.1**
KLMR				*i* S	**Sn**	**10 40 22.6**	**-1.3**
KLMR				*i* S	**Sn**	**10 40 22.6**	**-1.3**
KLMR				*i* S	**Sn**	**10 40 22.6**	**-1.3**
KLMR				AMP		10 40 24.8	
	comp=N,3.0nm,0.5s						
STEI	**Steigen**	**7.16**	**282**	*e*P	**Pn**	**10 39 01.8**	**-1.6**
LOF	**Lofoten**	**7.78**	**284**	*e*P	**Pn**	**10 39 10.8**	**-1.0**
MOR8	**Moi Rana**	**7.84**	**269**	*e*P	**Pn**	**10 39 11.1**	**-1.7**
KONS	**Konsvik**	**8.25**	**273**	*e*P	**Pn**	**10 39 17.1**	**-1.2**
HFS	**Hagfors**	**11.59**	**240**	Pn	**Pn**	**10 40 03.8**	**-0.3**
	baz=47,slow=11						
HFS	**Hagfors**	**11.59**	**240**	Pn	**Pn**	**10 40 04.8**	**+0.7**
	comp=N,0.2nm,0.3s,baz=35,slow=12,SNR=9.1						
HFS				Sn	**Sn**	**10 42 07.2**	**-6.8**
	comp=N,0.1nm,0.3s,baz=46,slow=24,SNR=2.6						
HFS				Lg	Lg	10 43 16.7	
	comp=N,0.3nm,0.3s,baz=45,slow=27,SNR=3.4						
HFS	**Hagfors**	**11.59**	**240**	Pn	**Pn**	**10 40 03.8**	**-0.3**
	baz=47,slow=11						
NB2	**NORSAR Subarra**	**11.80**	**248**	Pn	**Pn**	**10 40 07.3**	**+0.4**
	baz=48,slow=14						
NB2	**NORSAR Subarra**	**11.80**	**248**	Pn	**Pn**	**10 40 07.3**	**+0.4**
	baz=48,slow=14						
NOA	**NORSAR Array B**	**11.80**	**248**	Pn	**Pn**	**10 40 06.0**	**-0.9**
	comp=N,0.0nm,0.3s,baz=45,slow=11,SNR=11						
NOA				Lg	Lg	10 43 29.6	
	comp=N,0.0nm,0.3s,baz=49,slow=10.0,SNR=4.3						
SPA0	**Spitsbergen Ar**	**11.82**	**342**	Pn	**Pn**	**10 40 04.6**	**-2.5**
	baz=141,slow=16						
SPA0	**Spitsbergen Ar**	**11.82**	**342**	Pn	**Pn**	**10 40 04.6**	**-2.5**
	baz=141,slow=16						
SPITS	**Spitsbergen Ar**	**11.82**	**342**	Pn	**Pn**	**10 40 05.1**	**-2.1**
	baz=140,slow=16,SNR=15						
SPITS				Sn	Sn	10 42 08.3	-11
	baz=141,slow=30,SNR=2.5						
NRA0	**NORESS Array S**	**11.89**	**246**	Pn	**Pn**	**10 40 08.1**	**-0.1**
	baz=

Ms1 3.2/4,ms1mx2.9/31,Error ellipse: s-maj=27.2km s-min=18.3km az=85.0

ISC 29 10:59:19.8±0.7,**8°47S**±0.07×**128°09E**±0.09,**h10km,n16,**
σ1§79/17,mb3.9/5,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.69**	**248**	Pn	**Pn**	**11 00 31.2**	**+0.5**
	1.4nm,0.3s,baz=74,slow=19,SNR=1.8						
BATI				Sn	**Sn**	**11 01 24.9**	**-0.3**
	4.8nm,0.3s,baz=5.6,slow=22,SNR=3.6						
SIJI	**Sorong**	**8.19**	**23**	Pn	**Pn**	**11 01 17.1**	**-1.7**
	0.6nm,0.3s,baz=260,slow=24,SNR=1.9						
SIJI				Sn	**Sn**	**11 02 51.6**	**+0.1**
	0.7nm,0.3s,baz=53,slow=20,SNR=1.8						
SIJI				LR	LR	11 04 55.9	
	comp=Z,136nm,20.6s,baz=185,slow=42						
FITZ	**Fitzroy Crossi**	**9.86**	**194**	Pn	**Pn**	**11 01 42.7**	**+1.1**
	1.1nm,0.3s,baz=35,slow=14,SNR=18						
FITZ				Sn	**Sn**	**11 03 28.0**	**-4.4**
	1.0nm,0.3s,baz=289,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**12.91**	**153**	Pn	**Pn**	**11 02 23.1**	**-0.4**
	3.8nm,0.3s,baz=328,slow=13,SNR=135						
WRA				Sn	Sn	11 04 40.5	-6.8
	2.6nm,0.3s,baz=330,slow=24,SNR=11						
DAV	**Davao City (W)**	**15.64**	**351**	LR	LR	11 08 51.6	
	comp=Z,60nm,20.8s,baz=151,slow=37						
ASAR	**Alice Springs**	**16.10**	**160**	Pn	**Pn**	**11 03 06.0**	**-0.4**
	1.8nm,0.3s,baz=331,slow=9.6,SNR=118						
ASAR				Sn	Sn	11 05 58.5	-6.7
	0.5nm,0.3s,baz=323,slow=20,SNR=5.9						
ASAR				LR	LR	11 10 09.9	
	comp=Z,130nm,18.8s,baz=296,slow=40						
LEM	**Lembang**	**20.35**	**273**	LR	LR	11 12 27.4	
	comp=Z,105nm,18.0s,baz=270,slow=39						
STKA	**Stephens Creek**	**26.46**	**154**	P	**P**	**11 05 00.2**	**+3.1**
	1.9nm,0.7s,baz=319,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**39.28**	**313**	P	**P**	**11 06 48.9**	**-0.2**
	0.5nm,0.3s,baz=134,slow=6.4,SNR=4.5						
SONM	**Songino Array**	**59.26**	**343**	P	**P**	**11 09 22.3**	**+0.6**
	0.2nm,0.4s,baz=151,slow=6.3,SNR=2.3						
MKAR	**Makanchi Array**	**68.44**	**328**	P	**P**	**11 10 20.9**	**-1.1**
	0.4nm,0.4s,baz=127,slow=7.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**72.08**	**335**	P	**P**	**11 10 42.4**	**-1.7**
	1.2nm,0.6s,baz=123,slow=4.8,SNR=6.6						
YKA	**Yellowknife Ar**	**109.90**	**26**	PKiKP	**PKiKP**	**11 17 52.1**	**+1.1**
	0.2nm,0.7s,baz=300,slow=1.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**127.21**	**280**	PKP	**PKiKP**	**11 18 27.2**	**+1.1**
	0.5nm,0.8s,baz=48,slow=2.1,SNR=2.7						
CPUP	**Villa Florida**	**145.01**	**172**	PKPbc	**PKPdf**	**11 18 58.3**	**+0.1**
	1.0nm,0.6s,baz=169,slow=5.2,SNR=2.8						
LPAZ	**La Paz**	**150.62**	**147**	PKPbc	**PKiKP**	**11 19 16.6**	**+2.0**
	0.4nm,0.4s,baz=180,slow=2.0,SNR=2.5						

*IDC **29** 11:05:39.8±2.1,30°47S×177°03W,h0km,mb3.7/2, mb1 3.9/3,mb1mx3.6/40,mbtmp3.7/3,ML3.0/1,Error ellipse: s-maj=44.1km s-min=24.3km az=89.0*
*ISCJB **29** 11:05:41.0±3.4,30°59S±0.06×177°0W±0.4,h24km, mb3.6/2,Error ellipse: s-maj=50.1km s-min=8.5km az=179.8*

ISC 29 11:05:42.8±1.9,**30°48S**±0.08×**177°1W**±0.2,**h24km,n6,**
σ1§10/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.44**	**328**	Pn	**Pn**	**11 06 06.6**	**-0.8**
	84nm,0.3s,baz=180,slow=20,SNR=4.5						
RAO				Sn	**Sb**	**11 06 26.5**	**-0.2**
	176nm,0.3s,baz=265,slow=22,SNR=5.7						
URZ	**Urewera**	**9.13**	**210**	Pn	**Pn**	**11 07 52.0**	**-1.1**
	0.2nm,0.3s,baz=208,slow=22,SNR=0.9						
URZ				Sn	**Sn**	**11 09 35.2**	**+0.1**
	0.6nm,0.3s,baz=222,slow=23,SNR=7.4						
ASAR	**Alice Springs**	**43.92**	**267**	P	**P**	**11 13 49.3**	**+1.3**
	0.6nm,0.8s,baz=109,slow=7.6,SNR=6.3						
WRA	**Warramunga Arr**	**44.91**	**272**	P	**P**	**11 13 57.2**	**+1.3**
	0.7nm,0.5s,baz=110,slow=8.1,SNR=17						
FINES	**FINESS Array B**	**145.50**	**341**	PKPbc	**PKPab**	**11 25 19.2**	**+0.7**
	2.5nm,0.8s,baz=67,slow=4.7,SNR=6.4						
AKASG	**Malin Array Be**	**151.85**	**323**	PKPbc	**PKPbc**	**11 25 34.8**	**-0.4**
	0.5nm,0.4s,baz=58,slow=2.8,SNR=3.5						

*ISCJB **29** 11:05:52.2±0.3,50°01N±0°02×18°48E±0°02,h0km,Error ellipse: s-maj=3.1km s-min=2.1km az=16.5*
*IPEC **29** 11:05:53.4±0.2,49°96N×18°63E,h0km,ML2.7/3,Error ellipse: s-maj=2.0km s-min=1.1km az=164.0*
*PRU **29** 11:05:54.2±0.0,49°95N×18°51E,h0km*

ISC 29 11:05:53.8±0.7,**49°99N**±0°02×**18°56E**±0°02,**h0km,n50,**
σ1§53/84,3C-4D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.31**	**241**	*e*PG	**Pg**	**11 06 00.4**	**+0.7**
OKC				*e*SG	**Sg**	**11 06 04.3**	**+0.6**
	comp=Z,206nm,0.4s						
CHZP	**Chorzow**	**0.41**	**42**	*e*Pg	**Pg**	**11 06 02.0**	**+0.3**
CHZP				*e*Sg	**Sg**	**11 06 07.7**	**+0.8**
MORC	**Moravsky Berou**	**0.69**	**253**	*i*P	**Pb**	**11 06 07.7**	**-1.1**
MORC				S	**Sb**	**11 06 17.4**	**-1.5**
MORC	**Moravsky Berou**	**0.69**	**253**	*e*PG	**Pg**	**11 06 07.2**	**+0.1**
MORC				*e*SG	**Sg**	**11 06 16.3**	**+0.2**
MORC	**Moravsky Berou**	**0.69**	**253**	*e*Pg	**Pg**	**11 06 07.2**	**+0.1**
	baz=75						
MORC				*e*Sg	**Sg**	**11 06 16.2**	**+0.2**
	174nm,0.3s,baz=75						
OJC	**Ojcow**	**0.83**	**73**	*e*Pg	**Pg**	**11 06 08.9**	**-0.7**
OJC				*e*Sg	**Sg**	**11 06 20.1**	**-0.3**
OJC	**Ojcow**	**0.83**	**73**	*e*Pg	**Pg**	**11 06 09.0**	**-0.7**
OJC				*e*Sg	**Sg**	**11 06 21.0**	**+0.6**
LANS	**Liptovska Anna**	**1.02**	**145**	*e*PG	**Pb**	**11 06 13.3**	**-1.1**
LANS				*e*SG	**Sb**	**11 06 28.5**	**+0.1**
KRLC	**Kraliky**	**1.15**	**275**	*e*PG	**Pg**	**11 06 14.8**	**-1.1**
KRLC				*e*SG	**Sg**	**11 06 30.2**	**-0.6**
	comp=Z,17nm,0.6s						
JAVC	**Velka Javorina**	**1.27**	**208**	*e*PG	**Pg**	**11 06 17.4**	**-0.7**
JAVC	**Velka Javorina**	**1.27**	**208**	*e*Pg	**Pg**	**11 06 17.3**	**-0.8**
	baz=29						
VRAC	**Vranov**	**1.45**	**243**	*i*P	**Pn**	**11 06 20.8**	**-0.5**
VRAC	**Vranov**	**1.45**	**243**	S	**Sn**	**11 06 40.5**	**-0.5**
VRAC	**Vranov**	**1.45**	**243**	*e*PG	**Pn**	**11 06 20.2**	**-1.1**
VRAC				*e*SG	**Sg**	**11 06 39.6**	**-0.8**
VRAC	**Vranov**	**1.45**	**243**	*e*Pg	**Pn**	**11 06 20.2**	**-1.1**
	baz=63						
VRAC				*e*Sg	**Sg**	**11 06 39.6**	**-0.8**
	88nm,0.4s,baz=63						
DPC	**Dobruska-Polom**	**1.49**	**285**	*e*PG	**Pn**	**11 06 21.2**	**-0.6**
DPC				*e*SG	**Sg**	**11 06 40.9**	**-0.6**
VYHS	**Vyhne**	**1.51**	**173**	*e*PG	**Pn**	**11 06 21.0**	**-1.1**
VYHS				*e*SG	**Sb**	**11 06 41.1**	**-1.2**
VYHS				eLG	Lg	11 06 44.4	
SMOL	**Smolenice**	**1.65**	**207**	*e*PN	**Pn**	**11 06 23.0**	**-1.1**
SMOL				*e*SN	**Sn**	**11 06 43.8**	**-2.2**
KSP	**Ksiaz**	**1.69**	**301**	*e*Pn	**Pb**	**11 06 25.4**	**-0.2**
KSP				*e*Pg	**Pg**	**11 06 27.3**	**+1.2**
KSP				*e*Sn	**Sn**	**11 06 46.5**	**-0.3**
KSP				*e*Sg	**Sb**	**11 06 47.8**	**+0.4**
KSP	**Ksiaz**	**1.69**	**301**	*e*Pn	**Pg**	**11 06 25.9**	**-0.1**
KSP				*e*Sn	**Sn**	**11 06 47.3**	**+0.5**
KRUC	**Moravsky**	**1.69**	**238**	*e*PG	**Pn**	**11 06 24.5**	**-0.1**
KRUC				*e*SG	**Sb**	**11 06 46.9**	**-0.6**
KRUC	**Moravsky**	**1.69**	**238**	*e*Pg	**Pn**	**11 06 24.4**	**-0.1**
	baz=58						
KRUC				*e*Sg	**Sb**	**11 06 46.9**	**-0.6**
	38nm,0.2s,baz=58						
UPC	**Upice**	**1.72**	**289**	*e*PG	**Pb**	**11 06 25.9**	**-0.3**
UPC				*e*SG	**Sb**	**11 06 48.5**	**+0.1**
	comp=Z,39nm,0.5s						
MODS	**Modra-Piesok**	**1.82**	**208**	*e*PN	**Pn**	**11 06 24.8**	**-1.6**
MODS				*e*SN	**Sn**	**11 06 48.5**	**-1.7**
MODS				eLG	Lg	11 06 59.3	
TREC	**Trest**	**2.12**	**252**	*e*SG	**Sb**	**11 06 59.0**	**-0.9**
	comp=Z,30nm,0.3s						
PSZ	**Piszkesteto**	**2.25**	**157**	*i*P	**Pn**	**11 06 32.9**	**+0.6**
PSZ	**Piszkesteto**	**2.25**	**157**	S	**Sb**	**11 07 03.2**	**-0.5**
GOPC	**GO Pecny, Ondr**	**2.44**	**270**	*e*PN	**Pn**	**11 06 34.5**	**-0.4**
GOPC				*e*PG	**Pb**	**11 06 37.2**	**-1.3**
GOPC				*e*SG	**Sb**	**11 07 09.7**	**+0.5**
	comp=Z,27nm,0.6s						
PRU	**Pruhonice**	**2.60**	**272**	*e*PG	**Pb**	**11 06 41.6**	**+0.4**
PRU				*e*SG	**Sb**	**11 07 14.2**	**+0.6**
	comp=Z,18nm,0.4s						
PVCC	**Panska Ves**	**2.62**	**283**	*e*PG	**Pb**	**11 06 42.2**	**+0.6**
PVCC				*e*SG	**Sg**	**11 07 16.3**	**-1.6**
	comp=Z,28nm,0.3s						
CONA	**Conrad Observa**	**2.72**	**222**	*e*Pn	**Pn**	**11 06 37.4**	**-1.4**
	0.1nm,0.1s						
CONA				Sn	**Sn**	**11 07 11.9**	**-0.6**
	2.5nm,0.3s						
BRG	**Berggiesshubel**	**3.08**	**288**	PG	**Pb**	**11 06 50.6**	**+1.1**
BRG				SG	**Sg**	**11 07 32.1**	**-0.7**
	13nm,0.5s						
KHC	**Kasperske Hory**	**3.36**	**257**	*e*PN	**Pn**	**11 06 46.3**	**-1.2**
KHC				*e*PG	**Pb**	**11 06 54.2**	**0.0**
KHC				*e*SG	**Sb**	**11 07 37.7**	**+2.1**
	comp=Z,17nm,0.4s						
ARSA	**Arzberg**	**3.40**	**218**	*e*Pn	**Pn**	**11 06 47.1**	**-1.0**
	1.0nm,0.2s						
ARSA				Sg	**Sg**	**11 07 47.2**	**+4.2**
	4.6nm,0.5s						
MOA	**Molln**	**3.55**	**235**	*e*Pn	**Pn**	**11 06 48.7**	**-1.5**
	0.2nm,0.1s						
MOA				Sg	**Sb**	**11 07 43.3**	**+2.2**
	14nm,0.7s						
CLL	**Collm**	**3.78**	**293**	*e*Pg	**Pg**	**11 07 06.0**	**-0.1**
CLL				*e*Sg	**Sg**	**11 07 54.0**	**-1.1**
	comp=Z,13nm,0.5s						
NKC	**Novy Kostel**	**3.94**	**276**	*e*PG	**Pg**	**11 07 07.2**	**-2.1**
NKC				*e*SG	**Sg**	**11 07 57.9**	**-2.5**
	comp=Z,13nm,0.5s						
DRGR		**4.23**	**138**	*i*P	**Pn**	**11 06 58.8**	**-0.7**
DRGR		**4.23**	**138**	S	**Sn**	**11 07 52.1**	**+2.5**
OBKA	**Obir**	**4.39**	**219**	Sn	**Sn**	**11 07 54.2**	**+0.5**
	comp=Z,0.7nm,0.2s						
KBA	**Koelnbreinsper**	**4.53**	**232**	Sg	**Sb**	**11 08 13.4**	**+4.1**
	comp=Z,0.5nm,0.1s						
BZS	**Buzias**	**4.83**	**154**	*i*P	**Pn**	**11 07 07.9**	**+0.1**
BURAR	**Bucovina Array**	**5.00**	**116**	*i*P	**Pn**	**11 07 09.8**	**-0.3**
ABTA	**Abfaltersbach**	**5.17**	**233**	Sg	**Sb**	**11 08 30.7**	**+2.8**
	comp=Z,3.9nm,0.7s						
WATA	**Walderalm**	**5.34**	**243**	Sn	**Sn**	**11 08 19.5**	**+2.4**
	comp=Z,1.1nm,0.2s						
WTTA	**Wattenberg**	**5.34**	**242**	Sn	**Sn**	**11 08 18.0**	**+0.8**
	comp=Z,5.6nm,0.5s						
GZR	**Gura Zlata**	**5.41**	**147**	*i*P	**Pn**	**11 07 15.8**	**+0.1**
MOTA	**Moosalm**	**5.61**	**245**	Sg	**Sb**	**11 08 45.2**	**+4.8**
	comp=Z,7.3nm,0.5s						
RETA	**Reutte**	**5.74**	**247**	Sg	**Sb**	**11 08 49.1**	**+5.1**
	comp=Z,6.2nm,0.7s						
FETA	**Feichten**	**5.99**	**243**	Sg	**Sb**	**11 08 55.3**	**+3.8**
	comp=Z,1.0nm,0.4s						

*ISCJB **29** 11:10:28.6±0.4,62°60S±0°04×165°1E±0°2,h10km, mb4.4/14,MS4.7/12,Error ellipse: s-maj=15.6km s-min=5.8km az=5.1*
*IDC **29** 11:10:28.9±0.7,62°64S×165°20E,h0km,mb4.3/9, mb1 4.5/11,mb1mx4.2/33,mbtmp4.4/11,ML4.8/2,MS4.7/14, Ms1 4.7/14,ms1mx4.7/16,Error ellipse: s-maj=31.9km s-min=16.9km az=76.0*
*NEIC **29** 11:10:30.2±0.2,62°62S×165°07E,h10km,mb4.6/21,Error ellipse: s-maj=11.0km s-min=3.8km az=97.0*

ISC 29 11:10:30.2±0.5,**62°62S**±0°07×**165°2E**±0°2,**h10km,n66,**
σ0§60/49,mb4.4/14,MS4.7/12,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**15.01**	**183**	*e*Pn	**Pn**	**11 14 01.8**	**-0.2**
	31nm,0.7s						
VNDA	**Vanda**	**15.01**	**183**	Pn	**Pn**	**11 14 01.9**	**-0.1**
	4.7nm,0.3s,baz=351,slow=13,SNR=184						
VNDA				LR	LR	11 18 52.4	
	comp=Z,6μm,20.8s,baz=14,slow=34						
SBA	**Scott Base**	**15.32**	**179**	*e*Pn	**Pn**	**11 14 06.7**	**+0.7**
	68nm,1.0s						
WHZ	**Wether Hill Ro**	**16.84**	**7**	*e*Pn	**Pn**	**11 14 25.3**	**-0.5**
	57nm,1.3s						
DCZ	**Deep Cove**	**17.23**	**5**	*e*Pn	**Pn**	**11 14 31.2**	**+0.6**
	16nm,0.8s						
MLZ	**Mavora Lakes**	**17.37**	**7**	*e*Pn	**P**	**11 14 33.2**	**-0.6**
	51nm,1.4s						
ODZ	**Otahua Downs**	**17.89**	**13**	*e*Pn	**Pn**	**11 14 38.9**	**0.0**
	23nm,1.3s						
WKZ	**Wanaka**	**17.96**	**9**	*e*Pn	**Pn**	**11 14 39.7**	**-0.1**
	74nm,1.4s						
LBZ	**Lake Benmore**	**18.50**	**11**	*e*P	**P**	**11 14 45.7**	**-0.5**
	27nm,1.3s						
RPZ	**Rata Peaks**	**19.25**	**13**	*e*P	**P**	**11 14 54.2**	**-0.2**
	27nm,1.1s						
RPZ	**Rata Peaks**	**19.25**	**13**	P	**Pn**	**11 14 56.6**	**+1.2**
	2.1nm,0.3s,baz=218,slow=3.1,SNR=5.0						
RPZ				LR	LR	11 21 10.0	
	comp=Z,7μm,20.3s,baz=220,slow=33						
FOZ	**Fox Glacier**	**19.31**	**10**	*e*P	**P**	**11 14 54.6**	**-0.5**
	108nm,1.5s						
MQZ	**McQueen's Vall**	**19.44**	**16**	*e*P	**P**	**11 14 56.8**	**+0.3**
	38nm,1.2s						
CRLZ	**Canterbury Las**	**19.57**	**16**	*e*P	**P**	**11 14 58.6**	**+0.7**
	93nm,1.4s						
OXZ	**Oxford**	**19.74**	**15**	*e*P	**P**	**11 15 00.4**	**+0.5**
	36nm,1.4s						
THZ	**Tophouse**	**21.39**	**16**	*e*P	**P**	**11 15 18.3**	**+0.6**
	64nm,1.4s						
BFZ	**Birch Farm**	**22.95**	**22**	*e*P	**P**	**11 15 35.2**	**+0.9**
	87nm,1.3s						
URZ	**Urewera**	**25.46**	**22**	*e*P	**P**	**11 15 57.8**	**-0.2**
	38nm,1.4s						
URZ	**Urewera**	**25.46**	**22**	P	**P**	**11 15 57.8**	**-0.2**
	13nm,1.0s,baz=204,slow=11,SNR=4.5						
URZ				LR	LR	11 24 35.4	
	comp=Z,4μm,20.4s,baz=196,slow=33						
QSPA	**South Pole Qui**	**27.47**	**180**	*e*P	**P**	**11 16 15.9**	**-0.3**
	36nm,1.5s						
QSPA	**South Pole Qui**	**27.47**	**180**	P	**P**	**11 16 15.9**	**-0.3**
	9.6nm,0.9s,baz=355,slow=2.1,SNR=12						
QSPA				LR	LR	11 26 12.6	
	comp=Z,2μm,18.3s,baz=27,slow=34						
STKA	**Stephens Creek**	**34.26**	**323**	*e*P	**P**	**11 17 15.8**	**-0.4**
	2.2nm,1.1s						
STKA	**Stephens Creek**	**34.26**	**323**	P	**P**	**11 17 16.9**	**+0.8**
	2.5nm,0.7s,baz=144,slow=7.4,SNR=5.3						
MAW	**Mawson**	**38.63**	**217**	LR	LR	11 34 01.0	
	comp=Z,3μm,18.8s,baz=124,slow=37						
DZM	**Mont Dzumac**	**40.53**	**2**	LR	LR	11 31 16.5	
	comp=Z,734nm,19.5s,baz=203,slow=31						
H01W1	**Cape Leeuwin H**	**41.93**	**287**	T	T	12 03 34.5	
	baz=147,slow=76,SNR=94						
H01W2	**Cape Leeuwin H**	**41.94**	**287**	T	T	12 03 31.0	
H01W3	**Cape Leeuwin H**	**41.95**	**287**	T	T	12 03 46.9	
	baz=147,slow=76,SNR=55						
AS01	**Alice Springs**	**44.25**	**317**	*e*P	**P**	**11 18 39.5**	**-0.1**
ASAR	**Alice Springs**	**44.26**	**317**	P	**P**	**11 18 39.5**	**-0.1**
	4.7nm,0.8s,baz=162,slow=7.3,SNR=34						
ASAR				PcP	**PcP**	**11 20 24.4**	**+0.4**
	0.7nm,0.7s,baz=148,slow=3.9,SNR=2.8						
ASAR				LR	LR	11 35 49.0	
	comp=Z,484nm,19.3s,baz=166,slow=34						
AS31	**Alice Springs**	**44.26**	**317**	*e*P	**P**	**11 18 39.7**	**+0.1**
	1.6nm,0.7s						
CTA	**Charters Tower**	**44.46**	**334**	P	**P**	**11 18 40.9**	**-0.4**
	6.9nm,1.1s,baz=173,slow=17,SNR=4.5						
SNAA	**Sanae**	**45.73**	**185**	P	**P**	**11 18 50.7**	**-0.2**
SNAA	**Sanae**	**45.73**	**185**	*e*P	**P**	**11 18 51.0**	**+0.1**
	5.2nm,1.0s						
VNA3	**Neumayer Olymp**	**46.36**	**182**	P	**P**	**11 18 55.9**	**+0.1**
VNA2	**Neumayer--Watz**	**46.63**	**183**	P	**P**	**11 18 57.3**	**-0.6**
WR1	**Warramunga Arr**	**47.62**	**319**	*e*P	**P**	**11 19 05.1**	**-1.1**
	11nm,1.4s						
WRA	**Warramunga Arr**	**47.62**	**319**	P	**P**	**11 19 05.1**	**-1.1**
	1.2nm,0.9s,baz=163,slow=8.0,SNR=5.9						
WRA				PcP	**PcP**	**11 20 36.8**	**+1.0**
	1.8nm,0.8s,baz=161,slow=3.0,SNR=7.3						
WRA				LR	LR	11 37 03.9	
	comp=Z,876nm,18.7s,baz=165,slow=34						
PAE	**Paea**	**54.70**	**56**	*e*T	T	12 18 18.3	
	8.0nm,0.3s						
TVO	**Taravao**	**54.72**	**56**	*e*T	T	12 18 19.8	
	5.3nm,0.3s						
PPT2	**Papeete2**	**54.77**	**56**	*e*S	S	11 27 15.6	-25
	615nm,25.8s						
PPT2				*e*LQ	LQ	11 32 56.8	
	2μm,24.0s						
PPT2				*e*LR	LR	11 35 16.8	
	comp=Z,994nm,22.2s,baz=205						
PPT2	**Papeete2**	**54.77**	**56**	*e*T	T	12 18 23.2	
	16nm,0.3s						
PPT	**Papeete**	**54.79**	**56**	LR	LR	11 38 44.4	
	comp=Z,559nm,18.5s,baz=206,slow=31						
TIAR	**Tiarei**	**54.89**	**56**	*e*T	T	12 18 32.2	
	3.9nm,0.3s						
RKT	**Rikitea**	**55.94**	**74**	*e*T	T	12 19 52.8	
	47nm,0.5s						
VAH	**Vaihoa**	**57.66**	**57**	*e*T	T	12 22 01.3	
	341nm,0.2s						
PMOR	**Pomariorio Ree**	**57.77**	**57**	*e*T	T	12 22 07.8	
	4.5nm,0.3s						
TAOE	**Nuku Hiva Isla**	**66.43**	**62**	*e*LR	LR	11 40 48.6	
	comp=Z,686nm,25.6s,baz=212						
BOSA	**Boshof**	**83.61**	**215**	P	**P**	**11 22 59.0**	**+0.4**
	0.7nm,0.5s,baz=207,slow=9.0,SNR=1.9						
BOSA				LR	LR	11 57 46.5	
	comp=Z,430nm,19.6s,baz=232,slow=34						
H08S2	**Diego Garcia H**	**84.51**	**264**	T	T	12 57 00.5	
	baz=151,slow=76,SNR=20						
H08S1	**Diego Carcia H**	**84.52**	**264**	T	T	12 57 06.7	
	baz=151,slow=76,SNR=18						
H08S3	**Diego Garcia H**	**84.53**	**264**	T	T	12 57 07.6	
	baz=151,slow=76,SNR=24						
CPUP	**Villa Florida**	**85.10**	**143**	P	**P**	**11 23 06.7**	**+0.6**
	1.7nm,0.8s,baz=180,slow=4.7,SNR=3.0						
CPUP				LR	LR	11 56 12.6	
	comp=Z,179nm,21.7s,baz=197,slow=32						
LPAZ	**La Paz**	**91.03**	**130**	P	**P**	**11 23 34.3**	**-1.1**
	2.0nm,0.9s,baz=195,slow=8.4,SNR=4.6						
LPAZ				LR	LR	11 55 16.8	
	comp=Z,218nm,21.6s,baz=196,slow=30						
CMAR	**Chiang Mai Arr**	**95.87**	**299**	LR	LR	12 04 43.9	
	comp=Z,219nm,19.7s,baz=164,slow=34						
BDFB	**Brasilia**	**97.77**	**148**	LR	LR	12 07 39.7	
	comp=Z,142nm,18.1s,baz=140,slow=35						
PDAR	**Pinedale Array**	**124.87**	**63**	PKP	**PKiKP**	**11 29 29.9**	**0.0**
	0.2nm,0.6s,baz=193,slow=3.6,SNR=2.1						
MK32	**Makanchi Array**	**127.23**	**301**	*e*PKPdf	**PKPdf**	**11 29 33.1**	**-0.5**
MKAR	**Makanchi Array**	**127.23**	**301**	PKP	**PKPdf**	**11 29 33.1**	**-0.5**
	0.1nm,0.4s,baz=139,slow=3.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**129.21**	**201**	PKP	**PKiKP**	**11 29 39.0**	**-0.1**
	0.8nm,0.9s,baz=170,slow=0.9,SNR=4.1						
TOA1	**Torodi Ar. Sit**	**129.22**	**201**	*e*PKPdf	**PKiKP**	**11 29 39.0**	**-0.1**
ILAR	**Eielson Array**	**131.94**	**25**	PKP	**PKiKP**	**11 29 43.2**	**+0.2**
	0.5nm,1.0s,baz=228,slow=2.3,SNR=3.4						
YKA	**Yellowknife Ar**	**138.49**	**44**	PKP	**PKPdf**	**11 29 54.4**	**+0.2**
	0.2nm,0.6s,baz=221,slow=2.9,SNR=4.1						
BR101	**Keskin Array S**	**143.22**	**255**	*e*PKPdf	**PKPdf**	**11 30 03.3**	**-0.4**
BRTR	**Keskin Array B**	**143.22**	**255**	PKP	**PKPdf**	**11 30 03.3**	**-0.4**
	1.1nm,0.9s,baz=131,slow=4.4,SNR=4.9						
AKASG	**Malin Array Be**	**153.60**	**264**	PKPbc	**PKiKP**	**11 30 27.6**	**-0.2**
	0.2nm,0.3s,baz=126,slow=1.4,SNR=3.0						
AKASG				PKPab	**PKPab**	**11 30 42.3**	**+1.9**
	0.5nm,0.5s,baz=118,slow=2.3,SNR=4.1						

IDC 29 11:11:35.2±3.0,**4.73S×144.68E,h92km**±31km,**mb3.0/2, mb1 3.3/5,mb1mx3.0/38,mbtmp3.4/5,Error ellipse: s-maj=36.6km s-min=26.9km az=76.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.54**	**299**	P	Pn	11 12 42.4	+0.7
	0.5nm,0.3s,baz=40,slow=24,SNR=1.9						
JAY				S	Sn	11 13 36.6	+3.3
	0.9nm,0.3s,baz=269,slow=18,SNR=1.4						
PMG	**Port Moresby**	**5.25**	**152**	P	Pn	11 12 50.7	-0.7
	1.9nm,0.3s,baz=16,slow=4.1,SNR=6.9						
PMG				S	Sn	11 13 47.3	-3.4
	2.4nm,0.3s,baz=126,slow=20,SNR=8.1						
WRA	**Warramunga Arr**	**18.17**	**213**	P	P	11 15 40.3	-0.4
	0.1nm,0.3s,baz=32,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**21.50**	**208**	P	P	11 16 17.4	+0.5
	0.4nm,0.8s,baz=32,slow=12,SNR=2.6						
ILAR	**Eielson Array**	**85.24**	**24**	P	P	11 24 01.4	-0.1
	0.5nm,0.7s,baz=263,slow=5.2,SNR=8.6						

KRSC 29 11:27:21.3±10.0,**51°03N×158°03E,h41km**±10km,**ML3.5, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**0.78**	**2**	*e*P	Pn	11 27 37.0	+1.1
KDTR				*e*S	Sn	11 27 47.5	+1.1
PAU	**Pauzhetka**	**0.89**	**300**	*e*P	Pn	11 27 39.5	+1.7
PAU				*e*S

MEIG				*i* S		Sn	12 06 52.1	-4.2
TPIG	**Tehuac#an**	**2.55**	**22**	*i* P		Pn	12 06 31.3	-2.1
TPIG				*i* S		Sn	12 07 00.3	-4.4

*ISK **29** 12:06:48.9,39°.48N×40°.25E,h13km±1km, ML2.2/4*
*DDA **29** 12:06:51.0,39°.57N×40°.17E,h7km±4km, ML2.6*
ISC 29 12:06:49.5±1.1,39°.49N±0°.04×40°.22E±0°.03,h10km±10km, n11,σ0°70/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEDI	**Yedisu-Bingol**	**0.26**	**102**	PG	**Pg**	**12 06 54.4**	**-0.4**
YEDI				SG	**Sg**	**12 06 58.1**	**-0.3**
ERZN	**Erzincan**	**0.40**	**284**	PG	**Pg**	**12 06 57.6**	**+0.3**
ERZN				SG	**Sb**	**12 07 04.2**	**-0.7**
EUZM	**Uzumlu**	**0.46**	**298**	*i* P	**Pb**	**12 06 59.1**	**-0.6**
EUZM				*i* S	**Sb**	**12 07 05.8**	**-0.8**
EUZM				IAML_P			
	comp=Z,8μm,0.2s						
KOPT	**Kop Dagi**	**0.57**	**22**	*i* P	**Pg**	**12 07 00.7**	**+0.1**
KOPT				*i* S	**Sb**	**12 07 09.5**	**-0.4**
KOPT				IAML_P			
	comp=Z,1μm,0.2s						
BNGB	**Bingl**	**0.62**	**144**	PG	**Pg**	**12 07 00.8**	**-0.6**
BNGB				SG	**Sg**	**12 07 09.7**	**+0.2**
TNCL	**Tunceli-Merkez**	**0.65**	**234**	*i* P	**Pb**	**12 07 04.5**	**+1.5**
TNCL				*i* S	**Sn**	**12 07 14.8**	**-0.4**
TNCL				IAML_P			
	comp=Z,293nm,0.2s						
KARO	**Karliova-Bingo**	**0.67**	**106**	PG	**Pg**	**12 07 01.8**	**-0.7**
KARO				SG	**Sg**	**12 07 11.4**	**+0.1**
BAYB	**BAYBURT**	**0.77**	**2**	*i* P	**Pg**	**12 07 03.9**	**-0.4**
BAYB				*i* S	**Sb**	**12 07 16.3**	**+0.7**
BAYT	**Aydıntepe-Bayb**	**0.90**	**356**	PG	**Pg**	**12 07 06.9**	**0.0**
KELT	**Kelkit**	**0.99**	**312**	*i* P	**Pn**	**12 07 09.6**	**-0.1**
KELT				*i* S	**Sn**	**12 07 22.7**	**-1.1**
KELT				IAML_P			
	comp=Z,582nm,0.1s						
KRIK	**Erzurum-spir**	**1.00**	**33**	*i* P	**Pn**	**12 07 10.8**	**+1.0**
KRIK				*i* S	**Sn**	**12 07 24.2**	**0.0**

*NEIC **29** 12:16:16.6±0.5,6°.54N×82°.64W,h10km,mb4.2/17,Error ellipse: s-maj=11.1km s-min=5.8km az=204.0*
*UCR **29** 12:16:17.5±2.1,6°.80N×82°.53W,h1km±11km,MD4.4, mb4.2(NEIC)*
*IDC **29** 12:16:17.3±2.4,7°.26N×82°.10W,h0km,mb3.5/8, mb1 4.0/11,mb1mx3.9/26,mbtmp3.8/11,ML4.5/4,MS3.5/4, Ms1 3.5/4,ms1mx3.2/19,Error ellipse: s-maj=68.0km s-min=23.5km az=23.0*
ISC 29 12:16:14.8±3.0,6°.65N±0°.06×82°.46W±0°.04,h2km±18km, n92,σ1°71/100,mb4.0/17,9C-5D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**1.78**	**0**	*e*P	**Pn**	**12 16 46.1**	**-0.5**
DVD				*e*S	**Sb**	**12 17 09.5**	**-1.4**
PTJ1	**Puerto Jimnez**	**2.06**	**336**⇑	*e*P	**Pn**	**12 16 50.1**	**-0.2**
PTJ1				*e*S	**Sn**	**12 17 15.8**	**-0.8**
TBS2		**2.14**	**355**⇑	*i*P	**Pn**	**12 16 52.9**	**+1.1**
TBS2				*e*S	**Sb**	**12 17 20.2**	**-1.4**
BRU2	**Volcan**	**2.15**	**354**⇓	*i*P	**Pn**	**12 16 52.2**	**+0.4**
BRU2				*e*S	**Sb**	**12 17 19.7**	**-2.0**
AZU	**Azuero**	**2.45**	**62**⇓	*i*P	**Pb**	**12 16 58.0**	**-1.6**
AZU				*e*S	**Sb**	**12 17 28.9**	**-1.3**
AZU				*i*		12 17 31.7	
	comp=N,2μm,0.4s						
AZU	**Azuero**	**2.45**	**62**⇓	*i*P	**Pb**	**12 16 58.0**	**-1.6**
AZU				*e*S	**Sb**	**12 17 28.9**	**-1.3**
AZU				*i*		12 17 31.7	
	comp=N,2μm,0.4s						
AZU	**Azuero**	**2.45**	**62**⇓	*i*P	**Pb**	**12 16 58.0**	**-1.6**
	baz=241,slow=14						
AZU				*e*S	**Sb**	**12 17 30.0**	**-0.3**
MAPC	**Malpelo**	**2.76**	**162**	*e*P	Pn	12 16 53.6	-6.4
MAPC	**Malpelo**	**2.76**	**162**	*e*P	Pn	12 16 53.6	-6.4
PNME	**Penonome**	**2.80**	**49**	*e*P	**Pb**	**12 17 03.8**	**-1.7**
PNME				*e*S	**Sb**	**12 17 37.8**	**-2.4**
LCR2	**La Lucha 2**	**3.44**	**334**⇑	*i*P	**Pn**	**12 17 09.1**	**-0.5**
ZANG	**Zanguenga, Cho**	**3.45**	**48**⇓	*i*P	**Pn**	**12 17 13.1**	**+3.5**
ZANG				*e*S	**Sb**	**12 17 56.2**	**-2.7**
PINA	**Piqa, Costa Ab**	**3.52**	**42**	*e*P	**Pn**	**12 17 12.5**	**+2.1**
BCIP	**Isla Barro Col**	**3.61**	**46**	*e*Pn	**Pn**	**12 17 15.1**	**+3.4**
BCIP				*e*Sn	**Sn**	**12 17 57.8**	**+2.8**
BCIP	**Isla Barro Col**	**3.61**	**46**	*e*P	**Pn**	**12 17 14.8**	**+3.1**
BCIP				*e*S	**Sb**	**12 18 00.3**	**-3.3**
BCIP				*i*		12 18 10.1	
	comp=Z,127nm,0.6s						
BCIP	**Isla Barro Col**	**3.61**	**46**	*e*P	**Pn**	**12 17 14.8**	**+3.1**
BCIP				*e*S	**Sb**	**12 18 00.3**	**-3.3**
BCIP				*i*		12 18 10.1	
	comp=Z,127nm,0.6s						
BCIP	**Isla Barro Col**	**3.61**	**46**⇑	*i*P	**Pn**	**12 17 15.2**	**+3.5**
SJS	**Escuela Geolog**	**3.63**	**334**⇑	*i*P	**Pn**	**12 17 13.5**	**+1.2**
SJS				*e*S	**Sn**	**12 17 55.5**	**-0.3**
FORC	**Fortuna**	**4.38**	**330**	*i* P	**Pn**	**12 17 22.7**	**+0.3**
FORC				*i* S	**Sn**	**12 18 14.9**	**+0.8**
JTS	**JuntasAbangare**	**4.38**	**326**	*e*Pn	**Pn**	**12 17 21.3**	**-1.1**
JTS				*e*Sn	**Sn**	**12 18 12.0**	**-2.2**
JTS	**JuntasAbangare**	**4.38**	**326**	Pn	**Pn**	**12 17 21.2**	**-1.3**
	comp=Z,85nm,0.3s,baz=180,slow=13,SNR=177						
JTS				Sn	**Sn**	**12 18 11.4**	**-2.7**
	comp=Z,30nm,0.3s,baz=163,slow=23,SNR=7.9						
ARE1	**Arenal 1**	**4.40**	**330**⇑	*e*P	**Pn**	**12 17 22.9**	**+0.2**
CEDE	**Laguna Cedeo**	**4.42**	**330**⇑	*e*P	**Pn**	**12 17 22.9**	**0.0**
SOLC	**Bahia Solano**	**5.04**	**94**	*e*P	**Pn**	**12 17 34.0**	**+2.5**
SOLC				*e*S	**Sn**	**12 18 26.6**	**-3.6**
SOLC				*i*		12 18 29.4	
	comp=E,221nm,0.4s						
SOLC	**Bahia Solano**	**5.04**	**94**	*e*P	**Pn**	**12 17 34.0**	**+2.5**
SOLC				*e*S	**Sn**	**12 18 26.6**	**-3.6**
SOLC				*i*		12 18 29.4	
	comp=E,221nm,0.4s						
GRGC	**Isla de Gorgon**	**5.60**	**130**	*e*P	**Pn**	**12 17 38.4**	**-0.8**
GRGC	**Isla de Gorgon**	**5.60**	**130**	*e*P	**Pn**	**12 17 38.4**	**-0.8**
MALC	**Bahia Malaga**	**5.73**	**117**⇑	*i*P	**Pn**	**12 17 42.2**	**+1.2**
MALC				*e*S	**Sn**	**12 18 46.5**	**-0.9**
MALC	**Bahia Malaga**	**5.73**	**117**⇑	*i*P	**Pn**	**12 17 42.2**	**+1.2**
MALC				*e*S	**Sn**	**12 18 46.5**	**-0.9**
ESPN	**Las Esperanzas**	**5.81**	**342**	*e*Pn	**Pn**	**12 17 42.3**	**+0.3**
YOTC	**Yotoco, Valle**	**6.64**	**113**	*e*P	**Pn**	**12 17 54.2**	**+0.7**
YOTC				*e*S	**Sn**	**12 19 09.3**	**-0.6**
YOTC				*i*		12 19 14.5	
	comp=E,9.4nm,0.3s						
YOTC	**Yotoco, Valle**	**6.64**	**113**	*e*P	**Pn**	**12 17 54.2**	**+0.7**
YOTC				*e*S	**Sn**	**12 19 09.3**	**-0.6**
YOTC				*i*		12 19 14.5	
	comp=E,9.4nm,0.3s						
SOTA	**Rioblanco**	**7.36**	**127**	*e*P	**Pn**	**12 18 05.2**	**+1.5**
SOTA	**Rioblanco**	**7.36**	**127**	*e*P	**Pn**	**12 18 05.2**	**+1.5**
OTAV	**Otavalo**	**7.52**	**148**	*e*Pn	**Pn**	**12 18 04.6**	**-1.3**
CSGN	**Cosiguina Volc**	**8.05**	**322**	*e*Pn	**Pn**	**12 18 14.0**	**+1.1**
CSGN				*e*Sn	**Sn**	**12 19 43.6**	**-1.1**
ROSC	**El Rosal**	**8.29**	**102**	*e*Pn	Pn	12 18 22.0	+5.5
ROSC	**El Rosal**	**8.29**	**102**	Pn	Pn	12 18 22.9	+6.3
	comp=E,2.4nm,0.3s,baz=111,slow=15,SNR=10						
ROSC				Sn	Sb	12 20 05.9	-13
	comp=E,0.4nm,0.3s,baz=164,slow=21,SNR=1.2						
TGUH	**Tegucigalpa,Un**	**8.76**	**328**	*e*Pn	**Pn**	**12 18 24.8**	**+2.3**
APG	**El Apazote**	**11.43**	**317**	Pn	**Pn**	**12 19 00.7**	**+1.3**
	comp=E,5.5nm,0.3s,baz=128,slow=8.3,SNR=44						
APG				LR	LR	12 22 19.0	
	comp=E,88nm,21.8s,baz=209,slow=32						
SDV	**Santo Domingo**	**11.93**	**78**	*e*Pn	**Pn**	**12 19 10.2**	**+4.0**
CCIG	**Comitan**	**13.47**	**316**	*e*Pn	**Pn**	**12 19 27.5**	**+0.2**
ATAH	**Atahualpa**	**14.28**	**163**	LR	LR	12 24 26.1	
	comp=E,165nm,18.3s,baz=326,slow=33						
CMIG	**Matias Romero**	**15.98**	**312**	Pn	**Pn**	**12 20 02.8**	**+2.0**
	comp=E,1.7nm,0.3s,baz=124,slow=9.1,SNR=19						
SDDR	**Presa de Salan**	**16.39**	**41**	*e*Pn	**P**	**12 20 08.6**	**-0.5**
	comp=E,20nm,0.8s						
BANI	**BANI**	**16.60**	**44**	*e*Pn	**P**	**12 20 12.6**	**+1.1**
OBIP	**Obispado Ponce**	**19.17**	**52**	*e*P	**Pn**	**12 20 43.3**	**+2.7**
	comp=E,22nm,1.0s						
SJG	**San Juan**	**19.57**	**53**	*e*P	**Pn**	**12 20 46.5**	**+1.1**
	comp=E,15nm,1.1s						
SJG	**San Juan**	**19.57**	**53**	P	**P**	**12 20 40.3**	**-3.8**
	comp=E,0.3nm,0.3s,baz=284,slow=8.3,SNR=2.2						
HUMP	**Col San Antoni**	**19.82**	**53**	*e*P	**Pn**	**12 20 49.4**	**+1.0**
	comp=E,15nm,0.9s						
CBYP	**Canovanas**	**19.89**	**53**	*e*P	**Pn**	**12 20 50.7**	**+1.4**
	comp=E,25nm,1.1s						
MTP	**Monte Pirata**	**20.03**	**54**	*e*P	**Pn**	**12 20 52.2**	**+1.2**
	comp=E,25nm,1.1s						
LNIG	**Linares**	**24.39**	**320**	*e*P	**P**	**12 21 35.1**	**+0.5**
	comp=E,14nm,1.0s						
ZAIG	**Zacatecas**	**25.15**	**312**	*e*P	**P**	**12 21 41.9**	**+0.1**
	comp=E,3.2nm,0.9s						
250A	**Grady**	**25.45**	**352**	*e*P	**P**	**12 21 46.2**	**+2.0**
	comp=E,11nm,1.0s						
LPAZ	**La Paz**	**26.84**	**148**	*e*P	**P**	**12 21 59.9**	**+2.3**
LPAZ	**La Paz**	**26.84**	**148**	LR	LR	12 33 32.7	
	comp=E,146nm,18.8s,baz=320,slow=38						
LTX	**Lajitas**	**30.15**	**321**	*e*P	**P**	**12 22 26.7**	**+0.2**
TXAR	**Lajitas Array**	**30.15**	**321**	P	**P**	**12 22 26.7**	**+0.2**
	comp=E,0.3nm,0.7s,baz=125,slow=8.9,SNR=3.3						
TX31	**Lajitas Ar. Si**	**30.16**	**321**	*e*P	**P**	**12 22 26.9**	**+0.4**
H06E1	**SOCORRO T-PHAS**	**30.21**	**296**	T	T	12 54 02.0	
	SNR=11						
SDCO	**Great Sand Dun**	**37.37**	**329**	*e*P	**P**	**12 23 29.8**	**+0.5**
	comp=E,4.9nm,1.1s						
S22A	**4UR Ranch, Cre**	**38.06**	**328**	*e*P	**P**	**12 23 35.5**	**+0.3**
	comp=E,4.4nm,1.1s						
BDFB	**Brasilia**	**40.67**	**123**	LR	LR	12 40 47.4	
	comp=E,77nm,18.4s,baz=280,slow=36						
SRU	**San Rafael Swe**	**41.05**	**326**	*e*P	**P**	**12 24 00.1**	**+0.2**
	comp=E,4.4nm,0.9s						
PD31	**Pinedale Array**	**43.20**	**331**	*e*P	**P**	**12 24 17.8**	**+0.3**
	comp=E,2.1nm,1.1s						
PDAR	**Pinedale Array**	**43.20**	**331**	P	**P**	**12 24 17.5**	**0.0**
	comp=E,0.3nm,0.6s,baz=142,slow=4.6,SNR=2.7						
ULM	**Lac du Bonnet**	**44.89**	**348**	P	**P**	**12 24 29.3**	**-1.4**
	comp=E,2.2nm,0.8s,baz=155,slow=9.3,SNR=3.7						
NV01	**Mina Array Sit**	**45.28**	**320**	*e*P	**P**	**12 24 34.1**	**-0.3**
NVAR	**Mina Array Bea**	**45.28**	**320**	P	**P**	**12 24 35.4**	**+1.1**
	comp=E,1.0nm,0.8s,baz=141,slow=6.4,SNR=7.8						
BMN	**Battle Mountai**	**45.80**	**323**	*e*P	**P**	**12 24 38.2**	**-0.1**
	comp=E,2.7nm,0.8s						
BOZ	**Bozeman (W)**	**46.30**	**332**	*e*P	**P**	**12 24 42.2**	**0.0**
	comp=E,1.6nm,1.0s						
YKA	**Yellowknife Ar**	**60.51**	**344**	P	**P**	**12 26 25.9**	**-0.2**
	comp=E,0.3nm,0.9s,baz=138,slow=6.8,SNR=7.1						
YKB5	**Yellowknife Ar**	**60.51**	**344**	*e*P	**P**	**12 26 26.5**	**+0.4**
INK	**Inuvik**	**70.19**	**342**	*e*P	**P**	**12 27 29.6**	**+0.9**
	comp=E,1.6nm,0.8s						
ILAR	**Eielson Array**	**73.28**	**336**	P	**P**	**12 27 47.7**	**+0.2**
	comp=E,0.7nm,0.9s,baz=118,slow=5.1,SNR=7.0						
ILB	**Eielson Array**	**73.28**	**336**	*e*P	**P**	**12 27 48.4**	**+0.9**
	comp=E,2.5nm,1.1s						
IM3	**Indian Mountai**	**76.39**	**336**	*e*P	**P**	**12 28 06.7**	**+1.2**
TOA1	**Torodi Ar. Sit**	**82.84**	**78**	*e*P	**P**	**12 28 42.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**82.85**	**78**	P	**P**	**12 28 42.4**	**+0.8**
	comp=E,0.2nm,0.5s,baz=285,slow=7.6,SNR=2.0						
NB200	**NORSAR Array S**	**86.02**	**29**	*e*P	**P**	**12 28 55.1**	**-1.7**
NOA	**NORSAR Array B**	**86.02**	**29**	P	**P**	**12 28 55.1**	**-1.7**
	comp=E,0.5nm,0.8s,baz=276,slow=4.8,SNR=2.9						
VYHS	**Vyhne**	**92.50**	**41**	*e*P	**P**	**12 29 28.1**	**+0.4**
H11N3	**WAKE ISLAND Hyl**	**106.93**	**293**	T	T	14 29 57.1	
	baz=78						
H11N2	**WAKE ISLAND Hyl**	**106.94**	**293**	T	T	14 29 59.5	
	baz=78						
H11N1	**WAKE ISLAND Hyl**	**106.95**	**293**	T	T	14 29 55.1	
	baz=78						
H11S1	**WAKE ISLAND Hyl**	**107.40**	**292**	T	T	14 30 25.9	
	baz=77,slow=75,SNR=4.9						
H11S2	**WAKE ISLAND Hyl**	**107.40**	**292**	T	T	14 30 26.4	
	baz=77,slow=75,SNR=6.3						
H11S3	**WAKE ISLAND Hyl**	**107.42**	**292**	T	T	14 30 27.8	
	baz=77,slow=75,SNR=7.9						
ASAR	**Alice Springs**	**141.20**	**240**	PKhKP	PKPpre	12 35 44.8	
	comp=E,0.3nm,0.8s,baz=110,slow=2.6,SNR=3.2						
WRA	**Warramunga Arr**	**141.93**	**246**	PKhKP	PKPpre	12 35 46.8	
	comp=E,0.5nm,0.9s,baz=94,slow=1.7,SNR=2.8						
WRA				PKP	**PKiKP**	**12 35 53.1**	**+0.9**
	comp=E,0.4nm,0.7s,baz=93,slow=2.2,SNR=5.6						
CD2	**Chengdu**	**142.19**	**351**	PKP	**PKPdf**	**12 35 48.5**	**-1.1**

IDC 29 12:18:59.5±1.4,4°.13S×152°.11E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/25,mbtmp3.7/5,Error ellipse: s-maj=36.3km s-min=28.8km az=136.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**22.61**	**143**	P	P	12 24 02.0	-0.2
	4.1nm,1.0s,baz=302,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**23.39**	**226**	P	P	12 24 09.1	-1.1
	0.8nm,0.7s,baz=50,slow=9.9,SNR=3.5						
ASAR	**Alice Springs**	**26.19**	**220**	P	P	12 24 36.6	+0.5
	1.1nm,0.6s,baz=53,slow=8.4,SNR=24						
FITZ	**Fitzroy Crossi**	**29.38**	**240**	P	P	12 25 05.8	+1.1
	1.8nm,0.9s,baz=45,slow=8.6,SNR=1.8						
ILAR	**Eielson Array**	**81.80**	**22**	P	P	12 31 20.4	+0.2
	0.2nm,0.8s,baz=233,slow=3.9,SNR=1.4						
TORD	**Torodi Ar. Bea**	**149.44**	**289**	PKPbc	PKPbc	12 38 50.7	-1.1
	0.6nm,0.7s,baz=79,slow=4.1,SNR=4.6						

*ISK **29** 12:23:28.8,37°.56N×35°.68E,h5km,ML2.3/6*
*DDA **29** 12:23:29.6,37°.52N×35°.70E,h7km±2km,ML2.5*
*ISCJB **29** 12:23:30.1±0.4,37°.51N±0°.03×35°.71E±0°.03,h12km±4km, Error ellipse: s-maj=5.2km s-min=4.0km az=136.4*
ISC 29 12:23:28.7±1.1,37°.51N±0°.04×35°.75E±0°.04,h22km±3km, n13,σ0°77/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.07**	**113**	PG	**Pb**	**12 23 32.4**	**-0.3**
KOZT				SG	**Sb**	**12 23 34.5**	**-0.9**
AKO	**Adana**	**0.24**	**259**	*i* P	**Pb**	**12 23 35.0**	**+0.1**
AKO				*i* S	**Sb**	**12 23 38.8**	**-0.2**
AKO				IAML_P			
	comp=Z,13μm,0.2s						
ANDN	**Andirin**	**0.48**	**81**	*i* P	**Pn**	**12 23 40.7**	**+0.4**
ANDN				*i* S	**Sn**	**12 23 48.4**	**+0.2**
ANDN				IAML_P			
	comp=Z,4μm,0.3s						
CEYT	**Ceyhan**	**0.50**	**180**	PG	**Pn**	**12 23 39.8**	**-0.7**
CEYT				SG	**Sn**	**12 23 48.2**	**-0.2**
SAIM	**ADANA**	**0.54**	**29**	*i* P	**Pn**	**12 23 40.9**	**-0.3**
SAIM				*i* S	**Sn**	**12 23 50.3**	**+0.7**
SAIM				IAML_P			
	comp=Z,3μm,0.1s						
KARA	**Karaisali**	**0.60**	**246**	PG	**Pb**	**12 23 40.7**	**0.0**
KARA				SG	**Sb**	**12 23 48.9**	**+0.1**
YAHY	**KAYSERI_Yahyal**	**0.66**	**333**	*i* P	**Pn**	**12 23 42.3**	**-0.6**
YAHY				*i* S	**Sn**	**12 23 51.4**	**-1.4**
YAHY				IAML_P			
	comp=Z,988nm,0.1s						
YURE	**YUREGIR**	**0.69**	**188**	PG	**Pn**	**12 23 43.3**	**+0.2**
YURE				SG	**Sn**	**12 23 54.2**	**+1.0**
YURE	**YUREGIR**	**0.69**	**188**	*i* P	**Pb**	**12 23 41.5**	**-0.6**
YURE				*i* S	**Sn**	**12 23 53.5**	**+0.4**
KMRS	**Kahramanmaras**	**0.92**	**90**	PG	**Pn**	**12 23 47.5**	**+1.2**
KERG	**Konya-Eregli**	**1.30**	**266**	*i* P	**Pb**	**12 23 54.0**	**+1.5**
KERG				*i* S	**Sb**	**12 24 09.8**	**+1.1**
KERG				IAML_P			
	comp=Z,83nm,0.2s						
KEBE	**Keben-Mersin**	**1.94**	**238**	PN	**Pb**	**12 24 03.5**	**+0.1**
IKL	**Isikli**	**2.08**	**233**	PN	**Pb**	**12 24 05.3**	**-0.5**

*NSSC **29** 12:33:37.5±0.5,33°.96N×35°.79E,h15km±3km,ML1.4*
*ISCJB **29** 12:33:39.9±2.1,33°.80N±0°.06×35°.7E±0°.1,h21km±23km, Error ellipse: s-maj=18.2km s-min=8.0km az=157.0*
*GRAL **29** 12:33:41.5±0.3,33°.79N×35°.77E,h4km±15km,MD2.7*
ISC 29 12:33:38.4±1.4,33°.78N±0°.05×35°.73E±0°.07,h27km±10km, n7,σ0°63/12,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.14**	**332**	*e*P	**Pn**	**12 33 44.3**	**-0.6**
DQRL	**Deir Qamar**	**0.15**	**240**	*e*P	**Pn**	**12 33 44.9**	**-0.2**
DQRL				*e*S	**Sb**	**12 33 47.5**	**0.0**
RCY	**Rachaya**	**0.30**	**163**	*e*P	**Pn**	**12 33 46.9**	**-0.3**
RCY				*e*S	**Sb**	**12 33 50.8**	**+0.2**
BRBR	**Barbar**	**0.41**	**154**	*e*P	**Pn**	**12 33 48.7**	**-0.1**
BRBR				*e*S	**Sn**	**12 33 56.8**	**+1.0**
BRBR				AML	AML	12 33 58.0	
	comp=N,28nm,0.6s						
BRBR				AML	AML	12 33 58.4	
	comp=E,40nm,0.6s						
QASN	**Qassioun**	**0.52**	**119**	*e*P	**Pn**	**12 33 49.3**	**-0.9**
QASN				*e*S	**Sn**	**12 33 57.5**	**-0.7**
QASN				AML	AML	12 33 57.9	
	comp=N,22nm,0.3s						
QASN				AML	AML	12 34 01.1	
	comp=E,54nm,0.3s						
HWQ	**Hawqa**	**0.52**	**20**	*e*P	**Pn**	**12 33 50.7**	**+0.5**
TOTH	**TOTAH**	**0.72**	**126**	*e*P	**Pn**	**12 33 52.9**	**0.0**
TOTH				*e*S	**Sn**	**12 34 03.5**	**+0.5**
TOTH				AML	AML	12 34 15.1	
	comp=N,8.2nm,0.7s						
TOTH				AML	AML	12 34 18.0	
	comp=E,11nm,0.7s						

*IDC **29** 12:38:49.4±6.8,5°.09S×107°.02E,h137km±39km,mb3.4/4, mb1 3.6/4,mb1mx3.1/43,mbtmp3.8/4,MS3.1/1,Ms1 3.1/1, ms1mx2.6/31,Error ellipse: s-maj=108.3km s-min=72.7km az=63.0*
*DJA **29** 12:38:55.3±0.6,7°.S±12°×10°6E±°,h162km±5km,M3.9/10, mb4.2/1,MLv3.8/10*
ISC 29 12:38:55.9±1.0,6°.7S±0°.1×106°.39E±0°.09,h150km,n18, σ1°89/21,mb3.6/4,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.34**	**151**	P	**Pn**	**12 39 18.5**	**+1.9**
SKJI				S	**Sn**	**12 39 36.6**	**+4.2**
CBJI	**Citeko**	**0.54**	**58**	P	**Pn**	**12 39 18.8**	**+1.3**
CBJI				S	**Sn**	**12 39 37.7**	**+3.9**
SBJI	**Serang**	**0.64**	**336**	P	**Pn**	**12 39 18.2**	**+0.2**
LEM	**Lembang**	**1.23**	**96**	P	**Pn**	**12 39 22.9**	**0.0**
LEM	**Lembang**	**1.23**	**96**	P	**Pn**	**12 39 22.5**	**-0.4**
	16nm,0.3s,baz=315,slow=20,SNR=8.1						
LEM				S	**Sn**	**12 39 46.8**	**+3.3**
	6.6nm,0.3s,baz=283,slow=21,SNR=2.3						
CISI	**Cisompet, Garu**	**1.65**	**121**	P	**Pn**	**12 39 27.6**	**+0.5**
CISI				S	**Sn**	**12 39 52.5**	**+1.4**
KASI	**Kota Agung**	**2.22**	**302**	P	**Pn**	**12 39 33.9**	**+0.3**
CMJI	**Cimerak**	**2.31**	**118**	P	**Pn**	**12 39 34.8**	**+0.1**
KPJI	**Karang Pucung**	**2.60**	**104**	P	**Pn**	**12 39 38.7**	**+0.4**
MDSI	**Maura Dua**	**3.11**	**315**	P	**Pn**	**12 39 44.1**	**-0.7**
MNAI	**Manna**	**4.13**	**304**	P	**Pn**	**12 39 57.3**	**-0.7**
UGM	**Wanagama**	**4.27**	**107**	P	**Pn**	**12 39 59.2**	**-0.6**
PCJI	**Pacitan**	**4.97**	**108**	P	**Pn**	**12 40 08.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.92**	**123**	P	**P**	**12 43 35.6**	**-1.9**
	1.5nm,0.9s,baz=328,slow=9.5,SNR=2.9						
SIJI	**Sorong**	**25.48**	**78**	LR	LR	12 54 57.9	
	comp=Z,45nm,18.2s,baz=352,slow=39						
WRA	**Warramunga Arr**	**30.15**	**119**	P	**P**	**12 44 49.7**	**-2.3**
	0.2nm,0.4s,baz=306,slow=8.9,SNR=13						
ASAR	**Alice Springs**	**31.35**	**125**	P	**P**	**12 45 01.1**	**-1.4**
	0.6nm,0.4s,baz=295,slow=7.7,SNR=53						
STKA	**Stephens Creek**	**41.29**	**132**	P	**P**	**12 46 26.1**	**-0.7**
	3.6nm,0.5s,baz=318,slow=8.4,SNR=15						

*ISCJB **29** 12:52:58.9±0.2,37°.33N±0°.03×97°.15E±0°.03,h10km, mb4.0/40,MS3.6/15,Error ellipse: s-maj=4.8km s-min=3.6km az=20.9*
*MOS **29** 12:52:59.0±1.1,37°.30N×97°.09E,h12km,mb4.3/11,Error ellipse: s-maj=8.2km s-min=5.1km az=114.2*
*IDC **29** 12:52:59.0±0.6,37°.32N×97°.25E,h0km,mb4.0/20, mb1 4.1/26,mb1mx4.0/61,mbtmp4.0/26,ML3.9/5,MS3.6/20, Ms1 3.6/20,ms1mx3.4/49,Error ellipse: s-maj=17.0km s-min=12.0km az=42.0*
*NEIC **29** 12:53:00.7±0.3,37°.34N×97°.09E,h10km,mb4.2/20,Error ellipse: s-maj=6.1km s-min=4.3km az=199.0*
*BJI **29** 12:53:00.8,37°.25N×97°.20E,h10km,mb4.6/16,mB4.8/13, ML4.4/14,Ms4.1/23,Ms7 3.9/17*
ISC 29 12:53:01.4±0.4,37°.34N±0°.04×97°.15E±0°.04,h10km,n138, σ1°96/139,mb4.2/40,MS3.6/15,6C-3D,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**2.94**	**45**	Pn	**Pn**	**12 53 51.0**	**+2.7**
GTA				Pg	**Pb**	**12 53 55.0**	**+1.0**
GTA				Sg	**Sb**	**12 54 31.3**	**+1.3**
GTA				smax	smax		
	comp=N,400nm,1.0s						
GTA				smax	smax		
	comp=E,620nm,0.7s						
GTA				LR	LR		
	comp=N,4μm,7.6s						
GTA				LR	LR		
	comp=E,4μm,7.9s	

SONM	**Songino Array**	**12.49**	**30**	Pn		**Pn**	**12 55 59.9**	**+0.6**
	comp=E,1.1nm,0.3s,baz=214,slow=15,SNR=33							
SONM				Lg		Lg	12 59 38.5	
	comp=E,0.2nm,0.3s,baz=224,slow=27,SNR=3.9							
SONM				LR		LR	13 01 06.4	
	comp=E,159nm,18.7s,baz=212,slow=39							
SHL	**Shillong**	**12.57**	**202**	P		**Pn**	**12 55 59.1**	**-1.4**
SHL				pmax		pmax		
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**12.78**	**32**	*e*Pn		**Pn**	**12 56 03.5**	**+0.2**
ULN	**Ulaanbaatar**	**12.78**	**32**↓	*e*P		**Pn**	**12 56 04.2**	**+0.9**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KMI	**Kunming**	**13.08**	**157**	P		**Pn**	**12 56 11.0**	**+3.4**
KMI				pmax		pmax		
	comp=Z,16nm,0.5s							
ZAK	**Zakamensk**	**13.76**	**17**	*e*P		**Pn**	**12 56 18.2**	**+1.7**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
DGZ	**Jazzator, Alta**	**14.21**	**333**↑	*e*P		**Pn**	**12 56 23.2**	**+0.5**
MK01	**Makanchi Array**	**14.49**	**315**	*e*Pn		**Pn**	**12 56 24.7**	**-1.8**
MK31	**Makanchi Array**	**14.51**	**315**	*e*Pn		**Pn**	**12 56 23.9**	**-2.9**
MK31	**Makanchi Array**	**14.51**	**315**	*e*P		**Pn**	**12 56 24.6**	**-2.1**
MK31				pmax		pmax		
	comp=Z,7.0nm,0.6s							
MK32	**Makanchi Array**	**14.51**	**315**	*e*Pn		**Pn**	**12 56 23.7**	**-3.1**
MK32				*e*Sn		Sn	12 58 55.6	-12
MKAR	**Makanchi Array**	**14.51**	**315**	Pn		**Pn**	**12 56 23.7**	**-3.1**
	comp=Z,0.7nm,0.3s,baz=125,slow=14,SNR=46							
MKAR				Sn		Sn	12 58 55.6	-12
	comp=Z,0.1nm,0.3s,baz=122,slow=24,SNR=2.1							
MKAR				Lg		Lg	13 00 43.1	
	baz=128,slow=26,SNR=2.7							
MKAR				LR		LR	13 02 42.6	
	comp=Z,257nm,20.4s,baz=122,slow=40							
MOY	**Mondy**	**14.58**	**10**	*e*P		**P**	**12 56 34.6**	**+0.3**
MOY				pmax		pmax		
	comp=Z,23nm,2.2s							
MAKZ	**Makanchi**	**14.69**	**315**	*e*Pn		**Pn**	**12 56 26.4**	**-2.9**
MAKZ	**Makanchi**	**14.69**	**315**	*e*P		**Pn**	**12 56 26.4**	**-2.9**
PDGK	**Podgornoye**	**14.73**	**299**	P		**Pn**	**12 56 27.0**	**-2.9**
PDGK				pmax		pmax		
	comp=Z,11nm,0.9s							
TLY	**Talaya**	**15.05**	**16**↑	*e*P		**Pn**	**12 56 33.6**	**-0.5**
BRDH	**Bariadhala**	**15.37**	**200**	LR		LR	13 03 51.6	
	comp=Z,190nm,19.6s,baz=26,slow=42							
KDJ	**Kajisay**	**16.08**	**293**	*e*Pn		**Pn**	**12 56 46.2**	**-1.6**
	comp=Z,17nm,0.8s							
KDJ	**Kajisay**	**16.08**	**293**	*e*P		**Pn**	**12 56 46.2**	**-1.6**
KDJ				pmax		pmax		
	comp=Z,17nm,0.8s							
KSH	**Kashi**	**16.74**	**284**	P		**P**	**12 56 57.3**	**-1.1**
KSH				S		**Sn**	**13 00 01.5**	**-0.5**
KSH				pmax		pmax		
	comp=Z,13nm,0.6s							
KSH				pmax		pmax		
	comp=Z,73nm,5.2s							
KSH				LR		LR		
	comp=Z,350nm,9.8s							
KSH				LR		LR		
	comp=Z,370nm,7.5s							
KSH				LR		LR		
	comp=Z,290nm,11.5s							
ULHL	**Ulahol**	**16.79**	**293**	P		**P**	**12 56 57.2**	**-1.8**
	SNR=7.8							
NRN	**Naryn**	**16.85**	**291**	*e*Pn		**Pn**	**12 56 55.3**	**-2.4**
	comp=Z,12nm,1.0s							
NRN	**Naryn**	**16.85**	**291**	*e*P		**Pn**	**12 56 55.3**	**-2.4**
NRN				pmax		pmax		
	comp=Z,12nm,1.0s							
BOOM	**Boomskoye usch**	**17.05**	**294**	P		**Pn**	**12 56 57.3**	**-2.8**
BOOM				pmax		pmax		
	comp=Z,5.0nm,0.8s							
TKM2	**Tokmak 2**	**17.38**	**295**	P		**Pn**	**12 57 02.6**	**-1.6**
	SNR=20							
TKM2	**Tokmak 2**	**17.38**	**295**	*i* P		**Pn**	**12 57 02.4**	**-1.9**
TKM2				pmax		pmax		
	comp=Z,14nm,0.7s							
KZA	**Kyzart**	**17.49**	**292**	P		**Pn**	**12 57 04.2**	**-1.6**
	SNR=11							
KBK	**Karagaybulak**	**17.80**	**294**	P		**P**	**12 57 08.9**	**-1.3**
	SNR=10.0							
UCH	**Uchtor**	**18.05**	**293**	P		**P**	**12 57 12.2**	**-1.0**
	SNR=8.3							
AAK	**Ala-Archa**	**18.13**	**294**	*e*Pn		**Pn**	**12 57 11.9**	**-1.5**
	comp=Z,12nm,0.9s							
AAK	**Ala-Archa**	**18.13**	**294**	*ce*P		**P**	**12 57 12.8**	**-1.0**
AAK				pmax		pmax		
	comp=Z,12nm,0.9s							
AAK	**Ala-Archa**	**18.13**	**294**	P		**P**	**12 57 13.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=142,slow=11,SNR=10.0							
AAK				S		**S**	**13 00 49.9**	**+8.4**
	comp=Z,0.2nm,0.3s,baz=212,slow=16,SNR=1.5							
AAK				Lg		Lg	13 02 41.8	
	comp=Z,0.2nm,0.3s,baz=215,slow=16,SNR=1.5							
AAK				LR		LR	13 05 07.0	
	comp=Z,273nm,19.9s,baz=96,slow=40							
USP	**Ospenovka**	**18.24**	**296**	P		**P**	**12 57 14.4**	**-0.5**
	SNR=6.9							
CHTO	**Chiang Mai**	**18.53**	**175**	P		**Pn**	**12 57 18.1**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,5.0nm,1.1s							
CHTO	**Chiang Mai**	**18.53**	**175**	P		**Pn**	**12 57 18.1**	**-0.2**
	comp=Z,18nm,1.1s							
CMMT	**Chiang Mai**	**18.53**	**175**	P		**Pn**	**12 57 18.3**	**0.0**
	comp=Z,4.1nm,1.9s							
AML	**Almayashu**	**18.64**	**292**	P		**Pn**	**12 57 20.2**	**+0.2**
	SNR=7.9							
ZAA0	**Zalesovo Array**	**18.66**	**337**	*e*P		**Pn**	**12 57 19.1**	**-0.6**
	comp=Z,18nm,0.8s							
ZALV	**Zalesovo Beam**	**18.66**	**337**	P		**Pn**	**12 57 19.1**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=151,slow=11,SNR=45							
ZALV				Lg		Lg	13 02 50.8	
	comp=Z,0.2nm,0.3s,baz=140,slow=23,SNR=3.3							
ZAA1	**Zalesovo Array**	**18.67**	**337**	*e*P		**Pn**	**12 57 19.1**	**-0.6**
KURBB	**Kurchatov Arra**	**18.79**	**321**	P		**P**	**12 57 19.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=132,slow=12,SNR=25							
KURBB				S		**S**	**13 01 00.6**	**+6.1**
	comp=Z,0.0nm,0.3s,baz=121,slow=27,SNR=3.4							
KURBB				Lg		Lg	13 03 02.8	
	comp=Z,0.0nm,0.3s,baz=129,slow=26,SNR=3.3							
KURK	**Kurchatov**	**18.80**	**321**	*e*P		**Pn**	**12 57 20.5**	**-0.9**
	comp=Z,15nm,0.9s							
KURK	**Kurchatov**	**18.80**	**321**	*de*P		**P**	**12 57 20.0**	**-0.9**
KURK				pmax		pmax		
	comp=Z,22nm,1.3s							
CMAR	**Chiang Mai Arr**	**18.88**	**175**	P		**Pn**	**12 57 21.6**	**-0.9**
	baz=347,slow=10,SNR=14							
CMAR				LR		LR	13 05 24.2	
	comp=Z,119nm,21.4s,baz=8.5,slow=40							
UTTA	**Uttaradit**	**19.75**	**170**	P		**Pn**	**12 57 34.4**	**+1.4**
	comp=Z,3.0nm,1.0s,comp=Z,102nm							
NIL	**Nilore**	**19.79**	**266**	*e*P		**P**	**12 57 30.8**	**-1.1**
	comp=Z,9.9nm,0.8s							
NIL	**Nilore**	**19.79**	**266**	*e*P		**P**	**12 57 30.8**	**-1.1**
NIL				pmax		pmax		
	comp=Z,10.0nm,0.8s							
NVS	**Novosibirsk**	**19.92**	**336**	*e*P		**Pn**	**12 57 33.4**	**-1.3**
NVS				pmax		pmax		
	comp=Z,20nm,0.7s							
NVS				pmax		pmax		
	comp=N,15nm,0.7s							
NVS				pmax		pmax		
	comp=E,14nm,0.7s							
KK31	**Karatay Array**	**21.09**	**294**	*i* P		**P**	**12 57 45.8**	**-0.2**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KKAR	**Karatay Array**	**21.09**	**294**	*e*P		**P**	**12 57 45.5**	**-0.4**
	comp=Z,3.4nm,0.7s							
KKAR	**Karatay Array**	**21.09**	**294**	*e*P		**P**	**12 57 45.6**	**-0.4**
KKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KHON	**Khomkaen**	**21.52**	**165**	P		**P**	**12 57 56.6**	**+6.0**
UTHA	**Uthaitani**	**21.79**	**174**	P		**P**	**12 57 58.5**	**+4.9**
	comp=Z,4.0nm,1.0s							
KBL	**Kabul**	**22.90**	**271**	*e*P		**P**	**12 58 04.9**	**-0.7**
	comp=Z,13nm,0.8s							
KBL	**Kabul**	**22.90**	**271**	*e*P		**P**	**12 58 04.9**	**-0.7**
KBL				pmax		pmax		
	comp=Z,13nm,0.8s							
BOD	**Bodaibo**	**23.30**	**23**	*e*P		**P**	**12 58 08.9**	**-0.3**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.4s							
BVA0	**Borovoye Array**	**24.33**	**319**	*i* P		**P**	**12 58 19.6**	**+0.4**
BVA0				pmax		pmax		
	comp=Z,10.0nm,0.9s							
BVAR	**Borovoye Array**	**24.33**	**319**	P		**P**	**12 58 18.9**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=108,slow=8.2,SNR=20							
BVAR				LR		LR	13 08 23.2	
	comp=Z,257nm,18.7s,baz=154,slow=38							
KS15	**Wonju Array Si**	**24.37**	**80**	*e*P		**P**	**12 58 19.2**	**-0.4**
	comp=Z,24nm,1.1s							
KSRS	**Korea Array**	**24.39**	**80**	P		**P**	**12 58 19.0**	**-0.9**
KSRS	**Korea Array**	**24.39**	**80**	P		**P**	**12 58 19.0**	**-0.9**
	comp=Z,8.1nm,0.9s,baz=271,slow=8.6,SNR=20							
KSRS				LR		LR	13 08 44.8	
	comp=Z,118nm,19.6s,baz=284,slow=39							
BRVK	**Borovoye**	**24.40**	**319**	*e*P		**P**	**12 58 19.2**	**-0.6**
	comp=Z,16nm,1.0s							
BRVK	**Borovoye**	**24.40**	**319**↑	*e*P		**P**	**12 58 19.6**	**-0.2**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**27.11**	**64**	LR		LR	13 10 25.3	
	comp=Z,77nm,21.8s,baz=266,slow=39							
KLR	**Kul'dur**	**27.60**	**53**	LR		LR	13 10 49.8	
	comp=Z,117nm,18.7s,baz=292,slow=39							
JNU	**Nakatsue**	**27.78**	**89**	LR		LR	13 10 14.4	
	comp=Z,112nm,18.4s,baz=292,slow=37							
AB31	**Akbulak array**	**29.29**	**306**	*i* P		**P**	**12 59 03.5**	**-0.3**
AB31				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ABKAR	**Akbulak array**	**29.29**	**306**	*e*P		**P**	**12 59 03.2**	**-0.5**
	comp=Z,1.8nm,1.0s							
AKTO	**Aktyubinsk**	**30.72**	**308**	P		**P**	**12 59 15.4**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=92,slow=10,SNR=8.4							
GEYT	**Alibeck**	**30.77**	**283**	P		**P**	**12 59 18.4**	**+1.4**
	comp=Z,5.7nm,0.8s,baz=79,slow=7.7,SNR=7.8							
TGY	**Tagaytay City**	**31.37**	**131**	LR		LR	13 12 04.2	
	comp=Z,230nm,21.6s,baz=270,slow=37							
MJAR	**Matsushiro Arr**	**32.64**	**79**	LR		LR	13 12 38.2	
	comp=Z,55nm,19.5s,baz=260,slow=36							
PSI	**Prapat**	**34.41**	**177**	LR		LR	13 13 53.4	
	comp=Z,103nm,18.6s,baz=295,slow=36							
KIRV	**Kirov**	**37.32**	**320**	P		**P**	**13 00 13.5**	**0.0**
	comp=Z,6.8nm,0.4s,baz=120,slow=5.5,SNR=3.2							
TIXI	**Tiksi**	**38.03**	**16**↑	*e*P		**P**	**13 00 19.6**	**+0.2**
TIXI				pmax		pmax		
	comp=Z,1.0nm,1.2s							
TIXI	**Tiksi**	**38.03**	**16**	P		**P**	**13 00 18.8**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=198,slow=3.2,SNR=7.1							
JCJ	**Chichijima**	**39.12**	**92**	LR		LR	13 16 34.9	
	comp=Z,46nm,19.0s,baz=88,slow=36							
DAV	**Davao City (W)**	**39.69**	**132**	LR		LR	13 17 28.2	
	comp=Z,67nm,21.7s,baz=354,slow=37							
SEY	**Seymchan**	**41.84**	**34**↓	*e*P		**P**	**13 00 49.9**	**-1.2**
SEY	**Seymchan**	**41.84**	**34**	P		**P**	**13 00 49.8**	**-1.4**
	comp=Z,1.6nm,1.1s,baz=253,slow=19,SNR=2.6							
KLMR	**Klimovskoe**	**42.65**	**322**	*e*P		**P**	**13 00 54.9**	**-2.8**
KLMR				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KLMR	**Klimovskoe**	**42.65**	**322**	*e*P		**P**	**13 00 55.0**	**-2.8**
KLMR				AMP			13 00 58.2	
	comp=Z,5.0nm,0.6s							
OBN	**Obninsk**	**44.01**	**314**	*e*P		**P**	**13 01 07.1**	**-1.7**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.7s							
LEM	**Lembang**	**45.02**	**165**	LR		LR	13 21 12.6	
	comp=Z,84nm,19.4s,baz=238,slow=38							
BILL	**Bilibino**	**48.20**	**28**	*e*P		**P**	**13 01 42.0**	**+0.3**
BILL				pmax		pmax		
	comp=Z,2.0nm,1.0s							
BR101	**Keskin Array S**	**48.81**	**293**	*e*P		**P**	**13 01 47.0**	**+0.1**
BR131	**Keskin Array S**	**48.81**	**293**	*e*P		**P**	**13 01 46.3**	**-0.6**
	comp=Z,2.1nm,0.9s							
BRTR	**Keskin Array B**	**48.81**	**293**	P		**P**	**13 01 47.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=93,slow=7.4,SNR=6.5							
AKASG	**Malin Array Be**	**48.96**	**309**	P		**P**	**13 01 47.0**	**-0.7**
	comp=Z,0.2nm,0.2s,baz=66,slow=7.6,SNR=2.8							
AKASG				LR		LR	13 24 52.2	
	comp=Z,56nm,18.0s,baz=335,slow=39							
FIA1	**FINESS Array S**	**49.16**	**323**	*e*P		**P**	**13 01 48.3**	**-0.8**
	comp=Z,12nm,1.1s							
FIA0	**FINESS Array S**	**49.16**	**323**	*e*P		**P**	**13 01 48.9**	**-0.2**
FIA0	**FINESS Array S**	**49.16**	**323**	*e*P		**P**	**13 01 48.9**	**-0.2**
FINES	**FINESS Array B**	**49.16**	**323**	P		**P**	**13 01 48.9**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=87,slow=9.0,SNR=14							
FINES				LR		LR	13 23 49.7	
	comp=Z,113nm,18.2s,baz=274,slow=38							
ARA0	**ARCESS Array S**	**49.18**	**334**	*e*P		**P**	**13 01 49.1**	**-0.1**
ARCES	**ARCESS Array B**	**49.18**	**334**	P		**P**	**13 01 49.1**	**-0.1**
	comp=Z,1.8nm,0.5s,baz=80,slow=8.2,SNR=13							
ARE0	**ARCESS Array S**	**49.18**	**334**	*e*P		**P**	**13 01 48.5**	**-0.7**
	comp=Z,0.5nm,1.0s							
NC405	**NORSAR Array S**	**56.03**	**324**	*e*P		**P**	**13 02 39.3**	**-0.7**
	comp=Z,9.3nm,0.7s							
VYHS	**Vyhne**	**56.06**	**308**	*e*P		**P**	**13 02 42.2**	**+1.7**
VYHS	**Vyhne**	**56.06**	**308**	*e*P		**P**	**13 02 42.2**	**+1.7**
NB2	**NORSAR Subarra**	**56.28**	**324**	P		**P**	**13 02 40.9**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=70,slow=7.4							
NB200	**NORSAR Array S**	**56.28**	**324**	*e*P		**P**	**13 02 40.6**	**-1.3**
NOA	**NORSAR Array B**	**56.28**	**324**	P		**P**	**13 02 40.6**	**-1.3**
	comp=Z,1.4nm,0.6s,baz=72,slow=7.1,SNR=8.7							
NOA				LR		LR	13 27 54.4	
	comp=Z,55nm,18.5s,baz=105,slow=37							
GERES	**GERESS Array B**	**59.10**	**310**	LR		LR	13 29 54.9	
	comp=Z,116nm,19.8s,baz=322,slow=37							
FITZ	**Fitzroy Crossi**	**61.33**	**149**	P		**P**	**13 03 16.2**	**-1.1**
	comp=Z,1.9nm,0.9s,baz=344,slow=7.4,SNR=2.3							
IM3	**Indian Mountai**	**63.62**	**26**	*e*P		**P**	**13 03 31.3**	**-0.8**
ILAR	**Eielson Array**	**66.66**	**25**	P		**P**	**13 03 50.6**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=298,slow=5.1,SNR=5.3							
ILB	**Eielson Array**	**66.66**	**25**	*e*P		**P**	**13 03 50.8**	**-1.1**
	comp=Z,0.9nm,0.8s							
WRAB	**Tennant Creek**	**66.89**	**142**↑	*e*P		**P**	**13 03 52.2**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,5.0nm,1.2s							
WR1	**Warramunga Arr**	**66.89**	**142**	*e*P		**P**	**13 03 52.4**	**-1.4**
	comp=Z,1.9nm,0.9s							
WRA	**Warramunga Arr**	**66.89**	**142**	P		**P**	**13 03 52.4**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=341,slow=6.6,SNR=4.3							
INK	**Inuvik**	**68.10**	**18**	*e*P		**P**	**13 04 00.3**	**-0.7**
	comp=Z,2.1nm,0.9s							
INK	**Inuvik**	**68.10**	**18**	P		**P**	**13 03 59.8**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=336,slow=7.9,SNR=12							
KNK	**Knik Glacier**	**68.20**	**28**	*e*P		**P**	**13 04 00.7**	**-1.1**
	comp=Z,3.3nm,0.9s							
SCM	**Sheep Creek Mo**	**68.36**	**27**	*e*P		**P**	**13 04 01.9**	**-0.9**
SCM	**Sheep Creek Mo**	**68.36**	**27**	*e*P		**P**	**13 04 01.9**	**-0.9**
AS31	**Alice Springs**	**69.85**	**144**	*e*P		**P**	**13 04 11.2**	**-1.2**
	comp=Z,0.5nm,0.8s							
ASAR	**Alice Springs**	**69.86**	**144**	P		**P**	**13 04 11.1**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=331,slow=6.3,SNR=7.0							
ESDC	**Sonseca Array**	**74.60**	**308**	P		**P**	**13 04 40.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=52,slow=5.6,SNR=5.1							
YKA	**Yellowknife Ar**	**77.27**	**15**	P		**P**	**13 04 54.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=343,slow=6.1,SNR=10							
YKB5	**Yellowknife Ar**	**77.27**	**15**	*e*P		**P**	**13 04 54.4**	**-1.1**
TOA1	**Torodi Ar. Sit**	**86.41**	**284**	*e*P		**P**	**13 05 43.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**86.41**	**284**	P		**P**	**13 05 43.3**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=45,slow=4.3,SNR=2.8							

IDC 29 13:03:30.1±34.0, 36°21N×97°89E, h0km, mb2.9/1, mb1 3.2/4, mb1mx3.0/56, mbtmp3.2/4, ML3.1/3, Error ellipse: s-maj=479.6km s-min=65.4km az=166.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SONM	**Songino Array**	**13.21**	**26**	Pn		Pn	13 06 39.4	+0.4
	0.1nm,0.3s,baz=213,slow=15,SNR=1.4							
MKAR	**Makanchi Array**	**15.73**	**317**	Pn		Pn	13 07 09.0	-3.9
	0.1nm,0.3s,baz=125,slow=13,SNR=3.1							
ZALV	**Zalesovo Beam**	**19.93**	**337**	P		P	13 08 02.7	-0.6
	0.2nm,0.3s,baz=143,slow=12,SNR=5.1							
KURBB	**Kurchatov Arra**	**20.04**	**322**	P		P	13 08 04.7	+0.2
	0.2nm,0.7s,baz=132,slow=12,SNR=4.9							

IDC 29 13:10:08.0±4.8, 3°71N×127°98E, h47km±45km, mb3.3/4, mb1 3.6/5, mb1mx3.2/39, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=109.5km s-min=19.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.10**	**325**	P		Pn	13 11 08.1	-0.1
	19nm,0.3s,baz=29,slow=18,SNR=2.0							
FITZ	**Fitzroy Crossi**	**21.79**	**186**	P		P	13 14 57.7	+1.5
	2.9nm,1.0s,baz=27,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**24.32**	**165**	P		P	13 15 20.6	-0.9
	0.3nm,0.3s,baz=343,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.82**	**168**	P		P	13 15 52.6	-0.5
	0.2nm,0.3s,baz=353,slow=7.4,SNR=17							
ASAR				PcP		PcP	13 19 08.8	+0.2
	0.2nm,0.4s,baz=357,slow=2.0,SNR=8.4							
ZALV	**Zalesovo Beam**	**61.17**	**333**	P		P	13 20 17.6	-0.1
	0.3nm,0.4s,baz=130,slow=8.1,SNR=2.5							

IDC 29 13:15:19.8±6.3, 4°99S×151°81E, h98km±45km, mb3.7/4, mb1 3.8/5, mb1mx3.3/40, mbtmp4.0/5, MS3.9/1, Ms1 3.9/1, ms1mx2.7/38, Error ellipse: s-maj=60.4km s-min=41.9km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.37**	**226**	P		Pn	13 16 53.0	+1.9
	0.4nm,0.3s,baz=80,slow=17,SNR=2.3							
PMG				S		Sn	13 18 02.5	0.0
	1.1nm,0.3s,baz=233,slow=23,SNR=2.3							
WRA	**Warramunga Arr**	**22.59**	**227**	P		P	13 20 12.4	-0.1
	2.7nm,0.5s,baz=52,slow=10.0,SNR=42							
ASAR	**Alice Springs**	**25.36**	**221**	P		P	13 20 38.3	+0.3
	2.1nm,0.7s,baz=56,slow=9.1,SNR=29							
STKA	**Stephens Creek**	**28.41**	**198**	P		P	13 21 04.7	-0.6
	0.9nm,0.7s,baz=24,slow=10.0,SNR=3.2							
FITZ	**Fitzroy Crossi**	**28.70**	**241**	P		P	13 21 08.2	+0.2
	3.4nm,1.0s,baz=65,slow=8.1,SNR=22							
RAR	**Rarotonga**	**49.61**	**114**	LR		LR	13 41 06.3	
	comp=Z,129nm,19.9s,baz=44,slow=31							
TORD	**Torodi Ar. Bea**	**149.42**	**287**	PKPbc		PKPbc	13 34 57.6	-1.1
	0.6nm,0.6s,baz=72,slow=3.6,SNR=4.3							

NNC 29 13:28:56.5±2.9, 36°90N×68°98E, h0km, mb3.6, mpv3.3, 5C-2D, Error ellipse: s-maj=24.9km s-min=21.4km az=105.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.30**	**10**	⇑Pn		Pn	13 30 31.6	+0.9
	0.2nm,0.2s,baz=194,slow=13,SNR=9.2							
KK31				⇑Sn		Sn	13 31 44.5	+1.0
	0.5nm,0.2s,baz=20,slow=50,SNR=4.7							
KK31				⇓Lg		Lg	13 32 16.2	
	1.5nm,0.4s,baz=196,slow=29,SNR=5.9							
AML	**Almayashu**	**6.37**	**33**	P		Pn	13 30 32.5	+0.5
	SNR=12							
UCH	**Uchtor**	**6.82**	**37**	P		Pn	13 30 38.7	+0.5
	SNR=10							
KZA	**Kyzart**	**7.09**	**41**	P		Pn	13 30 42.2	+0.4
	SNR=12							
AAK	**Ala-Archa**	**7.13**	**35**	⇑Pn		Pn	13 30 42.4	+0.1
	2.1nm,0.7s							
AAK				⇑Sn		Sn	13 32 05.7	+1.7
	2.9nm,0.5s							
ULHL	**Ulahol**	**7.74**	**44**	P		Pn	13 30 50.5	-0.1
	SNR=6.1							
TKM2	**Tokmak 2**	**7.87**	**38**	P		Pn	13 30 52.5	+0.1
	SNR=6.5							
TKM2	**Tokmak 2**	**7.87**	**38**	⇓Pn		Pn	13 30 51.2	-1.2
	1.3nm,0.4s							
TKM2				⇑Sn		Sn	13 32 23.2	+0.9
	2.9nm,0.9s							

*ISCJB **29** 13:39:01.9±0.5, 6°16S±0°04×130°63E±0°06, h124km, mb3.7/3, Error ellipse: s-maj=9.2km s-min=5.6km az=8.9*
*IDC **29** 13:39:02.5±2.4, 6°09S×130°55E, h106km±24km, mb3.5/3, mb1 3.9/8, mb1mx3.4/46, mbtmp4.1/8, Error ellipse: s-maj=29.3km s-min=19.3km az=102.0*
*DJA **29** 13:39:03.6±0.4, 6°S±3°×13°1E±°, h155km±8km, M4.5/10, mb4.3/6, mB5.3/4, MLv4.5/10, Mw(mB)4.7/4*
ISC 29 13:39:02.6±0.8, 6°10S±0°05×130°57E±0°08, h124km, n17, σ2s98/22, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.71**	**337**	P		**Pn**	**13 39 34.6**	**+1.9**
BNDI				S		**Sn**	**13 39 58.6**	**+3.0**
SAUI	**Saumlaki**	**2.00**	**159**	P		**Pn**	**13 39 41.0**	**+4.7**
FAKI	**Fak Fak**	**3.58**	**28**	P		**Pn**	**13 39 56.9**	**+0.3**
SIJI	**Sorong**	**5.24**	**8**	P		**Pn**	**13 40 18.6**	**-0.3**
	21nm,0.3s,

s-maj=93.5km s-min=19.0km az=149.0
*ISCJB **29** 13:50:23.7±1.3, 16°.4S±0°.5×177°.8W±0°.3, h33km, mb4.0/9, Error ellipse: s-maj=80.7km s-min=16.7km az=149.8*

ISC 29 13:50:25.3±1.5, 16°.4S±0°.5×177.7W±0°.3, h35km, n10, σ0°69/10, mb3.9/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.93**	**240**	P	**P**	**13 57 56.5**	**+0.2**
	2.0nm,0.5s,baz=96,slow=9.2,SNR=7.6						
WRA	**Warramunga Arr**	**45.57**	**258**	P	**P**	**13 58 42.9**	**+0.7**
	0.9nm,0.6s,baz=96,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**45.84**	**253**	P	**P**	**13 58 44.9**	**+0.5**
	8.0nm,0.5s,baz=89,slow=8.2,SNR=182						
FITZ	**Fitzroy Crossi**	**53.94**	**259**	P	**P**	**13 59 45.2**	**-0.7**
	4.0nm,1.1s,baz=101,slow=5.2,SNR=5.8						
BATI	**Baumata**	**57.23**	**268**	P	**P**	**14 00 08.8**	**-0.8**
	12nm,0.6s,baz=327,slow=14,SNR=1.8						
NVAR	**Mina Array Bea**	**77.91**	**44**	P	**P**	**14 02 20.8**	**+0.8**
	0.4nm,0.7s,baz=216,slow=9.7,SNR=3.6						
ILAR	**Eielson Array**	**84.32**	**13**	P	**P**	**14 02 53.6**	**+0.4**
	0.2nm,0.5s,baz=223,slow=5.1,SNR=4.8						
TXAR	**Lajitas Array**	**84.65**	**57**	P	**P**	**14 02 55.1**	**-0.8**
	0.7nm,0.9s,baz=216,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**92.73**	**24**	P	**P**	**14 03 33.1**	**-0.3**
	0.2nm,0.8s,baz=256,slow=4.8,SNR=3.1						
GERES	**GERESS Array B**	**146.36**	**346**	PKPbc	**PKPbc**	**14 10 02.4**	**-0.1**
	0.3nm,0.5s,baz=28,slow=2.5,SNR=4.2						

MAN 29 13:53:53.3, 8°.00N×126°.28E, h48km, mb4.3, ML3.1, MS2.8, 2C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.20**	**25**	*i* P	Pn	13 54 02.3	+0.8
BIPH				*i* S	Sn	13 54 10.5	+3.3
MATI	**Mati**	**1.05**	**181**	*e* P	Pn	13 54 11.5	-0.2
MATI				*e* S	Sn	13 54 27.7	+2.4
BUTP	**Butuan**	**1.16**	**326**	*e* P	Pn	13 54 14.8	+1.6
BUTP				*e* S	Sn	13 54 33.1	+5.2
DMPH	**Davao City--Mi**	**1.19**	**220**	*i* P	Pn	13 54 15.0	+1.4
DMPH				*i* S	Sn	13 54 33.6	+5.0
BUKP	**Musuan**	**1.21**	**264**	*e* P	Pn	13 54 15.1	+1.2
BUKP				*e* S	Sn	13 54 34.0	+4.9
KCP	**Kidapawan**	**1.53**	**230**	*e* P	Pn	13 54 16.4	-2.0
CGP	**Cagayan de Oro**	**1.63**	**286**	*e* P	Pn	13 54 19.9	+0.3
CGP				*e* S	Sn	13 54 42.5	+3.1
DDMP	**Don Marcelino,**	**1.96**	**197**	*e* P	Pn	13 54 25.1	+0.9
DDMP				*e* S	Sn	13 54 47.2	-0.5
CTBH	**Cotabato--PC H**	**2.15**	**249**	*e* P	Pn	13 54 26.9	+0.1
CTBH				*i* S	Sn	13 54 53.7	+1.3
SKMP	**Bagumbayan, Su**	**2.26**	**230**	*e* P	Pn	13 54 28.3	0.0
SKMP				*e* S	Sn	13 54 56.3	+1.3
GSPH	**General Santos**	**2.31**	**215**	*e* P	Pn	13 54 29.4	+0.3
GSPH				*i* S	Sn	13 54 59.4	+3.0
TBP	**Tagbilaran**	**2.92**	**305**	*e* P	Pn	13 54 36.2	-1.1
DCPH	**Dipolog City**	**2.95**	**282**	*e* P	Pn	13 54 38.8	+1.1
OCLP	**Ormoc**	**3.45**	**332**	*e* P	Pn	13 54 46.7	+2.1

*ISCJB **29** 14:01:30.6±0.9, 10°.86S±0°.09×163°.7E±0°.1, h31km, mb3.6/5, MS3.4/5, Error ellipse: s-maj=17.4km s-min=7.8km az=141.7*
*IDC **29** 14:01:33.4±4.4, 10°.80S×163°.63E, h39km±38km, mb3.5/5, mb1 3.8/7, mb1mx3.5/36, mbtmp3.9/7, ML4.2/2, MS3.5/6, Ms1 3.4/6, ms1mx3.3/15, Error ellipse: s-maj=32.1km s-min=26.6km az=62.0*

ISC 29 14:01:32.4±1.1, 10°.8S±0°.1×163°.7E±0°.1, h31km, n18, σ0°95/11, mb3.6/5, MS3.5/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.91**	**289**	*e* P	**Pn**	**14 02 29.0**	**-1.3**
HNR				*e* S	**Sn**	**14 03 17.0**	**+1.8**
HNR	**Honiara**	**3.91**	**289**	Pn	**Pn**	**14 02 30.0**	**-0.3**
	25nm,0.3s,baz=183,slow=6.1,SNR=13						
HNR				Sn	**Sn**	**14 03 15.5**	**+0.3**
	46nm,0.3s,baz=203,slow=17,SNR=14						
DZM	**Mont Dzumac**	**11.56**	**167**	Pn	**Pn**	**14 04 16.3**	**+0.8**
	1.1nm,0.3s,baz=322,slow=19,SNR=17						
DZM				Sn	**Sn**	**14 06 23.3**	**-0.3**
	0.1nm,0.3s,baz=300,slow=20,SNR=2.1						
DZM				LR	LR	14 08 16.2	
	comp=Z,230nm,18.4s,baz=330,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.21**	**6**	T	T	14 37 45.1	
	baz=189,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**29.21**	**6**	T	T	14 37 45.7	
	baz=189,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.23**	**6**	T	T	14 37 45.1	
	baz=189,slow=76,SNR=11						
STKA	**Stephens Creek**	**29.30**	**221**	LR	LR	14 18 08.1	
	comp=Z,90nm,19.5s,baz=175,slow=34						
WRA	**Warramunga Arr**	**29.69**	**249**	P	**P**	**14 07 35.4**	**-0.5**
	0.4nm,0.6s,baz=78,slow=8.9,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**30.44**	**6**	T	T	14 39 15.9	
	baz=184,slow=76,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**30.45**	**6**	T	T	14 39 18.7	
	baz=184,slow=76,SNR=8.9						
H11N2	**WAKE ISLAND Hy**	**30.46**	**6**	T	T	14 39 19.1	
	baz=184,slow=76,SNR=7.0						
GUMO	**Guam**	**30.55**	**322**	LR	LR	14 18 44.3	
	comp=Z,96nm,20.1s,baz=112,slow=34						
ASAR	**Alice Springs**	**31.13**	**242**	P	**P**	**14 07 47.8**	**-0.8**
	0.9nm,1.0s,baz=74,slow=9.9,SNR=6.5						
MJAR	**Matsushiro Arr**	**52.81**	**334**	LR	LR	14 31 28.0	
	comp=Z,17nm,21.9s,baz=175,slow=34						
KSRS	**Korea Array**	**58.51**	**327**	LR	LR	14 35 03.0	
	comp=Z,33nm,19.0s,baz=102,slow=34						
SONM	**Songino Array**	**77.25**	**324**	P	**P**	**14 13 24.4**	**+0.7**
	0.4nm,0.7s,baz=134,slow=4.2,SNR=2.5						
SONM				LR	LR	14 47 43.7	
	comp=Z,46nm,19.1s,baz=25,slow=36						
ILAR	**Eielson Array**	**83.89**	**19**	P	**P**	**14 13 58.7**	**-0.1**
	0.7nm,1.0s,baz=228,slow=6.8,SNR=2.5						
MKAR	**Makanchi Array**	**91.93**	**317**	P	**P**	**14 14 37.8**	**-0.2**
	0.3nm,0.6s,baz=103,slow=6.2,SNR=4.2						

*MDD **29** 14:19:36.2±0.6, 35°.54N×1°.10W, h0km, mbLg2.1/6, Error ellipse: s-maj=13.3km s-min=4.2km az=43.0, PRXIMO*
*CRAAG **29** 14:19:37.8, 35°.42N×0°.86W, Ml3.1*
*CNRM **29** 14:19:37.4, 36°.48N×1°.71W, h106km, ml2.7*

ISC 29 14:19:35.4±1.2, 35°.66N±0°.03×1°.10W±0°.05, h5km±12km, n19, σ1°82/31, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTSS	**Djebel Tessala**	**0.45**	**146**	P	**Pg**	**14 19 42.0**	**-2.1**
OTSS	**Djebel Tessala**	**0.45**	**146**	P	**Pg**	**14 19 42.0**	**-2.1**
OLHC	**Oulhaca**	**0.48**	**213**	P	**Pn**	**14 19 48.8**	**-0.2**
OLHC	**Oulhaca**	**0.48**	**213**	P	**Pn**	**14 19 48.8**	**-0.2**
ODJA	**Bouhanifia**	**0.84**	**112**	P	**Pg**	**14 19 51.0**	**-0.5**
ODJA	**Bouhanifia**	**0.84**	**112**	P	**Pg**	**14 19 51.0**	**-0.5**
ENIJ	**Nijar**	**1.59**	**326**	P	**Pb**	**14 20 05.2**	**0.0**
	1.2nm,0.1s,SNR=7.9						
ENIJ				S	**Sg**	**14 20 27.4**	**+0.9**
	12nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.61**	**255**	P	**Pb**	**14 20 05.5**	**-0.1**
GOG				S	**Sg**	**14 20 27.6**	**+0.6**
EBER	**Berja**	**1.90**	**311**	P	**Pb**	**14 20 10.2**	**-0.5**
	0.9nm,0.2s,SNR=11						
EBER				S	**Sg**	**14 20 37.5**	**+0.9**
	3.5nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**2.19**	**357**	P	**Pn**	**14 20 12.6**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMUR				S	**Sn**	**14 20 39.5**	**-0.4**
	2.5nm,0.3s,SNR=5.6						
ELGU	**Los Guajares,**	**2.37**	**301**	P	**Pn**	**14 20 15.8**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**14 20 45.2**	**+0.6**
	3.9nm,0.2s,SNR=7.9						
AKLM	**AKL**	**2.54**	**244**	P	**Pn**	**14 20 18.3**	**+1.0**
AKLM				S	**Sb**	**14 20 52.2**	**-0.8**
EQES	**Quesada**	**2.66**	**324**	P	**Pb**	**14 20 22.7**	**-0.9**
	2.4nm,0.1s,SNR=32						
EQES				S	**Sb**	**14 20 56.4**	**-0.3**
	1.5nm,0.1s,SNR=7.9						
SESP	**Santiago Espad**	**2.72**	**335**	P	**Pb**	**14 20 23.0**	**-1.6**
	2.8nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**14 20 55.8**	**+2.6**
	13nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.00**	**353**	P	**Pn**	**14 20 25.3**	**+1.6**
	0.2nm,0.1s,SNR=7.9						
ETOB				S	**Sn**	**14 21 00.7**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**3.11**	**288**	P	**Pn**	**14 20 26.2**	**+1.0**
	0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**14 21 01.6**	**-1.0**
	1.0nm,0.1s,SNR=7.9						
FIGM	**Figuig**	**3.52**	**182**	P	**Pg**	**14 20 43.9**	**+1.1**
FIGM				S	**Sg**	**14 21 33.8**	**+5.4**
EIBI	**Ibiza**	**3.89**	**29**	P	**Pn**	**14 20 36.0**	**+0.2**
	0.6nm,0.1s,SNR=7.9						
MD31	**MD31**	**4.11**	**228**	P	**Pn**	**14 20 40.1**	**+1.1**
MD31				S	**Sb**	**14 21 33.1**	**-5.3**

*IDC **29** 14:44:15.9±1.1, 26°.57N×144°.26E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/28, mbtmp3.4/5, Error ellipse: s-maj=32.9km s-min=22.9km az=77.0*
*ISCJB **29** 14:44:19.4±1.0, 26°.5N±0°.1×144°.1E±0°.1, h33km, mb3.4/5, Error ellipse: s-maj=22.8km s-min=11.7km az=29.5*

ISC 29 14:44:21.5±1.1, 26°.6N±0°.2×144°.0E±0°.1, h35km, n12, σ1°06/8, mb3.4/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.74**	**289**	Pn	**Pn**	**14 44 48.1**	**-1.1**
	2.5nm,0.3s,baz=90,slow=20,SNR=7.6						
JCJ				Sn	**Sn**	**14 45 10.2**	**-0.1**
	31nm,0.3s,baz=181,slow=18,SNR=11						
H11N2	**WAKE ISLAND Hy**	**22.07**	**103**	T	T	15 12 12.6	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**22.07**	**103**	T	T	15 12 06.6	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**22.09**	**103**	T	T	15 12 10.3	
	baz=290						
H11S3	**WAKE ISLAND Hy**	**22.38**	**106**	T	T	15 12 21.1	
	baz=294						
H11S1	**WAKE ISLAND Hy**	**22.39**	**106**	T	T	15 12 21.4	
	baz=294						
H11S2	**WAKE ISLAND Hy**	**22.40**	**106**	T	T	15 12 22.3	
	baz=294						
SONM	**Songino Array**	**36.26**	**316**	P	**P**	**14 51 22.4**	**+0.9**
	0.8nm,0.5s,baz=113,slow=6.9,SNR=6.2						
WRA	**Warramunga Arr**	**47.16**	**192**	P	**P**	**14 52 50.9**	**+0.1**
	0.6nm,0.7s,baz=18,slow=8.6,SNR=7.6						
ASAR	**Alice Springs**	**50.87**	**192**	P	**P**	**14 53 19.2**	**0.0**
	0.2nm,0.7s,baz=13,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**52.09**	**310**	P	**P**	**14 53 29.6**	**+1.5**
	0.3nm,0.7s,baz=91,slow=8.8,SNR=3.9						
MKAR				PcP	**PcP**	**14 54 39.4**	**-0.4**
	0.2nm,0.8s,baz=98,slow=2.9,SNR=2.6						
YKA	**Yellowknife Ar**	**71.83**	**29**	P	**P**	**14 55 39.3**	**-1.1**
	0.1nm,0.4s,baz=296,slow=6.3,SNR=3.7						

KRSC 29 14:54:12.0±10.0, 60°.14N×163°.42E, h24km±10km, ML3.7, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.91**	**192**	*e* P	Pb	14 54 28.7	-0.3
OSSR				*e* S	Sb	14 54 40.8	+0.2
TILK	**Tilichiki**	**1.39**	**76**	*e* P	Pb	14 54 37.0	-0.3
TILK				*e* S	Sb	14 54 56.0	+1.4
PALN	**Palana**	**2.05**	**241**	P	Pb	14 54 47.5	-0.9
KMSK	**Kamenskaya**	**2.70**	**29**	P	Pn	14 54 56.1	+2.3
KBTR	**Krutoberegovo**	**3.95**	**185**	P	Pn	14 55 14.5	+3.4

MEX 29 15:02:17.0±0.5, 16°.05N×98°.37W, h3km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.41**	**35**	*e* P	Pg	15 02 24.3	-0.7
PNIG				*i* S	Sg	15 02 30.9	+0.5
TLIG	**Tlapa**	**1.51**	**353**	*e* P	Pn	15 02 41.3	-3.8
TLIG				*e* S	Sn	15 03 00.5	-5.0
VHO	**Vista Hermosa**	**1.87**	**57**	*i* P	Pn	15 02 47.2	-3.0
VHO				*i* S	Sn	15 03 09.4	-5.0
CAIG	**El Cayaco**	**2.07**	**299**	*i* P	Pn	15 02 48.3	-4.3
CAIG				*i* S	Sn	15 03 14.0	-4.9
HUIG	**Huatulco**	**2.20**	**97**	*i* P	Pn	15 02 50.4	-4.1
HUIG				*e* S	Sn	15 03 18.0	-4.1

*ISCJB **29** 15:19:50.5±0.6, 27°.4N±0°.1×141°.4E±0°.1, h64km, mb3.8/8, Error ellipse: s-maj=21.1km s-min=9.6km az=37.0*
*IDC **29** 15:19:51.8±1.7, 27°.55N×141°.66E, h66km±25km, mb3.5/8, mb1 3.7/8, mb1mx3.3/44, mbtmp3.8/8, Error ellipse: s-maj=72.6km s-min=17.4km az=79.0*

ISC 29 15:19:51.8±0.7, 27°.5N±0°.2×141°.5E±0°.2, h64km, n17, σ0°63/14, mb3.8/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.76**	**123**	P	**Pn**	**15 20 07.7**	**+0.6**
	258nm,0.3s,baz=299,slow=13,SNR=671						
JCJ				S	**Sn**	**15 20 17.6**	**-0.7**
	baz=288,slow=20						
KLR	**Kul'dur**	**22.95**	**344**	P	**P**	**15 24 51.4**	**+0.8**
	2.0nm,0.6s,baz=150,slow=6.6,SNR=9.5						
H11N2	**WAKE ISLAND Hy**	**24.52**	**103**	T	T	15 50 04.7	
	baz=293,slow=73						
H11N1	**WAKE ISLAND Hy**	**24.52**	**103**	T	T	15 50 07.1	
	baz=293,slow=73						
H11N3	**WAKE ISLAND Hy**	**24.54**	**103**	T	T	15 50 03.5	
	baz=293,slow=73						
H11S3	**WAKE ISLAND Hy**	**24.85**	**106**	T	T	15 50 29.4	
	baz=297,slow=74,SNR=11						
H11S1	**WAKE ISLAND Hy**	**24.86**	**106**	T	T	15 50 30.5	
	baz=297,slow=74,SNR=6.1						
H11S2	**WAKE ISLAND Hy**	**24.87**	**106**	T	T	15 50 31.4	
	baz=297,slow=74,SNR=5.5						
WRA	**Warramunga Arr**	**47.67**	**189**	P	**P**	**15 28 22.1**	**+0.1**
	0.4nm,0.3s,baz=7.6,slow=9.1,SNR=40						
WRA				PcP	**PcP**	**15 29 51.1**	**+0.4**
	0.2nm,0.3s,baz=21,slow=8.2,SNR=6.5						
ZALV	**Zalesovo Beam**	**48.76**	**319**	PcP	**PcP**	**15 29 53.5**	**-0.6**
	0.5nm,0.4s,baz=148,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**49.72**	**309**	P	**P**	**15 28 37.3**	**-0.2**
	0.1nm,0.3s,baz=107,slow=1.5,SNR=4.4						
MKAR				PcP	**PcP**	**15 29 57.0**	**-0.8**
	0.2nm,0.4s,baz=80,slow=11,SNR=4.4						
ASAR	**Alice Springs**	**51.40**	**189**	P	**P**	**15 28 50.4**	**0.0**
	0.2nm,0.4s,baz=11,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**72.94**	**341**	P	**P**	**15 31 14.1**	**+0.1**
	2.2nm,0.7s,baz=64,slow=8.4,SNR=3.7						
KBZ	**Khabaz**	**77.26**	**313**	P	**P**	**15 31 39.8**	**+0.6**
	1.0nm,0.6s,baz=138,slow=4.0,SNR=4.3						
FINES	**FINESS Array B**	**77.29**	**334**	P	**P**	**15 31 38.8**	**-0.3**
	1.9nm,0.5s,baz=80,slow=4.8,SNR=27						
NB2	**NORSAR Subarra**	**82.99**	**338**	P	**P**	**15 32 09.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**82.99**	**338**	P	**P**	**15 32 09.0**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=53,slow=6.6,SNR=4.3						

MEX 29 15:42:13.8±0.3, 18°.12N×101°.79W, h23km±11km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.60**	**149**	*e* P	Pb	15 42 23.5	-2.2
ZIIG				*e* S	Sb	15 42 31.3	-2.4
ARIG	**Puente Sto Nin**	**1.38**	**83**	*e* P	Pn	15 42 34.9	-2.9
ARIG				*i* S	Sn	15 42 51.7	-3.7
MMIG	**Aquila**	**1.49**	**277**	*e* P	Pn	15 42 36.6	-2.6
MMIG				*i* S	Sn	15 42 54.0	-4.0
CAIG	**El Cayaco**	**1.80**	**126**	*i* P	Pn	15 42 41.4	-2.2
CAIG				*e* S	Sn	15 43 01.9	-3.8
PLIG	**Platanillo**	**2.19**	**83**	*e* P	Pn	15 42 46.4	-2.6
PLIG				*i* S	Sn	15 43 11.8	-3.6
TLIG	**Tlapa**	**3.12**	**100**	*i* P	Pn	15 42 59.9	-1.9
TLIG				*i* S	Sn	15 43 35.1	-3.3

IDC 29 15:47:40.1±33.0, 20°.48S×178°.00W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/47, mbtmp3.8/4, Error ellipse: s-maj=630.0km s-min=146.3km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.80**	**244**	P	P	15 54 58.4	0.0
	0.8nm,0.4s,baz=73,slow=16,SNR=2.7						
ASAR	**Alice Springs**	**44.53**	**257**	P	P	15 55 53.8	-0.1
	0.6nm,0.5s,baz=96,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**44.61**	**262**	P	P	15 55 54.4	-0.2
	0.2nm,0.3s,baz=98,slow=8.4,SNR=5.1						
FITZ	**Fitzroy Crossi**	**53.03**	**262**	P	P	15 56 59.1	-0.2
	2.6nm,1.0s,baz=109,slow=6.2,SNR=3.2						

*ISCJB **29** 15:49:27.4±0.9, 6°.79S±0°.07×129°.29E±0°.1, h156km, mb3.0/1, Error ellipse: s-maj=15.1km s-min=8.0km az=29.7*
*IDC **29** 15:49:30.3±1.8, 6°.77S×129°.08E, h196km±22km, mb2.7/1, mb1 2.8/6, mb1mx2.7/37, mbtmp3.4/6, Error ellipse: s-maj=26.0km s-min=18.0km az=110.0*

ISC 29 15:49:28.4±1.0, 6°.79S±0°.09×129°.2E±0°.1, h156km, n6, σ2°04/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.22**	**19**	P	**Pn**	**15 51 00.9**	**+2.8**
	0.3nm,0.3s,baz=201,slow=14,SNR=7.2						
SIJI				S	**Sn**	**15 52 07.3**	**-1.1**
	0.5nm,0.3s,baz=219,slow=22,SNR=5.8						
BATI	**Baumata**	**6.48**	**238**	P	**Pn**	**15 51 02.9**	**+1.3**
	1.1nm,0.3s,baz=90,slow=15,SNR=3.4						
BATI				S	**Sn**	**15 52 14.8**	**+0.2**
	2.0nm,0.3s,baz=99,slow=19,SNR=6.1						
FITZ	**Fitzroy Crossi**	**11.78**	**197**	P	**Pn**	**15 52 12.0**	**+0.3**
	0.1nm,0.3s,baz=9.5,slow=12,SNR=2.1						
FITZ				S	Sn	15 54 10.7	-11
	0.2nm,0.3s,baz=0.0,slow=7.1,SNR=5.9						
WRA	**Warramunga Arr**	**13.98**	**160**	P	**Pn**	**15 52 39.5**	**-0.5**
	0.1nm,0.3s,baz=335,slow=13,SNR=6.4						
WRA				S	Sn	15 55 00.9	-14
	0.2nm,0.3s,baz=334,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**17.37**	**166**	P	**Pn**	**15 53 21.4**	**-0.1**
	0.0nm,0.3s,baz=339,slow=10.0,SNR=6.7						
MKAR	**Makanchi Array**	**67.64**	**327**	P	**P**	**16 00 05.4**	**-3.1**
	0.2nm,0.7s,baz=130,slow=6.0,SNR=3.3						

*ISCJB **29** 15:51:54.0±0.8, 11°.8N±0°.2×86°.9W±0°.2, h35km, mb3.6/8, Error ellipse: s-maj=34.6km s-min=7.2km az=41.6*
*IDC **29** 15:51:56.5±2.7, 11°.97N×86°.78W, h35km±23km, mb3.5/8, mb1 3.8/11, mb1mx3.5/53, mbtmp3.7/11, ML3.3/3, MS3.2/4, Ms1 3.1/4, ms1mx2.8/29, Error ellipse: s-maj=44.9km s-min=14.0km az=47.0*

ISC 29 15:51:55.9±0.7, 11°.9N±0°.2×86°.9W±0°.2, h35km, n18, σ2°07/19, mb3.5/8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**2.49**	**129**	Pn	**Pn**	**15 52 34.7**	**+0.7**
	5.9nm,0.3s,baz=337,slow=17,SNR=16						
JTS				Sn	**Sn**	**15 53 00.4**	**-2.8**
	21nm,0.3s,baz=11,slow=19,SNR=9.6						
JTS				Lg	Lg	15 53 16.1	
	8.7nm,0.3s,baz=260,slow=15,SNR=5.3						
JTS				LR	LR	15 53 36.7	
	comp=Z,117nm,19.6s,baz=186,slow=41						
APG	**El Apazote**	**4.64**	**312**	Pn	**Pn**	**15 53 05.8**	**+2.1**
	0.5nm,0.3s,baz=100,slow=12,SNR=3.3						
APG				Sn	**Sn**	**15 53 50.1**	**-6.5**
	0.5nm,0.3s,baz=149,slow=12,SNR=4.3						
APG				Lg	Lg	15 54 17.5	
	0.9nm,0.3s,baz=87,slow=17,SNR=6.0						
CMIG	**Matias Romero**	**9.29**	**305**	Pn	**Pn**	**15 54 08.3**	**+0.9**
	0.7nm,0.3s,baz=123,slow=12,SNR=6.1						
TXAR	**Lajitas Array**	**23.34**	**321**	P	**P**	**15 57 02.5**	**+1.3**
	0.9nm,0.6s,baz=134,slow=9.1,SNR=15						
TKL	**Tuckaleechee C**	**23.84**	**6**	P	**P**	**15 57 07.3**	**+1.5**
	6.4nm,0.7s,baz=171,slow=9.1,SNR=5.9						
TKL				LR	LR	16 07 25.5	
	comp=Z,101nm,18.2s,baz=13,slow=39						
H06E1	**SOCORRO T-PHAS**	**24.13**	**289**	T	T	16 21 59.0	
PDAR	**Pinedale Array**	**36.52**	**332**	P	**P**	**15 58 58.4**	**+0.1**
	0.3nm,0.6s,baz=126,slow=7.5,SNR=4.0						
NVAR	**Mina Array Bea**	**38.47**	**319**	P	**P**	**15 59 15.5**	**+0.6**
	0.3nm,0.5s,baz=127,slow=5.8,SNR=2.9						
ULM	**Lac du Bonnet**	**38.96**	**351**	P	**P**	**15 59 17.8**	**-0.7**
	0.9nm,0.4s,baz=176,slow=7.4,SNR=4.1						
BDFB	**Brasilia**	**47.23**	**124**	P	**P**	**16 00 24.4**	**-1.6**
	3.7nm,0.7s,baz=270,slow=8.9,SNR=5.1						
YKA	**Yellowknife Ar**	**54.29**	**345**	P	**P**	**16 01 18.3**	**-0.1**
	0.3nm,0.7s,baz=136,slow=8.0,SNR=9.9						
YKA				PcP	**PcP**	**16 02 21.4**	**-0.7**
	0.2nm,0.7s,baz=125,slow=3.3,SNR=4.1						
YKA				LR	LR	16 26 08.1	
	comp=Z,8.3nm,18.4s,baz=70,slow=38						
ILAR	**Eielson Array**	**66.75**	**336**	P	**P**	**16 02 43.6**	**+0.3**
	0.2nm,0.8s,baz=153,slow=3.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**86.02**	**77**	LR	LR	16 41 36.5	
	comp=Z,39nm,18.9s,baz=310,slow=35						
SONM	**Songino Array**	**119.38**	**350**	PKP	**PKPdf**	**16 10 42.1**	**+0.2**
	0.2nm,0.6s,baz=0.0,slow=1.4,SNR=2.2						
STKA	**Stephens Creek**	**131.24**	**238**	PKP	**PKiKP**	**16 11 06.8**	**+1.0**
	1.9nm,0.8s,baz=195,slow=2.7,SNR=3.1						
ASAR	**Alice Springs**	**139.54**	**247**	PKhKP	PKPpre	16 11 18.7	
	0.3nm,0.8s,baz=105,slow

baz=236,slow=10,SNR=4.3
SPITS LR LR 16 11 37.8
comp=Z,163nm,20.4s,baz=20,slow=31
NOA NORSAR Array B 14.51 105 LR LR 16 12 52.4
comp=Z,82nm,19.1s,baz=310,slow=35
HFS Hagfors 16.02 104 Pn **Pn** **16 08 07.5 -1.7**
0.0nm,0.3s,baz=305,slow=10,SNR=2.1
HFS LR LR 16 13 18.8
comp=Z,143nm,20.7s,baz=277,slow=34
FINES FINESS Array B 19.77 88 P **P** **16 08 53.4 -0.4**
0.1nm,0.3s,baz=318,slow=12,SNR=7.3
FINES LR LR 16 15 57.3
comp=Z,200nm,19.0s,baz=286,slow=35
FRB Frobisher Bay 20.33 282 LR LR 16 17 21.9
comp=Z,247nm,20.2s,baz=32,slow=38
RES Resolute Bay 23.45 320 LR LR 16 18 37.8
comp=Z,173nm,19.4s,baz=170,slow=36
GERES GERESS Array B 25.15 124 P **P** **16 09 49.9 +0.8**
0.9nm,0.8s,baz=337,slow=6.5,SNR=7.3
GERES LR LR 16 19 00.5
comp=Z,85nm,18.9s,baz=299,slow=35
SCHQ Schefferville 25.75 263 LR LR 16 19 01.5
comp=Z,318nm,19.4s,baz=18,slow=34
OBN Obninsk 28.15 90 LR LR 16 20 57.5
comp=Z,50nm,18.8s,baz=359,slow=35
AKASG Malin Array Be 28.90 103 P **P** **16 10 22.2 -0.5**
0.4nm,0.3s,baz=324,slow=8.9,SNR=2.8
NRIK Noril'sk 33.93 38 LR LR 16 26 45.1
comp=Z,64nm,18.4s,baz=264,slow=40
YKA Yellowknife Ar 36.58 309 P **P** **16 11 30.5 +1.0**
0.1nm,0.5s,baz=39,slow=8.7,SNR=5.5
YKA PcP **PcP** **16 13 52.9 +0.5**
0.2nm,0.8s,baz=36,slow=2.6,SNR=3.9
KBZ Khabaz 39.81 96 LR LR 16 28 40.9
comp=Z,118nm,18.5s,baz=337,slow=37
ULM Lac du Bonnet 40.19 284 LR LR 16 29 05.4
comp=Z,86nm,19.8s,baz=9.0,slow=37
ILAR Eielson Array 42.42 330 P **P** **16 12 19.9 +1.7**
0.4nm,0.9s,baz=34,slow=8.2,SNR=3.9
GNI Garni 43.60 96 LR LR 16 31 08.7
comp=Z,90nm,18.8s,baz=312,slow=37
ZALV Zalesovo Beam 45.87 53 P **P** **16 12 46.6 +0.7**
0.3nm,0.3s,baz=352,slow=7.3,SNR=2.2
GEYT Alibeck 50.55 85 LR LR 16 35 20.5
comp=Z,89nm,21.3s,baz=335,slow=37
MKAR Makanchi Array 51.33 60 P **P** **16 13 28.3 +0.3**
0.3nm,0.8s,baz=335,slow=6.5,SNR=3.4
PDAR Pinedale Array 51.48 290 P **P** **16 13 31.4 +1.9**
0.3nm,0.7s,baz=33,slow=3.5,SNR=3.3
PDAR LR LR 16 34 28.8
comp=Z,140nm,19.6s,baz=55,slow=35
SONM Songino Array 57.30 41 LR LR 16 42 33.2
comp=Z,56nm,18.1s,baz=1.0,slow=40
TXAR Lajitas Array 61.30 277 LR LR 16 41 51.8
comp=Z,73nm,22.0s,baz=0.0,slow=37
WSAR Wadi Sarin 63.91 93 LR LR 16 46 41.5
comp=Z,30nm,18.1s,baz=26,slow=40
CMAR Chiang Mai Arr 82.70 58 P **P** **16 16 47.9 +0.2**
0.8nm,0.9s,baz=325,slow=6.8,SNR=6.4
ASAR Alice Springs 132.45 35 PKP **PKPdf** **16 23 38.0 -0.1**
0.4nm,0.7s,baz=336,slow=2.0,SNR=4.2

*IDC **29** 16:04:54.2±1.6,30.36S×177.26W,h0km,mb3.9/3, mb1 4.1/6,mb1mx3.8/26,mbtmp4.0/6,ML3.6/3,MS3.7/2, Ms1 3.7/2,ms1mx3.0/32,Error ellipse: s-maj=36.6km s-min=24.6km az=106.0*

ISC 29 16:04:59.3±1.7, 30.30S±0.08×177.5W±0.2, h33km, n11, σ1s30/12, mb4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**1.12**	**340**	Pn		**Pn**	**16 05 18.7**	**+0.1**
	201nm,0.3s,baz=102,slow=5.5,SNR=16							
RAO					Sn	**Sn**	**16 05 30.8**	**-2.0**
	313nm,0.3s,baz=103,slow=20,SNR=8.2							
URZ	**Urewera**	**9.11**	**208**	Pn		**Pn**	**16 07 06.9**	**-1.5**
	0.5nm,0.3s,baz=269,slow=5.1,SNR=7.7							
URZ					Sn	**Sn**	**16 08 48.6**	**-1.1**
	1.1nm,0.3s,baz=193,slow=24,SNR=10							
RPZ	**Rata Peaks**	**16.20**	**211**	Pn		**Pn**	**16 08 43.6**	**-0.7**
	0.5nm,0.3s,baz=114,slow=20,SNR=2.7							
DZM	**Mont Dzumac**	**16.59**	**296**	Pn		**P**	**16 08 51.2**	**-0.5**
	0.1nm,0.3s,baz=114,slow=20,SNR=2.1							
DZM					LR	LR	16 14 28.2	
	comp=Z,100nm,18.2s,baz=159,slow=34							
STKA	**Stephens Creek**	**34.94**	**257**	P		**P**	**16 11 50.5**	**+2.3**
	0.8nm,0.4s,baz=104,slow=14,SNR=3.6							
ASAR	**Alice Springs**	**43.57**	**267**	P		**P**	**16 13 01.2**	**+0.9**
	0.8nm,0.6s,baz=104,slow=7.4,SNR=14							
WRA	**Warramunga Arr**	**44.55**	**272**	P		**P**	**16 13 09.2**	**+1.0**
	1.9nm,0.7s,baz=110,slow=8.1,SNR=29							
KDAK	**Kodiak Island**	**90.21**	**13**	LR		LR	16 53 29.7	
	comp=Z,101nm,19.9s,baz=52,slow=32							
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc		**PKPab**	**16 24 32.4**	**-0.2**
	2.8nm,0.5s,baz=46,slow=3.4,SNR=33							
NOA	**NORSAR Array B**	**148.72**	**352**	PKPbc		**PKPbc**	**16 24 42.6**	**0.0**
	0.4nm,0.8s,baz=18,slow=2.7,SNR=2.5							
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc		**PKiKP**	**16 24 50.0**	**0.0**
	0.2nm,0.3s,baz=43,slow=2.9,SNR=2.4							

MEX 29 16:06:26.0±0.5, 14.07N×92.50W, h13km±93km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THIG		**0.87**	**15**	*i* P		Pg	16 06 39.9	-2.9
THIG				*i* S		Sg	16 06 50.8	-3.3
PCIG		**1.77**	**337**	*e*P		Pn	16 06 52.6	-3.7
PCIG				*e*S		Sn	16 07 14.0	-4.8
CCIG	**Comitan**	**2.23**	**9**	*i* P		Pn	16 06 59.6	-3.3
CCIG				*e*P		Pb	16 07 03.4	-3.0
CCIG				*i* S		Sn	16 07 26.4	-4.0

DJA 29 16:16:13.2±0.4, 0.7N±2.°×12.°0E±.°, h10km, M3.8/11, mb3.8/3, MLv3.7/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MPSI	**Mapaga**	**0.29**	**11**	P		Pg	16 16 19.6	+0.5
MPSI				S		Sb	16 16 24.8	-0.6
MRSI	**Marisa**	**2.14**	**79**	P		Pn	16 16 48.1	-0.9
LUWI	**Luwuk**	**3.13**	**110**	P		Pn	16 17 01.4	-1.2
SPSI	**Sidrap Palu**	**3.99**	**181**	P		Pn	16 17 15.1	+0.7
KMSI	**Cibinong**	**4.17**	**83**	P		Pn	16 17 17.1	+0.1
BNSI	**Bone**	**4.43**	**177**	P		Pn	16 17 20.8	+0.3
BKSI	**Bulukumba**	**5.34**	**177**	P		Pn	16 17 33.7	+0.6

*ISCJB **29** 16:20:54.9±0.4, 14.18N±0.03×120.29E±0.06, h102km±4km, mb3.7/10, Error ellipse: s-maj=10.3km s-min=4.4km az=178.2*
*MAN **29** 16:20:55.8, 14.16N×120.25E, h76km, mb4.5, ML3.4, MS3.2*
*IDC **29** 16:20:56.2±0.6, 14.18N×120.72E, h109km±8km, mb3.4/11, mb1 3.5/11, mb1mx3.3/53, mbtmp3.8/11, Error ellipse: s-maj=42.8km s-min=15.0km az=64.0*

ISC 29 16:20:55.9±0.7, 14.15N±0.03×120.32E±0.07, h98km±7km, n25, σ1s63/36, mb3.7/10, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TGY	**Tagaytay City**	**0.60**	**95**	P		**Pn**	**16 21 12.4**	**+0.1**
	246nm,0.3s,baz=229,slow=4.6,SNR=39							
TGY					S	**Sn**	**16 21 24.7**	**+0.1**
	381nm,0.3s,baz=162,slow=20,SNR=36							
TGY	**Tagaytay City**	**0.60**	**95**	‖ *i* P		**Pn**	**16 21 12.6**	**+0.3**
TGY				*i* S		Sn	16 21 48.8	+24
SCZP	**Santa Cruz**	**1.66**	**346**	*e*P		**Pn**	**16 21 23.6**	**-0.4**
SCZP				*e*S		**Sn**	**16 21 44.6**	**-0.9**
POLP	**Polilio Island**	**1.67**	**70**	*e*P		**Pn**	**16 21 24.3**	**+0.1**
POLP				*e*S		**Sn**	**16 21 46.8**	**+1.1**
SJMP	**San Jose**	**1.85**	**155**	*e*P		Pn	16 21 50.9	+24
SMPP	**San Manuel, Pa**	**2.02**	**10**	*e*P		**Pn**	**16 21 27.6**	**-1.1**
SMPP				*e*S		**Sn**	**16 21 51.5**	**-2.1**
BUSP	**Coron**	**2.14**	**183**	*e*P		**Pn**	**16 21 31.0**	**+0.6**
BUSP				*e*S		**Sn**	**16 21 56.5**	**0.0**
BOLP	**Bolinao**	**2.25**	**350**	*e*P		**Pn**	**16 21 31.4**	**-0.3**
BOLP				*e*S		Sn	16 21 55.4	-3.7
OTRP	**Odiongan**	**2.43**	**137**	*e*P		**Pn**	**16 21 35.9**	**+1.8**
OTRP				*e*S		**Sn**	**16 22 01.9**	**-1.5**
ENPP	**El Nido**	**3.06**	**197**	*e*P		**Pn**	**16 21 43.6**	**+1.1**
ENPP				*e*S		**Sn**	**16 22 18.0**	**-0.2**
CAUP	**Cauayan**	**3.13**	**27**	*e*P		**Pn**	**16 21 44.1**	**+0.7**
CAUP				*e*S		Sn	16 22 49.0	+29
CUYO	**Cuyo Island**	**3.35**	**168**	*e*P		**Pn**	**16 21 47.0**	**+0.6**
CUYO				*e*S		**Sn**	**16 22 19.7**	**-5.7**
ABRA	**Dolores**	**3.50**	**6**	*e*P		**Pn**	**16 21 46.0**	**-2.4**
ABRA				*e*S		**Sn**	**16 22 27.0**	**-1.8**
APYP	**Conner**	**3.79**	**13**	*e*P		**Pn**	**16 21 54.2**	**+1.9**
APYP				*e*S		**Sn**	**16 22 37.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**20.95**	**285**	P		**P**	**16 25 34.7**	**+3.5**
	0.5nm,0.8s,baz=91,slow=8.4,SNR=6.0							
SONM	**Songino Array**	**35.52**	**344**	P		**P**	**16 27 44.0**	**+0.5**
	1.7nm,0.5s,baz=162,slow=10.0,SNR=16							
WRA	**Warramunga Arr**	**36.58**	**158**	P		**P**	**16 27 51.0**	**-1.7**
	0.2nm,0.7s,baz=330,slow=10,SNR=3.0							
WRA					pP	**pP**	**16 28 14.9**	**-0.2**
	0.2nm,0.6s,baz=333,slow=10,SNR=1.9							
ASAR	**Alice Springs**	**39.87**	**160**	P		**P**	**16 28 18.3**	**-1.9**
	0.1nm,0.3s,baz=345,slow=6.7,SNR=3.1							
ASAR					pP	**pP**	**16 28 43.5**	**+0.6**
	0.2nm,0.3s,baz=341,slow=6.9,SNR=2.3							
MKAR	**Makanchi Array**	**45.45**	**324**	P		**P**	**16 29 05.9**	**+0.7**
	0.6nm,0.7s,baz=124,slow=9.1,SNR=8.7							
ZALV	**Zalesovo Beam**	**48.49**	**333**	P		**P**	**16 29 28.4**	**-0.2**
	0.6nm,0.6s,baz=132,slow=8.4,SNR=2.6							
AKTO	**Aktyubinsk**	**61.63**	**320**	P		**P**	**16 31 04.1**	**+0.8**
	1.2nm,0.6s,baz=106,slow=7.2,SNR=4.1							
ARCES	**ARCESS Array B**	**78.53**	**339**	P		**P**	**16 32 46.1**	**-0.1**
	5.0nm,1.0s,baz=83,slow=7.4,SNR=4.2							
FINES	**FINESS Array B**	**79.71**	**331**	P		**P**	**16 32 52.6**	**-0.2**
	1.0nm,0.9s,baz=30,slow=3.4,SNR=3.6							
HFS	**Hagfors**	**85.90**	**331**	P		**P**	**16 33 23.9**	**-0.9**
	1.2nm,0.9s,baz=142,slow=5.1,SNR=4.0							
NOA	**NORSAR Array B**	**86.69**	**333**	P		**P**	**16 33 28.1**	**-0.6**
	0.3nm,0.7s,baz=64,slow=5.0,SNR=3.5							

*ISCJB **29** 16:34:12.5±0.4, 50.25N±0.03×18.66E±0.03, h0km, Error ellipse: s-maj=4.1km s-min=2.5km az=4.2*
*IDC **29** 16:34:14.7±0.9, 50.25N×18.73E, h0km, mb1 3.4/5, mb1mx3.0/58, mbtmp3.2/5, ML2.6/5, Error ellipse: s-maj=17.2km s-min=6.8km az=140.0*
*PRU **29** 16:34:21.3±0.0, 50.16N×18.12E, h10km*
ISC 29 16:34:14.0±0.8, 50.22N±0.03×18.72E±0.02, h0km, n38, σ0s91/58, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHZP	**Chorzow**	**0.19**	**67**	*e*Pg		**Pg**	**16 34 17.5**	**-0.2**
CHZP				*e*Sg		**Sg**	**16 34 20.0**	**-0.2**
OKC	**Ostrava-Krasne**	**0.53**	**224**	*e*PG		**Pb**	**16 34 26.0**	**-0.1**
OKC				*e*SG		**Sb**	**16 34 33.0**	**-1.3**
	comp=Z,52nm,0.4s							
OJC	**Ojcow**	**0.70**	**89**	*e*Pg		**Pg**	**16 34 26.8**	**-0.6**
OJC				*e*Sg		**Sg**	**16 34 35.7**	**-0.7**
MORC	**Moravsky Berou**	**0.88**	**240**	*e*PG		**Pb**	**16 34 32.1**	**0.0**
MORC				*e*SG		**Sb**	**16 34 44.7**	**+0.3**
LANS	**Liptovska Anna**	**1.17**	**155**	*e*PG		**Pg**	**16 34 37.2**	**+0.7**
LANS				*e*SG		**Sg**	**16 34 53.2**	**+1.5**
KRLC	**Kraliky**	**1.25**	**264**	*e*PG		**Pg**	**16 34 38.2**	**+0.2**
KRLC				*e*SG		**Sb**	**16 34 54.9**	**-0.3**
	comp=Z,19nm,0.4s							
JAVC	**Velka Javorina**	**1.52**	**207**	*e*PG		**Pb**	**16 34 43.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.54**	**276**	*e*PG		**Pn**	**16 34 43.2**	**+0.4**
DPC				*e*SG		**Sn**	**16 35 03.9**	**+0.4**
	comp=Z,35nm,0.4s							
VRAC	**Vranov**	**1.65**	**237**	*e*PG		**Pb**	**16 34 45.1**	**-0.2**
VRAC				*e*SG		**Sg**	**16 35 07.7**	**+0.8**
VRAC	**Vranov**	**1.65**	**237**	Pn		**Pb**	**16 34 45.0**	**-0.2**
	3.7nm,0.3s,baz=56,slow=13,SNR=14							
VRAC					Pg	**Pg**	**16 34 46.1**	**+0.6**
	3.7nm,0.3s,baz=55,slow=14,SNR=14							
VRAC					Lg	Lg	16 35 07.5	
	9.9nm,0.3s,baz=345,slow=21,SNR=17							
KSP	**Ksiaz**	**1.67**	**293**	*e*Pg		**Pg**	**16 34 46.6**	**+0.7**
KSP				*e*Sg		**Sg**	**16 35 08.7**	**+1.1**
VYHS	**Vyhne**	**1.73**	**177**	*e*PN		**Pn**	**16 34 45.6**	**+0.3**
VYHS				*e*SN		**Sn**	**16 35 07.0**	**-1.0**
VYHS				*e*LG		Lg	16 35 17.9	
UPC	**Upice**	**1.75**	**281**	*e*PG		**Pn**	**16 34 46.8**	**+1.1**
KRUC	**Moravsky**	**1.90**	**233**	*e*PG		**Pn**	**16 34 46.4**	**-1.3**
KRUC				*e*SG		**Sg**	**16 35 15.3**	**+0.3**
SMOL	**Smolenice**	**1.90**	**207**	*e*		**Sg**	**16 35 14.6**	**-0.4**
MODS	**Modra-Piesok**	**2.07**	**208**	*e*		**Pg**	**16 34 53.5**	**-0.2**
MODS	**Modra-Piesok**	**2.07**	**208**	*e*SN		**Sn**	**16 35 15.5**	**-1.0**
TREC	**Trest**	**2.29**	**247**	*e*SG		**Sg**	**16 35 27.2**	**-0.3**
	comp=Z,21nm,0.3s							
PSZ	**Piszkesteto**	**2.43**	**161**	*e*Pn		**Pg**	**16 35 02.1**	**+1.6**
PSZ				Sn		**Sg**	**16 35 33.0**	**+1.1**
GOPC	**GO Pecny, Ondr**	**2.55**	**265**	*e*SG		**Sg**	**16 35 34.5**	**-1.4**
	comp=Z,25nm,0.7s							
PRU	**Pruhonice**	**2.70**	**267**	*e*PG		**Pb**	**16 35 03.3**	**+0.2**
PRU				*e*SG		**Sg**	**16 35 39.2**	**-1.4**
	comp=Z,11nm,0.3s							
CONA	**Conrad Observa**	**2.96**	**220**	Pn		**Pn**	**16 35 03.0**	**+0.7**
	0.4nm,0.2s							
CONA					Sn	**Sn**	**16 35 36.2**	**-2.3**
	2.2nm,0.4s							
BRG	**Berggiesshubel**	**3.11**	**284**	PN		**Pb**	**16 35 12.1**	**+1.9**
BRG				PG		**Pg**	**16 35 14.1**	**+0.4**
BRG				SG		**Sg**	**16 35 53.8**	**-0.3**
	9.7nm,0.5s							
KHC	**Kasperske Hory**	**3.51**	**254**	*e*PN		**Pn**	**16 35 10.0**	**+0.2**
KHC				*e*PG		**Pg**	**16 35 21.0**	**-0.2**
KHC				*e*SG		**Sg**	**16 36 07.5**	**+0.8**
	comp=Z,18nm,0.5s							
GERES	**GERESS Array B**	**3.54**	**249**	Pn		**Pn**	**16 35 10.9**	**+0.5**
	0.2nm,0.3s,baz=62,slow=14,SNR=7.2							
GERES					Pg	**Pg**	**16 35 20.0**	**-1.9**
	0.8nm,0.3s,baz=65,slow=17,SNR=15							
GERES					Sn	**Sn**	**16 35 54.2**	**+1.3**
	0.9nm,0.3s,baz=62,slow=19,SNR=7.8							
GERES					Lg	Lg	16 36 07.0	
	2.6nm,0.3s,baz=64,slow=28,SNR=9.8							
ARSA	**Arzberg**	**3.64**	**217**	Sn		**Sn**	**16 35 53.7**	**-1.6**
	2.0nm,0.5s							
MOA	**Molln**	**3.77**	**233**	*i* Pn		**Pn**	**16 35 14.3**	**+0.9**
	0.2nm,0.1s							
MOA					Sg	**Sb**	**16 36 07.5**	**0.0**
	3.6nm,0.6s							
CLL	**Collm**	**3.79**	**289**	*e*Pg		**Pg**	**16 35 26.0**	**-0.6**
CLL				*e*Sg		**Sg**	**16 36 16.0**	**+0.4**
	comp=Z,11nm,0.5s							
KBA	**Koelnbreinsper**	**4.75**	**231**	Sg		**Sb**	**16 36 35.8**	**0.0**
	comp=Z,2.7nm,0.5s							
ABTA	**Abfaltersbach**	**5.39**	**232**	Sg		**Sb**	**16 36 55.7**	**+1.4**
	comp=Z,1.3nm,0.5s							
MOTA	**Moosalm**	**5.79**	**243**	Sg		**Sg**	**16 37 20.5**	**+0.5**
	comp=Z,1.2nm,0.3s							
SQTA	**Sankt Quirin**	**5.80**	**242**	Sg		**Sb**	**16 37 05.5**	**-0.7**
	comp=Z,1.3nm,0.3s							
FETA	**Feichten**	**6.18**	**242**	Sg		**Sg**	**16 37 32.0**	**-0.6**
	comp=Z,1.3nm,0.6s							
DAVA	**Damuels**	**6.54**	**247**	Sg		**Sb**	**16 37 27.8**	**+0.6**
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**6.73**	**82**	Pn		Pn	16 35 51.4	-2.5
	comp=Z,0.6nm,0.3s,baz=270,slow=13,SNR=3.2							
AKASG					Lg	Lg	16 37 47.1	
	comp=Z,0.8nm,0.3s,baz=277,slow=22,SNR=3.1							
NOA	**NORSAR Array B**	**11.64**	**342**	Pn		Pn	16 36 56.1	-5.1
	comp=Z,0.0nm,0.3s,baz=154,slow=12,SNR=3.2							
FINES	**FINESS Array B**	**11.98**	**17**	Pn		Pn	16 36 59.6	-6.2
	comp=Z,0.2nm,0.3s,baz=206,slow=12,SNR=19							
FINES					Sn	Sn	16 39 10.4	-10
	comp=Z,0.2nm,0.3s,baz=199,slow=20,SNR=5.4							
ARCES	**ARCESS Array B**	**19.65**	**7**	P		**P**	**16 38 43.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=4.3							

PRU 29 16:35:20.0±0.0, 50.24N×18.82E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHZP	**Chorzow**	**0.12**	**65**	*e*Pg		Pg	16 35 21.9	-0.5
CHZP				*e*Sg		Sg	16 35 23.2	-0.7
OJC	**Ojcow**	**0.63**	**91**	*e*Pg		Pg	16 35 31.0	-1.0
OJC				*e*Sg		Sg	16 35 39.0	-1.2
MORC	**Moravsky Berou**	**0.95**	**241**	*e*PG		Pb	16 35 39.2	-0.1
MORC				*e*SG		Sb	16 35 51.5	-0.9
LANS	**Liptovska Anna**	**1.17**	**159**	*e*PG		Pg	16 35 42.0	-0.4
LANS				*e*SG		Sg	16 35 58.0	+0.5
DPC	**Dobruska-Polom**	**1.61**	**275**	*e*PG		Pn	16 35 49.7	0.0
DPC				*e*SG		Sg	16 36 11.5	-0.1
	comp=Z,18nm,0.5s							
VRAC	**Vranov**	**1.72**	**238**	*e*PN		Pb	16 35 52.0	-0.4
VRAC				*e*SG		Sn	16 36 14.1	+0.3
KSP	**Ksiaz**	**1.72**	**291**	*e*Pg		Pg	16 35 53.1	+0.1
KSP				*e*Sg		Sg	16 36 16.2	+1.0
VYHS	**Vyhne**	**1.75**	**180**	*e*PN		Pn	16 35 50.8	-0.8
VYHS				*e*SN		Sn	16 36 14.4	-0.1
KRUC	**Moravsky**	**1.97**	**234**	*e*SG		Sb	16 36 21.7	-0.1
PVCC	**Panska Ves**	**2.74**	**278**	*e*SG		Sg	16 36 48.3	+0.4
	comp=Z,13nm,0.5s							
PRU	**Pruhonice**	**2.77**	**266**	*e*SG		Sb	16 36 46.2	+1.5
	comp=Z,5.6nm,0.4s							
BRG	**Berggiesshubel**	**3.17**	**283**	SG		Sg	16 36 59.6	-2.3
	4.2nm,0.5s							
KHC	**Kasperske Hory**	**3.58**	**254**	*e*SG		Sg	16 37 13.3	-1.7
	comp=Z,5.7nm,0.5s							
CLL	**Collm**	**3.84**	**288**	*e*Sg		Sg	16 37 25.0	+1.6

MEX 29 16:36:15.2±0.6, 16.01N×98.41W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PNIG	**Pinotepa**	**0.47**	**35**	*e*P		Pg	16 36 23.3	-0.9
PNIG				*i* S		Sg	16 36 30.2	-0.1
TLIG	**Tlapa**	**1.55**	**354**	*e*P		Pn	16 36 39.8	-3.8
TLIG				*e*S		Sn	16 36 59.9	-4.3
VHO	**Vista Hermosa**	**1.92**	**56**	*e*P		Pn	16 36 45.5	-3.3
VHO				*e*S		Sn	16 37 09.5	-3.9
CAIG	**El Cayaco**	**2.06**	**300**	*e*P		Pn	16 36 46.6	-3.9
CAIG				*i* S		Sn	16 37 11.3	-5.3
HUIG	**Huatulco**	**2.23**	**96**	*e*P		Pn	16 36 49.5	-3.2
HUIG				*i* S		Sn	16 37 16.1	-4.5

*ISCJB **29** 16:40:15.8±0.6, 40.66N±0.04×41.24E±0.05, h7km, Error ellipse: s-maj=5.9km s-min=4.7km az=135.6*
*ISK **29** 16:40:15.6, 40.67N×41.27E, h16km, ML1.9/6*
*DDA **29** 16:40:16.0, 40.69N×41.20E, h7km±2km, ML2.5*
ISC 29 16:40:15.4±1.0, 40.67N±0.05×41.22E±0.04, h7km, n12, σ0s30/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KRIK	**Erzurum-spir**	**0.40**	**214**	*i* P		**Pb**	**16 40 24.9**	**-0.1**
DDEM	**Demirkent**	**0.46**	**61**	*i* P		**Pb**	**16 40 26.1**	**+0.2**
DDEM				IAML_P				
	comp=Z,979nm,0.2s							
DBAD	**Bademkaya**	**0.50**	**46**	*i* P		**Pb**	**16 40 26.6**	**0.0**
DBAD				IAML_P				
	comp=Z,2μm,0.1s							
CHOM	**Cayeli-Rize**	**0.55**	**321**	PG		**Pb**	**16 40 27.2**	**-0.2**
CHOM				SG		**Sb**	**16 40 35.9**	**+0.4**
DAGI	**Agillar**	**0.66**	**52**	*i* P		**Pb**	**16 40 29.4**	**0.0**
DAGI				*i* S		**Sb**	**16 40 38.3**	**-0.6**
DAGI				IAML_P				
	comp=Z,559nm,0.1s							
DBOC	**Borcka**	**0.75**	**27**	*i* P		**Pb**	**16 40 31.2**	**+0.3**
DBOC				*i* S		**Sb**	**16 40 41.1**	**-0.3**
DBOC				IAML_P				
	comp=Z,998nm,0.1s							
BCA	**Borcka**	**0.83**	**21**	PG		**Pb**	**16 40 31.8**	**-0.4**
BCA				SG		**Sb**	**16 40 43.5**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**0.84**	**144**	PG		**Pg**	**16 40 31.8**	**+0.3**
BAYT	**Aydıntepe-Bayb**	**0.87**	**251**	PG		**Pb**	**16 40 32.8**	**-0.1**
SENK	**Senkaya-Erzuru**	**0.87**	**97**	PG		**Pg**	**16 40 32.2**	**0.0**
BATM	**Batumi**	**1.00**	**21**	PG		**Pb**	**16 40 35.2**	**+0.2**
KTUT	**Trabzon**	**1.15**	**286**	PN		**Pn**	**16 40 37.9**	**0.0**

*IDC **29** 16:46:14.1±1.0, 50.66N×160.16E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.4/60, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=30.8km s-min=20.7km az=75.0*
*KRSC **29** 16:46:14.3±10.0, 50.64N×160.40E, h71km±10km, ML3.8*
*ISCJB **29** 16:46:16.6±0.7, 50.69N±0.04×160.38E±0.07, h33km, mb3.7/5, Error ellipse: s-maj=6.2km s-min=5.8km az=168.8*
ISC 29 16:46:18.6±1.1, 50.67N±0.07×160.33E±0.06, h35km, n28, σ1s23/42, mb3.7/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KDTR	**Khodutka, Kamc**	**1.82**	**310**	*e*P		Pn	**16 46 45.8**	**-1.6**
KDTR				*e*S		**Sn**	**16 47 07.8**	**-1.4**
RUS	**Russkaya**	**2.10**	**328**	*e*P		Pn	**16 46 49.6**	**-1.6**
RUS				*e*S		**Sn**	**16 47 14.9**	**-1.2**
MTVR	**Mutnovka**	**2.26**	**324**	*e*P		Pn	**16 46 52.2**	**-1.3**
MTVR				*e*S		**Sn**	**16 47 19.7**	**-0.5**
ASAK	**Asacha**	**2.29**	**319**	*e*P		Pn	**16 46 53.2**	**-0.7**
ASAK				*e*S		**Sn**	**16 47 20.3**	**-0.7**
PAU	**Pauzhetka**	**2.36**	**291**	*e*P		Pn	**16 46 52.9**	**-1.9**
PAU				*e*S		**Sn**	**16 47 22.2**	**-0.3**
DALK	**Dalny**	**2.56**	**338**	*e*P		Pn	**16 46 56.4**	**-1.1**
DALK				*e*S		**Sn**	**16 47 27.2**

comp=Z,249nm,20.6s,baz=226,slow=30
LPAZ La Paz 45.46 89 P **P** **17 01 03.0 -2.4**
4.2nm,1.1s,baz=258,slow=5.9,SNR=8.3
LPAZ LR LR 17 15 27.5
comp=Z,129nm,18.7s,baz=252,slow=30
JTS JuntasAbangare 45.78 45 LR LR 17 15 23.9
comp=Z,128nm,18.7s,baz=162,slow=30
CMIG Matias Romero 45.93 29 LR LR 17 16 13.5
comp=Z,123nm,21.6s,baz=179,slow=31
APG El Apazote 46.27 35 LR LR 17 15 55.7
comp=Z,130nm,21.2s,baz=246,slow=30
SIV San Ignacio 52.00 92 LR LR 17 20 35.5
comp=Z,150nm,18.4s,baz=188,slow=32
CPUP Villa Florida 52.75 106 LR LR 17 20 07.6
comp=Z,243nm,19.2s,baz=231,slow=31
TXAR Lajitas Array 54.52 13 P **P** **17 02 13.3 0.0**
0.2nm,0.9s,baz=166,slow=12,SNR=2.4
NVAR Mina Array Bea 62.32 358 P **P** **17 03 06.9 -0.9**
0.3nm,0.7s,baz=184,slow=12,SNR=2.5
NVAR LR LR 17 25 13.9
comp=Z,96nm,18.4s,baz=131,slow=31
SJG San Juan 64.30 54 LR LR 17 27 15.9
comp=Z,46nm,19.6s,baz=122,slow=32
VNDA Vanda 64.86 194 LR LR 17 25 15.8
comp=Z,122nm,19.6s,baz=152,slow=30
PDAR Pinedale Array 66.88 5 P **P** **17 03 37.5 -0.1**
0.4nm,0.7s,baz=163,slow=6.6,SNR=1.2
YKA Yellowknife Ar 86.38 1 P **P** **17 05 26.2 -0.8**
1.4nm,1.0s,baz=172,slow=4.2,SNR=14
H11S2 WAKE ISLAND Hy 86.40 292 T T 18 41 16.7
baz=118,slow=75
H11S1 WAKE ISLAND Hy 86.41 292 T T 18 41 30.2
baz=118,slow=75
H11S3 WAKE ISLAND Hy 86.41 292 T T 18 41 19.8
baz=118,slow=75
H11N3 WAKE ISLAND Hy 86.78 293 T T 18 41 51.2
baz=115,slow=77
H11N1 WAKE ISLAND Hy 86.79 293 T T 18 41 58.6
baz=115,slow=77
H11N2 WAKE ISLAND Hy 86.79 293 T T 18 41 53.8
baz=115,slow=77
STKA Stephens Creek 87.26 236 LR LR 17 43 14.4
comp=Z,76nm,18.3s,baz=201,slow=34
MAW Mawson 88.49 180 LR LR 17 41 47.1
comp=Z,118nm,19.3s,baz=217,slow=33
ZALV Zalesovo Beam 146.41 338 PKPbc **PKPdf** **17 12 25.7 +1.0**
0.7nm,0.5s,baz=25,slow=3.8,SNR=4.5
CMAR Chiang Mai Arr 146.97 267 PKPbc **PKPab** **17 12 31.3 +1.1**
0.2nm,0.4s,baz=45,slow=0.1,SNR=4.0
BRTR Keskin Array B 150.15 51 PKP **PKPdf** **17 12 31.9 +0.4**
0.3nm,0.7s,baz=295,slow=2.0,SNR=2.7
BRTR PKPbc **PKPbc** **17 12 38.0 +1.4**
1.7nm,1.0s,baz=345,slow=2.9,SNR=5.3
MKAR Makanchi Array 153.08 331 PKPbc **PKiKP** **17 12 45.5 +2.4**
0.3nm,0.7s,baz=42,slow=2.9,SNR=3.3
MKAR PKPab **PKPab** **17 12 56.5 +2.2**
0.6nm,0.7s,baz=39,slow=2.9,SNR=4.9

*ISCJB **29** 16:57:27.8±0.5,2˚43N±0˚05×128˚44E±0˚06, h250km, mb3.5/9, Error ellipse: s-maj=8.7km s-min=6.8km az=163.0*
*DJA **29** 16:57:28.8±0.8,2˚N±8˚×12˚8E± ˚, h235km±12km, M4.1/11, mb3.9/6, mB4.8/2, MLv4.2/11, Mw(mB)4.1/2*
*IDC **29** 16:57:29.2±2.1,2˚42N×128˚66E, h247km±24km, mb3.2/10, mb1 3.4/12, mb1mx3.2/38, mbtmp3.9/12, Error ellipse: s-maj=28.0km s-min=10.5km az=78.0*

ISC 29 16:57:29.3±0.7,2˚40N±0˚07×128˚44E±0˚09, h250km, n23, σ1s31/25, mb3.6/9, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.94**	**214**	P	**Pn**	**16 58 10.0**	**-1.3**
SGSI	**Sangihe**	**3.18**	**294**	P	**Pn**	**16 58 21.3**	**-2.5**
SIJI	**Sorong**	**4.30**	**139**	P	**Pn**	**16 58 36.0**	**-0.7**
	1.3nm,0.3s,baz=337,slow=19,SNR=6.6						
KMSI	**Cibinong**	**4.81**	**248**	P	**Pn**	**16 58 42.5**	**-0.3**
KMSI				S	**S**	**16 59 39.9**	**-1.5**
SANI	**Sanana**	**5.05**	**209**	P	**Pn**	**16 58 44.0**	**-1.8**
SKMP	**Bagumbayan, Su**	**5.65**	**317**	*eP*	**Pn**	**16 58 51.8**	**-1.3**
KCP	**Kidapawan**	**5.67**	**324**	*iP*	**Pn**	**16 58 51.9**	**-1.6**
BUKP	**Musuan**	**6.40**	**328**	*eP*	**Pn**	**16 59 01.1**	**-1.5**
FAKI	**Fak Fak**	**6.51**	**144**	P	**Pn**	**16 59 04.0**	**+0.1**
LUWI	**Luwuk**	**6.62**	**239**	P	**Pn**	**16 59 03.1**	**-2.1**
MRSI	**Marisa**	**6.77**	**254**	P	**Pn**	**16 59 07.1**	**-0.1**
APSI	**Ampana**	**7.54**	**244**	P	**Pn**	**16 59 16.2**	**-0.7**
BATI	**Baumata**	**13.39**	**201**	P	**P**	**17 00 31.8**	**+0.3**
	3.5nm,0.3s,baz=358,slow=2.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**20.55**	**188**	P	**P**	**17 01 48.8**	**-0.6**
	1.1nm,0.6s,baz=5.1,slow=13,SNR=8.4						
WRA	**Warramunga Arr**	**22.94**	**166**	P	**P**	**17 02 12.2**	**+0.1**
	2.6nm,0.7s,baz=343,slow=12,SNR=48						
ASAR	**Alice Springs**	**26.45**	**169**	P	**P**	**17 02 44.1**	**+0.5**
	1.8nm,0.8s,baz=355,slow=7.9,SNR=62						
ASAR				PcP	**PcP**	**17 06 03.2**	**+1.2**
	0.1nm,0.5s,baz=355,slow=2.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**33.02**	**301**	P	**P**	**17 03 44.2**	**+2.7**
	0.6nm,0.7s,baz=124,slow=8.0,SNR=4.9						
KSRS	**Korea Array**	**34.89**	**359**	P	**P**	**17 03 57.4**	**+0.1**
	1.1nm,0.7s,baz=177,slow=10,SNR=5.2						
MJAR	**Matsushiro Arr**	**35.16**	**14**	P	**P**	**17 03 58.5**	**-1.1**
	1.4nm,0.8s,baz=192,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**36.30**	**161**	P	**P**	**17 04 08.5**	**-0.8**
	2.0nm,0.8s,baz=330,slow=10,SNR=4.2						
SONM	**Songino Array**	**49.11**	**340**	P	**P**	**17 05 52.1**	**+0.3**
	0.5nm,0.7s,baz=149,slow=3.0,SNR=4.8						
MKAR	**Makanchi Array**	**59.62**	**325**	P	**P**	**17 07 08.2**	**+1.0**
	0.8nm,0.5s,baz=119,slow=8.3,SNR=15						
ZALV	**Zalesovo Beam**	**62.55**	**333**	P	**P**	**17 07 26.4**	**-0.2**
	0.6nm,0.6s,baz=126,slow=2.0,SNR=3.6						

*MOS **29** 17:01:18.9±0.9,27˚56N×18˚39W, h10km, mb4.8/34, Error ellipse: s-maj=12.6km s-min=6.2km az=59.6*
*IDC **29** 17:01:18.7±0.4,27˚55N×18˚22W, h0km, mb4.2/25, mb1 4.3/27, mb1mx4.2/50, mbtmp4.1/27, ML4.1/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/54, Error ellipse: s-maj=11.9km s-min=10.7km az=55.0*
*ISCJB **29** 17:01:19.2±0.2,27˚73N±0˚04×18˚15W±0˚03, h10km, mb4.4/87, MS3.6/8, Error ellipse: s-maj=5.7km s-min=3.7km az=166.1*
*BJI **29** 17:01:19.0,27˚70N×18˚30W, h15km, mb4.7/7, mB5.1/5, Ms4.6/2, Ms7 4.4/3*
*NEIC **29** 17:01:20.5±0.2,27˚59N×18˚28W, h10km, mb4.7/49, MN4.7(MDD), Error ellipse: s-maj=7.2km s-min=5.2km az=162.0*
NEIC Felt at Tazacorte.
*INMG **29** 17:01:21.9±1.8,27˚57N×18˚34W, h10km, ML4.3, Error ellipse: s-maj=8.9km s-min=8.6km az=53.0*

ISC 29 17:01:20.7±0.4,27˚80N±0˚05×18˚18W±0˚05, h10km, n198, σ2s38/216, mb4.5/87, MS3.5/8, 5C, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACI	**Morro de la Ar**	**1.55**	**73**	*eP*	**Pn**	**17 01 47.0**	**-1.5**
MACI				*eS*	**Sn**	**17 02 05.8**	**-3.0**
FUL	**Funchal**	**4.96**	**13**	*eP*	**Pn**	**17 02 32.6**	**-2.6**
FUL				*eS*	**Sn**	**17 03 26.1**	**-6.5**
FUL				A	A	17 03 29.3	
	262nm,0.3s						
PMAR	**Madeira**	**5.03**	**12**	*eP*	**Pn**	**17 02 33.7**	**-2.7**
PMAR				*eS*	**Sn**	**17 03 28.0**	**-6.6**
PMAR				A	A	17 03 36.0	
	395nm,0.4s						
PMAR	**Madeira**	**5.03**	**12**	P	**Pn**	**17 02 34.6**	**-1.7**
PMAR				S	**Sn**	**17 03 29.3**	**-5.3**
PMOZ	**Porto Moniz, M**	**5.07**	**9**	*eP*	**Pn**	**17 02 35.5**	**-1.4**
PMOZ				*eS*	**Sn**	**17 03 29.1**	**-6.6**
PMOZ				A	A	17 03 40.9	
	733nm,0.4s						
PMOZ	**Porto Moniz, M**	**5.07**	**9**	P	**Pn**	**17 02 35.5**	**-1.4**
PMOZ				S	**Sn**	**17 03 30.7**	**-5.0**
PMPS	**Porto Santo**	**5.47**	**17**	*eP*	**Pn**	**17 02 41.3**	**-1.0**
PMPS				*eS*	**Sn**	**17 03 40.0**	**-5.4**
PMPS				A	A	17 03 54.0	
	115nm,0.3s						
TANT	**Tantan**	**6.17**	**83**	P	**Pn**	**17 02 52.1**	**+0.2**
TANT				S	**Sn**	**17 04 04.3**	**+1.7**
SFNM	**Sidi Ifni**	**7.21**	**76**	P	**Pn**	**17 03 07.7**	**+1.5**
SFNM				S	**Sn**	**17 04 26.8**	**-1.4**
EAH	**EAH**	**8.40**	**61**	P	**Pn**	**17 03 20.1**	**-2.4**
EAH				S	**Sn**	**17 04 56.2**	**-1.2**
TTIG	**Tnine Tigouga,**	**8.94**	**70**	P	**Pn**	**17 03 29.8**	**-0.3**
TTIG				S	**Sn**	**17 05 08.2**	**-2.8**
OUK	**Oukaimeden**	**9.61**	**67**	P	**Pn**	**17 03 37.6**	**-1.8**
OUK				S	**Sn**	**17 05 26.1**	**-1.5**
SRHM	**Skhour des Reh**	**10.04**	**60**	P	**Pn**	**17 03 44.5**	**-0.7**
SRHM				S	**Sn**	**17 05 33.5**	**-4.5**
OUZM	**OUZ**	**10.44**	**70**	P	**Pn**	**17 03 48.6**	**-1.9**
OUZM				S	**Sn**	**17 05 43.1**	**-4.5**
PSMN	**Pico do Norte,**	**10.86**	**329**	*eT*	T	17 14 53.5	
PSMA	**Santa Maria**	**10.88**	**329**	*eT*	T	17 14 58.4	
ZHG	**ZHG**	**11.42**	**58**	P	**Pn**	**17 04 01.0**	**-2.9**
ZHG				S	**Sn**	**17 06 06.6**	**-5.1**
RTC	**Rabat Centre**	**11.51**	**55**	*ePn*	**Pn**	**17 04 05.2**	**0.0**
BART	**Pico Bartolome**	**11.55**	**331**	*eT*	T	17 15 53.6	
CMLA	**Cha da Macela**	**11.69**	**330**	*eT*	T	17 15 56.4	
CMLA	**Cha da Macela**	**11.69**	**330**	*ePn*	**Pn**	**17 04 06.8**	**-0.8**
CMLA	**Cha da Macela**	**11.69**	**330**	*eP*	**Pn**	**17 04 06.8**	**-0.8**
GRON	**Grota Negra**	**11.70**	**330**	*eT*	T	17 15 55.8	
MD31	**MD31**	**12.64**	**63**	P	**Pn**	**17 04 20.4**	**-0.4**
MD31				S	**Sn**	**17 06 36.4**	**-5.2**
RSA	**Sarsar**	**12.70**	**53**	P	**Pn**	**17 04 22.7**	**+1.2**
RSA				S	**Sn**	**17 06 38.7**	**-4.2**
MDT	**Midelt**	**12.74**	**64**	Pn	**Pn**	**17 04 22.6**	**+0.4**
	0.2nm,0.3s,baz=246,slow=10.0,SNR=2.3						
MDT				Sn	Sn	17 06 34.3	-10
	1.0nm,0.3s,baz=321,slow=8.9,SNR=9.3						
MDT				LR	LR	17 08 49.0	
	comp=Z,136nm,19.7s,baz=346,slow=35						
MDT	**Midelt**	**12.74**	**64**	P	**Pn**	**17 04 21.7**	**-0.4**
MDT				S	**Sn**	**17 06 38.7**	**-5.4**
PBDV	**Barranco-do-Ve**	**12.77**	**40**	*e*Sn	Sn	17 06 35.8	-8.9
PVAQ	**Vaqueiros**	**13.01**	**40**	*e*Sn	Sn	17 06 42.4	-8.0
PNCL	**Nicolau / Gran**	**13.08**	**36**	*e*Sn	Sn	17 06 42.3	-10
PNCL				A	A	17 06 54.4	
	6.9nm,0.8s						
CHEFC	**Chefchaouen**	**13.15**	**53**	P	**Pn**	**17 04 31.4**	**+3.7**
CHEFC				S	**Sn**	**17 06 52.1**	**-2.0**
PBEJ	**Beja**	**13.37**	**38**	*e*Sn	Sn	17 06 50.7	-8.5
PBEJ				A	A	17 06 56.2	
	4.3nm,0.4s						
AKLM	**AKL**	**13.96**	**58**	P	**Pn**	**17 04 38.3**	**-0.4**
AKLM				S	**Sn**	**17 07 06.8**	**-7.0**
PESTR	**Estremoz**	**14.13**	**36**	*e*Pn	**Pn**	**17 04 43.7**	**+2.7**
HORN	**Hornachuelos**	**14.76**	**44**	P	**Pn**	**17 04 48.4**	**-1.2**
HORN				S	**Sn**	**17 07 26.1**	**-7.1**
FIGM	**Figuig**	**15.28**	**70**	P	**P**	**17 05 00.8**	**-0.8**
FIGM				S	**Sn**	**17 07 48.9**	**+2.7**
PAB	**San Pablo**	**16.40**	**41**	*e*Pn	**Pn**	**17 05 11.1**	**0.0**
	16nm,1.3s						
PAB	**San Pablo**	**16.40**	**41**	*e*P	**Pn**	**17 05 11.1**	**0.0**
PAB				pmax	pmax		
	comp=Z,16nm,1.3s						
ESDC	**Sonseca Array**	**16.71**	**41**	Pn	**Pn**	**17 05 16.6**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=237,slow=13,SNR=4.4						
ESDC				Sn	**Sn**	**17 08 11.5**	**-9.1**
	comp=Z,0.5nm,0.3s,baz=237,slow=24,SNR=5.0						
ESLA	**Sonseca Array**	**16.71**	**41**	*e*Pn	**Pn**	**17 05 16.0**	**+1.0**
	comp=Z,29nm,1.4s						
ES06	**SONSECA Array**	**16.72**	**41**	*e*Pn	**Pn**	**17 05 14.7**	**-0.4**
CART	**Cartagena**	**17.42**	**52**	*e*Pn	**P**	**17 05 25.0**	**-0.1**
	comp=Z,100nm,1.3s						
EPF	**Esparros**	**21.35**	**40**	*e*P	**P**	**17 06 12.0**	**+3.9**
EPF				pmax	pmax		
	comp=Z,87nm,2.0s						
TAM	**Tamanrasset**	**21.99**	**98**	*e*P	**P**	**17 06 17.3**	**+2.0**
	comp=Z,27nm,1.7s						
TAM	**Tamanrasset**	**21.99**	**98**	*e*P	**P**	**17 06 17.3**	**+2.0**
TAM				pmax	pmax		
	comp=Z,27nm,1.7s						
MFF	**Saint Martin d**	**23.53**	**32**	*e*P	**P**	**17 06 31.1**	**+0.1**
MFF				pmax	pmax		
	comp=Z,150nm,2.0s						
TOA1	**Torodi Ar. Sit**	**23.59**	**124**	*e*P	**P**	**17 06 29.7**	**-2.2**
TOA1				*e*S	**S**	**17 10 45.1**	**-1.2**
TOA0	**Torodi Ar. Sit**	**23.60**	**124**	*e*P	**P**	**17 06 30.5**	**-1.4**
TORD	**Torodi Ar. Bea**	**23.60**	**124**	P	**P**	**17 06 29.7**	**-2.2**
	comp=Z,3.3nm,0.6s,baz=318,slow=8.2,SNR=18						
TORD				S	**S**	**17 10 45.1**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=321,slow=26,SNR=4.2						
TORD				LR	LR	17 15 21.9	
	comp=Z,98nm,18.8s,baz=325,slow=36						
TIC	**Toumodi**	**24.47**	**147**	*e*P	**P**	**17 06 37.8**	**-2.3**
TCF	**Toulx Ste Croi**	**24.48**	**36**	*e*P	**P**	**17 06 43.3**	**+3.3**
TCF				pmax	pmax		
	comp=Z,182nm,2.8s						
DBIC	**Dimbokro**	**24.53**	**147**	*e*P	**P**	**17 06 38.5**	**-2.1**
	comp=Z,12nm,0.6s						
DBIC				S	**S**	**17 10 59.7**	**-1.6**
DBIC	**Dimbokro**	**24.53**	**147**	*e*P	**P**	**17 06 38.5**	**-2.1**
DBIC				S	**S**	**17 10 59.7**	**-1.6**
DBIC				pmax	pmax		
	comp=Z,12nm,0.6s						
DBIC	**Dimbokro**	**24.53**	**147**	P	**P**	**17 06 38.0**	**-2.6**
	comp=Z,7.7nm,0.7s,baz=326,slow=11,SNR=6.8						
DBIC				S	**S**	**17 10 59.7**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=41,slow=20,SNR=2.5						
GRR	**Gorron**	**24.55**	**29**	*e*P	**P**	**17 06 42.8**	**+2.2**
GRR				pmax	pmax		
	comp=Z,38nm,1.3s						
KEST	**Kesra**	**24.65**	**64**	*e*P	**P**	**17 06 45.1**	**+3.5**
	comp=Z,25nm,1.3s						
KEST	**Kesra**	**24.65**	**64**	P	**P**	**17 06 41.7**	**+0.1**
	comp=Z,11nm,0.9s,baz=198,slow=8.7,SNR=7.7						
KEST				LR	LR	17 15 54.2	
	comp=Z,171nm,18.3s,baz=230,slow=35						
LIC	**Lamto**	**24.83**	**147**	*e*P	**P**	**17 06 41.0**	**-2.4**
	comp=Z,59nm,1.2s						
KIC	**Kosan Boka**	**24.85**	**147**	*e*P	**P**	**17 06 41.5**	**-2.0**
	comp=Z,33nm,0.7s						
BGF	**Bois d'Agland**	**24.99**	**36**	*e*P	**P**	**17 06 49.4**	**+4.8**
BGF				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LDF	**La Druitiere**	**25.03**	**29**	*e*P	**P**	**17 06 47.0**	**+2.2**
LDF				pmax	pmax		
	comp=Z,165nm,2.5s						
AVF	**Avril sur Loir**	**25.41**	**36**	*e*P	**P**	**17 06 52.5**	**+4.2**
AVF				pmax	pmax		
	comp=Z,39nm,1.8s						
LOR	**Lormes**	**25.98**	**36**	*e*P	**P**	**17 06 58.0**	**+4.4**
LOR				pmax	pmax		
	comp=Z,260nm,3.2s						
HAU	**Haudompre**	**27.75**	**37**	*e*P	**P**	**17 07 14.7**	**+5.2**
HAU				pmax	pmax		
	comp=Z,1.0nm,0.2s						
BAIF	**Baives**	**28.03**	**31**	*e*P	**P**	**17 07 15.0**	**+3.0**
BAIF				pmax	pmax		
	comp=Z,5.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**29.58**	**17**	P	**P**	**17 07 27.9**	**+2.2**
	comp=Z,1.7nm,0.8s,baz=204,slow=8.5,SNR=5.3						
FETA	**Feichten**	**29.66**	**42**	*e*P	**P**	**17 07 28.7**	**+1.9**
	comp=Z,1.4nm,0.6s						
TIP	**Timpagrande**	**31.09**	**60**	*e*P	**P**	**17 07 41.4**	**+2.1**
	comp=Z,48nm,2.0s						
MOA	**Molln**	**32.17**	**43**	*e*P	**P**	**17 07 50.2**	**+1.5**
	comp=Z,1.8nm,0.5s						
GEA0	**GERESS Array S**	**32.30**	**41**	*e*P	**P**	**17 07 54.0**	**+4.2**
GERES	**GERESS Array B**	**32.30**	**41**	P	**P**	**17 07 52.2**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=277,slow=9.8,SNR=3.6						
FNA	**Florina**	**34.86**	**58**	*e*P	**P**	**17 08 15.0**	**+2.8**
	comp=Z,7.5nm,1.0s						
FNA	**Florina**	**34.86**	**58**	*e*P	**P**	**17 08 15.0**	**+2.8**
FNA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VYHS	**Vyhne**	**35.22**	**44**	*e*P	P	17 08 24.7	+10
VYHS	**Vyhne**	**35.22**	**44**	*es*P	P	17 08 24.7	+10
AGG	**Agios Georgios**	**35.36**	**61**	*e*P	**P**	**17 08 19.7**	**+3.2**
	comp=Z,42nm,1.8s						
AGG	**Agios Georgios**	**35.36**	**61**	*e*P	**P**	**17 08 19.7**	**+3.2**
AGG				pmax	pmax		
	comp=Z,42nm,1.8s						
VTS	**Vitosha**	**36.55**	**55**	*e*P	**P**	**17 08 28.5**	**+1.7**
	comp=Z,13nm,1.6s						
VTS	**Vitosha**	**36.55**	**55**	*e*P	**P**	**17 08 28.5**	**+1.7**
VTS				pmax	pmax		
	comp=Z,13nm,1.6s						
VOIR		**38.38**	**51**	P	**P**	**17 08 44.7**	**+2.5**
VOIR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	**NORSAR Subarra**	**38.65**	**22**	P	**P**	**17 08 45.7**	**+1.5**
	comp=Z,5.3nm,1.2s,baz=224,slow=8.6						
NB200	**NORSAR Array S**	**38.65**	**22**	*e*P	**P**	**17 08 45.6**	**+1.4**
NOA	**NORSAR Array B**	**38.65**	**22**	P	**P**	**17 08 45.6**	**+1.4**
	comp=Z,2.1nm,1.0s,baz=228,slow=8.7,SNR=4.0						
NC303	**NORSAR Array S**	**38.84**	**22**	*e*P	**P**	**17 08 48.5**	**+2.8**
	comp=Z,51nm,1.9s						
BUR08	**Bucovina Ar. S**	**39.00**	**48**	*e*P	**P**	**17 08 50.1**	**+2.7**
	comp=Z,18nm,2.0s						
MLR	**Muntele Rosu**	**39.01**	**51**	*e*P	**P**	**17 08 49.1**	**+1.6**
	comp=Z,13nm,1.3s						
MLR	**Muntele Rosu**	**39.01**	**51**	*e*P	**P**	**17 08 49.1**	**+1.6**
MLR				pmax	pmax		
	comp=Z,13nm,1.3s						
MLR	**Muntele Rosu**	**39.01**	**51**	LR	LR	17 26 32.5	
	comp=Z,110nm,18.5s,baz=270,slow=39						
MANT	**Manisa**	**40.18**	**62**	*e*P	**P**	**17 08 59.9**	**+2.3**
	comp=Z,34nm,1.1s						
KIEV	**Kiev**	**42.31**	**44**	*e*P	**P**	**17 09 17.7**	**+3.1**
	comp=Z,3.2nm,0.9s						
AKASG	**Malin Array Be**	**42.33**	**44**	P	**P**	**17 09 15.4**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=248,slow=9.6,SNR=2.6						
AKBB	**Malin Array Si**	**42.33**	**44**	*e*P	**P**	**17 09 17.6**	**+3.0**
	comp=Z,2.9nm,0.8s						
AKBB	**Malin Array Si**	**42.33**	**44**	*e*P	**P**	**17 09 17.7**	**+3.0**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SFJD	**Kangerlussuaq**	**43.91**	**342**	*e*P	**P**	**17 09 27.4**	**+0.3**
	comp=Z,15nm,1.0s						
SFJD	**Kangerlussuaq**	**43.91**	**342**	*i*P	**P**	**17 09 28.1**	**+0.9**
	comp=Z,11nm,0.8s						
SFJD	**Kangerlussuaq**	**43.91**	**342**	P	**P**	**17 09 27.5**	**+0.3**
	comp=Z,14nm,0.9s,baz=139,slow=4.3,SNR=6.2						
BR101	**Keskin Array S**	**44.14**	**61**	*e*P	**P**	**17 09 30.8**	**+1.1**
BR131	**Keskin Array S**	**44.14**	**61**	*e*P	**P**	**17 09 31.9**	**+2.3**
	comp=Z,22nm,1.0s						
BRTR	**Keskin Array B**	**44.14**	**61**	P	**P**	**17 09 30.8**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=270,slow=6.5,SNR=5.5						
CSS	**Mathiatis**	**44.15**	**67**	*e*P	**P**	**17 09 32.2**	**+2.5**
	comp=Z,9.5nm,1.0s						
SCHQ	**Schefferville**	**44.19**	**321**	*e*P	**P**	**17 09 29.5**	**-0.2**
	comp=Z,56nm,1.8s						
FIA0	**FINESS Array S**	**44.62**	**29**	*e*P	**P**	**17 09 34.5**	**+1.5**
FIA0	**FINESS Array S**	**44.62**	**29**	*e*P	**P**	**17 09 34.5**	**+1.5**
FINES	**FINESS Array B**	**44.62**	**29**	P	**P**	**17 09 34.5**	**+1.5**
	comp=Z,4.4nm,0.7s,baz=234,slow=7.2,SNR=16						
FIA1	**FINESS Array S**	**44.62**	**29**	*e*P	**P**	**17 09 34.6**	**+1.6**
MMAI	**Mount Meron Ar**	**46.10**	**70**	P	**P**	**17 09 46.9**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=287,slow=5.5,SNR=5.3						
EIL	**Elat**	**46.29**	**74**	LR	LR	17 31 49.0	
	comp=Z,37nm,19.0s,baz=255,slow=40						
ASF	**Jabal al Asfar**	**47.48**	**71**	LR	LR	17 32 51.9	
	comp=Z,107nm,21.0s,baz=130,slow=40						
OBN	**Obninsk**	**47.66**	**39**	*e*P	**P**	**17 09 56.7**	**-0.3**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DAG	**Danmarks Havn**	**49.04**	**360**	P	**P**	**17 10 09.5**	**+2.1**
DAG				pmax	pmax		
	comp=Z,9.0nm,2.6s						
PTGA	**Pitinga**	**49.11**	**242**	*e*P	**P**	**17 10 08.2**	**-0.6**
	comp=Z,6.9nm,0.8s						
PTGA	**Pitinga**	**49.11**	**242**	P	**P**	**17 10 07.8**	**-0.9**
	comp=Z,5.1nm,0.7s,baz=348,slow=9.3,SNR=11						
KLMR	**Klimovskoe**	**50.48**	**32**	*e*P	**P**	**17 10 17.9**	**-0.6**
KLMR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KLMR	**Klimovskoe**	**50.48**	**32**	*e*P	**P**	**17 10 18.0**	**-0.6**
KLMR				AMP		17 10 21.6	
	comp=Z,6.0nm,0.9s						
GNI	**Garni**	**52.62**	**59**	LR	LR	17 35 54.9	
	comp=Z,29nm,18.1s,baz=309,slow=39						
GROC	**Groznyy**	**53.08**	**55**	*e*P	**P**	**17 10 37.4**	**-0.9**
GROC				*e*		17 12 39.3	
GROC				pmax	pmax		
	comp=Z,15nm,0.9s						
PRGR	**Permogore**	**53.53**	**32**	*e*P	**P**	**17 10 41.3**	**0.0**
PRGR				pmax	pmax		
	comp=Z,12nm,0.9s						
RES	**Resolute Bay**	**59.91**	**343**	*e*P	**P**	**17 11 27.1**	**+0.7**
	comp=Z,8.0nm,1.4s						
RES	**Resolute Bay**	**59.91**	**343**	*e*P	**P**	**17 11 27.1**	**+0.7**
RES				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ARU	**Arti**	**60.09**	**39**	*e*P	**P**	**17 11 28.9**	**+0.9**
	comp=Z,5.2nm,0.8s						
ARU	**Arti**	**60.09**	**39**	*c iP*	**P**	**17 11 29.0**	**+1.1**
ARU						17 12 15.2	
ARU						17 13 42.3	
ARU				S	**S**	**17 19 45.2**	**+4.4**
ARU				SS	**SS**	**17 23 40.2**	**+3.0**
LSZ	**Lusaka**	**62.07**	**128**	*e*P	**P**	**17 11 42.3**	**+0.3**
	comp=Z,7.8nm,0.8s						
LSZ	**Lusaka**	**62.07**	**128**	*e*P	**P**	**17 11 42.3**	**+0.3**
LSZ				pmax	pmax		
	comp=Z,8.0nm,0.8s						
OTAV	**Otavalo**	**63.82**	**255**	P	**P**	**17 11 53.9**	**-0.3**
OTAV				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LPAZ	**La Paz**	**65.28**	**234**	*e*P	**P**	**17 12 02.3**	**-1.6**
LPAZ	**La Paz**	**65.28**	**234**	*e*P	**P**	**17 12 02.3**	**-1.6**
LPAZ	**La Paz**	**65.28**	**234**	P	**P**	**17 12 02.0**	**-1.8**
	comp=Z,0.9nm,0.5s,baz=64,slow=7.3,SNR=5.1						
LPAZ				LR	LR	17 38 30.4	
	comp=Z,26nm,18.3s,baz=

comp=Z,1.0nm,1.1s
BNM Barren Site 73.79 300 *e*P **P 17 12 56.0 +0.2**
NVS Novosibirsk 73.92 36 *e*P **P 17 12 58.5 +2.6**
LENM Lemitar 74.05 300 *e*P **P 17 12 56.7 -0.6**
ZAA1 Zalesovo Array 75.14 37 *e*P **P 17 13 04.6 +1.6**
ZALV Zalesovo Beam 75.14 37 P **P 17 13 04.6 +1.6**
comp=Z,2.2nm,0.8s,baz=284,slow=5.8,SNR=5.3
EPYK Eagle Plains 75.28 339 *e*P **P 17 13 04.2 +0.5**
comp=Z,11nm,1.1s
KSH Kashi 75.85 53 *e*P **P 17 13 07.0 -0.6**
KSH S **S 17 22 43.3 -6.9**
KSH pmax pmax
comp=Z,100nm,5.6s
WUAZ Wupatki 76.81 303 *e*P **P 17 13 13.1 0.0**
comp=Z,6.3nm,1.0s
MK31 Makanchi Array 76.91 44 *e*P **P 17 13 14.5 +1.2**
comp=Z,1.6nm,0.9s
MK31 Makanchi Array 76.91 44 *e*P **P 17 13 14.5 +1.2**
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK32 Makanchi Array 76.91 44 *e*P **P 17 13 14.2 +0.9**
MKAR Makanchi Array 76.91 44 P **P 17 13 14.2 +0.9**
comp=Z,1.1nm,0.7s,baz=297,slow=4.4,SNR=11
DAWY Dawson 77.59 337 *e*P **P 17 13 17.4 +0.5**
comp=Z,24nm,1.9s
TIXI Tiksi 78.19 10 *e*P **P 17 13 21.0 +1.1**
comp=Z,8.2nm,1.4s
TIXI Tiksi 78.19 10 *i* P **P 17 13 20.7 +0.8**
DGZ Jazzator, Alta 78.58 40*c iP* **P 17 13 24.2 +1.5**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
IL1 Eielson Array 79.52 340 *e*P **P 17 13 28.2 +0.8**
ILAR Eielson Array 79.52 340 P **P 17 13 28.4 +1.0**
comp=Z,1.5nm,0.8s,baz=17,slow=4.4,SNR=17
ILB Eielson Array 79.52 340 *e*P **P 17 13 28.8 +1.4**
comp=Z,30nm,2.0s
CCB Clear Creek Bu 79.89 340 *e*P **P 17 13 30.7 +1.4**
comp=Z,6.6nm,1.0s
WMQ Urumqi 81.68 45 *e*P **P 17 13 42.0 +2.5**
WMQ LR LR
comp=Z,190nm,16.1s
WMQ LR LR
comp=Z,240nm,21.7s
WMQ LR LR
comp=Z,220nm,19.3s
GO06 Curarrehue 83.41 219 *e*P **P 17 13 47.4 -1.0**
comp=Z,12nm,1.0s
PLCA Paso Flores 83.72 217 *e*P **P 17 13 49.1 -0.8**
comp=Z,11nm,1.0s
PLCA Paso Flores 83.72 217 *e*P **P 17 13 49.1 -0.8**
PLCA pmax pmax
comp=Z,11nm,1.0s
PLCA Paso Flores 83.72 217 P **P 17 13 48.8 -1.1**
comp=Z,5.4nm,0.8s,baz=55,slow=5.3,SNR=18
BILL Bilibino 84.39 358 *e*P **P 17 13 52.9 0.0**
BILL pmax pmax
comp=Z,1.0nm,1.0s
BOD Bodaibo 85.78 23 *e*P **P 17 14 00.8 +0.7**
BOD pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 85.86 32 *i* P **P 17 14 01.6 +1.0**
TLY pmax pmax
comp=Z,4.0nm,1.1s
SEY Seymchan 89.26 4*ce*P **P 17 14 16.6 -0.1**
SONA0 Songino Array 89.76 34 *e*P **P 17 14 20.9 +1.4**
SONM Songino Array 89.76 34 P **P 17 14 20.9 +1.4**
comp=Z,1.5nm,0.8s,baz=300,slow=5.7,SNR=14
ULN Ulaanbaatar 90.06 33*ce*P **P 17 14 22.0 +1.0**
ULN pmax pmax
comp=Z,5.0nm,1.7s
HHC Hu-ho-hao-te 97.32 36 *e*P **P 17 14 54.5 +0.1**
CD2 Chengdu 99.53 48 P **Pdif 17 15 01.8 -2.7**
KMI Kunming 102.52 53 P **Pdif 17 15 17.8 -0.3**
WR1 Warramunga Arr 153.72 79 *e*PKPbc **PKPbc 17 21 20.1 -0.5**
WRA Warramunga Arr 153.72 79 PKPbc **PKPbc 17 21 20.1 -0.5**
comp=Z,0.8nm,0.9s,baz=295,slow=2.1,SNR=7.0
ASAR Alice Springs 154.54 87 PKP **PKPdf 17 21 11.2 -2.7**
comp=Z,0.5nm,1.0s,baz=230,slow=2.3,SNR=3.5
ASAR PKPbc **PKiKP 17 21 22.4 +0.1**
comp=Z,0.7nm,0.8s,baz=316,slow=1.8,SNR=7.2
ASAR PKPab **PKPab 17 21 37.5 +0.6**
comp=Z,1.0nm,1.0s,baz=291,slow=3.6,SNR=6.2

RSNC 29 17:12:38.2±0.7, 6°39N×73°69W, h10km±7km, ML3.1, Mw3.5, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.55**	**68**	*i* P		Pg		17 12 48.4	-0.5
BARC				e S		Sg		17 12 56.0	-0.2
BARC				*i*				17 12 58.4	
	comp=Z,650nm,0.5s								
BRRC	**Barranca, Sant**	**0.72**	**358**	*e*P		Pg		17 12 50.7	-1.3
BRRC				e S		Sg		17 13 00.7	-0.7
BRRC				*i*				17 13 03.7	
	comp=E,458nm,0.2s								
PTBC	**PUERTO BERRIO,**	**0.77**	**281**	*e*P		Pg		17 12 51.2	-1.9
PTBC				e S		Sb		17 13 05.1	+0.6
PTBC				*i*				17 13 05.2	
	comp=N,418nm,0.3s								
RUSC	**La Rusia**	**0.78**	**129**	*e*P		Pg		17 12 52.8	-0.6
RUSC				e S		Sg		17 13 03.5	0.0
RUSC				*i*				17 13 04.4	
	comp=N,1μm,0.4s								
GIRC	**Giron, Santand**	**0.85**	**36**	*i*P		Pg		17 12 53.5	-1.0
GIRC				e S		Sg		17 13 05.3	-0.4
GIRC				*i*				17 13 07.3	
	comp=Z,275nm,0.3s								
PAMC	**Pamplona, Colo**	**1.37**	**46**	*e*P		Pn		17 13 02.7	-1.1
PAMC				e S		Sb		17 13 20.8	-1.2
PAMC				*i*				17 13 27.0	
	comp=E,530nm,0.3s								
ZARC	**Zaragoza, Cauc**	**1.60**	**314**	*e*P		Pn		17 13 04.7	-1.9
ZARC				e S		Sn		17 13 26.6	-0.7
ZARC				*i*				17 13 29.8	
	comp=N,209nm,0.4s								
HELC	**Santa Helena**	**1.84**	**264**	*e*P		Pn		17 13 08.8	-1.4
HELC				e S		Sn		17 13 32.4	-1.4
HELC				*i*				17 13 33.4	
	comp=E,166nm,0.2s								
OCAC	**Ocana**	**1.88**	**11**	*e*P		Pn		17 13 10.5	-0.1
OCAC				e S		Sb		17 13 35.7	-0.6
TAMC	**Tame, Arauca**	**1.89**	**88**	*e*P		Pb		17 13 12.5	-0.4
VILC	**Villavicencio,**	**2.26**	**180**	*e*P		Pb		17 13 19.3	0.0
VILC				e S		Sg		17 13 52.0	+1.1
VILC				*i*				17 14 04.2	
	comp=N,214nm,0.5s								
UREC	**San Jos de Ur**	**2.27**	**307**	*e*P		Pn		17 13 15.8	-0.1
SJCC	**San Jacinto, C**	**3.79**	**337**	*e*P		Pn		17 13 37.3	+0.6
SJCC				e S		Sn		17 14 22.8	+1.3
SJCC				*i*				17 14 38.3	
	comp=N,29nm,0.5s								

*ISCJB **29** 17:21:37.9±0.2, 51°.52N±0°.02×16°.16E±0°.02, h0km, mb3.5/7, Error ellipse: s-maj=2.2km s-min=1.8km az=21.8*
*IPEC **29** 17:21:39.3±0.3, 51°.57N×16°.25E, h0km, ML3.2/3, Error ellipse: s-maj=3.0km s-min=1.7km az=65.0*
*IDC **29** 17:21:39.8±0.5, 51°.55N×15°.98E, h0km, mb3.5/7, mb1 3.6/15, mb1mx3.4/51, mbtmp3.5/15, ML3.3/8, Error ellipse: s-maj=9.1km s-min=5.3km az=104.0*
*BGR **29** 17:21:41.0±0.3, 51°.49N×16°.16E, h1km, ML3.7/15, Error ellipse: s-maj=4.4km s-min=2.2km az=16.0*
*PRU **29** 17:21:41.1±0.0, 51°.49N×16°.16E, h0km, Felt In Harrachov*
*UPP **29** 17:21:44.7±3.1, 51°.81N×15°.79E, h0km, ML2.2, Suspected explosion*

ISC 29 17:21:39.1±0.5, 51°.56N±0°.02×16°.18E±0°.02, h0km, n98, σ1°62/190, mb3.6/7, 2C-14D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.72**	**174**	*i* Pg		**Pg**		**17 21 53.6**	**+0.8**
KSP				e Sg		**Sg**		**17 22 02.7**	**+0.6**
KSP	**Ksiaz**	**0.72**	**174**	*e*Pg		**Pg**		**17 21 53.6**	**+0.8**
KSP				e Sg		**Sg**		**17 22 02.9**	**+0.8**
UPC	**Upice**	**1.06**	**186**	↓*i*PG		**Pg**		**17 21 59.6**	**+0.3**
UPC				e SG		**Sg**		**17 22 13.5**	**+0.6**
	comp=Z,481nm,0.4s								
DPC	**Dobruska-Polom**	**1.21**	**176**	↓*i*PG		**Pg**		**17 22 02.4**	**+0.2**
DPC				e SG		**Sg**		**17 22 17.8**	**-0.2**
	comp=Z,220nm,0.4s								
DPC	**Dobruska-Polom**	**1.21**	**176**	*e*Pg		**Pg**		**17 22 02.4**	**+0.2**
DPC				e Sg		**Sg**		**17 22 18.1**	**+0.2**
PVCC	**Panska Ves**	**1.45**	**225**	↓*i*PG		**Pn**		**17 22 06.5**	**0.0**
PVCC				e SG		**Sg**		**17 22 25.7**	**+0.2**
	comp=Z,553nm,0.4s								
KRLC	**Kraliky**	**1.53**	**165**	↓*i*PG		**Pn**		**17 22 07.8**	**+0.1**
KRLC				e SG		**Sg**		**17 22 28.2**	**0.0**
	comp=Z,44nm,0.3s								
BRG	**Berggiesshubel**	**1.56**	**245**	PN		**Pn**		**17 22 08.1**	**0.0**
BRG				PG		**Pg**		**17 22 09.6**	**+0.6**
BRG				SG		**Sn**		**17 22 29.5**	**+0.5**
	417nm,0.5s								
BRG	**Berggiesshubel**	**1.56**	**245**	*e*Pn		**Pn**		**17 22 07.7**	**-0.3**
BRG				e Pg		**Pg**		**17 22 09.8**	**+0.8**
BRG				e Sg		**Sb**		**17 22 29.8**	**+0.7**
GKP	**Gorka Klasztor**	**1.83**	**20**	*e*Pn		**Pg**		**17 22 15.4**	**+1.3**
GKP				e Pg		Pb		17 22 19.6	+6.2
GKP				e Sg		**Sg**		**17 22 43.4**	**+5.4**
GOPC	**GO Pecny, Ondr**	**1.87**	**209**	↓*e*PN		**Pn**		**17 22 12.6**	**+0.3**
GOPC				e PG		**Pb**		**17 22 14.6**	**+0.6**
GOPC				e SG		**Sn**		**17 22 37.9**	**+1.3**
	comp=Z,163nm,0.6s								
PRU	**Pruhonice**	**1.88**	**214**	↓*e*PN		**Pn**		**17 22 12.3**	**-0.2**
PRU				e PG		**Pb**		**17 22 14.5**	**+0.2**
PRU				e SG		**Sb**		**17 22 38.7**	**+0.4**
	comp=Z,273nm,0.4s								
FBE	**Freiberg**	**1.89**	**251**	*e*Pn		**Pn**		**17 22 12.9**	**+0.4**
FBE				e Pg		**Pb**		**17 22 15.1**	**+0.8**
FBE				e Sg		**Sg**		**17 22 39.7**	**+0.1**
MORC	**Moravsky Berou**	**1.98**	**153**	↓*i*P		**Pn**		**17 22 13.9**	**+0.1**
MORC	**Moravsky Berou**	**1.98**	**153**	S		**Sb**		**17 22 42.5**	**+1.2**
MORC	**Moravsky Berou**	**1.98**	**153**	*e*PN		**Pn**		**17 22 14.0**	**+0.1**
MORC				e SG		**Sb**		**17 22 41.2**	**-0.1**
MORC	**Moravsky Berou** baz=336	**1.98**	**153**	*e*Pn		**Pn**		**17 22 14.0**	**+0.1**
MORC				e Sg		**Sb**		**17 22 41.1**	**-0.2**
	108nm,0.3s,baz=336								
MORC	**Moravsky Berou**	**1.98**	**153**	*e*Pn		**Pn**		**17 22 14.1**	**+0.2**
MORC				e Sg		**Sb**		**17 22 42.1**	**+0.8**
CLL	**Collm**	**2.00**	**264**	*e*Pn		**Pn**		**17 22 14.0**	**-0.2**
CLL				e Pg		**Pb**		**17 22 17.0**	**+0.7**
CLL				*e*				17 22 20.0	
CLL				e Sg		**Sb**		**17 22 43.0**	**+1.2**
	comp=Z,280nm,0.8s								
CLL				*e*				17 22 50.0	
CLL	**Collm**	**2.00**	**264**	*e*Pn		**Pn**		**17 22 13.9**	**-0.2**
CLL				e Pg		**Pb**		**17 22 17.1**	**+0.7**
CLL				e Sg		**Sg**		**17 22 43.6**	**+0.3**
OKC	**Ostrava-Krasne**	**2.13**	**143**	↓*e*PN		**Pn**		**17 22 15.7**	**-0.1**
OKC				e PG		**Pg**		**17 22 20.3**	**+0.5**
OKC				e SG		**Sb**		**17 22 46.3**	**+0.9**
	comp=Z,346nm,0.8s								
OKC	**Ostrava-Krasne**	**2.13**	**143**	*e*Pn		**Pn**		**17 22 15.5**	**-0.4**
OKC				e Pg		**Pg**		**17 22 20.6**	**+0.7**
OKC				e Sg		**Sb**		**17 22 45.0**	**-0.4**
CHZP	**Chorzow**	**2.19**	**124**	*e*Pg		**Pg**		**17 22 22.0**	**+1.1**
CHZP				e Sg		**Sg**		**17 22 50.0**	**+0.8**
VRAC	**Vranov**	**2.27**	**173**	↓*i*P		**Pn**		**17 22 18.8**	**+1.0**
VRAC	**Vranov**	**2.27**	**173**	S		**Sb**		**17 22 48.8**	**-0.6**
VRAC	**Vranov**	**2.27**	**173**	*e*PN		**Pn**		**17 22 18.1**	**+0.3**
VRAC				e SG		**Sb**		**17 22 50.3**	**+0.9**
VRAC	**Vranov** baz=355	**2.27**	**173**	*e*Pn		**Pn**		**17 22 18.0**	**+0.3**
VRAC				e Sg		**Sb**		**17 22 50.3**	**+0.9**
	comp=Z,130nm,0.5s,baz=355								
VRAC	**Vranov**	**2.27**	**173**	Pn		**Pn**		**17 22 18.5**	**+0.8**
	comp=Z,4.0nm,0.3s,baz=336,slow=15,SNR=32								
VRAC				Pg		**Pb**		**17 22 21.8**	**+0.9**
	comp=Z,16nm,0.3s,baz=351,slow=15,SNR=36								
VRAC				Lg		Lg		17 22 49.4	
	comp=Z,17nm,0.3s,baz=75,slow=21,SNR=5.7								
TREC	**Trest**	**2.31**	**191**	↓*e*PN		**Pn**		**17 22 19.5**	**+1.2**
TREC				e PG		**Pb**		**17 22 22.9**	**+1.4**
KRUC	**Moravsky**	**2.50**	**177**	*e*PN		**Pn**		**17 22 21.5**	**+0.5**
KRUC				e SG		**Sb**		**17 22 57.9**	**+1.7**
KRUC	**Moravsky** baz=358	**2.50**	**177**	*e*Pn		**Pn**		**17 22 21.5**	**+0.5**
KRUC				e Sg		**Sb**		**17 22 57.9**	**+1.7**
	comp=Z,122nm,0.8s,baz=358								
TANN	**Tannenbergstha**	**2.61**	**245**	*e*Pn		**Pn**		**17 22 23.1**	**+0.6**
TANN				e Pg		**Pg**		**17 22 29.7**	**+0.6**
TANN				e Sg		**Sg**		**17 23 02.5**	**-0.4**
OJC	**Ojcow**	**2.66**	**119**	*e*Pn		**Pn**		**17 22 22.9**	**-0.2**
OJC				e Pg		**Pg**		**17 22 31.4**	**+1.5**
OJC				e Sn		**Sn**		**17 22 53.9**	**-2.1**
OJC				e Sg		**Sg**		**17 23 05.8**	**+1.5**
OJC	**Ojcow**	**2.66**	**119**	*e*Pn		**Pn**		**17 22 22.2**	**-0.9**
OJC				e Pg		**Pg**		**17 22 30.4**	**+0.5**
OJC				e Sg		**Sg**		**17 23 06.4**	**+2.1**
NKC	**Novy Kostel**	**2.71**	**242**	↓*e*PN		**Pn**		**17 22 24.1**	**+0.3**
NKC				e PG		**Pg**		**17 22 31.2**	**+0.3**
NKC				e SG		**Sg**		**17 23 06.5**	**+0.5**
	comp=Z,315nm,0.8s								
JAVC	**Velka Javorina**	**2.87**	**160**	*e*PN		**Pn**		**17 22 27.4**	**+1.4**
KHC	**Kasperske Hory**	**2.94**	**215**	↓*e*PN		**Pn**		**17 22 27.3**	**+0.2**
KHC				e PG		**Pb**		**17 22 33.6**	**+1.2**
KHC				e SN		**Sn**		**17 23 02.0**	**-1.2**
KHC				e SG		**Sg**		**17 23 12.1**	**-1.5**
	comp=Z,70nm,0.4s								
MOX	**Moxa**	**3.02**	**254**	*e*Pn		**Pn**		**17 22 28.8**	**+0.7**
MOX				e Pg		**Pg**		**17 22 37.1**	**+0.3**
MOX				e Sg		**Sg**		**17 23 17.1**	**+1.1**
MANZ	**Manzenberg**	**3.02**	**240**	*e*Pn		**Pn**		**17 22 28.7**	**+0.5**
MANZ				e Pg		**Pg**		**17 22 37.8**	**+0.9**
MANZ				e Sg		**Sg**		**17 23 16.6**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.10**	**236**	*e*Pn		**Pn**		**17 22 29.8**	**+0.6**
ROTZ				e Sg		**Sg**		**17 23 16.8**	**-1.7**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pn		**Pn**		**17 22 30.7**	**+0.8**
GEC2				e Sg		**Sb**		**17 23 18.0**	**+3.2**
GERES	**GERESS Array B**	**3.15**	**211**	Pn		**Pn**		**17 22 29.8**	**-0.1**
	comp=Z,5.2nm,0.3s,baz=32,slow=12,SNR=184								
GERES				Pg		**Pb**		**17 22 36.6**	**+0.7**
	comp=Z,11nm,0.3s,baz=29,slow=17,SNR=52								
GERES				Sn		**Sn**		**17 23 07.4**	**-0.8**
	comp=Z,8.5nm,0.3s,baz=34,slow=29,SNR=6.3								
GERES				Lg		Lg		17 23 16.9	
	comp=Z,24nm,0.3s,baz=36,slow=30,SNR=11								
SMOL	**Smolenice**	**3.15**	**165**	*e*PN		**Pn**		**17 22 33.1**	**+3.2**
SMOL				e PG		**Pg**		**17 22 39.8**	**+0.4**
SMOL				e SG		**Sg**		**17 23 19.5**	**-0.8**
LANS	**Liptovska Anna**	**3.20**	**138**	*e*PN		**Pn**		**17 22 31.7**	**+1.1**
LANS				e PG		**Pg**		**17 22 39.8**	**-0.6**
LANS				e SG		**Sg**		**17 23 21.1**	**-0.7**
MODS	**Modra-Piesok**	**3.27**	**167**	*e*PN		**Pn**		**17 22 32.4**	**+0.9**
MODS				e PG		**Pg**		**17 22 41.2**	**-0.4**
MODS				e SG		**Sb**		**17 23 21.5**	**+3.4**
MODS				eLG		Lg		17 23 28.0	
MODS				*e*				17 27 40.1	
ZST	**Bratislava**	**3.42**	**170**	*e*PG		**Pg**		**17 22 43.2**	**-1.3**
ZST				e SG		**Sg**		**17 23 26.6**	**-2.2**
VYHS	**Vyhne**	**3.51**	**150**	*e*PN		**Pn**		**17 22 35.2**	**+0.3**
VYHS				e PG		**Pg**		**17 22 45.8**	**-0.5**
VYHS				e SG		**Sb**		**17 23 28.8**	**+3.5**
VYHS				eLG		Lg		17 23 40.4	
CLZ	**Clausthal**	**3.62**	**277**	*e*Pn		**Pn**		**17 22 37.6**	**+1.2**
CLZ				e Sg		**Sg**		**17 23 36.2**	**+0.8**
CONA	**Conrad Observa**	**3.64**	**183**	*e*Pn		**Pn**		**17 22 37.4**	**+0.8**
	comp=Z,2.8nm,0.3s,SNR=6.3								
CONA				Sg		**Sb**		**17 23 30.8**	**+1.8**
	comp=Z,42nm,0.5s								
BSD	**Bornholm Skovb**	**3.64**	**349**	*i* P		**Pn**		**17 22 36.7**	**+0.1**
BSD				*i* S		**Sn**		**17 23 19.4**	**-0.8**
GRF	**Grafenberg Arr**	**3.67**	**241**	*e*Pn		**Pn**		**17 22 37.7**	**+0.7**
GRF				e Sg		**Sg**		**17 23 36.1**	**-0.7**
SOP	**Sopron**	**3.89**	**176**	*e*Pn		**Pn**		**17 22 40.0**	**0.0**
SOP				Sn		**Sn**		**17 23 26.0**	**-0.3**
SOP				e Sg		**Sg**		**17 23 41.1**	**-2.7**
MOA	**Molln**	**3.91**	**199**	*e*Pn		**Pn**		**17 22 41.0**	**+0.6**
	comp=Z,6.8nm,0.3s,SNR=9.3								
MOA				e Sn		**Sn**		**17 23 27.7**	**+0.7**
	comp=Z,55nm,0.5s								
ARSA	**Arzberg**	**4.33**	**186**	*i* Pn		**Pn**		**17 22 47.9**	**+1.7**
	comp=Z,3.5nm,0.3s,SNR=5.8								
ARSA				Sg		**Sb**		**17 23 51.3**	**+2.5**
	comp=Z,58nm,0.6s								
PSZ	**Piszkesteto**	**4.37**	**145**	↑*i*P		**Pn**		**17 22 47.8**	**+1.1**
PSZ	**Piszkesteto**	**4.37**	**145**	*e*Pn		**Pn**		**17 22 47.1**	**+0.4**
PSZ				Sn		**Sn**		**17 23 38.0**	**-0.3**
PSZ				e Sg		**Sg**		**17 24 01.0**	**+1.7**
CSKK	**Cskako**	**4.41**	**161**	*e*Pn		**Pn**		**17 22 47.1**	**-0.1**
CSKK				Sn		**Sn**		**17 23 40.1**	**+0.8**
KBA	**Koelnbreinsper**	**4.85**	**204**	*e*Pn		**Pn**		**17 22 54.0**	**+0.6**
	comp=Z,7.0nm,0.3s,SNR=7.8								
KBA				*i* Sn		**Sn**		**17 23 49.6**	**-0.7**
BJUU	**Bjuv**	**4.90**	**339**	P		**Pn**		**17 22 53.3**	**-0.5**
BJUU				S		**Sn**		**17 23 47.1**	**-4.0**
SOKA	**Soboth**	**4.94**	**189**	*i* Pn		**Pn**		**17 22 55.8**	**+1.3**
	comp=Z,1.2nm,0.3s								
PERS	**Pernice**	**4.97**	**188**	*i* Pn		**Pn**		**17 22 56.9**	**+1.9**
DEL	**Delary**	**5.11**	**345**	P		**Pn**		**17 22 56.7**	**0.0**
DEL				S		**Sn**		**17 23 53.8**	**-2.5**
OBKA	**Obir**	**5.17**	**193**	*e*Pn		**Pn**		**17 22 58.4**	**+0.8**
OBKA				Sg		**Sb**		**17 24 16.5**	**+3.6**
	comp=Z,76nm,1.1s								
WATA	**Walderalm**	**5.18**	**217**	*e*Pn		**Pn**		**17 22 59.1**	**+1.1**
	comp=Z,3.3nm,0.2s,SNR=7.8								
WATA				Sg		**Sb**		**17 24 15.0**	**+1.6**
	comp=Z,10nm,0.5s								
MYKA	**Terra Mystica**	**5.21**	**200**	*e*Pn		**Pn**		**17 22 58.9**	**+0.7**
	comp=Z,1.0nm,0.2s								
MYKA				Sg		**Sb**		**17 24 18.2**	**+4.3**
	comp=Z,29nm,0.7s								
WTTA	**Wattenberg**	**5.22**	**216**	*e*Pn		**Pn**		**17 22 59.6**	**+1.1**
	comp=Z,5.5nm,0.3s								
WTTA				*e*Sn		**Sn**		**17 23 60.0**	**+0.6**
	comp=Z,19nm,0.4s								
TRPA	**Tarpa**	**5.36**	**127**	↓*i*P		**Pn**		**17 23 00.1**	**-0.1**
MOTA	**Moosalm**	**5.36**	**220**	*i* Pn		**Pn**		**17 23 01.1**	**+0.7**
	comp=Z,2.7nm,0.3s								
MOTA				Sg		**Sb**		**17 24 23.2**	**+4.7**
	comp=Z,4.7nm,0.3s								
ABTA	**Abfaltersbach**	**5.38**	**208**	*e*Pn		**Pn**		**17 23 02.1**	**+1.5**
	comp=Z,3.0nm,0.4s,SNR=6.4								
ABTA				Sg		**Sb**		**17 24 21.9**	**+2.9**
	comp=Z,13nm,0.5s								
RETA	**Reutte**	**5.39**	**223**	*i* Pn		**Pn**		**17 23 00.5**	**-0.2**
	comp=Z,1.9nm,0.2s								
RETA				Sg		**Sb**		**17 24 22.8**	**+3.6**
	comp=Z,30nm,0.7s								
SQTA	**Sankt Quirin**	**5.42**	**219**	*i* Pn		**Pn**		**17 23 02.5**	**+1.4**
	comp=Z,6.8nm,0.3s								
SQTA				Sg		**Sb**		**17 24 22.9**	**+2.8**
	comp=Z,32nm,0.9s								
VNDS	**Vrh nad Dolski**	**5.55**	**191**	*i* Pn		**Pn**		**17 23 04.2**	**+1.4**
GOLS	**Golise**	**5.56**	**184**	*i* Pn		**Pn**		**17 23 04.5**	**+1.4**
MORH	**Mrgy, Hungar**	**5.59**	**162**	*e*Pn		**Pn**		**17 23 03.1**	**-0.3**
MORH				Sn		**Sn**		**17 24 10.0**	**+1.8**
LTVH	**Ltavrtes, Hu**	**5.60**	**136**	*e*Pn		Pn		17 22 47.1	-16
LTVH				Sn		Sn		17 23 40.1	-28
CRES	**Cresnjev**	**5.76**	**185**	*i* Pn		**Pn**		**17 23 06.9**	**+1.2**
FETA	**Feichten**	**5.77**	**220**	*e*Pn		**Pn**		**17 23 07.1**	**+1.1**
	comp=Z,0.8nm,0.2s								
FETA				*e*Sn		**Sn**		**17 24 11.1**	**-1.9**
	comp=Z,4.1nm,0.6s								
FABU	**Falkenberg**	**5.82**	**341**	P		**Pn**		**17 23 07.2**	**+0.7**
GNOU	**Gnosjoe**	**5.92**	**347**	P		**Pn**		**17 23 08.6**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.32**	**223**	Pn		**Pn**		**17 23 13.1**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=82,slow=9.2,SNR=13								
DAVOX				Sn		**Sn**		**17 24 24.1**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=131,slow=20,SNR=2.4								
DAVOX				Lg		Lg		17 24 57.0	
	comp=Z,1.0nm,0.3s,baz=284,slow=9.0,SNR=3.7								
ONAU	**Onsala**	**6.36**	**339**	P		**Pn**		**17 23 14.8**	**+1.0**
BORU	**Boraas**	**6.40**	**343**	P		**Pn**		**17 23 15.1**	**+0.6**
BZS	**Buzias**	**6.95**	**147**	↑*i*P		**Pn**		**17 23 23.5**	**+1.4**
BURAR	**Bucovina Array**	**7.08**	**120**	↓*i*P		**Pn**		**17 23 24.4**	**+0.5**
MICGM	**Minsk**	**7.65**	**63**	*e*				17 25 15.0	
AKASG	**Malin Array Be**	**8.26**	**91**	Pn		**Pn**		**17 23 39.4**	**-0.5**
	comp=Z,3.1nm,0.3s,baz=280,slow=12,SNR=7.6								
AKASG				Pg		**Pb**		**17 24 03.7**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=268,slow=13,SNR=4.1								
AKASG				Sn		**Sn**		**17 25 09.9**	**-3.9**
	comp=Z,1.7nm,0.3s,baz=266,slow=24,SNR=3.2								
AKASG				Lg		Lg		17 26 07.0	
	baz=274,slow=28,SNR=4.2								
HFS	**Hagfors**	**8.71**	**352**	Pn		**Pn**		**17 23 45.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=160,slow=14,SNR=7.8								
HFS				Sn		**Sn**		**17 25 17.7**	**-7.3**
	comp=Z,0.1nm,0.3s,baz=190,slow=16,SNR=2.0								
NOA	**NORSAR Array B**	**9.89**	**346**	Pn		**Pn**		**17 24 00.5**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=211,slow=5.2,SNR=6.0								
NOA				Sn		**Sn**		**17 25 45.9**	**-8.2**
	comp=Z,0.0nm,0.3s,baz=136,slow=21,SNR=2.8								
FINES	**FINESS Array B**	**11.30**	**25**	Pn		**Pn**		**17 24 18.9**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=204,slow=11,SNR=16								
FINES				Sn		Sn		17 26 19.4	-9.1
	comp=Z

PRU				*e*SG	**Sg**	**17 28 29.8**	**-0.7**
CONA	**Conrad Observa**	**3.09**	**224**	Pn	**Pn**	**17 27 47.4**	**0.0**
CONA				Sn	**Sn**	**17 28 25.9**	**+0.9**
	0.8nm,0.2s						
BRG	**Berggiesshubel**	**3.32**	**284**	PG	**Pg**	**17 28 00.3**	**-0.6**
BRG				SG	**Sg**	**17 28 44.7**	**+0.8**
	7.4nm,0.5s						
KHC	**Kasperske Hory**	**3.70**	**255**	*e*PN	**Pn**	**17 27 56.0**	**+0.2**
KHC				*e*PG	**Pb**	**17 28 02.8**	**-0.8**
KHC				*e*SG	**Sg**	**17 28 56.0**	**-0.2**
	comp=Z,7.5nm,0.5s						
GERES	**GERESS Array B**	**3.73**	**251**	Pn	**Pn**	**17 27 57.2**	**+0.9**
	0.3nm,0.3s,baz=65,slow=14,SNR=5.2						
GERES				Pg	**Pb**	**17 28 04.5**	**+0.4**
	0.7nm,0.3s,baz=64,slow=18,SNR=8.4						
GERES				Lg	Lg	17 28 55.1	
	1.6nm,0.3s,baz=66,slow=26,SNR=8.3						
ARSA	**Arzberg**	**3.76**	**220**	*i* Pn	**Pn**	**17 27 56.7**	**+0.2**
	0.2nm,0.1s						
ARSA				*e*Sg	**Sg**	**17 29 00.3**	**+2.4**
	0.7nm,0.1s						
MOA	**Molln**	**3.92**	**235**	Pg	**Pg**	**17 28 13.1**	**+0.7**
	0.9nm,0.2s						
MOA				*e*Sn	**Sn**	**17 28 45.6**	**+0.1**
	1.0nm,0.2s						
CLL	**Collm**	**3.99**	**288**	*e*Pg	**Pg**	**17 28 13.0**	**-0.7**
CLL				*e*Sg	**Sg**	**17 29 06.0**	**+0.6**
	comp=Z,7.0nm,0.6s						
STON	**Ston**	**7.39**	**188**	*e*Pg	**Pg**	**17 29 19.0**	**+0.2**
STON				Sg	Sn	17 29 24.8	-46
FINES	**FINESS Array B**	**11.94**	**17**	Pn	**Pn**	**17 29 45.1**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=201,slow=23,SNR=3.7						
ARCES	**ARCESS Array B**	**19.65**	**7**	P	**P**	**17 31 26.7**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=195,slow=14,SNR=2.1						

*REY **29** 17:27:02.2,68.°09N×18.°23W,h10km*
*ISCJB **29** 17:27:03.6±0.3,67.°89N±0.°02×18.°47W±0.°10,h10km, mb3.8/17,MS4.0/23,Error ellipse: s-maj=5.2km s-min=3.3km az=1.4*
*IDC **29** 17:27:04.1±0.6,67.°84N×18.°47W,h0km,mb3.6/16, mb1 3.8/22,mb1mx3.7/58,mbtmp3.6/22,ML3.1/6,MS4.0/30, Ms1 4.0/30,ms1mx3.9/43,Error ellipse: s-maj=16.3km s-min=12.2km az=25.0*
*NEIC **29** 17:27:05.4±0.3,67.°92N×18.°48W,h10km,mb4.5/7,Error ellipse: s-maj=8.2km s-min=5.7km az=199.0*
ISC 29 17:27:05.4±0.4,**67.°89N**±0.°04×**18.°51W**±0.°05,**h10**km,**n89,** σ1°**41**/82,**mb3.8**/17,**MS3.9**/23,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.36**	**172**	P	**Pn**	**17 27 28.2**	**-2.3**
	baz=177						
IGRI				S	**Sg**	**17 27 48.5**	**-0.8**
	baz=177						
ILEI	**Leirhofn**	**1.68**	**151**	P	**Pn**	**17 27 32.2**	**-2.5**
	baz=157						
IFLA	**Flatey**	**1.75**	**171**	P	**Pn**	**17 27 34.2**	**-1.5**
	baz=176						
ISIG	**Siglufjorour**	**1.77**	**185**	P	**Pn**	**17 27 34.6**	**-1.4**
	baz=188						
IBRE	**Brettingsstaoi**	**1.79**	**172**	P	**Pn**	**17 27 34.6**	**-1.6**
	baz=176						
IHRN	**Hraun**	**1.90**	**200**	P	**Pn**	**17 27 36.2**	**-1.4**
	baz=201						
IHRN				S	**Sn**	**17 27 58.6**	**-3.0**
	baz=201						
IHLA	**Hella**	**1.95**	**179**	P	**Pn**	**17 27 37.3**	**-1.2**
	baz=182						
IGIL	**Gilhagi**	**2.01**	**154**	P	**Pn**	**17 27 36.9**	**-2.4**
	baz=159						
IGIL				S	**Sn**	**17 28 02.9**	**-1.5**
	baz=159						
IDIM	**Dimmadalss**	**2.03**	**162**	P	**Pn**	**17 27 37.5**	**-2.1**
	baz=166						
IDIM				S	**Sn**	**17 28 04.0**	**-1.0**
	baz=166						
ISKI	**Skildingahlsh**	**2.11**	**163**	P	**Pn**	**17 27 38.9**	**-1.8**
	baz=168						
IKVO	**Krokottuvotn**	**2.28**	**163**	P	**Pn**	**17 27 41.4**	**-1.6**
	baz=167						
IREN	**Reynihlio**	**2.34**	**164**	P	**Pn**	**17 27 42.3**	**-1.5**
	baz=167						
IREN				S	**Sn**	**17 28 12.8**	**+0.2**
	baz=167						
IMEL	**Melhnausar**	**2.44**	**162**	P	**Pn**	**17 27 44.0**	**-1.3**
	baz=166						
ISVA	**Svartarkot**	**2.61**	**168**	P	**Pn**	**17 27 46.7**	**-0.9**
	baz=172						
ISVA				S	**Sn**	**17 28 20.2**	**+1.0**
	baz=172						
SCO	**Scoresbysund**	**2.88**	**336**	*e*Pn	**Pn**	**17 27 47.9**	**-3.3**
IASK	**Askja**	**2.94**	**164**	P	**Pn**	**17 27 51.4**	**-0.8**
	baz=168						
IMKO	**Mokollar**	**3.05**	**162**	P	**Pn**	**17 27 52.9**	**-0.7**
	baz=166						
IHVE	**Hveravellir**	**3.06**	**189**	P	**Pn**	**17 27 54.8**	**+1.0**
	baz=190						
IADA	**Aoalbol**	**3.11**	**156**	P	**Pn**	**17 27 53.4**	**-1.1**
	baz=160						
IDYN	**Dyngjuhals**	**3.14**	**171**	P	**Pn**	**17 27 54.9**	**-0.1**
	baz=174						
IVSH	**V-Sauoahnukur**	**3.29**	**159**	P	**Pn**	**17 27 55.6**	**-1.3**
	baz=162						
IASB	**`sbjarnarst**	**3.35**	**201**	P	**Pn**	**17 27 57.4**	**-0.3**
	baz=202						
BORG	**Borgarnes**	**3.35**	**201**	*e*Pn	**Pn**	**17 27 56.8**	**-0.9**
BORG				Sn	**Sn**	**17 28 37.0**	**-0.5**
BORG	**Borgarnes**	**3.35**	**201**	Pn	**Pn**	**17 27 56.2**	**-1.6**
	9.7nm,0.3s,baz=20,slow=5.9,SNR=4.2						
BORG				Sn	**Sn**	**17 28 37.0**	**-0.5**
	4.1nm,0.3s,baz=233,slow=20,SNR=3.1						
BORG				LR	LR	17 29 14.6	
	comp=Z,1μm,18.7s,baz=30,slow=40						
JMIC	**Jan Mayen**	**4.70**	**44**	LR	LR	17 29 32.6	
	comp=Z,850nm,18.4s,baz=222,slow=31						
SUMG	**Summit**	**8.20**	**314**	*e*Pn	**Pn**	**17 29 00.8**	**-3.8**
SFJD	**Kangerlussuaq**	**12.28**	**281**	LR	LR	17 34 21.0	
	comp=Z,1μm,19.7s,baz=86,slow=36						
SPA0	**Spitsbergen Ar**	**14.14**	**29**	*e*Pn	**Pn**	**17 30 25.0**	**-0.3**
SPITS	**Spitsbergen Ar**	**14.14**	**29**	Pn	**Pn**	**17 30 24.8**	**-0.4**
	baz=222,slow=12,SNR=11						
SPITS				LR	LR	17 34 30.1	
	comp=Z,456nm,18.3s,baz=10.0,slow=32						
NBO00	**NORSAR Array S**	**14.25**	**105**	*e*Pn	**Pn**	**17 30 24.4**	**-2.5**
IVI	**Ivigtut**	**14.28**	**256**	*e*Pn	**Pn**	**17 30 25.8**	**-1.4**
NB200	**NORSAR Array S**	**14.40**	**104**	*e*Pn	**Pn**	**17 30 28.1**	**-1.0**
NOA	**NORSAR Array B**	**14.40**	**104**	Pn	**Pn**	**17 30 28.1**	**-1.0**
	0.0nm,0.3s,baz=305,slow=13,SNR=3.1						
NOA				LR	LR	17 35 14.4	
	comp=Z,325nm,21.7s,baz=310,slow=34						
EKA	**Eskdalemuir Ar**	**14.49**	**143**	Pn	**Pn**	**17 30 30.0**	**-0.1**
	baz=342,slow=9.2,SNR=3.0						
NC602	**NORSAR Array S**	**14.72**	**105**	*e*Pn	**Pn**	**17 30 33.1**	**-0.3**
ARCES	**ARCESS Array B**	**15.80**	**64**	*e*Pn	**Pn**	**17 30 45.7**	**-1.9**
ARE0	**ARCESS Array S**	**15.80**	**64**	*e*Pn	**Pn**	**17 30 47.1**	**-0.5**
	4.4nm,1.7s						
HFS	**Hagfors**	**15.92**	**104**	Pn	**Pn**	**17 30 48.1**	**-1.0**
	0.1nm,0.3s,baz=293,slow=12,SNR=2.1						
HFS				LR	LR	17 36 23.9	
	comp=Z,214nm,20.9s,baz=280,slow=35						
KEV	**Kevo**	**16.25**	**63**	*e*Pn	**Pn**	**17 30 53.1**	**-0.2**
	103nm,1.6s						
FIA0	**FINESS Array S**	**19.73**	**87**	*e*P	**Pn**	**17 31 34.7**	**-1.5**
FIA1	**FINESS Array S**	**19.73**	**87**	*e*P	**Pn**	**17 31 34.6**	**-1.6**
FINES	**FINESS Array B**	**19.73**	**87**	P	**Pn**	**17 31 34.7**	**-1.5**
	0.5nm,0.3s,baz=308,slow=11,SNR=21						
FINES				LR	LR	17 38 38.6	
	comp=Z,878nm,18.1s,baz=304,slow=35						
FRB	**Frobisher Bay**	**20.43**	**282**	P	Pn	17 31 42.6	-1.7
	3.4nm,0.7s,baz=50,slow=8.2,SNR=6.6						
FRB				LR	LR	17 38 46.2	
	comp=Z,568nm,19.8s,baz=26,slow=34						
CLL	**Collm**	**22.61**	**121**	*e*P	**P**	**17 32 08.0**	**+2.1**
RES	**Resolute Bay**	**23.66**	**320**	*e*P	**P**	**17 32 18.0**	**+1.7**
	15nm,1.8s						
RES	**Resolute Bay**	**23.66**	**320**	P	**P**	**17 32 17.7**	**+1.3**
	1.1nm,0.7s,baz=60,slow=11,SNR=4.6						
RES				LR	LR	17 40 44.8	
	comp=Z,380nm,20.1s,baz=71,slow=35						
GEC2	**GERESS Array S**	**24.98**	**124**	*e*P	**P**	**17 32 30.4**	**+1.5**
	25nm,1.9s						
GERES	**GERESS Array B**	**24.98**	**124**	P	**P**	**17 32 27.5**	**-1.3**
	2.3nm,1.0s,baz=327,slow=6.7,SNR=6.9						
GERES				LR	LR	17 41 29.3	
	comp=Z,189nm,20.8s,baz=321,slow=35						
GEA0	**GERESS Array S**	**24.98**	**124**	*e*P	**P**	**17 32 29.9**	**+1.0**
VRAC	**Vranov**	**25.51**	**119**	LR	LR	17 42 06.1	
	comp=Z,250nm,19.8s,baz=318,slow=35						
DAVOX	**Davos/Dischmat**	**25.68**	**131**	LR	LR	17 43 19.5	
	comp=Z,525nm,18.2s,baz=316,slow=38						
SCHQ	**Schefferville**	**25.77**	**264**	LR	LR	17 42 03.4	
	comp=Z,694nm,19.1s,baz=61,slow=35						
TUE	**Stuetta**	**25.80**	**132**	*e*P	**P**	**17 32 38.6**	**+2.1**
	35nm,1.8s						
OBN	**Obninsk**	**28.11**	**89**	LR	LR	17 43 49.2	
	comp=Z,159nm,18.1s,baz=348,slow=36						
AK11	**Malin Array Si**	**28.80**	**103**	*e*P	**P**	**17 33 06.0**	**+2.9**
AKASG	**Malin Array Be**	**28.81**	**102**	P	**P**	**17 33 02.6**	**-0.5**
	0.3nm,0.2s,baz=330,slow=8.6,SNR=3.0						
AKASG				LR	LR	17 44 16.4	
	comp=Z,203nm,21.3s,baz=315,slow=36						
ESDC	**Sonseca Array**	**29.38**	**157**	P	**P**	**17 33 09.4**	**+1.0**
	0.2nm,0.4s,baz=28,slow=5.8,SNR=3.3						
ESDC				LR	LR	17 44 51.5	
	comp=Z,206nm,18.4s,baz=310,slow=36						
NRIK	**Noril'sk**	**34.09**	**37**	LR	LR	17 48 51.0	
	comp=Z,172nm,19.8s,baz=354,slow=38						
KEST	**Kesra**	**35.86**	**140**	LR	LR	17 48 53.0	
	comp=Z,233nm,18.4s,baz=284,slow=37						
YKA	**Yellowknife Ar**	**36.77**	**310**	P	**P**	**17 34 12.5**	**+0.1**
	0.1nm,0.4s,baz=41,slow=8.3,SNR=4.4						
YKA				LR	LR	17 48 15.3	
	comp=Z,31nm,21.1s,baz=50,slow=35						
YKB5	**Yellowknife Ar**	**36.77**	**310**	*e*P	**P**	**17 34 13.6**	**+1.2**
FFC	**Flin Flon**	**38.84**	**293**	*e*P	**P**	**17 34 32.5**	**+2.5**
	7.6nm,1.4s						
KBZ	**Khabaz**	**39.74**	**95**	LR	LR	17 51 32.6	
	comp=Z,315nm,18.2s,baz=320,slow=37						
BRTR	**Keskin Array B**	**39.79**	**108**	LR	LR	17 52 39.7	
	comp=Z,155nm,20.5s,baz=298,slow=39						
ULM	**Lac du Bonnet**	**40.29**	**284**	P	**P**	**17 34 42.0**	**-0.1**
	1.8nm,0.8s,baz=20,slow=6.4,SNR=2.8						
ULM				LR	LR	17 50 59.3	
	comp=Z,494nm,18.3s,baz=26,slow=36						
ILAR	**Eielson Array**	**42.65**	**330**	P	**P**	**17 35 01.9**	**+0.6**
	0.3nm,0.7s,baz=9.1,slow=7.7,SNR=3.0						
ILAR				PcP	**PcP**	**17 36 54.3**	**+1.3**
	0.3nm,0.7s,baz=28,slow=4.1,SNR=4.0						
ILB	**Eielson Array**	**42.65**	**330**	*e*P	P	17 35 05.3	+4.0
	18nm,1.8s						
ZAA1	**Zalesovo Array**	**45.97**	**53**	*e*P	**P**	**17 35 28.7**	**+0.7**
ZAA1				*e*PcP	**PcP**	**17 37 04.4**	**-0.1**
ZALV	**Zalesovo Beam**	**45.97**	**53**	P	**P**	**17 35 28.7**	**+0.6**
	0.3nm,0.3s,baz=316,slow=10,SNR=2.7						
ZALV				PcP	**PcP**	**17 37 04.4**	**-0.1**
	0.3nm,0.4s,baz=337,slow=2.2,SNR=3.5						
ZALV				LR	LR	17 57 42.0	
	comp=Z,55nm,18.8s,baz=26,slow=40						
NEW	**Newport**	**49.41**	**300**	LR	LR	17 57 14.1	
	comp=Z,478nm,19.8s,baz=44,slow=37						
MK32	**Makanchi Array**	**51.41**	**60**	*e*P	**P**	**17 36 09.3**	**-0.6**
MKAR	**Makanchi Array**	**51.41**	**60**	P	**P**	**17 36 09.3**	**-0.6**
	1.0nm,1.0s,baz=311,slow=8.8,SNR=6.1						
MK01	**Makanchi Array**	**51.43**	**60**	*e*P	**P**	**17 36 09.8**	**-0.3**
PD31	**Pinedale Array**	**51.61**	**290**	*e*P	**P**	**17 36 11.4**	**-0.3**
	15nm,2.0s						
PDAR	**Pinedale Array**	**51.61**	**290**	P	**P**	**17 36 12.1**	**+0.4**
	0.6nm,0.8s,baz=33,slow=5.7,SNR=5.3						
PDAR				LR	LR	17 57 54.9	
	comp=Z,397nm,18.9s,baz=39,slow=36						
ELK	**Elko**	**55.39**	**294**	LR	LR	18 00 30.7	
	comp=Z,463nm,18.3s,baz=33,slow=36						
TOA1	**Torodi Ar. Sit**	**56.26**	**156**	*e*P	**P**	**17 36 45.7**	**0.0**
TORD	**Torodi Ar. Bea**	**56.27**	**156**	P	**P**	**17 36 45.7**	**0.0**
	0.6nm,1.0s,baz=336,slow=3.2,SNR=2.5						
SONA0	**Songino Array**	**57.45**	**41**	*e*P	**P**	**17 36 55.4**	**+1.5**
SONM	**Songino Array**	**57.45**	**41**	P	**P**	**17 36 55.4**	**+1.5**
	0.2nm,0.5s,baz=309,slow=4.6,SNR=2.3						
NVAR	**Mina Array Bea**	**58.51**	**295**	LR	LR	18 02 39.8	
	comp=Z,406nm,18.9s,baz=359,slow=36						
TXAR	**Lajitas Array**	**61.38**	**278**	P	**P**	**17 37 21.6**	**+0.3**
	1.0nm,1.1s,baz=56,slow=5.5,SNR=5.1						
LPIG	**La Paz**	**68.59**	**281**	LR	LR	18 08 35.0	
	comp=Z,182nm,19.3s,baz=20,slow=36						
ROSC	**El Rosal**	**73.17**	**239**	LR	LR	18 07 18.0	
	comp=Z,47nm,20.2s,baz=54,slow=33						
MAJO	**Matsushiro**	**74.42**	**19**	*e*P	**P**	**17 38 43.5**	**+0.4**
MJAR	**Matsushiro Arr**	**74.42**	**19**	P	**P**	**17 38 43.5**	**+0.4**
	2.5nm,0.8s,baz=330,slow=6.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**82.78**	**58**	P	**P**	**17 39 29.2**	**-0.3**
	0.7nm,0.8s,baz=319,slow=6.4,SNR=7.4						
BDFB	**Brasilia**	**86.02**	**208**	LR	LR	18 12 39.7	
	comp=Z,79nm,18.4s,baz=63,slow=32						
ASAR	**Alice Springs**	**132.62**	**35**	PKP	**PKiKP**	**17 46 20.4**	**-0.4**
	0.3nm,0.8s,baz=17,slow=3.4,SNR=3.5						

*ISCJB **29** 17:28:53.5±1.6,67.°92N±0.°04×18.°4W±0.°2,h2km±12km, mb3.4/4,Error ellipse: s-maj=10.9km s-min=6.9km az=8.0*
*REY **29** 17:28:53.4,68.°11N×18.°17W,h10km*
*IDC **29** 17:28:55.1±1.0,67.°88N×18.°69W,h0km,mb3.4/4, mb1 3.6/10,mb1mx3.4/59,mbtmp3.5/10,ML3.1/6,Error ellipse: s-maj=25.2km s-min=18.3km az=33.0*
ISC 29 17:28:56.1±2.5,**67.°86N**±0.°06×**18.°42W**±0.°07,**h7**km±16km, **n32,** σ1°**04**/38,**mb3.5**/4,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.33**	**173**	P	**Pn**	**17 29 19.5**	**-1.5**
	baz=178						
IGRI				S	**Sg**	**17 29 39.9**	**+1.0**
	baz=178						
ILEI	**Leirhofn**	**1.64**	**152**	P	**Pn**	**17 29 23.4**	**-1.8**
	baz=158						
IFLA	**Flatey**	**1.72**	**172**	P	**Pn**	**17 29 25.4**	**-1.0**
	baz=176						
ISIG	**Siglufjorour**	**1.75**	**187**	P	**Pn**	**17 29 26.1**	**-0.7**
	baz=189						
ISIG				S	**Sg**	**17 29 50.9**	**-1.3**
	baz=189						
IBRE	**Brettingsstaoi**	**1.76**	**173**	P	**Pn**	**17 29 26.0**	**-0.9**
	baz=177						
IHRN	**Hraun**	**1.88**	**202**	S	**Sn**	**17 29 50.0**	**-2.5**
	baz=202						
IHRN				P	**Pn**	**17 29 27.6**	**-1.0**
	baz=202						
IHLA	**Hella**	**1.93**	**180**	P	**Pn**	**17 29 28.7**	**-0.5**
	baz=182						
IGIL	**Gilhagi**	**1.97**	**155**	P	**Pn**	**17 29 28.1**	**-1.7**
	baz=160						
IDIM	**Dimmadalss**	**2.00**	**162**	P	**Pn**	**17 29 28.9**	**-1.3**
	baz=167						
ISKI	**Skildingahlsh**	**2.07**	**164**	P	**Pn**	**17 29 30.2**	**-1.1**
	baz=168						
ISKI				S	**Sn**	**17 29 57.7**	**+0.4**
	baz=168						
IKVO	**Krokottuvotn**	**2.24**	**164**	P	**Pn**	**17 29 32.6**	**-0.9**
	baz=168						
IREN	**Reynihlio**	**2.30**	**164**	P	**Pn**	**17 29 33.7**	**-0.7**
	baz=168						
IREN				S	**Sn**	**17 30 03.8**	**+0.8**
	baz=168						
IMEL	**Melhnausar**	**2.41**	**162**	P	**Pn**	**17 29 35.4**	**-0.4**
	baz=166						
ISVA	**Svartarkot**	**2.58**	**169**	P	**Pn**	**17 29 38.1**	**-0.1**
	baz=172						
IASK	**Askja**	**2.91**	**165**	P	**Pn**	**17 29 42.7**	**-0.1**
	baz=168						
IMKO	**Mokollar**	**3.01**	**163**	P	**Pn**	**17 29 44.0**	**-0.1**
	baz=166						
IHVE	**Hveravellir**	**3.04**	**189**	P	**Pn**	**17 29 46.1**	**+1.5**
	baz=190						
IADA	**Aoalbol**	**3.07**	**157**	P	**Pn**	**17 29 44.4**	**-0.6**
	baz=160						
IDYN	**Dyngjuhals**	**3.11**	**172**	P	**Pn**	**17 29 46.2**	**+0.6**
	baz=174						
IKRE	**Kreppuhraun**	**3.20**	**164**	P	**Pn**	**17 29 46.8**	**+0.1**
	baz=167						
IVSH	**V-Sauoahnukur**	**3.25**	**159**	P	**Pn**	**17 29 47.3**	**-0.2**
	baz=162						
IASB	**`sbjarnarst**	**3.34**	**202**	P	**Pn**	**17 29 49.5**	**+0.9**
	baz=202						
BORG	**Borgarnes**	**3.34**	**202**	Pn	**Pn**	**17 29 48.2**	**-0.4**
	3.1nm,0.3s,baz=12,slow=9.3,SNR=2.1						
BORG				Sn	**Sn**	**17 30 30.2**	**+1.8**
	baz=53,slow=20,SNR=3.1						
SPITS	**Spitsbergen Ar**	**14.14**	**29**	Pn	**Pn**	**17 32 17.5**	**+1.0**
	baz=227,slow=15,SNR=5.3						
NOA	**NORSAR Array B**	**14.37**	**104**	Pn	**Pn**	**17 32 19.6**	**0.0**
	0.0nm,0.3s,baz=338,slow=19,SNR=4.6						
EKA	**Eskdalemuir Ar**	**14.45**	**143**	Pn	**Pn**	**17 32 21.1**	**+0.4**
	baz=341,slow=10,SNR=3.7						
HFS	**Hagfors**	**15.88**	**104**	Pn	**Pn**	**17 32 39.5**	**-0.3**
	0.0nm,0.3s,baz=303,slow=13,SNR=2.2						
FINES	**FINESS Array B**	**19.70**	**87**	P	**Pn**	**17 33 26.3**	**-0.6**
	0.2nm,0.3s,baz=307,slow=11,SNR=7.2						
GERES	**GERESS Array B**	**24.93**	**124**	P	**P**	**17 34 20.2**	**+0.6**
	1.0nm,0.8s,baz=330,slow=7.7,SNR=5.1						
YKA	**Yellowknife Ar**	**36.81**	**310**	P	**P**	**17 36 03.5**	**-0.4**
	0.2nm,0.6s,baz=39,slow=8.6,SNR=4.6						
PDAR	**Pinedale Array**	**51.65**	**290**	P	**P**	**17 38 02.1**	**-1.1**
	0.3nm,0.6s,baz=29,slow=7.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**56.23**	**156**	P	**P**	**17 38 37.4**	**+0.7**
	0.4nm,0.7s,baz=332,slow=8.2,SNR=3.2						

*REY **29** 17:32:52.0,68.°13N×18.°14W,h10km*
*ISCJB **29** 17:32:52.8±0.4,67.°94N±0.°03×18.°6W±0.°1,h10km, mb4.0/21,MS4.4/1,Error ellipse: s-maj=7.4km s-min=3.8km az=6.7*
*NEIC **29** 17:32:52.9±0.5,68.°12N×19.°35W,h10km,mb4.4/7,Error ellipse: s-maj=9.6km s-min=8.4km az=131.0*
*IDC **29** 17:32:52.8±0.7,67.°93N×18.°64W,h0km,mb3.7/12, mb1 3.9/16,mb1mx3.7/58,mbtmp3.8/16,ML3.2/4,Error ellipse: s-maj=18.4km s-min=15.5km az=46.0*
ISC 29 17:32:53.2±0.5,**67.°95N**±0.°04×**18.°79W**±0.°05,**h10**km,**n61,** σ1°**69**/67,**mb4.0**/21,**Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**1.45**	**167**	P	**Pn**	**17 33 18.3**	**-1.0**
	baz=178						
ILEI	**Leirhofn**	**1.79**	**149**	P	**Pn**	**17 33 22.3**	**-1.8**
	baz=159						
ISIG	**Siglufjorour**	**1.83**	**182**	P	**Pn**	**17 33 24.9**	**+0.3**
	baz=189						
IFLA	**Flatey**	**1.84**	**168**	P	**Pn**	**17 33 24.6**	**-0.1**
	baz=177						
IBRE	**Brettingsstaoi**	**1.87**	**169**	P	**Pn**	**17 33 24.9**	**-0.2**
	baz=177						
IHRN	**Hraun**	**1.92**	**196**	P	**Pn**	**17 33 26.5**	**+0.6**
	baz=202						
IHRN				S	**Sn**	**17 33 49.6**	**-0.5**
	baz=202						
IHED	**Heoinshofoi**	**1.97**	**162**	P	**Pn**	**17 33 25.4**	**-1.1**
	baz=171						
IHLA	**Hella**	**2.02**	**175**	P	**Pn**	**17 33 27.4**	**+0.2**
	baz=183						
IGIL	**Gilhagi**	**2.11**	**152**	P	**Pn**	**17 33 27.0**	**-1.5**
	baz=160						
IGIL				S	**Sn**	**17 33 53.8**	**-0.9**
	baz=160						
IDIM	**Dimmadalss**	**2.13**	**159**	P	**Pn**	**17 33 27.6**	**-1.1**
	baz=167						
ISKI	**Skildingahlsh**	**2.21**	**161**	P	**Pn**	**17 33 28.9**	**-0.9**
	baz=169						
IKVO	**Krokottuvotn**	**2.37**	**161**	P	**Pn**	**17 33 31.5**	**-0.6**
	baz=168						
IREN	**Reynihlio**	**2.43**	**161**	P	**Pn**	**17 33 32.3**	**-0.6**
	baz=168						
IREN				S	**Sn**	**17 34 03.1**	**+0.4**
	baz=168						
IMEL	**Melhnausar**	**2.54**	**160**	P	**Pn**	**17 33 34.1**	**-0.3**
	baz=166						
IGRS	**Grimsstaoir**	**2.55**	**154**	P	**Pn**	**17 33 33.9**	**-0.7**
	baz=161						
IGRS				S	**Sn**	**17 34 06.1**	**+0.5**
	baz=161						
ISVA	**Svartarkot**	**2.70**	**166**	P	**Pn**	**17 33 36.8**	**+0.3**
	baz=172						
SCO	**Scoresbysund**	**2.78**	**338**	*e*Pn	**Pn**	**17 33 34.7**	**-2.9**
SCO	**Scoresbysund**	**2.78**	**338**	*i* P	**Pn**	**17 33 34.4**	**-3.3**
SCO				*e*		17 33 57.2	
IASK	**Askja**	**3.04**	**163**	P	**Pn**	**17 33 41.5**	**+0.2**
	baz=168						
IHVE	**Hveravellir**	**3.11**	**186**	P	**Pb**	**17 33 44.9**	**-3.6**
	baz=191						
IMKO	**Mokollar**	**3.15**	**161**	P	**Pn**	**17 33 42.8**	**+0.1**
	baz=166						
IADA	**Aoalbol**	**3.22**	**155**	P	**Pn**	**17 33 43.2**	**-0.5**
	baz=161						
IKRE	**Kreppuhraun**	**3.33**	**162**	P	**Pn**	**17 33 45.7**	**+0.4**
	baz=167						
BORG	**Borgarnes**	**3.38**	**199**	*e*Pn	**Pn**	**17 33 47.0**	**+1.2**
BORG				*e*Sn	**Sb**	**17 34 30.3**	**-3.7**
BORG	**Borgarnes**	**3.38**	**199**	Pn	**Pn**	**17 33 46.7**	**+0.9**
	5.1nm,0.3s,baz=359,slow=6.5,SNR=7.4						
BORG				Sn	**Sn**	**17 34 28.2**	**+2.3**
	2.1nm,0.3s,baz=282,slow=19,SNR=3.9						
IVSH	**V-Sauoahnukur**	**3.39**	**157**	P	**Pn**	**17 33 46.0**	**-0.1**
	baz=163						
NRS	**Narsarsuaq**	**13.22**	**252**	*e*Pn	**Pn**	**17 35 57.1**	**-3.4**
SPA0	**Spitsbergen Ar**	**14.13**	**29**	*e*Pn	**Pn**	**17 36 11.9**	**-1.1**
SPITS	**Spitsbergen Ar**	**14.13**	**29**	Pn	**Pn**	**17 36 14.4**	**+1.3**
	baz=239,slow=14,SNR=6.1						
NBO00	**NORSAR Array S**	**14.37**	**105**	*e*Pn	**P**	**17 36 19

MS3.6/2, Error ellipse: s-maj=15.6km s-min=8.2km az=26.1

*IDC **29** 17:37:00.8±0.8, 67.97N× 18.67W, h0km, mb3.6/8, mb1 3.9/11, mb1mx3.6/60, mbtmp3.7/11, ML3.5/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/41, Error ellipse: s-maj=19.8km s-min=18.8km az=158.0*

ISC 29 17:37:02.2±0.7, 67.95N±0.09×18.6W±0.1, h10km, n13, σ0.92/13, mb3.7/8, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.40**	**200**	**Pn**		**Pn**	**17 37 53.8**	**-1.4**
	6.3nm,0.3s,baz=356,slow=7.7,SNR=15							
BORG				Sn		**Sn**	**17 38 36.9**	**+1.3**
	3.0nm,0.3s,baz=112,slow=5.4,SNR=3.5							
SPITS	**Spitsbergen Ar**	**14.10**	**29**	Pn		**Pn**	**17 40 22.4**	**+0.7**
	baz=240,slow=13,SNR=6.5							
FINES	**FINESS Array B**	**19.78**	**87**	P		**Pn**	**17 41 32.8**	**-0.8**
	0.4nm,0.3s,baz=311,slow=9.0,SNR=22							
RES	**Resolute Bay**	**23.58**	**320**	LR		LR	17 52 16.3	
	comp=Z,148nm,20.0s,baz=126,slow=39							
GERES	**GERESS Array B**	**25.35**	**323**	LR		**P**	**17 42 26.6**	**+0.2**
	1.3nm,0.9s,baz=334,slow=8.7,SNR=8.2							
KEST	**Kesra**	**35.94**	**139**	LR		LR	17 59 09.1	
	comp=Z,132nm,18.5s,baz=242,slow=37							
YKA	**Yellowknife Ar**	**36.69**	**309**	P		**P**	**17 44 08.7**	**+0.1**
	0.4nm,0.7s,baz=40,slow=8.8,SNR=7.8							
YKA				PcP		**PcP**	**17 46 31.0**	**+0.1**
	0.1nm,0.3s,baz=31,slow=2.5,SNR=3.7							
ZALV	**Zalesovo Beam**	**45.97**	**53**	P		**P**	**17 45 23.6**	**-1.3**
	0.6nm,0.6s,baz=349,slow=4.7,SNR=3.1							
MKAR	**Makanchi Array**	**51.41**	**60**	P		**P**	**17 46 06.6**	**-0.3**
	1.3nm,1.0s,baz=333,slow=5.7,SNR=8.2							
PDAR	**Pinedale Array**	**51.54**	**290**	P		**P**	**17 46 07.8**	**-0.3**
	0.4nm,0.8s,baz=55,slow=7.9,SNR=3.1							
TORD	**Torodi Ar. Bea**	**56.35**	**156**	P		**P**	**17 46 44.2**	**+1.1**
	1.0nm,1.1s,baz=336,slow=3.2,SNR=3.3							
SONM	**Songino Array**	**57.43**	**41**	P		**P**	**17 46 51.4**	**+0.7**
	0.3nm,0.8s,baz=343,slow=4.5,SNR=2.7							
CMAR	**Chiang Mai Arr**	**82.79**	**58**	P		**P**	**17 49 26.3**	**-0.1**
	1.1nm,0.9s,baz=323,slow=6.5,SNR=7.9							

IDC 29 17:37:04.9±2.0, 0.04S×126.05E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/44, mbtmp3.1/3, Error ellipse: s-maj=158.6km s-min=27.4km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.38**	**158**	P		P	17 41 54.3	+0.1
	0.3nm,0.4s,baz=336,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**24.69**	**163**	P		P	17 42 27.8	-0.1
	0.2nm,0.6s,baz=348,slow=13,SNR=4.0							
MKAR	**Makanchi Array**	**60.28**	**327**	P		P	17 47 15.4	0.0
	0.3nm,0.6s,baz=122,slow=8.1,SNR=4.0							

*ISCJB **29** 17:37:50.6±0.7, 67.95N±0.08×18.1W±0.3, h10km, mb3.3/6, MS3.3/3, Error ellipse: s-maj=15.0km s-min=9.5km az=26.8*

*IDC **29** 17:37:50.8±1.0, 67.91N× 18.26W, h0km, mb3.4/6, mb1 3.7/8, mb1mx3.4/59, mbtmp3.4/8, ML2.8/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/34, Error ellipse: s-maj=26.6km s-min=21.6km az=21.0*

ISC 29 17:37:52.2±0.8, 67.95N±0.10×18.2W±0.1, h10km, n12, σ1.24/9, mb3.4/6, MS3.6/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.45**	**203**	Pn		**Pn**	**17 38 45.7**	**-0.2**
	3.0nm,0.3s,baz=332,slow=8.6,SNR=1.9							
BORG				Sn		**Sn**	**17 39 27.4**	**+0.6**
	baz=11,slow=20,SNR=2.2							
JMIC	**Jan Mayen**	**4.58**	**44**	LR		LR	17 40 28.1	
	comp=Z,426nm,20.1s,baz=230,slow=34							
SFJD	**Kangerlussuaq**	**12.38**	**281**	LR		LR	17 45 08.2	
	comp=Z,461nm,20.5s,baz=80,slow=35							
FINES	**FINESS Array B**	**19.62**	**88**	P		**P**	**17 42 19.8**	**-0.6**
	0.1nm,0.3s,baz=322,slow=11,SNR=2.3							
FINES				LR		LR	17 49 26.0	
	comp=Z,304nm,18.1s,baz=282,slow=35							
GERES	**GERESS Array B**	**24.92**	**124**	P		**P**	**17 43 15.5**	**+0.2**
	0.1nm,0.4s,baz=337,slow=9.6,SNR=1.1							
DAVOX	**Davos/Dischmat**	**25.64**	**132**	LR		LR	17 52 25.7	
	comp=Z,220nm,21.4s,baz=308,slow=34							
YKA	**Yellowknife Ar**	**36.81**	**310**	P		**P**	**17 45 00.2**	**+0.6**
	0.5nm,0.6s,baz=40,slow=8.7,SNR=7.6							
YKA				LR		LR	17 59 16.4	
	comp=Z,13nm,21.3s,baz=64,slow=35							
ULM	**Lac du Bonnet**	**40.38**	**285**	LR		LR	18 03 51.2	
	comp=Z,84nm,20.2s,baz=32,slow=39							
ILAR	**Eielson Array**	**42.65**	**330**	P		**P**	**17 45 49.3**	**+1.1**
	0.4nm,0.8s,baz=31,slow=5.4,SNR=2.8							
MKAR	**Makanchi Array**	**51.28**	**60**	P		**P**	**17 46 54.9**	**-1.0**
	0.4nm,0.9s,baz=348,slow=6.3,SNR=1.8							
PDAR	**Pinedale Array**	**51.68**	**290**	P		**P**	**17 46 57.2**	**-1.9**
	0.7nm,1.1s,baz=19,slow=5.7,SNR=2.0							
CMAR	**Chiang Mai Arr**	**82.66**	**58**	P		**P**	**17 50 17.1**	**+1.4**
	1.0nm,1.0s,baz=321,slow=6.6,SNR=5.1							

IDC 29 17:44:03.4±4.8, 8.25S×129.32E, h221km±51km, mb2.6/1, mb1 3.1/5, mb1mx2.8/41, mbtmp3.6/5, Error ellipse: s-maj=49.7km s-min=19.3km az=50.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.91**	**250**	P		Pn	17 45 28.9	-1.0
	0.6nm,0.3s,baz=100,slow=18,SNR=1.7							
BATI				S		S	17 46 39.8	+1.2
	3.1nm,0.3s,baz=99,slow=24,SNR=7.1							
FITZ	**Fitzroy Crossi**	**10.43**	**200**	P		Pn	17 46 28.1	+0.3
	0.3nm,0.3s,baz=27,slow=11,SNR=30							
FITZ				S		S	17 48 25.2	+0.5
	0.7nm,0.3s,baz=79,slow=18,SNR=6.9							
WRA	**Warramunga Arr**	**12.60**	**158**	P		Pn	17 46 54.8	-0.5
	0.5nm,0.3s,baz=336,slow=12,SNR=32							
WRA				S		S	17 49 12.9	-1.8
	0.7nm,0.3s,baz=338,slow=22,SNR=9.6							
ASAR	**Alice Springs**	**15.95**	**165**	P		Pn	17 47 37.4	+1.1
	0.2nm,0.3s,baz=338,slow=9.2,SNR=22							
ASAR				S		S	17 50 34.7	+2.9
	0.1nm,0.3s,baz=337,slow=21,SNR=5.5							
MKAR	**Makanchi Array**	**68.90**	**327**	P		P	17 54 44.0	-0.4
	0.1nm,0.4s,baz=142,slow=7.3,SNR=2.8							

*ISCJB **29** 17:48:44.9±0.2, 20.35S±0.03×68.74W±0.05, h144km±4km, mb4.0/7, Error ellipse: s-maj=8.3km s-min=4.6km az=178.8*

*NEIC **29** 17:48:45.5±0.5, 20.41S×68.66W, mb4.3/7, ML4.2(GUC), Error ellipse: s-maj=11.6km s-min=7.5km az=105.0*

*IDC **29** 17:48:46.4±0.7, 20.39S×68.49W, h138km±6km, mb3.8/8, mb1 3.9/12, mb1mx3.6/35, mbtmp4.3/12, Error ellipse: s-maj=22.8km s-min=8.7km az=103.0*

*GUC **29** 17:48:47.1±0.5, 20.34S×68.76W, h133km±3km, ML4.2*

*VAO **29** 17:48:48.6±0.4, 20.16S×68.48W, h142km, mb4.4*

ISC 29 17:48:45.1±0.5, 20.38S±0.04×68.68W±0.06, h137km±5km, n81, σ1.83/103, mb4.2/9, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.51**	**298**	*e*P		**Pn**	**17 49 06.3**	**+0.8**
PB08				*e*S		**Sn**	**17 49 21.2**	**+0.4**
PB08	**IPOC Station P**	**0.51**	**298**	*i*P		**Pn**	**17 49 06.2**	**+0.8**
PB08				*e*S		**Sn**	**17 49 20.8**	**0.0**
PB08				IAML			17 49 22.7	
	comp=N,4μm,0.5s							
GO01	**Chusmiza**	**0.86**	**325**	*e*Pn		**Pn**	**17 49 08.6**	**+0.6**
GO01				*e*Sn		**Sn**	**17 49 24.7**	**-0.5**
PB01	**IPOC Station P**	**1.01**	**229**	*e*Pn		**Pn**	**17 49 09.6**	**+0.8**
PB01				*e*Sn		**Sn**	**17 49 27.4**	**+0.5**
PB01	**IPOC Station P**	**1.01**	**229**	*i*P		**Pn**	**17 49 09.8**	**+1.0**
PB01				*e*S		**Sn**	**17 49 27.2**	**+0.4**
PB01				IAML			17 49 28.8	
	comp=N,6μm,0.4s							
PB11	**IPOC Station P**	**1.11**	**303**	*e*Pn		**Pn**	**17 49 10.2**	**+0.4**
PB11				*e*Sn		**Sn**	**17 49 28.4**	**-0.1**
PB11	**IPOC Station P**	**1.11**	**303**	*e*P		**Pn**	**17 49 10.2**	**+0.4**
PB11	**IPOC Station P**	**1.11**	**303**	*i*P		**Pn**	**17 49 10.2**	**+0.4**
PB11				*e*S		**Sn**	**17 49 28.0**	**-0.5**
PB11				IAML			17 49 29.5	
	comp=E,10μm,0.4s							
PB02	**IPOC Station P**	**1.48**	**230**	*e*P		**Pn**	**17 49 14.7**	**+1.1**
PB02				*e*S		**Sn**	**17 49 36.0**	**+0.7**
PB02	**IPOC Station P**	**1.48**	**230**	*i*P		**Pn**	**17 49 14.6**	**+1.1**
PB02				*e*S		**Sn**	**17 49 35.4**	**+0.1**
PB02				IAML			17 49 37.5	
	comp=E,6μm,0.2s							
PB09	**IPOC Station P**	**1.51**	**200**	*e*P		**Pn**	**17 49 15.9**	**+1.9**
PB09				*e*S		**Sn**	**17 49 37.5**	**+1.5**
PB09				IAML			17 49 40.8	
	comp=E,1μm,0.4s							
MNMC	**Minye Minye**	**1.51**	**325**	*e*Pn		**Pn**	**17 49 14.8**	**+0.6**
MNMC				*e*Sn		**Sn**	**17 49 36.3**	**+0.1**
MNMC	**Minye Minye**	**1.51**	**325**	*i*P		**Pn**	**17 49 15.0**	**+0.9**
MNMC				*e*S		**Sn**	**17 49 36.4**	**+0.1**
MNMC				IAML			17 49 37.9	
	comp=E,9μm,0.4s							
MNMCX	**Minye Minye**	**1.51**	**325**	*e*P		**Pn**	**17 49 15.1**	**+0.9**
MNMCX				*e*S		**Sn**	**17 49 36.8**	**+0.5**
PSGC	**Pisagua**	**1.57**	**299**	*i*P		**Pn**	**17 49 14.4**	**-0.2**
PSGC				*e*S		**Sn**	**17 49 36.0**	**-1.0**
PSGC				IAML			17 49 37.9	
	comp=E,2μm,0.6s							
PB07	**IPOC Station P**	**1.76**	**220**	*e*P		**Pn**	**17 49 17.9**	**+1.1**
PB07	**IPOC Station P**	**1.76**	**220**	*e*P		**Pn**	**17 49 17.8**	**+1.1**
PB07				*e*S		**Sn**	**17 49 40.8**	**-0.2**
PB07				IAML			17 49 43.5	
	comp=E,5μm,0.9s							
PB03	**IPOC Station P**	**1.94**	**211**	*e*P		**Pn**	**17 49 19.9**	**+0.9**
PB03				*e*S		**Sn**	**17 49 45.4**	**+0.5**
PB03	**IPOC Station P**	**1.94**	**211**	*e*P		**Pn**	**17 49 20.2**	**+1.2**
PB03				*e*S		**Sn**	**17 49 44.8**	**-0.1**
LVC	**Limon Verde**	**2.23**	**186**	P		**Pn**	**17 49 23.1**	**+0.4**
	comp=E,15nm,0.3s,baz=27,slow=9.2,SNR=12							
LVC				S		**Sn**	**17 49 53.1**	**+1.7**
	comp=E,52nm,0.3s,baz=83,slow=20,SNR=20							
PB04	**IPOC Station P**	**2.38**	**215**	*e*Pn		**Pn**	**17 49 25.6**	**+1.2**
PB04	**IPOC Station P**	**2.38**	**215**	*e*P		**Pn**	**17 49 25.5**	**+1.2**
PB10	**IPOC Station P**	**3.58**	**209**	*e*Pn		**Pn**	**17 49 38.8**	**-0.6**
LPAZ	**La Paz**	**4.10**	**7**	*e*Pn		**Pn**	**17 49 48.8**	**+1.8**
LPAZ				S		**Sn**	**17 50 29.3**	**-5.6**
LPAZ	**La Paz**	**4.10**	**7**	P		**Pn**	**17 49 48.2**	**+1.3**
	comp=E,1.8nm,0.3s,baz=202,slow=5.7,SNR=61							
LPAZ				S		**Sn**	**17 50 29.3**	**-5.6**
	comp=E,1.3nm,0.3s,baz=184,slow=9.9,SNR=3.2							
LPAZ	**La Paz**	**4.10**	**7**	*e*P		**Pn**	**17 49 47.5**	**+0.5**
HJA	**Humahuaca**	**4.14**	**133**	*e*P		**Pn**	**17 49 50.9**	**+3.6**
GO02	**Mina Guanaco**	**4.84**	**190**	*e*Pn		**Pn**	**17 49 55.4**	**-1.0**
GO03	**Copiap**	**7.32**	**191**	*e*Pn		**Pn**	**17 50 26.0**	**-3.5**
SIV	**San Ignacio**	**8.44**	**60**	P		**Pn**	**17 50 42.6**	**-2.0**
	comp=E,4.4nm,0.3s,baz=263,slow=12,SNR=94							
SIV				S		Sn	17 52 05.9	-12
	comp=E,0.4nm,0.3s,baz=265,slow=17,SNR=3.8							
LCO	**Las Campanas**	**8.79**	**192**	*e*Pn		**Pn**	**17 50 46.3**	**-3.1**
LCO				*e*Sn		**Sn**	**17 52 20.8**	**-6.2**
LCO	**Las Campanas**	**8.79**	**192**	*e*P		Pn	17 50 55.9	+6.5
GO04	**Tololo Observa**	**9.94**	**191**	*e*Pn		**Pn**	**17 51 02.9**	**-1.9**
GO04				*e*Sn		**Sn**	**17 52 48.7**	**-6.1**
CFA	**Coronel Fontan**	**11.19**	**178**	P		**Pn**	**17 51 18.8**	**-2.4**
	comp=E,0.3nm,0.3s,baz=325,slow=12,SNR=3.5							
CFA				S		**Sn**	**17 53 16.9**	**-7.7**
	comp=E,0.4nm,0.3s,baz=33,slow=5.9,SNR=4.8							
CPUP	**Villa Florida**	**11.98**	**122**	*e*Pn		**Pn**	**17 51 32.6**	**+1.0**
CPUP	**Villa Florida**	**11.98**	**122**	P		**Pn**	**17 51 32.0**	**+0.4**
	comp=E,1.1nm,0.3s,baz=303,slow=12,SNR=35							
AQDB	**Aquidauana**	**12.17**	**93**	*e*P		**Pn**	**17 51 34.1**	**+0.1**
ROC1	**El Roble**	**12.72**	**189**	*e*Pn		**Pn**	**17 51 43.0**	**+1.6**
TRCB	**Terra Rica**	**15.11**	**102**	*e*P		**Pn**	**17 52 13.1**	**+1.4**
ITAB	**Concordia**	**16.60**	**117**	*e*P		**Pn**	**17 52 32.5**	**+2.7**
CPSB	**Cacapava Do Su**	**16.99**	**129**	*e*P		**Pn**	**17 52 36.0**	**+1.5**
ITRB	**Iturama**	**17.23**	**91**	*e*P		**Pn**	**17 52 38.7**	**+1.1**
PLTB	**Pedras Altas**	**17.64**	**133**	*e*P		**Pn**	**17 52 43.4**	**+1.0**
FRTB	**Fartura**	**17.98**	**103**	*e*P		**Pn**	**17 52 47.5**	**+0.9**
CNLB	**Canela**	**18.44**	**122**	*e*P		**Pn**	**17 52 52.8**	**+0.8**
TRQA	**Tornquist**	**18.55**	**163**	*e*P		**Pn**	**17 52 53.5**	**+0.3**
	comp=E,4.3nm,0.8s							
TIJ01	**Guaruva-PR**	**18.78**	**109**	*e*P		**Pn**	**17 52 56.5**	**+0.5**
BB19B	**Bebedouro**	**18.86**	**96**	*e*P		**P**	**17 52 56.1**	**+1.2**
GO06	**Curarrehue**	**19.29**	**187**	*e*P		**Pn**	**17 53 02.1**	**+0.1**
	comp=E,10nm,1.0s							
RCLB	**Rio Claro- Sao**	**19.79**	**100**	*e*P		**P**	**17 53 06.0**	**+1.0**
SPB	**Sao Paulo**	**19.96**	**103**	*e*P		**P**	**17 53 08.6**	**+1.9**
	comp=E,44nm,1.3s							
SPB	**Sao Paulo**	**19.96**	**103**	*e*P		**P**	**17 53 08.9**	**+2.2**
BDFB	**Brasilia**	**20.20**	**80**	*e*P		**P**	**17 53 09.3**	**-0.2**
	comp=E,14nm,1.1s							
BDFB	**Brasilia**	**20.20**	**80**	P		**P**	**17 53 09.8**	**+0.3**
	comp=E,8.2nm,0.4s,baz=248,slow=4.9,SNR=16							
PLCA	**Paso Flores**	**20.35**	**184**	*e*P		**P**	**17 53 12.3**	**+1.5**
	comp=E,6.3nm,0.9s							
PLCA	**Paso Flores**	**20.35**	**184**	P		Pn	17 53 13.7	-0.7
	comp=E,4.0nm,0.7s,baz=31,slow=11,SNR=17							
PLCA	**Paso Flores**	**20.35**	**184**	*e*P		Pn	17 53 17.2	+2.9
PEXB	**Peixe**	**21.20**	**70**	*e*P		**P**	**17 53 21.2**	**+1.1**
PTGA	**Pitinga**	**21.30**	**25**	*e*P		**P**	**17 53 20.2**	**-0.9**
PTGA	**Pitinga**	**21.30**	**25**	P		**P**	**17 53 20.4**	**-0.8**
	comp=E,2.9nm,0.4s,baz=200,slow=13,SNR=9.4							
PTGA	**Pitinga**	**21.30**	**25**	*e*P		**P**	**17 53 20.4**	**-0.8**
BSCB	**Bom Sucesso**	**22.37**	**96**	*e*P		**P**	**17 53 33.3**	**+1.0**
MCI6	**Montes Claros**	**23.75**	**86**	*e*P		**P**	**17 53 46.0**	**+0.8**
MCI8	**Montes Claros**	**23.75**	**85**	*e*P		**P**	**17 53 46.5**	**+1.3**
MCI9	**Montes Claros**	**23.77**	**85**	*e*P		**P**	**17 53 46.2**	**+0.9**
JANB	**Januaria**	**23.79**	**81**	*e*P		**P**	**17 53 46.5**	**+0.9**
SJMB	**Sao Joao De Ma**	**25.95**	**91**	*e*P		**P**	**17 54 07.0**	**+1.9**
DWPF	**Disney Wildern**	**49.76**	**345**	*e*P		**P**	**17 57 24.6**	**+0.9**
TXAR	**Lajitas Array**	**59.84**	**325**	pP		pP	17 59 10.1	0.0
	comp=E,0.4nm,1.0s,baz=170,slow=5.5,SNR=3.2							
DBIC	**Dimbokro**	**68.21**	**74**	*e*P		**P**	**17 59 30.8**	**-0.6**
	comp=E,7.5nm,0.8s							
DBIC	**Dimbokro**	**68.21**	**74**	P		**P**	**17 59 31.4**	**0.0**
	comp=E,2.5nm,0.5s,baz=213,slow=6.6,SNR=10							
DBIC	**Dimbokro**	**68.21**	**74**	*e*P		**P**	**17 59 32.7**	**+1.3**
NVAR	**Mina Array Bea**	**74.75**	**322**	pP		pP	18 00 46.7	+1.2
	comp=E,0.3nm,0.6s,baz=150,slow=7.3,SNR=2.8							
TOA0	**Torodi Ar. Sit**	**76.77**	**70**	*e*P		**P**	**18 00 21.5**	**-0.6**
TOA1	**Torodi Ar. Sit**	**76.77**	**70**	*e*P		**P**	**18 00 22.3**	**+0.2**
TOA1				*e*pP		**pP**	**18 00 56.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**18 00 22.3**	**+0.2**
	comp=E,3.3nm,0.7s,baz=250,slow=5.5,SNR=18							
TORD				pP		**pP**	**18 00 56.8**	**-0.5**
	comp=E,0.6nm,0.6s,baz=282,slow=7.2,SNR=1.6							
TSUM	**Tsumeb**	**80.15**	**107**	*e*P		**P**	**18 00 41.5**	**+0.7**
	comp=E,36nm,1.9s							
BOSA	**Boshof**	**83.78**	**118**	P		**P**	**18 00 59.6**	**-0.1**
	comp=E,4.2nm,1.0s,baz=147,slow=22,SNR=2.6							
ESDC	**Sonseca Array**	**84.88**	**44**	P		**P**	**18 01 05.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=317,slow=8.6,SNR=3.1							
YKA	**Yellowknife Ar**	**90.21**	**341**	P		**P**	**18 01 31.1**	**+1.5**
	comp=E,0.6nm,0.8s,baz=136,slow=4.5,SNR=11							
YKA				pP		**pP**	**18 02 06.6**	**+0.6**
	comp=E,2.1nm,0.7s,baz=134,slow=4.8,SNR=20							
YKA				sP		**sP**	**18 02 21.6**	**+0.8**
	comp=E,0.6nm,0.6s,baz=131,slow=4.8,SNR=4.0							
ASAR	**Alice Springs**	**131.00**	**208**	PKP		**PKiKP**	**18 07 42.4**	**+0.1**
	comp=E,0.4nm,1.0s,baz=117,slow=1.7,SNR=3.4							

*NERS **29** 18:00:14.4±0.0, 58.54N× 149.01E, h1km, Felt I=II-III MSK at Magadan(152km)*

*ISCJB **29** 18:00:15.4±0.4, 58.41N±0.04×149.7E±0.1, h10km, mb3.6/19, MS3.4/3, Error ellipse: s-maj=9.0km s-min=4.2km az=24.5*

*MOS **29** 18:00:15.1±1.4, 58.33N× 149.69E, h10km, mb4.1/8, Error ellipse: s-maj=17.4km s-min=6.9km az=88.8*

MOS Felt (II-III) at Magadan.

*IDC **29** 18:00:15.4±0.7, 58.33N× 149.78E, h0km, mb3.6/14, mb1 3.8/18, mb1mx3.7/51, mbtmp3.6/18, ML3.6/3, MS3.4/6, Ms1 3.4/6, ms1mx3.0/47, Error ellipse: s-maj=20.5km s-min=10.6km az=120.0*

ISC 29 18:00:17.3±0.5, 58.40N±0.04×149.42E±0.05, h10km, n53, σ2.20/67, mb3.8/19, MS3.4/3, 3C-5D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MA2	**Magadan**	**1.37**	**30**	*i*P		**Pn**	**18 00 40.2**	**-2.3**
MA2				*e*Pg		**Pg**	**18 00 41.4**	**-1.7**
MA2				Pgmax			18 00 41.9	
	600nm,0.2s							
MA2				*e*Sg		**Sb**	**18 00 58.9**	**-1.8**
MA2				Sgmax			18 01 09.5	
	10μm,0.7s							
MA2				Sgmax			18 01 09.5	
	5μm,0.7s							
MA2	**Magadan**	**1.37**	**30**	*d*P		**Pn**	**18 00 40.2**	**-2.3**
MA2							18 00 58.9	
MA2				pmax		pmax		
	comp=Z,600nm,0.2s							
MA2				smax		smax		
	comp=N,3μm,0.2s							
MA2	**Magadan**	**1.37**	**30**	Pg		**Pb**	**18 00 41.5**	**-1.5**
	comp=N,134nm,0.3s,baz=218,slow=15,SNR=543							
MA2				Lg		Lg	18 00 58.6	
	comp=N,527nm,0.3s,baz=126,slow=19,SNR=43							
MA2				Rg		Rg	18 01 07.5	
	comp=N,1μm,0.3s,baz=138,slow=23,SNR=4.5							
MA2				LR		LR	18 01 21.0	
	comp=N,414nm,18.7s,baz=279,slow=49							
MGD	**Magadan 1**	**1.79**	**22**	*e*P		**Pn**	**18 00 45.7**	**-2.5**
MGD				*e*Pg		**Pb**	**18 00 47.8**	**-2.3**
MGD				Pgmax			18 00 48.7	
	comp=N,310nm,0.3s							
MGD				*e*Sg		**Sn**	**18 01 10.7**	**-0.2**
MGD				Sgmax			18 01 11.6	
	comp=N,7μm,0.3s							
MGD				Sgmax			18 01 11.6	
	comp=N,4μm,0.3s							
TLAR	**Talaya**	**3.13**	**28**	*e*P		**Pn**	**18 01 05.4**	**-1.3**
TLAR				*e*Pg		**Pb**	**18 01 11.2**	**-1.8**
TLAR				Pgmax			18 01 14.7	
	comp=N,20nm,0.3s							
TLAR				*e*Sg		**Sb**	**18 01 52.0**	**+0.8**
TLAR				Sgmax			18 01 55.5	
	comp=N,320nm,0.3s							
TLAR				Sgmax			18 01 55.5	
	comp=N,1μm,0.3s							
TLAR	**Talaya**	**3.13**	**28**	*e*P		**Pn**	**18 01 05.4**	**-1.3**
TLAR				*e*			18 01 52.0	
TLAR				pmax		pmax		
	comp=Z,100nm,0.3s							
TLAR				smax		smax		
	comp=E,2μm,0.3s							
OKHR	**Okhotsk**	**3.35**	**289**	*e*P		Pn	18 00 58.9	-11
OKHR				*e*P		Pb	18 01 04.1	-13
OKHR				Pgmax			18 01 08.0	
	comp=E,20nm,0.3s							
OKHR				*e*S		**Sn**	**18 01 44.3**	**-5.0**
OKHR				Sgmax			18 02 02.1	
	comp=E,1μm,0.5s							
OKHR				Sgmax			18 02 02.1	
	comp=E,590nm,0.4s							
OCHR	**Omchak**	**3.37**	**347**	*e*P		**Pn**	**18 01 07.7**	**-2.3**
OCHR				*e*Pg		**Pb**	**18 01 13.7**	**-3.4**
OCHR				Pgmax			18 01 21.0	
	comp=E,1μm,0.5s							
OCHR				*e*Sg		**Sb**	**18 01 56.9**	**-1.2**
OCHR				Sgmax			18 01 56.9	
	comp=E,3μm,0.8s							
OCHR				Sgmax			18 02 09.9	
	comp=E,540nm,0.4s							
SNGR	**Sinegor'e**	**3.71**	**7**	*e*P		**Pn**	**18 01 14.1**	**-0.5**
SNGR				*e*Pg		**Pb**	**18 01 20.6**	**-2.3**
SNGR				Pgmax			18 01 28.2	
	comp=E,190nm,0.4s							
SNGR				*e*Sg		**Sb**	**18 02 08.4**	**+0.5**
SNGR				Sgmax			18 02 10.4	
	comp=E,1μm,0.3s							
SUUS	**Susuman**	**4.44**	**353**	*e*P		**Pn**	**18 01 22.3**	**-2.4**
SUUS				*e*Sg		**Sb**	**18 02 29.5**	**+0.6**
SUUS				Sgmax			18 02 36.3	
	comp=E,770nm,0.6s							
SUUS	**Susuman**	**4.44**	**353**	*e*P		**Pn**	**18 01 22.3**	**-2.4**
SEY	**Seymchan**	**4.78**	**16**	*e*P		**Pn**	**18 01 27.8**	**-1.4**
SEY				*e*Pg		**Pb**	**18 01 41.7**	**+0.7**
SEY				Pgmax			18 01 51.0	
	comp=E,30nm,0.3s							
SEY				*e*			18 02 40.6	
SEY				*e*Sg		**Sb**	**18 02 42.4**	**+3.9**
SEY				Sgmax			18 02 54.9	
	comp=E,370nm,0.7s							
SEY				Sgmax			18 02 54.9	
	comp=E,870nm,0.7s							
SEY	**Seymchan**	**4.78**	**16**	*e*P		**Pn**	**18 01 27.8**	**-1.4**
SEY	**Seymchan**	**4.78**	**16**

NB2	NORSAR Subarra	56.53	337	P	P	18 10 01.6	+2.4
	comp=Z,0.8nm,0.5s,baz=24,slow=7.4						
NOA	NORSAR Array B	56.53	337	eP	P	18 10 01.9	+2.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	56.53	337	P	P	18 10 00.4	+1.3
	comp=Z,1.4nm,0.6s,baz=25,slow=7.2,SNR=8.5						
NOA				LR	LR	18 36 41.2	
	comp=Z,15nm,18.8s,baz=15,slow=39						
VSR	Storozhevoye	56.89	315	eP	P	18 10 03.9	+2.1
VSR				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NVAR	Mina Array Bea	59.35	66	P	P	18 10 19.0	-0.6
	comp=Z,0.1nm,0.3s,baz=302,slow=8.4,SNR=3.3						
PDAR	Pinedale Array	59.93	57	P	P	18 10 23.2	-0.3
	comp=Z,0.1nm,0.5s,baz=336,slow=3.3,SNR=2.5						
AKASG	Malin Array Be	60.81	321	P	P	18 10 30.5	+1.5
	comp=Z,0.5nm,0.3s,baz=29,slow=6.7,SNR=3.1						
GERES	GERESS Array B	67.10	330	P	P	18 11 12.3	+1.7
	comp=Z,0.6nm,0.9s,baz=46,slow=4.2,SNR=4.9						
WRA	Warramunga Arr	79.04	194	P	P	18 12 20.4	-0.8
	comp=Z,0.7nm,0.5s,baz=9.6,slow=6.0,SNR=14						
ESDC	Sonseca Array	79.79	339	P	P	18 12 25.3	-0.1
	comp=Z,0.5nm,0.5s,baz=4.6,slow=5.4,SNR=3.4						
ASAR	Alice Springs	82.77	194	P	P	18 12 40.6	-0.5
	comp=Z,0.4nm,0.5s,baz=6.1,slow=5.3,SNR=23						

KRSC 29 18:02:51.6±10.0, 50.68N×160.08E, h98km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	1.69	313	eP	Pn	18 03 21.5	+1.4
KDTR				eS	Sn	18 03 43.0	+1.2
RUS	Russkaya	2.01	331	eP	Pn	18 03 25.3	+1.2
RUS				eS	Sn	18 03 49.6	+0.6
MTVR	Mutnovka	2.16	327	eP	Pn	18 03 28.0	+1.8
MTVR				eS	Sn	18 03 54.8	+2.1
ASAK	Asacha	2.18	322	eP	Pn	18 03 28.6	+2.1
PAU	Pauzhetka	2.21	292	eS	Sn	18 03 55.4	+1.8
KRMR	Karymshinskiy	2.47	331	eP	Pn	18 03 32.3	+2.1
KRMR				eS	Sn	18 04 01.9	+2.1
DALK	Dalny	2.49	341	eP	Pn	18 03 32.5	+2.0
DALK				eS	Sn	18 04 02.0	+1.7
SKR	Severo-Kuril's	2.52	272	eP	Pn	18 03 32.7	+1.9
SKR				eS	Sn	18 04 02.4	+1.4
UGLR	Uglovaya	2.65	343	eP	Pn	18 03 36.2	+3.6
SDLR	Sedlovina	2.70	345	eP	Pn	18 03 35.8	+2.4
AVH	Avacha	2.72	343	eP	Pn	18 03 35.7	+2.2
KRER	Koryakskii	2.75	343	eP	Pn	18 03 36.6	+2.5
KOK	Koryaka	2.76	342	eP	Pn	18 03 37.1	+3.0
MKZ	Mys Kozlova	4.01	14	eP	Pn	18 03 51.5	+0.8
TUMR	Tumrok	4.61	0	eP	Pn	18 04 02.2	+3.2
KBTR	Krutoberegovo	5.77	15	eP	Pn	18 04 16.5	+1.9

*IDC **29** 18:09:00.6±0.9, 49.59N×159.10E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.4/48, mbtmp3.6/8, ML2.4/1, MS3.5/3, Ms1 3.5/3, ms1mx2.8/46, Error ellipse: s-maj=26.7km s-min=19.5km az=93.0*

*ISCJB **29** 18:09:04.0±0.7, 49.78N±0.04×159.34E±0.08, h33km, mb3.5/7, MS3.8/2, Error ellipse: s-maj=7.8km s-min=5.7km az=174.7*

*KRSC **29** 18:09:03.4±10.0, 49.81N×159.31E, h84km±10km, ML3.9*

ISC 29 18:09:05.8±1.0, 49.75N±0.08×159.28E±0.07, h35km, n32, σ1°33/43, mb3.6/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	Khodutka, Kamc	2.20	340	eP	Pn	18 09 39.0	-0.8
KDTR				eS	Sn	18 10 05.7	-0.1
SKR	Severo-Kuril's	2.24	296	eP	Pn	18 09 38.6	-1.7
SKR				eS	Sn	18 10 05.2	-1.5
PAU	Pauzhetka	2.33	319	eP	Pn	18 09 41.0	-0.6
PAU				eS	Sn	18 10 09.5	+0.5
RUS	Russkaya	2.74	350	eP	Pn	18 09 46.0	-1.1
RUS				eS	Sn	18 10 17.3	-1.6
ASAK	Asacha	2.78	342	eP	Pn	18 09 47.5	-0.3
ASAK				eS	Sn	18 10 21.0	+0.8
MTVR	Mutnovka	2.83	346	eP	Pn	18 09 46.5	-2.0
MTVR				eS	Sn	18 10 19.6	-1.8
KRMR	Karymshinskiy	3.17	347	eP	Pn	18 09 52.9	-0.2
KRMR				eS	Sn	18 10 29.7	0.0
DALK	Dalny	3.31	354	eP	Pn	18 09 53.8	-1.2
DALK				eS	Sn	18 10 30.5	-2.5
APC	Apacha	3.45	338	eP	Pn	18 09 57.4	+0.5
UGLR	Uglovaya	3.48	355	eP	Pn	18 09 57.1	-0.4
PETK	Petropavlovsk-	3.51	344	Pn	Pn	18 09 58.1	+0.3
	1.5nm,0.3s,baz=151,slow=16,SNR=29						
PETK				Sn	Sn	18 10 41.5	+3.5
	1.1nm,0.3s,baz=130,slow=23,SNR=3.4						
SMAR	Somma	3.54	355	eP	Pn	18 09 59.1	+0.8
AVH	Avacha	3.54	355	eP	Pn	18 09 58.4	+0.1
SDLR	Sedlovina	3.55	356	eP	Pn	18 09 58.0	-0.4
SDLR				eS	Sn	18 10 37.2	-1.9
KOK	Koryaka	3.58	354	eP	Pn	18 09 58.3	-0.5
KRER	Koryakskii	3.58	355	eP	Pn	18 09 59.7	+0.8
KRER				eS	Sn	18 10 40.1	+0.1
KRX	Arik	3.64	354	eP	Pn	18 10 00.5	+0.8
MKZ	Mys Kozlova	5.05	16	eP	Pn	18 10 17.1	-1.8
MKZ				eS	Sn	18 11 12.6	-3.3
KZV	Kizimen	5.41	6	eP	Pn	18 10 24.7	+0.7
KZV				eS	Sn	18 11 23.3	-1.8
TUMD	Tumrok D	5.51	7	eP	Pn	18 10 24.6	-0.6
TUMD				eS	Sn	18 11 25.9	-1.4
TUMR	Tumrok	5.57	5	eP	Pn	18 10 26.8	+0.6
KBTR	Krutoberegovo	6.82	17	eP	Pn	18 10 42.9	-0.2
USRK	Ussuriysk Ar.	19.37	264	LR	LR	18 20 52.1	
	comp=Z,45nm,20.7s,baz=248,slow=37						
TIXI	Tiksi	25.97	339	P	P	18 14 35.2	+0.7
	0.8nm,0.4s,baz=132,slow=9.0,SNR=5.2						
KDAK	Kodiak Island	29.01	55	LR	LR	18 27 02.4	
	comp=Z,152nm,18.7s,baz=57,slow=37						
ILAR	Eielson Array	31.61	41	P	P	18 15 26.1	+1.3
	0.3nm,0.8s,baz=254,slow=8.0,SNR=4.4						
KURBB	Kurchatov Arra	49.23	304	P	P	18 17 50.0	-0.3
	0.3nm,0.3s,baz=60,slow=7.4,SNR=4.5						
BVAR	Borovoye Array	52.12	310	P	P	18 18 12.7	+0.6
	0.3nm,0.4s,baz=54,slow=6.1,SNR=3.6						
NVAR	Mina Array Bea	57.43	67	P	P	18 18 52.4	+1.4
	0.2nm,0.4s,baz=284,slow=8.3,SNR=3.0						
WRA	Warramunga Arr	72.82	205	P	P	18 20 29.5	-1.1
	0.7nm,0.6s,baz=18,slow=6.1,SNR=12						
ASAR	Alice Springs	76.49	204	P	P	18 20 51.3	-0.6
	0.3nm,0.6s,baz=18,slow=5.2,SNR=11						
URZ	Urewera	89.03	166	LR	LR	18 52 14.4	
	comp=Z,66nm,22.0s,baz=184,slow=29						

*IDC **29** 18:37:10.2±1.2, 24.26S×115.53W, h0km, mb4.3/11, mb1 4.5/11, mb1mx4.2/33, mbtmp4.3/11, MS3.8/12, Ms1 3.8/12, ms1mx3.6/29, Error ellipse: s-maj=39.7km s-min=19.2km az=45.0*

*ISCJB **29** 18:37:11.6±1.3, 24.1S±0.2×115.3W±0.2, h10km, mb4.5/49, MS3.8/11, Error ellipse: s-maj=38.5km s-min=9.4km az=137.5*

*NEIC **29** 18:37:12.4±0.6, 24.31S×115.40W, h10km, mb4.6/40, Error ellipse: s-maj=19.0km s-min=8.4km az=49.0*

ISC 29 18:37:13.7±0.8, 24.1S±0.2×115.2W±0.2, h10km, n85, σ0°84/67, mb4.6/49, MS3.8/11, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	Rapa Nui	6.11	121	LR	LR	18 40 40.9	
	comp=Z,2µm,18.8s,baz=342,slow=34						
RKT	Rikitea	18.15	269	eT	T	18 59 17.7	
	3.5nm,0.2s						
TAOE	Nuku Hiva Isla	28.23	298	eLR	LR	18 49 43.4	
	comp=Z,262nm,28.2s						
TIAR	Tiarei	32.51	275	eT	T	19 17 17.0	
	2.8nm,0.3s						
PPT2	Papeete2	32.71	275	eLR	LR	18 51 58.1	
	comp=Z,341nm,27.5s						
PPT	Papeete	32.72	275	LR	LR	18 52 41.9	
	comp=Z,231nm,20.2s,baz=98,slow=29						
ATAH	Atahualpa	39.08	71	P	P	18 44 42.9	+1.1
	4.3nm,0.8s,baz=243,slow=14,SNR=3.8						
PLCA	Paso Flores	40.73	125	eP	P	18 44 55.5	+0.7
	19nm,1.2s						
PLCA	Paso Flores	40.73	125	P	P	18 44 54.5	-0.3
	7.2nm,1.0s,baz=305,slow=8.9,SNR=16						
PLCA				LR	LR	18 57 42.2	
	comp=Z,134nm,18.3s,baz=298,slow=30						
CFA	Coronel Fontan	41.94	111	P	P	18 45 05.0	+0.1
	4.2nm,0.9s,baz=273,slow=7.8,SNR=8.1						
PB11	IPOC Station P	42.34	93	eP	P	18 45 08.3	0.0
	13nm,1.2s						
MNMC	Minye Minye	42.55	92	eP	P	18 45 10.6	+0.4
	9.7nm,1.3s						
LPAZ	La Paz	44.69	89	eP	P	18 45 28.9	+1.0
	9.1nm,0.8s						
LPAZ	La Paz	44.69	89	P	P	18 45 28.9	+1.0
	7.4nm,0.6s,baz=265,slow=5.1,SNR=37						
LPAZ				LR	LR	19 00 10.9	
	comp=Z,97nm,18.0s,baz=266,slow=31						
JTS	JuntasAbangare	45.17	44	LR	LR	19 00 40.2	
	comp=Z,102nm,18.6s,baz=174,slow=31						
TRQA	Torrquist	47.08	120	eP	P	18 45 45.4	-0.4
	17nm,1.1s						
CPUP	Villa Florida	52.03	105	LR	LR	19 04 23.2	
	comp=Z,92nm,21.8s,baz=224,slow=31						
TX31	Lajitas Ar. Si	54.25	12	eP	P	18 46 39.8	-0.2
	7.7nm,1.8s						
TXAR	Lajitas Array	54.25	12	P	P	18 46 40.6	+0.6
	0.7nm,1.0s,baz=195,slow=8.8,SNR=5.1						
JCT	Junction City	56.23	16	eP	P	18 46 54.8	+0.7
	11nm,0.9s						
MNTX	Cornudas Mount	56.25	10	eP	P	18 46 55.0	+0.6
	9.0nm,1.5s						
PTGA	Pitinga	58.25	75	P	P	18 47 07.6	-1.2
	4.2nm,0.9s,baz=232,slow=10,SNR=4.8						
PTGA				LR	LR	19 08 23.9	
	comp=Z,66nm,21.8s,baz=58,slow=32						
X18A	Snowflake	58.50	5	eP	P	18 47 10.8	+0.5
	3.5nm,0.9s						
W13A	Hualapai Mount	58.87	1	eP	P	18 47 13.3	+0.4
	2.9nm,1.0s						
GSC	Goldstone, Bar	59.08	358	eP	P	18 47 14.9	+0.7
	3.1nm,1.1s						
U15A	North Rim	60.24	3	eP	P	18 47 23.4	+0.9
	2.8nm,0.8s						
SHPR	Sheep Range	60.26	0	eP	P	18 47 23.8	+1.4
	6.6nm,1.0s						
CCUT	Cedar City	61.33	2	eP	P	18 47 31.2	+1.4
	5.5nm,1.0s						
MTPU	Mount Pierson	61.86	3	eP	P	18 47 34.9	+1.4
	9.0nm,1.7s						
CMB	Columbia Colle	61.98	355	eP	P	18 47 33.7	-0.2
	7.8nm,1.8s						
R11A	Troy Canyon, C	62.10	360	eP	P	18 47 35.2	+0.3
	4.3nm,1.3s						
SDCO	Great Sand Dun	62.17	9	eP	P	18 47 36.3	+0.8
	8.2nm,1.8s						
NV11	Mina Array Sit	62.24	357	eP	P	18 47 36.5	+0.7
	0.7nm,1.5s						
NV01	Mina Array Sit	62.25	357	eP	P	18 47 36.5	+0.5
NVAR	Mina Array Bea	62.25	357	P	P	18 47 35.5	-0.4
	2.2nm,0.9s,baz=185,slow=9.3,SNR=5.0						
RPZ	Rata Peaks	62.29	232	LR	LR	19 09 25.0	
	comp=Z,96nm,18.6s,baz=108,slow=31						
PSUT	Pine Spring	62.30	1	eP	P	18 47 37.1	+0.8
	4.4nm,1.1s						
YERR	Yerington	62.85	356	eP	P	18 47 40.9	+1.0
	6.3nm,0.5s						
KVN	Kaiserville	62.86	357	eP	P	18 47 41.2	+1.2
	9.4nm,1.9s						
PNTR	Pine Nut	62.97	356	eP	P	18 47 41.4	+0.7
	5.0nm,1.1s						
SRU	San Rafael Swe	63.01	4	eP	P	18 47 41.3	+0.3
	15nm,1.9s						
BDFB	Brasilia	63.25	96	eP	P	18 47 42.3	-0.8
	36nm,1.9s						
BDFB	Brasilia	63.25	96	P	P	18 47 42.6	-0.4
	3.1nm,0.8s,baz=250,slow=7.3,SNR=4.4						
BDFB				LR	LR	19 11 34.6	
	comp=Z,68nm,21.0s,baz=294,slow=32						
P17A	Butcher Ranch,	63.36	4	eP	P	18 47 43.8	+0.5
	8.2nm,1.3s						
SJG	San Juan	63.62	53	LR	LR	19 09 43.3	
	comp=Z,32nm,19.2s,baz=356,slow=30						
MPU	Maple Canyon	63.85	3	eP	P	18 47 46.8	+0.2
	4.2nm,1.0s						
DUG	Dugway, Tooele	63.98	2	eP	P	18 47 47.9	+0.6
	3.9nm,0.9s						
MTP	Monte Pirata	64.05	54	eP	P	18 47 46.7	-1.3
	90nm,1.6s						
ISCO	Idaho Springs	64.17	8	eP	P	18 47 49.0	+0.2
	11nm,1.7s						
JLU	Jordanelle	64.44	3	eP	P	18 47 51.3	+0.9
	3.7nm,0.8s						
VNDA	Vanda	65.14	194	LR	LR	19 08 15.0	
	comp=Z,146nm,18.3s,baz=174,slow=29						
MOD	Modoc Plateau	65.82	356	eP	P	18 47 60.0	+0.7
	4.4nm,0.9s						
PD31	Pinedale Array	66.72	5	eP	P	18 48 04.4	-0.7
	7.7nm,1.8s						
PDAR	Pinedale Array	66.72	5	P	P	18 48 04.5	-0.6
	0.9nm,0.6s,baz=168,slow=6.9,SNR=8.0						
HLID	Hailey	67.31	1	eP	P	18 48 08.8	0.0
	4.7nm,0.9s						
TPAW	Teton Pass	67.35	3	eP	P	18 48 09.1	0.0
	6.8nm,1.1s						
FXWY	Fox Creek	67.49	3	eP	P	18 48 09.6	-0.4
	7.4nm,1.5s						
MOOW	Moose Ponds	67.62	3	eP	P	18 48 09.9	-0.9
	2.5nm,1.0s						
PINE	Pine Mountain	67.74	356	eP	P	18 48 11.8	+0.3
	3.2nm,0.8s						
FLWY	Flagg Ranch	67.95	4	eP	P	18 48 13.1	+0.2
	5.7nm,1.0s						
YHH	Holmes Hill	68.65	3	eP	P	18 48 17.3	0.0
	8.4nm,1.4s						
G08A	Pilot Rock	69.12	357	eP	P	18 48 20.4	+0.4
	4.3nm,1.0s						
ULM	Lac du Bonnet	75.96	13	P	P	18 49 00.8	+0.3
	1.4nm,0.6s,baz=184,slow=6.5,SNR=5.1						
YKA	Yellowknife Ar	86.27	0	P	P	18 49 54.3	-0.8
	1.2nm,0.8s,baz=174,slow=5.1,SNR=26						
YKB5	Yellowknife Ar	86.27	0	eP	P	18 49 54.1	-1.0
YKW3	Yellowknife Ar	86.34	0	eP	P	18 49 54.4	-1.0
	6.6nm,1.3s						
H11S2	WAKE ISLAND Hy	87.07	292	T	T	20 25 53.8	
	baz=118,slow=75,SNR=286						
H11S1	WAKE ISLAND Hy	87.08	292	T	T	20 25 58.3	
	baz=118,slow=75,SNR=236						
H11S3	WAKE ISLAND Hy	87.09	292	T	T	20 25 55.2	
	baz=118,slow=75,SNR=178						
H11N3	WAKE ISLAND Hy	87.44	293	T	T	20 26 23.4	
	baz=116,slow=75,SNR=28						
H11N1	WAKE ISLAND Hy	87.46	293	T	T	20 26 21.1	
	baz=116,slow=75,SNR=20						
H11N2	WAKE ISLAND Hy	87.46	293	T	T	20 26 17.2	
	baz=116,slow=75,SNR=54						
MAW	Mawson	88.58	179	LR	LR	19 25 31.3	
	comp=Z,46nm,18.7s,baz=226,slow=33						
NJ2	Nanjing	132.06	292	ePKP	PKiKP	18 56 29.5	+0.5
HHC	Hu-ho-hao-te	137.67	305	ePKP	PKiKP	18 56 40.8	+0.5
CD2	Chengdu	144.91	290	PKPbc	PKPdf	18 56 52.0	+0.4
ZAA1	Zalesovo Array	146.60	338	ePKPdf	PKPdf	18 56 52.1	-1.5
ZAA0	Zalesovo Array	146.60	338	ePKPdf	PKPdf	18 56 54.7	+1.0
ZALV	Zalesovo Beam	146.60	338	PKPbc	PKPdf	18 56 52.2	-1.5
	1.4nm,0.6s,baz=36,slow=2.4,SNR=37						
ARU	Arti	147.37	6	ePKPdf	PKPbc	18 56 57.6	+0.4
CMAR	Chiang Mai Arr	147.75	267	PKPbc	PKPdf	18 56 56.6	0.0
	0.6nm,0.8s,baz=58,slow=0.4,SNR=5.0						
BR101	Keskin Array S	149.48	52	ePKPdf	PKPdf	18 57 00.2	+1.1
BRTR	Keskin Array B	149.48	52	PKPbc	PKPdf	18 57 00.2	+1.1
	0.9nm,0.8s,baz=270,slow=3.1,SNR=3.7						
KURK	Kurchatov	151.33	342	ePKPdf	PKPbc	18 57 04.9	-2.5
WMQ	Urumqi	152.80	322	ePKPbc	PKPdf	18 57 04.8	+0.9

*ISCJB **29** 18:43:10.5±0.5, 60.01S±0.08×29.6W±0.2, h10km, mb4.7/12, Error ellipse: s-maj=16.8km s-min=8.6km az=144.8*

*IDC **29** 18:43:10.5±1.2, 59.98S×29.56W, h0km, mb4.3/5, mb1 4.2/6, mb1mx3.9/24, mbtmp4.1/6, ML3.1/1, Error ellipse: s-maj=49.7km s-min=28.9km az=52.0*

*NEIC **29** 18:43:14.0±5.4, 59.99S×29.66W, h21km±39km, mb5.0/9, Error ellipse: s-maj=15.8km s-min=10.2km az=208.0*

ISC 29 18:43:12.2±0.6, 60.0S±0.1×29.7W±0.1, h10km, n25, σ1°27/25, mb4.8/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.85	149	P	Pn	18 46 27.1	-1.2
VNA3	Neumayer Olymp	13.91	153	P	Pn	18 46 27.6	-1.5
VNA2	Neumayer--Watz	14.25	150	P	Pn	18 46 32.7	-1.1
	baz=308,slow=16						
SNAA	Sanae	15.88	149	P	Pn	18 46 55.8	+0.4
SNAA	Sanae	15.88	149	ePn	Pn	18 46 55.2	-0.2
	13nm,1.5s						
SNAA	Sanae	15.88	149	Pn	Pn	18 46 55.7	+0.2
	0.1nm,0.3s,baz=319,slow=16,SNR=6.5						
PMSA	Palmer Station	16.50	238	ePn	P	18 47 09.3	+3.2
	296nm,1.7s						
EFI	East Falkland	17.85	285	ePn	Pn	18 47 16.9	-3.5
	426nm,2.0s						
ROC1	El Roble	38.22	296	eP	P	18 50 31.6	-0.6
	15nm,0.8s						
CPUP	Villa Florida	38.63	318	eP	P	18 50 35.9	+0.4
	9.2nm,1.4s						
CPUP	Villa Florida	38.63	318	P	P	18 50 35.0	-0.5
	2.1nm,0.8s,baz=145,slow=7.2,SNR=4.5						
BOSA	Boshof	48.25	75	eP	P	18 51 53.7	+0.4
	51nm,1.8s						
GO01	Chusmiza	49.09	307	eP	P	18 52 00.9	+0.8
	7.1nm,1.4s						
MNMC	Minye Minye	49.73	307	eP	P	18 52 05.0	+0.2
	31nm,2.0s						
LBTB	Lobatse	51.43	73	eP	P	18 52 16.9	-0.6
	43nm,1.8s						
LPAZ	La Paz	51.74	310	eP	P	18 52 20.4	+0.1
LPAZ	La Paz	51.74	310	P	P	18 52 20.7	+0.4
	0.9nm,0.6s,baz=169,slow=5.2,SNR=5.1						
LSZ	Lusaka	61.02	69	eP	P	18 53 26.5	+0.5
	13nm,1.6s						
MDP	Montagnes des	67.35	335	P	P	18 54 08.8	+1.5
	11nm,0.8s,baz=135,slow=10.0						
TOA0	Torodi Ar. Sit	77.11	31	eP	P	18 55 06.2	+0.6
TORD	Torodi Ar. Bea	77.11	31	P	P	18 55 05.1	-0.4
	2.7nm,0.7s,baz=200,slow=5.8,SNR=16						
TOA1	Torodi Ar. Sit	77.11	31	eP	P	18 55 05.1	-0.4
BFZ	Birch Farm	77.46	200	eP	P	18 55 08.1	+0.7
	61nm,1.3s						
ASAR	Alice Springs	95.59	165	P	P	18 56 37.5	-0.1
	0.4nm,0.8s,baz=182,slow=4.8,SNR=4.3						
ILAR	Eielson Array	151.57	307	PKPbc	PKPbc	19 03 03.4	-1.5
	0.6nm,1.0s,baz=171,slow=2.3,SNR=3.2						

*IDC **29** 19:17:02.4±1.2, 38.11N×21.57E, h0km, mb3.5/8, mb1 3.5/13, mb1mx3.4/45, mbtmp3.3/13, ML3.2/5, Error ellipse: s-maj=23.4km s-min=17.2km az=54.0*

*ATH **29** 19:17:03.7, 37.99N×21.57E, h16km±1km, ML3.3/20, Error ellipse: s-maj=1.0km s-min=0.6km az=258.0*

*ISCJB **29** 19:17:04.0±0.3, 38.00N±0.02×21.54E±0.02, h10km±2km, mb3.4/8, Error ellipse: s-maj=2.9km s-min=2.4km az=145.7*

*THE **29** 19:17:04.1, 37.99N×21.57E, h12km, ML3.4/12, Error ellipse: s-maj=0.8km s-min=0.4km az=52.0*

ISC 29 19:17:04.1±0.7, 37.99N±0.02×21.56E±0.02, h14km±4km, n106, σ0°96/147, mb3.5/8, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.10	310	P	Pg	19 17 06.9	-0.3
RLS				S	Sg	19 17 09.3	-0.1
RLS	Riolos of Patr	0.10	310	P	Pg	19 17 07.0	-0.3
RLS				S	Sg	19 17 09.4	+0.1
RLS				AML	AML	19 17 09.5	
RLS				AML	AML	19 17 09.5	
DRO	Drossia	0.12	109	P	Pg	19 17 07.3	-0.3
DRO				S	Sg	19 17 09.9	+0.1
DRO	Drossia	0.12	109	P	Pg	19 17 07.3	-0.3
DRO				S	Sg	19 17 10.0	+0.1
VTN	Vitineika	0.31	256	P	Pb	19 17 10.8	-0.5
VTN	Vitineika	0.31	256	P	Pb	19 17 10.8	-0.5
LAKA	Lakka	0.41	53	P	Pg	19 17 11.7	-0.6
LAKA				S	Sb	19 17 18.7	-0.5
LAKA	Lakka	0.41	53	P	Pg	19 17 11.7	-0.6
LAKA				S	Sg	19 17 17.9	0.0
LAKA				AML	AML	19 17 19.4	
	comp=N,7713µm,0.6s						
LAKA				AML	AML	19 17 19.4	
	comp=E,8459µm,0.5s						
KLV	Kalavryta, Ach	0.47	84	P	Pg	19 17 12.6	-0.8
KLV				S	Sg	19 17 19.9	+0.3
KLV	Kalavryta, Ach	0.47	84	P	Pg	19 17 12.5	-0.8
KLV				S	Sg	19 17 19.8	+0.2
KLV				AML	AML	19 17 23.6	
	comp=N,5702µm,0.4s						
KLV				AML	AML	19 17 24.1	
	comp=E,6072µm,0.4s						
AMT	Artemida-Makis	0.47	166	P	Pg	19 17 12.9	-0.6
AMT				S	Sb	19 17 20.7	-0.3
AMT	Artemida-Makis	0.47	166	P	Pg	19 17 13.2	-0.3
AMT				S	Sb	19 17 20.7	-0.3
AMT				AML	AML	19 17 22.9	
	comp=N,28189µm,0.3s						
AMT				AML	AML	19 17 22.9	
	comp=E,19000µm,0.3s						
ALIK	Aliki, Aigiali	0.51	58	P	Pg	19 17 13.8	-0.3
ALIK				S	Sb	19 17 22.1	+0.1
EFP	Efpalio	0.51	32	P	Pg	19 17 13.7	-0.5
EFP				S	Sb	19 17 21.9	-0.2
EFP	Efpalio	0.51	32	P	Pg	19 17 13.9	-0.2
EFP				S	Sg	19 17 20.4	-0.6
EFP				AML	AML	19 17 23.1	
	comp=N,8421µm,0.5s						
EFP				AML	AML	19 17 23.7	
	comp=E,8788µm,0.5s						
TRIZ	Trizonia	0.55	47	P	Pg	19 17 14.4	-0.4
TRIZ				S	Sb	19 17 22.8	-0.3
TRIZ	Trizonia	0.55	47	P	Pg	19 17 14.4	-0.4
TRIZ				S	Sb	19 17 23.0	-0.1
SERG	Sergoula	0.57	43	P	Pg	19 17 14.7	-0.6
SERG				S	Sb	19 17 24.2	+0.3
SERG	Sergoula	0.57	43	P	Pg	19 17 15.0	-0.4
SERG

ITM AML AML 19 17 37.6
comp=N,4933µm,0.4s
DSF Desfina 0.87 61 P **Pg** **19 17 19.6 -1.3**
DSF S **Sb** **19 17 32.5 +0.1**
DSF Desfina 0.87 61 P **Pg** **19 17 19.6 -1.3**
DSF S **Sb** **19 17 32.5 +0.1**
DSF AML AML 19 17 34.9
comp=N,2120µm,0.3s
DSF AML AML 19 17 38.4
comp=E,2569µm,0.2s
DLFA Delphi 0.88 56 P **Pb** **19 17 20.9 -0.2**
DLFA S **Sb** **19 17 32.6 -0.1**
DLFA AML AML 19 17 36.1
comp=E,2164µm,0.4s
DLFA AML AML 19 17 39.4
comp=N,2213µm,0.4s
VLX Vlachokerasia 0.90 134 P **Pg** **19 17 20.9 -0.5**
VLX S **Sb** **19 17 34.1 +0.8**
VLX Vlachokerasia 0.90 134 P **Pg** **19 17 21.0 -0.4**
VLX S **Sb** **19 17 33.5 +0.3**
VLX AML AML 19 17 37.9
comp=N,3349µm,0.4s
VLX AML AML 19 17 40.0
comp=E,4462µm,0.5s
MGNA Meganis 0.90 318 P **Pg** **19 17 20.2 -1.3**
MGNA S **Sb** **19 17 33.9 +0.7**
EVR Evrytania 0.94 12 P **Pg** **19 17 21.6 -0.7**
EVR Evrytania 0.94 12 P **Pg** **19 17 21.7 -0.7**
EVR S **Sn** **19 17 35.5 -0.8**
EVR AML AML 19 17 39.4
comp=N,2221µm,0.4s
EVR AML AML 19 17 39.6
comp=E,3240µm,0.6s
EVGI Lefkada island 0.95 312 P **Pg** **19 17 21.5 -1.0**
EVGI Lefkada island 0.95 312 P **Pg** **19 17 21.8 -0.7**
LKD2 Lefkada island 1.07 318 P **Pb** **19 17 23.7 -0.6**
LKD2 Lefkada island 1.07 318 P **Pb** **19 17 23.7 -0.6**
PROD Prodromos 1.09 75 P **Pb** **19 17 24.2 -0.4**
PROD Prodromos 1.09 75 P **Pb** **19 17 24.3 -0.4**
PROD S **Sn** **19 17 40.2 +0.5**
PROD AML AML 19 17 43.2
comp=N,3000µm,0.3s
PROD AML AML 19 17 45.4
comp=E,2146µm,0.2s
TSLK Tsoukalades, L 1.10 320 P **Pb** **19 17 24.3 -0.4**
PYL PYLOS 1.10 173 P **Pb** **19 17 24.5 -0.4**
PYL S **Sn** **19 17 41.0 +0.9**
PYL PYLOS 1.10 173 P **Pb** **19 17 24.4 +0.4**
LOUT Loutraki 1.11 90 P **Pb** **19 17 24.9 -0.2**
LOUT Loutraki 1.11 90 P **Pb** **19 17 24.9 -0.2**
LOUT S **Sn** **19 17 40.1 -0.3**
LOUT AML AML 19 17 44.1
comp=N,314µm,0.4s
LOUT AML AML 19 17 53.4
comp=E,451µm,0.8s
MES2 Methoni 1.17 174 P **Pn** **19 17 25.8 -0.2**
MES2 AML AML 19 17 49.3
comp=N,3004µm,0.6s
MES2 AML AML 19 17 51.2
comp=E,3605µm,0.5s
AGG Agios Georgios 1.19 30 P **Pn** **19 17 25.5 -0.8**
EPID Epidavros 1.29 107 P **Pg** **19 17 29.1 +0.2**
LKR Lokris 1.31 59 P **Pb** **19 17 28.1 -0.2**
ATAL Atalanti 1.34 58 P **Pn** **19 17 28.3 0.0**
ATAL Atalanti 1.34 58 P **Pb** **19 17 28.7 -0.3**
VIL2 Platees 1.36 80 P **Pg** **19 17 29.9 -0.4**
VILL Villia 1.39 82 P **Pn** **19 17 29.2 +0.2**
KRND KRANIDI 1.40 115 P **Pg** **19 17 30.6 -0.4**
DID Didima 1.41 110 P **Pn** **19 17 29.1 -0.2**
DID S **Sg** **19 17 48.6 -1.0**
DID Didima 1.41 110 P **Pb** **19 17 30.0 -0.2**
SMIA Simia 1.57 55 P **Pb** **19 17 32.5 -0.3**
THL Klokotos Trika 1.61 13 P **Pb** **19 17 33.8 +0.3**
VLI Veliai 1.68 139 P **Pg** **19 17 35.3 -0.9**
JAN Janina 1.75 342 P **Pg** **19 17 36.8 -0.9**
ATHU Athens Univers 1.75 90 P **Pb** **19 17 35.7 -0.3**
ATHU S **Sg** **19 17 59.0 -1.6**
ATHU AML AML 19 18 05.6
comp=N,289µm,0.5s
ATHU AML AML 19 18 05.8
comp=E,181µm,0.5s
VLY Voula,Athens 1.77 94 P **Pb** **19 17 35.8 -0.5**
FYTO Fytoko, Volos 1.78 37 P **Pn** **19 17 35.2 +0.9**
PTL Penteli 1.82 88 P **Pb** **19 17 35.9 -1.2**
NEO Neokhori 1.85 44 P **Pn** **19 17 36.2 +0.9**
XOR Xorichti 1.87 42 P **Pb** **19 17 36.7 -1.3**
DION Dionisos Attik 1.87 87 P **Pb** **19 17 37.1 -1.0**
SKIA Skiathos 1.90 51 P **Pb** **19 17 37.4 -1.0**
ERIA Eretria 1.91 76 P **Pb** **19 17 39.1 +0.4**
AOS Alonnisos 2.16 56 P **Pn** **19 17 40.7 +1.1**
KEK Kerkira 2.20 322 P **Pb** **19 17 41.9 -1.8**
LIT Litokhoron 2.23 19 P **Pb** **19 17 42.8 -1.2**
KZN Kozani 2.32 4 P **Pb** **19 17 44.8 -0.8**
SERI Serifos 2.46 109 P **Pb** **19 17 45.8 -2.3**
SKY Skiros Island 2.51 68 P **Pn** **19 17 46.4 +2.0**
ANKY Antikythira Is 2.54 146 P **Pb** **19 17 48.2 -1.1**
BIA Bitola 3.03 357 *e*Pn **Pb** **19 17 56.9 -0.8**
KERA Keramoti 3.07 148 P **Pb** **19 17 55.2 -3.2**
OHR Ohrid 3.17 349 *e*Pn **Pn** **19 17 54.9 +1.4**
IMMV Iera Moni Meta 3.19 142 P **Pn** **19 17 55.1 +1.4**
KRUS Krusevo 3.38 356 *e*Pn **Pn** **19 17 58.2 +1.7**
KRUS Krusevo 3.38 356 *e*Pn **Pn** **19 17 57.7 +1.2**
VAY Valandovo 3.41 13 *e*Pn **Pb** **19 18 04.1 -0.2**
VAY Valandovo 3.41 13 *e*Pn **Pn** **19 17 56.9 +0.1**
STIP Stip 3.73 7 *e*Pn **Pn** **19 18 04.6 +3.5**
STIP Stip 3.73 7 *e*Pn **Pn** **19 18 04.6 +3.5**
IDI Anoyia 3.80 134 Pn **Pn** **19 18 03.5 +1.4**
comp=E,0.9nm,0.3s,baz=319,slow=13,SNR=7.3
IDI Sn **Sn** **19 18 51.2 +4.5**
comp=E,1.6nm,0.3s,baz=315,slow=20,SNR=3.4
MLR Muntele Rosu 8.18 22 Pn **Pn** **19 19 02.5 +0.2**
comp=E,0.2nm,0.3s,baz=210,slow=8.1,SNR=2.2
BRTR Keskin Array B 9.58 76 Pn **Pn** **19 19 24.1 +2.5**
comp=E,0.0nm,0.3s,baz=254,slow=13,SNR=2.4
GERES GERESS Array B 12.25 335 Pn **Pn** **19 19 58.0 -0.1**
comp=E,0.1nm,0.3s,baz=156,slow=14,SNR=3.8
MMAI Mount Meron Ar 12.32 110 Pn **Pn** **19 19 58.9 -0.1**
comp=E,0.2nm,0.3s,baz=302,slow=14,SNR=1.4
HFS Hagfors 22.72 350 P **P** **19 22 04.7 -0.5**
comp=E,1.2nm,0.5s,baz=156,slow=12,SNR=6.1
FINES FINESS Array B 23.64 5 P **P** **19 22 13.4 -1.1**
comp=E,1.0nm,0.8s,baz=182,slow=9.5,SNR=5.2
NB2 NORSAR Subarra 23.97 348 P **P** **19 22 17.4 -0.3**
comp=Z,1.7nm,1.0s,baz=159,slow=9.3
NOA NORSAR Array B 23.97 348 P **P** **19 22 17.2 -0.5**
comp=Z,0.7nm,0.8s,baz=154,slow=8.8,SNR=3.7
EKA Eskdalemuir Ar 24.06 324 P **P** **19 22 19.0 +0.4**
comp=Z,1.6nm,0.7s,baz=129,slow=10,SNR=3.0
TORD Torodi Ar. Bea 30.41 221 P **P** **19 23 17.1 +1.1**
comp=Z,0.3nm,0.5s,baz=34,slow=8.5,SNR=2.9
MKAR Makanchi Array 44.70 58 P **P** **19 25 16.3 -0.1**
comp=Z,0.4nm,0.6s,baz=276,slow=7.3,SNR=6.5
ZALV Zalesovo Beam 45.20 48 P **P** **19 25 20.0 -0.3**
comp=Z,0.6nm,0.4s,baz=279,slow=9.3,SNR=3.9
YKA Yellowknife Ar 73.84 340 P **P** **19 28 37.9 +0.1**
comp=Z,0.1nm,0.6s,baz=39,slow=5.4,SNR=3.4

*JMA **29** 19:29:03.7±0.1,37.69N×141.91E,h25km±2km,M3.3*
*IDC **29** 19:29:06.8±2.8,36.97N×141.88E,h0km,mb3.3/2,*
mb1 3.5/3,mb1mx3.2/41,mbtmp3.2/3,ML2.1/1,MS3.6/1,
Ms1 3.6/1,ms1mx2.3/28,Error ellipse: s-maj=53.6km
s-min=36.5km az=37.0
ISC 29 19:29:03.1±2.0,37.72N±0.04×141.93E±0.09,h13km±11km,
n20,σ1§17/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**0.70**	**328**	P	**Pg**	**19 29 17.1**	**+0.4**
JIKH				S	**Sg**	**19 29 26.4**	**+0.6**
JIO	**Ouri**	**0.87**	**328**	P	**Pb**	**19 29 19.9**	**-0.1**
JIO				S	**Sb**	**19 29 31.3**	**-0.3**
JFK	**Kawauchi**	**0.91**	**248**	P	**Pb**	**19 29 20.0**	**-0.8**
JFK				S	**Sg**	**19 29 32.3**	**-0.4**
JMM	**Marumori**	**0.91**	**280**	P	**Pb**	**19 29 20.2**	**-0.7**
JMM				S	**Sb**	**19 29 31.7**	**-1.2**
ONAJ	**Iwakimizuishiy**	**1.09**	**236**	P	**Pb**	**19 29 22.6**	**-1.4**
ONAJ				S	**Sb**	**19 29 36.2**	**-2.0**
JKMT	**Kesennumamotoy**	**1.15**	**342**	P	**Pn**	**19 29 24.3**	**-0.6**
JKMT				S	**Sb**	**19 29 38.6**	**-1.1**
JOU	**Okura**	**1.19**	**303**	P	**Pb**	**19 29 25.5**	**-0.1**
JOU				S	**Sb**	**19 29 40.6**	**-0.4**
JFT	**Otama**	**1.28**	**261**	P	**Pn**	**19 29 26.6**	**-0.2**
JFT				S	**Sn**	**19 29 43.3**	**-0.6**
JMK	**Ichinoseki**	**1.35**	**336**	P	**Pn**	**19 29 27.6**	**-0.1**
JMK				*e*S	**Sn**	**19 29 45.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.20**	**250**	Pn	**Pn**	**19 29 54.3**	**+1.1**
	0.3nm,0.3s,baz=81,slow=16,SNR=16						
MJAR				Sn	**Sn**	**19 30 33.8**	**+2.5**
	0.1nm,0.3s,baz=109,slow=18,SNR=2.6						
MAT	**Matsushiro**	**3.20**	**250**	P	**Pn**	**19 29 55.5**	**+2.3**
H11N2	**WAKE ISLAND Hy**	**28.16**	**123**	T	T	20 04 20.8	
	baz=315,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.16**	**123**	T	T	20 04 19.3	
	baz=315,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**28.17**	**123**	T	T	20 04 24.9	
	baz=315,slow=75,SNR=23						
H11S1	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	20 05 23.5	
	baz=317,slow=75,SNR=7.2						
H11S3	**WAKE ISLAND Hy**	**28.90**	**125**	T	T	20 05 18.8	
	baz=317,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.91**	**125**	T	T	20 05 17.4	
	baz=317,slow=75,SNR=25						
ZALV	**Zalesovo Beam**	**41.76**	**312**	LR	LR	19 56 22.1	
	comp=Z,67nm,18.1s,baz=252,slow=39						
MKAR	**Makanchi Array**	**44.11**	**302**	P	P	19 37 19.6	+8.5
	0.2nm,0.6s,baz=93,slow=7.5,SNR=3.2						
WRA	**Warramunga Arr**	**57.80**	**188**	P	**P**	**19 38 54.6**	**+0.4**
	0.8nm,1.2s,baz=4.8,slow=7.3,SNR=2.9						

*INMG **29** 19:30:22.7±1.1,27.53N×18.30W,h16km±10km,ML3.6,*
Error ellipse: s-maj=7.0km s-min=5.7km az=116.0
ISC 29 19:30:22.8±3.4,28.4N±0.1×18.2W±0.2,h10km,n15,
σ3§18/27,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**4.35**	**14**	*e*S	**Sn**	**19 32 25.9**	**+6.3**
PMAR	**Madeira**	**4.42**	**14**	*e*P	**Pn**	**19 31 28.8**	**-1.2**
PMAR				*e*S	**Sb**	**19 32 29.4**	**-4.5**
PMAR				A	A	19 32 39.6	
	74nm,0.2s						
PMAR	**Madeira**	**4.42**	**14**	P	**Pn**	**19 31 30.6**	**+0.6**
PMAR				S	**Sb**	**19 32 32.1**	**-1.9**
PMOZ	**Porto Moniz, M**	**4.46**	**11**	*e*P	**Pn**	**19 31 28.6**	**-1.9**
PMOZ				*e*S	**Sb**	**19 32 30.3**	**-4.8**
PMOZ				A	A	19 32 36.2	
	99nm,0.4s						
PMOZ	**Porto Moniz, M**	**4.46**	**11**	P	**Pn**	**19 31 31.9**	**+1.4**
PMOZ				S	**Sb**	**19 32 36.0**	**+0.9**
PMPS	**Porto Santo**	**4.88**	**18**	*e*S	**Sb**	**19 32 41.0**	**-6.0**
PMPS				A	A	19 32 46.3	
	43nm,0.6s						
TANT	**Tantan**	**6.11**	**89**	P	**Pn**	**19 31 52.6**	**-0.6**
EAH	**EAH**	**8.10**	**65**	P	**Pn**	**19 32 21.1**	**+0.6**
EAH				S	**Sn**	**19 33 58.0**	**+5.8**
TTIG	**Tnine Tigouga,**	**8.74**	**74**	P	**Pn**	**19 32 31.6**	**+2.3**
TTIG				S	**Sn**	**19 34 11.2**	**+3.2**
OUK	**Oukaimeden**	**9.37**	**70**	P	**Pn**	**19 32 39.5**	**+1.3**
OUK				S	**Sn**	**19 34 26.6**	**+2.7**
SRHM	**Skhour des Reh**	**9.74**	**63**	P	**Pn**	**19 32 41.7**	**-1.3**
SRHM				S	**Sn**	**19 34 34.5**	**+2.0**
OUZM	**OUZ**	**10.23**	**73**	P	**Pn**	**19 32 47.0**	**-2.8**
OUZM				S	**Sn**	**19 34 43.7**	**-1.0**
ZHG	**ZHG**	**11.09**	**60**	P	**Pn**	**19 33 01.9**	**+0.4**
ZHG				S	**Sn**	**19 35 09.1**	**+3.5**
MD31	**MD31**	**12.36**	**66**	P	**Pn**	**19 33 16.4**	**-2.6**
MD31				S	**Sn**	**19 35 39.0**	**+2.1**
MDT	**Midelt**	**12.47**	**66**	P	**Pn**	**19 33 16.8**	**-3.6**
MDT				S	**Sn**	**19 35 40.3**	**+0.8**

IDC 29 19:39:01.4±5.8,62.98S×173.13W,h0km,mb3.9/2,
mb1 4.1/2,mb1mx3.7/34,mbtmp3.9/2,MS3.8/4,Ms1 3.8/4,
ms1mx3.3/22,Error ellipse: s-maj=408.3km
s-min=54.7km az=9.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**43.17**	**332**	LR	LR	20 02 26.6	
	comp=Z,78nm,19.1s,baz=186,slow=33						
H01W1	**Cape Leeuwin H**	**51.82**	**267**	T	T	20 43 34.0	
	baz=149,slow=76,SNR=4.1						
H01W2	**Cape Leeuwin H**	**51.82**	**267**	T	T	20 43 28.4	
	baz=149,slow=76,SNR=4.2						
H01W3	**Cape Leeuwin H**	**51.83**	**267**	T	T	20 43 35.8	
	baz=149,slow=76,SNR=5.1						
ASAR	**Alice Springs**	**52.60**	**293**	P	P	19 48 16.6	-0.2
	1.0nm,0.9s,baz=153,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**55.73**	**295**	P	P	19 48 39.5	-0.1
	1.8nm,0.8s,baz=154,slow=6.1,SNR=8.0						
HNR	**Honiara**	**56.87**	**328**	LR	LR	20 09 49.3	
	comp=Z,90nm,18.8s,baz=172,slow=32						
PLCA	**Paso Flores**	**59.82**	**121**	LR	LR	20 07 13.4	
	comp=Z,60nm,20.0s,baz=212,slow=28						
CPUP	**Villa Florida**	**77.64**	**124**	LR	LR	20 20 37.1	
	comp=Z,58nm,18.7s,baz=198,slow=32						
ILAR	**Eielson Array**	**128.92**	**14**	PKP	PKPdf	19 58 08.8	-0.3
	1.3nm,1.0s,baz=213,slow=2.6,SNR=9.2						

*ISCJB **29** 19:44:30.2±0.3,31.79S±0.03×68.38W±0.05,h120km±3km,*
Error ellipse: s-maj=6.6km s-min=4.5km az=1.3
*IDC **29** 19:44:30.8±0.7,31.82S×68.25W,h108km±4km,mb3.4/3,*
mb1 3.7/8,mb1mx3.5/30,mbtmp3.8/8,Error ellipse:
s-maj=27.3km s-min=19.4km az=90.0
*NEIC **29** 19:44:30.4±0.6,31.80S×68.24W,h105km±9km,mb4.7/4,*
Error ellipse: s-maj=11.6km s-min=7.0km az=87.0
*SJA **29** 19:44:31.0±0.6,31.80S×68.43W,h109km±3km,ML4.4,*
MW4.3
ISC 29 19:44:30.5±0.6,31.76S±0.04×68.36W±0.05,h113km±4km,
n53,σ1§61/67,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.18**	**237**	*e*P	**Pn**	**19 44 46.7**	**+0.4**
CFA	**Coronel Fontan**	**0.19**	**33**	*e*P	**Pn**	**19 44 47.1**	**+0.9**
CFA	**Coronel Fontan**	**0.19**	**33**	P	**Pn**	**19 44 47.1**	**+0.9**
	261nm,0.3s,baz=200,slow=4.1,SNR=4021						
CFA				LR	LR	19 44 55.2	
	comp=Z,112nm,19.3s,baz=75,slow=113						
CFA				S	**Sn**	**19 44 58.6**	**+0.5**
	809nm,0.3s,baz=0.0,slow=20,SNR=181						
SJA	**San Juan**	**0.29**	**323**	*e*P	**Pn**	**19 44 47.5**	**+0.9**
SJA				*e*S	**Sn**	**19 44 59.3**	**+0.6**
SJA				IAML		19 44 59.7	
	comp=Z,2µm,0.2s						
ZON	**Zonda**	**0.35**	**308**	IAML		19 45 00.1	
	comp=Z,3µm,0.3s						
RTLL	**Cerro Villicun**	**0.44**	**347**	*e*P	**Pn**	**19 44 48.4**	**+1.0**
RTLL				IAML		19 45 03.5	
	comp=Z,3µm,0.2s						
AMOG	**MOGNA**	**0.83**	**352**	*e*P	**Pn**	**19 44 51.0**	**+0.7**
AMOG				*e*S	**Sn**	**19 45 06.8**	**+1.5**
ASAL	**Salagasta**	**0.92**	**206**	*e*P	**Pn**	**19 44 51.6**	**+0.4**
ASAL				*e*S	**Sn**	**19 45 06.5**	**-0.4**
AUSP	**Uspallata**	**0.99**	**242**	*e*P	**Pn**	**19 44 52.7**	**+0.6**
ACAN	**Cantantal**	**1.12**	**118**	*e*P	**Pn**	**19 44 55.1**	**+1.9**
ARCO	**CERRO ARCO**	**1.18**	**204**	*e*P	**Pn**	**19 44 54.7**	**+0.8**
ARCO				IAML		19 44 55.2	
	comp=Z,2µm,0.2s						
ARCO				*e*S	**Sn**	**19 45 11.8**	**0.0**
ACCO	**Cerro Coronel**	**1.32**	**332**	*e*P	**Pn**	**19 44 57.6**	**+1.9**
AAGR	**Agrelo**	**1.38**	**197**	*e*P	**Pn**	**19 44 56.8**	**+0.6**
AAGR				*e*S	**Sn**	**19 45 15.9**	**+0.3**
AVIZ	**Vizcacheras**	**1.71**	**184**	*e*P	**Pn**	**19 45 00.9**	**+0.8**
ACDV	**Cuesta del Vie**	**1.72**	**337**	*e*P	**Pn**	**19 45 02.1**	**+1.9**
ACDV				IAML		19 45 26.7	
	comp=Z,744nm,0.4s						
AROD	**Rodeo**	**1.86**	**329**	*e*P	**Pn**	**19 45 04.1**	**+2.0**
APLL	**PUNTA DE LOS L**	**2.08**	**50**	*e*P	**Pn**	**19 45 06.8**	**+2.1**
APLL				IAML		19 45 35.3	
	comp=Z,333nm,0.3s						
MRA	**San Martin**	**2.33**	**107**	*i* P	**Pn**	**19 45 09.5**	**+1.6**
MRA				IAML		19 45 38.9	
	comp=Z,903nm,0.3s						
PEL	**Peldehue**	**2.40**	**234**	*e*Pn	**Pn**	**19 45 09.6**	**+0.9**
PEL				*e*Sn	**Sn**	**19 45 37.1**	**-1.0**
ROC1	**El Roble**	**2.55**	**241**	*e*Pn	**Pn**	**19 45 11.2**	**+0.3**
ROC1				*e*Sn	**Sn**	**19 45 41.5**	**-0.5**
GO04	**Tololo Observa**	**2.63**	**306**	*e*Pn	**Pn**	**19 45 13.6**	**+1.7**
GO04				*e*Sn	**Sn**	**19 45 45.3**	**+1.6**
LCO	**Las Campanas**	**3.41**	**323**	*e*Pn	**Pn**	**19 45 24.0**	**+1.8**
LCO				*e*Sn	**Sn**	**19 46 02.6**	**+0.4**
GO03	**Copiap**	**4.46**	**338**	*e*Pn	**Pn**	**19 45 38.2**	**+2.0**
GO03				*e*Sn	**Sn**	**19 46 25.9**	**-1.2**
GO02	**Mina Guanaco**	**6.66**	**350**	*e*Pn	**Pn**	**19 46 07.3**	**+1.2**
GO02				*e*Sn	Sn	19 47 11.2	-10
TRQA	**Tornquist**	**8.18**	**142**	*e*Pn	**Pn**	**19 46 25.9**	**-0.4**
TRQA				*e*Sn	**Sn**	**19 47 53.8**	**-3.2**
GO06	**Curarrehue**	**8.21**	**197**	*e*Pn	**Pn**	**19 46 23.4**	**-3.4**
PLCA	**Paso Flores**	**9.12**	**191**	*e*Pn	**Pn**	**19 46 37.0**	**-2.2**
PLCA	**Paso Flores**	**9.12**	**191**	P	**Pn**	**19 46 38.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=36,slow=9.3,SNR=3.1						
LVC	**Limon Verde**	**9.13**	**357**	P	**Pn**	**19 46 39.5**	**-0.1**
	comp=Z,5.0nm,0.3s,baz=155,slow=12,SNR=33						
LVC				S	**Sn**	**19 48 14.1**	**-6.7**
	comp=Z,0.5nm,0.3s,baz=183,slow=17,SNR=2.2						
PB04	**IPOC Station P**	**9.53**	**350**	*e*Pn	**Pn**	**19 46 44.5**	**-0.3**
PB01	**IPOC Station P**	**10.72**	**354**	*e*Pn	**Pn**	**19 46 58.3**	**-2.6**
CPUP	**Villa Florida**	**11.06**	**63**	P	**Pn**	**19 47 04.4**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=230,slow=11,SNR=4.5						
PB11	**IPOC Station P**	**12.01**	**354**	*e*Pn	**Pn**	**19 47 15.5**	**-2.6**
GO01	**Chusmiza**	**12.07**	**356**	*e*Pn	**Pn**	**19 47 16.6**	**-2.6**
LPAZ	**La Paz**	**15.41**	**1**	*e*Pn	**Pn**	**19 48 02.7**	**+0.3**
	comp=Z,34nm,1.9s						
LPAZ	**La Paz**	**15.41**	**1**	P	**P**	**19 48 03.5**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=180,slow=8.3,SNR=12						
SIV	**San Ignacio**	**17.05**	**25**	P	**P**	**19 48 22.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=213,slow=11,SNR=16						
OBIP	**Obispado Ponce**	**49.55**	**2**	*e*P	**P**	**19 53 09.7**	**-0.2**
	comp=Z,57nm,1.3s						
VNA3	**Neumayer Olymp**	**50.29**	**159**	P	P	19 53 20.1	+5.1
VNA2	**Neumayer--Watz**	**50.90**	**158**	P	**P**	**19 53 21.2**	**+1.6**
SNAA	**Sanae**	**52.51**	**159**	P	**P**	**19 53 33.1**	**+1.5**
SNAA	**Sanae**	**52.51**	**159**	*e*P	**P**	**19 53 32.9**	**+1.3**
	comp=Z,20nm,1.8s						
TXAR	**Lajitas Array**	**69.41**	**327**	P	**P**	**19 55 28.1**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=154,slow=9.1,SNR=9.5						
WVT	**Waverly**	**69.96**	**343**	*e*P	**P**	**19 55 30.6**	**+1.1**
	comp=Z,5.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.52**	**68**	P	**P**	**19 56 31.3**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=267,slow=5.6,SNR=2.8						
TORD				pP	**pP**	**19 56 58.3**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=283,slow=6.5,SNR=4.2						
NVAR	**Mina Array Bea**	**83.90**	**323**	P	**P**	**19 56 49.2**	**+1.3**
	comp=Z,0.8nm,0.8s,baz=150,slow=6.8,SNR=3.7						
VYHS	**Vyhne**	**111.31**	**45**	*e*PDIF	**Pdif**	**19 58 53.0**	**+0.2**
ASAR	**Alice Springs**	**120.91**	**204**	PKP	**PKPdf**	**20 03 10.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=135,slow=1.4,SNR=3.2						
WRA	**Warramunga Arr**	**124.17**	**206**	PKP	**PKiKP**	**20 03 16.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=159,slow=1.8,SNR=13						
WRA				pPKP	**pPKPdf**	**20 03 46.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=158,slow=1.7,SNR=2.0						
ZALV	**Zalesovo Beam**	**150.68**	**33**	*e*PKPbc	**PKiKP**	**20 04 10.4**	**+1.0**
ZALV	**Zalesovo Beam**	**150.68**	**33**	PKPbc	**PKiKP**	**20 04 10.2**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=296,slow=2.3,SNR=13						
ZALV				pPKPbc	**pPKPbc**	**20 04 38.9**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=296,slow=3.3,SNR=4.5						
MKAR	**Makanchi Array**	**152.97**	**48**	PKPbc	**PKiKP**	**20 04 14.9**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=252,slow=0.9,SNR=4.5						
CD2	**Chengdu**	**173.20**	**95**	PKP	**PKPdf**	**20 04 26.0**	**-0.6**

*ISCJB **29** 20:36:35.7±0.4,24.29S±0.03×67.35W±0.04,h192km±7km,*
Error ellipse: s-maj=5.6km s-min=4.1km az=169.9
*NEIC **29** 20:36:36.3±0.5,24.32S×67.33W,h196km±22km,mb4.2/3,*
Error ellipse: s-maj=16.6km s-min=6.8km az=95.0
*IDC **29** 20:36:36.5±1.0,24.30S×67.15W,h160km±13km,*
mb1 3.5/7,mb1mx3.2/36,mbtmp3.9/7,Error ellipse:
s-maj=17.3km s-min=12.9km az=84.0
*SJA **29** 20:36:36.6±0.3,24.27S×67.29W,h182km±5km,ML3.0,*
MW2.9
*GUC **29** 20:36:39.2±0.4,24.02S×67.68W,h210km±5km,ML4.4*
ISC 29 20:36:36.1±0.7,24.29S±0.04×67.30W±0.05,h181km±9km,
n47,σ1§68/70,6C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.69**	**105**	*e*P	**Pn**	**20 37 11.6**	**+1.5**
SLA				IAML		20 37 12.6	
	comp=Z,201nm,0.4s						
SLA				*e*S	**Sn**	**20 37 37.3**	**+0.8**
HJA	**Humahuaca**	**2.04**	**59**	*e*P	**Pn**	**20 37 15.6**	**+1.6**
FSA	**Cafayete**	**2.17**	**147**	*e*P	**Pn**	**20 37 16.9**	**+1.6**
FSA				IAML		20 37 17.5	
	comp=Z,26nm,0.4s						
LVC	**Limon Verde**	**2.23**	**318**	*e*P	**Pn**	**20 37 18.1**	**+2.0**
LVC				*e*S	**Sn**	**20 37 47.7**	**+0.5**
LVC	**Limon Verde**	**2.23**	**318**	P	**Pn**	**20 37 17.9**	**+1.8**
	comp=Z,12nm,0.3s,baz=153,slow=11,SNR=186						
LVC				S	**Sn**	**20 37 47.5**	**+0.3**
	comp=Z,138nm,0.3s,baz=3.6,slow=19,SNR=100						
GO02	**Mina Guanaco**	**2.26**	**247**	*e*Pn	**Pn**	**20 37 18.5**	**+2.1**
GO02				*e*Sn	**Sn**	**20 37 48.9**	**+1.3**
PB15	**IPOC Station P**	**2.26**	**298**⇑	*e*P	**Pn**	**20 37 18.4**	**+2.0**
PB15				*e*S	**Sn**	**20 37 48.0**	**+0.5**
PB06	**IPOC Station P**	**2.61**	**307**⇑	*i*P	**Pn**	**20 37 22.1**	**+1.8**
PB06				*e*S	**Sn**	**20 37 54.5**	**-0.2**
PB06				IAML		20 37 56.8	
	comp=N,2µm,0.2s						
PB14	**IPOC Station P**	**2.85**	**263**	*e*P	**Pn**	**20 37 24.7**	**+1.4**
PB14	**IPOC Station P**	**2.85**	**263**	*e*P	**Pn**	**20 37 24.7**	**+1.4**
PB14				*e*S	**Sn**	**20 37 59.3**	**-0.6**
PB14				IAML		20 38 01.6	
	comp=E,643nm,0.4s						
PB05	**IPOC Station P**	**3.02**	**298**	*e*P	**Pn**	**20 37 26.4**	**+1.3**
PB05	**IPOC Station P**	**3.02**

comp=N,0.1nm,0.3s,baz=31,slow=11,SNR=6.8
BDFB Brasilia 20.05 68 *e*P **P 20 40 56.6 +1.0**
comp=N,50nm,2.0s
BDFB Brasilia 20.05 68 P **P 20 40 56.2 +0.7**
comp=N,0.8nm,0.3s,baz=238,slow=11,SNR=11
VYHS Vyhne 105.34 43 *e*PDIF **Pdif 20 50 28.0 +3.8**
ASAR Alice Springs 128.08 205 PKP **PKiKP 20 55 24.0 +2.0**
comp=N,0.1nm,0.6s,baz=144,slow=1,SNR=3.2
WRA Warramunga Arr 131.25 207 PKP **PKiKP 20 55 29.9 +1.5**
comp=N,0.2nm,0.5s,baz=158,slow=1.8,SNR=4.3
MKAR Makanchi Array 146.92 40 PKPbc **PKPab 20 55 58.9 -0.1**
comp=N,0.2nm,0.6s,baz=305,slow=2.7,SNR=3.0
CD2 Chengdu 169.69 48 PKP **PKPdf 20 56 21.5 -0.9**

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*ISCJB **29** 20:37:57.2±0.1,5.41S±0.03×151.70E±0.03,h45km, mb4.9/144,MS3.9/25,Error ellipse: s-maj=4.8km s-min=3.5km az=44.9*
*BJI **29** 20:38:00.2,5.40S×151.70E,h63km,mb4.7/40,mB5.0/27, Ms4.7/13,Ms7 4.4/9*
*NEIC **29** 20:38:00.4±0.7,5.42S×151.75E,h65km±6km,mb5.0/116, Error ellipse: s-maj=4.1km s-min=3.1km az=122.0*
*IDC **29** 20:38:00.1±1.9,5.44S×151.76E,h62km±16km,mb4.0/24, mb1 4.2/25,mb1mx4.1/41,mbtmp4.3/25,MS3.9/24, Ms1 3.9/24,ms1mx3.8/36,Error ellipse: s-maj=15.3km s-min=9.9km az=116.0*
*DJA **29** 20:38:02.4±2.1,5.5S±7.5×15.2E±1.1,h67km±16km,M5.0/8, mB5.2/1,mb4.7/8,MLv5.1/1,Mw(mB)4.5/1*
ISC 29 20:37:58.4±0.3,5.41S±0.04×151.75E±0.05,h45km,n283, σ1§02/287,**mb5.0**/142,**MS3.9**/25,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.28**	**19**	*e*Pn	**Pn**	**20 38 21.0**	**+1.1**
RABL				*e*Sn	**Sn**	**20 38 40.4**	**+4.5**
MANU	**Manus Island**	**5.51**	**307**	*e*Pn	Pn	20 39 24.3	+6.3
PMG	**Port Moresby**	**6.04**	**229**	*e*Pn	**Pn**	**20 39 27.3**	**+2.0**
PMG				*e*Sn	**Sn**	**20 40 35.1**	**+1.9**
PMG	**Port Moresby**	**6.04**	**229**	P	**Pn**	**20 39 28.2**	**+2.9**
	9.4nm,0.3s,baz=52,slow=18,SNR=52						
PMG				S	**Sn**	**20 40 35.5**	**+2.3**
	16nm,0.3s,baz=344,slow=16,SNR=9.9						
HNR	**Honiara**	**9.06**	**117**	*e*Pn	**Pn**	**20 40 09.5**	**+2.9**
HNR				*e*		20 43 54.0	
HNR	**Honiara**	**9.06**	**117**	LR	LR	20 43 54.0	
	comp=Z,360nm,18.7s,baz=293,slow=39						
JAY	**Jayapura**	**11.39**	**284**	LR	LR	20 44 38.4	
	comp=Z,672nm,18.7s,baz=100,slow=35						
COEN	**Coen**	**11.98**	**224**	*e*Pn	**Pn**	**20 40 47.7**	**+1.0**
CTA	**Charters Tower**	**15.54**	**200**	P	**P**	**20 41 38.9**	**+0.6**
	0.2nm,0.3s,baz=43,slow=13,SNR=7.6						
CTAO	**Charters Tower**	**15.54**	**200**	*e*P	**P**	**20 41 39.0**	**+0.7**
	43nm,1.7s						
FAKI	**Fak Fak**	**19.61**	**276**	*e*P	**Pn**	**20 42 24.2**	**-0.6**
	30nm,1.2s						
EIDS	**Eidsvold**	**19.86**	**182**	*e*P	**P**	**20 42 26.2**	**+0.3**
	17nm,0.8s						
GUMO	**Guam**	**20.07**	**340**	LR	LR	20 49 36.3	
	comp=Z,54nm,19.9s,baz=134,slow=35						
SIJI	**Sorong**	**20.94**	**282**	P	**P**	**20 42 38.6**	**+0.9**
	13nm,0.8s,baz=58,slow=9.5,SNR=3.9						
MTN	**Manton Dam**	**21.64**	**249**	*e*P	**P**	**20 42 48.0**	**+2.9**
	176nm,1.8s						
DZM	**Mont Dzumac**	**21.83**	**141**	*e*P	**P**	**20 42 46.5**	**-0.7**
	20nm,1.2s						
DZM	**Mont Dzumac**	**21.83**	**141**	P	**P**	**20 42 47.9**	**+0.6**
	4.5nm,1.0s,baz=342,slow=16,SNR=4.2						
DZM				LR	LR	20 50 24.4	
	comp=Z,637nm,19.9s,baz=286,slow=34						
WRAB	**Tennant Creek**	**22.25**	**228**	*e*P	**P**	**20 42 52.3**	**+0.7**
	32nm,0.7s						
WR1	**Warramunga Arr**	**22.26**	**228**	*e*P	**P**	**20 42 52.3**	**+0.4**
	52nm,1.1s						
WR1				*e*PcP	**PcP**	**20 46 47.0**	**+0.1**
WR1				*e*S	**S**	**20 46 52.9**	**-1.4**
WR1				*e*ScP	**ScP**	**20 50 20.3**	**-0.6**
WR1				*e*		20 53 20.1	
WRA	**Warramunga Arr**	**22.26**	**228**	P	**P**	**20 42 52.3**	**+0.4**
	11nm,0.7s,baz=52,slow=10,SNR=83						
WRA				PcP	**PcP**	**20 46 47.0**	**+0.1**
	0.9nm,0.6s,baz=42,slow=1.8,SNR=3.1						
WRA				S	**S**	**20 46 52.9**	**-1.4**
	8.9nm,1.2s,baz=56,slow=20,SNR=5.8						
WRA				ScP	**ScP**	**20 50 20.3**	**-0.6**
	1.1nm,0.9s,baz=50,slow=2.8,SNR=7.1						
WRA				LR	LR	20 53 20.1	
	comp=Z,238nm,18.1s,baz=30,slow=41						
ARMA	**Armidale**	**24.88**	**180**	*e*P	**P**	**20 43 17.0**	**-0.1**
	37nm,1.5s						
AS01	**Alice Springs**	**24.97**	**222**	*e*P	**P**	**20 43 18.4**	**+0.4**
AS31	**Alice Springs**	**25.00**	**222**	*e*P	**P**	**20 43 19.1**	**+0.8**
	11nm,0.8s						
ASAR	**Alice Springs**	**25.00**	**222**	P	**P**	**20 43 18.4**	**+0.1**
	15nm,0.9s,baz=58,slow=8.5,SNR=108						
ASAR				ScP	**ScP**	**20 50 28.5**	**+0.2**
	0.4nm,0.8s,baz=53,slow=3.7,SNR=3.2						
ASAR				LR	LR	20 54 07.4	
	comp=Z,215nm,19.6s,baz=84,slow=39						
SOEI	**Soe**	**27.58**	**259**	*e*P	**P**	**20 43 42.6**	**+0.9**
	42nm,0.9s						
STKA	**Stephens Creek**	**28.00**	**199**	*e*P	**P**	**20 43 45.3**	**+0.1**
	1.4nm,0.8s						
STKA	**Stephens Creek**	**28.00**	**199**	P	**P**	**20 43 44.6**	**-0.5**
	1.2nm,0.7s,baz=354,slow=9.2,SNR=2.7						
STKA				LR	LR	20 55 16.7	
	comp=Z,299nm,19.3s,baz=20,slow=37						
BATI	**Baumata**	**28.22**	**259**	P	**P**	**20 43 47.8**	**+0.4**
	45nm,0.8s,baz=87,slow=3.3,SNR=7.0						
BATI				LR	LR	20 57 35.8	
	comp=Z,457nm,18.6s,baz=108,slow=42						
FITZ	**Fitzroy Crossi**	**28.45**	**241**	*e*P	**P**	**20 43 49.3**	**-0.1**
	24nm,1.0s						
FITZ	**Fitzroy Crossi**	**28.45**	**241**	P	**P**	**20 43 49.1**	**-0.3**
	23nm,1.0s,baz=59,slow=9.3,SNR=32						
FITZ				LR	LR	20 56 56.5	
	comp=Z,166nm,19.1s,baz=94,slow=40						
DAV	**Davao City (W)**	**28.91**	**295**	LR	LR	20 55 11.2	
	comp=Z,288nm,18.3s,baz=122,slow=36						
CAN	**Canberra**	**29.88**	**185**	*e*P	**P**	**20 44 02.8**	**+1.0**
	42nm,1.6s						
BBOO	**Buckleboo**	**30.94**	**206**	*e*P	**P**	**20 44 11.1**	**-0.2**
	74nm,1.9s						
TOO	**Toolangi**	**32.52**	**189**	*e*P	**P**	**20 44 24.6**	**-0.5**
	26nm,1.3s						
JCJ	**Chichijima**	**33.61**	**344**	LR	LR	20 56 26.6	
	comp=Z,207nm,21.8s,baz=116,slow=33						
FORT	**Forrest**	**33.66**	**219**	*e*P	**P**	**20 44 34.4**	**-0.8**
	18nm,0.7s						
PSAD2	**Pilbara Seismi**	**34.74**	**239**	*e*P	**P**	**20 44 43.9**	**-0.7**
	52nm,1.4s						
PSAC2	**Pilbara Seismi**	**34.77**	**239**	*e*P	**P**	**20 44 44.8**	**-0.2**
	38nm,1.2s						
PSAD1	**Pilbara Seismi**	**34.79**	**240**	*e*P	**P**	**20 44 44.5**	**-0.5**
	34nm,1.1s						
PSAB2	**Pilbara Seismi**	**34.80**	**240**	*e*P	**P**	**20 44 46.5**	**+1.3**
	26nm,1.1s						
PSAA3	**Pilbara Seismi**	**34.82**	**239**	*e*P	**P**	**20 44 46.9**	**+1.6**
	91nm,1.7s						
PSAA2	**Pilbara Seismi**	**34.82**	**240**	*e*P	**P**	**20 44 46.4**	**+1.1**
	23nm,1.0s						
PSA00	**Pilbara Seismi**	**34.82**	**239**	*e*P	**P**	**20 44 46.0**	**+0.7**
	104nm,1.8s						
PSAB3	**Pilbara Seismi**	**34.82**	**239**	*e*P	**P**	**20 44 45.1**	**-0.3**
	38nm,1.4s						
PSAA1	**Pilbara Seismi**	**34.83**	**239**	*e*P	**P**	**20 44 45.8**	**+0.4**
	62nm,1.4s						
PSAC1	**Pilbara Seismi**	**34.84**	**240**	*e*P	**P**	**20 44 46.5**	**+1.0**
	64nm,1.5s						
PSAB1	**Pilbara Seismi**	**34.84**	**240**	*e*P	**P**	**20 44 45.4**	**-0.1**
	27nm,1.1s						
PSAC3	**Pilbara Seismi**	**34.86**	**239**	*e*P	**P**	**20 44 45.9**	**+0.3**
	65nm,1.6s						
PSAD3	**Pilbara Seismi**	**34.91**	**239**	*e*P	**P**	**20 44 45.6**	**-0.4**
	68nm,1.6s						
JAGI	**Jajag, Banyuwa**	**37.44**	**263**	*e*P	**P**	**20 45 07.0**	**-0.8**
	24nm,1.0s						
TAU	**Tasmania Unive**	**37.55**	**185**	*e*P	**P**	**20 45 08.3**	**0.0**
	88nm,1.4s						
JHJ	**Hachijo jima 2**	**39.96**	**344**	LR	LR	21 00 27.6	
	comp=Z,82nm,18.6s,baz=193,slow=34						
URZ	**Urewera**	**40.01**	**148**	*e*P	**P**	**20 45 30.3**	**+1.3**
	19nm,1.2s						
URZ				*e*		20 59 19.1	
URZ	**Urewera**	**40.01**	**148**	LR	LR	20 59 19.1	
	comp=Z,200nm,19.4s,baz=306,slow=32						
GIRL	**Giralia**	**40.06**	**241**	*e*P	**P**	**20 45 30.3**	**+0.6**
	428nm,1.4s						
YULB	**Yu-li**	**41.27**	**315**	*e*P	**P**	**20 45 39.5**	**-0.1**
	55nm,1.6s						
BFZ	**Birch Farm**	**41.43**	**152**	*e*P	**P**	**20 45 38.8**	**-1.8**
	50nm,1.4s						
KHZ	**Kahutara**	**41.62**	**156**	*e*P	**P**	**20 45 41.0**	**-1.2**
	128nm,1.9s						
SSLB	**Suanglung**	**41.77**	**315**	*e*P	**P**	**20 45 42.8**	**-0.9**
	91nm,1.9s						
RPZ	**Rata Peaks**	**41.77**	**159**	*e*P	**P**	**20 45 43.5**	**+0.1**
	102nm,1.9s						
NWAO	**Narrogin (SRO)**	**42.22**	**225**	LR	LR	21 03 47.1	
	comp=Z,205nm,19.8s,baz=84,slow=37						
MLZ	**Mavora Lakes**	**42.28**	**163**	*e*P	**P**	**20 45 47.6**	**-0.1**
	113nm,1.7s						
MQZ	**McQueen's Vall**	**42.36**	**157**	*e*P	**P**	**20 45 48.5**	**+0.3**
	52nm,1.6s						
JNU	**Nakatsue**	**43.13**	**334**	*e*P	**P**	**20 45 54.5**	**-0.2**
JNU				*e*		21 02 33.8	
JNU	**Nakatsue**	**43.13**	**334**	P	**P**	**20 45 56.1**	**+1.4**
	8.2nm,0.7s,baz=101,slow=5.2,SNR=7.5						
JNU				LR	LR	21 02 33.8	
	comp=Z,92nm,20.0s,baz=182,slow=34						
MJAR	**Matsushiro Arr**	**43.62**	**344**	P	**P**	**20 45 59.5**	**+1.0**
	1.4nm,0.6s,baz=168,slow=9.0,SNR=4.4						
MJAR				LR	LR	21 02 55.5	
	comp=Z,151nm,20.6s,baz=210,slow=34						
MAJO	**Matsushiro**	**43.62**	**344**	*e*P	**P**	**20 45 59.5**	**+1.0**
MAJO				*e*		21 02 55.5	
CISI	**Cisompet, Garu**	**43.69**	**265**	*e*P	**P**	**20 45 57.7**	**-1.8**
	166nm,1.7s						
QIZ	**Qiongzhong**	**47.89**	**302**	P	**P**	**20 46 33.5**	**+1.0**
QIZ				S	**S**	**20 53 27.3**	**+0.4**
KSRS	**Korea Array**	**48.08**	**334**	P	**P**	**20 46 34.4**	**+0.8**
	1.7nm,0.9s,baz=154,slow=9.3,SNR=5.3						
KSRS				LR	LR	21 05 09.2	
	comp=Z,86nm,21.2s,baz=160,slow=34						
KS15	**Wonju Array Si**	**48.09**	**334**	*e*P	**P**	**20 46 34.4**	**+0.7**
	33nm,1.5s						
KS15				*e*		21 05 09.2	
KSAR	**Wonju Array Be**	**48.09**	**334**	P	**P**	**20 46 34.4**	**+0.7**
NJ2	**Nanjing**	**48.67**	**322**	*e*P	**P**	**20 46 38.5**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USRK	**Ussuriysk Ar.**	**52.49**	**342**	LR	LR	21 09 34.0	
	comp=Z,86nm,18.3s,baz=156,slow=36						
ENH	**Enshi**	**53.81**	**314**	*e*P	**P**	**20 47 16.9**	**0.0**
	16nm,1.1s						
GYA	**Guiyang**	**53.94**	**308**	*e*P	**P**	**20 47 20.3**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GSI	**Gunungsitoli**	**54.52**	**275**	*e*P	**P**	**20 47 22.7**	**+0.4**
	25nm,1.4s						
KMI	**Kunming**	**56.47**	**305**	P	**P**	**20 47 38.0**	**+1.6**
KMI				pmax	pmax		
	comp=Z,16nm,0.6s						
KLR	**Kul'dur**	**57.14**	**345**	P	**P**	**20 47 40.1**	**-0.4**
	1.4nm,0.7s,baz=180,slow=8.1,SNR=6.0						
CM01	**Chiang Mai Arr**	**57.17**	**296**	*e*P	**P**	**20 47 41.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**57.20**	**296**	P	**P**	**20 47 42.1**	**+0.7**
	2.2nm,0.8s,baz=120,slow=5.3,SNR=16						
CMAR				LR	LR	21 12 46.2	
	comp=Z,56nm,18.5s,baz=127,slow=36						
CMMT	**Chiang Mai**	**57.31**	**296**	P	**P**	**20 47 44.5**	**+2.2**
	8.5nm,1.4s						
CHTO	**Chiang Mai**	**57.31**	**296**	*e*P	**P**	**20 47 43.2**	**+0.9**
	11nm,1.1s						
CHTO	**Chiang Mai**	**57.31**	**296**	P	**P**	**20 47 44.5**	**+2.2**
	37nm,1.4s						
CD2	**Chengdu**	**58.34**	**311**	P	**P**	**20 47 49.8**	**+0.4**
CD2				sP	sP	20 48 17.0	+9.3
CD2				S	**S**	**20 55 45.3**	**-3.7**
CD2				sS	sS	20 56 15.8	+5.2
CD2				SS	**SS**	**20 59 43.0**	**+1.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,130nm,7.8s						
CD2				LR	LR		
	comp=N,380nm,7.9s						
CD2				LR	LR		
	comp=E,340nm,6.9s						
CD2				LR	LR		
	comp=Z,250nm,16.4s						
PEA0B	**Petropavlovsk-**	**58.51**	**4**	*e*P	**P**	**20 47 50.2**	**+0.2**
	199nm,1.7s						
PETK	**Petropavlovsk-**	**58.51**	**4**	P	**P**	**20 47 50.3**	**+0.3**
	3.4nm,0.8s,baz=167,slow=8.1,SNR=4.3						
PEA1	**Petropavlovsk-**	**58.52**	**4**	*e*P	**P**	**20 47 50.3**	**+0.3**
HHC	**Hu-ho-hao-te**	**58.94**	**325**	*e*P	**P**	**20 47 56.5**	**+3.1**
HHC				S	**S**	**20 55 56.5**	**0.0**
HHC				sS	sS	20 56 26.8	+8.7
HHC				ScS	**ScS**	**20 57 38.5**	**-1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,140nm,5.4s						
HHC				LR	LR		
	comp=N,230nm,15.3s						
HHC				LR	LR		
	comp=E,170nm,14.1s						
HHC				LR	LR		
	comp=Z,510nm,16.5s						
LZH	**Lanzhou**	**60.94**	**317**	*e*P	**P**	**20 48 12.0**	**+4.7**
LZH				pP	sP	20 48 28.3	+2.6
LZH				sP	PcP	20 48 35.8	-15
LZH				pmax	pmax		
	comp=Z,20nm,1.0s						
GTA	**Gaotai**	**65.40**	**318**	*e*P	**P**	**20 48 37.8**	**+1.1**
GTA				pP	sP	20 48 54.0	-1.2
GTA				sP	PcP	20 49 01.0	-7.5
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
SHL	**Shillong**	**65.72**	**301**	*e*P	**P**	**20 48 39.0**	**-0.1**
	14nm,1.1s						
ULN	**Ulaanbaatar**	**65.96**	**329**	*e*P	**P**	**20 48 40.2**	**-0.1**
	6.2nm,1.1s						
SONA0	**Songino Array**	**66.29**	**328**	*e*P	**P**	**20 48 42.8**	**+0.5**
SONA0				*e*		21 16 12.1	
SONM	**Songino Array**	**66.29**	**328**	P	**P**	**20 48 42.7**	**+0.5**
	3.5nm,0.6s,baz=146,slow=5.2,SNR=55						
SONM				LR	LR	21 16 12.1	
	comp=Z,104nm,21.2s,baz=116,slow=35						
LSA	**Lhasa**	**67.72**	**305**	*e*P	**P**	**20 48 52.7**	**+0.5**
	4.5nm,0.8s						
TAPN	**Taplejung**	**69.83**	**302**	*e*P	**P**	**20 49 05.6**	**+0.4**
	108nm,1.0s						
ODAN	**Odare**	**69.95**	**301**	*e*P	**P**	**20 49 05.7**	**-0.2**
JIRN	**Jiri**	**71.21**	**301**	*e*P	**P**	**20 49 13.3**	**-0.4**
	12nm,0.7s						
GUN	**Gumba**	**71.54**	**302**	*e*P	**P**	**20 49 15.8**	**+0.1**
	29nm,0.8s						
PKI	**Pulchoki**	**71.85**	**301**	*e*P	**P**	**20 49 16.8**	**-0.7**
	8.7nm,0.9s						
PKIN	**Phulchoki**	**71.86**	**301**	*e*P	**P**	**20 49 16.8**	**-0.7**
PALK	**Pallekele**	**72.00**	**279**	*e*P	**P**	**20 49 17.5**	**-0.8**
	20nm,1.4s						
KKN	**Kakani**	**72.02**	**301**	*e*P	**P**	**20 49 17.7**	**-0.7**
	14nm,0.8s						
DMN	**Daman**	**72.12**	**301**	*e*P	**P**	**20 49 19.0**	**0.0**
	27nm,0.9s						
VNDA	**Vanda**	**72.27**	**178**	*e*P	**P**	**20 49 17.1**	**-1.5**
VNDA	**Vanda**	**72.27**	**178**	P	**P**	**20 49 18.1**	**-0.5**
	0.6nm,0.6s,baz=307,slow=5.1,SNR=3.0						
KOLN	**Koldanda**	**73.44**	**301**	*e*P	**P**	**20 49 26.3**	**-0.5**
	15nm,0.7s						
DANN	**Dangsing**	**73.46**	**302**	*e*P	**P**	**20 49 26.6**	**-0.4**
	19nm,0.8s						
PYUN	**Piuthan**	**74.05**	**301**	*e*P	**P**	**20 49 29.4**	**-1.0**
	29nm,0.8s						
WMQ	**Urumqi**	**75.48**	**318**	*e*P	**P**	**20 49 38.5**	**+0.4**
WMQ				pP	pP	20 49 52.0	+0.4
WMQ				pmax	pmax		
	comp=Z,18nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,250nm,6.1s						
WMQ				LR	LR		
	comp=N,160nm,18.3s						
WMQ				LR	LR		
	comp=E,130nm,19.3s						
WMQ				LR	LR		
	comp=Z,120nm,21.1s						
HYB	**Hyderabad**	**75.70**	**289**	*i* P	**P**	**20 49 40.0**	**+0.1**
SII	**Sitkinak Islan**	**75.79**	**28**	*e*P	**P**	**20 49 40.0**	**+0.4**
	180nm,1.6s						
SVW2	**Sparrevohn**	**77.79**	**23**	*e*P	**P**	**20 49 51.2**	**+0.5**
	42nm,1.8s						
TIXI	**Tiksi**	**78.36**	**353**	P	**P**	**20 49 52.6**	**-1.1**
	0.6nm,0.5s,baz=116,slow=3.0,SNR=3.6						
BRLK	**Bradley Lake**	**78.99**	**26**	*e*P	**P**	**20 49 57.6**	**+0.2**
	202nm,1.8s						
SEW	**Seward**	**79.79**	**26**	*e*P	**P**	**20 50 00.7**	**-0.9**
	332nm,2.0s						
SUA	**Susitna One**	**79.94**	**24**	*e*P	**P**	**20 50 01.6**	**-1.0**
	43nm,1.6s						
MK01	**Makanchi Array**	**80.08**	**319**	*e*P	**P**	**20 50 03.3**	**-0.3**
MK31	**Makanchi Array**	**80.10**	**319**	*e*P	**P**	**20 50 03.1**	**-0.6**
	3.6nm,1.0s						
MK32	**Makanchi Array**	**80.10**	**319**	*e*P	**P**	**20 50 03.5**	**-0.2**
MKAR	**Makanchi Array**	**80.10**	**319**	P	**P**	**20 50 03.5**	**-0.3**
	3.0nm,0.8s,baz=105,slow=6.5,SNR=28						
PPLA	**Purkeypile**	**80.13**	**23**	*e*P	**P**	**20 50 02.7**	**-1.0**
	65nm,1.9s						
RC01	**Rabbit Creek A**	**80.16**	**25**	*e*P	**P**	**20 50 03.3**	**-0.4**
	80nm,1.8s						
MAKZ	**Makanchi**	**80.31**	**319**	*e*P	**P**	**20 50 04.2**	**-0.6**
	5.5nm,0.9s						
CAST	**Castle Rocks**	**80.46**	**22**	*e*P	**P**	**20 50 04.2**	**-1.1**
	45nm,2.0s						
GHO	**Glory Hole Cre**	**80.84**	**24**	*e*P	**P**	**20 50 07.0**	**-0.4**
	101nm,1.8s						
KNK	**Knik Glacier**	**80.86**	**25**	*e*P	**P**	**20 50 07.6**	**+0.2**
	68nm,1.6s						
ZAA0	**Zalesovo Array**	**81.08**	**327**	*e*P	**P**	**20 50 07.5**	**-1.2**
	4.3nm,1.0s						
ZALV	**Zalesovo Beam**	**81.08**	**327**	P	**P**	**20 50 07.6**	**-1.1**
	1.9nm,0.4s,baz=116,slow=5.8,SNR=13						
ZALV				LR	LR	21 25 42.7	
	comp=Z,88nm,20.4s,baz=68,slow=35						
ZAA1	**Zalesovo Array**	**81.08**	**327**	*e*P	**P**	**20 50 07.6**	**-1.2**
ZAA1				*e*		21 25 42.7	
SML	**Sawmill**	**81.11**	**25**	*e*P	**P**	**20 50 08.7**	**-0.1**
	66nm,1.6s						
TRF	**Thorofare Moun**	**81.16**	**23**	*e*P	**P**	**20 50 09.4**	**+0.2**
	66nm,2.0s						
BPAW	**Bear Paw Mtn.**	**81.24**	**22**	*e*P	**P**	**20 50 09.2**	**-0.3**
	23nm,1.7s						
IM3	**Indian Mountai**	**81.30**	**20**	*e*P	**P**	**20 50 09.9**	**+0.2**
PRZ	**Przheval'sk**	**81.49**	**314**	*e*P	**P**	**20 50 12.2**	**+0.7**
	13nm,1.0s						
SCM	**Sheep Creek Mo**	**81.54**	**25**	*e*P	**P**	**20 50 11.9**	**+0.8**
	108nm,1.6s						
RND	**Reindeer**	**81.69**	**23**	*e*P	**P**	**20 50 11.6**	**-0.3**
	30nm,1.7s						
MCK	**McKinley**	**81.82**	**23**	*e*P	**P**	**20 50 12.1**	**-0.4**
	16nm,1.2s						
MLY	**Manley**	**81.82**	**21**	*e*P	**P**	**20 50 12.6**	**+0.1**
	20nm,1.6s						
BWN	**Browne**	**81.84**	**22**	*e*P	**P**	**20 50 12.5**	**-0.1**
	55nm,1.6s						
KLU	**Klutina**	**81.97**	**25**	*e*P	**P**	**20 50 11.3**	**-2.1**
	96nm,1.8s						
DHY	**Denali Highway**	**82.11**	**24**	*e*P	**P**	**20 50 12.1**	**-2.1**
	39nm,1.8s						
WRH	**Wood River Hil**	**82.51**	**22**	*e*P	**P**	**20 50 14.3**	**-1.7**
	34nm,1.9s						
MDM	**Murphy Dome**	**82.70**	**22**	*e*P	**P**	**20 50 17.0**	**-0.1**
	21nm,1.8s						
CCB	**Clear Creek Bu**	**82.71**	**22**	*e*P	**P**	**20 50 16.4**	**-0.7**
	23nm,1.8s						
PAX	**Paxson**	**82.83**	**24**	*e*P	**P**	**20 50 17.2**	**-0.7**
	34nm,1.8s						
HDA	**Harding Lake**	**82.92**	**23**	*e*P	**P**	**20 50 17.4**	**-0.8**
	28nm,1.8s						
NRN	**Naryn**	**82.96**	**313**	*e*P	**P**	**20 50 18.9**	**-0.5**
	3.2nm,1.0s						
ILAR	**Eielson Array**	**83.11**	**22**	P	**P**	**20 50 18.3**	**-0.9**
	2.5nm,0.8s,baz=249,slow=4.4,SNR=20						
ILAR				LR	LR	21 25 05.8	
	comp=Z,88nm,18.9s,baz=12,slow=34						
ILB	**Eielson Array**	**83.11**	**22**	*e*P	**P**	**20 50 18.5**	**-0.7**
	8.7nm,1.3s						
IL1	**Eielson Array**	**83.11**	**22**	*e*P	**P**	**20 50 18.2**	**-1.0**
COLD	**Coldfoot**	**83.17**	**19**	*e*P	**P**	**20 50 19.8**	**+0.3**
	13nm,1.9s						
BALM	**Baldy**	**83.33**	**27**	*e*P	**P**	**20 50 20.9**	**+0.3**
	25nm,1.3s						
RIDG	**Independ'e Rid**	**83.43**	**24**	*e*P	**P**	**20 50 20.9**	**-0.1**
	37nm,1.8s						
NIL	**Nilore**	**83.46**	**305**	*e*P	**P**	**20 50 20.9**	**-0.9**
	11nm,0.6s						
TKM2	**Tokmak 2**	**83.60**	**314**	P	**P**	**20 50 22.6**	**+0.1**
	SNR=8.8						
KURK	**Kurchatov**	**83.61**	**322**	*e*P	**P**	**20 50 21.3**	**-0.7**
	6.3nm,0.9s						
KURBB	**Kurchatov Arra**	**83.63**	**322**	P	**P**	**20 50 21.5**	**-0.7**
	2.3nm,0.8s,baz=112,slow=3.9,SNR=18						
KZA	**Kyzart**	**83.66**	**313**	P	**P**	**20 50 24.0**	**+1.0**
	SNR=22						
SCRK	**Sand Creek**	**83.88**	**24**	*e*P	**P**	**20 50 23.1**	**-0.2**
	13nm,1.5s						
TOLK	**Toolik Lake Re**	**84.12**	**18**	*e*P	**P**	**20 50 24.4**	**0.0**
	24nm,1.8s						
TOLK	**Toolik Lake Re**	**84.12**	**18**	P	**P**	**20 50 25.1**	**+0.7**
	baz=239						
CHMS	**Chumysh**	**84.22**	**314**	P	**P**	**20 50 25.9**	**+0.5**
	SNR=5.4						
UCH	**Uchtor**	**84.22**	**313**	P	**P**	**20 50 27.2**	**+1.2**
	SNR=9.9						
AAK	**Ala-Archa**	**84.33**	**314**	P	**P**	**20 50 26.9**	**+0.7**
	SNR=6.1				

J05D	**Fort Rock, OR** baz=264	**91.50**	**47**	P		**P**	**20 51 01.2 +0.7**
CMB	**Columbia Colle** 16nm,1.8s	**91.61**	**52**	*e*P		**P**	**20 51 00.8 -0.3**
K05A	**Summer Lake** 14nm,0.9s	**91.69**	**47**	*e*P		**P**	**20 51 02.0 +0.5**
PINE	**Pine Mountain** 13nm,0.9s	**91.76**	**46**	*e*P		**P**	**20 51 02.3 +0.5**
MOD	**Modoc Plateau** 6.4nm,0.8s	**92.04**	**48**	*e*P		**P**	**20 51 03.8 +0.6**
MDPB	**Devils Postpil** 5.6nm,1.2s	**92.61**	**53**	*e*P		**P**	**20 51 06.1 +0.1**
I07A	**Izee** 7.2nm,0.9s	**92.82**	**46**	*e*P		**P**	**20 51 06.8 +0.2**
RYN	**Ryan** 5.7nm,1.1s	**93.12**	**52**	*e*P		**P**	**20 51 08.6 +0.4**
EDW2	**Edwards Air Fo** baz=266	**93.26**	**55**	P		**P**	**20 51 10.2 +1.4**
NV01	**Mina Array Sit**	**93.28**	**52**	*e*P		**P**	**20 51 09.1 +0.1**
NVAR	**Mina Array Bea** 4.4nm,0.8s,baz=253,slow=6.7,SNR=29	**93.28**	**52**	P		**P**	**20 51 09.5 +0.5**
NVAR	comp=Z,124nm,18.9s,baz=306,slow=33			LR		LR	21 28 53.1
G08A	**Pilot Rock** 6.5nm,1.1s	**93.30**	**45**	*e*P		**P**	**20 51 09.0 +0.2**
CWC	**Cottonwood Cre** baz=266	**93.31**	**54**	P		**P**	**20 51 10.1 +1.0**
WVOR	**Wild Horse Val** 6.9nm,1.0s	**93.32**	**48**	*e*P		**P**	**20 51 09.5 +0.6**
NV11	**Mina Array Sit** 0.4nm,0.9s	**93.40**	**52**	*e*P		**P**	**20 51 09.7 +0.3**
KVN	**Kaiserville** 5.9nm,1.1s	**93.48**	**51**	*e*P		**P**	**20 51 10.1 +0.2**
LRMC	**Laurel Mtn Rad** baz=266	**93.56**	**55**	P		**P**	**20 51 11.7 +1.5**
MPMC	**Manual Prospec** baz=266	**93.76**	**54**	P		**P**	**20 51 12.3 +1.1**
E09A	**Wood Farm, Sta** 6.5nm,0.9s	**93.95**	**44**	*e*P		**P**	**20 51 12.1 +0.5**
MONP2	**Monument Peak** baz=266	**94.43**	**58**	P		**P**	**20 51 16.1 +1.7**
BMO	**Blue Mountains** 5.1nm,1.1s	**94.44**	**46**	*e*P		**P**	**20 51 13.9 -0.2**
F10A	**Beach Ranch, E** 4.7nm,0.8s	**94.56**	**44**	*e*P		**P**	**20 51 14.0 -0.5**
SHOC	**Shoshone, Teco** baz=267	**94.73**	**55**	P		**P**	**20 51 16.5 +1.0**
NEW	**Newport** 7.2nm,1.1s	**94.75**	**42**	*e*P		**P**	**20 51 14.7 -0.5**
NEW	**Newport** baz=267	**94.75**	**42**	P		**P**	**20 51 15.9 +0.6**
TPNV	**Topopah Spring** 6.5nm,1.0s	**94.81**	**53**	*e*P		**P**	**20 51 15.9 -0.1**
TPNV	**Topopah Spring** baz=267	**94.81**	**53**	P		**P**	**20 51 17.1 +1.1**
TUQ	**Turquoise Moun** baz=267	**94.99**	**55**	P		**P**	**20 51 18.0 +1.2**
ABKAR	**Akbulak array** 2.9nm,1.0s	**95.24**	**319**	*e*P		**P**	**20 51 15.9 -1.5**
R11A	**Troy Canyon, C** 5.5nm,1.3s	**95.41**	**52**	*e*P		**P**	**20 51 19.5 +0.8**
R11A	**Troy Canyon, C** baz=267	**95.41**	**52**	P		**P**	**20 51 19.6 +0.9**
IRM	**Iron Mountain** baz=267	**95.57**	**56**	P		**P**	**20 51 21.4 +2.1**
ELK	**Elko** 15nm,2.0s	**95.77**	**50**	*e*P		**P**	**20 51 20.6 +0.2**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=266,slow=4.7,SNR=8.2	**96.45**	**28**	P		**P**	**20 51 22.0 -0.6**
YKB5	**Yellowknife Ar**	**96.45**	**28**	*e*P		**P**	**20 51 22.3 -0.3**
HLID	**Hailey** baz=269	**96.47**	**47**	P		**P**	**20 51 23.1 -0.4**
DUG	**Dugway, Tooele** baz=269	**97.61**	**50**	P		**P**	**20 51 28.4 -0.3**
BOZ	**Bozeman (W)** baz=271	**98.47**	**45**	P		Pdif	20 51 32.6 +0.2
TMUT	**Trail Mountain** 11nm,0.3s	**98.84**	**51**	*e*P		Pdif	20 51 34.8 +0.4
MOOW	**Moose Ponds** 9.4nm,2.0s	**99.13**	**47**	*e*P		**Pdif**	**20 51 35.6 +0.2**
BW06	**Boulder Array** baz=272	**100.03**	**48**	P		**Pdif**	**20 51 39.4 -0.1**
PDAR	**Pinedale Array** 2.2nm,0.9s,baz=259,slow=3.0,SNR=11	**100.03**	**48**	P		**Pdif**	**20 51 38.9 -0.6**
FIA0	**FINESS Array S**	**111.17**	**335**	*e*PKiKP		**PKiKP**	**20 56 26.1 -0.8**
FINES	**FINESS Array B** 1.2nm,0.7s,baz=62,slow=3.3,SNR=3.4	**111.17**	**335**	PKiKP		**PKiKP**	**20 56 26.1 -0.8**
BR101	**Keskin Array S**	**114.92**	**311**	*e*PKiKP		**PKiKP**	**20 56 34.0 -0.9**
BRTR	**Keskin Array B** 1.1nm,0.8s,baz=119,slow=2.6,SNR=4.9	**114.92**	**311**	PKP		**PKiKP**	**20 56 34.0 -0.9**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.7s,baz=44,slow=1.9	**117.12**	**340**	PKPdf		**PKPdf**	**20 56 37.1 -1.3**
NB200	**NORSAR Array S**	**117.12**	**340**	*e*PKPdf		**PKPdf**	**20 56 36.3 -2.2**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=47,slow=1.8,SNR=4.4	**117.12**	**340**	PKP		**PKPdf**	**20 56 36.3 -2.2**
PLCA	**Paso Flores**	**119.92**	**144**	*e*PKPdf		**PKPdf**	**20 56 43.8 -0.7**
PLCA	**Paso Flores** comp=Z,0.7nm,0.6s,baz=228,slow=4.0,SNR=5.1	**119.92**	**144**	PKP		**PKPdf**	**20 56 43.4 -1.1**
VTS	**Vitosha**	**121.39**	**317**	*e*PKPdf		**PKPdf**	**20 56 47.3 -0.1**
Q53A	**Leroy** baz=291	**121.55**	**47**	P		**PKPdf**	**20 56 47.5 -0.1**
U53A	**Fall Branch** baz=288	**121.59**	**50**	P		**PKiKP**	**20 56 48.0 +0.1**
Q54A	**Coxs Mills** baz=291	**122.01**	**47**	P		**PKPdf**	**20 56 48.5 0.0**
H55A	**Tweed** baz=298	**122.21**	**40**	P		**PKPdf**	**20 56 48.4 -0.2**
BRG	**Berggiesshubel** comp=Z,6.1nm,1.1s	**122.67**	**330**	*e*PKP		**PKiKP**	**20 56 49.5 -0.1**
BRG	comp=Z,5.1nm,1.2s			*e*			20 56 59.5
IDI	**Anoyia** comp=Z,6.3nm,0.9s,baz=6.4,slow=5.0,SNR=4.5	**122.85**	**309**	PKP		**PKPdf**	**20 56 49.6 -0.7**
CLL	**Collm**	**122.87**	**330**	*e*PKPdf		**PKPdf**	**20 56 49.5 -0.2**
CLL	**Collm**	**122.87**	**330**	*e*PKPdf		**PKPdf**	**20 56 49.0 -0.7**
CONA	**Conrad Observa** comp=Z,2.7nm,0.7s	**123.37**	**326**	*i* PKiKP		**PKPdf**	**20 56 50.7 -0.2**
FNA	**Florina**	**123.41**	**316**	*e*PKPdf		**PKPdf**	**20 56 50.1 -1.1**
KHC	**Kasperske Hory**	**123.91**	**328**	*e*PKP		**PKPdf**	**20 56 51.0 -0.8**
GEC2	**GERESS Array S**	**124.02**	**328**	*e*PKPdf		**PKPdf**	**20 56 52.0 -0.1**
GERES	**GERESS Array B** comp=Z,2.3nm,0.6s,baz=67,slow=2.1,SNR=32	**124.02**	**328**	PKP		**PKPdf**	**20 56 51.5 -0.6**
GEA0	**GERESS Array S**	**124.02**	**328**	*e*PKPdf		**PKPdf**	**20 56 51.6 -0.5**
SOKA	**Soboth** comp=Z,7.8nm,1.7s	**124.54**	**325**	PKiKP		**PKiKP**	**20 56 53.4 -0.1**
ABTA	**Abfaltersbach** comp=Z,2.4nm,0.7s	**125.91**	**326**	*e*PKPdf		**PKPdf**	**20 56 54.1 -1.7**
WTTA	**Wattenberg** comp=Z,7.3nm,1.3s	**126.08**	**327**	PKiKP		**PKPdf**	**20 56 55.9 -0.3**
MOTA	**Moosalm** comp=Z,2.5nm,0.5s	**126.31**	**328**	*i* PKiKP		**PKPdf**	**20 56 56.5 -0.1**
SQTA	**Sankt Quirin** comp=Z,4.2nm,0.8s	**126.33**	**327**	*i* PKiKP		**PKPdf**	**20 56 56.5 -0.2**
FETA	**Feichten** comp=Z,4.8nm,0.8s	**126.71**	**328**	*i* PKiKP		**PKPdf**	**20 56 57.0 -0.4**
DAVOX	**Davos/Dischmat** comp=Z,2.5nm,0.6s,baz=286,slow=7.4,SNR=5.9	**127.32**	**328**	PKP		**PKPdf**	**20 56 57.7 -0.9**
KEST	**Kesra**	**134.13**	**316**	*e*PKPdf		**PKPdf**	**20 57 10.8 -0.9**
KEST	**Kesra** comp=Z,1.8nm,0.5s,baz=211,slow=1.8,SNR=6.0	**134.13**	**316**	PKP		**PKPdf**	**20 57 11.7 0.0**
LPAZ	**La Paz**	**135.04**	**119**	*e*PKPdf		**PKPdf**	**20 57 14.8 +0.2**
LPAZ	**La Paz** comp=Z,1.5nm,0.7s,baz=258,slow=1.3,SNR=6.2	**135.04**	**119**	PKP		**PKPdf**	**20 57 14.2 -0.4**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.6s,baz=6.3,slow=2.8,SNR=2.9	**139.46**	**331**	PKP		**PKPdf**	**20 57 21.2 -0.3**
PTGA	**Pitinga**	**147.74**	**100**	*e*PKPbc		**PKPbc**	**20 57 39.3 -0.1**
PTGA	**Pitinga** comp=Z,8.5nm,0.8s,baz=265,slow=4.1,SNR=13	**147.74**	**100**	PKPbc		**PKPbc**	**20 57 38.5 -1.0**
TOA0	**Torodi Ar. Sit**	**149.49**	**287**	*e*PKPbc		**PKPbc**	**20 57 42.0 -1.9**
TOA0				*ep*PKPdf		**pPKPdf**	**20 57 53.3 -0.1**
TORD	**Torodi Ar. Bea** comp=Z,17nm,0.9s,baz=24,slow=3.0,SNR=56	**149.49**	**287**	PKPbc		**PKPbc**	**20 57 41.8 -2.1**
TOA1	**Torodi Ar. Sit**	**149.49**	**287**	*e*PKPbc		**PKPbc**	**20 57 41.8 -2.1**
BDFB	**Brasilia**	**151.35**	**137**	*e*PKPbc		**PKPbc**	**20 57 48.0 -0.4**
BDFB				*e*PKPab		**PKPab**	**20 57 56.3 -0.2**
BDFB	**Brasilia** comp=Z,1.7nm,0.7s,baz=225,slow=2.1,SNR=10	**151.35**	**137**	PKPbc		**PKPbc**	**20 57 48.2 -0.3**
DBIC	**Dimbokro** comp=Z,3.1nm,0.9s,baz=65,slow=3.9,SNR=3.7	**156.70**	**274**	PKPab		**PKPab**	**20 58 19.6 +0.2**

*SJA **29** 20:41:25.4±1.0,21°.44S×70°.04W, h40km±2km, MD2.5*
*GUC **29** 20:41:26.2±0.6,21°.43S×69°.96W, h41km±2km, ML3.6*
*ISCJB **29** 20:41:27.4±0.6,21°.46S±0°.03×69°.92W±0°.07, h36km±6km, mb3.3/2, Error ellipse: s-maj=10.2km s-min=4.4km az=5.4*
*IDC **29** 20:41:33.0±1.6,21°.48S×68°.97W, h75km±15km, mb3.0/2, mb1 3.3/5, mb1mx3.2/34, mbtmp3.4/5, MS2.5/1, Ms1 2.6/1, ms1mx2.4/10, Error ellipse: s-maj=44.3km s-min=17.0km az=98.0*

ISC 29 20:41:25.8±1.1,21°.40S±0°.04×69°.98W±0°.08, h42km±6km, n26, σ1§23/36, 2C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PB02	**IPOC Station P**	**0.11**	**43**	*e*P		**Pn**	**20 41 33.3**	**+0.4**
PB02				*e*S		**Sn**	**20 41 38.6**	**+0.7**
PB02	**IPOC Station P**	**0.11**	**43**	⇑*i*P		**Pn**	**20 41 33.3**	**+0.4**
PB02				*e*S		**Sn**	**20 41 38.3**	**+0.4**
PB07	**IPOC Station P**	**0.33**	**165**	*e*P		**Pn**	**20 41 35.0**	**+0.2**
PB07				*e*S		**Sn**	**20 41 41.2**	**+0.1**
PB07	**IPOC Station P**	**0.33**	**165**	⇓*i*P		**Pn**	**20 41 35.0**	**+0.2**
PB07				*e*S		**Sn**	**20 41 41.0**	**-0.1**
PB07	comp=N,15μm,0.1s			IAML			20 41 41.5	
PB01	**IPOC Station P**	**0.58**	**52**	*e*P		**Pn**	**20 41 38.0**	**+0.2**
PB01				*e*S		**Sn**	**20 41 46.6**	**+0.3**
PB01	**IPOC Station P**	**0.58**	**52**	⇑*i*P		**Pn**	**20 41 37.8**	**0.0**
PB01				*e*S		**Sn**	**20 41 46.4**	**+0.1**
PB01	comp=E,7μm,0.2s			IAML			20 41 49.8	
PB03	**IPOC Station P**	**0.68**	**162**	*e*P		**Pn**	**20 41 39.3**	**+0.1**
PB03	**IPOC Station P**	**0.68**	**162**	⇓*i*P		**Pn**	**20 41 39.2**	**+0.1**
PB03				*e*S		**Sn**	**20 41 48.7**	**0.0**
PB03	comp=E,4μm,0.3s			IAML			20 41 49.0	
PB09	**IPOC Station P**	**0.79**	**120**	*e*P		**Pn**	**20 41 41.1**	**+0.4**
PB09	**IPOC Station P**	**0.79**	**120**	⇓*i*P		**Pn**	**20 41 41.0**	**+0.4**
PB09				*e*S		**Sn**	**20 41 51.9**	**+0.5**
PB09	comp=E,4μm,0.1s			IAML			20 41 53.4	
PB04	**IPOC Station P**	**0.94**	**190**	*e*P		**Pn**	**20 41 43.0**	**+0.2**
PB04	**IPOC Station P**	**0.94**	**190**	⇓*i*P		**Pn**	**20 41 42.9**	**+0.2**
PB04				*e*S		**Sn**	**20 41 56.1**	**+0.9**
PB04	comp=N,3μm,0.3s			IAML			20 42 03.7	
PB06	**IPOC Station P**	**1.35**	**164**	*e*P		**Pn**	**20 41 48.9**	**+0.5**
PB06	**IPOC Station P**	**1.35**	**164**	⇓*i*P		**Pn**	**20 41 48.7**	**+0.3**
PB06				*e*S		**Sn**	**20 42 06.5**	**+1.3**
PB05	**IPOC Station P**	**1.46**	**188**	*e*P		**Pn**	**20 41 50.5**	**+0.8**
LVC	**Limon Verde**	**1.56**	**141**	*e*P		**Pn**	**20 41 52.9**	**+1.6**
LVC	**Limon Verde** comp=N,82nm,0.3s,baz=341,slow=11,SNR=66	**1.56**	**141**	P		**Pn**	**20 41 53.0**	**+1.6**
LVC				S		**Sn**	**20 42 09.2**	**-1.3**
	comp=N,139nm,0.3s,baz=326,slow=7.4,SNR=26							
LVC				LR		LR	20 42 39.6	
	comp=N,170nm,18.2s,baz=357,slow=59							
PB11	**IPOC Station P**	**1.66**	**11**	*e*P		**Pn**	**20 41 54.4**	**+1.7**
PB15	**IPOC Station P**	**1.86**	**165**	*e*P		**Pn**	**20 41 56.6**	**+1.2**
GO01	**Chusmiza**	**1.88**	**23**	⇓*i*P		**Pn**	**20 41 57.8**	**+1.9**
GO01				*i* S		**Sn**	**20 42 21.8**	**+3.3**
LPAZ	**La Paz** comp=N,0.9nm,0.3s,baz=193,slow=6.9,SNR=24	**5.38**	**19**	P		Pn	20 42 49.2	+5.0
LPAZ				LR		LR	20 45 04.2	
	comp=N,46nm,19.1s,baz=107,slow=40							
SIV	**San Ignacio** comp=N,0.1nm,0.3s,baz=236,slow=15,SNR=2.2	**10.01**	**59**	P		**Pn**	**20 43 43.5**	**-3.6**
CFA	**Coronel Fontan** comp=N,0.3nm,0.3s,baz=349,slow=14,SNR=4.4	**10.28**	**172**	P		Pn	20 43 54.9	+4.1
CFA				S		**Sn**	**20 45 46.4**	**+1.6**
	comp=N,0.2nm,0.3s,baz=151,slow=19,SNR=2.1							
TORD	**Torodi Ar. Bea** comp=N,0.1nm,0.4s,baz=251,slow=4.4,SNR=2.6	**78.26**	**71**	P		**P**	**20 53 20.5**	**-1.3**
YKA	**Yellowknife Ar** comp=N,0.1nm,0.4s,baz=133,slow=4.3,SNR=2.5	**90.77**	**341**	P		P	20 54 29.2	+5.3
MKAR	**Makanchi Array** comp=N,0.4nm,0.7s,baz=310,slow=3.2,SNR=5.7	**146.13**	**35**	PKPbc		**PKPab**	**21 01 02.0**	**-0.1**

*IDC **29** 20:42:01.9±0.7,4°.26S×152°.96E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/47, mbtmp3.9/11, ML2.0/1, Error ellipse: s-maj=26.0km s-min=16.6km az=113.0*
*NEIC **29** 20:42:03.6±0.3,4°.23S×152°.89E, h10km, mb5.0/15, Error ellipse: s-maj=9.1km s-min=6.6km az=115.0*
*ISCJB **29** 20:42:05.7±0.4,4°.23S±0°.06×152°.87E±0°.07, h35km, mb4.4/23, Error ellipse: s-maj=11.5km s-min=7.3km az=30.2*

ISC 29 20:42:07.3±0.6,4°.23S±0°.08×152°.95E±0°.10, h35km, n39, σ0§96/43, mb4.5/23, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby** 1.2nm,0.3s,baz=24,slow=18,SNR=2.6	**7.71**	**228**	Pn		**Pn**	**20 43 56.7**	**-0.5**
PMG				Sn		**Sn**	**20 45 25.8**	**+2.5**
	1.2nm,0.3s,baz=82,slow=16,SNR=3.0							
DZM	**Mont Dzumac** 46nm,1.9s	**22.04**	**145**	*e*P		**P**	**20 46 58.3**	**-0.8**
DZM	**Mont Dzumac** 2.7nm,0.5s,baz=248,slow=8.4,SNR=11	**22.04**	**145**	P		**P**	**20 46 58.7**	**-0.4**
MTN	**Manton Dam**	**23.19**	**247**	*e*P		**P**	**20 47 09.9**	**-1.3**
WRAB	**Tennant Creek** 72nm,2.0s	**23.92**	**228**	*e*P		**P**	**20 47 17.7**	**-0.5**
WR1	**Warramunga Arr** 8.0nm,0.5s	**23.93**	**228**	*e*P		**P**	**20 47 17.8**	**-0.6**
WR1				*e*PcP		**PcP**	**20 51 00.6**	**+0.1**
WRA	**Warramunga Arr** 2.4nm,0.4s,baz=53,slow=9.9,SNR=13	**23.93**	**228**	P		**P**	**20 47 17.8**	**-0.6**
WRA				PcP		**PcP**	**20 51 00.6**	**+0.1**
	0.8nm,0.6s,baz=48,slow=2.6,SNR=6.4							
AS01	**Alice Springs**	**26.64**	**222**	*e*P		**P**	**20 47 41.5**	**-1.5**
AS31	**Alice Springs** 2.8nm,1.3s	**26.67**	**222**	*e*P		**P**	**20 47 42.0**	**-1.2**
ASAR	**Alice Springs** 0.5nm,0.3s,baz=55,slow=9.0,SNR=6.1	**26.67**	**222**	P		**P**	**20 47 42.4**	**-0.8**
ASAR				PcP		**PcP**	**20 51 06.6**	**0.0**
	0.5nm,0.6s,baz=64,slow=2.5,SNR=3.4							
FITZ	**Fitzroy Crossi** 56nm,1.8s	**30.06**	**241**	*e*P		**P**	**20 48 12.8**	**-0.7**
FITZ	**Fitzroy Crossi** 1.7nm,0.6s,baz=68,slow=9.6,SNR=6.5	**30.06**	**241**	P		**P**	**20 48 12.4**	**-1.1**
LUWI	**Luwuk** 20nm,1.1s	**30.31**	**275**	*e*P		**P**	**20 48 16.3**	**+0.6**
FORT	**Forrest** 58nm,1.8s	**35.32**	**219**	*e*P		**P**	**20 48 58.6**	**-0.7**
PSAC2	**Pilbara Seismi** 63nm,1.6s	**36.40**	**239**	*e*P		**P**	**20 49 07.1**	**-1.7**
PSAA2	**Pilbara Seismi** 77nm,1.8s	**36.44**	**239**	*e*P		**P**	**20 49 07.4**	**-1.7**
PSAD3	**Pilbara Seismi** 49nm,1.5s	**36.53**	**239**	*e*P		**P**	**20 49 08.8**	**-1.1**
KKM	**Kota Kinabalu** 15nm,1.2s	**38.07**	**285**	*e*P		**P**	**20 49 24.7**	**+1.6**
JOW	**Kunigami** 46nm,1.4s	**39.02**	**324**	*e*P		**P**	**20 49 29.4**	**-1.4**
BKZ	**Black Stump Fm** 20nm,1.4s	**40.81**	**152**	*e*P		**P**	**20 49 46.7**	**+1.1**
LTZ	**Lake Taylor** 114nm,1.9s	**42.06**	**159**	*e*P		**P**	**20 49 57.2**	**+1.5**
RPZ	**Rata Peaks** 75nm,1.7s	**42.45**	**160**	*e*P		**P**	**20 50 00.2**	**+1.3**
KLR	**Kul'dur** 0.3nm,0.4s,baz=181,slow=4.0,SNR=4.2	**56.34**	**343**	P		**P**	**20 51 45.5**	**+0.7**
PETK	**Petropavlovsk-** 2.4nm,0.8s,baz=168,slow=6.7,SNR=5.6	**57.27**	**3**	P		**P**	**20 51 51.9**	**+0.6**
PEA1	**Petropavlovsk-**	**57.27**	**3**	*e*P		**P**	**20 51 51.9**	**+0.6**
SONA0	**Songino Array**	**65.92**	**328**	*e*P		**P**	**20 52 50.1**	**+0.1**
SONM	**Songino Array** 0.4nm,0.8s,baz=139,slow=6.8,SNR=3.0	**65.92**	**328**	P		**P**	**20 52 50.1**	**+0.1**
MK32	**Makanchi Array**	**80.00**	**319**	*e*P		**P**	**20 54 13.6**	**+0.4**
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=92,slow=6.5,SNR=4.7	**80.00**	**319**	P		**P**	**20 54 13.6**	**+0.4**
ILAR	**Eielson Array** 0.8nm,0.7s,baz=241,slow=5.3,SNR=6.5	**81.58**	**22**	P		**P**	**20 54 20.6**	**-0.7**
ILB	**Eielson Array** 26nm,1.8s	**81.58**	**22**	*e*P		**P**	**20 54 21.2**	**-0.1**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=269,slow=4.9,SNR=5.6	**94.86**	**28**	P		**P**	**20 55 25.4**	**-0.1**
YKB5	**Yellowknife Ar**	**94.86**	**28**	*e*P		**P**	**20 55 26.1**	**+0.7**
GERES	**GERESS Array B** 0.5nm,0.6s,baz=48,slow=2.0,SNR=5.1	**123.65**	**329**	PKP		**PKPdf**	**21 01 01.3**	**-0.2**
LPAZ	**La Paz** 0.6nm,0.4s,baz=336,slow=2.3,SNR=3.7	**134.55**	**119**	PKP		**PKPdf**	**21 01 23.7**	**-0.1**
TOA0	**Torodi Ar. Sit**	**150.26**	**289**	*e*PKPbc		**PKPbc**	**21 01 55.0**	**-0.9**
TORD	**Torodi Ar. Bea** 1.8nm,0.7s,baz=102,slow=3.0,SNR=12	**150.26**	**289**	PKPbc		**PKPbc**	**21 01 55.3**	**-0.6**
TOA1	**Torodi Ar. Sit**	**150.27**	**289**	*e*PKPbc		**PKPbc**	**21 01 55.3**	**-0.6**
BDFB	**Brasilia** 3.7nm,0.6s,baz=241,slow=4.3,SNR=7.3	**151.36**	**134**	PKPbc		**PKPbc**	**21 01 58.4**	**-0.2**

*IDC **29** 20:56:13.7±1.1,36°.91N×142°.09E, h0km, mb3.6/7, mb1 3.8/11, mb1mx3.6/41, mbtmp3.7/11, ML3.4/4, MS3.9/4, Ms1 3.9/4, ms1mx3.0/33, Error ellipse: s-maj=25.7km s-min=18.9km az=76.0*
*JMA **29** 20:56:16.5±0.3,36°.88N×141°.96E, h28km±3km, M3.3*
*NEIC **29** 20:56:17.8±2.5,36°.91N×142°.12E, h28km±18km, mb4.2/4, Error ellipse: s-maj=10.6km s-min=7.8km az=75.0*

ISC 29 20:56:16.6±0.7,36°.90N±0°.04×141°.93E±0°.06, h19km, n47, σ1§53/44, mb3.9/12, MS3.8/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.93**	**283**	P		**Pn**	**20 56 34.1**	**-0.6**
JFFD	**Fukushimafurud**	**1.11**	**280**	P		**Pb**	**20 56 36.9**	**-0.3**
JHO	**Hitachi**	**1.13**	**256**	P		**Pb**	**20 56 36.8**	**-0.7**
JHYU	**Hitachinakayam**	**1.22**	**243**	P		**Pb**	**20 56 38.3**	**-0.7**
JMM	**Marumori**	**1.32**	**317**	P		**Pn**	**20 56 39.8**	**-0.2**
JFT	**Otama**	**1.41**	**296**	P		**Pb**	**20 56 42.0**	**-0.4**
JFT				*e*S		**Sb**	**20 56 59.9**	**-0.1**
JIO	**Ouri**	**1.62**	**344**	P		**Pn**	**20 56 44.1**	**0.0**
JIO				*e*S		**Sn**	**20 57 03.4**	**-1.0**
JOU	**Okura**	**1.77**	**326**	P		**Pb**	**20 56 47.2**	**-1.3**
JOU				*e*S		**Sb**	**20 57 09.2**	**-1.2**
JAG	**Ashikaga**	**2.05**	**257**	P		**Pn**	**20 56 50.5**	**+0.5**
JMK	**Ichinoseki**	**2.12**	**345**	P		**Pb**	**20 56 52.4**	**-2.1**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=85,slow=8.3,SNR=69	**3.01**	**264**	Pn		**Pn**	**20 57 05.1**	**+1.8**
MJAR				Sn		**Sb**	**20 57 44.8**	**-1.2**
	0.3nm,0.3s,baz=80,slow=14,SNR=3.9							
MAJO	**Matsushiro**	**3.01**	**264**	*e*Pn		**Pb**	**20 57 05.9**	**-3.8**
MAJO				*e*Sn		**Sb**	**20 57 44.8**	**-1.2**
MAT	**Matsushiro**	**3.01**	**264**	P		**Pn**	**20 57 05.6**	**+2.3**
MAT				S		**Sb**	**20 57 44.9**	**-1.1**
MJB9	**Matsu-Tunnel**	**3.01**	**264**	*e*Pn		**Pb**	**20 57 05.9**	**-3.7**
JHJ2	**Mitsune**	**4.16**	**205**	*e*Pn		**Pn**	**20 57 19.9**	**+0.8**
JHJ	**Hachijo jima 2** 9.5nm,0.3s,baz=76,slow=19,SNR=6.8	**4.16**	**206**	Pn		**Pn**	**20 57 19.4**	**+0.3**
JHJ				Sn		**Sn**	**20 58 05.0**	**-2.3**
	10nm,0.3s,baz=120,slow=20,SNR=3.7							
INU	**Inuyama**	**4.27**	**250**	*e*Pn		**Pn**	**20 57 24.4**	**+3.9**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=222,slow=15,SNR=4.6	**7.23**	**4**	Pn		**Pn**	**20 58 00.2**	**-0.9**
CBIJ	**Chichi jima**	**9.78**	**179**	*e*Pn		**Pn**	**20 58 35.2**	**-1.1**
JCJ	**Chichijima** 1.9nm,0.3s,baz=294,slow=20,SNR=3.6	**9.78**	**179**	Pn		**Pn**	**20 58 35.2**	**-1.1**
KSRS	**Korea Array** 0.2nm,0.3s,baz=94,slow=12,SNR=3.0	**11.19**	**277**	Pn		Pn	20 58 60.0	+4.5
KSAR	**Wonju Array Be**	**11.22**	**277**	Pn		**Pn**	**20 58 60.0**	**+4.0**
H11N2	**WAKE ISLAND Hy** baz=314,slow=76,SNR=10.0	**27.73**	**121**	T		T	21 31 13.4	
H11N1	**WAKE ISLAND Hy** baz=314,slow=76,SNR=7.6	**27.73**	**121**	T		T	21 31 06.0	
H11N3	**WAKE ISLAND Hy** baz=314,slow=76,SNR=7.6	**27.74**	**121**	T		T	21 31 08.1	
SONA0	**Songino Array**	**28.20**	**304**	*e*P		**P**	**21 02 09.0**	**+0.9**
SONM	**Songino Array** 1.6nm,0.8s,baz=100,slow=8.2,SNR=16	**28.20**	**304**	P		**P**	**21 02 09.0**	**+0.9**
H11S1	**WAKE ISLAND Hy** baz=315,slow=74	**28.44**	**123**	T		T	21 32 19.0	
H11S3	**WAKE ISLAND Hy** baz=315,slow=74,SNR=6.2	**28.44**	**123**	T		T	21 32 01.4	
H11S2	**WAKE ISLAND Hy** baz=315	**28.46**	**123**	T		T	21 32 14.4	
ZAA1	**Zalesovo Array**	**42.31**	**312**	*e*P		**P**	**21 04 09.2**	**+0.4**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=96,slow=7.2,SNR=3.2	**42.31**	**312**	P		**P**	**21 04 09.2**	**+0.4**
MK01	**Makanchi Array**	**44.54**	**302**	*e*P		**P**	**21 04 26.9**	**-0.1**
MK31	**Makanchi Array** 2.2nm,1.3s	**44.54**	**302**	*e*P		**P**	**21 04 26.8**	**-0.2**
MK32	**Makanchi Array**	**44.54**	**302**	*e*P		**P**	**21 04 27.4**	**+0.4**
MKAR	**Makanchi Array** 0.4nm,0.8s,baz=86,slow=9.5,SNR=5.1	**44.54**	**302**	P		**P**	**21 04 27.4**	**+0.4**
MKAR				LR		LR	21 23 04.9	
	comp=Z,100nm,20.3s,baz=54,slow=36							
MAKZ	**Makanchi** 5.4nm,1.6s	**44.75**	**302**	*e*P		**P**	**21 04 30.0**	**+1.3**
SII	**Sitkinak Islan** 203nm,1.6s	**46.12**	**44**	*e*P		**P**	**21 04 40.0**	**+0.6**

TNSS	**Tian-Shan** 20nm,0.6s	**2.72**	**350**	*e*P	**Pb**	**21 16 46.0**	**-0.3**
TNSS	22nm,0.5s			*e*S	**Sb**	**21 17 20.1**	**+0.2**
SATY	**Saty** 6.7nm,0.4s	**2.77**	**12**	Pg	**Pb**	**21 16 46.6**	**-0.4**
SATY	27nm,0.9s			Lg	Lg	21 17 21.0	
SATY	**Saty** 6.7nm,0.4s	**2.77**	**12**	*e*P	**Pb**	**21 16 46.6**	**-0.4**
SATY	27nm,0.9s			*e*S	**Sb**	**21 17 21.0**	**0.0**
IZV	**Izvestkoviy** 6.0nm,0.4s	**2.77**	**345**	Pg	**Pb**	**21 16 46.9**	**-0.2**
IZV	26nm,0.6s			Lg	Lg	21 17 21.6	
IZV	**Izvestkoviy** 6.0nm,0.4s	**2.77**	**345**	*e*P	**Pb**	**21 16 46.9**	**-0.2**
IZV	26nm,0.6s			*e*S	**Sb**	**21 17 21.6**	**+0.4**
MDOK	**Medeo** 11nm,0.6s	**2.83**	**352**	⇑Pn	**Pb**	**21 16 47.3**	**-0.8**
MDOK	20nm,0.5s			⇓Lg	Lg	21 17 19.6	
MDOK	**Medeo** 13nm,0.5s	**2.83**	**352**	Pg	**Pb**	**21 16 47.6**	**-0.5**
MDOK	28nm,0.5s			Lg	Lg	21 17 22.6	
MDOK	**Medeo** 13nm,0.5s	**2.83**	**352**	*e*P	**Pb**	**21 16 47.6**	**-0.5**
MDOK	28nm,0.5s			*e*S	**Sb**	**21 17 22.6**	**-0.3**
ZHN	**Zhinishke** 2.9nm,0.2s	**2.88**	**12**	Pg	**Pb**	**21 16 48.3**	**-0.5**
ZHN	7.8nm,0.3s			Lg	Lg	21 17 23.7	
ZHN	**Zhinishke** 2.9nm,0.2s	**2.88**	**12**	*e*P	**Pb**	**21 16 48.3**	**-0.5**
ZHN	7.8nm,0.3s			*e*S	**Sb**	**21 17 23.7**	**-0.4**
ARLS	**Aral** baz=99	**2.89**	**302**	⇑*i*P	**Pb**	**21 16 48.4**	**-0.7**
ARLS	baz=99			⇑*i*S	**Sb**	**21 17 22.7**	**-1.9**
KNDC	**Almaty** 7.2nm,0.4s	**2.89**	**351**	⇓Pn	**Pn**	**21 16 45.0**	**+1.5**
KNDC	35nm,0.8s			⇓Lg	Lg	21 17 22.4	
KOTS	**Kotyrbulak** 5.0nm,0.3s	**2.90**	**353**	Pg	**Pb**	**21 16 48.6**	**-0.6**
KOTS	30nm,0.4s			Lg	Lg	21 17 24.3	
KOTS	**Kotyrbulak** 5.0nm,0.3s	**2.90**	**353**	*e*P	**Pb**	**21 16 48.6**	**-0.6**
KOTS	30nm,0.4s			*e*S	**Sb**	**21 17 24.3**	**-0.4**
MTBS	**Maitube** 5.2nm,0.2s	**2.90**	**343**	Pg	**Pb**	**21 16 49.2**	**0.0**
MTBS	8.1nm,0.4s			Lg	Lg	21 17 25.5	
MTBS	**Maitube** 5.2nm,0.2s	**2.90**	**343**	*e*P	**Pb**	**21 16 49.2**	**0.0**
MTBS	8.1nm,0.4s			*e*S	**Sb**	**21 17 25.5**	**+0.7**
KST	**Kastek** 6.1nm,0.4s	**2.95**	**336**	Pg	**Pb**	**21 16 50.6**	**+0.6**
KST	11nm,0.6s			Lg	Lg	21 17 27.8	
KST	**Kastek** 6.1nm,0.4s	**2.95**	**336**	*e*P	**Pb**	**21 16 50.6**	**+0.6**
KST	11nm,0.6s			*e*S	**Sb**	**21 17 27.8**	**+1.6**
TKM2	**Tokmak 2** 3.2nm,0.7s	**2.96**	**330**	⇓Pg	**Pb**	**21 16 50.9**	**+0.5**
TKM2	2.5nm,0.3s			⇓Lg	Lg	21 17 27.8	
TKM2	**Tokmak 2** baz=28	**2.96**	**330**	⇑*i*P	**Pb**	**21 16 48.0**	**-2.4**
TKM2	baz=28			⇑*i*S	**Sn**	**21 17 22.4**	**+2.0**
UCH	**Uchtor** baz=7.0	**2.98**	**310**	⇓*i*P	**Pb**	**21 16 48.8**	**-2.0**
UCH	baz=7.0			⇓*i*S	**Sb**	**21 17 24.5**	**-2.9**
UZB	**Uzynbulak** 1.4nm,0.2s	**2.98**	**21**	Pg	**Pb**	**21 16 49.9**	**-0.7**
UZB	7.7nm,0.7s			Lg	Lg	21 17 26.8	
UZB	**Uzynbulak** 1.4nm,0.2s	**2.98**	**21**	*e*P	**Pb**	**21 16 49.9**	**-0.7**
UZB	7.7nm,0.7s			*e*S	**Sb**	**21 17 26.8**	**-0.5**
KBK	**Karagaybulak** baz=17	**3.04**	**320**	⇑*i*P	**Pb**	**21 16 48.9**	**-2.7**
KBK	baz=17			⇑*i*S	**Sn**	**21 17 24.5**	**+2.4**
SHLS	**Shalkode** 6.0nm,0.5s	**3.13**	**26**	Pg	**Pg**	**21 16 55.9**	**-1.4**
SHLS	13nm,0.5s			Lg	Lg	21 17 36.9	
SHLS	**Shalkode** 6.0nm,0.5s	**3.13**	**26**	*e*P	**Pg**	**21 16 55.9**	**-1.4**
SHLS	13nm,0.5s			*e*S	**Sg**	**21 17 36.9**	**-0.8**
KURS	**Kuram** 3.6nm,0.5s	**3.16**	**8**	Pg	**Pb**	**21 16 53.0**	**-0.6**
KURS	7.4nm,0.6s			Lg	Lg	21 17 32.0	
KURS	**Kuram** 3.6nm,0.5s	**3.16**	**8**	*e*P	**Pb**	**21 16 53.0**	**-0.6**
KURS	7.4nm,0.6s			*e*S	**Sb**	**21 17 32.0**	**-0.1**
DGS	**Degeres** 4.3nm,0.6s	**3.19**	**335**	Pg	**Pb**	**21 16 54.6**	**+0.5**
DGS	13nm,0.5s			Lg	Lg	21 17 34.7	
DGS	**Degeres** 4.3nm,0.6s	**3.19**	**335**	*e*P	**Pb**	**21 16 54.6**	**+0.5**
DGS	13nm,0.5s			*e*S	**Sb**	**21 17 34.7**	**+1.6**
KPKS	**Kokpek** 12nm,0.3s	**3.21**	**14**	*e*P	**Pb**	**21 16 54.2**	**-0.3**
KPKS	25nm,0.4s			*e*S	**Sb**	**21 17 34.0**	**+0.3**
AAK	**Ala-Archa** 3.1nm,0.5s	**3.26**	**315**	⇑Pn	**Pb**	**21 16 55.1**	**-0.2**
AAK	12nm,0.8s			⇓Lg	Lg	21 17 38.4	
AAK	**Ala-Archa** baz=13	**3.26**	**315**	⇑*e*P	**Pb**	**21 16 52.2**	**-3.1**
AAK	baz=13			⇑*i*S	**Sn**	**21 17 30.0**	**+2.5**
PDGK	**Podgornoye** 2.1nm,0.2s	**3.29**	**25**	Pg	**Pb**	**21 16 55.3**	**-0.5**
PDGK	7.3nm,0.9s			Lg	Lg	21 17 35.6	
PDGK	**Podgornoye** 1.1nm,0.3s	**3.29**	**25**	⇑Pg	**Pb**	**21 16 55.2**	**-0.7**
PDGK	12nm,0.9s			⇑Lg	Lg	21 17 32.8	
PDGK	**Podgornoye** baz=27	**3.29**	**25**	⇑*i*P	**Pb**	**21 16 52.0**	**-3.9**
PDGK	baz=27			⇑*i*S	**Sn**	**21 17 29.6**	**+1.3**
CHMS	**Chumysh** baz=20	**3.39**	**322**	⇓*e*P	**Pn**	**21 16 53.8**	**+3.5**
CHMS	baz=20			⇓*i*S	**Sn**	**21 17 32.6**	**+2.0**
KTBS	**Karatobe** 4.1nm,0.5s	**3.42**	**349**	Pg	**Pb**	**21 16 58.0**	**-0.1**
KTBS	12nm,0.6s			Lg	Lg	21 17 40.6	
KTBS	**Karatobe** 4.1nm,0.5s	**3.42**	**349**	*e*P	**Pb**	**21 16 58.0**	**-0.1**
KTBS	12nm,0.6s			*e*S	**Sb**	**21 17 40.6**	**+1.0**
CHKK	**Chushkaly** 2.7nm,0.4s	**3.52**	**353**	Pg	**Pb**	**21 16 59.7**	**0.0**
CHKK	15nm,0.3s			Lg	Lg	21 17 43.5	
CHKK	**Chushkaly** 2.7nm,0.4s	**3.52**	**353**	*e*P	**Pb**	**21 16 59.7**	**0.0**
CHKK	15nm,0.3s			*e*S	**Sb**	**21 17 43.5**	**+0.9**
KUU	**Kurty** 1.7nm,0.4s	**3.65**	**346**	Pg	**Pb**	**21 17 01.7**	**-0.2**
KUU	7.6nm,0.7s			Lg	Lg	21 17 46.9	
KUU	**Kurty** 1.7nm,0.4s	**3.65**	**346**	*e*P	**Pb**	**21 17 01.8**	**-0.2**
KUU	7.6nm,0.7s			⇑*i*S	**Sb**	**21 17 46.9**	**+0.5**
KTMS	**Ketmen** 1.4nm,0.2s	**3.71**	**33**	Pg	**Pb**	**21 17 02.3**	**-0.7**
KTMS	4.0nm,0.6s			Lg	Lg	21 17 48.1	
KTMS	**Ketmen** 1.4nm,0.2s	**3.71**	**33**	*e*P	**Pb**	**21 17 02.3**	**-0.7**
KTMS	4.0nm,0.6s			*e*S	**Sb**	**21 17 48.1**	**0.0**
MNBS	**Baschi** 1.4nm,0.2s	**3.77**	**9**	Pg	**Pb**	**21 17 03.9**	**-0.1**
MNBS	5.0nm,0.5s			Lg	Lg	21 17 50.7	
MNBS	**Baschi** 1.4nm,0.2s	**3.77**	**9**	*e*P	**Pb**	**21 17 03.9**	**-0.1**
MNBS	5.0nm,0.5s			*e*S	**Sb**	**21 17 50.7**	**+1.0**
SGDS	**Sogindy** 2.5nm,0.5s	**3.80**	**325**	Pg	**Pb**	**21 17 05.8**	**+1.3**
SGDS	3.6nm,0.6s			Lg	Lg	21 17 54.0	
ARXS	**Arharly** 2.5nm,0.5s	**3.85**	**3**	Pg	**Pb**	**21 17 05.3**	**-0.2**
ARXS	6.2nm,0.4s			Lg	Lg	21 17 53.0	
ARXS	**Arharly** 2.5nm,0.5s	**3.85**	**3**	*e*P	**Pb**	**21 17 05.3**	**-0.2**
ARXS	6.2nm,0.4s			*e*S	**Sb**	**21 17 53.0**	**+0.7**
DJR	**Jarkent** 0.2nm,0.1s	**4.29**	**22**	Pg	**Pb**	**21 17 13.5**	**+0.6**
DJR	1.3nm,0.4s			Lg	Lg	21 18 06.9	
DJR	**Jarkent** 0.2nm,0.1s	**4.29**	**22**	*e*P	**Pb**	**21 17 13.5**	**+0.6**
DJR	1.3nm,0.4s			*e*S	**Sb**	**21 18 07.0**	**+2.2**
KAPS	**Kapalarasan** 1.0nm,0.6s	**5.09**	**14**	*e*P	**Pb**	**21 17 29.6**	**+3.1**
KAPS	1.9nm,0.5s			*e*S	**Sg**	**21 18 34.4**	**-6.4**

IDC 29 21:35:55.5±2.4,**5°83S**×**131°31E**,**h0**km,**mb3.8**/1,
mb1 3.8/3,**mb1mx3.4**/32,**mbtmp3.6**/3,**ML3.6**/2,**Error ellipse: s-maj=132.1km s-min=30.4km az=72.0**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=349,slow=13,SNR=16	**14.33**	**168**	Pn	Pn	21 39 19.6	-0.3
WRA	0.4nm,0.3s,baz=352,slow=24,SNR=6.3			Sn	Sn	21 41 48.0	-12
ASAR	**Alice Springs** 0.2nm,0.3s,baz=14,slow=12,SNR=14	**17.91**	**172**	P	Pn	21 40 06.4	+0.2
ASAR	0.0nm,0.3s,baz=359,slow=29,SNR=3.0			S	Sn	21 43 11.7	-15
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=112,slow=6.4,SNR=12	**67.98**	**326**	P	P	21 46 56.5	0.0

SJA 29 21:37:22.8±0.6,**30°47S**×**69°48W**,**h10**km±6km,**ML3.8**,
MW3.4,**Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACCO	**Cerro Coronel**	**0.38**	**109**	*e*P	Pb	21 37 31.6	-0.2
ACCO				*e*S	Sb	21 37 38.1	+0.3
ACDV	**Cuesta del Vie**	**0.42**	**47**	*e*P	Pb	21 37 32.3	-0.2
AMOG	**MOGNA**	**0.97**	**119**	*e*P	Pg	21 37 41.2	-0.3
AGUA	**GUANDACOL**	**1.30**	**41**	*e*P	Pb	21 37 47.4	+0.1
AGUA				*e*S	Sg	21 38 05.2	+0.7
RTCV	**Cerro Valdivia** comp=Z,5μm,0.1s	**1.61**	**150**	*e*P	Pb	21 37 52.5	-0.1
RTCV				IAML		21 38 14.7	
AUSP	**Uspallata**	**1.75**	**178**	*e*P	Pg	21 37 56.0	-0.5
VCA	**Vinchina** comp=Z,166nm,0.3s	**2.05**	**33**	*e*P	Pb	21 37 59.7	-0.5
VCA				IAML		21 38 31.5	
ASAL	**Salagasta**	**2.19**	**166**	*e*P	Pb	21 38 01.9	-0.6
ACLC	**CERRO LA CRUZ**	**2.42**	**65**	*e*P	Pb	21 38 04.9	-1.7
APLL	**PUNTA DE LOS L**	**2.55**	**89**	*e*P	Pb	21 38 06.7	-1.9
AAGR	**Agrelo**	**2.67**	**168**	*e*P	Pn	21 38 08.4	+2.4

*ISCJB **29** 21:42:00.5±1.0,28°.81S±0°.09×176°.2W±0°.1,h100km, mb3.8/5,Error ellipse: s-maj=17.3km s-min=10.6km az=31.2*
*IDC **29** 21:42:04.2±2.2,28°.87S×176°.35W,h119km±14km,mb3.5/5, mb1 3.8/7,mb1mx3.5/32,mbtmp3.9/7,MS3.4/2,Ms1 3.3/2, ms1mx3.0/23,Error ellipse: s-maj=29.8km s-min=25.6km az=156.0*
ISC 29 21:42:02.3±0.9,**28°.8S**±0°.1×**176°.2W**±0°.1,**h100**km,**n15**, σ1§**36**/**17**,**mb3.9**/5,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island** 99nm,0.3s,baz=107,slow=19,SNR=3.6	**1.54**	**253**	P	**Pn**	**21 42 29.5**	**+0.6**
RAO	425nm,0.3s,baz=91,slow=23,SNR=7.2			S	**Sn**	**21 42 51.0**	**+1.8**
URZ	**Urewera** 0.4nm,0.3s,baz=95,slow=17,SNR=3.0	**10.93**	**209**	P	**Pn**	**21 44 33.8**	**-1.7**
URZ	0.5nm,0.3s,baz=300,slow=20,SNR=3.3			S	**Sn**	**21 46 37.0**	**+1.3**
DZM	**Mont Dzumac** 0.2nm,0.3s,baz=120,slow=20,SNR=3.0	**17.01**	**289**	P	**Pn**	**21 45 53.6**	**-0.5**
DZM	comp=Z,115nm,18.0s,baz=82,slow=35			LR	LR	21 51 49.7	
CTA	**Charters Tower** 1.5nm,0.4s,baz=99,slow=9.6,SNR=6.4	**35.12**	**276**	P	**P**	**21 48 45.6**	**-0.7**
STKA	**Stephens Creek** comp=Z,52nm,18.6s,baz=131,slow=35	**36.36**	**254**	LR	LR	22 03 01.1	
ASAR	**Alice Springs** 0.5nm,0.5s,baz=100,slow=7.0,SNR=11	**44.76**	**265**	P	**P**	**21 50 05.4**	**-0.6**
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=109,slow=6.3,SNR=30	**45.61**	**270**	P	**P**	**21 50 11.6**	**-1.2**
NVAR	**Mina Array Bea** 0.7nm,0.9s,baz=205,slow=6.6,SNR=3.8	**86.04**	**42**	P	**P**	**21 54 32.6**	**+0.7**
ILAR	**Eielson Array** 0.2nm,0.4s,baz=218,slow=4.8,SNR=2.7	**96.05**	**12**	P	**P**	**21 55 17.7**	**0.0**
MKAR	**Makanchi Array** 0.5nm,1.0s,baz=60,slow=3.4,SNR=3.6	**117.92**	**310**	PKP	**PKPdf**	**22 00 37.6**	**+0.7**
FINES	**FINESS Array B** 1.4nm,1.0s,baz=20,slow=4.4,SNR=4.2	**144.15**	**342**	PKP	**PKPab**	**22 01 23.4**	**-0.1**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.8s,baz=13,slow=4.5,SNR=5.1	**147.39**	**353**	PKP	**PKPdf**	**22 01 34.1**	**+2.9**
NOA	**NORSAR Array B** comp=Z,0.2nm,0.6s,baz=10,slow=3.2	**147.39**	**353**	PKPbc	**PKPdf**	**22 01 33.1**	**+1.9**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.7s,baz=186,slow=2.9,SNR=2.9	**153.13**	**302**	PKPbc	**PKPbc**	**22 01 47.4**	**-1.1**
BRTR				PKPab	**PKPab**	**22 01 59.5**	**-1.0**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,1.2s,baz=197,slow=5.8,SNR=2.8	**164.29**	**173**	PKPab	**PKPab**	**22 02 48.7**	**-0.3**

*THE **29** 21:45:08.8,35°.94N×27°.29E,h0km,ML2.0/2,Error ellipse: s-maj=1.4km s-min=0.5km az=307.0*
*ATH **29** 21:45:08.6,35°.95N×27°.24E,h26km±2km,ML2.0/2,Error ellipse: s-maj=3.0km s-min=1.6km az=117.0*
*ISK **29** 21:45:08.7,35°.97N×27°.22E,h8km,ML2.2/10*
*ISCJB **29** 21:45:09.3±0.6,35°.97N±0°.03×27°.23E±0°.04,h12km±5km, Error ellipse: s-maj=5.9km s-min=4.2km az=37.6*
ISC 29 21:45:09.0±1.4,**35°96N**±0°.04×**27°26E**±0°.03,**h22**km±5km,
n26,σ1§**11**/**37**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.42**	**191**	PG	**Pb**	**21 45 17.5**	**-0.2**
KARP				SG	**Sb**	**21 45 24.1**	**+0.5**
KARP	**Karpathos**	**0.42**	**191**	P	**Pb**	**21 45 17.3**	**-0.4**
KARP				S	**Sb**	**21 45 24.0**	**+0.5**
KARP	**Karpathos**	**0.42**	**191**	P	**Pb**	**21 45 17.4**	**-0.2**
KARP				S	**Sb**	**21 45 23.2**	**-0.4**
KARP	comp=N,405μm,0.2s			AML	AML	21 45 26.2	
KARP	comp=E,376μm,0.2s			AML	AML	21 45 26.8	
NISR	**Nisiros**	**0.66**	**351**	P	**Pb**	**21 45 21.9**	**0.0**
NISR				S	**Sn**	**21 45 32.7**	**-0.1**
NISR	**Nisiros**	**0.66**	**351**	P	**Pb**	**21 45 21.1**	**-0.8**
NISR				S	**Sn**	**21 45 32.5**	**-0.2**
ARG	**Arkhangelos**	**0.75**	**70**	PG	**Pb**	**21 45 23.9**	**+0.6**
ARG				SG	**Sn**	**21 45 35.4**	**+0.5**
ARG	**Arkhangelos**	**0.75**	**70**	P	**Pb**	**21 45 23.4**	**+0.1**
ARG				S	**Sn**	**21 45 35.4**	**+0.5**
ARG	**Arkhangelos**	**0.75**	**70**	P	**Pb**	**21 45 23.5**	**+0.1**
ARG				S	**Sn**	**21 45 34.8**	**-0.1**
ARG	comp=N,243μm,0.5s			AML	AML	21 45 38.1	
ARG	comp=E,588μm,0.3s			AML	AML	21 45 38.7	
DAT	**Datca**	**0.81**	**18**	PG	**Pb**	**21 45 24.8**	**+0.3**
DAT				SG	**Sn**	**21 45 36.9**	**+0.2**
BODT	**Bodrum**	**1.10**	**2**	PN	**Pb**	**21 45 29.8**	**+0.4**
BODT				SN	**Sn**	**21 45 45.4**	**+1.7**
ZKR	**Zakros**	**1.20**	**226**	PN	**Pb**	**21 45 31.9**	**+0.9**
ZKR	**Zakros**	**1.20**	**226**	P	**Pb**	**21 45 31.9**	**+0.9**
ZKR	**Zakros**	**1.20**	**226**	P	**Pb**	**21 45 31.8**	**+0.8**
ANAF	**Anafi Island**	**1.27**	**289**	P	**Pb**	**21 45 32.1**	**-0.1**
AMGA	**Amorgos Island**	**1.40**	**309**	P	**Pn**	**21 45 33.7**	**+0.4**
DALY	**Dalyan (Mula)**	**1.41**	**52**	PN	**Pb**	**21 45 35.5**	**+0.9**
TURN	**Turunc**	**1.42**	**50**	PN	**Pn**	**21 45 31.1**	**-2.3**
TURN				SN	**Sn**	**21 45 47.0**	**-4.4**
SANT	**Santorini**	**1.51**	**286**	PN	**Pb**	**21 45 36.4**	**0.0**
FETY	**Fethiye**	**1.62**	**65**	PN	**Pb**	**21 45 38.8**	**+0.6**
LAST	**Lasithi**	**1.66**	**242**	P	**Pb**	**21 45 38.2**	**-0.7**
LAST	**Lasithi**	**1.66**	**242**	P	**Pb**	**21 45 38.2**	**-0.7**
APE	**Apeiranthos**	**1.78**	**309**	PN	**Pn**	**21 45 39.5**	**+1.0**
APE	**Apeiranthos**	**1.78**	**309**	P	**Pn**	**21 45 38.8**	**+0.3**
KSL	**Kastellorizon**	**1.89**	**84**	P	**Pn**	**21 45 41.8**	**+1.8**
AKAS	**Kas**	**1.92**	**81**	PN	**Pb**	**21 45 42.9**	**-0.5**
SIVA	**Sivas**	**2.21**	**246**	P	**Pb**	**21 45 47.0**	**-1.2**

*SAR **29** 21:46:58.6±0.3,42°.35N×18°.96E,h3km±1km,ML2.4/7*
*PDG **29** 21:46:58.3±0.3,42°.34N×18°.94E,h1km±1km,MD2.4/1, ML2.5/9,Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
*BEO **29** 21:46:59.8±0.3,42°.34N×18°.95E,h0km,ML2.1/12*
ISC 29 21:46:58.5±1.1,**42°36N**±0°.02×**18°91E**±0°.02,**h0**km±10km,
n60,σ0§**92**/100,**18C-8D**,**Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUM	**Brajici-Budva**	**0.06**	**195**	⇓*i*Pg	**Pg**	**21 46 59.1**	**-0.5**
BUM				*i* Sg	**Sg**	**21 47 00.0**	**-0.3**
CEME	**Cevo**	**0.19**	**1**	⇑*i*Pg	**Pg**	**21 47 01.9**	**-0.3**
CEME				*i* Sg	**Sg**	**21 47 05.4**	**+0.7**
DRME	**Dracevica, Mon**	**0.26**	**130**	⇑*i*Pg	**Pg**	**21 47 02.8**	**-0.7**
DRME				*i* Sg	**Sg**	**21 47 06.3**	**-0.6**
DRME	**Dracevica, Mon**	**0.26**	**130**	⇓*i*Pg	**Pg**	**21 47 02.8**	**-0.7**
DRME				*e*Sg	**Sg**	**21 47 06.9**	**0.0**
PDG	**Podgorica**	**0.26**	**74**	*e*Pg	**Pg**	**21 47 02.7**	**-0.8**
PDG				*e*Sg	**Sg**	**21 47 06.9**	**-0.1**
PDG	**Podgorica**	**0.26**	**74**	⇓*i*P	**Pg**	**21 47 03.0**	**-0.5**
PDG				S	**Sg**	**21 47 06.8**	**-0.2**
PDG	**Podgorica**	**0.26**	**74**	⇑*i*Pg	**Pg**	**21 47 02.7**	**-0.8**
PDG				*e*Sg	**Sg**	**21 47 06.7**	**-0.2**
TTG	**Podgorica**	**0.26**	**74**	⇑*i*Pg	**Pg**	**21 47 02.7**	**-0.8**
TTG				*i* Sg	**Sg**	**21 47 06.8**	**-0.2**
HCY	**Herceg Novi**	**0.32**	**286**	⇑*i*Pg	**Pg**	**21 47 05.1**	**+0.4**
HCY				*i* Sg	**Sg**	**21 47 10.3**	**+1.4**
HCY	**Herceg Novi**	**0.32**	**286**	*e*Pg	**Pg**	**21 47 05.0**	**+0.4**
HCY				*e*Sg	**Sg**	**21 47 10.2**	**+1.4**
NKME	**Niksic**	**0.41**	**4**	⇑*i*Pg	**Pg**	**21 47 05.6**	**-0.8**
NKME				*i* Sg	**Sg**	**21 47 13.0**	**+1.3**
NKY	**Niksic**	**0.46**	**7**	⇓*i*Pg	**Pg**	**21 47 07.6**	**+0.3**
NKY				*i* Sg	**Sg**	**21 47 14.6**	**+1.3**
ULC	**Ulcinj**	**0.46**	**148**	⇑*i*Pg	**Pg**	**21 47 06.3**	**-1.0**
ULC				*i* Sg	**Sg**	**21 47 13.1**	**-0.2**
TREB	**Trebinje**	**0.55**	**311**	*e*Pg	**Pb**	**21 47 10.2**	**-0.8**
TREB				*e*Sg	**Sb**	**21 47 18.7**	**-0.7**
TREB	**Trebinje**	**0.55**	**311**	⇑*i*Pg	**Pg**	**21 47 08.4**	**-0.6**
TREB				*e*Sg	**Sg**	**21 47 17.8**	**+1.6**
BRY	**Bratogost**	**0.61**	**333**	⇑*i*Pg	**Pg**	**21 47 09.7**	**-0.5**
BRY				*i* Sg	**Sb**	**21 47 19.9**	**-1.4**
BRY	**Bratogost**	**0.61**	**333**	⇓*i*Pg	**Pg**	**21 47 09.4**	**-0.8**
BRY				*e*Sg	**Sg**	**21 47 19.5**	**+1.4**
KOME	**Kolasin**	**0.67**	**42**	⇑*i*Pg	**Pg**	**21 47 10.8**	**-0.4**
KOME				*i* Sg	**Sg**	**21 47 20.8**	**+1.0**
PVY	**Plav**	**0.81**	**73**	⇑*i*Pg	**Pg**	**21 47 13.3**	**-0.7**
PVY				*i* Sg	**Sg**	**21 47 24.7**	**+0.2**
IVA	**Berane**	**0.89**	**54**	⇓*i*Pg	**Pg**	**21 47 15.0**	**-0.5**
IVA				*i* Sg	**Sb**	**21 47 28.3**	**-0.9**
STON	**Ston**	**1.03**	**300**	*i* Pg	**Pg**	**21 47 17.2**	**-1.1**
STON				Sg	**Sb**	**21 47 33.6**	**+0.3**
STON	**Ston**	**1.03**	**300**	*e*Pg	**Pg**	**21 47 17.0**	**-1.3**
STON				*e*Sg	**Sb**	**21 47 32.7**	**-0.6**
PLE	**Pljevlja**	**1.03**	**20**	⇑*i*Pg	**Pg**	**21 47 18.2**	**-0.1**
PLE				*i* Sg	**Sb**	**21 47 33.7**	**+0.2**
SJES	**Sjenica**	**1.20**	**40**	*e*Pg	**Pg**	**21 47 21.1**	**-0.3**
SJES				*e*Sg	**Sb**	**21 47 38.4**	**+0.3**
TIR	**Tirane**	**1.23**	**144**	*e*Pn	**Pn**	**21 47 23.4**	**+0.5**
TIR				*e*Sn	**Sn**	**21 47 41.4**	**+1.2**
TIR	**Tirane**	**1.23**	**144**	⇑*i*P	**Pn**	**21 47 23.8**	**+0.9**
TIR	**Tirane**	**1.23**	**144**	S	**Sn**	**21 47 41.4**	**+1.2**
IVAS	**Ivanjica**	**1.52**	**36**	*e*Pg	**Pn**	**21 47 25.5**	**-0.5**
IVAS				*e*Sg	**Sn**	**21 47 48.0**	**+0.5**
BBLS	**Lazići**	**1.55**	**13**	*e*Pn	**Pg**	**21 47 28.7**	**+0.5**
BBLS				*e*Sn	**Sg**	**21 47 49.8**	**+1.5**
HAPS	**Han Pijesak,Bl**	**1.73**	**1**	*e*Pn	**Pb**	**21 47 31.2**	**0.0**
HAPS				*e*Sn	**Sg**	**21 47 54.9**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.73**	**1**	⇑*i*Pn	**Pn**	**21 47 29.8**	**-0.1**
HAPS				*e*Sn	**Sn**	**21 47 52.5**	**-0.2**
SELS	**Selova**	**1.84**	**61**	*e*Pn	**Pn**	**21 47 32.0**	**+0.7**
OHR	**Ohrid**	**1.88**	**131**	*i* Pn	**Pg**	**21 47 36.0**	**+1.5**
OHR				*i* Sn	**Sg**	**21 48 00.5**	**+1.6**
DIVS	**Divibare**	**1.91**	**24**	*e*Pn	**Pb**	**21 47 33.8**	**-0.4**
DIVS				*e*Sn	**Sb**	**21 47 58.9**	**+0.2**
SKO	**Skopje**	**1.92**	**101**	*e*Pn	**Pg**	**21 47 34.9**	**-0.4**
KRUS	**Krusevo**	**2.00**	**119**	*e*Pn	**Pg**	**21 47 36.8**	**0.0**
GRUS	**Gruza**	**2.02**	**40**	*e*Pn	**Pb**	**21 47 35.0**	**-1.1**
TRUS	**Trudelj**	**2.16**	**30**	*e*Pn	**Pn**	**21 47 37.0**	**+1.3**
TRUS				*e*Sn	**Sb**	**21 48 04.8**	**-1.0**
BARS	**Barje**	**2.19**	**77**	*e*Pn	**Pn**	**21 47 37.3**	**+1.2**
BARS				*e*Sn	**Sn**	**21 48 04.6**	**+0.7**
MATE	**Matera**	**2.38**	**225**	⇑*i*P	**Pn**	**21 47 39.4**	**+0.8**
MATE	**Matera**	**2.38**	**225**	S	**Sb**	**21 48 11.6**	**-0.4**
BLY	**Banja Luka**	**2.70**	**333**	*e*Sn	**Sn**	**21 48 18.6**	**+2.1**
BLY	**Banja Luka**	**2.70**	**333**	⇓*i*P	**Pn**	**21 47 42.7**	**-0.4**
BLY	**Banja Luka**	**2.70**	**333**	S	**Sn**	**21 48 16.6**	**+0.1**
BLY	**Banja Luka**	**2.70**	**333**	*e*Pn	**Pn**	**21 47 43.6**	**+0.5**
BLY				*e*Sn	**Sn**	**21 48 16.5**	**+0.1**
FRGS	**Fruska Gora**	**2.88**	**13**	*e*Pn	**Pn**	**21 47 46.4**	**+0.9**
FRGS				*e*Sn	**Sn**	**21 48 22.0**	**+1.2**
ZAPS	**Zavoj**	**2.89**	**70**	*e*Pn	**Pn**	**21 47 46.9**	**+1.2**
ZAPS				*e*Sn	**Sn**	**21 48 22.5**	**+1.4**
VTS	**Vitosha**	**3.21**	**84**

JHJ2	**Mitsune**	**0.66**	**213**	P	**Pn**	**22 11 06.4**	**+0.2**
JHJ2				S	**Sn**	**22 11 18.5**	**+1.0**
JHJ	**Hachijo jima 2**	**0.67**	**215**	P	**Pn**	**22 11 06.7**	**+0.3**
	80nm,0.3s,baz=328,slow=17,SNR=52						
JHJ				S	**Sn**	**22 11 18.2**	**+0.5**
	134nm,0.3s,baz=81,slow=22,SNR=18						
JHCJ	**Hachijojimakas**	**0.70**	**212**	P	**Pn**	**22 11 06.5**	**-0.2**
JHCJ				*e*S	**Sn**	**22 11 19.3**	**+1.0**
JKO	**Kozu shima**	**1.05**	**300**	P	**Pn**	**22 11 10.2**	**-0.4**
BSO3	**Boso 3**	**1.15**	**11**	P	**Pn**	**22 11 11.6**	**0.0**
BSO3				S	**Sn**	**22 11 27.6**	**+0.5**
BSO1	**Boso 1**	**1.16**	**32**	P	**Pn**	**22 11 10.9**	**-0.5**
JIM2	**Oshima 3**	**1.24**	**328**	P	**Pn**	**22 11 12.5**	**-0.5**
JIM2				*e*S	**Sn**	**22 11 28.7**	**-0.9**
JAOM	**Aogashimamukai**	**1.27**	**199**	P	**Pn**	**22 11 13.2**	**-0.2**
BSO4	**Boso 4**	**1.32**	**4**	P	**Pn**	**22 11 14.3**	**+0.4**
JIZS	**Izushimoda**	**1.54**	**313**	S	**Sn**	**22 11 35.7**	**-0.6**
JOD2	**Odawara 2**	**1.85**	**329**	P	**Pn**	**22 11 20.8**	**-0.1**
JOD2				*e*S	**Sn**	**22 11 43.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.31**	**330**	P	**Pn**	**22 11 41.4**	**+0.8**
	0.4nm,0.3s,baz=157,slow=13,SNR=14						
MJAR				S	**Sn**	**22 12 21.4**	**+2.5**
	0.2nm,0.3s,baz=161,slow=15,SNR=5.2						
MKAR	**Makanchi Array**	**45.17**	**305**	P	**P**	**22 19 00.7**	**+1.0**
	0.1nm,0.5s,baz=99,slow=7.4,SNR=2.4						
WRA	**Warramunga Arr**	**53.61**	**187**	P	**P**	**22 20 02.5**	**-1.5**
	0.2nm,0.6s,baz=5.3,slow=7.7,SNR=9.4						

ISCJB ***29*** *22:15:12.8±0.2,22˚.13N±0˚.04×144˚.25E±0˚.04, h69km, mb4.6/125, Error ellipse: s-maj=5.3km s-min=4.7km az=170.4*

IDC ***29*** *22:15:12.9±0.6,22˚.13N×144˚.28E, h61km±5km, mb4.1/27, mb1 4.2/30, mb1mx4.2/42, mbtmp4.4/30, MS3.7/19, Ms1 3.7/19, ms1mx3.5/51, Error ellipse: s-maj=14.2km s-min=9.8km az=82.0*

BJI ***29*** *22:15:17.9, 22˚.20N×144˚.09E, h109km, mb4.7/52, mB4.9/34*

MOS ***29*** *22:15:18.3±1.1, 22˚.10N×144˚.10E, h120km, mb4.8/44, Error ellipse: s-maj=10.1km s-min=5.5km az=112.5*

NEIC ***29*** *22:15:19.0±0.9, 22˚.03N×144˚.26E, h115km±8km, mb4.6/70, Error ellipse: s-maj=5.3km s-min=5.1km az=93.0*

ISC 29 22:15:14.4±0.4,22˚.17N±0˚.05×144˚.26E±0˚.06, h69km, n251, σ1ş21/255, mb4.7/125, 14C-4D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.25**	**339**	P	**Pn**	**22 16 29.4**	**-0.9**
	16nm,0.3s,baz=107,slow=20,SNR=42						
JCJ				S	**Sn**	**22 17 28.8**	**-0.7**
	31nm,0.3s,baz=131,slow=20,SNR=4.2						
SARN	**Sarigan**	**5.63**	**165**	*e*Pn	**Pn**	**22 16 37.6**	**+2.1**
INU	**Inuyama**	**14.57**	**336**	*e*Pn	**P**	**22 18 41.5**	**-0.1**
MJAR	**Matsushiro Arr**	**15.25**	**341**	P	**Pn**	**22 18 44.7**	**-1.0**
	0.2nm,0.3s,baz=172,slow=11,SNR=19						
MAJO	**Matsushiro**	**15.25**	**341**	*e*Pn	**P**	**22 18 49.5**	**+0.4**
	20nm,0.9s						
MAJO	**Matsushiro**	**15.25**	**341**	*e*P	**P**	**22 18 49.5**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,20nm,0.9s						
MAT	**Matsushiro**	**15.25**	**341**	P	**P**	**22 18 49.2**	**+0.1**
MJB9	**Matsu-Tunnel**	**15.26**	**341**	*e*Pn	**P**	**22 18 49.9**	**+0.7**
	comp=Z,20nm,0.9s						
JNU	**Nakatsue**	**16.09**	**316**	*e*P	**P**	**22 19 01.6**	**+3.1**
	comp=Z,42nm,1.2s						
JNU	**Nakatsue**	**16.09**	**316**	P	**Pn**	**22 18 57.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=112,slow=7.7,SNR=2.9						
YOJ	**Yonaguni jima**	**19.65**	**281**	*e*P	**Pn**	**22 19 39.6**	**0.0**
	comp=Z,235nm,1.2s						
YOJ	**Yonaguni jima**	**19.65**	**281**	*e*P	**Pn**	**22 19 39.6**	**0.0**
YOJ				pmax	pmax		
	comp=Z,235nm,1.2s						
ERM	**Erimo**	**19.80**	**358**	*e*P	**Pn**	**22 19 41.9**	**+0.6**
KSRS	**Korea Array**	**20.76**	**321**	P	**P**	**22 19 49.1**	**-0.4**
	comp=Z,2.9nm,0.7s,baz=143,slow=8.5,SNR=11						
KSRS				LR	LR	22 27 22.3	
	comp=Z,73nm,19.8s,baz=132,slow=35						
KS15	**Wonju Array Si**	**20.77**	**321**	*e*P	Pn	22 19 54.4	+1.7
	comp=Z,19nm,0.8s						
KSAR	**Wonju Array Be**	**20.77**	**321**	P	**P**	**22 19 49.1**	**-0.6**
KSAR	**Wonju Array Be**	**20.77**	**321**	P	**P**	**22 19 49.1**	**-0.6**
KS01	**Wonju Array Si**	**20.79**	**321**	*e*P	Pn	22 19 54.3	+1.4
NACB	**Ninganchiao**	**20.93**	**280**	*e*P	Pn	22 19 54.2	-0.6
	comp=Z,26nm,0.9s						
YHNB	**Yeheng**	**21.14**	**281**	*e*P	**P**	**22 19 56.4**	**+2.5**
	comp=Z,53nm,1.1s						
YULB	**Yu-li**	**21.21**	**278**	*e*P	**P**	**22 19 55.9**	**+1.4**
	comp=Z,33nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**21.34**	**96**	T	T	22 41 45.2	
	baz=283,slow=75						
H11S1	**WAKE ISLAND Hy**	**21.35**	**96**	T	T	22 42 21.4	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**21.36**	**96**	T	T	22 41 57.2	
	baz=283,slow=75						
SSLB	**Suanglung**	**21.52**	**279**	*e*P	**P**	**22 19 59.4**	**+1.6**
	comp=Z,94nm,0.9s						
TPUB	**Ta-pu**	**21.82**	**277**	*e*P	**P**	**22 20 02.9**	**+1.8**
	comp=Z,92nm,1.2s						
MSHR	**Mys Shultsa**	**23.11**	**335**	*i*P	**P**	**22 20 15.8**	**+1.4**
TEY	**Ternei**	**23.66**	**346**	*e*P	**P**	**22 20 19.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**24.19**	**338**	P	**P**	**22 20 24.5**	**+0.2**
	comp=Z,16nm,0.8s,baz=184,slow=10,SNR=19						
USRK				LR	LR	22 29 18.9	
	comp=Z,195nm,21.4s,baz=151,slow=35						
USA0B	**Ussuriysk Arra**	**24.20**	**338**	*e*P	**P**	**22 20 26.2**	**+1.9**
	comp=Z,28nm,0.9s						
USA0B	**Ussuriysk Arra**	**24.20**	**338**	*e*P	**P**	**22 20 26.2**	**+1.9**
USA0B				pmax	pmax		
	comp=Z,28nm,0.9s						
NJ2	**Nanjing**	**24.61**	**299**	*e*P	**P**	**22 20 29.5**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,16nm,0.5s						
YSS	**Yuzh-Sakhalins**	**24.75**	**358**	*e*P	**P**	**22 20 31.3**	**+2.0**
MDJ	**Mudanjiang**	**25.43**	**335**	P	**P**	**22 20 37.5**	**+1.9**
MDJ				pP	sP	22 20 59.5	+0.7
MDJ				sP	pwP	22 21 12.8	+18
MDJ				S	S	22 24 47.3	-10
MDJ				pmax	pmax		
	comp=Z,14nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.7s						
DL2	**Dalian**	**25.55**	**316**	P	**P**	**22 20 38.0**	**+1.3**
DL2				pmax	pmax		
	comp=Z,50nm,1.0s						
CN2	**Changchun**	**26.61**	**329**	*e*P	**P**	**22 20 47.5**	**+1.3**
CN2				*es*P	PP	22 21 29.3	-18
CN2				*e*S	**S**	**22 25 10.0**	**-6.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,150nm,15.0s						
CN2				LR	LR		
	comp=Z,150nm,15.0s						
CN2				LR	LR		
	comp=Z,260nm,17.0s						
TIA	**Tai'an**	**27.40**	**307**	P	**P**	**22 20 53.5**	**+0.1**
TIA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
KLR	**Kul'dur**	**28.77**	**343**	P	**P**	**22 21 06.2**	**+0.8**
	comp=Z,12nm,0.6s,baz=146,slow=7.2,SNR=68						
SKR	**Severo-Kuril's**	**29.93**	**15**	*e*P	**P**	**22 21 17.2**	**+1.5**
PETK	**Petropavlovsk-**	**32.55**	**15**	LR	LR	22 33 46.4	
	comp=Z,92nm,20.4s,baz=197,slow=34						
XAN	**Xi'an**	**33.18**	**299**	P	**P**	**22 21 44.3**	**-0.2**
XAN				pP	sP	22 22 08.5	+0.8
XAN				S	**S**	**22 26 57.5**	**-1.9**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,80nm,11.3s						
XAN				LR	LR		
	comp=Z,120nm,19.5s						
XAN				LR	LR		
	comp=Z,130nm,18.4s						
XAN				LR	LR		
	comp=Z,100nm,23.5s						
HHC	**Hu-ho-hao-te**	**33.26**	**312**	*e*P	**P**	**22 21 46.0**	**+0.8**
HHC				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC				pmax	pmax		
	comp=Z,100nm,4.9s						
ZEA	**Zeya**	**34.06**	**342**	*e*P	**P**	**22 21 52.0**	**+0.1**
ZEA				pmax	pmax		
	comp=Z,23nm,1.0s						
COEN	**Coen**	**35.92**	**182**	*e*P	**P**	**22 22 06.8**	**-1.5**
	comp=Z,14nm,0.8s						
CD2	**Chengdu**	**37.10**	**292**	P	**P**	**22 22 18.0**	**-0.3**
CD2				pmax	pmax		
	comp=Z,50nm,1.1s						
CD2				LR	LR		
	comp=Z,520nm,6.3s						
CD2				LR	LR		
	comp=Z,400nm,9.0s						
MA2	**Magadan**	**37.65**	**5**	*e*P	**P**	**22 22 24.0**	**+1.5**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MA2	**Magadan**	**37.65**	**5**	P	**P**	**22 22 23.0**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=181,slow=8.7,SNR=4.7						
LZH	**Lanzhou**	**37.66**	**301**	*e*P	**P**	**22 22 24.3**	**+1.2**
LZH				PP	**PP**	**22 23 49.0**	**-1.2**
LZH				pmax	pmax		
	comp=Z,36nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,5.4s						
LZH				LR	LR		
	comp=Z,240nm,13.5s						
LZH				LR	LR		
	comp=Z,360nm,15.2s						
LZH				LR	LR		
	comp=Z,380nm,16.3s						
KMI	**Kunming**	**38.04**	**283**	P	**P**	**22 22 28.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ULN	**Ulaanbaatar**	**39.24**	**320**	*e*P	**P**	**22 22 37.0**	**+0.8**
	comp=Z,4.6nm,0.9s						
ULN	**Ulaanbaatar**	**39.24**	**320**	*e*P	**P**	**22 22 36.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
SONM	**Songino Array**	**39.62**	**320**	P	**P**	**22 22 39.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=127,slow=8.5,SNR=15						
SONM				LR	LR	22 38 42.7	
	comp=Z,153nm,20.3s,baz=120,slow=36						
SEY	**Seymchan**	**41.11**	**6**	*e*P	**P**	**22 22 52.2**	**+1.0**
SEY	**Seymchan**	**41.11**	**6**	P	**P**	**22 22 52.1**	**+0.9**
	comp=Z,3.9nm,0.9s,baz=158,slow=7.1,SNR=9.2						
PBKT	**Sadao Pong**	**41.12**	**270**	P	**P**	**22 22 53.0**	**+1.1**
	comp=Z,9.3nm,0.8s						
GTA	**Gaotai**	**41.42**	**305**	*e*P	**P**	**22 22 54.5**	**+0.2**
GTA				pP	sP	22 23 19.5	+1.8
GTA				sP	pwP	22 23 32.5	+17
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BOD	**Bodaibo**	**41.80**	**336**	*e*P	**P**	**22 22 54.1**	**-2.8**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CMMT	**Chiang Mai**	**42.46**	**274**	P	**P**	**22 23 03.4**	**+0.5**
	comp=Z,6.8nm,1.2s						
CHTO	**Chiang Mai**	**42.47**	**274**	*e*P	**P**	**22 23 03.5**	**+0.6**
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**42.47**	**274**	*e*P	**P**	**22 23 03.5**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**42.55**	**273**	P	**P**	**22 23 03.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=56,slow=8.4,SNR=15						
CMAR				PcP	**PcP**	**22 24 55.8**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=70,slow=1.1,SNR=4.5						
CMAR				LR	LR	22 39 05.0	
	comp=Z,82nm,21.3s,baz=118,slow=34						
ZAK	**Zakamensk**	**42.59**	**322**	*e*P	**P**	**22 23 02.5**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
WRAB	**Tennant Creek**	**42.96**	**194**	*e*P	**P**	**22 23 05.0**	**-1.8**
	comp=Z,17nm,1.1s						
WRAB	**Tennant Creek**	**42.96**	**194**	*ce*P	**P**	**22 23 05.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,41nm,2.5s						
WB2	**Warramunga Arr**	**42.97**	**194**	*e*P	**P**	**22 23 06.0**	**-0.8**
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**42.97**	**194**	P	**P**	**22 23 05.3**	**-1.5**
	comp=Z,2.6nm,0.3s,baz=13,slow=8.6,SNR=116						
WRA				ScP	**ScP**	**22 28 42.9**	**+1.5**
	comp=Z,0.6nm,0.8s,baz=4.6,slow=4.5,SNR=3.2						
TLY	**Talaya**	**42.97**	**324**	*e*P	**P**	**22 23 08.0**	**+1.4**
TLY				pmax	pmax		
	comp=Z,13nm,1.5s						
TLY				MLR	MLR		
	comp=Z,224nm,19.0s						
SRDT	**SRDT**	**43.44**	**268**	P	**P**	**22 23 12.3**	**+1.5**
	comp=Z,16nm,0.8s,comp=Z,1μm						
FITZ	**Fitzroy Crossi**	**43.98**	**206**	*e*P	**P**	**22 23 15.2**	**+0.2**
	comp=Z,21nm,1.2s						
AS01	**Alice Springs**	**46.66**	**193**	*e*P	**P**	**22 23 34.3**	**-1.8**
ASAR	**Alice Springs**	**46.67**	**193**	P	**P**	**22 23 34.9**	**-1.4**
	comp=Z,1.1nm,0.6s,baz=14,slow=7.5,SNR=15						
ASAR				pP	**pP**	**22 23 51.1**	**-1.6**
	comp=Z,3.5nm,0.6s,baz=16,slow=8.8,SNR=12						
ASAR				LR	LR	22 42 59.8	
	comp=Z,69nm,20.6s,baz=59,slow=36						
NIKH	**Nikolski High**	**47.00**	**37**	*e*P	**P**	**22 23 39.3**	**+0.8**
	comp=Z,140nm,1.0s						
SHL	**Shillong**	**47.77**	**285**	P	**P**	**22 23 44.5**	**-0.6**
BILL	**Bilibino**	**47.86**	**11**	*e*P	**P**	**22 23 45.5**	**+0.6**
	comp=Z,9.3nm,0.9s						
BILL	**Bilibino**	**47.86**	**11**	*e*P	**P**	**22 23 45.5**	**+0.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LSA	**Lhasa**	**48.01**	**291**	*i* P	**P**	**22 23 48.4**	**+1.2**
	SNR=8.3						
LSA	**Lhasa**	**48.01**	**291**	P	**P**	**22 23 48.6**	**+1.4**
LSA				pmax	pmax		
	comp=Z,17nm,1.1s						
PSI	**Prapat**	**48.01**	**253**	*e*P	**P**	**22 23 46.9**	**-0.1**
	comp=Z,12nm,0.9s						
PSI	**Prapat**	**48.01**	**253**	*e*P	**P**	**22 23 46.9**	**-0.1**
PSI				pmax	pmax		
	comp=Z,12nm,0.9s						
GSI	**Gunungsitoli**	**49.90**	**252**	*e*P	**P**	**22 24 00.9**	**-0.4**
	comp=Z,13nm,0.8s						
TIXI	**Tiksi**	**50.28**	**354**	*e*P	**P**	**22 24 03.5**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GAMB	**Gambell**	**50.78**	**23**	*e*P	**P**	**22 24 08.5**	**+1.2**
	comp=Z,4.9nm,1.0s						
WMQ	**Urumqi**	**51.05**	**309**	P	**P**	**22 24 11.0**	**+1.2**
WMQ				pmax	pmax		
	comp=Z,55nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,380nm,5.5s						
WMQ				LR	LR		
	comp=Z,110nm,18.5s						
WMQ				LR	LR		
	comp=Z,110nm,20.5s						
WMQ				LR	LR		
	comp=Z,160nm,23.7s						
DGZ	**Jazzator, Alta**	**52.07**	**316**	*ce*P	**P**	**22 24 17.8**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,10.0nm,1.0s						
RAMN	**Ramite**	**52.28**	**288**	*e*P	**P**	**22 24 19.2**	**-0.2**
JIRN	**Jiri**	**52.55**	**289**	*e*P	**P**	**22 24 21.7**	**+0.2**
	comp=Z,50nm,0.7s						
GUN	**Gumba**	**52.79**	**289**	*e*P	**P**	**22 24 22.9**	**-0.3**
PKI	**Pulchoki**	**53.25**	**289**	*e*P	**P**	**22 24 26.1**	**-0.5**
	comp=Z,6.2nm,0.4s						
PKIN	**Phulchoki**	**53.26**	**289**	*e*P	**P**	**22 24 26.0**	**-0.6**
	comp=Z,5.0nm,0.4s						
DMN	**Daman**	**53.51**	**289**	*e*P	**P**	**22 24 28.3**	**-0.1**
STKA	**Stephens Creek**	**53.80**	**183**	*e*P	**P**	**22 24 28.3**	**-1.7**
	comp=Z,2.5nm,1.3s						
STKA	**Stephens Creek**	**53.80**	**183**	*e*P	**P**	**22 24 28.3**	**-1.7**
STKA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
STKA	**Stephens Creek**	**53.80**	**183**	P	**P**	**22 24 28.0**	**-2.0**
	comp=Z,4.6nm,0.8s,baz=351,slow=9.4,SNR=8.0						
STKA				LR	LR	22 47 38.8	
	comp=Z,35nm,21.3s,baz=23,slow=36						
ZAA0	**Zalesovo Array**	**54.46**	**321**	*e*P	**P**	**22 24 34.3**	**-0.3**
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**54.46**	**321**	*e*P	**P**	**22 24 33.8**	**-0.8**
ZALV	**Zalesovo Beam**	**54.46**	**321**	P	**P**	**22 24 33.5**	**-1.1**
	comp=Z,3.0nm,0.5s,baz=103,slow=7.0,SNR=20						
ZALV				pP	**pP**	**22 24 50.4**	**-1.0**
	comp=Z,4.5nm,0.6s,baz=102,slow=7.5,SNR=5.9						
ZALV				LR	LR	22 47 27.0	
	comp=Z,69nm,21.1s,baz=68,slow=36						
DANN	**Dangsing**	**54.58**	**290**	*e*P	**P**	**22 24 36.6**	**+0.3**
	comp=Z,193nm,0.7s						
KOLN	**Koldanda**	**54.81**	**289**	*e*P	**P**	**22 24 37.7**	**-0.1**
	comp=Z,22nm,0.8s						
MK01	**Makanchi Array**	**55.11**	**312**	*e*P	**P**	**22 24 39.5**	**+0.1**
MK31	**Makanchi Array**	**55.12**	**312**	*e*P	**P**	**22 24 39.6**	**+0.2**
	comp=Z,10nm,0.8s						
MK31	**Makanchi Array**	**55.12**	**312**	*e*P	**P**	**22 24 39.7**	**+0.2**
MK31				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MKAR	**Makanchi Array**	**55.12**	**312**	P	**P**	**22 24 39.8**	**+0.3**
	comp=Z,9.1nm,0.7s,baz=92,slow=9.2,SNR=123						
MKAR				LR	LR	22 49 14.4	
	comp=Z,47nm,18.5s,baz=354,slow=37						
PYUN	**Piuthan**	**55.29**	**290**	*e*P	**P**	**22 24 41.2**	**-0.1**
	comp=Z,38nm,0.7s						
MAKZ	**Makanchi**	**55.33**	**312**	*e*P	**P**	**22 24 41.4**	**+0.4**
	comp=Z,20nm,0.9s						
MAKZ	**Makanchi**	**55.33**	**312**	*e*P	**P**	**22 24 41.4**	**+0.4**
MAKZ				pmax	pmax		
	comp=Z,20nm,0.9s						
NVS	**Novosibirsk**	**55.54**	**322**	*e*P	**P**	**22 24 41.7**	**-0.7**
PDGK	**Podgornoye**	**56.98**	**308**	P	**P**	**22 24 53.4**	**+0.4**
PDGK				pmax	pmax		
	comp=Z,15nm,1.2s						
KDAK	**Kodiak Island**	**57.24**	**35**	P	**P**	**22 24 53.4**	**-1.0**
	comp=Z,6.2nm,1.0s,baz=260,slow=6.1,SNR=2.6						
KURK	**Kurchatov**	**57.81**	**317**	*e*P	**P**	**22 24 58.2**	**-0.3**
	comp=Z,17nm,0.8s						
KURK	**Kurchatov**	**57.81**	**317**	*ce*P	**P**	**22 24 58.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,40nm,1.7s						
NRIK	**Noril'sk**	**57.90**	**340**	P	**P**	**22 24 58.8**	**0.0**
	comp=Z,7.8nm,0.6s,baz=116,slow=8.0,SNR=10						
PPLA	**Purkeypile**	**58.49**	**29**	*e*P	**P**	**22 25 04.5**	**+1.3**
	comp=Z,46nm,1.7s						
IM3	**Indian Mountai**	**58.63**	**25**	*e*P	**P**	**22 25 03.7**	**-0.3**
CAST	**Castle Rocks**	**58.65**	**28**	*e*P	**P**	**22 25 05.4**	**+1.2**
	comp=Z,46nm,2.0s						
BPAW	**Bear Paw Mtn.**	**59.28**	**28**	*e*P	**P**	**22 25 09.4**	**+0.8**
	comp=Z,47nm,1.9s						
ULHL	**Ulahol**	**59.41**	**307**	P	**P**	**22 25 11.3**	**+1.2**
	SNR=12						
TRF	**Thorfare Moun**	**59.45**	**28**	*e*P	**P**	**22 25 10.3**	**+0.4**
	comp=Z,16nm,1.2s						
KSH	**Kashi**	**59.80**	**304**	P	**P**	**22 25 17.0**	**+4.3**
KSH				S	**S**	**22 33 22.3**	**+3.2**
KSH				pmax	pmax		
	comp=Z,130nm,6.4s						
TKM2	**Tokmak 2**	**59.84**	**308**	P	**P**	**22 25 14.5**	**+1.4**
	SNR=17						
SML	**Sawmill**	**60.04**	**30**	*e*P	**P**	**22 25 15.1**	**+1.2**
	comp=Z,127nm,2.0s						
SML	**Sawmill**	**60.04**	**30**	*e*P	**P**	**22 25 15.1**	**+1.2**
SML				pmax	pmax		
	comp=Z,127nm,2.0s						
KZA	**Kyzart**	**60.15**	**307**	P	**P**	**22 25 16.9**	**+1.5**
	SNR=22						
KBK	**Karagaybulak**	**60.34**	**307**	P	**P**	**22 25 17.2**	**+0.8**
	SNR=14						
CHMS	**Chumysh**	**60.46**	**308**	P	**P**	**22 25 18.1**	**+1.0**
	SNR=7.0						
USP	**Ospenovka**	**60.63**	**308**	P	**P**	**22 25 18.7**	**+0.5**
	SNR=7.8						
AAK	**Ala-Archa**	**60.67**	**307**	P	**P**	**22 25 19.7**	**+1.0**
	SNR=5.5						
AAK	**Ala-Archa**	**60.67**	**307**	*e*P	**P**	**22 25 19.5**	**+0.8**
	comp=Z,7.2nm,1.0s						
AAK	**Ala-Archa**	**60.67**	**307**	*i* P	**P**	**22 25 19.4**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**60.67**	**307**	*ce*P	**P**	**22 25 19.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,14nm,1.7s						
UCH	**Uchtor**	**60.69**	**307**	P	**P**	**22 25 20.4**	**+1.3**
	SNR=18						
TOLK	**Toolik Lake Re**	**60.90**	**23**	*e*P	**P**	**22 25 21.0**	**+1.4**
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**61.16**	**27**	P	**P**	**22 25 19.6**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=259,slow=5.8,SNR=16						
ILAR				pP	**pP**	**22 25 37.0**	**-1.2**
	comp=Z,2.9nm,0.7s,baz=260,slow=5.3,SNR=11						
IL1	**Eielson Array**	**61.16**	**27**	*e*P	**P**	**22 25 20.1**	**-1.3**
AML	**Almayashu**	**61.30**	**307**	P	**P**	**22 25 24.8**	**+1.6**
	SNR=18						
SCRK	**Sand Creek**	**62.30**	**28**	*e*P	**P**	**22 25 29.6**	**+0.3**
	comp=Z,6.9nm,0.9s						
NIL	**Nilore**	**62.71**	**297**	*e*P	**P**	**22 25 33.1**	**+0.8**
	comp=Z,30nm,0.9s						
NIL	**Nilore**	**62.71**	**297**	*e*P	**P**	**22 25 33.1**	**+0.8**
NIL				pmax	pmax		
	comp=Z,30nm,0.9s						
BRVK	**Borovoye**	**63.02**	**319**	*e*P	**P**	**22 25 34.3**	**+0.3**
	comp=Z,20nm,0.8s						
BRVK	**Borovoye**	**63.02**	**319**	*c i*P	**P**	**22 25 34.0**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,19nm,0.9s						
KK31	**Karatay Array**	**63.55**	**308**	*e*P	**P**	**22 25 38.4**	**+0.6**
	comp=Z,21nm,0.9s						
KK31	**Karatay Array**	**63.55**	**308**	*e*P	**P**	**22 25 38.4**	**+0.6**
KK31				pmax	pmax		
	comp=Z,21nm,0.9s						
KKAR	**Karatay Array**	**63.55**	**308**	*e*P	**P**	**22 25 38.4**	**+0.6**
	comp=Z,21nm,0.9s						
KKAR	**Karatay Array**	**63.55**	**308**	*e*P	**P**	**22 25 38.4**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,21nm,0.9s						
KBL	**Kabul**	**65.98**	**299**	*e*P	**P**	**22 25 54.3**	**+0.3**
	comp=Z,23nm,0.8s						
KBL	**Kabul**	**65.98**	**299**	*e*P	**P**	**22 25 54.3**	**+0.3**
KBL				pmax	pmax		
	comp=Z,23nm,0.8s						
INK	**Inuvik**	**66.73**	**24**	*e*P	**P**	**22 25 58.7**	**+0.9**
	comp=Z,9.8nm,1.3s						
INK	**Inuvik**	**66.73**	**24**	*e*P	**P**	**22 25

NEW	**Newport**	**79.26**	**42**	P		**P**	**22 27 13.2**	**+0.9**
HATD	**Hatta, Dubai**	**79.39**	**292**	*i* P		**P**	**22 27 13.6**	**+0.2**
	SNR=8.1							
TULEG	**Thule**	**79.46**	**7**	*e*P		**P**	**22 27 12.9**	**+0.1**
	comp=Z,8.3nm,0.9s							
ASHO	**Ashiyiah**	**79.50**	**292**	*i* P		**P**	**22 27 14.2**	**+0.2**
	SNR=7.3							
NAZ	**Nazwa, Dubai**	**79.74**	**293**	P		**P**	**22 27 15.1**	**-0.2**
ALNE	**Al Ain**	**79.97**	**292**	*i* P		**P**	**22 27 16.9**	**+0.4**
	SNR=6.3							
J08A	**Circle Bar Ran**	**80.14**	**47**	*e*P		**P**	**22 27 18.2**	**+1.0**
	comp=Z,4.7nm,0.9s							
ASUD	**Al Ashush, Dub**	**80.14**	**293**	P		**P**	**22 27 18.0**	**+0.5**
JOF	**Joensuu**	**80.32**	**335**	P		**P**	**22 27 17.5**	**-0.1**
JOF				pmax	pmax			
	comp=Z,20nm,0.8s							
WVOR	**Wild Horse Val**	**80.36**	**48**	*e*P		**P**	**22 27 19.3**	**+0.8**
	comp=Z,14nm,1.8s							
BMO	**Blue Mountains**	**80.38**	**46**	*e*P		**P**	**22 27 19.1**	**+0.6**
	comp=Z,18nm,1.6s							
BMO	**Blue Mountains**	**80.38**	**46**	*e*P		**P**	**22 27 19.1**	**+0.6**
BMO				pmax	pmax			
	comp=Z,18nm,1.6s							
VRH	**Novokhopyorsk**	**80.50**	**321**	*e*P		**P**	**22 27 17.0**	**-1.8**
VRH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
CMB	**Columbia Colle**	**80.68**	**53**	*e*P		**P**	**22 27 19.1**	**-1.1**
	comp=Z,17nm,1.8s							
CMB	**Columbia Colle**	**80.68**	**53**	*e*P		**P**	**22 27 19.1**	**-1.1**
CMB				pmax	pmax			
	comp=Z,17nm,1.8s							
DAG	**Danmarks Havn**	**80.73**	**356**	*i* P		**P**	**22 27 19.3**	**-0.3**
	comp=Z,3.6nm,0.8s							
DAG	**Danmarks Havn**	**80.73**	**356**	*i* P		**P**	**22 27 19.3**	**-0.3**
DAG				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PAHR	**Pah Rah Range**	**80.81**	**51**	*e*P		**P**	**22 27 21.1**	**+0.1**
	comp=Z,9.2nm,1.5s							
PNTR	**Pine Nut**	**80.88**	**52**	*e*P		**P**	**22 27 21.3**	**-0.2**
	comp=Z,4.4nm,0.8s							
LPSR	**Galich'ya Gora**	**81.50**	**324**	*e*P		**P**	**22 27 23.5**	**-0.6**
LPSR				pmax	pmax			
	comp=Z,10.0nm,0.7s							
OBN	**Obninsk**	**81.65**	**326**	*e*P		**P**	**22 27 24.5**	**-0.3**
OBN				*e*			22 30 40.1	
OBN				*e*PPP	PPP		22 32 31.5	
OBN				pmax	pmax			
	comp=Z,5.0nm,0.6s							
VSR	**Storozhevoye**	**81.96**	**322**	*e*P		**P**	**22 27 25.0**	**-1.6**
VSR				pmax	pmax			
	comp=Z,20nm,1.0s							
KVN	**Kaiserville**	**81.98**	**51**	*e*P		**P**	**22 27 28.2**	**+0.9**
	comp=Z,4.9nm,1.0s							
KVN	**Kaiserville**	**81.98**	**51**	*e*P		**P**	**22 27 28.2**	**+0.9**
KVN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
NV01	**Mina Array Sit**	**82.06**	**52**	*e*P		**P**	**22 27 28.0**	**+0.3**
NVAR	**Mina Array Bea**	**82.06**	**52**	P		**P**	**22 27 27.9**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=271,slow=5.3,SNR=12							
NVAR				pP		**pP**	**22 27 44.8**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=286,slow=5.2,SNR=10							
NVAR				LR	LR		22 57 57.0	
	comp=Z,44nm,19.5s,baz=316,slow=31							
ZEI	**Tsey**	**82.46**	**313**	*e*P		**P**	**22 27 27.4**	**-2.3**
ZEI				pmax	pmax			
	comp=Z,12nm,0.9s							
KBZ	**Khabaz**	**82.76**	**314**	P		**P**	**22 27 30.9**	**0.0**
	comp=Z,17nm,0.8s,baz=84,slow=3.7,SNR=38							
KBZ				LR	LR		23 05 49.8	
	comp=Z,88nm,20.5s,baz=49,slow=37							
HLID	**Hailey**	**82.80**	**46**	*e*P		**P**	**22 27 32.3**	**+0.9**
	comp=Z,2.9nm,1.2s							
GNI	**Garni**	**82.91**	**310**	*e*P		**P**	**22 27 33.2**	**+1.2**
	comp=Z,20nm,1.3s							
GNI	**Garni**	**82.91**	**310**⇓	*e*P		**P**	**22 27 33.2**	**+1.2**
GNI				pmax	pmax			
	comp=Z,102nm,1.3s							
GNI	**Garni**	**82.91**	**310**	LR		LR	23 08 33.7	
	comp=Z,34nm,19.2s,baz=57,slow=39							
LRM	**Limekiln Ridge**	**83.15**	**43**	*e*P		**P**	**22 27 32.2**	**-1.0**
FIA1	**FINESS Array S**	**83.18**	**335**	*e*P		**P**	**22 27 32.4**	**-0.4**
FINES	**FINESS Array B**	**83.18**	**335**	P		**P**	**22 27 31.8**	**-1.0**
	comp=Z,5.0nm,0.4s,baz=69,slow=4.6,SNR=89							
ELK	**Elko**	**83.36**	**49**	*e*P		**P**	**22 27 34.0**	**-0.4**
	comp=Z,3.9nm,1.0s							
ELK	**Elko**	**83.36**	**49**	*e*P		**P**	**22 27 34.0**	**-0.4**
ELK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KARS	**Kars**	**83.88**	**311**	*e*P		**P**	**22 27 37.3**	**+0.3**
	comp=Z,60nm,1.0s							
KARS	**Kars**	**83.88**	**311**	*e*P		**P**	**22 27 37.3**	**+0.3**
KARS				pmax	pmax			
	comp=Z,60nm,1.0s							
R11A	**Troy Canyon, C**	**84.06**	**51**	*e*P		**P**	**22 27 38.6**	**+0.6**
	comp=Z,11nm,1.8s							
VSU	**Vasula**	**84.60**	**332**⇑	*e*P		**P**	**22 27 39.3**	**-0.7**
VSU				pmax	pmax			
	comp=Z,68nm,1.7s							
HVU	**Hansel Valley**	**84.63**	**47**	*e*P		**P**	**22 27 42.3**	**+1.5**
	comp=Z,7.4nm,1.2s							
HVU	**Hansel Valley**	**84.63**	**47**	P		**P**	**22 27 42.3**	**+1.5**
HVU				pmax	pmax			
	comp=Z,7.0nm,1.2s							
FFC	**Flin Flon**	**84.89**	**32**	*e*P		**P**	**22 27 42.2**	**+0.6**
	comp=Z,5.3nm,0.8s							
FFC	**Flin Flon**	**84.89**	**32**	*i* P		**P**	**22 27 42.4**	**+0.8**
SPUT	**South Promonto**	**85.05**	**47**	*e*P		**P**	**22 27 43.6**	**+0.7**
	comp=Z,14nm,1.7s							
SHPR	**Sheep Range**	**85.11**	**53**	*e*P		**P**	**22 27 43.0**	**-0.3**
	comp=Z,3.9nm,1.2s							
PSUT	**Pine Spring**	**85.23**	**50**	*e*P		**P**	**22 27 44.8**	**+0.9**
	comp=Z,3.2nm,0.7s							
DUG	**Dugway, Tooele**	**85.27**	**49**	*e*P		**P**	**22 27 44.2**	**+0.2**
	comp=Z,11nm,1.4s							
DUG	**Dugway, Tooele**	**85.27**	**49**	*e*P		**P**	**22 27 44.2**	**+0.2**
DUG				pmax	pmax			
	comp=Z,11nm,1.4s							
RLMT	**Red Lodge**	**85.47**	**43**	*e*P		**P**	**22 27 46.2**	**+1.2**
	comp=Z,7.5nm,0.8s							
SUMG	**Summit**	**85.48**	**1**	*e*P		**P**	**22 27 45.5**	**+0.9**
	comp=Z,14nm,0.9s							
SUMG	**Summit**	**85.48**	**1**	*i* P		**P**	**22 27 45.6**	**+0.9**
	comp=Z,34nm,0.9s							
SUMG	**Summit**	**85.48**	**1**	*i* P		**P**	**22 27 45.6**	**+0.9**
SUMG				pmax	pmax			
	comp=Z,34nm,0.9s							
PDAR	**Pinedale Array**	**86.35**	**45**	*e*P		**P**	**22 27 48.4**	**-1.0**
PDAR	**Pinedale Array**	**86.35**	**45**	P		**P**	**22 27 49.2**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=135,slow=0.4,SNR=4.6							
PDAR				LR	LR		23 00 46.4	
	comp=Z,69nm,20.3s,baz=9.0,slow=32							
U15A	**North Rim**	**87.25**	**52**	*e*P		**P**	**22 27 54.8**	**+0.8**
	comp=Z,4.1nm,1.0s							
SRU	**San Rafael Swe**	**87.33**	**49**	*e*P		**P**	**22 27 54.4**	**+0.2**
	comp=Z,4.6nm,0.8s							
SRU	**San Rafael Swe**	**87.33**	**49**	P		**P**	**22 27 54.4**	**+0.2**
SRU				pmax	pmax			
	comp=Z,5.0nm,0.8s							
AKASG	**Malin Array Be**	**87.70**	**325**	P		**P**	**22 27 53.2**	**-2.2**
	comp=Z,1.8nm,0.5s,baz=52,slow=5.1,SNR=3.5							
AKASG				LR	LR		23 08 40.6	
	comp=Z,81nm,20.1s,baz=295,slow=37							
KIEV	**Kiev**	**87.71**	**325**⇑	*e*P		**P**	**22 27 53.8**	**-1.7**
KIEV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
NB2	**NORSAR Subarra**	**88.86**	**339**	P		**P**	**22 27 58.6**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=54,slow=4.8							
NB2	**NORSAR Subarra**	**88.86**	**339**	P		**P**	**22 27 58.5**	**-2.2**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**88.86**	**339**	P		**P**	**22 27 58.8**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=51,slow=4.2,SNR=10							
NOA				PP		**PP**	**22 31 30.4**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=39,slow=8.0,SNR=3.4							
NOA				LR	LR		23 10 51.2	
	comp=Z,45nm,20.6s,baz=50,slow=38							
NORES	**NORESS Array B**	**88.98**	**339**	P		**P**	**22 28 01.4**	**+0.1**
BR131	**Keskin Array S**	**90.74**	**314**	*e*P		**P**	**22 28 08.7**	**-1.4**
	comp=Z,4.3nm,1.0s							
BRTR	**Keskin Array B**	**90.74**	**314**	P		**P**	**22 28 08.8**	**-1.4**
	comp=Z,2.7nm,0.8s,baz=110,slow=3.9,SNR=14							
ANMO	**Albuquerque**	**92.15**	**51**⇓	*e*P		**P**	**22 28 17.5**	**+0.7**
ANMO				pmax	pmax			
	comp=Z,14nm,3.8s							
MMAI	**Mount Meron Ar**	**92.77**	**307**	LR		LR	23 13 28.3	
	comp=Z,22nm,19.4s,baz=220,slow=38							
VYHS	**Vyhne**	**94.43**	**327**	*e*P		**P**	**22 28 26.7**	**-0.1**
VYHS	**Vyhne**	**94.43**	**327**	*e*P		**P**	**22 28 26.7**	**-0.1**
CLL	**Collm**	**95.25**	**332**	*e*P		**P**	**22 28 29.0**	**-1.5**
ATD	**Arta Tunnel**	**96.04**	**285**	LR		LR	23 11 31.3	
	comp=Z,38nm,18.0s,baz=9.0,slow=35							
GERES	**GERESS Array B**	**96.69**	**330**	P		**P**	**22 28 35.3**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=29,slow=6.1,SNR=4.4							
TXAR	**Lajitas Array**	**96.96**	**55**	P		**P**	**22 28 39.7**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=290,slow=2.7,SNR=2.8							
TORD	**Torodi Ar. Bea**	**129.21**	**310**	PKP		**PKPdf**	**22 34 14.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=357,slow=3.1,SNR=6.4							
TORD				PP		**PP**	**22 36 28.6**	**+4.6**
	comp=Z,0.9nm,1.0s,baz=12,slow=7.6,SNR=3.7							
PLCA	**Paso Flores**	**145.31**	**130**	PKPbc		**PKPbc**	**22 34 43.7**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=272,slow=1.9,SNR=13							
LPAZ	**La Paz**	**148.90**	**85**	*e*PKPdf		**PKPdf**	**22 34 52.0**	**+0.2**
LPAZ	**La Paz**	**148.90**	**85**	*e*PKIKP		**PKPdf**	**22 34 52.0**	**+0.2**
LPAZ	**La Paz**	**148.90**	**85**	PKPbc		**PKPbc**	**22 34 55.7**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=286,slow=1.8,SNR=3.9							

SAR **29** *22:20:48.5±0.8, 42.°00N×20.°49E, h6km±3km, ML2.6/5*
TIR **29** *22:20:48.3, 42.°03N×20.°41E, h13km, Md2.8/5*
PDG **29** *22:20:48.8±0.2, 42.°03N×20.°41E, h9km, ML2.8/8, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
SKO **29** *22:20:49.5, 42.°10N×20.°42E, h14km, M0.1, ML2.5*
BEO **29** *22:20:51.8±0.3, 42.°08N×20.°49E, h0km, ML2.0/13*

ISC 29 22:20:49.3±1.0, **42.°03N**±0.°02×**20.°41E**±0.°02, **h5**km±9km, **n56**,σ1°**53**/106, **11C-2D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PHP	**Peshkopia**	**0.35**	**176**	*i* PG		**Pg**	**22 20 55.8**	**-0.2**
PHP				*i* SG		**Sg**	**22 21 01.1**	**+0.6**
PUK	**Puka**	**0.39**	**272**	*i* PG		**Pg**	**22 20 56.1**	**-0.6**
PUK				*i* SG		**Sg**	**22 21 02.4**	**+0.5**
BCI	**Bajram Curri**	**0.42**	**323**	*i* PG		**Pg**	**22 20 56.7**	**-0.8**
BCI				*i* SG		**Sg**	**22 21 03.5**	**+0.5**
PVY	**Plav**	**0.66**	**329**⇑	*i* Pg		**Pg**	**22 21 00.9**	**-1.0**
PVY				*i* Sg		**Sb**	**22 21 11.3**	**-1.6**
SKO	**Skopje**	**0.77**	**94**⇑	*i* Pg		**Pg**	**22 21 03.5**	**-0.6**
SKO				*i* Sg		**Sb**	**22 21 14.9**	**-1.0**
SKO				*e*Lg		Lg	22 21 15.2	
	comp=E,0.0nm,0.3s							
SKO				*e*Lg		Lg	22 21 15.3	
	comp=N,0.0nm,0.2s							
TIR	**Tirane**	**0.80**	**211**	*e*Pg		**Pn**	**22 21 07.9**	**+0.7**
TIR				*e*Sg		**Sn**	**22 21 19.4**	**0.0**
TIR	**Tirane**	**0.80**	**211**	*i* Pg		**Pb**	**22 21 05.2**	**-0.4**
TIR	**Tirane**	**0.80**	**211**	*i* PG		**Pb**	**22 21 05.0**	**-0.6**
TIR				*i* SG		**Sn**	**22 21 17.4**	**-2.0**
ULC	**Ulcinj**	**0.87**	**266**⇑	*i* Pg		**Pg**	**22 21 04.8**	**-1.2**
ULC				*i* Sg		**Sb**	**22 21 18.7**	**-0.2**
KRUS	**Krusevo**	**0.91**	**136**	*i* Pg		**Pb**	**22 21 05.8**	**-0.8**
KRUS				*i* Sg		**Sn**	**22 21 20.6**	**-1.8**
KRUS				*e*Lg		Lg	22 21 21.1	
	comp=N,0.0nm,0.2s							
KRUS				*e*Lg		Lg	22 21 21.4	
	comp=Z,0.0nm,0.2s							
IVA	**Berane**	**0.92**	**336**⇓	*i* Pg		**Pg**	**22 21 06.3**	**-0.7**
IVA				*i* Sg		**Sb**	**22 21 20.5**	**0.0**
DRME	**Dracevica, Mon**	**0.93**	**280**⇑	*i* Pg		**Pg**	**22 21 06.0**	**-1.0**
DRME				*i* Sg		**Sn**	**22 21 20.6**	**-2.0**
DRME	**Dracevica, Mon**	**0.93**	**280**	*e*Pg		**Pg**	**22 21 06.2**	**-0.8**
DRME				*e*Sg		**Sb**	**22 21 19.9**	**-0.5**
PDG	**Podgorica**	**0.95**	**295**	*e*Pg		**Pn**	**22 21 09.6**	**+0.4**
PDG				*e*Sg		**Sn**	**22 21 20.8**	**-0.8**
PDG	**Podgorica**	**0.95**	**295**	*i* Pg		**Pg**	**22 21 06.2**	**-1.3**
PDG	**Podgorica**	**0.95**	**295**	*e*Pg		**Pg**	**22 21 05.8**	**-1.7**
PDG				*e*Sg		**Sn**	**22 21 21.1**	**-2.0**
TTG	**Podgorica**	**0.95**	**295**⇑	*i* Pg		**Pg**	**22 21 05.7**	**-1.7**
TTG				*i* Sg		**Sn**	**22 21 21.3**	**-1.8**
OHR	**Ohrid**	**0.96**	**162**	*i* Pg		**Pb**	**22 21 07.9**	**-0.6**
OHR				*i* Sg		**Sn**	**22 21 22.0**	**-1.6**
OHR				*e*Lg		Lg	22 21 22.1	
	comp=E,0.0nm,0.4s							
OHR				*e*Lg		Lg	22 21 22.2	
	comp=N,0.0nm,0.4s							
KOME	**Kolasin**	**1.05**	**321**⇑	*i* Pg		**Pg**	**22 21 08.1**	**-1.4**
KOME				*i* Sg		**Sn**	**22 21 25.0**	**-0.9**
BUM	**Brajici-Budva**	**1.16**	**284**⇑	*i* Pg		**Pg**	**22 21 10.2**	**-1.7**
BUM				*i* Sg		**Sn**	**22 21 28.4**	**-0.1**
CEME	**Cevo**	**1.22**	**295**⇓	*i* Pg		**Pn**	**22 21 11.4**	**-1.7**
CEME				*i* Sg		**Sn**	**22 21 30.3**	**+0.3**
SJES	**Sjenica**	**1.27**	**345**	*e*Pg		**Pb**	**22 21 13.1**	**-0.7**
SJES				*e*Sg		**Sn**	**22 21 31.3**	**0.0**
SELS	**Selova**	**1.30**	**23**	*e*Pg		**Pb**	**22 21 13.3**	**-0.9**
SELS				*e*Sg		**Sn**	**22 21 30.9**	**-1.0**
BARS	**Barje**	**1.30**	**52**	*e*Pg		**Pg**	**22 21 14.0**	**-0.3**
BARS				*e*Sg		**Sn**	**22 21 31.3**	**-0.7**
NKME	**Niksic**	**1.31**	**305**⇑	*i* Pg		**Pn**	**22 21 12.9**	**-1.3**
NKME				*i* Sg		**Sg**	**22 21 33.4**	**+2.1**
STIP	**Stip**	**1.37**	**104**	*i* Pn		**Pg**	**22 21 16.6**	**+1.1**
STIP				*i* Sg		**Sg**	**22 21 38.5**	**+5.2**
STIP				*e*Lg		Lg	22 21 39.0	
	comp=N,0.0nm,0.2s							
STIP				*e*Lg		Lg	22 21 39.0	
	comp=E,0.0nm,0.2s							
FNA	**Florina**	**1.44**	**149**	*i* PN		**Pb**	**22 21 16.0**	**-0.6**
FNA				*i* SN		**Sg**	**22 21 36.9**	**+1.3**
HCY	**Herceg Novi**	**1.48**	**287**⇑	*i* Pg		**Pb**	**22 21 16.2**	**-1.1**
HCY				*i* Sg		**Sg**	**22 21 39.0**	**+2.1**
HCY	**Herceg Novi**	**1.48**	**287**	*e*Pn		**Pb**	**22 21 16.8**	**-0.5**
HCY				*e*Sn		**Sg**	**22 21 37.1**	**+0.2**
PLE	**Pljevlja**	**1.50**	**330**⇑	*i* Pg		**Pb**	**22 21 16.6**	**-1.1**
PLE				*i* Sg		**Sg**	**22 21 39.0**	**+1.5**
IVAS	**Ivanjica**	**1.56**	**353**	*e*Pg		**Pg**	**22 21 18.9**	**-0.2**
IVAS				*e*Sg		**Sg**	**22 21 39.5**	**+0.2**
BOSS	**Bosilegrad**	**1.60**	**72**	*e*Pg		**Pb**	**22 21 18.5**	**-0.9**
BOSS				*e*Sg		**Sg**	**22 21 40.2**	**-0.6**
BRY	**Bratogost**	**1.64**	**303**⇑	*i* Pn		**Pg**	**22 21 21.4**	**+0.8**
BRY				*i* Sn		**Sg**	**22 21 42.6**	**+0.7**
BRY	**Bratogost**	**1.64**	**303**	*e*Pn		**Pb**	**22 21 18.9**	**-1.1**
BRY				*e*Sn		**Sb**	**22 21 40.8**	**-0.2**
TREB	**Trebinje**	**1.67**	**295**	*e*Pn		**Pg**	**22 21 22.4**	**+1.0**
TREB				*e*Sn		**Sg**	**22 21 45.8**	**+2.7**
TREB	**Trebinje**	**1.67**	**295**	*e*Pn		**Pb**	**22 21 19.3**	**-1.3**
TREB				*e*Sn		**Sb**	**22 21 41.7**	**-0.3**
VAY	**Valandovo**	**1.77**	**113**	*i* Pn		**Pn**	**22 21 19.9**	**-0.5**
VAY				*i* Sg		**Sg**	**22 21 46.3**	**+0.3**
VAY				*e*Lg		Lg	22 21 46.9	
	comp=N,0.0nm,0.5s							
VAY				*e*Lg		Lg	22 21 47.0	
	comp=E,0.0nm,0.7s							
GRUS	**Gruza**	**1.87**	**7**	*e*Pn		**Pg**	**22 21 24.4**	**-0.7**
GRUS				*e*Sn		**Sg**	**22 21 48.0**	**-1.4**
ZAPS	**Zavoj**	**2.06**	**52**	*e*Pn		**Pb**	**22 21 26.6**	**-0.6**
ZAPS				*e*Sn		**Sb**	**22 21 52.5**	**-0.5**
DIVS	**Divibare**	**2.09**	**352**	*e*Pn		**Pb**	**22 21 27.4**	**-0.3**
DIVS				*e*Sn		**Sb**	**22 21 54.1**	**+0.1**
VTS	**Vitosha**	**2.15**	**74**	*e*Pn		**Pb**	**22 21 27.3**	**-1.5**
VTS				*e*Sn		**Sb**	**22 21 54.4**	**-1.4**
STON	**Ston**	**2.17**	**294**	*e*Pn		**Pb**	**22 21 28.4**	**-0.7**
STON				Sn		**Sg**	**22 21 59.0**	**-0.1**
STON	**Ston**	**2.17**	**294**	*e*Pn		**Pn**	**22 21 26.6**	**+0.5**
STON				*e*Sn		**Sn**	**22 21 53.8**	**+0.4**
TRUS	**Trudelj**	**2.19**	**360**	*e*Pn		**Pb**	**22 21 29.5**	**+0.1**
TRUS				*e*Sn		**Sb**	**22 21 55.4**	**-1.5**
HAPS	**Han Pijesak,BI**	**2.32**	**333**	*e*Pn		**Pb**	**22 21 31.1**	**-0.5**
HAPS				*e*Sn		**Sb**	**22 21 59.3**	**-1.3**
HAPS	**Han Pijesak,BI**	**2.32**	**333**	*e*Pn		**Pn**	**22 21 27.3**	**-0.9**
HAPS				*e*Sn		**Sn**	**22 21 57.6**	**+0.5**
BLY	**Banja Luka**	**3.59**	**320**	*e*Pn		**Pn**	**22 21 45.9**	**+0.3**
BZS	**Buzias**	**3.69**	**13**	*e*Pn		**Pn**	**22 21 49.4**	**+2.5**
MORH	**Mrgy, Hungar**	**4.37**	**344**	*e*Pn		**Pn**	**22 21 55.6**	**-0.7**
NVLJ	**Novalja**	**4.77**	**304**	*e*Pn		**Pn**	**22 22 03.3**	**+1.5**
NVLJ				Sn		**Sn**	**22 23 00.5**	**+3.1**
CRES	**Cresnjev**	**5.21**	**318**	*i* Pn		**Pn**	**22 22 11.5**	**+3.6**
CRES				*i* Sn		**Sn**	**22 23 13.6**	**+5.2**
CRES	**Cresnjev**	**5.21**	**318**	*e*Pn		**Pn**	**22 22 07.7**	**-0.2**
CRES				*e*Sn		**Sn**	**22 23 06.9**	**-1.5**
CEY	**Cerknica**	**5.70**	**313**	*e*Sn		**Sn**	**22 23 17.9**	**-2.4**
SKDS	**Skadanscina**	**5.81**	**309**	*i* Pn		**Pn**	**22 22 18.0**	**+1.9**
SKDS				*i* Sn		**Sn**	**22 23 25.3**	**+2.1**
JAVS	**Javornik**	**5.99**	**312**	*i* Pn		**Pn**	**22 22 20.9**	**+2.2**
JAVS				*i* Sn		**Sn**	**22 23 31.6**	**+4.0**
VOJS	**Vojsko**	**6.17**	**313**	*i* Pn		**Pn**	**22 22 23.5**	**+2.4**
VOJS				*i* Sn		**Sn**	**22 23 35.5**	**+3.4**

IDC **29** *22:31:30.2±1.2, 33.°40S×178.°98W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.8/32, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=42.2km s-min=32.8km az=159.0*
ISCJB **29** *22:31:35.4±0.7, 33.°60S±0.°04×178.°9W±0.°1, h48km, mb3.8/3, Error ellipse: s-maj=14.8km s-min=4.8km az=16.7*
WEL **29** *22:31:36.8±0.7, 34.°5S±5.°×17.°9W±1.°1, h33km, ML5.0/26*

ISC 29 22:31:37.3±0.8, **33.°60S**±0.°06×**178.°9W**±0.°1, **h48**km, **n62,**
σ1°**39**/67, **mb3.9/3, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**4.41**	**11**	P		**Pn**	**22 32 40.7**	**-1.0**
GLKZ				S		**Sn**	**22 33 32.0**	**+0.4**
MXZ	**Matakaoa Point**	**4.56**	**209**	P		**Pn**	**22 32 44.0**	**+0.3**
MXZ				S		**Sn**	**22 33 33.8**	**-1.7**
WMGZ	**Waiomatatini S**	**4.74**	**207**	P		**Pn**	**22 32 46.6**	**+0.4**
WMGZ				S		**Sn**	**22 33 41.5**	**+1.6**
PKGZ	**Pakihiroa**	**4.93**	**209**	P		**Pn**	**22 32 48.4**	**-0.5**
PKGZ				S		**Sn**	**22 33 44.8**	**0.0**
HAZ	**Te Kaha**	**4.95**	**212**	P		**Pn**	**22 32 49.3**	**+0.2**
PUZ	**Puketiti**	**5.02**	**207**	P		**Pn**	**22 32 50.3**	**+0.1**
PUZ				S		**Sn**	**22 33 47.1**	**+0.2**
TWGZ	**Tauwhareparae**	**5.22**	**208**	P		**Pn**	**22 32 52.4**	**-0.4**
GRZ	**Great Barrier**	**5.33**	**239**	P		**Pn**	**22 32 54.9**	**+0.5**
CNGZ	**Carnagh Statio**	**5.41**	**205**	P		**Pn**	**22 32 55.2**	**-0.2**
KUZ	**Kuaotunu**	**5.41**	**233**	P		**Pn**	**22 32 56.9**	**+1.5**
TKGZ	**Te Karaka**	**5.50**	**208**	P		**Pn**	**22 32 57.4**	**+0.8**
MWZ	**Matawai**	**5.54**	**210**	P		**Pn**	**22 32 56.6**	**-0.7**
OPRZ	**Ohinepanea**	**5.62**	**220**	P		**Pn**	**22 32 58.4**	**+0.1**
URZ	**Urewera**	**5.66**	**214**	Pn		**Pn**	**22 32 57.6**	**-1.3**
	7.0nm,0.3s,baz=39,slow=4.8,SNR=32							
URZ				Sn		**Sn**	**22 33 59.5**	**-3.1**
	3.8nm,0.3s,baz=330,slow=20,SNR=3.9							
URZ	**Urewera**	**5.66**	**214**	P		**Pn**	**22 32 58.7**	**-0.2**
RAGZ	**Rawiri**	**5.72**	**210**	P		**Pn**	**22 33 01.2**	**+1.4**
RIGZ	**Rimuhau**	**5.76**	**207**	P		**Pn**	**22 33 01.2**	**+0.9**
WIAZ	**Waiheke Island**	**5.83**	**235**	P		**Pn**	**22 33 03.1**	**+1.9**
MKRZ	**Makatiti**	**5.88**	**218**	P		Pn	22 33 07.0	+5.0
OMRZ	**Omania**	**5.91**	**219**	P		**Pn**	**22 33 04.0**	**+1.6**
PRGZ	**Paritu Road**	**5.91**	**205**	P		**Pn**	**22 33 01.6**	**-0.7**
TARZ	**Mount Tarawera**	**5.94**	**218**	P		**Pn**	**22 33 07.2**	**+4.4**
MKAZ	**Moumakai**	**5.98**	**233**	P		**Pn**	**22 33 03.8**	**+0.6**
SNGZ	**Shannon Statio**	**6.00**	**209**	P		**Pn**	**22 33 03.1**	**-0.4**
MUGZ	**Murupara**	**6.00**	**215**	P		**Pn**	**22 33 03.3**	**-0.2**
RTZ	**Ruatahuna**	**6.01**	**212**	P		**Pn**	**22 33 03.6**	**-0.2**
WCZ	**Waipu Caves**	**6.03**	**245**	P		**Pn**	**22 33 05.1**	**+1.2**
HLRZ	**Highlands Stat**	**6.03**	**218**	P		**Pn**	**22 33 07.9**

8.0nm,0.6s,0.0nm
PKDT Phuket 7.85 357 P Pn 22 36 27.7 +7.1
KASI Kota Agung 7.95 134 P **Pn** **22 36 21.8 -0.1**
72nm,0.4s,0.4nm
KPJI Karang Pucung 12.51 126 P **Pn** **22 37 26.7 +2.4**
SBUM Sibu 13.70 80 *e*Pn **Pn** **22 37 42.2 +1.5**
PBKT Sadao Pong 16.62 8 P **P** **22 38 23.9 +3.5**
7.4nm,0.7s
CMAR Chiang Mai Arr 18.35 1 P **P** **22 38 38.0 -1.6**
0.8nm,0.3s,baz=189,slow=12,SNR=11
SHL Shillong 26.27 346 *e*P **P** **22 40 02.5 +2.5**
H08S2 Diego Garcia H 27.24 253 T T 23 08 08.0
baz=74,slow=76,SNR=48
H08S3 Diego Garcia H 27.24 253 T T 23 07 41.2
baz=74,slow=76,SNR=43
H08S1 Diego Garcia H 27.26 253 T T 23 07 41.2
baz=74,slow=76,SNR=33
XAN Xi'an 35.19 15 P **P** **22 41 17.0 -1.5**
XAN pP pP 22 41 30.3 -0.9
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 35.19 15 *e*P **P** **22 41 18.1 -0.4**
9.9nm,1.1s
WR1 Warramunga Arr 40.10 122 *e*P **P** **22 41 57.4 -2.9**
34nm,1.8s
WRA Warramunga Arr 40.10 122 P **P** **22 41 57.4 -2.9**
1.7nm,0.4s,baz=303,slow=9.1,SNR=16
FORT Forrest 41.38 140 *e*P **P** **22 42 10.2 -0.3**
58nm,1.7s
ASAR Alice Springs 41.45 127 P **P** **22 42 09.2 -2.1**
1.5nm,0.4s,baz=298,slow=7.5,SNR=29
AS01 Alice Springs 41.49 127 *e*P **P** **22 42 09.1 -2.6**
SONA0 Songino Array 48.11 7 *e*P **P** **22 43 03.7 -0.4**
SONM Songino Array 48.11 7 P **P** **22 43 03.7 -0.4**
4.3nm,0.6s,baz=188,slow=9.5,SNR=54
ULN Ulaanbaatar 48.22 8 *e*P **P** **22 43 05.3 +0.4**
4.4nm,0.6s
MK01 Makanchi Array 48.76 345 *e*P **P** **22 43 08.6 -0.4**
MK31 Makanchi Array 48.78 345 *e*P **P** **22 43 09.3 +0.2**
4.1nm,0.8s
MK32 Makanchi Array 48.78 345 *e*P **P** **22 43 08.8 -0.3**
MKAR Makanchi Array 48.78 345 P **P** **22 43 08.8 -0.3**
0.9nm,0.4s,baz=154,slow=8.1,SNR=22
MAKZ Makanchi 48.88 345 *e*P **P** **22 43 11.5 +1.7**
4.2nm,0.8s
STKA Stephens Creek 51.42 132 *e*P **P** **22 43 28.2 -1.1**
3.0nm,1.6s
STKA Stephens Creek 51.42 132 P **P** **22 43 28.2 -1.1**
1.8nm,0.7s,baz=290,slow=6.5,SNR=4.3
STKA LR LR 23 07 33.6
comp=Z,31nm,20.0s,baz=204,slow=39
KURBB Kurchatov Arra 53.29 344 P **P** **22 43 42.2 -0.7**
0.3nm,0.3s,baz=155,slow=7.4,SNR=6.4
ZAA0 Zalesovo Array 54.99 350 *e*P **P** **22 43 55.4 +0.3**
8.5nm,1.4s
ZALV Zalesovo Beam 54.99 350 P **P** **22 43 54.4 -0.7**
1.5nm,0.4s,baz=167,slow=6.9,SNR=8.4
ZAA1 Zalesovo Array 54.99 350 *e*P **P** **22 43 54.4 -0.8**
BVAR Borovoye Array 57.89 340 P **P** **22 44 14.9 -1.0**
0.6nm,0.4s,baz=142,slow=11,SNR=10
FIA0 FINESS Array S 81.77 332 *e*P **P** **22 46 42.2 -0.1**
FINES FINESS Array B 81.77 332 P **P** **22 46 42.2 -0.1**
1.0nm,0.8s,baz=115,slow=6.3,SNR=2.9
TXAR Lajitas Array 143.84 34 PKP PKPbc 22 53 58.9 +1.5
0.2nm,0.6s,baz=320,slow=1.4,SNR=3.0

*ISCJB **29** 22:39:53.1±0.6, 0.°05S±0.°08×123.°23E±0.°09, h157km, mb3.3/6, Error ellipse: s-maj=13.8km s-min=10.1km az=159.0*
*DJA **29** 22:39:54.2±0.9, 0.°5S±6.°×12.°3E±.°, h152km±10km, M3.6/7, MLv3.6/7*
*IDC **29** 22:39:58.0±7.0, 0.°06N×123.°51E, h195km±71km, mb3.0/6, mb1 3.3/7, mb1mx3.0/42, mbtmp3.6/7, Error ellipse: s-maj=68.3km s-min=16.4km az=60.0*
ISC 29 22:39:54.2±0.8, 0.°11S±0.°08×123.°24E±0.°08, h157km, n13, σ1§08/14, mb3.3/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.00**	**48**	P	**Pn**	**22 40 20.0**	**+0.3**
LUWI	**Luwuk**	**1.04**	**207**	P	**Pn**	**22 40 20.1**	**+0.1**
LUWI				S	**Sn**	**22 40 38.7**	**-1.1**
MRSI	**Marisa**	**1.42**	**294**	P	**Pn**	**22 40 22.7**	**-0.8**
APSI	**Ampana**	**1.78**	**243**	P	**Pn**	**22 40 27.5**	**+0.2**
SANI	**Sanana**	**3.36**	**125**	P	**Pn**	**22 40 45.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**18.03**	**173**	P	**Pn**	**22 43 55.1**	**0.0**
	0.6nm,0.3s,baz=5.8,slow=9.6,SNR=14						
WRA	**Warramunga Arr**	**22.51**	**152**	P	**P**	**22 44 41.7**	**+0.7**
	0.6nm,0.4s,baz=329,slow=10,SNR=20						
ASAR	**Alice Springs**	**25.61**	**197**	P	**P**	**22 45 10.6**	**+1.4**
	0.4nm,0.6s,baz=342,slow=15,SNR=5.9						
CMAR	**Chiang Mai Arr**	**30.17**	**309**	P	**P**	**22 45 51.9**	**+2.0**
	0.6nm,0.3s,baz=130,slow=8.4,SNR=4.0						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**22 48 32.3**	**+0.1**
	0.6nm,0.8s,baz=164,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**58.83**	**328**	P	**P**	**22 49 34.9**	**-1.4**
	0.2nm,0.5s,baz=118,slow=8.7,SNR=4.5						
KURBB	**Kurchatov Arra**	**63.18**	**330**	P	**P**	**22 50 04.2**	**-1.3**
	0.2nm,0.6s,baz=139,slow=6.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**120.67**	**285**	PKP	**PKPdf**	**22 58 27.9**	**-0.6**
	0.4nm,1.0s,baz=57,slow=1.5,SNR=3.0						

IDC 29 22:57:48.4±2.0, 32.°47S×178.°66W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/33, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=48.9km s-min=34.2km az=62.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.73**	**210**	Pn	Pn	22 59 27.6	-0.8
	0.6nm,0.3s,baz=60,slow=8.1,SNR=11						
URZ				Sn	Sn	23 00 39.8	-5.9
	1.0nm,0.3s,baz=55,slow=19,SNR=3.7						
ASAR	**Alice Springs**	**42.48**	**269**	P	P	23 05 45.9	+0.4
	0.4nm,0.5s,baz=105,slow=7.4,SNR=5.2						
WRA	**Warramunga Arr**	**43.66**	**275**	P	P	23 05 54.6	-0.4
	0.3nm,0.3s,baz=116,slow=8.0,SNR=12						
QSPA	**South Pole Qui**	**57.65**	**180**	P	P	23 07 40.3	+0.1
	0.8nm,0.6s,baz=46,slow=18,SNR=6.2						
FINES	**FINESS Array B**	**146.87**	**338**	PKPbc	PKPbc	23 17 31.0	-0.9
	1.3nm,0.8s,baz=48,slow=2.8,SNR=5.5						

IDC 29 23:00:59.9±1.4, 27.°00N×67.°13E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.1/58, mbtmp3.2/4, Error ellipse: s-maj=39.0km s-min=31.7km az=128.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.11**	**27**	P	P	23 06 07.3	0.0
	0.3nm,0.6s,baz=208,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**25.15**	**17**	P	P	23 06 26.5	0.0
	0.3nm,0.8s,baz=212,slow=8.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**62.39**	**271**	P	P	23 11 24.9	-0.1
	0.2nm,0.7s,baz=61,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**80.10**	**118**	P	P	23 13 12.1	+0.1
	0.6nm,0.9s,baz=306,slow=5.4,SNR=4.3						

*BJI **29** 23:12:57.5, 7.°52S×129.°80E, h122km, mb4.7/30, mB5.0/16*
*NEIC **29** 23:13:03.0±0.6, 7.°08S×129.°46E, h119km±6km, mb4.6/25, Error ellipse: s-maj=7.6km s-min=5.7km az=51.0*
*ISCJB **29** 23:13:03.0±0.2, 7.°08S±0.°03×129.°53E±0.°03, h139km, mb4.4/49, Error ellipse: s-maj=5.0km s-min=4.3km az=144.5*
*IDC **29** 23:13:03.5±1.7, 6.°98S×129.°41E, h121km±15km, mb4.0/22, mb1 4.1/25, mb1mx4.0/42, mbtmp4.5/25, MS3.0/4, Ms1 3.0/4, ms1mx2.7/31, Error ellipse: s-maj=13.0km s-min=9.6km az=72.0*
*DJA **29** 23:13:04.7±0.2, 7.°S±2.°×13.°0E±.°, h143km±3km, M4.8/16, mB5.1/7, mb4.7/16, MLv5.2/7, Mw(mB)4.5/7*
*KLM **29** 23:13:06.6, 7.°66S×129.°38E, h192km, mb4.8*
ISC 29 23:13:04.6±0.3, 7.°10S±0.°04×129.°47E±0.°05, h139km, n150, σ1§65/153, mb4.5/49, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.02**	**116**	*e*Pn	**Pn**	**23 13 38.0**	**-1.3**
SAUI	**Saumlaki**	**2.02**	**116**	P	**Pn**	**23 13 37.8**	**-1.5**
BNDI	**Bandanaira**	**2.59**	**10**	P	**Pn**	**23 13 49.7**	**+3.3**
FAKI	**Fak Fak**	**4.99**	**34**	*e*Pn	**Pn**	**23 14 14.2**	**-3.6**
FAKI	**Fak Fak**	**4.99**	**34**	P	**Pn**	**23 14 15.1**	**-2.6**
SOEI	**Soe**	**5.78**	**242**	*e*Pn	**Pn**	**23 14 28.4**	**0.0**
SOEI	**Soe**	**5.78**	**242**	P	**Pn**	**23 14 27.9**	**-0.5**
	273nm,0.6s,3µm3.8nm						
MTN	**Manton Dam**	**5.94**	**164**	*e*Pn	**Pn**	**23 14 28.6**	**-1.8**
SANI	**Sanana**	**6.10**	**325**	P	**Pn**	**23 14 34.0**	**+1.5**
SIJI	**Sorong**	**6.44**	**16**	P	**Pn**	**23 14 34.5**	**-2.7**
	15nm,0.3s,baz=212,slow=22,SNR=92						
SIJI				S	**Sn**	**23 15 43.2**	**-6.3**
	13nm,0.3s,baz=242,slow=24,SNR=8.5						
BATI	**Baumata**	**6.52**	**241**	P	**Pn**	**23 14 37.7**	**-0.5**
	123nm,0.6s,2µm1.0nm						
BATI	**Baumata**	**6.52**	**241**	P	**Pn**	**23 14 37.6**	**-0.6**
	91nm,0.3s,baz=137,slow=3.5,SNR=32						
BATI				S	**Sn**	**23 15 47.5**	**-3.9**
	68nm,0.3s,baz=129,slow=22,SNR=15						
BBSI	**Bau Bau**	**7.04**	**283**	P	**Pn**	**23 14 47.6**	**+2.4**
	38nm,1.1s						
RKPI	**Ransiki, Papua**	**7.27**	**40**	P	**Pn**	**23 14 45.7**	**-2.6**
MMRI	**Maumere**	**7.32**	**257**	*e*Pn	**Pn**	**23 14 49.3**	**+0.3**
MMRI	**Maumere**	**7.32**	**257**	P	**Pn**	**23 14 49.6**	**+0.6**
EDFI	**Ende, Flores**	**7.88**	**257**	P	**Pn**	**23 14 58.2**	**+1.7**
	36nm,0.7s,4µm						
LUWI	**Luwuk**	**8.99**	**312**	*e*Pn	**Pn**	**23 15 08.4**	**-2.8**
WSI	**Waingapu**	**9.42**	**254**	P	**Pn**	**23 15 15.9**	**-1.2**
	357nm,0.8s						
BKSI	**Bulukumba**	**9.46**	**280**	P	**Pn**	**23 15 18.3**	**+0.7**
	17nm,0.8s,484nm						
BNSI	**Bone**	**9.69**	**286**	P	**Pn**	**23 15 23.0**	**+2.3**
KAPI	**Kappang**	**9.88**	**282**	*e*Pn	**Pn**	**23 15 23.1**	**-0.1**
SPSI	**Sidrap Palu**	**10.14**	**287**	P	**Pn**	**23 15 27.6**	**+0.9**
	14nm,1.0s						
MRSI	**Marisa**	**10.63**	**315**	P	**Pn**	**23 15 36.0**	**+2.8**
FITZ	**Fitzroy Crossi**	**11.55**	**198**	*e*Pn	**Pn**	**23 15 42.0**	**-3.4**
FITZ				S	Sn	23 17 39.0	-14
FITZ	**Fitzroy Crossi**	**11.55**	**198**	P	**Pn**	**23 15 41.5**	**-3.9**
	4.3nm,0.3s,baz=31,slow=11,SNR=105						
FITZ				S	Sn	23 17 39.0	-14
	3.4nm,0.3s,baz=92,slow=21,SNR=4.3						
FITZ				LR	LR	23 21 44.6	
	comp=Z,37nm,20.0s,baz=87,slow=45						
PLAI	**Plampang**	**11.71**	**261**	P	**Pn**	**23 15 44.5**	**-2.9**
MPSI	**Mapaga**	**12.07**	**307**	P	**Pn**	**23 15 55.4**	**+3.2**
JAY	**Jayapura**	**12.09**	**68**	P	**Pn**	**23 15 54.5**	**+2.1**
	1.3nm,0.3s,baz=174,slow=19,SNR=4.6						
JAY				LR	LR	23 21 23.3	
	comp=Z,60nm,20.5s,baz=171,slow=41						
WRAB	**Tennant Creek**	**13.61**	**160**	*e*Pn	**Pn**	**23 16 08.1**	**-4.0**
WRA	**Warramunga Arr**	**13.62**	**160**	P	Pn	23 16 07.4	-4.7
	2.7nm,0.3s,baz=342,slow=13,SNR=84						
WRA				S	Sn	23 18 29.7	-13
	7.4nm,0.3s,baz=334,slow=21,SNR=11						
WB2	**Warramunga Arr**	**13.62**	**160**	*e*Pn	**Pn**	**23 16 08.0**	**-4.2**
COEN	**Coen**	**15.10**	**118**	*e*Pn	**Pn**	**23 16 30.3**	**-0.6**
	34nm,0.8s						
JAGI	**Jajag, Banyuwa**	**15.23**	**264**	*e*Pn	**Pn**	**23 16 32.2**	**-0.4**
	30nm,1.1s						
BLJI	**Banyuglugur**	**15.75**	**267**	P	**Pn**	**23 16 39.5**	**+0.5**
MTKI	**Muara Teweh, K**	**15.76**	**292**	P	**P**	**23 16 41.4**	**+1.3**
AS31	**Alice Springs**	**17.02**	**166**	*e*P	**P**	**23 16 53.1**	**-0.8**
	5.2nm,0.6s						
ASAR	**Alice Springs**	**17.02**	**166**	P	**P**	**23 16 52.5**	**-1.5**
	1.2nm,0.3s,baz=331,slow=9.1,SNR=47						
ASAR				S	S	23 19 51.5	-13
	2.3nm,0.3s,baz=346,slow=25,SNR=7.1						
ASAR				ScP	**ScP**	**23 24 55.0**	**+0.9**
	baz=358,slow=2.2,SNR=4.7						
AS01	**Alice Springs**	**17.03**	**166**	*e*P	**Pn**	**23 16 55.2**	**+0.7**
PMG	**Port Moresby**	**17.66**	**99**	*e*P	**Pn**	**23 17 02.4**	**+0.3**
	49nm,0.8s						
PMG	**Port Moresby**	**17.66**	**99**	P	**Pn**	**23 17 03.5**	**+1.4**
	2.8nm,0.3s,baz=268,slow=8.4,SNR=15						
SBUM	**Sibu**	**19.65**	**298**	P	**Pn**	**23 17 25.3**	**-0.3**
KPJI	**Karang Pucung**	**20.38**	**268**	P	**P**	**23 17 29.2**	**-1.3**
CTA	**Charters Tower**	**20.78**	**130**	P	Pn	23 17 37.3	-1.6
	5.9nm,0.7s,baz=309,slow=12,SNR=6.2						
CTA				S	**S**	**23 21 20.1**	**+0.8**
	4.5nm,0.9s,baz=288,slow=12,SNR=2.3						
CTAO	**Charters Tower**	**20.78**	**130**	*e*P	Pn	23 17 36.8	-2.0
	11nm,1.0s						
KSM	**Kuching**	**20.93**	**293**	P	**P**	**23 17 37.4**	**+0.9**
LEM	**Lembang**	**21.69**	**269**	P	**P**	**23 17 44.6**	**-0.2**
	12nm,0.5s,baz=128,slow=19,SNR=3.1						
LEM				LR	LR	23 27 33.4	
	comp=Z,55nm,19.7s,baz=358,slow=40						
CBJI	**Citeko**	**22.47**	**270**	P	**P**	**23 17 49.5**	**-3.0**
TGY	**Tagaytay City**	**22.70**	**338**	P	**P**	**23 17 55.0**	**+0.3**
	211nm,0.5s,baz=192,slow=0.9,SNR=6.8						
FORT	**Forrest**	**23.60**	**183**	*e*P	**P**	**23 18 04.2**	**+1.4**
	42nm,1.0s						
PPBI	**Pangkal Pinang**	**23.76**	**281**	P	**P**	**23 18 05.5**	**+1.0**
MORW	**Morawa**	**25.26**	**208**	*e*P	**P**	**23 18 19.1**	**+1.1**
	18nm,0.8s						
BBOO	**Buckleboo**	**26.31**	**167**	*e*P	**P**	**23 18 29.2**	**+1.9**
	28nm,1.4s						
MYKOM	**Kota Tinggi**	**27.05**	**288**	P	**P**	**23 18 31.3**	**-2.8**
STKA	**Stephens Creek**	**27.13**	**157**	*e*P	**P**	**23 18 36.5**	**+1.7**
	6.0nm,1.6s						
STKA	**Stephens Creek**	**27.13**	**157**	P	**P**	**23 18 35.2**	**+0.5**
	1.5nm,0.4s,baz=342,slow=9.8,SNR=5.5						
NWAO	**Narrogin (SRO)**	**28.10**	**202**	P	**P**	**23 18 44.0**	**+0.6**
	5.6nm,0.7s,baz=29,slow=10,SNR=5.1						
MNSI	**Mandalling Nat**	**30.83**	**284**	P	**P**	**23 19 07.9**	**+0.2**
PSI	**Prapat**	**32.03**	**287**	*e*P	**P**	**23 19 19.0**	**+0.6**
	24nm,0.7s						
PSI	**Prapat**	**32.03**	**287**	P	**P**	**23 19 18.3**	**-0.1**
	23nm,0.7s,baz=121,slow=3.7,SNR=19						
PSI				LR	LR	23 31 45.1	
	comp=Z,45nm,20.8s,baz=163,slow=35						
DZM	**Mont Dzumac**	**38.62**	**117**	P	**P**	**23 20 16.1**	**+1.4**
	2.8nm,0.7s,baz=287,slow=20,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.39**	**311**	P	**P**	**23 20 19.8**	**-1.2**
	3.3nm,0.6s,baz=136,slow=6.7,SNR=23						
CMAR				pP	**pP**	**23 20 47.6**	**-2.8**
	1.0nm,0.4s,baz=136,slow=8.9,SNR=1.6						
CMAR				PcP	**PcP**	**23 22 27.8**	**+1.1**
	1.5nm,0.5s,baz=164,slow=2.9,SNR=6.3						
CMAR				ScP	**ScP**	**23 26 05.1**	**+2.6**
	0.8nm,0.3s,baz=156,slow=4.7,SNR=4.1						
CMMT	**Chiang Mai**	**39.60**	**311**	P	**P**	**23 20 23.3**	**+0.5**
	12nm,0.8s						
CHTO	**Chiang Mai**	**39.60**	**311**	*e*P	**P**	**23 20 23.2**	**+0.4**
	9.1nm,0.8s						
NJ2	**Nanjing**	**40.23**	**346**	*e*P	**P**	**23 20 27.8**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**41.26**	**322**	P	**P**	**23 20 40.0**	**+3.4**
KMI				pmax	pmax		
	comp=Z,11nm,0.5s						
MJAR	**Matsushiro Arr**	**44.18**	**10**	P	**P**	**23 20 58.3**	**-1.4**
	2.4nm,0.8s,baz=197,slow=9.2,SNR=3.7						
KSAR	**Wonju Array Be**	**44.33**	**358**	P	**P**	**23 21 01.3**	**+0.5**
KSRS	**Korea Array**	**44.34**	**358**	P	**P**	**23 21 01.3**	**+0.5**
	0.9nm,0.5s,baz=167,slow=8.9,SNR=3.7						
CD2	**Chengdu**	**45.10**	**328**	P	**P**	**23 21 07.5**	**+0.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**45.31**	**336**	P	**P**	**23 21 07.8**	**-0.9**
XAN				pP	pP	23 21 38.5	-0.3
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,140nm,4.3s						
BJI	**Beijing**	**48.48**	**346**↓	*e*P	**P**	**23 21 33.5**	**+0.4**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
LZH	**Lanzhou**	**49.24**	**332**	*e*P	**P**	**23 21 39.5**	**+0.2**
LZH				pP	pP	23 22 08.5	-1.5
LZH				sP	sP	23 22 23.3	-1.6
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.6s						
HHC	**Hu-ho-hao-te**	**50.47**	**342**	*e*P	**P**	**23 21 49.5**	**+1.1**
HHC				pP	pP	23 22 13.8	-5.5
HHC				S	**S**	**23 28 55.5**	**+3.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,86nm,5.5s						
PALK	**Pallekele**	**50.69**	**285**	P	**P**	**23 21 51.4**	**+1.0**
	3.2nm,0.6s,baz=115,slow=8.3,SNR=4.4						
PALK				PcP	**PcP**	**23 23 07.3**	**+1.4**
	baz=117,slow=5.2						
LSA	**Lhasa**	**51.90**	**317**	*e*P	**P**	**23 22 00.6**	**+0.8**
	6.8nm,0.6s						
ASAJ	**Asahikawa**	**52.34**	**12**	P	**P**	**23 22 02.1**	**0.0**
	5.6nm,0.8s,baz=180,slow=3.0,SNR=4.5						
ODAN	**Odare**	**52.92**	**311**	*e*P	**P**	**23 22 06.9**	**-0.1**
	74nm,0.5s						
TAPN	**Taplejung**	**52.96**	**312**	*e*P	**P**	**23 22 07.0**	**-0.3**
	108nm,0.5s						
RAMN	**Ramite**	**53.56**	**311**	*e*P	**P**	**23 22 11.9**	**+0.2**
	178nm,0.5s						
JIRN	**Jiri**	**54.25**	**311**	*e*P	**P**	**23 22 16.8**	**-0.1**
	73nm,0.5s						
GUN	**Gumba**	**54.62**	**312**	*e*P	**P**	**23 22 19.4**	**-0.1**
	125nm,0.5s						
PKI	**Pulchoki**	**54.79**	**311**	*e*P	**P**	**23 22 20.2**	**-0.5**
	44nm,0.5s						
PKIN	**Phulchoki**	**54.80**	**311**	*e*P	**P**	**23 22 20.2**	**-0.5**
	35nm,0.5s						
KKN	**Kakani**	**55.00**	**311**	*e*P	**P**	**23 22 21.8**	**-0.3**
	48nm,0.5s						
DMN	**Daman**	**55.03**	**311**	*e*P	**P**	**23 22 22.2**	**-0.2**
	29nm,0.5s						
KLR	**Kul'dur**	**56.12**	**2**	P	**P**	**23 22 29.4**	**0.0**
	0.9nm,0.7s,baz=244,slow=6.8,SNR=3.6						
KLR				pP	**pP**	**23 22 58.0**	**-3.3**
	1.4nm,0.9s,baz=199,slow=5.6,SNR=3.0						
KOLN	**Koldanda**	**56.26**	**310**	*e*P	**P**	**23 22 31.0**	**0.0**
	49nm,0.4s						
DANN	**Dangsing**	**56.44**	**311**	*e*P	**P**	**23 22 32.1**	**-0.3**
	36nm,0.6s						
PYUN	**Piuthan**	**56.89**	**310**	*e*P	**P**	**23 22 35.4**	**-0.1**
	103nm,0.8s						
ULN	**Ulaanbaatar**	**58.20**	**342**	*e*P	**P**	**23 22 44.9**	**+0.7**
	4.4nm,0.6s						
SONM	**Songino Array**	**58.37**	**342**	P	**P**	**23 22 45.0**	**-0.4**
	3.5nm,0.6s,baz=156,slow=5.8,SNR=29						
WMQ	**Urumqi**	**63.19**	**327**	P	**P**	**23 23 19.5**	**+1.5**
WMQ				pmax	pmax		
	comp=Z,35nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,330nm,4.3s						
WMQ				LR	LR		
	comp=N,180nm,19.9s						
WMQ				LR	LR		
	comp=E,100nm,15.7s						
WMQ				LR	LR		
	comp=Z,100nm,20.9s						
PETK	**Petropavlovsk-**	**64.58**	**18**	P	**P**	**23 23 27.4**	**+0.5**
	3.0nm,0.9s,baz=200,slow=6.2,SNR=4.6						
NIL	**Nilore**	**66.88**	**311**	*e*P	**P**	**23 23 43.0**	**+1.0**
	26nm,0.5s						
KSH	**Kashi**	**67.73**	**318**	P	**P**	**23 23 49.3**	**+1.9**
KSH				S	**S**	**23 32 30.5**	**-3.7**
KSH				pmax	pmax		
	comp=Z,11nm,0.6s						
KSH				pmax	pmax		
	comp=Z,57nm,5.7s						
KSH				LR	LR		
	comp=N,120nm,9.3s						
KSH				LR	LR		
	comp=E,94nm,9.1s						
KSH				LR	LR		
	comp=Z,110nm,9.5s						
PRZ	**Przheval'sk**	**67.74**	**322**	*e*P	**P**	**23 23 49.4**	**+1.9**
	7.2nm,0.9s						
MK01	**Makanchi Array**	**68.00**	**327**	*e*P	**P**	**23 23 48.9**	**+0.1**
MK31	**Makanchi Array**	**68.02**	**327**	*e*P	**P**	**23 23 48.6**	**-0.3**
	8.2nm,0.6s						
MKAR	**Makanchi Array**	**68.02**	**327**	P	**P**	**23 23 49.1**	**+0.2**
	16nm,0.7s,baz=127,slow=7.7,SNR=149						
MAKZ	**Makanchi**	**68.20**	**327**	*e*P	**P**	**23 23 50.3**	**+0.3**
	8.8nm,0.6s						
KDJ	**Kajisay**	**68.31**	**321**	*e*P	**P**	**23 23 52.9**	**+1.8**
	6.1nm,0.6s						
NRN	**Naryn**	**68.70**	**320**	*e*P	**P**	**23 23 53.7**	**0.0**
	3.3nm,0.9s						
KZA	**Kyzart**	**69.51**	**320**	P	**P**	**23 23 56.9**	**-1.8**
	SNR=9.0						
TKM2	**Tokmak 2**	**69.72**	**321**	P	**P**	**23 24 00.5**	**+0.7**
	SNR=13						
KBK	**Karagaybulak**	**70.00**	**320**	P	**P**	**23 24 03.1**	**+1.7**
	SNR=7.7						
UCH	**Uchtor**	**70.06**	**320**	P	**P**	**23 24 04.1**	**+2.0**
	SNR=7.1						
AAK	**Ala-Archa**	**70.28**	**320**	P	**P**	**23 24 04.3**	**+1.2**
	SNR=6.2						
AAK	**Ala-Archa**	**70.28**	**320**	*e*P	**P**	**23 24 04.3**	**+1.2**
	6.4nm,0.6s						
AAK	**Ala-Archa**	**70.28**	**320**	P	**P**	**23 24 04.1**	**+1.0**
	3.7nm,0.4s,baz=129,slow=5.6,SNR=35						
KBL	**Kabul**	**70.42**	**310**	*e*P	**P**	**23 24 04.9**	**+0.7**
	5.1nm,0.9s						
AML	**Almayashu**	**70.54**	**319**	P	**P**	**23 24 06.2**	**+1.2**
	SNR=9.2						
USP	**Ospenovka**	**70.59**	**321**	P	**P**	**23 24 05.4**	**+0.5**
	SNR=13						
ZAA0	**Zalesovo Array**	**71.44**	**334**	*e*P	**P**	**23 24 09.3**	**-0.3**
	6.1nm,1.3s						
ZALV	**Zalesovo Beam**	**71.44**	**334**	*e*P	**P**	**23 24 09.0**	**-0.7**
ZALV	**Zalesovo Beam**	**71.44**	**334**	P	**P**	**23 24 08.7**	**-0.9**
	4.0nm,0.8s,baz=131,slow=4.6,SNR=13						
SEY	**Seymchan**	**72.00**	**11**	P	**P**	**23 24 13.5**	**+0.7**
	3.2nm,0.5s,baz=215,slow=3.6,SNR=12						
KURK	**Kurchatov**	**72.33**	**329**	*e*P	**P**	**23 24 15.1**	**+0.1**
	11nm,0.8s						
VNDA	**Vanda**	**72.42**	**173**	P	**P**	**23 24 16.4**	**+1.3**
	1.0nm,0.5s,baz=334,slow=5.6,SNR=5.5						
MAW	**Mawson**	**74.67**	**201**	P	**P**	**23 24 30.0**	**+1.5**
	3.8nm,0.6s,baz=92,slow=10,SNR=8.7						
NRIK	**Noril'sk**	**81.53**	**346

MW5.4,Error ellipse: s-maj=11.9km s-min=5.9km az=212.0,Moment Tensor Solution. s9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.36; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$0.28; $M_{r\theta}$0.25; $M_{\theta\phi}$-1.29; $M_{r\phi}$-0.10; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s99.00000°,δ83.00000°,λ167.00000°. NP2: ϕ_s190.00000°,δ77.00000°,λ7.00000°. Principal axes: T 1.2400, Plg14.0000°, Azm54.0000°; N 0.3100, Plg75.0000°, Azm252.0000°; P -1.5600, Plg4.0000°, Azm145.0000°;

*ISCJB **29** 23:15:27.4±0.4,35˙44S±0˙08×100˙08W±0˙06,h16km, mb4.8/194,MS4.6/19 Error ellipse: s-maj=12.5km s-min=4.4km az=30.6*

*GCMT **29** 23:15:27.0±0.1,36˙19S±0˙01×100˙68W±0˙01,h16km, MW5.4/127,Moment Tensor Solution. s103,c182; s127,c245; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.25±.02; $M_{\theta\theta}$-0.19±.02; $M_{\phi\phi}$0.44±.02; $M_{r\theta}$0.34±.06; $M_{\theta\phi}$-1.54±.02; $M_{\phi r}$-0.27±.06; Best double couple: $M_0$1.62100×10^{17} NP1:ϕ_s95.00000°,δ85.00000°, λ168.00000°. NP2:ϕ_s186.00000°,δ78.00000°,λ5.00000°. Principal axes: T 1.7890, Plg12.0000°, Azm50.0000°; N -0.3360, Plg77.0000°, Azm253.0000°; P -1.4530, Plg5.0000°, Azm141.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 23:15:26.4±0.3,36˙03S±0˙07×100˙51W±0˙07,h16km, n677,σ1ᾔ57/658,mb5.0/194,**MS4.5**/19,**5C,Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.63**	**317**	Pn	**Pn**	**23 18 11.7**	**-0.1**
	1.5nm,0.3s,baz=134,slow=10,SNR=4.5						
RPN				LR	LR	23 21 19.8	
	comp=Z,9μm,19.7s,baz=129,slow=31						
GO07	**Milladeo Hill,**	**21.81**	**117**	*e*P	**P**	**23 20 20.0**	**+2.3**
	67nm,0.6s						
GO06	**Curarrehue**	**23.17**	**108**	*e*P	**P**	**23 20 34.0**	**+1.7**
	24nm,0.7s						
PLCA	**Paso Flores**	**23.88**	**110**	*e*P	**P**	**23 20 40.2**	**+0.9**
	165nm,2.0s						
PLCA	**Paso Flores**	**23.88**	**110**	*e*P	**P**	**23 20 40.2**	**+0.9**
PLCA				pmax	pmax		
	comp=Z,165nm,2.0s						
PLCA	**Paso Flores**	**23.88**	**110**	P	**P**	**23 20 40.3**	**+0.9**
	comp=Z,20nm,0.7s,baz=299,slow=9.6,SNR=40						
PLCA				LR	LR	23 26 33.0	
	comp=Z,752nm,19.7s,baz=296,slow=28						
PLCA	**Paso Flores**	**23.88**	**110**	*e*P	**P**	**23 20 39.8**	**+0.5**
ROC1	**El Roble**	**24.45**	**91**	*e*P	**P**	**23 20 45.5**	**+0.6**
	comp=Z,34nm,0.9s						
PEL	**Peldehue**	**24.68**	**92**	*e*P	**P**	**23 20 47.2**	**+0.6**
	comp=Z,57nm,1.1s						
PEL	**Peldehue**	**24.68**	**92**	*e*P	**P**	**23 20 47.2**	**+0.6**
PEL				pmax	pmax		
	comp=Z,57nm,1.1s						
GO09	**Cerro Castillo**	**25.23**	**136**	*e*P	**P**	**23 20 51.8**	**+0.4**
	comp=Z,179nm,1.6s						
GO04	**Tololo Observa**	**25.50**	**85**	*e*P	**P**	**23 20 55.4**	**+1.1**
	comp=Z,48nm,0.8s						
LCO	**Las Campanas**	**26.02**	**83**	*e*P	**P**	**23 20 59.5**	**+0.4**
	comp=Z,84nm,1.2s						
LCO	**Las Campanas**	**26.02**	**83**	*e*P	**P**	**23 20 59.5**	**+0.4**
LCO				pmax	pmax		
	comp=Z,84nm,1.2s						
LCO	**Las Campanas**	**26.02**	**83**	*e*P	**P**	**23 21 00.1**	**+1.1**
CFA	**Coronel Fontan**	**27.10**	**90**	P	**P**	**23 21 08.1**	**-0.4**
	comp=Z,8.4nm,0.8s,baz=270,slow=10,SNR=15						
CFA				LR	LR	23 29 19.9	
	comp=Z,1μm,20.4s,baz=260,slow=31						
GO02	**Mina Guanaco**	**28.62**	**76**	*e*P	**P**	**23 21 22.7**	**+0.2**
	comp=Z,27nm,1.0s						
USHA	**Ushuaia**	**28.95**	**141**	P	**P**	**23 21 23.6**	**-1.1**
	comp=Z,11nm,0.9s,baz=297,slow=5.9,SNR=4.3						
USHA				LR	LR	23 30 15.5	
	comp=Z,5μm,19.7s,baz=282,slow=31						
LVC	**Limon Verde**	**30.48**	**73**	*e*P	**P**	**23 21 39.8**	**+0.8**
	comp=Z,20nm,1.0s						
LVC	**Limon Verde**	**30.48**	**73**	*e*P	**P**	**23 21 39.8**	**+0.8**
LVC				pmax	pmax		
	comp=Z,20nm,1.0s						
LVC	**Limon Verde**	**30.48**	**73**	P	**P**	**23 21 39.7**	**+0.8**
	comp=Z,9.4nm,0.8s,baz=241,slow=11,SNR=10.0						
LVC				LR	LR	23 30 56.9	
	comp=Z,2μm,18.3s,baz=246,slow=30						
LVC	**Limon Verde**	**30.48**	**73**	*e*P	**P**	**23 21 40.3**	**+1.3**
PB01	**IPOC Station P**	**30.91**	**70**	*e*P	**P**	**23 21 44.1**	**+1.5**
	comp=Z,57nm,1.6s						
PB11	**IPOC Station P**	**31.55**	**67**	*e*P	**P**	**23 21 48.9**	**+0.7**
	comp=Z,121nm,1.9s						
GO01	**Chusmiza**	**31.95**	**68**	*e*P	**P**	**23 21 53.4**	**+1.3**
	comp=Z,25nm,1.3s						
MNMC	**Minye Minye**	**31.98**	**67**	*e*P	**P**	**23 21 52.7**	**+0.6**
	comp=Z,67nm,1.2s						
NNA	**Nana**	**32.08**	**48**	*e*P	**P**	**23 21 52.3**	**-0.5**
	comp=Z,17nm,0.9s						
NNA	**Nana**	**32.08**	**48**	*e*P	**P**	**23 21 52.3**	**-0.5**
NNA				pmax	pmax		
	comp=Z,17nm,0.9s						
RKT	**Rikitea**	**32.45**	**284**	*e*LQ	LQ	23 29 01.8	
	comp=Z,3μm,29.5s						
RKT	**Rikitea**	**32.45**	**284**	*e*T	T	23 55 37.7	
	comp=Z,1.7nm,0.2s						
LPAZ	**La Paz**	**34.85**	**64**	*e*P	**P**	**23 22 18.7**	**+1.1**
	comp=Z,91nm,1.8s						
LPAZ	**La Paz**	**34.85**	**64**	*e*P	**P**	**23 22 18.7**	**+1.1**
LPAZ				pmax	pmax		
	comp=Z,91nm,1.8s						
LPAZ	**La Paz**	**34.85**	**64**	P	**P**	**23 22 17.9**	**+0.3**
	comp=Z,9.3nm,1.0s,baz=220,slow=5.4,SNR=16						
LPAZ				LR	LR	23 33 47.8	
	comp=Z,484nm,20.0s,baz=214,slow=32						
LPAZ	**La Paz**	**34.85**	**64**	*e*P	**P**	**23 22 19.2**	**+1.6**
ATAH	**Atahualpa**	**35.17**	**40**	P	**P**	**23 22 21.4**	**+1.2**
	comp=Z,34nm,0.9s,baz=164,slow=4.4,SNR=15						
PMSA	**Palmer Station**	**36.05**	**154**	*e*P	**P**	**23 22 25.7**	**-0.9**
CPUP	**Villa Florida**	**37.92**	**88**	*e*P	**P**	**23 22 42.9**	**-0.2**
	comp=Z,21nm,1.6s						
CPUP				PcP	**PcP**	**23 25 00.2**	**+1.2**
CPUP	**Villa Florida**	**37.92**	**88**	*e*P	**P**	**23 22 42.9**	**-0.2**
CPUP						23 25 00.2	
CPUP				pmax	pmax		
	comp=Z,21nm,1.6s						
CPUP	**Villa Florida**	**37.92**	**88**	P	**P**	**23 22 41.8**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=234,slow=10.0,SNR=4.9						
CPUP				PcP	**PcP**	**23 25 00.2**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=202,slow=1.2,SNR=3.1						
CPUP				LR	LR	23 35 50.8	
	comp=Z,681nm,19.3s,baz=250,slow=32						
CPUP	**Villa Florida**	**37.92**	**88**	*e*P	**P**	**23 22 42.5**	**-0.6**
PLTB	**Pedras Altas**	**38.87**	**98**	*e*P	**P**	**23 22 50.6**	**-0.4**
CPSB	**Cacapava Do Su**	**39.47**	**96**	*e*P	**P**	**23 22 55.7**	**-0.4**
SIV	**San Ignacio**	**40.32**	**71**	P	**P**	**23 23 02.6**	**-0.6**
	comp=Z,5.5nm,0.8s,baz=248,slow=5.6,SNR=18						
SIV				PcP	**PcP**	**23 25 07.3**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=194,slow=5.9,SNR=4.3						
OTAV	**Otavalo**	**41.51**	**35**	*e*P	**P**	**23 23 12.9**	**-0.7**
	comp=Z,14nm,1.0s						
OTAV	**Otavalo**	**41.51**	**35**	*e*P	**P**	**23 23 14.1**	**+0.5**
OTAV	**Otavalo**	**41.51**	**35**	*e*P	**P**	**23 23 12.9**	**-0.7**
OTAV				pmax	pmax		
	comp=Z,14nm,1.0s						
OTAV	**Otavalo**	**41.51**	**35**	*e*P	**P**	**23 23 14.1**	**+0.5**
OTAV	**Otavalo**	**41.51**	**35**	*e*P	**P**	**23 23 13.6**	**0.0**
ITAB	**Concordia**	**41.76**	**92**	*e*P	**P**	**23 23 15.2**	**+0.3**
CNLB	**Canela**	**41.96**	**95**	*e*P	**P**	**23 23 17.5**	**+0.8**
AQDB	**Aquidauana**	**42.02**	**81**	*e*P	**P**	**23 23 17.0**	**-0.2**
PTGB	**Pitanga**	**42.90**	**89**	*e*P	**P**	**23 23 25.5**	**+1.0**
TRCB	**Terra Rica**	**43.33**	**86**	*e*P	**P**	**23 23 27.7**	**-0.2**
SOTA	**Rioblanco**	**44.04**	**36**	*e*P	**P**	**23 23 32.7**	**-1.4**
SOTA	**Rioblanco**	**44.04**	**36**	*e*P	**P**	**23 23 32.7**	**-1.4**
PCON	**Cinco Dias**	**44.31**	**36**	*e*P	**P**	**23 23 38.0**	**+1.7**
PCON	**Cinco Dias**	**44.31**	**36**	*e*P	**P**	**23 23 38.0**	**+1.7**
TAOE	**Nuku Hiva Isla**	**45.06**	**297**	*e*LR	LR	23 36 12.0	
	comp=Z,761nm,23.6s						
TIJ01	**Guaruva-PR**	**45.11**	**91**	*e*P	**P**	**23 23 39.3**	**-2.9**
FRTB	**Fartura**	**45.56**	**88**	*e*P	**P**	**23 23 46.9**	**+1.2**
YOTC	**Yotoco, Valle**	**45.78**	**35**	*e*P	**P**	**23 23 43.3**	**-4.3**
YOTC	**Yotoco, Valle**	**45.78**	**35**	*e*P	**P**	**23 23 43.3**	**-4.3**
TVO	**Taravao**	**46.60**	**280**	*e*T	T	00 13 21.4	
	comp=Z,1.0nm,0.3s						
ITRB	**Iturama**	**46.71**	**84**	*e*P	**P**	**23 23 54.1**	**-0.7**
TIAR	**Tiarei**	**46.80**	**280**	*e*T	T	00 13 35.6	
	comp=Z,3.4nm,0.3s						
PPT2	**Papeete2**	**46.97**	**280**	*e*S	**S**	**23 30 46.9**	**-0.9**
	comp=Z,118nm,24.0s						
SPB	**Sao Paulo**	**47.17**	**90**	*e*P	**P**	**23 23 58.2**	**-0.1**
ROSC	**El Rosal**	**47.49**	**37**	P	**P**	**23 24 01.8**	**+0.5**
	comp=Z,19nm,0.9s,baz=130,slow=8.7,SNR=9.4						
ROSC				LR	LR	23 40 24.7	
	comp=Z,1μm,21.2s,baz=220,slow=32						
BB19B	**Bebedouro**	**47.50**	**86**	*e*P	**P**	**23 24 01.4**	**+0.5**
RCLB	**Rio Claro- Sao**	**47.65**	**89**	*e*P	**P**	**23 24 01.9**	**-0.2**
JTS	**JuntasAbangare**	**48.35**	**21**ᾔ	*e*P	**P**	**23 24 08.6**	**+1.1**
JTS				pmax	pmax		
	comp=Z,16nm,1.2s						
PTBC	**PUERTO BERRIO,**	**48.91**	**35**	*e*P	**P**	**23 24 09.2**	**-2.5**
PTBC	**PUERTO BERRIO,**	**48.91**	**35**	*e*P	**P**	**23 24 09.2**	**-2.5**
ZARC	**Zaragoza, Cauc**	**49.56**	**34**	*e*P	**P**	**23 24 16.5**	**-0.2**
ZARC	**Zaragoza, Cauc**	**49.56**	**34**	*e*P	**P**	**23 24 16.5**	**-0.2**
PMNB	**Patos De Minas**	**50.48**	**85**	*e*P	**P**	**23 24 24.0**	**+0.2**
BSCB	**Bom Sucesso**	**50.57**	**89**	*e*P	**P**	**23 24 24.7**	**+0.1**
BDFB	**Brasilia**	**50.77**	**81**	*e*P	**P**	**23 24 25.5**	**-0.6**
	comp=Z,69nm,1.8s						
BDFB	**Brasilia**	**50.77**	**81**	*e*P	**P**	**23 24 25.5**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,69nm,1.8s						
BDFB	**Brasilia**	**50.77**	**81**	P	**P**	**23 24 25.2**	**-0.9**
	comp=Z,9.6nm,1.0s,baz=245,slow=6.0,SNR=8.6						
BDFB				LR	LR	23 44 04.0	
	comp=Z,1μm,19.3s,baz=248,slow=34						
TGUH	**Tegucigalpa,Un**	**51.37**	**17**	*e*P	**P**	**23 24 30.2**	**0.0**
	comp=Z,26nm,1.1s						
PTGA	**Pitinga**	**51.44**	**56**	*e*P	**P**	**23 24 30.6**	**-0.4**
	comp=Z,17nm,1.0s						
PTGA	**Pitinga**	**51.44**	**56**	*e*P	**P**	**23 24 29.7**	**-1.2**
PEXB	**Peixe**	**52.56**	**77**	*e*P	**P**	**23 24 39.5**	**+0.1**
CCIG	**Comitan**	**52.63**	**10**	*e*P	**P**	**23 24 40.1**	**+0.2**
	comp=Z,20nm,0.9s						
MCI6	**Montes Claros**	**53.45**	**85**	*e*P	**P**	**23 24 45.9**	**-0.1**
MCI8	**Montes Claros**	**53.51**	**84**	*e*P	**P**	**23 24 46.8**	**+0.4**
MCI9	**Montes Claros**	**53.51**	**84**	*e*P	**P**	**23 24 46.8**	**+0.4**
JANB	**Januaria**	**54.06**	**83**	*e*P	**P**	**23 24 50.4**	**-0.1**
QSPA	**South Pole Qui**	**54.18**	**180**	P	**P**	**23 24 48.8**	**-2.0**
	comp=Z,14nm,0.8s,baz=136,slow=1.9,SNR=26						
SJMB	**Sao Joao De Ma**	**54.64**	**88**	*e*P	**P**	**23 24 54.8**	**+0.2**
VNA3	**Neumayer Olymp**	**56.61**	**157**	P	**P**	**23 25 06.3**	**-1.8**
VNDA	**Vanda**	**56.76**	**195**	LR	LR	23 45 10.4	
	comp=Z,664nm,18.0s,baz=100,slow=32						
VNA1	**Neumayer--Stat**	**57.21**	**157**	P	**P**	**23 25 10.9**	**-1.3**
VNA2	**Neumayer--Watz**	**57.41**	**157**	P	**P**	**23 25 11.9**	**-1.7**
SNAA	**Sanae**	**58.58**	**158**	P	**P**	**23 25 19.9**	**-2.1**
SNAA	**Sanae**	**58.58**	**158**	*i* P	**P**	**23 25 20.0**	**-1.9**
HPIG		**62.82**	**355**	*e*P	**P**	**23 25 52.0**	**+0.5**
	comp=Z,9.8nm,1.1s						
SJG	**San Juan**	**62.91**	**37**	*e*P	**P**	**23 25 50.8**	**-1.1**
	comp=Z,162nm,1.9s						
SJG	**San Juan**	**62.91**	**37**	*e*P	**P**	**23 25 50.8**	**-1.1**
SJG				pmax	pmax		
	comp=Z,162nm,1.9s						
833A	**Chaparral WMA,**	**64.02**	**1**	P	**P**	**23 25 58.7**	**-0.5**
	baz=181						
TXAR	**Lajitas Array**	**65.09**	**357**	P	**P**	**23 26 05.7**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=179,slow=7.0,SNR=19						
TXAR				LR	LR	23 48 19.8	
	comp=Z,270nm,21.9s,baz=0.0,slow=30						
TX31	**Lajitas Ar. Si**	**65.09**	**357**	*e*P	**P**	**23 26 06.5**	**+0.3**
NBPA	**Parau_RN**	**65.20**	**79**	*e*P	**P**	**23 26 07.4**	**+0.1**
RCBR	**Riachuelo**	**66.11**	**79**	*e*P	**P**	**23 26 14.1**	**+0.9**
JCT	**Junction City**	**66.17**	**1**	*e*P	**P**	**23 26 13.4**	**+0.3**
	comp=Z,11nm,0.9s						
JCT	**Junction City**	**66.17**	**1**	*e*P	**P**	**23 26 13.4**	**+0.3**
JCT				pmax	pmax		
	comp=Z,11nm,0.9s						
JCT	**Junction City**	**66.17**	**1**	P	**P**	**23 26 12.5**	**-0.5**
	baz=181						
DWPF	**Disney Wildern**	**66.29**	**18**	*e*P	**P**	**23 26 13.1**	**-0.7**
MNTX	**Cornudas Mount**	**67.53**	**356**	*e*P	**P**	**23 26 20.8**	**-0.9**
	comp=Z,4.1nm,1.0s						
MNTX	**Cornudas Mount**	**67.53**	**356**	P	**P**	**23 26 20.7**	**-1.1**
	baz=176						
319A	**Douglas**	**67.56**	**352**	*e*P	**P**	**23 26 23.8**	**+1.7**
	comp=Z,10.0nm,1.0s						
ABTX	**Abilene, Hawle**	**68.31**	**1**	*e*P	**P**	**23 26 27.6**	**+1.0**
	comp=Z,9.7nm,1.0s						
ABTX	**Abilene, Hawle**	**68.31**	**1**	P	**P**	**23 26 26.7**	**+0.1**
	baz=181						
121A	**Cookes Peak, D**	**68.55**	**353**	P	**P**	**23 26 28.7**	**+0.4**
	baz=174						
214A	**Organ Pipe Nat**	**68.61**	**349**	P	**P**	**23 26 28.9**	**+0.4**
	baz=169						
TUC	**Tucson**	**68.67**	**351**	*e*P	**P**	**23 26 30.4**	**+1.5**
	comp=Z,10nm,1.3s						
TUC	**Tucson**	**68.67**	**351**	*e*P	**P**	**23 26 30.4**	**+1.5**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TUC	**Tucson**	**68.67**	**351**	P	**P**	**23 26 29.1**	**+0.2**
	baz=171						
251A	**Midway**	**69.23**	**14**	P	**P**	**23 26 30.9**	**-1.4**
	baz=193						
147A	**Livingston**	**69.31**	**11**	*e*P	**P**	**23 26 36.9**	**+4.1**
	comp=Z,44nm,1.3s						
357A	**Townsend**	**69.44**	**17**	P	**P**	**23 26 31.0**	**-2.5**
	baz=196						
150A	**Eclectic**	**69.62**	**13**	P	**P**	**23 26 32.8**	**-1.9**
	baz=192						
MSTX	**Muleshoe**	**69.67**	**358**	*e*P	**P**	**23 26 34.8**	**-0.4**
	comp=Z,8.2nm,0.9s						
MSTX	**Muleshoe**	**69.67**	**358**	P	**P**	**23 26 34.6**	**-0.6**
	baz=178						
IKP	**In-Ko-Pah, Jac**	**69.87**	**346**	P	**P**	**23 26 37.7**	**+1.3**
	baz=167						
152A	**Waverly Hall**	**69.93**	**14**	*e*P	**P**	**23 26 36.6**	**0.0**
	comp=Z,40nm,1.7s						
152A	**Waverly Hall**	**69.93**	**14**	P	**P**	**23 26 35.4**	**-1.2**
	baz=193						
BAR	**Barrett**	**70.01**	**346**	*e*P	**P**	**23 26 39.6**	**+2.4**
	comp=Z,13nm,1.2s						
SWSC	**Sam W. Stewart**	**70.10**	**346**	P	**P**	**23 26 38.0**	**+0.4**
	baz=167						
Z49A	**Columbiana**	**70.10**	**12**	P	**P**	**23 26 36.4**	**-1.3**
	baz=192						
MONP2	**Monument Peak**	**70.17**	**346**	P	**P**	**23 26 37.9**	**-0.5**
	baz=166						
155A	**Kite**	**70.36**	**16**	P	**P**	**23 26 38.0**	**-1.3**
	baz=195						
WMOK	**Wichita Mounta**	**70.43**	**2**	*e*P	**P**	**23 26 40.5**	**+0.8**
	comp=Z,9.1nm,1.4s						
WMOK	**Wichita Mounta**	**70.43**	**2**	*e*P	**P**	**23 26 40.5**	**+0.8**
WMOK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
WMOK	**Wichita Mounta**	**70.43**	**2**	P	**P**	**23 26 40.4**	**+0.7**
	baz=181						
Z52A	**Williamson**	**70.49**	**14**	P	**P**	**23 26 38.8**	**-1.3**
	baz=194						
MIAR	**Mount Ida**	**70.52**	**6**	*e*P	**P**	**23 26 42.1**	**+1.9**
	comp=Z,21nm,1.4s						
MIAR	**Mount Ida**	**70.52**	**6**	*e*P	**P**	**23 26 42.1**	**+1.9**
MIAR				pmax	pmax		
	comp=Z,21nm,1.4s						
MIAR	**Mount Ida**	**70.52**	**6**	P	**P**	**23 26 39.7**	**-0.4**
	baz=186						
X40A	**Basin Creek Fa**	**70.52**	**7**	P	**P**	**23 26 40.5**	**+0.3**
	baz=186						
AMTX	**Amarillo**	**70.56**	**359**	*e*P	**P**	**23 26 40.7**	**+0.1**
	comp=Z,20nm,0.9s						
AMTX	**Amarillo**	**70.56**	**359**	P	**P**	**23 26 40.3**	**-0.2**
	baz=179						
Y12C	**Blythe**	**70.65**	**348**	*e*P	**P**	**23 26 43.7**	**+2.7**
	comp=Z,13nm,1.2s						
Y12C	**Blythe**	**70.65**	**348**	P	**P**	**23 26 41.9**	**+0.9**
	baz=168						
SCI2	**San Clemente I**	**70.70**	**344**	P	**P**	**23 26 42.2**	**+0.9**
	baz=165						
BC3	**Big Chuckawall**	**70.72**	**347**	P	**P**	**23 26 41.7**	**+0.1**
	baz=167						
Z53A	**Monticello**	**70.75**	**15**	P	**P**	**23 26 39.6**	**-2.0**
	baz=194						
X18A	**Snowflake**	**70.75**	**352**	*e*P	**P**	**23 26 42.5**	**+0.7**
	comp=Z,14nm,1.1s						
Y49A	**Blount Mountai**	**70.77**	**12**	P	**P**	**23 26 41.4**	**-0.3**
	baz=192						
X16A	**Lo Mia Camp, P**	**70.83**	**350**	*e*P	**P**	**23 26 44.0**	**+1.7**
	comp=Z,9.9nm,1.3s						
TASM	**ASL Pad, Albuq**	**70.83**	**355**	P	**P**	**23 26 42.2**	**-0.2**
	baz=175						
TASM	**ASL Pad, Albuq**	**70.83**	**355**	P	**P**	**23 26 42.2**	**-0.2**
	baz=175						
ANMO	**Albuquerque**	**70.83**	**355**	*e*P	**P**	**23 26 42.6**	**+0.2**
	comp=Z,4.9nm,1.1s						
ANMO	**Albuquerque**	**70.83**	**355**	*i* P	**P**	**23 26 42.3**	**-0.1**
	baz=175						
ANMO	**Albuquerque**	**70.83**	**355**	P	**P**	**23 26 42.3**	**-0.1**
	baz=175						
Z54A	**Sparta**	**70.87**	**16**	P	**P**	**23 26 41.1**	**-1.3**
	baz=195						
PFO	**Pinyon Flats O**	**70.87**	**346**	P	**P**	**23 26 43.0**	**+0.5**
	baz=166						
MURC	**Murrieta**	**71.01**	**345**	P	**P**	**23 26 43.4**	**+0.1**
	baz=166						
Y51A	**Rockmart**	**71.05**	**14**	P	**P**	**23 26 41.8**	**-1.7**
	baz=193						
X46A	**Booneville**	**71.10**	**10**	P	**P**	**23 26 42.4**	**-1.3**
	baz=190						
PDMCI	**Parker Dam,Lak**	**71.12**	**348**	P	**P**	**23 26 44.0**	**+0.2**
	baz=168						
W39A	**Magazine**	**71.14**	**6**	*e*P	**P**	**23 26 46.1**	**+2.2**
	comp=Z,33nm,1.6s						
W39A	**Magazine**	**71.14**	**6**	P	**P**	**23 26 44.3**	**+0.3**
	baz=186						
IRM	**Iron Mountain**	**71.16**	**347**	P	**P**	**23 26 44.8**	**+0.7**
	baz=168						
BELC	**Belle Mtn. Jos**	**71.16**	**346**	P	**P**	**23 26 45.2**	**+0.9**
	baz=167						
X47A	**Russelville**	**71.18**	**11**	P	**P**	**23 26 42.2**	**-2.0**
	baz=191						
SYO	**Syowa Base**	**71.20**	**166**ᾔ	*e*pP	pP	23 26 49.0	+0.9
Y52A	**Lilburn**	**71.22**	**14**	P	**P**	**23 26 42.2**	**-2.2**
	baz=194						
X48A	**Hartselle**	**71.24**	**12**	*e*P	**P**	**23 26 45.9**	**+1.4**
	comp=Z,35nm,1.8s						
X48A	**Hartselle**	**71.24**	**12**	P	**P**	**23 26 43.7**	**-0.9**
	baz=191						
W41B	**Gary Mavity, V**	**71.26**	**7**	*e*P	**P**	**23 26 45.6**	**+0.9**
	comp=Z,13nm,1.0s						
W41B	**Gary Mavity, V**	**71.26**	**7**	P	**P**	**23 26 44.6**	**-0.1**
	baz=187						
Y53A	**Monroe**	**71.31**	**15**	P	**P**	**23 26 44.2**	**-0.8**
	baz=194						
NHSC	**New Hope**	**71.36**	**18**	*e*P	**P**	**23 26 47.7**	**+2.4**
	comp=Z,66nm,1.2s						
NHSC	**New Hope**	**71.36**	**18**	P	**P**	**23 26 44.2**	**-1.1**
	baz=197						
WHAR	**Wooly Hollow**	**71.37**	**7**	*e*P	**P**	**23 26 46.1**	**+0.7**
	comp=Z,15nm,1.3s						
Z57A	**Bowman**	**71.42**	**17**	P	**P**	**23 26 44.0**	**-1.6**
	baz=197						
X50B	**Fort Payne**	**71.49**	**13**	P	**P**	**23 26 45.0**	**-1.2**
	baz=192						
Y54A	**Tignall**	**71.50**	**16**	P	**P**	**23 26 44.7**	**-1.5**
	baz=195						
PLAL	**Pickwick Lake**	**71.60**	**11**	*e*P	**P**	**23 26 47.0**	**+0.3**
	comp=Z,15nm,1.4s						
Z58A	**St. Stephen**	**71.67**	**18**	P	**P**	**23 26 46.0**	**-1.2**
	baz=197						
TUL1	**Leonard**	**71.71**	**4**	P	**P**	**23 26 48.0**	**+0.6**
	baz=184						
BFSC	**Mount Baldy Ra**	**71.72**	**345**	P	**P**	**23 26 47.5**	**-0.2**
	baz=165						
X51A	**Calhoun**	**71.74**	**14**	*e*P	**P**	**23 26 48.0**	**+0.4**
	comp=Z,16nm,1.0s						
X51A	**Calhoun**	**71.74**	**14**	P	**P**	**23 26 47.2**	**-0.4**
	baz=193						
GMRC	**Granite Mounta**	**71.86**	**347**	P	**P**	**23 26 48.6**	**+0.1**
	baz=167						
W13A	**Hualapai Mount**	**71.86**	**348**	*e*P	**P**	**23 26 51.2**	**+2.7**
	comp=Z,7.2nm,1.3s						
BLG	**Laguna Peak, P**	**71.90**	**344**	P	**P**	**23 26 49.0**	**+0.4**
	baz=164						
WUAZ	**Wupatki**	**71.90**	**351**	*e*P	**P**	**23 26 51.6**	**+2.8**
	comp=Z,14nm,1.4s						
WUAZ	**Wupatki**	**71.90**	**351**	P	**P**	**23 26 48.7**	**-0.1**
	baz=171						
SCZ2	**Santa Cruz Isl**	**71.92**	**343**	P	**P**	**23 26 49.2**	**+0.4**
	baz=164						
W48A	**Pulaski**	**71.93**	**12**	P	**P**	**23 26 47.7**	**-1.1**
	baz=191						
W47A	**Westpoint**	**71.94**	**11**	P	**P**	**23 26 48.1**	**-0.7**
	baz=191						
X52A	**Dahlonega**	**71.97**	**14**	P	**P**	**23 26 48.1**	**-0.9**
	baz=194						
W49A	**Belvidere**	**72.02**	**12**	P	**P**	**23 26 48.6**	**-0.7**
	baz=192						
HEC	**Hector Ludlow**	**72.03**	**346**	P	**P**	**23 26 49.4**	**0.0**
	baz=167						
LDFC	**Landfair**	**72.05**	**347**	*e*P	**P**	**23 26 52.0**	**+2.4**
	comp=Z,33nm,1.0s						
SWET	**Sewanee**	**72.18**	**12**	*e*P	**P**	**23 26 51.4**	**+1.1**
	comp=Z,15nm,1.1s						
HHAR	**Hobbs**	**72.21**	**6**	*e*P	**P**	**23 26 49.8**	**-0.6**
	comp=Z,10.

MVCO	Mesa Verde	73.25	353		P		P	23 26 56.6	-0.2
	baz=173								
ISA	Isabella, Lake	73.27	345	*e*P			P	23 26 58.8	+2.0
	comp=Z,23nm,1.6s								
ISA	Isabella, Lake	73.27	345	*e*P			P	23 26 58.8	+2.0
ISA					pmax		pmax		
	comp=Z,23nm,1.6s								
ISA	Isabella, Lake	73.27	345		P		P	23 26 57.0	+0.3
	baz=165								
W57A	Gilead	73.36	17		P		P	23 26 55.3	-1.9
	baz=197								
T43A	Greenville	73.37	9		P		P	23 26 55.9	-1.3
	baz=188								
W58A	Raeford	73.42	18		P		P	23 26 55.5	-2.0
	baz=198								
MPMC	Manual Prospec	73.45	346		P		P	23 26 57.2	-0.8
	baz=166,SNR=7.7								
SHPR	Sheep Range	73.45	348	*e*P			P	23 27 00.3	+2.4
	comp=Z,15nm,1.3s								
U49A	Red Boiling Sp	73.47	12		P		P	23 26 56.1	-1.7
	baz=192								
V54A	Nebo	73.51	16		P		P	23 26 55.3	-2.8
	baz=196								
U50A	Jamestown	73.54	13		P		P	23 26 56.5	-1.7
	baz=193								
SDCO	Great Sand Dun	73.56	356	*e*P			P	23 26 58.9	+0.2
	comp=Z,4.7nm,0.9s								
SDCO	Great Sand Dun	73.56	356		P		P	23 26 57.2	-1.5
	baz=176								
VES	Vestal, Richgr	73.57	344		P		P	23 26 58.0	-0.4
	baz=164								
KNB	Kanab	73.58	350	*e*P			P	23 27 03.9	+5.2
	comp=Z,22nm,1.6s								
LCMT	Little Creek M	73.63	349	*e*P			P	23 27 01.0	+2.0
	comp=Z,5.8nm,0.6s								
S22A	4UR Ranch, Cre	73.64	355	*e*P			P	23 27 01.5	+2.3
	comp=Z,7.7nm,0.9s								
S22A	4UR Ranch, Cre	73.64	355		P		P	23 26 58.1	-1.1
	baz=175								
T46A	Princeton	73.64	10		P		P	23 26 57.2	-1.6
	baz=190								
U51A	La Follette	73.66	14		P		P	23 26 57.1	-1.9
	baz=194								
DAC	Darwin (Calif)	73.68	346	*e*P			P	23 27 03.4	+4.1
	comp=Z,6.0nm,1.1s								
DAC	Darwin (Calif)	73.68	346		P		P	23 27 03.4	+4.1
DAC					pmax		pmax		
	comp=Z,6.0nm,1.2s								
S41A	Jillco Farms,	73.70	7		P		P	23 26 58.0	-1.2
	baz=187								
T47A	Sharon Grove	73.71	11	*e*P			P	23 26 58.9	-0.4
	comp=Z,10.0nm,0.9s								
T47A	Sharon Grove	73.71	11		P		P	23 26 58.0	-1.3
	baz=191								
FURC	Furnace Creek,	73.72	346		P		P	23 26 59.1	-0.2
	baz=166								
PAGB	Antelope Grade	73.73	343	*e*P			P	23 26 59.9	+0.5
	comp=Z,25nm,1.3s								
V55A	Taylorsville	73.74	16		P		P	23 26 57.7	-1.8
	baz=196								
U52A	Thorn Hill	73.80	14		P		P	23 26 57.5	-2.3
	baz=194								
V56A	Mocksville	73.87	17		P		P	23 26 57.6	-2.5
	baz=197								
S43A	Fulton Ridge,	73.87	9		P		P	23 26 59.6	-0.5
	baz=189								
TZTN	Tazewell	73.91	14	*e*P			P	23 27 03.0	+2.5
	comp=Z,17nm,1.2s								
TZTN	Tazewell	73.91	14		P		P	23 26 58.7	-1.7
	baz=194								
PKCU	Pink Cliffs	73.92	350	*e*P			P	23 27 04.2	+3.3
	comp=Z,34nm,1.5s								
CWC	Cottonwood Cre	73.94	345		P		P	23 27 00.8	0.0
	baz=165								
U53A	Fall Branch	73.94	15		P		P	23 26 59.0	-1.7
	baz=195								
T48A	Bowling Green	73.94	12		P		P	23 26 59.6	-1.1
	baz=192								
S42A	Caledonia	73.98	8		P		P	23 27 00.2	-0.6
	baz=188								
TPNV	Topopah Spring	74.07	347	*e*P			P	23 27 04.0	+2.4
	comp=Z,9.9nm,1.0s								
TPNV	Topopah Spring	74.07	347		P		P	23 27 01.7	+0.1
	baz=167,SNR=8.7								
S44A	Carbondale	74.10	9		P		P	23 27 01.1	-0.3
	baz=189								
V57A	Coltrane Farms	74.11	17		P		P	23 26 59.7	-1.9
	baz=197								
T50A	Nancy	74.13	13		P		P	23 27 00.6	-1.1
	baz=193								
CCUT	Cedar City	74.18	349	*e*P			P	23 27 04.4	+2.1
	comp=Z,22nm,1.3s								
SZCU	Shurtz Canyon	74.18	350	*e*P			P	23 27 04.3	+2.0
	comp=Z,32nm,0.5s								
CCM	Cathedral Cave	74.22	8	*e*P			P	23 27 01.8	-0.4
	comp=Z,27nm,1.3s								
CCM	Cathedral Cave	74.22	8	*e*P			P	23 27 01.8	-0.4
CCM					pmax		pmax		
	comp=Z,27nm,1.3s								
CCM	Cathedral Cave	74.22	8		P		P	23 27 01.2	-1.0
	baz=188								
FVM	French Village	74.24	8	*e*P			P	23 27 03.5	+1.2
	comp=Z,14nm,1.1s								
FVM	French Village	74.24	8	*e*P			P	23 27 03.5	+1.2
FVM					pmax		pmax		
	comp=Z,14nm,1.1s								
T51A	Gray	74.24	14		P		P	23 27 01.5	-0.9
	baz=194								
S46A	Don Dixon Farm	74.30	11		P		P	23 27 01.3	-1.3
	baz=191								
S47A	Hartford	74.34	11		P		P	23 27 01.0	-1.9
	baz=191								
U55A	TA2, Sparta	74.40	16		P		P	23 27 01.2	-2.2
	baz=196								
R41A	Rosebud	74.44	7		P		P	23 27 02.4	-1.1
	baz=188								
CBKS	Cedar Bluff	74.48	1		P		P	23 27 02.8	-0.9
	baz=181								
R42A	Luebbering	74.49	8		P		P	23 27 03.1	-0.6
	baz=188								
MTPU	Mount Pierson	74.50	350	*e*P			P	23 27 10.5	+6.2
	comp=Z,11nm,1.4s								
S48A	Wiedeman Farm,	74.54	12		P		P	23 27 02.7	-1.4
	baz=192								
T52A	Hallie	74.57	14		P		P	23 27 02.7	-1.6
	baz=194								
Q24A	Divide	74.75	356		P		P	23 27 04.6	-1.1
	baz=176								
R45A	Skylar, Fairfi	74.82	10		P		P	23 27 04.0	-1.6
	baz=190								
T54A	Tazewell	74.82	16		P		P	23 27 05.7	-0.1
	baz=196								
U58A	Oxford	74.90	18		P		P	23 27 04.5	-1.7
	baz=198								
MSU	Marysvale	74.96	351	*e*P			P	23 27 12.1	+5.3
MSU	Marysvale	74.96	351	*e*P			P	23 27 12.1	+5.3
T55A	Pulaski	75.05	16		P		P	23 27 05.8	-1.3
	baz=196								
U59A	Littleton	75.05	19		P		P	23 27 05.0	-2.0
	baz=199								
WCI	Wyandotte Cave	75.06	12		P		P	23 27 04.5	-2.5
WCI					pmax		pmax		
	comp=Z,14nm,1.5s								
WCI	Wyandotte Cave	75.06	12		P		P	23 27 04.9	-2.1
	baz=192								
SMCO	Snowmass	75.08	355	*e*P			P	23 27 10.5	+2.8
	comp=Z,8.8nm,1.1s								
R47A	Wooly Knot Far	75.08	11		P		P	23 27 05.1	-2.1
	baz=192								
Q41A	Truxton	75.11	7		P		P	23 27 06.3	-1.0
	baz=188								
T56A	Rocky Mt	75.14	17		P		P	23 27 06.3	-1.3
	baz=197								
PSUT	Pine Spring	75.22	349	*e*P			P	23 27 11.0	+2.7
	comp=Z,7.8nm,1.1s								
OMMB	Old Mammoth Mi	75.26	345	*e*P			P	23 27 11.5	+2.9
	comp=Z,10.0nm,1.5s								
Q43A	New Douglas	75.27	9		P		P	23 27 07.5	-0.7
	baz=189								
R11A	Troy Canyon, C	75.32	348	*e*P			P	23 27 10.2	+1.4
	comp=Z,9.9nm,1.4s								
R11A	Troy Canyon, C	75.32	348		P		P	23 27 09.9	+1.1
	baz=167,SNR=9.7								
Q44A	Meyer Farm, Va	75.32	9	*e*P			P	23 27 08.1	-0.5
	comp=Z,20nm,0.8s								
Q44A	Meyer Farm, Va	75.32	9		P		P	23 27 07.8	-0.8
	baz=190								
SRU	San Rafael Swe	75.34	352	*e*P			P	23 27 12.4	+3.5
	comp=Z,7.4nm,0.9s								
SRU	San Rafael Swe	75.34	352	*e*P			P	23 27 12.4	+3.5
SRU					pmax		pmax		
	comp=Z,7.0nm,0.9s								
T58A	Grand View Acr	75.42	18		P		P	23 27 07.3	-1.9
	baz=198								
Q45A	Warren Harvey,	75.43	10		P		P	23 27 08.1	-1.0
	baz=190								
R50A	Paris	75.45	13		P		P	23 27 08.0	-1.3
	baz=193								
R51A	Hillsboro	75.60	14		P		P	23 27 08.5	-1.7
	baz=194								
TMUT	Trail Mountain	75.61	351	*e*P			P	23 27 10.8	+0.2
	comp=Z,13nm,1.3s								
ISCO	Idaho Springs	75.61	356		P		P	23 27 09.8	-0.8
	baz=176								
T59A	Double "B" Far	75.70	19		P		P	23 27 08.4	-2.4
	baz=199								
Q47A	Bedord North L	75.72	11		P		P	23 27 09.4	-1.5
	baz=192								
P17A	Butcher Ranch,	75.73	352	*e*P			P	23 27 12.8	+1.7
	comp=Z,8.3nm,1.2s								
S55A	Lewisburg	75.74	16		P		P	23 27 09.8	-1.2
	baz=196								
P42A	Winchester	75.83	8		P		P	23 27 10.4	-1.0
	baz=188								
Q48A	Nth Vernon	75.83	12		P		P	23 27 09.7	-1.8
	baz=192								
P41A	Barry, Barry	75.84	8		P		P	23 27 10.7	-0.8
	baz=188								
NV11	Mina Array Sit	75.87	346	*e*P			P	23 27 12.8	+0.9
	comp=Z,1.0nm,1.1s								
NV01	Mina Array Sit	75.90	346	*e*P			P	23 27 13.1	+1.0
NVAR	Mina Array Bea	75.90	346		P		P	23 27 11.9	-0.3
	comp=Z,10nm,0.9s,baz=181,slow=5.8,SNR=32								
NVAR					LR		LR	23 53 51.0	
	comp=Z,202nm,19.5s,baz=186,slow=30								
MAW	Mawson	75.92	174	*e*P			P	23 27 15.8	+4.0
	comp=Z,1.9nm,0.6s								
MAW	Mawson	75.92	174	LR			LR	23 59 36.1	
	comp=Z,410nm,18.5s,baz=200,slow=35								
P44A	Sand Creek, Wi	75.93	9		P		P	23 27 10.8	-1.2
	baz=190								
R53A	Hurricane	75.96	15		P		P	23 27 10.5	-1.8
	baz=195								
CMB	Columbia Colle	75.96	344	*e*P			P	23 27 13.4	+1.1
	comp=Z,13nm,1.3s								
CMB	Columbia Colle	75.96	344	*e*P			P	23 27 13.4	+1.1
CMB					pmax		pmax		
	comp=Z,13nm,1.3s								
P43A	Skaggs, Pawnee	75.98	9		P		P	23 27 10.8	-1.5
	baz=189								
R54A	Victor	76.02	16		P		P	23 27 10.4	-2.2
	baz=196								
P45A	Graceland, Par	76.11	10	*e*P			P	23 27 13.2	+0.2
	comp=Z,15nm,0.8s								
P45A	Graceland, Par	76.11	10		P		P	23 27 11.6	-1.4
	baz=190								
O20A	White River Ci	76.13	354		P		P	23 27 12.3	-1.1
	baz=174								
RYN	Ryan	76.14	346	*e*P			P	23 27 14.5	+1.0
	comp=Z,9.5nm,1.2s								
WAKR	Walker	76.21	345	*e*P			P	23 27 16.3	+2.4
	comp=Z,8.0nm,1.1s								
O41A	Passleys Farm,	76.29	8		P		P	23 27 13.4	-0.6
	baz=188								
R55A	Marlinton	76.32	16		P		P	23 27 12.1	-2.2
	baz=197								
Q51A	Peebles	76.35	14	*e*P			P	23 27 15.8	+1.3
	comp=Z,38nm,1.7s								
Q51A	Peebles	76.35	14		P		P	23 27 13.0	-1.4
	baz=194								
NLU	North Lily Min	76.36	351	*e*P			P	23 27 16.2	+1.4
	comp=Z,8.8nm,1.1s								
P48A	Milroy	76.40	12		P		P	23 27 13.3	-1.4
	baz=192								
Q52A	Bidwell	76.50	15		P		P	23 27 13.5	-1.8
	baz=195								
R58B	Mineral	76.55	18	*e*P			P	23 27 15.2	-0.4
	comp=Z,52nm,1.7s								
R58B	Mineral	76.55	18		P		P	23 27 13.3	-2.3
	baz=199								
Q53A	Leroy	76.56	15		P		P	23 27 12.5	-3.1
	baz=196								
O44A	Mansfield	76.62	9		P		P	23 27 14.4	-1.5
	baz=190								
YERR	Yerington	76.63	345	*e*P			P	23 27 19.1	+2.9
	comp=Z,17nm,1.2s								
DUG	Dugway, Tooele	76.70	350	*e*P			P	23 27 22.8	+6.2
	comp=Z,16nm,1.4s								
DUG	Dugway, Tooele	76.70	350	P			P	23 27 16.1	-0.5
DUG					pmax		pmax		
	comp=Z,11nm,1.3s								
DUG	Dugway, Tooele	76.70	350		P		P	23 27 16.7	+0.1
	baz=170								
N23A	Red Feather La	76.72	356		P		P	23 27 16.6	-0.2
	baz=175								
PNTR	Pine Nut	76.80	345	*e*P			P	23 27 19.3	+2.0
	comp=Z,15nm,1.0s								
O45A	Potomac	76.82	10		P		P	23 27 16.3	-0.7
	baz=190								
Q54A	Cos Mills	76.83	16		P		P	23 27 15.6	-1.6
	baz=196								
P50A	Jamestown	76.83	13		P		P	23 27 15.8	-1.4
	baz=194								
AFDM	Forest Hills D	76.97	344	*e*P			P	23 27 20.1	+2.1
	comp=Z,12nm,1.1s								
N40A	Mertquake, Sal	76.98	7		P		P	23 27 17.5	-0.4
	baz=187								
Q55A	Buckhannon	77.00	16		P		P	23 27 16.6	-1.7
	baz=197								
SFIN	Lafayette	77.03	10		P		P	23 27 17.2	-1.1
	baz=191								
O47A	Sheridan	77.04	11		P		P	23 27 17.0	-1.3
	baz=192								
P52A	Corning	77.18	14		P		P	23 27 17.6	-1.5
	baz=195								
P53A	Whipple	77.19	15		P		P	23 27 17.6	-1.6
	baz=196								
GDXM	Geysers	77.27	342	*e*P			P	23 27 21.8	+2.1
	comp=Z,9.3nm,1.2s								
N44A	Piper City	77.30	10		P		P	23 27 18.7	-1.0
	baz=190								
N43A	Stutzman Famil	77.31	9		P		P	23 27 18.5	-1.3
	baz=189								
PAHR	Pah Rah Range	77.35	345	*e*P			P	23 27 22.9	+2.6
	comp=Z,21nm,1.6s								
O50A	Cable	77.39	13		P		P	23 27 18.4	-1.9
	baz=194								
BGU	Big Grassy Mou	77.45	350	*e*P			P	23 27 26.6	+5.8
	comp=Z,7.0nm,1.1s								
P54A	Burton	77.50	16		P		P	23 27 18.9	-2.0
	baz=196								
HOPS	Hopland Field	77.51	342	*e*P			P	23 27 22.5	+1.5
	comp=Z,46nm,1.4s								
M39A	Webster	77.52	6		P		P	23 27 20.1	-0.9
	baz=187								
M41A	Milo	77.58	8		P		P	23 27 20.1	-1.1
	baz=188								
O51A	Pataskala	77.58	14		P		P	23 27 19.6	-1.8
	baz=195								
ACSO	Alum Creek Sta	77.59	14	*e*P			P	23 27 23.1	+1.7
	comp=Z,17nm,0.9s								
ACSO	Alum Creek Sta	77.59	14		P		P	23 27 19.6	-1.7
	baz=194								
N46A	Monticello	77.59	11		P		P	23 27 19.9	-1.5
	baz=191								
ELK	Elko	77.60	349	*e*P			P	23 27 22.2	+0.5
	comp=Z,10nm,1.3s								
ELK	Elko	77.60	349	*e*P			P	23 27 22.2	+0.5
ELK					pmax		pmax		
	comp=Z,10.0nm,1.3s								
ELK	Elko	77.60	349	LR			LR	23 54 21.3	
	comp=Z,253nm,21.2s,baz=174,slow=30								
BMN	Battle Mountai	77.63	347	*e*P			P	23 27 22.6	+0.8
	comp=Z,13nm,1.3s								
BMN	Battle Mountai	77.63	347	*e*P			P	23 27 22.6	+0.8
BMN					pmax		pmax		
	comp=Z,13nm,1.3s								
O52A	Adamsville	77.70	15	*e*P			P	23 27 22.8	+0.8
	comp=Z,71nm,1.6s								
O52A	Adamsville	77.70	15		P		P	23 27 20.2	-1.8
	baz=195								
BEKR	Beckworth	77.71	344	*e*P			P	23 27 23.5	+1.2
	comp=Z,12nm,1.2s								
SPUT	South Promonto	77.75	351	*e*P			P	23 27 23.9	+1.4
	comp=Z,8.3nm,1.2s								
M43A	Waltham Townsh	77.82	9		P		P	23 27 21.5	-1.1
	baz=189								
N48A	Decatur	77.83	12		P		P	23 27 21.9	-0.8
	baz=193								
O53A	New Philadelph	77.96	15		P		P	23 27 21.9	-1.6
	baz=196								
N49A	Columbus Grove	78.04	13	*e*P			P	23 27 23.4	-0.4
	comp=Z,18nm,1.2s								
N49A	Columbus Grove	78.04	13		P		P	23 27 22.7	-1.2
	baz=193								
N50A	Nevada	78.08	13		P		P	23 27 22.8	-1.3
	baz=194								
L39A	Vinton	78.17	6		P		P	23 27 24.1	-0.5
	baz=187								
SDMD	Soldier's Deli	78.18	19	*e*P			P	23 27 24.6	-0.1
	comp=Z,5.8nm,0.9s								
L40A	Anamosa	78.19	7		P		P	23 27 23.4	-1.2
	baz=188								
L41A	Preston	78.27	8		P		P	23 27 24.0	-1.1
	baz=188								
KCPM	Cahto Peak	78.29	342	*e*P			P	23 27 27.5	+2.0
	comp=Z,24nm,1.4s								
L42A	Oliver, Polo	78.30	8	*e*P			P	23 27 26.2	+1.0
	comp=Z,13nm,1.2s								
L42A	Oliver, Polo	78.30	8		P		P	23 27 24.2	-1.1
	baz=189								
O55A	Ligonier	78.34	16		P		P	23 27 24.1	-1.4
	baz=197								
N51A	Ashland	78.37	14	*e*P			P	23 27 25.4	-0.3
	comp=Z,24nm,0.8s								
N51A	Ashland	78.37	14		P		P	23 27 24.5	-1.2
	baz=195								
N52A	McGinn's Farm,	78.40	14		P		P	23 27 23.9	-2.0
	baz=195								
O03E	Paynes Creek	78.44	344		P		P	23 27 26.6	+0.4
	baz=162								
K22A	Casper	78.50	355		P		P	23 27 26.1	-0.5
	baz=175								
O02D	Mt. Diablo Mer	78.56	343		P		P	23 27 26.6	-0.3
	baz=162								
O56A	Blue Knob Stat	78.57	17	*e*P			P	23 27 26.0	-0.9
	comp=Z,16nm,0.8s								
O56A	Blue Knob Stat	78.57	17		P		P	23 27 24.7	-2.2
	baz=198								
N53A	Lisbon	78.57	15		P		P	23 27 25.2	-1.7
	baz=196								
L43A	Garden Prairie	78.58	9		P		P	23 27 25.6	-1.2
	baz=190								
M49A	Liberty Center	78.61	13		P		P	23 27 25.4	-1.7
	baz=194								
L44A	Lake County Fo	78.69	10		P		P	23 27 26.6	-0.8
	baz=190								
M50A	Fremont	78.71	13	*e*P			P	23 27 27.4	-0.1
	comp=Z,27nm,0.8s								
M50A	Fremont	78.71	13		P		P	23 27 26.0	-1.5
	baz=194								
K39A	Oelwein	78.76	6		P		P	23 27 26.8	-1.0
	baz=187								
M51A	Elyria	78.81	14		P		P	23 27 26.6	-1.5
	baz=195								
K41A	Shullsburg	78.82	8		P		P	23 27 27.3	-0.8
	baz=188								
K40A	Colesburg	78.83	7		P		P	23 27 27.4	-0.7
	baz=188								
KMRM	Mail Ridge	78.83	342	*e*P			P	23 27 30.5	+2.1
	comp=Z,36nm,1.0s								
BW06	Boulder Array	78.86	353	*e*P			P	23 27 29.9	+1.2
BW06	Boulder Array	78.86	353	P			P	23 27 28.1	-0.6
	baz=172								
PD31	Pinedale Array	78.86	353	*e*P			P	23 27 29.2	+0.5
	comp=Z,9.7nm,1.0s								
PDAR	Pinedale Array	78.86	353	*e*P			P	23 27 27.6	-1.0
PDAR					PKKPbc		PKKPbc	23 46 25.8	+1.6
PDAR	Pinedale Array	78.86	353	P			P	23 27 27.2	-1.4
	comp=Z,3.0nm,0.7s,baz=166,slow=6.8,SNR=26								
PDAR					PKKPbc		PKKPbc	23 46 25.8	+1.6
	comp=Z,0.3nm,0.6s,baz=342,slow=3.3,SNR=3.7								
PDAR					LR		LR	23 57 03.5	
	comp=Z,142nm,19.2s,baz=142,slow=32								
MVL	Millersville	78.86	19	*e*P			P	23 27 30.1	+1.6
	comp=Z,14nm,1.2s								
WDC	Whiskeytown Da	78.89	343	*e*P			P	23 27 29.0	+0.5
	comp=Z,23nm,1.3s								
WDC	Whiskeytown Da	78.89	343	*e*P			P	23 27 29.0	+0.5
WDC					pmax		pmax		
	comp=Z,23nm,1.3s								
L47A	Sherwood	78.89	12		P		P	23 27 27.6	-0.9
	baz=192								
N54A	Moraine State	78.91	16	*e*P			P	23 27 27.1	-1.6
	comp=Z,57nm,1.7s								
N54A	Moraine State	78.91	16		P		P	23 27 26.6	-2.1
	baz=197								
N55A	Marion Center	78.96	16		P		P	23 27 26.8	-2.2
	baz=198								
L48A	N Adams	78.99	12		P		P	23 27 26.5	-2.6
	baz=193								
SSPA	Standing Stone	79.08	17	*e*P			P	23 27 29.0	-0.6
	comp=Z,16nm,1.1s								
SSPA	Standing Stone	79.08	17		P		P	23 27 27.0	-2.7
	baz=198								
K42A	Prairie Point,	79.10	8		P		P	23 27 28.5	-1.2
	baz=189								
PLIO	Pelee Island,	79.12	14		P		P	23 27 28.4	-1.5
	baz=195,SNR=7.8								
JFWS	Jewell Farm	79.13	8		P		P	23 27 29.1	-0.8
	baz=188								
K43A	Burlington	79.15	9	*e*P			P	23 27 30.0	+0.1
	comp=Z,18nm,1.1s								
K43A	Burlington	79.15	9		P		P	23 27 28.9	-1.1
	baz=190								
M52A	Chesterland	79.17	15		P		P	23 27 28.0	-2.1
	baz=196								
M53A	WI Miller and	79.22	15		P		P	23 27 28.0	-2.4
	baz=196								
L49A	Milan	79.26	13		P		P	23 27 29.3	-1.3
	baz=194								
N02D	Trinity Center	79.30	343		P		P	23 27 30.5	-0.4
	baz=162								
L50A	Kingsville	79.37	13		P		P	23 27 29.2	-2.0
	baz=194								
J39A	Decorah	79.40	7		P		P	23 27 30.6	-0.8
	baz=187								
KHMM	Horse Mountain	79.45	342	*e*P			P	23 27 34.8	+2.9
	comp=Z,39nm,1.3s								
AAM	Ann Arbor	79.47	13	*e*P			P	23 27 32.6	+0.9
	comp=Z,19nm,0.7s								
AAM	Ann Arbor	79.47	13	*e*P			P	23 27 32.6	+0.9
AAM					pmax		pmax		
	comp=Z,19nm,0.7s								
AAM	Ann Arbor	79.47	13		P		P	23 27 30.2	-1.4
	baz=194								
ECSD	EROS Data Cent	79.47	3	*e*P			P	23 27 32.2	+0.5
	comp=Z,15nm,1.4s								
ECSD	EROS Data Cent	79.47	3	P			P	23 27 31.3	-0.5
	baz=183								
K46A	Dorr	79.49	11	P			P	23 27 31.1	-0.7
	baz=192								
M54A	Oil Creek Stat	79.50	16	*e*P			P	23 27 30.4	-1.5
	comp=Z,15nm,0.9s	

RSSD	**Black Hills**	79.84	357	*e*P		**P**	23 27 35.4	+1.4		
	comp=Z,46nm,1.1s									
RSSD	**Black Hills**	79.84	357	P		**P**	23 27 34.0	0.0		
RSSD				pmax	pmax					
	comp=Z,9.0nm,1.4s									
RSSD	**Black Hills**	79.84	357	P		**P**	23 27 33.6	-0.4		
	baz=177									
M04C	**Macdoel**	79.87	344	P		**P**	23 27 34.4	+0.3		
	baz=163									
FXWY	**Fox Creek**	79.87	352	*e*P		**P**	23 27 33.8	-0.4		
	comp=Z,11nm,1.3s									
K48A	**Perry**	79.88	12	P		**P**	23 27 32.6	-1.3		
	baz=193									
N59A	**State Game Lan**	79.88	19	*e*P		**P**	23 27 34.7	+0.7		
	comp=Z,23nm,1.4s									
N59A	**State Game Lan**	79.88	19	P		**P**	23 27 32.0	-2.0		
	baz=200									
I39A	**Houston**	79.93	7	*e*P		**P**	23 27 33.9	-0.3		
	comp=Z,12nm,0.8s									
I39A	**Houston**	79.93	7	P		**P**	23 27 33.5	-0.7		
	baz=187									
MOOW	**Moose Ponds**	79.95	352	*e*P		**P**	23 27 36.8	+2.2		
	comp=Z,6.1nm,1.2s									
YBH	**Yreka Blue Hor**	80.02	343	*e*P		**P**	23 27 34.0	-0.8		
	comp=Z,5.3nm,1.0s									
YBH	**Yreka Blue Hor**	80.02	343	*e*P		**P**	23 27 34.0	-0.8		
YBH				pmax	pmax					
	comp=Z,5.0nm,1.0s									
IMW	**Indian Meadow**	80.12	352	*e*P		**P**	23 27 36.9	+1.3		
	comp=Z,11nm,1.3s									
J47A	**Sunmer**	80.18	12	P		**P**	23 27 34.6	-1.0		
	baz=193									
HLID	**Hailey**	80.23	350	*e*Pdif		**P**	23 27 35.8	-0.3		
HLID	**Hailey**	80.23	350	*e*P		**P**	23 27 36.9	+0.9		
	comp=Z,25nm,1.1s									
HLID	**Hailey**	80.23	350	P		**P**	23 27 36.1	+0.1		
	baz=189,SNR=31									
I42A	**Draeger Farm,**	80.25	8	*e*P		**P**	23 27 35.5	-0.4		
	comp=Z,31nm,1.5s									
I42A	**Draeger Farm,**	80.25	8	P		**P**	23 27 35.0	-0.9		
	baz=189									
FLWY	**Flagg Ranch**	80.28	353	*e*P		**P**	23 27 36.8	+0.4		
	comp=Z,24nm,1.5s									
I41A	**Arkdale**	80.30	8	P		**P**	23 27 35.2	-1.0		
	baz=189									
I43A	**Langenfeld Bro**	80.33	9	P		**P**	23 27 35.0	-1.4		
	baz=190									
ODNJ	**Ogdensburg**	80.34	20	*e*P		**P**	23 27 36.5	0.0		
	comp=Z,14nm,1.0s									
L04D	**Klamath Falls**	80.39	344	P		**P**	23 27 36.4	-0.5		
	baz=162									
J48A	**Bridge Port**	80.42	12	P		**P**	23 27 35.7	-1.1		
	baz=194									
L55A	**Hinsdale**	80.42	16	P		**P**	23 27 35.0	-1.9		
	baz=198									
K05A	**Summer Lake**	80.57	345	*e*P		**P**	23 27 38.9	+1.0		
	comp=Z,22nm,1.3s									
J49A	**Marlette**	80.59	13	P		**P**	23 27 36.2	-1.6		
	baz=194									
L02E	**Cave Junction**	80.64	343	P		**P**	23 27 37.7	-0.4		
	baz=161									
H38A	**Maiden Rock**	80.68	6	P		**P**	23 27 37.5	-0.7		
	baz=187									
J08A	**Circle Bar Ran**	80.70	347	*e*P		**P**	23 27 39.4	+0.9		
	comp=Z,11nm,1.1s									
H39A	**Augusta**	80.77	7	P		**P**	23 27 37.4	-1.3		
	baz=188									
H40A	**Chili**	80.80	7	P		**P**	23 27 37.6	-1.3		
	baz=188									
H41A	**Junction City**	80.88	8	*e*P		**P**	23 27 39.0	-0.3		
	comp=Z,18nm,1.2s									
H41A	**Junction City**	80.88	8	P		**P**	23 27 37.8	-1.4		
	baz=189									
HUMO	**Hull Mountain**	80.91	343	*e*P		**P**	23 27 40.9	+1.4		
	comp=Z,7.4nm,1.2s									
H43A	**Windswept, Lux**	80.96	9	*e*P		**P**	23 27 42.0	+2.3		
	comp=Z,33nm,1.5s									
H43A	**Windswept, Lux**	80.96	9	P		**P**	23 27 38.2	-1.5		
	baz=190									
YHH	**Holmes Hill**	80.99	353	*e*P		**P**	23 27 43.4	+3.1		
	comp=Z,9.1nm,1.3s									
I47A	**Gladwin**	80.99	12	P		**P**	23 27 37.9	-2.0		
	baz=193									
K55A	**Perry**	81.02	17	P		**P**	23 27 37.1	-3.0		
	baz=198									
MMNY	**Mt. Morris Dam**	81.06	17	*e*P		**P**	23 27 40.8	+0.5		
	comp=Z,13nm,0.8s									
K02D	**Willamette Mer**	81.16	343	P		**P**	23 27 40.1	-0.9		
	baz=161									
RLMT	**Red Lodge**	81.17	354	*e*P		**P**	23 27 41.9	+0.8		
	comp=Z,6.6nm,0.8s									
RLMT	**Red Lodge**	81.17	354	P		**P**	23 27 39.1	-1.9		
	baz=173,SNR=7.0									
J05D	**Fort Rock, OR**	81.17	345	P		**P**	23 27 41.0	-0.1		
	baz=163									
SPMN	**Marine on St.**	81.18	6	*e*P		**P**	23 27 41.0	+0.1		
	comp=Z,18nm,1.3s									
SPMN	**Marine on St.**	81.18	6	P		**P**	23 27 39.8	-1.1		
	baz=186									
MCMT	**McKenzie Canyo**	81.26	351	*e*P		**P**	23 27 43.8	+2.2		
J04D	**Umpqua Nationa**	81.32	344	P		**P**	23 27 41.7	-0.3		
	baz=162									
G39A	**Holcombe**	81.39	7	P		**P**	23 27 40.2	-1.7		
	baz=188									
H46A	**Fife Lake**	81.39	11	P		**P**	23 27 39.8	-2.2		
	baz=192									
I51A	**Listowel**	81.42	14	P		**P**	23 27 39.5	-2.7		
	baz=196									
G40A	**Rib Lake**	81.46	7	P		**P**	23 27 40.7	-1.7		
	baz=188									
I07A	**Izee**	81.59	346	*e*P		**P**	23 27 44.1	+0.9		
	comp=Z,14nm,1.3s									
PINE	**Pine Mountain**	81.60	345	*e*P		**P**	23 27 43.5	+0.2		
	comp=Z,16nm,0.9s									
G42A	**Mountain**	81.64	9	P		**P**	23 27 40.8	-2.4		
	baz=190									
BWLO	**Walkerton**	81.69	14	P		**P**	23 27 41.3	-2.3		
	baz=196									
I52A	**Shelburne**	81.84	15	P		**P**	23 27 42.2	-2.2		
	baz=196									
BOZ	**Bozeman (W)**	81.88	352	*e*P		**P**	23 27 45.7	+1.0		
	comp=Z,6.1nm,1.0s									
BOZ	**Bozeman (W)**	81.88	352	*e*P		**P**	23 27 45.7	+1.0		
BOZ				pmax	pmax					
	comp=Z,6.0nm,1.0s									
BOZ	**Bozeman (W)**	81.88	352	P		**P**	23 27 44.1	-0.6		
	baz=171									
F38A	**Pierce - Schro**	81.99	6	P		**P**	23 27 43.5	-1.6		
	baz=187									
F39A	**Loretta**	82.03	7	P		**P**	23 27 44.1	-1.2		
	baz=188									
I03D	**Drain, OR**	82.03	343	P		**P**	23 27 45.2	-0.2		
	baz=162									
F41A	**Three Lakes**	82.05	8	P		**P**	23 27 43.8	-1.6		
	baz=189									
WLVO	**Wesleyville**	82.08	16	P		**P**	23 27 44.0	-1.6		
	baz=198									
F40A	**Park Falls**	82.11	7	P		**P**	23 27 44.6	-1.2		
	baz=188									
BMRO	**Meriville Lake**	82.14	14	P		**P**	23 27 45.1	-0.9		
	baz=196									
F43A	**Flat Rock, Esc**	82.38	9	P		**P**	23 27 45.3	-1.8		
	baz=191									
COWI	**Conover**	82.40	8	*e*P		**P**	23 27 47.1	-0.2		
	comp=Z,10nm,0.9s									
PECO	**Prince Edward**	82.41	17	P		**P**	23 27 45.5	-1.9		
	baz=199									
H52A	**Wyevale**	82.45	15	P		**P**	23 27 45.3	-2.2		
	baz=197									
LAO	**LASA Array**	82.51	356	*e*P		**P**	23 27 49.3	+1.4		
	comp=Z,16nm,0.6s									
LAO	**LASA Array**	82.51	356	P		**P**	23 27 47.3	-0.6		
	baz=175									
E39A	**Mellen**	82.53	7	P		**P**	23 27 46.6	-1.3		
	baz=188									
G08A	**Pilot Rock**	82.65	347	*e*P		**P**	23 27 49.9	+1.1		
	comp=Z,6.1nm,1.1s									
E40A	**Wakefield**	82.66	7	P		**P**	23 27 47.2	-1.4		
	baz=189,SNR=5.3									
H04A	**Detroit Lake**	82.71	345	*e*P		**P**	23 27 50.5	+1.5		
	comp=Z,14nm,1.3s									
SADO	**Sadowa**	82.73	15	*e*P		**P**	23 27 49.5	+0.5		
	comp=Z,17nm,1.3s									
SADO	**Sadowa**	82.73	15	P		**P**	23 27 47.8	-1.2		
	comp=Z,7.8nm,0.8s,baz=263,slow=6.6,SNR=10									
E41A	**Kenton**	82.78	8	P		**P**	23 27 47.7	-1.5		
	baz=189									
DELO	**Deloro Mine**	82.82	16	P		**P**	23 27 47.5	-1.9		
	baz=198									
COR	**Corvallis**	82.87	344	*e*P		**P**	23 27 52.4	+2.7		
	comp=Z,58nm,1.4s									
COR	**Corvallis**	82.87	344	*e*P		**P**	23 27 52.4	+2.7		
COR				pmax	pmax					
	comp=Z,58nm,1.4s									
E42A	**Champion**	82.87	9	P		**P**	23 27 48.1	-1.6		
	baz=190									
G06A	**Carlson Farm,**	82.92	346	*e*P		**P**	23 27 52.8	+2.7		
	comp=Z,32nm,1.7s									
E43A	**Lone Tree Farm**	82.93	9	*e*P		**P**	23 27 52.3	+2.3		
	comp=Z,35nm,1.6s									
E43A	**Lone Tree Farm**	82.93	9	P		**P**	23 27 48.6	-1.4		
	baz=191									
F10A	**Beach Ranch, E**	83.01	348	*e*P		**P**	23 27 51.1	+0.5		
	comp=Z,9.4nm,1.1s									
KLBO	**Killbear Provi**	83.07	14	P		**P**	23 27 48.2	-2.5		
	baz=196									
F49A	**Sandfield**	83.11	13	P		**P**	23 27 49.0	-1.9		
	baz=195									
NCB	**Newcomb**	83.14	19	*e*P		**P**	23 27 52.0	+0.9		
	comp=Z,14nm,1.2s									
G53A	**Haliburton**	83.17	15	P		**P**	23 27 49.0	-2.3		
	baz=198									
BANO	**Bancroft**	83.23	16	P		**P**	23 27 49.2	-2.4		
	baz=198									
E46A	**Sault Ste Mari**	83.31	11	P		**P**	23 27 49.4	-2.6		
	baz=193									
BUKO	**Buck Lake**	83.31	15	P		**P**	23 27 48.9	-3.2		
	baz=197									
MSO	**Missoula**	83.37	351	*e*P		**P**	23 27 54.5	+2.0		
	comp=Z,7.8nm,1.1s									
D41A	**Chassel**	83.41	8	*e*P		**P**	23 27 54.5	+2.0		
	comp=Z,80nm,1.8s									
D41A	**Chassel**	83.41	8	P		**P**	23 27 51.0	-1.5		
	baz=190									
PLVO	**Plevna**	83.44	16	*e*P		**P**	23 27 53.5	+0.9		
	comp=Z,35nm,1.3s									
PLVO	**Plevna**	83.44	16	P		**P**	23 27 50.5	-2.1		
	baz=199									
E47A	**Iron Bridge**	83.57	12	P		**P**	23 27 51.7	-1.6		
	baz=194									
LONY	**Lake Ozonia**	83.65	18	*e*P		**P**	23 27 53.0	-0.8		
	comp=Z,22nm,1.1s									
LONY	**Lake Ozonia**	83.65	18	P		**P**	23 27 51.3	-2.5		
	baz=201									
F51A	**Arnstein**	83.68	14	P		**P**	23 27 51.5	-2.4		
	baz=196									
F05D	**White Salmon**	83.71	345	P		**P**	23 27 52.2	-1.8		
	baz=163									
E48A	**Lockeyer**	83.78	13	P		**P**	23 27 52.4	-2.1		
	baz=195									
HAWA	**Hanford**	83.82	347	*e*P		**P**	23 27 56.0	+1.4		
	comp=Z,36nm,1.8s									
D46A	**Sault St. Mari**	83.87	11	P		**P**	23 27 51.9	-2.9		
	baz=193									
EYMN	**Ely**	83.99	6	*e*P		**P**	23 27 56.3	+0.9		
	comp=Z,8.5nm,1.0s									
EYMN	**Ely**	83.99	6	P		**P**	23 27 52.9	-2.5		
	baz=187									
PEMO	**Pembroke**	84.00	16	P		**P**	23 27 52.2	-3.3		
	baz=199									
E07A	**Sunnyside**	84.04	347	*e*P		**P**	23 27 57.1	+1.3		
	comp=Z,16nm,1.2s									
AGMN	**Agassiz Nation**	84.06	3	*e*P		**P**	23 27 57.0	+1.2		
	comp=Z,39nm,1.9s									
AGMN	**Agassiz Nation**	84.06	3	P		**P**	23 27 54.0	-1.8		
	baz=184									
ALGO	**Algonquin Park**	84.09	16	P		**P**	23 27 53.5	-2.5		
	baz=198									
EGMT	**Eagleton**	84.09	354	P		**P**	23 27 55.6	-0.5		
	baz=172									
D47A	**Chapeau**	84.18	12	P		**P**	23 27 53.8	-2.7		
	baz=194									
DGMT	**Dagmar**	84.19	358	*e*P		**P**	23 27 58.8	+2.3		
	comp=Z,23nm,1.4s									
DGMT	**Dagmar**	84.19	358	P		**P**	23 27 55.9	-0.6		
	baz=177									
ORIO	**Orleans, Innes**	84.20	17	P		**P**	23 27 54.4	-2.1		
	baz=200									
F55A	**Otter Lake**	84.36	17	P		**P**	23 27 55.5	-1.9		
	baz=199									
ALFO	**Alfred**	84.52	18	P		**P**	23 27 53.6	-4.5		
	baz=200									
E53A	**Dumoine, Ponti**	84.58	16	P		**P**	23 27 56.3	-2.1		
	baz=198									
E04D	**Cinebar**	84.58	345	P		**P**	23 27 58.2	-0.2		
	baz=162									
LON	**Longmire**	84.61	345	*e*P		**P**	23 27 58.9	+0.2		
	comp=Z,5.0nm,0.9s									
LON	**Longmire**	84.61	345	*e*P		**P**	23 27 58.9	+0.2		
LON				pmax	pmax					
	comp=Z,5.0nm,0.9s									
E54A	**Lac Daplat, Po**	84.73	16	P		**P**	23 27 57.0	-2.2		
	baz=199									
LTY	**Liberty**	84.87	346	*e*P		**P**	23 28 02.0	+2.0		
	comp=Z,21nm,1.8s									
MOQ	**Mont Orford**	84.91	20	*e*P		**P**	23 28 00.9	+0.7		
D52A	**ZEK Kipawa Sen**	84.98	15	P		**P**	23 27 58.6	-1.9		
	baz=198									
D05A	**Drummclaw**	85.06	345	*e*P		**P**	23 28 03.8	+2.9		
	comp=Z,68nm,1.7s									
TRQ	**Mont Tremblant**	85.15	18	*e*P		**P**	23 28 01.2	-0.2		
NEW	**Newport**	85.23	349	*e*P		**P**	23 28 01.5	-0.2		
	comp=Z,7.0nm,0.9s									
NEW	**Newport**	85.23	349	*e*P		**P**	23 28 01.5	-0.2		
NEW				pmax	pmax					
	comp=Z,7.0nm,0.9s									
NEW	**Newport**	85.23	349	LR		LR	00 00 12.4			
	comp=Z,185nm,19.7s,baz=170,slow=32									
D54A	**Lac Fusel, La**	85.53	16	P		**P**	23 28 00.9	-2.3		
	baz=199									
WALA	**Waterton Lakes**	85.56	351	*e*P		**P**	23 28 07.2	+3.8		
	comp=Z,16nm,1.4s									
D03D	**Eldon**	85.62	345	P		**P**	23 28 02.3	-1.3		
	baz=162									
NLWA	**Neilton Lookou**	85.65	344	*e*P		**P**	23 28 06.2	+2.4		
	comp=Z,12nm,1.3s									
ULM	**Lac du Bonnet**	86.01	3	P		**P**	23 28 04.0	-1.4		
	comp=Z,4.0nm,0.9s,baz=188,slow=4.9,SNR=6.0									
B05A	**Bryant**	86.11	346	P		**P**	23 28 04.4	-1.7		
	baz=163									
STKA	**Stephens Creek**	90.85	229	LR		LR	00 00 28.0			
	comp=Z,476nm,21.8s,baz=173,slow=30									
DBIC	**Dimbokro**	98.44	88	LR		LR	00 08 47.2			
	comp=Z,313nm,20.9s,baz=216,slow=32									
YKA	**Yellowknife Ar**	98.84	353	P		**P**	23 29 02.8	-2.0		
	comp=Z,0.4nm,0.8s,baz=162,slow=4.4,SNR=9.3									
YKA				PKKP		**PKKPdf**	23 45 36.8	-1.4		
	comp=Z,0.1nm,0.4s,baz=321,slow=3.6,SNR=3.7									
YKA				LR		LR	00 09 44.1			
	comp=Z,30nm,19.1s,baz=160,slow=33									
H01W1	**Cape Leeuwin H**	102.39	209	T		T	01 24 02.6			
	baz=150,slow=76,SNR=21									
H01W2	**Cape Leeuwin H**	102.39	209	T		T	01 24 15.5			
	baz=150,slow=76,SNR=24									
H01W3	**Cape Leeuwin H**	102.40	209	T		T	01 23 59.6			
	baz=150,slow=76,SNR=22									
H11S2	**WAKE ISLAND Hyl**	102.83	284	T		T	01 24 00.8			
	baz=126									
H11S1	**WAKE ISLAND Hyl**	102.84	284	T		T	01 23 56.7			
	baz=126									
H11S3	**WAKE ISLAND Hyl**	102.85	284	T		T	01 24 08.6			
	baz=126									
TORD	**Torodi Ar. Bea**	107.41	86	PP		**PP**	23 34 10.6	-1.4		
	comp=Z,1.5nm,0.9s,baz=244,slow=7.5,SNR=7.5									
BILL	**Bilibino**	124.04	333	*e*PKIKP		**PKiKP**	23 34 29.3	+6.1		
BILL				*e*			23 36 09.4			
BILL				*e*PPP		PPP	23 38 55.0			
BILL				pmax	pmax					
	comp=Z,1.0nm,0.8s									
KEST	**Kesra**	124.37	68	PKP		**PKiKP**	23 34 25.2	+0.3		
	comp=Z,4.4nm,0.8s,baz=239,slow=3.9,SNR=4.3									
SEY	**Seymchan**	129.04	326	i /PKIKP		**PKiKP**	23 34 39.7	+6.4		
SEY	**Seymchan**	129.04	326	PKP		**PKPdf**	23 34 32.4	-0.2		
	comp=Z,2.0nm,0.8s,baz=113,slow=17,SNR=5.2									
GERES	**GERESS Array B**	131.24	53	PKP		**PKPdf**	23 34 37.1	-0.2		
	comp=Z,0.5nm,0.7s,baz=232,slow=1.5,SNR=6.4									
VYHS	**Vyhne**	134.55	54	*e*PKHKP		PKPpre	23 34 27.9			
FINES	**FINESS Array B**	138.22	35	PKP		**PKPdf**	23 34 50.1	+0.3		
	comp=Z,1.1nm,0.9s,baz=17,slow=2.0,SNR=5.8									
VSU	**Vasula**	139.12	40	i /PKIKP		**PKiKP**	23 34 58.9	+5.1		
KLR	**Kul'dur**	140.13	306	PKP		**PKPdf**	23 34 51.6	-2.1		
	comp=Z,2.2nm,0.9s,baz=81,slow=4.1,SNR=5.4									
KSRS	**Korea Array**	141.51	287	PKP		**PKPdf**	23 34 53.5	-3.1		
	comp=Z,0.9nm,0.6s,baz=100,slow=1.5,SNR=4.3									
CSS	**Mathiatis**	142.67	78	*e*PKPdf		**PKiKP**	23 35 02.7	+0.8		
BRTR	**Keskin Array B**	143.92	70	PKP		PKPab	23 34 57.8	-0.5		
	comp=Z,2.7nm,0.8s,baz=214,slow=4.2,SNR=14									
OBN	**Obninsk**	145.12	43	*e*PKPdf		**PKPbc**	23 35 00.7	-1.2		
OBN	**Obninsk**	145.12	43	*e*PKIKP		**PKPbc**	23 34 59.8	-2.1		
OBN				*e*			23 38 24.1			
OBN				*e*PPP		PPP	23 41 35.9			
OBN				pmax	pmax					
	comp=Z,29nm,0.9s									
MOS	**Moscow**	145.53	42	*e*PKP2		**PKPdf**	23 35 00.8	-2.2		
MOS				pmax	pmax					
	comp=Z,34nm,0.9s									
NRIK	**Noril'sk**	146.34	355	PKPbc		**PKPdf**	23 35 03.5	-0.6		
	comp=Z,7.4nm,0.7s,baz=59,slow=1.5,SNR=19									
PRGR	**Permogore**	146.72	29	*e*PKIKP		**PKPdf**	23 35 04.9	0.0		
PRGR				pmax	pmax					
	comp=Z,30nm,0.8s									
LPSR	**Galich'ya Gora**	147.11	47	*e*PKIKP		**PKPdf**	23 35 05.8	0.0		
LPSR				pmax	pmax					
	comp=Z,30nm,0.8s									
NJ2	**Nanjing**	147.30	275	*e*PKPbc		**PKiKP**	23 35 14.5	+3.0		
VSR	**Storozhevoye**	147.56	49	*e*PKIKP		**PKPdf**	23 35 07.6	+1.0		
VSR				pmax	pmax					
	comp=Z,10.0nm,0.8s									
HIA	**Hailar**	147.97	307	*e*PKPdf		**PKPbc**	23 35 10.7	+0.2		
HIA	**Hailar**	147.97	307	*e*PKP2		**PKPbc**	23 35 10.7	+0.2		
BOD	**Bodaibo**	148.45	325	*e*PKIKP		**PKPdf**	23 35 08.5	+0.6		
BOD				pmax	pmax					
	comp=Z,17nm,1.7s									
VRH	**Novokhopyorsk**	149.13	49	*e*PKIKP		**PKPbc**	23 35 11.7	-1.7		
VRH				pmax	pmax					
	comp=Z,20nm,0.5s									
SIRT	**Sirnak**	150.40	76	*e*PKPdf		**PKPdf**	23 35 13.8	+2.0		
KBZ	**Khabaz**	151.07	63	PKPbc		**PKPbc**	23 35 17.4	-0.8		
	comp=Z,13nm,0.9s,baz=245,slow=1.3,SNR=21									
GOF	**Gofitskoye**	151.08	61	*e*PKIKP		**PKPbc**	23 35 16.8	-1.5		
GOF				pmax	pmax					
	comp=Z,20nm,1.0s									
PALK	**Pallekele**	151.35	183	PKPbc		**PKPbc**	23 35 17.7	-2.2		
	comp=Z,6.8nm,0.8s,baz=116,slow=1.2,SNR=5.6									
HHC	**Hu-ho-hao-te**	154.51	291	*e*PKPbc		**PKPbc**	23 35 26.0	-0.2		
HHC				AMB	AMB					
	comp=Z,150nm,8.8s									
HHC				LR	LR					
	comp=Z,160nm,15.5s									
HHC				LR	LR					
	comp=Z,210nm,16.3s									
HHC				LR	LR					
	comp=Z,300nm,18.6s									
CMAR	**Chiang Mai Arr**	155.47	230	PKP		**PKPdf**	23 35 18.3	-1.3		
	comp=Z,0.7nm,0.4s,baz=180,slow=0.5,SNR=4.4									
CMAR				PKPab		**PKPab**	23 35 42.0	-3.2		
	comp=Z,2.0nm,0.4s,baz=162,slow=3.0,SNR=12									
XAN	**Xi'an**	155.86	274	P		**PKPab**	23 35 44.3	-2.4		
XAN				pP	sPKPab		23 36 02.5	+10		
XAN				pmax	pmax					
	comp=Z,8.0nm,1.3s									
SONM	**Songino Array**	156.90	309	PKP		**PKPdf**	23 35 20.3	-0.5		
	comp=Z,0.3nm,0.8s,baz=29,slow=3.3,SNR=2.5									
SONM				PKPbc	PKPbc		23 35 28.8			
	comp=Z,1.0nm,0.8s,baz=108,slow=1.1,SNR=6.3									
ZAK	**Zakamensk**	157.63	317	*e*PKP2		**PKPab**	23 35 52.4	-1.4		
ZAK				pmax	pmax					
	comp=Z,3.0nm,1.3s									
CD2	**Chengdu**	159.15	263	PKP		**PKPdf**	23 35 29.5	+5.5		
LZH	**Lanzhou**	160.32	277	*e*PKP		**PKPdf**	23 35 28.5	+3.2		
LZH				LR	LR					
	comp=Z,260nm,16.8s									
LZH				LR	LR					
	comp=Z,360nm,18.4s									
LZH				LR	LR					
	comp=Z,370nm,19.8s									
ZALV	**Zalesovo Beam**	161.71	350	PKP		**PKPdf**	23 35 24.3	-1.6		
	comp=Z,0.5nm,0.5s,baz=347,slow=1.9,SNR=2.9									
ZALV				PKPab		**PKPab**	23 36 09.1	-2.0		
	comp=Z,1.2nm,0.8s,baz=3.4,slow=3.4,SNR=2.9									
MKAR	**Makanchi Array**	169.05	350	PKPab		**PKPab**	23 36 42.9	-0.9		
	comp=Z,1.3nm,1.0s,baz=45,slow=3.6,SNR=4.6									
MKAR				PP		**PP**	23 40 31.4	-1.3		
	comp=Z,0.6nm,0.9s,baz=64,slow=5.0,SNR=3.9

6.6nm,0.3s,baz=109,slow=17,SNR=5.0
APC Apacha 2.35 290 *e*P **Pn 23 29 04.2 +1.3**
MKZ Mys Kozlova 2.45 13 *e*P **Pn 23 29 03.9 -0.4**
MKZ *e*S **Sn 23 29 31.3 -1.9**
KZV Kizimen 2.96 354 *e*P **Pn 23 29 12.6 +1.1**
TUMD Tumrok D 3.04 356 *e*P **Pn 23 29 13.3 +0.8**
TUMD *e*S **Sn 23 29 47.3 -0.6**
TUMR Tumrok 3.13 353 *e*P **Pn 23 29 15.5 +1.6**
KBTR Krutoberegovo 4.21 16 *e*P **Pn 23 29 29.7 +1.2**
MKAR Makanchi Array 48.95 297 P **P 23 37 08.3 -1.5**
0.2nm,0.5s,baz=55,slow=7.4,SNR=3.6
FINES FINESS Array B 61.13 337 P **P 23 38 38.7 +1.3**
0.9nm,0.8s,baz=27,slow=9.4,SNR=4.5
NOA NORSAR Array B 64.54 344 P **P 23 39 01.5 +1.3**
0.5nm,0.9s,baz=35,slow=7.6,SNR=2.6

IDC ***29*** *23:49:25.3±1.4,36.77N×142.16E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/35,mbtmp3.5/5,ML2.6/1,MS3.3/4, Ms1 3.3/4,ms1mx2.7/49, Error ellipse: s-maj=29.1km s-min=26.8km az=164.0*
ISCJB ***29*** *23:49:26.7±1.3,36.86N±0.05×142.06E±0.07,h15km±9km, mb3.4/4,MS3.9/2, Error ellipse: s-maj=9.8km s-min=8.0km az=6.7*
JMA ***29*** *23:49:29.3±0.2,36.88N×141.94E,h38km±3km,M3.3*
ISC 29 23:49:26.5±3.9, 36.86N±0.06×142.00E±0.07, h6km±24km, n26,σ1§24/26,mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.99 284**		P	**Pb**	**23 49 46.0**	**-0.2**
JFFD	**Fukushimafurud**	**1.18 282**		P	**Pn**	**23 49 49.1**	**-0.5**
JFFD				*e*S	**Sb**	**23 50 03.5**	**-1.3**
JHO	**Hitachi**	**1.18 258**		P	**Pn**	**23 49 48.9**	**-0.7**
JHYU	**Hitachinakayam**	**1.25 246**		P	**Pn**	**23 49 50.3**	**-0.2**
JHYU				*e*S	**Sb**	**23 50 05.2**	**-1.7**
JMM	**Marumori**	**1.39 317**		P	**Pn**	**23 49 52.0**	**-0.5**
JFT	**Otama**	**1.48 297**		P	**Pn**	**23 49 54.2**	**+0.4**
JFT				*e*S	**Sn**	**23 50 11.9**	**-1.6**
JIO	**Ouri**	**1.68 342**		P	**Pn**	**23 49 56.7**	**+0.3**
JIO				*e*S	**Sn**	**23 50 17.5**	**-0.7**
JOU	**Okura**	**1.84 325**		P	**Pn**	**23 49 59.3**	**+0.6**
JOU				*e*S	**Sn**	**23 50 21.3**	**-1.1**
JFY	**Yanaizu**	**1.92 287**		P	**Pn**	**23 50 01.6**	**+1.9**
JFY				*e*S	**Sn**	**23 50 24.3**	**+0.1**
JYS	**Shirataka**	**2.06 312**		P	**Pn**	**23 50 03.3**	**+1.7**
JYS				*e*S	**Sn**	**23 50 27.7**	**+0.1**
JAG	**Ashikaga**	**2.10 259**		P	**Pn**	**23 50 02.8**	**+0.6**
JMK	**Ichinoseki**	**2.18 344**		P	**Pn**	**23 50 04.5**	**+1.2**
JMK				*e*S	**Sn**	**23 50 30.1**	**-0.5**
MJAR	**Matsushiro Arr**	**3.07 265**		Pn	**Pn**	**23 50 17.8**	**+2.2**
	0.8nm,0.3s,baz=86,slow=8.4,SNR=40						
MJAR				Sn	**Sn**	**23 50 55.4**	**+2.8**
	0.7nm,0.3s,baz=98,slow=25,SNR=4.3						
MJAR				LR	LR	23 51 44.1	
	comp=Z,92nm,19.3s,baz=80,slow=44						
KSRS	**Korea Array**	**11.26 277**		LR	LR	23 56 23.5	
	comp=Z,26nm,18.7s,baz=355,slow=37						
H11N2	**WAKE ISLAND Hy**	**27.65 121**		T	T	00 24 26.5	
	baz=314,slow=75,SNR=5.9						
H11N1	**WAKE ISLAND Hy**	**27.66 121**		T	T	00 24 20.4	
	baz=314,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**27.67 121**		T	T	00 24 16.6	
	baz=314,slow=75,SNR=4.7						
SONM	**Songino Array**	**28.27 304**		P	**P**	**23 55 21.0**	**+0.4**
	1.3nm,0.8s,baz=104,slow=8.0,SNR=12						
H11S1	**WAKE ISLAND Hy**	**28.37 123**		T	T	00 25 16.6	
	baz=316						
H11S3	**WAKE ISLAND Hy**	**28.37 123**		T	T	00 25 18.2	
	baz=316						
H11S2	**WAKE ISLAND Hy**	**28.38 123**		T	T	00 25 19.4	
	baz=316						
JAY	**Jayapura**	**39.19 182**		LR	LR	00 11 52.5	
	comp=Z,108nm,21.4s,baz=169,slow=34						
ZALV	**Zalesovo Beam**	**42.38 313**		P	**P**	**23 57 22.4**	**+1.0**
	0.2nm,0.3s,baz=96,slow=7.4,SNR=3.6						
ILAR	**Eielson Array**	**49.39 32**		P	**P**	**23 58 16.6**	**0.0**
	0.3nm,0.7s,baz=259,slow=7.2,SNR=3.2						
WRA	**Warramunga Arr**	**56.96 189**		P	**P**	**23 59 11.8**	**-1.0**
	0.5nm,0.9s,baz=6.4,slow=7.4,SNR=4.5						
FINES	**FINESS Array B**	**69.19 332**		LR	LR	00 31 37.3	
	comp=Z,142nm,19.8s,baz=258,slow=36						

IDC 29 23:56:07.9±6.6, 10.65S×163.42E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/36, mbtmp3.5/4, Error ellipse: s-maj=189.7km s-min=37.1km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.63 289**		*e*P	Pn	23 57 09.0	+3.6
HNR				*e*S	Sn	23 57 48.0	-1.0
H11S2	**WAKE ISLAND Hy**	**29.14**	**6**	T	T	00 32 24.1	
	baz=183,slow=76						
H11S3	**WAKE ISLAND Hy**	**29.14**	**6**	T	T	00 32 26.2	
	baz=183,slow=76						
H11S1	**WAKE ISLAND Hy**	**29.16**	**6**	T	T	00 32 25.3	
	baz=183,slow=76						
WRA	**Warramunga Arr**	**29.49 248**		P	P	00 02 14.0	-0.1
	0.4nm,0.7s,baz=79,slow=8.8,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**30.37**	**6**	T	T	00 34 00.2	
	baz=184,slow=76,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**30.37**	**7**	T	T	00 33 56.3	
	baz=184,slow=76,SNR=9.2						
H11N2	**WAKE ISLAND Hy**	**30.38**	**6**	T	T	00 33 57.3	
	baz=184,slow=76,SNR=8.7						
ASAR	**Alice Springs**	**30.95 241**		P	P	00 02 27.0	0.0
	0.2nm,0.5s,baz=64,slow=9.7,SNR=2.6						
SONM	**Songino Array**	**77.01 325**		P	P	00 08 03.1	+0.3
	0.2nm,0.4s,baz=126,slow=3.7,SNR=2.9						
MKAR	**Makanchi Array**	**91.68 317**		P	P	00 09 17.0	-0.3
	0.2nm,0.6s,baz=93,slow=6.3,SNR=3.5						

IDC ***30*** *00:03:54.9±1.4,13.25N×125.64E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/43,mbtmp3.5/5,ML5.0/1,MS3.3/1, Ms1 3.3/1,ms1mx2.7/32, Error ellipse: s-maj=48.0km s-min=21.7km az=60.0*
MAN ***30*** *00:04:00.3,13.30N×124.67E,h20km,MS3.6*
ISCJB ***30*** *00:04:01.4±0.9,13.25N±0.05×124.65E±0.07,h33km±6km, mb3.5/5, Error ellipse: s-maj=12.3km s-min=5.0km az=149.9*
ISC 30 00:04:01.5±1.5, 13.24N±0.06×124.72E±0.08, h31km±11km, n24,σ2§08/25,mb3.5/5,3C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.66 303**		*e*P	**Pb**	**00 04 13.0**	**-1.5**
PVCP				*e*S	**Sb**	**00 04 22.5**	**-0.9**
CNP	**Catarman**	**0.73 184**		*e*P	**Pn**	**00 04 14.5**	**-1.2**
CNP				*e*S	**Sb**	**00 04 25.3**	**-0.2**
BESP	**Borongan**	**1.77 157**		*e*P	**Pn**	**00 04 30.6**	**+0.4**
AUQP	**San Andres**	**1.99 273**		*e*P	**Pb**	**00 04 39.0**	**+1.8**
AUQP				*e*S	**Sb**	**00 05 03.8**	**+2.2**
PLP	**Palo**	**2.08 173**		*e*P	**Pn**	**00 04 34.1**	**-0.2**
PLP				*i* S	**Sn**	**00 05 01.3**	**+2.1**
OCLP	**Ormoc**	**2.18 183**		*e*P	**Pn**	**00 04 37.0**	**+1.3**
GQP	**Guinayangan**	**2.31 287**		*e*P	**Pn**	**00 04 38.5**	**+1.0**
GQP				*e*S	**Sn**	**00 05 02.9**	**-2.0**
RCP	**Roxas**	**2.55 229**		*e*P	**Pn**	**00 04 40.5**	**-0.4**
RCP				*e*S	**Sn**	**00 05 10.5**	**-0.4**
MSLP	**Maasin**	**3.09 177**		*e*P	**Pn**	**00 04 50.8**	**+2.5**
TGY	**Tagaytay City**	**3.78 284**		Pn	**Pb**	**00 05 07.5**	**0.0**
	70nm,0.3s,baz=153,slow=6.8,SNR=2.3						
TGY				Sn	Sb	00 06 02.6	+10
	52nm,0.3s,baz=210,slow=20,SNR=4.0						
BUTP	**Butuan**	**4.34 168**		*e*P	**Pn**	**00 05 10.0**	**+4.6**
SMPP	**San Manuel, Pa**	**4.86 307**		*e*P	**Pn**	**00 05 12.9**	**+0.3**
SMPP				*e*S	**Sn**	**00 06 09.8**	**+1.8**
DAV	**Davao City (W)**	**6.19 172**		Pn	**Pn**	**00 05 31.0**	**+0.1**
	15nm,0.3s,baz=236,slow=15,SNR=1.1						
DAV				LR	LR	00 08 15.4	
	comp=Z,243nm,19.8s,baz=296,slow=42						
WRA	**Warramunga Arr**	**34.31 164**		P	**P**	**00 10 41.6**	**-3.8**
	0.6nm,0.9s,baz=340,slow=8.2,SNR=1.9						
SONM	**Songino Array**	**37.72 340**		P	**P**	**00 11 15.9**	**+1.4**
	0.2nm,0.5s,baz=156,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**37.77 166**		P	**P**	**00 11 10.8**	**-4.2**
	0.5nm,0.7s,baz=350,slow=7.6,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**40.64**	**77**	T	T	00 55 11.3	
	baz=269,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**40.65**	**77**	T	T	00 55 14.9	
	baz=269,slow=75,SNR=21						
H11S2	**WAKE ISLAND Hy**	**40.65**	**77**	T	T	00 55 16.1	
	baz=269,slow=75,SNR=27						
H11N1	**WAKE ISLAND Hy**	**40.87**	**75**	T	T	00 55 22.5	
	baz=267,slow=74,SNR=66						
H11N2	**WAKE ISLAND Hy**	**40.87**	**75**	T	T	00 55 22.9	
	baz=267,slow=74,SNR=43						
H11N3	**WAKE ISLAND Hy**	**40.88**	**75**	T	T	00 55 23.9	
	baz=267,slow=74,SNR=62						
MKAR	**Makanchi Array**	**48.76 322**		P	**P**	**00 12 44.9**	**+1.3**
	0.4nm,0.8s,baz=134,slow=8.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**51.31 331**		P	**P**	**00 13 03.1**	**+0.4**
	0.5nm,0.3s,baz=118,slow=5.2,SNR=1.3						

IDC ***30*** *00:20:15.7±1.1,53.70N×164.61W,h0km,mb3.9/13, mb1 4.0/15,mb1mx3.7/57,mbtmp3.9/15,ML3.2/2, Error ellipse: s-maj=28.4km s-min=15.1km az=175.0*
ISCJB ***30*** *00:20:18.2±0.9,53.31N±0.07×164.42W±0.07,h44km±7km, mb4.0/12, Error ellipse: s-maj=12.4km s-min=6.1km az=167.0*
NEIC ***30*** *00:20:18.1±0.0,53.33N×164.42W,h38km,mb3.4/1, ML3.5(AEIC), After AEIC.*
ISC 30 00:20:20.0±0.9, 53.4N±0.1×164.41W±0.05, h37km±2km, n43,σ1§57/42, mb4.1/12, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**1.08 312**		P	**Pn**	**00 20 37.9**	**-0.6**
AKUT				S	**Sn**	**00 20 52.9**	**+0.7**
AHB	**Akutan Harbor**	**1.09 311**		P	**Pn**	**00 20 38.2**	**-0.5**
WESP	**Westdahl Peak**	**1.09 350**		P	**Pn**	**00 20 38.8**	**0.0**
WESP				S	**Sn**	**00 20 54.7**	**+2.0**
ZRO	**Akutan Zero**	**1.15 307**		P	**Pn**	**00 20 38.9**	**-0.6**
AKMO	**Akutan Morgan**	**1.17 306**		P	**Pn**	**00 20 39.2**	**-0.5**
AKMO				S	**Sn**	**00 20 55.4**	**+1.0**
UNV	**Unalaska Valle**	**1.32 290**		P	**Pn**	**00 20 40.5**	**-1.3**
UNV				S	**Sn**	**00 20 58.6**	**+0.5**
SSBA	**Shishaldin**	**1.37 7**		P	**Pn**	**00 20 42.6**	**0.0**
MREP	**Makushin Rep't**	**1.45 287**		P	**Pn**	**00 20 42.5**	**-1.1**
MSW	**Makushin Switc**	**1.50 290**		P	**Pn**	**00 20 43.5**	**-0.8**
MSW				S	**Sn**	**00 21 04.4**	**+1.9**
FALS	**False Pass**	**1.56 22**		P	**Pn**	**00 20 45.1**	**0.0**
MCIR	**Makushin Cirqu**	**1.57 291**		P	**Pn**	**00 20 45.0**	**-0.4**
DRIA	**Deer Island**	**2.00 38**		P	**Pn**	**00 20 50.7**	**-0.5**
DT1	**Dutton Round H**	**2.11 36**		P	**Pn**	**00 20 52.7**	**+0.1**
OKTU	**Okmok Mt. Tuli**	**2.17 271**		P	**Pn**	**00 20 52.2**	**-1.4**
OKER	**Okmok East Rim**	**2.18 272**		P	**Pn**	**00 20 52.6**	**-1.1**
OKWE	**Okmok W'ng Wal**	**2.29 273**		P	**Pn**	**00 20 54.5**	**-0.7**
PS4A	**Pavlof South-4**	**2.44 37**		P	**Pn**	**00 20 58.0**	**+0.8**
SDPT	**Sand Point**	**3.01 48**		P	**Pn**	**00 21 04.9**	**0.0**
KDAK	**Kodiak Island**	**8.00 52**		Pn	**Pn**	**00 22 11.6**	**-1.8**
	1.0nm,0.3s,baz=211,slow=7.9,SNR=18						
KDAK				Sn	**Sn**	**00 23 36.4**	**-6.1**
	0.2nm,0.3s,baz=313,slow=17,SNR=4.2						
ILAR	**Eielson Array**	**14.44 31**		Pn	Pn	00 23 36.1	-5.4
	0.0nm,0.3s,baz=209,slow=9.1,SNR=2.4						
DAWY	**Dawson**	**16.67 40**		*e*Pn	**P**	**00 24 12.7**	**+0.2**
	2.3nm,0.6s						
DLBC	**Dease Lake**	**19.76 61**		P	**Pn**	**00 24 50.7**	**+2.6**
	0.1nm,0.3s,baz=243,slow=14,SNR=2.5						
INK	**Inuvik**	**20.83 32**		*e*P	**P**	**00 24 56.2**	**-1.7**
INK	**Inuvik**	**20.83 32**		P	**P**	**00 24 56.1**	**-1.8**
	1.7nm,0.5s,baz=211,slow=9.2,SNR=21						
PETK	**Petropavlovsk-**	**22.50 285**		P	**P**	**00 25 13.2**	**-2.8**
	4.0nm,0.9s,baz=94,slow=8.5,SNR=5.5						
YKA	**Yellowknife Ar**	**27.27 51**		P	**P**	**00 26 02.0**	**+1.7**
	0.5nm,0.7s,baz=271,slow=8.2,SNR=8.8						
NVAR	**Mina Array Bea**	**34.73 97**		P	**P**	**00 27 09.1**	**+2.5**
	0.2nm,0.5s,baz=310,slow=4.6,SNR=2.7						
H11N2	**WAKE ISLAND Hy**	**40.23 224**		T	T	01 11 16.3	
	baz=26,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.24 224**		T	T	01 10 49.0	
	baz=26,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.25 224**		T	T	01 11 12.3	
	baz=26,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**41.40 224**		T	T	01 12 52.5	
	baz=25,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**41.42 224**		T	T	01 12 41.8	
	baz=25,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**41.42 224**		T	T	01 12 42.2	
	baz=25,slow=75,SNR=20						
KSRS	**Korea Array**	**48.23 279**		P	**P**	**00 28 57.2**	**+0.4**
	1.8nm,0.8s,baz=60,slow=7.8,SNR=5.7						
KSAR	**Wonju Array Be**	**48.27 279**		P	**P**	**00 28 57.2**	**+0.1**
SPITS	**Spitsbergen Ar**	**48.67 360**		P	**P**	**00 28 59.2**	**-0.5**
	9.4nm,1.0s,baz=9.6,slow=9.5,SNR=7.0						
TXAR	**Lajitas Array**	**49.77 94**		P	**P**	**00 29 09.9**	**+1.1**
	0.3nm,0.6s,baz=305,slow=5.2,SNR=5.5						
SONM	**Songino Array**	**53.30 303**		P	**P**	**00 29 34.2**	**-0.8**
	1.7nm,0.9s,baz=53,slow=7.4,SNR=8.9						
ARCES	**ARCESS Array B**	**57.15 356**		P	**P**	**00 30 01.2**	**-1.1**
	2.3nm,0.8s,baz=356,slow=9.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**58.62 320**		P	**P**	**00 30 12.2**	**-0.6**
	0.7nm,0.3s,baz=44,slow=7.3,SNR=6.1						
FINES	**FINESS Array B**	**65.18 354**		P	**P**	**00 30 56.4**	**-0.3**
	1.3nm,0.7s,baz=14,slow=8.5,SNR=5.1						
MKAR	**Makanchi Array**	**65.20 316**		P	**P**	**00 30 56.1**	**-1.1**
	0.5nm,0.3s,baz=51,slow=6.4,SNR=14						
BRTR	**Keskin Array B**	**85.93 346**		P	**P**	**00 32 56.6**	**+0.6**
	1.8nm,0.9s,baz=22,slow=2.0,SNR=7.1						

ISCJB ***30*** *00:22:51.0±1.1,6.58S±0.07×147.9E±0.2,h51km,mb3.8/6, Error ellipse: s-maj=28.2km s-min=10.1km az=7.4*
IDC ***30*** *00:22:53.6±4.3,6.67S×147.98E,h62km±38km,mb3.6/6, mb1 3.9/9,mb1mx3.6/34,mbtmp3.9/9,ML3.8/2, Error ellipse: s-maj=33.7km s-min=28.4km az=100.0*
ISC 30 00:22:52.7±1.1, 6.60S±0.09×147.9E±0.2, h51km, n11,σ1§94/14, mb3.7/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.89 195**		P	**Pn**	**00 23 37.1**	**+0.9**
	41nm,0.3s,baz=64,slow=6.4,SNR=33						
PMG				S	**Sn**	**00 24 09.1**	**-0.6**
	20nm,0.3s,baz=128,slow=20,SNR=3.7						
CTA	**Charters Tower**	**13.50 187**		P	**Pn**	**00 26 03.4**	**+1.7**
	0.2nm,0.5s,baz=7.1,slow=16,SNR=2.7						
WRA	**Warramunga Arr**	**18.70 224**		P	**P**	**00 27 05.6**	**-1.5**
	0.5nm,0.3s,baz=51,slow=11,SNR=26						
WRA				S	**S**	**00 30 39.6**	**+2.1**
	0.0nm,0.3s,baz=47,slow=22,SNR=3.1						
ASAR	**Alice Springs**	**21.66 217**		P	**P**	**00 27 38.6**	**-0.5**
	1.5nm,0.5s,baz=52,slow=9.2,SNR=20						
ASAR				S	**S**	**00 31 31.6**	**-4.9**
	1.1nm,0.8s,baz=35,slow=23,SNR=6.9						
FITZ	**Fitzroy Crossi**	**24.54 240**		P	**P**	**00 28 06.9**	**-0.9**
	8.6nm,0.3s,baz=66,slow=6.8,SNR=96						
STKA	**Stephens Creek**	**25.83 192**		P	**P**	**00 28 19.0**	**-0.4**
	1.0nm,0.3s,baz=4.1,slow=14,SNR=5.1						
CMAR	**Chiang Mai Arr**	**54.34 298**		P	**P**	**00 32 16.6**	**+2.0**
	1.2nm,0.4s,baz=122,slow=6.5,SNR=4.3						
MKAR	**Makanchi Array**	**78.54 320**		P	**P**	**00 34 48.6**	**-0.2**
	0.1nm,0.4s,baz=97,slow=10.0,SNR=3.4						
ILAR	**Eielson Array**	**85.67 23**		P	**P**	**00 35 24.2**	**-1.5**
	0.1nm,0.6s,baz=326,slow=35,SNR=2.9						
TORD	**Torodi Ar. Bea**	**146.12 284**		PKPbc	**PKPbc**	**00 42 28.4**	**+0.1**
	0.5nm,0.5s,baz=83,slow=4.2,SNR=8.6						
BDFB	**Brasilia**	**152.84 145**		PKPbc	**PKPbc**	**00 42 45.2**	**-0.1**
	0.5nm,0.3s,baz=146,slow=7.3,SNR=2.6						

ISCJB ***30*** *00:30:10.6±1.1,36.89N±0.06×142.02E±0.08,h19km, mb3.4/4,Error ellipse: s-maj=9.4km s-min=7.7km az=23.4*
JMA ***30*** *00:30:11.5±0.2,36.88N×141.94E,h26km±2km,M3.5*
IDC ***30*** *00:30:12.8±1.5,37.48N×141.81E,h0km,mb3.4/4, mb1 3.6/5,mb1mx3.4/34,mbtmp3.4/5,ML2.7/1, Error ellipse: s-maj=32.3km s-min=27.9km az=144.0*
ISC 30 00:30:11.9±1.4, 36.91N±0.07×141.91E±0.08, h19km, n22,σ1§57/20, mb3.4/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.91 282**		P	**Pn**	**00 30 28.9**	**-0.8**
JFFD	**Fukushimafurud**	**1.09 280**		P	**Pn**	**00 30 31.6**	**-0.6**
JFFD				*e*S	**Sb**	**00 30 46.2**	**+0.1**
JHO	**Hitachi**	**1.12 255**		P	**Pn**	**00 30 31.6**	**-0.9**
JHYU	**Hitachinakayam**	**1.21 242**		P	**Pn**	**00 30 32.9**	**-0.9**
JMM	**Marumori**	**1.30 317**		P	**Pb**	**00 30 34.7**	**-1.1**
JFT	**Otama**	**1.39 296**		P	**Pb**	**00 30 36.7**	**-0.6**
JFT				*e*S	**Sn**	**00 30 54.4**	**+0.2**
JIO	**Ouri**	**1.60 344**		*e*S	**Sb**	**00 31 00.0**	**-0.7**
JOU	**Okura**	**1.75 326**		S	**Sb**	**00 31 04.2**	**-0.9**
JYS	**Shirataka**	**1.96 312**		P	**Pb**	**00 30 45.7**	**-1.3**
JYS				*e*S	**Sb**	**00 31 10.4**	**-0.7**
JAG	**Ashikaga**	**2.04 257**		P	**Pn**	**00 30 45.3**	**+0.2**
MJAR	**Matsushiro Arr**	**3.00 264**		Pn	**Pb**	**00 31 01.0**	**-3.7**
	1.0nm,0.3s,baz=40,slow=14,SNR=29						
MJAR				Sn	**Sb**	**00 31 41.0**	**+0.2**
	0.5nm,0.3s,baz=85,slow=15,SNR=1.9						
MAT	**Matsushiro**	**3.00 264**		P	**Pn**	**00 31 00.8**	**+2.4**
MAT				S	**Sn**	**00 31 37.5**	**+3.7**
H11N2	**WAKE ISLAND Hy**	**27.75 121**		T	T	01 04 59.3	
	baz=314,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.75 121**		T	T	01 05 05.7	
	baz=314,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**27.76 121**		T	T	01 05 29.9	
	baz=314,slow=75,SNR=10.0						
SONM	**Songino Array**	**28.18 304**		P	**P**	**00 36 04.2**	**+1.0**
	1.1nm,0.8s,baz=109,slow=8.7,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**28.46 123**		T	T	01 06 23.5	
	baz=315,slow=76,SNR=6.0						
H11S3	**WAKE ISLAND Hy**	**28.46 123**		T	T	01 06 12.9	
	baz=315,slow=76,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**28.48 123**		T	T	01 06 07.0	
	baz=315,slow=76,SNR=4.2						
MKAR	**Makanchi Array**	**44.52 302**		P	**P**	**00 38 22.4**	**+0.2**
	0.5nm,0.8s,baz=86,slow=9.3,SNR=3.9						
ILAR	**Eielson Array**	**49.38 32**		P	**P**	**00 39 00.2**	**+0.4**
	0.3nm,0.9s,baz=270,slow=6.3,SNR=1.9						
WRA	**Warramunga Arr**	**57.00 188**		P	P	00 40 04.2	+7.9
	0.2nm,0.5s,baz=5.7,slow=7.5,SNR=5.6						

IDC ***30*** *00:34:33.0±0.9,36.10S×100.80W,h0km,mb4.2/14, mb1 4.3/14,mb1mx4.1/32,mbtmp4.1/14,MS4.1/4, Ms1 4.1/4,ms1mx3.5/30, Error ellipse: s-maj=24.6km s-min=19.5km az=32.0*
ISCJB ***30*** *00:34:34.2±0.8,36.1S±0.1×100.9W±0.1,h16km,mb4.3/20, MS4.1/4, Error ellipse: s-maj=20.9km s-min=13.8km az=36.1*
NEIC ***30*** *00:34:36.0±1.2,36.00S×100.64W,h10km,mb4.4/8, Error ellipse: s-maj=35.4km s-min=14.7km az=209.0*
ISC 30 00:34:35.9±0.8, 36.2S±0.2×100.8W±0.1, h16km, n34,σ1§64/28, mb4.4/20, MS4.1/4, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO06	**Curarrehue**	**23.34 107**		*e*P	**P**	**00 39 44.5**	**+1.0**
	7.1nm,0.8s						
PLCA	**Paso Flores**	**24.05 110**		*e*P	**P**	**00 39 51.5**	**+1.2**
	11nm,1.0s						
PLCA	**Paso Flores**	**24.05 110**		P	**P**	**00 39 50.8**	**+0.4**
	6.3nm,0.9s,baz=290,slow=12,SNR=13						
ROC1	**El Roble**	**24.67 91**		*e*P	**P**	**00 39 57.3**	**+1.0**
	12nm,0.8s						
LCO	**Las Campanas**	**26.26 83**		*e*P	**P**	**00 40 10.5**	**-0.2**
	22nm,1.2s						
CFA	**Coronel Fontan**	**27.32 90**		P	**P**	**00 40 19.5**	**-0.6**
	2.3nm,0.7s,baz=266,slow=9.8,SNR=6.2						
LVC	**Limon Verde**	**30.73 73**		P	**P**	**00 40 50.2**	**-0.6**
	4.8nm,0.9s,baz=297,slow=11,SNR=2.4						
MNMC	**Minye Minye**	**32.23 67**		*e*P	**P**	**00 41 03.9**	**0.0**
	14nm,1.0s						
LPAZ	**La Paz**	**35.11 64**		*e*P	**P**	**00 41 29.9**	**+0.6**
	6.9nm,1.1s						
LPAZ	**La Paz**	**35.11 64**		P	**P**	**00 41 30.0**	**+0.6**
	4.4nm,1.0s,baz=224,slow=4.9,SNR=11						
ATAH	**Atahualpa**	**35.42 41**		P	**P**	**00 41 32.2**	**+0.5**
	6.1nm,0.9s,baz=212,slow=9.2,SNR=4.7						
ATAH				LR	LR	00 52 21.5	
	comp=Z,320nm,21.8s,baz=237,slow=30						
PMSA	**Palmer Station**	**36.02 154**		LR	LR	00 51 44.6	
	comp=Z,442nm,21.8s,baz=344,slow=29						
ROSC	**El Rosal**	**47.73 37**		P	**P**	**00 43 10.3**	**-2.3**
	2.2nm,0.4s,baz=323,slow=20,SNR=3.5						
BDFB	**Brasilia**	**51.02 81**		P	**P**	**00 43 35.1**	**-2.4**
	3.2nm,0.8s,baz=294,slow=4.6,SNR=5.2						
CMIG	**Matias Romero**	**53.26 7**		LR	LR	01 00 50.3	
	comp=Z,93nm,18.5s,baz=170,slow=30						
QSPA	**South Pole Qui**	**54.04 180**		P	**P**	**00 43 59.4**	**+0.1**
	3.9nm,1.0s,baz=152,slow=0.9,SNR=7.0						
**M

	21nm,1.8s								
LPAZ	**La Paz**	**35.31**	**64**	P		**P**	**00 47 22.7**	**-0.4**	
	3.0nm,1.1s,baz=232,slow=8.0,SNR=7.9								
LPAZ				LR		LR	00 58 52.4		
	comp=Z,91nm,19.9s,baz=216,slow=31								
ATAH	**Atahualpa**	**35.63**	**41**	P		**P**	**00 47 25.4**	**-0.3**	
	5.2nm,0.8s,baz=236,slow=4.9,SNR=4.4								
SIV	**San Ignacio**	**40.77**	**71**	P		**P**	**00 48 06.9**	**-1.7**	
	0.6nm,0.6s,baz=256,slow=8.5,SNR=5.8								
SIV				LR		LR	01 02 47.6		
	comp=Z,322nm,20.3s,baz=286,slow=33								
OTAV	**Otavalo**	**41.96**	**35**	*eP*		**P**	**00 48 18.5**	**-0.3**	
	12nm,1.5s								
ROSC	**El Rosal**	**47.95**	**37**	P		**P**	**00 49 04.9**	**-1.5**	
	1.9nm,0.4s,baz=142,slow=19,SNR=2.7								
ROSC				LR		LR	01 05 49.6		
	comp=Z,179nm,19.6s,baz=210,slow=32								
BDFB	**Brasilia**	**51.20**	**81**	P		**P**	**00 49 29.0**	**-1.9**	
	4.2nm,1.0s,baz=340,slow=5.0,SNR=4.1								
BDFB				LR		LR	01 09 10.2		
	comp=Z,165nm,19.1s,baz=251,slow=34								
QSPA	**South Pole Qui**	**53.89**	**180**	P		**P**	**00 49 50.9**	**+0.6**	
	1.2nm,0.7s,baz=117,slow=2.4,SNR=7.9								
VNDA	**Vanda**	**56.38**	**195**	LR		LR	01 08 56.5		
	comp=Z,116nm,19.2s,baz=128,slow=30								
TXAR	**Lajitas Array**	**55.35**	**357**	P		**P**	**00 51 09.3**	**-0.2**	
	0.4nm,0.9s,baz=165,slow=7.5,SNR=3.7								
MVCO	**Mesa Verde**	**73.49**	**354**	*eP*		**P**	**00 52 02.5**	**+2.6**	
	7.9nm,1.1s								
S22A	**4UR Ranch, Cre**	**73.89**	**355**	*eP*		**P**	**00 52 05.0**	**+2.8**	
	7.1nm,1.5s								
CCUT	**Cedar City**	**74.39**	**350**	*eP*		**P**	**00 52 07.2**	**+2.1**	
	8.5nm,1.4s								
CCM	**Cathedral Cave**	**74.55**	**8**	*eP*		**P**	**00 52 08.1**	**+2.4**	
	6.0nm,0.9s								
Q24A	**Divide**	**75.01**	**357**	*eP*		**P**	**00 52 10.6**	**+1.8**	
	4.1nm,0.8s								
MAW	**Mawson**	**75.67**	**174**	P		**P**	**00 52 11.7**	**-0.2**	
	3.4nm,0.9s,baz=326,slow=18,SNR=2.6								
NV11	**Mina Array Sit**	**76.06**	**346**	*eP*		**P**	**00 52 16.4**	**+1.8**	
	0.3nm,1.1s								
NV01	**Mina Array Sit**	**76.08**	**346**	*eP*		**P**	**00 52 15.6**	**+0.7**	
NVAR	**Mina Array Bea**	**76.08**	**346**	P		**P**	**00 52 14.5**	**-0.3**	
	1.7nm,1.0s,baz=176,slow=7.2,SNR=9.2								
KVN	**Kaiserville**	**76.65**	**346**	*eP*		**P**	**00 52 21.4**	**+3.4**	
	5.2nm,1.3s								
PD31	**Pinedale Array**	**79.10**	**354**	*eP*		**P**	**00 52 34.1**	**+2.5**	
	5.8nm,1.2s								
PDAR	**Pinedale Array**	**79.10**	**354**	P		**P**	**00 52 29.6**	**-2.0**	
	0.8nm,0.8s,baz=161,slow=6.3,SNR=9.7								
DZM	**Mont Dzumac**	**79.25**	**251**	P		**P**	**00 52 30.9**	**-2.0**	
	5.9nm,1.1s,baz=69,slow=8.6,SNR=3.0								
MOD	**Modoc Plateau**	**79.83**	**345**	*eP*		**P**	**00 52 37.3**	**+1.8**	
	3.2nm,0.9s								
TPAW	**Teton Pass**	**79.95**	**353**	*eP*		**P**	**00 52 39.3**	**+3.0**	
	17nm,1.8s								
FXWY	**Fox Creek**	**80.11**	**353**	*eP*		**P**	**00 52 39.6**	**+2.6**	
	3.8nm,1.3s								
HLID	**Hailey**	**80.44**	**350**	*eP*		**P**	**00 52 40.3**	**+1.5**	
	4.2nm,0.8s								
H43A	**Windswept, Lux**	**81.30**	**10**	*eP*		**P**	**00 52 47.2**	**+4.1**	
	7.2nm,1.0s								
RLMT	**Red Lodge**	**81.41**	**354**	*eP*		**P**	**00 52 46.5**	**+2.6**	
	7.4nm,1.4s								
NEW	**Newport**	**85.43**	**349**	*eP*		**P**	**00 53 07.9**	**+3.5**	
	5.9nm,1.1s								
NEW	**Newport**	**85.43**	**349**	P		**P**	**00 53 04.3**	**0.0**	
	2.2nm,0.9s,baz=211,slow=12,SNR=3.4								
ULM	**Lac du Bonnet**	**86.31**	**3**	P		**P**	**00 53 07.0**	**-1.6**	
	0.9nm,0.6s,baz=225,slow=5.7,SNR=2.4								
STKA	**Stephens Creek**	**90.38**	**229**	LR		LR	01 25 16.7		
	comp=Z,106nm,21.5s,baz=192,slow=30								
SCHQ	**Scheffer ville**	**95.41**	**19**	LR		LR	01 34 12.4		
	comp=Z,156nm,19.7s,baz=324,slow=34								
BOSA	**Boshof**	**97.98**	**134**	LR		LR	01 31 23.1		
	comp=Z,59nm,18.5s,baz=212,slow=31								
YKA	**Yellowknife Ar**	**99.08**	**354**	P		**Pdif**	**00 54 06.8**	**-0.6**	
	0.1nm,0.6s,baz=163,slow=5.0,SNR=3.4								
ASAR	**Alice Springs**	**100.99**	**230**	P		**Pdif**	**00 54 14.6**	**-2.6**	
	0.2nm,0.6s,baz=123,slow=3.4,SNR=2.6								
H01W1	**Cape Leeuwin H**	**101.95**	**209**	T		T	02 49 26.4		
	baz=147								
H01W2	**Cape Leeuwin H**	**101.96**	**209**	T		T	02 49 22.2		
	baz=147								
H01W3	**Cape Leeuwin H**	**101.97**	**209**	T		T	02 49 32.4		
	baz=147								
BRTR	**Keskin Array B**	**144.38**	**70**	PKP		**PKPab**	**01 00 01.0**	**-0.6**	
	1.0nm,0.7s,baz=245,slow=3.0,SNR=5.8								
NRIK	**Noril'sk**	**146.59**	**355**	PKPbc		**PKPdf**	**01 00 06.4**	**+0.3**	
	1.4nm,0.3s,baz=349,slow=19,SNR=3.1								
KBZ	**Khabaz**	**151.53**	**64**	PKPbc		**PKPbc**	**01 00 19.7**	**-1.3**	
	5.2nm,0.9s,baz=209,slow=3.2,SNR=8.2								
SONM	**Songino Array**	**156.78**	**308**	PKPab		**PKPab**	**01 00 48.6**	**-3.3**	
	0.8nm,0.7s,baz=81,slow=2.6,SNR=3.6								
CD2	**Chengdu**	**158.73**	**262**	PKP		**PKPdf**	**01 00 30.0**	**+4.9**	

*IDC **30** 00:50:14.8±1.9,23.˝80S×179.˝90E,h502km±20km, mb3.5/12,mb1 3.7/14,mb1mx3.4/36,mbtmp4.3/14, Error ellipse: s-maj=20.4km s-min=15.0km az=156.0*

*ISCJB **30** 00:50:16.3±0.2,23.˝80S±0.˝03×179.˝79E±0.˝05,h526km, mb4.4/41,Error ellipse: s-maj=6.6km s-min=3.7km az=5.8*

*BJI **30** 00:50:16.2,23.˝90S×179.˝80E,h530km, mb4.5/14,mB4.9/5*

*NEIC **30** 00:50:17.6±0.4,23.˝88S×179.˝82E,h535km±5km, mb4.8/31, Error ellipse: s-maj=8.5km s-min=5.6km az=115.0*

ISC 30 00:50:16.7±0.4,23.˝90S±0.˝06×179.87E±0.˝08,h526km, n126,σ1§28/133,mb4.5/41,8C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RIZ	**Raoul Island**	**5.67**	**160**	P	**P**	**00**	**51 52.6**	**+1.6**
RAO	**Raoul Island**	**5.68**	**160**	*eP*	**P**	**00**	**51 52.8**	**+1.8**
GLKZ	**Green Lake**	**5.69**	**160**	P	**P**	**00**	**51 51.5**	**+0.4**
GLKZ				S	**S**	**00**	**53 09.2**	**+0.7**
MSVF	**Nonsavu**	**6.37**	**344**	*eP*	**P**	**00**	**51 56.6**	**-1.3**
NIUE	**Niue**	**10.64**	**65**	*eP*	**P**	**00**	**52 43.5**	**+2.4**
MARNC	**Mare, Loyalty**	**11.20**	**280**	*eP*	**P**	**00**	**52 47.0**	**+0.2**
PINNC	**Pines Island,**	**11.50**	**274**	*eP*	**P**	**00**	**52 51.8**	**+1.8**
DZM	**Mont Dzumac**	**12.51**	**276**	P	**P**	**00**	**53 00.7**	**0.0**
	0.1nm,0.3s,baz=300,slow=20,SNR=2.7							
OUZ	**Omahuta**	**12.53**	**204**	*eP*	**P**	**00**	**53 04.0**	**+3.4**
OUZ	**Omahuta**	**12.53**	**204**	P	**P**	**00**	**53 03.6**	**+3.1**
WCZ	**Waipu Caves**	**12.91**	**200**	P	**P**	**00**	**53 07.0**	**+2.4**
KUZ	**Kuaotunu**	**13.29**	**195**	P	**P**	**00**	**53 10.8**	**+2.3**
WIAZ	**Waiheke Island**	**13.49**	**197**	P	**P**	**00**	**53 11.4**	**+0.9**
MXZ	**Matakaoa Point**	**13.68**	**185**	*eP*	**P**	**00**	**53 13.5**	**+1.0**
MXZ	**Matakaoa Point**	**13.68**	**185**	P	**P**	**00**	**53 13.9**	**+1.3**
MXZ				S	**S**	**00**	**55 36.7**	**-0.8**
ETAZ	**East Tamaki Re**	**13.69**	**197**	P	**P**	**00**	**53 15.4**	**+2.8**
MKAZ	**Moumakai**	**13.77**	**196**	P	**P**	**00**	**53 15.2**	**+1.8**
HAZ	**Te Kaha**	**13.93**	**187**	P	**P**	**00**	**53 14.9**	**-0.2**
HAZ				S	**S**	**00**	**55 42.5**	**+0.3**
WMGZ	**Waiomatatini S**	**13.93**	**185**	P	**P**	**00**	**53 17.0**	**+1.9**
PKGZ	**Pakihiroa**	**14.03**	**186**	P	**P**	**00**	**53 16.9**	**+0.7**
PUZ	**Puketiti**	**14.19**	**185**	P	**P**	**00**	**53 17.4**	**-0.5**
PUZ				S	**S**	**00**	**55 45.8**	**-1.6**
TWGZ	**Tauwhareparae**	**14.32**	**186**	P	**P**	**00**	**53 20.7**	**+1.4**
URZ	**Urewera**	**14.50**	**189**	*eP*	**P**	**00**	**53 20.1**	**-1.0**
URZ				*eS*	**S**	**00**	**55 54.1**	**+0.9**
URZ	**Urewera**	**14.50**	**189**	P	**P**	**00**	**53 19.0**	**-2.2**
	4.8nm,0.3s,baz=63,slow=4.2,SNR=36							
URZ				S	**S**	**00**	**55 50.4**	**-2.9**
	1.0nm,0.3s,baz=68,slow=21,SNR=8.9							
URZ	**Urewera**	**14.50**	**189**	P	**P**	**00**	**53 20.0**	**-1.2**
MWZ	**Matawai**	**14.53**	**187**	P	**P**	**00**	**53 20.9**	**-0.5**
CNGZ	**Carnagh Statio**	**14.61**	**185**	P	**P**	**00**	**53 24.9**	**+2.7**
RIGZ	**Rimuhau**	**14.87**	**186**	P	**P**	**00**	**53 25.0**	**0.0**
MRHZ	**Matea Rd**	**15.17**	**190**	P	**P**	**00**	**53 29.0**	**+0.8**
HIZ	**Hauiti**	**15.18**	**195**	*eP*	**P**	**00**	**53 29.8**	**+1.6**
	64nm,1.2s							
HIZ	**Hauiti**	**15.18**	**195**	P	**P**	**00**	**53 30.1**	**+1.9**
WHHZ	**Waihua**	**15.29**	**188**	P	**P**	**00**	**53 29.8**	**+0.4**
MHGZ	**Mahia Peninsul**	**15.29**	**186**	P	**P**	**00**	**53 30.2**	**+0.8**
BKZ	**Black Stump Fm**	**15.48**	**190**	*eP*	**P**	**00**	**53 30.8**	**-0.7**
	17nm,1.2s							
BKZ				*eS*	**S**	**00**	**56 09.3**	**-2.3**
BKZ	**Black Stump Fm**	**15.48**	**190**	P	**P**	**00**	**53 30.9**	**-0.5**
WTVZ	**West Tongariro**	**15.60**	**192**	P	**P**	**00**	**53 34.4**	**+1.7**
OTVZ	**Oturere**	**15.63**	**192**	P	**P**	**00**	**53 32.7**	**-0.3**
FWVZ	**Far West T-bar**	**15.74**	**192**	P	**P**	**00**	**53 34.0**	**-0.3**
KWHZ	**Kaweka Forest**	**15.75**	**190**	P	**P**	**00**	**53 33.5**	**-0.7**
VRZ	**Vera Road**	**15.78**	**195**	P	**P**	**00**	**53 37.6**	**+3.2**
BHHZ	**Black Hill Sta**	**15.87**	**191**	P	**P**	**00**	**53 32.8**	**-2.6**
CKHZ	**Cape Kidnapper**	**15.88**	**188**	P	**P**	**00**	**53 35.9**	**+0.5**
TSZ	**Takapari Road**	**16.44**	**191**	P	**P**	**00**	**53 39.4**	**-1.7**
BFZ	**Birch Farm**	**17.01**	**189**	*eP*	**P**	**00**	**53 45.2**	**-1.2**
	19nm,0.6s							
DUWZ	**D'Urville Isla**	**17.58**	**195**	P	**P**	**00**	**53 51.1**	**-0.6**
SNZO	**South Karori**	**17.89**	**193**	*eP*	**P**	**00**	**53 54.5**	**0.0**
	52nm,1.0s							
THZ	**Tophouse**	**18.73**	**196**	*eP*	**P**	**00**	**54 02.7**	**+0.4**
	133nm,1.9s							
KHZ	**Kahutara**	**19.20**	**194**	*eP*	**P**	**00**	**54 05.8**	**-0.6**
	160nm,2.0s							
LTZ	**Lake Taylor**	**19.85**	**197**	*eP*	**P**	**00**	**54 14.0**	**+1.6**
	22nm,0.5s							
OXZ	**Oxford**	**20.42**	**197**	*eP*	**P**	**00**	**54 16.7**	**-0.8**
	24nm,0.8s							
MQZ	**McQueen's Vall**	**20.63**	**195**	*eP*	**P**	**00**	**54 19.2**	**-0.2**
	42nm,1.6s							
RPZ	**Rata Peaks**	**21.05**	**198**	*eP*	**P**	**00**	**54 24.5**	**+1.3**
	69nm,1.7s							
RPZ	**Rata Peaks**	**21.05**	**198**	P	**P**	**00**	**54 24.0**	**+0.8**
	7.7nm,0.6s,baz=341,slow=3.4,SNR=6.3							
ODZ	**Otahua Downs**	**22.39**	**197**	*eP*	**P**	**00**	**54 37.2**	**+2.0**
	98nm,2.0s							
KNTN	**Kanton**	**22.52**	**22**	*eP*	**P**	**00**	**54 36.1**	**-0.8**
	252nm,1.5s							
WKZ	**Wanaka**	**22.67**	**200**	*eP*	**P**	**00**	**54 38.8**	**+0.9**
	214nm,2.0s							
MLZ	**Mavora Lakes**	**23.45**	**201**	*eP*	**P**	**00**	**54 45.3**	**+0.6**
	160nm,2.0s							
WHZ	**Wether Hill Ro**	**23.97**	**201**	*eP*	**P**	**00**	**54 50.7**	**+1.4**
	57nm,1.5s							
ARMA	**Armidale**	**25.91**	**249**	*eP*	**P**	**00**	**55 07.8**	**+0.9**
	58nm,1.9s							
EIDS	**Eidsvold**	**26.19**	**261**	*eP*	**P**	**00**	**55 09.5**	**+0.1**
	55nm,1.9s							
CAN	**Canberra**	**29.04**	**240**	*eP*	**P**	**00**	**55 33.7**	**-0.5**
	32nm,1.7s							
CTAO	**Charters Tower**	**31.36**	**270**	*eP*	**P**	**00**	**55 55.0**	**+0.7**
	14nm,1.7s							
PMG	**Port Moresby**	**34.39**	**289**	P	**P**	**00**	**56 19.6**	**-0.4**
	7.5nm,0.5s,baz=147,slow=11,SNR=4.5							
AS01	**Alice Springs**	**41.88**	**261**	*eP*	**P**	**00**	**57 20.5**	**-0.5**
AS31	**Alice Springs**	**41.92**	**261**	*eP*	**P**	**00**	**57 21.4**	**0.0**
	1.2nm,0.7s							
ASAR	**Alice Springs**	**41.92**	**261**	P	**P**	**00**	**57 21.2**	**-0.1**
	4.4nm,0.7s,baz=94,slow=7.9,SNR=41							
ASAR				ScP	**ScP**	**01**	**02 07.7**	**+2.7**
	1.0nm,0.8s,baz=115,slow=3.9,SNR=5.7							
WB2	**Warramunga Arr**	**42.28**	**266**	*eP*	**P**	**00**	**57 23.5**	**-0.7**
WRAB	**Tennant Creek**	**42.28**	**266**	*eP*	**P**	**00**	**57 23.4**	**-0.8**
	22nm,1.6s							
WRA	**Warramunga Arr**	**42.29**	**266**	P	**P**	**00**	**57 23.7**	**-0.6**
	2.7nm,0.3s,baz=90,slow=5.9,SNR=172							
WRA				ScP	**ScP**	**01**	**02 08.9**	**+2.4**
	0.6nm,0.7s,baz=98,slow=3.7,SNR=3.7							
MJAR	**Matsushiro Arr**	**71.83**	**326**	P	**P**	**01**	**00 45.5**	**-0.6**
	2.7nm,0.7s,baz=161,slow=6.7,SNR=5.4							
AKUT	**Akutan**	**78.70**	**9**	*eP*	**P**	**01**	**01 23.3**	**-0.6**
	160nm,1.4s							
PETK	**Petropavlovsk-**	**79.08**	**347**	P	**P**	**01**	**01 25.7**	**-0.3**
	3.4nm,0.9s,baz=185,slow=7.2,SNR=3.5							
NJ2	**Nanjing**	**80.58**	**311**	*eP*	**P**	**01**	**01 33.5**	**-0.9**
NJ2				pmax	pmax			
	comp=Z,14nm,0.5s							
SDPT	**Sand Point**	**80.70**	**11**	*eP*	**P**	**01**	**01 34.9**	**+0.5**
	173nm,1.8s							
SNCC	**San Nicolas Is**	**80.99**	**48**	*eP*	**P**	**01**	**01 35.8**	**-0.7**
	14nm,0.9s							
LPIG	**La Paz**	**82.82**	**60**	P	**P**	**01**	**01 45.7**	**-0.3**
	30nm,0.3s,baz=73,slow=1.2,SNR=4.1							
SYO	**Syowa Base**	**82.98**	**193**	⇑*i*P	**P**	**01**	**01 42.7**	**-3.3**
SYO	**Syowa Base**	**82.98**	**193**	⇓*i*PcP	**PcP**	**01**	**01 48.8**	**-0.5**
WAKR	**Walker**	**84.16**	**43**	*eP*	**P**	**01**	**01 53.1**	**+0.4**
	3.7nm,1.0s							
YBH	**Yreka Blue Hor**	**84.16**	**39**	P	**P**	**01**	**01 53.5**	**+1.1**
	1.8nm,0.9s,baz=140,slow=0.9,SNR=5.8							
PNTR	**Pine Nut**	**84.41**	**43**	*eP*	**P**	**01**	**01 54.1**	**+0.2**
	5.0nm,1.1s							
NV01	**Mina Array Sit**	**84.83**	**44**	*eP*	**P**	**01**	**01 56.1**	**+0.1**
NVAR	**Mina Array Bea**	**84.83**	**44**	P	**P**	**01**	**01 55.4**	**-0.6**
	1.1nm,0.9s,baz=228,slow=7.6,SNR=6.8							
TUC	**Tucson**	**86.61**	**53**	*eP*	**P**	**01**	**02 05.8**	**+1.3**
	4.2nm,1.0s							
I07A	**Izee**	**87.46**	**39**	*eP*	**P**	**01**	**02 09.2**	**+1.0**
	3.6nm,0.9s							
U15A	**North Rim**	**87.69**	**48**	*eP*	**P**	**01**	**02 09.7**	**0.0**
	3.4nm,0.9s							
XAN	**Xi'an**	**88.65**	**308**	P	**P**	**01**	**02 15.8**	**+1.9**
XAN				pP	pP	01	04 10.0	+1.0
XAN				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MSU	**Marysvale**	**88.87**	**47**	*eP*	**P**	**01**	**02 15.3**	**+0.2**
KMI	**Kunming**	**89.16**	**298**	P	**P**	**01**	**02 16.0**	**-0.7**
KMI				pmax	pmax			
	comp=Z,14nm,0.5s							
KMI				pmax	pmax			
	comp=Z,92nm,4.0s							
CMAR	**Chiang Mai Ar**	**89.42**	**290**	P	**P**	**01**	**02 19.6**	**+1.8**
	0.6nm,0.3s,baz=104,slow=3.8,SNR=4.0							
TMUT	**Trail Mountain**	**89.92**	**46**	*eP*	**P**	**01**	**02 21.3**	**+1.3**
	4.1nm,0.7s							
SRU	**San Rafael Swe**	**90.28**	**47**	*eP*	**P**	**01**	**02 21.6**	**0.0**
	4.1nm,0.9s							
HHC	**Hu-ho-hao-te**	**90.34**	**315**	*eP*	**P**	**01**	**02 23.0**	**+1.3**
HHC				pmax	pmax			
	comp=Z,16nm,1.0s							
HHC				pmax	pmax			
	comp=Z,130nm,5.8s							
TX31	**Lajitas Ar. Si**	**90.53**	**58**	*eP*	**P**	**01**	**02 23.0**	**+0.1**
	2.5nm,0.9s							
TXAR	**Lajitas Array**	**90.53**	**58**	P	**P**	**01**	**02 23.4**	**+0.5**
	1.1nm,0.7s,baz=217,slow=6.9,SNR=17							
CD2	**Chengdu**	**90.98**	**303**	P	**P**	**01**	**02 24.5**	**-0.3**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
BWN	**Browne**	**90.99**	**13**	*ep*P	pP	01	04 22.8	+3.0
ILAR	**Eielson Array**	**92.06**	**14**	P	**P**	**01**	**02 27.8**	**-1.1**
	0.2nm,2.6s,baz=216,slow=4.5,SNR=3.9							
PDAR	**Pinedale Array**	**92.77**	**44**	P	**P**	**01**	**02 32.9**	**-0.1**
	0.6nm,0.7s,baz=199,slow=3.1,SNR=6.0							
LZH	**Lanzhou**	**93.29**	**308**	*eP*	**P**	**01**	**02 33.0**	**-2.4**
LZH				pP	pwP	01	04 34.3	-1.4
LZH				sP	sP	01	05 25.5	+2.5
LZH				pmax	pmax			
	comp=Z,15nm,1.2s							
ARCES	**ARCESS Array B**	**131.87**	**348**	PKP	**PKPdf**	**01**	**08 28.6**	**-0.7**
	1.6nm,0.8s,baz=80,slow=1.0,SNR=3.2							
FINES	**FINESS Array B**	**138.41**	**341**	PKhKP	PKPpre	01	08 32.2	
	1.2nm,0.9s,baz=31,slow=3.6,SNR=3.4							
FINES				PKP	**PKPdf**	**01**	**08 42.1**	**+0.5**
	1.1nm,0.7s,baz=83,slow=2.4,SNR=5.6							
NB2	**NORSAR Subarra1**	**142.07**	**351**	PKP	PKPpre	01	08 43.3	
	comp=Z,0.7nm,0.6s,baz=13,slow=3.0							
NOA	**NORSAR Array B**	**142.07**	**351**	PKhKP	PKPpre	01	08 43.9	
	comp=Z,0.9nm,0.7s,baz=16,slow=4.6,SNR=6.6							
AKASG	**Malin Array Be**	**144.91**	**327**	PKP	**PKPdf**	**01**	**08 52.5**	**-1.0**
	comp=Z,1.8nm,0.5s,baz=65,slow=4.5,SNR=4.6							
AKBB	**Malin Array Si**	**144.91**	**327**	*e*PKPdf	PKPbc	01	08 53.4	-0.7
KIEV	**Kiev**	**144.92**	**327**	*e*PKPdf	**PKPdf**	**01**	**08 53.0**	**-0.6**
AK11	**Malin Array Si**	**144.95**	**327**	*e*PKPdf	**PKPdf**	**01**	**08 53.3**	**-0.3**
BTRR	**Keskin Array B**	**147.49**	**307**	PKPbc	**PKPbc**	**01**	**09 01.3**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=145,slow=4.4,SNR=6.0							
GKP	**Gorka Klasztor**	**147.87**	**340**	*e*PKP	**PKiKP**	**01**	**09 04.1**	**+0.6**
KWP	**Kalwaria Pacla**	**148.71**	**331**	*e*PKP	**PKiKP**	**01**	**09 04.6**	**-0.9**
KWP	**Kalwaria Pacla**	**148.71**	**331**	*e*PKPbc	**PKPbc**	**01**	**09 04.4**	**0.0**
CSS	**Mathiatis**	**148.98**	**299**	*e*PKPbc	**PKPbc**	**01**	**09 05.5**	**-0.1**
KSP	**Ksiaz**	**150.25**	**339**	*e*PKP	**PKiKP**	**01**	**09 08.2**	**-0.4**
UPC	**Upice**	**150.63**	**339**	*e*PKP	**PKiKP**	**01**	**09 09.0**	**-0.4**
DPC	**Dobruska-Polom**	**150.66**	**338**	*e*PKP	**PKiKP**	**01**	**09 09.4**	**-0.1**
DPC				*e*PKPAB	**PKPab**	**01**	**09 18.8**	**+0.5**
KRLC	**Kraliky**	**150.73**	**337**	*e*PKP	**PKiKP**	**01**	**09 09.2**	**-0.5**
CLL	**Collm**	**150.82**	**343**	*e*PKPbc	**PKiKP**	**01**	**09 09.1**	**-0.6**
CLL	**Collm**	**150.82**	**343**	⇑*i*PKPbc	**PKiKP**	**01**	**09 09.1**	**-0.6**
	comp=Z,10.0nm,1.0s							
BRG	**Berggiesshubel**	**150.95**	**342**	*i* PKP	**PKPbc**	**01**	**09 09.4**	**-0.3**
	comp=Z,3.5nm,0.6s							
PVCC	**Panska Ves**	**151.07**	**340**	⇑*e*PKP	**PKiKP**	**01**	**09 10.2**	**-0.1**
VYHS	**Vyhne**	**151.24**	**333**	*e*PKP	**PKiKP**	**01**	**09 10.5**	**-0.2**
VYHS				*e*		01	09 20.9	
PRU	**Pruhonice**	**151.55**	**340**	⇑*e*PKP	**PKiKP**	**01**	**09 11.0**	**-0.3**
KHC	**Kasperske Hory**	**152.61**	**340**	⇑*e*PKP	**PKPbc**	**01**	**09 12.4**	**-1.1**
KHC				*e*PKPAB	**PKPab**	**01**	**09 27.3**	**+0.7**
GERES	**GERESS Array B**	**152.82**	**340**	PKPbc	**PKiKP**	**01**	**09 13.7**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=46,slow=3.9,SNR=6.7							
TORD	**Torodi Ar. Bea**	**169.16**	**189**	PKPab	**PKPab**	**01**	**10 40.0**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=172,slow=4.1,SNR=2.8							

*IDC **30** 01:29:08.1±1.1,27.˝50S×177.˝02W,h0km,mb3.7/5, mb1 4.1/5,mb1mx3.8/23,mbtmp3.7/5,MS3.7/2,Ms1 3.7/2, ms1mx3.2/36,Error ellipse: s-maj=39.9km s-min=22.2km az=127.0*

*ISCJB **30** 01:29:12.8±1.0,28.˝3S±0.˝1×176.˝9W±0.˝2,h55km,mb3.6/5, MS4.2/1,Error ellipse: s-maj=28.9km s-min=11.0km az=23.7*

ISC 30 01:29:14.0±0.9,28.˝2S±0.˝1×176.˝9W±0.˝2,h55km,n13, σ1§10/11,mb3.7/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
RAO	**Raoul Island**	**1.35**	**220**	Pn	Pn	01	29 42.5	+6.0
	188nm,0.3s,baz=69,slow=12,SNR=9.8							
RAO				Sn	Sn	01	30 07.0	+14
	266nm,0.3s,baz=272,slow=21,SNR=4.1							
URZ	**Urewera**	**11.19**	**205**	Pn	**Pn**	**01**	**31 50.7**	**-0.4**
	0.2nm,0.3s,baz=241,slow=6.4,SNR=3.6							
URZ				Sn	**Sn**	**01**	**33 54.7**	**0.0**
	1.0nm,0.3s,baz=5.9,slow=23,SNR=8.5							
DZM	**Mont Dzumac**	**16.24**	**288**	LR	LR	01	37 43.9	
	comp=Z,116nm,20.2s,baz=225,slow=32							
ASAR	**Alice Springs**	**44.20**	**264**	P	**P**	**01**	**37 19.1**	**+1.2**
	1.3nm,0.8s,baz=93,slow=7.3,SNR=9.9							
WRA	**Warramunga Arr**	**45.00**	**269**	P	**P**	**01**	**37 25.5**	**+1.2**
	0.5nm,0.4s,baz=105,slow=7.9,SNR=5.6							
MJAR	**Matsushiro Arr**	**77.00**	**324**	P	**P**	**01**	**40 59.9**	**-1.0**
	1.1nm,0.5s,baz=153,slow=7.4,SNR=2.2							
NVAR	**Mina Array Bea**	**86.00**	**42**	P	**P**	**01**	**41 48.4**	**-0.3**
	0.1nm,0.3s,baz=246,slow=8.8,SNR=2.6							
KDAK	**Kodiak Island**	**88.08**	**13**	LR	LR	02	13 34.8	
	comp=Z,111nm,22.0s,baz=333,slow=30							
TXAR	**Lajitas Array**	**90.42**	**57**	P	**P**	**01**	**42 11.4**	**+1.6**
	0.1nm,0.7s,baz=242,slow=6.9,SNR=1.5							
MKAR	**Makanchi Array**	**117.07**	**311**	PKP	**PKPdf**	**01**	**47 52.1**	**-0.5**
	0.2nm,0.6s,

BOAC	**Boac**	**5.56**	**308**	*e*P		**Pn**	**01 52 06.8**	**+1.6**
BUSP	**Coron**	**6.32**	**289**	*e*P		**Pn**	**01 52 18.0**	**+2.4**
SGSI	**Sangihe**	**6.33**	**187**	P		Pn	01 52 22.2	+6.3
TGY	**Tagaytay City**	**6.64**	**308**	Pn		**Pn**	**01 52 23.4**	**+3.3**
	28nm,0.3s,baz=326,slow=1.9,SNR=22							
TGY				LR	LR		01 55 15.0	
	comp=Z,27μm,18.6s,baz=124,slow=42							
ENPP	**El Nido**	**6.88**	**281**	*e*P		**Pn**	**01 52 25.6**	**+2.3**
SMPP	**San Manuel, Pa**	**8.20**	**319**	*e*P		**Pn**	**01 52 41.6**	**+0.1**
SCZP	**Santa Cruz**	**8.47**	**313**	*e*P		Pn	01 52 50.3	+5.2
BATP	**Bataraza**	**8.49**	**263**	*e*P		**Pn**	**01 52 47.8**	**+2.4**
I39PW	**PALAU INFRASON**	**8.50**	**106**	*i*			02 46 50.0	
	baz=282,slow=311,SNR=0.3							
MNI	**Manado**	**8.64**	**190**	P		**Pn**	**01 52 51.0**	**+3.5**
MNI				pmax	pmax			
	comp=Z,422nm,1.0s							
BOLP	**Bolinao**	**8.88**	**316**	*e*P		**Pn**	**01 52 50.4**	**-0.3**
APYP	**Conner**	**9.22**	**328**	*e*P		**Pn**	**01 52 54.9**	**-0.6**
TNTI	**Ternate**	**9.24**	**173**	*e*Pn		**Pn**	**01 52 58.3**	**+2.6**
TNTI	**Ternate**	**9.24**	**173**	P		**Pn**	**01 52 58.3**	**+2.6**
KMSI	**Cibinong**	**9.66**	**194**	P		Pn	01 53 07.7	+6.2
TSM	**Tawau**	**10.12**	**236**	P		Pn	01 53 13.5	+5.8
MRSI	**Marisa**	**10.43**	**205**	P		**Pn**	**01 53 15.4**	**+3.5**
	comp=Z,90nm,1.1s,comp=Z,1μm							
KKM	**Kota Kinabalu**	**10.75**	**249**	*e*Pn		**Pn**	**01 53 20.2**	**+3.7**
KKM	**Kota Kinabalu**	**10.75**	**249**	P		Pn	01 53 21.2	+4.7
LUWI	**Luwuk**	**11.54**	**198**	*e*Pn		**Pn**	**01 53 30.7**	**+3.6**
LUWI	**Luwuk**	**11.54**	**198**	P		**Pn**	**01 53 30.3**	**+3.2**
MPSI	**Mapaga**	**11.54**	**214**	P		Pn	01 53 39.9	+13
APSI	**Ampana**	**11.80**	**203**	P		**Pn**	**01 53 35.1**	**+4.3**
SIJI	**Sorong**	**11.88**	**155**	Pn		**Pn**	**01 53 32.9**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=0.1,slow=11,SNR=9.2							
SIJI				Sn		**Sn**	**01 55 35.6**	**-7.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=20,SNR=1.5							
SIJI				LR	LR		01 58 08.7	
	comp=Z,4μm,21.6s,baz=330,slow=38							
SANI	**Sanana**	**11.99**	**182**	P		**Pn**	**01 53 32.5**	**-0.8**
TWG	**Pinlang**	**13.69**	**339**	*e*Pn		**P**	**01 54 01.6**	**-2.6**
RKPI	**Ransiki, Papua**	**13.87**	**145**	P		**Pn**	**01 53 59.6**	**+0.6**
YULB	**Yu-li**	**14.14**	**341**	*e*Pn		**P**	**01 54 08.1**	**-1.1**
FAKI	**Fak Fak**	**14.14**	**155**	*e*Pn		**Pn**	**01 54 03.4**	**+0.7**
FAKI	**Fak Fak**	**14.14**	**155**	P		Pn	**01 54 01.5**	**-1.2**
TPUB	**Ta-pu**	**14.29**	**338**	*e*Pn		**P**	**01 54 10.1**	**-0.7**
SSLB	**Suanglung**	**14.62**	**340**	*e*Pn		**P**	**01 54 13.3**	**-1.3**
SSLB				*e*S		**S**	**01 57 07.2**	**-0.1**
NACB	**Ninganchiao**	**14.78**	**343**	*e*Pn		**P**	**01 54 14.9**	**-1.4**
BNDI	**Bandanaira**	**14.88**	**166**	P		P	01 54 22.7	+5.3
YHNB	**Yeheng**	**15.31**	**343**	*e*Pn		**P**	**01 54 20.5**	**-1.7**
	comp=Z,93nm,0.9s							
SPSI	**Sidrap Palu**	**15.34**	**205**	P		**P**	**01 54 21.7**	**-0.8**
BNSI	**Bone**	**15.60**	**204**	P		**P**	**01 54 25.5**	**+0.1**
	comp=Z,239nm,1.2s,comp=Z,5μm							
MTKI	**Muara Teweh, K**	**15.74**	**227**	P		**P**	**01 54 29.0**	**+2.1**
BBSI	**Bau Bau**	**15.84**	**194**	P		P	01 54 41.5	+13
SBUM	**Sibu**	**15.89**	**243**	*e*Pn		**P**	**01 54 28.4**	**-0.2**
	comp=Z,123nm,1.2s							
SBUM	**Sibu**	**15.89**	**243**	P		**P**	**01 54 29.0**	**+0.3**
KAPI	**Kappang**	**16.30**	**204**	*e*Pn		**Pn**	**01 54 28.9**	**-1.9**
	comp=Z,203nm,1.3s							
KAPI	**Kappang**	**16.30**	**204**	*e*P		**Pn**	**01 54 28.9**	**-1.9**
KAPI				pmax	pmax			
	comp=Z,203nm,1.3s							
KAPI	**Kappang**	**16.30**	**204**	P		**Pn**	**01 54 31.4**	**+0.6**
	SNR=42							
BKSI	**Bulukumba**	**16.44**	**202**	P		**P**	**01 54 37.3**	**+2.6**
QZH	**Quanzhou**	**16.56**	**335**⇑	*i*P		**P**	**01 54 36.3**	**+0.3**
QZH				S		**Sn**	**01 57 39.8**	**+2.8**
QZH				LR	LR			
	comp=Z,4μm,15.5s							
QZH				LR	LR			
	comp=Z,2μm,19.6s							
QZH				LR	LR			
	comp=Z,5μm,17.4s							
JOW	**Kunigami**	**16.83**	**6**	*e*Pn		**P**	**01 54 42.2**	**+3.2**
	comp=Z,144nm,1.3s							
JOW	**Kunigami**	**16.83**	**6**	Pn		**P**	**01 54 41.7**	**+2.7**
	comp=Z,0.7nm,0.3s,baz=186,slow=14,SNR=7.0							
BSSI	**Bau Bau, Buton**	**17.07**	**200**	P		**P**	**01 54 46.8**	**+5.1**
GZH	**Guangzhou**	**17.97**	**318**	P		**P**	**01 54 55.3**	**+3.7**
GZH				LR	LR			
	comp=Z,6μm,18.2s							
GZH				LR	LR			
	comp=Z,5μm,18.4s							
KSM	**Kuching**	**18.03**	**243**	*e*P		**P**	**01 54 55.1**	**+2.7**
	comp=Z,47nm,0.9s							
KSM	**Kuching**	**18.03**	**243**	P		**P**	**01 54 54.2**	**+1.9**
QIZ	**Qiongzhong**	**18.28**	**301**	P		**Pn**	**01 54 56.0**	**+0.7**
QIZ				pP		**sP**	**01 55 10.3**	**-1.3**
QIZ				S		**S**	**01 58 20.5**	**-1.3**
QIZ				pmax	pmax			
	comp=Z,53nm,1.5s							
QIZ				pmax	pmax			
	comp=Z,1μm,4.0s							
QIZ				LR	LR			
	comp=Z,3μm,15.7s							
QIZ				LR	LR			
	comp=Z,3μm,20.6s							
QIZ				LR	LR			
	comp=Z,5μm,23.5s							
QIZ	**Qiongzhong**	**18.28**	**301**	*e*P		**Pn**	**01 54 57.4**	**+2.1**
	comp=Z,105nm,1.1s							
GUMO	**Guam**	**18.51**	**77**	P		**P**	**01 54 57.1**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=176,slow=19,SNR=2.0							
GUMO				LR	LR		02 02 32.2	
	comp=Z,3μm,18.3s,baz=252,slow=38							
GENI	**Genyem**	**18.63**	**132**	P		**Pn**	**01 55 00.5**	**+0.8**
MMRI	**Maumere**	**18.97**	**192**	*e*P		**Pn**	**01 55 04.1**	**+0.5**
MMRI	**Maumere**	**18.97**	**192**	P		**Pn**	**01 55 06.8**	**+3.2**
JAY	**Jayapura**	**18.98**	**130**	P		**Pn**	**01 55 04.1**	**+0.2**
JAY	**Jayapura**	**18.98**	**130**	P		**Pn**	**01 55 03.6**	**-0.3**
	comp=Z,1.1nm,0.3s,baz=282,slow=6.1,SNR=18							
JAY				LR	LR		02 02 02.1	
	comp=Z,5μm,18.8s,baz=320,slow=36							
EDFI	**Ende, Flores**	**19.20**	**194**	P		**Pn**	**01 55 08.8**	**+2.3**
	comp=Z,39nm,0.7s							
SOEI	**Soe**	**19.75**	**186**	*e*P		**P**	**01 55 12.1**	**+0.9**
	comp=Z,362nm,1.2s							
SOEI	**Soe**	**19.75**	**186**	P		**Pn**	**01 55 15.3**	**+2.3**
BATI	**Baumata**	**20.26**	**188**	P		Pn	01 55 18.8	-0.2
BATI	**Baumata**	**20.26**	**188**	P		Pn	01 55 19.1	0.0
	comp=Z,120nm,0.5s,baz=214,slow=0.9,SNR=16							
BATI				LR	LR		02 05 13.0	
	comp=Z,977nm,18.9s,baz=14,slow=43							
PLAI	**Plampang**	**20.56**	**205**	P		Pn	01 55 23.8	+1.3
KMMI	**Kalianget**	**20.94**	**216**	P		Pn	01 55 30.9	+3.8
SRBI	**Singaraja**	**21.11**	**212**	P		**P**	**01 55 28.5**	**+2.6**
SSE	**Sheshan**	**21.51**	**348**	P		**P**	**01 55 31.5**	**+1.4**
SSE				S		**S**	**01 59 27.0**	**+0.8**
SSE				pmax	pmax			
	comp=Z,90nm,0.9s							
SSE				pmax	pmax			
	comp=Z,570nm,3.5s							
SSE				LR	LR			
	comp=Z,800nm,15.2s							
SSE				LR	LR			
	comp=Z,680nm,14.7s							
SSE				LR	LR			
	comp=Z,770nm,15.2s							
SSE	**Sheshan**	**21.51**	**348**	*e*P		**P**	**01 55 30.6**	**+0.5**
SSE	comp=Z,657nm,1.3s							
				LR	LR			
	comp=Z,1μm,20.0s							
BLJI	**Banyuglugur**	**21.72**	**216**	P		**P**	**01 55 38.2**	**+5.8**
GRJI	**Gresik**	**21.74**	**220**	P		**P**	**01 55 36.6**	**+3.9**
JAGI	**Jajag, Banyuwa**	**22.00**	**214**	*e*P		**P**	**01 55 37.6**	**+2.2**
	comp=Z,157nm,1.2s							
JAGI	**Jajag, Banyuwa**	**22.00**	**214**	P		**P**	**01 55 41.6**	**+6.2**
GMJI	**Gumukmas**	**22.23**	**216**	P		**P**	**01 55 41.9**	**+4.0**
CBIJ	**Chichi jima**	**22.65**	**39**	P		**P**	**01 55 40.4**	**-1.9**
JCJ	**Chichijima**	**22.65**	**39**	P		**P**	**01 55 40.4**	**-1.9**
	comp=Z,48nm,0.5s,baz=232,slow=23,SNR=6.4							
JCJ				LR	LR		02 02 45.9	
	comp=Z,2μm,21.9s,baz=288,slow=32							
NGJI	**Ngawi**	**22.74**	**221**	P		**P**	**01 55 47.3**	**+4.0**
SKNT	**Sakolnakorn**	**22.78**	**290**	P		**P**	**01 55 42.4**	**-1.4**
	comp=Z,69nm,1.7s,comp=Z,1μm							
NJ2	**Nanjing**	**22.99**	**344**⇑	*i*P		**P**	**01 55 46.0**	**+0.2**
NJ2				pP	pwP		01 56 07.8	+6.2
NJ2				sP	sP		01 56 17.5	+17
NJ2				pmax	pmax			
	comp=Z,140nm,0.9s							
NJ2				pmax	pmax			
	comp=Z,3μm,4.2s							
NJ2				LR	LR			
	comp=Z,2μm,15.2s							
NJ2				LR	LR			
	comp=Z,1μm,13.0s							
NJ2				LR	LR			
	comp=Z,3μm,17.4s							
SMRI	**Semarang**	**23.18**	**224**	*e*P		**P**	**01 55 48.9**	**+1.0**
	comp=Z,196nm,1.0s							
SMRI	**Semarang**	**23.18**	**224**	P		**P**	**01 55 50.5**	**+2.6**
MTN	**Manton Dam**	**23.21**	**168**	*e*P		**P**	**01 55 49.1**	**+1.0**
	comp=Z,128nm,1.0s							
MTN				*e*PcP		**PcP**	**01 59 33.5**	**-1.8**
WHN	**Wuhan**	**23.27**	**333**	⇑P		**P**	**01 55 49.3**	**+0.7**
WHN				LR	LR			
	comp=Z,4μm,14.8s							
WHN				LR	LR			
	comp=Z,3μm,16.8s							
WHN				LR	LR			
	comp=Z,7μm,17.1s							
JNU	**Nakatsue**	**23.38**	**10**	*e*P		**P**	**01 55 49.7**	**+0.1**
	comp=Z,63nm,0.9s							
JNU	**Nakatsue**	**23.38**	**10**	P		**P**	**01 55 49.2**	**-0.4**
	comp=Z,27nm,1.0s,baz=212,slow=5.3,SNR=8.3							
JNU				LR	LR		02 05 09.9	
	comp=Z,879nm,20.1s,baz=186,slow=37							
KTGM	**Kuala Trenggan**	**23.43**	**260**	P		**P**	**01 55 51.3**	**+1.0**
WOJI	**Wonogiri, Jawa**	**23.44**	**221**	P		P	01 55 57.9	+7.5
PPBI	**Pangkal Pinang**	**23.45**	**240**	P		**P**	**01 55 51.8**	**+1.3**
TPRI	**Tanjung Pinang**	**23.47**	**249**	P		**P**	**01 55 51.8**	**+1.1**
MYKOM	**Kota Tinggi**	**23.77**	**251**	*e*P		**P**	**01 55 54.6**	**+1.0**
	comp=Z,108nm,1.1s							
MYKOM	**Kota Tinggi**	**23.77**	**251**	P		**P**	**01 55 54.4**	**+0.8**
DSRI	**Dabo**	**24.01**	**246**	P		**P**	**01 55 57.0**	**+1.3**
MANU	**Manus Island**	**24.14**	**119**	*e*P		**P**	**01 55 57.2**	**+0.2**
	comp=Z,199nm,1.8s							
KPJI	**Karang Pucung**	**24.43**	**226**	P		**P**	**01 56 02.4**	**+2.9**
GYA	**Guiyang**	**24.75**	**314**⇑	*i*P		**P**	**01 56 02.3**	**-0.3**
GYA				pP	pwP		01 56 24.3	+7.5
GYA				sP	sP		01 56 35.0	+16
GYA				PP		**PnPn**	**01 56 44.5**	**+8.1**
GYA				S		**S**	**02 00 17.5**	**-4.4**
GYA				sS	sS		02 00 52.8	+12
GYA				SS			02 01 21.0	
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
GYA				pmax	pmax			
	comp=Z,160nm,5.0s							
GYA				LR	LR			
	comp=Z,3μm,17.9s							
GYA				LR	LR			
	comp=Z,2μm,18.0s							
GYA				LR	LR			
	comp=Z,6μm,17.6s							
LEM	**Lembang**	**25.03**	**229**	P		**P**	**01 56 08.6**	**+3.4**
	comp=Z,50nm,0.6s,baz=110,slow=13,SNR=7.0							
CBJI	**Citeko**	**25.35**	**231**	P		**P**	**01 56 11.6**	**+3.7**
CISI	**Cisompet, Garu**	**25.38**	**227**	*e*P		**P**	**01 56 09.7**	**+1.5**
	comp=Z,190nm,1.3s							
CISI	**Cisompet, Garu**	**25.38**	**227**	P		**P**	**01 56 13.3**	**+5.1**
PBKT	**Sadao Pong**	**25.49**	**288**	P		**P**	**01 56 09.2**	**0.0**
	comp=Z,173nm,2.1s,comp=Z,5μm							
ENH	**Enshi**	**25.54**	**324**	*e*P		**P**	**01 56 08.4**	**-1.2**
	comp=Z,53nm,1.0s							
ENH				LR	LR			
	comp=Z,5μm,19.0s							
SKLT	**Songkhla**	**25.56**	**266**	P		P	01 56 21.1	+11
IPM	**Ipoh**	**25.67**	**259**	*e*P		**P**	**01 56 11.2**	**+0.3**
	comp=Z,83nm,1.0s							
IPM	**Ipoh**	**25.67**	**259**	P		**P**	**01 56 11.8**	**+0.9**
SBJI	**Serang**	**25.71**	**232**	P		**P**	**01 56 14.5**	**+3.3**
KULM	**Kulim**	**25.86**	**261**	*e*P		**P**	**01 56 13.4**	**+0.8**
	comp=Z,86nm,1.3s							
KULM	**Kulim**	**25.86**	**261**	P		**P**	**01 56 13.5**	**+1.0**
JHJ	**Hachijo jima 2**	**26.13**	**26**	LR		LR	02 06 45.8	
	comp=Z,1μm,19.1s,baz=237,slow=37							
TJN	**Taejon**	**26.26**	**2**⇑	*e*P		**P**	**01 56 17.5**	**+1.6**
MDSI	**Maura Dua**	**26.34**	**238**	P		**P**	**01 56 19.9**	**+3.0**
TRTT	**Trang**	**26.39**	**267**	P		**P**	**01 56 20.3**	**+3.0**
	comp=Z,9.2nm,1.5s,comp=Z,322nm							
LHSI	**Lahat**	**26.54**	**240**	P		**P**	**01 56 21.5**	**+2.8**
KASI	**Kota Agung**	**26.66**	**236**	P		**P**	**01 56 22.7**	**+2.9**
LWLI	**Liwa**	**26.73**	**237**	P		**P**	**01 56 22.8**	**+2.2**
SRDT	**SRDT**	**26.92**	**282**	P		**P**	**01 56 22.6**	**+0.5**
	comp=Z,100nm,1.4s,comp=Z,3μm							
BKNI	**Bangkinang**	**26.92**	**251**	*e*P		**P**	**01 56 22.8**	**+0.7**
	comp=Z,375nm,1.3s							
BKNI	**Bangkinang**	**26.92**	**251**	P		**P**	**01 56 22.7**	**+0.5**
KMI	**Kunming**	**26.96**	**307**	P		**P**	**01 56 24.5**	**+1.8**
KMI				pP	sP		01 56 45.0	+6.0
KMI				sP	pP		01 56 56.3	+22
KMI				PP	PP		01 57 12.8	-12
KMI				S	**S**		**02 00 53.3**	**-3.9**
KMI				sS	sS		02 01 28.3	+13
KMI				pmax	pmax			
	comp=Z,17nm,0.7s							
KMI				pmax	pmax			
	comp=Z,340nm,7.9s							
KMI				LR	LR			
	comp=Z,2μm,19.6s							
KMI				LR	LR			
	comp=Z,2μm,19.2s							
KMI				LR	LR			
	comp=Z,4μm,19.2s							
KS15	**Wonju Array Si**	**27.34**	**3**	*e*P		**P**	**01 56 28.4**	**+2.8**
	comp=Z,47nm,1.2s							
KSAR	**Wonju Array Be**	**27.34**	**3**	P		**P**	**01 56 26.6**	**+0.9**
KSAR				ScP		**ScP**	**02 03 24.9**	**+3.8**
KSAR	**Wonju Array Be**	**27.34**	**3**	P		**P**	**01 56 26.6**	**+0.9**
KSRS	**Korea Array**	**27.36**	**3**	P		**P**	**01 56 26.6**	**+0.8**
	comp=Z,10nm,0.9s,baz=180,slow=10,SNR=14							
KSRS				ScP		**ScP**	**02 03 24.9**	**+3.8**
	comp=Z,0.4nm,0.4s,baz=204,slow=2.7,SNR=4.5							
KSRS				LR	LR		02 06 52.3	
	comp=Z,1μm,21.6s,baz=188,slow=36							
KS01	**Wonju Array Si**	**27.38**	**3**	*e*P		**P**	**01 56 26.2**	**+0.2**
TIA	**Tai'an**	**27.38**	**344**	P		**P**	**01 56 26.0**	**-0.1**
TIA				S		**S**	**02 01 03.5**	**+0.4**
TIA				pmax	pmax			
	comp=Z,130nm,2.3s							
TIA				LR	LR			
	comp=Z,780nm,15.5s							
TIA				LR	LR			
	comp=Z,530nm,17.1s							
TIA				LR	LR			
	comp=Z,870nm,19.1s							
KRJI	**Kerinci**	**27.51**	**245**	P		**P**	**01 56 33.4**	**+5.8**
PKDT	**Phuket**	**27.71**	**268**	P		**P**	**01 56 30.8**	**+1.5**
	comp=Z,13nm,1.1s							
CM01	**Chiang Mai Arr**	**27.77**	**291**	*e*P		**P**	**01 56 28.7**	**-1.0**
CM31	**Chiang Mai Arr**	**27.79**	**291**	*e*P		**P**	**01 56 30.2**	**+0.2**
	comp=Z,94nm,1.0s							
CM31	**Chiang Mai Arr**	**27.79**	**291**	P		**P**	**01 56 29.9**	**-0.1**
	SNR=34							
CMAR	**Chiang Mai Arr**	**27.79**	**291**	P		**P**	**01 56 29.7**	**-0.3**
	comp=Z,44nm,1.0s,baz=104,slow=7.1,SNR=112							
CMAR				PcP		**PcP**	**01 59 46.6**	**+0.9**
	comp=Z,2.5nm,0.5s,baz=254,slow=0.2,SNR=5.5							
CMAR				ScP		**ScP**	**02 03 24.6**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=65,slow=1.6,SNR=6.3							
CMAR				LR	LR		02 07 48.8	
	comp=Z,3μm,19.4s,baz=115,slow=37							
CMMT	**Chiang Mai**	**27.88**	**291**	P		**P**	**01 56 30.1**	**-0.6**
	comp=Z,42nm,1.1s,comp=Z,674nm							
CHTO	**Chiang Mai**	**27.88**	**291**	*e*P		**P**	**01 56 30.4**	**-0.3**
	comp=Z,47nm,1.1s							
CHTO				LR	LR			
	comp=Z,1μm,20.0s							
CHTO	**Chiang Mai**	**27.88**	**291**	*e*P		**P**	**01 56 30.4**	**-0.3**
CHTO				pmax	pmax			
	comp=Z,47nm,1.1s							
CHTO				MLR	MLR			
	comp=Z,1μm,20.0s							
CHTO	**Chiang Mai**	**27.88**	**291**	P		**P**	**01 56 29.8**	**-1.0**
	SNR=26							
PDSI	**Padang**	**27.93**	**249**	P		**P**	**01 56 33.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**27.94**	**181**	*e*P		**P**	**01 56 31.3**	**+0.1**
	comp=Z,62nm,1.1s							
FITZ	**Fitzroy Crossi**	**27.94**	**181**	P		**P**	**01 56 31.2**	**+0.1**
	comp=Z,12nm,0.4s,baz=7.6,slow=6.7,SNR=22							
FITZ				LR	LR		02 09 24.6	
	comp=Z,508nm,20.4s,baz=12,slow=40							
MNSI	**Mandailing Nat**	**28.12**	**253**	P		**P**	**01 56 33.7**	**+0.8**
PSI	**Prapat**	**28.13**	**257**	*e*P		**P**	**01 56 33.7**	**+0.5**
	comp=Z,122nm,1.2s							
PSI	**Prapat**	**28.13**	**257**	P		**P**	**01 56 32.9**	**-0.3**
	comp=Z,22nm,1.0s,baz=63,slow=8.2,SNR=7.5							
PSI				LR	LR		02 10 02.6	
	comp=Z,2μm,21.0s,baz=86,slow=42							
PMG	**Port Moresby**	**28.33**	**132**	*e*P		**P**	**01 56 34.7**	**-0.1**
	comp=Z,92nm,1.3s							
PMG				LR	LR			
	comp=Z,1μm,20.0s							
PMG	**Port Moresby**	**28.33**	**132**	*d*P		**P**	**01 56 34.4**	**-0.3**
PMG				pmax	pmax			
	comp=Z,350nm,1.3s							
PMG	**Port Moresby**	**28.33**	**132**	P		**P**	**01 56 33.9**	**-0.9**
	comp=Z,64nm,1.1s,baz=336,slow=7.2,SNR=12							
MAJO	**Matsushiro**	**28.53**	**20**	PFAKE			01 56 50.0	+14
MAJO				LR	LR			
	comp=Z,2μm,19.0s							
MAJO	**Matsushiro**	**28.53**	**20**	*c*eP		**P**	**01 56 37.0**	**+0.7**
MAJO				pmax	pmax			
	comp=Z,32nm,2.2s							
MAT	**Matsushiro**	**28.53**	**20**	P		**P**	**01 56 35.1**	**-1.2**
MAT				S		**S**	**02 01 25.2**	**+4.1**
MJAR	**Matsushiro Arr**	**28.53**	**20**	P		**P**	**01 56 35.3**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=187,slow=9.7,SNR=4.2							
MJAR				ScP		**ScP**	**02 03 25.4**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=208,slow=3.1,SNR=5.3							
MJAR				LR	LR		02 08 03.3	
	comp=Z,2μm,18.1s,baz=205,slow=36							
XAN	**Xi'an**	**28.75**	**329**	P		**P**	**01 56 37.0**	**-1.3**
XAN				pP	sP		01 56 59.8	+5.3
XAN				PP	PP		01 57 32.0	-12
XAN				S	**S**		**02 01 23.0**	**-1.7**
XAN				sS	sS		02 01 56.3	+13
XAN				PcS	**PcS**		**02 03 23.3**	**-7.1**
XAN				pmax	pmax			
	comp=Z,100nm,1.0s							
XAN				pmax	pmax			
	comp=Z,270nm,13.7s							
XAN				LR	LR			
	comp=Z,1μm,18.1s							
XAN				LR	LR			
	comp=Z,2μm,18.6s							
XAN				LR	LR			
	comp=Z,1μm,17.2s							
XAN	**Xi'an**	**28.75**	**329**	*e*P		**P**	**01 56 37.3**	**-1.0**
	comp=Z,86nm,0.8s							
XAN	**Xi'an**	**28.75**	**329**	*e*P		**P**	**01 56 37.3**	**-1.0**
XAN				pmax	pmax			
	comp=Z,87nm,0.8s							
KCSI	**Kotacane, Aceh**	**29.05**	**259**	P		**P**	**01 56 40.2**	**-1.0**
DL2	**Dalian**	**29.07**	**352**	P		**P**	**01 56 40.5**	**-0.6**
DL2				pP		**pwP**	**01 57 02.5**	**+3.8**
DL2				sP	sP		01 57 11.5	+15
DL2				S	**S**		**02 01 30.3**	**+0.7**
DL2				pmax	pmax			
	comp=Z,45nm,1.0s							
DL2				pmax	pmax			
	comp=Z,290nm,10.6s							
DL2				LR	LR			
	comp=Z,1μm,15.6s							
DL2				LR	LR			
	comp=Z,780nm,20.3s							
DL2				LR	LR			
	comp=Z,1μm,18.7s							
COEN	**Coen**	**29.10**	**145**	*e*P		**P**	**01 56 41.6**	**0.0**
	comp=Z,128nm,1.5s							
SISI	**Saibi**	**29.35**	**249**	P		**P**	**01 56 43.8**	**0.0**
CD2	**Chengdu**	**29.53**	**318**	P		**P**	**01 56 45.3**	**0.0**
CD2				sP	pwP		01 57 16.0	+17
CD2				PcP	**PcP**		**01 59 43.8**	**-6.0**
CD2				S	**S**		**02 01 39.8**	**+2.7**
CD2				sS	sS		02 02 12.0	+16
CD2				pmax	pmax			
	comp=Z,40nm,0.9s							
CD2				LR	LR			
	comp=Z,5μm,22.2s							
CD2				LR	LR			
	comp=Z,6μm,16.9s							
CD2				LR	LR			
	comp=Z,7μm,16.9s							
GSI	**Gunungsitoli**	**29.85**	**255**	*e*P		**P**	**01 56 47.8**	**-0.5**
	comp=Z,161nm,1.3s							
GSI	**Gunungsitoli**	**29.85**	**255**	P		**P**	**01 56 48.4**	**+0.1**
TIY	**Taiyuan**	**30.28**	**338**	*e*P		**P**	**01 56 53.0**	**+1.1**
TIY				S		**S**	**02 01 48.5**	**-0.2**
TIY				SS		**ScP**	**02 03 33.3**	**+2.8**
TIY				pmax	pmax			
	comp=Z,36nm,0.9s							
TIY				LR	LR			
	comp=Z,2μm,16.7s							
TIY				LR	LR			
	comp=Z,790nm,13.9s							
TIY				LR	LR			
	comp=Z,2μm,16.0s							
WRAB	**Tennant Creek**	**30.79**	**165**	*e*P		**P**	**01 56 55.8**	**-0.7**
	comp=Z,27nm,1.0s							
WRAB				LR	LR			
	comp=Z,1μm,19.0s							
WRAB	**Tennant Creek**	**30.79**	**165**	*d*eP		**P**	**01 56 56.0**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,18nm,1.1s							
WRA	**Warramunga Arr**	**30.80**	**165**	P		**P**	**01 56 55.0**	**-1.5**
	comp=Z,16nm,1.1s,baz=341,slow=9.7,SNR=20							
WRA				S		**S**	**02 01 51.4**	**-5.6**
	comp=

comp=Z,830nm,19.0s
CN2 LR LR
comp=Z,1µm,20.0s
BTO Baotou 33.72 337 *e*P **P** **01 57 22.8 +0.8**
BTO S **S** **02 02 36.8 -5.5**
BTO LR LR
comp=Z,365µm,9.6s
BTO LR LR
comp=Z,556µm,10.3s
AS31 Alice Springs 34.29 168 *e*P **P** **01 57 26.4 -0.7**
comp=Z,4.3nm,0.5s
ASAR Alice Springs 34.29 168 P **P** **01 57 26.2 -0.9**
comp=Z,3.9nm,0.4s,baz=354,slow=7.0,SNR=61
ASAR S **S** **02 02 46.5 -4.8**
comp=Z,2.0nm,0.7s,baz=350,slow=20,SNR=3.3
ASAR ScP **ScP** **02 03 44.5 +0.2**
comp=Z,11nm,1.1s,baz=348,slow=3.3,SNR=13
ASAR LR LR 02 13 00.5
comp=Z,866nm,19.5s,baz=350,slow=39
AS01 Alice Springs 34.30 168 *e*P **P** **01 57 25.8 -1.3**
USA0B Ussuriysk Arra 34.41 7 *e*P **P** **01 57 29.5 +1.6**
comp=Z,34nm,1.0s
USA0B Ussuriysk Arra 34.41 7 *e*P **P** **01 57 29.5 +1.6**
USA0B pmax pmax
comp=Z,34nm,1.0s
USRK Ussuriysk Ar. 34.41 7 P **P** **01 57 29.0 +1.1**
comp=Z,12nm,0.8s,baz=215,slow=8.6,SNR=17
USRK LR LR 02 12 51.0
comp=Z,647nm,18.4s,baz=177,slow=39
MDJ Mudanjiang 34.59 4 P **P** **01 57 31.5 +2.1**
MDJ pP pwP 01 57 53.3 +6.7
MDJ sP sP 01 58 02.8 +18
MDJ PP **PP** **01 58 51.0 +2.5**
MDJ PcP **PcP** **02 00 02.5 -0.7**
MDJ S **S** **02 02 55.8 +0.3**
MDJ sS ScP 02 03 33.0 -12
MDJ PcS **PcS** **02 03 49.8 +0.2**
MDJ pmax pmax
comp=Z,31nm,1.3s
MDJ LR LR
comp=Z,690nm,21.1s
MDJ LR LR
comp=Z,1µm,14.7s
MDJ LR LR
comp=Z,1µm,18.7s
MDJ Mudanjiang 34.59 4 *e*P **P** **01 57 30.5 +1.1**
comp=Z,101nm,1.4s
MDJ LR LR
comp=Z,953nm,19.0s
ERM Érimo 35.14 22 PFAKE
ERM LR LR 01 57 50.0 +16
comp=Z,535nm,21.0s
BRDH Bariadhala 35.47 295 P **P** **01 57 37.4 +0.1**
comp=Z,62nm,0.3s,baz=82,slow=11,SNR=15
CTA Charters Tower 35.78 147 P **P** **01 57 41.1 +1.2**
comp=Z,14nm,0.6s,baz=328,slow=10,SNR=21
CTA ScP **ScP** **02 03 52.1 +2.4**
comp=Z,10nm,1.1s,baz=297,slow=4.5,SNR=3.9
CTA LR LR 02 14 14.6
comp=Z,639nm,18.4s,baz=335,slow=40
CTAO Charters Tower 35.78 147 *e*P **P** **01 57 40.5 +0.5**
comp=Z,66nm,1.2s
CTAO LR LR
comp=Z,2µm,20.0s
CTAO Charters Tower 35.78 147 *e*P **P** **01 57 40.5 +0.5**
CTAO pmax pmax
comp=Z,66nm,1.2s
CTAO MLR MLR
comp=Z,2µm,20.0s
TEY Ternei 36.01 12⇑ *e*P **P** **01 57 42.2 +0.6**
TEY pmax pmax
comp=N,10.0nm,1.9s
COCO West Island 36.67 234 PFAKE
COCO LR LR 01 58 00.0 +12
comp=Z,1µm,21.0s
ASAJ Asahikawa 36.79 20 P **P** **01 57 50.4 +2.1**
comp=Z,10nm,0.8s,baz=225,slow=6.4,SNR=6.2
ASAJ LR LR 02 14 41.2
comp=Z,2µm,18.0s,baz=180,slow=39
GTA Gaotai 37.62 326 *e*P **P** **01 57 54.3 -1.3**
GTA pP sP 01 58 16.5 +4.7
GTA sP pwP 01 58 28.5 +17
GTA PP **PnPn** **01 59 26.3 +3.0**
GTA PcS **PcS** **02 03 57.8 -3.5**
GTA pmax pmax
comp=Z,36nm,1.1s
GTA pmax pmax
comp=Z,210nm,9.2s
GTA LR LR
comp=Z,1µm,18.4s
GTA LR LR
comp=Z,2µm,18.1s
GTA LR LR
comp=Z,3µm,17.1s
YUK Yuzh-Kuril'sk 37.90 23 *e*P **P** **01 57 58.7 +1.0**
YUK 01 59 33.4
YUK *e*PPP PPP 01 59 47.7
YUK *e*S **S** **02 03 45.3 -0.7**
YUK *e*SSS SSS 02 07 02.7
YUK MLR MLR
comp=Z,345nm,14.0s
YUK MLR MLR
comp=E,367nm,14.0s
LSA Lhasa 38.21 306 *e*P **P** **01 58 01.1 0.0**
comp=E,48nm,1.3s
LSA LR LR
comp=Z,2µm,22.0s
LSA Lhasa 38.21 306 *e*P **P** **01 58 01.1 0.0**
LSA pmax pmax
comp=Z,48nm,1.3s
LSA MLR MLR
comp=Z,2µm,22.0s
HNR Honiara 38.65 119 P **P** **01 58 05.2 +0.8**
HNR LR LR
comp=Z,1µm,21.0s
HNR Honiara 38.65 119 P **P** **01 58 05.2 +0.8**
HNR MLR MLR
comp=Z,1µm,21.0s
HNR Honiara 38.65 119 P **P** **01 58 05.2 +0.8**
comp=Z,215nm,1.0s,baz=137,slow=5.1,SNR=3.0
HNR LR LR 02 15 07.9
comp=Z,294nm,18.9s,baz=302,slow=38
KLR Kul'dur 39.35 6*c i*P **P** **01 58 10.5 +0.7**
KLR Kul'dur 39.35 6 P **P** **01 58 10.8 +1.0**
comp=Z,8.4nm,0.7s,baz=191,slow=8.1,SNR=22
KLR LR LR 02 14 37.6
comp=Z,598nm,18.4s,baz=187,slow=36
YSS Yuzh-Sakhalins 39.38 18 PFAKE
YSS LR LR 01 58 20.0 +10
comp=Z,527nm,19.0s
HIA Hailar 39.51 353 *e*P **P** **01 58 12.1 +0.9**
comp=Z,21nm,0.9s
HIA LR LR
comp=Z,958nm,22.0s
HIA Hailar 39.51 353 *e*P **P** **01 58 12.1 +0.9**
HIA pmax pmax
comp=Z,21nm,0.9s
HIA MLR MLR
comp=Z,958nm,22.0s
KUR Kuril'sk 39.69 24 *e*P **P** **01 58 14.1 +1.5**
KUR *e* 01 59 52.7
KUR *e* 02 00 17.7
KUR *e*S **S** **02 04 13.8 +0.9**
KUR MLR MLR
comp=Z,645nm,15.0s
MORW Morawa 40.10 194 *e*P **P** **01 58 16.7 +0.5**
comp=Z,117nm,1.6s
TAPN Taplejung 40.22 301 *e*P **P** **01 58 16.6 -1.1**
comp=Z,216nm,1.0s
H11N1 WAKE ISLAND Hy 40.30 71 T T 02 41 40.8
baz=265,slow=74,SNR=865
H11N2 WAKE ISLAND Hy 40.30 71 T T 02 41 41.9
baz=265,slow=74,SNR=486
H11N3 WAKE ISLAND Hy 40.31 71 T T 02 41 42.7
baz=265,slow=74,SNR=796
ODAN Odare 40.34 300 *e*P **P** **01 58 17.6 -1.1**
FORT Forrest 40.59 178 *e*P **P** **01 58 20.6 +0.3**
comp=Z,142nm,0.8s
RAMN Ramite 41.04 300 *e*P **P** **01 58 23.5 -1.0**
comp=Z,143nm,1.2s
ULN Ulaanbaatar 41.08 340 *e*P **P** **01 58 24.8 +0.5**
comp=Z,53nm,0.7s
ULN LR LR
comp=Z,2µm,19.0s
ULN Ulaanbaatar 41.08 340*c i*P **P** **01 58 25.0 +0.7**
ULN pmax pmax
comp=Z,75nm,1.0s
ULN Ulaanbaatar 41.08 340 P **P** **01 58 25.1 +0.8**
SNR=31
SONM Songino Array 41.27 340 P **P** **01 58 26.4 +0.5**
comp=Z,25nm,0.8s,baz=160,slow=9.0,SNR=130
SONM PcP **PcP** **02 00 25.0 +1.0**
comp=Z,8.2nm,1.0s,baz=144,slow=2.8,SNR=4.2
SONM ScP **ScP** **02 04 12.4 +2.0**
comp=Z,11nm,0.9s,baz=160,slow=3.8,SNR=16
SONM LR LR 02 18 16.4
comp=Z,2µm,18.1s,baz=158,slow=40
GRNR Gornyy 41.48 10 *e*P **P** **01 58 29.0 +1.6**
GRNR *e* 02 00 26.4
GRNR pmax pmax
comp=Z,21nm,1.0s
JIRN Jiri 41.60 301 *e*P **P** **01 58 28.1 -1.1**
comp=Z,158nm,0.8s
GUN Gumba 41.93 301 *e*P **P** **01 58 30.6 -1.3**
comp=Z,114nm,0.9s
PKI Pulchoki 42.24 300 *e*P **P** **01 58 32.6 -1.7**
comp=Z,124nm,1.3s
KKN Kakani 42.41 300 *e*P **P** **01 58 34.1 -1.5**
comp=Z,79nm,1.1s
DMN Daman 42.50 300 *e*P **P** **01 58 34.9 -1.5**
comp=Z,83nm,1.1s
EIDS Eidsvold 42.65 146 *e*P **P** **01 58 36.9 -0.3**
comp=Z,115nm,1.8s
TYV Tymovskoe 42.89 15 *e*P **P** **01 58 41.7 +2.8**
TYV pmax pmax
comp=Z,21nm,1.7s
CIT Chita 43.16 348 *e*P **P** **01 58 41.8 +0.7**
CIT *e* 01 58 53.1
CIT *e* 01 58 58.6
CIT pmax pmax
comp=Z,167nm,1.2s
NWAO Narrogin (SRO) 43.57 191 *e*P **P** **01 58 44.8 +0.2**
comp=Z,270nm,1.7s
NWAO LR LR
comp=Z,691nm,20.0s
NWAO Narrogin (SRO) 43.57 191 *e*P **P** **01 58 44.8 +0.2**
NWAO pmax pmax
comp=Z,270nm,1.7s
NWAO MLR MLR
comp=Z,691nm,20.0s
BBOO Buckleboo 43.59 168 *e*P **P** **01 58 45.1 +0.4**
comp=Z,153nm,1.3s
ZEA Zeya 43.61 1 *e*P **P** **01 58 44.8 +0.2**
ZEA *e* 02 08 34.0
ZEA pmax pmax
comp=N,29nm,1.2s
ZEA pmax pmax
comp=Z,41nm,1.4s
ZEA pmax pmax
comp=Z,300nm,5.0s
KOLN Koldanda 43.83 300 *e*P **P** **01 58 45.9 -1.2**
comp=Z,61nm,0.7s
DANN Dangsing 43.85 301 *e*P **P** **01 58 46.0 -1.4**
comp=Z,152nm,1.2s
STKA Stephens Creek 44.15 161 *e*P **P** **01 58 49.2 0.0**
comp=Z,10nm,1.1s
STKA PP **PcP** **02 00 38.7 +5.0**
STKA Stephens Creek 44.15 161 *e*P **P** **01 58 49.2 0.0**
STKA 02 00 38.7
STKA pmax pmax
comp=Z,10.0nm,1.1s
STKA Stephens Creek 44.15 161 P **P** **01 58 49.1 0.0**
comp=Z,9.0nm,0.5s,baz=339,slow=7.6,SNR=22
STKA PP **PcP** **02 00 38.7 +5.0**
comp=Z,14nm,1.0s,baz=332,slow=11,SNR=3.6
STKA LR LR 02 19 26.4
comp=Z,693nm,21.2s,baz=334,slow=39
PYUN Piuthan 44.44 300 *e*P **P** **01 58 50.7 -1.3**
comp=Z,234nm,1.1s
ZAK Zakamensk 44.52 339 *e*P **P** **01 58 52.2 +0.1**
ZAK pmax pmax
comp=Z,25nm,1.1s
PALK Pallekele 45.15 270 *e*P **P** **01 58 57.2 -0.4**
comp=Z,60nm,1.6s
PALK PcP **PcP** **02 00 38.0 +0.4**
PALK Pallekele 45.15 270 P **P** **01 58 58.2 +0.6**
PALK Pallekele 45.15 270 *e*P **P** **01 58 57.2 -0.4**
PALK 02 00 38.0
PALK pmax pmax
comp=Z,60nm,1.6s
PALK Pallekele 45.15 270 P **P** **01 58 57.4 -0.2**
comp=Z,11nm,1.1s,baz=116,slow=7.9,SNR=6.1
PALK PcP **PcP** **02 00 38.0 +0.4**
comp=Z,8.8nm,1.0s,baz=113,slow=2.2,SNR=2.2
TLY Talaya 45.49 340 *e*P **P** **01 59 00.4 +0.7**
comp=Z,126nm,1.1s
TLY LR LR
comp=Z,458nm,19.0s
TLY Talaya 45.49 340*c i*P **P** **01 59 00.2 +0.5**
TLY *e* 02 00 48.6
TLY *e*S **S** **02 05 39.3 +1.1**
TLY *e* 02 08 56.1
TLY pmax pmax
comp=Z,223nm,0.9s
TLY Talaya 45.49 340 P **P** **01 59 00.3 +0.6**
SNR=57
IRK Irkutsk 45.76 341 *e*P **P** **01 58 59.0 -2.9**
IRK *e* 02 00 50.2
IRK pmax pmax
comp=Z,106nm,3.6s
JBP Jabalpur 46.09 292⇑ *e*P **P** **01 59 05.3 +0.4**
MOY Mondy 46.40 338 *e*P **P** **01 59 07.6 +0.6**
MOY pmax pmax
comp=Z,131nm,2.7s
HYB Hyderabad 46.88 284 *i* P **P** **01 59 10.0 -1.2**
comp=Z,75nm,1.0s
TARA Tarawa 47.12 97 PFAKE
TARA LR LR 01 59 30.0 +17
comp=Z,166nm,21.0s
WMQ Urumqi 47.45 322 P **P** **01 59 15.3 +0.1**
WMQ pP pwP 01 59 33.5 +1.9
WMQ sP sP 01 59 50.5 +19
WMQ S **S** **02 06 03.0 -3.6**
WMQ ScS **ScS** **02 08 58.8 -6.6**
WMQ pmax pmax
comp=Z,71nm,0.9s
WMQ pmax pmax
comp=Z,620nm,4.3s
WMQ LR LR
comp=Z,6µm,17.3s
WMQ LR LR
comp=Z,5µm,16.7s
WMQ LR LR
comp=Z,6µm,17.3s
WMQ Urumqi 47.45 322 *e*P **P** **01 59 15.4 +0.1**
comp=Z,22nm,0.8s
WMQ Urumqi 47.45 322 *e*P **P** **01 59 15.4 +0.1**
WMQ pmax pmax
comp=Z,22nm,0.8s
BOD Bodaibo 48.63 351⇓ *i*P **P** **01 59 24.8 +0.8**
BOD pmax pmax
comp=Z,48nm,2.2s
PETK Petropavlovsk- 49.85 24 *e*P **P** **01 59 34.5 +1.0**
PETK PcP **PcP** **02 00 54.7 +1.2**
PETK Petropavlovsk- 49.85 24 *e*P **P** **01 59 34.5 +1.0**
PETK 02 00 54.7
PETK Petropavlovsk- 49.85 24 P **P** **01 59 35.1 +1.6**
comp=Z,7.0nm,0.7s,baz=198,slow=7.2,SNR=6.0
PETK PcP **PcP** **02 00 54.7 +1.2**
comp=Z,3.4nm,0.6s,baz=180,slow=4.3,SNR=1.7
PETK LR LR 02 22 26.4
comp=Z,773nm,18.1s,baz=212,slow=38
CAN Canberra 49.93 156 *e*P **P** **01 59 35.0 +0.7**
comp=Z,48nm,1.2s
CAN Canberra 49.93 156 *e*P **P** **01 59 35.0 +0.7**
CAN pmax pmax
comp=Z,49nm,1.2s
PET Petropavlovsk 50.18 25 *e*P P 01 59 42.1 +6.2
PET *e*S **S** **02 06 51.5 +7.0**
PET MLR MLR
comp=Z,1µm,18.0s
TOO Toolangi 50.63 160 *e*P **P** **01 59 39.8 +0.2**
comp=Z,29nm,1.0s
TOO Toolangi 50.63 160 *e*P **P** **01 59 39.8 +0.2**
TOO pmax pmax
comp=Z,29nm,1.0s
DZM Mont Dzumac 50.65 129 *e*P **P** **01 59 40.9 +0.8**
comp=Z,171nm,1.3s
DZM Mont Dzumac 50.65 129 *e*LR LR 02 14 25.7
comp=Z,2µm,27.1s
DZM Mont Dzumac 50.65 129 *e*P **P** **01 59 41.6 +1.5**
comp=Z,148nm,1.5s
ONTNC Ouen Toro 50.80 130 *e*P **P** **01 59 41.1 +0.1**
comp=Z,84nm,1.3s
DGZ Jazzator, Alta 51.01 328*c i*P **P** **01 59 42.2 -0.3**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
ZSN Zaisan 51.10 325 *e*P **P** **01 59 41.4 -1.6**
ZSN pmax pmax
comp=Z,33nm,1.3s
ZSN MLR MLR
comp=Z,305nm,18.0s
ZSN Zaisan 51.10 325 *e*P **P** **01 59 41.5 -1.6**
comp=Z,33nm,1.3s
ZSN *e*LR LR 02 22 23.1
comp=Z,305nm,17.6s
PINNC Pines Island, 51.72 129 *e*P **P** **01 59 48.0 +0.1**
comp=Z,193nm,1.1s
YAK Yakutsk 51.98 2 *e*P **P** **01 59 49.3 0.0**
YAK *e*PP **pwP** **02 00 05.4 -0.4**
YAK *e* 02 00 58.7
YAK *e* 02 01 51.4
YAK *e*PPP PPP 02 02 53.4
YAK *e*S **S** **02 07 07.9 -1.2**
YAK *e* 02 09 31.2
YAK *e*SS **SS** **02 10 39.4 -7.1**
YAK *e*SSS SSS 02 12 28.5
YAK pmax pmax
comp=Z,216nm,1.0s
YAK pmax pmax
comp=N,153nm,1.2s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=Z,399nm,2.9s
YAK pmax pmax
comp=N,478nm,3.1s
YAK pmax pmax
comp=E,555nm,3.8s
YAK smax smax
comp=N,198nm,2.6s
YAK smax smax
comp=E,495nm,2.0s
MK01 Makanchi Array 52.24 323 *e*P **P** **01 59 50.3 -1.2**
MK31 Makanchi Array 52.26 323 *e*P **P** **01 59 51.1 -0.7**
comp=E,39nm,0.8s
MK31 Makanchi Array 52.26 323 *i* P **P** **01 59 51.0 -0.7**
MK31 pmax pmax
comp=Z,48nm,0.8s
MKAR Makanchi Array 52.26 323 P **P** **01 59 51.2 -0.4**
comp=Z,47nm,0.7s,baz=122,slow=8.3,SNR=398
MKAR PcP **PcP** **02 01 03.2 +0.6**
comp=Z,6.4nm,0.7s,baz=111,slow=5.9,SNR=2.2
MKAR ScP **ScP** **02 04 56.0 -0.2**
comp=Z,8.0nm,1.0s,baz=126,slow=6.2,SNR=6.1
MKAR S **S** **02 07 13.4 -0.1**
comp=Z,1.4nm,1.0s,baz=108,slow=14,SNR=3.4
MKAR LR LR 02 23 51.6
comp=Z,1µm,21.2s,baz=124,slow=38
SHLS Shalkode 52.36 318 *e*P **P** **01 59 48.5 -4.2**
SHLS *e*S **S** **02 07 19.1 +3.8**
SHLS pmax pmax
comp=Z,368nm,1.0s
SHLS MLR MLR
comp=Z,977nm,19.0s
SHLS Shalkode 52.36 318 *e*P **P** **01 59 48.5 -4.2**
comp=Z,368nm,1.0s
SHLS *e*S **S** **02 07 19.2 +3.8**
SHLS *e*LR LR 02 22 35.3
comp=Z,977nm,19.3s
PDGK Podgornoye 52.41 318 P **P** **01 59 51.7 -1.4**
PDGK pmax pmax
comp=Z,22nm,0.9s
UZB Uzynbulak 52.65 317 *e*P **P** **01 59 52.8 -2.0**
UZB pmax pmax
comp=Z,277nm,0.9s
UZB MLR MLR
comp=Z,380nm,15.0s
UZB Uzynbulak 52.65 317 *e*P **P** **01 59 52.9 -1.9**
comp=Z,277nm,0.9s
UZB *e*LR LR 02 23 06.3
comp=Z,380nm,14.7s
MA2 Magadan 52.77 15⇓ *e*P **P** **01 59 56.9 +1.7**
MA2 pmax pmax
comp=Z,22nm,1.0s
MA2 Magadan 52.77 15 P **P** **01 59 56.1 +0.9**
comp=Z,5.6nm,0.6s,baz=170,slow=7.4,SNR=6.5
PRZ Przheval'sk 52.80 316 *e*P **P** **01 59 56.8 +0.8**
comp=Z,29nm,0.8s
KPKS Kokpek 53.01 318 *e*P **P** **01 59 54.4 -3.0**
KPKS pmax pmax
comp=Z,367nm,1.1s
KPKS MLR MLR
comp=Z,1µm,19.0s
KPKS Kokpek 53.01 318 *e*P **P** **01 59 54.5 -3.0**
comp=Z,367nm,1.1s
KPKS *e*LR LR 02 23 23.4
comp=Z,1µm,19.2s
SATY Saty 53.03 317 *e*P **P** **01 59 55.5 -2.1**
SATY *e*S **S** **02 07 27.1 +2.8**
SATY MLR MLR
comp=Z,822nm,20.0s
SATY Saty 53.03 317 *e*P **P** **01 59 55.5 -2.1**
comp=Z,543nm,1.0s
SATY *e*S **S** **02 07 27.2 +2.8**
SATY *e*LR LR 02 23 49.3
comp=Z,822nm,19.5s
ZHN Zhinishke 53.05 317 *e*P **P** **01 59 55.8 -1.9**
ZHN pmax pmax
comp=Z,137nm,1.0s
ZHN MLR MLR
comp=Z,499nm,17.0s
ZHN Zhinishke 53.05 317 *e*P **P** **01 59 55.8 -1.9**
comp=Z,137nm,1.0s
ZHN *e*LR LR 02 23 38.6
comp=Z,499nm,17.3s
KSH Kashi 53.43 312 P **P** **01 59 59.5 -1.1**
KSH pP sP 02 00 24.0 +5.5
KSH PP **PP** **02 02 03.0 +1.6**
KSH S S 02 07 19.3 -11
KSH SS SS 02 11 00.3 -10
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,100nm,5.7s
KSH LR LR
comp=Z,2µm,17.6s
KSH LR LR
comp=Z,870nm,14.7s
KSH LR LR
comp=Z,640nm,19.2s
KDJ Kajisay 53.50 316 *e*P **P** **02 00 01.9 +0.7**
comp=Z,16nm,0.8s
KDJ Kajisay 53.50 316 *e*P **P** **02 00 01.9 +0.7**
KDJ pmax pmax
comp=Z,16nm,0.8s
TDK Taldyqorghan 53.83 319 *e*P **P** **02 00 02.0 -1.3**
TDK MLR MLR
comp=Z,3µm,19.0s
TDK Taldyqorghan 53.83 319 *e*P **P** **02 00 02.0 -1.3**
comp=Z,798nm,0.9s
TDK *e*LR LR 02 23 12.3
comp=Z,3µm,18.9s
NIL Nilore 53.91 304 *e*P **P** **02 00 03.2 -0.9**
comp=Z,48nm,0.9s
NIL Nilore 53.91 304 *e*P **P** **02 00 03.2 -0.9**
NIL pmax pmax
comp=Z,48nm,0.9s
MDOK Medeo 53.98 317*d i*P **P** **02 00 02.6 -2.0**
MDOK *e*S **S** **02 07 42.9 +5.5**
MDOK pmax pmax
comp=Z,113nm,1.0s
MDOK MLR MLR
comp=Z,782nm,19.0s
MDOK Medeo 53.98 317⇓ *i*P **P** **02 00 02.7 -2.0**
comp=Z,114nm,1.0s
MDOK *e*S **S** **02 07 43.0 +5.5**
MDOK *e*LR LR 02 24 23.0
comp=Z,782nm,18.7s
TNSS Tian-Shan 54.00 317 *e*P **P** **02 00 03.7 -1.3**
TNSS pmax pmax
comp=Z,254nm,0.8s
TNSS Tian-Shan 54.00 317 *e*P **P** **02 00 03.8 -1.3**
comp=Z,254nm,0.8s
NRN Naryn 54.07 314 *e*P **P** **02 00 04.4 -1.1**
comp=Z,13nm,0.9s
NRN Naryn 54.07 314 *e*P **P** **02 00 04.4 -1.1**
NRN pmax pmax

comp=Z,13nm,0.9s
AAA Alma-Ata 54.09 317 eP P 02 00 03.1 -2.2
AAA pmax pmax
comp=Z,96nm,0.6s
AAA MLR MLR
comp=Z,377nm,19.0s
AAA Alma-Ata 54.09 317 eP P 02 00 03.2 -2.2
comp=Z,96nm,0.6s
AAA eLR LR 02 24 23.9
comp=Z,378nm,19.4s
ULHL Ulahol 54.19 315 P P 02 00 05.9 -0.4
SNR=23
CHKK Chushkaly 54.29 317 eP P 02 00 04.7 -2.0
CHKK pmax pmax
comp=Z,98nm,1.0s
CHKK Chushkaly 54.29 317 eP P 02 00 04.8 -2.0
comp=Z,98nm,1.0s
KUU Kurty 54.74 317 eP P 02 00 07.2 -2.7
KUU eS S 02 07 46.0 -1.3
KUU pmax pmax
comp=Z,349nm,1.0s
KUU MLR MLR
comp=Z,244nm,17.0s
KUU Kurty 54.74 317 eP P 02 00 07.2 -2.7
comp=Z,349nm,1.0s
KUU eS S 02 07 46.0 -1.3
KUU eLR LR 02 24 52.3
comp=Z,244nm,17.2s
KZA Kyzart 54.82 315 P P 02 00 11.1 +0.1
SNR=38
ZAA0 Zalesovo Array 54.87 331 eP P 02 00 09.6 -1.0
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 54.87 331 P P 02 00 09.4 -1.3
comp=Z,9.4nm,0.5s,baz=119,slow=6.5,SNR=55
ZALV S S 02 07 46.3 -2.3
comp=Z,0.6nm,0.6s,baz=138,slow=9.7,SNR=3.5
ZALV LR LR 02 26 06.2
comp=Z,908nm,18.2s,baz=66,slow=39
TKM2 Tokmak 2 54.88 316 P P 02 00 10.6 -0.6
SNR=14
KBK Karagaybulak 55.23 315 P P 02 00 13.6 -0.1
SNR=12
SEM Semipalatinsk 55.24 326 eP P 02 00 10.9 -2.8
SEM pmax pmax
comp=Z,124nm,1.2s
SEM MLR MLR
comp=Z,621nm,15.0s
SEM Semipalatinsk 55.24 326 eP P 02 00 11.0 -2.8
comp=Z,124nm,1.2s
SEM eLR LR 02 24 26.1
comp=Z,621nm,15.3s
UCH Uchtor 55.38 315 P P 02 00 15.0 -0.2
SNR=46
CHMS Chumysh 55.48 316 P P 02 00 14.6 -0.8
SNR=7.9
AAK Ala-Archa 55.54 315 eP P 02 00 15.5 -0.4
comp=Z,12nm,1.1s
AAK LR LR
comp=Z,2μm,21.0s
AAK Ala-Archa 55.54 315 *i* P P 02 00 14.8 -1.1
SNR=7.0
AAK Ala-Archa 55.54 315*c i*P P 02 00 15.1 -0.8
AAK pmax pmax
comp=Z,20nm,2.5s
AAK Ala-Archa 55.54 315 P P 02 00 15.6 -0.4
SNR=7.5
USP Ospenovka 55.75 316 P P 02 00 16.6 -0.7
SNR=11
AML Almayashu 55.92 314 P P 02 00 18.9 -0.1
SNR=27
EKS2 Erkin-Say 56.04 315 P P 02 00 19.2 -0.3
SNR=20
SEY Seymchan 56.06 14⇑eP P 02 00 21.4 +2.4
NVS Novosibirsk 56.15 332⇓*i*P P 02 00 19.4 -0.4
NVS *i* *PP pP 02 00 29.5 -2.2
NVS *i* S S 02 08 05.7 +0.1
NVS *i* PS PnS 02 08 22.9 +1.8
NVS pmax pmax
comp=N,15nm,1.0s
NVS pmax pmax
comp=E,18nm,1.0s
NVS pmax pmax
comp=Z,37nm,1.0s
NVS smax smax
comp=N,17nm,1.8s
NVS smax smax
comp=E,10.0nm,1.5s
KURK Kurchatov 56.30 326 eP P 02 00 20.5 -0.5
comp=E,68nm,0.8s
KURK LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 56.30 326*c i*P P 02 00 20.3 -0.7
KURK pmax pmax
comp=Z,113nm,1.3s
KURK Kurchatov 56.30 326 P P 02 00 20.5 -0.5
SNR=52
BTLS Baital 56.69 318 eP P 02 00 21.8 -2.1
BTLS pmax pmax
comp=Z,201nm,0.8s
BTLS MLR MLR
comp=Z,777nm,17.0s
BTLS Baital 56.69 318 eP P 02 00 21.8 -2.1
comp=Z,202nm,0.8s
BTLS eLR LR 02 25 32.9
comp=Z,777nm,17.4s
KBL Kabul 57.51 305 eP P 02 00 29.5 -0.7
comp=Z,26nm,1.1s
KBL Kabul 57.51 305 eP P 02 00 29.5 -0.7
KBL pmax pmax
comp=Z,26nm,1.1s
MSVF Nonsavu 58.06 118 eP P 02 00 35.3 +1.3
comp=Z,101nm,1.5s
MSVF Nonsavu 58.06 118⇓eP P 02 00 34.2 +0.2
MSVF pmax pmax
comp=Z,21nm,1.0s
KK31 Karatay Array 58.46 315 eP P 02 00 35.5 -1.0
comp=Z,14nm,0.8s
KK31 Karatay Array 58.46 315 *i* P P 02 00 35.0 -1.4
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 58.46 315 eP P 02 00 35.2 -1.2
comp=Z,14nm,0.8s
KKAR Karatay Array 58.46 315 eP P 02 00 35.2 -1.2
KKAR pmax pmax
comp=Z,14nm,0.8s
IUG luzhnay 58.53 314 eP P 02 00 34.7 -2.3
IUG pmax pmax
comp=Z,289nm,1.0s
IUG luzhnay 58.53 314 eP P 02 00 34.8 -2.3
comp=Z,289nm,1.0s
TIXI Tiksi 61.60 1 eP P 02 00 57.8 +0.4
comp=Z,88nm,1.3s
TIXI LR LR
comp=Z,970nm,20.0s
TIXI Tiksi 61.60 1*c i*P P 02 00 57.6 +0.2
TIXI pmax pmax
comp=Z,86nm,1.7s
TIXI MLR MLR
comp=Z,913nm,20.0s
BVA0 Borovoye Array 61.90 325 P P 02 00 58.5 -1.2
BVA0 pmax pmax
comp=Z,30nm,1.2s
BRVK Borovoye 61.97 325 eP P 02 00 59.5 -0.8
comp=Z,37nm,0.9s
BRVK LR LR
comp=Z,610nm,22.0s
BRVK Borovoye 61.97 325*c i*P P 02 00 59.4 -0.8
BRVK pmax pmax
comp=Z,48nm,1.1s
BRVK Borovoye 61.97 325 P P 02 00 59.6 -0.6
SNR=22
OUZ Omahuta 63.39 138 eP P 02 01 09.9 0.0
comp=Z,115nm,1.5s
BILL Bilibino 63.64 16 eP P 02 01 12.1 +1.1
comp=Z,84nm,1.6s
BILL LR LR
comp=Z,476nm,21.0s
BILL Bilibino 63.64 16 eP P 02 01 12.1 +1.1
BILL pmax pmax
comp=Z,84nm,1.6s
BILL MLR MLR
comp=Z,476nm,21.0s
NRIK Noril'sk 64.27 346 P P 02 01 15.6 +0.4
comp=Z,22nm,0.8s,baz=130,slow=6.3,SNR=28
NRIK LR LR 02 32 46.1
comp=Z,1μm,18.1s,baz=158,slow=39
BIDO Bidbid 66.14 291 P P 02 01 28.4 +0.3
SNR=8.8
MHTO MHTO 66.35 289 P P 02 01 28.2 -1.3
SNR=9.0
RAO Raoul Island 66.41 128 PFAKE 02 01 40.0 +10
RAO LR LR
comp=Z,4μm,21.0s
GEYT Alibeck 66.73 307 P P 02 01 31.9 +0.2
comp=Z,24nm,1.0s,baz=111,slow=3.3,SNR=34
GEYT LR LR 02 34 57.7
comp=Z,1μm,20.3s,baz=70,slow=40
GYA0B ALIBECK ARRAY 66.73 307 eP P 02 01 31.0 -0.7
comp=Z,41nm,1.1s
DQM DQM 66.79 287 P P 02 01 31.5 -0.8
SNR=8.7
THZ Tophouse 66.94 144 eP P 02 01 32.8 0.0
comp=Z,86nm,1.5s
ABKAR Akbulak array 67.10 319 eP P 02 01 32.2 -1.5
comp=Z,27nm,1.3s
RPZ Rata Peaks 67.15 146 eP P 02 01 34.5 +0.4
comp=Z,55nm,1.1s
LTZ Lake Taylor 67.22 145 eP P 02 01 34.1 -0.6
comp=Z,98nm,1.6s
URZ Urewera 67.44 139 eP P 02 01 36.1 0.0
comp=Z,156nm,1.8s
BKZ Black Stump Fm 67.56 140 eP P 02 01 37.2 +0.3
comp=Z,100nm,1.0s
SOHO SOHO 67.59 292 P P 02 01 36.3 -1.0
SNR=14
SNZO South Karori 67.72 143 PFAKE 02 01 50.0 +12
SNZO LR LR
comp=Z,1μm,20.0s
MDH Madha 67.78 293 P P 02 01 36.5 -2.1
MSFE Esma-Masafi 67.91 293 *i* P P 02 01 38.8 -0.5
SNR=7.6
HATD Hatta, Dubai 67.94 293 *i* P P 02 01 38.5 -1.0
SNR=8.1
HATD Hatta, Dubai 67.94 293 P P 02 01 39.0 -0.6
SNR=11
ASHO Ashiyiah 68.01 293 *i* P P 02 01 38.8 -1.2
SNR=25
ASHO Ashiyiah 68.01 293 P P 02 01 39.2 -0.8
SNR=15
ALNE Al Ain 68.31 292 *i* P P 02 01 40.9 -1.0
SNR=17
NAZ Nazwa, Dubai 68.36 293 *i* P P 02 01 41.1 -1.1
SNR=7.0
NAZ Nazwa, Dubai 68.36 293 P P 02 01 41.2 -1.0
SNR=5.4
FAQ Al Faqa, Dubai 68.43 293 *i* P P 02 01 41.3 -1.4
SNR=14
FAQ Al Faqa, Dubai 68.43 293 P P 02 01 41.7 -1.0
SNR=5.7
SVE Sverdlovsk 68.45 327*d i*P P 02 01 41.5 -0.6
SVE pmax pmax
comp=Z,47nm,1.0s
SVE MLR MLR
comp=Z,774nm,21.0s
ASUD Al Ashush, Dub 68.67 293 *i* P P 02 01 43.5 -0.6
SNR=18
ASUD Al Ashush, Dub 68.67 293 P P 02 01 43.8 -0.3
SNR=8.5
GAMB Gambell 68.88 25 eP P 02 01 45.4 +0.8
comp=Z,62nm,1.4s
DMTO DMTO 69.38 285 P P 02 01 48.3 -0.3
SNR=10
ARU Arti 69.46 327 eP P 02 01 46.8 -1.6
comp=Z,29nm,0.6s
ARU LR LR
comp=Z,332nm,19.0s
ARU Arti 69.46 327*c i*P P 02 01 47.1 -1.3
ARU 02 02 11.2
ARU 02 04 20.9
ARU S S 02 10 51.4 -1.0
ARU 02 11 42.6
ARU SS SS 02 15 16.2 -4.0
ARU pmax pmax
comp=Z,23nm,0.6s
ABTO Aybut 70.97 285 P P 02 01 58.5 0.0
SNR=6.0
ANM Nome 71.76 25 eP P 02 02 03.2 +1.0
comp=Z,23nm,1.2s
ANM Nome 71.76 25 eP P 02 02 03.2 +1.0
ANM pmax pmax
comp=Z,23nm,1.2s
MSEY Mahe Island 72.04 262 eP P 02 02 04.0 -0.9
comp=Z,57nm,1.3s
MSEY LR LR
comp=Z,540nm,22.0s
MSEY Mahe Island 72.04 262 P P 02 02 04.7 -0.2
MSEY Mahe Island 72.04 262 *i* P P 02 02 05.5 +0.5
KIP Kipapa 73.15 71 PFAKE 02 02 20.0 +8.6
KIP LR LR
comp=Z,1μm,22.0s
RDOG Red Dog Mine 73.62 22 eP P 02 02 13.8 +0.5
comp=Z,38nm,1.1s
LKRN Lenkeran, Azer 74.10 307 P P 02 02 16.5 -0.1
MAK Makhachkala 75.07 312 eP P 02 02 22.4 +0.3
MAK *e* 02 05 07.6
MAK *e*S S 02 11 53.5 -3.6
MAK pmax pmax
comp=Z,178nm,1.6s
SEKA Sheki 75.30 310 P P 02 02 23.2 -0.5
MNGR Mingechevir, A 75.39 310 P P 02 02 24.0 -0.1
SVW2 Sparrevohn 75.54 29 eP P 02 02 25.5 +1.0
comp=Z,69nm,1.4s
POHA Pohakuloa 75.61 72 PFAKE 02 02 40.0 +14
POHA LR LR
comp=Z,1μm,20.0s
ZKTA Zakatala 75.73 310 P P 02 02 26.0 0.0
GANJ Ganja 75.97 309 P P 02 02 27.3 -0.2
GROC Groznyy 76.32 312 eP P 02 02 26.7 -2.6
GROC *e* 02 02 40.3
GROC pmax pmax
comp=Z,63nm,1.2s
NAX Nakhchivan 76.65 308 P P 02 02 30.9 -0.5
IM3 Indian Mountai 76.82 24 eP P 02 02 32.6 +0.9
PRGR Permogore 76.83 331⇓*i*P P 02 02 31.0 -0.8
PRGR *e* 02 05 20.6
PRGR *e*S S 02 12 10.1 -5.6
PRGR pmax pmax
comp=Z,17nm,0.8s
KDAK Kodiak Island 76.85 33 eP P 02 02 32.9 +0.9
comp=Z,306nm,2.0s
KDAK LR LR
comp=Z,459nm,19.0s
KDAK Kodiak Island 76.85 33 P P 02 02 33.4 +1.4
comp=Z,12nm,0.6s,baz=266,slow=5.5,SNR=14
CASY Casey 76.97 186 eP P 02 02 32.4 0.0
comp=Z,26nm,0.8s
CASY LR LR
comp=Z,93nm,20.0s
TBLG Delisi 77.14 311 eP P 02 02 34.1 +0.1
comp=Z,40nm,0.8s
TBLG Delisi 77.14 311 eP P 02 02 34.1 +0.1
TBLG pmax pmax
comp=Z,40nm,0.8s
GNI Garni 77.20 309 eP P 02 02 34.2 -0.3
comp=Z,66nm,1.4s
GNI LR LR
comp=Z,829nm,22.0s
GNI Garni 77.20 309 *i* P P 02 02 34.6 +0.1
SNR=11
GNI Garni 77.20 309*c i*P P 02 02 34.5 -0.1
GNI pmax pmax
comp=Z,185nm,1.3s
GNI Garni 77.20 309 P P 02 02 34.9 +0.4
SNR=8.3
PPLA Purkeypile 77.28 28 eP P 02 02 34.0 -0.4
comp=Z,109nm,1.8s
CAST Castle Rocks 77.35 27 eP P 02 02 35.7 +0.9
comp=Z,33nm,1.2s
ZEI Tsey 77.72 312 eP P 02 02 32.7 -4.8
ZEI pmax pmax
comp=Z,35nm,0.8s
BPAW Bear Paw Mtn. 77.87 26 eP P 02 02 38.0 +0.4
comp=Z,52nm,1.2s
SUA Susitna One 77.90 29 eP P 02 02 38.1 +0.1
comp=Z,100nm,1.7s
NCK Nalchik 77.92 312⇓*i*P P 02 02 37.7 -0.6
NCK pmax pmax
comp=Z,21nm,1.0s
MLY Manley 78.01 26 eP P 02 02 39.1 +0.6
comp=Z,118nm,2.0s
TRF Thorofare Moun 78.16 27 eP P 02 02 39.8 +0.3
comp=Z,73nm,1.4s
GOF Gofitskoye 78.25 314 eP P 02 02 39.3 -0.8
GOF pmax pmax
comp=Z,30nm,1.3s
COLD Coldfoot 78.31 23 eP P 02 02 40.6 +0.6
comp=Z,21nm,1.5s
KBZ Khabaz 78.41 313 P P 02 02 40.4 -0.6
comp=Z,20nm,1.0s,baz=99,slow=3.3,SNR=27
KBZ LR LR 02 41 34.0
comp=Z,671nm,19.1s,baz=86,slow=39
KARS Kars 78.44 310 eP P 02 02 40.7 -0.8
comp=Z,110nm,1.0s
KARS Kars 78.44 310 eP P 02 02 40.7 -0.8
KARS pmax pmax
comp=Z,110nm,1.0s
NEY Neytrino 78.56 312⇓eP P 02 02 42.0 -0.1
NEY pmax pmax
comp=Z,5.0nm,0.9s
TOLK Toolik Lake Re 78.59 22 eP P 02 02 42.0 +0.4
comp=Z,34nm,1.2s
TOLK Toolik Lake Re 78.59 22 P P 02 02 43.3 +1.7
baz=268
PMR Palmer 78.67 29 eP P 02 02 43.0 +0.9
comp=Z,41nm,1.3s
PMR Palmer 78.67 29 eP P 02 02 43.0 +0.9
PMR pmax pmax
comp=Z,41nm,1.3s
MCK McKinley 78.77 27 eP P 02 02 43.2 +0.6
comp=Z,44nm,1.1s
RND Reindeer 78.80 27 eP P 02 02 43.1 +0.2
comp=Z,60nm,1.4s
RND Reindeer 78.80 27 eP P 02 02 43.1 +0.2
RND pmax pmax
comp=Z,60nm,1.4s
VRH Novokhopyorsk 78.89 320 eP P 02 02 41.9 -1.6
VRH pmax pmax
comp=Z,50nm,0.9s
KNK Knik Glacier 79.00 29 eP P 02 02 44.2 +0.3
comp=Z,69nm,1.3s
SML Sawmill 79.05 29 eP P 02 02 46.6 +2.3
comp=Z,45nm,1.0s
MDM Murphy Dome 79.07 26 eP P 02 02 44.9 +0.6
comp=Z,24nm,1.3s
WRH Wood River Hil 79.14 26 eP P 02 02 45.7 +1.1
comp=Z,60nm,1.7s
SIRT Sirnak 79.14 306 eP P 02 02 45.2 -0.1
comp=Z,214nm,1.0s
COLA College 79.24 26 eP P 02 02 44.6 -0.4
comp=Z,7.0nm,0.9s
COLA LR LR
comp=Z,370nm,21.0s
COLA College 79.24 26 eP P 02 02 44.7 -0.4
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA MLR MLR
comp=Z,370nm,21.0s
CCB Clear Creek Bu 79.26 26 eP P 02 02 45.7 +0.5
comp=Z,52nm,1.6s
POKR Poker Plat Res 79.41 25 P P 02 02 47.7 +1.6
baz=271
SCM Sheep Creek Mo 79.53 29 eP P 02 02 48.5 +1.7
comp=Z,94nm,1.4s
HDA Harding Lake 79.63 26 eP P 02 02 47.0 -0.3
comp=Z,104nm,2.0s
HDA Harding Lake 79.63 26 P P 02 02 47.4 +0.1
baz=272
ILAR Eielson Array 79.65 26 P P 02 02 47.4 0.0
comp=Z,1.8nm,0.7s,baz=238,slow=5.1,SNR=35
ILAR PKKPbc **PKKPbc 02 21 39.4 +2.1**
comp=Z,0.5nm,0.8s,baz=130,slow=2.3,SNR=5.1
ILAR LR LR 02 40 49.8
comp=Z,122nm,18.6s,baz=283,slow=38
ILB Eielson Array 79.65 26 eP P 02 02 46.4 -1.0
comp=Z,44nm,1.8s
IL1 Eielson Array 79.65 26 eP P 02 02 46.6 -0.8
KLMR Klimovskoe 79.77 330 eP P 02 02 45.5 -2.5
KLMR pmax pmax
comp=Z,39nm,1.0s
KLMR Klimovskoe 79.77 330 eP P 02 02 45.6 -2.5
KLMR AMP 02 02 58.3
comp=Z,39nm,1.0s
DAMY Dhamar 79.79 283 eP P 02 02 48.1 -1.4
comp=Z,62nm,1.5s
FYU Fort Yukon 80.27 24 eP P 02 02 51.6 +0.9
comp=Z,85nm,1.5s
DIV Divide 80.30 29 eP P 02 02 51.4 +0.3
comp=Z,153nm,1.7s
TMCR Tamitsa 80.31 334 eP P 02 02 49.9 -1.0
VSR Storozhevoye 80.49 320 eP P 02 02 50.1 -2.1
VSR pmax pmax
comp=Z,20nm,0.8s
LPSR Galich'ya Gora 80.54 322 eP P 02 02 51.3 -1.1
LPSR pmax pmax
comp=Z,50nm,0.8s
RIDG Independ'e Rid 80.59 27 eP P 02 02 52.9 +0.4
comp=Z,95nm,1.6s
SOC Sochi 80.72 313 eP P 02 02 51.5 -2.1
SOC *e* 02 05 58.1
SOC eS S 02 12 55.4 -2.7
SOC eSSS SSS 02 21 35.6
SOC pmax pmax
comp=Z,17nm,0.6s
SOC MLR MLR
comp=Z,839nm,18.0s
DOT Dot Lake 80.94 27 eP P 02 02 54.9 +0.5
comp=Z,23nm,1.2s
SCRK Sand Creek 80.95 27 eP P 02 02 55.1 +0.5
comp=Z,51nm,1.6s
MOS Moscow 81.07 325 eP P 02 02 52.3 -2.8
MOS eS S 02 12 55.1 -6.0
MOS pmax pmax
comp=Z,37nm,0.8s
MOS MLR MLR
comp=Z,833nm,21.0s
LVZ Lovozero 81.42 338 PFAKE 02 03 10.0 +13
LVZ LR LR
comp=Z,612nm,19.0s
ATD Arta Tunnel 81.71 280 eP P 02 02 58.1 -1.4
comp=Z,22nm,0.8s
OBN Obninsk 81.72 325 eP P 02 02 57.9 -0.7
comp=Z,34nm,1.2s
OBN LR LR
comp=Z,487nm,20.0s
OBN Obninsk 81.72 325*c i*P P 02 02 57.0 -1.6
OBN *e* 02 03 03.8
OBN *e* 02 06 06.0
OBN eS S 02 13 11.0 +3.1
OBN pmax pmax
comp=Z,34nm,1.3s
OBN MLR MLR
comp=Z,568nm,17.0s
APA Apatity 81.93 337⇑*i*P P 02 02 58.4 -1.1
APA pmax pmax
comp=Z,16nm,0.9s
APA MLR MLR
comp=Z,1μm,16.0s
EGAK Eagle 82.10 26 eP P 02 03 00.8 +0.4
comp=Z,9.5nm,0.8s
EGAK LR LR
comp=Z,553nm,21.0s
ANN Anapa 82.24 314 eP P 02 02 58.7 -2.8
ANN *e**PP PcP 02 03 10.1 +3.3
ANN *e* 02 06 05.4
ANN eS S 02 13 10.7 -3.0
ANN pmax pmax
comp=Z,76nm,1.2s
ANN MLR MLR
comp=N,749nm,21.0s
ANN MLR MLR
comp=E,909nm,21.0s
ANN MLR MLR
comp=Z,1μm,21.0s
DAWY Dawson 82.95 26 eP P 02 03 06.0 +1.0
comp=Z,60nm,1.6s
HOPEN Hopen 82.96 347 eP P 02 03 05.2 +0.5
ABPO Ambohimpanom 83.08 249 PFAKE 02 03 20.0 +13
ABPO LR LR
comp=Z,230nm,22.0s
EPYK Eagle Plains 83.69 24 eP P 02 03 09.2 +0.5
comp=Z,104nm,1.8s
EPYK Eagle Plains 83.69 24 P P 02 03 10.0 +1.3
baz=280
KEV Kevo 83.89 340 PFAKE 02 03 20.0 +10
KEV LR LR
comp=Z,891nm,20.0s
SPA0 Spitsbergen Ar 84.27 349 eP P 02 03 11.5 +0.1
comp=Z,128nm,1.0s
SPA0 Spitsbergen Ar 84.27 349 eP P 02 03 12.2 +0.8
SPITS Spitsbergen Ar 84.27 349 P P 02 03 11.6 +0.1

SPITS pmax pmax
comp=Z,1.0nm,0.3s
HYT Haines Junctio 84.34 29 *e*P **P 02 03 12.4 +0.2**
comp=Z,55nm,1.3s
PUL Pulkovo 84.44 330⇓ *e*P **P 02 03 12.4 -0.1**
ARCES ARCESS Array B 84.45 340 *e*P **P 02 03 13.0 +0.5**
ARCES ARCESS Array B 84.45 340 P **P 02 03 13.2 +0.8**
comp=Z,18nm,0.7s,baz=83,slow=6.8,SNR=32
ARCES LR LR 02 45 43.8
comp=Z,697nm,18.0s,baz=132,slow=39
ARE0 ARCESS Array S 84.45 340 *e*P **P 02 03 12.7 +0.3**
comp=Z,11nm,1.9s
ARE0 ARCESS Array S 84.45 340 *e*P **P 02 03 13.3 +0.8**
INK Inuvik 84.51 22 *e*P **P 02 03 12.7 0.0**
comp=Z,40nm,1.4s
INK Inuvik 84.51 22 *e*P **P 02 03 12.7 0.0**
INK pmax pmax
comp=Z,40nm,1.4s
INK Inuvik 84.51 22 P **P 02 03 13.6 +0.9**
comp=Z,8.7nm,1.0s,baz=269,slow=5.6,SNR=21
SIM Simferopol' 84.56 315*c* *e*P **P 02 03 12.6 -0.9**
SIM pmax pmax
comp=Z,32nm,0.9s
HAMF Hammerfest 84.78 341 *e*P **P 02 03 14.3 +0.3**
KBS Kingsbay 84.78 350 PFAKE 02 03 30.0 +16
KBS LR LR
comp=Z,841nm,19.0s
KBS Kingsbay 84.78 350⇓ *e*P **P 02 03 15.1 +1.1**
KBS pmax pmax
comp=Z,235nm,2.5s
KBS Kingsbay 84.78 350 *e*P **P 02 03 14.6 +0.6**
HSPB Hornsund (broa 84.88 348 *e*P **P 02 03 15.0 +0.5**
BHL Bhannes 85.04 303 *e*P **P 02 03 16.3 0.0**
SHBL Chebaa 85.05 303 *e*P **P 02 03 16.4 0.0**
KTK1 Kautokeino 85.36 339 *e*P **P 02 03 16.1 -1.0**
GHAJ Ghor Haditha 85.51 301 P **P 02 03 18.7 +0.2**
comp=Z,78nm,1.2s
WHY Whitehorse 85.64 29 *e*P **P 02 03 18.9 +0.2**
comp=Z,37nm,1.0s
BR131 Keskin Array S 85.73 309 *e*P **P 02 03 18.8 -0.9**
comp=Z,11nm,0.8s
BR131 Keskin Array S 85.73 309 P **P 02 03 18.5 -1.2**
SNR=8.5
BRTR Keskin Array B 85.73 309 P **P 02 03 18.5 -1.2**
comp=Z,9.1nm,0.8s,baz=103,slow=4.2,SNR=48
BRTR LR LR 02 47 19.2
comp=Z,332nm,20.0s,baz=80,slow=40
FIA1 FINESS Array S 86.13 332 *e*P **P 02 03 20.8 -0.2**
comp=Z,70nm,1.3s
FINES FINESS Array B 86.14 332 P **P 02 03 20.4 -0.6**
comp=Z,10nm,0.7s,baz=70,slow=4.8,SNR=76
FINES LR LR 02 45 56.7
comp=Z,451nm,19.8s,baz=82,slow=38
EIL Elat 86.29 299 P **P 02 03 22.1 -0.4**
comp=Z,44nm,2.0s
ANTO Ankara 86.34 310 *e*P **P 02 03 22.2 -0.5**
comp=Z,22nm,0.9s
ANTO LR LR
comp=Z,471nm,20.0s
ANTO Ankara 86.34 310 ⇓ *i*P **P 02 03 22.1 -0.5**
ANTO Ankara 86.34 310 *e*P **P 02 03 22.2 -0.5**
ANTO pmax pmax
comp=Z,23nm,0.9s
ANTO MLR MLR
comp=Z,471nm,20.0s
ANTO Ankara 86.34 310 P **P 02 03 22.0 -0.6**
SNR=5.4
VSU Vasula 86.51 329*c* *i*P **P 02 03 22.0 -0.9**
VSU pmax pmax
comp=Z,190nm,2.5s
TRO Tromso 86.63 340 *e*P **P 02 03 23.4 +0.1**
CSS Mathiatis 86.76 305 *e*P **P 02 03 23.9 -0.8**
comp=Z,54nm,0.8s
CSS Mathiatis 86.76 305 P **P 02 03 24.0 -0.7**
comp=Z,21nm,0.9s
AKASG Malin Array Be 86.79 321 P **P 02 03 23.5 -1.0**
comp=Z,14nm,0.8s,baz=62,slow=5.0,SNR=26
AKASG LR LR 02 46 13.9
comp=Z,399nm,19.7s,baz=70,slow=38
AKBB Malin Array Si 86.79 321 *e*P **P 02 03 23.6 -0.8**
comp=Z,37nm,1.1s
KIEV Kiev 86.80 321 *e*P **P 02 03 23.6 -0.9**
comp=Z,30nm,1.0s
KIEV LR LR
comp=Z,591nm,19.0s
KIEV Kiev 86.80 321 *i* P **P 02 03 23.3 -1.1**
SNR=16
KIEV Kiev 86.80 321 *e*P **P 02 03 23.6 -0.9**
KIEV pmax pmax
comp=Z,30nm,1.0s
KIEV MLR MLR
comp=Z,591nm,19.0s
AK11 Malin Array Si 86.83 321 *e*P **P 02 03 23.2 -1.4**
PPT Papeete 87.44 108 P **P 02 03 30.7 +2.4**
comp=Z,15nm,0.8s,baz=307,slow=3.9,SNR=4.5
PPT LR LR 02 35 10.1
comp=Z,560nm,21.9s,baz=292,slow=30
PPT2 Papeete2 87.45 108 *e*P **P 02 03 29.9 +1.6**
comp=Z,60nm,1.3s
PPT2 Papeete2 87.45 108 *e*S **S 02 14 02.9 -3.5**
comp=Z,558nm,25.2s
PPT2 Papeete2 87.45 108 *e*LR LR 02 31 26.2
comp=Z,1μm,22.2s,baz=284
PAE Paea 87.46 108 *e*P **P 02 03 29.5 +1.2**
comp=Z,7.5nm,1.2s
TIAR Tiarei 87.66 108 *e*P **P 02 03 30.7 +1.4**
comp=Z,24nm,1.2s
TVO Taravao 87.79 108 *e*P **P 02 03 31.4 +1.4**
comp=Z,22nm,1.1s
WRAK Wrangell Islan 87.94 33 PFAKE 02 03 40.0 +10
WRAK LR LR
comp=Z,356nm,19.0s
TLCR 88.21 315 ⇓ *i*P **P 02 03 31.0 -0.4**
TLCR 88.21 315 ⇓ P **P 02 03 31.0 -0.4**
STEI Steigen 88.50 339 *e*P **P 02 03 31.5 -0.8**
PMOR Pomariorio Ree 88.55 105 *e*P **P 02 03 34.9 +1.4**
comp=Z,83nm,1.1s
CFR Carcaliu 88.68 316 ⇑ *i*P **P 02 03 33.3 -0.3**
CFR Carcaliu 88.68 316 ⇑ P **P 02 03 33.3 -0.3**
TLB Topalu 88.88 315 ⇓ *i*P **P 02 03 34.3 -0.2**
TLB Topalu 88.88 315 ⇓ P **P 02 03 34.3 -0.2**
KMBO Kilima Mbogo 89.27 269 *e*P **P 02 03 36.9 -0.4**
comp=Z,12nm,1.1s
KMBO LR LR
comp=Z,624nm,20.0s
TESR Tescani 89.38 317 ⇑ *i*P **P 02 03 36.3 -0.6**
MAW Mawson 89.47 200 *e*P **P 02 03 35.6 -1.1**
comp=Z,14nm,1.5s
MAW Mawson 89.47 200 *e*P **P 02 03 35.6 -1.1**
MAW pmax pmax
comp=Z,14nm,1.5s
MAW Mawson 89.47 200 P **P 02 03 36.4 -0.3**
comp=Z,19nm,1.0s,baz=82,slow=5.6,SNR=14
MAW LR LR 02 39 47.8
comp=Z,342nm,20.5s,baz=55,slow=33
VRI Vrincioaia 89.48 316 ⇑ *i*P **P 02 03 37.8 +0.4**
VRI Vrincioaia 89.48 316 ⇑ P **P 02 03 37.8 +0.4**
MOR8 Moi Rana 89.50 338 *e*P **P 02 03 35.7 -1.3**
PLOR Plostina 89.54 316 ⇑ *i*P **P 02 03 37.2 -0.5**
PLOR Plostina 89.54 316 ⇑ P **P 02 03 37.2 -0.5**
SUW Suwalki 89.58 325 *e*P **P 02 03 36.7 -0.9**
SUW Suwalki 89.58 325 *e*P **P 02 03 36.6 -0.9**
comp=Z,63nm,1.1s
SUW Suwalki 89.58 325 *e*P **P 02 03 36.6 -1.0**
SUW pmax pmax
comp=Z,63nm,1.1s
VNDA Vanda 89.67 173 *e*P **P 02 03 37.3 -0.2**
comp=Z,17nm,1.3s
VNDA PP **PP 02 07 11.1 +1.1**
VNDA Vanda 89.67 173 *e*P **P 02 03 37.3 -0.2**
VNDA 02 07 11.1
VNDA pmax pmax
comp=Z,17nm,1.3s
VNDA Vanda 89.67 173 P **P 02 03 38.5 +1.0**
comp=Z,4.8nm,1.0s,baz=327,slow=5.4,SNR=12
VNDA PP **PP 02 07 11.1 +1.1**
comp=Z,4.4nm,1.2s,baz=297,slow=4.6,SNR=3.7
VNDA LR LR 02 45 34.6
comp=Z,290nm,18.2s,baz=342,slow=37
MANT Manisa 89.84 309 *e*P **P 02 03 38.9 -0.6**
comp=Z,108nm,1.4s
KONS Konsvik 89.84 338 *e*P **P 02 03 38.8 +0.2**
BURAR Bucovina Array 90.06 318 ⇑ *i*P **P 02 03 39.8 -0.4**
BURAR Bucovina Array 90.06 318 ⇑ P **P 02 03 39.8 -0.4**
BUR08 Bucovina Ar. S 90.06 318 *e*P **P 02 03 40.0 -0.3**
comp=Z,15nm,1.0s
SULR 90.09 315 ⇑ *i*P **P 02 03 40.0 -0.2**
MLR Muntele Rosu 90.11 316 *e*P **P 02 03 40.2 -0.3**
comp=Z,10nm,1.0s
MLR Muntele Rosu 90.11 316 ⇑ *i*P **P 02 03 39.7 -0.8**
MLR Muntele Rosu 90.11 316 ⇑ P **P 02 03 39.7 -0.8**
LVV L'vov 90.23 321 *e*P **P 02 03 39.9 -0.9**
LVV *e* 02 14 09.3
LVV *e*S **S 02 14 26.4 -5.0**
VOIR 90.73 316 ⇓ *i*P **P 02 03 42.3 -1.0**
VOIR 90.73 316 ⇓ P **P 02 03 42.3 -1.0**
ARCR ARCALIA 90.77 318 ⇓ *i*P **P 02 03 43.7 +0.4**
DAG Danmarks Havn 91.01 352 *i* P **P 02 03 43.4 -0.5**
comp=Z,27nm,0.9s
DAG Danmarks Havn 91.01 352 *i* P **P 02 03 43.4 -0.5**
DAG pmax pmax
comp=Z,22nm,0.9s
HUMR Humele 91.01 315 ⇓ *i*P **P 02 03 43.3 -1.2**
ARR Arges 91.03 316 ⇓ *i*P **P 02 03 44.6 -0.1**
KWP Kalwaria Pacla 91.11 321 *e*P **P 02 03 45.1 +0.2**
KWP Kalwaria Pacla 91.11 321 *e*P **P 02 03 45.1 +0.2**
NSS Namsos 91.13 337 *e*P **P 02 03 44.1 -0.5**
EZN Ezine 91.22 311 ⇑ *i*P **P 02 03 44.2 -1.4**
EZN Ezine 91.22 311 ⇑ P **P 02 03 44.2 -1.4**
CJR Cluj-Napoca 91.36 318 ⇓ *i*P **P 02 03 46.4 +0.2**
CJR Cluj-Napoca 91.36 318 ⇓ P **P 02 03 46.4 +0.2**
VLAD Vladila 91.55 315 ⇑ *i*P **P 02 03 46.7 -0.3**
KARP Karpathos 91.59 306 *e*P **P 02 03 46.5 -0.9**
comp=Z,46nm,1.0s
TRPA Tarpa 91.65 319 ⇑ *i*P **P 02 03 46.9 -0.5**
UZH Uzhgorod 91.66 320 *i* P **P 02 03 47.0 -0.4**
UZH *e* 02 03 55.7
UZH *i* 02 07 31.5
UZH *i* 02 14 42.0
RES Resolute Bay 91.74 10 *e*P **P 02 03 47.7 +0.4**
comp=Z,18nm,1.1s
RES Resolute Bay 91.74 10 *e*P **P 02 03 47.7 +0.4**
RES pmax pmax
comp=Z,18nm,1.1s
DRGR 91.93 318 ⇓ *i*P **P 02 03 48.6 -0.2**
DRGR 91.93 318 ⇓ P **P 02 03 48.6 -0.2**
GZR Gura Zlata 92.28 317 ⇑ *i*P **P 02 03 50.3 -0.2**
GZR Gura Zlata 92.28 317 ⇑ P **P 02 03 50.3 -0.2**
PUNG Punghina 92.50 316 ⇑ *i*P **P 02 03 51.3 -0.1**
OJC Ojcow 92.72 322 *e*P **P 02 03 52.3 0.0**
OJC Ojcow 92.72 322 *e*P **P 02 03 51.9 -0.4**
comp=Z,14nm,0.9s
OJC Ojcow 92.72 322 *e*P **P 02 03 52.3 0.0**
VTS Vitosha 92.75 314 *e*P **P 02 03 51.7 -1.2**
comp=Z,31nm,1.9s
VTS Vitosha 92.75 314 ⇑ *i*P **P 02 03 51.6 -1.2**
VTS Vitosha 92.75 314 ⇑ P **P 02 03 51.6 -1.2**
NC405 NORSAR Array S 92.75 334 *e*P **P 02 03 51.6 -0.7**
comp=Z,22nm,1.0s
NC303 NORSAR Array S 92.85 334 *e*P **P 02 03 51.9 -0.8**
comp=Z,15nm,1.0s
BZS Buzias 93.00 317 ⇓ *i*P **P 02 03 52.7 -1.0**
BZS Buzias 93.00 317 ⇓ P **P 02 03 52.7 -1.0**
NC602 NORSAR Array S 93.00 333 *e*P **P 02 03 53.3 -0.1**
NORES NORESS Array B 93.00 333 P **P 02 03 56.0 +2.6**
NB2 NORSAR Subarra 93.00 334 P **P 02 03 51.7 -1.8**
comp=Z,2.2nm,0.8s,baz=65,slow=4.4
NB2 NORSAR Subarra 93.00 334 P **P 02 03 51.5 -2.0**
NB2 pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 93.00 334 P **P 02 03 51.7 -1.8**
baz=65,slow=4.4
NOA NORSAR Array B 93.00 334 P **P 02 03 52.0 -1.5**
comp=Z,5.7nm,0.9s,baz=63,slow=4.7,SNR=19
NOA LR LR 02 49 59.5
comp=Z,396nm,18.8s,baz=65,slow=38
NC204 NORSAR Array S 93.09 334 *e*P **P 02 03 53.0 -0.9**
comp=Z,46nm,1.8s
PSZ Piszkesteto 93.41 320 *e*P **P 02 03 55.0 -0.7**
comp=Z,17nm,1.2s
PSZ Piszkesteto 93.41 320 ⇑ *i*P **P 02 03 55.2 -0.4**
PSZ Piszkesteto 93.41 320 *e*P **P 02 03 55.0 -0.7**
PSZ pmax pmax
comp=Z,17nm,1.2s
PSZ Piszkesteto 93.41 320 *e*P **P 02 03 54.1 -1.6**
DOMB Dombas 93.45 335 *e*P **P 02 03 53.9 -1.5**
OSL Oslo 93.72 333 *e*P **P 02 03 56.6 -0.1**
MOL Molde 93.81 336 *e*P **P 02 03 57.2 +0.2**
VYHS Vyhne 93.89 321 *e*P **P 02 03 57.5 -0.3**
VYHS pmax pmax
comp=Z,9.0nm,1.5s
VYHS Vyhne 93.89 321 *e*P **P 02 03 57.4 -0.3**
YKW3 Yellowknife Ar 93.93 24 *e*P **P 02 03 57.9 +0.3**
comp=Z,8.2nm,1.0s
YKA Yellowknife Ar 93.97 24 P **P 02 03 58.5 +0.8**
comp=Z,4.2nm,0.7s,baz=300,slow=4.5,SNR=99
YKA S **SKSac 02 14 28.3 -0.4**
comp=Z,0.1nm,0.3s,baz=319,slow=5.4,SNR=4.8
YKA PKKP **PKKPdf 02 20 60.0 -0.7**
comp=Z,0.2nm,0.5s,baz=123,slow=2.9,SNR=7.8
YKA LR LR 02 46 53.6
comp=Z,20nm,20.8s,baz=300,slow=36
YKB5 Yellowknife Ar 93.97 24 *e*P **P 02 03 57.1 -0.7**
AKN Aaknes 94.23 336 *e*P **P 02 03 59.0 -0.1**
MORC Moravsky Berou 94.24 322 *e*P **P 02 03 59.2 -0.2**
KONO Kongsberg 94.36 333 *e*P **P 02 03 58.9 -0.7**
SKAR Skarslia 94.43 334 *e*P **P 02 03 60.0 -0.1**
JAVC Velka Javorina 94.49 321 *e*P **P 02 04 01.4 +0.8**
KSP Ksiaz 94.60 323 *e*P **P 02 04 01.2 +0.2**
KSP Ksiaz 94.60 323 *e*P **P 02 04 01.2 +0.2**
DPC Dobruska-Polom 94.77 323 *e*P **P 02 04 02.1 +0.3**
DPC *ex* x 02 04 08.8
DPC Dobruska-Polom 94.77 323 *e*P **P 02 04 02.1 +0.3**
DPC *e* 02 04 08.8
UPC Upice 94.89 323 *e*P **P 02 04 02.6 +0.3**
UPC Upice 94.89 323 *e*P **P 02 04 02.6 +0.3**
MODS Modra-Piesok 94.90 321 *e*P **P 02 04 01.8 -0.6**
MODS Modra-Piesok 94.90 321 *e*P **P 02 04 01.8 -0.6**
TAOE Nuku Hiva Isla 94.96 98 *e*SP SP 02 16 29.0 -2.5
comp=Z,436nm,26.9s
TAOE Nuku Hiva Isla 94.96 98 *e*LR LR 02 34 59.0
comp=Z,2μm,31.0s
VRAC Vranov 94.98 322 ⇑ *i*P **P 02 04 02.6 -0.2**
VRAC Vranov 94.98 322 ⇑ P **P 02 04 02.6 -0.2**
VRAC Vranov 94.98 322 *e*P **P 02 04 02.8 0.0**
HYA Hoyanger 95.08 335 *e*P **P 02 04 02.4 -0.4**
KRUC Moravsky 95.20 322 *e*P **P 02 04 03.6 -0.1**
RUE Ruedersdorf 95.40 325 *e*P **P 02 04 04.7 +0.1**
comp=Z,20nm,1.1s,baz=64,slow=4.6
RUE *e*pP **pP 02 04 12.6 -4.9**
baz=63,slow=4.7
KULLO Kullorsuaq 95.54 1 *i* P **P 02 04 04.1 -0.6**
comp=Z,16nm,0.8s
KULLO Kullorsuaq 95.54 1 *i* P **P 02 04 04.1 -0.6**
KULLO pmax pmax
comp=Z,16nm,0.8s
MBAR Mbarara 95.59 270 PFAKE 02 04 20.0 +14
MBAR LR LR
comp=Z,543nm,20.0s
SOP Sopron 95.60 320 P **P 02 04 05.8 +0.2**
TREC Trest 95.66 322 *e*P **P 02 04 05.8 -0.1**
TREC *ex* x 02 04 12.4
TREC Trest 95.66 322 *e*P **P 02 04 05.8 -0.1**
TREC *e* 02 04 12.4
PVCC Panska Ves 95.73 323 *e*P **P 02 04 06.6 +0.5**
PVCC *ex* x 02 04 14.2
PVCC Panska Ves 95.73 323 *e*P **P 02 04 06.6 +0.5**
PVCC *e* 02 04 14.2
NLWA Neilton Lookou 95.75 40 PFAKE 02 04 20.0 +14
NLWA LR LR
comp=Z,835nm,22.0s
GOPC GO Pecny, Ondr 95.84 323 *e*P **P 02 04 07.0 +0.3**
GOPC AMS AMS 02 51 50.0
comp=Z,700nm,22.9s
GOPC GO Pecny, Ondr 95.84 323 *e*P **P 02 04 07.0 +0.3**
GOPC MLR MLR
comp=Z,700nm,22.9s
BER Bergen 95.85 335 *e*P **P 02 04 06.3 0.0**
ASK Askoy 95.85 335 *e*P **P 02 04 06.2 -0.2**
BLS5 Blasjo 95.87 334 *e*P **P 02 04 06.0 -0.6**
CONA Conrad Observa 95.95 321 *i* PcP **P 02 04 06.8 -0.5**
comp=Z,9.5nm,1.4s
BRG Berggiesshubel 95.96 324 *e*P **P 02 04 06.2 -0.9**
comp=Z,13nm,1.3s
BRG *e* 02 04 14.3
comp=Z,17nm,1.4s
BRG Berggiesshubel 95.96 324 *e*P **P 02 04 07.3 +0.2**
comp=Z,13nm,1.3s,baz=64,slow=4.6
BRG *e*pP **pP 02 04 15.0 -5.1**
baz=63,slow=4.7
BRG Berggiesshubel 95.96 324 *e*P **P 02 04 06.2 -0.9**
BRG *e* 02 04 14.3
BRG pmax pmax
comp=Z,13nm,1.3s
BRG pmax pmax
comp=Z,17nm,1.4s
PRU Pruhonice 95.96 323 *e*P **P 02 04 07.2 0.0**
PRU *ex* x 02 04 14.7
PRU AMS AMS 02 52 30.0
comp=Z,1μm,22.0s
PRU Pruhonice 95.96 323 *e*P **P 02 04 07.2 0.0**
PRU *e* 02 04 14.7
PRU MLR MLR
comp=Z,1μm,22.0s
FBE Freiberg 96.28 324 *e*P **P 02 04 09.0 +0.4**
comp=Z,60nm,1.9s,baz=64,slow=4.6
CLL Collm 96.33 325 *e*P **P 02 04 08.0 -0.8**
comp=Z,13nm,1.3s
CLL Collm 96.33 325 *e*P **P 02 04 08.6 -0.2**
comp=Z,15nm,1.4s,baz=64,slow=4.6
CLL *e*pP **pP 02 04 16.2 -5.6**
baz=63,slow=4.7
CLL Collm 96.33 325 *i* P **P 02 04 07.5 -1.3**
comp=Z,15nm,1.4s
CLL *i* 02 04 15.9
comp=Z,14nm,1.4s
CLL *e*(SKKSac) 02 15 02.0
CLL *e*S **S 02 15 27.0 +1.7**
CLL *e*PS **PS 02 16 48.0 -2.5**
CLL *e*(PPS) 02 17 18.0
CLL *e*SS SS 02 22 18.0 +20
CLL LmV 02 53 00.0
comp=Z,800nm,18.3s
CLL LmH 02 54 00.0
comp=N,400nm,18.9s
CLL LmH 02 54 00.0
comp=E,400nm,20.5s
CLL Collm 96.33 325 *i* P **P 02 04 07.5 -1.3**
CLL *i* 02 04 15.9
CLL *e*S **S 02 15 27.0 +1.7**
CLL pmax pmax
comp=Z,15nm,1.4s
CLL MLR MLR
comp=Z,800nm,18.3s
ARSA Arzberg 96.41 320 *i* PcP **P 02 04 09.1 -0.3**
comp=Z,5.0nm,1.0s
BSEG Bad Segeberg 96.66 328 *e*P **P 02 04 10.3 +0.1**
comp=Z,15nm,1.2s,baz=64,slow=4.6
SCO Scoresbysund 96.82 350 *e*P **P 02 04 10.8 +0.2**
comp=Z,61nm,1.9s
SCO Scoresbysund 96.82 350 *i* P **P 02 04 11.4 +0.8**
comp=Z,8.1nm,0.9s
SCO Scoresbysund 96.82 350 *e*P **P 02 04 10.8 +0.2**
SCO pmax pmax
comp=Z,61nm,1.9s
KHC Kasperske Hory 96.88 322 *e*P **P 02 04 11.1 -0.3**
comp=Z,2.2nm,0.9s
KHC Kasperske Hory 96.88 322 *e*P **P 02 04 11.5 +0.1**
KHC *ex* x 02 04 18.7
KHC Kasperske Hory 96.88 322 *e*P **P 02 04 11.1 -0.3**
KHC pmax pmax
comp=Z,2.0nm,0.9s
GEC2 GERESS Array S 96.92 322 *e*P **P 02 04 11.7 0.0**
comp=Z,8.0nm,0.9s
GEC2 GERESS Array S 96.92 322 *e*P **P 02 04 11.7 0.0**
comp=Z,21nm,1.2s,baz=64,slow=4.6
GEC2 *e*pP **pP 02 04 19.4 -5.2**
baz=63,slow=4.7
GEC2 GERESS Array S 96.92 322 *e*P **P 02 04 11.7 0.0**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GERES GERESS Array B 96.92 322 P **P 02 04 11.6 -0.1**
comp=Z,4.8nm,0.8s,baz=64,slow=4.6,SNR=52
GERES LR LR 02 51 55.7
comp=Z,324nm,18.5s,baz=80,slow=38
GEA0 GERESS Array S 96.92 322 *e*P **P 02 04 11.0 -0.7**
SOKA Soboth 96.94 320 *i* PcP **P 02 04 11.3 -0.5**
comp=Z,8.9nm,1.4s,SNR=4.3
MOA Molln 96.97 321 *i* PcP **P 02 04 11.9 +0.1**
comp=Z,16nm,0.8s
SUMG Summit 96.98 355 *e*P **P 02 04 11.9 0.0**
comp=Z,25nm,1.5s
SUMG Summit 96.98 355 *i* P **P 02 04 12.5 +0.6**
comp=Z,16nm,0.9s
SUMG Summit 96.98 355 *e*P **P 02 04 11.9 0.0**
SUMG pmax pmax
comp=Z,25nm,1.5s
TANN Tannenbergstha 97.01 324 *e*P Pdif 02 04 12.2 +0.1
comp=Z,31nm,1.5s,baz=64,slow=4.6
TANN *e*pP pP 02 04 19.9 -5.1
baz=63,slow=4.7
NEUB Neuenburg 97.07 325 *e*P **P 02 04 12.3 +0.1**
comp=Z,14nm,1.2s,baz=64,slow=4.6
NEUB *e*pP **pP 02 04 19.9 -5.3**
baz=63,slow=4.7
NKC Novy Kostel 97.09 324 *e*P **P 02 04 12.4 0.0**
NKC Novy Kostel 97.09 324 *e*P **P 02 04 12.4 0.0**
GUNZ Gunzen 97.11 324 *e*P Pdif 02 04 12.7 +0.2
comp=Z,13nm,1.3s,baz=64,slow=4.6
GUNZ *e*pP pP 02 04 20.4 -5.0
baz=63,slow=4.7
WERN Wernitzgruen 97.11 324 *e*P Pdif 02 04 12.7 +0.1
comp=Z,15nm,1.4s,baz=64,slow=4.6
WERN *e*pP pP 02 04 20.5 -4.9
baz=63,slow=4.7
ASSE Asse, Remlinge 97.28 326 *e*P Pdif 02 04 13.3 +0.2
comp=Z,21nm,1.5s,baz=64,slow=4.6
ASSE *e*pP pP 02 04 21.1 -4.9
baz=63,slow=4.7
WET Wettzell 97.29 323 *e*P Pdif 02 04 13.7 +0.3
comp=Z,53nm,2.3s,baz=64,slow=4.6
WET *e*pP pP 02 04 21.4 -4.9
baz=63,slow=4.7
OBKA Obir 97.31 320 *i* P **P 02 04 11.8 -1.7**
comp=Z,6.4nm,1.2s
MANZ Manzenberg 97.40 324 *e*P Pdif 02 04 14.1 +0.3
comp=Z,36nm,2.2s,baz=64,slow=4.6
MOX Moxa 97.40 324 *e*P **P 02 04 13.7 0.0**
comp=Z,22nm,1.6s,baz=64,slow=4.6
MOX *e*pP **pP 02 04 21.5 -5.2**
baz=63,slow=4.7
MOX *e*L L 02 53 51.7
comp=Z,445nm,19.5s
NRDL Niedersach Rie 97.42 326 *e*P Pdif 02 04 14.3 +0.6
comp=Z,30nm,1.4s,baz=64,slow=4.6
NRDL *e*pP pP 02 04 22.0 -4.7
baz=63,slow=4.7
ROTZ Rotzenmuhle 97.43 323 *e*P Pdif 02 04 14.3 +0.4
comp=Z,16nm,1.4s,baz=64,slow=4.6
ROTZ *e*pP pP 02 04 22.1 -4.7
baz=63,slow=4.7
H04D Lebanon 97.54 42 P Pdif 02 04 15.7 +1.2
baz=292
CLZ Clausthal 97.57 326 *e*P Pdif 02 04 14.9 +0.4
comp=Z,14nm,1.1s,baz=64,slow=4.6
CLZ *e*pP pP 02 04 22.6 -4.9
baz=63,slow=4.7
MYKA Terra Mystica 97.84 320 *i* PcP **P 02 04 15.7 -0.1**
comp=Z,6.5nm,1.1s
KBA Koelnbreinsper 97.85 321 *i* PcP **P 02 04 15.2 -0.9**
comp=Z,7.1nm,1.5s
GTTG Gvttingen 97.94 326 *e*P Pdif 02 04 16.4 +0.3
comp=Z,52nm,1.7s,baz=64,slow=4.6
GTTG *e*pP pP 02 04 24.2 -4.9
baz=63,slow=4.7
GRF Grafenberg Arr 98.04 324 *e*P Pdif 02 04 16.9 +0.3
baz=64,slow=4.6
GRF *e*pP pP 02 04 25.0 -4.6
baz=63,slow=4.7
GRF *e*L L 02 55 31.7
comp=Z,624nm,19.1s
SYO Syowa Base 98.10 201 ⇓ *i*Pdiff Pdif 02 04 18.0 +1.7
SYO Syowa Base 98.10 201 ⇑ *i*pP pP 02 04 43.8 +15
SYO Syowa Base 98.10 201 ⇑ *i*sP sP 02 04 48.0 +14
B08A Colville Reser 98.17 38 *e*P Pdif 02 04 17.7 +0.4
UBBA Unterbreizbach 98.24 325 *e*pP pP 02 04 25.6 -4.8
baz=63,slow=4.7
ABTA Abfaltersbach 98.51 320 *i* P **P 02 04 17.2 -1.7**
comp=Z,12nm,1.2s
IBBN Ibbenburen 98.78 327 *e*P Pdif 02 04 20.1 +0.2
baz=64,slow=4.6
IBBN *e*pP pP 02 04 27.8 -4.3
baz=63,slow=4.7
WTTA Wattenberg 98.83 321 *i* Pdiff **P 02 04 19.8 -0.7**
comp=Z,13nm,0.8s
WATA Walderalm 98.84 321 *i* Pdiff **P 02 04 18.9 -1.5**

comp=Z,8.0nm,1.0s
HAWA Hanford 98.87 40 PFAKE 02 04 30.0 +10
HAWA LR LR
comp=Z,711nm,19.0s
SQTA Sankt Quirin 99.12 321 *i* Pdiff **Pdif 02 04 21.1 -0.6**
comp=Z,11nm,1.1s,SNR=5.3
MOTA Moosalm 99.13 321 *i* Pdiff **Pdif 02 04 21.3 -0.4**
comp=Z,6.1nm,0.9s,SNR=6.8
RETA Reutte 99.28 322 *i* Pdiff **Pdif 02 04 21.2 -1.1**
comp=Z,8.4nm,1.5s
TNS Taunus Mts 99.40 325 *e*P **Pdif 02 04 23.0 +0.3**
baz=64,slow=4.6
TNS *e*pP **pP 02 04 30.8 -4.9**
baz=63,slow=4.7
BUG Bochum--Univer 99.47 326 *e*P **Pdif 02 04 23.1 +0.1**
comp=Z,22nm,1.3s,baz=64,slow=4.6
FETA Feichten 99.50 321 *i* Pdiff **Pdif 02 04 21.8 -1.6**
comp=Z,9.9nm,1.0s
UBR Ueberruh 99.59 322 *e*P **Pdif 02 04 23.6 -0.1**
baz=64,slow=4.6
STU Stuttgart 99.64 323 *e*P **Pdif 02 04 23.8 +0.1**
baz=64,slow=4.6
QSPA South Pole Qui 99.88 180 PFAKE 02 04 40.0 +16
QSPA LR LR
comp=Z,733nm,19.0s
DAVA Damuels 99.90 322 *i* Pdiff **Pdif 02 04 24.1 -1.1**
comp=Z,11nm,1.2s
LSZ Lusaka 100.35 256 PFAKE 02 04 40.0 +12
LSZ LR LR
comp=Z,876nm,21.0s
BMO Blue Mountains 100.94 40 PFAKE 02 04 40.0 +10
BMO LR LR
comp=Z,750nm,20.0s
WLF Walferdange 100.97 325 *e*P **Pdif 02 04 30.5 +0.8**
baz=64,slow=4.6
WLF *e*pP **pPdif 02 04 38.2 -4.4**
baz=63,slow=4.7
WVOR Wild Horse Val 101.10 43 PFAKE 02 04 40.0 +9.4
WVOR LR LR
comp=Z,409nm,21.0s
NVAR Mina Array Bea 102.98 47 Pdiff **Pdif 02 04 42.4 +3.2**
comp=Z,0.8nm,0.7s,baz=269,slow=4.8,SNR=5.5
NVAR PKiKP **PKiKP 02 09 00.2 +1.0**
comp=Z,1.1nm,0.9s,baz=272,slow=5.1,SNR=3.8
NVAR PKKPbc **PKKPbc 02 20 36.3 -0.7**
comp=Z,0.9nm,0.8s,baz=125,slow=5.6,SNR=6.0
HLID Hailey 103.38 41 PFAKE 02 04 50.0 +9.2
HLID LR LR
comp=Z,507nm,22.0s
EGMT Eagleton 103.95 35 PFAKE 02 04 50.0 +6.9
EGMT LR LR
comp=Z,284nm,19.0s
BOZ Bozeman (W) 104.12 38 PFAKE 02 05 00.0 +16
BOZ LR LR
comp=Z,319nm,20.0s
ELK Elko 104.13 44 PKKPbc PKKPbc 02 20 33.8 +0.1
comp=Z,0.4nm,0.5s,baz=342,slow=7.4,SNR=2.9
LKWY Lake 105.40 38 PFAKE 02 09 20.0 +17
LKWY LR LR
comp=Z,805nm,19.0s
RLMT Red Lodge 105.79 37 PFAKE 02 09 20.0 +16
RLMT LR LR
comp=Z,324nm,20.0s
AHID Auburn Hatcher 105.89 40 PFAKE 02 09 20.0 +16
AHID LR LR
comp=Z,620nm,19.0s
DUG Dugway, Tooele 106.03 43 PFAKE 02 09 20.0 +15
DUG LR LR
comp=Z,507nm,22.0s
HWUT Hardware Ranch 106.17 41 PFAKE 02 09 20.0 +15
HWUT LR LR
comp=Z,516nm,22.0s
PFO Pinyon Flats O 106.31 51 PFAKE 02 09 20.0 +15
PFO LR LR
comp=Z,525nm,22.0s
BW06 Boulder Array 106.86 40 PFAKE 02 09 20.0 +14
BW06 LR LR
comp=Z,842nm,22.0s
PDAR Pinedale Array 106.86 40 PKKP **PKKPdf 02 20 37.5 +0.1**
comp=Z,2.0nm,0.9s,baz=114,slow=4.7,SNR=9.2
WUAZ Wupatki 109.24 47 PFAKE 02 09 20.0 +9.2
WUAZ LR LR
comp=Z,494nm,21.0s
ULM Lac du Bonnet 109.64 27 PKKP **PKKPab 02 20 24.1 -4.5**
comp=Z,2.5nm,0.9s,baz=142,slow=4.7,SNR=3.8
MVCO Mesa Verde 110.43 44 PFAKE 02 09 30.0 +17
MVCO LR LR
comp=Z,553nm,21.0s
ISCO Idaho Springs 110.96 41 PFAKE 02 09 30.0 +16
ISCO LR LR
comp=Z,760nm,21.0s
AGMN Agassiz Nation 111.03 29 PFAKE 02 09 30.0 +16
AGMN LR LR
comp=Z,485nm,19.0s
TUC Tucson 111.17 50 PFAKE 02 09 30.0 +16
TUC LR LR
comp=Z,744nm,21.0s
SDCO Great Sand Dun 112.17 42 PFAKE 02 09 30.0 +14
SDCO LR LR
comp=Z,485nm,19.0s
OGNE Ogallala 112.53 38 PFAKE 02 09 30.0 +13
OGNE LR LR
comp=Z,509nm,19.0s
ANMO Albuquerque 113.02 45 PFAKE 02 09 30.0 +12
ANMO LR LR
comp=Z,466nm,21.0s
EYMN Ely 113.28 27 PFAKE 02 09 30.0 +12
EYMN LR LR
comp=Z,395nm,20.0s
ECSD EROS Data Cent 113.81 33 PFAKE 02 09 30.0 +11
ECSD LR LR
comp=Z,509nm,20.0s
SCHQ Schefferville 114.46 8 PKP PKPdf 02 09 20.3 +0.4
comp=Z,5.7nm,0.6s,baz=206,slow=11,SNR=4.7
CBKS Cedar Bluff 115.23 38 PFAKE 02 09 30.0 +8.1
CBKS LR LR
comp=Z,745nm,20.0s
MNTX Cornudas Mount 115.47 48 PFAKE 02 09 30.0 +7.5
MNTX LR LR
comp=Z,312nm,22.0s
F41A Three Lakes 116.03 27 P **PKPdf 02 09 23.5 +0.3**
baz=321
I39A Houston 116.33 30 P **PKPdf 02 09 23.9 +0.1**
baz=318
G42A Mountain 116.72 27 P **PKiKP 02 09 24.9 +0.4**
baz=321
KSU1 Kansas State U 116.92 36 PFAKE 02 09 40.0 +15
KSU1 LR LR
comp=Z,427nm,19.0s
K40A Colesburg 117.37 30 P **PKiKP 02 09 26.5 +0.6**
baz=318
D47A Chapleau 117.42 22 P **PKiKP 02 09 26.2 +0.3**
baz=327
E46A Sault Ste Mari 117.54 23 P **PKiKP 02 09 26.9 +0.8**
baz=326
I42A Draeger Farm, 117.54 28 P **PKiKP 02 09 26.5 +0.4**
baz=320
JFWS Jewell Farm 117.65 30 PFAKE 02 09 40.0 +14
JFWS LR LR
comp=Z,394nm,19.0s
JFWS Jewell Farm 117.65 30 P **PKPdf 02 09 26.0 -0.4**
baz=319
M39A Webster 117.73 32 P **PKiKP 02 09 27.1 +0.5**
baz=316
L40A Anamosa 117.79 31 P **PKiKP 02 09 27.1 +0.4**
baz=317
TX31 Lajitas Ar. Si 117.96 49 *e*PKPdf **PKPdf 02 09 27.1 -0.3**
TXAR Lajitas Array 117.96 49 PKP **PKiKP 02 09 28.8 +1.3**
comp=Z,0.7nm,0.7s,baz=272,slow=2.0,SNR=10.0
TXAR PKKPbc **PKKPbc 02 19 48.0 0.0**
comp=Z,0.6nm,1.0s,baz=138,slow=7.3,SNR=2.6
TXAR PKKPab **PKKPab 02 19 52.0 +0.3**
comp=Z,0.3nm,0.8s,baz=139,slow=5.9,SNR=3.4
WMOK Wichita Mounta 118.34 42 PFAKE 02 09 40.0 +12
WMOK LR LR
comp=Z,845nm,21.0s
O41A Passleys Farm, 119.39 32 P **PKPdf 02 09 29.8 0.0**
baz=317
D54A Lac Fusel, La 119.52 18 P **PKPdf 02 09 29.6 -0.3**
baz=334
Q41A Truxton 120.05 33 P **PKiKP 02 09 31.9 +0.7**
baz=316
JCT Junction City 120.15 46 *e*PKPdf **PKPdf 02 09 31.1 -0.5**
JCT LR LR
comp=Z,279nm,19.0s
JCT Junction City 120.15 46 *e*PKIKP **PKPdf 02 09 31.1 -0.5**
JCT MLR MLR
comp=Z,279nm,19.0s
JCT Junction City 120.15 46 P **PKiKP 02 09 32.6 +0.9**
baz=305
TOA0 Torodi Ar. Sit 120.40 292 *e*PKPdf **PKPdf 02 09 31.2 -1.1**
TOA0 *e*PKPdf **PKiKP 02 09 31.8 -0.7**
TORD Torodi Ar. Bea 120.40 292 PKP **PKPdf 02 09 30.5 -1.9**
comp=Z,1.7nm,0.4s,baz=34,slow=2.4,SNR=30
TORD PKKPab **PKKPab 02 19 40.5 -0.2**
comp=Z,0.9nm,1.0s,baz=247,slow=2.6,SNR=3.9
TORD PKKP **PKKPdf 02 20 12.4 +0.9**
comp=Z,0.3nm,0.8s,baz=256,slow=4.0,SNR=2.5
R41A Rosebud 120.44 34 P **PKiKP 02 09 32.4 +0.5**
baz=316
CCM Cathedral Cave 120.69 34 P **PKiKP 02 09 32.8 +0.4**
baz=316
S41A Jillco Farms, 120.74 35 P **PKiKP 02 09 33.1 +0.5**
baz=315
U40A Yellville 120.96 36 P **PKiKP 02 09 33.3 +0.2**
baz=314
L48A N Adams 121.10 26 P **PKiKP 02 09 33.6 +0.5**
baz=324
S42A Caledonia 121.14 34 P **PKiKP 02 09 33.7 +0.3**
baz=316
L49A Milan 121.25 26 P **PKPdf 02 09 33.4 +0.1**
baz=325
PLVO Plevna 121.27 19 P **PKiKP 02 09 33.7 +0.2**
baz=333
U41A Viola 121.51 36 P **PKiKP 02 09 34.4 +0.3**
baz=314
O47A Sheridan 121.66 29 P **PKPdf 02 09 33.9 -0.2**
baz=322
Q45A Warren Harvey, 121.71 31 P **PKiKP 02 09 35.4 +0.9**
baz=319
R44A Waltonville 121.72 32 P **PKiKP 02 09 35.0 +0.5**
baz=318
MIAR Mount Ida 121.76 39 *e*PKPdf **PKiKP 02 09 34.8 +0.1**
MIAR LR LR
comp=Z,572nm,19.0s
MIAR Mount Ida 121.76 39 *e*PKIKP **PKiKP 02 09 34.8 +0.1**
MIAR MLR MLR
comp=Z,572nm,19.0s
MIAR Mount Ida 121.76 39 P **PKiKP 02 09 35.9 +1.2**
baz=312
T43A Greenville 121.91 34 P **PKiKP 02 09 35.0 +0.2**
baz=316
PBMO Poplar Bluff 122.05 35 *e*PKPdf **PKPdf 02 09 34.5 -0.5**
O49A Covington 122.55 28 *e*PKPdf **PKPdf 02 09 35.3 -0.6**
O49A Covington 122.55 28 P **PKiKP 02 09 36.2 +0.1**
baz=324
WLAR White Oak Lake 122.62 39 *e*PKPdf **PKPdf 02 09 35.6 -0.6**
P48A Milroy 122.62 29 P **PKPdf 02 09 36.2 +0.1**
baz=322
NATX Nacogdoches 122.89 42 PFAKE 02 09 50.0 +13
NATX LR LR
comp=Z,606nm,19.0s
R47A Wooly Knot Far 122.99 31 P **PKPdf 02 09 36.9 +0.2**
baz=321
ACSO Alum Creek Sta 123.13 27 PFAKE 02 09 50.0 +13
ACSO LR LR
comp=Z,288nm,19.0s
WCI Wyandotte Cave 123.16 30 *e*PKPdf **PKPdf 02 09 36.9 -0.2**
WCI Wyandotte Cave 123.16 30 *e*PKIKP **PKPdf 02 09 36.9 -0.2**
WCI Wyandotte Cave 123.16 30 P **PKiKP 02 09 37.6 +0.3**
baz=321
KVTX Kingsville 123.19 48 PFAKE 02 09 50.0 +12
KVTX LR LR
comp=Z,460nm,20.0s
R48A Northridge Ran 123.24 30 P **PKiKP 02 09 38.4 +0.9**
baz=321
T46A Princeton 123.24 33 P **PKiKP 02 09 38.4 +0.9**
baz=319
O51A Pataskala 123.36 26 P **PKiKP 02 09 37.9 +0.2**
baz=325
M54A Oil Creek Stat 123.43 23 P **PKPdf 02 09 37.5 -0.1**
baz=329
S48A Wiedeman Farm, 123.72 31 P **PKiKP 02 09 38.9 +0.5**
baz=321
M55A Ridgway 123.81 23 P **PKiKP 02 09 38.7 +0.1**
baz=330
Q51A Peebles 123.94 28 P **PKiKP 02 09 39.0 +0.1**
baz=324
WVT Waverly 123.95 33 *e*PKPdf **PKPdf 02 09 38.7 0.0**
WVT Waverly 123.95 33 *e*PKIKP **PKPdf 02 09 38.7 0.0**
WVT Waverly 123.95 33 P **PKiKP 02 09 39.2 +0.2**
baz=318
T48A Bowling Green 123.97 31 P **PKiKP 02 09 39.8 +0.8**
baz=320
P52A Corning 123.99 26 P **PKiKP 02 09 38.9 0.0**
baz=326
S49A Springfield 124.00 30 P **PKiKP 02 09 39.3 +0.3**
baz=322
U47A Clarksville 124.01 33 P **PKiKP 02 09 39.7 +0.7**
baz=319
V46A Holladay 124.04 34 P **PKiKP 02 09 39.3 +0.2**
baz=318
OXF Oxford 124.26 36 P **PKiKP 02 09 39.7 +0.1**
baz=316
O54A Avella 124.28 25 P **PKiKP 02 09 39.6 +0.1**
baz=328
V47A Nunnelly 124.35 33 P **PKPdf 02 09 39.6 +0.2**
baz=318
U48A Cassie Pea, Po 124.35 32 P **PKiKP 02 09 39.9 +0.2**
baz=320
W46A Michie 124.39 34 P **PKPdf 02 09 39.7 +0.2**
baz=317
Q52A Bidwell 124.48 27 P **PKiKP 02 09 40.2 +0.2**
baz=325
PLAL Pickwick Lake 124.67 34 *e*PKPdf **PKPdf 02 09 40.0 -0.1**
W47A Westpoint 124.73 34 P **PKiKP 02 09 40.8 +0.2**
baz=318
U49A Red Boiling Sp 124.74 31 P **PKiKP 02 09 41.0 +0.5**
baz=321
V48A Smith Brothers 124.79 33 P **PKiKP 02 09 40.9 +0.2**
baz=319
T50A Nancy 124.83 30 P **PKPdf 02 09 40.3 0.0**
baz=322
S51A Beattyville 124.94 29 *e*PKPdf **PKPdf 02 09 40.2 -0.4**
W48A Pulaski 125.18 33 P **PKiKP 02 09 41.6 +0.2**
baz=319
V49A McMinnville 125.25 32 P **PKiKP 02 09 41.9 +0.4**
baz=320
U50A Jamestown 125.30 31 P **PKiKP 02 09 42.2 +0.5**
baz=322
Q55A Buckhannon 125.40 25 P **PKiKP 02 09 42.2 +0.4**
baz=328
W49A Belvidere 125.55 33 P **PKiKP 02 09 42.2 +0.1**
baz=320
X48A Hartselle 125.63 34 P **PKPdf 02 09 42.1 +0.2**
baz=318
X49A Woodville 125.98 33 P **PKiKP 02 09 43.1 +0.1**
baz=319
V52A Sevierville 126.37 30 *e*PKPdf **PKPdf 02 09 43.2 -0.2**
V52A Sevierville 126.37 30 P **PKiKP 02 09 44.4 +0.6**
baz=323
TKL Tuckaleechee C 126.42 30 *e*PKPdf **PKPdf 02 09 42.8 -0.7**
TKL Tuckaleechee C 126.42 30 *e*PKIKP **PKPdf 02 09 42.8 -0.7**
TKL Tuckaleechee C 126.42 30 PKP **PKiKP 02 09 44.3 +0.4**
baz=284,slow=2.2
LRAL Lakeview Retre 126.71 35 P **PKiKP 02 09 45.3 +0.7**
baz=318
BLA Blacksburg 126.75 27 PFAKE 02 10 00.0 +15
BLA LR LR
comp=Z,465nm,20.0s
W52A Murphy 126.79 31 *e*PKPdf **PKPdf 02 09 43.9 -0.4**
W52A Murphy 126.79 31 P **PKiKP 02 09 45.3 +0.6**
baz=322
Z49A Columbiana 126.85 35 P **PKiKP 02 09 45.4 +0.6**
baz=318
V53A Saluda 126.89 30 *e*PKPdf **PKPdf 02 09 43.9 -0.5**
V53A Saluda 126.89 30 P **PKiKP 02 09 45.9 +1.0**
baz=323
W53A Cullowhee 127.12 30 P **PKiKP 02 09 46.4 +0.9**
baz=323
149A Jones 127.14 35 P **PKiKP 02 09 46.0 +0.6**
baz=318
Z50A Ashland 127.14 34 P **PKiKP 02 09 46.1 +0.7**
baz=319
X52A Dahlonega 127.19 31 P **PKiKP 02 09 46.3 +0.8**
baz=322
V54A Nebo 127.22 29 P **PKiKP 02 09 46.2 +0.7**
baz=324
BRAL Brewton 128.04 37 PFAKE 02 10 00.0 +13
BRAL LR LR
comp=Z,595nm,21.0s
251A Midway 128.30 35 P **PKiKP 02 09 48.9 +1.1**
baz=319
GOGA Godfrey 128.34 32 PFAKE 02 10 00.0 +12
GOGA LR LR
comp=Z,348nm,20.0s
Z53A Monticello 128.39 32 P **PKiKP 02 09 48.7 +0.8**
baz=321
X55A Gracelyn & Ava 128.43 30 P **PKiKP 02 09 48.7 +0.8**
baz=324
KIC Kosan Boka 128.61 286 *e*PKIKP **PKPdf 02 09 48.2 0.0**
comp=Z,38nm,1.3s
DBIC Dimbokro 128.62 287 PKP **PKPdf 02 09 48.1 0.0**
comp=Z,4.4nm,1.0s,baz=102,slow=5.4,SNR=3.9
TIC Toumodi 128.78 287 *e*PKIKP **PKPdf 02 09 48.4 -0.1**
LIC Lamto 128.92 286 *e*PKIKP **PKPdf 02 09 48.7 0.0**
comp=Z,34nm,1.1s
CNNC Cliffs of the 129.50 26 PFAKE 02 10 00.0 +10
CNNC LR LR
comp=Z,440nm,20.0s
NHSC New Hope 130.24 29 PFAKE 02 10 00.0 +8.4
NHSC LR LR
comp=Z,501nm,20.0s
JTS JuntasAbangare 142.93 58 PFAKE 02 10 30.0 +12
JTS LR LR
comp=Z,300nm,22.0s
GTBY Guantanamo Bay 143.53 35 PFAKE 02 10 30.0 +11
GTBY LR LR
comp=Z,312nm,19.0s
GRTK Grand Turk 144.29 29 PFAKE 02 10 30.0 +10
GRTK LR LR
comp=Z,654nm,20.0s
PLCA Paso Flores 145.96 157 *e*PKPdf **PKPbc 02 10 20.1 0.0**
PLCA Paso Flores 145.96 157 *e*PKP2 **PKPbc 02 10 20.1 0.0**
PLCA Paso Flores 145.96 157 PKPbc **PKPab 02 10 20.8 +0.2**
comp=Z,8.9nm,0.9s,baz=277,slow=1.9,SNR=23
SDDR Presa de Saban 146.36 31 *e*PKPdf **PKPbc 02 10 21.6 -0.2**
SDDR LR LR
comp=Z,366nm,19.0s
BCIP Isla Barro Col 147.74 55 *e*PKPbc **PKPbc 02 10 25.5 -0.3**
BCIP LR LR
comp=Z,449nm,22.0s
BCIP Isla Barro Col 147.74 55 *e*P **PKPdf 02 10 20.2 -2.7**
BCIP Isla Barro Col 147.74 55 *e*PKP2 **PKPbc 02 10 25.5 -0.3**
BCIP MLR MLR
comp=Z,449nm,22.0s
BCIP Isla Barro Col 147.74 55 *e*P **PKPdf 02 10 20.2 -2.7**
SJG San Juan 149.46 24 PFAKE 02 10 40.0 +5.1
SJG LR LR
comp=Z,285nm,19.0s
MTP Monte Pirata 149.71 23 *e*PKPbc **PKPbc 02 10 30.4 -0.4**
SJCC San Jacinto, C 150.87 48 *e*P **PKPbc 02 10 31.1 -2.7**
SJCC San Jacinto, C 150.87 48 *e*P **PKPbc 02 10 31.1 -2.7**
UREC San Jos de Ur 151.99 52 *e*P **PKPbc 02 10 36.3 +0.1**
UREC San Jos de Ur 151.99 52 *e*P **PKPbc 02 10 36.3 +0.1**
CODC Agustn Codazz 152.09 45 *e*P **PKPbc 02 10 33.6 -2.8**
CODC Agustn Codazz 152.09 45 *e*P **PKPbc 02 10 33.6 -2.8**
ROC1 El Roble 152.12 148 *e*PKPbc **PKPbc 02 10 35.8 -0.6**
ROC1 *e*PKPab **PKPab 02 10 46.4 +0.5**
SMLC San Martn de 152.41 48 *e*P **PKiKP 02 10 37.7 +0.2**
SMLC San Martn de 152.41 48 *e*P **PKiKP 02 10 37.7 +0.2**
ZARC Zaragoza, Cauc 152.67 51 *e*P **PKPdf 02 10 31.7 +1.0**
ZARC Zaragoza, Cauc 152.67 51 *e*P **PKPdf 02 10 31.7 +1.0**
HELC Santa Helena 152.94 54 *e*P **PKPbc 02 10 36.7 -2.1**
HELC Santa Helena 152.94 54 *e*P **PKPbc 02 10 36.7 -2.1**
OCAC Ocana 153.34 48 *e*P **PKPbc 02 10 38.1 -1.3**
OCAC Ocana 153.34 48 *e*P **PKPbc 02 10 38.1 -1.3**
OTAV Otavalo 153.34 69 PFAKE 02 10 40.0 0.0
OTAV LR LR
comp=Z,394nm,22.0s
OTAV Otavalo 153.34 69 *e*P **PKPab 02 10 51.9 0.0**
OTAV Otavalo 153.34 69 *e*P **PKPab 02 10 51.9 0.0**
YOTC Yotoco, Valle 153.49 59 *e*P **PKPdf 02 10 33.2 +1.2**
YOTC Yotoco, Valle 153.49 59 *e*P **PKPdf 02 10 33.2 +1.2**
PTBC PUERTO BERRIO 153.57 52 *e*P **PKPbc 02 10 38.9 -0.9**
PTBC PUERTO BERRIO 153.57 52 *e*P **PKPbc 02 10 38.9 -0.9**
NORC Norcasia 153.83 55 *e*P **PKiKP 02 10 42.3 +1.9**
NORC Norcasia 153.83 55 *e*P **PKiKP 02 10 42.3 +1.9**
GCUF Volcan Galeras 153.94 66 *e*P **PKPbc 02 10 40.6 -0.6**
GCUF Volcan Galeras 153.94 66 *e*P **PKPbc 02 10 40.6 -0.6**
SOTA Rioblanco 154.18 63 *e*P **PKPbc 02 10 41.7 0.0**
SOTA Rioblanco 154.18 63 *e*P **PKPbc 02 10 41.7 0.0**
PAMC Pamplona, Colo 154.39 48 *e*P **PKiKP 02 10 43.0 +0.9**
PAMC Pamplona, Colo 154.39 48 *e*P **PKiKP 02 10 43.0 +0.9**
MARP Paez Belalcaza 154.41 61 *e*P **PKiKP 02 10 42.3 +0.4**
MARP Paez Belalcaza 154.41 61 *e*P **PKiKP 02 10 42.3 +0.4**
BARC Barichara 154.52 50 *e*P **PKPbc 02 10 41.8 -0.3**
BARC Barichara 154.52 50 *e*P **PKPbc 02 10 41.8 -0.3**
ROSC El Rosal 154.70 55 PKP **PKPdf 02 10 34.5 +0.4**
comp=Z,1.3nm,0.4s,baz=240,slow=20,SNR=3.2
ROSC PKPbc **PKiKP 02 10 43.1 +0.4**
comp=Z,1.9nm,0.4s,baz=163,slow=5.2,SNR=4.1
ROSC PKPab **sPKPbc 02 10 58.5 -1.2**
comp=Z,4.2nm,0.7s,baz=203,slow=9.2,SNR=3.6
PRAC Prado 154.86 58 *e*P **PKiKP 02 10 45.0 +2.4**
PRAC Prado 154.86 58 *e*P **PKiKP 02 10 45.0 +2.4**
RUSC La Rusia 155.04 52 *e*P PKPdf 02 10 44.5 +10
RUSC La Rusia 155.04 52 *e*P PKPdf 02 10 44.5 +10
FLOC Florencia 155.28 63 *e*P PKPab 02 10 50.9 -8.8
FLOC Florencia 155.28 63 *e*P PKPab 02 10 50.9 -8.8
GRGR Grenville 156.62 20 PFAKE 02 10 50.0 +14
GRGR LR LR
comp=Z,273nm,20.0s
NNA Nana 157.19 97 *e*PKPab **PKPab 02 11 08.2 +0.3**
NNA LR LR
comp=Z,300nm,22.0s
PB11 IPOC Station P 161.79 124 *e*PKPab **PKPab 02 11 29.6 +1.8**
CPUP Villa Florida 163.41 168 PKP **PKPdf 02 10 43.5 +0.1**
comp=Z,1.2nm,0.8s,baz=239,slow=5.9,SNR=2.4
CPUP PKPab **PKPab 02 11 35.2 +1.0**
comp=Z,5.1nm,1.1s,baz=213,slow=5.5,SNR=4.1
LPAZ La Paz 164.62 115 *e*PKPdf **PKPdf 02 10 43.5 -2.0**
LPAZ PKPab **PKPab 02 11 43.6 +2.7**
LPAZ La Paz 164.62 115 *e*PKIKP **PKPdf 02 10 43.5 -2.0**
LPAZ La Paz 164.62 115 PKP **PKPdf 02 10 46.6 +1.1**
comp=Z,2.8nm,1.0s,baz=141,slow=2.1,SNR=5.6
LPAZ PKPab **PKPab 02 11 43.6 +2.7**
comp=Z,5.7nm,1.1s,baz=318,slow=4.7,SNR=5.0
BDFB Brasilia 172.13 224 PKPab **PKPab 02 12 11.1 -2.2**
comp=Z,2.0nm,0.9s,baz=13,slow=7.6,SNR=3.4

IDC 30 01:52:26.7±9.7, 6.67S×129.78E, h128km±95km, mb3.5/2, mb1 3.4/5, mb1mx3.2/40, mbtmp3.8/5, ML3.6/3, Error ellipse: s-maj=72.7km s-min=31.4km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.06**	**199**	P		Pn	01 55 16.1	+1.7
	0.3nm,0.3s,baz=25,slow=8.1,SNR=20							
FITZ				S		Sn	01 57 25.8	-1.6
	0.6nm,0.3s,baz=3.8,slow=15,SNR=2.0							
WRA	**Warramunga Arr**	**13.92**	**162**	P		Pn	01 55 38.0	-0.6
	0.2nm,0.3s,baz=345,slow=13,SNR=14							
WRA				S		Sn	01 58 08.6	-3.8
	0.8nm,0.3s,baz=338,slow=22,SNR=3.2							
ASAR	**Alice Springs**	**17.36**	**167**	P		Pn	01 56 22.4	+1.2
	0.4nm,0.3s,baz=336,slow=8.7,SNR=24							
STKA	**Stephens Creek**	**27.40**	**158**	P		P	01 58 00.1	-0.2
	0.6nm,0.3s,baz=336,slow=12,SNR=4.0							
MKAR	**Makanchi Array**	**67.83**	**327**	P		P	02 03 10.7	-0.2
	0.6nm,0.5s,baz=126,slow=7.8,SNR=2.5							

*NEIC **30** 01:54:24.9±0.2, 10.05N×126.21E, h10km, mb4.9/17, Error ellipse: s-maj=9.1km s-min=4.3km az=74.0*
NEIC Felt [II PIVS] at General Luna, San Isidro and Santa Monica, Mindanao.
*IDC **30** 01:54:28.3±2.8, 9.98N×126.11E, h32km±20km, mb4.2/28, mb1 4.3/30, mb1mx4.2/45, mbtmp4.4/30, ML4.2/2, Error ellipse: s-maj=21.7km s-min=10.5km az=70.0*
*ISCJB **30** 01:54:30.4±0.6, 9.99N±0.03×126.32E±0.05, h69km±5km, mb4.5/46, Error ellipse: s-maj=8.0km s-min=4.0km az=160.2*
*MAN **30** 01:54:31.4, 9.93N×126.16E, h15km, MS3.9*
MAN INTENSITY II - BURGOS SURIGAO DEL NORTE; INTENSITY I - SURIGAO CITY; STA MONICA SURIGAO DEL NORTE.
*GCMT **30** 01:54:32.9±0.5, 10.06N±0.03×126.53E±0.04, h32km±1km, MW5.2/60, Moment Tensor Solution. s21,c26; s60,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.49±.50; Mθθ0.49±.27; Mφφ-5.98±.35; Mrt 1.34±.34; Mθφ0.21±.16; Mφ3.04±.37; Best double couple: Mo6.64300×10^16 NP1:φs11.00000°, δ60.00000°, λ104.00000°. NP2:*

ϕ=165.00000°, δ33.00000°, λ67.00000°. Principal axes: T 6.5480, Plg71.0000°; Azm313.0000°; N 0.1900, Plg12.0000°, Azm184.0000°; P -6.7380, Plg14.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 30 01:54:30.7±0.9, 9.99N±0.04×126.29E±0.06, h52km±8km, n111, σ1§38/114, mb4.6/46, 5C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.82**	**255**	*i*P	**Pn**	**01 54 44.0**	**-2.1**
SCPH				*i* S	**Sn**	**01 54 55.1**	**-2.2**
BUTP	**Butuan**	**1.21**	**213**	*e*P	**Pn**	**01 54 50.4**	**-1.0**
BUTP				*e*S	**Sn**	**01 55 07.3**	**+0.6**
MSLP	**Maasin**	**1.42**	**276**	*e*P	**Pn**	**01 54 53.9**	**-0.2**
MSLP				*e*S	**Sn**	**01 55 12.4**	**+0.7**
PLP	**Palo**	**1.74**	**312**	*e*P	**Pn**	**01 54 58.4**	**-0.2**
PLP				*e*S	**Sn**	**01 55 21.6**	**+1.9**
BIPH	**Bislig**	**1.80**	**178**	*i*P	**Pn**	**01 54 57.7**	**-1.6**
BIPH				*i* S	**Sn**	**01 55 23.8**	**+2.8**
BESP	**Borongan**	**1.81**	**332**	*e*P	**Pn**	**01 55 02.0**	**+2.5**
OCLP	**Ormoc**	**1.96**	**303**	*e*P	**Pn**	**01 55 03.2**	**+1.6**
OCLP				*e*S	Sn	01 55 30.7	+5.7
CGP	**Cagayan de Oro**	**2.20**	**226**	*e*P	**Pn**	**01 55 05.8**	**+1.0**
CGP				*e*S	**Sn**	**01 55 33.0**	**+2.2**
LLP	**Lapu-Lapu**	**2.31**	**278**	*e*P	**Pn**	**01 55 07.2**	**+0.8**
LLP				*e*S	**Sn**	**01 55 36.6**	**+2.9**
TBP	**Tagbilaran**	**2.41**	**263**	*e*P	**Pn**	**01 55 09.7**	**+1.9**
TBP				*i* S	**Sn**	**01 55 38.5**	**+2.3**
BUKP	**Musuan**	**2.43**	**210**	*e*P	**Pn**	**01 55 09.7**	**+1.7**
BUKP				*e*S	**Sn**	**01 55 41.0**	**+4.5**
CNP	**Catarman**	**2.97**	**328**	*e*P	**Pn**	**01 55 15.1**	**-0.3**
CNP				*e*S	Sn	01 56 00.9	+11
DAV	**Davao City (W)**	**2.99**	**194**	*e*Pn	**Pn**	**01 55 15.5**	**-0.2**
DAV	**Davao City (W)**	**2.99**	**194**	Pn	**Pn**	**01 55 17.2**	**+1.6**
	96nm,0.3s,baz=321,slow=6.5,SNR=3.8						
DMPH	**Davao City--Mi**	**2.99**	**195**	*e*P	Pn	01 55 20.3	+4.6
DMPH				*e*S	**Sn**	**01 55 49.6**	**-0.7**
SNPH	**Sibulan**	**3.08**	**258**	*e*P	Pn	01 55 19.8	+2.8
SNPH				*e*S	Sn	01 56 00.5	+7.8
DCPH	**Dipolog City**	**3.22**	**245**	*e*P	Pn	01 55 21.9	+3.1
PAGZ	**Pagadian**	**3.58**	**234**	*e*P	**Pn**	**01 55 25.1**	**+1.4**
GUIM	**Jordan**	**3.70**	**280**	*e*P	**Pn**	**01 55 26.8**	**+1.4**
RCP	**Roxas**	**3.82**	**294**	*e*P	**Pn**	**01 55 27.9**	**+0.8**
PVP	**Virac**	**4.15**	**330**	*e*P	Pn	01 55 35.2	+3.6
IPIL	**Ipil**	**4.28**	**240**	*e*P	Pn	01 55 36.4	+3.1
JAP	**San Jose, Anti**	**4.34**	**280**	*i*P	Pn	01 55 37.5	+3.3
LUWI	**Luwuk**	**11.51**	**198**	*e*Pn	**Pn**	**01 57 13.8**	**+1.4**
SIJI	**Sorong**	**11.87**	**155**	Pn	**Pn**	**01 57 16.6**	**-0.8**
	2.1nm,0.3s,baz=306,slow=19,SNR=3.0						
FAKI	**Fak Fak**	**14.13**	**155**	*e*Pn	**Pn**	**01 57 50.2**	**+2.0**
KAPI	**Kappang**	**16.27**	**204**	*e*Pn	**Pn**	**01 58 15.2**	**-0.6**
JAY	**Jayapura**	**18.98**	**130**	P	**P**	**01 58 47.4**	**-0.8**
	0.4nm,0.3s,baz=255,slow=12,SNR=3.1						
SOEI	**Soe**	**19.72**	**186**	*e*P	**Pn**	**01 58 57.4**	**-0.7**
	240nm,1.0s						
BATI	**Baumata**	**20.23**	**188**	P	Pn	01 59 03.7	-0.4
	93nm,0.5s,baz=143,slow=5.2,SNR=10						
KS15	**Wonju Array Si**	**27.37**	**3**	*e*P	**P**	**02 00 10.0**	**-1.0**
	60nm,1.8s						
KSAR	**Wonju Array Be**	**27.37**	**3**	P	**P**	**02 00 10.0**	**-1.0**
KSRS	**Korea Array**	**27.38**	**3**	P	**P**	**02 00 10.0**	**-1.1**
	0.8nm,0.5s,baz=194,slow=9.5,SNR=2.4						
CMAR	**Chiang Mai Arr**	**27.78**	**291**	P	**P**	**02 00 14.8**	**-0.3**
	1.6nm,0.3s,baz=109,slow=9.0,SNR=4.4						
CHTO	**Chiang Mai**	**27.87**	**291**	*e*P	**P**	**02 00 14.8**	**-1.0**
	20nm,1.5s						
FITZ	**Fitzroy Crossi**	**27.92**	**181**	*e*P	**P**	**02 00 16.5**	**+0.4**
	30nm,1.4s						
FITZ	**Fitzroy Crossi**	**27.92**	**181**	P	**P**	**02 00 16.5**	**+0.4**
	8.6nm,0.5s,baz=306,slow=3.8,SNR=7.6						
PMG	**Port Moresby**	**28.33**	**132**	P	**P**	**02 00 20.0**	**+0.2**
	12nm,0.6s,baz=289,slow=2.7,SNR=3.6						
XAN	**Xi'an**	**28.75**	**329**	*e*P	**P**	**02 00 22.0**	**-1.5**
	73nm,1.9s						
COEN	**Coen**	**29.10**	**145**	*e*P	**P**	**02 00 25.1**	**-1.6**
	42nm,1.5s						
WR1	**Warramunga Arr**	**30.78**	**165**	*e*P	**P**	**02 00 40.1**	**-1.4**
	15nm,1.0s						
WR1				*e*ScP	**ScP**	**02 07 14.0**	**-2.6**
WRA	**Warramunga Arr**	**30.78**	**165**	P	**P**	**02 00 40.1**	**-1.4**
	2.3nm,0.7s,baz=344,slow=9.0,SNR=3.0						
WRA				ScP	**ScP**	**02 07 14.0**	**-2.6**
	1.8nm,0.9s,baz=348,slow=3.8,SNR=5.3						
AS31	**Alice Springs**	**34.27**	**168**	*e*P	**P**	**02 01 11.8**	**-0.3**
	3.5nm,0.4s						
ASAR	**Alice Springs**	**34.27**	**168**	P	**P**	**02 01 11.3**	**-0.7**
	1.7nm,0.4s,baz=353,slow=7.0,SNR=9.8						
ASAR				ScP	**ScP**	**02 07 29.6**	**+1.1**
	1.3nm,0.9s,baz=351,slow=4.7,SNR=4.0						
CTA	**Charters Tower**	**35.77**	**147**	P	**P**	**02 01 26.1**	**+1.1**
	4.9nm,0.5s,baz=319,slow=9.8,SNR=8.1						
CTAO	**Charters Tower**	**35.77**	**147**	*e*P	**P**	**02 01 25.3**	**+0.3**
ASAJ	**Asahikawa**	**36.82**	**20**	P	**P**	**02 01 36.1**	**+2.5**
	6.6nm,0.7s,baz=226,slow=18,SNR=3.0						
KLR	**Kul'dur**	**39.38**	**6**	P	**P**	**02 01 55.3**	**+0.2**
	1.7nm,0.8s,baz=180,slow=8.1,SNR=2.7						
H11S3	**WAKE ISLAND Hy**	**39.98**	**73**	T	T	02 44 55.9	
	baz=262,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**39.99**	**73**	T	T	02 44 51.7	
	baz=262,slow=75,SNR=10.0						
H11S2	**WAKE ISLAND Hy**	**39.99**	**73**	T	T	02 44 55.8	
	baz=262,slow=75,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**40.32**	**71**	T	T	02 45 23.9	
	baz=265,slow=74,SNR=29						
H11N2	**WAKE ISLAND Hy**	**40.33**	**71**	T	T	02 45 29.7	
	baz=265,slow=74,SNR=21						
H11N3	**WAKE ISLAND Hy**	**40.34**	**71**	T	T	02 45 28.2	
	baz=265,slow=74,SNR=33						
FORT	**Forrest**	**40.57**	**178**	*e*P	**P**	**02 02 05.5**	**+0.3**
	40nm,0.6s						
ULN	**Ulaanbaatar**	**41.09**	**340**	*e*P	**P**	**02 02 09.2**	**-0.3**
	6.5nm,0.7s						
ULN				*e*PcP	**PcP**	**02 04 10.7**	**+2.3**
SONA0	**Songino Array**	**41.29**	**340**	*e*P	**P**	**02 02 11.2**	**+0.1**
SONA0				*e*ScP	**ScP**	**02 07 57.5**	**+2.7**
SONM	**Songino Array**	**41.29**	**340**	P	**P**	**02 02 11.2**	**+0.1**
	3.1nm,0.7s,baz=159,slow=9.7,SNR=5.1						
SONM				ScP	**ScP**	**02 07 57.5**	**+2.7**
	2.0nm,0.8s,baz=157,slow=3.5,SNR=8.8						
NWAO	**Narrogin (SRO)**	**43.54**	**191**	*e*P	**P**	**02 02 30.0**	**+0.6**
BBOO	**Buckleboo**	**43.57**	**168**	*e*P	**P**	**02 02 30.0**	**+0.4**
	26nm,0.4s						
STKA	**Stephens Creek**	**44.13**	**161**	P	**P**	**02 02 33.8**	**-0.4**
	4.0nm,0.4s,baz=343,slow=11,SNR=5.7						
TLY	**Talaya**	**45.50**	**340**	*e*P	**P**	**02 02 44.8**	**-0.1**
	18nm,1.2s						
PETK	**Petropavlovsk-**	**49.88**	**24**	*e*P	**P**	**02 03 19.1**	**+0.3**
PETK	**Petropavlovsk-**	**49.88**	**24**	P	**P**	**02 03 19.8**	**+1.0**
	2.0nm,0.5s,baz=203,slow=4.5,SNR=5.5						
PEA1	**Petropavlovsk-**	**49.88**	**24**	*e*P	**P**	**02 03 19.8**	**+1.0**
CAN	**Canberra**	**49.92**	**156**	*e*P	**P**	**02 03 20.6**	**+1.3**
	38nm,1.6s						
DZM	**Mont Dzumac**	**50.66**	**129**	*e*P	**P**	**02 03 25.9**	**+0.7**
	32nm,1.6s						
DZM	**Mont Dzumac**	**50.66**	**129**	P	**P**	**02 03 26.6**	**+1.4**
	6.5nm,0.5s,baz=272,slow=14						
MK01	**Makanchi Array**	**52.24**	**323**	*e*P	**P**	**02 03 35.7**	**-1.0**
MK31	**Makanchi Array**	**52.26**	**323**	*e*P	**P**	**02 03 36.1**	**-0.7**
	17nm,1.3s						
MK32	**Makanchi Array**	**52.26**	**323**	*e*P	**P**	**02 03 36.0**	**-0.7**
MKAR	**Makanchi Array**	**52.26**	**323**	P	**P**	**02 03 36.0**	**-0.7**
	6.7nm,0.7s,baz=115,slow=6.6,SNR=9.1						
ZALV	**Zalesovo Beam**	**54.88**	**331**	*e*P	**P**	**02 03 54.4**	**-1.3**
ZALV	**Zalesovo Beam**	**54.88**	**331**	P	**P**	**02 03 53.8**	**-2.0**
	1.7nm,0.5s,baz=128,slow=6.3,SNR=5.3						
ZAA1	**Zalesovo Array**	**54.88**	**331**	*e*P	**P**	**02 03 53.8**	**-2.0**
SEY	**Seymchan**	**56.08**	**14**	P	**P**	**02 04 04.8**	**+0.6**
	1.0nm,0.5s,baz=225,slow=20,SNR=2.1						
KURK	**Kurchatov**	**56.31**	**326**	*e*P	**P**	**02 04 05.1**	**-1.0**
TIXI	**Tiksi**	**61.63**	**1**	P	**P**	**02 04 43.0**	**+0.4**
	3.4nm,0.8s,baz=196,slow=5.4,SNR=2.7						
BRVK	**Borovoye**	**61.98**	**325**	*e*P	**P**	**02 04 43.8**	**-1.5**
BKZ	**Black Stump Fm**	**67.56**	**140**	*e*P	**P**	**02 05 22.5**	**+0.7**
	18nm,0.6s						
ARU	**Arti**	**69.47**	**327**	*e*P	**P**	**02 05 31.9**	**-1.6**
KDAK	**Kodiak Island**	**76.88**	**33**	P	**P**	**02 06 17.7**	**+0.5**
	7.7nm,1.0s,baz=251,slow=6.0,SNR=4.7						
CASY	**Casey**	**76.94**	**186**	*e*P	**P**	**02 06 17.4**	**+0.2**
GNI	**Garni**	**77.19**	**309**	*e*P	**P**	**02 06 18.8**	**-0.7**
KBZ	**Khabaz**	**78.41**	**313**	P	**P**	**02 06 24.8**	**-1.2**
	2.5nm,1.0s,baz=226,slow=16,SNR=2.5						
SIRT	**Sirnak**	**79.14**	**306**	*e*P	**P**	**02 06 29.2**	**-1.1**
	26nm,0.9s						
ILAR	**Eielson Array**	**79.68**	**26**	P	**P**	**02 06 33.3**	**+0.7**
	0.6nm,0.8s,baz=263,slow=5.2,SNR=5.3						
DAWY	**Dawson**	**82.98**	**26**	*e*P	**P**	**02 06 50.4**	**+0.3**
	1.4nm,0.7s						
ARA0	**ARCESS Array S**	**84.46**	**340**	*e*P	**P**	**02 06 57.3**	**-0.2**
ARCES	**ARCESS Array B**	**84.46**	**340**	P	**P**	**02 06 57.3**	**-0.2**
	5.6nm,0.9s,baz=80,slow=6.3,SNR=4.9						
INK	**Inuvik**	**84.53**	**22**	*e*P	**P**	**02 06 58.3**	**+0.5**
	24nm,1.9s						
INK	**Inuvik**	**84.53**	**22**	P	**P**	**02 06 58.6**	**+0.8**
	1.5nm,0.8s,baz=350,slow=3.0,SNR=3.2						
BR101	**Keskin Array S**	**85.72**	**309**	*e*P	**P**	**02 07 02.9**	**-1.8**
BRTR	**Keskin Array B**	**85.72**	**309**	P	**P**	**02 07 02.9**	**-1.8**
	1.5nm,0.7s,baz=112,slow=4.4,SNR=4.4						
FIA0	**FINESS Array S**	**86.14**	**332**	*e*P	**P**	**02 07 05.3**	**-0.7**
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**02 07 05.3**	**-0.7**
	1.5nm,0.4s,baz=60,slow=4.0,SNR=8.4						
ANTO	**Ankara**	**86.34**	**310**	*e*P	**P**	**02 07 06.0**	**-1.7**
CSS	**Mathiatis**	**86.76**	**305**	*e*P	**P**	**02 07 09.2**	**-0.5**
	0.9nm,0.8s						
AKASG	**Malin Array Be**	**86.79**	**321**	P	**P**	**02 07 07.6**	**-1.8**
	1.0nm,0.4s,baz=62,slow=5.0,SNR=3.3						
MAW	**Mawson**	**89.45**	**200**	P	**P**	**02 07 22.4**	**+0.9**
	6.0nm,1.0s,baz=72,slow=9.6,SNR=3.9						
RES	**Resolute Bay**	**91.77**	**10**	*e*P	**P**	**02 07 32.8**	**+0.5**
	3.4nm,0.9s						
NB200	**NORSAR Array S**	**93.02**	**334**	*e*P	**P**	**02 07 36.5**	**-2.0**
NOA	**NORSAR Array B**	**93.02**	**334**	P	**P**	**02 07 36.5**	**-2.0**
	0.7nm,0.8s,baz=62,slow=4.9,SNR=3.5						
YKA	**Yellowknife Ar**	**94.00**	**24**	P	**P**	**02 07 43.3**	**+0.4**
	0.8nm,0.6s,baz=299,slow=4.3,SNR=12						
YKB5	**Yellowknife Ar**	**94.00**	**24**	*e*P	**P**	**02 07 43.3**	**+0.4**
GERES	**GERESS Array B**	**96.92**	**322**	P	**P**	**02 07 55.8**	**-0.9**
	1.2nm,0.8s,baz=59,slow=5.1,SNR=4.8						
TXAR	**Lajitas Array**	**117.99**	**49**	PKP	**PKPdf**	**02 13 11.9**	**-0.6**
	0.3nm,0.8s,baz=339,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**120.39**	**292**	PKP	**PKPdf**	**02 13 17.1**	**-0.2**
	5.1nm,0.3s,baz=71,slow=2.1,SNR=246						
TOA1	**Torodi Ar. Sit**	**120.39**	**292**	*e*PKPdf	**PKPdf**	**02 13 17.1**	**-0.2**
TKL	**Tuckaleechee C**	**126.45**	**30**	PKP	**PKiKP**	**02 13 29.3**	**+0.4**
	1.8nm,0.6s,baz=198,slow=6.4,SNR=3.0						
PLCA	**Paso Flores**	**145.94**	**157**	PKPbc	**PKPdf**	**02 14 03.4**	**-0.8**
	2.7nm,0.8s,baz=328,slow=6.9,SNR=5.7						

IDC 30 02:04:08.8±7.0, 31.48S×179.96E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/43, mbtmp3.5/2, Error ellipse: s-maj=285.0km s-min=63.3km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.32**	**269**	P	P	02 11 56.1	-0.4
	0.2nm,0.4s,baz=110,slow=8.3,SNR=3.0						
WRA	**Warramunga Arr**	**42.41**	**274**	P	P	02 12 05.5	0.0
	0.3nm,0.4s,baz=115,slow=7.7,SNR=9.9						
FINES	**FINESS Array B**	**145.53**	**338**	PKPbc	PKPdf	02 23 47.5	-0.7
	0.4nm,0.4s,baz=46,slow=6.0,SNR=3.7						

IDC 30 02:09:11.5±0.6, 10.03N×126.19E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.9/45, mbtmp3.9/14, Error ellipse: s-maj=34.7km s-min=13.4km az=71.0
NEIC 30 02:09:13.2±0.3, 10.08N×126.27E, h10km, mb4.0/4, Error ellipse: s-maj=16.4km s-min=6.3km az=74.0
MAN 30 02:09:15.0, 10.03N×126.32E, h1km, MS3.5

ISC 30 02:09:14.4±1.8, 10.04N±0.03×126.37E±0.06, h15km±10km, n53, σ1§59/56, mb4.0/17, 2C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.90**	**254**	*i*P	**Pg**	**02 09 31.1**	**-0.8**
SCPH				*i* S	**Sg**	**02 09 42.6**	**-1.1**
BUTP	**Butuan**	**1.29**	**215**	*e*P	**Pn**	**02 09 38.5**	**+0.6**
BUTP				*e*S	**Sn**	**02 09 55.7**	**+0.8**
MSLP	**Maasin**	**1.49**	**274**	*e*P	**Pb**	**02 09 41.8**	**+0.1**
MSLP				*e*S	**Sn**	**02 09 59.6**	**-0.1**
PLP	**Palo**	**1.76**	**310**	*e*P	**Pn**	**02 09 45.6**	**+1.2**
PLP				*e*S	**Sg**	**02 10 10.2**	**-1.1**
BESP	**Borongan**	**1.80**	**330**	*e*P	**Pb**	**02 09 47.7**	**+0.6**
OCLP	**Ormoc**	**2.00**	**300**	*e*P	**Pb**	**02 09 51.7**	**+1.3**
LLP	**Lapu-Lapu**	**2.38**	**277**	*i*P	**Pn**	**02 09 55.2**	**+2.3**
LLP				*e*S	**Sb**	**02 10 24.9**	**-1.2**
TBP	**Tagbilaran**	**2.49**	**262**	*i*P	**Pn**	**02 09 56.4**	**+2.0**
TBP				*i* S	**Sb**	**02 10 28.6**	**-0.8**
BUKP	**Musuan**	**2.50**	**211**	*e*P	**Pb**	**02 09 57.8**	**-1.3**
BUKP				*e*S	**Sb**	**02 10 30.6**	**+0.9**
CNP	**Catarman**	**2.97**	**326**	*e*P	**Pn**	**02 10 00.8**	**-0.2**
CNP				*e*S	**Sn**	**02 10 37.8**	**+1.4**
DAV	**Davao City (W)**	**3.05**	**195**	Pn	**Pn**	**02 10 04.2**	**+2.1**
DAV				Sn	**Sn**	**02 10 39.9**	**+1.5**
DAV	**Davao City (W)**	**3.05**	**195**	Sn	**Sn**	**02 10 39.9**	**+1.5**
	61nm,0.3s,baz=250,slow=15,SNR=3.2						
KCP	**Kidapawan**	**3.26**	**203**	*e*P	**Pn**	**02 10 08.7**	**+3.6**
PAGZ	**Pagadian**	**3.66**	**234**	*e*P	**Pn**	**02 10 13.8**	**+3.3**
RCP	**Roxas**	**3.87**	**293**	*e*P	**Pn**	**02 10 17.0**	**+3.6**
TWG	**Pinlang**	**13.68**	**339**	*e*Pn	**Pn**	**02 12 32.4**	**+4.3**
TPUB	**Ta-pu**	**14.28**	**338**	*e*Pn	**Pn**	**02 12 39.6**	**+3.3**
CMAR	**Chiang Mai Arr**	**27.83**	**291**	P	**P**	**02 15 02.4**	**-1.2**
	0.8nm,0.3s,baz=125,slow=8.9,SNR=5.0						
FITZ	**Fitzroy Crossi**	**27.97**	**181**	P	**P**	**02 15 04.2**	**-0.4**
	2.8nm,1.0s,baz=356,slow=13,SNR=4.3						
XAN	**Xi'an**	**28.75**	**329**	*e*P	**P**	**02 15 11.2**	**-0.4**
WRA	**Warramunga Arr**	**30.81**	**165**	P	**P**	**02 15 29.5**	**-0.4**
	0.4nm,0.7s,baz=342,slow=8.9,SNR=3.1						
AS31	**Alice Springs**	**34.30**	**168**	*e*P	**P**	**02 16 00.3**	**-0.1**
	3.6nm,1.8s						
ASAR	**Alice Springs**	**34.30**	**168**	P	**P**	**02 16 00.3**	**-0.1**
	0.3nm,0.4s,baz=345,slow=6.8,SNR=5.3						
CTA	**Charters Tower**	**35.77**	**147**	P	**P**	**02 16 13.9**	**+0.8**
	6.0nm,1.1s,baz=203,slow=7.7,SNR=2.2						
H11S3	**WAKE ISLAND Hy**	**39.90**	**73**	T	T	02 59 41.9	
	baz=262,slow=75,SNR=7.0						
H11S1	**WAKE ISLAND Hy**	**39.91**	**73**	T	T	02 59 44.3	
	baz=262,slow=75,SNR=5.7						
H11S2	**WAKE ISLAND Hy**	**39.91**	**73**	T	T	02 59 43.4	
	baz=262,slow=75,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**40.24**	**71**	T	T	03 00 08.2	
	baz=264,slow=74,SNR=41						
H11N2	**WAKE ISLAND Hy**	**40.25**	**71**	T	T	03 00 08.9	
	baz=264,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**40.26**	**71**	T	T	03 00 09.5	
	baz=264,slow=74,SNR=31						
ULN	**Ulaanbaatar**	**41.07**	**340**	*e*P	**P**	**02 16 57.4**	**-0.2**
	7.7nm,0.4s						
SONA0	**Songino Array**	**41.27**	**340**	*e*P	**P**	**02 16 58.4**	**-0.8**
SONM	**Songino Array**	**41.27**	**340**	P	**P**	**02 16 58.4**	**-0.8**
	0.9nm,0.8s,baz=157,slow=9.0,SNR=6.5						
STKA	**Stephens Creek**	**44.15**	**161**	P	**P**	**02 17 21.6**	**-1.0**
	1.3nm,0.7s,baz=321,slow=14,SNR=2.7						
MK01	**Makanchi Array**	**52.25**	**323**	*e*P	**P**	**02 18 23.9**	**-1.2**
MK31	**Makanchi Array**	**52.27**	**323**	*e*P	**P**	**02 18 24.2**	**-1.0**
	1.0nm,0.8s						
MK32	**Makanchi Array**	**52.27**	**323**	*e*P	**P**	**02 18 24.4**	**-0.8**
MKAR	**Makanchi Array**	**52.27**	**323**	P	**P**	**02 18 24.4**	**-0.8**
	1.5nm,0.7s,baz=122,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**54.87**	**331**	P	**P**	**02 18 42.6**	**-1.5**
	0.7nm,0.3s,baz=130,slow=7.6,SNR=4.9						
ZAA1	**Zalesovo Array**	**54.88**	**331**	*e*P	**P**	**02 18 42.6**	**-1.5**
KURK	**Kurchatov**	**56.31**	**326**	*e*P	**P**	**02 18 53.3**	**-1.3**
TIXI	**Tiksi**	**61.58**	**1**	P	**P**	**02 19 29.8**	**-1.0**
	0.6nm,0.3s,baz=3.5,slow=2.4,SNR=1.9						
BRVK	**Borovoye**	**61.98**	**325**	*e*P	**P**	**02 19 33.2**	**-0.6**
ILAR	**Eielson Array**	**79.61**	**26**	P	**P**	**02 21 21.2**	**+0.4**
	0.2nm,0.7s,baz=272,slow=6.2,SNR=3.4						
ILB	**Eielson Array**	**79.61**	**26**	*e*P	**P**	**02 21 21.2**	**+0.4**
	25nm,1.9s						
ARA0	**ARCESS Array S**	**84.44**	**340**	*e*P	**P**	**02 21 45.5**	**-0.7**
ARCES	**ARCESS Array B**	**84.44**	**340**	P	**P**	**02 21 45.5**	**-0.7**
	4.9nm,1.0s,baz=79,slow=6.6,SNR=4.4						
FIA0	**FINESS Array S**	**86.14**	**332**	*e*P	**P**	**02 21 53.6**	**-1.1**
FINES	**FINESS Array B**	**86.14**	**332**	P	**P**	**02 21 53.6**	**-1.1**
	0.6nm,0.4s,baz=70,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**93.93**	**24**	P	**P**	**02 22 32.1**	**+0.8**
	0.2nm,0.7s,baz=295,slow=4.2,SNR=4.1						
YKB5	**Yellowknife Ar**	**93.93**	**24**	*e*P	**P**	**02 22 32.1**	**+0.8**
TORD	**Torodi Ar. Bea**	**120.44**	**292**	PKP	**PKPdf**	**02 28 03.9**	**-2.5**
	0.8nm,1.3s,baz=44,slow=2.0,SNR=5.7						
TOA1	**Torodi Ar. Sit**	**120.44**	**292**	*e*PKPdf	**PKPdf**	**02 28 03.9**	**-2.5**

ISCJB 30 02:34:53.9±0.4, 38.86N×0.03×42.48E±0.03, h3km±7km, Error ellipse: s-maj=4.5km s-min=4.1km az=41.5

DDA 30 02:34:53.5, 38.85N×42.46E, h7km±2km, ML2.5
ISK 30 02:34:53.1, 38.83N×42.50E, h8km, ML1.9/9

ISC 30 02:34:53.8±1.1, 38.85N±0.03×42.47E±0.03, h11km±9km, n18, σ0§53/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ADCV	**BITLIS_Adilcev**	**0.20**	**102**	*i*P	**Pg**	**02 34 58.9**	**+0.7**
ADCV				IAML_P			
	comp=Z,4μm,0.1s						
MLAZ	**Malazgirt-MUS**	**0.29**	**12**	PG	**Pg**	**02 34 59.9**	**0.0**
GURO	**Guroymak-BITLI**	**0.46**	**229**	PG	**Pg**	**02 35 02.4**	**-0.5**
GURO				SG	**Sg**	**02 35 09.4**	**+0.5**
BLIS	**Bitlis-Merkez**	**0.52**	**213**	*i* P	**Pb**	**02 35 04.5**	**-0.6**
BLIS				IAML_P			
	comp=Z,1μm,0.1s						
TUTA	**Tutak**	**0.61**	**26**	*i* P	**Pb**	**02 35 05.9**	**-0.8**
TUTA				*i* S	**Sb**	**02 35 15.0**	**-0.4**
TUTA				IAML_P			
	comp=Z,2μm,0.1s						
AKDM	**Akdamar-Van**	**0.66**	**143**	PG	**Pg**	**02 35 05.8**	**-0.8**
AKDM				SG	**Sg**	**02 35 14.7**	**-0.6**
GEVA	**Gevas**	**0.71**	**139**	*i* P	**Pb**	**02 35 08.0**	**-0.3**
GEVA				*i* S	**Sb**	**02 35 18.1**	**0.0**
GEVA				IAML_P			
	comp=Z,597nm,0.1s						
VANB	**Van**	**0.76**	**109**	PG	**Pg**	**02 35 08.1**	**-0.5**
MUSM	**Mu-Merkez**	**0.76**	**261**	*i* P	**Pb**	**02 35 08.9**	**-0.3**
MUSM				*i* S	**Sb**	**02 35 20.0**	**+0.3**
MUSM				IAML_P			
	comp=Z,420nm,0.1s						
TVAN	**Van**	**0.80**	**114**	*i* P	**Pb**	**02 35 09.8**	**0.0**
TVAN				*i* S	**Sb**	**02 35 21.6**	**+0.8**
TVAN				IAML_P			
	comp=Z,431nm,0.2s						
AGRB	**Hanur-Agry**	**0.83**	**29**	PG	**Pg**	**02 35 09.4**	**-0.5**
AGRB				SG	**Sb**	**02 35 21.5**	**-0.1**
VMUR	**Van-Muradiye**	**0.87**	**81**	*i* P	**Pb**	**02 35 11.0**	**-0.1**
VMUR				IAML_P			
	comp=Z,79nm,0.1s						
SRTM	**Siirt_Merkez**	**0.96**	**207**	*i* P	**Pn**	**02 35 13.5**	**+0.1**
SRTM				*i* S	**Sn**	**02 35 27.9**	**+0.8**
SRTM				IAML_P			
	comp=Z,96nm,0.1s						
KARO	**Karlıova-Bingo**	**1.20**	**293**	PN	**Pn**	**02 35 17.2**	**+0.5**
SIRT	**Sirnak**	**1.35**	**181**	PN	**Pb**	**02 35 18.7**	**-0.5**
BNGB	**Bingl**	**1.41**	**276**	PN	**Pn**	**02 35 19.7**	**+0.2**
YEDI	**Yedisu-Bingol**	**1.61**	**292**	PN	**Pn**	**02 35 22.9**	**+0.

DAV Sn **Sb** **02 45 33.4 +1.7**
47nm,0.3s,baz=91,slow=21,SNR=8.6
MATI Mati 2.96 180 *e*P **Pb** 02 45 00.8 +3.7
CNP Catarman 3.02 329 *e*P **Pn** 02 44 37.6 -13
CNP *e*S **Sn** **02 45 27.3 +1.3**
KCP Kidapawan 3.12 202⇑ *e*P **Pb** **02 44 57.8 -2.2**
KCP *i* S Sb 02 45 59.5 +22
DCPH Dipolog City 3.18 246⇑ *e*P **Pb** **02 44 58.8 -2.1**
PAGZ Pagadian 3.53 235 *e*P Pn 02 44 48.6 -9.1
PAGZ *e*S Sn 02 45 03.8 -35
GUIM Jordan 3.70 281 *e*P Pn 02 44 50.8 -9.3
RCP Roxas 3.84 295⇑ *e*P Pn 02 45 05.8 -6.3
PVCP Virac 4.20 331 *e*P **Pn** **02 45 03.7 -3.3**
IPIL Ipil 4.23 240 *e*P Pn 02 44 59.9 -7.6
JAP San Jose, Anti 4.34 281⇓ *e*P Pb 02 45 14.6 -6.1
TGY Tagaytay City 6.68 309 Pn **Pn** **02 45 43.5 +2.4**
15nm,0.3s,baz=336,slow=7.6,SNR=3.3
TGY LR LR 02 48 45.0
comp=Z,1μm,18.1s,baz=124,slow=43
SIJI Sorong 11.81 155 LR LR 02 51 31.3
comp=Z,204nm,21.5s,baz=292,slow=38
SBUM Sibu 15.82 243 *e*Pn **Pn** **02 47 44.8 -0.8**
9.3nm,0.9s
KAPI Kappang 16.20 204 *e*Pn **Pn** **02 47 49.6 -0.9**
15nm,1.2s
GUMO Guam 18.56 77 LR LR 02 55 55.5
comp=Z,136nm,19.1s,baz=150,slow=38
JAY Jayapura 18.95 130 P **Pn** **02 48 26.2 +1.6**
0.7nm,0.3s,baz=124,slow=18,SNR=2.9
JCJ Chichijima 22.74 39 LR LR 02 56 48.2
comp=Z,43nm,19.9s,baz=136,slow=34
SKNT Sakolnakorn 22.78 290 P **P** **02 49 07.2 +2.0**
7.0nm,2.1s
JNU Nakatsue 23.48 10 *e*P **P** **02 49 12.4 +0.3**
30nm,1.2s
JNU Nakatsue 23.48 10 P **P** **02 49 12.4 +0.3**
10nm,1.0s,baz=292,slow=5.4,SNR=2.8
JNU LR LR 02 57 52.0
comp=Z,61nm,21.3s,baz=214,slow=35
KSAR Wonju Array Be 27.44 3 P **P** **02 49 49.6 +1.5**
KSRS Korea Array 27.45 3 P **P** **02 49 49.6 +1.4**
1.5nm,0.8s,baz=171,slow=8.6,SNR=3.6
KSRS LR LR 02 59 31.9
comp=Z,70nm,21.5s,baz=206,slow=34
CM01 Chiang Mai Arr 27.77 291 *e*P **P** **02 49 50.9 -0.5**
CMAR Chiang Mai Arr 27.80 291 P **P** **02 49 52.1 +0.6**
4.2nm,0.9s,baz=104,slow=7.3,SNR=17
CMAR LR LR 03 01 19.8
comp=Z,93nm,18.4s,baz=136,slow=38
FITZ Fitzroy Crossi 27.85 181 *e*P **P** **02 49 52.6 +0.7**
25nm,1.4s
FITZ Fitzroy Crossi 27.85 181 P **P** **02 49 52.6 +0.7**
3.5nm,0.5s,baz=19,slow=8.9,SNR=13
CMMT Chiang Mai 27.88 292 P **P** **02 49 54.3 +2.0**
5.5nm,1.2s
CHTO Chiang Mai 27.88 292 *e*P **P** **02 49 51.5 -0.8**
2.1nm,0.4s
MAJO Matsushiro 28.62 20 *e*P **P** **02 49 57.3 -1.4**
MJAR Matsushiro Arr 28.62 20 P **P** **02 49 57.3 -1.4**
1.5nm,0.9s,baz=181,slow=10,SNR=4.5
MJAR LR LR 03 02 02.0
comp=Z,109nm,18.1s,baz=170,slow=38
XAN Xi'an 28.81 329 P **P** **02 49 59.5 -0.9**
XAN pP pP 02 50 05.8 -3.1
XAN pmax pmax
comp=Z,15nm,0.7s
XAN Xi'an 28.81 329 *e*P **P** **02 49 59.0 -1.4**
comp=Z,12nm,0.6s
WRAB Tennant Creek 30.71 165 *e*P **P** **02 50 18.6 +1.2**
comp=Z,1.9nm,0.7s
WR1 Warramunga Arr 30.72 165 *e*P **P** **02 50 17.4 -0.1**
comp=Z,12nm,1.3s
WR1 *e*S **S** **02 55 14.9 -3.5**
WR1 *e*ScP **ScP** **02 56 54.3 -1.2**
WRA Warramunga Arr 30.72 165 P **P** **02 50 17.4 -0.1**
comp=Z,0.6nm,0.4s,baz=346,slow=8.9,SNR=8.1
WRA S **S** **02 55 14.9 -3.6**
comp=Z,0.8nm,1.0s,baz=327,slow=22,SNR=3.4
WRA ScP **ScP** **02 56 54.3 -1.2**
comp=Z,1.0nm,1.0s,baz=344,slow=3.9,SNR=3.8
ASAR Alice Springs 34.20 168 P **P** **02 50 48.5 +0.6**
comp=Z,0.9nm,0.4s,baz=353,slow=7.1,SNR=22
ASAR PcP **PcP** **02 53 25.3 +0.8**
comp=Z,0.7nm,0.8s,baz=340,slow=1.9,SNR=4.1
ASAR S **S** **02 56 15.0 +2.3**
comp=Z,0.5nm,0.8s,baz=356,slow=17,SNR=4.9
ASAR ScP **ScP** **02 57 08.2 +0.9**
comp=Z,0.8nm,1.0s,baz=14,slow=4.8,SNR=4.2
AS01 Alice Springs 34.21 167 *e*P **P** **02 50 48.6 +0.6**
USRK Ussuriysk Ar. 34.51 7 P **P** **02 50 51.0 +0.7**
comp=Z,2.4nm,0.7s,baz=202,slow=7.4,SNR=5.9
CTAO Charters Tower 35.72 147 *e*P **P** **02 51 02.3 +1.2**
KLR Kul'dur 39.45 6 P **P** **02 51 31.8 -0.4**
comp=Z,0.7nm,0.4s,baz=197,slow=3.5,SNR=5.3
H11N1 WAKE ISLAND Hy 40.36 71 T T 03 34 60.0
baz=265,slow=74,SNR=112
H11N2 WAKE ISLAND Hy 40.36 71 T T 03 35 02.6
baz=265,slow=74,SNR=86
H11N3 WAKE ISLAND Hy 40.37 71 T T 03 35 01.4
baz=265,slow=74,SNR=106
FORT Forrest 40.50 178 *e*P **P** **02 51 42.1 +0.9**
comp=Z,28nm,0.6s
ULN Ulaanbaatar 41.15 340 *e*P **P** **02 51 46.6 0.0**
comp=Z,7.7nm,0.7s
SONA0 Songino Array 41.35 340 *e*P **P** **02 51 48.7 +0.6**
SONA0 *e*PcP **PcP** **02 53 47.1 +0.9**
SONA0 *e*ScP **ScP** **02 57 34.6 +0.6**
SONM Songino Array 41.35 340 P **P** **02 51 48.7 +0.6**
comp=Z,3.3nm,0.7s,baz=158,slow=10.0,SNR=24
SONM PcP **PcP** **02 53 47.1 +0.9**
comp=Z,0.8nm,0.8s,baz=165,slow=2.7,SNR=3.4
SONM ScP **ScP** **02 57 34.6 +0.6**
comp=Z,1.5nm,0.8s,baz=169,slow=2.9,SNR=7.6
NWAO Narrogin (SRO) 43.47 191 *e*P **P** **02 52 05.2 -0.2**
BBOO Buckleboo 43.50 168 *e*P **P** **02 52 06.5 +0.8**
comp=Z,59nm,1.6s
STKA Stephens Creek 44.07 161 *e*P **P** **02 52 10.9 +0.6**
comp=Z,7.7nm,2.0s
STKA Stephens Creek 44.07 161 P **P** **02 52 10.9 +0.6**
comp=Z,1.6nm,0.4s,baz=334,slow=13,SNR=9.9
TLY Talaya 45.56 340 *e*P **P** **02 52 22.6 +0.7**
comp=Z,9.7nm,0.8s
PETK Petropavlovsk- 49.95 24 P **P** **02 52 57.5 +1.6**
comp=Z,2.5nm,0.6s,baz=223,slow=3.2,SNR=3.8
PEA1 Petropavlovsk- 49.95 24 *e*P **P** **02 52 57.5 +1.5**
MK01 Makanchi Array 52.29 323 *e*P **P** **02 53 13.2 -0.4**
MK31 Makanchi Array 52.31 323 *e*P **P** **02 53 13.6 -0.2**
comp=Z,6.2nm,0.8s
MK32 Makanchi Array 52.31 323 *e*P **P** **02 53 13.6 -0.2**
MK32 *e*ScP **ScP** **02 58 18.2 -1.6**
MKAR Makanchi Array 52.31 323 P **P** **02 53 13.6 -0.2**
comp=Z,7.7nm,0.8s,baz=122,slow=8.4,SNR=63
MKAR ScP **ScP** **02 58 18.2 -1.6**
comp=Z,0.2nm,0.5s,baz=122,slow=5.2,SNR=4.0
MKAR LR LR 03 16 50.7
comp=Z,98nm,19.4s,baz=6.5,slow=38
MAKZ Makanchi 52.50 323 *e*P **P** **02 53 14.5 -0.7**
comp=Z,6.8nm,1.0s
ZAA0 Zalesovo Array 54.94 331 *e*P **P** **02 53 31.9 -1.0**
comp=Z,8.2nm,1.4s
ZALV Zalesovo Beam 54.94 331 *e*P **P** **02 53 31.8 -1.1**
ZALV Zalesovo Beam 54.94 331 P **P** **02 53 31.9 -0.9**
comp=Z,1.9nm,0.5s,baz=114,slow=5.7,SNR=8.5
ZAA1 Zalesovo Array 54.94 331 *e*P **P** **02 53 31.9 -0.9**
SEY Seymchan 56.16 14 P **P** **02 53 42.9 +1.4**
comp=Z,1.3nm,0.6s,baz=0.0,slow=20,SNR=5.4
KURK Kurchatov 56.36 326 *e*P **P** **02 53 42.7 -0.5**
KK31 Karatay Array 58.50 315 *e*P **P** **02 53 57.8 -0.7**
comp=Z,1.9nm,0.6s
KKAR Karatay Array 58.50 315 *e*P **P** **02 53 57.8 -0.7**
comp=Z,1.9nm,0.6s
TIXI Tiksi 61.70 1 *e*P **P** **02 54 19.7 -0.1**
comp=Z,3.5nm,0.6s
TIXI Tiksi 61.70 1 P **P** **02 54 19.8 0.0**
comp=Z,2.1nm,0.3s,baz=277,slow=2.1,SNR=4.6
BRVK Borovoye 62.03 325 *e*P **P** **02 54 22.2 -0.1**
comp=Z,4.9nm,0.8s
BILL Bilibino 63.73 16 *e*P **P** **02 54 33.5 +0.1**
comp=Z,1.9nm,0.3s
GEYT Alibeck 66.76 307 P **P** **02 54 53.8 0.0**
comp=Z,4.5nm,0.8s,baz=165,slow=6.2,SNR=7.0
RPZ Rata Peaks 67.09 146 LR LR 03 21 14.2
comp=Z,76nm,19.7s,baz=289,slow=33
ABKAR Akbulak array 67.14 319 *e*P **P** **02 54 55.1 -0.8**
comp=Z,2.1nm,0.8s
URZ Urewera 67.40 139 LR LR 03 21 19.7
comp=Z,63nm,21.6s,baz=280,slow=33

BKZ Black Stump Fm 67.51 140 *e*P **P** **02 54 59.9 +1.6**
comp=Z,10nm,0.7s
ARU Arti 69.52 327 *e*P **P** **02 55 09.6 -1.0**
comp=Z,7.2nm,0.5s
KDAK Kodiak Island 76.95 33 P **P** **02 55 55.1 +0.7**
comp=Z,3.9nm,0.7s,baz=3.6,slow=1.7,SNR=4.6
KBZ Khabaz 78.45 313 P **P** **02 56 02.6 -0.5**
comp=Z,2.6nm,1.0s,baz=40,slow=4.8,SNR=3.9
KBZ LR LR 03 34 20.6
comp=Z,78nm,21.1s,baz=287,slow=38
SIRT Sirnak 79.17 306 *e*P **P** **02 56 06.5 -0.9**
comp=Z,24nm,0.9s
ILAR Eielson Array 79.75 26 P **P** **02 56 09.8 0.0**
comp=Z,0.7nm,0.7s,baz=232,slow=5.2,SNR=12
INK Inuvik 84.60 22 *e*P **P** **02 56 35.2 +0.1**
comp=Z,8.5nm,1.4s
INK Inuvik 84.60 22 P **P** **02 56 35.2 +0.1**
comp=Z,1.8nm,0.9s,baz=270,slow=7.3,SNR=5.9
BR101 Keskin Array S 85.76 309 *e*P **P** **02 56 40.9 -0.8**
BRTR Keskin Array B 85.76 309 P **P** **02 56 40.9 -0.8**
comp=Z,1.4nm,0.8s,baz=121,slow=4.6,SNR=7.5
FIA0 FINESS Array S 86.20 332 *e*P **P** **02 56 42.7 -0.5**
FINES FINESS Array B 86.20 332 P **P** **02 56 42.7 -0.5**
comp=Z,1.7nm,0.4s,baz=76,slow=5.0,SNR=32
CSS Mathiatis 86.79 305 *e*P **P** **02 56 45.7 -1.0**
comp=Z,9.4nm,0.9s
AKASG Malin Array Be 86.84 321 P **P** **02 56 45.5 -1.1**
comp=Z,1.7nm,0.5s,baz=64,slow=4.8,SNR=3.5
AKBB Malin Array Si 86.84 321 *e*P **P** **02 56 45.5 -1.1**
comp=Z,17nm,1.7s
RES Resolute Bay 91.84 10 *e*P **P** **02 57 10.8 +1.2**
comp=Z,1.5nm,0.6s
NB2 NORSAR Subarra 93.07 334 P **P** **02 57 14.7 -1.0**
comp=Z,6.2nm,1.7s,baz=62,slow=4.4
NB2 NORSAR Subarra 93.07 334 P **P** **02 57 14.7 -1.0**
baz=62,slow=4.4
NB200 NORSAR Array S 93.07 334 *e*P **P** **02 57 14.5 -1.1**
NOA NORSAR Array B 93.07 334 P **P** **02 57 14.5 -1.1**
comp=Z,0.7nm,0.7s,baz=65,slow=4.6,SNR=3.3
YKA Yellowknife Ar 94.07 24 P **P** **02 57 21.1 +1.0**
comp=Z,1.7nm,0.6s,baz=300,slow=4.6,SNR=40
YKB5 Yellowknife Ar 94.07 24 *e*P **P** **02 57 20.8 +0.7**
GEC2 GERESS Array S 96.97 322 *e*P **P** **02 57 32.9 -1.0**
comp=Z,17nm,1.9s
GERES GERESS Array B 96.97 322 P **P** **02 57 31.9 -1.9**
comp=Z,0.7nm,0.7s,baz=64,slow=6.1,SNR=7.7
TXAR Lajitas Array 118.05 49 PKP **PKiKP** **03 02 50.9 +1.2**
comp=Z,0.3nm,0.7s,baz=20,slow=2.9,SNR=4.2
TOA0 Torodi Ar. Sit 120.40 292 *e*PKPdf **PKPdf** **03 02 53.3 -1.0**
TORD Torodi Ar. Bea 120.40 292 PKP **PKPdf** **03 02 53.1 -1.3**
comp=Z,0.5nm,0.6s,baz=31,slow=3.3,SNR=9.1
TOA1 Torodi Ar. Sit 120.41 292 *e*PKPdf **PKPdf** **03 02 53.1 -1.3**
PLCA Paso Flores 145.88 157 PKPbc **PKPab** **03 03 43.1 +0.9**
comp=Z,1.1nm,0.6s,baz=284,slow=2.4,SNR=8.9

MEX 30 02:57:48.1±0.2,**18°.51N**×99°.98W,**h64**km±3km,**MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ARIG	**Puente Sto Nin**	**0.42**	**238**	*e*P		Pn	02 57 58.2	-1.4
ARIG				*i* S		Sn	02 58 06.1	-1.9
MEIG	**Mezcala**	**0.67**	**149**	*i* P		Pn	02 58 00.9	-1.4
MEIG				*i* S		Sn	02 58 10.9	-1.8
YAIG	**Yautepec**	**0.93**	**67**	*e*P		Pn	02 58 04.2	-1.4
YAIG				*e*S		Sn	02 58 16.7	-1.8
ZIIG	**Zihuatanejo**	**1.68**	**238**	*i* P		Pn	02 58 13.8	-1.4
ZIIG				*i* S		Sn	02 58 33.8	-1.9

*NEIC **30** 03:19:31.0±0.0,37°.59N×118°.80W,h9km,MW3.4(BRK), After NCEDC.*
NEIC Felt [III] at Mammoth Lakes and [II] at Bishop. Also felt at North Fork and Oakhurst.
*REN **30** 03:19:31.0,37°.59N×118°.81W,h8km*
*NCEDC **30** 03:19:31.0,37°.59N×118°.80W,h9km,MW3.4(BRK)*
*ANF **30** 03:19:31.0±0.2,37°.55N×118°.75W,ML3.6/27,Error ellipse: s-maj=2.1km s-min=1.3km az=57.0*
ISC 30 03:19:31.0±0.8,**37°.60N**±0°.02×**118°.77W**±0°.02,**h8**km±6km, **n85**,σ**1s34**/101,**California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MLAC	**Mammoth, Mammo**	**0.06**	**299**	P		**Pg**	**03 19 33.0**	**-0.1**
MLAC	baz=151			S		**Sg**	**03 19 34.8**	**+0.3**
OMMB	**Old Mammoth Mi**	**0.18**	**273**	*e*Pg		**Pg**	**03 19 34.1**	**-0.7**
MDPB	**Devils Postpil**	**0.24**	**277**	*e*Pg		**Pg**	**03 19 35.5**	**-0.5**
TIN	**Tinemaha, Big**	**0.70**	**141**	P		**Pg**	**03 19 44.6**	**+0.1**
TIN	baz=320,SNR=79			S		**Sg**	**03 19 52.8**	**-0.8**
NV01	**Mina Array Sit**	**0.91**	**24**	*e*Pg		**Pg**	**03 19 47.7**	**-0.7**
NV11	**Mina Array Sit**	**0.96**	**30**	*e*Pg		**Pg**	**03 19 48.8**	**-0.7**
WAKR	**Walker**	**1.04**	**330**	*e*Pg		**Pg**	**03 19 50.4**	**-0.6**
RYN	**Ryan**	**1.04**	**11**	*e*Pg		**Pg**	**03 19 50.6**	**-0.4**
GRAC	**Grapevine Rang**	**1.27**	**118**	P		**Pb**	**03 19 55.5**	**+0.2**
GRAC	baz=298,SNR=306			Sb		**Sn**	**03 20 13.2**	**+0.7**
CWC	**Cottonwood Cre**	**1.29**	**154**	P		**Pn**	**03 19 54.7**	**-0.8**
CWC	baz=333			S		**Sb**	**03 20 11.4**	**-0.9**
CMB	**Columbia Colle**	**1.35**	**289**	*e*Pn		**Pn**	**03 19 55.2**	**-0.9**
VOG	**Valley Oaks Go**	**1.37**	**201**	P		**Pn**	**03 19 56.1**	**-0.3**
VOG	baz=20,SNR=7.2			S		**Sn**	**03 20 14.0**	**-0.7**
YERR	**Yerington**	**1.43**	**345**	*e*Pn		**Pn**	**03 19 57.3**	**-0.1**
KVN	**Kaiserville**	**1.54**	**20**	*e*Pn		**Pn**	**03 19 59.4**	**+0.4**
PNTR	**Pine Nut**	**1.62**	**337**	*e*Pn		**Pn**	**03 20 00.4**	**+0.3**
DAC	**Darwin (Calif)**	**1.63**	**144**	*e*Pn		**Pg**	**03 20 01.9**	**-0.3**
VES	**Vestal, Richgr**	**1.78**	**188**	P		**Pb**	**03 20 03.0**	**-0.8**
VES	baz=7.2,SNR=141			S		**Sb**	**03 20 25.8**	**-0.4**
RUBR	**Rubicon Trail**	**1.81**	**324**	*e*Pn		**Pb**	**03 20 04.0**	**-0.5**
VCNR	**Virginia City**	**1.82**	**338**	*e*Pn		**Pb**	**03 20 03.9**	**-0.9**
MPMC	**Manual Prospec**	**1.85**	**146**	P		**Pn**	**03 20 03.3**	**0.0**
MPMC	baz=326,SNR=146			Sb		**Sb**	**03 20 29.2**	**+0.5**
FURC	**Furnace Creek,**	**1.90**	**126**	Pg		**Pg**	**03 20 06.9**	**-0.6**
	baz=306,SNR=58							
ISA	**Isabella, Lake**	**1.95**	**173**	*e*Pn		**Pb**	**03 20 06.3**	**-0.5**
ISA	**Isabella, Lake**	**1.95**	**173**	Pb		**Pb**	**03 20 06.4**	**-0.4**
ISA	baz=352,SNR=372			Sb		**Sb**	**03 20 31.8**	**+0.5**
TPNV	**Topopah Spring**	**2.12**	**107**	*e*Pn		**Pn**	**03 20 06.4**	**-0.5**
TPNV	**Topopah Spring**	**2.12**	**107**	P		**Pn**	**03 20 07.2**	**+0.3**
TPNV	baz=288,SNR=157			Sg		**Sg**	**03 20 40.4**	**+1.4**
PAHR	**Pah Rah Range**	**2.15**	**347**	*e*Pn		**Pn**	**03 20 08.0**	**+0.7**
AFDM	**Forest Hills D**	**2.19**	**309**	*e*Pn		**Pn**	**03 20 08.0**	**+0.2**
PAGB	**Antelope Grade**	**2.21**	**213**	*e*Pn		**Pn**	**03 20 08.2**	**+0.2**
SAO	**San Andreas Ge**	**2.29**	**249**	*e*Pn		**Pn**	**03 20 09.5**	**+0.4**
LRMC	**Laurel Mtn Rad**	**2.29**	**157**	Pb		**Pb**	**03 20 12.4**	**-0.3**
LRMC	baz=337,SNR=39			Sb		**Sb**	**03 20 42.7**	**+1.4**
ARVC	**Arvin**	**2.47**	**181**	Pb		**Pb**	**03 20 14.9**	**-0.8**
ARVC	baz=0.4			Sb		**Sb**	**03 20 46.8**	**+0.6**
SMMC	**Simmler**	**2.49**	**204**	P		**Pn**	**03 20 12.6**	**+0.8**
SMMC	baz=22,SNR=11			S		**Sn**	**03 20 43.6**	**+1.2**
BEKR	**Beckworth**	**2.58**	**332**	*e*Pn		**Pn**	**03 20 14.0**	**+0.8**
R11A	**Troy Canyon, C**	**2.63**	**73**	*e*Pn		**Pn**	**03 20 13.9**	**0.0**
R11A	**Troy Canyon, C**	**2.63**	**73**	Pb		**Pb**	**03 20 18.8**	**+0.3**
R11A	baz=254			Sb		**Sg**	**03 20 54.2**	**-1.3**
SHOC	**Shoshone, Teco**	**2.63**	**130**	Pg		**Pb**	**03 20 20.0**	**+1.6**
SHOC	baz=310			Sg		**Sg**	**03 20 56.9**	**+1.4**
EDW2	**Edwards Air Fo**	**2.79**	**167**	Pb		**Pb**	**03 20 21.0**	**-0.1**
	baz=347							
EDW2				Sb		**Sg**	**03 20 57.9**	**-2.7**
	baz=347							
GSC	**Goldstone, Bar**	**2.79**	**145**	*e*Pn		**Pn**	**03 20 16.1**	**0.0**
GSC	**Goldstone, Bar**	**2.79**	**145**	Pg		**Pg**	**03 20 23.6**	**-0.9**
	baz=325							
PKM	**Mcpherson Peak**	**2.84**	**198**	P		**Pn**	**03 20 17.6**	**+0.9**
	baz=16							
ORV	**Oroville**	**2.89**	**313**	*e*Pn		**Pn**	**03 20 17.4**	**0.0**
SHPR	**Sheep Range**	**3.09**	**110**	*e*Pn		**Pn**	**03 20 20.8**	**+0.5**
TUQ	**Turquoise Moun**	**3.15**	**132**	P		**Pn**	**03 20 21.4**	**+0.3**
	baz=314							
TUQ				Sb		**Sg**	**03 21 09.4**	**-2.9**
	baz=314							
MCCM	**Marconi Confer**	**3.29**	**281**	*e*Pn		**Pn**	**03 20 23.2**	**+0.4**
DECC	**Green Verdugo**	**3.36**	**174**	Sb		**Sb**	**03 21 15.0**	**+3.1**
	baz=354							
GDXM	**Geysers**	**3.39**	**292**	*e*Pn		**Pn**	**03 20 24.4**	**+0.2**
HEC	**Hector,Ludlow**	**3.40**	**144**	P		**Pn**	**03 20 24.7**	**+0.3**
	baz=325,SNR=10							
MWC	**Mount Wilson**	**3.42**	**170**	*e*Pn		**Pn**	**03 20 25.0**	**+0.2**
PASC	**Pasadena Art C**	**3.46**	**172**	*e*Pn		**Pn**	**03 20 24.8**	**-0.3**
BFSC	**Mount Baldy Ra**	**3.48**	**165**	P		**Pn**	**03 20 27.0**	**+1.5**
	baz=345							
BFSC				Sb		**Sb**	**03 21 18.6**	**+3.2**
	baz=345							
O03E	**Paynes Creek**	**3.58**	**320**	P		**Pn**	**03 20 29.1**	**+2.2**
	baz=138							
GMRC	**Granite Mounta**	**3.77**	**137**	P		**Pn**	**03 20 29.4**	**-0.2**
	baz=319							
LDFC	**Landfair**	**3.88**	**129**	*e*Pn		**Pn**	**03 20 30.1**	**-1.1**
PSUT	**Pine Spring**	**3.99**	**75**	*e*Pn		**Pn**	**03 20 32.9**	**+0.2**
ELK	**Elko**	**4.17**	**40**	*e*Pn		**Pn**	**03 20 35.0**	**-0.2**
WDC	**Whiskeytown Da**	**4.17**	**317**	*e*Pn		**Pn**	**03 20 35.5**	**+0.5**
BELC	**Belle Mtn. Jos**	**4.24**	**147**	P		**Pn**	**03 20 36.9**	**+0.8**
	baz=328							
CCUT	**Cedar City**	**4.30**	**89**	*e*Pn		**Pn**	**03 20 36.7**	**-0.2**
PFO	**Pinyon Flats O**	**4.41**	**154**	*e*Pn		**Pn**	**03 20 38.8**	**+0.5**
PFO	**Pinyon Flats O**	**4.41**	**154**	P		**Pn**	**03 20 39.3**	**+1.0**
	baz=335							
XPFO	**Pion Flat**	**4.41**	**154**	*e*Pn		**Pn**	**03 20 38.6**	**+0.3**
LCMT	**Little Creek M**	**4.45**	**96**	*e*Pn		**Pn**	**03 20 38.8**	**-0.1**
MOD	**Modoc Plateau**	**4.45**	**345**	*e*Pn		**Pn**	**03 20 38.8**	**-0.2**
W13A	**Hualapai Mount**	**4.67**	**121**	*e*Pn		**Pn**	**03 20 42.9**	**+0.9**
KNB	**Kanab**	**4.78**	**95**	*e*Pg		**Pb**	**03 20 57.7**	**+2.6**
WVOR	**Wild Horse Val**	**4.83**	**1**	*e*Pg		**Pg**	**03 21 00.1**	**-3.3**
TCRU	**Three Creeks R**	**5.09**	**77**	*e*Pn		**Pn**	**03 20 48.4**	**+0.6**
PKCU	**Pink Cliffs**	**5.14**	**90**	*e*Pg		**Pg**	**03 21 08.6**	**-0.9**
Y12C	**Blythe**	**5.17**	**137**	*e*Pg		**Pg**	**03 21 06.7**	**-3.3**
BAR	**Barrett**	**5.20**	**160**	*e*Pn		**Pn**	**03 20 50.0**	**+0.8**
MTPU	**Mount Pierson**	**5.24**	**83**	*e*Pn		**Pn**	**03 20 49.6**	**-0.3**
MSU	**Marysvale**	**5.29**	**78**	*e*Pg		**Pb**	**03 21 07.4**	**+3.6**
U15A	**North Rim**	**5.32**	**101**	*e*Pn		**Pn**	**03 20 51.0**	**0.0**
DUG	**Dugway, Tooele**	**5.32**	**59**	*e*Pg		**Pg**	**03 21 10.2**	**-2.8**
DUG	**Dugway, Tooele**	**5.32**	**59**	Pg		**Pg**	**03 21 11.5**	**-1.4**
	baz=243							
K05A	**Summer Lake**	**5.37**	**343**	*e*Pg		**Pg**	**03 21 15.4**	**+1.6**
BGU	**Big Grassy Mou**	**5.56**	**52**	*e*Pn		**Pn**	**03 20 54.6**	**+0.5**
NLU	**North Lily Min**	**5.74**	**64**	*e*Pg		**Pg**	**03 21 18.2**	**-2.7**
MPU	**Maple Canyon**	**6.08**	**64**	*e*Pg		**Pg**	**03 21 24.6**	**-2.8**
SPUT	**South Promonto**	**6.13**	**51**	*e*Pg		**Pg**	**03 21 26.6**	**-1.9**
TMUT	**Trail Mountain**	**6.17**	**72**	*e*Pg		**Pg**	**03 21 25.8**	**-3.4**
HVU	**Hansel Valley**	**6.23**	**46**	*e*Pg		**Pg**	**03 21 26.5**	**-3.8**
CTU	**Camp Tracy**	**6.27**	**58**	*e*Pg		**Pg**	**03 21 31.3**	**+0.2**
PINE	**Pine Mountain**	**6.40**	**346**	*e*Pn		**Pn**	**03 21 05.6**	**-0.1**
HLID	**Hailey**	**6.81**	**28**	*e*Pg		Pb	03 21 35.2	+5.4

*SOME **30** 03:24:32.0,39°.98N×77°.37E,h0km*
*KRNET **30** 03:24:32.0±0.1,39°.89N×77°.14E,mb3.4*
*NNC **30** 03:24:34.4±1.6,40°.01N×77°.29E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=11.4km s-min=9.8km az=152.0*
ISC 30 03:24:38.1±3.0,**40°.2N**±0°.1×**77°.22E**±0°.05,**h4**km±15km,**n42, s13/64,19C-9D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
NRN	**Naryn**	**1.57**	**324**⇓	*i*P		**Pn**	**03 25 05.3**	**-1.8**
	baz=30							
NRN				*i*S		**Sg**	**03 25 29.4**	**+0.7**
	baz=30							
KDJ	**Kajisay**	**1.97**	**359**⇑	*i*P		**Pn**	**03 25 12.3**	**0.0**
	baz=1.0							
KDJ				⇑*i*S		**Sg**	**03 25 42.4**	**+1.1**
	baz=1.0							
ULHL	**Ulahol**	**2.21**	**341**	P		**Pb**	**03 25 17.4**	**-1.3**
	SNR=24							
ULHL	**Ulahol**	**2.21**	**341**⇑	*e*P		**Pn**	**03 25 15.6**	**-0.1**
	baz=44							
ULHL				⇑*i*S		**Sb**	**03 25 47.3**	**+0.8**
	baz=44							
KZA	**Kyzart**	**2.43**	**323**	P		**Pn**	**03 25 20.1**	**+1.2**
	SNR=53							
KZA	**Kyzart**	**2.43**	**323**⇑	*i*P		**Pn**	**03 25 18.0**	**-0.9**
	baz=27							
KZA				⇑*i*S		**Sb**	**03 25 51.5**	**-1.4**
	baz=27							
BOOM	**Boomskoye usch**	**2.52**	**338**⇓	*i*P		**Pn**	**03 25 20.0**	**+0.1**
	baz=41							
BOOM				⇓*e*S		**Sb**	**03 25 54.6**	**-0.7**
	baz=41							
ARLS	**Aral**	**2.77**	**309**⇑	*i*P		**Pn**	**03 25 21.7**	**-1.7**
	baz=14							
ARLS				⇑*i*S		**Sn**	**03 25 58.2**	**+0.8**
	baz=14							
TNSS	**Tian-Shan**	**2.88**	**356**	Pg		**Pb**	**03 25 29.7**	**-0.6**
	16nm,0.6s							
TNSS				Lg		Lg	03 26 12.2	
	24nm,0.5s							
TNSS	**Tian-Shan**	**2.88**	**356**	*e*P		**Pb**	**03 25 29.7**	**-0.6**
	3.5nm,0.3s							
TNSS				*e*S		**Sg**	**03 26 11.3**	**+0.7**
	25nm,0.6s							
UCH	**Uchtor**	**2.91**	**316**	P		**Pn**	**03 25 26.3**	**+0.8**
	SNR=15							
MDOK	**Medeo**	**3.00**	**358**	Pg		**Pb**	**03 25 31.7**	**-0.4**
	5.6nm,0.6s							
MDOK				Lg		Lg	03 26 15.9	
	40nm,0.8s							
MDOK	**Medeo**	**3.00**	**358**	*e*P		**Pb**	**03 25 31.9**	**-0.3**
	6.4nm,0.3s							
MDOK				*e*S		**Sg**	**03 26 15.0**	**+0.6**
	42nm,0.6s							
TKM2	**Tokmak 2**	**3.02**	**337**	P		**Pn**	**03 25 28.6**	**+1.8**
	SNR=8.2							
TKM2	**Tokmak 2**	**3.02**	**337**	⇑Pn		**Pn**	**03 25 27.8**	**+1.1**
	2.9nm,0.4s							
TKM2				⇓Lg		Lg	03 26 15.0	
	13nm,0.6s		

DGS	**Degeres**	**3.26**	**341**	*eP*	**Pb**	**03 25 36.6**	**0.0**
	3.4nm,1.1s						
DGS				*eS*	**Sg**	**03 26 23.0**	**+0.1**
	21nm,0.6s						
UZB	**Uzynbulak**	**3.27**	**24**	*eP*	**Pb**	**03 25 35.8**	**-1.0**
	1.5nm,0.4s						
UZB				*eS*	**Sg**	**03 26 21.5**	**-1.7**
	7.1nm,0.5s						
AML	**Almayashu**	**3.31**	**308**	P	**Pn**	**03 25 31.7**	**+0.7**
	SNR=11						
AML	**Almayashu**	**3.31**	**308**	⇑*iP*	**Pn**	**03 25 29.3**	**-1.7**
	baz=12						
AML				⇑*iS*	**Sn**	**03 26 11.2**	**+0.2**
	baz=12						
KURS	**Kuram**	**3.40**	**12**	*eP*	**Pb**	**03 25 38.9**	**0.0**
	1.8nm,0.6s						
KURS				*eS*	**Sg**	**03 26 26.9**	**-0.2**
	16nm,1.1s						
SHLS	**Shalkode**	**3.43**	**29**	*eP*	**Pb**	**03 25 41.2**	**+1.8**
	5.7nm,0.2s						
SHLS				*eS*	**Sg**	**03 26 31.1**	**+2.8**
	24nm,0.5s						
KTBS	**Karatobe**	**3.57**	**354**	Pg	**Pb**	**03 25 42.0**	**+0.2**
	3.9nm,0.5s						
KTBS				Lg	Lg	03 26 32.7	
	28nm,0.7s						
KTBS	**Karatobe**	**3.57**	**354**	*eP*	**Pb**	**03 25 41.9**	**+0.2**
	1.8nm,0.3s						
KTBS				*eS*	**Sg**	**03 26 32.3**	**-0.5**
	28nm,0.7s						
PDGK	**Podgornoye**	**3.59**	**27**	⇑Pg	**Pb**	**03 25 41.6**	**-0.5**
	5.4nm,0.6s						
PDGK				⇓Lg	Lg	03 26 29.5	
	31nm,1.1s						
EKS2	**Erkin-Say**	**3.60**	**315**	P	**Pn**	**03 25 36.1**	**+1.4**
	SNR=11						
EKS2	**Erkin-Say**	**3.60**	**315**	⇑*iP*	**Pn**	**03 25 33.7**	**-1.0**
	baz=19						
EKS2				⇑*eS*	**Sn**	**03 26 18.5**	**+0.8**
	baz=19						
USP	**Ospenovka**	**3.71**	**328**	P	**Sg**	**03 26 36.2**	**-1.1**
	SNR=7.6						
MRKS	**Merke**	**3.96**	**312**	*eP*	**Pb**	**03 25 50.0**	**+1.5**
	2.3nm,0.3s						
MRKS				*eS*	**Sg**	**03 26 45.8**	**+0.6**
	9.1nm,0.7s						
ARXS	**Arharly**	**4.07**	**6**	Pg	**Pb**	**03 25 51.0**	**+0.6**
	7.4nm,0.6s						
ARXS				Lg	Lg	03 26 47.9	
	11nm,0.6s						
ARXS	**Arharly**	**4.07**	**6**	*eP*	**Pb**	**03 25 50.9**	**+0.6**
	2.0nm,0.5s						
ARXS				*eS*	**Sg**	**03 26 48.0**	**-0.9**
	11nm,0.6s						
KK31	**Karatay Array**	**5.82**	**302**	⇑Pg	**Pb**	**03 26 20.3**	**+0.1**
	2.2nm,0.9s,baz=108,slow=15,SNR=7.2						
KK31				⇑Lg	Lg	03 27 41.1	
	1.0nm,0.4s,baz=126,slow=29,SNR=4.5						

MEX 30 03:36:40.6±0.4, 18°22.N×100°47.W, h72km±3km, MD3.5, Guerrero

IDC 30 03:59:36.8±1.5, 3°87.N×127°.19E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/32, mbtmp3.5/4, Error ellipse: s-maj=146.6km s-min=21.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**164**	P	P	04 04 59.5	-0.2
	2.2nm,0.7s,baz=345,slow=9.6,SNR=31						
ASAR	**Alice Springs**	**28.14**	**167**	P	P	04 05 31.1	+0.3
	0.2nm,0.6s,baz=354,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**47.32**	**341**	P	P	04 08 13.5	+1.1
	0.3nm,0.5s,baz=168,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	04 09 28.1	-1.4
	0.2nm,0.3s,baz=115,slow=8.8,SNR=4.9						

*ISK **30** 04:00:00.8, 38°.76N×43°.20E, h8km, ML2.0/5*
*ISCJB **30** 04:00:01.7±0.6, 38°.75N±0°.03×43°.26E±0°.04, h29km±5km, Error ellipse: s-maj=6.0km s-min=4.6km az=31.3*
*DDA **30** 04:00:01.3, 38°.77N×43°.21E, h7km±4km, ML2.8*
ISC 30 04:00:01.5±1.1, 38°.76N±0°.03×43°.21E±0°.04, h19km±3km, n12, σ0°78/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**139**	PG	**Pg**	**04 00 07.3**	**+0.4**
VANB				SG	**Sg**	**04 00 11.8**	**+1.3**
TVAN	**Van**	**0.28**	**146**	*i* P	**Pg**	**04 00 07.4**	**-0.5**
TVAN				*i* S	**Sg**	**04 00 12.4**	**+0.2**
TVAN				IAML_P			
	comp=Z,5μm,0.2s						
VMUR	**Van-Muradiye**	**0.37**	**50**	*i* P	**Pg**	**04 00 09.1**	**-0.3**
VMUR				*i* S	**Sb**	**04 00 15.7**	**+0.7**
VMUR				IAML_P			
	comp=Z,3μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.38**	**278**	*i* P	**Pb**	**04 00 10.3**	**+0.4**
ADCV				*i* S	**Sn**	**04 00 17.6**	**-1.5**
ADCV				IAML_P			
	comp=Z,777nm,0.2s						
GEVA	**Gevas**	**0.46**	**195**	*i* P	**Pg**	**04 00 10.8**	**-0.2**
GEVA				*i* S	**Sn**	**04 00 19.3**	**-1.7**
GEVA				IAML_P			
	comp=Z,2μm,0.2s						
AKDM	**Akdamar-Van**	**0.46**	**203**	PG	**Pg**	**04 00 10.5**	**-0.6**
CLDR	**Calderan**	**0.67**	**55**	*i* P	**Pb**	**04 00 14.1**	**-0.7**
CLDR				*i* S	**Sb**	**04 00 24.6**	**+0.8**
CLDR				IAML_P			
	comp=Z,934nm,0.1s						
TUTA	**Tutak**	**0.71**	**335**	*i* P	**Pb**	**04 00 15.1**	**-0.4**
TUTA				*i* S	**Sg**	**04 00 26.2**	**+0.9**
TUTA				IAML_P			
	comp=Z,4μm,0.1s						
AGRB	**Hanur-Agry**	**0.83**	**348**	PG	**Pb**	**04 00 17.1**	**-0.4**
AGRB				SG	**Sb**	**04 00 29.1**	**+0.6**
BLIS	**Bitlis-Merkez**	**0.92**	**249**	*i* P	**Pn**	**04 00 19.6**	**0.0**
BLIS				*i* S	**Sn**	**04 00 32.4**	**0.0**
BLIS				IAML_P			
	comp=Z,1μm,0.2s						
GURO	**Guroymak-BITLI**	**0.94**	**258**	PG	**Pb**	**04 00 19.2**	**-0.1**
GURO				SG	**Sn**	**04 00 32.6**	**-0.3**
SIRT	**Sirnak**	**1.39**	**206**	PN	**Pb**	**04 00 27.2**	**+0.2**

*ISCJB **30** 04:00:07.6±0.5, 19°.96S±0°.03×69°.25W±0°.07, h108km±5km, mb3.6/2, Error ellipse: s-maj=11.4km s-min=4.5km az=175.0*
*SJA **30** 04:00:07.5±1.0, 19°.95S×69°.24W, h98km±4km, ML3.0, MW3.2*
*GUC **30** 04:00:08.1±0.6, 19°.99S×69°.23W, h95km±3km, ML3.6*
*IDC **30** 04:00:08.6±1.1, 20°.02S×68°.88W, h111km±11km, mb3.4/3, mb1 3.6/7, mb1mx3.3/23, mbtmp3.8/7, MS2.9/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=32.6km s-min=8.9km az=97.0*
ISC 30 04:00:07.4±0.8, 19°.96S±0°.03×69°.19W±0°.07, h98km±6km, n41, σ1°59/51, 2C-12D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.19**	**171**	⇓*eP*	**Pn**	**04 00 22.4**	**+0.6**
PB08				*eS*	**Sn**	**04 00 33.5**	**+1.0**
PB08	**IPOC Station P**	**0.19**	**171**	⇓*iP*	**Pn**	**04 00 22.2**	**+0.3**
PB08				*i* S	**Sn**	**04 00 33.4**	**+0.9**
PB08				IAML		04 00 34.6	
	comp=E,3μm,0.1s						
PB11	**IPOC Station P**	**0.48**	**294**	⇓*eP*	**Pn**	**04 00 23.4**	**+0.3**
PB11				*eS*	**Sn**	**04 00 35.5**	**+0.8**
PB11	**IPOC Station P**	**0.48**	**294**	⇓*iP*	**Pn**	**04 00 23.4**	**+0.3**
PB11				*i* S	**Sn**	**04 00 35.3**	**+0.6**
PB11				IAML		04 00 37.9	
	comp=E,2μm,0.2s						
MNMC	**Minye Minye**	**0.91**	**335**	⇓*iP*	**Pn**	**04 00 28.1**	**+1.0**
MNMC				*i* S	**Sn**	**04 00 43.3**	**+1.6**
MNMC				IAML		04 00 44.6	
	comp=E,9μm,0.2s						
MNMCX	**Minye Minye**	**0.91**	**335**	*eP*	**Pn**	**04 00 28.1**	**+1.1**
MNMCX				*eS*	**Sn**	**04 00 43.4**	**+1.7**
PSGC	**Pisagua**	**0.95**	**292**	⇓*iP*	**Pn**	**04 00 27.6**	**+0.3**
PSGC				*i* S	**Sn**	**04 00 42.7**	**+0.5**
PSGC				IAML		04 00 45.9	
	comp=E,1μm,0.1s						
PSGCX	**Pisagua**	**0.95**	**292**	*eP*	**Pn**	**04 00 27.8**	**+0.5**
PSGCX				*eS*	**Sn**	**04 00 42.6**	**+0.4**
PB01	**IPOC Station P**	**1.12**	**195**	*eP*	**Pn**	**04 00 29.8**	**+0.7**
PB01				*eS*	**Sn**	**04 00 46.8**	**+1.3**
PB01	**IPOC Station P**	**1.12**	**195**	⇓*iP*	**Pn**	**04 00 29.6**	**+0.5**
PB01				*i* S	**Sn**	**04 00 46.1**	**+0.7**
PB01				IAML		04 00 48.2	
	comp=N,2μm,0.6s						
PB02	**IPOC Station P**	**1.51**	**206**	*eP*	**Pn**	**04 00 34.7**	**+0.8**
PB02	**IPOC Station P**	**1.51**	**206**	⇓*iP*	**Pn**	**04 00 34.3**	**+0.5**
PB02				IAML		04 01 02.1	
	comp=E,1μm,0.5s						
PB12	**IPOC Station P**	**1.72**	**321**	*eP*	**Pn**	**04 00 37.0**	**+0.6**
PB12				⇓*eS*	**Sn**	**04 01 02.9**	**+4.5**
PB12	**IPOC Station P**	**1.72**	**321**	⇑*iP*	**Pn**	**04 00 36.8**	**+0.4**
PB12				*i* S	**Sn**	**04 00 59.2**	**+0.8**
PB09	**IPOC Station P**	**1.83**	**182**	*eS*	**Sn**	**04 01 03.9**	**+2.7**
PB09	**IPOC Station P**	**1.83**	**182**	*eP*	**Pn**	**04 00 39.1**	**+1.2**
PB07	**IPOC Station P**	**1.88**	**200**	⇓*eP*	**Pn**	**04 00 39.3**	**+0.7**
PB07				*eS*	**Sn**	**04 01 03.5**	**+1.3**
PB07	**IPOC Station P**	**1.88**	**200**	⇑*iP*	**Pn**	**04 00 39.2**	**+0.7**
PB07				*i* S	**Sn**	**04 01 02.2**	**0.0**
PB03	**IPOC Station P**	**2.15**	**194**	*eP*	**Pn**	**04 00 43.3**	**+1.3**
PB04	**IPOC Station P**	**2.53**	**201**	*eP*	**Pn**	**04 00 49.7**	**+2.6**
LVC	**Limon Verde**	**2.65**	**175**	⇓*eP*	**Pn**	**04 00 52.6**	**+3.7**
LVC	**Limon Verde**	**2.65**	**175**	P	**Pn**	**04 00 50.1**	**+1.3**
	comp=E,7.8nm,0.3s,baz=358,slow=7.1,SNR=89						
LVC				S	**Sn**	**04 01 20.9**	**+0.4**
	comp=E,11nm,0.3s,baz=308,slow=15,SNR=7.2						
PB06	**IPOC Station P**	**2.76**	**187**	*eP*	**Pn**	**04 00 51.5**	**+1.4**
PB05	**IPOC Station P**	**3.03**	**198**	⇓*eP*	**Pn**	**04 00 56.4**	**+2.7**
PB15	**IPOC Station P**	**3.25**	**185**	*eP*	**Pn**	**04 00 56.6**	**0.0**
LPAZ	**La Paz**	**3.78**	**16**	P	**Pn**	**04 01 07.1**	**+2.9**
	comp=E,1.1nm,0.3s,baz=187,slow=7.4,SNR=64						
LPAZ				S	**Sn**	**04 01 49.4**	**+1.3**
	comp=E,0.3nm,0.3s,baz=138,slow=12,SNR=4.2						
HJA	**Humahuaca**	**4.78**	**133**	*eP*	**Pn**	**04 01 19.9**	**+2.5**
HJA				IAML		04 01 21.7	
	comp=Z,11nm,0.6s						
SIV	**San Ignacio**	**8.67**	**64**	P	**Pn**	**04 02 07.9**	**-2.1**
	comp=Z,1.2nm,0.3s,baz=266,slow=9.9,SNR=44						
CPUP	**Villa Florida**	**12.61**	**122**	P	**Pn**	**04 03 01.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=307,slow=13,SNR=6.0						
CPUP				LR	LR	04 08 28.3	
	comp=Z,63nm,20.4s,baz=353,slow=40						
PLCA	**Paso Flores**	**20.74**	**183**	P	**P**	**04 04 40.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=22,slow=12,SNR=6.9						
TORD	**Torodi Ar. Bea**	**77.09**	**71**	P	**P**	**04 11 48.7**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=258,slow=5.1,SNR=8.1						
YKA	**Yellowknife Ar**	**89.65**	**341**	P	**P**	**04 12 54.0**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=134,slow=4.5,SNR=21						
H11S2	**WAKE ISLAND Hy**	**127.41**	**278**	T	T	06 38 44.6	
	baz=101						
H11S1	**WAKE ISLAND Hy**	**127.42**	**278**	T	T	06 38 46.1	
	baz=101						
H11S3	**WAKE ISLAND Hy**	**127.43**	**278**	T	T	06 38 44.4	
	baz=101						
H11N3	**WAKE ISLAND Hy**	**127.45**	**280**	T	T	06 38 48.3	
	baz=100,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**127.47**	**280**	T	T	06 38 54.6	
	baz=100,slow=74,SNR=12						
H11N1	**WAKE ISLAND Hy**	**127.47**	**280**	T	T	06 38 52.8	
	baz=100,slow=74,SNR=6.6						
ZALV	**Zalesovo Beam**	**140.66**	**24**	PKP	**PKPdf**	**04 19 22.5**	**-2.8**
	comp=Z,0.4nm,0.5s,baz=27,slow=3.5,SNR=2.4						
MKAR	**Makanchi Array**	**144.53**	**34**	PKP	**PKPab**	**04 19 31.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=352,slow=3.2,SNR=3.1						
SONM	**Songino Array**	**151.96**	**6**	PKPbc	**PKPbc**	**04 19 51.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=22,slow=1.6,SNR=3.6						

*NIED **30** 04:22:00, 39°.10N×142°.20E, h44km, Mw4.0 Best double couple: M0 1.07000×10^15 NP1:φ0=182.00000°, δ22.00000°, λ72.00000°. NP2:φ0=22.00000°, δ69.00000°, λ97.00000°.*
*ISCJB **30** 04:22:31.7±0.9, 39°.06N±0°.04×142°.2E±0°.1, h50km±6km, mb3.8/13, MS3.4/1, Error ellipse: s-maj=14.5km s-min=5.4km az=20.9*
*JMA **30** 04:22:32.4±0.1, 39°.10N×142°.21E, h43km±1km, M4.0*
JMA Felt II J1.
*IDC **30** 04:22:35.0±2.2, 39°.05N×142°.17E, h65km±18km, mb3.5/13, mb1 3.7/17, mb1mx3.6/46, mbtmp3.8/17, MS3.0/7, Ms1 3.0/7, ms1mx2.8/44, Error ellipse: s-maj=21.1km s-min=12.7km az=111.0*
ISC 30 04:22:32.9±1.4, 39°.06N±0°.05×142°.2E±0°.1, h44km±11km, n41, σ1°31/41, mb3.8/13, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**273**	P	**Pn**	**04 22 42.4**	**-0.5**
OFUJ				S	**Sn**	**04 22 49.2**	**-0.7**
MIYJ	**Miyakonagasawa**	**0.60**	**329**	P	**Pn**	**04 22 44.0**	**-1.1**
MIYJ				S	**Sn**	**04 22 52.0**	**-1.8**
JKMT	**Kesennumamotoy**	**0.63**	**247**	P	**Pn**	**04 22 45.0**	**-0.5**
JKMT				*eS*	**Sn**	**04 22 53.6**	**-0.9**
JMK	**Ichinoseki**	**0.78**	**262**	P	**Pn**	**04 22 47.1**	**-0.4**
JMK				*eS*	**Sn**	**04 22 57.6**	**-0.5**
JOM	**Ohasama**	**0.82**	**300**	P	**Pn**	**04 22 47.5**	**-0.6**
JIO	**Ouri**	**0.91**	**228**	P	**Pn**	**04 22 48.7**	**-0.5**
JIO				S	**Sn**	**04 22 59.9**	**-1.3**
JTH	**Tanohata**	**0.92**	**343**	P	**Pn**	**04 22 48.1**	**-1.3**
JKZ	**Kuzumaki**	**1.15**	**324**	P	**Pn**	**04 22 52.3**	**-0.2**
JKZ				*eS*	**Sn**	**04 23 06.4**	**-0.7**
JRG	**Rokugo**	**1.27**	**286**	P	**Pn**	**04 22 53.9**	**-0.3**
JOU	**Okura**	**1.40**	**241**	P	**Pn**	**04 22 55.8**	**-0.1**
JANG	**Nango**	**1.42**	**338**	P	**Pn**	**04 22 55.3**	**-0.9**
JYK	**Kaneyama**	**1.45**	**265**	P	**Pn**	**04 22 56.7**	**0.0**
MJAR	**Matsushiro Arr**	**4.05**	**233**	P	**Pn**	**04 23 34.8**	**+2.4**
	1.0nm,0.3s,baz=38,slow=11,SNR=51						
MJAR				S	Sn	04 24 35.3	+17
	0.1nm,0.3s,baz=225,slow=28,SNR=2.6						
MJAR				LR	LR	04 25 17.4	
	comp=Z,106nm,19.7s,baz=60,slow=41						
MAT	**Matsushiro**	**4.05**	**233**	P	**Pn**	**04 23 35.1**	**+2.8**
MAT				*eS*	**Sn**	**04 24 18.4**	**-0.1**
ASAJ	**Asahikawa**	**5.06**	**3**	P	**Pn**	**04 23 46.7**	**+0.5**
	3.2nm,0.3s,baz=200,slow=12,SNR=11						
ASAJ				S	**Sn**	**04 24 45.8**	**+2.5**
	1.6nm,0.3s,baz=292,slow=19,SNR=3.5						
ASAJ				LR	LR	04 26 23.0	
	comp=Z,79nm,18.4s,baz=16,slow=45						
USRK	**Ussuriysk Ar.**	**9.21**	**307**	P	**Pn**	**04 24 46.6**	**+3.5**
	0.5nm,0.3s,baz=205,slow=8.4,SNR=5.8						
USRK				LR	LR	04 28 18.8	
	comp=Z,82nm,20.5s,baz=124,slow=37						
JNU	**Nakatsue**	**10.91**	**241**	LR	LR	04 29 25.5	
	comp=Z,79nm,21.9s,baz=18,slow=38						
KSRS	**Korea Array**	**11.35**	**266**	P	**Pn**	**04 25 15.9**	**+3.6**
	0.2nm,0.3s,baz=82,slow=13,SNR=4.5						
KSRS				LR	LR	04 29 01.8	
	comp=Z,56nm,21.7s,baz=98,slow=34						
KLR	**Kul'dur**	**12.63**	**327**	LR	LR	04 30 19.5	
	comp=Z,90nm,19.4s,baz=120,slow=37						
MA2	**Magadan**	**21.24**	**12**	P	**P**	**04 27 14.8**	**-0.1**
	3.9nm,0.5s,baz=200,slow=7.7,SNR=4.9						
SEY	**Seymchan**	**24.68**	**11**	P	**P**	**04 27 50.1**	**+0.8**
	1.8nm,0.7s,baz=204,slow=5.2,SNR=7.3						
SONM	**Songino Array**	**27.24**	**301**	P	**P**	**04 28 12.1**	**-0.8**
	0.5nm,0.5s,baz=96,slow=8.7,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**28.72**	**125**	T	T	04 58 48.7	
	baz=318,slow=75,SNR=2229						
H11N1	**WAKE ISLAND Hy**	**28.73**	**125**	T	T	04 58 52.4	
	baz=318,slow=75,SNR=2099						
H11N3	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	04 59 00.1	
	baz=318,slow=75,SNR=1894						
H11S1	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	04 59 49.9	
	baz=319,slow=76,SNR=210						
H11S3	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	04 59 48.6	
	baz=319,slow=76,SNR=207						
H11S2	**WAKE ISLAND Hy**	**29.52**	**127**	T	T	04 59 49.7	
	baz=319,slow=76,SNR=174						
ZALV	**Zalesovo Beam**	**41.04**	**311**	P	**P**	**04 30 11.3**	**-0.4**
	1.9nm,0.5s,baz=95,slow=7.2,SNR=7.5						
MKAR	**Makanchi Array**	**43.61**	**300**	P	**P**	**04 30 32.4**	**-0.4**
	2.7nm,0.7s,baz=84,slow=9.8,SNR=28						
ILAR	**Eielson Array**	**47.45**	**33**	P	**P**	**04 31 03.3**	**+0.5**
	0.7nm,0.7s,baz=265,slow=6.4,SNR=12						
WRA	**Warramunga Arr**	**59.16**	**189**	P	**P**	**04 32 27.8**	**-1.4**
	0.5nm,0.4s,baz=6.6,slow=7.0,SNR=18						
YKA	**Yellowknife Ar**	**61.74**	**31**	P	**P**	**04 32 46.9**	**+0.5**
	0.1nm,0.8s,baz=300,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**62.88**	**189**	P	**P**	**04 32 53.9**	**-0.5**
	0.8nm,1.0s,baz=8.6,slow=6.8,SNR=4.4						
FINES	**FINESS Array B**	**67.32**	**332**	P	**P**	**04 33 21.8**	**-1.0**
	2.5nm,0.7s,baz=27,slow=11,SNR=11						
NB2	**NORSAR Subarra**	**72.56**	**337**	P	**P**	**04 33 54.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=35,slow=6.2						
NOA	**NORSAR Array B**	**72.56**	**337**	P	**P**	**04 33 54.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=37,slow=6.0,SNR=5.0						
NOA				LR	LR	05 10 53.4	
	comp=Z,20nm,19.1s,baz=250,slow=40						
BRTR	**Keskin Array B**	**77.98**	**312**	P	**P**	**04 34 26.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=94,slow=3.7,SNR=3.0						
GERES	**GERESS Array B**	**81.32**	**328**	P	**P**	**04 34 44.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.0,SNR=6.8						
RCBR	**Riachuelo**	**146.87**	**357**	PKPbc	**PKPbc**	**04 42 11.3**	**+0.4**
	comp=Z,78nm,0.9s,baz=20,slow=0.0,SNR=3.9						
SIV	**San Ignacio**	**149.27**	**48**	PKPbc	**PKPbc**	**04 42 16.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=288,slow=3.2,SNR=3.6						

*ISK **30** 04:28:20.7, 38°.77N×43°.20E, h5km, ML2.3/8*
*DDA **30** 04:28:21.2, 38°.77N×43°.19E, h7km±4km, ML3.0*
*ISCJB **30** 04:28:22.1±0.4, 38°.77N±0°.03×43°.22E±0°.04, h18km±10km, Error ellipse: s-maj=5.2km s-min=4.7km az=26.2*
ISC 30 04:28:21.7±1.0, 38°.78N±0°.03×43°.21E±0°.03, h17km±10km, n16, σ0°73/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.23**	**142**	PG	**Pg**	**04 28 27.3**	**+0.2**
VANB				SG	**Sb**	**04 28 31.9**	**+0.6**
ERCV	**ERCIS-VAN**	**0.26**	**22**	PG	**Pg**	**04 28 27.1**	**-0.5**
TVAN	**Van**	**0.29**	**148**	*i* P	**Pg**	**04 28 27.5**	**-0.6**
TVAN				*i* S	**Sg**	**04 28 33.0**	**+0.4**
TVAN				IAML_P			
	comp=Z,12μm,0.2s						
VMUR	**Van-Muradiye**	**0.35**	**53**	*i* P	**Pg**	**04 28 29.2**	**+0.1**
VMUR				*i* S	**Sb**	**04 28 35.3**	**+0.3**
VMUR				IAML_P			
	comp=Z,4μm,0.1s						
ADCV	**BITLIS_Adilcev**	**0.38**	**275**	*i* P	**Pb**	**04 28 30.1**	**0.0**
ADCV				*i* S	**Sb**	**04 28 37.3**	**+1.6**
ADCV				IAML_P			
	comp=Z,2μm,0.1s						
GEVA	**Gevas**	**0.48**	**194**	*i* P	**Pg**	**04 28 30.5**	**-0.8**
GEVA				IAML_P			
	comp=Z,5μm,0.2s						
AKDM	**Akdamar-Van**	**0.48**	**202**	PG	**Pg**	**04 28 30.5**	**-0.9**
MLAZ	**Malazgirt-MUS**	**0.63**	**305**	PG	**Pg**	**04 28 33.4**	**-0.8**
CLDR	**Calderan**	**0.66**	**56**	*i* P	**Pg**	**04 28 33.6**	**-1.1**
CLDR				*i* S	**Sb**	**04 28 45.0**	**+1.1**
CLDR				IAML_P			
	comp=Z,1μm,0.1s						
TUTA	**Tutak**	**0.70**	**334**	*i* P	**Pg**	**04 28 35.0**	**-0.4**
TUTA				IAML_P			
	comp=Z,8μm,0.1s						
AGRB	**Hanur-Agry**	**0.81**	**348**	PG	**Pb**	**04 28 36.8**	**-0.7**
AGRB				SG	**Sg**	**04 28 48.9**	**+0.5**
BLIS	**Bitlis-Merkez**	**0.93**	**247**	*i* P	**Pb**	**04 28 39.3**	**-0.2**
BLIS				*i* S	**Sg**	**04 28 52.4**	**+0.3**
BLIS				IAML_P			
	comp=Z,3μm,0.2s						
GURO	**Guroymak-BITLI**	**0.95**	**257**	PG	**Pb**	**04 28 39.1**	**-0.6**
MUSM	**Mu-Merkez**	**1.33**	**268**	*i* P	**Pb**	**04 28 46.1**	**-0.1**
MUSM				IAML_P			
	comp=Z,303nm,0.2s						
SIRT	**Sirnak**	**1.41**	**206**	PN	**Pb**	**04 28 47.6**	**0.0**
CUKT	**Cukurca**	**1.56**	**168**	PN	**Pb**	**04 28 49.7**	**-0.4**

*MAN **30** 04:52:35.5, 10°.03N×126°.25E, h4km, MS3.9*
*IDC **30** 04:52:46.2±2.9, 9°.80N×126°.00E, h130km±26km, mb3.5/11, mb1 3.6/12, mb1mx3.5/41, mbtmp3.9/12, Error ellipse: s-maj=51.9km s-min=14.8km az=71.0*
ISC 30 04:52:33.2±1.5, 10°.07N±0°.03×126°.35E±0°.05, h11km±9km, n30, σ1°86/42, mb3.9/11, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.90**	**252**	⇓*iP*	**Pb**	**04 52 51.1**	**+0.4**
SCPH				*i* S	**Sn**	**04 53 04.8**	**+0.2**
BUTP	**Butuan**	**1.31**	**214**	*eP*	**Pn**	**04 52 57.5**	**+0.2**
BUTP				*eS*	**Sn**	**04 53 15.4**	**+0.6**
MSLP	**Maasin**	**1.47**	**273**	*eP*	**Pb**	**04 53 00.9**	**+0.4**
MSLP				*eS*	**Sg**	**04 53 20.6**	**+0.1**
PLP	**Palo**	**1.74**	**309**	⇓*eP*	**Pb**	**04 53 05.1**	**0.0**
PLP				*eS*	**Sg**	**04 53 29.6**	**+0.5**
BESP	**Borongan**	**1.77**	**330**	*eP*	**Pg**	**04 53 06.7**	**-0.5**
CGP	**Cagayan de Oro**	**2.29**	**226**	⇓*eP*	**Pb**	**04 53 13.6**	**-0.9**
CGP				*eS*	**Sn**	**04 53 41.4**	**+2.3**
LLP	**Lapu-Lapu**	**2.36**	**276**	*eP*	**Pb**	**04 53 14.6**	**-1.1**
LLP				*eS*	**Sb**	**04 53 43.7**	**-1.2**
TBP	**Tagbilaran**	**2.48**	**262**	*eP*	**Pb**	**04 53 16.2**	**-1.6**
TBP				*eS*	**Sb**	**04 53 47.7**	**-0.7**
BUKP	**Musuan**	**2.52**	**210**	*eP*	**Pn**	**04 53 17.2**	**+3.1**
BUKP				*eS*	**Sn**	**

σ1$69/9, **mb3.4/3, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.79**	**261**	P	**Pn**	**04 57 34.4**	**-3.0**
SANI	**Sanana**	**2.90**	**175**	P	Pn	04 58 04.6	+12
LUWI	**Luwuk**	**3.53**	**238**	P	**Pn**	**04 58 01.7**	**+0.5**
MRSI	**Marisa**	**3.83**	**264**	P	**Pn**	**04 58 05.4**	**0.0**
APSI	**Ampana**	**4.46**	**247**	P	**Pn**	**04 58 12.8**	**-1.3**
MPSI	**Mapaga**	**5.88**	**265**	P	**Pn**	**04 58 33.6**	**+0.1**
SPSI	**Sidrap Palu**	**7.66**	**231**	P	**Pn**	**04 58 57.2**	**-0.9**
PPBI	**Pangkal Pinang**	**19.84**	**261**	P	Pn	**05 01 41.1**	**+2.4**
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=336,slow=10,SNR=4.6	**22.32**	**158**	P	**P**	**05 02 03.3**	**-0.3**
ASAR	**Alice Springs** 0.9nm,1.0s,baz=343,slow=8.2,SNR=4.6	**25.63**	**163**	P	**P**	**05 02 35.1**	**-0.2**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=126,slow=6.9,SNR=5.0	**59.38**	**327**	P	P	05 07 07.6	-0.2

*BJI **30** 05:03:40.6, 10˚.50S×123˚.70E, h7km, mb4.6/25, mB4.9/19, Ms4.8/2*
*ISCJB **30** 05:03:42.1±0.3, 10˚.55S±0˚.03×123˚.89E±0˚.04, h27km, mb4.6/28, MS3.5/9, Error ellipse: s-maj=5.7km s-min=3.5km az=146.4*
*IDC **30** 05:03:42.7±0.7, 10˚.09S×123˚.36E, h0km, mb4.5/11, mb1 4.5/12, mb1mx4.1/45, mbtmp4.5/12, ML4.5/1, MS3.5/13, Ms1 3.5/13, ms1mx3.3/39, Error ellipse: s-maj=22.4km s-min=5.6km az=28.0*
*DJA **30** 05:03:43.2±0.3, 10˚.S±2˚×12˚.4E±˚, h10km, M4.8/9, mb4.7/9, mB5.1/3, MLv4.8/6, Mw(mB)4.4/3*
*NEIC **30** 05:03:44.5±1.1, 10.40S×123.70E, h19km±6km, mb4.6/18, Error ellipse: s-maj=9.7km s-min=6.8km az=68.0*

ISC 30 05:03:44.9±0.4, 10˚.50S±0˚.04×123˚.84E±0˚.05, h27km, n115, σ2$38/117, mb4.7/28, MS3.5/9, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.34**	**328**	P	**Pb**	**05 03 49.1**	**-3.6**
BATI				S	**Sb**	**05 03 53.7**	**-4.3**
BATI	**Baumata** 4µm,0.3s,baz=165,slow=5.4,SNR=1258	**0.34**	**328**	Pg	**Pb**	**05 03 48.6**	**-4.1**
BATI	baz=75,slow=20			Lg	Lg	05 03 53.7	
SOEI	**Soe**	**0.85**	**30**	*e*Pg	**Pn**	**05 04 01.3**	**+0.2**
SOEI	**Soe**	**0.85**	**30**	P	**Pb**	**05 03 59.1**	**-2.0**
SOEI				S	**Sb**	**05 04 09.6**	**-2.5**
MMRI	**Maumere**	**2.43**	**319**	*e*Pn	**Pn**	**05 04 23.1**	**+0.1**
MMRI	**Maumere**	**2.43**	**319**	P	**Pn**	**05 04 23.0**	**+0.1**
MMRI				S	**Sn**	**05 04 53.1**	**+1.3**
EDFI	**Ende, Flores**	**2.74**	**309**	P	**Pn**	**05 04 27.4**	**+0.1**
EDFI				S	**Sn**	**05 05 01.4**	**+1.8**
BSSI	**Bau Bau, Buton** 124nm,1.0s,1µm0.5nm	**5.45**	**322**	P	**Pn**	**05 05 05.0**	**+0.6**
PLAI	**Plampang** 135nm,0.9s,0.4nm	**6.21**	**285**	P	**Pn**	**05 05 14.8**	**0.0**
BKSI	**Bulukumba**	**6.32**	**324**	P	**Pn**	**05 05 16.7**	**+0.3**
KAPI	**Kappang**	**6.79**	**323**	*e*Pn	**Pn**	**05 05 24.7**	**+1.9**
BNSI	**Bone** 54nm,1.4s	**7.10**	**328**	P	**Pn**	**05 05 27.4**	**+0.3**
MTN	**Manton Dam**	**7.51**	**109**	*e*Pn	**Pn**	**05 05 33.6**	**+0.8**
MTN				*e*Sn	**Sn**	**05 06 57.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**7.76**	**167**	*e*Pn	**Pn**	**05 05 36.4**	**+0.3**
FITZ				*e*Sn	**Sn**	**05 07 01.7**	**-1.4**
FITZ	**Fitzroy Crossi** 4.8nm,0.3s,baz=12,slow=9.6,SNR=87	**7.76**	**167**	Pn	**Pn**	**05 05 36.0**	**-0.2**
FITZ	8.6nm,0.3s,baz=252,slow=20,SNR=12			Sn	**Sn**	**05 07 00.8**	**-2.3**
FITZ	comp=Z,271nm,19.3s,baz=350,slow=40			LR	LR	05 09 13.7	
SANI	**Sanana** 41nm,1.0s,614nm	**8.66**	**14**	P	**Pn**	**05 05 49.2**	**+0.7**
LUWI	**Luwuk**	**9.45**	**353**	*e*Pn	**Pn**	**05 06 00.9**	**+1.5**
FAKI	**Fak Fak**	**11.24**	**49**	*e*Pn	**Pn**	**05 06 26.9**	**+3.1**
SIJI	**Sorong** 2.7nm,0.3s,baz=225,slow=14,SNR=4.2	**12.08**	**38**	Pn	**Pn**	**05 06 37.5**	**+2.0**
WR1	**Warramunga Arr**	**13.81**	**134**	*e*Pn	**Pn**	**05 06 55.9**	**-3.1**
WR1				*e*Sn	**Sn**	**05 09 23.3**	**-8.2**
WRA	**Warramunga Arr** 1.4nm,0.3s,baz=303,slow=14,SNR=50	**13.81**	**134**	Pn	**Pn**	**05 06 55.9**	**-3.1**
WRA	3.6nm,0.3s,baz=277,slow=17,SNR=8.9			Sn	**Sn**	**05 09 23.3**	**-8.2**
WRA	comp=Z,203nm,20.1s,baz=300,slow=38			LR	LR	05 12 51.1	
WRAB	**Tennant Creek**	**13.81**	**134**	*e*Sn	**Sn**	**05 09 24.9**	**-6.6**
WB2	**Warramunga Arr**	**13.81**	**134**	*e*Pn	**Pn**	**05 06 57.2**	**-1.9**
PBKI	**Pangkalan Bun**	**14.35**	**302**	P	P	05 07 20.2	+7.0
GIRL	**Giralia** 111nm,1.1s	**15.18**	**216**	*e*Pn	**Pn**	**05 07 17.3**	**-0.3**
AS31	**Alice Springs** 4.9nm,0.6s	**16.24**	**145**	*e*Pn	**Pn**	**05 07 29.7**	**-1.6**
AS31				*e*Sn	**Sn**	**05 10 22.7**	**-8.0**
ASAR	**Alice Springs** 1.0nm,0.3s,baz=319,slow=12,SNR=60	**16.24**	**145**	Pn	**Pn**	**05 07 29.3**	**-2.0**
ASAR	1.4nm,0.3s,baz=318,slow=22,SNR=10			Sn	**Sn**	**05 10 23.6**	**-7.1**
ASAR	comp=Z,194nm,21.1s,baz=318,slow=38			LR	LR	05 14 31.5	
AS01	**Alice Springs**	**16.26**	**145**	*e*Pn	**Pn**	**05 07 29.9**	**-1.7**
DAV	**Davao City (W)** comp=Z,47nm,20.4s,baz=206,slow=42	**17.54**	**6**	LR	LR	05 15 51.4	
KKM	**Kota Kinabalu** 20nm,0.7s	**18.10**	**335**	*e*Pn	**P**	**05 07 55.0**	**+0.1**
COEN	**Coen** 11nm,0.9s	**19.20**	**102**	*e*P	**Pn**	**05 08 10.2**	**+2.2**
MORW	**Morawa** 17nm,0.8s	**19.87**	**200**	*e*P	**Pn**	**05 08 15.8**	**-0.1**
MDSI	**Maura Dua** 14nm,0.9s,1µm	**20.38**	**286**	P	Pn	05 08 22.1	+0.1
FORT	**Forrest** 62nm,0.6s	**20.56**	**170**	*e*P	Pn	05 08 23.3	-0.6
MNAI	**Manna** 143nm,0.9s	**21.58**	**285**	*e*P	**P**	**05 08 32.4**	**-0.4**
NWAO	**Narrogin (SRO)** 15nm,1.0s	**23.14**	**194**	*e*P	**P**	**05 08 53.3**	**+4.2**
NWAO	**Narrogin (SRO)** 7.8nm,1.0s,baz=29,slow=11,SNR=3.7	**23.14**	**194**	P	**P**	**05 08 53.0**	**+3.8**
NWAO	comp=Z,120nm,19.0s,baz=322,slow=36			LR	LR	05 17 41.3	
BBOO	**Buckleboo** 23nm,1.0s	**24.90**	**155**	*e*P	**P**	**05 09 07.9**	**+2.3**
STKA	**Stephens Creek** 1.8nm,1.0s	**26.88**	**145**	*e*P	**P**	**05 09 27.3**	**+3.7**
STKA	**Stephens Creek** 2.8nm,0.7s,baz=303,slow=9.6,SNR=6.1	**26.88**	**145**	P	**P**	**05 09 27.4**	**+3.7**
STKA	comp=Z,139nm,20.4s,baz=343,slow=38			LR	LR	05 21 06.1	
PSI	**Prapat** comp=Z,79nm,20.2s,baz=134,slow=38	**28.10**	**297**	LR	LR	05 21 17.0	
TOO	**Toolangi** 13nm,1.0s	**33.26**	**148**	*e*P	**P**	**05 10 23.2**	**+3.1**
CMAR	**Chiang Mai Arr** 2.9nm,0.7s,baz=145,slow=7.2,SNR=19	**37.83**	**319**	P	**P**	**05 10 58.0**	**-1.5**
CMAR	1.5nm,0.6s,baz=186,slow=2.6,SNR=6.3			PcP	**PcP**	**05 13 17.9**	**+2.0**
CMAR	comp=Z,32nm,18.7s,baz=168,slow=40			LR	LR	05 28 14.5	
CMMT	**Chiang Mai** 6.5nm,0.8s	**38.09**	**320**	P	**P**	**05 11 00.4**	**-1.3**
KMI	**Kunming**	**40.95**	**330**	P	**P**	**05 11 29.5**	**+3.8**
KMI	comp=Z,13nm,0.5s			pmax	pmax		
KMI	comp=Z,53nm,4.4s			pmax	pmax		
NJ2	**Nanjing**	**42.57**	**354**	*e*P	**P**	**05 11 39.8**	**+1.2**
NJ2	comp=Z,15nm,0.5s			pmax	pmax		
CD2	**Chengdu**	**45.46**	**336**	P	**P**	**05 12 03.5**	**+1.6**
CD2	comp=Z,20nm,1.0s			pmax	pmax		
XAN	**Xi'an**	**46.50**	**343**	P	**P**	**05 12 07.5**	**-2.6**
XAN				pP	pP	05 12 11.0	-7.3
XAN	comp=Z,6.0nm,0.7s			pmax	pmax		
XAN	comp=Z,47nm,4.1s			pmax	pmax		
KSRS	**Korea Array** comp=Z,97nm,19.1s,baz=170,slow=40	**47.85**	**4**	LR	LR	05 35 14.3	
MAJO	**Matsushiro**	**48.70**	**15**	*e*P	**P**	**05 12 25.6**	**-1.5**
MJAR	**Matsushiro Arr** 3.2nm,0.6s,baz=193,slow=9.4,SNR=6.5	**48.70**	**15**	P	**P**	**05 12 25.5**	**-1.5**
HHC	**Hu-ho-hao-te**	**52.33**	**348**	*e*P	**P**	**05 12 57.5**	**+3.0**
HHC	comp=Z,20nm,1.0s			pmax	pmax		
HHC				pmax	pmax		
RPZ	**Rata Peaks** comp=Z,145nm,19.6s,baz=285,slow=35	**52.48**	**138**	LR	LR	05 34 26.8	
URZ	**Urewera** comp=Z,70nm,18.3s,baz=290,slow=37	**54.92**	**130**	LR	LR	05 37 36.8	
USRK	**Ussuriysk Ar.** 2.6nm,0.6s,baz=201,slow=6.3,SNR=5.8	**54.94**	**7**	P	**P**	**05 13 12.8**	**-0.6**
SONA0	**Songino Array**	**60.11**	**347**	*e*P	**P**	**05 13 48.6**	**-1.4**
SONM	**Songino Array** 1.6nm,0.5s,baz=165,slow=7.6,SNR=18	**60.11**	**347**	P	**P**	**05 13 48.6**	**-1.4**
WMQ	**Urumqi**	**63.26**	**331**	*e*P	**P**	**05 14 14.5**	**+3.3**
MK01	**Makanchi Array**	**68.00**	**331**	*e*P	**P**	**05 14 40.7**	**-1.0**
MK31	**Makanchi Array** 7.8nm,0.8s	**68.03**	**331**	*e*P	**P**	**05 14 40.9**	**-1.0**
MK32	**Makanchi Array**	**68.03**	**331**	*e*P	**P**	**05 14 40.6**	**-1.3**
MKAR	**Makanchi Array** 7.9nm,0.7s,baz=134,slow=7.7,SNR=58	**68.03**	**331**	P	**P**	**05 14 40.6**	**-1.3**
MAKZ	**Makanchi** 4.4nm,0.8s	**68.19**	**330**	*e*P	**P**	**05 14 41.6**	**-1.3**
MAW	**Mawson** comp=Z,74nm,19.1s,baz=202,slow=33	**69.51**	**201**	LR	LR	05 42 31.2	
PEA0B	**Petropavlovsk-** 28nm,1.1s	**69.64**	**21**	*e*P	**P**	**05 14 51.9**	**+0.2**
PETK	**Petropavlovsk-**	**69.64**	**21**	*e*P	**P**	**05 14 51.1**	**-0.6**
PETK	**Petropavlovsk-** 3.5nm,0.6s,baz=204,slow=3.5,SNR=7.8	**69.64**	**21**	P	**P**	**05 14 51.8**	**+0.1**
PEA1	**Petropavlovsk-**	**69.64**	**21**	*e*P	**P**	**05 14 51.8**	**0.0**
VNDA	**Vanda** comp=Z,111nm,19.9s,baz=278,slow=35	**69.81**	**172**	LR	LR	05 44 13.2	
WSAR	**Wadi Sarin** 6.8nm,0.9s,baz=63,slow=2.3,SNR=3.7	**72.05**	**299**	P	**P**	**05 15 05.9**	**-1.2**
ZAA0	**Zalesovo Array** 10.0nm,0.8s	**72.20**	**337**	*e*P	**P**	**05 15 05.5**	**-1.8**
ZALV	**Zalesovo Beam**	**72.20**	**337**	*e*P	**P**	**05 15 05.5**	**-1.8**
ZALV	**Zalesovo Beam** 7.1nm,0.5s,baz=140,slow=4.6,SNR=34	**72.20**	**337**	P	**P**	**05 15 05.1**	**-2.2**
ZAA1	**Zalesovo Array**	**72.21**	**337**	*e*P	**P**	**05 15 05.1**	**-2.2**
KURBB	**Kurchatov Arra** 2.8nm,0.9s,baz=132,slow=4.9,SNR=13	**72.48**	**332**	P	**P**	**05 15 07.3**	**-1.7**
GEYT	**Alibeck** 4.1nm,0.7s,baz=72,slow=4.7,SNR=3.7	**77.94**	**313**	P	**P**	**05 15 41.1**	**+0.2**
QSPA	**South Pole Qui** 1.8nm,0.8s	**79.51**	**180**	*e*P	**P**	**05 15 51.2**	**+2.1**
TIXI	**Tiksi** 3.5nm,0.8s	**82.03**	**2**	*e*P	**P**	**05 16 01.2**	**-0.9**
SNAA	**Sanae** 1.9nm,0.9s	**90.81**	**195**	*e*P	**P**	**05 16 48.0**	**+2.5**
VYHS	**Vyhne**	**107.73**	**318**	*e*PDIF	**Pdif**	**05 18 04.8**	**+2.7**
TORD	**Torodi Ar. Bea** 0.6nm,0.7s,baz=74,slow=1.0,SNR=3.7	**123.41**	**279**	PKP	**PKiKP**	**05 22 41.4**	**+0.5**
TOA1	**Torodi Ar. Sit**	**123.42**	**279**	*e*PKPdf	**PKiKP**	**05 22 41.4**	**+0.5**
PD31	**Pinedale Array**	**123.66**	**45**	*e*PKPdf	**PKiKP**	**05 22 40.9**	**-0.1**
PDAR	**Pinedale Array** 0.4nm,0.8s,baz=253,slow=2.7,SNR=3.3	**123.66**	**45**	PKP	**PKiKP**	**05 22 42.1**	**+1.1**
LENM	**Lemitar**	**128.05**	**55**	*e*PKPdf	**PKPdf**	**05 22 46.9**	**-2.4**
M54A	**Oil Creek Stat**	**142.83**	**30**	*e*PKPdf	**PKiKP**	**05 23 17.9**	**-1.5**
NCB	**Newcomb**	**143.16**	**22**	*e*PKPdf	**PKPdf**	**05 23 17.6**	**+0.8**
V51A	**Loudon**	**144.10**	**41**	*e*PKPdf	**PKPdf**	**05 23 18.6**	**-0.1**
TZTN	**Tazewell**	**144.15**	**39**	*e*PKPdf	**PKPdf**	**05 23 18.3**	**-0.4**
CPCT	**Cooper Cave**	**144.20**	**42**	*e*PKPdf	**PKPdf**	**05 23 18.3**	**-0.6**
SSPA	**Standing Stone**	**144.36**	**29**	*e*PKPdf	**PKPdf**	**05 23 19.1**	**+0.2**
Z50A	**Ashland**	**144.50**	**46**	*e*PKPdf	**PKPdf**	**05 23 19.7**	**+0.2**
TKL	**Tonganoxie Chee C**	**144.56**	**41**	*e*PKPdf	**PKPdf**	**05 23 20.1**	**+0.6**
W52A	**Murphy**	**144.80**	**42**	*e*PKPdf	**PKPdf**	**05 23 21.8**	**+1.8**
GBN	**Guysborough**	**144.91**	**7**	*e*PKPdf	**PKPdf**	**05 23 20.7**	**+1.0**
250A	**Grady**	**144.93**	**48**	*e*PKPbc	**PKPdf**	**05 23 21.6**	**+1.4**
N59A	**State Game Lan**	**145.10**	**26**	*e*PKPbc	**PKPdf**	**05 23 21.1**	**+0.8**
V53A	**Saluda**	**145.16**	**40**	*e*PKPbc	**PKPdf**	**05 23 22.3**	**+1.7**
ODNJ	**Ogdensburg**	**145.46**	**25**	*e*PKPdf	**PKPab**	**05 23 21.3**	**+0.3**
BG3	**Lake Jocassee**	**145.51**	**41**	*e*PKPdf	**PKiKP**	**05 23 23.6**	**-1.6**
LUPA	**Lehigh Univers**	**145.53**	**26**	*e*PKPdf	**PKPab**	**05 23 22.5**	**+1.1**
BLA	**Blacksburg**	**145.57**	**35**	*e*PKPdf	**PKPab**	**05 23 23.2**	**+1.6**
WES	**Weston**	**145.57**	**20**	*e*PKPdf	**PKPab**	**05 23 22.6**	**+1.2**
MVL	**Millersville**	**145.58**	**28**	*e*PKPdf	**PKPab**	**05 23 22.6**	**+1.1**
152A	**Waverly Hall**	**145.67**	**46**	*e*PKPdf	**PKPab**	**05 23 23.5**	**+1.4**
BRNJ	**Basking Ridge**	**145.81**	**25**	*e*PKPdf	**PKPab**	**05 23 23.6**	**+1.3**
PAL	**Palisades**	**145.81**	**24**	*e*PKPdf	**PKPab**	**05 23 23.4**	**+1.1**
BRYW	**Bryant College**	**145.91**	**21**	*e*PKPdf	**PKPab**	**05 23 23.3**	**+0.6**
PSUB	**Penn St. - Bra**	**146.05**	**27**	*e*PKPdf	**PKPab**	**05 23 24.0**	**+0.7**
GOGA	**Godfrey**	**146.11**	**43**	*e*PKPdf	**PKiKP**	**05 23 25.9**	**-0.5**
PAULI	**Pauline**	**146.33**	**40**	*e*PKPdf	**PKiKP**	**05 23 25.9**	**-0.9**
HODGE	**Hodges**	**146.42**	**41**	*e*PKPdf	**PKiKP**	**05 23 26.8**	**-0.2**
KMSC	**Kings Mountain**	**146.42**	**39**	*e*PKPdf	**PKiKP**	**05 23 26.1**	**-0.9**
LPAZ	**La Paz**	**150.87**	**156**	*e*PKPbc	**PKiKP**	**05 23 37.5**	**0.0**
LPAZ	**La Paz** 1.3nm,0.9s,baz=190,slow=4.1,SNR=12	**150.87**	**156**	PKPbc	**PKiKP**	**05 23 39.2**	**+1.7**

MEX 30 05:09:39.2±0.6, 18˚.39N×103˚.55W, h38km±9km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.22**	**117**	*i* P	Pn	05 09 44.9	-3.0
MMIG				*i* S	Sn	05 09 49.7	-6.3
R15V		**0.88**	**332**	*e*P	Pn	05 09 53.4	-1.8
R15V				*e*S	Sn	05 10 04.5	-2.3
EZ5V		**1.09**	**357**	*e*P	Pn	05 09 56.4	-1.7
EZ5V				*e*S	Sn	05 10 09.8	-2.2
CJM	**Chamela**	**1.79**	**308**	*e*P	Pn	05 10 06.0	-1.7
CJM				*i* S	Sn	05 10 27.5	-1.7

*BJI **30** 05:11:31.1, 37˚.50N×72˚.09E, h200km, mb4.3/7, mB4.4/3*
*IDC **30** 05:11:31.5±3.5, 37˚.18N×72˚.30E, h193km±23km, mb3.3/12, mb1 3.5/18, mb1mx3.2/54, mbtmp4.0/18, MS3.4/1, Ms1 3.4/1, ms1mx2.4/37, Error ellipse: s-maj=40.6km s-min=16.4km az=154.0*
*ISCJB **30** 05:11:32.5±0.2, 37˚.42N±0˚.02×72˚.15E±0˚.04, h200km, mb3.8/25, Error ellipse: s-maj=4.0km s-min=3.0km az=2.7*
*MOS **30** 05:11:33.2±0.7, 37˚.43N×72˚.19E, h210km, mb4.3/5, Error ellipse: s-maj=11.1km s-min=5.1km az=82.4*
*NEIC **30** 05:11:34.1±0.4, 37˚.43N×72˚.21E, h201km±4km, mb4.0/12, Error ellipse: s-maj=8.1km s-min=5.5km az=129.0*
*NNC **30** 05:11:37.9±3.9, 37˚.78N×72˚.16E, h197km±46km, mb3.3, mpv4.5, Error ellipse: s-maj=40.0km s-min=27.0km az=3.0*

ISC 30 05:11:33.3±0.5, 37˚.40N±0˚.05×72˚.21E±0˚.05, h200km, n123, σ1$39/134, mb3.9/25, 7C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**2.87**	**338**	*e*Pn	**Pn**	**05 12 22.9**	**+1.5**
BTK				*e*Sn	**Sn**	**05 12 58.2**	**-1.0**
BTK	**Batken**	**2.87**	**338**	*e*PN	**Pn**	**05 12 22.9**	**+1.5**
BTK				*e*		05 12 58.2	
CEP	**Cherat**	**3.58**	**184**	⇓P	**Pn**	**05 12 30.9**	**+0.8**
CEP				S	**Sn**	**05 13 14.0**	**-0.5**
KSH	**Kashi**	**3.63**	**53**	P	**Pn**	**05 12 26.5**	**-4.1**
KSH				S	Sn	05 13 03.5	-12
KSH	comp=N,420nm,0.4s			smax	smax		
KSH	comp=E,450nm,0.4s			smax	smax		
CHCP	**Chirah Chowk**	**3.83**	**167**	P	**Pn**	**05 12 34.9**	**+1.8**
NIL	**Nilore**	**3.84**	**167**	*e*Pn	**Pn**	**05 12 35.0**	**+1.8**
NIL				*e*Sn	**Sn**	**05 13 18.3**	**-1.8**
NIL	**Nilore**	**3.84**	**167**	*e*PN	**Pn**	**05 12 35.0**	**+1.8**
KBL	**Kabul**	**3.84**	**223**	*e*Pn	**Pn**	**05 12 33.9**	**+0.6**
KBL				*e*Sn	**Sn**	**05 13 17.8**	**-2.6**
KBL	**Kabul**	**3.84**	**223**	*e*PN	**Pn**	**05 12 33.9**	**+0.6**
TAS	**Tashkent**	**4.53**	**331**	PN	Pn	05 12 47.0	+5.3
THW	**Thamme Wali**	**4.61**	**185**	P	**Pn**	**05 12 43.2**	**+0.3**
AML	**Almayashu** SNR=413	**4.86**	**13**	P	**Pn**	**05 12 46.5**	**+0.3**
NRN	**Naryn**	**4.98**	**35**	*e*Pn	**Pn**	**05 12 46.6**	**-1.1**
NRN				*e*Sn	**Sn**	**05 13 43.1**	**-3.3**
NRN	**Naryn**	**4.98**	**35**	*e*PN	**Pn**	**05 12 46.6**	**-1.1**
NRN				*e*		05 13 43.1	
UCH	**Uchtor** SNR=148	**5.14**	**19**	P	**Pn**	**05 12 50.1**	**+0.3**
KZA	**Kyzart** SNR=35	**5.22**	**26**	P	**Pn**	**05 12 50.5**	**-0.4**
EKS2	**Erkin-Say** SNR=74	**5.39**	**12**	P	**Pn**	**05 12 53.2**	**+0.5**
SARP	**Sargodha**	**5.48**	**176**	P	**Pn**	**05 12 53.4**	**-0.5**
AAK	**Ala-Archa** SNR=30	**5.52**	**18**	P	**Pn**	**05 12 55.1**	**+0.7**
AAK	**Ala-Archa**	**5.52**	**18**	*e*Pn	**Pn**	**05 12 55.0**	**+0.6**
AAK				*e*Sn	**Sn**	**05 13 56.4**	**-2.2**
AAK	**Ala-Archa** 61nm,0.7s	**5.52**	**18**	⇑P	**Pn**	**05 12 55.0**	**+0.6**
AAK				S	**Sn**	**05 13 56.9**	**-1.6**
AAK	**Ala-Archa** 18nm,0.5s	**5.52**	**18**	*d i* PN	**Pn**	**05 12 54.9**	**+0.6**
AAK	**Ala-Archa** 16nm,0.3s,baz=184,slow=5.1,SNR=208	**5.52**	**18**	P	**Pn**	**05 12 55.1**	**+0.7**
AAK	5.3nm,0.3s,baz=170,slow=13,SNR=12			S	**Sn**	**05 13 56.2**	**-2.3**
KBK	**Karagaybulak** SNR=36	**5.65**	**21**	P	**Pn**	**05 12 57.4**	**+1.2**
FRU1	**Bishkek**	**5.71**	**18**	*e*Pn	**Pn**	**05 12 57.8**	**+1.0**
FRU1	**Bishkek**	**5.71**	**18**	*e*PN	**Pn**	**05 12 57.8**	**+1.0**
ULHL	**Ulahol** SNR=24	**5.75**	**31**	P	**Pn**	**05 12 57.3**	**-0.1**
BOOM	**Boomskoye usch**	**5.83**	**28**	PN	**Pn**	**05 12 58.9**	**+0.4**
BOOM				S	**Sn**	**05 14 03.5**	**-2.4**
KK31	**Karatay Array**	**5.84**	**348**	*e*Pn	**Pn**	**05 12 58.5**	**+0.1**
KK31				*e*Sn	**Sn**	**05 14 02.1**	**-3.7**
KK31	**Karatay Array** 22nm,0.5s,baz=157,slow=10,SNR=288	**5.84**	**348**	P	**Pn**	**05 12 58.4**	**-0.1**
KK31	7.6nm,0.2s,baz=173,slow=23,SNR=8.1			⇓S	**Sn**	**05 14 00.8**	**-5.1**
KK31	**Karatay Array**	**5.84**	**348**	*e*PN	**Pn**	**05 12 58.5**	**+0.1**
KKAR	**Karatay Array**	**5.84**	**348**	*e*Pn	**Pn**	**05 12 58.5**	**0.0**
KKAR				*e*Sn	**Sn**	**05 14 02.1**	**-3.8**
KKAR	**Karatay Array**	**5.84**	**348**	*e*PN	**Pn**	**05 12 58.5**	**0.0**
CHMS	**Chumysh** SNR=20	**5.92**	**18**	P	**Pn**	**05 12 59.9**	**+0.4**
KDJ	**Kajisay**	**6.08**	**37**	*e*Pn	**Pn**	**05 13 02.8**	**+1.1**
KDJ				*e*Sn	Sn	05 14 02.1	-9.5
KDJ	**Kajisay**	**6.08**	**37**	*e*PN	**Pn**	**05 13 02.8**	**+1.1**
TKM2	**Tokmak 2** SNR=78	**6.09**	**24**	P	**Pn**	**05 13 02.3**	**+0.4**
TKM2	**Tokmak 2** 95nm,0.6s	**6.09**	**24**	⇓P	**Pn**	**05 13 02.3**	**+0.4**
TKM2	7.5nm,0.5s			⇑S	**Sn**	**05 14 07.8**	**-4.2**
TKM2	**Tokmak 2**	**6.09**	**24**	PN	**Pn**	**05 13 02.3**	**+0.4**
TKM2	comp=Z,35nm,0.5s			pmax	pmax		
USP	**Ospenovka** SNR=13	**6.12**	**16**	P	**Pn**	**05 13 01.7**	**-0.3**
MDOK	**Medeo** comp=Z,24nm,0.5s	**6.84**	**31**	P	**Pn**	**05 13 11.0**	**-0.5**
MDOK	**Medeo**	**6.84**	**31**	PN	**Pn**	**05 13 11.0**	**-0.5**
MDOK	comp=Z,24nm,0.5s			pmax	pmax		
PRZ	**Przheval'sk**	**6.95**	**41**	*e*Pn	**Pn**	**05 13 13.4**	**+0.4**
PRZ	**Przheval'sk**	**6.95**	**41**	*e*PN	**Pn**	**05 13 13.4**	**+0.4**
PDGK	**Podgornoye**	**8.12**	**41**	PN	**Pn**	**05 13 27.5**	**-0.6**
PDGK	comp=Z,6.0nm,0.8s			pmax	pmax		
GEYT	**Alibeck** comp=Z,0.7nm,0.3s,baz=116,slow=10,SNR=5.4	**11.19**	**277**	P	**Pn**	**05 14 06.6**	**-1.2**
GEYT	comp=Z,1.1nm,0.3s,baz=314,slow=38,SNR=3.7			S	**Sn**	**05 16 08.4**	**-4.2**
MAKZ	**Makanchi**	**11.86**	**35**	*e*Pn	**Pn**	**05 14 15.7**	**-0.6**
MAKZ	**Makanchi**	**11.86**	**35**	*e*P	**Pn**	**05 14 15.7**	**-0.6**
MK01	**Makanchi Array**	**11.98**	**35**	*e*Pn	**Pn**	**05 14 18.2**	**+0.4**
MK31	**Makanchi Array**	**11.99**	**35**	*e*Pn	**Pn**	**05 14 18.5**	**+0.5**
MK31	**Makanchi Array**	**11.99**	**35**	*e*P	**Pn**	**05 14 18.5**	**+0.5**
MKAR	**Makanchi Array** comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=11	**11.99**	**35**	P	**Pn**	**05 14 18.6**	**+0.6**
PYUN	**Piuthan**	**12.96**	**133**	*e*P	**Pn**	**05 14 29.6**	**-1.0**
DANN	**Dangsing**	**13.24**	**130**	*e*P	**Pn**	**05 14 33.5**	**-0.6**
WMQ	**Urumqi**	**13.39**	**57**	*e*P	**P**	**05 14 37.3**	**-1.0**
KOLN	**Koldanda**	**13.57**	**132**	*e*P	**Pn**	**05 14 37.4**	**-0.7**
KURBB	**Kurchatov Arra** comp=Z,9nm,0.5s	**13.97**	**17**	⇑P	**P**	**05 14 43.8**	**-0.7**
KURBB	**Kurchatov Arra** comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=20	**13.97**	**17**	P	**Pn**	**05 14 40.5**	**-2.2**
KURK	**Kurchatov**	**14.08**	**17**	⇑*i* P	**P**	**05 14 46.2**	**+0.5**
KKN	**Kakani** comp=Z,13nm,0.5s	**14.59**	**127**	*e*P	**Pn**	**05 14 50.4**	**-0.3**
DMN	**Daman** comp=Z,8.6nm,0.3s	**14.60**	**128**	*e*P	**P**	**05 14 51.7**	**-0.4**
AB31	**Akbulak array** comp=Z,0.5nm,0.3s,baz=130,slow=13,SNR=26	**14.81**	**327**	P	**Pn**	**05 14 52.7**	**-0.3**
AB31	**Akbulak array**	**14.81**	**327**	P	**Pn**	**05 14 52.7**	**-0.3**
AB31	comp=Z,1.0nm,0.3s			pmax	pmax		
ABKAR	**Akbulak array**	**14.81**	**327**	*e*Pn	**Pn**	**05 14 53.0**	**-0.1**
PKI	**Pulchoki**	**14.82**	**128**	*e*P	**P**	**05 14 54.8**	**+0.2**
GUN

NB201	**NORSAR Array S** comp=Z,9.5nm,1.1s	44.22	322	*eP*		**P**	05 19 22.7	+0.4
NB2	**NORSAR Subarra** comp=Z,0.6nm,0.5s,baz=93,slow=7.9	44.25	322	P		**P**	05 19 22.4	-0.2
NOA	**NORSAR Array B**	44.25	322	*eP*		**P**	05 19 22.7	+0.1
NOA	**NORSAR Array B** comp=Z,0.6nm,0.5s,baz=101,slow=7.2,SNR=7.5	44.25	322	P		**P**	05 19 22.3	-0.3
NBO00	**NORSAR Array S** comp=Z,5.1nm,1.1s	44.47	322	*eP*		**P**	05 19 24.4	+0.2
NC204	**NORSAR Array S**	44.49	323	*eP*		**P**	05 19 24.8	+0.3
GRA1	**Grafenberg Arr** comp=Z,2.1nm,0.8s	44.71	306	*eP*		**P**	05 19 26.0	-0.3
GRF	**Grafenberg Arr**	44.71	306	*eP*		**P**	05 19 26.0	-0.3
DAVOX	**Davos/Dischmat** comp=Z,1.5nm,0.6s,baz=115,slow=9.7,SNR=5.0	46.09	302	P		**P**	05 19 37.1	-0.4
ESDC	**Sonseca Array** comp=Z,0.1nm,0.3s,baz=59,slow=7.7,SNR=5.1	57.90	298	P		**P**	05 21 04.5	+0.1
TOA0	**Torodi Ar. Sit** comp=Z,1.9nm,0.4s	66.71	269	*eP*		**P**	05 22 02.2	-0.9
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.4s,baz=44,slow=5.8,SNR=40	66.71	269	P		**P**	05 22 01.8	-1.3
TOLK	**Toolik Lake Re**	69.81	15	*eP*		**P**	05 22 22.3	+0.8
INK	**Inuvik**	72.86	10	*eP*		**P**	05 22 40.7	+1.0
INK	**Inuvik**	72.86	10	*eP*		**P**	05 22 40.7	+1.0
INK	**Inuvik** comp=Z,0.3nm,0.4s,baz=5.3,slow=2.3,SNR=4.4	72.86	10	P		**P**	05 22 40.2	+0.6
CAST	**Castle Rocks** comp=Z,3.1nm,1.2s	73.52	19	*eP*		**P**	05 22 44.5	+0.8
PPLA	**Purkeypile** comp=Z,4.7nm,1.1s	73.92	19	*eP*		**P**	05 22 46.9	+0.7
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=351,slow=5.5,SNR=14	80.30	3	P		**P**	05 23 21.6	+0.2

*ISCJB **30** 05:31:21.9±0.8,20°.36S±0°.04×178°.06W±0°.04, h531km±10km, mb4.4/163, Error ellipse: s-maj=7.0km s-min=5.6km az=154.7*
*IDC **30** 05:31:22.6±2.2,20°.27S×177°.97W,h531km±24km, mb3.9/30,mb1 4.0/31,mb1mx3.9/49,mbtmp4.7/31, Error ellipse: s-maj=14.9km s-min=11.0km az=141.0*
*BJI **30** 05:31:25.6,19°.69S×177°.94W,h551km,mb4.6/20, mB4.8/11*
*NEIC **30** 05:31:27.4±0.5,20°.48S×178°.08W,h591km±5km, mb4.5/140, Error ellipse: s-maj=7.1km s-min=4.0km az=140.0*

ISC 30 05:31:23.4±0.7,20°.43S±0°.07×177°.89W±0°.08, h545km±7km,n513,σ1§04/550,mb4.5/163,35C-15D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	4.68	304	*eP*		**P**		05 32 49.3	-1.1
GLKZ	**Green Lake**	8.80	180	P		**P**		05 33 27.2	-1.7
GLKZ				S		**S**		05 35 10.4	-1.4
DZM	**Mont Dzumac**	14.70	261	*eP*		**P**		05 34 33.4	+3.4
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=101,slow=18,SNR=3.7	14.70	261	P		**P**		05 34 28.8	-1.2
OUZ	**Omahuta** 22nm,1.2s	16.54	205	*eP*		**P**		05 34 48.8	+0.8
KUZ	**Kuaotunu**	17.19	198	P		**P**		05 34 54.5	+0.6
MXZ	**Matakaoa Point** 28nm,1.0s	17.39	190	*eP*		**P**		05 34 56.5	+0.7
MXZ	**Matakaoa Point**	17.39	190	P		**P**		05 34 56.4	+0.7
WMGZ	**Waiomatatini S**	17.63	190	P		**P**		05 34 58.9	+1.0
HAZ	**Te Kaha**	17.68	191	P		**P**		05 34 58.5	+0.2
MKAZ	**Moumakai**	17.69	199	P		**P**		05 34 59.9	+1.5
PUZ	**Puketiti**	17.90	190	P		**P**		05 35 01.2	+0.8
TWGZ	**Tauwhareparae**	18.05	191	P		**P**		05 35 03.2	+1.4
TOZ	**Tahuroa Road**	18.18	197	P		**P**		05 35 04.7	+1.8
MWZ	**Matawai**	18.28	192	P		**P**		05 35 02.9	-1.1
URZ	**Urewera** 29nm,0.8s	18.29	193	*eP*		**P**		05 35 01.9	-2.1
URZ	**Urewera** 6.5nm,0.3s,baz=269,slow=2.3,SNR=47	18.29	193	P		**P**		05 35 02.1	-1.9
URZ	**Urewera**	18.29	193	P		**P**		05 35 02.5	-1.5
TKGZ	**Te Karaka**	18.33	191	P		**P**		05 35 05.2	+1.0
RAGZ	**Rawiri**	18.46	192	P		**P**		05 35 05.0	-0.6
RIGZ	**Rimuhau**	18.60	191	P		**P**		05 35 07.3	+0.5
KNZ	**Kokohu**	18.92	191	P		**P**		05 35 09.5	-0.2
RAHZ	**Arahi**	18.93	192	P		**P**		05 35 09.9	0.0
HIZ	**Hauiti** 26nm,0.9s	19.09	198	*eP*		**P**		05 35 13.1	+1.9
HIZ	**Hauiti**	19.09	198	P		**P**		05 35 13.7	+2.5
HIZ	**Hauiti**	19.09	198	P		**P**		05 35 13.7	+2.5
NMHZ	**Naumai**	19.16	193	P		**P**		05 35 12.6	+0.6
NMHZ	**Naumai**	19.16	193	P		**P**		05 35 12.6	+0.6
BKZ	**Black Stump Fm** 7.7nm,0.6s	19.29	193	*eP*		**P**		05 35 11.4	-1.8
BKZ	**Black Stump Fm**	19.29	193	P		**P**		05 35 09.9	-3.3
KWHZ	**Kaweka Forest**	19.56	193	P		**P**		05 35 15.0	-0.6
TUVZ	**Tukino**	19.59	195	P		**P**		05 35 14.7	-1.3
BHHZ	**Black Hill Sta**	19.70	194	P		**P**		05 35 14.9	-2.0
KRHZ	**Kereru**	19.78	193	P		**P**		05 35 16.8	-0.8
KAHZ	**Kahuranaki**	19.82	192	P		**P**		05 35 17.6	-0.4
PNHZ	**Pukenui**	20.07	193	P		**P**		05 35 19.8	-0.4
TSZ	**Takapari Road**	20.27	194	P		**P**		05 35 21.2	-0.7
BFZ	**Birch Farm** 24nm,1.2s	20.80	193	*eP*		**P**		05 35 25.4	-1.3
BFZ	**Birch Farm**	20.80	193	P		**P**		05 35 25.5	-1.3
MRZ	**Mangatainoka R**	20.93	194	P		**P**		05 35 25.7	-2.2
HOWZ	**Holdsworth Sta**	21.17	194	P		**P**		05 35 28.5	-1.6
OGWZ	**Otaki Gorge**	21.17	195	P		**P**		05 35 28.8	-1.3
KIW	**Kapiti Island**	21.27	195	P		**P**		05 35 25.6	-5.5
SNZO	**South Karori** 28nm,0.8s	21.75	195	*eP*		**P**		05 35 34.4	-0.9
QRZ	**Quartz Range**	21.91	200	P		**P**		05 35 37.0	+0.2
THZ	**Tophouse** 10nm,0.6s	22.66	198	*eP*		**P**		05 35 42.6	-0.8
KHZ	**Kahutara** 23nm,1.1s	23.09	196	*eP*		**P**		05 35 45.8	-1.4
LTZ	**Lake Taylor** 18nm,0.9s	23.78	198	*eP*		**P**		05 35 51.8	-1.6
OXZ	**Oxford** 15nm,0.6s	24.34	198	*eP*		**P**		05 35 57.4	-1.0
RPZ	**Rata Peaks** 17nm,1.0s	24.99	199	*eP*		**P**		05 36 05.5	+1.3
RPZ	**Rata Peaks** 9.1nm,0.8s,baz=16,slow=3.9,SNR=5.6	24.99	199	P		**P**		05 36 05.4	+1.3
WHZ	**Wether Hill Ro** 11nm,1.1s	27.94	201	*eP*		**P**		05 36 31.6	+1.6
EIDS	**Eidsvold** 5.2nm,0.8s	28.97	254	*eP*		**P**		05 36 39.0	-0.3
ARMA	**Armidale** 3.8nm,0.8s	29.20	244	*eP*		**P**		05 36 42.5	+1.2
CTA	**Charters Tower** 5.9nm,0.5s,baz=105,slow=9.4,SNR=13	33.60	264	P		**P**		05 37 18.8	-0.2
CTAO	**Charters Tower** 8.6nm,0.8s	33.60	264	*eP*		**P**		05 37 18.7	-0.2
COEN	**Coen** 5.0nm,0.9s	37.68	273	*eP*		**P**		05 37 52.6	-0.2
STKA	**Stephens Creek** 1.0nm,1.0s	37.92	244	*eP*		**P**		05 37 55.2	+0.7
STKA					PcP	**PcP**		05 39 56.8	+0.5
STKA	**Stephens Creek** 2.8nm,0.7s,baz=85,slow=7.3,SNR=5.8	37.92	244	P		**P**		05 37 54.5	0.0
STKA	1.2nm,0.5s,baz=135,slow=5.7,SNR=3.5				PcP	**PcP**		05 39 56.8	+0.5
BBOO	**Buckleboo** 17nm,1.1s	42.67	243	*eP*		**P**		05 38 32.6	+0.1
JAY	**Jayapura** 25nm,0.7s,baz=112,slow=2.3,SNR=10	44.12	288	P		**P**		05 38 43.4	-0.7
AS01	**Alice Springs**	44.60	257	*eP*		**P**		05 38 47.3	-0.3
AS01					*ePcP*	**PcP**		05 40 18.7	0.0
AS31	**Alice Springs** 3.8nm,0.8s	44.64	257	*eP*		**P**		05 38 47.4	-0.5
AS31					*ePcP*	**PcP**		05 40 19.3	+0.4
ASAR	**Alice Springs** 15nm,0.8s,baz=97,slow=7.6,SNR=169	44.64	257	P		**P**		05 38 47.5	-0.4
ASAR	3.2nm,0.5s,baz=102,slow=4.1,SNR=13				PcP	**PcP**		05 40 18.8	-0.2
ASAR	0.3nm,0.6s,baz=93,slow=4.1,SNR=3.5				ScP	**ScP**		05 43 23.0	+3.6
WB2	**Warramunga Arr** 10.0nm,0.7s	44.70	262	*eP*		**P**		05 38 47.7	-0.7
WB2					*ePcP*	**PcP**		05 40 19.7	+0.5
WRAB	**Tennant Creek** 6.5nm,0.8s	44.71	262	*eP*		**P**		05 38 47.4	-1.1
WR1	**Warramunga Arr** 19nm,1.0s	44.72	262	*eP*		**P**		05 38 47.4	-1.1
WR1					*ePcP*	**PcP**		05 40 19.4	+0.2
WRA	**Warramunga Arr** 6.3nm,0.6s,baz=97,slow=7.8,SNR=122	44.72	262	P		**P**		05 38 47.4	-1.1
WRA	2.8nm,0.9s,baz=91,slow=3.5,SNR=5.7				PcP	**PcP**		05 40 19.4	+0.2
HMH	**Humu'ula Sheep** 58nm,0.9s	45.43	30	*eP*		**P**		05 38 54.3	0.0
HPAH	**Hawaii Prepara** 92nm,1.2s	45.70	30	*eP*		**P**		05 38 55.6	-0.4
KEKH	**Kekaha** 47nm,1.0s	45.74	24	*eP*		**P**		05 38 55.4	-0.7
MTN	**Manton Dam** 25nm,0.8s	49.27	270	*eP*		**P**		05 39 22.1	-0.8
FORT	**Forrest** 17nm,0.8s	49.42	247	*eP*		**P**		05 39 23.6	-0.2
FITZ	**Fitzroy Crossi**	53.14	262	*eP*		**P**		05 39 50.8	-0.1
FITZ	**Fitzroy Crossi** 3.2nm,0.6s,baz=112,slow=4.2,SNR=18	53.14	262	P		**P**		05 39 50.6	-0.3
SIJI	**Sorong** 33nm,0.8s,baz=68,slow=5.5,SNR=9.6	53.32	285	P		**P**		05 39 51.7	-0.5
SOEI	**Soe** 46nm,0.8s	56.60	272	*eP*		**P**		05 40 16.8	+1.6
SBA	**Scott Base** 4.2nm,1.1s	57.95	184	*eP*		**P**		05 40 26.9	+3.7
VNDA	**Vanda**	57.99	185	*eP*		**P**		05 40 25.9	+2.3
VNDA	**Vanda** 0.9nm,0.8s,baz=350,slow=8.2,SNR=7.0	57.99	185	P		**P**		05 40 25.6	+2.1
MORW	**Morawa** 4.4nm,0.8s	59.95	248	*eP*		**P**		05 40 37.6	0.0
QSPA	**South Pole Qui** 5.2nm,0.8s	69.64	180	*eP*		**P**		05 41 39.9	+1.9
MJAR	**Matsushiro Arr** 4.5nm,0.6s,baz=167,slow=6.2,SNR=14	70.21	324	P		**P**		05 41 40.7	-1.0
MAJO	**Matsushiro**	70.22	324	*eP*		**P**		05 41 40.7	-1.0
MAT	**Matsushiro**	70.22	324	P		**P**		05 41 41.0	-0.8
MJB9	**Matsu-Tunnel** 4.6nm,0.8s	70.22	324	*eP*		**P**		05 41 41.5	-0.2
ADK	**Adak** 43nm,1.1s	72.00	1	*eP*		**P**		05 41 51.0	-0.8
ASAJ	**Asahikawa** 21nm,0.8s,baz=197,slow=5.9,SNR=10	73.71	331	P		**P**		05 42 02.6	+0.8
UNV	**Unalaska Valle** 22nm,1.2s	74.61	7	*eP*		**P**		05 42 05.6	-1.1
PEA0B	**Petropavlovsk-** 13nm,0.7s	76.23	345	*eP*		**P**		05 42 15.4	-0.3
PETK	**Petropavlovsk-**	76.23	345	*eP*		**P**		05 42 15.2	-0.4
PETK	**Petropavlovsk-** 13nm,0.7s,baz=138,slow=7.1,SNR=17	76.23	345	P		**P**		05 42 14.9	-0.8
PEA1	**Petropavlovsk-**	76.23	345	*eP*		**P**		05 42 14.9	-0.8
KSRS	**Korea Array** 1.6nm,0.6s,baz=139,slow=7.0,SNR=6.5	76.90	319	P		**P**		05 42 19.9	+0.2
SDPT	**Sand Point** 45nm,1.2s	76.92	10	*eP*		**P**		05 42 18.4	-0.9
KSAR	**Wonju Array Be**	76.92	318	P		**P**		05 42 19.9	+0.1
SNCC	**San Nicolas Is** baz=235	77.12	47	P		**P**		05 42 21.4	+0.4
SCI2	**San Clemente I** baz=236	77.64	48	P		**P**		05 42 25.0	+1.1
SBC	**Santa Barbara** baz=235	77.68	46	P		**P**		05 42 25.1	+1.0
PKM	**Mcpherson Peak** baz=234	77.87	46	P		**P**		05 42 26.4	+1.1
SAO	**San Andreas Ge** 13nm,0.8s	77.90	43	*eP*		**P**		05 42 26.8	+1.6
BLG	**Laguna Peak, P** baz=235	77.92	47	P		**P**		05 42 25.9	+0.5
CIS	**Catalina Islan** baz=236	77.97	47	P		**P**		05 42 26.6	+0.9
CHGN	**Chignik** 22nm,0.8s	78.18	11	*eP*		**P**		05 42 25.5	-0.7
HOPS	**Hopland Field** 14nm,0.9s	78.25	41	*eP*		**P**		05 42 28.0	+1.0
109C	**Camp Elliot, M** baz=237	78.60	49	P		**P**		05 42 29.7	+0.7
KMRM	**Mail Ridge** 34nm,0.9s	78.63	39	*eP*		**P**		05 42 30.6	+1.5
ARVC	**Arvin** baz=235	78.66	46	P		**P**		05 42 29.7	+0.4
VES	**Vestal, Richgr** baz=235	78.90	45	P		**P**		05 42 30.6	0.0
MURC	**Murrieta** baz=236	78.92	48	P		**P**		05 42 31.2	+0.4
BFSC	**Mount Baldy Ra** baz=236	78.96	47	P		**P**		05 42 31.4	+0.3
USRK	**Ussuriysk Ar.** 9.3nm,0.8s,baz=112,slow=3.8,SNR=14	78.96	326	P		**P**		05 42 31.6	+0.9
MONP2	**Monument Peak** baz=237,SNR=11	79.08	49	P		**P**		05 42 32.7	+0.9
EDW2	**Edwards Air Fo** baz=236,SNR=16	79.09	46	P		**P**		05 42 32.4	+0.7
O02D	**Mt. Diablo Mer** baz=232,SNR=14	79.15	40	P		**P**		05 42 33.2	+1.3
IKP	**In-Ko-Pah, Jac** baz=237	79.17	49	P		**P**		05 42 33.3	+1.1
ISA	**Isabella, Lake** 5.9nm,0.9s	79.21	46	*eP*		**P**		05 42 33.6	+1.3
ISA	**Isabella, Lake** baz=235,SNR=7.0	79.21	46	P		**P**		05 42 33.1	+0.8
SII	**Sitkinak Islan** 48nm,0.8s	79.25	13	*eP*		**P**		05 42 31.9	0.0
CMB	**Columbia Colle** 40nm,0.8s	79.34	43	*eP*		**P**		05 42 33.6	+0.7
PFO	**Pinyon Flats O** baz=237	79.44	48	P		**P**		05 42 34.6	+1.0
SWSC	**Sam W. Stewart** baz=237	79.55	49	P		**P**		05 42 34.8	+0.8
WDC	**Whiskeytown Da** 6.6nm,0.9s	79.55	40	*eP*		**P**		05 42 35.3	+1.4
ORV	**Oroville** 7.5nm,0.8s	79.55	41	*eP*		**P**		05 42 35.2	+1.2
N02D	**Trinity Center** baz=232,SNR=7.6	79.70	39	P		**P**		05 42 35.9	+1.1
O03E	**Paynes Creek** baz=232,SNR=7.1	79.82	40	P		**P**		05 42 35.8	+0.4
M02C	**Callahan** baz=231,SNR=11	79.87	39	P		**P**		05 42 36.9	+1.3
CWC	**Cottonwood Cre** baz=235	79.91	45	P		**P**		05 42 36.9	+0.8
NJ2	**Nanjing**	79.91	310	*eP*		**P**		05 42 37.0	+1.0
NJ2	comp=Z,14nm,0.5s				pmax	pmax			
L02E	**Cave Junction** baz=231	79.92	38	P		**P**		05 42 36.9	+1.1
BELC	**Belle Mtn. Jos** baz=237,SNR=7.4	79.98	48	P		**P**		05 42 37.4	+0.9
MPMC	**Manual Prospec** baz=236,SNR=7.3	80.09	46	P		**P**		05 42 37.8	+0.7
MLAC	**Mammoth, Mammo** baz=235	80.09	44	P		**P**		05 42 37.8	+0.7
GSC	**Goldstone, Bar** baz=236	80.13	47	P		**P**		05 42 37.7	+0.6
TIN	**Tinemaha, Big** baz=235	80.16	44	P		**P**		05 42 38.3	+1.0
YBH	**Yreka Blue Hor** 12nm,0.8s	80.17	39	*eP*		**P**		05 42 38.8	+1.6
YBH	**Yreka Blue Hor** 11nm,0.7s,baz=209,slow=1.8,SNR=40	80.17	39	P		**P**		05 42 38.4	+1.2
BC3	**Big Chuckawall** baz=238	80.17	49	P		**P**		05 42 38.4	+1.0
HEC	**Hector,Ludlow** baz=237	80.19	47	P		**P**		05 42 38.2	+0.7
K02D	**Willamette Mer** baz=231	80.22	37	P		**P**		05 42 38.4	+0.9
GLA	**Glamis** baz=238	80.30	49	P		**P**		05 42 38.8	+0.8
J01E	**Myrtle Point** baz=230	80.37	37	P		**P**		05 42 38.9	+0.8
BEKR	**Beckworth** 4.4nm,0.8s	80.44	41	*eP*		**P**		05 42 40.0	+1.2
PNTR	**Pine Nut** 23nm,0.9s	80.46	42	*eP*		**P**		05 42 39.7	+0.7
VCNR	**Virginia City** 7.9nm,0.9s	80.55	42	*eP*		**P**		05 42 40.4	+1.0
HUMO	**Hull Mountain** 12nm,1.1s	80.57	38	*eP*		**P**		05 42 40.9	+1.6
YERR	**Yerington** 12nm,0.9s	80.62	42	*eP*		**P**		05 42 41.0	+1.2
GMRC	**Granite Mounta** baz=237,SNR=5.4	80.64	48	P		**P**		05 42 40.5	+0.6
IRM	**Iron Mountain** baz=238,SNR=7.9	80.66	48	P		**P**		05 42 40.7	+0.8
GRAC	**Grapevine Rang** baz=236,SNR=7.0	80.70	45	P		**P**		05 42 40.8	+0.8
L04D	**Klamath Falls** baz=232,SNR=8.0	80.70	38	P		**P**		05 42 40.8	+0.7
M04C	**Macdoel** baz=232,SNR=7.8	80.71	39	P		**P**		05 42 41.0	+0.9
FURC	**Furnace Creek,** baz=236	80.74	46	P		**P**		05 42 40.9	+0.8
TUQ	**Turquoise Moun** baz=237,SNR=8.2	80.81	47	P		**P**		05 42 41.2	+0.5
SHOC	**Shoshone, Teco** baz=237	80.82	46	P		**P**		05 42 41.4	+0.7
RYN	**Ryan** 6.5nm,1.0s	80.87	43	*eP*		**P**		05 42 42.3	+1.2
Y12C	**Blythe** 8.4nm,0.8s	80.88	49	*eP*		**P**		05 42 42.9	+1.9
Y12C	**Blythe** baz=238	80.88	49	P		**P**		05 42 41.9	+0.9
NV01	**Mina Array Sit**	80.90	43	*eP*		**P**		05 42 42.4	+1.2
NVAR	**Mina Array Bea** 7.8nm,0.8s,baz=226,slow=9.5,SNR=50	80.90	43	P		**P**		05 42 41.5	+0.3
PAHR	**Pah Rah Range** 9.3nm,0.9s	80.95	42	*eP*		**P**		05 42 42.5	+1.1
NV11	**Mina Array Sit** 0.9nm,0.9s	81.00	43	*eP*		**P**		05 42 42.8	+1.1
I02D	**Swisshome** baz=230	81.02	36	P		**P**		05 42 42.4	+1.0
I03D	**Drain, OR** baz=231	81.03	37	P		**P**		05 42 42.3	+0.8
LDFC	**Landfair** 22nm,0.9s	81.18	48	*eP*		**P**		05 42 44.6	+1.9
214A	**Organ Pipe Nat** baz=239	81.19	51	P		**P**		05 42 43.5	+0.9
K04D	**Chiloquin, OR** baz=232	81.28	38	P		**P**		05 42 43.9	+0.9
KVN	**Kaiserville** 9.2nm,0.8s	81.38	43	*eP*		**P**		05 42 44.4	+0.7
TPNV	**Topopah Spring** 7.2nm,1.0s	81.42	45	*eP*		**P**		05 42 44.8	+0.9
TPNV	**Topopah Spring** baz=237,SNR=9.7	81.42	45	P		**P**		05 42 44.6	+0.7
PDMCI	**Parker Dam,Lak** baz=238	81.44	49	P		**P**		05 42 44.7	+0.8
J04D	**Umpqua Nationa** baz=232,SNR=16	81.45	38	P		**P**		05 42 44.8	+0.8
I04A	**Tendick Farm,** baz=231	81.62	37	P		**P**		05 42 45.1	+0.5
MOD	**Modoc Plateau** 11nm,0.8s	81.69	40	*eP*		**P**		05 42 46.0	+0.8
K05A	**Summer Lake** 27nm,0.9s	81.84	39	*eP*		**P**		05 42 47.2	+1.3
H04D	**Lebanon** baz=231	81.90	36	P		**P**		05 42 46.9	+1.0
SHPR	**Sheep Range** 3.9nm,0.9s	81.91	46	*eP*		**P**		05 42 48.4	+1.9
J05D	**Fort Rock, OR** baz=232,SNR=27	81.98	38	P		**P**		05 42 47.8	+1.2
G03D	**McMinnville, O** baz=231	82.04	36	P		**P**		05 42 47.7	+1.1
H04A	**Detroit Lake** 8.3nm,0.6s	82.31	36	*eP*		**P**		05 42 48.6	+0.5
PINE	**Pine Mountain** 23nm,0.8s	82.46	38	*eP*		**P**		05 42 50.4	+1.3
KLR	**Kul'dur** 3.0nm,0.7s,baz=99,slow=4.0,SNR=12	82.52	329	P		**P**		05 42 48.9	-0.1
I05D	**Terrebonne, OR** baz=232,SNR=7.3	82.57	37	P		**P**		05 42 50.0	+0.6
R11A	**Troy Canyon, C** 5.2nm,1.1s	82.62	45	*eP*		**P**		05 42 50.9	+0.8
R11A	**Troy Canyon, C** baz=237,SNR=9.8	82.62	45	P		**P**		05 42 49.9	-0.1
F04D	**Rainier, OR** baz=231	82.73	35	P		**P**		05 42 51.4	+1.2
TUC	**Tucson** 11nm,0.9s	82.85	52	*eP*		**P**		05 42 53.2	+2.0
TUC	**Tucson** baz=240	82.85	52	P		**P**		05 42 52.8	+1.6
BRLK	**Bradley Lake** 18nm,0.8s	82.89	13	*eP*		**P**		05 42 50.2	-0.5
WVOR	**Wild Horse Val** 15nm,1.1s	83.01	40	*eP*		**P**		05 42 52.5	+0.8
NLWA	**Neilton Lookou** 17nm,1.1s	83.12	34	*eP*		**P**		05 42 53.2	+1.2
G05D	**Wamic, OR** baz=232	83.14	36	P		**P**		05 42 52.9	+0.7
SVW2	**Sparrevohn** 5.2nm,0.5s	83.21	11	*eP*		**P**		05 42 52.0	-0.2
IPM	**Ipoh** 17nm,0.7s	83.23	277	*eP*		**P**		05 42 54.2	+0.8
E04D	**Cinebar** baz=231	83.27	35	P		**P**		05 42 53.8	+1.0
X16A	**Lo Mia Camp, P** 8.3nm,1.0s	83.42	50	*eP*		**P**		05 42 55.6	+1.5
F05D	**White Salmon** baz=232	83.45	36	P		**P**		05 42 54.5	+0.7
I07A	**Izee** 11nm,0.9s	83.46	38	*eP*		**P**		05 42 55.1	+1.1
LCMT	**Little Creek M** 8.1nm,1.0s	83.48	47	*eP*		**P**		05 42 55.3	+1.0
G06A	**Carlson Farm,** 9.9nm,1.0s	83.51	37	*eP*		**P**		05 42 55.0	+0.9
319A	**Douglas** 16nm,0.9s	83.52	53	*eP*		**P**		05 42 56.9	+2.3
D04E	**Lakebay** baz=231	83.56	34	P		**P**		05 42 55.7	+1.5
D03D	**Eldon** baz=230	83.61	34	P		**P**		05 42 55.4	+0.9
J08A	**Circle Bar Ran** 10nm,1.1s	83.64	39	*eP*		**P**		05 42 55.7	+0.8
CCUT	**Cedar City** 7.7nm,1.0s	83.68	46	*eP*		**P**		05 42 56.5	+1.1
MA2	**Magadan** 5.6nm,0.7s,baz=139,slow=6.4,SNR=7.5	83.74	345	P		**P**		05 42 53.8	-1.1
KNB	**Kanab** 8.3nm,1.0s	83.77	47	*eP*		**P**		05 42 57.4	+1.6
LON	**Longmire** 2.2nm,0.9s	83.80	35	*eP*		**P**		05 42 56.2	+0.7
U15A	**North Rim** 13nm,0.9s	83.83	48	*eP*		**P**		05 42 57.9	+1.7
PSUT	**Pine Spring** 3.8nm,0.8s	83.87	45	*eP*		**P**		05 42 57.2	+1.0
WUAZ	**Wupatki** baz=240	84.02	49	P		**P**		05 42 57.6	+0.6
GAMB	**Gambell** 19nm,0.7s	84.06	3	*eP*		**P**		05 42 56.7	+0.4
ELK	**Elko** 2.7nm,0.8s	84.16	43	*eP*		**P**		05 42 58.2	+0.5
BBB	**Bella Bella** 2.9nm,0.6s,baz=224,slow=5.9,SNR=4.4	84.29	28	P		**P**		05 42 56.8	-0.9
PKCU	**Pink Cliffs** 18nm,1.1s	84.34	47	*eP*		**P**		05 43 00.9	+2.1
SUA	**Susitna One** 22nm,0.7s	84.47	13	*eP*		**P**		05 42 58.2	-0.3
G08A	**Pilot Rock** 12nm,1.0s	84.49	37	*eP*		**P**		05 43 00.1	+1.1
A04D	**Lummi Island** baz=231	84.57	33	P		**P**		05 43 00.1	+1.0
PSI	**Prapat** 2.1nm,0.3s,baz=210,slow=4.2,SNR=6.1	84.59	275	P		**P**		05 42 59.1	-1.2
B05A	**Bryant** baz=231	84.59	34	P		**P**		05 42 60.0	+0.7
MTPU	**Mount Pierson** 5.5nm,0.9s	84.73	46	*eP*		**P**		05 43 02.6	+1.9
E07A	**Sunnyside** 6.3nm,0.8s	84.75	36	*eP*		**P**		05 43 01.1	+1.0
EYAK	**Cordova Ski Ar**	84.79	15	*eP*		**P**		05 42 59.9	0.0
HAWA	**Hanford** 14nm,1.

	4.3nm,0.8s						
HLID	**Hailey**	86.20	41	P		P	05 43 08.1 +0.7
	baz=237						
HVU	**Hansel Valley**	86.28	43	*e*P		P	05 43 08.6 +0.8
	2.2nm,0.7s						
SEY	**Seymchan**	86.33	347	P		P	05 43 06.5 -0.7
	12nm,0.7s,baz=152,slow=5.1,SNR=36						
LAZ	**Ladron**	86.53	51	*e*P		P	05 43 10.6 +1.4
Y22D	**IRIS PASSCAL I**	86.54	52	P		P	05 43 10.0 +0.9
	baz=243						
RND	**Reindeer**	86.60	13	*e*P		P	05 43 08.4 -0.2
	31nm,0.8s						
MNTX	**Cornudas Mount**	86.62	55	*e*P		P	05 43 10.5 +1.0
	8.1nm,1.0s						
MNTX	**Cornudas Mount**	86.62	55	P		P	05 43 10.6 +1.1
	baz=244						
MVCO	**Mesa Verde**	86.86	48	P		P	05 43 11.2 +0.4
	baz=242						
TX31	**Lajitas Ar. Si**	86.93	57	*e*P		P	05 43 12.6 +1.5
	5.1nm,0.8s						
TXAR	**Lajitas Array**	86.93	57	P		P	05 43 12.4 +1.3
	4.6nm,0.8s,baz=219,slow=6.7,SNR=55						
BWN	**Browne**	87.17	12	*e*P		P	05 43 10.6 -0.6
	32nm,1.1s						
NEW	**Newport**	87.25	36	P		P	05 43 11.9 -0.1
	baz=235						
NEW	**Newport**	87.25	36	P		P	05 43 12.0 -0.1
	2.1nm,0.6s,baz=180,slow=5.1,SNR=6.4						
TASM	**ASL Pad, Albuq**	87.27	51	P		P	05 43 13.1 +0.4
	baz=243						
TASM	**ASL Pad, Albuq**	87.27	51	P		P	05 43 13.0 +0.3
	baz=243						
ANMO	**Albuquerque**	87.28	51	*e*P		P	05 43 13.7 +1.0
	3.3nm,0.8s						
ANMO	**Albuquerque**	87.28	51	P		P	05 43 13.1 +0.4
	baz=243						
WRH	**Wood River Hil**	87.71	12	*e*P		P	05 43 12.7 -1.0
	26nm,0.8s						
MCMT	**McKenzie Canyo**	87.83	40	*e*P		P	05 43 16.4 +1.3
HDA	**Harding Lake**	87.89	13	*e*P		P	05 43 13.9 -0.7
	22nm,0.6s						
HDA	**Harding Lake**	87.89	13	P		P	05 43 13.8 -0.8
	baz=209						
CCB	**Clear Creek Bu**	87.92	12	*e*P		P	05 43 13.9 -0.8
	27nm,0.6s						
DLBC	**Dease Lake**	87.94	23	*e*P		P	05 43 15.2 +0.2
	3.0nm,0.7s						
DLBC	**Dease Lake**	87.94	23	P		P	05 43 15.7 +0.6
	3.5nm,0.8s,baz=257,slow=5.9,SNR=7.7						
IM3	**Indian Mountai**	88.07	10	*e*P		P	05 43 14.7 -0.7
TCOL	**CIGO, UAF Yank**	88.11	12	P		P	05 43 14.5 -1.1
	baz=208						
COLA	**College**	88.11	12	*e*P		P	05 43 14.4 -1.1
	32nm,0.7s						
MDM	**Murphy Dome**	88.11	12	*e*P		P	05 43 14.3 -1.4
	18nm,0.8s						
SCRK	**Sand Creek**	88.17	14	*e*P		P	05 43 16.1 +0.1
	8.5nm,1.2s						
XAN	**Xi'an**	88.17	307	P		P	05 43 17.8 +1.1
XAN				pP		pP	05 45 18.5 +2.9
XAN				pmax		pmax	
	comp=Z,16nm,0.8s						
XAN				pmax		pmax	
	comp=Z,110nm,6.4s						
XAN	**Xi'an**	88.17	307	*e*P		P	05 43 17.7 +1.1
	13nm,0.8s						
IL1	**Eielson Array**	88.22	13	*e*P		P	05 43 15.1 -1.1
ILAR	**Eielson Array**	88.22	13	P		P	05 43 14.7 -1.5
	7.6nm,0.8s,baz=217,slow=5.6,SNR=71						
ILB	**Eielson Array**	88.22	13	*e*P		P	05 43 15.5 -0.7
	11nm,1.0s						
MSO	**Missoula**	88.25	38	P		P	05 43 17.5 +0.7
	baz=238						
DLMT	**Dillon**	88.26	40	*e*P		P	05 43 18.4 +1.4
	8.2nm,0.9s						
S22A	**4UR Ranch, Cre**	88.29	49	*e*P		P	05 43 18.7 +1.2
	4.6nm,1.0s						
S22A	**4UR Ranch, Cre**	88.29	49	P		P	05 43 18.1 +0.6
	baz=242						
REDW	**Red Top Meadow**	88.31	42	*e*P		P	05 43 18.1 +0.8
	8.0nm,1.0s						
FXWY	**Fox Creek**	88.34	42	*e*P		P	05 43 18.6 +1.1
	4.7nm,1.1s						
POKR	**Poker Plat Res**	88.41	12	P		P	05 43 15.8 -1.2
	baz=208						
SNOW	**Snow King Moun**	88.42	42	*e*P		P	05 43 19.2 +1.3
	13nm,1.0s						
O20A	**White River Ci**	88.43	46	P		P	05 43 18.7 +0.7
	baz=242						
IMW	**Indian Meadow**	88.52	42	*e*P		P	05 43 19.8 +1.4
	7.8nm,0.8s						
LNIG	**Linares**	88.53	63	*e*P		P	05 43 18.9 +0.4
	8.2nm,0.9s						
MOOW	**Moose Ponds**	88.57	42	*e*P		P	05 43 20.0 +1.4
	2.1nm,0.8s						
LOHW	**Long Hollow**	88.59	42	*e*P		P	05 43 19.7 +1.0
	3.7nm,0.6s						
QLMT	**Earthquake Lak**	88.69	41	*e*P		P	05 43 20.9 +1.8
FLWY	**Flagg Ranch**	88.77	42	*e*P		P	05 43 21.1 +1.7
	13nm,0.9s						
BW06	**Boulder Array**	88.83	43	*e*P		P	05 43 20.4 +0.6
	5.0nm,0.8s						
BW06	**Boulder Array**	88.83	43	P		P	05 43 20.0 +0.1
	baz=241						
PD31	**Pinedale Array**	88.84	43	*e*P		P	05 43 20.3 +0.5
	4.6nm,0.8s						
PDAR	**Pinedale Array**	88.84	43	*e*P		P	05 43 20.2 +0.3
PDAR	**Pinedale Array**	88.84	43	P		P	05 43 19.8 0.0
	3.6nm,0.6s,baz=211,slow=3.0,SNR=41						
SMCO	**Snowmass**	88.85	47	*e*P		P	05 43 20.9 +0.7
	3.7nm,1.0s						
BOZ	**Bozeman (W)**	88.96	40	*e*P		P	05 43 22.0 +1.7
	9.9nm,0.9s						
BOZ	**Bozeman (W)**	88.96	40	P		P	05 43 21.0 +0.8
	baz=239						
BILL	**Bilibino**	88.97	354	*e*P		P	05 43 20.2 +0.6
	4.5nm,0.6s						
H17A	**Grant Village**	89.00	41	*e*P		P	05 43 23.0 +2.4
	6.9nm,0.8s						
H17A	**Grant Village**	89.00	41	P		P	05 43 22.3 +1.7
	baz=240						
YHH	**Holmes Hill**	89.03	41	*e*P		P	05 43 22.9 +2.1
	7.2nm,1.2s						
PRP	**Porcupine Dome**	89.16	13	*e*P		P	05 43 20.6 -0.1
	6.8nm,0.8s						
SDCO	**Great Sand Dun**	89.23	49	P		P	05 43 21.8 0.0
	baz=243						
DAWY	**Dawson**	89.36	16	*e*P		P	05 43 21.7 +0.2
	16nm,0.8s						
HRY	**Holter Researc**	89.42	39	*e*P		P	05 43 23.1 +0.8
WALA	**Waterton Lakes**	89.46	36	*e*P		P	05 43 22.8 +0.3
	6.3nm,0.9s						
EGAK	**Eagle**	89.51	15	*e*P		P	05 43 22.1 0.0
	16nm,0.8s						
MSTX	**Muleshoe**	89.58	53	*e*P		P	05 43 24.1 +0.8
	6.6nm,0.8s						
MSTX	**Muleshoe**	89.58	53	P		P	05 43 23.5 +0.1
	baz=245						
T25A	**Trinidad**	89.74	50	P		P	05 43 24.4 +0.3
	baz=244						
COLD	**Coldfoot**	89.79	10	*e*P		P	05 43 24.2 +0.8
	6.3nm,1.1s						
CM01	**Chiang Mai Arr**	90.16	290	*e*P		P	05 43 28.1 +1.9
RLMT	**Red Lodge**	90.17	41	P		P	05 43 26.7 +0.8
	baz=241						
CMAR	**Chiang Mai Arr**	90.19	290	P		P	05 43 27.4 +1.0
	6.3nm,0.8s,baz=122,slow=2.7,SNR=38						
CMMT	**Chiang Mai**	90.31	290	P		P	05 43 28.0 +1.1
	17nm,1.1s						
CHTO	**Chiang Mai**	90.32	290	*e*P		P	05 43 27.7 +0.7
	11nm,0.6s						
N23A	**Red Feather La**	90.34	46	P		P	05 43 27.4 +0.5
	baz=243						
JCT	**Junction City**	90.45	58	*e*P		P	05 43 27.6 +0.2
	4.0nm,0.8s						
JCT	**Junction City**	90.45	58	P		P	05 43 27.4 0.0
	baz=246						
K22A	**Casper**	90.75	44	P		P	05 43 28.8 +0.2
	baz=243						
CD2	**Chengdu**	90.84	303	P		P	05 43 28.8 -0.4
CD2				pmax		pmax	
	comp=Z,3.0nm,0.5s						
TOLK	**Toolik Lake Re**	91.17	10	P		P	05 43 29.4 -0.4
	baz=207						
EGMT	**Eagleton**	91.30	39	P		P	05 43 31.1 +0.2
	baz=241						
ABTX	**Abilene, Hawle**	91.43	56	P		P	05 43 32.0 +0.2
	baz=247						
KSCO	**Kaye Shedlock'**	91.81	49	P		P	05 43 33.8 +0.2
	baz=245						
EPYK	**Eagle Plains**	91.89	15	*e*P		P	05 43 32.7 -0.5
	9.2nm,0.8s						
EPYK	**Eagle Plains**	91.89	15	P		P	05 43 32.8 -0.3
	baz=218						
LAO	**LASA Array**	92.78	41	P		P	05 43 39.0 +1.2
	baz=243						
RSSD	**Black Hills**	93.03	44	P		P	05 43 39.8 +0.7
	baz=244						
INK	**Inuvik**	94.17	15	*e*P		P	05 43 42.7 -0.8
	5.4nm,1.0s						
INK	**Inuvik**	94.17	15	P		P	05 43 42.4 -1.0
	3.7nm,0.8s,baz=221,slow=3.6,SNR=15						
DGMT	**Dagmar**	94.80	40	P		P	05 43 47.5 +0.6
	baz=245						
SONA0	**Songino Array**	95.77	319	*e*P		P	05 43 50.6 -0.8
SONM	**Songino Array**	95.77	319	P		P	05 43 50.6 -0.8
	0.5nm,0.7s,baz=163,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	96.40	25	P		P	05 43 52.9 -0.8
	0.8nm,0.8s,baz=244,slow=4.3,SNR=14						
YKB5	**Yellowknife Ar**	96.40	25	*e*P		P	05 43 53.4 -0.3
ECSD	**EROS Data Cent**	97.81	46	P		Pdif	05 44 00.2 -0.2
	baz=249						
U40A	**Yellville**	98.00	54	P		Pdif	05 44 01.3 -0.2
	baz=251						
K40A	**Colesburg**	101.26	49	P		**Pdif**	05 44 16.1 +0.3
	baz=253						
ZAA1	**Zalesovo Array**	110.50	321	*e*PKiKP		**PKiKP**	05 48 52.1 -1.5
ZALV	**Zalesovo Beam**	110.50	321	PKiKP		**PKiKP**	05 48 52.1 -1.5
	2.0nm,0.6s,baz=98,slow=1.0,SNR=9.2						
MK32	**Makanchi Array**	111.22	313	*e*PKiKP		**PKiKP**	05 48 54.0 -1.3
MKAR	**Makanchi Array**	111.22	313	PKiKP		**PKiKP**	05 48 54.0 -1.3
	1.7nm,0.6s,baz=95,slow=0.3,SNR=13						
PKME	**Peaks-Kenny Pk**	117.18	49	*e*PKPdf		**PKPdf**	05 49 06.5 -0.2
ABVI	**Anegada Island**	117.77	79	*e*PKPdf		**PKPdf**	05 49 07.6 -1.0
PQI	**Presque Isle**	118.11	47	*e*PKPdf		**PKPdf**	05 49 07.5 -1.0
BRVK	**Borovoye**	119.15	320	*e*PKPdf		**PKPdf**	05 49 09.8 -0.5
KK31	**Karatay Array**	119.28	308	*e*PKPdf		**PKPdf**	05 49 10.4 -0.6
KKAR	**Karatay Array**	119.28	309	*e*PKPdf		**PKPdf**	05 49 10.4 -0.5
BATG	**Bathurst New B**	119.44	47	*e*PKPdf		**PKPdf**	05 49 10.4 -0.6
SPA0	**Spitsbergen Ar**	121.80	357	*e*PKPdf		**PKPdf**	05 49 14.4 -0.4
GBN	**Guysborough**	122.67	49	*e*PKPdf		**PKPdf**	05 49 17.1 -0.2
ARU	**Arti**	125.20	325	*e*PKPdf		**PKPdf**	05 49 21.9 +0.1
ABKAR	**Akbulak array**	126.11	317	*e*PKPdf		**PKPdf**	05 49 23.7 0.0
ARA0	**ARCESS Array S**	128.87	350	*e*PKPdf		**PKPdf**	05 49 27.7 -0.8
ARCES	**ARCESS Array B**	128.87	350	*e*PKPdf		**PKPdf**	05 49 28.6 +0.1
ARCES	**ARCESS Array B**	128.87	350	PKP		**PKPdf**	05 49 27.7 -0.8
	2.9nm,0.7s,baz=17,slow=1.6,SNR=12						
FIA1	**FINESS Array S**	135.73	344	*e*PKPdf		**PKPdf**	05 49 39.9 -1.7
FIA0	**FINESS Array S**	135.73	344	*e*PKPpre		PKPpre	05 49 29.6
FINES	**FINESS Array B**	135.73	344	PKhKP		PKPpre	05 49 29.6
	1.2nm,0.8s,baz=27,slow=3.4,SNR=4.8						
NC405	**NORSAR Array S**	138.79	353	*e*PKPpre		PKPpre	05 49 40.6
NB201	**NORSAR Array S**	138.90	353	*e*PKPpre		PKPpre	05 49 38.1
NB2	**NORSAR Subarra**	138.92	353	PKP		PKPpre	05 49 37.6
	comp=Z,0.4nm,0.6s,baz=22,slow=3.6						
NB200	**NORSAR Array S**	138.92	353	*e*PKPpre		PKPpre	05 49 37.2
NB200				*e*PKPdf		**PKiKP**	**05 49 49.3 -0.6**
NOA	**NORSAR Array B**	138.92	353	PKhKP		PKPpre	05 49 37.2
	comp=Z,0.2nm,0.5s,baz=8.8,slow=3.9,SNR=7.6						
NOA				PKP		**PKiKP**	**05 49 49.3 -0.6**
	comp=Z,0.7nm,0.6s,baz=13,slow=4.1,SNR=4.0						
NBO00	**NORSAR Array S**	138.98	354	*e*PKPpre		PKPpre	05 49 39.6
SUW	**Suwalki**	142.81	339	*e*PKP		**PKPdf**	**05 49 52.2 -2.4**
AKASG	**Malin Array Be**	143.00	331	PKhKP		PKPpre	05 49 51.6
	comp=Z,15nm,0.6s,baz=43,slow=4.4,SNR=34						
AKBB	**Malin Array Si**	143.00	331	*e*PKPpre		PKPpre	05 49 51.7
KIEV	**Kiev**	143.01	331	*e*PKPpre		PKPpre	05 49 51.6
AK11	**Malin Array Si**	143.04	331	*e*PKPpre		PKPpre	05 49 51.7
ESK	**Eskdalemuir**	144.93	5	*e*PKPdf		**PKPdf**	**05 49 58.5 +0.2**
GKP	**Gorka Klasztor**	145.21	344	*e*PKP		**PKPbc**	**05 49 60.0 +0.2**
BEL	**Belsk**	145.43	340	*e*PKP		**PKPbc**	**05 50 01.0 +0.5**
BSEG	**Bad Segeberg**	145.96	351	*e*PKPbc		**PKPbc**	**05 50 02.0 +0.1**
	baz=14,slow=2.5						
KWP	**Kalwaria Pacla**	146.56	335	*e*PKP		**PKPdf**	**05 49 59.0 -2.3**
DSB	**Dublin**	146.59	9	*e*PKPbc		**PKPbc**	**05 50 03.6 -0.1**
BR101	**Keskin Array S**	146.87	312	*e*PKPbc		**PKPbc**	**05 50 04.4 -0.7**
BR131	**Keskin Array S**	146.87	312	*e*PKPbc		**PKPbc**	**05 50 04.8 -0.3**
BRTR	**Keskin Array B**	146.87	312	PKPbc		**PKPbc**	**05 50 04.4 -0.7**
	comp=Z,6.9nm,0.7s,baz=131,slow=4.2,SNR=30						
TLCR		146.91	324	⇓*i*P		**PKPbc**	**05 50 05.1 +0.3**
BUR08	**Bucovina Ar. S**	147.03	331	*e*PKPbc		**PKPbc**	**05 50 05.6 +0.4**
BURAR	**Bucovina Array**	147.05	331	⇓*i*P		**PKPbc**	**05 50 05.3 0.0**
BIZ	**Bicaz**	147.12	329	⇓*i*P		**PKPbc**	**05 50 06.1 +0.7**
OJC	**Ojcow**	147.13	339	*e*PKP		**PKPbc**	**05 50 05.2 -0.1**
OJC	**Ojcow**	147.13	339	*e*PKPbc		**PKPbc**	**05 50 05.0 -0.3**
TESR	**Tescani**	147.16	328	⇓*i*P		**PKPbc**	**05 50 05.2 -0.3**
RETH	**Rethem/Aller,**	147.26	352	*e*PKPbc		**PKPbc**	**05 50 05.5 +0.1**
	baz=14,slow=2.5						
CFR	**Carcaliu**	147.28	325	⇑*i*P		**PKPbc**	**05 50 06.1 +0.3**
ANTO	**Ankara**	147.38	313	*e*PKPbc		**PKPbc**	**05 50 06.5 +0.1**
ANTO	**Ankara**	147.38	313	⇑*i*P		**PKPbc**	**05 50 06.7 +0.3**
NRDL	**Niedersach Rie**	147.40	351	*e*PKPbc		**PKPbc**	**05 50 05.8 0.0**
	baz=14,slow=2.5						
BR231	**Keskin MP Arra**	147.41	313	*e*PKPbc		**PKPbc**	**05 50 06.7 +0.2**
VRI	**Vrincioaia**	147.56	327	⇓*i*P		**PKPbc**	**05 50 05.2 -1.4**
PLOR	**Plostina**	147.61	327	⇑*i*P		**PKPdf**	**05 50 03.0 -0.2**
KSP	**Ksiaz**	147.65	343	*e*PKP		**PKPbc**	**05 50 06.8 +0.2**
ASSE	**Asse, Remlinge**	147.66	350	*e*PKPbc		**PKPbc**	**05 50 06.6 +0.1**
	baz=14,slow=2.5						
HARR	**Harsova**	147.71	324	⇓*i*P		**PKPbc**	**05 50 07.5 +0.6**
TLB	**Topalu**	147.72	324	⇑*i*P		**PKPbc**	**05 50 07.2 +0.3**
TRPA	**Tarpa**	147.82	334	⇑*i*P		**PKPbc**	**05 50 07.2 +0.1**
OZUR		147.88	328	⇑*i*P		**PKPdf**	**05 50 02.9 -0.7**
IBBN	**Ibbenburen**	147.88	353	*e*PKPbc		**PKPbc**	**05 50 07.1 0.0**
	baz=14,slow=2.5						
CLZ	**Clausthal**	147.99	350	*e*PKPbc		**PKPbc**	**05 50 07.6 +0.1**
	baz=14,slow=2.5						
OKC	**Ostrava-Krasne**	148.00	340	⇑*e*PKP		**PKPbc**	**05 50 07.3 -0.2**
OKC				*e*PKPAB		**PKPab**	**05 50 13.0 +0.8**
CLL	**Collm**	148.01	347	*e*PKPdf		**PKPdf**	**05 50 04.0 +0.4**
CLL				⇓*i*PKPbc		**PKPbc**	**05 50 07.6 +0.1**
	comp=Z,40nm,0.8s						
CLL				*i* PKPab		**PKPab**	**05 50 11.6 -0.6**
	comp=Z,11nm,0.8s						
CLL				*e*			05 50 16.0
UPC	**Upice**	148.03	343	⇑*e*PKP		**PKPbc**	**05 50 07.8 +0.2**
UPC				*e*PKPAB		**PKPab**	**05 50 12.7 +0.4**
DPC	**Dobruska-Polom**	148.09	343	⇑*e*PKP		**PKPbc**	**05 50 08.1 +0.3**
DPC				*e*PKPAB		**PKPab**	**05 50 13.2 +0.6**
LANS	**Liptovska Anna**	148.15	338	*e*PKP		**PKiKP**	**05 50 09.0 -0.3**
KRLC	**Kraliky**	148.20	342	⇑*e*PKP		**PKPbc**	**05 50 08.1 0.0**
KRLC				*e*PKPAB		**PKPab**	**05 50 13.1 0.0**
BRG	**Berggiesshubel**	148.22	346	*e*PKP		**PKPdf**	**05 50 04.1 +0.1**
	comp=Z,7.1nm,1.4s						
BRG	**Berggiesshubel**	148.22	346	*i* PKP		**PKPbc**	**05 50 08.2 +0.1**
	comp=Z,18nm,0.7s						
BRG	**Berggiesshubel**	148.22	346	*i* PKP		**PKPab**	**05 50 12.8 -0.3**
	comp=Z,13nm,0.8s						
BRG	**Berggiesshubel**	148.22	346	*e*PKPbc		**PKPbc**	**05 50 08.1 +0.1**
	baz=14,slow=2.5						
BRG				*e*PKPab		**PKPab**	**05 50 13.1 0.0**
	baz=18,slow=4.0						
MLR	**Muntele Rosu**	148.22	327	*e*PKPbc		**PKPbc**	**05 50 08.0 -0.4**
MLR	**Muntele Rosu**	148.22	327	⇑*i*P		**PKPbc**	**05 50 08.1 -0.3**
MORC	**Moravsky Berou**	148.24	341	*e*PKPbc		**PKPbc**	**05 50 07.7 -0.5**
MORC	**Moravsky Berou**	148.24	341	⇑*i*P		**PKPbc**	**05 50 08.6 +0.4**
MORC	**Moravsky Berou**	148.24	341	*e*PKP		**PKPbc**	**05 50 08.2 0.0**
FBE	**Freiberg**	148.30	346	*e*PKPbc		**PKPbc**	**05 50 08.7 +0.4**
	baz=14,slow=2.5						
FBE				*e*PKPab		**PKPab**	**05 50 13.7 +0.3**
	baz=18,slow=4.0						
GTTG	**Gvttingen**	148.34	351	*e*PKPbc		**PKPbc**	**05 50 08.4 +0.1**
	baz=14,slow=2.5						
GTTG				*e*PKPab		**PKPab**	**05 50 14.3 +0.8**
	baz=18,slow=4.0						
NEUB	**Neuenburg**	148.35	348	*e*PKPbc		**PKPbc**	**05 50 08.4 +0.1**
	baz=14,slow=2.5						
PVCC	**Panska Ves**	148.39	345	⇑*e*PKP		**PKPbc**	**05 50 08.6 +0.1**
CJR	**Cluj-Napoca**	148.46	331	⇓*i*P		**PKPbc**	**05 50 09.1 +0.3**
SECR		148.47	327	⇑*i*P		**PKPbc**	**05 50 09.0 +0.1**
VOIR		148.71	328	⇑*i*P		**PKPbc**	**05 50 09.6 +0.1**
DRGR		148.79	332	⇑*i*P		**PKPbc**	**05 50 09.7 0.0**
PRU	**Pruhonice**	148.89	344	⇑*e*PKP		**PKPbc**	**05 50 09.7 0.0**
GOPC	**GO Pecny, Ondr**	148.90	344	⇑*e*PKP		**PKPbc**	**05 50 09.9 +0.1**
GOPC				*e*PKPAB		**PKPab**	**05 50 16.0 +0.1**
MOX	**Moxa**	148.92	348	*e*PKPdf		**PKPdf**	**05 50 05.1 0.0**
MOX				*e*PKPbc		**PKPbc**	**05 50 09.8 0.0**
	baz=14,slow=2.5						
MOX				*e*PKPab		**PKPab**	**05 50 15.7 -0.3**
	baz=18,slow=4.0						
VYHS	**Vyhne**	148.93	338	*e*PKP		**PKPbc**	**05 50 09.8 -0.1**
VYHS				*e*			05 50 16.4
VRAC	**Vranov**	148.94	342	⇑*i*P		**PKPbc**	**05 50 10.3 +0.4**
VRAC	**Vranov**	148.94	342	*e*PKP		**PKPbc**	**05 50 10.0 +0.1**
CSS	**Mathiatis**	148.95	304	*e*PKPbc		**PKPbc**	**05 50 10.1 -0.3**
ARR	**Arges**	148.96	328	⇑*i*P		**PKiKP**	**05 50 10.9 -0.2**
PLN	**Plauen**	148.97	348	*e*PKPbc		**PKPbc**	**05 50 09.9 0.0**
	baz=14,slow=2.5						
TANN	**Tannenbergstha**	148.97	347	*e*PKPdf		**PKPdf**	**05 50 05.3 +0.1**
TANN				*e*PKPbc		**PKPbc**	**05 50 10.1 +0.1**
	baz=14,slow=2.5						
TANN				*e*PKPab		**PKPab**	**05 50 16.2 -0.1**
	baz=18,slow=4.0						
JAVC	**Velka Javorina**	149.01	340	*e*PKP		**PKiKP**	**05 50 11.4 +0.4**
PSZ	**Piszkesteto**	149.03	336	⇓*i*P		**PKPdf**	**05 50 06.8 +1.4**
GUNZ	**Gunzen**	149.05	347	*e*PKPdf		**PKPdf**	**05 50 05.5 +0.1**
GUNZ				*e*PKPbc		**PKPbc**	**05 50 10.4 +0.2**
	baz=14,slow=2.5						
GUNZ				*e*PKPab		**PKPab**	**05 50 16.7 +0.1**
	baz=18,slow=4.0						
WERN	**Wernitzgruen**	149.11	347	*e*PKPbc		**PKPbc**	**05 50 10.6 +0.3**
	baz=14,slow=2.5						
WERN				*e*PKPab		**PKPab**	**05 50 16.9 +0.1**
	baz=18,slow=4.0						
NKC	**Novy Kostel**	149.15	347	⇑*e*PKP		**PKPbc**	**05 50 10.3 -0.1**
KRUC	**Moravsky**	149.22	342	*e*PKP		**PKPbc**	**05 50 10.6 0.0**
LEF	**Lefka**	149.23	305	⇓*i*P		**PKPbc**	**05 50 10.9 -0.1**
TREC	**Trest**	149.27	343	⇑*e*PKP		**PKPbc**	**05 50 10.7 0.0**
HUMR	**Humele**	149.38	327	⇑*i*P		**PKPbc**	**05 50 10.1 -1.0**
MANZ	**Manzenberg**	149.45	347	*e*PKPbc		**PKPbc**	**05 50 11.3 +0.1**
	baz=14,slow=2.5						
MODS	**Modra-Piesok**	149.56	340	*e*PKP		**PKPbc**	**05 50 11.0 -0.4**
MODS				*e*			05 50 18.4
BEBN	**Eben Emael**	149.56	356	⇓PKiKP		**PKPbc**	**05 50 11.0 -0.3**
ROTZ	**Rotzenmuhle**	149.64	347	*e*PKPbc		**PKPbc**	**05 50 11.6 +0.1**
	baz=14,slow=2.5						
UCC	**Uccle**	149.64	357	⇓PKiKP		**PKPbc**	**05 50 11.2 -0.2**
SIRR	**Siria**	149.66	333	⇑*i*P		**PKPbc**	**05 50 11.8 +0.1**
MEM	**Membach**	149.72	355	⇑PKP		**PKPbc**	**05 50 11.2 -0.5**
GZR	**Gura Zlata**	149.83	330	⇑*i*P		**PKPbc**	**05 50 11.9 -0.3**
TNS	**Taunus Mts**	149.84	352	*e*PKPbc		**PKPbc**	**05 50 12.1 0.0**
	baz=14,slow=2.5						
TNS				*e*PKPab		**PKPab**	**05 50 19.4 -0.4**
	baz=18,slow=4.0						
GRA1	**Grafenberg Arr**	149.91	348	*e*PKPbc		**PKiKP**	**05 50 12.8 0.0**
GRFO	**Grafenberg**	149.91	348	*e*PKPbc		**PKiKP**	**05 50 12.8 0.0**
KHC	**Kasperske Hory**	149.92	345	*e*PKPdf		**PKPdf**	**05 50 06.4 -0.3**
KHC				*e*PKPbc		**PKPbc**	**05 50 12.5 +0.2**
KHC				*e*PKPab		**PKPab**	**05 50 21.1 +0.8**
KHC	**Kasperske Hory**	149.92	345	*e*PKPDF		**PKPdf**	**05 50 06.6 -0.1**
KHC				⇑*e*PKP		**PKPbc**	**05 50 12.3 0.0**
KHC				*e*PKPAB		**PKPab**	**05 50 20.1 -0.1**
KHC				*e*pPKP		**pPKPdf**	**05 52 10.4 -3.8**
SNF	**Seneffe**	149.93	357	⇓PKPbc		**PKPbc**	**05 50 11.2 -0.9**
SNF				⇑PKPab		**PKPab**	**05 50 18.6 -1.5**
GEC2	**GERESS Array S**	150.16	345

SNY				Sg	Sb	06 06 04.5	-0.5		
SNY				smax	smax				
	comp=N,790nm,0.4s								
SNY				smax	smax				
	comp=E,520nm,0.4s								
DL2	**Dalian**	**1.68**	**200**	Pg	**Pn**	**06 05 44.5**	**+0.4**		
DL2				Sg	**Sn**	**06 06 06.8**	**+1.1**		
DL2				smax	smax				
	comp=N,990nm,0.7s								
DL2				smax	smax				
	comp=E,1µm,0.5s								
CN2	**Changchun**	**4.02**	**34**	*e*Pg	**Pb**	**06 06 27.3**	**+1.7**		
CN2				*e*Sg	**Sb**	**06 07 19.3**	**+5.0**		
CN2				smax	smax				
	comp=N,130nm,0.7s								
CN2				smax	smax				
	comp=E,90nm,0.7s								
KSRS	**Korea Array**	**5.29**	**123**	Pn	**Pn**	**06 06 32.4**	**-1.2**		
	1.7nm,0.3s,baz=307,slow=14,SNR=15								
KSRS				Lg	Lg	06 07 58.4			
	14nm,0.3s,baz=306,slow=30,SNR=14								
TIA	**Tai'an**	**5.93**	**226**	Pg	**Pg**	**06 07 12.3**	**+4.0**		
TIA				Sg	**Sg**	**06 08 19.8**	**-5.3**		
TIA				smax	smax				
	comp=N,12nm,0.6s								
TIA				smax	smax				
	comp=E,10.0nm,0.5s								
USRK	**Ussuriysk Ar.**	**8.03**	**59**	Pn	**Pn**	**06 07 12.5**	**+1.2**		
	comp=E,0.5nm,0.3s,baz=246,slow=14,SNR=4.5								
USRK				Lg	Lg	06 09 24.1			
	comp=E,1.3nm,0.3s,baz=246,slow=26,SNR=12								
HHC	**Hu-ho-hao-te**	**8.22**	**276**	*e*P	**Pn**	**06 07 15.0**	**+1.0**		
KLR	**Kul'dur**	**10.98**	**34**	Lg	Lg	06 10 57.0			
	comp=E,0.2nm,0.3s,baz=140,slow=14,SNR=7.6								
SONM	**Songino Array**	**13.60**	**308**	Lg	Lg	06 12 32.2			
	comp=E,0.2nm,0.3s,baz=122,slow=25,SNR=5.6								
WMQ	**Urumqi**	**25.80**	**289**	*e*P	**P**	**06 10 47.3**	**+1.5**		
MA2	**Magadan**	**26.08**	**33**	P	**P**	**06 10 50.4**	**+2.4**		
	comp=E,2.4nm,0.5s,baz=189,slow=18,SNR=2.8								
ILAR	**Eielson Array**	**54.54**	**32**	P	**P**	**06 14 41.0**	**-1.3**		
	comp=E,0.5nm,0.8s,baz=270,slow=7.6,SNR=5.5								
FINES	**FINESS Array B**	**58.19**	**326**	P	**P**	**06 15 07.6**	**-0.8**		
	comp=E,1.0nm,0.5s,baz=64,slow=6.3,SNR=8.8								
WRA	**Warramunga Arr**	**61.15**	**167**	P	P	06 15 24.2	-5.1		
	comp=E,0.4nm,0.8s,baz=354,slow=10.0,SNR=2.9								
NOA	**NORSAR Array B**	**64.46**	**330**	P	**P**	**06 15 48.9**	**-2.0**		
	comp=E,0.6nm,0.8s,baz=51,slow=6.2,SNR=3.5								
YKA	**Yellowknife Ar**	**67.67**	**25**	P	**P**	**06 16 09.8**	**-1.6**		
	comp=E,0.5nm,0.8s,baz=311,slow=6.2,SNR=10								
GERES	**GERESS Array B**	**71.07**	**319**	P	**P**	**06 16 31.1**	**-1.8**		
	comp=E,0.2nm,0.4s,baz=263,slow=5.8,SNR=3.2								

IDC 30 06:13:27.2±3.6, 48°.84S×116°.02E, *h*0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/22, mbtmp3.6/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/14, Error ellipse: s-maj=214.8km s-min=69.7km az=120.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**14.00**	**354**	T	T	06 31 53.7	
	baz=174,slow=74,SNR=29						
H01W1	**Cape Leeuwin H**	**14.00**	**354**	T	T	06 31 58.8	
	baz=174,slow=74,SNR=26						
H01W3	**Cape Leeuwin H**	**14.01**	**354**	T	T	06 31 57.5	
	baz=174,slow=74,SNR=32						
ASAR	**Alice Springs**	**28.82**	**36**	P	P	06 19 27.3	+0.2
	0.5nm,0.8s,baz=208,slow=9.2,SNR=3.8						
WRA	**Warramunga Arr**	**32.39**	**34**	P	P	06 19 58.2	-0.2
	0.6nm,0.7s,baz=203,slow=8.6,SNR=4.7						
QSPA	**South Pole Qui**	**41.29**	**180**	LR	LR	06 37 48.4	
	comp=Z,217nm,18.4s,baz=34,slow=35						
URZ	**Urewera**	**44.41**	**100**	LR	LR	06 35 52.0	
	comp=Z,156nm,19.8s,baz=200,slow=30						
YKA	**Yellowknife Ar**	**149.26**	**45**	PKPbc	PKPbc	06 33 15.9	-0.5
	0.2nm,0.8s,baz=268,slow=2.4,SNR=6.1						

*ISCJB **30** 06:23:55.0±0.3, 30°.19S±0°.03×179°.22W±0°.07, h300km, mb4.0/23, Error ellipse: s-maj=8.6km s-min=3.5km az=11.7*
*IDC **30** 06:23:57.6±1.1, 29°.86S×179°.34W, h317km±10km, mb3.7/11, mb1 3.8/11, mb1mx3.6/28, mbtmp4.3/11, Error ellipse: s-maj=15.4km s-min=14.2km az=151.0*
*NEIC **30** 06:23:57.3±0.7, 30°.32S×179°.12W, h309km±7km, mb4.2/18, Error ellipse: s-maj=11.6km s-min=7.9km az=105.0*
*WEL **30** 06:23:57.0, 30°.32S×179°.12W, h309km*
ISC 30 06:23:56.0±0.4, 30°.16S±0°.05×179°.29W±0°.08, h300km, n159, σ2°.94/174, mb4.1/23, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.49**	**54**	P	**Pn**	**06 24 42.2**	**+3.1**
RIZ	**Raoul Island**	**1.49**	**53**	P	**Pn**	**06 24 42.6**	**+3.4**
RAO	**Raoul Island**	**1.50**	**53**	*e*Pn	**Pn**	**06 24 41.5**	**+2.3**
RAO				*e*S	**S**	**06 25 09.9**	**-3.6**
RAO	**Raoul Island**	**1.50**	**53**	P	**Pn**	**06 24 41.0**	**+1.8**
	163nm,0.3s,baz=103,slow=13,SNR=10						
RAO				S	**S**	**06 25 16.2**	**+2.6**
	557nm,0.3s,baz=93,slow=22,SNR=9.6						
GRZ	**Great Barrier**	**7.50**	**215**	P	Pn	06 25 50.2	+6.8
MXZ	**Matakaoa Point**	**7.65**	**194**	*e*Pn	**Pn**	**06 25 45.4**	**+0.2**
MXZ				*e*S	**S**	**06 27 16.3**	**+2.5**
MXZ	**Matakaoa Point**	**7.65**	**194**	P	**Pn**	**06 25 45.4**	**+0.2**
KUZ	**Kuaotunu**	**7.78**	**211**	P	Pn	06 25 52.8	+6.0
OUZ	**Omahuta**	**7.84**	**228**	*e*Pn	Pn	06 25 54.8	+7.3
OUZ	**Omahuta**	**7.84**	**228**	P	Pn	06 25 54.6	+7.1
WCZ	**Waipu Caves**	**7.86**	**221**	P	Pn	06 25 55.6	+7.8
WMGZ	**Waiomatatini S**	**7.88**	**193**	P	**Pn**	**06 25 48.7**	**+0.7**
WMGZ				S	**S**	**06 27 20.5**	**+1.7**
WIAZ	**Waiheke Island**	**8.09**	**214**	P	Pn	06 25 57.1	+6.5
PUZ	**Puketiti**	**8.15**	**194**	P	**Pn**	**06 25 51.1**	**-0.3**
PUZ				S	**S**	**06 27 27.0**	**+1.9**
WHRZ	**Whale Island**	**8.28**	**201**	P	Pn	06 25 59.0	+6.0
TWGZ	**Tauwhareparae**	**8.31**	**195**	P	**Pn**	**06 25 54.4**	**+1.0**
ETAZ	**East Tamaki Re**	**8.32**	**214**	P	Pn	06 26 00.8	+7.4
MKAZ	**Moumakai**	**8.33**	**212**	P	Pn	06 25 59.8	+6.3
CNGZ	**Carnagh Statio**	**8.56**	**193**	P	**Pn**	**06 25 57.7**	**+1.4**
MWZ	**Matawai**	**8.57**	**197**	P	**Pn**	**06 25 56.8**	**+0.3**
EDRZ	**Edgecumbe**	**8.59**	**201**	P	**P**	**06 26 02.5**	**+0.5**
TKGZ	**Te Karaka**	**8.60**	**195**	P	**Pn**	**06 25 56.1**	**-0.6**
TKGZ				S	**S**	**06 27 35.1**	**+0.2**
URZ	**Urewera**	**8.61**	**199**	*e*Pn	**Pn**	**06 25 57.4**	**+0.4**
URZ				*e*S	**S**	**06 27 39.4**	**+4.1**
URZ	**Urewera**	**8.61**	**199**	P	**P**	**06 25 59.9**	**-2.3**
	140nm,0.3s,baz=333,slow=1.5,SNR=57						
URZ				S	**S**	**06 27 37.6**	**+2.3**
	43nm,0.3s,baz=280,slow=23,SNR=12						
URZ	**Urewera**	**8.61**	**199**	P	**Pn**	**06 25 57.3**	**+0.3**
TOZ	**Tahuroa Road**	**8.70**	**208**	P	**P**	**06 26 04.0**	**+0.8**
RAGZ	**Rawiri**	**8.75**	**197**	P	**Pn**	**06 25 59.2**	**+0.3**
TARZ	**Mount Tarawera**	**8.78**	**202**	P	**P**	**06 26 03.7**	**-0.5**
RIGZ	**Rimuhau**	**8.87**	**195**	P	**Pn**	**06 26 00.1**	**-0.1**
MUGZ	**Murupara**	**8.92**	**200**	P	**Pn**	**06 26 00.9**	**+0.1**
RTZ	**Ruatahuna**	**8.98**	**199**	P	**P**	**06 26 04.9**	**-1.5**
SNGZ	**Shannon Statio**	**9.04**	**197**	P	**Pn**	**06 26 02.3**	**0.0**
PRGZ	**Paritu Road**	**9.05**	**194**	P	**Pn**	**06 26 01.8**	**-0.6**
PRRZ	**Plateau Road**	**9.05**	**202**	P	**P**	**06 26 04.9**	**-2.2**
ALRZ	**Allen Road**	**9.13**	**202**	P	**P**	**06 26 05.8**	**-2.1**
KNZ	**Kokohu**	**9.19**	**195**	P	**Pn**	**06 26 02.9**	**-1.2**
MTHZ	**Maungataniwha**	**9.24**	**199**	P	**Pn**	**06 26 04.6**	**-0.2**
BKZ	**Black Stump Fm**	**9.63**	**200**	*e*Pn	**Pn**	**06 26 09.6**	**0.0**
BKZ				*e*S	**S**	**06 27 59.0**	**+0.5**
HIZ	**Hauiti**	**9.64**	**209**	*e*Pn	**P**	**06 26 12.9**	**-0.6**
HIZ	**Hauiti**	**9.64**	**209**	P	**P**	**06 26 12.8**	**-0.8**
WTVZ	**West Tongariro**	**9.88**	**204**	P	**Pn**	**06 26 13.7**	**+1.0**
NGZ	**Ngauruhoe**	**9.93**	**204**	P	**Pn**	**06 26 13.4**	**+0.1**
FWVZ	**Far West T-bar**	**10.02**	**204**	P	**Pn**	**06 26 13.3**	**-1.2**
TRVZ	**Turoa**	**10.06**	**204**	P	**Pn**	**06 26 15.9**	**+0.9**
MOVZ	**Moawhango**	**10.09**	**202**	P	**Pn**	**06 26 14.4**	**-0.8**
KRHZ	**Kereru**	**10.11**	**199**	P	**Pn**	**06 26 13.7**	**-1.8**
PKVZ	**Pokaka**	**10.12**	**204**	P	**Pn**	**06 26 16.9**	**+1.3**
VRZ	**Vera Road**	**10.20**	**207**	P	**P**	**06 26 19.8**	**0.0**
MHEZ	**Mangahewa**	**10.33**	**209**	P	P	06 26 26.4	+5.0
PNHZ	**Pukenui**	**10.41**	**200**	P	**Pn**	**06 26 17.1**	**-2.0**
DREZ	**Durham Road**	**10.48**	**209**	P	**P**	**06 26 26.0**	**+3.1**
PKE	**Pukeiti**	**10.57**	**210**	P	**P**	**06 26 26.7**	**+2.6**
TSZ	**Takapari Road**	**10.62**	**200**	P	**Pn**	**06 26 20.0**	**-1.6**
PREZ	**Palmer Road**	**10.63**	**209**	P	**P**	**06 26 27.5**	**+2.9**
LREZ	**Lake Rotokare**	**10.63**	**207**	P	**P**	**06 26 25.5**	**+0.9**
KHEZ	**Kahui Hut**	**10.65**	**209**	P	**P**	**06 26 27.5**	**+2.6**
WAZ	**Wanganui**	**10.66**	**205**	P	**Pn**	**06 26 23.2**	**+1.1**
NBEZ	**Newall Road No**	**10.69**	**210**	P	**P**	**06 26 28.3**	**+3.1**
DVHZ	**Dannevirke**	**10.78**	**199**	P	**Pn**	**06 26 22.3**	**-1.3**
NMEZ	**Namu Road**	**10.80**	**209**	P	**P**	**06 26 29.5**	**+3.0**
OHWZ	**Ohakea**	**10.95**	**202**	P	**P**	**06 26 28.6**	**+0.5**
POWZ	**Post Office Ro**	**10.98**	**200**	P	**Pn**	**06 26 26.7**	**+0.7**
BFZ	**Birch Farm**	**11.11**	**198**	*e*Pn	**Pn**	**06 26 25.9**	**-1.7**
BFZ				*e*S	**S**	**06 28 30.9**	**-1.0**
BFZ	**Birch Farm**	**11.11**	**198**	P	**Pn**	**06 26 24.7**	**-2.9**
MRZ	**Mangatainoka R**	**11.28**	**200**	P	**Pn**	**06 26 26.5**	**-3.3**
TIWZ	**Tintock**	**11.30**	**199**	P	**Pn**	**06 26 29.0**	**-1.0**
CPWZ	**Castlepoint**	**11.34**	**198**	P	**P**	**06 26 31.7**	**-0.8**
HOWZ	**Holdsworth Sta**	**11.52**	**200**	P	**Pn**	**06 26 29.8**	**-2.8**
OGWZ	**Otaki Gorge**	**11.55**	**201**	P	**Pn**	**06 26 30.1**	**-2.9**
TMWZ	**Te Maipa**	**11.61**	**198**	P	**Pn**	**06 26 31.9**	**-1.8**
KIW	**Kapiti Island**	**11.68**	**202**	P	**Pn**	**06 26 33.7**	**-0.9**
MTW	**Mount Morrison**	**11.76**	**200**	P	**Pn**	**06 26 35.2**	**-0.4**
CAW	**Cannon Point**	**11.85**	**201**	P	**Pn**	**06 26 34.0**	**-2.6**
TRWZ	**Traveller**	**11.93**	**199**	P	**Pn**	**06 26 35.8**	**-1.8**
DUWZ	**D'Urville Isla**	**11.97**	**206**	P	**Pn**	**06 26 35.3**	**-2.8**
DUWZ	**D'Urville Isla**	**11.97**	**206**	P	**Pn**	**06 26 38.0**	**-0.1**
PAWZ	**Paruwai Farm**	**11.99**	**199**	P	**Pn**	**06 26 37.9**	**-0.5**
MSWZ	**Moikau Station**	**12.07**	**200**	P	**Pn**	**06 26 36.1**	**-3.3**
SNZO	**South Karori**	**12.15**	**202**	*e*Pn	**Pn**	**06 26 39.8**	**-0.4**
SNZO				*e*S	**S**	**06 28 51.8**	**-3.4**
BHW	**Baring Head**	**12.18**	**201**	P	**Pn**	**06 26 38.3**	**-2.3**
TCW	**Tory Channel**	**12.20**	**204**	P	**Pn**	**06 26 38.9**	**-2.0**
PLWZ	**Palliser**	**12.21**	**200**	P	**Pn**	**06 26 38.8**	**-2.3**
TUWZ	**Tuamarina**	**12.51**	**204**	P	**Pn**	**06 26 41.0**	**-3.6**
NNZ	**Nelson**	**12.54**	**206**	P	**Pn**	**06 26 42.1**	**-2.8**
QRZ	**Quartz Range**	**12.55**	**210**	P	**Pn**	**06 26 44.2**	**-0.9**
MSVF	**Nonsavu**	**12.60**	**348**	*e*Pn	**Pn**	**06 26 45.6**	**-0.4**
CMWZ	**Cape Campbell**	**12.70**	**203**	P	**P**	**06 26 48.6**	**+1.0**
BSWZ	**Blackbirch Sta**	**12.79**	**204**	P	**Pn**	**06 26 46.1**	**+1.9**
THZ	**Tophouse**	**13.19**	**206**	*e*Pn	**Pn**	**06 26 50.2**	**-2.6**
THZ				*e*S	**S**	**06 29 15.3**	**-3.3**
THZ	**Tophouse**	**13.19**	**206**	P	**Pn**	**06 26 50.0**	**-2.9**
KHZ	**Kahutara**	**13.53**	**203**	*e*P	**P**	**06 26 54.5**	**-2.2**
KHZ				*e*S	**S**	**06 29 22.0**	**-3.9**
KHZ	**Kahutara**	**13.53**	**203**	P	**P**	**06 26 53.3**	**-3.4**
DSZ	**Denniston Nort**	**13.62**	**209**	P	**P**	**06 26 56.6**	**-1.2**
PINNC	**Pines Island,**	**14.05**	**299**	*e*P	**Pn**	**06 27 06.1**	**+2.8**
LTZ	**Lake Taylor**	**14.30**	**206**	*e*P	**P**	**06 27 04.7**	**-0.7**
LTZ	**Lake Taylor**	**14.30**	**206**	P	**P**	**06 27 04.7**	**-0.7**
MARNC	**Mare, Loyalty**	**14.30**	**304**	*e*P	**Pn**	**06 27 08.2**	**+1.9**
AMCZ	**Amberley**	**14.50**	**204**	P	**P**	**06 27 06.6**	**-0.9**
INZ	**Inchbonnie**	**14.58**	**208**	P	**P**	**06 27 06.4**	**-2.0**
OXZ	**Oxford**	**14.86**	**205**	*e*P	**P**	**06 27 10.7**	**-0.6**
OXZ				*e*S	**S**	**06 29 47.7**	**-5.9**
CRLZ	**Canterbury Las**	**14.86**	**203**	*e*P	**P**	**06 27 11.8**	**+0.3**
CRLZ				*e*S	**S**	**06 29 49.7**	**-3.9**
MQZ	**McQueen's Vall**	**14.97**	**203**	*e*P	**P**	**06 27 11.8**	**-0.7**
MQZ				*e*S	**S**	**06 29 50.4**	**-5.3**
ONTNC	**Ouen Toro**	**14.98**	**298**	*e*P	**Pn**	**06 27 16.7**	**+2.4**
DZM	**Mont Dzumac**	**15.12**	**299**	*e*P	**Pn**	**06 27 18.0**	**+1.9**
	59nm,0.6s						
DZM	**Mont Dzumac**	**15.12**	**299**	P	**Pn**	**06 27 17.7**	**+1.6**
	13nm,0.3s,baz=266,slow=23,SNR=86						
RPZ	**Rata Peaks**	**15.56**	**207**	*e*P	**P**	**06 27 19.1**	**-0.1**
	17nm,0.5s						
RPZ				*e*S	**S**	**06 30 02.8**	**-5.0**
RPZ	**Rata Peaks**	**15.56**	**207**	P	**P**	**06 27 18.7**	**-0.4**
	5.2nm,0.3s,baz=72,slow=1.8,SNR=18						
RPZ				S	**S**	**06 30 02.1**	**-5.7**
	4.7nm,0.3s,baz=132,slow=23,SNR=17						
FOZ	**Fox Glacier**	**15.93**	**210**	*e*P	**Pn**	**06 27 24.9**	**-0.2**
	82nm,1.2s						
FOZ				*e*S	**S**	**06 30 11.6**	**-3.4**
LBZ	**Lake Benmore**	**16.47**	**208**	*e*P	**Pn**	**06 27 33.4**	**+2.0**
	2.8nm,0.5s						
LBZ				*e*S	**S**	**06 30 26.9**	**+1.0**
ODZ	**Otahua Downs**	**16.84**	**205**	*e*P	**P**	**06 27 32.2**	**-0.9**
	12nm,0.9s						
WKZ	**Wanaka**	**17.31**	**209**	*e*P	**P**	**06 27 38.9**	**+0.8**
	21nm,1.1s						
WKZ				*e*S	**S**	**06 30 44.6**	**+2.1**
MLZ	**Mavora Lakes**	**18.12**	**210**	*e*P	**P**	**06 27 49.8**	**+3.0**
	2.7nm,0.3s						
MLZ				*e*S	**S**	**06 31 01.3**	**+2.8**
WHZ	**Wether Hill Ro**	**18.61**	**209**	*e*P	**P**	**06 27 53.2**	**+1.1**
	4.3nm,0.6s						
STKA	**Stephens Creek**	**33.44**	**257**	P	**P**	**06 30 08.5**	**+1.1**
	0.9nm,0.3s,baz=78,slow=4.4,SNR=5.0						
BBOO	**Buckleboo**	**37.96**	**254**	*e*P	**P**	**06 30 49.4**	**+3.8**
	5.8nm,0.8s						
AS01	**Alice Springs**	**41.96**	**267**	*e*P	**P**	**06 31 18.6**	**+0.1**
AS31	**Alice Springs**	**42.00**	**267**	*e*P	**P**	**06 31 19.3**	**+0.5**
	0.9nm,1.0s						
ASAR	**Alice Springs**	**42.00**	**267**	P	**P**	**06 31 18.9**	**+0.1**
	0.7nm,0.4s,baz=105,slow=7.7,SNR=19						
ASAR				ScP	**ScP**	**06 36 26.4**	**-2.7**
	1.4nm,0.9s,baz=111,slow=4.7,SNR=6.1						
WB2	**Warramunga Arr**	**42.96**	**273**	*e*P	**P**	**06 31 26.5**	**+0.1**
	5.0nm,0.9s						
WRA	**Warramunga Arr**	**42.97**	**273**	P	**P**	**06 31 26.4**	**-0.1**
	1.4nm,0.3s,baz=110,slow=8.1,SNR=35						
WRA				ScP	**ScP**	**06 36 30.3**	**-2.7**
	1.0nm,0.6s,baz=104,slow=3.8,SNR=7.3						
WRA				S	**S**	**06 37 25.8**	**-3.1**
	1.3nm,0.7s,baz=109,slow=14,SNR=5.6						
FORT	**Forrest**	**45.03**	**255**	*e*P	**P**	**06 31 46.1**	**+3.5**
	15nm,1.0s						
QSPA	**South Pole Qui**	**59.95**	**180**	*e*P	**P**	**06 33 33.7**	**+2.7**
	5.5nm,0.8s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**06 33 33.8**	**+2.7**
	4.0nm,0.7s,baz=346,slow=0.7,SNR=20						
MJAR	**Matsushiro Arr**	**77.41**	**326**	P	**P**	**06 35 16.3**	**-2.0**
	1.3nm,0.7s,baz=116,slow=14,SNR=3.2						
ASAJ	**Asahikawa**	**81.71**	**333**	P	**P**	**06 35 40.5**	**-0.6**
	4.7nm,0.7s,baz=90,slow=20,SNR=3.6						
PLCA	**Pasa Flores**	**83.49**	**134**	P	**P**	**06 35 50.8**	**+0.1**
	2.0nm,0.9s,baz=263,slow=3.3,SNR=5.9						
PETK	**Petropavlovsk-**	**85.30**	**346**	P	**P**	**06 35 56.4**	**-2.7**
	3.4nm,0.6s,baz=122,slow=7.9,SNR=11						
ISA	**Isabella, Lake**	**86.92**	**45**	*e*P	**P**	**06 36 07.6**	**+0.2**
	3.7nm,0.8s						
GSC	**Goldstone, Bar**	**87.72**	**47**	*e*P	**P**	**06 36 11.6**	**+0.4**
	4.2nm,1.1s						
NVAR	**Mina Array Bea**	**88.82**	**43**	P	**P**	**06 36 15.9**	**-0.6**
	1.0nm,0.7s,baz=218,slow=9.0,SNR=9.4						
TUC	**Tucson**	**89.84**	**52**	*e*P	**P**	**06 36 22.2**	**+1.0**
	2.1nm,0.8s						
KLR	**Kul'dur**	**90.27**	**330**	P	**P**	**06 36 22.3**	**-0.3**
	2.5nm,0.6s,baz=133,slow=2.7,SNR=15						
PINE	**Pine Mountain**	**90.89**	**38**	*e*P	**P**	**06 36 26.2**	**+0.2**
	5.8nm,0.8s						
U15A	**North Rim**	**91.29**	**48**	*e*P	**P**	**06 36 28.8**	**+0.7**
	2.2nm,0.8s						
I07A	**Izee**	**91.86**	**39**	*e*P	**P**	**06 36 30.2**	**-0.2**
	2.4nm,0.9s						
CD2	**Chengdu**	**95.01**	**303**	P	**P**	**06 36 45.5**	**+0.5**
CD2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**95.26**	**315**	*e*P	**P**	**06 36 49.5**	**+3.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,79nm,4.7s						
ILAR	**Eielson Array**	**97.94**	**13**	P	**P**	**06 36 57.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=227,slow=5.8,SNR=6.3						
MKAR	**Makanchi Array**	**116.76**	**310**	PKP	**PKPdf**	**06 42 01.9**	**-2.6**
	comp=Z,0.5nm,0.7s,baz=222,slow=2.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**117.11**	**319**	PKP	**PKPdf**	**06 42 03.0**	**-1.9**
	comp=Z,0.6nm,0.4s,baz=159,slow=4.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**120.11**	**314**	PKP	**PKPdf**	**06 42 07.7**	**-3.1**
	comp=Z,1.5nm,0.7s,baz=105,slow=1.8,SNR=8.1						
BVAR	**Borovoye Array**	**125.45**	**316**	PKP	**PKPdf**	**06 42 19.8**	**-1.2**
	comp=Z,1.1nm,0.4s,baz=114,slow=2.1,SNR=7.0						
ARCES	**ARCESS Array B**	**138.11**	**347**	PKhKP	PKPpre	06 42 35.1	
	comp=Z,2.0nm,0.7s,baz=64,slow=2.1,SNR=34						
KBZ	**Khabaz**	**144.05**	**304**	PKP	**PKPab**	**06 42 54.0**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=235,slow=3.2,SNR=7.3						
FINES	**FINESS Array B**	**144.53**	**339**	PKP	**PKPab**	**06 42 53.8**	**-1.7**
	comp=Z,18nm,0.3s,baz=50,slow=4.2,SNR=253						
NC303	**NORSAR Array S**	**148.13**	**350**	*e*PKPdf	**PKPbc**	**06 43 04.3**	**-1.5**
NC405	**NORSAR Array S**	**148.19**	**350**	*e*PKPdf	**PKPdf**	**06 43 04.2**	**+1.9**
NB201	**NORSAR Array S**	**148.31**	**350**	*e*PKPdf	**PKPbc**	**06 43 04.7**	**-1.6**
NB2	**NORSAR Subarra**	**148.33**	**350**	PKP	**PKPdf**	**06 43 04.5**	**+1.9**
	comp=Z,2.6nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**148.33**	**350**	PKPbc	**PKPbc**	**06 43 04.8**	**-1.6**
	comp=Z,4.1nm,0.6s,baz=16,slow=4.2,SNR=23						
AKASG	**Malin Array Be**	**150.42**	**322**	PKPbc	**PKPbc**	**06 43 10.5**	**-1.2**
	comp=Z,2.4nm,0.3s,baz=49,slow=3.0,SNR=6.9						
AKBB	**Malin Array Si**	**150.42**	**322**	*e*PKPbc	**PKPbc**	**06 43 10.8**	**-0.9**
KIEV	**Kiev**	**150.44**	**322**	*e*PKPbc	**PKPbc**	**06 43 10.7**	**-1.0**
AK11	**Malin Array Si**	**150.47**	**322**	*e*PKPbc	**PKPbc**	**06 43 10.8**	**-1.1**
BRTR	**Keskin Array B**	**151.50**	**299**	PKPbc	**PKPbc**	**06 43 13.7**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=104,slow=5.2,SNR=4.8						
CLL	**Collm**	**156.97**	**340**	*e*PKPdf	**PKPdf**	**06 43 16.0**	**+0.6**
CLL				*i* PKPab	**PKPab**	**06 43 45.8**	**-1.4**
VYHS	**Vyhne**	**157.03**	**328**	*e*PKP	**PKPab**	**06 43 46.8**	**-0.8**
GERES	**GERESS Array B**	**158.87**	**336**	PKPab	**PKPab**	**06 43 54.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=19,slow=4.5,SNR=5.3						
TORD	**Torodi Ar. Bea**	**163.05**	**183**	PKPab	**PKPab**	**06 44 15.2**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=159,slow=4.5,SNR=3.9						

MEX 30 06:24:32.4±0.3, 16°.90N×100°.45W, h12km±1km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.23**	**50**	*i* P	Pg	06 24 36.8	-0.5
CAIG				*i* S	Sg	06 24 40.4	-0.3
ZIIG	**Zihuatanejo**	**1.20**	**306**	*i* P	Pn	06 24 51.5	-3.5
ZIIG				*e*S	Sb	06 25 05.6	-4.9
MEIG	**Mezcala**	**1.29**	**38**	*e*P	Pn	06 24 52.7	-3.7
MEIG				*e*S	Sb	06 25 08.5	-4.8

*IDC **30** 06:33:50.5±0.8, 23°.38N×70°.34E, h0km, mb3.7/13, mb1 3.9/15, mb1mx3.7/44, mbtmp3.7/15, ML3.7/2, Error ellipse: s-maj=22.5km s-min=17.9km az=27.0*
*ISCJB **30** 06:33:51.8±0.4, 23.55N±0.04×70.60E±0.03, h15km, mb3.7/14, Error ellipse: s-maj=5.3km s-min=4.2km az=151.4*
*NDI **30** 06:33:55.5±2.2, 23°.49N×70°.40E, h10km, ML3.9*
ISC 30 06:33:52.8±0.5, 23°.47N±0°.06×70°.44E±0°.04, h15km, n42, σ2°.43/53, mb3.8/14, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	**Bhuj**	**0.75**	**254**	*e*P	**Pn**	**06 34 09.3**	**+0.4**
BHJ				*e*S	**Sn**	**06 34 19.0**	**-0.1**
BHJ				*e*S	**Sb**	**06 34 20.2**	**+2.5**
BHJ				IAML		06 34 23.9	
	comp=N,11µm,0.2s						
BHJ				IAML		06 34 25.1	
	comp=E,8µm,0.2s						
JASL	**Jaisalmer**	**3.47**	**7**	*e*P	**Pn**	**06 34 48.7**	**+2.5**
JASL				*e*S	**Sn**	**06 35 30.5**	**+3.4**
**BO

MKAR	**Makanchi Array**	**53.01**	**312**	P		**P**	**06 56 54.8**	**-2.8**
	0.2nm,0.5s,baz=99,slow=9.2,SNR=2.4							
ILAR	**Eielson Array**	**60.46**	**28**	P		**P**	**06 57 48.0**	**-2.1**
	0.3nm,0.7s,baz=258,slow=4.5,SNR=2.6							
YKA	**Yellowknife Array**	**74.89**	**28**	P		**P**	**06 59 20.8**	**-0.2**
	0.3nm,0.6s,baz=291,slow=6.0,SNR=7.4							
ARCES	**ARCESS Array B**	**76.87**	**341**	P		**P**	**06 59 32.1**	**-0.2**
	5.0nm,1.1s,baz=52,slow=5.9,SNR=3.5							
FINES	**FINESS Array B**	**81.17**	**334**	P		**P**	**06 59 55.3**	**-0.6**
	0.9nm,0.3s,baz=70,slow=5.4,SNR=16							

*ISCJB **30** 06:49:41.1±0.2,67.18N±0.02×20.76E±0.05,h0km, Error ellipse: s-maj=2.8km s-min=2.2km az=6.4*
*HEL **30** 06:49:42.1±0.1,67.22N×20.66E,h1km,ML2.4, ML2.7(UPP), Confirmed Induced event*
*UPP **30** 06:49:42.6±0.5,67.14N×20.78E,h0km,ML2.7, Explosion*
*IDC **30** 06:49:42.1±0.7,67.18N×21.00E,h0km,mb1 3.3/6, mb1mx3.1/52,mbtmp3.4/6,ML2.6/5, Error ellipse: s-maj=13.3km s-min=6.0km az=112.0*
*NAO **30** 06:49:42.1±0.7,67.15N×20.86E,ML2.9*
*BER **30** 06:49:44.3±3.3,67.13N×20.67E,h0km,ML2.3, ML2.9(NAO), Suspected explosion*

ISC 30 06:49:41.4±0.7,67.15N±0.02×20.65E±0.02,h0km,n71, σ1ᵍ62/120,1D,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.85**	**134**	P		P	**Pg**	**06 49 58.0**	**+0.3**
ERTU				S			**Sg**	**06 50 09.2**	**+0.5**
ERTU	**Ertsjaerv**	**0.85**	**134**	*e*P		P	**Pg**	**06 49 57.6**	**-0.1**
SALU	**Saltoluokta**	**0.86**	**287**	*e*P		P	**Pg**	**06 49 58.2**	**+0.3**
SALU				*e*S			**Sg**	**06 50 09.9**	**+0.8**
PAJU	**Pajala**	**0.97**	**96**	P		P	**Pg**	**06 49 59.8**	**-0.2**
PAJU				S			**Sg**	**06 50 12.2**	**-0.4**
PAJU	**Pajala**	**0.97**	**96**	*e*P		P	**Pg**	**06 49 59.8**	**-0.2**
PAJU				*e*S			**Sg**	**06 50 12.2**	**-0.4**
HARU	**Harads**	**1.00**	**172**	P		P	**Pg**	**06 50 00.8**	**+0.3**
HARU				S			**Sg**	**06 50 15.0**	**+1.6**
HARU	**Harads**	**1.00**	**172**	*e*P		P	**Pg**	**06 50 00.8**	**+0.3**
HARU				*e*S			**Sg**	**06 50 15.0**	**+1.6**
LANU	**Lannavaara**	**1.04**	**29**	*e*P		P	**Pg**	**06 49 59.9**	**-1.4**
LANU				*e*SB			**Sg**	**06 50 14.5**	**-0.2**
KALU	**Kalix**	**1.69**	**139**	P		P	**Pn**	**06 50 12.9**	**+0.8**
KALU	**Kalix**	**1.69**	**139**	*e*P		P	**Pn**	**06 50 12.7**	**+0.6**
KALU				*e*SN			**Sg**	**06 50 37.0**	**+1.4**
SJUU	**Sjulsmark**	**1.69**	**166**	P		P	**Pn**	**06 50 13.2**	**+1.0**
SJUU				S			**Sn**	**06 50 36.0**	**+1.5**
SJUU	**Sjulsmark**	**1.69**	**166**	*e*P		P	**Pn**	**06 50 13.2**	**+1.0**
SJUU				*e*S			**Sn**	**06 50 36.0**	**+1.5**
HEF	**Hetta**	**1.71**	**41**	Pg		Pn	**Pn**	**06 50 12.2**	**-0.3**
HEF				Lg		Lg		06 50 33.7	
HEF	**Hetta**	**1.71**	**41**	*e*P		P	**Pn**	**06 50 12.1**	**-0.3**
HEF				*e*S			**Sn**	**06 50 33.6**	**-1.3**
HEF	**Hetta**	**1.71**	**41**	*e*PG		P	**Pn**	**06 50 11.7**	**-0.6**
	baz=226								
HEF				MSG				06 50 32.6	
	comp=Z,36nm,0.2s								
HEF				*e*SN			**Sn**	**06 50 33.5**	**-1.3**
TOF	**Tornio**	**1.82**	**125**	*e*P		P	**Pn**	**06 50 14.8**	**+0.9**
	baz=307								
TOF				MSG				06 50 37.3	
	comp=Z,33nm,0.2s								
TOF				*e*SG			**Sg**	**06 50 40.1**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**2**	Pn		Pn	**Pn**	**06 50 15.4**	**+0.9**
KIF				Lg		Lg		06 50 41.2	
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*P		P	**Pn**	**06 50 15.4**	**+0.9**
KIF				*e*S			**Sb**	**06 50 40.5**	**+0.4**
KIF	**Kilpisjarvi**	**1.86**	**2**	*e*PG		Pn	**Pn**	**06 50 15.0**	**+0.5**
	baz=182								
KIF				MSG				06 50 37.3	
	comp=Z,30nm,0.2s								
KIF				*e*SN			**Sb**	**06 50 40.1**	**0.0**
LILU	**Lilltraesk**	**1.90**	**190**	P		P	**Pn**	**06 50 16.3**	**+1.3**
LILU				S			**Sb**	**06 50 42.3**	**+1.2**
LILU	**Lilltraesk**	**1.90**	**190**	*e*P		P	**Pn**	**06 50 16.3**	**+1.3**
LILU				*e*S			**Sb**	**06 50 42.3**	**+1.2**
KTK1	**Kautokeino**	**2.11**	**26**	*e*P		Pn	**Pn**	**06 50 19.1**	**+1.3**
KTK1				*e*S			**Sb**	**06 50 46.1**	**-1.0**
KTK1				IAML				06 50 47.8	
	comp=Z,52nm,0.3s								
RNF	**Rovaniemi**	**2.19**	**102**	*e*PB			**Pn**	**06 50 20.0**	**+1.1**
RNF				*e*SG			**Sb**	**06 50 49.6**	**+0.2**
STEI	**Steigen**	**2.22**	**293**	*e*P			**Pn**	**06 50 20.6**	**+1.2**
STEI				*e*S			**Sn**	**06 50 49.6**	**+2.1**
STEI				IAML				06 50 54.1	
	comp=Z,26nm,0.4s								
SGF	**Sodankyl**	**2.30**	**80**	*e*P			**Pn**	**06 50 21.3**	**+0.8**
SGF				*e*SG			**Sb**	**06 50 52.3**	**-0.3**
TRO	**Tromso**	**2.58**	**346**	*e*P			**Pn**	**06 50 26.2**	**+1.9**
TRO				*e*S			**Sn**	**06 50 58.1**	**+1.9**
TRO				IAML				06 51 02.7	
	comp=Z,47nm,0.6s								
BURU	**Burvik**	**2.59**	**173**	P			**Pn**	**06 50 26.3**	**+1.7**
BURU	**Burvik**	**2.59**	**173**	*e*P			**Pn**	**06 50 26.3**	**+1.7**
	baz=354								
BURU				*e*SG			**Sb**	**06 51 03.5**	**+2.4**
MOR8	**Moi Rana**	**2.66**	**251**	*e*P			**Pn**	**06 50 26.1**	**+0.7**
MOR8				IAML				06 51 04.2	
	comp=Z,35nm,0.7s								
SVAU	**Svanoeiden**	**2.70**	**190**	P			**Pn**	**06 50 27.6**	**+1.6**
SVAU	**Svanoeiden**	**2.70**	**190**	*e*P			**Pn**	**06 50 27.6**	**+1.6**
ODEU	**Stanfors**	**2.75**	**179**	P			**Pn**	**06 50 28.6**	**+1.8**
ODEU	**Stanfors**	**2.75**	**179**	*e*P			**Pn**	**06 50 28.6**	**+1.8**
LOF	**Lofoten**	**2.89**	**293**	*e*P			**Pn**	**06 50 29.1**	**+0.5**
LOF				IAML				06 51 25.6	
	comp=Z,12nm,0.5s								
OUL	**Oulu**	**2.98**	**132**	*e*P			**Pn**	**06 50 31.2**	**+1.4**
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn			**Pn**	**06 50 30.3**	**+0.2**
	baz=209,slow=14								
ARA0				Sn			**Sn**	**06 51 07.2**	**+0.5**
	baz=212,slow=28								
ARA0	**ARCESS Array S**	**3.00**	**35**	Pn			**Pn**	**06 50 30.3**	**+0.2**
	baz=209,slow=14								
ARA0				Sn			**Sn**	**06 51 07.2**	**+0.5**
	baz=212,slow=28								
ARCES	**ARCESS Array B**	**3.00**	**35**	Pn			**Pn**	**06 50 30.4**	**+0.3**
	comp=Z,1.4nm,0.3s,baz=211,slow=14,SNR=108								
ARCES				Lg			Lg	06 51 11.0	
	comp=Z,3.9nm,0.3s,baz=217,slow=31,SNR=15								
ARE0	**ARCESS Array S**	**3.00**	**35**	*e*P			**Pn**	**06 50 30.3**	**+0.2**
ARE0				*e*SB			**Sn**	**06 51 09.4**	**+2.7**
KONS	**Konsvik**	**3.05**	**261**	*e*P			**Pn**	**06 50 32.2**	**+1.4**
OUF	**Merijarvi**	**3.26**	**147**	*e*P			**Pn**	**06 50 35.3**	**+1.6**
	baz=329								
OUF				*e*SG			**Sg**	**06 51 24.6**	**-1.4**
UMAU	**Umeaa**	**3.28**	**180**	P			**Pn**	**06 50 35.5**	**+1.6**
UMAU	**Umeaa**	**3.28**	**180**	*e*P			**Pn**	**06 50 35.4**	**+1.4**
UMAU				*e*S			**Sn**	**06 51 15.2**	**+1.6**
VRF	**Varrio**	**3.50**	**76**	*e*P			**Pn**	**06 50 37.4**	**+0.3**
VRF				*e*SG			**Sb**	**06 51 28.6**	**+1.3**
KEV	**Kevo**	**3.52**	**39**	Pn			**Pn**	**06 50 37.4**	**+0.2**
KEV				Sn			**Sn**	**06 51 19.0**	**-0.4**
KEV	**Kevo**	**3.52**	**39**	Pn			**Pn**	**06 50 37.4**	**+0.2**
KEV				Sn			**Sn**	**06 51 19.0**	**-0.4**
KEV	**Kevo**	**3.52**	**39**	*e*P			**Pn**	**06 50 37.4**	**+0.2**
MSF	**Maaselka**	**3.58**	**106**	*e*P			**Pn**	**06 50 38.9**	**+0.8**
	baz=296								
KU6	**Riekki**	**3.86**	**103**	*e*P			**Pn**	**06 50 42.6**	**+0.7**
	baz=296								
HUSU	**Husum**	**3.87**	**190**	P			**Pn**	**06 50 44.0**	**+1.9**
HUSU	**Husum**	**3.87**	**190**	*e*P			**Pn**	**06 50 44.0**	**+1.9**
VAF	**Ylistaro**	**4.21**	**167**	*e*P			**Pn**	**06 50 48.6**	**+1.8**
VAF				*e*SG			**Sg**	**06 51 53.9**	**-2.6**
NSS	**Namsos**	**4.43**	**238**	*e*P			**Pn**	**06 50 51.4**	**+1.6**
HEMU	**Hemsoen**	**4.63**	**195**	*e*P			**Pn**	**06 50 53.9**	**+1.5**
	baz=15								
HEMU				*e*S			**Sn**	**06 51 45.9**	**-0.9**
APA0	**Apatity Array**	**4.79**	**79**	Pn			**Pn**	**06 50 54.9**	**+0.2**
	baz=266,slow=11								
APA0				Sn			**Sn**	**06 51 49.0**	**-1.8**
	baz=280,slow=28								
APA0				Lg			Lg	06 52 07.1	
	baz=275,slow=28								
APA0	**Apatity Array**	**4.79**	**79**	Pn			**Pn**	**06 50 54.9**	**+0.2**
	baz=266,slow=11								
APA0				Sn			**Sn**	**06 51 49.0**	**-1.8**
	baz=280,slow=28								
APA0				Sg			**Sb**	**06 52 07.1**	**+2.9**
	baz=275,slow=28								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn			**Pn**	**06 51 15.7**	**+1.7**
	baz=349,slow=16								
FIA0				Sn			**Sn**	**06 52 23.9**	**-1.4**
	baz=340,slow=28								
FIA0				Lg			Lg	06 52 55.9	
	baz=341,slow=37								
FIA0	**FINESS Array S**	**6.19**	**155**	Pn			**Pn**	**06 51 15.7**	**+1.7**
	baz=349,slow=16								
FIA0				Sn			**Sn**	**06 52 23.9**	**-1.4**
	baz=340,slow=28								
FIA0				Sg			**Sg**	**06 52 55.9**	**-4.2**
	baz=341,slow=37								
FINES	**FINESS Array B**	**6.19**	**155**	Pn			**Pn**	**06 51 15.2**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=347,slow=13,SNR=16								
FINES				Sn			**Sn**	**06 52 25.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=344,slow=23,SNR=6.9								
FINES				Lg			Lg	06 52 54.9	
	comp=Z,1.4nm,0.3s,baz=342,slow=29,SNR=9.0								
NB2	**NORSAR Subarra**	**7.39**	**218**	Pn			**Pn**	**06 51 31.2**	**+0.9**
	baz=28,slow=14								
NB2				Sn			**Sn**	**06 52 52.8**	**-2.0**
	baz=26,slow=22								
NB2				Lg			Lg	06 53 31.7	
	baz=29,slow=37								
NB2	**NORSAR Subarra**	**7.39**	**218**	Pn			**Pn**	**06 51 31.2**	**+0.9**
	baz=28,slow=14								
NB2				Sn			**Sn**	**06 52 52.8**	**-2.0**
	baz=26,slow=22								
NB2				Sg			**Sg**	**06 53 31.7**	**-6.6**
	baz=29,slow=37								
NOA	**NORSAR Array B**	**7.39**	**218**	Pn			**Pn**	**06 51 31.5**	**+1.1**
	comp=Z,0.0nm,0.3s,baz=26,slow=9.9,SNR=10								
NOA				Sn			**Sn**	**06 52 52.6**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=26,slow=10,SNR=6.6								
NOA				Lg			Lg	06 53 29.1	
	comp=Z,0.1nm,0.3s,baz=332,slow=9.3,SNR=7.2								
NRA0	**NORESS Array S**	**7.58**	**216**	Pn			**Pn**	**06 51 34.2**	**+1.3**
	baz=27,slow=16								
NRA0				Sn			**Sn**	**06 52 55.6**	**-3.8**
	baz=30,slow=28								
NRA0	**NORESS Array S**	**7.58**	**216**	Pn			**Pn**	**06 51 34.2**	**+1.3**
	baz=27,slow=16								
NRA0				Sn			**Sn**	**06 52 55.6**	**-3.8**
	baz=30,slow=28								
HFS	**Hagfors**	**7.69**	**207**	Pn			**Pn**	**06 51 34.5**	**0.0**
	baz=18,slow=14								
HFS				Sn			**Sn**	**06 52 58.1**	**-4.0**
	baz=38,slow=22								
HFS	**Hagfors**	**7.69**	**207**	Pn			**Pn**	**06 51 34.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=26,slow=13,SNR=11								
HFS				Sn			**Sn**	**06 52 58.8**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=22,slow=21,SNR=8.7								
HFS				Lg			Lg	06 53 39.0	
	comp=Z,0.4nm,0.3s,baz=22,slow=28,SNR=3.4								
HFS	**Hagfors**	**7.69**	**207**	Pn			**Pn**	**06 51 34.5**	**0.0**
	baz=18,slow=14								
HFS				Sn			**Sn**	**06 52 58.1**	**-4.0**
	baz=38,slow=22								
SPA0	**Spitsbergen Ar**	**11.16**	**355**	Pn			**Pn**	**06 52 21.2**	**-0.7**
	baz=154,slow=12								
SPA0	**Spitsbergen Ar**	**11.16**	**355**	Pn			**Pn**	**06 52 21.2**	**-0.7**
	baz=154,slow=12								
SPITS	**Spitsbergen Ar**	**11.16**	**355**	Pn			**Pn**	**06 52 20.7**	**-1.1**
	baz=157,slow=15,SNR=4.5								
AKASG	**Malin Array Ge**	**17.05**	**161**	P			**Pn**	**06 53 42.0**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=2.5								

IDC 30 07:40:49.2±6.8,20.44S×177.92W,h432km±76km, mb3.2/6,mb1 3.5/7,mb1mx3.2/32,mbtmp4.0/7,Error ellipse: s-maj=53.3km s-min=22.0km az=172.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.28**	**193**	P		P	P	07 44 34.8	-0.4
	0.7nm,0.3s,baz=258,slow=2.5,SNR=6.3								
ASAR	**Alice Springs**	**44.61**	**257**	P		P	P	07 48 22.1	+0.4
	2.6nm,0.7s,baz=94,slow=7.7,SNR=28								
ASAR				PcP		PcP	PcP	07 49 55.2	-0.5
	1.0nm,0.5s,baz=104,slow=3.8,SNR=11								
WRA	**Warramunga Arr**	**44.69**	**262**	P		P	P	07 48 21.5	-0.7
	0.5nm,0.3s,baz=96,slow=7.6,SNR=26								
NVAR	**Mina Array Bea**	**80.93**	**43**	P		P	P	07 52 17.0	-0.5
	0.7nm,0.8s,baz=229,slow=9.4,SNR=4.3								
TXAR	**Lajitas Array**	**86.96**	**57**	P		P	P	07 52 48.5	+1.0
	0.4nm,0.6s,baz=224,slow=6.5,SNR=6.9								
PDAR	**Pinedale Array**	**88.86**	**43**	P		P	P	07 52 56.0	-0.3
	0.4nm,0.6s,baz=219,slow=3.8,SNR=3.8								
CMAR	**Chiang Mai Arr**	**90.17**	**290**	P		P	P	07 53 03.4	+0.7
	0.9nm,0.3s,baz=111,slow=2.6,SNR=4.3								
FINES	**FINESS Array B**	**135.73**	**344**	PKP		PKPdf	PKPdf	07 59 17.0	-2.0
	0.3nm,0.4s,baz=90,slow=5.7,SNR=4.0								
AKASG	**Malin Array Be**	**143.00**	**331**	PKhKP		PKPpre	PKPpre	07 59 28.8	
	3.6nm,0.5s,baz=42,slow=4.5,SNR=8.6								
BRTR	**Keskin Array B**	**146.85**	**312**	PKPbc		PKPbc	PKPbc	07 59 41.6	-0.7
	1.5nm,0.6s,baz=142,slow=3.9,SNR=7.3								
GERES	**GERESS Array B**	**150.16**	**344**	PKPbc		PKPbc	PKPbc	07 59 49.6	-0.6
	1.0nm,0.7s,baz=4.4,slow=1.7,SNR=7.8								

JMA 30 07:45:25.8,34.69N×136.55E,h16km±1km,M2.7,7D Broadband fault plane solution: P waves. NP1: ϕs1.00000°,δ64.00000°,λ77.00000°. **NP2:**ϕs209.00000°, δ29.00000°,λ115.00000°. **Principal axes:** T Plg68.0000°, Azm246.0000°; N Plg12.0000°, Azm7.0000°; P Plg18.0000°, Azm101.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSUJ	**Tsu 2**	**0.11**	**280**	↓P		P	Pg	07 45 29.3	0.0
TSUJ				S			Sg	07 45 31.5	-0.1
JIE	**Ise**	**0.32**	**156**	↓P		P	Pg	07 45 32.7	+0.1
JIE				S			Sg	07 45 37.2	0.0
JAA	**Atsumi**	**0.49**	**97**	↓P		P	Pg	07 45 35.2	-0.4
JAA				S			Sg	07 45 41.8	-0.5
JKN2	**Miekihoku**	**0.51**	**207**	↓P		P	Pg	07 45 35.9	+0.1
JKN2				S			Sg	07 45 42.6	0.0
JHE	**Heguri**	**0.71**	**267**	↓P		P	Pg	07 45 39.1	-0.7
JHE				S			Sg	07 45 48.8	-0.4
JYTA	**Yamagatataniai**	**0.91**	**10**	P		P	Pb	07 45 43.4	+0.1
JYTA				S			Sb	07 45 54.8	-0.4
JWY	**Kouya**	**0.92**	**240**	P		P	Pb	07 45 43.1	-0.3
JWY				S			Sb	07 45 54.9	-0.5
TTO2	**TONANKAI O.B.S**	**1.03**	**157**	P		P	Pg	07 45 45.9	+0.2
TTO1	**TONANKAI O.B.S**	**1.08**	**170**	↓P		P	Pg	07 45 46.6	-0.1
JWT	**Wachi**	**1.11**	**302**	↓P		P	Pb	07 45 46.5	-0.2
MAT	**Matsushiro**	**2.29**	**36**	P		P	Pb	07 46 07.3	+0.6
MAT				S			Sb	07 46 34.0	-0.8

*ISCJB **30** 07:49:44.3±0.5,21.25S±0.03×66.86W±0.05,h239km±7km Error ellipse: s-maj=8.1km s-min=4.6km az=170.5*
*SJA **30** 07:49:44.3±1.1,21.54S×66.76W,h229km±9km,ML2.7, MW2.9*
*IDC **30** 07:49:44.2±0.9,21.52S×66.72W,h220km±18km, mb1 3.4/5,mb1mx3.1/24,mbtmp3.9/5,Error ellipse: s-maj=29.6km s-min=13.0km az=106.0*
*GUC **30** 07:49:45.9±0.6,21.50S×67.30W,h258km±9km,ML4.0*

ISC 30 07:49:44.4±0.9,21.61S±0.05×66.80W±0.06,h233km±9km, n42,σ1ᵍ60/76,5D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**2.05**	**141**	*e*P		P	**Pn**	**07 50 26.7**	**+0.4**
HJA				*e*S		S	**S**	**07 50 58.6**	**-0.6**
HJA				IAML				07 51 00.6	
	comp=Z,58nm,0.4s								
LVC	**Limon Verde**	**2.20**	**243**	*e*P		P	**Pn**	**07 50 28.8**	**+1.0**
LVC				*e*S		S	**S**	**07 51 01.8**	**+0.1**
LVC	**Limon Verde**	**2.20**	**243**	P		P	**Pn**	**07 50 29.0**	**+1.2**
	comp=Z,15nm,0.3s,baz=62,slow=6.4,SNR=147								
LVC				S		S	**S**	**07 51 01.9**	**+0.2**
	comp=Z,13nm,0.3s,baz=231,slow=20,SNR=36								
PB09	**IPOC Station P**	**2.28**	**265**	*e*P		P	**Pn**	**07 50 31.3**	**+2.9**
PB09				*e*S		S	**S**	**07 51 03.7**	**+0.9**
PB09	**IPOC Station P**	**2.28**	**265**	*e*P		P	**Pn**	**07 50 29.7**	**+1.3**
PB09				*e*S		S	**S**	**07 51 02.5**	**-0.3**
PB09				IAML				07 51 06.9	
	comp=N,160nm,0.4s								
PB01	**IPOC Station P**	**2.57**	**282**	*e*P		P	**Pn**	**07 50 31.8**	**+0.4**
PB01				*e*S		S	**S**	**07 51 06.9**	**-1.1**
PB01				IAML				07 51 09.1	
	comp=N,518nm,0.3s								
PB08	**IPOC Station P**	**2.64**	**303**	*e*P		P	**Pn**	**07 50 33.5**	**+1.0**
PB08				*e*S		S	**S**	**07 51 09.8**	**-0.2**
PB08	**IPOC Station P**	**2.64**	**303**	↓*i*P		P	**Pn**	**07 50 33.2**	**+0.8**
PB08				*i* S		S	**S**	**07 51 09.5**	**-0.5**
PB08				IAML				07 51 12.1	
	comp=E,119nm,0.2s								
PB03	**IPOC Station P**	**2.78**	**260**	*e*P		P	**Pn**	**07 50 34.9**	**+1.3**
PB03				*e*S		S	**S**	**07 51 11.1**	**-1.1**
PB03	**IPOC Station P**	**2.78**	**260**	*e*P		P	**Pn**	**07 50 34.4**	**+0.8**
PB03				*e*S		S	**S**	**07 51 11.0**	**-1.2**
PB03				IAML				07 51 12.0	
	comp=E,662nm,0.2s								
PB06	**IPOC Station P**	**2.79**	**246**	*e*P		P	**Pn**	**07 50 34.9**	**+1.2**
PB06				*e*S		S	**S**	**07 51 13.0**	**+0.5**
PB06	**IPOC Station P**	**2.79**	**246**	*e*P		P	**Pn**	**07 50 34.9**	**+1.2**
PB06				*e*S		S	**S**	**07 51 12.3**	**-0.2**
PB06				IAML				07 51 13.7	
	comp=E,332nm,0.2s								
PB07	**IPOC Station P**	**2.88**	**267**	*e*P		P	**Pn**	**07 50 35.7**	**+1.0**
PB07				*e*S		S	**S**	**07 51 12.8**	**-1.4**
PB07	**IPOC Station P**	**2.88**	**267**	*e*P		P	**Pn**	**07 50 35.2**	**+0.5**
PB07				*i* S		S	**S**	**07 51 12.6**	**-1.5**
PB07				IAML				07 51 13.6	
	comp=N,792nm,0.4s								
PB02	**IPOC Station P**	**2.90**	**275**	*e*P		P	**Pn**	**07 50 35.5**	**+0.6**
PB02				*e*S		S	**S**	**07 51 12.8**	**-1.7**
PB02	**IPOC Station P**	**2.90**	**275**	*e*P		P	**Pn**	**07 50 35.5**	**+0.6**
PB02				*e*S		S	**S**	**07 51 12.5**	**-1.9**
PB15	**IPOC Station P**	**2.94**	**237**	*e*P		P	**Pn**	**07 50 37.7**	**+2.2**
PB15				*e*S		S	**S**	**07 51 16.2**	**+0.7**
PB15	**IPOC Station P**	**2.94**	**237**	*e*P		P	**Pn**	**07 50 37.3**	**+1.9**
PB15				*e*S		S	**S**	**07 51 16.3**	**+0.7**
PB04	**IPOC Station P**	**3.19**	**256**	*e*P		P	**Pn**	**07 50 39.2**	**+1.0**
PB04				*e*S		S	**S**	**07 51 19.1**	**-1.5**
PB04	**IPOC Station P**	**3.19**	**256**	*e*P		P	**Pn**	**07 50 39.2**	**+1.0**
PB04				*i* S		S	**S**	**07 51 19.0**	**-1.5**
PB11	**IPOC Station P**	**3.25**	**304**	*e*P		P	**Pn**	**07 50 38.8**	**-0.1**
PB11				*e*S		S	**S**	**07 51 20.0**	**-1.6**
PB11	**IPOC Station P**	**3.25**	**304**	↓*i*P		P	**Pn**	**07 50 38.8**	**-0.1**
PB11				*e*S		S	**S**	**07 51 19.6**	**-2.0**
PB05	**IPOC Station P**	**3.39**	**248**	*e*P		P	**Pn**	**07 50 41.5**	**+1.1**
PB05				*e*S		S	**S**	**07 51 23.0**	**-1.5**
PB05	**IPOC Station P**	**3.39**	**248**	↓*e*P		P	**Pn**	**07 50 41.5**	**+1.1**
PB05				*i* S		S	**S**	**07 51 22.9**	**-1.5**
MNMC	**Minye Minye**	**3.60**	**313**	↓*e*P		P	**Pn**	**07 50 43.5**	**+0.4**
MNMC				*e*S		S	**S**	**07 51 28.0**	**-1.3**
MNMCX	**Minye Minye**	**3.60**	**313**	*e*P		P	**Pn**	**07 50 43.4**	**+0.3**
MNMCX				*e*S		S	**S**	**07 51 30.0**	**+0.8**
PSGC	**Pisagua**	**3.70**	**302**	*e*P		P	**Pn**	**07 50 43.2**	**-0.9**
PSGC				*e*S		S	**S**	**07 51 28.1**	**-3.0**
PSGCX	**Pisagua**	**3.70**	**302**	*e*P		P	**Pn**	**07 50 43.6**	**-0.5**
PSGCX				*e*S		S	**S**	**07 51 28.0**	**-3.1**
PB10	**IPOC Station P**	**3.96**	**241**	*e*P		P	**Pn**	**07 50 47.9**	**+1.0**
PB10				*e*S		S	**S**	**07 51 34.2**	**-2.1**
PB10	**IPOC Station P**	**3.96**	**241**	↓*e*P		P	**Pn**	**07 50 47.9**	**+1.0**
PB10				*i* S		S	**S**	**07 51 33.7**	**-2.7**
PB12	**IPOC Station P**	**4.46**	**311**	*e*P		P	**Pn**	**07 50 51.9**	**-1.3**
PB14	**IPOC Station P**	**4.48**	**227**	*e*P		P	**Pn**	**07 50 54.4**	**+0.8**
PB14				*e*S		S	**S**	**07 51 46.5**	**-1.7**
FSA	**Cafayete**	**4.54**	**171**	IAML				07 51 54.5	
	comp=Z,2.2nm,0.5s								
LPAZ	**La Paz**	**5.44**	**346**	P		P	**Pn**	**07 51 06.3**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=149,slow=9.0,SNR=79								
LPAZ				S			**S**	**07 52 07.4**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=278,slow=19,SNR=10								
VCA	**Vinchina**	**7.21**	**190**	*e*P		P	**Pn**	**07 51 29.8**	**+2.1**
SIV	**San Ignacio**	**7.78**	**45**	P		P	**Pn**	**07 51 32.5**	**-2.5**
	comp=Z,5

Error ellipse: s-maj=8.5km s-min=6.9km az=102.0
*NNC **30** 08:14:55.0±2.5,36°29Nx70°57E,h211km±38km,mb3.4, mpv4.4,Error ellipse: s-maj=24.9km s-min=14.4km az=17.0*

ISC 30 08:14:50.2±0.5,36°47N±0°05×70°64E±0°06,h204km,n73, σ1§94/84,mb3.6/14,8C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.32**	**215**	*e*Pn	**Pn**	**08 15 33.1**	**+0.5**
KBL				*e*Sn	**S**	**08 16 04.0**	**-1.1**
CEP	**Cherat**	**2.83**	**158**	⇓P	**Pn**	**08 15 40.0**	**+1.7**
CEP				S	**S**	**08 16 16.0**	**+0.7**
CHCP	**Chirah Chowk**	**3.53**	**142**	P	**Pn**	**08 15 48.7**	**+2.2**
NIL	**Nilore**	**3.54**	**142**	*e*Pn	**Pn**	**08 15 48.3**	**+1.9**
BTK	**Batken**	**3.59**	**2**	*e*Pn	**Pn**	**08 15 48.1**	**+1.0**
BTK				*e*Sn	**S**	**08 16 31.5**	**+0.1**
THW	**Thamme Wali**	**3.77**	**166**	P	**Pn**	**08 15 50.7**	**+1.3**
SARP	**Sargodha**	**4.84**	**159**	P	**Pn**	**08 16 03.3**	**+0.7**
AML	**Almayashu**	**6.13**	**22**	P	**Pn**	**08 16 19.6**	**+0.1**
	SNR=246						
DHRM	**DHARAMSHALA**	**6.29**	**130**	*e*P	**Pn**	**08 16 22.4**	**+0.9**
DHRM				*e*S	**S**	**08 17 32.6**	**-1.0**
DHRM				IAML		08 17 34.1	
	comp=N,282nm,0.2s						
DHRM				IAML		08 17 34.2	
	comp=E,274nm,0.5s						
NRN	**Naryn**	**6.49**	**38**	*e*Pn	**Pn**	**08 16 22.6**	**-1.5**
UCH	**Uchtor**	**6.49**	**26**	P	**Pn**	**08 16 24.4**	**+0.2**
	SNR=89						
KK31	**Karatay Array**	**6.63**	**359**	*e*Pn	**Pn**	**08 16 25.0**	**-0.5**
KK31	**Karatay Array**	**6.63**	**359**	⇑P	**Pn**	**08 16 25.1**	**-0.5**
	comp=E,11nm,0.2s,baz=178,slow=12,SNR=440						
KK31				⇑S	**S**	**08 17 36.1**	**-5.1**
	comp=E,13nm,0.5s,baz=191,slow=20,SNR=5.1						
KKAR	**Karatay Array**	**6.63**	**359**	*e*Pn	**Pn**	**08 16 25.0**	**-0.5**
EKS2	**Erkin-Say**	**6.65**	**20**	P	**Pn**	**08 16 26.0**	**+0.1**
	SNR=31						
KZA	**Kyzart**	**6.65**	**31**	P	**Pn**	**08 16 26.0**	**-0.2**
	SNR=35						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**08 16 29.0**	**+0.5**
	SNR=28						
AAK	**Ala-Archa**	**6.85**	**25**	*e*Pn	**Pn**	**08 16 28.5**	**0.0**
AAK	**Ala-Archa**	**6.85**	**25**	⇓P	**Pn**	**08 16 28.7**	**+0.2**
	comp=E,12nm,0.4s						
AAK				⇑S	**S**	**08 17 42.8**	**-3.6**
	comp=E,25nm,0.8s						
AAK	**Ala-Archa**	**6.85**	**25**	P	**Pn**	**08 16 28.9**	**+0.4**
	comp=E,8.2nm,0.3s,baz=190,slow=8.1,SNR=46						
AAK				S	**S**	**08 17 43.1**	**-3.4**
	comp=E,2.1nm,0.3s,baz=187,slow=21,SNR=9.7						
KBK	**Karagaybulak**	**7.02**	**27**	P	**Pn**	**08 16 31.6**	**+0.8**
	SNR=16						
ULHL	**Ulahol**	**7.22**	**35**	P	**Pn**	**08 16 34.1**	**+0.7**
	SNR=7.4						
CHMS	**Chumysh**	**7.25**	**25**	P	**Pn**	**08 16 34.1**	**+0.4**
	SNR=10						
USP	**Ospenovka**	**7.41**	**22**	P	**Pn**	**08 16 35.5**	**-0.2**
	SNR=13						
TKM2	**Tokmak 2**	**7.50**	**29**	P	**Pn**	**08 16 37.3**	**+0.3**
	SNR=93						
TKM2	**Tokmak 2**	**7.50**	**29**	⇑P	**Pn**	**08 16 36.7**	**-0.2**
	comp=E,33nm,0.5s						
TKM2				⇑S	**S**	**08 17 59.7**	**-2.2**
	comp=E,8.7nm,0.7s						
KDJ	**Kajisay**	**7.60**	**40**	*e*Pn	**Pn**	**08 16 38.7**	**+0.4**
SMLA	**Simla**	**7.61**	**133**	*e*P	**Pn**	**08 16 38.5**	**+0.2**
SMLA				*e*S	**S**	**08 18 02.0**	**-2.3**
SMLA				IAML		08 18 04.5	
	comp=N,113nm,0.5s						
SMLA				IAML		08 18 04.5	
	comp=E,69nm,0.1s						
MDOK	**Medeo**	**8.31**	**34**	⇑P	**Pn**	**08 16 47.4**	**-0.1**
	comp=E,4.4nm,0.5s						
DDI	**Dehra Dun**	**8.72**	**133**	*e*S	**S**	**08 18 27.2**	**-3.6**
KHET	**Khetri**	**9.44**	**151**	*e*P	**Pn**	**08 17 01.9**	**-0.3**
KHET				*e*S	**S**	**08 18 40.6**	**-7.5**
KHET				IAML		08 18 43.5	
	comp=E,19nm,0.8s						
KHET				IAML		08 18 45.1	
	comp=N,16nm,0.6s						
JOSI	**Joshimath**	**9.50**	**126**	*e*P	**Pn**	**08 17 04.1**	**+1.0**
JOSI				*e*S	**S**	**08 18 44.2**	**-5.5**
JOSI				IAML		08 18 48.5	
	comp=E,51nm,0.9s						
SONA	**Sohna**	**9.84**	**145**	*e*S	**S**	**08 18 50.1**	**-7.4**
GEYT	**Alibeck**	**10.09**	**282**	S	**S**	**08 18 59.2**	**-4.6**
	comp=E,0.9nm,0.3s,baz=144,slow=13,SNR=3.6						
MAKZ	**Makanchi**	**13.35**	**36**	*e*Pn	**Pn**	**08 17 51.9**	**+0.1**
PYUN	**Piuthan**	**13.36**	**125**	*e*P	**Pn**	**08 17 52.2**	**-0.1**
	comp=E,20nm,0.4s						
MK01	**Makanchi Array**	**13.48**	**37**	*e*Pn	**Pn**	**08 17 54.2**	**+0.8**
MK31	**Makanchi Array**	**13.49**	**37**	*e*Pn	**Pn**	**08 17 54.5**	**+0.9**
MKAR	**Makanchi Array**	**13.49**	**37**	P	**Pn**	**08 17 54.6**	**+1.1**
	comp=E,6nm,0.3s,baz=216,slow=9.4,SNR=33						
DANN	**Dangsing**	**13.72**	**122**	*e*P	**Pn**	**08 17 57.6**	**+0.8**
	comp=E,16nm,0.3s						
KOLN	**Koldanda**	**13.98**	**125**	*e*P	**Pn**	**08 18 00.1**	**+0.1**
	comp=E,6.9nm,0.3s						
AB31	**Akbulak array**	**14.97**	**332**	⇑P	**Pn**	**08 18 10.5**	**-1.2**
	comp=E,2.2nm,0.4s,baz=145,slow=11,SNR=84						
ABKAR	**Akbulak array**	**14.97**	**332**	*e*Pn	**Pn**	**08 18 10.4**	**-1.3**
KKN	**Kakani**	**15.11**	**121**	*e*P	**P**	**08 18 15.4**	**+1.1**
	comp=E,24nm,0.5s						
KURBB	**Kurchatov Arra**	**15.25**	**19**	P	**Pn**	**08 18 13.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=210,slow=8.7,SNR=8.4						
GUN	**Gumba**	**15.46**	**119**	*e*P	**P**	**08 18 20.1**	**+1.9**
	comp=E,15nm,0.3s						
JIRN	**Jiri**	**15.83**	**119**	*e*P	**Pn**	**08 18 23.9**	**+1.3**
	comp=E,25nm,0.3s						
RAMN	**Ramite**	**16.55**	**120**	*e*P	**P**	**08 18 30.5**	**+0.3**
BVAR	**Borovoye Array**	**16.56**	**359**	P	**P**	**08 18 30.0**	**+0.3**
	comp=E,1.0nm,0.3s,baz=168,slow=10.0,SNR=14						
BRVK	**Borovoye**	**16.59**	**359**	*e*P	**Pn**	**08 18 30.9**	**-0.3**
	comp=E,2.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.67**	**331**	⇑P	**P**	**08 18 31.4**	**+0.5**
	comp=E,13nm,0.8s						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**08 18 31.9**	**-0.2**
	comp=E,1.1nm,0.3s,baz=137,slow=10,SNR=23						
TAPN	**Taplejung**	**17.09**	**117**	*e*P	**Pn**	**08 18 38.7**	**+1.1**
	comp=E,49nm,0.7s						
ZAA0	**Zalesovo Array**	**20.07**	**25**	*e*P	**P**	**08 19 08.3**	**+0.5**
	comp=E,3.3nm,0.4s						
ZALV	**Zalesovo Beam**	**20.07**	**25**	*e*P	**P**	**08 19 08.4**	**+0.7**
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**08 19 08.7**	**+1.0**
	comp=E,2.9nm,0.4s,baz=213,slow=9.8,SNR=10						
SHL	**Shillong**	**21.16**	**115**	*e*P	**P**	**08 19 21.7**	**+1.9**
	comp=E,7.7nm,0.8s						
SONM	**Songino Array**	**28.60**	**55**	P	**P**	**08 20 28.1**	**+0.8**
	comp=E,0.3nm,0.3s,baz=255,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.70**	**118**	P	**P**	**08 20 48.0**	**+1.9**
	comp=E,0.7nm,0.3s,baz=296,slow=11,SNR=3.8						
FIA1	**FINESS Array S**	**37.35**	**326**	*e*P	**P**	**08 21 44.2**	**+1.5**
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**08 21 44.2**	**+1.5**
	comp=E,0.9nm,0.6s,baz=121,slow=8.6,SNR=7.1						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	**08 22 14.7**	**+1.3**
	comp=E,1.0nm,0.6s,baz=81,slow=7.5,SNR=5.1						
NC303	**NORSAR Array S**	**44.18**	**323**	*e*P	**P**	**08 22 40.1**	**+1.7**
	comp=E,4.4nm,0.9s						
NB201	**NORSAR Array S**	**44.19**	**323**	*e*P	**P**	**08 22 40.0**	**+1.4**
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**08 22 39.4**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**08 22 39.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=97,slow=7.8,SNR=6.4						
NB000	**NORSAR Array S**	**44.44**	**323**	*e*P	**P**	**08 22 41.8**	**+1.2**
	comp=Z,8.0nm,1.0s						
NC204	**NORSAR Array S**	**44.47**	**323**	*e*P	**P**	**08 22 42.2**	**+1.4**
	comp=Z,1.6nm,0.9s						
DBIC	**Dimbokro**	**74.40**	**267**	P	**P**	**08 26 07.1**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=292,slow=7.1,SNR=3.2						
ILAR	**Eielson Array**	**74.89**	**16**	P	**P**	**08 26 08.5**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=301,slow=4.9,SNR=15						
YKA	**Yellowknife Ar**	**81.29**	**2**	P	**P**	**08 26 44.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=351,slow=5.5,SNR=21						
WRA	**Warramunga Arr**	**82.22**	**122**	P	**P**	**08 26 47.9**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=324,slow=4.9,SNR=16						
ASAR	**Alice Springs**	**84.48**	**125**	P	**P**	**08 27 00.3**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=311,slow=4.8,SNR=18						

*IDC **30** 08:28:22.0±6.0,36°24Nx70°73E,h148km±49km,mb3.3/6, mb1 3.3/11,mb1mx3.0/56,mbtmp3.6/11,Error ellipse: s-maj=52.0km s-min=20.4km az=44.0*
*ISCJB **30** 08:28:25.9±0.9,36°57N±0°08×70°9E±0°1,h188km, mb3.4/5,Error ellipse: s-maj=17.5km s-min=10.2km az=22.9*
*NNC **30** 08:28:29.1±4.2,37°04Nx70°88E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=33.6km s-min=31.4km az=132.0*

ISC 30 08:28:27.4±1.2,36°6N±0°1×70°9E±0°1,h188km,n14, σ1§39/18,mb3.4/5,1C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.47**	**357**	Pn	**Pn**	**08 30 00.9**	**+0.3**
	0.9nm,0.3s,baz=185,slow=12,SNR=27						
KK31				Sn	**Sn**	**08 31 10.8**	**-3.4**
	5.3nm,0.5s,baz=189,slow=24,SNR=20						
AAK	**Ala-Archa**	**6.59**	**23**	⇑Pn	**Pn**	**08 30 03.0**	**+0.6**
	1.0nm,0.4s						
AAK				⇓Sn	**Sn**	**08 31 16.6**	**-0.9**
	3.0nm,0.6s						
AAK	**Ala-Archa**	**6.59**	**23**	P	**Pn**	**08 30 02.9**	**+0.6**
	1.0nm,0.3s,baz=188,slow=2.9,SNR=7.7						
AAK				S	**Sn**	**08 31 17.5**	**+0.1**
	0.3nm,0.3s,baz=338,slow=19,SNR=4.8						
TKM2	**Tokmak 2**	**7.23**	**28**	⇓Pn	**Pn**	**08 30 10.4**	**-0.3**
	0.8nm,0.4s						
TKM2				⇓Sn	**Sn**	**08 31 32.1**	**-0.5**
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**13.21**	**36**	P	**P**	**08 31 30.6**	**-0.6**
	0.1nm,0.3s,baz=215,slow=5.9,SNR=5.8						
KURBB	**Kurchatov Arra**	**15.01**	**19**	P	**P**	**08 31 51.9**	**+0.9**
	0.1nm,0.3s,baz=212,slow=8.5,SNR=4.1						
BVAR	**Borovoye Array**	**16.39**	**359**	P	**Pn**	**08 32 08.7**	**+1.8**
	0.1nm,0.3s,baz=147,slow=8.6,SNR=2.9						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**P**	**08 32 07.3**	**-1.7**
	0.4nm,0.3s,baz=128,slow=17,SNR=6.2						
ZALV	**Zalesovo Beam**	**19.82**	**25**	P	**P**	**08 32 43.9**	**+0.5**
	2.1nm,0.5s,baz=219,slow=12,SNR=8.6						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**08 35 53.0**	**+1.4**
	1.4nm,0.7s,baz=22,slow=18,SNR=5.6						
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**08 36 17.7**	**-0.2**
	0.3nm,0.5s,baz=95,slow=8.4,SNR=2.6						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**08 40 22.7**	**+1.4**
	0.2nm,0.3s,baz=351,slow=5.3,SNR=13						
WRA	**Warramunga Arr**	**82.10**	**122**	P	**P**	**08 40 25.8**	**-1.3**
	0.4nm,0.5s,baz=324,slow=4.9,SNR=6.4						
ASAR	**Alice Springs**	**84.37**	**125**	P	**P**	**08 40 37.2**	**-1.4**
	0.6nm,0.6s,baz=314,slow=4.8,SNR=14						

*NSSP **30** 08:35:44.9,38°87N×43°33E,h8km,Ms3.7*
*DDA **30** 08:35:45.6,38°78N×43°54E,h5km±3km,ML3.9*
*AZER **30** 08:35:46.0±1.5,38°53N×43°24E,h26km±46km,ml3.7/13, Error ellipse: s-maj=34.1km s-min=7.4km az=63.0*
*ISK **30** 08:35:45.4,38°82N×43°53E,h5km,ML3.7/19*
*IDC **30** 08:35:46.1±1.2,38°57N×44°16E,h0km,mb3.6/5, mb1 3.6/8,mb1mx3.4/41,mbtmp3.5/8,ML2.9/3,MS3.0/3, Ms1 3.0/3,ms1mx2.5/46,Error ellipse: s-maj=19.1km s-min=12.2km az=118.0*
*TEH **30** 08:35:46.2,38°84N×43°53E,h11km,ML3.7*

ISC 30 08:35:47.6±1.0,38°82N±0°02×43°53E±0°02,h6km±7km, n126,σ1§38/147,mb3.6/6,10C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.17**	**10**	*i* P	**Pg**	**08 35 51.1**	**-0.1**
VMUR				*i* S	**Sg**	**08 35 55.1**	**+1.5**
VMUR	**Van-Muradiye**	**0.17**	**10**	*e*Pg	**Pg**	**08 35 50.5**	**-0.7**
ERCV	**ERCIS-VAN**	**0.25**	**323**	PG	**Pg**	**08 35 51.3**	**-1.3**
ERCV				SG	**Sg**	**08 35 56.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.25**	**323**	*e*Pg	**Pg**	**08 35 50.9**	**-1.7**
VANB	**Van**	**0.25**	**206**	PG	**Pb**	**08 35 53.6**	**-1.0**
VANB	**Van**	**0.25**	**206**	*e*Pg	**Pg**	**08 35 53.2**	**+0.6**
TVAN	**Van**	**0.31**	**199**	*i* P	**Pg**	**08 35 53.5**	**-0.2**
TVAN				*i* S	**Sg**	**08 35 59.3**	**+1.5**
TVAN				IAML_P			
	comp=Z,171μm,0.2s						
TVAN	**Van**	**0.31**	**199**	*e*Pg	**Pg**	**08 35 53.2**	**-0.5**
CLDR	**Caldiran**	**0.44**	**43**	PG	**Pg**	**08 35 54.7**	**-1.5**
CLDR				SG	**Sg**	**08 36 02.5**	**+0.5**
CLDR	**Caldiran**	**0.44**	**43**	*i* P	**Pg**	**08 35 55.2**	**-1.1**
CLDR				*i* S	**Sg**	**08 36 02.7**	**+0.7**
CLDR				IAML_P			
	comp=Z,129μm,0.1s						
CLDR	**Caldiran**	**0.44**	**43**	*e*Pg	**Pg**	**08 35 54.2**	**-2.0**
ADCV	**BITLIS_Adilcev**	**0.63**	**269**	*i* P	**Pg**	**08 35 59.0**	**-0.8**
ADCV				*i* S	**Sg**	**08 36 08.2**	**+0.2**
ADCV				IAML_P			
	comp=Z,28μm,0.2s						
ADCV	**BITLIS_Adilcev**	**0.63**	**269**	*e*Pg	**Pg**	**08 35 58.5**	**-1.3**
AKDM	**Akdamar-Van**	**0.65**	**222**	PG	**Pg**	**08 35 58.7**	**-1.5**
AKDM				SG	**Sg**	**08 36 09.7**	**+1.0**
DYDN	**Diyadin**	**0.73**	**10**	*i* P	**Pg**	**08 36 00.5**	**-1.3**
DYDN				IAML_P			
	comp=Z,13μm,0.1s						
DYDN	**Diyadin**	**0.73**	**10**	*e*Pg	**Pg**	**08 36 00.2**	**-1.5**
MLAZ	**Malazgirt-MUS**	**0.83**	**293**	PG	**Pg**	**08 36 02.5**	**-1.1**
MLAZ				SG	**Sg**	**08 36 14.5**	**+0.1**
AGRB	**Hanur-Agry**	**0.86**	**331**	PG	**Pg**	**08 36 02.9**	**-1.3**
AGRB	**Hanur-Agry**	**0.86**	**331**	*e*Pg	**Pg**	**08 36 01.7**	**-2.5**
IGDI	**IGDIR**	**1.13**	**22**	*i* P	**Pg**	**08 36 05.9**	**-3.4**
IGDI	**IGDIR**	**1.13**	**22**	*e*Pg	**Pg**	**08 36 05.4**	**-3.9**
BLIS	**Bitlis-Merkez**	**1.18**	**250**	*i* P	**Pg**	**08 36 08.7**	**-1.6**
BLIS				IAML_P			
	comp=Z,15μm,0.3s						
GURO	**Guroymak-BITLI**	**1.20**	**258**	PN	**Pg**	**08 36 08.4**	**-2.3**
GURO	**Guroymak-BITLI**	**1.20**	**258**	*e*Pn	**Pg**	**08 36 07.9**	**-2.8**
TASB	**TASBURUN-IGDIR**	**1.28**	**25**	PN	**Pn**	**08 36 10.9**	**-1.3**
TASB				SN	**Sn**	**08 36 30.6**	**+0.9**
TASB	**TASBURUN-IGDIR**	**1.28**	**25**	*e*Pn	**Pn**	**08 36 10.2**	**-2.0**
HYR	**Heyderabad**	**1.36**	**48**	*e*Pn	**Pn**	**08 36 12.8**	**-0.4**
HYR	**Heyderabad**	**1.36**	**48**	⇓P	**Pn**	**08 36 12.9**	**-0.4**
HYR				⇓S	**Sn**	**08 36 34.5**	**+2.9**
YOVA	**Hakkari_Yksek**	**1.37**	**154**	*i* P	**Pn**	**08 36 13.0**	**-0.4**
YOVA				IAML_P			
	comp=Z,6μm,0.3s						
YOVA	**Hakkari_Yksek**	**1.37**	**154**	*e*Pn	**Pn**	**08 36 11.9**	**-1.5**
SRTM	**Siirt_Merkez**	**1.51**	**237**	*i* P	**Pn**	**08 36 15.0**	**-0.3**
SRTM	**Siirt_Merkez**	**1.51**	**237**	*e*Pn	**Pn**	**08 36 14.4**	**-0.9**
NAX	**Nakhchivan**	**1.57**	**76**	*e*Pn	**Pn**	**08 36 15.4**	**-0.7**
NAX	**Nakhchivan**	**1.57**	**76**	⇑P	**Pn**	**08 36 15.5**	**-0.7**
NAX				⇓S	**Sg**	**08 36 38.8**	**+0.7**
CUKT	**Cukurca**	**1.57**	**178**	PN	**Pn**	**08 36 15.0**	**-1.1**
CUKT	**Cukurca**	**1.57**	**178**	*i* P	**Pn**	**08 36 15.4**	**-0.7**
CUKT	**Cukurca**	**1.57**	**178**	*e*Pn	**Pn**	**08 36 15.0**	**-1.1**
SIRT	**Sirnak**	**1.57**	**214**	PN	**Pn**	**08 36 15.4**	**-0.7**
SIRT	**Sirnak**	**1.57**	**214**	*e*Pn	**Pn**	**08 36 15.4**	**-0.7**
MUSM	**Mu-Merkez**	**1.58**	**267**	*i* P	**Pn**	**08 36 14.3**	**-1.9**
DIGO	**Kars**	**1.60**	**356**	*i* P	**Pn**	**08 36 16.6**	**-0.1**
DIGO				IAML_P			
	comp=Z,6μm,0.2s						
DIGO	**Kars**	**1.60**	**356**	*e*Pn	**Pn**	**08 36 16.2**	**-0.4**
GNI	**Garni**	**1.62**	**35**	PN	**Pn**	**08 36 16.1**	**-0.8**
GNI	**Garni**	**1.62**	**35**	*i* P	**Pn**	**08 36 16.2**	**-0.8**
GNI				*i* S	**Sg**	**08 36 39.3**	**-0.6**
GNI	**Garni**	**1.62**	**35**	*e*Pn	**Pn**	**08 36 15.6**	**-1.3**
GNI	**Garni**	**1.62**	**35**	Pg	**Pn**	**08 36 16.4**	**-0.5**
	comp=Z,27nm,0.3s,baz=218,slow=3.0,SNR=89						
GNI				Lg	Lg	08 36 39.8	
	comp=Z,35nm,0.3s,baz=251,slow=23,SNR=16						
VRTB	**Varto-Mus**	**1.65**	**283**	PN	**Pn**	**08 36 16.6**	**-0.7**
VRTB	**Varto-Mus**	**1.65**	**283**	*i* P	**Pn**	**08 36 17.2**	**-0.1**
VRTB	**Varto-Mus**	**1.65**	**283**	*e*Pn	**Pn**	**08 36 17.0**	**-0.3**
SBZ	**Shahbuz**	**1.68**	**69**	*e*Pn	**Pn**	**08 36 17.7**	**+0.2**
SBZ	**Shahbuz**	**1.68**	**69**	⇑P	**Pn**	**08 36 17.8**	**+0.2**
SBZ				⇑S	**Sg**	**08 36 42.5**	**+1.1**
IMRD	**Marand**	**1.70**	**93**	*e*Pn	**Pn**	**08 36 17.2**	**-0.8**
IMRD				IAMB	IAmb	08 36 49.9	
	comp=Z,15μm,0.6s						
KOPR	**Koprukoy-ERZUR**	**1.75**	**313**	PN	**Pn**	**08 36 17.9**	**-0.7**
HOMI	**Horasan**	**1.76**	**315**	*i* P	**Pb**	**08 36 19.5**	**-0.9**
KARS	**Kars**	**1.84**	**349**	PN	**Pn**	**08 36 19.4**	**-0.5**
KARS	**Kars**	**1.84**	**349**	*e*Pn	**Pn**	**08 36 19.6**	**-0.2**
EAK	**Akyaka**	**1.86**	**2**	*i* P	**Pg**	**08 36 23.7**	**+0.3**
EAK	**Akyaka**	**1.86**	**2**	*e*Pn	**Pg**	**08 36 22.8**	**-0.6**
ORD	**Ordubad**	**1.93**	**86**	*e*Pn	**Pn**	**08 36 19.8**	**-1.1**
ORD	**Ordubad**	**1.93**	**86**	⇑P	**Pn**	**08 36 19.9**	**-1.1**
ORD				⇑S	**Sb**	**08 36 46.9**	**-0.6**
SVAN	**Silvan-Diyarba**	**1.95**	**251**	PN	**Pn**	**08 36 20.9**	**-0.4**
SVAN	**Silvan-Diyarba**	**1.95**	**251**	*e*Pn	**Pn**	**08 36 21.2**	**-0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**333**	PN	**Pn**	**08 36 21.7**	**+0.1**
SENK	**Senkaya-Erzuru**	**1.96**	**333**	*e*Pn	**Pn**	**08 36 21.6**	**0.0**
KARO	**Karliova-Bingo**	**1.99**	**285**	PN	**Pn**	**08 36 21.5**	**-0.5**
BTMN	**Batman**	**2.00**	**243**	*i* P	**Pb**	**08 36 23.7**	**-0.8**
ITBZ	**Tabriz**	**2.13**	**105**	*e*Pn	**Pn**	**08 36 23.9**	**0.0**
ITBZ				IAMB	IAmb	08 37 05.2	
	comp=Z,3μm,1.2s						
BNGB	**Bingl**	**2.23**	**275**	PN	**Pn**	**08 36 25.7**	**+0.5**
BGOL	**Bingol**	**2.24**	**275**	*i* P	**Pb**	**08 36 27.5**	**-1.0**
IAZR	**Azarshahr**	**2.24**	**120**	*e*Pn	**Pn**	**08 36 25.6**	**+0.2**
IAZR				IAMB	IAmb	08 36 36.9	
	comp=Z,6μm,0.6s						
STEZ	**Stepenevan**	**2.28**	**17**	*e*P	**Pn**	**08 36 24.0**	**-1.9**
STEZ				*e*S	**Sb**	**08 36 56.0**	**-1.7**
BINT	**Bingol**	**2.38**	**272**	*e*Pn	**Pn**	**08 36 24.8**	**-2.4**
YEDI	**Yedisu-Bingol**	**2.40**	**286**	PN	**Pn**	**08 36 27.9**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.40**	**286**	*e*Pn	**Pn**	**08 36 28.1**	**+0.5**
BGD	**Bogdanovka**	**2.44**	**1**	P	**Pb**	**08 36 32.8**	**+0.8**
BGD				S	**Sg**	**08 37 07.5**	**+1.4**
HANI	**Diyarbakir_Han**	**2.49**	**262**	*i* P	**Pb**	**08 36 31.4**	**-1.3**
KRIK	**Erzurum-spir**	**2.52**	**308**	*i* P	**Pb**	**08 36 32.5**	**-0.9**
DAGI	**Agillar**	**2.58**	**332**	*i* P	**Pb**	**08 36 33.8**	**-0.5**
DBAD	**Bademkaya**	**2.61**	**328**	*i* P	**Pb**	**08 36 34.2**	**-0.7**
KOPT	**Kop Dagi**	**2.64**	**298**	*i* P	**Pb**	**08 36 35.0**	**-0.4**
MARD	**Mardin**	**2.64**	**236**	*i* P	**Pb**	**08 36 34.1**	**-1.3**
QZX	**Qazax, Azerbai**	**2.65**	**32**	*e*Pn	**Pn**	**08 36 31.2**	**+0.4**
QZX	**Qazax, Azerbai**	**2.65**	**32**	⇓P	**Pn**	**08 36 31.2**	**+0.4**
	SNR=25						
QZX				⇓S	**Sb**	**08 37 09.3**	**+1.1**
KZRT	**Kazreti**	**2.65**	**14**	P	**Pb**	**08 36 35.8**	**+0.4**
KZRT				S	**Sg**	**08 37 13.3**	**+0.6**
TRLG	**Trialeti**	**2.75**	**9**	P	**Pb**	**08 36 36.1**	**-1.2**
TRLG	**Trialeti**	**2.75**	**9**	*e*Pn	**Pb**	**08 36 36.0**	**-1.2**
GANJ	**Ganja**	**2.82**	**49**	*e*Pn	**Pn**	**08 36 33.5**	**+0.3**
GANJ	**Ganja**	**2.82**	**49**	⇓P	**Pn**	**08 36 33.6**	**+0.3**
	SNR=26						
GANJ				⇑S	**Sb**	**08 37 11.1**	**-2.1**
IBST	**Bostanabad**	**2.87**	**112**	*e*Pn	**Pn**	**08 36 34.0**	**-0.1**
IBST				IAMB	IAmb	08 37 19.0	
	comp=Z,988nm,0.6s						
DBOC	**Borcka**	**2.90**	**331**	*i* P	**Pb**	**08 36 39.2**	**-0.5**
BAYB	**BAYBURT**	**2.91**	**301**	*i* P	**Pb**	**08 36 39.2**	**-0.9**
TBLG	**Delisi**	**3.05**	**17**	P	**Pb**	**08 36 42.0**	**-0.3**
TBLG				S	**Sb**	**08 37 22.4**	**+2.6**
BAYT	**Aydıntepe-Bayb**	**3.05**	**302**	PN	**Pn**	**08 36 37.1**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**3.05**	**302**	*e*Pn	**Pn**	**08 36 37.3**	**+0.7**
ERZN	**Erzincan**	**3.06**	**286**	PN	**Pn**	**08 36 36.6**	**0.0**
KELT	**Kelkit**	**3.56**	**293**	*i* P	**Pb**	**08 36 52.0**	**+0.8**
LGD	**Lagodekhi**	**3.66**	**34**	P	**Pb**	**08 36 53.3**	**+0.7**
ZKTA	**Zakatala**	**3.68**	**39**	*e*Pn	**Pn**	**08 36 46.0

ZALV	**Zalesovo Beam**	**23.46**	**315**	P	**P**	**09 02 31.1**	**-0.5**
	1.0nm,0.6s,baz=104,slow=6.3,SNR=5.4							
CMAR	**Chiang Mai Arr**	**24.84**	**213**	P	**P**	**09 02 44.5**	**-0.1**
	0.9nm,0.4s,baz=21,slow=7.7,SNR=3.7							
KURBB	**Kurchatov Arra**	**26.17**	**305**	P	**P**	**09 02 58.3**	**+1.9**
	0.5nm,0.6s,baz=100,slow=11,SNR=6.0							
ASAR	**Alice Springs**	**66.42**	**159**	P	**P**	**09 08 10.9**	**-0.2**
	0.8nm,0.9s,baz=344,slow=5.1,SNR=6.2							
YKA	**Yellowknife Ar**	**70.75**	**21**	P	**P**	**09 08 37.6**	**0.0**
	1.8nm,0.8s,baz=323,slow=5.8,SNR=37							
ULM	**Lac du Bonnet**	**86.43**	**18**	P	**P**	**09 10 03.7**	**-0.4**
	1.4nm,0.7s,baz=37,slow=7.7,SNR=3.6							
NVAR	**Mina Array Bea**	**88.74**	**38**	P	**P**	**09 10 17.0**	**+1.2**
	0.1nm,0.4s,baz=328,slow=3.2,SNR=3.0							

*IDC **30** 09:10:30.9±8.2,6°.89N×75°.87W,h79km±89km,mb2.8/1, mb1 3.1/2,mb1mx2.8/34,mbtmp3.1/2,ML1.5/1,Error ellipse: s-maj=162.3km s-min=40.5km az=74.0*

*RSNC **30** 09:10:32.6±0.9,6°.86N×73°.32W,h124km±5km,ML2.8*

ISC 30 09:10:31.5±1.0,6°.92N±0°.04×73°.32W±0°.04,h129km±7km, n16,σ1§11/30,2C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.35**	**156**	*i* P	**Pn**	**09 10 50.0**	**0.0**
BARC				*e*S	**Sn**	**09 11 03.1**	**-1.0**
BARC				*i*		09 11 04.3	
	comp=Z,681nm,0.2s						
BRRC	**Barranca, Sant**	**0.43**	**296**⇑	*i* P	**Pn**	**09 10 50.4**	**+0.3**
BRRC				*e*S	**Sn**	**09 11 04.6**	**+0.4**
BRRC				*i*		09 11 05.4	
	comp=Z,122nm,0.2s						
PAMC	**Pamplona, Colo**	**0.75**	**56**	*e*P	**Pn**	**09 10 53.3**	**+0.6**
PAMC				*e*S	**Sn**	**09 11 09.6**	**+0.8**
PAMC				*i*		09 11 12.0	
	comp=Z,79nm,0.6s						
RUSC	**La Rusia**	**1.04**	**167**	*e*P	**Pn**	**09 10 55.0**	**-0.3**
RUSC				*e*S	**Sn**	**09 11 12.6**	**-0.8**
RUSC				*i*		09 11 14.3	
	comp=Z,45nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.19**	**252**⇓	*i* P	**Pn**	**09 10 55.4**	**-0.8**
PTBC				*e*S	**Sn**	**09 11 14.4**	**-0.5**
PTBC				*i*		09 11 17.4	
	comp=Z,70nm,0.2s						
OCAC	**Ocana**	**1.31**	**0**	*e*P	**Pn**	**09 10 58.1**	**+0.4**
OCAC				*e*S	**Sn**	**09 11 18.1**	**+0.4**
OCAC				*i*		09 11 19.3	
	comp=Z,136nm,0.2s						
TAMC	**Tame, Arauca**	**1.59**	**107**⇑	*i* P	**Pn**	**09 11 00.9**	**+0.2**
TAMC				*i*		09 11 22.1	
	comp=Z,51nm,0.2s						
TAMC				*e*S	**Sn**	**09 11 22.7**	**-0.2**
ZARC	**Zaragoza, Cauc**	**1.63**	**291**	*e*P	**Pn**	**09 11 01.7**	**+0.7**
ZARC				*e*S	**Sn**	**09 11 25.4**	**+1.8**
ZARC				*i*		09 11 28.4	
	comp=Z,82nm,0.3s						
ROSC	**El Rosal**	**2.29**	**206**	P	**Pn**	**09 11 10.4**	**+1.1**
	comp=Z,1.9nm,0.3s,baz=173,slow=21,SNR=4.1						
ROSC				S	**Sn**	**09 11 41.7**	**+3.3**
	comp=Z,4.3nm,0.3s,baz=30,slow=23,SNR=7.0						
HELC	**Santa Helena**	**2.31**	**252**	*e*P	**Pn**	**09 11 11.0**	**+1.4**
HELC				*e*S	**Sn**	**09 11 38.7**	**0.0**
HELC				*i*		09 11 45.2	
	comp=Z,27nm,0.6s						
UREC	**San Jos de Ur**	**2.34**	**291**	*e*P	**Pn**	**09 11 09.3**	**-0.4**
UREC				*e*S	**Sn**	**09 11 38.0**	**-1.0**
CODC	**Agustn Codazz**	**3.00**	**358**	*e*P	**Pn**	**09 11 19.5**	**+1.3**
CODC				*e*S	**Sn**	**09 11 55.8**	**+1.7**
SJCC	**San Jacinto, C**	**3.49**	**328**	*e*P	**Pn**	**09 11 24.2**	**-0.3**
SJCC				*e*S	**Sn**	**09 12 04.0**	**-1.5**
PRAC	**Prado**	**3.54**	**206**	*e*P	**Pn**	**09 11 25.8**	**+0.5**
PRAC				*e*S	**Sn**	**09 12 06.7**	**-0.2**
PRAC				*i*		09 12 13.4	
	comp=Z,16nm,0.2s						
YKA	**Yellowknife Ar**	**63.11**	**340**	P	**P**	**09 20 44.4**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=130,slow=6.1,SNR=4.1						
WRA	**Warramunga Arr**	**150.21**	**242**	PKPbc	**PKPbc**	**09 30 07.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=107,slow=2.8,SNR=7.0						

*JMA **30** 09:31:19.5±0.3,43°.97N×148°.14E,h0km,M3.7*

*SKHL **30** 09:31:21.3±0.2,44°.41N×148°.16E,h43km±4km,mb4.2/3*

ISC 30 09:31:18.6±2.9,44°.4N±0°.1×148°.2E±0°.2,h8km±13km,n11, σ1§36/19,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**345**	*i* P	**Pb**	**09 31 35.9**	**0.0**
KUR				AMB	AMB	09 31 36.0	
	98nm,0.2s						
KUR				*i* S	**Sb**	**09 31 47.0**	**-0.8**
KUR				A	A	09 31 48.0	
	390nm,0.2s						
KUR				A	A	09 31 48.0	
	53nm,0.2s						
SHO	**Shikotan**	**1.11**	**242**	*e*P	**Pg**	**09 31 40.0**	**+0.1**
SHO				AMB	AMB	09 31 40.0	
	19nm,0.2s						
SHO				AMB	AMB	09 31 40.0	
	18nm,0.2s						
SHO				AMB	AMB	09 31 40.0	
	54nm,0.2s						
SHO				*e*S	**Sg**	**09 31 53.9**	**-0.5**
SHO				A	A	09 31 54.0	
	170nm,0.2s						
SHO				A	A	09 31 54.0	
	339nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.72**	**259**	*i* P	**Pn**	**09 31 48.6**	**-0.1**
YUK				AMB	AMB	09 31 50.0	
	45nm,0.2s						
YUK				*i* S	**Sn**	**09 32 08.7**	**-2.1**
YUK				A	A	09 32 16.0	
	240nm,0.2s						
GRPR	**Tuman**	**1.79**	**258**	*e*P	**Pn**	**09 31 49.0**	**-0.7**
GRPR				*e*S	**Sn**	**09 32 11.0**	**-1.6**
GRPR				A	A	09 32 16.0	
	101nm,0.2s						
GRPR				A	A	09 32 16.0	
	202nm,0.2s						
NEM2	**Nemuro 2**	**2.05**	**241**	P	**Pn**	**09 31 52.8**	**-0.5**
NEM2				*e*S	**Sn**	**09 32 17.1**	**-1.9**
JRA	**Rausu**	**2.26**	**259**	P	**Pn**	**09 31 57.6**	**+1.4**
JRA				*e*S	**Sn**	**09 32 24.9**	**+0.7**
JKHN	**Kushirohamanak**	**2.56**	**240**	P	**Pn**	**09 32 00.3**	**0.0**
JNK	**Nakash**	**2.64**	**253**	P	**Pn**	**09 32 02.4**	**+1.0**
JNK				*e*S	**Sn**	**09 32 34.3**	**+0.8**
JAK	**Akkeshi**	**2.90**	**242**	P	**Pn**	**09 32 05.1**	**+0.1**
JAR	**Ashorobuto**	**3.38**	**253**	P	**Pn**	**09 32 13.8**	**+2.1**
JAR				*e*S	**Sn**	**09 32 54.2**	**+2.2**
JKB	**Kayabe**	**5.81**	**247**	P	**Pn**	**09 32 46.3**	**+1.3**

IDC 30 09:31:38.5±8.9,12°.46N×90°.16W,h0km,mb3.7/5, mb1 4.1/5,mb1mx3.7/26,mbtmp3.7/5,MS3.5/1,Ms1 3.5/1, ms1mx2.7/28,Error ellipse: s-maj=180.2km s-min=53.6km az=1.0,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.97**	**325**	P	P	09 36 23.2	-0.3
	2.3nm,0.8s,baz=151,slow=12,SNR=21						
NVAR	**Mina Array Bea**	**35.99**	**321**	P	P	09 38 42.6	+1.0
	1.5nm,0.8s,baz=140,slow=8.4,SNR=10						
RPN	**Rapa Nui**	**43.53**	**205**	LR	LR	09 53 00.4	
	comp=Z,63nm,22.0s,baz=9.0,slow=29						
SCHQ	**Schefferville**	**46.07**	**19**	P	P	09 40 04.8	+0.6
	0.8nm,0.3s,baz=229,slow=4.7,SNR=5.6						
YKA	**Yellowknife Ar**	**52.94**	**346**	P	P	09 40 54.9	-1.4
	0.1nm,0.5s,baz=146,slow=8.0,SNR=3.5						
ILAR	**Eielson Array**	**64.96**	**337**	P	P	09 42 19.6	-0.2
	0.2nm,0.7s,baz=159,slow=4.4,SNR=4.3						

IDC 30 09:46:09.6±3.2,4°.18S×152°.99E,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.5/30,mbtmp4.0/2,Error ellipse: s-maj=127.0km s-min=44.0km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.77**	**228**	Sn	Sn	09 49 33.5	+0.7
	0.8nm,0.3s,baz=94,slow=18,SNR=3.5						
WRA	**Warramunga Arr**	**23.99**	**228**	P	P	09 51 26.3	+0.1
	3.4nm,0.5s,baz=53,slow=9.7,SNR=34						
ASAR	**Alice Springs**	**26.73**	**222**	P	P	09 51 51.5	+0.4
	0.9nm,0.7s,baz=56,slow=8.6,SNR=12						
FITZ	**Fitzroy Crossi**	**30.12**	**241**	P	P	09 52 20.8	-0.5
	baz=58,slow=9.0						
TORD	**Torodi Ar. Bea**	**150.29**	**289**	PKPbc	PKPbc	10 06 03.5	-0.4
	0.5nm,0.4s,baz=66,slow=2.5,SNR=9.4						

*IDC **30** 09:46:32.8±1.3,10°.10N×126°.42E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.4/40,mbtmp3.6/4,MS3.6/1,Ms1 3.5/1, ms1mx2.4/41,Error ellipse: s-maj=89.9km s-min=26.3km az=71.0*

*ISCJB **30** 09:46:36.9±1.4,10°.06N±0°.05×126°.52E±0°.10, h41km±15km,mb3.6/4,MS3.5/1,Error ellipse: s-maj=16.3km s-min=8.4km az=172.5*

*MAN **30** 09:46:38.7,10°.10N×126°.42E,h32km,MS3.0*

ISC 30 09:46:38.9±2.1,10°.04N±0°.05×126°.4E±0°.1,h42km±22km, n13,σ1§94/18,mb3.5/4,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.94**	**254**⇑	*i* P	**Pn**	**09 46 53.3**	**-2.4**
SCPH				*i* S	**Sn**	**09 47 04.8**	**-3.2**
BUTP	**Butuan**	**1.32**	**216**	*e*P	**Pn**	**09 46 59.6**	**-1.3**
BUTP				*e*S	**Sn**	**09 47 17.0**	**-0.2**
MSLP	**Maasin**	**1.53**	**274**	*e*P	**Pn**	**09 47 03.6**	**-0.1**
MSLP				*e*S	**Sn**	**09 47 23.2**	**+0.7**
BESP	**Borongan**	**1.82**	**329**	*e*P	**Pn**	**09 47 08.0**	**+0.1**
LLP	**Lapu-Lapu**	**2.42**	**277**⇑	*e*P	**Pn**	**09 47 16.4**	**+0.4**
LLP				*e*S	**Sn**	**09 47 48.0**	**+3.5**
BUKP	**Musuan**	**2.52**	**212**	*e*P	**Pn**	**09 47 19.1**	**+1.6**
BUKP				*e*S	**Sn**	**09 47 51.0**	**+3.9**
CNP	**Catarman**	**3.00**	**325**	*e*P	**Pn**	**09 47 23.9**	**0.0**
CNP				*e*S	**Sn**	**09 47 59.1**	**+0.5**
RCP	**Roxas**	**3.90**	**293**⇓	*e*P	**Pn**	**09 47 38.3**	**+1.9**
ASAR	**Alice Springs**	**34.29**	**168**	P	**P**	**09 53 21.5**	**0.0**
	0.2nm,0.4s,baz=351,slow=6.4,SNR=3.7						
SONM	**Songino Array**	**41.28**	**340**	P	**P**	**09 54 19.6**	**-0.7**
	0.4nm,0.5s,baz=157,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**44.14**	**161**	LR	LR	10 18 04.4	
	comp=Z,60nm,18.3s,baz=204,slow=43						
MKAR	**Makanchi Array**	**52.29**	**323**	P	**P**	**09 55 45.7**	**-0.6**
	1.4nm,0.7s,baz=124,slow=8.4,SNR=12						
YKA	**Yellowknife Ar**	**93.91**	**24**	P	**P**	**09 59 51.8**	**-0.1**
	0.2nm,0.7s,baz=297,slow=4.9,SNR=4.4						

*IDC **30** 09:52:21.9±4.5,5°.59S×151°.56E,h46km±41km,mb3.9/10, mb1 4.2/11,mb1mx3.8/39,mbtmp4.1/11,ML2.3/1,MS3.2/5, Ms1 3.2/5,ms1mx2.9/34,Error ellipse: s-maj=37.4km s-min=24.1km az=113.0*

*ISCJB **30** 09:52:22.3±0.4,5°.57S±0°.07×151°.41E±0°.08,h57km, mb4.3/19,MS3.2/3,Error ellipse: s-maj=14.0km s-min=6.3km az=36.9*

*NEIC **30** 09:52:24.2±0.8,5°.57S×151°.48E,h65km±7km,mb4.2/8, Error ellipse: s-maj=11.0km s-min=5.8km az=125.0*

ISC 30 09:52:23.6±0.6,5°.61S±0°.08×151°.44E±0°.09,h57km,n43, σ1§14/43,mb4.2/19,MS3.3/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.58**	**27**	*e*Pn	**Pn**	**09 52 49.1**	**-0.2**
RABL				*e*Sn	**Sn**	**09 53 12.7**	**+3.9**
PMG	**Port Moresby**	**5.68**	**228**	*e*Pn	**Pn**	**09 53 47.9**	**+2.4**
PMG				*e*Sn	**Sn**	**09 54 50.6**	**+1.2**
PMG	**Port Moresby**	**5.68**	**228**	P	**Pn**	**09 53 45.3**	**-0.1**
	5.3nm,0.3s,baz=44,slow=13,SNR=13						
PMG				S	**Sn**	**09 54 50.6**	**+1.2**
	12nm,0.3s,baz=177,slow=23,SNR=8.8						
HNR	**Honiara**	**9.25**	**115**	LR	LR	09 57 31.5	
	comp=Z,90nm,21.1s,baz=284,slow=34						
JAY	**Jayapura**	**11.14**	**286**	LR	LR	09 59 03.3	
	comp=Z,103nm,21.3s,baz=184,slow=36						
COEN	**Coen**	**11.62**	**224**	*e*Pn	**Pn**	**09 55 08.2**	**+1.4**
CTAO	**Charters Tower**	**15.25**	**199**	*e*Pn	**Pn**	**09 55 55.0**	**-0.6**
	27nm,1.6s						
FAKI	**Fak Fak**	**19.32**	**277**	*e*P	**P**	**09 56 43.3**	**-1.0**
	30nm,1.4s						
FAKI				*e*S	**S**	**10 00 19.3**	**-0.9**
DZM	**Mont Dzumac**	**21.88**	**140**	*e*P	**P**	**09 57 12.4**	**+0.4**
	12nm,1.4s						
DZM				*e*		10 04 09.2	
DZM	**Mont Dzumac**	**21.88**	**140**	LR	LR	10 04 09.2	
	comp=Z,114nm,20.6s,baz=281,slow=32						
WRAB	**Tennant Creek**	**21.89**	**228**	*e*P	**P**	**09 57 13.5**	**+1.5**
	8.2nm,0.7s						
WB2	**Warramunga Arr**	**21.89**	**228**	*e*P	**P**	**09 57 13.7**	**+1.6**
WR1	**Warramunga Arr**	**21.90**	**228**	*e*P	**P**	**09 57 12.2**	**+0.1**
	9.0nm,0.6s						
WRA	**Warramunga Arr**	**21.90**	**228**	P	**P**	**09 57 12.2**	**0.0**
	9.6nm,0.7s,baz=53,slow=10,SNR=75						
AS01	**Alice Springs**	**24.62**	**221**	*e*P	**P**	**09 57 40.1**	**+1.2**
AS31	**Alice Springs**	**24.65**	**221**	*e*P	**P**	**09 57 39.6**	**+0.4**
	2.7nm,0.5s						
ASAR	**Alice Springs**	**24.65**	**221**	P	**P**	**09 57 39.2**	**+0.1**
	6.5nm,0.7s,baz=59,slow=8.6,SNR=65						
BATI	**Baumata**	**27.88**	**259**	LR	LR	10 11 28.6	
	comp=Z,77nm,18.8s,baz=340,slow=41						
FITZ	**Fitzroy Crossi**	**28.09**	**242**	*e*P	**P**	**09 58 10.5**	**+0.4**
	8.0nm,0.6s						
FITZ				*e*ScS	ScS	10 08 45.5	-7.3
FITZ	**Fitzroy Crossi**	**28.09**	**242**	P	**P**	**09 58 10.6**	**+0.4**
	7.2nm,0.5s,baz=61,slow=7.1,SNR=31						
FITZ				LR	LR	10 08 45.5	
	comp=Z,39nm,18.0s,baz=171,slow=35						
FORT	**Forrest**	**33.32**	**218**	*e*P	**P**	**09 58 56.0**	**-0.1**
	22nm,1.1s						
PSAD2	**Pilbara Seismi**	**34.37**	**239**	*e*P	**P**	**09 59 05.6**	**+0.1**
	20nm,1.4s						
PSAC2	**Pilbara Seismi**	**34.41**	**240**	*e*P	**P**	**09 59 06.1**	**+0.4**
	34nm,1.5s						
PSAD1	**Pilbara Seismi**	**34.42**	**240**	*e*P	**P**	**09 59 06.4**	**+0.5**
	49nm,1.6s						
PSAB2	**Pilbara Seismi**	**34.44**	**240**	*e*P	**P**	**09 59 06.4**	**+0.4**
	32nm,1.5s						
SONA0	**Songino Array**	**66.29**	**329**	*e*P	**P**	**10 03 06.7**	**+0.6**
SONM	**Songino Array**	**66.29**	**329**	P	**P**	**10 03 06.7**	**+0.6**
	0.5nm,0.6s,baz=145,slow=4.1,SNR=3.8						
VNDA	**Vanda**	**72.08**	**178**	*e*P	**P**	**10 03 41.5**	**+0.1**
VNDA	**Vanda**	**72.08**	**178**	P	**P**	**10 03 41.3**	**-0.1**
	1.5nm,1.1s,baz=330,slow=6.4,SNR=3.9						
MK32	**Makanchi Array**	**80.04**	**319**	*e*P	**P**	**10 04 28.1**	**+0.9**
MKAR	**Makanchi Array**	**80.04**	**319**	P	**P**	**10 04 28.1**	**+0.9**
	0.4nm,0.6s,baz=106,slow=6.2,SNR=3.7						
ZALV	**Zalesovo Beam**	**81.07**	**327**	P	**P**	**10 04 31.7**	**-0.8**
	0.9nm,0.5s,baz=99,slow=6.6,SNR=4.3						
ZAA1	**Zalesovo Array**	**81.07**	**327**	*e*P	**P**	**10 04 31.7**	**-0.8**
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**10 04 42.5**	**-2.0**
	1.4nm,0.6s,baz=249,slow=5.1,SNR=21						
ILB	**Eielson Array**	**83.41**	**22**	*e*P	**P**	**10 04 43.3**	**-1.2**
	2.6nm,1.3s						
NVAR	**Mina Array Bea**	**93.64**	**52**	P	**P**	**10 05 33.8**	**-0.6**
	0.4nm,0.6s,baz=254,slow=5.6,SNR=4.2						
NV01	**Mina Array Sit**	**93.64**	**52**	*e*P	**P**	**10 05 34.7**	**+0.3**
YKA	**Yellowknife Ar**	**96.77**	**28**	P	**P**	**10 05 47.6**	**-0.1**
	0.4nm,0.8s,baz=269,slow=4.7,SNR=7.0						
YKB5	**Yellowknife Ar**	**96.77**	**28**	*e*P	**P**	**10 05 47.6**	**-0.2**
GEC2	**GERESS Array S**	**124.02**	**328**	*e*PKPdf	**PKiKP**	**10 11 15.8**	**-0.2**
GERES	**GERESS Array B**	**124.02**	**328**	PKP	**PKiKP**	**10 11 16.0**	**-0.1**
	0.9nm,0.6s,baz=83,slow=4.2,SNR=7.8						
TORD	**Torodi Ar. Bea**	**149.25**	**286**	PKPbc	**PKPbc**	**10 12 05.0**	**-1.9**
	4.8nm,0.6s,baz=90,slow=2.5,SNR=36						
TOA1	**Torodi Ar. Sit**	**149.25**	**286**	*e*PKPbc	**PKPbc**	**10 12 05.0**	**-1.9**

*IDC **30** 09:59:07.1±1.2,10°.10N×126°.40E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.5/39,mbtmp3.5/5,MS3.1/2,Ms1 3.1/2, ms1mx2.5/45,Error ellipse: s-maj=73.6km s-min=22.5km az=76.0*

*ISCJB **30** 09:59:09.7±1.7,10°.05N±0°.05×126°.49E±0°.06, h17km±12km,mb3.5/5,MS3.3/1,Error ellipse: s-maj=10.9km s-min=8.4km az=161.1*

*MAN **30** 09:59:12.1,10°.06N×126°.44E,h24km,MS3.1*

ISC 30 09:59:09.9±2.0,10°.04N±0°.04×126°.43E±0°.08,h12km±11km, n18,σ1§84/21,mb3.6/5,4C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.96**	**255**⇑	*i* P	**Pg**	**09 59 27.4**	**-1.0**
SCPH				*i* S	**Sg**	**09 59 39.4**	**-1.7**
BUTP	**Butuan**	**1.33**	**217**	*e*P	**Pn**	**09 59 34.3**	**0.0**
BUTP				*e*S	**Sb**	**09 59 51.8**	**0.0**
MSLP	**Maasin**	**1.55**	**274**	*e*P	**Pn**	**09 59 38.2**	**+0.9**
MSLP				*e*S	**Sn**	**09 59 56.2**	**-1.2**
BESP	**Borongan**	**1.83**	**328**	*e*P	**Pn**	**09 59 41.8**	**+0.7**
BESP				*e*S	**Sg**	**10 00 10.9**	**+2.0**
LLP	**Lapu-Lapu**	**2.44**	**277**⇑	*e*P	**Pn**	**09 59 51.0**	**+1.4**
LLP				*e*S	**Sn**	**10 00 21.0**	**+1.6**
BUKP	**Musuan**	**2.54**	**212**	*e*P	**Pn**	**09 59 53.3**	**+2.4**
BUKP				*e*S	**Sn**	**10 00 24.6**	**+2.7**
CNP	**Catarman**	**3.00**	**325**	*e*P	**Pn**	**10 00 00.2**	**+2.9**
DAV	**Davao City (W)**	**3.07**	**196**	LR	LR	10 01 30.0	
	comp=Z,135nm,19.8s,baz=101,slow=46						
KCP	**Kidapawan**	**3.29**	**204**⇑	*e*P	**Pn**	**10 00 03.2**	**+1.8**
KCP				*i* S	**Sg**	**10 00 58.0**	**+2.2**
RCP	**Roxas**	**3.92**	**293**⇑	*e*P	**Pn**	**10 00 12.4**	**+2.4**
FITZ	**Fitzroy Crossi**	**27.97**	**182**	P	**P**	**10 05 01.4**	**+0.9**
	1.2nm,0.4s,baz=2.1,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**30.80**	**165**	P	**P**	**10 05 24.7**	**-0.9**
	0.3nm,0.7s,baz=344,slow=8.7,SNR=2.8						
ASAR	**Alice Springs**	**34.29**	**168**	P	**P**	**10 05 55.0**	**-1.3**
	0.1nm,0.4s,baz=355,slow=7.1,SNR=8.4						
ASAR				LR	LR	10 23 36.4	
	comp=Z,50nm,18.1s,baz=162,slow=43						
H11N1	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	10 50 04.3	
	baz=265,slow=74,SNR=10						
H11N2	**WAKE ISLAND Hy**	**40.18**	**71**	T	T	10 50 03.1	
	baz=265,slow=74,SNR=12						
H11N3	**WAKE ISLAND Hy**	**40.19**	**71**	T	T	10 50 03.5	
	baz=265,slow=74,SNR=11						
MKAR	**Makanchi Array**	**52.30**	**323**	P	**P**	**10 08 19.7**	**-1.8**
	0.5nm,0.6s,baz=116,slow=8.2,SNR=6.9						
YKA	**Yellowknife Ar**	**93.90**	**24**	P	**P**	**10 12 26.7**	**-0.5**
	0.2nm,0.7s,baz=298,slow=4.4,SNR=4.2						

*IDC **30** 10:35:27.1±0.6,4°.10N×126°.46E,h0km,mb4.2/15, mb1 4.3/15,mb1mx4.0/42,mbtmp4.2/15,MS3.2/3, Ms1 3.2/3,ms1mx2.7/40,Error ellipse: s-maj=34.9km s-min=13.4km az=76.0*

*ISCJB **30** 10:35:30.8±0.3,4°.09N±0°.03×126°.65E±0°.04,h45km, mb4.4/34,Error ellipse: s-maj=6.0km s-min=4.7km az=175.4*

*NEIC **30** 10:35:32.0±1.2,4°.06N×126°.57E,h38km±12km,mb4.3/16, Error ellipse: s-maj=9.5km s-min=6.0km az=60.0*

*DJA **30** 10:35:32.1±0.5,4°.N±4°×12°.7E±°,h10km,M4.2/6,mb4.2/4, mB4.6/3,MLv4.3/6,Mw(mB)3.8/3*

ISC 30 10:35:32.7±0.4,3°.99N±0°.04×126°.61E±0°.06,h45km,n75, σ1§58/74,mb4.3/33,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.12**	**254**	P	**Pn**	**10 35 53.2**	**+1.2**
SGSI				S	**Sn**	**10 36 07.3**	**+1.0**
DDMP	**Don Marcelino,**	**2.28**	**337**	*e*P	**Pn**	**10 36 04.9**	**-2.9**
GSPH	**General Santos**	**2.66**	**322**⇓	*e*P	**Pn**	**10 36 16.5**	**+3.3**
MATI	**Mati**	**2.95**	**353**	*e*P	**Pn**	**10 36 20.2**	**+3.0**
SKMP	**Bagumbayan, Su**	**3.25**	**321**	*e*P	**Pn**	**10 36 24.4**	**+3.3**
SKMP				*e*S	**Sn**	**10 37 01.5**	**+2.9**
DMPH	**Davao City--Mi**	**3.26**	**340**	*e*P	Pn	10 36 27.7	+6.4
DMPH				*e*S	Sn	10 36 38.4	-20
TNTI	**Ternate**	**3.29**	**167**	*e*Pn	**Pn**	**10 36 25.1**	**+3.4**
TNTI	**Ternate**	**3.29**	**167**	P	**Pn**	**10 36 23.5**	**+1.8**
KCP	**Kidapawan**	**3.36**	**333**⇑	*e*P	**Pn**	**10 36 26.2**	**+3.5**
KCP				*i* S	Sn	10 37 19.6	+18
BUKP	**Musuan**	**4.16**	**338**	*e*P	**Pn**	**10 36 37.4**	**+3.7**
KMSI	**Cibinong**	**4.29**	**218**	P	**Pn**	**10 36 37.4**	**+1.9**
IPIL	**Ipil**	**5.51**	**313**	*e*P	**Pn**	**10 36 51.6**	**-0.6**
MRSI	**Marisa**	**5.83**	**233**	P	**Pn**	**10 36 57.5**	**+0.9**
	35nm,0.6s,745nm0.2nm						
SANI	**Sanana**	**6.04**	**186**	P	**Pn**	**10 36 59.7**	**+0.3**
LUWI	**Luwuk**	**6.30**	**218**	*e*Pn	**Pn**	**10 37 03.2**	**+0.1**
LUWI	**Luwuk**	**6.30**	**218**	P	**Pn**	**10 37 04.6**	**+1.5**
APSI	**Ampana**	**6.95**	**226**	P	**Pn**	**10 37 13.6**	**+1.6**
MPSI	**Mapaga**	**7.63**	**242**	P	**Pn**	**10 37 23.0**	**+1.7**
FAKI	**Fak Fak**	**8.88**	**141**	*e*Pn	**Pn**	**10 37 37.1**	**-1.5**
TGY	**Tagaytay City**	**11.50**	**331**	LR	LR	10 43 09.0	
	comp=Z,149nm,20.1s,baz=195,slow=41						
SBUM	**Sibu**	**14.45**	**264**	*e*Pn	**P**	**10 38 58.2**	**-2.2**
KSM	**Kuching**	**16.47**	**262**	*e*Pn	**Pn**	**10 39 18.5**	**-2.3**
	8.4nm,0.9s						
MTN	**Manton Dam**	**17.32**	**165**	*e*Pn	**Pn**	**10 39 29.7**	**-1.6**
	88nm,1.5s						
YOJ	**Yonaguni jima**	**20.64**	**351**	*e*P	**P**	**10 40 07.8**	**-0.8**
	207nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.97**	**182**	*e*P	**P**	**10 40 25.0**	**+2.1**
	1.2nm,1.5s						
FITZ	**Fitzroy Crossi**	**21.97**	**182**	P	**P**	**10 40 25.2**	**+2.3**
	1.7nm,0.6s,baz=10,slow=8

	5.4nm,1.1s,baz=67,slow=6.7,SNR=4.2						
ARCES				LR	LR	11 35 18.1	
	comp=Z,411nm,18.4s,baz=288,slow=40						
FIA0	**FINESS Array S**	**91.55**	**332**	*e*P	**P**	**10 48 34.1**	**-0.3**
FINES	**FINESS Array B**	**91.55**	**332**	P	**P**	**10 48 34.1**	**-0.3**
	1.5nm,0.8s,baz=103,slow=2.5,SNR=4.6						
YKA	**Yellowknife Ar**	**99.31**	**24**	P	**Pdif**	**10 49 11.6**	**+1.8**
	0.2nm,0.8s,baz=300,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**121.53**	**52**	PKP	**PKiKP**	**10 54 24.5**	**+2.1**
	0.4nm,0.9s,baz=270,slow=1.3,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP	**PKPdf**	**10 54 24.2**	**-0.5**
	0.3nm,0.6s,baz=153,slow=0.3,SNR=2.8						
TOA1	**Torodi Ar. Sit**	**122.72**	**288**	*e*PKPdf	**PKPdf**	**10 54 24.2**	**-0.5**

KRSC 30 10:36:50.7±10.0, **49.47N**×**156.96E, h211**km±10km, **ML3.7, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.01**	**357**	*e*S	S	10 38 01.6	+1.2
KDTR	**Khodutka, Kamc**	**2.45**	**16**	*e*S	S	10 38 08.8	+0.1
RUS	**Russkaya**	**3.13**	**18**	*e*P	Pn	10 37 43.5	+1.2
RUS				*e*S	S	10 38 23.3	+0.9
DALK	**Dalny**	**3.75**	**17**	*e*P	Pn	10 37 51.0	+1.4
DALK				*e*S	S	10 38 36.4	+0.8
UGLR	**Uglovaya**	**3.93**	**17**	*e*P	Pn	10 37 53.5	+1.6
AVH	**Avacha**	**3.96**	**16**	*e*P	Pn	10 37 54.0	+1.6
KOK	**Koryaka**	**3.97**	**15**	*e*P	Pn	10 37 53.5	+1.0
KRER	**Koryakskii**	**4.00**	**16**	*e*P	Pn	10 37 55.0	+2.0
SDLR	**Sedlovina**	**4.00**	**17**	*e*P	Pn	10 37 53.8	+0.9
SDLR				*e*S	S	10 38 41.5	-0.1
SPN	**Mys Shipunski**	**4.12**	**27**	*e*P	Pn	10 37 56.8	+2.7
MKZ	**Mys Kozlova**	**5.89**	**28**	*e*P	Pn	10 38 17.3	+0.9

*VIE **30** 10:49:00.0±0.4,51.58N×15.92E,h0km,mb2.2/2,ml2.5/4, Error ellipse: s-maj=4.4km s-min=2.7km az=37.0, Suspected Mining induced.*
*ISCJB **30** 10:49:06.1±0.8,51.48N±0.04×16.19E±0.04,h0km, Error ellipse: s-maj=5.6km s-min=3.2km az=11.2*
*PRU **30** 10:49:08.3±0.0,51.50N×16.19E,h0km*
ISC 30 10:49:07.8±1.3, **51.50N**±0.06×**16.20E**±0.03, **h0**km, **n22,** σ1§**04**/42, **9D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**175**	*i* Pg	**Pg**	**10 49 21.2**	**+0.7**
KSP				*i* Sg	**Sg**	**10 49 30.4**	**+1.4**
UPC	**Upice**	**1.00**	**187**	⇓*i*PG	**Pg**	**10 49 27.4**	**+0.4**
UPC				*e*SG	**Sg**	**10 49 40.8**	**+0.8**
	comp=Z,44nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**176**	⇓*i*PG	**Pg**	**10 49 30.0**	**+0.1**
DPC				*e*SG	**Sg**	**10 49 45.2**	**+0.3**
	comp=Z,32nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**227**	⇓*e*PG	**Pg**	**10 49 34.9**	**0.0**
PVCC				*e*SG	**Sn**	**10 49 54.4**	**+0.2**
	comp=Z,78nm,0.5s						
KRLC	**Kraliky**	**1.48**	**165**	⇓*e*PG	**Pn**	**10 49 35.3**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.83**	**210**	⇓*e*PG	**Pb**	**10 49 41.6**	**-0.5**
GOPC				*e*SG	**Sg**	**10 50 06.0**	**-0.4**
	comp=Z,11nm,0.5s						
PRU	**Pruhonice**	**1.85**	**215**	⇓*e*PN	**Pn**	**10 49 40.3**	**-0.4**
PRU				*e*PG	**Pb**	**10 49 42.0**	**-0.4**
PRU				*e*SG	**Sg**	**10 50 06.7**	**-0.3**
	comp=Z,17nm,0.3s						
MORC	**Moravsky Berou**	**1.93**	**153**	*e*PN	**Pn**	**10 49 41.4**	**-0.5**
MORC				*e*SG	**Sg**	**10 50 09.5**	**-0.2**
CLL	**Collm**	**2.01**	**266**	*e*Pg	**Pb**	**10 49 45.0**	**-0.2**
CLL				*i* Sg	**Sb**	**10 50 11.3**	**+0.6**
	comp=Z,18nm,0.6s						
OKC	**Ostrava-Krasne**	**2.08**	**143**	⇓*e*SG	**Sb**	**10 50 13.3**	**+0.6**
VRAC	**Vranov**	**2.21**	**173**	*e*PN	**Pn**	**10 49 46.5**	**+0.8**
VRAC				*e*SG	**Sg**	**10 50 18.4**	**-0.4**
KRUC	**Moravsky**	**2.45**	**177**	*e*PN	**Pn**	**10 49 50.0**	**+1.1**
KRUC				*e*SG	**Sg**	**10 50 25.7**	**-0.6**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**10 49 57.5**	**-0.5**
OJC				*e*Sg	**Sg**	**10 50 32.7**	**+0.9**
NKC	**Novy Kostel**	**2.69**	**243**	⇓*e*PN	**Pn**	**10 49 51.8**	**-0.6**
NKC				*e*PG	**Pb**	**10 49 57.8**	**+0.9**
NKC				*e*SG	**Sg**	**10 50 35.0**	**+0.7**
	comp=Z,27nm,0.3s						
KHC	**Kasperske Hory**	**2.91**	**216**	⇓*e*PN	**Pn**	**10 49 55.3**	**0.0**
KHC				*e*PG	**Pb**	**10 50 01.0**	**+0.5**
KHC				*e*SN	**Sn**	**10 50 30.0**	**-1.0**
KHC				*e*SG	**Sg**	**10 50 40.0**	**-1.2**
	comp=Z,12nm,0.7s						
SMOL	**Smolenice**	**3.10**	**165**	*e*SG	**Sb**	**10 50 42.6**	**+0.6**
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PG	**Pg**	**10 50 08.0**	**-0.1**
LANS				*e*SG	**Sg**	**10 50 47.8**	**-1.2**
MODS	**Modra-Piesok**	**3.21**	**167**	*e*SG	**Sb**	**10 50 47.5**	**+2.3**
VYHS	**Vyhne**	**3.46**	**150**	*e*PN	**Pn**	**10 50 02.5**	**-0.4**
VYHS				*e*PG	**Pg**	**10 50 14.2**	**+0.2**
VYHS				*e*SG	**Sg**	**10 50 56.4**	**-2.4**
CONA	**Conrad Observa**	**3.58**	**184**	*e*Pn	Pn	10 49 57.7	-7.0
	comp=Z,0.6nm,0.4s						
CONA				Sg	**Sg**	**10 51 01.2**	**-1.6**
	comp=Z,3.6nm,0.4s						
MOA	**Molln**	**3.87**	**200**	*e*Pn	Pn	10 50 01.0	-7.5
	comp=Z,0.4nm,0.2s						
MOA				Sg	**Sg**	**10 51 09.2**	**-2.8**
	comp=Z,1.6nm,0.2s						
ARSA	**Arzberg**	**4.28**	**186**	*e*Pn	Pn	10 50 07.4	-6.8
	comp=Z,0.7nm,0.3s						
ARSA				Sg	**Sg**	**10 51 22.6**	**-2.5**
	comp=Z,6.0nm,0.8s						

*IDC **30** 10:50:51.3±1.6,30.27S×177.18W,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.7/35,mbtmp3.7/4,ML3.3/1, Error ellipse: s-maj=33.2km s-min=24.4km az=83.0*
*ISCJB **30** 10:50:52.7±1.4,30.48S±0.06×177.2W±0.2,h24km, mb3.6/3, Error ellipse: s-maj=24.5km s-min=8.4km az=3.0*
ISC 30 10:50:54.2±1.4, **30.37S**±0.08×**177.2W**±0.2, **h24**km, **n6,** σ1§**38**/8, **mb3.6**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.27**	**331**	Pn	**Pn**	**10 51 14.4**	**-2.1**
	95nm,0.3s,baz=128,slow=19,SNR=3.3						
RAO				Sn	**Sb**	**10 51 34.3**	**+1.0**
	354nm,0.3s,baz=98,slow=20,SNR=10						
URZ	**Urewera**	**9.16**	**209**	Pn	**Pn**	**10 53 04.0**	**-0.8**
	0.3nm,0.3s,baz=245,slow=19,SNR=5.1						
URZ				Sn	**Sn**	**10 54 47.2**	**+0.1**
	0.5nm,0.3s,baz=243,slow=21,SNR=9.7						
ASAR	**Alice Springs**	**43.79**	**267**	P	**P**	**10 58 59.2**	**+0.9**
	0.8nm,0.8s,baz=112,slow=7.7,SNR=8.1						
WRA	**Warramunga Arr**	**44.78**	**272**	P	**P**	**10 59 07.8**	**+1.6**
	1.0nm,0.5s,baz=111,slow=7.8,SNR=18						
NVAR	**Mina Array Bea**	**87.75**	**42**	P	**P**	**11 03 41.8**	**+0.5**
	0.2nm,0.7s,baz=222,slow=8.8,SNR=3.5						
FINES	**FINESS Array B**	**145.35**	**340**	PKPbc	**PKPab**	**11 10 29.4**	**+0.2**
	1.6nm,0.6s,baz=71,slow=4.4,SNR=10						

IDC 30 11:06:45.5±3.1, **31.04S**×**177.33W, h0**km, **mb3.3**/2, **mb1 3.5**/3, **mb1mx3.4**/29, **mbtmp3.3**/3, **ML2.7**/1, **Error ellipse: s-maj=73.8km s-min=36.8km az=115.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.53**	**211**	Pn	Pn	11 08 49.3	-1.0
	0.1nm,0.3s,baz=243,slow=18,SNR=3.7						
URZ				Sn	Sn	11 10 30.8	+3.5
	0.3nm,0.3s,baz=324,slow=19,SNR=5.2						
ASAR	**Alice Springs**	**43.66**	**267**	P	P	11 14 52.0	-0.2
	0.3nm,0.7s,baz=119,slow=7.6,SNR=3.8						
WRA	**Warramunga Arr**	**44.70**	**272**	P	P	11 15 00.6	-0.1
	0.2nm,0.5s,baz=111,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**145.95**	**340**	PKPbc	PKPdf	11 26 25.6	0.0
	0.6nm,0.7s,baz=56,slow=4.8,SNR=5.9						

*TIR **30** 11:37:59.6,42.47N×18.79E,h18km,Md3.5/3*
*ISCJB **30** 11:38:02.7±0.3,42.36N±0.01×18.82E±0.02,h1km±2km, Error ellipse: s-maj=2.6km s-min=2.1km az=142.6*
*SAR **30** 11:38:03.7±0.3,42.36N×18.95E,h4km±1km,MS3.3/1*
*PDG **30** 11:38:03.5±0.3,42.36N×18.93E,h1km,MD3.1/5,ML3.1/7, Error ellipse: s-maj=0.3km s-min=0.6km az=0.0*
*PRU **30** 11:38:05.1±0.0,42.17N×18.85E,h0km*

*BEO **30** 11:38:05.2±0.3,42.40N×18.96E,h0km,ML3.0/17*
ISC 30 11:38:03.4±1.1, **42.35N**±0.02×**18.91E**±0.02, **h0**km±gkm, **n100,** σ1§**34**/164, **17C-11D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUM	**Brajici-Budva**	**0.05**	**197**	⇑*i*Pg	**Pg**	**11 38 04.5**	**+0.2**
BUM				*i* Sg	**Sg**	**11 38 05.3**	**+0.4**
CEME	**Cevo**	**0.20**	**1**	⇑*i*Pg	**Pg**	**11 38 07.2**	**-0.1**
CEME				*i* Sg	**Sg**	**11 38 10.0**	**+0.1**
DRME	**Dracevica, Mon**	**0.26**	**128**	⇑*i*Pg	**Pg**	**11 38 08.0**	**-0.4**
DRME				*i* Sg	**Sg**	**11 38 11.9**	**+0.2**
DRME	**Dracevica, Mon**	**0.26**	**128**	⇑*i*Pg	**Pg**	**11 38 07.9**	**-0.4**
DRME				*e*Sg	**Sg**	**11 38 12.3**	**+0.6**
PDG	**Podgorica**	**0.27**	**72**	*e*Pg	**Pg**	**11 38 08.1**	**-0.5**
PDG				*e*Sg	**Sg**	**11 38 11.9**	**-0.2**
PDG	**Podgorica**	**0.27**	**72**	⇑*i*Pg	**Pg**	**11 38 08.0**	**-0.5**
PDG				*e*Sg	**Sg**	**11 38 12.1**	**0.0**
TTG	**Podgorica**	**0.27**	**72**	⇑*i*Pg	**Pg**	**11 38 08.0**	**-0.5**
TTG				*i* Sg	**Sg**	**11 38 12.1**	**0.0**
HCY	**Herceg Novi**	**0.33**	**288**	⇑*i*Pg	**Pg**	**11 38 09.9**	**+0.2**
HCY				*i* Sg	**Sg**	**11 38 15.0**	**+1.1**
HCY	**Herceg Novi**	**0.33**	**288**	*e*Pg	**Pg**	**11 38 09.8**	**+0.1**
HCY				*e*Sg	**Sg**	**11 38 15.5**	**+1.6**
NKME	**Niksic**	**0.42**	**4**	⇑*i*Pg	**Pg**	**11 38 10.9**	**-0.6**
NKME				*i* Sg	**Sg**	**11 38 17.4**	**+0.4**
ULC	**Ulcinj**	**0.46**	**147**	⇓*i*Pg	**Pg**	**11 38 12.0**	**-0.1**
ULC				*i* Sg	**Sg**	**11 38 19.3**	**+1.3**
TREB	**Trebinje**	**0.56**	**312**	*e*Pg	**Pg**	**11 38 14.8**	**+0.7**
TREB				*e*Sg	**Sg**	**11 38 22.8**	**+1.5**
TREB	**Trebinje**	**0.56**	**312**	⇑*i*Pg	**Pg**	**11 38 13.5**	**-0.6**
TREB				*e*Sg	**Sg**	**11 38 22.5**	**+1.2**
BRY	**Bratogost**	**0.62**	**334**	⇓*i*Pg	**Pg**	**11 38 14.8**	**-0.5**
BRY				*i* Sg	**Sg**	**11 38 24.4**	**+1.0**
BRY	**Bratogost**	**0.62**	**334**	⇑*i*Pg	**Pg**	**11 38 14.5**	**-0.8**
BRY				*e*Sg	**Sg**	**11 38 24.1**	**+0.7**
KOME	**Kolasin**	**0.67**	**41**	⇑*i*Pg	**Pg**	**11 38 15.2**	**-1.2**
KOME				*i* Sg	**Sg**	**11 38 25.8**	**+0.7**
BCI	**Bajram Curri**	**0.86**	**88**	*i* PG	**Pg**	**11 38 15.1**	**-0.7**
BCI				*i* SG	**Sb**	**11 38 34.2**	**+1.0**
IVA	**Berane**	**0.90**	**54**	⇓*i*Pg	**Pg**	**11 38 20.9**	**+0.3**
IVA				*i* Sg	**Sb**	**11 38 33.4**	**-1.0**
STON	**Ston**	**1.04**	**301**	*e*Pg	**Pg**	**11 38 23.1**	**-0.2**
STON				*e*Sg	**Sb**	**11 38 38.6**	**+0.2**
STON	**Ston**	**1.04**	**301**	*i* Pg	**Pg**	**11 38 22.4**	**-1.0**
STON				Sg	**Sb**	**11 38 38.4**	**+0.1**
STON	**Ston**	**1.04**	**301**	*e*Pg	**Pg**	**11 38 22.0**	**-1.3**
STON				*e*Sg	**Sg**	**11 38 37.5**	**+0.7**
PLE	**Pljevlja**	**1.04**	**19**	⇑*i*Pg	**Pg**	**11 38 22.6**	**-0.9**
PLE				*i* Sg	**Sb**	**11 38 38.6**	**-0.1**
SJES	**Sjenica**	**1.20**	**40**	*e*Pg	**Pg**	**11 38 25.7**	**-0.8**
SJES				*e*Sg	**Sg**	**11 38 41.7**	**-0.4**
TIR	**Tirane**	**1.23**	**144**	*e*Pg	**Pg**	**11 38 27.2**	**+0.3**
TIR				*e*Sg	**Sn**	**11 38 44.7**	**-0.3**
TIR	**Tirane**	**1.23**	**144**	⇑*i*P	**Pn**	**11 38 28.8**	**+1.0**
TIR	**Tirane**	**1.23**	**144**	S	**Sn**	**11 38 48.1**	**+3.1**
TIR	**Tirane**	**1.23**	**144**	*i* PN	**Pg**	**11 38 28.3**	**-0.6**
TIR				*i* SN	**Sn**	**11 38 48.8**	**+3.8**
PHP	**Peshkopia**	**1.32**	**120**	*i* PN	**Pg**	**11 38 27.7**	**-0.9**
PHP				*i* SN	**Sn**	**11 38 49.9**	**+2.5**
IVAS	**Ivanjica**	**1.53**	**36**	*e*Pg	**Pn**	**11 38 31.5**	**-0.6**
IVAS				*e*Sg	**Sg**	**11 38 51.3**	**-1.3**
BBLS	**Lazići**	**1.56**	**13**	*e*Pn	**Pn**	**11 38 32.3**	**-0.2**
BBLS				*e*Sn	**Sg**	**11 38 54.3**	**+0.7**
HAPS	**Han Pijesak,Bl**	**1.74**	**1**	*e*Pn	**Pn**	**11 38 34.9**	**-0.1**
HAPS				*e*Sn	**Sn**	**11 38 57.9**	**0.0**
HAPS	**Han Pijesak,Bl**	**1.74**	**1**	*e*Pn	**Pn**	**11 38 34.3**	**-0.7**
HAPS				*e*Sn	**Sn**	**11 38 57.4**	**-0.5**
SELS	**Selova**	**1.84**	**61**	*e*Pn	**Pb**	**11 38 37.6**	**-0.4**
SELS				*e*Sn	**Sb**	**11 39 01.4**	**-0.3**
OHR	**Ohrid**	**1.88**	**130**	*i* Pn	**Pb**	**11 38 38.3**	**-0.2**
OHR				*i* Sn	**Sg**	**11 39 05.6**	**+1.9**
SKO	**Skopje**	**1.92**	**100**	*i* Pn	**Pb**	**11 38 38.8**	**-0.4**
SKO				*i* Sn	**Sg**	**11 39 06.7**	**+1.1**
DIVS	**Divibare**	**1.92**	**24**	*e*Pn	**Pn**	**11 38 41.0**	**+0.2**
DIVS				*e*Sn	**Sn**	**11 39 02.6**	**+0.2**
FASA	**Fasano**	**1.92**	**218**	*e*Pn	**Pn**	**11 38 36.7**	**-0.7**
BAI	**Bari**	**1.96**	**232**	*e*Pn	**Pn**	**11 38 36.7**	**-1.2**
BAI					**Sn**	**11 39 00.7**	**-2.4**
KRUS	**Krusevo**	**2.00**	**118**	*i* Pn	**Pb**	**11 38 40.1**	**-0.6**
KRUS				*i* Sn	**Sg**	**11 39 07.2**	**-0.5**
GRUS	**Gruza**	**2.03**	**40**	*e*Pn	**Pn**	**11 38 39.1**	**+0.2**
MASS	**Massafra**	**2.17**	**218**	*e*Pn	**Pn**	**11 38 39.7**	**-1.0**
TRUS	**Trudelj**	**2.17**	**30**	*e*Pn	**Pb**	**11 38 42.6**	**-1.0**
TRUS				*e*Sn	**Sn**	**11 39 07.9**	**-0.5**
BARS	**Barje**	**2.19**	**77**	*e*Pn	**Pb**	**11 38 42.6**	**-1.4**
BARS				*e*Sn	**Sn**	**11 39 09.1**	**+0.1**
BIA	**Bitola**	**2.24**	**125**	*i* Pn	**Pn**	**11 38 39.0**	**-2.8**
SG1	**Sgolgore (BA)**	**2.25**	**229**	*e*Pn	**Pn**	**11 38 40.4**	**-1.5**
SG1				Sn	**Sn**	**11 39 07.2**	**-3.2**
MATE	**Matera**	**2.37**	**225**	⇑*i*P	**Pn**	**11 38 41.2**	**-2.3**
STIP	**Stip**	**2.52**	**104**	*i* Pn	**Pb**	**11 38 43.1**	**+0.9**
STIP				*i* Sn	**Sb**	**11 39 22.5**	**+1.3**
BLY	**Banja Luka**	**2.71**	**333**	*e*Pn	**Pn**	**11 38 50.5**	**+2.3**
BLY				*e*Sn	**Sn**	**11 39 22.7**	**+1.0**
BLY	**Banja Luka**	**2.71**	**333**	⇓*i*P	**Pn**	**11 38 46.7**	**-1.5**
BLY	**Banja Luka**	**2.71**	**333**	*e*Pn	**Pn**	**11 38 48.1**	**-0.1**
BLY				*e*Sn	**Sn**	**11 39 21.6**	**-0.1**
ZAGS	**Zajecar**	**2.84**	**58**	*e*Pn	**Pn**	**11 38 50.9**	**+0.9**
FRGS	**Fruska Gora**	**2.88**	**13**	*e*Pn	**Pn**	**11 38 52.0**	**+1.4**
FRGS				*e*Sn	**Sn**	**11 39 25.4**	**-0.6**
KUBS	**Kucevo**	**2.88**	**43**	*e*Pn	**Pn**	**11 38 52.2**	**+1.6**
ZAPS	**Zavoj**	**2.89**	**70**	*e*Pn	**Pn**	**11 38 52.9**	**+2.2**
VAY	**Valandovo**	**2.92**	**109**	*i* Pn	**Pn**	**11 38 49.4**	**-1.7**
UDBI	**Udbina**	**3.16**	**315**	*e*Pn	**Pn**	**11 38 57.5**	**+3.0**
VTS	**Vitosha**	**3.19**	**84**	*e*Pn	**Pn**	**11 38 56.9**	**+2.0**
VTS	**Vitosha**	**3.19**	**84**	⇑*i*P	**Pn**	**11 38 57.1**	**+2.2**
VTS	**Vitosha**	**3.19**	**84**	S	**Sb**	**11 39 38.0**	**-2.4**
TIP	**Timpagrande**	**3.56**	**208**	⇑*i*P	**Pn**	**11 38 59.0**	**-1.0**
NVLJ	**Novalja**	**3.68**	**308**	*e*Pn	**Pn**	**11 39 02.3**	**+0.7**
BZS	**Buzias**	**3.81**	**30**	*e*Pn	**Pn**	**11 39 04.3**	**+1.0**
BZS	**Buzias**	**3.81**	**30**	⇑*i*P	**Pn**	**11 39 04.4**	**+1.1**
MORH	**Mrgy, Hungar**	**3.87**	**357**	*e*Pn	**Pn**	**11 39 03.8**	**-0.4**
MORH				*e*Sn	**Sn**	**11 39 48.7**	**-1.6**
MORH	**Mrgy, Hungar**	**3.87**	**357**	*e*Pn	**Pn**	**11 39 05.1**	**+0.9**
MORH				Sn	**Sn**	**11 39 49.1**	**-1.2**
MORH				*e*Sg	**Sg**	**11 40 09.0**	**+1.2**
AQU	**L'Aquila**	**4.08**	**272**	*e*Sn	**Sn**	**11 39 54.9**	**-0.7**
BOJS	**Bojanci**	**4.12**	**321**	*e*Pn	**Pn**	**11 39 08.9**	**+1.4**
GZR	**Gura Zlata**	**4.13**	**41**	⇓*i*P	**Pn**	**11 39 08.4**	**+0.6**
CRES	**Cresnjev**	**4.28**	**326**	*e*Pn	**Pn**	**11 39 09.4**	**-0.4**
CRES				*e*Sn	**Sn**	**11 39 58.7**	**-1.6**
RIY	**Rijeka**	**4.37**	**314**	*e*Pn	**Pn**	**11 39 13.2**	**+2.1**
RIY	**Rijeka**	**4.37**	**314**	*e*Pn	**Pn**	**11 39 10.8**	**-0.3**
RIY				*e*Sn	**Sn**	**11 40 00.7**	**-2.0**
SIRR	**Siria**	**4.39**	**26**	⇓*i*P	**Pn**	**11 39 12.4**	**+1.1**
BEHE	**Becsehely**	**4.40**	**340**	*e*Pn	**Pn**	**11 39 11.0**	**-0.4**
BEHE				*e*Sn	**Sn**	**11 40 01.0**	**-2.3**
TIH	**Tihany**	**4.61**	**351**	*e*Pn	**Pn**	**11 39 16.1**	**+1.8**
TIH				Sn	**Sn**	**11 40 09.0**	**+0.5**
LOT	**Lotru**	**4.68**	**47**	⇓*i*P	**Pn**	**11 39 17.0**	**+1.6**
CEY	**Cerknica**	**4.69**	**318**	*e*Pn	**Pn**	**11 39 17.0**	**+1.6**
CEY	**Cerknica**	**4.69**	**318**	*e*Pn	**Pn**	**11 39 15.7**	**+0.3**
CEY				*e*Sn	**Sn**	**11 40 08.6**	**-1.8**
CSKK	**Cskako**	**5.04**	**355**	*e*Pn	**Pn**	**11 39 22.0**	**+1.8**
CSKK				Sn	**Sn**	**11 40 19.0**	**0.0**
ARR	**Arges**	**5.12**	**52**	⇓*i*P	**Pn**	**11 39 23.7**	**+2.3**
SOKA	**Soboth**	**5.14**	**329**	*e*Pn	**Pn**	**11 39 23.4**	**+1.7**
	8.7nm,0.8s,SNR=11						
SOKA				Sn	**Sn**	**11 40 22.1**	**+0.3**
	3.4nm,0.6s						
OBKA	**Obir**	**5.20**	**325**	*e*Pn	**Pn**	**11 39 24.4**	**+1.8**
	0.6nm,0.2s						
OBKA				Sn	**Sn**	**11 40 25.7**	**+2.4**
	5.9nm,0.6s						
VOIR		**5.41**	**53**	⇓*i*P	**Pn**	**11 39 27.1**	**+1.8**
ARSA	**Arzberg**	**5.46**	**335**	*e*Pn	**Pn**	**11 39 27.9**	**+1.8**
	13nm,0.9s						
ARSA				*e*Sn	**Sn**	**11 40 29.4**	**-0.2**
	3.4nm,0.6s						
LTVH	**Ltavrtes, Hu**	**5.47**	**22**	*e*Pn	**Pn**	**11 39 22.0**	**-4.0**
LTVH				Sn	Sn	11 40 19.0	-11
SRO	**Srobarova**	**5.48**	**356**	*e*SN	**Sn**	**11 40 32.5**	**+2.5**
PSZ	**Piszkesteto**	**5.62**	**7**	⇓*i*P	**Pn**	**11 39 26.6**	**-1.6**
MLR	**Muntele Rosu**	**5.97**	**56**	⇓*i*P	**Pn**	**11 39 34.8**	**+1.6**
CONA	**Conrad Observa**	**5.98**	**340**	*e*Pn	**Pn**	**11 39 35.3**	**+2.0**
	1.0nm,0.3s						
CONA				*e*Sn	**Sn**	**11 40 42.7**	**+0.2**
	3.5nm,0.5s						
MODS	**Modra-Piesok**	**6.14**	**350**	*e*PN	**Pn**	**11 39 37.2**	**+1.9**
MODS				*e*SN	**Sn**	**11 40 46.3**	**+0.1**
VYHS	**Vyhne**	**6.15**	**360**	*e*PN	**Pn**	**11 39 38.6**	**+3.1**
VYHS				*e*SN	**Sn**	**11 40 45.6**	**-0.8**
KBA	**Koelnbreinsper**	**6.17**	**322**	*i* Pn	**Pn**	**11 39 35.1**	**-0.8**
	1.2nm,0.3s						
KBA				*e*Sn	**Sn**	**11 40 48.1**	**+0.8**
	0.6nm,0.2s						
ABTA	**Abfaltersbach**	**6.34**	**316**	*i* Pn	**Pn**	**11 39 38.7**	**+0.5**
	0.7nm,0.3s						
ABTA				*e*Sn	**Sn**	**11 40 50.9**	**-0.5**
	6.1nm,0.6s						
MOA	**Molln**	**6.41**	**331**	*e*Pn	**Pn**	**11 39 41.0**	**+2.0**
	1.6nm,0.3s,SNR=6.4						
MOA				*e*Sn	**Sn**	**11 40 53.3**	**+0.4**
	1.6nm,0.4s						
WTTA	**Wattenberg**	**7.14**	**316**	*i* Pn	**Pn**	**11 39 49.3**	**+0.2**
	2.3nm,0.4s						
WTTA				*e*Sn	**Sn**	**11 41 11.9**	**+0.9**
	4.1nm,0.5s						
WATA	**Walderalm**	**7.21**	**316**	*e*Pn	**Pn**	**11 39 49.2**	**-1.0**
	4.1nm,0.4s,SNR=5.1						
SQTA	**Sankt Quirin**	**7.33**	**314**	*e*Pn	**Pn**	**11 39 53.3**	**+1.5**
	3.0nm,0.4s						
MOTA	**Moosalm**	**7.47**	**315**	*e*Pn	**Pn**	**11 39 53.4**	**-0.3**
	1.0nm,0.4s						
FETA	**Feichten**	**7.47**	**312**	*e*Pn	**Pn**	**11 39 53.5**	**-0.3**
	0.7nm,0.5s						
FETA				*e*Sn	**Sn**	**11 41 20.6**	**+1.4**
	2.4nm,0.7s						
RETA	**Reutte**	**7.74**	**314**	*e*Sn	**Sn**	**11 41 26.2**	**+0.6**
	1.1nm,0.4s						
KHC	**Kasperske Hory**	**7.74**	**333**	*e*PN	**Pn**	**11 39 59.8**	**+2.5**
KHC				*e*SN	**Sn**	**11 41 25.7**	**0.0**

*IDC **30** 11:41:36.4±0.7,11.71N×86.76W,h0km,mb4.2/18, mb1 4.4/20,mb1mx4.1/47,mbtmp4.2/20,ML2.8/2,MS3.7/20, Ms1 3.7/20,ms1mx3.5/42, Error ellipse: s-maj=31.3km s-min=11.4km az=53.0*
*ISCJB **30** 11:41:39.9±0.3,11.44N±0.03×87.07W±0.03,h49km, mb4.5/151,MS3.7/18, Error ellipse: s-maj=5.2km s-min=3.2km az=22.0*
*UCR **30** 11:41:39.5±1.7,11.36N×87.25W,h19km±16km,ML3.8, mb4.5(NEIC)*
*NEIC **30** 11:41:41.9±0.4,11.43N×87.04W,h49km±3km,mb4.5/154, Error ellipse: s-maj=4.3km s-min=3.0km az=203.0*
ISC 30 11:41:42.1±0.5, **11.44N**±0.06×**87.08W**±0.06, **h49**km, **n631,** σ0§**91**/616, **mb4.5**/151, **MS3.7**/18, **1C, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGAN	**Managua**	**1.08**	**49**	*e*P	**Pn**	**11 42 01.6**	**+0.7**
MOMN	**Momotombo**	**1.10**	**28**	*e*P	**Pn**	**11 42 01.6**	**+0.4**
CNGN	**Cerro Negro**	**1.12**	**19**	*e*P	**Pn**	**11 42 01.9**	**+0.4**
CNGN				IAML		11 42 31.5	
	comp=E,2µm,0.8s						
CRIN	**San Cristobal**	**1.26**	**1**	*e*P	**Pn**	**

baz=182
353A **Camilla** 19.99 7 P Pn 11 46 12.3 -0.3
baz=188,SNR=5.9
352A **Blakely** 20.05 5 eP P **11 46 12.0 +0.8**
comp=E,56nm,1.0s
352A **Blakely** 20.05 5 P Pn 11 46 12.5 -0.8
baz=186,SNR=5.7
HKT **Hockley** 20.14 337 eP P **11 46 12.0 -0.2**
comp=E,27nm,1.3s
TIGA **Tifton** 20.17 9 eP P **11 46 13.2 +0.8**
comp=E,56nm,0.9s
355A **Pearson** 20.19 11 P P **11 46 12.7 0.0**
baz=192
356A **Blackshear** 20.32 12 P P **11 46 14.6 +0.5**
baz=194
ATAH **Atahualpa** 20.37 155 LR LR 11 53 08.4
comp=E,358nm,19.8s,baz=335,slow=34
833A **Chaparral WMA,** 20.38 327 eP P **11 46 14.5 -0.4**
comp=E,48nm,1.1s
833A **Chaparral WMA,** 20.38 327 P P **11 46 14.9 0.0**
baz=143,SNR=8.8
250A **Grady** 20.46 2 eP P **11 46 14.9 -0.7**
comp=E,49nm,1.3s
250A **Grady** 20.46 2 P P **11 46 16.0 +0.3**
baz=182,SNR=6.1
252A **Lumpkin** 20.58 6 P P **11 46 17.2 +0.3**
baz=186,SNR=8.4
251A **Midway** 20.62 4 P P **11 46 18.4 +1.1**
baz=184,SNR=10
253A **Americus** 20.71 7 P P **11 46 19.4 +1.1**
baz=188
254A **Abbeville** 20.71 9 P P **11 46 19.4 +1.0**
baz=190
255A **Hazlehurst** 20.83 11 P P **11 46 20.9 +1.2**
baz=193
256A **Glennville** 21.00 12 P P **11 46 22.4 +1.0**
baz=194
151A **Opelika** 21.05 4 P P **11 46 23.4 +1.3**
baz=185
149A **Jones** 21.06 1 P P **11 46 23.1 +0.9**
baz=181,SNR=6.4
150A **Eclectic** 21.09 2 P P **11 46 23.3 +0.8**
baz=183,SNR=17
148A **Greensboro** 21.12 359 P P **11 46 22.2 -0.5**
baz=179,SNR=8.8
147A **Livingston** 21.17 357 eP P **11 46 23.4 +0.2**
comp=E,51nm,0.8s
147A **Livingston** 21.17 357 P P **11 46 23.2 0.0**
baz=177,SNR=8.6
152A **Waverly Hall** 21.24 5 eP P **11 46 23.6 -0.4**
comp=E,32nm,0.8s
152A **Waverly Hall** 21.24 5 P P **11 46 23.7 -0.4**
baz=186,SNR=14
SJG **San Juan** 21.28 69 LR LR 11 55 10.9
comp=E,222nm,18.8s,baz=260,slow=39
153A **Fort Valley** 21.32 8 P P **11 46 25.1 +0.2**
baz=189
154A **Montrose** 21.39 9 eP P **11 46 25.6 0.0**
comp=E,44nm,1.0s
154A **Montrose** 21.39 9 P P **11 46 26.3 +0.6**
baz=191
NATX **Nacogdoches** 21.41 342 eP P **11 46 26.1 +0.3**
comp=E,41nm,0.8s
NATX **Nacogdoches** 21.41 342 P P **11 46 27.2 +1.3**
baz=159
LRAL **Lakeview Retre** 21.50 0 eP P **11 46 27.3 +0.5**
comp=E,21nm,0.9s
LRAL **Lakeview Retre** 21.50 0 P P **11 46 27.1 +0.3**
baz=180,SNR=13
435B **Jarrell** 21.58 335 eP P **11 46 28.6 +0.9**
comp=E,15nm,0.8s
Z49A **Columbiana** 21.66 1 P P **11 46 29.8 +1.2**
baz=181,SNR=13
Z50A **Ashland** 21.74 3 eP P **11 46 29.7 +0.2**
comp=E,20nm,0.9s
Z50A **Ashland** 21.74 3 P P **11 46 30.4 +0.9**
baz=183,SNR=11
Z52A **Williamson** 21.79 6 P P **11 46 30.9 +1.0**
baz=187,SNR=6.6
Z51A **Franklin** 21.85 4 P P **11 46 32.2 +1.6**
baz=185
157A **Early Branch** 21.87 14 P P **11 46 32.1 +1.3**
baz=196
Z53A **Monticello** 21.98 8 P P **11 46 33.5 +1.5**
baz=189,SNR=14
Z54A **Sparta** 22.04 9 P P **11 46 33.7 +1.0**
baz=191
GOGA **Godfrey** 22.12 8 eP P **11 46 33.8 +0.3**
comp=E,26nm,0.9s
GOGA **Godfrey** 22.12 8 P P **11 46 34.7 +1.2**
baz=189,SNR=15
Y49A **Blount Mountai** 22.33 1 eP P **11 46 36.0 +0.3**
comp=E,26nm,0.7s
Y49A **Blount Mountai** 22.33 1 P P **11 46 36.7 +1.0**
baz=182,SNR=17
JCT **Junction City** 22.33 330 eP P **11 46 35.6 -0.2**
comp=E,8.5nm,0.8s
JCT **Junction City** 22.33 330 P P **11 46 36.0 +0.2**
baz=145,SNR=5.3
Z41A **Richland Creek** 22.35 347 eP P **11 46 35.4 -0.5**
Z41A **Richland Creek** 22.35 347 P P **11 46 36.2 +0.3**
baz=165
Y48A **Jasper** 22.37 360 P P **11 46 36.7 +0.5**
baz=180,SNR=14
Y50A **Piedmont** 22.39 3 P P **11 46 36.9 +0.5**
baz=183,SNR=11
Y51A **Rockmart** 22.44 4 P P **11 46 38.1 +1.2**
baz=185,SNR=16
NHSC **New Hope** 22.48 15 eP P **11 46 36.8 -0.5**
comp=E,35nm,1.0s
NHSC **New Hope** 22.48 15 P P **11 46 38.6 +1.2**
baz=198
Y52A **Lilburn** 22.49 7 eP P **11 46 38.1 +0.5**
comp=E,38nm,1.0s
Y52A **Lilburn** 22.49 7 P P **11 46 38.5 +1.0**
baz=188,SNR=12
Y53A **Monroe** 22.54 8 P P **11 46 38.5 +0.4**
baz=189,SNR=14
WHTX **Lake Whitney,** 22.59 337 eP P **11 46 39.1 +0.6**
comp=E,21nm,0.8s
WHTX **Lake Whitney,** 22.59 337 P P **11 46 39.1 +0.6**
baz=153
Y54A **Tignall** 22.68 10 P P **11 46 40.5 +1.0**
baz=191,SNR=11
Z58A **St. Stephen** 22.79 16 P P **11 46 41.1 +0.4**
baz=198,SNR=5.4
WLAR **White Oak Lake** 22.83 347 eP P **11 46 41.0 0.0**
comp=E,31nm,1.3s
Z59A **Georgetown, SC** 22.85 17 P P **11 46 41.7 +0.4**
baz=200
Y56A **Pelion** 22.87 12 P P **11 46 41.7 +0.3**
baz=194
Y55A **Saluda** 22.90 11 P P **11 46 42.5 +0.8**
baz=193,SNR=6.6
X48A **Hartselle** 22.91 0 eP P **11 46 41.8 0.0**
comp=E,9.1nm,0.8s
X48A **Hartselle** 22.91 0 P P **11 46 41.9 0.0**
baz=180,SNR=6.4
X50B **Fort Payne** 22.96 3 P P **11 46 42.8 +0.4**
baz=184,SNR=6.2
X49A **Woodville** 22.98 2 P P **11 46 42.8 +0.2**
baz=182,SNR=11
X47A **Russelville** 22.99 358 P P **11 46 42.1 -0.6**
baz=178,SNR=12
X46A **Booneville** 23.06 357 P P **11 46 42.0 -1.3**
baz=176
OXF **Oxford** 23.07 355 eP P **11 46 42.8 -0.7**
comp=E,36nm,0.9s
OXF **Oxford** 23.07 355 P P **11 46 42.6 -0.8**
baz=174,SNR=8.5
X51A **Calhoun** 23.11 5 eP P **11 46 43.9 0.0**
comp=E,14nm,0.7s
X51A **Calhoun** 23.11 5 P P **11 46 44.1 +0.2**
baz=185,SNR=5.8
HODGE **Hodges** 23.11 10 eP P **11 46 44.8 +0.9**
comp=E,34nm,1.5s
X53A **Estanollee** 23.22 8 P P **11 46 45.0 +0.1**
baz=189,SNR=5.9
X52A **Dahlonega** 23.24 7 P P **11 46 45.4 +0.2**
baz=188,SNR=7.7
HPIG 23.32 314 eP P **11 46 46.1 -0.1**
comp=E,9.9nm,1.1s
Y58A **Scranton** 23.37 16 P P **11 46 45.8 -0.6**
baz=198
X54A **Belton** 23.40 10 P P **11 46 46.5 -0.3**
baz=192
PLAL **Pickwick Lake** 23.46 358 eP P **11 46 46.6 -0.6**
comp=E,21nm,1.1s
X55A **Gracelyn & Ava** 23.46 11 P P **11 46 48.0 +0.7**
baz=193,SNR=6.1
TXAR **Lajitas Array** 23.59 321 P P **11 46 49.0 +0.4**
comp=E,4.9nm,0.7s,baz=134,slow=10,SNR=81
TXAR PcP **PcP** **11 50 35.3 +2.6**
comp=E,1.5nm,0.9s,baz=145,slow=3.1,SNR=6.0
TX31 **Lajitas Ar. Si** 23.59 321 eP P **11 46 49.0 +0.3**
W49A **Belvidere** 23.59 2 P P **11 46 48.7 +0.3**
baz=182,SNR=16
W48A **Pulaski** 23.60 0 P P **11 46 48.7 +0.2**
baz=180,SNR=25
X56A **White Oak** 23.60 13 P P **11 46 48.7 +0.1**
baz=195,SNR=6.4
W46A **Michie** 23.62 357 P P **11 46 49.5 +0.8**
baz=177
SWET **Sewanee** 23.70 2 eP P **11 46 50.2 +0.7**
comp=E,31nm,1.0s
W50A **Signal Mountai** 23.71 4 eP P **11 46 50.1 +0.5**
comp=E,32nm,1.0s
W50A **Signal Mountai** 23.71 4 P P **11 46 49.5 -0.2**
baz=184,SNR=14
W51A **Cleveland** 23.71 5 P P **11 46 49.6 0.0**
baz=186,SNR=13
W47A **Westpoint** 23.71 359 P P **11 46 49.5 -0.2**
baz=179,SNR=22
W52A **Murphy** 23.73 6 eP P **11 46 50.2 +0.5**
comp=E,15nm,0.6s
W52A **Murphy** 23.73 6 P P **11 46 50.6 +0.8**
baz=186,SNR=9.2
BG3 **Lake Jocassee** 23.75 8 eP P **11 46 50.6 +0.6**
comp=E,12nm,0.9s
MIAR **Mount Ida** 23.76 347 eP P **11 46 49.5 -0.5**
comp=E,13nm,0.9s
MIAR **Mount Ida** 23.76 347 P P **11 46 49.8 -0.2**
baz=164,SNR=12
PAULI **Pauline** 23.77 11 eP P **11 46 50.9 +0.8**
comp=E,16nm,1.1s
X57A **Johnson Farm,** 23.79 14 P P **11 46 51.0 +0.6**
baz=197
Y60A **Bolivia** 23.88 18 P P **11 46 51.0 -0.1**
baz=202
W53A **Cullowhee** 23.89 8 P P **11 46 51.2 -0.2**
baz=189
W54A **Cherokee Point** 23.96 10 P P **11 46 52.4 +0.4**
baz=192,SNR=5.2
CPCT **Cooper Cave** 24.02 5 eP P **11 46 53.2 +0.8**
comp=E,30nm,0.9s
ABTX **Abilene, Hawle** 24.05 333 eP P **11 46 52.7 -0.1**
comp=E,12nm,0.7s
ABTX **Abilene, Hawle** 24.05 333 P P **11 46 52.4 -0.4**
baz=148,SNR=6.1
X58A **Rowland** 24.07 16 P P **11 46 53.0 +0.1**
baz=199
W41B **Gary Mavity, V** 24.09 350 eP P **11 46 53.0 -0.1**
comp=E,21nm,1.3s
W41B **Gary Mavity, V** 24.09 350 P P **11 46 53.0 -0.1**
baz=168,SNR=6.5
KMSC **Kings Mountain** 24.17 12 eP P **11 46 53.7 -0.1**
comp=E,12nm,1.0s
KMSC **Kings Mountain** 24.17 12 P P **11 46 53.7 -0.1**
baz=194
V50A **Pikeville** 24.19 4 P P **11 46 54.4 +0.3**
baz=185,SNR=12
V48A **Smith Brothers** 24.20 1 eP P **11 46 53.9 -0.2**
comp=E,11nm,0.8s
V48A **Smith Brothers** 24.20 1 P P **11 46 53.5 -0.6**
baz=180,SNR=7.8
WHAR **Wooly Hollow** 24.21 350 eP P **11 46 53.9 -0.4**
comp=E,39nm,1.7s
V49A **McMinnville** 24.25 2 P P **11 46 53.9 -0.6**
baz=183,SNR=11
X37A **Clayton** 24.26 343 eP P **11 46 54.9 +0.2**
comp=E,44nm,1.0s
V46A **Holladay** 24.27 358 P P **11 46 53.2 -1.5**
baz=177
V47A **Nunnelly** 24.29 359 P P **11 46 54.1 -0.8**
baz=179,SNR=14
X59A **McDuffie Farm,** 24.29 17 P P **11 46 54.2 -0.7**
baz=200
TKL **Tuckaleechee C** 24.30 7 eP P **11 46 55.6 +0.6**
comp=E,28nm,0.8s
TKL **Tuckaleechee C** 24.30 7 P P **11 46 54.5 -0.6**
comp=E,26nm,0.9s,baz=178,slow=11,SNR=27
TKL LR LR 11 58 02.3
comp=E,144nm,18.4s,baz=98,slow=41
W56A **Indian Trail** 24.32 13 P P **11 46 54.0 -1.2**
baz=196
V51A **Loudon** 24.39 5 eP P **11 46 56.3 +0.5**
comp=E,28nm,0.9s
V51A **Loudon** 24.39 5 P P **11 46 54.8 -1.0**
baz=186,SNR=13
W39A **Magazine** 24.43 347 P P **11 46 55.8 -0.3**
baz=164
V53A **Saluda** 24.43 8 eP P **11 46 56.6 +0.3**
comp=E,20nm,0.8s
V53A **Saluda** 24.43 8 P P **11 46 55.7 -0.6**
baz=190,SNR=16
W57A **Gilead** 24.47 14 P P **11 46 55.8 -0.7**
baz=197
X60A **Albert Glenn T** 24.48 18 P P **11 46 55.3 -1.4**
baz=202
V52A **Sevierville** 24.50 7 eP P **11 46 57.1 +0.2**
comp=E,9.8nm,0.8s
V52A **Sevierville** 24.50 7 P P **11 46 56.6 -0.3**
baz=188
W58A **Raeford** 24.54 16 P P **11 46 56.6 -0.5**
baz=199
WVT **Waverly** 24.59 359 eP P **11 46 56.9 -0.8**
comp=E,5.0nm,1.0s
WVT **Waverly** 24.59 359 P P **11 46 56.8 -0.8**
baz=178
V54A **Nebo** 24.68 10 P P **11 46 58.9 +0.4**
baz=192,SNR=11
U46A **Springville** 24.83 358 P P **11 46 59.4 -0.5**
baz=177,SNR=8.7
U47A **Clarksville** 24.90 360 P P **11 46 59.7 -0.7**
baz=179
U50A **Jamestown** 24.95 4 P P **11 47 00.8 -0.2**
baz=185,SNR=15
U48A **Cassie Pea, Po** 24.97 1 P P **11 47 00.4 -0.7**
baz=181
U51A **La Follette** 24.99 6 P P **11 47 00.8 -0.5**
baz=187
V56A **Mocksville** 24.99 13 P P **11 47 00.7 -0.6**
baz=195
U49A **Red Boiling Sp** 25.00 2 P P **11 47 01.6 +0.2**
baz=183,SNR=7.0
U52A **Thorn Hill** 25.07 7 P P **11 47 03.2 +1.2**
baz=188,SNR=6.3
U53A **Fall Branch** 25.15 9 P P **11 47 02.9 +0.1**
baz=190,SNR=5.2
U41A **Viola** 25.18 351 P P **11 47 02.5 -0.6**
baz=169
TZTN **Tazewell** 25.20 7 eP P **11 47 03.2 0.0**
comp=E,9.0nm,0.8s
TZTN **Tazewell** 25.20 7 P P **11 47 03.1 0.0**
baz=188
V57A **Coltrane Farms** 25.23 14 P P **11 47 03.0 -0.4**
baz=197,SNR=7.4
U40A **Yellville** 25.36 349 P P **11 47 04.1 -0.6**
baz=167,SNR=8.5
NNA **Nana** 25.39 156 LR LR 11 55 56.0
comp=E,77nm,19.9s,baz=342,slow=34
LPIG **La Paz** 25.41 303 LR LR 11 57 40.5
comp=E,123nm,20.1s,baz=114,slow=38
PBMO **Poplar Bluff** 25.41 354 eP P **11 47 04.4 -0.7**
comp=E,30nm,1.6s
U54A **Nelsons Funny** 25.42 10 P P **11 47 05.5 +0.2**
baz=192,SNR=5.2
T47A **Sharon Grove** 25.44 360 eP P **11 47 04.8 -0.5**
comp=E,11nm,0.8s
T47A **Sharon Grove** 25.44 360 P P **11 47 04.6 -0.7**
baz=180,SNR=5.3
HHAR **Hobbs** 25.50 347 eP P **11 47 06.0 0.0**
comp=E,6.9nm,0.9s
T46A **Princeton** 25.51 358 P P **11 47 05.6 -0.4**
baz=178
V59A **Middlesex** 25.51 17 P P **11 47 05.3 -0.7**
baz=200
T45A **Paducah** 25.51 357 P P **11 47 04.6 -1.4**
baz=176
WMOK **Wichita Mounta** 25.53 337 eP P **11 47 06.4 +0.2**
comp=E,13nm,0.9s
WMOK **Wichita Mounta** 25.53 337 P P **11 47 06.3 +0.2**
baz=153,SNR=15
U55A **TA2, Sparta** 25.54 11 P P **11 47 05.4 -1.0**
baz=194
T50A **Nancy** 25.55 4 P P **11 47 05.8 -0.6**
baz=185
T48A **Bowling Green** 25.57 1 P P **11 47 06.1 -0.4**
baz=182
T51A **Gray** 25.57 6 P P **11 47 06.2 -0.4**
baz=187
T49A **Edmonton** 25.60 3 eP P **11 47 06.3 -0.5**
comp=E,15nm,1.1s
T49A **Edmonton** 25.60 3 P P **11 47 06.2 -0.5**
baz=183
TUL1 **Leonard** 25.61 343 eP P **11 47 06.5 -0.5**
comp=E,29nm,0.9s
TUL1 **Leonard** 25.61 343 P P **11 47 07.0 0.0**
baz=160,SNR=7.6
T43A **Greenville** 25.70 354 P P **11 47 06.8 -0.9**
baz=173
T53A **Wise** 25.76 8 P P **11 47 07.3 -1.1**
baz=190
T54A **Tazewell** 25.99 10 P P **11 47 09.4 -1.1**
baz=192
U58A **Oxford** 26.02 16 P P **11 47 09.7 -0.9**
baz=199
S48A **Wiedeman Farm,** 26.13 2 P P **11 47 10.4 -1.2**
baz=182
S46A **Don Dixon Farm** 26.14 359 P P **11 47 10.7 -1.0**
baz=178
S43A **Fulton Ridge,** 26.16 355 P P **11 47 10.7 -1.2**
baz=173
S45A **Carrier Mills** 26.16 357 P P **11 47 10.5 -1.4**
baz=177
T55A **Pulaski** 26.19 11 P P **11 47 11.0 -1.2**
baz=194
S44A **Carbondale** 26.22 356 P P **11 47 11.3 -1.1**
baz=175
SIUC **Southern Illin** 26.24 356 eP P **11 47 11.8 -0.7**
comp=E,10nm,0.8s
T56A **Rocky Mt** 26.26 13 P P **11 47 11.9 -1.0**
baz=196
S51A **Beattyville** 26.28 6 eP P **11 47 12.9 -0.1**
comp=E,6.8nm,0.7s
S51A **Beattyville** 26.28 6 P P **11 47 12.2 -0.7**
baz=188
S49A **Springfield** 26.29 3 P P **11 47 12.2 -0.8**
baz=184
MNTX **Cornudas Mount** 26.31 323 eP P **11 47 13.4 +0.1**
comp=E,3.7nm,0.8s
MNTX **Cornudas Mount** 26.31 323 P P **11 47 12.8 -0.5**
baz=136
BLA **Blacksburg** 26.35 12 P P **11 47 12.2 -1.5**
baz=195
S41A **Jillco Farms,** 26.38 352 P P **11 47 12.9 -0.9**
baz=170,SNR=5.6
S52A **Salyersville** 26.38 7 P P **11 47 11.6 -2.2**
baz=189
T57A **Hurt** 26.41 14 P P **11 47 14.0 -0.2**
baz=197,SNR=6.0
S42A **Caledonia** 26.43 353 P P **11 47 13.5 -0.9**
baz=172
T58A **Grand View Acr** 26.54 15 P P **11 47 14.4 -0.9**
baz=199
MSTX **Muleshoe** 26.62 330 eP P **11 47 15.4 -0.9**
comp=E,16nm,0.8s
MSTX **Muleshoe** 26.62 330 P P **11 47 15.8 -0.5**
baz=144,SNR=17
R46A **Gibon Southern** 26.67 359 P P **11 47 15.7 -0.7**
baz=179
WCI **Wyandotte Cave** 26.69 1 eP P **11 47 15.9 -0.7**
comp=E,9.3nm,0.8s
WCI **Wyandotte Cave** 26.69 1 P P **11 47 15.9 -0.7**
baz=182
R47A **Wooly Knot Far** 26.75 1 P P **11 47 16.4 -0.8**
baz=181
R44A **Waltonville** 26.76 356 P P **11 47 16.8 -0.4**
baz=176
R45A **Skylar, Fairfi** 26.77 358 P P **11 47 16.8 -0.6**
baz=177
CCM **Cathedral Cave** 26.77 353 eP P **11 47 16.4 -1.0**
comp=E,18nm,1.3s
CCM **Cathedral Cave** 26.77 353 P P **11 47 16.6 -0.8**
baz=171
R49A **Shelbyville** 26.80 3 P P **11 47 16.7 -0.9**
baz=184
T59A **Double "B" Far** 26.83 17 P P **11 47 17.1 -0.9**
baz=201
R50A **Paris** 26.85 5 P P **11 47 17.4 -0.7**
baz=186
AMTX **Amarillo** 26.86 333 eP P **11 47 18.3 0.0**
comp=E,10nm,0.8s
AMTX **Amarillo** 26.86 333 P P **11 47 18.5 +0.1**
baz=147
S55A **Lewisburg** 26.88 12 P P **11 47 18.2 -0.3**
baz=194
R51A **Hillsboro** 26.93 6 P P **11 47 18.6 -0.2**
baz=188
R42A **Luebbering** 26.94 354 P P **11 47 18.7 -0.2**
baz=172
R41A **Rosebud** 27.02 353 P P **11 47 19.1 -0.5**
baz=171
R53A **Hurricane** 27.17 9 P P **11 47 21.6 +0.6**
baz=191
R54A **Victor** 27.18 11 P P **11 47 21.2 +0.1**
baz=193
Q45A **Warren Harvey,** 27.36 358 P P **11 47 22.2 -0.4**
baz=178
Q47A **Bedord North L** 27.39 1 P P **11 47 22.0 -0.9**
baz=181
Q48A **North Vernon** 27.41 2 P P **11 47 21.5 -1.5**
baz=183
Q44A **Meyer Farm, Va** 27.41 357 P P **11 47 21.7 -1.3**
baz=176
Q50A **Georgetown** 27.43 5 P P **11 47 22.7 -0.7**
baz=186
R55A **Marlinton** 27.45 12 P P **11 47 23.9 +0.4**
baz=195
Q42A **Golden Eagle** 27.54 354 P P **11 47 24.2 -0.1**
baz=173
Q41A **Truxton** 27.65 353 P P **11 47 25.3 0.0**
baz=171
R58B **Mineral** 27.67 16 P P **11 47 25.1 -0.4**
baz=200
Q51A **Peebles** 27.68 6 eP P **11 47 25.5 0.0**
comp=E,17nm,0.6s
Q51A **Peebles** 27.68 6 P P **11 47 25.5 0.0**
baz=188,SNR=7.9
Q52A **Bidwell** 27.75 8 P P **11 47 25.1 -1.0**
baz=190
Q53A **Leroy** 27.75 9 P P **11 47 25.4 -0.8**
baz=192
P47A **Martinsville** 27.95 1 P P **11 47 27.1 -0.8**
baz=182
P48A **Milroy** 27.95 3 P P **11 47 27.3 -0.6**
baz=183
P44A **Sand Creek, Wi** 27.95 357 P P **11 47 26.9 -1.0**
baz=177
Q54A **Coxs Mills** 27.99 10 P P **11 47 27.5 -0.9**
baz=193
Q55A **Buckhannon** 28.14 12 P P **11 47 28.5 -1.3**
baz=194
P53A **Whipple** 28.39 9 eP P **11 47 32.5 +0.7**
comp=E,23nm,1.1s
P53A **Whipple** 28.39 9 P P **11 47 30.6 -1.3**
baz=192
O44A **Mansfield** 28.63 358 P P **11 47 32.8 -1.1**
baz=177
P54A **Burton** 28.66 11 P P **11 47 34.1 -0.1**
baz=193
P55A **Reedsville** 28.69 12 P P **11 47 34.7 +0.1**
baz=195
O47A **Sheridan** 28.70 1 P P **11 47 33.5 -1.0**
baz=182
O45A **Potomac** 28.70 359 P P **11 47 33.8 -0.8**
baz=179
O49A **Covington** 28.74 4 P P **11 47 34.5 -0.4**
baz=186
O50A **Cable** 28.76 6 P P **11 47 34.9 -0.2**
baz=187,SNR=7.8
KSU1 **Kansas State U** 28.83 344 P P **11 47 35.3 -0.5**
baz=160
O51A **Pataskala** 28.87 7 P P **11 47 35.3 -0.8**
baz=189
ACSO **Alum Creek Sta** 28.91 6 eP P **11 47 36.3 -0.2**
comp=E,12nm,0.8s
ACSO **Alum Creek Sta** 28.91 6 P P **11 47 35.6 -0.9**
baz=188
Y22D **IRIS PASSCAL I** 28.92 324 P P **11 47 34.9 -1.9**
baz=137
O52A **Adamsville** 28.94 8 eP P **11 47 36.6 -0.2**
comp=E,19nm,1.1s
O52A **Adamsville** 28.94 8 P P **11 47 35.9 -0.8**
baz=191

HDIL	Hopedale baz=176	29.07	357	P		P		11 47 37.1	-0.8
O53A	New Philadelph baz=192,SNR=6.3	29.16	9	P		P		11 47 38.6	-0.1
N44A	Piper City baz=178	29.26	358	P		P		11 47 38.3	-1.2
ANMO	Albuquerque comp=E,2.3nm,1.0s	29.30	326	eP		P		11 47 40.9	+0.7
ANMO	Albuquerque baz=138	29.30	326	P		P		11 47 38.7	-1.5
ANMO	Albuquerque comp=E,1.8nm,0.9s,baz=152,slow=9.5,SNR=6.5	29.30	326	P		P		11 47 41.3	+1.1
ANMO				LR		LR		12 01 03.0		
N45A	comp=E,82nm,20.2s,baz=164,slow=40 Kentland baz=179	29.30	359	P		P		11 47 38.6	-1.3
TASM	ASL Pad, Albuq baz=138	29.30	326	P		P		11 47 38.3	-2.0
TASM	ASL Pad, Albuq baz=138	29.30	326	P		P		11 47 38.9	-1.4
N46A	Monticello baz=181	29.34	1	P		P		11 47 39.7	-0.6
N50A	Nevada baz=188	29.42	6	P		P		11 47 40.9	-0.1
N49A	Columbus Grove comp=E,16nm,0.7s	29.48	4	eP		P		11 47 41.0	-0.6
N49A	Columbus Grove baz=186,SNR=5.5	29.48	4	P		P		11 47 41.5	0.0
PTGA	Pitinga comp=E,87nm,19.9s,baz=293,slow=36	29.53	112	LR		LR		11 59 27.5		
N52A	McGinn's Farm, baz=191	29.64	8	P		P		11 47 42.5	-0.5
N51A	Ashland baz=189	29.66	7	P		P		11 47 41.9	-1.2
O56A	Blue Knob Stat baz=197	29.69	13	P		P		11 47 41.9	-1.5
N53A	Lisbon baz=192,SNR=5.4	29.77	10	P		P		11 47 43.5	-0.6
M47A	Cromwell baz=183	29.84	2	P		P		11 47 43.7	-0.9
M46A	Old House Fiel comp=E,7.4nm,0.8s	29.86	1	eP		P		11 47 44.1	-0.8
M46A	Old House Fiel baz=181	29.86	1	P		P		11 47 44.1	-0.8
M43A	Waltham Townsh baz=176	29.93	357	P		P		11 47 44.4	-1.1
MVL	Millersville comp=E,13nm,1.1s	29.99	17	eP		P		11 47 46.5	+0.5
M49A	Liberty Center baz=186	30.05	5	P		P		11 47 46.0	-0.5
M50A	Fremont baz=188	30.06	6	P		P		11 47 45.9	-0.7
N54A	Moraine State baz=194	30.07	11	P		P		11 47 46.1	-0.6
N55A	Marion Center baz=196	30.09	12	P		P		11 47 46.0	-0.9
PAGS	Pennsylvania G comp=E,18nm,0.9s	30.10	16	eP		P		11 47 47.1	+0.1
SSPA	Standing Stone comp=E,15nm,0.8s	30.19	14	eP		P		11 47 47.6	-0.2
SSPA	Standing Stone baz=198	30.19	14	P		P		11 47 46.3	-1.6
M39A	Webster baz=170	30.26	352	P		P		11 47 47.8	-0.6
M53A	WI Miller and baz=192,SNR=7.3	30.41	10	P		P		11 47 49.4	-0.4
PLIO	Pelee Island, baz=188,SNR=6.2	30.45	7	P		P		11 47 50.0	-0.1
L47A	Sherwood baz=184	30.47	3	P		P		11 47 48.8	-1.4
L46A	Eue Claire baz=181	30.47	1	P		P		11 47 48.6	-1.6
L48A	N Adams baz=185	30.48	4	P		P		11 47 48.8	-1.5
L42A	Oliver, Polo comp=E,12nm,1.0s	30.54	356	eP		P		11 47 50.1	-0.7
L42A	Oliver, Polo baz=175	30.54	356	P		P		11 47 49.5	-1.3
M54A	Oil Creek Stat comp=E,16nm,1.1s	30.65	11	eP		P		11 47 51.2	-0.8
M54A	Oil Creek Stat baz=194	30.65	11	P		P		11 47 51.6	-0.3
L43A	Garden Prairie baz=177	30.66	358	P		P		11 47 50.8	-1.2
L41A	Preston baz=173	30.67	355	P		P		11 47 50.8	-1.2
L49A	Milan baz=186	30.69	5	P		P		11 47 51.6	-0.6
L50A	Kingsville baz=188	30.72	6	P		P		11 47 51.8	-0.6
L40A	Anamosa comp=E,14nm,1.2s	30.73	354	eP		P		11 47 51.3	-1.2
L40A	Anamosa baz=172	30.73	354	P		P		11 47 51.7	-0.8
KSCO	Kaye Shedlock' comp=E,8.2nm,0.8s	30.76	336	eP		P		11 47 52.6	-0.4
KSCO	Kaye Shedlock' baz=149	30.76	336	P		P		11 47 52.4	-0.6
M55A	Ridgway baz=196	30.79	12	P		P		11 47 52.6	-0.6
LUPA	Lehigh Univers comp=E,0.9nm,0.8s	30.83	18	eP		P		11 47 53.3	-0.2
SDCO	Great Sand Dun comp=E,7.1nm,1.4s	30.97	331	eP		P		11 47 55.4	+0.3
SDCO	Great Sand Dun baz=143	30.97	331	P		P		11 47 54.7	-0.4
L53A	Girard baz=193,SNR=6.1	30.98	10	P		P		11 47 54.3	-0.5
N59A	State Game Lan comp=E,17nm,0.9s	31.01	17	eP		P		11 47 55.1	0.0
N59A	State Game Lan baz=202,SNR=7.2	31.01	17	P		P		11 47 55.4	+0.4
K46A	Dorr baz=182	31.15	2	P		P		11 47 54.8	-1.5
K43A	Burlington baz=178	31.17	358	P		P		11 47 55.7	-0.8
K47A	Vermontville baz=184	31.17	3	P		P		11 47 54.8	-1.6
K41A	Shullsburg baz=174	31.18	355	P		P		11 47 55.6	-1.0
ERPA	Erie comp=E,33nm,0.9s	31.19	10	eP		P		11 47 56.3	-0.3
ERPA	Erie baz=193	31.19	10	P		P		11 47 55.8	-0.8
K42A	Prairie Point, baz=176	31.29	357	P		P		11 47 56.7	-0.8
K48A	Perry baz=186,SNR=6.9	31.36	4	P		P		11 47 57.1	-0.9
K49A	Clarkson baz=187	31.39	5	P		P		11 47 58.0	-0.4
BGNE	Belgrade baz=159	31.40	344	P		P		11 47 58.2	-0.3
K39A	Oelwein baz=171	31.43	353	P		P		11 47 57.7	-1.1
JFWS	Jewell Farm baz=174	31.48	356	P		P		11 47 58.2	-1.0
L55A	Hinsdale baz=196	31.55	12	P		P		11 47 59.1	-0.7
S22A	4UR Ranch, Cre comp=E,8.9nm,1.5s	31.62	329	eP		P		11 48 01.1	+0.3
S22A	4UR Ranch, Cre baz=141	31.62	329	P		P		11 47 59.6	-1.3
J47A	Sunmer baz=184	31.75	3	P		P		11 48 00.3	-1.2
J42A	Columbus baz=176,SNR=5.5	31.81	357	P		P		11 48 00.8	-1.3
J43A	Natural Harves baz=177	31.85	358	P		P		11 48 00.8	-1.6
J48A	Bridge Port baz=186	31.87	5	P		P		11 48 01.7	-0.9
X16A	Lo Mia Camp, P comp=E,1.7nm,0.8s	31.88	320	eP		P		11 48 03.2	+0.1
J41A	Loganville baz=174	31.91	356	P		P		11 48 01.2	-1.8
J49A	Marlette baz=187	31.99	5	P		P		11 48 01.6	-2.0
J40A	Soldiers Grove baz=173	32.00	355	P		P		11 48 02.2	-1.5
ELFO	Elginfield baz=191	32.03	8	P		P		11 48 02.9	-1.1
J39A	Decorah baz=171	32.03	354	P		P		11 48 02.8	-1.2
MVCO	Mesa Verde comp=E,5.2nm,0.8s	32.08	327	eP		P		11 48 04.8	0.0
MVCO	Mesa Verde baz=138,SNR=5.6	32.08	327	P		P		11 48 04.4	-0.4
BINY	Binghamton comp=E,17nm,0.9s	32.14	16	eP		P		11 48 05.2	+0.2
BINY	Binghamton baz=201,SNR=5.1	32.14	16	P		P		11 48 04.7	-0.3
K55A	Perry baz=197	32.15	13	P		P		11 48 03.5	-1.6
TYNO	Tyneside baz=193	32.16	10	P		P		11 48 03.3	-1.8
J52A	Paris baz=192	32.20	9	P		P		11 48 05.0	-0.5
I43A	Langenfeld Bro baz=178,SNR=6.6	32.34	359	P		P		11 48 05.3	-1.5
I42A	Draeger Farm, comp=E,30nm,1.4s	32.38	358	eP		P		11 48 06.2	-0.8
I42A	Draeger Farm, baz=177,SNR=5.3	32.38	358	P		P		11 48 05.7	-1.3
STCO	Saint Catharin baz=194	32.39	11	P		P		11 48 06.5	-0.6
I46A	Reed City baz=183	32.42	2	P		P		11 48 05.9	-1.5
MEDO	Medina baz=196	32.49	12	P		P		11 48 06.4	-1.5
I45A	Fountain baz=182	32.49	1	P		P		11 48 07.1	-0.9
I39A	Houston baz=172	32.53	354	P		P		11 48 07.4	-1.0
I47A	Gladwin baz=185	32.54	3	P		P		11 48 07.5	-0.9
J54A	Appleton baz=195	32.55	11	P		P		11 48 08.3	-0.3
I49A	Point Hope baz=188	32.59	6	P		P		11 48 07.1	-1.8
ACTO	Acton baz=193,SNR=5.1	32.63	9	P		P		11 48 07.8	-1.4
I51A	Listowel baz=191,SNR=5.2	32.67	8	P		P		11 48 08.2	-1.4
I48A	Sherman Twp baz=186	32.76	4	P		P		11 48 09.9	-0.5
BASO	Ashfield baz=190	32.80	7	P		P		11 48 10.3	-0.3
SMCO	Snowmass comp=E,3.5nm,0.9s	32.81	331	eP		P		11 48 11.4	0.0
H43A	Windswept, Lux baz=179	32.92	359	P		P		11 48 11.0	-0.8
BWLO	Walkerton comp=E,9.7nm,0.4s	32.97	8	P		P		11 48 11.2	-0.9
H42A	Shiocton comp=E,6.6nm,0.8s	32.98	358	eP		P		11 48 11.0	-1.2
H46A	Fife Lake baz=183	33.02	2	P		P		11 48 11.4	-1.3
I52A	Shelburne baz=192,SNR=5.5	33.06	9	P		P		11 48 11.7	-1.3
DRCO	St. Marys Ceme baz=195	33.12	11	P		P		11 48 13.3	-0.3
H41A	Junction City comp=E,6.6nm,0.8s	33.14	357	eP		P		11 48 12.6	-1.1
H41A	Junction City baz=175	33.14	357	P		P		11 48 12.5	-1.1
H47A	Mio baz=185	33.14	4	P		P		11 48 12.4	-1.3
PKRO	Pickering baz=194	33.14	11	P		P		11 48 12.8	-0.8
H40A	Chili baz=174,SNR=6.6	33.19	356	P		P		11 48 12.7	-1.5
ECSD	EROS Data Cent comp=E,8.6nm,1.0s	33.22	347	eP		P		11 48 13.3	-1.1
ECSD	EROS Data Cent baz=163,SNR=9.2	33.22	347	P		P		11 48 13.1	-1.3
WLVO	Wesleyville baz=196	33.23	11	P		P		11 48 13.4	-1.1
M65A	Busby, Falmout baz=210	33.29	23	P		P		11 48 13.6	-1.4
H48A	Harrisville baz=187,SNR=6.7	33.30	5	P		P		11 48 13.9	-1.2
LPAZ	La Paz comp=E,1.8nm,0.7s	33.32	145	eP		P		11 48 15.9	-0.4
LPAZ	La Paz comp=E,1.4nm,0.3s,baz=307,slow=3.8,SNR=21	33.32	145	P		P		11 48 16.2	0.0
LPAZ				LR		LR		12 02 43.0		
GLMI	comp=E,123nm,20.2s,baz=344,slow=38 Grayling baz=184	33.34	3	P		P		11 48 14.6	-0.9
BMRO	Meriville Lake baz=190	33.42	8	P		P		11 48 15.1	-1.0
G45A	Suttons Bay baz=182	33.51	2	P		P		11 48 15.7	-1.2
I55A	Frankford baz=197	33.65	12	P		P		11 48 17.3	-0.9
H52A	Wyevale baz=193	33.66	9	P		P		11 48 17.5	-0.7
G41A	Antigo baz=176	33.71	357	P		P		11 48 17.5	-1.1
G43A	Wallace baz=179	33.71	359	P		P		11 48 17.1	-1.5
G42A	Mountain baz=178	33.71	358	P		P		11 48 17.4	-1.2
G47A	Hillman baz=186	33.73	4	P		P		11 48 17.7	-1.1
G40A	Rib Lake comp=E,8.7nm,0.9s	33.82	356	eP		P		11 48 18.3	-1.4
G40A	Rib Lake baz=174,SNR=6.4	33.82	356	P		P		11 48 18.5	-1.1
G38A	Ridgeland baz=172	33.86	354	P		P		11 48 18.3	-1.7
SADO	Sadowa comp=E,9.0nm,0.8s	33.91	10	eP		P		11 48 19.8	-0.6
SADO	Sadowa comp=E,5.9nm,0.7s,baz=252,slow=6.7,SNR=8.8	33.91	10	P		P		11 48 18.8	-1.6
G39A	Holcombe baz=173,SNR=8.8	33.91	355	P		P		11 48 18.6	-1.8
DELO	Deloit Mine baz=197	33.95	12	P		P		11 48 19.5	-1.2
TOBO	Tobermory, Bru baz=190	34.01	7	P		P		11 48 19.6	-1.6
SPMN	Marine on St. comp=E,20nm,1.1s	34.03	353	eP		P		11 48 20.0	-1.4
SPMN	Marine on St. baz=170,SNR=5.6	34.03	353	P		P		11 48 20.4	-1.0
H55A	Tweed baz=197	34.08	13	P		P		11 48 21.4	-0.4
BC3	Big Chuckawall baz=124,SNR=5.7	34.09	315	P		P		11 48 22.1	-0.1
F45A	CMU Biological baz=183	34.16	2	P		P		11 48 22.2	-0.2
IRM	Iron Mountain baz=125	34.16	316	P		P		11 48 21.7	-1.1
O20A	White River Ci comp=E,9.5nm,0.8s	34.17	330	eP		P		11 48 22.1	-0.8
O20A	White River Ci baz=141,SNR=10	34.17	330	P		P		11 48 23.4	+0.5
F41A	Three Lakes comp=E,12nm,1.2s	34.23	357	eP		P		11 48 22.0	-1.1
F41A	Three Lakes baz=176	34.23	357	P		P		11 48 22.1	-1.1
F46A	Macinaw City C baz=184	34.28	3	P		P		11 48 22.5	-1.1
F43A	Flat Rock, Esc baz=180	34.28	360	P		P		11 48 22.4	-1.1
KLBO	Wilbear Provi baz=192	34.31	9	P		P		11 48 22.0	-1.8
H56A	Elgin baz=199,SNR=7.0	34.33	14	P		P		11 48 23.8	-0.1
G53A	Haliburton baz=195,SNR=5.5	34.34	11	P		P		11 48 23.5	-0.6
BANO	Bancroft baz=196	34.37	12	P		P		11 48 23.2	-1.2
PKCU	Pink Cliffs comp=E,6.9nm,1.0s	34.40	323	eP		P		11 48 25.1	-0.1
F44A	Big Bay de Noc baz=181,SNR=5.1	34.42	1	P		P		11 48 23.8	-1.0
SUSD	Miller baz=159	34.44	345	P		P		11 48 23.9	-1.1
F40A	Park Falls baz=175,SNR=6.4	34.46	356	P		P		11 48 23.7	-1.5
F49A	Sandfield baz=189	34.48	6	P		P		11 48 24.3	-1.0
F48A	Evansville baz=188	34.48	6	P		P		11 48 24.5	-0.9
F37A	Hinrichs Farm, baz=170	34.50	353	P		P		11 48 24.8	-0.6
F39A	Loretta baz=173,SNR=5.8	34.52	355	P		P		11 48 24.1	-1.6
BUKO	Buck Lake baz=193	34.52	10	P		P		11 48 24.8	-0.8
SRU	San Rafael Swe comp=E,4.6nm,0.8s	34.56	327	eP		P		11 48 26.2	-0.2
PLVO	Plevna comp=E,11nm,0.9s	34.57	13	eP		P		11 48 25.4	-0.7
PLVO	Plevna baz=197	34.57	13	P		P		11 48 25.1	-1.0
COWI	Conover comp=E,11nm,0.9s	34.59	357	eP		P		11 48 24.8	-1.5
F38A	Pierce - Schro baz=172,SNR=6.8	34.65	354	P		P		11 48 25.1	-1.7
MTPU	Mount Pierson comp=E,3.8nm,0.8s	34.73	324	eP		P		11 48 28.0	0.0
LONY	Lake Ozonia comp=E,14nm,0.9s	34.77	16	eP		P		11 48 27.6	-0.2
LONY	Lake Ozonia baz=202,SNR=6.6	34.77	16	P		P		11 48 27.6	-0.2
E43A	Lone Tree Farm comp=E,9.1nm,0.8s	34.82	0	eP		P		11 48 27.1	-1.1
E43A	Lone Tree Farm baz=180	34.82	0	P		P		11 48 27.1	-1.1
G55A	Calabogie baz=198,SNR=5.8	34.85	13	P		P		11 48 27.8	-0.7
F52A	Sundridge baz=193	34.88	10	P		P		11 48 28.0	-0.7
E42A	Champion baz=178	34.88	359	P		P		11 48 27.9	-1.0
P17A	Butcher Ranch, comp=E,8.7nm,0.7s	34.94	327	eP		P		11 48 30.2	+0.6
E39A	Mellen baz=174,SNR=8.0	34.95	356	P		P		11 48 28.1	-1.3
E40A	Wakefield baz=175	34.97	357	P		P		11 48 28.5	-1.0
E47A	Iron Bridge baz=186	35.05	5	P		P		11 48 29.7	-0.5
TMUT	Trail Mountain comp=E,4.1nm,0.9s	35.06	326	eP		P		11 48 30.9	+0.1
PEMO	Pembroke baz=197	35.14	12	P		P		11 48 30.3	-0.7
E48A	Lockeyer baz=188	35.17	6	P		P		11 48 30.8	-0.5
ALGO	Algonquin Park baz=195	35.25	11	P		P		11 48 31.5	-0.4
E38A	The Farm, Brul comp=E,14nm,1.0s	35.26	355	eP		P		11 48 31.0	-0.9
E38A	The Farm, Brul baz=172	35.26	355	P		P		11 48 31.1	-0.9
E50A	Wahnapitae baz=191	35.28	8	P		P		11 48 31.1	-1.1
ORIO	Orleans, Innes baz=200	35.31	14	P		P		11 48 31.8	-0.7
D46A	Sault Ste Mari baz=185	35.43	4	P		P		11 48 33.0	-0.5
E52A	Mattawa baz=194	35.46	10	P		P		11 48 33.0	-0.7
F55A	Otter Lake baz=198	35.48	13	P		P		11 48 33.6	-0.3
E51A	G1948 Merrick baz=193,SNR=7.5	35.57	9	P		P		11 48 33.9	-0.7
ALFO	Alfred baz=201,SNR=6.6	35.63	15	P		P		11 48 34.8	-0.3
D47A	Chapleau baz=187	35.66	5	P		P		11 48 34.5	-1.0
E53A	Dumoine, Ponti baz=196	35.73	11	P		P		11 48 35.4	-0.7
MPU	Maple Canyon comp=E,5.2nm,1.0s	35.81	327	eP		P		11 48 37.2	+0.2
E54A	Lac Daplat, Po baz=197	35.88	12	P		P		11 48 36.2	-1.1
D48A	Paudash Townsh baz=189,SNR=7.2	35.90	6	P		P		11 48 36.3	-1.2
PSUT	Pine Spring comp=E,3.0nm,0.8s	36.03	323	eP		P		11 48 39.5	+0.4
D49A	Beulah Townshi baz=190	36.04	7	P		P		11 48 37.7	-1.1
D51A	Lot 18 Range I baz=193	36.13	9	P		P		11 48 38.7	-0.7
JLU	Jordanelle comp=E,3.0nm,0.7s	36.13	328	eP		P		11 48 40.4	+0.5
D52A	ZEK Kipawa Sen baz=194	36.17	10	P		P		11 48 39.5	-0.3
CTU	Camp Tracy comp=E,4.4nm,1.0s	36.35	328	eP		P		11 48 42.2	+0.4
C40A	Isle Royale Na comp=E,8.6nm,0.7s	36.40	358	eP		P		11 48 40.8	-1.0
C40A	Isle Royale Na baz=176	36.40	358	P		P		11 48 40.6	-1.1
TCUT	Toone Canyon comp=E,7.7nm,0.6s	36.49	328	eP		P		11 48 43.3	+0.4
EYMN	Ely baz=173	36.58	355	P		P		11 48 41.8	-1.5
FURC	Furnace Creek, baz=125	36.63	318	P		P		11 48 41.9	-2.0
D54A	Lac Fusel, La baz=197,SNR=5.0	36.67	12	P		P		11 48 43.6	-0.5
MPMC	Manual Prospec baz=124	36.82	317	P		P		11 48 46.1	+0.3
BW06	Boulder Array comp=E,3.7nm,0.8s	36.83	332	eP		P		11 48 45.7	-0.1
BW06	Boulder Array baz=141	36.83	332	P		P		11 48 46.0	+0.1
PD31	Pinedale Array comp=E,3.6nm,0.9s	36.83	332	eP		P		11 48 45.6	-0.2
PDAR	Pinedale Array	36.83	332	eP		P		11 48 45.3	-0.5
PDAR	Pinedale Array comp=E,1.4nm,0.7s,baz=129,slow=10,SNR=15	36.83	332	P		P		11 48 45.6	-0.2
PDAR				LR		LR		12 08 21.0		
HWUT	comp=E,68nm,18.9s,baz=126,slow=44 Hardware Ranch comp=E,6.1nm,0.8s	36.93	329	eP		P		11 48 46.5	-0.1
SPUT	South Promonto comp=E,5.9nm,0.9s	37.16	328	eP		P		11 48 48.5	-0.1
BGU	Big Grassy Mou comp=E,2.9nm,0.9s	37.20	327	eP		P		11 48 48.9	0.0
AGMN	Agassiz Nation comp=E,1.3nm,1.3s	37.48	350	eP		P		11 48 49.8	-1.1
AGMN	Agassiz Nation baz=166	37.48	350	P		P		11 48 50.3	-0.6
HVU	Hansel Valley comp=E,3.5nm,0.8s	37.67	328	eP		P		11 48 53.4	+0.5
MDND	Maddock comp=E,26nm,0.9s	37.79	346	eP		P		11 48 52.9	-0.7
MDND	Maddock baz=160	37.79	346	P		P		11 48 53.5	-0.1
REDW	Red Top Meadow comp=E,3.7nm,0.8s	37.90	331	eP		P		11 48 54.2	-0.6
SNOW	Snow King Moun comp=E,30nm,1.5s	37.93	332	eP		P		11 48 55.0	-0.1
LOHW	Long Hollow comp=E,12nm,1.5s	37.97	332	eP		P		11 48 55.6	+0.1
TPAW	Teton Pass comp=E,25nm,1.6s	38.04	331	eP		P		11 48 56.3	+0.2
MOOW	Moose Ponds comp=E,4.2nm,0.9s	38.14	332	eP		P		11 48 56.6	-0.3
SMMC	Simmler baz=120,SNR=6.2	38.15	314	P		P		11 48 57.4	+0.5
FXWY	Fox Creek comp=E,1.9nm,0.8s	38.19	332	eP		P		11 48 57.3	0.0
ELK	Elko comp=E,2.2nm,0.8s	38.30	325	eP		P		11 48 58.7	+0.4
ELK	Elko comp=E,2.3nm,0.8s,baz=138,slow=4.6,SNR=14	38.30	325	P		P		11 48 58.5	+0.3
FLWY	Flagg Ranch comp=E,4.9nm,0.9s	38.38	332	eP		P		11 48 58.3	-0.6
LSQQ	Lebel-sur-Quev baz=196	38.44	11	P		P		11 48 58.3	-0.7
RLMT	Red Lodge baz=144	38.57	335	P		P		11 49 00.3	-0.2
NV11	Mina Array Sit comp=E,0.3nm,1.0s	38.61	319	eP		P		11 49 01.2	+0.4
NV01	Mina Array Sit	38.70	319	eP		P		11 49 02.5	+0.9
NVAR	Mina Array Bea comp=E,2.0nm,0.7s,baz=126,slow=7.3,SNR=17	38.70	319	P		P		11 49 03.7	+2.0
NVAR				PcP		PcP		11 51 14.9	+2.0
MDPB	comp=E,1.3nm,0.8s,baz=133,slow=4.7,SNR=4.8 Devils Postpil comp=E,3.0nm,1.0s	38.75	318	eP		P		11 49 03.0	+0.9
KVN	Kaiserville comp=E,1.9nm,0.9s	38.94	320	eP		P		11 49 03.9	+0.3
YMR	Madison River comp=E,13nm,1.4s	38.95	333	eP		P		11 49 03.8	+0.1
YHH	Holmes Hill comp=E,7.4nm,1.5s	39.00	333	eP		P		11 49 05.5	+1.4
YHB	Horse Butte comp=E,4.7nm,0.9s	39.12	333	eP		P		11 49 05.6	+0.5
ULM	Lac du Bonnet comp=E,7.8nm,0.8s	39.37	351	eP		P		11 49 05.3	-1.5
ULM	Lac du Bonnet comp=E,4.6nm,0.6s,baz=176,slow=8.6,SNR=13	39.37	351	P		P		11 49 05.5	-1.3
ULM				LR		LR		12 09 16.1		
DGMT	comp=E,45nm,19.1s,baz=126,slow=42 Dagmar comp=E,11nm,0.9s	39.59	342	eP		P		11 49 08.7	0.0
CHGQ	Chibougamau baz=200	39.77	13	P		P		11 49 10.0	-0.2

HLID	**Hailey**	**39.79**	**329**	*e*P		**P**	**11 49 10.4**	**-0.3**
	comp=E,2.8nm,0.8s							
HLID	**Hailey**	**39.79**	**329**	P		**P**	**11 49 10.7**	**+0.1**
	baz=135,SNR=7.9							
PNTR	**Pine Nut**	**39.91**	**319**	*e*P		**P**	**11 49 12.9**	**+1.1**
	comp=E,3.0nm,0.8s							
MCMT	**McKenzie Canyo**	**39.95**	**331**	*e*P		**P**	**11 49 12.9**	**+0.9**
BOZ	**Bozeman (W)**	**39.97**	**333**	*e*P		**P**	**11 49 12.6**	**+0.5**
	comp=E,7.4nm,1.5s							
BOZ	**Bozeman (W)**	**39.97**	**333**	P		**P**	**11 49 12.2**	**+0.1**
	baz=141							
DLMT	**Dillon**	**40.23**	**332**	*e*P		**P**	**11 49 13.6**	**-0.6**
	comp=E,7.1nm,1.2s							
BEKR	**Beckworth**	**40.84**	**320**	*e*P		**P**	**11 49 19.7**	**+0.3**
	comp=E,2.2nm,0.8s							
WVOR	**Wild Horse Val**	**41.33**	**324**	*e*P		**P**	**11 49 23.0**	**-0.4**
	comp=E,4.5nm,1.0s							
MSO	**Missoula**	**41.95**	**332**	P		**P**	**11 49 28.5**	**+0.2**
	baz=138							
BMO	**Blue Mountains**	**42.18**	**328**	*e*P		**P**	**11 49 29.2**	**-1.0**
	comp=E,2.7nm,0.9s							
I07A	**Izee**	**42.87**	**325**	*e*P		**P**	**11 49 35.9**	**+0.1**
	comp=E,3.8nm,1.2s							
F10A	**Beach Ranch, E**	**42.91**	**329**	*e*P		**P**	**11 49 36.1**	**0.0**
	comp=E,4.7nm,0.8s							
NEW	**Newport**	**44.47**	**331**	P		**P**	**11 49 47.8**	**-0.7**
	comp=E,1.5nm,0.8s,baz=138,slow=12,SNR=4.4							
E07A	**Sunnyside**	**44.65**	**328**	*e*P		**P**	**11 49 50.0**	**0.0**
	comp=E,9.9nm,0.8s							
C09A	**Chrisman Ranch**	**44.69**	**330**	*e*P		**P**	**11 49 50.0**	**-0.3**
	comp=E,4.1nm,0.8s							
FFC	**Flin Flon**	**44.76**	**348**	*e*P		**P**	**11 49 50.6**	**-0.1**
	comp=E,4.0nm,0.9s							
SCHQ	**Schefferville**	**46.14**	**16**	LR		LR	12 10 49.5	
	comp=E,148nm,18.1s,baz=177,slow=38							
B06A	**Marblemount**	**46.77**	**329**	*e*P		**P**	**11 50 06.5**	**-0.1**
	comp=E,7.7nm,0.9s							
D03D	**Eldon**	**46.98**	**327**	P		**P**	**11 50 08.6**	**+0.3**
	baz=128							
BDFB	**Brasilia**	**47.11**	**124**	*e*P		**P**	**11 50 09.7**	**-0.1**
	comp=E,7.8nm,0.8s							
BDFB	**Brasilia**	**47.11**	**124**	P		**P**	**11 50 09.9**	**+0.1**
	comp=E,7.1nm,0.7s,baz=294,slow=6.3,SNR=11							
BDFB				LR		LR	12 10 41.6	
	comp=E,215nm,19.2s,baz=279,slow=37							
CPUP	**Villa Florida**	**47.39**	**143**	*e*P		**P**	**11 50 11.3**	**-0.4**
	comp=E,3.3nm,1.1s							
CPUP	**Villa Florida**	**47.39**	**143**	P		**P**	**11 50 12.8**	**+1.0**
	comp=E,0.6nm,0.5s,baz=315,slow=3.2,SNR=3.1							
A04D	**Lummi Island**	**47.52**	**328**	P		**P**	**11 50 12.9**	**+0.5**
	baz=129							
LLLB	**Lillooet**	**48.34**	**331**	*e*P		**P**	**11 50 18.6**	**-0.2**
	comp=E,4.9nm,0.8s							
FRB	**Frobisher Bay**	**53.85**	**10**	P		**P**	**11 50 57.5**	**-2.3**
	comp=E,2.2nm,0.6s,baz=218,slow=6.4,SNR=7.0							
YKA	**Yellowknife Ar**	**54.68**	**345**	P		**P**	**11 51 04.6**	**-1.3**
	comp=E,1.8nm,0.8s,baz=141,slow=7.4,SNR=39							
YKA				PcP		**PcP**	**11 52 08.6**	**+0.4**
	comp=E,0.7nm,0.8s,baz=143,slow=4.2,SNR=6.9							
YKB5	**Yellowknife Ar**	**54.68**	**345**	*e*P		**P**	**11 51 05.5**	**-0.4**
YKB5				*e*PcP		**PcP**	**11 52 08.8**	**+0.6**
DLBC	**Dease Lake**	**56.98**	**335**	*e*P		**P**	**11 51 22.7**	**+0.2**
	comp=E,11nm,1.2s							
DLBC	**Dease Lake**	**56.98**	**335**	P		**P**	**11 51 22.3**	**-0.2**
	comp=E,2.3nm,0.7s,baz=145,slow=6.7,SNR=4.5							
RES	**Resolute Bay**	**63.38**	**358**	*e*P		**P**	**11 52 04.9**	**-1.1**
	comp=E,1.7nm,0.9s							
RES	**Resolute Bay**	**63.38**	**358**	P		**P**	**11 52 05.0**	**-1.1**
	comp=E,1.1nm,0.7s,baz=188,slow=6.5,SNR=7.7							
EPYK	**Eagle Plains**	**64.14**	**340**	P		**P**	**11 52 11.4**	**+0.1**
	baz=124							
INK	**Inuvik**	**64.28**	**343**	P		**P**	**11 52 11.3**	**-0.7**
	comp=E,1.9nm,1.0s,baz=150,slow=6.2,SNR=5.8							
HDA	**Harding Lake**	**66.97**	**336**	P		**P**	**11 52 29.2**	**-0.2**
	baz=113							
ILAR	**Eielson Array**	**67.09**	**336**	P		**P**	**11 52 29.9**	**-0.3**
	comp=E,0.7nm,0.7s,baz=153,slow=4.8,SNR=11							
ILAR				LR		LR	12 27 41.7	
	comp=E,64nm,18.5s,baz=111,slow=41							
ILB	**Eielson Array**	**67.09**	**336**	*e*P		**P**	**11 52 30.4**	**+0.2**
	comp=E,2.7nm,1.1s							
RND	**Reindeer**	**67.38**	**335**	*e*P		**P**	**11 52 32.5**	**+0.4**
	comp=E,6.9nm,0.8s							
PPT	**Papeete**	**68.11**	**246**	LR		LR	12 15 51.0	
	comp=E,104nm,20.6s,baz=113,slow=30							
NOA	**NORSAR Array B**	**84.07**	**29**	LR		LR	12 29 14.0	
	comp=E,86nm,20.7s,baz=275,slow=34							
GERES	**GERESS Array B**	**88.47**	**40**	LR		LR	12 29 08.1	
	comp=E,101nm,21.1s,baz=297,slow=32							
FINES	**FINESS Array B**	**90.71**	**26**	LR		LR	12 33 22.4	
	comp=E,82nm,18.7s,baz=244,slow=34							
AKASG	**Malin Array Be**	**97.13**	**35**	LR		LR	12 39 54.7	
	comp=E,52nm,18.2s,baz=275,slow=36							
SONA0	**Songino Array**	**119.79**	**350**	*e*PKPdf		**PKiKP**	**12 00 27.9**	**+0.5**
SONM	**Songino Array**	**119.79**	**350**	PKP		**PKiKP**	**12 00 27.9**	**+0.5**
	comp=E,0.5nm,0.6s,baz=5.7,slow=1.5,SNR=4.8							
MK32	**Makanchi Array**	**121.26**	**9**	*e*PKPdf		**PKiKP**	**12 00 30.4**	**+0.3**
MKAR	**Makanchi Array**	**121.26**	**9**	PKP		**PKiKP**	**12 00 30.4**	**+0.3**
	comp=E,0.2nm,0.2s,baz=26,slow=3.1,SNR=2.9							
CD2	**Chengdu**	**136.63**	**346**	PKP		**PKPdf**	**12 00 58.5**	**-1.2**
ASAR	**Alice Springs**	**139.22**	**247**	PKP		**PKPdf**	**12 01 04.8**	**+0.3**
	comp=E,0.5nm,0.7s,baz=110,slow=3.1,SNR=4.7							
WR1	**Warramunga Ar**	**139.33**	**253**	*e*PKPdf		**PKPdf**	**12 01 05.2**	**+0.3**
WRA	**Warramunga Ar**	**139.33**	**253**	PKP		**PKPdf**	**12 01 05.1**	**+0.3**
	comp=E,0.7nm,0.9s,baz=89,slow=2.4,SNR=4.4							
CMAR	**Chiang Mai Arr**	**149.71**	**349**	PKP		**PKPdf**	**12 01 24.7**	**+1.9**
	comp=E,5.9nm,0.9s,baz=270,slow=0.6,SNR=4.5							
CMAR				PKPbc		**PKiKP**	**12 01 28.8**	**+0.3**
	comp=E,6.2nm,0.8s,baz=346,slow=3.8,SNR=37							

NORS ***30*** *11:43:32.7±0.0, 41°.67N×48°.19E, h42km, MPVA3.5*
MOS ***30*** *11:43:33.6±0.0, 41°.72N×48°.13E, h38km±1km, MPVA3.5*
DRS 30 11:43:33.0±0.0, 41°.84N×47°.90E, h2km, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.29**	**145**	*e*Pg		Pb	11 43 41.0	+0.1
KSMR				*e*Sg		Sb	11 43 47.5	+1.3
DRN	**Derbent**	**0.37**	**59**	*i* Pg		Pb	11 43 42.8	+0.5
DRN				*e*Sg		Sb	11 43 50.8	+2.3
AKT	**Akhty**	**0.38**	**200**	*e*Pg		Pb	11 43 43.6	+1.1
AKT				*e*Sg		Sb	11 43 51.6	+2.7
URKR	**Urkarakh**	**0.38**	**328**	*i* Pg		Pb	11 43 43.8	+1.2
URKR				*e*Sg		Sb	11 43 52.1	+3.1
KMKR	**Kumukh**	**0.67**	**296**	*e*Pg		Pn	11 43 51.0	+1.4
KMKR				*e*Sg		Sn	11 44 07.0	+6.3
GNBR	**Gunib**	**0.89**	**308**	*e*Pg		Pn	11 43 54.3	+1.8
GNBR				*e*Sg		Sn	11 44 10.9	+4.9
XNZR	**Khunzakh**	**1.13**	**309**	*e*Pg		Pn	11 43 59.2	+3.2
XNZR				*e*Sg		Sn	11 44 19.8	+7.6
DBC	**Dubki**	**1.42**	**326**	*e*Pg		Pg	11 44 02.5	+2.3
DBC				*e*Sg		Sn	11 44 25.0	+5.8

LDG ***30*** *11:50:08.4±0.2, 37°.99N×3°.22W, h4km, Ml3.0/4, Error ellipse: s-maj=4.8km s-min=3.9km az=176.0*
SFS ***30*** *11:50:09.0, 38°.00N×3°.20W, h4km, ML3.0, TORREPEROGIL (JAEN)*
MDD ***30*** *11:50:09.3±0.1, 38°.05N×3°.27W, h4km±1km, mbLg3.1/42, Error ellipse: s-maj=1.7km s-min=1.1km az=8.0, PRXIMO*
MDD EMS: III INTENSIDAD MAXIMA.
INMG ***30*** *11:50:09.2±1.7, 38°.06N×3°.30W, h6km±2km, ML3.0, Error ellipse: s-maj=1.7km s-min=1.4km az=29.0*
IGIL ***30*** *11:50:10.7, 38°.05N×3°.27W, h4km, ML2.8*
CNRM ***30*** *11:50:11.6, 37°.87N×3°.09W, h5km, ml3.7*
ISC 30 11:50:07.4±1.1, 38°.11N±0°.02×3°.31W±0°.02, h6km±9km, n96, σ1s34/168, 6C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.36**	**148**	⇓Pg		**Pg**	**11 50 14.5**	**+0.2**
	267nm,0.2s,SNR=18							
EQES				Lg		Lg	11 50 18.7	
	175nm,0.1s,SNR=5.0							
SESP	**Santiago Espad**	**0.60**	**88**	⇑Pg		**Pb**	**11 50 20.2**	**-0.3**
	222nm,0.1s,SNR=18							
SESP				Lg		Lg	11 50 28.1	
	633nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**0.60**	**88**	P		**Pb**	**11 50 20.4**	**0.0**
SESP				S		**Sb**	**11 50 28.4**	**-0.9**
GORA	**Gorafe**	**0.66**	**161**	⇑Pg		**Pg**	**11 50 20.4**	**+0.3**
	203nm,0.2s,SNR=18							
GORA				Lg		Lg	11 50 29.4	
	350nm,0.2s,SNR=7.9							
EQUE	**Quentar**	**0.91**	**187**	Pg		**Pb**	**11 50 25.7**	**+0.1**
	12nm,0.1s,SNR=17							
EQUE				Lg		Lg	11 50 36.5	
	72nm,0.1s,SNR=17							
EADA	**Adamuz**	**1.00**	**274**	⇑Pg		**Pn**	**11 50 28.2**	**+0.2**
	20nm,0.3s,SNR=18							
EADA				Lg		Lg	11 50 42.0	
	318nm,0.1s,SNR=45							
EGOR	**Sierra Gorda,**	**1.18**	**213**	Pg		**Pb**	**11 50 30.7**	**+0.4**
	3.7nm,0.1s,SNR=7.9							
EGOR				Lg		Lg	11 50 46.9	
	122nm,0.2s,SNR=7.9							
EBER	**Berja**	**1.25**	**164**	Pg		**Pg**	**11 50 30.9**	**-0.4**
	74nm,0.3s,SNR=109							
EBER				Lg		Lg	11 50 49.1	
	101nm,0.2s,SNR=8.3							
ELGU	**Los Guajares,**	**1.26**	**192**	Pg		**Pg**	**11 50 31.7**	**+0.2**
	7.5nm,0.3s,SNR=7.9							
ELGU				Lg		Lg	11 50 48.6	
	154nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**1.43**	**142**	Pg		**Pn**	**11 50 34.2**	**+0.3**
	182nm,1.0s,SNR=7.9							
ENIJ				Lg		Lg	11 50 52.6	
	141nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**1.49**	**68**	⇑Pn		**Pb**	**11 50 35.4**	**-0.1**
	7.1nm,0.2s,SNR=18							
ETOB				Pg		**Pg**	**11 50 36.7**	**+0.8**
	72nm,0.2s,SNR=7.9							
ETOB				Lg		Lg	11 50 56.0	
	56nm,0.2s,SNR=6.2							
HORN	**Hornachuelos**	**1.56**	**261**	P		**Pg**	**11 50 40.7**	**+3.4**
EMAL	**Malaga-Limoner**	**1.61**	**214**	Pg		**Pb**	**11 50 37.6**	**+0.1**
EMAL				S		**Sg**	**11 50 59.8**	**+0.7**
EMAL	**Malaga-Limoner**	**1.61**	**214**	*e*P		**Pb**	**11 50 37.6**	**+0.1**
EMAL				*e*S		**Sg**	**11 50 59.8**	**+0.7**
ESDC	**Sonseca Array**	**1.65**	**342**	Pn		**Pb**	**11 50 37.7**	**-0.5**
	0.9nm,0.2s,baz=162,slow=17,SNR=7.9							
ESDC				Pg		**Pg**	**11 50 40.6**	**+1.6**
	14nm,0.3s,baz=162,slow=18,SNR=244							
ESDC				Sn		**Sb**	**11 50 59.2**	**0.0**
	baz=141,slow=48,SNR=7.9							
ESDC				Lg		Lg	11 51 03.0	
	51nm,0.3s,baz=157,slow=29,SNR=21							
PAB	**San Pablo**	**1.65**	**331**	Pn		**Pb**	**11 50 37.9**	**-0.4**
	0.2nm,0.1s,SNR=7.9							
PAB				Pg		**Pg**	**11 50 40.8**	**+1.8**
	17nm,0.1s,SNR=7.9							
PAB				Sn		**Sb**	**11 50 59.5**	**+0.1**
	14nm,0.1s,SNR=7.9							
PAB				Lg		Lg	11 51 03.3	
	SNR=7.9							
PAB				Lg		Lg	11 51 03.3	
	70nm,0.3s,SNR=7.9							
EMUR	**La Murta**	**1.66**	**99**	⇑Pn		**Pn**	**11 50 37.9**	**+0.9**
	11nm,0.2s,SNR=18							
EMUR				Pg		**Pg**	**11 50 39.3**	**+0.2**
	21nm,0.2s,SNR=7.9							
EMUR				Lg		Lg	11 51 01.3	
	282nm,0.5s,SNR=20							
ECAB	**El Cabril**	**1.66**	**270**	⇑Pn		**Pn**	**11 50 37.7**	**+0.6**
	6.5nm,0.2s,SNR=18							
ECAB				Pg		**Pg**	**11 50 40.2**	**+0.9**
	22nm,0.2s,SNR=7.9							
ECAB				Sn		**Sn**	**11 50 59.2**	**+0.4**
	14nm,0.1s,SNR=7.9							
ECAB				Lg		Lg	11 51 02.0	
	84nm,0.2s,SNR=5.0							
EMIJ	**Mijas**	**1.93**	**218**	Pn		**Pn**	**11 50 42.1**	**+1.3**
	0.3nm,0.1s,SNR=18							
EMIJ				Pg		**Pg**	**11 50 44.2**	**-0.1**
	4.7nm,0.3s,SNR=12							
EMIJ				Lg		Lg	11 51 10.3	
	71nm,0.4s,SNR=12							
ETRV	**Los Montesinos**	**2.01**	**92**	Lg		Lg	11 51 12.9	
	171nm,0.3s,SNR=4.0							
LIJA	**Lijar**	**2.05**	**235**	P		**Pb**	**11 50 46.0**	**+0.9**
LIJA				S		**Sg**	**11 51 14.0**	**+0.7**
LIJA	**Lijar**	**2.05**	**235**	*e*P		**Pb**	**11 50 46.0**	**+0.9**
LIJA				*e*S		**Sg**	**11 51 14.0**	**+0.7**
UCM	**Universidad Co**	**2.20**	**1**	*e*P		**Pg**	**11 50 50.6**	**+1.1**
UCM				*es*		**Sg**	**11 51 19.4**	**+1.3**
ESPR	**Espera**	**2.37**	**239**	Pn		**Pb**	**11 50 49.5**	**-1.0**
	1.4nm,0.1s,SNR=10							
ESPR				Pg		**Pg**	**11 50 53.7**	**+0.9**
	1.7nm,0.1s,SNR=5.1							
ESPR				Lg		Lg	11 51 26.6	
	41nm,0.2s,SNR=6.4							
GUD	**Guadarrama**	**2.62**	**346**	Pn		**Pn**	**11 50 51.8**	**+1.5**
	1.0nm,0.2s,SNR=7.9							
GUD				Pg		**Pg**	**11 50 58.4**	**+0.9**
	24nm,0.3s,SNR=30							
GUD				Lg		Lg	11 51 33.6	
	27nm,0.3s,SNR=11							
EMIN	**Mina Concepcio**	**2.68**	**264**	Pn		**Pn**	**11 50 51.4**	**+0.3**
	0.7nm,0.1s,SNR=10							
EMIN				Pg		**Pg**	**11 50 57.8**	**-0.9**
	3.9nm,0.2s,SNR=18							
EMIN				Sn		**Sn**	**11 51 23.1**	**-0.7**
	3.2nm,0.1s,SNR=7.9							
EMIN				Lg		Lg	11 51 32.1	
	24nm,0.1s,SNR=14							
ETOR	**Torete**	**2.88**	**19**	Pn		**Pn**	**11 50 55.0**	**+1.1**
	2.0nm,0.2s,SNR=9.6							
ETOR				Pg		**Pg**	**11 51 04.6**	**+2.1**
	2.6nm,0.1s,SNR=17							
ETOR				Sn		**Sn**	**11 51 29.6**	**+0.7**
	4.4nm,0.1s,SNR=6.3							
ETOR				Lg		Lg	11 51 40.9	
	70nm,0.2s,SNR=5.0							
SMIR	**Smir Dam**	**2.93**	**215**	P		**Pb**	**11 50 58.1**	**-2.0**
SMIR				S		**Sn**	**11 51 33.1**	**+3.1**
PBAR	**Barrancos**	**2.94**	**272**	*e*Sn		**Sn**	**11 51 30.0**	**-0.3**
PBAR				*e*Sg		**Sg**	**11 51 40.9**	**-0.9**
PBAR				A		A	11 51 47.2	
	45nm,0.4s							
PBAR	**Barrancos**	**2.94**	**272**	Sn		**Sn**	**11 51 30.0**	**-0.3**
EBAD	**Badajoz**	**2.98**	**284**	Pn		**Pn**	**11 50 55.7**	**+0.5**
	1.7nm,0.1s,SNR=15							
EBAD				Pg		**Pg**	**11 51 04.9**	**+0.4**
	4.8nm,0.1s,SNR=17							
EBAD				Sn		**Sn**	**11 51 31.5**	**+0.3**
	27nm,0.2s,SNR=7.8							
EBAD				Lg		Lg	11 51 43.8	
	142nm,0.2s,SNR=5.0							
EMOS	**Mosqueruela**	**3.15**	**43**	Pn		**Pn**	**11 50 59.4**	**+1.7**
	0.1nm,0.3s,SNR=7.9							
EMOS				Pg		**Pg**	**11 51 09.3**	**+1.5**
	4.1nm,0.3s,SNR=9.1							
EMOS				Sn		**Sn**	**11 51 36.5**	**+0.7**
	4.8nm,0.2s,SNR=7.9							
EMOS				Lg		Lg	11 51 48.4	
	31nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**3.35**	**261**	Pn		**Pn**	**11 51 00.5**	**+0.2**
	0.7nm,0.0s,SNR=13							
EGRO				Pg		**Pb**	**11 51 09.3**	**+2.1**
	7.3nm,0.4s,SNR=7.9							
EGRO				Sn		**Sn**	**11 51 38.9**	**-1.5**
	3.8nm,0.1s,SNR=7.9							
EGRO				Lg		Lg	11 51 54.0	
	17nm,0.2s,SNR=5.0							
TAF	**Taforalt**	**3.36**	**167**	P		**Pn**	**11 51 01.8**	**+1.3**
TAF				S		**Sn**	**11 51 40.9**	**+0.1**
PESTR	**Estremoz**	**3.44**	**284**	*e*Pn		**Pn**	**11 51 02.3**	**+0.7**
PESTR	**Estremoz**	**3.44**	**284**	*e*Pg		**Pg**	**11 51 12.7**	**-0.6**
PESTR				*e*Sn		**Sn**	**11 51 42.4**	**-0.3**
PESTR				*e*Sg		**Sg**	**11 51 57.4**	**-0.6**
PESTR				A		A	11 52 06.8	
	53nm,0.4s							
PESTR	**Estremoz**	**3.44**	**284**	P		**Pb**	**11 51 08.6**	**-0.1**
PESTR				S		**Sg**	**11 51 58.8**	**+0.9**
PMRV	**Marv??o**	**3.45**	**294**	*e*Pn		**Pn**	**11 51 03.7**	**+2.0**
PMRV	**Marv??o**	**3.45**	**294**	*e*Pg		**Pg**	**11 51 13.9**	**+0.4**
PMRV				*e*Sn		**Sn**	**11 51 42.8**	**-0.1**
PMRV				*e*Sg		**Sg**	**11 51 56.0**	**-2.3**
PMRV				A		A	11 52 02.5	
	40nm,0.2s							
PMRV	**Marv??o**	**3.45**	**294**	Pn		**Pn**	**11 51 03.7**	**+2.0**
PMRV				Pg		**Pg**	**11 51 13.9**	**+0.4**
PMRV				Sn		**Sn**	**11 51 42.8**	**-0.1**
PVAQ	**Vaqueiros**	**3.56**	**260**	*e*Pn		**Pn**	**11 51 03.8**	**+0.6**
PVAQ				*e*Sn		**Sn**	**11 51 44.0**	**-1.6**
PVAQ				*e*Sg		**Sg**	**11 51 59.0**	**-2.8**
PVAQ	**Vaqueiros**	**3.56**	**260**	Pn		**Pn**	**11 51 03.8**	**+0.6**
PVAQ				Sn		**Sn**	**11 51 44.0**	**-1.6**
PBEJ	**Beja**	**3.60**	**270**	*e*Sg		**Sg**	**11 52 02.4**	**-0.5**
PBEJ				A		A	11 52 08.9	
	19nm,0.3s							
PBEJ	**Beja**	**3.60**	**270**	Lg		Lg	11 52 02.4	
	9.6nm,0.3s							
PCBR	**Castelo Branco**	**3.68**	**299**	*e*Pn		**Pn**	**11 51 05.9**	**+1.1**
PCBR				*e*Sn		**Sn**	**11 51 48.4**	**-0.1**
PCBR				*e*Sg		**Sg**	**11 52 03.5**	**-2.1**
PCBR				A		A	11 52 14.7	
	33nm,0.6s							
PCBR	**Castelo Branco**	**3.68**	**299**	Pn		**Pn**	**11 51 05.9**	**+1.1**
PCBR				Sn		**Sn**	**11 51 48.4**	**-0.1**
EVO	**Evora**	**3.72**	**278**	*e*Pn		**Pb**	**11 51 11.6**	**-1.9**
EVO				*e*Sn		**Sn**	**11 51 51.2**	**+1.6**
EVO				*e*Sg		**Sg**	**11 52 08.2**	**+1.3**
EVO				A		A	11 52 15.8	
	36nm,0.4s							
EVO	**Evora**	**3.72**	**278**	Sn		**Sn**	**11 51 51.2**	**+1.6**
EVO				Lg		Lg	11 52 08.2	
	36nm,0.4s							
EIBI	**Ibiza**	**3.76**	**74**	Pn		**Pn**	**11 51 05.5**	**-0.4**
	2.2nm,0.3s,SNR=7.9							
EIBI				Sn		**Sn**	**11 51 48.8**	**-1.7**
	13nm,0.3s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**3.77**	**258**	*e*Pn		**Pn**	**11 51 06.8**	**+0.8**
PBDV				*e*Sn		**Sn**	**11 51 48.8**	**-1.9**
PBDV				*e*Sg		**Sg**	**11 52 06.7**	**-1.6**
PBDV				A		A	11 52 15.0	
	19nm,0.7s							
PBDV	**Barranco-do-Ve**	**3.77**	**258**	Pn		**Pn**	**11 51 06.8**	**+0.8**
PBDV				Sn		**Sn**	**11 51 48.8**	**-1.9**
PCVE	**Castro Verde**	**3.77**	**264**	*e*Pn		**Pn**	**11 51 06.6**	**+0.5**
PCVE				*e*Sn		**Sn**	**11 51 49.6**	**-1.2**
PCVE				*e*Sg		**Sg**	**11 52 05.7**	**-2.8**
PCVE				A		A	11 52 17.4	
	22nm,0.4s							
PCVE	**Castro Verde**	**3.77**	**264**	Pn		**Pn**	**11 51 06.6**	**+0.5**
PCVE				Sn		**Sn**	**11 51 49.6**	**-1.2**
PMTG	**Montargil**	**3.97**	**286**	*e*Pn		**Pn**	**11 51 08.8**	**0.0**
PMTG				*e*Sn		**Sn**	**11 51 54.6**	**-1.0**
PMTG				*e*Sg		**Sg**	**11 52 15.0**	**+0.2**
PMTG				A		A	11 52 22.2	
	47nm,0.4s							
PMTG	**Montargil**	**3.97**	**286**	Pn		**Pn**	**11 51 08.8**	**0.0**
PMTG				Sn		**Sn**	**11 51 54.6**	**-1.0**
ERTA	**Horta de San J**	**4.00**	**44**	Pg		**Pg**	**11 51 24.0**	**-0.1**
	1.6nm,0.1s,SNR=7.9							
ERTA				Lg		Lg	11 52 13.7	
	11nm,0.3s,SNR=5.6							
MTE	**Manteigas**	**4.01**	**306**	*e*Sg		**Sg**	**11 52 14.1**	**-1.9**
MTE				A		A	11 52 20.4	
	38nm,0.7s							
MTE	**Manteigas**	**4.01**	**306**	Lg		Lg	11 52 14.1	
	19nm,0.7s							
PNCL	**Nicolau / Gran**	**4.12**	**272**	*e*Pn		**Pn**	**11 51 12.2**	**+1.4**
PNCL				*e*Sg		**Sg**	**11 52 16.4**	**-3.2**
PNCL				A		A	11 52 25.7	
	14nm,0.6s							
PNCL	**Nicolau / Gran**	**4.12**	**272**	Pn		**Pn**	**11 51 12.2**	**+1.4**
MVO	**Moncorvo**	**4.19**	**318**	*e*Pn		**Pn**	**11 51 13.6**	**+1.7**
MVO				*e*Sg		**Sg**	**11 52 20.6**	**-1.4**
MVO				A		A	11 52 30.8	
	33nm,0.6s							
MVO	**Moncorvo**	**4.19**	**318**	Pn		**Pn**	**11 51 14.1**	**+2.2**
	0.0nm,0.2s,SNR=7.9							
MVO				Lg		Lg	11 52 23.8	
	6.0nm,0.1s,SNR=6.8							
ESAC	**San Caprasio**	**4.22**	**30**	Lg		Lg	11 52 25.2	
	103nm,0.3s,SNR=5.6							
ALMR	**Almeirim**	**4.25**	**286**	*e*P		**Pn**	**11 51 15.1**	**+2.4**
ALMR				*e*S		**Sn**	**11 52 01.8**	**-0.9**
ALMR				AML		AML	11 52 06.0	
	comp=N,23nm,0.2s							
ALMR	**Almeirim**	**4.25**	**286**	*e*Sn		**Sn**	**11 52 02.6**	**-0.1**
ALMR				*e*Sg		**Sg**	**11 52 24.8**	**+0.8**
ALMR				A		A	11 52 33.6	
	comp=N,72nm,0.6s							
ALMR	**Almeirim**	**4.25**	**286**	P		**Pn**	**11 51 15.1**	**+2.4**
ALMR				Sn		**Sn**	**11 52 02.6**	**-0.1**
ALMR				Lg		Lg	11 52 24.8	
	comp=N,36nm,0.6s							
PTOM	**Tomar**	**

comp=N,16nm,0.5s,SNR=7.9
MD31 MD31 5.36 193 P **Pn** 11 51 30.6 +2.6
MD31 S **Sn** 11 52 31.9 +1.9
EARI Arriondas 5.39 345 Pn **Pn** 11 51 30.7 +2.4
SNR=7.9
EARI Pg **Pg** 11 51 48.5 -2.0
SNR=7.9
EARI Lg Lg 11 53 01.1
comp=N,2.2nm,0.3s,SNR=7.9
CSOR Sort 5.45 37 Sn **Sn** 11 52 30.8 -1.6
comp=N,2.7nm,0.3s,SNR=7.9
EPF Esparros 5.65 28 *e*Pn **Pn** 11 51 32.5 +0.6
EPF *e*Sn **Sn** 11 52 34.9 -2.2
EPF *e*Sg **Sg** 11 53 06.0 -2.7
comp=N,2.0nm,0.2s
CLLI Llivia 5.95 41 Lg Lg 11 53 19.6
comp=N,1.3nm,0.5s,SNR=7.9

*DDA **30** 12:00:31.5,39°.73N×25°.54E, h8km±5km, ML2.7*
*ATH **30** 12:00:32.0,39°.68N×25°.54E, h28km±1km, ML2.1/5, Error ellipse: s-maj=2.3km s-min=1.1km az=234.0*
*ISK **30** 12:00:31.8,39°.68N×25°.55E, h8km, ML2.3/15*
*ISCJB **30** 12:00:32.3±0.4,39°.68N±0°.02×25°.54E±0°.02, h8km±3km, Error ellipse: s-maj=3.6km s-min=3.0km az=32.8*
*THE **30** 12:00:32.4,39°.67N×25°.54E, h10km, ML2.1/6, Error ellipse: s-maj=0.7km s-min=0.3km az=63.0*
ISC 30 12:00:32.3±1.0, 39°.68N±0°.02×25°.54E±0°.02, h12km±9km, n46, σ0s48/70, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.35**	**309**	P		**Pb**		**12 00 39.8**	**-0.6**
LIA				S		**Sg**		**12 00 44.8**	**+0.8**
LIA	**Limnos Island**	**0.35**	**309**	P		**Pb**		**12 00 39.9**	**-0.6**
LIA				S		**Sb**		**12 00 45.1**	**-0.8**
LIA				AML		AML		12 00 45.3	
	comp=E,588μm,0.2s								
LIA				AML		AML		12 00 45.5	
	comp=N,659μm,0.1s								
BOZC	**Bozcaada**	**0.43**	**68**	PG		**Pg**		**12 00 40.9**	**+0.1**
BOZC				SG		**Sg**		**12 00 46.5**	**0.0**
BOZC	**Bozcaada**	**0.43**	**68**	*i* P		**Pb**		**12 00 41.2**	**-0.6**
BOZC				*i* S		**Sb**		**12 00 47.8**	**-0.4**
BOZC				IAML_P					
	comp=Z,2μm,0.2s								
EFSA	**Agios Efstrati**	**0.45**	**252**	P		**Pb**		**12 00 42.4**	**+0.4**
EFSA				S		**Sb**		**12 00 48.7**	**+0.1**
SIGR	**SIGRI**	**0.53**	**152**	PG		**Pg**		**12 00 42.7**	**+0.1**
SIGR				SG		**Sg**		**12 00 49.8**	**+0.2**
SIGR	**SIGRI**	**0.53**	**152**	P		**Pg**		**12 00 42.5**	**-0.1**
SIGR				S		**Sg**		**12 00 49.9**	**+0.3**
SIGR	**SIGRI**	**0.53**	**152**	P		**Pg**		**12 00 42.4**	**-0.1**
SIGR				S		**Sg**		**12 00 49.9**	**+0.3**
SIGR				AML		AML		12 00 50.0	
	comp=E,670μm,0.6s								
SIGR				AML		AML		12 00 50.6	
	comp=N,901μm,0.6s								
EZN	**Ezine**	**0.62**	**76**	PG		**Pg**		**12 00 44.2**	**-0.2**
EZN				SG		**Sg**		**12 00 52.6**	**-0.1**
EZN	**Ezine**	**0.62**	**76**	P		**Pg**		**12 00 44.2**	**-0.2**
PRK	**Paraskevi**	**0.71**	**127**	P		**Pg**		**12 00 45.9**	**-0.2**
PRK				S		**Sb**		**12 00 56.0**	**-0.3**
PRK	**Paraskevi**	**0.71**	**127**	P		**Pb**		**12 00 46.7**	**+0.1**
PRK				S		**Sb**		**12 00 56.9**	**+0.5**
PRK				AML		AML		12 01 00.3	
	comp=N,486μm,0.5s								
PRK				AML		AML		12 01 02.0	
	comp=E,535μm,0.3s								
BAYC	**CANAKKALE_Bayr**	**0.78**	**85**	*i* P		**Pb**		**12 00 47.9**	**+0.1**
BAYC				*i* S		**Sb**		**12 00 58.3**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**360**	P		**Pb**		**12 00 47.7**	**-0.2**
SMTH				S		**Sb**		**12 00 59.3**	**+0.7**
SMTH	**Samothraki Isl**	**0.79**	**360**	P		**Pb**		**12 00 47.8**	**-0.2**
SMTH				S		**Sb**		**12 00 59.1**	**+0.4**
SMTH				AML		AML		12 01 01.6	
	comp=N,150μm,0.2s								
SMTH				AML		AML		12 01 01.9	
	comp=E,131μm,0.2s								
AYVA	**Ayvalik**	**0.97**	**112**	*i* P		**Pn**		**12 00 51.4**	**-0.2**
AYVA				*i* S		**Sb**		**12 01 04.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**1.02**	**45**	PG		**Pg**		**12 00 51.4**	**-0.4**
GELI				SG		**Sn**		**12 01 06.2**	**-0.3**
THAS	**Thassos island**	**1.12**	**326**	P		**Pb**		**12 00 53.2**	**-0.3**
THAS	**Thassos island**	**1.12**	**326**	P		**Pb**		**12 00 53.1**	**-0.3**
THAS				S		**Sg**		**12 01 08.0**	**-0.3**
THAS				AML		AML		12 01 10.5	
	comp=E,185μm,0.3s								
THAS				AML		AML		12 01 10.6	
	comp=N,190μm,0.2s								
ENEZ	**Enez**	**1.16**	**24**	PN		**Pn**		**12 00 54.5**	**+0.3**
LPK	**Lapseki**	**1.17**	**53**	PN		**Pn**		**12 00 54.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.24**	**37**	PN		**Pg**		**12 00 55.7**	**-0.4**
ALN	**Alexandroupoli**	**1.28**	**18**	PN		**Pg**		**12 00 56.6**	**-0.2**
ALN	**Alexandroupoli**	**1.28**	**18**	P		**Pn**		**12 00 55.9**	**+0.1**
ALN				S		**Sn**		**12 01 13.3**	**+0.4**
ALN	**Alexandroupoli**	**1.28**	**18**	P		**Pn**		**12 00 56.0**	**+0.1**
ALN				S		**Sn**		**12 01 13.4**	**+0.5**
CHOS	**Chios island**	**1.35**	**162**	PN		**Pb**		**12 00 57.5**	**0.0**
CHOS	**Chios island**	**1.35**	**162**	P		**Pn**		**12 00 56.5**	**-0.5**
CHOS				S		**Sb**		**12 01 14.6**	**-0.2**
CHOS	**Chios island**	**1.35**	**162**	P		**Pn**		**12 00 56.9**	**-0.1**
OUR	**Ouranopolis**	**1.36**	**299**	PN		**Pn**		**12 00 57.1**	**+0.1**
OUR	**Ouranopolis**	**1.36**	**299**	P		**Pn**		**12 00 56.7**	**-0.3**
AOS	**Alonnisos**	**1.38**	**249**	PN		**Pb**		**12 00 57.9**	**-0.1**
ZEDA	**zmir-Bergama**	**1.39**	**120**	*i* P		**Pb**		**12 00 58.2**	**0.0**
ZEDA				IAML_P					
	comp=Z,649nm,0.1s								
KESN	**Edirne-Kesan**	**1.44**	**37**	*i* P		**Pg**		**12 01 00.9**	**+1.0**
KESN				*i* S		**Sn**		**12 01 17.9**	**+0.4**
KESN				IAML_P					
	comp=Z,192nm,0.1s								
RDO	**Rodhopi**	**1.47**	**0**	PN		**Pn**		**12 00 58.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.53**	**62**	PN		**Pb**		**12 00 59.9**	**-0.6**
KAVA	**Kavala**	**1.53**	**330**	P		**Pn**		**12 00 59.3**	**-0.1**
URLA	**Izmir**	**1.55**	**148**	PN		**Pb**		**12 01 00.7**	**-0.2**
URLA	**Izmir**	**1.55**	**148**	*i* P		**Pg**		**12 01 01.7**	**-0.4**
URLA				IAML_P					
	comp=Z,443nm,0.2s								
BALY	**Balya**	**1.61**	**87**	*i* P		**Pn**		**12 00 58.7**	**-1.8**
BALY				*i* S		**Sb**		**12 01 22.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**51**	PN		**Pn**		**12 01 01.0**	**+0.5**
SART	**Tekirdag**	**1.61**	**51**	*i* P		**Pb**		**12 01 01.7**	**-0.3**
SART				*i* S		**Sg**		**12 01 23.3**	**-0.8**
SART				IAML_P					
	comp=Z,540nm,0.1s								
KNL	**Balıkesir**	**1.64**	**68**	*i* P		**Pb**		**12 01 02.3**	**-0.1**
KNL				*i* S		**Sb**		**12 01 23.2**	**+0.3**
KNL				IAML_P					
	comp=Z,468nm,0.2s								
GONE	**Gonen-Balikesi**	**1.69**	**77**	PN		**Pn**		**12 01 02.3**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.71**	**99**	*i* P		**Pn**		**12 01 02.4**	**+0.5**
STEP				IAML_P					
	comp=Z,338nm,0.1s								
KDZ	**Kurdzhali**	**1.97**	**357**	PN		**Pn**		**12 01 05.5**	**0.0**
EDRB	**Edirne**	**2.35**	**23**	PN		**Pn**		**12 01 12.1**	**+1.4**

TRN 30 12:04:29.8,17°.53N×63°.23W, h151km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEUS	**St. Eustatius**	**0.24**	**98**	*e*P			Pn	12 04 51.7	+1.3
SEUS				*e*S			Sn	12 05 06.2	+0.4
SMRT	**St. Maarten**	**0.54**	**16**	*e*P			Pn	12 04 52.9	+1.3
SMRT				*e*S			Sn	12 05 08.5	+0.3
NEV	**Hard Times**	**0.74**	**121**	*e*P			Pn	12 04 54.8	+2.0
NEV				*e*S			Sn	12 05 12.1	+2.0
MLYT	**Lee's Yard**	**1.28**	**129**	*e*P			Pn	12 04 58.5	+1.2
MLYT				*e*S			Sn	12 05 19.2	+0.9
ANWB	**Willy Bob**	**1.39**	**84**	*e*P			Pn	12 04 59.9	+1.6
ANWB				*e*S			Sn	12 05 20.7	+0.6
BPA	**Boggy Peak**	**1.40**	**110**	*e*P			Pn	12 04 60.0	+1.5
BPA				*e*S			Sn	12 05 21.1	+0.7
TBG	**Guadaloupe-3**	**2.25**	**137**	*e*P			Pn	12 05 09.8	+1.8
TBG				*e*S			Sn	12 05 37.8	+0.4
MDPV	**Dominica, Penn**	**2.56**	**137**	*e*P			Pn	12 05 12.5	+0.6
MDPV				*e*S			Sn	12 05 44.6	+0.4
MDPO	**Dominica; Chan**	**2.58**	**138**	*e*P			Pn	12 05 13.2	+1.2
MDPO				*e*S			Sn	12 05 45.6	+1.0
BBL	**Barber's Block**	**2.61**	**139**	*e*P			Pn	12 05 13.2	+0.7
BBL				*e*S			Sn	12 05 45.7	+0.4
DWS	**Wesley**	**2.68**	**136**	*e*P			Pn	12 05 13.5	+0.3
DWS				*e*S			Sn	12 05 46.7	0.0
MDN	**Morne-Daniel**	**2.82**	**141**	*e*P			Pn	12 05 16.1	+1.1
MDN				*e*S			Sn	12 05 49.8	0.0
DPMT	**Pointe Michel**	**2.87**	**141**	*e*P			Pn	12 05 17.4	+1.7
DPMT				*e*S			Sn	12 05 50.5	-0.5
DBCT	**Belle View Cho**	**2.88**	**141**	*e*P			Pn	12 05 17.2	+1.3
DBCT				*e*S			Sn	12 05 51.3	-0.1
DLPL	**La Plaine**	**2.90**	**139**	*e*P			Pn	12 05 16.2	+0.2
DLPL				*e*S			Sn	12 05 51.8	+0.1
FDF	**Fort de France**	**3.42**	**144**	*e*P			Pn	12 05 23.2	+0.5
FDF				*e*S			Sn	12 06 02.5	-1.2
BBGH	**Gun Hill**	**5.62**	**140**	*e*P			Pn	12 05 52.9	+1.4

*IDC **30** 12:19:40.4±0.9, 47°.32N×152°.42E, h0km, mb3.7/13, mb1 3.9/13, mb1mx3.6/40, mbtmp3.7/13, Error ellipse: s-maj=25.4km s-min=20.4km az=165.0*
*ISCJB **30** 12:19:51.2±0.7, 47°.3N±0°.1×152°.4E±0°.2, h100km, mb3.5/12, Error ellipse: s-maj=20.5km s-min=7.0km az=137.5*
*SKHL **30** 12:19:54.9±0.2, 45°.99N×153°.27E, h71km±6km, mb4.2/3*
ISC 30 12:19:52.6±0.8, 47°.3N±0°.1×152°.5E±0°.1, h100km, n24, σ2s10/21, mb3.5/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**239**	*i* P			**Pn**	**12 20 53.3**	**+4.2**
KUR				AMB			AMB	12 20 54.0	
	13nm,0.3s								
KUR				*e*S			**Sn**	**12 21 37.0**	**+4.1**
KUR				A			A	12 21 39.0	
	39nm,0.3s								
KUR				A			A	12 21 39.0	
	35nm,0.3s								
SHO	**Shikotan**	**5.24**	**231**	*i* P			**Pn**	**12 21 08.0**	**-0.4**
SHO				AMB			AMB	12 21 09.0	
	12nm,0.3s								
SHO				*e*S			**Sn**	**12 22 03.0**	**-4.5**
SHO				A			A	12 22 07.0	
	17nm,0.3s								
SHO				A			A	12 22 07.0	
	29nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**5.67**	**238**	*e*P			**Pn**	**12 21 16.0**	**+1.7**
YUK				AMB			AMB	12 21 18.0	
	10.0nm,0.3s								
YUK				AMB			AMB	12 21 18.0	
	14nm,0.3s								
YUK				*e*S			**Sn**	**12 22 16.2**	**-1.8**
YUK				A			A	12 22 16.9	
	29nm,0.3s								
YUK				A			A	12 22 16.9	
	50nm,0.3s								
GRPR	**Tuman**	**5.75**	**238**	*e*S			**Sn**	**12 22 20.0**	**+0.1**
KSRS	**Korea Array**	**20.57**	**250**	P			**P**	**12 24 19.6**	**-3.6**
	0.4nm,0.7s,baz=49,slow=12,SNR=2.5								
H11N2	**WAKE ISLAND Hy**	**29.88**	**152**	T			T	12 57 25.5	
	baz=340,slow=76,SNR=161								
H11N1	**WAKE ISLAND Hy**	**29.90**	**152**	T			T	12 57 33.1	
	baz=340,slow=76,SNR=134								
H11N3	**WAKE ISLAND Hy**	**29.90**	**152**	T			T	12 57 39.8	
	baz=340,slow=76,SNR=110								
H11S1	**WAKE ISLAND Hy**	**30.97**	**153**	T			T	12 58 52.2	
	baz=340,slow=76,SNR=210								
H11S3	**WAKE ISLAND Hy**	**30.98**	**153**	T			T	12 58 51.2	
	baz=340,slow=76,SNR=191								
H11S2	**WAKE ISLAND Hy**	**30.99**	**153**	T			T	12 58 52.1	
	baz=340,slow=76,SNR=134								
ILAR	**Eielson Array**	**36.40**	**39**	P			**P**	**12 26 46.1**	**-0.7**
	0.1nm,0.5s,baz=265,slow=9.0,SNR=3.6								
ZALV	**Zalesovo Beam**	**41.96**	**305**	P			**P**	**12 27 32.4**	**-0.8**
	0.4nm,0.3s,baz=61,slow=8.1,SNR=3.1								
MKAR	**Makanchi Array**	**46.33**	**297**	P			**P**	**12 28 07.7**	**-0.5**
	0.3nm,0.2s,baz=74,slow=6.9,SNR=4.8								
ARCES	**ARCESS Array B**	**57.21**	**340**	P			**P**	**12 29 28.0**	**-0.7**
	2.6nm,0.9s,baz=28,slow=8.2,SNR=2.4								
NVAR	**Mina Array Bea**	**62.56**	**62**	P			**P**	**12 30 06.9**	**+0.9**
	0.2nm,0.5s,baz=303,slow=8.3,SNR=3.3								
FINES	**FINESS Array B**	**63.38**	**334**	P			**P**	**12 30 10.1**	**-0.6**
	1.1nm,0.6s,baz=50,slow=5.9,SNR=8.7								
NB2	**NORSAR Subarra**	**67.59**	**341**	P			**P**	**12 30 38.0**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.5								
NOA	**NORSAR Array B**	**67.59**	**341**	P			**P**	**12 30 38.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=29,slow=6.6,SNR=9.5								
AKASG	**Malin Array Be**	**70.87**	**326**	P			**P**	**12 30 58.3**	**0.0**
	comp=Z,1.0nm,0.4s,baz=35,slow=6.4,SNR=3.9								
ASAR	**Alice Springs**	**72.58**	**198**	P			**P**	**12 31 09.6**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=16,slow=5.2,SNR=3.9								
TXAR	**Lajitas Array**	**77.60**	**60**	P			**P**	**12 31 37.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=304,slow=4.4,SNR=5.3								
BRTR	**Keskin Array B**	**77.72**	**316**	P			**P**	**12 31 39.1**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=41,slow=3.9,SNR=3.6								
GERES	**GERESS Array B**	**77.79**	**334**	P			**P**	**12 31 38.6**	**0.0**
	comp=Z,0.3nm,0.5s,baz=12,slow=7.4,SNR=4.2								

*SOME **30** 12:51:58.5, 43°.10N×84°.88E, h5km*
*NNC **30** 12:52:00.6±1.9, 42°.91N×84°.77E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=13.8km s-min=8.6km az=136.0*
ISC 30 12:51:56.2±2.7, 43°.0N±0°.1×84°.96E±0°.09, h10km, n25, σ2s52/32, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.40**	**279**	Pg			**Pb**	**12 52 59.0**	**+2.5**
	8.8nm,0.2s								
KTMS				Lg			Lg	12 53 43.2	
	52nm,0.4s								
KTMS	**Ketmen**	**3.40**	**279**	*e*P			**Pb**	**12 52 58.6**	**+2.0**
	8.1nm,0.2s								
KTMS				*e*S			**Sg**	**12 53 42.3**	**-3.0**
	32nm,0.3s								
DJR	**Jarkent**	**3.99**	**292**	Pg			**Pg**	**12 53 10.5**	**-2.1**
	2.1nm,0.5s								
DJR				Lg			Lg	12 54 02.8	
	14nm,0.4s								
DJR	**Jarkent**	**3.99**	**292**	*e*P			**Pg**	**12 53 10.5**	**-2.1**
	0.6nm,0.2s								
DJR				*e*S			**Sg**	**12 54 02.4**	**-1.8**
	15nm,0.4s								
PDGK	**Podgornoye**	**4.02**	**277**	Pg			**Pb**	**12 53 11.0**	**+4.0**
	4.4nm,0.4s								
PDGK				Lg			Lg	12 54 03.3	
	17nm,0.5s								
PDGK	**Podgornoye**	**4.02**	**277**	⇓Pg			**Pg**	**12 53 13.0**	**-0.1**
	4.6nm,0.4s								
PDGK				⇑Lg			Lg	12 54 04.6	
	18nm,0.4s								
SHLS	**Shalkode**	**4.03**	**274**	Pg			**Pb**	**12 53 06.7**	**-0.7**
	48nm,0.4s								
SHLS				Lg			Lg	12 53 56.2	
	84nm,0.4s								
SHLS	**Shalkode**	**4.03**	**274**	*e*P			**Pb**	**12 53 06.7**	**-0.7**
	8.7nm,0.1s								
SHLS				*e*S			**Sb**	**12 53 55.9**	**-0.3**
	101nm,0.4s								
MK31	**Makanchi Array**	**4.26**	**334**	Pg			**Pg**	**12 53 18.2**	**+0.5**
	1.4nm,0.3s,baz=149,slow=16,SNR=17								
MK31				⇓Lg			Lg	12 54 17.5	
	13nm,0.7s,baz=140,slow=30,SNR=6.7								
UZB	**Uzynbulak**	**4.35**	**274**	*e*P			**Pb**	**12 53 16.1**	**+3.3**
	3.4nm,0.4s								
UZB				*e*S			**Sg**	**12 54 11.5**	**-4.4**
	16nm,0.5s								
MAKZ	**Makanchi**	**4.38**	**332**	⇑Pg			**Pg**	**12 53 20.7**	**+0.8**
	1.6nm,0.3s								
MAKZ				⇑Lg			Lg	12 54 22.2	
	10nm,0.7s								
ZSN	**Zaisan**	**4.47**	**359**	Pg			**Pb**	**12 53 15.8**	**+1.0**
ZSN				Lg			Lg	12 54 11.5	
ZSN	**Zaisan**	**4.47**	**359**	*e*P			**Pg**	**12 53 19.6**	**-2.2**
	0.9nm,0.2s								
ZSN				*e*S			**Sg**	**12 54 17.5**	**-2.2**
	5.2nm,0.6s								
KPKS	**Kokpek**	**4.61**	**278**	*e*P			**Pg**	**12 53 23.1**	**-1.4**
	3.3nm,0.1s								
KPKS				*e*S			**Sg**	**12 54 23.8**	**-0.4**
	56nm,0.4s								
KAPS	**Kapalarasan**	**4.64**	**302**	Pg			**Pg**	**12 53 23.1**	**-2.1**
	2.7nm,0.7s								
KAPS				Lg			Lg	12 54 24.1	
	12nm,0.8s								
KAPS	**Kapalarasan**	**4.64**	**302**	*e*P			**Pg**	**12 53 23.1**	**-2.1**
	0.9nm,0.4s								
KAPS				*e*S			**Sg**	**12 54 24.1**	**-1.2**
	15nm,0.7s								
SATY	**Saty**	**4.80**	**273**	Pg			**Pg**	**12 53 27.0**	**-1.2**
	6.4nm,0.5s								
SATY				Lg			Lg	12 54 31.3	
	21nm,0.7s								
SATY	**Saty**	**4.80**	**273**	*e*P			**Pb**	**12 53 27.0**	**-1.2**
	6.9nm,0.3s								
SATY				*e*S			**Sg**	**12 54 30.7**	**+0.3**
	19nm,0.3s								
MNBS	**Baschi**	**4.89**	**285**	*e*P			**Pb**	**12 53 24.2**	**+2.2**
	1.5nm,0.2s								
MNBS				*e*S			**Sb**	**12 54 25.6**	**+4.7**
	22nm,0.4s								
ARXS	**Arharly**	**5.32**	**286**	*e*P			**Pb**	**12 53 34.1**	**+4.8**
	0.9nm,0.2s								
ARXS				*e*S			**Sg**	**12 54 42.4**	**-4.7**
	13nm,0.4s								
MDOK	**Medeo**	**5.80**	**275**	Lg			Lg	12 55 03.3	
	5.4nm,0.6s								
IZV	**Izvestkoviy**	**6.12**	**273**	*e*P			**Pg**	**12 53 50.8**	**-2.5**
	1.1nm,0.2s								
IZV				*e*S			**Sg**	**12 55 11.3**	**-1.3**
	10.0nm,0.7s								
TKM2	**Tokmak 2**	**6.87**	**273**	⇓Lg			Lg	12 55 36.8	
	2.4nm,0.6s								
KURBB	**Kurchatov Arra**	**8.82**	**332**	⇓Lg			Lg	12 56 42.3	
	3.9nm,0.8s								
KURK	**Kurchatov**	**8.87**	**333**	⇑Lg			Lg	12 56 41.0	
	7.7nm,1.4s								

*IDC **30** 13:06:16.1±0.8, 11°.40S×164°.91E, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/35, mbtmp4.1/14, ML4.1/3, MS3.5/5, Ms1 3.5/5, ms1mx3.0/40, Error ellipse: s-maj=23.3km s-min=18.8km az=131.0*
*NEIC **30** 13:06:17.4±0.6, 11°.45S×164°.86E, h10km, mb4.4/6, Error ellipse: s-maj=14.9km s-min=11.7km az=124.0*
*ISCJB **30** 13:06:19.6±0.5, 11°.56S±0°.08×164°.80E±0°.07, h34km, mb4.1/15, MS3.5/4, Error ellipse: s-maj=11.8km s-min=9.7km az=31.4*
ISC 30 13:06:21.0±0.7, 11°.49S±0°.10×164°.86E±0°.09, h34km, n37, σ1s13/32, mb4.2/15, MS3.5/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.25**	**293**	*e*P			**Pn**	**13 07 37.0**	**-0.1**
HNR				*e*S			**Sn**	**13 08 36.0**	**-0.4**
HNR	**Honiara**	**5.25**	**293**	*e*Pn			**Pn**	**13 07 35.5**	**-1.6**
HNR				*e*Sn			**Sn**	**13 08 37.4**	**+0.9**
HNR	**Honiara**	**5.25**	**293**	Pn			**Pn**	**13 07 38.1**	**+1.0**
	26nm,0.3s,baz=139,slow=6.9,SNR=11								
HNR				Sn			**Sn**	**13 08 37.4**	**+0.9**
	14nm,0.3s,baz=342,slow=22,SNR=8.1								
HNR				LR			LR	13 09 44.8	
	comp=Z,259nm,21.8s,baz=140,slow=40								
DZM	**Mont Dzumac**	**10.63**	**172**	*e*Pn			**Pn**	**13 08 50.1**	**-0.9**
DZM	**Mont Dzumac**	**10.63**	**172**	Pn			**Pn**	**13 08 50.9**	**-0.2**
	1.0nm,0.3s,baz=122,slow=22,SNR=25								
CTA	**Charters Tower**	**19.82**	**242**	P			**Pn**	**13 10 51.4**	**+0.7**
	0.2nm,0.3s,baz=80,slow=14,SNR=6.4								
COEN	**Coen**	**21.29**	**261**	*e*P			**P**	**13 11 01.9**	**-3.0**
	13nm,0.8s								
STKA	**Stephens Creek**	**29.52**	**223**	P			**P**	**13 12 23.8**	**+1.5**
	1.3nm,0.5s,baz=53,slow=10,SNR=4.6								
STKA				LR			LR	13 22 22.1	
	comp=Z,140nm,18.8s,baz=27,slow=33								
H11S2	**WAKE ISLAND Hy**	**29.85**	**4**	T			T	13 43 50.4	
	baz=184,slow=76,SNR=6.4								
H11S3	**WAKE ISLAND Hy**	**29.85**	**3**	T			T	13 43 52.7	
	baz=184,slow=76,SNR=5.6								
H11S1	**WAKE ISLAND Hy**	**29.86**	**4**	T			T	13 43 44.5	
	baz=184,slow=76,SNR=5.8								
WR1	**Warramunga Arr**	**30.51**	**250**	*e*P			**P**	**13 12 31.6**	**+0.3**
	7.1nm,1.3s								
WRA	**Warramunga Arr**	**30.51**	**250**	P			**P**	**13 12 31.6**	**+0.3**
	0.9nm,0.5s,baz=78,slow=9.1,SNR=14								
H11N1	**WAKE ISLAND Hy**	**31.07**	**4**	T			T	13 45 18.0	
	baz=182,slow=76,SNR=6.1								
H11N3	**WAKE ISLAND Hy**	**31.08**	**4**	T			T	13 45 17.2	
	baz=182,slow=76,SNR=5.6								
H11N2	**WAKE ISLAND Hy**	**31.09**	**4**	T			T	13 45 18.2	
	baz=182,slow=76,SNR=7.4								
AS01	**Alice Springs**	**31.77**	**243**	*e*P			**P**	**13 12 39.9**	**-2.5**
AS31	**Alice Springs**	**31.81**	**243**	*e*P			**P**	**13 12 43.1**	**+0.3**
	1.5nm,0.9s								
ASAR	**Alice Springs**	**31.82**	**243**	P			**P**	**13 12 42.8**	**0.0**
	2.7nm,0.8s,baz=65,slow=9.9,SNR=31								
ASAR				PcP			**PcP**	**13 15 34.6**	**+1.2**
	0.4nm,0.7s,baz=81,slow=2.3,SNR=4.6								
SIJI	**Sorong**	**34.98**	**285**	LR			LR	13 27 04.6	
	comp=Z,63nm,19.4s,baz=180,slow=36								
FITZ	**Fitzroy Crossi**	**38.42**	**255**	*e*P			**P**	**13 13 39.2**	**-0.5**
	12nm,1.4s								
FITZ	**Fitzroy Crossi**	**38.42**	**255**	LR			LR	13 28 02.2	
	comp=

baz=17
KBK Karagaybulak 1.81 339 P Pb 13 12 07.2 -0.3
SNR=36
KBK Karagaybulak 1.81 339 ⇑*i*P Pn 13 12 04.9 -0.9
baz=33
KBK ⇑*i*S Sn 13 12 29.5 +0.2
baz=33
AAK Ala-Archa 1.94 329 P Pb 13 12 09.6 -0.2
SNR=72
AAK Ala-Archa 1.94 329 ⇑Pn Pb 13 12 09.3 -0.5
27nm,0.3s
AAK ⇑Lg Lg 13 12 36.2
84nm,0.7s
AAK Ala-Archa 1.94 329 ⇑*i*P Pn 13 12 07.1 -0.6
baz=25
AAK ⇑*i*S Sn 13 12 33.1 +0.5
baz=25
TKM2 Tokmak 2 1.96 355 P Pn 13 12 08.6 +0.7
SNR=101
TKM2 Tokmak 2 1.96 355 ⇑Pn Pn 13 12 08.3 +0.4
21nm,0.4s
TKM2 ⇓Sn Sb 13 12 34.6 -0.3
107nm,0.8s
TKM2 Tokmak 2 1.96 355 ⇓*i*P Pn 13 12 06.4 -1.5
baz=49
TKM2 ⇓*i*S Sn 13 12 31.6 -1.4
baz=49
AML Almayashu 1.98 307 P Pb 13 12 10.0 -0.6
SNR=79
AML Almayashu 1.98 307 ⇑*i*P Pn 13 12 08.7 +0.3
baz=3.0
AML ⇑*i*S Sb 13 12 36.0 +0.2
baz=3.0
FRU1 Bishkek 2.05 334 ⇑*i*P Pn 13 12 08.2 -0.8
baz=29
FRU1 ⇑*i*S Sn 13 12 35.1 +0.1
baz=29
KST Kastek 2.07 3 Pg Pg 13 12 13.9 +0.4
40nm,0.5s
KST Lg Lg 13 12 39.7
66nm,0.7s
KST Kastek 2.07 3 *e*P Pb 13 12 12.5 +0.6
8.0nm,0.4s
KST *e*S Sb 13 12 38.0 -0.1
85nm,0.9s
IZV Izvestkoviy 2.15 15 Pg Pb 13 12 14.3 +1.1
46nm,0.5s
IZV Lg Lg 13 12 40.5
108nm,0.7s
IZV Izvestkoviy 2.15 15 *e*P Pb 13 12 14.1 +0.9
4.7nm,0.2s
IZV *e*S Sb 13 12 40.6 +0.3
108nm,0.7s
CHMS Chumysh 2.18 339 P Pb 13 12 13.7 0.0
SNR=17
CHMS Chumysh 2.18 339 ⇓*i*P Pn 13 12 09.9 -0.9
baz=34
CHMS ⇓*i*S Sn 13 12 38.3 0.0
baz=34
ARSB Arslanbob 2.18 280 ⇓*i*P Pn 13 12 11.8 +0.9
baz=79
ARSB ⇓*i*S Sb 13 12 41.4 +0.1
baz=79
DGS Degeres 2.27 359 Pg Pg 13 12 17.6 +0.3
110nm,0.6s
DGS Lg Lg 13 12 46.0
114nm,0.7s
DGS Degeres 2.27 359 *e*P Pb 13 12 16.7 +1.3
62nm,0.6s
DGS *e*S Sb 13 12 44.9 +1.1
114nm,0.7s
EKS2 Erkin-Say 2.29 318 P Pb 13 12 14.8 -0.8
SNR=25
EKS2 Erkin-Say 2.29 318 ⇑*i*P Pn 13 12 12.4 +0.1
baz=15
EKS2 ⇑*i*S Sn 13 12 42.1 +1.1
baz=15
MDOK Medeo 2.37 22 ⇑Pn Pn 13 12 14.6 +1.1
36nm,0.7s
MDOK ⇓Sn Sb 13 12 46.4 -0.3
134nm,0.6s
AAA Alma-Ata 2.38 19 Pg Pg 13 12 18.9 -0.4
37nm,0.3s
AAA Lg Lg 13 12 48.3
182nm,0.6s
AAA Alma-Ata 2.38 19 *e*P Pb 13 12 18.2 +1.0
13nm,0.1s
AAA *e*S Sb 13 12 48.0 +1.1
186nm,0.5s
KNDC Almaty 2.40 20 ⇓Pn Pn 13 12 13.9 +0.1
22nm,0.4s
KNDC ⇓Sn Sb 13 12 48.8 +1.4
229nm,0.5s
KOTS Kotyrbulak 2.45 22 *e*P Pb 13 12 19.5 +1.1
9.9nm,0.3s
KOTS *e*S Sb 13 12 49.7 +0.6
410nm,0.5s
USP Ospenovka 2.50 337 P Pn 13 12 17.1 +1.9
SNR=15
USP Ospenovka 2.50 337 ⇑*i*P Pn 13 12 14.8 -0.4
baz=33
USP ⇑*i*S Sn 13 12 45.9 -0.3
baz=33
MRKS Merke 2.64 313 Pg Pg 13 12 23.9 -0.3
22nm,0.3s
MRKS Lg Lg 13 12 56.9
30nm,0.4s
MRKS Merke 2.64 313 *e*P Pg 13 12 23.9 -0.3
18nm,0.5s
MRKS *e*S Sg 13 12 57.5 -0.9
20nm,0.7s
SGDS Sogindy 2.64 341 Pg Pg 13 12 24.0 -0.2
36nm,0.4s
SGDS Lg Lg 13 12 57.2
73nm,0.5s
KTBS Karatobe 2.81 13 Pg Pb 13 12 26.2 +1.7
31nm,0.5s
KTBS Lg Lg 13 13 01.2
247nm,0.7s
KTBS Karatobe 2.81 13 *e*P Pb 13 12 26.0 +1.5
22nm,0.3s
KTBS *e*S Sb 13 13 01.0 +1.7
247nm,0.7s
SATY Saty 2.83 42 Pg Pb 13 12 25.5 +0.5
54nm,0.7s
SATY Lg Lg 13 12 59.6
103nm,1.1s
SATY Saty 2.83 42 *e*P Pb 13 12 26.7 +1.7
33nm,0.9s
SATY *e*S Sb 13 13 02.2 +2.2
184nm,0.6s
ZHN Zhinishke 2.93 41 Pg Pb 13 12 27.3 +0.7
24nm,0.7s
ZHN Lg Lg 13 13 03.4
54nm,0.4s
ZHN Zhinishke 2.93 41 *e*P Pb 13 12 27.2 +0.7
31nm,0.5s
ZHN *e*S Sb 13 13 02.9 +0.2
48nm,0.5s
UZB Uzynbulak 3.22 46 Pg Pb 13 12 31.4 -0.1
12nm,0.6s
UZB Lg Lg 13 13 10.6
30nm,0.5s
UZB Uzynbulak 3.22 46 *e*P Pb 13 12 33.2 +1.7
4.0nm,0.5s
UZB *e*S Sb 13 13 13.1 +2.0
30nm,0.5s
KPKS Kokpek 3.27 39 *e*P Pb 13 12 33.9 +1.5
18nm,0.2s
KPKS *e*S Sb 13 13 14.5 +1.9
328nm,0.5s
SHLS Shalkode 3.47 50 Pg Pg 13 12 41.2 +0.9
20nm,0.3s
SHLS Lg Lg 13 13 27.3
34nm,0.7s
SHLS Shalkode 3.47 50 *e*P Pg 13 12 42.0 +1.7
18nm,0.3s
SHLS *e*S Sg 13 13 28.6 +3.4
45nm,0.6s
ARXS Arharly 3.56 24 Pg Pb 13 12 38.5 +1.2
11nm,0.4s
ARXS Lg Lg 13 13 22.3
48nm,0.5s
ARXS Arharly 3.56 24 *e*P Pb 13 12 39.3 +2.0
2.0nm,0.3s
ARXS *e*S Sb 13 13 24.1 +3.3
47nm,0.6s
PDGK Podgornoye 3.60 48 Pg Pb 13 12 38.3 +0.3
2.4nm,0.4s
PDGK Lg Lg 13 13 21.9
29nm,0.9s
PDGK Podgornoye 3.60 48 ⇑Pn Pn 13 12 28.3 -2.0
9.0nm,0.6s
PDGK ⇑Sn Sb 13 13 21.4 -0.6
81nm,1.0s
MNBS Baschi 3.64 31 Pg Pb 13 12 40.3 +1.6
7.5nm,0.5s
MNBS Lg Lg 13 13 24.8
48nm,0.6s
MNBS Baschi 3.64 31 *e*P Pb 13 12 40.3 +1.6
7.0nm,0.6s
MNBS *e*S Sb 13 13 25.4 +2.2
48nm,0.6s
KTMS Ketmen 4.17 52 *e*P Pg 13 12 51.5 -2.1
6.4nm,0.3s
KTMS *e*S Sg 13 13 44.9 -2.6
22nm,0.6s
KK31 Karatay Array 4.50 300 ⇑Pg Pb 13 12 55.6 +2.3
1.1nm,0.3s,baz=123,slow=16,SNR=23
KK31 ⇓Lg Lg 13 13 55.5
5.2nm,0.5s,baz=121,slow=29,SNR=5.3
KAPS Kapalarasan 5.02 30 *e*P Pb 13 13 05.9 +3.7
6.3nm,0.7s
KAPS *e*S Sb 13 14 09.2 +6.3
18nm,1.3s
CHCP Chirah Chowk 7.58 196 P Pn 13 13 24.6 -0.4
CEP Cherat 7.79 205 P Pn 13 13 28.7 +0.8
THW Thamme Wali 8.79 203 P Pn 13 13 40.2 -1.4

*KRNET **30** 13:13:26.8±0.1, 40.˚98N×76.˚20E, h16km, mb2.8*
*NNC **30** 13:13:27.7±0.8, 40.˚96N×76.˚00E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=5.7km s-min=3.6km az=0.0
ISC 30 13:13:26.2±2.4, 40.˚93N±0.˚10×76.˚11E±0.˚04, h4km±14km, n24, σ0.94/34, 21C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.51**	**351**	⇓*i*P		**Pg**	**13 13 36.0**	**-0.1**
	baz=39							
NRN				⇓*i*S		**Sg**	**13 13 43.0**	**+0.2**
	baz=39							
KZA	**Kyzart**	**1.32**	**331**	⇑*e*P		**Pg**	**13 13 51.7**	**+0.2**
	baz=27							
KZA				⇑*i*S		**Sb**	**13 14 09.4**	**+0.2**
	baz=27							
ULHL	**Ulahol**	**1.32**	**4**	⇑*i*P		**Pn**	**13 13 50.7**	**-0.9**
	baz=1.0							
ULHL				⇑*i*S		**Sg**	**13 14 07.5**	**-1.2**
	baz=1.0							
KDJ	**Kajisay**	**1.45**	**33**	⇑*i*P		**Pn**	**13 13 52.4**	**-0.9**
	baz=33							
KDJ				⇑*i*S		**Sb**	**13 14 10.8**	**-1.8**
	baz=33							
BOOM	**Boomskoye usch**	**1.57**	**355**	⇑*i*P		**Pn**	**13 13 55.2**	**+0.2**
	baz=53							
BOOM				⇑*i*S		**Sb**	**13 14 15.9**	**-0.2**
	baz=53							
ARLS	**Aral**	**1.64**	**305**	⇑*i*P		**Pb**	**13 13 57.6**	**+0.6**
	baz=3.0							
ARLS				⇑*i*S		**Sg**	**13 14 19.0**	**+0.2**
	baz=3.0							
UCH	**Uchtor**	**1.77**	**318**	⇑*i*P		**Pb**	**13 13 59.6**	**+0.2**
	baz=15							
UCH				⇑*i*S		**Sg**	**13 14 24.0**	**+0.9**
	baz=15							
KBK	**Karagaybulak**	**1.93**	**334**	⇑*e*P		**Pb**	**13 14 01.9**	**-0.2**
	baz=31							
KBK				⇑*i*S		**Sb**	**13 14 27.6**	**+0.9**
	baz=31							
TKM2	**Tokmak 2**	**2.03**	**349**	⇑Pg		**Pg**	**13 14 04.7**	**-0.4**
	3.9nm,0.5s							
TKM2				⇑Lg		Lg	13 14 31.1	
	13nm,0.6s							
TKM2	**Tokmak 2**	**2.03**	**349**	⇑*i*P		**Pb**	**13 14 03.1**	**-0.7**
	baz=47							
TKM2				⇑*i*S		**Sb**	**13 14 29.5**	**+0.1**
	baz=47							
AAK	**Ala-Archa**	**2.09**	**325**	⇑Pg		**Pb**	**13 14 04.3**	**-0.5**
	4.1nm,0.3s							
AAK				⇓Lg		Lg	13 14 31.1	
	13nm,0.7s							
AAK	**Ala-Archa**	**2.09**	**325**	⇑*i*P		**Pb**	**13 14 04.3**	**-0.5**
	baz=23							
AAK				⇑*e*S		**Sb**	**13 14 32.0**	**+0.8**
	baz=23							
KST	**Kastek**	**2.12**	**357**	Pg		**Pb**	**13 14 05.6**	**+0.4**
	6.0nm,0.3s							
KST				Lg		Lg	13 14 33.9	
	13nm,0.6s							
IZV	**Izvestkoviy**	**2.14**	**10**	Pg		**Pg**	**13 14 07.2**	**-0.1**
	8.5nm,0.6s							
IZV				Lg		Lg	13 14 36.3	
	16nm,0.3s							
DGS	**Degeres**	**2.33**	**354**	Pg		**Pb**	**13 14 10.0**	**+1.2**
	11nm,0.5s							
DGS				Lg		Lg	13 14 40.9	
	17nm,0.5s							
MDOK	**Medeo**	**2.34**	**17**	Pg		**Pb**	**13 14 10.0**	**+0.9**
	5.2nm,0.5s							
MDOK				⇓Lg		Lg	13 14 41.6	
	19nm,0.6s							
KOTS	**Kotyrbulak**	**2.42**	**18**	Pg		**Pg**	**13 14 12.1**	**-0.6**
	8.0nm,0.6s							
KOTS				Lg		Lg	13 14 45.2	
	63nm,0.6s							
SATY	**Saty**	**2.73**	**38**	Pg		**Pg**	**13 14 18.7**	**+0.2**
	11nm,0.4s							
SATY				Lg		Lg	13 14 55.9	
	24nm,0.2s							
SGDS	**Sogindy**	**2.75**	**337**	Pg		**Pb**	**13 14 16.3**	**+0.3**
	4.2nm,0.2s							
SGDS				Lg		Lg	13 14 52.4	
	12nm,0.4s							
KTBS	**Karatobe**	**2.81**	**8**	Pg		**Pb**	**13 14 18.8**	**+1.7**
	4.1nm,0.2s							
KTBS				Lg		Lg	13 14 56.5	
	43nm,0.7s							
MRKS	**Merke**	**2.82**	**311**	Pg		**Pb**	**13 14 17.5**	**+0.3**
	6.8nm,0.5s							
MRKS				Lg		Lg	13 14 53.7	
	3.1nm,0.3s							
UZB	**Uzynbulak**	**3.10**	**43**	Pg		**Pb**	**13 14 24.0**	**+2.0**
	3.6nm,0.4s							
UZB				Lg		Lg	13 15 05.3	
	5.3nm,0.4s							
PDGK	**Podgornoye**	**3.48**	**45**	Pg		**Pg**	**13 14 31.6**	**-1.2**
	1.9nm,0.6s							
PDGK				Lg		Lg	13 15 17.9	
	3.9nm,0.7s							
ARXS	**Arharly**	**3.52**	**21**	Pg		**Pb**	**13 14 31.2**	**+2.1**
	2.8nm,0.4s							
ARXS				Lg		Lg	13 15 17.3	
	7.5nm,0.2s							

*KRNET **30** 13:18:27.3±0.1, 42.˚55N×79.˚62E, h13km, mb3.4*
*SOME **30** 13:18:27.4, 42.˚47N×79.˚68E, h25km*
*NNC **30** 13:18:28.1±0.7, 42.˚58N×79.˚59E, h0km, mb3.5, mpv3.5,*
Error ellipse: s-maj=5.0km s-min=2.5km az=153.0
ISC 30 13:18:26.8±1.4, 42.˚53N±0.˚04×79.˚52E±0.˚03, h4km±10km, n60, σ1.22/106, 20C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.63**	**356**	P		**Pb**	**13 18 40.5**	**0.0**
	124nm,0.2s							
SHLS				S		**Sb**	**13 18 50.0**	**+0.3**
	393nm,0.4s							
SHLS	**Shalkode**	**0.63**	**356**	*e*P		**Pb**	**13 18 40.5**	**0.0**
	baz=18							
SHLS				*e*S		**Sb**	**13 18 50.0**	**+0.3**
	baz=18							
SHLS	**Shalkode**	**0.63**	**356**	*e*P		**Pb**	**13 18 40.5**	**0.0**
	124nm,0.2s							
SHLS				*e*S		**Sb**	**13 18 50.0**	**+0.3**
	393nm,0.4s							
UZB	**Uzynbulak**	**0.72**	**329**	P		**Pb**	**13 18 41.8**	**-0.2**
	42nm,0.2s							
UZB				S		**Sb**	**13 18 52.2**	**0.0**
	198nm,0.2s							
UZB	**Uzynbulak**	**0.72**	**329**	*e*P		**Pb**	**13 18 41.8**	**-0.2**
	baz=24							
UZB				*e*S		**Sb**	**13 18 52.3**	**0.0**
	baz=24							
UZB	**Uzynbulak**	**0.72**	**329**	*e*P		**Pb**	**13 18 41.8**	**-0.2**
	42nm,0.2s							
UZB				*e*S		**Sb**	**13 18 52.2**	**0.0**
	198nm,0.2s							
PDGK	**Podgornoye**	**0.80**	**358**	P		**Pg**	**13 18 42.5**	**+0.4**
	51nm,0.1s							
PDGK				S		**Sb**	**13 18 53.4**	**-1.1**
	17nm,0.2s							
PDGK	**Podgornoye**	**0.80**	**358**	⇑P		**Pg**	**13 18 41.9**	**-0.2**
	18nm,0.2s							
PDGK				⇑S		**Sb**	**13 18 53.8**	**-0.7**
	27nm,0.5s							
PDGK	**Podgornoye**	**0.80**	**358**	⇑*i*P		**Pg**	**13 18 41.9**	**-0.2**
	baz=53							
PDGK				⇑*i*S		**Sg**	**13 18 52.9**	**+0.4**
	baz=53							
PRZ	**Przheval'sk**	**0.83**	**267**	⇑*e*P		**Pb**	**13 18 44.1**	**+0.1**
	baz=66							
PRZ				⇑*i*S		**Sn**	**13 18 57.1**	**-1.2**
	baz=66							
SATY	**Saty**	**0.98**	**303**	P		**Pn**	**13 18 46.7**	**-0.8**
	16nm,0.2s							
SATY				S		**Sn**	**13 19 00.6**	**-1.2**
	143nm,0.1s							
SATY	**Saty**	**0.98**	**303**	*e*P		**Pn**	**13 18 46.7**	**-0.8**
	16nm,0.2s							
SATY				*e*S		**Sn**	**13 19 00.6**	**-1.2**
	143nm,0.1s							
KTMS	**Ketmen**	**1.10**	**33**	P		**Pg**	**13 18 47.2**	**-0.7**
	15nm,0.1s							
KTMS				S		**Sg**	**13 19 01.3**	**-0.8**
	49nm,0.3s							
KTMS	**Ketmen**	**1.10**	**33**	*e*P		**Pg**	**13 18 47.2**	**-0.7**
	baz=30							
KTMS				*e*S		**Sg**	**13 19 01.3**	**-0.8**
	baz=30							
KTMS	**Ketmen**	**1.10**	**33**	*e*P		**Pg**	**13 18 47.2**	**-0.7**
	15nm,0.1s							
KTMS				*e*S		**Sg**	**13 19 01.3**	**-0.8**
	49nm,0.3s							
KPKS	**Kokpek**	**1.12**	**327**	*e*P		**Pn**	**13 18 49.0**	**-0.4**
	baz=23							
KPKS				*e*S		**Sn**	**13 19 04.4**	**-0.9**
	baz=23							
KPKS	**Kokpek**	**1.12**	**327**	*e*P		**Pn**	**13 18 49.0**	**-0.4**
	45nm,0.1s							
KPKS				*e*S		**Sn**	**13 19 04.3**	**-0.9**
	128nm,0.3s							
KURS	**Kuram**	**1.38**	**314**	*e*P		**Pg**	**13 18 53.9**	**+0.7**
	baz=12							
KURS				*e*S		**Sg**	**13 19 12.8**	**+1.7**
	baz=12							
KURS	**Kuram**	**1.38**	**314**	*e*P		**Pg**	**13 18 53.9**	**+0.7**
	3.1nm,0.3s							
KURS				*e*S		**Sg**	**13 19 12.8**	**+1.7**
	33nm,0.5s							
MNBS	**Baschi**	**1.75**	**332**	*e*P		**Pb**	**13 18 59.2**	**-0.4**
	baz=31							
MNBS				*e*S		**Sg**	**13 19 22.2**	**-0.9**
	baz=31							
MNBS	**Baschi**	**1.75**	**332**	*e*P		**Pb**	**13 18 59.2**	**-0.4**
	13nm,0.2s							
MNBS				*e*S		**Sg**	**13 19 22.1**	**-0.9**
	64nm,0.3s							
KDJ	**Kajisay**	**1.78**	**258**	⇑*i*P		**Pg**	**13 19 01.9**	**+0.9**
	baz=58							
KDJ				⇑*i*S		**Sg**	**13 19 26.7**	**+2.6**
	baz=58							
DJR	**Jarkent**	**1.81**	**6**	P		**Pb**	**13 19 00.4**	**-0.2**
	6.4nm,0.3s							
DJR				S		**Sg**	**13 19 24.0**	**-1.0**
	17nm,0.3s							
DJR	**Jarkent**	**1.81**	**6**	*e*P		**Pb**	**13 19 00.3**	**-0.2**
	6.4nm,0.3s							
DJR				*e*S		**Sg**	**13 19 24.0**	**-1.0**
	17nm,0.3s							
KOTS	**Kotyrbulak**	**1.91**	**292**	Pg		**Pg**	**13 19 03.9**	**+0.6**
	11nm,0.2s							
KOTS				Lg		Lg	13 19 30.1	
	100nm,0.4s							
KOTS	**Kotyrbulak**	**1.91**	**292**	*e*P		**Pg**	**13 19 03.9**	**+0.6**
	baz=91							
KOTS				*e*S		**Sg**	**13 19 30.1**	**+2.1**
	baz=91							
KOTS	**Kotyrbulak**	**1.91**	**292**	*e*P		**Pg**	**13 19 03.9**	**+0.6**
	11nm,0.2s							
KOTS				*e*S		**Sg**	**13 19 30.1**	**+2.1**
	100nm,0.4s							
MDOK	**Medeo**	**1.93**	**290**	P		**Pg**	**13 19 04.7**	**+0.9**
	8.6nm,0.5s							
MDOK				S		**Sg**	**13 19 29.9**	**+1.2**
	39nm,0.6s							
MDOK	**Medeo**	**1.93**	**290**	*e*P		**Pg**	**13 19 04.0**	**+0.2**
	baz=89							
MDOK				*e*S		**Sg**	**13 19 30.1**	**+1.4**
	baz=89							
MDOK	**Medeo**	**1.93**	**290**	*e*P		**Pg**	**13 19 04.0**	**+0.2**
	2.8nm,0.4s							
MDOK				*e*S		**Sg**	**13 19 30.1**	**+1.4**
	37nm,0.7s							
AAA	**Alma-Ata**	**2.03**	**290**	Pg		**Pg**	**13 19 06.1**	**+0.3**
	23nm,0.2s							
AAA				Lg		Lg	13 19 34.2	
	80nm,0.2s							
AAA	**Alma-Ata**	**2.03**	**290**	*e*P		**Pg**	**13 19 06.1**	**+0.3**
	baz=89							
AAA				*e*S		**Sg**	**13 19 34.2**	**+2.1**
	baz=89							
ARXS	**Arharly**	**2.09**	**324**	Pg		**Pb**	**13 19 05.6**	**+0.3**
	14nm,0.4s							
ARXS				Lg		Lg	13 19 34.0	
	107nm,0.5s							
ARXS	**Arharly**	**2.09**	**324**	*e*P		**Pb**	**13 19 05.6**	**+0.3**
	14nm,0.4s							
ARXS				*e*S		**Sg**	**13 19 33.0**	**-0.8**
	107nm,0.5s							
IZV	**Izvestkoviy**	**2.20**	**284**	Pg		**Pg**	**13 19 08.6**	**-0.4**
	22nm,0.2s							
IZV				Lg		Lg	13 19 38.6	
	143nm,0.4s							
IZV	**Izvestkoviy**	**2.20**	**284**	*e*P		**Pg**	**13 19 08.6**	**-0.4**
	baz=84							
IZV				*e*S		**Sg**	**13 19 38.6**	**+1.1**
	baz=84							
IZV	**Izvestkoviy**	**2.20**	**284**	*e*P		**Pg**	**13 19 08.6**	**-0.4**
	22nm,0.2s							
IZV				*e*S		**Sg**	**13 19 38.6**	**+1.1**
	143nm,0.4s							
MTBS	**Maitube**	**2.35**	**286**	*e*P		**Pg**	**13 19 11.6**	**-0.3**
	baz=85							
MTBS				*e*S		**Sg**	**13 19 43.2**	**+0.8**
	baz=85							
MTBS	**Maitube**	**2.35**	**286**	*e*P		**Pg**	**13 19 11.6**	**-0.3**
	5.9nm,0.2s							
MTBS				*e*S		**Sg**	**13 19 43.2**	**+0.8**
	60nm,0.4s							
KTBS	**Karatobe**	**2.39**	**301**	Pg		**Pg**	**13 19 12.0**	**-0.6**
	8.7nm,0.4s							
KTBS				Lg		Lg	13 19 43.9	
	168nm,0.5s							
KTBS	**Karatobe**	**2.39**	**301**	*e*P		**Pg**	**13 19 12.0**	**-0.6**
	baz=98							
KTBS				*e*S		**Sg**	**13 19 44.0**	**+0.4**
	baz=98							
KTBS	**Karatobe**	**2.39**	**301**	*e*P		**Pg**	**13 19 12.0**	**-0.6**
	3.9nm,0.2s							
KTBS				*e*S		**Sg**	**13 19 44.0**	**+0.4**
	129nm,0.3s							
BOOM	**Boomskoye usch**	**2.65**	**270**	⇑*e*P		**Pb**	**13 19 14.2**	**-0.7**
	baz=70							
BOOM				⇑*i*S		**Sb**	**13 19 48.6**	**+0.7**
	baz=70							
KST	**Kastek**	**2.67**	**282**	*e*P		**Pg**	**13 19 17.3**	**-0.7**
	baz=82							
KST				*e*S		**Sg**	**13 19 53.0**	**+0.4**
	baz=82							
KST	**Kastek**	**2.67**	**282**	*e*P		**Pg**	**13 19 17.3**	**-0.7**
	7.7nm,0.2s							
KST				*e*S		**Sg**	**13 19 52.9**	**+0.4**
	30nm,0.6s							
KAPS	**Kapalarasan**	**2.75**	**358**	Pg		**Pb**	**13 19 17.2**	**+0.5**
	5.9nm,0.3s							
KAPS				Lg		Lg	13 19 53.2	
	17nm,0.4s							
KAPS	**Kapalarasan**	**2.75**	**358**	*e*P		**Pb**	**13 19 17.2**	**+0.5**
	5.9nm,0.3s							
KAPS				*e*S		**Sg**	**13 19 53.2**	**-2.1**
	17nm,0.4s							

DGS	**Degeres**	**2.85**	**286**	*e*P	**Pg**	**13 19 20.3**	**-1.0**
	baz=85						
DGS				*e*S	**Sg**	**13 19 58.2**	**0.0**
	baz=85						
DGS	**Degeres**	**2.85**	**286**	*e*P	**Pg**	**13 19 20.3**	**-1.0**
	7.7nm,0.3s						
DGS				*e*S	**Sg**	**13 19 58.2**	**0.0**
	72nm,0.6s						
NRN	**Naryn**	**2.85**	**248**	⇓*i*P	**Pb**	**13 19 17.2**	**-1.2**
	baz=49						
NRN				⇓*i*S	**Sb**	**13 19 54.0**	**+0.3**
	baz=49						
TKM2	**Tokmak 2**	**2.92**	**279**	⇓Pg	**Pg**	**13 19 22.7**	**0.0**
	4.0nm,0.5s						
TKM2				⇑Lg	Lg	13 20 00.4	
	16nm,0.6s						
TKM2	**Tokmak 2**	**2.92**	**279**	⇓*i*P	**Pb**	**13 19 17.8**	**-1.8**
	baz=79						
TKM2				⇓*i*S	**Sb**	**13 19 54.8**	**-0.9**
	baz=79						
KZA	**Kyzart**	**3.20**	**263**	⇑*i*P	**Pb**	**13 19 22.1**	**-2.4**
	baz=63						
KZA				⇑*i*S	**Sb**	**13 20 02.1**	**-1.9**
	baz=63						
AAK	**Ala-Archa**	**3.71**	**273**	⇓Pg	**Pg**	**13 19 37.2**	**-0.8**
	1.6nm,0.4s						
AAK				⇑Lg	Lg	13 20 25.7	
	7.4nm,0.5s						
ARLS	**Aral**	**3.92**	**262**	⇓*i*P	**Pn**	**13 19 31.4**	**+3.4**
	baz=62						
ARLS				⇓*i*S	**Sb**	**13 20 18.7**	**-5.8**
	baz=62						
MAKZ	**Makanchi**	**4.62**	**21**	⇑Pn	**Pn**	**13 19 39.4**	**+2.0**
	0.3nm,0.2s						
MAKZ				⇑Sn	**Sn**	**13 20 34.4**	**+2.9**
	0.5nm,0.3s						
MAKZ				⇓Lg	Lg	13 20 49.7	
	0.9nm,0.6s						
MK31	**Makanchi Array**	**4.70**	**24**	Pn	**Pn**	**13 19 40.9**	**+2.4**
MK31				⇑Sn	**Sn**	**13 20 35.4**	**+2.0**
	0.9nm,0.3s,baz=202,slow=26,SNR=7.0						
MK31				⇑Lg	Lg	13 20 54.6	
	1.0nm,0.4s,baz=203,slow=30,SNR=4.4						
KK31	**Karatay Array**	**6.65**	**278**	Lg	Lg	13 21 59.6	
	2.4nm,0.8s,baz=87,slow=26,SNR=6.6						
KURBB	**Kurchatov Arra**	**8.12**	**356**	⇑Lg	Lg	13 22 47.2	
KURK	**Kurchatov**	**8.21**	**356**	⇑Lg	Lg	13 22 45.6	

*ISCJB **30** 13:21:10.9±0.7, 23°.81S±0°.08×175°.0W±0°.1, h24km, mb4.1/14, MS4.0/20, Error ellipse: s-maj=15.3km s-min=9.8km az=33.6*

*IDC **30** 13:21:11.6±1.2, 23°.51S×175°.47W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.0/43, mbtmp4.1/13, ML3.7/1, MS3.9/22, Ms1 3.9/22, ms1mx3.8/31, Error ellipse: s-maj=49.3km s-min=18.7km az=149.0*

*NEIC **30** 13:21:12.9±0.7, 23°.59S×174°.89W, h35km, mb4.4/3, Error ellipse: s-maj=24.8km s-min=12.2km az=154.0*

ISC 30 13:21:11.9±0.7, 23°.8S±0°.1×174°.8W±0°.1, h24km, n39, σ1§69/22, mb4.2/14, MS4.0/20, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NIUE	**Niue**	**6.56**	**45**	*e*Pn		**Pn**	**13 22 43.5**	**-3.4**
RAR	**Rarotonga**	**14.13**	**82**	Pn		**Pn**	**13 24 31.7**	**+1.0**
	4.3nm,0.3s,baz=253,slow=12,SNR=12							
RAR				LR		LR	13 30 16.9	
	comp=Z,610nm,18.4s,baz=278,slow=37							
URZ	**Urewera**	**15.95**	**204**	Pn		**P**	**13 24 57.3**	**-0.8**
	0.3nm,0.3s,baz=56,slow=11,SNR=3.5							
URZ				Sn		**Sn**	**13 27 50.9**	**0.0**
	1.2nm,0.3s,baz=93,slow=16,SNR=7.6							
DZM	**Mont Dzumac**	**17.36**	**272**	*e*P		**P**	**13 25 14.8**	**+0.8**
	57nm,1.5s							
DZM				*e*LR		LR	13 29 20.3	
	comp=Z,622nm,23.6s							
DZM	**Mont Dzumac**	**17.36**	**272**	LR		LR	13 29 13.7	
	comp=Z,187nm,19.0s,baz=95,slow=29							
PPT2	**Papeete2**	**24.38**	**80**	*e*LR		LR	13 32 25.0	
	comp=Z,356nm,22.0s							
PPT	**Papeete**	**24.39**	**80**	LR		LR	13 35 28.4	
	comp=Z,379nm,18.7s,baz=279,slow=34							
CTA	**Charters Tower**	**36.23**	**268**	P		**P**	**13 28 12.0**	**-1.3**
	4.7nm,0.4s,baz=88,slow=9.9,SNR=24							
STKA	**Stephens Creek**	**39.16**	**248**	P		**P**	**13 28 38.3**	**+0.4**
	1.6nm,0.8s,baz=90,slow=14,SNR=3.1							
STKA				LR		LR	13 43 54.0	
	comp=Z,380nm,18.5s,baz=81,slow=35							
AS31	**Alice Springs**	**46.73**	**259**	*e*P		**P**	**13 29 38.5**	**-0.9**
	0.7nm,0.8s							
ASAR	**Alice Springs**	**46.73**	**259**	P		**P**	**13 29 38.1**	**-1.3**
	0.5nm,0.4s,baz=95,slow=5.0,SNR=30							
ASAR				LR		LR	13 49 05.5	
	comp=Z,415nm,18.2s,baz=115,slow=36							
WB2	**Warramunga Arr**	**47.14**	**264**	*e*P		**P**	**13 29 40.2**	**-2.4**
WR1	**Warramunga Arr**	**47.15**	**264**	*e*P		**P**	**13 29 40.1**	**-2.6**
	15nm,1.3s							
WRA	**Warramunga Arr**	**47.15**	**264**	P		**P**	**13 29 40.1**	**-2.6**
	1.1nm,0.4s,baz=92,slow=8.4,SNR=59							
WRA				LR		LR	13 49 04.9	
	comp=Z,329nm,18.6s,baz=110,slow=36							
JAY	**Jayapura**	**47.92**	**289**	LR		LR	13 47 49.7	
	comp=Z,163nm,18.8s,baz=68,slow=34							
GUMO	**Guam**	**54.19**	**309**	LR		LR	13 51 16.6	
	comp=Z,56nm,19.0s,baz=72,slow=34							
FITZ	**Fitzroy Crossi**	**55.57**	**264**	*e*P		**P**	**13 30 45.3**	**-0.5**
	4.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**55.57**	**264**	P		**P**	**13 30 45.3**	**-0.5**
	2.0nm,0.7s,baz=34,slow=4.7,SNR=6.5							
SIJI	**Sorong**	**56.96**	**285**	LR		LR	13 53 54.5	
	comp=Z,129nm,20.4s,baz=107,slow=35							
DAV	**Davao City (W)**	**65.76**	**290**	LR		LR	13 55 01.1	
	comp=Z,38nm,21.8s,baz=350,slow=31							
JHJ	**Hachijo jima 2**	**71.28**	**321**	LR		LR	13 58 10.5	
	comp=Z,26nm,21.4s,baz=105,slow=31							
MJAR	**Matsushiro Arr**	**74.64**	**322**	LR		LR	14 01 15.8	
	comp=Z,38nm,21.4s,baz=100,slow=32							
MAW	**Mawson**	**79.43**	**199**	LR		LR	14 07 54.3	
	comp=Z,151nm,18.2s,baz=200,slow=35							
PETK	**Petropavlovsk-**	**80.26**	**344**	LR		LR	14 02 06.7	
	comp=Z,79nm,21.9s,baz=146,slow=31							
KSRS	**Korea Array**	**81.33**	**317**	LR		LR	14 05 41.5	
	comp=Z,61nm,18.9s,baz=124,slow=33							
NVAR	**Mina Array Bea**	**81.47**	**41**	P		P	13 33 31.4	+3.9
	0.6nm,0.8s,baz=224,slow=7.0,SNR=5.9							
USRK	**Ussuriysk Ar.**	**83.37**	**325**	P		**P**	**13 33 37.8**	**+0.9**
	3.2nm,0.9s,baz=168,slow=3.5,SNR=6.1							
USRK				LR		LR	14 03 26.4	
	comp=Z,53nm,21.8s,baz=107,slow=31							
PLCA	**Paso Flores**	**84.85**	**132**	LR		LR	14 05 54.8	
	comp=Z,48nm,18.1s,baz=230,slow=31							
TXAR	**Lajitas Array**	**86.41**	**56**	P		P	13 33 58.8	+6.2
	0.5nm,1.0s,baz=239,slow=4.6,SNR=3.8							
TXAR				LR		LR	14 07 39.6	
	comp=Z,92nm,18.5s,baz=0.0,slow=32							
KLR	**Kul'dur**	**86.89**	**328**	P		**P**	**13 33 54.1**	**-0.3**
	0.8nm,0.2s,baz=67,slow=5.4,SNR=3.5							
PDAR	**Pinedale Array**	**89.40**	**42**	LR		LR	14 13 09.9	
	comp=Z,72nm,18.1s,baz=334,slow=35							
SEY	**Seymchan**	**90.30**	**346**	P		**P**	**13 34 12.4**	**+2.2**
	0.6nm,0.4s,baz=63,slow=6.8,SNR=2.7							
ILAR	**Eielson Array**	**90.93**	**12**	P		**P**	**13 34 15.6**	**+2.5**
	0.3nm,0.9s,baz=207,slow=5.8,SNR=2.9							
CMAR	**Chiang Mai Arr**	**93.99**	**288**	P		**P**	**13 34 30.1**	**+1.7**
	2.7nm,1.0s,baz=127,slow=3.0,SNR=18							
CMAR				LR		LR	14 15 52.2	
	comp=Z,37nm,20.0s,baz=163,slow=35							
LPAZ	**La Paz**	**98.07**	**112**	LR		LR	14 11 25.4	
	comp=Z,69nm,19.2s,baz=245,slow=30							
SONM	**Songino Array**	**100.20**	**318**	LR		LR	14 19 12.6	
	comp=Z,31nm,18.6s,baz=237,slow=35							
AKASG	**Malin Array Be**	**147.34**	**331**	PKPbc		**PKPab**	**13 40 53.9**	**-1.2**
	0.5nm,0.3s,baz=44,slow=3.9,SNR=3.1							
BR101	**Keskin Array S**	**151.25**	**310**	*e*PKPbc		**PKiKP**	**13 41 04.5**	**+0.3**
BRTR	**Keskin Array B**	**151.25**	**310**	PKPbc		**PKiKP**	**13 41 04.5**	**+0.3**
	1.0nm,0.8s,baz=5.7,slow=2.5,SNR=4.0							

*ISCJB **30** 13:28:40.7±0.7, 6°.89S±0°.05×129°.62E±0°.08, h139km, mb3.1/1, Error ellipse: s-maj=11.7km s-min=6.8km az=14.8*

*IDC **30** 13:28:41.9±1.7, 6°.88S×129°.60E, h146km±22km, mb3.1/1, mb1 3.3/6, mb1mx3.0/52, mbtmp3.8/6, Error ellipse: s-maj=27.6km s-min=13.4km az=115.0*

ISC 30 13:28:41.4±1.0, 6°.99S±0°.07×129°.7E±0°.1, h139km, n6, σ2§08/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SIJI	**Sorong**	**6.27**	**14**	P		**Pn**	**13 30 12.2**	**+0.6**
	1.1nm,0.3s,baz=150,slow=20,SNR=3.0							
SIJI				S		**Sn**	**13 31 21.0**	**-1.2**
	1.5nm,0.3s,baz=287,slow=19,SNR=8.2							
BATI	**Baumata**	**6.79**	**241**	P		**Pn**	**13 30 19.1**	**+0.5**
	8.2nm,0.3s,baz=41,slow=4.3,SNR=7.7							
BATI				S		**Sn**	**13 31 34.9**	**+0.2**
	5.1nm,0.3s,baz=35,slow=20,SNR=6.7							
FITZ	**Fitzroy Crossi**	**11.74**	**199**	P		**Pn**	**13 31 23.8**	**-0.8**
	0.3nm,0.3s,baz=16,slow=10.0,SNR=12							
FITZ				S		Sn	13 33 25.4	-8.8
	0.2nm,0.3s,baz=86,slow=19,SNR=3.0							
WRA	**Warramunga Arr**	**13.64**	**161**	P		**Pn**	**13 31 51.9**	**+2.7**
	0.2nm,0.3s,baz=339,slow=13,SNR=7.4							
WRA				S		Sn	13 34 13.9	-6.1
	0.4nm,0.3s,baz=336,slow=22,SNR=7.9							
ASAR	**Alice Springs**	**17.07**	**167**	P		**Pn**	**13 32 33.2**	**+1.5**
	0.2nm,0.3s,baz=347,slow=9.8,SNR=20							
ASAR				S		**S**	**13 35 38.7**	**-3.5**
	0.2nm,0.3s,baz=358,slow=28,SNR=6.0							
MKAR	**Makanchi Array**	**68.06**	**327**	P		**P**	**13 39 24.9**	**-1.1**
	0.2nm,0.5s,baz=119,slow=6.9,SNR=4.2							

*IDC **30** 13:36:59.4±1.5, 33°.30N×95°.41E, h0km, mb3.3/4, mb1 3.5/6, mb1mx3.2/65, mbtmp3.3/6, ML3.0/2, MS3.1/2, Ms1 3.2/2, ms1mx2.6/27, Error ellipse: s-maj=71.9km s-min=23.2km az=64.0*

*ISCJB **30** 13:37:02.0±1.1, 33°.3N±0°.1×95°.2E±0°.2, h33km, mb3.3/4, MS3.4/1, Error ellipse: s-maj=32.4km s-min=16.4km az=152.6*

ISC 30 13:37:04.3±1.4, 33°.3N±0°.2×95°.3E±0°.3, h35km, n8, σ0§52/6, mb3.4/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMAR	**Chiang Mai Arr**	**15.18**	**167**	LR		LR	13 47 18.2	
	comp=Z,34nm,18.4s,baz=360,slow=41							
MKAR	**Makanchi Array**	**16.68**	**327**	Pn		**Pn**	**13 40 54.9**	**-0.3**
	0.0nm,0.3s,baz=132,slow=14,SNR=2.7							
SONM	**Songino Array**	**16.74**	**27**	Pn		**Pn**	**13 40 56.2**	**+0.1**
	0.1nm,0.3s,baz=217,slow=14,SNR=4.3							
KURBB	**Kurchatov Arra**	**21.20**	**330**	P		**P**	**13 41 47.1**	**+0.4**
	0.6nm,0.7s,baz=136,slow=11,SNR=7.9							
ASAJ	**Asahikawa**	**37.99**	**59**	LR		LR	14 01 32.5	
	comp=Z,55nm,19.7s,baz=146,slow=39							
WRA	**Warramunga Arr**	**64.79**	**139**	P		**P**	**13 47 39.0**	**-0.5**
	0.3nm,0.7s,baz=324,slow=8.4,SNR=2.8							
ASAR	**Alice Springs**	**67.59**	**142**	P		**P**	**13 47 58.0**	**+0.5**
	0.3nm,0.9s,baz=327,slow=6.6,SNR=5.0							
YKA	**Yellowknife Ar**	**81.53**	**14**	P		**P**	**13 49 17.7**	**-0.1**
	0.3nm,0.8s,baz=329,slow=5.3,SNR=3.9							

MEX 30 14:03:46.5±0.7, 16°.03N×92°.08W, h40km±12km, MD3.8, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CCIG	**Comitan**	**0.26**	**347**	*e*P		Pn	14 03 52.6	-2.0
CCIG				*e*S		Sn	14 03 58.7	-1.7
THIG		**1.13**	**189**	*i*P		Pn	14 04 03.3	-2.5
THIG				*i*S		Sn	14 04 18.0	-2.1
PCIG		**1.15**	**254**	*e*P		Pn	14 04 04.4	-1.6
PCIG				*i*S		Sn	14 04 17.4	-3.2

IDC 30 14:21:15.7±1.8, 7°.66S×125°.56E, h0km, mb3.1/1, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=186.5km s-min=30.6km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**14.89**	**146**	Pn		Pn	14 24 45.9	-1.7
	0.1nm,0.3s,baz=318,slow=14,SNR=8.0							
WRA				S		Sn	14 27 23.9	-9.5
	0.1nm,0.3s,baz=329,slow=22,SNR=3.9							
ASAR	**Alice Springs**	**17.82**	**154**	P		P	14 25 26.3	+0.2
	0.3nm,0.3s,baz=337,slow=12,SNR=48							
MKAR	**Makanchi Array**	**66.44**	**329**	P		P	14 32 06.9	0.0
	0.1nm,0.5s,baz=137,slow=7.1,SNR=2.7							

IDC 30 14:37:03.3±13.0, 39°.71S×78°.55E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/31, mbtmp3.6/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/30, Error ellipse: s-maj=441.9km s-min=46.7km az=32.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
H01W2	**Cape Leeuwin H**	**28.59**	**92**	T		T	15 12 58.5	
	baz=249,slow=74,SNR=9.3							
H01W3	**Cape Leeuwin H**	**28.59**	**92**	T		T	15 13 28.7	
	baz=249,slow=74,SNR=9.3							
H01W1	**Cape Leeuwin H**	**28.61**	**92**	T		T	15 13 03.4	
	baz=249,slow=74,SNR=9.5							
MAW	**Mawson**	**29.26**	**192**	LR		LR	14 51 57.9	
	comp=Z,149nm,19.2s,baz=342,slow=31							
H08S2	**Diego Garcia H**	**32.39**	**349**	T		T	15 18 02.0	
	baz=173							
H08S1	**Diego Garcia H**	**32.39**	**349**	T		T	15 18 02.3	
	baz=173,slow=74							
H08S3	**Diego Garcia H**	**32.41**	**349**	T		T	15 18 03.2	
	baz=173,slow=74							
BOSA	**Boshof**	**44.88**	**267**	LR		LR	15 00 22.8	
	comp=Z,101nm,20.2s,baz=184,slow=31							
LBTB	**Lobatse**	**46.43**	**272**	LR		LR	15 01 13.0	
	comp=Z,73nm,19.7s,baz=156,slow=31							
SUR	**Sutherland**	**46.56**	**260**	LR		LR	15 02 07.6	
	comp=Z,55nm,18.6s,baz=152,slow=32							
PALK	**Pallekele**	**46.79**		LR		LR	15 01 30.6	
	comp=Z,82nm,19.3s,baz=115,slow=31							
ASAR	**Alice Springs**	**49.00**	**88**	P		P	14 45 52.1	+0.2
	1.0nm,0.8s,baz=236,slow=5.9,SNR=9.5							
ASAR				LR		LR	15 04 45.8	
	comp=Z,170nm,18.4s,baz=206,slow=34							
BATI	**Baumata**	**49.62**	**66**	LR		LR	15 03 20.6	
	comp=Z,75nm,18.5s,baz=261,slow=32							
VNDA	**Vanda**	**50.15**	**164**	LR		LR	15 05 52.7	
	comp=Z,137nm,18.6s,baz=208,slow=34							
WRA	**Warramunga Arr**	**51.41**	**84**	P		P	14 46 09.6	-0.6
	0.5nm,0.6s,baz=234,slow=7.5,SNR=5.1							
WRA				LR		LR	15 05 58.6	
	comp=Z,98nm,19.5s,baz=125,slow=34							
CMAR	**Chiang Mai Arr**	**60.92**	**22**	LR		LR	15 08 52.3	
	comp=Z,15nm,20.7s,baz=205,slow=31							
MKAR	**Makanchi Array**	**86.19**	**3**	P		P	14 49 46.1	+0.1
	0.3nm,0.7s,baz=172,slow=4.5,SNR=2.7							
DBIC	**Dimbokro**	**89.17**	**279**	LR		LR	15 28 51.2	
	comp=Z,48nm,18.3s,baz=7.5,slow=35							

*ISCJB **30** 15:40:57.9±1.0, 5°.7S±0°.1×148°.2E±0°.1, h100km, mb4.2/4, Error ellipse: s-maj=21.7km s-min=10.1km az=42.1*

*NEIC **30** 15:40:59.5±1.4, 5°.66S×148°.17E, h109km±15km, mb4.2/4, Error ellipse: s-maj=36.4km s-min=10.0km az=137.0*

*IDC **30** 15:41:02.8±3.0, 5°.90S×147°.98E, h112km±21km, mb4.1/3, mb1 4.2/5, mb1mx3.4/36, mbtmp4.4/5, MS3.4/3, Ms1 3.4/3, ms1mx2.7/35, Error ellipse: s-maj=49.1km s-min=23.2km az=108.0*

ISC 30 15:40:59.1±1.3, 5°.7S±0°.2×148°.1E±0°.2, h100km, n14, σ1§25/16, mb4.2/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PMG	**Port Moresby**	**3.79**	**194**	P		**Pn**	**15 41 56.7**	**+1.3**
	11nm,0.3s,baz=3.9,slow=11,SNR=41							
PMG				S		**Sn**	**15 42 38.8**	**-0.3**
	32nm,0.3s,baz=150,slow=18,SNR=13							
RABL	**Rabaul**	**4.31**	**70**	*e*Pn		**Pn**	**15 42 02.0**	**-0.5**
COEN	**Coen**	**9.53**	**210**	*e*Pn		**Pn**	**15 43 15.0**	**+1.6**
COEN				*e*Sn		**Sn**	**15 44 55.9**	**-2.8**
WRAB	**Tennant Creek**	**19.46**	**222**	*e*P		**P**	**15 45 18.6**	**+0.5**
	9.4nm,0.8s							
WR1	**Warramunga Arr**	**19.48**	**222**	*e*P		**P**	**15 45 18.9**	**+0.6**
	9.7nm,0.7s							
WRA	**Warramunga Arr**	**19.48**	**222**	P		**P**	**15 45 18.9**	**+0.6**
	1.3nm,0.3s,baz=47,slow=11,SNR=28							
WRA				S		**S**	**15 48 50.8**	**-2.4**
	0.1nm,0.3s,baz=51,slow=22,SNR=3.6							
AS01	**Alice Springs**	**22.46**	**216**	*e*P		**P**	**15 45 50.0**	**-0.1**
AS31	**Alice Springs**	**22.49**	**216**	*e*P		**P**	**15 45 50.6**	**+0.2**
	4.9nm,0.6s							
ASAR	**Alice Springs**	**22.49**	**216**	P		**P**	**15 45 50.6**	**+0.1**
	13nm,0.6s,baz=52,slow=9.0,SNR=120							
ASAR				S		**S**	**15 49 49.9**	**-0.5**
	0.9nm,0.9s,baz=37,slow=24,SNR=4.2							
FITZ	**Fitzroy Crossi**	**25.16**	**239**	*e*P		**P**	**15 46 15.9**	**+0.6**
	8.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**25.16**	**239**	P		**P**	**15 46 15.9**	**+0.6**
	6.8nm,0.4s,baz=50,slow=9.7,SNR=22							
FITZ				LR		LR	15 55 55.4	
	comp=Z,80nm,21.6s,baz=154,slow=36							
STKA	**Stephens Creek**	**26.73**	**192**	P		**P**	**15 46 29.9**	**+0.6**
	2.2nm,0.6s,baz=351,slow=10,SNR=3.1							
JHJ	**Hachijo jima 2**	**39.42**	**349**	LR		LR	16 03 23.9	
	comp=Z,34nm,18.0s,baz=284,slow=34							
MKAR	**Makanchi Array**	**77.99**	**320**	LR		LR	16 27 09.6	
	comp=Z,33nm,19.8s,baz=309,slow=36							

*ISCJB **30** 15:50:24.8±0.7, 18°.01N±0°.06×120°.50E±0°.06, h63km±9km, mb3.3/4, Error ellipse: s-maj=12.1km s-min=6.4km az=138.4*

*MAN **30** 15:50:24.5, 18°.08N×120°.48E, h39km, MS4.2*

*IDC **30** 15:50:31.1±2.8, 17°.78N×120°.74E, h130km±28km, mb3.0/6, mb1 3.3/7, mb1mx3.1/43, mbtmp3.5/7, MS2.7/3, Ms1 2.8/3, ms1mx2.5/18, Error ellipse: s-maj=30.3km s-min=16.0km az=70.0*

ISC 30 15:50:25.1±1.5, 18°.09N±0°.09×120°.44E±0°.08, h47km±17km, n19, σ1§55/23, mb3.4/4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ABRA	**Dolores**	**0.51**	**150**	*e*P		**Pn**	**15 50 36.5**	**+0.2**
ABRA				*e*S		**Sn**	**15 50 44.9**	**+0.6**
APYP	**Conner**	**0.80**	**107**	*e*P		**Pn**	**15 50 39.5**	**-0.5**
APYP				*e*S		**Sn**	**15 50 50.4**	**-0.5**
CVP	**Callao Caves**	**1.37**	**106**	*i*P		**Pn**	**15 50 47.0**	**-0.7**
CVP				*i*S		**Sn**	**15 51 03.5**	**-1.3**
SGCP	**Mt. Cagua**	**1.53**	**84**	*e*P		**Pn**	**15 50 49.7**	**-0.3**
SGCP				*e*S		**Sn**	**15 51 08.4**	**-0.3**
CAUP	**Cauayan**	**1.75**	**131**	*e*P		**Pn**	**15 50 53.4**	**+0.4**
CAUP				*e*S		**Sn**	**15 51 16.4**	**+2.4**
BOLP	**Bolinao**	**1.78**	**197**	*e*P		**Pn**	**15 50 53.1**	**-0.3**
BOLP				*e*S		**Sn**	**15 51 13.8**	**-0.9**
SMPP	**San Manuel, Pa**	**1.94**	**173**	*e*P		**Pn**	**15 50 53.7**	**-2.0**
SMPP				*e*S		**Sn**	**15 51 15.9**	**-3.1**
PALP	**Palanan**	**2.15**	**118**	*e*P		**Pn**	**15 50 58.1**	**-0.4**
PALP				*e*S		**Sn**	**15 51 23.5**	**-0.5**
SCZP	**Santa Cruz**	**2.36**	**192**	*e*P		**Pn**	**15 51 00.7**	**-0.6**
SCZP				*e*S		**Sn**	**15 51 28.2**	**-0.8**
POLP	**Polilio Island**	**3.64**	**157**	*e*P		**Pn**	**15 51 19.1**	**+0.1**
TGY	**Tagaytay City**	**4.00**	**173**	P		**Pn**	**15 51 28.0**	**+4.1**
	38nm,0.3s,baz=190,slow=11,SNR=2.3							
JNU	**Nakatsue**	**17.66**	**30**	LR		LR	16 01 28.3	
	comp=Z,34nm,18.1s,baz=205,slow=37							
KSRS	**Korea Array**	**20.38**	**17**	P		**P**	**15 54 58.0**	**+0.2**
	1.6nm,0.7s,baz=199,slow=11,SNR=9.8							
CMAR	**Chiang Mai Arr**	**20.42**	**274**	P		Pn	15 55 00.7	-0.3
	0.9nm,0.7s,baz=81,slow=8.7,SNR=6.7							
CMAR				LR		LR	16 02 07.2	
	comp=Z,10nm,21.4s,baz=180,slow=34							
GUMO	**Guam**	**23.91**	**97**	LR		LR	16 02 46.5	
	comp=Z,28nm,19.9s,baz=109,slow=31							
WRA	**Warramunga Arr**	**40.19**	**160**	P		P	15 57 50.5	-6.5
	0.4nm,0.6s,baz=347,slow=8.8,SNR=7.8							
MKAR	**Makanchi Array**	**42.42**	**321**	P		**P**	**15 58 16.6**	**+1.4**
	0.2nm,0.8s,baz=120,slow=9.6,SNR=2.6							
ASAR	**Alice Springs**	**43.54**	**162**	P		P	15 58 19.0	-5.4
	0.2nm,0.3s,baz=340,slow=7.2,SNR=18							
YKA	**Yellowknife Ar**	**88.83**	**22**	P		**P**	**16 03 12.7**	**-1.1**
	0.3nm,0.6s,baz=310,slow=4.3,SNR=8.1							

IDC 30 16:13:13.7±2.7, 11°.46S×164°.85E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5, ML3.9/2, MS3.8/1, Ms1 3.8/1, ms1mx2.7/29, Error ellipse: s-maj=52.5km s-min=32.4km az=56.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**5.22**	**292**	Pn		Pn	16 14 35.2	+2.1
	12nm,0.3s,baz=145,slow=8.3,SNR=7.3							
HNR				Sn		Sn	16 15 34.2	+0.1
	9.1nm,0.3s,baz=160,slow=22,SNR=8.1							
DZM	**Mont Dzumac**	**10.66**	**172**	Pn		Pn	16 15 48.0	+0.2
	0.3nm,0.3s,baz=330,slow=11,SNR=18							
WRA	**Warramunga Arr**	**30.51**	**250**	P		P	16 19 28.8	-0.1
	0.4nm,0.5s,baz=79,slow=9.3,SNR=5.5							
ASAR	**Alice Springs**	**31.82**	**243**	P		P	16 19 39.9	-0.5
	0.6nm,0.7s,baz=68,slow=9.6,SNR=10							
**

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**137**	*eP*	Pn	17 20 51.0	-1.4
PCIG				*eS*	Sn	17 21 12.4	-2.2
HUIG	**Huatulco**	**2.10**	**245**	*eP*	Pn	17 20 59.1	-1.6
HUIG				*eS*	Sn	17 21 26.9	-2.5
VHO	**Vista Hermosa**	**2.52**	**280**	*eP*	Pn	17 21 05.3	-0.5
VHO				*eS*	Sn	17 21 37.0	-1.6

VAO ***30*** *17:30:44.5±0.4, 9.35S×79.16W, h10km, mb5.2*

ISCJB ***30*** *17:30:45.8±0.7, 9.27S±0.02×79.05W±0.03, h33km±6km, mb5.3/90, MS4.8/31, Error ellipse: s-maj=4.6km s-min=2.4km az=150.5*

MOS ***30*** *17:30:46.4±0.9, 9.31S×79.11W, h33km, mb5.7/35, Error ellipse: s-maj=8.5km s-min=4.3km az=105.3*

ARE ***30*** *17:30:46.0±0.0, 9.57S×79.42W, h17km*

NEIC ***30*** *17:30:47.2±0.1, 9.49S×79.05W, h35km, mb5.8/1, MW5.4, ML5.3(ARE), Error ellipse: s-maj=4.2km s-min=2.7km az=62.0, Moment Tensor Solution. s21 Moment tensor: Scale 10^17Nm; Mrr1.47; Mθθ-0.06; Mϕϕ-1.41; Mrθ0.03; Mθϕ-0.17; Mrϕ0.63; Best double couple: M0 1.60000×10^17 NP1:ϕs189.00000°, δ33.00000°, λ93.00000°. NP2: ϕs5.00000°, δ57.00000°, λ88.00000°. Principal axes: T 1.6000, Plg78.0000°, Azm268.0000°; N -0.0400, Plg2.0000°, Azm6.0000°; P -1.5600, Plg12.0000°, Azm96.0000°;*

NEIC Felt [IV] at Chimbote and [II] at Trujillo. Also felt at Huanchanco.

GCMT ***30*** *17:30:48.2±0.2, 9.46S±0.01×79.24W±0.01, h44km, MW5.3/103, Moment Tensor Solution. s103,c146; s85,c137; Duration: 1i0 Moment tensor: Scale 10^17Nm; Mrr1.03±.02; Mθθ-0.19±.01; Mϕϕ-0.83±.01; Mrθ0.11±.01; Mθϕ-0.14±.01; Mrϕ0.22±.01; Best double couple: M0 0.98100×10^17 NP1:ϕs15.00000°, δ52.00000°, λ94.00000°. NP2:ϕs189.00000°, δ38.00000°, λ85.00000°. Principal axes: T 1.0630, Plg82.0000°, Azm304.0000°; N -0.1650, Plg3.0000°, Azm193.0000°; P -0.8990, Plg7.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

BJI ***30*** *17:30:48.5, 9.40S×79.00W, h38km, mB5.4/26, Ms5.6/31, Ms7 5.3/29*

IDC ***30*** *17:30:50.1±0.7, 9.38S×79.10W, h53km±5km, mb4.9/36, mb1 5.0/40, mb1mx5.0/47, mbtmp5.2/40, MS4.6/27, Ms1 4.6/27, ms1mx4.6/31, Error ellipse: s-maj=14.1km s-min=8.3km az=65.0*

ISC 30 17:30:49.6±0.5, 9.50S±0.03×79.08W±0.05, h55km±3km, h55km:pP-P, n1596, σ1919/1766, mb5.4/91, MS4.7/31, 23C-11D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.45**	**16**	P	**Pn**	**17 31 29.6**	**+2.0**
	381nm,0.3s,baz=199,slow=4.5,SNR=1057						
ATAH				S	**Sn**	**17 32 00.1**	**+3.6**
	2μm,0.3s,baz=107,slow=7.7,SNR=11						
ATAH				LR	LR	17 32 41.0	
	comp=Z,12μm,21.5s,baz=204,slow=48						
NNA	**Nana**	**3.31**	**138**	*e*Pn	**Pn**	**17 31 39.5**	**+0.4**
NNA				*e*Sn	**Sn**	**17 32 18.4**	**+1.3**
NNA	**Nana**	**3.31**	**138**	*i* P	**Pn**	**17 31 39.4**	**+0.4**
NNA	**Nana**	**3.31**	**138**	P	**Pn**	**17 31 40.0**	**+1.1**
	538nm,0.3s,baz=330,slow=9.8,SNR=594						
NNA				S	**Sn**	**17 32 20.2**	**+3.1**
	516nm,0.3s,baz=147,slow=23,SNR=10						
NNA				LR	LR	17 33 04.4	
	comp=Z,11μm,19.9s,baz=319,slow=39						
OTAV	**Otavalo**	**9.70**	**4**	*e*Pn	**Pn**	**17 33 07.2**	**+0.2**
OTAV	**Otavalo**	**9.70**	**4**	*e*P	**Pn**	**17 33 07.6**	**+0.6**
OTAV	**Otavalo**	**9.70**	**4**	*e*P	**Pn**	**17 33 07.2**	**+0.2**
OTAV	**Otavalo**	**9.70**	**4**	*e*P	**Pn**	**17 33 07.6**	**+0.6**
CRUC	**La Cruz**	**11.20**	**11**	*e*P	**Pn**	**17 33 28.4**	**+0.9**
CRUC	**La Cruz**	**11.20**	**11**	*e*P	**Pn**	**17 33 28.4**	**+0.9**
TUMC	**Tumaco**	**11.26**	**2**	*e*P	**Pn**	**17 33 31.1**	**+3.2**
TUMC	**Tumaco**	**11.26**	**2**	*e*P	**Pn**	**17 33 31.1**	**+3.2**
FLOC	**Florencia**	**11.53**	**17**	*e*P	**Pn**	**17 33 28.8**	**-2.9**
FLOC	**Florencia**	**11.53**	**17**	*e*P	**Pn**	**17 33 28.8**	**-2.9**
SOTA	**Rioblanco**	**11.82**	**12**	*e*P	**Pn**	**17 33 37.8**	**+1.7**
SOTA	**Rioblanco**	**11.82**	**12**	*e*P	**Pn**	**17 33 37.8**	**+1.7**
PCON	**Cinco Dias**	**12.05**	**13**	*e*P	**Pn**	**17 33 41.7**	**+2.4**
PCON	**Cinco Dias**	**12.05**	**13**	*e*P	**Pn**	**17 33 41.7**	**+2.4**
LPAZ	**La Paz**	**12.62**	**123**	*e*Pn	**Pn**	**17 33 46.2**	**-0.9**
LPAZ	**La Paz**	**12.62**	**123**	*e*P	**Pn**	**17 33 46.2**	**-0.9**
LPAZ	**La Paz**	**12.62**	**123**	P	**Pn**	**17 33 49.0**	**+1.9**
	0.6nm,0.3s,baz=312,slow=10,SNR=18						
LPAZ				LR	LR	17 39 09.4	
	comp=Z,6μm,21.5s,baz=294,slow=39						
LPAZ	**La Paz**	**12.62**	**123**	*e*P	**Pn**	**17 33 47.4**	**+0.3**
BETC	**Betania**	**12.64**	**17**	*e*P	**Pn**	**17 33 48.1**	**+1.4**
BETC	**Betania**	**12.64**	**17**	*e*P	**Pn**	**17 33 48.1**	**+1.4**
MARP	**Paez Belalcaza**	**12.65**	**14**	*e*P	**Pn**	**17 33 48.2**	**+1.0**
MARP	**Paez Belalcaza**	**12.65**	**14**	*e*P	**Pn**	**17 33 48.2**	**+1.0**
MNMC	**Minye Minye**	**13.26**	**137**	*e*Pn	**Pn**	**17 33 54.0**	**-1.5**
PB11	**IPOC Station P**	**13.67**	**139**	*e*Pn	**Pn**	**17 33 59.7**	**-1.3**
YOTC	**Yotoco, Valle**	**13.67**	**12**	*e*P	**Pn**	**17 34 03.7**	**+2.7**
YOTC	**Yotoco, Valle**	**13.67**	**12**	*e*P	**Pn**	**17 34 03.7**	**+2.7**
PRAC	**Prado**	**13.78**	**18**	*e*P	**Pn**	**17 34 02.2**	**-0.2**
PRAC	**Prado**	**13.78**	**18**	*e*P	**Pn**	**17 34 02.2**	**-0.2**
PAYG	**Puerto Ayora**	**14.19**	**308**	*e*Pn	**Pn**	**17 34 07.8**	**0.0**
VILC	**Villavicencio,**	**14.55**	**22**	*e*P	**P**	**17 34 15.3**	**-2.6**
VILC	**Villavicencio,**	**14.55**	**22**	*e*P	**P**	**17 34 15.3**	**-2.6**
PB01	**IPOC Station P**	**14.73**	**142**	*e*Pn	**Pn**	**17 34 14.6**	**-0.4**
ROSC	**El Rosal**	**15.02**	**19**	*e*Pn	**Pn**	**17 34 21.1**	**+2.0**
ROSC	**El Rosal**	**15.02**	**19**	*e*P	**P**	**17 34 27.2**	**+3.8**
ROSC	**El Rosal**	**15.02**	**19**	*e*P	**P**	**17 34 27.2**	**+3.8**
ROSC	**El Rosal**	**15.02**	**19**	P	**P**	**17 34 21.6**	**-1.8**
	1.0nm,0.3s,baz=99,slow=22,SNR=4.9						
ROSC				LR	LR	17 40 47.9	
	comp=Z,6μm,19.0s,baz=211,slow=40						
PB04	**IPOC Station P**	**15.37**	**147**	*e*Pn	**Pn**	**17 34 25.1**	**+1.8**
	337nm,0.6s						
HELC	**Santa Helena**	**15.99**	**13**	*e*P	**P**	**17 34 34.7**	**+0.6**
HELC	**Santa Helena**	**15.99**	**13**	*e*P	**P**	**17 34 34.7**	**+0.6**
PB10	**IPOC Station P**	**16.14**	**151**	*e*Pn	**Pn**	**17 34 33.5**	**+0.5**
LVC	**Limon Verde**	**16.28**	**144**	*e*Pn	**P**	**17 34 36.4**	**-0.9**
LVC				*e*Sn	**Sn**	**17 37 34.6**	**-0.4**
LVC	**Limon Verde**	**16.28**	**144**	*e*P	**P**	**17 34 36.4**	**-0.9**
LVC				*e*		17 37 34.6	
LVC	**Limon Verde**	**16.28**	**144**	P	**P**	**17 34 36.9**	**-0.4**
	1.4nm,0.3s,baz=310,slow=7.7,SNR=11						
LVC				S	**Sn**	**17 37 34.6**	**-0.4**
	0.3nm,0.3s,baz=294,slow=20,SNR=1.8						
LVC				LR	LR	17 40 37.5	
	comp=Z,3μm,21.9s,baz=293,slow=36						
LVC	**Limon Verde**	**16.28**	**144**	*e*P	**P**	**17 34 36.5**	**-0.8**
PTBC	**PUERTO BERRIO,**	**16.59**	**16**	*e*P	**P**	**17 34 41.5**	**+1.0**
PTBC	**PUERTO BERRIO,**	**16.59**	**16**	*e*P	**P**	**17 34 41.5**	**+1.0**
BARC	**Barichara**	**17.04**	**20**	*e*P	**P**	**17 34 48.4**	**+2.8**
BARC	**Barichara**	**17.04**	**20**	*e*P	**P**	**17 34 48.4**	**+2.8**
BCIP	**Isla Barro Col**	**18.56**	**358**	*e*P	**P**	**17 35 00.8**	**-1.3**
BCIP	**Isla Barro Col**	**18.56**	**358**	*e*P	**P**	**17 35 00.8**	**-1.3**
SIV	**San Ignacio**	**18.70**	**112**	P	**Pn**	**17 35 05.0**	**+0.3**
	0.9nm,0.3s,baz=298,slow=10,SNR=74						
SIV				LR	LR	17 42 44.3	
	comp=Z,3μm,21.0s,baz=299,slow=38						
HJA	**Humahuaca**	**18.89**	**138**	*e*P	**Pn**	**17 35 08.5**	**+1.3**
HJA				IAML		17 35 30.6	
	comp=Z,33nm,0.5s						
SJCC	**San Jacinto, C**	**19.66**	**11**	*e*P	**Pn**	**17 35 15.6**	**-0.5**
SJCC	**San Jacinto, C**	**19.66**	**11**	*e*P	**Pn**	**17 35 15.6**	**-0.5**
SLA	**San Lorenzo**	**19.91**	**141**	*e*P	**Pn**	**17 35 24.2**	**+5.2**
SLA				IAML		17 35 43.5	
	comp=Z,45nm,0.8s						
CODC	**Agustn Codazz**	**20.11**	**16**	*e*P	**P**	**17 35 19.4**	**+0.3**
CODC	**Agustn Codazz**	**20.11**	**16**	*e*P	**P**	**17 35 19.4**	**+0.3**
JTS	**JuntasAbangare**	**20.51**	**343**	*e*P	**P**	**17 35 23.6**	**+0.1**
JTS				*e*Pn	Pn	17 35 24.0	-2.1
JTS	**JuntasAbangare**	**20.51**	**343**	*e i*P	Pn	17 35 25.0	-1.1
JTS	**JuntasAbangare**	**20.51**	**343**	P	**P**	**17 35 24.4**	**+0.9**
	comp=Z,68nm,1.0s,baz=90,slow=17,SNR=26						
JTS				LR	LR	17 42 15.4	
	comp=Z,3μm,21.2s,baz=228,slow=34						
FSA	**Cafayete**	**20.67**	**145**	*e*P	Pn	17 35 28.1	+0.1
FSA				IAML		17 35 48.8	
	comp=Z,11nm,0.7s						
PTGA	**Pitinga**	**20.92**	**66**	*e*P	**P**	**17 35 27.5**	**-0.4**
PTGA				S	**S**	**17 39 10.4**	**-7.9**
PTGA	**Pitinga**	**20.92**	**66**	P	**P**	**17 35 28.7**	**+0.8**
	comp=Z,31nm,0.5s,baz=247,slow=13,SNR=61						
PTGA				S	**S**	**17 39 10.4**	**-7.9**
	comp=Z,8.4nm,0.3s,baz=151,slow=19,SNR=1.7						
PTGA				LR	LR	17 45 10.2	
	comp=Z,976nm,21.0s,baz=248,slow=41						
PTGA	**Pitinga**	**20.92**	**66**	*e*P	**P**	**17 35 28.3**	**+0.4**
LCO	**Las Campanas**	**20.94**	**159**	*e*P	Pn	17 35 29.9	-1.4
LCO	**Las Campanas**	**20.94**	**159**	*e*P	Pn	17 35 30.7	-0.6
LCO	**Las Campanas**	**20.94**	**159**	*e*P	Pn	17 35 30.0	-1.3
LCO	**Las Campanas**	**20.94**	**159**	*e*P	**P**	**17 35 29.6**	**+1.3**
AHML	**Horco Molle**	**21.55**	**145**	*e*P	**P**	**17 35 36.4**	**+1.8**
VCA	**Vinchina**	**21.69**	**153**	*e*P	**P**	**17 35 40.0**	**+3.9**
VCA				IAML		17 35 52.2	
	comp=Z,28nm,0.7s						
VCA				IAML		17 36 03.7	
	comp=Z,32nm,0.8s						
ESPN	**Las Esperanzas**	**22.17**	**346**	*e*P	**P**	**17 35 41.6**	**+0.3**
AGUA	**GUANDACOL**	**22.22**	**155**	*e*P	**P**	**17 35 44.4**	**+2.6**
AROD	**Rodeo**	**22.43**	**158**	*e*P	**P**	**17 35 46.1**	**+1.8**
CYA	**Choya**	**22.60**	**148**	*e*P	**P**	**17 35 48.1**	**+2.3**
CYA				IAML		17 36 02.8	
	comp=Z,31nm,0.9s						
ACLC	**CERRO LA CRUZ**	**22.85**	**152**	*e*P	**P**	**17 35 50.7**	**+2.1**
ACCO	**Cerro Coronel**	**22.96**	**157**	*e*P	**P**	**17 35 52.0**	**+2.2**
AMOG	**MOGNA**	**23.50**	**157**	*e*P	**P**	**17 35 56.8**	**+2.0**
RTLL	**Cerro Villicun**	**23.85**	**157**	*e*P	**P**	**17 36 00.3**	**+2.3**
RTLL				IAML		17 36 23.7	
	comp=Z,9.5nm,0.7s						
APLL	**PUNTA DE LOS L**	**23.86**	**152**	*e*P	**P**	**17 35 59.8**	**+1.7**
APLL				IAML		17 36 30.6	
	comp=Z,12nm,0.9s						
CSGN	**Cosiguina Volc**	**23.87**	**339**	*e*P	**P**	**17 35 59.1**	**+0.8**
ZON	**Zonda**	**23.97**	**158**	*e*P	**P**	**17 36 00.9**	**+4.9**
CFA	**Coronel Fontan**	**24.19**	**157**	*e*P	**P**	**17 36 02.5**	**+1.4**
CFA	**Coronel Fontan**	**24.19**	**157**	P	**P**	**17 36 02.6**	**+1.5**
	comp=Z,38nm,1.0s,baz=334,slow=9.1,SNR=22						
CFA				PcP	**PcP**	**17 39 41.1**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=255,slow=5.1,SNR=4.5						
CFA				LR	LR	17 44 01.8	
	comp=Z,1μm,21.8s,baz=348,slow=33						
RTCV	**Cerro Valdivia**	**24.30**	**158**	*e*P	**P**	**17 36 01.9**	**-0.2**
AUSP	**Uspallata**	**24.33**	**160**	*e*P	**P**	**17 36 03.6**	**+1.0**
ROC1	**El Roble**	**24.52**	**163**	*e*P	**P**	**17 36 05.3**	**+1.0**
ROC1				*e*PcP	**PcP**	**17 39 42.5**	**+0.8**
ROC1	**El Roble**	**24.52**	**163**	*e*P	**P**	**17 36 05.3**	**+1.0**
PEL	**Peldehue**	**24.77**	**163**	*e*P	**P**	**17 36 07.9**	**+1.6**
PEL	**Peldehue**	**24.77**	**163**	*e*P	**P**	**17 36 07.9**	**+1.6**
TGUH	**Tegucigalpa,Un**	**24.78**	**341**	*e*P	**P**	**17 36 07.0**	**+0.5**
ASAL	**Salagasta**	**24.85**	**159**	*e*P	**P**	**17 36 09.4**	**+2.2**
AQDB	**Aquidauana**	**25.05**	**118**	*e*P	**P**	**17 36 10.3**	**+1.4**
ARCO	**CERRO ARCO**	**25.05**	**159**	*e*P	**P**	**17 36 11.6**	**+2.6**
ARCO				IAML		17 36 33.6	
	comp=Z,23nm,0.6s						
ACAN	**Cantantal**	**25.19**	**156**	*e*P	**P**	**17 36 13.6**	**+3.4**
AAGR	**Agrelo**	**25.30**	**160**	*e*P	**P**	**17 36 13.8**	**+2.6**
TCA	**Tanti**	**25.56**	**150**	IAML		17 36 29.6	
	comp=Z,23nm,0.8s						
AVIZ	**Vizcacheras**	**25.76**	**159**	*e*P	**P**	**17 36 18.0**	**+2.6**
MRA	**San Martin**	**25.94**	**153**	*e*P	**P**	**17 36 18.4**	**+1.3**
MRA				IAML		17 36 37.0	
	comp=Z,9.9nm,0.6s						
CPUP	**Villa Florida**	**26.54**	**132**	P	**P**	**17 36 24.1**	**+1.6**
	comp=Z,14nm,1.1s,baz=323,slow=11,SNR=16						
CPUP				PcP	**PcP**	**17 39 47.0**	**+1.0**
	comp=Z,8.7nm,0.9s,baz=122,slow=0.5,SNR=3.9						
CPUP				pPcP		17 40 00.5	
	comp=Z,15nm,1.2s,baz=321,slow=1.9,SNR=4.0						
CPUP				LR	LR	17 48 45.0	
	comp=Z,2μm,21.5s,baz=314,slow=40						
CPUP	**Villa Florida**	**26.54**	**132**	*e*P	**P**	**17 36 24.4**	**+2.0**
APG	**El Apazote**	**26.84**	**335**	P	**P**	**17 36 26.0**	**+0.6**
	comp=Z,13nm,0.5s,baz=164,slow=6.1,SNR=19						
APG				LR	LR	17 45 30.6	
	comp=Z,3μm,20.5s,baz=168,slow=33						
C2SB	**Chapadao do Su**	**27.03**	**113**	*e*P	**P**	**17 36 29.0**	**+2.1**
MTDJ	**Mount Denham**	**27.60**	**3**	*e*P	**P**	**17 36 32.7**	**+0.7**
GRGR	**Grenville**	**27.61**	**39**	*e*P	**P**	**17 36 33.2**	**+1.2**
TRCB	**Terra Rica**	**28.57**	**121**	*e*P	**P**	**17 36 42.7**	**+2.0**
CCIG	**Comitan**	**28.70**	**333**	*e*P	**P**	**17 36 41.9**	**-0.1**
GTBY	**Guantanamo Bay**	**29.51**	**8**	*e*P	**P**	**17 36 50.2**	**+1.3**
ITPB	**Iturama**	**29.54**	**113**	*e*P	**P**	**17 36 51.4**	**+2.0**
CRPR	**Cerro Pojo, PR**	**29.78**	**23**	*e*P	**P**	**17 36 56.3**	**+5.0**
PTGB	**Pitanga**	**29.84**	**124**	*e*P	**P**	**17 36 53.1**	**+1.1**
ICMP	**Isla Caja de M**	**29.91**	**25**	*e*P	**P**	**17 36 52.4**	**-0.1**
FDF	**Fort de France**	**29.93**	**37**	*e*P	**P**	**17 36 50.9**	**-1.9**
FDF	**Fort de France**	**29.93**	**37**	*e*P	**P**	**17 36 50.9**	**-1.9**
MPR	**Mayaguez**	**29.96**	**23**	*e*P	**P**	**17 36 53.0**	**+0.2**
MDP	**Montagnes des**	**30.08**	**62**	P	**P**	**17 36 54.8**	**+0.7**
	comp=Z,18nm,0.9s,baz=281,slow=5.2,SNR=3.9						
AGP	**Aguadilla**	**30.14**	**23**	*e*P	**P**	**17 36 53.9**	**-0.6**
SJG	**San Juan**	**30.27**	**25**	*e*P	**P**	**17 36 55.1**	**-0.5**
SJG	**San Juan**	**30.27**	**25**	P	**P**	**17 36 55.4**	**-0.2**
	comp=Z,12nm,0.4s,baz=216,slow=3.2,SNR=4.6						
SJG				LR	LR	17 51 36.9	
	comp=Z,848nm,19.4s,baz=181,slow=41						
PEXB	**Peixe**	**30.34**	**98**	*e*P	**P**	**17 36 57.6**	**+1.2**
HUMP	**Col San Antoni**	**30.42**	**25**	*e*P	**P**	**17 36 56.8**	**-0.2**
MTP	**Monte Pirata**	**30.51**	**26**	*e*P	**P**	**17 36 57.7**	**-0.1**
CDVI	**St. Croix**	**30.55**	**28**	*e*P	**P**	**17 36 57.9**	**-0.3**
CMIG	**Matias Romero**	**30.70**	**329**	P	**P**	**17 36 59.4**	**-0.1**
	comp=Z,13nm,0.9s,baz=145,slow=5.0,SNR=21						
CMIG				PcP	**PcP**	**17 39 56.4**	**-0.1**
	comp=Z,11nm,0.8s,baz=119,slow=2.1,SNR=8.4						
CMIG				pPcP		17 40 11.4	
	comp=Z,15nm,1.1s,baz=117,slow=1.0,SNR=5.3						
CMIG				LR	LR	17 47 07.6	
	comp=Z,2μm,21.5s,baz=177,slow=32						
BDFB	**Brasilia**	**30.91**	**105**	*e*P	**P**	**17 37 02.4**	**+0.9**
BDFB	**Brasilia**	**30.91**	**105**	P	**P**	**17 37 02.7**	**+1.2**
	comp=Z,20nm,1.0s,baz=272,slow=9.1,SNR=18						
BDFB				LR	LR	17 50 13.3	
	comp=Z,3μm,21.9s,baz=279,slow=38						
ITAB	**Concordia**	**30.95**	**128**	*e*P	**P**	**17 37 02.8**	**+1.1**
FRTB	**Fartura**	**31.39**	**120**	*e*P	**P**	**17 37 07.0**	**+1.4**
CPSB	**Cacapava Do Su**	**31.69**	**135**	*e*P	**P**	**17 37 09.5**	**+1.4**
PLCA	**Paso Flores**	**32.01**	**168**	*e*P	**P**	**17 37 12.3**	**+1.4**
PLCA				*e*PcP	**PcP**	**17 40 01.1**	**+1.4**
PLCA	**Paso Flores**	**32.01**	**168**	P	**P**	**17 37 12.2**	**+1.3**
	comp=Z,31nm,1.0s,baz=1.0,slow=10,SNR=29						
PLCA				PcP	**PcP**	**17 40 01.3**	**+1.5**
	comp=Z,14nm,0.8s,baz=352,slow=4.0,SNR=11						
PLCA				LR	LR	17 47 23.2	
	comp=Z,752nm,21.8s,baz=29,slow=31						
PLCA	**Paso Flores**	**32.01**	**168**	*e*P	**P**	**17 37 12.6**	**+1.7**
MYIG	**Mrida**	**32.03**	**341**	*e*P	**P**	**17 37 10.9**	**-0.2**
TRQA	**Tornquist**	**32.33**	**154**	*e*P	**P**	**17 37 14.1**	**+0.4**
TRQA				*e*PcP	**PcP**	**17 40 01.0**	**+0.4**
TRQA	**Tornquist**	**32.33**	**154**	*e*P	**P**	**17 37 14.1**	**+0.4**
TRQA				*e*		17 40 01.0	
PLTB	**Pedras Altas**	**32.38**	**137**	*e*P	**P**	**17 37 15.6**	**+1.4**
CNLB	**Canela**	**32.97**	**131**	*e*P	**P**	**17 37 21.1**	**+1.7**
TLIG	**Tlapa**	**33.08**	**324**	*e*P	**P**	**17 37 21.6**	**+1.1**
TLIG				*e*PcP	**PcP**	**17 40 03.6**	**+0.5**
SPB	**Sao Paulo**	**33.32**	**119**	*e*P	**P**	**17 37 23.2**	**+0.7**
SPB	**Sao Paulo**	**33.32**	**119**	*e*P	**P**	**17 37 23.6**	**+1.2**
LVIG	**Laguna Verde**	**33.69**	**330**	*e*P	**P**	**17 37 25.6**	**-0.1**
062Z	**Marathon**	**34.08**	**357**	P	**P**	**17 37 29.2**	**+0.2**
	baz=176						
JANB	**Januaria**	**34.39**	**103**	*e*P	**P**	**17 37 32.2**	**+0.2**
BSCB	**Bom Sucesso**	**34.93**	**113**	*e*P	**P**	**17 37 37.0**	**+0.4**
MCI8	**Montes Claros**	**34.94**	**105**	*e*P	**P**	**17 37 37.0**	**+0.3**
MCI9	**Montes Claros**	**34.97**	**106**	*e*P	**P**	**17 37 37.4**	**+0.5**
MCI6	**Montes Claros**	**34.98**	**106**	*e*P	**P**	**17 37 37.2**	**+0.1**
061Z	**Ochoppi**	**35.20**	**357**	P	**P**	**17 37 39.3**	**+0.7**
	baz=177						
059Z	**Ave Maria**	**35.70**	**356**	P	**P**	**17 37 43.3**	**+0.4**
	baz=176						
060Z	**West Palm Beac**	**35.72**	**358**	P	**P**	**17 37 43.6**	**+0.5**
	baz=178						
MOIG	**Morelia**	**36.26**	**323**	*e*P	**P**	**17 37 49.2**	**+1.0**
059A	**Moore Haven**	**36.31**	**357**	*e*P	**P**	**17 37 47.7**	**-0.4**
059A	**Moore Haven**	**36.31**	**357**	P	**P**	**17 37 47.8**	**-0.3**
	baz=176						
060A	**Indiantown**	**36.34**	**358**	*e*P	**P**	**17 37 49.2**	**+0.8**
060A	**Indiantown**	**36.34**	**358**	P	**P**	**17 37 48.2**	**-0.2**
	baz=175						
058A	**Arcadia**	**36.44**	**356**	P	**P**	**17 37 49.2**	**0.0**
	baz=175						
959A	**Okeechobee**	**36.85**	**357**	P	**P**	**17 37 52.7**	**0.0**
	baz=177						
958A	**Wauchula**	**36.96**	**356**	P	**P**	**17 37 53.6**	**-0.1**
	baz=176						
957A	**Wimauma**	**37.08**	**355**	*e*P	**P**	**17 37 54.2**	**-0.4**
957A	**Wimauma**	**37.08**	**355**	P	**P**	**17 37 54.1**	**-0.6**
	baz=175						
859A	**Kempfer Cattle**	**37.38**	**357**	P	**P**	**17 37 57.3**	**0.0**
	baz=177						
DWPF	**Disney Wildern**	**37.46**	**357**	*e*P	**P**	**17 37 57.5**	**-0.4**
DWPF	**Disney Wildern**	**37.46**	**357**	P	**P**	**17 37 57.6**	**-0.3**
	baz=176						
DWPF	**Disney Wildern**	**37.46**	**357**	*e*P	**P**	**17 37 58.1**	**+0.2**
858A	**St. Cloud**	**37.56**	**357**	P	**P**	**17 37 58.5**	**-0.3**
	baz=176						
857A	**Zephyrhills**	**37.67**	**355**	P	**P**	**17 37 59.2**	**-0.4**
	baz=175						
758A	**Lake Helen**	**38.30**	**357**	P	**P**	**17 38 04.7**	**-0.2**
	baz=177,SNR=8.2						
757A	**Oxford**	**38.33**	**356**	P	**P**	**17 38 04.6**	**-0.6**
	baz=175,SNR=6.4						
658A	**Bunnell**	**38.76**	**357**	*e*P	**P**	**17 38 08.4**	**-0.4**
658A	**Bunnell**	**38.76**	**357**	P	**P**	**17 38 08.4**	**-0.4**
	baz=176,SNR=5.7						
656A	**Willston**	**38.79**	**355**	*e*P	**P**	**17 38 08.4**	**-0.7**
656A				*e*PcP	**PcP**	**17 40 19.9**	**+0.3**
656A	**Willston**	**38.79**	**355**	P	**P**	**17 38 08.7**	**-0.4**
	baz=174,SNR=8.7						
657A	**Interlachen**	**38.95**	**356**	P	**P**	**17 38 09.8**	**-0.7**
	baz=176,SNR=9.7						
655A	**Horseshoe Beac**	**39.00**	**354**	P	**P**	**17 38 10.4**	**-0.4**
	baz=173						
557A	**Orange Park**	**39.37**	**356**	P	**P**	**17 38 13.3**	**-0.7**
	baz=176,SNR=5.2						
556A	**Lake Butler**	**39.41**	**355**	P	**P**	**17 38 13.9**	**-0.3**
	baz=175,SNR=23						
ZAIG	**Zacatecas**	**39.47**	**325**	*e*P	**P**	**17 38 15.8**	**+0.6**
ZAIG				*e*PcP	**PcP**	**17 40 22.9**	**+0.5**
LNIG	**Linares**	**39.55**	**330**	*e*P	**P**	**17 38 15.4**	**-0.2**
LNIG				*e*PcP	**PcP**	**17 40 21.6**	**-0.6**
555A	**McAlpin**	**39.57**	**355**	*e*P	**P**	**17 38 15.2**	**-0.4**
555A				*e*PcP	**PcP**	**17 40 21.1**	**-1.1**
555A	**McAlpin**	**39.57**	**355**	P	**P**	**17 38 15.1**	**-0.5**
	baz=174,SNR=10						
554A	**Perry**	**39.61**	**354**	P	**P**	**17 38 15.6**	**-0.3**
	baz=173						
553A	**Crawfordville**	**39.80**	**353**	P	**P**	**17 38 17.4**	**0.0**
	baz=172,SNR=6.4						
552A	**Lynn Haven**	**39.86**	**352**	P	**P**	**17 38 18.0**	**0.0**
	baz=170						
457A	**Yulee**	**39.96**	**357**	P	**P**	**17 38 18.7**	**-0.1**
	baz=176						
456A	**Hilliard**	**40.10**	**356**	*e*P	**P**	**17 38 20.0**	**0.0**
456A	**Hilliard**	**40.10**	**356**	P	**P**	**17 38 19.6**	**-0.3**
	baz=176						
455A	**Stateville**	**40.19**	**355**	P	**P**	**17 38 20.5**	**-0.3**
	baz=174,SNR=18						
454A	**Quitman**	**40.23**	**354**	P	**P**	**17 38 20.7**	**-0.3**
	baz=173,SNR=8.7						
451A	**Vernon**	**40.40**	**351**	*e*P	**P**	**17 38 22.4**	**-0.1**
451A	**Vernon**	**40.40**	**351**	P	**P**	**17 38 22.6**	**+0.1**
	baz=170						
453A	**Whigham**	**40.44**	**353**	*e*P	**P**	**17 38 22.4**

Z56A	Williston	42.65	357	P	P	17 38 40.4	-0.5
	baz=177,SNR=10						
Z54A	Sparta	42.65	355	P	P	17 38 40.1	-0.8
	baz=174,SNR=43						
148A	Greensboro	42.69	349	P	P	17 38 40.5	-0.7
	baz=168,SNR=8.1						
Z52A	Williamson	42.76	353	P	P	17 38 41.2	-0.5
	baz=172,SNR=34						
Z53A	Monticello	42.76	354	P	P	17 38 40.8	-0.9
	baz=174,SNR=33						
147A	Livingston	42.85	349	eP	P	17 38 41.6	-0.9
147A				ePcP	PcP	17 40 32.3	-0.5
147A	Livingston	42.85	349	P	P	17 38 41.8	-0.6
	baz=167,SNR=5.6						
GOGA	Godfrey	42.88	355	eP	P	17 38 41.7	-1.0
GOGA				ePcP	PcP	17 40 32.0	-0.9
GOGA	Godfrey	42.88	355	eP	P	17 38 41.7	-1.0
GOGA				e		17 40 32.0	
GOGA	Godfrey	42.88	355	P	P	17 38 41.8	-0.9
	baz=174,SNR=24						
VBMS	Vicksburg	42.90	346	eP	P	17 38 42.7	-0.2
VBMS				ePcP	PcP	17 40 33.2	+0.2
VBMS	Vicksburg	42.90	346	P	P	17 38 42.9	0.0
	baz=163						
LRAL	Lakeview Retre	42.97	350	eP	P	17 38 42.7	-0.8
LRAL	Lakeview Retre	42.97	350	P	P	17 38 42.6	-0.8
	baz=168,SNR=38						
Z51A	Franklin	42.98	353	P	P	17 38 42.9	-0.6
	baz=171						
Z50A	Ashland	43.02	352	eP	P	17 38 42.9	-0.9
Z50A	Ashland	43.02	352	P	P	17 38 43.1	-0.8
	baz=170,SNR=28						
Z49A	Columbiana	43.05	351	P	P	17 38 43.4	-0.7
	baz=169,SNR=26						
Y56A	Pelion	43.11	357	P	P	17 38 44.1	-0.5
	baz=177						
Y58A	Scranton	43.17	359	P	P	17 38 44.7	-0.3
	baz=179,SNR=6.8						
Y54A	Tignall	43.26	356	P	P	17 38 45.0	-0.8
	baz=175,SNR=42						
Y55A	Saluda	43.28	357	P	P	17 38 45.4	-0.6
	baz=176,SNR=41						
Y57A	Sumter	43.30	358	P	P	17 38 45.5	-0.6
	baz=178,SNR=6.4						
Y53A	Monroe	43.33	355	P	P	17 38 45.5	-0.9
	baz=174,SNR=30						
Y52A	Lilburn	43.39	354	eP	P	17 38 45.7	-1.2
Y52A				ePP	PcP	17 40 33.4	-1.2
Y52A	Lilburn	43.39	354	P	P	17 38 45.9	-0.9
	baz=173,SNR=11						
Y51A	Rockmart	43.54	353	P	P	17 38 47.3	-0.8
	baz=171,SNR=32						
JSC	Jenkinsville	43.59	357	eP	P	17 38 47.6	-0.9
JSC				ePP	PcP	17 40 34.6	-0.6
JSC	Jenkinsville	43.59	357	eP	P	17 38 47.6	-0.9
JSC				e		17 40 34.6	
HODGE	Hodges	43.60	356	eP	P	17 38 47.6	-0.9
HODGE				ePP	PcP	17 40 34.5	-0.8
Y50A	Piedmont	43.62	352	P	P	17 38 47.7	-1.0
	baz=170						
NATX	Nacogdoches	43.66	341	eP	P	17 38 49.8	+0.7
NATX	Nacogdoches	43.66	341	P	P	17 38 50.0	+1.0
	baz=158,SNR=22						
Y49A	Blount Mountai	43.68	351	eP	P	17 38 47.8	-1.4
Y49A				ePcP	PcP	17 40 34.6	-1.0
Y49A	Blount Mountai	43.68	351	P	P	17 38 48.1	-1.1
	baz=170,SNR=12						
X57A	Johnson Farm,	43.74	359	P	P	17 38 48.9	-0.7
	baz=178						
X56A	White Oak	43.79	358	P	P	17 38 49.4	-0.7
	baz=177,SNR=32						
X55A	Gracelyn & Ava	43.80	357	P	P	17 38 49.7	-0.4
	baz=176,SNR=30						
X58A	Rowland	43.82	360	P	P	17 38 49.8	-0.5
	baz=180						
435B	Jarrell	43.82	337	eP	P	17 38 50.4	+0.1
435B				ePcP	PcP	17 40 36.1	-0.1
435B	Jarrell	43.82	337	P	P	17 38 50.8	+0.5
	baz=153,SNR=6.9						
X59A	McDuffie Farm,	43.84	1	P	P	17 38 49.8	-0.6
	baz=181,SNR=5.2						
BBSR	BB Station	43.85	18	eP	P	17 38 50.0	-0.6
X60A	Albert Glenn T	43.85	1	P	P	17 38 50.1	-0.4
	baz=182						
Y48A	Jasper	43.86	350	P	P	17 38 49.4	-1.2
	baz=168,SNR=11						
X54A	Belton	43.92	356	P	P	17 38 50.4	-0.7
	baz=175,SNR=34						
X53A	Estanollee	43.95	355	P	P	17 38 50.5	-0.9
	baz=174,SNR=20						
X52A	Dahlonega	44.10	354	P	P	17 38 51.6	-1.0
	baz=173,SNR=30						
PAULI	Pauline	44.16	357	eP	P	17 38 52.5	-0.5
PAULI				ePP	PP	17 40 36.3	-0.6
X50B	Fort Payne	44.16	352	P	P	17 38 52.0	-1.1
	baz=171,SNR=8.2						
X51A	Calhoun	44.17	353	eP	P	17 38 51.9	-1.1
X51A				ePP	PP	17 40 36.4	-0.7
X51A	Calhoun	44.17	353	P	P	17 38 52.2	-0.9
	baz=172,SNR=12						
W58A	Raeford	44.28	360	P	P	17 38 53.4	-0.5
	baz=180,SNR=23						
X49A	Woodville	44.31	351	P	P	17 38 53.2	-1.0
	baz=170,SNR=21						
W60A	Pink Hill	44.33	2	P	P	17 38 53.9	-0.5
	baz=182						
X48A	Hartselle	44.36	351	eP	P	17 38 53.2	-1.4
X48A	Hartselle	44.36	351	P	P	17 38 53.6	-1.0
	baz=169,SNR=15						
BG3	Lake Jocassee	44.40	355	eP	P	17 38 54.2	-0.8
BG3				ePcP	PcP	17 40 36.5	-1.6
W56A	Indian Trail	44.42	358	P	P	17 38 54.1	-1.0
	baz=178,SNR=14						
W57A	Gilead	44.42	359	P	P	17 38 54.2	-0.8
	baz=179,SNR=21						
W59A	Clinton	44.43	1	P	P	17 38 54.5	-0.6
	baz=181						
W54A	Cherokee Point	44.44	356	P	P	17 38 55.0	-0.3
	baz=176,SNR=30						
KMSC	Kings Mountain	44.45	357	eP	P	17 38 54.5	-0.9
KMSC				ePcP	PcP	17 40 37.7	-0.5
KMSC	Kings Mountain	44.45	357	P	P	17 38 54.7	-0.6
	baz=177,SNR=51						
JCT	Junction City	44.46	334	eP	P	17 38 55.4	-0.1
JCT				ePcP	PcP	17 40 37.7	-0.7
JCT	Junction City	44.46	334	eP	P	17 38 55.4	-0.1
JCT				e		17 40 37.7	
JCT	Junction City	44.46	334	P	P	17 38 55.8	+0.2
	baz=150,SNR=31						
HPIG		44.47	325	eP	P	17 38 55.8	-0.1
HPIG				ePcP	PcP	17 40 38.1	-0.6
Z41A	Richland Creek	44.49	344	eP	P	17 38 55.9	+0.2
Z41A				ePcP	PcP	17 40 38.6	+0.2
Z41A	Richland Creek	44.49	344	P	P	17 38 56.1	+0.5
	baz=160,SNR=13						
CNNC	Cliffs of the	44.51	1	eP	P	17 38 55.0	-0.8
CNNC	Cliffs of the	44.51	1	P	P	17 38 55.5	-0.3
	baz=182						
X47A	Russelville	44.56	350	P	P	17 38 55.1	-1.1
	baz=168,SNR=18						
W52A	Murphy	44.59	354	eP	P	17 38 55.5	-1.0
W52A				ePcP	PcP	17 40 37.7	-1.0
W53A	Cullowhee	44.60	355	P	P	17 38 56.0	-0.7
	baz=174,SNR=54						
SLBS	Sierra La Lagu	44.70	318	eP	P	17 38 58.4	+0.7
X46A	Booneville	44.73	349	P	P	17 38 56.6	-1.0
	baz=167,SNR=6.9						
W51A	Cleveland	44.74	353	P	P	17 38 57.0	-0.7
	baz=172,SNR=26						
CCAR	Cane Creek	44.83	345	eP	P	17 38 58.4	0.0
CCAR				ePcP	PcP	17 40 39.6	+0.1
WHTX	Lake Whitney,	44.85	338	eP	P	17 38 58.6	+0.1
WHTX				ePcP	PcP	17 40 38.3	-1.3
WHTX	Lake Whitney,	44.85	338	P	P	17 38 58.5	-0.1
	baz=154,SNR=8.2						
W50A	Signal Mountai	44.85	353	eP	P	17 38 57.1	-1.5
W50A				ePcP	PcP	17 40 38.4	-1.2
W50A	Signal Mountai	44.85	353	P	P	17 38 57.5	-1.0
	baz=171,SNR=22						
OXF	Oxford	44.86	348	eP	P	17 38 56.7	-1.9
OXF				ePcP	PcP	17 40 38.7	-0.8
OXF	Oxford	44.86	348	eP	P	17 38 56.7	-1.9
OXF				e		17 40 38.7	
W49A	Belvidere	44.90	352	P	P	17 38 58.0	-0.9
	baz=170,SNR=14						
SWET	Sewanee	44.95	352	eP	P	17 38 57.8	-1.6
WLAR	White Oak Lake	44.98	343	eP	P	17 39 00.4	+0.9
CPCT	Cooper Cave	45.00	354	eP	P	17 38 58.6	-1.1
CPCT				ePcP	PcP	17 40 39.4	-0.7
W48A	Pulaski	45.02	351	P	P	17 38 58.8	-1.1
	baz=169,SNR=25						
V59A	Middlesex	45.03	1	P	P	17 38 59.4	-0.5
	baz=181,SNR=18						
PLAL	Pickwick Lake	45.05	350	eP	P	17 38 58.5	-1.6
PLAL				ePcP	PcP	17 40 39.0	-1.2
V53A	Saluda	45.07	356	eP	P	17 38 58.9	-1.4
V53A				ePcP	PcP	17 40 39.6	-0.8
V53A	Saluda	45.07	356	P	P	17 38 59.5	-0.8
	baz=175,SNR=24						
V56A	Mocksville	45.09	358	P	P	17 38 59.9	-0.5
	baz=178,SNR=14						
V61A	Roper	45.11	3	P	P	17 39 00.3	-0.3
	baz=183						
V54A	Nebo	45.12	357	P	P	17 39 00.1	-0.6
	baz=176,SNR=49						
TKL	Tuckaleechee C	45.14	355	P	P	17 38 59.8	-1.0
	comp=Z,68nm,1.1s,baz=171,slow=8.9,SNR=44						
V57A	Coltrane Farms	45.15	359	P	P	17 39 00.1	-0.8
	baz=179,SNR=18						
V55A	Taylorsville	45.16	358	P	P	17 39 00.3	-0.7
	baz=177,SNR=13						
X43A	Marvell	45.19	346	eP	P	17 39 01.2	+0.1
X43A	Marvell	45.19	346	P	P	17 39 01.3	+0.1
	baz=164,SNR=6.3						
W47A	Westpoint	45.23	350	P	P	17 39 00.4	-1.2
	baz=168,SNR=38						
W46A	Michie	45.26	349	P	P	17 39 00.2	-1.6
	baz=167						
V50A	Pikevile	45.29	353	P	P	17 39 01.2	-0.8
	baz=172,SNR=28						
V52A	Sevierville	45.30	355	eP	P	17 39 00.6	-1.5
V52A	Sevierville	45.30	355	P	P	17 39 01.1	-1.0
	baz=174,SNR=57						
TXAR	Lajitas Array	45.31	329	P	P	17 39 02.4	0.0
	comp=Z,19nm,0.9s,baz=149,slow=8.8,SNR=127						
TXAR				PcP	PcP	17 40 42.0	+0.6
	comp=Z,9.7nm,1.0s,baz=140,slow=5.9,SNR=6.9						
TXAR				pPcP		17 40 55.5	
	comp=Z,8.6nm,1.0s,baz=148,slow=7.3,SNR=6.6						
TXAR				LR	LR	17 56 49.0	
	comp=Z,736nm,18.0s,baz=0.0,slow=34						
TX31	Lajitas Ar. Si	45.31	329	eP	P	17 39 02.1	-0.3
TX31				ePcP	PcP	17 40 41.1	-0.3
TX31				ePP	PP	17 40 55.0	+5.6
V51A	Loudon	45.34	354	eP	P	17 39 00.9	-1.5
V51A	Loudon	45.34	354	P	P	17 39 01.4	-1.0
	baz=173,SNR=24						
V49A	McMinnville	45.48	352	P	P	17 39 02.2	-1.3
	baz=170,SNR=43						
MET	Memphis--Engin	45.55	348	eP	P	17 39 03.2	-0.9
V48A	Smith Brothers	45.59	351	eP	P	17 39 03.1	-1.2
V48A				ePcP	PcP	17 40 41.2	-0.9
V48A	Smith Brothers	45.59	351	P	P	17 39 03.4	-1.0
	baz=169,SNR=48						
U59A	Littleton	45.63	1	P	P	17 39 04.3	-0.3
	baz=182,SNR=19						
X40A	Basin Creek Fa	45.65	344	eP	P	17 39 04.8	-0.1
X40A	Basin Creek Fa	45.65	344	P	P	17 39 04.9	0.0
	baz=161,SNR=35						
U58A	Oxford	45.66	1	P	P	17 39 04.3	-0.6
	baz=181,SNR=15						
U53A	Fall Branch	45.74	356	P	P	17 39 04.5	-1.1
	baz=175,SNR=30						
V47A	Nunnelly	45.78	350	P	P	17 39 04.3	-1.6
	baz=168,SNR=8.1						
UALR	University of	45.79	345	eP	P	17 39 05.8	-0.2
UALR				ePcP	PcP	17 40 42.5	-0.3
U55A	TA2, Sparta	45.80	358	P	P	17 39 05.4	-0.7
	baz=177,SNR=24						
U52A	Thorn Hill	45.83	355	P	P	17 39 05.2	-1.1
	baz=174,SNR=28						
U54A	Nelsons Funny	45.85	357	P	P	17 39 05.7	-0.8
	baz=176,SNR=24						
V46A	Holladay	45.86	350	P	P	17 39 04.5	-2.0
	baz=168,SNR=16						
U51A	La Follette	45.87	354	P	P	17 39 05.5	-1.1
	baz=173,SNR=17						
MIAR	Mount Ida	45.91	343	eP	P	17 39 06.5	-0.5
MIAR	Mount Ida	45.91	343	eP	P	17 39 06.5	-0.5
MIAR	Mount Ida	45.91	343	P	P	17 39 07.3	+0.3
	baz=160,SNR=64						
TZTN	Tazewell	45.99	355	eP	P	17 39 06.5	-1.1
TZTN	Tazewell	45.99	355	P	P	17 39 06.6	-1.0
	baz=174,SNR=21						
U50A	Jamestown	45.99	354	P	P	17 39 06.5	-1.1
	baz=172,SNR=39						
HBAR	Harrisburg	46.13	347	eP	P	17 39 07.3	-1.3
WVT	Waverly	46.13	350	eP	P	17 39 06.6	-2.0
WVT				ePcP	PcP	17 40 43.1	-0.8
WVT				ePP	PP	17 40 57.2	-0.6
WVT	Waverly	46.13	350	eP	P	17 39 06.6	-2.0
WVT				e		17 40 43.2	
WVT				e		17 40 57.2	
WVT	Waverly	46.13	350	P	P	17 39 07.1	-1.6
	baz=168						
W41B	Gary Mavity, V	46.15	345	eP	P	17 39 08.4	-0.3
W41B	Gary Mavity, V	46.15	345	P	P	17 39 08.9	+0.1
	baz=162,SNR=67						
U49A	Red Boiling Sp	46.20	353	P	P	17 39 07.9	-1.3
	baz=171,SNR=19						
T58A	Grand View Acr	46.20	1	P	P	17 39 08.4	-0.8
	baz=181,SNR=34						
T59A	Double "B" Far	46.25	2	P	P	17 39 09.1	-0.4
	baz=182,SNR=23						
T57A	Hurt	46.26	360	P	P	17 39 09.0	-0.6
	baz=180,SNR=54						
ABTX	Abilene, Hawle	46.26	336	eP	P	17 39 09.8	0.0
ABTX	Abilene, Hawle	46.26	336	P	P	17 39 10.0	+0.2
	baz=151,SNR=39						
WHAR	Wooly Hollow	46.27	345	eP	P	17 39 09.5	-0.2
T56A	Rocky Mt	46.29	359	P	P	17 39 09.6	-0.4
	baz=179,SNR=23						
U48A	Cassie Pea, Po	46.30	352	P	P	17 39 08.6	-1.4
	baz=170,SNR=17						
U47A	Clarksville	46.35	351	P	P	17 39 08.7	-1.6
	baz=169,SNR=16						
T53A	Wise	46.35	356	P	P	17 39 09.4	-1.1
	baz=175,SNR=36						
T54A	Tazewell	46.38	357	P	P	17 39 09.6	-1.0
	baz=177,SNR=18						
GNAR	Gosnell	46.38	348	eP	P	17 39 09.7	-0.9
T55A	Pulaski	46.40	358	P	P	17 39 10.4	-0.4
	baz=178,SNR=6.7						
U46A	Springville	46.41	350	P	P	17 39 09.4	-1.4
	baz=168,SNR=9.2						
T51A	Gray	46.45	355	P	P	17 39 09.9	-1.2
	baz=173,SNR=40						
T60A	Surry	46.45	3	P	P	17 39 10.6	-0.5
	baz=183						
BLA	Blacksburg	46.48	359	eP	P	17 39 09.9	-1.6
BLA				ePcP	PcP	17 40 45.0	-0.3
BLA	Blacksburg	46.48	359	eP	P	17 39 09.9	-1.6
BLA				e		17 40 45.0	
BLA	Blacksburg	46.48	359	P	P	17 39 10.8	-0.7
	baz=178,SNR=14						
X37A	Clayton	46.49	341	eP	P	17 39 12.0	+0.5
T52A	Hallie	46.51	356	P	P	17 39 10.7	-0.9
	baz=175,SNR=34						
UTMT	University of	46.52	349	eP	P	17 39 10.7	-1.0
UTMT				ePcP	PcP	17 40 44.6	-0.7
W39A	Magazine	46.58	343	eP	P	17 39 12.7	+0.5
W39A	Magazine	46.58	343	P	P	17 39 12.9	+0.7
	baz=160,SNR=55						
T50A	Nancy	46.59	354	P	P	17 39 10.7	-1.6
	baz=172,SNR=14						
PVMO	Portageville	46.75	348	eP	P	17 39 12.6	-0.9
T49A	Edmonton	46.76	353	eP	P	17 39 12.1	-1.5
T49A	Edmonton	46.76	353	P	P	17 39 12.2	-1.3
	baz=171,SNR=39						
U44A	Portageville	46.84	348	P	P	17 39 13.5	-0.7
	baz=166,SNR=7.3						
T47A	Sharon Grove	46.85	351	eP	P	17 39 12.2	-2.1
T47A				ePcP	PcP	17 40 45.8	-0.7
T47A	Sharon Grove	46.85	351	P	P	17 39 12.6	-1.7
	baz=169,SNR=14						
T48A	Bowling Green	46.87	352	P	P	17 39 12.9	-1.5
	baz=170,SNR=23						
S53A	Williamson	47.02	357	P	P	17 39 14.3	-1.3
	baz=176,SNR=19						
T46A	Princeton	47.03	350	P	P	17 39 14.3	-1.3
	baz=168,SNR=24						
S55A	Lewisburg	47.05	358	P	P	17 39 15.2	-0.6
	baz=178,SNR=29						
S52A	Salyersville	47.08	356	P	P	17 39 14.9	-1.2
	baz=175,SNR=33						
S51A	Beattyville	47.09	355	eP	P	17 39 14.5	-1.6
S51A				ePcP	PcP	17 40 47.2	-0.1
S51A	Beattyville	47.09	355	P	P	17 39 14.9	-1.2
	baz=174,SNR=34						
T45A	Paducah	47.14	350	eP	P	17 39 15.1	-1.4
T45A	Paducah	47.14	350	P	P	17 39 15.0	-1.5
	baz=167						
U41A	Viola	47.18	346	P	P	17 39 16.3	-0.5
	baz=163,SNR=52						
S50A	Richmond	47.20	354	P	P	17 39 15.9	-1.1
	baz=173,SNR=38						
R58B	Mineral	47.23	1	eP	P	17 39 16.9	-0.2
R58B	Mineral	47.23	1	P	P	17 39 17.1	-0.1
	baz=182,SNR=59						
PBMO	Poplar Bluff	47.26	348	eP	P	17 39 16.4	-1.0
PBMO				ePcP	PcP	17 40 47.2	-0.7
S48A	Wiedeman Farm,	47.37	352	P	P	17 39 16.5	-1.7
	baz=171,SNR=14						
S49A	Springfield	47.40	353	P	P	17 39 17.1	-1.4
	baz=172,SNR=25						
S47A	Hartford	47.42	352	P	P	17 39 17.0	-1.6
	baz=170,SNR=18						
U40A	Yellville	47.42	345	P	P	17 39 18.8	0.0
	baz=161,SNR=143						
R54A	Victor	47.47	358	P	P	17 39 18.3	-0.8
	baz=177,SNR=23						
CBN	Corbin Frederi	47.49	2	eP	P	17 39 18.9	-0.2
CBN				ePcP	PcP	17 40 47.5	-1.2
CBN	Corbin Frederi	47.49	2	P	P	17 39 19.0	-0.2
	baz=182,SNR=6.5						
T43A	Greenville	47.52	348	P	P	17 39 18.6	-0.9
	baz=165,SNR=58						
R55A	Marlinton	47.55	359	P	P	17 39 19.3	-0.5
	baz=179,SNR=20						
S46A	Don Dixon Farm	47.63	351	P	P	17 39 18.7	-1.6
	baz=168,SNR=9.0						
HHAR	Hobbs	47.64	344	eP	P	17 39 20.0	-0.5
R53A	Hurricane	47.66	357	P	P	17 39 19.4	-1.1
	baz=176,SNR=15						
R52A	Catlettsburg	47.71	356	P	P	17 39 19.5	-1.4
	baz=175,SNR=5.1						
R51A	Hillsboro	47.74	355	P	P	17 39 20.1	-1.1
	baz=174,SNR=40						
S45A	Carrier Mills	47.77	350	P	P	17 39 20.1	-1.2
	baz=167,SNR=7.5						
R50A	Paris	47.79	354	P	P	17 39 20.2	-1.3
	baz=173,SNR=23						
WMOK	Wichita Mounta	47.79	338	eP	P	17 39 20.5	-1.2
WMOK				ePcP	PcP	17 40 49.4	-0.5
WMOK	Wichita Mounta	47.79	338	eP	P	17 39 20.5	-1.2
WMOK				e		17 40 49.4	
WMOK	Wichita Mounta	47.79	338	P	P	17 39 21.3	-0.4
	baz=153,SNR=40						
CLNB	Carlsbad	47.81	331	eP	P	17 39 22.4	+0.4
TUL1	Leonard	47.84	342	eP	P	17 39 21.3	-0.7
TUL1	Leonard	47.84	342	P	P	17 39 21.8	-0.1
	baz=158,SNR=44						
R49A	Shelbyville	47.88	354	P	P	17 39 20.9	-1.4
	baz=172,SNR=26						
USIN	University of	47.90	351	eP	P	17 39 20.9	-1.4
USIN				ePcP	PcP	17 40 48.8	-1.4
S44A	Carbondale	47.91	349	P	P	17 39 21.5	-1.0
	baz=166,SNR=19						
SIUC	Southern Illin	47.92	349	eP	P	17 39 21.2	-1.3
SIUC				ePcP	PcP	17 40 48.9	-1.3
S43A	Fulton Ridge,	47.95	348	P	P	17 39 21.6	-1.2
	baz=165,SNR=15						
WCI	Wyandotte Cave	47.96	352	eP	P	17 39 21.3	-1.6
WCI				ePcP	PcP	17 40 49.1	-1.3
WCI	Wyandotte Cave	47.96	352	eP	P	17 39 21.3	-1.6
WCI				e		17 40 49.1	
WCI	Wyandotte Cave	47.96	352	P	P	17 39 21.4	-1.5
	baz=170						
GDL2	Guadalupe Moun	47.99	331	eP	P	17 39 23.2	-0.2
GDL2				ePcP	PcP	17 40 50.5	-0.4
R47A	Wooly Knot Far	48.06	352	P	P	17 39 21.8	-1.8
	baz=170,SNR=13						
R48A	Northridge Ran	48.08	353	P	P	17 39 22.4	-1.3
	baz=171,SNR=12						
MNTX	Cornudas Mount	48.09	330	eP	P	17 39 23.0	-1.0
MNTX				ePcP	PcP	17 40 49.9	-1.2
MNTX	Cornudas Mount	48.09	330	P	P	17 39 23.6	-0.4
	baz=144,SNR=80						
R46A	Gibon Southern	48.12	351	P	P	17 39 22.5	-1.5
	baz=169						
Q53A	Leroy	48.17	357	P	P	17 39 23.7	-0.7
	baz=177,SNR=46						
Q55A	Buckhannon	48.26	359	P	P	17 39 24.9	-0.3
	baz=179,SNR=54						
Q54A	Coxs Mills	48.27	358	P	P	17 39 24.1	-1.1
	baz=178,SNR=31						
S42A	Caledonia	48.29	348	P	P	17 39 23.9	-1.5
	baz=164,SNR=17						
Q52A	Bidwell	48.31	357	P	P	17 39 24.3	-1.2
	baz=176,SNR=26						
Q50A	Georgetown	48.31	355	P	P	17 39 24.3	-1.3
	baz=174,SNR=13						
R45A	Skylar, Fairfi	48.32	350	P	P	17 39 24.4	-1.2
	baz=168,SNR=16						
S41A	Jillco Farms,	48.32	347	P	P	17 39 25.1	-0.6
	baz=163,SNR=112						
R44A	Waltonville	48.41	349	P	P	17 39 25.2	-1.1
	baz=167,SNR=8.4						
FVM	French Village	48.42	348	eP	P	17 39 25.4	-1.0
FVM	French Village	48.42	348	eP	P	17 39 25.4	-1.0
Q51A	Peebles	48.44	356	eP	P	17 39 25.3	-1.3
Q51A				ePcP	PcP	17 40 51.3	-0.9
Q51A	Peebles	48.44	356	P	P	17 39 25.4	-1.2
	baz=174,SNR=34						
Q48A	North Vernon	48.58	353	P	P	17 39 26.1	-1.5
	baz=171,SNR=25						
CCM	Cathedral Cave	48.66	347	eP	P	17 39 27.1	-1.1
CCM	Cathedral Cave	48.66	347	eP	P	17 39 27.1	-1.1
CCM	Cathedral Cave	48.66	347	P	P	17 39 27.6	-0.7
	baz=164						
Q47A	Bedord North L	48.67	352	P	P	17 39 26.8	-1.5
	baz=170,SNR=22						
SDMD	Soldier's Deli	48.71	2	eP	P	17 39 28.1	-0.5
SDMD				ePcP	PcP	17 40 52.4	-0.7
SRIG	Santa Rosalia	48.71	320	eP	P	17 39 28.9	+0.1
SRIG				ePcP	PcP	17 40 53.5	+0.1
EPT	El Paso	48.71	329	eP	P	17 39 28.6	-0.4
OLIL	Olney	48.72	351	eP	P	17 39 27.1	-1.5
OLIL				ePcP	PcP	17 40 52.1	-1.0
MSTX	Muleshoe	48.74	334	eP	P	17 39 28.6	-0.5
MSTX	Muleshoe	48.74	334	P	P	17 39 28.8	-0.3
	baz=148,SNR=38						
P55A	Reedsville	48.77	359	P	P	17 39 28.5	-0.6
	baz=179,SNR=8.3						
R42A	Luebbering	48.78	348	P	P	17 39 28.2	-1.0
	baz=165,SNR=16						
P53A	Whipple	48.79	358	eP	P	17 39 27.9	-1.3
P53A				ePcP	PcP	17 40 53.0	-0.4
P53A	Whipple	48.79	358	P	P	17 39 28.2	-1.0
	baz=177,SNR=24						
P54A	Burton	48.87	359	P	P	17 39 29.0	-0.9
	baz=178,SNR=25						
P51A	Williamsport	48.88	356	eP	P	17 39 28.0	-1.8
P51A				ePcP	PcP	17 40 53.7	0.0
P51A	Williamsport	48.88	356	P	P	17 39 28.5	-1.4
	baz=175,SNR=29						
Q45A	Warren Harvey,	48.88	351	P	P	17 39 28.5	-1.4
	baz=168,SNR=8.2						
Q46A	CEJHS Indians,	48.89	351	P	P	17 39 28.0	-2.0
	baz=169						
MCWV	Mont Chateau	48.92	359	eP	P	17 39 28.3	-1.9
MCWV	Mont Chateau	48.92	359	P	P	17 39 29.3	-0.9
	baz=179,SNR=8.2						
BLO	Bloomington	48.92	352	eP	P	17 39 28.7	-1.5
BLO				ePcP	PcP	17 40 53.1	-0.8
BLO	Bloomington	48.92	352	eP	P	17 39 28.7	-1.5
BLO				e		17 40 53.1	
R41A	Rosebud	48.92	347	P	P	17 39 29.4	-0.8
	baz=164,SNR=53						
P52A	Corning	48.97	357	P	P	17 39 29.5	-1.1
	baz=176,SNR=50						
SLM	Saint Louis	49.01	348	eP	P	17 39 29.6	-1.2
SLM				ePcP	PcP	17 40 53.4	-0.8
SLM	Saint Louis	49.01	348	eP	P	17 39 29.7	-1.2
SLM				e		17 40 53.1	
Q44A	Meyer Farm, Va	49.04	350	eP	P	17 39 29.6	-1.5

Q44A				ePcP	PcP	17 40 53.6	-0.7		
Q44A	Meyer Farm, Va	49.04	350	P	P	17 39 29.8	-1.3		
	baz=167,SNR=22								
AMTX	Amarillo	49.06	335	eP	P	17 39 30.4	-1.1		
AMTX	Amarillo	49.06	335	P	P	17 39 31.2	-0.3		
	baz=150								
P50A	Jamestown	49.06	355	P	P	17 39 29.9	-1.4		
	baz=174,SNR=41								
P49A	Miami Univ. Ec	49.07	354	P	P	17 39 29.5	-1.8		
	baz=173,SNR=23								
P48A	Milroy	49.07	353	P	P	17 39 29.7	-1.7		
	baz=172,SNR=24								
HSIG		49.11	322	eP	P	17 39 31.3	-0.6		
HSIG				ePcP	PcP	17 40 53.5	-1.3		
P47A	Martinsville	49.20	353	P	P	17 39 30.7	-1.6		
	baz=171,SNR=13								
Q43A	New Douglas	49.20	349	P	P	17 39 31.5	-0.9		
	baz=166,SNR=14								
PSUB	Penn St. - Bra	49.30	4	eP	P	17 39 33.0	-0.1		
MVL	Millersville	49.32	3	eP	P	17 39 32.9	-0.3		
Q42A	Golden Eagle	49.33	348	P	P	17 39 32.6	-0.8		
	baz=165,SNR=26								
O52A	Adamsville	49.43	357	eP	P	17 39 32.6	-1.6		
O52A	Adamsville	49.43	357	P	P	17 39 33.1	-1.1		
	baz=176,SNR=39								
P45A	Graceland, Par	49.44	351	eP	P	17 39 32.5	-1.6		
P45A				ePcP	PcP	17 40 55.2	-0.6		
P45A	Graceland, Par	49.44	351	P	P	17 39 32.6	-1.6		
	baz=169,SNR=34								
O54A	Avella	49.45	359	P	P	17 39 33.0	-1.3		
	baz=178,SNR=5.9								
P46A	Rosedale	49.45	352	P	P	17 39 32.8	-1.5		
	baz=169,SNR=16								
O55A	Ligonier	49.46	360	P	P	17 39 33.8	-0.6		
	baz=180,SNR=26								
O51A	Pataskala	49.51	356	P	P	17 39 33.5	-1.2		
	baz=175,SNR=54								
Q41A	Truxton	49.52	348	P	P	17 39 34.0	-0.8		
	baz=164,SNR=41								
P44A	Sand Creek, Wi	49.52	350	P	P	17 39 33.6	-1.2		
	baz=168,SNR=9.3								
O56A	Blue Knob Stat	49.52	1	eP	P	17 39 34.1	-0.8		
O56A	Blue Knob Stat	49.52	1	P	P	17 39 34.4	-0.5		
	baz=181,SNR=29								
PAGS	Pennsylvania G	49.53	2	eP	P	17 39 34.5	-0.3		
O53A	New Philadelph	49.54	358	P	P	17 39 33.9	-1.1		
	baz=177,SNR=21								
O50A	Cable	49.58	355	P	P	17 39 34.1	-1.1		
	baz=174,SNR=45								
ACSO	Alum Creek Sta	49.62	356	eP	P	17 39 34.0	-1.6		
ACSO	Alum Creek Sta	49.62	356	P	P	17 39 34.5	-1.0		
	baz=175,SNR=56								
O49A	Covington	49.68	355	eP	P	17 39 34.5	-1.5		
O49A				ePcP	PcP	17 40 55.6	-1.0		
O49A	Covington	49.68	355	P	P	17 39 34.5	-1.5		
	baz=173,SNR=28								
O48A	Farmland	49.83	354	P	P	17 39 35.9	-1.3		
	baz=172,SNR=122								
P43A	Skaggs, Pawnee	49.85	349	P	P	17 39 36.3	-1.0		
	baz=166,SNR=20								
319A	Douglas	49.89	326	eP	P	17 39 38.4	+0.4		
SSPA	Standing Stone	49.90	1	eP	P	17 39 36.8	-0.9		
SSPA				ePcP	PcP	17 40 56.3	-1.1		
SSPA	Standing Stone	49.90	1	P	P	17 39 37.4	-0.3		
	baz=182								
O47A	Sheridan	49.92	353	P	P	17 39 36.1	-1.8		
	baz=171,SNR=29								
P42A	Winchester	49.95	349	eP	P	17 39 36.1	-1.9		
P42A				ePcP	PcP	17 40 57.3	-0.3		
P42A	Winchester	49.95	349	P	P	17 39 36.9	-1.1		
	baz=165,SNR=25								
LUPA	Lehigh Univers	49.97	4	eP	P	17 39 38.1	-0.1		
121A	Cookes Peak, D	49.98	328	P	P	17 39 39.4	+0.8		
	baz=142,SNR=35								
N55A	Marion Center	50.03	0	P	P	17 39 38.2	-0.5		
	baz=180,SNR=36								
N53A	Lisbon	50.08	358	P	P	17 39 37.8	-1.3		
	baz=178,SNR=19								
BRNJ	Basking Ridge	50.11	4	eP	P	17 39 39.3	+0.1		
N52A	McGinn's Farm,	50.12	357	P	P	17 39 38.0	-1.3		
	baz=177,SNR=14								
O45A	Potomac	50.14	351	P	P	17 39 37.8	-1.7		
	baz=169,SNR=26								
N50A	Nevada	50.16	356	P	P	17 39 38.5	-1.2		
	baz=175,SNR=53								
O44A	Mansfield	50.16	351	P	P	17 39 38.1	-1.6		
	baz=168,SNR=18								
P41A	Barry, Barry	50.18	348	P	P	17 39 38.7	-1.1		
	baz=165,SNR=17								
SFIN	Lafayette	50.18	352	eP	P	17 39 37.6	-2.2		
SFIN	Lafayette	50.18	352	P	P	17 39 38.0	-1.8		
	baz=170,SNR=48								
N54A	Moraine State	50.22	359	eP	P	17 39 38.5	-1.6		
N54A				ePcP	PcP	17 40 57.9	-0.7		
N54A	Moraine State	50.22	359	P	P	17 39 39.2	-0.9		
	baz=179,SNR=22								
N59A	State Game Lan	50.26	3	eP	P	17 39 40.1	-0.4		
N59A	State Game Lan	50.26	3	P	P	17 39 40.8	+0.3		
	baz=184,SNR=33								
N51A	Ashland	50.26	357	eP	P	17 39 38.6	-1.8		
N51A				ePcP	PcP	17 40 58.2	-0.6		
N51A	Ashland	50.26	357	P	P	17 39 39.1	-1.3		
	baz=176,SNR=25								
CPNY	Central Park	50.27	5	eP	P	17 39 39.7	-0.7		
N49A	Columbus Grove	50.39	355	eP	P	17 39 40.2	-1.2		
N49A	Columbus Grove	50.39	355	P	P	17 39 40.3	-1.1		
	baz=173,SNR=78								
N48A	Decatur	50.41	354	P	P	17 39 40.1	-1.4		
	baz=172,SNR=56								
O43A	Sugar Creek Fa	50.44	350	P	P	17 39 40.4	-1.3		
	baz=167,SNR=9.7								
PAL	Palisades	50.48	5	eP	P	17 39 41.6	-0.4		
PAL	Palisades	50.48	5	eP	P	17 39 41.6	-0.4		
PAL	Palisades	50.48	5	P	P	17 39 41.5	-0.6		
	baz=187,SNR=5.0								
O42A	Bath	50.49	349	P	P	17 39 40.8	-1.3		
	baz=166,SNR=13								
N47A	Urbana	50.50	354	P	P	17 39 40.5	-1.7		
	baz=172,SNR=76								
ODNJ	Ogdensburg	50.50	4	eP	P	17 39 41.6	-0.6		
ODNJ				ePcP	PcP	17 40 58.0	-1.6		
O41A	Passleys Farm,	50.56	348	P	P	17 39 41.5	-1.2		
	baz=165,SNR=39								
N46A	Monticello	50.64	352	P	P	17 39 41.6	-1.7		
	baz=170,SNR=35								
M51A	Elyria	50.66	357	P	P	17 39 42.2	-1.3		
	baz=176,SNR=24								
BNM	Barren Site	50.68	330	eP	P	17 39 44.0	0.0		
BNM				ePcP	PcP	17 41 01.1	+0.3		
HDIL	Hopedale	50.70	350	eP	P	17 39 42.2	-1.5		
HDIL	Hopedale	50.70	350	P	P	17 39 42.3	-1.4		
	baz=167,SNR=21								
N45A	Kentland	50.70	352	P	P	17 39 41.8	-1.9		
	baz=169,SNR=27								
M53A	Wi Miller and	50.71	358	P	P	17 39 42.7	-1.1		
	baz=178,SNR=17								
M55A	Ridgway	50.72	0	P	P	17 39 43.1	-0.8		
	baz=180,SNR=17								
N44A	Piper City	50.74	351	P	P	17 39 42.2	-1.9		
	baz=168,SNR=28								
Y22D	IRIS PASSCAL I	50.76	330	eP	P	17 39 44.3	-0.2		
M54A	Oil Creek Stat	50.76	359	eP	P	17 39 42.9	-1.3		
M54A	Oil Creek Stat	50.76	359	P	P	17 39 43.1	-1.1		
	baz=179,SNR=24								
M50A	Fremont	50.79	356	eP	P	17 39 43.1	-1.2		
M50A	Fremont	50.79	356	P	P	17 39 43.3	-1.0		
	baz=175,SNR=50								
M52A	Chesterland	50.83	358	P	P	17 39 43.2	-1.6		
	baz=177,SNR=11								
LENM	Lemitar	50.86	330	eP	P	17 39 45.5	+0.2		
LENM				ePcP	PcP	17 41 01.5	+0.1		
YLE	Yale	50.88	6	eP	P	17 39 45.3	+0.3		
KSPA	Keystone Colle	50.90	3	eP	P	17 39 44.5	-0.7		
ALLY	Alegheny Colle	50.91	359	eP	P	17 39 43.9	-1.4		
M49A	Liberty Center	50.92	355	P	P	17 39 44.1	-1.3		
	baz=174,SNR=49								
M47A	Cromwell	50.97	354	P	P	17 39 44.3	-1.4		
	baz=172,SNR=9.1								
M48A	Edgerton	51.00	355	eP	P	17 39 44.5	-1.5		
M48A	Edgerton	51.00	355	P	P	17 39 44.4	-1.5		
	baz=173								
KSU1	Kansas State U	51.03	342	P	P	17 39 45.6	-0.6		
	baz=158,SNR=14								
N43A	Stutzman Famil	51.05	350	P	P	17 39 45.1	-1.2		
	baz=167,SNR=45								
N42A	Yates City	51.09	349	P	P	17 39 45.5	-1.2		
	baz=166,SNR=26								
M46A	Old House Fiel	51.10	353	eP	P	17 39 44.8	-1.9		
M46A	Old House Fiel	51.10	353	P	P	17 39 45.0	-1.7		
	baz=171,SNR=18								
PLIO	Pelee Island,	51.10	357	P	P	17 39 45.5	-1.2		
	baz=176,SNR=50								
N41A	Harden Midland	51.13	349	eP	P	17 39 45.9	-1.1		
N41A	Harden Midland	51.13	349	P	P	17 39 45.9	-1.1		
	baz=165,SNR=14								
LAZ	Ladron	51.13	330	eP	P	17 39 47.5	+0.1		
M45A	Boilermakers S	51.20	352	P	P	17 39 45.5	-1.9		
	baz=170								
L53A	Girard	51.22	359	P	P	17 39 46.2	-1.4		
	baz=178,SNR=15								
ANMO	Albuquerque	51.24	331	eP	P	17 39 47.8	-0.3		
ANMO	Albuquerque	51.24	331	*c iP*	P	17 39 48.5	+0.4		
ANMO				pmax	pmax				
	comp=Z,79nm,1.3s								
ANMO	Albuquerque	51.24	331	P	P	17 39 48.7	+0.5		
	baz=144								
TASM	ASL Pad, Albuq	51.24	331	P	P	17 39 48.6	+0.5		
	baz=144,SNR=71								
TASM	ASL Pad, Albuq	51.24	331	P	P	17 39 48.6	+0.5		
	baz=144,SNR=64								
M44A	Midewin, Midew	51.31	351	eP	P	17 39 46.1	-2.2		
M44A				ePcP	PcP	17 41 02.4	-0.2		
M44A	Midewin, Midew	51.31	351	P	P	17 39 46.2	-2.0		
	baz=169,SNR=6.8								
ERPA	Erie	51.38	359	eP	P	17 39 47.5	-1.3		
ERPA	Erie	51.38	359	P	P	17 39 47.3	-1.4		
	baz=179,SNR=16								
L50A	Kingsville	51.41	356	P	P	17 39 47.6	-1.4		
	baz=175,SNR=18								
L48A	N Adams	51.43	355	P	P	17 39 47.8	-1.4		
	baz=173,SNR=16								
TUC	Tucson	51.43	325	eP	P	17 39 49.3	-0.2		
TUC				ePcP	PcP	17 41 02.8	-0.6		
TUC	Tucson	51.43	325	P	P	17 39 49.7	+0.2		
TUC				pmax	pmax				
	comp=Z,36nm,1.2s								
TUC	Tucson	51.43	325	P	P	17 39 49.9	+0.3		
	baz=139								
L55A	Hinsdale	51.44	1	P	P	17 39 48.5	-0.8		
	baz=181,SNR=24								
N40A	Mertquake, Sal	51.45	348	P	P	17 39 48.2	-1.1		
	baz=164,SNR=5.7								
M43A	Waltham Townsh	51.50	351	P	P	17 39 48.1	-1.5		
	baz=168,SNR=8.8								
BINY	Binghamton	51.53	3	eP	P	17 39 49.4	-0.5		
BINY	Binghamton	51.53	3	P	P	17 39 49.8	-0.1		
	baz=184,SNR=41								
L47A	Sherwood	51.53	354	P	P	17 39 48.4	-1.6		
	baz=172,SNR=19								
L49A	Milan	51.54	356	P	P	17 39 48.9	-1.1		
	baz=174,SNR=18								
BRYW	Bryant College	51.63	7	eP	P	17 39 50.6	-0.1		
M42A	Sheffield	51.65	350	P	P	17 39 49.2	-1.6		
	baz=166								
L46A	Eue Claire	51.69	353	P	P	17 39 49.3	-1.8		
	baz=171,SNR=9.6								
M41A	Milan	51.72	349	P	P	17 39 49.8	-1.5		
	baz=166,SNR=13								
AAM	Ann Arbor	51.72	356	eP	P	17 39 49.3	-2.0		
AAM	Ann Arbor	51.72	356	eP	P	17 39 49.3	-2.0		
AAM	Ann Arbor	51.72	356	P	P	17 39 50.1	-1.3		
	baz=174,SNR=9.3								
CBKS	Cedar Bluff	51.78	339	eP	P	17 39 51.8	-0.1		
CBKS				ePcP	PcP	17 41 04.7	+0.2		
CBKS	Cedar Bluff	51.78	339	eP	P	17 39 51.8	-0.1		
CBKS				e		17 41 04.7			
CBKS	Cedar Bluff	51.78	339	P	P	17 39 51.7	-0.2		
	baz=154,SNR=13								
QUA2	Belchertown	51.90	6	eP	P	17 39 52.4	-0.2		
M40A	Post Highland	51.93	348	P	P	17 39 51.8	-1.2		
	baz=164,SNR=17								
K55A	Perry	51.99	1	P	P	17 39 52.4	-1.0		
	baz=181,SNR=19								
MMNY	Mt. Morris Dam	51.99	1	eP	P	17 39 52.4	-1.0		
MMNY				ePcP	PcP	17 41 03.6	-1.5		
K51A	Iona Station	52.02	358	P	P	17 39 51.8	-1.8		
	baz=177								
K52A	Tillsonburg	52.05	358	P	P	17 39 52.4	-1.4		
	baz=178,SNR=11								
L44A	Lake County Fo	52.06	352	P	P	17 39 52.0	-1.9		
	baz=169								
BCX	Boston College	52.09	7	eP	P	17 39 53.7	-0.3		
WES	Weston	52.12	7	eP	P	17 39 54.3	0.0		
WES	Weston	52.12	7	eP	P	17 39 54.3	0.0		
T25A	Trinidad	52.13	334	eP	P	17 39 54.9	+0.1		
T25A	Trinidad	52.13	334	P	P	17 39 55.1	+0.3		
	baz=148,SNR=46								
M39A	Webster	52.14	348	P	P	17 39 53.4	-1.1		
	baz=164,SNR=21								
L42A	Oliver, Polo	52.17	350	eP	P	17 39 53.2	-1.4		
L42A				ePcP	PcP	17 41 04.7	-1.1		
L42A	Oliver, Polo	52.17	350	P	P	17 39 53.1	-1.6		
	baz=167,SNR=13								
K49A	Clarkson	52.19	356	P	P	17 39 53.5	-1.4		
	baz=174,SNR=6.8								
L43A	Garden Prairie	52.19	351	P	P	17 39 53.3	-1.5		
	baz=168,SNR=18								
K47A	Vermontville	52.20	354	P	P	17 39 53.0	-1.9		
	baz=173,SNR=16								
HRV	Adam Dziewonsk	52.21	7	eP	P	17 39 54.9	-0.1		
HRV	Adam Dziewonsk	52.21	7	P	P	17 39 56.0	+1.0		
HRV				pmax	pmax				
	comp=Z,42nm,1.6s								
HRV	Adam Dziewonsk	52.21	7	P	P	17 39 55.2	+0.2		
	baz=189								
TRY	Troy	52.22	5	eP	P	17 39 55.4	+0.3		
K48A	Perry	52.26	355	P	P	17 39 53.7	-1.6		
	baz=174,SNR=30								
K46A	Dorr	52.30	354	P	P	17 39 53.6	-2.0		
	baz=172,SNR=7.3								
214A	Organ Pipe Nat	52.34	323	P	P	17 39 56.7	+0.5		
	baz=136,SNR=42								
TYNO	Tyneside	52.35	359	P	P	17 39 54.5	-1.5		
	baz=179,SNR=5.7								
L41A	Preston	52.38	349	P	P	17 39 54.6	-1.7		
	baz=166,SNR=12								
MEDO	Medina	52.42	1	P	P	17 39 55.4	-1.1		
	baz=181								
STCO	Saint Catharin	52.46	360	P	P	17 39 55.4	-1.4		
	baz=180								
ELFO	Elginfield	52.48	358	P	P	17 39 55.0	-1.9		
	baz=177,SNR=8.5								
J52A	Paris	52.51	359	P	P	17 39 55.6	-1.6		
	baz=178,SNR=26								
L40A	Anamosa	52.51	349	eP	P	17 39 55.4	-1.8		
L40A	Anamosa	52.51	349	P	P	17 39 55.8	-1.4		
	baz=165,SNR=34								
J54A	Appleton	52.52	0	P	P	17 39 56.0	-1.2		
	baz=180								
J55A	Hilton	52.53	1	P	P	17 39 56.1	-1.2		
	baz=182,SNR=13								
K43A	Burlington	52.64	351	eP	P	17 39 56.4	-1.7		
K43A				ePcP	PcP	17 41 06.4	-1.1		
K43A	Burlington	52.64	351	P	P	17 39 56.6	-1.5		
	baz=168,SNR=11								
X18A	Snowflake	52.66	328	eP	P	17 39 58.8	+0.1		
X18A				ePcP	PcP	17 41 08.8	+0.6		
J48A	Bridge Port	52.72	356	P	P	17 39 57.3	-1.5		
	baz=174,SNR=27								
L39A	Vinton	52.72	348	P	P	17 39 57.4	-1.4		
	baz=164,SNR=12								
J49A	Marlette	52.74	356	P	P	17 39 56.9	-1.9		
	baz=175,SNR=18								
J47A	Sunmer	52.75	355	P	P	17 39 57.4	-1.5		
	baz=173,SNR=15								
SCIA	State Center	52.78	347	eP	P	17 39 57.9	-1.3		
SCIA				ePcP	PcP	17 41 07.5	-0.6		
SCIA	State Center	52.78	347	P	P	17 39 58.3	-0.9		
	baz=162,SNR=14								
ACCN	Adirondack Com	52.87	5	eP	P	17 39 59.5	-0.3		
K41A	Shullsburg	52.87	350	P	P	17 39 58.1	-1.7		
	baz=166,SNR=6.7								
ACTO	Acton	52.87	359	P	P	17 39 58.3	-1.5		
	baz=179,SNR=5.1								
K42A	Prairie Point,	52.87	351	P	P	17 39 58.3	-1.5		
	baz=167,SNR=5.4								
J46A	Howard City	52.94	354	P	P	17 39 58.5	-1.8		
	baz=172								
W18A	Petrified Fore	53.01	328	eP	P	17 40 01.1	-0.2		
W18A	Petrified Fore	53.01	328	P	P	17 40 02.0	+0.8		
	baz=141,SNR=22								
KSCO	Kaye Shedlock'	53.01	337	eP	P	17 40 00.4	-0.7		
KSCO				ePcP	PcP	17 41 07.4	-1.8		
KSCO	Kaye Shedlock'	53.01	337	P	P	17 40 00.7	-0.4		
	baz=150,SNR=12								
I53A	Kortright Cn E	53.08	360	P	P	17 39 59.4	-1.9		
	baz=179								
I51A	Listowel	53.08	358	P	P	17 39 59.7	-1.7		
	baz=178,SNR=14								
J45A	Montague	53.10	353	P	P	17 39 59.5	-2.0		
	baz=171								
K40A	Colesburg	53.11	349	P	P	17 40 00.1	-1.5		
	baz=165,SNR=30								
SDCO	Great Sand Dun	53.11	334	eP	P	17 40 01.8	-0.3		
SDCO	Great Sand Dun	53.11	334	P	P	17 40 02.3	+0.2		
	baz=147,SNR=62								
DRWO	Darlington Wes	53.12	0	P	P	17 40 00.4	-1.2		
	baz=180								
DRCO	St. Marys Ceme	53.13	0	P	P	17 40 00.5	-1.2		
	baz=180								
FFD	Franklin Falls	53.15	7	eP	P	17 40 01.6	-0.3		
JFWS	Jewell Farm	53.15	350	eP	P	17 39 59.3	-2.7		
JFWS				ePcP	PcP	17 41 09.0	-0.5		
JFWS	Jewell Farm	53.15	350	eP	P	17 39 59.3	-2.7		
JFWS				e		17 41 09.0			
JFWS	Jewell Farm	53.15	350	P	P	17 40 00.4	-1.5		
	baz=166,SNR=9.1								
WLVO	Wesleyville	53.18	1	P	P	17 40 00.7	-1.3		
	baz=181,SNR=13								
PKRO	Pickering	53.21	0	P	P	17 40 00.9	-1.4		
	baz=180,SNR=8.2								
PECO	Prince Edward	53.22	2	P	P	17 40 01.2	-1.1		
	baz=182,SNR=18								
K39A	Oelwein	53.26	348	P	P	17 40 01.0	-1.7		
	baz=164,SNR=22								
I49A	Point Hope	53.30	357	P	P	17 40 01.2	-1.8		
	baz=175,SNR=12								
BASO	Ashfield	53.31	358	P	P	17 40 01.6	-1.5		
	baz=177,SNR=11								
J43A	Natural Harves	53.31	352	P	P	17 40 01.5	-1.6		
	baz=168,SNR=8.7								
HNH	Hanover	53.31	6	eP	P	17 40 03.5	+0.4		
I52A	Shelburne	53.33	359	P	P	17 40 01.6	-1.7		
	baz=179,SNR=16								
J42A	Columbus	53.36	351	P	P	17 40 02.0	-1.5		
	baz=168,SNR=5.7								
X16A	Lo Mia Camp, P	53.38	327	eP	P	17 40 04.0	0.0		
X16A				ePcP	PcP	17 41 09.3	-1.5		
BWLO	Walkerton	53.40	358	P	P	17 40 02.1	-1.6		
	baz=177,SNR=15								
NCB	Newcomb	53.40	4	eP	P	17 40 03.3	-0.5		
I55A	Frankford	53.48	1	P	P	17 40 03.0	-1.3		
	baz=182,SNR=11								
I47A	Gladwin	53.50	355	P	P	17 40 02.8	-1.6		
	baz=173,SNR=18								
I46A	Reed City	53.50	354	P	P	17 40 02.4	-2.1		
	baz=172								
BRCO	Bruce Peninsul	53.54	358	P	P	17 40 03.1	-1.7		
	baz=177								
J41A	Loganville	53.55	350	P	P	17 40 03.3	-1.5		
	baz=167,SNR=15								
I48A	Sherman Twp	53.60	356	P	P	17 40 03.8	-1.4		
	baz=174,SNR=22								
BGNE	Belgrade	53.61	342	eP	P	17 40 04.0	-1.4		
BGNE				ePcP	PcP	17 41 10.6	-0.8		
BGNE	Belgrade	53.61	342	P	P	17 40 04.8	-0.6		
	baz=156,SNR=20								
I45A	Fountain	53.68	354	P	P	17 40 04.0	-1.8		
	baz=171								
S22A	4UR Ranch, Cre	53.70	333	eP	P	17 40 06.0	-0.4		
S22A				ePcP	PcP	17 41 11.6	-0.5		
S22A	4UR Ranch, Cre	53.70	333	P	P	17 40 06.4	-0.1		
	baz=145,SNR=21								
J40A	Soldiers Grove	53.71	349	P	P	17 40 04.4	-1.6		
	baz=166,SNR=16								
I43A	Langenfeld Bro	53.77	352	P	P	17 40 05.2	-1.3		
	baz=169,SNR=16								
DELO	Deloro Mine	53.78	1	P	P	17 40 05.2	-1.3		
	baz=182,SNR=24								
H55A	Tweed	53.83	2	P	P	17 40 05.6	-1.2		
	baz=182,SNR=22								
J39A	Decorah	53.83	349	P	P	17 40 05.3	-1.6		
	baz=164,SNR=13								
BMRO	Meriville Lake	53.88	358	P	P	17 40 05.4	-1.8		
	baz=177,SNR=7.4								
LBNH	Lisbon	53.88	6	eP	P	17 40 07.3	0.0		
LBNH	Lisbon	53.88	6	eP	P	17 40 07.3	0.0		
LBNH	Lisbon	53.88	6	P	P	17 40 07.8	+0.6		
	baz=189,SNR=9.3								
I42A	Draeger Farm,	53.89	351	eP	P	17 40 06.0	-1.3		
I42A				ePcP	PcP	17 41 11.7	-0.6		
I42A	Draeger Farm,	53.89	351	P	P	17 40 06.3	-1.0		
	baz=168,SNR=10								
VT1	Waterbury	53.89	6	eP	P	17 40 06.9	-0.4		
H52A	Wyevale	53.90	359	P	P	17 40 05.7	-1.6		
	baz=179,SNR=8.1								
H56A	Elgin	53.90	2	P	P	17 40 06.7	-0.7		
	baz=183,SNR=47								
Q24A	Divide	53.98	335	eP	P	17 40 08.4	-0.1		
Q24A	Divide	53.98	335	P	P	17 40 08.2	-0.3		
	baz=148,SNR=11								
SADO	Sadowa	54.02	360	eP	P	17 40 06.3	-1.9		
SADO				ePcP	PcP	17 41 11.6	-1.2		
LONY	Lake Ozonia	54.02	4	eP	P	17 40 07.4	-0.9		
LONY	Lake Ozonia	54.02	4	P	P	17 40 07.8	-0.5		
	baz=185,SNR=37								
MVCO	Mesa Verde	54.04	331	eP	P	17 40 08.9	+0.1		
MVCO	Mesa Verde	54.04	331	P	P	17 40 09.0	+0.1		
	baz=143,SNR=17								
H47A	Mio	54.05	355	P	P	17 40 06.8	-1.6		
	baz=174,SNR=9.9			

Y12C	Blythe	54.63	324	eP	P	17 40 13.2	+0.3
Y12C				ePcP	PcP	17 41 15.2	-0.1
Y12C	Blythe	54.63	324	P	P	17 40 13.2	+0.3
	baz=136,SNR=9.0						
BUKO	Buck Lake	54.69	360	P	P	17 40 11.4	-1.7
	baz=180,SNR=32						
H41A	Junction City	54.71	351	eP	P	17 40 11.5	-1.8
H41A				ePcP	PcP	17 41 15.1	-0.3
H41A	Junction City	54.71	351	P	P	17 40 12.1	-1.2
	baz=167,SNR=15						
ORIO	Orleans, Innes	54.80	3	P	P	17 40 12.8	-1.0
	baz=184,SNR=13						
PDMCI	Parker Dam,Lak	54.80	324	P	P	17 40 14.3	+0.2
	baz=136						
IKP	In-Ko-Pah, Jac	54.81	322	P	P	17 40 15.0	+0.6
	baz=134,SNR=11						
G46A	Petoskey	54.81	355	P	P	17 40 12.2	-1.8
	baz=173,SNR=5.7						
SWSC	Sam W. Stewart	54.82	322	P	P	17 40 15.0	+0.7
	baz=134						
H40A	Chili	54.84	350	P	P	17 40 13.2	-0.9
	baz=166						
ISCO	Idaho Springs	54.88	335	eP	P	17 40 14.1	-0.9
ISCO	Idaho Springs	54.88	335	eP	P	17 40 14.1	-0.9
ISCO	Idaho Springs	54.88	335	P	P	17 40 14.6	-0.4
	baz=148,SNR=30						
MOQ	Mont Orford	54.91	6	eP	P	17 40 14.1	-0.6
MOQ				ePcP	PcP	17 41 15.4	-0.8
SMCO	Snowmass	54.94	334	eP	P	17 40 15.1	-0.4
PEMO	Pembroke	54.95	2	P	P	17 40 13.7	-1.3
	baz=182,SNR=46						
EMMW	East Machias	54.98	10	eP	P	17 40 15.2	+0.1
ALFO	Alfred	55.01	4	P	P	17 40 14.7	-0.6
	baz=185,SNR=28						
RKT	Rikitea	55.02	248	eP	P	17 40 16.3	+0.3
	comp=Z,56nm,1.0s						
RKT	Rikitea	55.02	248	eT	T	18 38 59.7	
	comp=Z,12nm,0.2s						
F52A	Sundridge	55.05	360	P	P	17 40 13.9	-1.8
	baz=180,SNR=16						
H39A	Augusta	55.05	349	P	P	17 40 14.2	-1.5
	baz=165,SNR=13						
G43A	Wallace	55.06	353	eP	P	17 40 14.4	-1.4
G43A	Wallace	55.06	353	P	P	17 40 14.5	-1.2
	baz=170,SNR=16						
F49A	Sandfield	55.08	357	P	P	17 40 13.8	-2.1
	baz=176,SNR=16						
BC3	Big Chuckawall	55.11	323	P	P	17 40 16.8	+0.3
	baz=135,SNR=19						
F55A	Otter Lake	55.14	2	P	P	17 40 15.5	-0.8
	baz=183,SNR=7.4						
G42A	Mountain	55.14	352	eP	P	17 40 14.3	-2.1
G42A				ePcP	PcP	17 41 15.6	-1.5
G42A	Mountain	55.14	352	P	P	17 40 15.2	-1.2
	baz=169,SNR=8.1						
MONP2	Monument Peak	55.17	322	P	P	17 40 17.2	+0.2
	baz=133,SNR=10						
F48A	Evansville	55.17	357	P	P	17 40 14.7	-1.8
	baz=176,SNR=15						
BAR	Barrett	55.18	321	eP	P	17 40 16.9	0.0
F51A	Arnstein	55.18	359	P	P	17 40 14.9	-1.8
	baz=179,SNR=19						
ALGO	Algonquin Park	55.21	1	P	P	17 40 15.3	-1.6
	baz=181,SNR=40						
G41A	Antigo	55.22	351	P	P	17 40 15.7	-1.2
	baz=168,SNR=13						
PKME	Peaks-Kenny Pk	55.22	8	eP	P	17 40 17.2	+0.3
PKME	Peaks-Kenny Pk	55.22	8	P	P	17 40 17.6	+0.7
	baz=192,SNR=8.0						
W13A	Hualapai Mount	55.23	325	eP	P	17 40 17.6	+0.1
W13A				ePcP	PcP	17 41 17.8	-0.1
H38A	Maiden Rock	55.23	349	P	P	17 40 15.7	-1.3
	baz=164,SNR=11						
F45A	CMU Biological	55.24	355	P	P	17 40 15.4	-1.6
	baz=172						
F46A	Macinaw City C	55.26	355	P	P	17 40 15.6	-1.6
	baz=173,SNR=9.1						
IRM	Iron Mountain	55.28	324	P	P	17 40 18.1	+0.4
	baz=135,SNR=28						
ECSD	EROS Data Cent	55.33	345	eP	P	17 40 16.0	-1.8
ECSD				ePcP	PcP	17 41 16.8	-1.1
ECSD	EROS Data Cent	55.33	345	P	P	17 40 16.5	-1.3
	baz=159,SNR=41						
U15A	North Rim	55.34	328	eP	P	17 40 18.7	+0.3
U15A				ePcP	PcP	17 41 18.7	+0.3
NEE2	Needles Airpor	55.41	324	P	P	17 40 19.1	+0.5
	baz=136						
G40A	Rib Lake	55.43	350	eP	P	17 40 17.0	-1.5
G40A				ePcP	PcP	17 41 17.8	-0.4
G40A	Rib Lake	55.43	350	P	P	17 40 17.3	-1.2
	baz=167,SNR=8.4						
GGN	Saint George	55.48	10	eP	P	17 40 19.2	+0.4
E52A	Mattawa	55.54	0	P	P	17 40 17.6	-1.6
	baz=180,SNR=20						
F43A	Flat Rock, Esc	55.56	353	P	P	17 40 17.9	-1.4
	baz=170,SNR=14						
109C	Camp Elliot, M	55.59	321	P	P	17 40 19.9	+0.1
	baz=133						
CPE	Camp Elliot	55.59	321	eP	P	17 40 20.0	+0.2
F42A	Maple Grove Fa	55.61	352	P	P	17 40 18.7	-1.0
	baz=169,SNR=8.2						
F44A	Big Bay de Noc	55.62	354	P	P	17 40 18.2	-1.5
	baz=177,SNR=6.8						
G39A	Holcombe	55.62	350	P	P	17 40 18.6	-1.1
	baz=166,SNR=24						
TRQ	Mont Tremblant	55.62	4	eP	P	17 40 18.4	-1.5
TRQ				ePcP	PcP	17 41 18.2	-0.8
G38A	Ridgeland	55.63	349	P	P	17 40 18.5	-1.3
	baz=165,SNR=33						
E53A	Dumoine, Ponti	55.64	1	P	P	17 40 18.7	-1.3
	baz=182,SNR=15						
BELC	Belle Mtn. Jos	55.67	323	P	P	17 40 20.8	+0.2
	baz=134,SNR=12						
XPFO	Pion Flat	55.68	322	eP	P	17 40 20.5	-0.2
XPFO				ePcP	PcP	17 41 19.7	+0.1
HAL	Halifax	55.68	13	eP	P	17 40 20.7	+0.5
PFO	Pinyon Flats O	55.68	322	eP	P	17 40 20.5	-0.2
PFO				ePcP	PcP	17 41 19.3	-0.3
PFO	Pinyon Flats O	55.68	322	eP	P	17 40 20.5	-0.2
PFO				e		17 41 19.3	
PFO	Pinyon Flats O	55.68	322	P	P	17 40 21.3	+0.6
	baz=134,SNR=16						
E50A	Wahnapitae	55.69	359	P	P	17 40 18.3	-2.0
	baz=178,SNR=22						
E54A	Lac Daplat, Po	55.71	2	P	P	17 40 19.0	-1.4
	baz=182,SNR=45						
F41A	Three Lakes	55.72	352	eP	P	17 40 19.6	-1.0
F41A				ePcP	PcP	17 41 18.5	-0.8
F41A	Three Lakes	55.72	352	P	P	17 40 19.4	-1.2
	baz=168,SNR=15						
E51A	G1948 Merrick	55.78	360	P	P	17 40 19.5	-1.4
	baz=180,SNR=73						
E48A	Lockeyer	55.80	357	P	P	17 40 19.6	-1.5
	baz=176,SNR=38						
E46A	Sault Ste Mari	55.81	356	P	P	17 40 19.5	-1.7
	baz=174,SNR=19						
E47A	Iron Bridge	55.83	356	P	P	17 40 19.8	-1.5
	baz=175,SNR=34						
SPMN	Marine on St.	55.86	348	eP	P	17 40 20.1	-1.5
SPMN	Marine on St.	55.86	348	P	P	17 40 20.2	-1.3
	baz=164,SNR=24						
E45A	Wooded Hills,	55.87	355	P	P	17 40 20.1	-1.6
	baz=173						
LDFC	Landfair	55.91	324	eP	P	17 40 23.1	+0.8
LDFC				ePcP	PcP	17 41 20.6	+0.1
N23A	Red Feather La	55.93	336	eP	P	17 40 22.0	-0.5
N23A	Red Feather La	55.93	336	P	P	17 40 22.3	-0.3
	baz=148						
GMRC	Granite Mounta	56.02	324	P	P	17 40 23.5	+0.4
	baz=135,SNR=14						
F40A	Park Falls	56.05	351	P	P	17 40 21.8	-1.2
	baz=167,SNR=34						
KNB	Kanab	56.07	328	eP	P	17 40 24.0	+0.6
KNB				ePcP	PcP	17 41 21.7	+0.7
KNB	Kanab	56.07	328	eP	P	17 40 24.0	+0.6
KNB				e		17 41 21.7	
E43A	Lone Tree Farm	56.08	353	eP	P	17 40 21.4	-1.6
E43A				ePcP	PcP	17 41 20.6	0.0
E43A	Lone Tree Farm	56.08	353	P	P	17 40 21.8	-1.3
	baz=171,SNR=16						
COWI	Conover	56.08	352	eP	P	17 40 21.6	-1.5
COWI				ePcP	PcP	17 41 20.8	+0.1
PHWY	Pilot Hill	56.08	336	eP	P	17 40 23.4	-0.2
PHWY				eS	S	17 48 10.5	+1.8
PKCU	Pink Cliffs	56.12	328	eP	P	17 40 24.6	+0.7
MURC	Murrieta	56.12	322	P	P	17 40 23.9	+0.2
	baz=133						
F39A	Loretta	56.18	350	P	P	17 40 22.8	-1.1
	baz=166,SNR=14						
E44A	Grand Marais A	56.20	354	eP	P	17 40 23.3	-0.7
E44A	Grand Marais A	56.20	354	P	P	17 40 22.8	-1.1
	baz=172						
D52A	ZEK Kipawa Sen	56.23	1	P	P	17 40 23.1	-1.1
	baz=181,SNR=24						
E42A	Champion	56.24	353	P	P	17 40 23.1	-1.1
	baz=170,SNR=20						
O20A	White River Ci	56.28	333	eP	P	17 40 24.5	-0.4
O20A	White River Ci	56.28	333	P	P	17 40 25.1	+0.2
	baz=145,SNR=29						
LCMT	Little Creek M	56.29	327	eP	P	17 40 25.4	+0.5
F37A	Hinrichs Farm,	56.31	349	P	P	17 40 23.8	-1.0
	baz=164,SNR=9.2						
D46A	Sault St. Mari	56.31	356	P	P	17 40 22.6	-2.1
	baz=174,SNR=19						
D51A	Lot 18 Range I	56.34	360	P	P	17 40 23.2	-1.7
	baz=180						
F38A	Pierce - Schro	56.39	349	P	P	17 40 24.4	-0.9
	baz=165,SNR=62						
BBRC	Big Bear Solar	56.41	322	P	P	17 40 26.4	+0.4
	baz=134						
E41A	Kenton	56.41	352	P	P	17 40 24.3	-1.2
	baz=168,SNR=11						
D47A	Chapleau	56.42	357	P	P	17 40 23.6	-2.0
	baz=175,SNR=39						
D54A	Lac Fusel, La	56.44	2	P	P	17 40 24.2	-1.4
	baz=183,SNR=26						
HEC	Hector,Ludlow	56.45	323	P	P	17 40 26.9	+0.9
	baz=134,SNR=42						
D48A	Paudash Townsh	56.48	358	P	P	17 40 24.0	-1.9
	baz=177,SNR=44						
MTPU	Mount Pierson	56.51	329	eP	P	17 40 26.7	-0.1
SRU	San Rafael Swe	56.52	331	eP	P	17 40 26.3	-0.3
SRU	San Rafael Swe	56.52	331	eP	P	17 40 26.3	-0.3
E40A	Wakefield	56.53	351	P	P	17 40 25.4	-0.9
	baz=167,SNR=36						
SCI2	San Clemente I	56.55	320	P	P	17 40 27.0	+0.3
	baz=131						
D49A	Beulah Townshi	56.56	358	P	P	17 40 24.9	-1.6
	baz=177						
E39A	Mellen	56.57	351	P	P	17 40 25.7	-0.9
	baz=166,SNR=43						
LMN	Caledonia Moun	56.58	12	eP	P	17 40 26.7	+0.1
SUSD	Miller	56.63	343	P	P	17 40 26.0	-1.1
	baz=156,SNR=6.3						
TUQ	Turquoise Moun	56.63	324	P	P	17 40 28.0	+0.6
	baz=135,SNR=30						
SZCU	Shurtz Canyon	56.64	328	eP	P	17 40 28.5	+0.9
SZCU				ePcP	PcP	17 41 23.8	+0.4
CIS	Catalina Islan	56.74	321	P	P	17 40 28.4	+0.3
	baz=132						
CCUT	Cedar City	56.75	328	eP	P	17 40 29.3	+0.9
CCUT				ePcP	PcP	17 41 24.6	+0.8
PQI	Presque Isle	56.79	9	eP	P	17 40 28.7	+0.6
BFSC	Mount Baldy Ra	56.84	322	P	P	17 40 29.4	+0.5
	baz=133,SNR=7.7						
MSU	Marysvale	56.87	329	eP	P	17 40 29.3	+0.2
MSU				ePcP	PcP	17 41 23.5	-0.7
MSU	Marysvale	56.87	329	eP	P	17 40 29.3	+0.2
MSU				e		17 41 23.5	
RRX	Edison Barstow	56.87	323	P	P	17 40 29.9	+0.9
	baz=134						
GBN	Guysborough	56.90	15	eP	P	17 40 28.9	0.0
P17A	Butcher Ranch,	56.90	331	eP	P	17 40 29.1	-0.2
LATQ	La Tuque	56.91	5	P	P	17 40 28.6	-0.4
	baz=187,SNR=18						
D41A	Chassel	56.94	352	eP	P	17 40 28.7	-0.5
D41A	Chassel	56.94	352	P	P	17 40 28.5	-0.7
	baz=169,SNR=23						
E38A	The Farm, Brul	56.96	350	eP	P	17 40 28.3	-1.0
E38A	The Farm, Brul	56.96	350	P	P	17 40 28.5	-0.8
	baz=165,SNR=25						
SHPR	Sheep Range	56.96	326	eP	P	17 40 30.3	+0.5
SHPR				ePcP	PcP	17 41 25.2	+0.6
TMUT	Trail Mountain	56.99	331	eP	P	17 40 30.3	+0.2
GSC	Goldstone, Bar	57.05	323	eP	P	17 40 31.0	+0.7
GSC				ePcP	PcP	17 41 24.0	-0.9
GSC	Goldstone, Bar	57.05	323	P	P	17 40 31.1	+0.7
	baz=134,SNR=33						
MWC	Mount Wilson	57.07	322	eP	P	17 40 30.9	+0.3
MWC	Mount Wilson	57.07	322	eP	P	17 40 30.9	+0.3
TCRU	Three Creeks R	57.08	329	eP	P	17 40 31.2	+0.6
PAS	Pasadena	57.09	321	P	P	17 40 31.4	+0.9
PAS				PCP	PcP	17 41 24.9	0.0
PASC	Pasadena Art C	57.11	321	eP	P	17 40 31.4	+0.6
PASC				ePcP	PcP	17 41 24.9	-0.2
RWWY	Rawlins	57.12	335	eP	P	17 40 30.9	0.0
RWWY				ePcP	PcP	17 41 24.9	-0.2
SHOC	Shoshone, Teco	57.16	324	P	P	17 40 31.6	+0.5
	baz=135,SNR=9.7						
DECC	Green Verdugo	57.26	321	P	P	17 40 32.4	+0.7
	baz=132						
SNCC	San Nicolas Is	57.34	320	eP	P	17 40 32.6	+0.2
SNCC				ePcP	PcP	17 41 25.6	-0.4
SNCC	San Nicolas Is	57.34	320	P	P	17 40 32.8	+0.4
	baz=131,SNR=8.6						
VLDQ	Val d'Or	57.38	1	eP	P	17 40 31.0	-1.2
VLDQ				ePcP	PcP	17 41 25.9	+0.2
EDW2	Edwards Air Fo	57.48	322	P	P	17 40 33.6	+0.3
	baz=133,SNR=30						
BLG	Laguna Peak, P	57.62	321	P	P	17 40 34.8	+0.6
	baz=131						
K22A	Casper	57.65	336	eP	P	17 40 34.0	-0.4
K22A	Casper	57.65	336	P	P	17 40 34.5	0.0
	baz=148,SNR=9.4						
LRMC	Laurel Mtn Rad	57.70	323	P	P	17 40 35.4	+0.4
	baz=133,SNR=6.5						
BATG	Bathurst New B	57.70	10	eP	P	17 40 34.8	+0.2
OSI	Osito Audit: C	57.74	322	eP	P	17 40 35.9	+0.7
OSI	Osito Audit: C	57.74	322	P	P	17 40 35.7	+0.5
	baz=132						
PSUT	Pine Spring	57.74	328	eP	P	17 40 35.4	+0.1
PSUT				ePcP	PcP	17 41 27.8	+0.2
MPU	Maple Canyon	57.76	331	eP	P	17 40 35.5	+0.1
C40A	Isle Royale Na	57.86	352	eP	P	17 40 34.4	-1.2
C40A	Isle Royale Na	57.86	352	P	P	17 40 34.8	-0.8
	baz=168,SNR=14						
TPNV	Topopah Spring	57.89	325	eP	P	17 40 36.8	+0.4
TPNV				ePcP	PcP	17 41 28.5	+0.3
TPNV	Topopah Spring	57.89	325	P	P	17 40 37.1	+0.8
	baz=135,SNR=32						
SCZ2	Santa Cruz Isl	57.90	320	P	P	17 40 36.6	+0.3
	baz=131						
FURC	Furnace Creek,	57.90	324	P	P	17 40 36.8	+0.6
	baz=135,SNR=14						
NLU	North Lily Min	57.92	330	eP	P	17 40 36.6	+0.1
RSSD	Black Hills	57.97	339	eP	P	17 40 36.7	-0.1
RSSD	Black Hills	57.97	339	eP	P	17 40 36.7	-0.1
RSSD	Black Hills	57.97	339	P	P	17 40 36.8	0.0
	baz=151						
MPMC	Manual Prospec	57.98	324	P	P	17 40 37.1	+0.1
	baz=134,SNR=19						
JLU	Jordanelle	58.13	331	eP	P	17 40 38.2	+0.2
ARVC	Arvin	58.15	322	P	P	17 40 38.8	+0.9
	baz=132,SNR=7.4						
DAC	Darwin (Calif)	58.19	324	eP	P	17 40 38.8	+0.3
DAC				ePcP	PcP	17 41 29.5	+0.1
DAC	Darwin (Calif)	58.19	324	eP	P	17 40 38.8	+0.3
DAC				e		17 41 29.5	
SBC	Santa Barbara	58.24	321	P	P	17 40 38.8	+0.2
	baz=131						
EYMN	Ely	58.25	350	eP	P	17 40 37.4	-1.0
EYMN	Ely	58.25	350	P	P	17 40 37.3	-1.1
	baz=166,SNR=27						
ISA	Isabella, Lake	58.29	323	eP	P	17 40 40.0	+1.0
ISA				ePcP	PcP	17 41 30.5	+0.8
ISA	Isabella, Lake	58.29	323	eP	P	17 40 40.0	+1.0
ISA				e		17 41 30.5	
ISA	Isabella, Lake	58.29	323	P	P	17 40 39.7	+0.7
	baz=133,SNR=17						
LSQQ	Lebel-sur-Quev	58.34	2	P	P	17 40 38.0	-1.0
	baz=182						
CTU	Camp Tracy	58.34	331	eP	P	17 40 39.8	+0.4
DUG	Dugway, Tooele	58.47	330	eP	P	17 40 40.5	+0.2
DUG	Dugway, Tooele	58.47	330	eP	P	17 40 40.5	+0.2
DUG	Dugway, Tooele	58.47	330	P	P	17 40 41.2	+0.9
	baz=140,SNR=57						
TCUT	Toone Canyon	58.51	332	eP	P	17 40 41.1	+0.4
TCUT				ePcP	PcP	17 41 30.4	-0.3
R11A	Troy Canyon, C	58.53	327	eP	P	17 40 41.2	+0.4
R11A	Troy Canyon, C	58.53	327	P	P	17 40 41.6	+0.8
	baz=137,SNR=46						
GRAC	Grapevine Rang	58.56	324	P	P	17 40 41.8	+1.0
	baz=134						
CWC	Cottonwood Cre	58.59	324	P	P	17 40 41.8	+0.6
	baz=133						
PKM	Mcpherson Peak	58.59	321	P	P	17 40 41.7	+0.4
	baz=131,SNR=15						
VES	Vestal, Richgr	58.78	322	P	P	17 40 43.1	+0.8
	baz=132,SNR=6.5						
HWUT	Hardware Ranch	58.97	332	eP	P	17 40 43.5	-0.3
HWUT				ePcP	PcP	17 41 31.8	-0.6
SMMC	Simmler	58.99	321	P	P	17 40 44.6	+0.8
	baz=131,SNR=19						
BW06	Boulder Array	59.00	334	eP	P	17 40 43.2	-0.8
BW06				ePcP	PcP	17 41 31.3	-1.3
BW06	Boulder Array	59.00	334	P	P	17 40 43.4	-0.6
	baz=144,SNR=9.8						
PD31	Pinedale Array	59.00	334	eP	P	17 40 43.1	-0.9
PD31				ePcP	PcP	17 41 31.6	-1.0
PDAR	Pinedale Array	59.00	334	eP	P	17 40 43.0	-1.0
PDAR				ePcP	PcP	17 41 31.3	-1.2
PDAR				pPcP		17 41 46.9	
PDAR				P'P'		18 10 18.4	
PDAR	Pinedale Array	59.00	334	P	P	17 40 43.1	-0.9
	comp=Z,18nm,0.9s,baz=140,slow=7.8,SNR=96						
PDAR				PcP	PcP	17 41 31.7	-0.9
	comp=Z,11nm,1.0s,baz=134,slow=5.2,SNR=5.6						
PDAR				pPcP		17 41 46.9	
	comp=Z,18nm,1.1s,baz=125,slow=5.9,SNR=5.1						
PDAR				LR	LR	18 05 41.4	
	comp=Z,457nm,21.8s,baz=161,slow=36						
PDAR				PKPPKP	P'P'df	18 10 18.4	+2.3
	comp=Z,0.4nm,0.8s,baz=64,slow=3.1,SNR=3.5						
TIN	Tinemaha, Big	59.10	324	P	P	17 40 45.4	+0.7
	baz=134						
BGU	Big Grassy Mou	59.13	330	eP	P	17 40 44.8	-0.1
SPUT	South Promonto	59.15	331	eP	P	17 40 44.9	-0.1
VOG	Valley Oaks Go	59.28	323	P	P	17 40 45.4	-0.4
	baz=132						
CHGQ	Chibougamau	59.31	4	P	P	17 40 44.9	-0.8
	baz=185,SNR=26						
PAGB	Antelope Grade	59.41	322	eP	P	17 40 47.3	+0.5
AGMN	Agassiz Nation	59.43	347	eP	P	17 40 46.2	-0.4
AGMN	Agassiz Nation	59.43	347	P	P	17 40 46.3	-0.4
	baz=161,SNR=56						
HVU	Hansel Valley	59.67	331	eP	P	17 40 47.8	-0.8
HVU	Hansel Valley	59.67	331	eP	P	17 40 47.8	-0.8
AHID	Auburn Hatcher	59.67	333	eP	P	17 40 47.9	-0.7
MLAC	Mammoth, Mammo	59.84	324	P	P	17 40 50.6	+0.7
	baz=133						
OMMB	Old Mammoth Mi	59.93	324	eP	P	17 40 50.2	-0.4
OMMB				ePcP	PcP	17 41 36.2	-0.2
MDND	Maddock	59.93	344	eP	P	17 40 49.4	-0.6
MDND	Maddock	59.93	344	P	P	17 40 50.0	-0.1
	baz=156,SNR=33						
MDPB	Devils Postpil	59.98	324	eP	P	17 40 51.3	+0.4
NV11	Mina Array Sit	60.01	325	eP	P	17 40 51.2	+0.2
REDW	Red Top Meadow	60.04	334	eP	P	17 40 50.7	-0.5
SNOW	Snow King Moun	60.08	334	eP	P	17 40 51.1	-0.4
NV01	Mina Array Sit	60.09	325	eP	P	17 40 51.6	0.0
NV01				ePcP	PcP	17 41 36.6	-0.3
NVAR	Mina Array Bea	60.09	325	P	P	17 40 52.2	+0.7
	comp=Z,22nm,0.7s,baz=136,slow=6.8,SNR=168						
NVAR				PcP	PcP	17 41 36.9	-0.1
	comp=Z,16nm,0.9s,baz=152,slow=4.3,SNR=7.8						
NVAR				pPcP		17 41 51.5	
	comp=Z,18nm,1.0s,baz=142,slow=5.4,SNR=5.3						
NVAR				LR	LR	18 05 42.7	
	comp=Z,381nm,19.5s,baz=156,slow=35						
NVAR				PKPPKP	P'P'df	18 10 17.9	+3.0
	comp=Z,0.4nm,0.8s,baz=276,slow=4.3,SNR=3.5						
NVAR				PKP2bc		18 10 25.9	
	comp=Z,2.0nm,0.9s,baz=278,slow=2.2,SNR=8.9						
ELK	Elko	60.10	329	eP	P	17 40 51.7	+0.1
ELK	Elko	60.10	329	eP	P	17 40 51.7	+0.1
LOHW	Long Hollow	60.13	334	eP	P	17 40 51.2	-0.6
TPAW	Teton Pass	60.18	334	eP	P	17 40 52.1	-0.1
TAOE	Nuku Hiva Isla	60.22	265	eLR	LR	17 58 36.8	
	comp=Z,1µm,24.0s						
MOOW	Moose Ponds	60.30	334	eP	P	17 40 52.1	-0.9
FXWY	Fox Creek	60.34	334	eP	P	17 40 52.5	-0.7
RYN	Ryan	60.35	325	eP	P	17 40 53.5	+0.2
RYN				ePcP	PcP	17 41 37.6	-0.3
KVN	Kaiserville	60.41	326	eP	P	17 40 54.0	+0.3
KVN				ePcP	PcP	17 41 37.7	-0.5
KVN	Kaiserville	60.41	326	eP	P	17 40 54.0	+0.3
KVN				e		17 41 37.7	
IMW	Indian Meadow	60.51	334	eP	P	17 40 53.6	-0.8
IMW				ePcP	PcP	17 41 38.0	-0.6
FLWY	Flagg Ranch	60.55	334	eP	P	17 40 54.5	-0.2
YPP	Pitchstone Pla	60.75	334	eP	P	17 40 56.4	+0.3
H17A	Grant Village	60.75	335	eP	P	17 40 56.4	+0.7
H17A	Grant Village	60.75	335	P	P	17 40 56.5	+0.5
	baz=144,SNR=14						
WAKR	Walker	60.78	324	eP	P	17 40 56.9	+0.6
RLMT	Red Lodge	60.80	336	eP	P	17 40 55.9	-0.4
RLMT	Red Lodge	60.80	336	P	P	17 40 56.3	0.0
	baz=145,SNR=23						
LKWY	Lake	60.81	335	eP	P	17 40 57.1	+0.6
SAO	San Andreas Ge	60.82	322	eP	P	17 40 56.2	-0.1
SAO	San Andreas Ge	60.82	322	eP	P	17 40 56.2	-0.1
BMN	Battle Mountai	60.91	327	eP	P	17 40 57.1	+0.1
BMN	Battle Mountai	60.91	327	eP	P	17 40 57.1	+0.1
YFT	Old Faithful	60.91	334	eP	P	17 40 58.0	+0.9
LAO	LASA Array	60.97	339	eP	P	17 40 56.5	-0.7
LAO	LASA Array	60.97	339	P	P	17 40 56.9	-0.3
	baz=149,SNR=9.7						
YERR	Yerington	61.00	325	eP	P	17 40 58.4	+0.6
CMB	Columbia Colle	61.02	323	eP	P	17 40 57.3	-0.5
CMB	Columbia Colle	61.02	323	eP	P	17 40 57.3	-0.5
YNR	Norris Junctio	61.05

BMO **Blue Mountains** 64.16 331 *e*P P 17 41 18.2 -0.4
BMO **Blue Mountains** 64.16 331 *e*P P 17 41 18.2 -0.4
N02D **Trinity Center** 64.31 325 P P 17 41 18.9 -0.7
baz=131,SNR=7.6
M04C **Macdoel** 64.36 326 P P 17 41 20.4 +0.4
baz=132,SNR=20
KMRM **Mail Ridge** 64.40 323 *e*P P 17 41 21.0 +0.7
KMRM *e*PcP PcP 17 41 55.0 +0.7
K05A **Summer Lake** 64.48 327 *e*P P 17 41 21.5 +0.6
M02C **Callahan** 64.67 325 P P 17 41 21.7 -0.2
baz=131,SNR=12
I07A **Izee** 64.69 329 *e*P P 17 41 22.4 +0.3
YBH **Yreka Blue Hor** 64.81 325 *e*P P 17 41 21.9 -1.0
YBH **Yreka Blue Hor** 64.81 325 *e*P P 17 41 21.9 -1.0
KHMM **Horse Mountain** 64.83 324 *e*P P 17 41 24.0 +0.9
K04D **Chiloquin, OR** 64.87 326 P P 17 41 23.7 +0.4
baz=132,SNR=7.6
L04D **Klamath Falls** 64.90 326 P P 17 41 23.7 +0.1
baz=132,SNR=21
SCHQ **Schefferville** 64.92 8 *e*P P 17 41 22.5 -0.7
SCHQ **Schefferville** 64.92 8 P P 17 41 22.9 -0.4
comp=Z,32nm,1.0s,baz=188,slow=4.8,SNR=14
SCHQ LR LR 18 12 50.5
comp=Z,205nm,18.2s,baz=192,slow=39
F10A **Beach Ranch, E** 64.95 332 *e*P P 17 41 24.0 +0.3
JCC **Jacoby Creek,** 64.97 324 *e*P P 17 41 25.0 +1.2
J05D **Fort Rock, OR** 65.04 327 P P 17 41 25.1 +0.6
baz=133,SNR=27
PINE **Pine Mountain** 65.23 328 *e*P P 17 41 26.1 +0.4
G08A **Pilot Rock** 65.28 330 *e*P P 17 41 26.0 0.0
J04D **Umpqua Nationa** 65.48 327 P P 17 41 27.8 +0.4
baz=132,SNR=25
HUMO **Hull Mountain** 65.52 326 *e*P P 17 41 26.2 -1.2
L02E **Cave Junction** 65.59 325 P P 17 41 28.6 +0.8
baz=131,SNR=14
E09A **Wood Farm, Sta** 65.78 331 *e*P P 17 41 29.0 +0.1
I05D **Terrebonne, OR** 65.82 328 P P 17 41 30.1 +0.8
baz=133,SNR=9.7
WALA **Waterton Lakes** 65.85 336 *e*P P 17 41 29.6 0.0
K02D **Willamette Mer** 65.97 325 P P 17 41 31.1 +0.7
baz=131,SNR=37
I04A **Tendick Farm,** 66.02 327 P P 17 41 30.4 -0.2
baz=132,SNR=18
G06A **Carlson Farm,** 66.08 329 *e*P P 17 41 31.5 +0.6
F07A **Phinny Hill Vi** 66.19 330 *e*P P 17 41 32.1 +0.5
E08A **Dider Farm, El** 66.19 331 *e*P P 17 41 31.4 -0.2
HAWA **Hanford** 66.35 331 *e*P P 17 41 32.6 -0.1
J01E **Myrtle Point** 66.43 326 P P 17 41 34.1 +0.9
baz=131,SNR=8.2
G05D **Wamic, OR** 66.43 329 P P 17 41 34.4 +1.3
baz=134,SNR=12
I03D **Drain, OR** 66.46 326 P P 17 41 33.8 +0.4
baz=131,SNR=10
KEBM **Edson Butte** 66.47 325 *e*P P 17 41 34.8 +1.3
H04A **Detroit Lake** 66.50 328 *e*P P 17 41 33.7 0.0
D08A **Wollman Farm,** 66.54 331 *e*P P 17 41 34.0 +0.2
NEW **Newport** 66.61 333 *e*P P 17 41 33.6 -0.7
NEW **Newport** 66.61 333 *e*P P 17 41 33.6 -0.7
NEW **Newport** 66.61 333 P P 17 41 34.5 +0.3
baz=139,SNR=28
E07A **Sunnyside** 66.62 331 *e*P P 17 41 35.0 +0.6
H04D **Lebanon** 66.68 327 P P 17 41 34.5 -0.3
baz=132,SNR=6.3
C09A **Chrisman Ranch** 66.78 332 *e*P P 17 41 36.0 +0.6
FFC **Flin Flon** 66.83 346 *e*P P 17 41 34.1 -1.4
FFC **Flin Flon** 66.83 346 *i*P P 17 41 34.8 -0.7
F05D **White Salmon** 66.94 329 P P 17 41 37.4 +1.0
baz=134
VAH **Vaihoa** 66.97 257 *e*P P 17 41 37.0 -0.2
comp=Z,60nm,1.1s
I02D **Swisshome** 67.00 327 P P 17 41 37.7 +0.9
baz=131
COR **Corvallis** 67.02 327 *e*P P 17 41 37.6 +0.7
COR **Corvallis** 67.02 327 *e*P P 17 41 37.6 +0.7
PMOR **Pomariorio Ree** 67.25 258 *e*P P 17 41 38.8 -0.2
comp=Z,86nm,1.0s
ROSA **Rosais** 67.35 41 *e*P P 17 41 37.1 -2.1
G03D **McMinnville, O** 67.42 328 P P 17 41 40.3 +0.9
baz=132
LTY **Liberty** 67.51 331 *e*P P 17 41 39.8 -0.3
B08A **Colville Reser** 67.67 332 *e*P P 17 41 40.3 -0.8
LON **Longmire** 67.72 330 *e*P P 17 41 40.3 -1.1
LON **Longmire** 67.72 330 *e*P P 17 41 40.3 -1.1
F04D **Rainier, OR** 67.87 329 P P 17 41 43.1 +0.9
baz=132
E04D **Cinebar** 67.97 329 P P 17 41 43.1 +0.3
baz=133,SNR=8.3
F03A **Seaside** 68.05 328 *e*P P 17 41 43.7 +0.3
C06D **Leavenworth** 68.09 331 P P 17 41 43.9 +0.3
baz=135
D05A **Enumclaw** 68.11 330 *e*P P 17 41 44.0 +0.3
TIAR **Tiarei** 68.47 255 *e*T T 18 55 55.9
comp=Z,2.0nm,0.3s
D04E **Lakebay** 68.49 330 P P 17 41 47.0 +0.9
baz=133
PPT2 **Papeete2** 68.69 255 *e*S S 17 50 46.1 -1.5
comp=Z,198nm,24.8s
PPT2 **Papeete2** 68.69 255 *e*LR LR 18 02 32.6
comp=Z,2µm,25.8s
PPT **Papeete** 68.69 255 LR LR 18 04 29.0
comp=Z,790nm,18.6s,baz=113,slow=29
B06A **Marblemount** 68.79 331 *e*P P 17 41 47.6 -0.4
D03D **Eldon** 68.89 330 P P 17 41 49.3 +0.7
baz=133,SNR=18
B05A **Bryant** 68.91 331 P P 17 41 48.5 -0.2
baz=134,SNR=26
NLWA **Neilton Lookou** 69.19 329 *e*P P 17 41 51.1 +0.6
A04D **Lummi Island** 69.52 331 P P 17 41 53.1 +0.7
baz=134,SNR=24
PGC **Sidney** 69.83 330 *e*P P 17 41 54.8 +0.5
LLLB **Lillooet** 70.44 333 *e*P P 17 41 58.7 +0.5
MACI **Morro de la Ar** 71.12 56 *e*P P 17 42 03.2 +0.3
FRB **Frobisher Bay** 73.48 5 P P 17 42 15.7 -0.3
comp=Z,38nm,1.0s,baz=191,slow=6.3,SNR=60
BBB **Bella Bella** 74.40 331 *e*P P 17 42 22.6 +1.0
VNA3 **Neumayer Olymp** 74.49 162 P P 17 42 23.5 +1.6
IVI **Ivigtut** 74.56 15 *e*P P 17 42 22.5 +0.2
VNA1 **Neumayer--Stat** 74.77 161 P P 17 42 25.5 +2.0
VNA2 **Neumayer--Watz** 75.12 161 P P 17 42 26.7 +1.2
baz=299,slow=6.3
LIC **Lamto** 75.42 81 *e*P P 17 42 29.2 +0.9
comp=Z,92nm,1.1s
TIC **Toumodi** 75.51 81 *e*P P 17 42 29.9 +1.0
DBIC **Dimbokro** 75.67 81 *e*P P 17 42 30.4 +0.6
DBIC **Dimbokro** 75.67 81 P P 17 42 31.0 +1.2
comp=Z,31nm,0.8s,baz=237,slow=5.2,SNR=34
DBIC LR LR 18 14 07.2
comp=Z,354nm,21.3s,baz=236,slow=34
DBIC **Dimbokro** 75.67 81 *e*P P 17 42 31.4 +1.6
KIC **Kosan Boka** 75.72 81 *e*P P 17 42 31.3 +1.2
comp=Z,122nm,1.0s
SNAA **Sanae** 76.71 162 P P 17 42 36.1 +1.4
SNAA **Sanae** 76.71 162 *e*P P 17 42 35.6 +0.9
SNAA **Sanae** 76.71 162 *c i*P P 17 42 35.4 +0.7
SNAA **Sanae** 76.71 162 P P 17 42 35.9 +1.2
comp=Z,51nm,0.9s,baz=280,slow=4.5,SNR=72
YKA **Yellowknife Ar** 76.85 344 P P 17 42 35.2 -0.2
comp=Z,28nm,0.8s,baz=140,slow=5.3,SNR=21
YKA PKPPKP P'P'df 18 09 54.8 +10
comp=Z,0.4nm,1.0s,baz=322,slow=2.5,SNR=3.9
YKA LR LR 18 17 47.5
comp=Z,32nm,19.7s,baz=141,slow=37
YKB5 **Yellowknife Ar** 76.85 344 *e*P P 17 42 34.2 -1.2
YKW3 **Yellowknife Ar** 76.91 344 *e*P P 17 42 34.8 -0.9
DIB **Dawson Inlet,** 77.13 330 *e*P P 17 42 38.1 +1.0
CRAG **Craig** 78.75 332 *e*P P 17 42 46.5 +0.4
XMAS **Kiritimati** 78.87 274 *e*P P 17 42 48.2 +0.5
WRAK **Wrangell Islan** 78.96 333 *e*P P 17 42 47.9 +0.6
SFJD **Kangerlussuaq** 79.05 11 P P 17 42 46.6 -0.8
comp=Z,20nm,1.2s,baz=214,slow=8.5,SNR=5.1
SFJD **Kangerlussuaq** 79.05 11 *e*P P 17 42 47.5 0.0
DLBC **Dease Lake** 79.20 335 *e*P P 17 42 49.4 +0.8
PFVI **Vila Bisbo** 80.34 50 *e*P P 17 42 57.7 +2.5
comp=Z,223nm,1.7s
MORF **Marmelete** 80.53 50 *e*P P 17 42 55.9 -0.4
MORF AMb AMB 17 42 59.3
comp=Z,110nm,0.9s
MORF **Marmelete** 80.53 50 *e*P P 17 42 58.6 +2.3
comp=Z,110nm,0.9s
MORF **Marmelete** 80.53 50 *e*P P 17 42 55.9 -0.4
PTEO **Sao Teotonio** 80.56 49 *e*P P 17 42 59.0 +2.6
QSPA **South Pole Qui** 80.61 180 *e*P P 17 42 57.8 +1.5
QSPA **South Pole Qui** 80.61 180 P P 17 42 58.2 +1.9
comp=Z,113nm,1.0s,baz=146,slow=2.5,SNR=165

PNCL **Nicolau / Gran** 80.89 49 *e*P P 17 43 00.1 +2.0
PBDV **Barranco-do-Ve** 81.06 50 *e*P P 17 43 01.6 +2.5
PCVE **Castro Verde** 81.10 49 *e*P P 17 43 01.5 +2.2
comp=Z,89nm,1.1s
ALMR **Almeirim** 81.21 48 *e*P P 17 42 59.9 +0.1
ALMR AMb AMB 17 43 02.3
comp=Z,89nm,1.4s
ALMR **Almeirim** 81.21 48 *e*P P 17 43 01.1 +1.3
comp=Z,90nm,0.9s
ALMR **Almeirim** 81.21 48 *e*P P 17 42 59.9 +0.1
BESE **Bessie Mountai** 81.32 334 *e*P P 17 43 00.9 +0.8
PBEJ **Beja** 81.36 49 *e*P P 17 43 03.9 +3.3
EVO **Evora** 81.42 49 *e*P P 17 43 01.1 +0.2
PMTG **Montargil** 81.44 48 *e*P P 17 43 02.6 +1.6
comp=Z,63nm,1.2s
PTOM **Tomar** 81.49 47 *e*P P 17 43 02.8 +1.5
comp=Z,55nm,1.2s
PCAS **Casmilo, Conde** 81.57 47 *e*P P 17 43 03.4 +1.7
comp=Z,77nm,1.7s
COI **Coimbra** 81.69 47 *e*P P 17 43 04.3 +2.0
comp=Z,116nm,0.9s
PESTR **Estremoz** 81.84 48 *e*P P 17 43 05.1 +1.9
comp=Z,45nm,1.6s
PTO **Porto** 81.87 46 *e*P P 17 43 05.0 +1.8
comp=Z,86nm,1.1s
PVIS **Viseu** 82.23 47 *e*P P 17 43 06.4 +1.2
PCBR **Castelo Branco** 82.24 48 *e*P P 17 43 09.3 +4.1
MDT **Midelt** 82.31 55 P P 17 43 07.4 +1.6
comp=Z,17nm,1.0s,baz=248,slow=5.6,SNR=9.2
MTE **Manteigas** 82.38 47 *e*P P 17 43 07.1 +1.1
WHY **Whitehorse** 82.51 336 *e*P P 17 43 06.3 0.0
POLO **Lamas de Olo** 82.52 46 *e*P P 17 43 08.3 +1.5
LIJA **Lijar** 82.87 51 *e*P P 17 43 10.0 +1.3
MVO **Moncorvo** 83.00 46 *e*P P 17 43 10.9 +1.7
comp=Z,57nm,2.2s
TOA1 **Torodi Ar. Sit** 83.28 76 *e*P P 17 43 10.8 -0.4
TOA0 **Torodi Ar. Sit** 83.28 76 *e*P P 17 43 10.3 -0.8
TORD **Torodi Ar. Bea** 83.28 76 P P 17 43 10.8 -0.4
comp=Z,34nm,0.9s,baz=294,slow=5.4,SNR=112
TORD LR LR 18 19 22.4
comp=Z,454nm,19.7s,baz=295,slow=35
PBRG **Braganca** 83.41 46 *e*P P 17 43 13.1 +1.8
comp=Z,90nm,1.6s
HYT **Haines Junctio** 83.68 335 *e*P P 17 43 13.2 +0.8
PAB **San Pablo** 84.44 49 *e*P P 17 43 16.8 +0.1
RES **Resolute Bay** 84.60 356 *e*P P 17 43 15.9 -0.6
RES **Resolute Bay** 84.60 356 P P 17 43 16.0 -0.6
comp=Z,25nm,1.0s,baz=178,slow=7.6,SNR=70
ESDC **Sonseca Array** 84.77 49 P P 17 43 19.6 +1.3
comp=Z,11nm,0.8s,baz=257,slow=5.2,SNR=49
ESDC pP pP 17 43 34.1 +0.2
comp=Z,13nm,0.9s,baz=262,slow=5.5,SNR=14
ESDC LR LR 18 20 14.8
comp=Z,181nm,18.5s,baz=65,slow=35
ESLA **Sonseca Array** 84.77 49 *e*P P 17 43 18.4 +0.1
ES06 **SONSECA Array** 84.78 49 *e*P P 17 43 18.7 +0.4
KULLO **Kullorsuaq** 85.02 6⇑ *i*P P 17 43 18.8 +0.1
comp=Z,85nm,1.1s
KULLO **Kullorsuaq** 85.02 6⇑ *i*P P 17 43 18.8 +0.1
KULLO pmax pmax
comp=Z,85nm,1.1s
BORG **Borgarnes** 85.55 21 *e*P P 17 43 21.9 +0.4
BORG **Borgarnes** 85.55 21 *i*P P 17 43 24.4 +2.9
BORG **Borgarnes** 85.55 21 P P 17 43 21.6 +0.1
comp=Z,88nm,0.9s,baz=240,slow=4.2,SNR=13
SBA **Scott Base** 85.71 191 *e*P P 17 43 24.4 +2.2
SBA **Scott Base** 85.71 191 *e*P P 17 43 24.4 +2.2
IGLA **Glengowla, Co** 85.79 34 *e*P P 17 43 21.7 -1.2
SUMG **Summit** 86.04 11 *e*P P 17 43 24.7 +0.4
SUMG **Summit** 86.04 11⇑ *i*P P 17 43 24.9 +0.6
comp=Z,364nm,1.0s
SUMG **Summit** 86.04 11⇑ *i*P P 17 43 24.9 +0.6
SUMG pmax pmax
comp=Z,360nm,1.0s
TULEG **Thule** 86.10 2 *e*P P 17 43 24.5 +0.4
DAWY **Dawson** 86.13 337 *e*P P 17 43 23.9 -0.6
EPYK **Eagle Plains** 86.40 340 *e*P P 17 43 25.4 -0.4
EPYK **Eagle Plains** 86.40 340 P P 17 43 25.8 0.0
baz=123
INK **Inuvik** 86.50 342 *e*P P 17 43 25.6 -0.6
INK **Inuvik** 86.50 342 P P 17 43 26.2 0.0
comp=Z,98nm,1.0s,baz=114,slow=5.3,SNR=208
VNDA **Vanda** 86.80 191 *e*P P 17 43 29.0 +1.4
VNDA *e*PcP P 17 43 29.2 +1.6
VNDA **Vanda** 86.80 191 *e*P P 17 43 29.0 +1.4
VNDA **Vanda** 86.80 191 P P 17 43 29.2 +1.6
comp=Z,9.2nm,1.1s,baz=121,slow=4.9,SNR=17
VNDA LR LR 18 14 29.0
comp=Z,290nm,18.5s,baz=131,slow=30
EGAK **Eagle** 87.15 338 *e*P P 17 43 29.3 -0.1
MENT **Mentasta** 87.28 336 *e*P P 17 43 29.6 -0.5
DIV **Divide** 87.36 334 *e*P P 17 43 30.0 -0.6
IDGL **Inch Island, C** 87.41 33 *e*P P 17 43 24.6 -6.2
KLU **Klutina** 87.58 334 *e*P P 17 43 31.1 -0.6
HARP **HAARP** 87.64 335 *e*P P 17 43 31.8 -0.1
SJPF **Ste Jean** 87.69 46 *e*P P 17 43 32.8 +0.3
SJPF pmax pmax
comp=Z,21nm,0.9s
DOT **Dot Lake** 87.74 336 *e*P P 17 43 32.0 -0.4
SCRK **Sand Creek** 87.86 336 *e*P P 17 43 32.4 -0.6
GMM **Mts of Mourne** 87.98 34 *e*P P 17 43 34.1 +0.5
RIDG **Independ'e Rid** 88.09 336 *e*P P 17 43 33.4 -0.7
SGMF **Saint Gilles** 88.19 41 *e*P P 17 43 34.2 -0.5
SGMF pmax pmax
comp=Z,129nm,1.8s
SCM **Sheep Creek Mo** 88.33 334 *e*P P 17 43 35.2 0.0
SCM **Sheep Creek Mo** 88.33 334 *e*P P 17 43 35.2 0.0
SCO **Scoresbysund** 88.54 16 *e*P P 17 43 36.0 +0.1
SCO **Scoresbysund** 88.54 16⇑ *i*P P 17 43 36.7 +0.8
comp=Z,53nm,0.9s
SCO **Scoresbysund** 88.54 16⇑ *i*P P 17 43 36.7 +0.8
SCO pmax pmax
comp=Z,53nm,0.9s
KNK **Knik Glacier** 88.67 333 *e*P P 17 43 36.4 -0.4
TAM **Tamanrasset** 88.72 67 *e*P P 17 43 38.6 +0.6
TAM **Tamanrasset** 88.72 67 P P 17 43 39.2 +1.2
TAM pmax pmax
comp=Z,13nm,1.1s
SML **Sawmill** 88.76 334 *e*P P 17 43 36.8 -0.4
SML **Sawmill** 88.76 334 *e*P P 17 43 36.8 -0.4
EPF **Esparros** 88.78 46 *e*P P 17 43 38.1 +0.3
EPF pmax pmax
comp=Z,33nm,1.5s
DHY **Denali Highway** 88.85 335 *e*P P 17 43 37.4 -0.4
MCH1 **Michaelchurch** 88.98 37 *e*P P 17 43 38.1 -0.3
PMR **Palmer** 89.03 333 *e*P P 17 43 38.1 -0.3
PMR **Palmer** 89.03 333 *e*P P 17 43 38.1 -0.3
MONM **Monmouth** 89.05 37 *e*P P 17 43 38.8 +0.1
MONM IAmb IAmb 17 43 39.8
comp=Z,39nm,1.0s
PRP **Porcupine Dome** 89.13 338 *e*P P 17 43 38.6 -0.4
KPL **Plockton** 89.16 31 *e*P P 17 43 38.8 -0.2
BRLK **Bradley Lake** 89.17 331 *e*P P 17 43 39.1 -0.1
HLM1 **Long Mynd** 89.20 36 *e*P P 17 43 39.2 -0.2
HLM1 IAmb IAmb 17 43 40.6
comp=Z,33nm,0.9s
HDA **Harding Lake** 89.22 336 *e*P P 17 43 38.2 -1.0
HDA **Harding Lake** 89.22 336 P P 17 43 38.7 -0.5
baz=114
GRR **Gorron** 89.32 41 *e*P P 17 43 39.5 -0.5
GRR pmax pmax
comp=Z,47nm,1.1s
MFF **Saint Martin d** 89.33 43 *e*P P 17 43 39.7 -0.4
MFF pmax pmax
comp=Z,48nm,1.3s
KDAK **Kodiak Island** 89.34 329 *i*P P 17 43 39.7 -0.2
IL1 **Eielson Array** 89.34 337 *e*P P 17 43 38.5 -1.3
ILAR **Eielson Array** 89.34 337 P P 17 43 39.4 -0.5
comp=Z,39nm,0.9s,baz=148,slow=3.3,SNR=240
ILAR pP pP 17 43 55.1 -0.4
comp=Z,29nm,1.0s,baz=152,slow=3.9,SNR=11
ILAR PP PP 17 47 10.6 -0.7
comp=Z,5.9nm,1.0s,baz=120,slow=6.2,SNR=9.9
ILB **Eielson Array** 89.34 337 *e*P P 17 43 38.9 -0.9
ILB *e*PP PP 17 47 10.2 -1.1
FYU **Fort Yukon** 89.47 339 *e*P P 17 43 40.6 +0.3
LFF **La Frestale** 89.52 44 *e*P P 17 43 40.6 -0.5
LFF pmax pmax
comp=Z,14nm,0.8s
RND **Reindeer** 89.60 335 *e*P P 17 43 40.6 -0.5
RND **Reindeer** 89.60 335 *e*P P 17 43 40.6 -0.5
CCB **Clear Creek Bu** 89.65 336 *e*P P 17 43 40.3 -1.0
FLN **La Foliniere** 89.66 40 *e*P P 17 43 41.4 -0.2
FLN pmax pmax
comp=Z,74nm,1.2s
KESW **Keswick, Cumbr** 89.67 34 *e*P P 17 43 42.0 +0.5
KESW IAmb IAmb 17 43 43.5
comp=Z,34nm,1.0s
POKR **Poker Plat Res** 89.69 337 P P 17 43 41.4 0.0
baz=114
WRH **Wood River Hil** 89.70 336 *e*P P 17 43 40.9 -0.6
SUA **Susitna One** 89.70 333 *e*P P 17 43 41.0 -0.8
COLA **College** 89.76 337 *e*P P 17 43 41.5 -0.2
COLA **College** 89.76 337 *c i*P P 17 43 41.3 -0.4
COLA pmax pmax
comp=Z,126nm,0.9s
COLA **College** 89.76 337 *e*P P 17 43 42.1 +0.4
TCOL **CIGO, UAF Yank** 89.77 337 P P 17 43 41.5 -0.2
baz=113
ESK **Eskdalemuir** 89.83 34 *i*P P 17 43 43.1 +0.8
LDF **La Druitiere** 89.84 41 *e*P P 17 43 42.1 -0.4
LDF pmax pmax
comp=Z,38nm,1.0s
EKA **Eskdalemuir Ar** 89.86 34 P P 17 43 42.4 0.0
comp=Z,12nm,1.1s,baz=261,slow=3.9,SNR=11
MDM **Murphy Dome** 89.94 337 *e*P P 17 43 42.2 -0.5
LBWR **Ladybower, Pea** 90.12 36 *e*P P 17 43 44.4 +0.7
LBWR IAmb IAmb 17 43 45.3
comp=Z,39nm,0.9s
BWN **Browne** 90.14 336 *e*P P 17 43 43.0 -0.5
RJF **Les Rejaudoux** 90.14 44 *e*P P 17 43 43.4 -0.6
RJF pmax pmax
comp=Z,25nm,1.2s
CWF **Charnwood Fore** 90.19 36 *e*P P 17 43 44.4 +0.4
CWF IAmb IAmb 17 43 44.7
comp=Z,18nm,1.0s
TRF **Thorofare Moun** 90.21 335 *e*P P 17 43 43.3 -0.8
EDMD **Edmundbyers** 90.38 34 *e*P P 17 43 44.0 -0.8
EDMD IAmb IAmb 17 43 47.0
comp=Z,58nm,1.4s
MLA1 **Latheron** 90.62 31 *e*P P 17 43 46.3 +0.4
BPAW **Bear Paw Mtn.** 90.73 335 *e*P P 17 43 45.6 -0.8
PPLA **Purkeypile** 90.83 334 *e*P P 17 43 46.1 -0.9
TCF **Toulx Ste Croi** 90.84 43 *e*P P 17 43 46.5 -0.8
TCF pmax pmax
comp=Z,23nm,1.4s
BGF **Bois d'Agland** 91.33 43 P P 17 43 51.3 +1.8
BGF pmax pmax
comp=Z,17nm,1.1s
COLD **Coldfoot** 91.54 338 *e*P P 17 43 50.1 +0.1
AVF **Avril sur Loir** 91.72 43 *e*P P 17 43 50.4 -0.9
AVF pmax pmax
comp=Z,46nm,1.7s
SVW2 **Sparrevohn** 91.81 332 *e*P P 17 43 50.4 -0.9
TOLK **Toolik Lake Re** 91.83 340 *e*P P 17 43 51.0 -0.3
TOLK **Toolik Lake Re** 91.83 340 P P 17 43 51.3 0.0
baz=112
SSF **Saint Saulge** 91.88 43 *e*P P 17 43 51.0 -1.0
SSF pmax pmax
comp=Z,33nm,1.9s
SMF **Signal de Mont** 92.02 43 *e*P P 17 43 52.1 -0.6
SMF pmax pmax
comp=Z,48nm,1.5s
VIVF **Saint-Julien-l** 92.23 45 *e*P P 17 43 56.6 +2.8
VIVF pmax pmax
comp=Z,50nm,2.0s
IM3 **Indian Mountai** 92.46 337 *e*P P 17 43 53.6 -0.7
DAG **Danmarks Havn** 92.72 12⇑ *i*P P 17 43 55.1 -0.2
comp=Z,45nm,1.0s
DAG *i* 17 44 08.8
DAG **Danmarks Havn** 92.72 12⇑ *i*P P 17 43 55.1 -0.2
DAG *i* 17 44 08.8
DAG pmax pmax
comp=Z,45nm,1.0s
SDPT **Sand Point** 92.89 326 *e*P P 17 43 56.5 +0.1
SNF **Seneffe** 93.07 39 ⇓P P 17 43 57.7 +0.3
ORIF **Oris-en-Rattie** 93.09 45 *e*P P 17 43 58.0 +0.2
ORIF pmax pmax
comp=Z,30nm,1.4s
TSUM **Tsumeb** 93.13 110 *e*P P 17 43 59.6 +1.0
DOU **Dourbes** 93.18 40 ⇓P P 17 43 58.4 +0.4
GIVF **Givet** 93.33 40 *e*P P 17 43 58.5 -0.1
GIVF pmax pmax
comp=Z,27nm,1.2s
LPL **La Plagne** 93.79 45 *e*P P 17 44 01.3 +0.2
LPL pmax pmax
comp=Z,51nm,2.0s
WLF **Walferdange** 94.10 40 *e*P P 17 44 02.8 +0.6
WLF **Walferdange** 94.10 40 *e*P P 17 44 02.8 +0.6
WLF **Walferdange** 94.10 40 ⇑P P 17 44 03.1 +0.9
MEM **Membach** 94.17 40 ⇑P P 17 44 02.8 +0.3
KEST **Kesra** 94.21 55 P P 17 44 03.8 +0.7
comp=Z,7.1nm,0.9s,baz=282,slow=1.9,SNR=3.8
KEST LR LR 18 25 10.8
comp=Z,168nm,21.4s,baz=221,slow=35
CDF **Champ du Feu** 94.62 42 *e*P P 17 44 04.1 -0.6
CDF pmax pmax
comp=Z,43nm,1.8s
SLE **Schleitheim** 95.33 43 P P 17 44 09.0 +1.1
SLE pmax pmax
comp=Z,26nm,2.3s
DAVOX **Davos/Dischmat** 96.14 44 P P 17 44 11.9 +0.1
comp=Z,4.4nm,0.9s,baz=282,slow=6.9,SNR=6.8
DAVA **Damuels** 96.20 43 *i*PcP P 17 44 13.2 +1.1
comp=Z,8.7nm,1.0s
RDOG **Red Dog Mine** 96.44 338 *e*P P 17 44 12.2 -0.3
FETA **Feichten** 96.74 44 *i*PcP P 17 44 14.7 +0.2
comp=Z,8.6nm,1.2s
RETA **Reutte** 96.82 43 *i*PcP P 17 44 15.2 +0.4
comp=Z,7.0nm,1.1s
MUD **Monsted U'grnd** 96.88 34 *i*P P 17 44 16.0 +1.4
comp=Z,23nm,1.0s
MUD **Monsted U'grnd** 96.88 34 P P 17 44 17.6 +3.0
MUD pmax pmax
comp=Z,23nm,1.0s
ANM **Nome** 96.92 334 *e*P P 17 44 14.8 +0.1
ANM **Nome** 96.92 334 *e*P P 17 44 14.8 +0.1
MOTA **Moosalm** 97.03 43 *i*PcP P 17 44 16.4 +0.5
comp=Z,7.0nm,1.1s
SQTA **Sankt Quirin** 97.09 43 *i*PcP Pdif 17 44 16.7 +0.6
comp=Z,14nm,1.6s
WATA **Walderalm** 97.35 43 *i*P P 17 44 16.5 -0.7
comp=Z,9.8nm,1.1s
WTTA **Wattenberg** 97.39 43 *i*PcP Pdif 17 44 17.7 +0.2
comp=Z,13nm,1.3s
BOSA **Boshof** 97.85 121 LR LR 18 26 42.9
comp=Z,382nm,20.0s,baz=248,slow=34
ABTA **Abfaltersbach** 97.93 44 *i*PcP Pdif 17 44 20.1 +0.3
comp=Z,17nm,1.3s
NB2 **NORSAR Subarra** 98.38 29 P Pdif 17 44 21.7 +0.2
comp=Z,16nm,1.4s,baz=270,slow=4.8
NB2 **NORSAR Subarra** 98.38 29 P Pdif 17 44 21.7 +0.2
baz=270,slow=4.8
NB200 **NORSAR Array S** 98.38 29 *e*P Pdif 17 44 22.2 +0.7
NOA **NORSAR Array B** 98.38 29 P Pdif 17 44 22.2 +0.7
comp=Z,2.3nm,0.9s,baz=268,slow=4.7,SNR=4.3
NOA LR LR 18 31 19.4
comp=Z,32nm,18.0s,baz=280,slow=37
WET **Wettzell** 98.39 42 P Pdif 17 44 25.0 +3.2
WET pmax pmax
comp=Z,5.0nm,1.4s
MAW **Mawson** 98.40 166 *e*P Pdif 17 44 21.5 +0.1
MAW **Mawson** 98.40 166 *e*P Pdif 17 44 21.5 +0.1
KBA **Koelnbreinsper** 98.53 44 *i*Pdiff Pdif 17 44 23.0 +0.4
comp=Z,8.8nm,1.5s
CLL **Collm** 98.64 39 *e*Pdif Pdif 17 44 23.0 +0.2
comp=Z,6.0nm,1.1s
CLL *e* 17 44 30.0
CLL *e*SS SS 18 02 48.0 +14
CLL LmV 18 29 00.0
comp=Z,200nm,18.8s
CLL **Collm** 98.64 39 *e*P Pdif 17 44 23.0 +0.2
CLL pmax pmax
comp=Z,6.0nm,1.1s
MYKA **Terra Mystica** 98.69 44 *i*Pdiff Pdif 17 44 23.3 +0.1
comp=Z,5.0nm,0.9s
GEC2 **GERESS Array S** 98.91 42 *e*P Pdif 17 44 24.4 +0.2
GEC2 **GERESS Array S** 98.91 42 *e*P Pdif 17 44 24.4 +0.3
GERES **GERESS Array B** 98.91 42 P Pdif 17 44 24.6 +0.4
comp=Z,0.8nm,0.9s,baz=288,slow=1.3,SNR=7.5
GERES PKKPbc **PKKPbc** 18 00 52.3 -0.5
comp=Z,0.3nm,0.8s,baz=96,slow=1.3,SNR=5.5
BRG **Berggiesshubel** 99.20 40 *e*PKP **Pdif** 17 44 26.0 +0.7
comp=Z,9.9nm,1.3s
BRG **Berggiesshubel** 99.20 40 *e*P **Pdif** 17 44 26.0 +0.7
BRG pmax pmax
comp=Z,10.0nm,1.3s
MOA **Molln** 99.21 43 *i*Pdiff **Pdif** 17 44 26.0 +0.5
comp=Z,13nm,1.3s

OBKA **Obir** 99.31 44 *i* Pdiff **Pdif** 17 44 25.2 -0.8
comp=Z,6.2nm,0.8s
HFS **Hagfors** 99.55 30 P **Pdif** 17 44 26.6 -0.1
comp=Z,3.7nm,0.9s,baz=156,slow=7.5,SNR=4.7
GAMB **Gambell** 99.61 333 *e*Pdif **Pdif** 17 44 26.5 -0.2
SOKA **Soboth** 99.65 44 *i* Pdiff **Pdif** 17 44 26.8 -0.7
comp=Z,7.9nm,1.7s
ARSA **Arzberg** 100.02 44 *i* Pdiff **Pdif** 17 44 29.4 +0.3
comp=Z,3.7nm,0.9s
CONA **Conrad Observa** 100.29 43 *i* Pdiff **Pdif** 17 44 31.1 +0.8
comp=Z,9.0nm,1.4s
KRUC **Moravsky** 100.69 42 P **Pdif** 17 44 33.2 +1.3
KRUC pmax pmax
comp=Z,7.0nm,1.6s
VRAC **Vranov** 100.83 42 P **Pdif** 17 44 34.8 +2.2
ZST **Bratislava** 101.13 43 *e*P **Pdif** 17 44 34.6 +0.7
ZST **Bratislava** 101.13 43 *e*PDIF **Pdif** 17 44 34.6 +0.7
MODS **Modra-Piesok** 101.25 43 *e*P **Pdif** 17 44 34.9 +0.4
MODS **Modra-Piesok** 101.25 43 *e*PDIF **Pdif** 17 44 34.9 +0.4
VYHS **Vyhne** 102.29 42 *e*P **Pdif** 17 44 40.5 +1.4
VYHS **Vyhne** 102.29 42 *e*PDIF **Pdif** 17 44 40.5 +1.4
FIA0 **FINESS Array S** 105.53 29 *e*PKKPbc PKKPbc 18 00 30.9 -2.7
FIA0 *e*PKKPdf **PKKPdf** 18 00 45.9 +1.6
FINES **FINESS Array B** 105.53 29 PKKPbc PKKPbc 18 00 30.9 -2.7
comp=Z,2.1nm,0.8s,baz=336,slow=2.3,SNR=5.9
FINES PKKP **PKKPdf** 18 00 45.9 +1.6
comp=Z,1.5nm,1.0s,baz=182,slow=7.1,SNR=3.9
MLR **Muntele Rosu** 107.25 45 PKKPab PKKPab 18 00 41.7 +0.7
comp=Z,2.5nm,0.8s,baz=256,slow=18,SNR=3.6
DZM **Mont Dzumac** 108.53 243 *e*LR LR 18 21 01.5
comp=Z,433nm,24.6s
BR101 **Keskin Array S** 113.47 51 *e*PKiKP **PKiKP** 17 49 21.6 -0.5
BR101 *e*PKKPab **PKKPab** 18 00 15.1 +1.6
BRTR **Keskin Array B** 113.47 51 PKiKP **PKiKP** 17 49 21.6 -0.5
comp=Z,2.0nm,1.0s,baz=188,slow=5.0,SNR=10
BRTR PKKPab **PKKPab** 18 00 15.1 +1.6
comp=Z,1.7nm,1.1s,baz=142,slow=10,SNR=5.4
SEY **Seymchan** 115.28 337 *i* PKiKP **PKiKP** 17 49 24.2 -0.5
ANN **Anapa** 115.39 45 *i* PKiKP **PKiKP** 17 49 22.5 -2.9
ANN *e* 17 56 04.5
ANN pmax pmax
comp=Z,34nm,1.2s
TIXI **Tiksi** 115.57 351 *i* PKiKP **PKiKP** 17 49 24.4 -0.6
TIXI **Tiksi** 115.57 351 PKP **PKiKP** 17 49 23.7 -1.3
comp=Z,0.4nm,0.5s,baz=45,slow=1.5,SNR=4.2
H11N3 **WAKE ISLAND Hyl** 115.67 287 T T 19 55 05.0
baz=92,slow=74,SNR=46
H11N2 **WAKE ISLAND Hyl** 115.68 287 T T 19 55 06.0
baz=92,slow=74,SNR=66
H11N1 **WAKE ISLAND Hyl** 115.68 287 T T 19 55 08.8
baz=92,slow=74,SNR=64
KMBO **Kilima Mbogo** 115.74 96 *e*PKPdf **PKiKP** 17 49 27.8 +0.5
KMBO **Kilima Mbogo** 115.74 96 PKP **PKiKP** 17 49 28.8 +1.4
comp=Z,0.5nm,0.5s,baz=208,slow=2.3,SNR=3.8
H11S2 **WAKE ISLAND Hyl** 115.83 286 T T 19 55 16.2
baz=92,slow=75,SNR=198
H11S1 **WAKE ISLAND Hyl** 115.83 286 T T 19 55 16.5
baz=92,slow=75,SNR=126
H11S3 **WAKE ISLAND Hyl** 115.84 286 T T 19 55 17.5
baz=92,slow=75,SNR=111
KBZ **Khabaz** 119.45 45 PKP **PKiKP** 17 49 34.0 +0.7
comp=Z,8.5nm,0.9s,baz=198,slow=4.1,SNR=24
NEY **Neytrino** 119.46 45 ||*i* PKiKP **PKiKP** 17 49 35.8 +2.2
SIRT **Sirnak** 120.64 52 *e*PKPdf **PKiKP** 17 49 36.5 +0.5
ARU **Arti** 122.78 26 *e*Pdif **Pdif** 17 46 11.3 +1.4
ARU *e*PKPdf **PKiKP** 17 49 39.5 +0.1
ARU **Arti** 122.78 26 *i* PKiKP **PKiKP** 17 49 39.6 +0.1
ARU 17 51 17.9
ARU 17 56 46.8
ARU SS SS 18 07 58.5 +2.8
MAK **Makhachkala** 122.89 45 *i* P **Pdif** 17 46 13.4 +2.6
MAK *i* 17 49 40.8
MAK *e* 17 51 19.6
MAK *e* 17 56 39.9
MAK *e*SS SS 18 08 03.2 +4.9
MAK pmax pmax
comp=Z,90nm,0.8s
STKA **Stephens Creek** 123.39 222 *e*PKPdf **PKPdf** 17 49 41.4 +0.1
STKA **Stephens Creek** 123.39 222 PKP **PKiKP** 17 49 41.5 0.0
comp=Z,9.5nm,0.9s,baz=31,slow=1.1,SNR=9.9
YAK **Yakutsk** 123.53 344 *e*PKiKP **PKPdf** 17 49 39.5 -1.0
YAK *e* 17 51 21.6
YAK *e* 17 56 45.2
YAK *e*SS SS 18 08 04.1 -0.6
YAK pmax pmax
comp=Z,69nm,0.7s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK pmax pmax
comp=Z,199nm,2.5s
YAK pmax pmax
comp=N,123nm,2.3s
YAK pmax pmax
comp=E,110nm,2.5s
CTAO **Charters Tower** 126.57 236 *e*PKPdf **PKPdf** 17 49 47.9 +0.2
CTAO **Charters Tower** 126.57 236 *e*PKiKP **PKPdf** 17 49 47.9 +0.2
RABL **Rabaul** 127.15 257 *e*PKPdf **PKPdf** 17 49 48.6 -0.3
ABKAR **Akbulak array** 127.73 33 *e*PKiKP **PKiKP** 17 49 49.4 -0.2
YSS **Yuzh-Sakhalins** 128.53 324 ||*e*PKiKP **PKPdf** 17 49 50.5 -0.1
GRNR **Gornyy** 129.54 331 *e*PKiKP **PKPdf** 17 49 51.2 -1.2
GRNR pmax pmax
comp=Z,21nm,1.0s
BRVK **Borovoye** 130.02 24 *e*PKPdf **PKPdf** 17 49 53.4 +0.1
BRVK **Borovoye** 130.02 24 *c i*PKiKP **PKPdf** 17 49 53.4 +0.1
BRVK **Borovoye** 130.02 24 P **PKiKP** 17 49 54.2 +0.2
SNR=5.2
BVAR **Borovoye Array** 130.09 24 PKP **PKiKP** 17 49 54.2 0.0
comp=Z,9.8nm,0.8s,baz=318,slow=2.0,SNR=29
BVAR pPKP **pPKPdf** 17 50 08.9 -0.8
comp=Z,7.0nm,0.9s,baz=286,slow=2.6,SNR=7.5
BVAR PP **PP** 17 52 03.6 -2.2
comp=Z,1.2nm,0.9s,baz=266,slow=8.7,SNR=3.2
PMG **Port Moresby** 130.28 249 *d i*PKiKP **PKiKP** 17 49 55.8 +0.1
PMG pmax pmax
comp=Z,118nm,1.7s
PMG **Port Moresby** 130.28 249 PKP **PKiKP** 17 49 56.3 +0.6
comp=Z,16nm,1.1s,baz=343,slow=4.1,SNR=4.3
BOD **Bodaibo** 130.75 351 *e*PKiKP **PKPdf** 17 49 52.1 -2.4
BOD pmax pmax
comp=Z,13nm,1.3s
ERM **Erimo** 130.81 319 *c i*PKiKP **PKPdf** 17 49 55.5 +0.4
ZEA **Zeya** 131.08 340 *e*PKiKP **PKPdf** 17 49 54.3 -0.9
ZEA *e* 17 50 09.8
ZEA pmax pmax
comp=Z,17nm,1.0s
COEN **Coen** 132.03 242 *e*PKPdf **PKiKP** 17 49 58.9 -0.3
GEYT **Alibeck** 132.28 47 PKP **PKiKP** 17 49 58.9 -0.2
comp=Z,4.9nm,0.7s,baz=298,slow=3.2,SNR=13
GYA0B **ALIBECK ARRAY** 132.28 47 *e*PKPdf **PKPdf** 17 49 58.5 +0.4
NVS **Novosibirsk** 132.65 14 ||*i* PKiKP **PKPdf** 17 49 58.6 +0.5
NVS *i* 17 50 14.2
NVS pmax pmax
comp=Z,29nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.4s
KLR **Kul'dur** 132.78 333 ||*i* PKiKP **PKPdf** 17 49 58.2 -0.4
ZAA1 **Zalesovo Array** 133.83 13 *e*PKPpre PKPpre 17 49 51.4
ZAA1 *e*PKPdf **PKPdf** 17 50 00.1 -0.3
ZAA1 *ep*PKPdf pPKPdf 17 50 16.3 -0.4
ZAA0 **Zalesovo Array** 133.83 13 *e*PKPpre PKPpre 17 49 48.1
ZAA0 *e*PKPdf **PKPdf** 17 50 00.3 -0.1
ZALV **Zalesovo Beam** 133.83 13 *e*PKPpre PKPpre 17 49 50.6
ZALV *e*PKPdf **PKPdf** 17 50 00.5 +0.1
ZALV pPKP pPKPdf 17 50 16.3 -0.4
ZALV **Zalesovo Beam** 133.83 13 PKhKP PKPpre 17 49 51.4
comp=E,2.1nm,1.0s,baz=333,slow=1.7,SNR=4.9
ZALV PKP **PKPdf** 17 50 00.1 -0.3
comp=E,24nm,1.0s,baz=273,slow=2.5,SNR=51
ZALV pPKP pPKPdf 17 50 16.3 -0.4
comp=E,4.9nm,0.5s,baz=276,slow=1.3,SNR=5.9
AS31 **Alice Springs** 133.88 224 *e*PKPpre PKPpre 17 49 50.0
AS31 *e*PKPdf **PKPdf** 17 50 00.6 -1.0
ASAR **Alice Springs** 133.88 224 PKhKP PKPpre 17 49 50.8
comp=E,1.3nm,0.9s,baz=116,slow=1.8,SNR=7.1
ASAR PKP **PKPdf** 17 50 01.6 0.0
comp=E,9.5nm,0.8s,baz=117,slow=2.8,SNR=8.0
ASAR PP **PP** 17 52 26.4 -4.5
comp=E,3.3nm,1.0s,baz=135,slow=5.9,SNR=6.0
DMTO **DMTO** 134.68 75 P **PKiKP** 17 50 03.9 -0.6
SNR=7.4
KURK **Kurchatov** 134.98 20 *e*PKPdf **PKPdf** 17 50 02.7 +0.1
KURK **Kurchatov** 134.98 20 *c i*PKiKP **PKPdf** 17 50 02.9 +0.3
KURK **Kurchatov** 134.98 20 P **PKPdf** 17 50 03.2 +0.5
SNR=9.0
KURBB **Kurchatov Arra** 135.03 20 PKhKP PKPpre 17 49 53.6
comp=E,0.4nm,0.3s,baz=172,slow=19,SNR=4.2
KURBB PKP **PKiKP** 17 50 03.5 -0.7
comp=E,14nm,0.8s,baz=325,slow=2.4,SNR=68
KURBB SKP 17 53 29.6
comp=E,2.9nm,1.2s,baz=310,slow=3.3,SNR=4.9
NWAO **Narrogin (SRO)** 135.03 200 *e*PKPdf **PKPdf** 17 50 03.3 -0.1
NWAO *e*PKPdf **PKiKP** 17 50 03.5 -1.4
NWAO **Narrogin (SRO)** 135.03 200 PKP **PKPdf** 17 50 03.3 -0.1
comp=E,14nm,0.9s,baz=138,slow=4.4,SNR=6.8
SOHO **SOHO** 135.30 65 P **PKPdf** 17 50 03.5 -0.6
WB2 **Warramunga Arr** 135.96 228 *e*PKPpre PKPpre 17 49 54.3
WB2 *e*PKPdf **PKPdf** 17 50 03.9 -1.6
WB2 *e*PKPdf **PKiKP** 17 50 04.5 -2.6
WRAB **Tennant Creek** 135.97 228 *e*PKPpre PKPpre 17 49 55.7
WRAB *e*PKPdf **PKPdf** 17 50 04.7 -0.8
WRAB **Tennant Creek** 135.97 228 *de*PKIKP **PKPdf** 17 50 05.0 -0.5
WR1 **Warramunga Arr** 135.97 228 *e*PKPpre PKPpre 17 49 56.1
WR1 *e*PKPdf **PKPdf** 17 50 04.2 -1.3
WR1 *e*PP **PP** 17 52 38.4 -5.9
WRA **Warramunga Arr** 135.97 228 PKhKP PKPpre 17 49 56.1
comp=E,0.9nm,0.8s,baz=146,slow=2.6,SNR=5.9
WRA PKP **PKPdf** 17 50 04.2 -1.3
comp=E,27nm,0.9s,baz=124,slow=1.6,SNR=8.2
WRA PP **PP** 17 52 38.4 -5.9
comp=E,1.7nm,1.0s,baz=119,slow=6.3,SNR=5.1
USRK **Ussuriysk Ar.** 136.19 328 PKP **PKPdf** 17 50 04.8 -0.3
comp=E,6.2nm,0.9s,baz=288,slow=0.9,SNR=9.7
MJAR **Matsushiro Arr** 136.82 315 PKhKP PKPpre 17 49 54.6
comp=E,3.1nm,0.9s,baz=86,slow=1.7,SNR=6.7
MJAR PKP **PKPdf** 17 50 06.4 -0.2
comp=E,7.7nm,0.9s,baz=117,slow=0.9,SNR=16
MAJO **Matsushiro** 136.83 315 *e*PKPpre PKPpre 17 49 54.6
MAJO *e*PKPdf **PKPdf** 17 50 06.5 -0.1
MAJO **Matsushiro** 136.83 315 *de*PKIKP **PKPdf** 17 50 07.1 +0.5
MAJO **Matsushiro** 136.83 315 *e*P **PKPdf** 17 50 06.2 -0.4
MAT **Matsushiro** 136.83 315 PKP **PKPdf** 17 50 06.0 -0.6
MJB9 **Matsu-Tunnel** 136.83 315 *e*PKPdf **PKPdf** 17 50 05.8 -0.8
MDJ **Mudanjiang** 137.13 330 PKP **PKPdf** 17 50 06.5 -0.3
MDJ **Mudanjiang** 137.13 330 *e*PKPdf **PKPdf** 17 50 06.6 -0.3
MHTO **MHTO** 137.15 69 P **PKPdf** 17 50 07.5 0.0
WSAR **Wadi Sarin** 137.36 66 P **PKPdf** 17 50 07.8 -0.1
SNR=6.4
TLY **Talaya** 137.89 357 *e*PKPpre PKPpre 17 49 57.6
TLY **Talaya** 137.89 357 *ce*PKIKP **PKPdf** 17 50 08.6 +0.5
INU **Inuyama** 138.25 314 *e*PKPdf **PKPdf** 17 50 08.7 -0.5
DGZ **Jazzator, Alta** 138.38 13 *c i*PKIKP **PKPdf** 17 50 09.4 +0.2
GENI **Genyem** 139.09 255 PKP **PKPdf** 17 50 09.6 -1.8
GENI PKP **PKiKP** 17 50 13.0 -0.6
GENI PKP **PKiKP** 17 50 14.8 +1.2
ZAK **Zakamensk** 139.20 358 *e*PKHKP PKPpre 17 50 00.4
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MAKZ **Makanchi** 139.47 20 *e*PKPpre PKPpre 17 50 01.4
MAKZ *e*PKPdf **PKPdf** 17 50 11.0 -0.2
MAKZ **Makanchi** 139.47 20 *e*PKHKP PKPpre 17 50 01.5
MAKZ *e* 17 50 11.0
BTK **Batken** 139.48 36 *e*PKPpre PKPpre 17 50 00.8
BTK *e*PKPdf **PKPdf** 17 50 11.7 +0.2
BTK **Batken** 139.48 36 *e*PKHKP PKPpre 17 50 00.8
BTK *e* 17 50 11.7
MK31 **Makanchi Array** 139.59 20 *e*PKPpre PKPpre 17 50 02.8
MK31 *e*PKPdf **PKPdf** 17 50 11.2 -0.2
MK31 **Makanchi Array** 139.59 20 *e*PKHKP PKPpre 17 50 02.8
MK31 *e* 17 50 11.2
MK32 **Makanchi Array** 139.59 20 *e*PKPpre PKPpre 17 50 05.5
MK32 *e*PKPdf **PKPdf** 17 50 11.8 +0.5
MKAR **Makanchi Array** 139.59 20 PKhKP PKPpre 17 50 05.5
comp=Z,2.0nm,0.8s,baz=334,slow=3.3,SNR=11
MKAR PKP **PKPdf** 17 50 11.8 +0.5
comp=Z,7.4nm,0.8s,baz=342,slow=2.1,SNR=21
MK01 **Makanchi Array** 139.62 20 *e*PKPpre PKPpre 17 50 01.8
MK01 *e*PKPdf **PKPdf** 17 50 11.1 -0.3
AAK **Ala-Archa** 139.69 31 *e*PKPpre PKPpre 17 50 03.6
AAK *e*PKPpre PKPpre 17 50 04.7
AAK *e*PKPdf **PKPdf** 17 50 12.7 +0.8
AAK **Ala-Archa** 139.69 31 *de*PKIKP **PKPdf** 17 50 12.7 +0.8
AAK **Ala-Archa** 139.69 31 P **PKiKP** 17 50 13.1 -1.1
SNR=8.0
AAK **Ala-Archa** 139.69 31 PKhKP PKPpre 17 50 04.7
comp=Z,0.8nm,0.6s,baz=190,slow=3.7,SNR=3.7
AAK PKP **PKiKP** 17 50 13.1 -1.1
comp=Z,10nm,1.1s,baz=228,slow=2.0,SNR=20
NRN **Naryn** 141.34 30 *e*PKPdf **PKPdf** 17 50 11.3 -3.8
KDJ **Kajisay** 141.38 29 *e*PKPpre PKPpre 17 50 11.0
ULN **Ulaanbaatar** 141.42 353 *e*PKPpre PKPpre 17 50 08.2
ULN **Ulaanbaatar** 141.42 353 *c*PKIKP **PKPdf** 17 50 14.6 -0.2
ULN **Ulaanbaatar** 141.42 353 P **PKPdf** 17 50 14.7 -0.1
SNR=7.8
SONA0 **Songino Array** 141.52 354 *e*PKPpre PKPpre 17 50 08.2
SONA0 *e*PP PP 17 53 08.3 -9.2
SONM **Songino Array** 141.52 354 PKhKP PKPpre 17 50 08.2
comp=Z,9.7nm,0.9s,baz=335,slow=2.8,SNR=61
SONM PP PP 17 53 08.3 -9.2
comp=Z,1.6nm,1.0s,baz=5.7,slow=5.8,SNR=3.2
PRZ **Przheval'sk** 141.67 27 *e*PKPdf **PKPdf** 17 50 13.3 -2.2
PRZ **Przheval'sk** 141.67 27 *e*PKIKP **PKPdf** 17 50 13.3 -2.2
KSH **Kashi** 142.73 33 PKP **PKPdf** 17 50 13.9 -2.1
KSH pPKP PKiKP 17 50 25.0 +4.5
KSH sPKP 17 50 28.8
KSH PP **PP** 17 53 28.0 +2.5
KSH AMB AMB
comp=Z,88nm,6.1s
KSRS **Korea Array** 143.01 323 PKhKP PKPpre 17 50 14.0
comp=Z,36nm,0.9s,baz=54,slow=3.1,SNR=102
KS01 **Wonju Array Si** 143.01 323 *e*PKPpre PKPpre 17 50 13.2
KS15 **Wonju Array Si** 143.04 323 *e*PKPpre PKPpre 17 50 13.2
KSAR **Wonju Array Be** 143.04 323 PKPpre PKPpre 17 50 14.0
KSAR **Wonju Array Be** 143.04 323 PKIKP PKPpre 17 50 14.0
FITZ **Fitzroy Crossi** 143.28 222 *e*PKPpre PKPpre 17 50 15.4
JNU **Nakatsue** 143.75 315 *e*PKPpre PKPpre 17 50 14.9
WMQ **Urumqi** 143.93 16 *e*PKP **PKPdf** 17 50 19.3 0.0
WMQ LR LR
comp=Z,2μm,22.5s
WMQ LR LR
comp=Z,630nm,27.9s
WMQ LR LR
comp=Z,640nm,25.1s
PSAD3 **Pilbara Seismi** 143.93 211 *e*PKPdf PKPab 17 50 16.9 -0.1
PSAB3 **Pilbara Seismi** 143.93 211 *e*PKPdf PKPab 17 50 17.1 0.0
PSAC2 **Pilbara Seismi** 143.94 211 *e*PKPdf PKPab 17 50 17.1 0.0
PSAA3 **Pilbara Seismi** 143.95 211 *e*PKPdf PKPab 17 50 17.4 +0.2
PSA00 **Pilbara Seismi** 143.96 211 *e*PKPdf PKPab 17 50 17.3 +0.1
PSAA1 **Pilbara Seismi** 143.96 211 *e*PKPdf PKPab 17 50 17.1 0.0
PSAB2 **Pilbara Seismi** 143.96 211 *e*PKPdf PKPab 17 50 17.4 +0.2
PSAA2 **Pilbara Seismi** 143.96 211 *e*PKPdf PKPbc 17 50 17.5 -0.2
PSAB1 **Pilbara Seismi** 143.97 211 *e*PKPdf PKPab 17 50 17.3 +0.1
TJN **Taejon** 144.06 322 *c i*PKIKP **PKPab** 17 50 16.6 -0.5
PSAD1 **Pilbara Seismi** 144.06 211 *e*PKPdf **PKPab** 17 50 17.4 -0.1
NIL **Nilore** 145.01 42 *e*PKPbc **PKPbc** 17 50 20.6 -0.2
NIL **Nilore** 145.01 42 *e*PKIKP **PKPbc** 17 50 20.6 -0.2
RKPI **Ransiki, Papua** 145.11 253 PKP **PKPdf** 17 50 22.2 +0.1
RKPI PKP **PKPab** 17 50 22.9 +1.2
DL2 **Dalian** 145.34 331 PKPbc **PKPbc** 17 50 16.5 -5.1
DL2 PKPab **PKPdf** 17 50 20.5 -1.2
DL2 sPKP 17 50 34.5
DL2 AMB AMB
comp=Z,140nm,6.1s
DL2 LR LR
comp=Z,150nm,14.8s
DL2 LR LR
comp=Z,130nm,15.3s
DL2 LR LR
comp=Z,240nm,15.2s
GIRL **Giralia** 145.49 202 *e*PKPdf **PKPab** 17 50 24.0 +1.2
FAKI **Fak Fak** 146.43 250 *e*PKPdf **PKPdf** 17 50 24.9 +0.5
FAKI **Fak Fak** 146.43 250 PKP **PKPbc** 17 50 25.3 -0.4
FAKI PKP **PKPab** 17 50 27.0 +0.3
BJI **Beijing** 146.69 338 PKP2 **PKPdf** 17 50 24.6 +0.6
BJT **Baijiatuan** 146.72 338 *e*PKPdf **PKPdf** 17 50 24.5 +0.5
BJT **Baijiatuan** 146.72 338 *e*PKP2 **PKPdf** 17 50 24.5 +0.5
HHC **Hu-ho-hao-te** 147.39 345 *e*PcPbc **PKPdf** 17 50 26.3 +1.0
HHC sPKP 17 50 40.3
HHC PP **PP** 17 53 56.3 +3.7
HHC SKKS 18 00 42.5
HHC SS **SS** 18 12 49.8 -0.7
HHC AMB AMB
comp=Z,210nm,9.3s
HHC LR LR
comp=Z,180nm,16.3s
HHC LR LR
comp=Z,210nm,15.4s
HHC LR LR
comp=Z,290nm,17.8s
BNDI **Bandanaira** 147.93 245 PKP **PKPbc** 17 50 28.7 -1.2
BNDI PKP **PKiKP** 17 50 29.8 -2.0
BNDI PKP **PKPab** 17 50 29.9 -2.7
BNDI PKP **pPKPdf** 17 50 36.4 -6.8
BHK **Bhakra** 148.49 43 *ex* **PKPbc** 17 50 31.0 +0.1
TIA **Tai'an** 149.60 334 PKPbc **PKPdf** 17 50 29.0 +0.1
SOEI **Soe** 149.90 231 *e*PKPdf **PKPdf** 17 50 31.2 +1.1
SOEI **Soe** 149.90 231 PKP **PKPdf** 17 50 31.7 +1.5
SOEI PKP **PKiKP** 17 50 36.1 +0.1
TIY **Taiyuan** 150.05 342 *e*PKPbc **PKPdf** 17 50 31.8 +2.1
TIY AMB AMB
comp=Z,140nm,6.0s
TIY LR LR
comp=Z,110nm,5.2s
TIY LR LR
comp=Z,180nm,9.7s
TIY LR LR
comp=Z,180nm,10.2s
BATI **Baumata** 150.07 230 PKP **PKPdf** 17 50 32.1 +1.8
BATI PKP **PKPbc** 17 50 34.1 -1.2
BATI PKP **PKiKP** 17 50 36.9 +0.7
BATI **Baumata** 150.07 230 PKPbc **PKiKP** 17 50 36.7 +0.5
baz=295,slow=1.0
GTA **Gaotai** 150.20 2 *e*PKPbc **PKPdf** 17 50 30.3 +0.3
GTA sPKP 17 50 44.5
GTA AMB AMB
comp=Z,62nm,7.9s
GTA LR LR
comp=Z,640nm,22.6s
GTA LR LR
comp=Z,340nm,22.5s
GTA LR LR
comp=Z,480nm,20.0s
NJ2 **Nanjing** 152.08 326 *e*PKPbc **PKPdf** 17 50 33.0 +0.2
NJ2 sPKP 17 50 53.5
MMRI **Maumere** 152.15 230 *e*PKPdf **PKPdf** 17 50 33.7 +0.3
MMRI **Maumere** 152.15 230 PKP **PKPdf** 17 50 32.4 -1.1
MMRI PKP **PKPbc** 17 50 35.4 -4.8
MMRI PKP **PKiKP** 17 50 40.0 -0.5
EDFI **Ende, Flores** 152.49 229 PKP **PKPdf** 17 50 33.4 -0.7
EDFI PKP **PKPbc** 17 50 34.2 -6.8
EDFI PKP **PKiKP** 17 50 35.9 -5.4
SANI **Sanana** 152.51 247 PKP **PKPdf** 17 50 34.0 0.0
SANI PKP **PKPbc** 17 50 36.0 -5.0
SANI PKP **PKiKP** 17 50 41.1 -0.1
LZH **Lanzhou** 153.40 355 *e*PKPbc **PKPdf** 17 50 34.0 -0.9
LZH pPKP PKiKP 17 50 43.5 +0.8
LZH sPKP 17 50 49.0
LZH PKPab **PKPab** 17 50 55.0 +0.4
LZH SKKS 18 01 16.3
LZH LR LR
comp=Z,340nm,15.7s
LZH LR LR
comp=Z,190nm,14.4s
LZH LR LR
comp=Z,340nm,16.8s
XAN **Xi'an** 154.50 344 PKPbc **PKPdf** 17 50 36.5 +0.2
XAN pPKP PKPbc 17 50 44.3 -0.5
XAN PKPab **PKPab** 17 50 59.0 -0.2
XAN *e* PP **PP** 17 54 37.5 +4.2
XAN LR LR
comp=Z,230nm,19.6s
XAN LR LR
comp=Z,140nm,22.6s
XAN LR LR
comp=Z,140nm,24.5s
XAN **Xi'an** 154.50 344 *e*PKPdf **PKPdf** 17 50 36.6 +0.2
XAN *e*PKPbc **PKPbc** 17 50 44.0 -0.8
XAN **Xi'an** 154.50 344 *e*PKIKP **PKPdf** 17 50 36.6 +0.2
XAN *e* 17 50 44.0
PYUN **Piuthan** 154.96 40 *e*P **PKPdf** 17 50 37.4 0.0
comp=Z,109nm,1.3s
DANN **Dangsing** 155.26 38 *e*P **PKPdf** 17 50 38.3 +0.4
comp=Z,66nm,0.9s
KOLN **Koldanda** 155.58 40 *e*P **PKPdf** 17 50 38.0 -0.2
comp=Z,21nm,1.2s
WHN **Wuhan** 155.60 331 ||PKP **PKPdf** 17 50 38.0 +0.1
WHN PKPab **sPKPdf** 17 51 01.5 +1.4
WHN LR LR
comp=Z,1μm,12.4s
WHN LR LR
comp=Z,1μm,14.9s
WHN LR LR
comp=Z,2μm,18.6s
KAPI **Kappang** 156.33 233 *e*PKPdf **PKPdf** 17 50 39.5 +0.2
KAPI **Kappang** 156.33 233 *e*PKIKP **PKPdf** 17 50 39.5 +0.2
KKN **Kakani** 156.59 37 *e*P **PKPdf** 17 50 39.4 -0.2
comp=Z,26nm,0.9s
DMN **Daman** 156.62 38 *e*P **PKPdf** 17 50 39.6 -0.1
TPUB **Ta-pu** 156.68 308 *e*PKPab **PKPab** 17 51 08.2 -0.7
PKIN **Phulchoki** 156.82 37 *e*P **PKPdf** 17 50 39.3 -0.6
comp=Z,37nm,1.4s
PKI **Pulchoki** 156.83 37 *e*P **PKPdf** 17 50 39.4 -0.6
GUN **Gumba** 156.85 36 *e*P **PKPdf** 17 50 39.8 -0.3
comp=Z,17nm,0.9s
HYB **Hyderabad** 156.89 68 *i* PKP **PKPdf** 17 50 39.0 -1.0
HYB *e* 17 50 50.5
APSI **Ampana** 156.91 244 PKP **PKPdf** 17 50 41.2 +1.1
APSI PKP **PKPdf** 17 50 42.2 +2.1
APSI PKP **pPKPdf** 17 50 56.4 0.0
JIRN **Jiri** 157.22 36 *e*P **PKPdf** 17 50 40.0 -0.6
SRBI **Singaraja** 157.46 220 PKP **PKPdf** 17 50 41.0 +0.2
SRBI PKP **PKPdf** 17 50 41.8 +1.0
JAGI **Jajag, Banyuwa** 157.81 217 *e*PKPdf **PKPdf** 17 50 40.7 -0.5
JAGI *e*PKPab **PKPab** 17 51 14.1 +0.2
JAGI **Jajag, Banyuwa** 157.81 217 PKP **PKPdf** 17 50 41.1 -0.1
JAGI PKP **PKPab** 17 50 42.3 +1.1
JAGI PKP **PKPdf** 17 50 43.2 +2.0
ENH **Enshi** 157.84 340 *e*PKPdf **PKPdf** 17 50 41.0 +0.1
LSA **Lhasa** 157.93 23 *e*PKPdf **PKPdf** 17 50 42.1 +0.6
LSA *e*PKPab **PKPab** 17 51 14.8 +0.2
LSA **Lhasa** 157.93 23 *e*PKIKP **PKPdf** 17 50 42.1 +0.6
RAMN **Ramite** 157.99 36 *e*P **PKPdf** 17 50 41.4 0.0
comp=Z,57nm,1.0s
TAPN **Taplejung** 158.31 33 *e*P **PKPdf** 17 50 41.4 -0.5
ODAN **Odare** 158.51 35 *e*P **PKPdf** 17 50 41.8 -0.2
CD2 **Chengdu** 158.54 353 PKP **PKPdf** 17 50 40.8 -0.9
CD2 pPKP pPKPdf 17 50 54.5 -3.6
CD2 SKS **SKSdf** 17 57 46.0 +2.9
CD2 SKKS **SKKSac** 18 01 41.3 -0.2
CD2 SS **SS** 18 14 54.0 +1.8
CD2 AMB AMB
comp=Z,230nm,7.4s
CD2 LR LR
comp=Z,1μm,14.8s
CD2 LR LR
comp=Z,810nm,15.8s
CD2 LR LR
comp=Z,700nm,14.8s
MPSI **Mapaga** 159.03 245 PKP **PKPdf** 17 50 42.5 -0.2
MPSI PKP **PKPdf** 17 50 43.6 +0.9
MPSI PKP **PKPdf** 17 50 44.8 +2.1
PWJI **Pagerwojo** 159.49 212 PKP **PKPdf** 17 50 45.0 +1.8
PWJI PKP **PKPdf** 17 50 47.1 +3.9
PWJI PKP **pPKPdf** 17 50 59.8 +0.2
SHL **Shillong** 161.87 27 *e*PKPdf **PKPdf** 17 50 44.0 -1.7
SHL *e*PKPab **PKPab** 17 51 31.1 -0.3
SHL **Shillong** 161.87 27 *e*PKIKP **PKPdf** 17 50 44.0 -1.7
SHL *e* 17 51 31.1
GYA **Guiyang** 162.28 343 *i* PKP **PKPdf** 17 50 45.0 -1.0
GYA pPKP pPKPdf 17 50 58.3 -4.1
GYA PKPab **PKPab** 17 51 34.8 +1.7
GYA PKS **PKSdf** 17 54 17.5 -1.9
GYA PP **PP** 17 55 19.0 +3.0
GYA AMB AMB
comp=Z,130nm,8.4s
LEM **Lembang** 162.46 203 PKP **PKPdf** 17 50 47.4 +0.8
comp=Z,31nm,1.2s,baz=153,slow=8.9,SNR=6.1
LEM PKPab **PKPab** 17 51 35.9 +1.7
comp=Z,22nm,0.8s,baz=104,slow=5.3,SNR=5.4
KMI **Kunming** 164.37 354 PKP **PKPdf** 17 50 47.3 -0.9
MDSI **Maura Dua** 165.73 193 PKP **PKPdf** 17 50 49.1 -0.3
MDSI PKP **PKPdf** 17 50 49.4 0.0
MDSI PKP **PKPdf** 17 50 51.3 +1.9
SBUM **Sibu** 166.76 239 *e*PKPdf **PKPdf** 17 50 50.1 0.0
SBUM *e*PKPab **PKPab** 17 51 53.9 +0.7
KSM **Kuching** 167.72 230 *e*PKPdf **PKPdf** 17 50 50.4 -0.5
KSM *e*PKPab **PKPab** 17 51 57.6 +0.2
CHTO **Chiang Mai** 170.55 11 *e*PKPdf **PKPdf** 17 50 52.1 -0.4
CHTO *e*PKPab **PKPab** 17 52 08.4 -1.1
CHTO **Chiang Mai** 170.55 11 *e*PKIKP **PKPdf** 17 50 52.1 -0.4

CHTO				*e*		17 52 08.4		
CHTO	**Chiang Mai**	**170.55**	**11**	P	**PKPab**	**17 52 08.7**	**-0.8**	
CMMT	**Chiang Mai**	**170.55**	**11**	P	**PKPab**	**17 52 08.7**	**-0.8**	
CM31	**Chiang Mai Arr**	**170.90**	**12**	*e*PKPdf	**PKPdf**	**17 50 52.3**	**-0.4**	
CM31				*e*PKPab	**PKPab**	**17 52 10.2**	**-0.8**	
CM31				*e*PP	**PP**	**17 55 57.4**	**-2.7**	
CM31	**Chiang Mai Arr**	**170.90**	**12**	P	**PKPdf**	**17 50 52.6**	**-0.1**	
	SNR=6.4							
CMAR	**Chiang Mai Arr**	**170.90**	**12**	PKP	**PKPdf**	**17 50 53.0**	**+0.3**	
	comp=Z,3.7nm,0.9s,baz=284,slow=1.8,SNR=28							
CMAR				PKPab	**PKPab**	**17 52 10.8**	**-0.3**	
	comp=Z,12nm,1.0s,baz=323,slow=5.1,SNR=33							
CMAR				pPKPab	**pPKPab**	**17 52 24.3**	**-2.6**	
	comp=Z,7.9nm,0.9s,baz=329,slow=5.3,SNR=13							
CMAR				PP	**PP**	**17 55 59.6**	**-0.4**	
	comp=Z,4.0nm,1.0s,baz=343,slow=6.0,SNR=12							
CM01	**Chiang Mai Arr**	**170.94**	**12**	*e*PKPdf	**PKPdf**	**17 50 52.1**	**-0.6**	
CM01				*e*PKPab	**PKPab**	**17 52 09.7**	**-1.5**	
GSI	**Gunungsitoli**	**171.20**	**158**	*e*PKPdf	**PKPdf**	**17 50 52.3**	**-0.7**	
GSI				*e*PKPab	**PKPab**	**17 52 13.8**	**+1.2**	
NONG	**Nongkai**	**171.22**	**346**	P	**PKPab**	**17 52 12.7**	**+0.2**	
PANO	**Nakornpanom**	**171.60**	**335**	P	**PKPab**	**17 52 14.9**	**+0.7**	
MYKOM	**Kota Tinggi**	**171.80**	**201**	*e*PKPdf	**PKPdf**	**17 50 51.3**	**-2.0**	
MYKOM				*e*PKPab	**PKPab**	**17 52 15.8**	**+0.6**	
UTTA	**Uttaradit**	**171.80**	**2**	P	**PKPab**	**17 52 15.1**	**+0.1**	
SUKH	**Sukhothai**	**171.97**	**9**	P	**PKPab**	**17 52 15.8**	**0.0**	
SKNT	**Sakolnakorn**	**172.00**	**338**	P	**PKPab**	**17 52 15.6**	**-0.4**	
KHON	**Khomkaen**	**172.96**	**345**	P	**PKPab**	**17 52 20.7**	**+0.5**	
PBKT	**Sadao Pong**	**172.98**	**360**	P	**PKPab**	**17 52 20.0**	**-0.2**	
PSI	**Prapat**	**173.05**	**163**	*e*PKPdf	**PKPdf**	**17 50 52.7**	**-1.3**	
PSI				*e*PKPab	**PKPab**	**17 52 19.6**	**-1.3**	
PSI	**Prapat**	**173.05**	**163**	PKP	**PKPdf**	**17 50 53.1**	**-0.9**	
	comp=Z,11nm,1.1s,baz=194,slow=8.3,SNR=5.0							
PSI				PKPab	**PKPab**	**17 52 21.7**	**+0.8**	
	comp=Z,8.6nm,0.8s,baz=104,slow=0.7,SNR=7.3							
CHAI	**Chaiyaphum**	**173.56**	**351**	P	**PKPab**	**17 52 22.9**	**0.0**	
UTHA	**Uthaitani**	**173.81**	**13**	P	**PKPab**	**17 52 24.7**	**+0.7**	
KULM	**Kulim**	**175.81**	**176**	*e*PKPdf	**PKPdf**	**17 50 52.7**	**-2.0**	
KULM				*e*PKPab	**PKPab**	**17 52 32.9**	**0.0**	

*ISCJB **30** 17:45:06.6±1.1,60°.28N±0°.04×60°.20E±0°.08,h1km±6km, mb3.4/4, Error ellipse: s-maj=6.7km s-min=6.4km az=44.4*
*MOS **30** 17:45:07.0±1.5,60°.29N×60°.12E,h4km,mb4.4/2, Error ellipse: s-maj=13.9km s-min=7.7km az=95.4*
*MIRAS **30** 17:45:09.6±0.0,60°.21N×60°.01E,h1km,ML3.4/4*
*IDC **30** 17:45:09.6±0.8,60°.35N×60°.08E,h0km, mb3.4/4, mb1 3.6/11,mb1mx3.5/59,mbtmp3.5/11,ML3.3/7, Error ellipse: s-maj=14.1km s-min=9.3km az=36.0*
ISC 30 17:45:08.8±0.9,60°.20N±0°.06×60°.05E±0°.05,h7km±5km, n40,σ2ᵍ42/51,mb3.4/4,2C-3D,Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVUR	**Severouralsk**	**0.04**	**260**	P	**Pg**	**17 45 09.7**	**-0.4**
SVUR				S	**Sg**	**17 45 10.5**	**-0.6**
SVUR	**Severouralsk**	**0.04**	**260**	*i* P	**Pg**	**17 45 09.7**	**-0.4**
SVUR				*e*S	**Sg**	**17 45 10.4**	**-0.6**
PR0R	**Verkhnechusovs**	**2.51**	**218**	P	**Pb**	**17 45 53.1**	**-0.9**
PR0R				S	**Sb**	**17 46 25.0**	**-0.1**
PR0R	**Verkhnechusovs**	**2.51**	**218**	*e*P	**Pb**	**17 45 53.1**	**-0.9**
PR0R				*e*S	**Sb**	**17 46 25.0**	**-0.1**
	1477μm,14.8s						
PR4R	**Vlasy**	**3.22**	**226**	P	**Pn**	**17 46 02.0**	**+2.3**
PR4R				S	**Sn**	**17 46 41.2**	**+2.9**
PR4R	**Vlasy**	**3.22**	**226**	*e*P	**Pn**	**17 46 02.0**	**+2.3**
PR4R				*e*S	**Sn**	**17 46 41.2**	**+2.9**
	421μm,0.6s						
SVE	**Sverdlovsk**	**3.40**	**175**	*e*P	**Pn**	**17 46 05.2**	**+3.0**
SVE				*e*		17 46 40.0	
SVE	**Sverdlovsk**	**3.40**	**175**	*i* P	**Pn**	**17 46 01.6**	**-0.6**
SVE				*e*S	**Sn**	**17 46 44.1**	**+1.3**
	124μm,0.3s						
ARU	**Arti**	**3.87**	**192**	P	**Pn**	**17 46 10.4**	**+1.8**
ARU	**Arti**	**3.87**	**192**	*e*P	**Pn**	**17 46 10.5**	**+1.8**
ARU				*e*S	**Sn**	**17 46 57.2**	**+3.0**
	13μm,4.5s						
KIRV	**Kirov**	**5.67**	**258**	Pn	**Pn**	**17 46 36.2**	**+2.9**
	1.1nm,0.3s,baz=56,slow=22,SNR=5.9						
KIRV				Sn	**Sn**	**17 47 39.2**	**+0.7**
	1.2nm,0.3s,baz=0.0,slow=20,SNR=3.1						
KIRV				Lg	Lg	17 48 06.3	
	1.9nm,0.3s,baz=20,slow=15,SNR=4.2						
BRVK	**Borovoye**	**9.11**	**137**	*ce*P	**Pn**	**17 47 22.5**	**+2.0**
BVAR	**Borovoye Array**	**9.17**	**137**	Pn	**Pn**	**17 47 23.2**	**+1.8**
	1.6nm,0.3s,baz=328,slow=16,SNR=63						
BVAR				Sn	**Sn**	**17 49 00.7**	**-4.0**
	0.5nm,0.3s,baz=330,slow=25,SNR=4.0						
AKTO	**Aktyubinsk**	**9.86**	**188**	Pn	**Pn**	**17 47 32.3**	**+1.5**
	0.3nm,0.3s,baz=0.0,slow=9.1,SNR=2.6						
AKTO				Sn	**Sn**	**17 49 20.6**	**-1.1**
	0.2nm,0.3s,baz=174,slow=19,SNR=3.1						
KLMR	**Klimovskoe**	**10.13**	**283**	*e*P	**Pn**	**17 47 35.0**	**+0.6**
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.3s						
KLMR	**Klimovskoe**	**10.13**	**283**	*e*Pn	**Pn**	**17 47 35.0**	**+0.6**
KLMR				AMP		17 47 37.5	
	comp=Z,8.0nm,1.3s						
TMCR	**Tamitsa**	**11.00**	**301**	*e*P	**Pn**	**17 47 45.0**	**-1.2**
TMCR				*e*		17 49 47.1	
TMCR				pmax	pmax		
	comp=Z,9.0nm,1.0s						
LVZ	**Lovozero**	**13.43**	**316**	*e*P	**Pn**	**17 48 18.9**	**-0.6**
LVZ				pmax	pmax		
	comp=Z,12nm,1.1s						
OBN	**Obninsk**	**13.52**	**258**	*e*P	**Pn**	**17 48 22.6**	**+1.8**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KURK	**Kurchatov**	**14.14**	**124**	P	**Pn**	**17 48 28.3**	**-0.9**
KURBB	**Kurchatov Arra**	**14.17**	**124**	Pn	**Pn**	**17 48 28.3**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=318,slow=13,SNR=6.5						
ZALV	**Zalesovo Beam**	**14.79**	**104**	*e*P	**P**	**17 48 44.9**	**+0.7**
ZALV	**Zalesovo Beam**	**14.79**	**104**	Pn	**P**	**17 48 42.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=309,slow=15,SNR=4.6						
FINES	**FINESS Array B**	**16.50**	**289**	*e*P	**Pn**	**17 48 58.5**	**-1.9**
FINES	**FINESS Array B**	**16.50**	**289**	Pn	**Pn**	**17 48 56.5**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=88,slow=12,SNR=8.9						
ARCES	**ARCESS Array B**	**17.12**	**317**	*e*P	**P**	**17 49 10.0**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**17.12**	**317**	Pn	**Pn**	**17 49 03.7**	**-4.5**
	comp=Z,0.3nm,0.3s,baz=99,slow=12,SNR=8.1						
MKAR	**Makanchi Array**	**18.72**	**126**	*e*P	**Pn**	**17 49 31.4**	**+3.3**
MKAR	**Makanchi Array**	**18.72**	**126**	P	**Pn**	**17 49 28.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=338,slow=9.2,SNR=5.4						
DGZ	**Jazzator, Alta**	**18.77**	**112**	*e*P	**Pn**	**17 49 29.9**	**+1.1**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NCK	**Nalchik**	**19.48**	**218**	*e*P	**P**	**17 49 35.0**	**-1.0**
NCK				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ANN	**Anapa**	**20.51**	**231**	*e*P	P	17 49 38.1	-9.1
ANN				*e**PP	Pn	17 49 42.8	-6.5
ANN				*e*S	**S**	**17 53 26.5**	**-10**
ANN				pmax	pmax		
	comp=Z,54nm,1.2s						
HFS	**Hagfors**	**22.70**	**290**	P	**P**	**17 50 11.2**	**+0.6**
	comp=Z,1.1nm,0.4s,baz=83,slow=12,SNR=6.0						
NORES	**NORESS Array B**	**23.49**	**293**	P	**P**	**17 50 20.6**	**+1.9**
NOA	**NORSAR Array B**	**23.53**	**293**	P	**P**	**17 50 20.9**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=73,slow=14,SNR=4.8						
CLL	**Collm**	**27.37**	**272**	*e*P	**P**	**17 50 56.0**	**+1.7**
CLL	**Collm**	**27.37**	**272**	*e*P	**P**	**17 50 56.0**	**+1.7**
GERES	**GERESS Array B**	**28.58**	**268**	P	**P**	**17 51 06.8**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=30,slow=10,SNR=3.1						
YKA	**Yellowknife Ar**	**57.56**	**357**	*e*P	**P**	**17 54 59.0**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**57.56**	**357**	P	**P**	**17 54 58.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=0.0,slow=7.7,SNR=8.0						

*ISCJB **30** 17:58:45.7±0.3,7°.12S±0°.03×129°.29E±0°.04,h150km, mb4.4/24, Error ellipse: s-maj=5.4km s-min=3.7km az=173.4*
*IDC **30** 17:58:48.6±1.9,7°.27S×129°.34E,h168km±18km,mb3.5/6, mb1 3.7/11,mb1mx3.4/36,mbtmp4.2/11, Error ellipse: s-maj=19.5km s-min=13.3km az=72.0*
*DJA **30** 17:58:49.5±0.2,7°.S±3°×12°.9E±°,h181km±9km,M4.3/12, mB4.8/6,mb4.2/12,MLv4.4/11,Mw(mB)4.1/6*
*NEIC **30** 17:58:49.4±0.7,7°.11S×129°.29E,h174km±8km,mb4.5/30, Error ellipse: s-maj=7.5km s-min=6.1km az=83.0*

*BJI **30** 17:58:49.6,7°.19S×129°.11E,h167km,mb4.5/9,mB4.7/3*
ISC 30 17:58:47.6±0.4,7°.14S±0°.04×129°.26E±0°.05,h150km,n83, σ1ᵍ98/90,mb4.5/24,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.19**	**112**	*e*Pn	**Pn**	**17 59 29.3**	**+4.3**
SAUI				*e*Sn	**Sn**	**17 59 56.1**	**+2.4**
SAUI	**Saumlaki**	**2.19**	**112**	P	**Pn**	**17 59 29.3**	**+4.3**
BNDI	**Bandanaira**	**2.68**	**14**	P	**Pn**	**17 59 33.1**	**+2.1**
FAKI	**Fak Fak**	**5.15**	**36**	*e*Pn	**Pn**	**18 00 04.2**	**+1.2**
FAKI				*e*Sn	**Sn**	**18 00 55.6**	**-6.3**
FAKI	**Fak Fak**	**5.15**	**36**	P	**Pn**	**18 00 03.9**	**+0.9**
SOEI	**Soe**	**5.58**	**242**	*e*Pn	**Pn**	**18 00 11.7**	**+2.8**
SOEI				*e*Sn	**Sn**	**18 01 10.9**	**-1.4**
SOEI	**Soe**	**5.58**	**242**	P	**Pn**	**18 00 11.6**	**+2.8**
MTN	**Manton Dam**	**5.96**	**162**	*e*Pn	**Pn**	**18 00 15.2**	**+1.5**
MTN				*e*Sn	**Sn**	**18 01 17.9**	**-3.3**
SANI	**Sanana**	**6.02**	**327**	S	**Pn**	**18 00 14.9**	**+0.3**
BATI	**Baumata**	**6.31**	**241**	P	**Pn**	**18 00 22.0**	**+3.5**
BATI	**Baumata**	**6.31**	**241**	P	**Pn**	**18 00 21.6**	**+3.1**
	16nm,0.3s,baz=126,slow=1.4,SNR=18						
BATI				S	**Sn**	**18 01 30.9**	**+1.2**
	15nm,0.3s,baz=100,slow=6.2,SNR=10.0						
SIJI	**Sorong**	**6.55**	**18**	P	**Pn**	**18 00 23.5**	**+1.8**
	1.9nm,0.3s,baz=117,slow=4.7,SNR=30						
SIJI				S	**Sn**	**18 01 33.2**	**-2.2**
	5.4nm,0.3s,baz=227,slow=23,SNR=11						
MMRI	**Maumere**	**7.11**	**258**	*e*Pn	Pn	18 00 25.9	-3.2
MMRI	**Maumere**	**7.11**	**258**	P	**Pn**	**18 00 31.0**	**+1.8**
RKPI	**Ransiki, Papua**	**7.44**	**41**	P	**Pn**	**18 00 36.6**	**+3.0**
EDFI	**Ende, Flores**	**7.66**	**257**	P	**Pn**	**18 00 39.1**	**+2.5**
WSI	**Waingapu**	**9.21**	**254**	P	**Pn**	**18 01 00.2**	**+3.0**
FITZ	**Fitzroy Crossi**	**11.44**	**198**	*e*Pn	**Pn**	**18 01 24.6**	**-2.1**
FITZ				*e*Sn	Sn	18 03 23.8	-9.4
FITZ	**Fitzroy Crossi**	**11.44**	**198**	P	**Pn**	**18 01 25.2**	**-1.5**
	1.0nm,0.3s,baz=37,slow=11,SNR=22						
FITZ				S	Sn	18 03 23.6	-10
	2.2nm,0.3s,baz=63,slow=18,SNR=10						
WRAB	**Tennant Creek**	**13.64**	**159**	*e*Pn	**Pn**	**18 01 52.3**	**-2.7**
WRAB				*e*Sn	Sn	18 04 15.2	-11
WRA	**Warramunga Arr**	**13.64**	**159**	P	**Pn**	**18 01 53.0**	**-2.1**
	0.7nm,0.3s,baz=337,slow=12,SNR=30						
WRA				S	Sn	18 04 16.3	-10
	2.1nm,0.3s,baz=332,slow=22,SNR=9.3						
WB2	**Warramunga Arr**	**13.65**	**159**	*e*Pn	**Pn**	**18 01 52.6**	**-2.6**
WB2				*e*Sn	Sn	18 04 13.8	-13
JAGI	**Jajag, Banyuwa**	**15.02**	**264**	*e*Pn	**Pn**	**18 02 10.3**	**-2.2**
	45nm,1.5s						
COEN	**Coen**	**15.26**	**117**	*e*Pn	**Pn**	**18 02 14.7**	**-0.7**
	20nm,1.3s						
PSAC2	**Pilbara Seismi**	**16.95**	**211**	*e*P	**P**	**18 02 36.4**	**+1.0**
	14nm,1.0s						
PSAB2	**Pilbara Seismi**	**16.96**	**211**	*e*P	**P**	**18 02 36.8**	**+1.3**
	78nm,1.8s						
PSAC1	**Pilbara Seismi**	**16.97**	**212**	*e*P	**P**	**18 02 34.4**	**-1.3**
	71nm,2.0s						
PSAA2	**Pilbara Seismi**	**16.97**	**211**	*e*P	**P**	**18 02 36.7**	**+1.0**
	49nm,2.0s						
PSA00	**Pilbara Seismi**	**16.98**	**211**	*e*P	**P**	**18 02 36.5**	**+0.7**
	64nm,2.0s						
PSAA3	**Pilbara Seismi**	**16.98**	**211**	*e*P	**P**	**18 02 36.4**	**+0.6**
	55nm,1.8s						
PSAA1	**Pilbara Seismi**	**16.99**	**211**	*e*P	**P**	**18 02 36.9**	**+1.0**
	62nm,1.8s						
PSAB1	**Pilbara Seismi**	**16.99**	**211**	*e*P	**P**	**18 02 36.8**	**+0.9**
	25nm,1.3s						
PSAB3	**Pilbara Seismi**	**17.00**	**211**	*e*P	**P**	**18 02 37.1**	**+1.1**
	47nm,1.8s						
AS31	**Alice Springs**	**17.02**	**165**	*e*P	**P**	**18 02 37.5**	**+1.3**
	7.5nm,0.5s						
ASAR	**Alice Springs**	**17.02**	**165**	P	**P**	**18 02 36.4**	**+0.1**
	2.0nm,0.3s,baz=341,slow=9.8,SNR=266						
ASAR				S	**S**	**18 05 40.9**	**-5.3**
	0.7nm,0.3s,baz=234,slow=17,SNR=6.5						
PSAC3	**Pilbara Seismi**	**17.03**	**211**	*e*P	**P**	**18 02 37.6**	**+1.3**
	12nm,1.0s						
AS01	**Alice Springs**	**17.04**	**165**	*e*P	**P**	**18 02 36.9**	**+0.5**
PSAD3	**Pilbara Seismi**	**17.07**	**211**	*e*P	**P**	**18 02 35.4**	**-1.5**
	28nm,1.4s						
KKM	**Kota Kinabalu**	**18.46**	**315**	*e*P	**P**	**18 02 52.5**	**+0.3**
	77nm,1.3s						
KSM	**Kuching**	**20.75**	**294**	*e*P	**P**	**18 03 18.0**	**+1.2**
	5.8nm,0.9s						
CTAO	**Charters Tower**	**20.91**	**130**	*e*P	**P**	**18 03 20.1**	**+1.7**
	12nm,1.4s						
CISI	**Cisompet, Garu**	**21.27**	**268**	*e*P	**P**	**18 03 22.0**	**-0.4**
	126nm,1.8s						
FORT	**Forrest**	**23.54**	**183**	*e*P	**P**	**18 03 44.8**	**+0.4**
	38nm,1.2s						
BBOO	**Buckleboo**	**26.31**	**167**	*e*P	**P**	**18 04 09.5**	**+0.1**
	63nm,1.6s						
STKA	**Stephens Creek**	**27.17**	**157**	P	**P**	**18 04 15.1**	**-1.9**
	0.6nm,0.5s,baz=326,slow=11,SNR=2.5						
TPUB	**Ta-pu**	**31.41**	**345**	*e*P	**P**	**18 04 52.8**	**-1.9**
	98nm,1.8s						
PSI	**Prapat**	**31.84**	**287**	P	**P**	**18 04 58.8**	**0.0**
	2.0nm,0.6s,baz=104,slow=12,SNR=5.6						
CM01	**Chiang Mai Arr**	**39.23**	**311**	*e*P	**P**	**18 06 02.2**	**+0.6**
CM31	**Chiang Mai Arr**	**39.26**	**311**	*e*P	**P**	**18 06 02.0**	**+0.2**
	5.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**39.26**	**311**	P	**P**	**18 06 02.1**	**+0.3**
	1.2nm,0.7s,baz=138,slow=6.8,SNR=12						
CHTO	**Chiang Mai**	**39.48**	**311**	*e*P	**P**	**18 06 02.8**	**-0.8**
	2.7nm,0.8s						
PINNC	**Pines Island,**	**39.83**	**117**	*e*P	P	18 06 03.1	-3.4
	108nm,1.9s						
NJ2	**Nanjing**	**40.22**	**346**	*e*P	**P**	**18 06 10.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI	**Kunming**	**41.17**	**322**	P	**P**	**18 06 19.5**	**+1.7**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
KMI				pmax	pmax		
	comp=Z,94nm,3.9s						
CD2	**Chengdu**	**45.03**	**328**	P	**P**	**18 06 49.0**	**+0.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
LZH	**Lanzhou**	**49.19**	**333**	*e*P	P	18 07 15.5	-5.3
LZH				pP	pP	18 07 51.3	-2.1
LZH				sP	sP	18 08 08.5	-1.1
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.45**	**343**	*e*P	**P**	**18 07 33.5**	**+3.3**
HHC				S	**S**	**18 14 38.3**	**+5.9**
HHC				sS	sS	18 15 34.8	+4.7
HHC				SS	**SS**	**18 18 06.5**	**-2.0**
HHC				pmax	pmax		
	comp=Z,19nm,1.2s						
HHC				pmax	pmax		
	comp=Z,51nm,5.6s						
WHZ	**Wether Hill Ro**	**51.00**	**146**	*e*P	**P**	**18 07 34.5**	**+0.5**
	comp=Z,105nm,1.7s						
LSA	**Lhasa**	**51.80**	**317**	*e*P	**P**	**18 07 38.9**	**-1.9**
	comp=Z,6.3nm,1.5s						
TAPN	**Taplejung**	**52.83**	**312**	*e*P	**P**	**18 07 47.9**	**-0.4**
	comp=Z,11nm,0.3s						
RAMN	**Ramite**	**53.43**	**311**	*e*P	**P**	**18 07 52.5**	**-0.2**
	comp=Z,21nm,0.6s						
JIRN	**Jiri**	**54.13**	**312**	*e*P	**P**	**18 07 57.1**	**-0.7**
	comp=Z,8.9nm,0.4s						
GUN	**Gumba**	**54.49**	**312**	*e*P	**P**	**18 07 59.9**	**-0.6**
	comp=Z,20nm,0.4s						
PKI	**Pulchoki**	**54.66**	**311**	*e*P	**P**	**18 08 00.5**	**-1.1**
	comp=Z,6.0nm,0.6s						
PKIN	**Phulchoki**	**54.67**	**311**	*e*P	**P**	**18 08 00.2**	**-1.5**
	comp=Z,4.8nm,0.5s						
KKN	**Kakani**	**54.87**	**311**	*e*P	**P**	**18 08 02.3**	**-0.7**
DMN	**Daman**	**54.91**	**311**	*e*P	**P**	**18 08 02.7**	**-0.6**
KOLN	**Koldanda**	**56.13**	**310**	*e*P	**P**	**18 08 11.6**	**-0.4**
	comp=Z,11nm,0.7s						
DANN	**Dangsing**	**56.31**	**311**	*e*P	**P**	**18 08 12.5**	**-0.9**
PYUN	**Piuhan**	**56.76**	**310**	*e*P	**P**	**18 08 16.0**	**-0.5**
	comp=Z,18nm,0.7s						
SONM	**Songino Array**	**58.35**	**342**	P	**P**	**18 08 28.2**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=128,slow=4.6,SNR=4.1						
WMQ	**Urumqi**	**63.12**	**327**	*e*P	**P**	**18 09 01.0**	**+1.6**
WMQ				LR	LR		
	comp=Z,2μm,21.7s						
WMQ				LR	LR		
	comp=Z,1μm,22.9s						
WMQ				LR	LR		
	comp=Z,910nm,18.3s						
MK01	**Makanchi Array**	**67.92**	**327**	*e*P	**P**	**18 09 30.1**	**-0.1**
MK01				*e*PcP	**PcP**	**18 09 55.0**	**-0.5**
MK31	**Makanchi Array**	**67.94**	**327**	*e*P	**P**	**18 09 30.6**	**+0.4**
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**18 09 30.3**	**0.0**
	comp=Z,1.2nm,0.5s,baz=115,slow=8.7,SNR=36						
MAKZ	**Makanchi**	**68.12**	**327**	*e*P	**P**	**18 09 31.7**	**+0.3**
	comp=Z,8.3nm,2.0s						
RAR	**Rarotonga**	**69.74**	**110**	*e*P	**P**	**18 09 41.6**	**-0.2**
	comp=Z,143nm,1.8s						
GAR	**Garm**	**71.25**	**315**	*e*P	**P**	**18 09 51.1**	**+0.3**
ZALV	**Zalesovo Beam**	**71.39**	**334**	*e*P	**P**	**18 09 49.3**	**-1.8**
ZALV	**Zalesovo Beam**	**71.39**	**334**	P	**P**	**18 09 50.0**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=132,slow=4.2,SNR=4.3						
KKAR	**Karatay Array**	**72.96**	**319**	*e*P	**P**	**18 09 59.7**	**-1.1**
	comp=Z,8.2nm,1.9s						
DAVA	**Damuels**	**114.95**	**319**	*e*PKiKP	**PKiKP**	**18 17 10.2**	**-0.8**
	comp=Z,1nm,1.5s						
TORD	**Torodi Ar. Bea**	**128.11**	**281**	PKP	**PKPdf**	**18 17 35.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=127,slow=3.4,SNR=2.6						

*ISCJB **30** 18:03:43.3±0.9, 12°.24N±0°.02×143°.86E±0°.02,h19km±6km, mb5.3/382,MS4.7/138, Error ellipse: s-maj=3.3km s-min=2.6km az=154.0*
*BJI **30** 18:03:43.1, 12°.05N×144°.06E,h32km,mb5.0/69,mB5.0/50, Ms4.8/67,Ms7 4.5/62*
*MOS **30** 18:03:45.0±1.0, 12°.23N×143°.74E,h33km,mb5.6/82, MS4.6/22, Error ellipse: s-maj=6.6km s-min=4.1km az=107.7*
*IDC **30** 18:03:45.3±2.1, 12°.22N×143°.91E,h22km±12km,mb4.9/37, mb1 4.9/39,mb1mx4.9/43,mbtmp5.0/39,ML4.1/2,MS4.4/35, Ms1 4.4/35,ms1mx4.3/50, Error ellipse: s-maj=12.3km s-min=8.6km az=94.0*
*NEIC **30** 18:03:45.9±1.3, 12°.21N×143°.81E,h26km±9km,mb5.4/270, MS4.9/80, Error ellipse: s-maj=3.1km s-min=2.4km az=111.0*
*GCMT **30** 18:03:46.8±0.1,12°.17N±0°.01×143°.77E±0°.01,h13km, MW5.2/107, Moment Tensor Solution. s65,c94; s107,c175; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.66±.02; Mθθ-0.20±.01; Mϕϕ0.85±.01; Mrθ0.19±.04; Mθϕ-0.34±.01; Mϕr0.08±.03; Best double couple: M₀0.85700×10¹⁷ NP1:ϕ₁186.00000°,δ51.00000°, λ-58.00000°. NP2:ϕ₂321.00000°,δ49.00000°, λ-123.00000°. Principal axes: T 0.9560, Plg1.0000°, Azm254.0000°; N -0.2000, Plg24.0000°, Azm344.0000°; P -0.7570, Plg66.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **30** 18:03:48.1±0.4, 12°.N±4°×14°.4E±°,h43km,M5.3/27, mB5.8/24,mb5.3/27,Mw(mB)5.3/24,Mwp5.8/1*
ISC 30 18:03:45.6±0.5,12°.23N±0°.03×143°.94E±0°.04,h26km±2km, h26km:pP-P,n917,σ1ᵍ47/936,mb5.4/391,MS4.7/139, 20C-31D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.62**	**34**	*e*Pn	**Pn**	**18 04 12.9**	**+0.3**
GUMO				*e*Sn	**Sn**	**18 04 32.4**	**-0.3**
GUMO	**Guam**	**1.62**	**34**	*e*P	**Pn**	**18 04 12.9**	**+0.3**
GUMO				*e*		18 04 32.4	
GUMO	**Guam**	**1.62**	**34**	Pn	**Pn**	**18 04 12.9**	**+0.3**
	3μm,0.3s,baz=298,slow=3.4,SNR=718						
GUMO				Sn	**Sn**	**18 04 33.5**	**+0.8**
	2μm,0.3s,baz=24,slow=20,SNR=12						
GUMO				LR	LR	18 05 05.6	
	comp=Z,27μm,18.6s,baz=172,slow=49						
ANA2	**Anatahan**	**4.43**	**23**	*e*Pn	**Pn**	**18 04 52.8**	**+1.6**
SARN	**Sarigan**	**4.79**	**22**	*e*Pn	**Pn**	**18 04 59.7**	**+3.6**
MANU	**Manus Island**	**14.58**	**166**	*e*Pn	**Pn**	**18 07 10.2**	**-0.3**
JAY	**Jayapura**	**15.00**	**193**	P	**Pn**	**18 07 16.9**	**+0.8**
JAY	**Jayapura**	**15.00**	**193**	Pn	**Pn**	**18 07 16.5**	**+0.5**
	0.9nm,0.3s,baz=358,slow=7.7,SNR=16						
JAY

H11N1 **WAKE ISLAND Hy 23.27 68** T T 18 32 54.1
baz=255,slow=75,SNR=86
H11N2 **WAKE ISLAND Hy 23.27 68** T T 18 33 00.1
baz=255,slow=75,SNR=86
H11N3 **WAKE ISLAND Hy 23.28 68** T T 18 33 04.0
baz=255,slow=75,SNR=58
SAUI **Saumlaki 23.69 213** *e*P **P** **18 08 55.0 -0.5**
comp=Z,659nm,1.0s
SAUI **Saumlaki 23.69 213** P **P** **18 08 55.2 -0.3**
INU **Inuyama 23.86 346** *e*P **P** **18 08 59.3 +2.4**
comp=Z,102nm,1.7s
JNU **Nakatsue 23.99 332** *e*P **P** **18 08 57.7 -0.6**
comp=Z,56nm,1.1s
JNU **Nakatsue 23.99 332** P **P** **18 08 58.8 +0.6**
comp=Z,28nm,0.8s,baz=94,slow=3.9,SNR=16
JNU LR LR 18 17 02.2
comp=Z,598nm,18.5s,baz=164,slow=33
ENPP **El Nido 24.03 270** *e*P **P** **18 08 59.5 +0.8**
TWG **Pinlang 24.18 299** *e*P **P** **18 08 59.0 -1.1**
comp=Z,90nm,0.9s
YULB **Yu-li 24.21 300** *e*P **P** **18 08 59.6 -0.8**
comp=Z,20nm,0.7s
NACB **Ninganchiao 24.28 302** *e*P **P** **18 08 60.0 -1.0**
comp=Z,30nm,0.8s
SSLB **Suanglung 24.66 301** *e*P **P** **18 09 03.5 -1.0**
comp=Z,162nm,1.6s
YHNB **Yeheng 24.68 303** *e*P **P** **18 09 03.9 -0.8**
comp=Z,145nm,1.5s
TATO **Taipei 24.72 304** PFAKE 18 09 20.0 +15
TATO LR LR
comp=Z,2μm,19.0s
TPUB **Ta-pu 24.74 300** *e*P **P** **18 09 03.3 -1.9**
comp=Z,83nm,1.2s
MJAR **Matsushiro Arr 24.75 349** P **P** **18 09 04.6 -0.6**
comp=Z,24nm,1.1s,baz=181,slow=9.5,SNR=24
MJAR PcP **PcP** **18 12 42.4 +0.8**
comp=Z,4.8nm,0.7s,baz=177,slow=3.9,SNR=6.9
MJAR ScP **ScP** **18 16 19.4 +0.4**
comp=Z,4.3nm,0.7s,baz=175,slow=3.0,SNR=12
MJAR LR LR 18 17 44.7
comp=Z,1μm,18.6s,baz=185,slow=34
MAJO **Matsushiro 24.75 349** *e*P **P** **18 09 03.1 -2.0**
comp=Z,30nm,0.9s
MAJO *e*PcP **PcP** **18 12 41.9 +0.3**
MAJO *e*ScP **ScP** **18 16 19.4 +0.4**
MAJO **Matsushiro 24.75 349**⇑ *e*P **P** **18 09 04.1 -1.1**
MAJO pmax pmax
comp=Z,18nm,1.3s
MAT **Matsushiro 24.75 349** P **P** **18 09 03.8 -1.4**
MAT S **S** **18 13 28.0 +2.1**
MRSI **Marisa 24.75 243** P **P** **18 09 05.9 +0.5**
comp=Z,269nm,1.3s,comp=Z,3μm
MJB9 **Matsu-Tunnel 24.76 349** *e*P **P** **18 09 03.2 -2.0**
comp=Z,30nm,0.9s
MJB9 *e*PcP **PcP** **18 12 41.3 -0.4**
LUWI **Luwuk 24.82 239** *e*P **P** **18 09 04.7 -1.3**
comp=Z,344nm,0.8s
LUWI **Luwuk 24.82 239** P **P** **18 09 05.8 -0.1**
comp=Z,477nm,0.9s,comp=Z,5μm
APSI **Ampana 25.70 241** P **P** **18 09 14.0 +0.1**
comp=Z,135nm,1.0s,comp=Z,1μm
BATP **Bataraza 25.92 265** *e*P **P** **18 09 16.4 +0.5**
COEN **Coen 26.03 182** *e*P **P** **18 09 16.6 -0.3**
comp=Z,108nm,0.9s
MPSI **Mapaga 26.62 245** P **P** **18 09 22.4 +0.1**
comp=Z,23nm,0.8s,comp=Z,446nm
HNR **Honiara 26.76 143** *e*P **P** **18 09 20.0 -3.5**
HNR **Honiara 26.76 143** *e*P **P** **18 09 23.6 +0.1**
HNR LR LR
comp=Z,886nm,19.0s
HNR **Honiara 26.76 143** *e*P **P** **18 09 23.6 +0.1**
HNR MLR MLR
comp=Z,886nm,19.0s
HNR **Honiara 26.76 143** P **P** **18 09 23.5 +0.1**
comp=Z,71nm,0.7s,baz=334,slow=3.5,SNR=5.9
TSM **Tawau 26.96 255** P **P** **18 09 26.2 +0.8**
QZH **Quanzhou 27.09 301** *e*P **P** **18 09 27.5 +1.1**
QZH S **S** **18 13 59.5 -3.7**
QZH LR LR
comp=Z,1μm,17.2s
QZH LR LR
comp=Z,950nm,17.0s
QZH LR LR
comp=Z,620nm,16.5s
SDKM **Sandakan 27.20 258** P **P** **18 09 28.7 +1.1**
MTN **Manton Dam 27.97 207** *e*P **P** **18 09 33.8 -0.6**
comp=Z,80nm,0.9s
KKM **Kota Kinabalu 28.04 260** *e*P **P** **18 09 34.2 -0.9**
comp=Z,66nm,1.2s
SSE **Sheshan 28.17 315** P **P** **18 09 37.0 +0.9**
SSE S **S** **18 14 21.8 +1.7**
SSE pmax pmax
comp=Z,14nm,0.5s
SSE pmax pmax
comp=Z,82nm,4.0s
SSE LR LR
comp=Z,550nm,20.8s
SSE LR LR
comp=Z,500nm,19.2s
SSE LR LR
comp=Z,330nm,16.7s
SSE **Sheshan 28.17 315** PFAKE 18 09 50.0 +14
SSE LR LR
comp=Z,463nm,20.0s
TJN **Taejon 28.30 331** *de*P **P** **18 09 36.8 -0.3**
BNSI **Bone 28.89 237** P **P** **18 09 43.4 +0.8**
comp=Z,64nm,1.3s,comp=Z,890nm
SPSI **Sidrap Palu 28.92 238** P **P** **18 09 42.5 -0.3**
comp=Z,23nm,1.0s,comp=Z,300nm
KSRS **Korea Array 28.93 333** P **P** **18 09 42.4 -0.3**
comp=Z,2.9nm,0.9s,baz=147,slow=10.0,SNR=7.3
KSRS ScP **ScP** **18 16 32.0 +0.6**
comp=Z,1.8nm,0.8s,baz=126,slow=4.3,SNR=5.7
KSAR **Wonju Array Be 28.93 333** P **P** **18 09 42.4 -0.4**
KSAR ScP **ScP** **18 16 32.0 +0.6**
KSAR **Wonju Array Be 28.93 333** P **P** **18 09 42.4 -0.4**
SOEI **Soe 29.31 223** *e*P **P** **18 09 45.2 -1.3**
comp=Z,102nm,0.9s
SOEI **Soe 29.31 223** P **P** **18 09 45.7 -0.8**
BKSI **Bulukumba 29.41 235** P **P** **18 09 48.3 +1.1**
KAPI **Kappang 29.53 236** *e*P **P** **18 09 46.9 -1.4**
comp=Z,33nm,1.0s
KAPI LR LR
comp=Z,776nm,19.0s
KAPI **Kappang 29.53 236** *e*P **P** **18 09 46.9 -1.4**
KAPI pmax pmax
comp=Z,33nm,1.0s
KAPI MLR MLR
comp=Z,776nm,19.0s
ERM **Erimo 29.68 359** *e*P **P** **18 09 48.4 -0.9**
comp=Z,57nm,1.4s
ERM LR LR
comp=Z,363nm,20.0s
ERM **Erimo 29.68 359** *e*P **P** **18 09 48.4 -0.9**
ERM pmax pmax
comp=Z,57nm,1.4s
ERM MLR MLR
comp=Z,363nm,20.0s
MMRI **Maumere 29.92 227** *e*P **P** **18 09 50.9 -0.8**
comp=Z,148nm,1.6s
MMRI **Maumere 29.92 227** P **P** **18 09 51.1 -0.6**
BATI **Baumata 30.05 223** P **P** **18 09 52.3 -0.6**
BATI **Baumata 30.05 223** P **P** **18 09 51.7 -1.1**
comp=Z,62nm,1.0s,baz=115,slow=1.7,SNR=8.6
NJ2 **Nanjing 30.35 315** *e*P **P** **18 09 55.8 +0.5**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 LR LR
comp=Z,1μm,18.4s
NJ2 LR LR
comp=Z,950nm,16.8s
NJ2 LR LR
comp=Z,560nm,22.2s
EDFI **Ende, Flores 30.39 228** P **P** **18 09 55.2 -0.8**
ASAJ **Asahikawa 31.79 358** LR LR 18 25 37.8
comp=Z,265nm,18.0s,baz=181,slow=41
BTM **Bintulu 31.83 256** P **P** **18 10 09.7 +1.0**
CTAO **Charters Tower 32.20 176** *e*P **P** **18 10 10.9 -0.8**
comp=Z,62nm,0.9s
CTAO LR LR
comp=Z,742nm,19.0s
CTAO **Charters Tower 32.20 176** *e*P **P** **18 10 10.9 -0.8**
CTAO pmax pmax
comp=Z,63nm,0.9s
CTAO MLR MLR
comp=Z,742nm,19.0s

VLA **Vladivostok 32.50 343** *de*P **P** **18 10 14.6 +0.5**
VLA pmax pmax
comp=Z,34nm,1.6s
SBUM **Sibu 32.89 255** *e*P **P** **18 10 18.2 +0.3**
comp=Z,34nm,1.0s
SBUM **Sibu 32.89 255** P **P** **18 10 18.9 +1.0**
DL2 **Dalian 33.15 327** P **P** **18 10 20.0 +0.2**
DL2 S **S** **18 15 40.0 +2.2**
DL2 sS sS 18 15 59.5 +11
DL2 pmax pmax
comp=Z,30nm,0.7s
DL2 pmax pmax
comp=Z,140nm,5.0s
DL2 LR LR
comp=Z,450nm,16.0s
DL2 LR LR
comp=Z,530nm,15.2s
DL2 LR LR
comp=Z,760nm,17.6s
WRAB **Tennant Creek 33.33 197** *e*P **P** **18 10 21.2 -0.5**
comp=Z,69nm,0.8s
WRAB LR LR
comp=Z,2μm,20.0s
WRAB **Tennant Creek 33.33 197** *d i*P **P** **18 10 21.4 -0.2**
WRAB pmax pmax
comp=Z,71nm,0.8s
WB2 **Warramunga Arr 33.34 197** *e*P **P** **18 10 19.6 -2.1**
WR1 **Warramunga Arr 33.34 197** *e*P **P** **18 10 21.4 -0.4**
comp=Z,84nm,0.8s
WR1 *e* 18 41 36.8
WRA **Warramunga Arr 33.34 197** P **P** **18 10 21.4 -0.4**
comp=Z,46nm,0.8s,baz=18,slow=9.3,SNR=48
WRA LR LR 18 23 34.1
comp=Z,1μm,19.3s,baz=15,slow=36
WRA P3KPbc 18 41 36.8
comp=Z,0.5nm,0.6s,baz=204,slow=4.0,SNR=5.7
USA0B **Ussuriysk Arra 33.48 344** *e*P **P** **18 10 23.3 +0.7**
comp=Z,34nm,1.5s
USA0B **Ussuriysk Arra 33.48 344** *e*P **P** **18 10 23.3 +0.7**
USA0B pmax pmax
comp=Z,34nm,1.5s
USRK **Ussuriysk Ar. 33.48 344** P **P** **18 10 24.6 +1.9**
comp=Z,6.6nm,0.8s,baz=143,slow=8.3,SNR=10
USRK LR LR 18 21 42.7
comp=Z,781nm,21.9s,baz=139,slow=32
QIZ **Qiongzhong 33.48 286** P **P** **18 10 24.0 +0.9**
QIZ S **S** **18 15 42.5 -1.1**
QIZ pmax pmax
comp=Z,190nm,6.3s
QIZ LR LR
comp=Z,750nm,17.7s
QIZ LR LR
comp=Z,700nm,15.7s
QIZ LR LR
comp=Z,770nm,18.6s
QIZ **Qiongzhong 33.48 286** PFAKE 18 10 30.0 +6.9
QIZ LR LR
comp=Z,114nm,19.0s
TIA **Tai'an 33.97 319** P **P** **18 10 26.3 -0.8**
TIA pmax pmax
comp=Z,5.0nm,1.3s
MDJ **Mudanjiang 34.54 342** P **P** **18 10 35.5 +3.6**
MDJ pP pwP 18 10 46.0 +2.1
MDJ sP sP 18 10 50.8 +10
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,41nm,3.9s
MDJ LR LR
comp=Z,340nm,21.9s
MDJ LR LR
comp=Z,630nm,17.1s
MDJ LR LR
comp=Z,1μm,15.1s
MDJ **Mudanjiang 34.54 342** *e*P **P** **18 10 32.1 +0.2**
comp=Z,9.4nm,1.0s
MDJ LR LR
comp=Z,717nm,21.0s
YSS **Yuzh-Sakhalins 34.62 359** *e*P **P** **18 10 33.4 +0.8**
comp=Z,41nm,1.3s
YSS LR LR
comp=Z,516nm,19.0s
YSS **Yuzh-Sakhalins 34.62 359** *e*P P 18 10 26.1 -6.5
YSS *e* 18 11 48.0
YSS *e*SS SS 18 18 10.0 -21
YSS pmax pmax
comp=Z,20nm,1.3s
YSS MLR MLR
comp=Z,600nm,14.0s
YSS MLR MLR
comp=N,400nm,13.0s
YSS MLR MLR
comp=E,400nm,15.0s
SRBI **Singaraja 34.97 236** P **P** **18 10 37.8 +1.8**
KSM **Kuching 35.01 255** *e*P **P** **18 10 35.7 -0.7**
comp=E,96nm,0.9s
KSM **Kuching 35.01 255** P **P** **18 10 36.2 -0.1**
FITZ **Fitzroy Crossi 35.13 211** *e*P **P** **18 10 36.6 -0.7**
comp=E,54nm,0.9s
FITZ *e*PcP **PcP** **18 13 09.3 +0.7**
FITZ **Fitzroy Crossi 35.13 211** P **P** **18 10 37.1 -0.2**
comp=E,43nm,0.9s,baz=42,slow=8.2,SNR=42
FITZ PcP **PcP** **18 13 09.4 +0.9**
comp=E,12nm,0.9s,baz=75,slow=2.5,SNR=3.6
FITZ LR LR 18 25 07.7
comp=E,326nm,20.9s,baz=24,slow=36
CN2 **Changchun 35.27 337** *e*P **P** **18 10 41.8 +3.6**
CN2 *e*S **S** **18 16 13.5 +3.0**
CN2 LR LR
comp=E,760nm,16.0s
CN2 LR LR
comp=E,560nm,16.0s
CN2 LR LR
comp=E,720nm,16.0s
JAGI **Jajag, Banyuwa 36.05 237** *e*P **P** **18 10 43.5 -1.8**
comp=E,29nm,0.7s
JAGI **Jajag, Banyuwa 36.05 237** P **P** **18 10 42.9 -2.4**
BLJI **Banyuglugur 36.11 238** P **P** **18 10 47.6 +1.8**
GMJI **Gumukmas 36.52 238** P **P** **18 10 49.4 +0.1**
comp=E,103nm,1.0s
ENH **Enshi 36.59 305** *e*P **P** **18 10 49.4 -0.3**
comp=E,36nm,1.0s
ENH LR LR
comp=Z,855nm,19.0s
GRJI **Gresik 36.61 240** P **P** **18 10 51.9 +1.8**
BJT **Baijiatuau 36.96 323** *e*P **P** **18 10 52.6 -0.1**
comp=Z,35nm,0.9s
BJT LR LR
comp=Z,800nm,19.0s
BJT **Baijiatuau 36.96 323** *e*P **P** **18 10 52.6 -0.1**
BJT pmax pmax
comp=Z,35nm,0.9s
BJT MLR MLR
comp=Z,800nm,19.0s
AS01 **Alice Springs 36.99 195** *e*P **P** **18 10 52.7 -0.5**
AS31 **Alice Springs 37.00 195** *e*P **P** **18 10 52.8 -0.5**
comp=Z,8.6nm,0.8s
ASAR **Alice Springs 37.00 195** P **P** **18 10 53.1 -0.1**
comp=Z,48nm,1.0s,baz=18,slow=6.7,SNR=122
ASAR PP **PnPn** **18 12 23.4 +5.1**
comp=Z,11nm,1.0s,baz=12,slow=10.0,SNR=4.4
ASAR PcP **PcP** **18 13 15.1 +0.9**
comp=Z,8.9nm,0.8s,baz=32,slow=2.4,SNR=5.7
ASAR LR LR 18 25 39.3
comp=Z,1μm,20.5s,baz=18,slow=36
ASAR P3KPbc 18 41 22.9
comp=Z,0.4nm,0.8s,baz=191,slow=4.1,SNR=6.8
PWJI **Pagerwojo 37.76 239** P **P** **18 10 59.1 -0.7**
GYA **Guiyang 37.76 298**⇑ *i*P **P** **18 11 01.0 +1.1**
GYA pP pwP 18 11 11.0 -1.5
GYA PP **PP** **18 12 30.5 +4.2**
GYA PcP **PcP** **18 13 17.8 +1.2**
GYA S S **18 16 49.5 +0.2**
GYA sS ScP 18 17 05.8 +3.2
GYA SS **SnSn** **18 19 24.0 -6.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=Z,560nm,17.4s
GYA LR LR
comp=Z,530nm,18.2s
GYA LR LR
comp=Z,540nm,17.8s
TIY **Taiyuan 37.89 318** *e*P **P** **18 11 02.5 +1.7**

TIY PP **PnPn** **18 12 36.8 +7.9**
TIY S **S** **18 16 48.0 -2.9**
TIY SS **SnSn** **18 19 30.3 -2.8**
TIY pmax pmax
comp=Z,18nm,0.5s
TIY pmax pmax
comp=Z,140nm,7.2s
TIY LR LR
comp=Z,350nm,12.8s
TIY LR LR
comp=Z,540nm,15.8s
TIY LR LR
comp=Z,690nm,15.7s
EIDS **Eidsvold 38.01 169** *e*P **P** **18 11 01.1 -0.7**
comp=Z,76nm,1.0s
KLR **Kul'dur 38.25 347**⇑ *i*P **P** **18 11 03.7 +0.2**
KLR **Kul'dur 38.25 347** LR LR 18 25 44.3
comp=Z,1μm,20.7s,baz=150,slow=34
PANO **Nakornpanom 38.31 282** P **P** **18 11 07.8 +3.3**
comp=Z,0.5nm,0.8s
PCJI **Pacitan 38.38 240** P **P** **18 11 02.7 -2.3**
WOJI **Wonogiri, Jawa 38.41 240** P **P** **18 11 04.2 -1.1**
TYV **Tymovskoe 38.54 359** *e*P **P** **18 11 05.7 -0.2**
TYV pmax pmax
comp=Z,7.0nm,0.9s
XAN **Xi'an 38.55 310** P **P** **18 11 05.8 -0.5**
XAN pP pwP 18 11 17.3 -1.7
XAN S **S** **18 17 01.5 +0.6**
XAN SS **SnSn** **18 19 42.0 -7.1**
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,130nm,5.3s
XAN LR LR
comp=Z,320nm,14.9s
XAN LR LR
comp=Z,640nm,16.1s
XAN LR LR
comp=Z,480nm,20.4s
XAN **Xi'an 38.55 310** *e*P **P** **18 11 05.5 -0.8**
comp=Z,12nm,0.6s
XAN **Xi'an 38.55 310** *e*P **P** **18 11 05.5 -0.8**
XAN pmax pmax
comp=Z,12nm,0.6s
SKNT **Sakolnakorn 38.91 282** P **P** **18 11 12.3 +2.8**
comp=Z,7.4nm,0.8s
GRNR **Gornyy 38.92 352** *e*P **P** **18 11 09.0 -0.1**
GRNR pmax pmax
comp=Z,11nm,1.0s
TPI **Tanjungpandan 39.01 250** P **P** **18 11 10.6 +0.2**
comp=Z,106nm,0.9s,comp=Z,1μm
NONG **Nongkai 39.74 284** P **P** **18 11 19.4 +2.9**
comp=Z,0.4nm,1.8s
KHON **Khomkaen 40.01 281** P **P** **18 11 22.4 +3.7**
comp=Z,8.0nm,0.6s
JCJI **Jatiwangi 40.05 244** P **P** **18 11 20.5 +1.5**
PPBI **Pangkal Pinang 40.19 252** P **P** **18 11 18.5 -1.7**
HHC **Hu-ho-hao-te 40.23 321** *e*P **P** **18 11 21.0 +0.6**
HHC sP pwP 18 11 33.0 0.0
HHC S **S** **18 17 26.5 +0.4**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,140nm,5.8s
HHC LR LR
comp=Z,740nm,16.7s
HHC LR LR
comp=Z,610nm,16.1s
HHC LR LR
comp=Z,840nm,17.3s
DZM **Mont Dzumac 40.61 147** *e*LR LR 18 22 25.2
comp=Z,433nm,24.6s
DZM **Mont Dzumac 40.61 147** *e*P **P** **18 11 23.9 +0.2**
comp=Z,94nm,0.8s
TPRI **Tanjung Pinang 40.67 257** P **P** **18 11 24.0 -0.2**
LEM **Lembang 40.78 244** P **P** **18 11 24.4 -0.8**
comp=Z,30nm,0.8s,baz=61,slow=20,SNR=6.5
CHAI **Chaiyaphum 40.81 280** P **P** **18 11 27.3 +1.9**
comp=Z,10.0nm,0.7s,comp=Z,96nm
KTGM **Kuala Trenggan 40.87 264** P **P** **18 11 27.5 +1.6**
KMI **Kunming 40.92 294** P **P** **18 11 27.0 +0.6**
KMI pP sP 18 11 34.5 -0.9
KMI sP pwP 18 11 41.3 +2.3
KMI PP **PP** **18 13 00.8 -0.2**
KMI S **S** **18 17 35.3 -1.7**
KMI pmax pmax
comp=Z,22nm,0.9s
KMI pmax pmax
comp=Z,120nm,4.0s
KMI LR LR
comp=Z,280nm,16.7s
KMI LR LR
comp=Z,340nm,15.7s
KMI LR LR
comp=Z,480nm,17.0s
PSAD1 **Pilbara Seismi 41.00 215** *e*P **P** **18 11 26.0 -0.8**
comp=Z,91nm,0.8s
MARNC **Mare, Loyalty 41.01 145** *e*P **P** **18 11 27.3 +0.4**
comp=Z,68nm,1.0s
PSAC2 **Pilbara Seismi 41.05 215** *e*P **P** **18 11 26.4 -0.8**
comp=Z,108nm,0.8s
BTO **Baotou 41.05 320** *e*P **P** **18 11 27.3 +0.1**
PSAD2 **Pilbara Seismi 41.06 215** *e*P **P** **18 11 26.5 -0.8**
comp=Z,97nm,0.8s
MYKOM **Kota Tinggi 41.06 259** *e*P **P** **18 11 27.2 -0.2**
comp=Z,54nm,1.1s
MYKOM **Kota Tinggi 41.06 259** P **P** **18 11 28.0 +0.6**
PSAB2 **Pilbara Seismi 41.07 215** *e*P **P** **18 11 26.5 -0.8**
comp=Z,94nm,0.8s
PSAC1 **Pilbara Seismi 41.08 215** *e*P **P** **18 11 26.9 -0.6**
comp=Z,77nm,0.8s
PSAA2 **Pilbara Seismi 41.08 215** *e*P **P** **18 11 26.6 -0.8**
comp=Z,93nm,0.8s
PSAA3 **Pilbara Seismi 41.09 215** *e*P **P** **18 11 26.8 -0.7**
comp=Z,90nm,0.8s
PSA00 **Pilbara Seismi 41.09 215** *e*P **P** **18 11 27.1 -0.4**
comp=Z,85nm,0.8s
PSAA1 **Pilbara Seismi 41.10 215** *e*P **P** **18 11 27.1 -0.4**
comp=Z,84nm,0.8s
PSAB1 **Pilbara Seismi 41.10 215** *e*P **P** **18 11 27.0 -0.6**
comp=Z,73nm,0.9s
PSAB3 **Pilbara Seismi 41.10 215** *e*P **P** **18 11 26.9 -0.7**
comp=Z,85nm,0.8s
PSAC3 **Pilbara Seismi 41.14 215** *e*P **P** **18 11 27.1 -0.8**
comp=Z,135nm,1.3s
PSAD3 **Pilbara Seismi 41.18 215** *e*P **P** **18 11 27.3 -1.0**
comp=Z,152nm,1.4s
CBJI **Citeko 41.27 245** P **P** **18 11 26.9 -2.2**
CD2 **Chengdu 41.45 303** P **P** **18 11 30.3 -0.2**
CD2 sP pwP 18 11 45.3 +2.2
CD2 PcP **PcP** **18 13 25.3 -2.9**
CD2 S **S** **18 17 45.5 +1.0**
CD2 sS sS 18 17 57.0 +1.6
CD2 SS **SS** **18 20 47.8 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,140nm,4.9s
CD2 LR LR
comp=Z,1μm,15.8s
CD2 LR LR
comp=Z,810nm,17.9s
CD2 LR LR
comp=Z,700nm,15.5s
PINNC **Pines Island, 41.59 146** *e*P **P** **18 11 32.1 +0.6**
comp=Z,62nm,1.0s
PMBI **Palembang 41.73 251** P **P** **18 11 33.6 +0.7**
PBKT **Sadao Pong 41.79 281** P **P** **18 11 34.7 +1.4**
comp=Z,28nm,0.8s,comp=Z,2μm
HIA **Hailar 42.00 336** *e*P **P** **18 11 35.2 +0.5**
comp=Z,48nm,1.7s
HIA LR LR
comp=Z,564nm,20.0s
HIA **Hailar 42.00 336** *de*P **P** **18 11 35.1 +0.4**
HIA pmax pmax
comp=Z,10.0nm,0.8s
NANT **Nan 42.09 285** P **P** **18 11 36.6 +0.7**
comp=Z,5.0nm,0.8s
UTTA **Uttaradit 42.20 283** P **P** **18 11 38.9 +2.2**
comp=Z,4.0nm,1.0s,comp=Z,46nm
PETK **Petropavlovsk- 42.23 12** P **P** **18 11 37.2 +0.7**
comp=Z,4.3nm,0.8s,baz=170,slow=6.8,SNR=5.1
PETK LR LR 18 26 57.9
comp=Z,938nm,21.5s,baz=190,slow=33
PEA1 **Petropavlovsk- 42.24 12** *e*P **P** **18 11 37.2 +0.6**
BLSI **Bandar Lampung 42.26 248** P **P** **18 11 37.2 0.0**

JMBI	**JAMBI**	**42.33**	**254**	P	**P**	**18 11 38.9**	**+1.1**		
PET	**Petropavlovsk**	**42.36**	**13**	PFAKE		18 11 50.0	+13		
PET				LR	LR				
	comp=Z,769nm,19.0s								
FRIM	**Kepong**	**42.82**	**261**	P	**P**	**18 11 43.3**	**+1.5**		
MDSI	**Maura Dua**	**42.88**	**250**	P	**P**	**18 11 41.9**	**-0.3**		
	comp=Z,90nm,0.8s,comp=Z,1μm								
SKLT	**Songkhla**	**42.96**	**267**	P	**P**	**18 11 45.5**	**+2.5**		
	comp=Z,60nm,0.8s,comp=Z,864nm								
KASI	**Kota Agung**	**43.00**	**248**	P	**P**	**18 11 42.2**	**-1.1**		
ARMA	**Armidale**	**43.04**	**170**	*e*P	**P**	**18 11 43.3**	**-0.1**		
	comp=Z,80nm,1.1s								
SUKH	**Sukhothai**	**43.08**	**283**	P	**P**	**18 11 46.2**	**+2.4**		
	comp=Z,3.9nm,0.6s								
LAMP	**Lampang**	**43.10**	**284**	P	P	18 11 49.2	+5.2		
	comp=Z,4.8nm,0.9s,comp=Z,56nm								
IPM	**Ipoh**	**43.10**	**263**	*e*P	**P**	**18 11 43.9**	**-0.3**		
	comp=Z,30nm,1.1s								
IPM	**Ipoh**	**43.10**	**263**	P	**P**	**18 11 44.6**	**+0.4**		
LZH	**Lanzhou**	**43.18**	**310**	*e*P	**P**	**18 11 45.8**	**+1.1**		
LZH				pP	pwP	18 11 58.5	+1.2		
LZH				PP	**PP**	**18 13 25.3**	**+0.1**		
LZH				S	**S**	**18 18 09.0**	**-1.1**		
LZH				sS	sS	18 18 25.5	+4.4		
LZH				SS	**SS**	**18 21 16.8**	**-6.6**		
LZH				pmax	pmax				
	comp=Z,60nm,1.0s								
LZH				pmax	pmax				
	comp=Z,160nm,4.9s								
LZH				LR	LR				
	comp=Z,1μm,14.6s								
LZH				LR	LR				
	comp=Z,790nm,16.3s								
LZH				LR	LR				
	comp=Z,1μm,17.4s								
LWLI	**Liwa**	**43.20**	**249**	P	**P**	**18 11 43.8**	**-1.2**		
LHSI	**Lahat**	**43.23**	**251**	P	**P**	**18 11 45.6**	**+0.5**		
	comp=Z,208nm,1.1s,comp=Z,2μm								
UTHA	**Uthaitani**	**43.27**	**280**	P	**P**	**18 11 48.0**	**+2.6**		
	comp=Z,6.9nm,0.7s,comp=Z,66nm								
KULM	**Kulim**	**43.29**	**265**	*e*P	**P**	**18 11 45.4**	**-0.2**		
	comp=Z,66nm,1.2s								
KULM	**Kulim**	**43.29**	**265**	P	**P**	**18 11 46.6**	**+0.9**		
ZEA	**Zeya**	**43.48**	**346**	*e*P	**P**	**18 11 46.1**	**-0.5**		
ZEA				*e*		18 13 36.0			
ZEA				pmax	pmax				
	comp=Z,32nm,1.4s								
ZEA				MLR	MLR				
	comp=N,700nm,16.0s								
SRDT	**SRDT**	**43.62**	**278**	P	P	18 11 54.7	+6.4		
CM01	**Chiang Mai Arr**	**43.73**	**284**	*e*P	**P**	**18 11 49.1**	**-0.1**		
CM01				*e*PcP	**PcP**	**18 13 37.3**	**+1.4**		
CM31	**Chiang Mai Arr**	**43.75**	**284**	*e*P	**P**	**18 11 49.1**	**-0.2**		
	comp=N,16nm,0.8s								
CM31				*e*PcP	**PcP**	**18 13 36.8**	**+0.9**		
CM31	**Chiang Mai Arr**	**43.75**	**284**	P	**P**	**18 11 49.9**	**+0.6**		
	SNR=11								
CMAR	**Chiang Mai Arr**	**43.75**	**284**	P	**P**	**18 11 50.0**	**+0.7**		
	comp=N,11nm,0.8s,baz=85,slow=6.1,SNR=48								
CMAR				PcP	**PcP**	**18 13 37.3**	**+1.3**		
	comp=N,5.7nm,0.8s,baz=90,slow=2.0,SNR=7.3								
CMAR				LR	LR	18 29 24.4			
	comp=N,401nm,20.5s,baz=111,slow=35								
CMMT	**Chiang Mai**	**43.75**	**284**	P	**P**	**18 11 51.2**	**+1.9**		
	comp=N,5.7nm,1.1s,comp=N,312nm								
TRTT	**Trang**	**43.76**	**269**	P	**P**	**18 11 51.6**	**+2.2**		
	comp=N,18nm,1.4s,comp=N,226nm								
CHTO	**Chiang Mai**	**43.76**	**284**	*e*P	**P**	**18 11 49.4**	**+0.1**		
	comp=N,11nm,1.3s								
CHTO				*e*PcP	**PcP**	**18 13 36.5**	**+0.5**		
CHTO				LR	LR				
	comp=Z,417nm,21.0s								
CHTO	**Chiang Mai**	**43.76**	**284**	P	**P**	**18 11 49.7**	**+0.3**		
CHTO	**Chiang Mai**	**43.76**	**284**	P	**P**	**18 11 51.3**	**+1.9**		
	comp=Z,26nm,1.1s								
UMPA	**Umpang Tak**	**43.82**	**281**	P	**P**	**18 11 53.7**	**+3.8**		
	comp=Z,6.5nm,1.1s,comp=Z,162nm								
STKA	**Stephens Creek**	**43.91**	**183**	*e*P	**P**	**18 11 49.4**	**-0.9**		
	comp=Z,13nm,1.0s								
STKA	**Stephens Creek**	**43.91**	**183**	*e*P	**P**	**18 11 49.4**	**-0.9**		
STKA				pmax	pmax				
	comp=Z,13nm,1.0s								
STKA	**Stephens Creek**	**43.91**	**183**	P	**P**	**18 11 50.0**	**-0.3**		
	comp=Z,49nm,1.0s,baz=356,slow=8.8,SNR=43								
STKA				LR	LR	18 31 29.3			
	comp=Z,584nm,18.2s,baz=354,slow=38								
MNAI	**Manna**	**43.95**	**250**	*e*P	**P**	**18 11 50.1**	**-0.8**		
	comp=Z,579nm,0.9s								
KRJI	**Kerinci**	**44.53**	**254**	P	**P**	**18 11 55.4**	**-0.3**		
MSVF	**Nonsavu**	**44.95**	**131**	*e*P	**P**	**18 11 59.6**	**+0.7**		
	comp=Z,72nm,0.9s								
MSVF	**Nonsavu**	**44.95**	**131**	*e*P	**P**	**18 11 59.6**	**+0.7**		
MSVF				pmax	pmax				
	comp=Z,72nm,0.9s								
PKDT	**Phuket**	**45.07**	**269**	P	**P**	**18 12 02.2**	**+2.3**		
	comp=Z,31nm,0.8s,comp=Z,412nm								
FORT	**Forrest**	**45.41**	**199**	*e*P	**P**	**18 12 02.2**	**0.0**		
	comp=Z,213nm,0.9s								
BBOO	**Buckleboo**	**45.42**	**189**	*e*P	**P**	**18 12 01.9**	**-0.4**		
	comp=Z,114nm,0.8s								
MNSI	**Mandailing Nat**	**45.43**	**259**	P	**P**	**18 12 02.2**	**-0.6**		
PSI	**Prapat**	**45.54**	**262**	*e*P	**P**	**18 12 03.6**	**-0.2**		
	comp=Z,59nm,1.2s								
PSI	**Prapat**	**45.54**	**262**	*e*P	**P**	**18 12 03.6**	**-0.2**		
PSI				pmax	pmax				
	comp=Z,59nm,1.2s								
PSI	**Prapat**	**45.54**	**262**	P	**P**	**18 12 03.7**	**0.0**		
	comp=Z,25nm,0.8s,baz=75,slow=3.0,SNR=24								
TSI	**Tuntungan**	**45.72**	**263**	P	**P**	**18 12 06.7**	**+1.7**		
LHI	**Lord Howe Isla**	**45.85**	**162**	*e*P	**P**	**18 12 06.2**	**+0.5**		
	comp=Z,293nm,1.8s								
PPSI	**Pulau Pagai**	**46.12**	**254**	P	**P**	**18 12 09.9**	**+1.7**		
KCSI	**Kotacane, Aceh**	**46.48**	**263**	P	**P**	**18 12 10.9**	**-0.2**		
	comp=Z,116nm,1.2s,comp=Z,1μm								
SISI	**Saibi**	**46.53**	**256**	P	**P**	**18 12 09.8**	**-1.6**		
LHMI	**Lhok Sumawe**	**46.91**	**266**	*e*P	**P**	**18 12 15.4**	**+1.0**		
	comp=Z,112nm,0.8s								
ULN	**Ulaanbaatar**	**46.99**	**326**	*e*P	**P**	**18 12 14.8**	**0.0**		
	comp=Z,12nm,0.9s								
ULN				LR	LR				
	comp=Z,738nm,20.0s								
ULN	**Ulaanbaatar**	**46.99**	**326**	*d*e*P*	**P**	**18 12 15.1**	**+0.3**		
ULN				pmax	pmax				
	comp=Z,20nm,1.7s								
ULN	**Ulaanbaatar**	**46.99**	**326**	P	**P**	**18 12 15.1**	**+0.3**		
	SNR=8.2								
ULN				P	**P**	**18 12 15.1**	**+0.3**		
	SNR=8.2								
TPTI		**47.12**	**263**	P	**P**	**18 12 16.2**	**+0.2**		
	comp=Z,37nm,1.4s								
GSI	**Gunungsitoli**	**47.22**	**260**	*e*P	**P**	**18 12 15.3**	**-1.6**		
	comp=Z,78nm,1.0s								
GSI				*e*PcP	**PcP**	**18 13 48.8**	**+0.7**		
GSI	**Gunungsitoli**	**47.22**	**260**	P	**P**	**18 12 16.4**	**-0.5**		
	comp=Z,86nm,0.9s								
SONA0	**Songino Array**	**47.33**	**326**	*e*P	**P**	**18 12 17.8**	**+0.4**		
SONA0				*e*PcP	**PcP**	**18 13 47.8**	**-0.2**		
SONA0				*e*ScP	**ScP**	**18 17 40.6**	**0.0**		
SONM	**Songino Array**	**47.33**	**326**	P	**P**	**18 12 17.8**	**+0.4**		
	comp=Z,9.4nm,0.6s,baz=145,slow=8.4,SNR=30								
SONM				PcP	**PcP**	**18 13 47.8**	**-0.2**		
	comp=Z,2.3nm,0.6s,baz=153,slow=4.6,SNR=2.6								
SONM				ScP	**ScP**	**18 17 40.6**	**0.0**		
	comp=Z,0.9nm,0.6s,baz=149,slow=3.6,SNR=4.0								
SONM				LR	LR	18 32 31.2			
	comp=Z,873nm,19.2s,baz=125,slow=36								
GTA	**Gaotai**	**47.41**	**313**	P	**P**	**18 12 18.3**	**+0.1**		
GTA				pP	sP	18 12 27.5	+0.3		
GTA				sP	pwP	18 12 31.5	+0.7		
GTA				PcP	**PcP**	**18 13 48.8**	**+0.3**		
GTA				ScP	**ScP**	**18 17 41.3**	**+0.2**		
GTA				S	**S**	**18 19 07.5**	**-3.6**		
GTA				ScS	**ScS**	**18 22 10.0**	**-0.8**		
GTA				pmax	pmax				
	comp=Z,20nm,0.9s								
GTA				pmax	pmax				
	comp=Z,100nm,7.6s								
GTA				LR	LR				
	comp=Z,640nm,21.6s								
GTA				LR	LR				
	comp=Z,380nm,18.1s								
GTA				LR	LR				
	comp=Z,470nm,19.7s								
MA2	**Magadan**	**47.53**	**5**⇑	*e*P	**P**	**18 12 18.6**	**0.0**		
MA2				pmax	pmax				
	comp=Z,13nm,0.7s								
CAN	**Canberra**	**47.53**	**174**	*e*P	**P**	**18 12 18.9**	**0.0**		
	comp=Z,40nm,1.1s								
CAN	**Canberra**	**47.53**	**174**	*e*P	**P**	**18 12 18.9**	**0.0**		
CAN				pmax	pmax				
	comp=Z,40nm,1.1s								
MLSI	**Meulaboh, Aceh**	**47.65**	**265**	P	**P**	**18 12 19.3**	**-0.8**		
SNSI	**Sinabang, Aceh**	**48.15**	**262**	P	**P**	**18 12 25.9**	**+1.9**		
MORW	**Morawa**	**49.11**	**213**	*e*P	**P**	**18 12 30.2**	**-0.9**		
	comp=Z,156nm,0.9s								
CMBY	**CAMPBELL BAY**	**49.53**	**269**	*e*P	**P**	**18 12 35.2**	**+0.5**		
CMBY				lAmb	lAmb	18 12 37.9			
	comp=Z,96nm,1.0s								
TOO	**Toolangi**	**49.56**	**178**	*e*P	**P**	**18 12 35.3**	**+0.8**		
	comp=Z,53nm,1.1s								
TOO	**Toolangi**	**49.56**	**178**	*e*P	**P**	**18 12 35.3**	**+0.8**		
TOO				pmax	pmax				
	comp=Z,53nm,1.1s								
DGPR	**DIGLIPUR**	**49.70**	**277**	*e*P	**P**	**18 12 34.5**	**-1.5**		
DGPR				lAmb	lAmb	18 12 39.2			
	comp=Z,17nm,0.3s								
PBA	**Port Blair**	**50.03**	**275**	*e*P	P	18 12 37.6	-0.8		
PBA				lAmb	lAmb	18 12 40.2			
	comp=Z,22nm,1.0s								
KIWB	**Kanaga Island**	**50.44**	**30**	*e*P	**P**	**18 12 41.7**	**+0.7**		
ZAK	**Zakamensk**	**50.47**	**327**	*e*P	**P**	**18 12 40.9**	**-0.5**		
ZAK				pmax	pmax				
	comp=Z,16nm,1.2s								
ADK	**Adak**	**50.69**	**31**	*e*P	**P**	**18 12 42.4**	**-0.4**		
	comp=Z,38nm,0.8s								
ADK	**Adak**	**50.69**	**31**	*e*P	**P**	**18 12 42.4**	**-0.4**		
ADK				pmax	pmax				
	comp=Z,38nm,0.8s								
SHL	**Shillong**	**50.71**	**293**	*e*P	**P**	**18 12 43.2**	**-0.5**		
	comp=Z,40nm,0.6s								
SHL	**Shillong**	**50.71**	**293**	*e*P	**P**	**18 12 42.3**	**-1.4**		
SHL				lAmb	lAmb	18 12 45.8			
YAK	**Yakutsk**	**50.78**	**351**	*e*P	**P**	**18 12 42.6**	**-0.7**		
YAK				*e**PP	**pP**	**18 12 50.1**	**+0.2**		
YAK				*e*		18 13 53.8			
YAK				*e*		18 14 36.6			
YAK				*e*PPP	PPP	18 15 43.2			
YAK				*e*S	**S**	**18 19 59.3**	**+2.0**		
YAK				*e**SS	**sS**	**18 20 08.3**	**0.0**		
YAK				*e*SSS	SSS	18 24 59.7			
YAK				pmax	pmax				
	comp=Z,45nm,0.9s								
YAK				pmax	pmax				
	comp=N,23nm,1.2s								
YAK				pmax	pmax				
	comp=E,19nm,0.9s								
YAK				pmax	pmax				
	comp=Z,464nm,3.5s								
YAK				pmax	pmax				
	comp=N,75nm,3.1s								
YAK				pmax	pmax				
	comp=E,216nm,3.3s								
YAK				smax	smax				
	comp=N,301nm,2.5s								
YAK				smax	smax				
	comp=E,138nm,2.5s								
YAK				MLR	MLR				
	comp=Z,2μm,18.0s								
YAK				MLR	MLR				
	comp=N,1μm,17.0s								
YAK				MLR	MLR				
	comp=E,727nm,17.0s								
BOD	**Bodaibo**	**50.86**	**340**	*e*P	**P**	**18 12 46.0**	**+1.9**		
BOD				pmax	pmax				
	comp=Z,14nm,1.7s								
SEY	**Seymchan**	**50.98**	**5**	*d*i*P*	**P**	**18 12 45.6**	**+0.7**		
TLY	**Talaya**	**51.03**	**329**	*e*P	**P**	**18 12 45.5**	**+0.1**		
	comp=Z,6.3nm,0.7s								
TLY				LR	LR				
	comp=Z,289nm,19.0s								
TLY	**Talaya**	**51.03**	**329**	*e*P	**P**	**18 12 46.4**	**+0.9**		
TLY				*e*S	**S**	**18 20 08.1**	**+6.9**		
TLY				*e*		18 22 37.1			
TLY				pmax	pmax				
	comp=Z,23nm,1.1s								
TLY				MLR	MLR				
	comp=Z,1μm,14.0s								
IRK	**Irkutsk**	**51.05**	**330**	*e*P	**P**	**18 12 44.9**	**-0.7**		
IRK				pmax	pmax				
	comp=Z,26nm,4.0s								
NWAO	**Narrogin (SRO)**	**51.64**	**209**	*e*P	**P**	**18 12 49.7**	**-0.5**		
	comp=Z,81nm,1.4s								
NWAO				LR	LR				
	comp=Z,827nm,20.0s								
NWAO	**Narrogin (SRO)**	**51.64**	**209**	*e*P	**P**	**18 12 49.7**	**-0.5**		
NWAO				pmax	pmax				
	comp=Z,81nm,1.4s								
NWAO				MLR	MLR				
	comp=Z,827nm,20.0s								
NWAO	**Narrogin (SRO)**	**51.64**	**209**	P	**P**	**18 12 49.8**	**-0.5**		
	comp=Z,16nm,0.7s,baz=50,slow=7.4,SNR=12								
LSA	**Lhasa**	**51.82**	**298**	*e*P	**P**	**18 12 52.5**	**+0.2**		
	comp=Z,25nm,0.8s								
LSA				LR	LR				
	comp=Z,272nm,19.0s								
LSA	**Lhasa**	**51.82**	**298**	*i* P	**P**	**18 12 52.9**	**+0.6**		
	SNR=28								
LSA	**Lhasa**	**51.82**	**298**	*e*P	**P**	**18 12 52.5**	**+0.2**		
LSA				pmax	pmax				
	comp=Z,25nm,0.8s								
LSA				MLR	MLR				
	comp=Z,272nm,19.0s								
ATKA	**Atka Island**	**52.12**	**31**	*e*P	**P**	**18 12 53.3**	**-0.3**		
	comp=Z,102nm,1.4s								
MOY	**Mondy**	**52.39**	**328**	*e*P	**P**	**18 12 55.3**	**-0.4**		
MOY				pmax	pmax				
	comp=Z,23nm,2.5s								
TAPN	**Taplejung**	**54.58**	**295**	*e*P	**P**	**18 13 12.4**	**-0.1**		
	comp=Z,25nm,0.5s								
ODAN	**Odare**	**54.83**	**294**	*e*P	**P**	**18 13 14.2**	**-0.1**		
	comp=Z,34nm,0.6s								
OUZ	**Omahuta**	**54.92**	**150**	*e*P	**P**	**18 13 16.6**	**+2.3**		
	comp=Z,52nm,1.3s								
RAMN	**Ramite**	**55.54**	**294**	*e*P	**P**	**18 13 19.2**	**-0.2**		
	comp=Z,54nm,0.8s								
JIRN	**Jiri**	**55.95**	**295**	*e*P	**P**	**18 13 22.5**	**0.0**		
	comp=Z,95nm,0.5s								
BOK	**Bokaro**	**56.07**	**290**	*e*P	**P**	**18 13 22.0**	**-0.9**		
BOK				lAmb	lAmb	18 13 24.0			
	comp=Z,35nm,0.9s								
GUN	**Gumba**	**56.24**	**295**	*e*P	**P**	**18 13 24.6**	**+0.1**		
	comp=Z,74nm,0.5s								
PKI	**Pulchoki**	**56.64**	**295**	*e*P	**P**	**18 13 26.7**	**-0.6**		
	comp=Z,51nm,0.7s								
PKIN	**Phulchoki**	**56.65**	**295**	*e*P	**P**	**18 13 26.7**	**-0.6**		
	comp=Z,45nm,0.7s								
KKN	**Kakani**	**56.77**	**295**	*e*P	**P**	**18 13 27.6**	**-0.5**		
	comp=Z,53nm,0.9s								
DMN	**Daman**	**56.91**	**295**	*e*P	**P**	**18 13 28.8**	**-0.4**		
	comp=Z,62nm,0.8s								
WMQ	**Urumqi**	**57.43**	**314**	P	**P**	**18 13 33.3**	**+1.0**		
WMQ				pP	pwP	18 13 43.8	-1.2		
WMQ				sP	sP	18 13 48.0	+6.5		
WMQ				S	**S**	**18 21 35.3**	**+7.4**		
WMQ				SS	**SS**	**18 25 18.0**	**+0.3**		
WMQ				pmax	pmax				
	comp=Z,63nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,340nm,4.7s								
WMQ				LR	LR				
	comp=Z,2μm,19.3s								
WMQ				LR	LR				
	comp=Z,660nm,21.1s								
WMQ				LR	LR				
	comp=Z,790nm,4.0s								
WMQ	**Urumqi**	**57.43**	**314**	*e*P	**P**	**18 13 33.0**	**+0.8**		
	comp=Z,26nm,0.9s								
BILL	**Bilibino**	**57.64**	**10**	*e*P	**P**	**18 13 33.0**	**-0.2**		
	comp=Z,26nm,1.1s								
BILL				LR	LR				
	comp=Z,371nm,19.0s								
BILL	**Bilibino**	**57.64**	**10**⇑	*i* P	**P**	**18 13 33.1**	**-0.2**		
BILL				*e*		18 14 30.4			
BILL				*e*		18 15 45.3			
BILL				*e*S	S	18 21 19.5	-10		
BILL				pmax	pmax				
	comp=Z,25nm,1.0s								
DANN	**Dangsing**	**58.14**	**296**	*e*P	**P**	**18 13 37.7**	**-0.1**		
	comp=Z,143nm,0.6s								
KOLN	**Koldanda**	**58.25**	**295**	*e*P	**P**	**18 13 38.3**	**-0.2**		
	comp=Z,70nm,0.8s								
AIN	**Ainahou**	**58.50**	**75**	*e*P	**P**	**18 13 42.1**	**+1.7**		
	comp=Z,360nm,1.8s								
MLH	**Mauna Loa**	**58.56**	**75**	*e*P	**P**	**18 13 41.7**	**+0.8**		
	comp=Z,82nm,1.1s								
MLH	**Mauna Loa**	**58.56**	**75**	*e*P	**P**	**18 13 41.7**	**+0.8**		
MLH				pmax	pmax				
	comp=Z,82nm,1.1s								
PYUN	**Piuthan**	**58.80**	**295**	*e*P	**P**	**18 13 42.0**	**-0.4**		
	comp=Z,128nm,0.7s								
URZ	**Urewera**	**59.04**	**150**	*e*P	**P**	**18 13 43.6**	**+0.2**		
	comp=Z,25nm,1.0s								
DGZ	**Jazzator, Alta**	**59.31**	**321**	*d*i*P*	**P**	**18 13 46.0**	**+0.5**		
DGZ				pmax	pmax				
	comp=Z,22nm,1.1s								
BKZ	**Black Stump Fm**	**59.46**	**151**	*e*P	**P**	**18 13 46.3**	**-0.1**		
	comp=Z,78nm,1.9s								
TIXI	**Tiksi**	**60.09**	**355**	*e*P	**P**	**18 13 50.7**	**+0.5**		
	comp=Z,12nm,1.4s								
TIXI				LR	LR				
	comp=Z,301nm,20.0s								
TIXI	**Tiksi**	**60.09**	**355**⇑	*e*P	**P**	**18 13 51.2**	**+1.0**		
TIXI				pmax	pmax				
	comp=Z,4.0nm,1.4s								
ZSN	**Zaisan**	**60.29**	**318**	*e*P	P	18 13 57.1	+5.0		
ZSN				pmax	pmax				
	comp=Z,24nm,1.3s								
ZSN	**Zaisan**	**60.29**	**318**	*e*P	P	18 13 57.1	+5.0		
	comp=Z,24nm,1.3s								
OXZ	**Oxford**	**60.96**	**157**	*e*P	**P**	**18 13 56.1**	**-0.4**		
	comp=Z,26nm,0.8s								
MK01	**Makanchi Array**	**61.83**	**317**	*e*P	**P**	**18 14 02.5**	**-0.1**		
MK31	**Makanchi Array**	**61.84**	**317**	*e*P	**P**	**18 14 02.4**	**-0.2**		
	comp=Z,14nm,1.0s								
MK31	**Makanchi Array**	**61.84**	**317**	*i* P	**P**	**18 14 02.5**	**-0.2**		
MK31				pmax	pmax				
	comp=Z,23nm,1.1s								
MK32	**Makanchi Array**	**61.84**	**317**	*e*P	**P**	**18 14 02.9**	**+0.3**		
MK32				*e*		18 43 11.5			
MK32				*e*P'P'ab	**P'P'df**	**18 43 19.0**	**+3.4**		
MKAR	**Makanchi Array**	**61.84**	**317**	P	**P**	**18 14 02.9**	**+0.3**		
	comp=Z,12nm,0.9s,baz=95,slow=8.4,SNR=80								
MKAR				PKPPKP	**P'P'df**	**18 43 11.5**	**-4.2**		
	comp=Z,0.4nm,0.8s,baz=192,slow=1.1,SNR=4.1								
MKAR				PKP2bc		18 43 19.0			
	comp=Z,1.3nm,1.1s,baz=270,slow=1.2,SNR=6.2								
JOSI	**Joshimath**	**61.90**	**298**	*e*P	**P**	**18 14 02.8**	**-0.7**		
MDRS	**Chennai**	**62.00**	**278**	*e*P	**P**	**18 14 03.9**	**-0.3**		
MAKZ	**Makanchi**	**62.06**	**317**	*e*P	**P**	**18 14 04.1**	**0.0**		
	comp=Z,22nm,0.9s								
MAKZ	**Makanchi**	**62.06**	**317**	P	**P**	**18 14 03.8**	**-0.3**		
MAKZ				pmax	pmax				
	comp=Z,24nm,1.1s								
ZAA0	**Zalesovo Array**	**62.20**	**325**	*e*P	**P**	**18 14 04.1**	**-0.8**		
ZAA0				*e*PcP	**PcP**	**18 14 47.6**	**+2.9**		
ZALV	**Zalesovo Beam**	**62.20**	**325**	*e*P	**P**	**18 14 03.8**	**-1.1**		
ZALV				*e*PcP	**PcP**	**18 14 47.8**	**+3.1**		
ZALV				P'P'		18 43 15.9			
ZALV	**Zalesovo Beam**	**62.20**	**325**	*e*P	**P**	**18 14 03.8**	**-1.1**		
ZALV				*e*		18 14 47.8			
ZALV	**Zalesovo Beam**	**62.20**	**325**	P	**P**	**18 14 04.6**	**-0.3**		
	comp=Z,6.8nm,0.6s,baz=113,slow=5.5,SNR=22								
ZALV				PcP	**PcP**	**18 14 44.1**	**-0.6**		
	comp=Z,8.8nm,0.6s,baz=128,slow=3.5,SNR=7.7								
ZALV				PKPPKP	**P'P'df**	**18 43 15.9**	**+1.2**		
	comp=Z,2.0nm,0.9s,baz=302,slow=3.3,SNR=5.6								
ZAA1	**Zalesovo Array**	**62.20**	**325**	*e*P	**P**	**18 14 04.6**	**-0.3**		
ZAA1				*e*PcP	**PcP**	**18 14 44.1**	**-0.6**		
ZAA1				⇑*e*		18 43 15.9			
PALK	**Pallekele**	**62.41**	**272**	*i* P	**P**	**18 14 07.6**	**+0.6**		
	SNR=7.7								
PALK	**Pallekele**	**62.41**	**272**	P	**P**	**18 14 07.9**	**+0.9**		
	comp=Z,22nm,1.0s,baz=116,slow=5.1,SNR=11								
SHLS	**Shalkode**	**63.15**	**312**	*d*i*P*	**P**	**18 14 07.9**	**-3.6**		
SHLS				pmax	pmax				
	comp=Z,146nm,1.2s								
SHLS	**Shalkode**	**63.15**	**312**⇓	*i*P	**P**	**18 14 08.0**	**-3.6**		
	comp=Z,146nm,1.2s								
PDGK	**Podgornoye**	**63.16**	**312**	P	**P**	**18 14 11.1**	**-0.5**		
PDGK				pmax	pmax				
	comp=Z,16nm,1.0s								
HYB	**Hyderabad**	**63.17**	**283**	*i* P	**P**	**18 14 11.0**	**-1.0**		
HYB				*e*pP	**sP**	**18 14 21.5**	**+0.7**		
HYB				*e*PcP	**PcP**	**18 14 49.5**	**+0.1**		
HYB	**Hyderabad**	**63.17**	**283**	*e*P	**P**	**18 14 11.1**	**-0.9**		
DDI	**Dehra Dun**	**63.19**	**298**	*e*P	**P**	**18 14 11.4**	**-0.6**		
NVS	**Novosibirsk**	**63.36**	**326**	*i*⇓*i*P	**P**	**18 14 12.3**	**-0.2**		
NVS				*e*		18 14 43.7			
NVS				*e*S	**S**	**18 22 45.6**	**+2.2**		
NVS				pmax	pmax				
	comp=E,33nm,2.1s								
NVS				pmax	pmax				
	comp=Z,48nm,2.1s								
NVS				pmax	pmax				
	comp=N,15nm,1.9s								
NVS				smax	smax				
	comp=N,16nm,2.0s								
NVS				smax	smax				
	comp=E,15nm,2.1s								
UZB	**Uzunbulak**	**63.47**	**312**	*e*P	**P**	**18 14 12.1**	**-1.6**		
UZB				pmax	pmax				
	comp=Z,114nm,1.0s								
UZB	**U

MDOK Medeo 64.90 312 ⇓ *i* P **P** 18 14 20.9 -2.3
comp=Z,116nm,1.2s
MDOK *e*LR LR 18 43 10.0
comp=Z,115nm,17.5s
TNSS Tian-Shan 64.96 312 *e*P **P** 18 14 23.2 -0.6
TNSS pmax pmax
comp=Z,129nm,0.9s
TNSS Tian-Shan 64.96 312 *e*P **P** 18 14 23.2 -0.6
comp=Z,129nm,0.9s
AAA Alma-Ata 65.00 312 *e*P **P** 18 14 22.8 -0.9
AAA pmax pmax
comp=Z,121nm,1.2s
AAA Alma-Ata 65.00 312 *e*P **P** 18 14 22.8 -0.9
comp=Z,120nm,1.2s
CHKK Chushkaly 65.03 313 ⇓ *i* P **P** 18 14 21.8 -2.0
CHKK pmax pmax
comp=Z,79nm,1.1s
CHKK Chushkaly 65.03 313 ⇓ *i* P **P** 18 14 21.9 -1.9
comp=Z,79nm,1.1s
KURK Kurchatov 65.04 320 *e*P **P** 18 14 23.3 -0.3
comp=Z,49nm,0.9s
KURK LR LR
comp=Z,1µm,19.0s
KURK Kurchatov 65.04 320 *d i* P **P** 18 14 23.4 -0.3
KURK pmax pmax
comp=Z,81nm,1.3s
KURK Kurchatov 65.04 320 P **P** 18 14 23.4 -0.3
SNR=18
KURK P **P** 18 14 23.4 -0.3
SNR=18
KURBB Kurchatov Arra 65.08 320 PKPPKP **P'P'df** 18 43 03.2 -6.9
comp=Z,1.6nm,1.2s,baz=294,slow=3.0,SNR=4.8
KURBB PKP2bc 18 43 11.9
comp=Z,4.3nm,1.0s,baz=279,slow=3.5,SNR=18
KHET Khetri 65.15 295 *e*P **P** 18 14 23.2 -1.6
KHET IAmb IAmb 18 14 25.5
comp=Z,17nm,0.8s
SVW2 Sparrevohn 65.29 28 *e*P **P** 18 14 25.2 0.0
comp=Z,35nm,1.7s
KSH Kashi 65.35 308 P **P** 18 14 29.0 +2.9
KSH pP pP 18 14 33.8 +1.0
KSH S **S** 18 23 10.0 +1.1
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH LR LR
comp=Z,490nm,15.3s
KSH LR LR
comp=Z,200nm,11.6s
KSH LR LR
comp=Z,400nm,16.2s
ULHL Ulahol 65.39 311 P **P** 18 14 26.8 +0.4
SNR=8.4
RDOG Red Dog Mine 65.45 19 *e*P **P** 18 14 27.2 +1.2
comp=Z,22nm,1.2s
NRN Naryn 65.49 310 *e*P **P** 18 14 27.2 0.0
comp=Z,8.9nm,0.9s
NRN Naryn 65.49 310 *e*P **P** 18 14 27.2 0.0
NRN pmax pmax
comp=Z,9.0nm,0.9s
KUU Kurty 65.50 313 *d i* P **P** 18 14 25.0 -1.8
KUU pmax pmax
comp=Z,178nm,1.1s
KUU Kurty 65.50 313 ⇓ *i* P **P** 18 14 25.0 -1.8
comp=Z,178nm,1.1s
KDAK Kodiak Island 65.69 32 *e*P **P** 18 14 28.2 +0.5
comp=Z,167nm,1.9s
KDAK Kodiak Island 65.69 32 *i* P **P** 18 14 28.1 +0.4
KDAK Kodiak Island 65.69 32 LR LR 18 39 57.8
comp=Z,201nm,21.8s,baz=248,slow=33
TKM2 Tokmak 2 65.93 312 P **P** 18 14 29.3 -0.6
TKM2 pmax pmax
comp=Z,10.0nm,1.1s
KZA Kyzart 66.11 311 P **P** 18 14 32.3 +1.1
SNR=23
KBK Karagaybulak 66.38 311 P **P** 18 14 32.9 +0.2
SNR=6.2
CHMS Chumysh 66.56 312 P **P** 18 14 34.0 +0.4
SNR=9.0
UCH Uchtor 66.67 311 P **P** 18 14 35.8 +0.9
SNR=17
AAK Ala-Archa 66.72 311 *e*P **P** 18 14 34.5 -0.4
comp=Z,7.4nm,1.0s
AAK *e* 18 43 04.1
AAK Ala-Archa 66.72 311 *i* P **P** 18 14 35.0 +0.1
SNR=7.1
AAK Ala-Archa 66.72 311 *d i* P **P** 18 14 34.6 -0.2
AAK pmax pmax
comp=Z,7.0nm,1.3s
AAK Ala-Archa 66.72 311 P **P** 18 14 34.7 -0.2
comp=Z,3.3nm,0.9s,baz=146,slow=7.3,SNR=4.0
AAK PKP2bc 18 43 04.1
comp=Z,1.2nm,0.8s,baz=218,slow=2.3,SNR=6.1
AAK LR LR 18 46 42.5
comp=Z,318nm,19.1s,baz=80,slow=39
USP Ospenovka 66.77 312 P **P** 18 14 34.9 -0.1
SNR=7.7
BRLK Bradley Lake 67.09 30 *e*P **P** 18 14 36.0 -0.7
comp=Z,25nm,0.8s
NRIK Noril'sk 67.12 341 P **P** 18 14 36.6 -0.1
comp=Z,3.7nm,0.5s,baz=124,slow=6.1,SNR=9.3
NRIK LR LR 18 42 44.3
comp=Z,274nm,21.8s,baz=70,slow=35
BTLS Baital 67.25 314 *c i* P **P** 18 14 35.6 -2.4
BTLS pmax pmax
comp=Z,141nm,1.3s
BTLS Baital 67.25 314 ⇑ *i* P **P** 18 14 35.6 -2.4
comp=Z,141nm,1.3s
AML Almayashu 67.27 311 P **P** 18 14 39.3 +0.6
SNR=12
NIL Nilore 67.31 301 *e*P **P** 18 14 38.5 -0.1
comp=Z,74nm,0.8s
NIL Nilore 67.31 301 *e*P **P** 18 14 38.5 -0.1
NIL pmax pmax
comp=Z,74nm,0.8s
PPLA Purkeypile 67.40 26 *e*P **P** 18 14 39.2 +0.4
comp=Z,41nm,1.2s
POO Poona 67.52 285 *e*P **P** 18 14 38.9 -1.3
POO IAmb IAmb 18 14 40.1
comp=Z,26nm,0.8s
SUA Susitna One 67.62 28 *e*P **P** 18 14 39.6 -0.5
comp=Z,19nm,0.9s
IM3 Indian Mountai 67.79 23 *e*P **P** 18 14 40.8 -0.2
GOA Goa 67.89 282 *e*P **P** 18 14 41.0 -1.4
GOA IAmb IAmb 18 14 42.9
comp=Z,14nm,0.6s
RC01 Rabbit Creek A 67.99 29 *e*P **P** 18 14 42.2 -0.1
comp=Z,38nm,1.0s
BPAW Bear Paw Mtn. 68.28 25 *e*P **P** 18 14 44.3 +0.2
comp=Z,21nm,1.0s
TRF Thorofare Moun 68.39 26 *e*P **P** 18 14 44.4 -0.6
comp=Z,32nm,1.2s
PMR Palmer 68.40 28 *e*P **P** 18 14 44.3 -0.6
comp=Z,22nm,0.7s
PMR Palmer 68.40 28 *e*P **P** 18 14 44.3 -0.6
PMR pmax pmax
comp=Z,22nm,0.7s
KNK Knik Glacier 68.67 29 *e*P **P** 18 14 46.5 -0.1
comp=Z,27nm,0.8s
BRZS Berezniki 68.69 319 *e*P **P** 18 14 45.4 -1.5
BRZS pmax pmax
comp=Z,206nm,1.1s
BRZS MLR MLR
comp=Z,284nm,19.0s
BRZS Berezniki 68.69 319 *e*P **P** 18 14 45.4 -1.5
comp=Z,206nm,1.1s
BRZS *e*LR LR 18 48 40.4
comp=Z,284nm,18.9s
SML Sawmill 68.83 28 *e*P **P** 18 14 47.2 -0.4
comp=Z,47nm,0.9s
SML Sawmill 68.83 28 *e*P **P** 18 14 47.2 -0.4
SML pmax pmax
comp=Z,47nm,0.9s
BWN Browne 68.94 26 *e*P **P** 18 14 48.3 +0.1
comp=Z,42nm,0.8s
RND Reindeer 69.00 26 *e*P **P** 18 14 47.8 -0.9
comp=Z,40nm,1.6s
RND Reindeer 69.00 26 *e*P **P** 18 14 47.8 -0.9
RND pmax pmax
comp=Z,40nm,1.6s
SCM Sheep Creek Mo 69.29 28 *e*P **P** 18 14 50.1 -0.5
comp=Z,65nm,1.1s
SCM Sheep Creek Mo 69.29 28 *e*P **P** 18 14 50.1 -0.5
SCM pmax pmax
comp=Z,65nm,1.1s
BTK Batken 69.34 308 *e*P **P** 18 14 50.3 -1.0
comp=Z,11nm,0.8s
COLD Coldfoot 69.54 22 *e*P **P** 18 14 52.6 +0.8
comp=Z,5.6nm,0.8s
DHY Denali Highway 69.56 27 *e*P **P** 18 14 52.8 +0.5
comp=Z,21nm,1.1s
WRH Wood River Hil 69.60 25 *e*P **P** 18 14 51.7 -0.6
comp=Z,17nm,0.9s
KK31 Karatay Array 69.67 312 *e*P **P** 18 14 53.0 -0.2
comp=Z,22nm,1.0s
KK31 Karatay Array 69.67 312 *e*P **P** 18 14 53.0 -0.2
KK31 pmax pmax
comp=Z,22nm,1.0s
KKAR Karatay Array 69.67 312 *e*P **P** 18 14 52.8 -0.3
comp=Z,22nm,1.0s
KKAR Karatay Array 69.67 312 *e*P **P** 18 14 52.8 -0.3
KKAR pmax pmax
comp=Z,22nm,1.0s
MDM Murphy Dome 69.67 25 *e*P **P** 18 14 52.2 -0.6
comp=Z,11nm,0.8s
GAR Garm 69.72 307 *e*P **P** 18 14 53.3 -0.4
MNCY Minicoy 69.72 274 *e*P **P** 18 14 52.0 -1.9
CCB Clear Creek Bu 69.76 25 *e*P **P** 18 14 52.7 -0.6
comp=Z,41nm,1.5s
TCOL CIGO, UAF Yank 69.80 25 P **P** 18 14 52.4 -1.1
baz=255
COLA College 69.80 25 *e*P **P** 18 14 53.1 -0.3
comp=Z,12nm,0.9s
COLA LR LR
comp=Z,579nm,21.0s
COLA College 69.80 25 ⇑ *e*P **P** 18 14 53.4 -0.1
COLA pmax pmax
comp=Z,9.0nm,0.9s
DIV Divide 69.87 29 *e*P **P** 18 14 54.8 +0.6
comp=Z,43nm,1.3s
KLU Klutina 69.88 29 *e*P **P** 18 14 54.8 +0.6
comp=Z,26nm,1.0s
IUG Iuzhnay 69.99 310 *e*P **P** 18 14 54.0 -1.3
IUG pmax pmax
comp=Z,180nm,0.9s
IUG Iuzhnay 69.99 310 *e*P **P** 18 14 54.0 -1.3
comp=Z,180nm,0.9s
POKR Poker Plat Res 70.03 25 P **P** 18 14 54.1 -0.9
baz=256
HDA Harding Lake 70.06 26 *e*P **P** 18 14 53.9 -1.3
comp=Z,11nm,0.8s
HDA Harding Lake 70.06 26 P **P** 18 14 53.2 -1.9
baz=256,SNR=10
ILAR Eielson Array 70.17 25 P **P** 18 14 54.5 -1.3
comp=Z,9.7nm,0.6s,baz=250,slow=5.9,SNR=175
ILAR LR LR 18 43 04.4
comp=Z,357nm,21.1s,baz=269,slow=34
ILB Eielson Array 70.17 25 *e*P **P** 18 14 54.3 -1.6
comp=Z,108nm,1.9s
IL1 Eielson Array 70.17 25 *e*P **P** 18 14 54.4 -1.4
TOLK Toolik Lake Re 70.20 21 *e*P **P** 18 14 56.7 +0.7
comp=Z,31nm,1.1s
TOLK Toolik Lake Re 70.20 21 P **P** 18 14 55.0 -0.9
baz=252,SNR=12
HARP HAARP 70.42 28 *e*P **P** 18 14 58.0 +0.7
comp=Z,44nm,0.8s
BVA0 Borovoye Array 70.43 322 *i* P **P** 18 14 57.2 -0.4
BVA0 pmax pmax
comp=Z,20nm,0.8s
BVAR Borovoye Array 70.43 322 LR LR 18 47 13.8
comp=Z,533nm,18.9s,baz=88,slow=37
BRVK Borovoye 70.50 322 *e*P **P** 18 14 57.8 -0.3
comp=Z,20nm,0.9s
BRVK LR LR
comp=Z,352nm,21.0s
BRVK Borovoye 70.50 322 *d i* P **P** 18 14 57.9 -0.1
BRVK Borovoye 70.50 322 P **P** 18 14 58.0 -0.1
SNR=11
BRVK P **P** 18 14 58.0 -0.1
SNR=11
KBL Kabul 70.79 302 *e*P **P** 18 15 00.1 -0.4
comp=Z,38nm,1.0s
KBL Kabul 70.79 302 *e*P **P** 18 15 00.1 -0.4
KBL pmax pmax
comp=Z,38nm,1.0s
RIDG Independ'e Rid 70.82 26 *e*P **P** 18 14 59.8 0.0
comp=Z,51nm,1.3s
PRP Porcupine Dome 70.91 25 *e*P **P** 18 14 58.7 -1.7
comp=Z,5.5nm,1.0s
BHJ Bhuj 70.97 291 *e*P **P** 18 15 00.1 -1.4
DOT Dot Lake 71.14 27 *e*P **P** 18 15 01.9 +0.1
comp=Z,24nm,0.6s
MENT Mentasta 71.17 27 *e*P **P** 18 15 01.9 0.0
comp=Z,11nm,0.7s
TGL Tana Glacier 71.22 30 *e*P **P** 18 15 02.5 +0.1
SCRK Sand Creek 71.24 26 *e*P **P** 18 15 02.2 -0.2
comp=Z,56nm,1.6s
FYU Fort Yukon 71.26 24 *e*P **P** 18 15 03.3 +0.9
comp=Z,125nm,1.4s
PPT Papeete 72.00 113 LR LR 18 39 50.3
comp=Z,394nm,18.7s,baz=296,slow=30
PPT2 Papeete2 72.01 113 *e*S **S** 18 24 28.6 +0.3
comp=Z,559nm,23.2s
PPT2 Papeete2 72.01 113 *e*LR LR 18 36 55.2
comp=Z,569nm,22.2s
EGAK Eagle 72.58 26 *e*P **P** 18 15 11.1 +0.8
comp=Z,135nm,1.9s
EGAK LR LR
comp=Z,466nm,19.0s
DAWY Dawson 73.25 27 *e*P **P** 18 15 15.1 +0.7
comp=Z,72nm,1.6s
HYT Haines Junctio 73.83 30 *e*P **P** 18 15 18.5 +0.5
comp=Z,33nm,0.9s
EPYK Eagle Plains 74.60 24 *e*P **P** 18 15 23.0 +0.7
comp=Z,46nm,1.0s
EPYK Eagle Plains 74.60 24 P **P** 18 15 21.4 -0.8
baz=265,SNR=20
SKAG Skagway 74.85 31 *e*P **P** 18 15 24.9 +1.2
comp=Z,133nm,1.8s
WHY Whitehorse 75.11 30 *e*P **P** 18 15 26.3 +1.0
comp=Z,151nm,1.8s
INK Inuvik 75.96 22 *e*P **P** 18 15 29.8 -0.1
comp=Z,46nm,1.0s
INK Inuvik 75.96 22 *e*P **P** 18 15 29.8 -0.1
INK pmax pmax
comp=Z,46nm,1.0s
SVE Sverdlovsk 76.20 326 *de*P **P** 18 15 32.2 +0.6
SVE pmax pmax
comp=Z,47nm,1.3s
SVE MLR MLR
comp=Z,387nm,16.0s
WRAK Wrangell Islan 76.44 35 *e*P **P** 18 15 34.4 +1.5
comp=Z,44nm,1.1s
DIB Dawson Inlet, 76.47 38 *e*P **P** 18 15 33.8 +0.6
comp=Z,57nm,0.9s
AB31 Akbulak array 76.94 318 *i* P **P** 18 15 35.0 -0.9
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 76.94 318 *e*P **P** 18 15 35.2 -0.7
comp=Z,14nm,0.8s
ARU Arti 77.36 325 *e*P **P** 18 15 37.5 -0.7
comp=Z,27nm,0.7s
ARU LR LR
comp=Z,252nm,22.0s
ARU Arti 77.36 325 *d i* P **P** 18 15 37.6 -0.5
ARU pmax pmax
comp=Z,55nm,1.3s
DLBC Dease Lake 77.61 32 *e*P **P** 18 15 40.7 +1.1
AKTO Aktyubinsk 78.10 319 P **P** 18 15 40.9 -1.5
AKTO pmax pmax
comp=Z,10.0nm,0.7s
TAOE Nuku Hiva Isla 78.29 102 *e*LR LR 18 39 52.8
comp=Z,822nm,26.7s
BBB Bella Bella 79.20 39 *e*P **P** 18 15 49.5 +1.2
comp=Z,55nm,1.3s
GEYT Alibeck 79.33 307 P **P** 18 15 49.8 +0.4
comp=Z,18nm,0.9s,baz=53,slow=0.7,SNR=26
GYA0B ALIBECK ARRAY 79.33 307 *e*P **P** 18 15 49.0 -0.4
comp=Z,35nm,1.0s
WSAR Wadi Sarin 81.02 292 P **P** 18 15 58.8 0.0
comp=Z,8.2nm,0.9s,baz=111,slow=4.6,SNR=7.3
BIDO Bidbid 81.43 292 P **P** 18 16 01.1 +0.2
SNR=15
MHTO MHTO 82.01 290 P **P** 18 16 03.9 -0.1
SNR=15
KIRV Kirov 82.02 328 LR LR 18 54 19.4
comp=Z,319nm,20.1s,baz=130,slow=37
HOQ Hoqain 82.16 292 P **P** 18 16 06.4 +1.5
SNR=6.5
NLWA Neilton Lookou 82.58 43 *e*P **P** 18 16 07.7 +1.1
comp=Z,78nm,1.2s
NLWA LR LR
comp=Z,410nm,20.0s
PGC Sidney 82.64 42 *e*P **P** 18 16 08.4 +1.6
SOHO SOHO 82.76 293 P **P** 18 16 07.9 -0.1
SNR=11
SOHO P **P** 18 16 07.9 -0.1
SNR=11
SHME Shamm 82.78 295 P **P** 18 16 08.1 0.0
MSFE Esma-Masafi 82.88 294 *i* P **P** 18 16 09.6 +1.0
SNR=15
HATD Hatta, Dubai 83.00 294 *i* P **P** 18 16 09.6 +0.4
SNR=11
HATD Hatta, Dubai 83.00 294 P **P** 18 16 10.3 +1.1
SNR=6.6
HATD P **P** 18 16 10.3 +1.1
SNR=6.6
F03A Seaside 83.05 45 *e*P **P** 18 16 10.4 +1.4
comp=Z,116nm,1.2s
D03D Eldon 83.08 43 P **P** 18 16 08.7 -0.5
baz=281,SNR=25
ASHO Ashiyiah 83.09 294 *i* P **P** 18 16 10.0 +0.2
SNR=16
ASHO Ashiyiah 83.09 294 P **P** 18 16 09.3 -0.4
SNR=7.9
A04D Lummi Island 83.11 42 P **P** 18 16 08.3 -0.9
baz=281
I02D Swisshome 83.18 46 P **P** 18 16 08.4 -1.2
baz=280
PRGR Permogore 83.26 332 ⇓ *i* P **P** 18 16 09.4 -0.3
PRGR *e**PP **sP** 18 16 17.9 -1.3
PRGR *e**SP **pwP** 18 16 23.9 +1.5
PRGR *i* 18 21 18.6
PRGR *e*S **S** 18 26 22.3 -6.1
PRGR pmax pmax
comp=Z,61nm,0.8s
J01E Myrtle Point 83.28 47 P **P** 18 16 08.9 -1.4
baz=280
LLLB Lillooet 83.29 40 *e*P **P** 18 16 11.6 +1.4
comp=Z,41nm,1.1s
D04E Lakebay 83.36 43 P **P** 18 16 08.6 -2.0
baz=281
G03D McMinnville, O 83.38 45 P **P** 18 16 09.6 -1.1
baz=281
F04D Rainier, OR 83.40 44 P **P** 18 16 09.8 -1.0
baz=281
ALNE Al Ain 83.48 293 *i* P **P** 18 16 12.0 +0.3
SNR=12
FAQ Al Faqa, Dubai 83.50 294 P **P** 18 16 11.6 -0.2
K02D Willamette Mer 83.56 48 P **P** 18 16 10.9 -0.9
baz=281
KRMB Red Mountain 83.60 49 *e*P **P** 18 16 13.7 +1.6
B05A Bryant 83.60 42 P **P** 18 16 11.0 -0.8
baz=281,SNR=8.9
I03D Drain, OR 83.60 47 P **P** 18 16 11.5 -0.3
baz=281,SNR=6.0
E04D Cinebar 83.61 44 P **P** 18 16 11.0 -0.9
baz=281
L02E Cave Junction 83.71 48 P **P** 18 16 12.1 -0.4
baz=281,SNR=6.0
ASUD Al Ashush, Dub 83.76 294 P **P** 18 16 13.5 +0.4
KHMM Horse Mountain 83.85 50 *e*P **P** 18 16 15.4 +1.9
comp=Z,29nm,0.8s
D05A Emmclaw 83.88 43 *e*P **P** 18 16 14.3 +1.0
comp=Z,42nm,1.1s
H04D Lebanon 83.88 46 P **P** 18 16 12.6 -0.7
baz=281,SNR=6.3
B06A Marblemount 83.95 42 *e*P **P** 18 16 15.1 +1.6
comp=Z,47nm,1.0s
LON Longmire 84.09 44 *e*P **P** 18 16 15.1 +0.7
comp=Z,14nm,1.0s
LON Longmire 84.09 44 *e*P **P** 18 16 15.1 +0.7
LON pmax pmax
comp=Z,15nm,1.0s
HUMO Hull Mountain 84.09 48 *e*P **P** 18 16 16.3 +1.8
comp=Z,47nm,1.3s
KCPM Cahto Peak 84.19 51 *e*P **P** 18 16 17.4 +2.2
comp=Z,139nm,1.6s
H04A Detroit Lake 84.24 46 *e*P **P** 18 16 16.1 +0.9
comp=Z,37nm,1.0s
I04A Tendick Farm, 84.25 47 P **P** 18 16 14.8 -0.5
baz=281,SNR=15
M02C Callahan 84.40 49 P **P** 18 16 15.6 -0.5
baz=281,SNR=17
YBH Yreka Blue Hor 84.44 49 *e*P **P** 18 16 18.4 +2.0
comp=Z,75nm,1.4s
YBH Yreka Blue Hor 84.44 49 *e*P **P** 18 16 18.4 +2.0
YBH pmax pmax
comp=Z,75nm,1.4s
YKW3 Yellowknife Ar 84.45 27 *e*P **P** 18 16 16.2 +0.4
comp=Z,52nm,1.1s
C06D Leavenworth 84.46 42 P **P** 18 16 15.3 -0.9
baz=282
YKA Yellowknife Ar 84.47 27 P **P** 18 16 16.5 +0.6
comp=Z,21nm,0.7s,baz=286,slow=5.1,SNR=253
YKA LR LR 18 52 03.7
comp=Z,44nm,21.2s,baz=284,slow=34
YKB5 Yellowknife Ar 84.47 27 *e*P **P** 18 16 15.7 -0.2
F05D White Salmon 84.50 44 P **P** 18 16 15.6 -0.8
baz=282
J04D Umpqua Nationa 84.58 47 P **P** 18 16 16.0 -1.1
baz=282
N02D Trinity Center 84.59 49 P **P** 18 16 16.4 -0.7
baz=282,SNR=17
L04D Klamath Falls 84.64 48 P **P** 18 16 16.9 -0.5
baz=282,SNR=10.0
O02D Mt. Diablo Mer 84.69 50 P **P** 18 16 17.3 -0.3
baz=282
HOPS Hopland Field 84.71 51 *e*P **P** 18 16 19.4 +1.8
comp=Z,41nm,1.3s
G05D Wamic, OR 84.73 45 P **P** 18 16 17.5 -0.2
baz=282
LTY Liberty 84.75 43 *e*P **P** 18 16 17.5 -0.3
comp=Z,27nm,0.9s
WDC Whiskeytown Da 84.80 50 *e*P **P** 18 16 19.4 +1.4
comp=Z,82nm,1.8s
WDC Whiskeytown Da 84.80 50 *e*P **P** 18 16 19.4 +1.4
WDC pmax pmax
comp=Z,82nm,1.8s
I05D Terrebonne, OR 84.90 46 P **P** 18 16 18.0 -0.6
baz=282
GDXM Geysers 84.96 52 *e*P **P** 18 16 20.5 +1.5
comp=Z,30nm,1.3s
K04D Chiloquin, OR 84.96 48 P **P** 18 16 18.0 -1.0
baz=282
M04C Macdoel 85.07 48 P **P** 18 16 19.3 -0.3
baz=282,SNR=15
J05D Fort Rock, OR 85.19 47 P **P** 18 16 20.5 +0.3
baz=282,SNR=24
G06A Carlson Farm, 85.20 45 *e*P **P** 18 16 21.3 +1.2
comp=Z,23nm,1.3s
PINE Pine Mountain 85.30 46 *e*P **P** 18 16 22.1 +1.4
comp=Z,63nm,1.1s
B08A Colville Reser 85.38 42 *e*P **P** 18 16 21.6 +0.7
comp=Z,72nm,1.0s
O03E Paynes Creek 85.41 50 P **P** 18 16 20.6 -0.6
baz=282,SNR=14
KBS Kingsbay 85.41 352 PFAKE 18 16 30.0 +10
KBS LR LR
comp=Z,232nm,20.0s
DMTO DMTO 85.41 287 P **P** 18 16 21.2 -0.3
SNR=11
DMTO P **P** 18 16 21.2 -0.3
SNR=11
E07A Sunnyside 85.44 43 *e*P **P** 18 16 22.6 +1.4
comp=Z,46nm,1.2s
F07A Phinny Hill Vi 85.54 44 *e*P **P** 18 16 23.0 +1.3
comp=Z,43nm,1.4s
K05A Summer Lake 85.56 47 *e*P **P** 18 16 22.4 +0.3
comp=Z,78nm,1.5s
HAWA Hanford 85.70 44 *e*P **P** 18 16 23.3 +0.9
comp=Z,36nm,1.1s
ORV Oroville 85.79 51 *e*P **P** 18 16 23.4 +0.4
comp=Z,38nm,1.4s
ORV Oroville 85.79 51 *e*P **P** 18 16 23.4 +0.4
ORV pmax pmax
comp=Z,38nm,1.4s
LVZ Lovozero 85.84 339 PFAKE 18 16 30.0 +7.3
LVZ LR LR
comp=Z,139nm,19.0s
LVZ Lovozero 85.84 339 ⇓ *e*P **P** 18 16 22.5 -0.2
LVZ pmax pmax
comp=Z,51nm,1.7s
TMCR Tamitsa 85.88 335 *e*P **P** 18 16 21.7 -1.2
TMCR pmax pmax
comp=Z,23nm,0.8s
D08A Wollman Farm, 85.95 43 *e*P **P** 18 16 24.2 +0.5
comp=Z,72nm,1.3s
RES Resolute Bay 86.07 13 *e*P **P** 18 16 24.6 +0.9
RES Resolute Bay 86.07 13 *e*P **P** 18 16 24.6 +0.9
RBK Rabkut 86.15 287 P **P** 18 16 25.4 +0.1
SNR=5.9

MOD **Modoc Plateau** 86.17 48 *e*P P 18 16 25.8 +0.7
comp=Z,44nm,1.4s
C09A **Chrisman Ranch** 86.20 42 *e*P P 18 16 25.8 +0.9
comp=Z,56nm,0.9s
I07A **Izee** 86.24 46 *e*P P 18 16 26.6 +1.2
comp=Z,22nm,1.4s
KLMR **Klimovskoe** 86.31 332 *e*P P 18 16 22.2 -2.9
KLMR pmax pmax
comp=Z,28nm,1.4s
KLMR **Klimovskoe** 86.31 332 *e*P P 18 16 22.2 -2.9
KLMR AMP 18 16 25.0
comp=Z,28nm,1.4s
AFDM **Forest Hills D** 86.32 51 *e*P P 18 16 27.2 +1.4
comp=Z,38nm,1.5s
G08A **Pilot Rock** 86.34 45 *e*P P 18 16 27.1 +1.3
comp=Z,33nm,1.4s
APA **Apatity** 86.40 339⇑ *i*P P 18 16 24.1 -1.3
APA pmax pmax
comp=Z,9.0nm,1.0s
APA MLR MLR
comp=Z,900nm,15.0s
E09A **Wood Farm, Sta** 86.60 43 *e*P P 18 16 28.3 +1.4
comp=Z,60nm,1.1s
NEW **Newport** 86.84 41 *e*P P 18 16 29.3 +1.2
comp=Z,77nm,0.9s
NEW LR LR
comp=Z,542nm,21.0s
NEW **Newport** 86.84 41 *e*P P 18 16 29.3 +1.2
NEW pmax pmax
comp=Z,77nm,0.9s
NEW MLR MLR
comp=Z,542nm,21.0s
NEW **Newport** 86.84 41 P P 18 16 27.7 -0.3
baz=285
CMB **Columbia Colle** 86.97 52 *e*P P 18 16 30.1 +1.2
comp=Z,59nm,1.8s
CMB **Columbia Colle** 86.97 52 *e*P P 18 16 30.2 +1.2
CMB pmax pmax
comp=Z,59nm,1.8s
ABTO **Aybut** 87.03 287 P P 18 16 30.4 +0.8
SNR=12
WVOR **Wild Horse Val** 87.25 47 PFAKE 18 16 40.0 +10
WVOR LR LR
comp=Z,706nm,19.0s
PNTR **Pine Nut** 87.33 51 *e*P P 18 16 32.0 +1.1
comp=Z,75nm,1.6s
PAHR **Pah Rah Range** 87.35 50 *e*P P 18 16 31.8 +1.0
comp=Z,36nm,1.3s
F10A **Beach Ranch, E** 87.35 44 *e*P P 18 16 31.2 +0.5
comp=Z,43nm,1.2s
KEV **Kevo** 87.53 342 PFAKE 18 16 40.0 +9.1
KEV LR LR
comp=Z,853nm,20.0s
BMO **Blue Mountains** 87.58 45 *e*P P 18 16 33.0 +1.1
comp=Z,95nm,1.4s
BMO LR LR
comp=Z,629nm,22.0s
BMO **Blue Mountains** 87.58 45 *e*P P 18 16 33.0 +1.1
BMO pmax pmax
comp=Z,95nm,1.4s
BMO MLR MLR
comp=Z,629nm,22.0s
WAKR **Walker** 87.59 51 *e*P P 18 16 33.0 +0.9
comp=Z,27nm,1.3s
PAGB **Antelope Grade** 87.60 54 *e*P P 18 16 33.2 +1.2
comp=Z,38nm,1.1s
YERR **Yerington** 87.62 51 *e*P P 18 16 34.0 +1.7
comp=Z,62nm,1.5s
SMMC **Simmler** 87.90 54 P P 18 16 32.7 -0.7
baz=284
MDPB **Devils Postpil** 88.07 52 *e*P P 18 16 35.9 +1.3
comp=Z,52nm,1.7s
VRH **Novokhopyorsk** 88.08 322 *e*P P 18 16 31.7 -2.2
VRH pmax pmax
comp=Z,30nm,1.0s
ARA0 **ARCESS Array S** 88.09 342 *e*P P 18 16 33.7 +0.1
ARCES **ARCESS Array B** 88.09 342 P P 18 16 33.7 +0.1
comp=Z,5.2nm,0.5s,baz=71,slow=7.1,SNR=42
OMMB **Old Mammoth Mi** 88.14 52 *e*P P 18 16 36.4 +1.5
comp=Z,42nm,1.6s
PKM **Mcpherson Peak** 88.14 55 P P 18 16 34.1 -0.7
baz=284,SNR=14
VOG **Valley Oaks Go** 88.15 53 P P 18 16 33.9 -0.7
baz=284
RYN **Ryan** 88.25 51 *e*P P 18 16 36.2 +0.9
comp=Z,60nm,1.7s
MLAC **Mammoth, Mammo** 88.26 52 P P 18 16 34.7 -0.7
baz=284
SBC **Santa Barbara** 88.33 55 P P 18 16 34.6 -0.8
baz=284
KVN **Kaiserville** 88.47 50 *e*P P 18 16 37.7 +1.4
comp=Z,66nm,1.5s
KVN **Kaiserville** 88.47 50 *e*P P 18 16 37.7 +1.4
KVN pmax pmax
comp=Z,66nm,1.5s
NV01 **Mina Array Sit** 88.47 51 *e*P P 18 16 37.9 +1.5
NVAR **Mina Array Bea** 88.47 51 P P 18 16 38.1 +1.8
comp=Z,9.7nm,0.6s,baz=260,slow=5.9,SNR=70
SCZ2 **Santa Cruz Isl** 88.49 56 P P 18 16 36.1 -0.2
baz=284
VES **Vestal, Richgr** 88.49 54 P P 18 16 36.0 -0.2
baz=284
NV11 **Mina Array Sit** 88.58 51 *e*P P 18 16 38.0 +1.2
comp=Z,4.0nm,1.5s
WALA **Waterton Lakes** 88.67 40 *e*P P 18 16 38.6 +1.7
comp=Z,41nm,1.1s
SNCC **San Nicolas Is** 88.76 56 *e*P P 18 16 37.8 +0.2
comp=Z,34nm,1.3s
SNCC **San Nicolas Is** 88.76 56 P P 18 16 37.4 -0.2
baz=284
BMN **Battle Mountai** 88.78 49 *e*P P 18 16 38.9 +1.2
comp=Z,53nm,1.5s
BMN **Battle Mountai** 88.78 49 *e*P P 18 16 38.9 +1.2
BMN pmax pmax
comp=Z,53nm,1.5s
TIN **Tinemaha, Big** 88.87 52 P P 18 16 36.9 -1.2
baz=284
ARVC **Arvin** 88.87 54 P P 18 16 38.0 0.0
baz=284
BLG **Laguna Peak, P** 88.92 55 P P 18 16 38.4 0.0
baz=284
MOS **Moscow** 88.95 327 *e*P P 18 16 35.9 -2.0
MOS *e* 18 20 07.2
MOS pmax pmax
comp=Z,60nm,1.0s
ISA **Isabella, Lake** 89.02 54 *e*P P 18 16 39.9 +1.1
comp=Z,11nm,1.1s
ISA **Isabella, Lake** 89.02 54 P P 18 16 39.6 +0.8
baz=284
ZEI **Tsey** 89.03 314 *e*P P 18 16 36.8 -2.0
ZEI pmax pmax
comp=Z,8.0nm,0.8s
NCK **Nalchik** 89.05 314⇑ *e*P P 18 16 38.1 -0.6
NCK pmax pmax
comp=Z,25nm,1.4s
OSI **Osito Audit: C** 89.08 55 P P 18 16 39.6 +0.6
baz=284
GNI **Garni** 89.12 311 LR LR 19 02 20.9
comp=Z,138nm,18.4s,baz=73,slow=40
CWC **Cottonwood Cre** 89.14 53 P P 18 16 40.2 +0.8
baz=285
LPSR **Galich'ya Gora** 89.29 324 *e*P P 18 16 37.9 -1.7
LPSR pmax pmax
comp=Z,30nm,1.2s
MSO **Missoula** 89.31 42 P P 18 16 40.4 +0.4
baz=287
TULEG **Thule** 89.31 7 *e*P P 18 16 38.6 -0.6
comp=Z,23nm,1.3s
KBZ **Khabaz** 89.47 315 P P 18 16 39.8 -0.8
comp=Z,2.7nm,0.8s,baz=127,slow=8.0,SNR=8.1
DECC **Green Verdugo** 89.48 55 P P 18 16 40.9 0.0
baz=284
MSEY **Mahe Island** 89.48 265 PFAKE 18 16 50.0 +8.7
MSEY LR LR
comp=Z,465nm,21.0s
KVAR **Kislovodsk Arr** 89.55 315 LR LR 19 02 00.1
comp=Z,196nm,18.4s,baz=254,slow=39
DAC **Darwin (Calif)** 89.56 53 *e*P P 18 16 42.3 +0.8
comp=Z,20nm,1.2s
EDW2 **Edwards Air Fo** 89.59 54 P P 18 16 42.2 +0.7
baz=285,SNR=6.3
VSR **Storozhevoye** 89.61 323 *e*P P 18 16 38.9 -2.2
VSR pmax pmax
comp=Z,30nm,1.1s
SCI2 **San Clemente I** 89.62 56 P P 18 16 42.2 +0.6
baz=284
CIS **Catalina Islan** 89.62 56 P P 18 16 42.7 +1.0
baz=284
LRMC **Laurel Mtn Rad** 89.69 54 P P 18 16 43.4 +1.4
baz=285,SNR=12
MPMC **Manual Prospec** 89.69 53 P P 18 16 42.4 +0.2
baz=285,SNR=34
MWC **Mount Wilson** 89.71 55 *e*P P 18 16 42.1 -0.1
comp=Z,37nm,1.3s
MWC **Mount Wilson** 89.71 55 *e*P P 18 16 42.1 -0.1
MWC pmax pmax
comp=Z,37nm,1.3s
NEY **Neytrino** 89.73 314⇓ *e*P P 18 16 41.3 -0.8
NEY pmax pmax
comp=Z,1.0nm,0.8s
OBN **Obninsk** 89.74 327 *e*P P 18 16 40.1 -1.5
comp=Z,70nm,1.2s
OBN **Obninsk** 89.74 327⇑ *e*P P 18 16 40.7 -0.9
OBN *e* 18 20 13.6
OBN pmax pmax
comp=Z,61nm,1.3s
OBN MLR MLR
comp=Z,434nm,17.0s
OBN **Obninsk** 89.74 327 LR LR 19 00 32.5
comp=Z,81nm,18.0s,baz=2.5,slow=38
HLID **Hailey** 89.94 45 *e*P P 18 16 44.6 +1.5
comp=Z,30nm,1.4s
HLID LR LR
comp=Z,620nm,19.0s
HLID **Hailey** 89.94 45 P P 18 16 44.3 +1.3
baz=287,SNR=19
BFSC **Mount Baldy Ra** 90.02 55 P P 18 16 44.4 +0.8
baz=285
FURC **Furnace Creek,** 90.08 53 P P 18 16 44.5 +0.9
baz=285
ELK **Elko** 90.15 48 *e*P P 18 16 45.9 +1.7
comp=Z,47nm,1.4s
ELK **Elko** 90.15 48 *e*P P 18 16 45.9 +1.7
ELK pmax pmax
comp=Z,47nm,1.4s
VNDA **Vanda** 90.18 176 *e*P P 18 16 43.2 +0.1
VNDA *e*PcP P 18 16 43.3 +0.2
VNDA **Vanda** 90.18 176 *e*P P 18 16 43.2 +0.2
VNDA **Vanda** 90.18 176 P P 18 16 42.6 -0.5
comp=Z,4.6nm,1.1s,baz=321,slow=6.3,SNR=14
VNDA LR LR 18 57 36.5
comp=Z,214nm,18.4s,baz=358,slow=36
KARS **Kars** 90.21 312 *e*P P 18 16 44.2 -0.2
RRX **Edison Barstow** 90.39 54 P P 18 16 45.7 +0.6
baz=285
TPNV **Topopah Spring** 90.42 52 *e*P P 18 16 46.5 +1.0
comp=Z,15nm,0.9s
TPNV **Topopah Spring** 90.42 52 *e*P P 18 16 46.5 +1.0
TPNV pmax pmax
comp=Z,15nm,0.9s
TPNV **Topopah Spring** 90.42 52 P P 18 16 46.2 +0.8
baz=286,SNR=20
GSC **Goldstone, Bar** 90.43 54 *e*P P 18 16 46.8 +1.4
comp=Z,37nm,1.3s
GSC **Goldstone, Bar** 90.43 54 *e*P P 18 16 46.8 +1.4
GSC pmax pmax
comp=Z,37nm,1.3s
GSC **Goldstone, Bar** 90.43 54 P P 18 16 46.8 +1.4
baz=285,SNR=21
R11A **Troy Canyon, C** 90.55 51 *e*P P 18 16 47.6 +1.6
comp=Z,30nm,1.4s
R11A **Troy Canyon, C** 90.55 51 P P 18 16 46.6 +0.5
baz=286,SNR=20
MURC **Murrieta** 90.56 56 P P 18 16 46.0 0.0
baz=285
DAG **Danmarks Havn** 90.57 356 *i* P P 18 16 45.1 0.0
DAG **Danmarks Havn** 90.57 356 *e*P P 18 16 45.1 0.0
LRM **Limekiln Ridge** 90.59 43 *e*P P 18 16 46.5 +0.3
MCMT **McKenzie Canyo** 90.63 44 *e*P P 18 16 46.5 +0.1
DLMT **Dillon** 90.64 43 *e*P P 18 16 47.6 +1.3
comp=Z,22nm,1.3s
SHOC **Shoshone, Teco** 90.69 53 P P 18 16 47.6 +1.0
baz=286
HRY **Holter Researc** 90.72 42 *e*P P 18 16 47.4 +0.9
109C **Camp Elliot, M** 90.82 56 P P 18 16 47.6 +0.4
baz=285
SBA **Scott Base** 90.85 175 *e*P P 18 16 47.6 +1.4
comp=Z,43nm,1.6s
SBA **Scott Base** 90.85 175 *e*P P 18 16 47.6 +1.4
SBA pmax pmax
comp=Z,43nm,1.6s
HEC **Hector,Ludlow** 90.92 54 P P 18 16 48.9 +1.2
baz=286
PUL **Pulkovo** 90.96 332⇓ *e*P P 18 16 48.2 +1.0
PUL pmax pmax
comp=Z,55nm,0.7s
TUQ **Turquoise Moun** 91.09 54 P P 18 16 49.2 +0.7
baz=286,SNR=23
PFO **Pinyon Flats O** 91.15 55 *e*P P 18 16 49.8 +0.9
comp=Z,26nm,1.3s
PFO LR LR
comp=Z,591nm,21.0s
PFO **Pinyon Flats O** 91.15 55 *e*P P 18 16 49.8 +0.9
PFO pmax pmax
comp=Z,25nm,1.3s
PFO MLR MLR
comp=Z,591nm,21.0s
PFO **Pinyon Flats O** 91.15 55 P P 18 16 49.4 +0.5
baz=286,SNR=6.2
XPFO **Pion Flat** 91.15 55 *e*P P 18 16 49.6 +0.7
comp=Z,27nm,1.3s
BOZ **Bozeman (W)** 91.21 43 *e*P P 18 16 49.9 +1.0
comp=Z,23nm,1.3s
BOZ LR LR
comp=Z,231nm,19.0s
BOZ **Bozeman (W)** 91.21 43 *e*P P 18 16 49.9 +1.0
BOZ pmax pmax
comp=Z,23nm,1.3s
BOZ MLR MLR
comp=Z,231nm,19.0s
BOZ **Bozeman (W)** 91.21 43 P P 18 16 49.1 +0.2
baz=289,SNR=15
BAR **Barrett** 91.22 56 *e*P P 18 16 48.2 -0.9
comp=Z,38nm,1.5s
MONP2 **Monument Peak** 91.37 56 P P 18 16 49.6 -0.4
baz=286,SNR=15
SHPR **Sheep Range** 91.39 52 *e*P P 18 16 51.5 +1.6
comp=Z,27nm,1.3s
BELC **Belle Mtn. Jos** 91.42 55 P P 18 16 50.6 +0.5
baz=286,SNR=13
GMRC **Granite Mounta** 91.47 54 P P 18 16 51.0 +0.6
baz=286,SNR=18
SIRT **Sirnak** 91.57 309 *e*P P 18 16 49.7 -1.0
comp=Z,34nm,0.8s
QLMT **Earthquake Lak** 91.59 44 *e*P P 18 16 52.1 +1.4
EGMT **Eagleton** 91.62 40 *e*P P 18 16 52.0 +1.3
comp=Z,26nm,1.3s
EGMT LR LR
comp=Z,643nm,20.0s
EGMT **Eagleton** 91.62 40 P P 18 16 50.2 -0.4
baz=290,SNR=5.0
HVU **Hansel Valley** 91.62 47 *e*P P 18 16 52.6 +1.7
comp=Z,14nm,1.1s
IKP **In-Ko-Pah, Jac** 91.69 56 P P 18 16 51.8 +0.5
baz=286
BGU **Big Grassy Mou** 91.70 48 *e*P P 18 16 52.5 +1.2
comp=Z,4.4nm,1.0s
SOC **Sochi** 91.72 315 *e*P P 18 16 50.3 -0.8
SOC *e* 18 20 27.3
SOC *e*PPP PPP 18 22 32.0
SOC *e*S **SKSac** **18 27 19.0 -3.4**
SOC *e*SSS SSS 18 37 32.0
SOC pmax pmax
comp=Z,8.0nm,0.7s
SOC MLR MLR
comp=Z,133nm,14.0s
YHB **Horse Butte** 91.78 44 *e*P P 18 16 54.0 +2.3
comp=Z,42nm,1.3s
PSUT **Pine Spring** 91.80 50 *e*P P 18 16 51.9 0.0
comp=Z,20nm,1.3s
LDFC **Landfair** 91.83 54 *e*P P 18 16 53.2 +1.3
comp=Z,97nm,1.4s
SWSC **Sam W. Stewart** 91.86 56 P P 18 16 52.3 +0.4
baz=286
BC3 **Big Chuckawall** 91.94 55 P P 18 16 52.6 +0.1
baz=286,SNR=19
YMR **Madison River** 91.96 44 *e*P P 18 16 52.2 -0.3
comp=Z,34nm,1.1s
YHH **Holmes Hill** 92.00 43 *e*P P 18 16 54.2 +1.4
comp=Z,32nm,1.2s
SPUT **South Promonto** 92.00 47 *e*P P 18 16 53.0 +0.3
comp=Z,15nm,1.3s
FIA1 **FINESS Array S** 92.00 335 *e*P P 18 16 49.8 -2.2
comp=Z,27nm,0.7s
FIA0 **FINESS Array S** 92.00 335 *e*P P 18 16 50.5 -1.5
FIA0 *e*PKKPdf **PKKPdf** 18 34 08.4 +1.1
FIA0 **FINESS Array S** 92.00 335 *e*P P 18 16 50.5 -1.5
FIA0 *e* 18 34 08.5
FINES **FINESS Array B** 92.00 335 P P 18 16 50.5 -1.5
comp=Z,20nm,0.6s,baz=70,slow=4.8,SNR=151
FINES PKKPbc **PKKPdf** 18 34 08.4 +1.1
comp=Z,0.7nm,0.8s,baz=199,slow=5.2,SNR=3.8
IRM **Iron Mountain** 92.05 55 P P 18 16 53.8 +0.9
baz=286,SNR=18
DUG **Dugway, Tooele** 92.08 48 *e*P P 18 16 54.3 +1.2
comp=Z,27nm,1.5s
DUG LR LR
comp=Z,511nm,20.0s
DUG **Dugway, Tooele** 92.08 48 *e*P P 18 16 54.3 +1.2
DUG pmax pmax
comp=Z,27nm,1.5s
DUG MLR MLR
comp=Z,511nm,20.0s
DUG **Dugway, Tooele** 92.08 48 P P 18 16 54.0 +1.0
baz=288,SNR=11
YFT **Old Faithful** 92.12 44 *e*P P 18 16 55.7 +2.4
comp=Z,37nm,1.4s
YNR **Norris Junctio** 92.13 43 *e*P P 18 16 55.5 +2.1
comp=Z,63nm,1.2s
YPP **Pitchstone Pla** 92.20 44 *e*P P 18 16 55.9 +2.2
comp=Z,12nm,1.2s
IMW **Indian Meadow** 92.23 44 *e*P P 18 16 55.2 +1.4
comp=Z,8.2nm,0.8s
FXWY **Fox Creek** 92.25 45 *e*P P 18 16 54.8 +0.9
comp=Z,13nm,1.3s
NEE2 **Needles Airpor** 92.30 54 P P 18 16 54.0 0.0
baz=287
H17A **Grant Village** 92.31 44 *e*P P 18 16 56.3 +2.1
comp=Z,41nm,1.3s
H17A **Grant Village** 92.31 44 P P 18 16 54.8 +0.7
baz=290,SNR=20
FLWY **Flagg Ranch** 92.33 44 *e*P P 18 16 55.9 +1.6
comp=Z,51nm,1.5s
TPAW **Teton Pass** 92.35 45 *e*P P 18 16 55.7 +1.3
comp=Z,14nm,1.2s
LKWY **Lake** 92.37 44 *e*P P 18 16 57.2 +2.8
comp=Z,37nm,1.4s
LKWY LR LR
comp=Z,622nm,20.0s
MOOW **Moose Ponds** 92.41 44 *e*P P 18 16 55.8 +1.2
comp=Z,6.1nm,1.0s
GCMT **Greycliff** 92.44 42 *e*P P 18 16 56.0 +1.3
REDW **Red Top Meadow** 92.46 45 *e*P P 18 16 56.3 +1.5
comp=Z,11nm,1.1s
CCUT **Cedar City** 92.47 51 *e*P P 18 16 56.1 +1.1
comp=Z,13nm,1.2s
AHID **Auburn Hatcher** 92.49 45 PFAKE 18 17 10.0 +15
AHID LR LR
comp=Z,589nm,21.0s
HWUT **Hardware Ranch** 92.53 47 *e*P P 18 16 59.9 +4.7
comp=Z,15nm,1.3s
HWUT LR LR
comp=Z,569nm,22.0s
LOHW **Long Hollow** 92.55 44 *e*P P 18 16 56.5 +1.2
comp=Z,6.0nm,1.0s
GLA **Glamis** 92.62 56 *e*P P 18 16 57.2 +1.7
comp=Z,67nm,1.7s
GLA **Glamis** 92.62 56 *e*P P 18 16 57.2 +1.7
GLA pmax pmax
comp=Z,67nm,1.7s
GLA **Glamis** 92.62 56 P P 18 16 55.6 0.0
baz=286,SNR=10.0
Y12C **Blythe** 92.66 55 *e*P P 18 16 56.9 +1.2
comp=Z,53nm,1.6s
Y12C **Blythe** 92.66 55 P P 18 16 56.5 +0.8
baz=287
NLU **North Lily Min** 92.69 48 *e*P P 18 16 57.4 +1.4
comp=Z,8.8nm,1.1s
LCMT **Little Creek M** 92.72 51 *e*P P 18 16 58.1 +2.0
comp=Z,21nm,1.6s
W13A **Hualapai Mount** 92.78 53 *e*P P 18 16 58.1 +1.6
comp=Z,19nm,1.4s
ANN **Anapa** 92.86 317 *e*P P 18 16 52.0 -4.3
ANN *e**PP **pP** 18 17 01.8 -1.5
ANN *e*S **SKSac** **18 27 22.2 -6.5**
ANN pmax pmax
comp=Z,52nm,1.2s
JLU **Jordanelle** 92.94 48 *e*P P 18 16 58.0 +0.8
comp=Z,7.4nm,0.9s
RLMT **Red Lodge** 92.94 43 *e*P P 18 16 59.0 +2.0
comp=Z,16nm,0.8s
RLMT **Red Lodge** 92.94 43 P P 18 16 57.4 +0.4
baz=291,SNR=14
KNB **Kanab** 93.04 51 *e*P P 18 16 58.7 +1.1
comp=Z,36nm,1.4s
KNB **Kanab** 93.04 51 *e*P P 18 16 58.7 +1.1
KNB pmax pmax
comp=Z,36nm,1.4s
MSU **Marysvale** 93.06 50 *e*P P 18 16 58.8 +1.1
MSU **Marysvale** 93.06 50 *e*P P 18 16 58.8 +1.1
VSU **Vasula** 93.20 332⇓ *e*P P 18 16 56.5 -1.1
VSU pmax pmax
comp=Z,54nm,1.1s
PKCU **Pink Cliffs** 93.29 51 *e*P P 18 17 01.1 +2.2
comp=Z,23nm,1.3s
FFC **Flin Flon** 93.44 32 *e*P P 18 16 59.0 +0.2
comp=Z,33nm,1.4s
FFC **Flin Flon** 93.44 32 *i* P P 18 17 00.0 +1.2
BW06 **Boulder Array** 93.56 45 PFAKE 18 17 10.0 +10
BW06 LR LR
comp=Z,617nm,21.0s
BW06 **Boulder Array** 93.56 45 P P 18 16 58.6 -1.3
baz=290
PD31 **Pinedale Array** 93.56 45 *e*P P 18 17 00.8 +0.9
comp=Z,9.8nm,1.5s
PDAR **Pinedale Array** 93.56 45 P P 18 17 00.7 +0.8
comp=Z,0.5nm,0.4s,baz=85,slow=1.9,SNR=7.0
PDAR PKKP **PKKPdf** 18 34 01.4 -3.3
comp=Z,0.5nm,0.8s,baz=108,slow=4.8,SNR=4.0
PDAR LR LR 18 52 11.9
comp=Z,308nm,21.8s,baz=306,slow=31
U15A **North Rim** 93.62 52 *e*P P 18 17 01.8 +1.4
comp=Z,14nm,1.2s
SRU **San Rafael Swe** 94.10 49 *e*P P 18 17 03.3 +0.9
comp=Z,6.1nm,1.0s
SRU **San Rafael Swe** 94.10 49 *e*P P 18 17 03.3 +0.9
SRU pmax pmax
comp=Z,6.0nm,1.0s
LAO **LASA Array** 94.34 40 *e*P P 18 17 04.0 +0.8
comp=Z,44nm,0.9s
LAO LR LR
comp=Z,475nm,19.0s
LAO **LASA Array** 94.34 40 P P 18 17 02.6 -0.6
baz=293
214A **Organ Pipe Nat** 94.56 56 P P 18 17 03.6 -0.9
baz=288
WUAZ **Wupatki** 94.61 52 PFAKE 18 17 20.0 +15
WUAZ LR LR
comp=Z,377nm,21.0s
WUAZ **Wupatki** 94.61 52 P P 18 17 04.2 -0.6
baz=289,SNR=5.6
DGMT **Dagmar** 94.89 38 PFAKE 18 17 20.0 +14
DGMT LR LR
comp=Z,861nm,21.0s
DGMT **Dagmar** 94.89 38 P P 18 17 04.9 -0.7
baz=295
X16A **Lo Mia Camp, P** 94.91 53 *e*P P 18 17 06.6 +0.4
comp=Z,13nm,1.6s
O20A **White River Ci** 95.40 47 P P 18 17 07.4 -1.0
AKASG **Malin Array Be** 95.59 325 P P 18 17 07.8 -0.9
comp=Z,1.6nm,0.7s,baz=50,slow=4.1,SNR=4.5
AKASG LR LR 19 03 53.1
comp=Z,193nm,18.3s,baz=45,slow=38
AKBB **Malin Array Si** 95.59 325 *e*P P 18 17 07.5 -1.3
comp=Z,5.5nm,1.0s
AKBB **Malin Array Si** 95.59 325 *e*P P 18 17 07.5 -1.3
AKBB pmax pmax
comp=Z,6.0nm,1.0s
KIEV **Kiev** 95.61 325 PFAKE 18 17 20.0 +11
KIEV LR LR
comp=Z,332nm,20.0s
KIEV **Kiev** 95.61 325⇑ *e*P P 18 17 10.0 +1.2
KIEV pmax pmax
comp=Z,6.0nm,1.1s
AK11 **Malin Array Si** 95.64 325 *e*P P 18 17 06.9 -2.1
K22A **Casper** 95.69 44 P P 18 17 08.1 -1.5
baz=292
W18A **Petrified Fore** 96.01 52 P P 18 17 10.3 -0.9
baz=290
TUC **Tucson** 96.09 55 *e*P P 18 17 12.0 +0.5

	comp=Z,3.9nm,0.9s								
TUC					LR	LR			
	comp=Z,741nm,22.0s								
TUC	**Tucson**	**96.09**	**55**	*e*P	**P**		**18 17 12.0**	**+0.5**	
TUC				pmax	pmax				
	comp=Z,4.0nm,0.9s								
TUC				MLR	MLR				
	comp=Z,741nm,22.0s								
TUC	**Tucson**	**96.09**	**55**	P	**P**		**18 17 11.3**	**-0.3**	
	baz=289								
MVCO	**Mesa Verde**	**96.24**	**50**	*e*P	**P**		**18 17 12.2**	**-0.2**	
	comp=Z,23nm,1.6s								
MVCO				LR	LR				
	comp=Z,430nm,20.0s								
MVCO	**Mesa Verde**	**96.24**	**50**	P	**P**		**18 17 11.8**	**-0.6**	
	baz=290								
SMCO	**Snowmass**	**96.66**	**48**	*e*P	**P**		**18 17 16.2**	**+1.8**	
	comp=Z,3.7nm,0.8s								
N23A	**Red Feather La**	**96.75**	**46**	P	**P**		**18 17 13.0**	**-1.7**	
	baz=293								
RSSD	**Black Hills**	**96.78**	**42**	*e*P	**P**		**18 17 13.6**	**-1.0**	
	comp=Z,10nm,1.2s								
RSSD	**Black Hills**	**96.78**	**42**	*e*P	**P**		**18 17 13.6**	**-1.0**	
RSSD				pmax	pmax				
	comp=Z,10.0nm,1.2s								
RSSD	**Black Hills**	**96.78**	**42**	P	**P**		**18 17 12.7**	**-1.9**	
	baz=294								
S22A	**4UR Ranch, Cre**	**97.29**	**49**	*e*P	P		18 17 22.3	+5.2	
	comp=Z,13nm,1.6s								
S22A	**4UR Ranch, Cre**	**97.29**	**49**	P	**P**		**18 17 15.5**	**-1.7**	
	baz=292								
BR101	**Keskin Array S**	**97.33**	**313**	*e*P	**P**		**18 17 15.5**	**-1.6**	
BR131	**Keskin Array S**	**97.33**	**313**	*e*P	**P**		**18 17 14.8**	**-2.3**	
	comp=Z,3.3nm,0.9s								
BRTR	**Keskin Array B**	**97.33**	**313**	P	**P**		**18 17 15.5**	**-1.6**	
	comp=Z,1.6nm,0.8s,baz=72,slow=4.0,SNR=8.3								
BRTR				LR	LR		19 03 18.2		
	comp=Z,69nm,21.9s,baz=58,slow=37								
ISCO	**Idaho Springs**	**97.40**	**47**	PFAKE			18 17 30.0	+12	
ISCO				LR	LR				
	comp=Z,822nm,19.0s								
NC405	**NORSAR Array S**	**97.76**	**339**	*e*P	**P**		**18 17 16.9**	**-1.5**	
	comp=Z,76nm,1.9s								
MAW	**Mawson**	**97.83**	**202**	LR	LR		18 59 18.5		
	comp=Z,349nm,18.4s,baz=54,slow=34								
ANTO	**Ankara**	**97.88**	**314**	PFAKE			18 17 30.0	+10	
ANTO				LR	LR				
	comp=Z,189nm,20.0s								
NC204	**NORSAR Array S**	**97.98**	**339**	*e*P	**P**		**18 17 18.5**	**-0.9**	
	comp=Z,46nm,1.8s								
NB2	**NORSAR Subarra**	**97.99**	**339**	P	**P**		**18 17 18.1**	**-1.3**	
	comp=Z,1.8nm,0.6s,baz=48,slow=5.1								
NB200	**NORSAR Array S**	**97.99**	**339**	*e*P	**P**		**18 17 17.7**	**-1.8**	
NB200				*e*PP	**PP**		**18 21 18.2**	**+0.5**	
NB200				*e*PKKPbc	**PKKPbc**		**18 33 53.2**	**-1.8**	
NOA	**NORSAR Array B**	**97.99**	**339**	P	**P**		**18 17 17.7**	**-1.8**	
	comp=Z,1.8nm,0.6s,baz=50,slow=5.3,SNR=11								
NOA				PP	**PP**		**18 21 18.2**	**+0.5**	
	comp=Z,0.7nm,0.9s,baz=48,slow=7.4,SNR=3.0								
NOA				PKKPbc	**PKKPbc**		**18 33 53.2**	**-1.8**	
	comp=Z,1.3nm,0.9s,baz=90,slow=3.1,SNR=3.3								
NOA				LR	LR		19 04 06.4		
	comp=Z,158nm,21.4s,baz=30,slow=37								
NORES	**NORESS Array B**	**98.08**	**339**	P	Pdif		18 17 20.1	+0.3	
SDCO	**Great Sand Dun**	**98.27**	**49**	PFAKE			18 17 30.0	+8.4	
SDCO				LR	LR				
	comp=Z,535nm,22.0s								
SDCO	**Great Sand Dun**	**98.27**	**49**	P	**P**		**18 17 20.9**	**-0.6**	
	baz=292								
121A	**Cookes Peak, D**	**98.41**	**54**	P	**P**		**18 17 20.1**	**-2.1**	
	baz=290								
TASM	**ASL Pad, Albuq**	**98.59**	**52**	P	**P**		**18 17 22.0**	**-0.9**	
	baz=292								
TASM	**ASL Pad, Albuq**	**98.59**	**52**	P	**P**		**18 17 21.6**	**-1.3**	
	baz=292								
ANMO	**Albuquerque**	**98.59**	**52**	PFAKE			18 17 30.0	+7.0	
ANMO				LR	LR				
	comp=Z,281nm,21.0s								
ANMO	**Albuquerque**	**98.59**	**52**	P	**P**		**18 17 22.0**	**-0.9**	
	baz=292								
ULM	**Lac du Bonnet**	**98.87**	**34**	P	Pdif		18 17 23.9	+0.4	
	comp=Z,3.7nm,0.7s,baz=306,slow=6.2,SNR=3.9								
ULM				LR	LR		19 06 53.8		
	comp=Z,200nm,18.0s,baz=306,slow=38								
T25A	**Trinidad**	**99.30**	**49**	P	**Pdif**		**18 17 25.2**	**-0.9**	
	baz=293								
OGNE	**Ogallala**	**99.44**	**45**	PFAKE			18 17 40.0	+14	
OGNE				LR	LR				
	comp=Z,577nm,19.0s								
OGNE	**Ogallala**	**99.44**	**45**	P	**Pdif**		**18 17 24.6**	**-1.9**	
	baz=295								
KSCO	**Kaye Shedlock'**	**99.84**	**47**	P	**Pdif**		**18 17 26.3**	**-2.1**	
	baz=295								
AGMN	**Agassiz Nation**	**99.88**	**36**	PFAKE			18 17 40.0	+12	
AGMN				LR	LR				
	comp=Z,572nm,20.0s								
MNTX	**Cornudas Mount**	**100.61**	**54**	*e*Pdif	**Pdif**		**18 17 30.9**	**-0.8**	
MNTX				LR	LR				
	comp=Z,385nm,20.0s								
MNTX	**Cornudas Mount**	**100.61**	**54**	P	**Pdif**		**18 17 31.8**	**0.0**	
	baz=292								
OJC	**Ojcow**	**101.02**	**327**	*e*Pdif	**Pdif**		**18 17 31.2**	**-2.0**	
OJC	**Ojcow**	**101.02**	**327**	*e*P	**Pdif**		**18 17 31.2**	**-2.0**	
ECSD	**EROS Data Cent**	**101.73**	**40**	P	**Pdif**		**18 17 36.9**	**+0.5**	
	baz=300								
VYHS	**Vyhne**	**102.52**	**326**	*e*P	**Pdif**		**18 17 39.8**	**-0.1**	
VYHS	**Vyhne**	**102.52**	**326**	*e*PDIF	**Pdif**		**18 17 39.8**	**-0.1**	
EYMN	**Ely**	**102.53**	**35**	PFAKE			18 17 50.0	+10	
EYMN				LR	LR				
	comp=Z,274nm,19.0s								
TXAR	**Lajitas Array**	**102.86**	**56**	P	**Pdif**		**18 17 43.6**	**+1.7**	
	comp=Z,0.3nm,0.8s,baz=270,slow=6.3,SNR=4.0								
TXAR				PKKPbc	**PKKPbc**		**18 33 40.9**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=116,slow=5.7,SNR=4.8								
MODS	**Modra-Piesok**	**103.44**	**327**	*e*P	**Pdif**		**18 17 43.4**	**-0.6**	
MODS	**Modra-Piesok**	**103.44**	**327**	*e*PDIF	**Pdif**		**18 17 43.4**	**-0.6**	
CLL	**Collm**	**103.78**	**331**	*e*Pdif	**Pdif**		**18 17 43.0**	**-2.4**	
	comp=Z,24nm,2.1s								
CLL				*e*(sPP)			18 22 17.0		
CLL	**Collm**	**103.78**	**331**	*e*P	**Pdif**		**18 17 43.0**	**-2.4**	
CLL				pmax	pmax				
	comp=Z,24nm,2.1s								
KSU1	**Kansas State U**	**103.99**	**44**	PFAKE			18 18 00.0	+13	
KSU1				LR	LR				
	comp=Z,505nm,19.0s								
WMOK	**Wichita Mounta**	**104.45**	**49**	PFAKE			18 18 00.0	+11	
WMOK				LR	LR				
	comp=Z,383nm,21.0s								
CONA	**Conrad Observa**	**104.46**	**327**	pPKiKP	**Pdif**		**18 17 45.5**	**-3.1**	
	comp=Z,2.7nm,0.7s								
SCIA	**State Center**	**104.81**	**40**	PFAKE			18 18 00.0	+10	
SCIA				LR	LR				
	comp=Z,622nm,20.0s								
GERES	**GERESS Array B**	**105.02**	**329**	Pdiff	**Pdif**		**18 17 50.8**	**-0.3**	
	comp=Z,0.4nm,0.7s,baz=72,slow=7.5,SNR=3.6								
GERES				PKiKP	**PKiKP**		**18 22 05.6**	**-0.2**	
	comp=Z,0.4nm,0.5s,baz=0.0,slow=1.3,SNR=4.1								
GERES				PKKPbc	**PKKPbc**		**18 33 31.9**	**-2.5**	
	comp=Z,1.5nm,0.9s,baz=255,slow=3.6,SNR=5.9								
ARSA	**Arzberg**	**105.06**	**326**	*e*pPKiKP	**Pdif**		**18 17 48.0**	**-3.2**	
	comp=Z,0.4nm,0.2s								
MOA	**Molln**	**105.36**	**327**	pPKiKP	**Pdif**		**18 17 49.0**	**-3.5**	
	comp=Z,4.6nm,1.3s								
JCT	**Junction City**	**105.49**	**53**	PFAKE			18 22 20.0	+13	
JCT				LR	LR				
	comp=Z,264nm,19.0s								
JFWS	**Jewell Farm**	**106.11**	**38**	PFAKE			18 22 20.0	+12	
JFWS				LR	LR				
	comp=Z,627nm,20.0s								
KMBO	**Kilima Mbogo**	**106.55**	**272**	PFAKE			18 22 20.0	+10	
KMBO				LR	LR				
	comp=Z,194nm,22.0s								
KVTX	**Kingsville**	**108.23**	**56**	PFAKE			18 22 20.0	+7.0	
KVTX				LR	LR				
	comp=Z,499nm,21.0s								
MIAR	**Mount Ida**	**108.33**	**47**	PFAKE			18 22 20.0	+7.8	
MIAR				LR	LR				
	comp=Z,412nm,22.0s								
G47A	**Hillman**	**108.41**	**34**	P	**PKiKP**		**18 22 12.4**	**+0.4**	
	baz=310								
NATX	**Nacogdoches**	**108.88**	**50**	PFAKE			18 22 30.0	+17	
NATX				LR	LR				
	comp=Z,551nm,19.0s								
AAM	**Ann Arbor**	**110.36**	**36**	PFAKE			18 22 30.0	+14	
AAM				LR	LR				
	comp=Z,505nm,21.0s								
ACSO	**Alum Creek Sta**	**112.07**	**37**	PFAKE			18 22 30.0	+11	
ACSO				LR	LR				
	comp=Z,834nm,21.0s								
LONY	**Lake Ozonia**	**113.50**	**29**	PFAKE			18 22 30.0	+8.3	
LONY				LR	LR				
	comp=Z,263nm,20.0s								
BINY	**Binghamton**	**114.59**	**32**	PFAKE			18 22 40.0	+16	
BINY				LR	LR				
	comp=Z,733nm,19.0s								
BRAL	**Brewton**	**114.77**	**47**	PFAKE			18 22 40.0	+15	
BRAL				LR	LR				
	comp=Z,634nm,19.0s								
BLA	**Blacksburg**	**115.55**	**38**	PFAKE			18 22 40.0	+14	
BLA				LR	LR				
	comp=Z,414nm,21.0s								
GOGA	**Godfrey**	**115.98**	**43**	PFAKE			18 22 40.0	+13	
GOGA				LR	LR				
	comp=Z,285nm,20.0s								
CBN	**Corbin Frederi**	**116.67**	**36**	PFAKE			18 22 40.0	+12	
CBN				LR	LR				
	comp=Z,744nm,20.0s								
LSZ	**Lusaka**	**117.72**	**259**	*e*PKPdf	**PKiKP**		**18 22 31.4**	**+0.7**	
LSZ	**Lusaka**	**117.72**	**259**	*e*PKIKP	**PKiKP**		**18 22 31.4**	**+0.7**	
CNNC	**Cliffs of the**	**118.38**	**38**	PFAKE			18 22 40.0	+8.6	
CNNC				LR	LR				
	comp=Z,574nm,21.0s								
ES06	**SONSECA Array**	**120.35**	**332**	*e*PKPdf	**PKPdf**		**18 22 34.5**	**-0.6**	
ESDC	**Sonseca Array**	**120.35**	**332**	PKP	**PKPdf**		**18 22 33.4**	**-1.7**	
	comp=Z,0.6nm,0.6s,baz=4.4,slow=2.7,SNR=3.9								
BOSA	**Boshof**	**120.86**	**244**	PKP	**PKiKP**		**18 22 37.0**	**+0.4**	
	comp=Z,6.0nm,0.8s,baz=137,slow=3.5,SNR=9.5								
TAM	**Tamanrasset**	**126.42**	**310**	*e*PKPdf	**PKiKP**		**18 22 48.3**	**+0.5**	
TAM	**Tamanrasset**	**126.42**	**310**	*e*PKIKP	**PKiKP**		**18 22 48.3**	**+0.5**	
JTS	**JuntasAbangare**	**126.52**	**67**	PFAKE			18 23 00.0	+12	
JTS				LR	LR				
	comp=Z,174nm,19.0s								
BCIP	**Isla Barro Col**	**131.58**	**66**	PFAKE			18 23 10.0	+12	
BCIP				LR	LR				
	comp=Z,302nm,21.0s								
SDDR	**Presa de Saban**	**133.44**	**49**	PFAKE			18 23 10.0	+8.2	
SDDR				LR	LR				
	comp=Z,444nm,22.0s								
TOA1	**Torodi Ar. Sit**	**134.86**	**303**	*e*PKPpre	PKPpre		18 22 55.2		
TOA1				*e*PKPdf	**PKPdf**		**18 23 02.9**	**-0.4**	
TOA1				*e*PP	**PP**		**18 25 33.0**	**-4.0**	
TOA1				*e*SKPbc	**SKPbc**		**18 26 31.5**	**-0.7**	
TOA0	**Torodi Ar. Sit**	**134.86**	**303**	*e*PKPdf	**PKPdf**		**18 23 03.6**	**+0.3**	
TORD	**Torodi Ar. Bea**	**134.86**	**303**	PKhKP	PKPpre		18 22 55.2		
	comp=Z,0.5nm,0.8s,baz=355,slow=6.3,SNR=3.9								
TORD				PKP	**PKPdf**		**18 23 02.9**	**-0.4**	
	comp=Z,5.4nm,0.9s,baz=22,slow=2.1,SNR=16								
TORD				PP	**PP**		**18 25 33.0**	**-4.0**	
	comp=Z,2.1nm,1.0s,baz=99,slow=7.4,SNR=4.0								
TORD				SKPbc	**SKPbc**		**18 26 31.5**	**-0.7**	
	comp=Z,1.5nm,0.9s,baz=45,slow=3.3,SNR=4.3								
OTAV	**Otavalo**	**136.15**	**77**	PFAKE			18 23 20.0	+12	
OTAV				LR	LR				
	comp=Z,257nm,20.0s								
PLCA	**Paso Flores**	**138.51**	**139**	*e*PKPdf	**PKiKP**		**18 23 10.8**	**-0.7**	
PLCA	**Paso Flores**	**138.51**	**139**	*e*PKIKP	**PKiKP**		**18 23 10.8**	**-0.7**	
PLCA	**Paso Flores**	**138.51**	**139**	PKP	**PKPdf**		**18 23 09.6**	**+0.2**	
	comp=Z,13nm,1.0s,baz=279,slow=2.3,SNR=4.1								
PEL	**Peldehue**	**142.13**	**129**	*e*PKPdf	**PKPdf**		**18 23 14.6**	**-1.6**	
PEL	**Peldehue**	**142.13**	**129**	*e*PKIKP	**PKPdf**		**18 23 14.6**	**-1.6**	
DBIC	**Dimbokro**	**143.74**	**300**	*e*PKPdf	PKPbc		18 23 16.9	-0.1	
DBIC	**Dimbokro**	**143.74**	**300**	*e*PKIKP	PKPbc		18 23 16.9	-0.1	
DBIC	**Dimbokro**	**143.74**	**300**	PKP	PKPbc		18 23 17.2	+0.2	
	comp=Z,23nm,0.8s,baz=49,slow=3.7,SNR=34								
KIC	**Kosan Boka**	**143.80**	**299**	*e*PKP1	PKPab		18 23 16.8	+0.3	
	comp=Z,115nm,1.1s								
TIC	**Toumodi**	**143.89**	**300**	*e*PKP1	PKPab		18 23 17.0	+0.1	
LIC	**Lamto**	**144.11**	**299**	*e*PKP1	**PKPab**		**18 23 17.7**	**0.0**	
	comp=Z,203nm,0.7s								
CFA	**Coronel Fontan**	**144.66**	**128**	PKP	**PKPdf**		**18 23 20.6**	**-0.1**	
	comp=Z,37nm,1.0s,baz=249,slow=3.3,SNR=57								
GRGR	**Grenville**	**144.91**	**47**	PFAKE			18 23 30.0	+4.7	
GRGR				LR	LR				
	comp=Z,376nm,19.0s								
TRQA	**Tornquist**	**145.42**	**143**	PFAKE			18 23 30.0	+4.3	
TRQA				LR	LR				
	comp=Z,3.0nm,22.0s								
PB01	**IPOC Station P**	**146.85**	**110**	*e*PKPdf	**PKPdf**		**18 23 25.2**	**+0.5**	
PB11	**IPOC Station P**	**146.89**	**107**	*e*PKPdf	**PKPbc**		**18 23 26.5**	**-0.3**	
MNMC	**Minye Minye**	**147.03**	**106**	*e*PKPdf	**PKPbc**		**18 23 26.7**	**-0.7**	
LVC	**Limon Verde**	**147.07**	**113**	*e*PKPbc	**PKPbc**		**18 23 27.5**	**0.0**	
LVC	**Limon Verde**	**147.07**	**113**	*e*PKP2	**PKPbc**		**18 23 27.5**	**0.0**	
LVC	**Limon Verde**	**147.07**	**113**	PKPbc	**PKPbc**		**18 23 28.1**	**+0.5**	
	comp=Z,23nm,1.1s,baz=276,slow=6.2,SNR=8.5								
LPAZ	**La Paz**	**148.67**	**101**	*e*PKPdf	**PKPdf**		**18 23 29.4**	**+0.9**	
LPAZ	**La Paz**	**148.67**	**101**	*e*PKIKP	**PKPdf**		**18 23 29.5**	**+0.9**	
LPAZ	**La Paz**	**148.67**	**101**	PKPbc	**PKPbc**		**18 23 30.7**	**-1.6**	
	comp=Z,16nm,0.9s,baz=2.6,slow=3.9,SNR=10								
PTGA	**Pitinga**	**153.68**	**66**	*e*PKPdf	**PKPdf**		**18 23 37.6**	**+2.0**	
PTGA				LR	LR				
	comp=Z,11µm,22.0s								
PTGA	**Pitinga**	**153.68**	**66**	PKP	**PKPdf**		**18 23 37.2**	**+1.7**	
	comp=Z,2.7nm,0.7s,baz=157,slow=4.5,SNR=4.7								
SIV	**San Ignacio**	**155.46**	**102**	PKP	**PKPdf**		**18 23 39.3**	**+1.4**	
	comp=Z,1.1nm,0.7s,baz=51,slow=19,SNR=4.2								
CPUP	**Villa Florida**	**155.56**	**128**	*e*PKPdif	**PKPdf**		**18 23 42.7**	**+4.9**	
CPUP				*e*PKPab	**PKPab**		**18 24 04.9**	**+1.2**	
CPUP	**Villa Florida**	**155.56**	**128**	*e*PKIKP	**PKPdf**		**18 23 42.7**	**+4.9**	
CPUP	**Villa Florida**	**155.56**	**128**	PKP	**PKPdf**		**18 23 39.2**	**+1.4**	
	comp=Z,1.7nm,0.9s,baz=344,slow=2.1,SNR=3.6								
CPUP				PKPab	**PKPab**		**18 24 05.2**	**+1.5**	
	comp=Z,10nm,1.0s,baz=244,slow=4.9,SNR=8.7								
BDFB	**Brasilia**	**167.91**	**108**	*e*PKPdf	**PKPdf**		**18 23 52.1**	**+1.2**	
BDFB				*e*PKPdf	**PKPdf**		**18 23 52.5**	**+1.7**	
BDFB	**Brasilia**	**167.91**	**108**	*e*PKIKP	**PKPdf**		**18 23 52.1**	**+1.2**	
BDFB	**Brasilia**	**167.91**	**108**	PKP	**PKPdf**		**18 23 52.5**	**+1.7**	
	comp=Z,5.9nm,1.0s,baz=54,slow=0.6,SNR=6.7								

RSNC 30 18:08:36.5±0.7, 6.78N×73.15W, h147km±5km, ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**190**	*e*P		Pn	18 08 55.9	-0.9
BARC				*e*S		Sn	18 09 11.9	-0.3
GIRC	**Giron, Santand**	**0.30**	**352**	*e*P		Pn	18 08 56.3	-0.7
GIRC				*e*S		Sn	18 09 11.4	-1.1
GIRC				*i*			18 09 12.6	
	comp=Z,8.5nm,0.3s							
BRRC	**Barranca, Sant**	**0.65**	**300**	*e*P		Pn	18 08 58.0	-0.4
BRRC				*e*S		Sn	18 09 14.9	-0.1
BRRC				*i*			18 09 16.4	
	comp=E,21nm,0.2s							
RUSC	**La Rusia**	**0.88**	**176**	*e*P		Pn	18 09 00.4	-0.3
RUSC				*e*S		Sn	18 09 18.8	-0.2
RUSC				*i*			18 09 20.5	
	comp=N,11nm,0.5s							
PTBC	**PUERTO BERRIO,**	**1.32**	**260**	*e*P		Pn	18 09 03.6	-0.4
PTBC				*e*S		Sn	18 09 23.9	-1.2
PTBC				*i*			18 09 26.2	
	comp=N,9.7nm,0.1s							
ZARC	**Zaragoza, Cauc**	**1.84**	**293**	*e*P		Pn	18 09 09.2	-0.4
ZARC				*e*S		Sn	18 09 34.5	-0.4
ZARC				*i*			18 09 39.3	
	comp=E,20nm,0.2s							

*BJI **30** 18:11:04.0, 0.39N×124.27E, h159km, mb4.7/10, mB4.8/8*
*ISCJB **30** 18:11:06.0±0.3, 0.64N±0.03×124.06E±0.03, h171km±3km, mb4.7/68, Error ellipse: s-maj=5.4km s-min=4.6km az=34.1*
*IDC **30** 18:11:06.8±2.1, 0.72N×124.01E, h166km±19km, mb4.0/13, mb1 4.1/16, mb1mx3.7/44, mbtmp4.5/16, Error ellipse: s-maj=20.2km s-min=10.5km az=79.0*
*DJA **30** 18:11:08.2±0.3, 0.7°N×12.4°E±°, h154km±4km, M4.5/18, mB4.7/4, mb4.5/18, MLv4.7/12, Mw(mB)3.9/4*
*NEIC **30** 18:11:10.3±0.2, 0.59N×123.94E, mb4.9/57, Error ellipse: s-maj=6.3km s-min=4.5km az=60.0*

ISC 30 18:11:07.0±0.7, 0.60N±0.05×124.07E±0.05, h163km±6km, n125, σ1°45/135, mb4.8/68, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.09**	**253**	P		**Pn**	**18 11 29.8**	**+1.1**
KMSI				S		**Sn**	**18 11 45.6**	**+0.4**
LUWI	**Luwuk**	**2.08**	**218**	*e*Pn		**Pn**	**18 11 43.7**	**-0.2**
LUWI				*e*Sn		**Sn**	**18 12 10.0**	**-2.4**
LUWI	**Luwuk**	**2.08**	**218**	P		**Pn**	**18 11 43.9**	**0.0**

MRSI	**Marisa**	**2.13**	**267**	P		**Pn**	**18 11 44.7**	**+0.3**	
APSI	**Ampana**	**2.85**	**238**	P		**Pn**	**18 11 53.6**	**+0.6**	
SANI	**Sanana**	**3.26**	**144**	P		**Pn**	**18 11 56.7**	**-1.5**	
TNTI	**Ternate**	**3.30**	**87**	*e*Pn		**Pn**	**18 11 58.9**	**+0.2**	
TNTI				*e*Sn		**Sn**	**18 12 36.5**	**-2.3**	
TNTI	**Ternate**	**3.30**	**87**	P		**Pn**	**18 11 58.5**	**-0.2**	
MPSI	**Mapaga**	**4.18**	**266**	P		**Pn**	**18 12 11.9**	**+2.0**	
BBSI	**Bau Bau**	**6.23**	**194**	P		**Pn**	**18 12 36.3**	**-0.6**	
SPSI	**Sidrap Palu**	**6.25**	**223**	P		**Pn**	**18 12 37.4**	**+0.3**	
BNSI	**Bone**	**6.35**	**219**	P		**Pn**	**18 12 38.6**	**+0.1**	
KAPI	**Kappang**	**7.05**	**218**	*e*Pn		**Pn**	**18 12 48.7**	**+0.9**	
BKSI	**Bulukumba**	**7.08**	**214**	P		**Pn**	**18 12 48.2**	**0.0**	
SIJI	**Sorong**	**7.34**	**101**	P		**Pn**	**18 12 52.4**	**+0.6**	
	8.7nm,0.3s,baz=194,slow=22,SNR=40								
SIJI				S		**Sn**	**18 14 15.4**	**+1.2**	
	1.8nm,0.3s,baz=240,slow=20,SNR=2.3								
BKB	**Balikpapan**	**7.41**	**256**	P		**Pn**	**18 12 53.6**	**+1.1**	
BSSI	**Bau Bau, Buton**	**7.59**	**208**	P		**Pn**	**18 12 54.9**	**-0.1**	
BNDI	**Bandanaira**	**7.74**	**131**	P		**Pn**	**18 12 56.7**	**-0.3**	
FAKI	**Fak Fak**	**8.89**	**113**	*e*Pn		**Pn**	**18 13 11.8**	**-0.5**	
FAKI				*e*Sn		**Sn**	**18 14 45.9**	**-5.5**	
FAKI	**Fak Fak**	**8.89**	**113**	P		**Pn**	**18 13 12.9**	**+0.6**	
MMRI	**Maumere**	**9.36**	**191**	*e*Pn		**Pn**	**18 13 23.0**	**+4.6**	
MMRI	**Maumere**	**9.36**	**191**	P		**Pn**	**18 13 18.0**	**-0.4**	
KKM	**Kota Kinabalu**	**9.52**	**305**	*e*Pn		Pn	18 13 27.4	+6.8	
BATI	**Baumata**	**10.74**	**182**	P		**Pn**	**18 13 36.3**	**-0.4**	
BATI	**Baumata**	**10.74**	**182**	P		**Pn**	**18 13 39.5**	**+2.9**	
	3.2nm,0.3s,baz=48,slow=0.5,SNR=7.0								
BATI				S		**Sn**	**18 15 32.6**	**-3.2**	
	3.1nm,0.3s,baz=96,slow=3.5,SNR=3.0								
SBUM	**Sibu**	**11.98**	**279**	*e*Pn		**Pn**	**18 13 54.1**	**+1.3**	
JAGI	**Jajag, Banyuwa**	**13.37**	**227**	*e*Pn		**P**	**18 14 14.9**	**+0.6**	
KSM	**Kuching**	**13.78**	**274**	*e*Pn		**P**	**18 14 20.8**	**+1.9**	
PWJI	**Pagerwojo**	**14.93**	**235**	P		**P**	**18 14 31.5**	**-0.1**	
MTN	**Manton Dam**	**15.09**	**153**	*e*Pn		**Pn**	**18 14 32.1**	**+0.1**	
	38nm,0.3s								
UGM	**Wanagama**	**15.93**	**238**	*e*Pn		**P**	**18 14 43.7**	**+0.9**	
	459nm,2.0s								
CISI	**Cisompet, Garu**	**18.12**	**243**	*e*P		**P**	**18 15 05.9**	**-1.0**	
	120nm,1.6s								
FITZ	**Fitzroy Crossi**	**18.65**	**175**	*e*P		**P**	**18 15 12.6**	**+0.1**	
	27nm,0.6s								
FITZ	**Fitzroy Crossi**	**18.65**	**175**	P		**P**	**18 15 12.8**	**+0.4**	
	3.6nm,0.3s,baz=353,slow=9.2,SNR=105								
MYKOM	**Kota Tinggi**	**20.25**	**274**	*e*P		**P**	**18 15 31.9**	**+2.1**	
	5.7nm,0.8s								
PSAD1	**Pilbara Seismi**	**22.31**	**190**	*e*P		**P**	**18 15 50.3**	**-0.9**	
	12nm,0.8s								
PSAC1	**Pilbara Seismi**	**22.39**	**190**	*e*P		**P**	**18 15 51.3**	**-0.7**	
	33nm,1.5s								
PSAB2	**Pilbara Seismi**	**22.40**	**190**	*e*P		**P**	**18 15 51.4**	**-0.7**	
	12nm,0.7s								
PSAC2	**Pilbara Seismi**	**22.40**	**190**	*e*P		**P**	**18 15 51.3**	**-0.8**	
	10nm,0.7s								
PSAA2	**Pilbara Seismi**	**22.41**	**190**	*e*P		**P**	**18 15 51.4**	**-0.8**	
	84nm,1.9s								
PSA00	**Pilbara Seismi**	**22.42**	**190**	*e*P		**P**	**18 15 51.6**	**-0.7**	
	11nm,0.6s								
PSAB1	**Pilbara Seismi**	**22.42**	**190**

WMQ				LR	LR			
	comp=Z,780nm,20.9s							
OUZ	**Omahuta**	**58.30**	**133**	*e*P	**P**	**18**	**20**	**46.8 +1.9**
	comp=Z,45nm,1.5s							
MK01	**Makanchi Array**	**58.65**	**328**	*e*P	**P**	**18**	**20**	**46.2 -0.9**
MK01				*e*PcP	**PcP**	**18**	**21**	**33.1 -2.3**
MK31	**Makanchi Array**	**58.67**	**328**	*e*P	**P**	**18**	**20**	**46.8 -0.5**
MK31				*e*PcP	**PcP**	**18**	**21**	**33.2 -2.3**
MK32	**Makanchi Array**	**58.67**	**328**	*e*P	**P**	**18**	**20**	**46.5 -0.8**
MK32				*e*pP	**PcP**	**18**	**21**	**32.4 -3.1**
MKAR	**Makanchi Array**	**58.67**	**328**	P	**P**	**18**	**20**	**46.5 -0.8**
	comp=Z,0.6nm,0.4s,baz=121,slow=7.6,SNR=11							
MKAR				pP	**PcP**	**18**	**21**	**32.4 -3.1**
	comp=Z,2.1nm,0.7s,baz=124,slow=8.5,SNR=10.0							
MAKZ	**Makanchi**	**58.85**	**327**	*e*P	**P**	**18**	**20**	**47.7 -0.8**
	comp=Z,10.0nm,1.9s							
MAKZ				*e*PcP	**PcP**	**18**	**21**	**34.4 -1.8**
MLZ	**Mavora Lakes**	**60.05**	**146**	*e*P	**P**	**18**	**20**	**57.8 +1.1**
	comp=Z,123nm,1.8s							
WKZ	**Wanaka**	**60.25**	**145**	*e*P	**P**	**18**	**20**	**58.4 +0.2**
	comp=Z,175nm,1.7s							
WHZ	**Wether Hill Ro**	**60.27**	**146**	*e*P	**P**	**18**	**20**	**58.9 +0.7**
	comp=Z,94nm,1.6s							
LBZ	**Lake Benmore**	**60.68**	**144**	*e*P	**P**	**18**	**21**	**01.6 +0.5**
	comp=Z,200nm,2.0s							
RPZ	**Rata Peaks**	**60.83**	**143**	*e*P	**P**	**18**	**21**	**02.9 +0.8**
	comp=Z,113nm,1.8s							
AAK	**Ala-Archa**	**60.95**	**320**	*e*P	**P**	**18**	**21**	**02.8 -0.3**
	comp=Z,2.6nm,1.1s							
THZ	**Tophouse**	**60.96**	**140**	*e*P	**P**	**18**	**21**	**03.5 +0.5**
	comp=Z,90nm,1.6s							
OXZ	**Oxford**	**61.22**	**142**	*e*P	**P**	**18**	**21**	**04.3 -0.4**
	comp=Z,112nm,1.9s							
KHZ	**Kahutara**	**61.69**	**140**	*e*P	**P**	**18**	**21**	**08.4 +0.6**
	comp=Z,49nm,1.4s							
MQZ	**McQueen's Vall**	**61.80**	**142**	*e*P	**P**	**18**	**21**	**10.1 +1.6**
	comp=Z,43nm,1.4s							
SNZO	**South Karori**	**61.91**	**139**	*e*P	**P**	**18**	**21**	**08.8 -0.5**
	comp=Z,86nm,1.3s							
MCQ	**Macquarie Isla**	**61.97**	**158**	*e*P	**P**	**18**	**21**	**12.2 +2.8**
	comp=Z,557nm,1.4s							
BKZ	**Black Stump Fm**	**62.13**	**136**	*e*P	**P**	**18**	**21**	**11.7 +0.8**
	comp=Z,12nm,0.4s							
GAR	**Garm**	**62.14**	**315**	*e*P	**P**	**18**	**21**	**09.8 -1.3**
URZ	**Urewera**	**62.17**	**135**	*e*P	**P**	**18**	**21**	**11.6 +0.4**
	comp=Z,16nm,1.4s							
ZALV	**Zalesovo Beam**	**62.22**	**335**	P	**P**	**18**	**21**	**08.9 -2.2**
	comp=Z,0.3nm,0.3s,baz=119,slow=5.1,SNR=2.5							
ZAA1	**Zalesovo Array**	**62.22**	**335**	*e*P	**P**	**18**	**21**	**08.9 -2.2**
BFZ	**Birch Farm**	**62.64**	**137**	*e*P	**P**	**18**	**21**	**14.8 +0.5**
	comp=Z,33nm,1.3s							
MXZ	**Matakaoa Point**	**62.74**	**133**	*e*P	**P**	**18**	**21**	**16.0 +1.1**
	comp=Z,34nm,1.0s							
CASY	**Casey**	**67.43**	**186**	*e*P	**P**	**18**	**21**	**44.8 +0.2**
	comp=Z,44nm,1.8s							
TIXI	**Tiksi**	**71.00**	**2**	P	**P**	**18**	**22**	**05.7 -0.8**
	comp=Z,1.4nm,0.3s,baz=180,slow=4.8							
MAW	**Mawson**	**79.92**	**200**	*e*P	**P**	**18**	**22**	**57.5 +0.2**
	comp=Z,8.3nm,0.6s							
VNDA	**Vanda**	**80.69**	**172**	*e*P	**P**	**18**	**23**	**01.8 +0.4**
	comp=Z,4.3nm,1.0s							
VNDA	**Vanda**	**80.69**	**172**	P	**P**	**18**	**23**	**01.0 -0.3**
	comp=Z,2.0nm,0.4s,baz=320,slow=6.8,SNR=28							
ILAR	**Eielson Array**	**89.05**	**25**	P	**P**	**18**	**23**	**42.1 -1.2**
	comp=Z,0.2nm,0.5s,baz=267,slow=4.3,SNR=4.9							
ARA0	**ARCESS Array S**	**92.44**	**340**	*e*P	**P**	**18**	**23**	**56.9 -2.0**
ARCES	**ARCESS Array B**	**92.44**	**340**	P	**P**	**18**	**23**	**56.9 -2.0**
	comp=Z,2.8nm,0.8s,baz=69,slow=4.9,SNR=3.3							
FIA0	**FINESS Array S**	**93.31**	**332**	*e*P	**P**	**18**	**24**	**00.6 -2.4**
FINES	**FINESS Array B**	**93.31**	**332**	P	**P**	**18**	**24**	**00.6 -2.4**
	comp=Z,1.7nm,1.0s,baz=79,slow=7.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**121.28**	**286**	PKP	**PKPdf**	**18**	**29**	**41.0 -0.7**
TORD	**Torodi Ar. Bea**	**121.28**	**286**	PKP	**PKPdf**	**18**	**29**	**41.0 -0.7**
	comp=Z,4.4nm,0.2s,baz=73,slow=2.0,SNR=3.4							
TOA1	**Torodi Ar. Sit**	**121.28**	**286**	*e*PKPdf	**PKPdf**	**18**	**29**	**41.0 -0.7**
CFA	**Coronel Fontan**	**147.04**	**160**	PKPbc	**PKPbc**	**18**	**30**	**31.4 +0.1**
	comp=Z,2.5nm,0.5s,baz=244,slow=2.6,SNR=4.3							
LPAZ	**La Paz**	**160.31**	**143**	PKPab	**PKPab**	**18**	**31**	**31.3 +1.2**
	comp=Z,1.5nm,0.6s,baz=225,slow=6.4,SNR=6.2							

TAP ***30*** *18:13:25.5,24.65N×122.73E,h89km,ML3.2,D*
ISCJB ***30*** *18:13:26.6±0.4,24.58N±0.02×122.72E±0.01,h78km±4km,*
Error ellipse: s-maj=3.4km s-min=2.3km az=178.5
JMA ***30*** *18:13:26.2±0.1,24.55N×122.69E,h83km±1km,M2.3*

ISC 30 18:13:27.3±1.3,24.57N±0.03×122.71E±0.02,h75km±7km,
n102,σ1♀03/191,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.25**	**118**	P			**Pn**	**18 13 38.8**	**0.0**
JYNG				S			**Sn**	**18 13 47.8**	**+0.6**
YOJ	**Yonaguni jima**	**0.30**	**111**	*e*P			**Pn**	**18 13 39.0**	**-0.1**
	baz=131								
YOJ				*e*S			**Sn**	**18 13 49.2**	**+1.5**
	baz=131								
YOJ	**Yonaguni jima**	**0.30**	**111**	P			**Pn**	**18 13 39.0**	**-0.1**
YOJ				S			**Sn**	**18 13 48.1**	**+0.4**
EOS1	**EOS1**	**0.53**	**268**	*e*P			**Pn**	**18 13 40.6**	**-0.2**
	baz=253								
EOS1				*e*S			**Sn**	**18 13 51.9**	**+1.2**
	baz=253								
EGS		**0.75**	**291**	*e*P			**Pn**	**18 13 43.2**	**0.0**
	baz=282								
EGS				*e*S			**Sn**	**18 13 55.7**	**+0.7**
	baz=282								
TWC	**Suao**	**0.78**	**273**	P			**Pn**	**18 13 42.7**	**-0.8**
	baz=267								
TWC				*e*S			**Sn**	**18 13 55.5**	**-0.1**
	baz=267								
TWB1	**Santiao Chiao**	**0.78**	**304**	*e*P			**Pn**	**18 13 42.4**	**-1.2**
	baz=294								
TWB1				*e*S			**Sn**	**18 13 54.4**	**-1.2**
	baz=294								
NTC	**Toucheng**	**0.84**	**290**	*e*P			**Pn**	**18 13 43.7**	**-0.5**
	baz=283								
NTC				*e*S			**Sn**	**18 13 56.6**	**-0.2**
	baz=283								
NANB	**Nanao**	**0.88**	**261**	P			**Pn**	**18 13 44.5**	**-0.2**
	baz=253								
NANB				*e*S			**Sn**	**18 13 57.6**	**0.0**
	baz=253								
ENA	**Nanau**	**0.89**	**261**	*e*P			**Pn**	**18 13 44.5**	**-0.2**
	baz=251								
ENA				*e*S			**Sn**	**18 13 57.6**	**-0.2**
	baz=251								
ILA	**Ilan**	**0.89**	**283**	*e*S			**Sn**	**18 13 58.7**	**+0.9**
	baz=277								
TIPB	**Shuangxi**	**0.89**	**297**	P			**Pn**	**18 13 44.0**	**-0.9**
	baz=286								
TIPB				*e*S			**Sn**	**18 13 56.8**	**-1.1**
	baz=286								
TWE	**Neicheng**	**0.96**	**279**	P			**Pn**	**18 13 45.0**	**-0.6**
	baz=277								
TWE				*e*S			**Sn**	**18 13 59.5**	**+0.4**
	baz=277								
IRIF	**Iriomote-Funau**	**0.96**	**104**	P			**Pn**	**18 13 45.1**	**-0.6**
IRIF				*e*S			**Sn**	**18 13 59.3**	**0.0**
NWF	**Wu-fen Shan**	**0.98**	**301**	*e*P			**Pn**	**18 13 44.9**	**-1.0**
	baz=295								
NWF				*e*S			**Sn**	**18 14 00.2**	**+0.5**
	baz=295								
WFSB	**Wu-fen Shan**	**0.98**	**301**	*e*P			**Pn**	**18 13 44.8**	**-1.1**
	baz=289								
WFSB				*e*S			**Sn**	**18 14 00.2**	**+0.6**
	baz=289								
ENTT	**Nioudou**	**1.04**	**274**	*e*P			**Pn**	**18 13 46.7**	**+0.1**
	baz=265								
ENTT				*e*S			**Sn**	**18 14 01.7**	**+0.7**
	baz=265								
NACB	**Ninganchiao**	**1.09**	**249**	*e*P			**Pn**	**18 13 46.7**	**-0.5**
	baz=237								
NACB				S			**Sn**	**18 14 01.7**	**-0.3**
	baz=237								
NDT	**Datong Townshi**	**1.09**	**272**	P			**Pn**	**18 13 48.1**	**+0.9**
	baz=264								
NDT				*e*S			**Sn**	**18 14 02.8**	**+0.8**
	baz=264								
TWA	**Mucha**	**1.10**	**292**	P			**Pn**	**18 13 46.7**	**-0.7**
	baz=280								
TWA				*e*S			**Sn**	**18 14 02.0**	**-0.3**
	baz=280								
NWLT	**Wulai**	**1.11**	**281**	*e*P			**Pn**	**18 13 47.7**	**+0.1**
	baz=282								
NWLT				S			**Sn**	**18 14 03.1**	**+0.5**
	baz=282								
TWD	**Chiawan**	**1.12**	**244**	*e*P			**Pn**	**18 13 47.0**	**-0.7**
	baz=233								
TWD				S			**Sn**	**18 14 02.1**	**-0.7**
	baz=233								
HATJ	**Hateruma jima**	**1.13**	**117**	P			**Pn**	**18 13 47.8**	**+0.1**
HATJ				*e*S			**Sn**	**18 14 04.6**	**+1.7**
NHDH	**Xindian Distri**	**1.14**	**290**	*e*P			**Pn**	**18 13 47.0**	**-0.9**
	baz=278								
NHDH				*e*S			**Sn**	**18 14 03.7**	**+0.5**
	baz=278								
YM07	**YM07**	**1.16**	**302**	*e*P			**Pn**	**18 13 47.0**	**-1.1**
	baz=297								
YM07				*e*S			**Sn**	**18 14 02.7**	**-1.0**
	baz=297								
HWA	**Hwalien**	**1.16**	**240**	*e*S			**Sn**	**18 14 04.2**	**+0.5**
	baz=236								
ETLH	**Xiulin Townshi**	**1.17**	**252**	P			**Pn**	**18 13 47.6**	**-0.7**
	baz=248								
ETLH				*e*S			**Sn**	**18 14 04.2**	**+0.1**
	baz=248								
TATO	**Taipei**	**1.18**	**290**	*e*P			**Pn**	**18 13 48.1**	**-0.2**
	baz=276								
TATO				*e*S			**Sn**	**18 14 03.9**	**-0.2**
	baz=276								
YM01	**YM01**	**1.18**	**299**	*e*P			**Pn**	**18 13 47.6**	**-0.8**
	baz=295								
YM01				*e*S			**Sn**	**18 14 04.0**	**-0.2**
	baz=295								
YM11	**YM11**	**1.19**	**300**	*e*P			**Pn**	**18 13 47.9**	**-0.7**
	baz=296								
YM11				*e*S			**Sn**	**18 14 04.9**	**+0.5**
	baz=296								
YM05	**YM05**	**1.19**	**300**	*e*P			**Pn**	**18 13 47.5**	**-1.1**
	baz=295								
YM05				*e*S			**Sn**	**18 14 04.6**	**+0.1**
	baz=295								
ENLB	**Shoufeng**	**1.21**	**237**	*e*P			**Pn**	**18 13 48.0**	**-0.7**
	baz=234								
ENLB				*e*S			**Sn**	**18 14 05.0**	**+0.3**
	baz=234								
YM04	**YM04**	**1.21**	**299**	*e*P			**Pn**	**18 13 48.0**	**-0.8**
	baz=294								
YM04				*e*S			**Sn**	**18 14 04.1**	**-0.7**
	baz=294								
NNSB	**Datong**	**1.21**	**264**	P			**Pn**	**18 13 48.8**	**-0.1**
	baz=251								
NNSB				*e*S			**Sn**	**18 14 05.0**	**0.0**
	baz=251								
YHNB	**Yeheng**	**1.21**	**275**	P			**Pn**	**18 13 49.1**	**+0.3**
	baz=263								
YHNB				*e*S			**Sn**	**18 14 05.9**	**+0.9**
	baz=263								
NNS	**Nan Shan**	**1.22**	**264**	P			**Pn**	**18 13 48.8**	**-0.2**
	baz=251								
NNS				*e*S			**Sn**	**18 14 05.6**	**+0.4**
	baz=251								
YM03	**YM03**	**1.22**	**300**	*e*P			**Pn**	**18 13 48.2**	**-0.7**
	baz=295								
YM03				*e*S			**Sn**	**18 14 04.5**	**-0.6**
	baz=295								
JKRS	**Kuro-shima**	**1.23**	**105**	P			**Pn**	**18 13 48.9**	**-0.1**
JKRS				S			**Sn**	**18 14 05.9**	**+0.6**
TWS1	**Kuangyinshan**	**1.28**	**295**	*e*P			**Pn**	**18 13 49.8**	**+0.1**
	baz=290								
TWS1				*e*S			**Sn**	**18 14 07.1**	**+0.7**
	baz=290								
NTST	**Danshui**	**1.28**	**298**	*e*P			**Pn**	**18 13 48.7**	**-1.0**
	baz=293								
NTST				*e*S			**Sn**	**18 14 07.0**	**+0.5**
	baz=293								
JIJ	**Ishigaki jima**	**1.33**	**99**	P			**Pn**	**18 13 49.6**	**-0.6**
JIJ				*e*S			**Sn**	**18 14 06.8**	**-0.6**
WLTB	**Daxi**	**1.35**	**282**	*e*P			**Pn**	**18 13 50.6**	**+0.1**
	baz=283								
WLTB				*e*S			**Sn**	**18 14 08.2**	**+0.2**
	baz=283								
WHF	**Hehuan Shan**	**1.38**	**252**	P			**Pn**	**18 13 50.8**	**-0.5**
	baz=249								
WHF				*e*S			**Sn**	**18 14 08.4**	**-0.9**
	baz=249								
ESL	**Shilin**	**1.38**	**237**	*e*P			**Pn**	**18 13 50.1**	**-0.9**
	baz=234								
ESL				*e*S			**Sn**	**18 14 07.5**	**-1.3**
	baz=234								
TWT	**Tachien**	**1.43**	**258**	*e*S			**Sn**	**18 14 10.4**	**+0.3**
	baz=249								
TDCB	**Techi**	**1.45**	**258**	*e*P			**Pn**	**18 13 52.2**	**+0.3**
	baz=249								
TDCB				*e*S			**Sn**	**18 14 10.9**	**+0.5**
	baz=249								
JISG	**Ishigakijimahi**	**1.46**	**89**	P			**Pn**	**18 13 51.6**	**-0.4**
JISG				*e*S			**Sn**	**18 14 10.1**	**-0.5**
EGFH	**Guangfu**	**1.47**	**233**	*e*P			**Pn**	**18 13 51.3**	**-0.8**
	baz=230								
EGFH				*e*S			**Sn**	**18 14 10.2**	**-0.6**
	baz=230								
CHGB	**Renai**	**1.49**	**250**	P			**Pn**	**18 13 52.3**	**-0.2**
	baz=240								
CHGB				*e*S			**Sn**	**18 14 10.6**	**-0.9**
	baz=240								
OWD	**Renai**	**1.52**	**247**	*e*P			**Pn**	**18 13 52.4**	**-0.5**
	baz=237								
OWD				*e*S			**Sn**	**18 14 10.6**	**-1.7**
	baz=237								
LIOB	**Emei**	**1.54**	**273**	*e*P			**Pn**	**18 13 50.6**	**-2.4**
	baz=269								
LIOB				*e*S			**Sn**	**18 14 10.4**	**-2.1**
	baz=269								
NSTT	**Nanjuang**	**1.55**	**273**	*e*P			**Pn**	**18 13 53.7**	**+0.6**
	baz=269								
NSTT				S			**Sn**	**18 14 13.2**	**+0.5**
	baz=269								
HGSD	**Ruisui**	**1.59**	**228**	P			**Pn**	**18 13 52.9**	**-0.7**
	baz=223								
HGSD				*e*S			**Sn**	**18 14 12.8**	**-0.7**
	baz=223								
WHP	**Taichung City**	**1.63**	**260**	*e*P			**Pn**	**18 13 54.9**	**+0.6**
	baz=253								
WHP				*e*S			**Sn**	**18 14 15.4**	**+0.8**
	baz=253								
VWDT	**VWDT**	**1.64**	**241**	P			**Pn**	**18 13 54.1**	**-0.2**
	baz=232								
VWDT				*e*S			**Sn**	**18 14 14.1**	**-0.8**
	baz=232								
EHY	**Hungye**	**1.65**	**230**	*e*P			**Pn**	**18 13 53.3**	**-1.2**
	baz=228								
EHY				*e*S			**Sn**	**18 14 13.5**	**-1.5**
	baz=228								
YULB	**Yu-li**	**1.74**	**228**	P			**Pn**	**18 13 54.7**	**-1.0**
	baz=234								
YULB				*e*S			**Sn**	**18 14 15.3**	**-1.9**
	baz=234								
NMLH	**Miaoli**	**1.74**	**269**	*e*S			**Sn**	**18 14 17.3**	**+0.1**
	baz=266								
TWF1	**Yuli**	**1.77**	**227**	P			**Pn**	**18 13 55.1**	**-0.9**
	baz=233								
TWF1				*e*S			**Sn**	**18 14 16.3**	**-1.5**
	baz=233								
TWQ1	**Liyutan**	**1.77**	**263**	*e*P			**Pn**	**18 13 56.8**	**+0.7**
	baz=260								
TWQ1				*e*S			**Sn**	**18 14 18.3**	**+0.4**
	baz=260								
NSY	**Sanyi**	**1.78**	**265**	*e*S			**Sn**	**18 14 19.2**	**+1.1**
	baz=262								
SSLB	**Suanglung**	**1.78**	**244**	*e*P			**Pn**	**18 13 56.1**	**-0.1**
	baz=237								
SSLB				*e*S			**Sn**	**18 14 17.9**	**-0.2**
	baz=237								
SMLT	**Sun Moon Lake**	**1.78**	**248**	*e*P			**Pn**	**18 13 57.1**	**+0.8**
	baz=241								
SMLT				*e*S			**Sn**	**18 14 18.6**	**+0.3**
	baz=241								
TYC	**Yuchr**	**1.81**	**249**	*e*P			**Pn**	**18 13 57.2**	**+0.6**
	baz=240								
TYC				*e*S			**Sn**	**18 14 19.9**	**+1.0**
	baz=240								
JTJ	**Tarama**	**1.82**	**87**	P			**Pn**	**18 13 56.6**	**-0.1**
JTJ				S			**Sn**	**18 14 20.6**	**+1.6**
FULB	**Fuli**	**1.88**	**224**	*e*P			**Pn**	**18 13 56.6**	**-0.9**
	baz=216								
FULB				*e*S			**Sn**	**18 14 19.9**	**-0.6**
	baz=216								
WDJ	**Dajia District**	**1.89**	**264**	*e*S			**Sn**	**18 14 20.4**	**-0.4**
	baz=260								
TCU	**Taichung**	**1.90**	**258**	*e*S			**Sn**	**18 14 21.8**	**+0.9**
	baz=254								
WHYT	**Xinyi Township**	**1.90**	**243**	*e*P			**Pn**	**18 13 58.3**	**+0.4**
	baz=237								
WHYT				*e*S			**Sn**	**18 14 22.1**	**+1.0**
	baz=237								
CHKT	**Chengkung**	**1.91**	**220**	*e*P			**Pn**	**18 13 56.5**	**-1.4**
	baz=214								
CHKT				*e*S			**Sn**	**18 14 19.1**	**-2.0**
	baz=214								
WJS	**Zhushan**	**1.95**	**248**	*e*P			**Pn**	**18 13 59.4**	**+0.9**
	baz=237								
WJS				*e*S			**Sn**	**18 14 24.4**	**+2.2**
	baz=237								
WNT	**Mingjian**	**1.97**	**250**	*e*P			**Pn**	**18 13 59.5**	**+0.8**
	baz=257								
WNT				*e*S			**Sn**	**18 14 24.0**	**+1.4**
	baz=257								
ALS	**Alishan**	**2.03**	**239**	*e*P			**Pn**	**18 14 00.4**	**+0.6**
	baz=230								
ALS				*e*S			**Sn**	**18 14 24.9**	**+0.3**
	baz=230								
ELDTW	**Lidau**	**2.07**	**229**	P			**Pn**	**18 13 59.4**	**-0.8**
	baz=226								
ELDTW				*e*S			**Sn**	**18 14 23.4**	**-1.8**
	baz=226								
CHN5	**Tsauling**	**2.09**	**243**	*e*P			**Pn**	**18 14 01.6**	**+1.2**
	baz=233								
CHN5				*e*S			**Sn**	**18 14 27.3**	**+1.6**
	baz=233								
WGK	**Gukeng**	**2.15**	**246**	*e*P			**Pn**	**18 14 02.5**	**+1.4**
	baz=243								
WGK				*e*S			**Sn**	**18 14 28.6**	**+1.8**
	baz=243								
WDLH	**Douliu**	**2.17**	**247**	*e*P			**Pn**	**18 14 02.4**	**+1.0**
	baz=255								
WDLH				*e*S			**Sn**	**18 14 29.0**	**+1.7**
	baz=255								
RLNB	**Erlin**	**2.25**	**253**	*e*P			**Pn**	**18 14 02.7**	**+0.3**
	baz=260								
RLNB				*e*S			**Sn**	**18 14 29.4**	**+0.2**
	baz=260								
JIRB	**Irabujima**	**2.26**	**83**	*e*S			**Sn**	**18 14 29.2**	**-0.4**
STYT	**Tauyuan**	**2.27**	**232**	*e*P			**Pn**	**18 14 03.5**	**+0.7**
	baz=227								
STYT				*e*S			**Sn**	**18 14 29.8**	**0.0**
	baz=227								
CHN4	**Tsaushan**	**2.28**	**238**	*e*P			**Pn**	**18 14 04.4**	**+1.5**
	baz=236								
CHN4				*e*S			**Sn**	**18 14 32.4**	**+2.3**
	baz=236								
TPUB	**Ta-pu**	**2.28**	**237**	*e*P			**Pn**	**18 14 04.0**	**+1.0**
	baz=229								
TPUB				*e*S			**Sn**	**18 14 31.6**	**+1.4**
	baz=229								
TWGBT	**Beinan**	**2.29**	**221**	P			**Pn**	**18 14 02.3**	**-0.8**
	baz=225								
TWGBT				*e*S			**Sn**	**18 14 28.7**	**-1.7**
	baz=225								
TWG	**Pinlang**	**2.30**	**221**	P			**Pn**	**18 14 02.4**	**-0.7**
	baz=225								
TWG				*e*S			**Sn**	**18 14 28.6**	**-1.8**
	baz=225								
TTN	**Taitung**	**2.30**	**219**	*e*S			**Sn**	**18 14 30.8**	**+0.2**
	baz=213								
WTP	**Ta-pu**	**2.32**	**236**	*e*P			**Pn**	**18 14 04.4**	**+0.9**
	baz=226								
WTP				*e*S			**Sn**	**18 14 32.9**	**+1.7**
	baz=226								
CHY	**Chiayi**	**2.34**	**243**	*e*S			**Sn**	**18 14 33.6**	**+2.1**
	baz=252								
TWK	**Hsinying**	**2.41**	**238**	*e*P			**Pn**	**18 14 05.6**	**+0.9**
	baz=235								
TWK				*e*S			**Sn**	**18 14 34.8**	**+1.6**
	baz=235								
CHN1	**Nanshi**	**2.42**	**236**	*e*P			**Pn**	**18 14 06.3**	**+1.5**
	baz=233								
CHN1				*e*S			**Sn**	**18 14 35.0**	**+1.5**
	baz=233								
SNST	**Tainan City**	**2.43**	**237**	*e*P			**Pn**	**18 14 06.0**	**+1.1**
	baz=234								
SNST				*e*S			**Sn**	**18 14 34.8**	**+1.2**
	baz=234								
SGST	**Jiashian**	**2.44**	**233**	*e*P			**Pn**	**18 14 06.3**	**+1.2**
	baz=240								
SGST				*e*S			**Sn**	**18 14 36.5**	**+2.5**
	baz=240								
WSF	**Szhu**	**2.45**	**248**	*e*S			**Sn**	**18 14 35.2**	**+1.0**
	baz=254								
SLGT	**Liugui**	**2.45**	**231**	*e*P			**Pn**	**18 14 06.5**	**+1.2**
	baz=235								
SLGT				*e*S			**Sn**	**18 14 36.2**	**+1.9**
	baz=235								
WLGB	**Puzi**	**2.45**	**244**	*e*S			**Sn**	**18 14 36.2**	**+2.0**
	baz=251								
ECL	**Taimali**	**2.54**	**220**	*e*P			**Pn**	**18 14 05.2**	**-1.1**
	baz=218								
ECL				*e*S			**Sn**	**18 14 34.1**	**-2.1**
	baz=218								
SSD	**Sandimen**	**2.63**	**227**	*e*P			**Pn**	**18 14 08.7**	**+1.1**
	baz=224								
SSD				*e*S			**Sn**	**18 14 39.1**	**+0.6**
	baz=224								
MASBT	**Mashibuluo**	**2.72**	**225**	*e*P			**Pn**	**18 14 09.3**	**+0.4**
	baz=222								
MASBT				*e*S			**Sn**	**18 14 43.4**	**+2.6**
	baz=222								
LAY	**Lan-yu**	**2.73**	**203**	*e*P			**Pn**	**18 14 07.7**	**-1.4**
	baz=197								
LAY				*e*S			**Sn**	**18 14 39.0**	**-2.1**
	baz=197								
EAST	**Anshuo**	**2.77**	**218**	*e*P			**Pn**	**18 14 08.8**	**-0.6**
	baz=216								
EAST				*e*S			**Sn**	**18 14 40.5**	**-1.4**
	baz=216								
SSPT	**Xinbi**	**2.86**	**224**	*e*P			**Pn**	**18 14 11.9**	**+1.3**
	baz=233								
SSPT				*e*S			**Sn**	**18 14 46.2**	**+2.2**
	baz=233								
SCZT	**Fangliau**	**2.91**	**222**	*e*P			**Pn**	**18 14 12.2**	**+0.8**
	baz=214								
VWUC	**VWUC**	**2.99**	**279**	*e*P		

mb1 3.4/5, mb1mx3.2/54, mbtmp3.3/5, ML3.2/2, Error ellipse: s-maj=34.9km s-min=29.7km az=79.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**10.57**	**252**	Pn	Pn	18 45 23.1	0.0
	0.2nm,0.3s,baz=116,slow=9.8,SNR=2.1						
PALK				Sn	Sn	18 47 13.7	-8.6
	1.3nm,0.3s,baz=116,slow=4.1,SNR=5.0						
CMAR	**Chiang Mai Arr**	**10.99**	**45**	Pn	Pn	18 45 27.8	-1.0
	0.0nm,0.3s,baz=233,slow=13,SNR=4.6						
MKAR	**Makanchi Array**	**36.67**	**350**	P	P	18 49 57.9	-0.8
	0.4nm,0.8s,baz=171,slow=8.0,SNR=4.0						
SONM	**Songino Array**	**39.25**	**17**	P	P	18 50 21.2	+0.7
	0.1nm,0.3s,baz=201,slow=7.7,SNR=2.4						
WRA	**Warramunga Arr**	**52.57**	**125**	P	P	18 52 05.8	-0.2
	0.2nm,0.7s,baz=309,slow=8.1,SNR=2.7						

*IDC **30** 18:45:58.9±1.3, 12.°56S×14.°87W, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/36, mbtmp4.0/8, MS3.8/8, Ms1 3.8/8, ms1mx3.6/28, Error ellipse: s-maj=62.3km s-min=21.7km az=103.0*

*ISCJB **30** 18:45:59.9±0.7, 12.°66S±0.°07×14.°7W±0.°1, h18km, mb4.3/15, MS3.8/8, Error ellipse: s-maj=20.8km s-min=10.1km az=6.5*

*NEIC **30** 18:46:00.5±0.6, 12.°59S×14.°78W, h10km, mb4.7/6, Error ellipse: s-maj=22.6km s-min=11.3km az=108.0*

ISC 30 18:46:01.9±0.8, 12.°6S±0.°1×14.°7W±0.°2, h18km, n39, σ1s23/31, mb4.3/15, MS3.8/8, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**3.65**	**1**	Pn	**Pn**	**18 46 58.1**	**+0.8**
H10S2				T	T	18 50 47.3	
	baz=182,slow=74,SNR=294						
H10S3	**ASCENSION HYDR**	**3.66**	**1**	Pn	**Pn**	**18 46 58.5**	**+1.1**
H10S3				T	T	18 50 47.6	
	baz=182,slow=74,SNR=170						
H10S1	**ASCENSION HYDR**	**3.67**	**1**	Pn	**Pn**	**18 47 00.0**	**+2.5**
H10S1				T	T	18 50 53.4	
	baz=182,slow=74,SNR=159						
ASCN	**Ascension**	**4.68**	**4**	*e*Pn	**Pn**	**18 47 10.8**	**-1.0**
H10N1	**ASCENSION HYDR**	**4.76**	**3**	T	T	18 52 18.1	
	baz=181,slow=73,SNR=19						
H10N3	**ASCENSION HYDR**	**4.77**	**3**	T	T	18 52 07.4	
	baz=181,slow=73,SNR=70						
H10N2	**ASCENSION HYDR**	**4.78**	**3**	T	T	18 52 23.5	
	baz=181,slow=73,SNR=27						
LIC	**Lamto**	**21.07**	**28**	*e*P	**P**	**18 50 48.3**	**+3.0**
	49nm,1.4s						
KIC	**Kosan Boka**	**21.32**	**28**	*e*P	**P**	**18 50 46.9**	**-1.1**
	20nm,1.0s						
TIC	**Toumodi**	**21.44**	**27**	*e*P	**P**	**18 50 48.2**	**-1.2**
DBIC	**Dimbokro**	**21.54**	**28**	*e*P	**P**	**18 50 50.6**	**+0.2**
	23nm,1.6s						
DBIC	**Dimbokro**	**21.54**	**28**	P	**P**	**18 50 50.0**	**-0.4**
	3.2nm,0.8s,baz=182,slow=8.8,SNR=5.0						
DBIC				LR	LR	18 57 17.2	
	comp=Z,145nm,19.1s,baz=179,slow=32						
TORD	**Torodi Ar. Bea**	**30.35**	**33**	P	**P**	**18 52 11.1**	**-1.8**
	9.4nm,0.2s,baz=205,slow=7.3,SNR=3.7						
TORD				LR	LR	19 02 32.4	
	comp=Z,228nm,19.6s,baz=290,slow=33						
TOA1	**Torodi Ar. Sit**	**30.35**	**33**	*e*P	**P**	**18 52 11.1**	**-1.8**
BDFB	**Brasilia**	**32.40**	**261**	LR	LR	19 03 32.4	
	comp=Z,160nm,19.4s,baz=95,slow=33						
TAM	**Tamanrasset**	**40.41**	**30**	*e*P	**P**	**18 53 40.0**	**+0.6**
	12nm,1.9s						
CPUP	**Villa Florida**	**42.21**	**245**	LR	LR	19 08 17.7	
	comp=Z,134nm,21.6s,baz=88,slow=32						
MBAR	**Mbarara**	**46.62**	**79**	*e*P	**P**	**18 54 30.5**	**+0.8**
	16nm,1.7s						
TRQA	**Tornquist**	**48.97**	**230**	*e*P	**P**	**18 54 47.2**	**-0.3**
	29nm,1.8s						
KMBO	**Kilima Mbogo**	**52.75**	**82**	*e*P	**P**	**18 55 17.1**	**+0.6**
KMBO				*es*P	**P**	**18 55 17.3**	**+0.7**
KMBO	**Kilima Mbogo**	**52.75**	**82**	P	**P**	**18 55 18.2**	**+1.7**
	0.9nm,0.3s,baz=222,slow=12,SNR=4.1						
KEST	**Kesra**	**53.22**	**24**	LR	LR	19 18 11.5	
	comp=Z,177nm,18.0s,baz=27,slow=36						
SNAA	**Sanae**	**59.45**	**176**	*e*P	**P**	**18 56 03.1**	**-0.2**
	33nm,2.0s						
SNAA	**Sanae**	**59.45**	**176**	P	**P**	**18 56 02.9**	**-0.4**
	2.2nm,0.8s,baz=285,slow=12,SNR=3.4						
VRAC	**Vranov**	**67.58**	**22**	LR	LR	19 25 33.3	
	comp=Z,80nm,19.3s,baz=188,slow=35						
BR101	**Keskin Array S**	**68.79**	**38**	*e*P	**P**	**18 57 05.1**	**-0.1**
BRTR	**Keskin Array B**	**68.79**	**38**	P	**P**	**18 57 05.1**	**-0.1**
	0.4nm,0.8s,baz=221,slow=1.1,SNR=4.1						
AK11	**Malin Array Si**	**73.75**	**27**	*e*P	**P**	**18 57 32.8**	**-2.0**
AKASG	**Malin Array Be**	**73.79**	**27**	P	**P**	**18 57 34.5**	**-0.5**
	0.9nm,0.5s,baz=224,slow=6.4,SNR=4.8						
AKBB	**Malin Array Si**	**73.79**	**27**	*e*P	**P**	**18 57 33.6**	**-1.4**
	5.5nm,1.1s						
NB2	**NORSAR Subarra**	**76.27**	**13**	P	**P**	**18 57 48.9**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=204,slow=6.5						
NB200	**NORSAR Array S**	**76.27**	**13**	*e*P	**P**	**18 57 49.2**	**+0.1**
NOA	**NORSAR Array B**	**76.27**	**13**	P	**P**	**18 57 49.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=203,slow=6.2,SNR=5.1						
OBN	**Obninsk**	**80.05**	**27**	LR	LR	19 34 14.7	
	comp=Z,24nm,18.1s,baz=185,slow=36						
FIA0	**FINESS Array S**	**80.53**	**19**	*e*P	**P**	**18 58 13.9**	**+1.3**
FINES	**FINESS Array B**	**80.53**	**19**	P	**P**	**18 58 13.9**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=273,slow=3.6,SNR=4.3						
JMIC	**Jan Mayen**	**83.53**	**2**	LR	LR	19 33 32.3	
	comp=Z,58nm,18.2s,baz=34,slow=34						
VNDA	**Vanda**	**89.99**	**179**	*e*P	**P**	**18 59 00.1**	**+0.3**
VNDA	**Vanda**	**89.99**	**179**	P	**P**	**18 59 00.7**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=226,slow=5.2,SNR=6.2						

IDC 30 18:48:55.6±8.5, 30.°52S×177.°53W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/38, mbtmp3.4/2, MS3.6/1, Ms1 3.6/1, ms1mx3.1/7, Error ellipse: s-maj=336.5km s-min=48.2km az=153.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.51**	**267**	P	P	18 57 00.8	-0.3
	0.2nm,0.5s,baz=108,slow=7.4,SNR=3.8						
WRA	**Warramunga Arr**	**44.51**	**272**	P	P	18 57 09.3	+0.1
	0.8nm,0.9s,baz=113,slow=7.3,SNR=7.2						
GUMO	**Guam**	**56.85**	**315**	LR	LR	19 20 43.2	
	comp=Z,44nm,18.3s,baz=304,slow=34						
FINES	**FINESS Array B**	**145.39**	**340**	PKPbc	PKPbc	19 08 34.1	-0.5
	0.5nm,0.4s,baz=46,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**151.64**	**323**	PKPab	PKPab	19 08 59.2	-0.9
	0.6nm,0.4s,baz=46,slow=2.4,SNR=2.8						

IDC 30 18:51:29.1±2.0, 7.°75S×128.°19E, h0km, mb3.1/1, mb1 3.3/4, mb1mx3.1/39, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=94.6km s-min=27.6km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.56**	**193**	Pn	Pn	18 54 00.7	-1.2
	0.1nm,0.3s,baz=24,slow=12,SNR=4.1						
FITZ				Sn	Sn	18 55 44.1	-17
	0.3nm,0.3s,baz=126,slow=19,SNR=5.9						
WRA	**Warramunga Arr**	**13.49**	**154**	Pn	Pn	18 54 41.9	0.0
	0.2nm,0.3s,baz=332,slow=14,SNR=7.5						
WRA				Sn	Sn	18 57 02.4	-10
	0.2nm,0.3s,baz=332,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**16.73**	**162**	Pn	P	18 55 26.3	-1.2
	0.1nm,0.3s,baz=334,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**67.90**	**328**	P	P	19 02 29.6	0.0
	0.2nm,0.7s,baz=133,slow=6.3,SNR=2.9						

*NIED **30** 18:57:00, 36.°60N×141.°20E, h8km, Mw3.7 Best double couple: M03.75000×10^14 NP1:φs352.00000°, δ40.00000°, λ-108.00000°. NP2:φs194.00000°, δ53.00000°, λ-76.00000°.*

*IDC **30** 18:57:37.1±0.7, 36.°54N×141.°13E, h0km, mb3.6/11, mb1 3.8/14, mb1mx3.7/43, mbtmp3.6/14, ML3.8/2, Error ellipse: s-maj=19.7km s-min=14.6km az=117.0*

*ISCJB **30** 18:57:38.3±0.9, 36.°58N±0.°03×141.°23E±0.°05, h19km±5km, mb3.7/16, Error ellipse: s-maj=7.1km s-min=4.3km az=27.6*

*JMA **30** 18:57:39.6±0.1, 36.°58N×141.°12E, h34km±1km, M3.9*

JMA Felt II J1.

*NEIC **30** 18:57:40.4±2.2, 36.°58N×141.°13E, h21km±16km, mb4.2/4, Error ellipse: s-maj=8.8km s-min=6.4km az=114.0*

NEIC Recorded [2 JMA] in Ibaraki.

ISC 30 18:57:38.7±1.6, 36.°61N±0.°04×141.°21E±0.°06, h8km±9km, n48, σ1s38/54, mb3.8/16, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.51**	**270**	P	**Pg**	**18 57 48.9**	**+0.2**
JHO				*e*S	**Sg**	**18 57 55.7**	**+0.3**
JHYU	**Hitachinakayam**	**0.57**	**242**	P	**Pg**	**18 57 49.8**	**+0.1**
JHYU				*e*S	**Sg**	**18 57 57.4**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.59**	**326**	P	**Pb**	**18 57 50.9**	**-0.5**
ONAJ				*e*S	**Sb**	**18 57 59.3**	**-0.7**
JFFD	**Fukushimafurud**	**0.71**	**313**	P	**Pg**	**18 57 52.6**	**+0.2**
JFFD				*e*S	**Sg**	**18 58 01.9**	**+0.3**
JFK	**Kawauchi**	**0.80**	**341**	P	**Pg**	**18 57 54.1**	**-0.1**
JFK				*e*S	**Sg**	**18 58 04.9**	**+0.3**
JFT	**Otama**	**1.14**	**323**	P	**Pg**	**18 58 00.0**	**-0.7**
JFT				*e*S	**Sg**	**18 58 14.7**	**-0.9**
JMM	**Marumori**	**1.30**	**345**	P	**Pn**	**18 58 01.8**	**-1.4**
JMM				*e*S	**Sb**	**18 58 18.2**	**-2.0**
MJAR	**Matsushiro Arr**	**2.42**	**269**	Pn	**Pn**	**18 58 17.6**	**-1.0**
	1.1nm,0.3s,baz=67,slow=33,SNR=60						
MJAR				Sn	**Sn**	**18 58 46.9**	**-1.4**
	1.8nm,0.3s,baz=292,slow=24,SNR=7.5						
MAJO	**Matsushiro**	**2.42**	**269**	*e*Pn	**Pn**	**18 58 18.1**	**-0.5**
MAJO				*e*Sn	**Sn**	**18 58 46.9**	**-1.4**
MAT	**Matsushiro**	**2.42**	**269**	P	**Pn**	**18 58 18.2**	**-0.4**
MAT				S	**Sn**	**18 58 47.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**2.42**	**269**	*e*Pn	**Pn**	**18 58 18.2**	**-0.5**
INU	**Inuyama**	**3.62**	**251**	*e*Pn	**Pn**	**18 58 35.6**	**+0.5**
JHJ2	**Mitsune**	**3.67**	**199**	*e*Pn	**Pn**	**18 58 34.7**	**-1.1**
JHJ	**Hachijo jima 2**	**3.67**	**199**	Pn	**Pn**	**18 58 34.1**	**-1.7**
	27nm,0.3s,baz=60,slow=20,SNR=3.5						
JHJ				Sn	**Sn**	**18 59 19.4**	**0.0**
	21nm,0.3s,baz=54,slow=19,SNR=2.8						
ERM	**Erimo**	**5.61**	**15**	*e*Pn	**Pn**	**18 59 02.1**	**-0.3**
ERM				*e*Sn	**Sn**	**19 00 08.2**	**+1.2**
ASAJ	**Asahikawa**	**7.57**	**8**	Pn	**Pn**	**18 59 28.4**	**-1.1**
	1.4nm,0.3s,baz=235,slow=10.0,SNR=17						
KSRS	**Korea Array**	**10.66**	**279**	Pn	**Pn**	**19 00 15.4**	**+3.8**
	0.1nm,0.3s,baz=35,slow=15,SNR=2.9						
KSAR	**Wonju Array Be**	**10.69**	**278**	Pn	**Pn**	**19 00 15.4**	**+3.4**
MA2	**Magadan**	**23.80**	**12**	P	**P**	**19 02 51.9**	**+0.1**
	1.6nm,0.5s,baz=168,slow=9.5,SNR=3.5						
SEY	**Seymchan**	**27.24**	**11**	P	**P**	**19 03 24.3**	**+1.4**
	3.7nm,0.3s,baz=90,slow=1.1,SNR=23						
SONA0	**Songino Array**	**27.89**	**305**	*e*P	**P**	**19 03 33.0**	**+3.8**
SONM	**Songino Array**	**27.89**	**305**	P	**P**	**19 03 33.0**	**+3.8**
	0.3nm,0.5s,baz=111,slow=8.4,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	19 32 58.2	
	baz=312,slow=75,SNR=232						
H11N1	**WAKE ISLAND Hy**	**28.08**	**120**	T	T	19 33 00.7	
	baz=312,slow=75,SNR=171						
H11N3	**WAKE ISLAND Hy**	**28.09**	**120**	T	T	19 33 00.3	
	baz=312,slow=75,SNR=142						
H11S1	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	19 33 43.8	
	baz=314,slow=75,SNR=255						
H11S3	**WAKE ISLAND Hy**	**28.77**	**122**	T	T	19 33 49.7	
	baz=314,slow=75,SNR=166						
H11S2	**WAKE ISLAND Hy**	**28.79**	**122**	T	T	19 33 46.2	
	baz=314,slow=75,SNR=125						
ZAA1	**Zalesovo Array**	**42.08**	**313**	*e*P	**P**	**19 05 30.2**	**-0.7**
ZALV	**Zalesovo Beam**	**42.08**	**313**	*e*P	**P**	**19 05 29.2**	**-1.7**
ZALV	**Zalesovo Beam**	**42.08**	**313**	P	**P**	**19 05 30.2**	**-0.7**
	0.3nm,0.3s,baz=100,slow=6.7,SNR=2.5						
MK01	**Makanchi Array**	**44.20**	**302**	*e*P	**P**	**19 05 47.4**	**-0.8**
MK31	**Makanchi Array**	**44.20**	**302**	*e*P	**P**	**19 05 47.2**	**-1.0**
	2.6nm,1.4s						
MK32	**Makanchi Array**	**44.20**	**302**	*e*P	**P**	**19 05 48.1**	**-0.1**
MKAR	**Makanchi Array**	**44.20**	**302**	P	**P**	**19 05 48.1**	**-0.1**
	0.3nm,0.7s,baz=92,slow=9.6,SNR=4.6						
KURBB	**Kurchatov Arra**	**46.13**	**308**	P	**P**	**19 06 02.9**	**-0.6**
	0.5nm,0.5s,baz=83,slow=8.1,SNR=4.9						
IM3	**Indian Mountai**	**47.10**	**30**	*e*P	**P**	**19 06 11.2**	**+0.3**
ILAR	**Eielson Array**	**49.94**	**32**	P	**P**	**19 06 33.0**	**+0.3**
	0.5nm,0.9s,baz=269,slow=6.9,SNR=7.5						
ILB	**Eielson Array**	**49.94**	**32**	*e*P	**P**	**19 06 33.0**	**+0.3**
	7.1nm,1.4s						
WR1	**Warramunga Arr**	**56.62**	**188**	*e*P	**P**	**19 07 20.8**	**-1.4**
	36nm,1.9s						
WRA	**Warramunga Arr**	**56.62**	**188**	P	**P**	**19 07 20.8**	**-1.4**
	1.0nm,0.9s,baz=5.2,slow=7.3,SNR=8.1						
AS31	**Alice Springs**	**60.34**	**188**	*e*P	**P**	**19 07 49.0**	**+0.7**
	1.1nm,1.1s						
ASAR	**Alice Springs**	**60.34**	**188**	P	**P**	**19 07 47.1**	**-1.2**
	0.4nm,0.8s,baz=12,slow=13,SNR=5.6						
YKA	**Yellowknife Ar**	**64.26**	**30**	P	**P**	**19 08 14.1**	**+0.1**
	0.2nm,0.6s,baz=301,slow=6.8,SNR=5.6						
NB200	**NORSAR Array S**	**74.51**	**337**	*e*P	**P**	**19 09 16.2**	**-1.3**
NOA	**NORSAR Array B**	**74.51**	**337**	P	**P**	**19 09 16.2**	**-1.3**
	0.5nm,0.6s,baz=39,slow=5.8,SNR=4.1						
NVAR	**Mina Array Bea**	**75.38**	**53**	P	**P**	**19 09 23.9**	**+0.7**
	0.5nm,0.7s,baz=309,slow=5.7,SNR=3.4						
PDAR	**Pinedale Array**	**78.08**	**45**	P	**P**	**19 09 38.8**	**+0.3**
	0.2nm,0.5s,baz=0.0,slow=1.4,SNR=2.6						

IDC 30 19:33:41.6±4.2, 30.°09S×178.°05W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.4/2, Error ellipse: s-maj=211.0km s-min=67.6km az=166.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.09**	**267**	P	P	19 41 43.2	-0.5
	0.4nm,0.7s,baz=105,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**44.05**	**272**	P	P	19 41 51.5	+0.1
	0.3nm,0.5s,baz=112,slow=8.0,SNR=7.9						
FINES	**FINESS Array B**	**144.84**	**340**	PKP	PKPdf	19 53 19.4	-0.5
	1.8nm,0.8s,baz=44,slow=4.0,SNR=8.2						

MEX 30 19:34:09.6±0.5, 16.°04N×97.°66W, h16km±5km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**308**	*e*P	Pg	19 34 19.0	-1.9
PNIG				*i* S	Sg	19 34 26.5	-2.1
VHO	**Vista Hermosa**	**1.36**	**41**	*i* P	Pn	19 34 30.1	-4.1
VHO				*i* S	Sn	19 34 47.1	-4.9
TLIG	**Tlapa**	**1.75**	**330**	*i* P	Pn	19 34 35.7	-3.7
TLIG				*i* S	Sn	19 34 55.9	-5.6

*ISCJB **30** 19:36:50.8±0.6, 62.°63S±0.°05×165.°0E±0.°3, h10km, mb4.2/6, MS4.3/12, Error ellipse: s-maj=22.4km s-min=7.8km az=1.7*

*IDC **30** 19:36:52.3±1.5, 62.°67S×164.°54E, h0km, mb4.0/3, mb1 4.4/4, mb1mx4.0/24, mbtmp4.2/4, ML4.7/1, MS4.3/14, Ms1 4.3/14, ms1mx4.2/27, Error ellipse: s-maj=88.1km s-min=24.0km az=71.0*

*NEIC **30** 19:36:53.2±0.5, 62.°61S×164.°94E, h10km, mb4.5/10, Error ellipse: s-maj=22.8km s-min=7.9km az=91.0*

ISC 30 19:36:52.6±0.7, 62.°63S±0.°08×165.°0E±0.°3, h10km, n45, σ0s67/24, mb4.3/6, MS4.2/12, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.99**	**183**	*e*Pn	**Pn**	**19 40 23.4**	**-0.8**
VNDA	**Vanda**	**14.99**	**183**	Pn	**Pn**	**19 40 23.6**	**-0.6**
	2.8nm,0.3s,baz=358,slow=14,SNR=144						
VNDA				LR	LR	19 45 09.0	
	comp=Z,3μm,20.1s,baz=12,slow=33						
SBA	**Scott Base**	**15.31**	**179**	*e*Pn	**Pn**	**19 40 28.4**	**+0.1**
	52nm,1.3s						
WHZ	**Wether Hill Ro**	**16.86**	**7**	*e*Pn	**Pn**	**19 40 48.5**	**0.0**
	17nm,0.9s						
MLZ	**Mavora Lakes**	**17.39**	**7**	*e*Pn	**Pn**	**19 40 54.8**	**-0.4**
	69nm,1.5s						
WKZ	**Wanaka**	**17.99**	**9**	*e*Pn	**Pn**	**19 41 02.6**	**0.0**
	48nm,1.4s						
RPZ	**Rata Peaks**	**19.28**	**13**	*e*P	**P**	**19 41 17.2**	**-0.1**
	15nm,0.9s						
RPZ	**Rata Peaks**	**19.28**	**13**	LR	LR	19 47 34.3	
	comp=Z,2μm,20.4s,baz=217,slow=33						
OXZ	**Oxford**	**19.78**	**15**	*e*P	**Pn**	**19 41 23.7**	**-0.5**
	60nm,1.7s						
URZ	**Urewera**	**25.50**	**23**	LR	LR	19 50 48.1	
	comp=Z,1μm,21.2s,baz=190,slow=33						
QSPA	**South Pole Qui**	**27.46**	**180**	*e*P	**P**	**19 42 39.0**	**+0.5**
	19nm,1.5s						
QSPA	**South Pole Qui**	**27.46**	**180**	P	**P**	**19 42 39.0**	**+0.5**
	3.9nm,1.1s,baz=11,slow=7.2,SNR=7.1						
QSPA				LR	LR	19 52 20.8	
	comp=Z,938nm,18.9s,baz=28,slow=34						
MAW	**Mawson**	**38.56**	**217**	LR	LR	20 00 10.6	
	comp=Z,890nm,20.7s,baz=126,slow=36						
H01W1	**Cape Leeuwin H**	**41.84**	**287**	T	T	20 29 58.9	
	baz=147,slow=76,SNR=48						
H01W2	**Cape Leeuwin H**	**41.85**	**287**	T	T	20 29 59.2	
	baz=147,slow=76,SNR=47						
H01W3	**Cape Leeuwin H**	**41.86**	**287**	T	T	20 30 00.1	
	baz=147,slow=76,SNR=45						
AS01	**Alice Springs**	**44.19**	**317**	*e*P	**P**	**19 45 01.2**	**-0.3**
ASAR	**Alice Springs**	**44.20**	**317**	P	**P**	**19 45 02.2**	**+0.6**
	3.3nm,0.8s,baz=161,slow=7.7,SNR=28						
ASAR				LR	LR	20 00 57.4	
	comp=Z,200nm,18.3s,baz=154,slow=33						
AS31	**Alice Springs**	**44.20**	**317**	*e*P	**P**	**19 45 01.5**	**-0.2**
	1.2nm,0.6s						
CTA	**Charters Tower**	**44.43**	**334**	LR	LR	20 02 49.6	
	comp=Z,242nm,18.1s,baz=150,slow=35						
SNAA	**Sanae**	**45.71**	**185**	*e*P	**P**	**19 45 12.9**	**-0.3**
	4.3nm,0.9s						
WR1	**Warramunga Arr**	**47.57**	**319**	*e*P	**P**	**19 45 28.0**	**-0.2**
	15nm,1.6s						
WRA	**Warramunga Arr**	**47.57**	**319**	P	**P**	**19 45 28.0**	**-0.2**
	1.1nm,1.0s,baz=157,slow=6.4,SNR=3.9						
RAR	**Rarotonga**	**47.84**	**47**	LR	LR	20 00 41.8	
	comp=Z,282nm,19.3s,baz=261,slow=30						
HNR	**Honiara**	**53.23**	**354**	LR	LR	20 04 59.7	
	comp=Z,202nm,18.9s,baz=206,slow=32						
PAE	**Paea**	**54.79**	**56**	*e*T	T	20 44 44.0	
	8.0nm,0.4s						
TVO	**Taravao**	**54.80**	**57**	*e*T	T	20 44 45.7	
	3.9nm,0.4s						
PPT2	**Papeete2**	**54.85**	**56**	*e*LR	LR	20 02 06.9	
	comp=Z,287nm,22.0s,baz=216						
PPT2	**Papeete2**	**54.85**	**56**	*e*T	T	20 44 49.8	
	14nm,0.4s						
PPT	**Papeete**	**54.88**	**56**	LR	LR	20 04 54.6	
	comp=Z,202nm,18.8s,baz=250,slow=31						
TIAR	**Tiarei**	**54.97**	**56**	*e*T	T	20 44 58.0	
	3.2nm,0.3s						
RKT	**Rikitea**	**56.03**	**74**	*e*T	T	20 46 19.4	
	14nm,0.3s						
VAH	**Vaihoa**	**57.75**	**57**	*e*T	T	20 48 25.7	
	190nm,0.3s						
CPUP	**Villa Florida**	**85.15**	**143**	LR	LR	20 24 49.2	
	comp=Z,58nm,18.2s,baz=200,slow=34						
LPAZ	**La Paz**	**91.10**	**130**	LR	LR	20 21 44.5	
	comp=Z,67nm,19.6s,baz=158,slow=30						
CMAR	**Chiang Mai Arr**	**95.79**	**299**	LR	LR	20 32 04.9	
	comp=Z,117nm,19.4s,baz=285,slow=35						
BDFB	**Brasilia**	**97.81**	**148**	LR	LR	20 33 46.2	
	comp=Z,122nm,18.1s,baz=90,slow=35						
MK32	**Makanchi Array**	**127.15**	**301**	*e*PKPdf	**PKPdf**	**19 55 55.9**	**-0.1**
MKAR	**Makanchi Array**	**127.15**	**301**	PKP	**PKPdf**	**19 55 55.9**	**-0.1**
	0.1nm,0.7s,baz=170,slow=1.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**129.17**	**201**	PKP	**PKiKP**	**19 56 03.2**	**+1.8**
	1.5nm,1.0s,baz=190,slow=1.2,SNR=5.7						
TOA1	**Torodi Ar. Sit**	**129.17**	**201**	*e*PKPdf	**PKiKP**	**19 56 03.2**	**+1.8**
ILAR	**Eielson Array**	**131.99**	**25**	PKP	**PKiKP**	**19 56 05.7**	**+0.1**
	0.3nm,0.8s,baz=242,slow=3.9,SNR=3.7						
YKA	**Yellowknife Ar**	**138.56**	**44**	PKP	**PKPdf**	**19 56 16.4**	**-0.4**
	0.3nm,0.8s,baz=226,slow=2.7,SNR=4.2						
BR101	**Keskin Array S**	**143.12**	**255**	*e*PKPdf	**PKiKP**	**19 56 28.8**	**-0.4**
BRTR	**Keskin Array B**	**143.12**	**255**	PKP	**PKiKP**	**19 56 28.8**	**-0.4**
	0.6nm,0.7s,baz=188,slow=2.9,SNR=3.6						

SJA 30 19:40:38.8±0.3, 28.°80S×69.°12W, h128km±2km, ML3.5, MW3.3, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**0.80**	**86**	*e*P	Pn	19 41 00.5	+0.6
VCA				*e*S	Sn	19 41 16.7	+0.8
VCA				IAML		19 41 18.1	
	comp=Z,781nm,0.2s						
AGUA	**GUANDACOL**	**0.88**	**142**	*e*P	Pn	19 41 01.2	+0.7
AGUA				*e*S	Sn	19 41 17.7	+0.7
AROD	**Rodeo**	**1.40**	**193**	*e*P	Pn	19 41 07.3	+1.4
AROD				*e*S	Sn	19 41 28.2	+1.6
ACCO	**Cerro Coronel**	**1.79**	**179**	*e*P	Pn	19 41 11.7	+1.3
ACLC	**CERRO LA CRUZ**	**2.00**	**109**	*e*P	Pn	19 41 13.8	+1.0
APLL	**PUNTA DE LOS L**	**2.76**	**126**	*e*P	Pn	19 41 23.3	+1.0

**IDC 30 19:45:38.3±7.0, 30.°86S×178.°85W, h0km, m

NWAO	**Narrogin (SRO)**	**47.82**	**246**	*e*P	**P**	**19 57 53.0**	**-0.3**
	9.3nm,0.8s							
MJAR	**Matsushiro Arr**	**66.89**	**332**	P	**P**	**20 00 07.5**	**-0.1**
	1.1nm,0.5s,baz=173,slow=7.2,SNR=4.6							
MAJO	**Matsushiro**	**66.89**	**332**	*e*P	**P**	**20 00 07.5**	**-0.1**
QSPA	**South Pole Qui**	**66.90**	**180**	*e*P	**P**	**20 00 07.4**	**-0.1**
	6.1nm,0.9s							
TPUB	**Ta-pu**	**67.16**	**310**	*e*P	**P**	**20 00 09.4**	**-0.2**
	13nm,0.9s							
KSRS	**Korea Array**	**72.55**	**325**	P	**P**	**20 00 43.7**	**+1.3**
	2.1nm,0.9s,baz=139,slow=6.6,SNR=6.6							
KSAR	**Wonju Array Be**	**72.56**	**325**	P	**P**	**20 00 43.7**	**+1.2**
KS01	**Wonju Array Si**	**72.58**	**325**	*e*P	**P**	**20 00 42.6**	**0.0**
PEA0B	**Petropavlovsk-**	**76.81**	**352**	*e*P	**P**	**20 01 07.2**	**+0.5**
	30nm,1.1s							
PETK	**Petropavlovsk-**	**76.81**	**352**	P	**P**	**20 01 08.0**	**+1.2**
	9.3nm,0.8s,baz=151,slow=6.8,SNR=8.6							
PEA1	**Petropavlovsk-**	**76.81**	**352**	*e*P	**P**	**20 01 08.0**	**+1.2**
ENH	**Enshi**	**79.28**	**309**	*e*P	**P**	**20 01 20.2**	**-0.8**
	9.6nm,0.9s							
CM01	**Chiang Mai Arr**	**81.40**	**294**	*e*P	**P**	**20 01 32.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.43**	**294**	P	**P**	**20 01 35.5**	**+2.7**
	1.3nm,0.6s,baz=134,slow=4.1,SNR=16							
CHTO	**Chiang Mai**	**81.60**	**295**	*e*P	**P**	**20 01 34.5**	**+0.8**
	2.3nm,0.8s							
SEY	**Seymchan**	**87.05**	**352**	P	**P**	**20 02 01.1**	**+0.8**
	3.2nm,0.3s,baz=94,slow=2.5,SNR=27							
SONA0	**Songino Array**	**91.22**	**323**	*e*P	**P**	**20 02 21.6**	**+1.1**
SONM	**Songino Array**	**91.22**	**323**	P	**P**	**20 02 21.6**	**+1.1**
	0.4nm,0.7s,baz=108,slow=4.7,SNR=2.9							
ILAR	**Eielson Array**	**93.55**	**17**	P	**P**	**20 02 29.9**	**-0.8**
	1.0nm,0.8s,baz=230,slow=4.9,SNR=12							
BVAR	**Borovoye Array**	**114.34**	**319**	PKP	PKPdf	20 07 54.4	-0.3	
	0.4nm,0.6s,baz=17,slow=1.5,SNR=4.2							
DPC	**Dobruska-Polom**	**146.35**	**330**	*e*PKP	**PKPab**	**20 08 56.7**	**-0.1**
VYHS	**Vyhne**	**146.35**	**326**	*e*	**PKPab**	**20 08 57.3**	**+0.5**
PVCC	**Panska Ves**	**147.00**	**332**	*e*PKP	**PKiKP**	**20 09 00.8**	**+0.5**
CLL	**Collm**	**147.07**	**334**	*e*PKPbc	**PKiKP**	**20 09 00.0**	**-0.4**
CLL				*e*PKiKP	**pPKPdf**	**20 09 02.0**	**-2.4**
PRU	**Pruhonice**	**147.41**	**331**	*e*PKP	**PKPab**	**20 09 00.2**	**-0.7**
CONA	**Conrad Observa**	**148.23**	**327**	PKPbc	**PKPbc**	**20 09 01.6**	**+0.3**
	2.7nm,0.8s							
KHC	**Kasperske Hory**	**148.47**	**331**	*e*PKP	**PKPbc**	**20 09 02.2**	**+0.4**
GERES	**GERESS Array B**	**148.62**	**330**	PKPbc	**PKiKP**	**20 09 03.2**	**-0.6**
	1.2nm,0.8s,baz=57,slow=3.7,SNR=6.4							
ARSA	**Arzberg**	**148.85**	**327**	*e*PKPbc	**PKPbc**	**20 09 01.4**	**-1.5**
	3.3nm,1.4s							
MOA	**Molln**	**149.07**	**329**	*e*PKPab	**PKPab**	**20 09 06.5**	**-1.1**
	6.5nm,1.9s							
SOKA	**Soboth**	**149.49**	**326**	*e*PKiKP	**PKiKP**	**20 09 05.4**	**-0.2**
	7.4nm,1.6s							
KBA	**Koelnbreinsper**	**150.05**	**328**	*e*PKiKP	**PKiKP**	**20 09 06.6**	**-0.3**
	6.2nm,0.9s							
MYKA	**Terra Mystica**	**150.22**	**327**	*e*PKPbc	**PKPbc**	**20 09 03.7**	**-2.6**
	4.2nm,0.9s							
ABTA	**Abfaltersbach**	**150.69**	**329**	*e*PKPbc	**PKPbc**	**20 09 07.7**	**+0.2**
	14nm,1.9s							
WATA	**Walderalm**	**150.69**	**330**	*i* PKiKP	**PKiKP**	**20 09 08.2**	**0.0**
	4.3nm,0.9s							
WTTA	**Wattenberg**	**150.72**	**330**	*i* PKPbc	**PKPbc**	**20 09 07.5**	**-0.2**
	10nm,1.3s							
MOTA	**Moosalm**	**150.90**	**331**	*e*PKiKP	**PKiKP**	**20 09 08.8**	**+0.1**
	6.7nm,1.1s							
RETA	**Reutte**	**150.94**	**332**	*e*PKiKP	**PKiKP**	**20 09 08.8**	**+0.2**
	8.9nm,1.8s							
SQTA	**Sankt Quirin**	**150.95**	**331**	*e*PKiKP	**PKiKP**	**20 09 08.8**	**+0.1**
	8.0nm,1.0s							
FETA	**Feichten**	**151.31**	**331**	*e*PKPbc	**PKPbc**	**20 09 08.8**	**-0.2**
	6.9nm,1.1s							
DAVA	**Damuels**	**151.48**	**332**	*e*PKPbc	**PKiKP**	**20 09 09.7**	**-0.1**
	9.2nm,1.3s							

KRSC 30 19:50:57.1±10.0,**60°23N**×**163°27E**,**h19**km±10km,**ML4.0,**
Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**0.98**	**186**	*e*P	Pb	19 51 15.1	-0.4
OSSR				*e*S	Sb	19 51 27.2	-0.9
TILK	**Tilichiki**	**1.45**	**80**	*e*P	Pb	19 51 23.5	+0.1
TILK				*e*S	Sb	19 51 42.6	+1.2
KMSK	**Kamenskaya**	**2.66**	**31**	*e*P	Pn	19 51 41.3	+2.4
KMSK				*e*S	Sn	19 52 13.2	+2.7

*ISCJB **30** 19:51:16.5±0.5,20.84S±0.05×176.64E±0.09,h10km, mb4.1/13,MS4.0/2,Error ellipse: s-maj=12.6km s-min=7.1km az=17.8*
*NEIC **30** 19:51:18.2±0.4,20.86S×176.61E,h10km,mb4.3/11,Error ellipse: s-maj=11.1km s-min=7.9km az=94.0*
*IDC **30** 19:51:18.2±1.6,20.79S×176.44E,h0km,mb3.8/7, mb1 4.1/8,mb1mx3.9/30,mbtmp3.9/8,ML3.9/1,MS4.0/2, Ms1 3.9/2,ms1mx3.3/29,Error ellipse: s-maj=47.3km s-min=28.3km az=126.0*

ISC 30 19:51:18.1±0.6,**20.82S**±0.08×**176.7E**±0.1,**h10**km,**n28,**
σ**0.92**/26,**mb4.1**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.34**	**23**	*e*Pn	**Pn**	**19 52 09.0**	**-1.6**
MSVF				*e*Sn	**Sn**	**19 52 50.3**	**-0.1**
URZ	**Urewera**	**17.38**	**179**	*e*Pn	**Pn**	**19 55 20.5**	**-0.3**
	28nm,1.1s						
URZ	**Urewera**	**17.38**	**179**	P	**P**	**19 55 22.3**	**+0.2**
	0.5nm,0.3s,baz=55,slow=10,SNR=3.6						
BKZ	**Black Stump Fm**	**18.28**	**180**	*e*P	**Pn**	**19 55 31.5**	**-0.4**
	21nm,1.5s						
BFZ	**Birch Farm**	**19.80**	**181**	*e*P	**P**	**19 55 48.5**	**-0.1**
	26nm,1.2s						
RAR	**Rarotonga**	**22.01**	**95**	*e*P	**P**	**19 56 13.0**	**+0.3**
	14nm,0.9s						
RPZ	**Rata Peaks**	**23.30**	**190**	*e*P	**P**	**19 56 25.7**	**-0.5**
	69nm,1.7s						
STKA	**Stephens Creek**	**33.15**	**243**	*e*P	**P**	**19 57 53.9**	**-1.0**
	1.2nm,1.1s						
STKA	**Stephens Creek**	**33.15**	**243**	P	**P**	**19 57 56.2**	**+1.4**
	2.1nm,0.8s,baz=113,slow=14,SNR=3.1						
STKA				LR	LR	20 08 45.5	
	comp=Z,104nm,19.6s,baz=51,slow=32						
AS31	**Alice Springs**	**39.56**	**258**	*e*P	**P**	**19 58 48.3**	**-1.5**
	1.3nm,1.0s						
ASAR	**Alice Springs**	**39.56**	**258**	P	**P**	**19 58 49.5**	**-0.2**
	1.1nm,1.0s,baz=86,slow=9.3,SNR=5.0						
WR1	**Warramunga Arr**	**39.59**	**264**	*e*P	**P**	**19 58 49.5**	**-0.6**
	12nm,1.6s						
WRA	**Warramunga Arr**	**39.59**	**264**	P	**P**	**19 58 49.5**	**-0.6**
	0.5nm,0.9s,baz=88,slow=6.6,SNR=3.1						
H11S2	**WAKE ISLAND Hy**	**40.27**	**345**	T	T	20 41 54.0	
	baz=166,slow=76,SNR=18						
H11S3	**WAKE ISLAND Hy**	**40.28**	**345**	T	T	20 41 54.9	
	baz=166,slow=76,SNR=6.0						
H11S1	**WAKE ISLAND Hy**	**40.29**	**345**	T	T	20 41 55.7	
	baz=166,slow=76,SNR=9.4						
SBA	**Scott Base**	**57.28**	**182**	*e*P	**P**	**20 01 06.0**	**+0.6**
	4.3nm,1.2s						
MJAR	**Matsushiro Arr**	**67.63**	**327**	P	**P**	**20 02 16.6**	**+1.3**
	1.2nm,0.8s,baz=171,slow=5.9,SNR=3.6						
MAJO	**Matsushiro**	**67.64**	**327**	*e*P	**P**	**20 02 16.6**	**+1.2**
QSPA	**South Pole Qui**	**69.24**	**180**	*e*P	**P**	**20 02 24.5**	**-0.6**
	17nm,1.4s						
CM01	**Chiang Mai Arr**	**85.51**	**291**	*e*P	**P**	**20 03 56.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**85.54**	**292**	P	**P**	**20 03 57.2**	**+0.2**
	0.8nm,1.0s,baz=159,slow=7.7,SNR=5.6						
ILAR	**Eielson Array**	**89.82**	**15**	P	**P**	**20 04 18.2**	**+1.7**
	0.7nm,1.0s,baz=241,slow=5.4,SNR=5.2						
ILB	**Eielson Array**	**89.82**	**15**	*e*P	**P**	**20 04 18.2**	**+1.7**
	7.1nm,1.6s						
SONA0	**Songino Array**	**92.77**	**321**	*e*P	**P**	**20 04 30.8**	**0.0**
SONM	**Songino Array**	**92.77**	**321**	P	**P**	**20 04 30.8**	**0.0**
	0.1nm,0.3s,baz=72,slow=4.7,SNR=2.6						
SONM				LR	LR	20 43 26.9	
	comp=Z,183nm,19.9s,baz=160,slow=34						
CLL	**Collm**	**146.99**	**341**	*e*PKPbc	**PKPab**	**20 11 02.0**	**-0.3**
GERES	**GERESS Array B**	**148.89**	**338**	PKPbc	**PKiKP**	**20 11 07.6**	**0.0**
	0.7nm,0.7s,baz=23,slow=5.3,SNR=4.3						

*ISN **30** 20:04:25.2±1.4,38.74N×47.24E,h19km±82km,ML3.8*
*NSSP **30** 20:04:27.0,38.43N×46.83E,h12km,Ms3.7*
*AZER **30** 20:04:27.6±0.6,38.20N×46.76E,h2km,ml3.9/26,Error ellipse: s-maj=5.6km s-min=2.6km az=18.0*
*TEH **30** 20:04:30.3,38.40N×46.84E,h10km,ML3.7*
*ISCJB **30** 20:04:31.9±0.2,38.31N±0.02×46.93E±0.02,h10km,Error ellipse: s-maj=2.8km s-min=2.1km az=29.0*
*THR **30** 20:04:36.1,38.14N×47.22E,h16km,ML3.7*

ISC 30 20:04:31.0±0.7,**38.45N**±0.02×**46.89E**±0.02,**h10**km,**n110,**
σ**1.72**/142,**32C-19D,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITBZ	**Tabriz**	**0.62**	**250**	*e*Pg	**Pg**	**20 04 41.6**	**-1.5**
ITBZ				IAMB	IAmb	20 04 56.4	
	comp=Z,77μm,0.2s						
IBST	**Bostanabad**	**0.75**	**180**	IAMB	IAmb	20 04 58.1	
	comp=Z,53μm,0.3s						
ORD	**Ordubad**	**0.85**	**305**	*e*Pg	**Pg**	**20 04 45.4**	**-1.9**
ORD	**Ordubad**	**0.85**	**305**	↑P	**Pg**	**20 04 45.4**	**-1.9**
ORD				↑S	**Sg**	**20 04 57.9**	**-0.6**
IMRD	**Marand**	**0.97**	**286**	*e*Pg	**Pg**	**20 04 47.5**	**-2.1**
IMRD				IAMB	IAmb	20 05 12.9	
	comp=Z,41μm,0.2s						
IAZR	**Azarshahr**	**1.05**	**223**	*e*Pg	**Pg**	**20 04 48.8**	**-2.4**
IAZR				IAMB	IAmb	20 05 16.7	
	comp=Z,33μm,0.4s						
LRK	**Lerik**	**1.15**	**80**	*e*Pg	**Pb**	**20 04 51.3**	**-1.7**
LRK	**Lerik**	**1.15**	**80**	↑P	**Pb**	**20 04 51.4**	**-1.7**
	SNR=657						
LRK				↑S	**Sn**	**20 05 08.5**	**-0.7**
NAX	**Nakhchivan**	**1.31**	**304**	*e*Pg	**Pn**	**20 04 51.3**	**-4.1**
NAX	**Nakhchivan**	**1.31**	**304**	↑P	**Pn**	**20 04 54.0**	**-1.4**
	SNR=32						
NAX				↓S	**Sg**	**20 05 12.9**	**-0.2**
SBZ	**Shahbuz**	**1.41**	**313**	*e*Pn	**Pn**	**20 04 55.8**	**-1.0**
SBZ	**Shahbuz**	**1.41**	**313**	↑P	**Pn**	**20 04 55.9**	**-1.0**
SBZ				↓S	**Sg**	**20 05 16.3**	**0.0**
GLBA	**Clilabad**	**1.42**	**55**	*e*Pn	**Pb**	**20 04 57.2**	**-0.2**
GLBA	**Clilabad**	**1.42**	**55**	↑P	**Pb**	**20 04 57.2**	**-0.2**
	SNR=59						
GLBA				↓S	**Sg**	**20 05 19.0**	**+2.5**
ASTR	**Astara**	**1.50**	**85**	*e*Pn	**Pn**	**20 04 57.6**	**-0.2**
ASTR	**Astara**	**1.50**	**85**	↓P	**Pn**	**20 04 57.6**	**-0.2**
	SNR=196						
ASTR				↓S	**Sg**	**20 05 19.0**	**0.0**
LKRN	**Lenkeran, Azer**	**1.50**	**79**	*e*Pn	**Pn**	**20 04 57.3**	**-0.6**
LKRN	**Lenkeran, Azer**	**1.50**	**79**	↑P	**Pn**	**20 04 57.3**	**-0.6**
	SNR=13						
LKRN				↑S	**Sg**	**20 05 19.3**	**+0.1**
BRDA	**Brd**	**1.82**	**7**	*e*Pn	**Pb**	**20 05 04.6**	**+0.2**
BRDA	**Brd**	**1.82**	**7**	↑P	**Pb**	**20 05 04.6**	**+0.2**
	SNR=15						
BRDA				↑S	**Sg**	**20 05 31.3**	**+1.6**
MAHB	**Mahabad**	**1.93**	**210**	IAMB	IAmb	20 05 38.3	
	comp=Z,0.0nm,0.5s						
MAHB				*e*Pn	**Pn**	**20 05 04.3**	**+0.4**
ZRD	**Zardab**	**1.93**	**18**	*e*Pn	**Pb**	**20 05 06.2**	**0.0**
ZRD	**Zardab**	**1.93**	**18**	↓P	**Pb**	**20 05 06.3**	**0.0**
	SNR=98						
ZRD				↑S	**Sg**	**20 05 35.4**	**+2.5**
HYR	**Heyderabad**	**2.03**	**309**	*e*Pn	**Pn**	**20 05 05.6**	**+0.3**
HYR	**Heyderabad**	**2.03**	**309**	↑P	**Pn**	**20 05 05.6**	**+0.3**
HYR				↑S	**Sb**	**20 05 34.2**	**+0.8**
KDMR	**Kurdemir**	**2.17**	**27**	*e*Pn	**Pb**	**20 05 09.4**	**-0.9**
KDMR	**Kurdemir**	**2.17**	**27**	↑P	**Pb**	**20 05 09.4**	**-0.9**
	SNR=5.1						
KDMR				↓S	**Sg**	**20 05 41.4**	**+0.8**
YOVA	**Hakkari_Yksek**	**2.23**	**248**	*i* P	**Pb**	**20 05 11.6**	**+0.2**
YOVA				IAML_P			
	comp=Z,45nm,0.1s						
ALIB	**Äli-Bayra**	**2.23**	**47**	*e*Pn	**Pb**	**20 05 10.4**	**-0.9**
ALIB	**Äli-Bayra**	**2.23**	**47**	↑P	**Pb**	**20 05 10.4**	**-0.9**
	SNR=9.1						
ALIB				↑S	**Sg**	**20 05 42.7**	**+0.1**
GANJ	**Ganja**	**2.24**	**349**	*e*Pn	**Pb**	**20 05 09.9**	**-1.6**
GANJ	**Ganja**	**2.24**	**349**	↑P	**Pb**	**20 05 10.0**	**-1.6**
	SNR=64						
GANJ				↓S	**Sb**	**20 05 39.6**	**+0.4**
ZNJK	**Zanjan**	**2.28**	**141**	*e*Pn	**Pb**	**20 05 10.6**	**-1.7**
ZNJK	**Zanjan**	**2.28**	**141**	*e*AML	AML	20 05 50.3	
	comp=N,215nm,0.8s						
ZNJK	**Zanjan**	**2.28**	**141**	*e*Pg	**Pb**	**20 05 10.6**	**-1.7**
ZNJK				*e*Sg	**Sn**	**20 05 35.5**	**-1.6**
MNGR	**Mingechevir, A**	**2.33**	**4**	*e*Pn	**Pb**	**20 05 11.5**	**-1.5**
MNGR	**Mingechevir, A**	**2.33**	**4**	↓P	**Pb**	**20 05 11.5**	**-1.5**
	SNR=4.4						
MNGR				↑S	**Sg**	**20 05 45.5**	**-0.2**
GNI	**Garni**	**2.38**	**316**	*i* P	**Pb**	**20 05 13.7**	**-0.3**
GNI				*i* S	**Sg**	**20 05 47.9**	**+0.5**
GNI	**Garni**	**2.38**	**316**	*e*Pn	**Pb**	**20 05 14.4**	**+0.4**
CLDR	**Caldiran**	**2.42**	**288**	*i* P	**Pb**	**20 05 14.9**	**0.0**
CLDR				IAML_P			
	comp=Z,1μm,0.3s						
CLDR	**Caldiran**	**2.42**	**288**	*e*Pn	**Pb**	**20 05 14.4**	**-0.4**
IML	**Ismayilli**	**2.54**	**23**	*e*Pn	**Pn**	**20 05 13.7**	**+1.4**
IML	**Ismayilli**	**2.54**	**23**	↑P	**Pn**	**20 05 13.8**	**+1.4**
	SNR=13						
IML				↓S	**Sb**	**20 05 48.2**	**+0.1**
QBL	**Gabala**	**2.60**	**16**	*e*Pn	**Pn**	**20 05 14.9**	**+1.8**
QBL	**Gabala**	**2.60**	**16**	↓P	**Pn**	**20 05 14.9**	**+1.8**
	SNR=9.6						
QBL				↑S	**Sb**	**20 05 49.9**	**+0.3**
IGDI	**IGDIR**	**2.61**	**304**	*i* P	**Pb**	**20 05 17.5**	**-0.3**
IGDI				IAML_P			
	comp=Z,186nm,0.3s						
GBS	**Qobustan**	**2.62**	**37**	*e*Pn	**Pb**	**20 05 16.3**	**-1.7**
GBS	**Qobustan**	**2.62**	**37**	↑P	**Pb**	**20 05 16.3**	**-1.7**
	SNR=31						
GBS				↓S	**Sb**	**20 05 52.2**	**+1.9**
VMUR	**Van-Muradiye**	**2.65**	**283**	*i* P	**Pb**	**20 05 17.1**	**-1.5**
PQL	**Pirkuli**	**2.68**	**29**	*e*Pn	**Pn**	**20 05 16.3**	**+2.0**
PQL	**Pirkuli**	**2.68**	**29**	↓P	**Pn**	**20 05 16.4**	**+2.0**
	SNR=22						
PQL				↑S	**Sb**	**20 05 53.6**	**+1.5**
DYDN	**Diyadin**	**2.72**	**295**	*i* P	**Pg**	**20 05 21.3**	**-1.9**
DYDN				IAML_P			
	comp=Z,159nm,0.1s						
TVAN	**Van**	**2.74**	**273**	*i* P	**Pb**	**20 05 20.3**	**+0.2**
TVAN				IAML_P			
	comp=Z,442nm,0.6s						
VANB	**Van**	**2.75**	**274**	*e*Pn	**Pb**	**20 05 20.6**	**+0.3**
SEKA	**Sheki**	**2.77**	**5**	*e*Pn	**Pn**	**20 05 16.9**	**+1.5**
SEKA	**Sheki**	**2.77**	**5**	↑P	**Pn**	**20 05 17.0**	**+1.5**
	SNR=26						
SEKA				↑S	**Sb**	**20 05 56.5**	**+2.0**
QZX	**Qazax, Azerbai**	**2.86**	**336**	*e*Pn	**Pb**	**20 05 19.4**	**-2.6**
QZX	**Qazax, Azerbai**	**2.86**	**336**	↑P	**Pb**	**20 05 19.5**	**-2.6**
	SNR=23						
QZX				↓S	**Sb**	**20 05 55.0**	**-2.1**
CUKT	**Cukurca**	**2.86**	**246**	*e*Pn	**Pb**	**20 05 22.9**	**+0.7**
ATGJ	**Altiaghaj**	**2.88**	**33**	*e*Pn	**Pb**	**20 05 19.6**	**-2.9**
ATGJ	**Altiaghaj**	**2.88**	**33**	↑P	**Pb**	**20 05 19.7**	**-2.9**
	SNR=14						
ATGJ				↑S	**Sb**	**20 05 59.2**	**+1.3**
XNQ	**Khinaliq**	**2.88**	**19**	*e*Pn	**Pn**	**20 05 18.0**	**+0.8**
XNQ	**Khinaliq**	**2.88**	**19**	↑P	**Pn**	**20 05 18.0**	**+0.8**
	SNR=18						
GEVA	**Gevas**	**3.02**	**269**	*i* P	**Pb**	**20 05 21.6**	**-3.2**
GEVA				IAML_P			
	comp=Z,207nm,0.7s						
SIZA	**Siyzn**	**3.05**	**30**	*e*Pn	**Pn**	**20 05 21.1**	**+1.9**
SIZA	**Siyzn**	**3.05**	**30**	↓P	**Pn**	**20 05 21.2**	**+1.9**
	SNR=8.5						
SIZA				↓S	**Sb**	**20 06 01.6**	**-1.0**
DDFL	**Dedoflistskaro**	**3.05**	**349**	P	**Pb**	**20 05 24.8**	**-0.6**
QUB	**Quba**	**3.14**	**21**	*e*Pn	**Pn**	**20 05 23.1**	**+2.6**
QUBA	**Quba, Azerbaij**	**3.15**	**22**	↑P	**Pn**	**20 05 23.2**	**+2.5**
	SNR=9.4						
QUBA				↓S	**Sb**	**20 06 03.8**	**-1.8**
ZKTA	**Zakatala**	**3.19**	**356**	*e*Pn	**Pn**	**20 05 23.2**	**+2.0**
ZKTA	**Zakatala**	**3.19**	**356**	↓P	**Pn**	**20 05 23.3**	**+2.0**
	SNR=16						
ZKTA				↓S	**Sb**	**20 06 06.1**	**-0.6**
AGRB	**Hanur-Agry**	**3.24**	**292**	*e*Pn	**Pb**	**20 05 27.6**	**-1.1**
QSAR	**Qusar**	**3.24**	**19**	*e*Pn	**Pn**	**20 05 24.3**	**+2.4**
QSAR	**Qusar**	**3.24**	**19**	↑P	**Pn**	**20 05 24.3**	**+2.4**
	SNR=8.1						
QSAR				↑S	**Sb**	**20 06 05.7**	**-2.4**
TUTA	**Tutak**	**3.32**	**288**	*i* P	**Pg**	**20 05 32.0**	**-2.6**
DIGO	**Kars**	**3.36**	**307**	*i* P	**Pg**	**20 05 33.9**	**-1.4**
DIGO				IAML_P			
	comp=Z,379nm,0.3s						
SNGE	**Sanandaj**	**3.37**	**174**	*e*Pn	**Pn**	**20 05 25.7**	**+1.8**
SNGE	**Sanandaj**	**3.37**	**174**	*e*Pn	**Pn**	**20 05 25.6**	**+1.8**
EAK	**Akyaka**	**3.38**	**312**	*i* P	**Pb**	**20 05 31.2**	**+0.2**
EAK				IAML_P			
	comp=Z,204nm,0.4s						
LGD	**Lagodekhi**	**3.42**	**352**	P	**Pb**	**20 05 32.9**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.48**	**141**	*e*Pn	**Pn**	**20 05 26.1**	**+0.7**
QABG				IAMB	IAmb	20 05 40.5	
	comp=Z,0.0nm,0.3s						
QALM	**Alamut, Qazvin**	**3.60**	**123**	*e*Pn	**Pn**	**20 05 28.3**	**+1.2**
QALM				IAMB	IAmb	20 06 30.3	
	comp=Z,0.0nm,0.7s						
BTNK	**Botanikuri**	**3.61**	**334**	P	**Pb**	**20 05 35.2**	**+0.4**
BTNK				S	**Sb**	**20 06 22.3**	**+3.7**
MSL	**Mosul**	**3.64**	**237**	*e*Pn	**Pn**	**20 05 28.0**	**+0.7**
MSL				*e*Sn	**Sn**	**20 06 13.0**	**+2.7**
SIRT	**Sirnak**	**3.64**	**256**	*e*Pn	**Pb**	**20 05 33.8**	**-1.7**
KARS	**Kars**	**3.66**	**308**	*e*Pn	**Pb**	**20 05 32.9**	**-3.0**
IKRK	**Kirkuk**	**3.67**	**215**	*e*Pn	**Pn**	**20 05 28.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**20 06 14.0**	**+3.0**
TBLG	**Delisi**	**3.67**	**334**	P	**Pb**	**20 05 36.1**	**+0.2**
TRLG	**Trialeti**	**3.76**	**326**	P	**Pb**	**20 05 38.0**	**+0.5**
TRLG				S	**Sb**	**20 06 27.1**	**+4.0**
BGD	**Bogdanovka**	**3.79**	**319**	P	**Pb**	**20 05 39.8**	**+1.8**
GURO	**Guroymak-BITLI**	**3.81**	**273**	*e*Pn	**Pb**	**20 05 36.1**	**-2.3**
SRTM	**Siirt_Merkez**	**3.94**	**265**	*i* P	**Pb**	**20 05 35.9**	**-4.6**
SRTM				IAML_P			
	comp=Z,26nm,0.2s						
SENK	**Senkaya-Erzuru**	**4.10**	**302**	*e*Pn	**Pb**	**20 05 39.7**	**-3.6**
MUSM	**Mu-Merkez**	**4.22**	**275**	*i* P	**Pb**	**20 05 45.8**	**+0.4**
MUSM				IAML_P			
	comp=Z,29nm,0.1s						
CHTH	**Charan**	**4.23**	**126**	*e*Pn	**Pn**	**20 05 36.9**	**+1.2**
CHTH	**Charan**	**4.23**	**126**	*e*Pn	**Pn**	**20 05 36.9**	**+1.2**
ASAO	**Ashtian**	**4.64**	**146**	*e*Pn	**Pn**	**20 05 42.9**	**+1.6**
ASAO	**Ashtian**	**4.64**	**146**	*e*Pn	**Pn**	**20 05 42.9**	**+1.6**
IPRN	**Peran**	**4.87**	**115**	*e*Pn	**Pn**	**20 05 45.5**	**+1.2**
IPRN				IAMB	IAmb	20 06 57.2	
	comp=Z,757nm,0.5s						
IALA	**Alasht**	**5.28**	**115**	*e*Pn	**Pn**	**20 05 53.0**	**+2.8**
IALA				IAMB	IAmb	20 05 59.8	
	comp=Z,445nm,0.4s						
IBDR	**Badra**	**5.38**	**189**	*e*Pn	**Pn**	**20 05 51.0**	**-0.3**
IBDR				*e*Sn	**Sn**	**20 06 54.0**	**+0.6**
BHD	**Baghdad**	**5.55**	**202**	*e*Pn	**Pn**	**20 05 54.0**	**+0.3**
BHD				*e*Sn	**Sn**	**20 06 59.0**	**+1.4**
MRVT	**Maraveh tapeh**	**7.30**	**93**	*e*Pn	**Pn**	**20 06 20.4**	**+2.7**
MRVT	**Maraveh tapeh**	**7.30**	**93**	*e*AML	AML	20 07 48.2	
	comp=E,17nm,0.5s						
MRVT				*e*AML	AML	20 07 48.3	
	comp=N,21nm,0.8s						
MRVT	**Maraveh tapeh**	**7.30**	**93**	*e*Pn	**Pn**	**20 06 20.4**	**+2.7**
NSR	**Nassriya**	**7.45**	**185**	*e*Pn	**Pn**	**20 06 19.0**	**-0.6**
NSR				*e*Sn	**Sn**	**20 07 43.0**	**-1.2**
RTB	**Rutbah**	**7.61**	**227**	*e*Pn	**Pn**	**20 06 24.0**	**+2.1**
RTB				*e*Sn	**Sn**	**20 07 50.0**	**+1.8**
IEMG	**Emamgholi**	**9.35**	**93**	*e*Pn	**Pn**	**20 06 47.2**	**+1.2**
IAKL	**Akhelmad**	**9.61**	**97**	*e*Pn	**Pn**	**20 06 52.0**	**+2.5**
IPAY	**Payeh**	**9.83**	**98**	*e*Pn	**Pn**	**20 06 55.1**	**+2.5**

*ISCJB **30** 20:04:43.5±0.8,23.02N±0.02×95.89E±0.02,h5km±5km, mb4.8/161,MS4.8/83,Error ellipse: s-maj=3.6km s-min=2.4km az=36.3*
*IDC **30** 20:04:44.9±0.4,23.12N×95.97E,h0km,mb4.3/36, mb1 4.5/38,mb1mx4.4/50,mbtmp4.4/38,ML4.6/2,MS4.7/46, Ms1 4.7/46,ms1mx4.6/57,Error ellipse: s-maj=12.4km s-min=10.4km az=54.0*
*MOS **30** 20:04:45.7±1.0,23.03N×95.93E,h22km,mb5.1/59, MS4.7/22,Error ellipse: s-maj=6.8km s-min=3.7km az=115.3*
*NEIC **30** 20:04:45.9±0.1,23.07N×95.98E,h10km,mb4.8/83,Error ellipse: s-maj=3.3km s-min=2.0km az=59.0*
*GCMT **30** 20:04:46.8±0.1,22.94N±0.01×96.07E±0.01,h12km, MW5.2/105,Moment Tensor Solution. s68,c96; s105,c199; Duration: 1ś0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.89±.12; $M_{\theta\theta}$ 1.33±.12; $M_{\phi\phi}$-0.43±.12; $M_{r\theta}$ 1.

GTK	**Tadong**	**7.79**	**304**	*e*P		**Pn**	**20 06 39.0**	**-1.8**
GTK				*e*S		**Sn**	**20 08 02.6**	**-5.4**
LSA	**Lhasa**	**7.83**	**329**	P		**Pn**	**20 06 43.5**	**+2.0**
LSA	comp=N,86nm,0.5s			pmax	pmax			
LSA	comp=N,11μm,16.0s			LR	LR			
LSA	**Lhasa**	**7.83**	**329**	*e*Pn		**Pn**	**20 06 42.8**	**+1.3**
LSA	**Lhasa**	**7.83**	**329**	*e*P		**Pn**	**20 06 42.8**	**+1.3**
UTHA	**Uthaitani**	**8.20**	**155**	P		**Pn**	**20 06 44.8**	**-1.5**
	comp=N,24nm,0.8s,comp=N,445nmcomp=N,0.6nm							
NONG	**Nongkai**	**8.47**	**125**	P		**Sn**	**20 08 24.4**	**0.0**
NONG	**Nongkai**	**8.47**	**125**	P		**Pn**	**20 06 54.1**	**+4.2**
ODAN	**Odare**	**8.54**	**298**	*e*P		**Pn**	**20 06 51.4**	**+0.4**
	comp=N,324nm,0.6s							
BOK	**Bokaro**	**9.15**	**277**	*e*P		**Pn**	**20 07 03.2**	**+4.0**
BOK				*e*S		**Sn**	**20 08 42.1**	**+0.9**
CHAI	**Chaiyaphum**	**9.19**	**140**	P		**Pn**	**20 07 01.1**	**+1.3**
	comp=N,10nm,0.8s,comp=N,172nm							
SRDT	**SRDT**	**9.21**	**160**	P		Pn	20 07 08.1	+8.1
RAMN	**Ramite**	**9.22**	**297**	*e*P		**Pn**	**20 07 00.7**	**+0.3**
	comp=N,348nm,0.6s							
KHON	**Khomkaen**	**9.39**	**134**	P		**Pn**	**20 07 03.9**	**+1.4**
	comp=N,10nm,0.6s							
SKNT	**Sakolnakorn**	**9.77**	**127**	P		**Pn**	**20 07 08.9**	**+1.2**
	comp=N,14nm,1.9s,comp=N,544nm							
JIRN	**Jiri**	**9.84**	**300**	*e*P		**Pn**	**20 07 08.5**	**-0.5**
	comp=N,112nm,0.4s							
PANO	**Nakornpanom**	**10.13**	**124**	P		**Pn**	**20 07 14.4**	**+1.7**
	comp=N,0.8nm,1.3s,comp=N,40nm							
GUN	**Gumba**	**10.20**	**300**	*e*P		**Pn**	**20 07 13.7**	**-0.2**
	comp=N,161nm,0.5s							
DGPR	**DIGLIPUR**	**10.20**	**196**	*e*P		**Pn**	**20 07 12.8**	**-0.8**
DGPR				IAmb		IAmb	20 07 16.0	
	comp=Z,21nm,0.8s							
GYA	**Guiyang**	**10.42**	**69**⇑	*i*P		**Pn**	**20 07 15.8**	**-0.9**
GYA				PP		**PnPn**	**20 07 26.0**	**+1.5**
GYA				sP			20 07 32.5	
GYA				S		**Sn**	**20 09 16.5**	**+4.1**
GYA				SS		**SnSn**	**20 09 26.8**	**+2.5**
GYA	comp=Z,30nm,0.8s			pmax	pmax			
GYA	comp=Z,250nm,8.9s			pmax	pmax			
GYA	comp=Z,26μm,8.9s			LR	LR			
GYA	comp=Z,13μm,10.8s			LR	LR			
GYA	comp=Z,16μm,9.8s			LR	LR			
PKI	**Pulchoki**	**10.44**	**298**	*e*P		**Pn**	**20 07 17.1**	**0.0**
	comp=Z,162nm,0.8s							
PKIN	**Phulchoki**	**10.45**	**298**	*e*P		**Pn**	**20 07 17.2**	**0.0**
	comp=Z,99nm,0.5s							
CD2	**Chengdu**	**10.55**	**40**	Pg		**Pn**	**20 07 20.3**	**+1.9**
CD2				Sg			20 07 30.3	
CD2	comp=N,680nm,0.8s			smax	smax			
CD2	comp=E,2μm,0.4s			smax	smax			
CD2	**Chengdu**	**10.55**	**40**	P		**Pn**	**20 07 17.8**	**-0.6**
CD2				sP			20 07 33.0	
CD2				S		**Sn**	**20 09 18.0**	**+2.6**
CD2				SS		**SnSn**	**20 09 27.3**	**-0.2**
CD2	comp=E,110nm,1.9s			pmax	pmax			
CD2	comp=E,34μm,11.2s			LR	LR			
CD2	comp=E,32μm,9.1s			LR	LR			
CD2	comp=E,34μm,12.6s			LR	LR			
KKN	**Kakani**	**10.63**	**299**	*e*P		**Pn**	**20 07 18.6**	**-1.1**
	comp=E,46nm,0.3s							
DMN	**Daman**	**10.70**	**297**	*e*P		**Pn**	**20 07 19.5**	**-1.1**
SRAK	**Srakaew**	**10.76**	**146**	P		Pn	20 07 27.8	+6.6
PBA	**Port Blair**	**11.71**	**195**	*e*Pn		Pn	20 07 32.9	-1.4
PBA	**Port Blair**	**11.71**	**195**	*e*P		Pn	20 07 32.6	-1.7
PBA				IAmb		IAmb	20 07 37.0	
	comp=Z,22nm,0.8s							
KOLN	**Koldanda**	**12.00**	**296**	*e*P		**Pn**	**20 07 36.4**	**-2.0**
	comp=Z,96nm,0.7s							
DANN	**Dangsing**	**12.08**	**298**	*e*P		**Pn**	**20 07 37.3**	**-2.3**
	comp=Z,65nm,0.4s							
PYUN	**Piuthan**	**12.62**	**296**	*e*P		**Pn**	**20 07 43.6**	**-3.3**
	comp=Z,48nm,0.4s							
QIZ	**Qiongzhong**	**13.69**	**104**	P		**Pn**	**20 07 59.5**	**-1.9**
QIZ				S		**Sn**	**20 10 31.5**	**-0.8**
QIZ	comp=Z,25μm,14.2s			LR	LR			
QIZ	comp=Z,13μm,13.7s			LR	LR			
QIZ	comp=Z,9μm,9.8s			LR	LR			
QIZ	**Qiongzhong**	**13.69**	**104**	*e*Pn		**Pn**	**20 07 59.1**	**-2.3**
ENH	**Enshi**	**14.17**	**57**	*e*Pn		**Pn**	**20 08 05.0**	**-2.9**
JBP	**Jabalpur**	**14.57**	**274**⇑	*e*P		**Pn**	**20 08 16.1**	**+2.7**
LZH	**Lanzhou**	**14.73**	**26**	*e*P		**Pn**	**20 08 16.0**	**+0.4**
LZH				pP		P	20 08 23.8	+2.5
LZH				sP			20 08 30.0	
LZH				S		**Sn**	**20 11 03.0**	**+5.1**
LZH	comp=Z,46nm,1.1s			pmax	pmax			
LZH	comp=Z,1μm,6.0s			pmax	pmax			
LZH	comp=Z,12μm,10.8s			LR	LR			
LZH	comp=Z,15μm,11.4s			LR	LR			
LZH	comp=Z,16μm,12.5s			LR	LR			
XAN	**Xi'an**	**15.87**	**44**	P		**Pn**	**20 08 27.8**	**-2.6**
XAN				pP		P	20 08 34.5	+0.7
XAN				S		**Sn**	**20 11 22.0**	**-3.3**
XAN	comp=Z,30nm,1.1s			pmax	pmax			
XAN	comp=Z,340nm,3.5s			pmax	pmax			
XAN	comp=Z,16μm,12.5s			LR	LR			
XAN	comp=Z,7μm,10.8s			LR	LR			
XAN	comp=Z,11μm,12.8s			LR	LR			
XAN	**Xi'an**	**15.87**	**44**	*e*Pn		**Pn**	**20 08 27.9**	**-2.5**
	comp=Z,34nm,0.9s							
XAN	**Xi'an**	**15.87**	**44**	*e*P		**Pn**	**20 08 27.9**	**-2.5**
XAN				pmax	pmax			
	comp=Z,34nm,0.9s							
GZH	**Guangzhou**	**16.13**	**86**	P		**P**	**20 08 41.0**	**+4.3**
GZH				S		**S**	**20 11 46.0**	**+1.8**
GZH	comp=N,5μm,5.9s			LR	LR			
GZH	comp=E,4μm,6.0s			LR	LR			
GTA	**Gaotai**	**16.66**	**11**	*e*P		**Pn**	**20 08 38.3**	**-2.2**
GTA				pP		P	20 08 44.5	+1.9
GTA				sP		pP	20 08 49.0	-2.3
GTA	comp=E,210nm,8.2s			pmax	pmax			
GTA	comp=E,5μm,11.7s			LR	LR			
GTA	comp=E,16μm,14.3s			LR	LR			
GTA	comp=E,6μm,10.5s			LR	LR			
BHPL	**Bhopal**	**16.92**	**274**	*e*P		**Pn**	**20 08 44.6**	**+0.7**
BHPL				IAmb		IAmb	20 08 47.5	
	comp=Z,6.5nm,0.6s							
HYB	**Hyderabad**	**17.14**	**254**	*i* P		**P**	**20 08 49.0**	**+1.0**
HYB				*e*S		**Sn**	**20 11 57.0**	**+0.6**
HYB	**Hyderabad**	**17.14**	**254**	*e*P		**P**	**20 08 47.6**	**-0.4**
HYB	comp=Z,39nm,1.4s			IAmb		IAmb	20 08 55.8	
DDI	**Dehra Dun**	**17.43**	**298**	*e*P		**Pn**	**20 08 50.6**	**+0.3**
DDI				*ex*		x	20 12 01.0	
NDI	**New Delhi**	**17.65**	**292**	*e*P		**P**	**20 08 54.0**	**+0.5**
NDI				*ex*		x	20 12 00.0	
LHMI	**Lhok Sumawe**	**17.76**	**176**	*e*Pn		**Pn**	**20 08 54.1**	**-0.1**
	comp=Z,68nm,0.8s							
WHN	**Wuhan**	**18.13**	**62**	⇑P		**Pn**	**20 08 57.8**	**-0.9**
WHN				S		**Sn**	**20 12 18.3**	**-1.8**
WHN	comp=Z,29μm,8.2s			LR	LR			
WHN	comp=Z,13μm,7.9s			LR	LR			
WHN	comp=Z,14μm,14.8s			LR	LR			
KULM	**Kulim**	**18.27**	**164**	*e*Pn		**P**	**20 08 58.8**	**-1.6**
	comp=Z,42nm,1.6s							
KULM	**Kulim**	**18.27**	**164**	P		**Pn**	**20 09 03.0**	**+2.5**
SMLA	**Simla**	**18.44**	**300**	*e*P		**Pn**	**20 09 03.7**	**+1.3**
SMLA				*ex*		x	20 12 16.8	
MLSI	**Meulaboh, Aceh**	**18.69**	**178**	P		**Pn**	**20 09 06.6**	**+1.0**
	comp=Z,71nm,0.9s,comp=Z,3μm							
KTGM	**Kuala Trenggan**	**18.99**	**157**	P		**P**	**20 09 07.7**	**-0.6**
IPM	**Ipoh**	**19.14**	**164**	*e*P		**P**	**20 09 09.0**	**-1.0**
	comp=Z,50nm,1.4s							
IPM	**Ipoh**	**19.14**	**164**	P		**P**	**20 09 10.3**	**+0.3**
KCSI	**Kotacane, Aceh**	**19.51**	**174**	P		**Pn**	**20 09 16.2**	**+0.7**
DHRM	**DHARAMSHALA**	**19.54**	**302**	*e*P		**Pn**	**20 09 16.2**	**+0.2**
DHRM				*ex*		x	20 12 47.2	
TSI	**Tuntungan**	**19.62**	**172**	P		**Pn**	**20 09 18.4**	**+1.6**
PSI	**Prapat**	**20.36**	**171**	*e*P		**P**	**20 09 23.7**	**+0.3**
	comp=Z,15nm,0.8s							
PSI	**Prapat**	**20.36**	**171**	P		Pn	20 09 24.8	-0.8
	comp=Z,7.5nm,0.8s,baz=336,slow=10.0,SNR=14							
TIY	**Taiyuan**	**20.42**	**41**	*e*P		Pn	20 09 27.3	+1.2
TIY				S		**S**	**20 13 12.5**	**+1.6**
TIY	comp=Z,530nm,6.1s			pmax	pmax			
TIY	comp=Z,6μm,11.0s			LR	LR			
TIY	comp=Z,3μm,8.3s			LR	LR			
TIY	comp=Z,5μm,7.4s			LR	LR			
QZH	comp=Z,8μm,7.8s			LR	LR			
POO	**Poona**	**21.02**	**262**	*e*P		**P**	**20 09 29.2**	**-1.4**
POO				IAmb		IAmb	20 09 36.3	
	comp=Z,44nm,0.4s							
BTO	**Baotou**	**21.20**	**31**	*e*P		**P**	**20 09 28.8**	**-3.6**
BTO				S		S	20 13 15.0	-11
PALK	**Pallekele**	**21.39**	**225**	*e*P		**P**	**20 09 35.0**	**+0.5**
	comp=Z,28nm,1.0s							
PALK	**Pallekele**	**21.39**	**225**	*e*P		**P**	**20 09 35.1**	**+0.5**
PALK	comp=Z,27nm,1.0s			pmax	pmax			
PALK	**Pallekele**	**21.39**	**225**	P		**P**	**20 09 36.0**	**+1.5**
	comp=Z,6.1nm,0.6s,baz=119,slow=2.8,SNR=8.9							
PALK				LR		LR	20 18 46.9	
	comp=Z,2μm,19.6s,baz=207,slow=39							
GSI	**Gunungsitoli**	**21.69**	**175**	*e*P		**P**	**20 09 37.4**	**-0.3**
	comp=Z,24nm,0.8s							
GSI	**Gunungsitoli**	**21.69**	**175**	P		**P**	**20 09 36.7**	**-0.9**
WMQ	**Urumqi**	**21.77**	**344**	P		**P**	**20 09 39.0**	**+0.6**
WMQ				S		**S**	**20 13 38.0**	**+0.5**
WMQ	comp=Z,120nm,1.5s			pmax	pmax			
WMQ	comp=Z,1μm,3.7s			pmax	pmax			
WMQ	comp=Z,7μm,10.9s			LR	LR			
WMQ	comp=Z,8μm,17.9s			LR	LR			
WMQ	comp=Z,2μm,25.7s			LR	LR			
WMQ	**Urumqi**	**21.77**	**344**	*e*P		**P**	**20 09 38.0**	**-0.4**
	comp=Z,52nm,0.8s							
WMQ	**Urumqi**	**21.77**	**344**	*e*P		**P**	**20 09 38.0**	**-0.4**
WMQ	comp=Z,52nm,0.8s			pmax	pmax			
GOA	**Goa**	**22.07**	**254**	*e*P		**P**	**20 09 43.7**	**+2.0**
GOA				IAmb		IAmb	20 09 46.4	
	comp=Z,42nm,0.4s							
HHC	**Hu-ho-hao-te**	**22.15**	**33**	*e*P		**P**	**20 09 43.0**	**+0.5**
HHC				pP		pP	20 09 52.0	+0.6
HHC				sP		sP	20 09 57.5	+1.9
HHC				PP		**PnPn**	**20 10 09.3**	**+4.0**
HHC				S		**S**	**20 13 43.8**	**-0.9**
HHC				SS		**SnSn**	**20 14 12.3**	**-0.3**
HHC	comp=Z,30nm,1.0s			pmax	pmax			
HHC	comp=Z,270nm,3.8s			pmax	pmax			
HHC	comp=Z,5μm,12.6s			LR	LR			
HHC	comp=Z,4μm,8.2s			LR	LR			
HHC	comp=Z,5μm,12.2s			LR	LR			
NJ2	**Nanjing**	**22.27**	**61**	*e*P		**P**	**20 09 42.3**	**-1.4**
NJ2				pP		**pP**	**20 09 51.0**	**-1.6**
NJ2				sP		**sP**	**20 09 55.0**	**-1.8**
NJ2				S		**S**	**20 13 46.5**	**-0.4**
NJ2				sS		**pS**	**20 13 58.5**	**+0.9**
NJ2	comp=Z,18nm,0.5s			pmax	pmax			
NJ2	comp=Z,440nm,3.6s			pmax	pmax			
NJ2	comp=Z,11μm,18.4s			LR	LR			
NJ2	comp=Z,7μm,16.5s			LR	LR			
NJ2	comp=Z,2μm,17.6s			LR	LR			
NIL	**Nilore**	**22.45**	**303**	*e*P		**P**	**20 09 45.7**	**0.0**
	comp=Z,156nm,1.3s							
NIL	**Nilore**	**22.45**	**303**	*e*P		**P**	**20 09 45.7**	**0.0**
NIL	comp=Z,156nm,1.3s			pmax	pmax			
MYKOM	**Kota Tinggi**	**22.53**	**159**	*e*P		**P**	**20 09 45.9**	**-0.8**
	comp=Z,11nm,0.8s							
MYKOM	**Kota Tinggi**	**22.53**	**159**	P		**P**	**20 09 46.4**	**-0.3**
TIA	**Tai'an**	**22.63**	**50**	P		**P**	**20 09 47.8**	**+0.2**
TIA				S		**S**	**20 13 55.0**	**+1.6**
TIA	comp=Z,260nm,4.4s			pmax	pmax			
TIA	comp=Z,2μm,12.9s			LR	LR			
TIA	comp=Z,2μm,11.4s			LR	LR			
TIA	comp=Z,3μm,15.8s			LR	LR			
KSH	**Kashi**	**23.52**	**319**	P		**P**	**20 09 57.3**	**+0.6**
KSH				PP		**PnPn**	**20 10 29.8**	**+5.7**
KSH				S		**S**	**20 14 03.5**	**-5.0**
KSH	comp=Z,38nm,1.0s			pmax	pmax			
KSH	comp=Z,490nm,6.1s			pmax	pmax			
KSH	comp=Z,2μm,10.5s			LR	LR			
KSH	comp=Z,2μm,14.4s			LR	LR			
KSH	comp=Z,3μm,16.6s			LR	LR			
SSE	**Sheshan**	**23.93**	**65**	P		**P**	**20 10 00.3**	**-0.2**
SSE				S		**S**	**20 14 13.8**	**-1.1**
SSE	comp=Z,13nm,0.7s			pmax	pmax			
SSE	comp=Z,150nm,3.5s			pmax	pmax			
SSE	comp=Z,5μm,12.8s			LR	LR			
SSE	comp=Z,2μm,12.1s			LR	LR			
SSE	comp=Z,3μm,14.0s			LR	LR			
BJT	**Baijiatuan**	**24.13**	**41**	*e*P		**P**	**20 10 02.1**	**-0.2**
	comp=Z,42nm,1.2s							
BJT	**Baijiatuan**	**24.13**	**41**	*e*P		**P**	**20 10 02.1**	**-0.2**
BJT	comp=Z,41nm,1.2s			pmax	pmax			
BJI	**Beijing**	**24.15**	**41**	P		**P**	**20 10 03.2**	**+0.7**
BJI	comp=Z,45nm,1.2s			pmax	pmax			
PRZ	**Przheval'sk**	**24.20**	**327**	*e*P		**P**	**20 10 03.8**	**+0.6**
	comp=Z,73nm,0.8s							
PRZ	**Przheval'sk**	**24.20**	**327**	*e*P		**P**	**20 10 03.8**	**+0.6**
PRZ	comp=Z,73nm,0.8s			pmax	pmax			
SHLS	**Shalkode**	**24.20**	**330**	*e*P		**P**	**20 10 00.0**	**-3.1**
SHLS				*e*S		**S**	**20 14 21.0**	**+1.6**
SHLS	comp=Z,487nm,1.7s			pmax	pmax			
SHLS	comp=Z,891nm,12.0s			MLR	MLR			
SHLS	**Shalkode**	**24.20**	**330**	*e*P		**P**	**20 10 00.0**	**-3.1**
	comp=Z,487nm,1.7s							
SHLS				*e*S		**S**	**20 14 21.0**	**+1.6**
SHLS				*e*LR		LR	20 19 50.6	
	comp=Z,891nm,12.4s							
PDGK	**Podgornoye**	**24.32**	**330**	P		**P**	**20 10 05.1**	**+0.9**
PDGK				pmax	pmax			
	comp=Z,28nm,0.9s							
UZB	**Uzynbulak**	**24.40**	**329**	*e*P		**P**	**20 10 03.5**	**-1.4**
UZB				*e*S		**S**	**20 14 28.4**	**+5.8**
UZB	comp=Z,200nm,1.3s			pmax	pmax			
UZB	comp=E,830nm,3.8s			smax	smax			
UZB	comp=Z,1μm,13.0s			MLR	MLR			
UZB	**Uzynbulak**	**24.40**	**329**	*e*P		**P**	**20 10 03.6**	**-1.4**
	comp=Z,200nm,1.3s							
UZB				*e*S		**S**	**20 14 28.4**	**+5.8**
UZB	comp=Z,830nm,3.8s			*e*LR		LR	20 20 49.5	
	comp=Z,1μm,13.4s							
KDJ	**Kajisay**	**24.57**	**325**	*e*P		**P**	**20 10 07.5**	**+1.0**
	comp=Z,87nm,1.0s							
KDJ	**Kajisay**	**24.57**	**325**	*e*P		**P**	**20 10 07.5**	**+1.0**
KDJ				pmax	pmax			
	comp=Z,87nm,1.0s							
SATY	**Saty**	**24.63**	**328**	*e*P		**P**	**20 10 06.3**	**-0.7**
SATY				*e*S		**S**	**20 14 30.9**	**+4.7**
SATY	comp=Z,2μm,16.0s			MLR	MLR			
SATY	**Saty**	**24.63**	**328**	*e*P		**P**	**20 10 06.3**	**-0.7**
	comp=Z,812nm,1.4s							
SATY				*e*S		**S**	**20 14 30.9**	**+4.7**
SATY	comp=Z,2μm,15.7s			*e*LR		LR	20 20 35.0	
ZHN	**Zhinishke**	**24.69**	**328**	*e*P		**P**	**20 10 06.6**	**-1.0**
ZHN				*e*S		**S**	**20 14 29.7**	**+2.4**
ZHN	comp=Z,234nm,1.7s			pmax	pmax			
ZHN	comp=Z,1μm,15.0s			MLR	MLR			
ZHN	**Zhinishke**	**24.69**	**328**	*e*P		**P**	**20 10 06.6**	**-1.0**
	comp=Z,234nm,1.7s							
ZHN				*e*S		**S**	**20 14 29.7**	**+2.4**
ZHN	comp=Z,1μm,15.2s			*e*LR		LR	20 20 37.1	
NRN	**Naryn**	**24.73**	**322**	*e*P		**P**	**20 10 08.4**	**+0.2**
	comp=Z,34nm,0.9s							
NRN	**Naryn**	**24.73**	**322**	*e*P		**P**	**20 10 08.4**	**+0.2**
NRN	comp=Z,34nm,0.9s			pmax	pmax			
KPKS	**Kokpek**	**24.80**	**329**	*e*P		**P**	**20 10 07.9**	**-0.6**
KPKS				*i* S		**S**	**20 14 33.7**	**+4.7**
KPKS	comp=Z,2μm,15.0s			MLR	MLR			
KPKS	**Kokpek**	**24.80**	**329**	*e*P		**P**	**20 10 07.9**	**-0.6**
	comp=Z,620nm,1.0s							
KPKS				*i* S		**S**	**20 14 33.8**	**+4.7**
KPKS	comp=Z,2μm,14.6s			*e*LR		LR	20 20 38.9	
ULHL	**Ulahol**	**25.15**	**324**	P		**P**	**20 10 13.6**	**+1.7**
	SNR=9.4							
MDOK	**Medeo**	**25.38**	**327**	*e*P		**P**	**20 10 13.1**	**-0.7**
MDOK				*e*S		**S**	**20 14 43.0**	**+4.7**
MDOK	comp=Z,543nm,1.2s			pmax	pmax			
MDOK	comp=Z,2μm,16.0s			MLR	MLR			
MDOK	**Medeo**	**25.38**	**327**	*e*P		**P**	**20 10 13.1**	**-0.7**
	comp=Z,543nm,1.2s							
MDOK				*e*S		**S**	**20 14 42.1**	**+3.8**
MDOK	comp=Z,1μm,5.7s			*e*LR		LR	20 20 44.4	
	comp=Z,2μm,15.7s							
TGY	**Tagaytay City**	**25.39**	**106**	LR		LR	20 20 35.5	
	comp=Z,1μm,18.2s,baz=302,slow=38							
AAA	**Alma-Ata**	**25.48**	**327**	*e*P		**P**	**20 10 14.8**	**+0.2**
AAA	comp=Z,364nm,1.1s			pmax	pmax			
AAA	comp=Z,635nm,14.0s			MLR	MLR			
AAA	**Alma-Ata**	**25.48**	**327**	*e*P		**P**	**20 10 14.8**	**+0.2**
	comp=Z,364nm,1.1s							
AAA				*i* S		**S**	**20 14 49.4**	**+10**
AAA	comp=Z,1μm,5.8s			*e*LR		LR	20 20 54.4	
	comp=Z,635nm,14.3s							
KZA	**Kyzart**	**25.58**	**323**	P		**P**	**20 10 17.8**	**+1.8**
	SNR=15							
MTBS	**Maitube**	**25.67**	**326**	*e*P		**P**	**20 10 17.6**	**+1.2**
MTBS	**Maitube**	**25.67**	**326**	*e*P		**P**	**20 10 17.6**	**+1.2**
	comp=Z,773nm,1.0s							
CHKK	**Chushkaly**	**25.91**	**328**	*e*P		**P**	**20 10 17.8**	**-0.7**
CHKK	comp=Z,128nm,1.0s			pmax	pmax			
CHKK	**Chushkaly**	**25.91**	**328**	*e*P		**P**	**20 10 17.9**	**-0.7**
	comp=Z,128nm,1.0s							
SBUM	**Sibu**	**25.93**	**140**	*e*P		**P**	**20 10 18.1**	**-0.7**
	comp=Z,7.7nm,1.1s							
TKM2	**Tokmak 2**	**25.96**	**325**	P		**P**	**20 10 20.5**	**+1.3**
	SNR=51							
KBL	**Kabul**	**26.03**	**302**	*e*P		**P**	**20 10 20.9**	**+1.0**
	comp=Z,85nm,1.4s							
KBL	**Kabul**	**26.03**	**302**	P		**P**	**20 10 20.9**	**+1.0**
KBL	comp=Z,85nm,1.4s			pmax	pmax			
MK01	**Makanchi Array**	**26.05**	**339**	*e*P		**P**	**20 10 19.8**	**0.0**
MK31	**Makanchi Array**	**26.08**	**339**	*e*P		**P**	**20 10 19.9**	**0.0**
	comp=Z,35nm,1.1s							
MK31	**Makanchi Array**	**26.08**	**339**	*e*P		**P**	**20 10 20.0**	**0.0**
MK31	comp=Z,35nm,1.1s			pmax	pmax			
MK32	**Makanchi Array**	**26.08**	**339**	*e*P		**P**	**20 10 20.1**	**+0.1**
MKAR	**Makanchi Array**	**26.08**	**339**	P		**P**	**20 10 20.1**	**+0.1**
	comp=Z,14nm,0.7s,baz=147,slow=7.0,SNR=70							
MKAR				LR		LR	20 22 03.8	
	comp=Z,1μm,18.9s,baz=151,slow=40							
UCH	**Uchtor**	**26.09**	**322**	P		**P**	**20 10 21.7**	**+1.0**
	SNR=23							
TDK	**Taldyqorghan**	**26.11**	**331**	*e*P		**P**	**20 10 20.8**	**+0.5**
TDK				*e*S		**S**	**20 14 54.1**	**+4.5**
TDK	comp=Z,272nm,1.0s			pmax	pmax			
TDK	comp=N,2μm,4.7s			smax	smax			
TDK	comp=Z,2μm,13.0s			MLR	MLR			
TDK	**Taldyqorghan**	**26.11**	**331**	*e*P		**P**	**20 10 20.9**	**+0.5**
	comp=Z,272nm,1.0s							
TDK				*e*S		**S**	**20 14 54.2**	**+4.5**
TDK	comp=Z,2μm,4.7s			*e*LR		LR	20 22 18.4	
	comp=Z,2μm,12.5s							
KBK	**Karagaybulak**	**26.13**	**323**	P		**P**	**20 10 22.6**	**+1.9**
	SNR=28							
SONA0	**Songino Array**	**26.13**	**16**	*e*P		**P**	**20 10 20.1**	**-0.5**
SONM	**Songino Array**	**26.13**	**16**	P		**P**	**20 10 20.1**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=193,slow=8.4,SNR=14							
SONM				LR		LR	20 22 33.2	
	comp=Z,2μm,20.8s,baz=200,slow=41							
MAKZ	**Makanchi**	**26.20**	**338**	*e*P		**P**	**20 10 20.9**	**-0.1**
	comp=Z,32nm,1.0s							
MAKZ	**Makanchi**	**26.20**	**338**	*e*P		**P**	**20 10 20.9**	**-0.1**
MAKZ	comp=Z,33nm,1.0s			pmax	pmax			
KUU	**Kurty**	**26.26**	**327**	*e*P		**P**	**20 10 20.4**	**-1.2**
KUU				*e*S		**S**	**20 14 56.8**	**+4.8**
KUU	comp=Z,491nm,12.0s			MLR	MLR			
KUU	**Kurty**	**26.26**	**327**	*e*P		**P**	**20 10 20.4**	**-1.2**
KUU				*e*S		**S**	**20 14 56.8**	**+4.8**
KUU	comp=Z,491nm,12.4s			*e*LR		LR	20 21 52.9	
ULN	**Ulaanbaatar**	**26.34**	**17**	*e*P		**P**	**20 10 22.1**	**-0.4**
	comp=Z,19nm,1.4s							
ULN	**Ulaanbaatar**	**26.34**	**17**	*ce*P		**P**	**20 10 22.3**	**-0.2**
ULN	comp=Z,30nm,2.5s			pmax	pmax			
AAK	**Ala-Archa**	**26.37**	**323**	P		**P**	**20 10 24.5**	**+1.6**
	SNR=27							
AAK	**Ala-Archa**	**26.37**	**323**	*e*P		**P**	**20 10 23.1**	**+0.3**
	comp=Z,28nm,0.8s							

AAK Ala-Archa 26.37 323*c iP* **P 20 10 24.1 +1.2**
AAK pmax pmax
comp=Z,34nm,1.0s
AAK Ala-Archa 26.37 323 P P 20 10 23.8 +0.9
comp=Z,19nm,0.7s,baz=128,slow=6.4,SNR=33
FRU1 Bishkek 26.41 323 *eP* **P 20 10 24.2 +1.1**
comp=Z,38nm,1.0s
FRU1 Bishkek 26.41 323 *eP* **P 20 10 24.2 +1.1**
FRU1 pmax pmax
comp=Z,38nm,1.0s
CHMS Chumysh 26.47 324 P P 20 10 25.0 +1.4
SNR=10
AML Almayashu 26.50 321 P P 20 10 26.3 +2.0
SNR=21
USP Ospenovka 26.79 324 P P 20 10 27.3 +0.9
SNR=14
GAR Garm 26.90 312 *eP* **P 20 10 28.1 +0.5**
GAR Garm 26.90 312 *eP* **P 20 10 28.1 +0.5**
DL2 Dalian 27.06 48 P P 20 10 30.3 +1.4
DL2 S **S 20 15 08.0 +3.4**
DL2 pmax pmax
comp=Z,17nm,0.9s
DL2 pmax pmax
comp=Z,230nm,5.3s
DL2 LR LR
comp=Z,3μm,14.4s
DL2 LR LR
comp=Z,3μm,12.0s
DL2 LR LR
comp=Z,4μm,13.7s
BTK Batken 27.09 315 *eP* **P 20 10 30.2 +1.0**
comp=Z,52nm,0.8s
BTK Batken 27.09 315 *eP* **P 20 10 30.2 +1.0**
BTK pmax pmax
comp=Z,52nm,0.8s
DGZ Jazzator, Alta 27.40 348⇓ *eP* **P 20 10 32.5 +0.5**
DGZ pmax pmax
comp=Z,3.0nm,2.2s
ZAK Zakamensk 27.89 10 *eP* **P 20 10 36.7 +0.3**
ZAK pmax pmax
comp=Z,10.0nm,2.3s
BTLS Baital 28.23 326 *eP* **P 20 10 39.0 -0.3**
BTLS pmax pmax
comp=Z,69nm,1.1s
BTLS MLR MLR
comp=Z,568nm,14.0s
BTLS Baital 28.23 326 *eP* **P 20 10 39.0 -0.3**
comp=Z,69nm,1.1s
BTLS *e*S S 20 15 37.1 +14
BTLS *e*LR LR 20 22 24.0
comp=Z,568nm,13.6s
IUG luzhnay 28.71 318 *eP* **P 20 10 42.6 -1.1**
IUG pmax pmax
comp=Z,189nm,1.1s
IUG MLR MLR
comp=Z,891nm,13.0s
IUG luzhnay 28.71 318 *eP* **P 20 10 42.7 -1.1**
comp=Z,189nm,1.1s
IUG *e*LR LR 20 22 53.0
comp=Z,891nm,12.5s
MOY Mondy 28.84 7 *eP* **P 20 10 45.1 +0.3**
MOY pmax pmax
comp=Z,33nm,3.1s
KK31 Karatay Array 28.96 320 *eP* **P 20 10 45.5 -0.3**
comp=Z,12nm,1.3s
KK31 Karatay Array 28.96 320 *eP* **P 20 10 45.5 -0.3**
KK31 pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 28.96 320 *eP* **P 20 10 45.7 -0.1**
comp=Z,12nm,1.3s
KKAR Karatay Array 28.96 320 *eP* **P 20 10 45.7 -0.1**
KKAR pmax pmax
comp=Z,12nm,1.3s
TLY Talaya 29.21 10 *eP* **P 20 10 47.3 -0.7**
comp=Z,3.2nm,0.9s
TLY Talaya 29.21 10 *eP* **P 20 10 49.2 +1.2**
TLY *e*S **S 20 15 33.0 -5.3**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY MLR MLR
comp=Z,4μm,14.0s
IRK Irkutsk 29.86 10 *eP* **P 20 10 55.0 +1.4**
IRK pmax pmax
comp=Z,65nm,3.2s
KURBB Kurchatov Arra 30.64 338 P P 20 11 00.2 -0.4
comp=Z,3.6nm,0.6s,baz=145,slow=9.6,SNR=16
KURBB PcP **PcP 20 13 59.6 +1.3**
comp=Z,3.2nm,1.0s,baz=187,slow=1.7,SNR=4.9
KURK Kurchatov 30.69 338 *eP* **P 20 11 01.0 0.0**
comp=Z,7.0nm,0.8s
KURK Kurchatov 30.69 338⇑ *eP* **P 20 11 04.2 +3.2**
KURK pmax pmax
comp=Z,22nm,2.1s
KS01 Wonju Array Si 31.04 55 *eP* **P 20 11 02.8 -1.5**
KSRS Korea Array 31.05 55 P P 20 11 03.3 -1.0
comp=Z,0.8nm,0.8s,baz=225,slow=6.7,SNR=3.6
KSRS LR LR 20 25 06.7
comp=Z,1μm,18.5s,baz=246,slow=40
LEM Lembang 31.86 157 LR LR 20 24 48.8
comp=Z,2μm,18.4s,baz=304,slow=38
ZAA0 Zalesovo Array 31.95 348 *eP* **P 20 11 11.6 -0.4**
comp=Z,6.6nm,1.0s
ZALV Zalesovo Beam 31.95 348 *eP* **P 20 11 11.1 -0.9**
ZALV Zalesovo Beam 31.95 348 P P 20 11 11.8 -0.2
comp=Z,3.0nm,0.7s,baz=175,slow=9.6,SNR=14
ZALV LR LR 20 25 34.6
comp=Z,711nm,21.2s,baz=253,slow=39
ZAA1 Zalesovo Array 31.95 348 *eP* **P 20 11 11.8 -0.3**
CN2 Changchun 31.97 43 *eP* **P 20 11 11.3 -1.1**
CN2 *e*S **S 20 16 24.3 +2.6**
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
HIA Hailar 32.25 30 *eP* **P 20 11 13.7 -1.1**
comp=Z,15nm,1.2s
HIA Hailar 32.25 30 *eP* **P 20 11 13.7 -1.1**
HIA pmax pmax
comp=Z,15nm,1.2s
JNU Nakatsue 32.38 64 LR LR 20 24 59.6
comp=Z,1μm,21.3s,baz=259,slow=38
NVS Novosibirsk 33.11 347 *eP* **P 20 11 22.2 0.0**
NVS *e*S **S 20 16 34.2 -4.9**
NVS pmax pmax
comp=N,26nm,2.0s
NVS pmax pmax
comp=Z,29nm,2.0s
NVS pmax pmax
comp=E,14nm,1.8s
NVS smax smax
comp=N,21nm,2.2s
WSAR Wadi Sarin 34.14 278 P P 20 11 33.8 +2.2
comp=N,4.2nm,0.8s,baz=123,slow=10,SNR=4.5
MDJ Mudanjiang 34.98 44 P P 20 11 36.3 -2.3
MDJ pP pP 20 11 46.0 -2.2
MDJ sP sP 20 11 50.5 -1.8
MDJ PP **PnPn 20 12 54.5 -1.5**
MDJ S **S 20 17 07.8 -0.5**
MDJ sS sS 20 17 23.3 -0.9
MDJ ScP **ScP 20 17 49.0 -4.6**
MDJ PcS **PcS 20 17 52.5 -4.6**
MDJ pmax pmax
comp=N,210nm,5.2s
MDJ LR LR
comp=N,2μm,15.5s
MDJ LR LR
comp=N,2μm,12.7s
MDJ LR LR
comp=N,3μm,15.5s
GEYT Alibeck 35.45 304 P P 20 11 44.2 +1.4
comp=N,13nm,0.9s,baz=114,slow=6.6,SNR=16
GEYT LR LR 20 29 46.8
comp=N,2μm,18.2s,baz=105,slow=42
GYA0B ALIBECK ARRAY 35.45 304 *eP* **P 20 11 43.4 +0.6**
comp=N,16nm,1.0s
LUWI Luwuk 35.52 129 *eP* **P 20 11 42.7 -0.9**
comp=N,20nm,0.9s
BVAR Borovoye Array 35.63 334 P P 20 11 44.5 +0.4
comp=N,2.2nm,0.6s,baz=140,slow=11,SNR=13
BVAR LR LR 20 27 53.1
comp=N,2μm,21.8s,baz=132,slow=39
BRVK Borovoye 35.70 334 *eP* **P 20 11 44.5 -0.1**
comp=N,6.3nm,0.8s
BRVK Borovoye 35.70 334⇑ *eP* **P 20 11 44.7 0.0**
BRVK pmax pmax
comp=Z,5.0nm,0.9s
USA0B Ussuriysk Arra 36.36 46 *eP* **P 20 11 50.1 -0.3**
comp=Z,22nm,1.4s
USA0B Ussuriysk Arra 36.36 46 *eP* **P 20 11 50.1 -0.3**
USA0B pmax pmax
comp=Z,22nm,1.4s
USRK Ussuriysk Ar. 36.36 46 P P 20 11 50.0 -0.4
comp=Z,1.6nm,0.7s,baz=237,slow=13,SNR=7.6
USRK LR LR 20 28 18.9
comp=Z,2μm,19.0s,baz=230,slow=39
KAPI Kappang 36.40 137 *eP* **P 20 11 50.9 -0.1**
comp=Z,5.0nm,0.9s
KAPI Kappang 36.40 137 *eP* **P 20 11 50.9 -0.1**
KAPI pmax pmax
comp=Z,5.0nm,0.9s
BOD Bodaibo 37.13 16 *eP* **P 20 11 56.2 -0.6**
BOD pmax pmax
comp=Z,14nm,2.2s
INU Inuyama 37.74 62 *eP* **P 20 12 01.3 -0.9**
comp=Z,15nm,0.9s
ABKAR Akbulak array 38.45 322 *eP* **P 20 12 07.8 -0.2**
comp=Z,15nm,0.9s
KLR Kul'dur 38.47 38⇑ *eP* **P 20 12 06.9 -1.3**
KLR Kul'dur 38.47 38 P P 20 12 07.7 -0.5
comp=Z,1.4nm,1.0s,baz=232,slow=8.0,SNR=3.9
ZEA Zeya 38.73 30 *eP* P 20 12 20.9 +11
ZEA *e* 20 13 42.0
ZEA pmax pmax
comp=Z,42nm,2.0s
ZEA MLR MLR
comp=E,2μm,14.0s
ZEA MLR MLR
comp=Z,4μm,14.0s
ZEA MLR MLR
comp=N,3μm,15.0s
MJB9 Matsu-Tunnel 38.85 60 *eP* **P 20 12 10.9 -0.8**
comp=N,15nm,1.0s
MAJO Matsushiro 38.86 60 *eP* **P 20 12 10.0 -1.7**
comp=N,15nm,1.0s
MAJO Matsushiro 38.86 60*d iP* **P 20 12 11.6 -0.1**
MAJO pmax pmax
comp=Z,17nm,1.1s
MAT Matsushiro 38.86 60 P P 20 12 11.4 -0.3
MAT S **S 20 18 00.0 -7.6**
MJAR Matsushiro Arr 38.86 60 P P 20 12 12.4 +0.7
comp=Z,8.7nm,1.0s,baz=268,slow=11,SNR=20
MJAR LR LR 20 29 50.9
comp=Z,3μm,18.4s,baz=270,slow=39
TEY Ternei 39.73 46 *eP* P 20 12 09.2 -10
TEY MLR MLR
comp=N,200nm,18.0s
TEY MLR MLR
comp=Z,300nm,16.0s
AKTO Aktyubinsk 40.11 323 P P 20 12 23.1 +1.1
comp=Z,4.5nm,0.6s,baz=113,slow=10,SNR=7.4
SVE Sverdlovsk 42.34 332⇑ *eP* **P 20 12 41.2 +1.0**
SVE *e*S **S 20 19 02.8 +3.8**
SVE pmax pmax
comp=Z,42nm,1.1s
SVE MLR MLR
comp=Z,1μm,16.0s
BATI Baumata 42.85 137 LR LR 20 32 31.4
comp=Z,1μm,21.6s,baz=317,slow=39
SOEI Soe 42.88 136 *eP* **P 20 12 44.4 -0.8**
comp=Z,66nm,1.2s
SOEI Soe 42.88 136 P P 20 12 46.4 +1.2
ARU Arti 43.03 330 *eP* **P 20 12 45.5 -0.2**
comp=Z,17nm,1.0s
ARU Arti 43.03 330*c iP* **P 20 12 45.8 +0.1**
ARU 20 14 24.1
ARU 20 14 35.3
ARU PPP PPP 20 14 57.7
ARU S **S 20 19 10.8 +1.8**
ARU pmax pmax
comp=Z,39nm,2.8s
ARU MLR MLR
comp=Z,2μm,17.0s
YSS Yuzh-Sakhalins 44.40 46 *eP* **P 20 12 59.3 +2.4**
YSS *e* 20 14 37.0
YSS *e*S **S 20 19 32.7 +3.4**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=N,1μm,15.0s
YSS MLR MLR
comp=E,3μm,15.0s
MAK Makhachkala 44.43 308 *eP* **P 20 12 56.9 -0.3**
MAK *e*S **S 20 19 30.0 +0.1**
MAK *e*SS **SS 20 22 44.6 -5.0**
MAK pmax pmax
comp=Z,187nm,1.1s
MAK MLR MLR
comp=Z,1μm,16.0s
YAK Yakutsk 45.25 22 *eP* **P 20 13 04.4 +1.0**
YAK *e**PP **pP 20 13 14.4 +1.1**
YAK *e* 20 14 39.1
YAK *e* 20 14 50.7
YAK *e*PPP PPP 20 15 30.6
YAK *e*S **S 20 19 41.1 -0.1**
YAK *e**SS **sS 20 20 00.7 +3.2**
YAK *e* 20 22 56.9
YAK pmax pmax
comp=Z,27nm,0.8s
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,109nm,2.0s
YAK pmax pmax
comp=N,180nm,2.0s
YAK pmax pmax
comp=E,89nm,2.3s
YAK smax smax
comp=N,129nm,3.0s
YAK smax smax
comp=E,216nm,3.0s
YAK MLR MLR
comp=N,4μm,20.0s
YAK MLR MLR
comp=Z,6μm,18.0s
YAK MLR MLR
comp=E,5μm,19.0s
GROC Groznyy 45.71 308 *eP* **P 20 13 07.1 -0.3**
GROC *e* 20 14 44.5
GROC *e* 20 14 54.3
GROC *e*S **S 20 19 52.7 +4.3**
GROC pmax pmax
comp=Z,29nm,1.0s
GNI Garni 46.08 304 *eP* **P 20 13 11.9 +1.3**
comp=Z,12nm,0.9s
GNI Garni 46.08 304⇓ *iP* **P 20 13 12.7 +2.1**
GNI pmax pmax
comp=Z,43nm,1.2s
GNI Garni 46.08 304 LR LR 20 38 13.5
comp=Z,396nm,19.0s,baz=113,slow=44
TBLG Delisi 46.27 306 *eP* **P 20 13 12.5 +0.7**
comp=Z,28nm,1.5s
TBLG Delisi 46.27 306 *eP* **P 20 13 12.5 +0.7**
TBLG pmax pmax
comp=Z,28nm,1.5s
NRIK Noril'sk 46.56 356 P P 20 13 14.2 +0.5
comp=Z,1.5nm,0.4s,baz=175,slow=8.3,SNR=4.3
NRIK LR LR 20 32 36.3
comp=Z,637nm,18.7s,baz=173,slow=36
ZEI Tsey 47.02 308 *eP* **P 20 13 18.6 +0.7**
ZEI pmax pmax
comp=Z,21nm,0.6s
SARN Sarigan 47.23 88 *eP* **P 20 13 17.7 -2.0**
comp=Z,232nm,1.6s
NCK Nalchik 47.34 309⇑ *eP* **P 20 13 21.2 +1.0**
NCK pmax pmax
comp=Z,14nm,0.6s
KARS Kars 47.39 305 *eP* **P 20 13 21.4 +0.6**
comp=Z,63nm,0.8s
KARS Kars 47.39 305 *eP* **P 20 13 21.4 +0.6**
KARS pmax pmax
comp=Z,63nm,0.8s
SIRT Sirnak 47.70 300 *eP* **P 20 13 24.3 +1.1**
comp=Z,29nm,0.8s
KBZ Khabaz 47.87 309 P P 20 13 25.4 +1.1
comp=Z,4.2nm,0.9s,baz=131,slow=7.8,SNR=11
KBZ LR LR 20 37 25.1
comp=Z,797nm,18.0s,baz=86,slow=41
NEY Neytrino 47.94 308⇑ *iP* **P 20 13 28.3 +3.3**
NEY pmax pmax
comp=Z,4.0nm,0.8s
GOF Gofitskoye 47.96 311 *eP* **P 20 13 26.4 +1.4**
GOF pmax pmax
comp=Z,30nm,1.2s
KVAR Kislovodsk Arr 48.05 309 LR LR 20 36 58.7
comp=Z,517nm,19.7s,baz=191,slow=40
KIRV Kirov 48.37 329 P P 20 13 29.1 +1.3
comp=Z,7.5nm,0.6s,baz=296,slow=5.1,SNR=4.2
VRH Novokhopyorsk 50.02 318 *eP* **P 20 13 39.9 -0.7**
VRH pmax pmax
comp=Z,10.0nm,0.9s
VRH MLR MLR
comp=Z,950nm,14.0s
PSAD1 Pilbara Seismi 50.05 150 *eP* **P 20 13 41.4 +0.2**
comp=Z,31nm,1.3s
PSAC1 Pilbara Seismi 50.10 150 *eP* **P 20 13 41.8 +0.2**
comp=Z,27nm,1.3s
PSAB1 Pilbara Seismi 50.14 150 *eP* **P 20 13 41.4 -0.5**
comp=Z,21nm,1.3s
PSAA2 Pilbara Seismi 50.15 150 *eP* **P 20 13 41.2 -0.7**
comp=Z,26nm,1.4s
PSAB2 Pilbara Seismi 50.15 150 *eP* **P 20 13 41.8 -0.1**
comp=Z,32nm,1.3s
PSA00 Pilbara Seismi 50.16 150 *eP* **P 20 13 41.2 -0.7**
comp=Z,23nm,1.3s
PSAA1 Pilbara Seismi 50.16 150 *eP* **P 20 13 41.0 -1.0**
comp=Z,21nm,1.1s
PSAC2 Pilbara Seismi 50.17 150 *eP* **P 20 13 41.9 -0.2**
comp=Z,22nm,1.1s
PSAB3 Pilbara Seismi 50.18 150 *eP* **P 20 13 42.1 0.0**
comp=Z,47nm,1.5s
PSAD3 Pilbara Seismi 50.19 151 *eP* **P 20 13 41.2 -1.0**
comp=Z,16nm,1.2s
FITZ Fitzroy Crossi 50.22 142 *eP* **P 20 13 42.2 -0.3**
comp=Z,6.1nm,0.9s
FITZ Fitzroy Crossi 50.22 142 LR LR 20 39 22.0
comp=Z,531nm,18.1s,baz=306,slow=41
PRGR Permogore 51.41 332 *eP* P 20 13 45.1 -5.8
PRGR pmax pmax
comp=Z,13nm,0.5s
VSR Storozhevoye 51.60 318 *eP* P 20 13 59.2 +6.7
VSR pmax pmax
comp=Z,20nm,1.7s
VSR MLR MLR
comp=Z,1μm,14.0s
ANN Anapa 51.89 310 *eP* P 20 13 49.2 -5.6
ANN *e**PP pP 20 14 00.8 -4.0
ANN *e* 20 15 08.9
ANN pmax pmax
comp=Z,54nm,1.3s
LPSR Galich'ya Gora 52.02 320 *eP* **P 20 13 54.9 -0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,770nm,16.0s
TIXI Tiksi 52.13 13 *eP* **P 20 13 55.5 -0.6**
comp=Z,9.6nm,1.1s
TIXI Tiksi 52.13 13⇑ *eP* **P 20 13 54.8 -1.3**
TIXI pmax pmax
comp=Z,36nm,2.5s
TIXI Tiksi 52.13 13 P P 20 13 55.4 -0.8
comp=Z,3.4nm,0.5s,baz=183,slow=4.4,SNR=31
TIXI LR LR 20 38 26.9
comp=Z,1μm,20.1s,baz=225,slow=39
MA2 Magadan 52.81 32⇑ *iP* **P 20 14 01.0 -0.4**
MA2 pmax pmax
comp=Z,25nm,1.9s
MOS Moscow 53.44 323 *eP* **P 20 14 03.4 -2.7**
MOS MLR MLR
comp=Z,800nm,19.0s
KLMR Klimovskoe 53.86 330 *eP* P 20 14 15.1 +6.0
KLMR pmax pmax
comp=Z,28nm,1.2s
KLMR Klimovskoe 53.86 330 *eP* P 20 14 15.2 +6.1
KLMR AMP 20 14 22.6
comp=Z,28nm,1.2s
OBN Obninsk 53.90 322 *eP* **P 20 14 09.6 +0.2**
comp=Z,11nm,0.6s
OBN Obninsk 53.90 322⇑ *eP* **P 20 14 11.5 +2.1**
OBN *e* 20 15 17.8
OBN *e* 20 16 14.8
OBN *e*S **S 20 21 38.0 -4.3**
OBN pmax pmax
comp=Z,4.0nm,0.3s
OBN MLR MLR
comp=Z,743nm,18.0s
OBN Obninsk 53.90 322 LR LR 20 40 01.9
comp=Z,222nm,19.3s,baz=111,slow=39
ILGA Ilgaz 54.50 305 *eP* **P 20 14 14.9 +0.5**
comp=Z,23nm,1.1s
BR101 Keskin Array S 54.59 303 *eP* **P 20 14 16.2 +1.2**
BR131 Keskin Array S 54.59 303 *eP* **P 20 14 15.4 +0.4**
comp=Z,6.9nm,1.3s
BRTR Keskin Array B 54.59 303 P P 20 14 16.2 +1.2
comp=Z,1.0nm,0.6s,baz=117,slow=6.8,SNR=4.5
BRTR LR LR 20 40 18.7
comp=Z,282nm,20.2s,baz=104,slow=39
SEY Seymchan 54.66 28⇓ *eP* **P 20 14 15.1 +0.2**
SEY Seymchan 54.66 28 P P 20 14 14.4 -0.4
comp=Z,1.7nm,0.7s,baz=256,slow=9.8,SNR=4.6
PETK Petropavlovsk- 55.08 40 LR LR 20 39 02.7
comp=Z,670nm,18.2s,baz=236,slow=38
TMCR Tamitsa 55.59 333 *eP* **P 20 14 23.6 +2.1**
TMCR pmax pmax
comp=Z,6.0nm,1.4s
WRA Warramunga Arr 56.91 136 P P 20 14 31.1 -0.4
comp=Z,6.6nm,1.2s,baz=323,slow=7.5,SNR=12
WRA LR LR 20 43 17.4
comp=Z,452nm,18.3s,baz=310,slow=41
WR1 Warramunga Arr 56.91 136 *eP* **P 20 14 31.1 -0.4**
comp=Z,38nm,1.6s
WRAB Tennant Creek 56.91 136⇓ *eP* **P 20 14 32.5 +0.9**
WRAB pmax pmax
comp=Z,11nm,1.3s
WB2 Warramunga Arr 56.92 136 *eP* **P 20 14 30.8 -0.8**
AKASG Malin Array Be 57.78 316 P P 20 14 37.1 -0.2
comp=Z,3.0nm,0.7s,baz=81,slow=6.1,SNR=6.0
AKASG LR LR 20 43 56.0
comp=Z,961nm,18.1s,baz=85,slow=41
AKBB Malin Array Si 57.78 316 *eP* **P 20 14 37.3 0.0**
comp=Z,9.5nm,0.9s
AKBB Malin Array Si 57.78 316 *eP* **P 20 14 37.3 0.0**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 57.79 316 *eP* **P 20 14 37.3 -0.1**
comp=Z,11nm,1.0s
KIEV Kiev 57.79 316⇓ *iP* **P 20 14 36.5 -0.9**
KIEV Kiev 57.79 316⇑ *eP* **P 20 14 37.6 +0.2**
KIEV pmax pmax
comp=Z,31nm,2.8s
AK11 Malin Array Si 57.81 316 *eP* **P 20 14 37.5 0.0**
YLV Yalova 57.82 304⇓ *iP* **P 20 14 40.7 +2.8**
YLV Yalova 57.82 304⇓ *P* **P 20 14 40.7 +2.8**
TLCR 58.01 310⇑ *iP* **P 20 14 40.8 +1.8**
TLCR 58.01 310⇑ *P* **P 20 14 40.8 +1.8**
CFR Carcaliu 58.49 310⇑ *iP* **P 20 14 43.2 +0.8**
CFR Carcaliu 58.49 310⇑ *P* **P 20 14 43.2 +0.8**
NWAO Narrogin (SRO) 59.30 159 LR LR 20 41 01.8
comp=Z,715nm,20.2s,baz=332,slow=37
AS31 Alice Springs 59.38 139 *eP* **P 20 14 48.6 -0.3**
comp=Z,1.6nm,1.0s
ASAR Alice Springs 59.38 139 P P 20 14 49.0 +0.1
ASAR Alice Springs 59.38 139 P P 20 14 49.0 +0.1
comp=Z,2.8nm,0.8s,baz=320,slow=6.5,SNR=26
ASAR LR LR 20 43 51.9
comp=Z,420nm,20.0s,baz=310,slow=40
AS01 Alice Springs 59.41 139 *eP* **P 20 14 49.0 -0.1**
VRI Vrincioaia 59.45 311⇑ *iP* **P 20 14 49.3 +0.2**
VRI Vrincioaia 59.45 311⇑ *P* **P 20 14 49.3 +0.2**
LEHL Lehliu 59.46 309⇓ *iP* P 20 14 40.8 -8.3
PLOR Plostina 59.51 311⇑ *iP* **P 20 14 50.1 +0.6**
PLOR Plostina 59.51 311⇑ *P* **P 20 14 50.1 +0.6**
BIZ Bicaz 59.84 312⇑ *iP* **P 20 14 51.3 -0.5**
MLR Muntele Rosu 60.02 310 *eP* **P 20 14 53.4 +0.2**
comp=Z,15nm,0.9s
MLR Muntele Rosu 60.02 310⇓ *iP* **P 20 14 53.7 +0.5**
MLR Muntele Rosu 60.02 310 *eP* **P 20 14 53.4 +0.2**
MLR pmax pmax
comp=Z,15nm,0.9s
MLR Muntele Rosu 60.02 310 LR LR 20 46 29.2
comp=Z,633nm,18.5s,baz=57,slow=42
FIA0 FINESS Array S 60.35 329 *eP* **P 20 14 54.4 -0.5**
FIA0 FINESS Array S 60.35 329 *eP* **P 20 14 54.4 -0.5**
FINES FINESS Array B 60.35 329 P P 20 14 54.4 -0.5
comp=Z,1.5nm,0.6s,baz=99,slow=8.6,SNR=6.2

FINES LR LR 20 43 11.3
comp=Z,1μm,19.2s,baz=94,slow=38
DOPR Dopca 60.38 311⇑ iP P 20 14 57.2 +1.7
BURAR Bucovina Array 60.42 313⇑ iP P 20 14 56.1 +0.3
VOIR 60.65 310⇓ iP P 20 14 58.8 +1.4
VOIR 60.65 310⇓ P P 20 14 58.8 +1.4
ARR Arges 60.95 310⇑ iP P 20 14 59.9 +0.5
ARCR ARCALIA 61.03 312⇑ iP P 20 14 59.3 -0.6
BILL Bilibino 61.53 24 eP P 20 15 02.4 -0.4
comp=Z,18nm,1.4s
BILL Bilibino 61.53 24⇑ eP P 20 15 01.8 -1.1
BILL e 20 15 49.6
BILL e 20 17 15.8
BILL eS S 20 23 27.0 +5.0
BILL pmax pmax
comp=Z,25nm,2.5s
BILL MLR MLR
comp=Z,2μm,18.0s
ARA0 ARCESS Array S 61.73 338 eP P 20 15 05.8 +1.6
ARCES ARCESS Array B 61.73 338 P P 20 15 05.8 +1.6
comp=Z,4.0nm,0.9s,baz=87,slow=5.0,SNR=4.5
KMBO Kilima Mbogo 61.80 255 P P 20 15 07.9 +2.1
comp=Z,0.6nm,0.3s,baz=29,slow=19,SNR=2.7
KMBO LR LR 20 40 30.3
comp=Z,649nm,22.0s,baz=93,slow=35
KWP Kalwaria Pacla 61.98 315 eP P 20 15 06.4 +0.2
comp=Z,289nm,1.4s
KWP Kalwaria Pacla 61.98 315 eP P 20 15 06.4 +0.2
KWP pmax pmax
comp=Z,289nm,1.4s
UZH Uzhgorod 62.31 314 eP P 20 15 18.6 +10
UZH e 20 15 24.2
UZH e 20 15 45.2
VYHS Vyhne 64.61 314 eP P 20 15 20.8 -2.9
VYHS Vyhne 64.61 314 eP P 20 15 20.8 -2.9
VYHS e 20 46 17.8
VYHS e 20 47 33.4
VRAC Vranov 65.98 315 LR LR 20 48 18.8
comp=Z,444nm,21.4s,baz=82,slow=40
DPC Dobruska-Polom 66.01 316 eP P 20 15 46.5 +14
UPC Upice 66.19 317 AMS AMS 20 47 40.0
comp=Z,600nm,17.3s
HFS Hagfors 66.41 327 LR LR 20 47 34.9
comp=Z,1μm,19.0s,baz=80,slow=39
ARSA Arzberg 67.00 313 eP P 20 15 48.1 +9.0
comp=Z,4.6nm,1.3s
PRU Pruhonice 67.20 316 eP P 20 15 49.1 +8.8
PRU AMS AMS 20 44 40.0
comp=Z,600nm,23.8s
PRU Pruhonice 67.20 316 eP P 20 15 49.1 +8.8
PRU MLR MLR
comp=Z,600nm,23.8s
BRG Berggiesshubel 67.44 317 eP P 20 15 52.7 +11
comp=Z,29nm,2.1s
BRG e 20 16 03.9
comp=Z,49nm,2.4s
NB2 NORSAR Subarra 67.52 328 P P 20 15 42.1 -0.1
comp=Z,3.2nm,0.9s,baz=83,slow=6.5
NB200 NORSAR Array S 67.52 328 eP P 20 15 41.1 -1.1
NOA NORSAR Array B 67.52 328 P P 20 15 41.1 -1.1
comp=Z,0.9nm,0.8s,baz=84,slow=6.1,SNR=6.0
NOA LR LR 20 47 23.6
comp=Z,884nm,19.0s,baz=85,slow=38
MOA Molln 67.73 314 eP P 20 15 52.7 +8.9
comp=Z,9.8nm,1.7s
OBKA Obir 67.78 312 eP P 20 15 43.1 -1.0
comp=Z,12nm,1.3s
GEC2 GERESS Array S 67.93 315 eP P 20 15 44.6 -0.4
comp=Z,6.4nm,1.3s
GEC2 GERESS Array S 67.93 315 eP P 20 15 44.6 -0.4
GEC2 pmax pmax
comp=Z,6.0nm,1.3s
GERES GERESS Array B 67.93 315 P P 20 15 45.7 +0.6
comp=Z,0.5nm,0.5s,baz=67,slow=10,SNR=5.8
GERES LR LR 20 49 27.2
comp=Z,578nm,20.6s,baz=90,slow=40
GEA0 GERESS Array S 67.93 315 eP P 20 15 45.1 +0.1
CLL Collm 67.95 318 eP P 20 15 47.0 +2.0
CLL LmV 20 34 00.0
comp=Z,200nm,19.1s
CLL LmV 20 50 00.0
comp=Z,700nm,18.1s
CLL Collm 67.95 318 eP P 20 15 47.0 +2.0
CLL MLR MLR
comp=Z,700nm,18.1s
KHC Kasperske Hory 67.96 315 eP P 20 15 57.4 +12
KHC ex x 20 16 13.0
KHC AMS AMS 20 48 50.0
comp=Z,900nm,19.8s
KBA Koelnbreinsper 68.49 313 P P 20 15 56.8 +8.1
comp=Z,9.0nm,1.3s
ABTA Abfaltersbach 69.11 313 P P 20 15 52.5 0.0
comp=Z,7.1nm,1.1s
WTTA Wattenberg 69.59 314 P P 20 16 03.0 +7.5
comp=Z,13nm,2.1s
SQTA Sankt Quirin 69.89 314 eP P 20 15 55.7 -1.6
comp=Z,5.7nm,1.2s
MOTA Moosalm 69.93 314 P P 20 15 56.4 -1.2
comp=Z,2.4nm,0.9s
STKA Stephens Creek 70.01 140 eP P 20 15 57.1 -0.9
comp=Z,1.4nm,0.9s
STKA Stephens Creek 70.01 140 eP P 20 15 57.1 -0.9
STKA pmax pmax
comp=Z,1.0nm,0.9s
STKA Stephens Creek 70.01 140 P P 20 15 59.5 +1.6
comp=Z,1.9nm,0.7s,baz=336,slow=7.7,SNR=6.3
STKA LR LR 20 48 21.3
comp=Z,423nm,21.7s,baz=304,slow=37
HNR Honiara 70.54 110 LR LR 20 47 43.5
comp=Z,138nm,18.8s,baz=290,slow=37
GAMB Gambell 70.66 28 eP P 20 16 01.0 -0.5
comp=Z,23nm,1.7s
DAVOX Davos/Dischmat 70.87 313 LR LR 20 50 26.8
comp=Z,39nm,20.2s,slow=39
JMIC Jan Mayen 72.95 341 LR LR 20 51 11.0
comp=Z,183nm,21.4s,baz=57,slow=38
DAG Danmarks Havn 73.08 347 iP P 20 16 14.5 -1.4
comp=Z,6.3nm,1.1s
DAG Danmarks Havn 73.08 347 iP P 20 16 14.5 -1.4
DAG pmax pmax
comp=Z,8.0nm,1.1s
EKA Eskdalemuir Ar 76.27 324 LR LR 20 53 53.6
comp=Z,681nm,18.9s,baz=50,slow=39
IM3 Indian Mountai 77.07 23 eP P 20 16 38.1 -0.9
TOLK Toolik Lake Re 77.18 20 eP P 20 16 39.1 -0.7
comp=Z,6.2nm,1.0s
BPAW Bear Paw Mtn. 79.02 24 eP P 20 16 49.3 -0.6
comp=Z,6.4nm,1.0s
MDM Murphy Dome 79.58 23 eP P 20 16 52.5 -0.5
comp=Z,14nm,1.0s
COLA College 79.76 23⇑ eP P 20 16 55.3 +1.4
COLA pmax pmax
comp=Z,19nm,2.7s
SUMG Summit 79.77 347 eP P 20 16 53.7 -0.6
comp=Z,27nm,1.1s
SUMG Summit 79.77 347 iP P 20 16 54.6 +0.3
comp=Z,45nm,0.9s
SUMG Summit 79.77 347 eP P 20 16 53.7 -0.6
SUMG pmax pmax
comp=Z,27nm,1.1s
BORG Borgarnes 80.13 337 LR LR 20 55 10.0
comp=Z,432nm,18.1s,baz=59,slow=38
ILAR Eielson Array 80.17 23 P P 20 16 54.9 -1.2
comp=Z,1.6nm,0.8s,baz=290,slow=5.5,SNR=13
ILAR PP PP 20 19 58.2 +0.1
comp=Z,0.4nm,0.8s,baz=292,slow=4.8,SNR=2.9
ILAR LR LR 20 56 00.5
comp=Z,638nm,18.6s,baz=305,slow=38
ILB Eielson Array 80.17 23 eP P 20 16 55.0 -1.2
comp=Z,12nm,1.6s
TULEG Thule 80.19 356 eP P 20 16 55.4 -0.6
comp=Z,12nm,0.9s
RND Reindeer 80.19 24 eP P 20 16 55.7 -0.7
comp=Z,13nm,1.2s
RND Reindeer 80.19 24 eP P 20 16 55.7 -0.7
RND pmax pmax
comp=Z,13nm,1.2s
PRP Porcupine Dome 80.22 22 eP P 20 16 55.8 -0.8
comp=Z,10nm,1.1s
SUA Susitna One 80.47 27 eP P 20 16 56.7 -1.3
comp=Z,16nm,1.2s
KULLO Kullorsuaq 81.05 353 iP P 20 17 00.4 -0.3
comp=Z,28nm,0.9s
KULLO Kullorsuaq 81.05 353 iP P 20 17 00.4 -0.3
KULLO pmax pmax
comp=Z,28nm,0.9s

RIDG Independ'e Rid 81.49 23 eP P 20 17 02.9 -0.4
comp=Z,13nm,1.0s
KDAK Kodiak Island 81.53 30 eP P 20 17 02.4 -1.2
comp=Z,48nm,1.4s
KDAK Kodiak Island 81.53 30 iP P 20 17 04.5 +1.0
KDAK Kodiak Island 81.53 30 P P 20 17 02.6 -0.9
comp=Z,29nm,1.3s,baz=345,slow=3.3,SNR=5.8
SCRK Sand Creek 81.66 23 eP P 20 17 03.6 -0.7
comp=Z,4.2nm,0.9s
INK Inuvik 82.05 17 eP P 20 17 05.7 -0.3
comp=Z,17nm,1.2s
INK Inuvik 82.05 17 P P 20 17 05.3 -0.7
comp=Z,10.0nm,1.0s,baz=319,slow=6.2,SNR=15
EGAK Eagle 82.14 21 eP P 20 17 06.5 0.0
comp=Z,11nm,1.0s
RES Resolute Bay 82.25 3 eP P 20 17 06.3 -0.7
comp=Z,6.6nm,1.3s
RES Resolute Bay 82.25 3 eP P 20 17 06.3 -0.7
RES pmax pmax
comp=Z,7.0nm,1.3s
EPYK Eagle Plains 82.50 19 eP P 20 17 07.4 -1.1
comp=Z,7.1nm,1.1s
ESDC Sonseca Array 82.71 310 LR LR 20 59 43.4
comp=Z,242nm,18.0s,baz=15,slow=40
BOSA Boshof 85.18 236 P P 20 17 22.8 -0.2
comp=Z,4.2nm,0.8s,baz=18,slow=4.3,SNR=4.8
BOSA LR LR 20 52 08.2
comp=Z,248nm,19.3s,baz=36,slow=33
SFJD Kangerlussuaq 86.77 347 iP P 20 17 29.7 -0.2
comp=Z,12nm,1.1s
SFJD Kangerlussuaq 86.77 347 eP P 20 17 29.7 -0.2
SFJD pmax pmax
comp=Z,12nm,1.1s
TOA1 Torodi Ar. Sit 88.66 284 eP P 20 17 39.8 -0.2
TORD Torodi Ar. Bea 88.66 284 P P 20 17 39.8 -0.2
comp=Z,0.2nm,0.5s,baz=86,slow=7.7,SNR=3.5
TORD PP PP 20 21 06.1 -2.7
comp=Z,2.2nm,0.9s,baz=52,slow=7.2,SNR=6.7
TORD LR LR 21 02 29.3
comp=Z,393nm,18.7s,baz=0.0,slow=39
YKA Yellowknife Ar 91.37 14 P P 20 17 51.4 -0.3
comp=Z,1.0nm,0.8s,baz=331,slow=4.3,SNR=16
YKA LR LR 21 04 32.6
comp=Z,56nm,18.5s,baz=316,slow=39
YKB5 Yellowknife Ar 91.37 14 eP P 20 17 50.4 -1.3
MAW Mawson 93.64 192 LR LR 20 57 24.3
comp=Z,175nm,18.2s,baz=18,slow=34
DBIC Dimbokro 97.16 280 LR LR 21 06 22.4
comp=Z,220nm,18.4s,baz=55,slow=38
PPT2 Papeete2 118.86 98 eLR LR 20 59 56.3
comp=Z,254nm,25.0s
TXAR Lajitas Array 124.64 21 PKIKP PKPdf 20 23 46.0 -0.3
TXAR Lajitas Array 124.64 21 PKP PKPdf 20 23 46.0 -0.3
comp=Z,0.8nm,0.9s,baz=7.6,slow=3.8,SNR=6.1
ESPN Las Esperanzas 144.97 0 ePKPbc PKPdf 20 24 23.8 -0.4
BDFB Brasilia 145.16 276 PKPbc PKiKP 20 24 26.6 -1.9
comp=Z,1.4nm,0.4s,baz=24,slow=2.9,SNR=4.0
CODC Agustn Codazz 145.57 341 eP PKPab 20 24 26.5 +0.9
CODC Agustn Codazz 145.57 341 eP PKPab 20 24 26.5 +0.9
SMLC San Martn de 146.83 342 eP PKPdf 20 24 27.8 +0.4
SMLC San Martn de 146.83 342 eP PKPdf 20 24 27.8 +0.4
UREC San Jos de Ur 148.24 344 eP PKiKP 20 24 35.1 +0.4
UREC San Jos de Ur 148.24 344 eP PKiKP 20 24 35.1 +0.4
ZARC Zaragoza, Cauc 148.30 342 eP PKPbc 20 24 33.8 +0.6
ZARC Zaragoza, Cauc 148.30 342 eP PKPbc 20 24 33.8 +0.6
BARC Barichara 148.63 339 eP PKPbc 20 24 34.5 +0.1
BARC Barichara 148.63 339 eP PKPbc 20 24 34.5 +0.1
PTBC PUERTO BERRIO 149.09 341 eP PKPbc 20 24 34.5 -0.8
PTBC PUERTO BERRIO 149.09 341 eP PKPbc 20 24 34.5 -0.8
RUSC La Rusia 149.25 338 eP PKiKP 20 24 38.5 +1.0
RUSC La Rusia 149.25 338 eP PKiKP 20 24 38.5 +1.0
NORC Norcasia 150.14 341 eP PKiKP 20 24 38.5 -0.3
NORC Norcasia 150.14 341 eP PKiKP 20 24 38.5 -0.3
ROSC El Rosal 150.65 340 ePKPbc PKiKP 20 24 39.9 -0.3
ROSC El Rosal 150.65 340 PKPbc PKiKP 20 24 40.8 +0.5
comp=Z,15nm,0.7s,baz=155,slow=7.1,SNR=9.3
CPUP Villa Florida 155.40 257 PKP PKPdf 20 24 41.5 +1.4
comp=Z,1.3nm,0.8s,baz=175,slow=5.7,SNR=3.0
CPUP PKPbc pPKPdf 20 24 50.3 -0.7
comp=Z,1.7nm,0.8s,baz=132,slow=3.9,SNR=5.6

*IDC **30** 20:23:07.3±1.8, 13.85N×92.88E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/50, mbtmp3.5/6, ML3.5/1, Error ellipse: s-maj=58.7km s-min=22.0km az=67.0*
*ISCJB **30** 20:23:11.3±1.1, 14.0N±0.1×93.2E±0.1, h32km, mb3.5/5, Error ellipse: s-maj=20.1km s-min=14.3km az=40.2*
ISC 30 20:23:13.2±1.5, 14.0N±0.2×93.2E±0.2, h32km, n6, σ1s48/7, mb3.5/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.12**	**51**	Pn		**Pn**		**20 24 56.6**	**+1.4**
	0.2nm,0.3s,baz=240,slow=15,SNR=12								
CMAR				Sn		**Sn**		**20 26 13.7**	**-1.5**
	0.1nm,0.3s,baz=235,slow=16,SNR=2.8								
MKAR	**Makanchi Array**	**33.95**	**347**	P		**P**		**20 29 53.9**	**+0.2**
	0.5nm,0.8s,baz=159,slow=7.8,SNR=6.7								
SONM	**Songino Array**	**35.50**	**15**	P		**P**		**20 30 08.0**	**+0.9**
	0.6nm,1.0s,baz=196,slow=9.0,SNR=3.6								
ZALV	**Zalesovo Beam**	**40.41**	**352**	P		**P**		**20 30 46.4**	**-1.9**
	0.5nm,0.5s,baz=184,slow=9.5,SNR=3.7								
WRA	**Warramunga Arr**	**52.71**	**129**	P		**P**		**20 32 25.1**	**0.0**
	0.5nm,1.0s,baz=308,slow=7.7,SNR=3.9								
ASAR	**Alice Springs**	**54.66**	**133**	P		**P**		**20 32 39.0**	**-0.5**
	0.4nm,0.5s,baz=308,slow=7.2,SNR=7.1								

*ISCJB **30** 20:26:47.8±0.4, 8.40S±0.05×119.78E±0.04, h172km, mb3.7/1, Error ellipse: s-maj=7.4km s-min=5.6km az=20.0*
*DJA **30** 20:26:49.3±0.3, 8.3S×12.0E, h156km±4km, M3.6/14, mb4.0/3, MLv3.4/14*
*IDC **30** 20:26:56.6±6.5, 8.82S×120.28E, h195km±40km, mb3.3/1, mb1 3.2/5, mb1mx2.8/44, mbtmp3.7/5, MS3.8/1, Ms1 4.0/1, ms1mx3.1/20, Error ellipse: s-maj=67.1km s-min=52.9km az=91.0*
ISC 30 20:26:48.2±0.9, 8.41S±0.06×119.82E±0.06, h172km, n21, σ1s70/25, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.34**	**159**	P		**Pn**		**20 27 18.6**	**+0.7**
WSI				S		**Sn**		**20 27 40.9**	**-0.1**
EDFI	**Ende, Flores**	**1.88**	**101**	P		**Pn**		**20 27 24.1**	**+0.6**
EDFI				S		**Sn**		**20 27 51.6**	**+0.7**
BASI	**Baing, Sumba**	**1.95**	**157**	P		**Pn**		**20 27 24.9**	**+0.8**
BASI				S		**Sn**		**20 27 53.4**	**+1.3**
PLAI	**Plampang**	**2.06**	**258**	P		**Pn**		**20 27 25.3**	**0.0**
PLAI				S		**Sn**		**20 27 53.4**	**-0.7**
BSSI	**Bau Bau, Buton**	**2.35**	**17**	P		**Pn**		**20 27 28.0**	**-0.7**
MMRI	**Maumere**	**2.41**	**96**	P		**Pn**		**20 27 30.6**	**+1.3**
BKSI	**Bukukumba**	**3.08**	**6**	P		**Pn**		**20 27 37.4**	**-0.1**
BBSI	**Bau Bau**	**3.99**	**43**	P		**Pn**		**20 27 50.1**	**+1.2**
BNSI	**Bone**	**3.99**	**4**	P		**Pn**		**20 27 49.5**	**+0.5**
BATI	**Baumata**	**4.20**	**116**	P		**Pn**		**20 27 53.1**	**+1.5**
BATI	**Baumata**	**4.20**	**116**	P		**Pn**		**20 27 52.9**	**+1.3**
	13nm,0.3s,baz=316,slow=2.1,SNR=22								
BATI				S		**Sn**		**20 28 38.4**	**-2.8**
	3.6nm,0.3s,baz=297,slow=4.5,SNR=2.8								
SOEI	**Soe**	**4.59**	**107**	P		**Pn**		**20 27 57.9**	**+1.1**
JAGI	**Jajag, Banyuwa**	**5.60**	**269**	P		**Pn**		**20 28 09.8**	**-0.1**
PWJI	**Pagerwojo**	**7.94**	**272**	P		**Pn**		**20 28 41.2**	**+0.5**
UGM	**Wanagama**	**9.21**	**272**	P		**Pn**		**20 28 57.9**	**+0.3**
BNDI	**Bandanaira**	**10.74**	**70**	P		P		20 29 32.1	+6.6
FITZ	**Fitzroy Crossi**	**11.17**	**150**	P		**Pn**		**20 29 24.6**	**+1.4**
	0.1nm,0.3s,baz=335,slow=14,SNR=9.9								
FITZ				S		**Sn**		**20 31 20.9**	**-6.3**
	0.2nm,0.3s,baz=201,slow=17,SNR=3.8								
WRA	**Warramunga Arr**	**18.14**	**131**	P		**P**		**20 30 47.5**	**0.0**
	0.3nm,0.3s,baz=303,slow=12,SNR=22								
ASAR	**Alice Springs**	**20.30**	**140**	P		**P**		**20 31 11.6**	**+0.7**
	0.3nm,0.3s,baz=314,slow=9.6,SNR=24								
STKA	**Stephens Creek**	**30.91**	**142**	P		**P**		**20 32 49.4**	**+0.6**
	1.0nm,0.7s,baz=307,slow=10,SNR=3.1								
CMAR	**Chiang Mai Arr**	**33.72**	**322**	LR		LR		20 48 38.7	
	comp=Z,135nm,19.6s,baz=85,slow=38								

*IDC **30** 20:29:01.9±1.7, 4.94S×130.72E, h0km, mb3.2/1, mb1 3.7/5, mb1mx3.4/47, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=82.2km s-min=23.9km az=84.0*
*ISCJB **30** 20:29:06.4±0.6, 4.95S±0.05×131.21E±0.07, h61km, mb3.1/1, Error ellipse: s-maj=9.6km s-min=6.9km az=171.8*
*DJA **30** 20:29:08.3±0.4, 5.3S×13.1E±, h89km±13km, M4.2/7, mb4.0/3, MLv4.3/7*
ISC 30 20:29:07.0±0.9, 4.87S±0.06×131.23E±0.08, h61km, n11, σ2s52/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.37**	**285**	P		**Pn**		**20 29 31.2**	**+1.2**
BNDI				S		**Sn**		**20 29 49.1**	**+1.8**
FAKI	**Fak Fak**	**2.19**	**28**	P		**Pn**		**20 29 43.1**	**+2.0**
SAUI	**Saumlaki**	**3.09**	**179**	P		**Pn**		**20 29 55.5**	**+2.1**
SIJI	**Sorong**	**3.98**	**0**	Pn		**Pn**		**20 30 06.5**	**+0.9**
	3.8nm,0.3s,baz=50,slow=23,SNR=44								
SIJI				Sn		**Sn**		**20 30 48.3**	**-2.7**
	29nm,0.3s,baz=246,slow=23,SNR=26								
RKPI	**Ransiki, Papua**	**4.45**	**41**	P		**Pn**		**20 30 14.3**	**+2.3**
SANI	**Sanana**	**5.94**	**298**	P		**Pn**		**20 30 32.3**	**-0.2**
SOEI	**Soe**	**8.44**	**235**	P		**Pn**		**20 31 06.8**	**0.0**
FITZ	**Fitzroy Crossi**	**14.24**	**202**	Pn		**Pn**		**20 32 23.1**	**-2.5**
	0.2nm,0.3s,baz=355,slow=12,SNR=2.4								
FITZ				Sn		Sn		20 34 52.2	-10
	0.1nm,0.3s,baz=120,slow=16,SNR=2.4								
WRA	**Warramunga Arr**	**15.28**	**169**	Pn		**Pn**		**20 32 38.8**	**-0.4**
	0.3nm,0.3s,baz=356,slow=13,SNR=9.1								
WRA				Sn		Sn		20 35 16.9	-11
	0.2nm,0.3s,baz=345,slow=22,SNR=3.7								
ASAR	**Alice Springs**	**18.86**	**172**	P		**P**		**20 33 23.8**	**+1.4**
	0.3nm,0.3s,baz=351,slow=11,SNR=15								
ASAR				S		**S**		**20 36 47.9**	**-5.8**
	0.1nm,0.3s,baz=358,slow=28,SNR=5.1								
MKAR	**Makanchi Array**	**67.15**	**326**	P		**P**		**20 39 55.9**	**+1.4**
	0.1nm,0.5s,baz=141,slow=7.4,SNR=2.8								

DJA 30 20:35:55.3±0.4, 8.7S±7.1×11.0E±, h93km±5km, M3.6/16, mb3.6/1, MLv3.6/16, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**0.69**	**91**	P		P		20 36 13.4	+1.4
YOGI				S		Sn		20 36 26.3	+1.9
UGM	**Wanagama**	**0.92**	**97**	P		Pn		20 36 15.3	+0.9
UGM				S		Sn		20 36 29.5	+0.8
SMRI	**Semarang**	**1.12**	**48**	P		Pn		20 36 17.3	+0.7
CMJI	**Cimerak**	**1.14**	**271**	P		Pn		20 36 16.9	+0.1
CMJI				S		Sn		20 36 33.4	+0.4
WOJI	**Wonogiri, Jawa**	**1.31**	**92**	P		Pn		20 36 18.9	0.0
WOJI				S		Sn		20 36 37.0	+0.3
PCJI	**Pacitan**	**1.61**	**104**	P		Pn		20 36 22.7	+0.1
PCJI				S		Sn		20 36 43.7	+0.4
CISI	**Cisompet, Garu**	**1.79**	**278**	P		Pn		20 36 25.4	+0.5
JCJI	**Jatiwangi**	**1.85**	**315**	P		Pn		20 36 23.0	-2.7
NGJI	**Ngawi**	**1.89**	**77**	P		Pn		20 36 26.5	+0.3
LEM	**Lembang**	**2.19**	**296**	P		Pn		20 36 30.5	+0.2
PWJI	**Pagerwojo**	**2.19**	**96**	P		Pn		20 36 30.1	-0.1
TBJI	**Tambak Boyo**	**2.43**	**67**	P		Pn		20 36 33.0	-0.3
GRJI	**Gresik**	**2.99**	**73**	P		Pn		20 36 40.5	-0.2
CBJI	**Citeko**	**3.05**	**296**	P		Pn		20 36 38.1	-3.5
TNG	**Tangerang**	**3.35**	**299**	P		Pn		20 37 01.3	+16
GMJI	**Gumukmas**	**3.84**	**97**	P		Pn		20 36 52.3	+0.1
JAGI	**Jajag, Banyuwa**	**4.56**	**99**	P		Pn		20 37 02.0	0.0

*ISK **30** 21:05:15.7, 37.27N×37.07E, h17km, ML1.3/5*
*ISCJB **30** 21:05:16.7±0.5, 37.34N±0.04×37.11E±0.04, h6km±7km, Error ellipse: s-maj=6.6km s-min=4.2km az=28.1*
*DDA **30** 21:05:16.1, 37.33N×37.14E, h5km±2km, ML2.6*
ISC 30 21:05:16.1±0.9, 37.28N±0.04×37.10E±0.03, h13km±8km, n12, σ0s52/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.14**	**141**	PG		**Pb**		**21 05 20.4**	**-0.2**
GAZ				SG		**Sb**		**21 05 23.1**	**-0.4**
HCB	**Kahramanmara**	**0.17**	**293**	*i* P		**Pg**		**21 05 20.2**	**+0.1**
HCB				*i* S		**Sg**		**21 05 23.1**	**+0.2**
HCB				IAML_P					
	comp=Z,3μm,0.1s								
KMRS	**Kahramanmaras**	**0.28**	**325**	PG		**Pg**		**21 05 21.9**	**-0.1**
KAMA	**Osmaniye**	**0.36**	**255**	*i* P		**Pb**		**21 05 24.8**	**+0.3**
KAMA				*i* S		**Sb**		**21 05 30.7**	**+0.7**
KAMA				IAML_P					
	comp=Z,1μm,0.1s								
GZT	**Gaziantep**	**0.38**	**78**	*i* P		**Pg**		**21 05 23.3**	**-0.4**
GZT				*i* S		**Sg**		**21 05 28.9**	**+0.1**
KUZU	**Kuzuini**	**0.50**	**183**	*i* P		**Pn**		**21 05 28.4**	**-0.6**
KUZU				*i* S		**Sb**		**21 05 35.3**	**+1.2**
KUZU				IAML_P					
	comp=Z,2μm,0.1s								
ANDN	**Andirin**	**0.68**	**297**	*i* P		**Pb**		**21 05 29.8**	**0.0**
ANDN				*i* S		**Sg**		**21 05 37.3**	**-0.9**
KOZT	**Kozan**	**1.04**	**282**	PG		**Pb**		**21 05 35.6**	**-0.3**
AKCD	**Akcadag**	**1.21**	**32**	*i* P		**Pg**		**21 05 39.8**	**+0.4**
AKCD				*i* S		**Sn**		**21 05 55.1**	**-0.1**
SURC	**SANLIURFA_SURC**	**1.27**	**108**	*i* P		**Pg**		**21 05 40.6**	**0.0**
SURC				*i* S		**Sg**		**21 05 57.7**	**+0.6**
SURC				IAML_P					
	comp=Z,141nm,0.1s								
DARE	**Darende-Malaty**	**1.33**	**13**	PN		**Pn**		**21 05 40.3**	**-0.1**
URFA	**Urfa**	**1.38**	**83**	PN		**Pn**		**21 05 41.1**	**0.0**

UCR 30 21:09:29.4±2.1, 11.55N×86.54W, h55km±17km, MD3.9, ML3.9, 3C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.58**	**41⇑**	*e*P		Pn		21 09 42.2	+0.2
MASN				*e*S		Sn		21 09 52.1	+1.0
MGAN	**Managua**	**0.66**	**26**	*e*P		Pn		21 09 43.2	+0.3
MGAN				*e*S		Sn		21 09 54.0	+1.2
MOMN	**Momotombo**	**0.86**	**0**	*e*P		Pn		21 09 45.7	+0.2
MOMN				*e*S		Sn		21 09 57.6	+0.4
CONN	**Concepcion**	**0.90**	**89**	*e*P		Pn		21 09 45.8	-0.2
CONN				*e*S		Sn		21 09 57.6	-0.5
CNGN	**Cerro Negro**	**0.96**	**351⇓**	*e*P		Pn		21 09 47.3	+0.5
CNGN				*e*S		Sn		21 10 00.1	+0.5
CNGN				IAML				21 10 07.0	
	comp=Z,2μm,0.4s								
BRAN	**Las Pilas**	**1.18**	**9**	*e*P		Pn		21 09 43.4	-6.3
BRAN				IAML				21 09 54.3	
	comp=Z,24μm,0.4s								
CRIN	**San Cristobal**	**1.25**	**337⇓**	*e*P		Pn		21 09 51.3	+0.6
CRIN				*e*S		Sn		21 10 07.5	+1.0
GBS3	**Finca Las Img**	**1.31**	**125**	*i* P		Pn		21 09 51.5	0.0
NY14	**Universidad de**	**1.33**	**132**	*i* P		Pn		21 09 52.7	+0.9
GB1A	**Borinquen Arri**	**1.34**	**123**	*i* P		Pn		21 09 51.8	0.0
BUEV	**Buena Vista**	**1.34**	**124**	*e*P		Pn		21 09 51.8	-0.1
BUEV				*i* S		Sn		21 10 07.8	-1.0
BUAI	**Buenos Aires**	**1.36**	**119**	*i* P		Pn		21 09 52.3	+0.1
BUAI				*i* S		Sn		21 10 08.2	-1.0
ACON	**Acoyapa**	**1.41**	**73⇑**	*i* P		Pn		21 09 52.1	-0.6
GPS2	**Hotel Rincn d**	**1.41**	**124**	*i* P		Pn		21 09 52.9	0.0
MATN	**Matagalpa**	**1.50**	**24⇑**	*i* P		Pn		21 09 53.9	-0.2
MATN				*e*S		Sn		21 10 13.3	+0.6
LIM1	**Limonal**	**1.52**	**123**	*i* P		Pn		21 09 54.6	+0.3
MESS	**Mesas**	**1.55**	**121**	*i* P		Pn		21 09 54.9	+0.2
MESS				*e*P				21 09 55.0	
MESS				*e*S		Sn		21 10 15.5	+1.7
COLC	**Colonia**	**1.58**	**124**	*i* P		Pn		21 09 55.5	+0.3
COLC				*i* S		Sn		21 10 14.8	+0.2
CUI	**Cuipilapa**	**1.62**	**123**	*i* P		Pn		21 09 56.0	+0.4
CUI				*i* S		Sn		21 10 15.8	+0.4
CSGN	**Cosiguina Volc**	**1.73**	**325⇓**	*e*P		Pn		21 09 59.0	+1.7
CSGN				*e*S		Sn		21 10 19.5	+1.2
ACAL	**Aguas Claras**	**1.74**	**121**	*i* P		Pn		21 09

LFRS El Faro 3.21 310 eP Pn 21 10 18.2 +0.7
LFRS eS Sn 21 10 54.3 -0.3
LFU La Fuente 3.33 311 eP Pn 21 10 20.6 +1.5
LFU eS Sn 21 10 57.4 -0.1
BOQS Boqueron 3.44 309 eP Pn 21 10 22.9 +2.1
BOQS eS Sn 21 11 01.5 +1.0
CEVE Cerro Verde 3.77 307 eP Pn 21 10 27.2 +2.0

IDC 30 21:41:48.9±15.0, 17°99S×178°48W, h650km±143km, mb2.9/2, mb1 3.1/3, mb1mx2.6/37, mbtmp3.9/3, Error ellipse: s-maj=204.8km s-min=78.7km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	14.74	252	P	P	21 44 52.8	-0.1
	0.2nm,0.3s,baz=86,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	44.55	260	P	P	21 49 05.7	-0.3
	0.5nm,0.5s,baz=95,slow=7.4,SNR=15						
ASAR	**Alice Springs**	44.70	254	P	P	21 49 07.8	+0.6
	2.5nm,0.5s,baz=87,slow=8.4,SNR=39						
ASAR				PcP	PcP	21 50 34.2	-0.6
	0.4nm,0.8s,baz=112,slow=3.2,SNR=4.6						
GERES	**GERESS Array B**	147.67	345	PKPbc	PKPbc	22 00 21.9	-0.4
	0.3nm,0.5s,baz=40,slow=3.2,SNR=3.6						

*BJI **30** 21:43:15.0, 40°.50N×126°.20W, h7km, mb4.8/30, mB5.2/20, Ms4.8/7, Ms7 4.5/8*
*IDC **30** 21:43:16.4±0.5, 40°.50N×126°.17W, h0km, mb4.6/26, mb1 4.8/31, mb1mx4.6/50, mbtmp4.6/31, ML4.7/5, MS4.0/14, Ms1 4.0/14, ms1mx3.7/41, Error ellipse: s-maj=13.8km s-min=8.8km az=15.0*
*ISCJB **30** 21:43:17.6±0.7, 40°.43N±0°.02×126°.18W±0°.02, h14km±4km, mb5.0/259, MS4.2/15, Error ellipse: s-maj=3.3km s-min=2.3km az=138.6*
*MOS **30** 21:43:17.4±1.1, 40°.41N×126°.27W, h16km, mb5.3/58, Error ellipse: s-maj=4.8km s-min=4.6km az=99.1*
*GCMT **30** 21:43:20.2±0.4, 40°.47N±0°.02×126°.44W±0°.03, h26km±1km, MW4.9/82, Moment Tensor Solution. s20,c22; s82,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.72±.18; $M_{\theta\theta}$-2.49±.15; $M_{\phi\phi}$ 1.76±.11; $M_{r\theta}$0.82±.27; $M_{\theta\phi}$-1.90±.11; $M_{r\phi}$-0.19±.20; Best double couple: $M_0$2.97200×10^{16} NP1:ϕ_s113.00000°, δ87.00000°, λ163.00000°. NP2: ϕ_s204.00000°, δ73.00000°, λ3.00000°. Principal axes: T 2.6080, Plg15.0000°, Azm67.0000°; N 0.7230, Plg72.0000°, Azm283.0000°; P -3.3370, Plg10.0000°, Azm160.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 21:43:28.2±0.0, 40°.45N×125°.23W, h5km, mb5.2/165, MW4.5(BRK), After NCEDC.*
NEIC Felt at Eureka, Ferndale and McKinleyville.
*NCEDC **30** 21:43:28.2, 40°.45N×125°.23W, h5km, MB5.2(NEIC), MW4.5(BRK)*
*BGR **30** 21:43:28.1±0.0, 41°.69N×127°.29W, h33km, mb5.1*

ISC 30 21:43:17.8±1.8, 40°.47N±0°.05×126°.19W±0°.05, h7km±10km, n1091, o139/1105, mb5.2/259, MS4.2/15, 36C-20D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek,**	1.68	77	ePn	Pn	21 43 46.1	-1.4
JCC				eSn	Sn	21 44 07.8	-1.6
KMRM	**Mail Ridge**	1.91	97	ePn	Pn	21 43 50.5	-0.4
KMRM				eSn	Sn	21 44 15.2	0.0
KHMM	**Horse Mountain**	1.91	77	ePn	Pn	21 43 50.0	-0.9
KHMM				eSn	Sn	21 44 13.4	-2.0
KRMB	**Red Mountain**	2.02	58	ePn	Pn	21 43 51.1	-1.3
KCPM	**Cahto Peak**	2.15	111	ePn	Pn	21 43 53.3	-0.8
KCPM				eSn	Sn	21 44 19.1	-2.0
L02E	**Cave Junction**	2.58	48	P	Pn	21 43 59.8	-0.2
	baz=230,SNR=1000						
L02E				S	Sn	21 44 29.3	-2.2
	baz=230						
O02D	**Mt. Diablo Mer**	2.62	95	P	Pn	21 44 00.6	0.0
	baz=276,SNR=1000						
M02C	**Callahan**	2.69	69	P	Pn	21 44 00.7	-0.9
	baz=251,SNR=109						
M02C				S	Sn	21 44 32.5	-2.0
	baz=251						
N02D	**Trinity Center**	2.69	78	P	Pn	21 44 00.8	-0.8
	baz=260,SNR=432						
N02D				S	Sn	21 44 33.2	-1.4
	baz=260						
HOPS	**Hopland Field**	2.82	121	ePn	Pn	21 44 01.8	-1.4
HOPS				eSn	Sn	21 44 35.6	-1.9
YBH	**Yreka Blue Hor**	2.91	63	ePn	Pn	21 44 04.5	-0.2
YBH				Sn	Sn	21 44 37.8	-2.2
YBH				eSn	Sb	21 44 41.6	-4.4
YBH	**Yreka Blue Hor**	2.91	63	eP	Pn	21 44 04.5	-0.2
YBH				e		21 44 41.6	
YBH	**Yreka Blue Hor**	2.91	63	Pn	Pn	21 44 04.5	-0.2
	421nm,0.3s,baz=266,slow=10,SNR=1149						
YBH				Sn	Sn	21 44 37.8	-2.2
	80nm,0.3s,baz=288,slow=20,SNR=8.3						
K02D	**Willamette Mer**	2.92	40	P	Pn	21 44 04.7	-0.1
	baz=222,SNR=1000						
K02D				S	Sn	21 44 38.0	-2.1
	baz=222						
GDXM	**Geysers**	3.10	121	ePn	Pn	21 44 06.4	-0.8
GDXM				eSn	Sn	21 44 43.9	-0.7
J01E	**Myrtle Point**	3.17	31	P	Pn	21 44 07.5	-0.6
	baz=214,SNR=966						
J01E				S	Sn	21 44 42.5	-3.8
	baz=214						
HUMO	**Hull Mountain**	3.23	48	ePn	Pn	21 44 09.2	+0.2
HUMO				eSn	Sn	21 44 47.8	0.0
O03E	**Paynes Creek**	3.35	92	P	Pn	21 44 10.2	-0.5
	baz=274,SNR=813						
L04D	**Klamath Falls**	3.41	58	P	Pn	21 44 12.7	+1.2
	baz=240,SNR=1000						
M04C	**Macdoel**	3.54	67	P	Pn	21 44 13.8	+0.6
	baz=249,SNR=662						
ORV	**Oroville**	3.71	103	ePn	Pn	21 44 14.4	-1.2
ORV	**Oroville**	3.71	103	eP	Pn	21 44 14.4	-1.2
I03D	**Drain, OR**	3.85	32	P	Pn	21 44 17.2	-0.3
	baz=215,SNR=418						
I03D				S	Sn	21 45 01.2	-1.9
	baz=215						
K04D	**Chiloquin, OR**	3.96	56	P	Pn	21 44 20.2	+1.1
	baz=239,SNR=454						
I02D	**Swisshome**	4.03	25	P	Pn	21 44 19.9	0.0
	baz=207						
J04D	**Umpqua Nationa**	4.12	46	P	Pn	21 44 23.0	+1.7
	baz=229,SNR=1000						
AFDM	**Forest Hills D**	4.30	109	ePn	Pn	21 44 23.4	-0.3
AFDM				eSn	Sn	21 45 13.4	-0.7
I04A	**Tendick Farm,**	4.35	39	P	Pn	21 44 25.5	+1.2
	baz=222,SNR=1000						
I04A				S	Sn	21 45 14.2	-1.1
	baz=222						
BEKR	**Beckworth**	4.50	96	ePn	Pn	21 44 27.3	+0.7
K05A	**Summer Lake**	4.56	59	ePn	Pn	21 44 28.2	+0.8
COR	**Corvallis**	4.63	26	P	Pn	21 44 29.0	+0.8
J05D	**Fort Rock, OR**	4.64	51	P	Pn	21 44 29.9	+1.4
	baz=234,SNR=1000						
MOD	**Modoc Plateau**	4.67	70	ePn	Pn	21 44 28.3	-0.5
H04D	**Lebanon**	4.79	31	P	Pn	21 44 30.8	+0.4
	baz=214,SNR=362						
RUBR	**Rubicon Trail**	4.86	105	ePn	Pn	21 44 32.7	+1.2
CMB	**Columbia Colle**	5.12	117	ePn	Pn	21 44 35.8	+0.9
CMB	**Columbia Colle**	5.12	117	eP	Pn	21 44 35.8	+0.9
PINE	**Pine Mountain**	5.12	48	ePn	Pn	21 44 36.6	+1.5
VCNR	**Virginia City**	5.16	101	ePn	Pn	21 44 37.0	+1.3
G03D	**McMinnville, O**	5.20	23	P	Pn	21 44 36.9	+0.9
	baz=206,SNR=47						
SAO	**San Andreas Ge**	5.24	133	P	Pn	21 44 34.7	-1.9
PNTR	**Pine Nut**	5.26	103	ePn	Pn	21 44 38.4	+1.4
PAHR	**Pah Rah Range**	5.27	96	ePn	Pn	21 44 37.1	0.0
I05D	**Terrebonne, OR**	5.28	41	P	Pn	21 44 38.2	+1.1
	baz=225,SNR=67						
YERR	**Yerington**	5.56	103	ePn	Pn	21 44 42.2	+1.2
WAKR	**Walker**	5.58	108	ePn	Pn	21 44 43.1	+1.7
G05D	**Wamic, OR**	5.96	35	P	Pn	21 44 47.6	+1.1
	baz=219,SNR=128						
WVOR	**Wild Horse Val**	6.00	68	ePn	Pn	21 44 46.8	-0.3
WVOR	**Wild Horse Val**	6.00	68	eP	Pn	21 44 46.8	-0.3
F04D	**Rainier, OR**	6.07	21	P	Pn	21 44 49.3	+1.4
	baz=204,SNR=16						
I07A	**Izee**	6.13	52	ePn	Pn	21 44 50.6	+1.7
RYN	**Ryan**	6.20	105	ePn	Pn	21 44 51.0	+1.0
MDPB	**Devils Postpil**	6.21	115	ePn	Pn	21 44 52.8	+2.6
G06A	**Carlson Farm,**	6.27	39	ePn	Pn	21 44 52.1	+1.4
OMMB	**Old Mammoth Mi**	6.28	115	ePn	Pn	21 44 53.8	+2.7
MLAC	**Mammoth, Mammo**	6.38	114	P	Pn	21 44 54.2	+1.7
	baz=298						
KVN	**Kaiserville**	6.39	100	ePn	Pn	21 44 52.9	+0.3
KVN	**Kaiserville**	6.39	100	eP	Pn	21 44 52.9	+0.3
F05D	**White Salmon**	6.42	31	P	Pn	21 44 54.0	+1.2
	baz=214,SNR=53						
NV01	**Mina Array Sit**	6.43	106	ePn	Pn	21 44 53.6	+0.5
NVAR	**Mina Array Bea**	6.43	106	Pn	Pn	21 44 53.7	+0.5
	11nm,0.3s,baz=286,slow=14,SNR=181						
J08A	**Circle Bar Ran**	6.44	61	ePn	Pn	21 44 53.5	+0.4
NV11	**Mina Array Sit**	6.54	106	ePn	Pn	21 44 55.3	+0.8
E04D	**Cinebar**	6.63	22	P	Pn	21 44 56.9	+1.4
	baz=205,SNR=67						
PAGB	**Antelope Grade**	6.65	133	ePn	Pn	21 44 54.6	-1.4
LON	**Longmire**	7.04	25	P	Pn	21 45 02.4	+1.2
TIN	**Tinemaha, Big**	7.09	116	P	Pn	21 45 05.9	+3.9
	baz=311						
F07A	**Phinny Hill Vi**	7.09	38	ePn	Pn	21 45 03.5	+1.6
SMMC	**Simmler**	7.10	134	P	Pn	21 45 00.6	-1.5
	baz=318						
D04E	**Lakebay**	7.15	19	P	Pn	21 45 04.7	+2.1
	baz=202,SNR=13						
G08A	**Pilot Rock**	7.17	45	ePn	Pn	21 45 05.0	+1.9
VES	**Vestal, Richgr**	7.26	127	P	Pn	21 45 03.7	-0.5
	baz=311						
D03D	**Eldon**	7.41	17	P	Pn	21 45 07.8	+1.5
	baz=199,SNR=54						
PKM	**Mcpherson Peak**	7.52	136	P	Pn	21 45 06.6	-1.5
	baz=319						
CWC	**Cottonwood Cre**	7.53	120	P	Pn	21 45 09.1	+1.0
	baz=304						
E07A	**Sunnyside**	7.63	35	ePn	Pn	21 45 10.6	+1.3
HAWA	**Hanford**	7.65	37	ePn	Pn	21 45 10.9	+1.3
ISA	**Isabella, Lake**	7.75	126	ePn	Pn	21 45 11.2	+0.1
ISA	**Isabella, Lake**	7.75	126	eP	Pn	21 45 11.2	+0.1
ISA	**Isabella, Lake**	7.75	126	P	Pn	21 45 11.6	+0.6
	baz=310						
BMO	**Blue Mountains**	7.87	53	ePn	Pn	21 45 14.7	+1.9
BMO	**Blue Mountains**	7.87	53	eP	Pn	21 45 14.7	+1.9
ARVC	**Arvin**	7.89	130	P	Pn	21 45 12.2	-0.9
	baz=314						
SBC	**Santa Barbara**	7.92	137	P	Pn	21 45 11.9	-1.4
	baz=321						
E08A	**Dider Farm, El**	7.94	38	ePn	Pn	21 45 14.9	+1.3
MPMC	**Manual Prospec**	8.13	120	P	Pn	21 45 18.0	+1.5
	baz=305						
SCZ2	**Santa Cruz Isl**	8.31	139	P	Pn	21 45 17.3	-1.4
	baz=322						
OSI	**Osito Audit: C**	8.32	132	ePn	Pn	21 45 18.2	-0.7
OSI	**Osito Audit: C**	8.32	132	P	Pn	21 45 18.3	-0.6
	baz=316						
B05A	**Bryant**	8.32	19	P	Pn	21 45 20.7	+1.8
	baz=202,SNR=72						
ELK	**Elko**	8.34	85	ePn	Pn	21 45 20.8	+1.6
ELK	**Elko**	8.34	85	Pn	Pn	21 45 21.4	+2.1
	1.6nm,0.3s,baz=277,slow=13,SNR=70						
ELK				LR	LR	21 48 58.5	
	comp=Z,874nm,18.3s,baz=264,slow=41						
C06D	**Leavenworth**	8.36	25	P	Pn	21 45 21.4	+2.0
	baz=209,SNR=30						
E09A	**Wood Farm, Sta**	8.40	41	ePn	Pn	21 45 20.5	+0.6
D08A	**Wollman Farm,**	8.42	36	ePn	Pn	21 45 21.1	+0.8
R11A	**Troy Canyon, C**	8.48	101	ePn	Pn	21 45 22.3	+1.1
BLG	**Laguna Peak, P**	8.51	136	P	Pn	21 45 19.6	-1.9
	baz=320						
TPNV	**Topopah Spring**	8.53	111	ePn	Pn	21 45 25.2	+3.4
TPNV	**Topopah Spring**	8.53	111	eP	Pn	21 45 25.2	+3.4
F10A	**Beach Ranch, E**	8.54	47	ePn	Pn	21 45 24.1	+2.1
EDW2	**Edwards Air Ro**	8.56	128	P	Pn	21 45 21.6	-0.6
	baz=313						
A04D	**Lummi Island**	8.61	16	P	Pn	21 45 24.5	+1.7
	baz=198						
DECC	**Green Verdugo**	8.80	132	P	Pn	21 45 25.0	-0.5
	baz=317						
PASC	**Pasadena Art C**	8.95	132	ePn	Pn	21 45 26.8	-0.7
PASC				eSn	Sn	21 47 08.6	+0.1
SNCC	**San Nicolas Is**	8.97	141	P	Pn	21 45 26.9	-0.9
	baz=325						
PAS	**Pasadena**	8.97	132	P	Pn	21 45 26.8	-1.0
PAS				S	Sn	21 47 08.6	-0.6
MWC	**Mount Wilson**	8.98	131	ePn	Pn	21 45 27.1	-1.0
MWC	**Mount Wilson**	8.98	131	eP	Pn	21 45 27.1	-1.0
GSC	**Goldstone, Bar**	9.03	122	ePn	Pn	21 45 29.4	+0.7
GSC	**Goldstone, Bar**	9.03	122	P	Pn	21 45 29.4	+0.7
GSC	**Goldstone, Bar**	9.03	122	P	Pn	21 45 29.2	+0.5
	baz=307						
RRX	**Edison Barstow**	9.18	125	P	Pn	21 45 31.3	+0.7
	baz=310						
C09A	**Chrisman Ranch**	9.27	35	ePn	Pn	21 45 32.3	+0.4
HLID	**Hailey**	9.29	67	ePn	Pn	21 45 33.4	+1.0
HLID	**Hailey**	9.29	67	P	Pn	21 45 34.6	+2.3
	baz=254						
SHPR	**Sheep Range**	9.51	111	ePn	Pn	21 45 39.6	+4.4
TUQ	**Turquoise Moun**	9.53	119	P	Pn	21 45 36.7	+1.1
	baz=304						
HEC	**Hector,Ludlow**	9.63	123	P	Pn	21 45 37.2	+0.4
	baz=308						
BBRC	**Big Bear Solar**	9.63	127	P	Pn	21 45 36.5	-0.5
	baz=312						
SCI2	**San Clemente I**	9.66	138	P	Pn	21 45 36.4	-0.8
	baz=322						
PSUT	**Pine Spring**	9.73	97	ePn	Pn	21 45 40.6	+2.3
BGU	**Big Grassy Mou**	10.01	83	ePn	Pn	21 45 45.1	+3.0
GMRC	**Granite Mounta**	10.09	121	P	Pn	21 45 43.3	+0.1
	baz=307						
NEW	**Newport**	10.13	37	eP	Pn	21 45 44.2	+0.5
NEW	**Newport**	10.13	37	P	Pn	21 45 45.3	+1.5
	baz=223						
NEW	**Newport**	10.13	37	Pn	Pn	21 45 44.1	+0.4
	2.9nm,0.3s,baz=210,slow=12,SNR=34						
NEW				LR	LR	21 49 44.3	
	comp=Z,619nm,20.5s,baz=224,slow=38						
HVU	**Hansel Valley**	10.21	78	ePn	Pn	21 45 47.7	+2.9
HVU	**Hansel Valley**	10.21	78	P	Pn	21 45 47.7	+2.9
DUG	**Dugway, Tooele**	10.22	87	ePn	Pn	21 45 48.1	+3.1
DUG	**Dugway, Tooele**	10.22	87	P	Pn	21 45 48.8	+3.8
DUG				pmax	pmax		
	comp=Z,132nm,1.0s						
DUG	**Dugway, Tooele**	10.22	87	P	Pn	21 45 47.5	+2.5
	baz=276						
LDFC	**Landfair**	10.29	118	ePn	Pn	21 45 47.7	+1.8
PFO	**Pinyon Flats O**	10.35	128	ePn	Pn	21 45 46.5	-0.4
PFO	**Pinyon Flats O**	10.35	128	eP	Pn	21 45 46.5	-0.4
PFO	**Pinyon Flats O**	10.35	128	P	Pn	21 45 46.4	-0.4
	baz=314						
XPFO	**Pion Flat**	10.36	128	ePn	Pn	21 45 46.5	-0.4
BELC	**Belle Mtn. Jos**	10.37	125	P	Pn	21 45 46.4	-0.7
	baz=311						
CCUT	**Cedar City**	10.40	102	ePn	Pn	21 45 51.3	+3.8
SPUT	**South Promonto**	10.44	81	ePn	Pn	21 45 51.1	+3.1
SZCU	**Shurtz Canyon**	10.59	102	ePn	Pn	21 45 53.9	+3.8
LCMT	**Little Creek M**	10.68	105	ePn	Pn	21 45 55.2	+3.8
MCMT	**McKenzie Canyo**	10.74	62	ePn	Pn	21 45 54.3	+2.0
TCRU	**Three Creeks R**	10.78	96	ePn	Pn	21 45 57.2	+4.5
NLU	**North Lily Min**	10.81	88	ePn	Pn	21 45 56.6	+3.5
IRM	**Iron Mountain**	10.81	122	P	Pn	21 45 52.9	-0.1
	baz=309						
MONP2	**Monument Peak**	10.89	131	P	Pn	21 45 53.5	-0.7
	baz=316						
BAR	**Barrett**	10.90	133	ePn	Pn	21 45 52.8	-1.4
BAR				eSn	Sn	21 47 54.2	-2.3
MSO	**Missoula**	10.91	50	ePn	Pn	21 45 56.6	+2.2
MSO	**Missoula**	10.91	50	P	Pn	21 45 56.4	+2.0
	baz=239						
CTU	**Camp Tracy**	10.99	84	ePn	Pn	21 45 58.7	+3.2
KNB	**Kanab**	10.99	104	ePn	Pn	21 45 59.8	+4.2
KNB	**Kanab**	10.99	104	eP	Pn	21 45 59.8	+4.2
MSU	**Marysvale**	11.00	96	ePn	Pn	21 45 59.0	+3.2
MSU	**Marysvale**	11.00	96	eP	Pn	21 45 59.0	+3.2
DLMT	**Dillon**	11.10	59	ePn	Pn	21 45 59.0	+2.0
HWUT	**Hardware Ranch**	11.11	79	ePn	Pn	21 46 00.5	+3.3
W13A	**Hualapai Mount**	11.11	115	ePn	Pn	21 46 02.1	+4.8
MTPU	**Mount Pierson**	11.13	98	ePn	Pn	21 45 59.5	+1.9
MPU	**Maple Canyon**	11.14	88	ePn	Pn	21 46 00.1	+2.5
PKCU	**Pink Cliffs**	11.22	101	ePn	Pn	21 46 01.4	+2.5
JLU	**Jordanelle**	11.22	85	ePn	Pn	21 46 00.1	+1.3
TCUT	**Toone Canyon**	11.23	82	ePn	Pn	21 46 02.6	+3.7
IKP	**In-Ko-Pah, Jac**	11.24	131	P	Pn	21 45 59.7	+0.8
	baz=316						
Y12C	**Blythe**	11.47	122	ePn	Pn	21 46 02.3	+0.4
AHID	**Auburn Hatcher**	11.53	74	ePn	Pn	21 46 05.9	+3.0
TMUT	**Trail Mountain**	11.57	91	ePn	Pn	21 46 07.9	+4.3
U15A	**North Rim**	11.62	106	ePn	Pn	21 46 09.2	+4.9
QLMT	**Earthquake Lak**	11.71	63	ePn	Pn	21 46 07.9	+2.5
FXWY	**Fox Creek**	11.71	69	ePn	Pn	21 46 08.0	+2.5
GLA	**Glamis**	11.73	126	ePn	Pn	21 46 05.0	-0.6
GLA	**Glamis**	11.73	126	eP	Pn	21 46 05.0	-0.6
GLA	**Glamis**	11.73	126	P	Pn	21 46 04.5	-1.2
	baz=312						
TPAW	**Teton Pass**	11.74	70	ePn	Pn	21 46 09.3	+3.5
REDW	**Red Top Meadow**	11.79	71	ePn	Pn	21 46 09.1	+2.5
BBB	**Bella Bella**	11.79	354	Pn	Pn	21 46 09.4	+3.1
	comp=Z,0.6nm,0.3s,baz=197,slow=8.9,SNR=6.5						
BBB				LR	LR	21 49 09.1	
	comp=Z,114nm,21.5s,baz=181,slow=30						
BOZ	**Bozeman (W)**	11.82	60	ePn	Pn	21 46 07.9	+1.0
BOZ	**Bozeman (W)**	11.82	60	eP	Pn	21 46 07.9	+1.0
BOZ	**Bozeman (W)**	11.82	60	P	Pn	21 46 07.9	+1.0
	baz=249						
IMW	**Indian Meadow**	11.82	68	ePn	Pn	21 46 10.2	+3.1
YHB	**Horse Butte**	11.84	64	ePn	Pn	21 46 09.9	+2.6
SNOW	**Snow King Moun**	11.87	70	ePn	Pn	21 46 10.7	+3.0
P17A	**Butcher Ranch,**	11.90	90	ePn	Pn	21 46 10.6	+2.6
MOOW	**Moose Ponds**	11.93	69	ePn	Pn	21 46 11.6	+3.1
YMR	**Madison River**	11.98	64	ePn	Pn	21 46 10.8	+1.6
YPP	**Pitchstone Pla**	11.99	66	ePn	Pn	21 46 11.4	+2.0
LOHW	**Long Hollow**	12.01	70	ePn	Pn	21 46 12.1	+2.6
YFT	**Old Faithful**	12.02	66	ePn	Pn	21 46 13.1	+3.4
FLWY	**Flagg Ranch**	12.03	67	ePn	Pn	21 46 13.1	+3.3
YHH	**Holmes Hill**	12.09	64	ePn	Pn	21 46 13.2	+2.5
HRY	**Holter Researc**	12.13	54	ePn	Pn	21 46 10.9	-0.1
SRU	**San Rafael Swe**	12.13	91	ePn	Pn	21 46 15.9	+4.7
SRU	**San Rafael Swe**	12.13	91	eP	Pn	21 46 15.9	+4.7
H17A	**Grant Village**	12.18	66	ePn	Pn	21 46 16.0	+4.1
H17A	**Grant Village**	12.18	66	P	Pn	21 46 14.5	+2.5
	baz=256						
YNR	**Norris Junctio**	12.19	65	ePn	Pn	21 46 15.8	+3.8
WALA	**Waterton Lakes**	12.23	41	ePn	Pn	21 46 14.2	+1.7
LKWY	**Lake**	12.35	65	ePn	Pn	21 46 18.6	+4.4
LKWY	**Lake**	12.35	65	eP	Pn	21 46 18.6	+4.4
BW06	**Boulder Array**	12.66	74	ePn	Pn	21 46 21.0	+2.6
PD31	**Pinedale Array**	12.66	74	ePn	Pn	21 46 20.8	+2.3
PDAR	**Pinedale Array**	12.66	74	Pn	Pn	21 46 20.1	+1.7
	comp=Z,0.5nm,0.3s,baz=275,slow=11,SNR=26						
PDAR				LR	LR	21 51 40.5	
	comp=Z,784nm,20.5s,baz=269,slow=40						
WUAZ	**Wupatki**	12.68	108	ePn	Pn	21 46 23.9	+5.1
WUAZ	**Wupatki**	12.68	108	P	Pn	21 46 21.8	+3.0
	baz=297						
X16A	**Lo Mia Camp, P**	13.18	113	ePn	Pn	21 46 29.7	+4.2
GCMT	**Greycliff**	13.18	61	ePn	Pn	21 46 26.9	+1.5
RLMT	**Red Lodge**	13.26	64	ePn	Pn	21 46 29.0	+2.3
RLMT	**Red Lodge**	13.26	64	P	Pn	21 46 28.3	+1.6
	baz=255						
O20A	**White River Ci**	13.71	86	ePn	Pn	21 46 35.3	+2.6
O20A	**White River Ci**	13.71	86	P	Pn	21 46 34.3	+1.6
	baz=277						
214A	**Organ Pipe Nat**	13.73	124	P	Pn	21 46 32.9	0.0
	baz=312						
EGMT	**Eagleton**	13.97	52	ePn	Pn	21 46 36.6	+0.4
EGMT	**Eagleton**	13.97	52	P	Pn	21 46 36.7	+0.5
	baz=243						
W18A	**Petrified Fore**	14.06	107	P	Pn	21 46 38.3	+0.8
	baz=297						
MVCO	**Mesa Verde**	14.17	98	ePn	Pn	21 46 41.0	+2.0
MVCO	**Mesa Verde**	14.17	98	P	Pn	21 46 40.0	+1.0
	baz=289						
X18A	**Snowflake**	14.18	110	ePn	P	21 46 43.8	-3.1
RWWY	**Rawlins**	14.37	79	ePn	Pn	21 46 40.9	-0.9
SMCO	**Snowmass**	14.82	89	ePn	Pn	21 46 50.4	+2.2
TUC	**Tucson**	14.82	118	ePn	Pn	21 46 50.6	+2.7
TUC	**Tucson**	14.82	118	eP	Pn	21 46 50.6	+2.7
TUC	**Tucson**	14.82	118	P	Pn	21 46 49.2	+1.3
	baz=308						
K22A	**Casper**	14.88	75	ePn	Pn	21 46 49.0	+0.3
K22A	**Casper**	14.88	75	P	Pn	21 46 49.0	+0.3
	baz=268						
S22A	**4UR Ranch, Cre**	15.27	94	ePn	P	21 46 57.2	-1.8
	comp=Z,38nm,1.1s						
N23A	**Red Feather La**	15.37	82	ePn	Pn	21 46 55.9	+0.6
	comp=Z,28nm,0.8s						
N23A	**Red Feather La**	15.37	82	P	Pn	21 46 55.2	-0.1
	baz=275						
PHWY	**Pilot Hill**	15.70	80	ePn	Pn	21 46 59.3	-0.4
	comp=Z,62nm,1.4s						
LAO	**LASA Array**	15.73	60	ePn	Pn	21 47 01.5	+1.7
	comp=Z,297nm,0.

CBKS	**Cedar Bluff**	**20.41**	**86**	*eP*		Pn		21 47 57.4	-0.1
CBKS	comp=Z,313nm,1.0s			pmax		pmax			
CBKS	**Cedar Bluff**	**20.41**	**86**	P		Pn		21 47 57.7	+0.2
SUSD	baz=283 **Miller**	**20.44**	**70**	P		**P**		**21 47 56.7**	**+1.0**
LPIG	baz=268 **La Paz**	**21.08**	**136**	P		**P**		**21 48 05.3**	**+2.7**
LPIG	comp=Z,15nm,0.3s,baz=328,slow=14,SNR=4.2			LR		LR		21 55 24.2	
BGNE	comp=Z,287nm,18.9s,baz=246,slow=34 **Belgrade**	**21.17**	**78**	*eP*		**P**		**21 48 05.7**	**+2.1**
BGNE	comp=Z,474nm,1.1s **Belgrade**	**21.17**	**78**	P		**P**		**21 48 04.5**	**+0.9**
TX31	baz=277 **Lajitas Ar. Si**	**21.49**	**114**	*eP*		**P**		**21 48 09.8**	**+2.6**
TXAR	comp=Z,32nm,1.1s **Lajitas Array**	**21.49**	**114**	P		**P**		**21 48 09.8**	**+2.6**
TXAR	comp=Z,15nm,0.8s,baz=298,slow=8.1,SNR=96			LR		LR		21 56 57.4	
FFC	comp=Z,212nm,18.0s,baz=0.0,slow=38 **Flin Flon**	**21.53**	**40**	P		**P**		**21 48 07.3**	**0.0**
FFC	comp=Z,108nm,1.1s			pmax		pmax			
HPIG	comp=Z,21nm,0.9s	**21.70**	**122**	*eP*		**P**		**21 48 12.9**	**+3.4**
ECSD	**EROS Data Cent**	**22.13**	**72**	*eP*		**P**		**21 48 13.8**	**-0.1**
ECSD	comp=Z,148nm,0.9s **EROS Data Cent**	**22.13**	**72**	P		**P**		**21 48 14.3**	**+0.4**
WMOK	baz=272 **Wichita Mounta**	**22.41**	**96**	*eP*		**P**		**21 48 18.7**	**+1.7**
WMOK	comp=Z,28nm,0.8s **Wichita Mounta**	**22.41**	**96**	*eP*		**P**		**21 48 18.7**	**+1.7**
WMOK	comp=Z,28nm,0.8s			pmax		pmax			
WMOK	**Wichita Mounta**	**22.41**	**96**	P		**P**		**21 48 17.6**	**+0.7**
ABTX	baz=293 **Abilene, Hawle**	**22.66**	**102**	*eP*		**P**		**21 48 21.6**	**+1.9**
ABTX	comp=Z,95nm,1.0s **Abilene, Hawle**	**22.66**	**102**	P		**P**		**21 48 20.9**	**+1.3**
KSU1	baz=298 **Kansas State U**	**22.73**	**84**	*eP*		**P**		**21 48 21.9**	**+1.6**
KSU1	comp=Z,91nm,0.6s **Kansas State U**	**22.73**	**84**	P		**P**		**21 48 20.7**	**+0.4**
AGMN	baz=283 **Agassiz Nation**	**22.93**	**60**	*eP*		**P**		**21 48 23.5**	**+1.2**
AGMN	comp=Z,78nm,0.8s **Agassiz Nation**	**22.93**	**60**	P		**P**		**21 48 23.1**	**+0.7**
YKA	baz=261 **Yellowknife Ar**	**23.13**	**14**	P		**P**		**21 48 23.8**	**-0.5**
YKA	comp=Z,11nm,0.6s,baz=198,slow=10,SNR=138			PcP		**PcP**		**21 52 12.4**	**-0.2**
ULM	comp=Z,1.1nm,0.6s,baz=192,slow=1.8,SNR=6.5 **Lac du Bonnet**	**23.29**	**55**	*eP*		**P**		**21 48 26.3**	**+0.3**
ULM	comp=Z,111nm,0.8s **Lac du Bonnet**	**23.29**	**55**	*eP*		**P**		**21 48 26.3**	**+0.3**
ULM	comp=Z,111nm,0.8s			pmax		pmax			
ULM	**Lac du Bonnet**	**23.29**	**55**	P		**P**		**21 48 26.2**	**+0.3**
ULM	comp=Z,89nm,0.8s,baz=259,slow=9.8,SNR=119			LR		LR		21 57 56.7	
JCT	comp=Z,882nm,18.5s,baz=272,slow=38 **Junction City**	**23.61**	**107**	*eP*		**P**		**21 48 31.1**	**+1.7**
JCT	comp=Z,35nm,1.0s **Junction City**	**23.61**	**107**	*eP*		**P**		**21 48 31.1**	**+1.7**
JCT	comp=Z,35nm,1.0s			pmax		pmax			
JCT	**Junction City**	**23.61**	**107**	P		**P**		**21 48 29.5**	**+0.1**
KDAK	baz=302 **Kodiak Island**	**24.22**	**325**	P		**P**		**21 48 36.1**	**+1.3**
TUL1	comp=Z,7.8nm,1.1s,baz=114,slow=12,SNR=2.3 **Leonard**	**24.25**	**91**	*eP*		**P**		**21 48 37.6**	**+2.1**
TUL1	comp=Z,286nm,2.0s **Leonard**	**24.25**	**91**	P		**P**		**21 48 36.2**	**+0.8**
WHTX	baz=290 **Lake Whitney,**	**24.59**	**101**	*eP*		**P**		**21 48 40.5**	**+1.9**
WHTX	comp=Z,133nm,1.4s **Lake Whitney,**	**24.59**	**101**	P		**P**		**21 48 39.5**	**+1.0**
SCIA	baz=298 **State Center**	**24.77**	**76**	*eP*		**P**		**21 48 42.3**	**+2.2**
SCIA	comp=Z,36nm,0.6s **State Center**	**24.77**	**76**	P		**P**		**21 48 41.1**	**+1.0**
SPMN	baz=278 **Marine on St.**	**24.82**	**68**	*eP*		**P**		**21 48 41.9**	**+1.3**
SPMN	comp=Z,116nm,1.3s **Marine on St.**	**24.82**	**68**	P		**P**		**21 48 41.3**	**+0.7**
F37A	baz=271 **Hinrichs Farm,**	**24.95**	**67**	P		**P**		**21 48 42.9**	**+1.2**
X37A	baz=270 **Clayton**	**25.06**	**94**	*eP*		**P**		**21 48 45.0**	**+2.3**
435B	comp=Z,47nm,1.1s **Jarrell**	**25.09**	**104**	*eP*		**P**		**21 48 45.1**	**+2.1**
435B	comp=Z,46nm,0.9s **Jarrell**	**25.09**	**104**	P		**P**		**21 48 44.1**	**+1.1**
833A	baz=300 **Chaparral WMA,**	**25.11**	**111**	*eP*		**P**		**21 48 46.8**	**+3.5**
833A	comp=Z,26nm,0.8s **Chaparral WMA,**	**25.11**	**111**	P		**P**		**21 48 43.9**	**+0.7**
H38A	baz=306 **Maiden Rock**	**25.21**	**69**	P		**P**		**21 48 45.1**	**+1.0**
SML	baz=272 **Sawmill**	**25.24**	**335**	P		**P**		**21 48 45.8**	**+1.6**
SML	comp=Z,55nm,1.0s			pmax		pmax			
F38A	**Pierce - Schro**	**25.47**	**66**	P		**P**		**21 48 47.8**	**+1.4**
G38A	baz=270 **Ridgeland**	**25.50**	**68**	P		**P**		**21 48 48.1**	**+1.5**
HHAR	baz=272 **Hobbs**	**25.54**	**89**	*eP*		**P**		**21 48 48.8**	**+1.6**
M39A	comp=Z,86nm,1.1s **Webster**	**25.61**	**77**	P		**P**		**21 48 49.2**	**+1.5**
L39A	baz=279 **Vinton**	**25.64**	**75**	P		**P**		**21 48 48.9**	**+0.9**
K39A	baz=278 **Oelwein**	**25.65**	**74**	P		**P**		**21 48 48.2**	**+0.1**
E38A	baz=277 **The Farm, Brul**	**25.70**	**65**	*eP*		**P**		**21 48 49.9**	**+1.4**
E38A	comp=Z,35nm,1.0s **The Farm, Brul**	**25.70**	**65**	P		**P**		**21 48 49.3**	**+0.9**
J39A	baz=269 **Decorah**	**25.72**	**72**	P		**P**		**21 48 49.7**	**+1.1**
EYMN	baz=276 **Ely**	**25.80**	**62**	*eP*		**P**		**21 48 49.7**	**+0.4**
EYMN	comp=Z,151nm,1.6s **Ely**	**25.80**	**62**	P		**P**		**21 48 49.8**	**+0.4**
I39A	baz=266 **Houston**	**25.80**	**71**	*eP*		**P**		**21 48 51.4**	**+2.0**
I39A	comp=Z,471nm,1.7s **Houston**	**25.80**	**71**	P		**P**		**21 48 50.7**	**+1.3**
H39A	baz=274 **Augusta**	**25.92**	**69**	P		**P**		**21 48 51.3**	**+0.8**
G39A	baz=273 **Holcombe**	**25.98**	**68**	P		**P**		**21 48 51.8**	**+0.8**
W39A	baz=272 **Magazine**	**26.04**	**91**	*eP*		**P**		**21 48 53.4**	**+1.8**
W39A	comp=Z,114nm,1.3s **Magazine**	**26.04**	**91**	P		**P**		**21 48 51.6**	**-0.1**
M40A	baz=291 **Post Highland**	**26.11**	**77**	P		**P**		**21 48 52.1**	**-0.1**
F39A	baz=280 **Loretta**	**26.14**	**66**	P		**P**		**21 48 53.4**	**+0.9**
N40A	baz=271 **Mertquake, Sal**	**26.15**	**78**	P		**P**		**21 48 53.0**	**+0.4**
K40A	baz=280 **Colesburg**	**26.20**	**74**	P		**P**		**21 48 53.6**	**+0.5**
L40A	baz=277 **Anamosa**	**26.22**	**75**	*eP*		**P**		**21 48 54.8**	**+1.5**
L40A	comp=Z,32nm,0.8s **Anamosa**	**26.22**	**75**	P		**P**		**21 48 53.7**	**+0.5**
U40A	baz=278 **Yellville**	**26.35**	**88**	P		**P**		**21 48 55.0**	**+0.5**
E39A	baz=289 **Mellen**	**26.39**	**65**	P		**P**		**21 48 55.9**	**+1.2**
J40A	baz=270 **Soldiers Grove**	**26.41**	**72**	P		**P**		**21 48 55.8**	**+0.8**
M1AR	baz=276 **Mount Ida**	**26.44**	**92**	*eP*		**P**		**21 48 57.6**	**+2.3**
M1AR	comp=Z,52nm,1.1s **Mount Ida**	**26.44**	**92**	*eP*		**P**		**21 48 57.6**	**+2.3**
M1AR	comp=Z,52nm,1.1s			pmax		pmax			
M1AR	**Mount Ida**	**26.44**	**92**	P		**P**		**21 48 55.7**	**+0.5**
I40A	baz=293 **Norwalk**	**26.45**	**71**	P		**P**		**21 48 55.7**	**+0.4**
H40A	baz=275 **Chili**	**26.56**	**69**	P		**P**		**21 48 56.5**	**+0.2**
RND	baz=274 **Reindeer**	**26.60**	**337**	P		**P**		**21 49 00.5**	**+4.0**
RND	comp=Z,18nm,1.0s			pmax		pmax			
EPYK	**Eagle Plains**	**26.62**	**351**	P		**P**		**21 48 57.5**	**+0.9**
G40A	baz=162 **Rib Lake**	**26.66**	**68**	*eP*		**P**		**21 48 59.0**	**+1.9**
G40A	comp=Z,32nm,0.9s **Rib Lake**	**26.66**	**68**	P		**P**		**21 48 58.2**	**+1.0**
F40A	baz=272 **Park Falls**	**26.69**	**66**	P		**P**		**21 48 58.3**	**+0.8**
N41A	baz=271 **Harden Midland**	**26.73**	**78**	*eP*		**P**		**21 48 58.9**	**+1.1**
N41A	comp=Z,79nm,0.9s **Harden Midland**	**26.73**	**78**	P		**P**		**21 48 58.2**	**+0.4**
L41A	baz=281 **Preston**	**26.75**	**75**	P		**P**		**21 48 58.5**	**+0.5**
P41A	baz=279 **Barry, Barry**	**26.79**	**80**	P		**P**		**21 48 59.5**	**+1.1**
NATX	baz=283 **Nacogdoches**	**26.80**	**99**	P		**P**		**21 48 58.8**	**+0.3**
HKT	baz=298 **Hockley**	**26.81**	**103**	*eP*		**P**		**21 49 01.2**	**+2.7**
HKT	comp=Z,106nm,1.4s **Hockley**	**26.81**	**103**	P		**P**		**21 49 01.2**	**+2.7**
HKT	comp=Z,106nm,1.4s			pmax		pmax			
S41A	**Jillco Farms,**	**26.81**	**85**	P		**P**		**21 48 59.3**	**+0.7**
K41A	baz=287 **Shullsburg**	**26.82**	**74**	P		**P**		**21 48 59.2**	**+0.6**
JFWS	baz=278 **Jewell Farm**	**26.82**	**73**	*eP*		**P**		**21 49 00.2**	**+1.5**
JFWS	comp=Z,72nm,1.0s **Jewell Farm**	**26.82**	**73**	*eP*		**P**		**21 49 00.2**	**+1.5**
JFWS	comp=Z,72nm,1.0s			pmax		pmax			
JFWS	**Jewell Farm**	**26.82**	**73**	P		**P**		**21 48 59.7**	**+1.0**
O41A	baz=277 **Paleys Farm,**	**26.83**	**79**	P		**P**		**21 48 59.4**	**+0.7**
Q41A	baz=282 **Truxton**	**26.83**	**82**	P		**P**		**21 48 59.1**	**+0.3**
M41A	baz=284 **Milan**	**26.84**	**76**	P		**P**		**21 48 59.4**	**+0.6**
E40A	baz=280 **Wakefield**	**26.84**	**65**	P		**P**		**21 48 59.1**	**+0.3**
HDA	baz=270 **Harding Lake**	**26.85**	**340**	P		**P**		**21 48 59.8**	**+1.1**
MCK	baz=143 **McKinley**	**26.87**	**338**	P		**P**		**21 48 59.7**	**+0.8**
MCK	comp=Z,20nm,1.1s			pmax		pmax			
R41A	**Rosebud**	**26.89**	**83**	P		**P**		**21 49 00.2**	**+0.9**
J41A	baz=286 **Loganville**	**26.94**	**72**	P		**P**		**21 49 01.0**	**+1.3**
I41A	baz=276 **Arkdale**	**26.98**	**70**	*eP*		**P**		**21 49 01.9**	**+1.8**
I41A	comp=Z,260nm,1.6s **Arkdale**	**26.98**	**70**	P		**P**		**21 49 01.0**	**+1.0**
X40A	baz=275 **Basin Creek Fa**	**27.03**	**92**	*eP*		**P**		**21 49 03.0**	**+2.4**
X40A	comp=Z,14nm,0.9s **Basin Creek Fa**	**27.03**	**92**	P		**P**		**21 49 00.9**	**+0.3**
CCM	baz=293 **Cathedral Cave**	**27.06**	**84**	*eP*		**P**		**21 49 02.0**	**+1.2**
CCM	comp=Z,95nm,1.3s **Cathedral Cave**	**27.06**	**84**	*eP*		**P**		**21 49 02.0**	**+1.2**
CCM	comp=Z,95nm,1.3s			pmax		pmax			
CCM	**Cathedral Cave**	**27.06**	**84**	P		**P**		**21 49 01.0**	**+0.2**
U41A	baz=286 **Viola**	**27.06**	**88**	P		**P**		**21 49 01.2**	**+0.4**
H41A	baz=289 **Junction City**	**27.09**	**69**	*eP*		**P**		**21 49 02.9**	**+1.9**
H41A	comp=Z,54nm,0.8s **Junction City**	**27.09**	**69**	P		**P**		**21 49 01.4**	**+0.4**
ILAR	baz=274 **Eielson Array**	**27.13**	**341**	P		**P**		**21 49 01.8**	**+0.6**
ILAR	comp=Z,5.8nm,0.9s,baz=157,slow=7.9,SNR=59			PcP		**PcP**		**21 52 21.1**	**-0.4**
ILAR	comp=Z,2.5nm,0.7s,baz=179,slow=2.4,SNR=19			LR		LR		21 57 59.5	
WLAR	comp=Z,169nm,21.5s,baz=148,slow=33 **White Oak Lake**	**27.13**	**94**	*eP*		**P**		**21 49 03.8**	**+2.3**
WHAR	comp=Z,97nm,0.9s **Wooly Hollow**	**27.15**	**90**	*eP*		**P**		**21 49 03.2**	**+1.6**
LNIG	comp=Z,78nm,1.1s **Linares**	**27.19**	**117**	*eP*		**P**		**21 49 02.8**	**+0.7**
W41B	comp=Z,9.1nm,1.0s **Gary Mavity, V**	**27.22**	**90**	*eP*		**P**		**21 49 03.8**	**+1.5**
W41B	comp=Z,47nm,0.9s **Gary Mavity, V**	**27.22**	**90**	P		**P**		**21 49 02.8**	**+0.5**
UALR	baz=291 **University of**	**27.29**	**91**	*eP*		**P**		**21 49 03.7**	**+0.7**
N42A	comp=Z,75nm,2.0s **Yas City**	**27.31**	**77**	P		**P**		**21 49 03.6**	**+0.5**
R42A	baz=281 **Luebbering**	**27.34**	**83**	P		**P**		**21 49 03.6**	**+0.3**
P42A	baz=286 **Winchester**	**27.35**	**80**	*eP*		**P**		**21 49 04.4**	**+1.0**
P42A	comp=Z,88nm,1.0s **Winchester**	**27.35**	**80**	P		**P**		**21 49 03.8**	**+0.4**
Q42A	baz=284 **Golden Eagle**	**27.37**	**82**	P		**P**		**21 49 04.0**	**+0.4**
C40A	baz=285 **Isle Royale Na**	**27.37**	**62**	*eP*		**P**		**21 49 05.3**	**+1.7**
C40A	comp=Z,52nm,0.9s **Isle Royale Na**	**27.37**	**62**	P		**P**		**21 49 04.0**	**+0.5**
COWI	baz=268 **Conover**	**27.38**	**66**	*eP*		**P**		**21 49 04.6**	**+1.0**
L42A	comp=Z,44nm,1.0s **Oliver, Polo**	**27.38**	**75**	*eP*		**P**		**21 49 05.1**	**+1.5**
L42A	comp=Z,96nm,1.0s **Oliver, Polo**	**27.38**	**75**	P		**P**		**21 49 03.8**	**+0.1**
G41A	baz=279 **Antigo**	**27.38**	**68**	P		**P**		**21 49 04.7**	**+1.0**
M42A	baz=273 **Sheffield**	**27.40**	**76**	P		**P**		**21 49 04.0**	**+0.1**
O42A	baz=280 **Bath**	**27.41**	**79**	P		**P**		**21 49 04.2**	**+0.3**
F41A	baz=282 **Three Lakes**	**27.41**	**67**	*eP*		**P**		**21 49 04.2**	**+0.3**
F41A	comp=Z,40nm,0.9s **Three Lakes**	**27.41**	**67**	P		**P**		**21 49 04.9**	**+1.0**
S42A	baz=272 **Caledonia**	**27.48**	**84**	P		**P**		**21 49 05.1**	**+0.5**
E41A	baz=287 **Kenton**	**27.49**	**65**	P		**P**		**21 49 05.5**	**+0.9**
K42A	baz=271 **Prairie Point,**	**27.50**	**73**	P		**P**		**21 49 05.6**	**+0.9**
Z41A	baz=278 **Richland Creek**	**27.55**	**94**	*eP*		**P**		**21 49 05.9**	**+0.7**
Z41A	comp=Z,84nm,1.4s **Richland Creek**	**27.55**	**94**	P		**P**		**21 49 06.1**	**+0.9**
POKR	baz=295 **Poker Plat Res**	**27.55**	**341**	P		**P**		**21 49 06.2**	**+1.3**
J42A	baz=144 **Columbus**	**27.59**	**72**	P		**P**		**21 49 06.7**	**+1.1**
SLM	baz=277 **Saint Louis**	**27.66**	**82**	*eP*		**P**		**21 49 07.8**	**+1.6**
SLM	comp=Z,142nm,1.4s **Saint Louis**	**27.66**	**82**	P		**P**		**21 49 07.8**	**+1.6**
SLM	comp=Z,142nm,1.4s			pmax		pmax			
I42A	**Draeger Farm,**	**27.68**	**70**	*eP*		**P**		**21 49 07.9**	**+1.5**
I42A	comp=Z,88nm,0.8s **Draeger Farm,**	**27.68**	**70**	P		**P**		**21 49 07.2**	**+0.8**
FVM	baz=276 **French Village**	**27.70**	**83**	*eP*		**P**		**21 49 07.4**	**+0.8**
FVM	comp=Z,51nm,1.4s **French Village**	**27.70**	**83**	*eP*		**P**		**21 49 07.4**	**+0.8**
FVM	comp=Z,51nm,1.4s			pmax		pmax			
D41A	**Chassel**	**27.76**	**64**	*eP*		**P**		**21 49 08.2**	**+1.2**
D41A	comp=Z,193nm,1.3s **Chassel**	**27.76**	**64**	P		**P**		**21 49 07.7**	**+0.8**
H42A	baz=270 **Shiocton**	**27.89**	**69**	*eP*		**P**		**21 49 10.2**	**+2.0**
H42A	comp=Z,50nm,0.7s **Shiocton**	**27.89**	**69**	P		**P**		**21 49 09.0**	**+0.7**
G42A	baz=275 **Mountain**	**27.91**	**68**	*eP*		**P**		**21 49 10.7**	**+2.3**
G42A	comp=Z,69nm,0.9s **Mountain**	**27.91**	**68**	P		**P**		**21 49 08.7**	**+0.3**
HDIL	baz=274 **Hopedale**	**27.92**	**78**	*eP*		**P**		**21 49 09.7**	**+1.2**
HDIL	comp=Z,80nm,1.4s **Hopedale**	**27.92**	**78**	P		**P**		**21 49 09.2**	**+0.7**
N43A	baz=282 **Stutzman Famil**	**27.93**	**77**	P		**P**		**21 49 08.8**	**+0.2**
	baz=281								
P43A	**Skaggs, Pawnee**	**27.95**	**80**	P		**P**		**21 49 08.9**	**+0.1**
O43A	baz=284 **Sugar Creek Fa**	**27.96**	**78**	P		**P**		**21 49 09.1**	**+0.2**
Q43A	baz=282 **New Douglas**	**27.99**	**81**	P		**P**		**21 49 09.7**	**+0.5**
M43A	baz=285 **Waltham Townsh**	**28.00**	**76**	P		**P**		**21 49 09.5**	**+0.3**
L43A	baz=280 **Garden Prairie**	**28.03**	**74**	P		**P**		**21 49 09.4**	**-0.1**
PBMO	baz=279 **Poplar Bluff**	**28.06**	**86**	*eP*		**P**		**21 49 11.0**	**+1.3**
T43A	comp=Z,36nm,1.1s **Greenville**	**28.07**	**85**	P		**P**		**21 49 10.1**	**+0.2**
S43A	baz=288 **Fulton Ridge,**	**28.08**	**84**	P		**P**		**21 49 10.3**	**+0.3**
F42A	baz=287 **Maple Grove Fa**	**28.09**	**66**	P		**P**		**21 49 10.5**	**+0.5**
J43A	baz=273 **Natural Harves**	**28.09**	**71**	P		**P**		**21 49 10.2**	**+0.2**
INK	baz=277 **Inuvik**	**28.18**	**354**	P		**P**		**21 49 11.2**	**+0.7**
INK	**Inuvik**	**28.18**	**354**	P		**P**		**21 49 10.2**	**-0.3**
E42A	comp=Z,4.8nm,0.9s,baz=149,slow=12,SNR=14 **Champion**	**28.21**	**65**	P		**P**		**21 49 10.8**	**-0.3**
I43A	baz=272 **Langenfeld Bro**	**28.23**	**70**	P		**P**		**21 49 11.6**	**+0.3**
K43A	baz=276 **Burlington**	**28.25**	**73**	*eP*		**P**		**21 49 13.0**	**+1.6**
K43A	comp=Z,81nm,1.1s **Burlington**	**28.25**	**73**	P		**P**		**21 49 11.6**	**+0.2**
G43A	baz=278 **Wallace**	**28.43**	**67**	*eP*		**P**		**21 49 15.2**	**+2.2**
G43A	comp=Z,69nm,1.0s **Wallace**	**28.43**	**67**	P		**P**		**21 49 13.2**	**+0.1**
H43A	baz=274 **Windswept, Lux**	**28.44**	**69**	*eP*		**P**		**21 49 15.3**	**+2.2**
H43A	comp=Z,72nm,0.8s **Windswept, Lux**	**28.44**	**69**	P		**P**		**21 49 12.7**	**-0.4**
X43A	baz=276 **Marvell**	**28.51**	**91**	*eP*		**P**		**21 49 14.8**	**+1.1**
X43A	comp=Z,56nm,1.1s **Marvell**	**28.51**	**91**	P		**P**		**21 49 14.0**	**+0.2**
Q44A	baz=292 **Meyer Farm, Va**	**28.52**	**81**	*eP*		**P**		**21 49 15.6**	**+1.7**
Q44A	comp=Z,16nm,0.8s **Meyer Farm, Va**	**28.52**	**81**	P		**P**		**21 49 13.8**	**-0.1**
O44A	baz=285 **Mansfield**	**28.62**	**78**	P		**P**		**21 49 14.7**	**-0.1**
L44A	baz=283 **Lake County Fo**	**28.64**	**74**	P		**P**		**21 49 15.2**	**+0.3**
R44A	baz=280 **Waltonville**	**28.64**	**82**	P		**P**		**21 49 15.0**	**0.0**
P44A	baz=286 **Sand Creek, Wi**	**28.67**	**80**	P		**P**		**21 49 15.0**	**-0.2**
S44A	baz=284 **Carbondale**	**28.67**	**83**	P		**P**		**21 49 15.3**	**+0.1**
M44A	baz=287 **Midewin, Midew**	**28.68**	**76**	*eP*		**P**		**21 49 16.4**	**+1.1**
M44A	comp=Z,49nm,0.9s **Midewin, Midew**	**28.68**	**76**	P		**P**		**21 49 15.8**	**+0.5**
SIUC	baz=281 **Southern Illin**	**28.69**	**83**	*eP*		**P**		**21 49 16.5**	**+1.1**
N44A	comp=Z,45nm,1.3s **Piper City**	**28.73**	**77**	P		**P**		**21 49 15.9**	**+0.1**
F43A	baz=282 **Flat Rock, Esc**	**28.76**	**66**	P		**P**		**21 49 16.2**	**+0.2**
E43A	baz=273 **Lone Tree Farm**	**28.85**	**65**	*eP*		**P**		**21 49 17.5**	**+0.7**
E43A	comp=Z,30nm,0.8s **Lone Tree Farm**	**28.85**	**65**	P		**P**		**21 49 17.5**	**+0.7**
O45A	baz=272 **Potomac**	**29.16**	**78**	P		**P**		**21 49 19.5**	**0.0**
Q45A	baz=283 **Warren Harvey,**	**29.16**	**81**	P		**P**		**21 49 19.6**	**0.0**
N45A	baz=285 **Kentland**	**29.18**	**76**	P		**P**		**21 49 19.5**	**-0.3**
S45A	baz=282 **Carrier Mills**	**29.19**	**83**	P		**P**		**21 49 19.7**	**-0.1**
R45A	baz=287 **Skylar, Fairfi**	**29.23**	**82**	P		**P**		**21 49 20.6**	**+0.4**
OLIL	baz=286 **Olney**	**29.25**	**81**	*eP*		**P**		**21 49 21.7**	**+1.4**
OLIL	comp=Z,28nm,1.2s			*eS*		**S**		**21 54 17.1**	**+3.6**
P45A	**Graceland, Par**	**29.31**	**79**	*eP*		**P**		**21 49 22.2**	**+1.3**
P45A	comp=Z,140nm,1.9s **Graceland, Par**	**29.31**	**79**	P		**P**		**21 49 20.9**	**0.0**
UTMT	baz=284 **University of**	**29.39**	**86**	*eP*		**P**		**21 49 23.0**	**+1.4**
E44A	comp=Z,148nm,1.3s **Grand Marais A**	**29.58**	**64**	P		**P**		**21 49 23.5**	**+0.2**
I45A	baz=273 **Fountain**	**29.58**	**70**	P		**P**		**21 49 23.9**	**+0.6**
SFIN	baz=277 **Lafayette**	**29.59**	**77**	P		**P**		**21 49 24.0**	**+0.7**
OXF	baz=283 **Oxford**	**29.63**	**90**	P		**P**		**21 49 25.1**	**+1.3**
P46A	baz=292 **Rosedale**	**29.69**	**79**	P		**P**		**21 49 24.8**	**+0.5**
Q46A	baz=284 **CEJHS Indians,**	**29.73**	**80**	P		**P**		**21 49 25.2**	**+0.5**
N46A	baz=285 **Monticello**	**29.75**	**76**	P		**P**		**21 49 26.0**	**+1.2**
USIN	baz=282 **University of**	**29.79**	**82**	*eP*		**P**		**21 49 26.6**	**+1.5**
R46A	comp=Z,126nm,1.7s **Gibon Southern**	**29.84**	**82**	P		**P**		**21 49 25.8**	**+0.2**
S46A	baz=287 **Don Dixon Farm**	**29.84**	**83**	P		**P**		**21 49 26.2**	**+0.7**
L46A	baz=288 **Eue Claire**	**29.85**	**74**	P		**P**		**21 49 25.6**	**-0.1**
G45A	baz=281 **Suttons Bay**	**29.88**	**68**	P		**P**		**21 49 25.5**	**-0.4**
T46A	baz=276 **Princeton**	**29.90**	**84**	P		**P**		**21 49 26.8**	**+0.6**
U46A	baz=288 **Springville**	**29.91**	**86**	P		**P**		**21 49 26.9**	**+0.7**
F45A	baz=290 **CMU Biological**	**29.92**	**66**	P		**P**		**21 49 26.0**	**-0.3**
M46A	baz=275 **Old House Fiel**	**29.93**	**75**	*eP*		**P**		**21 49 27.3**	**+0.9**
M46A	comp=Z,42nm,0.8s **Old House Fiel**	**29.93**	**75**	P		**P**		**21 49 27.0**	**+0.7**
J46A	baz=282 **Howard City**	**30.10**	**71**	P		**P**		**21 49 28.2**	**+0.3**
K46A	baz=279 **Dorr**	**30.11**	**72**	P		**P**		**21 49 28.4**	**+0.5**
E45A	baz=280 **Wooded Hills,**	**30.11**	**65**	P		**P**		**21 49 28.8**	**+0.9**
V46A	baz=274 **Holladay**	**30.14**	**87**	P		**P**		**21 49 29.0**	**+0.7**
I46A	baz=290 **Reed City**	**30.16**	**70**	P		**P**		**21 49 28.9**	**+0.5**
W46A	baz=278 **Michie**	**30.18**	**88**	P		**P**		**21 49 29.7**	**+1.1**
X46A	baz=292 **Boonville**	**30.24**	**89**	P		**P**		**21 49 30.4**	**+1.2**
WVT	baz=292 **Waverly**	**30.25**	**86**	*eP*		**P**		**21 49 30.0**	**+0.7**
WVT	comp=Z,58nm,1.4s **Waverly**	**30.25**	**86**	*eP*		**P**		**21 49 30.0**	**+0.7**
WVT	comp=Z,58nm,1.4s			pmax		pmax			
WVT	**Waverly**	**30.25**	**86**	P		**P**		**21 49 30.3**	**+1.1**
H46A	baz=290 **Fife Lake**	**30.26**	**69**	P		**P**		**21 49 29.7**	**+0.5**
O47A	baz=277 **Sheridan**	**30.31**	**77**	P		**P**		**21 49 30.3**	**+0.5**
BLO	baz=284 **Bloomington**	**30.32**	**79**	*eP*		**P**		**21 49 30.4**	**+0.6**
BLO	comp=Z,31nm,0.8s **Bloomington**	**30.32**	**79**	*eP*		**P**		**21 49 30.4**	**+0.6**
BLO	comp=Z,31nm,0.8s			pmax		pmax			
G46A	**Petoskey**	**30.41**	**67**	P		**P**		**21 49 30.7**	**+0.1**
P47A	baz=276 **Martinsville**	**30.43**	**79**	P		**P**		**21 49 31.1**	**+0.3**
F46A	baz=285 **Macinaw City C**	**30.45**	**66**	P		**P**		**21 49 31.5**	**+0.6**
Q47A	baz=275 **Bedord North L**	**30.45**	**80**	P		**P**		**21 49 32.0**	**+1.0**
PLAL	baz=286 **Pickwick Lake**	**30.47**	**88**	*eP*		**P**		**21 49 32.6**	**+1.4**
M47A	comp=Z,51nm,0.9s **Cromwell**	**30.48**	**75**	P		**P**		**21 49 31.3**	**+0.1**
S47A	baz=282 **Hartford**	**30.50**	**83**	P		**P**		**21 49 31.8**	**+0.3**
	baz=288								

T47A	Sharon Grove comp=Z,68nm,1.8s	30.52	84	eP	P	21 49 33.1	+1.5
T47A	Sharon Grove baz=289	30.52	84	P	P	21 49 32.4	+0.8
N47A	Urbana baz=283	30.52	76	P	P	21 49 31.7	+0.1
U47A	Clarksville baz=290	30.56	85	P	P	21 49 32.5	+0.6
R47A	Wooly Knot Far baz=287	30.56	81	P	P	21 49 32.6	+0.6
V47A	Nunnelly baz=290	30.59	86	P	P	21 49 32.9	+0.6
GLMI	Grayling comp=Z,81nm,1.0s	30.64	68	eP	P	21 49 34.6	+2.0
GLMI	Grayling baz=277	30.64	68	P	P	21 49 33.6	+1.0
L47A	Sherwood baz=281	30.66	74	P	P	21 49 33.2	+0.4
K47A	Vermontville baz=280	30.68	72	P	P	21 49 33.6	+0.7
E46A	Sault Ste Mari baz=274	30.71	65	P	P	21 49 34.0	+0.8
J47A	Sunmer baz=279	30.71	71	P	P	21 49 34.0	+0.7
W47A	Westpoint baz=291	30.74	87	P	P	21 49 34.6	+1.0
WCI	Wyandotte Cave comp=Z,19nm,0.8s	30.75	81	eP	P	21 49 34.9	+1.2
WCI	Wyandotte Cave comp=Z,19nm,0.8s	30.75	81	eP pmax	P pmax	21 49 34.9	+1.2
WCI	Wyandotte Cave baz=287	30.75	81	P	P	21 49 34.1	+0.5
X47A	Russelville baz=292	30.81	89	P	P	21 49 34.9	+0.7
I47A	Gladwin baz=278	30.82	69	P	P	21 49 34.7	+0.5
D46A	Sault St. Mari baz=274	30.86	64	P	P	21 49 35.9	+1.3
TOLK	Toolik Lake Re baz=144	30.90	344	P	P	21 49 36.3	+1.6
H47A	Mio baz=277	30.96	68	P	P	21 49 36.7	+1.3
Q48A	North Vernon baz=286	30.98	80	P	P	21 49 35.6	0.0
T48A	Bowling Green baz=289	31.02	83	P	P	21 49 36.4	+0.3
N48A	Decatur baz=283	31.02	76	P	P	21 49 36.1	+0.1
R48A	Northridge Ran baz=287	31.02	81	P	P	21 49 36.1	+0.1
P48A	Milroy baz=285	31.07	78	P	P	21 49 36.6	+0.2
O48A	Farmland baz=284	31.07	77	P	P	21 49 36.1	-0.3
S48A	Wiedeman Farm, baz=288	31.10	82	P	P	21 49 36.9	+0.2
U48A	Cassie Pea, Po baz=290	31.10	84	P	P	21 49 37.4	+0.7
M48A	Edgerton baz=282	31.11	74	P	P	21 49 37.0	+0.2
G47A	Hillman baz=276	31.14	67	P	P	21 49 37.3	+0.3
V48A	Smith Brothers comp=Z,7.6nm,0.9s	31.15	86	eP	P	21 49 38.3	+1.1
V48A	Smith Brothers baz=291	31.15	86	P	P	21 49 37.4	+0.2
L48A	N Adams baz=282	31.23	73	P	P	21 49 37.8	-0.1
147A	Livingston comp=Z,42nm,0.7s	31.24	92	eP	P	21 49 39.6	+1.6
147A	Livingston baz=295	31.24	92	P	P	21 49 38.4	+0.4
W48A	Pulaski baz=292	31.28	87	P	P	21 49 38.3	-0.1
K48A	Perry baz=280	31.29	72	P	P	21 49 38.6	+0.2
I48A	Sherman Twp baz=278	31.37	69	P	P	21 49 38.8	-0.2
E47A	Iron Bridge baz=275	31.41	65	P	P	21 49 39.9	+0.5
X48A	Hartselle comp=Z,36nm,0.8s	31.46	88	eP	P	21 49 40.8	+0.9
X48A	Hartselle baz=293	31.46	88	P	P	21 49 40.1	+0.2
D47A	Chapleau baz=274	31.49	63	P	P	21 49 40.1	0.0
H48A	Harrisville baz=278	31.57	68	P	P	21 49 41.6	+0.8
Y48A	Jasper baz=294	31.57	89	P	P	21 49 41.1	+0.2
P49A	Miami Univ. Ec baz=285	31.57	78	P	P	21 49 40.7	-0.2
R49A	Shelbyville baz=287	31.58	80	P	P	21 49 41.5	+0.6
Q49A	Aurora baz=286	31.58	79	P	P	21 49 41.2	+0.3
N49A	Columbus Grove comp=Z,42nm,1.0s	31.63	75	eP	P	21 49 42.0	+0.6
N49A	Columbus Grove baz=283	31.63	75	P	P	21 49 41.7	+0.4
S49A	Springfield baz=288	31.64	81	P	P	21 49 41.9	+0.4
M49A	Liberty Center baz=282	31.66	74	P	P	21 49 41.9	+0.3
T49A	Edmonton comp=Z,28nm,0.9s	31.67	83	eP	P	21 49 42.6	+0.9
T49A	Edmonton baz=289	31.67	83	P	P	21 49 42.1	+0.3
U49A	Red Boiling Sp baz=290	31.68	84	P	P	21 49 42.4	+0.5
L49A	Milan baz=282	31.68	73	P	P	21 49 41.8	-0.1
O49A	Covington comp=Z,39nm,0.9s	31.69	77	eP	P	21 49 42.6	+0.6
O49A	Covington baz=284	31.69	77	P	P	21 49 42.0	0.0
AAM	Ann Arbor baz=281	31.72	72	P	P	21 49 41.8	-0.3
148A	Greensboro baz=295	31.79	92	P	P	21 49 42.9	0.0
W49A	Belvidere baz=292	31.80	87	P	P	21 49 43.4	+0.4
V49A	McMinnville baz=291	31.84	85	P	P	21 49 43.8	+0.4
J49A	Marlette baz=280	31.91	70	P	P	21 49 44.7	+0.9
F48A	Evansville baz=276	31.93	66	P	P	21 49 44.3	+0.4
X49A	Woodville baz=293	31.98	88	P	P	21 49 44.7	+0.2
SWET	Sewanee comp=Z,15nm,1.0s	32.02	86	eP	P	21 49 46.2	+1.3
I49A	Point Hope baz=279	32.03	69	P	P	21 49 45.2	+0.3
LRAL	Lakeview Retre comp=Z,40nm,0.9s	32.06	91	eP	P	21 49 46.6	+1.4
LRAL	Lakeview Retre baz=295	32.06	91	P	P	21 49 45.9	+0.7
Y49A	Blount Mountai comp=Z,13nm,0.8s	32.17	89	eP	P	21 49 47.5	+1.3
Y49A	Blount Mountai baz=294	32.17	89	P	P	21 49 46.3	+0.1
E48A	Lockeyer baz=275	32.18	64	P	P	21 49 46.2	+0.1
T50A	Nancy baz=289	32.22	83	P	P	21 49 46.2	-0.4
O50A	Cable baz=285	32.23	76	P	P	21 49 46.8	+0.1
P50A	Jamestown baz=285	32.24	77	P	P	21 49 47.0	+0.2
Q50A	Georgetown baz=286	32.31	79	P	P	21 49 47.1	-0.3
F49A	Sandfield baz=277	32.34	66	P	P	21 49 48.6	+1.1
S50A	Richmond baz=288	32.34	81	P	P	21 49 47.7	0.0
Z49A	Columbiana baz=294	32.35	90	P	P	21 49 48.2	+0.4
M50A	Fremont comp=Z,24nm,0.8s	32.36	74	eP	P	21 49 49.0	+1.2
M50A	Fremont baz=283	32.36	74	P	P	21 49 47.6	-0.2
D48A	Paudash Townsh baz=275	32.36	63	P	P	21 49 48.0	+0.3
L50A	Kingsville baz=282	32.39	73	P	P	21 49 48.5	+0.5
149A	Jones baz=295	32.40	91	P	P	21 49 49.0	+0.8
249A	Camden baz=296	32.42	93	P	P	21 49 48.8	+0.4
U50A	Jamestown baz=290	32.42	84	P	P	21 49 49.2	+0.8
N50A	Nevada baz=284	32.43	75	P	P	21 49 48.7	+0.3
V50A	Pikeville baz=291	32.49	85	P	P	21 49 49.5	+0.5
W50A	Signal Mountai comp=Z,33nm,0.8s	32.50	86	eP	P	21 49 50.3	+1.2
W50A	Signal Mountai baz=292	32.50	86	P	P	21 49 49.5	+0.4
X50B	Fort Payne baz=293	32.52	87	P	P	21 49 49.7	+0.4
PLIO	Pelee Island, baz=288	32.59	73	P	P	21 49 49.9	+0.1
349A	Repton baz=297	32.65	94	P	P	21 49 50.6	+0.2
D49A	Beulah Townshi baz=275	32.66	63	P	P	21 49 50.9	+0.6
Y50A	Piedmont baz=294	32.68	88	P	P	21 49 50.7	+0.1
ACSO	Alum Creek Sta comp=Z,43nm,0.9s	32.68	76	eP	P	21 49 51.5	+0.9
ACSO	Alum Creek Sta baz=285	32.68	76	P	P	21 49 51.0	+0.3
Q51A	Peebles comp=Z,21nm,1.0s	32.74	78	eP	P	21 49 52.3	+1.1
Q51A	Peebles baz=286	32.74	78	P	P	21 49 51.2	0.0
TOBO	Tobermory, Bru baz=278	32.77	67	P	P	21 49 51.8	+0.6
R51A	Hillsboro baz=287	32.77	80	P	P	21 49 51.6	+0.1
Z50A	Ashland comp=Z,27nm,1.0s	32.79	90	eP	P	21 49 53.0	+1.4
Z50A	Ashland baz=294	32.79	90	P	P	21 49 51.7	0.0
P51A	Williamsport comp=Z,43nm,0.8s	32.82	77	eP	P	21 49 52.7	+0.8
P51A	Williamsport baz=286	32.82	77	P	P	21 49 52.0	+0.1
BRAL	Brewton comp=Z,123nm,1.3s	32.84	94	eP	P	21 49 53.6	+1.5
BRAL	Brewton baz=297	32.84	94	P	P	21 49 51.8	-0.3
BASO	Ashfield baz=280	32.85	69	P	P	21 49 52.2	+0.2
449A	Pace baz=298	32.90	95	P	P	21 49 52.1	-0.5
T51A	Gray baz=289	32.92	82	P	P	21 49 52.8	+0.1
W51A	Cleveland baz=292	32.93	86	P	P	21 49 54.2	+1.3
N51A	Ashland comp=Z,45nm,1.0s	32.96	75	eP	P	21 49 53.9	+0.8
N51A	Ashland baz=284	32.96	75	P	P	21 49 53.3	+0.2
S51A	Beattyville comp=Z,15nm,0.8s	32.97	81	eP	P	21 49 54.4	+1.3
S51A	Beattyville baz=288	32.97	81	P	P	21 49 54.0	+0.9
O51A	Pataskala baz=285	32.98	76	P	P	21 49 53.7	+0.4
150A	Eclectic baz=295	32.99	91	P	P	21 49 55.0	+1.7
CPCT	Cooper Cave comp=Z,137nm,1.8s	33.01	85	eP	P	21 49 54.5	+1.0
M51A	Elyria baz=283	33.01	74	P	P	21 49 53.8	+0.3
V51A	Loudon comp=Z,16nm,0.9s	33.01	84	eP	P	21 49 55.0	+1.4
V51A	Loudon baz=291	33.01	84	P	P	21 49 54.4	+0.9
U51A	La Follette baz=290	33.06	83	P	P	21 49 54.3	+0.3
250A	Grady comp=Z,76nm,1.0s	33.07	92	eP	P	21 49 55.8	+1.7
250A	Grady baz=296	33.07	92	P	P	21 49 54.4	+0.3
BMRO	Meriville Lake baz=279	33.07	68	P	P	21 49 54.5	+0.5
X51A	Calhoun comp=Z,34nm,0.8s	33.08	87	eP	P	21 49 55.8	+1.6
X51A	Calhoun baz=293	33.08	87	P	P	21 49 54.5	+0.4
E50A	Wahnapitae baz=276	33.16	64	P	P	21 49 54.8	0.0
Y51A	Rockmart baz=294	33.18	88	P	P	21 49 55.5	+0.4
BWLO	Walkerton baz=280	33.21	69	P	P	21 49 56.2	+1.0
ELFO	Elginfield baz=281	33.24	70	P	P	21 49 56.4	+0.9
350A	Dozier baz=297	33.27	93	P	P	21 49 56.6	+0.8
Z51A	Franklin baz=294	33.34	89	P	P	21 49 56.8	+0.4
S52A	Salyersville baz=288	33.34	81	P	P	21 49 56.8	+0.3
I51A	Listowel baz=280	33.34	69	P	P	21 49 57.3	+0.9
TZTN	Tazewell comp=Z,70nm,1.9s	33.36	83	eP	P	21 49 57.7	+1.1
TZTN	Tazewell baz=290	33.36	83	P	P	21 49 56.5	0.0
450A	Crestview baz=298	33.36	94	P	P	21 49 56.6	0.0
R52A	Catlettsburg baz=288	33.46	79	P	P	21 49 57.3	-0.2
P52A	Corning baz=286	33.47	77	P	P	21 49 57.6	+0.1
N52A	McGinn's Farm, baz=284	33.49	75	P	P	21 49 57.5	-0.2
TKL	Tuckaleechee C comp=Z,54nm,1.4s	33.50	84	eP	P	21 49 59.0	+1.2
TKL	Tuckaleechee C comp=Z,54nm,1.4s	33.50	84	eP pmax	P pmax	21 49 59.0	+1.2
U52A	Thorn Hill baz=290	33.55	83	P	P	21 49 58.4	+0.2
151A	Opelika baz=296	33.55	90	P	P	21 49 58.3	0.0
Q52A	Bidwell baz=287	33.56	78	P	P	21 49 58.4	+0.1
O52A	Adamsville comp=Z,21nm,0.9s	33.56	76	eP	P	21 49 58.9	+0.5
O52A	Adamsville baz=285	33.56	76	P	P	21 49 58.5	+0.1
M52A	Chesterland baz=283	33.56	73	P	P	21 49 58.5	+0.2
V52A	Sevierville comp=Z,12nm,0.8s	33.57	84	eP	P	21 49 59.9	+1.5
V52A	Sevierville baz=291	33.57	84	P	P	21 49 58.9	+0.5
W52A	Muphy baz=292	33.59	85	P	P	21 49 58.8	+0.2
T52A	Hallie baz=289	33.59	82	P	P	21 49 58.6	-0.1
KLBO	Killbear Provi baz=278	33.66	66	P	P	21 49 59.6	+0.5
251A	Midway baz=296	33.68	91	P	P	21 49 59.9	+0.6
K52A	Tillsonburg baz=282	33.76	71	P	P	21 50 00.6	+0.6
F51A	Arnstein baz=278	33.79	65	P	P	21 50 00.8	+0.5
X52A	Dahlonega baz=293	33.80	86	P	P	21 50 01.3	+0.8
J52A	Paris baz=281	33.84	70	P	P	21 50 01.5	+0.8
I52A	Shelburne baz=280	33.90	68	P	P	21 50 01.9	+0.7
152A	Waverly Hall baz=295	33.95	90	P	P	21 50 02.9	+1.1
Y52A	Lilburn comp=Z,36nm,1.4s	33.96	88	eP	P	21 50 02.5	+0.7
Y52A	Lilburn baz=294	33.96	88	P	P	21 50 02.7	+0.9
Z52A	Williamson baz=295	33.97	89	P	P	21 50 02.4	+0.5
T53A	Wise baz=290	33.98	82	P	P	21 50 02.0	0.0
R53A	Hurricane baz=288	33.98	79	P	P	21 50 02.1	+0.1
O53A	New Philadelph baz=285	33.99	75	P	P	21 50 02.4	+0.4
H52A	Wyevale baz=280	34.00	67	P	P	21 50 02.8	+0.8
E51A	G1948 Merrick baz=277	34.01	64	P	P	21 50 02.5	+0.4
D51A	Lot 18 Range I baz=276	34.02	63	P	P	21 50 02.9	+0.6
S53A	Williamson baz=289	34.06	80	P	P	21 50 03.1	+0.5
ACTO	Acton baz=281	34.06	69	P	P	21 50 03.2	+0.5
P53A	Whipple comp=Z,22nm,1.0s	34.06	77	eP	P	21 50 02.4	-0.3
P53A	Whipple baz=286	34.06	77	P	P	21 50 02.9	+0.2
M53A	WI Miller and baz=284	34.08	73	P	P	21 50 03.0	+0.2
N53A	Lisbon baz=285	34.12	74	P	P	21 50 03.4	+0.3
W53A	Cullowhee baz=292	34.14	85	P	P	21 50 04.0	+0.5
Q53A	Leroy baz=287	34.14	78	P	P	21 50 04.0	+0.6
U53A	Fall Branch baz=290	34.16	83	P	P	21 50 04.2	+0.6
BUKO	Buck Lake baz=279	34.22	66	P	P	21 50 04.5	+0.5
F52A	Sundridge baz=278	34.22	65	P	P	21 50 04.0	0.0
V53A	Saluda comp=Z,36nm,0.9s	34.22	84	eP	P	21 50 05.8	+1.6
V53A	Saluda baz=291	34.22	84	P	P	21 50 04.6	+0.4
252A	Lumpkin baz=296	34.23	91	P	P	21 50 04.4	+0.2
L53A	Girard baz=283	34.27	72	P	P	21 50 04.9	+0.5
X53A	Estanollee baz=293	34.29	86	P	P	21 50 05.2	+0.5
TYNO	Tyneside baz=282	34.30	70	P	P	21 50 05.1	+0.4
Y53A	Monroe baz=294	34.33	87	P	P	21 50 05.2	+0.2
BG3	Lake Jocassee comp=Z,23nm,0.9s	34.38	85	eP	P	21 50 07.4	+1.9
452A	Marianna baz=298	34.41	93	P	P	21 50 05.7	0.0
ALLY	Alegheny Colle comp=Z,62nm,1.0s	34.42	73	eP	P	21 50 06.8	+1.0
ERPA	Erie comp=Z,30nm,1.0s	34.43	72	eP	P	21 50 07.0	+1.2
ERPA	Erie baz=283	34.43	72	P	P	21 50 06.2	+0.4
SADO	Sadowa comp=Z,52nm,1.1s	34.51	67	eP	P	21 50 07.8	+1.4
Z53A	Monticello baz=294	34.57	88	P	P	21 50 07.0	-0.1
GOGA	Godfrey comp=Z,15nm,0.8s	34.60	88	eP	P	21 50 08.7	+1.3
GOGA	Godfrey comp=Z,15nm,0.8s	34.60	88	eP pmax	P pmax	21 50 08.7	+1.3
GOGA	Godfrey baz=294	34.60	88	P	P	21 50 07.3	0.0
E52A	Mattawa baz=278	34.61	64	P	P	21 50 07.9	+0.5
O54A	Avella baz=286	34.62	75	P	P	21 50 08.0	+0.5
Q54A	Coxs Mills baz=287	34.62	77	P	P	21 50 07.9	+0.3
253A	Americus comp=Z,38nm,0.8s	34.67	90	eP	P	21 50 10.0	+2.0
253A	Americus baz=290	34.67	90	P	P	21 50 08.6	+0.6
T54A	Tazewell baz=290	34.67	81	P	P	21 50 08.4	+0.3
U54A	Nelsons Funny baz=290	34.67	82	P	P	21 50 08.5	+0.5
D52A	ZEK Kipawa Sen baz=277	34.69	63	P	P	21 50 08.2	+0.2
PKRO	Pickering baz=281	34.70	68	P	P	21 50 08.4	+0.3
N54A	Moraine State comp=Z,49nm,1.1s	34.70	74	eP	P	21 50 09.2	+1.0
N54A	Moraine State baz=285	34.70	74	P	P	21 50 08.6	+0.4
P54A	Burton baz=286	34.71	76	P	P	21 50 08.6	+0.3
R54A	Victor baz=288	34.75	79	P	P	21 50 09.1	+0.5
STCO	Saint Catharin baz=282	34.78	70	P	P	21 50 09.3	+0.5
M54A	Oil Creek Stat baz=284	34.80	73	P	P	21 50 09.3	+0.2
G53A	Haliburton baz=280	34.81	66	P	P	21 50 09.5	+0.4
V54A	Nebo baz=291	34.84	83	P	P	21 50 10.0	+0.6
W54A	Cherokee Point baz=292	34.92	84	P	P	21 50 11.1	+1.0
353A	Camilla baz=297	34.92	92	P	P	21 50 10.9	+0.8
DRWO	Darlington Wes baz=281	34.96	68	P	P	21 50 11.5	+1.1
X54A	Belton baz=293	34.98	85	P	P	21 50 11.2	+0.6
Y54A	Tignall baz=294	35.01	87	P	P	21 50 11.5	+0.5
453A	Whigham baz=298	35.06	92	P	P	21 50 11.9	+0.5
ALGO	Algonquin Park baz=279	35.08	65	P	P	21 50 12.0	+0.6
J54A	Appleton baz=282	35.15	69	P	P	21 50 12.3	+0.3
Z54A	Sparta baz=295	35.15	88	P	P	21 50 12.4	+0.3
MCWV	Mont Chateau comp=Z,19nm,1.0s	35.16	76	eP	P	21 50 13.4	+1.3
MCWV	Mont Chateau baz=281	35.16	76	P	P	21 50 12.1	0.0
Q55A	Buckhannon baz=287	35.18	77	P	P	21 50 12.3	0.0
WLVO	Wesleyville baz=281	35.19	68	P	P	21 50 12.5	+0.2
154A	Montrose comp=Z,29nm,0.8s	35.21	89	eP	P	21 50 14.1	+1.4
154A	Montrose baz=295	35.21	89	P	P	21 50 13.1	+0.5
P55A	Reedsville baz=287	35.22	76	P	P	21 50 13.0	+0.3
S55A	Lewisburg baz=289	35.25	79	P	P	21 50 13.4	+0.4
T55A	Pulaski baz=290	35.25	80	P	P	21 50 13.2	+0.2
U55A	TA2, Sparta baz=290	35.26	82	P	P	21 50 13.4	+0.2
E53A	Dumoine, Ponti baz=278	35.28	64	P	P	21 50 13.3	+0.2
PAULI	Pauline comp=Z,31nm,0.9s	35.30	85	eP	P	21 50 14.9	+1.6
MEDO	Medina baz=282	35.30	70	P	P	21 50 13.7	+0.4
BANO	Bancroft baz=280	35.31	66	P	P	21 50 14.2	+0.8
TIGA	Tifton baz=297	35.35	91	P	P	21 50 14.1	+0.2
254A	Abbeville baz=296	35.36	90	P	P	21 50 14.3	+0.3
V55A	Taylorsville baz=291	35.37	83	P	P	21 50 14.8	+0.7
R55A	Marlinton baz=288	35.37	78	P	P	21 50 14.3	+0.2
O55A	Ligonier baz=286	35.41	75	P	P	21 50 14.5	+0.2
LSQQ	Lebel-sur-Quev baz=275	35.43	59	P	P	21 50 15.3	+0.9
M55A	Ridgway baz=284	35.47	72	P	P	21 50 15.3	+0.5
N55A	Marion Center baz=285	35.48	74	P	P	21 50 15.4	+0.4
BLA	Blacksburg comp=Z,39nm,0.8s	35.49	80	eP	P	21 50 16.8	+1.7
BLA	Blacksburg comp=Z,39nm,0.8s	35.49	80	eP pmax	P pmax	21 50 16.8	+1.7
BLA	Blacksburg baz=290	35.49	80	P	P	21 50 16.1	+1.0
L55A	Hinsdale baz=284	35.53	71	P	P	21 50 16.3	+0.9

KMSC **Kings Mountain** 35.54 84 *e*P P 21 50 16.5 +1.0
comp=Z,35nm,0.8s
KMSC **Kings Mountain** 35.54 84 P P 21 50 16.2 +0.8
baz=292
X55A **Gracelyn & Ava** 35.57 85 P P 21 50 16.8 +1.0
baz=293
E54A **Lac Daplat, Po** 35.60 64 P P 21 50 16.8 +0.9
baz=278
Y55A **Saluda** 35.61 86 P P 21 50 16.5 +0.4
baz=294
DELO **Deloro Mine** 35.62 67 P P 21 50 16.9 +0.8
baz=281
I55A **Frankford** 35.63 68 P P 21 50 16.8 +0.6
baz=281
454A **Quitman** 35.66 92 P P 21 50 17.4 +0.9
baz=298
K55A **Perry** 35.67 70 P P 21 50 17.3 +0.7
baz=283
PEMO **Pembroke** 35.68 65 P P 21 50 17.4 +0.9
baz=280
Z55A **Blythe** 35.69 87 P P 21 50 17.4 +0.6
baz=295
155A **Kite** 35.69 89 P P 21 50 17.5 +0.7
baz=295
J55A **Hilton** 35.73 69 P P 21 50 17.6 +0.6
baz=282
MMNY **Mt. Morris Dam** 35.79 70 *e*P P 21 50 19.0 +1.5
comp=Z,182nm,1.8s
T56A **Rocky Mt** 35.85 80 P P 21 50 18.7 +0.6
baz=290
D54A **Lac Fusel, La** 35.86 62 P P 21 50 18.7 +0.6
baz=278
PLVO **Plevna** 35.91 66 *e*P P 21 50 20.1 +1.6
comp=Z,40nm,1.1s
PLVO **Plevna** 35.91 66 P P 21 50 19.4 +0.9
baz=280
H55A **Tweed** 35.92 67 P P 21 50 19.6 +1.0
baz=281
V56A **Mocksville** 35.93 82 P P 21 50 19.7 +1.0
baz=292
JSC **Jenkinsville** 35.93 85 *e*P P 21 50 19.3 +0.5
JSC **Jenkinsville** 35.93 85 *e*P P 21 50 19.3 +0.5
O56A **Blue Knob Stat** 35.93 74 *e*P P 21 50 19.6 +0.8
comp=Z,67nm,1.5s
O56A **Blue Knob Stat** 35.93 74 P P 21 50 19.0 +0.2
baz=286
355A **Pearson** 35.96 91 P P 21 50 19.1 0.0
baz=297
255A **Hazlehurst** 35.99 90 P P 21 50 19.3 0.0
baz=296
X56A **White Oak** 36.02 85 P P 21 50 19.7 +0.1
baz=293
455A **Stateville** 36.10 92 P P 21 50 20.8 +0.5
baz=298
W56A **Indian Trail** 36.11 84 P P 21 50 21.1 +0.7
baz=292
G55A **Calabogie** 36.12 66 P P 21 50 21.0 +0.7
baz=280
PECO **Prince Edward** 36.18 68 P P 21 50 21.6 +0.8
baz=282
F55A **Otter Lake** 36.27 65 P P 21 50 22.5 +0.9
baz=280
SSPA **Standing Stone** 36.33 74 *e*P P 21 50 23.1 +0.9
comp=Z,29nm,1.0s
SSPA **Standing Stone** 36.33 74 P P 21 50 22.6 +0.5
baz=286
156A **Sylvania** 36.42 88 P P 21 50 23.4 +0.4
baz=295
555A **McAlpin** 36.44 93 *e*P P 21 50 24.0 +0.8
comp=Z,81nm,1.4s
555A **McAlpin** 36.44 93 P P 21 50 23.9 +0.8
baz=298
T57A **Hurt** 36.44 80 P P 21 50 23.4 +0.2
baz=290
V57A **Coltrane Farms** 36.44 82 P P 21 50 23.5 +0.3
baz=292
655A **Horseshoe Beac** 36.51 94 P P 21 50 23.6 -0.2
baz=299
356A **Blackshear** 36.52 90 P P 21 50 24.1 +0.2
baz=297
W57A **Gilead** 36.55 83 P P 21 50 24.2 +0.1
baz=292
H56A **Elgin** 36.56 67 P P 21 50 24.7 +0.6
baz=282
X57A **Johnson Farm,** 36.74 84 P P 21 50 26.3 +0.5
baz=293
Z57A **Bowman** 36.75 86 P P 21 50 26.2 +0.3
baz=295
157A **Early Branch** 36.79 88 P P 21 50 26.4 +0.3
baz=295
456A **Hilliard** 36.88 91 *e*P P 21 50 29.1 +2.1
comp=Z,67nm,0.6s
456A **Hilliard** 36.88 91 P P 21 50 27.8 +0.9
baz=298
ORIO **Orleans, Innes** 36.92 65 P P 21 50 27.5 +0.4
baz=281
556A **Lake Butler** 36.92 92 P P 21 50 27.9 +0.6
baz=299
T58A **Grand View Acr** 37.00 80 P P 21 50 28.3 +0.4
baz=290
CHGQ **Chibougamau** 37.05 58 P P 21 50 28.3 +0.1
baz=276
656A **Willston** 37.13 93 P P 21 50 29.9 +0.9
baz=299
R58B **Mineral** 37.15 78 *e*P P 21 50 30.9 +1.8
comp=Z,12nm,0.9s
R58B **Mineral** 37.15 78 P P 21 50 29.9 +0.8
baz=289
W58A **Raeford** 37.18 83 P P 21 50 30.2 +0.8
baz=293
U58A **Oxford** 37.18 81 P P 21 50 30.0 +0.5
baz=291
RES **Resolute Bay** 37.20 13 P P 21 50 28.1 -1.1
RES pmax pmax
comp=Z,34nm,0.9s
NHSC **New Hope** 37.23 86 P P 21 50 30.7 +0.8
baz=295
Y58A **Scranton** 37.29 85 P P 21 50 31.1 +0.7
baz=294
BINY **Binghamton** 37.30 70 *e*P P 21 50 31.6 +1.2
comp=Z,44nm,0.8s
BINY **Binghamton** 37.30 70 P P 21 50 31.2 +0.8
baz=285
PAGS **Pennsylvania G** 37.30 74 *e*P P 21 50 32.1 +1.7
comp=Z,30nm,1.3s
ALFO **Alfred** 37.31 65 P P 21 50 31.5 +1.0
baz=281
Z58A **St. Stephen** 37.41 86 P P 21 50 31.6 +0.1
baz=295
557A **Orange Park** 37.43 92 P P 21 50 32.6 +0.9
baz=298
TRQ **Mont Tremblant** 37.43 64 *e*P P 21 50 32.5 +0.9
CBN **Corbin Frederi** 37.44 77 *e*P P 21 50 33.7 +2.0
comp=Z,44nm,0.8s
CBN **Corbin Frederi** 37.44 77 P P 21 50 32.8 +1.1
baz=289
SDMD **Soldier's Deli** 37.45 75 *e*P P 21 50 33.7 +1.9
comp=Z,18nm,1.3s
657A **Interlachen** 37.53 93 P P 21 50 33.2 +0.7
baz=299
KSPA **Keystone Colle** 37.62 71 *e*P P 21 50 34.5 +1.3
comp=Z,17nm,0.9s
MVL **Millersville** 37.64 74 *e*P P 21 50 34.6 +1.4
comp=Z,23nm,1.3s
V59A **Middlesex** 37.65 81 P P 21 50 34.5 +1.1
baz=292
W59A **Clinton** 37.72 82 P P 21 50 34.7 +0.7
baz=293
LONY **Lake Ozonia** 37.73 66 *e*P P 21 50 35.1 +1.1
comp=Z,29nm,1.3s
LONY **Lake Ozonia** 37.73 66 P P 21 50 34.6 +0.5
baz=282
T59A **Double "B" Far** 37.73 79 P P 21 50 34.9 +0.8
baz=291
U59A **Littleton** 37.77 80 P P 21 50 35.0 +0.5
baz=291
N59A **State Game Lan** 37.79 72 *e*P P 21 50 35.7 +1.0
comp=Z,22nm,1.0s
N59A **State Game Lan** 37.79 72 P P 21 50 35.5 +0.8
baz=286
X59A **McDuffie Farm,** 37.83 83 P P 21 50 36.1 +1.1
baz=293
857A **Zephyrhills** 37.91 95 P P 21 50 37.1 +1.4
baz=300
658A **Bunnell** 38.08 92 P P 21 50 39.2 +2.1
baz=299
CNNC **Cliffs of the** 38.11 82 P P 21 50 38.6 +1.3
baz=293

NCB **Newcomb** 38.12 67 *e*P P 21 50 38.7 +1.3
comp=Z,16nm,1.4s
LUPA **Lehigh Univers** 38.17 73 *e*P P 21 50 38.8 +1.0
comp=Z,3.3nm,0.9s
T60A **Surry** 38.28 79 P P 21 50 39.6 +0.8
baz=291
X60A **Albert Glenn T** 38.30 83 P P 21 50 40.0 +1.0
baz=293
PSUB **Penn St. - Bra** 38.32 74 *e*P P 21 50 40.2 +1.1
comp=Z,17nm,1.0s
W60A **Pink Hill** 38.32 82 P P 21 50 39.9 +0.9
baz=293
758A **Lake Helen** 38.34 93 P P 21 50 40.7 +1.4
baz=300
FRNY **Flat Rock** 38.37 66 *e*P P 21 50 40.2 +0.8
comp=Z,32nm,1.2s
LATQ **La Tuque** 38.43 61 P P 21 50 40.4 +0.5
baz=280
DWPF **Disney Wildern** 38.59 94 P P 21 50 42.3 +0.8
baz=301
ODNJ **Ogdensburg** 38.59 72 *e*P P 21 50 42.5 +1.2
comp=Z,41nm,0.9s
ACCN **Adirondack Com** 38.65 68 *e*P P 21 50 43.1 +1.2
comp=Z,28nm,1.1s
BRNJ **Basking Ridge** 38.74 72 *e*P P 21 50 44.2 +1.7
comp=Z,19nm,0.8s
TRY **Troy** 38.82 69 *e*P P 21 50 44.4 +1.2
comp=Z,37nm,0.9s
058A **Arcadia** 38.85 96 P P 21 50 44.7 +1.1
baz=302
859A **Kempfer Cattle** 39.03 94 P P 21 50 45.7 +0.6
baz=301
VT1 **Waterbury** 39.07 66 *e*P P 21 50 47.0 +1.6
comp=Z,41nm,1.0s
PAL **Palisades** 39.12 72 *e*P P 21 50 46.7 +0.9
comp=Z,17nm,0.8s
PAL **Palisades** 39.12 72 *e*P P 21 50 46.7 +0.9
PAL pmax pmax
comp=Z,17nm,0.8s
PAL **Palisades** 39.12 72 P P 21 50 46.3 +0.6
baz=287
MOQ **Mont Orford** 39.19 65 *e*P P 21 50 47.7 +1.3
959A **Okeechobee** 39.31 95 P P 21 50 48.5 +1.0
baz=301
059A **Moore Haven** 39.40 96 *e*P P 21 50 50.3 +2.1
comp=Z,93nm,0.9s
059A **Moore Haven** 39.40 96 P P 21 50 49.0 +0.8
baz=302
HNH **Hanover** 39.55 67 *e*P P 21 50 51.2 +2.0
comp=Z,33nm,0.9s
LBNH **Lisbon** 39.67 66 *e*P P 21 50 52.0 +1.7
comp=Z,48nm,0.9s
LBNH **Lisbon** 39.67 66 *e*P P 21 50 52.0 +1.7
LBNH pmax pmax
comp=Z,48nm,0.9s
LBNH **Lisbon** 39.67 66 P P 21 50 51.3 +1.0
baz=284
QUA2 **Belchertown** 39.88 69 *e*P P 21 50 53.8 +1.8
comp=Z,15nm,0.9s
060Z **West Palm Beac** 40.14 96 P P 21 50 54.6 +0.2
baz=302
061Z **Ochoppi** 40.17 97 *e*P P 21 50 56.1 +1.5
comp=Z,240nm,1.3s
BRYW **Bryant College** 40.56 69 *e*P P 21 50 59.6 +1.9
comp=Z,26nm,0.8s
SCHQ **Schefferville** 41.21 49 P P 21 51 03.1 +0.2
comp=Z,49nm,0.8s,baz=280,slow=7.9,SNR=24
SCHQ LR LR 22 07 58.3
comp=Z,261nm,19.8s,baz=308,slow=36
PKME **Peaks-Kenny Pk** 41.24 64 *e*P P 21 51 04.4 +1.2
comp=Z,29nm,1.0s
PKME **Peaks-Kenny Pk** 41.24 64 P P 21 51 03.9 +0.7
baz=284
EMMW **East Machias** 42.64 64 *e*P P 21 51 16.3 +1.6
comp=Z,40nm,1.2s
BATG **Bathurst New B** 42.93 60 *e*P P 21 51 18.1 +1.0
comp=Z,63nm,0.9s
LMN **Caledonia Moun** 44.13 62 *e*P P 21 51 28.1 +1.4
comp=Z,49nm,1.0s
BILL **Bilibino** 44.87 330⇑ *e*P P 21 51 31.9 -0.5
BILL *e* 21 53 18.0
BILL *e*S S 21 58 16.8 +6.7
BILL *e*SS SS 22 01 34.2 +3.5
BILL pmax pmax
comp=Z,18nm,1.7s
BILL MLR MLR
comp=Z,232nm,17.0s
HAL **Halifax** 45.30 63 *e*P P 21 51 37.7 +1.6
comp=Z,18nm,0.8s
HAL **Halifax** 45.30 63 *e*P P 21 51 37.7 +1.6
HAL pmax pmax
comp=Z,18nm,0.8s
KULLO **Kullorsuaq** 45.88 20⇑ *i*P P 21 51 41.1 +0.8
comp=Z,58nm,0.9s
KULLO **Kullorsuaq** 45.88 20⇑ *i*P P 21 51 41.1 +0.8
KULLO pmax pmax
comp=Z,58nm,0.9s
DRLN **Deer Lake** 47.92 55 *e*P P 21 51 58.0 +1.4
comp=Z,92nm,1.1s
SFJD **Kangerlussuaq** 47.99 31 *i* P P 21 51 58.0 +1.1
comp=Z,30nm,0.8s
SFJD **Kangerlussuaq** 47.99 31 *i* P P P 21 51 58.0 +1.1
SFJD pmax pmax
comp=Z,30nm,0.8s
BBSR **BB Station** 49.26 79 *e*P P 21 52 07.6 +0.5
comp=Z,40nm,0.9s
SEY **Seymchan** 51.18 325⇓ *e*P P 21 52 20.4 -0.8
PETK **Petropavlovsk-** 51.23 311 P P 21 52 21.5 -0.3
comp=Z,2.5nm,0.7s,baz=73,slow=11,SNR=2.6
SUMG **Summit** 51.28 23⇑ *i*P P 21 52 23.1 +0.8
comp=Z,96nm,0.8s
SUMG **Summit** 51.28 23⇑ *i*P P 21 52 23.1 +0.8
SUMG pmax pmax
comp=Z,96nm,0.8s
SDDR **Praia de Saban** 51.38 98 *e*P P 21 52 24.6 +1.2
comp=Z,19nm,0.8s
MA2 **Magadan** 52.88 321⇓ *e*P P 21 52 34.3 +0.4
MA2 pmax pmax
comp=Z,6.0nm,1.3s
DAG **Danmarks Havn** 54.81 16⇑ *i*P P 21 52 47.9 0.0
comp=Z,18nm,0.9s
DAG **Danmarks Havn** 54.81 16⇑ *i*P P 21 52 47.9 0.0
DAG pmax pmax
comp=Z,15nm,0.9s
SMLC **San Martn de** 55.85 110 *e*P P 21 52 54.8 -1.4
SMLC **San Martn de** 55.85 110 *e*P P 21 52 54.8 -1.4
TIXI **Tiksi** 56.57 338⇑ *e*P P 21 53 00.0 -0.5
TIXI pmax pmax
comp=Z,15nm,0.8s
SCO **Scoresbysund** 56.92 23 *i* P P 21 53 03.4 +0.4
comp=Z,25nm,1.2s
SCO **Scoresbysund** 56.92 23 *i* P P P 21 53 03.4 +0.4
SCO pmax pmax
comp=Z,25nm,1.2s
NORC **Norcasia** 57.53 113 *e*P P 21 53 09.4 +1.2
NORC **Norcasia** 57.53 113 *e*P P 21 53 09.4 +1.2
BARC **Barcarena** 58.01 111 *e*P P 21 53 14.1 +2.3
BARC **Barichara** 58.01 111 *e*P P 21 53 14.1 +2.3
RUSC **La Rusia** 58.56 111 *e*P P 21 53 14.1 -1.9
RUSC **La Rusia** 58.56 111 *e*P P 21 53 14.1 -1.9
PCON **Cinco Dias** 58.79 117 *e*P P 21 53 21.4 +3.8
PCON **Cinco Dias** 58.79 117 *e*P P 21 53 21.4 +3.8
OTAV **Otavalo** 58.95 120 *e*P P 21 53 18.7 +0.1
OTAV **Otavalo** 58.95 120 *e*P P 21 53 18.7 +0.1
H11N3 **WAKE ISLAND Hy** 60.08 271 T T 22 57 55.6
baz=53,slow=75,SNR=8.5
H11N2 **WAKE ISLAND Hy** 60.08 271 T T 22 58 23.3
baz=53,slow=75,SNR=9.6
H11N1 **WAKE ISLAND Hy** 60.10 271 T T 22 58 03.4
baz=53,slow=75,SNR=8.1
KUR **Kuril'sk** 60.29 306⇑ *e*P P 21 53 27.3 +0.4
YAK **Yakutsk** 61.16 329 *e*P P 21 53 31.6 -0.9
YAK *e* 21 53 39.8
YAK pmax pmax
comp=Z,82nm,1.0s
YAK pmax pmax
comp=N,23nm,1.3s
YAK pmax pmax
comp=E,42nm,1.2s
KLR **Kul'dur** 67.44 316⇑ *e*P P 21 54 14.1 +0.2
NRIK **Noril'sk** 67.71 348 P P 21 54 15.0 -0.3
comp=E,11nm,0.8s,baz=29,slow=5.9,SNR=14
KEV **Kevo** 68.34 10 P P 21 54 19.6 +0.4
KEV pmax pmax
comp=Z,128nm,1.8s
ARCES **ARCESS Array B** 68.35 10 P P 21 54 18.9 -0.5
comp=Z,11nm,0.9s,baz=330,slow=5.9,SNR=22

RAR **Rarotonga** 68.87 214 LR LR 22 16 24.4
comp=Z,214nm,20.3s,baz=92,slow=29
BOD **Bodaibo** 69.93 330 *e*P P 21 54 27.5 -1.8
BOD pmax pmax
comp=Z,11nm,1.0s
USRK **Ussuriysk Ar.** 70.32 312 P P 21 54 31.1 -0.8
comp=Z,2.7nm,0.9s,baz=60,slow=7.5,SNR=5.9
LVZ **Lovozero** 70.99 8⇑ *e*P P 21 54 35.4 -0.3
LVZ pmax pmax
comp=Z,38nm,1.7s
VLA **Vladivostok** 71.04 311⇓ *e*P P 21 54 37.3 +1.0
VLA pmax pmax
comp=Z,11nm,0.7s
MAJO **Matsushiro** 71.14 302⇓ *e*P P 21 54 36.2 -0.9
MAJO pmax pmax
comp=Z,3.0nm,0.7s
MAT **Matsushiro** 71.14 302 P P 21 54 35.4 -1.7
MJAR **Matsushiro Arr** 71.14 302 P P 21 54 36.2 -0.9
comp=Z,1.4nm,0.8s,baz=50,slow=4.4,SNR=4.1
MDJ **Mudanjiang** 71.42 313 P P 21 54 39.3 +0.7
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,180nm,5.6s
NB2 **NORSAR Subarra** 73.06 20 P P 21 54 47.9 -0.3
comp=Z,2.6nm,0.7s,baz=327,slow=5.9
NB2 **NORSAR Subarra** 73.06 20 P P 21 54 45.5 -2.7
NB2 pmax pmax
comp=Z,3.0nm,0.7s
NOA **NORSAR Array B** 73.06 20 P P 21 54 48.2 0.0
comp=Z,6.1nm,0.8s,baz=330,slow=5.5,SNR=19
NOA LR LR 22 25 27.7
comp=Z,147nm,20.8s,baz=315,slow=35
KONO **Kongsberg** 73.78 22⇓ *e*P P 21 54 53.1 +0.7
KONO pmax pmax
comp=Z,25nm,2.5s
TMCR **Tamitsa** 74.96 7 *e*P P 21 54 58.6 -0.6
TMCR pmax pmax
comp=Z,25nm,1.1s
FINES **FINESS Array B** 75.96 13 P P 21 55 04.8 -0.1
comp=Z,11nm,0.7s,baz=345,slow=4.2,SNR=65
FINES LR LR 22 29 46.5
comp=Z,136nm,19.4s,baz=330,slow=37
KSRS **Korea Array** 76.98 308 P P 21 55 10.6 -0.6
comp=Z,1.2nm,0.7s,baz=52,slow=6.0,SNR=5.6
LPAZ **La Paz** 78.03 124 P P 21 55 17.2 -0.7
comp=Z,5.8nm,0.6s,baz=338,slow=4.9,SNR=32
PRGR **Permogore** 78.03 4 *e*P P 21 55 10.0 -6.6
PRGR pmax pmax
comp=Z,40nm,0.9s
KLMR **Klimovskoe** 78.36 7 *e*P P 21 55 16.0 -2.4
KLMR pmax pmax
comp=Z,38nm,1.2s
KLMR **Klimovskoe** 78.36 7 *e*P P 21 55 16.1 -2.4
KLMR AMP 21 55 19.7
comp=Z,38nm,1.2s
TLY **Talaya** 78.49 331 *e*P P 21 55 19.7 +0.3
TLY pmax pmax
comp=Z,40nm,1.5s
TLY MLR MLR
comp=Z,23nm,4.0s
BSEG **Bad Segeberg** 78.80 25 *e*P P 21 55 22.2 +1.2
comp=Z,12nm,0.9s,baz=330,slow=5.3
VSU **Vasula** 78.87 14 *ce*P P 21 55 21.2 -0.1
VSU pmax pmax
comp=Z,55nm,1.0s
IBBN **Ibbenburen** 79.33 27 *e*P P 21 55 25.1 +1.2
comp=Z,12nm,0.9s,baz=330,slow=5.3
MOY **Mondy** 79.46 332 *e*P P 21 55 24.9 0.0
MOY pmax pmax
comp=Z,13nm,1.8s
NRDL **Niedersach Rie** 79.96 25 *e*P P 21 55 28.4 +1.2
comp=Z,18nm,1.4s,baz=330,slow=5.3
DOU **Dourbes** 80.00 30 ⇑P P 21 55 28.1 +0.5
BCLA **Clavier** 80.00 29 ⇑P P 21 55 28.3 +0.6
MEM **Membach** 80.11 29 ⇑P P 21 55 30.4 +2.2
ULN **Ulaanbaatar** 80.18 327⇑ *e*P P 21 55 29.3 +0.4
ULN pmax pmax
comp=Z,5.0nm,1.7s
ASSE **Asse, Remlinge** 80.45 25 *e*P P 21 55 30.9 +0.9
comp=Z,35nm,1.6s,baz=330,slow=5.3
SONM **Songino Array** 80.48 327 P P 21 55 30.0 -0.5
SONM **Songino Array** 80.48 327 P P 21 55 30.0 -0.5
comp=Z,2.9nm,0.8s,baz=26,slow=2.9,SNR=17
CLZ **Clausthal** 80.60 26 *e*P P 21 55 32.2 +1.3
comp=Z,37nm,1.6s,baz=330,slow=5.3
WLF **Walferdange** 80.94 29 ⇑P P 21 55 35.4 +2.7
KLNR **Kaliningrad** 81.02 19⇑ *e*P P 21 55 31.9 -1.1
KLNR pmax pmax
comp=Z,88nm,1.5s
GKP **Gorka Klasztor** 81.44 21 *e*P P 21 55 36.1 +0.9
GKP **Gorka Klasztor** 81.44 21 *e*P P 21 55 36.1 +0.9
NEUB **Neuenburg** 81.60 25 *e*P P 21 55 37.1 +1.0
comp=Z,12nm,0.8s,baz=330,slow=5.3
NVS **Novosibirsk** 81.78 343⇓ *i*P P 21 55 37.0 0.0
NVS *i* 21 55 45.0
NVS pmax pmax
comp=E,11nm,1.0s
NVS pmax pmax
comp=Z,29nm,1.0s
NVS pmax pmax
comp=N,8.0nm,1.3s
CLL **Collm** 81.90 24 *e*P P 21 55 38.5 +0.8
comp=N,14nm,1.0s,baz=330,slow=5.3
CLL **Collm** 81.90 24 *i* P P 21 55 38.0 +0.2
comp=Z,14nm,1.0s
CLL **Collm** 81.90 24 *e*P P 21 55 36.0 -1.8
CLL *i* 21 55 38.0
CLL pmax pmax
comp=Z,14nm,1.0s
MOX **Moxa** 82.03 26 *e*P P 21 55 39.2 +0.7
comp=Z,7.7nm,1.0s,baz=330,slow=5.3
ZALV **Zalesovo Beam** 82.24 342 P P 21 55 39.0 -0.5
ZALV **Zalesovo Beam** 82.24 342 P P 21 55 39.0 -0.5
comp=Z,3.9nm,0.8s,baz=19,slow=5.0,SNR=16
SUW **Suwalki** 82.27 18 *e*P P 21 55 39.1 -0.6
SUW **Suwalki** 82.27 18 *e*P P 21 55 39.1 -0.6
SIV **San Ignacio** 82.43 118 P P 21 55 40.6 -0.4
comp=Z,12nm,0.6s,baz=307,slow=5.6,SNR=65
GUNZ **Gunzen** 82.50 25 *e*P P 21 55 41.7 +0.7
comp=Z,5.5nm,1.0s,baz=330,slow=5.3
BRG **Berggiesshubel** 82.58 24 *e*P P 21 55 41.9 +0.6
comp=Z,13nm,0.9s
BRG **Berggiesshubel** 82.58 24 *e*P P 21 55 42.2 +0.9
comp=Z,13nm,0.9s,baz=330,slow=5.3
BRG **Berggiesshubel** 82.58 24 *e*P P 21 55 41.9 +0.6
BRG pmax pmax
comp=Z,13nm,1.0s
WERN **Wernitzgruen** 82.58 25 *e*P P 21 55 42.3 +0.9
comp=Z,6.9nm,1.0s,baz=330,slow=5.3
NKC **Novy Kostel** 82.65 25 *e*P P 21 55 42.6 +0.8
NKC **Novy Kostel** 82.65 25 *e*P P 21 55 42.6 +0.8
GRF **Grafenberg Arr** 82.71 26 *e*P P 21 55 43.3 +1.2
comp=Z,38nm,1.6s,baz=330,slow=5.3
MANZ **Manzenberg** 82.75 26 *e*P P 21 55 42.8 +0.5
comp=Z,6.3nm,1.4s,baz=330,slow=5.3
BFO **Black Forest** 82.84 29 *e*P P 21 55 43.8 +1.0
comp=Z,168nm,3.5s,baz=330,slow=5.3
SVE **Sverdlovsk** 82.90 356 *e*P P 21 55 42.3 -0.6
SVE pmax pmax
comp=Z,15nm,1.1s
PVCC **Panska Ves** 83.07 24 *e*P P 21 55 45.0 +1.1
PVCC *ex* x 21 55 53.4
PVCC **Panska Ves** 83.07 24 *e*P P 21 55 45.0 +1.1
PVCC *e* 21 55 53.4
MOS **Moscow** 83.17 9 *e*P P 21 55 43.1 -1.2
MOS pmax pmax
comp=Z,26nm,0.8s
KSP **Ksiaz** 83.32 23 *e*P P 21 55 45.9 +0.7
KSP **Ksiaz** 83.32 23 *e*P P 21 55 45.9 +0.7
ARU **Arti** 83.39 357 *c i*P P 21 55 44.7 -0.7
ARU 21 58 55.2
ARU PPP PPP 22 00 50.8
ARU S S 22 06 06.0 -0.6
ARU SS SS 22 11 27.9 -2.2
ARU pmax pmax
comp=Z,15nm,0.9s
UPC **Upice** 83.53 23 *e*P P 21 55 46.7 +0.4
UPC **Upice** 83.53 23 *e*P P 21 55 46.7 +0.4
PRU **Pruhonice** 83.54 24 *e*P P 21 55 46.7 +0.4
PRU **Pruhonice** 83.54 24 *e*P P 21 55 46.7 +0.4
HHC **Hu-ho-hao-te** 83.54 320 *e*P P 21 55 46.0 -0.7
HHC sP pwP 21 55 55.0 +3.6
HHC S S 22 06 01.0 -8.0
HHC sS sS 22 06 12.0 +0.8

HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,110nm,5.2s
HHC LR LR
comp=Z,130nm,15.5s
HHC LR LR
comp=Z,140nm,17.5s
HHC LR LR
comp=Z,260nm,15.7s
OBN Obninsk 83.65 10⇓ *iP* **P 21 55 47.0 +0.3**
OBN Obninsk 83.65 10⇑ *eP* **P 21 55 46.5 -0.2**
OBN *e* 21 55 51.7
OBN *e* 21 58 54.8
OBN *eS* **S 22 06 15.1 +5.9**
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,150nm,18.0s
BEL Belsk 83.68 20 *eP* **P 21 55 46.2 -0.8**
BEL Belsk 83.68 20 *eP* **P 21 55 46.2 -0.8**
GOPC GO Pecny, Ondr 83.68 24 *eP* **P 21 55 47.2 +0.1**
GOPC GO Pecny, Ondr 83.68 24 *eP* **P 21 55 47.2 +0.1**
WET Wettzell 83.73 26 *eP* **P 21 55 48.3 +0.9**
comp=Z,8.6nm,1.2s,baz=330,slow=5.3
DPC Dobruska-Polom 83.76 23 *eP* **P 21 55 48.2 +0.7**
DPC *ex* x 21 55 56.3
DPC Dobruska-Polom 83.76 23 *eP* **P 21 55 48.2 +0.7**
DPC *e* 21 55 56.3
KHC Kasperske Hory 83.98 25 *eP* **P 21 55 49.2 +0.6**
KHC Kasperske Hory 83.98 25 *eP* **P 21 55 49.2 +0.6**
FUR Furstenfeldbru 84.03 27 *eP* **P 21 55 50.2 +1.3**
comp=Z,25nm,1.2s,baz=330,slow=5.3
UBR Ueberruh 84.04 28 *eP* **P 21 55 50.4 +1.4**
comp=Z,18nm,1.2s,baz=330,slow=5.3
KRLC Kraliky 84.14 23 *eP* **P 21 55 47.6 -1.9**
KRLC Kraliky 84.14 23 *eP* **P 21 55 47.6 -1.9**
GEC2 GERESS Array S 84.27 25 *eP* **P 21 55 50.9 +0.7**
comp=Z,13nm,1.4s,baz=330,slow=5.3
GERES GERESS Array B 84.27 25 P **P 21 55 50.4 +0.2**
comp=Z,4.4nm,0.9s,baz=346,slow=4.8,SNR=18
GERES LR LR 22 34 56.6
comp=Z,122nm,18.0s,baz=323,slow=37
DAVA Damuels 84.29 28 *iP* **P 21 55 51.8 +1.4**
comp=Z,15nm,0.9s
ESDC Sonseca Array 84.42 41 P **P 21 55 51.5 +0.4**
comp=Z,4.9nm,0.7s,baz=312,slow=4.7,SNR=28
RETA Reutte 84.43 28 *iP* **P 21 55 52.1 +1.0**
comp=Z,9.6nm,1.1s
MORC Moravsky Berou 84.64 23⇓ *iP* **P 21 55 52.8 +0.8**
MORC Moravsky Berou 84.64 23⇓ P **P 21 55 52.8 +0.8**
MORC Moravsky Berou 84.64 23 *eP* **P 21 55 52.4 +0.4**
MOTA Moosalm 84.68 28 *iP* **P 21 55 53.2 +0.9**
comp=Z,7.3nm,0.9s,SNR=7.4
OKC Ostrava-Krasne 84.76 22 *eP* **P 21 55 52.9 +0.4**
OKC Ostrava-Krasne 84.76 22 *eP* **P 21 55 52.9 +0.4**
VRAC Vranov 84.77 23⇑ *iP* **P 21 55 53.6 +1.0**
VRAC Vranov 84.77 23⇑ P **P 21 55 53.6 +1.0**
VRAC Vranov 84.77 23 *eP* **P 21 55 53.4 +0.8**
FETA Feichten 84.82 28 *iP* **P 21 55 54.1 +0.9**
comp=Z,15nm,1.0s,SNR=5.5
SQTA Sankt Quirin 84.82 28 *iP* **P 21 55 54.1 +1.0**
comp=Z,18nm,1.2s
WATA Walderalm 84.85 27 *iP* **P 21 55 53.9 +0.7**
comp=Z,14nm,1.1s,SNR=6.8
OJC Ojcow 84.88 21 *eP* **P 21 55 50.0 -3.2**
OJC Ojcow 84.88 21 *eP* **P 21 55 50.0 -3.2**
KRUC Moravsky 84.93 24 *eP* **P 21 55 53.8 +0.4**
WTTA Wattenberg 84.93 27 *iP* **P 21 55 54.5 +0.8**
comp=Z,15nm,1.0s
BNI Bardonecchia 84.94 31 P **P 21 55 50.0 +1.3**
BNI pmax pmax
comp=Z,25nm,1.0s
MOA Molln 85.32 25 *iP* **P 21 55 56.4 +0.9**
comp=Z,12nm,1.3s
DGZ Jazzator, Alta 85.46 339 *c iP* **P 21 55 56.5 +0.2**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
JAVC Velka Javorina 85.49 23 *eP* **P 21 55 58.1 +1.8**
KBA Koelnbreinsper 85.68 26 *iP* **P 21 55 58.4 +0.9**
comp=Z,11nm,1.2s
LANS Liptovska Anna 85.75 22 *eP* **P 21 55 58.5 +0.9**
LANS Liptovska Anna 85.75 22 *eP* **P 21 55 58.5 +0.9**
BRVK Borovoye 85.76 350 *c iP* **P 21 55 57.4 -0.1**
BRVK pmax pmax
comp=Z,29nm,0.8s
CONA Conrad Observa 85.76 25 *iP* **P 21 55 59.0 +1.2**
comp=Z,13nm,1.0s
MODS Modra-Piesok 85.81 23 *eP* **P 21 55 58.2 +0.4**
MODS pmax pmax
comp=Z,30nm,1.2s
MODS Modra-Piesok 85.81 23 *eP* **P 21 55 58.2 +0.4**
ZST Bratislava 85.91 24 *eP* **P 21 55 58.8 +0.5**
ZST Bratislava 85.91 24 *eP* **P 21 55 58.8 +0.5**
NJ2 Nanjing 86.10 309 *eP* **P 21 55 58.5 -1.0**
NJ2 pmax pmax
comp=Z,13nm,0.5s
VYHS Vyhne 86.16 22 *eP* **P 21 55 59.9 +0.3**
VYHS pmax pmax
comp=Z,9.0nm,1.6s
VYHS Vyhne 86.16 22 *eP* **P 21 55 59.9 +0.3**
MYKA Terra Mystica 86.17 26 *iP* **P 21 55 58.7 -1.0**
comp=Z,6.0nm,1.1s
ARSA Arzberg 86.25 25 *iP* **P 21 56 01.2 +1.1**
comp=Z,5.6nm,1.2s
LPSR Galich'ya Gora 86.41 9 *eP* **P 21 55 59.4 -1.3**
LPSR pmax pmax
comp=Z,30nm,0.9s
OBKA Obir 86.58 26 *iP* **P 21 56 01.6 -0.2**
comp=Z,10nm,1.2s
SOKA Soboth 86.60 26 *iP* **P 21 56 01.5 -0.3**
comp=Z,8.2nm,1.2s
KURK Kurchatov 86.63 345⇓ *eP* **P 21 56 00.7 -1.1**
KURK pmax pmax
comp=Z,14nm,1.3s
AKASG Malin Array Be 86.69 15 P **P 21 56 01.2 -0.8**
comp=Z,8.4nm,0.8s,baz=342,slow=3.9,SNR=23
KIEV Kiev 86.69 15⇓ *iP* **P 21 56 01.8 -0.3**
KIEV Kiev 86.69 15 *ceP* **P 21 56 01.4 -0.7**
KIEV pmax pmax
comp=Z,14nm,1.0s
PSZ Piszkesteto 86.99 22⇓ *iP* **P 21 56 04.8 +1.1**
PSZ Piszkesteto 86.99 22⇓ P **P 21 56 04.9 +1.2**
TRPA Tarpa 87.53 20⇑ *iP* **P 21 56 07.3 +1.1**
VSR Storozhevoye 87.80 9⇑ *eP* **P 21 56 07.6 +0.2**
VSR pmax pmax
comp=Z,27nm,1.8s
VRH Novokhopyorsk 88.10 8 *eP* **P 21 56 07.8 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
BURAR Bucovina Array 88.69 19⇓ *iP* P 21 56 18.0 +6.1
BURAR Bucovina Array 88.69 19⇓ P **P** 21 56 18.0 +6.1
DRGR 88.80 21⇓ *iP* **P 21 56 12.1 -0.3**
DRGR 88.80 21⇓ P **P 21 56 12.1 -0.3**
MKAR Makanchi Array 89.48 341 P **P 21 56 14.5 -1.0**
comp=Z,0.6nm,0.5s,baz=33,slow=4.3,SNR=11
CFA Coronel Fontan 89.53 134 P **P 21 56 15.4 -0.3**
comp=Z,1.0nm,0.4s,baz=300,slow=9.5,SNR=4.4
BIZ Bicaz 89.54 19⇑ *iP* **P 21 56 16.1 +0.3**
BZS Buzias 89.58 22⇑ *iP* **P 21 56 15.4 -0.5**
BZS Buzias 89.58 22⇑ P **P 21 56 15.4 -0.5**
XAN Xi'an 90.12 317 P **P 21 56 18.0 -0.8**
XAN pP pwP 21 56 23.0 -0.6
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,51nm,6.7s
XAN LR LR
comp=Z,180nm,21.7s
XAN LR LR
comp=Z,130nm,23.9s
XAN LR LR
comp=Z,170nm,26.0s
DOPR Dopca 90.27 19⇑ *iP* **P 21 56 19.5 +0.3**
ARR Arges 90.63 20⇑ *iP* **P 21 56 21.0 0.0**
WMQ Urumqi 90.71 336 *eP* **P 21 56 22.5 +1.1**
WMQ sP pwP 21 56 30.0 +3.9
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,250nm,6.5s
WMQ LR LR
comp=Z,210nm,20.3s
WMQ LR LR
comp=Z,240nm,22.3s
WMQ LR LR
comp=Z,200nm,26.7s
LZH Lanzhou 91.02 322 *eP* **P 21 56 24.8 +1.7**
LZH pP pwP 21 56 30.5 +2.6
LZH sP sP 21 56 33.8 +8.9
LZH pmax pmax
comp=Z,25nm,1.1s
CFR Carcaliu 91.68 18⇑ *iP* **P 21 56 25.4 -0.3**
CFR Carcaliu 91.68 18⇑ P **P 21 56 25.4 -0.3**
CPUP Villa Florida 92.19 123 P **P 21 56 27.2 -1.0**
comp=Z,1.4nm,0.9s,baz=315,slow=8.8,SNR=2.9
VTS Vitosha 92.79 22⇓ *iP* **P 21 56 30.6 -0.5**
VTS Vitosha 92.79 22⇓ P **P 21 56 30.6 -0.5**
ANN Anapa 93.85 12 *eP* P 21 56 26.5 -9.2
ANN *e**PP **PcP 21 56 28.8 -7.4**
ANN pmax pmax
comp=Z,34nm,1.4s
CD2 Chengdu 95.25 319 P P 21 56 53.5 +11
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 Chengdu 95.25 319 P **P 21 56 40.3 -2.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
KBZ Khabaz 95.61 8 P **P 21 56 43.5 -0.2**
comp=Z,4.0nm,0.9s,baz=321,slow=3.6,SNR=10
BZK Bozkurt 96.01 15⇑ *iP* **P 21 56 44.8 -0.9**
GYA Guiyang 97.27 314 *eP* **P 21 56 52.0 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
BRTR Keskin Array B 98.09 16 P **P 21 56 54.7 -0.7**
comp=Z,0.7nm,0.8s,baz=265,slow=2.2,SNR=5.2
BRTR PP **PP 22 00 54.6 +1.4**
comp=Z,1.2nm,1.1s,baz=318,slow=7.3,SNR=3.9
BRTR LR LR 22 43 45.9
comp=Z,69nm,18.8s,baz=327,slow=37
KMI Kunming 100.45 316 P **Pdif 21 57 06.0 -0.2**
TORD Torodi Ar. Bea 108.07 54 PP **PP 22 02 03.6 -5.1**
comp=Z,2.2nm,1.2s,baz=326,slow=11,SNR=5.0
ASAR Alice Springs 112.24 257 PKKPbc PKKPbc 22 12 44.2 +0.2
comp=Z,0.4nm,0.9s,baz=218,slow=3.4,SNR=4.3
VNDA Vanda 125.42 195 PKP **PKPdf 22 02 17.7 -0.5**
comp=Z,0.3nm,0.6s,baz=14,slow=4.2,SNR=2.6
KMBO Kilima Mbogo 138.05 25 PKP **PKPdf 22 02 44.8 +0.6**
comp=Z,2.3nm,0.8s,baz=17,slow=4.3,SNR=6.5
SNAA Sanae 138.25 157 PKP **PKPdf 22 02 41.8 -0.7**
comp=Z,4.4nm,1.1s,baz=225,slow=5.7,SNR=4.0
SYO Syowa Base 150.41 170 ⇑*ip*PKPbc **PKPab 22 03 13.0 -2.3**
MAW Mawson 152.36 187 PKPbc **PKPbc 22 03 12.6 -0.7**
comp=Z,4.7nm,0.8s,baz=190,slow=6.1,SNR=6.2
BOSA Boshof 153.79 72 PKPbc **PKPbc 22 03 17.9 0.0**
comp=Z,16nm,1.4s,baz=0.0,slow=10,SNR=5.4

GCMT ***30*** *21:47:59.2±0.2,21.02S±0.01×176.81E±0.01,h12km, MW5.0/107, Moment Tension Solution. s47,c65; s107,c171; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.26±.10; Mθθ-2.05±.11; Mϕϕ2.31±.10; Mrθ-0.69±.26; Mθϕ4.00±.07; Mϕr0.94±.24; Best double couple: Mo4.70700×10¹⁶ NP1:ϕs166.00000°, δ84.00000°, λ-166.00000°. NP2:ϕs75.00000°, δ77.00000°, λ-6.00000°. Principal axes: T 4.7280, Plg5.0000°, Azm300.0000°; N -0.0410, Plg75.0000°, Azm189.0000°; P -4.6860, Plg14.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BJI ***30*** *21:48:00.6,20.90Sx176.50E,h37km,mb4.9/41,mB5.2/28, Ms4.9/14,Ms7 4.6/14*

ISCJB ***30*** *21:48:01.6±1.4,20.93S±0.04×176.41E±0.04,h43km±12km, mb4.9/105,MS4.3/28,Error ellipse: s-maj=7.7km s-min=6.2km az=32.3*

NEIC ***30*** *21:48:03.2±1.3,20.95S×176.51E,h45km±12km,mb5.1/75, Error ellipse: s-maj=8.1km s-min=6.8km az=46.0*

IDC ***30*** *21:48:04.6±3.6,21.11S×176.52E,h73km±32km,mb4.1/20, mb1 4.2/22,mb1mx4.1/37,mbtmp4.4/22,MS4.2/27, Ms1 4.2/27,ms1mx4.2/34,Error ellipse: s-maj=17.5km s-min=16.4km az=48.0*

MOS ***30*** *21:48:04.0±1.7,20.11S×176.18E,h30km,mb5.1/26,Error ellipse: s-maj=12.4km s-min=10.4km az=103.7*

ISC 30 21:48:01.1±0.7,20.97S±0.06×176.57E±0.06,h31km±4km, h31km:pP-P,n326,σ1§47/320,mb5.0/104,MS4.4/29, 29C-17D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.51**	**24**	*di*P	Pn	21 48 48.3	-5.3
MARNC	**Mare, Loyalty**	**7.99**	**265**	*e*Pn	**Pn**	**21 49 56.2**	**+1.1**
PINNC	**Pines Island,**	**8.64**	**257**	*e*Pn	**Pn**	**21 50 06.1**	**+2.1**
DZM	**Mont Dzumac** 186nm,1.2s	**9.49**	**262**	*e*Pn	**Pn**	**21 50 17.0**	**+1.1**
DZM	comp=Z,1μm,24.1s			*e*LR	LR	21 52 41.3	
DZM	**Mont Dzumac**	**9.49**	**262**	*e*Pn	**Pn**	**21 50 17.8**	**+1.9**
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=75,slow=19,SNR=13	**9.49**	**262**	P	**Pn**	**21 50 17.4**	**+1.5**
DZM	comp=Z,2μm,18.4s,baz=75,slow=36			LR	LR	21 53 41.6	
ONTNC	**Ouen Toro**	**9.51**	**260**	*e*Pn	**Pn**	**21 50 17.9**	**+2.0**
RAO	**Raoul Island** comp=Z,2μm,19.7s,baz=356,slow=31	**9.64**	**150**	LR	LR	21 52 58.3	
OUZ	**Omahuta**	**14.44**	**190**	*e*Pn	**Pn**	**21 51 24.7**	**+1.4**
OUZ	**Omahuta**	**14.44**	**190**	P	**Pn**	**21 51 22.2**	**-1.1**
WCZ	**Waipu Caves**	**15.04**	**187**	P	**Pn**	**21 51 28.7**	**-2.8**
MXZ	**Matakaoa Point** 60nm,1.0s	**16.60**	**175**	*e*Pn	**Pn**	**21 51 51.6**	**0.0**
MXZ	**Matakaoa Point**	**16.60**	**175**	P	**P**	**21 51 55.5**	**+1.6**
HAZ	**Te Kaha**	**16.76**	**177**	P	**P**	**21 51 55.8**	**+0.3**
PKGZ	**Pakihiroa**	**16.91**	**176**	P	**P**	**21 52 01.6**	**+4.3**
PUZ	**Puketiti**	**17.11**	**175**	P	**P**	**21 52 05.4**	**+5.9**
URZ	**Urewera** 570nm,1.8s	**17.24**	**179**	*e*Pn	**Pn**	**21 51 59.5**	**-0.1**
URZ	**Urewera** 1.1nm,0.3s,baz=31,slow=6.2,SNR=25	**17.24**	**179**	P	**Pn**	**21 51 58.5**	**-1.1**
URZ	comp=Z,1μm,19.7s,baz=24,slow=30			LR	LR	21 56 32.5	
URZ	**Urewera**	**17.24**	**179**	P	**Pn**	**21 51 59.7**	**+0.1**
RAGZ	**Rawiri**	**17.48**	**178**	P	**P**	**21 52 04.7**	**+1.0**
HIZ	**Hauiti** 314nm,1.7s	**17.55**	**184**	*e*Pn	**P**	**21 52 05.1**	**+0.8**
RIGZ	**Rimuhau**	**17.71**	**177**	P	**Pn**	**21 52 05.4**	**-0.1**
BKZ	**Black Stump Fm** 70nm,1.3s	**18.14**	**180**	*e*P	**P**	**21 52 12.7**	**+1.8**
LHI	**Lord Howe Isla** baz=19	**18.87**	**233**	P	**Pn**	**21 52 19.8**	**+0.2**
BFZ	**Birch Farm** 181nm,1.5s	**19.65**	**181**	*e*P	**P**	**21 52 26.4**	**-1.0**
BFZ	**Birch Farm**	**19.65**	**181**	P	**P**	**21 52 26.4**	**-1.0**
HNR	**Honiara** comp=Z,1μm,19.9s,baz=151,slow=33	**19.70**	**303**	LR	LR	21 58 54.6	
DUWZ	**D'Urville Isla**	**19.90**	**186**	P	**Pn**	**21 52 33.4**	**+1.5**
SNZO	**South Karori** 290nm,1.4s	**20.34**	**184**	*e*P	Pn	21 52 35.8	-1.2
NNZ	**Nelson**	**20.37**	**187**	P	**P**	**21 52 34.4**	**-0.8**
THZ	**Tophouse** 48nm,0.9s	**20.96**	**188**	*e*P	**P**	**21 52 42.0**	**+0.4**
THZ	**Tophouse**	**20.96**	**188**	P	Pn	21 52 45.5	+1.2
KHZ	**Kahutara** 84nm,1.1s	**21.54**	**186**	*e*P	**P**	**21 52 50.4**	**+2.7**
KHZ	**Kahutara**	**21.54**	**186**	P	**P**	**21 52 50.2**	**+2.5**
LTZ	**Lake Taylor** 67nm,1.1s	**22.05**	**188**	*e*P	**P**	**21 52 54.6**	**+1.3**
RAR	**Rarotonga** 232nm,1.7s	**22.07**	**95**	*e*P	**P**	**21 52 54.0**	**+0.3**
RAR	comp=Z,232nm,1.7s			pmax	pmax		
RAR	**Rarotonga**	**22.07**	**95**	P	**P**	**21 52 53.6**	**0.0**
RAR	comp=Z,24nm,1.0s,baz=243,slow=9.0,SNR=2.3			LR	LR	21 59 24.0	
OXZ	**Oxford** comp=Z,75nm,1.2s	**22.61**	**189**	*e*P	**P**	**21 53 00.3**	**+1.0**
RPZ	**Rata Peaks** comp=Z,95nm,1.5s	**23.14**	**190**	*e*P	**P**	**21 53 05.4**	**+0.6**
RPZ	**Rata Peaks**	**23.14**	**190**	P	**P**	**21 53 04.5**	**-0.3**
RPZ	comp=Z,12nm,0.9s,baz=39,slow=4.0,SNR=3.2			LR	LR	22 00 51.9	
FOZ	**Fox Glacier** comp=Z,195nm,1.5s	**23.20**	**193**	*e*P	**P**	**21 53 06.9**	**+1.6**
EIDS	**Eidsvold** baz=24,SNR=3.9	**23.83**	**255**	P	**P**	**21 53 11.7**	**+0.1**
EIDS	**Eidsvold**	**23.83**	**255**	*e*P	**P**	**21 53 11.7**	**+0.1**
LBZ	**Lake Benmore** comp=Z,76nm,1.5s	**23.95**	**191**	*e*P	**P**	**21 53 13.2**	**+0.6**
ARMA	**Armidale** baz=25,SNR=4.1	**24.32**	**242**	P	**P**	**21 53 17.9**	**+1.6**
ARMA	**Armidale** comp=Z,168nm,2.0s	**24.32**	**242**	*e*P	**P**	**21 53 18.2**	**+1.8**
ODZ	**Otahua Downs** comp=Z,39nm,1.2s	**24.50**	**190**	*e*P	**P**	**21 53 19.2**	**+1.5**
MLZ	**Mavora Lakes** comp=Z,89nm,1.4s	**25.31**	**194**	*e*P	**P**	**21 53 26.9**	**+1.8**
MGCD	**Mangrove Creek** baz=26	**25.67**	**236**	P	**P**	**21 53 31.1**	**+2.7**
WHZ	**Wether Hill Ro** comp=Z,231nm,1.8s	**25.85**	**194**	*e*P	**P**	**21 53 31.9**	**+2.0**
RMQ	**Roma** baz=26,SNR=4.2	**26.02**	**252**	P	**P**	**21 53 31.6**	**-0.1**
CNB	**Canberra Magne** baz=28	**27.82**	**233**	P	**P**	**21 53 48.4**	**+0.7**
CTA	**Charters Tower** baz=29	**28.39**	**266**	P	**P**	**21 53 49.1**	**-3.8**
CTA	**Charters Tower** comp=Z,5.5nm,1.0s,baz=100,slow=10,SNR=5.2	**28.39**	**266**	P	**P**	**21 53 54.0**	**+1.1**
CTAO	**Charters Tower** comp=Z,21nm,1.3s	**28.39**	**266**	*e*P	**P**	**21 53 53.4**	**+0.4**
CTAO	**Charters Tower**	**28.39**	**266**	*e*P	**P**	**21 53 53.4**	**+0.4**
CTAO	comp=Z,21nm,1.3s			pmax	pmax		
CMSA	**Cobar Meteorol** baz=30	**29.54**	**243**	P	**P**	**21 54 02.7**	**-0.3**
MTSU	**Mount Surprise** baz=31,SNR=10	**30.50**	**270**	P	**P**	**21 54 11.1**	**-0.6**
PMG	**Port Moresby** comp=Z,31nm,0.9s	**30.56**	**288**	*e*P	**P**	**21 54 12.8**	**+0.5**
PMG	**Port Moresby**	**30.56**	**288**	*di*P	**P**	**21 54 12.1**	**-0.2**
PMG	comp=Z,112nm,1.0s			pmax	pmax		
PPT2	**Papeete2** comp=Z,2μm,25.8s	**32.09**	**90**	*e*LQ	LQ	22 01 12.5	
PPT2	comp=Z,2μm,28.0s,baz=250			*e*LR	LR	22 02 32.6	
PPT	**Papeete**	**32.10**	**90**	*e*P	**P**	**21 54 25.5**	**-0.3**
PPT	**Papeete**	**32.10**	**90**	*e*P	**P**	**21 54 25.5**	**-0.3**
PPT	**Papeete** comp=Z,271nm,18.3s,baz=276,slow=34	**32.10**	**90**	LR	LR	22 06 10.0	
COEN	**Coen** baz=33,SNR=4.5	**32.57**	**277**	P	**P**	**21 54 29.1**	**-0.8**
COEN	**Coen** comp=Z,28nm,1.1s	**32.57**	**277**	*e*P	**P**	**21 54 30.9**	**+0.9**
STKA	**Stephens Creek** baz=33	**33.02**	**244**	P	**P**	**21 54 33.4**	**-0.3**
STKA	**Stephens Creek** comp=Z,2.2nm,0.9s	**33.02**	**244**	*e*P	**P**	**21 54 37.2**	**+3.4**
STKA	**Stephens Creek**	**33.02**	**244**	*e*P	**P**	**21 54 37.2**	**+3.4**
STKA	comp=Z,2.0nm,0.9s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,2.1nm,0.4s,baz=79,slow=12,SNR=4.8	**33.02**	**244**	P	**P**	**21 54 32.9**	**-0.9**
STKA	comp=Z,892nm,19.0s,baz=72,slow=34			LR	LR	22 06 25.8	
QIS	**Mount Isa** baz=35	**34.52**	**264**	P	**P**	**21 54 46.5**	**-0.4**
HTT	**Hallett** baz=36	**35.52**	**242**	P	**P**	**21 54 55.7**	**+0.2**
AS17	**Alice Springs** baz=40	**39.38**	**258**	P	**P**	**21 55 27.8**	**-0.4**
AS06	**Alice Springs** baz=40	**39.40**	**258**	P	**P**	**21 55 27.8**	**-0.6**
AS01	**Alice Springs**	**39.42**	**258**	*e*P	**P**	**21 55 26.9**	**-1.6**
AS05	**Alice Springs** baz=40	**39.42**	**258**	P	**P**	**21 55 28.2**	**-0.4**
AS31	**Alice Springs** comp=Z,3.3nm,0.8s	**39.46**	**258**	*e*P	**P**	**21 55 28.2**	**-0.7**
ASAR	**Alice Springs** comp=Z,5.5nm,1.0s,baz=83,slow=8.8,SNR=30	**39.46**	**258**	P	**P**	**21 55 26.4**	**-2.5**
ASAR	comp=Z,517nm,18.6s,baz=100,slow=36			LR	LR	22 12 02.3	
AS13	**Alice Springs** baz=40	**39.47**	**258**	P	**P**	**21 55 28.1**	**-0.9**
WRA	**Warramunga Arr** comp=Z,1.6nm,0.9s,baz=97,slow=8.7,SNR=9.0	**39.50**	**264**	P	**P**	**21 55 24.8**	**-4.5**
WRA	comp=Z,787nm,18.8s,baz=120,slow=36			LR	LR	22 11 45.4	
H11S2	**WAKE ISLAND Hy** baz=165,slow=76,SNR=113	**40.39**	**345**	T	T	22 38 35.4	
H11S3	**WAKE ISLAND Hy** baz=165,slow=76,SNR=38	**40.40**	**345**	T	T	22 38 35.9	
H11S1	**WAKE ISLAND Hy** baz=165,slow=76,SNR=78	**40.41**	**345**	T	T	22 38 36.9	
KDU	**Kakadu** baz=43	**42.90**	**274**	P	**P**	**21 55 56.0**	**-1.2**
MTN	**Manton Dam** baz=44	**44.10**	**273**	P	**P**	**21 56 06.9**	**0.0**
FORT	**Forrest** baz=45	**44.44**	**247**	P	**P**	**21 56 09.3**	**-0.2**
FORT	**Forrest** comp=Z,30nm,0.8s	**44.44**	**247**	*e*P	**P**	**21 56 09.3**	**-0.2**
WRKA	**Warakurna** baz=45,SNR=5.0	**44.44**	**255**	P	**P**	**21 56 09.2**	**-0.5**
GUMO	**Guam** comp=Z,56nm,18.4s,baz=140,slow=37	**46.36**	**315**	LR	LR	22 16 28.8	
FAKI	**Fak Fak** comp=Z,44nm,1.0s	**46.71**	**287**	*e*P	**P**	**21 56 26.3**	**-1.3**
FITZ	**Fitzroy Crossi** baz=48	**47.93**	**264**	P	**P**	**21 56 36.6**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,38nm,1.3s	**47.93**	**264**	*e*P	**P**	**21 56 36.9**	**-0.1**
SIJI	**Sorong** comp=Z,396nm,20.4s,baz=174,slow=36	**48.50**	**288**	LR	LR	22 17 01.3	
SOEI	**Soe** comp=Z,67nm,1.3s	**51.45**	**274**	*e*P	**P**	**21 57 05.3**	**+1.2**
MEEK	**Meekatharra** baz=53,SNR=5.4	**52.96**	**252**	P	**P**	**21 57 13.4**	**-1.7**
KLBR	**Kellerberrin** baz=53,SNR=4.8	**53.25**	**246**	P	**P**	**21 57 16.2**	**-0.8**
MORW	**Morawa** comp=Z,48nm,1.7s	**54.94**	**249**	*e*P	**P**	**21 57 30.2**	**+0.8**
LUWI	**Luwuk**	**56.06**	**283**	*e*P	**P**	**21 57 37.3**	**-0.4**
VNDA	**Vanda** comp=Z,22nm,1.7s	**57.05**	**184**	*e*P	**P**	**21 57 43.9**	**+0.1**
VNDA	**Vanda** comp=Z,0.5nm,0.8s,baz=56,slow=6.1,SNR=3.6	**57.05**	**184**	P	**P**	**21 57 40.9**	**-2.9**
VNDA	comp=Z,250nm,18.8s,baz=18,slow=33			LR	LR	22 19 16.1	
SBA	**Scott Base** comp=Z,46nm,1.4s	**57.13**	**182**	*e*P	**P**	**21 57 43.9**	**-0.4**
SBA	**Scott Base**	**57.13**	**182**	P	**P**	**21 57 42.7**	**-1.6**
SBA	comp=Z,25nm,1.1s			pmax	pmax		
KAPI	**Kappang** comp=Z,22nm,1.1s	**57.29**	**278**	*e*P	**P**	**21 57 46.0**	**-0.4**
KAPI	**Kappang**	**57.29**	**278**	*ce*P	**P**	**21 57 47.2**	**+0.8**
KAPI	comp=Z,59nm,2.5s			pmax	pmax		
KCP	**Kidapawan**	**57.69**	**293⇓**	*i*P	**P**	**21 57 47.5**	**-1.7**
RCP	**Roxas**	**61.98**	**296⇑**	*e*P	**P**	**21 58 18.0**	**-0.7**
RPN	**Rapa Nui** comp=Z,110nm,18.7s,baz=342,slow=31	**67.07**	**111**	LR	LR	22 22 51.9	
SBUM	**Sibu** comp=Z,11nm,1.5s	**67.11**	**282**	*e*P	**P**	**21 58 51.8**	**-0.5**
INU	**Inuyama**	**67.41**	**326**	*e*P	**P**	**21 58 53.9**	**+0.2**
CISI	**Cisompet, Garu** comp=Z,76nm,1.5s	**67.53**	**270**	*e*P	**P**	**21 58 54.8**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,12nm,0.9s,baz=168,slow=6.3,SNR=9.9	**67.72**	**327**	P	**P**	**21 58 54.5**	**-1.1**
MAJO	**Matsushiro** comp=Z,17nm,0.9s	**67.72**	**327**	*e*P	**P**	**21 58 56.8**	**+1.1**
MAJO	**Matsushiro**	**67.72**	**327**	*ce*P	**P**	**21 58 56.2**	**+0.5**
MAJO	comp=Z,19nm,1.0s			pmax	pmax		
MJB9	**Matsu-Tunnel** comp=Z,17nm,0.9s	**67.72**	**327**	*e*P	**P**	**21 58 56.4**	**+0.7**
KSM	**Kuching** comp=Z,16nm,0.8s	**68.47**	**280**	*e*P	**P**	**21 59 01.1**	**+0.2**
JNU	**Nakatsue** comp=Z,28nm,1.0s	**69.25**	**320**	*e*P	**P**	**21 59 04.0**	**-1.3**
JNU	**Nakatsue** comp=Z,14nm,1.1s,baz=72,slow=0.9,SNR=4.8	**69.25**	**320**	P	**P**	**21 59 04.2**	**-1.1**
NACB	**Ninganchiao** comp=Z,31nm,0.9s	**69.82**	**307**	*e*P	**P**	**21 59 08.6**	**-0.4**
ERM	**Erimo** comp=Z,24nm,1.0s	**69.88**	**334**	*e*P	**P**	**21 59 09.5**	**+0.6**
ERM	**Erimo**	**69.88**	**334**	*e*P	**P**	**21 59 09.5**	**+0.6**
ERM	comp=Z,24nm,1.0s			pmax	pmax		
SSLB	**Suanglung** comp=Z,23nm,1.2s	**70.08**	**306**	*e*P	**P**	**21 59 10.5**	**-0.1**
YHNB	**Yeheng**	**70.27**	**307**	*e*P	**P**	**21 59 10.8**	**-1.0**

comp=Z,203nm,2.0s
ASAJ Asahikawa 71.86 335 P **P** **21 59 20.9 0.0**
comp=Z,12nm,1.0s,baz=168,slow=9.3,SNR=3.9
GSTR Great Sitkin T 73.03 5 *e*P **P** **21 59 29.9 +2.1**
KSRS Korea Array 73.98 322 P **P** **21 59 33.0 -0.7**
comp=Z,3.7nm,1.0s,baz=135,slow=6.3,SNR=9.4
KSRS LR LR 22 28 58.6
comp=Z,72nm,19.8s,baz=128,slow=33
KSAR Wonju Array Be 74.00 322 P **P** **21 59 33.0 -0.8**
KSAR Wonju Array Be 74.00 322 P **P** **21 59 33.0 -0.8**
KS01 Wonju Array Si 74.02 322 *e*P **P** **21 59 33.2 -0.7**
YSS Yuzh-Sakhalins 74.17 337 *e*P **P** **21 59 35.3 +0.7**
comp=Z,45nm,0.9s
YSS Yuzh-Sakhalins 74.17 337 *e*P **P** **21 59 34.9 +0.3**
YSS *e* 21 59 43.0
YSS *e* 22 02 15.0
YSS *e*S **SKiKP** **22 08 59.7 -0.4**
YSS pmax pmax
comp=Z,30nm,1.0s
PETK Petropavlovsk- 75.56 348 P **P** **21 59 41.2 -1.3**
comp=Z,7.2nm,0.9s,baz=133,slow=8.1,SNR=3.5
PETK LR LR 22 30 47.0
comp=Z,70nm,19.3s,baz=157,slow=34
NJ2 Nanjing 76.35 312 *e*P **P** **21 59 48.0 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
USA0B Ussuriysk Arra 76.61 329 *e*P **P** **21 59 47.8 -0.9**
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 76.61 329 *e*P **P** **21 59 47.8 -0.9**
USA0B pmax pmax
comp=Z,13nm,1.0s
USRK Ussuriysk Ar. 76.61 329 P **P** **21 59 48.2 -0.4**
comp=Z,6.9nm,1.0s,baz=124,slow=4.3,SNR=9.4
USRK LR LR 22 33 00.1
comp=Z,61nm,18.0s,baz=122,slow=35
TYV Tymovskoe 77.51 339 *e*P **P** **21 59 51.6 -1.9**
TYV pmax pmax
comp=Z,6.0nm,1.1s
MDJ Mudanjiang 78.09 328 P **P** **21 59 57.0 +0.1**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,130nm,5.2s
IPM Ipoh 78.17 279 *e*P **P** **21 59 59.1 +0.9**
comp=Z,13nm,0.9s
DL2 Dalian 78.68 319 P **P** **22 00 02.8 +2.5**
DL2 *e*S **S** **22 10 01.0 +5.5**
DL2 pmax pmax
comp=Z,20nm,1.0s
DL2 pmax pmax
comp=Z,130nm,5.0s
DL2 LR LR
comp=Z,150nm,16.5s
DL2 LR LR
comp=Z,150nm,17.2s
DL2 LR LR
comp=Z,180nm,21.4s
KULM Kulim 78.83 280 *e*P **P** **22 00 01.5 -0.2**
comp=Z,17nm,1.3s
MAW Mawson 79.36 201 *e*P **P** **22 00 05.1 +1.5**
comp=Z,3.6nm,1.1s
MAW Mawson 79.36 201 *e*P **P** **22 00 05.1 +1.5**
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 79.36 201 LR LR 22 32 44.1
comp=Z,416nm,18.7s,baz=96,slow=34
PSI Prapat 79.49 277 LR LR 22 39 33.2
comp=Z,125nm,18.5s,baz=130,slow=39
CN2 Changchun 79.67 325 *e*P **P** **22 00 05.5 -0.1**
CN2 pmax pmax
comp=Z,20nm,0.9s
GRNR Gornyy 79.70 335 *e*P **P** **22 00 05.1 -0.6**
GRNR pmax pmax
comp=Z,21nm,1.0s
GSI Gunungsitoli 80.20 275 *e*P **P** **22 00 07.7 -1.5**
comp=Z,23nm,1.1s
KLR Kul'dur 80.45 332⇓*e*P **P** **22 00 09.1 -0.6**
KLR Kul'dur 80.45 332 P **P** **22 00 08.7 -1.0**
comp=Z,3.7nm,1.1s,baz=117,slow=9.1,SNR=6.7
ENH Enshi 82.16 306 *e*P **P** **22 00 19.0 -0.3**
comp=Z,57nm,1.6s
BJI Beijing 82.74 318 P **P** **22 00 22.0 0.0**
BJI S **S** **22 10 43.0 +5.2**
BJI pmax pmax
comp=Z,3.0nm,0.9s
MA2 Magadan 83.00 347⇓*e*P **P** **22 00 25.4 +2.5**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
YBH Yreka Blue Hor 83.90 41 P **P** **22 00 28.2 0.0**
comp=Z,1.3nm,0.6s,baz=187,slow=7.2,SNR=3.7
PNTR Pine Nut 84.41 45 *e*P **P** **22 00 32.0 +1.1**
comp=Z,7.7nm,1.0s
XAN Xi'an 84.44 309 P **P** **22 00 30.5 -0.4**
XAN pP pP 22 00 42.0 +1.9
XAN S **S** **22 11 00.0 +4.5**
XAN pmax pmax
comp=Z,7.0nm,1.5s
XAN pmax pmax
comp=Z,95nm,3.9s
XAN LR LR
comp=Z,180nm,21.7s
XAN LR LR
comp=Z,120nm,19.5s
XAN LR LR
comp=Z,190nm,24.9s
XAN Xi'an 84.44 309 *e*P **P** **22 00 30.6 -0.4**
comp=Z,15nm,1.3s
XAN Xi'an 84.44 309 *e*P **P** **22 00 30.6 -0.4**
XAN pmax pmax
comp=Z,15nm,1.3s
PAHR Pah Rah Range 84.88 44 *e*P **P** **22 00 34.0 +0.8**
comp=Z,23nm,1.8s
NV01 Mina Array Sit 84.92 46 *e*P **P** **22 00 33.7 +0.2**
NVAR Mina Array Bea 84.92 46 P **P** **22 00 33.0 -0.5**
comp=Z,0.4nm,0.6s,baz=224,slow=7.6,SNR=3.8
NVAR LR LR 22 35 43.5
comp=Z,147nm,18.2s,baz=252,slow=34
GAMB Gambell 84.96 5 *e*P **P** **22 00 33.2 +0.4**
comp=Z,36nm,1.4s
NV11 Mina Array Sit 85.02 46 *e*P **P** **22 00 34.2 +0.2**
comp=Z,0.5nm,1.1s
KMI Kunming 85.09 299 P **P** **22 00 36.5 +1.8**
KMI pmax pmax
comp=Z,12nm,0.8s
KMI pmax pmax
comp=Z,86nm,4.3s
KMI LR LR
comp=Z,130nm,11.9s
KMI LR LR
comp=Z,140nm,18.4s
KMI LR LR
comp=Z,180nm,18.9s
SYO Syowa Base 85.09 194⇓*e*pP pP 22 00 45.8 +3.1
KVN Kaiserville 85.38 45 *e*P **P** **22 00 36.6 +0.8**
comp=Z,4.9nm,1.1s
KVN Kaiserville 85.38 45 P **P** **22 00 36.6 +0.8**
KVN pmax pmax
comp=Z,5.0nm,1.1s
MOD Modoc Plateau 85.49 42 *e*P **P** **22 00 37.2 +1.0**
comp=Z,9.9nm,1.2s
CM01 Chiang Mai Arr 85.49 292 *e*P **P** **22 00 35.6 -1.0**
CMAR Chiang Mai Arr 85.52 292 P **P** **22 00 36.3 -0.4**
comp=Z,5.5nm,1.1s,baz=124,slow=3.5,SNR=20
CMAR LR LR 22 38 36.9
comp=Z,47nm,20.4s,baz=125,slow=36
TPNV Topopah Spring 85.56 48 *e*P **P** **22 00 37.2 +0.5**
comp=Z,7.6nm,1.1s
TPNV Topopah Spring 85.56 48 P **P** **22 00 37.2 +0.5**
TPNV pmax pmax
comp=Z,8.0nm,1.2s
CMMT Chiang Mai 85.66 292 P **P** **22 00 38.4 +1.0**
comp=Z,11nm,1.1s
ZEA Zeya 85.66 333 *e*P **P** **22 00 39.0 +2.5**
ZEA pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 85.66 292 *e*P **P** **22 00 37.3 -0.1**
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 85.66 292 P **P** **22 00 36.1 -1.3**
CHTO pmax pmax
comp=Z,13nm,1.2s
CHTO Chiang Mai 85.66 292 P **P** **22 00 38.4 +1.0**
comp=Z,50nm,1.2s
CHTO Chiang Mai 85.66 292 P **P** **22 00 38.4 +1.0**
comp=Z,50nm,1.2s
SEY Seymchan 85.78 349⇑*e*P **P** **22 00 35.8 -1.1**
SEY Seymchan 85.78 349 P **P** **22 00 34.8 -2.1**
comp=Z,2.2nm,0.8s,baz=152,slow=5.6,SNR=5.2

HHC Hu-ho-hao-te 86.12 316 *e*P **P** **22 00 41.5 +2.2**
HHC S **S** **22 11 12.5 +0.6**
HHC pmax pmax
comp=Z,31nm,1.0s
HHC pmax pmax
comp=Z,150nm,5.2s
HHC LR LR
comp=Z,180nm,14.5s
HHC LR LR
comp=Z,190nm,13.7s
HHC LR LR
comp=Z,190nm,14.7s
PINE Pine Mountain 86.14 40 *e*P **P** **22 00 40.4 +1.0**
comp=Z,13nm,1.3s
RC01 Rabbit Creek A 86.16 16 *e*P **P** **22 00 41.3 +2.4**
comp=Z,20nm,1.4s
HIA Hailar 86.21 327⇓*e*P **P** **22 00 41.6 +2.2**
HIA pmax pmax
comp=Z,5.0nm,0.8s
CD2 Chengdu 86.82 305 P **P** **22 00 44.0 +1.1**
CD2 sP sP 22 00 57.8 +2.5
CD2 sS sS 22 11 36.8 +3.0
CD2 SS **SS** **22 17 04.0 +2.1**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,90nm,5.0s
CD2 LR LR
comp=Z,270nm,6.6s
CD2 LR LR
comp=Z,300nm,6.3s
CD2 LR LR
comp=Z,360nm,19.0s
SNAA Sanae 87.60 180 *e*P **P** **22 00 43.6 -2.5**
comp=Z,17nm,1.4s
SNAA Sanae 87.60 180 P **P** **22 00 42.1 -4.0**
comp=Z,1.5nm,1.0s,baz=192,slow=5.3,SNR=3.5
U15A North Rim 88.09 50 *e*P **P** **22 00 50.0 +0.8**
comp=Z,5.5nm,1.3s
G08A Pilot Rock 88.15 40 *e*P **P** **22 00 50.7 +1.7**
comp=Z,9.9nm,1.5s
RND Reindeer 88.36 15 *e*P **P** **22 00 50.0 +0.5**
comp=Z,24nm,1.6s
RND Reindeer 88.36 15 *e*P **P** **22 00 50.0 +0.5**
RND pmax pmax
comp=Z,24nm,1.6s
BILL Bilibino 89.07 356⇑*e*P **P** **22 00 55.0 +2.3**
BILL *e* 22 04 23.0
BILL pmax pmax
comp=Z,8.0nm,1.7s
LZH Lanzhou 89.08 309 *e*P **P** **22 00 54.0 +0.3**
LZH pP pwP 22 01 05.5 -0.1
LZH sP sP 22 01 10.8 +4.6
LZH PP **PP** **22 04 20.8 -3.4**
LZH sS sS 22 11 58.0 +2.6
LZH SS **SS** **22 17 30.8 -4.1**
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.9s
LZH LR LR
comp=Z,230nm,15.7s
LZH LR LR
comp=Z,390nm,15.3s
LZH LR LR
comp=Z,350nm,15.7s
WRH Wood River Hil 89.44 15 *e*P **P** **22 00 56.1 +1.6**
comp=Z,21nm,1.6s
DUG Dugway, Tooele 89.49 46 *e*P **P** **22 00 55.6 +0.1**
comp=Z,9.8nm,1.8s
IM3 Indian Mountai 89.56 12 *e*P **P** **22 00 56.4 +1.4**
HDA Harding Lake 89.66 15 *e*P **P** **22 00 57.2 +1.6**
comp=Z,31nm,1.8s
DOT Dot Lake 89.77 16 *e*P **P** **22 00 55.4 -0.7**
comp=Z,26nm,1.8s
MDM Murphy Dome 89.82 14 *e*P **P** **22 00 56.1 -0.2**
comp=Z,9.4nm,1.1s
COLA College 89.84 14⇓*e*P **P** **22 00 57.4 +1.1**
COLA pmax pmax
comp=Z,9.0nm,1.0s
IL1 Eielson Array 89.98 15 *e*P **P** **22 00 55.9 -1.1**
ILAR Eielson Array 89.98 15 P **P** **22 00 53.7 -3.4**
comp=Z,3.8nm,0.9s,baz=237,slow=5.6,SNR=10.0
ILAR LR LR 22 34 19.1
comp=Z,200nm,21.6s,baz=221,slow=31
ILB Eielson Array 89.98 15 *e*P **P** **22 00 56.8 -0.2**
comp=Z,6.2nm,1.0s
SPUT South Promonto 90.26 45 *e*P **P** **22 01 00.7 +1.6**
comp=Z,12nm,1.6s
HVU Hansel Valley 90.26 45 *e*P **P** **22 01 01.5 +2.4**
comp=Z,12nm,1.5s
HVU Hansel Valley 90.26 45 *e*P **P** **22 01 01.5 +2.4**
HVU pmax pmax
comp=Z,12nm,1.5s
SRU San Rafael Swe 90.56 48 *e*P **P** **22 01 02.4 +1.8**
comp=Z,8.9nm,0.8s
SRU San Rafael Swe 90.56 48 *e*P **P** **22 01 02.4 +1.8**
SRU pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 90.72 340 *e*P **P** **22 00 56.9 -3.6**
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,14nm,1.0s
PRP Porcupine Dome 90.92 15 *e*P **P** **22 01 03.2 +1.6**
comp=E,6.0nm,1.1s
DAWY Dawson 91.38 18 *e*P **P** **22 01 05.2 +1.6**
comp=E,14nm,1.6s
EGAK Eagle 91.44 17 *e*P **P** **22 01 04.6 +0.8**
comp=E,8.8nm,1.2s
TX31 Lajitas Ar. Si 91.62 59 *e*P **P** **22 01 06.8 +1.2**
TXAR Lajitas Array 91.62 59 P **P** **22 01 04.9 -0.7**
comp=E,0.6nm,1.0s,baz=210,slow=5.2,SNR=2.9
TXAR LR LR 22 35 47.0
comp=E,107nm,18.8s,baz=0.0,slow=31
MCMT McKenzie Canyo 91.65 42 *e*P **P** **22 01 06.0 +0.4**
ANMO Albuquerque 91.70 53⇑*e*P **P** **22 01 07.9 +1.9**
ANMO pmax pmax
comp=Z,7.0nm,2.8s
ULN Ulaanbaatar 92.46 321⇑*e*P **P** **22 01 07.8 -1.3**
ULN pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 92.83 321 P **P** **22 01 08.7 -2.2**
comp=Z,1.8nm,1.0s,baz=126,slow=4.0,SNR=6.4
SONM LR LR 22 40 40.4
comp=Z,125nm,20.2s,baz=78,slow=34
PDAR Pinedale Array 92.84 45 LR LR 22 42 01.7
comp=Z,100nm,18.0s,baz=262,slow=35
GTA Gaotai 93.39 311 *e*P **P** **22 01 11.5 -2.1**
GTA pmax pmax
comp=Z,2.0nm,0.5s
T25A Trinidad 94.11 52 *e*P **P** **22 01 17.2 +0.2**
comp=Z,6.1nm,0.8s
ZAK Zakamensk 95.81 322 *e*P P 22 01 16.8 -7.6
ZAK pmax pmax
comp=Z,3.0nm,1.7s
TIXI Tiksi 97.95 346⇓*e*P Pdif 22 01 35.3 +1.8
PALK Pallekele 98.02 275 LR LR 22 47 06.9
comp=Z,210nm,19.2s,baz=118,slow=36
YKA Yellowknife Ar 99.11 26 P **Pdif** **22 01 38.0 -0.8**
YKA Yellowknife Ar 99.11 26 P **Pdif** **22 01 38.0 -0.8**
comp=Z,0.4nm,0.8s,baz=244,slow=4.3,SNR=6.2
YKA LR LR 22 42 50.3
comp=Z,44nm,18.0s,baz=213,slow=33
MKAR Makanchi Array 107.85 314 Pdiff **Pdif** **22 02 19.9 +1.8**
comp=Z,0.7nm,0.9s,baz=85,slow=4.6,SNR=3.8
MKAR PP **PP** **22 06 50.2 +2.8**
comp=Z,0.1nm,0.4s,baz=101,slow=7.5,SNR=2.5
MKAR PKKP **PKKPab** **22 17 52.5 +1.1**
comp=Z,0.6nm,1.0s,baz=270,slow=3.6,SNR=4.1
ARU Arti 122.66 324 *i* PKIKP **PKiKP** **22 06 55.2 +1.6**
ARU 22 08 36.1
ARU 22 14 04.0
ARU SP SP 22 18 26.2 +4.1
ARU SS **SS** **22 25 05.7 -5.5**
ARCES ARCESS Array B 128.37 347 PKP **PKPdf** **22 07 02.5 -1.5**
comp=Z,1.7nm,0.8s,baz=59,slow=3.1,SNR=3.6
KLMR Klimovskoe 130.18 334 *e*PKIKP PKPpre 22 07 00.4
KLMR pmax pmax
comp=Z,10.0nm,1.5s
KLMR Klimovskoe 130.18 334 *e*PKPdf PKPpre 22 07 00.5
KLMR AMP 22 07 21.6
comp=Z,10.0nm,1.4s
BRTR Keskin Array B 143.28 309 PKP **PKPdf** **22 07 31.4 -1.3**
comp=Z,2.1nm,1.1s,baz=17,slow=1.3,SNR=7.1
BRTR PP **PP** **22 10 45.0 +1.1**
comp=Z,0.4nm,0.8s,baz=36,slow=7.6,SNR=3.2
KWP Kalwaria Pacla 144.67 330 *e*PKPdf PKPbc 22 07 34.1 +0.6
KWP Kalwaria Pacla 144.67 330 *e*PKIKP PKPbc 22 07 34.1 +0.6
BUR08 Bucovina Ar. S 144.77 326 *e*PKPdf **PKPdf** **22 07 36.6 +1.6**
BURAR Bucovina Array 144.78 326⇓*i*P **PKPdf** **22 07 36.1 +1.1**
BURAR Bucovina Array 144.78 326⇓PKIKP **PKPdf** **22 07 36.1 +1.1**
CSS Mathiatis 144.88 301 *e*PKPdf **PKPdf** **22 07 35.2 -0.3**
OJC Ojcow 145.52 333 *e*PKP **PKPab** **22 07 36.8 +0.3**
OJC Ojcow 145.52 333 *e*PKPdf **PKPab** **22 07 37.7 +1.2**
OJC Ojcow 145.52 333 *e*PKIKP **PKPab** **22 07 37.7 +1.2**
UZH Uzhgorod 145.57 329 *e*PKHKP PKPpre 22 07 34.6
UZH *i* 22 07 40.0
UZH *e* 22 07 48.2
UZH *i* 22 07 54.7
MLR Muntele Rosu 145.67 322 *e*PKPdf **PKiKP** **22 07 39.9 -0.8**
MLR Muntele Rosu 145.67 322⇓*i*P **PKPab** **22 07 38.0 +0.7**
MLR Muntele Rosu 145.67 322⇓PKIKP **PKPab** **22 07 38.0 +0.7**
TRPA Tarpa 145.79 329⇑*i*P **PKPab** **22 07 37.8 +0.3**
VOIR 146.21 323⇑*i*P **PKiKP** **22 07 41.8 0.0**
VOIR 146.21 323⇑PKIKP **PKiKP** **22 07 41.8 0.0**
KSP Ksiaz 146.40 337 *e*PKP **PKPab** **22 07 39.4 -0.4**
KSP Ksiaz 146.40 337 *e*PKIKP **PKPab** **22 07 39.4 -0.4**
ARR Arges 146.48 323⇑*i*P **PKPbc** **22 07 39.6 +0.2**
OKC Ostrava-Krasne 146.50 334 *e*PKP **PKPab** **22 07 40.5 +0.3**
OKC Ostrava-Krasne 146.50 334 *e*PKP2 **PKPab** **22 07 40.5 +0.3**
DRGR 146.61 327⇑*i*P **PKPbc** **22 07 39.9 +0.2**
DRGR 146.61 327⇑⇓PKP2 **PKPbc** **22 07 39.9 +0.2**
UPC Upice 146.78 337 *e*PKP **PKPab** **22 07 41.6 +0.4**
UPC Upice 146.78 337 *e*PKP2 **PKPab** **22 07 41.6 +0.4**
MORC Moravsky Berou 146.79 335⇑*i*P **PKPbc** **22 07 40.7 +0.6**
MORC Moravsky Berou 146.79 335⇑PKP2 **PKPbc** **22 07 40.7 +0.6**
DPC Dobruska-Polom 146.79 337 *e*PKP **PKPab** **22 07 41.9 +0.5**
DPC Dobruska-Polom 146.79 337 *e*PKP2 **PKPab** **22 07 41.9 +0.5**
KRLC Kraliky 146.84 336 *e*PKP **PKPab** **22 07 41.9 +0.3**
KRLC Kraliky 146.84 336 *e*PKP2 **PKPab** **22 07 41.9 +0.3**
CLL Collm 147.10 341 *e*PKPdf **PKPbc** **22 07 41.1 +0.3**
CLL Collm 147.10 341 *e*PKPdf **PKPdf** **22 07 39.0 +0.3**
CLL *e*PKPbc **PKPab** **22 07 42.0 -0.4**
comp=Z,12nm,1.3s
CLL *i* PKiKP **PKiKP** **22 07 44.5 +1.2**
comp=Z,18nm,1.1s
CLL *e*pPKPbc **sPKPab** **22 07 55.0 +0.3**
CLL Collm 147.10 341 *e*PKIKP **PKPdf** **22 07 39.0 +0.3**
CLL *e* 22 07 42.0
CLL *i* 22 07 44.5
BRG Berggiesshubel 147.18 340 *e*PKP **PKPdf** **22 07 39.4 +0.5**
comp=Z,18nm,1.9s
BRG *e* 22 07 46.9
comp=Z,16nm,1.2s
BRG Berggiesshubel 147.18 340 *e*PKIKP **PKPdf** **22 07 39.4 +0.5**
BRG *e* 22 07 46.9
BRG pmax pmax
comp=Z,18nm,1.9s
BRG pmax pmax
comp=Z,16nm,1.2s
PSZ Piszkesteto 147.20 331 *e*PKPbc **PKPab** **22 07 42.7 -0.3**
PSZ Piszkesteto 147.20 331⇓*i*P **PKPab** **22 07 42.5 -0.6**
PSZ Piszkesteto 147.20 331 *e*PKP2 **PKPab** **22 07 42.7 -0.3**
VYHS Vyhne 147.24 332 *e*PKP2 **PKPab** **22 07 42.4 -0.7**
VYHS Vyhne 147.24 332 *e*PKP **PKPab** **22 07 42.4 -0.7**
PVCC Panska Ves 147.27 339 *e*PKP **PKiKP** **22 07 43.7 0.0**
PVCC Panska Ves 147.27 339 *e*PKP2 **PKiKP** **22 07 43.7 0.0**
JAVC Velka Javorina 147.46 334 *e*PKP **PKPab** **22 07 43.2 -0.8**
GZR Gura Zlata 147.49 325⇑*i*P **PKPab** **22 07 43.7 -0.6**
GZR Gura Zlata 147.49 325⇑PKIKP **PKPab** **22 07 43.7 -0.6**
VRAC Vranov 147.53 335⇑*i*P **PKPbc** **22 07 43.0 +0.8**
VRAC Vranov 147.53 335⇑PKP2 **PKPbc** **22 07 43.0 +0.8**
VRAC Vranov 147.53 335 *e*PKP **PKPbc** **22 07 42.1 -0.1**
GOPC GO Pecny, Ondr 147.71 338 *e*PKP **PKPbc** **22 07 43.0 +0.4**
GOPC GO Pecny, Ondr 147.71 338 *e*PKP2 **PKPbc** **22 07 43.0 +0.4**
PRU Pruhonice 147.73 338 *e*PKP **PKPbc** **22 07 42.1 -0.5**
PRU Pruhonice 147.73 338 *e*PKIKP **PKPbc** **22 07 42.1 -0.5**
KRUC Moravsky 147.81 335 *e*PKP **PKPbc** **22 07 42.7 -0.2**
BZS Buzias 147.96 326⇑*i*P **PKPbc** **22 07 42.0 -1.4**
BZS Buzias 147.96 326⇑PKIKP **PKPbc** **22 07 42.0 -1.4**
MODS Modra-Piesok 148.00 334 *e*PKP2 **PKPbc** **22 07 43.5 0.0**
MODS Modra-Piesok 148.00 334 *e*PKP **PKPbc** **22 07 43.5 0.0**
NKC Novy Kostel 148.21 341 *e*PKP **PKiKP** **22 07 45.0 -0.7**
NKC Novy Kostel 148.21 341 *e*PKP2 **PKiKP** **22 07 45.0 -0.7**
MDVR Moldovita 148.46 325⇑*i*P **PKPbc** **22 07 45.4 +0.6**
KHC Kasperske Hory 148.79 338 *e*PKPbc **PKiKP** **22 07 46.6 -0.4**
KHC Kasperske Hory 148.79 338 *e*PKP **PKPbc** **22 07 45.4 -0.1**
KHC *ex* x 22 07 49.3
KHC *e*pPKP **pPKPab** **22 07 59.1 +0.7**
KHC Kasperske Hory 148.79 338 *e*PKIKP **PKPbc** **22 07 45.4 -0.1**
KHC *e* 22 07 49.3
KHC *e* 22 07 59.1
VTS Vitosha 148.93 320 *e*PKPdf **PKPdf** **22 07 43.2 +1.0**
VTS Vitosha 148.93 320⇑*i*P **PKPdf** **22 07 43.1 +0.9**
VTS Vitosha 148.93 320 *e*PKIKP **PKPdf** **22 07 43.2 +1.0**
CONA Conrad Observa 148.93 335 *i* PKPbc **PKPbc** **22 07 44.4 -1.6**
comp=Z,17nm,1.2s
GERES GERESS Array B 148.99 338 PKPbc **PKPdf** **22 07 43.4 +1.3**
comp=Z,3.3nm,0.8s,baz=47,slow=2.5,SNR=11
GEA0 GERESS Array S 149.00 338 *e*PKPdf **PKPdf** **22 07 44.0 +1.9**
GRF Grafenberg Arr 149.06 341 *e*PKPdf **PKPbc** **22 07 45.0 -1.1**
baz=27,slow=1.9
MEM Membach 149.50 348⇓PKP **PKPab** **22 07 50.6 -1.4**
UCC Uccle 149.61 350⇑PKP **PKPbc** **22 07 47.0 -0.4**
ARSA Arzberg 149.61 334 *i* PKPdf **PKPdf** **22 07 41.9 -1.1**
comp=Z,7.1nm,1.4s
MOA Molln 149.62 336 *i* PKPbc **PKPbc** **22 07 45.9 -1.7**
comp=Z,18nm,1.4s
BCLA Clavier 149.81 349⇑PKP **PKPab** **22 07 52.0 -1.3**
DOU Dourbes 150.25 350⇑PKP **PKiKP** **22 07 52.3 +2.5**
DOU ⇑pPKP **sPKPbc** **22 08 00.7 -0.9**
SOKA Soboth 150.27 334 *i* PKPbc **PKPbc** **22 07 49.4 +0.1**
comp=Z,20nm,1.4s
WLF Walferdange 150.37 347 PKP2 **PKiKP** **22 07 51.7 +1.6**
WLF Walferdange 150.37 347⇑PKPbc **PKiKP** **22 07 50.9 +0.8**
WLF ⇑PKPab **pPKPdf** **22 07 53.6 +0.2**
WLF ⇑pPKPbc **pPKPbc** **22 07 59.6 +0.9**
OBKA Obir 150.60 334 *i* PKiKP **PKiKP** **22 07 50.6 -0.3**
comp=Z,18nm,1.2s
KBA Koelnbreinsper 150.61 336 *i* PKPbc **PKPdf** **22 07 47.1 +2.4**
comp=Z,16nm,1.2s
MYKA Terra Mystica 150.87 335 *i* PKPbc **PKPbc** **22 07 49.4 -1.3**
comp=Z,9.6nm,1.0s
WATA Walderalm 151.02 339 PKPbc **PKPbc** **22 07 50.5 -0.7**
comp=Z,5.0nm,0.6s
WTTA Wattenberg 151.06 339 *i* PKPdf **PKPdf** **22 07 46.3 +0.8**
comp=Z,14nm,1.2s
BFO Black Forest 151.11 344*c* *i* PKIKP **PKiKP** **22 07 52.2 +0.5**
FNA Florina 151.13 319 PKIKP **PKiKP** **22 07 53.0 +1.0**
RETA Reutte 151.16 340 *i* PKPbc **PKPbc** **22 07 49.8 -1.6**
comp=Z,9.3nm,1.4s
MOTA Moosalm 151.17 339 *i* PKPbc **PKPbc** **22 07 49.5 -2.0**
comp=Z,10nm,1.0s
ABTA Abfaltersbach 151.19 337 *i* PKPdf **PKPdf** **22 07 44.6 -0.9**
comp=Z,19nm,1.3s
SQTA Sankt Quirin 151.25 339 *i* PKPbc **PKPbc** **22 07 50.0 -1.7**
comp=Z,24nm,1.4s
FETA Feichten 151.58 339 *i* PKiKP **PKPbc** **22 07 52.5 +0.1**
comp=Z,8.7nm,1.1s
DAVA Damuels 151.61 341 *i* PKPdf **PKPdf** **22 07 47.0 +0.7**
comp=Z,11nm,1.5s
TORD Torodi Ar. Bea 170.81 213 PKPab **PKPab** **22 09 22.7 -2.4**
comp=Z,0.4nm,0.8s,baz=186,slow=1.7,SNR=2.6

KRSC 30 22:10:11.0±10.0**, 50.74N**×**157.71E, h41**km±10km**, ML3.9,**
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.92**	**323**	*e*P		Pn	22 10 29.0	+1.6
PAU				*e*S		Sn	22 10 41.5	+2.1
SKR	**Severo-Kuril's**	**1.01**	**267**	*e*P		Pn	22 10 29.1	+0.5
SKR				*e*S		Sn	22 10 42.0	+0.3
KDTR	**Khodutka, Kamc**	**1.09**	**12**	*e*P		Pn	22 10 30.8	+1.0
KDTR				*e*S		Sn	22 10 45.3	+1.6
ASAK	**Asacha**	**1.65**	**4**	*e*P		Pn	22 10 39.4	+1.9
RUS	**Russkaya**	**1.77**	**16**	*e*P		Pn	22 10 40.0	+1.0
RUS				*e*S		Sn	22 11 01.4	+1.1
MTVR	**Mutnovka**	**1.77**	**9**	*e*P		Pn	22 10 41.2	+2.0
MTVR				*e*S		Sn	22 11 03.2	+2.6
KRMR	**Karymshinskiy**	**2.11**	**7**	*e*P		Pn	22 10 46.7	+3.0
KRMR				*e*S		Sn	22 11 12.4	+3.7
APC	**Apacha**	**2.21**	**351**	*e*P		Pn	22 10 47.8	+2.7
PET	**Petropavlovsk**	**2.36**	**14**	*e*P		Pn	22 10 50.0	+2.8
PET				*e*S		Sn	22 11 17.8	+2.9

DALK	**Dalny**	**2.38**	**15**	*e*P	Pn	22 10 49.5	+2.0
DALK				*e*S	Sn	22 11 17.4	+2.0
UGLR	**Uglovaya**	**2.57**	**15**	*e*P	Pn	22 10 53.3	+3.2
AVH	**Avacha**	**2.61**	**14**	*e*P	Pn	22 10 53.9	+3.3
AVH				*e*S	Sn	22 11 25.2	+4.1
SMAR	**Somma**	**2.62**	**15**	*e*P	Pn	22 10 54.9	+4.0
KOK	**Koryaka**	**2.62**	**12**	*e*P	Pn	22 10 53.9	+3.1
KOK				*e*S	Sn	22 11 25.3	+3.9
SDLR	**Sedlovina**	**2.64**	**16**	*e*P	Pn	22 10 53.0	+1.8
KRER	**Koryakskii**	**2.65**	**14**	*e*P	Pn	22 10 54.5	+3.2
KRER				*e*S	Sn	22 11 26.7	+4.5
KRX	**Arik**	**2.69**	**12**	*e*P	Pn	22 10 55.5	+3.7
SPN	**Mys Shipunski**	**2.76**	**30**	*e*S	Sn	22 11 28.3	+3.5

IDC 30 22:14:29.1±6.8, 21°58S×179°94E, h661km±84km, mb3.1/4, mb1 3.3/5, mb1mx2.9/27, mbtmp4.2/5, Error ellipse: s-maj=106.5km s-min=44.1km az=159.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.55**	**265**	P	P	22 17 14.6	+1.8
	0.4nm,0.3s,baz=76,slow=17,SNR=10						
STKA	**Stephens Creek**	**35.59**	**245**	P	P	22 20 33.8	-0.8
	2.0nm,0.5s,baz=94,slow=13,SNR=5.6						
ASAR	**Alice Springs**	**42.41**	**258**	P	P	22 21 29.4	+0.3
	4.8nm,0.8s,baz=99,slow=8.2,SNR=68						
WRA	**Warramunga Arr**	**42.56**	**264**	P	P	22 21 30.1	0.0
	1.7nm,0.3s,baz=96,slow=7.9,SNR=56						
TXAR	**Lajitas Array**	**89.25**	**58**	P	P	22 26 17.2	-0.1
	0.4nm,0.9s,baz=218,slow=5.7,SNR=3.7						
AKASG	**Malin Array Be**	**142.98**	**329**	PKP	PKPdf	22 32 49.1	-0.2
	0.2nm,0.3s,baz=36,slow=3.7,SNR=2.3						

IDC 30 22:24:57.2±2.9, 0°57S×98°42E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.2/40, mbtmp3.3/4, ML2.8/1, Error ellipse: s-maj=100.3km s-min=24.7km az=62.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.39**	**9**	Pn	Pn	22 25 51.3	-0.2
	0.9nm,0.3s,baz=172,slow=18,SNR=3.9						
H08S2	**Diego Garcia H**	**26.78**	**254**	T	T	22 58 25.7	
	baz=75,slow=75,SNR=39						
H08S3	**Diego Garcia H**	**26.78**	**254**	T	T	22 58 24.9	
	baz=75,slow=75,SNR=51						
H08S1	**Diego Garcia H**	**26.79**	**254**	T	T	22 58 25.9	
	baz=75,slow=75,SNR=28						
WRA	**Warramunga Arr**	**40.08**	**121**	P	P	22 32 34.5	-0.2
	0.5nm,0.6s,baz=303,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**41.37**	**126**	P	P	22 32 45.3	-0.1
	0.3nm,0.6s,baz=302,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**49.25**	**345**	P	P	22 33 47.1	-0.5
	0.2nm,0.6s,baz=149,slow=8.5,SNR=3.9						

IDC 30 22:34:00.3±2.4, 6°07S×130°08E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, ML2.9/2, Error ellipse: s-maj=165.5km s-min=30.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.40**	**164**	Pn	Pn	22 37 25.1	-0.5
	0.1nm,0.3s,baz=347,slow=14,SNR=3.6						
WRA				Sn	Sn	22 39 51.8	-14
	0.2nm,0.3s,baz=334,slow=24,SNR=6.8						
ASAR	**Alice Springs**	**17.88**	**169**	P	Pn	22 38 10.8	+0.1
	0.0nm,0.3s,baz=343,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**67.49**	**327**	P	P	22 44 58.3	0.0
	0.3nm,0.3s,baz=128,slow=7.0,SNR=9.5						

IDC 30 22:42:12.7±3.3, 7°59S×128°19E, h142km±44km, mb2.7/1, mb1 3.2/5, mb1mx3.0/33, mbtmp3.5/5, Error ellipse: s-maj=66.6km s-min=21.4km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**7.34**	**25**	P	Pn	22 43 57.6	+0.2
	0.9nm,0.3s,baz=233,slow=20,SNR=4.3						
SIJI				S	Sn	22 45 17.7	-1.7
	0.4nm,0.3s,baz=221,slow=19,SNR=2.2						
FITZ	**Fitzroy Crossi**	**10.74**	**193**	P	Pn	22 44 42.9	+0.2
	0.4nm,0.3s,baz=20,slow=11,SNR=14						
FITZ				S	Sn	22 46 36.2	-5.1
	0.3nm,0.3s,baz=338,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**13.65**	**155**	P	Pn	22 45 18.7	-1.8
	0.4nm,0.3s,baz=331,slow=12,SNR=18						
WRA				S	Sn	22 47 41.4	-10
	0.2nm,0.3s,baz=332,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**16.90**	**162**	P	Pn	22 46 02.0	+1.1
	0.3nm,0.3s,baz=338,slow=11,SNR=17						
ASAR				S	S	22 49 00.8	-8.6
	0.1nm,0.3s,baz=345,slow=24,SNR=3.0						
MKAR	**Makanchi Array**	**67.75**	**328**	P	P	22 52 54.9	-0.1
	0.1nm,0.4s,baz=120,slow=7.3,SNR=3.1						

*JMA **30** 22:43:20.8±0.2, 36°33N×142°26E, h42km, M2.8*
*ISCJB **30** 22:43:21.1±1.2, 36°38N±0°06×142°18E±0°09, h19km, mb3.4/3, Error ellipse: s-maj=10.5km s-min=8.5km az=9.8*
*IDC **30** 22:43:21.7±2.9, 36°38N×142°00E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.2/46, mbtmp3.4/4, ML2.1/1, Error ellipse: s-maj=76.0km s-min=29.1km az=59.0*
ISC 30 22:43:23.8±1.5, 36°43N±0°07×142°06E±0°10, h19km, n18, σ1§07/16, mb3.4/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.19**	**266**	P	**Pn**	**22 43 43.9**	**-1.6**
JHYU				S	**Sb**	**22 44 01.1**	**+0.3**
JHO	**Hitachi**	**1.22**	**279**	P	**Pn**	**22 43 44.2**	**-1.6**
ONAJ	**Iwakimizuishiy**	**1.22**	**304**	P	**Pn**	**22 43 44.6**	**-1.3**
JFT	**Otama**	**1.76**	**309**	P	**Pn**	**22 43 53.2**	**-0.1**
JFT				S	**Sb**	**22 44 17.6**	**+0.4**
JMM	**Marumori**	**1.76**	**325**	P	**Pn**	**22 43 52.0**	**-1.3**
JMM				S	**Sn**	**22 44 15.3**	**+0.2**
JAG	**Ashikaga**	**2.10**	**271**	P	**Pn**	**22 43 57.0**	**-1.0**
JIO	**Ouri**	**2.10**	**345**	S	**Sn**	**22 44 22.9**	**-0.7**
JRY	**Ryogami san**	**2.59**	**262**	P	**Pn**	**22 44 03.3**	**-1.4**
MJAR	**Matsushiro Arr**	**3.11**	**273**	Pn	**Pn**	**22 44 11.1**	**-0.7**
MJAR				Sn	**Sn**	**22 44 49.2**	**+0.8**
	baz=125,slow=20,SNR=2.9						
H11N2	**WAKE ISLAND Hy**	**27.39**	**121**	T	T	23 17 34.8	
	baz=312						
H11N1	**WAKE ISLAND Hy**	**27.40**	**121**	T	T	23 17 31.1	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.41**	**121**	T	T	23 17 34.2	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.09**	**123**	T	T	23 18 31.0	
	baz=314						
H11S3	**WAKE ISLAND Hy**	**28.09**	**123**	T	T	23 18 25.6	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.11**	**123**	T	T	23 18 37.0	
	baz=314						
SONM	**Songino Array**	**28.56**	**305**	P	**P**	**22 49 18.3**	**-0.2**
	0.5nm,0.7s,baz=98,slow=7.9,SNR=3.2						
MKAR	**Makanchi Array**	**44.88**	**303**	P	**P**	**22 51 38.3**	**+1.3**
	0.4nm,0.6s,baz=83,slow=9.6,SNR=6.5						
WRA	**Warramunga Arr**	**56.54**	**189**	P	**P**	**22 53 05.4**	**+0.4**
	0.4nm,1.1s,baz=5.2,slow=8.3,SNR=3.0						

JIHU	**Itakohorinouch**	**1.42**	**260**	P	**Pb**	**22 56 08.4**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.45**	**307**	P	**Pn**	**22 56 07.3**	**-1.1**
BSO1	**Boso 1**	**1.89**	**214**	P	**Pb**	**22 56 15.4**	**-1.0**
JFT	**Otama**	**2.00**	**311**	P	**Pn**	**22 56 15.9**	**+0.1**
JMM	**Marumori**	**2.00**	**325**	P	**Pn**	**22 56 14.7**	**-1.2**
BSO3	**Boso 3**	**2.01**	**225**	P	**Pb**	**22 56 17.2**	**-1.5**
BSO3				S	**Sb**	**22 56 42.9**	**-0.5**
JAG	**Ashikaga**	**2.26**	**276**	P	**Pn**	**22 56 19.3**	**-0.2**
JAG				S	**Sn**	**22 56 45.3**	**-1.8**
JRY	**Ryogami san**	**2.72**	**266**	P	**Pn**	**22 56 25.9**	**+0.2**
JOD2	**Odawara 2**	**2.74**	**250**	P	**Pn**	**22 56 27.1**	**+1.0**
MJAR	**Matsushiro Arr**	**3.27**	**277**	Pn	**Pn**	**22 56 33.3**	**-0.1**
MJAR	0.6nm,0.3s,baz=96,slow=8.4,SNR=35						
				Sn	**Sn**	**22 57 13.2**	**+1.2**
	0.2nm,0.3s,baz=73,slow=18,SNR=4.3						
MAT	**Matsushiro**	**3.27**	**277**	P	**Pn**	**22 56 34.7**	**+1.3**
MAT				S	**Sn**	**22 57 12.8**	**+0.7**
JHJ	**Hachijo jima 2**	**3.71**	**214**	Pn	**Pn**	**22 56 40.4**	**+1.0**
JHJ	18nm,0.3s,baz=56,slow=15,SNR=5.9						
				Sn	**Sn**	**22 57 21.0**	**-1.8**
	9.3nm,0.3s,baz=52,slow=19,SNR=2.7						
ASAJ	**Asahikawa**	**7.88**	**2**	LR	LR	23 00 43.9	
	comp=Z,39nm,18.0s,baz=115,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.16**	**121**	T	T	23 29 49.7	
	baz=312,slow=74,SNR=9.7						
H11N1	**WAKE ISLAND Hy**	**27.17**	**121**	T	T	23 29 57.7	
	baz=312,slow=74,SNR=5.9						
H11N3	**WAKE ISLAND Hy**	**27.18**	**121**	T	T	23 29 59.7	
	baz=312,slow=74,SNR=5.6						
H11S1	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	23 30 53.9	
	baz=314,slow=76,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**27.86**	**123**	T	T	23 30 45.0	
	baz=314,slow=76,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**27.88**	**123**	T	T	23 30 50.8	
	baz=314,slow=76,SNR=4.2						
SONM	**Songino Array**	**28.79**	**305**	P	**P**	**23 01 40.3**	**+0.3**
	0.7nm,0.7s,baz=113,slow=8.7,SNR=6.4						
MKAR	**Makanchi Array**	**45.11**	**303**	P	**P**	**23 04 00.7**	**+2.5**
	0.6nm,0.5s,baz=87,slow=9.8,SNR=6.7						
WRA	**Warramunga Arr**	**56.37**	**189**	P	**P**	**23 05 23.1**	**0.0**
	0.3nm,0.9s,baz=4.9,slow=7.4,SNR=3.2						
WRA				LR	LR	23 28 33.0	
	comp=Z,43nm,21.4s,baz=180,slow=35						
YKA	**Yellowknife Ar**	**64.16**	**30**	P	**P**	**23 06 15.8**	**-0.3**
	0.1nm,0.4s,baz=306,slow=5.8,SNR=2.9						

IDC 30 23:00:00.9±1.6, 11°47S×164°85E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/29, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=49.5km s-min=30.2km az=125.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.66**	**172**	Pn	Pn	23 02 35.4	+0.4
	0.1nm,0.3s,baz=315,slow=20,SNR=4.0						
H11S2	**WAKE ISLAND Hy**	**29.82**	**4**	T	T	23 37 29.7	
	baz=184,slow=76,SNR=4.7						
H11S3	**WAKE ISLAND Hy**	**29.83**	**4**	T	T	23 37 30.3	
	baz=184,slow=76,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**29.84**	**4**	T	T	23 37 34.4	
	baz=184,slow=76,SNR=6.7						
WRA	**Warramunga Arr**	**30.51**	**250**	P	P	23 06 15.8	-0.4
	0.4nm,0.8s,baz=82,slow=8.3,SNR=3.7						
H11N1	**WAKE ISLAND Hy**	**31.05**	**4**	T	T	23 39 00.6	
	baz=181						
H11N3	**WAKE ISLAND Hy**	**31.05**	**4**	T	T	23 39 00.2	
	baz=181						
H11N2	**WAKE ISLAND Hy**	**31.07**	**4**	T	T	23 39 06.0	
	baz=181						
ASAR	**Alice Springs**	**31.82**	**243**	P	P	23 06 27.6	0.0
	0.3nm,0.7s,baz=72,slow=9.1,SNR=5.0						
ILAR	**Eielson Array**	**84.19**	**19**	P	P	23 12 33.5	-0.3
	0.3nm,0.7s,baz=237,slow=5.7,SNR=3.4						
MKAR	**Makanchi Array**	**93.22**	**317**	P	P	23 13 18.1	+0.6
	0.6nm,0.8s,baz=103,slow=5.4,SNR=5.8						

MEX 30 23:15:11.6±0.6, 16°32N×98°18W, h13km±1km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.09**	**32**	*i* P	Pg	23 15 13.2	-1.3
PNIG				*i* S	Sg	23 15 16.0	-0.6
TLIG	**Tlapa**	**1.29**	**343**	*i* P	Pn	23 15 31.7	-3.8
TLIG				*e*S	Sb	23 15 47.4	-5.1
VHO	**Vista Hermosa**	**1.57**	**61**	*i* P	Pn	23 15 36.7	-2.7
VHO				*e*S	Sn	23 15 54.0	-5.7
CAIG	**El Cayaco**	**2.13**	**290**	*e*P	Pn	23 15 43.5	-3.5
CAIG				*e*S	Sn	23 16 08.8	-4.5
TPIG	**Tehuac#an**	**2.23**	**20**	*e*P	Pn	23 15 46.0	-2.5
TPIG				*e*S	Sn	23 16 11.6	-4.4
YAIG	**Yautepec**	**2.67**	**342**	*e*P	Pn	23 15 51.4	-3.1
YAIG				*i* S	Sn	23 16 22.5	-4.3
PPM	**Popocatepetl**	**2.77**	**351**	*i* P	Pn	23 15 52.4	-3.8
PPM				*i* S	Sn	23 16 25.3	-4.4
ARIG	**Puente Sto Nin**	**2.85**	**314**	*i* P	Pn	23 15 54.2	-2.6
ARIG				*i* S	Sn	23 16 27.0	-4.0

MEX 30 23:20:30.4±0.5, 18°68N×102°72W, h32km±7km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.71**	**237**	*i* P	Pn	23 20 42.4	-1.9
MMIG				*i* S	Sb	23 20 51.0	-3.0
R15V		**1.29**	**292**	*e*P	Pn	23 20 50.5	-1.8
R15V				*i* S	Sn	23 21 05.6	-3.0
ZIIG	**Zihuatanejo**	**1.60**	**132**	*i* P	Pn	23 20 54.6	-1.9
ZIIG				*e*S	Sn	23 21 13.2	-2.9
MOIG	**Morelia**	**1.75**	**55**	*e*P	Pn	23 20 56.7	-2.1
MOIG				*i* S	Sn	23 21 17.2	-2.9
ARIG	**Puente Sto Nin**	**2.28**	**100**	*e*P	Pn	23 21 04.3	-1.6
ARIG				*i* S	Sn	23 21 30.3	-2.7

MAN 30 23:48:52.5, 6°13N×124°40E, h31km, MS4.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.41**	**21**	*e*P	Pb	23 48 59.8	-1.9
SKMP				*e*S	Sb	23 49 07.6	-0.4
KCP	**Kidapawan**	**1.11**	**38**	*i*P	Pn	23 49 11.9	-0.1
DDMP	**Don Marcelino,**	**1.31**	**91**	*e*P	Pn	23 49 14.7	0.0
BUKP	**Musuan**	**1.86**	**21**	*e*P	Pn	23 49 22.6	+0.3

KRSC 31 00:14:28.0±10.0, 50°72N×160°16E, h49km±10km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**1.70**	**311**	*e*P	Pn	00 14 57.4	+2.2
KDTR				*e*S	Sn	00 15 18.7	+2.9
RUS	**Russkaya**	**2.00**	**330**	*e*P	Pn	00 15 01.1	+1.8
RUS				*e*S	Sn	00 15 25.5	+2.4
MTVR	**Mutnovka**	**2.15**	**326**	*e*P	Pn	00 15 03.4	+1.9
MTVR				*e*S	Sn	00 15 29.2	+2.1
PAU	**Pauzhetka**	**2.24**	**291**	*e*S	Sn	00 15 32.5	+3.5
DALK	**Dalny**	**2.47**	**340**	*e*S	Sn	00 15 38.3	+3.6
SKR	**Severo-Kuril's**	**2.57**	**271**	*e*S	Sn	00 15 40.1	+3.0
UGLR	**Uglovaya**	**2.62**	**342**	*e*P	Pn	00 15 11.2	+3.2
SDLR	**Sedlovina**	**2.68**	**343**	*e*P	Pn	00 15 11.2	+2.5
SMAR	**Somma**	**2.68**	**342**	*e*P	Pn	00 15 11.8	+3.0
AVH	**Avacha**	**2.69**	**342**	*e*P	Pn	00 15 12.4	+3.5
KRER	**Koryakskii**	**2.73**	**342**	*e*P	Pn	00 15 13.3	+3.8
KOK	**Koryaka**	**2.74**	**341**	*e*P	Pn	00 15 13.4	+3.8
KZV	**Kizimen**	**4.40**	**1**	*e*P	Pn	00 15 35.8	+3.4
TUMR	**Tumrok**	**4.57**	**360**	*e*P	Pn	00 15 37.8	+3.2

*IDC **31** 00:29:21.4±5.2, 37°13N×71°43E, h91km±31km, mb3.1/3, mb1 3.3/9, mb1mx3.1/67, mbtmp3.6/9, Error ellipse: s-maj=62.1km s-min=22.9km az=149.0*
*NNC **31** 00:29:28.9±2.8, 37°68N×71°38E, h192km±34km, mb2.8, mpv3.8, Error ellipse: s-maj=25.9km s-min=15.9km az=23.0*
ISC 31 00:29:27.1±1.6, 37°5N±0°1×71°10E±0°08, h150km, n22, σ1§58/27, 7C-3D, Afghanistan-Tajikistan border region

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

AML	**Almayashu**	**5.00**	**23**	P	**Pn**	**00 30 40.0**	**-0.8**
	SNR=34						
UCH	**Uchtor**	**5.37**	**28**	P	**Pn**	**00 30 44.7**	**-1.1**
	SNR=12						
KZA	**Kyzart**	**5.55**	**34**	P	**Pn**	**00 30 46.2**	**-1.8**
	SNR=8.1						
KK31	**Karatay Array**	**5.58**	**356**	⇑P	**Pn**	**00 30 49.3**	**+1.3**
	5.8nm,0.5s,baz=178,slow=13,SNR=102						
KK31				⇑S	**Sn**	**00 31 52.7**	**+1.3**
	1.4nm,0.4s,baz=169,slow=17,SNR=4.6						
AAK	**Ala-Archa**	**5.72**	**26**	P	**Pn**	**00 30 49.6**	**-0.5**
	SNR=18						
AAK	**Ala-Archa**	**5.72**	**26**	⇓P	**Pn**	**00 30 49.1**	**-1.0**
	6.0nm,0.5s						
AAK				⇑S	**Sn**	**00 31 54.4**	**-0.7**
	6.6nm,0.9s						
AAK	**Ala-Archa**	**5.72**	**26**	P	**Pn**	**00 30 49.4**	**-0.7**
	3.4nm,0.3s,baz=185,slow=7.7,SNR=59						
AAK				S	**Sn**	**00 31 54.0**	**-1.0**
	0.5nm,0.3s,baz=315,slow=23,SNR=7.9						
CHMS	**Chumysh**	**6.13**	**26**	P	**Pn**	**00 30 55.0**	**-0.4**
	SNR=5.4						
USP	**Ospenovka**	**6.28**	**23**	P	**Pn**	**00 30 57.3**	**-0.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**6.38**	**31**	P	**Pn**	**00 30 57.7**	**-1.3**
	SNR=7.0						
TKM2	**Tokmak 2**	**6.38**	**31**	⇑P	**Pn**	**00 30 57.4**	**-1.6**
	3.8nm,0.5s						
TKM2				⇓S	**Sn**	**00 32 08.8**	**-2.2**
	1.1nm,0.5s						
GEYT	**Alibeck**	**10.29**	**276**	P	**Pn**	**00 31 49.2**	**-1.7**
	0.5nm,0.3s,baz=95,slow=12,SNR=7.0						
GEYT				S	**Sn**	**00 33 42.3**	**-2.4**
	0.5nm,0.3s,baz=128,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**12.42**	**38**	P	**Pn**	**00 32 16.9**	**-1.7**
	0.1nm,0.3s,baz=225,slow=14,SNR=7.7						
KURBB	**Kurchatov Arra**	**14.12**	**20**	P	**P**	**00 32 44.2**	**+0.9**
	0.1nm,0.3s,baz=207,slow=10.0,SNR=4.9						
AB31	**Akbulak array**	**14.22**	**329**	⇑P	**Pn**	**00 32 42.0**	**+0.4**
	0.3nm,0.3s,baz=143,slow=12,SNR=24						
AB31				⇑S	**Sn**	**00 35 18.0**	**-1.2**
	1.3nm,0.8s,baz=153,slow=23,SNR=6.8						
BVAR	**Borovoye Array**	**15.50**	**358**	P	**P**	**00 32 59.3**	**+0.7**
	0.3nm,0.3s,baz=157,slow=12,SNR=6.0						
AKTO	**Aktyubinsk**	**15.93**	**328**	⇑P	**P**	**00 33 04.7**	**+1.4**
	3.7nm,0.7s						
AKTO				⇓S	**S**	**00 35 59.0**	**-1.3**
	1.6nm,1.1s						
AKTO	**Aktyubinsk**	**15.93**	**328**	P	**P**	**00 33 06.9**	**+3.5**
	0.4nm,0.3s,baz=139,slow=11,SNR=8.0						
ZALV	**Zalesovo Beam**	**18.94**	**26**	P	**Pn**	**00 33 37.6**	**-1.1**
	0.2nm,0.3s,baz=215,slow=12,SNR=4.6						
HFS	**Hagfors**	**42.30**	**321**	P	P	00 37 10.4	+4.9
	1.0nm,0.5s,baz=118,slow=12,SNR=4.3						
NOA	**NORSAR Array B**	**43.60**	**322**	P	P	00 37 19.9	+3.8
	0.7nm,0.8s,baz=110,slow=7.6,SNR=3.3						
YKA	**Yellowknife Ar**	**80.21**	**3**	P	**P**	**00 41 23.0**	**+2.7**
	0.1nm,0.4s,baz=347,slow=5.4,SNR=4.0						

*IDC **31** 00:42:17.3±0.9, 16°62S×174°71W, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/38, mbtmp3.9/7, MS3.7/12, Ms1 3.7/12, ms1mx3.5/30, Error ellipse: s-maj=46.2km s-min=21.5km az=137.0*
ISC 31 00:42:35.7±0.8, 17°0S±0°2×174°6W±0°2, h150km, n43, σ2§40/27, mb3.4/7, 6C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**18.51**	**251**	*e*LR	LR	00 51 15.4	
	comp=Z,606nm,25.7s						
DZM	**Mont Dzumac**	**18.51**	**251**	LR	LR	00 52 37.5	
	comp=Z,258nm,21.5s,baz=1.5,slow=33						
URZ	**Urewera**	**22.35**	**197**	P	**P**	**00 47 20.5**	**-0.8**
	4.5nm,0.8s,baz=81,slow=16,SNR=3.4						
PPT2	**Papeete2**	**23.93**	**95**	*e*LR	LR	00 53 13.5	
	comp=Z,357nm,27.0s						
PPT	**Papeete**	**23.93**	**95**	LR	LR	00 54 08.3	
	comp=Z,132nm,20.9s,baz=309,slow=30						
TBI	**Tubuai**	**24.43**	**109**	*e*LR	LR	00 53 41.4	
	comp=Z,450nm,28.2s						
HNR	**Honiara**	**25.85**	**284**	LR	LR	00 56 11.9	
	comp=Z,486nm,21.6s,baz=128,slow=32						
H11N3	**WAKE ISLAND Hy**	**40.78**	**333**	T	T	01 33 02.0	
	baz=152,slow=76,SNR=4.2						
H11N1	**WAKE ISLAND Hy**	**40.78**	**333**	T	T	01 33 02.4	
	baz=152,slow=76,SNR=7.9						
H11N2	**WAKE ISLAND Hy**	**40.80**	**333**	T	T	01 33 04.6	
	baz=152,slow=76,SNR=6.2						
STKA	**Stephens Creek**	**42.20**	**241**	LR	LR	01 05 33.8	
	comp=Z,65nm,18.2s,baz=27,slow=33						
WRA	**Warramunga Arr**	**48.33**	**258**	P	**P**	**00 51 01.4**	**-1.1**
	0.5nm,0.9s,baz=93,slow=6.8,SNR=3.0						
ASAR	**Alice Springs**	**48.49**	**253**	P	**P**	**00 51 02.0**	**-1.6**
	5.4nm,0.8s,baz=86,slow=8.5,SNR=54						
ASAR				LR	LR	01 10 35.8	
	comp=Z,163nm,19.1s,baz=97,slow=35						
MJAR	**Matsushiro Arr**	**69.44**	**321**	LR	LR	01 18 03.5	
	comp=Z,23nm,21.9s,baz=5.0,slow=31						
NVAR	**Mina Array Bea**	**76.33**	**42**	LR	LR	01 20 28.7	
	comp=Z,89nm,19.7s,baz=299,slow=30						
KSRS	**Korea Array**	**76.50**	**316**	LR	LR	01 25 13.3	
	comp=Z,28nm,18.2s,baz=27,slow=34						
TXAR	**Lajitas Array**	**82.51**	**56**	P	**P**	**00 54 42.5**	**+0.5**
	0.5nm,0.9s,baz=205,slow=2.6,SNR=5.2						
TXAR				LR	LR	01 24 00.5	
	comp=Z,34nm,19.3s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**84.27**	**42**	P	**P**	**00 54 48.1**	**-2.8**
	0.4nm,0.9s,baz=228,slow=3.5,SNR=2.8						
PDAR				LR	LR	01 27 55.8	
	comp=Z,64nm,18.5s,baz=290,slow=33						
ILAR	**Eielson Array**	**84.28**	**12**	P	**P**	**00 54 48.5**	**-1.6**
	1.5nm,1.1s,baz=223,slow=7.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**92.00**	**289**	LR	LR	01 32 17.4	
	comp=Z,22nm,19.4s,baz=160,slow=33						
YKA	**Yellowknife Ar**	**92.07**	**24**	P	**P**	**00 55 26.5**	**-0.9**
	0.3nm,0.9s,baz=243,slow=5.2,SNR=4.9						
BRDH	**Bariadhala**	**99.73**	**291**	LR	LR	01 42 25.2	
	comp=Z,35nm,18.2s,baz=154,slow=36						
BURAR	**Bucovina Array**	**145.41**	**336**	*i*P	PKiKP	01 02 08.8	+8.8
MORC	**Moravsky Berou**	**145.89**	**346**	⇑*i*P	**PKiKP**	**01 02 03.0**	**+2.1**
MORC	**Moravsky Berou**	**145.89**	**346**	*eP*	**PKiKP**	**01 02 02.6**	**+1.7**
TRPA	**Tarpa**	**145.95**	**339**	⇓*i*P	**PKiKP**	**01 02 02.4**	**+1.5**
CFR	**Carcaliu**	**146.07**	**331**	⇓*i*P	**PKiKP**	**01 02 03.9**	**+2.6**
PLOR	**Plostina**	**146

BJI ***31*** *00:49:31.5,21.15N×122.08E,h17km,mb4.2/16,mB4.5/11, ML4.3/2,Ms4.0/5,Ms7 3.7/3*
NEIC ***31*** *00:49:41.3±2.5,20.90N×121.89E,h145km±24km, mb4.4/14,Error ellipse: s-maj=14.2km s-min=5.8km az=69.0*
NEIC Recorded [2 TAP] in Taitung and [1 TAP] in Chiayi and Yunlin, Taiwan.
JMA ***31*** *00:49:43.3±0.4,21.09N×121.87E,h141km,M4.2*
ISCJB ***31*** *00:49:43.3±0.2,21.20N±0.02×121.87E±0.03, h164km±2km,mb4.3/39,Error ellipse: s-maj=3.9km s-min=3.3km az=10.8*
TAP ***31*** *00:49:43.1,21.18N×121.98E,h162km,ML5.5,D*
IDC ***31*** *00:49:44.6±0.7,20.99N×122.05E,h180km±6km,mb3.8/19, mb1 3.9/22,mb1mx3.8/40,mbtmp4.3/22,MS3.4/1, Ms1 3.4/1,ms1mx2.6/41,Error ellipse: s-maj=14.4km s-min=8.4km az=77.0*
ISC 31 00:49:43.8±0.5,21.09N±0.04×121.95E±0.04,h169km±4km, n218,σ2≤35/309,mb4.2/39,59C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.01**	**338**	⇑	*i*	**P**	**Pn**	**00 50 08.3**	**-2.2**
	baz=336								
LAY				S			**Sn**	**00 50 27.4**	**-3.9**
	baz=336								
TSEB	**Hengchuen, Pin**	**1.27**	**310**	⇑	*i*	**P**	**Pn**	**00 50 11.9**	**-0.8**
	baz=301								
TSEB				S			**Sn**	**00 50 33.1**	**-1.8**
	baz=301								
TWKBT	**Hengchun**	**1.36**	**309**	⇑		**P**	**Pn**	**00 50 12.3**	**-1.1**
	baz=302								
TWKBT				S			**Sn**	**00 50 32.6**	**-3.8**
	baz=302								
TWK1	**Hengchun**	**1.36**	**309**	⇑	*i*	**P**	**Pn**	**00 50 12.3**	**-1.2**
	baz=302								
TWK1					*i*	S	**Sn**	**00 50 33.4**	**-3.2**
	baz=302								
HEN	**Hengchun**	**1.45**	**309**	⇑	*i*	**P**	**Pn**	**00 50 13.2**	**-1.1**
	baz=299								
HEN					*e*	S	**Sn**	**00 50 34.6**	**-3.4**
	baz=299								
TAW	**Tawu**	**1.60**	**322**	⇑	*i*	**P**	**Pn**	**00 50 13.8**	**-2.0**
	baz=323								
TAW				S			**Sn**	**00 50 36.6**	**-4.0**
	baz=323								
EAST	**Anshuo**	**1.65**	**322**	⇑	*i*	**P**	**Pn**	**00 50 14.5**	**-1.8**
	baz=319								
EAST				S			**Sn**	**00 50 37.9**	**-3.7**
	baz=319								
ECL	**Taimali**	**1.76**	**328**	⇑	*i*	**P**	**Pn**	**00 50 15.2**	**-2.3**
	baz=322								
ECL				S			**Sn**	**00 50 38.6**	**-5.1**
	baz=322								
SCZT	**Fangliau**	**1.78**	**316**	⇑	*i*	**P**	**Pn**	**00 50 16.2**	**-1.5**
	baz=319								
SCZT				S			**Sn**	**00 50 39.7**	**-4.3**
	baz=319								
TTN	**Taitung**	**1.82**	**336**	⇑	*i*	**P**	**Pn**	**00 50 16.9**	**-1.1**
	baz=329								
TTN				S			**Sn**	**00 50 42.7**	**-2.0**
	baz=329								
SSPT	**Xinbi**	**1.89**	**317**	⇑		**P**	**Pn**	**00 50 17.9**	**-1.0**
	baz=318								
SSPT					*e*	S	**Sn**	**00 50 43.4**	**-2.7**
	baz=318								
TWGBT	**Beinan**	**1.90**	**335**	⇑		**P**	**Pn**	**00 50 16.8**	**-2.2**
	baz=328								
TWGBT				S			**Sn**	**00 50 41.3**	**-5.1**
	baz=328								
TWG	**Pinlang**	**1.91**	**335**	⇑	*i*	**P**	**Pn**	**00 50 16.8**	**-2.2**
	baz=328								
TWG				S			**Sn**	**00 50 41.4**	**-5.0**
	baz=328								
WLCH	**Liuqiu**	**1.93**	**311**	⇑		**P**	**Pn**	**00 50 19.3**	**+0.1**
	baz=308								
WLCH					*e*	S	**Sn**	**00 50 46.0**	**-0.8**
	baz=308								
TWP	**Hsiaoliuchiu**	**1.94**	**310**	⇑		**P**	**Pn**	**00 50 19.3**	**-0.1**
	baz=308								
TWP					*e*	S	**Sn**	**00 50 45.9**	**-1.1**
	baz=308								
MASBT	**Mashibuluo**	**1.95**	**321**	⇑		**P**	**Pn**	**00 50 18.2**	**-1.4**
	baz=319								
MASBT					*e*	S	**Sn**	**00 50 43.0**	**-4.3**
	baz=319								
SSD	**Sandimen**	**2.05**	**324**	⇑	*i*	**P**	**Pn**	**00 50 19.2**	**-1.5**
	baz=322								
SSD					*e*	S	**Sn**	**00 50 44.7**	**-4.7**
	baz=322								
CHKT	**Chengkung**	**2.07**	**345**		*e*	**P**	**Pn**	**00 50 18.9**	**-2.0**
	baz=347								
CHKT					*e*	S	**Sn**	**00 50 46.2**	**-3.6**
	baz=347								
SGLT	**Jiouru**	**2.12**	**320**		*e*	**P**	**Pn**	**00 50 20.9**	**-0.5**
	baz=323								
SGLT						S	**Sn**	**00 50 48.8**	**-1.8**
	baz=323								
KAU	**Kaohsiung**	**2.12**	**314**	⇑		**P**	**Pn**	**00 50 21.2**	**-0.3**
	baz=305								
KAU					*e*	S	**Sn**	**00 50 49.5**	**-1.2**
	baz=305								
FULB	**Fuli**	**2.19**	**344**	⇑	*i*	**P**	**Pn**	**00 50 20.7**	**-1.6**
	baz=345								
FULB				S			**Sn**	**00 50 49.2**	**-2.9**
	baz=345								
TWM1	**Shoushan**	**2.23**	**321**	⇑	*i*	**P**	**Pn**	**00 50 22.3**	**-0.5**
	baz=326								
TWM1					*e*	S	**Sn**	**00 50 52.8**	**-0.3**
	baz=326								
SNJT	**Kaohsiung City**	**2.23**	**318**	⇑		**P**	**Pn**	**00 50 22.2**	**-0.6**
	baz=308								
SNJT					*e*	S	**Sn**	**00 50 50.5**	**-2.5**
	baz=308								
SLGT	**Liugui**	**2.25**	**328**	⇑		**P**	**Pn**	**00 50 21.7**	**-1.3**
	baz=326								
SLGT					*e*	S	**Sn**	**00 50 49.9**	**-3.4**
	baz=326								
ELDTW	**Lidau**	**2.26**	**338**		*e*	**P**	**Pn**	**00 50 21.2**	**-2.0**
	baz=337								
ELDTW					*e*	S	**Sn**	**00 50 50.7**	**-3.2**
	baz=337								
TWF1	**Yuli**	**2.33**	**345**		*e*	**P**	**Pn**	**00 50 21.9**	**-2.0**
	baz=335								
TWF1					*e*	S	**Sn**	**00 50 51.5**	**-3.6**
	baz=335								
STYT	**Tauyuan**	**2.34**	**332**	⇑	*i*	**P**	**Pn**	**00 50 22.7**	**-1.4**
	baz=324								
STYT				S			**Sn**	**00 50 51.7**	**-3.7**
	baz=324								
SGST	**Jiashian**	**2.35**	**328**	⇑	*i*	**P**	**Pn**	**00 50 23.1**	**-1.1**
	baz=326								
SGST				S			**Sn**	**00 50 52.7**	**-2.8**
	baz=326								
YULB	**Yu-li**	**2.37**	**345**	⇑	*e*	**P**	**Pn**	**00 50 22.3**	**-2.1**
	baz=336								
YULB					*e*	S	**Sn**	**00 50 50.8**	**-5.1**
	baz=336								
HGSD	**Ruisui**	**2.44**	**348**		*e*	**P**	**Pn**	**00 50 23.7**	**-1.4**
	baz=349								
HGSD				S			**Sn**	**00 50 55.3**	**-2.0**
	baz=349								
CHN3	**Shinhua**	**2.46**	**324**	⇑		**P**	**Pn**	**00 50 25.0**	**-0.5**
	baz=329								
CHN3					*e*	S	**Sn**	**00 50 55.8**	**-2.0**
	baz=329								
CHN1	**Nanshi**	**2.47**	**328**	⇑	*i*	**P**	**Pn**	**00 50 24.1**	**-1.4**
	baz=326								
CHN1				S			**Sn**	**00 50 54.5**	**-3.5**
	baz=326								
EHY	**Hungye**	**2.47**	**346**		*e*	**P**	**Pn**	**00 50 23.7**	**-1.9**
	baz=338								
EHY					*e*	S	**Sn**	**00 50 54.2**	**-3.9**
	baz=338								
WTP	**Ta-pu**	**2.48**	**330**	⇑	*i*	**P**	**Pn**	**00 50 24.3**	**-1.4**
	baz=329								
WTP				S			**Sn**	**00 50 54.7**	**-3.5**
	baz=329								
SNST	**Tainan City**	**2.51**	**328**	⇑	*i*	**P**	**Pn**	**00 50 24.6**	**-1.4**
	baz=326								
SNST					*e*	S	**Sn**	**00 50 54.9**	**-4.0**
	baz=326								
TAI1	**Yung-k'ang**	**2.52**	**321**	⇑		**P**	**Pn**	**00 50 25.1**	**-0.8**
	baz=311								
TAI1					*e*	S	**Sn**	**00 50 56.3**	**-2.6**
	baz=311								
TPUB	**Ta-pu**	**2.52**	**331**	⇑		**P**	**Pn**	**00 50 24.6**	**-1.6**
	baz=330								
TPUB						S	**Sn**	**00 50 54.8**	**-4.2**
	baz=330								
CHN4	**Tsaushan**	**2.58**	**331**	⇑	*i*	**P**	**Pn**	**00 50 25.3**	**-1.5**
	baz=330								
CHN4						S	**Sn**	**00 50 56.6**	**-3.7**
	baz=330								
EGFH	**Guangfu**	**2.61**	**349**		*e*	**P**	**Pn**	**00 50 25.4**	**-1.8**
	baz=352								
EGFH					*e*	S	**Sn**	**00 50 57.4**	**-3.6**
	baz=352								
ALS	**Alishan**	**2.63**	**336**	⇑	*i*	**P**	**Pn**	**00 50 26.3**	**-1.5**
	baz=328								
ALS						S	**Sn**	**00 50 58.7**	**-3.3**
	baz=328								
SCLT	**Jiali**	**2.64**	**322**	⇑	*i*	**P**	**Pn**	**00 50 26.4**	**-1.1**
	baz=326								
SCLT						S	**Sn**	**00 50 58.8**	**-2.8**
	baz=326								
ESL	**Shilin**	**2.75**	**350**		*e*	**P**	**Pn**	**00 50 27.6**	**-1.4**
	baz=343								
ESL					*e*	S	**Sn**	**00 50 60.0**	**-4.1**
	baz=343								
VWDT	**VWDT**	**2.75**	**344**	⇑		**P**	**Pn**	**00 50 28.1**	**-0.8**
	baz=347								
VWDT					*e*	S	**Sn**	**00 51 01.2**	**-2.9**
	baz=347								
CHN5	**Tsauling**	**2.76**	**335**	⇑		**P**	**Pn**	**00 50 27.3**	**-1.8**
	baz=334								
CHN5					*e*	S	**Sn**	**00 51 00.3**	**-4.0**
	baz=334								
CHN8	**Yiju**	**2.77**	**325**	⇑	*i*	**P**	**Pn**	**00 50 27.7**	**-1.4**
	baz=329								
CHN8						S	**Sn**	**00 51 01.1**	**-3.1**
	baz=329								
CHY	**Chiayi**	**2.78**	**330**	⇑	*e*	**P**	**Pn**	**00 50 27.5**	**-1.7**
	baz=328								
CHY					*e*	S	**Sn**	**00 51 01.2**	**-3.5**
	baz=328								
WHYT	**Xinyi Township**	**2.79**	**339**	⇑	*e*	**P**	**Pn**	**00 50 27.7**	**-1.6**
	baz=330								
WHYT					*e*	S	**Sn**	**00 51 01.0**	**-3.8**
	baz=330								
CHN2	**Minshiung**	**2.79**	**331**		*e*	**P**	**Pn**	**00 50 27.7**	**-1.6**
	baz=329								
CHN2						S	**Sn**	**00 51 01.6**	**-3.2**
	baz=329								
ENLB	**Shoufeng**	**2.82**	**353**		*e*	**P**	**Pn**	**00 50 28.0**	**-1.7**
	baz=357								
ENLB					*e*	S	**Sn**	**00 51 02.8**	**-2.7**
	baz=357								
SSLB	**Suanglung**	**2.84**	**341**	⇑		**P**	**Pn**	**00 50 28.4**	**-1.6**
	baz=332								
SSLB					*e*	S	**Sn**	**00 51 01.5**	**-4.5**
	baz=332								
WGK	**Gukeng**	**2.89**	**334**			**P**	**Pn**	**00 50 28.7**	**-1.8**
	baz=333								
WGK					*e*	S	**Sn**	**00 51 03.4**	**-3.5**
	baz=333								
WDLH	**Douliu**	**2.90**	**333**	⇑	*e*	**P**	**Pn**	**00 50 29.0**	**-1.7**
	baz=332								
WDLH					*e*	S	**Sn**	**00 51 03.8**	**-3.4**
	baz=332								
OWD	**Renai**	**2.94**	**346**		*e*	**P**	**Pn**	**00 50 30.2**	**-1.2**
	baz=348								
OWD					*e*	S	**Sn**	**00 51 04.2**	**-4.2**
	baz=348								
SMLT	**Sun Moon Lake**	**2.94**	**341**		*e*	**P**	**Pn**	**00 50 29.7**	**-1.7**
	baz=333								
SMLT					*e*	S	**Sn**	**00 51 05.3**	**-3.1**
	baz=333								
WJS	**Zhushan**	**2.94**	**338**	⇑	*e*	**P**	**Pn**	**00 50 29.7**	**-1.6**
	baz=336								
WJS					*e*	S	**Sn**	**00 51 03.7**	**-4.6**
	baz=336								
TYC	**Yuchr**	**2.98**	**340**		*e*	**P**	**Pn**	**00 50 30.1**	**-1.5**
	baz=339								
TYC					*e*	S	**Sn**	**00 51 05.1**	**-3.9**
	baz=339								
TWD	**Chiawan**	**2.99**	**354**		*e*	**P**	**Pn**	**00 50 30.8**	**-1.0**
TWD					*e*	S	**Sn**	**00 51 06.4**	**-2.9**
WSF	**Szhu**	**3.00**	**328**	⇑		**P**	**Pn**	**00 50 29.9**	**-1.9**
	baz=327								
WSF						S	**Sn**	**00 51 05.2**	**-4.2**
	baz=327								
WNT	**Mingjian**	**3.01**	**337**	⇑		**P**	**Pn**	**00 50 30.7**	**-1.4**
	baz=336								
WNT					*e*	S	**Sn**	**00 51 05.9**	**-3.8**
	baz=336								
WDGT	**Dungji**	**3.03**	**316**	⇑	*i*	**P**	**Pn**	**00 50 30.4**	**-1.9**
	baz=314								
WDGT					*e*	S	**Sn**	**00 51 05.3**	**-4.8**
	baz=314								
CHGB	**Renai**	**3.04**	**346**	⇑		**P**	**Pn**	**00 50 31.8**	**-0.9**
	baz=346								
CHGB					*e*	S	**Sn**	**00 51 07.4**	**-3.3**
	baz=346								
NACB	**Ninganchiao**	**3.09**	**354**		*e*	**P**	**Pn**	**00 50 31.4**	**-1.6**
	baz=360								
NACB					*e*	S	**Sn**	**00 51 07.2**	**-4.2**
	baz=360								
WHF	**Hehuan Shan**	**3.10**	**348**		*e*	**P**	**Pn**	**00 50 32.4**	**-1.2**
	baz=354								
WHF					*e*	S	**Sn**	**00 51 08.5**	**-4.0**
	baz=354								
ETLH	**Xiulin Townshi**	**3.13**	**352**		*e*	**P**	**Pn**	**00 50 32.2**	**-1.4**
	baz=345								
ETLH					*e*	S	**Sn**	**00 51 09.4**	**-3.1**
	baz=345								
WMLT	**Mailiao**	**3.14**	**330**		*e*	**P**	**Pn**	**00 50 31.9**	**-1.8**
	baz=328								
WMLT					*e*	S	**Sn**	**00 51 09.4**	**-3.1**
	baz=328								
VCHM	**Qimei**	**3.15**	**312**	⇑		**P**	**Pn**	**00 50 31.6**	**-2.2**
	baz=311								
VCHM						S	**Sn**	**00 51 08.1**	**-4.6**
	baz=311								
RLNB	**Erlin**	**3.15**	**332**	⇑		**P**	**Pn**	**00 50 31.9**	**-1.9**
	baz=336								
RLNB					*e*	S	**Sn**	**00 51 09.0**	**-3.8**
	baz=336								
WTCT	**Ta-ch'eng**	**3.16**	**331**		*e*	**P**	**Pn**	**00 50 31.9**	**-2.0**
	baz=324								
WTCT					*e*	S	**Sn**	**00 51 08.9**	**-4.1**
	baz=324								
TDCB	**Techi**	**3.23**	**347**		*e*	**P**	**Pn**	**00 50 34.3**	**-0.7**
	baz=346								
TDCB					*e*	S	**Sn**	**00 51 12.2**	**-2.7**
	baz=346								
WCHH	**Zhanghua**	**3.24**	**337**		*e*	**P**	**Pn**	**00 50 33.5**	**-1.4**
	baz=336								
WCHH					*e*	S	**Sn**	**00 51 12.2**	**-2.6**
	baz=336								
TCU	**Taichung**	**3.26**	**339**		*e*	**P**	**Pn**	**00 50 34.2**	**-1.0**
	baz=338								
TCU					*e*	S	**Sn**	**00 51 12.1**	**-3.2**
	baz=338								
PHUB	**P'eng-hu**	**3.27**	**318**	⇑		**P**	**Pn**	**00 50 33.1**	**-2.1**
	baz=322								
PHUB						S	**Sn**	**00 51 09.9**	**-5.5**
	baz=322								
WHP	**Taichung City**	**3.31**	**344**		*e*	**P**	**Pn**	**00 50 34.6**	**-1.2**
	baz=336								
WHP					*e*	S	**Sn**	**00 51 13.8**	**-2.6**
	baz=336								
PNG	**Penghu**	**3.32**	**318**	⇑		**P**	**Pn**	**00 50 33.9**	**-2.0**
	baz=322								
PNG					*e*	S	**Sn**	**00 51 11.9**	**-4.6**
	baz=322								
NANB	**Nanao**	**3.33**	**357**		*e*	**P**	**Pn**	**00 50 34.8**	**-1.1**
	baz=356								
ENA	**Nanau**	**3.33**	**357**		*e*	**P**	**Pn**	**00 50 35.1**	**-0.9**
	baz=356								
NNSB	**Datong**	**3.36**	**351**	⇑	*e*	**P**	**Pn**	**00 50 35.6**	**-1.0**
	baz=356								
NNSB					*e*	S	**Sn**	**00 51 12.3**	**-5.5**
	baz=356								
NNS	**Nan Shan**	**3.38**	**351**	⇑	*e*	**P**	**Pn**	**00 50 35.7**	**-1.0**
	baz=356								
NNS					*e*	S	**Sn**	**00 51 14.0**	**-4.1**
	baz=356								
HATJ	**Hateruma jima**	**3.41**	**30**			**P**	**Pn**	**00 50 36.9**	**-0.1**
TWQ1	**Liyutan**	**3.42**	**342**		*e*	**P**	**Pn**	**00 50 35.4**	**-1.8**
	baz=341								
TWQ1					*e*	S	**Sn**	**00 51 14.7**	**-4.2**
	baz=341								
EOS1	**EOS1**	**3.45**	**3**		*e*	**P**	**Pn**	**00 50 37.8**	**+0.4**
	baz=2.0								
WDJ	**Dajia District**	**3.46**	**340**		*e*	**P**	**Pn**	**00 50 36.4**	**-1.2**
	baz=339								
WDJ					*e*	S	**Sn**	**00 51 16.8**	**-3.0**
	baz=339								
JYNG	**Yonagunijimaku**	**3.47**	**15**			**P**	**Pn**	**00 50 37.7**	**0.0**
JYNG					*e*	S	**Sn**	**00 51 19.4**	**-0.5**
NSY	**Sanyi**	**3.49**	**342**		*e*	**P**	**Pn**	**00 50 36.5**	**-1.6**
	baz=341								
NSY					*e*	S	**Sn**	**00 51 17.2**	**-3.2**
	baz=341								
YOJ	**Yonaguni jima**	**3.49**	**16**	⇓	*e*	**P**	**Pn**	**00 50 37.9**	**-0.2**
	baz=10.0								
YOJ	**Yonaguni jima**	**3.49**	**16**			**P**	**Pn**	**00 50 38.4**	**+0.3**
YOJ						S	**Sn**	**00 51 19.9**	**-0.6**
TWC	**Suao**	**3.50**	**358**		*e*	**P**	**Pn**	**00 50 37.3**	**-0.9**
	baz=4.0								
NDT	**Datong Townshi**	**3.52**	**353**		*e*	**P**	**Pn**	**00 50 37.7**	**-0.8**
	baz=358								
ENTT	**Nioudou**	**3.55**	**354**		*e*	**P**	**Pn**	**00 50 38.5**	**-0.4**
	baz=360								
ENTT					*e*	S	**Sn**	**00 51 19.1**	**-2.7**
	baz=360								
NMLH	**Miaoli**	**3.59**	**343**		*e*	**P**	**Pn**	**00 50 37.6**	**-1.8**
	baz=342								
NMLH					*e*	S	**Sn**	**00 51 18.9**	**-3.8**
	baz=342								
YHNB	**Yeheng**	**3.60**	**352**	⇑		**P**	**Pn**	**00 50 39.0**	**-0.5**
	baz=357								
YHNB					*e*	S	**Sn**	**00 51 19.5**	**-3.6**
	baz=357								
IRIF	**Iriomote-Funau**	**3.62**	**27**			**P**	**Pn**	**00 50 39.6**	**-0.1**
TWE	**Neicheng**	**3.62**	**356**		*e*	**P**	**Pn**	**00 50 39.8**	**+0.1**
	baz=355								
JKRS	**Kuro-shima**	**3.66**	**31**			**P**	**Pn**	**00 50 40.4**	**+0.2**
EGS		**3.74**	**360**		*e*	**P**	**Pn**	**00 50 41.2**	**0.0**
	baz=5.0								
NTC	**Toucheng**	**3.75**	**358**		*e*	**P**	**Pn**	**00 50 41.9**	**+0.6**
	baz=5.0								
SBCB	**Hsinchu**	**3.79**	**347**		*e*	**P**	**Pn**	**00 50 39.5**	**-2.4**
	baz=346								
SBCB					*e*	S	**Sn**	**00 51 22.4**	**-4.8**
	baz=346								
WLTB	**Daxi**	**3.80**	**350**		*e*	**P**	**Pn**	**00 50 40.3**	**-1.7**
	baz=341								
WLTB					*e*	S	**Sn**	**00 51 23.7**	**-3.8**
	baz=341								
HSN	**Hsinchu**	**3.80**	**346**		*e*	**P**	**Pn**	**00 50 39.9**	**-2.1**
	baz=346								
HSN					*e*	S	**Sn**	**00 51 23.5**	**-4.0**
	baz=346								
JIJ	**Ishigaki jima**	**3.83**	**31**			**P**	**Pn**	**00 50 41.9**	**-0.5**
JIJ						S	**Sn**	**00 51 28.4**	**+0.2**
TIPB	**Shuangxi**	**3.86**	**358**		*e*	**P**	**Pn**	**00 50 43.0**	**+0.1**
	baz=6.0								
TATO	**Taipei**	**3.89**	**354**		*e*	**P**	**Pn**	**00 50 41.4**	**-1.7**
	baz=353								
NWF	**Wu-fen Shan**	**3.96**	**358**		*e*	**P**	**Pn**	**00 50 44.3**	**+0.1**
	baz=5.0								
WFSB	**Wu-fen Shan**	**3.96**	**358**		*e*	**P**	**Pn**	**00 50 44.2**	**+0.1**
	baz=4.0								
YM01	**YM01**	**4.05**	**355**		*e*	**P**	**Pn**	**00 50 44.9**	**-0.3**
	baz=345								
YM04	**YM04**	**4.06**	**355**		*e*	**P**	**Pn**	**00 50 44.4**	**-1.0**
	baz=354								
YM05	**YM05**	**4.07**	**355**		*e*	**P**	**Pn**	**00 50 44.0**	**-1.6**
	baz=345								
YM11	**YM11**	**4.07**	**355**		*e*	**P**	**Pn**	**00 50 45.2**	**-0.4**
	baz=346								
YM07	**YM07**	**4.08**	**356**		*e*	**P**	**Pn**	**00 50 44.2**	**-1.4**
	baz=346								
YM03	**YM03**	**4.09**	**355**		*e*	**P**	**Pn**	**00 50 44.1**	**-1.6**
	baz=354								
JISG	**Ishigakijimahi**	**4.10**	**32**			**P**	**Pn**	**00 50 44.9**	**-1.0**
JTJ	**Tarama**	**4.35**	**35**			**P**	**Pn**	**00 50 48.9**	**-0.1**
VWUC	**VWUC**	**4.51**	**330**	⇓	*e*	**P**	**Pn**	**00 50 49.2**	**-2.0**
	baz=329								
KNM	**Kinmen**	**4.64**	**316**	⇑		**P**	**Pn**	**00 50 52.2**	**-0.6**
	baz=314								
KNMB	**Chin-men Tao**	**4.70**	**316**	⇑		**P**	**Pn**	**00 50 51.7**	**-1.9**
	baz=315								
JIRB	**Irabujima**	**4.76**	**38**			**P**	**Pn**	**00 50 54.3**	**0.0**
JMJ	**Miyako jima 2**	**4.82**	**39**	⇓	*e*	**P**	**Pn**	**00 50 54.7**	**-0.5**
	baz=40								
JOGS	**Gusukube**	**4.84**	**40**			**P**	**Pn**	**00 50 55.8**	**+0.3**
JIKM	**Ikemajima**	**4.87**	**38**			**P**	**Pn**	**00 50 55.7**	**-0.2**
QZH	**Quanzhou**	**4.93**	**322**	⇑	*i*	Pg	**Pn**	**00 50 54.5**	**-2.1**
QZH						Sn	Sn	00 51 43.0	-11
QZH						smax	smax		
	comp=N,410nm,0.4s								
QZH						smax	smax		
	comp=E,330nm,0.6s								
MATB	**Ma-tsu**	**5.36**	**340**	⇑		**P**	**Pn**	**00 50 59.9**	**-2.4**
	baz=339								
TGY	**Tagaytay City**	**7.02**	**188**			**P**	**Pn**	**00 51 24.4**	**+0.1**
	71nm,0.3s,baz=163,slow=2.4,SNR=7.6								
TGY						S	**Sn**	**00 52 49.8**	**+6.4**
	50nm,0.3s,baz=319,slow=20,SNR=2.4								
JNTH	**Nagotoyohara**	**7.75**	**45**			**P**	**Pn**	**00 51 34.1**	**+0.3**
JIH	**Iheya**	**8.07**	**42**			**P**	**Pn**	**00 51 37.6**	**-0.5**
JOW	**Kunigami**	**8.13**	**44**		*e*	**P**	**Pn**	**00 51 38.0**	**-0.8**
	baz=45								
JOW	**Kunigami**	**8.13**	**44**			**P**	**Pn**	**00 51 38.7**	**-0.1**
	1.0nm,0.3s,baz=200,slow=16,SNR=5.1								
GZH	**Guangzhou**	**8.23**	**286**			**P**	**Pn**	**00 51 38.8**	**-1.3**
GZH						S	**Sn**	**00 53 12.0**	**-0.1**
GZH						smax	smax		
	comp=N,71nm,1.0s								
GZH						smax	smax		
	comp=E,62nm,1.1s								
SJMP	**San Jose**	**8.62**	**185**		*e*	**P**	**Pn**	**00 51 46.0**	**+0.7**
OTRP	**Odiongan**	**8.68**	**180**		*e*	**P**	**Pn**	**00 51 46.2**	**0.0**
BUSP	**Coron**	**9.19**	**191**		*e*	**P**	**Pn**	**00 51 51.2**	**-1.7**
JMZ	**Minamidaito 2**	**9.72**	**59**			**P**	**Pn**	**00 51 59.6**	**-0.2**
JAM	**Amami Oshima**	**10.07**	**42**			**P**	**Pn**	**00 52 03.3**	**-1.1**
MSLP	**Maasin**	**11.25**	**165**		*e*	**P**	**P**	**00 52 27.7**	**+0.6**
WHN	**Wuhan**	**11.63**	**326**			**P**	**Pn**	**00 52 24.5**	**-0.3**
WHN						S	**Sn**	**00 54 27.5**	**-6.3**
WHN						LR	LR		
	comp=Z,410nm,4.3s								
CGP	**Cagayan de Oro**	**12.84**	**168**

HHC					pmax	pmax			
	comp=Z,130nm,5.0s								
CMMT	**Chiang Mai**	**21.74**	**268**		P	**P**	**00 54**	**23.9**	**+1.9**
	comp=Z,6.7nm,1.0s								
CMMT	**Chiang Mai**	**21.74**	**268**		P	**P**	**00 54**	**23.9**	**+1.9**
	comp=Z,6.7nm,1.0s								
CHTO	**Chiang Mai**	**21.75**	**268**		P	**P**	**00 54**	**24.0**	**+1.9**
	comp=Z,30nm,1.0s								
CHTO	**Chiang Mai**	**21.75**	**268**		P	**P**	**00 54**	**24.0**	**+1.9**
	comp=Z,30nm,1.0s								
LZH	**Lanzhou**	**21.76**	**317**		*e*P	**P**	**00 54**	**25.5**	**+3.2**
LZH					pP	pP	00 54	35.0	-17
LZH					sP	sP	00 54	39.5	-34
LZH					pmax	pmax			
	comp=Z,27nm,1.0s								
CMAR	**Chiang Mai Arr**	**21.81**	**267**		P	**P**	**00 54**	**24.3**	**+1.6**
	comp=Z,2.9nm,0.6s,baz=76,slow=8.2,SNR=17								
CMAR					PcP	**PcP**	**00 58**	**16.4**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=64,slow=2.1,SNR=4.2								
CMAR					ScP	**ScP**	**01 01**	**34.9**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=101,slow=1.8,SNR=4.9								
APSI	**Ampana**	**21.87**	**181**		P	**P**	**00 54**	**23.3**	**0.0**
LUWI	**Luwuk**	**22.01**	**178**		P	**P**	**00 54**	**24.8**	**+0.1**
	comp=Z,77nm,1.0s,comp=Z,1μm								
SANI	**Sanana**	**23.34**	**170**		P	**P**	**00 54**	**36.8**	**-0.2**
SIJI	**Sorong**	**23.65**	**156**		P	**P**	**00 54**	**38.3**	**-1.6**
	comp=Z,15nm,0.4s,baz=23,slow=7.6,SNR=12								
USRK	**Ussuriysk Ar.**	**24.50**	**18**		P	**P**	**00 54**	**47.8**	**+0.4**
	comp=Z,9nm,0.6s,baz=191,slow=8.2,SNR=5.2								
SPSI	**Sidrap Palu**	**24.99**	**185**		P	**P**	**00 54**	**53.5**	**+1.4**
FAKI	**Fak Fak**	**25.91**	**156**		*e*P	**P**	**00 54**	**58.2**	**-2.1**
	comp=Z,34nm,0.9s								
FAKI	**Fak Fak**	**25.91**	**156**		P	**P**	**00 54**	**58.5**	**-1.8**
KLR	**Kul'dur**	**29.14**	**13**		P	**P**	**00 55**	**29.5**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=229,slow=6.5,SNR=15								
KLR					pP	**pwP**	**00 56**	**08.3**	**-0.7**
	comp=Z,4.0nm,0.8s,baz=246,slow=4.2,SNR=5.7								
KLR					ScP	**ScP**	**01 01**	**55.5**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=194,slow=4.2,SNR=3.4								
KLR					LR	LR	01 07	33.8	
	comp=Z,65nm,18.3s,baz=107,slow=37								
ULN	**Ulaanbaatar**	**29.29**	**339**		*e*P	**P**	**00 55**	**31.1**	**+0.8**
	comp=Z,4.7nm,0.5s								
SONM	**Songino Array**	**29.49**	**338**		P	**P**	**00 55**	**33.4**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=151,slow=10.0,SNR=4.3								
SONM					pP	**pP**	**00 56**	**09.6**	**+2.8**
	comp=Z,1.4nm,0.5s,baz=106,slow=8.5,SNR=2.9								
MMRI	**Maumere**	**29.54**	**179**		*e*P	**P**	**00 55**	**31.2**	**-1.5**
	comp=Z,42nm,0.9s								
MMRI	**Maumere**	**29.54**	**179**		P	**P**	**00 55**	**31.3**	**-1.4**
EDFI	**Ende, Flores**	**29.66**	**181**		P	**P**	**00 55**	**32.2**	**-1.6**
WSI	**Waingapu**	**30.61**	**183**		P	P	00 55	47.5	+5.4
MTN	**Manton Dam**	**34.91**	**164**		*e*P	**P**	**00 56**	**17.6**	**-1.8**
	comp=Z,116nm,1.7s								
WMQ	**Urumqi**	**36.34**	**317**		*e*P	**P**	**00 56**	**34.8**	**+3.3**
WMQ					sP	pP	00 56	49.0	-18
WMQ					LR	LR			
	comp=Z,45nm,15.5s								
WMQ					LR	LR			
	comp=Z,83nm,19.1s								
FITZ	**Fitzroy Crossi**	**39.11**	**174**		*e*P	**P**	**00 56**	**53.1**	**-1.8**
COEN	**Coen**	**40.59**	**147**		*e*P	**P**	**00 57**	**06.0**	**-1.1**
	comp=Z,20nm,0.8s								
MK01	**Makanchi Array**	**41.06**	**318**		*e*P	**P**	**00 57**	**12.5**	**+1.8**
MK31	**Makanchi Array**	**41.08**	**318**		*e*P	**P**	**00 57**	**12.1**	**+1.3**
	comp=Z,2.0nm,0.6s								
MKAR	**Makanchi Array**	**41.08**	**318**		P	**P**	**00 57**	**12.2**	**+1.4**
	comp=Z,2.8nm,0.6s,baz=110,slow=9.4,SNR=31								
MKAR					pP	**pP**	**00 57**	**49.7**	**+2.6**
	comp=Z,1.5nm,0.7s,baz=113,slow=9.5,SNR=2.9								
MKAR					ScP	**ScP**	**01 02**	**39.6**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=110,slow=5.2,SNR=5.4								
MAKZ	**Makanchi**	**41.28**	**318**		*e*P	**P**	**00 57**	**14.2**	**+1.8**
	comp=Z,9.9nm,1.4s								
H11N1	**WAKE ISLAND Hy**	**42.04**	**84**		T	T	01 43	27.6	
	baz=282,slow=76,SNR=14								
H11N2	**WAKE ISLAND Hy**	**42.04**	**84**		T	T	01 43	31.4	
	baz=282,slow=76,SNR=21								
H11N3	**WAKE ISLAND Hy**	**42.05**	**84**		T	T	01 43	28.6	
	baz=282,slow=76,SNR=20								
H11S3	**WAKE ISLAND Hy**	**42.07**	**85**		T	T	01 43	24.9	
	baz=276,slow=76,SNR=33								
H11S1	**WAKE ISLAND Hy**	**42.08**	**85**		T	T	01 43	06.7	
	baz=276,slow=76,SNR=23								
H11S2	**WAKE ISLAND Hy**	**42.09**	**85**		T	T	01 43	10.1	
	baz=276,slow=76,SNR=20								
WRA	**Warramunga Arr**	**42.54**	**163**		P	**P**	**00 57**	**20.8**	**-2.1**
	comp=Z,16nm,0.5s,baz=344,slow=9.1,SNR=139								
WRA					ScP	**ScP**	**01 02**	**44.6**	**-2.6**
	comp=Z,0.4nm,0.8s,baz=354,slow=4.3,SNR=4.8								
ZAA0	**Zalesovo Array**	**43.23**	**329**		*e*P	**P**	**00 57**	**28.7**	**+0.6**
	comp=Z,2.9nm,0.7s								
ZALV	**Zalesovo Beam**	**43.23**	**329**		P	**P**	**00 57**	**28.2**	**+0.1**
	comp=Z,2.3nm,0.4s,baz=116,slow=7.4,SNR=14								
AS31	**Alice Springs**	**45.98**	**165**		*e*P	**P**	**00 57**	**48.9**	**-1.4**
	comp=Z,3.3nm,0.4s								
ASAR	**Alice Springs**	**45.98**	**165**		P	**P**	**00 57**	**48.8**	**-1.4**
	comp=Z,4.8nm,0.5s,baz=352,slow=13,SNR=121								
ASAR					ScP	**ScP**	**01 02**	**59.2**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=347,slow=4.4,SNR=6.0								
AS01	**Alice Springs**	**45.99**	**165**		*e*P	**P**	**00 57**	**47.6**	**-2.7**
CTAO	**Charters Tower**	**47.33**	**148**		*e*P	**P**	**00 58**	**00.5**	**-0.2**
	comp=Z,6.1nm,0.6s								
BRVK	**Borovoye**	**50.60**	**322**		*e*P	**P**	**00 58**	**26.4**	**+1.3**
	comp=Z,2.1nm,0.9s								
FORT	**Forrest**	**51.91**	**173**		*e*P	**P**	**00 58**	**33.9**	**-1.2**
	comp=Z,22nm,0.7s								
NRIK	**Noril'sk**	**52.56**	**345**		P	**P**	**00 58**	**39.8**	**+0.3**
	comp=Z,2.0nm,0.4s,baz=149,slow=8.5,SNR=5.8								
NRIK					pP	**pwP**	**00 59**	**19.7**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=162,slow=19,SNR=1.7								
EIDS	**Eidsvold**	**54.16**	**147**		*e*P	**P**	**00 58**	**51.0**	**-0.7**
	comp=Z,4.0nm,0.8s								
BBOO	**Buckleboo**	**55.27**	**166**		*e*P	**P**	**00 58**	**58.6**	**-1.0**
	comp=Z,33nm,0.8s								
STKA	**Stephens Creek**	**55.93**	**160**		*e*P	**P**	**00 59**	**02.5**	**-1.8**
	comp=Z,2.7nm,0.7s								
STKA	**Stephens Creek**	**55.93**	**160**		P	**P**	**00 59**	**03.5**	**-0.8**
	comp=Z,13nm,0.6s,baz=331,slow=7.1,SNR=28								
MSVF	**Nonsavu**	**67.16**	**121**		*e*P	**P**	**01 00**	**21.4**	**+1.4**
	comp=Z,16nm,0.8s								
SIRT	**Sirnak**	**69.39**	**303**		*e*P	**P**	**01 00**	**37.0**	**+3.4**
	comp=Z,17nm,1.1s								
ILAR	**Eielson Array**	**71.63**	**27**		P	**P**	**01 00**	**45.9**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=267,slow=4.4,SNR=6.4								
FINES	**FINESS Array B**	**74.47**	**330**		P	**P**	**01 01**	**03.6**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=42,slow=5.9,SNR=6.7								
BRTR	**Keskin Array B**	**75.59**	**307**		P	**P**	**01 01**	**09.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=134,slow=6.9,SNR=3.7								
RPZ	**Rata Peaks**	**78.64**	**146**		P	**P**	**01 01**	**26.2**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=346,slow=6.3,SNR=6.4								
NOA	**NORSAR Array B**	**81.28**	**333**		P	**P**	**01 01**	**40.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=62,slow=5.3,SNR=2.7								
YKA	**Yellowknife Ar**	**85.53**	**23**		P	**P**	**01 02**	**02.3**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=310,slow=4.6,SNR=22								
GERES	**GERESS Array B**	**85.68**	**321**		P	**P**	**01 02**	**03.4**	**-0.3**
	comp=Z,2.1nm,1.1s,baz=331,slow=3.8,SNR=4.0								
TXAR	**Lajitas Array**	**113.32**	**43**		PKiKP	**PKiKP**	**01 08**	**01.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=248,slow=1.0,SNR=3.9								

KRSC 31 01:14:35.9±10.0, 50.76N×157.79E, *h*41km±10km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.94**	**319**	*e*P	Pn	01 14 53.9	+1.3
PAU				*e*S	Sn	01 15 05.8	+1.0
SKR	**Severo-Kuril's**	**1.06**	**266**	*e*P	Pn	01 14 55.1	+0.8
SKR				*e*S	Sn	01 15 08.2	+0.3
KDTR	**Khodutka, Kamc**	**1.06**	**10**	*e*P	Pn	01 14 55.6	+1.3
KDTR				*e*S	Sn	01 15 08.9	+1.0
RUS	**Russkaya**	**1.73**	**15**	*e*P	Pn	01 15 04.7	+1.2
RUS				*e*S	Sn	01 15 25.3	+0.9
MTVR	**Mutnovka**	**1.74**	**8**	*e*P	Pn	01 15 05.5	+1.7
MTVR				*e*S	Sn	01 15 26.3	+1.5
KRMR	**Karymshinskiy**	**2.08**	**6**	*e*P	Pn	01 15 11.0	+2.7
KRMR				*e*S	Sn	01 15 36.5	+3.5
PET	**Petropavlovsk**	**2.33**	**13**	*e*P	Pn	01 15 13.8	+2.1
PET				*e*S	Sn	01 15 41.1	+2.1
DALK	**Dalny**	**2.35**	**14**	*e*P	Pn	01 15 14.1	+2.1
DALK				*e*S	Sn	01 15 41.7	+2.1
UGLR	**Uglovaya**	**2.53**	**14**	*e*P	Pn	01 15 18.0	+3.4
UGLR				*e*S	Sn	01 15 48.8	+4.5
AVH	**Avacha**	**2.58**	**13**	*e*P	Pn	01 15 18.4	+3.3
AVH				*e*S	Sn	01 15 50.0	+4.8
SMAR	**Somma**	**2.58**	**14**	*e*P	Pn	01 15 18.1	+2.7
KOK	**Koryaka**	**2.59**	**11**	*e*P	Pn	01 15 18.9	+3.6
KOK				*e*S	Sn	01 15 50.2	+4.6
SDLR	**Sedlovina**	**2.61**	**15**	*e*P	Pn	01 15 17.7	+2.0
KRER	**Koryakskii**	**2.62**	**13**	*e*P	Pn	01 15 18.9	+3.1
KRER				*e*S	Sn	01 15 50.8	+4.4
KRX	**Arik**	**2.66**	**11**	*e*P	Pn	01 15 20.1	+3.8
KRX				*e*S	Sn	01 15 52.1	+4.8

IDC 31 01:21:29.3±7.7, 21.67S×148.06E, *h*0km, mb1 3.4/2, mb1mx3.2/31, mbtmp3.1/2, ML2.5/1, Error ellipse: s-maj=61.7km s-min=36.6km az=76.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**11.69**	**208**	Pg	Pn	01 25 02.0	+45
	0.1nm,0.3s,baz=35,slow=17,SNR=2.8						
STKA				Sn	Sn	01 26 30.1	+1.5
	0.1nm,0.3s,baz=100,slow=18,SNR=3.0						
STKA				Lg	Lg	01 27 39.9	
	0.2nm,0.3s,baz=120,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**12.94**	**275**	Pn	Pn	01 24 36.4	+1.7
	0.0nm,0.3s,baz=98,slow=13,SNR=3.5						
WRA				Lg	Lg	01 28 19.7	
	0.2nm,0.3s,baz=98,slow=26,SNR=7.7						
ASAR	**Alice Springs**	**13.22**	**259**	Pn	Pn	01 24 36.9	-1.5
	baz=81,slow=14,SNR=3.6						
ASAR				Sn	Sn	01 26 59.7	-6.5
	0.1nm,0.3s,baz=80,slow=22,SNR=4.2						
ASAR				Lg	Lg	01 28 29.6	
	0.1nm,0.3s,baz=83,slow=30,SNR=5.2						

IDC 31 01:26:50.0±13.0, 28.87N×81.06E, *h*0km, mb3.6/2, mb1 3.6/3, mb1mx3.1/52, mbtmp3.6/3, ML3.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.6/42, Error ellipse: s-maj=261.1km s-min=82.5km az=142.0, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.92**	**3**	P	Pn	01 31 00.2	-0.5
	0.1nm,0.3s,baz=189,slow=10,SNR=7.1						
ZALV	**Zalesovo Beam**	**25.21**	**5**	P	P	01 32 17.3	+0.1
	0.8nm,0.5s,baz=181,slow=10,SNR=4.5						
FINES	**FINESS Array B**	**48.47**	**328**	P	P	01 35 33.9	-0.1
	0.8nm,0.8s,baz=111,slow=7.6,SNR=4.9						

*IDC **31** 01:36:59.0±0.9, 37.18N×142.42E, *h*0km, mb3.2/5, mb1 3.5/6, mb1mx3.4/44, mbtmp3.2/6, ML2.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.0/20, Error ellipse: s-maj=28.6km s-min=21.5km az=129.0*

*NIED **31** 01:37:00, 37.30N×142.10E, *h*32km, Mw3.4 Best double couple: M0 1.52000×10^14^ NP1:φs142.00000°, δ10.00000°, λ86.00000°. NP2:φs326.00000°, δ80.00000°, λ91.00000°.*

*JMA **31** 01:37:02.5±0.2, 37.28N×142.13E, *h*33km±4km, M3.5*

ISC 31 01:36:59.1±2.0, 37.28N±0.06×142.14E±0.07, *h*4km±11km, n24, σ1930/28, mb3.4/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.01**	**276**	P	**Pn**	**01 37 20.5**	**+0.4**
JFK				*e*S	**Sg**	**01 37 33.1**	**+1.5**
ONAJ	**Iwakimizuishiy**	**1.08**	**261**	P	**Pn**	**01 37 21.4**	**+0.3**
ONAJ				*e*S	**Sb**	**01 37 35.3**	**+0.4**
JIKH	**Ishinomakikobu**	**1.16**	**333**	P	**Pn**	**01 37 22.4**	**+0.3**
JIKH				*e*S	**Sg**	**01 37 36.4**	**-0.1**
JMM	**Marumori**	**1.22**	**299**	P	**Pg**	**01 37 23.7**	**+1.2**
JFFD	**Fukushimafurud**	**1.27**	**262**	P	**Pg**	**01 37 24.3**	**+0.8**
JFFD				*e*S	**Sb**	**01 37 40.0**	**-0.3**
JIO	**Ouri**	**1.33**	**332**	P	**Pg**	**01 37 25.1**	**+0.5**
JIO				*e*S	**Sb**	**01 37 41.0**	**-1.0**
JFT	**Otama**	**1.46**	**280**	P	**Pg**	**01 37 27.9**	**+0.9**
JFT				*e*S	**Sn**	**01 37 45.8**	**+0.1**
JOU	**Okura**	**1.60**	**313**	P	**Pg**	**01 37 29.8**	**+0.1**
JOU				*e*S	**Sn**	**01 37 49.3**	**+0.1**
JMK	**Ichinoseki**	**1.82**	**337**	P	**Pg**	**01 37 33.4**	**-0.6**
JAG	**Ashikaga**	**2.31**	**249**	P	**Pb**	**01 37 39.6**	**-1.8**
JAG				*e*S	**Sn**	**01 38 05.6**	**-1.3**
MJAR	**Matsushiro Arr**	**3.23**	**258**	Pn	**Pb**	**01 37 54.5**	**-2.5**
	0.7nm,0.3s,baz=70,slow=11,SNR=30						
MJAR				Sn	**Sb**	**01 38 34.8**	**-1.9**
	0.3nm,0.3s,baz=204,slow=16,SNR=3.9						
MJAR				LR	LR	01 39 42.5	
	comp=Z,53nm,18.2s,baz=85,slow=48						
MAT	**Matsushiro**	**3.23**	**258**	P	**Pb**	**01 37 54.8**	**-2.3**
MAT				S	**Sb**	**01 38 35.8**	**-1.0**
H11N2	**WAKE ISLAND Hy**	**27.78**	**122**	T	T	02 12 18.2	
	baz=315,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.79**	**122**	T	T	02 12 26.5	
	baz=315,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**27.80**	**122**	T	T	02 12 27.3	
	baz=315,slow=75,SNR=9.1						
H11S1	**WAKE ISLAND Hy**	**28.51**	**124**	T	T	02 13 09.6	
	baz=316,slow=76,SNR=8.7						
H11S3	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	02 13 06.6	
	baz=316,slow=76,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**28.53**	**124**	T	T	02 13 17.0	
	baz=316,slow=76,SNR=6.6						
MKAR	**Makanchi Array**	**44.48**	**302**	P	**P**	**01 45 13.4**	**+2.1**
	0.2nm,0.7s,baz=88,slow=7.4,SNR=2.5						
ILAR	**Eielson Array**	**48.98**	**32**	P	**P**	**01 45 47.7**	**+1.4**
	0.4nm,0.8s,baz=277,slow=6.4,SNR=5.2						
WRA	**Warramunga Arr**	**57.38**	**189**	P	**P**	**01 46 48.2**	**-0.4**
	0.7nm,1.1s,baz=6.5,slow=7.6,SNR=2.6						
ASAR	**Alice Springs**	**61.11**	**189**	P	**P**	**01 47 15.2**	**+0.9**
	0.1nm,0.5s,baz=1.9,slow=5.7,SNR=3.0						
YKA	**Yellowknife Ar**	**63.31**	**30**	P	**P**	**01 47 28.7**	**+0.1**
	0.2nm,0.7s,baz=295,slow=7.2,SNR=3.9						
LPAZ	**La Paz**	**146.07**	**60**	PKPbc	**PKPab**	**01 56 39.9**	**-2.1**
	0.5nm,0.3s,baz=90,slow=4.0,SNR=9.8						

*ISCJB **31** 01:43:37.3±0.2, 20.56S±0.02×68.93W±0.03, *h*104km±2km, mb4.3/60, Error ellipse: s-maj=5.1km s-min=3.4km az=157.3*

*NEIC **31** 01:43:38.0±0.0, 20.56S×69.06W, *h*96km, mb4.4/51, ML4.5(GUC), After GUC.*

NEIC Felt [IV] at Alto Hospicio and Iquique; [III] at Huara, Mamina and Pozo Almonte; [II] at Camina, La Tirana and Pica.

*SJA **31** 01:43:38.0±1.0, 20.56S×69.10W, *h*103km±6km, MD2.9*

*GUC **31** 01:43:38.3±0.7, 20.56S×69.07W, *h*98km±3km, ML4.6*

*IDC **31** 01:43:39.1±0.4, 20.53S×68.86W, *h*105km±3km, mb4.0/14, mb1 4.1/19, mb1mx4.0/25, mbtmp4.4/19, MS3.3/2, Ms1 3.2/2, ms1mx2.9/22, Error ellipse: s-maj=13.4km s-min=6.5km az=88.0*

*VAO **31** 01:43:40.7±0.5, 20.63S×68.78W, *h*113km±5km, mb4.8*

ISC 31 01:43:38.4±0.4, 20.54S±0.03×68.98W±0.05, h101km±3km, h101km:pP-P, n165, σ1916/198, mb4.3/60, 7C-5D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.43**	**337**	*e*P	**Pn**	**01 43 54.8**	**+0.5**
PB08				*e*S	**Sn**	**01 44 06.7**	**+0.6**
PB08	**IPOC Station P**	**0.43**	**337**	⇓*i*P	**Pn**	**01 43 54.6**	**+0.3**
PB08				*e*S	**Sn**	**01 44 06.3**	**+0.2**
PB08				IAML		01 44 08.5	
	comp=E,22μm,0.3s						
PB01	**IPOC Station P**	**0.69**	**223**	*e*Pn	**Pn**	**01 43 54.5**	**-1.4**
PB01	**IPOC Station P**	**0.69**	**223**	⇑*i*P	**Pn**	**01 43 55.4**	**-0.5**
PB01				*e*S	**Sn**	**01 44 08.2**	**-0.8**
PB11	**IPOC Station P**	**1.00**	**320**	*e*Pn	**Pn**	**01 43 58.8**	**-0.2**
PB11	**IPOC Station P**	**1.00**	**320**	*e*P	**Pn**	**01 43 59.0**	**0.0**
PB11				*e*S	**Sn**	**01 44 14.7**	**+0.1**
PB11	**IPOC Station P**	**1.00**	**320**	⇓*e*P	**Pn**	**01 43 59.0**	**0.0**
PB11				*e*S	**Sn**	**01 44 14.3**	**-0.3**
PB02	**IPOC Station P**	**1.16**	**228**	*e*P	**Pn**	**01 44 00.2**	**-0.5**
PB02				*e*S	**Sn**	**01 44 17.2**	**-0.4**
PB02	**IPOC Station P**	**1.16**	**228**	*i* P	**Pn**	**01 44 00.1**	**-0.6**
PB02				*e*S	**Sn**	**01 44 16.8**	**-0.9**
PB09	**IPOC Station P**	**1.28**	**191**	*e*P	**Pn**	**01 44 02.4**	**+0.2**
PB09				*e*S	**Sn**	**01 44 21.0**	**+0.9**
PB09	**IPOC Station P**	**1.28**	**191**	⇑*e*P	**Pn**	**01 44 02.2**	**0.0**
PB09				*e*S	**Sn**	**01 44 19.7**	**-0.5**
PB09				IAML		01 44 21.4	
	comp=N,17μm,0.3s						
PSGC	**Pisagua**	**1.43**	**311**	⇓*i*P	**Pn**	**01 44 03.6**	**-0.3**
PSGC				*e*S	**Sn**	**01 44 22.7**	**-0.6**
PSGC				IAML		01 44 26.5	
	comp=E,7μm,0.5s						
PB07	**IPOC Station P**	**1.46**	**216**	*e*P	**Pn**	**01 44 03.7**	**-0.6**
PB07	**IPOC Station P**	**1.46**	**216**	⇑*e*P	**Pn**	**01 44 03.6**	**-0.8**
PB07				⇑*e*S	**Sn**	**01 44 23.0**	**-0.9**
PB07				IAML		01 44 24.9	
	comp=E,15μm,0.3s						
MNMC	**Minye Minye**	**1.52**	**337**	*e*Pn	**Pn**	**01 44 05.9**	**+0.7**
MNMC	**Minye Minye**	**1.52**	**337**	⇓*i*P	**Pn**	**01 44 05.9**	**+0.7**
MNMC				*e*S	**Sn**	**01 44 26.0**	**+0.6**
MNMC				IAML		01 44 29.9	
	comp=N,10μm,0.2s						
MNMCX	**Minye Minye**	**1.52**	**337**	*e*P	**Pn**	**01 44 06.4**	**+1.2**
PB03	**IPOC Station P**	**1.67**	**206**	*e*P	**Pn**	**01 44 06.3**	**-0.6**
PB03	**IPOC Station P**	**1.67**	**206**	⇑*i*P	**Pn**	**01 44 06.2**	**-0.7**
PB03				IAML		01 44 33.3	
	comp=E,9μm,0.2s						
LVC	**Limon Verde**	**2.06**	**178**	*e*P	**Pn**	**01 44 13.4**	**+1.2**
LVC	**Limon Verde**	**2.06**	**178**	*e*P	**Pn**	**01 44 12.7**	**+0.5**
LVC				*e*S	**Sn**	**01 44 38.8**	**+0.9**
LVC	**Limon Verde**	**2.06**	**178**	P	**Pn**	**01 44 12.9**	**+0.7**
	comp=E,376nm,0.3s,baz=8.7,SNR=1235						
LVC				S	**Sn**	**01 44 39.2**	**+1.3**
	comp=E,706nm,0.3s,baz=291,slow=21,SNR=32						
LVC	**Limon Verde**	**2.06**	**178**	*e*P	**Pn**	**01 44 12.9**	**+0.7**
PB04	**IPOC Station P**	**2.10**	**211**	*e*Pn	**Pn**	**01 44 10.9**	**-1.5**
PB04	**IPOC Station P**	**2.10**	**211**	*e*P	**Pn**	**01 44 12.1**	**-0.3**
PB04	**IPOC Station P**	**2.10**	**211**	*i* P	**Pn**	**01 44 10.9**	**-1.5**
PB04				*e*S	**Sn**	**01 44 37.0**	**-1.3**
PB04				IAML		01 44 50.9	
	comp=N,6μm,0.5s						
PB06	**IPOC Station P**	**2.23**	**194**	⇑*i*P	**Pn**	**01 44 13.3**	**-0.8**
PB06				*e*S	**Sn**	**01 44 39.9**	**-1.5**
PB12	**IPOC Station P**	**2.30**	**326**	⇓*i*P	**Pn**	**01 44 14.6**	**-0.3**
PB12				*e*S	**Sn**	**01 44 42.8**	**-0.2**
PB12				IAML		01 44 50.8	
	comp=E,3μm,0.2s						
PB05	**IPOC Station P**	**2.57**	**206**	*e*P	**Pn**	**01 44 18.4**	**-0.1**
PB05	**IPOC Station P**	**2.57**	**206**	⇑*i*P	**Pn**	**01 44 16.9**	**-1.7**
PB15	**IPOC Station P**	**2.70**	**190**	*e*P	**Pn**	**01 44 20.9**	**+0.6**
PB15	**IPOC Station P**	**2.70**	**190**	*e*P	**Pn**	**01 44 19.7**	**-0.6**
PB15				*e*S	**Sn**	**01 44 52.0**	**-0.5**
PB10	**IPOC Station P**	**3.30**	**206**	*e*Pn	**Pn**	**01 44 26.1**	**-2.1**
PB10	**IPOC Station P**	**3.30**	**206**	*e*P	**Pn**	**01 44 26.1**	**-2.1**
PB10				IAML		01 45 23.2	
	comp=E,1μm,0.5s						
LPAZ	**La Paz**	**4.30**	**11**	*e*Pn	**Pn**	**01 44 44.8**	**+2.5**
LPAZ				S	**Sn**	**01 45 27.6**	**-4.1**
LPAZ	**La Paz**	**4.30**	**11**	P	**Pn**	**01 44 43.6**	**+1.3**
	comp=E,12nm,0.3s,baz=201,slow=8.6,SNR=301						
LPAZ				S	**Sn**	**01 45 27.6**	**-4.1**
	comp=E,7.4nm,0.3s,baz=170,slow=5.3,SNR=2.4						
LPAZ	**La Paz**	**4.30**	**11**	*e*P	**Pn**	**01 44 45.5**	**+3.2**
LCO	**Las Campanas**	**8.58**	**190**	*e*Pn	Pn	01 45 35.1	-4.8
LCO	**Las Campanas**	**8.58**	**190**	*e*P	**Pn**	**01 45 41.4**	**+1.4**
SIV	**San Ignacio**	**8.76**	**60**	P	**Pn**	**01 45 41.1**	**-1.2**
	comp=E,11nm,0.3s,baz=255,slow=13,SNR=290						
CFA	**Coronel Fontan**	**11.04**	**177**	P	**Pn**	**01 46 08.6**	**-4.6**
	comp=E,1.2nm,0.3s,baz=22,slow=22,SNR=20						
CFA				S	Sn	01 48 01.5	-13
	baz=325,slow=16,SNR=3.2						
NNA	**Nana**	**11.37**	**317**	*e*Pn	**Pn**

DBIC	**Dimbokro**	**68.52**	**74**	*eP*		**P**	**01 54 30.2**	**-0.3**
WUAZ	**Wupatki**	**68.72**	**324**	*eP*		**P**	**01 54 32.7**	**+1.2**
	comp=E,4.9nm,0.8s							
U15A	**North Rim**	**69.89**	**324**	*eP*		**P**	**01 54 39.5**	**+0.7**
	comp=E,3.7nm,0.8s							
XPFO	**Pion Flat**	**70.34**	**319**	*eP*		**P**	**01 54 42.4**	**+1.0**
	comp=E,3.4nm,0.8s							
PFO	**Pinyon Flats O**	**70.34**	**319**	*eP*		**P**	**01 54 42.1**	**+0.7**
	comp=E,3.2nm,0.8s							
LDFC	**Landfair**	**70.54**	**321**	*eP*		**P**	**01 54 44.0**	**+1.3**
	comp=E,5.7nm,0.9s							
KNB	**Kanab**	**70.61**	**324**	*eP*		**P**	**01 54 43.6**	**+0.5**
	comp=E,9.8nm,1.0s							
LCMT	**Little Creek M**	**70.84**	**324**	*eP*		**P**	**01 54 45.3**	**+0.8**
	comp=E,3.2nm,0.9s							
SRU	**San Rafael Swe**	**70.94**	**327**	*eP*		**P**	**01 54 45.9**	**+0.8**
	comp=E,3.8nm,0.8s							
MTPU	**Mount Pierson**	**71.01**	**325**	*eP*		**P**	**01 54 46.5**	**+0.7**
	comp=E,1.9nm,0.8s							
CCUT	**Cedar City**	**71.30**	**324**	*eP*		**P**	**01 54 48.9**	**+1.5**
	comp=E,5.5nm,0.8s							
P17A	**Butcher Ranch,**	**71.32**	**327**	*eP*		**P**	**01 54 48.3**	**+1.0**
	comp=E,6.3nm,1.0s							
MSU	**Marysvale**	**71.36**	**325**	*eP*		**P**	**01 54 49.1**	**+1.5**
SHPR	**Sheep Range**	**71.56**	**322**	*eP*		**P**	**01 54 49.8**	**+1.0**
	comp=E,3.3nm,0.9s							
PSUT	**Pine Spring**	**72.27**	**324**	*eP*		**P**	**01 54 53.4**	**+0.3**
	comp=E,3.8nm,0.7s							
TPNV	**Topopah Spring**	**72.50**	**322**	*eP*		**P**	**01 54 55.0**	**+0.6**
	comp=E,5.7nm,1.0s							
ISA	**Isabella, Lake**	**72.95**	**320**	*eP*		**P**	**01 54 57.7**	**+0.7**
	comp=E,4.1nm,0.7s							
R11A	**Troy Canyon, C**	**73.10**	**323**	*eP*		**P**	**01 54 58.7**	**+0.7**
	comp=E,3.7nm,1.4s							
PDAR	**Pinedale Array**	**73.25**	**330**	P		**P**	**01 54 59.7**	**+0.9**
	comp=E,0.5nm,0.8s,baz=168,slow=4.6,SNR=3.3							
PDAR				pP		**pP**	**01 55 28.0**	**+2.7**
	comp=E,0.6nm,0.8s,baz=114,slow=13,SNR=2.7							
SPUT	**South Promonto**	**73.56**	**327**	*eP*		**P**	**01 55 00.9**	**+0.4**
	comp=E,5.0nm,1.0s							
BGU	**Big Grassy Mou**	**73.57**	**327**	*eP*		**P**	**01 55 01.1**	**+0.5**
	comp=E,3.3nm,1.1s							
HVU	**Hansel Valley**	**74.07**	**327**	*eP*		**P**	**01 55 04.6**	**+1.0**
	comp=E,7.4nm,1.3s							
ULM	**Lac du Bonnet**	**74.39**	**342**	P		**P**	**01 55 04.7**	**-0.2**
	comp=E,2.6nm,0.6s,baz=134,slow=4.6,SNR=7.9							
ULM				pP		**pP**	**01 55 32.0**	**+0.2**
	comp=E,4.5nm,0.7s,baz=142,slow=4.2,SNR=6.1							
OMMB	**Old Mammoth Mi**	**74.56**	**321**	*eP*		**P**	**01 55 07.7**	**+1.0**
	comp=E,4.7nm,0.9s							
MDPB	**Devils Postpil**	**74.62**	**321**	*eP*		**P**	**01 55 07.9**	**+0.9**
	comp=E,2.7nm,0.9s							
NV01	**Mina Array Sit**	**74.70**	**322**	*eP*		**P**	**01 55 08.0**	**+0.7**
NVAR	**Mina Array Bea**	**74.70**	**322**	P		**P**	**01 55 08.9**	**+1.6**
	comp=E,1.4nm,0.7s,baz=158,slow=7.1,SNR=11							
NVAR				pP		**pP**	**01 55 35.1**	**+1.1**
	comp=E,1.2nm,0.8s,baz=152,slow=5.5,SNR=4.4							
IMW	**Indian Meadow**	**74.76**	**330**	*eP*		**P**	**01 55 08.1**	**+0.4**
	comp=E,3.2nm,1.0s							
FLWY	**Flagg Ranch**	**74.79**	**330**	*eP*		**P**	**01 55 08.9**	**+1.1**
	comp=E,5.1nm,0.8s							
KVN	**Kaiserville**	**75.00**	**322**	*eP*		**P**	**01 55 09.6**	**+0.6**
	comp=E,3.3nm,1.0s							
YMR	**Madison River**	**75.36**	**330**	*eP*		**P**	**01 55 11.6**	**+0.6**
	comp=E,6.3nm,1.1s							
YHH	**Holmes Hill**	**75.40**	**331**	*eP*		**P**	**01 55 11.8**	**+0.5**
	comp=E,6.1nm,1.1s							
YHB	**Horse Butte**	**75.53**	**330**	*eP*		**P**	**01 55 13.3**	**+1.3**
	comp=E,7.4nm,1.0s							
PAHR	**Pah Rah Range**	**76.18**	**322**	*eP*		**P**	**01 55 16.4**	**+0.7**
	comp=E,5.2nm,0.7s							
HLID	**Hailey**	**76.20**	**328**	*eP*		**P**	**01 55 16.1**	**+0.4**
	comp=E,3.9nm,0.9s							
MCMT	**McKenzie Canyo**	**76.36**	**330**	*eP*		**P**	**01 55 17.8**	**+1.0**
TOA0	**Torodi Ar. Sit**	**77.09**	**71**	*eP*		**P**	**01 55 20.6**	**-0.6**
	comp=E,13nm,1.0s							
TORD	**Torodi Ar. Bea**	**77.09**	**71**	P		**P**	**01 55 20.8**	**-0.4**
	comp=E,4.3nm,0.8s,baz=241,slow=5.3,SNR=36							
TORD				pP		**pP**	**01 55 47.5**	**-1.0**
	comp=E,8.3nm,0.9s,baz=269,slow=4.7,SNR=11							
TORD				sP		**sP**	**01 55 59.8**	**0.0**
	comp=E,2.7nm,0.6s,baz=251,slow=5.4,SNR=2.8							
VNDA	**Vanda**	**77.78**	**190**	P		**P**	**01 55 25.3**	**+1.3**
	comp=E,0.7nm,0.8s,baz=123,slow=5.5,SNR=4.8							
BMO	**Blue Mountains**	**78.58**	**327**	*eP*		**P**	**01 55 30.1**	**+1.2**
	comp=E,2.9nm,0.9s							
FFC	**Flin Flon**	**80.10**	**341**	*eP*		**P**	**01 55 37.0**	**+0.2**
C09A	**Chrisman Ranch**	**81.11**	**329**	*eP*		**P**	**01 55 43.8**	**+1.4**
	comp=E,4.4nm,0.6s							
BOSA	**Boshof**	**83.95**	**118**	P		**P**	**01 55 58.3**	**+0.4**
	comp=E,3.0nm,1.1s,baz=177,slow=19,SNR=2.9							
BOSA				pP		**pP**	**01 56 25.4**	**-0.1**
	comp=E,1.6nm,0.8s,baz=305,slow=19,SNR=1.2							
MAW	**Mawson**	**85.27**	**163**	P		**P**	**01 56 04.4**	**+0.9**
	comp=E,2.5nm,0.7s,baz=268,slow=11,SNR=3.1							
YKA	**Yellowknife Ar**	**90.26**	**341**	P		**P**	**01 56 27.6**	**+0.4**
	comp=E,2.9nm,0.8s,baz=133,slow=4.6,SNR=46							
YKA				pP		**pP**	**01 56 54.5**	**-0.8**
	comp=E,7.8nm,0.8s,baz=134,slow=4.5,SNR=20							
YKB5	**Yellowknife Ar**	**90.26**	**341**	*eP*		**P**	**01 56 27.3**	**+0.1**
YKW3	**Yellowknife Ar**	**90.32**	**341**	*eP*		**P**	**01 56 28.0**	**+0.5**
	comp=E,9.8nm,1.0s							
ASAR	**Alice Springs**	**130.73**	**208**	PKP		**PKPdf**	**02 02 38.5**	**0.0**
	comp=E,0.9nm,0.8s,baz=126,slow=2.8,SNR=7.4							
ASAR				pPKP		**pPKPdf**	**02 03 07.4**	**+0.1**
	comp=E,0.6nm,0.9s,baz=131,slow=2.2,SNR=2.7							
WRA	**Warramunga Arr**	**133.75**	**211**	PKP		**PKPdf**	**02 02 44.5**	**+0.3**
	comp=E,1.0nm,0.7s,baz=158,slow=1.6,SNR=13							
WRA				pPKP		**pPKPdf**	**02 03 13.3**	**+0.3**
	comp=E,0.7nm,0.6s,baz=158,slow=1.7,SNR=3.5							
ZALV	**Zalesovo Beam**	**141.11**	**25**	PKP		**PKPdf**	**02 02 56.5**	**-0.1**
	comp=E,1.1nm,0.5s,baz=279,slow=2.9,SNR=5.5							
ZALV				pPKP		**pPKPdf**	**02 03 26.3**	**+0.6**
	comp=E,1.0nm,0.5s,baz=323,slow=2.2,SNR=3.0							
AAK	**Ala-Archa**	**142.29**	**46**	*e*PKPdf		**PKiKP**	**02 03 01.1**	**-1.3**
MKAR	**Makanchi Array**	**144.89**	**35**	PKP		**PKPdf**	**02 03 03.7**	**+0.1**
	comp=E,1.4nm,0.4s,baz=323,slow=2.7,SNR=25							
MKAR				pPKP		**pPKPdf**	**02 03 31.6**	**-1.2**
	comp=E,1.8nm,0.7s,baz=302,slow=2.7,SNR=6.8							
ERM	**Erimo**	**145.49**	**316**	*e*PKPbc		**PKPab**	**02 03 05.2**	**0.0**
USRK	**Ussuriysk Ar.**	**150.66**	**328**	PKPbc		**PKPbc**	**02 03 17.8**	**-0.9**
	comp=E,2.6nm,0.7s,baz=242,slow=3.1,SNR=7.4							
USRK				pPKPbc		**pPKPbc**	**02 03 46.7**	**-0.9**
	comp=E,2.6nm,0.8s,baz=234,slow=4.8,SNR=3.7							
MJAR	**Matsushiro Arr**	**151.42**	**310**	PKPbc		**PKPbc**	**02 03 20.7**	**-0.1**
	comp=E,1.8nm,0.8s,baz=211,slow=1.2,SNR=3.7							
MJAR				pPKPbc		**pPKPbc**	**02 03 49.0**	**-0.3**
	comp=E,1.3nm,0.6s,baz=142,slow=1.4,SNR=2.9							
CHTO	**Chiang Mai**	**168.49**	**97**	*eP*		**PKPdf**	**02 03 34.0**	**0.0**

*GII **31** 01:50:23.2±0.0,35.°79N×36.°95E, h1km, MD3.5/4*
*ISK **31** 01:50:25.2,35.°12N×37.°31E, h5km, ML3.6/16*
*DDA **31** 01:50:26.0,35.°18N×37.°46E, h18km, ML3.4*
*GRAL **31** 01:50:28.7±0.6,35.°44N×37.°16E, h15km±260km, MD3.9*

ISC 31 01:50:23.1±1.3,**35.°07N**±0.°03×**37.°60E**±0.°06,**h3**km±12km, **n74**,σ1°**66**/89,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
YAYL	**Yayladag**	**1.56**	**309**	*i* P		**Pb**	**01 50 53.0**	**+0.3**
YAYL				*i* S		**Sn**	**01 51 11.1**	**-1.5**
HWQ	**Hawqa**	**1.58**	**241**	*e*P		**Pg**	**01 50 54.0**	**+0.6**
HWQ				*e*S		**Sb**	**01 51 13.3**	**0.0**
KUZU	**Kuzuini**	**1.76**	**346**	*i* P		**Pb**	**01 50 56.2**	**+0.2**
KUZU				*i* S		**Sg**	**01 51 19.9**	**+0.3**
BHL	**Bhannes**	**1.98**	**235**	*e*P		**Pb**	**01 51 00.6**	**+0.6**
BHL				*e*S		**Sb**	**01 51 24.0**	**-1.1**
SURC	**SANLIURFA_SURC**	**1.99**	**24**	*i* P		**Pg**	**01 51 01.6**	**+0.4**
BEYL	**Beirut**	**2.11**	**236**	*e*P		**Pb**	**01 51 02.1**	**+0.1**
GAZ	**Gaziantep**	**2.13**	**352**	PN		**Pb**	**01 51 02.3**	**-0.1**
RCY	**Rachaya**	**2.14**	**224**	*e*P		**Pg**	**01 51 04.0**	**-0.2**
DQRL	**Deir Qamar**	**2.16**	**232**	*e*P		**Pb**	**01 51 03.2**	**+0.3**
QRWL	**Qaraoun**	**2.20**	**227**	*e*P		**Pg**	**01 51 04.8**	**-0.4**
KAMA	**Osmaniye**	**2.25**	**341**	*i* P		**Pb**	**01 51 03.7**	**-0.8**
KAMA				*i* S		**Sb**	**01 51 31.4**	**-1.3**
KAMA				IAML_P				
	comp=Z,1μm,0.2s							
GZT	**Gaziantep**	**2.29**	**359**	*i* P		**Pb**	**01 51 04.8**	**-0.3**
GZT				*i* S		**Sg**	**01 51 35.8**	**-0.8**
GZT				IAML_P				
	comp=Z,969nm,0.1s							
SHBL	**Chebaa**	**2.31**	**223**	*e*P		**Pg**	**01 51 06.4**	**-0.9**
KRTD	**Karatas-Adana**	**2.34**	**311**	PN		**Pn**	**01 51 03.3**	**+0.8**
KRTD				SN		**Sn**	**01 51 31.1**	**-0.7**
HCB	**Kahramanmara**	**2.34**	**346**	*i* P		**Pb**	**01 51 05.0**	**-1.0**
HCB				*i* S		**Sn**	**01 51 32.2**	**+0.3**
HCB				IAML_P				
	comp=Z,2μm,0.2s							
NATI	**Neve Ativ**	**2.37**	**221**	Pn		**Pg**	**01 51 07.6**	**-1.0**
NATI				Sn		**Sg**	**01 51 41.0**	**+1.6**
YURE	**YUREGIR**	**2.38**	**318**	PN		**Pn**	**01 51 04.1**	**+1.1**
YURE				SN		**Sn**	**01 51 32.4**	**-0.3**
YURE	**YUREGIR**	**2.38**	**318**	*i* P		**Pb**	**01 51 06.3**	**-0.3**
YURE				*i* S		**Sn**	**01 51 34.6**	**+1.8**
GEM	**Giv'at Ha'Em**	**2.45**	**222**	Pn		**Pb**	**01 51 08.7**	**+0.8**
GEM				Sn		**Sg**	**01 51 43.7**	**+1.8**
CEYT	**Ceyhan**	**2.46**	**323**	PN		**Pn**	**01 51 05.4**	**+1.3**
KSDI	**Kefar Szold**	**2.47**	**221**	Pn		**Pb**	**01 51 08.7**	**+0.6**
KSDI				Sn		**Sg**	**01 51 43.8**	**+1.3**
KMRS	**Kahramanmaras**	**2.50**	**347**	PN		**Pb**	**01 51 07.3**	**-1.4**
URFA	**Urfa**	**2.57**	**22**	PN		**Pb**	**01 51 10.3**	**+0.4**
ANDN	**Andirin**	**2.71**	**338**	*i* P		**Pb**	**01 51 10.5**	**-1.8**
ANDN				IAML_P				
	comp=Z,833nm,0.3s							
MMA0B	**Mount Meron ar**	**2.74**	**222**	Pn		**Pb**	**01 51 13.0**	**+0.1**
SHMJ	**Saham**	**2.79**	**214**	P		**Pb**	**01 51 13.7**	**+0.1**
	comp=Z,227nm,0.6s							
KOZT	**Kozan**	**2.81**	**330**	PN		**Pn**	**01 51 10.7**	**+1.8**
HNTI	**Hanita**	**2.83**	**226**	Pn		**Pb**	**01 51 13.1**	**-1.1**
HNTI				Sn		**Sb**	**01 51 50.4**	**+1.2**
EREN	**Erenkoy**	**2.85**	**280**	PN		**Pn**	**01 51 10.0**	**+0.5**
EREN	**Erenkoy**	**2.85**	**280**	*i* P		**Pn**	**01 51 10.9**	**+1.5**
DED	**Mersin**	**2.96**	**311**	*i* P		**Pn**	**01 51 12.9**	**+1.9**
DED				*i* S		**Sn**	**01 51 42.2**	**-4.9**
DED				IAML_P				
	comp=Z,519nm,0.3s							
AKO	**Adana**	**2.96**	**325**	*i* P		**Pn**	**01 51 13.1**	**+2.1**
AKO				IAML_P				
	comp=Z,238nm,0.2s							
KARA	**Karaisali**	**3.01**	**317**	PN		**Pn**	**01 51 13.0**	**+1.3**
BLGI	**Bet Lehem HaGe**	**3.07**	**221**	Pn		**Pb**	**01 51 17.4**	**-1.0**
MERS	**Mersin**	**3.08**	**307**	PN		**Pn**	**01 51 13.7**	**+0.9**
KIZK	**Mersin**	**3.15**	**298**	PN		**Pn**	**01 51 14.2**	**+0.6**
KIZK	**Mersin**	**3.15**	**298**	*i* P		**Pn**	**01 51 15.9**	**+2.2**
SAIM	**ADANA**	**3.15**	**338**	*i* P		**Pn**	**01 51 16.5**	**+2.7**
SAIM				IAML_P				
	comp=Z,826nm,0.2s							
HSUJ	**Al Zarqa**	**3.18**	**202**	P		**Pg**	**01 51 23.7**	**-0.4**
	comp=Z,188nm,0.7s							
GULE	**Gulek**	**3.18**	**315**	*i* P		**Pn**	**01 51 17.1**	**+2.8**
GULE				IAML_P				
	comp=Z,467nm,0.2s							
MMLI	**Mount Malkishu**	**3.19**	**215**	Pn		**Pb**	**01 51 20.1**	**-0.4**
MMLI				Sn		**Sg**	**01 52 04.0**	**-1.6**
AKCD	**Akcadag**	**3.23**	**4**	*i* P		**Pb**	**01 51 18.6**	**-2.7**
OFRI	**`Ofer**	**3.27**	**223**	Pn		**Pb**	**01 51 20.3**	**-1.5**
OFRI				Sn		**Sb**	**01 52 02.7**	**+0.6**
HMDT	**Nahal Hemdat**	**3.30**	**212**	Pn		**Pb**	**01 51 21.5**	**-0.8**
HMDT				Sn		**Sg**	**01 52 07.2**	**-1.9**
LFK	**Lefkose**	**3.34**	**275**	PN		**Pn**	**01 51 17.1**	**+0.8**
IKL	**Isikli**	**3.40**	**291**	PN		**Pn**	**01 51 18.0**	**+0.9**
KEBE	**Keben-Mersin**	**3.45**	**295**	PN		**Pn**	**01 51 18.8**	**+0.9**
AKKU	**Akkuyu-Mersin**	**3.48**	**289**	PN		**Pn**	**01 51 18.7**	**+0.6**
GULN	**MERSIN_Gulnar**	**3.49**	**290**	*i* P		**Pn**	**01 51 19.5**	**+1.1**
GULN				IAML_P				
	comp=Z,751nm,0.2s							
CSS	**Mathiatis**	**3.51**	**270**	PN		**Pn**	**01 51 19.6**	**+1.0**
CSS	**Mathiatis**	**3.51**	**270**	P		**Pn**	**01 51 21.9**	**+3.3**
YAHY	**KAYSERI_Yahyal**	**3.52**	**330**	*i* P		**Pn**	**01 51 21.5**	**+2.6**
YAHY				IAML_P				
	comp=Z,249nm,0.3s							
SLTI	**Sal'it**	**3.54**	**218**	Pn		**Pb**	**01 51 24.3**	**-2.1**
MAMC	**Mammari**	**3.60**	**273**	P		**Pn**	**01 51 23.5**	**+3.7**
KERG	**Konya-Eregli**	**3.66**	**311**	*i* P		**Pn**	**01 51 23.6**	**+2.8**
KERG				IAML_P				
	comp=Z,220nm,0.3s							
BERE	**Bereket-Mersin**	**3.79**	**291**	PN		**Pn**	**01 51 23.5**	**+0.9**
WALJ	**Wala**	**3.80**	**204**	P		**Pb**	**01 51 32.6**	**+1.7**
	comp=Z,130nm,0.6s							
AKDN	**Akdeniz- Kıbrı**	**3.81**	**275**	PN		**Pn**	**01 51 23.7**	**+1.1**
TEKE	**Tekeli-Mersin**	**3.81**	**288**	PN		**Pn**	**01 51 23.8**	**+1.0**
SZAC	**Souni**	**3.89**	**267**	P		**Pn**	**01 51 26.0**	**+2.1**
DSI	**Dead Sea**	**3.95**	**209**	Pn		**Pb**	**01 51 31.1**	**-2.3**
SWQJ	**Swaqa**	**4.03**	**199**	P		**Pb**	**01 51 30.6**	**-4.2**
	comp=Z,99nm,0.9s							
ALFC	**Alefka**	**4.10**	**273**	P		**Pn**	**01 51 28.9**	**+2.1**
GHAJ	**Ghor Haditha**	**4.12**	**205**	P		**Pb**	**01 51 36.3**	**0.0**
	comp=Z,77nm,0.7s							
GHAJ	**Ghor Haditha**	**4.12**	**205**	Pn		**Pb**	**01 51 34.8**	**-1.5**
AMAZ	**Amatzia**	**4.18**	**213**	Pn		**Pb**	**01 51 33.8**	**-3.6**
MZDA	**Masada**	**4.19**	**207**	Pn		**Pb**	**01 51 36.1**	**-1.4**
LISJ	**El Lisan**	**4.21**	**206**	P		**Pb**	**01 51 36.4**	**-1.4**
	comp=Z,53nm,0.7s							
YTIR	**Yattir**	**4.24**	**210**	Pn		**Pb**	**01 51 35.3**	**-3.1**
PPCY	**Paphos**	**4.32**	**269**	P		**Pn**	**01 51 31.8**	**+2.1**
JDRJ	**Daraweish**	**4.62**	**201**	P		**Pb**	**01 51 46.6**	**+1.6**
KZIT	**Kziot**	**4.95**	**214**	Pn		**Pb**	**01 51 44.3**	**-6.1**
PRNI	**Paran**	**5.19**	**206**	Pn		**Pb**	**01 51 49.4**	**-5.1**
EIL	**Elat**	**5.83**	**203**	Pn		**Pb**	**01 51 58.3**	**-7.1**

KRSC 31 01:57:46.3±10.0,**50.°23N**×**157.°38E**,**h60**km±10km,**ML3.8, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.93**	**300**	*e*P		Pn	01 58 04.4	+1.1
SKR				*e*S		Sn	01 58 16.6	+0.7
PAU	**Pauzhetka**	**1.29**	**344**	*e*P		Pn	01 58 10.5	+2.4
PAU				*e*S		Sn	01 58 26.9	+2.5
KDTR	**Khodutka, Kamc**	**1.64**	**15**	*e*P		Pn	01 58 15.3	+2.5
KDTR				*e*S		Sn	01 58 35.4	+2.5
ASAK	**Asacha**	**2.18**	**8**	*e*P		Pn	01 58 22.3	+2.1
MTVR	**Mutnovka**	**2.31**	**12**	*e*S		Sn	01 58 52.1	+2.7
RUS	**Russkaya**	**2.32**	**17**	*e*P		Pn	01 58 24.3	+2.3
RUS				*e*S		Sn	01 58 50.7	+1.4
DALK	**Dalny**	**2.93**	**16**	*e*S		Sn	01 59 08.6	+4.2
UGLR	**Uglovaya**	**3.12**	**16**	*e*P		Pn	01 58 35.8	+2.8
KOK	**Koryaka**	**3.17**	**14**	*e*P		Pn	01 58 36.6	+2.9
SDLR	**Sedlovina**	**3.19**	**16**	*e*P		Pn	01 58 36.7	+2.6

MEX 31 01:58:05.7±0.4,**16.°26N**×**98.°27W**,**h7**km±2km,**MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.19**	**46**	*i* P		Pg	01 58 09.2	-0.3
PNIG				*i* S		Sg	01 58 12.0	-0.1
TLIG	**Tlapa**	**1.33**	**348**	*e*P		Pn	01 58 27.1	-3.6
TLIG				*e*S		Sb	01 58 42.8	-5.4
VHO	**Vista Hermosa**	**1.68**	**61**	*i* P		Pn	01 58 32.7	-2.9
VHO				*i* S		Sn	01 58 53.2	-4.3

GUC 31 02:04:05.7±0.3,**23.°06S**×**67.°34W**,**h258**km±7km,**ML3.8, 8C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PB06	**IPOC Station P**	**2.08**	**279**	⇓*i* P		Pn	02 04 51.5	+1.7
PB06				*i* S		S	02 05 26.4	+1.8
PB06				IAML			02 05 28.4	
	comp=N,190nm,0.4s							
PB09	**IPOC Station P**	**2.16**	**305**	⇑*i* P		Pn	02 04 52.5	+1.9
PB09				IAML			02 05 31.1	
	comp=N,67nm,0.2s							
PB03	**IPOC Station P**	**2.44**	**294**	⇑*i* P		Pn	02 04 55.2	+2.0
PB03				*i* S		S	02 05 32.9	+2.1
PB03				IAML			02 05 34.1	
	comp=E,244nm,0.3s							
PB05	**IPOC Station P**	**2.64**	**274**	⇑*i* P		Pn	02 04 57.2	+2.1
PB05				*i* S		S	02 05 36.3	+2.0
PB05				IAML			02 05 40.6	
	comp=E,71nm,0.2s							
PB04	**IPOC Station P**	**2.69**	**285**	*e*P		Pn	02 04 58.1	+2.5
PB04				*i* S		S	02 05 37.7	+2.5
PB04				IAML			02 05 40.0	
	comp=N,137nm,0.2s							
PB07	**IPOC Station P**	**2.70**	**299**	⇑*i* P		Pn	02 04 58.0	+2.1
PB07				*i* S		S	02 05 37.8	+2.3
PB07				IAML			02 05 39.7	
	comp=E,212nm,0.2s							
PB01	**IPOC Station P**	**2.82**	**315**	⇑*i* P		Pn	02 04 59.0	+2.0
PB01				*i* S		S	02 05 39.7	+2.1
PB01				IAML			02 05 41.4	
	comp=N,154nm,0.2s							
PB02	**IPOC Station P**	**2.93**	**306**	⇑*i* P		Pn	02 05 00.3	+2.2
PB02				*i* S		S	02 05 41.8	+2.2
PB02				IAML			02 05 43.8	
	comp=E,145nm,0.6s							
PB10	**IPOC Station P**	**2.99**	**261**	⇑*i* P		Pn	02 05 00.7	+2.2
PB10				*i* S		S	02 05 42.5	+2.1
PB08	**IPOC Station P**	**3.36**	**330**	⇑*i* P		Pn	02 05 05.6	+2.6
PB08				IAML			02 05 56.1	
	comp=E,54nm,0.2s							
MNMC	**Minye Minye**	**4.44**	**331**	*e*P		Pn	02 05 17.5	+2.1
MNMC				*e*S		S	02 06 13.3	+2.4

KRSC 31 02:45:48.9±10.0,**50.°78N**×**160.°03E**,**h82**km±10km,**ML3.7, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.60**	**311**	*e*P		Pn	02 46 17.1	+1.5
KDTR				*e*S		Sn	02 46 38.0	+2.2
RUS	**Russkaya**	**1.91**	**331**	*e*P		Pn	02 46 20.5	+0.9
RUS				*e*S		Sn	02 46 44.6	+1.6
MTVR	**Mutnovka**	**2.06**	**327**	*e*P		Pn	02 46 23.0	+1.2
MTVR				*e*S		Sn	02 46 49.0	+2.2
PAU	**Pauzhetka**	**2.14**	**290**	*e*S		Sn	02 46 51.4	+2.9
KRMR	**Karymshinskiy**	**2.37**	**331**	*e*P		Pn	02 46 27.5	+1.8
KRMR				*e*S		Sn	02 46 56.5	+2.5
DALK	**Dalny**	**2.39**	**341**	*e*P		Pn	02 46 28.0	+2.0
DALK				*e*S		Sn	02 46 55.8	+1.3
NLC	**Nalytchevo**	**2.44**	**350**	*e*S		Sn	02 46 58.5	+3.0
SKR	**Severo-Kuril's**	**2.49**	**269**	*e*P		Pn	02 46 30.0	+2.7
SKR				*e*S		Sn	02 46 58.2	+1.4
UGLR	**Uglovaya**	**2.55**	**343**	*e*P		Pn	02 46 30.3	+2.1
SDLR	**Sedlovina**	**2.60**	**345**	*e*P		Pn	02 46 30.8	+1.8
SMAR	**Somma**	**2.60**	**343**	*e*P		Pn	02 46 31.1	+2.0
AVH	**Avacha**	**2.62**	**343**	*e*P		Pn	02 46 31.8	+2.7
KRER	**Koryakskii**	**2.65**	**343**	*e*P		Pn	02 46 32.5	+2.8
KRER				*e*S		Sn	02 47 04.1	+3.1
KOK	**Koryaka**	**2.66**	**342**	*e*P		Pn	02 46 32.3	+2.5
KRX	**Arik**	**2.72**	**342**	*e*P		Pn	02 46 32.9	+2.3
KRX				*e*S		Sn	02 47 05.2	+2.5
KZV	**Kizimen**	**4.35**	**2**	*e*P		Pn	02 46 55.4	+2.8
TUMR	**Tumrok**	**4.51**	**1**	*e*P		Pn	02 46 57.3	+2.4

IDC 31 02:49:18.1±5.3,**4.°84S**×**151.°60E**,**h98**km±45km,**mb3.4/4, mb1 3.6/5,mb1mx3.2/40,mbtmp3.8/5,MS3.2/1,Ms1 3.2/1, ms1mx2.5/21,Error ellipse: s-maj=102.8km s-min=30.6km az=129.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.33**	**224**	P		Pn	02 50 49.5	+0.6
	1.3nm,0.3s,baz=234,slow=14,SNR=3.2							
PMG				S		Sn	02

BSO1	**Boso 1**	**1.52 152**	P		**Pn**	**03 31 04.9**	**+0.9**
MJAR	**Matsushiro Arr**	**1.64 290**	P		**Pn**	**03 31 06.9**	**+0.7**
	12nm,0.3s,baz=98,slow=8.5,SNR=831						
MJAR			S		**Sn**	**03 31 27.1**	**+0.7**
	3.4nm,0.3s,baz=117,slow=5.3,SNR=11						
MJAR			LR		LR	03 31 46.5	
	comp=Z,42nm,20.0s,baz=120,slow=40						
MAT	**Matsushiro**	**1.64 290**	P		**Pn**	**03 31 07.5**	**+1.3**
MAT			S		**Sn**	**03 31 27.8**	**+1.4**
JHJ	**Hachijo jima 2**	**2.89 186**	P		**Pn**	**03 31 23.2**	**+0.1**
	39nm,0.3s,baz=110,slow=22,SNR=9.0						
JHJ			S		**Sn**	**03 31 54.5**	**-2.2**
	39nm,0.3s,baz=242,slow=23,SNR=6.7						
JNU	**Nakatsue**	**8.15 252**	P		**Pn**	**03 32 36.0**	**+1.0**
	0.4nm,0.3s,baz=18,slow=6.9,SNR=3.7						
JNU			LR		LR	03 36 05.0	
	comp=Z,43nm,21.5s,baz=38,slow=40						
ASAJ	**Asahikawa**	**8.32 12**	P		**Pn**	**03 32 35.9**	**-1.4**
	1.1nm,0.3s,baz=208,slow=13,SNR=9.4						
ASAJ			S		**Sn**	**03 34 03.3**	**-6.4**
	0.3nm,0.3s,baz=114,slow=20,SNR=1.9						
KSRS	**Korea Array**	**9.90 282**	P		**Pn**	**03 32 59.8**	**+0.9**
	0.3nm,0.3s,baz=91,slow=18,SNR=3.4						
KSRS			LR		LR	03 36 55.2	
	comp=Z,18nm,20.0s,baz=190,slow=38						
ZALV	**Zalesovo Beam**	**41.85 313**	P		**P**	**03 38 22.1**	**-0.5**
	1.1nm,0.5s,baz=104,slow=6.3,SNR=5.7						
MKAR	**Makanchi Array**	**43.80 300**	P		**P**	**03 38 38.6**	**+0.2**
	1.4nm,0.9s,baz=86,slow=10,SNR=8.1						
WRA	**Warramunga Arr**	**55.91 187**	P		**P**	**03 40 09.7**	**-0.8**
	0.7nm,0.5s,baz=1.6,slow=7.5,SNR=19						
ASAR	**Alice Springs**	**59.64 187**	P		**P**	**03 40 36.6**	**+0.1**
	0.2nm,0.5s,baz=22,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**69.24 332**	P		**P**	**03 41 38.7**	**-0.1**
	0.7nm,0.6s,baz=86,slow=7.8,SNR=4.9						
NOA	**NORSAR Array B**	**74.73 337**	P		**P**	**03 42 10.3**	**-1.4**
	0.9nm,0.9s,baz=40,slow=5.9,SNR=2.7						
BRTR	**Keskin Array B**	**78.75 311**	P		**P**	**03 42 35.6**	**+0.8**
	0.5nm,0.8s,baz=72,slow=6.2,SNR=3.5						

*ISCJB **31** 03:35:55.3±0.4, 1.°11N±0.°04×126.°40E±0.°04, h39km, mb4.0/7, MS3.5/3, Error ellipse: s-maj=6.3km s-min=5.5km az=26.2*
*DJA **31** 03:35:55.7±1.3, 1.°1N±3.°12.°6E±.°, h23km±13km, M4.2/12, mb4.1/6, mB4.8/1, MLv4.2/12, Mw(mB)4.0/1*
*IDC **31** 03:35:58.3±4.9, 1.°10N×126.°39E, h70km±47km, mb3.8/6, mb1 3.9/8, mb1mx3.6/35, mbtmp4.1/8, ML3.6/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/27, Error ellipse: s-maj=47.8km s-min=16.0km az=84.0*

ISC 31 03:35:56.5±0.7, 1.°14N±0.°06×126.°43E±0.°06, h39km, n24, σ1s64/25, mb4.3/7, MS3.5/3, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**111**	P		**Pn**	**03 36 14.2**	**+0.1**
TNTI				S		**Sn**	**03 36 28.2**	**+1.1**
KMSI	**Cibinong**	**2.51**	**257**	P		**Pn**	**03 36 35.1**	**+0.3**
KMSI				S		**Sn**	**03 37 05.1**	**+1.0**
SGSI	**Sangihe**	**2.69**	**341**	P		**Pn**	**03 36 36.8**	**-0.4**
SGSI				S		**Sn**	**03 37 09.2**	**+0.7**
SANI	**Sanana**	**3.19**	**188**	P		**Pn**	**03 36 45.7**	**+1.5**
LUWI	**Luwuk**	**4.25**	**239**	P		**Pn**	**03 36 58.8**	**+0.1**
MRSI	**Marisa**	**4.53**	**262**	P		**Pn**	**03 37 03.8**	**+1.2**
SIJI	**Sorong**	**5.23**	**112**	P		**Pn**	**03 37 14.1**	**+1.8**
	1.1nm,0.3s,baz=301,slow=7.3,SNR=4.5							
SIJI				S		Sn	03 38 21.8	+10
	0.9nm,0.3s,baz=229,slow=19,SNR=3.9							
SIJI				LR		LR	03 39 42.4	
	comp=Z,246nm,19.9s,baz=148,slow=43							
KCP	**Kidapawan**	**5.98**	**347**	↓*e*P		**Pn**	**03 37 26.2**	**+3.5**
FAKI	**Fak Fak**	**7.08**	**125**	P		**Pn**	**03 37 40.4**	**+2.8**
BBSI	**Bau Bau**	**7.62**	**210**	P		**Pn**	**03 37 46.3**	**+1.2**
SPSI	**Sidrap Palu**	**8.36**	**233**	P		**Pn**	**03 37 56.0**	**+0.8**
BKSI	**Bulukumba**	**8.99**	**224**	P		**Pn**	**03 38 04.2**	**+0.4**
	8.4nm,0.8s							
EDFI	**Ende, Flores**	**10.90**	**206**	P		**Pn**	**03 38 30.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**19.13**	**182**	P		**P**	**03 40 15.3**	**-1.1**
	0.2nm,0.3s,baz=33,slow=12,SNR=5.1							
WRA	**Warramunga Arr**	**22.34**	**160**	P		**P**	**03 40 49.7**	**-1.5**
	10nm,0.8s,baz=334,slow=11,SNR=41							
ASAR	**Alice Springs**	**25.70**	**164**	P		**P**	**03 41 22.1**	**-1.2**
	1.8nm,0.7s,baz=343,slow=6.4,SNR=32							
STKA	**Stephens Creek**	**35.84**	**158**	P		**P**	**03 42 51.6**	**-0.9**
	1.8nm,0.4s,baz=339,slow=9.7,SNR=9.0							
STKA				LR		LR	03 58 30.7	
	comp=Z,86nm,18.9s,baz=24,slow=38							
MJAR	**Matsushiro Arr**	**36.88**	**16**	P		**P**	**03 42 59.8**	**-1.6**
	0.5nm,0.5s,baz=187,slow=10,SNR=4.1							
USRK	**Ussuriysk Ar.**	**43.16**	**6**	P		**P**	**03 43 53.0**	**-0.3**
	0.7nm,0.4s,baz=192,slow=9.9,SNR=4.0							
KLR	**Kul'dur**	**48.13**		LR		LR	04 07 29.9	
	comp=Z,22nm,18.2s,baz=310,slow=39							
MKAR	**Makanchi Array**	**59.51**	**326**	P		**P**	**03 45 54.1**	**-1.7**
	1.3nm,0.6s,baz=121,slow=9.0,SNR=12							
NRIK	**Noril'sk**	**72.86**	**347**	LR		LR	04 20 46.5	
	comp=Z,55nm,18.1s,baz=36,slow=37							
FINES	**FINESS Array B**	**93.96**	**332**	P		**P**	**03 49 12.8**	**+2.8**
	1.0nm,0.7s,baz=40,slow=3.2,SNR=5.2							
TXAR	**Lajitas Array**	**123.40**	**53**	PKP		**PKPdf**	**03 54 47.5**	**-2.9**
	0.3nm,0.9s,baz=321,slow=1.2,SNR=2.3							

*JMA **31** 03:41:31.8±0.3, 43.°22N×146.°93E, h37km±4km, M2.7*
*SKHL **31** 03:41:32.3±0.3, 43.°21N×146.°98E, h68km±6km, mb4.1/3*
ISC 31 03:41:32.7±2.2, 43.°2N±0.°1×146.°95E±0.°10, h50km±28km, n12, σ0s63/22, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.64**	**352**	*i* P		**Pn**	**03 41 46.0**	**+0.3**
SHO					AMB	AMB	03 41 46.0	
	31nm,0.2s							
SHO					AMB	AMB	03 41 46.0	
	20nm,0.2s							
SHO					AMB	AMB	03 41 46.0	
	54nm,0.2s							
SHO				*i* S		**Sn**	**03 41 56.0**	**+0.9**
SHO					A	A	03 41 57.0	
	350nm,0.2s							
SHO					A	A	03 41 57.0	
	540nm,0.2s							
NEM2	**Nemuro 2**	**0.89**	**279**	P		**Pn**	**03 41 47.9**	**-1.0**
NEM2				*e*S		**Sn**	**03 41 59.6**	**-1.2**
YUK	**Yuzh-Kuril'sk**	**1.12**	**316**	*i* P		**Pn**	**03 41 51.9**	**-0.1**
YUK					AMB	AMB	03 41 52.0	
	30nm,0.2s							
YUK					AMB	AMB	03 41 52.0	
	38nm,0.2s							
YUK					AMB	AMB	03 41 52.0	
	48nm,0.2s							
YUK				*i* S		**Sn**	**03 42 06.7**	**+0.3**
YUK					A	A	03 42 08.0	
	395nm,0.2s							
YUK					A	A	03 42 08.0	
	148nm,0.2s							
GRPR	**Tuman**	**1.14**	**312**	*e*P		**Pn**	**03 41 52.0**	**-0.3**
GRPR					AMB	AMB	03 41 52.0	
	56nm,0.2s							
GRPR				*e*S		**Sn**	**03 42 07.0**	**+0.1**
GRPR					A	A	03 42 08.0	
	138nm,0.2s							
GRPR					A	A	03 42 08.0	
	249nm,0.2s							
JKHN	**Kushirohamanak**	**1.32**	**264**	P		**Pn**	**03 41 54.7**	**+0.1**
JKHN				*e*S		**Sn**	**03 42 11.7**	**+0.6**
JRA	**Rausu**	**1.50**	**299**	P		**Pn**	**03 41 57.3**	**+0.2**
JNK	**Nakash**	**1.66**	**283**	P		**Pn**	**03 41 58.9**	**-0.5**
JNK				*e*S		**Sn**	**03 42 18.7**	**-0.8**
JAK	**Akkeshi**	**1.67**	**263**	P		**Pn**	**03 41 59.1**	**-0.3**
JAK				*e*S		**Sn**	**03 42 19.4**	**-0.2**
KUR	**Kuril'sk**	**2.11**	**18**	*e*P		**Pn**	**03 42 05.2**	**-0.2**
KUR				*e*S		**Sn**	**03 42 29.5**	**-0.9**
JAR	**Ashorobuto**	**2.32**	**273**	P		**Pn**	**03 42 08.7**	**+0.3**
JAR				*e*S		**Sn**	**03 42 36.1**	**+0.4**
JTKR	**Abashiri--Toko**	**2.33**	**289**	P		**Pn**	**03 42 09.3**	**+0.9**
JCH	**Churui**	**2.71**	**258**	P		**Pn**	**03 42 14.3**	**+0.7**
JCH				*e*S		**Sn**	**03 42 45.3**	**+0.2**

*SOME **31** 03:42:17.1, 40.°15N×77.°37E, h10km*
*KRNET **31** 03:42:18.9±0.1, 40.°25N×77.°24E, mb3.2*
*NNC **31** 03:42:20.8±1.1, 40.°35N×77.°42E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=7.8km s-min=6.4km az=166.0*

ISC 31 03:42:12.9±2.3, 40.°10N±0.°09×77.°40E±0.°03, h19km±3km, n70, σ1s22/106, 30C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.70**	**322**	↑*e*P		**Pg**	**03 42 47.2**	**+1.5**
	baz=21							
NRN				↑*i*S		**Sg**	**03 43 08.1**	**+0.2**
	baz=21							
KDJ	**Kajisay**	**2.03**	**355**	↑*i*P		**Pg**	**03 42 54.1**	**+2.1**
	baz=59							
KDJ				↑*i*S		**Sg**	**03 43 19.6**	**+1.2**
	baz=59							
ULHL	**Ulahol**	**2.31**	**338**	P		**Pg**	**03 42 58.3**	**+0.9**
	SNR=19							
ULHL	**Ulahol**	**2.31**	**338**	↓*e*P		**Pg**	**03 42 57.6**	**+0.3**
	baz=40							
ULHL				↓*i*S		**Sg**	**03 43 26.4**	**-1.0**
	baz=40							
PRZ	**Przheval'sk**	**2.50**	**17**	↑*i*P		**Pg**	**03 43 01.3**	**+0.5**
	baz=21							
PRZ				↑*i*S		**Sg**	**03 43 32.6**	**-0.6**
	baz=21							
KZA	**Kyzart**	**2.56**	**321**	P		**Pg**	**03 43 02.2**	**+0.2**
	SNR=40							
KZA	**Kyzart**	**2.56**	**321**	↓*i*P		**Pg**	**03 43 01.2**	**-0.8**
	baz=21							
KZA				↓*i*S		**Sb**	**03 43 32.1**	**+2.4**
	baz=21							
BOOM	**Boomskoye usch**	**2.62**	**336**	↑*e*P		**Pg**	**03 43 02.3**	**-1.0**
	baz=37							
BOOM				↑*i*S		**Sb**	**03 43 33.9**	**+2.4**
	baz=37							
ARLS	**Aral**	**2.92**	**308**	↑*e*P		**Pb**	**03 43 05.9**	**+1.4**
	baz=7.0							
ARLS				↑*e*S		**Sb**	**03 43 40.7**	**+0.9**
	baz=7.0							
TNSS	**Tian-Shan**	**2.95**	**354**	Pg		**Pg**	**03 43 10.4**	**+0.9**
	43nm,0.5s							
TNSS				Lg		Lg	03 43 49.0	
	51nm,0.5s							
TNSS	**Tian-Shan**	**2.95**	**354**	*e*P		**Pg**	**03 43 10.4**	**+0.9**
	43nm,0.5s							
TNSS				*e*S		**Sg**	**03 43 49.0**	**+1.2**
	51nm,0.5s							
IZV	**Izvestkoviy**	**2.99**	**349**	Pg		**Pg**	**03 43 10.5**	**+0.3**
	17nm,0.5s							
IZV				Lg		Lg	03 43 49.7	
	104nm,0.5s							
IZV	**Izvestkoviy**	**2.99**	**349**	*e*P		**Pg**	**03 43 10.5**	**+0.3**
	17nm,0.5s							
IZV				*e*S		**Sg**	**03 43 49.7**	**+0.7**
	104nm,0.5s							
UCH	**Uchtor**	**3.04**	**315**	P		**Pg**	**03 43 09.4**	**-1.9**
	SNR=8.1							
UCH	**Uchtor**	**3.04**	**315**	↑*e*P		**Pb**	**03 43 08.0**	**+1.2**
	baz=15							
UCH				↑*i*S		**Sb**	**03 43 43.9**	**+0.2**
	baz=15							
MDOK	**Medeo**	**3.07**	**355**	Pn		**Pb**	**03 43 08.4**	**+1.3**
	11nm,0.6s							
MDOK				Lg		Lg	03 43 51.8	
	53nm,0.5s							
MDOK	**Medeo**	**3.07**	**355**	Pg		**Pg**	**03 43 12.3**	**+0.5**
	13nm,0.4s							
MDOK				Lg		Lg	03 43 52.4	
	80nm,0.5s							
MDOK	**Medeo**	**3.07**	**355**	*e*P		**Pg**	**03 43 12.3**	**+0.5**
	13nm,0.4s							
MDOK				↓*i*S		**Sg**	**03 43 52.4**	**+0.8**
	80nm,0.5s							
MTBS	**Maitube**	**3.11**	**347**	Pg		**Pg**	**03 43 12.8**	**+0.2**
	6.5nm,0.3s							
MTBS				Lg		Lg	03 43 53.2	
	48nm,0.4s							
MTBS	**Maitube**	**3.11**	**347**	*e*P		**Pg**	**03 43 12.8**	**+0.2**
	6.5nm,0.3s							
MTBS				*e*S		**Sg**	**03 43 53.2**	**+0.4**
	48nm,0.4s							
TKM2	**Tokmak 2**	**3.12**	**335**	P		**Pb**	**03 43 10.0**	**+1.9**
	SNR=5.6							
TKM2	**Tokmak 2**	**3.12**	**335**	↓Pn		**Pb**	**03 43 09.6**	**+1.6**
	11nm,1.1s							
TKM2				↓Lg		Lg	03 43 53.9	
	17nm,0.6s							
TKM2	**Tokmak 2**	**3.12**	**335**	↑*e*P		**Pb**	**03 43 09.1**	**+1.1**
	baz=36							
TKM2				↑*i*S		**Sb**	**03 43 45.9**	**+0.1**
	baz=36							
KNDC	**Almaty**	**3.13**	**354**	↑Pn		**Pg**	**03 43 10.8**	**-2.1**
	17nm,0.4s							
KNDC				↑Lg		Lg	03 43 53.5	
	130nm,0.5s							
KST	**Kastek**	**3.13**	**340**	Pg		**Pg**	**03 43 13.5**	**+0.6**
	8.3nm,0.3s							
KST				Lg		Lg	03 43 53.9	
	39nm,0.5s							
KST	**Kastek**	**3.13**	**340**	*e*P		**Pg**	**03 43 13.5**	**+0.6**
	8.3nm,0.3s							
KST				↑*i*S		**Sg**	**03 43 53.9**	**+0.4**
	39nm,0.5s							
KOTS	**Kotyrbulak**	**3.14**	**356**	Pg		**Pg**	**03 43 13.0**	**-0.1**
	14nm,0.4s							
KOTS				Lg		Lg	03 43 53.3	
	176nm,0.4s							
KOTS	**Kotyrbulak**	**3.14**	**356**	*e*P		**Pg**	**03 43 12.9**	**-0.1**
	14nm,0.4s							
KOTS				*e*S		**Sg**	**03 43 53.3**	**-0.4**
	176nm,0.4s							
KBK	**Karagaybulak**	**3.15**	**325**	P		**Pg**	**03 43 14.0**	**+0.8**
	SNR=8.2							
KBK	**Karagaybulak**	**3.15**	**325**	↑*e*P		**Pb**	**03 43 09.2**	**+0.8**
	baz=25							
KBK				↑*i*S		**Sb**	**03 43 46.1**	**-0.4**
	baz=25							
ZHN	**Zhinishke**	**3.16**	**14**	Pg		**Pg**	**03 43 13.7**	**+0.2**
	11nm,0.2s							
ZHN				Lg		Lg	03 43 54.1	
	22nm,0.4s							
ZHN	**Zhinishke**	**3.16**	**14**	*e*P		**Pg**	**03 43 13.7**	**+0.2**
	11nm,0.2s							
ZHN				*e*S		**Sg**	**03 43 54.1**	**-0.4**
	22nm,0.4s							
UZB	**Uzynbulak**	**3.28**	**21**	Pg		**Pg**	**03 43 15.7**	**0.0**
	3.0nm,0.4s							
UZB				Lg		Lg	03 43 57.6	
	17nm,0.6s							
UZB	**Uzynbulak**	**3.28**	**21**	*e*P		**Pg**	**03 43 15.7**	**0.0**
	3.0nm,0.4s							
UZB				*e*S		**Sg**	**03 43 57.6**	**-0.6**
	17nm,0.6s							
AAK	**Ala-Archa**	**3.34**	**320**	↑Pg		**Pg**	**03 43 16.1**	**-1.0**
	6.1nm,0.5s							
AAK				↑Lg		Lg	03 44 01.0	
	28nm,0.7s							
AAK	**Ala-Archa**	**3.34**	**320**	↑*e*P		**Pb**	**03 43 12.0**	**+0.2**
	baz=20							
AAK				↑*e*S		**Sb**	**03 43 50.6**	**-1.5**
	baz=20							
DGS	**Degeres**	**3.36**	**339**	Pg		**Pg**	**03 43 17.0**	**-0.4**
	8.2nm,0.4s							
DGS				Lg		Lg	03 44 00.6	
	36nm,0.5s							
DGS	**Degeres**	**3.36**	**339**	*e*P		**Pg**	**03 43 17.1**	**-0.4**
	8.2nm,0.4s							
DGS				*e*S		**Sg**	**03 44 00.6**	**-0.4**
	36nm,0.5s							
FRU1	**Bishkek**	**3.41**	**323**	↓*i*P		**Pb**	**03 43 13.0**	**+0.1**
	baz=23							
FRU1				↓*i*S		**Sb**	**03 43 52.2**	**-1.8**
	baz=23							
SHLS	**Shalkode**	**3.42**	**26**	Pg		**Pg**	**03 43 20.8**	**+2.3**
	11nm,0.4s							
SHLS				Lg		Lg	03 44 06.3	
	42nm,0.5s							
SHLS	**Shalkode**	**3.42**	**26**	*e*P		**Pg**	**03 43 20.8**	**+2.3**
	11nm,0.4s							
SHLS				*e*S		**Sg**	**03 44 06.3**	**+3.5**
	42nm,0.5s							
AML	**Almayashu**	**3.45**	**307**	P		**Pb**	**03 43 15.3**	**+1.6**
	SNR=6.9							
AML	**Almayashu**	**3.45**	**307**	↑*e*P		**Pb**	**03 43 13.7**	**-0.1**
	baz=6.0							
AML				↑*i*S		**Sb**	**03 43 53.7**	**-1.8**
	baz=6.0							
CHMS	**Chumysh**	**3.51**	**326**	P		**Sg**	**03 44 06.8**	**+1.2**
	SNR=5.3							
CHMS	**Chumysh**	**3.51**	**326**	↓*e*P		**Pb**	**03 43 14.1**	**-0.4**
	baz=27							
CHMS				↓*e*S		**Sb**	**03 43 54.8**	**-1.9**
	baz=27							
PDGK	**Podgornoye**	**3.58**	**25**	Pg		**Pg**	**03 43 20.9**	**-0.7**
	4.3nm,0.5s							
PDGK				Lg		Lg	03 44 06.5	
	11nm,0.7s							
PDGK	**Podgornoye**	**3.58**	**25**	↑Pn		**Pb**	**03 43 15.3**	**-0.5**
	6.5nm,0.6s							
PDGK				↑Lg		Lg	03 44 06.3	
	45nm,1.1s							
PDGK	**Podgornoye**	**3.58**	**25**	↓*e*P		**Pb**	**03 43 17.3**	**+1.5**
	baz=28							
PDGK				↓*e*S		**Sb**	**03 43 58.9**	**-0.1**
	baz=28							
KTBS	**Karatobe**	**3.65**	**352**	Pg		**Pg**	**03 43 22.4**	**-0.4**
	9.1nm,0.5s							
KTBS				Lg		Lg	03 44 09.6	
	76nm,0.4s							
KTBS	**Karatobe**	**3.65**	**352**	*e*P		**Pg**	**03 43 22.4**	**-0.4**
	9.1nm,0.5s							
KTBS				*e*S		**Sg**	**03 44 09.6**	**-0.5**
	76nm,0.4s							
EKS2	**Erkin-Say**	**3.73**	**314**	↑*i*P		**Pb**	**03 43 17.5**	**-0.9**
	baz=14							
EKS2				↑*i*S		**Sb**	**03 43 59.9**	**-3.5**
	baz=14							
CHKK	**Chushkaly**	**3.76**	**355**	Pg		**Pg**	**03 43 24.5**	**-0.5**
	7.3nm,0.3s							
CHKK				Lg		Lg	03 44 13.0	
	107nm,0.4s							
CHKK	**Chushkaly**	**3.76**	**355**	*e*P		**Pg**	**03 43 24.5**	**-0.5**
	7.3nm,0.3s							
CHKK				*e*S		**Sg**	**03 44 13.0**	**-0.7**
	107nm,0.4s							
KUU	**Kurty**	**3.87**	**349**	Pg		**Pg**	**03 43 26.3**	**-0.7**
	2.2nm,0.3s							
KUU				Lg		Lg	03 44 15.9	
	36nm,0.5s							
KUU	**Kurty**	**3.87**	**349**	*e*P		**Pg**	**03 43 26.3**	**-0.7**
	2.2nm,0.3s							
KUU				↓*i*S		**Sg**	**03 44 15.9**	**-1.3**
	36nm,0.5s							
KTMS	**Ketmen**	**4.00**	**33**	Pg		**Pg**	**03 43 28.5**	**-1.1**
	3.3nm,0.3s							
KTMS				Lg		Lg	03 44 20.2	
	12nm,0.4s							
KTMS	**Ketmen**	**4.00**	**33**	*e*P		**Pg**	**03 43 28.5**	**-1.1**
	3.3nm,0.3s							
KTMS				*e*S		**Sg**	**03 44 20.2**	**-1.3**
	12nm,0.4s							
MNBS	**Baschi**	**4.04**	**10**	Pg		**Pg**	**03 43 28.6**	**-1.7**
	5.9nm,0.6s							
MNBS				Lg		Lg	03 44 20.3	
	16nm,0.6s							
MNBS	**Baschi**	**4.04**	**10**	*e*P		**Pg**	**03 43 28.6**	**-1.7**
	5.9nm,0.6s							
MNBS				*e*S		**Sg**	**03 44 20.3**	**-2.5**
	16nm,0.6s							
MRKS	**Merke**	**4.10**	**311**	Pg		**Pg**	**03 43 31.1**	**-0.3**
	4.7nm,0.5s							
MRKS				Lg		Lg	03 44 24.1	
	7.9nm,0.6s							
MRKS	**Merke**	**4.10**	**311**	*e*P		**Pg**	**03 43 31.1**	**-0.3**
	4.7nm,0.5s							
MRKS				↓*i*S		**Sg**	**03 44 24.1**	**-0.4**
	7.9nm,0.6s							
ARXS	**Arharly**	**4.12**	**4**	Pg		**Pg**	**03 43 30.9**	**-0.9**
	10nm,0.4s							
ARXS				Lg		Lg	03 44 24.0	
	28nm,0.5s							
ARXS	**Arharly**	**4.12**	**4**	*e*P		**Pg**	**03 43 30.9**	**-0.9**
	10nm,0.4s							
ARXS				*e*S		**Sg**	**03 44 24.0**	**-1.2**
	28nm,0.5s							
DJR	**Jarkent**	**4.58**	**22**	Pg		**Pg**	**03 43 39.8**	**-0.9**
	1.0nm,0.3s							
DJR				Lg		Lg	03 44 39.2	
	4.0nm,0.4s							
DJR	**Jarkent**	**4.58**	**22**	*e*P		**Pg**	**03 43 39.8**	**-0.9**
	1.0nm,0.3s							
DJR				*e*S		**Sg**	**03 44 39.1**	**-0.9**
	4.0nm,0.4s							
TDK	**Taldyqorghan**	**4.95**	**8**	Pg		**Pg**	**03 43 45.9**	**-1.8**
	21nm,0.3s							
TDK				Lg		Lg	03 44 49.4	
	28nm,0.4s							
TDK	**Taldyqorghan**	**4.95**	**8**	*e*P		**Pg**	**03 43 45.9**	**-1.8**
	21nm,0.3s							
TDK				*e*S		**Sg**	**03 44 49.4**	**-2.4**
	28nm,0.4s							
KAPS	**Kapalarasan**	**5.38**	**15**	Pg		**Pg**	**03 43 55.5**	**-0.3**
	1.5nm,0.4s							
KAPS				Lg		Lg	03 45 06.4	
	4.3nm,0.5s							
KAPS	**Kapalarasan**	**5.38**	**15**	*e*P		**Pg**	**03 43 55.5**	**-0.3**
	1.5nm,0.4s							
KAPS				*e*S		**Sg**	**03 45 06.4**	**+0.9**
	4.3nm,0.5s							
KK31	**Karatay Array**	**5.97**	**302**	↓Pg		**Pg**	**03 44 07.8**	**+0.7**
	0.4nm,0.4s,baz=111,slow=15,SNR=2.8							
KK31				↑Lg		Lg	03 45 23.4	
	1.7nm,0.6s,baz=114,slow=29,SNR=6.1							

*SOME **31** 04:17:45.0, 40.°98N×72.°45E, h15km*
*KRNET **31** 04:17:45.5±0.1, 41.°10N×72.°49E, h13km, mb2.6*
*NNC **31** 04:17:52.1±2.9, 41.°42N×72.°60E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=32.0km s-min=13.8km az=169.0*
ISC 31 04:17:45.2±1.2, 41.°08N±0.°04×72.°50E±0.°03, h12km±12km, n21, σ1s44/37, 21C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**0.43**	**56**	↑*i*P		**Pg**	**04 17 53.8**	**-0.1**
	baz=59							
ARSB				↑*i*S		**Sg**	**04 17 59.9**	**+0.2**
	baz=59							
ARK	**Arkit**	**0.82**	**331**	↑*i*P		**Pg**	**04 18 00.7**	**-0.4**
	baz=31							
ARK				↑*i*S		**Sg**	**04 18 11.7**	**-0.2**
	baz=31							
AML	**Almayashu**	**1.38**	**40**	↑*i*P		**Pb**	**04 18 11.5**	**+0.4**
	baz=41							
AML				↑*i

KK31				⇓Lg	Lg	04 19 04.5		
	9.9nm,0.6s,baz=135,slow=28,SNR=13							
NRN	**Naryn**	**2.66**	**81**	⇓*i*P	**Pb**	**04 18 31.5**	**-1.4**	
	baz=82							
NRN				⇓*i*S	**Sb**	**04 19 04.7**	**-0.9**	
	baz=82							
BRLS	**Borolday**	**2.78**	**315**	*e*P	**Pb**	**04 18 34.6**	**-0.2**	
	0.5nm,0.4s							
BRLS				*e*S	**Sb**	**04 19 10.1**	**+1.4**	
	15nm,0.4s							
BOOM	**Boomskoye usch**	**2.93**	**60**	⇑*i*P	**Pn**	**04 18 34.7**	**+3.0**	
	baz=61							
BOOM				⇑*i*S	**Sb**	**04 19 11.1**	**-2.1**	
	baz=61							
KST	**Kastek**	**3.23**	**52**	Pg	**Pb**	**04 18 44.8**	**+2.1**	
	1.6nm,0.3s							
KST				Lg	Lg	04 19 27.1		
	6.1nm,0.5s							
KST	**Kastek**	**3.23**	**52**	*e*P	**Pb**	**04 18 44.7**	**+2.1**	
	2.2nm,0.8s							
KST				*e*S	**Sg**	**04 19 27.7**	**-1.4**	
	5.9nm,0.8s							
DGS	**Degeres**	**3.25**	**47**	Pg	**Pb**	**04 18 44.4**	**+1.5**	
	3.1nm,0.4s							
DGS				Lg	Lg	04 19 26.8		
	7.8nm,0.6s							
DGS	**Degeres**	**3.25**	**47**	*e*P	**Pb**	**04 18 44.4**	**+1.5**	
	3.1nm,0.4s							
DGS				*e*S	**Sg**	**04 19 27.1**	**-2.4**	
	7.6nm,0.5s							

NIED ***31*** *04:45:00,37.°90N×142.°60E,h32km,Mw3.6 Best double couple: M₀3.21000×10¹⁴ NP1:φ₁=204.00000°,δ9.00000°, λ-92.00000°. NP2:φ₂=25.00000°,δ81.00000°,λ-90.00000°.*

IDC ***31*** *04:45:28.2±1.7,37.°94N×142.°82E,h0km,mb3.8/5, mb1 3.8/11,mb1mx3.5/53,mbtmp3.8/11,ML3.1/6,MS2.9/5, Ms1 2.9/5,ms1mx2.6/58,Error ellipse: s-maj=33.6km s-min=20.8km az=89.0*

JMA ***31*** *04:45:29.9±0.1,37.°87N×142.°62E,h25km±1km,M4.2*

NEIC ***31*** *04:45:34.6±1.1,37.°96N×142.°66E,h44km±7km,mb4.3/1, Error ellipse: s-maj=14.5km s-min=7.0km az=113.0*

ISC 31 04:45:29.4±2.3,37.°92N±0.°05×142.°62E±0.°08,h5km±13km, n47,σ1ˢ72/52,mb3.9/6,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.99**	**294**	P	**Pg**	**04 45 48.2**	**-0.3**
JIO	**Ouri**	**1.14**	**299**	P	**Pb**	**04 45 50.6**	**-1.0**
JKMT	**Kesennumamotoy**	**1.27**	**315**	P	**Pn**	**04 45 52.8**	**-1.0**
JKMT				S	**Sb**	**04 46 09.4**	**-1.1**
OFUJ	**Ofunato**	**1.38**	**328**	P	**Pn**	**04 45 54.4**	**-1.0**
OFUJ				S	**Sn**	**04 46 12.5**	**-1.5**
JMM	**Marumori**	**1.45**	**269**	P	**Pn**	**04 45 54.8**	**-1.4**
JMM				S	**Sn**	**04 46 13.5**	**-2.1**
JFK	**Kawauchi**	**1.49**	**249**	P	**Pn**	**04 45 55.3**	**-1.6**
JFK				S	**Sn**	**04 46 14.4**	**-2.4**
JMK	**Ichinoseki**	**1.51**	**314**	P	**Pn**	**04 45 56.4**	**-0.7**
JMK				*e*S	**Sn**	**04 46 15.8**	**-1.4**
JOU	**Okura**	**1.61**	**287**	P	**Pn**	**04 45 57.7**	**-0.8**
JFT	**Otama**	**1.86**	**258**	P	**Pn**	**04 46 01.5**	**-0.4**
JFT				S	**Sn**	**04 46 24.2**	**-1.5**
JOM	**Ohasama**	**1.87**	**327**	P	**Pn**	**04 46 01.9**	**-0.2**
JOM				S	**Sn**	**04 46 25.9**	**-0.2**
JYK	**Kaneyama**	**2.04**	**300**	P	**Pn**	**04 46 04.2**	**-0.2**
JYS	**Shirataka**	**2.04**	**279**	P	**Pn**	**04 46 04.3**	**-0.1**
JRG	**Rokugo**	**2.15**	**314**	P	**Pn**	**04 46 06.2**	**+0.3**
JANG	**Nango**	**2.60**	**341**	P	**Pn**	**04 46 12.6**	**+0.5**
JANG				S	**Sn**	**04 46 43.5**	**-0.6**
JNS	**Sasagawa**	**2.62**	**269**	*e*S	**Sn**	**04 46 44.1**	**-0.4**
JAW	**Awa shima**	**2.71**	**283**	P	**Pn**	**04 46 14.1**	**+0.5**
MJAR	**Matsushiro Arr**	**3.78**	**250**	Pn	**Pn**	**04 46 30.6**	**+2.2**
	0.4nm,0.3s,baz=66,slow=9.1,SNR=28						
MJAR				Sn	**Sn**	**04 47 16.4**	**+3.2**
	0.4nm,0.3s,baz=62,slow=21,SNR=4.0						
MJAR				LR	LR	04 48 25.7	
	comp=Z,71nm,18.6s,baz=95,slow=45						
MAJO	**Matsushiro**	**3.78**	**250**	*e*Pn	**Pn**	**04 46 30.3**	**+1.9**
MAJO				*e*Sn	**Sn**	**04 47 16.4**	**+3.1**
MAT	**Matsushiro**	**3.78**	**250**	P	**Pn**	**04 46 30.6**	**+2.2**
MAT				*e*S	**Sn**	**04 47 16.7**	**+3.5**
ERM	**Erimo**	**4.12**	**6**	*e*Pn	**Pn**	**04 46 34.4**	**+1.5**
INU	**Inuyama**	**5.18**	**242**	*e*Pn	**Pn**	**04 46 50.7**	**+3.1**
JHJ	**Hachijo jima 2**	**5.32**	**207**	Pn	**Pn**	**04 46 50.0**	**+0.6**
	5.6nm,0.3s,baz=72,slow=20,SNR=3.2						
JHJ				Sn	**Sn**	**04 47 46.4**	**-4.7**
	16nm,0.3s,baz=252,slow=19,SNR=4.8						
ASAJ	**Asahikawa**	**6.20**	**360**	Pn	**Pn**	**04 47 02.2**	**+0.7**
	0.9nm,0.3s,baz=311,slow=20,SNR=5.9						
USRK	**Ussuriysk Ar.**	**10.19**	**311**	Pn	**Pn**	**04 47 59.1**	**+2.9**
	0.4nm,0.3s,baz=105,slow=14,SNR=6.4						
USRK				LR	LR	04 51 46.0	
	comp=Z,53nm,19.7s,baz=180,slow=37						
KSRS	**Korea Array**	**11.66**	**272**	Pn	**Pn**	**04 48 19.6**	**+3.2**
	0.2nm,0.3s,baz=84,slow=12,SNR=3.6						
KSRS				LR	LR	04 52 31.4	
	comp=Z,34nm,18.1s,baz=90,slow=36						
KS15	**Wonju Array Si**	**11.69**	**272**	*e*Pn	**Pn**	**04 48 19.6**	**+2.7**
KSAR	**Wonju Array Be**	**11.69**	**272**	Pn	**Pn**	**04 48 19.6**	**+2.7**
KLR	**Kul'dur**	**13.77**	**329**	Pn	**Pn**	**04 48 45.9**	**+0.7**
	0.1nm,0.3s,baz=133,slow=18,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**27.80**	**124**	T	T	05 20 34.7	
	baz=316,slow=75,SNR=164						
H11N1	**WAKE ISLAND Hy**	**27.81**	**124**	T	T	05 20 34.1	
	baz=316,slow=75,SNR=78						
H11N3	**WAKE ISLAND Hy**	**27.82**	**124**	T	T	05 20 33.6	
	baz=316,slow=75,SNR=112						
SONA0	**Songino Array**	**28.11**	**302**	*e*P	**P**	**04 51 22.0**	**-0.2**
SONM	**Songino Array**	**28.11**	**302**	P	**P**	**04 51 22.0**	**-0.2**
	0.9nm,0.7s,baz=116,slow=6.8,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**28.56**	**126**	T	T	05 21 28.6	
	baz=317,slow=76,SNR=58						
H11S3	**WAKE ISLAND Hy**	**28.56**	**126**	T	T	05 21 29.7	
	baz=317,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**28.58**	**126**	T	T	05 21 30.3	
	baz=317,slow=76,SNR=49						
TGY	**Tagaytay City**	**30.55**	**225**	LR	LR	05 03 46.9	
	comp=Z,35nm,19.2s,baz=190,slow=36						
ZAA1	**Zalesovo Array**	**42.04**	**312**	*e*P	**P**	**04 53 21.5**	**-0.2**
ZALV	**Zalesovo Beam**	**42.04**	**312**	*e*P	**P**	**04 53 21.6**	**-0.1**
ZALV	**Zalesovo Beam**	**42.04**	**312**	P	**P**	**04 53 21.5**	**-0.2**
	1.9nm,0.7s,baz=88,slow=7.7,SNR=6.2						
MK01	**Makanchi Array**	**44.47**	**302**	*e*P	**P**	**04 53 41.6**	**+0.1**
MK32	**Makanchi Array**	**44.47**	**302**	*e*P	**P**	**04 53 41.5**	**+0.1**
MKAR	**Makanchi Array**	**44.47**	**302**	P	**P**	**04 53 41.5**	**+0.1**
	0.4nm,0.3s,baz=87,slow=10,SNR=5.7						
KURK	**Kurchatov**	**46.15**	**308**	*e*P	**P**	**04 53 54.4**	**-0.2**
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**58.07**	**189**	P	**P**	**04 55 23.9**	**+0.2**
	0.3nm,0.5s,baz=7.1,slow=7.2,SNR=6.7						
FIA0	**FINESS Array S**	**68.48**	**332**	*e*P	**P**	**04 56 32.0**	**-0.1**
FINES	**FINESS Array B**	**68.48**	**332**	P	**P**	**04 56 32.0**	**-0.1**
	0.9nm,0.7s,baz=341,slow=4.0,SNR=3.7						

ISCJB ***31*** *04:52:58.7±0.5,40.°49N±0.°05×122.°3E±0.°1,h10km, mb3.6/6,MS2.6/1,Error ellipse: s-maj=12.6km s-min=4.5km az=28.9*

IDC ***31*** *04:52:59.3±1.5,40.°56N×122.°44E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.4/58,mbtmp3.5/7,ML2.7/2,MS2.7/1, Ms1 2.9/1,ms1mx2.2/42,Error ellipse: s-maj=34.5km s-min=18.0km az=20.0*

BJI ***31*** *04:53:03.0,40.°48N×122.°40E,h8km,ML3.6/15*

ISC 31 04:53:02.3±0.8,40.°47N±0.°06×122.°45E±0.°08,h10km,n16, σ2ˢ20/18,mb3.6/6,1C,Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.60**	**32**	⇑Pn	**Pn**	**04 53 29.0**	**-1.7**
SNY				Pg	**Pb**	**04 53 31.0**	**-1.0**
SNY				Sn	**Sn**	**04 53 49.3**	**-2.1**
SNY				Sg	**Sb**	**04 53 52.3**	**+0.1**
SNY				smax	smax		
	comp=N,820nm,0.4s						
SNY				smax	smax		
	comp=E,450nm,0.4s						
DL2	**Dalian**	**1.69**	**202**	Pg	**Pn**	**04 53 32.3**	**+0.4**
DL2				Sg	**Sn**	**04 53 54.8**	**+1.3**
DL2				smax	smax		
	comp=N,580nm,0.5s						
DL2				smax	smax		
	comp=E,930nm,0.5s						
CN2	**Changchun**	**4.00**	**33**	Pn	**Pn**	**04 54 04.3**	**+0.6**
CN2	**Changchun**	**4.00**	**33**	*e*Pg	**Pb**	**04 54 14.8**	**+1.8**
CN2				Sn	**Sn**	**04 54 53.8**	**+3.1**
CN2				*e*Sg	**Sb**	**04 55 06.3**	**+4.9**
CN2				smax	smax		
	comp=N,110nm,0.7s						
CN2				smax	smax		
	comp=E,70nm,0.7s						
KSRS	**Korea Array**	**5.22**	**123**	Pn	**Pn**	**04 54 20.2**	**-0.3**
	1.3nm,0.3s,baz=306,slow=14,SNR=12						
KSRS				Lg		04 55 45.5	
	9.4nm,0.3s,baz=305,slow=29,SNR=12						
USRK	**Ussuriysk Ar.**	**7.99**	**59**	Pn	**Pn**	**04 54 57.9**	**-0.5**
	0.2nm,0.3s,baz=246,slow=11,SNR=2.9						
USRK				Lg	Lg	04 57 11.5	
	0.7nm,0.3s,baz=248,slow=29,SNR=7.4						
HHC	**Hu-ho-hao-te**	**8.28**	**276**	*e*P	**Pn**	**04 55 06.0**	**+3.4**
KLR	**Kul'dur**	**10.96**	**34**	Lg	Lg	04 58 46.1	
	0.2nm,0.3s,baz=147,slow=14,SNR=6.8						
KMI	**Kunming**	**22.48**	**233**	P	P	04 57 57.3	-4.8
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,89nm,6.5s						
WMQ	**Urumqi**	**25.87**	**289**	*e*P	**P**	**04 58 34.8**	**+0.6**
WMQ				pP	pP	04 58 37.8	+0.6
WMQ				sP	sP	04 58 41.5	+3.0
CMAR	**Chiang Mai Arr**	**29.83**	**230**	LR	LR	05 11 34.7	
	comp=Z,14nm,18.2s,baz=220,slow=37						
KURBB	**Kurchatov Arra**	**31.96**	**303**	P	**P**	**04 59 26.0**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=89,slow=9.4,SNR=4.3						
ILAR	**Eielson Array**	**54.52**	**32**	P	**P**	**05 02 28.3**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=286,slow=6.5,SNR=4.0						
FINES	**FINESS Array B**	**58.24**	**326**	P	**P**	**05 02 54.7**	**-1.7**
	comp=Z,1.3nm,0.8s,baz=57,slow=5.6,SNR=6.5						
NOA	**NORSAR Array B**	**64.51**	**330**	P	**P**	**05 03 37.3**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=60,slow=9.1,SNR=2.8						
YKA	**Yellowknife Ar**	**67.67**	**25**	P	P	05 03 55.9	-3.2
	comp=Z,0.2nm,0.7s,baz=313,slow=6.0,SNR=5.8						

ISCJB ***31*** *05:00:40.9±0.7,7.°77S±0.°05×128.°50E±0.°08,h150km, mb3.5/3,Error ellipse: s-maj=10.9km s-min=6.4km az=17.1*

IDC ***31*** *05:00:43.0±1.6,7.°61S×128.°32E,h141km±17km,mb3.4/3, mb1 3.6/8,mb1mx3.3/48,mbtmp4.0/8,Error ellipse: s-maj=23.9km s-min=13.9km az=122.0*

ISC 31 05:00:42.3±0.8,7.°80S±0.°06×128.°54E±0.°09,h150km,n8, σ2ˢ74/12,mb3.7/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.38**	**243**	P	**Pn**	**05 02 01.8**	**+1.0**
	21nm,0.3s,baz=154,slow=1.7,SNR=15						
BATI				S	**Sn**	**05 02 60.0**	**-2.2**
	22nm,0.3s,baz=26,slow=20,SNR=9.0						
SIJI	**Sorong**	**7.40**	**22**	P	**Pn**	**05 02 28.1**	**+0.4**
	2.1nm,0.3s,baz=358,slow=19,SNR=4.5						
SIJI				S	**Sn**	**05 03 48.3**	**-2.2**
	0.5nm,0.3s,baz=66,slow=20,SNR=2.4						
FITZ	**Fitzroy Crossi**	**10.62**	**195**	P	**Pn**	**05 03 11.8**	**+1.2**
	1.8nm,0.3s,baz=18,slow=12,SNR=40						
FITZ				S	**Sn**	**05 05 05.0**	**-3.2**
	0.5nm,0.3s,baz=311,slow=19,SNR=3.0						
WRA	**Warramunga Arr**	**13.32**	**156**	P	**P**	**05 03 48.5**	**-1.4**
	0.7nm,0.3s,baz=321,slow=14,SNR=33						
WRA				S	**Sn**	**05 06 10.1**	**-3.1**
	1.2nm,0.3s,baz=338,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**16.60**	**163**	P	**Pn**	**05 04 32.1**	**+5.6**
	0.4nm,0.3s,baz=337,slow=10,SNR=26						
MKAR	**Makanchi Array**	**68.11**	**328**	P	**P**	**05 11 27.0**	**+1.0**
	0.2nm,0.4s,baz=117,slow=5.2,SNR=3.8						
ZALV	**Zalesovo Beam**	**71.66**	**335**	P	**P**	**05 11 46.7**	**-0.8**
	0.5nm,0.3s,baz=138,slow=6.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**72.44**	**329**	P	**P**	**05 11 52.5**	**+0.3**
	0.8nm,0.6s,baz=134,slow=5.2,SNR=9.7						

ISCJB ***31*** *05:13:26.2±0.8,7.°04S±0.°06×129.°5E±0.°1,h139km, mb3.7/2,Error ellipse: s-maj=17.7km s-min=8.8km az=171.3*

IDC ***31*** *05:13:26.9±2.2,7.°04S×129.°45E,h118km±22km,mb3.6/2, mb1 3.8/7,mb1mx3.4/36,mbtmp4.1/7,Error ellipse: s-maj=30.9km s-min=19.4km az=83.0*

ISC 31 05:13:25.9±0.8,7.°19S±0.°06×129.°58E±0.°10,h139km,n8, σ4ˢ23/13,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**6.50**	**15**	P	**Pn**	**05 14 58.8**	**-0.6**
	2.6nm,0.3s,baz=251,slow=23,SNR=14						
SIJI				S	**Sn**	**05 16 06.6**	**-5.7**
	1.6nm,0.3s,baz=270,slow=20,SNR=3.7						
BATI	**Baumata**	**6.57**	**242**	P	**Pn**	**05 15 02.1**	**+1.8**
	10.0nm,0.3s,baz=76,slow=17,SNR=16						
BATI				S	**Sn**	**05 16 08.6**	**-5.5**
	2.0nm,0.3s,baz=291,slow=17,SNR=2.7						
FITZ	**Fitzroy Crossi**	**11.50**	**199**	P	**Pn**	**05 16 08.5**	**+2.4**
	1.1nm,0.3s,baz=18,slow=12,SNR=33						
FITZ				S	**Sn**	**05 18 08.6**	**-4.4**
	0.5nm,0.3s,baz=108,slow=16,SNR=2.8						
WRA	**Warramunga Arr**	**13.49**	**160**	P	**Pn**	**05 16 34.1**	**+2.2**
	1.2nm,0.3s,baz=341,slow=13,SNR=30						
WRA				S	**Sn**	**05 18 54.7**	**-6.5**
	0.3nm,0.3s,baz=332,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**16.90**	**166**	P	**Pn**	**05 17 18.5**	**+4.1**
	0.4nm,0.3s,baz=342,slow=8.9,SNR=18						
ASAR				S	**S**	**05 20 21.3**	**-1.9**
	0.2nm,0.3s,baz=348,slow=26,SNR=4.2						
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P	**P**	**05 20 43.6**	**+0.1**
	0.8nm,0.3s,baz=127,slow=7.1,SNR=4.1						
MKAR	**Makanchi Array**	**68.15**	**327**	P	**P**	**05 24 13.5**	**+2.4**
	0.6nm,0.4s,baz=117,slow=8.2,SNR=7.1						
LPAZ	**La Paz**	**150.82**	**143**	PKPbc	**PKiKP**	**05 33 08.1**	**+3.7**
	0.4nm,0.3s,baz=191,slow=5.2,SNR=4.4						

ISCJB ***31*** *05:13:39.3±0.3,63.°04N±0.°02×150.°61W±0.°05, h120km±3km,mb4.0/2,Error ellipse: s-maj=4.0km s-min=3.5km az=7.3*

IDC ***31*** *05:13:39.1±2.0,63.°04N×150.°51W,h106km±20km,mb3.7/2, mb1 3.3/6,mb1mx3.0/52,mbtmp3.6/6,Error ellipse: s-maj=22.5km s-min=16.6km az=97.0*

NEIC ***31*** *05:13:40.8±0.0,63.°03N×150.°61W,h109km,ML3.0(AEIC), After AEIC.*

NEIC Felt at Talkeetna.

ISC 31 05:13:40.1±0.8,63.°03N±0.°03×150.°66W±0.°04, h117km±6km,n86,σ1ˢ26/105,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.45**	**22**	*e*Pn	**Pn**	**05 13 57.5**	**0.0**
TRF				*e*Sn	**Sn**	**05 14 10.3**	**-0.5**
HUR	**Hurricane**	**0.47**	**96**	*e*Pn	**Pn**	**05 13 57.2**	**-0.3**
PPLA	**Purkeypile**	**0.71**	**259**	*e*Pn	**Pn**	**05 13 59.8**	**+0.5**
PPLA				*e*Sn	**Sn**	**05 14 13.4**	**-0.5**
CAST	**Castle Rocks**	**0.75**	**302**	*e*Pn	**Pn**	**05 13 59.5**	**-0.1**
CAST				*e*Sn	**Sn**	**05 14 13.6**	**-0.7**
RND	**Reindeer**	**0.90**	**65**	*e*Pn	**Pn**	**05 14 00.9**	**0.0**
RND				*e*Sn	**Sn**	**05 14 15.5**	**-1.2**
MCK	**McKinley**	**1.05**	**47**	*e*Pn	**Pn**	**05 14 02.4**	**+0.1**
MCK				*e*Sn	**Sn**	**05 14 18.3**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.08**	**352**	*e*Pn	**Pn**	**05 14 02.7**	**0.0**
CHUM	**Lake Minchumin**	**1.13**	**320**	*e*Pn	**Pn**	**05 14 03.3**	**+0.3**
CHUM				*e*Sn	**Sn**	**05 14 20.3**	**-0.3**
BWN	**Browne**	**1.26**	**25**	*e*Pn	**Pn**	**05 14 05.1**	**+0.6**
BWN				*e*Sn	**Sn**	**05 14 23.1**	**0.0**
DHY	**Denali Highway**	**1.50**	**87**	*e*Pn	**Pn**	**05 14 07.5**	**+0.1**
DHY				*e*Sn	**Sn**	**05 14 27.1**	**-1.1**
GHO	**Glory Hole Cre**	**1.50**	**147**	*e*Pn	**Pn**	**05 14 07.7**	**+0.3**
SUA	**Susitna One**	**1.58**	**181**	*e*Pn	**Pn**	**05 14 08.6**	**+0.3**
PMR	**Palmer**	**1.61**	**153**	*e*Pn	**Pn**	**05 14 08.3**	**-0.2**
PMR				*e*Sn	**Sn**	**05 14 30.0**	**-0.2**
SML	**Sawmill**	**1.64**	**138**	*e*Pn	**Pn**	**05 14 08.8**	**-0.1**
SML				*e*Sn	**Sn**	**05 14 31.1**	**+0.2**
SML				*e*Sn	Sn	05 14 31.3	+0.3
NEA	**Nenana**	**1.70**	**24**	*e*Pn	**Pn**	**05 14 09.6**	**0.0**
WRH	**Wood River Hil**	**1.84**	**37**	*e*Pn	**Pn**	**05 14 11.3**	**0.0**
FIB	**Fire Island**	**1.89**	**173**	*e*Pn	**Pn**	**05 14 11.8**	**-0.1**
KNK	**Knik Glacier**	**1.93**	**147**	*e*Pn	**Pn**	**05 14 12.3**	**-0.2**
SPNN	**North Nagishla**	**1.93**	**211**	*e*Pn	**Pn**	**05 14 13.1**	**+0.5**
SCM	**Sheep Creek Mo**	**1.96**	**126**	*e*Pn	**Pn**	**05 14 12.9**	**0.0**
SCM				*e*Sn	**Sn**	**05 14 38.6**	**+0.5**
RC01	**Rabbit Creek A**	**2.00**	**167**	*e*Pn	**Pn**	**05 14 13.5**	**+0.2**
MLY	**Manley**	**2.00**	**359**	*e*Pn	**Pn**	**05 14 13.6**	**+0.1**
CCB	**Clear Creek Bu**	**2.05**	**37**	*e*Pn	**Pn**	**05 14 13.9**	**0.0**
HDA	**Harding Lake**	**2.15**	**48**	*e*Pn	**Pn**	**05 14 15.1**	**-0.1**
MDM	**Murphy Dome**	**2.21**	**28**	*e*Pn	**Pn**	**05 14 16.0**	**0.0**
COLA	**College**	**2.22**	**33**	*e*Pn	**Pn**	**05 14 16.4**	**+0.3**
PS10	**TAPS Pump St10**	**2.25**	**78**	*e*Pn	**Pn**	**05 14 17.6**	**+1.1**
PS08	**TAPS Pump Stn8**	**2.28**	**47**	*e*Pn	**Pn**	**05 14 16.7**	**-0.1**
PAX	**Paxson**	**2.37**	**89**	*e*Pn	**Pn**	**05 14 18.5**	**+0.5**
IL1	**Eielson Array**	**2.41**	**42**	*e*Pn	**Pn**	**05 14 18.3**	**-0.2**
ILAR	**Eielson Array**	**2.41**	**42**	P	**Pn**	**05 14 18.4**	**-0.1**
	7.5nm,0.3s,baz=223,slow=13,SNR=630						
ILAR				S	**Sn**	**05 14 45.4**	**-2.7**
	3.4nm,0.3s,baz=223,slow=21,SNR=15						
ILB	**Eielson Array**	**2.41**	**42**	*e*Pn	**Pn**	**05 14 18.4**	**-0.1**
ILB				*e*Sn	**Sn**	**05 14 45.4**	**-2.7**
PWL	**Port Wells**	**2.44**	**152**	*e*Pn	**Pn**	**05 14 18.5**	**-0.5**
TT01	**Tatalina**	**2.45**	**269**	*e*Pn	**Pn**	**05 14 19.1**	**0.0**
PS11	**TAPS Pump St11**	**2.59**	**109**	*e*Pn	**Pn**	**05 14 21.5**	**+0.7**
HARP	**HAARP**	**2.61**	**101**	*e*Pn	**Pn**	**05 14 21.5**	**+0.4**
RDJH	**Redoubt Jeurge**	**2.66**	**203**	P	**Pn**	**05 14 22.7**	**+0.8**
KLU	**Klutina**	**2.70**	**123**	*e*Pn	**Pn**	**05 14 21.6**	**-0.8**
KLU				*e*Sn	**Sn**	**05 14 53.7**	**-1.2**
RIDG	**Independ'e Rid**	**2.71**	**72**	*e*Pn	**Pn**	**05 14 22.7**	**+0.2**
JPK	**Jack Peak**	**2.76**	**134**	*e*Pn	**Pn**	**05 14 22.3**	**-0.8**
RDWB	**Redoubt West**	**2.76**	**203**	*e*Pn	**Pn**	**05 14 24.0**	**+0.8**
RED	**Redoubt Volcan**	**2.81**	**202**	P	**Pn**	**05 14 24.3**	**+0.5**
PS06	**TAPS Pump Stn6**	**2.86**	**8**	*e*Pn	**Pn**	**05 14 25.2**	**+0.9**
DIV	**Divide**	**2.99**	**128**	*e*Pn	**Pn**	**05 14 25.1**	**-1.0**
SEW	**Seward**	**3.00**	**168**	*e*Pn	**Pn**	**05 14 26.1**	**0.0**
SVW2	**Sparrevohn**	**3.02**	**232**	*e*Pn	**Pn**	**05 14 26.7**	**+0.2**
DOT	**Dot Lake**	**3.04**	**75**	*e*Pn	**Pn**	**05 14 26.4**	**-0.3**
SCRK	**Sand Creek**	**3.14**	**69**	*e*Pn	**Pn**	**05 14 28.0**	**-0.1**
MENT	**Mentasta**	**3.17**	**89**	*e*Pn	**Pn**	**05 14 28.6**	**+0.2**
IM3	**Indian Mountai**	**3.25**	**337**	*e*Pn	**Pn**	**05 14 29.8**	**+0.4**
BRLK	**Bradley Lake**	**3.28**	**182**	*e*Pn	**Pn**	**05 14 30.6**	**+0.6**
BRLK				*e*Sn	**Sn**	**05 15 16.1**	**+7.6**
PRP	**Porcupine Dome**	**3.35**	**40**	*e*Pn	**Pn**	**05 14 30.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.41**	**135**	*e*Pn	**Pn**	**05 14 31.4**	**-0.2**
HOM	**Homer**	**3.42**	**188**	*e*Pn	**Pn**	**05 14 32.2**	**+0.5**
MCARA	**McCarthy VSAT**	**3.94**	**111**	*e*Pn	**Pn**	**05 14 39.5**	**+0.8**
BCA3	**Beaver Creek A**	**4.04**	**86**	*e*Pn	**Pn**	**05 14 39.5**	**-0.5**
HMT	**Hamilton**	**4.08**	**129**	*e*Pn	**Pn**	**05 14 39.8**	**-0.7**
COLD	**Coldfoot**	**4.22**	**2**	*e*Pn	**Pn**	**05 14 42.9**	**+0.6**
FYU	**Fort Yukon**	**4.24**	**31**	*e*Pn	**Pn**	**05 14 43.2**	**+0.6**
TGL	**Tana Glacier**	**4.35**	**118**	*e*Pn	**Pn**	**05 14 44.3**	**0.0**
BALM	**Baldy**	**4.40**	**113**	*e*Pn	**Pn**	**05 14 44.5**	**-0.4**
KIAG	**Kiagna River**	**4.45**	**115**	*e*Pn	**Pn**	**05 14 45.5**	**-0.1**
EGAK	**Eagle**	**4.55**	**63**	*e*Pn	**Pn**	**05 14 46.6**	**-0.1**
BVCY	**Beaver Creek**	**4.55**	**93**	P	**Pn**	**05 14 47.1**	**+0.2**
YUK2	**White River**	**4.73**	**101**	P	**Pn**	**05 14 49.6**	**+0.2**
YUK3	**Moose Creek**	**4.91**	**100**	P	**Pn**	**05 14 52.3**	**+0.4**
BM3	**Burnt Mountain**	**5.08**	**27**	*e*Pn	**Pn**	**05 14 54.4**	**+0.4**
DAWY	**Dawson**	**5.14**	**73**	*e*Pn	**Pn**	**05 14 54.9**	**0.0**
KDAK	**Kodiak Island**	**5.36**	**191**	*e*Pn	**Pn**	**05 14 57.3**	**-0.3**
KDAK				*e*Sn	**Sn**	**05 15 53.1**	**-4.9**
KDAK	**Kodiak Island**	**5.36**	**191**	P	**Pn**	**05 14 56.9**	**-0.7**
	0.9nm,0.3s,baz=4.4,slow=13,SNR=47						
KDAK				S	**Sn**	**05 15 53.1**	**-4.9**
	0.5nm,0.3s,baz=342,slow=20,SNR=4.3						
PCA	**Pinnacle**	**5.78**	**116**	*e*Pn	**Pn**	**05 15 03.7**	**

Ms1 3.2/4,ms1mx2.9/30,Error ellipse: s-maj=15.6km s-min=8.1km az=102.0
*VAO **31** 05:40:13.7±0.4,20°.66S×69°.11W,h131km±4km,mb4.7*
*GUC **31** 05:40:13.1±0.4,20°.59S×69°.22W,h111km±2km,ML4.4*
ISC 31 05:40:12.2±0.4,20.61S±0°.03×69.16W±0°.05,h111km±3km, h111km:pP-P,n127,σ1949/156,mb4.2/28,1C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.47**	**1**	*e*P		**Pn**	**05 40 30.1**	**+0.6**
PB08				*e*S		**Sn**	**05 40 42.9**	**+0.6**
PB08	**IPOC Station P**	**0.47**	**1**	*e*P		**Pn**	**05 40 30.0**	**+0.6**
PB08				*i* S		**Sn**	**05 40 42.9**	**+0.6**
PB01	**IPOC Station P**	**0.53**	**215**	*e*Pn		**Pn**	**05 40 29.6**	**+0.1**
PB01				*e*Sn		**Sn**	**05 40 42.5**	**+0.1**
PB01	**IPOC Station P**	**0.53**	**215**	*e*P		**Pn**	**05 40 29.7**	**+0.3**
PB01				*i* S		**Sn**	**05 40 42.5**	**+0.1**
PB01				IAML			05 40 44.0	
	comp=E,25μm,0.3s							
GO01	**Chusmiza**	**0.94**	**358**	*e*Pn		**Pn**	**05 40 34.3**	**+0.9**
GO01				*e*Sn		**Sn**	**05 40 50.4**	**+1.0**
GO01	**Chusmiza**	**0.94**	**358**	⇓*i* P		**Pn**	**05 40 34.0**	**+0.5**
GO01				*e*S		**Sn**	**05 40 49.8**	**+0.5**
GO01				IAML			05 40 51.0	
	comp=N,39μm,0.4s							
PB11	**IPOC Station P**	**0.97**	**331**	*e*Pn		**Pn**	**05 40 33.0**	**-0.4**
PB11				*e*Sn		**Sn**	**05 40 49.8**	**+0.6**
PB11	**IPOC Station P**	**0.97**	**331**	*e*P		**Pn**	**05 40 33.6**	**+0.3**
PB11				*e*S		**Sn**	**05 40 49.2**	**0.0**
PB11	**IPOC Station P**	**0.97**	**331**	*e*P		**Pn**	**05 40 33.6**	**+0.3**
PB11				*i* S		**Sn**	**05 40 49.3**	**+0.1**
PB02	**IPOC Station P**	**0.98**	**224**	*e*P		**Pn**	**05 40 34.2**	**+0.8**
PB02				⇓*e*S		**Sn**	**05 40 50.0**	**+0.6**
PB02	**IPOC Station P**	**0.98**	**224**	*e*P		**Pn**	**05 40 33.8**	**+0.4**
PB02				*i* S		**Sn**	**05 40 49.5**	**+0.1**
PB09	**IPOC Station P**	**1.18**	**184**	*e*P		**Pn**	**05 40 36.9**	**+1.3**
PB09				*e*S		**Sn**	**05 40 55.0**	**+1.7**
PB09	**IPOC Station P**	**1.18**	**184**	*i* S		**Sn**	**05 40 54.4**	**+1.2**
PB09				IAML			05 40 57.0	
	comp=E,7μm,0.3s							
PB07	**IPOC Station P**	**1.30**	**211**	*e*P		**Pn**	**05 40 37.3**	**+0.4**
PB07				⇓*e*S		**Sn**	**05 40 55.7**	**+0.1**
PB07	**IPOC Station P**	**1.30**	**211**	*e*P		**Pn**	**05 40 37.4**	**+0.4**
PB07				*i* S		**Sn**	**05 40 55.3**	**-0.3**
PB07				IAML			05 40 57.3	
	comp=N,5μm,0.3s							
PSGC	**Pisagua**	**1.36**	**318**	*e*P		**Pn**	**05 40 37.2**	**-0.3**
PSGC				*i* S		**Sn**	**05 40 55.9**	**-0.8**
PSGCX	**Pisagua**	**1.36**	**318**	*e*P		**Pn**	**05 40 37.2**	**-0.3**
PSGCX				*e*S		**Sn**	**05 40 55.8**	**-0.9**
PB03	**IPOC Station P**	**1.53**	**201**	*e*P		**Pn**	**05 40 40.1**	**+0.5**
PB03	**IPOC Station P**	**1.53**	**201**	⇑*i* P		**Pn**	**05 40 40.1**	**+0.5**
MNMC	**Minye Minye**	**1.53**	**344**	*e*Pn		**Pn**	**05 40 40.5**	**+0.8**
MNMC				*e*Sn		**Sn**	**05 41 01.8**	**+1.2**
MNMC	**Minye Minye**	**1.53**	**344**	*e*P		**Pn**	**05 40 40.2**	**+0.5**
MNMC				*i* S		**Sn**	**05 41 02.4**	**+1.8**
MNMCX	**Minye Minye**	**1.53**	**344**	*e*P		**Pn**	**05 40 40.4**	**+0.7**
PB04	**IPOC Station P**	**1.94**	**208**	*e*Pn		**Pn**	**05 40 45.0**	**+0.3**
PB04				*e*Sn		**Sn**	**05 41 08.5**	**-1.0**
PB04	**IPOC Station P**	**1.94**	**208**	*e*P		**Pn**	**05 40 44.8**	**+0.1**
PB04	**IPOC Station P**	**1.94**	**208**	IAML			05 41 10.9	
	comp=N,2μm,0.5s							
LVC	**Limon Verde**	**2.00**	**173**	*e*Pn		**Pn**	**05 40 44.6**	**-1.0**
LVC				*e*Pn		Pn	05 40 47.2	+1.6
LVC				*e*Sn		**Sn**	**05 41 12.9**	**+1.8**
LVC				*e*Sn		Sn	05 41 13.5	+2.4
LVC	**Limon Verde**	**2.00**	**173**	*e*P		**Pn**	**05 40 47.3**	**+1.7**
LVC				*e*S		**Sn**	**05 41 13.2**	**+2.2**
LVC	**Limon Verde**	**2.00**	**173**	P		**Pn**	**05 40 47.2**	**+1.6**
	comp=N,46nm,0.3s,baz=39,slow=9.6,SNR=91							
LVC				S		**Sn**	**05 41 12.9**	**+1.8**
	comp=N,262nm,0.3s,baz=117,slow=21,SNR=33							
LVC	**Limon Verde**	**2.00**	**173**	*e*P		**Pn**	**05 40 47.4**	**+1.7**
LVC				*e*S		**Sn**	**05 41 13.0**	**+2.0**
PB06	**IPOC Station P**	**2.12**	**190**	*e*P		**Pn**	**05 40 47.6**	**+0.7**
PB06	**IPOC Station P**	**2.12**	**190**	IAML			05 41 13.7	
	comp=N,2μm,0.3s							
PB12	**IPOC Station P**	**2.27**	**331**	*e*P		**Pn**	**05 40 48.1**	**-0.7**
PB12	**IPOC Station P**	**2.27**	**331**	IAML			05 41 19.9	
	comp=N,2μm,0.3s							
PB05	**IPOC Station P**	**2.43**	**203**	*e*P		**Pn**	**05 40 51.2**	**+0.4**
PB05	**IPOC Station P**	**2.43**	**203**	IAML			05 41 20.3	
	comp=E,2μm,0.6s							
PB15	**IPOC Station P**	**2.60**	**186**	*e*P		**Pn**	**05 40 54.8**	**+1.6**
PB10	**IPOC Station P**	**3.16**	**204**	*e*Pn		**Pn**	**05 40 59.4**	**-1.0**
PB10	**IPOC Station P**	**3.16**	**204**	*e*P		**Pn**	**05 40 59.6**	**-0.8**
HJA	**Humahuaca**	**4.34**	**127**	*e*P		**Pn**	**05 41 19.3**	**+2.9**
HJA				IAML			05 41 21.6	
	comp=Z,73nm,0.6s							
LPAZ	**La Paz**	**4.41**	**13**	P		**Pn**	**05 41 20.4**	**+2.7**
	comp=Z,2.5nm,0.3s,baz=188,slow=2.3,SNR=36							
LPAZ				LR		LR	05 43 00.7	
	comp=Z,67nm,19.0s,baz=214,slow=38							
LPAZ	**La Paz**	**4.41**	**13**	*e*P		**Pn**	**05 41 20.5**	**+2.7**
GO02	**Mina Guanaco**	**4.54**	**185**	*e*Pn		**Pn**	**05 41 18.8**	**-0.4**
FSA	**Cafayete**	**6.20**	**152**	IAML			05 41 54.4	
	comp=Z,3.4nm,0.3s							
GO03	**Copiap**	**7.02**	**188**	*e*Pn		**Pn**	**05 41 52.2**	**-0.2**
GO03				*e*Sn		**Sn**	**05 43 07.2**	**-3.5**
AHML	**Horco Molle**	**7.07**	**151**	IAML			05 42 39.9	
	comp=Z,4.1nm,0.5s							
SIV	**San Ignacio**	**8.95**	**60**	P		**Pn**	**05 42 16.5**	**-2.2**
	comp=Z,8.1nm,0.3s,baz=259,slow=11,SNR=155							
SIV				S		**Sn**	**05 43 52.8**	**-5.1**
	baz=274,slow=19,SNR=2.6							
GO04	**Tololo Observa**	**9.63**	**189**	*e*Pn		**Pn**	**05 42 24.5**	**-3.5**
CFA	**Coronel Fontan**	**10.98**	**176**	P		**Pn**	**05 42 43.1**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=12,slow=16,SNR=18							
CFA				S		Sn	05 44 37.7	-9.2
	comp=Z,0.4nm,0.3s,baz=241,slow=19,SNR=3.3							
CPUP	**Villa Florida**	**12.26**	**120**	*e*Pn		**Pn**	**05 43 01.5**	**-1.5**
CPUP	**Villa Florida**	**12.26**	**120**	P		**Pn**	**05 43 00.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=312,slow=12,SNR=7.8							
CPUP	**Villa Florida**	**12.32**	**120**	*e*P		**Pn**	**05 43 01.4**	**-1.6**
C2SB	**Chapadao do Su**	**15.48**	**86**	*e*P		**Pn**	**05 43 44.8**	**+0.2**
TRCB	**Terra Rica**	**15.51**	**101**	*e*P		**Pn**	**05 43 44.5**	**-0.5**
PTGB	**Pitanga**	**16.30**	**108**	*e*P		**P**	**05 43 55.9**	**+0.1**
CPSB	**Cacapava Do Su**	**17.20**	**128**	*e*P		**P**	**05 44 05.0**	**-0.5**
ITRB	**Iturama**	**17.68**	**90**	*e*P		**P**	**05 44 10.2**	**-0.7**
PLTB	**Pedras Altas**	**17.82**	**132**	*e*P		**P**	**05 44 10.3**	**-2.1**
FRTB	**Fartura**	**18.38**	**102**	*e*P		**Pn**	**05 44 19.2**	**-0.7**
CNLB	**Canela**	**18.71**	**121**	*e*P		**P**	**05 44 22.2**	**0.0**
GO06	**Curarrehue**	**19.01**	**185**	*e*P		**Pn**	**05 44 27.4**	**+0.1**
	comp=Z,11nm,0.9s							
BB19B	**Bebedouro**	**19.29**	**95**	*e*P		**P**	**05 44 27.4**	**-1.2**
PLCA	**Paso Flores**	**20.09**	**183**	*e*P		**P**	**05 44 37.1**	**+0.1**
	comp=Z,10nm,1.0s							
PLCA	**Paso Flores**	**20.09**	**183**	P		**P**	**05 44 36.9**	**-0.2**
	comp=Z,6.6nm,1.0s,baz=26,slow=12,SNR=9.0							
PLCA	**Paso Flores**	**20.09**	**183**	*e*P		**P**	**05 44 36.9**	**-0.2**
RCLB	**Rio Claro- Sao**	**20.20**	**99**	*e*P		**P**	**05 44 37.5**	**-1.0**
SPB	**Sao Paulo**	**20.35**	**102**	*e*P		**P**	**05 44 40.2**	**+0.3**
BDFB	**Brasilia**	**20.69**	**80**	*e*P		**P**	**05 44 41.6**	**-2.2**
BDFB				*e*P		Pn	05 44 42.1	-5.0
BDFB	**Brasilia**	**20.69**	**80**	P		**P**	**05 44 41.6**	**-2.2**
	comp=Z,8.8nm,0.6s,baz=251,slow=11,SNR=15							
PMNB	**Patos De Minas**	**21.51**	**88**	*e*P		**P**	**05 44 51.4**	**-1.1**
PTGA	**Pitinga**	**21.71**	**26**	*e*P		**P**	**05 44 52.9**	**-1.6**
	comp=Z,8.3nm,0.3s							
PTGA				*e*			05 53 38.5	
PTGA	**Pitinga**	**21.71**	**26**	P		**P**	**05 44 52.8**	**-1.7**
	comp=Z,6.3nm,0.3s,baz=240,slow=20,SNR=6.7							
PTGA				LR		LR	05 53 38.5	
	comp=Z,31nm,18.3s,baz=278,slow=37							
PTGA	**Pitinga**	**21.71**	**26**	*e*P		**P**	**05 44 52.5**	**-2.0**
OTAV	**Otavalo**	**22.63**	**335**	*e*P		**P**	**05 45 04.1**	**-0.5**
BSCB	**Bom Sucesso**	**22.80**	**95**	*e*P		**P**	**05 45 04.1**	**-1.7**
MCI6	**Montes Claros**	**24.22**	**85**	*e*P		**P**	**05 45 18.1**	**-0.8**
MCI8	**Montes Claros**	**24.23**	**85**	*e*P		**P**	**05 45 18.1**	**-0.9**
MCI9	**Montes Claros**	**24.25**	**85**	*e*P		**P**	**05 45 19.0**	**-0.1**
JANB	**Januaria**	**24.28**	**81**	*e*P		**P**	**05 45 17.2**	**-2.2**
MDP	**Montagnes des**	**30.27**	**34**	P		**P**	**05 46 12.6**	**-0.4**
	comp=Z,11nm,0.9s,baz=153,slow=2.3,SNR=5.4							
USHA	**Ushuaia**	**34.17**	**179**	LR		LR	06 02 36.4	
	comp=Z,92nm,20.8s,baz=232,slow=39							
BANI	**BANI**	**38.78**	**358**	*e*S		**S**	**05 53 20.1**	**+4.3**
PMSA	**Palmer Station**	**44.27**	**177**	*e*P		**P**	**05 48 09.7**	**-0.7**
X43A	**Marvell**	**58.59**	**339**	*e*pP		pP	05 50 24.7	-0.2
TXAR	**Lajitas Array**	**59.77**	**325**	P		**P**	**05 50 06.5**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=148,slow=7.4,SNR=5.7							
TXAR				LR		LR	06 14 37.1	
	comp=Z,57nm,18.5s,baz=0.0,slow=34							
MNTX	**Cornudas Mount**	**62.54**	**325**	*e*P		**P**	**05 50 24.5**	**+0.1**
	comp=Z,3.7nm,1.2s							
319A	**Douglas**	**64.45**	**322**	*e*P		**P**	**05 50 38.1**	**+1.0**
	comp=Z,6.1nm,0.8s							
SDCO	**Great Sand Dun**	**67.37**	**329**	*e*P		**P**	**05 50 56.8**	**+0.9**
	comp=Z,4.3nm,1.0s							
WUAZ	**Wupatki**	**68.68**	**324**	*e*P		**P**	**05 51 05.4**	**+1.3**
	comp=Z,5.0nm,0.9s							
DBIC	**Dimbokro**	**68.71**	**74**	*e*P		**P**	**05 51 03.5**	**-1.0**
	comp=Z,9.8nm,0.8s							
DBIC	**Dimbokro**	**68.71**	**74**	P		**P**	**05 51 03.6**	**-0.8**
	comp=Z,9.1nm,0.7s,baz=228,slow=6.1,SNR=15							
DBIC	**Dimbokro**	**68.71**	**74**	*e*P		**P**	**05 51 03.9**	**-0.6**
SMCO	**Snowmass**	**69.21**	**329**	*e*P		**P**	**05 51 08.4**	**+0.9**
	comp=Z,5.8nm,1.5s							
U15A	**North Rim**	**69.85**	**324**	*e*P		**P**	**05 51 12.6**	**+1.3**
	comp=Z,3.7nm,0.8s							
KNB	**Kanab**	**70.57**	**324**	*e*P		**P**	**05 51 18.2**	**+2.6**
	comp=Z,11nm,1.1s							
LCMT	**Little Creek M**	**70.80**	**324**	*e*P		**P**	**05 51 18.0**	**+1.0**
	comp=Z,2.3nm,0.9s							
SRU	**San Rafael Swe**	**70.91**	**327**	*e*P		**P**	**05 51 17.5**	**-0.1**
	comp=Z,4.3nm,0.8s							
MTPU	**Mount Pierson**	**70.98**	**325**	*e*P		**P**	**05 51 18.7**	**+0.4**
	comp=Z,9.6nm,1.7s							
CCUT	**Cedar City**	**71.26**	**324**	*e*P		**P**	**05 51 20.6**	**+0.7**
	comp=Z,4.3nm,0.8s							
P17A	**Butcher Ranch,**	**71.29**	**327**	*e*P		**P**	**05 51 21.3**	**+1.4**
	comp=Z,3.8nm,0.9s							
MSU	**Marysvale**	**71.32**	**326**	*e*P		**P**	**05 51 22.6**	**+2.4**
PSUT	**Pine Spring**	**72.23**	**325**	*e*P		**P**	**05 51 27.7**	**+2.0**
	comp=Z,2.2nm,0.6s							
TPNV	**Topopah Spring**	**72.45**	**322**	*e*P		**P**	**05 51 29.4**	**+2.5**
	comp=Z,5.4nm,1.3s							
PD31	**Pinedale Array**	**73.23**	**330**	*e*P		**P**	**05 51 32.4**	**+0.9**
	comp=Z,7.8nm,1.8s							
PDAR	**Pinedale Array**	**73.23**	**330**	P		**P**	**05 51 32.3**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=156,slow=4.6,SNR=3.1							
ULM	**Lac du Bonnet**	**74.41**	**343**	P		**P**	**05 51 37.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=163,slow=2.4,SNR=5.1							
NV01	**Mina Array Sit**	**74.65**	**322**	*e*P		**P**	**05 51 41.0**	**+1.2**
NVAR	**Mina Array Bea**	**74.65**	**322**	P		**P**	**05 51 41.0**	**+1.2**
	comp=Z,1.0nm,0.8s,baz=162,slow=7.1,SNR=7.0							
IMW	**Indian Meadow**	**74.74**	**330**	*e*P		**P**	**05 51 41.0**	**+0.7**
	comp=Z,18nm,2.0s							
FLWY	**Flagg Ranch**	**74.77**	**330**	*e*P		**P**	**05 51 42.6**	**+2.2**
	comp=Z,28nm,1.9s							
YHH	**Holmes Hill**	**75.38**	**331**	*e*P		**P**	**05 51 46.5**	**+2.5**
	comp=Z,4.8nm,1.1s							
PAHR	**Pah Rah Range**	**76.14**	**322**	*e*P		**P**	**05 51 48.1**	**-0.1**
	comp=Z,4.9nm,0.9s							
HLID	**Hailey**	**76.17**	**328**	*e*P		**P**	**05 51 49.9**	**+1.6**
	comp=Z,2.6nm,0.9s							
TOA0	**Torodi Ar. Sit**	**77.28**	**71**	*e*P		**P**	**05 51 54.0**	**-1.0**
TOA0				*e*P		**P**	**05 51 54.7**	**-0.3**
TOA0				*e*pP		**pP**	**05 52 23.3**	**-0.6**
TOA1	**Torodi Ar. Sit**	**77.28**	**71**	*e*P		**P**	**05 51 53.3**	**-1.7**
TOA1				*e*pP		**pP**	**05 52 23.8**	**-0.6**
TOA1				*e*sP		**sP**	**05 52 36.8**	**0.0**
TORD	**Torodi Ar. Bea**	**77.28**	**71**	P		**P**	**05 51 53.3**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=248,slow=5.1,SNR=15							
TORD				pP		**pP**	**05 52 23.8**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=269,slow=5.6,SNR=3.7							
TORD				sP		**sP**	**05 52 36.8**	**0.0**
	comp=Z,2.6nm,0.8s,baz=275,slow=5.8,SNR=3.9							
SFJD	**Kangerlussuaq**	**88.44**	**7**	*e*P		**P**	**05 52 51.0**	**-0.4**
YKA	**Yellowknife Ar**	**90.28**	**341**	P		**P**	**05 53 00.9**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=132,slow=4.6,SNR=22							
YKB5	**Yellowknife Ar**	**90.28**	**341**	*e*P		**P**	**05 53 00.5**	**+0.5**
YKB5				*e*pP		**pP**	**05 53 28.4**	**-1.1**
SNZO	**South Karori**	**94.63**	**223**	*e*P		**P**	**05 53 19.3**	**-1.5**
VYHS	**Vyhne**	**103.86**	**43**	*e*PDIF		**Pdif**	**05 54 01.3**	**-0.6**
WR1	**Warramunga Arr**	**133.59**	**211**	*e*PKPdf		**PKPdf**	**05 59 17.1**	**+0.6**
WR1				*ep*PKPdf		**pPKPdf**	**05 59 48.4**	**+1.1**
WRA	**Warramunga Arr**	**133.59**	**211**	PKP		**PKPdf**	**05 59 17.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=172,slow=1.7,SNR=2.9							
WRA				pPKP		**pPKPdf**	**05 59 48.4**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=150,slow=1.5,SNR=3.0							
KSH	**Kashi**	**144.72**	**50**	*e*PKP		**PKiKP**	**05 59 41.0**	**+0.9**
KSH				PP		**PP**	**06 03 01.8**	**+7.4**
KSH				AMB		AMB		
	comp=Z,110nm,5.6s							
MK32	**Makanchi Array**	**145.05**	**35**	*e*PKPbc		**PKPdf**	**05 59 37.3**	**+0.8**
MK32				*ep*PKPdf		**pPKPdf**	**06 00 08.8**	**+1.2**
MKAR	**Makanchi Array**	**145.05**	**35**	PKP		**PKPdf**	**05 59 37.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=342,slow=1.5,SNR=3.9							
MKAR				pPKP		**pPKPdf**	**06 00 08.8**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=330,slow=3.4,SNR=3.1							
KLR	**Kul'dur**	**146.92**	**335**	PKPbc		**PKPbc**	**05 59 42.3**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=72,slow=4.4,SNR=3.8							
MAJO	**Matsushiro**	**151.34**	**309**	*e*P		**PKPdf**	**05 59 46.7**	**-0.4**

*HEL **31** 05:42:50.9±0.1,67°.63N×15°.03E,h15km,ML2.4, ML2.4(BER),ML2.5(UPP),Confirmed Earthquake*
*UPP **31** 05:42:51.5±1.4,67°.53N×15°.38E,h0km,ML2.5,Suspected explosion*
*BER **31** 05:42:52.6±2.4,67°.65N×14°.89E,h15km±10km,ML2.4, ML2.7(NAO),Confirmed Earthquake*
*IDC **31** 05:42:52.0±1.0,67°.56N×15°.56E,h0km,mb1 3.2/5, mb1mx3.0/58,mbtmp3.2/5,ML2.4/5,Error ellipse: s-maj=13.8km s-min=7.2km az=115.0*
*NAO **31** 05:42:52.0±1.0,67°.56N×15°.51E,ML2.7*
ISC 31 05:42:48.0±1.1,67°.56N±0°.02×15°.17E±0°.02,h2km±9km, n84,σ2s10/151,2C,Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**0.84**	**314**	*e*P		**Pg**	**05 43 04.1**	**0.0**
LOF				*e*S		**Sg**	**05 43 14.7**	**-0.4**
LOF				IAML			05 43 17.9	
	comp=Z,268nm,0.4s							
LOF	**Lofoten**	**0.84**	**314**	*i* P		**Pg**	**05 43 04.1**	**0.0**
LOF				*i* S		**Sg**	**05 43 14.7**	**-0.4**
LOF				IAML			05 43 17.9	
	comp=Z,268nm,0.4s							
SALU	**Saltoluokta**	**1.30**	**96**	⇑*i* P		**Pg**	**05 43 14.8**	**+1.9**
SALU				*e*S		**Sg**	**05 43 33.4**	**+3.8**
SALU	**Saltoluokta**	**1.30**	**96**	⇑*i* P		**Pg**	**05 43 14.8**	**+1.9**
SALU				*e*S		**Sg**	**05 43 33.4**	**+3.8**
KONS	**Konsvik**	**1.33**	**218**	*e*P		**Pg**	**05 43 14.0**	**+0.6**
KONS				*e*S		**Sg**	**05 43 32.0**	**+1.3**
KONS				IAML			05 43 37.4	
	comp=Z,114nm,0.2s							
KONS	**Konsvik**	**1.33**	**218**	*e*P		**Pg**	**05 43 14.0**	**+0.6**
KONS				*e*S		**Sg**	**05 43 32.0**	**+1.3**
KONS				IAML			05 43 37.4	
	comp=Z,114nm,0.2s							
MOR8	**Moi Rana**	**1.42**	**192**	*e*P		**Pn**	**05 43 13.9**	**-0.9**
MOR8				*e*S		**Sn**	**05 43 32.5**	**-1.5**
MOR8				IAML			05 43 34.8	
	comp=Z,101nm,0.1s							
MOR8	**Moi Rana**	**1.42**	**192**	*e*P		**Pn**	**05 43 13.9**	**-0.9**
MOR8				*e*S		**Sn**	**05 43 32.5**	**-1.5**
MOR8				IAML			05 43 34.8	
	comp=Z,101nm,0.1s							
STOK	**Stokkvaagen**	**1.49**	**216**	*e*P		**Pb**	**05 43 16.6**	**+0.3**
STOK				*e*S		**Sg**	**05 43 36.9**	**+1.1**
STOK	**Stokkvaagen**	**1.49**	**216**	*e*P		**Pb**	**05 43 16.6**	**+0.3**
STOK				*e*S		**Sg**	**05 43 36.9**	**+1.1**
NIKU	**Nikkaluokta**	**1.51**	**76**	P		**Pg**	**05 43 18.2**	**+1.4**
NIKU				S		**Sg**	**05 43 38.1**	**+1.7**
NIKU	**Nikkaluokta**	**1.51**	**76**	*e*P		**Pg**	**05 43 18.2**	**+1.4**
NIKU				*e*S		**Sg**	**05 43 38.1**	**+1.7**
RATU	**Laukkuluspa**	**1.71**	**79**	P		**Pg**	**05 43 21.7**	**+1.0**
RATU	**Laukkuluspa**	**1.71**	**79**	*e*P		**Pg**	**05 43 21.7**	**+1.0**
KUA	**Kurravaara**	**2.01**	**76**	P		**Pg**	**05 43 26.2**	**-0.2**
KUA				S		**Sg**	**05 43 54.0**	**+1.6**
KUA	**Kurravaara**	**2.01**	**76**	*e*P		**Pg**	**05 43 26.2**	**-0.2**
DUNU	**Dundret**	**2.14**	**99**	P		**Pb**	**05 43 27.2**	**-0.1**
DUNU	**Dundret**	**2.14**	**99**	*e*P		**Pb**	**05 43 27.2**	**-0.1**
TRO	**Tromso**	**2.50**	**32**	*e*P		**Pn**	**05 43 31.6**	**+2.1**
TRO				*e*S		**Sn**	**05 44 01.2**	**+0.7**
KIF	**Kilpisjarvi**	**2.55**	**53**	Pn		**Pb**	**05 43 32.6**	**-1.7**
KIF				Lg		Lg	05 44 09.7	
KIF	**Kilpisjarvi**	**2.55**	**53**	*e*P		**Pb**	**05 43 32.8**	**-1.6**
KIF				*e*Sg		**Sg**	**05 44 09.8**	**0.0**
KIF	**Kilpisjarvi**	**2.55**	**53**	*e*P		**Pb**	**05 43 32.7**	**-1.6**
KIF				*e*SB		**Sb**	**05 44 04.8**	**-1.2**
MASU	**Masugnsbyn**	**2.63**	**89**	P		**Pb**	**05 43 33.6**	**-2.1**
MASU	**Masugnsbyn**	**2.63**	**89**	*e*P		**Pb**	**05 43 33.6**	**-2.1**
LANU	**Lannavaara**	**2.64**	**76**	P		**Pb**	**05 43 34.3**	**-1.6**
LANU	**Lannavaara**	**2.64**	**76**	*e*P		**Pb**	**05 43 34.4**	**-1.4**
LANU				*e*SB		**Sb**	**05 44 07.8**	**-0.8**
HARU	**Harads**	**2.69**	**119**	P		**Pb**	**05 43 34.4**	**-2.3**
HARU	**Harads**	**2.69**	**119**	*e*P		**Pb**	**05 43 34.4**	**-2.3**
ERTU	**Ertsjaerv**	**2.93**	**107**	P		**Pb**	**05 43 38.0**	**-2.8**
ERTU	**Ertsjaerv**	**2.93**	**107**	*e*P		**Pb**	**05 43 38.3**	**-2.5**
PAJU	**Pajala**	**3.13**	**96**	P		**Pn**	**05 43 40.4**	**+2.1**
PAJU	**Pajala**	**3.13**	**96**	*e*P		**Pn**	**05 43 40.4**	**+2.1**
NSS	**Namsos**	**3.31**	**205**	*e*P		**Pn**	**05 43 43.0**	**+2.4**
NSS				*e*S		**Sn**	**05 44 21.0**	**+0.6**
NSS				*e*Sg		**Sg**	**05 44 31.4**	**-2.7**
NSS	**Namsos**	**3.31**	**205**	*e*P		**Pn**	**05 43 43.0**	**+2.4**
NSS				*e*S		**Sn**	**05 44 21.0**	**+0.6**
NSS				*e*SB		**Sg**	**05 44 31.4**	**-2.7**
HEF	**Hetta**	**3.31**	**71**	Pn		**Pb**	**05 43 43.9**	**-3.4**
HEF				Pg		**Pg**	**05 43 51.4**	**0.0**
HEF				Sn		**Sb**	**05 44 24.5**	**-3.5**
HEF				Lg		Lg	05 44 34.6	
HEF	**Hetta**	**3.31**	**71**	Pn		**Pb**	**05 43 43.9**	**-3.4**
HEF				Pg		**Pg**	**05 43 51.4**	**0.0**
HEF				Sn		**Sb**	**05 44 24.5**	**-3.5**
HEF				Sg		**Sg**	**05 44 34.6**	**+0.4**
HEF	**Hetta**	**3.31**	**71**	*e*P		**Pn**	**05 43 43.1**	**+2.4**
HEF				MSG			05 44 34.3	
	comp=Z,8.0nm,0.2s							
KTK1	**Kautokeino**	**3.34**	**60**	*e*P		**Pn**	**05 43 43.7**	**+2.7**
KTK1				*e*Sg		**Sg**	**05 44 32.0**	**-3.0**
KTK1				IAML			05 44 38.2	
	comp=Z,19nm,0.3s							
KTK1	**Kautokeino**	**3.34**	**60**	*e*P		**Pn**	**05 43 42.5**	**+1.5**
KTK1				*e*S		**Sn**	**05 44 19.2**	**-1.9**
SVAU	**Svanoeiden**	**3.56**	**148**	P		**Pn**	**05 43 47.4**	**+3.3**
SVAU	**Svanoeiden**	**3.56**	**148**	*e*P		**Pn**	**05 43 47.4**	**+3.3**
KALU	**Kalix**	**3.67**	**114**	P		**Pn**	**05 43 47.7**	**+2.1**
KALU	**Kalix**	**3.67**	**114**	*e*P		**Pn**	**05 43 47.7**	**+2.1**
KALU				*e*S		**Sn**	**05 44 30.9**	**+1.5**
ODEU	**Stanfors**	**3.89**	**142**	P		**Pn**	**05 43 51.9

FIA0				Sn	**Sn**	**05 46 06.6**	**-2.5**
	baz=329,slow=28							
FIA0				Lg	Lg	05 46 49.3		
	baz=332,slow=28							
FIA0	**FINESS Array S**	**7.72**	**137**	Pn	**Pn**	**05 44 43.1**	**+1.9**
	baz=326,slow=16							
FIA0				Sn	**Sn**	**05 46 06.6**	**-2.5**
	baz=329,slow=28							
FIA0				Sg	**Sg**	**05 46 49.3**	**-6.3**
	baz=332,slow=28							
FINES	**FINESS Array B**	**7.72**	**137**	Pn	**Pn**	**05 44 42.9**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=326,slow=14,SNR=9.8							
FINES				Sn	**Sn**	**05 46 07.2**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=331,slow=22,SNR=5.9							
FINES				Lg	Lg	05 46 48.1		
	comp=Z,1.0nm,0.3s,baz=333,slow=24,SNR=6.5							
SPA0	**Spitsbergen Ar**	**10.68**	**1**	Pn	**Pn**	**05 45 23.4**	**+1.7**
	baz=161,slow=16							
SPA0	**Spitsbergen Ar**	**10.68**	**1**	Pn	**Pn**	**05 45 23.4**	**+1.7**
	baz=161,slow=16							
SPITS	**Spitsbergen Ar**	**10.68**	**1**	Pn	**Pn**	**05 45 23.4**	**+1.7**
	baz=154,slow=17,SNR=3.0							

NIED ***31*** *05:48:00,38.˝40N×142.˝20E,h20km,Mw3.7 Best double couple: M₀3.82000×10¹⁴ NP1:φ₀116.00000°,δ7.00000°, λ-90.00000°. NP2:φ₀296.00000°,δ83.00000°, λ-90.00000°.*

ISCJB ***31*** *05:48:02.9±1.1,38.˝40N±0.˝04×142.˝31E±0.˝06,h24km±6km, mb3.7/11,MS2.6/1,Error ellipse: s-maj=8.9km s-min=5.8km az=35.1*

JMA ***31*** *05:48:03.7±0.1,38.˝45N×142.˝29E,h28km±2km,M3.9*

JMA Felt I J1.

IDC ***31*** *05:48:07.0±4.3,38.˝13N×142.˝34E,h56km±39km,mb3.4/11, mb1 3.6/12,mb1mx3.4/63,mbtmp3.6/12,ML2.4/1,MS2.7/3, Ms1 2.7/3,ms1mx2.4/29,Error ellipse: s-maj=26.4km s-min=17.9km az=88.0*

ISC 31 05:48:02.9±1.7,38.˝40N±0.˝04×142.˝30E±0.˝06,h17km±9km, n35,σ1.9s40/38,mb3.8/11,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.67**	**263**	P	**Pg**		**05 48 16.3**	**+0.3**
JIKH				*eS*	**Sg**		**05 48 24.9**	**+0.1**
JIO	**Ouri**	**0.75**	**275**	P	**Pg**		**05 48 17.8**	**+0.2**
JIO				S	**Sg**		**05 48 27.3**	**-0.3**
JKMT	**Kesennumamotoy**	**0.77**	**303**	P	**Pb**		**05 48 17.7**	**-0.1**
JKMT				S	**Sg**		**05 48 27.4**	**-0.8**
OFUJ	**Ofunato**	**0.84**	**324**	P	**Pb**		**05 48 18.6**	**-0.5**
OFUJ				*eS*	**Sb**		**05 48 29.3**	**-0.9**
JMK	**Ichinoseki**	**1.01**	**304**	P	**Pb**		**05 48 21.7**	**-0.3**
JMK				*eS*	**Sb**		**05 48 34.4**	**-0.6**
JOU	**Okura**	**1.29**	**269**	P	**Pn**		**05 48 26.3**	**+0.2**
JOU				*eS*	**Sn**		**05 48 42.4**	**-0.6**
JMM	**Marumori**	**1.30**	**247**	P	**Pn**		**05 48 25.8**	**-0.5**
JMM				S	**Sn**		**05 48 42.5**	**-0.8**
JOM	**Ohasama**	**1.33**	**324**	P	**Pn**		**05 48 26.3**	**-0.4**
JOM				*eS*	**Sn**		**05 48 43.3**	**-0.8**
JFK	**Kawauchi**	**1.53**	**228**	P	**Pn**		**05 48 28.6**	**-0.8**
JFK				*eS*	**Sn**		**05 48 46.8**	**-2.1**
JYK	**Kaneyama**	**1.61**	**290**	P	**Pn**		**05 48 31.0**	**+0.5**
JYK				*eS*	**Sn**		**05 48 51.2**	**+0.3**
JRG	**Rokugo**	**1.64**	**308**	P	**Pn**		**05 48 31.6**	**+0.6**
MJAR	**Matsushiro Arr**	**3.75**	**242**	P	**Pn**		**05 49 01.4**	**+1.4**
	0.3nm,0.3s,baz=65,slow=9.5,SNR=21							
MJAR				S	**Sb**		**05 49 52.4**	**-1.3**
	0.3nm,0.3s,baz=111,slow=37,SNR=2.9							
MAT	**Matsushiro**	**3.75**	**242**	P	**Pn**		**05 49 02.7**	**+2.8**
MAT				*eS*	**Sn**		**05 49 46.0**	**+2.4**
JHJ	**Hachijo jima 2**	**5.65**	**202**	P	Pn		05 49 21.2	-4.8
	15nm,0.3s,baz=70,slow=20,SNR=3.1							
ASAJ	**Asahikawa**	**5.72**	**2**	P	**Pn**		**05 49 28.3**	**+1.3**
	1.6nm,0.3s,baz=253,slow=11,SNR=9.6							
ASAJ				S	**Sn**		**05 50 29.2**	**-3.0**
	0.6nm,0.3s,baz=274,slow=19,SNR=2.6							
JNU	**Nakatsue**	**10.67**	**244**	LR	LR		05 55 03.4	
	comp=Z,69nm,19.4s,baz=24,slow=39							
KSRS	**Korea Array**	**11.40**	**270**	LR	LR		05 54 25.6	
	comp=Z,23nm,19.4s,baz=90,slow=33							
SEY	**Seymchan**	**25.32**	**11**	P	**P**		**05 53 30.1**	**+1.7**
	2.4nm,0.8s,baz=189,slow=12,SNR=7.8							
H11N2	**WAKE ISLAND Hy 28.28**	**124**		T	T		06 23 40.5	
	baz=317,slow=75,SNR=383							
H11N1	**WAKE ISLAND Hy 28.29**	**124**		T	T		06 23 36.2	
	baz=317,slow=75,SNR=229							
H11N3	**WAKE ISLAND Hy 28.30**	**124**		T	T		06 23 38.5	
	baz=317,slow=75,SNR=259							
H11S1	**WAKE ISLAND Hy 29.05**	**126**		T	T		06 24 42.6	
	baz=318,slow=75,SNR=62							
H11S3	**WAKE ISLAND Hy 29.05**	**126**		T	T		06 24 44.1	
	baz=318,slow=75,SNR=66							
H11S2	**WAKE ISLAND Hy 29.06**	**126**		T	T		06 24 43.8	
	baz=318,slow=75,SNR=48							
TGY	**Tagaytay City**	**30.71**	**224**	LR	LR		06 06 32.3	
	comp=Z,14nm,19.9s,baz=268,slow=36							
ZALV	**Zalesovo Beam**	**41.53**	**311**	P	**P**		**05 55 49.6**	**+0.5**
	0.5nm,0.4s,baz=90,slow=8.8,SNR=2.8							
MKAR	**Makanchi Array**	**44.01**	**301**	P	**P**		**05 56 10.3**	**+0.9**
	0.2nm,0.2s,baz=91,slow=6.3,SNR=3.0							
KURBB	**Kurchatov Arra**	**45.73**	**307**	P	**P**		**05 56 23.5**	**+0.6**
	0.6nm,0.5s,baz=82,slow=8.5,SNR=4.5							
ILAR	**Eielson Array**	**47.97**	**33**	P	**P**		**05 56 40.9**	**+0.7**
	0.3nm,0.8s,baz=266,slow=5.9,SNR=5.4							
BVAR	**Borovoye Array**	**50.19**	**312**	P	**P**		**05 56 59.8**	**+2.3**
	0.3nm,0.6s,baz=65,slow=8.3,SNR=2.9							
WRA	**Warramunga Arr**	**58.51**	**189**	P	**P**		**05 57 54.3**	**-3.9**
	1.1nm,0.7s,baz=4.9,slow=7.1,SNR=3.6							
ASAR	**Alice Springs**	**62.23**	**189**	P	**P**		**05 58 22.3**	**-1.4**
	0.9nm,1.1s,baz=11,slow=4.8,SNR=6.1							
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**		**05 59 00.0**	**-0.3**
	0.6nm,0.7s,baz=33,slow=11,SNR=3.4							
NOA	**NORSAR Array B**	**73.20**	**337**	P	**P**		**05 59 33.2**	**+0.7**
	0.8nm,0.8s,baz=25,slow=7.9,SNR=3.0							
TXAR	**Lajitas Array**	**88.73**	**53**	P	**P**		**06 00 56.7**	**+0.9**
	0.4nm,1.0s,baz=303,slow=5.0,SNR=3.2							

IDC 31 05:57:29.5±8.5,32.˝15S×179.˝92E,h340km±97km,mb2.5/2, mb1 2.9/3,mb1mx2.8/34,mbtmp3.4/3,Error ellipse: s-maj=110.1km s-min=45.6km az=0.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.52**	**200**	P		Pn	05 59 07.0	+1.2
	2.1nm,0.3s,baz=177,slow=19,SNR=27							
URZ				S		S	06 00 22.9	-1.1
	0.5nm,0.3s,baz=162,slow=19,SNR=3.4							
ASAR	**Alice Springs**	**41.28**	**270**	P		P	06 04 43.0	0.0
	0.2nm,0.5s,baz=100,slow=7.6,SNR=3.0							
WRA	**Warramunga Arr**	**42.43**	**275**	P		P	06 04 51.9	-0.2
	0.2nm,0.3s,baz=113,slow=7.9,SNR=5.0							
FINES	**FINESS Array B**	**146.13**	**338**	PKPbc		PKPdf	06 16 28.1	+0.6
	0.8nm,0.8s,baz=57,slow=5.1,SNR=5.6							

KRNET ***31*** *06:12:32.8±0.1,40.˝75N×71.˝08E,h14km,mb2.5*

ISCJB ***31*** *06:12:33.9±0.6,40.˝71N±0.˝04×71.˝05E±0.˝05,h10km,Error ellipse: s-maj=5.8km s-min=4.6km az=135.8*

SOME ***31*** *06:12:34.1,40.˝77N×71.˝13E,h10km*

NNC ***31*** *06:12:46.3±5.5,41.˝44N×71.˝42E,h0km,mb3.0,mpv2.6, Error ellipse: s-maj=51.2km s-min=21.8km az=12.0*

ISC 31 06:12:33.6±0.9,40.˝75N±0.˝04×71.˝05E±0.˝04,h10km,n17, σ1.9s56/28,20C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.71**	**194**	⇑*i*P		**Pg**	**06 12 46.7**	**-0.7**
	baz=96							
BTK				⇑*i*S		**Sg**	**06 12 56.5**	**-0.1**
	baz=96							
ARK	**Arkit**	**1.26**	**33**	⇑*i*P		**Pn**	**06 12 55.9**	**-1.5**
	baz=33							
ARK				⇑*i*S		**Sb**	**06 13 12.9**	**-0.9**
	baz=33							
ARSB	**Arslanbob**	**1.57**	**68**	⇑*i*P		**Pn**	**06 13 01.5**	**-0.2**
	baz=68							
ARSB				⇑*i*S		**Sg**	**06 13 22.5**	**-1.7**
	baz=68							
IUG	**Iuzhnay**	**1.59**	**332**	*e*P		**Pb**	**06 13 03.3**	**+0.1**
	58nm,0.2s							
IUG				*e*S		**Sb**	**06 13 24.4**	**+1.0**
	64nm,0.3s							
KK31	**Karatay Array**	**2.39**	**351**	⇑Pg		**Pg**	**06 13 19.1**	**-0.3**
	0.8nm,0.3s,baz=168,slow=16,SNR=28							
KK31				⇓Lg		Lg	06 13 46.8	
	11nm,0.3s,baz=148,slow=26,SNR=16							
AML	**Almayashu**	**2.42**	**54**	⇑*i*P		**Pn**	**06 13 14.3**	**+0.7**
	baz=54							
AML				⇑*i*S		**Sb**	**06 13 45.6**	**-2.0**
	baz=54							
BRLS	**Boroldoy**	**2.45**	**339**	Pg		**Pb**	**06 13 15.9**	**-1.9**
	0.4nm,0.2s							
BRLS				Lg		Lg	06 13 46.1	
	16nm,0.2s							
BRLS	**Boroldoy**	**2.45**	**339**	*e*P		**Pb**	**06 13 15.9**	**-1.9**
	0.4nm,0.2s							
BRLS				*e*S		**Sn**	**06 13 46.0**	**+2.2**
	16nm,0.2s							
MRKS	**Merke**	**2.58**	**39**	Pg		**Pb**	**06 13 20.0**	**0.0**
	6.6nm,0.3s							
MRKS				Lg		Lg	06 13 53.2	
	11nm,0.3s							
MRKS	**Merke**	**2.58**	**39**	*e*P		**Pb**	**06 13 19.8**	**-0.2**
	5.4nm,0.4s							
MRKS				*e*S		**Sb**	**06 13 52.5**	**+0.8**
	13nm,0.4s							
ARLS	**Aral**	**2.71**	**65**	⇑*i*P		**Pn**	**06 13 19.1**	**+1.8**
	baz=64							
ARLS				⇑*i*S		**Sb**	**06 13 52.4**	**-3.1**
	baz=64							
UCH	**Uchtor**	**2.99**	**59**	⇑*i*P		**Pn**	**06 13 22.5**	**+1.0**
	baz=59							
UCH				⇑*i*S		**Sn**	**06 13 59.6**	**+1.9**
	baz=59							
AAK	**Ala-Archa**	**3.20**	**53**	⇑Pn		**Pb**	**06 13 30.2**	**-0.3**
	1.4nm,0.6s							
AAK				⇑Lg		Lg	06 14 08.0	
	2.6nm,0.7s							
AAK	**Ala-Archa**	**3.20**	**53**	⇑*i*P		**Pn**	**06 13 25.7**	**+1.6**
	baz=52							
AAK				⇑*i*S		**Sn**	**06 14 03.6**	**+1.3**
	baz=52							
KZA	**Kyzart**	**3.43**	**66**	⇑*e*P		**Pn**	**06 13 28.8**	**+1.3**
	baz=66							
KZA				⇑*i*S		**Sn**	**06 14 10.5**	**+2.1**
	baz=66							
TKM2	**Tokmak 2**	**4.03**	**56**	⇑Pn		**Pb**	**06 13 43.0**	**-1.8**
	1.4nm,0.8s							
TKM2				⇓Lg		Lg	06 14 37.0	
	1.0nm,0.5s							
KST	**Kastek**	**4.33**	**56**	Pg		**Pb**	**06 13 52.0**	**+2.2**
	1.5nm,0.4s							
KST				Lg		Lg	06 14 47.8	
	2.9nm,0.3s							

IDC 31 06:34:07.4±4.4,3.˝01N×128.˝49E,h135km±53km,mb3.1/4, mb1 3.2/5,mb1mx3.0/33,mbtmp3.5/5,Error ellipse: s-maj=130.0km s-min=20.6km az=68.0,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.75**	**144**	P		Pn	06 35 18.6	+1.3
	2.4nm,0.3s,baz=341,slow=14,SNR=4.4							
SIJI				S		Sn	06 36 11.4	-0.2
	5.1nm,0.3s,baz=165,slow=23,SNR=8.7							
WRA	**Warramunga Arr**	**23.52**	**166**	P		P	06 39 05.7	+0.2
	0.4nm,0.4s,baz=346,slow=10,SNR=8.7							
ASAR	**Alice Springs**	**27.03**	**169**	P		P	06 39 37.0	-0.2
	0.1nm,0.5s,baz=351,slow=7.9,SNR=3.8							
STKA	**Stephens Creek**	**36.86**	**161**	P		P	06 41 03.0	+0.2
	0.5nm,0.4s,baz=324,slow=8.7,SNR=3.4							
MKAR	**Makanchi Array**	**59.15**	**325**	P		P	06 43 53.9	-0.2
	0.7nm,0.5s,baz=115,slow=8.4,SNR=12							

NNC 31 06:54:51.2±3.0,48.˝37N×70.˝23E,h3km±19km,mb3.5, mpv3.1,11C-6D,Error ellipse: s-maj=18.0km s-min=8.5km az=88.0,Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BVA0	**Borovoye Array**	**4.66**	**1**	⇑Pn		Pn	06 56 02.9	+0.6
	2.1nm,0.6s,baz=167,slow=12,SNR=40							
BVA0				⇑Sn		Sn	06 56 57.5	+0.6
	2.5nm,0.4s,baz=165,slow=26,SNR=3.6							
BVA0				⇓Lg		Lg	06 57 16.7	
	2.2nm,0.4s							
BRVK	**Borovoye**	**4.69**	**0**	⇑Pn		Pn	06 56 00.5	-2.3
	3.4nm,0.6s							
BRVK				⇑Sn		Sn	06 56 58.8	+1.1
	1.9nm,0.3s							
BRVK				⇓Lg		Lg	06 57 17.8	
	1.5nm,0.3s							
KK31	**Karatay Array**	**5.28**	**178**	⇓Pn		Pn	06 56 12.2	+1.3
	0.7nm,0.6s,baz=3.5,slow=13,SNR=12							
KK31				⇑Sn		Sn	06 57 11.4	-0.7
	0.4nm,0.3s							
KK31				⇓Lg		Lg	06 57 34.5	
	0.8nm,0.3s							
KURBB	**Kurchatov Arra**	**5.86**	**64**	⇓Pn		Pn	06 56 20.3	+1.5
	1.5nm,0.5s							
KURBB				⇑Lg		Lg	06 57 56.3	
	7.9nm,0.6s							
KURK	**Kurchatov**	**5.94**	**64**	⇑Pn		Pn	06 56 21.2	+1.2
	6.5nm,0.9s							
KURK				⇓Lg		Lg	06 57 58.2	
	2.0nm,0.7s							
AB31	**Akbulak array**	**6.85**	**281**	⇑Pn		Pn	06 56 35.2	+2.8
	0.3nm,0.5s,baz=213,slow=16,SNR=16							
AB31				⇑Lg		Lg	06 58 26.5	
	0.5nm,0.6s							
MK31	**Makanchi Array**	**8.31**	**96**	⇑Pn		Pn	06 56 53.9	+1.4
	0.2nm,0.3s,baz=280,slow=12,SNR=21							
MK31				⇑Lg		Lg	06 59 15.5	
	0.3nm,0.3s							

IDC 31 06:55:09.4±2.2,2.˝58N×128.˝05E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.3/49,mbtmp3.6/3,Error ellipse: s-maj=137.2km s-min=28.4km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.22**	**165**	P		P	07 00 18.2	-0.1
	2.5nm,0.6s,baz=344,slow=11,SNR=14							
ASAR	**Alice Springs**	**26.70**	**168**	P		P	07 00 50.4	-0.2
	0.3nm,0.5s,baz=355,slow=9.4,SNR=3.1							
MKAR	**Makanchi Array**	**59.25**	**325**	P		P	07 05 13.0	+0.2
	0.2nm,0.4s,baz=128,slow=8.6,SNR=3.0							

IDC ***31*** *07:02:30.7±0.4,42.˝66N×46.˝88E,h0km,mb4.3/30, mb1 4.4/37,mb1mx4.3/54,mbtmp4.4/37,ML4.3/4,MS3.2/14, Ms1 3.2/14,ms1mx3.0/45,Error ellipse: s-maj=9.9km s-min=7.1km az=158.0*

BJI ***31*** *07:02:35.5,42.˝80N×46.˝80E,h48km,mb4.9/35,mB4.9/29, Ms4.4/11,Ms7 4.2/6*

NEIC ***31*** *07:02:37.5±1.3,42.˝69N×46.˝80E,h52km±4km,mb4.6/1, Error ellipse: s-maj=11.3km s-min=4.7km az=97.0*

DRS ***31*** *07:02:38.5±0.0,42.˝49N×46.˝74E,h62km,ML4.4/4*

TIF ***31*** *07:02:38.5,42.˝58N×46.˝73E,h75km±2km*

MOS ***31*** *07:02:38.1±1.0,42.˝65N×46.˝82E,h54km,mb4.9/35,Error ellipse: s-maj=4.0km s-min=3.2km az=134.8*

MOS Felt (IV) at Gunib, Hunzakh; (III) at Dubki; (II-III) at Makhachkala.

ISCJB ***31*** *07:02:38.5±0.1,42.˝64N±0.˝02×46.˝79E±0.˝02,h80km±1km, mb4.5/110,Error ellipse: s-maj=2.9km s-min=1.8km az=17.4*

NORS ***31*** *07:02:39.0±0.0,42.˝58N×46.˝79E,h48km,MPVA5.1*

NNC ***31*** *07:02:41.4±2.3,43.˝06N×48.˝08E,h0km,mb4.6,Error ellipse: s-maj=30.8km s-min=16.9km az=111.0*

ISK ***31*** *07:03:00.6,41.˝89N×44.˝65E,h17km,ML3.3/7*

DDA ***31*** *07:03:03.6,41.˝83N×44.˝95E,h12km±2km,ML3.1*

ISC 31 07:02:38.1±0.4,42.˝63N±0.˝02×46.˝78E±0.˝02,h65km±3km, n480,σ2.3s31/583,mb4.7/110,47C-34D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UNCR	**Uncukul**	**0.09**	**5**	⇑*i*P		**Pn**	**07 02 50.0**	**+2.2**
UNCR				*e*S		**Sn**	**07 02 57.3**	**+2.5**
UNCR				pmax	pmax			
	comp=Z,1μm,0.2s							
UNCR	**Uncukul**	**0.09**	**5**	*i* Pg		**Pn**	**07 02 50.0**	**+2.2**
UNCR				*e*Sg		**Sn**	**07 02 57.3**	**+2.5**
XNZR	**Khunzakh**	**0.10**	**214**	⇓*i*P		**Pn**	**07 02 49.8**	**+1.8**
XNZR				*i*			07 02 57.3	
XNZR	**Khunzakh**	**0.10**	**214**	*e*Pg		**Pn**	**07 02 49.8**	**+1.8**
XNZR				*e*Sg		**Sn**	**07 02 56.9**	**+1.8**
ARKR	**Arakani**	**0.16**	**99**	*i* P		**Pn**	**07 02 50.5**	**+2.5**
ARKR				*e*S		**Sn**	**07 02 58.0**	**+2.8**
ARKR	**Arakani**	**0.16**	**99**	*i* Pg		**Pn**	**07 02 50.5**	**+2.5**
ARKR				*e*Sg		**Sn**	**07 02 58.0**	**+2.8**
KRNR	**Karanay**	**0.22**	**24**	*i* P		**Pn**	**07 02 50.3**	**+1.9**
KRNR				*i* S		**Sn**	**07 02 57.5**	**+1.6**
KRNR	**Karanay**	**0.22**	**24**	*i* Pg		**Pn**	**07 02 50.3**	**+1.9**
KRNR				*i* Sg		**Sn**	**07 02 57.5**	**+1.6**
GNBR	**Gunib**	**0.27**	**151**	⇓*i*P		**Pn**	**07 02 50.3**	**+1.7**
GNBR				*e*S		**Sn**	**07 02 58.3**	**+2.0**
GNBR				pmax	pmax			
	comp=Z,1μm,0.8s							
GNBR	**Gunib**	**0.27**	**151**	*i* Pg		**Pn**	**07 02 50.4**	**+1.8**
	comp=Z,11μm,0.9s							
GNBR				*e*Sg		**Sn**	**07 02 57.8**	**+1.5**
	comp=Z,23μm,1.2s							
BUJR	**Buynaksk**	**0.31**	**50**	*i* P		**Pn**	**07 02 51.2**	**+2.4**
BUJR				*e*S		**Sn**	**07 02 59.7**	**+3.0**
BUJR	**Buynaksk**	**0.31**	**50**	*i* Pg		**Pn**	**07 02 51.2**	**+2.4**
BUJR				*e*Sg		**Sn**	**07 02 59.7**	**+3.0**
DBC	**Dubki**	**0.39**	**5**	⇑*i*P		**Pn**	**07 02 52.1**	**+2.6**
DBC				*e*			07 03 01.6	
DBC	**Dubki**	**0.39**	**5**	*i* Pg		**Pn**	**07 02 52.1**	**+2.6**
DBC				*i* Sg		**Sn**	**07 03 01.5**	**+3.6**
BTLR	**Botlikh**	**0.42**	**275**	⇓*i*P		**Pn**	**07 02 51.6**	**+1.9**
BTLR				*e*			07 03 00.4	
BTLR				pmax	pmax			
	comp=Z,4μm,0.7s							
BTLR	**Botlikh**	**0.42**	**275**	*i* Pg		**Pn**	**07 02 51.6**	**+1.9**
	comp=Z,4μm,0.7s							
BTLR				*e*Sg		**Sn**	**07 03 00.4**	**+2.2**
	comp=Z,12μm,0.6s							
DLMR	**Dylym**	**0.46**	**346**	⇓*i*P		**Pn**	**07 02 53.8**	**+3.7**
DLMR				*e*S		**Sn**	**07 03 04.0**	**+5.2**
DLMR	**Dylym**	**0.46**	**346**	*i* Pg		**Pn**	**07 02 53.8**	**+3.7**
DLMR				*e*Sg		**Sn**	**07 03 04.0**	**+5.2**
KMKR	**Kumukh**	**0.55**	**155**	⇑*i*P		**Pn**	**07 02 53.5**	**+2.3**
KMKR				*e*S		**Sn**	**07 03 02.5**	**+1.7**
KMKR				pmax	pmax			
	comp=Z,59nm,0.2s							
KMKR	**Kumukh**	**0.55**	**155**	*i* Pg		**Pn**	**07 02 53.5**	**+2.3**
KMKR				*e*Sg		**Sn**	**07 03 02.5**	**+1.7**
DVE	**Vedeno**	**0.58**	**304**	*ce*P		**Pn**	**07 02 53.5**	**+2.1**
DVE	**Vedeno**	**0.58**	**304**	*i* Pg		**Pn**	**07 02 54.0**	**+2.6**
	comp=Z,9μm,0.3s							
DVE				*e*Sg		**Sn**	**07 03 05.1**	**+3.9**
MAK	**Makhachkala**	**0.63**	**58**	⇑*i*P		**Pn**	**07 02 55.2**	**+3.5**
MAK				*e*			07 03 07.4	
MAK				pmax	pmax			
	comp=Z,6μm,0.4s							
MAK				smax	smax			
	comp=E,24μm,0.6s							
MAK	**Makhachkala**	**0.63**	**58**	*e*Pg		**Pn**	**07 02 55.3**	**+3.5**
MAK				*e*Sg		**Sn**	**07 03 07.1**	**+5.3**
SGKR	**Sergokala**	**0.67**	**104**	*i* P		**Pn**	**07 02 55.0**	**+2.7**
SGKR				*e*S		**Sn**	**07 03 07.0**	**+4.3**
SGKR	**Sergokala**	**0.67**	**104**	*i* Pg		**Pn**	**07 02 55.0**	**+2.7**
SGKR				*e*Sg		**Sn**	**07 03 07.0**	**+4.3**
URKR	**Urkarakh**	**0.78**	**126**	⇑*e*P		**Pn**	**07 02 55.9**	**+2.2**
URKR				*e*			07 03 08.2	
URKR	**Urkarakh**	**0.78**	**126**	*i* Pg		**Pn**	**07 02 55.9**	**+2.2**
URKR				*e*Sg		**Sn**	**07 03 07.3**	**+2.1**
LGD	**Lagodekhi**	**0.89**	**207**	P		**Pn**	**07 02 56.0**	**+1.1**
LGD				S		**Sn**	**07 03 09.2**	**+1.8**
LGD	**Lagodekhi**	**0.89**	**207**	P		**Pn**	**07 02 56.0**	**+1.1**
LGD				S		**Sn**	**07 03 09.2**	**+1.8**
ZKTA	**Zakatala**	**1.00**	**187**	P		**Pn**	**07 02 57.3**	**+1.0**
DDFL	**Dedoflistskaro**	**1.28**	**203**	P		**Pn**	**07 02 58.9**	**-1.1**
DDFL				S		**Sn**	**07 03 17.0**	**+0.6**
DRN	**Derbent**	**1.29**	**117**	⇓*e*P		**Pn**	**07 03 03.5**	**+3.4**
DRN				*e*			07 03 23.0	
DRN				pmax	pmax			
	comp=Z,2μm,0.5s							
DRN				smax	smax			
	comp=N,5μm,1.0s							
DRN	**Derbent**	**1.29**	**117**	*e*Pg		**Pn**	**07 03 03.1**	**+3.0**
	comp=N,2μm,0.3s							
DRN				*e*Sg		**Sn**	**07 03 21.4**	**+4.8**
	comp=N,5μm,1.0s							
AKT	**Akhty**	**1.35**	**148**	⇑*i*P		**Pn**	**07 03 02.9**	**+2.0**
AKT				*e*			07 03 19.5	
AKT				pmax	pmax			
	comp=Z,3μm,0.4s							
AKT				smax	smax			
	comp=N,8μm,1.2s							
AKT	**Akhty**	**1.35**	**148**	*i* Pg		**Pn**	**07 03 02.9**	**+2.0**
	comp=N,3μm,0.4s							
AKT				*e*Sg		**Sn**	**07 03 20.7**	**+2.7**
	comp=N,8μm,1.2s							
KSMR	**Kasumkent**	**1.43**	**135**	⇓*i*P		**Pn**	**07 03 05.3**	**+3.3**
KSMR				*e*S		**Sn**	**07 03 27.0**	**+7.0**
KSMR	**Kasumkent**	**1.43**	**135**	*i* Pg		**Pn**	**07 03 05.3**	**+3.3**
KSMR				*e*Sg		**Sn**	**07 03 27.0**	**+7.0**
SEKA	**Sheki**	**1.45**	**168**	P		**Pn**	**07 03 03.2**	**+0.9**
KMGR	**Komgaron**	**1.47**	**288**	⇑*i*P		**Pn**	**07 03 05.9**	**+3.3**
KMGR				*e*S		**Sn**	**07 03 27.0**	**+6.0**
KMGR	**Komgaron**	**1.47**	**288**	*i* Pg		**Pn

NCK	**Nalchik**	**2.49 291**	*c*	eP		**Pn**	**07 03 18.5 +2.2**
NCK	**Nalchik**	**2.49 291**	*i*	Pn		**Pn**	**07 03 18.7 +2.4**
NCK				eSn		**Sn**	**07 03 48.7 +3.1**
KBTC	**Kuba-Taba**	**2.74 297**	⇑	iP		**Pn**	**07 03 21.6 +1.9**
KBTC				eS		**Sn**	**07 03 53.5 +1.9**
KBTC	**Kuba-Taba**	**2.74 297**	*i*	Pn		**Pn**	**07 03 21.6 +1.9**
KBTC				eSn		**Sn**	**07 03 53.5 +1.9**
BGD	**Bogdanovka**	**2.74 241**		P		**Pn**	**07 03 21.5 +1.7**
BGD				S		Sn	07 04 05.7 +14
TKB	**Tkibuli**	**2.82 266**		P		**Pn**	**07 03 22.2 +1.5**
GNI	**Garni**	**2.91 212**		ePn		**Pn**	**07 03 22.8 +0.6**
GNI				ePn		Pn	07 03 23.9 +1.8
GNI				eSn		**Sn**	**07 03 59.9 +3.7**
GNI				eSn		Sn	07 03 60.0 +3.9
GNI	**Garni** SNR=11	**2.91 212**		eP		**Pn**	**07 03 22.8 +0.6**
GNI	**Garni**	**2.91 212**	*d*	iP		**Pn**	**07 03 23.3 +1.1**
GNI	**Garni** SNR=56	**2.91 212**		P		**Pn**	**07 03 23.4 +1.2**
GNI	**Garni** comp=Z,13nm,0.3s,baz=354,slow=3.1,SNR=17	**2.91 212**		Pn		**Pn**	**07 03 22.8 +0.6**
GNI				Sn		**Sn**	**07 03 59.8 +3.7**
NEY	**Neytrino** comp=Z,129nm,0.3s,baz=90,slow=20,SNR=14	**3.05 283**	*c*	iP		**Pn**	**07 03 25.7 +1.7**
NEY	**Neytrino**	**3.05 283**		ePn		**Pn**	**07 03 25.8 +1.7**
NEY				eSn		**Sn**	**07 04 00.8 +1.4**
KBZ	**Khabaz** comp=Z,19nm,0.3s,baz=112,slow=4.0,SNR=344	**3.05 292**		Pn		**Pn**	**07 03 24.8 +1.0**
KBZ				Sn		**Sn**	**07 03 58.1 -1.0**
KBZ	comp=Z,16nm,0.3s,baz=73,slow=11,SNR=7.3			Lg		Lg	07 04 12.7
KBZ	comp=Z,36nm,0.3s,baz=275,slow=6.3,SNR=6.4			LR		LR	07 04 25.2
PYA1	**Pyatigorsk** comp=Z,223nm,19.1s,baz=44,slow=37	**3.05 299**	*i*	P		**Pn**	**07 03 25.3 +1.5**
PYA1	**Pyatigorsk**	**3.05 299**		ePn		**Pn**	**07 03 25.4 +1.5**
PYA1				eSn		**Sn**	**07 03 59.5 +0.3**
EAK	**Akyaka**	**3.07 232**	*i*	P		Pn	07 03 33.0 +8.7
EAK	comp=Z,3µm,0.4s			IAML_P			
SHA1	**Shidzhatmaz**	**3.22 292**	⇑	iP		**Pn**	**07 03 27.5 +1.2**
SHA1				eS		**Sn**	**07 04 03.8 +0.2**
SHA1	**Shidzhatmaz**	**3.22 292**	*i*	Pn		**Pn**	**07 03 27.5 +1.2**
SHA1				eSn		**Sn**	**07 04 03.8 +0.2**
TASB	**TASBURUN-IGDIR**	**3.26 217**		PN		Pn	07 03 33.5 +6.6
KIV0	**Kislovodsk Arr**	**3.27 295**		ePn		**Pn**	**07 03 28.1 +1.1**
KIV0				eSn		**Sn**	**07 04 05.0 +0.3**
KVAR	**Kislovodsk Arr** baz=90,slow=20	**3.27 295**		Pn		**Pn**	**07 03 28.0 +1.1**
KVAR				Sn		**Sn**	**07 04 03.9 -0.7**
KVAR	baz=129,slow=19,SNR=9.7			Lg		Lg	07 04 27.5
KVAR	baz=180,slow=4.0,SNR=2.9			LR		LR	
KIV	**Kislovodsk**	**3.27 295**		ePn		**Pn**	**07 03 28.0 +1.0**
KIV				eSn		**Sn**	**07 04 03.9 -0.9**
KIV	**Kislovodsk**	**3.27 295**		eP		**Pn**	**07 03 28.0 +1.0**
KIV				e			07 04 03.9
DIGO	**Kars**	**3.38 230**	*i*	P		**Pn**	**07 03 33.1 +4.4**
KARS	**Kars**	**3.42 235**		PN		**Pn**	**07 03 30.8 +1.7**
KARS	**Kars**	**3.42 235**		ePn		**Pn**	**07 03 30.3 +1.2**
KARS	**Kars**	**3.42 235**		eP		**Pn**	**07 03 30.3 +1.2**
IGDI	**IGDIR**	**3.43 217**	*i*	P		Pn	07 03 39.3 +10
IGDI	comp=Z,275nm,0.2s			IAML_P			
ALER	**Alexandrovskoy**	**3.53 309**		ePn		**Pn**	**07 03 32.8 +2.4**
ALER				eSn		**Sn**	**07 04 11.6 +0.7**
NAX	**Nakhchivan**	**3.59 196**		P		**Pn**	**07 03 32.7 +1.4**
GOF	**Gofitskoye**	**3.64 313**	⇑	iP		**Pn**	**07 03 33.9 +2.1**
GOF				eS		**Sn**	**07 04 16.2 +2.7**
GOF	comp=Z,260nm,0.7s			pmax	pmax		
GOF	comp=E,670nm,0.5s			smax	smax		
GOF	**Gofitskoye**	**3.64 313**		ePn		**Pn**	**07 03 34.0 +2.1**
GOF				eSn		**Sn**	**07 04 15.2 +1.7**
DOMR	**Dombai**	**3.84 282**	*ce*	P		**Pn**	**07 03 36.1 +1.2**
DOMR	comp=Z,61nm,0.7s			pmax	pmax		
DOMR	**Dombai**	**3.84 282**		ePn		**Pn**	**07 03 36.0 +1.2**
DOMR				eSn		**Sn**	**07 04 18.0 -0.9**
SENK	**Senkaya-Erzuru**	**3.91 240**		PN		**Pn**	**07 03 37.3 +1.4**
BATM	**Batumi**	**3.92 257**		PN		**Pn**	**07 03 37.9 +2.1**
BATM				SN		Sn	07 04 05.2 -15
DAGI	**Agillar**	**3.95 249**	*i*	P		**Pn**	**07 03 39.0 +2.6**
BCA	**Borcka**	**4.02 255**		PN		**Pn**	**07 03 39.1 +1.9**
BCA				SN		Sn	07 04 07.1 -16
NVNR	**Nevinnomyssk**	**4.02 301**		ePn		**Pn**	**07 03 38.9 +1.7**
NVNR				eSn		**Sn**	**07 04 23.9 +0.8**
DBOC	**Borcka**	**4.02 253**	*i*	P		**Pn**	**07 03 40.3 +3.1**
DBOC	comp=Z,1µm,0.5s			IAML_P			
CLDR	**Caldiran**	**4.10 213**		PN		Pn	07 03 45.9 +7.4
CLDR	**Caldiran**	**4.10 213**	*i*	P		**Pn**	**07 03 42.2 +3.7**
DBAD	**Bademkaya**	**4.13 249**	*i*	P		**Pn**	**07 03 42.0 +3.3**
DBAD	comp=Z,752nm,0.5s			IAML_P			
AGRB	**Hanur-Agry**	**4.18 224**		PN		**Pn**	**07 03 43.6 +4.0**
AGRB				SN		Sn	07 04 15.0 -12
LKRN	**Lenkeran, Azer**	**4.20 158**		P		**Pn**	**07 03 39.3 -0.2**
TUTA	**Tutak**	**4.41 224**	*i*	P		**Pn**	**07 03 45.4 +2.8**
TUTA	comp=Z,278nm,0.3s			IAML_P			
HOMI	**Horasan**	**4.49 237**	*i*	P		Pn	07 03 58.3 +15
KOPR	**Koprukoy-ERZUR**	**4.55 236**		PN		**Pn**	**07 03 46.7 +2.1**
LABN	**Labinsk**	**4.84 297**		ePn		**Pn**	**07 03 51.8 +3.6**
LABN				eSn		**Sn**	**07 04 46.3 +3.4**
KRIK	**Erzurum-spir**	**4.96 244**	*i*	P		Pn	07 04 09.3 +19
GUZR	**Guzeripl'**	**5.05 288**		ePn		**Pn**	**07 03 54.0 +2.7**
GUZR				eSn		**Sn**	**07 04 49.3 +1.0**
SOC	**Sochi**	**5.26 283**		eP		**Pn**	**07 03 51.8 -2.3**
SOC				e			07 04 52.6
SOC	comp=Z,92nm,7.0s			MLR	MLR		
SOC	**Sochi**	**5.26 283**		ePn		**Pn**	**07 03 53.1 -1.0**
SOC				eSn		**Sn**	**07 04 48.9 -4.4**
BAYB	**BAYBURT**	**5.45 246**	*i*	P		Pn	07 04 08.1 +11
BAYB	comp=Z,60nm,0.2s			IAML_P			
SIRT	**Sirnak**	**6.11 214**		ePn		**Pn**	**07 04 06.5 +0.7**
ANN	**Anapa**	**7.12 291**		eP		**Pn**	**07 04 20.3 +0.9**
ANN				eS		**Sn**	**07 05 41.3 +2.6**
ANN	comp=Z,63nm,1.3s			pmax	pmax		
VRH	**Novokhopyorsk**	**9.25 340**		eP		**Pn**	**07 04 47.1 -1.4**
VRH	comp=Z,10.0nm,0.9s			pmax	pmax		
GEYT	**Alibeck** comp=Z,5.2nm,0.3s,baz=302,slow=15,SNR=45	**9.85 115**		Pn		**Pn**	**07 04 54.8 -2.1**
GEYT				Sn		**Sn**	**07 06 40.6 -5.2**
GYA0B	**ALIBECK ARRAY** comp=Z,4.2nm,0.3s,baz=292,slow=42,SNR=5.7	**9.85 115**		ePn		**Pn**	**07 04 55.8 -1.1**
GYA0B				eSn		**Sn**	**07 06 40.2 -5.6**
GYA0B	**ALIBECK ARRAY**	**9.85 115**	⇑	P		**Pn**	**07 04 55.5 -1.4**
GYA0B			⇑	S		**Sn**	**07 06 39.9 -5.9**
VSR	**Storozhevoye**	**10.04 331**	*i*	P		**Pn**	**07 04 59.7 +0.3**
BR101	**Keskin Array S**	**10.32 258**		ePn		**Pn**	**07 05 06.1 +2.7**
BR101				eSn		Sn	07 07 08.8 +11
BR131	**Keskin Array S**	**10.32 258**		ePn		**Pn**	**07 05 01.7 -1.8**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=74,slow=11,SNR=6.2	**10.33 258**		Pn		**Pn**	**07 05 06.1 +2.7**
BRTR				Sn		Sn	07 07 08.8 +11
BRTR	comp=Z,0.1nm,0.3s,baz=101,slow=8.8,SNR=2.3			LR		LR	07 09 42.1
VORR	**Voronezh** comp=Z,21nm,19.1s,baz=110,slow=42	**10.41 333**		eP		**Pn**	**07 05 06.0 +1.7**
VORR				pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,250nm,1.0s	**10.98 41**	⇑	P		**Pn**	**07 05 09.8 -2.4**
AKTO	comp=Z,15nm,0.6s		⇓	S		Sn	07 07 03.9 -9.4
AKTO	**Aktyubinsk** comp=Z,63nm,0.8s	**10.98 41**		P		**Pn**	**07 05 09.8 -2.4**
AKTO	comp=Z,15nm,0.6s			pmax	pmax		
AKTO	**Aktyubinsk** comp=Z,1.7nm,0.3s,baz=229,slow=12,SNR=37	**10.98 41**		Pn		**Pn**	**07 05 11.9 -0.3**
AKTO				Sn		**Sn**	**07 07 05.0 -8.3**
AKTO	comp=Z,5.0nm,0.3s,baz=50,slow=20,SNR=9.3			LR		LR	07 10 11.7
LPSR	**Galich'ya Gora** comp=Z,110nm,20.6s,baz=230,slow=42	**11.29 335**		eP		**Pn**	**07 05 17.1 +0.7**
LPSR	comp=Z,10.0nm,0.6s			pmax	pmax		
AB31	**Akbulak array** comp=Z,7.1nm,0.5s,baz=228,slow=11,SNR=237	**11.30 50**	⇓	P		**Pn**	**07 05 14.0 -2.5**
AB31			⇓	S		Sn	07 07 08.0 -13
AB31	**Akbulak array** comp=Z,97nm,0.8s,baz=235,slow=18,SNR=14	**11.30 50**		eP		**Pn**	**07 05 15.6 -0.9**
AB31				eS		**Sn**	**07 07 15.1 -5.9**
AB31	comp=Z,7.0nm,0.5s			pmax	pmax		
AB31	comp=N,97nm,0.9s			smax	smax		
ABKAR	**Akbulak array**	**11.30 50**		ePn		**Pn**	**07 05 15.9 -0.6**
MMAI	**Mount Meron Ar** comp=N,61nm,19.6s,baz=15,slow=41	**13.14 227**		LR		LR	07 11 30.0
TIRR	**Tirgusor**	**13.45 284**		ePn		**Pn**	**07 05 45.9 +0.1**
TIRR	**Tirgusor**	**13.45 284**		eP		**Pn**	**07 05 45.9 +0.1**
CFR	**Carcaliu**	**13.69 287**	⇑	iP		**Pn**	**07 05 49.2 +0.3**
CFR	**Carcaliu**	**13.69 287**	⇑	P		**Pn**	**07 05 49.2 +0.3**
ICOR	**Ion Corvin**	**13.89 283**	⇓	iP		**P**	**07 06 00.0 +2.2**
OBN	**Obninsk**	**14.17 335**		ePn		**Pn**	**07 05 53.6 -1.6**
OBN				eSn		**Sn**	**07 08 23.2 -7.5**
OBN	**Obninsk**	**14.17 335**	⇓	eP		**Pn**	**07 05 53.6 -1.6**
OBN				eS		**Sn**	**07 08 29.7 -1.0**
OBN	comp=Z,11nm,0.6s			pmax	pmax		
OBN	comp=Z,81nm,17.0s			MLR	MLR		
OBN	**Obninsk** comp=Z,1.2nm,0.3s,baz=53,slow=14,SNR=3.3	**14.17 335**		Pn		**Pn**	**07 05 52.4 -2.8**
OBN				Sn		**Sn**	**07 08 23.2 -7.5**
MOS	**Moscow**	**14.40 339**		eP		**Pn**	**07 05 54.6 -3.7**
MOS				eS		**Sn**	**07 08 28.5 -8.0**
MOS	comp=Z,22nm,0.8s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,2.3nm,0.3s,baz=112,slow=12,SNR=6.2	**14.48 310**		Pn		**Pn**	**07 05 57.7 -1.7**
AKASG				Sn		**Sn**	**07 08 30.6 -7.9**
AKBB	**Malin Array Si** comp=Z,1.2nm,0.3s,baz=123,slow=25,SNR=3.5	**14.48 310**		ePn		**Pn**	**07 05 57.8 -1.6**
AKBB				eSn		**Sn**	**07 08 30.6 -7.9**
AKBB	**Malin Array Si**	**14.48 310**		eP		**Pn**	**07 05 57.8 -1.6**
AKBB				e			07 08 30.6
KIEV	**Kiev**	**14.49 310**		ePn		**Pn**	**07 05 57.8 -1.7**
KIEV	**Kiev**	**14.49 310**	⇓	iP		**Pn**	**07 05 57.5 -2.0**
KIEV	**Kiev**	**14.49 310**		P		**Pn**	**07 05 57.4 -2.0**
KIEV	**Kiev**	**14.49 310**	*i*	P		**Pn**	**07 05 57.6 -2.0**
KIEV	comp=Z,5.0nm,0.7s			pmax	pmax		
AK11	**Malin Array Si**	**14.51 310**		ePn		**Pn**	**07 05 58.1 -1.6**
VRI	**Vrincioaia**	**14.73 290**	⇓	iP		**Pn**	**07 06 03.1 +0.4**
VRI	**Vrincioaia**	**14.73 290**	⇓	P		**Pn**	**07 06 03.1 +0.4**
ISR	**Istrita**	**14.81 287**	⇓	iP		**Pn**	**07 06 05.5 +1.8**
ISR	**Istrita**	**14.81 287**	⇓	P		**Pn**	**07 06 05.5 +1.8**
TESR	**Tescani**	**14.86 292**	⇓	iP		**Pn**	**07 06 04.4 +0.1**
MLR	**Muntele Rosu**	**15.25 288**		ePn		**Pn**	**07 06 07.7 -1.8**
MLR				ePn		**P**	**07 06 08.1 -5.0**
MLR	**Muntele Rosu**	**15.25 288**	⇓	iP		**P**	**07 06 12.0 -1.1**
MLR	**Muntele Rosu**	**15.25 288**	⇓	P		**P**	**07 06 12.0 -1.1**
MLR	**Muntele Rosu** comp=Z,0.1nm,0.3s,baz=233,slow=10,SNR=3.0	**15.25 288**		Pn		**Pn**	**07 06 07.7 -1.8**
DOPR	**Dopca**	**15.67 290**	⇑	iP		**Pn**	**07 06 15.1 +0.4**
ARU	**Arti** comp=Z,33nm,1.0s	**15.75 25**	*c*	ePn		**Pn**	**07 06 12.6 -3.0**
ARU	**Arti**	**15.75 25**	*c*	iP		**Pn**	**07 06 12.4 -3.3**
ARU				S		**Sn**	**07 09 03.9 -5.3**
ARU	comp=Z,16nm,0.6s			pmax	pmax		
VOIR		**15.88 288**	⇑	iP		**Pn**	**07 06 19.2 +1.8**
VOIR		**15.88 288**	⇑	P		**Pn**	**07 06 19.2 +1.8**
BURAR	**Bucovina Array**	**16.00 296**	⇓	iP		**Pn**	**07 06 20.1 +1.1**
BUR08	**Bucovina Ar. S** comp=Z,7.8nm,0.8s	**16.02 296**		ePn		**Pn**	**07 06 19.8 +0.5**
KIRV	**Kirov** comp=Z,6.6nm,0.3s,baz=209,slow=11,SNR=12	**16.06 5**		Pn		**Pn**	**07 06 15.7 -3.8**
KIRV				Sn		Sn	07 09 04.8 -12
ARR	**Arges** comp=Z,1.5nm,0.3s,baz=237,slow=18,SNR=2.5	**16.17 287**	⇓	iP		**P**	**07 06 23.0 -0.2**
SVE	**Sverdlovsk**	**16.75 27**	*c*	iP		**Pn**	**07 06 26.2 -1.9**
SVE				eS		Sn	07 09 21.9 -11
SVE	comp=Z,54nm,0.7s			pmax	pmax		
IUG	**Iuzhnay**	**17.18 84**		eP		**Pn**	**07 06 33.5 -0.2**
IUG	comp=Z,255nm,0.7s			pmax	pmax		
MICGM	**Minsk**	**17.18 320**		e		**Pn**	**07 06 31.0 -2.5**
MNK	**Minsk**	**17.18 320**		eP		**Pn**	**07 06 31.0 -2.5**
LVV	**L'vov**	**17.27 302**		eP		**Pn**	**07 06 35.0 +0.4**
KK31	**Karatay Array** comp=Z,21nm,0.6s	**17.39 80**		ePn		**Pn**	**07 06 35.9 -0.4**
KK31				eSn		**Sn**	**07 09 39.7 -9.4**
KK31	**Karatay Array** comp=Z,11nm,0.6s,baz=283,slow=13,SNR=74	**17.39 80**		P		**Pn**	**07 06 35.7 -0.5**
KK31			⇑	S		Sn	07 09 37.1 -12
KK31	**Karatay Array** comp=Z,10nm,0.7s,baz=294,slow=25,SNR=3.9	**17.39 80**		eP		**Pn**	**07 06 35.9 -0.4**
KK31				e			07 09 39.7
KK31	comp=Z,21nm,0.6s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,21nm,0.6s	**17.39 80**		ePn		**Pn**	**07 06 35.9 -0.4**
KKAR				eSn		**Sn**	**07 09 39.7 -9.4**
KKAR	**Karatay Array**	**17.39 80**		eP		**Pn**	**07 06 35.9 -0.4**
KKAR				e			07 09 39.7
KKAR	comp=Z,21nm,0.6s			pmax	pmax		
NACGM	**Naroch**	**17.94 320**		e		Pn	07 06 51.0 +8.2
KWP	**Kalwaria Pacla** comp=Z,350nm,0.7s	**18.05 301**		eP		**P**	**07 06 41.2 -2.6**
KWP	**Kalwaria Pacla**	**18.05 301**		eP		**P**	**07 06 41.3 -2.6**
KWP	comp=Z,350nm,0.7s			pmax	pmax		
UZH	**Uzhgorod**	**18.11 298**		eP		**Pn**	**07 06 46.0 +1.1**
UZH				eS		**Sn**	**07 10 03.4 -2.8**
UZH	comp=N,4.0nm,0.8s			MLR	MLR		
UZH	comp=E,6.0nm,0.8s			MLR	MLR		
UZH	comp=Z,4.0nm,0.8s			MLR	MLR		
GAR	**Garm** comp=Z,30nm,0.7s	**18.16 94**		eP		**Pn**	**07 06 46.2 +0.4**
GAR	**Garm**	**18.16 94**		eP		**Pn**	**07 06 46.2 +0.4**
GAR	comp=Z,94nm,0.7s			pmax	pmax		
BTK	**Batken** comp=Z,13nm,0.8s	**18.22 90**		eP		**P**	**07 06 45.8 -0.1**
BTK	**Batken**	**18.22 90**		eP		**P**	**07 06 45.8 -0.1**
BTK	comp=Z,13nm,0.8s			pmax	pmax		
SHME	**Shamm**	**18.23 152**		P		**P**	**07 06 45.9 -0.2**
SIRR	**Siria**	**18.28 290**	⇑	iP		Pn	07 06 54.8 +7.8
IDI	**Anoyia** comp=Z,1.3nm,0.3s,baz=159,slow=5.2,SNR=8.2	**18.51 254**		P		**P**	**07 06 49.3 +0.3**
KLMR	**Klimovskoe**	**18.78 349**	⇓	iP		**P**	**07 06 51.2 -0.5**
KLMR				e			07 10 07.3
KLMR	comp=Z,17nm,0.6s			pmax	pmax		
KLMR	**Klimovskoe** comp=Z,67nm,0.7s	**18.78 349**	⇓	iPn		**P**	**07 06 51.2 -0.5**
KLMR				ePn		**P**	**07 06 51.2 -0.5**
KLMR				ePn		**P**	**07 06 51.2 -0.5**
KLMR	comp=Z,17nm,0.7s			AMP			07 06 54.2
KLMR				eSn		S	07 10 07.3 -14
KLMR				eSn		S	07 10 07.3 -14
BRVK	**Borovoye** comp=Z,79nm,0.7s	**18.82 48**		eP		**P**	**07 06 52.6 +0.3**
BRVK				eSn		**S**	**07 10 13.1 -10**
BRVK	**Borovoye** comp=Z,67nm,0.7s	**18.82 48**	⇑	P		**P**	**07 06 53.0 +0.7**
BRVK			⇑	S		S	07 10 11.6 -11
BRVK	**Borovoye** comp=Z,21nm,0.7s	**18.82 48**	*d*	iP		**Pn**	**07 06 53.4 -0.1**
BRVK	comp=Z,76nm,0.7s			pmax	pmax		
BRVK	**Borovoye** SNR=28	**18.82 48**		P		**Pn**	**07 06 53.7 +0.2**
AGG	**Agios Georgios** comp=Z,22nm,1.1s	**18.84 267**		eP		**P**	**07 06 53.6 +1.0**
AGG	**Agios Georgios**	**18.84 267**		eP		**P**	**07 06 53.6 +1.0**
AGG	comp=Z,22nm,1.1s			pmax	pmax		
BVA0	**Borovoye Array** comp=Z,49nm,1.1s,baz=251,slow=9.3,SNR=97	**18.87 48**	⇑	P		**P**	**07 06 52.7 -0.1**
BVA0			⇑	S		S	07 10 09.8 -14
BVA0	**Borovoye Array** comp=Z,23nm,0.8s,baz=269,slow=26,SNR=4.7	**18.87 48**	*i*	P		**Pn**	**07 06 53.8 -0.2**
BVA0				S		S	07 10 09.8 -14
BVA0	comp=Z,24nm,0.6s			pmax	pmax		
BVA0	comp=N,25nm,0.8s			smax	smax		
BVAR	**Borovoye Array** comp=N,5.7nm,0.3s,baz=252,slow=9.7,SNR=154	**18.87 48**		P		**P**	**07 06 52.9 +0.1**
BVAR				S		S	07 10 11.3 -12
BVAR	comp=N,0.8nm,0.3s,baz=243,slow=23,SNR=9.2			LR		LR	07 15 24.6
BVAR	comp=N,81nm,21.8s,baz=257,slow=41			LR		LR	
MSFE	**Esma-Masafi**	**18.88 153**		P		**P**	**07 06 53.5 +0.4**
MDH	**Madha** SNR=9.3	**18.98 153**	*i*	P		**P**	**07 06 54.7 +0.5**
PRGR	**Permogore**	**19.05 358**	⇑	iP		**P**	**07 06 54.6 -0.1**
PRGR				eS		**S**	**07 10 21.4 -5.8**
PRGR	comp=Z,39nm,0.6s			pmax	pmax		
NAZ	**Nazwa, Dubai** SNR=6.3	**19.06 155**	*i*	P		**Pn**	**07 06 56.3 -0.1**
FAQ	**Al Faqa, Dubai**	**19.26 155**		P		**P**	**07 06 57.9 +0.6**
SUW	**Suwalki**	**19.29 314**		eP		**P**	**07 06 57.8 +0.5**
SUW	**Suwalki** comp=Z,27nm,0.9s	**19.29 314**		eP		**P**	**07 06 57.6 +0.2**
SUW	**Suwalki**	**19.29 314**		eP		**P**	**07 06 57.8 +0.5**
ASUD	**Al Ashush, Dub** SNR=9.5	**19.29 156**	*i*	P		**P**	**07 06 58.8 +1.2**
HATD	**Hatta, Dubai** SNR=10	**19.36 154**	*i*	P		**P**	**07 06 58.9 +0.5**
ASHO	**Ashiyiah** SNR=26	**19.47 154**	*i*	P		**P**	**07 07 00.2 +0.6**
ASHO	**Ashiyiah** SNR=7.3	**19.47 154**		P		**P**	**07 06 59.8 +0.2**
PSZ	**Piszkesteto** comp=Z,13nm,1.2s	**19.60 295**		eP		**P**	**07 07 00.1 -0.8**
PSZ	**Piszkesteto**	**19.60 295**	⇓	iP		**Pn**	**07 07 03.8 +1.0**
PSZ	**Piszkesteto**	**19.60 295**	⇓	P		**Pn**	**07 07 03.9 +1.1**
BTLS	**Baital**	**19.78 74**		eP		**P**	**07 07 02.7 -0.1**
BTLS				eS		**S**	**07 10 41.3 -0.8**
BTLS	comp=Z,211nm,0.7s			pmax	pmax		
BEL	**Belsk**	**19.82 307**		P		**Pn**	**07 07 04.9 -0.3**
BEL	comp=Z,41nm,0.9s			pmax	pmax		
EKS2	**Erkin-Say** SNR=17	**19.83 81**		P		**Pn**	**07 07 06.1 +0.5**
AML	**Almayashu** SNR=19	**19.86 82**		P		**Pn**	**07 07 06.0 -0.3**
OJC	**Ojcow**	**20.01 302**		eP		**P**	**07 07 04.3 -0.9**
OJC	**Ojcow** comp=Z,8.6nm,0.6s	**20.01 302**		eP		**P**	**07 07 05.1 -0.2**
OJC	**Ojcow**	**20.01 302**		eP		**P**	**07 07 05.1 -0.2**
OJC	comp=Z,9.0nm,0.6s			pmax	pmax		
LANS	**Liptovska Anna**	**20.03 298**		eP		**P**	**07 07 07.2 +1.6**
LANS	**Liptovska Anna**	**20.03 298**		eP		**P**	**07 07 07.2 +1.6**
SOHO	**SOHO** SNR=10	**20.14 153**		P		**P**	**07 07 08.0 +1.2**
VSU	**Vasula**	**20.21 329**	*c*	iP		**P**	**07 07 08.0 +0.7**
VSU	comp=Z,38nm,0.9s			pmax	pmax		
MZR	**Muzera** SNR=5.2	**20.35 162**	*i*	P		Pn	07 07 12.3 +0.6
AAK	**Ala-Archa** SNR=29	**20.36 81**		P		Pn	07 07 10.8 -1.1
AAK	**Ala-Archa** comp=Z,34nm,0.8s	**20.36 81**		eP		**P**	**07 07 10.4 +1.2**
AAK				eP		Pn	07 07 10.6 -1.3
AAK				eS		**S**	**07 10 57.0 +3.2**
AAK	**Ala-Archa** comp=Z,26nm,0.8s	**20.36 81**	⇓	P		**P**	**07 07 09.9 +0.6**
AAK	**Ala-Archa** SNR=38	**20.36 81**		iP		**P**	**07 07 10.4 +1.2**
AAK	**Ala-Archa** comp=Z,37nm,0.8s	**20.36 81**	*c*	iP		**P**	**07 07 09.8 +0.5**
AAK				pmax	pmax		
AAK	**Ala-Archa** SNR=18	**20.36 81**		P		**P**	**07 07 10.7 +1.4**
AAK	**Ala-Archa** comp=Z,29nm,0.7s,baz=239,slow=5.3,SNR=26	**20.36 81**		P		**P**	**07 07 10.5 +1.3**
AAK				S		**S**	**07 10 57.0 +3.2**
AAK	comp=Z,2.8nm,0.8s,baz=78,slow=18,SNR=2.0			LR		LR	07 16 06.3
VYHS	**Vyhne** comp=Z,27nm,21.4s,baz=324,slow=40	**20.36 296**		eP		**P**	**07 07 10.2 +1.1**
VYHS	**Vyhne**	**20.36 296**		eP		**P**	**07 07 10.2 +1.1**
FRU1	**Bishkek** comp=Z,38nm,0.8s	**20.43 80**		eP		**P**	**07 07 10.7 +0.8**
FRU1	**Bishkek**	**20.43 80**		eP		**P**	**07 07 10.7 +0.8**
FRU1	comp=Z,38nm,0.8s			pmax	pmax		
UCH	**Uchtor** SNR=13	**20.44 82**		P		**P**	**07 07 11.7 +1.2**
ARQ	**Araqi** SNR=9.3	**20.87 154**		P		**P**	**07 07 15.8 +1.1**
HOQ	**Hoqain** SNR=5.7	**20.91 152**		P		**P**	**07 07 15.5 +0.4**
KZA	**Kyzart** SNR=26	**21.01 82**		P		**P**	**07 07 17.8 +1.3**
TKM2	**Tokmak 2** SNR=6.0	**21.11 79**		P		**P**	**07 07 18.7 +1.2**
JAVC	**Velka Javorina**	**21.17 297**		eP		**P**	**07 07 23.4 +5.6**
MORC	**Moravsky Berou** comp=Z,8.1nm,0.9s	**21.37 300**		eP		**P**	**07 07 20.0 0.0**
MORC	**Moravsky Berou**	**21.37 300**		eP		**P**	**07 07 20.0 0.0**
MORC	comp=Z,8.0nm,0.9s			pmax	pmax		
MORC	**Moravsky Berou**	**21.37 300**		eP		**P**	**07 07 20.6 +0.7**
MODS	**Modra-Piesok**	**21.39 296**		eP		**P**	**07 07 22.6 +2.5**
MODS	**Modra-Piesok**	**21.39 296**		eP		**P**	**07 07 22.5 +2.5**
BOOM	**Boomskoye usch** comp=Z,18nm,0.6s	**21.43 80**		eP		**P**	**07 07 20.7 -0.2**
BOOM	**Boomskoye usch**	**21.43 80**		eP		**P**	**07 07 20.7 -0.2**
BOOM	comp=Z,19nm,0.6s			pmax	pmax		
KUU	**Kurty**	**21.51 77**		eP		**P**	**07 07 20.7 -0.8**
KUU	comp=Z,202nm,0.9s			pmax	pmax		
SMDO	**Samad** SNR=6.9	**21.65 151**		P		**P**	**07 07 24.4 +1.2**
NRN	**Naryn** comp=Z,34nm,1.6s	**21.69 83**		eP		**P**

DPC ePP **pP** **07 07 41.5 -1.8**
DPC Dobruska-Polom 22.23 301 *e*P **P** **07 07 31.3 +2.1**
JOF Joensuu 22.26 341 P **P** **07 07 31.1 +1.9**
JOF pmax pmax
comp=Z,40nm,1.1s
CONA Conrad Observa 22.30 294 P **P** **07 07 31.5 +1.4**
comp=Z,2.5nm,0.7s
KDJ Kajisay 22.41 81 *e*P **P** **07 07 30.2 -1.1**
comp=Z,15nm,0.9s
KDJ Kajisay 22.41 81 *e*P **P** **07 07 30.2 -1.1**
KDJ pmax pmax
comp=Z,15nm,0.9s
UPC Upice 22.45 301 *e*P **P** **07 07 37.4 +5.9**
UPC Upice 22.45 301 *e*P **P** **07 07 37.4 +5.9**
FIA0 FINESS Array S 22.56 334 *e*P **P** **07 07 32.2 -0.3**
FIA0 *e*S **S** **07 11 32.8 -2.2**
FIA0 FINESS Array S 22.56 334 *e*P **P** **07 07 32.2 -0.3**
FIA0 *e*S **S** **07 11 32.8 -2.2**
FIA1 FINESS Array S 22.56 334 *e*P **P** **07 07 31.7 -0.8**
FIA1 *e*P **P** **07 07 32.1 -0.4**
FINES FINESS Array B 22.56 334 P **P** **07 07 32.2 -0.3**
comp=Z,8.5nm,0.7s,baz=138,slow=11,SNR=57
FINES S **S** **07 11 32.8 -2.2**
comp=Z,3.4nm,0.6s,baz=145,slow=23,SNR=4.9
FINES LR LR 07 15 34.2
comp=Z,75nm,21.5s,baz=61,slow=35
NIL Nilore 22.59 105 *e*P **P** **07 07 33.0 -0.2**
comp=Z,15nm,0.9s
NIL Nilore 22.59 105 *e*P **P** **07 07 33.0 -0.2**
NIL pmax pmax
comp=Z,15nm,0.9s
SOKA Soboth 22.86 291 P **P** **07 07 36.2 +0.2**
comp=Z,0.9nm,0.4s
TDK Taldyqorghan 22.87 73 *e*P **P** **07 07 36.5 +0.5**
KURBB Kurchatov Arra 23.08 59 ⇓P **P** **07 07 38.9 +0.9**
comp=Z,28nm,0.7s
KURBB Kurchatov Arra 23.08 59 P **P** **07 07 38.4 +0.4**
comp=Z,25nm,1.0s,baz=268,slow=12,SNR=62
KURBB S **S** **07 11 52.2 +8.4**
comp=Z,0.6nm,0.7s,baz=269,slow=26,SNR=2.7
SATY Saty 23.12 78 *e*P **P** **07 07 39.6 +1.0**
SATY pmax pmax
comp=Z,278nm,1.0s
ZHN Zhinishke 23.13 78 *e*P **P** **07 07 39.0 +0.3**
ZHN pmax pmax
comp=Z,117nm,1.2s
KURK Kurchatov 23.15 59 *e*P **P** **07 07 39.2 +0.6**
comp=Z,28nm,0.8s
KURK Kurchatov 23.15 59*d i*P **P** **07 07 39.0 +0.3**
KURK pmax pmax
comp=Z,29nm,0.8s
KURK Kurchatov 23.15 59 P **P** **07 07 39.6 +1.0**
SNR=6.6
KURK P **P** **07 07 39.6 +1.0**
SNR=6.6
PRZ Przheval'sk 23.22 80 *e*P **P** **07 07 40.5 +0.8**
comp=Z,46nm,1.0s
PRZ Przheval'sk 23.22 80 *e*P **P** **07 07 40.5 +0.8**
PRZ pmax pmax
comp=Z,46nm,1.0s
KPKS Kokpek 23.26 77 *e*P **P** **07 07 39.8 -0.1**
KPKS pmax pmax
comp=Z,166nm,0.6s
UZB Uzynbulak 23.55 78*c i*P **P** **07 07 42.3 -0.4**
UZB pmax pmax
comp=Z,40nm,0.8s
GEA0 GERESS Array S 23.78 297 *e*P **P** **07 07 45.2 +0.5**
GEC2 GERESS Array S 23.78 297 *e*P **P** **07 07 45.3 +0.7**
comp=Z,3.8nm,0.8s
GEC2 *e*PcP **PcP** **07 11 27.4 +1.0**
GEC2 GERESS Array S 23.78 297 *e*P **P** **07 07 45.3 +0.7**
GEC2 *e* 07 11 27.4
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 23.78 297 P **P** **07 07 44.7 +0.1**
comp=Z,2.6nm,0.7s,baz=94,slow=9.4,SNR=22
GERES PcP **PcP** **07 11 27.4 +1.0**
comp=Z,0.3nm,0.8s,baz=109,slow=5.3,SNR=2.9
BRG Berggiesshubel 23.80 302 *e*P P 07 08 05.3 +21
comp=Z,9.5nm,1.2s
CEL Celeste 23.84 270 *e*P **P** **07 07 46.2 +1.0**
comp=Z,27nm,0.8s
PDGK Podgornoye 23.86 77 ⇑P **P** **07 07 45.8 +0.4**
comp=Z,18nm,0.5s
PDGK Podgornoye 23.86 77 P **P** **07 07 45.8 +0.4**
PDGK pmax pmax
comp=Z,18nm,0.5s
SHLS Shalkode 23.87 78 *e*P **P** **07 07 48.9 +3.4**
SHLS pmax pmax
comp=Z,280nm,0.8s
BYXU Byxelkrok 23.87 318 P **P** **07 07 45.3 +0.2**
KHC Kasperske Hory 23.88 297 *e*P **P** **07 07 46.4 +1.0**
comp=Z,2.1nm,1.1s
KHC Kasperske Hory 23.88 297 *e*P **P** **07 07 46.3 +0.9**
KHC *e*pP **pP** **07 07 57.2 -4.0**
KHC *ex* x 07 08 10.2
KHC Kasperske Hory 23.88 297 *e*P **P** **07 07 46.4 +1.0**
AAL Aland 23.98 326 P **P** **07 07 46.2 +0.1**
KBA Koelnbreinsper 24.01 292 *i*P **P** **07 07 47.8 +1.0**
comp=Z,3.0nm,0.6s
ASPU Aespoe 24.13 318 P **P** **07 07 47.8 +0.3**
SEM Semipalatinsk 24.15 60 *e*P **P** **07 07 47.9 -0.2**
SEM pmax pmax
comp=Z,99nm,0.9s
BSD Bornholm Skovb 24.16 312 *i*P **P** **07 07 47.0 -0.8**
BSD Bornholm Skovb 24.16 312 *i*P **P** **07 07 47.0 -0.8**
VSTU Vaestervik 24.26 319 P **P** **07 07 48.8 +0.1**
CLL Collm 24.45 303 *e*P **P** **07 07 50.9 +0.3**
comp=Z,4.9nm,1.0s
CLL Collm 24.45 303 *e*P **P** **07 07 52.0 +1.5**
CLL *es*P **pP** **07 08 09.0 +2.4**
CLL *i* 07 08 14.2
comp=Z,19nm,1.6s
CLL *i* 07 08 18.0
comp=Z,16nm,1.3s
CLL Collm 24.45 303 *e*P **P** **07 07 52.0 +1.5**
CLL *i* 07 08 18.0
VIKU Vikbolandet 24.55 321 P **P** **07 07 51.4 0.0**
GRAU Graesoe 24.66 326 P **P** **07 07 52.6 +0.3**
NKC Novy Kostel 24.69 300 *e*P **P** **07 07 55.1 +2.4**
NKC Novy Kostel 24.69 300 *e*P **P** **07 07 55.1 +2.4**
ESKU Eskilstuna 25.03 322 P **P** **07 07 55.7 0.0**
WTTA Wattenberg 25.17 293 *e*P **P** **07 07 57.5 +0.2**
comp=Z,2.4nm,0.3s
WATA Walderalm 25.20 293 *i*P **P** **07 07 57.9 +0.3**
MAKZ Makanchi 25.22 68 *e*P **P** **07 07 57.6 0.0**
comp=Z,18nm,1.3s
MAKZ Makanchi 25.22 68 ⇓P **P** **07 07 57.8 +0.1**
comp=Z,6.0nm,0.7s
MAKZ Makanchi 25.22 68 P **P** **07 07 57.7 +0.1**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 25.44 68 *e*P **P** **07 08 00.6 +1.1**
comp=Z,20nm,1.3s
MK31 Makanchi Array 25.44 68 ⇓P **P** **07 08 00.7 +1.1**
comp=Z,15nm,0.8s,baz=276,slow=7.1,SNR=122
MK31 Makanchi Array 25.44 68 *i*P **P** **07 08 00.7 +1.1**
MK31 pmax pmax
comp=Z,15nm,0.9s
MK32 Makanchi Array 25.44 68 *e*P **P** **07 08 00.8 +1.2**
MK32 *e*PcP **PcP** **07 11 29.9 -0.1**
MK32 *es* S 07 12 38.1 +16
MKAR Makanchi Array 25.44 68 P **P** **07 08 00.8 +1.2**
comp=Z,11nm,0.7s,baz=279,slow=7.5,SNR=113
MKAR PcP **PcP** **07 11 29.9 -0.1**
comp=Z,1.5nm,0.7s,baz=289,slow=3.6,SNR=3.7
MKAR S S 07 12 38.1 +16
comp=Z,0.7nm,0.9s,baz=286,slow=27,SNR=2.1
MKAR LR LR 07 19 32.6
comp=Z,63nm,18.2s,baz=243,slow=40
MK01 Makanchi Array 25.44 68 *e*P **P** **07 08 00.5 +0.9**
SQTA Sankt Quirin 25.46 293 *i*P **P** **07 07 59.9 0.0**
comp=Z,4.9nm,0.5s
MOTA Moosalm 25.52 293 *i*P **P** **07 08 00.4 -0.1**
comp=Z,0.3nm,0.2s
FETA Feichten 25.80 292 *e*P **P** **07 08 04.3 +1.3**
comp=Z,1.8nm,0.6s
APA Apatity 26.02 348 ⇓*i*P **P** **07 08 05.2 +0.6**
APA *i* 07 08 33.5
APA *i*S **S** **07 12 29.0 -1.4**
APA *i*SS **SnSn** **07 13 37.0 +3.3**
APA MLR MLR
comp=Z,500nm,11.0s
LVZ Lovozero 26.15 350 *e*P **P** **07 08 06.0 +0.2**
comp=Z,27nm,0.8s
LVZ Lovozero 26.15 350 *i*P **P** **07 08 06.3 +0.5**
LVZ pmax pmax
comp=Z,23nm,0.9s
DAVOX Davos/Dischmat 26.39 292 P **P** **07 08 08.1 -0.3**
comp=Z,0.9nm,0.4s
DAVOX LR LR 07 20 43.4
comp=Z,75nm,19.9s,slow=41
NVS Novosibirsk 26.64 50 *e*P **P** **07 08 11.8 +1.5**
NVS *e* 07 08 34.2
NVS pmax pmax
comp=Z,8.0nm,0.8s
NVS pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 26.66 322 P **P** **07 08 10.7 +0.2**
comp=E,4.0nm,0.7s,baz=121,slow=9.3,SNR=16
ZAA0 Zalesovo Array 27.39 52 *e*P **P** **07 08 16.6 -0.5**
comp=E,5.9nm,0.5s
ZAA0 Zalesovo Array 27.39 52 ⇑P **P** **07 08 17.2 +0.1**
comp=E,0.6nm,0.5s
ZALV Zalesovo Beam 27.39 52 P **P** **07 08 17.2 +0.1**
comp=E,6.4nm,0.4s,baz=264,slow=9.2,SNR=34
ZALV LR LR 07 19 09.9
comp=E,68nm,18.5s,baz=250,slow=37
ZAA1 Zalesovo Array 27.39 52 *e*P **P** **07 08 17.2 +0.1**
NORES NORESS Array B 27.89 323 P **P** **07 08 21.2 -0.2**
NB2 NORSAR Subarra 28.16 323 P **P** **07 08 23.3 -0.6**
comp=Z,1.2nm,0.7s,baz=119,slow=8.6
NOA NORSAR Array B 28.16 323 P **P** **07 08 23.6 -0.3**
comp=Z,0.4nm,0.7s,baz=127,slow=8.3,SNR=12
NOA LR LR 07 20 05.1
comp=Z,39nm,21.3s,baz=115,slow=37
NC303 NORSAR Array S 28.17 324 *e*pP pP 07 08 46.7 +6.6
DGZ Jazzator, Alta 28.75 62 *i*P **P** **07 08 30.4 +1.0**
DGZ pmax pmax
comp=Z,3.0nm,0.7s
ARA0 ARCESS Array S 29.13 345 *e*P **P** **07 08 32.7 +0.3**
ARCES ARCESS Array S 29.13 345 *e*P **P** **07 08 32.9 +0.5**
ARCES ARCESS Array B 29.13 345 P **P** **07 08 32.7 +0.3**
comp=Z,1.5nm,0.6s,baz=155,slow=9.3,SNR=8.7
WMQ Urumqi 29.62 74 *e*P **P** **07 08 38.8 +1.7**
WMQ pP pP 07 08 50.3 -2.8
WMQ PP **PnPn** **07 09 34.8 +0.3**
WMQ pmax pmax
comp=Z,37nm,3.6s
WMQ LR LR
comp=Z,150nm,17.5s
WMQ LR LR
comp=Z,150nm,18.3s
WMQ Urumqi 29.62 74 *e*P **P** **07 08 36.2 -0.9**
comp=Z,16nm,0.7s
WMQ Urumqi 29.62 74 *e*P **P** **07 08 36.2 -0.9**
WMQ pmax pmax
comp=Z,16nm,0.7s
KEST Kesra 29.65 269 *e*P **P** **07 08 37.8 +0.4**
comp=Z,31nm,1.6s
KEST Kesra 29.65 269 P **P** **07 08 38.6 +1.2**
comp=Z,3.4nm,1.0s,baz=90,slow=8.1,SNR=2.8
PYUN Piuthan 32.62 105 *e*P **P** **07 09 05.0 +1.2**
comp=Z,8.7nm,0.6s
DANN Dangsing 33.03 103 *e*P **P** **07 09 09.0 +1.6**
KOLN Koldaida 33.25 104 *e*P **P** **07 09 10.8 +1.5**
comp=Z,4.4nm,0.4s
NRIK Noril'sk 33.98 24 P **P** **07 09 16.4 +1.5**
comp=Z,16nm,0.6s,baz=234,slow=5.7,SNR=39
NRIK LR LR 07 24 08.4
comp=Z,62nm,19.4s,baz=139,slow=38
EKA Eskdalemuir Ar 34.40 309 P **P** **07 09 17.8 -0.9**
EKA pmax pmax
comp=Z,1.0nm,0.3s
JIRN Jiri 35.17 102 *e*P **P** **07 09 27.5 +1.4**
comp=Z,13nm,0.4s
ODAN Odare 36.51 102 *e*P **P** **07 09 38.9 +1.5**
comp=Z,20nm,0.6s
MOY Mondy 37.18 57 *e*P **P** **07 09 44.8 +2.1**
MOY pmax pmax
comp=Z,8.0nm,1.5s
SPA0 Spitsbergen Ar 37.67 350 *e*P **P** **07 09 47.9 +1.5**
comp=Z,18nm,1.2s
SPITS Spitsbergen Ar 37.67 350 P **P** **07 09 47.9 +1.5**
comp=Z,4.4nm,0.4s,baz=129,slow=12,SNR=60
TLY Talaya 38.81 56 *e*P **P** **07 09 56.5 +0.2**
comp=Z,7.6nm,1.0s
TLY Talaya 38.81 56 *e*P **P** **07 09 59.0 +2.7**
TLY pmax pmax
comp=Z,14nm,0.8s
ZAK Zakamensk 38.81 58 *e*P **P** **07 09 57.5 +1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 39.60 76 *e*P **P** **07 10 04.8 +1.6**
GTA pP pP 07 10 17.3 -2.2
GTA sP sP 07 10 22.0 -5.2
GTA pmax pmax
comp=Z,8.0nm,0.8s
SHL Shillong 40.52 100 *e*P **P** **07 10 11.1 +0.1**
comp=Z,6.6nm,0.6s
SHL Shillong 40.52 100 *e*P **P** **07 10 11.1 +0.1**
SHL pmax pmax
comp=Z,7.0nm,0.6s
SONA0 Songino Array 41.40 62 *e*P **P** **07 10 18.6 +0.7**
SONA0 *e*PcP **PcP** **07 12 15.4 +0.6**
SONM Songino Array 41.40 62 P **P** **07 10 18.6 +0.7**
comp=Z,1.9nm,0.5s,baz=285,slow=9.1,SNR=8.0
SONM PcP **PcP** **07 12 15.4 +0.6**
comp=Z,1.9nm,0.6s,baz=270,slow=2.7,SNR=6.0
SONM LR LR 07 29 21.2
comp=Z,94nm,19.2s,baz=342,slow=39
ULN Ulaanbaatar 41.81 61 *e*P **P** **07 10 22.9 +1.6**
comp=Z,12nm,0.8s
ULN Ulaanbaatar 41.81 61 *i*P **P** **07 10 22.8 +1.5**
ULN pmax pmax
comp=Z,15nm,0.9s
ULN Ulaanbaatar 41.81 61 P **P** **07 10 23.1 +1.7**
SNR=5.2
ULN P **P** **07 10 23.1 +1.7**
SNR=5.2
BOD Bodaibo 43.70 46⇑*i*P **P** **07 10 36.2 -0.1**
BOD pmax pmax
comp=Z,23nm,1.0s
LZH Lanzhou 43.88 79 *e*P **P** **07 10 40.3 +2.1**
LZH pP pP 07 10 53.5 -1.3
LZH sP sP 07 10 58.5 -3.8
LZH pmax pmax
comp=Z,29nm,1.0s
HHC Hu-ho-hao-te 47.30 69 *e*P **P** **07 11 06.5 +1.5**
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,120nm,7.6s
TIXI Tiksi 47.76 25 *e*P **P** **07 11 08.4 +0.4**
TIXI *e*P **P** **07 11 08.6 +0.5**
TIXI Tiksi 47.76 25 *i*P **P** **07 11 09.3 +1.3**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 47.76 25 P **P** **07 11 08.4 +0.4**
comp=Z,1.6nm,0.4s,baz=294,slow=7.5,SNR=5.5
XAN Xi'an 48.52 79 P **P** **07 11 15.3 +0.8**
XAN pP pP 07 11 25.5 -5.8
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN LR LR
comp=Z,74nm,7.8s
XAN LR LR
comp=Z,96nm,12.3s
TOA1 Torodi Ar. Sit 48.69 247 *e*P **P** **07 11 15.7 -0.3**
TOA0 Torodi Ar. Sit 48.69 247 *e*pP pP 07 11 35.5 +2.2
TORD Torodi Ar. Bea 48.69 247 P **P** **07 11 15.7 -0.3**
comp=Z,0.7nm,0.5s,baz=35,slow=8.3,SNR=7.9
HIA Hailar 49.34 56 *e*P **P** **07 11 21.1 +0.5**
comp=Z,13nm,0.7s
HIA Hailar 49.34 56 *e*P **P** **07 11 21.1 +0.5**
HIA pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 49.82 102 P **P** **07 11 25.5 +1.0**
comp=Z,46nm,1.5s
CMMT Chiang Mai 49.83 102 P **P** **07 11 25.4 +0.8**
comp=Z,10nm,1.5s
CM31 Chiang Mai Arr 50.05 102 *e*P **P** **07 11 26.9 +0.6**
comp=Z,4.4nm,0.6s
CMAR Chiang Mai Arr 50.05 102 P **P** **07 11 26.9 +0.6**
comp=Z,4.4nm,0.6s,baz=304,slow=8.2,SNR=24
CM01 Chiang Mai Arr 50.09 102 *e*P **P** **07 11 25.0 -1.5**
BJI Beijing 50.81 68 *e*P **P** **07 11 33.3 +1.5**
BJI pmax pmax
comp=Z,5.0nm,0.6s
SRAK Srakaew 55.21 104 P **P** **07 12 08.5 +4.1**
comp=Z,58nm,0.7s,comp=Z,586nm
KLR Kul'dur 56.49 52*d i*P **P** **07 12 13.7 +0.5**
KLR Kul'dur 56.49 52 P **P** **07 12 13.9 +0.8**
comp=Z,8.0nm,0.7s,baz=297,slow=7.6,SNR=38
NJ2 Nanjing 56.68 75 *e*P **P** **07 12 15.8 +1.1**
NJ2 pmax pmax
comp=Z,16nm,0.5s
USRK Ussuriysk Ar. 59.12 57 P **P** **07 12 32.1 +0.4**
comp=Z,4.0nm,0.7s,baz=274,slow=11,SNR=9.8
SEY Seymchan 59.39 31 *i*P **P** **07 12 35.1 +1.9**
SEY Seymchan 59.39 31 P **P** **07 12 34.2 +1.0**
comp=Z,12nm,0.7s,baz=289,slow=6.3,SNR=42
KS01 Wonju Array Si 60.03 65 *e*P **P** **07 12 38.2 +0.3**
KS15 Wonju Array Si 60.04 65 *e*P **P** **07 12 38.1 +0.1**
comp=Z,26nm,1.4s
KSRS Korea Array 60.06 65 P **P** **07 12 38.8 +0.6**
comp=Z,1.1nm,0.8s,baz=301,slow=6.9,SNR=25
MA2 Magadan 60.65 35 P **P** **07 12 42.6 +0.7**
comp=Z,3.4nm,0.7s,baz=319,slow=10.0,SNR=5.6
BILL Bilibino 60.75 22 *i*P **P** **07 12 43.6 +1.2**
BILL pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 67.34 61 *e*P **P** **07 13 26.4 +0.2**
MAJO Matsushiro 67.34 61 *e*P **P** **07 13 26.4 +0.2**
MJAR Matsushiro Arr 67.34 61 P **P** **07 13 26.4 +0.2**
comp=Z,1.7nm,0.8s,baz=301,slow=9.6,SNR=6.0
RDOG Red Dog Mine 67.40 12 *e*P **P** **07 13 26.2 +0.2**
comp=Z,7.8nm,0.6s
SCHQ Schefferville 67.71 325 *e*P **P** **07 13 28.6 +0.4**
SCHQ Schefferville 67.71 325 P **P** **07 13 27.9 -0.3**
comp=Z,3.4nm,0.8s,baz=54,slow=1.8,SNR=5.1
INK Inuvik 69.39 0 *e*P **P** **07 13 38.8 +0.5**
comp=Z,4.8nm,1.1s
INK Inuvik 69.39 0 *e*P **P** **07 13 38.8 +0.5**
INK pmax pmax
comp=Z,5.0nm,1.1s
INK Inuvik 69.39 0 P **P** **07 13 38.5 +0.2**
comp=Z,2.1nm,0.5s,baz=355,slow=5.3,SNR=20
COLD Coldfoot 69.71 7 *e*P **P** **07 13 40.9 +0.5**
comp=Z,5.1nm,0.9s
IM3 Indian Mountai 70.56 9 *e*P **P** **07 13 46.2 +0.6**
FYU Fort Yukon 70.75 5 *e*S **S** **07 22 57.8 +2.0**
EPYK Eagle Plains 71.30 1 *e*P **P** **07 13 50.4 +0.2**
comp=Z,8.4nm,1.0s
COLA College 72.22 7 *e*P **P** **07 13 56.0 +0.4**
comp=Z,8.8nm,0.9s
COLA College 72.22 7 *e*P **P** **07 13 56.0 +0.4**
COLA pmax pmax
comp=Z,9.0nm,0.9s
ILAR Eielson Array 72.40 6 P **P** **07 13 56.9 +0.2**
comp=Z,0.9nm,0.7s,baz=324,slow=3.3,SNR=17
ILB Eielson Array 72.40 6 *e*P **P** **07 13 57.1 +0.3**
comp=Z,5.1nm,1.5s
EGAK Eagle 72.75 4 *e*P **P** **07 13 59.7 +1.0**
comp=Z,4.9nm,0.8s
HDA Harding Lake 72.76 6 *e*P **P** **07 13 58.9 +0.1**
comp=Z,7.1nm,0.7s
SCRK Sand Creek 73.40 5 *e*P **P** **07 14 03.5 +0.8**
comp=Z,4.1nm,1.0s
DAWY Dawson 73.54 3 *e*P **P** **07 14 04.5 +1.0**
comp=Z,12nm,0.8s
RIDG Independ'e Rid 73.57 5 *e*P **P** **07 14 03.8 0.0**
comp=Z,10nm,1.2s
RND Reindeer 73.58 7 *e*P **P** **07 14 03.5 -0.3**
comp=Z,5.2nm,0.8s
RND Reindeer 73.58 7 *e*P **P** **07 14 03.5 -0.3**
RND pmax pmax
comp=Z,5.0nm,0.8s
DOT Dot Lake 73.72 5 *e*P **P** **07 14 05.7 +1.1**
comp=Z,6.6nm,0.7s
YKW3 Yellowknife Ar 74.10 351 *e*P **P** **07 14 06.5 -0.2**
comp=Z,4.7nm,0.7s
YKA Yellowknife Ar 74.16 351 P **P** **07 14 07.5 +0.4**
comp=Z,3.7nm,0.8s,baz=11,slow=6.1,SNR=91
YKB5 Yellowknife Ar 74.16 351 *e*P **P** **07 14 07.3 +0.3**
MENT Mentasta 74.45 5 *e*P **P** **07 14 09.7 +0.9**
comp=Z,10nm,0.8s
SML Sawmill 75.20 7 *e*P **P** **07 14 13.1 -0.1**
comp=Z,8.8nm,0.8s
SML Sawmill 75.20 7 *e*P **P** **07 14 13.1 -0.1**
SML pmax pmax
comp=Z,9.0nm,0.8s
SCM Sheep Creek Mo 75.27 7 *e*P **P** **07 14 13.7 +0.1**
comp=Z,12nm,0.8s
SCM Sheep Creek Mo 75.27 7 *e*P **P** **07 14 13.7 +0.1**
SCM pmax pmax
comp=Z,12nm,0.8s
KNK Knik Glacier 75.58 8 *e*P **P** **07 14 15.7 +0.4**
comp=Z,17nm,1.2s
KLU Klutina 75.72 6 *e*P **P** **07 14 17.4 +1.2**
comp=Z,13nm,0.8s
DIV Divide 76.09 6 *e*P **P** **07 14 19.0 +0.7**
comp=Z,11nm,0.8s
HYT Haines Junctio 76.84 2 *e*P **P** **07 14 23.8 +1.2**
comp=Z,10nm,0.9s
KDAK Kodiak Island 78.65 10 *i*P **P** **07 14 33.6 +1.1**
DLBC Dease Lake 79.26 358 *e*P **P** **07 14 36.0 0.0**
comp=Z,4.3nm,0.7s
FFC Flin Flon 79.42 342 *i*P **P** **07 14 37.8 +1.0**
LLLB Lillooet 86.62 353 *e*P **P** **07 15 14.8 +0.7**
comp=Z,4.3nm,0.8s
LAO LASA Array 87.90 342 *e*P **P** **07 15 20.6 +0.2**
comp=Z,8.6nm,0.8s
NEW Newport 88.38 349 *e*P **P** **07 15 23.2 +0.6**
comp=Z,4.9nm,0.8s
NEW Newport 88.38 349 *e*P **P** **07 15 23.3 +0.6**
NEW pmax pmax
comp=Z,5.0nm,0.8s
PD31 Pinedale Array 92.37 343 *e*P **P** **07 15 42.3 +0.7**
comp=Z,5.5nm,1.4s
PDAR Pinedale Array 92.37 343 P **P** **07 15 43.6 +2.1**
comp=Z,0.2nm,0.6s,baz=43,slow=5.5,SNR=2.9
NV01 Mina Array Sit 98.19 348 *e*P **P** **07 16 07.5 -0.7**
NVAR Mina Array Bea 98.19 348 P Pdif 07 16 09.1 +1.0
comp=Z,0.2nm,0.5s,baz=9.7,slow=6.4,SNR=2.7
WRA Warramunga Arr 101.49 106 P **Pdif** **07 16 22.1 -0.7**
comp=Z,0.2nm,0.5s,baz=323,slow=3.9,SNR=4.3
WR1 Warramunga Arr 101.49 106 *e*Pdif **Pdif** **07 16 22.1 -0.7**
LPAZ La Paz 119.12 274 *e*PKPdf **PKPdf** **07 21 19.8 -0.7**
LPAZ La Paz 119.12 274 PKP **PKPdf** **07 21 20.7 +0.2**
comp=Z,0.7nm,0.8s,baz=135,slow=2.9,SNR=2.9
QSPA South Pole Qui 132.45 180 PKP **PKiKP** **07 21 46.3 +1.4**
comp=Z,1.2nm,0.9s,baz=294,slow=1.6,SNR=2.7
PLCA Paso Flores 134.12 250 *e*PKPdf **PKiKP** **07 21 48.8 -0.3**
PLCA Paso Flores 134.12 250 PKP **PKiKP** **07 21 49.2 +0.1**
comp=Z,1.2nm,0.8s,baz=205,slow=3.9,SNR=3.2

ISK **31** *07:15:13.9,38.74N×43.43E,h5km,ML2.4/4*
ISCJB **31** *07:15:14.8±1.3,38.66N±0.08×43.6E±0.1,h26km±6km,*
Error ellipse: s-maj=22.0km s-min=5.7km az=33.8
DDA **31** *07:15:15.4,38.73N×43.41E,h7km±5km,ML2.6*
ISC 31 07:15:15.7±1.1,38.75N±0.05×43.42E±0.05,h16km±11km,
n12,σ1°02'17,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VANB	**Van**	**0.15**	**190**	PG		**Pg**	**07 15 19.7**	**-0.2**
TVAN	**Van**	**0.22**	**184**	*i* P		**Pg**	**07 15 20.4**	**-0.5**
TVAN				*i* S		**Sg**	**07 15 24.5**	**+0.1**
VMUR	**Van-Muradiye**	**0.27**	**25**	*i* P		**Pg**	**07 15 21.4**	**-0.4**
VMUR				*i* S		**Sb**	**07 15 27.7**	**+0.9**
GEVA	**Gevas**	**0.52**	**214**	*i* P		**Pg**	**07 15 25.6**	**-0.5**
GEVA				IAML_P				
comp=Z,1μm,0.1s								
AKDM	**Akdamar-Van**	**0.54**	**220**	PG		**Pg**	**07 15 25.6**	**-1.0**
AKDM				SG		**Sb**	**07 15 34.2**	**-0.4**
ADCV	**BITLIS_Adilcev**	**0.55**	**277**	*i* P		**Pb**	**07 15 27.9**	**+0.8**
ADCV				IAML_P				
comp=Z,514nm,0.1s								
CLDR	**Caldiran**	**0.55**	**44**	PG		**Pg**	**07 15 25.6**	**-1.2**
CLDR				SG		**Sg**	**07 15 34.7**	**+0.5**
CLDR	**Caldiran**	**0.55**	**44**	*i* P		**Pg**	**07 15 24.7**	**-2.1**
CLDR				*i* S		**Sb**	**07 15 35.8**	**+0.8**
CLDR				IAML_P				
comp=Z,4μm,0.2s								
AGRB	**Hanur-Agry**	**0.89**	**338**	PG		**Pg**	**07 15 32.4**	**-0.7**
BLIS	**Bitlis-Merkez**	**1.08**	**252**	*i* P		**Pg**	**07 15 35.6**	**-1.0**
BLIS				IAML_P				
comp=Z,818nm,0.2s								
GURO	**Guroymak-BITLI**	**1.11**	**260**	PN		**Pg**	**07 15 36.3**	**-0.9**
MUSM	**Mu-Merkez**	**1.50**	**270**	*i* P		**Pg**	**07 15 43.5**	**-1.0**
MUSM				IAML_P				
comp=Z,82nm,0.2s								

*ISK **31** 07:29:45.4,34˚.80N×37˚.62E,h2km,ML3.6/14*
*GII **31** 07:29:49.3±0.0,35˚.67N×37˚.14E,h1km,MD3.4/4*
*DDA **31** 07:29:53.5,35˚.38N×37˚.42E,h17km±2km,ML3.5*
*GRAL **31** 07:29:55.1±0.6,35˚.36N×36˚.88E,h0km±9km,MD3.7*
*NSSC **31** 07:30:07.2±0.3,34˚.28N×37˚.05E,h27km±3km,ML2.6*

ISC 31 07:29:51.6±1.8,**35˚.13N**±0˚.03×**37˚.39E**±0˚.06,**h9**km±14km, **n44,**σ1§**69/57,Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**1.38**	**311**	*i* P	**Pb**	**07 30 17.4**	**-0.3**
YAYL				*i* S	**Sn**	**07 30 35.2**	**-0.4**
HWQ	**Hawqa**	**1.46**	**235**	*e*P	**Pn**	**07 30 18.7**	**+0.5**
HWQ				*e*S	**Sn**	**07 30 36.0**	**-1.5**
KUZU	**Kuzuini**	**1.66**	**351**	*i* P	**Pb**	**07 30 21.8**	**-0.6**
KUZU				*i* S	**Sg**	**07 30 44.2**	**-0.8**
KUZU				IAML_P			
	comp=Z,24μm,0.3s						
QASN	**Qassioun**	**1.84**	**210**	*e*P	**Pb**	**07 30 25.5**	**+0.1**
QASN				*e*S	Sn	07 30 37.9	-9.0
QASN				AML	AML	07 30 55.5	
	comp=E,380nm,0.4s						
QASN				AML	AML	07 31 00.5	
	comp=N,246nm,0.4s						
BHL	**Bhannes**	**1.88**	**230**	*e*P	**Pb**	**07 30 25.6**	**-0.6**
BHL				*e*S	**Sn**	**07 30 48.3**	**+0.4**
TOTH	**TOTAH**	**1.93**	**205**	*e*P	**Pb**	**07 30 26.6**	**-0.5**
TOTH				*e*S	Sn	07 30 39.7	-9.4
TOTH				AML	AML	07 30 54.8	
	comp=E,113nm,0.3s						
TOTH				AML	AML	07 31 07.4	
	comp=N,112nm,0.6s						
BEYL	**Beirut**	**2.01**	**232**	*e*P	**Pn**	**07 30 27.0**	**+1.4**
SURC	**SANLIURFA_SURC**	**2.01**	**29**	*i* P	**Pn**	**07 30 26.0**	**+0.3**
SURC				IAML_P			
	comp=Z,1μm,0.1s						
GAZ	**Gaziantep**	**2.05**	**356**	PN	**Pn**	**07 30 26.9**	**+0.7**
DQRL	**Deir Qamar**	**2.07**	**227**	*e*P	**Pb**	**07 30 28.6**	**-0.7**
RCY	**Rachaya**	**2.08**	**219**	*e*P	**Pb**	**07 30 28.8**	**-0.6**
BRBR	**Barbar**	**2.09**	**215**	*e*P	**Pb**	**07 30 29.3**	**-0.4**
BRBR				*e*S	**Sn**	**07 30 45.4**	**-7.7**
BRBR				AML	AML	07 30 59.9	
	comp=N,170nm,0.8s						
BRBR				AML	AML	07 31 03.8	
	comp=E,290nm,0.6s						
KAMA	**Osmaniye**	**2.14**	**344**	*i* P	**Pn**	**07 30 28.6**	**+1.1**
KAMA				IAML_P			
	comp=Z,2μm,0.1s						
KRTS	**Karatas**	**2.18**	**312**	PN	**Pn**	**07 30 29.2**	**+1.2**
KRTS				SN	**Sg**	**07 31 00.9**	**-0.8**
YURE	**YUREGIR**	**2.21**	**320**	PN	**Pn**	**07 30 29.7**	**+1.2**
GZT	**Gaziantep**	**2.23**	**4**	*i* P	**Pn**	**07 30 30.1**	**+1.3**
GZT				IAML_P			
	comp=Z,882nm,0.2s						
HCB	**Kahramanmara**	**2.25**	**350**	*i* P	**Pn**	**07 30 29.4**	**+0.5**
HCB				*i* S	**Sn**	**07 30 57.0**	**+0.1**
HCB				IAML_P			
	comp=Z,1μm,0.2s						
CEYT	**Ceyhan**	**2.30**	**325**	PN	**Pn**	**07 30 30.9**	**+1.2**
NATI	**Neve Ativ**	**2.31**	**217**	Pn	**Pb**	**07 30 32.6**	**-0.8**
GEM	**Giv'at Ha'Em**	**2.39**	**217**	Pn	**Pb**	**07 30 34.1**	**-0.6**
GEM				Sn	**Sg**	**07 31 08.3**	**0.0**
KMRS	**Kahramanmaras**	**2.41**	**351**	PN	**Pn**	**07 30 32.1**	**+0.9**
KSDI	**Kefar Szold**	**2.41**	**217**	Pn	**Pb**	**07 30 35.1**	**+0.1**
KSDI				Sn	**Sg**	**07 31 08.7**	**-0.2**
ATAB	**Bozova**	**2.45**	**17**	*i* P	**Pn**	**07 30 32.1**	**+0.4**
ATAB				IAML_P			
	comp=Z,2μm,0.2s						
URFA	**Urfa**	**2.58**	**26**	PN	**Pn**	**07 30 32.8**	**-0.8**
KOZT	**Kozan**	**2.67**	**332**	PN	**Pn**	**07 30 36.2**	**+1.5**
MMA0B	**Mount Meron ar**	**2.68**	**219**	Pn	**Pb**	**07 30 38.9**	**-0.8**
HNTI	**Hanita**	**2.75**	**223**	Pn	**Pb**	**07 30 39.1**	**-1.7**
HNTI				Sn	**Sb**	**07 31 15.5**	**+0.9**
AKO	**Adana**	**2.81**	**327**	*i* P	**Pn**	**07 30 37.8**	**+1.1**
AKO				IAML_P			
	comp=Z,172nm,0.2s						
MERS	**Mersin**	**2.90**	**308**	PN	**Pn**	**07 30 39.2**	**+1.2**
BLGI	**Bet Lehem HaGe**	**3.01**	**218**	Pn	**Pb**	**07 30 43.0**	**-2.3**
GULE	**Gulek**	**3.02**	**316**	*i* P	**Pn**	**07 30 41.5**	**+1.8**
GULE				IAML_P			
	comp=Z,196nm,0.2s						
MMLI	**Mount Malkishu**	**3.14**	**212**	Pn	**Pb**	**07 30 45.8**	**-1.8**
MMLI				Sn	**Sb**	**07 31 28.1**	**+2.0**
LFK	**Lefkose**	**3.16**	**274**	PN	**Pn**	**07 30 41.1**	**-0.5**
AKCD	**Akcadag**	**3.19**	**8**	*i* P	**Pn**	**07 30 43.3**	**+1.3**
AKCD				IAML_P			
	comp=Z,2μm,0.2s						
OFRI	**`Ofer**	**3.20**	**219**	Pn	**Pn**	**07 30 45.1**	**+3.0**
OFRI				Sn	**Sb**	**07 31 29.3**	**+1.5**
HMDT	**Nahal Hemdat**	**3.26**	**209**	Pn	**Pb**	**07 30 47.9**	**-1.7**
HMDT				Sn	**Sb**	**07 31 32.0**	**+2.6**
KEBE	**Keben-Mersin**	**3.27**	**295**	PN	**Pn**	**07 30 43.2**	**+0.2**
AKKU	**Akkuyu-Mersin**	**3.29**	**289**	PN	**Pn**	**07 30 43.9**	**+0.6**
DARE	**Darende-Malaty**	**3.44**	**1**	PN	**Pn**	**07 30 46.5**	**+1.1**
SLTI	**Sal'it**	**3.48**	**215**	Pn	**Pn**	**07 30 49.6**	**+3.7**
ELZG	**Elazig**	**3.60**	**20**	*i* P	**Pn**	**07 30 49.8**	**+2.1**
ELZG				IAML_P			
	comp=Z,472nm,0.2s						
BERE	**Bereket-Mersin**	**3.60**	**291**	PN	**Pn**	**07 30 48.4**	**+0.7**
TEKE	**Tekeli-Mersin**	**3.63**	**287**	PN	**Pn**	**07 30 48.6**	**+0.7**
BNN	**Bunyan**	**3.92**	**342**	PN	**Pn**	**07 30 53.9**	**+1.9**

*ISCJB **31** 07:45:00.7±0.9,10˚.19S±0˚.09×161˚.0E±0˚.1,h67km, mb3.7/7,Error ellipse: s-maj=17.7km s-min=8.8km az=141.0*
*IDC **31** 07:45:00.9±2.7,10˚.15S×161˚.03E,h52km±23km,mb3.8/7, mb1 4.0/10,mb1mx3.8/40,mbtmp4.1/10,ML3.3/3,MS3.8/8, Ms1 3.7/8,ms1mx3.4/28,Error ellipse: s-maj=26.1km s-min=16.2km az=72.0*

ISC 31 07:45:02.0±1.0,**10˚.1S**±0˚.1×**160˚.9E**±0˚.1,**h67**km,**n17,** σ1§**78/15,mb3.7/7,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.19**	**306**	*i* P	**Pn**	**07 45 20.5**	**-2.3**
HNR				*i* S	**Sn**	**07 45 35.0**	**-3.4**
HNR	**Honiara**	**1.19**	**306**	P	**Pn**	**07 45 21.3**	**-1.5**
	764nm,0.3s,baz=144,slow=8.2,SNR=111						
HNR				S	**Sn**	**07 45 38.9**	**+0.5**
	2μm,0.3s,baz=353,slow=22,SNR=8.7						
DZM	**Mont Dzumac**	**12.99**	**157**	P	**Pn**	**07 48 03.4**	**-0.4**
	0.4nm,0.3s,baz=23,slow=8.5,SNR=52						
DZM				S	**Sn**	**07 50 23.2**	**-3.5**
	0.2nm,0.3s,baz=74,slow=23,SNR=1.3						
DZM				LR	LR	07 52 09.1	
	comp=Z,413nm,20.2s,baz=22,slow=33						
PMG	**Port Moresby**	**13.59**	**272**	P	**Pn**	**07 48 12.0**	**+0.3**
	0.7nm,0.3s,baz=108,slow=19,SNR=1.5						
CTA	**Charters Tower**	**17.26**	**233**	P	**P**	**07 49 00.1**	**+0.9**
	0.4nm,0.3s,baz=59,slow=15,SNR=5.6						
WRA	**Warramunga Arr**	**27.42**	**246**	P	**P**	**07 50 42.7**	**+1.0**
	1.2nm,0.5s,baz=74,slow=9.1,SNR=18						
STKA	**Stephens Creek**	**28.07**	**217**	P	**P**	**07 50 48.5**	**+1.2**
	1.3nm,0.7s,baz=53,slow=15,SNR=2.4						
STKA				LR	LR	08 01 23.5	
	comp=Z,154nm,18.8s,baz=37,slow=35						
ASAR	**Alice Springs**	**29.07**	**239**	P	**P**	**07 50 56.9**	**+0.5**
	0.5nm,0.4s,baz=67,slow=9.0,SNR=8.3						
ASAR				LR	LR	08 02 42.2	
	comp=Z,365nm,18.8s,baz=80,slow=36						
SIJI	**Sorong**	**30.89**	**285**	LR	LR	08 03 04.8	
	comp=Z,102nm,20.7s,baz=110,slow=35						
URZ	**Urewera**	**31.54**	**155**	LR	LR	08 01 24.3	
	comp=Z,154nm,20.8s,baz=293,slow=31						
FITZ	**Fitzroy Crossi**	**35.07**	**253**	LR	LR	08 05 21.1	
	comp=Z,104nm,19.4s,baz=76,slow=35						
KSRS	**Korea Array**	**56.55**	**329**	LR	LR	08 18 43.8	
	comp=Z,51nm,18.0s,baz=122,slow=36						
PETK	**Petropavlovsk-**	**63.06**	**358**	LR	LR	08 18 06.9	
	comp=Z,80nm,21.9s,baz=174,slow=32						
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**07 55 50.0**	**+0.4**
	0.3nm,0.7s,baz=0.0,slow=5.1,SNR=1.9						
SONM	**Songino Array**	**75.19**	**325**	P	**P**	**07 56 38.7**	**+1.3**
	2.7nm,0.8s,baz=130,slow=5.8,SNR=3.9						
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**07 57 03.9**	**+0.7**
	4.2nm,1.0s,baz=27,slow=2.3,SNR=7.1						
ILAR	**Eielson Array**	**84.22**	**20**	P	**P**	**07 57 26.3**	**+0.5**
	1.4nm,0.8s,baz=239,slow=5.5,SNR=2.7						

*NIED **31** 07:46:00,38˚.90N×142˚.10E,h47km,Mw5.2 Best double couple: M0 6.09000×10^16 NP1:ϕs197.00000°,λ22.00000°, λ81.00000°. NP2:ϕs26.00000°,δ69.00000°,λ93.00000°.*
*BJI **31** 07:46:13.9,38˚.77N×142˚.20E,h35km,mb5.2/75,mB5.2/53, Ms4.7/88,Ms7 4.6/80*
*BGR **31** 07:46:14.3±0.0,38˚.85N×143˚.12E,h33km,mb5.7, mB_BB5.8,Ms4.7*
*NEIC **31** 07:46:17.6±1.3,38˚.87N×141˚.94E,h35km±2km,mb5.3/1, Error ellipse: s-maj=13.8km s-min=10.0km az=109.0*
NEIC Felt at Akita, Furukawa, Hachinohe, Ichinoseki, Ishinomaki, Koriyama, Morioka, Sendai and Wakuya. Recorded [4 JMA] in Miyagi.
*MOS **31** 07:46:17.0±1.2,38˚.95N×142˚.00E,h47km,mb5.8/124, MS4.8/25,Error ellipse: s-maj=5.6km s-min=3.7km az=106.7*
*JMA **31** 07:46:18.6±0.1,38˚.88N×142˚.08E,h46km±1km,M5.3 Broadband fault plane solution: P waves. NP1: ϕs17.00000°,δ68.00000°,λ93.00000°. NP2:ϕs190.00000°, δ22.00000°,λ83.00000°. Principal axes: T Plg67.0000°, Azm292.0000°; N Plg3.0000°, Azm196.0000°; P Plg23.0000°, Azm105.0000°;*
JMA Felt IV J1.
*ISCJB **31** 07:46:18.6±0.2,38˚.87N±0˚.01×141˚.96E±0˚.02,h55km±1km, mb5.3/587,MS4.7/68 Error ellipse: s-maj=2.6km s-min=1.8km az=144.9*
*GCMT **31** 07:46:20.6±0.2,38˚.95N±0˚.01×142˚.11E±0˚.02,h50km±1km, MW5.2/101,Moment Tensor Solution. s71,c13; s101,c180; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr5.64±.17; Mθθ-0.59±.12; Mϕϕ-5.05±.13; Mrθ2.37±.11; Mθϕ-1.69±.11; Mϕr4.40±.13; Best double couple: M0 7.52700×10^16 NP1:ϕs225.00000°,δ66.00000°, λ95.00000°. NP2:ϕs192.00000°,δ25.00000°,λ79.00000°. Principal axes: T 7.5730, Plg69.0000°, Azm305.0000°; N -0.0960, Plg5.0000°, Azm203.0000°; P -7.4810, Plg21.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **31** 07:46:20.0±1.3,38˚.88N×142˚.00E,h56km±11km,mb4.9/35, mb1 5.1/42,mb1mx5.0/49,mbtmp5.2/42,MS4.5/31, Ms1 4.4/31,ms1mx4.3/38 Error ellipse: s-maj=11.3km s-min=7.8km az=94.0*

ISC 31 07:46:18.6±0.4,**38˚.92N**±0˚.03×**142˚.03E**±0˚.03,**h44**km±2km, **h44:pP-P,n1854,**σ1§**16/**1993,**mb5.4/**600,**MS4.7/**70, **137C-66D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.32**	**301**	⇓P	**Pn**	**07 46 28.3**	**+0.8**
OFUJ				S	**Sn**	**07 46 34.9**	**+1.1**
JKMT	**Kesennumamotoy**	**0.44**	**257**	P	**Pn**	**07 46 29.2**	**+0.4**
JKMT				S	**Sn**	**07 46 36.5**	**+0.4**
JMK	**Ichinoseki**	**0.63**	**274**	⇓P	**Pn**	**07 46 31.8**	**+0.6**
JMK				S	**Sn**	**07 46 41.2**	**+0.9**
MIYJ	**Miyakonagasawa**	**0.68**	**346**	⇓P	**Pn**	**07 46 32.3**	**+0.4**
JIO	**Ouri**	**0.70**	**229**	⇓P	**Pn**	**07 46 32.1**	**-0.1**
JIO				S	**Sn**	**07 46 41.4**	**-0.5**
JOM	**Ohasama**	**0.80**	**315**	⇓P	**Pn**	**07 46 34.4**	**+0.9**
JOM				*e*S	**Sn**	**07 46 45.6**	**+1.3**
JTH	**Tanohata**	**1.03**	**353**	⇓P	**Pn**	**07 46 37.0**	**+0.4**
JTH				*e*S	**Sn**	**07 46 51.1**	**+1.2**
JSZI	**Iwateshizukuis**	**1.17**	**315**	⇓P	**Pn**	**07 46 39.5**	**+0.9**
JRG	**Rokugo**	**1.19**	**294**	⇓P	**Pn**	**07 46 39.7**	**+1.0**
JKZ	**Kuzumaki**	**1.20**	**333**	⇓P	**Pn**	**07 46 40.1**	**+1.1**
JOU	**Okura**	**1.20**	**243**	⇓P	**Pn**	**07 46 39.2**	**+0.2**
JOU				*e*S	**Sn**	**07 46 55.0**	**+0.9**
JYK	**Kaneyama**	**1.30**	**271**	⇓P	**Pn**	**07 46 41.1**	**+0.8**
JYK				*e*S	**Sn**	**07 46 57.7**	**+1.2**
JMM	**Marumori**	**1.43**	**223**	⇓P	**Pn**	**07 46 41.7**	**-0.3**
JMM				*e*S	**Sn**	**07 46 59.7**	**+0.1**
JANG	**Nango**	**1.51**	**345**	⇓P	**Pn**	**07 46 43.8**	**+0.6**
JYW	**Yuwa**	**1.54**	**294**	⇓P	**Pn**	**07 46 45.1**	**+1.5**
JAH	**Hinai**	**1.67**	**320**	⇓P	**Pn**	**07 46 46.9**	**+1.6**
JYS	**Shirataka**	**1.69**	**246**	⇓P	**Pn**	**07 46 46.5**	**+0.9**
JFK	**Kawauchi**	**1.79**	**211**	⇓P	**Pn**	**07 46 46.8**	**-0.3**
JFT	**Otama**	**1.93**	**224**	⇓P	**Pn**	**07 46 49.1**	**+0.2**
JTB	**Tobi-shima**	**1.94**	**279**	⇓P	**Pn**	**07 46 49.8**	**+0.7**
JNTW	**Noshirotokiwa**	**1.98**	**314**	P	**Pn**	**07 46 51.3**	**+1.7**
JTM	**Tenmabayashi**	**2.01**	**339**	⇓P	**Pn**	**07 46 51.2**	**+1.2**
JHHS	**Hirosakihyakuz**	**2.16**	**324**	P	**Pn**	**07 46 54.2**	**+2.1**
JAW	**Awa shima**	**2.22**	**259**	⇓P	**Pn**	**07 46 54.1**	**+1.2**
JFY	**Yanaizu**	**2.37**	**231**	⇓P	**Pn**	**07 46 56.1**	**+1.1**
JSI2	**Shiura 2**	**2.47**	**330**	⇓P	**Pn**	**07 46 58.1**	**+1.7**
JHO	**Hitachi**	**2.57**	**207**	⇑P	**Pn**	**07 46 57.3**	**-0.5**
JOT	**Ohata**	**2.58**	**343**	⇓P	**Pn**	**07 46 58.7**	**+0.9**
ERM	**Erimo**	**3.21**	**15**	*e*Pn	**Pn**	**07 47 07.1**	**+0.6**
ERM	**Erimo**	**3.21**	**15**	*ce*P	**Pn**	**07 47 06.8**	**+0.2**
ERM				pmax	pmax		
	comp=Z,392nm,1.0s						
MAJO	**Matsushiro**	**3.84**	**233**	*e*Pn	**Pn**	**07 47 17.2**	**+1.9**
MAJO				*e*Sn	**Sn**	**07 48 02.3**	**+3.1**
MAJO	**Matsushiro**	**3.84**	**233**	*d* P	**Pn**	**07 47 17.1**	**+1.9**
MAJO	**Matsushiro**	**3.84**	**233**	*e*P	**Pn**	**07 47 16.8**	**+1.5**
MAT	**Matsushiro**	**3.84**	**233**	P	**Pn**	**07 47 17.1**	**+1.8**
MAT				*e*S	**Sn**	**07 48 07.0**	**+7.8**
MAT	**Matsushiro**	**3.84**	**233**	P	**Pn**	**07 47 17.2**	**+1.9**
MJAR	**Matsushiro Arr**	**3.84**	**233**	P	**Pn**	**07 47 17.2**	**+1.9**
	comp=Z,24nm,0.3s,baz=32,slow=13,SNR=377						
MJAR				S	**Sn**	**07 48 02.3**	**+3.1**
	comp=Z,5.9nm,0.3s,baz=76,slow=16,SNR=4.6						
MJAR				LR	LR	07 48 57.2	
	comp=Z,6μm,19.7s,baz=50,slow=42						
MJB9	**Matsu-Tunnel**	**3.84**	**233**	*e*Pn	**Pn**	**07 47 17.6**	**+2.3**
JNG	**Nsakai**	**4.00**	**232**	⇓P	**Pn**	**07 47 19.5**	**+2.1**
JHG	**Hegura jima**	**4.15**	**257**	⇓P	**Pn**	**07 47 20.6**	**+1.2**
JNY	**Yasuok**	**4.87**	**224**	P	**Pn**	**07 47 31.9**	**+2.6**
ASAJ	**Asahikawa**	**5.21**	**5**	P	**Pn**	**07 47 35.5**	**+1.5**
	comp=Z,29nm,0.3s,baz=221,slow=11,SNR=162						
ASAJ				S	**Sn**	**07 48 35.8**	**+3.0**
	comp=Z,41nm,0.3s,baz=19,slow=32,SNR=6.6						
INU	**Inuyama**	**5.36**	**230**	*e*Pn	**Pn**	**07 47 38.5**	**+2.5**
GRPR	**Tuman**	**5.80**	**28**	*e*P	**Pn**	**07 47 41.2**	**-0.8**
GRPR				*e*S	**Sn**	**07 48 42.7**	**-4.5**
GRPR				pmax	pmax		
	comp=Z,935nm,0.3s						
GRPR				pmax	pmax		
	comp=E,168nm,0.2s						
GRPR				pmax	pmax		
	comp=N,170nm,0.4s						
GRPR				smax	smax		
	comp=N,2μm,0.4s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.87**	**28**	*d* P	**Pn**	**07 47 42.2**	**-0.8**
YUK				*i* S	**Sn**	**07 48 46.4**	**-2.5**
YUK				pmax	pmax		
	comp=Z,425nm,0.3s						
YUK				pmax	pmax		
	comp=N,196nm,0.4s						
YUK				pmax	pmax		
	comp=E,142nm,0.4s						
YUK				smax	smax		
	comp=E,2μm,0.8s						
YUK				smax	smax		
	comp=N,4μm,0.5s						
JHJ2	**Mitsune**	**6.06**	**198**	*e*Pn	**Pn**	**07 47 45.6**	**0.0**
JHJ	**Hachijo jima 2**	**6.06**	**198**	P	**Pn**	**07 47 45.1**	**-0.6**
	comp=N,102nm,0.3s,baz=41,slow=20,SNR=21						
JHJ				S	**Sn**	**07 48 49.7**	**-4.1**
	comp=N,180nm,0.3s,baz=80,slow=23,SNR=6.1						
TEY	**Ternei**	**7.33**	**328**	⇑P	**Pn**	**07 48 04.3**	**+1.3**
TEY				*e*S	**Sn**	**07 49 17.9**	**-6.9**
TEY				pmax	pmax		
	comp=E,20nm,0.7s						
TEY				pmax	pmax		
	comp=Z,20nm,0.7s						
TEY				pmax	pmax		
	comp=N,30nm,0.9s						
TEY				MLR	MLR		
	comp=E,2μm,13.0s						
TEY				MLR	MLR		
	comp=N,3μm,14.0s						
KUR	**Kuril'sk**	**7.66**	**33**	*ce*P	**Pn**	**07 48 07.3**	**-0.2**
KUR				*i* S	**Sn**	**07 49 29.0**	**-3.9**
KUR				pmax	pmax		
	comp=Z,1μm,1.3s						
KUR				pmax	pmax		
	comp=Z,286nm,0.5s						
KUR				pmax	pmax		
	comp=E,128nm,0.4s						
KUR				pmax	pmax		
	comp=N,67nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,2μm,0.9s						
KUR				smax	smax		
	comp=N,984nm,0.6s						
KUR				smax	smax		
	comp=E,579nm,0.7s						
YSS	**Yuzh-Sakhalins**	**8.05**	**4**	*e*Pn	**Pn**	**07 48 13.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**8.05**	**4**	*ce*P	**Pn**	**07 48 13.5**	**+0.6**
YSS				*e*S	**Sn**	**07 49 41.2**	**-1.4**
YSS				pmax	pmax		
	comp=Z,500nm,1.4s						
YSS				pmax	pmax		
	comp=Z,390nm,0.8s						
YSS				smax	smax		
	comp=E,900nm,1.8s						
VLA	**Vladivostok**	**8.74**	**302**	*d* P	**Pn**	**07 48 23.9**	**+1.6**
MSHR	**Mys Shultsa**	**9.03**	**297**	*i* P	**Pn**	**07 48 26.5**	**+0.3**
USA0B	**Ussuriysk Arra**	**9.19**	**308**	*e*Pn	**Pn**	**07 48 30.2**	**+1.7**
USA0B	**Ussuriysk Arra**	**9.19**	**308**	*e*P	**Pn**	**07 48 30.2**	**+1.7**
USRK	**Ussuriysk Ar.**	**9.19**	**308**	P	**Pn**	**07 48 30.3**	**+1.8**
	comp=E,16nm,0.3s,baz=125,slow=15,SNR=152						
USRK				S	Sn	07 50 21.9	+11
	baz=115,slow=21,SNR=3.0						
USRK				LR	LR	07 51 55.5	
	comp=E,4μm,19.8s,baz=114,slow=36						
UGL	**Uglegorsk**	**10.16**	**0**	*e*P	**Pn**	**07 48 41.6**	**-0.1**
UGL				*e*S	**Sn**	**07 50 37.3**	**+3.1**
UGL				pmax	pmax		
	comp=Z,66nm,1.0s						
UGL				smax	smax		
	comp=E,84nm,0.8s						
UGL				MLR	MLR		
	comp=Z,1μm,13.0s						
UGL				MLR	MLR		
	comp=N,1μm,15.0s						
UGL				MLR	MLR		
	comp=E,1μm,8.0s						
JNU	**Nakatsue**	**10.72**	**241**	*e*Pn	**Pn**	**07 48 47.5**	**-2.0**
JNU				*e*Sn	**Sn**	**07 50 53.4**	**+5.3**
JNU	**Nakatsue**	**10.72**	**241**	P	**Pn**	**07 48 51.2**	**+1.7**
	comp=E,6.3nm,0.3s,baz=113,slow=0.7,SNR=45						
JNU				S	**Sn**	**07 50 53.4**	**+5.3**
	comp=E,0.4nm,0.3s,baz=87,slow=19,SNR=1.0						
JNU				LR	LR	07 53 16.8	
	comp=E,3μm,20.8s,baz=44,slow=39						
MDJ	**Mudanjiang**	**10.89**	**306**	P	**Pn**	**07 48 55.3**	**+3.5**
MDJ				pP		07 49 02.8	
MDJ				S	Sn	07 51 02.0	+10
MDJ				sS		07 51 12.5	
MDJ				pmax	pmax		
	comp=E,46nm,0.9s						
MDJ				LR	LR		
	comp=E,1μm,16.5s						
MDJ				LR	LR		
	comp=E,3μm,19.1s						
MDJ				LR	LR		
	comp=E,5μm,19.5s						
MDJ	**Mudanjiang**	**10.89**	**306**	*e*Pn	**Pn**	**07 48 55.1**	**+3.3**
KSRS	**Korea Array**	**11.20**	**267**	P	**Pn**	**07 48 59.3**	**+3.3**
	comp=E,3.7nm,0.3s,baz=79,slow=13,SNR=59						
KSRS				S	Sn	07 51 10.2	+10
	comp=E,0.3nm,0.3s,baz=83,slow=38,SNR=2.3						
KSRS				LR	LR	07 52 55.1	
	comp=E,3μm,20.4s,baz=78,slow=35						
KS01	**Wonju Array Si**	**11.22**	**267**	*e*Pn	**Pn**	**07 48 59.5**	**+3.3**
KS15	**Wonju Array Si**	**11.23**	**267**	*e*Pn	**Pn**	**07 49 00.2**	**+3.7**
KS15				*e*Sn	Sn	07 51 10.2	+10
TJN	**Taejon**	**11.90**	**262**	*d* P	**Pn**	**07 49 07.7**	**+2.1**
TYV	**Tymovskoe**	**11.96**	**2**	*e*P	**Pn**	**07 49 06.0**	**-0.3**
TYV				*e*S	**Sn**	**07 51 19.9**	**+1.8**
TYV				pmax	pmax		
	comp=Z,52nm,0.7s						
TYV				smax	smax		
	comp=E,19nm,1.2s						
GRNR	**Gornyy**	**12.50**	**343**	*e*P	**Pn**	**07 49 14.0**	**+0.3**
GRNR				pmax	pmax		
	comp=E,48nm,1.0s						
GRNR				pmax	pmax		
	comp=Z,42nm,1.0s						
KLR	**Kul'dur**	**12.67**	**328**	*c* P	**Pn**	**07 49 16.7**	**+0.6**
KLR	**Kul'dur**	**12.67**	**328**	P	**Pn**	**07 49 17.1**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=130,slow=13,SNR=148						
KLR				S	**Sn**	**07 51 39.5**	**+3.8**
	comp=Z,0.2nm,0.3s,baz=55,slow=0.6,SNR=0.9						
KLR				LR	LR	07 54 17.6	
	comp=Z,4μm,18.0s,baz=142,slow=38						
CN2	**Changchun**	**13.37**	**297**	*e*P	**Pn**	**07 49 26.3**	**+0.6**
CN2				*e*S	**Sn**	**07 52 00.0**	**+7.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,950nm,18.0s						
CN2				LR	LR		
	comp=Z,1μm,18.0s						
CN2				LR	LR		
	comp=Z,2μm,20.0s						
NKL	**Nikolayevsk**	**14.27**	**357**	*i* P	**Pn**	**07 49 36.0**	**-1.7**
NKL				pmax	pmax		
	comp=N,26nm,1.0s						
NKL				pmax	pmax		
	comp=E,23nm,1.0s						
NKL				pmax	pmax		
	comp=Z,110nm,1.0s						
NKL				MLR	MLR		
	comp=N,1μm,14.0s						
NKL				MLR	MLR		
	comp=Z,1μm,14.0s						
SNY	**Shenyang**	**14.36**	**288**	⇑P	**Pn**	**07 49 41.0**	**+1.9**
SNY				pmax	pmax		
	comp=Z,20nm,0.9s						
SNY				pmax	pmax		
	com

ZEA pmax pmax
comp=N,160nm,0.8s
ZEA pmax pmax
comp=Z,290nm,1.0s
ZEA smax smax
comp=N,200nm,9.0s
ZEA MLR MLR
comp=Z,3µm,15.0s
ZEA MLR MLR
comp=N,2µm,16.0s
ZEA MLR MLR
comp=E,1µm,16.0s
PET Petropavlovsk 18.17 34 *e*P **Pn 07 50 29.5 +2.1**
PET *e*S **Sn 07 53 49.7 +0.6**
PET pmax pmax
comp=Z,79nm,1.1s
PET MLR MLR
comp=Z,600nm,14.0s
SSE Sheshan 18.75 252 P **Pn 07 50 35.3 +0.8**
SSE sP **sP 07 50 50.0 +0.1**
SSE S **Sn 07 54 03.5 +0.3**
SSE pmax pmax
comp=Z,180nm,0.9s
SSE pmax pmax
comp=Z,340nm,3.5s
SSE Sheshan 18.75 252 *e*P **P 07 50 28.7 -5.0**
comp=Z,1µm,1.0s
HIA Hailar 18.99 310 *e*P **P 07 50 33.6 -2.7**
comp=Z,64nm,0.8s
HIA Hailar 18.99 310*c i*P **P 07 50 34.3 -2.0**
HIA pmax pmax
comp=Z,49nm,0.8s
TIA Tai'an 19.91 270 P **P 07 50 45.0 -1.4**
TIA S **S 07 54 22.8 -5.3**
TIA pmax pmax
comp=Z,94nm,0.8s
TIA LR LR
comp=Z,340nm,11.0s
TIA LR LR
comp=Z,560nm,16.7s
TIA LR LR
comp=Z,680nm,17.4s
BJI Beijing 19.97 281⇓ *i*P **P 07 50 45.8 -1.2**
BJI sP **pP 07 51 00.0 +2.3**
BJI S **S 07 54 26.0 -3.2**
BJI pmax pmax
comp=Z,110nm,3.3s
BJI LR LR
comp=Z,180nm,15.2s
BJI LR LR
comp=Z,700nm,14.7s
BJT Baijiatuan 19.98 281 *e*P **P 07 50 45.0 -2.1**
comp=Z,112nm,0.7s
BJT Baijiatuan 19.98 281 *e*P **P 07 50 45.0 -2.1**
BJT pmax pmax
comp=Z,112nm,0.7s
NJ2 Nanjing 20.05 257 ⇓P **P 07 50 47.0 -0.9**
NJ2 sP **sP 07 51 02.8 -1.3**
NJ2 pmax pmax
comp=Z,51nm,0.9s
NJ2 LR LR
comp=Z,1µm,17.9s
NJ2 LR LR
comp=Z,990nm,17.4s
NJ2 LR LR
comp=Z,2µm,19.0s
MA2 Magadan 21.42 12*ce*P **P 07 51 02.9 +0.5**
MA2 pmax pmax
comp=Z,223nm,0.9s
MA2 Magadan 21.42 12 P **P 07 51 03.0 +0.5**
comp=Z,202nm,1.0s,baz=197,slow=9.0,SNR=192
MA2 S **S 07 54 55.0 -2.5**
comp=Z,1.9nm,0.5s,baz=96,slow=22,SNR=1.3
MA2 LR LR 07 59 03.7
comp=Z,494nm,21.4s,baz=199,slow=36
YHNB Yeheng 22.51 237 *e*P **P 07 51 12.3 -2.3**
comp=Z,76nm,0.9s
NACB Ninganchiao 22.71 236 *e*P **P 07 51 14.1 -2.6**
comp=Z,61nm,0.8s
TIY Taiyuan 23.21 276 *e*P **P 07 51 22.8 +1.1**
TIY S **S 07 55 26.5 -3.9**
TIY SS **SnSn 07 56 15.0 +8.2**
TIY pmax pmax
comp=Z,59nm,0.6s
TIY LR LR
comp=Z,850nm,15.7s
TIY LR LR
comp=Z,1µm,15.2s
TIY LR LR
comp=Z,2µm,16.4s
SSLB Suanglung 23.40 236 *e*P **P 07 51 20.5 -3.1**
comp=Z,70nm,1.0s
HHC Hu-ho-hao-te 23.40 284 *e*P **P 07 51 21.0 -2.6**
HHC sP pP 07 51 36.0 +1.2
HHC PP **PnPn 07 51 58.0 +6.9**
HHC S **S 07 55 32.5 -1.1**
HHC SS **SnSn 07 56 18.0 +6.4**
HHC pmax pmax
comp=Z,110nm,1.0s
HHC pmax pmax
comp=Z,170nm,6.4s
HHC LR LR
comp=Z,590nm,14.8s
HHC LR LR
comp=Z,2µm,14.2s
HHC LR LR
comp=Z,3µm,15.1s
YULB Yu-li 23.46 235 *e*P **P 07 51 21.8 -2.3**
comp=Z,51nm,0.7s
CIT Chita 23.70 313 *e*P **P 07 51 27.0 +0.7**
CIT *e* 07 51 35.6
CIT *e* 07 51 43.3
CIT *e* 07 51 59.1
CIT *e* 07 52 07.0
CIT pmax pmax
comp=Z,391nm,1.0s
TPUB Ta-pu 23.95 236 *e*P **P 07 51 26.6 -2.1**
comp=Z,82nm,0.8s
TWG Pinlang 24.01 234 *e*P **P 07 51 28.7 -0.6**
comp=Z,528nm,0.9s
WHN Wuhan 24.16 258 ⇓P **P 07 51 30.5 -0.1**
WHN S S 07 55 34.8 -11
WHN pmax pmax
comp=Z,590nm,1.2s
WHN LR LR
comp=Z,550nm,11.8s
WHN LR LR
comp=Z,3µm,15.0s
WHN LR LR
comp=Z,3µm,17.7s
QZH Quanzhou 24.19 242 P **P 07 51 29.5 -1.4**
QZH S **S 07 55 45.8 -0.4**
QZH LR LR
comp=Z,780nm,14.7s
QZH LR LR
comp=Z,440nm,15.4s
QZH LR LR
comp=Z,620nm,17.7s
YAK Yakutsk 24.36 346*d i*P **P 07 51 30.8 -1.2**
YAK *e**PP **pP 07 51 47.0 +3.2**
YAK *e*S **S 07 55 46.8 -1.3**
YAK pmax pmax
comp=Z,3µm,0.9s
YAK pmax pmax
comp=N,805nm,0.9s
YAK pmax pmax
comp=E,631nm,1.0s
YAK smax smax
comp=E,2µm,1.5s
YAK smax smax
comp=N,2µm,1.9s
YAK MLR MLR
comp=Z,3µm,16.0s
YAK MLR MLR
comp=N,2µm,15.0s
YAK MLR MLR
comp=E,2µm,15.0s
BTO Baotou 24.59 284 *e*P **P 07 51 32.3 -2.3**
BTO S **S 07 55 47.0 -5.7**
SEY Seymchan 24.85 11 P **P 07 51 38.1 +1.5**
comp=E,146nm,0.9s,baz=209,slow=7.6,SNR=386
SEY S **S 07 56 02.6 +6.5**
comp=E,3.5nm,0.8s,baz=218,slow=22,SNR=1.8
GUMO Guam 25.35 174 P **P 07 51 42.2 +0.7**
comp=E,83nm,0.9s,baz=309,slow=19,SNR=2.3
GUMO S **S 07 55 60.0 -4.8**
comp=E,50nm,0.7s,baz=198,slow=17,SNR=1.9
BOD Bodaibo 26.23 325⇓ *i*P **P 07 51 48.3 -0.8**
BOD *e* 07 52 04.1
BOD pmax pmax
comp=Z,125nm,1.1s
ULN Ulaanbaatar 26.75 301 *e*P **P 07 51 53.4 -0.7**
comp=Z,29nm,0.7s
ULN Ulaanbaatar 26.75 301*ce*P **P 07 51 53.7 -0.4**
ULN pmax pmax
comp=Z,55nm,1.3s
ULN Ulaanbaatar 26.75 301 P **P 07 51 55.0 +0.8**
SNR=29
ULN P **P 07 51 55.0 +0.8**
SNR=29
XAN Xi'an 26.97 270 P **P 07 51 54.5 -1.6**
XAN pP pP 07 52 05.0 -2.8
XAN S **S 07 56 28.5 -1.9**
XAN PcS **PcS 07 59 00.5 +2.0**
XAN pmax pmax
comp=Z,83nm,0.6s
XAN pmax pmax
comp=Z,140nm,6.9s
XAN LR LR
comp=Z,840nm,19.6s
XAN LR LR
comp=Z,840nm,17.7s
XAN LR LR
comp=Z,590nm,19.5s
XAN Xi'an 26.97 270 *e*P **P 07 51 54.0 -2.1**
comp=Z,73nm,0.6s
XAN Xi'an 26.97 270 *e*P **P 07 51 54.0 -2.1**
XAN pmax pmax
comp=Z,73nm,0.6s
SONA0 Songino Array 27.19 301 *e*P **P 07 51 58.6 +0.5**
SONA0 *e*PcP **PcP 07 55 17.1 -0.2**
SONA0 *e*ScP **ScP 07 58 52.6 -1.4**
SONM Songino Array 27.19 301 P **P 07 51 58.6 +0.5**
comp=Z,38nm,0.8s,baz=97,slow=8.8,SNR=73
SONM PcP **PcP 07 55 17.1 -0.2**
comp=Z,2.9nm,0.5s,baz=113,slow=2.0,SNR=4.9
SONM ScP **ScP 07 58 52.6 -1.4**
comp=Z,2.0nm,0.9s,baz=108,slow=1.8,SNR=4.1
SONM LR LR 08 03 14.9
comp=Z,1µm,18.9s,baz=86,slow=37
ENH Enshi 28.02 262 *e*P **P 07 52 05.0 -0.6**
comp=Z,288nm,0.6s
H11N2 WAKE ISLAND Hy 28.75 125 T T 08 22 33.9
baz=317,slow=75,SNR=4443
H11N1 WAKE ISLAND Hy 28.76 125 T T 08 22 35.5
baz=317,slow=75,SNR=6227
H11N3 WAKE ISLAND Hy 28.77 125 T T 08 22 36.7
baz=317,slow=75,SNR=4517
GZH Guangzhou 29.05 246 P **P 07 52 10.3 -4.4**
GZH S **S 07 56 55.0 -8.1**
GZH LR LR
comp=Z,870nm,15.3s
GZH LR LR
comp=Z,840nm,15.7s
IRK Irkutsk 29.23 310 *e*P **P 07 52 15.0 -1.1**
IRK *e* 07 52 33.4
IRK pmax pmax
comp=Z,111nm,1.1s
TLY Talaya 29.51 308 *e*P **P 07 52 18.9 +0.3**
comp=Z,73nm,0.9s
TLY Talaya 29.51 308*c i*P **P 07 52 18.2 -0.3**
TLY *e*S **S 07 57 08.3 -1.6**
TLY pmax pmax
comp=Z,247nm,1.1s
TLY MLR MLR
comp=Z,3µm,18.0s
TLY Talaya 29.51 308 P **P 07 52 18.8 +0.3**
SNR=47
TLY P **P 07 52 18.8 +0.3**
SNR=47
ZAK Zakamensk 29.53 306 *e*P **P 07 52 18.9 +0.1**
ZAK pmax pmax
comp=Z,108nm,1.1s
H11S1 WAKE ISLAND Hy 29.53 127 T T 08 23 30.1
baz=318,slow=76,SNR=551
H11S3 WAKE ISLAND Hy 29.53 127 T T 08 23 30.3
baz=318,slow=76,SNR=597
H11S2 WAKE ISLAND Hy 29.55 127 T T 08 23 36.9
baz=318,slow=76,SNR=180
LZH Lanzhou 30.28 277 *e*P **P 07 52 25.5 -0.2**
LZH pP pP 07 52 35.0 -2.5
LZH sP sP 07 52 43.5 +0.7
LZH pmax pmax
comp=Z,87nm,1.0s
LZH pmax pmax
comp=Z,230nm,4.3s
LZH LR LR
comp=Z,1µm,18.4s
LZH LR LR
comp=Z,2µm,17.9s
LZH LR LR
comp=Z,2µm,17.4s
MOY Mondy 31.13 308 *e*P **P 07 52 33.2 +0.2**
MOY pmax pmax
comp=Z,76nm,1.7s
GYA Guiyang 32.05 258⇑ *i*P **P 07 52 40.8 -0.5**
GYA pP pP 07 52 53.8 +0.6
GYA PP **PnPn 07 53 50.0 +2.2**
GYA S **S 07 57 46.8 -3.6**
GYA sS sS 07 58 09.5 -0.6
GYA SS **SnSn 07 59 44.3 +1.5**
GYA pmax pmax
comp=Z,160nm,1.1s
GYA pmax pmax
comp=Z,100nm,5.6s
GYA LR LR
comp=Z,560nm,19.8s
GYA LR LR
comp=Z,670nm,18.3s
GYA LR LR
comp=Z,960nm,18.9s
BILL Bilibino 32.09 17 *e*P **P 07 52 40.8 -0.2**
comp=Z,36nm,0.8s
BILL Bilibino 32.09 17*ce*P **P 07 52 41.2 +0.2**
BILL pmax pmax
comp=Z,54nm,1.0s
CD2 Chengdu 32.20 267⇑ P **P 07 52 41.8 -0.7**
CD2 pP pP 07 52 52.0 -2.3
CD2 S **S 07 57 52.8 +0.4**
CD2 pmax pmax
comp=Z,150nm,2.5s
CD2 pmax pmax
comp=Z,300nm,7.5s
CD2 LR LR
comp=Z,2µm,13.5s
CD2 LR LR
comp=Z,2µm,17.9s
CD2 LR LR
comp=Z,2µm,15.2s
GTA Gaotai 32.52 284 *e*P **P 07 52 45.0 -0.3**
GTA pP pP 07 52 54.0 -3.2
GTA sP sP 07 52 58.3 -4.2
GTA PcP **PcP 07 55 32.3 +1.1**
GTA S **S 07 57 59.3 +1.9**
GTA ScP **ScP 07 59 12.0 +0.6**
GTA pmax pmax
comp=Z,28nm,0.8s
GTA pmax pmax
comp=Z,130nm,7.0s
GTA LR LR
comp=Z,500nm,21.9s
GTA LR LR
comp=Z,2µm,18.4s
GTA LR LR
comp=Z,2µm,19.4s
TIXI Tiksi 33.49 352 *e*P **P 07 52 52.5 -0.6**
comp=Z,34nm,1.1s
TIXI Tiksi 33.49 352 *e*P **P 07 52 52.5 -0.6**
TIXI pmax pmax
comp=Z,34nm,1.1s
QIZ Qiongzhong 34.17 244 P **P 07 53 00.3 +0.6**
QIZ S **S 07 58 25.0 +1.9**
QIZ LR LR
comp=Z,550nm,16.2s
QIZ LR LR
comp=Z,450nm,17.2s
QIZ LR LR
comp=Z,660nm,18.1s
DAV Davao City (W) 35.01 209 *e*P **P 07 53 11.4 +4.5**
KCP Kidapawan 35.25 210⇓ *e*P **P 07 53 10.0 +0.9**
KMI Kunming 35.76 259 P **P 07 53 13.8 +0.2**
KMI pP pP 07 53 25.0 -0.6
KMI sP sP 07 53 30.0 -0.8
KMI PP **PP 07 54 36.0 +0.7**
KMI S **S 07 58 47.5 -0.4**
KMI pmax pmax
comp=Z,190nm,1.0s
KMI pmax pmax
comp=Z,420nm,4.1s
KMI LR LR
comp=Z,700nm,17.0s
KMI LR LR
comp=Z,790nm,17.3s
KMI LR LR
comp=Z,1µm,19.2s
KMI Kunming 35.76 259 *e*P **P 07 53 13.5 -0.1**
comp=Z,202nm,1.0s
KMI Kunming 35.76 259 *e*P **P 07 53 13.5 -0.1**
KMI pmax pmax
comp=Z,202nm,1.0s
GAMB Gambell 36.86 32 *e*P **P 07 53 22.5 +0.2**
comp=Z,8.8nm,1.0s
SLVN Son La 37.02 253 *e*P **P 07 53 24.0 -0.2**
comp=Z,34nm,0.8s
NONG Nongkai 39.60 250 P **P 07 53 46.5 +0.7**
comp=Z,1.7nm,0.8s
SKNT Sakolnakorn 39.69 247 P **P 07 53 47.3 +0.7**
comp=Z,24nm,1.1s
DGZ Jazzator, Alta 39.71 304*c i*P **P 07 53 47.9 +1.2**
DGZ pmax pmax
comp=Z,317nm,0.7s
ANM Nome 39.74 32 *e*P **P 07 53 48.2 +1.7**
comp=Z,73nm,1.4s
ANM Nome 39.74 32 *e*P **P 07 53 48.2 +1.7**
ANM pmax pmax
comp=Z,73nm,1.4s
SDKM Sandakan 40.03 221 P **P 07 53 50.0 +0.5**
DLV T Lat 40.09 237 *e*P **P 07 53 50.7 +0.5**
comp=Z,60nm,0.8s
KKM Kota Kinabalu 40.19 222 *e*P **P 07 53 48.5 -2.3**
KKM Kota Kinabalu 40.19 222 P **P 07 53 51.2 +0.3**
WMQ Urumqi 40.45 295⇑ *i*P **P 07 53 53.8 +1.0**
WMQ pP pP 07 54 01.0 -3.9
WMQ sP sP 07 54 12.5 +2.3
WMQ PcP **PcP 07 55 56.0 +1.1**
WMQ S **S 07 59 58.3 0.0**
WMQ SS **SS 08 02 58.5 0.0**
WMQ pmax pmax
comp=Z,2µm,3.7s
WMQ LR LR
comp=Z,1µm,29.3s
WMQ LR LR
comp=Z,1µm,27.1s
WMQ LR LR
comp=Z,1µm,27.1s
WMQ Urumqi 40.45 295 *e*P **P 07 53 53.8 +1.0**
comp=Z,264nm,0.8s
WMQ Urumqi 40.45 295 *e*P **P 07 53 53.8 +1.0**
WMQ pmax pmax
comp=Z,264nm,0.8s
SIJI Sorong 40.81 197 P **P 07 53 55.7 -0.1**
comp=Z,10nm,0.7s,baz=344,slow=16,SNR=6.0
TSM Tawau 40.85 219 P **P 07 53 56.3 +0.1**
KHON Khomkaen 40.95 248 P **P 07 53 57.3 +0.3**
comp=Z,31nm,0.9s
ZAA1 Zalesovo Array 41.03 311 *e*P **P 07 53 57.3 +0.1**
ZAA1 *e*PcP **PcP 07 55 56.4 0.0**
ZAA0 Zalesovo Array 41.03 311 *e*P **P 07 53 57.4 +0.1**
comp=Z,164nm,0.9s
ZALV Zalesovo Beam 41.03 311 P **P 07 53 57.3 0.0**
comp=Z,146nm,0.8s,baz=87,slow=7.1,SNR=375
ZALV PcP **PcP 07 55 56.4 0.0**
comp=Z,28nm,0.7s,baz=99,slow=2.8,SNR=5.8
ZALV LR LR 08 11 54.5
comp=Z,1µm,18.1s,baz=70,slow=37
JAY Jayapura 41.24 182 P **P 07 53 59.8 +0.4**
comp=Z,17nm,1.0s,baz=334,slow=13,SNR=3.8
KMSI Cibinong 41.59 208 P **P 07 54 02.9 +0.7**
RDOG Red Dog Mine 41.61 28 *e*P **P 07 54 03.4 +1.5**
comp=Z,63nm,1.5s
UTTA Uttaradit 41.71 252 P **P 07 54 04.2 +1.0**
comp=Z,10nm,0.6s,comp=Z,102nm
NRIK Noril'sk 41.77 334 P **P 07 54 03.1 -0.1**
comp=Z,39nm,0.7s,baz=115,slow=9.8,SNR=98
NRIK LR LR 08 12 23.0
comp=Z,2µm,19.5s,baz=105,slow=37
CHAI Chaiyaphum 41.84 248 P **P 07 54 04.2 -0.1**
comp=Z,28nm,1.0s,comp=Z,259nm
LAMP Lampang 41.91 253 P **P 07 54 05.4 +0.5**
comp=Z,14nm,0.8s,comp=Z,213nm
NVS Novosibirsk 41.91 312 *e*P **P 07 54 05.0 +0.5**
NVS *e* 07 54 20.7
NVS *e*S **S 08 00 19.7 +0.2**
NVS pmax pmax
comp=E,146nm,1.2s
NVS pmax pmax
comp=Z,176nm,1.2s
NVS smax smax
comp=E,15nm,1.1s
PBKT Sadao Pong 42.14 250 P **P 07 54 06.9 +0.1**
comp=E,48nm,1.1s
CMMT Chiang Mai 42.24 254 P **P 07 54 07.6 -0.1**
comp=E,70nm,0.7s,comp=E,636nm
CHTO Chiang Mai 42.25 254 *e*P **P 07 54 07.6 0.0**
comp=E,51nm,0.7s
CHTO Chiang Mai 42.25 254 *e*P **P 07 54 07.6 0.0**
CHTO pmax pmax
comp=Z,51nm,0.7s
CHTO Chiang Mai 42.25 254 P **P 07 54 07.8 +0.1**
SNR=20
CHTO P **P 07 54 07.8 +0.1**
SNR=20
CHTO Chiang Mai 42.25 254 P **P 07 54 07.7 0.0**
comp=Z,314nm,0.7s,comp=Z,2µm
CHTO Chiang Mai 42.25 254 *e*P **P 07 54 07.8 +0.1**
MRSI Marisa 42.45 211 P **P 07 54 10.0 +0.7**
CM31 Chiang Mai Arr 42.46 254 *e*P **P 07 54 09.6 +0.2**
comp=Z,18nm,0.6s
CM31 *e*PcP **PcP 07 56 02.1 +0.4**
CM31 *e*ScP **ScP 07 59 47.3 -1.5**
CM31 Chiang Mai Arr 42.46 254 P **P 07 54 09.8 +0.3**
SNR=12
CMAR Chiang Mai Arr 42.46 254 P **P 07 54 09.8 +0.3**
comp=Z,10nm,0.8s,baz=49,slow=6.1,SNR=53
CMAR PcP **PcP 07 56 02.1 +0.4**
comp=Z,9.5nm,0.9s,baz=20,slow=3.2,SNR=7.9
CMAR ScP **ScP 07 59 47.3 -1.5**
comp=Z,2.0nm,0.8s,baz=26,slow=3.4,SNR=5.7
CMAR LR LR 08 13 44.4
comp=Z,258nm,20.0s,baz=64,slow=39
CM01 Chiang Mai Arr 42.48 254 *e*P **P 07 54 09.6 0.0**
CM01 *e*PcP **PcP 07 56 02.4 +0.6**
LSA Lhasa 42.55 273 P **P 07 54 11.8 +1.3**
LSA pmax pmax
comp=Z,32nm,0.7s
LSA Lhasa 42.55 273 *e*P **P 07 54 11.9 +1.3**
comp=Z,94nm,1.4s
LSA Lhasa 42.55 273 P **P 07 54 12.0 +1.4**
LSA Lhasa 42.55 273 *e*P **P 07 54 11.9 +1.4**
LSA pmax pmax
comp=Z,94nm,1.4s
FAKI Fak Fak 42.59 195 *e*P **P 07 54 10.0 -0.4**
comp=Z,32nm,1.0s
FAKI Fak Fak 42.59 195 P **P 07 54 10.5 +0.1**
comp=Z,32nm,0.8s,comp=Z,672nm
SRAK Srakaew 43.05 246 P **P 07 54 11.3 -2.9**
SANI Sanana 43.36 204 P **P 07 54 15.7 -0.9**
MPSI Mapaga 43.42 213 P **P 07 54 16.7 -0.4**
LUWI Luwuk 43.52 209 *e*P **P 07 54 16.4 -1.5**
comp=Z,67nm,0.9s
LUWI Luwuk 43.52 209 P **P 07 54 16.8 -1.1**
MK01 Makanchi Array 43.55 301 *e*P **P 07 54 18.5 +0.5**
MK31 Makanchi Array 43.56 301 *e*P **P 07 54 18.8 +0.8**
comp=Z,155nm,0.8s
MK31 Makanchi Array 43.56 301 *e*P **P 07 54 18.8 +0.8**
MK31 pmax pmax
comp=Z,155nm,0.8s
MK32 Makanchi Array 43.56 301 *e*P **P 07 54 18.4 +0.4**
MK32 *e*PP **PcP 07 56 04.5 -0.5**
MK32 *e*ScP **ScP 07 59 52.1 -0.7**
MKAR Makanchi Array 43.56 301 P **P 07 54 18.4 +0.4**
comp=Z,162nm,0.8s,baz=84,slow=9.1,SNR=1165
MKAR PcP **PcP 07 56 04.5 -0.5**
comp=Z,13nm,0.8s,baz=80,slow=2.6,SNR=2.8
MKAR ScP **ScP 07 59 52.1 -0.7**
comp=Z,2.5nm,0.8s,baz=72,slow=4.0,SNR=3.9
MKAR LR LR 08 13 03.3
comp=Z,697nm,21.4s,baz=63,slow=37

CHBT	**CHBT**		**43.71**	**244**	P		**P**	07 54 26.6	+7.1	
SVW2	**Sparrevohn**		**43.74**	**39**	*e*P		**P**	**07 54 21.5**	**+2.2**	
	comp=Z,39nm,0.9s									
MAKZ	**Makanchi**		**43.76**	**301**	*e*P		**P**	**07 54 20.2**	**+0.5**	
	comp=Z,190nm,0.8s									
MAKZ	**Makanchi**		**43.76**	**301**	*e*P		**P**	**07 54 20.2**	**+0.5**	
MAKZ					pmax	pmax				
	comp=Z,190nm,0.8s									
APSI	**Ampana**		**43.84**	**210**	P		**P**	**07 54 20.2**	**-0.2**	
UTHA	**Uthaitani**		**43.91**	**250**	P		**P**	**07 54 21.6**	**+0.5**	
	comp=Z,13nm,0.9s,comp=Z,121nm									
UMPA	**Umpang Tak**		**43.93**	**251**	P		**P**	**07 54 23.0**	**+1.7**	
	comp=Z,32nm,1.1s,comp=Z,1μm									
SHL	**Shillong**		**43.94**	**268**	*e*P		**P**	**07 54 21.1**	**-0.4**	
	comp=Z,131nm,1.0s									
SHL	**Shillong**		**43.94**	**268**	*e*P		**P**	**07 54 21.1**	**-0.4**	
SHL					pmax	pmax				
	comp=Z,131nm,1.0s									
SHL	**Shillong**		**43.94**	**268**	*i* P		**P**	**07 54 21.0**	**-0.4**	
SHL					*e*S		**ScP**	**07 59 54.0**	**-0.9**	
SEM	**Semipalatinsk**		**44.21**	**306**	*e*P		**P**	**07 54 20.6**	**-2.8**	
SEM					pmax	pmax				
	comp=Z,2μm,1.1s									
PATY	**Pattaya**		**44.63**	**246**	P		**P**	**07 54 28.8**	**+2.0**	
	comp=Z,5.5nm,0.6s,comp=Z,3μm									
IM3	**Indian Mountai**		**44.79**	**32**	*e*P		**P**	**07 54 28.9**	**+1.3**	
SRDT	**SRDT**		**44.94**	**249**	P		**P**	**07 54 30.1**	**+0.8**	
	comp=Z,58nm,1.1s,comp=Z,4μm									
KURK	**Kurchatov**		**45.18**	**307**	*e*P		**P**	**07 54 31.1**	**+0.2**	
	comp=Z,436nm,0.8s									
KURK	**Kurchatov**		**45.18**	**307**	*ce*P		**P**	**07 54 30.8**	**0.0**	
KURK					pmax	pmax				
	comp=Z,511nm,0.9s									
KURK	**Kurchatov**		**45.18**	**307**	P		**P**	**07 54 31.0**	**+0.2**	
	SNR=111									
KURK					P		**P**	**07 54 31.0**	**+0.2**	
	SNR=111									
SBUM	**Sibu**		**45.34**	**224**	*e*P		**P**	**07 54 32.4**	**-0.1**	
	comp=Z,14nm,1.1s									
SBUM	**Sibu**		**45.34**	**224**	P		**P**	**07 54 32.5**	**0.0**	
PPLA	**Purkeypile**		**45.36**	**36**	*e*P		**P**	**07 54 34.5**	**+2.3**	
	comp=Z,80nm,1.3s									
KDAK	**Kodiak Island**		**45.39**	**43**	*e*P		**P**	**07 54 32.4**	**0.0**	
	comp=Z,36nm,0.7s									
KDAK	**Kodiak Island**		**45.39**	**43**	*ce*P		**P**	**07 54 32.8**	**+0.4**	
PHET	**Kaeng Krachan**		**45.52**	**247**	P		**P**	**07 54 34.7**	**+0.8**	
	comp=Z,35nm,0.7s,comp=Z,388nm									
BPAW	**Bear Paw Mtn.**		**45.89**	**34**	*e*P		**P**	**07 54 37.6**	**+1.2**	
	comp=Z,30nm,1.2s									
SIMRM	**Sittwe**		**46.08**	**261**	*e*P		**P**	**07 54 37.4**	**-1.0**	
	comp=Z,23nm,0.6s									
BRLK	**Bradley Lake**		**46.11**	**40**	*e*P		**P**	**07 54 39.0**	**+0.9**	
	comp=Z,20nm,0.8s									
TRF	**Thorofare Moun**		**46.21**	**35**	*e*P		**P**	**07 54 39.9**	**+0.9**	
	comp=Z,20nm,0.8s									
COLD	**Coldfoot**		**46.28**	**30**	*e*P		**P**	**07 54 40.7**	**+1.4**	
	comp=Z,12nm,1.2s									
TAPN	**Taplejung**		**46.32**	**273**	*e*P		**P**	**07 54 41.0**	**+0.5**	
	comp=Z,166nm,1.0s									
PDGK	**Podgornoye**		**46.35**	**297**	P		**P**	**07 54 40.0**	**-0.3**	
PDGK					pmax	pmax				
	comp=Z,104nm,0.9s									
SHLS	**Shalkode**		**46.42**	**296**	*c i*P		**P**	**07 54 37.3**	**-3.6**	
SHLS					*i* S		**S**	**08 01 21.0**	**-4.6**	
SHLS					smax	smax				
	comp=E,550nm,5.5s									
SHLS					MLR	MLR				
	comp=Z,291nm,16.0s									
BWN	**Browne**		**46.56**	**34**	*e*P		**P**	**07 54 43.7**	**+2.1**	
	comp=Z,138nm,1.1s									
RC01	**Rabbit Creek A**		**46.58**	**38**	*e*P		**P**	**07 54 42.3**	**+0.6**	
	comp=Z,60nm,1.0s									
TDK	**Taldyqorghan**		**46.62**	**299**	*e*P		**P**	**07 54 41.5**	**-0.8**	
TDK					*e*S		**S**	**08 01 26.9**	**-1.3**	
TDK					smax	smax				
	comp=N,651nm,3.8s									
TDK					MLR	MLR				
	comp=Z,684nm,20.0s									
UZB	**Uzynbulak**		**46.73**	**296**	*e*P		**P**	**07 54 41.2**	**-2.2**	
UZB					pmax	pmax				
	comp=Z,536nm,1.0s									
UZB					MLR	MLR				
	comp=Z,134nm,17.0s									
ODAN	**Odare**		**46.80**	**272**	*e*P		**P**	**07 54 44.6**	**+0.4**	
	comp=Z,243nm,1.0s									
PMR	**Palmer**		**46.84**	**38**	*e*P		**P**	**07 54 44.5**	**+0.8**	
	comp=Z,37nm,1.0s									
PMR	**Palmer**		**46.84**	**38**	*e*P		**P**	**07 54 44.5**	**+0.8**	
PMR					pmax	pmax				
	comp=Z,37nm,1.0s									
MTKI	**Muara Teweh, K**		**46.84**	**219**	P		**P**	**07 54 45.0**	**+0.7**	
RND	**Reindeer**		**46.86**	**35**	*e*P		**P**	**07 54 44.7**	**+0.7**	
	comp=Z,38nm,0.9s									
RND	**Reindeer**		**46.86**	**35**	*e*P		**P**	**07 54 44.7**	**+0.7**	
RND					pmax	pmax				
	comp=Z,38nm,0.9s									
KPKS	**Kokpek**		**46.87**	**297**	*d i*P		**P**	**07 54 42.4**	**-2.0**	
KPKS					*i* S		**S**	**08 01 33.6**	**+1.7**	
KPKS					pmax	pmax				
	comp=Z,543nm,0.8s									
KPKS					smax	smax				
	comp=E,283nm,5.8s									
KPKS					MLR	MLR				
	comp=Z,284nm,15.0s									
MDM	**Murphy Dome**		**47.07**	**33**	*e*P		**P**	**07 54 46.4**	**+0.8**	
	comp=Z,41nm,1.0s									
ZHN	**Zhinishke**		**47.13**	**297**	*e*P		**P**	**07 54 44.7**	**-1.8**	
ZHN					pmax	pmax				
	comp=Z,421nm,1.0s									
WRH	**Wood River Hil**		**47.15**	**34**	*e*P		**P**	**07 54 47.2**	**+1.1**	
	comp=Z,13nm,0.8s									
KNK	**Knik Glacier**		**47.17**	**38**	*e*P		**P**	**07 54 47.4**	**+1.0**	
	comp=Z,47nm,0.9s									
SATY	**Saty**		**47.18**	**296**	*e*P		**P**	**07 54 44.9**	**-2.0**	
SML	**Sawmill**		**47.20**	**37**	*e*P		**P**	**07 54 47.8**	**+1.2**	
	comp=Z,40nm,0.8s									
SML	**Sawmill**		**47.20**	**37**	*e*P		**P**	**07 54 47.8**	**+1.2**	
SML					pmax	pmax				
	comp=Z,40nm,0.8s									
KSM	**Kuching**		**47.20**	**226**	*e*P		**P**	**07 54 47.9**	**+0.7**	
	comp=Z,68nm,1.0s									
KSM	**Kuching**		**47.20**	**226**	P		**P**	**07 54 47.7**	**+0.6**	
TCOL	**CIGO, UAF Yank**		**47.23**	**33**	P		**P**	**07 54 48.0**	**+1.3**	
	baz=272									
COLA	**College**		**47.24**	**33**	*e*P		**P**	**07 54 48.4**	**+1.6**	
	comp=Z,38nm,1.0s									
COLA	**College**		**47.24**	**33**	*i* P		**P**	**07 54 47.5**	**+0.7**	
COLA					pmax	pmax				
	comp=Z,15nm,0.7s									
JIRN	**Jiri**		**47.35**	**274**	*e*P		**P**	**07 54 49.1**	**+0.4**	
	comp=Z,294nm,0.9s									
SPSI	**Sidrap Palu**		**47.36**	**211**	P		**P**	**07 54 47.7**	**-0.6**	
PRZ	**Przheval'sk**		**47.37**	**296**	*e*P		**P**	**07 54 49.6**	**+1.2**	
	comp=Z,65nm,0.8s									
PRZ	**Przheval'sk**		**47.37**	**296**	*e*P		**P**	**07 54 49.6**	**+1.2**	
PRZ					pmax	pmax				
	comp=Z,65nm,0.8s									
RAMN	**Ramite**		**47.38**	**273**	*e*P		**P**	**07 54 49.0**	**+0.3**	
	comp=Z,501nm,0.9s									
POKR	**Poker Flat Res**		**47.40**	**33**	P		**P**	**07 54 50.0**	**+1.8**	
	baz=272									
GUN	**Gumba**		**47.48**	**274**	*e*P		**P**	**07 54 50.0**	**+0.4**	
	comp=Z,367nm,0.8s									
DHY	**Denali Highway**		**47.55**	**36**	*e*P		**P**	**07 54 49.8**	**+0.4**	
	comp=Z,26nm,1.0s									
BNSI	**Bone**		**47.63**	**210**	P		**P**	**07 54 50.7**	**+0.3**	
HDA	**Harding Lake**		**47.65**	**34**	*e*P		**P**	**07 54 50.5**	**+0.5**	
	comp=Z,31nm,0.9s									
HDA	**Harding Lake**		**47.65**	**34**	P		**P**	**07 54 50.5**	**+0.5**	
	baz=273									
IL1	**Eielson Array**		**47.65**	**33**	*e*P		**P**	**07 54 50.7**	**+0.6**	
ILAR	**Eielson Array**		**47.65**	**33**	P		**P**	**07 54 50.7**	**+0.6**	
	comp=Z,24nm,0.7s,baz=267,slow=6.2,SNR=358									
ILAR					PcP		**PcP**	**07 56 18.5**	**-0.4**	
	comp=Z,5.0nm,0.8s,baz=260,slow=3.6,SNR=2.4									
ILAR					ScP		**ScP**	**08 00 08.4**	**-1.0**	
	comp=Z,0.5nm,0.9s,baz=275,slow=4.4,SNR=2.8									
ILB	**Eielson Array**		**47.65**	**33**	*e*P		**P**	**07 54 50.7**	**+0.6**	
	comp=Z,31nm,0.8s									
ILB					*e*PcP		**PcP**	**07 56 18.5**	**-0.4**	
ILB					*e*ScP		**ScP**	**08 00 08.4**	**-1.0**	
SCM	**Sheep Creek Mo**		**47.67**	**37**	*e*P		**P**	**07 54 51.1**	**+0.8**	
	comp=Z,42nm,0.8s									
SCM	**Sheep Creek Mo**		**47.67**	**37**	*e*P		**P**	**07 54 51.1**	**+0.8**	
SCM					pmax	pmax				
	comp=Z,42nm,0.8s									

CHKK	**Chushkaly**		**47.93**	**298**	*e*P		**P**	**07 54 51.6**	**-0.9**	
CHKK					*e*S		**S**	**08 01 47.9**	**+1.1**	
CHKK					pmax	pmax				
	comp=Z,531nm,0.8s									
KKN	**Kakani**		**48.00**	**274**	*e*P		**P**	**07 54 53.8**	**+0.3**	
	comp=Z,241nm,0.6s									
PKI	**Pulchoki**		**48.00**	**274**	*e*P		**P**	**07 54 53.6**	**-0.1**	
PKIN	**Phulchoki**		**48.01**	**274**	*e*P		**P**	**07 54 53.5**	**-0.2**	
	comp=Z,83nm,0.7s									
MDOK	**Medeo**		**48.10**	**297**	*e*P		**P**	**07 54 52.2**	**-1.8**	
MDOK					*e*S		**S**	**08 01 44.4**	**-5.1**	
MDOK					pmax	pmax				
	comp=Z,483nm,0.8s									
MDOK					MLR	MLR				
	comp=Z,204nm,18.0s									
AAA	**Alma-Ata**		**48.18**	**297**	*e*P		**P**	**07 54 54.3**	**-0.2**	
AAA					pmax	pmax				
	comp=Z,291nm,0.7s									
AAA					MLR	MLR				
	comp=Z,112nm,20.0s									
PRP	**Porcupine Dome**		**48.19**	**32**	*e*P		**P**	**07 54 55.4**	**+1.1**	
	comp=Z,29nm,0.8s									
DMN	**Daman**		**48.22**	**274**	*e*P		**P**	**07 54 55.5**	**+0.2**	
	comp=Z,256nm,1.2s									
FYU	**Fort Yukon**		**48.24**	**31**	*e*P		**P**	**07 54 56.9**	**+2.4**	
	comp=Z,106nm,1.5s									
KAPI	**Kappang**		**48.33**	**210**	*e*P		**P**	**07 54 55.4**	**-0.4**	
	comp=Z,142nm,1.5s									
KAPI	**Kappang**		**48.33**	**210**	*e*P		**P**	**07 54 55.4**	**-0.4**	
KAPI					pmax	pmax				
	comp=Z,142nm,1.5s									
KAPI	**Kappang**		**48.33**	**210**	P		**P**	**07 54 56.0**	**+0.2**	
	SNR=14									
KDJ	**Kajisay**		**48.34**	**296**	*e*P		**P**	**07 54 57.4**	**+1.5**	
	comp=Z,34nm,0.6s									
KDJ	**Kajisay**		**48.34**	**296**	*e*P		**P**	**07 54 57.4**	**+1.5**	
KDJ					pmax	pmax				
	comp=Z,34nm,0.6s									
KUU	**Kurty**		**48.36**	**298**	*e*P		**P**	**07 54 53.5**	**-2.4**	
KUU					*e*S		**S**	**08 01 51.8**	**-1.2**	
KUU					pmax	pmax				
	comp=Z,579nm,0.8s									
KUU					MLR	MLR				
	comp=Z,154nm,19.0s									
KLU	**Klutina**		**48.38**	**38**	*e*P		**P**	**07 54 57.3**	**+1.5**	
	comp=Z,57nm,1.0s									
BKSI	**Bulukumba**		**48.46**	**210**	P		**P**	**07 54 56.8**	**0.0**	
DIV	**Divide**		**48.49**	**38**	*e*P		**P**	**07 54 57.8**	**+1.2**	
	comp=Z,56nm,0.9s									
KTGM	**Kuala Trenggan**		**48.52**	**237**	P		**P**	**07 54 58.2**	**+0.8**	
MTBS	**Maitube**		**48.54**	**297**	*e*P		**P**	**07 54 56.6**	**-0.7**	
MTBS					pmax	pmax				
	comp=Z,324nm,0.7s									
EYAK	**Cordova Ski Ar**		**48.58**	**39**	*e*P		**P**	**07 54 58.0**	**+0.8**	
	comp=Z,50nm,0.8s									
RIDG	**Independ'e Rid**		**48.62**	**35**	*e*P		**P**	**07 54 58.1**	**+0.5**	
	comp=Z,23nm,1.0s									
HARP	**HAARP**		**48.63**	**36**	*e*P		**P**	**07 54 59.4**	**+1.8**	
	comp=Z,30nm,0.7s									
SKLT	**Songkhla**		**48.84**	**241**	P		**P**	**07 55 00.9**	**+1.1**	
	comp=Z,61nm,1.2s,comp=Z,719nm									
DANN	**Dangsing**		**48.91**	**276**	*e*P		**P**	**07 55 01.3**	**+0.7**	
	comp=Z,1μm,0.7s									
ULHL	**Ulahol**		**48.96**	**296**	P		**P**	**07 55 01.2**	**+0.5**	
	SNR=22									
SCRK	**Sand Creek**		**48.98**	**34**	*e*P		**P**	**07 55 01.0**	**+0.6**	
	comp=Z,32nm,0.9s									
DOT	**Dot Lake**		**48.98**	**35**	*e*P		**P**	**07 55 00.7**	**+0.4**	
	comp=Z,11nm,0.8s									
TRTT	**Trtt**		**49.00**	**242**	P		**P**	**07 55 01.7**	**+0.7**	
	comp=Z,19nm,1.2s,comp=Z,263nm									
BOOM	**Boomskoye usch**		**49.09**	**297**	*e*P		**P**	**07 55 02.3**	**+0.7**	
	comp=Z,68nm,0.8s									
BOOM	**Boomskoye usch**		**49.09**	**297**	*e*P		**P**	**07 55 02.3**	**+0.7**	
BOOM					pmax	pmax				
	comp=Z,68nm,0.8s									
TKM2	**Tokmak 2**		**49.18**	**297**	P		**P**	**07 55 03.5**	**+1.0**	
	SNR=26									
MENT	**Mentasta**		**49.22**	**36**	*e*P		**P**	**07 55 03.3**	**+1.1**	
	comp=Z,23nm,0.9s									
KOLN	**Koldanda**		**49.31**	**275**	*e*P		**P**	**07 55 03.9**	**+0.3**	
	comp=Z,106nm,0.7s									
NRN	**Naryn**		**49.40**	**295**	*e*P		**P**	**07 55 04.5**	**+0.2**	
	comp=Z,49nm,1.2s									
NRN	**Naryn**		**49.40**	**295**	*e*P		**P**	**07 55 04.5**	**+0.2**	
NRN					pmax	pmax				
	comp=Z,49nm,1.2s									
BTLS	**Baital**		**49.57**	**300**	*e*P		**P**	**07 55 02.4**	**-2.6**	
BTLS					MLR	MLR				
	comp=Z,575nm,15.0s									
PYUN	**Piuthan**		**49.63**	**276**	*e*P		**P**	**07 55 06.3**	**+0.3**	
	comp=Z,650nm,1.0s									
BVA0	**Borovoye Array**		**49.68**	**311**	*i* P		**P**	**07 55 05.8**	**0.0**	
BVA0					pmax	pmax				
	comp=Z,88nm,0.6s									
KZA	**Kyzart**		**49.71**	**296**	P		**P**	**07 55 08.0**	**+1.3**	
	SNR=92									
KBK	**Karagaybulak**		**49.72**	**297**	P		**P**	**07 55 07.4**	**+0.9**	
	SNR=20									
BRVK	**Borovoye**		**49.74**	**311**	*e*P		**P**	**07 55 06.5**	**+0.2**	
	comp=Z,128nm,0.7s									
BRVK	**Borovoye**		**49.74**	**311**	*ce*P		**P**	**07 55 06.4**	**+0.2**	
BRVK					pmax	pmax				
	comp=Z,145nm,0.8s									
BRVK	**Borovoye**		**49.74**	**311**	P		**P**	**07 55 06.6**	**+0.4**	
	SNR=47									
BRVK					P		**P**	**07 55 06.6**	**+0.4**	
	SNR=47									
CHMS	**Chumysh**		**49.74**	**298**	P		**P**	**07 55 06.9**	**+0.4**	
	SNR=11									
USP	**Ospenovka**		**49.83**	**298**	P		**P**	**07 55 07.6**	**+0.5**	
	SNR=6.9									
FRU1	**Bishkek**		**49.89**	**297**	*e*P		**P**	**07 55 08.1**	**+0.4**	
	comp=Z,120nm,1.1s									
FRU1	**Bishkek**		**49.89**	**297**	*e*P		**P**	**07 55 08.1**	**+0.4**	
FRU1					pmax	pmax				
	comp=Z,120nm,1.1s									
PKDT	**Phuket**		**49.90**	**243**	P		**P**	**07 55 08.8**	**+0.9**	
	comp=Z,52nm,1.1s									
TGL	**Tana Glacier**		**49.97**	**38**	*e*P		**P**	**07 55 09.1**	**+1.1**	
	comp=Z,31nm,0.9s									
AAK	**Ala-Archa**		**50.04**	**297**	P		**P**	**07 55 09.4**	**+0.4**	
	SNR=41									
AAK	**Ala-Archa**		**50.04**	**297**	*e*P		**P**	**07 55 09.3**	**+0.4**	
	comp=Z,34nm,0.6s									
AAK	**Ala-Archa**		**50.04**	**297**	*i* P		**P**	**07 55 09.2**	**+0.3**	
	SNR=50									
AAK	**Ala-Archa**		**50.04**	**297**	*ce*P		**P**	**07 55 09.1**	**+0.2**	
AAK					pmax	pmax				
	comp=Z,83nm,1.7s									
AAK	**Ala-Archa**		**50.04**	**297**	P		**P**	**07 55 09.2**	**+0.3**	
	SNR=16									
AAK					P		**P**	**07 55 09.2**	**+0.3**	
	SNR=16									
EGAK	**Eagle**		**50.09**	**33**	*e*P		**P**	**07 55 09.4**	**+0.6**	
	comp=Z,29nm,1.1s									
KSH	**Kashi**		**50.10**	**293**	P		**P**	**07 55 13.5**	**+4.1**	
KSH					S		**S**	**08 02 21.0**	**+3.3**	
KSH					SS		**SS**	**08 05 50.8**	**-0.1**	
KSH					pmax	pmax				
	comp=Z,32nm,0.9s									
KSH					pmax	pmax				
	comp=Z,250nm,5.4s									
KSH					LR	LR				
	comp=Z,380nm,12.5s									
KSH					LR	LR				
	comp=Z,170nm,9.7s									
KSH					LR	LR				
	comp=Z,210nm,14.6s									
UCH	**Uchtor**		**50.17**	**297**	P		**P**	**07 55 10.7**	**+0.5**	
	SNR=28									
KULM	**Kulim**		**50.19**	**239**	*e*P		**P**	**07 55 10.3**	**+0.2**	
	comp=Z,83nm,1.2s									
KULM	**Kulim**		**50.19**	**239**	P		**P**	**07 55 11.0**	**+0.9**	
EKS2	**Erkin-Say**		**50.53**	**297**	P		**P**	**07 55 12.9**	**+0.4**	
	SNR=40									
IPM	**Ipoh**		**50.54**	**238**	*e*P		**P**	**07 55 12.4**	**-0.3**	
	comp=Z,113nm,1.1s									
IPM	**Ipoh**		**50.54**	**238**	P		**P**	**07 55 13.1**	**+0.3**	
MMRI	**Maumere**		**50.76**	**206**	P		**P**	**07 55 14.4**	**+0.1**	
AML	**Almayashu**		**50.77**	**297**	P		**P**	**07 55 15.7**	**+1.0**	
	SNR=104									
MYKOM	**Kota Tinggi**		**50.77**	**233**	*e*P		**P**	**07 55 14.8**	**+0.3**	
	comp=Z,104nm,1.5s									
MYKOM	**Kota Tinggi**		**50.77**	**233**	P		**P**	**07 55 15.4**	**+0.9**	
DAWY	**Dawson**		**50.97**	**34**	*e*P		**P**	**07 55 16.5**	**+1.1**	
	comp=Z,3.6nm,0.6s									

TPRI	**Tanjung Pinang**		**51.04**	**232**	P		**P**	**07 55 17.2**	**+0.7**	
EDFI	**Ende, Flores**		**51.06**	**206**	P		**P**	**07 55 16.0**	**-0.6**	
FRIM	**Kepong**		**51.08**	**236**	P		**P**	**07 55 17.3**	**+0.5**	
SOEI	**Soe**		**51.17**	**203**	*e*P		**P**	**07 55 16.9**	**-0.5**	
	comp=Z,175nm,1.2s									
SOEI	**Soe**		**51.17**	**203**	P		**P**	**07 55 17.3**	**-0.2**	
EPYK	**Eagle Plains**		**51.66**	**31**	*e*P		**P**	**07 55 22.5**	**+1.9**	
	comp=Z,68nm,0.9s									
EPYK	**Eagle Plains**		**51.66**	**31**	P		**P**	**07 55 22.4**	**+1.8**	
	baz=281									
BCPM	**Bancas Point**		**51.69**	**39**	*e*S		**S**	**08 02 43.5**	**+4.8**	
BATI	**Baumata**		**51.78**	**203**	P		**P**	**07 55 21.7**	**-0.2**	
DSRI	**Dabo**		**52.11**	**230**	P		**P**	**07 55 25.7**	**+1.2**	
DZA	**Taraz**		**52.14**	**299**	*d i*P		**P**	**07 55 24.1**	**-0.3**	
TPI	**Tanjungpandan**		**52.17**	**226**	P		**P**	**07 55 25.5**	**+0.6**	
	comp=Z,44nm,0.9s									
MTN	**Manton Dam**		**52.48**	**193**	*e*P		**P**	**07 55 26.6**	**-0.5**	
	comp=Z,81nm,1.2s									
INK	**Inuvik**		**52.50**	**28**	*e*P		**P**	**07 55 27.9**	**+1.2**	
	comp=Z,36nm,0.9s									
INK	**Inuvik**		**52.50**	**28**	P		**P**	**07 55 28.0**	**+1.3**	
INK	**Inuvik**		**52.50**	**28**	P		**P**	**07 55 27.9**	**+1.3**	
	comp=Z,30nm,0.8s,baz=290,slow=6.8,SNR=134									
HYT	**Haines Junctio**		**52.51**	**38**	*e*P		**P**	**07 55 29.5**	**+2.5**	
	comp=Z,74nm,1.0s									
PPBI	**Pangkal Pinang**		**52.55**	**228**	P		**P**	**07 55 28.6**	**+0.9**	
PLAI	**Plampang**		**52.58**	**211**	P		**P**	**07 55 26.4**	**-1.5**	
COEN	**Coen**		**52.60**	**179**	*e*P		**P**	**07 55 27.9**	**-0.1**	
	comp=Z,46nm,1.0s									
KK31	**Karatay Array**		**52.62**	**299**	*e*P		**P**	**07 55 28.3**	**+0.3**	
	comp=Z,117nm,0.9s									
KK31	**Karatay Array**		**52.62**	**299**	*e*P		**P**	**07 55 28.3**	**+0.3**	
KK31					pmax	pmax				
	comp=Z,117nm,0.9s									
KKAR	**Karatay Array**		**52.62**	**299**	*e*P		**P**	**07 55 28.3**	**+0.3**	
	comp=Z,117nm,0.9s									
KKAR	**Karatay Array**		**52.62**	**299**	*e*P		**P**	**07 55 28.3**	**+0.3**	
KKAR					pmax	pmax				
	comp=Z,117nm,0.9s									
KMMI	**Kalianget**		**52.63**	**216**	P		**P**	**07 55 28.4**	**+0.2**	
TSI	**Tuntungan**		**52.91**	**239**	P		**P**	**07 55 30.9**	**+0.5**	
SRBI	**Singaraja**		**52.99**	**214**	P		**P**	**07 55 30.8**	**-0.1**	
PSI	**Prapat**		**53.18**	**238**	*e*P		**P**	**07 55 32.6**	**0.0**	
	comp=Z,42nm,0.8s									
PSI	**Prapat**		**53.18**	**238**	*e*P		**P**	**07 55 32.6**	**0.0**	
PSI					pmax	pmax				
	comp=Z,42nm,0.8s									
GRJI	**Gresik**		**53.20**	**218**	P		**P**	**07 55 32.8**	**+0.3**	
IUG	**Iuzhnay**		**53.30**	**298**	*e*P		**P**	**07 55 31.4**	**-1.8**	
RGRI	**Rengat**		**53.38**	**233**	P		**P**	**07 55 35.8**	**+1.9**	
KCSI	**Kotacane, Aceh**		**53.42**	**240**	P		**P**	**07 55 32.9**	**-1.3**	
CHM	**Chimkent**		**53.53**	**298**	*e*P		**P**	**07 55 34.0**	**-0.7**	
BKNI	**Bangkinang**		**53.67**	**235**	*e*P		**P**	**07 55 37.2**	**+1.1**	
	comp=Z,280nm,1.0s									
BKNI	**Bangkinang**		**53.67**	**235**	P		**P**	**07 55 37.1**	**+1.1**	
WHY	**Whitehorse**		**53.79**	**37**	*e*P		**P**	**07 55 38.5**	**+2.0**	
	comp=Z,13nm,0.8s									
NDI	**New Delhi**		**53.81**	**280**	*e*P		**P**	**07 55 35.0**	**-1.9**	
MLSI	**Meulaboh, Aceh**		**53.82**	**242**	P		**P**	**07 55 36.4**	**-0.7**	
SVE	**Sverdlovsk**		**54.07**	**318**	*d i*P		**P**	**07 55 39.3**	**+0.9**	
SVE					pmax	pmax				
	comp=Z,414nm,0.9s									
SVE					MLR	MLR				
	comp=Z,1μm,16.0s									
GAR	**Garm**		**54.35**	**294**	*e*P		**P**	**07 55 40.9**	**0.0**	
GAR	**Garm**		**54.35**	**294**	*e*P		**P**	**07 55 40.9**	**0.0**	
SDSI	**Sungai Dareh**		**54.40**	**233**	P		**P**	**07 55 41.9**	**+0.6**	
NIL	**Nilore**		**54.51**	**287**

APA	**Apatity**	**61.18**	**335⇑**	*i*P	**P**	**07 56 25.0**	**-3.2**
APA				pmax	pmax		
	comp=Z,53nm,0.7s						
APA				MLR	MLR		
	comp=Z,1μm,16.0s						
TMCR	**Tamitsa**	**61.33**	**331**	*e*P	**P**	**07 56 27.2**	**-2.0**
TMCR				pmax	pmax		
	comp=Z,129nm,0.9s						
KEV	**Kevo**	**61.86**	**339**	*e*P	**P**	**07 56 33.0**	**+0.3**
	comp=Z,35nm,0.8s						
KEV	**Kevo**	**61.86**	**339**	*e*P	**P**	**07 56 33.0**	**+0.3**
KEV				pmax	pmax		
	comp=Z,35nm,0.8s						
KEV	**Kevo**	**61.86**	**339**	*e*P	**P**	**07 56 33.0**	**+0.3**
YKW3	**Yellowknife Ar**	**61.90**	**31**	*e*P	**P**	**07 56 33.9**	**+0.7**
	comp=Z,12nm,0.8s						
YKA	**Yellowknife Ar**	**61.94**	**31**	P	**P**	**07 56 33.8**	**+0.4**
	comp=Z,11nm,0.8s,baz=302,slow=6.7,SNR=243						
YKA				PKPPKP		08 25 42.9	
	comp=Z,1.0nm,1.0s,baz=114,slow=2.4,SNR=9.4						
YKB5	**Yellowknife Ar**	**61.94**	**31**	*e*P	**P**	**07 56 33.4**	**0.0**
YKB5				*e*		08 25 42.9	
HAMF	**Hammerfest**	**62.20**	**341**	*e*P	**P**	**07 56 35.0**	**0.0**
ARA0	**ARCESS Array S**	**62.41**	**339**	*e*P	**P**	**07 56 36.9**	**+0.5**
ARA0				*e*PP	**PP**	**07 58 54.6**	**+1.0**
ARCES	**ARCESS Array B**	**62.41**	**339**	*e*P	**P**	**07 56 36.6**	**+0.1**
ARCES	**ARCESS Array B**	**62.41**	**339**	P	**P**	**07 56 36.9**	**+0.5**
	comp=Z,14nm,0.6s,baz=52,slow=7.7,SNR=78						
ARCES				PP	**PP**	**07 58 54.6**	**+1.0**
	comp=Z,9.0nm,0.9s,baz=56,slow=6.7,SNR=4.0						
ARE0	**ARCESS Array S**	**62.41**	**339**	*e*P	**P**	**07 56 36.4**	**0.0**
	comp=Z,3.5nm,1.4s						
ARE0	**ARCESS Array S**	**62.41**	**339**	*e*P	**P**	**07 56 36.8**	**+0.3**
KLMR	**Klimovskoe**	**62.43**	**327⇑**	*i*P	**P**	**07 56 36.6**	**-0.1**
KLMR				*e*		07 58 52.0	
KLMR				pmax	pmax		
	comp=Z,91nm,1.2s						
KLMR	**Klimovskoe**	**62.43**	**327⇑**	*i*P	**P**	**07 56 36.6**	**-0.1**
KLMR				*e*P	**P**	**07 56 36.6**	**-0.1**
KLMR				*e*P	**P**	**07 56 36.6**	**-0.1**
KLMR				AMP		07 56 37.7	
	comp=Z,91nm,1.2s						
KLMR				*e*PP	**PP**	**07 58 52.1**	**-1.8**
AS01	**Alice Springs**	**62.71**	**188**	*e*P	**P**	**07 56 38.6**	**-0.4**
AS31	**Alice Springs**	**62.71**	**188**	*e*P	**P**	**07 56 38.6**	**-0.4**
	comp=Z,6.3nm,0.8s						
AS31			⇑	*e*		08 25 44.6	
ASAR	**Alice Springs**	**62.72**	**188**	P	**P**	**07 56 38.6**	**-0.4**
	comp=Z,16nm,0.7s,baz=7.3,slow=5.1,SNR=182						
ASAR				LR	LR	08 23 30.9	
	comp=Z,182nm,21.7s,baz=13,slow=36						
ASAR				PKP2bc		08 25 44.6	
	comp=Z,1.5nm,1.0s,baz=190,slow=1.9,SNR=5.8						
TULEG	**Thule**	**63.17**	**8**	*e*P	**P**	**07 56 41.3**	**-0.1**
	comp=Z,63nm,0.7s						
PALK	**Pallekele**	**63.25**	**257**	*e*P	**P**	**07 56 42.2**	**-0.7**
	comp=Z,38nm,1.2s						
PALK	**Pallekele**	**63.25**	**257**	*i* P	**P**	**07 56 42.8**	**-0.1**
	SNR=7.6						
PALK	**Pallekele**	**63.25**	**257**	*e*P	**P**	**07 56 42.2**	**-0.7**
PALK				pmax	pmax		
	comp=Z,38nm,1.2s						
MBWA	**Marble Bar**	**63.31**	**203**	*e*P	**P**	**07 56 41.6**	**-1.3**
	comp=Z,28nm,0.8s						
GEYT	**Alibeck**	**63.36**	**298**	P	**P**	**07 56 43.5**	**+0.2**
	comp=Z,57nm,0.8s,baz=31,slow=3.5,SNR=85						
GEYT				PP	**PP**	**07 59 02.1**	**-0.6**
	comp=Z,7.1nm,0.8s,baz=46,slow=6.2,SNR=3.1						
GEYT				LR	LR	08 26 12.1	
	comp=Z,412nm,18.7s,baz=25,slow=38						
GYA0B	**ALIBECK ARRAY**	**63.36**	**298**	*e*P	**P**	**07 56 43.7**	**+0.3**
	comp=Z,60nm,0.9s						
KTK1	**Kautokeino**	**63.37**	**339**	*e*P	**P**	**07 56 43.2**	**+0.4**
PSAD1	**Pilbara Seismi**	**63.55**	**203**	*e*P	**P**	**07 56 43.6**	**-0.9**
	comp=Z,32nm,1.1s						
DAG	**Danmarks Havn**	**63.94**	**355⇑**	*i*P	**P**	**07 56 46.4**	**-0.1**
	comp=Z,76nm,1.0s						
DAG	**Danmarks Havn**	**63.94**	**355⇑**	*i*P	**P**	**07 56 46.4**	**-0.1**
DAG				pmax	pmax		
	comp=Z,76nm,1.0s						
TRO	**Tromso**	**64.10**	**341**	*e*P	**P**	**07 56 47.6**	**0.0**
EIDS	**Eidsvold**	**64.51**	**171**	*e*P	**P**	**07 56 50.6**	**-0.1**
	comp=Z,8.1nm,0.9s						
LLLB	**Lillooet**	**64.57**	**45**	*e*P	**P**	**07 56 51.8**	**+0.8**
	comp=Z,13nm,1.0s						
PGC	**Sidney**	**64.69**	**47**	*e*P	**P**	**07 56 52.1**	**+0.3**
	comp=Z,11nm,0.9s						
DZM	**Mont Dzumac**	**64.84**	**155**	*e*P	**P**	**07 56 54.0**	**+0.9**
	comp=Z,32nm,0.9s						
DZM				*e*S	**S**	**08 05 34.4**	**+3.4**
	comp=Z,152nm,26.7s						
DZM	**Mont Dzumac**	**64.84**	**155**	*e*LR	LR	08 16 19.2	
	comp=Z,774nm,22.2s						
DZM	**Mont Dzumac**	**64.84**	**155**	*e*P	**P**	**07 56 52.7**	**-0.4**
	comp=Z,17nm,1.0s						
DZM	**Mont Dzumac**	**64.84**	**155**	P	**P**	**07 56 53.4**	**+0.3**
	comp=Z,7.1nm,1.0s,baz=102,slow=7.7,SNR=3.5						
DZM				LR	LR	08 21 47.4	
	comp=Z,447nm,21.9s,baz=350,slow=33						
A04D	**Lummi Island**	**65.08**	**47**	P	**P**	**07 56 55.6**	**+1.3**
	baz=301						
NLWA	**Neilton Lookou**	**65.10**	**48**	*e*P	**P**	**07 56 55.4**	**+0.9**
	comp=Z,22nm,1.0s						
D03D	**Eldon**	**65.47**	**48**	P	**P**	**07 56 58.9**	**+1.9**
	baz=301						
B05A	**Bryant**	**65.67**	**47**	P	**P**	**07 56 59.5**	**+1.3**
	baz=302						
B06A	**Marblemount**	**65.88**	**46**	*e*P	**P**	**07 57 00.4**	**+1.0**
	comp=Z,14nm,0.8s						
COCO	**West Island**	**66.03**	**229**	*i* P	**P**	**07 57 03.1**	**+2.3**
MOS	**Moscow**	**66.03**	**323**	*e*P	**P**	**07 56 59.6**	**-0.8**
MOS				*e*		07 57 16.4	
MOS				*e*		07 59 22.9	
MOS				*e*S	**S**	**08 05 43.3**	**-1.5**
MOS				pmax	pmax		
	comp=Z,300nm,1.4s						
MOS				pmax	pmax		
	comp=Z,181nm,1.2s						
MOS				MLR	MLR		
	comp=Z,800nm,17.0s						
KULLO	**Kullorsuaq**	**66.06**	**6⇑**	*i*P	**P**	**07 57 00.1**	**-0.1**
	comp=Z,31nm,0.7s						
KULLO	**Kullorsuaq**	**66.06**	**6⇑**	*i*P	**P**	**07 57 00.1**	**-0.1**
KULLO				pmax	pmax		
	comp=Z,31nm,0.7s						
E04D	**Cinebar**	**66.29**	**49**	P	**P**	**07 57 03.4**	**+1.2**
	baz=302						
VRH	**Novokhopyorsk**	**66.52**	**318**	*e*P	**P**	**07 57 02.8**	**-0.7**
VRH				pmax	pmax		
	comp=Z,90nm,0.7s						
VRH				MLR	MLR		
	comp=Z,1μm,16.0s						
LON	**Longmire**	**66.63**	**48**	*e*P	**P**	**07 57 05.7**	**+1.2**
	comp=Z,16nm,1.4s						
LON	**Longmire**	**66.63**	**48**	*e*P	**P**	**07 57 05.7**	**+1.2**
LON				pmax	pmax		
	comp=Z,16nm,1.4s						
PUL	**Pulkovo**	**66.82**	**329**	*ce*P	**P**	**07 57 06.0**	**+0.7**
PUL				pmax	pmax		
	comp=Z,91nm,0.6s						
OBN	**Obninsk**	**66.89**	**323**	*e*P	**P**	**07 57 05.7**	**-0.1**
	comp=Z,170nm,1.2s						
OBN	**Obninsk**	**66.89**	**323**	*ce*P	**P**	**07 57 05.9**	**+0.1**
OBN				*i*		07 57 23.0	
OBN				*e*		07 59 34.4	
OBN				pmax	pmax		
	comp=Z,229nm,1.7s						
OBN				MLR	MLR		
	comp=Z,554nm,16.0s						
LTY	**Liberty**	**67.02**	**47**	*e*P	**P**	**07 57 07.5**	**+0.5**
	comp=Z,13nm,0.8s						
B08A	**Colville Reser**	**67.17**	**46**	*e*P	**P**	**07 57 08.4**	**+0.6**
	comp=Z,18nm,1.3s						
LPSR	**Galich'ya Gora**	**67.17**	**320**	*e*P	**P**	**07 57 07.5**	**-0.2**
LPSR				pmax	pmax		
	comp=Z,130nm,0.9s						
LPSR				MLR	MLR		
	comp=Z,880nm,20.0s						
FIA1	**FINESS Array S**	**67.38**	**332**	*e*P	**P**	**07 57 08.7**	**-0.2**
	comp=Z,129nm,0.8s						
FIA1				*e*P	**P**	**07 57 08.9**	**+0.1**
FIA0	**FINESS Array S**	**67.38**	**332**	*e*P	**P**	**07 57 08.8**	**0.0**
FIA0				*e*PP	**PP**	**07 59 37.2**	**0.0**
FIA0	**FINESS Array S**	**67.38**	**332**	*e*P	**P**	**07 57 08.8**	**0.0**
FIA0				*e*		07 59 37.2	
FINES	**FINESS Array B**	**67.38**	**332**	P	**P**	**07 57 08.8**	**0.0**

	comp=Z,88nm,0.7s,baz=42,slow=8.5,SNR=287						
FINES				PP	**PP**	**07 59 37.2**	**0.0**
	comp=Z,5.7nm,0.8s,baz=36,slow=7.3,SNR=3.0						
FINES				LR	LR	08 28 16.8	
	comp=Z,664nm,21.8s,baz=48,slow=37						
VORR	**Voronezh**	**67.56**	**319**	P	**P**	**07 57 09.0**	**-1.1**
VORR				pmax	pmax		
	comp=Z,250nm,1.0s						
MAK	**Makhachkala**	**67.69**	**308**	*e*P	**P**	**07 57 08.3**	**-2.8**
MAK				*e*		07 59 38.1	
MAK				*e*S	**S**	**08 06 01.5**	**-3.7**
MAK				*e*SS	**SS**	**08 10 21.2**	**-4.9**
MAK				pmax	pmax		
	comp=Z,279nm,1.1s						
G05D	**Wamic, OR**	**67.74**	**49**	P	**P**	**07 57 12.6**	**+1.2**
	baz=303						
MOR8	**Moi Rana**	**67.77**	**340**	*e*P	**P**	**07 57 10.1**	**-1.2**
VSR	**Storozhevoye**	**67.84**	**319**	*e*P	**P**	**07 57 11.3**	**-0.6**
VSR				pmax	pmax		
	comp=Z,150nm,1.2s						
VSR				MLR	MLR		
	comp=Z,970nm,15.0s						
E07A	**Sunnyside**	**67.87**	**48**	*e*P	**P**	**07 57 12.5**	**+0.3**
	comp=Z,25nm,1.4s						
I04A	**Tendick Farm,**	**67.87**	**51**	P	**P**	**07 57 13.4**	**+1.1**
	baz=303						
C09A	**Chrisman Ranch**	**68.07**	**46**	*e*P	**P**	**07 57 14.2**	**+0.7**
	comp=Z,18nm,0.7s						
D08A	**Wollman Farm,**	**68.12**	**47**	*e*P	**P**	**07 57 14.7**	**+0.9**
	comp=Z,14nm,1.0s						
HAWA	**Hanford**	**68.14**	**48**	*e*P	**P**	**07 57 14.8**	**+0.9**
	comp=Z,14nm,1.2s						
F07A	**Phinny Hill Vi**	**68.19**	**48**	*e*P	**P**	**07 57 15.3**	**+1.0**
	comp=Z,13nm,0.7s						
E08A	**Dider Farm, El**	**68.36**	**47**	*e*P	**P**	**07 57 16.3**	**+1.0**
	comp=Z,7.7nm,0.8s						
NEW	**Newport**	**68.45**	**45**	*e*P	**P**	**07 57 16.3**	**+0.4**
	comp=Z,10nm,0.9s						
NEW	**Newport**	**68.45**	**45**	*e*P	**P**	**07 57 16.3**	**+0.4**
NEW				pmax	pmax		
	comp=Z,10.0nm,0.9s						
NEW	**Newport**	**68.45**	**45**	P	**P**	**07 57 16.9**	**+1.0**
	baz=305						
PINE	**Pine Mountain**	**68.76**	**50**	*e*P	**P**	**07 57 19.5**	**+1.4**
	comp=Z,19nm,1.0s						
L04D	**Klamath Falls**	**68.80**	**52**	P	**P**	**07 57 19.4**	**+1.1**
	baz=304						
SUMG	**Summit**	**68.81**	**0**	*e*P	**P**	**07 57 18.8**	**+0.6**
	comp=Z,100nm,1.1s						
SUMG	**Summit**	**68.81**	**0**	*i* P	**P**	**07 57 19.1**	**+1.0**
	comp=Z,149nm,0.7s						
SUMG	**Summit**	**68.81**	**0**	*i* P	**P**	**07 57 19.1**	**+1.0**
SUMG				pmax	pmax		
	comp=Z,150nm,0.7s						
YBH	**Yreka Blue Hor**	**68.82**	**53**	*e*P	**P**	**07 57 19.9**	**+1.5**
	comp=Z,26nm,1.6s						
YBH	**Yreka Blue Hor**	**68.82**	**53**	*e*P	**P**	**07 57 19.9**	**+1.5**
YBH				pmax	pmax		
	comp=Z,26nm,1.6s						
J05D	**Fort Rock, OR**	**68.86**	**51**	P	**P**	**07 57 20.0**	**+1.3**
	baz=304						
M02C	**Callahan**	**68.92**	**53**	P	**P**	**07 57 20.6**	**+1.7**
	baz=304						
VSU	**Vasula**	**69.08**	**329**	*ce*P	**P**	**07 57 19.7**	**+0.2**
VSU				pmax	pmax		
	comp=Z,344nm,0.8s						
GOF	**Gofitskoye**	**69.21**	**312⇑**	*i*P	**P**	**07 57 21.3**	**+0.7**
GOF				pmax	pmax		
	comp=Z,250nm,0.8s						
N02D	**Trinity Center**	**69.24**	**54**	P	**P**	**07 57 22.7**	**+1.7**
	baz=304						
M04C	**Macdoel**	**69.33**	**53**	P	**P**	**07 57 23.2**	**+1.6**
	baz=304						
K05A	**Summer Lake**	**69.39**	**51**	*e*P	**P**	**07 57 23.8**	**+1.8**
	comp=Z,46nm,1.4s						
WDC	**Whiskeytown Da**	**69.56**	**54**	*e*P	**P**	**07 57 24.2**	**+1.3**
	comp=Z,27nm,1.6s						
WDC	**Whiskeytown Da**	**69.56**	**54**	*e*P	**P**	**07 57 24.2**	**+1.3**
WDC				pmax	pmax		
	comp=Z,27nm,1.6s						
O02D	**Mt. Diablo Mer**	**69.63**	**54**	P	**P**	**07 57 24.9**	**+1.4**
	baz=304						
NSS	**Namsos**	**69.70**	**339**	*e*P	**P**	**07 57 23.4**	**+0.2**
F10A	**Beach Ranch, E**	**69.70**	**47**	*e*P	**P**	**07 57 23.5**	**-0.2**
	comp=Z,9.1nm,0.9s						
WALA	**Waterton Lakes**	**69.72**	**43**	*e*P	**P**	**07 57 24.6**	**+0.7**
	comp=Z,9.9nm,0.8s						
NCK	**Nalchik**	**69.77**	**310**	*i* P	**P**	**07 57 24.3**	**+0.2**
NCK				pmax	pmax		
	comp=Z,96nm,1.1s						
ZEI	**Tsey**	**69.99**	**309**	*e*P	P	07 57 19.9	-5.8
ZEI				pmax	pmax		
	comp=Z,45nm,0.8s						
KBZ	**Khabaz**	**70.05**	**310**	P	**P**	**07 57 26.4**	**+0.6**
	comp=Z,104nm,0.9s						
KBZ				LR	LR	08 33 17.0	
	comp=Z,188nm,18.4s,baz=41,slow=40						
TBLG	**Delisi**	**70.08**	**308**	*e*P	**P**	**07 57 26.5**	**+0.4**
	comp=Z,74nm,1.0s						
TBLG	**Delisi**	**70.08**	**308**	*e*P	**P**	**07 57 26.5**	**+0.4**
TBLG				pmax	pmax		
	comp=Z,74nm,1.0s						
O03E	**Paynes Creek**	**70.19**	**54**	P	**P**	**07 57 27.4**	**+0.5**
	baz=305,SNR=5.7						
MOD	**Modoc Plateau**	**70.21**	**52**	*e*P	**P**	**07 57 28.2**	**+1.2**
	comp=Z,24nm,1.6s						
SCO	**Scoresbysund**	**70.29**	**354**	*e*P	**P**	**07 57 27.4**	**+0.7**
	comp=Z,36nm,1.1s						
SCO	**Scoresbysund**	**70.29**	**354**	*i* P	**P**	**07 57 27.6**	**+0.8**
	comp=Z,30nm,1.0s						
SCO	**Scoresbysund**	**70.29**	**354**	*i* P	**P**	**07 57 27.6**	**+0.8**
SCO				pmax	pmax		
	comp=Z,30nm,1.0s						
BMO	**Blue Mountains**	**70.30**	**48**	*e*P	**P**	**07 57 28.1**	**+0.6**
	comp=Z,7.7nm,1.0s						
BMO	**Blue Mountains**	**70.30**	**48**	*e*P	**P**	**07 57 28.1**	**+0.6**
BMO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NEY	**Neytrino**	**70.43**	**310**	*e*P	**P**	**07 57 29.2**	**+0.8**
NEY				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**70.43**	**180**	*e*P	**P**	**07 57 27.9**	**-0.1**
	comp=Z,2.5nm,1.0s						
STKA	**Stephens Creek**	**70.43**	**180**	P	**P**	**07 57 27.9**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=336,slow=5.5,SNR=12						
STKA				LR	LR	08 27 59.9	
	comp=Z,106nm,21.9s,baz=23,slow=36						
J08A	**Circle Bar Ran**	**70.48**	**50**	*e*P	**P**	**07 57 29.6**	**+0.9**
	comp=Z,15nm,1.1s						
FORT	**Forrest**	**70.55**	**193**	*e*P	**P**	**07 57 28.5**	**-0.3**
	comp=Z,54nm,0.8s						
ORV	**Oroville**	**70.80**	**54**	*e*P	**P**	**07 57 30.7**	**+0.2**
	comp=Z,10nm,1.3s						
ORV	**Oroville**	**70.80**	**54**	*e*P	**P**	**07 57 30.7**	**+0.2**
ORV				pmax	pmax		
	comp=Z,11nm,1.3s						
WSAR	**Wadi Sarin**	**70.86**	**285**	P	**P**	**07 57 31.5**	**+0.4**
	SNR=6.9						
JLN	**Jalan Bani Buh**	**70.89**	**283**	P	**P**	**07 57 31.2**	**-0.1**
	SNR=9.8						
WVOR	**Wild Horse Val**	**70.92**	**51**	*e*P	**P**	**07 57 32.2**	**+0.9**
	comp=Z,7.5nm,0.8s						
WVOR	**Wild Horse Val**	**70.92**	**51**	*e*P	**P**	**07 57 32.2**	**+0.9**
WVOR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WBK	**Wadi Bani Khal**	**70.96**	**284**	P	**P**	**07 57 32.3**	**+0.6**
	SNR=8.3						
GNI	**Garni**	**70.98**	**306**	*e*P	**P**	**07 57 32.5**	**+0.8**
	comp=Z,50nm,0.9s						
GNI	**Garni**	**70.98**	**306**	*i* P	**P**	**07 57 32.5**	**+0.8**
	SNR=9.1						
GNI	**Garni**	**70.98**	**306**	*ce*P	**P**	**07 57 33.0**	**+1.3**
GNI				pmax	pmax		
	comp=Z,613nm,1.7s						
GNI	**Garni**	**70.98**	**306**	P	**P**	**07 57 32.7**	**+1.0**
	SNR=15						
GNI				P	**P**	**07 57 32.7**	**+1.0**
	SNR=15						
MSO	**Missoula**	**71.04**	**45**	*e*P	**P**	**07 57 32.8**	**+0.9**
	comp=Z,7.1nm,0.8s						
MSO	**Missoula**	**71.04**	**45**	P	**P**	**07 57 32.4**	**+0.5**
	baz=307						
BIDO	**Bidbid**	**71.07**	**285**	P	**P**	**07 57 33.4**	**+1.1**
	SNR=15						
SHME	**Shamm**	**71.12**	**289**	*i* P	**P**	**07 57 32.9**	**+0.2**
	SNR=15						
TBLU	**Trondheim**	**71.17**	**339**	*e*P	**P**	**07 57 31.5**	**-0.8**

MICGM	**Minsk**	**71.21**	**326⇓**	*e*P	**P**	**07 57 32.0**	**-0.7**
MICGM				PM		07 57 33.0	
	comp=Z,0.4nm,1.0s						
MICGM				*e*LR	LR	08 31 12.0	
MNK	**Minsk**	**71.21**	**326⇓**	*e*P	**P**	**07 57 32.0**	**-0.7**
MNK				pmax	pmax		
	comp=Z,430nm,1.0s						
BEKR	**Beckworth**	**71.34**	**54**	*e*P	**P**	**07 57 34.4**	**+0.4**
	comp=Z,10nm,0.9s						
SMDO	**Samad**	**71.40**	**285**	P	**P**	**07 57 34.8**	**+0.3**
	SNR=9.3						
NACGM	**Naroch**	**71.42**	**327**	*e*P	**P**	**07 57 33.0**	**-0.9**
NACGM				PM		07 57 35.0	
	comp=Z,0.4nm,1.0s						
NACGM				*e*LQ	LQ	08 28 18.0	
NACGM				*e*LR	LR	08 30 46.0	
MDH	**Madha**	**71.43**	**288**	*i* P	**P**	**07 57 34.3**	**-0.2**
	SNR=7.4						
AFDM	**Forest Hills D**	**71.49**	**55**	*e*P	**P**	**07 57 35.3**	**+0.6**
	comp=Z,5.5nm,1.2s						
MSFE	**Esma-Masafi**	**71.50**	**288**	*i* P	**P**	**07 57 35.3**	**+0.4**
	SNR=14						
BBOO	**Buckleboo**	**71.58**	**185**	*e*P	**P**	**07 57 34.9**	**-0.1**
	comp=Z,23nm,0.9s						
KARS	**Kars**	**71.73**	**308**	*e*P	**P**	**07 57 37.1**	**+0.8**
	comp=Z,195nm,0.9s						
ILULI	**Ilulissat**	**71.75**	**5**	*e*P	**P**	**07 57 36.3**	**+0.7**
	comp=Z,48nm,0.9s						
ILULI	**Ilulissat**	**71.75**	**5⇑**	*i*P	**P**	**07 57 35.9**	**+0.3**
	comp=Z,45nm,0.9s						
ILULI	**Ilulissat**	**71.75**	**5**	*e*P	**P**	**07 57 36.3**	**+0.7**
ILULI				pmax	pmax		
	comp=Z,48nm,0.9s						
HATD	**Hatta, Dubai**	**71.82**	**287**	*i* P	**P**	**07 57 37.2**	**+0.4**
	SNR=29						
HATD	**Hatta, Dubai**	**71.82**	**287**	P	**P**	**07 57 37.1**	**+0.2**
	SNR=22						
HATD				P	**P**	**07 57 37.1**	**+0.2**
	SNR=22						
MORW	**Morawa**	**71.85**	**204**	*e*P	**P**	**07 57 35.6**	**-1.1**
	comp=Z,21nm,0.8s						
FFC	**Flin Flon**	**71.87**	**33**	*e*P	**P**	**07 57 37.0**	**+0.4**
	comp=Z,32nm,0.9s						
FFC	**Flin Flon**	**71.87**	**33**	*ce*P	**P**	**07 57 37.2**	**+0.6**
SOHO	**SOHO**	**71.92**	**287**	P	**P**	**07 57 38.0**	**+0.5**
	SNR=20						
SOHO				P	**P**	**07 57 38.0**	**+0.5**
	SNR=20						
ASHO	**Ashiyiah**	**71.96**	**287**	*i* P	**P**	**07 57 37.8**	**+0.1**
	SNR=26						
ASHO	**Ashiyiah**	**71.96**	**287**	P	**P**	**07 57 37.8**	**+0.1**
	SNR=19						
SOC	**Sochi**	**72.01**	**312**	*e*P	**P**	**07 57 36.0**	**-1.6**
SOC				*e**PP	**pP**	**07 57 46.2**	**-4.4**
SOC				*e*		08 00 12.6	
SOC				*e*PPP	PPP	08 02 00.3	
SOC				*e*S	**S**	**08 06 53.1**	**-2.7**
SOC				*e*SS	**SS**	**08 11 32.0**	**-0.4**
SOC				*e*SSS	SSS	08 14 46.3	
SOC				pmax	pmax		
	comp=Z,69nm,0.7s						
SOC				MLR	MLR		
	comp=Z,329nm,16.0s						
BATM	**Batumi**	**72.01**	**309⇑**	*i*P	**P**	**07 57 38.2**	**+0.5**
PAHR	**Pah Rah Range**	**72.05**	**53**	*e*P	**P**	**07 57 38.9**	**+0.8**
	comp=Z,10nm,1.1s						
NAZ	**Nazwa, Dubai**	**72.08**	**288**	*i* P	**P**	**07 57 38.7**	**+0.3**
	SNR=5.3						
NAZ	**Nazwa, Dubai**	**72.08**	**288**	P	**P**	**07 57 38.8**	**+0.3**
	SNR=5.4						
VCNR	**Virginia City**	**72.12**	**54**	*e*P	**P**	**07 57 39.4**	**+0.7**
	comp=Z,7.7nm,1.0s						
BCA	**Borcka**	**72.15**	**309⇑**	*i*P	**P**	**07 57 39.2**	**+0.6**
DBOC	**Borcka**	**72.18**	**309**	*i* P	**P**	**07 57 39.2**	**+0.4**
DBOC				IAML_P			
	comp=Z,1μm,0.6s						
DAGI	**Agillar**	**72.19**	**309**	*i* P	**P**	**07 57 39.9**	**+1.0**
DAGI				IAML_P			
	comp=Z,812nm,0.7s						
HRY	**Holter Researc**	**72.26**	**44**	*e*P	**P**	**07 57 39.8**	**+0.5**
FAQ	**Al Faqa, Dubai**	**72.27**	**288**	*i* P	**P**	**07 57 39.4**	**-0.1**
	SNR=11						
FAQ	**Al Faqa, Dubai**	**72.27**	**288**	P	**P**	**07 57 39.4**	**-0.1**
	SNR=5.4						
PNTR	**Pine Nut**	**72.27**	**54**	*e*P	**P**	**07 57 40.7**	**+1.1**
	comp=Z,8.9nm,0.7s						
DBAD	**Bademkaya**	**72.35**	**309**	*i* P	**P**	**07 57 40.9**	**+1.0**
DBAD				IAML_P			
	comp=Z,2μm,0.7s						
CMB	**Columbia Colle**	**72.39**	**55**	*e*P	**P**	**07 57 40.7**	**+0.6**
	comp=Z,8.2nm,1.0s						
CMB	**Columbia Colle**	**72.39**	**55**	*e*P	**P**	**07 57 40.7**	**+0.6**
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NC405	**NORSAR Array S**	**72.43**	**337**	*e*P	**P**	**07 57 39.6**	**-0.3**
	comp=Z,137nm,1.3s						
NC303	**NORSAR Array S**	**72.45**	**337**	*e*P	**P**	**07 57 39.9**	**-0.1**
	comp=Z,78nm,1.1s						
LRM	**Limekiln Ridge**	**72.47**	**45**	*e*P	**P**	**07 57 41.9**	**+1.2**
DOMB	**Dombas**	**72.47**	**339**	*e*P	**P**	**07 57 40.5**	**+0.3**
ASUD	**Al Ashush, Dub**	**72.53**	**288**	*i* P	**P**	**07 57 41.6**	**+0.5**
	SNR=13						
ASUD	**Al Ashush, Dub**	**72.53**	**288**	P	**P**	**07 57 41.3**	**+0.2**
	SNR=5.6						
ASUD				P	**P**	**07 57 41.3**	**+0.2**
	SNR=5.6						
EGMT	**Eagleton**	**72.55**	**42**	*e*P	**P**	**07 57 41.8**	**+0.8**
	comp=Z,18nm,0.8s						
EGMT	**Eagleton**	**72.55**	**42**	P	**P**	**07 57 41.5**	**+0.6**
	baz=309						
ALNE	**Al Ain**	**72.55**	**287**	*i* P	**P**	**07 57 41.3**	**+0.1**
	SNR=8.5						
YERR	**Yerington**	**72.56**	**54**	*e*P	**P**	**07 57 42.4**	**+1.1**
	comp=Z,13nm,1.0s						
ANN	**Anapa**	**72.58**	**314**	*e*P	**P**	**07 57 40.7**	**-0.3**
ANN				*e*		08 00 21.4	
ANN				*e*S	**S**	**08 07 05.3**	**+3.0**
ANN				pmax	pmax		
	comp=Z,111nm,1.1s						
NC204	**NORSAR Array S**	**72.59**	**338**	*e*P	**P**	**07 57 41.0**	**+0.1**
	comp=Z,120nm,1.0s						
NB201	**NORSAR Array S**	**72.61**	**337**	*e*P	**P**	**07 57 40.4**	**-0.6**
	comp=Z,336nm,1.4s						
TUTA	**Tutak**	**72.62**	**307**	*i* P	**P**	**07 57 43.3**	**+1.6**
TUTA				IAML_P			
	comp=Z,1μm,0.9s						
NB2	**NORSAR Subarra**	**72.64**	**337**	P	**P**	**07 57 41.0**	**-0.2**
	comp=Z,66nm,0.9s,baz=39,slow=6.2						
NB2	**NORSAR Subarra**	**72.64**	**337**	P	**P**	**07 57 41.0**	**-0.2**
	baz=39,slow=6.2						
NOA	**NORSAR Array B**	**72.64**	**337**	P	**P**	**07 57 41.2**	**0.0**
	comp=Z,45nm,0.9s,baz=38,slow=5.9,SNR=120						
NOA				PP	**PP**	**08 00 23.4**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=46,slow=8.5,SNR=3.8						
NOA				LR	LR	08 32 15.1	
	comp=Z,640nm,21.4s,baz=40,slow=38						
MHTO	**MHTO**	**72.65**	**283**	P	**P**	**07 57 41.9**	**+0.1**
	SNR=40						
MHTO				P	**P**	**07 57 41.9**	**+0.1**
	SNR=40						
DLMT	**Dillon**	**72.67**	**45**	*e*P	**P**	**07 57 43.3**	**+1.5**
	comp=Z,19nm,1.1s						
WAKR	**Walker**	**72.72**	**54**	*e*P	**P**	**07 57 43.6**	**+1.4**
	comp=Z,19nm,1.5s						
HLID	**Hailey**	**72.74**	**48**	*e*P	**P**	**07 57 43.1**	**+0.8**
	comp=Z,7.1nm,1.0s						
HLID	**Hailey**	**72.74**	**48**	P	**P**	**07 57 43.5**	**+1.2**
	baz=308,SNR=7.6						
NBO00	**NORSAR Array S**	**72.78**	**337**	*e*P	**P**	**07 57 41.8**	**-0.2**
	comp=Z,70nm,1.0s						
NC602	**NORSAR Array S**	**72.78**	**337**	*e*P	**P**	**07 57 41.5**	**-0.4**
	comp=Z,52nm,1.2s						
NORES	**NORESS Array B**	**72.78**	**337**	P	**P**	**07 57 43.0**	**+1.0**
NORES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
HOMI	**Horasan**	**72.80**	**308**	*i* P	**P**	**07 57 44.4**	**+1.6**
HOMI				IAML_P			
	comp=Z,2μm,0.8s						
AJN	**Ajban**	**72.83**	**288**	P	**P**	**07 57 43.0**	**+0.2**
MCMT	**McKenzie Canyo**	**72.86**	**46**	*e*P	**P**	**07 57 44.0**	**+1.0**
NAO01	**NORSAR Array S**	**72.89**	**337**	*e*P	**P**	**07 57 42.5**	**-0.2**
	comp=Z,56nm,1.0s						
NAO01	**NORSAR Array S**	**72.89**	**337**	*e*P	**P**	**07 57 42.6**	**0.0**
AKN	**Aaknes**	**72.93**	**340**	*e*P	**P**	**07 57 43.5**	**+0.7**
BMN	**Battle Mountai**	**72.96**	**52**	*e*P	**P**	**07 57 44.8**	**+1.2**
	comp=Z,21nm,1.4s						

BOZ **Bozeman (W)** 73.06 45 *e*P P 07 57 44.6 +0.5
comp=Z,9.1nm,0.8s
BOZ **Bozeman (W)** 73.06 45 *e*P P 07 57 44.6 +0.5
BOZ pmax pmax
comp=Z,9.0nm,0.8s
BOZ **Bozeman (W)** 73.06 45 P P 07 57 45.1 +1.0
baz=309
AKASG **Malin Array Be** 73.11 322 P P 07 57 44.0 -0.1
comp=Z,42nm,0.6s,baz=45,slow=6.4,SNR=115
AKASG PP PP 08 00 27.1 +0.4
comp=Z,3.1nm,0.8s,baz=44,slow=9.2,SNR=4.8
AKASG LR LR 08 32 49.1
comp=Z,603nm,18.6s,baz=30,slow=38
AKBB **Malin Array Si** 73.11 322 *e*P P 07 57 43.7 -0.3
comp=Z,147nm,1.2s
AKBB *e*PP PP 08 00 27.1 +0.4
AKBB **Malin Array Si** 73.11 322 *e*P P 07 57 43.7 -0.3
AKBB *e* 08 00 27.1
AKBB pmax pmax
comp=Z,147nm,1.2s
KIEV **Kiev** 73.12 322 *e*P P 07 57 43.9 -0.3
comp=Z,118nm,1.1s
KIEV **Kiev** 73.12 322 ⇑*i*P P 07 57 44.3 +0.2
KIEV **Kiev** 73.12 322 *i* P P 07 57 44.0 -0.1
SNR=73
KIEV **Kiev** 73.12 322 *c i*P P 07 57 43.7 -0.4
KIEV pmax pmax
comp=Z,133nm,1.2s
AK11 **Malin Array Si** 73.15 322 *e*P P 07 57 43.9 -0.5
RYN **Ryan** 73.22 54 *e*P P 07 57 46.2 +1.0
comp=Z,18nm,1.5s
KRIK **Erzurum-spir** 73.23 308 *i* P P 07 57 47.5 +2.2
KRIK IAML_P
comp=Z,56nm,0.3s
KVN **Kaiserville** 73.24 53 *e*P P 07 57 46.4 +1.1
comp=Z,12nm,1.0s
KVN **Kaiserville** 73.24 53 *e*P P 07 57 46.4 +1.1
KVN pmax pmax
comp=Z,12nm,1.0s
MDPB **Devils Postpil** 73.46 55 *e*P P 07 57 47.8 +1.0
comp=Z,3.9nm,0.9s
NV01 **Mina Array Sit** 73.48 54 *e*P P 07 57 47.5 +0.7
NVAR **Mina Array Bea** 73.48 54 P P 07 57 47.7 +0.9
comp=Z,6.0nm,0.9s,baz=287,slow=5.9,SNR=34
NVAR LR LR 08 27 52.2
comp=Z,108nm,18.6s,baz=323,slow=34
OMMB **Old Mammoth Mi** 73.53 55 *e*P P 07 57 48.0 +0.8
comp=Z,4.4nm,1.0s
SUW **Suwalki** 73.57 327 *e*P P 07 57 46.4 -0.3
SUW **Suwalki** 73.57 327 *e*P P 07 57 46.6 -0.1
comp=Z,133nm,1.1s
SUW **Suwalki** 73.57 327 *e*P P 07 57 46.6 -0.1
SUW pmax pmax
comp=Z,133nm,1.1s
NV11 **Mina Array Sit** 73.57 54 *e*P P 07 57 47.9 +0.6
comp=Z,0.6nm,1.1s
DQM **DQM** 73.59 283 P P 07 57 47.2 -0.3
SNR=8.8
MLAC **Mammoth, Mammo** 73.62 55 P P 07 57 49.0 +1.4
baz=307
QLMT **Earthquake Lak** 73.65 45 *e*P P 07 57 48.6 +0.9
OSL **Oslo** 73.66 337 *e*P P 07 57 48.2 +1.1
BAYB **BAYBURT** 73.68 309 *i* P P 07 57 49.6 +1.6
BAYB IAML_P
comp=Z,2μm,0.8s
SKAR **Skarslia** 73.79 338 *e*P P 07 57 48.6 +0.6
YHB **Horse Butte** 73.83 45 *e*P P 07 57 50.2 +1.4
comp=Z,11nm,0.9s
PAGB **Antelope Grade** 73.83 57 *e*P P 07 57 50.5 +1.8
comp=Z,18nm,1.1s
MUSM **Mu-Merkez** 73.84 307 *i* P P 07 57 49.3 +0.5
MUSM IAML_P
comp=Z,745nm,0.8s
ELK **Elko** 73.97 50 *e*P P 07 57 50.0 +0.4
comp=Z,4.7nm,0.9s
ELK **Elko** 73.97 50 *e*P P 07 57 50.1 +0.4
ELK pmax pmax
comp=Z,5.0nm,0.9s
SFJD **Kangerlussuaq** 73.97 5 *e*P P 07 57 48.8 0.0
comp=Z,48nm,0.9s
SFJD **Kangerlussuaq** 73.97 5 *i* P P 07 57 49.2 +0.4
comp=Z,46nm,0.9s
SFJD **Kangerlussuaq** 73.97 5 *i* P P 07 57 49.2 +0.4
SFJD pmax pmax
comp=Z,46nm,0.9s
SFJD **Kangerlussuaq** 73.97 5 *e*P P 07 57 48.8 0.0
SIRT **Sirnak** 73.98 305 *e*P P 07 57 50.0 +0.3
comp=Z,265nm,1.0s
HYA **Hoyanger** 73.99 339 *e*P P 07 57 49.5 +0.5
YHH **Holmes Hill** 74.00 45 *e*P P 07 57 50.9 +1.1
comp=Z,5.2nm,0.8s
GCMT **Greyclift** 74.01 44 *e*P P 07 57 51.1 +1.4
YMR **Madison River** 74.01 45 *e*P P 07 57 51.2 +1.4
comp=Z,11nm,0.9s
SRTM **Siirt_Merkez** 74.02 306 *i* P P 07 57 50.6 +0.8
SRTM IAML_P
comp=Z,2μm,0.8s
YNR **Norris Junctio** 74.14 45 *e*P P 07 57 52.5 +1.9
comp=Z,19nm,1.4s
YFT **Old Faithful** 74.22 45 *e*P P 07 57 54.1 +3.0
comp=Z,15nm,1.0s
KONO **Kongsberg** 74.24 337 *e*P P 07 57 50.5 0.0
comp=Z,34nm,1.0s
KONO **Kongsberg** 74.24 337 *ce*P P 07 57 50.7 +0.2
KONO pmax pmax
comp=Z,58nm,1.7s
KONO **Kongsberg** 74.24 337 *e*P P 07 57 50.7 +0.2
SMMC **Simmler** 74.25 57 P P 07 57 52.4 +1.3
baz=307
SIM **Simferopol'** 74.33 315 *d i*P P 07 57 52.0 +0.7
SIM *e* 08 07 19.0
SIM pmax pmax
comp=Z,74nm,0.8s
YPP **Pitchstone Pla** 74.35 45 *e*P P 07 57 54.0 +2.1
comp=Z,18nm,1.7s
KELT **Kelkit** 74.36 309 *i* P P 07 57 53.8 +1.9
KELT IAML_P
comp=Z,2μm,0.7s
LKWY **Lake** 74.39 45 *e*P P 07 57 54.6 +2.6
comp=Z,10.0nm,0.9s
LKWY **Lake** 74.39 45 *e*P P 07 57 54.6 +2.6
LKWY pmax pmax
comp=Z,10.0nm,0.9s
H17A **Grant Village** 74.40 45 *e*P P 07 57 52.2 +0.1
comp=Z,23nm,1.1s
H17A **Grant Village** 74.40 45 P P 07 57 54.9 +2.8
baz=310,SNR=13
IMW **Indian Meadow** 74.51 46 *e*P P 07 57 53.9 +1.1
comp=Z,12nm,0.8s
FLWY **Flagg Ranch** 74.53 46 *e*P P 07 57 54.9 +2.1
comp=Z,14nm,1.2s
VES **Vestal, Richgr** 74.53 56 P P 07 57 52.9 +0.3
baz=307
FXWY **Fox Creek** 74.63 46 *e*P P 07 57 54.5 +1.1
comp=Z,12nm,1.0s
RLMT **Red Lodge** 74.65 44 *e*P P 07 57 54.4 +0.9
comp=Z,10nm,1.0s
RLMT **Red Lodge** 74.65 44 P P 07 57 55.0 +1.5
baz=310
ORDU **Ordu-Boztepe** 74.68 310 *i* P P 07 57 54.1 +0.6
ORDU IAML_P
comp=Z,67nm,0.1s
MOOW **Moose Ponds** 74.71 46 *e*P P 07 57 55.3 +1.4
comp=Z,14nm,1.1s
TPAW **Teton Pass** 74.76 46 *e*P P 07 57 55.7 +1.5
HVU **Hansel Valley** 74.79 48 *e*P P 07 57 55.6 +1.3
comp=Z,9.6nm,0.9s
HVU **Hansel Valley** 74.79 48 P P 07 57 56.1 +1.8
ASK **Askoy** 74.83 339 *e*P P 07 57 54.7 +0.8
SEVA **Sevastopol** 74.84 315 ⇓*i*P P 07 57 54.6 +0.3
MZR **Muzera** 74.85 287 *i* P P 07 57 54.9 +0.1
SNR=9.0
MZR **Muzera** 74.85 287 P P 07 57 54.8 0.0
SNR=12
BER **Bergen** 74.87 339 *e*P P 07 57 54.9 +0.8
LOHW **Long Hollow** 74.88 46 *e*P P 07 57 55.4 +0.6
comp=Z,5.1nm,0.9s
SNOW **Snow King Moun** 74.89 46 *e*P P 07 57 56.3 +1.4
comp=Z,10nm,1.0s
ODD1 **Odda** 74.90 339 *e*P P 07 57 55.0 +0.6
REDW **Red Top Meadow** 74.90 46 *e*P P 07 57 56.2 +1.2
comp=Z,14nm,1.1s
GRAC **Grapevine Rang** 74.94 55 P P 07 57 56.5 +1.4
baz=308,SNR=6.3
SUSE **Susehri** 74.96 310 *i* P P 07 57 55.0 -0.3
SUSE IAML_P
comp=Z,228nm,0.3s
ISA **Isabella, Lake** 75.03 56 *e*P P 07 57 56.1 +0.4
comp=Z,4.4nm,1.0s
ISA **Isabella, Lake** 75.03 56 *e*P P 07 57 56.1 +0.4
ISA pmax pmax
comp=Z,4.0nm,1.0s
ISA **Isabella, Lake** 75.03 56 P P 07 57 56.3 +0.6
baz=307
DGMT **Dagmar** 75.07 39 *e*P P 07 57 55.1 -0.5
comp=Z,16nm,0.8s
DGMT **Dagmar** 75.07 39 P P 07 57 56.2 +0.6
baz=312
NWAO **Narrogin (SRO)** 75.10 201 *e*P P 07 57 54.8 -0.9
comp=Z,36nm,1.1s
NWAO *e*P P 07 57 55.3 -0.4
NWAO **Narrogin (SRO)** 75.10 201 P P 07 57 55.3 -0.4
comp=Z,20nm,0.9s,baz=45,slow=7.3,SNR=10
REFA **Refahiye_ERZN** 75.12 309 *i* P P 07 57 55.8 -0.5
REFA IAML_P
comp=Z,28nm,0.5s
ARVC **Arvin** 75.12 57 P P 07 57 56.9 +0.8
baz=307
AHID **Auburn Hatcher** 75.14 47 *e*P P 07 57 55.1 -1.2
comp=Z,6.7nm,0.8s
MARD **Mardin** 75.15 306 *i* P P 07 57 57.9 +1.5
MARD IAML_P
comp=Z,3μm,0.7s
BGU **Big Grassy Mou** 75.18 49 *e*P P 07 57 57.5 +0.9
comp=Z,9.1nm,1.3s
R11A **Troy Canyon, C** 75.23 53 *e*P P 07 57 57.9 +1.0
comp=Z,12nm,1.1s
R11A **Troy Canyon, C** 75.23 53 P P 07 57 58.1 +1.2
baz=308,SNR=17
LAO **LASA Array** 75.24 41 *e*P P 07 57 57.4 +0.7
comp=Z,25nm,0.8s
LAO **LASA Array** 75.24 41 P P 07 57 57.8 +1.1
baz=312
BLS5 **Blasjo** 75.35 338 *e*P P 07 57 57.9 +0.8
KEMA **Kemaliye** 75.36 309 *i* P P 07 57 59.0 +1.5
KEMA IAML_P
comp=Z,2μm,0.8s
MPMC **Manual Prospec** 75.43 55 P P 07 57 58.9 +0.8
baz=308
OSI **Osito Audit: C** 75.50 57 *e*P P 07 57 59.5 +1.1
comp=Z,6.6nm,0.6s
OSI **Osito Audit: C** 75.50 57 P P 07 57 59.4 +1.1
baz=307
ERBA **Erbaa** 75.53 311 *i* P P 07 57 59.6 +1.2
ERBA IAML_P
comp=Z,1μm,0.3s
ELZG **Elazig** 75.54 308 *i* P P 07 58 00.5 +1.8
ELZG IAML_P
comp=Z,648nm,0.8s
FURC **Furnace Creek,** 75.58 55 P P 07 57 59.8 +1.1
baz=308
SNOP **Sinop** 75.58 313 *e*P P 07 57 58.6 0.0
comp=Z,103nm,1.0s
HWUT **Hardware Ranch** 75.61 48 *e*P P 07 57 59.9 +0.9
comp=Z,12nm,1.0s
TPNV **Topopah Spring** 75.67 54 *e*P P 07 57 58.5 -1.0
comp=Z,9.5nm,0.9s
TPNV **Topopah Spring** 75.67 54 *e*P P 07 57 58.5 -1.0
TPNV pmax pmax
comp=Z,10.0nm,0.9s
TPNV **Topopah Spring** 75.67 54 P P 07 58 00.6 +1.1
baz=308,SNR=9.2
DUG **Dugway, Tooele** 75.76 50 *e*P P 07 58 01.2 +1.3
comp=Z,15nm,1.0s
DUG **Dugway, Tooele** 75.76 50 *e*P P 07 58 01.2 +1.3
DUG pmax pmax
comp=Z,15nm,1.0s
DUG **Dugway, Tooele** 75.76 50 P P 07 58 01.3 +1.3
baz=309,SNR=16
KIS **Kishinev** 75.78 320 ⇑*i*P P 07 57 58.0 -1.6
comp=Z,200nm,1.0s
KIS *e*S S 08 07 38.0 -0.1
KIS **Kishinev** 75.78 320 ⇑*i*P P 07 57 58.0 -1.6
KIS *e* 08 02 40.0
KIS *e*S S 08 07 38.0 -0.1
KIS pmax pmax
comp=Z,200nm,1.0s
KIS MLR MLR
comp=N,500nm,16.0s
KIS MLR MLR
comp=Z,800nm,16.0s
SNCC **San Nicolas Is** 75.80 59 P P 07 58 01.0 +1.0
baz=307
EDW2 **Edwards Air Fo** 75.82 57 P P 07 58 01.0 +0.8
baz=308
BORG **Borgarnes** 75.85 353 *ce*P P 07 58 03.0 +3.3
KMY **Karmoy** 75.88 339 *e*P P 07 58 01.1 +1.1
HAVZ **Havza** 75.89 312 *i* P P 07 58 01.6 +1.2
HAVZ IAML_P
comp=Z,1μm,0.5s
HEKM **Malatya_Hekimh** 75.93 309 *i* P P 07 58 02.3 +1.4
HEKM IAML_P
comp=Z,2μm,0.8s
CUKAN **kangal_SIVAS** 75.96 309 *i* P P 07 58 02.9 +1.9
TCUT **Toone Canyon** 76.01 48 *e*P P 07 58 02.7 +1.3
comp=Z,25nm,0.9s
BW06 **Boulder Array** 76.01 46 *e*P P 07 58 01.8 +0.4
comp=Z,7.5nm,0.8s
BW06 **Boulder Array** 76.01 46 P P 07 58 02.0 +0.6
baz=310,SNR=13
PD31 **Pinedale Array** 76.01 46 *e*P P 07 58 01.9 +0.6
comp=Z,6.8nm,0.8s
PDAR **Pinedale Array** 76.01 46 *e*P P 07 58 01.9 +0.6
PDAR **Pinedale Array** 76.01 46 P P 07 58 02.0 +0.6
comp=Z,5.3nm,0.7s,baz=276,slow=2.3,SNR=60
BSD **Bornholm Skovb** 76.02 332 ⇑*i*P P 07 58 00.8 0.0
comp=Z,128nm,1.0s
BSD **Bornholm Skovb** 76.02 332 ⇑*i*P P 07 58 00.8 0.0
BSD pmax pmax
comp=Z,130nm,1.0s
SNART **Snartemo** 76.03 337 *e*P P 07 58 01.5 +0.7
CTU **Camp Tracy** 76.08 49 *e*P P 07 58 02.9 +1.1
comp=Z,9.0nm,1.0s
BEL **Belsk** 76.14 327 *e*P P 07 58 02.5 +0.9
BEL **Belsk** 76.14 327 *e*P P 07 58 02.5 +0.9
LVV **L'vov** 76.15 324 *e*P P 07 58 02.1 +0.4
LVV *e*S S 08 07 41.0 -1.1
LVV MLR MLR
comp=E,360nm,14.6s
LVV MLR MLR
comp=N,380nm,14.8s
LVV MLR MLR
comp=Z,530nm,14.9s
PSUT **Pine Spring** 76.18 52 *e*P P 07 58 03.3 +0.9
comp=Z,9.3nm,0.9s
IAS **Iasi** 76.28 320 ⇓*i*P P 07 58 02.9 +0.4
BZK **Bozkurt** 76.31 313 ⇑*i*P P 07 58 03.2 +0.5
JLU **Jordanelle** 76.31 49 *e*P P 07 58 03.5 +0.4
comp=Z,9.6nm,1.1s
AKCD **Akcadag** 76.32 308 *i* P P 07 58 04.6 +1.5
AKCD IAML_P
comp=Z,3μm,0.7s
GSC **Goldstone, Bar** 76.33 56 *e*P P 07 58 02.9 -0.2
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 76.33 56 *e*P P 07 58 02.9 -0.2
GSC pmax pmax
comp=Z,14nm,1.5s
GSC **Goldstone, Bar** 76.33 56 P P 07 58 03.7 +0.5
baz=308
NLU **North Lily Min** 76.36 50 *e*P P 07 58 04.3 +0.9
comp=Z,11nm,0.9s
BFSC **Mount Baldy Ra** 76.43 57 P P 07 58 04.6 +0.8
baz=308
COP **Copenhagen** 76.47 333 ⇑*i*P P 07 58 04.0 +0.7
comp=Z,110nm,0.8s
COP **Copenhagen** 76.47 333 ⇑*i*P P 07 58 04.0 +0.7
COP pmax pmax
comp=Z,110nm,0.8s
GKP **Gorka Klasztor** 76.54 330 *e*P P 07 58 03.6 -0.2
GKP **Gorka Klasztor** 76.54 330 *e*P P 07 58 03.6 -0.2
MPU **Maple Canyon** 76.58 49 *e*P P 07 58 05.7 +1.1
comp=Z,17nm,0.9s
CUSAR **Sarkisla-SIVAS** 76.63 310 *i* P P 07 58 06.1 +1.3
SHPR **Sheep Range** 76.63 54 *e*P P 07 58 02.4 -2.6
comp=Z,8.8nm,1.0s
TUQ **Turquoise Moun** 76.81 55 P P 07 58 06.6 +0.7
baz=308
COAL **Corum-Alaca** 76.84 311 *i* P P 07 58 07.0 +1.1
COAL IAML_P
comp=Z,650nm,0.7s
DMTO **DMTO** 76.87 282 P P 07 58 05.6 -0.8
SNR=9.5
DMTO P P 07 58 05.6 -0.8
SNR=9.5
KWP **Kalwaria Pacla** 76.89 324 *e*P P 07 58 06.6 +0.8
KWP **Kalwaria Pacla** 76.89 324 *e*P P 07 58 06.7 +0.8
comp=Z,2μm,1.2s
KWP **Kalwaria Pacla** 76.89 324 *e*P P 07 58 06.7 +0.8
HEC **Hector,Ludlow** 76.92 56 P P 07 58 07.2 +0.7
baz=308
MUD **Monsted U'grnd** 76.95 335 ⇑*i*P P 07 58 06.6 +0.5
comp=Z,57nm,0.9s
MUD **Monsted U'grnd** 76.95 335 ⇑*i*P P 07 58 06.6 +0.5
MUD pmax pmax
comp=Z,57nm,0.9s
TCRU **Three Creeks R** 76.99 51 *e*P P 07 58 09.1 +2.1
comp=Z,12nm,0.6s
TLCR 77.00 318 ⇓*i*P P 07 58 07.2 +0.6
RGN **Rugen** 77.04 332 *e*P P 07 58 07.3 +0.7
comp=Z,184nm,1.1s,baz=36,slow=5.3
ILGA **Ilgaz** 77.06 313 *e*P P 07 58 08.6 +1.3
comp=Z,95nm,0.8s
ILGA **Ilgaz** 77.06 313 *i* P P 07 58 09.0 +1.7
ILGA IAML_P
comp=Z,2μm,0.4s
CCUT **Cedar City** 77.10 52 *e*P P 07 58 08.8 +1.2
comp=Z,7.1nm,1.0s
MURC **Murrieta** 77.12 57 P P 07 58 08.4 +0.8
baz=308
BUR08 **Bucovina Ar. S** 77.12 322 *e*P P 07 58 07.7 +0.3
comp=Z,54nm,1.0s
GZT **Gaziantep** 77.13 308 *i* P P 07 58 09.3 +1.6
GZT IAML_P
comp=Z,2μm,0.8s
BURAR **Bucovina Array** 77.14 322 ⇑*i*P P 07 58 08.2 +0.7
BURAR **Bucovina Array** 77.14 322 P P 07 58 08.1 +0.6
BIZ **Bicaz** 77.18 321 ⇑*i*P P 07 58 08.2 +0.6
TESR **Tescani** 77.20 320 ⇑*i*P P 07 58 08.3 +0.6
MSU **Marysvale** 77.21 51 *e*P P 07 58 09.8 +1.6
MSU **Marysvale** 77.21 51 *e*P P 07 58 09.8 +1.6
SZCU **Shurtz Canyon** 77.24 52 *e*P P 07 58 08.7 +0.3
comp=Z,6.3nm,0.9s
TMUT **Trail Mountain** 77.29 50 *e*P P 07 58 09.0 +0.3
comp=Z,12nm,1.3s
SIRC **Yozgat** 77.33 310 *i* P P 07 58 10.0 +1.2
SIRC IAML_P
comp=Z,1μm,0.6s
CFR **Carcaliu** 77.36 318 ⇑*i*P P 07 58 08.8 +0.2
CFR **Carcaliu** 77.36 318 P P 07 58 08.8 +0.2
GMRC **Granite Mounta** 77.39 55 P P 07 58 10.1 +0.9
baz=309
PETR **Petresti** 77.45 319 ⇑*i*P P 07 58 10.9 +1.8
P17A **Butcher Ranch,** 77.45 49 *e*P P 07 58 10.6 +1.1
comp=Z,25nm,0.9s
MTPU **Mount Pierson** 77.51 51 *e*P P 07 58 11.2 +1.1
comp=Z,10.0nm,0.9s
LCMT **Little Creek M** 77.51 52 *e*P P 07 58 09.7 -0.1
comp=Z,9.7nm,0.9s
ODBI **Odobesti** 77.51 319 ⇓*i*P P 07 58 11.3 +1.8
HCB **Kahramanmara** 77.54 308 *i* P P 07 58 10.8 +1.0
HCB IAML_P
comp=Z,1μm,0.9s
LDFC **Landfair** 77.56 55 *e*P P 07 58 10.6 +0.5
comp=Z,16nm,1.0s
ELDT **Eldivan** 77.59 312 *i* P P 07 58 11.3 +1.1
ELDT IAML_P
comp=Z,1μm,0.5s
PFO **Pinyon Flats O** 77.60 57 *e*P P 07 58 10.2 -0.1
comp=Z,7.4nm,1.0s
PFO **Pinyon Flats O** 77.60 57 P P 07 58 11.0 +0.7
baz=309
CDAG **Cicekdag** 77.61 311 *i* P P 07 58 11.2 +0.9
CDAG IAML_P
comp=Z,3μm,0.5s
VRI **Vrincioaia** 77.61 320 ⇓*i*P P 07 58 10.9 +0.9
VRI **Vrincioaia** 77.61 320 P P 07 58 10.9 +0.9
109C **Camp Elliot, M** 77.62 58 P P 07 58 10.8 +0.5
baz=308
DELI **KIRIKKALE** 77.63 312 *i* P P 07 58 10.7 +0.3
DELI IAML_P
comp=Z,2μm,0.6s
BELC **Belle Mtn. Jos** 77.66 56 P P 07 58 11.0 +0.3
baz=309
PLOR **Plostina** 77.66 320 ⇑*i*P P 07 58 11.0 +0.6
PLOR **Plostina** 77.66 320 P P 07 58 10.9 +0.6
ULM **Lac du Bonnet** 77.67 34 *e*P P 07 58 10.2 -0.1
comp=Z,13nm,0.9s
ULM **Lac du Bonnet** 77.67 34 *e*P P 07 58 10.2 -0.1
ULM pmax pmax
comp=Z,13nm,0.9s
ULM **Lac du Bonnet** 77.67 34 P P 07 58 10.0 -0.3
comp=Z,12nm,0.9s,baz=318,slow=6.7,SNR=23
ULM LR LR 08 32 59.3
comp=Z,102nm,21.1s,baz=276,slow=36
TIRR **Tirgusor** 77.71 318 *e*P P 07 58 10.9 +0.4
comp=Z,31nm,1.1s
TIRR **Tirgusor** 77.71 318 ⇓*i*P P 07 58 11.1 +0.5
TIRR **Tirgusor** 77.71 318 P P 07 58 11.1 +0.5
MDND **Maddock** 77.72 37 P P 07 58 11.1 +0.5
baz=316
ANDN **Andirin** 77.74 308 *i* P P 07 58 12.8 +1.8
ANDN IAML_P
comp=Z,2μm,0.8s
OJC **Ojcow** 77.75 326 *e*P P 07 58 11.2 +0.5
OJC **Ojcow** 77.75 326 *e*P P 07 58 11.2 +0.5
comp=Z,145nm,1.1s
OJC **Ojcow** 77.75 326 *e*P P 07 58 11.3 +0.5
OJC pmax pmax
comp=Z,145nm,1.1s
K22A **Casper** 77.77 45 *e*P P 07 58 11.8 +0.6
comp=Z,20nm,1.0s
K22A **Casper** 77.77 45 P P 07 58 11.8 +0.6
baz=312,SNR=8.0
KNB **Kanab** 77.77 52 *e*P P 07 58 11.7 +0.4
comp=Z,16nm,1.1s
KNB **Kanab** 77.77 52 *e*P P 07 58 11.7 +0.4
KNB pmax pmax
comp=Z,16nm,1.1s
UZH **Uzhgorod** 77.79 324 ⇓*i*P P 07 58 11.5 +0.5
UZH *i* 07 58 15.0
UZH *i* 07 58 30.7
HARR **Harsova** 77.80 318 ⇑*i*P P 07 58 11.0 -0.1
PKCU **Pink Cliffs** 77.81 52 *e*P P 07 58 14.0 +2.2
comp=Z,12nm,1.1s
SRU **San Rafael Swe** 77.82 49 *e*P P 07 58 12.7 +1.2
comp=Z,25nm,0.9s
SRU **San Rafael Swe** 77.82 49 *e*P P 07 58 12.7 +1.2
SRU pmax pmax
comp=Z,25nm,0.9s
TLB **Topalu** 77.82 318 ⇑*i*P P 07 58 11.6 +0.5
TLB **Topalu** 77.82 318 P P 07 58 11.6 +0.5
GRER 77.82 319 ⇓*i*P P 07 58 11.9 +0.7
MFTR **Murfatlar** 77.89 318 ⇓*i*P P 07 58 12.3 +0.7
BMR **Baia Mare** 77.92 323 ⇑*i*P P 07 58 12.7 +1.0
OZUR 77.92 320 ⇑*i*P P 07 58 13.3 +1.5
ARCR **ARCALIA** 77.93 322 ⇑*i*P P 07 58 13.4 +1.6
BR101 **Keskin Array S** 77.97 312 *e*P P 07 58 12.6 +0.2
BR101 *e*PP PP 08 01 08.2 +0.1
BR131 **Keskin Array S** 77.97 312 *e*P P 07 58 12.6 +0.2
comp=Z,75nm,1.4s
BR131 **Keskin Array S** 77.97 312 P P 07 58 12.6 +0.2
SNR=20
BRTR **Keskin Array B** 77.97 312 P P 07 58 12.6 +0.2
comp=Z,16nm,0.6s,baz=90,slow=3.4,SNR=91
BRTR PP PP 08 01 08.2 +0.1
comp=Z,17nm,1.0s,baz=77,slow=5.5,SNR=11
BRTR LR LR 08 36 18.5
comp=Z,148nm,18.8s,baz=52,slow=38
RWWY **Rawlins** 78.03 46 *e*P P 07 58 13.5 +0.7
comp=Z,18nm,0.9s
TRPA **Tarpa** 78.04 323 ⇑*i*P P 07 58 13.5 +1.2
TRPA **Tarpa** 78.04 323 ⇑*e*P P 07 58 13.0 +0.7
MONP2 **Monument Peak** 78.07 57 P P 07 58 14.0 +0.9
baz=309
RSSD **Black Hills** 78.11 42 *e*P P 07 58 13.6 +0.4
comp=Z,18nm,0.9s
RSSD **Black Hills** 78.11 42 P P 07 58 13.6 +0.4
RSSD **Black Hills** 78.11 42 P P 07 58 13.5 +0.4
baz=313
IRM **Iron Mountain** 78.11 56 P P 07 58 13.8 +0.7
baz=309
PGOR **Pogoanele** 78.14 319 ⇓*i*P P 07 58 14.6 +1.6
KIRS **Kırehir-Merke** 78.19 311 *i* P P 07 58 14.0 +0.5
KIRS IAML_P
comp=Z,528nm,1.1s
DOPR **Dopca** 78.21 320 ⇓*i*P P 07 58 15.0 +1.6

ISR **Istrita** 78.22 319⇑ *i*P P 07 58 14.6 +1.1
ISR **Istrita** 78.22 319 P P 07 58 14.5 +1.1
BC3 **Big Chuckawall** 78.23 56 P P 07 58 14.3 +0.5
baz=309
ICOR **Ion Corvin** 78.26 318⇓ *i*P P 07 58 14.9 +1.3
MLR **Muntele Rosu** 78.26 320 *e*P P 07 58 13.5 -0.3
comp=Z,76nm,1.3s
MLR **Muntele Rosu** 78.26 320⇑ *i*P P 07 58 14.2 +0.4
MLR **Muntele Rosu** 78.26 320 *e*P P 07 58 13.5 -0.3
MLR pmax pmax
comp=Z,76nm,1.3s
W13A **Hualapai Mount** 78.32 54 *e*P P 07 58 14.8 +0.3
comp=Z,4.1nm,1.0s
ABTO **Aybut** 78.35 283 P P 07 58 13.8 -0.8
SNR=6.4
AKO **Adana** 78.36 309 *i* P P 07 58 15.3 +0.9
AKO IAML_P
comp=Z,926nm,0.7s
ANTO **Ankara** 78.37 312 *e*P P 07 58 14.9 +0.5
comp=Z,81nm,0.8s
ANTO **Ankara** 78.37 312 *e*P P 07 58 14.9 +0.5
ANTO pmax pmax
comp=Z,81nm,0.8s
ANTO **Ankara** 78.37 312 P P 07 58 15.1 +0.6
SNR=14
ANTO P P 07 58 15.1 +0.6
SNR=14
ANTO **Ankara** 78.37 312 *e*P P 07 58 15.1 +0.6
BR231 **Keskin MP Arra** 78.39 312 *e*P P 07 58 15.4 +0.7
comp=Z,61nm,0.8s
IKP **In-Ko-Pah, Jac** 78.43 57 P P 07 58 15.7 +0.8
baz=309
SWSC **Sam W. Stewart** 78.45 57 P P 07 58 15.5 +0.6
baz=309
U15A **North Rim** 78.47 52 *e*P P 07 58 14.4 -1.0
comp=Z,12nm,1.1s
O20A **White River Ci** 78.48 47 *e*P P 07 58 15.3 +0.1
comp=Z,12nm,0.9s
O20A **White River Ci** 78.48 47 P P 07 58 15.9 +0.7
baz=312,SNR=10
RUE **Ruedersdorf** 78.49 331 *e*P P 07 58 15.3 +0.6
comp=Z,133nm,1.2s,baz=36,slow=5.3
SECR 78.52 319⇑ *i*P P 07 58 16.7 +1.6
CJR **Cluj-Napoca** 78.56 322 P P 07 58 16.6 +1.3
BSEG **Bad Segeberg** 78.60 333 *e*P P 07 58 15.9 +0.6
comp=Z,112nm,1.0s,baz=36,slow=5.3
PDMCI **Parker Dam,Lak** 78.66 55 P P 07 58 16.8 +0.7
baz=310
SULR 78.67 319⇑ *i*P P 07 58 16.6 +0.7
LANS **Liptovska Anna** 78.69 326 *e*P P 07 58 17.3 +1.3
LANS *e* 08 01 12.4
LANS **Liptovska Anna** 78.69 326 *e*P P 07 58 17.3 +1.3
LANS *e*PP PP 08 01 12.4 -1.3
OKC **Ostrava-Krasne** 78.75 327⇑ *e*P P 07 58 17.0 +0.8
OKC AMS AMS 08 35 50.0
comp=Z,700nm,20.3s
OKC **Ostrava-Krasne** 78.75 327 *e*P P 07 58 17.0 +0.8
OKC MLR MLR
comp=Z,700nm,20.3s
VOIR 78.75 320⇑ *i*P P 07 58 17.3 +0.8
VOIR 78.75 320 P P 07 58 17.2 +0.8
KSP **Ksiaz** 78.76 328 *e*P P 07 58 16.8 +0.4
KSP **Ksiaz** 78.76 328 *e*P P 07 58 16.7 +0.4
Y12C **Blythe** 78.77 56 *e*P P 07 58 17.8 +1.1
comp=Z,111nm,0.8s
Y12C **Blythe** 78.77 56 P P 07 58 17.4 +0.8
baz=310
BIGH **Upper Bighouse** 78.87 343 *e*P P 07 58 17.2 +0.5
BIGH IAmb IAmb 07 58 18.9
comp=Z,59nm,1.1s
LTVH **Ltavrtes, Hu** 78.88 323 *e*P P 07 58 26.1 +9.1
GULE **Gulek** 78.88 309 *i* P P 07 58 18.5 +1.1
GULE IAML_P
comp=Z,1μm,0.6s
ARR **Arges** 79.01 320⇑ *i*P P 07 58 19.3 +1.5
GLA **Glamis** 79.01 56 P P 07 58 18.8 +0.7
baz=309
MORC **Moravsky Berou** 79.05 327 *e*P P 07 58 18.6 +0.6
comp=Z,73nm,1.0s
MORC **Moravsky Berou** 79.05 327⇑ *i*P P 07 58 18.9 +0.9
MORC **Moravsky Berou** 79.05 327 *e*P P 07 58 18.6 +0.6
MORC pmax pmax
comp=Z,73nm,1.0s
MORC **Moravsky Berou** 79.05 327⇑ *i*P P 07 58 18.6 +0.6
DED **Mersin** 79.08 309 *i* P P 07 58 19.1 +0.8
DED IAML_P
comp=Z,978nm,0.6s
PRD **Provadia** 79.11 317 *e*P P 07 58 19.1 +0.8
AGMN **Agassiz Nation** 79.12 35 *e*P P 07 58 17.7 -0.6
comp=Z,13nm,0.9s
AGMN **Agassiz Nation** 79.12 35 P P 07 58 17.9 -0.4
baz=318,SNR=10
DPC **Dobruska-Polom** 79.12 328⇑ *i*P P 07 58 19.4 +1.0
DPC AMS AMS 08 35 50.0
comp=Z,700nm,18.7s
DPC **Dobruska-Polom** 79.12 328⇑ *i*P P 07 58 19.4 +1.0
DPC MLR MLR
comp=Z,700nm,18.7s
UPC **Upice** 79.13 328⇑ *e*P P 07 58 19.1 +0.8
UPC AMS AMS 08 35 40.0
comp=Z,700nm,19.3s
UPC **Upice** 79.13 328 *e*P P 07 58 19.1 +0.8
SGRR **Singureni** 79.14 319⇑ *i*P P 07 58 19.0 +0.6
KRLC **Kraliky** 79.14 328⇑ *i*P P 07 58 19.3 +0.8
KRLC **Kraliky** 79.14 328⇑ *i*P P 07 58 19.3 +0.8
GOLR 79.22 320⇓ *i*P P 07 58 20.1 +1.2
PHWY **Pilot Hill** 79.27 45 *e*P P 07 58 20.1 +0.4
comp=Z,13nm,1.3s
N23A **Red Feather La** 79.27 46 *e*P P 07 58 20.8 +1.2
comp=Z,23nm,1.0s
N23A **Red Feather La** 79.27 46 P P 07 58 20.9 +1.2
baz=313,SNR=13
PSZ **Piszkesteto** 79.41 325 *e*P P 07 58 20.4 +0.4
comp=Z,77nm,1.1s
PSZ **Piszkesteto** 79.41 325⇑ *i*P P 07 58 21.1 +1.1
PSZ **Piszkesteto** 79.41 325 *e*P P 07 58 20.4 +0.4
PSZ pmax pmax
comp=Z,77nm,1.1s
PSZ **Piszkesteto** 79.41 325⇑ *e*P P 07 58 20.1 +0.1
HUMR **Humele** 79.43 320⇓ *i*P P 07 58 19.8 -0.2
VYHS **Vyhne** 79.45 326 *e*P P 07 58 21.0 +0.9
VYHS pmax pmax
comp=Z,24nm,1.2s
VYHS **Vyhne** 79.45 326 *e*P P 07 58 21.0 +0.9
VYHS *e*PP PP 08 01 20.1 0.0
DEV **Deva** 79.49 322⇑ *i*P P 07 58 21.3 +0.9
DEV **Deva** 79.49 322 P P 07 58 21.2 +0.9
KLYT **Kilyos** 79.56 315⇑ *i*P P 07 58 21.3 +0.5
WUAZ **Wupatki** 79.63 53 *e*P P 07 58 21.1 -0.5
comp=Z,12nm,0.9s
WUAZ **Wupatki** 79.63 53 P P 07 58 23.0 +1.5
baz=311,SNR=5.2
BRG **Berggiesshubel** 79.68 330⇑ *i*P P 07 58 21.7 +0.4
comp=Z,44nm,0.9s
comp=N,493nm,23.5s
comp=E,725nm,13.8s
comp=Z,881nm,18.5s
BRG **Berggiesshubel** 79.68 330 *e*P P 07 58 21.7 +0.4
comp=Z,52nm,1.0s,baz=36,slow=5.3
BRG **Berggiesshubel** 79.68 330⇑ *i*P P 07 58 21.7 +0.4
BRG pmax pmax
comp=Z,45nm,0.9s
BRG MLR MLR
comp=N,493nm,23.5s
BRG MLR MLR
comp=E,725nm,13.8s
BRG MLR MLR
comp=Z,881nm,18.5s
JAVC **Velka Javorina** 79.69 326⇑ *i*P P 07 58 23.2 +1.7
PVCC **Panska Ves** 79.70 329⇑ *e*P P 07 58 22.5 +1.1
PVCC AMS AMS 08 36 00.0
comp=Z,1μm,21.9s
PVCC **Panska Ves** 79.70 329 *e*P P 07 58 22.5 +1.1
PVCC MLR MLR
comp=Z,1μm,21.9s
CLL **Collm** 79.71 330 *e*P P 07 58 21.1 -0.4
comp=Z,93nm,0.9s
CLL **Collm** 79.71 330 *e*P P 07 58 21.5 +0.1
comp=Z,102nm,0.9s,baz=36,slow=5.3
CLL **Collm** 79.71 330⇑ *i*P P 07 58 21.6 +0.2
comp=Z,102nm,0.9s
CLL *e* 07 58 47.0
CLL *e*PP PP 08 01 19.0 -3.1
CLL **Collm** 79.71 330⇑ *i*P P 07 58 21.6 +0.2
CLL pmax pmax
comp=Z,102nm,0.9s
VRAC **Vranov** 79.81 327⇑ *i*P P 07 58 23.0 +0.9
VRAC **Vranov** 79.81 327 P P 07 58 23.0 +0.9
VRAC **Vranov** 79.81 327⇑ *i*P P 07 58 22.9 +0.9
SZH **Strazhica** 79.83 318 *e*P P 07 58 22.5 +0.2
NRDL **Niedersach Rie** 79.84 332 *e*P P 07 58 22.5 +0.5
comp=Z,44nm,1.0s,baz=36,slow=5.3
YLV **Yalova** 79.84 314⇑ *i*P P 07 58 22.9 +0.4
SMCO **Snowmass** 79.84 47 *e*P P 07 58 23.4 +0.4
comp=Z,8.6nm,1.1s
FBE **Freiberg** 79.88 330 *e*P P 07 58 23.0 +0.7
comp=Z,98nm,0.9s,baz=36,slow=5.3
IVI **Ivigtut** 79.88 5 *e*P P 07 58 22.7 +0.6
comp=Z,77nm,1.3s
GZR **Gura Zlata** 79.90 321⇑ *i*P P 07 58 23.2 +0.5
RETH **Rethem/Aller,** 79.91 333 *e*P P 07 58 22.9 +0.5
comp=Z,109nm,1.2s,baz=36,slow=5.3
ASSE **Asse, Remlinge** 79.93 332 *e*P P 07 58 23.0 +0.5
comp=Z,66nm,1.1s,baz=36,slow=5.3
JMB **Yambol** 80.05 317 *e*P P 07 58 23.9 +0.5
KRUC **Moravsky** 80.08 327 P P 07 58 24.2 +0.7
KRUC **Moravsky** 80.08 327⇑ *i*P P 07 58 24.2 +0.7
GOPC **GO Pecny, Ondr** 80.09 329⇑ *e*P P 07 58 24.4 +0.8
GOPC AMS AMS 08 36 00.0
comp=Z,800nm,21.7s
GOPC **GO Pecny, Ondr** 80.09 329 *e*P P 07 58 24.4 +0.8
GOPC MLR MLR
comp=Z,800nm,21.7s
KAC **Achnashellach** 80.09 343 *e*P P 07 58 24.1 +0.7
VLAD **Vladila** 80.09 320⇓ *i*P P 07 58 24.2 +0.5
BUD **Budapest** 80.12 325 P P 07 58 24.9 +1.1
BUD **Budapest** 80.12 325⇑ *e*P P 07 58 24.1 +0.3
PRU **Pruhonice** 80.13 329⇑ *e*P P 07 58 24.7 +0.9
PRU AMS AMS 08 35 30.0
PRU **Pruhonice** 80.13 329 *e*P P 07 58 24.7 +0.9
PRU MLR MLR
comp=N,800nm,23.0s
AMBH **Ambrzfalva** 80.19 323⇓ *e*P P 07 58 25.0 +0.9
SRO **Srobarova** 80.20 325 *e*P P 07 58 25.4 +1.3
SRO **Srobarova** 80.20 325 *e*P P 07 58 25.4 +1.3
ISCO **Idaho Springs** 80.20 46 *e*P P 07 58 25.5 +0.8
comp=N,6.8nm,0.9s
ISCO **Idaho Springs** 80.20 46 *e*P P 07 58 25.5 +0.8
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO **Idaho Springs** 80.20 46 P P 07 58 25.8 +1.1
baz=313,SNR=12
MODS **Modra-Piesok** 80.23 326 *e*P P 07 58 24.6 +0.2
MODS pmax pmax
comp=Z,72nm,1.2s
MODS **Modra-Piesok** 80.23 326 *e*P P 07 58 24.5 +0.2
NEUB **Neuenburg** 80.26 331 *e*P P 07 58 24.7 +0.3
comp=Z,122nm,1.0s,baz=36,slow=5.3
MVCO **Mesa Verde** 80.27 50 *e*P P 07 58 25.8 +0.8
comp=Z,16nm,0.9s
MVCO **Mesa Verde** 80.27 50 P P 07 58 25.8 +0.8
baz=312,SNR=13
CLZ **Clausthal** 80.27 332 *e*P P 07 58 25.2 +0.6
comp=Z,118nm,1.1s,baz=36,slow=5.3
TREC **Trest** 80.28 328⇑ *e*P P 07 58 25.6 +1.0
TREC AMS AMS 08 35 40.0
comp=Z,600nm,17.6s
TREC **Trest** 80.28 328 *e*P P 07 58 25.6 +1.0
TREC MLR MLR
comp=Z,600nm,17.6s
BZS **Buzias** 80.30 322⇑ *i*P P 07 58 24.8 0.0
BZS **Buzias** 80.30 322 P P 07 58 24.7 0.0
X16A **Lo Mia Camp, P** 80.30 54 *e*P P 07 58 26.2 +1.0
comp=Z,9.2nm,1.0s
KPL **Plockton** 80.32 343 *e*P P 07 58 25.3 +0.7
KPL IAmb IAmb 07 58 26.3
comp=Z,132nm,1.1s
EDU **Dundee** 80.40 341 *e*P P 07 58 25.6 +0.5
ZST **Bratislava** 80.44 326 *e*P P 07 58 25.7 +0.3
ZST **Bratislava** 80.44 326 *e*P P 07 58 25.7 +0.3
SUSD **Miller** 80.47 39 P P 07 58 25.8 0.0
baz=316
CSKK **Cskako** 80.56 325 *e*P P 07 58 26.1 0.0
TANN **Tannenbergstha** 80.62 330 *e*P P 07 58 26.9 +0.4
comp=Z,44nm,1.0s,baz=36,slow=5.3
PUNG **Punghina** 80.63 320⇑ *i*P P 07 58 26.9 +0.4
GTTG **Gvttingen** 80.66 332 *e*P P 07 58 27.0 +0.5
comp=Z,134nm,1.0s,baz=36,slow=5.3
PLN **Plauen** 80.69 330 *e*P P 07 58 27.1 +0.4
comp=Z,46nm,1.2s,baz=36,slow=5.3
GUNZ **Gunzen** 80.72 330 *e*P P 07 58 27.4 +0.5
comp=Z,57nm,1.1s,baz=36,slow=5.3
WERN **Wernitzgruen** 80.76 330 *e*P P 07 58 27.8 +0.6
comp=Z,60nm,1.0s,baz=36,slow=5.3
INVG **Invergeldie, C** 80.76 342 *e*P P 07 58 27.4 +0.3
INVG IAmb IAmb 07 58 28.1
comp=Z,56nm,1.3s
MOX **Moxa** 80.77 331 *e*P P 07 58 27.5 +0.3
comp=Z,63nm,1.2s,baz=36,slow=5.3
MOX *e*L L 08 35 55.7
comp=Z,279nm,21.6s
MOX **Moxa** 80.77 331 P P 07 58 27.5 +0.3
NKC **Novy Kostel** 80.77 330⇑ *e*P P 07 58 27.7 +0.5
NKC AMS AMS 08 37 10.0
comp=Z,700nm,23.0s
NKC **Novy Kostel** 80.77 330 *e*P P 07 58 27.7 +0.5
NKC MLR MLR
comp=Z,700nm,23.0s
IBBN **Ibbenburen** 80.83 334 *e*P P 07 58 27.7 +0.3
comp=Z,120nm,1.1s,baz=36,slow=5.3
ESY **Stoneypath** 80.86 341 *e*P P 07 58 27.8 +0.2
MDVR **Moldovita** 80.86 321⇑ *i*P P 07 58 28.0 +0.1
S22A **4UR Ranch, Cre** 80.89 48 *e*P P 07 58 29.5 +1.1
comp=Z,12nm,1.0s
S22A **4UR Ranch, Cre** 80.89 48 P P 07 58 29.8 +1.3
baz=313,SNR=17
214A **Organ Pipe Nat** 81.02 56 P P 07 58 29.8 +0.9
baz=310,SNR=5.2
Q24A **Divide** 81.03 47 *e*P P 07 58 28.9 -0.3
comp=Z,8.4nm,0.8s
Q24A **Divide** 81.03 47 P P 07 58 30.0 +0.8
baz=313
EAB **Aberfoyle** 81.05 342 *e*P P 07 58 29.1 +0.5
ISP **Isparta** 81.05 312 *e*P P 07 58 28.5 -0.6
comp=Z,24nm,0.9s
ISP **Isparta** 81.05 312⇓ *i*P P 07 58 29.0 -0.1
ISP **Isparta** 81.05 312 *e*P P 07 58 28.5 -0.6
ISP pmax pmax
comp=Z,24nm,0.9s
SOP **Sopron** 81.06 326⇑ *e*P P 07 58 29.1 +0.2
MANZ **Manzenberg** 81.10 330 *e*P P 07 58 29.5 +0.5
comp=Z,39nm,0.9s,baz=36,slow=5.3
EAU **Auchinoon** 81.14 341 *e*P P 07 58 29.7 +0.7
CONA **Conrad Observa** 81.18 327 *i* P P 07 58 30.6 +1.0
comp=Z,55nm,1.0s,SNR=17
KHC **Kasperske Hory** 81.19 329 *e*P P 07 58 30.0 +0.5
comp=Z,24nm,0.9s
KHC **Kasperske Hory** 81.19 329⇑ *e*P P 07 58 30.2 +0.7
KHC *ex* x 07 58 56.0
KHC AMS AMS 08 36 40.0
comp=Z,700nm,21.3s
KHC **Kasperske Hory** 81.19 329 *e*P P 07 58 30.2 +0.7
KHC MLR MLR
comp=N,700nm,21.3s
UBBA **Unterbreizbach** 81.24 332 *e*P P 07 58 29.8 +0.3
comp=N,63nm,1.7s,baz=36,slow=5.3
KDZ **Kurdzhali** 81.24 317 *e*P P 07 58 34.5 +4.6
LAWE **Loch Awe, Argy** 81.24 342 *e*P P 07 58 30.1 +0.6
LAWE IAmb IAmb 07 58 31.6
comp=Z,85nm,1.2s
ROTZ **Rotzenmuhle** 81.24 330 *e*P P 07 58 30.5 +0.8
comp=Z,95nm,1.5s,baz=36,slow=5.3
MORH **Mrgy, Hungar** 81.25 324⇑ *i*P P 07 58 29.5 -0.3
MORH **Mrgy, Hungar** 81.25 324⇑ *e*P P 07 58 29.0 -0.7
PGB **Panagyurishte** 81.25 319 *e*P P 07 58 30.2 +0.2
CSS **Mathiatis** 81.29 308 *e*P P 07 58 29.2 -1.0
comp=Z,28nm,0.7s
CSS **Mathiatis** 81.29 308 P P 07 58 30.2 -0.1
PLD **Plovdiv** 81.29 318 P P 07 58 31.0 +0.9
EYMN **Ely** 81.30 33 *e*P P 07 58 29.9 -0.2
comp=Z,21nm,0.9s
EYMN **Ely** 81.30 33 P P 07 58 29.7 -0.3
baz=321,SNR=9.5
GEC2 **GERESS Array S** 81.37 328 *e*P P 07 58 30.6 +0.1
comp=Z,44nm,1.2s
GEC2 *e*PP PP 08 01 37.1 +1.1
GEC2 **GERESS Array S** 81.37 328 *e*P P 07 58 30.7 +0.1
comp=Z,48nm,1.3s,baz=36,slow=5.3
GEC2 **GERESS Array S** 81.37 328 *e*P P 07 58 30.7 +0.1
GEC2 *e* 08 01 37.1
GEC2 pmax pmax
comp=Z,44nm,1.2s
GERES **GERESS Array B** 81.37 328 P P 07 58 30.6 +0.1
comp=Z,18nm,0.8s,baz=34,slow=5.4,SNR=118
GERES PP PP 08 01 37.1 +1.1
comp=Z,3.1nm,1.0s,baz=41,slow=6.5,SNR=3.8
GERES LR LR 08 37 40.7
comp=Z,694nm,19.0s,baz=36,slow=38
GEA0 **GERESS Array S** 81.38 328 *e*P P 07 58 30.0 -0.5
OGNE **Ogallala** 81.38 44 P P 07 58 30.8 +0.1
baz=315
PGBU **Glenifferbraes** 81.42 342 *e*P P 07 58 30.6 +0.1
PGBU IAmb IAmb 07 58 32.3
comp=Z,117nm,1.1s
ALN **Alexandroupoli** 81.44 316 *e*P P 07 58 31.0 +0.1
comp=Z,24nm,1.1s
ALN **Alexandroupoli** 81.44 316 *e*P P 07 58 31.0 +0.1
ALN pmax pmax
comp=Z,24nm,1.1s
WTSB **Winterswijk** 81.44 334 *i* P P 07 58 30.6 -0.1
WET **Wettzell** 81.47 329 *e*P P 07 58 31.7 +0.7
comp=Z,61nm,1.2s,baz=36,slow=5.3
WET **Wettzell** 81.47 329 P P 07 58 31.5 +0.5
EKA **Eskdalemuir Ar** 81.52 341 P P 07 58 30.9 -0.2
EKA pmax pmax
comp=Z,2.0nm,0.5s
RDO **Rodhopi** 81.53 317 P P 07 58 31.9 +0.5
ESK **Eskdalemuir** 81.55 341 *e*P P 07 58 31.8 +0.6
comp=Z,32nm,1.1s
ESK **Eskdalemuir** 81.55 341 *ce*P P 07 58 33.3 +2.1
KULA **Kula-Manisa** 81.65 313 P P 07 58 32.4 +0.2
EDMD **Edmundbyers** 81.65 340 *e*P P 07 58 31.3 -0.5
EDMD IAmb IAmb 07 58 35.1
comp=Z,22nm,0.8s
SDCO **Great Sand Dun** 81.66 48 *e*P P 07 58 33.2 +0.6
comp=Z,9.8nm,1.2s
SDCO **Great Sand Dun** 81.66 48 P P 07 58 33.6 +1.0
baz=313,SNR=13
VTS **Vitosha** 81.68 319 *e*P P 07 58 33.3 +1.0
comp=Z,74nm,0.8s
VTS **Vitosha** 81.68 319⇑ *i*P P 07 58 33.4 +1.0
VTS **Vitosha** 81.68 319 P P 07 58 33.2 +0.8
VTS **Vitosha** 81.68 319 *e*P P 07 58 32.9 +0.5
GRA1 **Grafenberg Arr** 81.68 330 *e*P P 07 58 32.9 +0.8
comp=Z,104nm,0.9s
GRF **Grafenberg Arr** 81.68 330 *e*P P 07 58 32.9 +0.8
comp=Z,133nm,1.1s,baz=36,slow=5.3
GRF *e*L L 08 37 53.1
comp=Z,357nm,18.3s
GRF **Grafenberg Arr** 81.68 330 *e*P P 07 58 32.9 +0.8
GRF pmax pmax
comp=Z,104nm,0.9s
GRFO **Grafenberg** 81.69 330 *e*P P 07 58 32.9 +0.8
comp=Z,93nm,0.9s
GRFO **Grafenberg** 81.69 330 *e*P P 07 58 32.9 +0.8
GRFO pmax pmax
comp=Z,93nm,0.9s
BUG **Bochum-Univer** 81.71 333 *e*P P 07 58 32.2 +0.1
comp=Z,70nm,1.2s,baz=36,slow=5.3
MANT **Manisa** 81.72 313 *e*P P 07 58 32.3 -0.5
comp=Z,123nm,0.7s
ARSA **Arzberg** 81.85 326 *i* P P 07 58 33.6 +0.7
comp=Z,38nm,1.2s,SNR=7.2
MOA **Molln** 81.92 327 *i* P P 07 58 34.0 +0.6
comp=Z,40nm,1.1s,SNR=12
EZN **Ezine** 82.04 316⇑ *i*P P 07 58 34.5 +0.4
EZN **Ezine** 82.04 316 P P 07 58 34.5 +0.4
BBO1 **Bothel** 82.08 341 *e*P P 07 58 34.7 +0.7
TUC **Tucson** 82.09 55 *e*P P 07 58 35.2 +0.6
comp=Z,5.8nm,1.1s
TUC **Tucson** 82.09 55 *e*P P 07 58 35.2 +0.6
TUC pmax pmax
comp=Z,6.0nm,1.1s
TUC **Tucson** 82.09 55 P P 07 58 35.5 +0.9
baz=311
GRC1 **Grafenberg Arr** 82.12 330 P P 07 58 34.9 +0.5
ECSD **EROS Data Cent** 82.14 39 *e*P P 07 58 34.3 -0.3
comp=Z,22nm,0.9s
ECSD **EROS Data Cent** 82.14 39 P P 07 58 34.7 +0.1
baz=318,SNR=25
MMB **Musomiste** 82.17 318 *e*P P 07 58 35.2 +0.4
NVR **Nevrokopi** 82.27 318 P P 07 58 35.3 0.0
TNS **Taunus Mts** 82.30 332 *e*P P 07 58 35.6 +0.3
comp=Z,62nm,1.3s,baz=36,slow=5.3
TNS **Taunus Mts** 82.30 332 P P 07 58 35.9 +0.6
KKB **Krupnik** 82.30 319 *e*P P 07 58 36.1 +0.6
E38A **The Farm, Brul** 82.31 34 *e*P P 07 58 34.9 -0.5
comp=Z,27nm,0.8s
E38A **The Farm, Brul** 82.31 34 P P 07 58 35.1 -0.3
baz=321,SNR=12
GAL1 **Galloway** 82.33 341 *e*P P 07 58 35.4 +0.1
GAL1 IAmb IAmb 07 58 37.1
comp=Z,31nm,0.8s
HPK **Haverah Park** 82.34 339 *e*P P 07 58 36.0 +0.6
HPK IAmb IAmb 07 58 36.8
comp=Z,79nm,1.2s
KSCO **Kaye Shedlock'** 82.41 45 P P 07 58 36.7 +0.5
baz=315
PERS **Pernice** 82.50 326 *i* P P 07 58 36.7 +0.3
SOKA **Soboth** 82.50 326 *i* P P 07 58 37.1 +0.6
comp=Z,128nm,1.1s,SNR=20
F37A **Hinrichs Farm,** 82.51 35 P P 07 58 36.2 -0.2
baz=320,SNR=6.4
SRS **Serrai** 82.58 318 P P 07 58 36.9 0.0
F38A **Pierce - Schro** 82.67 35 P P 07 58 37.5 +0.2
baz=321,SNR=25
FETY **Fethiye** 82.70 312 P P 07 58 37.1 -0.5
HAPS **Han Pijesak,Bl** 82.71 322⇑ *i*P P 07 58 37.4 -0.3
T25A **Trinidad** 82.71 48 *e*P P 07 58 38.7 +0.7
comp=Z,19nm,0.8s
T25A **Trinidad** 82.71 48 P P 07 58 38.8 +0.9
baz=314,SNR=16
HGN **Heimansgroeve** 82.74 334 *i* P P 07 58 37.3 -0.2
GOLS **Golise** 82.76 326 *i* P P 07 58 37.7 -0.1
BEBN **Eben Emael** 82.81 334 ⇓P P 07 58 38.2 +0.4
IDGL **Inch Island, C** 82.82 343 *e*P P 07 58 32.4 -5.4
IDGL *i* PP PcP 07 58 39.0 -3.6
SPMN **Marine on St.** 82.82 36 *e*P P 07 58 37.7 -0.3
comp=Z,11nm,0.8s
SPMN **Marine on St.** 82.82 36 P P 07 58 37.7 -0.3
baz=320,SNR=5.9
YER **Yerkesik** 82.82 312 P P 07 58 38.8 +0.5
OBKA **Obir** 82.84 326 *i* P P 07 58 38.3 0.0
comp=Z,32nm,0.8s,SNR=6.2
MEM **Membach** 82.85 334 P P 07 58 38.2 +0.1
MEM **Membach** 82.85 334 ⇑P P 07 58 38.0 -0.2
comp=Z,46nm,1.0s
STIP **Stip** 82.89 319⇑ *i*P P 07 58 38.0 -0.5
FUR **Furstenfeldbru** 82.89 329 *e*P P 07 58 39.0 +0.6
comp=Z,127nm,0.9s,baz=36,slow=5.3
FUR **Furstenfeldbru** 82.89 329 P P 07 58 39.2 +0.8
KNT **Kendrikon** 82.91 318 P P 07 58 38.1 -0.5
KBA **Koelnbreinsper** 82.91 327 *i* P P 07 58 38.9 +0.2
comp=Z,61nm,0.9s,SNR=17
KBA **Koelnbreinsper** 82.91 327 P P 07 58 39.3 +0.6
SOH **Sokhos** 82.92 318 P P 07 58 37.8 -0.9
E39A **Mellen** 82.92 34 P P 07 58 38.3 -0.3
baz=322,SNR=10
VAY **Valandovo** 82.96 319⇑ *i*P P 07 58 39.5 +0.6
LAZ **Ladron** 82.97 51 *e*P P 07 58 40.7 +1.4
CRES **Cresnjev** 82.98 326⇑ *i*P P 07 58 38.1 -0.8
TASM **ASL Pad, Albuq** 83.01 50 P P 07 58 40.7 +1.2
baz=313,SNR=17
TASM **ASL Pad, Albuq** 83.01 50 P P 07 58 40.7 +1.2
baz=313,SNR=18
ANMO **Albuquerque** 83.01 50 *e*P P 07 58 40.4 +0.8
comp=Z,12nm,1.0s
ANMO **Albuquerque** 83.01 50 *ce*P P 07 58 40.5 +1.0
ANMO pmax pmax
comp=Z,13nm,1.1s
ANMO **Albuquerque** 83.01 50 P P 07 58 40.7 +1.1
baz=313
BLY **Banja Luka** 83.03 324 *e*P P 07 58 39.2 0.0
comp=Z,45nm,1.2s
BLY **Banja Luka** 83.03 324⇓ *i*P P 07 58 39.7 +0.5
BLY **Banja Luka** 83.03 324⇑ *i*P P 07 58 38.9 -0.3
SKO **Skopje** 83.06 320 *i* P P 07 58 40.4 +1.0
BGNE **Belgrade** 83.09 41 *e*P P 07 58 39.4 -0.2
comp=Z,72nm,0.9s
BGNE **Belgrade** 83.09 41 P P 07 58 39.7 +0.1
baz=317,SNR=6.9
F39A **Loretta** 83.12 34 P P 07 58 39.5 -0.1
baz=321,SNR=8.1
MYKA **Terra Mystica** 83.14 327 *i* P P 07 58 39.6 -0.2
comp=Z,45nm,0.9s,SNR=11
E40A **Wakefield** 83.15 33 P P 07 58 40.3 +0.5

baz=322,SNR=13
PLG Polygyros 83.19 317 P **P** 07 58 39.8 -0.3
STU Stuttgart 83.21 331 *eP* **P** 07 58 40.0 0.0
comp=Z,68nm,0.8s
STU Stuttgart 83.21 331 *eP* **P** 07 58 40.3 +0.3
comp=Z,69nm,0.8s,baz=36,slow=5.3
STU Stuttgart 83.21 331 *eP* **P** 07 58 40.0 0.0
STU pmax pmax
comp=Z,68nm,0.8s
LJU Ljubljana 83.22 326 *iP* **P** 07 58 39.9 -0.2
LJU Ljubljana 83.22 326⇑*iP* **P** 07 58 40.0 -0.1
D41A Chassel 83.22 32 P **P** 07 58 40.8 +0.7
baz=323
LENM Lemitar 83.23 51 *eP* **P** 07 58 41.8 +1.1
BCLA Clavier 83.25 334 ⇑P **P** 07 58 40.0 -0.2
comp=Z,25nm,1.0s
UCC Uccle 83.25 335 ⇓P **P** 07 58 40.2 0.0
G38A Ridgeland 83.29 35 P **P** 07 58 40.1 -0.4
baz=321,SNR=6.9
Y22D IRIS PASSCAL I 83.32 51 *eP* **P** 07 58 41.0 -0.1
comp=Z,48nm,1.5s
CWF Charnwood Fore 83.33 339 *eP* **P** 07 58 40.1 -0.4
CWF IAmb IAmb 07 58 41.6
comp=Z,57nm,1.0s
SCHQ Schefferville 83.40 16 *eP* **P** 07 58 40.9 0.0
comp=Z,29nm,0.9s
SCHQ Schefferville 83.40 16 P **P** 07 58 41.1 +0.2
comp=Z,25nm,0.9s,baz=353,slow=4.7,SNR=18
SCHQ LR LR 08 41 40.3
comp=Z,130nm,18.0s,baz=334,slow=40
BODT Bodrum 83.43 313 P **P** 07 58 41.2 -0.2
WATA Walderalm 83.43 329 *iP* **P** 07 58 41.5 +0.1
comp=Z,37nm,1.1s,SNR=15
BNM Barren Site 83.45 51 *eP* **P** 07 58 42.9 +1.1
F40A Park Falls 83.47 34 P **P** 07 58 41.1 -0.3
baz=322,SNR=5.6
WTTA Wattenberg 83.47 329 *iP* **P** 07 58 41.9 +0.3
comp=Z,38nm,0.9s
H38A Maiden Rock 83.47 36 P **P** 07 58 41.3 -0.2
baz=320
CEY Cerknica 83.50 326⇑*iP* **P** 07 58 40.9 -0.7
G39A Holcombe 83.50 35 P **P** 07 58 41.2 -0.4
baz=321,SNR=5.3
ABTA Abfaltersbach 83.52 328 *iP* **P** 07 58 41.5 -0.3
comp=Z,55nm,1.1s,SNR=8.1
SNF Seneffe 83.52 334 ⇑P **P** 07 58 41.4 -0.1
comp=Z,30nm,0.8s
E41A Kenton 83.53 33 P **P** 07 58 41.6 -0.1
baz=322,SNR=8.9
WLF Walferdange 83.59 333 *eP* **P** 07 58 41.3 -0.6
comp=Z,100nm,1.1s
WLF Walferdange 83.59 333 *eP* **P** 07 58 41.3 -0.6
WLF pmax pmax
comp=Z,100nm,1.1s
WLF Walferdange 83.59 333 ⇑P **P** 07 58 41.6 -0.3
WLF ⇑pP **pP** 07 58 52.2 -2.9
WLF ⇑sP **sP** 07 58 56.2 -3.9
KRUS Krusevo 83.60 319 *iP* **P** 07 58 42.7 +0.4
MOTA Moosalm 83.62 329 *iP* **P** 07 58 42.6 +0.2
comp=Z,76nm,0.9s,SNR=42
RETA Reutte 83.64 329 *iP* **P** 07 58 42.9 +0.6
comp=Z,133nm,1.1s,SNR=38
319A Douglas 83.67 55 *eP* **P** 07 58 43.5 +0.6
comp=Z,19nm,0.9s
SQTA Sankt Quirin 83.68 329 *iP* **P** 07 58 43.0 +0.3
comp=Z,73nm,1.5s,SNR=14
GIVF Givet 83.69 334 *eP* **P** 07 58 41.4 -1.0
GIVF pmax pmax
comp=Z,23nm,1.1s
FOEL Foel Wylfa 83.72 340 *eP* **P** 07 58 43.4 +0.8
FOEL IAmb IAmb 07 58 44.1
comp=Z,78nm,0.9s
UBR Ueberruh 83.74 330 *eP* **P** 07 58 42.8 -0.1
comp=Z,39nm,1.1s,baz=36,slow=5.3
COWI Conover 83.75 33 *eP* **P** 07 58 42.6 -0.2
comp=Z,10nm,0.8s
DOU Dourbes 83.77 334 ⇑P **P** 07 58 42.7 -0.2
comp=Z,17nm,1.5s
DOU ⇑pP **pP** 07 58 55.0 -1.0
PHP Peshkopia 83.78 320 P **P** 07 58 43.2 +0.1
BRY Bratogost 83.80 322 *eP* **P** 07 58 42.9 -0.4
RIY Rijeka 83.80 326⇑*iP* **P** 07 58 42.4 -0.7
PDG Podgorica 83.81 321⇓*iP* **P** 07 58 43.7 +0.5
PDG Podgorica 83.81 321⇑*iP* **P** 07 58 43.2 +0.1
TTG Podgorica 83.81 321 *eP* **P** 07 58 43.3 +0.1
comp=Z,118nm,0.8s
TTG Podgorica 83.81 321 *eP* **P** 07 58 43.3 +0.1
TTG pmax pmax
comp=Z,118nm,0.8s
BIA Bitola 83.82 319 *iP* **P** 07 58 43.6 +0.2
121A Cookes Peak, D 83.83 53 P **P** 07 58 45.0 +1.3
baz=313,SNR=6.2
LIT Litokhoron 83.89 318 *eP* **P** 07 58 43.4 -0.3
comp=Z,120nm,0.9s
LIT Litokhoron 83.89 318 P **P** 07 58 42.9 -0.8
LIT Litokhoron 83.89 318 *eP* **P** 07 58 43.4 -0.3
LIT pmax pmax
comp=Z,120nm,0.9s
BFO Black Forest 83.90 331 *eP* **P** 07 58 43.8 +0.2
comp=Z,121nm,1.2s
BFO Black Forest 83.90 331 *eP* **P** 07 58 43.9 +0.2
comp=Z,95nm,1.0s,baz=36,slow=5.3
BFO Black Forest 83.90 331 *eP* **P** 07 58 43.8 +0.2
H39A Augusta 83.92 35 P **P** 07 58 43.7 -0.1
baz=321,SNR=9.4
BAIF Baives 83.93 334 *eP* **P** 07 58 42.8 -0.9
BAIF pmax pmax
comp=Z,32nm,1.3s
G40A Rib Lake 83.94 34 *eP* **P** 07 58 43.9 -0.1
comp=Z,21nm,0.9s
G40A Rib Lake 83.94 34 P **P** 07 58 43.8 -0.1
baz=322,SNR=10
HLM1 Long Mynd 83.97 339 *eP* **P** 07 58 44.1 +0.3
FNA Florina 83.97 319 *eP* **P** 07 58 43.8 -0.3
comp=Z,43nm,0.9s
FNA Florina 83.97 319 *eP* **P** 07 58 43.8 -0.3
FNA pmax pmax
comp=Z,43nm,0.9s
E42A Champion 84.00 32 P **P** 07 58 44.1 0.0
baz=323,SNR=5.6
OHR Ohrid 84.02 319 *iP* **P** 07 58 44.5 +0.1
DRME Dracevica, Mon 84.02 321⇑*iP* **P** 07 58 44.5 +0.2
TREB Trebinje 84.03 322 *eP* **P** 07 58 42.3 -2.0
FETA Feichten 84.03 329 *iP* **P** 07 58 44.6 +0.1
comp=Z,77nm,1.1s,SNR=26
F41A Three Lakes 84.05 33 *eP* **P** 07 58 44.7 +0.3
comp=Z,34nm,1.1s
F41A Three Lakes 84.05 33 P **P** 07 58 44.6 +0.2
baz=322,SNR=10
XOR Xorichti 84.06 317 P **P** 07 58 43.4 -1.2
NEO Neokhori 84.08 317 P **P** 07 58 44.1 -0.6
KZN Kozani 84.12 318 P **P** 07 58 44.4 -0.5
CBKS Cedar Bluff 84.14 44 *eP* **P** 07 58 44.6 -0.4
comp=Z,24nm,0.9s
CBKS Cedar Bluff 84.14 44 *eP* **P** 07 58 44.6 -0.4
CBKS pmax pmax
comp=Z,24nm,0.9s
CBKS Cedar Bluff 84.14 44 P **P** 07 58 44.6 -0.4
baz=316,SNR=7.4
DAVA Damuels 84.15 330 *i* PcP **P** 07 58 45.5 +0.4
comp=Z,135nm,0.9s,SNR=30
HCY Herceg Novi 84.16 322⇑*iP* **P** 07 58 44.9 -0.1
DSB Dublin 84.22 342 *eP* P 07 58 39.7 -5.4
DSB *e*PP **PcP** 07 58 46.1 -2.7
DSB Dublin 84.22 342 *eP* **P** 07 58 44.9 -0.2
comp=Z,54nm,0.9s
CDF Champ du Feu 84.23 332 *eP* **P** 07 58 45.6 +0.2
CDF pmax pmax
comp=Z,71nm,1.1s
SLE Schleitheim 84.30 331 P **P** 07 58 46.0 +0.3
TIR Tirane 84.31 320 *eP* **P** 07 58 45.5 -0.3
comp=Z,91nm,0.9s
TIR Tirane 84.31 320 *eP* **P** 07 58 45.5 -0.3
TIR pmax pmax
comp=Z,91nm,0.9s
H40A Chili 84.37 35 P **P** 07 58 46.1 +0.1
baz=322,SNR=14
E43A Lone Tree Farm 84.42 32 *eP* **P** 07 58 46.4 +0.2
comp=Z,16nm,0.7s
E43A Lone Tree Farm 84.42 32 P **P** 07 58 46.1 -0.2
baz=324,SNR=5.7
STRD Stroud 84.43 339 *eP* **P** 07 58 46.6 +0.5
STRD IAmb IAmb 07 58 48.2
comp=Z,78nm,0.8s
APE Apeiranthos 84.43 314⇓*iP* **P** 07 58 45.6 -0.9
APE Apeiranthos 84.43 314 P **P** 07 58 45.6 -0.9

G41A Antigo 84.43 34 P **P** 07 58 46.3 -0.1
baz=322,SNR=6.2
ECH Echery 84.43 332 *eP* **P** 07 58 46.4 +0.1
comp=Z,57nm,1.0s
ECH Echery 84.43 332 *eP* **P** 07 58 46.4 +0.1
ECH pmax pmax
comp=Z,57nm,1.0s
F42A Maple Grove Fa 84.44 33 P **P** 07 58 46.1 -0.2
baz=323
I39A Houston 84.45 36 *eP* **P** 07 58 46.2 -0.3
comp=Z,35nm,0.7s
I39A Houston 84.45 36 P **P** 07 58 46.2 -0.3
baz=321,SNR=5.6
HMNX Herstmonceux 84.49 337 *eP* **P** 07 58 47.2 +0.8
PMOR Pomariorio Ree 84.49 114 *eT* T 09 32 08.4
comp=Z,168nm,0.3s
FUORN Ofenpass-Fuorn 84.54 329 *eP* **P** 07 58 47.4 +0.2
comp=Z,128nm,0.8s
KARP Karpathos 84.57 312 *eP* **P** 07 58 47.0 -0.3
comp=Z,123nm,0.9s
ATAL Atalanti 84.64 317 P **P** 07 58 46.5 -1.0
E44A Grand Marais A 84.66 31 *eP* **P** 07 58 47.4 -0.1
comp=Z,61nm,0.9s
E44A Grand Marais A 84.66 31 P **P** 07 58 47.6 +0.2
baz=325,SNR=6.6
LKR Lokris 84.68 317 P **P** 07 58 46.4 -1.3
H41A Junction City 84.70 34 *eP* **P** 07 58 47.4 -0.3
comp=Z,22nm,0.8s
H41A Juon City 84.70 34 P **P** 07 58 47.6 -0.1
baz=322,SNR=8.2
G42A Mountain 84.73 33 *eP* **P** 07 58 47.7 -0.1
comp=Z,24nm,0.9s
G42A Mountain 84.73 33 P **P** 07 58 48.0 +0.1
baz=323,SNR=5.6
AGG Agios Georgios 84.77 317 *eP* **P** 07 58 46.6 -1.6
comp=Z,34nm,0.9s
AGG Agios Georgios 84.77 317 *eP* **P** 07 58 46.6 -1.6
AGG pmax pmax
comp=Z,34nm,0.9s
J39A Decorah 84.77 36 P **P** 07 58 47.5 -0.6
baz=321
AXAR Agios Charalam 84.78 317 P **P** 07 58 49.6 +1.4
F43A Flat Rock, Esc 84.79 32 P **P** 07 58 48.2 +0.1
baz=324
I40A Norwalk 84.84 35 P **P** 07 58 48.4 0.0
baz=322,SNR=8.4
HINF Hinteralfeld 84.88 332 *eP* **P** 07 58 47.4 -1.2
HINF pmax pmax
comp=Z,44nm,1.3s
HAU Haudompre 84.91 332 *eP* **P** 07 58 47.7 -1.0
HAU pmax pmax
comp=Z,43nm,1.0s
SANT Santorini 84.97 314 *eP* **P** 07 58 47.2 -2.1
comp=Z,103nm,0.9s
RSBS Rosebush, Pemb 84.98 340 *eP* **P** 07 58 49.3 +0.3
RSBS IAmb IAmb 07 58 50.1
comp=Z,49nm,1.3s
F44A Big Bay de Noc 84.98 32 P **P** 07 58 49.0 -0.1
baz=324
TUE Stuetta 85.03 329 *eP* **P** 07 58 49.4 -0.2
comp=Z,60nm,1.0s
G43A Wallace 85.03 33 *eP* **P** 07 58 49.1 -0.2
comp=Z,33nm,0.9s
G43A Wallace 85.03 33 P **P** 07 58 49.6 +0.3
baz=323,SNR=7.9
I41A Arkdale 85.04 35 *eP* **P** 07 58 48.7 -0.7
comp=Z,28nm,1.0s
I41A Arkdale 85.04 35 P **P** 07 58 49.5 +0.1
baz=322,SNR=10
PPT Papeete 85.05 117 LR LR 08 29 21.7
comp=Z,238nm,21.8s,baz=299,slow=30
PPT2 Papeete2 85.06 117 *e*LR LR 08 25 39.4
comp=Z,714nm,24.2s,baz=327
PPT2 Papeete2 85.06 117 *eT* T 09 32 51.6
comp=Z,23nm,0.3s
JAN Janina 85.07 318 P **P** 07 58 49.4 -0.3
PAE Paea 85.11 117 *eT* T 09 32 54.4
comp=Z,6.8nm,0.3s
SCIA State Center 85.16 38 *eP* **P** 07 58 50.5 +0.4
comp=Z,39nm,0.8s
SCIA State Center 85.16 38 P **P** 07 58 50.6 +0.5
baz=320
J40A Soldiers Grove 85.17 36 P **P** 07 58 49.7 -0.4
baz=322,SNR=6.7
E45A Wooded Hills, 85.17 31 P **P** 07 58 49.9 -0.1
baz=325,SNR=5.7
K39A Oelwein 85.18 37 P **P** 07 58 49.7 -0.5
baz=321,SNR=18
D46A Sault St. Mari 85.18 30 P **P** 07 58 49.7 -0.3
baz=326
TIAR Tiarei 85.20 117 *eT* T 09 33 01.0
comp=Z,10nm,0.3s
SNZO South Karori 85.22 156 *eP* **P** 07 58 53.7 +3.7
H42A Shiocton 85.27 34 *eP* **P** 07 58 50.6 0.0
comp=Z,30nm,1.0s
H42A Shon 85.27 34 P **P** 07 58 50.7 +0.2
baz=323,SNR=6.4
ANX Ano Chora 85.30 317 P **P** 07 58 50.2 -0.7
SERG Sergoula 85.36 317 P **P** 07 58 49.9 -1.2
D47A Chapleau 85.40 29 P **P** 07 58 50.7 -0.5
baz=326,SNR=14
EFP Efpalio 85.43 317 P **P** 07 58 50.5 -0.9
IGT Igoumenitsa 85.43 319 P **P** 07 58 51.4 -0.1
E46A Sault Ste Mari 85.51 30 P **P** 07 58 51.5 -0.2
baz=326,SNR=6.3
J41A Loganville 85.52 35 P **P** 07 58 51.8 -0.1
baz=322,SNR=12
K40A Colesberg 85.53 36 P **P** 07 58 51.8 -0.1
baz=321,SNR=17
GUR Goura 85.55 316 P **P** 07 58 50.6 -1.6
L39A Vinton 85.58 37 P **P** 07 58 52.3 +0.2
baz=321,SNR=25
KSU1 Kansas State U 85.58 42 P **P** 07 58 52.1 -0.1
baz=318
F45A CMU Biological 85.58 31 P **P** 07 58 51.9 -0.2
baz=325
I42A Draeger Farm, 85.59 34 *eP* **P** 07 58 52.0 -0.2
comp=Z,34nm,0.9s
I42A Draeger Farm, 85.59 34 P **P** 07 58 52.3 +0.1
baz=323,SNR=9.7
H43A Windswept, Lux 85.63 33 *eP* **P** 07 58 52.5 +0.1
comp=Z,54nm,0.9s
H43A Windswept, Lux 85.63 33 P **P** 07 58 52.5 +0.1
baz=323
JFWS Jewell Farm 85.77 36 *eP* **P** 07 58 52.9 -0.2
comp=Z,20nm,1.0s
JFWS Jewell Farm 85.77 36 *eP* **P** 07 58 52.9 -0.2
JFWS pmax pmax
comp=Z,20nm,1.0s
JFWS Jewell Farm 85.77 36 P **P** 07 58 52.6 -0.5
baz=322,SNR=6.3
D48A Paudash Townsh 85.79 28 P **P** 07 58 52.3 -0.8
baz=327,SNR=5.5
F46A Macinaw City C 85.82 31 P **P** 07 58 53.4 +0.2
baz=325,SNR=13
LAST Lasithi 85.82 313 P **P** 07 58 53.5 -0.1
E47A Iron Bridge 85.83 30 P **P** 07 58 53.0 -0.3
baz=326,SNR=12
LSQQ Lebel-sur-Quev 85.85 25 P **P** 07 58 53.1 -0.2
baz=331
AMTX Amarillo 85.87 48 *eP* **P** 07 58 54.6 +0.8
comp=Z,24nm,1.0s
AMTX Amarillo 85.87 48 P **P** 07 58 54.3 +0.5
baz=316
D49A Beulah Townshi 85.87 28 P **P** 07 58 53.0 -0.5
baz=328,SNR=7.2
MSTX Muleshoe 85.88 49 *eP* **P** 07 58 54.3 +0.3
comp=Z,16nm,1.0s
MSTX Muleshoe 85.88 49 P **P** 07 58 54.2 +0.3
baz=315,SNR=7.7
MNTX Cornudas Mount 85.89 52 *eP* **P** 07 58 54.7 +0.8
comp=Z,4.3nm,0.8s
MNTX Cornudas Mount 85.89 52 P **P** 07 58 54.5 +0.6
baz=314,SNR=8.4
CHGQ Chibougamau 85.91 23 P **P** 07 58 53.1 -0.5
baz=332,SNR=12
SENIN Lac Senin/Sane 85.92 330 *eP* **P** 07 58 53.6 -0.5
comp=Z,39nm,0.8s
I43A Langenfeld Bro 85.94 34 P **P** 07 58 53.8 -0.1
baz=323
J42A Columbus 85.96 35 P **P** 07 58 53.6 -0.4
baz=323,SNR=6.1
K41A Shullsburg 85.98 36 P **P** 07 58 54.0 -0.1
baz=322,SNR=10.0
L40A Anamosa 85.99 37 *eP* **P** 07 58 53.7 -0.5
comp=Z,37nm,0.9s
L40A Anamosa 85.99 37 P **P** 07 58 54.0 -0.1

baz=321,SNR=13
M39A Webster 85.99 38 P **P** 07 58 54.4 +0.2
baz=321,SNR=23
G45A Suttons Bay 86.05 32 P **P** 07 58 54.7 +0.3
baz=325
G46A Petoskey 86.15 31 P **P** 07 58 55.1 +0.2
baz=325,SNR=9.3
TAOE Nuku Hiva Isla 86.16 104 *eT* T 09 34 12.9
comp=Z,26nm,0.3s
CABF La Chapelle 86.17 331 *eP* **P** 07 58 54.2 -0.9
CABF pmax pmax
comp=Z,33nm,1.0s
J43A Natural Harves 86.22 34 P **P** 07 58 55.1 -0.2
baz=323,SNR=9.4
H45A Beulah 86.23 32 P **P** 07 58 55.8 +0.5
baz=325
E48A Lockeyer 86.23 29 P **P** 07 58 54.9 -0.4
baz=327,SNR=5.9
K42A Prairie Point, 86.28 35 P **P** 07 58 55.3 -0.3
baz=322,SNR=9.8
L41A Preston 86.31 36 P **P** 07 58 55.5 -0.3
baz=322,SNR=7.1
ITM Ithomi 86.33 316 *eP* **P** 07 58 55.4 -0.6
comp=Z,69nm,0.8s
CLF Chambon-Foret 86.34 334 *eP* **P** 07 58 55.9 +0.2
comp=Z,79nm,1.0s
M40A Post Highland 86.36 37 P **P** 07 58 56.1 +0.1
baz=321,SNR=16
LOR Lormes 86.43 333 *eP* **P** 07 58 55.4 -0.9
LOR pmax pmax
comp=Z,125nm,1.1s
VLDQ Val d'Or 86.51 25 *eP* **P** 07 58 55.7 -0.9
comp=Z,25nm,0.9s
FLN La Foliniere 86.59 336 *eP* **P** 07 58 56.1 -0.9
FLN pmax pmax
comp=Z,88nm,1.2s
F48A Evansville 86.61 29 P **P** 07 58 56.9 -0.2
baz=327
AQU L'Aquila 86.62 325 P **P** 07 58 58.2 +0.8
AQU L'Aquila 86.62 325⇑*iP* **P** 07 58 57.7 +0.3
LDF La Druitiere 86.62 336 *eP* **P** 07 58 56.2 -1.0
LDF pmax pmax
comp=Z,56nm,1.1s
I45A Fountain 86.63 33 P **P** 07 58 57.8 +0.5
baz=324
H46A Fife Lake 86.65 32 P **P** 07 58 57.7 +0.3
baz=325,SNR=9.1
GLMI Grayling 86.65 31 *eP* **P** 07 58 57.8 +0.4
comp=Z,82nm,0.9s
GLMI Grayling 86.65 31 P **P** 07 58 57.8 +0.4
baz=326,SNR=5.6
G47A Hillman 86.67 31 P **P** 07 58 57.7 +0.2
baz=326
N40A Mertquake, Sal 86.73 38 P **P** 07 58 58.1 +0.3
baz=321,SNR=11
D51A Lot 18 Range I 86.74 27 P **P** 07 58 57.2 -0.6
baz=329
L42A Oliver, Polo 86.75 36 *eP* **P** 07 58 57.7 -0.2
comp=Z,19nm,0.8s
L42A Oliver, Polo 86.75 36 P **P** 07 58 57.7 -0.2
baz=322,SNR=5.6
DAMY Dhamar 86.79 286 *eP* **P** 07 58 59.7 +0.8
comp=Z,47nm,1.0s
K43A Burlington 86.80 35 P **P** 07 58 57.8 -0.3
baz=323
E50A Wahnapitae 86.81 28 P **P** 07 58 57.8 -0.4
baz=326
M41A Milan 86.84 37 P **P** 07 58 58.2 -0.2
baz=322,SNR=14
LPL La Plagne 86.85 330 *eP* **P** 07 58 58.7 +0.1
LPL pmax pmax
comp=Z,39nm,0.8s
LPG La Plagne 86.85 330 *eP* **P** 07 58 58.0 -0.7
LPG pmax pmax
comp=Z,40nm,0.7s
F49A Sandfield 86.88 29 P **P** 07 58 58.3 -0.2
baz=327
SMF Signal de Mont 86.97 333 *eP* **P** 07 58 58.2 -0.7
SMF pmax pmax
comp=Z,84nm,1.2s
H47A Mio 87.00 31 P **P** 07 58 59.6 +0.5
baz=326,SNR=7.3
AVF Avril sur Loir 87.02 333 *eP* **P** 07 58 58.4 -0.7
AVF pmax pmax
comp=Z,108nm,1.0s
L43A Garden Prairie 87.03 35 P **P** 07 58 59.0 -0.2
baz=323
I46A Reed City 87.04 32 P **P** 07 58 59.4 +0.1
baz=325,SNR=5.9
GRR Gorron 87.04 336 *eP* **P** 07 58 59.1 -0.1
GRR pmax pmax
comp=Z,121nm,1.2s
J45A Montague 87.05 33 P **P** 07 58 59.4 0.0
baz=324
M42A Sheffield 87.14 36 P **P** 07 58 59.7 -0.1
baz=322,SNR=8.1
D52A ZEK Kipawa Sen 87.17 26 P **P** 07 58 59.3 -0.5
baz=330,SNR=6.2
E51A G1948 Merrick 87.17 27 P **P** 07 58 59.4 -0.5
baz=329,SNR=7.2
N41A Harden Midland 87.22 37 P **P** 07 59 00.2 0.0
baz=322
H48A Harrisville 87.27 31 P **P** 07 59 00.7 +0.3
baz=326
I47A Gladwin 87.36 32 P **P** 07 59 01.2 +0.4
baz=326,SNR=5.1
BGF Bois d'Agland 87.40 333 *eP* **P** 07 59 00.2 -0.8
BGF pmax pmax
comp=Z,19nm,1.0s
L44A Lake County Fo 87.40 35 P **P** 07 59 01.1 0.0
baz=323
J46A Howard City 87.44 33 P **P** 07 59 01.5 +0.3
baz=325,SNR=7.8
MBDF Montbardon 87.49 330 *eP* **P** 07 59 00.8 -0.9
MBDF pmax pmax
comp=Z,8.0nm,0.7s
TIP Timpagrande 87.51 321 *eP* **P** 07 59 01.2 -0.5
comp=Z,35nm,1.1s
N42A Yates City 87.51 37 P **P** 07 59 01.7 +0.1
baz=322,SNR=14
M43A Waltham Townsh 87.52 36 P **P** 07 59 01.9 +0.3
baz=323,SNR=16
F51A Arnstein 87.53 28 P **P** 07 59 01.3 -0.4
baz=329
I48A Sherman Twp 87.55 31 P **P** 07 59 02.2 +0.5
baz=326
D54A Lac Fusel, La 87.61 25 P **P** 07 59 01.6 -0.4
baz=331,SNR=8.0
WMOK Wichita Mounta 87.62 46 *eP* **P** 07 59 02.8 +0.5
comp=Z,11nm,1.0s
WMOK Wichita Mounta 87.62 46 *eP* **P** 07 59 02.8 +0.5
WMOK pmax pmax
comp=Z,11nm,1.0s
WMOK Wichita Mounta 87.62 46 P **P** 07 59 02.7 +0.5
baz=317,SNR=15
O41A Passleys Farm, 87.67 38 P **P** 07 59 02.7 +0.3
baz=322,SNR=13
ORIF Oris-en-Rattie 87.68 330 *eP* **P** 07 59 02.5 0.0
ORIF pmax pmax
comp=Z,9.0nm,0.7s
E52A Mattawa 87.68 27 P **P** 07 59 01.8 -0.5
baz=330
SGMF Saint Gilles 87.68 337 *eP* **P** 07 59 01.7 -0.6
SGMF pmax pmax
comp=Z,32nm,0.9s
N43A Stutzman Famil 87.82 36 P **P** 07 59 03.3 +0.3
baz=323,SNR=15
ROSF Rostrenen 87.82 338 *eP* **P** 07 59 03.7 +0.7
ROSF pmax pmax
comp=Z,85nm,1.1s
TCF Toulx Ste Croi 87.85 333 *eP* **P** 07 59 03.0 -0.2
TCF pmax pmax
comp=Z,24nm,1.0s
F52A Sundridge 87.86 28 P **P** 07 59 03.2 -0.1
baz=329,SNR=7.1
J47A Sunmer 87.87 32 P **P** 07 59 04.1 +0.8
baz=325,SNR=11
SSB Saint Sauveur 87.88 331 *eP* **P** 07 59 03.2 -0.1
comp=Z,15nm,0.8s
SSB Saint Sauveur 87.88 331 *eP* **P** 07 59 03.3 -0.1
SSB pmax pmax
comp=Z,15nm,0.8s
KLBO Killbear Provi 87.91 28 P **P** 07 59 03.5 0.0
baz=328
K46A Dorr 87.92 33 P **P** 07 59 03.6 +0.1
baz=325,SNR=5.0
P41A Barry, Barry 87.92 38 P **P** 07 59 04.0 +0.4

baz=322,SNR=17
E53A **Dumoine, Ponti** 87.95 26 P P 07 59 03.1 -0.5
baz=330
M44A **Midewin, Midew** 87.98 35 eP P 07 59 03.4 -0.5
comp=Z,78nm,1.4s
M44A **Midewin, Midew** 87.98 35 P P 07 59 04.0 +0.2
baz=323,SNR=9.3
O42A **Bath** 87.98 37 P P 07 59 03.7 -0.2
baz=322
E54A **Lac Daplat, Po** 88.06 26 P P 07 59 03.5 -0.6
baz=331,SNR=9.8
HDIL **Hopedale** 88.07 37 eP P 07 59 04.5 +0.2
comp=Z,53nm,0.9s
HDIL **Hopedale** 88.07 37 P P 07 59 04.5 +0.2
baz=323,SNR=16
I49A **Point Hope** 88.11 31 P P 07 59 04.7 +0.3
baz=327
BUKO **Buck Lake** 88.14 28 P P 07 59 04.1 -0.4
baz=329
ALGO **Algonquin Park** 88.18 27 P P 07 59 04.2 -0.5
baz=330,SNR=6.8
BMRO **Meriville Lake** 88.18 29 P P 07 59 05.2 +0.4
baz=328
VIVF **Saint-Julien-l** 88.19 331 eP P 07 59 04.2 -0.6
VIVF pmax pmax
comp=Z,12nm,0.8s
L46A **Eue Claire** 88.25 34 P P 07 59 05.2 +0.1
baz=324,SNR=6.3
J48A **Bridge Port** 88.25 32 P P 07 59 05.9 +0.8
baz=326,SNR=10.0
K47A **Vermontville** 88.27 33 P P 07 59 05.4 +0.2
baz=325
O43A **Sugar Creek Fa** 88.27 37 P P 07 59 05.4 +0.1
baz=323,SNR=5.4
M45A **Boilermakers S** 88.33 35 P P 07 59 05.5 -0.1
baz=324
P42A **Winchester** 88.34 38 eP P 07 59 05.9 +0.3
comp=Z,54nm,1.1s
P42A **Winchester** 88.34 38 P P 07 59 05.8 +0.2
baz=322,SNR=18
MFF **Saint Martin d** 88.38 335 eP P 07 59 05.4 -0.2
MFF pmax pmax
comp=Z,74nm,1.0s
PGF **Pioggiola** 88.39 327 eP P 07 59 07.3 +1.4
PGF pmax pmax
comp=Z,108nm,1.2s
TUL1 **Leonard** 88.39 43 eP P 07 59 06.0 +0.1
comp=Z,12nm,0.8s
TUL1 **Leonard** 88.39 43 P P 07 59 06.3 +0.3
baz=319,SNR=7.5
Q41A **Truxton** 88.40 39 P P 07 59 06.5 +0.6
baz=321,SNR=20
N44A **Piper City** 88.41 36 P P 07 59 06.2 +0.3
baz=323,SNR=7.7
J49A **Marlette** 88.46 31 P P 07 59 06.6 +0.5
baz=326,SNR=6.6
BASO **Ashfield** 88.50 30 P P 07 59 07.0 +0.7
baz=328
K48A **Perry** 88.52 32 P P 07 59 07.1 +0.7
baz=326
TX31 **Lajitas Ar. Si** 88.59 53 eP P 07 59 07.0 -0.1
TX31 eP P 07 59 07.6 +0.5
LTX **Lajitas** 88.59 53 eP P 07 59 07.6 +0.5
LTX **Lajitas** 88.59 53 eP P 07 59 07.6 +0.5
TXAR **Lajitas Array** 88.59 53 P P 07 59 07.6 +0.5
comp=Z,4.4nm,0.8s,baz=294,slow=3.3,SNR=64
TXAR PKKPbc PKKPbc 08 16 46.5 -0.1
comp=Z,0.3nm,0.7s,baz=122,slow=4.5,SNR=3.8
TXAR LR LR 08 36 48.2
comp=Z,112nm,19.6s,baz=0.0,slow=34
BWLO **Walkerton** 88.61 30 P P 07 59 07.6 +0.8
baz=328
H52A **Wyevale** 88.64 28 P P 07 59 06.9 0.0
baz=329,SNR=9.5
LATQ **La Tuque** 88.64 23 P P 07 59 06.6 -0.2
baz=334
N45A **Kentland** 88.65 35 P P 07 59 07.5 +0.5
baz=324,SNR=9.0
ABTX **Abilene, Hawle** 88.67 48 eP P 07 59 07.6 +0.3
comp=Z,17nm,1.0s
ABTX **Abilene, Hawle** 88.67 48 P P 07 59 07.6 +0.3
baz=317
P43A **Skaggs, Pawnee** 88.69 37 P P 07 59 07.4 +0.2
baz=322,SNR=10
G53A **Haliburton** 88.69 27 P P 07 59 07.1 -0.1
baz=330,SNR=6.2
PEMO **Pembroke** 88.70 26 P P 07 59 06.8 -0.4
baz=330,SNR=7.6
M46A **Old House Fiel** 88.71 34 eP P 07 59 07.5 +0.2
comp=Z,25nm,0.9s
M46A **Old House Fiel** 88.71 34 P P 07 59 07.7 +0.4
baz=324
L47A **Sherwood** 88.75 33 P P 07 59 07.6 +0.2
baz=325,SNR=13
O44A **Mansfield** 88.77 36 P P 07 59 07.6 0.0
baz=323
Q42A **Golden Eagle** 88.78 38 P P 07 59 08.2 +0.6
baz=322,SNR=11
SADO **Sadowa** 88.81 28 eP P 07 59 07.4 -0.3
comp=Z,19nm,1.1s
K49A **Clarkson** 88.81 32 P P 07 59 08.4 +0.6
baz=326,SNR=8.5
R41A **Rosebud** 88.84 39 P P 07 59 08.2 +0.2
baz=321,SNR=18
F55A **Otter Lake** 88.87 26 P P 07 59 07.6 -0.3
baz=331,SNR=5.4
I51A **Listowel** 88.92 30 P P 07 59 08.9 +0.6
baz=328
RJF **Les Rejaudoux** 88.95 333 eP P 07 59 07.9 -0.5
RJF pmax pmax
comp=Z,24nm,0.9s
N46A **Monticello** 88.96 35 P P 07 59 08.6 +0.1
baz=324
HPIG 89.00 56 eP P 07 59 09.3 +0.1
comp=Z,6.5nm,1.0s
I52A **Shelburne** 89.02 29 P P 07 59 09.1 +0.3
baz=328
BANO **Bancroft** 89.03 27 P P 07 59 08.9 +0.1
baz=330,SNR=14
O45A **Potomac** 89.03 36 P P 07 59 09.4 +0.6
baz=324,SNR=15
M47A **Cromwell** 89.07 34 P P 07 59 09.3 +0.3
baz=325
TBI **Tubuai** 89.08 121 eLR LR 08 27 32.1
comp=Z,482nm,32.5s
CAF **Calviac** 89.08 333 eP P 07 59 08.9 -0.1
CAF pmax pmax
comp=Z,25nm,0.8s
HHAR **Hobbs** 89.09 42 eP P 07 59 08.9 -0.3
comp=Z,14nm,0.9s
CCM **Cathedral Cave** 89.10 39 eP P 07 59 09.6 +0.4
comp=Z,39nm,0.8s
CCM **Cathedral Cave** 89.10 39 eP P 07 59 09.6 +0.4
CCM pmax pmax
comp=Z,39nm,0.8s
CCM **Cathedral Cave** 89.10 39 P P 07 59 09.5 +0.3
baz=321
L48A **N Adams** 89.10 33 P P 07 59 09.7 +0.6
baz=326,SNR=20
TRQ **Mont Tremblant** 89.12 24 eP P 07 59 09.5 +0.2
AAM **Ann Arbor** 89.13 32 eP P 07 59 09.9 +0.7
comp=Z,26nm,0.8s
AAM **Ann Arbor** 89.13 32 P P 07 59 09.9 +0.7
AAM **Ann Arbor** 89.13 32 P P 07 59 09.7 +0.5
baz=326,SNR=7.6
SLM **Saint Louis** 89.14 38 eP P 07 59 09.6 +0.3
comp=Z,48nm,0.8s
SLM **Saint Louis** 89.14 38 eP P 07 59 09.6 +0.3
SLM pmax pmax
comp=Z,48nm,0.8s
R42A **Luebbering** 89.14 39 P P 07 59 09.5 +0.1
baz=322,SNR=9.6
Q43A **New Douglas** 89.15 38 P P 07 59 09.6 +0.2
baz=322
S41A **Jillco Farms,** 89.21 40 P P 07 59 09.7 -0.1
baz=321,SNR=12
SFIN **Lafayette** 89.22 35 eP P 07 59 10.2 +0.5
comp=Z,29nm,0.9s
SFIN **Lafayette** 89.22 35 P P 07 59 10.0 +0.3
baz=324,SNR=12
L49A **Milan** 89.24 32 P P 07 59 10.5 +0.7
baz=326,SNR=12
P44A **Sand Creek, Wi** 89.25 37 P P 07 59 10.3 +0.4
baz=323,SNR=19
G55A **Calabogie** 89.25 26 P P 07 59 09.6 -0.2
baz=331,SNR=8.9
PLVO **Plevna** 89.31 27 eP P 07 59 10.1 +0.1
comp=Z,20nm,0.9s
PLVO **Plevna** 89.31 27 P P 07 59 10.0 0.0
baz=331,SNR=8.1
ELFO **Elginfield** 89.33 30 P P 07 59 11.0 +0.8
baz=328,SNR=9.1
M48A **Edgerton** 89.36 33 eP P 07 59 10.8 +0.5
comp=Z,36nm,1.0s
M48A **Edgerton** 89.36 33 P P 07 59 10.7 +0.3
baz=326,SNR=5.8
N47A **Urbana** 89.43 34 P P 07 59 10.7 0.0
baz=325,SNR=8.7
I53A **Kortright Cn E** 89.45 29 P P 07 59 11.1 +0.3
baz=329
ACTO **Acton** 89.46 29 P P 07 59 11.4 +0.6
baz=329
ORIO **Orleans, Innes** 89.49 25 P P 07 59 10.5 -0.3
baz=332,SNR=11
Q44A **Meyer Farm, Va** 89.51 37 eP P 07 59 11.9 +0.8
comp=Z,37nm,1.0s
Q44A **Meyer Farm, Va** 89.51 37 P P 07 59 11.2 +0.1
baz=323
PKRO **Pickering** 89.53 28 P P 07 59 11.6 +0.5
baz=329,SNR=7.2
LFF **La Frestale** 89.54 334 eP P 07 59 10.8 -0.3
LFF pmax pmax
comp=Z,28nm,0.7s
ALFO **Alfred** 89.54 25 P P 07 59 10.9 -0.2
baz=332,SNR=15
S42A **Caledonia** 89.54 39 P P 07 59 11.6 +0.3
baz=322,SNR=21
FVM **French Village** 89.56 39 eP P 07 59 11.3 0.0
comp=Z,17nm,0.8s
FVM **French Village** 89.56 39 eP P 07 59 11.3 0.0
FVM pmax pmax
comp=Z,17nm,0.8s
DELO **Deloro Mine** 89.58 27 P P 07 59 11.3 0.0
baz=330,SNR=8.9
U40A **Yellville** 89.60 41 P P 07 59 11.6 0.0
baz=320,SNR=41
P45A **Graceland, Par** 89.61 36 eP P 07 59 12.1 +0.5
comp=Z,22nm,0.8s
P45A **Graceland, Par** 89.61 36 P P 07 59 11.9 +0.4
baz=324,SNR=8.3
J52A **Paris** 89.61 30 P P 07 59 12.2 +0.7
baz=328,SNR=6.9
X37A **Clayton** 89.61 44 eP P 07 59 12.4 +0.8
comp=Z,11nm,0.8s
K51A **Iona Station** 89.65 31 P P 07 59 12.5 +0.9
baz=328,SNR=6.3
M49A **Liberty Center** 89.68 33 P P 07 59 12.2 +0.3
baz=326,SNR=9.5
L50A **Kingsville** 89.69 32 P P 07 59 12.2 +0.3
baz=327,SNR=6.2
H55A **Tweed** 89.70 27 P P 07 59 12.0 +0.1
baz=331,SNR=9.5
DRWO **Darlington Wes** 89.73 28 P P 07 59 12.5 +0.5
baz=330,SNR=5.9
DRCO **St. Marys Ceme** 89.74 28 P P 07 59 12.6 +0.6
baz=330
N48A **Decatur** 89.74 34 P P 07 59 12.3 +0.1
baz=325,SNR=9.9
O47A **Sheridan** 89.74 35 P P 07 59 12.2 0.0
baz=325,SNR=6.8
P46A **Rosedale** 89.78 36 P P 07 59 12.8 +0.5
baz=325,SNR=14
WLVO **Wesleyville** 89.81 28 P P 07 59 12.8 +0.4
baz=330,SNR=6.0
I55A **Frankford** 89.81 27 P P 07 59 12.4 0.0
baz=330,SNR=6.4
ATD **Arta Tunnel** 89.87 285 eP P 07 59 14.6 +1.4
comp=Z,70nm,1.2s
K52A **Tillsonburg** 89.91 30 P P 07 59 13.6 +0.7
baz=328,SNR=8.1
Q45A **Warren Harvey,** 89.92 37 P P 07 59 13.5 +0.5
baz=323,SNR=13
TYNO **Tyneside** 89.97 29 P P 07 59 13.6 +0.4
baz=329,SNR=6.0
H56A **Elgin** 89.99 26 P P 07 59 13.2 0.0
baz=331
R44A **Waltonville** 90.00 38 P P 07 59 13.6 +0.3
baz=323,SNR=7.8
W39A **Magazine** 90.00 43 P P 07 59 13.7 +0.2
baz=320
PLIO **Pelee Island,** 90.01 32 P P 07 59 13.6 +0.3
baz=327,SNR=7.6
N49A **Columbus Grove** 90.05 33 eP P 07 59 14.0 +0.4
comp=Z,29nm,0.9s
N49A **Columbus Grove** 90.05 33 P P 07 59 13.9 +0.4
baz=326,SNR=13
S43A **Fulton Ridge,** 90.05 39 P P 07 59 13.7 0.0
baz=322,SNR=8.2
OLIL **Olney** 90.08 37 eP P 07 59 14.4 +0.6
comp=Z,44nm,0.9s
U41A **Viola** 90.09 41 P P 07 59 13.6 -0.2
baz=321,SNR=13
JCT **Junction City** 90.13 50 eP P 07 59 14.5 +0.3
comp=Z,11nm,0.8s
JCT **Junction City** 90.13 50 eP P 07 59 14.5 +0.3
JCT pmax pmax
comp=Z,11nm,0.8s
JCT **Junction City** 90.13 50 P P 07 59 14.4 +0.1
baz=317,SNR=11
M50A **Fremont** 90.13 32 eP P 07 59 14.7 +0.8
comp=Z,20nm,0.9s
M50A **Fremont** 90.13 32 P P 07 59 14.2 +0.3
baz=327
STCO **Saint Catharin** 90.14 29 P P 07 59 14.0 +0.1
baz=329
O48A **Farmland** 90.18 34 P P 07 59 14.3 +0.1
baz=325,SNR=13
Q46A **CEJHS Indians,** 90.19 36 P P 07 59 14.7 +0.4
baz=324
MSEY **Mahe Island** 90.22 264 P P 07 59 15.0 +0.2
J54A **Appleton** 90.28 28 P P 07 59 15.0 +0.4
baz=330,SNR=5.4
PECO **Prince Edward** 90.31 27 P P 07 59 14.7 0.0
baz=331
P47A **Martinsville** 90.31 35 P P 07 59 15.1 +0.3
baz=324,SNR=8.8
T43A **Greenville** 90.33 39 P P 07 59 15.2 +0.2
baz=322,SNR=10
R45A **Skylar, Fairfi** 90.34 37 P P 07 59 15.6 +0.6
baz=323
S44A **Carbondale** 90.35 38 P P 07 59 15.6 +0.6
baz=323,SNR=12
SIUC **Southern Illin** 90.36 38 eP P 07 59 15.6 +0.5
comp=Z,40nm,0.8s
WHTX **Lake Whitney,** 90.39 47 eP P 07 59 16.3 +1.0
comp=Z,22nm,0.8s
WHTX **Lake Whitney,** 90.39 47 P P 07 59 15.9 +0.6
baz=318,SNR=11
MTLF **Montolieu** 90.40 332 eP P 07 59 14.7 -0.5
MTLF pmax pmax
comp=Z,18nm,1.0s
MEDO **Medina** 90.44 28 P P 07 59 15.7 +0.4
baz=330
BLO **Bloomington** 90.45 36 eP P 07 59 16.0 +0.5
comp=Z,20nm,1.2s
BLO **Bloomington** 90.45 36 eP P 07 59 16.0 +0.5
BLO pmax pmax
comp=Z,20nm,1.2s
PBMO **Poplar Bluff** 90.50 40 eP P 07 59 16.1 +0.3
comp=Z,34nm,1.0s
LONY **Lake Ozonia** 90.53 25 P P 07 59 15.6 -0.2
baz=332
M51A **Elyria** 90.55 32 P P 07 59 16.1 +0.2
baz=327
J55A **Hilton** 90.59 28 P P 07 59 16.3 +0.3
baz=330,SNR=6.6
O49A **Covington** 90.59 34 eP P 07 59 14.9 -1.2
comp=Z,29nm,1.1s
O49A **Covington** 90.59 34 P P 07 59 16.3 +0.2
baz=326
BATG **Bathurst New B** 90.60 19 eP P 07 59 16.2 +0.1
comp=Z,26nm,1.1s
MIAR **Mount Ida** 90.61 43 eP P 07 59 16.8 +0.5
comp=Z,24nm,0.8s
MIAR **Mount Ida** 90.61 43 eP P 07 59 16.8 +0.5
MIAR pmax pmax
comp=Z,24nm,0.8s
MIAR **Mount Ida** 90.61 43 P P 07 59 16.9 +0.6
baz=320,SNR=17
N50A **Nevada** 90.61 33 P P 07 59 16.8 +0.6
baz=326,SNR=7.7
PQI **Presque Isle** 90.65 20 eP P 07 59 16.7 +0.5
comp=Z,39nm,1.6s
MOQ **Mont Orford** 90.66 23 eP P 07 59 17.1 +0.6
FRNY **Flat Rock** 90.67 24 eP P 07 59 16.1 -0.3
comp=Z,4.7nm,0.8s
Q47A **Bedord North L** 90.69 36 P P 07 59 17.1 +0.6
baz=324,SNR=19
S45A **Carrier Mills** 90.69 38 P P 07 59 17.1 +0.4
baz=323,SNR=12
M52A **Chesterland** 90.71 31 P P 07 59 17.4 +0.7
baz=328,SNR=8.6
P48A **Milroy** 90.71 35 P P 07 59 16.8 +0.1
baz=325
WHAR **Wooly Hollow** 90.71 42 eP P 07 59 16.9 +0.1
comp=Z,30nm,0.9s
ERPA **Erie** 90.76 30 eP P 07 59 17.2 +0.3
comp=Z,32nm,0.8s
ERPA **Erie** 90.76 30 P P 07 59 17.5 +0.7
baz=329,SNR=10.0
R46A **Gibon Southern** 90.77 37 P P 07 59 17.3 +0.3
baz=324,SNR=9.2
L53A **Girard** 90.79 30 P P 07 59 17.7 +0.7
baz=328,SNR=19
N51A **Ashland** 90.81 32 eP P 07 59 17.6 +0.4
comp=Z,19nm,0.9s
N51A **Ashland** 90.81 32 P P 07 59 17.2 0.0
baz=327,SNR=5.8
W41B **Gary Mavity, V** 90.83 42 eP P 07 59 17.1 -0.2
comp=Z,10nm,0.8s
W41B **Gary Mavity, V** 90.83 42 P P 07 59 17.4 +0.1
baz=321,SNR=7.4
O50A **Cable** 90.93 33 P P 07 59 18.1 +0.4
baz=326,SNR=19
K55A **Perry** 90.96 28 P P 07 59 18.1 +0.3
baz=330,SNR=14
P49A **Miami Univ. Ec** 90.96 34 P P 07 59 18.0 +0.1
baz=326
Q48A **North Vernon** 91.01 35 P P 07 59 18.4 +0.4
baz=325,SNR=7.4
MMNY **Mt. Morris Dam** 91.02 28 eP P 07 59 17.9 -0.2
comp=Z,32nm,0.8s
X40A **Basin Creek Fa** 91.05 43 eP P 07 59 18.7 +0.4
comp=Z,9.9nm,0.8s
X40A **Basin Creek Fa** 91.05 43 P P 07 59 18.8 +0.4
baz=320,SNR=7.8
M53A **WI Miller and** 91.06 31 P P 07 59 18.7 +0.4
baz=328,SNR=9.1
U44A **Portageville** 91.08 39 P P 07 59 18.7 +0.2
baz=322
ALLY **Alegheny Colle** 91.09 30 eP P 07 59 18.5 0.0
comp=Z,35nm,1.0s
S46A **Don Dixon Farm** 91.10 37 P P 07 59 18.9 +0.4
baz=324
ACSO **Alum Creek Sta** 91.13 33 eP P 07 59 18.8 +0.2
comp=Z,29nm,0.9s
ACSO **Alum Creek Sta** 91.13 33 P P 07 59 18.9 +0.2
baz=327,SNR=9.4
R47A **Wooly Knot Far** 91.16 36 P P 07 59 19.1 +0.3
baz=324,SNR=5.7
N52A **McGinn's Farm,** 91.19 32 P P 07 59 18.9 0.0
baz=328
435B **Jarrell** 91.20 48 eP P 07 59 19.3 +0.1
comp=Z,14nm,0.9s
435B **Jarrell** 91.20 48 P P 07 59 19.4 +0.3
baz=318
NCB **Newcomb** 91.23 25 eP P 07 59 19.2 +0.2
comp=Z,12nm,0.8s
L55A **Hinsdale** 91.30 29 P P 07 59 19.7 +0.2
baz=330
P50A **Jamestown** 91.30 34 P P 07 59 19.8 +0.3
baz=326,SNR=11
Q49A **Aurora** 91.32 35 P P 07 59 19.9 +0.4
baz=325,SNR=5.4
WCI **Wyandotte Cave** 91.32 36 eP P 07 59 19.9 +0.4
comp=Z,15nm,0.8s
WCI **Wyandotte Cave** 91.32 36 eP P 07 59 19.9 +0.4
WCI pmax pmax
comp=Z,15nm,0.8s
WCI **Wyandotte Cave** 91.32 36 P P 07 59 19.8 +0.2
baz=324
HBAR **Harrisburg** 91.34 40 eP P 07 59 20.1 +0.4
comp=Z,53nm,1.0s
O51A **Pataskala** 91.36 33 P P 07 59 19.9 +0.1
baz=327,SNR=5.8
R48A **Northridge Ran** 91.37 36 P P 07 59 19.9 +0.1
baz=325
VT1 **Waterbury** 91.39 24 eP P 07 59 20.0 +0.3
comp=Z,14nm,0.9s
M54A **Oil Creek Stat** 91.40 30 eP P 07 59 20.2 +0.3
comp=Z,16nm,1.0s
M54A **Oil Creek Stat** 91.40 30 P P 07 59 20.3 +0.3
baz=329,SNR=8.5
GLAT **Glass** 91.47 39 eP P 07 59 20.5 +0.2
comp=Z,63nm,1.1s
WLAR **White Oak Lake** 91.51 43 eP P 07 59 21.4 +0.9
comp=Z,32nm,0.9s
T46A **Princeton** 91.53 38 P P 07 59 21.1 +0.6
baz=324
N53A **Lisbon** 91.53 31 P P 07 59 20.8 +0.2
baz=328
S47A **Hartford** 91.56 37 P P 07 59 20.8 +0.1
baz=324
PKME **Peaks-Kenny Pk** 91.59 22 eP P 07 59 20.4 -0.2
comp=Z,23nm,1.3s
PKME **Peaks-Kenny Pk** 91.59 22 P P 07 59 21.2 +0.5
baz=336
O52A **Adamsville** 91.71 32 eP P 07 59 21.7 +0.4
comp=Z,20nm,1.1s
O52A **Adamsville** 91.71 32 P P 07 59 21.3 0.0
baz=327
P51A **Williamsport** 91.72 33 eP P 07 59 21.0 -0.4
comp=Z,24nm,1.1s
P51A **Williamsport** 91.72 33 P P 07 59 21.1 -0.2
baz=327
LBNH **Lisbon** 91.73 24 P P 07 59 21.9 +0.5
baz=334
N54A **Moraine State** 91.74 30 eP P 07 59 21.8 +0.3
comp=Z,9.8nm,0.8s
N54A **Moraine State** 91.74 30 P P 07 59 21.8 +0.3
baz=329
ETSF **Etsaut** 91.78 333 eP P 07 59 23.2 +1.5
ETSF pmax pmax
comp=Z,11nm,0.8s
R49A **Shelbyville** 91.78 35 P P 07 59 22.1 +0.4
baz=325
M55A **Ridgway** 91.78 29 P P 07 59 22.0 +0.3
baz=330,SNR=8.6
SJPF **Ste Jean** 91.82 334 eP P 07 59 24.7 +2.9
SJPF pmax pmax
comp=Z,24nm,1.2s
O53A **New Philadelph** 91.85 32 P P 07 59 22.3 +0.3
baz=328
Q50A **Georgetown** 91.86 34 P P 07 59 22.3 +0.2
baz=326
S48A **Wiedeman Farm,** 91.89 36 P P 07 59 22.4 +0.2
baz=325,SNR=5.8
ACCN **Adirondack Com** 91.93 25 eP P 07 59 22.3 0.0
comp=Z,23nm,1.2s
833A **Chaparral WMA,** 91.93 51 P P 07 59 22.9 +0.3
baz=317
U46A **Springville** 91.94 38 P P 07 59 22.6 +0.2
baz=323
T47A **Sharon Grove** 91.94 37 eP P 07 59 23.1 +0.6
comp=Z,17nm,0.9s
T47A **Sharon Grove** 91.94 37 P P 07 59 22.9 +0.4
baz=324,SNR=10
Q51A **Peebles** 91.98 34 eP P 07 59 22.8 +0.2
comp=Z,25nm,0.9s
Q51A **Peebles** 91.98 34 P P 07 59 22.9 +0.2
baz=326,SNR=8.3
P52A **Corning** 91.99 33 P P 07 59 22.5 -0.2
baz=327
Z41A **Richland Creek** 92.01 43 P P 07 59 23.2 +0.4
baz=320
X43A **Marvell** 92.04 41 eP P 07 59 23.2 +0.3
comp=Z,22nm,0.8s
X43A **Marvell** 92.04 41 P P 07 59 23.2 +0.3
baz=322
CCAR **Cane Creek** 92.05 42 eP P 07 59 22.3 -0.7
comp=Z,38nm,0.9s
HNH **Hanover** 92.10 24 eP P 07 59 23.6 +0.6
comp=Z,14nm,1.2s
NATX **Nacogdoches** 92.14 45 P P 07 59 23.9 +0.5
baz=319
S49A **Springfield** 92.14 36 P P 07 59 23.7 +0.4
baz=325,SNR=8.5
R50A **Paris** 92.17 35 P P 07 59 23.3 -0.1
baz=326
BINY **Binghamton** 92.18 27 eP P 07 59 23.7 +0.2
comp=Z,19nm,1.2s
BINY **Binghamton** 92.18 27 P P 07 59 23.6 +0.1
baz=331
T48A **Bowling Green** 92.18 37 P P 07 59 23.8 +0.2

	baz=324									
O54A	**Avella**	92.25	31	P		P	07 59 24.3	+0.5		
	baz=328,SNR=5.3									
WVT	**Waverly**	92.29	38	*e*P		P	07 59 24.2	+0.2		
	comp=Z,12nm,0.9s									
WVT	**Waverly**	92.29	38	*e*P		P	07 59 24.2	+0.2		
WVT				pmax		pmax				
	comp=Z,12nm,0.9s									
WVT	**Waverly**	92.29	38	P		P	07 59 24.3	+0.3		
	baz=324									
N55A	**Marion Center**	92.29	30	P		P	07 59 24.3	+0.3		
	baz=329									
U47A	**Clarksville**	92.30	38	P		P	07 59 24.4	+0.3		
	baz=324									
V46A	**Holladay**	92.41	39	P		P	07 59 24.8	+0.2		
	baz=323,SNR=7.2									
P53A	**Whipple**	92.42	32	*e*P		P	07 59 25.1	+0.5		
	comp=Z,15nm,1.0s									
P53A	**Whipple**	92.42	32	P		P	07 59 24.7	+0.1		
	baz=328									
R51A	**Hillsboro**	92.48	34	P		P	07 59 25.1	+0.2		
	baz=326									
Q52A	**Bidwell**	92.50	33	P		P	07 59 25.1	+0.1		
	baz=327									
FFD	**Franklin Falls**	92.51	24	*e*P		P	07 59 25.1	+0.2		
	comp=Z,12nm,0.8s									
T49A	**Edmonton**	92.58	36	*e*P		P	07 59 25.6	+0.2		
	comp=Z,16nm,1.2s									
T49A	**Edmonton**	92.58	36	P		P	07 59 25.7	+0.2		
	baz=325,SNR=6.5									
U48A	**Cassie Pea, Po**	92.60	37	P		P	07 59 25.6	+0.1		
	baz=324									
S50A	**Richmond**	92.63	35	P		P	07 59 25.7	+0.1		
	baz=326,SNR=7.1									
O55A	**Ligonier**	92.66	30	P		P	07 59 25.8	+0.1		
	baz=329									
V47A	**Nunnelly**	92.68	38	P		P	07 59 26.0	+0.1		
	baz=324,SNR=9.6									
P54A	**Burton**	92.70	32	P		P	07 59 26.2	+0.2		
	baz=328									
OXF	**Oxford**	92.80	40	*e*P		P	07 59 27.1	+0.7		
	comp=Z,28nm,0.9s									
OXF	**Oxford**	92.80	40	*e*P		P	07 59 27.1	+0.7		
OXF				pmax		pmax				
	comp=Z,28nm,0.9s									
OXF	**Oxford**	92.80	40	P		P	07 59 26.5	0.0		
	baz=322,SNR=5.9									
W46A	**Michie**	92.82	39	P		P	07 59 26.4	-0.1		
	baz=323									
SSPA	**Standing Stone**	92.84	29	P		P	07 59 26.9	+0.3		
	baz=330									
R52A	**Catlettsburg**	92.86	34	P		P	07 59 26.6	-0.1		
	baz=327									
O56A	**Blue Knob Stat**	92.89	30	*e*P		P	07 59 27.0	+0.2		
	comp=Z,9.1nm,0.8s									
O56A	**Blue Knob Stat**	92.89	30	P		P	07 59 27.0	+0.2		
	baz=330									
Q53A	**Leroy**	92.90	33	P		P	07 59 27.2	+0.3		
	baz=328,SNR=6.2									
MCWV	**Mont Chateau**	92.91	31	*e*P		P	07 59 27.1	+0.2		
	comp=Z,5.5nm,0.8s									
MCWV	**Mont Chateau**	92.91	31	P		P	07 59 27.3	+0.4		
	baz=329									
U49A	**Red Boiling Sp**	92.95	37	P		P	07 59 27.4	+0.2		
	baz=325,SNR=9.6									
T50A	**Nancy**	92.97	36	P		P	07 59 27.4	+0.1		
	baz=325,SNR=8.3									
S51A	**Beattyville**	93.02	35	P		P	07 59 27.5	+0.1		
	baz=326									
P55A	**Reedsville**	93.05	31	P		P	07 59 27.9	+0.3		
	baz=329,SNR=7.0									
Q54A	**Coxs Mills**	93.08	32	P		P	07 59 28.0	+0.4		
	baz=328									
PLAL	**Pickwick Lake**	93.09	39	*e*P		P	07 59 27.4	-0.4		
	comp=Z,6.6nm,0.9s									
V48A	**Smith Brothers**	93.09	38	*e*P		P	07 59 27.4	-0.4		
	comp=Z,11nm,1.0s									
V48A	**Smith Brothers**	93.09	38	P		P	07 59 27.8	+0.1		
	baz=324,SNR=6.6									
W47A	**Westpoint**	93.11	39	P		P	07 59 27.9	0.0		
	baz=324,SNR=5.5									
R53A	**Hurricane**	93.16	33	P		P	07 59 28.1	+0.1		
	baz=327									
X46A	**Booneville**	93.17	40	P		P	07 59 28.2	+0.1		
	baz=323									
S52A	**Salyersville**	93.22	34	P		P	07 59 28.6	+0.2		
	baz=326									
Q55A	**Buckhannon**	93.38	32	P		P	07 59 29.0	-0.1		
	baz=328									
N59A	**State Game Lan**	93.38	28	*e*P		P	07 59 29.1	+0.1		
	comp=Z,13nm,1.1s									
N59A	**State Game Lan**	93.38	28	P		P	07 59 29.4	+0.3		
	baz=332									
HRV	**Adam Dziewonsk**	93.41	24	P		P	07 59 29.5	+0.5		
	baz=334									
T51A	**Gray**	93.42	35	P		P	07 59 29.2	-0.1		
	baz=326									
U50A	**Jamestown**	93.47	36	P		P	07 59 29.8	+0.3		
	baz=325									
V49A	**McMinnville**	93.50	37	P		P	07 59 29.5	-0.1		
	baz=325									
W48A	**Pulaski**	93.52	38	P		P	07 59 29.9	+0.2		
	baz=324,SNR=13									
X47A	**Russelville**	93.56	39	P		P	07 59 29.8	-0.2		
	baz=323									
S53A	**Williamson**	93.63	34	P		P	07 59 30.3	+0.1		
	baz=327									
R54A	**Victor**	93.69	33	P		P	07 59 30.6	0.0		
	baz=328									
T52A	**Hallie**	93.73	35	P		P	07 59 31.0	+0.2		
	baz=327									
KEST	**Kesra**	93.82	323	*e*P		P	07 59 31.0	-0.2		
	comp=Z,16nm,1.0s									
KEST	**Kesra**	93.82	323	P		P	07 59 30.9	-0.3		
	comp=Z,9.5nm,0.9s,baz=316,slow=3.9,SNR=7.2									
KEST				LR		LR	08 46 54.8			
	comp=Z,674nm,18.1s,baz=310,slow=39									
W49A	**Belvidere**	93.85	38	P		P	07 59 31.3	0.0		
	baz=324,SNR=5.7									
U51A	**La Follette**	93.87	36	P		P	07 59 31.6	+0.2		
	baz=326									
ZAIG	**Zacatecas**	93.91	57	*e*P		P	07 59 32.3	+0.1		
	comp=Z,6.2nm,1.0s									
SWET	**Sewanee**	93.93	38	*e*P		P	07 59 31.5	-0.2		
	comp=Z,19nm,1.1s									
TZTN	**Tazewell**	93.95	35	*e*P		P	07 59 31.6	-0.1		
	comp=Z,12nm,0.9s									
TZTN	**Tazewell**	93.95	35	P		P	07 59 31.9	+0.2		
	baz=326,SNR=5.5									
V50A	**Pikevile**	93.95	37	P		P	07 59 31.7	-0.1		
	baz=325									
PAL	**Palisades**	93.97	26	P		P	07 59 31.9	+0.2		
	baz=333									
R55A	**Marlinton**	93.97	32	P		P	07 59 32.0	+0.1		
	baz=328									
X48A	**Hartselle**	94.02	39	*e*P		P	07 59 31.2	-0.8		
	comp=Z,8.2nm,0.8s									
X48A	**Hartselle**	94.02	39	P		P	07 59 31.4	-0.7		
	baz=324,SNR=5.7									
VBMS	**Vicksburg**	94.03	42	P		P	07 59 32.4	+0.3		
	baz=322									
T53A	**Wise**	94.03	34	P		P	07 59 32.3	+0.1		
	baz=327									
U52A	**Thorn Hill**	94.16	35	P		P	07 59 32.7	0.0		
	baz=326									
V51A	**Loudon**	94.19	36	*e*P		P	07 59 32.9	0.0		
	comp=Z,15nm,1.0s									
V51A	**Loudon**	94.19	36	P		P	07 59 32.8	0.0		
	baz=326,SNR=5.8									
W50A	**Signal Mountai**	94.24	37	*e*P		P	07 59 32.1	-1.0		
	comp=Z,9.9nm,0.9s									
W50A	**Signal Mountai**	94.24	37	P		P	07 59 33.1	0.0		
	baz=325									
S55A	**Lewisburg**	94.24	32	P		P	07 59 32.9	-0.2		
	baz=328									
X49A	**Woodville**	94.32	38	P		P	07 59 33.2	-0.2		
	baz=324,SNR=7.9									
T54A	**Tazewell**	94.39	34	P		P	07 59 33.8	0.0		
	baz=328									
Y48A	**Jasper**	94.39	39	P		P	07 59 33.1	-0.7		
	baz=324									
CPCT	**Cooper Cave**	94.41	36	*e*P		P	07 59 33.7	-0.1		
	comp=Z,12nm,1.0s									
V52A	**Sevierville**	94.51	36	*e*P		P	07 59 33.9	-0.4		
	comp=Z,9.9nm,0.8s									
V52A	**Sevierville**	94.51	36	P		P	07 59 34.4	+0.1		
	baz=326									
U53A	**Fall Branch**	94.53	35	P		P	07 59 34.4	-0.1		
	baz=327									
W51A	**Cleveland**	94.53	37	P		P	07 59 34.3	-0.1		
	baz=325									
TKL	**Tuckaleechee C**	94.58	36	*e*P		P	07 59 34.5	-0.1		
	comp=Z,8.8nm,0.8s									
TKL	**Tuckaleechee C**	94.58	36	*e*P		P	07 59 34.5	-0.1		
TKL				pmax		pmax				
	comp=Z,9.0nm,0.8s									
TKL	**Tuckaleechee C**	94.58	36	LR		LR	08 43 25.1			
	comp=Z,85nm,20.7s,baz=336,slow=36									
T55A	**Pulaski**	94.68	33	P		P	07 59 35.4	+0.3		
	baz=328									
U54A	**Nelsons Funny**	94.73	34	P		P	07 59 35.4	-0.1		
	baz=327									
BLA	**Blacksburg**	94.75	33	*e*P		P	07 59 35.4	0.0		
	comp=Z,13nm,1.0s									
BLA	**Blacksburg**	94.75	33	*e*P		P	07 59 35.4	0.0		
BLA				pmax		pmax				
	comp=Z,13nm,1.0s									
BLA	**Blacksburg**	94.75	33	P		P	07 59 35.6	+0.2		
	baz=328									
Y49A	**Blount Mountai**	94.80	39	P		P	07 59 35.4	-0.3		
	baz=324									
W52A	**Murphy**	94.97	36	P		P	07 59 36.6	+0.1		
	baz=326									
X51A	**Calhoun**	94.97	37	P		P	07 59 36.3	-0.2		
	baz=325									
V53A	**Saluda**	95.00	35	P		P	07 59 36.5	-0.1		
	baz=327									
T56A	**Rocky Mt**	95.07	33	P		P	07 59 36.7	-0.1		
	baz=328									
U55A	**TA2, Sparta**	95.08	34	P		P	07 59 36.8	-0.2		
	baz=328									
Y50A	**Piedmont**	95.11	38	P		P	07 59 36.8	-0.3		
	baz=325									
LRAL	**Lakeview Retre**	95.18	40	P		P	07 59 37.6	+0.2		
	baz=324									
148A	**Greensboro**	95.20	40	P		P	07 59 37.3	-0.2		
	baz=324									
W53A	**Cullowhee**	95.26	36	P		P	07 59 38.0	+0.1		
	baz=326									
Z49A	**Columbiana**	95.28	39	P		P	07 59 37.7	-0.1		
	baz=324									
V54A	**Nebo**	95.30	35	P		P	07 59 37.5	-0.5		
	baz=327									
X52A	**Dahlonega**	95.39	37	P		P	07 59 38.2	-0.2		
	baz=326									
T57A	**Hurt**	95.42	32	P		P	07 59 38.1	-0.3		
	baz=329									
Y51A	**Rockmart**	95.42	38	P		P	07 59 38.1	-0.4		
	baz=325,SNR=6.3									
BG3	**Lake Jocassee**	95.51	36	*e*P		P	07 59 38.9	0.0		
	comp=Z,14nm,0.8s									
Z50A	**Ashland**	95.53	39	*e*P		P	07 59 38.6	-0.5		
	comp=Z,15nm,0.8s									
Z50A	**Ashland**	95.53	39	P		P	07 59 38.8	-0.3		
	baz=325,SNR=8.8									
V55A	**Taylorsville**	95.56	34	P		P	07 59 39.4	+0.3		
	baz=328									
149A	**Jones**	95.63	40	P		P	07 59 39.7	+0.2		
	baz=324									
X53A	**Estanollee**	95.75	36	P		P	07 59 40.4	+0.4		
	baz=326,SNR=8.6									
W54A	**Cherokee Point**	95.77	35	P		P	07 59 39.9	-0.2		
	baz=327									
ES06	**SONSECA Array**	95.81	334	*e*P		P	07 59 39.9	-0.3		
ESDC	**Sonseca Array**	95.81	334	P		P	07 59 40.0	-0.3		
	comp=Z,5.0nm,0.9s,baz=17,slow=4.1,SNR=19									
ESDC				LR		LR	08 48 00.9			
	comp=Z,339nm,18.9s,baz=0.0,slow=39									
V56A	**Mocksville**	95.91	34	P		P	07 59 40.7	0.0		
	baz=328									
Y52A	**Lilburn**	95.92	37	P		P	07 59 41.0	+0.2		
	baz=326									
249A	**Camden**	95.97	40	P		P	07 59 41.3	+0.3		
	baz=324									
150A	**Eclectic**	96.01	39	P		P	07 59 41.1	-0.1		
	baz=324									
KMSC	**Kings Mountain**	96.11	34	P		P	07 59 41.3	-0.3		
	baz=328									
X54A	**Belton**	96.14	36	P		P	07 59 41.9	+0.1		
	baz=327									
Y53A	**Monroe**	96.16	37	P		P	07 59 41.9	0.0		
	baz=326									
Z52A	**Williamson**	96.31	38	P		P	07 59 42.7	+0.1		
	baz=326									
250A	**Grady**	96.39	40	P		P	07 59 43.0	0.0		
	baz=324									
151A	**Opelika**	96.41	39	P		P	07 59 42.9	-0.2		
	baz=325									
W56A	**Indian Trail**	96.44	34	P		P	07 59 42.7	-0.4		
	baz=328									
X55A	**Gracelyn & Ava**	96.54	35	P		P	07 59 43.1	-0.4		
	baz=327									
Y54A	**Tignall**	96.56	36	P		P	07 59 44.1	+0.4		
	baz=327,SNR=11									
GOGA	**Godfrey**	96.58	37	P		P	07 59 43.8	0.0		
	baz=326									
152A	**Waverly Hall**	96.59	38	P		P	07 59 43.7	-0.1		
	baz=325									
Z53A	**Monticello**	96.64	37	P		P	07 59 44.0	0.0		
	baz=326									
W57A	**Gilead**	96.68	34	P		P	07 59 44.1	-0.1		
	baz=328									
X56A	**White Oak**	96.78	35	P		P	07 59 44.4	-0.2		
	baz=328									
Y55A	**Saluda**	96.88	35	P		P	07 59 45.2	+0.1		
	baz=327									
Z54A	**Sparta**	97.01	37	P		Pdif	07 59 46.0	+0.2		
	baz=326									
W58A	**Raeford**	97.12	33	P		P	07 59 46.2	0.0		
	baz=329									
KMBO	**Kilima Mbogo**	102.19	278	*e*Pdif		Pdif	08 00 08.3	-1.2		
KMBO				*e*PP		PP	08 04 21.6	-0.1		
KMBO	**Kilima Mbogo**	102.19	278	P		Pdif	08 00 09.2	-0.3		
KMBO	**Kilima Mbogo**	102.19	278	P		Pdif	08 00 08.8	-0.7		
	comp=Z,3.6nm,0.9s,baz=27,slow=6.5,SNR=8.8									
KMBO				PP		PP	08 04 21.0	-0.8		
	comp=Z,2.6nm,0.8s,baz=35,slow=6.8,SNR=7.5									
TOA1	**Torodi Ar. Sit**	116.33	316	*e*PKPdf		PKPdf	08 04 57.0	-0.8		
TOA1				*e*PP		PP	08 06 02.8	-0.5		
TOA0	**Torodi Ar. Sit**	116.33	316	*e*PKPdf		PKPdf	08 04 56.4	-1.3		
TOA0				*e*PKPdf		PKiKP	08 04 57.0	-0.8		
TORD	**Torodi Ar. Bea**	116.33	316	PKP		PKPdf	08 04 57.0	-0.8		
	comp=Z,3.8nm,1.0s,baz=343,slow=3.3,SNR=14									
TORD				PP		PP	08 06 02.8	-0.5		
	comp=Z,6.4nm,1.0s,baz=23,slow=7.8,SNR=7.5									
VNDA	**Vanda**	116.81	175	*e*PKPdf		PKPdf	08 04 56.3	-0.5		
VNDA	**Vanda**	116.81	175	PKP		PKPdf	08 04 56.6	-0.2		
	comp=Z,0.4nm,0.3s,baz=210,slow=2.1,SNR=4.3									
LSZ	**Lusaka**	117.91	273	*e*PKPdf		PKPdf	08 05 00.6	-0.2		
LSZ	**Lusaka**	117.91	273	*e*PKiKP		PKPdf	08 05 00.6	-0.2		
SMLC	**San Martn de**	121.87	43	*e*P		PKPdf	08 05 07.3	-1.1		
SMLC	**San Martn de**	121.87	43	*e*P		PKPdf	08 05 07.3	-1.1		
ZARC	**Zaragoza, Cauc**	122.53	45	*e*P		PKiKP	08 05 10.1	+0.2		
ZARC	**Zaragoza, Cauc**	122.53	45	*e*P		PKiKP	08 05 10.1	+0.2		
OCAC	**Ocana**	122.74	43	*e*P		PKiKP	08 05 10.5	0.0		
OCAC	**Ocana**	122.74	43	*e*P		PKiKP	08 05 10.5	0.0		
PTBC	**PUERTO BERRIO**	123.53	45	*e*P		PKPdf	08 05 11.0	-0.7		
PTBC	**PUERTO BERRIO**	123.53	45	*e*P		PKPdf	08 05 11.0	-0.7		
NORC	**Norcasia**	124.11	46	*e*P		PKPdf	08 05 12.1	-0.8		
NORC	**Norcasia**	124.11	46	*e*P		PKPdf	08 05 12.1	-0.8		
YOTC	**Yotoco, Valle**	124.54	49	*e*P		PKPdf	08 05 13.6	-0.1		
YOTC	**Yotoco, Valle**	124.54	49	*e*P		PKPdf	08 05 13.6	-0.1		
RUSC	**La Rusia**	124.82	44	*e*P		PKPdf	08 05 14.3	-0.5		
RUSC	**La Rusia**	124.82	44	*e*P		PKPdf	08 05 14.3	-0.5		
ROSC	**El Rosal**	125.01	46	*e*PKPdf		PKPdf	08 05 14.8	-0.2		
ROSC	**El Rosal**	125.01	46	PKP		PKPdf	08 05 14.6	-0.3		
	comp=Z,8.5nm,0.9s,baz=57,slow=19,SNR=5.7									
DBIC	**Dimbokro**	125.23	318	*e*PKPdf		PKPdf	08 05 13.7	-1.2		
DBIC				*e*PP		PP	08 07 01.3	-2.7		
DBIC	**Dimbokro**	125.23	318	PKP		PKPdf	08 05 14.4	-0.5		
	comp=Z,10nm,0.8s,baz=23,slow=3.2,SNR=12									
DBIC				PP		PP	08 07 03.1	-0.9		
	comp=Z,6.7nm,0.9s,baz=358,slow=9.5,SNR=4.4									
DBIC	**Dimbokro**	125.23	318	*e*P		PKPdf	08 05 14.1	-0.8		
LBTB	**Lobatse**	125.32	265	*e*PKPdf		PKPdf	08 05 14.4	-0.4		
LBTB	**Lobatse**	125.32	265	*e*PKiKP		PKPdf	08 05 14.4	-0.4		
TIC	**Toumodi**	125.34	319	*e*PKP1		PKPdf	08 05 14.0	-1.1		
KIC	**Kosan Boka**	125.43	318	*e*PKP1		PKPdf	08 05 13.9	-1.4		
	comp=Z,48nm,1.1s									
LIC	**Lamto**	125.70	318	*e*PKP1		PKPdf	08 05 14.8	-1.0		
	comp=Z,29nm,0.8s									
VILC	**Villavicencio,**	125.96	46	*e*P		PKiKP	08 05 16.8	-0.1		
VILC	**Villavicencio,**	125.96	46	*e*P		PKiKP	08 05 16.8	-0.1		
OTAV	**Otavalo**	126.22	54	*e*P		PKPpre	08 05 11.4			
OTAV	**Otavalo**	126.22	54	*e*P		PKPpre	08 05 11.4			
BOSA	**Boshof**	127.37	261	PKP		PKPdf	08 05 18.9	+0.2		
	comp=Z,13nm,0.9s,baz=94,slow=1.7,SNR=14									
BOSA				PP		PP	08 07 20.1	+0.6		
	comp=Z,5.3nm,1.0s,baz=77,slow=14,SNR=3.2									
BOSA	**Boshof**	127.37	261	*e*P		PKPdf	08 05 18.4	-0.2		
TSUM	**Tsumeb**	128.43	276	*e*PKPdf		PKPdf	08 05 20.5	-0.5		
QSPA	**South Pole Qui**	128.65	180	*e*PKPdf		PKPdf	08 05 19.0	-0.8		
QSPA				*e*PKPdf		PKiKP	08 05 19.4	-1.1		
QSPA	**South Pole Qui**	128.65	180	PKP		PKPdf	08 05 19.0	-0.8		
	comp=Z,5.7nm,0.7s,baz=261,slow=0.9,SNR=36									
PTGA	**Pitinga**	136.99	33	*e*PKPdf		PKPdf	08 05 37.3	+0.1		
PTGA	**Pitinga**	136.99	33	*e*P		PKPdf	08 05 38.0	+0.9		
SNAA	**Sanae**	142.69	197	*e*PKPpre		PKPpre	08 05 41.7			
SNAA	**Sanae**	142.69	197	*e*PKIKP		PKPpre	08 05 41.7			
VNA2	**Neumayer--Watz**	144.26	197	Pdiff		PKPab	08 05 46.5	0.0		
	baz=92,slow=0.9									
VNA3	**Neumayer Olymp**	144.50	195	Pdiff		PKPab	08 05 46.8	-0.6		
VNA1	**Neumayer--Stat**	144.66	197	Pdiff		PKPab	08 05 47.7	-0.2		
LPAZ	**La Paz**	145.30	58	*e*PKPbc		PKPbc	08 05 52.4	0.0		
LPAZ	**La Paz**	145.30	58	*e*PKIKP		PKPbc	08 05 52.4	0.0		
LPAZ	**La Paz**	145.30	58	PKPbc		PKPbc	08 05 52.1	-0.3		
	comp=Z,27nm,1.1s,baz=346,slow=4.3,SNR=50									
LPAZ	**La Paz**	145.30	58	*e*P		PKPbc	08 05 52.5	0.0		
MNMC	**Minye Minye**	146.29	63	*e*PKPdf		PKPab	08 05 56.1	+0.2		
PB11	**IPOC Station P**	146.67	64	*e*PKPdf		PKPbc	08 05 55.7	-0.2		
GO01	**Chusmiza**	146.93	64	*e*PKPdf		PKPbc	08 05 57.3	+0.1		
NBPA	**Parau_RN**	146.98	358	*e*P		PKPbc	08 05 56.3	-0.5		
RCBR	**Riachuelo**	147.01	356	*e*PKPbc		PKPbc	08 05 57.6	+0.6		
RCBR	**Riachuelo**	147.01	356	*e*PKP2		PKPbc	08 05 57.6	+0.6		
RCBR	**Riachuelo**	147.01	356	*e*P		PKPbc	08 05 56.6	-0.3		
PB01	**IPOC Station P**	147.63	66	*e*PKPdf		PKPdf	08 05 56.7	+0.9		
LVC	**Limon Verde**	149.03	67	*e*PKPdf		PKPdf	08 05 59.5	+1.1		
LVC				*e*PKPbc		PKiKP	08 06 03.9	+0.1		
LVC	**Limon Verde**	149.03	67	*e*PKIKP		PKPdf	08 05 59.5	+1.1		
LVC				*e*			08 06 03.9			
LVC	**Limon Verde**	149.03	67	*e*P		PKPdf	08 05 59.9	+1.5		
GO02	**Mina Guanaco**	150.06	72	*e*PKPbc		PKPbc	08 06 05.0	0.0		
LCO	**Las Campanas**	151.25	80	*e*PKPbc		PKiKP	08 06 08.4	+0.3		
LCO	**Las Campanas**	151.25	80	*e*PKIKP		PKiKP	08 06 08.4	+0.3		
GO04	**Tololo Observa**	151.71	82	*e*PKPbc		PKiKP	08 06 08.9	-0.1		
ROC1	**El Roble**	152.70	88	*e*PKPbc		PKPbc	08 06 10.2	-0.5		
PEL	**Peldehue**	153.02	88	*e*PKPbc		PKiKP	08 06 11.3	0.0		
PEL	**Peldehue**	153.02	88	*e*PKIKP		PKiKP	08 06 11.4	0.0		
PLCA	**Paso Flores**	154.99	105	*e*PKPbc		PKPbc	08 06 16.3	+1.1		
PLCA				*e*PKPab		PKPab	08 06 30.6	-0.4		
PLCA	**Paso Flores**	154.99	105	PKPbc		PKPbc	08 06 15.6	+0.4		
	comp=Z,2.8nm,0.8s,baz=299,slow=6.7,SNR=4.4									
PLCA				PKPab		PKPab	08 06 30.8	-0.2		
	comp=Z,6.0nm,0.9s,baz=279,slow=3.0,SNR=8.2									
PLCA	**Paso Flores**	154.99	105	*e*P		PKPdf	08 06 09.7	+3.3		
BDFB	**Brasilia**	155.19	24	PKPbc		PKPbc	08 06 16.5			
	comp=Z,5.1nm,0.9s,baz=74,slow=1.6,SNR=5.4									
BDFB				PKPab		PKPab	08 06 32.6	+0.4		
	comp=Z,7.5nm,0.7s,baz=285,slow=4.6,SNR=8.8									
BDFB				PP		PP	08 10 08.3	+0.7		
	comp=Z,3.5nm,0.9s,baz=346,slow=14,SNR=4.0									
JANB	**Januaria**	155.59	15	*e*P		PKPdf	08 06 08.3	+0.4		
AQDB	**Aquidauana**	156.10	45	*e*P		PKPdf	08 06 09.0	+0.6		
MCI8	**Montes Claros**	157.22	15	*e*P		PKPdf	08 06 11.1	+1.1		
MCI9	**Montes Claros**	157.27	15	*e*P		PKPdf	08 06 11.3	+1.2		
MCI6	**Montes Claros**	157.37	15	*e*P		PKPdf	08 06 11.0	+0.8		
ITRB	**Iturama**	158.06	33	*e*P		PKPdf

H11N3 **WAKE ISLAND Hy 21.45 90** T T 09 17 30.3
baz=277,slow=75,SNR=7.7
H11S1 **WAKE ISLAND Hy 21.46 93** T T 09 17 19.8
baz=281,slow=75,SNR=15
H11S2 **WAKE ISLAND Hy 21.46 93** T T 09 17 21.3
baz=281,slow=75,SNR=20
KLR **Kul'dur 29.61 344** P P 08 56 32.8 -1.0
1.6nm,0.6s,baz=122,slow=10,SNR=7.5
SONM **Songino Array 40.21 320** P P 08 58 06.0 +1.1
0.3nm,0.5s,baz=132,slow=8.6,SNR=2.5
WRA **Warramunga Arr 42.02 194** P P 08 58 19.5 -0.4
0.5nm,0.5s,baz=16,slow=8.8,SNR=5.8
CMAR **Chiang Mai Arr 42.43 274** P P 08 58 23.9 +0.6
0.3nm,0.3s,baz=87,slow=5.5,SNR=2.9
ASAR **Alice Springs 45.72 193** P P 08 58 49.2 -0.1
0.4nm,0.6s,baz=17,slow=9.4,SNR=8.0
MKAR **Makanchi Array 55.61 313** P P 09 00 02.4 -1.0
0.4nm,0.7s,baz=96,slow=6.9,SNR=4.5
ILAR **Eielson Array 62.07 27** P P 09 00 47.6 -0.2
0.1nm,0.6s,baz=258,slow=5.7,SNR=4.7
YKA **Yellowknife Ar 76.47 28** P P 09 02 17.4 +0.9
0.4nm,0.7s,baz=292,slow=5.6,SNR=7.3
FINES **FINESS Array B 83.94 335** P P 09 02 55.7 -0.9
1.4nm,0.9s,baz=69,slow=5.0,SNR=6.8

JMA 31 08:54:56.0±0.1, 38.89N×142.08E, h44km±1km, M2.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.37**	**301**	P	Pn	08 55 05.6	+0.2
OFUJ				S	Sn	08 55 12.1	+0.1
JKMT	**Kesennumamotoy**	**0.48**	**261**	P	Pn	08 55 06.6	0.0
JKMT				S	Sn	08 55 14.0	-0.2
JMK	**Ichinoseki**	**0.67**	**276**	P	Pn	08 55 09.2	0.0
JMK				S	Sn	08 55 18.6	0.0
JIO	**Ouri**	**0.72**	**233**	P	Pn	08 55 09.5	-0.3
JIO				S	Sn	08 55 18.8	-0.9
JOM	**Ohasama**	**0.84**	**314**	P	Pn	08 55 11.7	+0.2
JOM				S	Sn	08 55 22.9	+0.1
JTH	**Tanohata**	**1.06**	**351**	P	Pn	08 55 14.8	+0.4
JTH				*e*S	Sn	08 55 28.3	+0.3
JOU	**Okura**	**1.23**	**245**	P	Pn	08 55 16.9	+0.2
JOU				*e*S	Sn	08 55 32.3	+0.2
JRG	**Rokugo**	**1.23**	**295**	P	Pn	08 55 17.3	+0.5
JYK	**Kaneyama**	**1.34**	**272**	P	Pn	08 55 18.8	+0.5
JMM	**Marumori**	**1.44**	**225**	P	Pn	08 55 19.2	-0.4
JANG	**Nango**	**1.54**	**344**	P	Pn	08 55 21.6	+0.5

IDC 31 08:55:53.0±2.2, 4.09N×126.93E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/51, mbtmp3.3/3, Error ellipse: s-maj=157.8km s-min=28.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.97**	**163**	P	P	09 01 18.6	+0.1
	0.2nm,0.3s,baz=343,slow=10.0,SNR=5.6						
ASAR	**Alice Springs**	**28.42**	**166**	P	P	09 01 49.4	-0.1
	0.2nm,0.3s,baz=349,slow=7.6,SNR=6.0						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	09 05 43.1	-0.1
	0.1nm,0.6s,baz=118,slow=5.5,SNR=3.8						

IDC 31 08:55:52.3±7.5, 37.30N×141.01E, h0km, mb3.5/2, mb1 3.3/3, mb1mx3.1/54, mbtmp3.3/3, ML1.9/1, Error ellipse: s-maj=118.6km s-min=51.1km az=111.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**2.37**	**252**	Pn	Pn	08 56 32.2	-0.2
	0.3nm,0.3s,baz=71,slow=16,SNR=14						
MJAR				Sn	Sg	08 57 10.2	+1.9
	0.1nm,0.3s,baz=128,slow=16,SNR=4.4						
MAT	**Matsushiro**	**2.37**	**252**	P	Pn	08 56 32.8	+0.4
MAT				*e*S	Sg	08 57 12.5	+4.1
SONM	**Songino Array**	**27.36**	**304**	P	P	09 01 38.2	-1.0
	0.4nm,0.5s,baz=101,slow=7.5,SNR=3.0						
H11N2	**WAKE ISLAND Hy**	**28.57**	**121**	T	T	09 31 12.3	
	baz=317,slow=76						
H11N1	**WAKE ISLAND Hy**	**28.57**	**121**	T	T	09 31 12.6	
	baz=317						
H11N3	**WAKE ISLAND Hy**	**28.58**	**121**	T	T	09 31 13.7	
	baz=317,slow=76						
MKAR	**Makanchi Array**	**43.70**	**302**	P	P	09 03 59.7	+0.8
	0.2nm,0.5s,baz=98,slow=8.9,SNR=3.1						

IDC ***31*** *09:03:52.8±1.7, 11.38S×164.85E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.6/38, mbtmp3.7/6, ML3.7/2, MS3.2/3, Ms1 3.1/3, ms1mx2.7/24, Error ellipse: s-maj=48.5km s-min=29.2km az=127.0*
ISCJB ***31*** *09:03:56.2±1.2, 11.6S±0.1×164.8E±0.2, h34km, mb3.6/4, MS3.3/2, Error ellipse: s-maj=24.7km s-min=19.4km az=0.6*
ISC 31 09:03:57.9±1.3, 11.5S±0.2×164.8E±0.2, h34km, n15, σ1s05/6, mb3.6/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.20**	**293**	LR	LR	09 07 09.4	
	comp=Z,81nm,18.8s,baz=291,slow=38						
DZM	**Mont Dzumac**	**10.63**	**172**	Pn	**Pn**	**09 06 28.2**	**+0.1**
	0.7nm,0.3s,baz=0.0,slow=20,SNR=11						
CTA	**Charters Tower**	**19.77**	**242**	P	**Pn**	**09 08 25.8**	**-1.2**
	0.1nm,0.3s,baz=62,slow=13,SNR=2.4						
STKA	**Stephens Creek**	**29.48**	**223**	LR	LR	09 21 26.1	
	comp=Z,55nm,19.6s,baz=61,slow=36						
H11S2	**WAKE ISLAND Hy**	**29.86**	**4**	T	T	09 41 23.2	
	baz=184,slow=76,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**29.86**	**4**	T	T	09 41 22.7	
	baz=184,slow=76,SNR=3.6						
H11S1	**WAKE ISLAND Hy**	**29.87**	**4**	T	T	09 41 21.3	
	baz=184,slow=76,SNR=4.5						
WRA	**Warramunga Arr**	**30.46**	**250**	P	**P**	**09 10 08.3**	**+0.6**
	0.5nm,0.7s,baz=78,slow=9.2,SNR=4.7						
H11N1	**WAKE ISLAND Hy**	**31.08**	**4**	T	T	09 42 53.8	
	baz=182,slow=75,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**31.09**	**4**	T	T	09 42 54.9	
	baz=182,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hy**	**31.10**	**4**	T	T	09 42 49.0	
	baz=182,slow=75,SNR=4.5						
ASAR	**Alice Springs**	**31.76**	**243**	P	**P**	**09 10 19.6**	**+0.3**
	0.7nm,0.8s,baz=78,slow=9.0,SNR=8.3						
FITZ	**Fitzroy Crossi**	**38.37**	**255**	LR	LR	09 26 56.6	
	comp=Z,52nm,18.5s,baz=137,slow=36						
ILAR	**Eielson Array**	**84.23**	**19**	P	**P**	**09 16 24.9**	**-0.8**
	0.3nm,0.7s,baz=240,slow=5.2,SNR=4.6						
MKAR	**Makanchi Array**	**93.22**	**317**	P	**P**	**09 17 09.9**	**+0.9**
	0.2nm,0.5s,baz=123,slow=4.5,SNR=3.8						

ISCJB ***31*** *09:13:08.2±0.5, 0.23N±0.06×122.68E±0.06, h150km, mb3.7/8, Error ellipse: s-maj=9.5km s-min=6.9km az=44.5*
DJA ***31*** *09:13:10.2±0.6, 0.7N±3.3×12.3E±°, h144km±5km, M3.9/8, MLv3.9/8*
IDC ***31*** *09:13:11.4±2.8, 0.26N×122.79E, h170km±26km, mb3.4/8, mb1 3.6/9, mb1mx3.3/31, mbtmp3.9/9, Error ellipse: s-maj=35.5km s-min=11.8km az=67.0*
ISC 31 09:13:09.3±0.6, 0.17N±0.06×122.61E±0.05, h150km, n15, σ1s41/24, mb3.8/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.74**	**295**	P	**Pn**	**09 13 32.3**	**+0.2**
MRSI				S	**Sn**	**09 13 49.0**	**-0.4**
LUWI	**Luwuk**	**1.21**	**172**	P	**Pn**	**09 13 37.1**	**+1.0**
LUWI				S	**Sn**	**09 13 57.6**	**+1.1**
KMSI	**Cibinong**	**1.43**	**74**	P	**Pn**	**09 13 38.9**	**+0.8**
KMSI				S	**Sn**	**09 14 04.3**	**+4.1**
APSI	**Ampana**	**1.44**	**222**	P	**Pn**	**09 13 39.3**	**+1.0**
APSI				S	**Sn**	**09 14 00.9**	**+0.4**
MPSI	**Mapaga**	**2.72**	**274**	P	**Pn**	**09 13 53.9**	**+0.7**
SANI	**Sanana**	**4.03**	**123**	P	**Pn**	**09 14 09.9**	**-0.1**
SANI				S	**Sn**	**09 14 55.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**18.40**	**171**	P	**P**	**09 17 13.6**	**+0.6**
	0.8nm,0.3s,baz=359,slow=7.6,SNR=10						
WRA	**Warramunga Arr**	**23.05**	**151**	P	**P**	**09 18 01.6**	**-0.1**
	1.6nm,1.2s,baz=327,slow=11,SNR=18						
ASAR	**Alice Springs**	**26.11**	**156**	P	**P**	**09 18 29.7**	**+0.3**
	0.2nm,0.3s,baz=345,slow=15,SNR=8.7						
ASAR				PcP	**PcP**	**09 21 52.9**	**-0.4**
	0.2nm,0.3s,baz=348,slow=1.9,SNR=5.9						
ASAR				ScP	**ScP**	**09 25 16.4**	**-2.7**
	0.2nm,0.8s,baz=336,slow=2.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**29.51**	**309**	P	**P**	**09 19 01.1**	**+1.4**
	1.1nm,0.4s,baz=109,slow=7.7,SNR=2.4						
STKA	**Stephens Creek**	**36.59**	**152**	P	**P**	**09 20 02.0**	**+1.0**
	1.0nm,0.8s,baz=339,slow=14,SNR=2.8						
MJAR	**Matsushiro Arr**	**38.98**	**20**	P	**P**	**09 20 19.7**	**-1.3**
	2.6nm,0.9s,baz=198,slow=9.6,SNR=7.3						
SONM	**Songino Array**	**49.53**	**346**	P	**P**	**09 21 45.2**	**+0.4**
	0.4nm,0.4s,baz=163,slow=9.0,SNR=5.0						
SONM				PcP	**PcP**	**09 23 03.2**	**-1.3**
	0.2nm,0.3s,baz=174,slow=1.3,SNR=2.8						
MKAR	**Makanchi Array**	**58.27**	**328**	P	**P**	**09 22 47.9**	**-0.3**
	0.7nm,0.4s,baz=126,slow=8.6,SNR=13						
MKAR				PcP	**PcP**	**09 23 37.0**	**-0.8**
	0.2nm,0.5s,baz=116,slow=3.4,SNR=2.5						
ARCES	**ARCESS Array B**	**92.34**	**340**	P	**P**	**09 26 01.7**	**-0.6**
	4.2nm,1.0s,baz=69,slow=5.0,SNR=2.9						

JMA 31 09:41:58.9±0.1, 36.63N×141.03E, h49km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.37**	**267**	P	Pn	09 42 08.7	+0.1
JHO				S	Sn	09 42 15.4	-0.2
JHYU	**Hitachinakayam**	**0.46**	**231**	P	Pn	09 42 09.7	+0.1
JHYU				S	Sn	09 42 17.2	0.0
ONAJ	**Iwakimizuishiy**	**0.51**	**339**	P	Pn	09 42 09.9	-0.3
ONAJ				*e*S	Sn	09 42 17.8	-0.6
JFFD	**Fukushimafurud**	**0.59**	**321**	P	Pn	09 42 11.3	0.0
JFFD				S	Sn	09 42 19.6	-0.6
JFK	**Kawauchi**	**0.75**	**350**	P	Pn	09 42 12.8	-0.5
JFK				S	Sn	09 42 21.7	-2.0
JYT	**Yasato**	**0.79**	**239**	P	Pn	09 42 13.7	0.0
JYT				S	Sn	09 42 24.2	-0.3
JFT	**Otama**	**1.05**	**328**	P	Pn	09 42 18.1	+0.9
JFT				S	Sn	09 42 31.7	+0.9
JMM	**Marumori**	**1.25**	**351**	P	Pn	09 42 20.0	0.0
JMM				S	Sn	09 42 35.6	0.0
MAT	**Matsushiro**	**2.27**	**269**	P	Pn	09 42 35.6	+1.6
MAT				S	Sn	09 43 04.3	+3.5

ISCJB ***31*** *09:46:22.0±0.7, 21.2N±0.1×144.0E±0.2, h30km, mb3.8/12, Error ellipse: s-maj=26.1km s-min=15.9km az=176.2*
IDC ***31*** *09:46:35.4±7.6, 21.22N×143.94E, h136km±71km, mb3.4/12, mb1 3.6/12, mb1mx3.4/42, mbtmp3.8/12, Error ellipse: s-maj=29.6km s-min=14.4km az=87.0*
ISC 31 09:46:23.7±0.9, 21.2N±0.1×144.1E±0.2, h30km, n18, σ1s27/12, mb3.8/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11N1	**WAKE ISLAND Hy**	**21.38**	**90**	T	T	10 13 13.3	
	baz=277,slow=75,SNR=21						
H11N2	**WAKE ISLAND Hy**	**21.39**	**90**	T	T	10 13 13.1	
	baz=277,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**21.39**	**93**	T	T	10 13 13.5	
	baz=281,slow=74,SNR=23						
H11N3	**WAKE ISLAND Hy**	**21.40**	**90**	T	T	10 13 14.3	
	baz=277,slow=75,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**21.40**	**93**	T	T	10 13 14.3	
	baz=281,slow=74,SNR=20						
H11S2	**WAKE ISLAND Hy**	**21.41**	**93**	T	T	10 13 14.9	
	baz=281,slow=74,SNR=21						
KSRS	**Korea Array**	**21.44**	**323**	P	**P**	**09 51 12.2**	**+2.8**
	1.4nm,0.6s,baz=148,slow=8.0,SNR=7.1						
KLR	**Kul'dur**	**29.66**	**344**	P	**P**	**09 52 27.2**	**+0.6**
	2.7nm,0.7s,baz=148,slow=6.4,SNR=14						
SONM	**Songino Array**	**40.28**	**320**	P	**P**	**09 53 58.0**	**-0.2**
	0.4nm,0.4s,baz=124,slow=7.7,SNR=7.2						
WRA	**Warramunga Arr**	**41.99**	**194**	P	**P**	**09 54 12.8**	**+0.5**
	0.8nm,0.5s,baz=17,slow=8.9,SNR=9.6						
ASAR	**Alice Springs**	**45.69**	**193**	P	**P**	**09 54 42.6**	**+0.6**
	0.6nm,0.6s,baz=17,slow=8.8,SNR=20						
ZALV	**Zalesovo Beam**	**55.14**	**322**	P	**P**	**09 55 52.2**	**-1.0**
	0.8nm,0.5s,baz=90,slow=7.4,SNR=3.8						
MKAR	**Makanchi Array**	**55.68**	**313**	P	**P**	**09 55 56.6**	**-0.5**
	0.6nm,0.6s,baz=90,slow=9.1,SNR=5.8						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**09 56 41.0**	**-0.3**
	0.7nm,0.8s,baz=259,slow=5.3,SNR=7.5						
YKA	**Yellowknife Ar**	**76.49**	**28**	P	**P**	**09 58 10.8**	**+0.4**
	0.4nm,0.6s,baz=292,slow=5.6,SNR=8.7						
NVAR	**Mina Array Bea**	**82.77**	**52**	P	**P**	**09 58 46.0**	**+0.6**
	0.2nm,0.4s,baz=262,slow=6.2,SNR=4.2						
KBZ	**Khabaz**	**83.34**	**314**	P	**P**	**09 58 46.9**	**-1.0**
	1.9nm,0.8s,baz=92,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**84.01**	**335**	P	**P**	**09 58 49.2**	**-1.7**
	0.8nm,0.6s,baz=46,slow=5.5,SNR=8.5						

ISCJB ***31*** *09:52:09.9±0.3, 6.90S±0.03×129.61E±0.04, h139km, mb4.1/20, Error ellipse: s-maj=5.8km s-min=4.3km az=20.0*
IDC ***31*** *09:52:11.1±2.2, 6.89S×129.49E, h142km±21km, mb3.6/6, mb1 3.8/10, mb1mx3.4/41, mbtmp4.2/10, Error ellipse: s-maj=29.4km s-min=14.6km az=85.0*
NEIC ***31*** *09:52:12.2±0.7, 6.94S×129.58E, h142km±7km, mb4.0/13, Error ellipse: s-maj=9.5km s-min=8.9km az=100.0*
DJA ***31*** *09:52:13.6±0.3, 7.3S±3.3×12.9E±°, h56km±44km, M4.7/8, mb4.8/5, mB5.0/4, MLv4.8/8, Mw(mB)4.3/4*
ISC 31 09:52:11.1±0.5, 6.82S±0.04×129.51E±0.05, h139km, n53, σ2s11/61, mb4.1/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.12**	**123**	*e*Pn	**Pn**	**09 52 48.7**	**+1.8**
SAUI				*e*Sn	**Sn**	**09 53 12.3**	**-2.2**
SAUI	**Saumlaki**	**2.12**	**123**	P	**Pn**	**09 52 48.9**	**+2.0**
SAUI				S	**Sn**	**09 53 17.2**	**+2.7**
BNDI	**Bandanaira**	**2.32**	**10**	P	**Pn**	**09 52 47.3**	**-2.1**
FAKI	**Fak Fak**	**4.74**	**35**	*e*Pn	**Pn**	**09 53 21.3**	**+0.5**
FAKI				*e*Sn	**Sn**	**09 54 11.4**	**-3.8**
FAKI	**Fak Fak**	**4.74**	**35**	P	**Pn**	**09 53 21.2**	**+0.3**
FAKI				S	**Sn**	**09 54 15.0**	**-0.2**
SOEI	**Soe**	**5.95**	**240**	*e*Pn	**Pn**	**09 53 38.6**	**+1.3**
SOEI				*e*Sn	**Sn**	**09 54 46.4**	**+1.9**
SOEI	**Soe**	**5.95**	**240**	P	**Pn**	**09 53 38.8**	**+1.6**
SOEI				S	**Sn**	**09 54 45.0**	**+0.5**
SIJI	**Sorong**	**6.17**	**17**	P	**Pn**	**09 53 40.7**	**+0.7**
	3.3nm,0.3s,baz=200,slow=23,SNR=15						
SIJI				S	**Sn**	**09 54 45.8**	**-3.6**
	6.2nm,0.3s,baz=107,slow=22,SNR=10						
MTN	**Manton Dam**	**6.19**	**165**	*e*Pn	**Pn**	**09 53 39.6**	**-0.7**
MTN				*e*Sn	**Sn**	**09 54 44.8**	**-5.3**
BATI	**Baumata**	**6.69**	**239**	P	**Pn**	**09 53 48.6**	**+1.6**
BATI				S	**Sn**	**09 55 01.5**	**-0.6**
BATI	**Baumata**	**6.69**	**239**	P	**Pn**	**09 53 47.5**	**+0.4**
	25nm,0.3s,baz=112,slow=0.8,SNR=23						
BATI				S	**Sn**	**09 54 57.2**	**-4.9**
	38nm,0.3s,baz=162,slow=2.8,SNR=11						
RKPI	**Ransiki, Papua**	**7.03**	**42**	P	**Pn**	**09 53 53.8**	**+2.2**
RKPI				S	**Sn**	**09 55 09.7**	**-0.6**
MMRI	**Maumere**	**7.43**	**255**	*e*Pn	**Pn**	**09 54 00.3**	**+3.4**
EDFI	**Ende, Flores**	**7.99**	**256**	P	**Pn**	**09 54 06.9**	**+2.4**
FITZ	**Fitzroy Crossi**	**11.83**	**198**	*e*Pn	**Pn**	**09 54 52.8**	**-2.7**
FITZ				*e*Sn	Sn	09 56 54.6	-12
FITZ	**Fitzroy Crossi**	**11.83**	**198**	P	**Pn**	**09 54 52.6**	**-2.9**
	0.8nm,0.3s,baz=25,slow=14,SNR=40						
FITZ				S	Sn	09 56 54.0	-12
	4.4nm,0.3s,baz=252,slow=23,SNR=9.8						
WRAB	**Tennant Creek**	**13.86**	**161**	*e*Pn	**Pn**	**09 55 22.0**	**+0.3**
WRA	**Warramunga Arr**	**13.86**	**161**	P	**Pn**	**09 55 17.9**	**-3.8**
	0.8nm,0.3s,baz=338,slow=13,SNR=40						
WRA				S	Sn	09 57 40.4	-15
	4.3nm,0.3s,baz=332,slow=22,SNR=11						
WB2	**Warramunga Ar**	**13.86**	**161**	*e*Pn	**Pn**	**09 55 18.4**	**-3.4**
WB2				*e*Sn	Sn	09 57 41.5	-14
COEN	**Coen**	**15.19**	**119**	*e*Pn	**Pn**	**09 55 37.3**	**-1.2**
	9.3nm,0.7s						
COEN				*e*Sn	Sn	09 58 14.5	-13
AS31	**Alice Springs**	**17.27**	**166**	*e*P	**P**	**09 56 02.7**	**-0.6**
	3.9nm,0.8s						
ASAR	**Alice Springs**	**17.27**	**166**	P	**P**	**09 56 03.2**	**-0.1**
	2.0nm,0.3s,baz=338,slow=9.1,SNR=209						
ASAR				S	S	09 59 04.2	-12
	1.1nm,0.3s,baz=341,slow=26,SNR=4.8						
AS01	**Alice Springs**	**17.28**	**166**	*e*P	**P**	**09 56 03.7**	**+0.3**
AS01				*e*S	**S**	**09 59 10.7**	**-5.8**
FORT	**Forrest**	**23.87**	**183**	*e*P	**P**	**09 57 12.4**	**+0.6**
	27nm,0.7s						
MORW	**Morawa**	**25.52**	**208**	*e*P	**P**	**09 57 26.6**	**-0.2**
	7.4nm,1.1s						
BBOO	**Buckleboo**	**26.57**	**168**	*e*P	**P**	**09 57 39.3**	**+3.1**
	8.8nm,1.1s						
STKA	**Stephens Creek**	**27.36**	**157**	*e*P	**P**	**09 57 43.1**	**-0.2**
	1.0nm,1.1s						
STKA	**Stephens Creek**	**27.36**	**157**	P	**P**	**09 57 42.7**	**-0.6**
	1.8nm,0.5s,baz=329,slow=9.6,SNR=4.6						
NWAO	**Narrogin (SRO)**	**28.37**	**202**	*e*P	**P**	**09 57 51.9**	**-0.3**
	7.7nm,1.0s						
NWAO	**Narrogin (SRO)**	**28.37**	**202**	P	**P**	**09 57 51.2**	**-1.0**
	5.3nm,0.7s,baz=45,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**39.25**	**310**	P	**P**	**09 59 25.9**	**-0.4**
	0.4nm,0.3s,baz=138,slow=7.2,SNR=3.8						
NJ2	**Nanjing**	**39.97**	**346**	*e*P	**P**	**09 59 35.0**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
XAN	**Xi'an**	**45.08**	**336**	P	P	10 00 23.5	+10
XAN				pP	pP	10 00 30.5	-13
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
LZH	**Lanzhou**	**49.02**	**332**	*e*P	P	10 00 52.0	+7.9
LZH				pP	pwP	10 01 21.0	+0.6
LZH				sP	sP	10 01 37.3	+7.8
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC	**Hu-ho-hao-te**	**50.23**	**342**	*e*P	P	10 00 58.5	+5.5
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
HHC				pmax	pmax		
	comp=Z,160nm,5.3s						
WHZ	**Wether Hill Ro**	**51.12**	**146**	*e*P	**P**	**10 01 00.1**	**+0.5**
	comp=Z,13nm,1.1s						
BKZ	**Black Stump Fm**	**53.07**	**135**	*e*P	**P**	**10 01 14.8**	**+0.6**
	comp=Z,9.3nm,1.1s						
WMQ	**Urumqi**	**62.98**	**327**	*e*P	**P**	**10 02 26.8**	**+3.7**
WMQ				LR	LR		
	comp=N,64nm,20.1s						
WMQ				LR	LR		
	comp=E,120nm,30.1s						
WMQ				LR	LR		
	comp=Z,79nm,18.9s						
MK01	**Makanchi Array**	**67.79**	**327**	*e*P	**P**	**10 02 55.1**	**+1.1**
MK31	**Makanchi Array**	**67.81**	**327**	*e*P	**P**	**10 02 55.4**	**+1.3**
	comp=Z,1.0nm,1.1s						
MKAR	**Makanchi Array**	**67.81**	**327**	P	**P**	**10 02 54.4**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=117,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**71.21**	**334**	P	**P**	**10 03 14.2**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=126,slow=7.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**72.11**	**329**	P	**P**	**10 03 20.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=115,slow=4.4,SNR=2.9						
VNDA	**Vanda**	**72.68**	**173**	*e*P	**P**	**10 03 23.1**	**-0.1**
	comp=Z,2.2nm,1.1s						
MAW	**Mawson**	**74.94**	**201**	*e*P	**P**	**10 03 37.0**	**+0.5**
	comp=Z,1.5nm,1.0s						
KEKH	**Kekaha**	**74.95**	**65**	*e*P	**P**	**10 03 38.4**	**+0.9**
	comp=Z,101nm,1.1s						
QSPA	**South Pole Qui**	**83.16**	**180**	*e*P	**P**	**10 04 20.8**	**-0.6**
	comp=Z,0.2nm,0.4s						
TX31	**Lajitas Ar. Si**	**125.25**	**59**	*e*PKPdf	**PKiKP**	**10 10 57.0**	**+0.5**
GO02	**Mina Guanaco**	**143.17**	**150**	*e*PKPpre	PKPpre	10 11 27.1	
PB01	**IPOC Station P**	**146.61**	**146**	*e*PKPbc	**PKPbc**	**10 11 38.2**	**+0.9**
GO01	**Chusmiza**	**147.87**	**145**	*e*PKPbc	**PKPbc**	**10 11 42.3**	**+0.9**
MNMC	**Minye Minye**	**148.07**	**144**	*e*PKPbc	**PKPbc**	**10 11 42.2**	**+0.5**
LPAZ	**La Paz**	**151.15**	**143**	*e*PKPbc	**PKPbc**	**10 11 50.4**	**+0.7**

IDC 31 10:08:08.7±999.0, 23.52N×24.71E, h0km, Error ellipse: s-maj=985.6km s-min=271.6km az=7.0, Libya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**26.74**	**344**	*i*		12 51 00.0	
	baz=157,slow=334,SNR=0.7						
I43RU	**DUBNA INFRASON**	**84.40**	**12**	*i*		13 38 51.9	
	baz=200,slow=322,SNR=0.7						
I31KZ	**AKTYUBINSK INF**	**37.28**	**35**	*i*		13 56 45.0	
	baz=236,slow=332,SNR=2.2						

IDC 31 10:24:31.7±1.0, 4.20N×124.06E, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.7/48, mbtmp4.0/7, Error ellipse: s-maj=100.4km s-min=15.7km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.21**	**176**	P	P	10 29 31.2	+1.2
	1.6nm,0.5s,baz=7.0,slow=6.2,SNR=9.0						
WRA	**Warramunga Arr**	**26.03**	**158**	P	P	10 30 07.0	+0.1
	1.8nm,0.3s,baz=336,slow=10.0,SNR=54						
ASAR	**Alice Springs**	**29.32**	**161**	P	P	10 30 36.0	-0.2
	0.6nm,0.4s,baz=336,slow=7.0,SNR=29						
STKA	**Stephens Creek**	**39.57**	**156**	P	P	10 32 04.0	-0.8
	1.7nm,0.4s,baz=336,slow=8.5,SNR=9.9						
SONM	**Songino Array**	**46.05**	**343**	P	P	10 32 59.2	+1.8
	0.2nm,0.6s,baz=165,slow=12,SNR=2.0						
MKAR	**Makanchi Array**	**55.67**	**326**	P	P	10 34 09.7	-0.1
	2.5nm,0.3s,baz=122,slow=7.8,SNR=33						
KURBB	**Kurchat

H11N1	**WAKE ISLAND Hy**	**31.97**	**164**	T	T	11 18 56.9					
	baz=350,slow=76,SNR=90										
H11S1	**WAKE ISLAND Hy**	**33.12**	**165**	T	T	11 20 24.1					
	baz=350,slow=76,SNR=38										
H11S3	**WAKE ISLAND Hy**	**33.13**	**165**	T	T	11 20 25.7					
	baz=350,slow=76,SNR=59										
H11S2	**WAKE ISLAND Hy**	**33.13**	**165**	T	T	11 20 25.5					
	baz=350,slow=76,SNR=26										
ZALV	**Zalesovo Beam**	**42.91**	**304**	P	P	10 46 47.1	+10				
	0.4nm,0.4s,baz=55,slow=9.4,SNR=2.1										
YKA	**Yellowknife Ar**	**45.55**	**41**	P	P	10 47 07.9	+9.5				
	0.2nm,0.7s,baz=298,slow=7.9,SNR=4.6										
TXAR	**Lajitas Array**	**72.62**	**65**	P	P	10 50 21.6	+15				
	0.2nm,0.6s,baz=292,slow=4.6,SNR=3.7										

*IDC **31** 10:54:43.7±0.9,2°.95N×127°.05E,h0km,mb3.7/8, mb1 3.8/9,mb1mx3.5/49,mbtmp3.7/9,ML3.3/1,MS2.8/2, Ms1 2.8/2,ms1mx2.3/39,Error ellipse: s-maj=62.7km s-min=15.4km az=65.0*

*ISCJB **31** 10:54:47.8±0.7,2°.9N±0°.1×127°.0E±0°.2,h44km,mb3.7/7, Error ellipse: s-maj=27.9km s-min=9.1km az=143.2*

ISC 31 10:54:49.7±0.9,2°.9N±0°.2×127°.1E±0°.2,h44km,n10, σ1♀47/10,mb3.8/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.65**	**132**	Pn	**Pn**	**10 56 08.9**	**-2.3**
	0.9nm,0.3s,baz=0.0,slow=20,SNR=2.5						
SIJI				Sn	**Sn**	**10 57 17.6**	**+2.7**
	0.5nm,0.3s,baz=13,slow=22,SNR=2.0						
SIJI				LR	LR	10 58 34.8	
	comp=Z,60nm,19.2s,baz=280,slow=41						
JAY	**Jayapura**	**14.68**	**111**	LR	LR	11 02 58.1	
	comp=Z,51nm,21.2s,baz=36,slow=34						
FITZ	**Fitzroy Crossi**	**20.94**	**184**	P	**P**	**10 59 29.1**	**+0.2**
	2.3nm,1.0s,baz=350,slow=6.1,SNR=2.2						
WRA	**Warramunga Arr**	**23.83**	**163**	P	**P**	**10 59 58.1**	**-0.8**
	1.0nm,0.5s,baz=335,slow=11,SNR=17						
ASAR	**Alice Springs**	**27.26**	**166**	P	**P**	**11 00 30.5**	**+0.4**
	0.3nm,0.4s,baz=343,slow=7.1,SNR=8.0						
STKA	**Stephens Creek**	**37.27**	**159**	P	**P**	**11 01 57.6**	**+0.2**
	0.8nm,0.4s,baz=334,slow=12,SNR=3.2						
SONM	**Songino Array**	**48.16**	**341**	P	**P**	**11 03 26.3**	**+0.6**
	0.2nm,0.4s,baz=156,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**58.40**	**325**	P	**P**	**11 04 41.4**	**+0.5**
	0.4nm,0.5s,baz=132,slow=9.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**61.45**	**333**	P	**P**	**11 05 02.0**	**+0.4**
	0.7nm,0.7s,baz=141,slow=9.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**62.59**	**327**	P	**P**	**11 05 08.4**	**-0.9**
	0.6nm,0.2s,baz=122,slow=6.6,SNR=4.6						

*IDC **31** 10:59:52.4±0.6,27°.45N×18°.35W,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.7/46,mbtmp3.7/13,MS2.9/1, Ms1 2.9/1,ms1mx2.5/33,Error ellipse: s-maj=20.1km s-min=12.1km az=49.0*

*ISCJB **31** 10:59:54.2±0.8,28°.08N±0°.04×17°.50W±0°.05,h10km, mb3.6/12,MS2.8/1,Error ellipse: s-maj=7.0km s-min=5.9km az=3.4*

*INMG **31** 10:59:54.9±2.3,27°.74N×18°.31W,h24km±14km,MD4.0, ML4.1,Error ellipse: s-maj=25.8km s-min=16.1km az=167.0*

*CNRM **31** 11:00:07.9,28°.64N×17°.33W,h30km,ml4.6*

ISC 31 10:59:54.4±0.8,28°.00N±0°.06×17°.67W±0°.07,h10km,n39, σ2♀79/40,mb3.7/12,Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUL	**Funchal**	**4.68**	**8**	*e*P	**Pn**	**11 01 06.1**	**+1.0**
FUL				*e*S	**Sn**	**11 01 59.0**	**-0.5**
FUL				A	A	11 02 02.9	
	231nm,0.2s						
PMAR	**Madeira**	**4.75**	**8**	*e*P	**Pn**	**11 01 07.0**	**+0.7**
PMAR				*e*S	**Sn**	**11 02 01.4**	**-0.1**
PMAR				A	A	11 02 06.4	
	325nm,0.3s						
PMAR	**Madeira**	**4.75**	**8**	P	**Pn**	**11 01 06.7**	**+0.4**
PMAR				S	**Sn**	**11 01 56.9**	**-4.7**
PMOZ	**Porto Moniz, M**	**4.82**	**5**	*e*P	**Pn**	**11 01 08.3**	**+1.1**
PMOZ				*e*S	**Sn**	**11 02 02.5**	**-0.7**
PMOZ				A	A	11 02 12.4	
	424nm,0.3s						
PMOZ	**Porto Moniz, M**	**4.82**	**5**	P	**Pn**	**11 01 07.6**	**+0.4**
PMOZ				S	**Sn**	**11 01 58.1**	**-5.0**
PMPS	**Porto Santo**	**5.17**	**13**	*e*P	**Pn**	**11 01 13.4**	**+1.6**
PMPS				*e*S	**Sn**	**11 02 11.8**	**+0.3**
PMPS				A	A	11 02 18.5	
	88nm,0.3s						
TANT	**Tantan**	**5.70**	**84**	P	Pn	11 01 24.2	+5.0
TANT				S	**Sn**	**11 02 23.5**	**-1.2**
TTIG	**Tnine Tigouga,**	**8.45**	**70**	P	Pn	11 02 03.2	+6.1
TTIG				S	**Sn**	**11 03 32.6**	**-0.1**
OUK	**Oukaimeden**	**9.11**	**67**	P	Pn	11 02 12.2	+5.9
OUK				S	**Sn**	**11 03 47.0**	**-2.2**
SRHM	**Skhour des Reh**	**9.55**	**60**	P	**Pn**	**11 02 14.2**	**+2.1**
SRHM				S	**Sn**	**11 03 52.2**	**-7.4**
OUZM	**OUZ**	**9.94**	**70**	P	Pn	11 02 21.8	+4.3
OUZM				S	**Sn**	**11 04 04.6**	**-4.7**
PSMN	**Pico do Norte,**	**10.93**	**327**	*e*T	T	11 13 19.0	
ZHG	**ZHG**	**10.93**	**58**	P	**Pn**	**11 02 33.7**	**+2.7**
ZHG				S	**Sn**	**11 04 26.7**	**-6.7**
PSMA	**Santa Maria**	**10.95**	**327**	*e*T	T	11 13 22.4	
BART	**Pico Bartolome**	**11.60**	**329**	*e*T	T	11 14 16.8	
CMLA	**Cha da Macela**	**11.75**	**328**	*e*T	T	11 14 20.6	
MORF	**Marmelete**	**11.99**	**37**	*e*S	**Sn**	**11 04 58.9**	**-0.3**
MORF				A	A	11 05 09.3	
	3.8nm,0.2s						
MD31	**MD31**	**12.15**	**63**	P	Pn	11 02 53.2	+5.5
MD31				S	**Sn**	**11 04 59.2**	**-4.1**
MDT	**Midelt**	**12.25**	**64**	Pn	Pn	11 02 58.9	+10
	baz=270,slow=6.7,SNR=2.0						
PBDV	**Barranco-do-Ve**	**12.33**	**39**	*e*P	Pn	11 02 56.5	+6.4
PBDV				*e*S	**Sn**	**11 05 06.8**	**-0.9**
PCVE	**Castro Verde**	**12.55**	**38**	*e*S	**Sn**	**11 05 14.5**	**+1.5**
PCVE				A	A	11 05 24.3	
	3.6nm,0.6s						
PVAQ	**Vaqueiros**	**12.57**	**39**	*e*S	**Sn**	**11 05 12.8**	**-0.5**
PNCL	**Nicolau / Gran**	**12.66**	**35**	*e*S	**Sn**	**11 05 12.5**	**-3.0**
PNCL				A	A	11 05 18.1	
	4.6nm,0.7s						
PMTG	**Montargil**	**13.55**	**33**	*e*S	**Sn**	**11 05 34.7**	**-2.6**
PESTR	**Estremoz**	**13.71**	**35**	*e*S	**Sn**	**11 05 41.1**	**-0.2**
PMRV	**Marv??o**	**14.24**	**34**	*e*S	**Sn**	**11 05 50.2**	**-3.9**
ESDC	**Sonseca Array**	**16.26**	**41**	P	**P**	**11 03 48.6**	**+2.5**
	0.2nm,0.3s,baz=232,slow=13,SNR=2.8						
TORD	**Torodi Ar. Bea**	**23.34**	**125**	P	**P**	**11 05 03.0**	**0.0**
	1.1nm,0.5s,baz=319,slow=6.3,SNR=17						
TORD				S	**S**	**11 09 19.1**	**+3.1**
	0.6nm,0.5s,baz=314,slow=23,SNR=4.8						
DBIC	**Dimbokro**	**24.45**	**148**	P	**P**	**11 05 11.7**	**-1.9**
	3.2nm,0.7s,baz=300,slow=10,SNR=4.4						
DBIC				S	**S**	**11 09 34.2**	**+0.5**
	2.3nm,0.8s,baz=32,slow=16,SNR=1.9						
DBIC				LR	LR	11 14 00.6	
	comp=Z,30nm,20.0s,baz=320,slow=35						
FINES	**FINESS Array B**	**44.23**	**28**	P	P	11 08 11.1	+7.5
	1.4nm,0.9s,baz=251,slow=7.2,SNR=4.3						
LPAZ	**La Paz**	**65.77**	**234**	P	P	11 10 35.0	-5.7
	0.6nm,0.6s,baz=42,slow=9.8,SNR=3.0						
YKA	**Yellowknife Ar**	**68.65**	**330**	P	**P**	**11 10 56.7**	**-0.9**
	0.1nm,0.6s,baz=69,slow=6.9,SNR=3.5						
BOSA	**Boshof**	**69.71**	**140**	P	**P**	**11 11 04.6**	**-0.2**
	2.2nm,0.8s,baz=342,slow=6.3,SNR=4.5						
PDAR	**Pinedale Array**	**72.87**	**310**	P	**P**	**11 11 22.6**	**-1.4**
	0.4nm,0.8s,baz=66,slow=9.2,SNR=3.0						
TXAR	**Lajitas Array**	**73.64**	**295**	P	**P**	**11 11 25.6**	**-3.0**
	0.3nm,0.7s,baz=74,slow=6.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**74.71**	**37**	P	P	11 11 40.5	+6.2
	0.3nm,0.3s,baz=297,slow=5.7,SNR=2.6						
MKAR	**Makanchi Array**	**76.45**	**44**	P	**P**	**11 11 47.4**	**+2.9**
	0.3nm,0.8s,baz=280,slow=2.5,SNR=3.0						
ILAR	**Eielson Array**	**79.49**	**340**	P	**P**	**11 12 02.6**	**+1.6**
	0.2nm,0.6s,baz=40,slow=7.4,SNR=3.4						
PLCA	**Paso Flores**	**84.15**	**218**	P	P	11 12 22.4	-3.4
	2.6nm,0.7s,baz=57,slow=7.9,SNR=13						

*IDC **31** 11:04:38.5±2.1,8°.93S×112°.94E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.6/39,mbtmp3.6/7,ML3.3/1,MS3.0/2, Ms1 3.0/2,ms1mx2.5/45,Error ellipse: s-maj=83.6km s-min=20.9km az=52.0*

*ISCJB **31** 11:04:46.6±0.7,9°.18S±0°.08×112°.85E±0°.03,h88km±7km, mb3.6/6,Error ellipse: s-maj=13.7km s-min=4.8km az=8.2*

*DJA **31** 11:04:46.8±0.8,9°.S±4°×11°.3E±°,h21km±6km,M4.2/15, mB5.1/1,MLv4.2/15,Mw(mB)4.5/1*

ISC 31 11:04:47.0±1.0,9°.21S±0°.08×112°.85E±0°.04,h74km±10km, n27,σ1♀39/31,mb3.9/6,South of Java

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMJI	**Gumukmas**	**1.10**	**33**	P	**Pn**	**11 05 06.1**	**-0.9**
GMJI				S	**Sn**	**11 05 21.0**	**-0.9**
JAGI	**Jajag, Banyuwa**	**1.48**	**61**	P	**Pn**	**11 05 11.4**	**-0.5**
JAGI				S	**Sn**	**11 05 29.6**	**-1.1**
PWJI	**Pagerwojo**	**1.56**	**319**	P	**Pn**	**11 05 12.7**	**-0.2**
PWJI				S	**Sn**	**11 05 30.5**	**-2.0**
BLJI	**Banyuglugur**	**1.63**	**27**	P	**Pn**	**11 05 14.6**	**+0.8**
BLJI				S	**Sn**	**11 05 36.2**	**+2.1**
PCJI	**Pacitan**	**1.93**	**301**	P	**Pn**	**11 05 17.5**	**-0.3**
PCJI				S	**Sn**	**11 05 41.2**	**-0.1**
GRJI	**Gresik**	**2.31**	**351**	P	**Pn**	**11 05 24.3**	**+1.4**
WOJI	**Wonogiri, Jawa**	**2.34**	**305**	P	**Pn**	**11 05 23.7**	**+0.4**
WOJI				S	**Sn**	**11 05 52.8**	**+1.7**
DNP	**Denpasar**	**2.40**	**78**	P	**Pn**	**11 05 25.6**	**+1.6**
DNP				S	**Sn**	**11 05 54.8**	**+2.4**
KMMI	**Kalianget**	**2.41**	**27**	P	**Pn**	**11 05 25.6**	**+1.3**
TBJI	**Tambak Boyo**	**2.57**	**337**	P	**Pn**	**11 05 27.7**	**+1.3**
SRBI	**Singaraja**	**2.59**	**65**	P	**Pn**	**11 05 27.2**	**+0.5**
SRBI				S	**Sn**	**11 05 59.2**	**+2.0**
UGM	**Wanagama**	**2.63**	**299**	P	**Pn**	**11 05 28.5**	**+1.2**
UGM				S	**Sn**	**11 06 00.6**	**+2.3**
SMRI	**Semarang**	**3.20**	**312**	P	Pn	11 05 44.3	+9.3
PLAI	**Plampang**	**4.88**	**86**	P	**Pn**	**11 05 58.4**	**+0.4**
CISI	**Cisompet, Garu**	**5.24**	**288**	P	**Pn**	**11 06 04.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**15.25**	**127**	Pn	**Pn**	**11 08 16.5**	**-1.6**
	0.1nm,0.3s,baz=306,slow=8.7,SNR=1.2						
FITZ				Sn	Sn	11 10 51.2	-15
	0.1nm,0.3s,baz=256,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**23.35**	**120**	P	**P**	**11 09 49.2**	**+0.1**
	0.4nm,0.8s,baz=297,slow=11,SNR=3.2						
WRA				pP	**pP**	**11 10 04.7**	**+0.4**
	1.4nm,0.8s,baz=299,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**24.74**	**128**	P	**P**	**11 10 03.1**	**+1.4**
	0.4nm,0.5s,baz=300,slow=9.1,SNR=8.1						
ASAR				S	S	11 14 44.1	+25
	0.4nm,1.0s,baz=300,slow=22,SNR=3.1						
CMAR	**Chiang Mai Arr**	**30.72**	**333**	LR	LR	11 23 21.8	
	comp=Z,11nm,21.4s,baz=210,slow=37						
H08S2	**Diego Garcia H**	**39.93**	**269**	T	T	11 54 33.4	
	baz=101,slow=78						
H08S3	**Diego Garcia H**	**39.94**	**269**	T	T	11 54 21.9	
	baz=101,slow=78						
H08S1	**Diego Carcia H**	**39.95**	**269**	T	T	11 54 35.8	
	baz=101,slow=78						
MJAR	**Matsushiro Arr**	**51.38**	**26**	P	**P**	**11 13 42.6**	**-1.6**
	1.1nm,0.5s,baz=201,slow=8.8,SNR=4.4						
SONM	**Songino Array**	**57.08**	**355**	P	**P**	**11 14 25.6**	**0.0**
	0.5nm,0.4s,baz=174,slow=9.5,SNR=4.6						
MKAR	**Makanchi Array**	**62.05**	**337**	P	**P**	**11 14 59.4**	**-0.3**
	0.7nm,0.5s,baz=142,slow=7.1,SNR=9.8						
ZALV	**Zalesovo Beam**	**67.24**	**342**	P	**P**	**11 15 32.4**	**-0.9**
	0.6nm,0.4s,baz=144,slow=6.0,SNR=3.4						
OBN	**Obninsk**	**89.74**	**326**	LR	LR	12 05 51.1	
	comp=Z,18nm,20.0s,baz=160,slow=41						

*DRS **31** 11:40:13.1±0.0,43°.29N×44°.85E,h14km*

*MOS **31** 11:40:17.4±0.0,43°.06N×45°.20E,h21km,MPVA3.6*

NORS 31 11:40:17.3±0.0,43°.06N×45°.22E,h24km,MPVA3.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMGR	**Komgaron**	**0.26**	**271**	*e*Pg	Pb	11 40 23.9	+0.2
KMGR				*e*Sg	Sb	11 40 28.3	+0.2
VLKR	**Vladikavkaz**	**0.40**	**269**	*e*Pg	Pn	11 40 27.6	0.0
VLKR				*e*Sg	Sn	11 40 35.8	+1.5
GROC	**Groznyy**	**0.45**	**71**	*e*Pg	Pn	11 40 28.2	0.0
GROC				*e*Sg	Sn	11 40 35.1	-0.4
ARNR	**Ardon**	**0.69**	**281**	*e*Pg	Pn	11 40 32.8	+1.1
ARNR				*e*Sg	Sn	11 40 42.5	+0.8
LACR	**Lac**	**0.71**	**252**	*i*Pg	Pn	11 40 32.2	+0.2
LACR				*e*Sg	Sn	11 40 43.4	+1.1
BTLR	**Botlikh**	**0.83**	**118**	*i*Pg	Pn	11 40 34.7	+1.1
BTLR				*e*Sg	Sn	11 40 49.1	+3.9
KORR	**Kora**	**0.84**	**273**	*e*Pg	Pn	11 40 35.3	+1.6
KORR				*e*Sg	Sn	11 40 47.6	+2.3
STDR	**Stavd-Durt**	**0.90**	**291**	*e*Pg	Pn	11 40 36.1	+1.6
STDR				*e*Sg	Sn	11 40 49.4	+2.7
PRTR	**Priterechnaya**	**0.97**	**316**	*e*Pg	Pb	11 40 36.8	+1.2
PRTR				*e*Sg	Sn	11 40 50.8	+2.2
ZEI	**Tsey**	**1.00**	**255**	*e*Pg	Pb	11 40 36.9	+0.8
ZEI				*e*Sg	Sn	11 40 51.6	+2.1
DBC	**Dubki**	**1.18**	**91**	*e*Pg	Pb	11 40 40.8	+1.7
DBC				*e*Sg	Sb	11 40 57.7	+3.7
UNCR	**Uncukul**	**1.21**	**106**	*e*Pg	Pb	11 40 41.8	+2.3
UNCR				*e*Sg	Sb	11 40 58.5	+3.8
XNZR	**Khunzakh**	**1.21**	**115**	*e*Pg	Pb	11 40 42.0	+2.4
XNZR				*e*Sg	Sb	11 40 59.0	+4.2
DIGR	**Digorskoe uzhe**	**1.21**	**263**	*e*Pg	Pb	11 40 39.8	+0.1
DIGR				*e*Sg	Sb	11 40 57.2	+2.2
KRNR	**Karanay**	**1.26**	**100**	*e*Pg	Pb	11 40 42.0	+1.6
KRNR				*e*Sg	Sb	11 41 00.0	+3.7
NCK	**Nalchik**	**1.26**	**291**	*e*Pg	Pb	11 40 41.8	+1.4
NCK				*e*Sg	Sb	11 41 00.5	+4.2
GNBR	**Gunib**	**1.45**	**117**	*e*Pg	Pb	11 40 45.9	+2.3
GNBR				*e*Sg	Sb	11 41 06.0	+4.3
KBTC	**Kuba-Taba**	**1.52**	**301**	*e*Pg	Pb	11 40 45.3	+0.4
KBTC				*e*Sg	Sb	11 41 06.2	+2.5
KMKR	**Kumukh**	**1.67**	**123**	*e*Pg	Pb	11 40 50.0	+2.6
KMKR				*e*Sg	Sb	11 41 14.0	+5.9
NEY	**Neytrino**	**1.84**	**277**	*e*Pg	Pb	11 40 49.4	-0.9
NEY				*e*Sg	Sb	11 41 14.2	+1.3
PYA1	**Pyatigorsk**	**1.84**	**304**	*e*Pg	Pb	11 40 49.3	-1.0
PYA1				*e*Sg	Sb	11 41 13.8	+0.8
SHA1	**Shidzhatmaz**	**1.99**	**291**	*e*Pg	Pb	11 40 51.4	-1.6
SHA1				*e*Pg	Pn	11 40 52.7	+3.0
SHA1				*e*Sg	Sb	11 41 17.1	-0.2
SHA1				*e*Sg	Sn	11 41 18.5	+4.6
KIV0	**Kislovodsk Arr**	**2.04**	**297**	*e*Pg	Pn	11 40 51.4	+1.1
KIV0				*e*Sg	Sn	11 41 16.8	+1.7
ALER	**Alexandrovskoy**	**2.38**	**317**	*e*Pn	Pb	11 41 00.8	+1.2
ALER				*e*Sn	Sn	11 41 25.0	+1.6

*IDC **31** 11:44:12.6±1.0,36°.11N×69°.68E,h0km,mb3.7/14, mb1 3.9/20,mb1mx3.7/47,mbtmp3.8/20,ML3.7/6,MS3.3/14, Ms1 3.3/14,ms1mx3.1/41,Error ellipse: s-maj=19.7km s-min=16.6km az=171.0*

*BJI **31** 11:44:17.7,36°.41N×69°.52E,h22km,mb4.3/14,mB4.5/8, ML4.0/2,Ms3.6/2,Ms7 3.5/3*

*MOS **31** 11:44:17.8±1.8,36°.45N×69°.57E,h31km,mb4.3/11,Error ellipse: s-maj=9.1km s-min=4.7km az=80.3*

*ISCJB **31** 11:44:18.5±0.3,36°.38N±0°.03×69°.66E±0°.04,h48km, mb3.9/32,MS3.2/9,Error ellipse: s-maj=4.6km s-min=3.3km az=146.9*

*NEIC **31** 11:44:19.3±2.4,36°.51N×69°.44E,h22km±18km,mb4.1/16, Error ellipse: s-maj=12.2km s-min=10.2km az=116.0*

*NNC **31** 11:44:21.2±3.5,36°.55N×69°.37E,h103km±97km,mb3.6, mpv3.9,Error ellipse: s-maj=40.5km s-min=14.8km az=156.0*

ISC 31 11:44:19.8±0.4,36°.40N±0°.04×69°.49E±0°.04,h48km,n131, σ2♀51/151,mb3.9/32,MS3.1/9,15C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.89**	**191**	*e*Pn	**Pn**	**11 44 52.4**	**+2.5**
KBL				*e*Sn	**Sn**	**11 45 19.0**	**+6.3**
KBL	**Kabul**	**1.89**	**191**	*e*PN	**Pn**	**11 44 52.4**	**+2.5**
KBL				*e*		11 45 19.0	
GAR	**Garm**	**2.67**	**14**	*e*Pn	**Pn**	**11 45 01.8**	**+1.3**
GAR	**Garm**	**2.67**	**14**	*e*PN	**Pn**	**11 45 01.8**	**+1.3**
CEP	**Cherat**	**3.25**	**142**	⇑P	**Pn**	**11 45 11.7**	**+3.3**
BTK	**Batken**	**3.80**	**16**	*e*Pn	**Pn**	**11 45 18.3**	**+2.5**
BTK	**Batken**	**3.80**	**16**	*e*PN	**Pn**	**11 45 18.3**	**+2.5**
THW	**Thamme Wali**	**4.05**	**152**	P	**Pn**	**11 45 21.7**	**+2.4**
NIL	**Nilore**	**4.13**	**131**	*e*Pn	**Pn**	**11 45 23.0**	**+2.6**
NIL	**Nilore**	**4.13**	**131**	*e*PN	**Pn**	**11 45 23.0**	**+2.6**
CHCP	**Chirah Chowk**	**4.13**	**130**	P	**Pn**	**11 45 23.1**	**+2.7**
KSH	**Kashi**	**5.99**	**57**	Pn	**Pn**	**11 45 43.0**	**-3.0**
KSH				Sn	Sn	11 46 44.0	-9.3
KSH				smax	smax		
	comp=N,170nm,1.3s						
KSH				smax	smax		
	comp=E,62nm,0.6s						
AML	**Almayashu**	**6.58**	**28**	P	**Pn**	**11 45 55.8**	**+1.4**
	SNR=65						
KK31	**Karatay Array**	**6.74**	**6**	*e*Pn	**Pn**	**11 45 56.6**	**+0.5**
KK31				*e*Sn	**Sn**	**11 47 08.5**	**-3.0**
KK31	**Karatay Array**	**6.74**	**6**	P	**Pn**	**11 45 56.9**	**+0.8**
	3.0nm,0.3s,baz=202,slow=15,SNR=83						
KK31				⇑S	**Sn**	**11 47 08.7**	**-2.8**
	6.1nm,0.3s,baz=200,slow=25,SNR=3.5						
KK31	**Karatay Array**	**6.74**	**6**	*e*PN	**Pn**	**11 45 56.6**	**+0.5**
KKAR	**Karatay Array**	**6.74**	**6**	*e*Pn	**Pn**	**11 45 56.7**	**+0.6**
KKAR				*e*Sn	**Sn**	**11 47 10.3**	**-1.2**
KKAR	**Karatay Array**	**6.74**	**6**	*e*PN	**Pn**	**11 45 56.7**	**+0.6**
DHRM	**DHARAMSHALA**	**6.99**	**124**	*e*P	**Pn**	**11 46 00.7**	**+0.9**
DHRM				*e*S	**Sn**	**11 47 18.8**	**+0.7**
DHRM				IAML		11 47 21.1	
	comp=E,265nm,0.5s						
DHRM				IAML		11 47 21.2	
	comp=N,151nm,0.3s						
UCH	**Uchtor**	**7.00**	**32**	P	**Pn**	**11 46 01.0**	**+0.9**
	SNR=16						
EKS2	**Erkin-Say**	**7.07**	**27**	P	**Pn**	**11 46 03.4**	**+2.6**
	SNR=6.0						
NRN	**Naryn**	**7.14**	**43**	*e*Pn	**Pn**	**11 46 02.0**	**+0.1**
NRN	**Naryn**	**7.14**	**43**	*e*PN	**Pn**	**11 46 02.0**	**+0.1**
KZA	**Kyzart**	**7.21**	**36**	P	**Pn**	**11 46 03.8**	**+0.7**
	SNR=7.3						
AAK	**Ala-Archa**	**7.33**	**30**	P	**Pn**	**11 46 07.0**	**+2.7**
	SNR=13						
AAK	**Ala-Archa**	**7.33**	**30**	*e*Pn	**Pn**	**11 46 04.6**	**+0.3**
AAK	**Ala-Archa**	**7.33**	**30**	⇑P	**Pn**	**11 46 04.4**	**0.0**
	comp=N,4.4nm,0.4s						
AAK				⇑S	**Sn**	**11 47 28.3**	**+2.1**
	comp=N,9.4nm,0.6s						
AAK	**Ala-Archa**	**7.33**	**30**	*c i*P	**Pn**	**11 46 05.7**	**+1.4**
AAK	**Ala-Archa**	**7.33**	**30**	Pn	**Pn**	**11 46 04.9**	**+0.5**
	comp=N,3.1nm,0.3s,baz=191,slow=5.9,SNR=24						
AAK				Sn	**Sn**	**11 47 27.4**	**+1.2**
	comp=N,4.1nm,0.3s,baz=103,slow=22,SNR=4.0						
AAK				LR	LR	11 49 20.8	
	comp=N,136nm,18.9s,baz=191,slow=41						
BHK	**Bhakra**	**7.61**	**129**	*e*P	**Pn**	**11 46 09.0**	**+0.9**
CHMS	**Chumysh**	**7.73**	**30**	P	**Pn**	**11 46 11.3**	**+1.5**
	SNR=9.1						
BOOM	**Boomskoye usch**	**7.86**	**37**	P	**Pn**	**11 46 12.4**	**+0.7**
TKM2	**Tokmak 2**	**8.03**	**34**	⇑P	**Pn**	**11 46 13.9**	**-0.1**
	comp=N,2.7nm,0.7s						
TKM2				⇓S	**Sn**	**11 47 44.0**	**+0.4**
	comp=N,0.7nm,0.3s						
TKM2	**Tokmak 2**	**8.03**	**34**	P	**Pn**	**11 46 13.9**	**-0.1**
TKM2				S	**Sn**	**11 47 44.0**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TKM2				smax	smax		
	comp=N,1.0nm,0.4s						
KDJ	**Kajisay**	**8.26**	**44**	*e*Pn	**Pn**	**11 46 19.4**	**+2.3**
KDJ	**Kajisay**	**8.26**	**44**	*e*P	**Pn**	**11 46 19.4**	**+2.3**
SMLA	**Simla**	**8.28**	**127**	*e*P	**Pn**	**11 46 17.3**	**+0.1**
SMLA				*e*S	**Sn**	**11 47 48.0**	**-1.3**
SMLA				IAML		11 48 41.6	
	comp=E,91nm,0.8s						
SMLA				IAML		11 48 42.2	
	comp=N,75nm,0.7s						
MDOK	**Medeo**	**8.91**	**38**	⇓P	**Pn**	**11 46 23.9**	**-2.1**
	comp=N,2.9nm,0.6s						
MDOK				⇑S	**Sn**	**11 48 04.5**	**-0.5**
	comp=N,2.8nm,0.5s						
MDOK	**Medeo**	**8.91**	**38**	P	**Pn**	**11 46 23.9**	**-2.1**
MDOK				S	**Sn**	**11 48 04.5**	**-0.5**
MDOK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDOK				smax	smax		
	comp=N,3.0nm,0.5s						
GEYT	**Alibeck**	**9.21**	**283**	Pn	**Pn**	**11 46 29.2**	**-0.8**
	comp=N,2.8nm,0.3s,baz=118,slow=12,SNR=14						
GEYT				Sn	**Sn**	**11 48 10.0**	**-2.2**
	comp=N,4.9nm,0.3s,baz=136

	comp=Z,8.2nm,0.8s								
BRVK	**Borovoye**			2	*ce*	P		**Pn**	**11 48 10.2 +0.4**
BRVK						pmax		pmax	
	comp=Z,20nm,1.7s								
MAK	**Makhachkala**		**18.12**	**298**	*eP*			**P**	**11 48 26.6 -1.1**
MAK					*eS*			**Sn**	**11 51 46.8 -2.3**
MAK						pmax		pmax	
	comp=Z,173nm,1.3s								
MAK						MLR		MLR	
	comp=Z,179nm,18.0s								
GNI	**Garni**		**19.77**	**288**		LR		LR	11 58 51.6
	comp=Z,74nm,19.6s,baz=90,slow=44								
ZAA0	**Zalesovo Array**		**20.53**	**26**	*eP*			**P**	**11 48 53.4 -0.5**
	comp=Z,5.2nm,0.6s								
ZALV	**Zalesovo Beam**		**20.53**	**26**	*eP*			**P**	**11 48 53.0 -0.8**
ZALV	**Zalesovo Beam**		**20.53**	**26**	P			**P**	**11 48 53.6 -0.2**
	comp=Z,1.9nm,0.4s,baz=223,slow=10,SNR=12								
ZALV						LR		LR	11 58 05.3
	comp=Z,61nm,18.6s,baz=252,slow=40								
NVS	**Novosibirsk**		**20.72**	**23**	*eP*			**P**	**11 48 56.0 0.0**
SVE	**Sverdlovsk**		**21.28**	**347**	*eP*			**P**	**11 49 02.5 +0.5**
SVE						pmax		pmax	
	comp=Z,14nm,1.2s								
ARU	**Arti**		**21.35**	**343**	*eP*			**P**	**11 49 03.8 +1.1**
	comp=Z,8.0nm,1.0s								
ARU	**Arti**		**21.35**	**343**	*c iP*			**P**	**11 49 04.2 +1.5**
ARU									11 49 22.0
ARU						S		Sn	11 53 02.5 -4.0
ARU						SS		**SnSn**	**11 53 25.9 +3.7**
ARU						pmax		pmax	
	comp=Z,6.0nm,0.9s								
KBZ	**Khabaz**		**21.57**	**298**	P			**P**	**11 49 06.3 +1.2**
	comp=Z,2.1nm,0.8s,baz=105,slow=16,SNR=3.7								
KBZ						LR		LR	11 59 26.9
	comp=Z,79nm,19.6s,baz=78,slow=42								
SHL	**Shillong**		**21.98**	**113**	*eP*			**P**	**11 49 08.6 -1.3**
	comp=Z,24nm,1.1s								
SHL	**Shillong**		**21.98**	**113**	*eP*			**P**	**11 49 08.6 -1.3**
SHL						pmax		pmax	
	comp=Z,24nm,1.1s								
KIRV	**Kirov**		**25.81**	**336**	LR			LR	12 00 12.8
	comp=Z,81nm,18.3s,baz=157,slow=37								
VSR	**Storozhevoye**		**26.19**	**314**	*i P*			**P**	**11 49 52.6 +2.9**
VSR						pmax		pmax	
	comp=Z,4.0nm,1.1s								
BRTR	**Keskin Array B**		**28.30**	**288**	LR			LR	12 05 02.5
	comp=Z,37nm,18.5s,baz=84,slow=44								
TLY	**Talaya**		**28.59**	**47**	*i P*			**P**	**11 50 11.9 +0.7**
OBN	**Obninsk**		**29.23**	**320**	*i P*			**P**	**11 50 18.6 +1.9**
OBN						pmax		pmax	
	comp=Z,3.0nm,0.8s								
SONM	**Songino Array**		**29.39**	**56**	P			**P**	**11 50 18.6 0.0**
	comp=Z,1.2nm,0.8s,baz=251,slow=9.2,SNR=7.7								
ULN	**Ulaanbaatar**		**29.83**	**56**	*i P*			**P**	**11 50 24.8 +2.3**
ULN						pmax		pmax	
	comp=Z,5.0nm,2.4s								
CMAR	**Chiang Mai Arr**		**31.49**	**117**	P			**P**	**11 50 37.8 +0.6**
	comp=Z,1.0nm,0.8s,baz=292,slow=7.8,SNR=7.3								
CMAR						LR		LR	12 06 30.2
	comp=Z,41nm,19.6s,baz=320,slow=43								
AKASG	**Malin Array Be**		**32.06**	**309**	P			**P**	**11 50 44.1 +2.3**
	comp=Z,0.3nm,0.4s,baz=81,slow=7.4,SNR=3.0								
HHC	**Hu-ho-hao-te**		**32.94**	**69**	*eP*			**P**	**11 50 53.8 +4.0**
HHC						pmax		pmax	
	comp=Z,8.0nm,0.9s								
HHC						pmax		pmax	
	comp=Z,93nm,5.9s								
BOD	**Bodaibo**		**36.19**	**39**	*eP*			**P**	**11 51 15.3 -2.2**
BOD						pmax		pmax	
	comp=Z,4.0nm,1.8s								
FINES	**FINESS Array B**		**36.89**	**327**	P			**P**	**11 51 25.4 +1.9**
	comp=Z,0.4nm,0.4s,baz=97,slow=3.4,SNR=6.1								
FINES						LR		LR	12 07 50.1
	comp=Z,130nm,19.4s,baz=46,slow=38								
VYHS	**Vyhne**		**38.61**	**304**	*eP*			**P**	**11 51 40.8 +2.7**
VYHS	**Vyhne**		**38.61**	**304**	*eP*			**P**	**11 51 40.8 +2.7**
ARCES	**ARCESS Array B**		**40.77**	**338**	P			**P**	**11 51 57.8 +1.9**
	comp=Z,1.8nm,0.8s,baz=90,slow=8.5,SNR=7.4								
GERES	**GERESS Array B**		**41.99**	**305**	LR			LR	12 12 47.2
	comp=Z,59nm,21.7s,baz=321,slow=40								
NC602	**NORSAR Array S**		**43.53**	**323**	*eP*			**P**	**11 52 19.6 +1.2**
NORES	**NORESS Array B**		**43.53**	**323**	P			**P**	**11 52 20.1 +1.7**
NC303	**NORSAR Array S**		**43.68**	**323**	*eP*			**P**	**11 52 21.9 +2.4**
	comp=Z,11nm,1.1s								
NB201	**NORSAR Array S**		**43.69**	**323**	*eP*			**P**	**11 52 21.6 +1.9**
	comp=Z,5.1nm,1.0s								
NB2	**NORSAR Subarra**		**43.73**	**323**	P			**P**	**11 52 21.1 +1.1**
	comp=Z,0.4nm,0.4s,baz=98,slow=7.9								
NOA	**NORSAR Array B**		**43.73**	**323**	P			**P**	**11 52 21.7 +1.7**
	comp=Z,0.1nm,0.4s,baz=99,slow=7.9,SNR=7.1								
NOA						LR		LR	12 12 12.6
	comp=Z,52nm,19.0s,baz=345,slow=38								
NC204	**NORSAR Array S**		**43.97**	**324**	*eP*			**P**	**11 52 23.9 +1.9**
	comp=Z,0.3nm,0.3s								
KSRS	**Korea Array**		**46.06**	**70**	LR			LR	12 15 54.8
	comp=Z,22nm,18.7s,baz=359,slow=41								
KLR	**Kul'dur**		**46.18**	**54**	*ce*	P		**P**	**11 52 40.2 +0.6**
TIXI	**Tiksi**		**46.32**	**22**	*eP*			**P**	**11 52 42.4 +2.0**
	comp=Z,3.0nm,0.8s								
TIXI	**Tiksi**		**46.32**	**22**	*c iP*			**P**	**11 52 41.1 +0.7**
TIXI						pmax		pmax	
	comp=Z,2.0nm,0.9s								
TIXI	**Tiksi**		**46.32**	**22**	P			**P**	**11 52 41.5 +1.1**
	comp=Z,1.2nm,0.3s,baz=269,slow=3.0,SNR=7.8								
TOA0	**Torodi Ar. Sit**		**64.50**	**268**	*eP*			**P**	**11 54 52.8 +0.9**
TORD	**Torodi Ar. Bea**		**64.50**	**268**	P			**P**	**11 54 51.6 -0.3**
	comp=Z,0.5nm,0.6s,baz=48,slow=5.4,SNR=4.6								
IM3	**Indian Mountai**		**72.63**	**17**	*eP*			**P**	**11 55 43.9 +2.1**
INK	**Inuvik**		**74.19**	**9**	*eP*			**P**	**11 55 55.3 +4.4**
	comp=Z,1.0nm,1.0s								
INK	**Inuvik**		**74.19**	**9**	*eP*			**P**	**11 55 55.3 +4.4**
INK						pmax		pmax	
	comp=Z,1.0nm,1.0s								
INK	**Inuvik**		**74.19**	**9**	P			**P**	**11 55 52.5 +1.7**
	comp=Z,0.7nm,0.8s,baz=6.5,slow=5.3,SNR=4.9								
MDM	**Murphy Dome**		**74.75**	**16**	*eP*			**P**	**11 55 56.9 +2.6**
	comp=Z,2.2nm,1.0s								
COLA	**College**		**74.90**	**16**	*ceP*			**P**	**11 55 58.8 +3.7**
COLA						pmax		pmax	
	comp=Z,9.0nm,2.5s								
CAST	**Castle Rocks**		**75.16**	**18**	*eP*			**P**	**11 55 59.9 +3.2**
	comp=Z,2.3nm,0.8s								
ILAR	**Eielson Array**		**75.20**	**15**	P			**P**	**11 55 58.4 +1.6**
	comp=Z,0.6nm,0.9s,baz=310,slow=4.9,SNR=6.2								
RND	**Reindeer**		**75.94**	**17**	*eP*			**P**	**11 56 03.5 +2.3**
	comp=Z,2.3nm,1.1s								
RND	**Reindeer**		**75.94**	**17**	*eP*			**P**	**11 56 03.5 +2.3**
RND						pmax		pmax	
	comp=Z,2.0nm,1.1s								
RIDG	**Independ'e Rid**		**76.53**	**15**	*eP*			**P**	**11 56 05.9 +1.3**
	comp=Z,3.5nm,1.2s								
DAWY	**Dawson**		**77.29**	**13**	*eP*			**P**	**11 56 11.8 +3.0**
	comp=Z,1.0nm,0.9s								
SML	**Sawmill**		**77.44**	**17**	*eP*			**P**	**11 56 12.6 +2.9**
	comp=Z,6.8nm,1.0s								
SML	**Sawmill**		**77.44**	**17**	*eP*			**P**	**11 56 12.6 +2.9**
SML						pmax		pmax	
	comp=Z,7.0nm,1.0s								
YKA	**Yellowknife Ar**		**81.39**	**2**	P			**P**	**11 56 32.6 +1.6**
	comp=Z,0.5nm,0.7s,baz=348,slow=5.3,SNR=14								
YKB5	**Yellowknife Ar**		**81.39**	**2**	*eP*			**P**	**11 56 33.0 +2.0**
WRA	**Warramunga Arr**		**82.98**	**121**	P			**P**	**11 56 38.2 -1.8**
	comp=Z,0.2nm,0.4s,baz=328,slow=5.0,SNR=5.3								
ASAR	**Alice Springs**		**85.20**	**124**	P			**P**	**11 56 49.8 -1.5**
	comp=Z,0.4nm,0.8s,baz=304,slow=4.5,SNR=5.4								

JMA 31 11:55:17.2±0.3, 25°.83N×122°.34E, h255km, M3.8, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
IRIF	**Iriomote-Funau**	**1.95**	**139**	P		Pn	11 55 59.7	0.0
JISG	**Ishigakijimahi**	**2.17**	**124**	P		Pn	11 56 01.9	+0.2
JISG				S		S	11 56 36.6	-0.2
JIJ	**Ishigaki jima**	**2.19**	**131**	P		Pn	11 56 01.8	-0.1
JIJ				S		S	11 56 35.6	-1.5
JKRS	**Kuro-shima**	**2.19**	**136**	P		Pn	11 56 02.3	+0.4
JKRS				S		S	11 56 36.8	-0.4
HATJ	**Hateruma jima**	**2.21**	**143**	P		Pn	11 56 02.4	+0.3
HATJ				S		S	11 56 36.2	-1.3
JTJ	**Tarama**	**2.44**	**118**	P		Pn	11 56 04.9	+0.6
JTJ				S		S	11 56 41.0	-0.5
JIRB	**Irabujima**	**2.75**	**111**	P		Pn	11 56 07.6	+0.2
JIRB				S		S	11 56 45.5	-1.6
JIKM	**Ikemajima**	**2.78**	**108**	P		Pn	11 56 08.0	+0.3
JIKM				*eS*		S	11 56 47.0	-0.6
JOGS	**Gusukube**	**2.97**	**110**	P		Pn	11 56 10.1	+0.4

*IDC **31** 12:16:19.4±2.4, 11°.05N×62°.23W, h60km±22km, mb3.7/13, mb1 3.9/16,mb1mx3.7/40,mbtmp4.1/16, ML3.6/3, MS2.7/4, Ms1 2.7/4, ms1mx2.6/38, Error ellipse: s-maj=16.7km s-min=13.1km az=88.0*

*ISCJB **31** 12:16:23.2±0.3, 10°.89N×0°.02×62°.21W×0°.04, h110km±3km, mb3.9/35, Error ellipse: s-maj=5.8km s-min=3.1km az=1.5*

*CAR **31** 12:16:23.5±0.0, 10°.80N×62°.14W, h99km*

*NEIC **31** 12:16:24.3±0.6, 10°.83N×62°.17W, h111km±6km, mb4.0/24, MD3.8(TRN), MW4.0(CAR), Error ellipse: s-maj=10.8km s-min=6.7km az=78.0*

NEIC Felt at Port of Spain, San Juan and Tunapuna, Trinidad and Tobago.

*TRN **31** 12:16:27.2, 10°.94N×62°.04W, h93km, MD4.0*

TRN Felt North Trinidad, MMI II, III.

ISC 31 12:16:23.0±0.6, 10°.85N±0°.03×62°.24W±0°.05, h97km±6km, n152, σ1°98/175, mb4.0/35, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
TRN	**Trinidad (W)**	**0.85**	**103**	*i*	*iP*	**Pn**	**12 16 43.5**	**+2.1**
TRN					*eS*	**Sn**	**12 16 55.6**	**+0.2**
ALNG	**Atlantic LNG**	**0.86**	**141**		*eP*	Pn	12 16 49.4	+7.8
ALNG					*eS*	**Sn**	**12 16 59.1**	**+3.5**
BUAY	**Buenos Aires**	**0.92**	**143**		*eP*	Pn	12 16 48.5	+6.3
BUAY					*eS*	**Sn**	**12 16 58.3**	**+1.7**
TPP	**Pointe-a-Pierr**	**0.94**	**124**		*eP*	**Pn**	**12 16 45.0**	**+2.5**
TBH	**Brigand Hill**	**1.21**	**107**	*i*	*iP*	**Pn**	**12 16 47.5**	**+2.0**
TBH					*eS*	**Sn**	**12 17 02.9**	**+0.4**
GRGR	**Grenville**	**1.40**	**24**		*ePn*	**Pn**	**12 16 48.8**	**+0.9**
GRGR					*eSn*	**Sn**	**12 17 07.3**	**+0.7**
GRGR	**Grenville**	**1.40**	**24**		*eP*	**Pn**	**12 16 48.9**	**+1.1**
GRGR					*eS*	**Sn**	**12 17 06.8**	**+0.1**
TPR	**Prospect**	**1.48**	**77**	*i*	*iP*	**Pn**	**12 16 50.6**	**+1.8**
TPR					*eS*	**Sn**	**12 17 07.5**	**-0.8**
GRHS	**Sauteurs**	**1.49**	**23**		*eP*	**Pn**	**12 16 51.2**	**+2.3**
GRHS					*eS*	**Sn**	**12 17 09.0**	**+0.5**
GRSS	**Sisters**	**1.57**	**23**		*eP*	**Pn**	**12 16 52.6**	**+2.7**
GRSS					*eS*	**Sn**	**12 17 10.4**	**+0.1**
TOSP	**Speyside**	**1.73**	**75**	*i*	*iP*	**Pn**	**12 16 52.4**	**+0.4**
TOSP					*eS*	**Sn**	**12 17 13.0**	**-1.0**
FCV	**Fort Charlotte**	**2.49**	**23**		*eP*	**Pn**	**12 17 04.2**	**+2.3**
FCV					*eS*	**Sn**	**12 17 31.0**	**-0.8**
SVB	**Belmont**	**2.60**	**22**		*ePn*	**Pn**	**12 17 04.1**	**+0.8**
SVB					*eSn*	**Sn**	**12 17 35.8**	**+1.5**
SVB	**Belmont**	**2.60**	**22**		*eP*	**Pn**	**12 17 05.0**	**+1.7**
SVB					*eS*	**Sn**	**12 17 34.4**	**+0.2**
SVCV	**St. Vincent, C**	**2.64**	**24**		*eP*	**Pn**	**12 17 05.3**	**+1.5**
SVCV					*eS*	**Sn**	**12 17 35.3**	**+0.1**
SVV	**Soufriere Volc**	**2.65**	**22**		*eP*	**Pn**	**12 17 06.4**	**+2.3**
SVV					*eS*	**Sn**	**12 17 34.8**	**-0.8**
SSV	**Crater Summit**	**2.67**	**22**		*eP*	**Pn**	**12 17 06.8**	**+2.4**
SSV					*eS*	**Sn**	**12 17 36.2**	**+0.1**
SFAN	**Fancy Village**	**2.73**	**22**		*eP*	**Pn**	**12 17 07.5**	**+2.5**
SFAN					*eS*	**Sn**	**12 17 36.1**	**-1.2**
MCLT	**Moule a Chique**	**3.12**	**24**		*eP*	**Pn**	**12 17 11.6**	**+1.4**
MCLT					*eS*	**Sn**	**12 17 46.1**	**-0.6**
SLB	**Belfond**	**3.19**	**21**		*eS*	**Sn**	**12 17 47.5**	**-0.9**
BBGH	**Gun Hill**	**3.48**	**49**		*ePn*	**Pn**	**12 17 17.6**	**+2.6**
BBGH	**Gun Hill**	**3.48**	**49**		*eP*	**Pn**	**12 17 16.4**	**+1.4**
BBGH					*eS*	**Sn**	**12 17 53.0**	**-2.3**
BBSP	**Saint Philip**	**3.53**	**50**		*eP*	**Pn**	**12 17 16.9**	**+1.2**
BBSP					*eS*	**Sn**	**12 17 54.9**	**-1.7**
H05S1	**Guadeloupe/Mar**	**3.81**	**21**		P	**Pn**	**12 17 22.1**	**+1.6**
H05S1					S	**Sn**	**12 18 03.4**	**0.0**
BIM	**Bigot**	**3.82**	**17**		*eP*	**Pn**	**12 17 22.3**	**+2.6**
TRMF	**Trois Ilets**	**3.84**	**17**		*eP*	**Pn**	**12 17 22.3**	**+2.2**
ZAM	**Aeronautique**	**3.89**	**18**		*eP*	**Pn**	**12 17 23.1**	**+2.6**
LPMF	**Morne Lapointe**	**3.91**	**18**		*eP*	**Pn**	**12 17 23.2**	**+2.3**
MVM	**Montagne Vaucl**	**3.91**	**19**		*eP*	**Pn**	**12 17 23.6**	**+2.7**
FDF	**Fort de France**	**4.01**	**15**		*ePn*	**Pn**	**12 17 23.3**	**+1.1**
FDF					*eSn*	**Sn**	**12 18 07.8**	**-0.4**
FDF	**Fort de France**	**4.01**	**15**		*eP*	**Pn**	**12 17 23.8**	**+1.5**
FDF					*eS*	**Sn**	**12 18 07.0**	**-1.2**
PML	**Morne Lenard**	**4.04**	**15**		*eP*	**Pn**	**12 17 24.2**	**+1.5**
GBMF	**Grand Be**	**4.06**	**15**		*eP*	**Pn**	**12 17 24.4**	**+1.3**
PCM	**Pelee Case Pet**	**4.07**	**14**		*eP*	**Pn**	**12 17 24.6**	**+1.5**
CXM	**Morne La Croix**	**4.08**	**15**		*eP*	**Pn**	**12 17 25.7**	**+2.4**
BAMF	**Morne Balai**	**4.08**	**15**		*eP*	**Pn**	**12 17 24.7**	**+1.4**
ILAM	**Ilet Lapin Mar**	**4.12**	**19**		*eP*	**Pn**	**12 17 26.1**	**+2.3**
DLPL	**La Plaine**	**4.56**	**12**		*eP*	**Pn**	**12 17 32.5**	**+2.7**
DLPL	**La Plaine**	**4.56**	**12**		*eS*	**Sn**	**12 18 20.9**	**-0.7**
BBL	**Barber's Block**	**4.71**	**9**		*eP*	**Pn**	**12 17 35.1**	**+3.3**
BBL	**Barber's Block**	**4.71**	**9**		*eS*	**Sn**	**12 18 24.3**	**-1.0**
MDPO	**Dominica; Chan**	**4.76**	**9**		*eP*	**Pn**	**12 17 35.3**	**+2.8**
MDPO	**Dominica; Chan**	**4.76**	**9**		*eS*	**Sn**	**12 18 25.7**	**-0.7**
DWS	**Wesley**	**4.78**	**11**		*eP*	**Pn**	**12 17 34.9**	**+2.2**
DWS	**Wesley**	**4.78**	**11**		*eS*	**Sn**	**12 18 25.5**	**-1.4**
MDPV	**Dominica, Penn**	**4.82**	**9**		*eP*	**Pn**	**12 17 36.1**	**+2.9**
MDPV	**Dominica, Penn**	**4.82**	**9**		*eS*	**Sn**	**12 18 26.7**	**-1.1**
TDBA	**Terre de Bas,**	**5.01**	**7**		*eP*	**Pn**	**12 17 40.0**	**+4.2**
TBG	**Guadaloupe-3**	**5.01**	**7**		*eP*	**Pn**	**12 17 38.6**	**+2.9**
TBG	**Guadaloupe-3**	**5.01**	**7**		*eS*	**Sn**	**12 18 30.9**	**-1.5**
MAGL	**Barre de l'ile**	**5.16**	**10**		*eP*	**Pn**	**12 17 41.9**	**+4.1**
CBE	**Ff, Capester**	**5.23**	**7**		*eP*	**Pn**	**12 17 42.9**	**+4.1**
DEG	**La Desirade**	**5.55**	**12**		*eP*	**Pn**	**12 17 46.2**	**+3.0**
DEG	**La Desirade**	**5.55**	**12**		*eS*	**Sn**	**12 18 43.7**	**-2.1**
H05N1	**Guadeloupe/Mar**	**5.56**	**12**		P	**Pn**	**12 17 45.9**	**+2.6**
H05N1					S	**Sn**	**12 18 43.0**	**-2.8**
ABJD	**La Joyeuse, An**	**5.64**	**7**		*eP*	**Pn**	**12 17 48.9**	**+4.6**
MLYT	**Lee's Yard**	**5.84**	**0**		*eP*	**Pn**	**12 17 49.9**	**+2.7**
MLYT	**Lee's Yard**	**5.84**	**0**		*eS*	**Sn**	**12 18 51.9**	**-0.8**
BPA	**Boggy Peak**	**6.17**	**3**		*eP*	**Pn**	**12 17 53.9**	**+2.3**
BPA	**Boggy Peak**	**6.17**	**3**		*eS*	**Sn**	**12 18 58.1**	**-2.8**
NEV	**Hard Times**	**6.26**	**357**		*eP*	**Pn**	**12 17 55.2**	**+2.4**
NEV	**Hard Times**	**6.26**	**357**		*eS*	**Sn**	**12 19 00.4**	**-2.5**
SEUS	**St. Eustatius**	**6.64**	**354**		*ePn*	**Pn**	**12 18 01.1**	**+3.1**
SEUS	**St. Eustatius**	**6.64**	**354**		*eP*	**Pn**	**12 18 01.2**	**+3.1**
SEUS	**St. Eustatius**	**6.64**	**354**		*eS*	**Sn**	**12 19 10.6**	**-1.7**
ANWB	**Willy Bob**	**6.79**	**4**		*ePn*	Pn	12 18 07.4	+7.4
ANWB	**Willy Bob**	**6.79**	**4**		*eP*	**Pn**	**12 18 03.5**	**+3.4**
ANWB	**Willy Bob**	**6.79**	**4**		*eS*	**Sn**	**12 19 13.8**	**-2.1**
SMRT	**St. Maarten**	**7.21**	**354**		*ePn*	**Pn**	**12 18 08.7**	**+3.0**
SMRT	**St. Maarten**	**7.21**	**354**		*eP*	**Pn**	**12 18 08.2**	**+2.5**
SMRT	**St. Maarten**	**7.21**	**354**		*eS*	**Sn**	**12 19 23.6**	**-2.5**
CDVI	**St. Barth**	**7.29**	**341**		*ePn*	**Pn**	**12 18 08.9**	**+1.5**
MTP	**Monte Pirata**	**7.79**	**336**		*ePn*	**Pn**	**12 18 16.6**	**+1.6**
STVI	**Saint Thomas**	**7.91**	**341**		*ePn*	**Pn**	**12 18 17.3**	**+2.1**
CUPR	**Culebra, Puert**	**7.98**	**339**		*ePn*	**Pn**	**12 18 17.2**	**+1.0**
HUMP	**Col San Antoni**	**8.05**	**335**		*ePn*	**Pn**	**12 18 18.4**	**+1.2**
ABVI	**Anegada Island**	**8.09**	**346**		*ePn*	**Pn**	**12 18 20.1**	**+2.4**
SJG	**San Juan**	**8.15**	**333**		*ePn*	**Pn**	**12 18 20.4**	**+1.8**
SJG	**San Juan**	**8.15**	**333**		P	Pn	12 18 12.1	-6.4
	0.5nm,0.3s,baz=30,slow=20,SNR=3.6							
SJG					S	Sn	12 19 30.6	-18
	baz=348,slow=20,SNR=1.9							
SJG					LR	LR	12 21 10.8	
	comp=Z,54nm,19.1s,baz=158,slow=36							
CBYP	**Canovanas**	**8.17**	**335**		*ePn*	**Pn**	**12 18 20.0**	**+1.2**
OBIP	**Obispado Ponce**	**8.31**	**330**		*ePn*	**Pn**	**12 18 20.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**8.54**	**327**		*ePn*	Pn	12 18 28.8	+5.0
MPR	**Mayaguez**	**8.72**	**328**		*ePn*	**Pn**	**12 18 28.3**	**+2.0**
SOCV	**Socops**	**8.87**	**254**		*eP*	**Pn**	**12 18 26.3**	**-2.1**
SOCV	**Socops**	**8.87**	**254**		*eP*	**Pn**	**12 18 26.3**	**-2.1**
AGP	**Aguadilla**	**8.89**	**328**		*ePn*	**Pn**	**12 18 33.3**	**+4.7**
CAPV	**Capacho**	**10.37**	**254**		*eP*	**Pn**	**12 18 48.7**	**-0.3**
CAPV	**Capacho**	**10.37**	**254**		*eP*	**Pn**	**12 18 48.7**	**-0.3**
BANI	**BANI**	**10.86**	**315**		*ePn*	**Pn**	**12 18 56.4**	**+0.8**
CODC	**Agustn Codazz**	**11.06**	**266**		*eP*	**Pn**	**12 18 57.5**	**-0.7**
CODC	**Agustn Codazz**	**11.06**	**266**		*eP*	**Pn**	**12 18 57.5**	**-0.7**
MDP	**Montagnes des**	**11.09**	**120**		P	**Pn**	**12 18 55.2**	**-3.3**
	2.6nm,0.3s,baz=313,slow=19,SNR=33							
MDP					S	Sn	12 20 49.1	-12
	12nm,0.3s,baz=41,slow=18,SNR=20							
MDP					LR	LR	12 23 44.2	
	comp=Z,38nm,21.1s,baz=275,slow=40							
GIRC	**Giron, Santand**	**11.45**	**252**		*eP*	**Pn**	**12 19 02.0**	**-1.6**
GIRC	**Giron, Santand**	**11.45**	**252**		*eP*	**Pn**	**12 19 02.0**	**-1.6**
BARC	**Barichara**	**11.61**	**250**		*eP*	**Pn**	**12 19 05.4**	**-0.5**
BARC	**Barichara**	**11.61**	**250**		*eP*	**Pn**	**12 19 05.4**	**-0.5**
PTGA	**Pitinga**	**11.72**	**169**		P	**Pn**	**12 19 05.2**	**-1.9**
	7.6nm,0.3s,baz=359,slow=16,SNR=59							
PTGA					S	**Sn**	**12 21 08.0**	**-8.0**
	3.2nm,0.3s,baz=25,slow=16,SNR=12							
PTGA					LR	LR	12 23 18.4	
	comp=Z,21nm,19.4s,baz=256,slow=35							
RUSC	**La Rusia**	**11.80**	**246**		*eP*	**Pn**	**12 19 07.7**	**-0.9**
RUSC	**La Rusia**	**11.80**	**246**		*eP*	**Pn**	**12 19 07.7**	**-0.9**
SDDR	**Presa de Saban**	**11.91**	**314**		*ePn*	**Pn**	**12 19 13.5**	**+3.9**
PTBC	**PUERTO BERRIO,**	**12.81**	**251**		*eP*	**Pn**	**12 19 18.2**	**-3.4**
PTBC	**PUERTO BERRIO,**	**12.81**	**251**		*eP*	**Pn**	**12 19 18.2**	**-3.4**
ROSC	**El Rosal**	**13.37**	**244**		*ePn*	**Pn**	**12 19 30.3**	**+1.1**
ROSC	**El Rosal**	**13.37**	**244**		P	**Pn**	**12 19 30.0**	**+0.7**
	2.3nm,0.3s,baz=221,slow=22,SNR=4.0							
ROSC					S	**Sn**	**12 21 54.1**	**-2.5**
	1.0nm,0.3s,baz=180,slow=20,SNR=2.0							
ROSC					LR	LR	12 25 28.0	
	comp=Z,36nm,18.1s,baz=312,slow=41							
OTAV	**Otavalo**	**19.25**	**238**		*eP*	**Pn**	**12 20 42.6**	**+0.2**
	15nm,1.1s							
ATAH	**Atahualpa**	**24.04**	**223**		P	**P**	**12 21 32.7**	**+3.0**
	16nm,0.6s,baz=22,slow=4.3,SNR=15							
SIV	**San Ignacio**	**26.69**	**178**		P	**P**	**12 21 55.1**	**+1.8**
	1.3nm,0.5s,baz=26,slow=10,SNR=6.0							
NNA	**Nana**	**26.93**	**213**		P	**P**	**12 21 57.3**	**+1.9**
	8.2nm,0.6s,baz=8.5,slow=9.3,SNR=6.7							
LPAZ	**La Paz**	**27.58**	**192**		*eP*	**P**	**12 22 04.3**	**+2.4**
	2.7nm,0.9s							
LPAZ	**La Paz**	**27.58**	**192**		P	**P**	**12 22 03.9**	**+1.9**
	2.0nm,0.8s,baz=360,slow=7.5,SNR=11							
GO01	**Chusmiza**	**31.09**	**193**		*eP*	**P**	**12 22 33.3**	**+0.5**
	1.6nm,0.6s							
PB11	**IPOC Station P**	**31.28**	**194**		*eP*	**P**	**12 22 34.0**	**-0.1**
	7.7nm,0.9s							
LRAL	**Lakeview Retre**	**31.70**	**318**		*eP*	**P**	**12 22 39.2**	**+1.7**
	1.0nm,0.7s							
PB01	**IPOC Station P**	**32.48**	**193**		*eP*	**P**	**12 22 44.5**	**0.0**
	4.0nm,0.7s							
PLAL	**Pickwick Lake**	**33.62**	**320**		*eP*	**P**	**12 22 56.0**	**+1.8**
	2.3nm,0.8s							
LVC	**Limon Verde**	**33.89**	**191**		*eP*	**P**	**12 22 58.0**	**+1.0**
	3.4nm,0.7s							
CPUP	**Villa Florida**	**37.26**	**173**		P	**P**	**12 23 26.4

EHY				*e*S		**Sb**	**12 38 24.1**	**+0.3**
	baz=212								
ENA	**Nanau**	**0.51**	**12**	*e*P		**Pb**	**12 38 16.0**	**-0.6**
	baz=12								
ENA				S		**Sn**	**12 38 24.8**	**+0.5**
	baz=12								
TWT	**Tachien**	**0.53**	**309**	P		**Pb**	**12 38 17.0**	**0.0**
	baz=307								
TWT				*e*S		**Sb**	**12 38 24.9**	**+0.3**
	baz=307								
TDCB	**Techi**	**0.54**	**307**	P		**Pb**	**12 38 16.8**	**-0.4**
	baz=307								
TDCB				*e*S		**Sb**	**12 38 25.1**	**+0.1**
	baz=307								
NNSB	**Datong**	**0.55**	**336**	P		**Pb**	**12 38 16.5**	**-0.8**
	baz=336								
NNSB				*e*S		**Sb**	**12 38 24.1**	**-1.1**
	baz=336								
NNS	**Nan Shan**	**0.56**	**336**	P		**Pb**	**12 38 16.7**	**-0.8**
	baz=336								
NNS				*e*S		**Sb**	**12 38 25.5**	**-0.1**
	baz=336								
YULB	**Yu-li**	**0.61**	**210**	P		**Pn**	**12 38 17.1**	**-0.9**
	baz=209								
YULB				*e*S		**Sb**	**12 38 26.8**	**+0.1**
	baz=209								
SSLB	**Suanglung**	**0.63**	**258**	P		**Pn**	**12 38 17.5**	**-0.9**
	baz=257								
SSLB				*e*S		**Sb**	**12 38 26.0**	**-1.3**
	baz=257								
TWF1	**Yuli**	**0.65**	**208**	*e*P		**Pn**	**12 38 17.9**	**-0.6**
	baz=207								
TWF1				S		**Sb**	**12 38 26.9**	**-0.7**
	baz=207								
SMLT	**Sun Moon Lake**	**0.67**	**267**	P		**Pn**	**12 38 18.3**	**-0.6**
	baz=266								
SMLT				*e*S		**Sb**	**12 38 28.0**	**-0.3**
	baz=266								
NDT	**Datong Townshi**	**0.68**	**351**	P		**Pn**	**12 38 18.1**	**-1.0**
	baz=351								
NDT				*e*S		**Sn**	**12 38 28.6**	**0.0**
	baz=351								
TYC	**Yuchr**	**0.71**	**269**	P		**Pn**	**12 38 18.8**	**-0.6**
	baz=268								
TYC				*e*S		**Sn**	**12 38 28.9**	**-0.2**
	baz=268								
TWC	**Suao**	**0.71**	**16**	P		**Pn**	**12 38 18.9**	**-0.5**
	baz=17								
TWC				*e*S		**Sb**	**12 38 29.3**	**-0.1**
	baz=17								
ENTT	**Nioudou**	**0.71**	**356**	P		**Pn**	**12 38 18.6**	**-0.9**
	baz=356								
ENTT				S		**Sn**	**12 38 29.1**	**-0.3**
	baz=356								
WHP	**Taichung City**	**0.72**	**300**	P		**Pn**	**12 38 19.5**	**-0.1**
	baz=299								
WHP				*e*S		**Sn**	**12 38 29.4**	**-0.1**
	baz=299								
WHYT	**Xinyi Township**	**0.74**	**252**	P		**Pn**	**12 38 19.7**	**-0.3**
	baz=251								
WHYT				*e*S		**Sn**	**12 38 30.1**	**0.0**
	baz=251								
YHNB	**Yeheng**	**0.78**	**343**	P		**Pn**	**12 38 19.8**	**-0.7**
	baz=342								
YHNB				*e*S		**Sn**	**12 38 30.1**	**-1.0**
	baz=342								
FULB	**Fuli**	**0.79**	**203**	P		**Pn**	**12 38 20.1**	**-0.4**
	baz=202								
FULB				*e*S		**Sn**	**12 38 31.1**	**0.0**
	baz=202								
TWE	**Neicheng**	**0.79**	**3**	P		**Pn**	**12 38 19.7**	**-0.9**
	baz=3.0								
TWE				*e*S		**Sn**	**12 38 31.3**	**0.0**
	baz=3.0								
WJS	**Zhushan**	**0.83**	**263**	*e*P		**Pn**	**12 38 21.4**	**+0.3**
	baz=262								
WJS				*e*S		**Sb**	**12 38 33.3**	**+0.6**
	baz=262								
CHKT	**Chengkung**	**0.86**	**196**	P		**Pn**	**12 38 20.5**	**-0.9**
	baz=195								
CHKT				S		**Sn**	**12 38 32.7**	**-0.1**
	baz=195								
NWLT	**Wulai**	**0.86**	**352**	*e*P		**Pn**	**12 38 20.7**	**-0.8**
	baz=352								
NWLT				*e*S		**Sn**	**12 38 32.1**	**-0.8**
	baz=352								
ALS	**Alishan**	**0.86**	**242**	P		**Pn**	**12 38 21.6**	**-0.2**
	baz=240								
ALS				*e*S		**Sn**	**12 38 32.8**	**-0.5**
	baz=240								
WNT	**Mingjian**	**0.86**	**267**	*e*P		**Pn**	**12 38 22.2**	**+0.6**
	baz=266								
WNT				*e*S		**Sb**	**12 38 34.5**	**+0.8**
	baz=266								
TWQ1	**Liyutan**	**0.89**	**299**	*e*P		**Pn**	**12 38 22.2**	**+0.3**
	baz=298								
TWQ1				*e*S		**Sb**	**12 38 34.8**	**+0.4**
	baz=298								
TCU	**Taichung**	**0.90**	**285**	*e*P		**Pn**	**12 38 21.5**	**-0.6**
	baz=284								
TCU				*e*S		**Sn**	**12 38 33.8**	**-0.1**
	baz=284								
NSTT	**Nanjuang**	**0.91**	**321**	P		**Pn**	**12 38 21.6**	**-0.6**
	baz=321								
NSTT				*e*S		**Sn**	**12 38 34.0**	**-0.1**
	baz=321								
LIOB	**Emei**	**0.91**	**322**	*e*P		**Pn**	**12 38 19.4**	**-2.9**
	baz=322								
LIOB				*e*S		**Sn**	**12 38 31.1**	**-3.1**
	baz=322								
ELDTW	**Lidau**	**0.92**	**218**	*e*P		**Pn**	**12 38 21.3**	**-1.2**
	baz=216								
ELDTW				*e*S		**Sn**	**12 38 32.8**	**-1.8**
	baz=216								
CHN5	**Tsauling**	**0.93**	**250**	*e*P		**Pn**	**12 38 22.8**	**+0.3**
	baz=249								
CHN5				*e*S		**Sn**	**12 38 35.7**	**+0.9**
	baz=249								
NSY	**Sanyi**	**0.93**	**302**	*e*P		**Pn**	**12 38 23.1**	**+0.5**
	baz=301								
NSY				*e*S		**Sn**	**12 38 35.7**	**+1.0**
	baz=301								
NMLH	**Miaoli**	**0.98**	**309**	*e*P		**Pn**	**12 38 24.0**	**+0.9**
	baz=308								
NMLH				*e*S		**Sn**	**12 38 36.6**	**+0.7**
	baz=308								
WLTB	**Daxi**	**0.98**	**340**	*e*P		**Pn**	**12 38 23.9**	**+0.7**
	baz=339								
WLTB				*e*S		**Sb**	**12 38 37.4**	**+0.3**
	baz=339								
PTSB	**Yuanli**	**0.99**	**302**	*e*P		**Pn**	**12 38 24.0**	**+0.7**
	baz=301								
PTSB				*e*S		**Sb**	**12 38 37.6**	**+0.3**
	baz=301								
WCHH	**Zhanghua**	**0.99**	**279**	*e*P		**Pn**	**12 38 23.9**	**+0.5**
	baz=278								
WCHH				*e*S		**Sn**	**12 38 37.4**	**+1.2**
	baz=278								
WDJ	**Dajia District**	**1.00**	**295**	*e*P		**Pn**	**12 38 23.9**	**+0.4**
	baz=294								
WDJ				*e*S		**Sn**	**12 38 36.9**	**+0.5**
	baz=294								
WGK	**Gukeng**	**1.00**	**257**	*e*P		**Pn**	**12 38 23.9**	**+0.4**
	baz=255								
WGK				*e*S		**Sb**	**12 38 39.3**	**+1.6**
	baz=255								
WDLH	**Douliu**	**1.02**	**257**	*e*P		**Pn**	**12 38 23.9**	**+0.1**
	baz=256								
WDLH				*e*S		**Sb**	**12 38 38.6**	**+0.4**
	baz=256								
NHDH	**Xindian Distri**	**1.04**	**355**	P		**Pn**	**12 38 24.0**	**0.0**
	baz=354								
NHDH				*e*S		**Sn**	**12 38 37.4**	**0.0**
	baz=354								
SBCB	**Hsinchu**	**1.04**	**326**	*e*S		**Sb**	**12 38 40.0**	**+1.2**
	baz=325								
TWA	**Mucha**	**1.05**	**358**	*e*P		**Pn**	**12 38 23.4**	**-0.8**
	baz=358								
TWA				*e*S		**Sn**	**12 38 38.2**	**+0.5**
	baz=358								
TATO	**Taipei**	**1.05**	**353**	*e*P		**Pn**	**12 38 24.1**	**-0.1**
	baz=353								
TATO				*e*S		**Sn**	**12 38 37.9**	**+0.1**
	baz=353								
TIPB	**Shuangxi**	**1.06**	**10**	P		**Pn**	**12 38 24.3**	**0.0**
	baz=9.0								
TIPB				*e*S		**Sn**	**12 38 37.9**	**-0.1**
	baz=9.0								
STYT	**Tauyuan**	**1.10**	**227**	*e*P		**Pn**	**12 38 25.3**	**+0.4**
	baz=225								
STYT				*e*S		**Sn**	**12 38 40.0**	**+1.0**
	baz=225								
TPUB	**Ta-pu**	**1.11**	**236**	*e*P		**Pn**	**12 38 25.7**	**+0.8**
	baz=235								
TPUB				*e*S		**Sn**	**12 38 40.1**	**+1.0**
	baz=235								
CHN4	**Tsaushan**	**1.11**	**239**	*e*P		**Pn**	**12 38 25.8**	**+0.8**
	baz=238								
CHN4				*e*S		**Sb**	**12 38 40.8**	**+0.2**
	baz=238								
NCUH	**Zhongli**	**1.11**	**339**	*e*S		**Sb**	**12 38 41.4**	**+0.6**
	baz=338								
CHN2	**Minshiung**	**1.13**	**250**	*e*S		**Sb**	**12 38 43.0**	**+1.9**
	baz=249								
WTP	**Ta-pu**	**1.15**	**234**	*e*P		**Pn**	**12 38 25.1**	**-0.5**
	baz=233								
WTP				*e*S		**Sn**	**12 38 40.0**	**-0.1**
	baz=233								
NWF	**Wu-fen Shan**	**1.15**	**7**	*e*P		**Pn**	**12 38 24.9**	**-0.7**
	baz=7.0								
NWF				*e*S		**Sb**	**12 38 43.0**	**+1.1**
	baz=7.0								
CHY	**Chiayi**	**1.18**	**249**	*e*P		**Pb**	**12 38 27.7**	**0.0**
	baz=248								
CHY				*e*S		**Sn**	**12 38 41.9**	**+1.0**
	baz=248								
TWS1	**Kuangyinshan**	**1.19**	**351**	*e*P		**Pn**	**12 38 26.3**	**+0.3**
	baz=351								
TWS1				*e*S		**Sn**	**12 38 41.1**	**0.0**
	baz=351								
TWG	**Pinlang**	**1.21**	**205**	*e*P		**Pn**	**12 38 24.3**	**-2.1**
	baz=204								
TWG				*e*S		**Sn**	**12 38 38.5**	**-3.1**
	baz=204								
TWGBT	**Beinan**	**1.21**	**205**	*e*P		**Pn**	**12 38 26.0**	**-0.3**
	baz=204								
TWGBT				*e*S		**Sn**	**12 38 41.7**	**0.0**
	baz=204								
YM01	**YM01**	**1.22**	**358**	*e*P		**Pn**	**12 38 26.0**	**-0.5**
	baz=357								
YM01				*e*S		**Sn**	**12 38 40.5**	**-1.4**
	baz=357								
YM04	**YM04**	**1.23**	**356**	*e*P		**Pn**	**12 38 26.3**	**-0.4**
	baz=356								
TWK	**Hsinying**	**1.23**	**238**	*e*P		**Pn**	**12 38 27.3**	**+0.6**
	baz=237								
TWK				*e*S		**Sn**	**12 38 43.0**	**+0.8**
	baz=237								
YM05	**YM05**	**1.24**	**357**	*e*P		**Pn**	**12 38 26.0**	**-0.8**
	baz=357								
YM05				*e*S		**Sn**	**12 38 42.0**	**-0.4**
	baz=357								
YM11	**YM11**	**1.24**	**358**	*e*P		**Pn**	**12 38 26.1**	**-0.7**
	baz=357								
YM11				*e*S		**Sb**	**12 38 44.3**	**-0.1**
	baz=357								
YM07	**YM07**	**1.25**	**360**	*e*P		**Pn**	**12 38 26.3**	**-0.6**
	baz=359								
YM07				*e*S		**Sn**	**12 38 42.5**	**0.0**
	baz=359								
CHN1	**Nanshi**	**1.25**	**234**	*e*P		**Pb**	**12 38 28.8**	**0.0**
	baz=233								
CHN1				*e*S		**Sn**	**12 38 43.4**	**+0.8**
	baz=233								
SNST	**Tainan City**	**1.25**	**236**	*e*P		**Pb**	**12 38 28.4**	**-0.5**
	baz=235								
SNST				*e*S		**Sn**	**12 38 43.8**	**+1.2**
	baz=235								
YM03	**YM03**	**1.25**	**356**	*e*P		**Pn**	**12 38 26.9**	**-0.1**
	baz=356								
YM03				*e*S		**Sn**	**12 38 43.2**	**+0.4**
	baz=356								
SGST	**Jiashian**	**1.27**	**229**	*e*P		**Pn**	**12 38 26.9**	**-0.4**
	baz=228								
SGST				*e*S		**Sn**	**12 38 43.1**	**-0.1**
	baz=228								
SLGT	**Liugui**	**1.29**	**224**	*e*P		**Pn**	**12 38 28.4**	**+0.9**
	baz=224								
SLGT				*e*S		**Sb**	**12 38 45.3**	**-0.6**
	baz=224								
JYNG	**Yonagunijimaku**	**1.31**	**66**	P		**Pn**	**12 38 27.6**	**-0.2**
JYNG				S		**Sn**	**12 38 44.6**	**+0.5**
YOJ	**Yonaguni jima**	**1.37**	**67**	P		**Pn**	**12 38 28.6**	**0.0**
YOJ				S		**Sn**	**12 38 45.7**	**+0.1**
ECL	**Taimali**	**1.46**	**205**	*e*S		**Sn**	**12 38 44.9**	**-2.8**
	baz=204								
SSD	**Sandimen**	**1.49**	**218**	*e*P		**Pn**	**12 38 30.8**	**+0.6**
	baz=217								
SSD				*e*S		**Sn**	**12 38 48.5**	**0.0**
	baz=217								
MASBT	**Mashibuluo**	**1.59**	**215**	*e*P		**Pn**	**12 38 31.5**	**-0.1**
	baz=214								
MASBT				*e*S		**Sn**	**12 38 51.2**	**+0.1**
	baz=214								
EAST	**Anshuo**	**1.69**	**205**	*e*P		**Pn**	**12 38 33.5**	**+0.4**
	baz=204								
EAST				*e*S		**Sb**	**12 38 55.7**	**-1.6**
	baz=204								
IRIF	**Iriomote-Funau**	**1.96**	**78**	P		**Pn**	**12 38 36.6**	**-0.1**
IRIF				S		**Sn**	**12 39 00.8**	**+0.6**
HATJ	**Hateruma jima**	**2.00**	**86**	P		**Pn**	**12 38 37.2**	**0.0**
HATJ				S		**Sn**	**12 39 01.1**	**+0.1**
JKRS	**Kuro-shima**	**2.20**	**81**	P		**Pn**	**12 38 40.6**	**+0.7**
JKRS				S		**Sn**	**12 39 07.5**	**+1.5**
JIJ	**Ishigaki jima**	**2.34**	**79**	P		**Pn**	**12 38 41.6**	**-0.3**
JIJ				S		**Sn**	**12 39 08.6**	**-0.9**
JISG	**Ishigakijimahi**	**2.54**	**74**	P		**Pn**	**12 38 44.3**	**-0.3**
JISG				S		**Sn**	**12 39 12.9**	**-1.4**
JTJ	**Tarama**	**2.90**	**75**	P		**Pn**	**12 38 49.6**	**+0.1**
JTJ				S		**Sn**	**12 39 23.9**	**+0.7**
JIRB	**Irabujima**	**3.36**	**74**	P		**Pn**	**12 38 56.0**	**+0.1**
JIRB				S		**Sn**	**12 39 35.6**	**+1.0**
JIKM	**Ikemajima**	**3.45**	**72**	P		**Pn**	**12 38 58.0**	**+0.9**
JIKM				S		**Sn**	**12 39 37.5**	**+0.7**
JOGS	**Gusukube**	**3.55**	**76**	P		**Pn**	**12 38 59.3**	**+0.8**
JOGS				S		**Sn**	**12 39 38.8**	**-0.5**

IDC ***31*** *12:48:18.0±2.3,24°.62S×179°.82W,h445km±24km, mb3.8/21,mb1 4.0/22,mb1mx3.8/36,mbtmp4.6/22,Error ellipse: s-maj=14.9km s-min=11.2km az=67.0*
NEIC ***31*** *12:48:21.6±0.5,24°.77S×179°.89W,h487km±6km,mb4.5/69, Error ellipse: s-maj=5.5km s-min=5.2km az=118.0*
ISCJB ***31*** *12:48:22.4±0.2,24°.79S±0°.03×179°.99E±0°.04,h505km, mb4.3/83,Error ellipse: s-maj=5.2km s-min=3.4km az=3.6*

ISC 31 12:48:22.8±0.4, 24°.76S±0°.05×179°.85W±0°.06, h505km, n203,σ1$40/219, mb4.3/83, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.79**	**159**	*e*P		**P**		**12 49 46.0**	**-2.1**
GLKZ	**Green Lake**	**4.80**	**159**	P		**P**		**12 49 46.3**	**-1.8**
GLKZ				S		**S**		**12 50 53.4**	**-4.5**
MSVF	**Nonsavu**	**7.26**	**344**	*e*P		**P**		**12 50 09.0**	**-3.0**
NIUE	**Niue**	**10.81**	**60**	*e*P		**P**		**12 50 45.1**	**-3.8**
MARNC	**Mare, Loyalty**	**11.62**	**284**	*e*P		**P**		**12 50 57.0**	**-0.4**
PINNC	**Pines Island,**	**11.83**	**278**	*e*P		**P**		**12 51 00.6**	**+1.0**
OUZ	**Omahuta**	**11.86**	**207**	*e*P		**P**		**12 51 01.3**	**+1.5**
OUZ	**Omahuta**	**11.86**	**207**	P		**P**		**12 51 01.2**	**+1.5**
GRZ	**Great Barrier**	**12.14**	**198**	P		**P**		**12 51 03.2**	**+0.6**
WCZ	**Waipu Caves**	**12.21**	**203**	P		**P**		**12 51 04.9**	**+1.5**
KUZ	**Kuaotunu**	**12.53**	**197**	P		**P**		**12 51 07.0**	**+0.2**
WIAZ	**Waiheke Island**	**12.74**	**199**	P		**P**		**12 51 09.7**	**+0.7**
MXZ	**Matakaoa Point**	**12.86**	**187**	*e*P		**P**		**12 51 11.4**	**+1.2**
MXZ	**Matakaoa Point**	**12.86**	**187**	P		**P**		**12 51 11.5**	**+1.3**
DZM	**Mont Dzumac**	**12.86**	**279**	*e*P		**P**		**12 51 11.3**	**+0.7**
DZM	**Mont Dzumac**	**12.86**	**279**	P		**P**		**12 51 11.0**	**+0.3**
	2.5nm,0.3s,baz=76,slow=20,SNR=27								
ETAZ	**East Tamaki Re**	**12.95**	**199**	P		**P**		**12 51 11.9**	**+0.7**
MKAZ	**Moumakai**	**13.02**	**198**	P		**P**		**12 51 12.3**	**+0.4**
WTAZ	**Waiatarua**	**13.04**	**200**	P		**P**		**12 51 12.4**	**+0.3**
WMGZ	**Waiomatatini S**	**13.10**	**186**	P		**P**		**12 51 12.5**	**-0.3**
HAZ	**Te Kaha**	**13.11**	**188**	P		**P**		**12 51 11.1**	**-1.8**
PKGZ	**Pakihiroa**	**13.20**	**187**	P		**P**		**12 51 13.9**	**-0.1**
PUZ	**Puketiti**	**13.37**	**186**	P		**P**		**12 51 15.3**	**-0.3**
TOZ	**Tahuroa Road**	**13.52**	**196**	P		**P**		**12 51 16.9**	**-0.4**
URZ	**Urewera**	**13.70**	**190**	*e*P		**P**		**12 51 16.8**	**-2.3**
URZ				S		**S**		**12 53 42.2**	**-2.3**
URZ	**Urewera**	**13.70**	**190**	P		**P**		**12 51 15.2**	**-3.9**
	1.3nm,0.3s,baz=356,slow=3.5,SNR=11								
URZ				S		**S**		**12 53 42.2**	**-2.3**
	3.6nm,0.3s,baz=70,slow=23,SNR=14								
URZ	**Urewera**	**13.70**	**190**	P		**P**		**12 51 16.3**	**-2.8**
MWZ	**Matawai**	**13.71**	**189**	P		**P**		**12 51 17.9**	**-1.4**
MWZ				S		**S**		**12 53 42.9**	**-1.9**
MUGZ	**Murupara**	**13.97**	**191**	P		**P**		**12 51 22.1**	**+0.2**
RIGZ	**Rimuhau**	**14.05**	**188**	P		**P**		**12 51 22.6**	**-0.2**
PRRZ	**Plateau Road**	**14.06**	**192**	P		**P**		**12 51 22.7**	**-0.3**
SNGZ	**Shannon Statio**	**14.18**	**189**	P		**P**		**12 51 25.4**	**+1.3**
MTHZ	**Maungataniwha**	**14.32**	**190**	P		**P**		**12 51 25.6**	**-0.2**
MTHZ				S		**S**		**12 53 57.5**	**+1.0**
RAHZ	**Arahi**	**14.35**	**190**	P		**P**		**12 51 25.6**	**-0.4**
HIZ	**Hauiti**	**14.43**	**197**	*e*P		**P**		**12 51 28.0**	**+1.3**
HIZ	**Hauiti**	**14.43**	**197**	P		**P**		**12 51 28.0**	**+1.3**
RATZ	**Rangitukua**	**14.54**	**194**	P		**P**		**12 51 27.5**	**-0.5**
BKZ	**Black Stump Fm**	**14.69**	**191**	*e*P		**P**		**12 51 26.3**	**-3.2**
BKZ	**Black Stump Fm**	**14.69**	**191**	P		**P**		**12 51 26.8**	**-2.8**
ARHZ	**Aropaoanui**	**14.70**	**190**	P		**P**		**12 51 28.4**	**-1.2**
TWVZ	**Taurewa**	**14.81**	**194**	P		**P**		**12 51 31.8**	**+0.9**
NGZ	**Ngauruhoe**	**14.88**	**194**	P		**P**		**12 51 30.5**	**-1.1**
MCHZ	**McNeill Hill**	**14.93**	**190**	P		**P**		**12 51 30.1**	**-1.9**
MCHZ				S		**S**		**12 54 08.0**	**0.0**
KWHZ	**Kaweka Forest**	**14.95**	**191**	P		**P**		**12 51 30.9**	**-1.5**
VRZ	**Vera Road**	**15.03**	**196**	P		**P**		**12 51 34.1**	**+1.1**
MOVZ	**Moawhango**	**15.06**	**193**	P		**P**		**12 51 33.2**	**-0.3**
BHHZ	**Black Hill Sta**	**15.08**	**192**	P		**P**		**12 51 30.5**	**-3.2**
KRHZ	**Kereru**	**15.18**	**191**	P		**P**		**12 51 32.3**	**-2.3**
BFZ	**Birch Farm**	**16.21**	**191**	*e*P		**P**		**12 51 42.5**	**-2.8**
	29nm,1.0s								
SNZO	**South Karori**	**17.11**	**194**	*e*P		**P**		**12 51 53.6**	**-0.9**
	91nm,1.1s								
THZ	**Tophouse**	**17.99**	**198**	*e*P		**P**		**12 52 01.8**	**-0.9**
	34nm,1.1s								
KHZ	**Kahutara**	**18.44**	**196**	*e*P		**P**		**12 52 04.8**	**-1.8**
	25nm,0.7s								
LTZ	**Lake Taylor**	**19.11**	**198**	*e*P		**P**		**12 52 10.1**	**-2.8**
	24nm,0.6s								
OXZ	**Oxford**	**19.68**	**198**	*e*P		**P**		**12 52 17.2**	**-0.9**
	42nm,0.7s								
CRLZ	**Canterbury Las**	**19.75**	**196**	*e*P		**P**		**12 52 18.0**	**-0.7**
	27nm,1.0s								
MQZ	**McQueen's Vall**	**19.87**	**196**	*e*P		**P**		**12 52 18.5**	**-1.2**
	21nm,1.0s								
RPZ	**Rata Peaks**	**20.32**	**199**	*e*P		**P**		**12 52 23.8**	**-0.1**
	18nm,0.9s								
RPZ	**Rata Peaks**	**20.32**	**199**	P		**P**		**12 52 22.3**	**-1.6**
	12nm,0.6s,baz=338,slow=5.4,SNR=3.6								
FOZ	**Fox Glacier**	**20.55**	**202**	*e*P		**P**		**12 52 25.3**	**-0.6**
	43nm,1.0s								
LBZ	**Lake Benmore**	**21.19**	**200**	*e*P		**P**		**12 52 29.6**	**-2.2**
	21nm,1.0s								
ODZ	**Otahua Downs**	**21.65**	**198**	*e*P		**P**		**12 52 35.5**	**-0.4**
	7.7nm,1.2s								
WKZ	**Wanaka**	**21.96**	**202**	*e*P		**P**		**12 52 37.5**	**-1.2**
	30nm,1.2s								
MLZ	**Mavora Lakes**	**22.74**	**202**	*e*P		**P**		**12 52 45.5**	**-0.2**
	16nm,1.1s								
HNR	**Honiara**	**24.55**	**305**	*e*P		**P**		**12 52 59.8**	**-2.4**
	95nm,0.7s								
HNR	**Honiara**	**24.55**	**305**	P		**P**		**12 52 59.0**	**-3.2**
	85nm,0.6s,baz=1.1,slow=3.8,SNR=6.6								
EIDS	**Eidsvold**	**26.32**	**262**	*e*P		**P**		**12 53 17.8**	**+0.1**
	15nm,0.8s								
CAN	**Canberra**	**28.84**	**241**	*e*P		**P**		**12 53 41.0**	**+1.2**
	3.6nm,0.9s								
CTA	**Charters Tower**	**31.62**	**272**	P		**P**		**12 54 04.5**	**+0.5**
	64nm,0.3s,baz=94,slow=11,SNR=386								

IDC 31 12:38:22.6±3.0, 6°.53S×129°.75E, h137km±40km, mb3.3/1, mb1 3.2/5, mb1mx3.0/33, mbtmp3.6/5, Error ellipse: s-maj=73.3km s-min=21.7km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.82**	**15**	P		P	Pn	12 39 46.8	-0.1
	1.0nm,0.3s,baz=209,slow=19,SNR=2.4								
SIJI				S			Sn	12 40 49.4	-3.2
	1.8nm,0.3s,baz=217,slow=20,SNR=3.1								
BATI	**Baumata**	**7.04**	**238**	S			Sn	12 41 24.6	+2.6
	3.2nm,0.3s,baz=218,slow=18,SNR=2.6								
FITZ	**Fitzroy Crossi**	**12.18**	**199**	P			Pn	12 41 12.8	+1.1
	0.1nm,0.3s,baz=23,slow=6.1,SNR=8.2								
FITZ				S			Sn	12 43 19.0	-7.1
	0.1nm,0.3s,baz=280,slow=18,SNR=2.2								
WRA	**Warramunga Arr**	**14.06**	**162**	P			Pn	12 41 34.4	-1.6
	0.1nm,0.3s,baz=340,slow=13,SNR=2.7								
WRA				S			Sn	12 44 01.2	-10
	0.4nm,0.3s,baz=336,slow=23,SNR=7.2								
ASAR	**Alice Springs**	**17.50**	**167**	P			P	12 42 17.6	+0.1
	0.2nm,0.3s,baz=337,slow=9.5,SNR=14								
ASAR				S			S	12 45 21.3	-12
	0.0nm,0.3s,baz=346,slow=27,SNR=1.7								
MKAR	**Makanchi Array**	**67.69**	**327**	P			P	12 49 05.2	0.0
	0.4nm,0.5s,baz=117,slow=8.9,SNR=5.1								

ISCJB ***31*** *12:47:06.9±0.5, 17°.51S±0°.05×69°.31W±0°.08,h178km±5km, Error ellipse: s-maj=14.1km s-min=7.1km az=25.9*
IDC ***31*** *12:47:08.2±1.0, 17°.54S×69°.18W,h172km±6km,mb3.2/5, mb1 3.5/8,mb1mx3.2/45,mbtmp3.9/8,Error ellipse: s-maj=16.7km s-min=10.9km az=98.0*
GUC ***31*** *12:47:09.0±0.5, 17°.55S×69°.64W,h170km±5km,ML3.7*

ISC 31 12:47:07.2±0.7, 17°.49S±0°.06×69°.32W±0°.08, h165km±6km, n23,σ1$40/32,5C, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**1.47**	**220**	⇑*i*P		P	**Pn**	**12 47 37.0**	**-0.8**
PB12				*e*S		**S**	**Sn**	**12 47 58.9**	**-2.4**
PB12		

CTAO	**Charters Tower**	**31.62**	**272**	*e*P		**P**	**12 54 04.3**	**+0.2**
	73nm,0.5s								
STKA	**Stephens Creek**	**34.54**	**249**	*e*P		**P**	**12 54 28.7**	**+0.2**
	0.8nm,0.4s								
STKA	**Stephens Creek**	**34.54**	**249**	P		**P**	**12 54 28.9**	**+0.3**
	3.4nm,0.4s,baz=91,slow=9.6,SNR=25								
PMG	**Port Moresby**	**34.91**	**290**	*e*P		**P**	**12 54 31.4**	**-0.5**
	40nm,0.8s								
COEN	**Coen**	**36.39**	**280**	*e*P		**P**	**12 54 44.1**	**-0.1**
	17nm,0.8s								
BBOO	**Buckleboo**	**39.24**	**248**	*e*P		**P**	**12 55 06.6**	**-0.7**
	6.9nm,0.4s								
AS01	**Alice Springs**	**41.99**	**262**	*e*P		**P**	**12 55 28.9**	**-0.5**
AS31	**Alice Springs**	**42.03**	**262**	*e*P		**P**	**12 55 29.5**	**-0.3**
	4.5nm,0.4s								
ASAR	**Alice Springs**	**42.03**	**262**	P		**P**	**12 55 29.7**	**-0.1**
	5.8nm,0.3s,baz=92,slow=7.0,SNR=456								
ASAR				pP		**pP**	**12 56 58.7**	**-1.7**
	1.8nm,1.0s,baz=99,slow=8.1,SNR=2.5								
ASAR				S		**S**	**13 01 11.6**	**-0.5**
	1.8nm,0.8s,baz=101,slow=16,SNR=16								
WB2	**Warramunga Arr**	**42.48**	**267**	*e*P		**P**	**12 55 32.6**	**-0.7**
	34nm,0.4s								
WRAB	**Tennant Creek**	**42.48**	**267**	*e*P		**P**	**12 55 32.6**	**-0.8**
	30nm,0.4s								
WR1	**Warramunga Arr**	**42.49**	**267**	*e*P		**P**	**12 55 32.5**	**-1.0**
	37nm,0.8s								
WR1				*e*ScP		**ScP**	**13 00 22.5**	**+5.2**
WR1				*e*S		**S**	**13 01 16.6**	**-2.1**
WRA	**Warramunga Arr**	**42.49**	**267**	P		**P**	**12 55 32.5**	**-1.0**
	30nm,0.5s,baz=98,slow=6.8,SNR=424								
WRA				ScP		**ScP**	**13 00 22.5**	**+5.2**
	4.0nm,0.8s,baz=100,slow=4.0,SNR=16								
WRA				S		**S**	**13 01 16.6**	**-2.1**
	0.9nm,0.9s,baz=99,slow=15,SNR=6.5								
JAY	**Jayapura**	**43.98**	**294**	P		**P**	**12 55 44.0**	**-1.1**
	36nm,0.7s,baz=120,slow=1.0,SNR=12								
FORT	**Forrest**	**46.14**	**250**	*e*P		**P**	**12 56 00.6**	**-1.0**
	27nm,0.6s								
MTN	**Manton Dam**	**47.66**	**275**	*e*P		**P**	**12 56 12.0**	**-1.2**
	9.7nm,0.7s								
FITZ	**Fitzroy Crossi**	**50.90**	**266**	*e*P		**P**	**12 56 37.1**	**0.0**
	18nm,0.8s								
FAKI	**Fak Fak**	**50.97**	**287**	*e*P		**P**	**12 56 36.7**	**-1.0**
	10.0nm,0.7s								
GUMO	**Guam**	**51.36**	**314**	*e*P		**P**	**12 56 39.7**	**-0.8**
	122nm,1.1s								
GUMO	**Guam**	**51.36**	**314**	P		**P**	**12 56 39.0**	**-1.4**
	67nm,0.7s,baz=184,slow=19,SNR=2.8								
SBA	**Scott Base**	**53.53**	**183**	*e*P		**P**	**12 56 58.1**	**+3.0**
	2.3nm,1.0s								
VNDA	**Vanda**	**53.53**	**185**	*e*P		**P**	**12 56 56.4**	**+1.2**
VNDA	**Vanda**	**53.53**	**185**	P		**P**	**12 56 55.9**	**+0.7**
	0.8nm,0.8s,baz=326,slow=4.8,SNR=4.4								
SOEI	**Soe**	**55.06**	**275**	*e*P		**P**	**12 57 08.0**	**+0.9**
	58nm,1.1s								
SOEI	**Soe**	**55.06**	**275**	P		**P**	**12 57 06.4**	**-0.6**
BATI	**Baumata**	**55.43**	**275**	P		**P**	**12 57 09.1**	**-0.4**
MORW	**Morawa**	**56.71**	**250**	*e*P		**P**	**12 57 17.7**	**-0.5**
	5.7nm,0.6s								
MMRI	**Maumere**	**57.34**	**276**	*e*P		**P**	**12 57 22.0**	**-0.7**
	22nm,0.8s								
MMRI	**Maumere**	**57.34**	**276**	P		**P**	**12 57 21.7**	**-1.0**
	30nm,0.7s								
EDFI	**Ende, Flores**	**57.79**	**275**	P		**P**	**12 57 24.7**	**-1.2**
GIRL	**Giralia**	**59.85**	**257**	*e*P		**P**	**12 57 40.8**	**+1.3**
	52nm,1.0s								
LUWI	**Luwuk**	**60.16**	**284**	*e*P		**P**	**12 57 41.5**	**-0.2**
	18nm,0.8s								
BKSI	**Bulukumba**	**60.62**	**278**	P		**P**	**12 57 43.9**	**-0.8**
PLAI	**Plampang**	**61.30**	**273**	P		**P**	**12 57 48.8**	**-0.5**
JAGI	**Jajag, Banyuwa**	**64.73**	**272**	*e*P		**P**	**12 58 09.9**	**-1.5**
	13nm,0.9s								
QSPA	**South Pole Qui**	**65.32**	**180**	*e*P		**P**	**12 58 15.7**	**+1.3**
	7.6nm,0.8s								
QSPA	**South Pole Qui**	**65.32**	**180**	P		**P**	**12 58 16.1**	**+1.7**
	5.9nm,0.7s,baz=329,slow=0.7,SNR=28								
KKM	**Kota Kinabalu**	**69.28**	**287**	*e*P		**P**	**12 58 39.4**	**-0.1**
	15nm,0.8s								
KSM	**Kuching**	**72.39**	**280**	*e*P		**P**	**12 58 57.8**	**0.0**
	15nm,0.8s								
MJAR	**Matsushiro Arr**	**72.68**	**326**	P		**P**	**12 58 58.2**	**-0.8**
	5.9nm,0.7s,baz=168,slow=6.0,SNR=19								
MAJO	**Matsushiro**	**72.69**	**326**	*e*P		**P**	**12 58 58.2**	**-0.8**
	8.6nm,0.8s								
MAT	**Matsushiro**	**72.69**	**326**	P		**P**	**12 58 58.3**	**-0.7**
MJB9	**Matsu-Tunnel**	**72.69**	**326**	*e*P		**P**	**12 58 58.2**	**-0.8**
	8.6nm,0.8s								
TPUB	**Ta-pu**	**74.92**	**305**	*e*P		**P**	**12 59 10.5**	**-1.5**
	23nm,1.1s								
YHNB	**Yeheng**	**75.17**	**306**	*e*P		**P**	**12 59 13.4**	**-0.1**
	33nm,1.0s								
YSS	**Yuzh-Sakhalins**	**78.97**	**335**	*e*P		**P**	**12 59 34.5**	**+1.0**
	13nm,0.7s								
KSRS	**Korea Array**	**78.99**	**320**	P		**P**	**12 59 34.5**	**+0.7**
	4.0nm,0.6s,baz=130,slow=5.8,SNR=26								
KS15	**Wonju Array Si**	**79.01**	**320**	*e*P		**P**	**12 59 34.5**	**+0.5**
	10nm,0.8s								
KSAR	**Wonju Array Be**	**79.01**	**320**	P		**P**	**12 59 34.5**	**+0.6**
KS01	**Wonju Array Si**	**79.03**	**320**	*e*P		**P**	**12 59 34.6**	**+0.5**
PEA0B	**Petropavlovsk-**	**79.97**	**346**	*e*P		**P**	**12 59 38.7**	**0.0**
	17nm,1.0s								
PETK	**Petropavlovsk-**	**79.97**	**346**	*e*P		**P**	**12 59 39.0**	**+0.3**
PETK	**Petropavlovsk-**	**79.97**	**346**	P		**P**	**12 59 38.8**	**+0.1**
	5.8nm,0.6s,baz=134,slow=7.6,SNR=13								
PEA1	**Petropavlovsk-**	**79.97**	**346**	*e*P		**P**	**12 59 38.8**	**+0.1**
USA0B	**Ussuriysk Arra**	**81.56**	**327**	*e*P		**P**	**12 59 48.1**	**+0.9**
	11nm,1.1s								
USRK	**Ussuriysk Ar.**	**81.56**	**327**	P		**P**	**12 59 48.0**	**+0.8**
	5.2nm,0.6s,baz=156,slow=2.6,SNR=17								
IPM	**Ipoh**	**82.03**	**279**	*e*P		**P**	**12 59 50.4**	**+0.1**
	8.8nm,0.7s								
HOPS	**Hopland Field**	**82.70**	**41**	*e*P		**P**	**12 59 54.3**	**+1.2**
KULM	**Kulim**	**82.71**	**279**	*e*P		**P**	**12 59 54.1**	**+0.3**
	5.5nm,0.8s								
BAR	**Barrett**	**82.99**	**49**	*e*P		**P**	**12 59 55.7**	**+0.9**
	1.6nm,0.8s								
KHMM	**Horse Mountain**	**83.53**	**39**	*e*P		**P**	**12 59 58.8**	**+1.4**
	3.9nm,1.0s								
PFO	**Pinyon Flats O**	**83.67**	**49**	*e*P		**P**	**12 59 59.2**	**+0.9**
	2.9nm,1.0s								
XPFO	**Pion Flat**	**83.67**	**49**	*e*P		**P**	**12 59 59.2**	**+0.9**
	3.4nm,1.1s								
CMB	**Columbia Colle**	**83.73**	**43**	*e*P		**P**	**12 59 58.6**	**+0.2**
	2.0nm,0.8s								
GSI	**Gununguisitoli**	**83.80**	**274**	*e*P		**P**	**12 59 60.0**	**+0.8**
	9.2nm,0.7s								
SNAA	**Sanae**	**83.81**	**179**	*e*P		**P**	**12 59 58.5**	**+0.2**
	0.9nm,0.8s								
CN2	**Changchun**	**84.66**	**324**	*e*P		**P**	**13 00 03.5**	**+0.8**
YBH	**Yreka Blue Hor**	**84.67**	**39**	*e*P		**P**	**13 00 04.6**	**+1.6**
	0.7nm,1.0s								
YBH	**Yreka Blue Hor**	**84.67**	**39**	P		**P**	**13 00 03.1**	**+0.2**
	0.9nm,0.6s,baz=232,slow=5.1,SNR=3.6								
BEKR	**Beckworth**	**84.88**	**42**	*e*P		**P**	**13 00 04.4**	**+0.3**
	0.6nm,0.8s								
HSIG		**85.09**	**55**	*e*P		**P**	**13 00 05.9**	**+0.7**
	5.4nm,0.8s								
NV01	**Mina Array Sit**	**85.28**	**44**	*e*P		**P**	**13 00 06.4**	**+0.2**
NVAR	**Mina Array Bea**	**85.28**	**44**	P		**P**	**13 00 06.6**	**+0.4**
	1.3nm,0.8s,baz=221,slow=8.4,SNR=9.7								
TUC	**Tucson**	**86.94**	**52**	*e*P		**P**	**13 00 15.7**	**+1.6**
	5.9nm,0.9s								
319A	**Douglas**	**87.55**	**54**	*e*P		**P**	**13 00 18.9**	**+1.9**
	3.9nm,0.7s								
PLCA	**Paso Flores**	**87.57**	**134**	P		**P**	**13 00 18.3**	**+1.3**
	2.5nm,1.1s,baz=235,slow=12,SNR=3.1								
U15A	**North Rim**	**88.08**	**48**	*e*P		**P**	**13 00 20.9**	**+1.3**
	3.0nm,1.0s								
ELK	**Elko**	**88.55**	**43**	P		**P**	**13 00 22.1**	**+0.5**
	0.6nm,0.5s,baz=242,slow=12,SNR=3.6								
PKCU	**Pink Cliffs**	**88.61**	**47**	*e*P		**P**	**13 00 23.9**	**+1.8**
	4.6nm,0.8s								
X18A	**Snowflake**	**88.69**	**51**	*e*P		**P**	**13 00 23.2**	**+0.9**
	2.4nm,0.7s								
G08A	**Pilot Rock**	**89.02**	**38**	*e*P		**P**	**13 00 24.7**	**+1.2**
	2.8nm,1.0s								
MTPU	**Mount Pierson**	**89.02**	**47**	*e*P		**P**	**13 00 25.4**	**+1.4**
	2.9nm,0.7s								
XAN	**Xi'an**	**89.38**	**308**	P		**P**	**13 00 26.5**	**+1.1**
XAN				pP		PcP	13 00 47.5	+21
XAN				pmax		pmax		
	comp=Z,8.0nm,1.0s								
CM01	**Chiang Mai Arr**	**89.92**	**290**	*e*P		**P**	**13 00 29.9**	**+1.7**
CM31	**Chiang Mai Arr**	**89.95**	**290**	*e*P		**P**	**13 00 30.5**	**+2.2**
	comp=Z,5.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**89.95**	**290**	P		**P**	**13 00 30.4**	**+2.1**
	comp=Z,3.2nm,0.8s,baz=136,slow=3.3,SNR=24								
CMMT	**Chiang Mai**	**90.10**	**291**	P		**P**	**13 00 31.0**	**+2.0**
	comp=Z,6.5nm,1.0s								
CHTO	**Chiang Mai**	**90.11**	**291**	P		**P**	**13 00 31.1**	**+2.1**
	comp=Z,29nm,1.0s								
SEY	**Seymchan**	**90.14**	**348**	P		**P**	**13 00 28.1**	**0.0**
	comp=Z,3.1nm,0.8s,baz=147,slow=5.3,SNR=19								
TMUT	**Trail Mountain**	**90.34**	**46**	*e*P		**P**	**13 00 31.2**	**+1.2**
	comp=Z,5.0nm,0.7s								
MNTX	**Cornudas Mount**	**90.59**	**55**	*e*P		**P**	**13 00 31.9**	**+0.9**
	comp=Z,2.1nm,0.8s								
HVU	**Hansel Valley**	**90.67**	**44**	*e*P		**P**	**13 00 32.1**	**+0.8**
	comp=Z,2.9nm,0.7s								
SRU	**San Rafael Swe**	**90.69**	**47**	*e*P		**P**	**13 00 31.9**	**+0.4**
	comp=Z,3.7nm,0.8s								
TX31	**Lajitas Ar. Si**	**90.77**	**58**	*e*P		**P**	**13 00 32.8**	**+0.8**
TXAR	**Lajitas Array**	**90.77**	**58**	P		**P**	**13 00 33.2**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=216,slow=6.1,SNR=24								
HHC	**Hu-ho-hao-te**	**91.12**	**315**	*e*P		**P**	**13 00 34.0**	**+0.6**
HHC				pmax		pmax		
	comp=Z,12nm,1.0s								
HHC				pmax		pmax		
	comp=Z,61nm,6.1s								
PDAR	**Pinedale Array**	**93.22**	**44**	P		**P**	**13 00 42.6**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=318,slow=2.0,SNR=4.3								
SONA0	**Songino Array**	**97.84**	**319**	*e*P		**P**	**13 01 05.0**	**+1.2**
SONM	**Songino Array**	**97.84**	**319**	P		**P**	**13 01 05.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=151,slow=4.1,SNR=4.0								
MK32	**Makanchi Array**	**112.83**	**312**	*e*Pdif		**Pdif**	**13 02 13.8**	**+3.5**
MK32				*e*PKKPbc		**PKKPbc**	**13 16 52.3**	**+0.6**
MKAR	**Makanchi Array**	**112.83**	**312**	Pdiff		**Pdif**	**13 02 13.8**	**+3.5**
	comp=Z,0.2nm,0.5s,baz=86,slow=6.1,SNR=2.9								
MKAR				PKKPbc		**PKKPbc**	**13 16 52.3**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=259,slow=1.2,SNR=3.6								
KURBB	**Kurchatov Arra**	**115.96**	**316**	PKP		**PKPdf**	**13 06 06.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=98,slow=2.5,SNR=6.9								
PSUB	**Penn St. - Bra**	**116.11**	**56**	*e*PKPdf		**PKiKP**	**13 06 09.6**	**+1.4**
ACCN	**Adirondack Com**	**118.02**	**52**	*e*PKPdf		**PKiKP**	**13 06 12.6**	**+0.7**
FIA0	**FINESS Array S**	**139.30**	**341**	*e*PKPpre		PKPpre	13 06 44.3	
FIA0				*e*SKPbc		**SKiKP**	**13 09 41.8**	**-0.1**
FINES	**FINESS Array B**	**139.30**	**341**	PKhKP		PKPpre	13 06 44.3	
	comp=Z,1.5nm,0.8s,baz=50,slow=4.2,SNR=4.3								
FINES				SKPbc		**SKiKP**	**13 09 41.8**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=85,slow=2.9,SNR=7.1								
HFS	**Hagfors**	**143.41**	**349**	PKhKP		PKPpre	13 06 55.8	
	comp=Z,2.4nm,0.3s,baz=64,slow=3.4,SNR=49								
AKASG	**Malin Array Be**	**145.76**	**327**	PKPbc		**PKPdf**	**13 07 04.2**	**+0.9**
	comp=Z,6.3nm,0.6s,baz=44,slow=4.5,SNR=20								
AKBB	**Malin Array Si**	**145.76**	**327**	*e*PKPdf		**PKPdf**	**13 07 04.1**	**+0.9**
KIEV	**Kiev**	**145.78**	**327**	*e*PKPdf		**PKPdf**	**13 07 04.3**	**+1.1**
AK11	**Malin Array Si**	**145.81**	**327**	*e*PKPdf		**PKPdf**	**13 07 04.2**	**+0.9**
SUW	**Suwalki**	**146.10**	**336**	*e*PKPbc		**PKPab**	**13 07 07.5**	**-0.1**
BR101	**Keskin Array S**	**148.20**	**306**	*e*PKPbc		**PKPbc**	**13 07 11.7**	**-0.2**
BR131	**Keskin Array S**	**148.20**	**306**	*e*PKPbc		**PKPbc**	**13 07 11.6**	**-0.3**
BR131				*e*PKPab		**PKPab**	**13 07 17.7**	**+0.9**
BRTR	**Keskin Array B**	**148.20**	**306**	PKPbc		**PKPbc**	**13 07 11.7**	**-0.3**
	comp=Z,1.7nm,0.7s,baz=132,slow=4.0,SNR=9.3								
CSS	**Mathiatis**	**149.60**	**297**	*e*PKPbc		**PKPbc**	**13 07 14.5**	**-0.8**
BUR08	**Bucovina Ar. S**	**149.75**	**325**	*e*PKPbc		**PKPbc**	**13 07 15.4**	**0.0**
CLL	**Collm**	**151.72**	**343**	*e*PKPbc		**PKPbc**	**13 07 20.0**	**+0.4**
CLL				*i* PKPab		**PKPab**	**13 07 30.2**	**-0.6**
CLL				*i* PKPab		**pPKPbc**	**13 09 17.8**	**+0.1**
VYHS	**Vyhne**	**152.11**	**333**	*e*PKP		**PKPab**	**13 07 32.3**	**-0.3**
KHC	**Kasperske Hory**	**153.50**	**340**	*e*PKPab		**PKPab**	**13 07 39.4**	**+0.9**
GERES	**GERESS Array B**	**153.71**	**340**	PKPab		**PKPab**	**13 07 39.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=57,slow=4.9,SNR=5.7								
CONA	**Conrad Observa**	**153.75**	**336**	*i* PKPab		**PKPab**	**13 07 40.2**	**+0.5**
	comp=Z,2.0nm,0.6s								
VTS	**Vitosha**	**153.97**	**319**	*e*PKPab		**PKPab**	**13 07 42.0**	**+1.0**
KBA	**Koelnbreinsper**	**155.37**	**338**	*i* PKPab		**PKPab**	**13 07 46.3**	**-0.4**
	comp=Z,1.6nm,0.5s								
MYKA	**Terra Mystica**	**155.65**	**337**	*i* PKPab		**PKPab**	**13 07 47.6**	**-0.3**
	comp=Z,2.0nm,0.4s								
WTTA	**Wattenberg**	**155.75**	**341**	*i* PKPab		**PKPab**	**13 07 49.0**	**+0.6**
	comp=Z,2.0nm,0.5s								
LIT	**Litokhoron**	**155.82**	**315**	*e*PKPab		**PKPab**	**13 07 48.6**	**-0.2**
ABTA	**Abfaltersbach**	**155.94**	**339**	*i* PKPab		**PKPab**	**13 07 48.9**	**-0.2**
	comp=Z,2.1nm,0.7s								
ECH	**Echery**	**155.95**	**348**	*e*PKPab		**PKPab**	**13 07 50.3**	**+1.3**
FNA	**Florina**	**156.14**	**317**	*e*PKPab		**PKPab**	**13 07 49.9**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**156.73**	**342**	*e*PKPab		**PKPab**	**13 07 53.8**	**+1.1**
ITM	**Ithomi**	**157.66**	**309**	*e*PKPab		**PKPab**	**13 07 56.7**	**-0.2**
TOA0	**Torodi Ar. Sit**	**168.35**	**187**	*e*PKPab		**PKPab**	**13 08 44.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**168.35**	**187**	PKPab		**PKPab**	**13 08 44.8**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=179,slow=4.0,SNR=4.6								
TOA1	**Torodi Ar. Sit**	**168.36**	**187**	*e*PKPab		**PKPab**	**13 08 44.8**	**+0.7**

MEX 31 12:50:29.7±0.4, 16°01'N×98°39'W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.46**	**34**	*e*P		Pg	12 50 37.9	-0.7
PNIG				*e*S		Sg	12 50 44.6	+0.1
TLIG	**Tlapa**	**1.55**	**354**	*e*P		Pn	12 50 54.5	-3.6
TLIG				*i* S		Sn	12 51 14.0	-4.8
VHO	**Vista Hermosa**	**1.91**	**56**	*e*P		Pn	12 50 59.3	-3.8
VHO				*e*S		Sn	12 51 23.3	-4.3
CAIG	**El Cayaco**	**2.07**	**300**	*e*P		Pn	12 51 01.1	-4.1
CAIG				*i* S		Sn	12 51 27.6	-3.8
TPIG	**Tehuac#an**	**2.59**	**22**	*e*P		Pn	12 51 09.8	-2.7
TPIG				*i* S		Sn	12 51 41.2	-3.2
YAIG	**Yautepec**	**2.91**	**347**	*i* P		Pn	12 51 14.4	-2.4
YAIG				*i* S		Sn	12 51 48.9	-3.4
ARIG	**Puente Sto Nin**	**2.93**	**321**	*e*P		Pn	12 51 14.5	-2.5
ARIG				*i* S		Sn	12 51 48.4	-4.3
PPM	**Popocatepetl**	**3.05**	**356**	*e*P		Pn	12 51 16.5	-2.6
PPM				*i* S		Sn	12 51 52.5	-3.7
PCIG		**4.99**	**93**	*i* P		Pn	12 51 42.0	-3.2

*IDC **31** 13:05:14.2±0.9, 29°08'N×87°20'E, h0km, mb3.6/9, mb1 3.7/11, mb1mx3.4/64, mbtmp3.5/11, ML3.5/2, MS2.8/2, Ms1 2.9/2, ms1mx2.5/40, Error ellipse: s-maj=30.2km s-min=17.4km az=57.0*
*ISCJB **31** 13:05:16.8±0.5, 28°94N±0'04×87°17E±0'05, h33km, mb3.6/9, Error ellipse: s-maj=7.0km s-min=5.5km az=37.9*
*DMN **31** 13:05:18.7±1.4, 28°86N×87°22E, h30km, Ml4.5/4, Error ellipse: s-maj=33.0km s-min=13.9km az=30.0*

ISC 31 13:05:18.4±0.7, 28°89N±0'07×87°17E±0'06, h35km, n23, σ1°41/27, mb3.7/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUN	**Gumba**	**1.49**	**230**	*e*Pg		**Pn**	**13 05 40.5**	**-2.6**
GUN				*e*Sg		**Sn**	**13 05 59.1**	**-2.4**
	4μm,0.7s							
JIRN	**Jiri**	**1.50**	**215**	*e*Pg		**Pn**	**13 05 40.8**	**-2.3**
TAPN	**Taplejung**	**1.61**	**162**	*e*Pg		**Pn**	**13 05 42.8**	**-1.8**
TAPN				*e*Sg		**Sn**	**13 06 03.2**	**-1.0**
	580nm,0.4s							
KKN	**Kakani**	**1.99**	**237**	*e*Pg		**Pn**	**13 05 50.0**	**+0.2**
KKN				*e*Sg		**Sn**	**13 06 12.9**	**-0.7**
	1μm,0.6s							
RAMN	**Ramite**	**1.99**	**195**	*e*Pg		**Pn**	**13 05 49.6**	**-0.3**
ODAN	**Odare**	**2.03**	**174**	*e*Pg		**Pn**	**13 05 50.4**	**0.0**
PKI	**Pulchoki**	**2.03**	**230**	*e*Pg		**Pn**	**13 05 51.1**	**+0.7**
PKI				*e*Sg		**Sn**	**13 06 15.1**	**+0.4**
	941nm,0.5s							
PKIN	**Phulchoki**	**2.04**	**230**	*e*Pg		**Pn**	**13 05 50.9**	**+0.5**
DMN	**Daman**	**2.22**	**235**	*e*Pg		**Pn**	**13 05 54.0**	**+1.0**
DANN	**Dangsing**	**3.04**	**261**	*e*Pg		**Pn**	**13 06 04.8**	**+0.5**
KOLN	**Koldanda**	**3.33**	**251**	*e*Pg		**Pn**	**13 06 08.5**	**+0.2**
PYUN	**Piuthan**	**3.76**	**259**	*e*Pg		**Pn**	**13 06 13.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**14.96**	**131**	Pn		**Pn**	**13 08 48.7**	**+1.3**
	0.2nm,0.3s,baz=309,slow=10.0,SNR=2.3							
CMAR				LR		LR	13 16 11.3	
	comp=Z,38nm,18.8s,baz=356,slow=44							
MKAR	**Makanchi Array**	**18.28**	**349**	P		**P**	**13 09 26.2**	**-2.9**
	0.1nm,0.3s,baz=169,slow=12,SNR=5.3							
MKAR				LR		LR	13 17 51.7	
	comp=Z,34nm,22.0s,baz=312,slow=42							
KURBB	**Kurchatov Arra**	**22.67**	**346**	P		**P**	**13 10 14.5**	**-2.0**
	0.8nm,0.6s,baz=168,slow=11,SNR=8.5							
SONM	**Songino Array**	**24.07**	**33**	P		**P**	**13 10 30.0**	**-0.6**
	0.2nm,0.4s,baz=218,slow=11,SNR=1.8							
AKASG	**Malin Array Be**	**48.17**	**314**	P		**P**	**13 13 55.6**	**+0.5**
	0.6nm,0.3s,baz=80,slow=7.2,SNR=5.8							
TIXI	**Tiksi**	**48.45**	**16**	P		**P**	**13 13 56.8**	**-0.1**
	0.7nm,0.2s,baz=181,slow=0.3,SNR=5.1							
FINES	**FINESS Array B**	**51.30**	**327**	P		**P**	**13 14 18.4**	**-0.3**
	0.6nm,0.6s,baz=105,slow=10,SNR=4.4							
WRA	**Warramunga Arr**	**66.56**	**131**	P		**P**	**13 16 06.9**	**+1.8**
	0.3nm,0.4s,baz=326,slow=6.6,SNR=9.7							
ASAR	**Alice Springs**	**68.95**	**134**	P		**P**	**13 16 22.0**	**+1.8**
	0.5nm,0.7s,baz=316,slow=6.0,SNR=14							
ILAR	**Eielson Array**	**77.67**	**21**	P		**P**	**13 17 10.9**	**-0.1**
	0.2nm,0.5s,baz=314,slow=6.3,SNR=3.5							
TORD	**Torodi Ar. Bea**	**79.86**	**279**	P		**P**	**13 17 25.2**	**+1.3**
	0.3nm,0.6s,baz=66,slow=4.7,SNR=3.9							

JMA 31 13:05:18.6±0.1, 38°33N×142°12E, h35km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.52**	**268**	P		Pn	13 05 29.2	-0.2
JIKH				S		Sn	13 05 36.3	-0.7
JIO	**Ouri**	**0.62**	**282**	P		Pn	13 05 30.8	-0.1
JIO				S		Sn	13 05 39.2	-0.4
JKMT	**Kesennumamotoy**	**0.70**	**314**	P		Pn	13 05 32.1	+0.1
JKMT				S		Sn	13 05 41.4	-0.1
OFUJ	**Ofunato**	**0.83**	**335**	P		Pn	13 05 33.7	-0.1
OFUJ				S		Sn	13 05 44.4	-0.4
JMK	**Ichinoseki**	**0.94**	**312**	P		Pn	13 05 35.6	+0.3
JMK				S		Sn	13 05 47.5	0.0
JMM	**Marumori**	**1.15**	**247**	P		Pn	13 05 37.9	-0.2
JMM				S		Sn	13 05 52.4	-0.2
JOU	**Okura**	**1.15**	**272**	P		Pn	13 05 39.0	+0.9
JOU				S		Sn	13 05 53.8	+1.2
JOM	**Ohasama**	**1.31**	**331**	P		Pn	13 05 41.1	+0.7
JOM				S		Sn	13 05 57.7	+1.0
JFK	**Kawauchi**	**1.38**	**226**	P		Pn	13 05 40.8	-0.6
JFK				S		Sn	13 05 56.5	-1.9

*ISCJB **31** 13:11:08.2±1.2, 28°67S±0'05×70°78W±0'08, h89km±10km, Error ellipse: s-maj=12.5km s-min=7.2km az=21.6*
*GUC **31** 13:11:08.4±0.5, 28°80S×70°37W, h70km±148km, ML3.7*
*SJA **31** 13:11:08.2±0.4, 28°69S×70°73W, h78km±2km, ML3.8, MW3.3*

ISC 31 13:11:09.4±1.8, 28°69S±0'05×70°78W±0'08, h77km±11km, n16, σ0°52/23, 2C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**0.33**	**168**	*e*P		**Pn**	**13 11 21.4**	**-0.5**
LCO				*e*S		**Sn**	**13 11 31.2**	**+0.1**
LCO	**Las Campanas**	**0.33**	**168**	*e*P		**Pn**	**13 11 21.7**	**-0.2**
LCO				*i* S		**Sn**	**13 11 31.2**	**+0.1**
LCO				IAML			13 11 32.6	
	comp=E,5μm,0.4s							
GO03	**Copiap**	**1.19**	**24**	*e*P		**Pn**	**13 11 30.7**	**0.0**
GO03	**Copiap**	**1.19**	**24**	*i*P		**Pn**	**13 11 30.8**	**0.0**
GO03				*i* S		**Sn

baz=284
WHF **Hehuan Shan** **1.17 281** P **Pn** **13 25 41.0 +0.1**
baz=279
WHF S **Sb** **13 25 57.0 +0.9**
baz=279
EHY **Hungye** **1.17 250** P **Pn** **13 25 40.6 +0.1**
baz=248
EHY eS **Sn** **13 25 56.3 +0.4**
baz=248
IRIF **Iriomote-Funau** **1.18 69** P **Pb** **13 25 41.4 +0.3**
IRIF S **Sb** **13 25 56.5 +0.6**
HATJ **Hateruma jima** **1.18 83** P **Pn** **13 25 41.3 +0.7**
HATJ eS **Sb** **13 25 57.1 +1.1**
TWB1 **Santiao Chiao** **1.19 336** eP **Pn** **13 25 40.1 -0.6**
baz=333
TIPB **Shuangxi** **1.22 329** eP **Pb** **13 25 41.6 -0.2**
baz=326
TIPB eS **Sb** **13 25 57.5 +0.2**
baz=326
OWD **Renai** **1.23 272** eS **Sn** **13 25 56.8 -0.7**
baz=269
CHGB **Renai** **1.24 277** eP **Pn** **13 25 41.8 +0.2**
baz=274
CHGB eS **Sb** **13 25 57.8 -0.1**
baz=274
YULB **Yu-li** **1.24 245** P **Pn** **13 25 41.5 0.0**
baz=235
YULB eS **Sb** **13 25 58.3 +0.6**
baz=235
TWF1 **Yuli** **1.26 243** eP **Pn** **13 25 42.0 +0.3**
baz=242
TWF1 S **Sn** **13 25 58.3 +0.4**
baz=242
NWLT **Wulai** **1.26 313** eP **Pb** **13 25 42.3 -0.2**
baz=310
NWLT eS **Sb** **13 26 00.4 +2.1**
baz=310
TWT **Tachien** **1.27 285** eP **Pb** **13 25 42.9 0.0**
baz=272
TWT S **Sb** **13 25 59.5 +0.7**
baz=272
VWDT **VWDT** **1.27 263** eP **Pn** **13 25 42.2 +0.3**
baz=260
VWDT eS **Sn** **13 25 58.0 -0.3**
baz=260
YHNB **Yeheng** **1.28 306** eP **Pb** **13 25 42.7 -0.3**
baz=291
TDCB **Techi** **1.29 285** P **Pn** **13 25 42.5 +0.3**
baz=274
TDCB S **Sb** **13 25 59.5 +0.3**
baz=274
FULB **Fuli** **1.34 238** eP **Pn** **13 25 42.9 +0.1**
baz=228
FULB eS **Sn** **13 26 00.6 +0.7**
baz=228
CHKT **Chengkung** **1.34 233** eP **Pn** **13 25 42.5 -0.3**
baz=222
CHKT S **Sn** **13 25 58.5 -1.4**
baz=222
TWA **Mucha** **1.36 321** eP **Pb** **13 25 43.5 -0.6**
baz=334
TWA eS **Sb** **13 26 01.6 +0.5**
baz=334
NHDH **Xindian Distri** **1.38 319** eP **Pb** **13 25 44.2 -0.3**
baz=331
NHDH eS **Sb** **13 26 02.3 +0.6**
baz=331
JKRS **Kuro-shima** **1.40 77** P **Pb** **13 25 44.7 -0.1**
JKRS eS **Sb** **13 26 02.5 +0.3**
TATO **Taipei** **1.41 318** eP **Pb** **13 25 44.9 -0.1**
baz=330
TATO eS **Sb** **13 26 03.7 +1.1**
baz=330
SSLB **Suanglung** **1.44 265** eP **Pn** **13 25 44.9 +0.7**
baz=283
WHP **Taichung City** **1.48 284** eP **Pb** **13 25 45.8 -0.6**
baz=282
WHP eS **Sb** **13 26 04.7 -0.1**
baz=282
SMLT **Sun Moon Lake** **1.48 269** eP **Pb** **13 25 46.1 -0.3**
baz=266
SMLT eS **Sn** **13 26 03.8 +0.2**
baz=266
YM07 **YM07** **1.49 327** eP **Pn** **13 25 45.3 +0.3**
baz=324
YM07 eS **Sn** **13 26 03.3 -0.5**
baz=324
YM11 **YM11** **1.51 325** eP **Pn** **13 25 45.4 +0.2**
baz=323
YM05 **YM05** **1.51 325** eP **Pn** **13 25 45.1 -0.2**
baz=322
YM04 **YM04** **1.52 324** eP **Pn** **13 25 45.1 -0.2**
baz=321
TYC **Yuchr** **1.52 270** eP **Pn** **13 25 46.1 +0.8**
baz=267
TYC eS **Sb** **13 26 05.2 -0.6**
baz=267
WHYT **Xinyi Township** **1.54 262** eP **Pn** **13 25 46.3 +0.6**
baz=261
JIJ **Ishigaki jima** **1.54 73** P **Pn** **13 25 46.0 +0.4**
JIJ S **Sn** **13 26 05.0 0.0**
TWS1 **Kuangyinshan** **1.54 320** eP **Pb** **13 25 47.0 -0.4**
baz=332
TWS1 eS **Sb** **13 26 06.4 -0.1**
baz=332
NSTT **Nanjuang** **1.56 297** P **Pb** **13 25 47.9 +0.3**
baz=295
NSTT eS **Sb** **13 26 07.5 +0.6**
baz=295
ELDTW **Lidau** **1.56 242** P **Pn** **13 25 45.8 -0.2**
baz=240
ELDTW S **Sn** **13 26 03.8 -1.7**
baz=240
WJS **Zhushan** **1.65 267** eP **Pb** **13 25 48.7 -0.4**
baz=264
WJS eS **Sb** **13 26 11.1 +1.7**
baz=264
TWQ1 **Liyutan** **1.65 285** eP **Pb** **13 25 50.2 +1.0**
baz=283
TWQ1 S **Sb** **13 26 10.9 +1.3**
baz=283
NSY **Sanyi** **1.68 287** eP **Pb** **13 25 50.1 +0.4**
baz=286
NSY S **Sb** **13 26 11.2 +0.8**
baz=286
WNT **Mingjian** **1.68 269** eP **Pb** **13 25 49.0 -0.6**
baz=266
WNT eS **Sb** **13 26 11.2 +0.8**
baz=266
NMLH **Miaoli** **1.69 292** eP **Pb** **13 25 49.9 0.0**
baz=290
NMLH eS **Sb** **13 26 11.4 +0.6**
baz=290
TCU **Taichung** **1.70 278** eP **Pb** **13 25 50.1 0.0**
baz=275
TCU eS **Sb** **13 26 10.7 -0.3**
baz=275
CHN5 **Tsauling** **1.72 260** eP **Pb** **13 25 50.1 -0.3**
baz=249
CHN5 eS **Sb** **13 26 11.4 -0.2**
baz=249
TWGBT **Beinan** **1.72 231** eP **Pn** **13 25 48.2 +0.1**
baz=223
TWGBT eS **Sn** **13 26 09.5 +0.2**
baz=223
TWG **Pinlang** **1.73 231** P **Pn** **13 25 47.9 -0.3**
baz=223
TWG S **Sn** **13 26 09.9 +0.4**
baz=223
JISG **Ishigakijimahi** **1.76 68** P **Pn** **13 25 49.0 +0.4**
JISG eS **Sn** **13 26 11.1 +0.7**
WDJ **Dajia District** **1.77 284** eP **Pb** **13 25 50.2 -0.9**
baz=282
WDJ eS **Sb** **13 26 13.5 +0.5**
baz=282
STYT **Tauyuan** **1.79 245** eP **Pn** **13 25 50.1 +1.1**
baz=237
STYT eS **Sn** **13 26 11.4 +0.3**
baz=237
WCHH **Zhanghua** **1.80 275** eP **Pb** **13 25 51.6 -0.1**
baz=287
WCHH eS **Sb** **13 26 14.7 +0.8**
baz=287
WGK **Gukeng** **1.81 263** eP **Pb** **13 25 51.1 -0.8**
baz=260
WGK eS **Sb** **13 26 14.0 -0.1**
baz=260
WDLH **Douliu** **1.83 263** eP **Pb** **13 25 51.5 -0.8**
baz=260
WDLH eS **Sb** **13 26 14.7 0.0**
baz=260
TPUB **Ta-pu** **1.84 251** eP **Pb** **13 25 51.8 -0.6**
baz=240
TPUB eS **Sn** **13 26 14.2 +1.8**
baz=240
CHN4 **Tsaushan** **1.86 253** P **Pn** **13 25 51.5 +1.5**
baz=242
CHN4 eS **Sb** **13 26 15.7 +0.2**
baz=242
WTP **Ta-pu** **1.87 249** P **Pn** **13 25 52.0 +1.8**
baz=240
WTP eS **Sb** **13 26 15.5 -0.5**
baz=240
CHN2 **Minshiung** **1.92 259** eS **Sb** **13 26 17.1 0.0**
baz=256
ECL **Taimali** **1.95 228** eS **Sn** **13 26 15.0 -0.1**
baz=237
SLGT **Liugui** **1.95 242** eP **Pn** **13 25 53.4 +2.1**
baz=235
SLGT eS **Sn** **13 26 16.8 +1.6**
baz=235
SGST **Jiashian** **1.97 245** eP **Pn** **13 25 53.5 +2.1**
baz=235
SGST eS **Sb** **13 26 17.8 -0.9**
baz=235
CHY **Chiayi** **1.97 258** eP **Pb** **13 25 54.0 -0.5**
baz=255
CHY eS **Sb** **13 26 18.8 +0.1**
baz=255
CHN1 **Nanshi** **1.97 249** P **Pb** **13 25 54.2 -0.4**
baz=246
CHN1 eS **Sb** **13 26 18.5 -0.3**
baz=246
TWK **Hsinying** **1.98 251** P **Pn** **13 25 53.5 +1.9**
baz=248
TWK eS **Sb** **13 26 18.1 -0.8**
baz=248
RLNB **Erlin** **1.98 270** eP **Pn** **13 25 53.4 +1.8**
baz=280
RLNB eS **Sb** **13 26 19.7 +0.7**
baz=280
SNST **Tainan City** **1.98 250** eP **Pb** **13 25 54.0 -0.8**
baz=247
SNST eS **Sb** **13 26 19.5 +0.4**
baz=247
WTCT **Ta-ch'eng** **2.05 269** P **Pb** **13 25 55.1 -0.9**
baz=278
WTCT S **Sb** **13 26 21.2 +0.2**
baz=278
LAY **Lan-yu** **2.08 206** eS **Sn** **13 26 17.1 -1.1**
baz=205
SSD **Sandimen** **2.09 236** eP **Pn** **13 25 54.0 +0.9**
baz=231
SSD eS **Sn** **13 26 18.6 +0.1**
baz=231
WSF **Szhu** **2.12 263** eS **Sb** **13 26 23.1 -0.1**
baz=259
CHN3 **Shinhua** **2.15 247** eS **Sb** **13 26 24.3 +0.4**
baz=256
MASBT **Mashibuluo** **2.17 233** eP **Pn** **13 25 55.2 +1.0**
baz=227
CHN8 **Yiju** **2.19 255** eS **Sb** **13 26 24.3 -0.9**
baz=252
TWM1 **Shoushan** **2.22 241** eS **Sb** **13 26 26.4 +0.5**
baz=240
SCZT **Fangliau** **2.33 229** eP **Pn** **13 25 57.0 +0.5**
baz=222
PHUB **P'eng-hu** **2.73 262** eP **Pn** **13 26 02.8 +0.8**
baz=273
PHUB eS **Sn** **13 26 35.7 +1.3**
baz=273
PNG **Penghu** **2.74 263** eP **Pn** **13 26 03.3 +1.3**
baz=274
PNG eS **Sn** **13 26 35.8 +1.3**
baz=274
KSRS **Korea Array** **14.26 18** Pn **P** **13 28 45.2 -1.9**
0.2nm,0.3s,baz=197,slow=11,SNR=7.2
KSRS LR LR 13 33 59.2
comp=Z,15nm,18.9s,baz=220,slow=36
MKAR **Makanchi Array** **39.38 316** P **P** **13 32 46.7 -0.6**
0.4nm,0.6s,baz=99,slow=8.5,SNR=4.2
WRA **Warramunga Arr** **45.09 164** P **P** **13 33 34.4 +0.3**
0.5nm,0.8s,baz=346,slow=8.6,SNR=3.4
ASAR **Alice Springs** **48.58 166** P **P** **13 34 03.2 +1.8**
0.2nm,0.5s,baz=347,slow=8.9,SNR=7.6

*IDC **31** 13:29:16.6s 0.9, 2.89N×84.44W, h0km, mb3.9/8, mb1 4.2/8, mb1mx3.9/30, mbtmp3.9/8, ML5.4/1, MS3.7/16, Ms1 3.7/16, ms1mx3.5/38, Error ellipse: s-maj=50.1km s-min=19.0km az=59.0*
*ISCJB **31** 13:29:19.8s 0.4, 2.88N±0.05×84.32W±0.04, h26km, mb4.2/51, MS3.8/12, Error ellipse: s-maj=6.8km s-min=4.7km az=21.9*
*NEIC **31** 13:29:23.3s 0.5, 2.87N×84.25W, h45km±4km, mb4.3/46, Error ellipse: s-maj=7.5km s-min=4.7km az=46.0*
*UCR **31** 13:29:29.5s 1.6, 3.47N×84.03W, h20km, MD3.5, ML3.9*
ISC 31 13:29:20.5s 0.7, **2.74N**±0.08×**84.44W**±0.09, **h26**km, **n286, σ1s20**/281, **mb4.3**/51, **MS3.8**/12, **2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRGC	**Isla de Gorgon**	**6.28**	**88**	*e*P	**Pn**	**13 30 51.2**	**-0.3**
GRGC	**Isla de Gorgon**	**6.28**	**88**	*e*P	**Pn**	**13 30 51.2**	**-0.3**
OTAV	**Otavalo**	**6.49**	**112**	*e*Pn	**Pn**	**13 30 53.5**	**-1.3**
OTAV	**Otavalo**	**6.49**	**112**	*e*P	**Pn**	**13 30 53.6**	**-1.3**
OTAV	**Otavalo**	**6.49**	**112**	*e*P	**Pn**	**13 30 53.6**	**-1.3**
PAYG	**Puerto Ayora**	**6.75**	**240**	*e*Pn	Pn	13 31 03.4	+5.3
LCR2	**La Lucha 2**	**6.97**	**4**	*e*P	**Pn**	**13 31 00.8**	**-0.4**
MALC	**Bahia Malaga**	**7.21**	**80**	*e*P	**Pn**	**13 31 05.7**	**+1.4**
MALC	**Bahia Malaga**	**7.21**	**80**	*e*P	**Pn**	**13 31 05.7**	**+1.4**
MALC	**Bahia Malaga**	**7.21**	**80**	*e*P	**Pn**	**13 31 05.7**	**+1.4**
MALC	**Bahia Malaga**	**7.21**	**80**	*e*P	**Pn**	**13 31 05.7**	**+1.4**
GCUF	**Volcan Galeras**	**7.25**	**102**	*e*P	**Pn**	**13 31 07.7**	**+2.3**
GCUF	**Volcan Galeras**	**7.25**	**102**	*e*P	**Pn**	**13 31 07.7**	**+2.3**
JTS	**JuntasAbangare**	**7.51**	**356**	*e*Pn	Pn	**13 31 08.2**	**-0.3**
JTS					Sn	**13 32 29.2**	**-3.8**
JTS	**JuntasAbangare**	**7.51**	**356**	Pn	**Pn**	**13 31 06.9**	**-1.6**
	66nm,0.3s,baz=143,slow=12,SNR=157						
JTS					Sn	**13 32 29.2**	**-3.8**
	2.7nm,0.3s,baz=28,slow=18,SNR=1.4						
JTS	**JuntasAbangare**	**7.51**	**356**	‖*e*P	**Pn**	**13 31 08.9**	**+0.3**
JTS	**JuntasAbangare**	**7.51**	**356**	*e*P	**Pn**	**13 31 08.9**	**+0.4**
CRUC	**La Cruz**	**7.58**	**99**	*e*P	**Pn**	**13 31 10.7**	**+1.0**
CRUC	**La Cruz**	**7.58**	**99**	*e*P	**Pn**	**13 31 10.7**	**+1.0**
ARE1	**Arenal 1**	**7.67**	**358**	*e*P	**Pn**	**13 31 12.2**	**+1.5**
CEDE	**Laguna Cedeo**	**7.70**	**358**	‖*i*P	**Pn**	**13 31 13.4**	**+2.4**
MESS	**Mesas**	**7.98**	**355**	*e*P	**Pn**	**13 31 16.7**	**+1.7**
BUEV	**Buena Vista**	**8.06**	**353**	*e*P	**Pn**	**13 31 17.3**	**+1.3**
YOTC	**Yotoco, Valle**	**8.18**	**81**	*e*P	**Pn**	**13 31 18.2**	**+0.4**
YOTC	**Yotoco, Valle**	**8.18**	**81**	*e*P	**Pn**	**13 31 18.2**	**+0.4**
CONN	**Concepcion**	**8.84**	**352**	*e*P	**Pn**	**13 31 28.8**	**+2.0**
ACON	**Acoyapa**	**9.19**	**356**	*e*P	**Pn**	**13 31 32.9**	**+1.3**
ACON	**Acoyapa**	**9.19**	**356**	*e*P	**Pn**	**13 31 32.7**	**+1.1**
ACON				IAML		13 31 48.4	
	comp=N,14nm,0.5s						
DBBC	**Dabeiba**	**9.24**	**62**	*e*P	**Pn**	**13 31 35.1**	**+2.8**
DBBC	**Dabeiba**	**9.24**	**62**	*e*P	**Pn**	**13 31 35.1**	**+2.8**
ESPN	**Las Esperanzas**	**9.39**	**1**	*e*P	**Pn**	**13 31 31.9**	**-2.3**
MGAN	**Managua**	**9.51**	**349**	*e*P	**Pn**	**13 31 39.2**	**+3.2**
UREC	**San Jos de Ur**	**10.17**	**60**	*e*P	**Pn**	**13 31 48.7**	**+3.7**
UREC	**San Jos de Ur**	**10.17**	**60**	*e*P	**Pn**	**13 31 48.7**	**+3.7**
CRIN	**San Cristobal**	**10.22**	**346**	*e*P	**Pn**	**13 31 49.3**	**+3.6**
CRIN				IAML		13 31 56.9	
	comp=N,222nm,0.2s						
ROSC	**El Rosal**	**10.31**	**78**	*e*Pn	**Pn**	**13 31 47.6**	**+0.3**
ROSC	**El Rosal**	**10.31**	**78**	Pn	**Pn**	**13 31 51.5**	**+4.2**
	comp=N,1.6nm,0.3s,baz=90,slow=20,SNR=5.7						
ROSC				LR	LR	13 35 03.1	
	comp=N,101nm,18.2s,baz=104,slow=34						
CSGN	**Cosiguina Volc**	**10.62**	**343**	*e*Pn	**Pn**	**13 31 51.6**	**+0.4**
CSGN	**Cosiguina Volc**	**10.62**	**343**	*e*P	**Pn**	**13 31 53.0**	**+1.7**
PTBC	**PUERTO BERRIO,**	**10.64**	**69**	*e*P	**Pn**	**13 31 54.2**	**+2.8**
PTBC	**PUERTO BERRIO,**	**10.64**	**69**	*e*P	**Pn**	**13 31 54.2**	**+2.8**
ATAH	**Atahualpa**	**11.52**	**148**	LR	LR	13 36 00.2	
	comp=N,390nm,18.3s,baz=325,slow=35						
TGUH	**Tegucigalpa,Un**	**11.58**	**346**	*e*Pn	**Pn**	**13 32 05.9**	**+1.6**
TGUH	**Tegucigalpa,Un**	**11.58**	**346**	*e*P	**Pn**	**13 32 07.9**	**+3.6**
SNET	**Serv Nac Est T**	**11.86**	**337**	*e*P	**Pn**	**13 32 11.1**	**+2.9**
BOQS	**Boqueron**	**11.92**	**337**	*e*P	**Pn**	**13 32 13.5**	**+4.3**
IXG	**Ixpaco**	**12.81**	**333**	*e*P	Pn	13 32 26.4	+5.1

PCG **Pacaya** **13.08 333** *e*P **P** **13 32 31.0 -4.0**
NBG **Las Nubes** **13.13 334** *e*P **P** **13 32 32.3 -3.4**
FUG **Fuego 3** **13.23 332** *e*P **P** **13 32 32.8 -3.9**
APG **El Apazote** **13.55 334** Pn **Pn** **13 32 33.0 +1.5**
comp=N,0.4nm,0.3s,baz=72,slow=19,SNR=3.9
CCIG **Comitan** **15.44 331** *e*Pn **Pn** **13 32 58.8 +1.9**
comp=N,26nm,0.5s
NNA **Nana** **16.47 153** LR LR 13 38 59.6
comp=N,85nm,18.8s,baz=322,slow=35
CMIG **Matias Romero** **17.56 325** P **P** **13 33 24.2 -0.4**
comp=N,0.1nm,0.3s,baz=114,slow=4.6,SNR=13
CMIG LR LR 13 38 52.5
comp=N,205nm,21.6s,baz=145,slow=33
TLIG **Tlapa** **20.22 318** *e*P **P** **13 33 54.7 +0.8**
comp=N,13nm,0.9s
PTGA **Pitinga** **24.71 98** LR LR 13 44 11.8
comp=N,176nm,20.1s,baz=11,slow=36
LPAZ **La Paz** **24.85 140** *e*P **P** **13 34 42.7 +0.8**
comp=N,25nm,1.8s
LPAZ **La Paz** **24.85 140** P **P** **13 34 43.1 +1.2**
comp=N,4.6nm,1.0s,baz=344,slow=13,SNR=12
349A **Repton** **28.57 355** P **P** **13 35 15.2 +0.7**
baz=174
250A **Grady** **29.13 357** P **P** **13 35 19.3 -0.1**
baz=176
249A **Camden** **29.19 355** P **P** **13 35 20.2 +0.3**
baz=174
LVC **Limon Verde** **29.41 150** LR LR 13 45 40.7
comp=N,84nm,19.3s,baz=297,slow=33
SIV **San Ignacio** **29.67 130** LR LR 13 47 37.4
comp=N,333nm,19.4s,baz=310,slow=37
150A **Eclectic** **29.74 357** P **P** **13 35 25.7 +0.8**
baz=176
152A **Waverly Hall** **29.77 360** P **P** **13 35 25.4 +0.2**
baz=179
149A **Jones** **29.78 356** P **P** **13 35 25.8 +0.6**
baz=175
148A **Greensboro** **29.89 355** P **P** **13 35 26.8 +0.6**
baz=173
LRAL **Lakeview Retre** **30.23 356** *e*P **P** **13 35 28.6 -0.6**
comp=N,6.4nm,0.8s
LRAL **Lakeview Retre** **30.23 356** P **P** **13 35 29.3 +0.2**
baz=175
Z52A **Williamson** **30.29 0** P **P** **13 35 29.4 -0.3**
baz=180
Z49A **Columbiana** **30.36 357** P **P** **13 35 30.9 +0.6**
baz=176
Z53A **Monticello** **30.39 1** P **P** **13 35 31.0 +0.4**
baz=181
Y51A **Rockmart** **31.00 359** P **P** **13 35 36.5 +0.5**
baz=178
Z41A **Richland Creek** **31.35 346** P **P** **13 35 39.6 +0.5**
baz=163
X48A **Hartselle** **31.64 356** P **P** **13 35 42.3 +0.7**
baz=175
X55A **Gracelyn & Ava** **31.67 4** P **P** **13 35 42.7 +0.8**
baz=185
X52A **Dahlonega** **31.70 1** P **P** **13 35 41.8 -0.4**
baz=181
X56A **White Oak** **31.75 5** P **P** **13 35 42.3 -0.2**
baz=186
X47A **Russelville** **31.77 355** P **P** **13 35 42.7 0.0**
baz=173
X46A **Booneville** **31.89 354** P **P** **13 35 44.3 +0.6**
baz=172
OXF **Oxford** **31.94 352** P **P** **13 35 44.3 0.0**
baz=170
TXAR **Lajitas Array** **32.14 327** P **P** **13 35 45.1 -1.1**
comp=N,0.5nm,0.6s,baz=151,slow=8.4,SNR=7.4
TXAR PcP **PcP** **13 38 34.5 -0.6**
comp=N,0.5nm,1.0s,baz=170,slow=6.4,SNR=3.3
TXAR LR LR 13 48 02.6
comp=N,80nm,19.5s,baz=0.0,slow=35
W54A **Cherokee Point** **32.25 3** P **P** **13 35 48.0 +1.1**
baz=184
W49A **Belvidere** **32.26 357** P **P** **13 35 47.0 0.0**
baz=176
W53A **Cullowhee** **32.28 2** P **P** **13 35 48.5 +1.1**
baz=182
W48A **Pulaski** **32.31 356** P **P** **13 35 47.8 +0.3**
baz=175
KMSC **Kings Mountain** **32.37 5** P **P** **13 35 48.6 +0.7**
baz=185
W47A **Westpoint** **32.48 355** P **P** **13 35 49.4 +0.4**
baz=174
X40A **Basin Creek Fa** **32.53 347** P **P** **13 35 49.7 +0.3**
baz=164
MIAR **Mount Ida** **32.76 346** P **P** **13 35 51.9 +0.4**
baz=163
V50A **Pikevile** **32.77 359** P **P** **13 35 52.0 +0.5**
baz=178
V51A **Loudon** **32.90 0** P **P** **13 35 53.0 +0.4**
baz=180
V48A **Smith Brothers** **32.91 356** P **P** **13 35 53.2 +0.5**
baz=175
V54A **Nebo** **32.95 4** P **P** **13 35 53.7 +0.6**
baz=184
ABTX **Abilene, Hawle** **32.97 336** P **P** **13 35 54.3 +1.0**
baz=151
V47A **Nunnelly** **33.04 355** P **P** **13 35 53.8 -0.1**
baz=174
V46A **Holladay** **33.07 355** P **P** **13 35 53.7 -0.4**
baz=173
W41B **Gary Mavity, V** **33.07 348** P **P** **13 35 54.2 0.0**
baz=165
WVT **Waverly** **33.37 355** P **P** **13 35 56.9 +0.2**
baz=174
W39A **Magazine** **33.43 346** P **P** **13 35 57.9 +0.6**
baz=163
U52A **Thorn Hill** **33.50 2** P **P** **13 35 58.2 +0.3**
baz=182
U53A **Fall Branch** **33.50 3** P **P** **13 35 58.2 +0.2**
baz=183
U49A **Red Boiling Sp** **33.63 358** P **P** **13 35 59.0 0.0**
baz=177
U54A **Nelsons Funny** **33.70 4** P **P** **13 35 59.9 +0.2**
baz=184
U55A **TA2, Sparta** **33.74 5** P **P** **13 36 00.5 +0.5**
baz=186
T51A **Gray** **34.06 1** P **P** **13 36 03.0 +0.2**
baz=180
T47A **Sharon Grove** **34.17 356** P **P** **13 36 03.7 0.0**
baz=175
T54A **Tazewell** **34.25 4** P **P** **13 36 04.8 +0.3**
baz=185
T46A **Princeton** **34.28 355** P **P** **13 36 04.8 +0.2**
baz=174
U40A **Yellville** **34.34 348** P **P** **13 36 05.4 +0.2**
baz=165
S51A **Beattyville** **34.74 1** P **P** **13 36 08.7 +0.1**
baz=181
S48A **Wiedeman Farm,** **34.78 358** P **P** **13 36 08.8 -0.1**
baz=177
S52A **Salyersville** **34.79 2** P **P** **13 36 09.3 +0.2**
baz=182
S53A **Williamson** **34.84 3** P **P** **13 36 09.6 +0.1**
baz=184
MNTX **Cornudas Mount** **34.91 328** *e*P **P** **13 36 10.5 +0.3**
comp=N,3.6nm,0.6s
MNTX **Cornudas Mount** **34.91 328** P **P** **13 36 10.7 +0.5**
baz=141,SNR=6.3
S45A **Carrier Mills** **34.97 354** P **P** **13 36 10.6 0.0**
baz=172
S43A **Fulton Ridge,** **35.04 352** P **P** **13 36 12.0 +0.7**
baz=170
S41A **Jillco Farms,** **35.32 350** P **P** **13 36 14.0 +0.4**
baz=167
WCI **Wyandotte Cave** **35.36 357** P **P** **13 36 14.3 +0.3**
baz=176
R49A **Shelbyville** **35.38 359** P **P** **13 36 14.2 +0.1**
baz=178
R51A **Hillsboro** **35.40 1** P **P** **13 36 14.5 +0.2**
baz=181
R54A **Victor** **35.41 5** P **P** **13 36 14.2 -0.3**
baz=186
MSTX **Muleshoe** **35.47 333** P **P** **13 36 15.7 +0.6**
baz=147
R53A **Hurricane** **35.49 3** P **P** **13 36 15.2 +0.1**
baz=184
R45A **Skylar, Fairfi** **35.55 355** P **P** **13 36 15.9 +0.3**
baz=173
R44A **Waltonville** **35.59 354** P **P** **13 36 16.0 +0.1**
baz=172
CCM **Cathedral Cave** **35.69 351** *e*P **P** **13 36 16.3 -0.5**
comp=N,7.4nm,0.9s
CCM **Cathedral Cave** **35.69 351** P **P** **13 36 17.0 +0.2**
baz=168
AMTX **Amarillo** **35.77 335** P **P** **13 36 18.3 +0.6**

	baz=149						
R42A	Luebbering	35.84	351	P	P	13 36 17.9	-0.2
	baz=169						
Q50A	Georgetown	35.93	1	P	P	13 36 18.7	-0.2
	baz=180						
R41A	Rosebud	35.95	351	P	P	13 36 19.1	+0.1
	baz=168						
Q48A	North Vernon	36.03	358	P	P	13 36 19.4	-0.4
	baz=178						
Q53A	Leroy	36.04	4	P	P	13 36 19.9	0.0
	baz=185						
Q47A	Bedord North L	36.07	357	P	P	13 36 19.6	-0.5
	baz=176						
Q49A	Aurora	36.09	359	P	P	13 36 19.8	-0.4
	baz=179						
Q52A	Bidwell	36.10	3	P	P	13 36 20.3	-0.1
	baz=183						
Q51A	Peebles	36.13	1	P	P	13 36 20.5	0.0
	baz=182						
Q45A	Warren Harvey,	36.14	355	P	P	13 36 20.7	+0.1
	baz=173						
Q54A	Coxs Mills	36.22	5	P	P	13 36 20.8	-0.6
	baz=186						
Q44A	Meyer Farm, Va	36.23	354	P	P	13 36 21.1	-0.4
	baz=172						
Q55A	Buckhannon	36.30	6	P	P	13 36 22.7	+0.6
	baz=187						
Q42A	Golden Eagle	36.42	352	P	P	13 36 23.1	0.0
	baz=169						
Q41A	Truxton	36.57	351	P	P	13 36 24.3	0.0
	baz=168,SNR=6.4						
P52A	Corning	36.78	3	P	P	13 36 26.3	+0.2
	baz=184						
P55A	Reedsville	36.83	6	P	P	13 36 26.9	+0.2
	baz=187						
P43A	Skaggs, Pawnee	37.02	353	P	P	13 36 28.4	+0.3
	baz=171						
P42A	Winchester	37.06	352	P	P	13 36 28.9	+0.4
	baz=170						
O50A	Cable	37.24	1	P	P	13 36 30.0	0.0
	baz=181						
O51A	Pataskala	37.27	2	P	P	13 36 30.3	+0.1
	baz=183						
O52A	Adamsville	37.28	3	P	P	13 36 30.4	0.0
	baz=184						
O48A	Farmland	37.35	359	P	P	13 36 30.2	-0.7
	baz=178						
O53A	New Philadelph	37.45	4	P	P	13 36 32.0	+0.2
	baz=185						
BNM	Barren Site	37.47	329	eP	P	13 36 33.3	+0.9
O55A	Ligonier	37.58	6	P	P	13 36 32.8	-0.1
	baz=188						
N50A	Nevada	37.87	2	P	P	13 36 35.3	0.0
	baz=182						
ANMO	Albuquerque	38.01	330	eP	P	13 36 37.9	+1.0
	comp=N,5.9nm,1.0s						
ANMO	Albuquerque	38.01	330	P	P	13 36 38.3	+1.4
	baz=142						
TASM	ASL Pad, Albuq	38.02	330	P	P	13 36 38.2	+1.3
	baz=142,SNR=8.0						
TASM	ASL Pad, Albuq	38.02	330	P	P	13 36 38.4	+1.4
	baz=142						
N55A	Marion Center	38.19	7	P	P	13 36 37.9	-0.1
	baz=188						
N41A	Harden Midland	38.23	352	P	P	13 36 38.2	-0.2
	baz=169						
N42A	Yates City	38.25	353	P	P	13 36 38.4	-0.1
	baz=171						
N54A	Moraine State	38.26	5	P	P	13 36 38.0	-0.6
	baz=187						
N43A	Stutzman Famil	38.26	354	P	P	13 36 38.5	-0.1
	baz=172						
TUC	Tucson	38.44	323	eP	P	13 36 41.3	+1.0
	comp=N,2.1nm,0.8s						
TUC	Tucson	38.44	323	P	P	13 36 41.6	+1.3
	baz=134						
M51A	Elyria	38.47	3	P	P	13 36 40.8	+0.4
	baz=183						
CBKS	Cedar Bluff	38.52	341	P	P	13 36 42.1	+1.2
	baz=155						
N59A	State Game Lan	38.80	11	P	P	13 36 43.7	+0.6
	baz=194						
T25A	Trinidad	38.85	334	eP	P	13 36 45.0	+1.1
	comp=N,6.7nm,1.1s						
T25A	Trinidad	38.85	334	P	P	13 36 45.5	+1.6
	baz=147						
PLIO	Pelee Island,	38.87	2	P	P	13 36 43.7	0.0
	baz=183						
M55A	Ridgway	38.89	7	P	P	13 36 43.7	-0.2
	baz=189						
CPUP	Vila Florida	39.02	139	LR	LR	13 54 52.2	
	comp=N,119nm,18.2s,baz=350,slow=39						
L42A	Oliver, Polo	39.37	354	P	P	13 36 47.3	-0.6
	baz=172						
214A	Organ Pipe Nat	39.45	321	P	P	13 36 50.3	+1.5
	baz=132,SNR=6.6						
L41A	Preston	39.53	353	P	P	13 36 48.9	-0.3
	baz=170						
X18A	Snowflake	39.54	326	eP	P	13 36 50.7	+0.9
	comp=N,3.2nm,0.8s						
L40A	Anamosa	39.62	352	P	P	13 36 50.2	+0.2
	baz=169						
L55A	Hinsdale	39.63	7	P	P	13 36 50.1	0.0
	baz=189						
SDCO	Great Sand Dun	39.83	334	eP	P	13 36 53.0	+0.8
	comp=N,6.0nm,0.9s						
SDCO	Great Sand Dun	39.83	334	P	P	13 36 53.6	+1.4
	baz=146,SNR=15						
BINY	Binghamton	40.01	10	P	P	13 36 53.4	+0.1
	baz=193						
K41A	Shullsburg	40.03	353	P	P	13 36 54.4	+1.0
	baz=171						
K55A	Perry	40.22	7	P	P	13 36 54.5	-0.5
	baz=190						
X16A	Lo Mia Camp, P	40.31	325	eP	P	13 36 57.2	+1.1
	comp=N,1.8nm,0.8s						
BDFB	Brasilia	40.40	118	LR	LR	13 53 50.1	
	comp=N,112nm,20.4s,baz=265,slow=36						
S22A	4UR Ranch, Cre	40.44	332	eP	P	13 36 58.0	+0.8
	comp=N,2.5nm,0.7s						
S22A	4UR Ranch, Cre	40.44	332	P	P	13 36 58.4	+1.2
	baz=144,SNR=5.6						
MVCO	Mesa Verde	40.81	330	eP	P	13 37 01.0	+0.7
	comp=N,5.1nm,0.9s						
MVCO	Mesa Verde	40.81	330	P	P	13 37 01.5	+1.2
	baz=141,SNR=5.2						
J40A	Soldiers Grove	40.87	353	P	P	13 36 59.5	-0.8
	baz=170						
ACTO	Acton	40.88	5	P	P	13 36 59.8	-0.6
	baz=186						
WUAZ	Wupatki	41.06	326	eP	P	13 37 03.5	+1.2
	comp=N,4.9nm,0.9s						
WUAZ	Wupatki	41.06	326	P	P	13 37 03.6	+1.4
	baz=136						
OGNE	Ogallala	41.21	340	P	P	13 37 04.4	+1.1
	baz=152						
WLVO	Wesleyville	41.35	7	P	P	13 37 04.2	-0.1
	baz=189						
ISCO	Idaho Springs	41.59	335	eP	P	13 37 07.1	+0.4
	comp=N,4.1nm,1.0s						
ISCO	Idaho Springs	41.59	335	P	P	13 37 07.6	+0.9
	baz=147						
SMCO	Snowmass	41.66	333	eP	P	13 37 08.1	+0.7
	comp=N,9.2nm,0.8s						
IKP	In-Ko-Pah, Jac	42.03	319	P	P	13 37 11.9	+1.7
	baz=128						
ECSD	EROS Data Cent	42.22	347	eP	P	13 37 10.9	-0.5
	comp=N,6.3nm,1.1s						
ECSD	EROS Data Cent	42.22	347	P	P	13 37 11.3	-0.1
	baz=162						
W13A	Hualapai Mount	42.23	323	eP	P	13 37 12.9	+1.0
	comp=N,3.3nm,0.8s						
U15A	North Rim	42.23	326	eP	P	13 37 12.3	+0.3
	comp=N,4.7nm,1.1s						
BC3	Big Chuckawall	42.24	320	P	P	13 37 12.5	+0.6
	baz=130						
H56A	Elgin	42.30	9	P	P	13 37 11.7	-0.3
	baz=192						
IRM	Iron Mountain	42.37	321	P	P	13 37 14.2	+1.4
	baz=131,SNR=6.3						
G38A	Ridgeland	42.75	352	P	P	13 37 15.0	-0.7
	baz=169						
G39A	Holcombe	42.78	353	P	P	13 37 15.5	-0.5
	baz=170						
BELC	Belle Mtn. Jos	42.81	320	P	P	13 37 17.7	+1.1
	baz=130,SNR=6.4						
109C	Camp Elliot, M	42.84	318	P	P	13 37 17.7	+1.1
	baz=127						
PFO	Pinyon Flats O	42.86	319	eP	P	13 37 17.6	+0.6
	comp=N,3.0nm,0.9s						
G55A	Calabogie	42.88	8	P	P	13 37 15.9	-0.8
	baz=191						
SPMN	Marine on St.	42.94	351	eP	P	13 37 16.1	-1.2
	comp=N,9.3nm,0.8s						
KNB	Kanab	42.95	326	eP	P	13 37 18.7	+1.0
	comp=N,4.0nm,1.0s						
PKCU	Pink Cliffs	42.98	327	eP	P	13 37 19.3	+1.3
	comp=N,16nm,1.4s						
O20A	White River Ci	43.01	333	eP	P	13 37 19.2	+1.1
	comp=N,8.7nm,1.3s						
O20A	White River Ci	43.01	333	P	P	13 37 19.4	+1.3
	baz=144						
GMRC	Granite Mounta	43.10	321	P	P	13 37 19.8	+0.9
	baz=130						
SRU	San Rafael Swe	43.29	330	eP	P	13 37 21.2	+0.8
	comp=N,6.5nm,1.1s						
E46A	Sault Ste Mari	43.45	0	P	P	13 37 21.1	-0.2
	baz=180						
HEC	Hector,Ludlow	43.55	321	P	P	13 37 23.9	+1.4
	baz=130						
CCUT	Cedar City	43.63	326	eP	P	13 37 24.8	+1.6
	comp=N,2.9nm,0.9s						
P17A	Butcher Ranch,	43.68	330	eP	P	13 37 24.0	+0.5
	comp=N,5.0nm,1.1s						
SCI2	San Clemente I	43.87	317	P	P	13 37 26.6	+1.6
	baz=126						
BFSC	Mount Baldy Ra	44.03	319	P	P	13 37 27.5	+1.1
	baz=128,SNR=5.7						
GSC	Goldstone, Bar	44.15	321	eP	P	13 37 28.7	+1.4
	comp=N,8.6nm,1.4s						
GSC	Goldstone, Bar	44.15	321	P	P	13 37 28.6	+1.3
	baz=130						
SHOC	Shoshone, Teco	44.21	322	P	P	13 37 28.9	+1.3
	baz=131						
MWC	Mount Wilson	44.28	319	eP	P	13 37 29.6	+1.1
	comp=N,4.1nm,0.8s						
K22A	Casper	44.36	337	P	P	13 37 30.2	+1.3
	baz=147						
D52A	ZEK Kipawa Sen	44.37	6	P	P	13 37 29.2	+0.5
	baz=188						
PSUT	Pine Spring	44.61	327	eP	P	13 37 32.1	+1.0
	comp=N,3.3nm,1.0s						
EDW2	Edwards Air Fo	44.65	320	P	P	13 37 32.4	+1.2
	baz=128						
RSSD	Black Hills	44.70	340	eP	P	13 37 32.3	+0.6
	comp=N,4.9nm,0.9s						
RSSD	Black Hills	44.70	340	P	P	13 37 33.0	+1.3
	baz=151						
TPNV	Topopah Spring	44.89	323	P	P	13 37 34.5	+1.3
	baz=132						
FURC	Furnace Creek,	44.94	322	P	P	13 37 35.3	+1.9
	baz=130						
SCZ2	Santa Cruz Isl	45.20	318	P	P	13 37 36.6	+1.0
	baz=126						
TCUT	Toone Canyon	45.27	331	eP	P	13 37 36.9	+0.6
	comp=N,7.9nm,1.1s						
R11A	Troy Canyon, C	45.45	325	P	P	13 37 38.7	+1.0
	baz=133						
LATQ	La Tuque	45.60	11	P	P	13 37 38.1	-0.4
	baz=196						
CWC	Cottonwood Cre	45.67	321	P	P	13 37 40.6	+1.1
	baz=129						
BW06	Boulder Array	45.72	334	eP	P	13 37 39.5	-0.4
	comp=N,2.6nm,1.0s						
BW06	Boulder Array	45.72	334	P	P	13 37 40.2	+0.4
	baz=144						
PD31	Pinedale Array	45.72	334	eP	P	13 37 39.7	-0.1
	comp=N,2.6nm,1.1s						
PDAR	Pinedale Array	45.72	334	P	P	13 37 39.5	-0.3
	comp=N,1.5nm,0.9s,baz=140,slow=9.4,SNR=10						
PDAR				PcP	PcP	13 39 16.9	-0.6
	comp=N,0.8nm,0.8s,baz=134,slow=6.4,SNR=4.6						
PDAR				LR	LR	13 57 43.0	
	comp=N,145nm,18.5s,baz=158,slow=37						
PKM	Mcpherson Peak	45.84	318	P	P	13 37 41.8	+0.9
	baz=126						
BGU	Big Grassy Mou	45.92	330	eP	P	13 37 41.5	+0.1
	comp=N,3.0nm,1.0s						
VES	Vestal, Richgr	45.94	320	P	P	13 37 42.6	+1.3
	baz=128,SNR=7.0						
SMMC	Simmler	46.21	319	P	P	13 37 44.9	+1.3
	baz=126,SNR=5.5						
AGMN	Agassiz Nation	46.43	349	P	P	13 37 45.4	+0.4
	baz=164						
REDW	Red Top Meadow	46.76	334	eP	P	13 37 48.3	+0.3
	comp=N,9.9nm,1.3s						
MDND	Maddock	46.80	346	P	P	13 37 48.6	+0.6
	baz=159						
NV11	Array Sit	47.00	323	eP	P	13 37 50.7	+0.9
	comp=N,0.3nm,0.9s						
MDPB	Devils Postpil	47.05	322	eP	P	13 37 50.6	+0.2
	comp=N,3.7nm,0.9s						
NV01	Mina Array Sit	47.09	323	eP	P	13 37 50.6	0.0
NVAR	Mina Array Bea	47.09	323	P	P	13 37 50.3	-0.4
	comp=N,1.1nm,0.3s,baz=132,slow=7.0,SNR=9.7						
NVAR				PcP	PcP	13 39 21.7	-0.7
	comp=N,1.0nm,0.6s,baz=140,slow=5.0,SNR=4.8						
NVAR				LR	LR	13 55 44.4	
	comp=N,112nm,19.4s,baz=168,slow=34						
RLMT	Red Lodge	47.51	336	P	P	13 37 53.7	-0.1
	baz=145						
ULM	Lac du Bonnet	48.32	350	P	P	13 37 58.7	-1.0
	comp=N,2.7nm,0.7s,baz=155,slow=8.9,SNR=5.2						
ULM				LR	LR	13 59 28.1	
	comp=N,42nm,18.1s,baz=64,slow=38						
HLID	Hailey	48.57	331	P	P	13 38 02.8	+0.8
	baz=138						
BOZ	Bozeman (W)	48.88	335	eP	P	13 38 04.5	+0.2
	comp=N,4.1nm,1.1s						
BOZ	Bozeman (W)	48.88	335	P	P	13 38 05.1	+0.9
	baz=142						
MSO	Missoula	50.84	334	P	P	13 38 19.8	+0.7
	baz=140						
F10A	Beach Ranch, E	51.70	331	eP	P	13 38 26.0	+0.4
	comp=N,15nm,1.5s						
J05D	Fort Rock, OR	51.93	326	P	P	13 38 28.3	+0.9
	baz=130						
YKA	Yellowknife Ar	63.70	345	P	P	13 39 48.4	-1.1
	comp=N,0.4nm,0.6s,baz=141,slow=6.3,SNR=13						
YKA				PcP	PcP	13 40 25.0	-0.5
	comp=N,0.6nm,0.7s,baz=144,slow=4.1,SNR=11						
DLBC	Dease Lake	65.91	336	LR	LR	14 11 30.0	
	comp=N,110nm,18.7s,baz=298,slow=38						
EPYK	Eagle Plains	73.15	341	P	P	13 40 49.1	+0.5
	baz=124						
INK	Inuvik	73.30	343	eP	P	13 40 49.5	+0.1
	comp=N,4.4nm,1.0s						
SCRK	Sand Creek	74.57	337	eP	P	13 40 57.4	+0.3
	comp=N,3.3nm,1.2s						
HDA	Harding Lake	75.93	337	eP	P	13 41 04.8	0.0
	comp=N,5.2nm,1.0s						
HDA	Harding Lake	75.93	337	P	P	13 41 05.0	+0.2
	baz=114						
IL1	Eielson Array	76.05	337	eP	P	13 41 05.5	0.0
ILAR	Eielson Array	76.05	337	P	P	13 41 04.6	-0.9
	comp=N,1.5nm,0.9s,baz=124,slow=3.6,SNR=15						
ILAR				LR	LR	14 16 08.4	
	comp=N,70nm,20.3s,baz=140,slow=37						
RND	Reindeer	76.31	335	eP	P	13 41 07.3	+0.3
	comp=N,28nm,1.9s						
BPAW	Bear Paw Mtn.	77.45	336	eP	P	13 41 13.0	-0.4
	comp=N,4.7nm,1.0s						
COLD	Coldfoot	78.26	339	eP	P	13 41 18.5	+0.7
	comp=N,6.1nm,1.7s						
TORD	Torodi Ar. Bea	85.63	77	P	P	13 41 57.6	0.0
	comp=N,0.2nm,0.5s,baz=276,slow=5.8,SNR=2.5						
URZ	Urewera	98.33	232	LR	LR	14 17 27.8	
	comp=N,68nm,19.6s,baz=5.0,slow=29						
ASAR	Alice Springs	137.50	237	PKP	PKPdf	13 48 43.0	0.0
	comp=N,0.5nm,1.0s,baz=114,slow=2.6,SNR=3.3						
WRA	Warramunga Arr	138.47	243	PKP	PKPdf	13 48 44.7	-0.2
	comp=N,0.4nm,0.7s,baz=108,slow=2.6,SNR=4.5						
CMAR	Chiang Mai Arr	158.67	351	PKPab	PKPab	13 49 51.4	-0.6
	comp=N,0.4nm,0.3s,baz=350,slow=4.6,SNR=5.5						

*MOS **31** 13:33:12.7±1.0,49.02N×156.40E,h44km,mb4.2/1, Error ellipse: s-maj=17.3km s-min=4.8km az=78.9*
*KRSC **31** 13:33:13.9±10.0,49.15N×157.60E,h30km±10km,ML4.2*
*ISCJB **31** 13:33:14.1±1.0,49.07N±0.07×156.6E±0.1,h58km±8km, mb3.5/9,MS3.0/1, Error ellipse: s-maj=15.3km s-min=6.9km az=136.2*
*SKHL **31** 13:33:16.6±0.4,49.16N×156.69E,h70km±9km,mb4.5/4*
*IDC **31** 13:33:16.8±3.2,49.15N×156.21E,h59km±25km,mb3.2/9, mb1 3.5/13,mb1mx3.3/47,mbtmp3.6/13,ML2.9/3,MS3.1/2, Ms1 3.1/2,ms1mx2.6/27, Error ellipse: s-maj=34.7km s-min=18.2km az=152.0*

ISC 31 13:33:16.0±1.5,49.08N±0.09×156.56E±0.10,h58km±13km, n69,σ1.918/73,mb3.5/9,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	Severo-Kuril's	1.63	350	eP	Pn	13 33 42.1	-0.2
SKR				eS	Sn	13 34 03.6	+1.4
SKR	Severo-Kuril's	1.63	350	eP	Pn	13 33 42.3	-0.1
SKR				AMB	AMB	13 33 44.2	
	89nm,0.2s						
SKR				eS	Sn	13 34 01.9	-0.3
SKR				A	A	13 34 09.6	
	439nm,0.3s						
SKR				A	A	13 34 09.6	
	599nm,0.3s						
SKR	Severo-Kuril's	1.63	350	ePN	Pn	13 33 42.2	-0.1
SKR				eS	Sn	13 34 02.2	0.0
SKR				pmax	pmax		
	comp=Z,89nm,0.4s						
SKR				smax	smax		
	comp=E,533nm,0.4s						
SKR				smax	smax		
	comp=N,684nm,0.4s						
PAU	Pauzhetka	2.39	4	eP	Pn	13 33 52.4	-0.3
PAU				eS	Sn	13 34 22.3	+1.4
PAU	Pauzhetka	2.39	4	eP	Pn	13 33 54.2	+1.5
PAU				AMB	AMB	13 33 55.3	
	comp=N,107nm,0.3s						
PAU				eS	Sn	13 34 22.1	+1.2
PAU				A	A	13 34 32.3	
	comp=N,430nm,0.3s						
PAU				A	A	13 34 32.3	
	comp=N,350nm,0.3s						
PAU	Pauzhetka	2.39	4	PN	Pn	13 33 52.4	-0.3
PAU				S	Sn	13 34 22.3	+1.4
KDTR	Khodutka, Kamc	2.90	19	eP	Pn	13 33 57.7	-1.9
KDTR				eS	Sn	13 34 31.4	-1.8
KDTR	Khodutka, Kamc	2.90	19	PN	Pn	13 33 57.7	-1.9
KDTR				S	Sn	13 34 31.4	-1.8
ASAK	Asacha	3.41	14	eP	Pn	13 34 06.6	-0.2
ASAK	Asacha	3.41	14	PN	Pn	13 34 06.6	-0.2
MTVR	Mutnovka	3.56	16	eP	Pn	13 34 09.1	+0.3
MTVR	Mutnovka	3.56	16	PN	Pn	13 34 09.1	+0.3
RUS	Russkaya	3.58	20	eP	Pn	13 34 07.3	-1.6
RUS	Russkaya	3.58	20	eP	Pn	13 34 07.3	-1.6
RUS	Russkaya	3.58	20	PN	Pn	13 34 07.3	-1.6
KRMR	Karymshinskiy	3.88	14	eP	Pn	13 34 12.9	-0.2
KRMR	Karymshinskiy	3.88	14	PN	Pn	13 34 12.9	-0.2
PETK	Petropavlovsk-	4.09	10	P	Pn	13 34 16.4	+0.4
	comp=N,0.9nm,0.3s,baz=179,slow=13,SNR=11						
PET	Petropavlovsk	4.16	18	eP	Pn	13 34 16.2	-0.7
PET	Petropavlovsk	4.16	18	eP	Pn	13 34 17.2	+0.3
PET				eS	Sn	13 35 03.9	-0.3
PET	Petropavlovsk	4.16	18	PN	Pn	13 34 16.2	-0.7
DALK	Dalny	4.19	18	eP	Pn	13 34 17.2	-0.1
DALK	Dalny	4.19	18	PN	Pn	13 34 17.2	-0.1
UGLR	Uglovaya	4.37	18	eP	Pn	13 34 19.8	-0.1
UGLR	Uglovaya	4.37	18	PN	Pn	13 34 19.8	-0.1
AVH	Avacha	4.41	17	eP	Pn	13 34 20.5	+0.1
AVH	Avacha	4.41	17	eP	Pn	13 34 20.5	+0.1
AVH	Avacha	4.41	17	PN	Pn	13 34 20.5	+0.1
KOK	Koryaka	4.41	16	eP	Pn	13 34 20.5	0.0
KOK	Koryaka	4.41	16	eP	Pn	13 34 20.5	0.0
KOK	Koryaka	4.41	16	PN	Pn	13 34 20.5	0.0
SMAR	Somma	4.42	18	eP	Pn	13 34 21.4	+0.8
SMAR	Somma	4.42	18	PN	Pn	13 34 21.4	+0.8
KRER	Koryakskii	4.45	17	eP	Pn	13 34 22.5	+1.5
KRER	Koryakskii	4.45	17	PN	Pn	13 34 22.5	+1.5
SDLR	Sedlovina	4.45	18	eP	Pn	13 34 19.7	-1.3
SDLR	Sedlovina	4.45	18	PN	Pn	13 34 19.7	-1.3
KRX	Arik	4.48	16	eP	Pn	13 34 21.6	+0.2
KRX	Arik	4.48	16	PN	Pn	13 34 21.6	+0.2
TUMR	Tumrok D	6.57	20	eP	Pn	13 34 50.2	+0.3
TUMR	Tumrok	6.59	18	eP	Pn	13 34 51.8	+1.5
TUMR	Tumrok	6.59	18	PN	Pn	13 34 50.2	-0.1
KUR	Kuril'sk	7.06	240	eP	Pn	13 34 59.3	+2.6
KUR				AMB	AMB	13 35 12.0	
	comp=N,17nm,0.5s						
KUR	Kuril'sk	7.06	240	PN	Pn	13 34 53.9	-2.8
KUR				pmax	pmax		
	comp=Z,17nm,0.5s						
KBTR	Krutoberegovo	8.09	26	eP	Pn	13 35 08.8	-1.8
KBTR	Krutoberegovo	8.09	26	PN	Pn	13 35 08.8	-1.8
SHO	Shikotan	8.49	236	eP	Pn	13 35 19.1	+2.8
SHO	Shikotan	8.49	236	ePN	Pn	13 35 08.9	-7.4
SHO				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SHO				pmax	pmax		
	comp=N,3.0nm,0.2s						
SHO				pmax	pmax		
	comp=E,1.0nm,0.2s						
TYV	Tymovskoe	9.14	286	eP	Pn	13 35 27.3	+2.3
JKA	Kamikawa-asahi	10.81	248	eP	Pn	13 35 45.9	-2.0
ASAJ	Asahikawa	10.81	248	P	Pn	13 35 45.9	-2.0
	comp=E,0.3nm,0.3s,baz=52,slow=17,SNR=4.8						
MA2	Magadan	11.04	344	P	Pn	13 35 49.7	-1.2
	comp=E,0.3nm,0.3s,baz=163,slow=13,SNR=3.9						
EKMR	Ekimchan	15.34	294	eP	Pn	13 36 49.1	+0.4
EKMR				AMB	AMB	13 36 53.9	
	comp=E,4.0nm,0.6s						
KLR	Kul'dur	16.21	280	P	Pn	13 36 58.8	-1.0
	comp=E,0.0nm,0.3s,baz=100,slow=11,SNR=2.4						
KLR				LR	LR	13 43 58.1	
	comp=E,60nm,18.8s,baz=112,slow=40						
KSRS	Korea Array	23.72	251	eP	P	13 38 22.0	-0.6
KSRS	Korea Array	23.72	251	P	P	13 38 22.0	-0.6
KSRS	Korea Array	23.72	251	P	P	13 38 22.0	-0.6
	comp=E,0.8nm,0.6s,baz=45,slow=9.8,SNR=5.2						
TIK	Tiksi	25.95	340	eP	P	13 38 41.7	-0.8
TIXI	Tiksi	25.96	340	P	P	13 38 41.7	-0.9
	comp=E,1.3nm,0.5s,baz=129,slow=9.3,SNR=7.6						
TIXI				LR	LR	13 50 39.5	
	comp=E,46nm,18.1s,baz=353,slow=40						
H11S1	WAKE ISLAND Hy	31.58	161	T	T	14 13 58.2	
	baz=347,slow=76,SNR=12						
H11S3	WAKE ISLAND Hy	31.59	161	T	T	14 13 58.9	
	baz=347,slow=76,SNR=17						
H11S2	WAKE ISLAND Hy	31.60	161	T	T	14 13 45.3	
	baz=347,slow=76,SNR=8.5						
ILAR	Eielson Array	33.27	41	P	P	13 39 49.7	+2.2
	comp=E,0.3nm,0.8s,baz=266,slow=6.4,SNR=3.1						
YKA	Yellowknife Ar	47.66	39	P	P	13 41 47.2	+1.1
	comp=E,0.1nm,0.6s,baz=296,slow=7.1,SNR=3.6						
MKAR	Makanchi Array	47.94	297	P	P	13 41 46.9	-1.5
	comp=E,0.7nm,0.8s,baz=60,slow=7.3,SNR=5.8						
FINES	FINESS Array B	62.89	336	P	P	13 43 35.1	-0.4
	comp=E,0.9nm,0.8s,baz=342,slow=8.7,SNR=2.9						
AKASG	Malin Array Be	70.86	328	P	P	13 44 25.7	-0.6
	comp=E,0.2nm,0.3s,baz=30,slow=7.5,SNR=2.5						
TXAR	Lajitas Array	74.35	63	P	P	13 44 48.6	+1.1
	comp=E,0.2n

MNGR	**Mingechevir, A**	**1.04 265**		PG	**Pg**	**13 46 06.4**	**-0.5**
DRN	**Derbent**	**1.16 355**⇑	*e*PG		**Pn**	**13 46 10.0**	**+0.7**
DRN			*e*			13 46 25.9	
DRN			pmax	pmax			
	comp=Z,91nm,0.8s						
DRN			smax	smax			
	comp=N,146nm,0.8s						
DRN	**Derbent**	**1.16 355**⇑	*e*Pg		**Pn**	**13 46 10.1**	**+0.7**
	comp=N,91nm,0.8s						
DRN		⇑	*e*Sg		**Sn**	**13 46 26.2**	**+0.8**
	comp=N,146nm,0.8s						
URKR	**Urkarakh**	**1.43 335**	*e*Pg		**Pg**	**13 46 15.0**	**+0.7**
URKR			*e*Sg		**Sg**	**13 46 32.9**	**+0.1**
ZKTA	**Zakatala**	**1.58 299**	PG		**Pn**	**13 46 13.9**	**-1.3**
KMKR	**Kumukh**	**1.61 321**	*e*PN		**Pg**	**13 46 19.5**	**+1.6**
KMKR			pmax	pmax			
	comp=Z,55nm,0.4s						
GANJ	**Ganja**	**1.64 263**	PN		**Pn**	**13 46 14.5**	**-1.5**
DDFL	**Dedoflistskaro**	**1.85 289**	P		**Pn**	**13 46 16.8**	**-2.3**
GNBR	**Gunib**	**1.88 324**⇓	*e*PN		**Pg**	**13 46 24.3**	**+1.4**
GNBR			*e*			13 46 50.0	
GNBR			pmax	pmax			
	comp=Z,74nm,0.6s						
GNBR			smax	smax			
	comp=N,419nm,0.8s						
GNBR	**Gunib**	**1.88 324**⇓	*e*Pg		**Pg**	**13 46 23.2**	**+0.3**
	comp=N,74nm,0.6s						
GNBR		⇓	*e*Sg		**Sg**	**13 46 47.5**	**+0.3**
	comp=N,419nm,0.8s						
LGD	**Lagodekhi**	**1.92 301**	P		**Pb**	**13 46 21.7**	**-0.5**
LGD	**Lagodekhi**	**1.92 301**	PN		**Pb**	**13 46 21.7**	**-0.5**
XNZR	**Khunzakh**	**2.12 322**	*e*Pg		**Pg**	**13 46 27.1**	**-0.4**
XNZR			*e*Sg		**Sg**	**13 46 55.7**	**+0.8**
LKRN	**Lenkeran, Azer**	**2.18 173**	PN		**Pn**	**13 46 25.1**	**+1.7**
UNCR	**Uncukul**	**2.21 326**	*e*PN		**Pg**	**13 46 29.0**	**-0.3**
UNCR			S		**Sb**	**13 46 55.0**	**+0.2**
BTLR	**Botlikh**	**2.44 318**	*e*Pg		**Pg**	**13 46 32.6**	**-1.1**
BTLR			*e*Sg		**Sg**	**13 47 07.3**	**+1.9**
NAX	**Nakhchivan**	**2.84 234**	PN		**Pn**	**13 46 31.8**	**-0.8**
GNI	**Garni**	**2.92 257**	Pn		**Pb**	**13 46 39.0**	**-0.3**
	comp=N,2.6nm,0.3s,baz=147,slow=11,SNR=5.9						
GNI			Sn		**Sb**	**13 47 17.0**	**+1.7**
	comp=N,2.4nm,0.3s,baz=180,slow=20,SNR=3.7						
TRLG	**Trialeti**	**3.35 283**	P		**Pn**	**13 46 43.8**	**+4.1**
ZEI	**Tsey**	**3.90 301**	*e*PN		**Pn**	**13 46 48.8**	**+1.5**
ZEI			pmax	pmax			
	comp=Z,6.0nm,0.6s						
KBZ	**Khabaz**	**5.01 307**	Pn		**Pn**	**13 47 06.4**	**+4.1**
	baz=162,slow=6.4,SNR=2.1						
GEYT	**Alibeck**	**8.04 108**	Pn		**Pn**	**13 47 44.7**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=294,slow=14,SNR=4.2						
AKTO	**Aktyubinsk**	**11.66 32**	Pn		**Pn**	**13 48 33.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=214,slow=15,SNR=2.6						
AKTO			Sn		**Sn**	**13 50 38.9**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=71,slow=20,SNR=4.5						
MMAI	**Mount Meron Ar**	**13.05 237**	LR		LR	13 54 26.8	
	comp=Z,23nm,19.6s,baz=275,slow=40						
FINES	**FINESS Array B**	**24.68 334**	P		**P**	**13 51 08.4**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=139,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**24.98 65**	P		**P**	**13 51 11.7**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=268,slow=8.1,SNR=3.3						

*IDC **31** 13:46:28.8±0.9, 7.˝29N×127.˝21E, h0km, mb3.9/8, mb1 4.1/10, mb1mx3.6/67, mbtmp3.9/10, ML4.2/2, MS2.8/2, Ms1 2.9/2, ms1mx2.3/50, Error ellipse: s-maj=22.2km s-min=17.0km az=74.0*

*ISCJB **31** 13:46:33.4±0.8, 7.˝19N±0.˝04×127.˝12E±0.˝06, h48km±9km, mb4.1/13, MS2.7/2, Error ellipse: s-maj=9.7km s-min=5.9km az=166.1*

*NEIC **31** 13:46:34.1±1.1, 7.˝25N×127.˝23E, h39km±11km, mb4.5/15, Error ellipse: s-maj=13.3km s-min=6.0km az=77.0*

*MAN **31** 13:46:37.7, 7.˝24N×126.˝69E, h11km, MS3.5*

ISC 31 13:46:35.1±1.1, 7.°10N±0.°05×127.°08E±0.°07, h47km±12km, n45, σ1°84/54, mb4.1/13, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.83**	**259**	*e*P	**Pn**	**Pn**	**13 46 48.4**	**-2.1**
MATI				*e*S	**Sn**	**Sn**	**13 46 58.9**	**-2.8**
BIPH	**Bislig**	**1.29**	**327**⇓	*e*P	**Pn**	**Pn**	**13 46 53.8**	**-2.9**
BIPH				*e*S	Sn	Sn	13 47 02.6	-10
DAV	**Davao City (W)**	**1.49**	**269**	Pn	**Pn**	**Pn**	**13 46 59.7**	**+0.3**
	158nm,0.3s,baz=239,slow=3.7,SNR=18							
DAV				Sn	**Sn**	**Sn**	**13 47 21.4**	**+3.7**
	173nm,0.3s,baz=116,slow=22,SNR=7.5							
DMPH	**Davao City--Mi**	**1.56**	**269**⇑	*i*P	**Pn**	**Pn**	**13 47 01.3**	**+0.9**
DMPH				*i* S	**Sn**	**Sn**	**13 47 16.3**	**-3.1**
KCP	**Kidapawan**	**1.98**	**267**⇑	*i*P	**Pn**	**Pn**	**13 47 06.5**	**+0.4**
KCP				*i* S	**Sn**	**Sn**	**13 47 29.9**	**+0.2**
BUKP	**Musuan**	**2.14**	**291**	*e*P	**Pn**	**Pn**	**13 47 07.7**	**-0.7**
BUKP				*e*S	**Sn**	**Sn**	**13 47 37.8**	**+3.9**
GSPH	**General Santos**	**2.34**	**245**	*e*P	**Pn**	**Pn**	**13 47 11.0**	**-0.3**
BUTP	**Butuan**	**2.35**	**322**	*e*P	**Pn**	**Pn**	**13 47 11.5**	**+0.2**
BUTP				*e*S	**Sn**	**Sn**	**13 47 43.3**	**+4.3**
SKMP	**Bagumbayan, Su**	**2.58**	**257**	*e*P	**Pn**	**Pn**	**13 47 14.6**	**+0.1**
SKMP				*e*S	**Sn**	**Sn**	**13 47 44.2**	**-0.4**
CGP	**Cagayan de Oro**	**2.72**	**300**⇓	*e*P	**Pn**	**Pn**	**13 47 16.2**	**-0.1**
CGP				*e*S	**Sn**	**Sn**	**13 47 45.5**	**-2.5**
MSLP	**Maasin**	**3.73**	**324**	*e*P	**Pn**	**Pn**	**13 47 31.6**	**+1.4**
MSLP				*e*S	**Sn**	**Sn**	**13 48 16.5**	**+3.6**
PAGZ	**Pagadian**	**3.74**	**282**	*e*P	**Pn**	**Pn**	**13 47 30.1**	**-0.3**
OCLP	**Ormoc**	**4.62**	**328**	*e*P	**Pn**	**Pn**	**13 47 45.5**	**+3.1**
TNTI	**Ternate**	**6.29**	**177**	*e*Pn	**Pn**	**Pn**	**13 48 07.0**	**+1.5**
SIJI	**Sorong**	**8.95**	**152**	Pn	**Pn**	**Pn**	**13 48 43.0**	**+1.1**
	0.8nm,0.3s,baz=341,slow=17,SNR=3.7							
SIJI				Sn	**Sn**	**Sn**	**13 50 19.3**	**-2.1**
	0.6nm,0.3s,baz=211,slow=19,SNR=4.9							
LUWI	**Luwuk**	**9.16**	**208**	*e*Pn	**Pn**	**Pn**	**13 48 46.0**	**+1.3**
FAKI	**Fak Fak**	**11.21**	**152**	*e*Pn	**Pn**	**Pn**	**13 49 12.6**	**-0.3**
KAPI	**Kappang**	**14.08**	**211**	*e*Pn	**Pn**	**Pn**	**13 49 52.5**	**+0.5**
SBUM	**Sibu**	**15.51**	**253**	*e*Pn	**P**	**P**	**13 50 14.8**	**+0.3**
	3.9nm,1.1s							
SAUI	**Saumlaki**	**15.56**	**164**	*e*Pn	**P**	**P**	**13 50 15.7**	**+0.7**
	92nm,1.2s							
TWG	**Pinlang**	**16.67**	**340**	*e*P	**Pn**	**Pn**	**13 50 25.1**	**-0.4**
	355nm,1.7s							
SOEI	**Soe**	**16.98**	**190**	*e*P	**P**	**P**	**13 50 32.5**	**+1.6**
	19nm,1.1s							
BATI	**Baumata**	**17.53**	**191**	P	**P**	**P**	**13 50 39.0**	**+2.1**
	2.0nm,0.3s,baz=29,slow=10,SNR=3.1							
KSM	**Kuching**	**17.63**	**252**	*e*Pn	**P**	**P**	**13 50 39.1**	**+1.2**
	6.1nm,1.1s							
YOJ	**Yonaguni jima**	**17.70**	**348**	*e*Pn	**Pn**	**Pn**	**13 50 36.0**	**-2.2**
	158nm,1.1s							
NACB	**Ninganchiao**	**17.77**	**343**	*e*Pn	**Pn**	**Pn**	**13 50 36.5**	**-2.7**
	29nm,1.1s							
YHNB	**Yeheng**	**18.30**	**343**	*e*P	**P**	**P**	**13 50 44.1**	**-1.3**
	83nm,1.4s							
FITZ	**Fitzroy Crossi**	**25.08**	**183**	*e*P	**P**	**P**	**13 51 56.5**	**+1.1**
	16nm,1.7s							
FITZ	**Fitzroy Crossi**	**25.08**	**183**	P	**P**	**P**	**13 51 56.5**	**+1.1**
	3.0nm,0.7s,baz=6.1,slow=7.7,SNR=9.9							
WR1	**Warramunga Arr**	**27.81**	**165**	*e*P	**P**	**P**	**13 52 20.8**	**+0.7**
	17nm,1.5s							
WRA	**Warramunga Arr**	**27.81**	**165**	P	**P**	**P**	**13 52 20.8**	**+0.7**
	0.5nm,0.4s,baz=342,slow=10,SNR=16							
CMAR	**Chiang Mai Arr**	**29.62**	**295**	LR	LR	LR	14 04 36.9	
	comp=Z,23nm,19.4s,baz=345,slow=37							
KS15	**Wonju Array Si**	**30.21**	**1**	*e*P	**P**	**P**	**13 52 40.5**	**-0.8**
	64nm,2.0s							
KSRS	**Korea Array**	**30.23**	**1**	LR	LR	LR	14 04 35.9	
	comp=Z,16nm,20.7s,baz=286,slow=36							
AS31	**Alice Springs**	**31.30**	**168**	*e*P	**P**	**P**	**13 52 51.9**	**+0.9**
	1.1nm,0.3s							
ASAR	**Alice Springs**	**31.30**	**168**	P	**P**	**P**	**13 52 51.8**	**+0.9**
	0.7nm,0.3s,baz=338,slow=7.2,SNR=47							
ASAR				PcP	**PcP**	**PcP**	**13 55 45.0**	**+0.4**
	0.5nm,0.5s,baz=351,slow=2.7,SNR=7.1							
NWAO	**Narrogin (SRO)**	**40.89**	**193**	P	**P**	**P**	**13 54 14.3**	**+1.5**
	6.3nm,0.7s,baz=35,slow=7.0,SNR=10							
STKA	**Stephens Creek**	**41.16**	**161**	*e*P	**P**	**P**	**13 54 16.3**	**+1.3**
	5.2nm,2.0s							
STKA	**Stephens Creek**	**41.16**	**161**	P	**P**	**P**	**13 54 16.4**	**+1.3**
	1.5nm,0.6s,baz=331,slow=9.7,SNR=5.9							
TLY	**Talaya**	**48.47**	**341**	*e*P	**P**	**P**	**13 55 09.6**	**-3.4**
	6.5nm,0.8s							
MK32	**Makanchi Array**	**55.03**	**324**	*e*P	**P**	**P**	**13 56 02.1**	**0.0**
MKAR	**Makanchi Array**	**55.03**	**324**	P	**P**	**P**	**13 56 02.1**	**0.0**
	0.2nm,0.4s,baz=108,slow=8.1,SNR=4.6							
ILAR	**Eielson Array**	**81.93**	**26**	P	**P**	**P**	**13 58 49.1**	**-0.5**
	0.2nm,0.7s,baz=252,slow=4.9,SNR=5.1							
VNDA	**Vanda**	**86.70**	**173**	*e*P	**P**	**P**	**13 59 11.8**	**-1.6**
	8.7nm,1.4s							
INK	**Inuvik**	**86.92**	**22**	P	**P**	**P**	**13 59 13.9**	**-0.8**
	0.3nm,0.5s,baz=272,slow=2.9,SNR=2.5							

*ISCJB **31** 13:48:41.1±0.5, 28.°5S±0.°1×62.°66E±0.°10, h10km, mb4.1/21, MS3.6/12, Error ellipse: s-maj=16.3km s-min=11.3km az=21.7*

*IDC **31** 13:48:41.3±0.7, 28.°48S×62.°61E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.0/70, mbtmp4.1/17, MS3.5/13, Ms1 3.6/13, ms1mx3.3/42, Error ellipse: s-maj=23.3km s-min=17.3km az=18.0*

*NEIC **31** 13:48:42.8±0.3, 28.°44S×62.°59E, h10km, mb4.5/5, Error ellipse: s-maj=11.6km s-min=7.6km az=213.0*

ISC 31 13:48:42.9±0.7, 28.°4S±0.°1×62.°6E±0.°1, h10km, n47, σ0°70/35, mb4.3/21, MS3.6/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MRIV	**Mauritius Mete**	**9.32**	**329**	*e*Pn	**Pn**	**Pn**	**13 50 56.0**	**-1.4**
OPO	**Ambohidratompo**	**17.17**	**302**	LR	LR	LR	13 57 37.5	
	comp=Z,230nm,20.3s,baz=172,slow=31							
H08N3	**Diego Garcia H**	**23.37**	**22**	T	T	T	14 17 53.3	
	baz=197							
H08N1	**Diego Garcia H**	**23.38**	**22**	T	T	T	14 17 53.3	
	baz=197							
H08N2	**Diego Garcia H**	**23.39**	**22**	T	T	T	14 17 53.9	
	baz=197							
BOSA	**Boshof**	**32.70**	**261**	P	**P**	**P**	**13 55 14.1**	**-1.8**
	6.2nm,1.1s,baz=122,slow=8.6,SNR=3.1							
BOSA				LR	LR	LR	14 06 43.1	
	comp=Z,32nm,19.3s,baz=208,slow=33							
KMBO	**Kilima Mbogo**	**36.37**	**314**	LR	LR	LR	14 06 54.0	
	comp=Z,73nm,20.7s,baz=97,slow=30							
MAW	**Mawson**	**39.20**	**180**	LR	LR	LR	14 08 24.3	
	comp=Z,143nm,19.3s,baz=302,slow=30							
TSUM	**Tsumeb**	**41.97**	**272**	P	**P**	**P**	**13 56 35.2**	**+0.7**
	2.2nm,0.8s,baz=135,slow=7.1,SNR=3.9							
FITZ	**Fitzroy Crossi**	**58.29**	**95**	*e*P	**P**	**P**	**13 58 36.8**	**-1.4**
	5.0nm,1.0s							
FITZ	**Fitzroy Crossi**	**58.29**	**95**	P	**P**	**P**	**13 58 37.8**	**-0.4**
	4.8nm,1.0s,baz=259,slow=9.0,SNR=5.1							
CM01	**Chiang Mai Arr**	**58.37**	**41**	*e*P	**P**	**P**	**13 58 38.1**	**-0.5**
CM31	**Chiang Mai Arr**	**58.39**	**41**	*e*P	**P**	**P**	**13 58 38.4**	**-0.4**
	3.2nm,0.8s							
CMAR	**Chiang Mai Arr**	**58.39**	**41**	P	**P**	**P**	**13 58 38.7**	**-0.1**
	2.0nm,0.8s,baz=231,slow=7.4,SNR=17							
CMAR				LR	LR	LR	14 22 01.4	
	comp=Z,16nm,18.7s,baz=208,slow=34							
QSPA	**South Pole Qui**	**61.72**	**180**	P	**P**	**P**	**13 59 01.1**	**-0.2**
	5.9nm,1.0s,baz=251,slow=1.8,SNR=5.4							
ASAR	**Alice Springs**	**63.42**	**104**	P	**P**	**P**	**13 59 13.0**	**-0.1**
	5.2nm,0.7s,baz=246,slow=6.0,SNR=117							
AS31	**Alice Springs**	**63.42**	**104**	*e*P	**P**	**P**	**13 59 12.9**	**-0.2**
	1.8nm,0.6s							
AS01	**Alice Springs**	**63.46**	**104**	*e*P	**P**	**P**	**13 59 13.1**	**-0.3**
VNDA	**Vanda**	**64.45**	**166**	LR	LR	LR	14 23 53.9	
	comp=Z,104nm,21.3s,baz=240,slow=33							
WR1	**Warramunga Arr**	**65.18**	**100**	*e*P	**P**	**P**	**13 59 24.6**	**-0.1**
	11nm,1.2s							
WRA	**Warramunga Arr**	**65.18**	**100**	P	**P**	**P**	**13 59 24.6**	**-0.1**
	5.4nm,0.9s,baz=248,slow=5.9,SNR=25							
WB2	**Warramunga Arr**	**65.19**	**100**	*e*P	**P**	**P**	**13 59 24.8**	**0.0**
GEYT	**Alibeck**	**66.14**	**356**	LR	LR	LR	14 25 25.7	
	comp=Z,32nm,18.3s,baz=330,slow=33							
AAK	**Ala-Archa**	**71.56**	**9**	LR	LR	LR	14 27 01.4	
	comp=Z,43nm,19.4s,baz=207,slow=32							
TORD	**Torodi Ar. Bea**	**71.91**	**296**	P	**P**	**P**	**14 00 07.5**	**+0.8**
	1.1nm,1.0s,baz=105,slow=6.2,SNR=4.5							
TORD				LR	LR	LR	14 30 27.3	
	comp=Z,64nm,20.1s,baz=30,slow=35							
TOA1	**Torodi Ar. Sit**	**71.91**	**296**	*e*P	**P**	**P**	**14 00 07.5**	**+0.8**
BR101	**Keskin Array S**	**72.96**	**337**	*e*P	**P**	**P**	**14 00 13.1**	**+0.5**
BRTR	**Keskin Array B**	**72.96**	**337**	P	**P**	**P**	**14 00 13.1**	**+0.5**
	1.3nm,0.9s,baz=160,slow=7.9,SNR=6.6							
BRTR				LR	LR	LR	14 29 18.0	
	comp=Z,23nm,19.6s,baz=98,slow=33							
DBIC	**Dimbokro**	**73.67**	**287**	LR	LR	LR	14 30 38.7	
	comp=Z,33nm,19.8s,baz=119,slow=34							
MK32	**Makanchi Array**	**76.96**	**14**	*e*P	**P**	**P**	**14 00 35.5**	**0.0**
MKAR	**Makanchi Array**	**76.96**	**14**	P	**P**	**P**	**14 00 35.5**	**0.0**
	0.6nm,0.8s,baz=193,slow=5.6,SNR=5.5							
ABKAR	**Akbulak array**	**77.37**	**358**	*e*P	**P**	**P**	**14 00 37.8**	**+0.2**
	4.7nm,1.3s							
KURBB	**Kurchatov Arra**	**79.96**	**10**	P	**P**	**P**	**14 00 51.6**	**-0.3**
	0.1nm,0.3s,baz=213,slow=5.9,SNR=3.3							
MLR	**Mumbi Rosu**	**80.76**	**335**	P	**P**	**P**	**14 00 56.6**	**+0.1**
	2.2nm,0.7s,baz=217,slow=5.1,SNR=3.7							
BVAR	**Borovoye Array**	**81.39**	**5**	P	**P**	**P**	**14 00 60.0**	**+0.5**
	1.9nm,1.0s,baz=168,slow=7.6,SNR=4.6							
AKASG	**Malin Array Be**	**84.12**	**339**	P	**P**	**P**	**14 01 14.1**	**+0.4**
	1.0nm,0.5s,baz=165,slow=4.8,SNR=4.9							
ZALV	**Zalesovo Beam**	**84.27**	**13**	*e*P	**P**	**P**	**14 01 13.5**	**-0.9**
ZALV	**Zalesovo Beam**	**84.27**	**13**	P	**P**	**P**	**14 01 14.6**	**+0.2**
	0.6nm,0.4s,baz=224,slow=6.2,SNR=4.9							
ZAA1	**Zalesovo Array**	**84.27**	**13**	*e*P	**P**	**P**	**14 01 14.6**	**+0.2**
SONA0	**Songino Array**	**85.52**	**28**	*e*P	**P**	**P**	**14 01 21.3**	**+0.3**
SONM	**Songino Array**	**85.52**	**28**	P	**P**	**P**	**14 01 21.3**	**+0.3**
	0.2nm,0.5s,baz=204,slow=3.2,SNR=2.9							
ESDC	**Sonseca Array**	**91.75**	**315**	P	**P**	**P**	**14 01 52.8**	**+2.0**
	0.1nm,0.3s,baz=111,slow=8.1,SNR=4.6							
NOA	**NORSAR Array B**	**98.40**	**337**	LR	LR	LR	14 44 40.6	
	comp=Z,17nm,20.6s,baz=355,slow=34							
KLR	**Kul'dur**	**98.77**	**38**	LR	LR	LR	14 47 22.8	
	comp=Z,31nm,19.6s,baz=183,slow=36							
HYT	**Haines Junctio**	**144.90**	**17**	*e*PKPdf	**PKPdf**	**PKPdf**	**14 08 19.7**	**-0.1**
YKA	**Yellowknife Ar**	**145.88**	**358**	PKPbc	**PKPbc**	**PKPbc**	**14 08 21.5**	**-0.4**
	1.2nm,0.8s,baz=347,slow=3.3,SNR=25							
YKB5	**Yellowknife Ar**	**145.88**	**358**	*e*PKPdf	**PKPdf**	**PKPdf**	**14 08 21.1**	**-0.2**

IDC 31 13:51:23.3±1.9, 30.°83N×41.˝43W, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.5/50, mbtmp3.6/6, MS3.4/9, Ms1 3.4/9, ms1mx3.0/46, Error ellipse: s-maj=86.5km s-min=27.7km az=27.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**25.75**	**246**	LR	LR	LR	14 04 54.4	
	comp=Z,33nm,21.8s,baz=102,slow=32							
MDP	**Montagnes des**	**27.69**	**205**	LR	LR	LR	14 06 21.7	
	comp=Z,26nm,19.4s,baz=146,slow=32							
SADO	**Sadowa**	**32.58**	**306**	LR	LR	LR	14 08 11.9	
	comp=Z,47nm,20.5s,baz=100,slow=31							
TKL	**Tuckaleechee C**	**35.54**	**289**	LR	LR	LR	14 10 04.8	
	comp=Z,69nm,21.6s,baz=26,slow=32							
TORD	**Torodi Ar. Bea**	**43.37**	**104**	P	P		13 59 27.5	-0.2
	0.8nm,0.9s,baz=299,slow=5.1,SNR=4.8							
JTS	**JuntasAbangare**	**45.23**	**253**	LR	LR	LR	14 17 02.9	
	comp=Z,35nm,21.1s,baz=173,slow=34							
H10N2	**ASCENSION HYDR**	**46.31**	**142**	T	T	T	14 49 15.8	
	baz=327,slow=75,SNR=55							
H10N3	**ASCENSION HYDR**	**46.31**	**142**	T	T	T	14 49 14.1	
	baz=327,slow=75,SNR=36							
H10N1	**ASCENSION HYDR**	**46.33**	**142**	T	T	T	14 49 14.2	
	baz=327,slow=75,SNR=45							
H10S1	**ASCENSION HYDR**	**47.16**	**143**	T	T	T	14 50 19.1	
	baz=328,slow=75,SNR=28							
H10S3	**ASCENSION HYDR**	**47.16**	**143**	T	T	T	14 50 19.1	
	baz=328,slow=75,SNR=35							
H10S2	**ASCENSION HYDR**	**47.17**	**143**	T	T	T	14 50 20.4	
	baz=328,slow=75,SNR=30							
APG	**El Apazote**	**47.46**	**262**	LR	LR	LR	14 17 01.2	
	comp=Z,35nm,18.9s,baz=204,slow=32							
PDAR	**Pinedale Array**	**54.48**	**303**	P	P		14 00 52.4	-0.6
	1.2nm,1.0s,baz=87,slow=10,SNR=7.6							
PDAR				LR	LR	LR	14 22 38.0	
	comp=Z,52nm,18.6s,baz=79,slow=34							
YKA	**Yellowknife Ar**	**55.44**	**327**	P	P		14 00 58.8	-0.5
	0.3nm,0.9s,baz=81,slow=7.8,SNR=3.9							
ELK	**Elko**	**59.09**	**302**	LR	LR	LR	14 25 47.1	
	comp=Z,65nm,18.1s,baz=44,slow=35							
NVAR	**Mina Array Bea**	**62.03**	**300**	P	P		14 01 46.1	+0.2
	0.2nm,0.5s,baz=83,slow=11,SNR=2.4							
INK	**Inuvik**	**62.50**	**335**	P	P		14 01 48.0	-0.1
	1.5nm,1.1s,baz=73,slow=7.4,SNR=4.2							
KBZ	**Khabaz**	**65.61**	**52**	LR	LR	LR	14 30 08.3	
	comp=Z,61nm,19.5s,baz=156,slow=35							

*IDC **31** 14:01:17.3±2.2, 38.°30N×79.°84W, h0km, mb2.9/2, mb1 3.7/5, mb1mx3.3/47, mbtmp3.4/5, ML2.8/3, Error ellipse: s-maj=38.6km s-min=13.3km az=114.0*

*ISCJB **31** 14:01:22.2±0.4, 38.°658N±0.°010×80.°82W±0.°02, h10km±3km, mb3.0/2, Error ellipse: s-maj=2.0km s-min=1.7km az=11.0*

*ANF **31** 14:01:22.5±0.1, 38.°66N×80.°79W, ML4.3/134, Error ellipse: s-maj=1.3km s-min=1.1km az=98.0*

*NEIC **31** 14:01:24.0±0.0, 38.°64N×80.°84W, h9km, MW3.4, Moment Tensor Solution. s10 Moment tensor: Scale 10^{14}Nm; M_{rr}0.42; $M_{\theta\theta}$0.99; $M_{\phi\phi}$-1.41; $M_{r\theta}$-0.87; $M_{\theta\phi}$0.54; $M_{r\phi}$0.38; Best double couple: $M_0$1.70000×10^{14} NP1:δ308.00000°, δ78.00000°, λ37.00000°. NP2:φ209.00000°, δ53.00000°, λ165.00000°. Principal axes: T 1.6400, Plg34.0000°, Azm175.0000°; N 0.0500, Plg51.0000°, Azm322.0000°; P -1.6900, Plg16.0000°, Azm73.0000°; After CERI.*

NEIC Felt [IV] at Gassaway. Also felt at Craigsville, Duck, Elkview, Frametown, Shock, Summersville, Sutton and Weston. Felt at Alexandria, Rileyville and Roanoke, Virginia.

*CERI **31** 14:01:24.0, 38.°64N×80.°84W, h9km, MW3.4(USGS)*

ISC 31 14:01:22.7±1.1, 38.°67N±0.°02×80.°81W±0.°02, h3km±9km, n323, σ0°78/340, West Virginia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
Q54A	**Coxs Mills**	**0.31**	**357**	P	**Pg**	**Pg**	**14 01 29.1**	**+0.3**
	baz=180,SNR=555							
Q54A				S	**Sg**	**Sg**	**14 01 34.0**	**+1.2**
	baz=180							
R54A	**Victor**	**0.51**	**196**	P	**Pg**	**Pg**	**14 01 32.3**	**-0.2**
	baz=15,SNR=1000							
R54A				S	**Sg**	**Sg**	**14 01 39.5**	**+0.4**
	baz=15							
Q53A	**Leroy**	**0.59**	**289**	P	**Pg**	**Pg**	**14 01 34.4**	**+0.3**
	baz=111,SNR=749							
Q53A				S	**Sg**	**Sg**	**14 01 42.6**	**+0.9**
	baz=111							
Q55A	**Buckhannon**	**0.66**	**60**	P	**Pg**	**Pg**	**14 01 35.3**	**0.0**
	baz=239							
R55A	**Marlinton**	**0.67**	**125**	P	**Pg**	**Pg**	**14 01 35.3**	**-0.2**
	baz=303,SNR=199							
R55A				S	**Sg**	**Sg**	**14 01 44.5**	**+0.3**
	baz=303							
S55A	**Lewisburg**	**0.93**	**165**	P	**Pg**	**Pg**	**14 01 40.2**	**-0.3**
	baz=344,SNR=327							
S55A				S	**Sg**	**Sg**	**14 01 52.6**	**0.0**
	baz=344							
P53A	**Whipple**	**0.93**	**331**	*e*Pg	**Pg**	**Pg**	**14 01 40.1**	**-0.4**
P53A	**Whipple**	**0.93**	**331**	P	**Pg**	**Pg**	**14 01 40.3**	**-0.3**
	baz=153,SNR=59							
P53A				S	**Sg**	**Sg**	**14 01 53.1**	**+0.5**
	baz=153							
R53A	**Hurricane**	**0.96**	**250**	P	**Pg**	**Pg**	**14 01 40.8**	**-0.2**
	baz=70,SNR=189							
R53A				S	**Sg**	**Sg**	**14 01 54.1**	**+0.7**
	baz=70							
P54A	**Burton**	**0.96**	**15**	P	**Pg**	**Pg**	**14 01 41.0**	**-0.3**
	baz=196							
P54A				S	**Sb**	**Sb**	**14 01 54.9**	**-0.3**
	baz=196							
P55A	**Reedsville**	**1.13**	**42**	P	**Pg**	**Pg**	**14 01 43.3**	**-1.1**
	baz=222							
Q52A	**Bidwell**	**1.17**	**285**	P	**Pg**	**Pg**	**14 01 44.5**	**-0.8**
	baz=105,SNR=217							
MCWV	**Mont Chateau**	**1.24**	**37**	*e*Pg

V56A	Mocksville	2.87	175	P		Pn	14 02 10.3	+1.0
	baz=355,SNR=70							
M52A	Chesterland	2.90	352	P		Pn	14 02 10.6	+0.9
	baz=172,SNR=12							
U58A	Oxford	2.90	141	P		Pn	14 02 10.3	+0.6
	baz=322,SNR=15							
V57A	Coltrane Farms	2.90	163	P		Pn	14 02 10.8	+1.1
	baz=343,SNR=65							
M54A	Oil Creek Stat	2.97	17	ePn		Pn	14 02 11.4	+0.7
M54A	Oil Creek Stat	2.97	17	P		Pn	14 02 11.7	+1.0
	baz=198,SNR=43							
SSPA	Standing Stone	2.99	48	ePn		Pn	14 02 11.7	+0.7
SSPA	Standing Stone	2.99	48	P		Pn	14 02 11.7	+0.7
	baz=230							
S50A	Richmond	3.00	252	P		Pn	14 02 11.9	+0.9
	baz=70,SNR=38							
T51A	Gray	3.01	237	P		Pn	14 02 12.2	+0.9
	baz=55,SNR=58							
ALLY	Alegheny Colle	3.02	10	ePn		Pn	14 02 12.4	+1.1
V54A	Nebo	3.03	198	P		Pn	14 02 12.4	+0.9
	baz=17,SNR=249							
TZTN	Tazewell	3.04	227	ePn		Pn	14 02 11.8	+0.2
TZTN	Tazewell	3.04	227	P		Pn	14 02 12.4	+0.8
	baz=45,SNR=191							
U52A	Thorn Hill	3.05	223	P		Pn	14 02 12.6	+0.8
	baz=41,SNR=20							
O49A	Covington	3.12	300	ePn		Pn	14 02 13.3	+0.5
O49A	Covington	3.12	300	P		Pn	14 02 13.5	+0.7
	baz=119							
P49A	Miami Univ. Ec	3.16	287	P		Pn	14 02 14.5	+1.3
	baz=105,SNR=72							
SDMD	Soldier's Deli	3.18	75	ePn		Pn	14 02 14.3	+0.7
M55A	Ridgway	3.21	29	P		Pn	14 02 14.4	+0.5
	baz=210,SNR=23							
M50A	Fremont	3.22	329	ePn		Pn	14 02 14.0	-0.1
M50A	Fremont	3.22	329	P		Pn	14 02 15.4	+1.3
	baz=148							
L53A	Girard	3.31	7	P		Pn	14 02 16.0	+0.7
	baz=188							
U59A	Littleton	3.33	133	P		Pn	14 02 16.4	+0.7
	baz=314							
PLIO	Pelee Island,	3.38	336	P		Pn	14 02 16.6	+0.3
	baz=156							
V53A	Saluda	3.40	209	ePn		Pn	14 02 17.2	+0.6
V53A	Saluda	3.40	209	P		Pn	14 02 17.3	+0.8
	baz=27,SNR=204							
U51A	La Follette	3.42	229	P		Pn	14 02 17.8	+0.8
	baz=47,SNR=56							
N49A	Columbus Grove	3.44	312	ePn		Pn	14 02 17.9	+0.8
N49A	Columbus Grove	3.44	312	P		Pn	14 02 18.8	+1.7
	baz=130							
R49A	Shelbyville	3.44	265	P		Pn	14 02 18.9	+1.8
	baz=83,SNR=20							
ERPA	Erie	3.50	10	ePn		Pn	14 02 19.3	+1.3
PAGS	Pennsylvania G	3.53	63	ePn		Pn	14 02 18.7	+0.4
W56A	Indian Trail	3.53	177	P		Pn	14 02 18.8	+0.4
	baz=357,SNR=9.3							
KMSC	Kings Mountain	3.55	187	ePn		Pn	14 02 18.7	+0.1
KMSC	Kings Mountain	3.55	187	P		Pn	14 02 18.7	+0.1
	baz=5.4							
V59A	Middlesex	3.55	144	P		Pn	14 02 18.7	0.0
	baz=325							
T60A	Surry	3.57	114	Pb		Pb	14 02 26.8	+0.4
	baz=296							
W57A	Gilead	3.57	169	P		Pn	14 02 19.0	+0.1
	baz=349,SNR=18							
T50A	Nancy	3.59	244	P		Pn	14 02 19.7	+0.5
	baz=62,SNR=25							
V52A	Sevierville	3.59	219	ePn		Pn	14 02 18.8	-0.5
V52A	Sevierville	3.59	219	P		Pn	14 02 19.9	+0.6
	baz=37,SNR=45							
S49A	Springfield	3.63	257	P		Pn	14 02 21.0	+1.2
	baz=75,SNR=15							
P48A	Milroy	3.68	284	P		Pn	14 02 21.1	+0.7
	baz=101,SNR=15							
L50A	Kingsville	3.70	336	Pb		Pb	14 02 28.5	-0.1
	baz=155							
MVL	Millersville	3.70	68	ePn		Pn	14 02 21.7	+0.9
W54A	Cherokee Point	3.74	198	P		Pn	14 02 21.6	+0.3
	baz=16,SNR=22							
TKL	Tuckaleechee C	3.83	219	Pn		Pn	14 02 22.9	+0.5
	3.7nm,0.3s,baz=60,slow=8.2,SNR=61							
TKL				Sn		Sn	14 03 08.8	+0.8
	9.1nm,0.3s,baz=203,slow=16,SNR=7.8							
TKL				Lg		Lg	14 03 18.1	
	27nm,0.3s,baz=122,slow=21,SNR=15							
Q48A	North Vernon	3.85	275	P		Pn	14 02 22.9	+0.1
	baz=93							
W58A	Raeford	3.86	160	P		Pn	14 02 22.8	-0.1
	baz=341,SNR=14							
U50A	Jamestown	3.92	236	P		Pn	14 02 24.1	+0.4
	baz=54,SNR=36							
PAULI	Pauline	3.93	192	ePn		Pn	14 02 23.8	0.0
L55A	Hinsdale	3.95	27	P		Pn	14 02 25.1	+1.0
	baz=208,SNR=8.1							
W53A	Cullowhee	3.97	209	P		Pn	14 02 25.2	+0.7
	baz=28,SNR=50							
R48A	Northridge Ran	3.98	268	P		Pn	14 02 25.7	+1.1
	baz=85							
W59A	Clinton	3.98	151	Pb		Pb	14 02 33.4	0.0
	baz=332							
V51A	Loudon	4.02	226	ePn		Pn	14 02 25.4	+0.2
V51A	Loudon	4.02	226	P		Pn	14 02 25.3	+0.1
	baz=44,SNR=26							
BG3	Lake Jocassee	4.05	206	ePn		Pn	14 02 25.7	+0.2
T49A	Edmonton	4.05	249	ePn		Pn	14 02 26.3	+0.8
T49A	Edmonton	4.05	249	P		Pn	14 02 27.1	+1.6
	baz=66,SNR=18							
CNNC	Cliffs of the	4.15	145	ePn		Pn	14 02 27.1	+0.2
X56A	White Oak	4.17	183	P		Pn	14 02 26.8	-0.4
	baz=2.1,SNR=9.2							
AAM	Ann Arbor	4.23	330	ePn		Pn	14 02 28.9	+0.9
X57A	Johnson Farm,	4.24	172	P		Pn	14 02 28.1	0.0
	baz=352							
X55A	Gracelyn & Ava	4.24	189	P		Pn	14 02 27.8	-0.4
	baz=8.5,SNR=15							
S48A	Wiedeman Farm,	4.26	258	P		Pn	14 02 29.3	+1.0
	baz=75							
X58A	Rowland	4.28	163	P		Pn	14 02 28.4	-0.2
	baz=344							
L48A	N Adams	4.28	321	P		Pn	14 02 30.5	+1.7
	baz=139							
X54A	Belton	4.30	197	P		Pn	14 02 29.3	+0.3
	baz=16,SNR=14							
P47A	Martinsville	4.33	283	P		Pn	14 02 29.7	+0.4
	baz=100							
WCI	Wyandotte Cave	4.33	266	ePn		Pn	14 02 29.2	-0.1
WCI	Wyandotte Cave	4.33	266	P		Pn	14 02 30.8	+1.5
	baz=83							
PSUB	Penn St. - Bra	4.34	72	ePn		Pn	14 02 30.2	+0.7
W52A	Murphy	4.36	216	ePn		Pn	14 02 29.7	-0.1
W52A	Murphy	4.36	216	P		Pn	14 02 30.6	+0.9
	baz=34							
CPCT	Cooper Cave	4.38	224	ePn		Pn	14 02 30.1	+0.1
JSC	Jenkinsville	4.39	185	ePn		Pn	14 02 30.0	-0.3
Q47A	Bedord North L	4.39	275	P		Pn	14 02 30.8	+0.6
	baz=92							
O47A	Sheridan	4.44	292	P		Pn	14 02 31.5	+0.6
	baz=109							
X59A	McDuffie Farm,	4.46	156	Pb		Pb	14 02 41.6	0.0
	baz=337							
BLO	Bloomington	4.48	278	ePn		Pn	14 02 32.2	+0.7
N59A	State Game Lan	4.48	58	ePn		Pn	14 02 32.0	+0.5
N59A	State Game Lan	4.48	58	P		Pn	14 02 32.1	+0.5
	baz=241,SNR=18							
U49A	Red Boiling Sp	4.50	243	P		Pn	14 02 32.1	+0.4
	baz=60,SNR=18							
V50A	Pikevile	4.55	230	P		Pn	14 02 32.9	+0.5
	baz=48,SNR=37							
K55A	Perry	4.56	26	Pb		Pb	14 02 42.8	-0.5
	baz=208							
K49A	Clarkson	4.57	335	P		Pn	14 02 34.7	+2.0
	baz=154							
HODGE	Hodges	4.58	195	ePn		Pn	14 02 32.5	-0.4
X53A	Estanollee	4.62	206	P		Pn	14 02 34.1	+0.8
	baz=25,SNR=16							
MMNY	Mt. Morris Dam	4.62	28	ePn		Pn	14 02 33.9	+0.6
LUPA	Lehigh Univers	4.62	64	ePn		Pn	14 02 33.5	+0.1
Y57A	Sumter	4.66	176	Pb		Pb	14 02 45.1	+0.2
	baz=356							
X60A	Albert Glenn T	4.68	150	P		Pn	14 02 35.6	+1.4
	baz=331							
T48A	Bowling Green	4.68	252	Pb		Pb	14 02 45.3	-0.2
	baz=69							
L47A	Sherwood	4.71	316	Pb		Pb	14 02 45.6	-0.2
	baz=134							
W51A	Cleveland	4.72	223	P		Pn	14 02 34.8	+0.1
	baz=41,SNR=33							
X52A	Dahlonega	4.76	212	P		Pn	14 02 35.6	+0.3
	baz=30,SNR=24							
Y55A	Saluda	4.80	190	P		Pn	14 02 35.3	-0.5
	baz=9.7,SNR=11							
KSPA	Keystone Colle	4.82	52	ePn		Pn	14 02 36.5	+0.4
Y56A	Pelion	4.88	185	P		Pn	14 02 36.8	-0.2
	baz=4.3							
S47A	Hartford	4.90	259	P		Pn	14 02 38.5	+1.2
	baz=76,SNR=12							
V49A	McMinnville	4.99	236	P		Pn	14 02 38.8	+0.3
	baz=53,SNR=28							
W50A	Signal Mountai	5.00	228	ePn		Pn	14 02 38.4	-0.3
W50A	Signal Mountai	5.00	228	P		Pn	14 02 38.6	0.0
	baz=45,SNR=25							
J49A	Marlette	5.00	340	P		Pn	14 02 40.0	+1.4
	baz=159							
Y54A	Tignall	5.03	198	P		Pn	14 02 38.6	-0.4
	baz=17,SNR=20							
U48A	Cassie Pea, Po	5.04	246	P		Pn	14 02 40.3	+1.3
	baz=63							
BINY	Binghamton	5.10	45	ePn		Pn	14 02 40.5	+0.6
BINY	Binghamton	5.10	45	P		Pn	14 02 41.2	+1.3
	baz=228							
I51A	Listowel	5.13	358	P		Pn	14 02 40.2	-0.1
	baz=178,SNR=7.3							
SFIN	Lafayette	5.15	291	ePn		Pn	14 02 41.0	+0.3
SFIN	Lafayette	5.15	291	P		Pn	14 02 40.4	-0.2
	baz=108							
BRNJ	Basking Ridge	5.22	65	ePn		Pn	14 02 42.5	+0.9
X51A	Calhoun	5.23	220	ePn		Pn	14 02 41.4	-0.4
X51A	Calhoun	5.23	220	P		Pn	14 02 42.2	+0.5
	baz=37							
T47A	Sharon Grove	5.26	253	ePn		Pn	14 02 42.4	+0.2
T47A	Sharon Grove	5.26	253	P		Pn	14 02 43.0	+0.8
	baz=70							
R46A	Gibson Southern	5.28	267	P		Pn	14 02 42.0	-0.4
	baz=83							
Y53A	Monroe	5.30	206	P		Pn	14 02 43.1	+0.3
	baz=24,SNR=11							
ODNJ	Ogdensburg	5.35	61	ePn		Pn	14 02 43.3	0.0
Z56A	Williston	5.35	185	P		Pn	14 02 43.5	0.0
	baz=4.5							
SWET	Sewanee	5.36	232	ePn		Pn	14 02 43.8	+0.2
BASO	Ashfield	5.38	353	Pb		Pb	14 02 57.7	+0.4
	baz=173							
USIN	University of	5.44	265	ePn		Pn	14 02 45.0	+0.4
P45A	Graceland, Par	5.46	281	ePn		Pn	14 02 45.5	+0.5
P45A	Graceland, Par	5.46	281	P		Pn	14 02 45.1	+0.2
	baz=97							
Y52A	Lilburn	5.47	210	ePn		Pn	14 02 45.2	+0.2
Y52A	Lilburn	5.47	210	P		Pn	14 02 45.1	0.0
	baz=28,SNR=6.0							
I49A	Point Hope	5.48	345	Pb		Pb	14 02 59.2	+0.2
	baz=164							
S46A	Don Dixon Farm	5.53	262	P		Pn	14 02 46.8	+0.9
	baz=78							
NHSC	New Hope	5.58	175	ePn		Pn	14 02 46.4	-0.1
O45A	Potomac	5.58	289	P		Pn	14 02 47.2	+0.7
	baz=105							
U47A	Clarksville	5.61	249	P		Pn	14 02 47.5	+0.6
	baz=65,SNR=6.4							
V48A	Smith Brothers	5.62	240	ePn		Pn	14 02 47.1	+0.1
V48A	Smith Brothers	5.62	240	P		Pn	14 02 47.6	+0.5
	baz=57,SNR=8.1							
W49A	Belvidere	5.63	233	P		Pn	14 02 47.2	0.0
	baz=49,SNR=38							
Z54A	Sparta	5.67	198	P		Pn	14 02 47.5	-0.3
	baz=16							
GOGA	Godfrey	5.67	203	ePn		Pn	14 02 47.6	-0.1
GOGA	Godfrey	5.67	203	P		Pn	14 02 47.7	-0.1
	baz=21,SNR=26							
OLIL	Olney	5.70	273	ePn		Pn	14 02 48.8	+0.6
X50B	Fort Payne	5.73	224	P		Pn	14 02 48.6	-0.1
	baz=41,SNR=7.8							
RGRS	Roger Stewart	5.77	175	ePn		Pn	14 02 48.3	-0.9
PAL	Palisades	5.80	64	ePn		Pn	14 02 50.0	+0.4
Z53A	Monticello	5.83	203	P		Pn	14 02 49.9	0.0
	baz=22,SNR=14							
Y51A	Rockmart	5.87	217	P		Pn	14 02 50.6	0.0
	baz=34							
I55A	Frankford	6.02	22	P		Pn	14 02 52.9	+0.3
	baz=204							
W48A	Pulaski	6.04	236	P		Pn	14 02 52.8	-0.1
	baz=52,SNR=19							
X49A	Woodville	6.07	229	P		Pn	14 02 53.1	-0.3
	baz=45,SNR=9.2							
O44A	Mansfield	6.11	286	P		Pn	14 02 54.4	+0.6
	baz=102							
P44A	Sand Creek, Wi	6.13	280	P		Pn	14 02 54.9	+0.8
	baz=95							
WVT	Waverly	6.14	248	ePn		Pn	14 02 53.9	-0.3
M44A	Midewin, Midew	6.18	298	ePn		Pn	14 02 55.8	+1.0
155A	Kite	6.18	193	P		Pn	14 02 53.7	-1.2
	baz=12,SNR=16							
S45A	Carrier Mills	6.20	263	P		Pn	14 02 55.6	+0.5
	baz=79							
Z52A	Williamson	6.20	209	P		Pn	14 02 55.1	0.0
	baz=27,SNR=8.5							
Y50A	Piedmont	6.21	221	P		Pn	14 02 55.6	+0.4
	baz=38,SNR=32							
SADO	Sadowa	6.22	11	Pn		Pn	14 02 53.8	-1.5
	1.0nm,0.3s,baz=243,slow=9.5,SNR=8.7							
SADO				Pg		Pb	14 03 12.4	+0.8
	1.8nm,0.3s,baz=226,slow=7.5,SNR=8.7							
SADO				Lg		Lg	14 04 31.6	
	2.8nm,0.3s,baz=274,slow=22,SNR=10							
154A	Montrose	6.33	198	ePn		Pn	14 02 56.1	-0.7
W47A	Westpoint	6.41	240	P		Pn	14 02 58.2	+0.2
	baz=56,SNR=15							
Q44A	Meyer Farm, Va	6.42	275	ePn		Pn	14 02 59.1	+1.0
V46A	Holladay	6.50	246	P		Pn	14 02 59.5	+0.3
	baz=62							
X48A	Hartselle	6.55	232	ePn		Pn	14 02 59.5	-0.3
X48A	Hartselle	6.55	232	P		Pn	14 02 59.9	+0.1
	baz=48,SNR=6.8							
Y49A	Blount Mountai	6.60	225	ePn		Pn	14 03 00.2	-0.4
Y49A	Blount Mountai	6.60	225	P		Pn	14 03 00.3	-0.2
	baz=42,SNR=39							
SIUC	Southern Illin	6.69	264	ePn		Pn	14 03 02.4	+0.6
S44A	Carbondale	6.72	264	P		Pn	14 03 02.4	+0.1
	baz=79							
O43A	Sugar Creek Fa	6.77	286	P		Pn	14 03 03.4	+0.5
	baz=101							
GLMI	Grayling	6.78	336	ePn		Pn	14 03 03.2	+0.2
TRY	Troy	6.78	51	ePn		Pn	14 03 04.3	+1.3
152A	Waverly Hall	6.78	209	ePn		Pn	14 03 02.7	-0.3
152A	Waverly Hall	6.78	209	P		Pn	14 03 03.2	+0.1
	baz=27							
Z50A	Ashland	6.81	219	ePn		Pn	14 03 03.0	-0.4
Z50A	Ashland	6.81	219	P		Pn	14 03 03.3	-0.1
	baz=36,SNR=9.0							
HDIL	Hopedale	6.81	289	ePn		Pn	14 03 03.8	+0.3
HDIL	Hopedale	6.81	289	P		Pn	14 03 03.8	+0.3
	baz=104,SNR=5.9							
P43A	Skaggs, Pawnee	6.84	281	P		Pn	14 03 04.2	+0.4
	baz=96							
255A	Hazlehurst	6.87	192	ePn		Pn	14 03 03.6	-0.6
255A	Hazlehurst	6.87	192	P		Pn	14 03 03.8	-0.4
	baz=11,SNR=14							
PLAL	Pickwick Lake	6.89	240	ePn		Pn	14 03 04.4	-0.2
PLVO	Plevna	6.95	22	ePn		Pn	14 03 04.7	-0.6
K43A	Burlington	6.99	308	ePn		Pn	14 03 06.6	+0.7
Y48A	Jasper	6.99	229	P		Pn	14 03 05.4	-0.5
	baz=45,SNR=18							
W46A	Michie	7.01	242	P		Pn	14 03 06.1	-0.1
	baz=58							
X47A	Russelville	7.02	236	P		Pn	14 03 05.7	-0.6
	baz=52,SNR=28							
253A	Americus	7.13	203	ePn		Pn	14 03 07.7	-0.1
253A	Americus	7.13	203	P		Pn	14 03 07.8	-0.1
	baz=21							
F49A	Sandfield	7.15	353	P		Pn	14 03 08.2	+0.2
	baz=172,SNR=8.9							
151A	Opelika	7.15	212	P		Pn	14 03 08.5	+0.4
	baz=30							
ACCN	Adirondack Com	7.16	47	ePn		Pn	14 03 07.7	-0.6
NCB	Newcomb	7.25	41	ePn		Pn	14 03 10.2	+0.7
QUA2	Belchertown	7.38	58	ePn		Pn	14 03 10.6	-0.7
PVMO	Portageville	7.41	255	ePn		Pn	14 03 12.7	+1.0
P42A	Winchester	7.47	280	ePn		Pn	14 03 11.1	-1.3
L42A	Oliver, Polo	7.54	299	ePn		Pn	14 03 13.8	+0.4
LRAL	Lakeview Retre	7.54	224	ePn		Pn	14 03 12.3	-1.2
LRAL	Lakeview Retre	7.54	224	P		Pn	14 03 12.7	-0.8
	baz=40,SNR=8.4							
LONY	Lake Ozonia	7.55	36	ePn		Pn	14 03 13.4	-0.2
	baz=220							
LONY	Lake Ozonia	7.55	36	P		Pn	14 03 13.6	0.0
	baz=220							
251A	Midway	7.56	211	P		Pn	14 03 13.7	0.0
	baz=28,SNR=13							
TIGA	Tifton	7.57	198	ePn		Pn	14 03 13.1	-0.7
FVM	French Village	7.59	268	ePn		Pn	14 03 15.6	+1.4
149A	Jones	7.77	221	P		Pn	14 03 16.5	-0.2
	baz=37,SNR=8.9							
E52A	Mattawa	7.77	11	P		Pn	14 03 15.5	-1.1
	baz=193							
BRYW	Bryant College	7.79	62	ePn		Pn	14 03 16.6	-0.3
353A	Camilla	7.82	202	P		Pn	14 03 17.1	-0.2
	baz=20							
N41A	Harden Midland	8.01	288	ePn		Pn	14 03 20.4	+0.5
I42A	Draeger Farm,	8.02	313	ePn		Pn	14 03 19.4	-0.7
E53A	Dumoine, Ponti	8.04	16	P		Pn	14 03 19.9	-0.4
	baz=198							
OXF	Oxford	8.06	242	ePn		Pn	14 03 19.6	-1.1
WES	Weston	8.12	60	ePn		Pn	14 03 20.6	-0.8
148A	Greensboro	8.15	224	P		Pn	14 03 20.6	-1.2
	baz=40							
HNH	Hanover	8.16	49	ePn		Pn	14 03 21.9	-0.1
FRNY	Flat Rock	8.19	39	ePn		Pn	14 03 22.0	-0.3
E54A	Lac Daplat, Po	8.21	18	P		Pn	14 03 21.7	-0.8
	baz=200							
CCM	Cathedral Cave	8.22	269	ePn		Pn	14 03 23.0	+0.2
CCM	Cathedral Cave	8.22	269	P		Pn	14 03 23.0	+0.2
	baz=83							
454A	Quitman	8.27	197	P		Pn	14 03 24.1	+0.6
	baz=15,SNR=17							
453A	Whigham	8.31	201	ePn		Pn	14 03 22.1	-2.0
JFWS	Jewell Farm	8.32	304	ePn		Pn	14 03 24.3	+0.2
G43A	Wallace	8.34	324	ePn		Pn	14 03 23.2	-1.2
G43A	Wallace	8.34	324	P		Pn	14 03 24.1	-0.3
	baz=140							
249A	Camden	8.44	220	P		Pn	14 03 26.3	+0.5
	baz=36							
D52A	ZEK Kipawa Sen	8.49	11	P		Pn	14 03 26.3	-0.2
	baz=193							
147A	Livingston	8.52	228	ePn		Pn	14 03 25.9	-1.0
147A	Livingston	8.52	228	P		Pn	14 03 26.5	-0.5
	baz=43							
D47A	Chapleau	8.55	349	P		Pn	14 03 26.6	-0.7
	baz=168,SNR=7.7							
N40A	Mertquake, Sal	8.59	288	P		Pn	14 03 28.0	+0.2
	baz=102							
L40A	Anamosa	8.64	296	ePn		Pn	14 03 28.6	0.0
G42A	Mountain	8.68	322	ePn		Pn	14 03 27.0	-2.0
LBNH	Lisbon	8.68	47	ePn		Pn	14 03 27.9	-1.2
S41A	Jillco Farms,	8.69	266	P		Pn	14 03 29.7	+0.5
	baz=80							
555A	McAlpin	8.71	192	ePn		Pn	14 03 28.3	-1.2
E44A	Grand Marais A	8.79	336	ePn		Pn	14 03 31.3	+0.7
TRQ	Mont Tremblant	8.85	29	ePn		Pn	14 03 30.8	-0.6
E43A	Lone Tree Farm	8.95	331	ePn		Pn	14 03 31.4	-1.4
MOQ	Mont Orford	9.20	41	ePn		Pn	14 03 35.4	-0.8
658A	Bunnell	9.23	182	ePn		Pn	14 03 36.0	-0.7
F41A	Three Lakes	9.36	322	ePn		Pn	14 03 37.9	-0.5
COWI	Conover	9.64	323	ePn		Pn	14 03 41.0	-1.3
VLDQ	Val d'Or	9.75	13	ePn		Pn	14 03 43.3	-0.4
WHAR	Wooly Hollow	9.78	253	ePn		Pn	14 03 44.4	+0.2
W41B	Gary Mavity, V	9.80	253	ePn		Pn	14 03 44.8	+0.4
X40A	Basin Creek Fa	10.53	250	ePn		Pn	14 03 54.9	+0.4
HHAR	Hobbs	10.70	261	ePn		Pn	14 03 55.7	-1.1
W39A	Magazine	10.95	256	ePn		Pn	14 03 58.8	-1.4
MIAR	Mount Ida	11.05	252	ePn		Pn	14 04 00.2	-1.4
WLAR	White Oak Lake	11.11	247	ePn		Pn	14 04 02.5	0.0
E38A	The Farm, Brul	11.19	319	ePn		Pn	14 04 02.5	-1.0
X37A	Clayton	12.38	255	ePn		Pn	14 04 19.7	-0.2
ECSD	EROS Data Cent	12.93	298	ePn		Pn	14 04 27.4	+0.2
WMOK	Wichita Mounta	14.94	260	ePn		Pn	14 04 55.1	+0.3
ULM	Lac du Bonnet	15.77	322	Pn		Pn	14 05 05.8	+0.3
	0.1nm,0.3s,baz=134,slow=15,SNR=3.5							
ULM				Sn		Sn	14 07 59.7	-0.9
	0.2nm,0.3s,baz=178,slow=6.8,SNR=3.0							
ULM				Lg		Lg	14 09 36.0	
	0.2nm,0.3s,baz=234,slow=1.7,SNR=7.0							
SCHQ	Schefferville	18.73	26	Lg		Lg	14 10 53.3	
	0.1nm,0.3s,baz=261,slow=19,SNR=2.4							
ANMO	Albuquerque	20.85	268	Lg		Lg	14 12 26.3	
	1.8nm,0.8s,baz=229,slow=4.6,SNR=6.5							
TXAR	Lajitas Array	21.07	251	P		P	14 06 09.3	+1.2
	0.6nm,0.6s,baz=66,slow=11,SNR=11							
TXAR				Lg		Lg	14 12 45.7	
	0.7nm,1.0s,baz=45,slow=31,SNR=4.4							
PDAR	Pinedale Array	22.12	290	P		P	14 06 23.2	+3.8
	0.2nm,0.5s,baz=91,slow=14,SNR=2.4							

IDC ***31*** *14:16:36.1±3.6, 1°.55N×95°.39E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.4/45, mbtmp3.6/6, Error ellipse: s-maj=152.3km s-min=21.3km az=57.0*

ISCJB ***31*** *14:16:39.2±0.9, 1°.54N±0°.05×95°.34E±0°.06, h33km, mb3.6/6, Error ellipse: s-maj=9.1km s-min=7.1km az=154.0*

DJA ***31*** *14:16:42.1±1.3, 2°.1N±4°×9°.5E±°, h27km±16km, M3.7/6, mb4.1/1, MLv3.5/6*

**ISC 31

0.9nm,0.3s,baz=267,slow=18,SNR=3.0
GENI Genyem 7.51 293 P Pn 14 29 37.1 -0.2
COEN Coen 9.23 205 *eP*n **Pn 14 30 01.1 +1.5**
HNR Honiara 13.30 108 *eP* Pn 14 30 44.0 -7.6
HNR Honiara 13.30 108 *eP*n **Pn 14 30 51.0 -0.6**
HNR Honiara 13.30 108 P Pn 14 30 51.5 -0.1
22nm,0.3s,baz=249,slow=0.9,SNR=8.5
CTA Charters Tower 14.50 183 P P 14 31 08.0 +0.5
2.6nm,0.3s,baz=14,slow=12,SNR=40
CTAO Charters Tower 14.50 183 *eP*n **P 14 31 07.9 +0.4**
SIJI Sorong 16.48 286 P P 14 31 29.6 +0.2
0.3nm,0.3s,baz=23,slow=18,SNR=2.6
MTN Manton Dam 17.36 244 *eP* **P 14 31 39.7 +0.6**
36nm,0.6s
WRAB Tennant Creek 18.95 220 *eP* **P 14 31 56.9 +0.6**
121nm,1.0s
WB2 Warramunga Arr 18.95 220 *eP* **P 14 31 56.9 +0.5**
WRA Warramunga Arr 18.96 220 P P 14 31 57.2 +0.7
12nm,0.3s,baz=48,slow=12,SNR=412
WRA S **S 14 35 20.4 -0.7**
baz=39,slow=20,SNR=9.7
EIDS Eidsvold 20.09 169 *eP* **P 14 32 09.4 +0.8**
17nm,0.6s
AS01 Alice Springs 22.04 214 *eP* **P 14 32 29.2 +0.4**
AS31 Alice Springs 22.07 214 *eP* **P 14 32 29.2 +0.2**
26nm,0.5s
ASAR Alice Springs 22.07 214 P P 14 32 29.9 +0.8
56nm,0.9s,baz=53,slow=8.3,SNR=647
ASAR S **S 14 36 17.6 +0.1**
2.0nm,0.7s,baz=30,slow=24,SNR=5.4
SOEI Soe 23.02 258 P P 14 32 42.9 +5.0
BATI Baumata 23.68 257 P P 14 32 44.3 +0.5
23nm,0.7s,baz=187,slow=4.6,SNR=8.4
FITZ Fitzroy Crossi 24.41 237 *eP* **P 14 32 50.4 0.0**
56nm,0.6s
FITZ S **S 14 36 56.0 +0.8**
FITZ Fitzroy Crossi 24.41 237 P P 14 32 50.9 +0.6
55nm,0.5s,baz=53,slow=9.0,SNR=175
FITZ S **S 14 36 56.0 +0.8**
3.0nm,0.9s,baz=86,slow=15,SNR=1.9
DZM Mont Dzumac 24.90 133 P P 14 32 54.9 0.0
6.9nm,0.7s,baz=335,slow=19,SNR=8.6
ARMA Armidale 25.12 171 *eP* **P 14 32 57.9 +1.1**
22nm,0.8s
STKA Stephens Creek 26.72 190 *eP* **P 14 33 10.9 0.0**
3.7nm,0.8s
STKA Stephens Creek 26.72 190 P P 14 33 11.2 +0.3
4.0nm,0.6s,baz=5.6,slow=8.1,SNR=14
STKA LR LR 14 43 46.1
comp=Z,84nm,18.8s,baz=28,slow=36
FORT Forrest 30.85 213 *eP* **P 14 33 47.9 +0.3**
35nm,0.7s
NWAO Narrogin (SRO) 38.95 222 P P 14 34 56.9 0.0
7.2nm,0.9s,baz=61,slow=10,SNR=3.4
URZ Urewera 42.47 144 P P 14 35 25.7 +0.2
4.1nm,0.7s,baz=261,slow=6.2,SNR=5.7
MJAR Matsushiro Arr 42.67 349 P P 14 35 26.0 -1.1
3.0nm,0.9s,baz=183,slow=9.3,SNR=6.1
MAT Matsushiro 42.67 349 P P 14 35 26.3 -0.8
NJ2 Nanjing 46.05 326 *eP* **P 14 35 53.5 -0.4**
NJ2 *p*max pmax
comp=Z,7.0nm,0.5s
KSRS Korea Array 46.35 339 P P 14 35 56.1 0.0
2.9nm,0.7s,baz=154,slow=8.6,SNR=13
KSAR Wonju Array Be 46.36 339 P P 14 35 56.1 0.0
KS01 Wonju Array Si 46.38 339 *eP* **P 14 35 56.2 -0.2**
USRK Ussuriysk Ar. 51.34 346 P P 14 36 33.5 -0.5
2.9nm,0.8s,baz=185,slow=6.6,SNR=5.3
CMAR Chiang Mai Arr 53.13 298 P P 14 36 47.3 -0.2
0.2nm,0.4s,baz=119,slow=7.4,SNR=2.8
CMAR *p*P **pP 14 37 31.3 -1.2**
0.8nm,0.5s,baz=123,slow=5.8,SNR=4.1
XAN Xi'an 53.39 320 P P 14 36 49.3 0.0
XAN *p*max pmax
comp=Z,6.0nm,1.1s
KLR Kul'dur 56.16 348 P P 14 37 09.1 +0.3
1.3nm,0.6s,baz=193,slow=9.5,SNR=7.0
HHC Hu-ho-hao-te 56.49 328 *eP* **P 14 37 13.5 +2.0**
HHC *p*max pmax
comp=Z,10.0nm,1.0s
HHC *p*max pmax
comp=Z,68nm,6.2s
LZH Lanzhou 57.93 319 *eP* **P 14 37 23.5 +1.8**
LZH *p*max pmax
comp=Z,21nm,1.0s
PETK Petropavlovsk- 59.10 7 P P 14 37 29.4 +0.2
4.5nm,0.5s,baz=174,slow=8.9,SNR=15
GTA Gaotai 62.45 320 *eP* **P 14 37 53.5 +1.2**
GTA *p*P pP 14 38 39.5 +0.9
GTA *s*P sP 14 39 03.8 +3.4
GTA *p*max pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 63.75 331 *eP* **P 14 38 00.4 -0.2**
3.7nm,0.9s
SONM Songino Array 64.05 331 P P 14 38 02.8 +0.2
2.1nm,0.8s,baz=146,slow=6.9,SNR=16
SONM *p*P **pP 14 38 49.4 +0.3**
0.5nm,0.7s,baz=139,slow=6.8,SNR=1.5
MA2 Magadan 64.97 2 P P 14 38 08.5 +0.4
7.8nm,0.8s,baz=166,slow=6.3,SNR=20
SEY Seymchan 68.39 3 P P 14 38 29.9 +0.3
baz=174,slow=8.7
VNDA Vanda 72.37 177 P P 14 38 54.0 +0.5
0.6nm,0.5s,baz=313,slow=6.4,SNR=2.8
VNDA *p*P **pP 14 39 42.0 -0.4**
1.5nm,0.7s,baz=325,slow=4.2,SNR=3.5
WMQ Urumqi 72.51 319 *eP* **P 14 38 56.0 +0.9**
BILL Bilibino 74.63 7 *eP* **P 14 39 06.7 -0.1**
6.6nm,0.9s
MK01 Makanchi Array 77.19 320 *eP* **P 14 39 21.0 -0.8**
MK01 *ep*P **pwP 14 40 12.4 +2.2**
MK31 Makanchi Array 77.21 320 *eP* **P 14 39 21.4 -0.5**
MK31 *ep*P **pwP 14 40 13.0 +2.6**
MKAR Makanchi Array 77.21 320 P P 14 39 21.7 -0.2
1.9nm,0.8s,baz=100,slow=6.6,SNR=14
MKAR *p*P **pP 14 40 09.8 -0.6**
1.8nm,0.8s,baz=110,slow=7.1,SNR=7.7
MAKZ Makanchi 77.41 320 *eP* **P 14 39 21.8 -1.3**
MAKZ *ep*P **pwP 14 40 13.6 +2.0**
TIXI Tiksi 77.96 354 *eP* **P 14 39 23.9 -1.5**
3.1nm,0.8s
ANM Nome 78.23 19 *eP* **P 14 39 25.5 -1.6**
6.0nm,1.2s
ZALV Zalesovo Beam 78.67 328 *eP* **P 14 39 27.9 -1.8**
ZALV *p*P **pP 14 40 16.9 -1.6**
ZALV Zalesovo Beam 78.67 328 P P 14 39 28.6 -1.1
2.0nm,0.7s,baz=111,slow=6.8,SNR=9.6
ZALV *p*P **pP 14 40 16.9 -1.6**
1.1nm,0.6s,baz=116,slow=6.6,SNR=2.8
AAK Ala-Archa 81.09 315 *eP* **P 14 39 43.1 -0.2**
5.0nm,1.3s
AAK *ep*P **pP 14 40 33.9 +1.9**
RDOG Red Dog Mine 81.26 17 *eP* **P 14 39 43.8 +0.4**
14nm,1.2s
IM3 Indian Mountai 83.01 21 *eP* **P 14 39 52.3 -0.2**
BPAW Bear Paw Mtn. 83.11 23 *eP* **P 14 39 52.4 -0.7**
14nm,1.7s
SML Sawmill 83.17 26 *eP* **P 14 39 53.3 -0.2**
28nm,1.4s
RND Reindeer 83.65 24 *eP* **P 14 39 54.8 -1.1**
6.3nm,0.9s
KLU Klutina 84.10 26 *eP* **P 14 39 58.6 +0.4**
15nm,1.3s
DHY Denali Highway 84.11 25 *eP* **P 14 39 57.3 -1.0**
3.6nm,0.8s
WRH Wood River Hil 84.41 23 *eP* **P 14 39 57.9 -1.6**
7.4nm,1.1s
COLA College 84.68 23 *eP* **P 14 39 58.2 -2.6**
6.5nm,0.8s
IL1 Eielson Array 85.01 23 *eP* **P 14 40 00.7 -1.9**
ILAR Eielson Array 85.01 23 P P 14 40 01.1 -1.4
3.7nm,0.7s,baz=252,slow=4.9,SNR=63
ILAR *p*P **pP 14 40 52.0 +0.2**
1.1nm,0.8s,baz=282,slow=3.7,SNR=4.1
ILB Eielson Array 85.01 23 *eP* **P 14 40 01.0 -1.6**
6.6nm,0.9s
RIDG Independ'e Rid 85.42 24 *eP* **P 14 40 04.3 -0.5**
17nm,1.4s
DOT Dot Lake 85.71 25 *eP* **P 14 40 06.0 -0.1**
6.0nm,1.0s
EGAK Eagle 87.29 24 *eP* **P 14 40 13.0 -0.7**
5.3nm,1.0s
HYT Haines Junctio 87.73 28 *eP* **P 14 40 13.6 -2.4**
15nm,1.3s
EPYK Eagle Plains 89.52 23 *eP* **P 14 40 23.7 -0.5**
6.4nm,0.9s
INK Inuvik 91.18 21 *eP* **P 14 40 30.7 -1.1**
5.4nm,1.3s
INK Inuvik 91.18 21 P P 14 40 31.2 -0.5
1.8nm,0.9s,baz=264,slow=4.6,SNR=7.7
YBH Yreka Blue Hor 93.77 49 *eP* **P 14 40 45.3 +0.8**
6.9nm,1.1s
YBH Yreka Blue Hor 93.77 49 P P 14 40 45.3 +0.8
4.0nm,0.9s,baz=299,slow=2.8,SNR=11
WDC Whiskeytown Da 93.82 50 *eP* **P 14 40 44.8 +0.1**
5.8nm,1.0s
ORV Oroville 94.55 51 *eP* **P 14 40 47.3 -0.7**
5.0nm,0.8s
AFDM Forest Hills D 94.93 51 *eP* **P 14 40 50.0 +0.2**
4.6nm,1.0s
BEKR Beckworth 95.45 51 *eP* **P 14 40 52.5 +0.2**
3.6nm,0.9s
NV01 Mina Array Sit 96.99 52 *eP* **P 14 40 58.6 -0.8**
NVAR Mina Array Bea 96.99 52 P P 14 41 00.2 +0.8
2.2nm,0.8s,baz=250,slow=6.3,SNR=17
KVN Kaiserville 97.17 51 *eP* **P 14 40 59.2 -0.9**
2.2nm,0.9s
E09A Wood Farm, Sta 97.24 44 *eP* Pdif 14 40 59.3 -0.8
6.8nm,0.8s
NEW Newport 97.94 42 *eP* Pdif 14 41 02.9 -0.3
4.7nm,0.8s
NEW Newport 97.94 42 P Pdif 14 41 03.6 +0.4
4.1nm,0.7s,baz=284,slow=2.2,SNR=11
YKA Yellowknife Ar 98.71 28 P Pdif 14 41 05.5 -0.7
0.4nm,0.7s,baz=274,slow=4.8,SNR=8.3
YKA *p*P pP 14 41 56.2 0.0
0.3nm,0.7s,baz=273,slow=4.9,SNR=1.9
ELK Elko 99.38 50 P Pdif 14 41 10.4 +0.4
0.3nm,0.3s,baz=324,slow=2.7,SNR=3.9
PDAR Pinedale Array 103.52 47 Pdiff **Pdif 14 41 28.6 +0.1**
1.1nm,0.8s,baz=190,slow=0.9,SNR=3.8
VYHS Vyhne 118.79 323 *ePKP* **PKiKP 14 46 17.1 +2.6**
GERES GERESS Array B 121.58 326 PKP **PKPdf 14 46 19.2 -0.8**
1.0nm,0.5s,baz=98,slow=2.0,SNR=14
PLCA Paso Flores 122.45 147 PKP **PKiKP 14 46 21.6 -0.5**
0.8nm,0.5s,baz=265,slow=1.0,SNR=7.5
TKL Tuckaleechee C 124.54 50 PKP **PKPdf 14 46 25.1 -0.8**
1.3nm,0.7s,baz=301,slow=5.9,SNR=4.0
LPAZ La Paz 138.95 122 PKP **PKPdf 14 46 54.6 +0.3**
0.7nm,0.4s,baz=248,slow=2.2,SNR=4.8
TORD Torodi Ar. Bea 145.08 285 PKPbc **PKPdf 14 47 02.7 -1.8**
1.8nm,0.5s,baz=57,slow=3.8,SNR=27
TORD pPKPbc pPKPbc 14 47 56.9 +1.1
3.3nm,0.7s,baz=68,slow=3.7,SNR=7.2
DBIC Dimbokro 152.10 274 PKPbc **PKPbc 14 47 22.2 -0.4**
3.6nm,0.9s,baz=185,slow=1.9,SNR=3.3
DBIC *pp*KPbc **pPKPbc 14 48 15.6 +0.9**
1.4nm,0.6s,baz=119,slow=4.6,SNR=2.0
BDFB Brasilia 154.18 145 PKPbc **PKiKP 14 47 27.2 -0.2**
2.2nm,0.8s,baz=109,slow=3.6,SNR=3.4

*IDC **31** 15:14:04.6±1.6, 1.°93S×133.°44E, h0km, mb3.6/3, mb1 3.7/6, mb1mx3.4/37, mbtmp3.6/6, ML3.5/3, MS2.7/3, Ms1 2.7/3, ms1mx2.5/30, Error ellipse: s-maj=44.1km s-min=20.7km az=68.0*
*ISCJB **31** 15:14:06.5±0.5, 1.°88S±0.°05×133.°54E±0.°04, h26km, mb3.6/3, MS3.0/1, Error ellipse: s-maj=8.0km s-min=5.0km az=155.9*
*DJA **31** 15:14:06.0±0.3,2°S±3°×13°4E±°, h10km, M3.9/6, mb4.0/2, MLv3.9/6*
ISC 31 15:14:06.9±0.8, 1.°89S±0.°07×133.°63E±0.°05, h26km, n13, σ1°13/16, mb3.6/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.67**	**56**	P	**Pb**	**15 14 19.7**	**-0.3**
RKPI				S	**Sn**	**15 14 30.8**	**+0.5**
FAKI	**Fak Fak**	**1.72**	**233**	P	**Pn**	**15 14 34.7**	**-0.5**
FAKI				S	**Sn**	**15 14 56.9**	**+0.6**
SIJI	**Sorong**	**2.57**	**293**	Pn	**Pn**	**15 14 45.6**	**-1.2**
	5.5nm,0.3s,baz=116,slow=11,SNR=23						
SIJI				Sn	**Sn**	**15 15 16.9**	**-0.4**
	6.8nm,0.3s,baz=138,slow=23,SNR=6.2						
SIJI				LR	LR	15 15 22.2	
	comp=Z,68nm,21.9s,baz=144,slow=32						
SWI	**Sorong**	**2.58**	**293**	P	**Pn**	**15 14 46.2**	**-0.8**
SRPI	**Serui, Papua**	**2.61**	**90**	S	**Sb**	**15 15 23.9**	**-0.9**
BNDI	**Bandanaira**	**4.54**	**235**	P	**Pn**	**15 15 14.0**	**-0.1**
BNDI				S	**Sn**	**15 16 06.3**	**+0.2**
JAY	**Jayapura**	**7.10**	**95**	LR	LR	15 19 26.8	
	comp=Z,82nm,19.3s,baz=6.0,slow=44						
FITZ	**Fitzroy Crossi**	**17.92**	**205**	P	**Pn**	**15 18 13.8**	**-0.6**
	0.2nm,0.3s,baz=33,slow=11,SNR=4.7						
FITZ				S	Sn	15 21 21.7	-12
	0.1nm,0.3s,baz=60,slow=15,SNR=4.5						
WRA	**Warramunga Arr**	**17.96**	**178**	P	**Pn**	**15 18 15.3**	**+0.4**
	0.1nm,0.3s,baz=356,slow=12,SNR=6.8						
WRA				S	Sn	15 21 24.9	-10
	0.1nm,0.3s,baz=356,slow=24,SNR=4.1						
ASAR	**Alice Springs**	**21.65**	**179**	P	**P**	**15 18 56.8**	**+1.1**
	1.6nm,0.6s,baz=5.4,slow=12,SNR=21						
ASAR				S	**S**	**15 22 51.7**	**-2.6**
	0.3nm,0.7s,baz=358,slow=26,SNR=3.6						
ASAJ	**Asahikawa**	**46.50**	**9**	LR	LR	15 41 06.4	
	comp=Z,15nm,18.0s,baz=101,slow=35						
MKAR	**Makanchi Array**	**66.09**	**324**	P	**P**	**15 24 52.6**	**+0.7**
	0.4nm,0.8s,baz=124,slow=7.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**68.73**	**331**	P	**P**	**15 25 10.2**	**+1.8**
	0.3nm,0.4s,baz=106,slow=5.1,SNR=2.6						

IDC 31 15:34:39.5±1.4, 0.°16S×126.°02E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/42, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=51.8km s-min=24.0km az=58.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.29**	**98**	Pn	Pn	15 36 00.6	+0.8
	2.6nm,0.3s,baz=334,slow=23,SNR=12						
WRA	**Warramunga Arr**	**21.28**	**158**	P	P	15 39 27.2	-0.5
	0.5nm,0.3s,baz=338,slow=11,SNR=17						
ASAR	**Alice Springs**	**24.59**	**162**	P	P	15 40 01.7	+0.1
	0.8nm,0.3s,baz=346,slow=12,SNR=64						
MKAR	**Makanchi Array**	**60.37**	**327**	P	P	15 44 50.4	-0.1
	0.4nm,0.4s,baz=124,slow=7.7,SNR=8.8						

*ISK **31** 15:51:37.9, 38.°65N×36.°62E, h6km, ML1.9/6*
*ISCJB **31** 15:51:38.6±0.5, 38.°64N±0.°04×36.°61E±0.°04, h7km, Error ellipse: s-maj=6.4km s-min=4.6km az=22.9*
*DDA **31** 15:51:38.3, 38.°62N×36.°61E, h7km±5km, ML2.5*
ISC 31 15:51:39.0±1.0, 38.°65N±0.°03×36.°60E±0.°03, h7km, n14, σ1°04/16, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELBS	**KAHRAMANMARAS**	**0.53**	**128**	*i* P	**Pg**	**15 51 48.2**	**-1.1**
CUGUR	**Gurin_SVAS**	**0.53**	**82**	*i* P	**Pg**	**15 51 49.5**	**+0.1**
BNN	**Bunyan**	**0.62**	**289**	PG	**Pg**	**15 51 50.6**	**-0.4**
BNN				SG	**Sg**	**15 51 59.9**	**+0.8**
CUALT	**Altinyayla-SIV**	**0.63**	**11**	*i* P	**Pg**	**15 51 51.3**	**0.0**
DARE	**Darende-Malaty**	**0.70**	**96**	PG	**Pg**	**15 51 51.6**	**-0.9**
DARE				SG	**Sg**	**15 52 01.6**	**0.0**
SAIM	**ADANA**	**0.79**	**211**	*i* P	**Pg**	**15 51 52.6**	**-1.5**
SAIM				IAML_P			
	comp=Z,299nm,0.1s						
CUSAR	**Sarkisla-SIVAS**	**0.81**	**340**	*i* P	**Pb**	**15 51 55.6**	**0.0**
ANDN	**Andirin**	**1.09**	**191**	*i* P	**Pn**	**15 52 03.7**	**+2.9**
KMRS	**Kahramanmaras**	**1.17**	**168**	PN	**Pg**	**15 52 00.8**	**-0.6**
SVSK	**Karacayir**	**1.30**	**14**	PN	**Pn**	**15 52 03.3**	**-0.3**
KOZT	**Kozan**	**1.32**	**208**	PN	**Pn**	**15 52 03.5**	**-0.4**
HCB	**Kahramanmara**	**1.33**	**169**	*i* P	**Pg**	**15 52 04.8**	**+0.3**
HCB				IAML_P			
	comp=Z,240nm,0.1s						
YOZ	**Yozgat**	**1.40**	**315**	PN	**Pn**	**15 52 05.1**	**0.0**
KAMA	**Osmaniye**	**1.46**	**178**	*i* P	**Pb**	**15 52 06.2**	**-0.4**
KAMA				IAML_P			
	comp=Z,214nm,0.1s						

*IDC **31** 15:55:32.2±2.3, 2.°00S×133.°38E, h0km, mb3.4/2, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML3.6/3, MS3.3/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=53.6km s-min=21.8km az=62.0*
*ISCJB **31** 15:55:33.8±0.5, 1.°90S±0.°06×133.°53E±0.°04, h26km, mb3.4/2, MS3.2/3, Error ellipse: s-maj=8.3km s-min=4.9km az=160.8*
*DJA **31** 15:55:33.1±0.3,2°S±4°×13°4E±°, h10km, M4.1/8, mB4.4/1, mb4.1/2, MLv4.0/8, Mw(mB)3.5/1*
ISC 31 15:55:34.2±0.8, 1.°87S±0.°07×133.°59E±0.°04, h26km, n13, σ1°39/16, MS3.1/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.69**	**59**	P	**Pb**	**15 55 46.8**	**-0.8**
RKPI				S	**Sn**	**15 55 58.1**	**0.0**
FAKI	**Fak Fak**	**1.70**	**232**	P	**Pn**	**15 56 02.1**	**-0.1**
FAKI				S	**Sn**	**15 56 24.8**	**+1.7**
SIJI	**Sorong**	**2.52**	**293**	Pn	**Pn**	**15 56 12.8**	**-0.7**
	7.6nm,0.3s,baz=132,slow=18,SNR=27						
SIJI				Sn	**Sn**	**15 56 44.3**	**+0.8**
	12nm,0.3s,baz=149,slow=23,SNR=5.7						
SWI	**Sorong**	**2.53**	**293**	P	**Pn**	**15 56 13.3**	**-0.4**
SRPI	**Serui, Papua**	**2.65**	**90**	P	**Pn**	**15 56 17.2**	**+1.9**
SRPI				S	**Sb**	**15 56 51.1**	**-2.0**
BNDI	**Bandanaira**	**4.53**	**234**	P	**Pn**	**15 56 41.5**	**+0.4**
BNDI				S	**Sn**	**15 57 33.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.92**	**205**	P	**Pn**	**15 59 39.9**	**-1.9**
	0.2nm,0.3s,baz=21,slow=12,SNR=6.2						
FITZ				S	Sn	16 02 46.5	-14
	0.1nm,0.3s,baz=131,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**17.98**	**178**	P	**Pn**	**15 59 42.5**	**0.0**
	0.2nm,0.3s,baz=356,slow=12,SNR=14						
WRA				S	Sn	16 02 50.4	-12
	0.1nm,0.3s,baz=355,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**21.67**	**179**	P	**P**	**16 00 23.6**	**+0.5**
	1.8nm,0.8s,baz=1.1,slow=11,SNR=20						
ASAR				S	**S**	**16 04 19.8**	**-2.2**
	1.3nm,0.9s,baz=357,slow=27,SNR=5.4						
STKA	**Stephens Creek**	**30.79**	**167**	LR	LR	16 16 38.9	
	comp=Z,95nm,18.9s,baz=347,slow=41						
JNU	**Nakatsue**	**34.89**	**356**	LR	LR	16 17 45.0	
	comp=Z,27nm,18.5s,baz=189,slow=38						
KSRS	**Korea Array**	**39.47**	**353**	LR	LR	16 18 55.5	
	comp=Z,29nm,19.4s,baz=223,slow=36						
MKAR	**Makanchi Array**	**66.05**	**324**	P	**P**	**16 06 20.8**	**+1.9**
	0.2nm,0.6s,baz=110,slow=7.8,SNR=3.9						

*TIF **31** 16:09:41.2, 42.°32N×40.°98E, h27km±1km*
*NORS **31** 16:09:41.8±0.0, 42.°58N×41.°08E, h4km, MPVA4.2*
*MOS **31** 16:09:42.1±2.2, 42.°56N×40.°92E, h10km, mb3.8/2, Error ellipse: s-maj=7.1km s-min=6.4km az=156.9*
*ISK **31** 16:09:42.7, 42.°16N×40.°95E, h5km, ML3.2/10*
ISC 31 16:09:40.0±1.3, 42.°46N±0.°02×40.°97E±0.°02, h4km±10km, n74, σ1°65/109, 5C-2D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**0.96**	**30**	*ce*PG	**Pb**	**16 09 56.5**	**-2.7**
DOMR				*p*max	pmax		
	comp=Z,2μm,0.4s						
DOMR	**Dombai**	**0.96**	**30**	*e*Pg	**Pb**	**16 09 56.7**	**-2.5**
DOMR				*e*Sg	**Sb**	**16 10 08.4**	**-3.8**
BATM	**Batumi**	**1.01**	**148**	PG	**Pb**	**16 09 58.8**	**-1.3**
BATM	**Batumi**	**1.01**	**148**	P	**Pb**	**16 09 58.7**	**-1.3**
BATM				S	**Sb**	**16 10 11.6**	**-2.1**
BCA	**Borcka**	**1.13**	**154**	PG	**Pn**	**16 10 00.1**	**-2.4**
BCA				SG	**Sb**	**16 10 13.9**	**-3.1**
RPOR	**Krasnaya Polya**	**1.34**	**338**	*ce*PG	**Pg**	**16 10 06.8**	**+1.2**
RPOR	**Krasnaya Polya**	**1.34**	**338**	*e*Pg	**Pg**	**16 10 06.8**	**+1.2**
CHOM	**Cayeli-Rize**	**1.38**	**187**	PG	**Pn**	**16 10 04.2**	**-1.7**
SOC	**Sochi**	**1.45**	**321**	*e*PG	**Pb**	**16 10 07.2**	**-0.3**
SOC				*e*		16 10 26.6	
SOC				*p*max	pmax		
	comp=Z,144nm,0.4s						
SOC				*s*max	smax		
	comp=E,426nm,0.2s						
SOC				*s*max	smax		
	comp=N,504nm,0.3s						
SOC	**Sochi**	**1.45**	**321**	*e*Pg	**Pb**	**16 10 07.6**	**+0.2**
	comp=N,226nm,0.4s						
SOC				*e*Sg	**Sg**	**16 10 28.0**	**+1.5**
	comp=N,1μm,0.5s						
TKB	**Tkibuli**	**1.50**	**94**	P	**Pn**	**16 10 06.6**	**-1.1**
TKB				S	**Sn**	**16 10 26.2**	**-1.5**
NEY	**Neytrino**	**1.51**	**58**	*i* PG	**Pb**	**16 10 07.8**	**-0.7**
NEY				*p*max	pmax		
	comp=Z,333nm,0.5s						
NEY	**Neytrino**	**1.51**	**58**	*i* Pg	**Pb**	**16 10 07.9**	**-0.7**
NEY				*e*Sg	**Sb**	**16 10 27.0**	**-1.1**
	comp=Z,413nm,0.9s						
GUZR	**Guzeripl'**	**1.65**	**338**	*e*Pg	**Pb**	**16 10 11.4**	**+0.4**
	comp=Z,97nm,0.6s						
GUZR				*e*Sg	**Sg**	**16 10 33.9**	**+0.8**
	comp=Z,177nm,0.7s						
KTUT	**Trabzon**	**1.73**	**212**	PN	**Pn**	**16 10 11.2**	**+0.4**
SHA1	**Shidzhatmaz**	**1.77**	**44**	*i*PN	**Pb**	**16 10 13.1**	**-0.1**
SHA1				*e*S	**Sb**	**16 10 35.4**	**-0.4**
SHA1	**Shidzhatmaz**	**1.77**	**44**	*i* Pg	**Pb**	**16 10 13.1**	**-0.1**
SHA1				*e*Sg	**Sb**	**16 10 35.1**	**-0.8**
KIV	**Kislovodsk**	**1.95**	**39**	*i*PN	**Pb**	**16 10 16.1**	**+0.1**
KIV				*e*S	**Sg**	**16 10 41.5**	**-1.0**
KIV0	**Kislovodsk Arr**	**1.95**	**40**	*i* Pg	**Pb**	**16 10 16.1**	**0.0**
KIV0				*e*Sg	**Sb**	**16 10 40.5**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.97**	**76**	*e*PN	**Pb**	**16 10 15.7**	**-0.8**
DIGR				*p*max	pmax		
	comp=Z,125nm,0.3s						
DIGR	**Digorskoe uzhe**	**1.97**	**76**	*e*Pg	**Pb**	**16 10 15.4**	**-1.1**
	comp=Z,99nm,0.5s						
DIGR				*e*Sg	**Sb**	**16 10 39.0**	**-2.6**
	comp=Z,68nm,0.4s						
BAYT	**Aydıntepe-Bayb**	**2.16**	**197**	PN	**Pn**	**16 10 17.0**	**+0.1**
SENK	**Senkaya-Erzuru**	**2.17**	**151**	PN	**Pn**	**16 10 17.6**	**+0.6**
NCK	**Nalchik**	**2.18**	**61**	*ce*PN	**Pg**	**16 10 21.5**	**-0.3**
NCK	**Nalchik**	**2.18**	**61**	*e*Pg	**Pg**	**16 10 21.5**	**-0.3**
LABN	**Labinsk**	**2.18**	**355**	*e*Pg	**Pg**	**16 10 21.8**	**0.0**
LABN				*e*Sg	**Sg**	**16 10 49.0**	**-1.1**
ZEI	**Tsey**	**2.19**	**80**	*e*PN	**Pb**	**16 10 18.4**	**-1.8**
ZEI				*p*max	pmax		
	comp=Z,61nm,0.5s						
ZEI	**Tsey**	**2.19**	**80**	*e*Pg	**Pb**	**16 10 18.4**	**-1.8**
	comp=Z,52nm,0.5s						
ZEI				*e*Sg	**Sb**	**16 10 46.5**	**-1.2**
	comp=Z,335nm,0.6s						
PYA1	**Pyatigorsk**	**2.23**	**43**	*i* PN	**Pb**	**16 10 20.0**	**-0.8**
PYA1	**Pyatigorsk**	**2.23**	**43**	*e*Pg	**Pb**	**16 10 21.7**	**+1.0**
PYA1				*e*Sg	**Sg**	**16 10 49.8**	**-1.7**
KBTC	**Kuba-Taba**	**2.24**	**52**	*e*Pg	**Pb**	**16 10 20.5**	**-0.5**
KBTC				*e*Sg	**Sb**	**16 10 47.4**	**-1.7**
LSNR	**Lesken**	**2.25**	**68**	*ce*PN	**Pg**	**16 10 22.5**	**-0.6**
LSNR	**Lesken**	**2.25**	**68**	*e*Pg	**Pg**	**16 10 22.5**	**-0.6**
BGD	**Bogdanovka**	**2.30**	**121**	P	**Pn**	**16 10 19.3**	**+0.5**
BGD				S	**Sn**	**16 10 47.0**	**-0.7**
KORR	**Kora**	**2.36**	**74**	*e*PN	**Pg**	**16 10 24.8**	**-0.4**
KORR				*p*max	pmax		
	comp=Z,26nm,0.4s						
KORR	**Kora**	**2.36**	**74**	*e*Pg	**Pb**	**16 10 21.2**	**-1.9**
	comp=Z,29nm,0.4s						
KORR				*e*Sg	**Sb**	**16 10 51.0**	**-1.6**
KARS	**Kars**	**2.42**	**139**	PN	**Pn**	**16 10 22.4**	**+2.0**
KARS	**Kars**	**2.42**	**139**	PN	**Pn**	**16 10 22.4**	**+2.0**
LACR	**Lac**	**2.48**	**80**	*e*PN	**Pb**	**16 10 24.4**	**-0.7**
LACR				*e*S	**Sb**	**16 10 54.9**	**-1.1**
LACR	**Lac**	**2.48**	**80**	*e*Pn	**Pb**	**16 10 24.4**	**-0.7**
	comp=Z,32nm,0.4s						
LACR				*e*Sn	**Sb**	**16 10 53.9**	**-2.1**
	comp=Z,261nm,0.5s						

ANN				*e*S		**Sb**	**16 11 21.1**	**-3.3**
ANN	**Anapa**	**3.47**	**313**	*e*Pn		**Pb**	**16 10 40.5**	**-1.5**
ANN				*e*Sn		**Sb**	**16 11 21.8**	**-2.6**
GNI	**Garni**	**3.66**	**128**	PN		**Pn**	**16 10 40.5**	**+3.0**
GNI	**Garni**	**3.66**	**128**	*i* PN		**Pb**	**16 10 43.5**	**-1.8**
GNI	**Garni**	**3.66**	**128**	*e*Pn		**Pb**	**16 10 43.5**	**-1.8**
DVE	**Vedeno**	**3.83**	**81**	*e*Pn		**Pb**	**16 10 47.2**	**-0.9**
DVE				*e*Sn		**Sb**	**16 11 30.9**	**-3.9**
BTLR	**Botlikh**	**3.88**	**85**	*i* PN		**Pn**	**16 10 41.2**	**+0.7**
BTLR	**Botlikh**	**3.88**	**85**	*e*Pn		**Pn**	**16 10 41.2**	**+0.7**
LGD	**Lagodekhi**	**3.97**	**97**	P		**Pb**	**16 10 51.6**	**+1.2**
LGD				S		**Sb**	**16 11 37.8**	**-1.0**
LGD	**Lagodekhi**	**3.97**	**97**	PN		**Pb**	**16 10 51.6**	**+1.2**
LGD				S		**Sb**	**16 11 37.8**	**-1.0**
DDFL	**Dedoflistskaro**	**3.97**	**103**	P		**Pb**	**16 10 49.8**	**-0.7**
SUDU	**Sudak**	**4.96**	**301**	*e*PN		**Pn**	**16 10 57.4**	**+2.2**
SUDU				*e*S		**Sn**	**16 11 53.5**	**+0.5**
ALU	**Alushta**	**5.26**	**297**	*e*PN		**Pn**	**16 10 59.5**	**+0.2**
ALU				*e*S		**Sn**	**16 11 58.2**	**-2.2**
SEV	**Sevastopol'**	**5.71**	**294**	*e*P		**Pn**	**16 11 06.3**	**+0.9**
SEV				*e*S		**Sn**	**16 12 08.8**	**-2.5**
VYHS	**Vyhne**	**16.63**	**299**	*e*P		**P**	**16 13 37.5**	**+1.2**
VYHS	**Vyhne**	**16.63**	**299**	*e*P		**P**	**16 13 37.5**	**+1.2**
ARU	**Arti**	**17.98**	**33**	*i* P		**P**	**16 13 51.1**	**0.0**
BRVK	**Borovoye**	**22.22**	**51**	*i* P		**P**	**16 14 41.2**	**+4.0**
BRVK				pmax	pmax			
	comp=Z,4.0nm,2.0s							
AAK	**Ala-Archa**	**24.61**	**78**	*i* P		**P**	**16 15 03.8**	**+2.4**
AAK				pmax	pmax			
	comp=Z,3.0nm,1.7s							

MOS ***31*** *16:12:27.7±0.0,43˚.19N×41˚.82E,h10km±3km, MPVA2.8*
ISK ***31*** *16:12:35.2,42˚.52N×41˚.02E,h15km, ML2.7/3*
ISC 31 16:12:36.8±3.3,**42˚.4N**±0˚.2×**40˚.9E**±0˚.1,**h12**km±13km**,n6,** σ0^{0}**67/11, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BATM	**Batumi**	**1.01**	**146**	PG	**Pb**		**16 12 55.8**	**-0.4**
BATM				SG	**Sn**		**16 13 10.9**	**0.0**
BATM	**Batumi**	**1.01**	**146**	P	**Pn**		**16 12 58.1**	**+1.3**
BATM				S	**Sn**		**16 13 10.9**	**0.0**
BCA	**Borcka**	**1.12**	**152**	PN	**Pb**		**16 12 57.6**	**-0.5**
BCA				SN	**Sn**		**16 13 13.7**	**+0.1**
CHOM	**Cayeli-Rize**	**1.35**	**186**	PN	**Pn**		**16 13 01.3**	**-0.2**
CHOM				SN	**Sg**		**16 13 20.4**	**+0.2**
TKB	**Tkibuli**	**1.53**	**93**	P	**Pg**		**16 13 06.6**	**+0.5**
TKB				S	**Sg**		**16 13 25.3**	**-0.7**
SENK	**Senkaya-Erzuru**	**2.16**	**150**	PN	**Pn**		**16 13 12.3**	**-0.5**

ISCJB ***31*** *16:16:20.1±0.6,29˚.40N±0˚.06×139˚.9E±0˚.2,h450km, mb2.8/4, Error ellipse: s-maj=19.4km s-min=6.9km az=170.3*
IDC ***31*** *16:16:20.4±2.7,29˚.18N×138˚.89E,h426km±36km,mb2.6/4, mb1 2.8/5,mb1mx2.5/53,mbtmp3.4/5, Error ellipse: s-maj=73.4km s-min=18.2km az=75.0*
JMA ***31*** *16:16:21.6±0.3,29˚.49N×140˚.02E,h447km±5km, M3.4*
ISC 31 16:16:20.4±0.8,**29˚.41N**±0˚.08×**139˚.7E**±0˚.2,**h450**km**,n15,** σ1^{9}**55/17,mb2.7/4,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CBIJ	**Chichi jima**	**3.18**	**136**	P	**P**		**16 17 29.2**	**+0.4**
CBIJ				*e*S	**S**		**16 18 22.8**	**-1.5**
BSO1	**Boso 1**	**5.34**	**11**	P	**P**		**16 17 48.7**	**+1.4**
BSO1				S	**S**		**16 18 57.6**	**-0.8**
JIE	**Ise**	**5.58**	**334**	P	P		16 17 53.3	+3.0
JKN2	**Miekihoku**	**5.63**	**330**	P	P		16 17 53.5	+2.7
JEG	**Eigenji**	**6.36**	**335**	P	P		16 18 01.5	+3.2
JHU	**Hanno**	**6.43**	**357**	P	**P**		**16 18 00.0**	**+1.0**
JHU				*e*S	**S**		**16 19 18.0**	**-1.7**
JRY	**Ryogami san**	**6.62**	**354**	P	**P**		**16 18 02.8**	**+1.8**
JYT	**Yasato**	**6.81**	**3**	S	**S**		**16 19 24.6**	**-2.3**
JAG	**Ashikaga**	**7.00**	**358**	P	**P**		**16 18 06.0**	**+1.1**
JAG				S	**S**		**16 19 28.8**	**-1.8**
JHO	**Hitachi**	**7.22**	**6**	P	**P**		**16 18 09.3**	**+2.1**
MJAR	**Matsushiro Arr**	**7.22**	**350**	P	**P**		**16 18 08.5**	**+1.1**
	0.1nm,0.3s,baz=177,slow=12,SNR=11							
MKAR	**Makanchi Array**	**47.33**	**308**	P	**P**		**16 24 10.6**	**-1.3**
	0.2nm,0.4s,baz=91,slow=8.6,SNR=2.7							
WRA	**Warramunga Arr**	**49.34**	**187**	P	**P**		**16 24 26.6**	**-0.6**
	0.2nm,0.4s,baz=3.5,slow=7.8,SNR=7.0							
WRA				PcP	**PcP**		**16 25 43.2**	**+1.4**
	0.7nm,1.2s,baz=359,slow=3.6,SNR=3.9							
ASAR	**Alice Springs**	**53.07**	**187**	P	**P**		**16 24 54.0**	**-0.4**
	0.2nm,0.9s,baz=2.2,slow=5.6,SNR=3.7							
FINES	**FINESS Array B**	**74.91**	**333**	P	**P**		**16 27 15.0**	**+1.3**
	1.2nm,0.9s,baz=57,slow=7.0,SNR=5.9							

ISCJB ***31*** *16:23:50.7±0.9,18˚.1S±0˚.2×178˚.5W±0˚.1,h579km,mb3.6/6, Error ellipse: s-maj=26.1km s-min=13.3km az=151.4*
IDC ***31*** *16:23:51.5±2.5,18˚.02S×178˚.67W,h561km±29km,mb3.1/7, mb1 3.3/8,mb1mx3.0/26,mbtmp4.0/8,Error ellipse: s-maj=35.3km s-min=14.7km az=152.0*
ISC 31 16:23:52.7±0.9,**18˚.1S**±0˚.2×**178.7W**±0˚.2,**h579**km**,n16,** σ1^{9}**16/21,mb3.5/6,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
DZM	**Mont Dzumac**	**14.54**	**252**	P	**P**		**16 26 54.5**	**-2.6**
	0.3nm,0.3s,baz=40,slow=18,SNR=4.9							
DZM				S	**S**		**16 29 27.6**	**-0.8**
	0.2nm,0.3s,baz=150,slow=21,SNR=6.1							
URZ	**Urewera**	**20.43**	**190**	P	**P**		**16 27 50.6**	**-0.4**
	4.5nm,0.6s,baz=321,slow=6.3,SNR=4.2							
STKA	**Stephens Creek**	**38.33**	**241**	P	**P**		**16 30 26.1**	**+1.0**
	1.9nm,0.5s,baz=80,slow=11,SNR=6.9							
WRA	**Warramunga Arr**	**44.36**	**260**	P	**P**		**16 31 12.5**	**-0.3**
	0.3nm,0.3s,baz=95,slow=7.6,SNR=9.5							
WRA				PcP	**PcP**		**16 32 45.1**	**+1.0**
	0.8nm,0.8s,baz=92,slow=3.5,SNR=5.4							
WRA				S	**S**		**16 37 07.8**	**+1.8**
	0.3nm,0.8s,baz=101,slow=13,SNR=2.8							
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**		**16 31 14.3**	**+0.4**
	4.6nm,0.6s,baz=90,slow=7.8,SNR=187							
ASAR				PcP	**PcP**		**16 32 45.5**	**+1.0**
	0.7nm,0.4s,baz=104,slow=3.9,SNR=9.2							
ASAR				S	**S**		**16 37 08.0**	**-0.1**
	0.8nm,0.9s,baz=88,slow=16,SNR=6.7							
ILAR	**Eielson Array**	**86.12**	**13**	P	**P**		**16 35 31.1**	**-1.5**
	1.0nm,1.1s,baz=228,slow=4.6,SNR=4.2							
CMAR	**Chiang Mai Arr**	**88.72**	**290**	P	**P**		**16 35 47.4**	**+1.6**
	0.4nm,0.8s,baz=123,slow=2.6,SNR=5.1							
YKA	**Yellowknife Ar**	**94.60**	**25**	P	**P**		**16 36 10.8**	**-1.0**
	0.1nm,0.3s,baz=246,slow=4.6,SNR=3.5							
FINES	**FINESS Array B**	**133.30**	**344**	PKP	**PKPdf**		**16 42 02.8**	**-0.2**
	2.4nm,1.1s,baz=104,slow=4.4,SNR=3.1							
BRTR	**Keskin Array B**	**144.74**	**314**	PKP	**PKPdf**		**16 42 25.0**	**+0.4**
	1.3nm,0.8s,baz=102,slow=2.8,SNR=8.0							
GERES	**GERESS Array B**	**147.73**	**345**	PKPbc	**PKPbc**		**16 42 32.9**	**-0.1**
	1.1nm,0.5s,baz=32,slow=3.1,SNR=16							
CONA	**Conrad Observa**	**147.96**	**341**	*i* PKPbc	**PKPbc**		**16 42 33.9**	**+0.3**
	1.4nm,0.5s							
KBA	**Koelnbreinsper**	**149.45**	**344**	*i* PKPbc	**PKPbc**		**16 42 36.8**	**-0.6**
	0.9nm,0.4s							
RETA	**Reutte**	**149.68**	**347**	*i* PKPbc	**PKPbc**		**16 42 37.9**	**+0.1**
	0.1nm,0.2s							
WTTA	**Wattenberg**	**149.70**	**346**	*i* PKPbc	**PKPbc**		**16 42 38.2**	**+0.2**
	1.9nm,0.3s							
FETA	**Feichten**	**150.13**	**347**	*i* PKPdf	**PKPdf**		**16 42 35.1**	**+1.9**
	7.2nm,1.4s							

HLW ***31*** *16:28:02.8,36˚.19N×24˚.71E,h11km±21km, Ml4.6*
ISK ***31*** *16:28:06.6,35˚.99N×24˚.40E,h10km, ML3.9/17*
ISCJB ***31*** *16:28:06.7±0.1,35˚.85N±0˚.02×24˚.39E±0˚.02,h108km±1km, mb4.0/28, Error ellipse: s-maj=3.0km s-min=1.8km az=35.1*
IDC ***31*** *16:28:07.8±0.6,35˚.94N×24˚.42E,h90km±6km, mb3.7/18, mb1 3.8/27,mb1mx3.7/44,mbtmp4.1/27,MS3.3/2, Ms1 3.3/2,ms1mx2.6/40,Error ellipse: s-maj=11.3km s-min=10.6km az=16.0*
PDG ***31*** *16:28:08.8±0.3,36˚.20N×23˚.63E,h11km±8km, ML4.6/12, Error ellipse: s-maj=9.8km s-min=4.5km az=90.0*
NEIC ***31*** *16:28:08.5±0.3,35˚.91N×24˚.34E,h101km±3km,mb4.1/21, ML4.2(THE), Error ellipse: s-maj=4.8km s-min=2.8km az=202.0*
ATH ***31*** *16:28:08.7,35˚.99N×24˚.36E,h91km±2km, ML4.3/10, Error ellipse: s-maj=2.5km s-min=0.9km az=186.0*
MOS ***31*** *16:28:08.0±1.5,35˚.90N×24˚.34E,h102km,mb4.4/6, Error ellipse: s-maj=6.4km s-min=3.3km az=102.9*
MED_RC ***31*** *16:28:10.0±0.9,36˚.02N×24˚.31E,h88km±13km, MW4.2/7, Moment Tensor Solution.Mantle waves: s7,c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}1.84±.23; $M_{\theta\theta}$-0.31±.51; $M_{\phi\phi}$-1.53±.42; $M_{r\theta}$-0.06±.21; $M_{\theta\phi}$-1.32±.45; $M_{r\phi}$0.12±.15; Best double couple: M_o2.11000×10^{15} NP1:ϕ_s27.00000°,δ46.00000°,λ83.00000°. NP2: ϕ_s218.00000°,δ44.00000°,λ97.00000°. Principal axes: T 1.8500, Plg85.0000°, Azm223.0000°; N 0.5200, Plg5.0000°, Azm32.0000°; P -2.3800, Plg1.0000°, Azm123.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
ROM ***31*** *16:28:10.0,36˚.02N×24˚.31E,h70km, mb4.3*
THE ***31*** *16:28:10.1,35˚.98N×24˚.37E,h86km±1km, ML4.2/17, Error ellipse: s-maj=1.2km s-min=0.3km az=169.0*
GII ***31*** *16:28:13.8±0.2,35˚.60N×25˚.06E,h70km, mb4.4/5, MD4.3/5*
DDA ***31*** *16:28:14.2,36˚.43N×25˚.07E,h7km±4km, ML4.1*
NIC ***31*** *16:28:15.2±0.2,35˚.81N×25˚.20E,h25km, mb4.8, ML4.3*
ISC 31 16:28:07.5±0.6,**35˚.96N**±0˚.03×**24˚.34E**±0˚.03,**h93**km±6km**, n466,** σ2^{5}**52/541, mb4.1**/28**, 20C-17D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
CHAN	**Chania**	**0.50**	**209**	P	**Pn**		**16 28 24.1**	**+1.6**
CHAN				S	**Sn**		**16 28 34.5**	**+0.8**
VAM	**Vamos**	**0.56**	**192**	P	**Pn**		**16 28 24.9**	**+1.9**
VAM				S	**Sn**		**16 28 35.8**	**+1.2**
VAM	**Vamos**	**0.56**	**192**	P	**Pn**		**16 28 24.9**	**+1.9**
VAM				S	**Sn**		**16 28 35.8**	**+1.2**
VAM	**Vamos**	**0.56**	**192**	P	**Pn**		**16 28 24.9**	**+1.9**
VAM				S	**Sn**		**16 28 35.8**	**+1.2**
VAM	**Vamos**	**0.56**	**192**	P	**Pn**		**16 28 25.3**	**+2.3**
VAM				S	**Sn**		**16 28 36.0**	**+1.4**
VAM				AML	AML		16 28 36.5	
	comp=N,39580μm,0.3s							
VAM				AML	AML		16 28 36.5	
	comp=E,45402μm,0.2s							
IMMV	**Iera Moni Meta**	**0.58**	**210**	P	**Pn**		**16 28 24.9**	**+1.8**
IMMV				S	**Sn**		**16 28 35.8**	**+1.1**
IMMV	**Iera Moni Meta**	**0.58**	**210**	P	**Pn**		**16 28 25.2**	**+2.1**
IMMV				S	**Sn**		**16 28 35.9**	**+1.1**
IMMV				AML	AML		16 28 38.9	
	comp=E,16759μm,0.3s							
IMMV				AML	AML		16 28 40.5	
	comp=N,16447μm,0.3s							
PRNS	**Prines Rethymn**	**0.61**	**167**	P	**Pn**		**16 28 25.3**	**+1.9**
PRNS				S	**Sn**		**16 28 36.7**	**+1.5**
MHLO	**Agia Marina, M**	**0.73**	**4**	P	**Pn**		**16 28 26.0**	**+1.5**
MHLO				S	**Sn**		**16 28 38.0**	**+0.8**
MHLO	**Agia Marina, M**	**0.73**	**4**	P	**Pn**		**16 28 26.2**	**+1.7**
MHLO				S	**Sn**		**16 28 38.2**	**+1.0**
MHLO				AML	AML		16 28 38.6	
	comp=N,65920μm,0.5s							
MHLO				AML	AML		16 28 41.0	
	comp=E,59306μm,0.4s							
MHLA	**Plaka, Milos I**	**0.79**	**5**	P	**Pn**		**16 28 26.9**	**+1.8**
IDI	**Anoyia**	**0.81**	**146**	P	**Pn**		**16 28 26.6**	**+1.2**
	comp=E,398nm,0.3s,baz=331,slow=12,SNR=2798							
IDI				S	**Sn**		**16 28 38.5**	**-0.2**
	baz=312,slow=14							
IDI				LR	LR		16 28 56.6	
	comp=E,239nm,19.8s,baz=88,slow=65							
IDI	**Anoyia**	**0.81**	**146**	P	**Pn**		**16 28 26.4**	**+1.0**
IDI				AML	AML		16 28 38.9	
	comp=E,31583μm,0.3s							
IDI				AML	AML		16 28 39.5	
	comp=N,23697μm,0.2s							
ANKY	**Antikythira Is**	**0.85**	**264**	P	**Pn**		**16 28 27.7**	**+2.0**
ANKY				S	**Sn**		**16 28 40.7**	**+1.4**
ANKY	**Antikythira Is**	**0.85**	**264**	P	**Pn**		**16 28 27.7**	**+2.0**
ANKY				S	**Sn**		**16 28 40.7**	**+1.4**
ANKY	**Antikythira Is**	**0.85**	**264**	P	**Pn**		**16 28 28.0**	**+2.4**
ANKY				S	**Sn**		**16 28 41.2**	**+1.9**
ANKY				AML	AML		16 28 44.9	
	comp=N,10142μm,0.5s							
ANKY				AML	AML		16 28 44.9	
	comp=E,16883μm,0.7s							
IACM	**Heraklion**	**0.89**	**137**	P	**Pn**		**16 28 27.3**	**+1.2**
KSTL	**Kastelli Herak**	**0.89**	**137**	P	**Pn**		**16 28 30.3**	**+4.2**
KSTL				S	**Sn**		**16 28 45.8**	**+5.8**
THR5	**Thira Island,**	**0.94**	**61**	P	**Pn**		**16 28 28.1**	**+1.5**
SAP3	**Santorini-Thir**	**0.94**	**60**	P	**Pn**		**16 28 28.3**	**+1.6**
SAP3				S	**Sn**		**16 28 42.1**	**+0.9**
TMBK	**Timbaki Herakl**	**0.95**	**158**	P	**Pn**		**16 28 28.1**	**+1.8**
THR3	**Thira Island,**	**0.97**	**62**	P	**Pn**		**16 28 28.7**	**+1.7**
THR3	**Thira Island,**	**0.97**	**62**	P	**Pn**		**16 28 28.7**	**+1.7**
THT1	**Athinios (Pele**	**0.98**	**64**	P	**Pn**		**16 28 28.6**	**+1.5**
THT1				S	**Sn**		**16 28 42.4**	**+0.6**
SANT	**Santorini**	**1.00**	**65**	*e*Pn	**Pn**		**16 28 28.7**	**+1.4**
SANT				*e*Sn	**Sn**		**16 28 42.6**	**+0.3**
SANT	**Santorini**	**1.00**	**65**	*i* P	**Pn**		**16 28 28.9**	**+1.6**
SANT	**Santorini**	**1.00**	**65**	S	**Sn**		**16 28 43.0**	**+0.8**
SANT	**Santorini**	**1.00**	**65**	P	**Pn**		**16 28 28.9**	**+1.6**
SANT				S	**Sn**		**16 28 43.1**	**+0.8**
SANT	**Santorini**	**1.00**	**65**	P	**Pn**		**16 28 29.2**	**+1.8**
SANT				S	**Sn**		**16 28 43.3**	**+1.0**
SANT				AML	AML		16 28 43.5	
	comp=N,20600μm,0.7s							
SANT				AML	AML		16 28 45.0	
	comp=E,60074μm,0.2s							
SFIR	**Foira Santorin**	**1.00**	**62**	P	**Pn**		**16 28 28.8**	**+1.5**
THT2	**Imerovigli**	**1.00**	**61**	P	**Pn**		**16 28 28.9**	**+1.6**
THT2				S	**Sn**		**16 28 43.3**	**+1.1**
CMBO	**Columbo, Santo**	**1.00**	**59**	P	**Pn**		**16 28 28.9**	**+1.5**
CMBO				S	**Sn**		**16 28 43.2**	**+0.9**
SIVA	**Sivas**	**1.02**	**158**	P	**Pn**		**16 28 29.3**	**+1.8**
SIVA				S	**Sn**		**16 28 44.2**	**+1.6**
SIVA	**Sivas**	**1.02**	**158**	P	**Pn**		**16 28 29.3**	**+1.8**
SIVA				S	**Sn**		**16 28 44.2**	**+1.6**
SIVA	**Sivas**	**1.02**	**158**	P	**Pn**		**16 28 30.1**	**+2.6**
SIVA				S	**Sn**		**16 28 45.2**	**+2.7**
SIVA				AML	AML		16 28 47.7	
	comp=E,29147μm,0.4s							
SIVA				AML	AML		16 28 48.5	
	comp=N,23830μm,0.4s							
KYTH	**Kithira**	**1.09**	**287**	P	**Pn**		**16 28 30.4**	**+2.0**
KYTH				S	**Sn**		**16 28 46.0**	**+1.9**
KYTH	**Kithira**	**1.09**	**287**	P	**Pn**		**16 28 30.4**	**+2.0**
KYTH				S	**Sn**		**16 28 46.0**	**+1.9**
KYTH	**Kithira**	**1.09**	**287**	P	**Pn**		**16 28 30.6**	**+2.2**
KYTH				S	**Sn**		**16 28 46.5**	**+2.4**
KYTH				AML	AML		16 28 48.4	
	comp=N,16419μm,0.2s							
KYTH				AML	AML		16 28 49.4	
	comp=E,13319μm,0.3s							
KTHR	**Kythira**	**1.12**	**286**	P	**Pn**		**16 28 30.9**	**+2.2**
GVD	**Gavdhos**	**1.14**	**190**	P	**Pn**		**16 28 31.0**	**+2.0**
GVD				S	**Sn**		**16 28 47.3**	**+2.2**
GVD	**Gavdhos**	**1.14**	**190**	P	**Pn**		**16 28 31.0**	**+2.0**
GVD				S	**Sn**		**16 28 47.3**	**+2.2**
GVD	**Gavdhos**	**1.14**	**190**	P	**Pn**		**16 28 31.9**	**+2.9**
SERI	**Serifos**	**1.20**	**6**	P	**Pn**		**16 28 31.4**	**+1.6**
LAST	**Lasithi**	**1.23**	**130**	P	**Pn**		**16 28 31.6**	**+1.5**
LAST	**Lasithi**	**1.23**	**130**	P	**Pn**		**16 28 31.6**	**+1.5**
LAST	**Lasithi**	**1.23**	**130**	P	**Pn**		**16 28 31.9**	**+1.9**
ANAF	**Anafi Island**	**1.23**	**71**	P	**Pn**		**16 28 31.6**	**+1.6**
ANAF				S	**Sn**		**16 28 47.3**	**+0.3**
ANAF	**Anafi Island**	**1.23**	**71**	P	**Pn**		**16 28 31.7**	**+1.7**
NPS	**Neapolis**	**1.25**	**123**	P	**Pn**		**16 28 31.3**	**+1.0**
NPS				S	**Sn**		**16 28 48.3**	**+0.8**
NPS	**Neapolis**	**1.25**	**123**	P	**Pn**		**16 28 31.3**	**+1.0**
NPS				S	**Sn**		**16 28 48.3**	**+0.8**
NPS	**Neapolis**	**1.25**	**123**	P	**Pn**		**16 28 31.3**	**+1.0**
NPS				S	**Sn**		**16 28 48.3**	**+0.8**
NPS	**Neapolis**	**1.25**	**123**	P	**Pn**		**16 28 31.9**	**+1.5**
VLI	**Veliai**	**1.36**	**304**	P	**Pn**		**16 28 33.5**	**+1.9**
VLI	**Veliai**	**1.36**	**304**	P	**Pn**		**16 28 33.5**	**+1.9**
VLI	**Veliai**	**1.36**	**304**	P	**Pn**		**16 28 33.6**	**+1.9**
VLI				AML	AML		16 28 51.8	
	comp=E,19504μm,0.5s							
VLI				AML	AML		16 28 52.5	
	comp=N,15833μm,0.4s							
APE	**Apeiranthos**	**1.47**	**41**	PN	**Pn**		**16 28 33.4**	**+0.4**
APE				SN	**Sn**		**16 28 52.3**	**+0.1**
APE	**Apeiranthos**	**1.47**	**41**	P	**Pn**		**16 28 34.2**	**+1.2**
APE				S	**Sn**		**16 28 52.8**	**+0.6**
APE	**Apeiranthos**	**1.47**	**41**	*i* P	**Pn**		**16 28 34.1**	**+1.1**
APE	**Apeiranthos**	**1.47**	**41**	*ce*P	**Pn**		**16 28 34.0**	**+1.1**
APE	**Apeiranthos**	**1.47**	**41**	P	**Pn**		**16 28 34.2**	**+1.2**
AMGA	**Amorgos Island**	**1.53**	**55**	P	**Pn**		**16 28 35.2**	**+1.5**
STIA	**Sitia Lasithi**	**1.62**	**117**	P	**Pn**		**16 28 36.5**	**+1.7**
KRND	**KRANIDI**	**1.71**	**326**	P	**Pn**		**16 28 38.0**	**+2.0**
KRND				S	**Sn**		**16 28 59.2**	**+1.5**
ZKR	**Zakros**	**1.75**	**118**	PN	**Pn**		**16 28 37.4**	**+0.9**
ZKR				SN	**Sn**		**16 28 59.9**	**+1.3**
ZKR	**Zakros**	**1.75**	**118**	P	**Pn**		**16 28 38.1**	**+1.6**
ZKR	**Zakros**	**1.75**	**118**	P	**Pn**		**16 28 38.1**	**+1.6**
ZKR	**Zakros**	**1.75**	**118**	P	**Pn**		**16 28 38.6**	**+2.1**
DID	**Didima**	**1.78**	**331**	P	**Pn**		**16 28 38.7**	**+1.8**
DID	**Didima**	**1.78**	**331**	P	**Pn**		**16 28 38.7**	**+1.8**
DID	**Didima**	**1.78**	**331**	P	**Pn**		**16 28 38.9**	**+1.9**
DID				S	**Sn**		**16 29 00.9**	**+1.6**
DID				AML	AML		16 29 01.8	
	comp=E,9097μm,0.3s							
DID				AML	AML		16 29 04.9	
	comp=N,6394μm,0.5s							
VLY	**Voula,Athens**	**1.94**	**347**	P	**Pn**		**16 28 40.7**	**+1.7**
VLY	**Voula,Athens**	**1.94**	**347**	P	**Pn**		**16 28 40.7**	**+1.7**
VLY	**Voula,Athens**	**1.94**	**347**	P	**Pn**		**16 28 41.1**	**+2.2**
ATHU	**Athens Univers**	**2.05**	**348**	P	**Pn**		**16 28 42.3**	**+1.9**
ATHU	**Athens Univers**	**2.05**	**348**	P	**Pn**		**16 28 42.3**	**+1.9**
ATHU	**Athens Univers**	**2.05**	**348**	P	**Pn**		**16 28 42.6**	**+2.2**
ATH	**Athens Observa**	**2.07**	**346**	P	**Pn**		**16 28 42.7**	**+2.0**
ATH	**Athens Observa**	**2.07**	**346**	P	**Pn**		**16 28 42.7**	**+2.0**
ATH	**Athens Observa**	**2.07**	**346**	P	**Pn**		**16 28 42.7**	**+2.0**
VLX	**Vlachokerasia**	**2.11**	**312**	P	**Pn**		**16 28 43.5**	**+2.2**
VLX	**Vlachokerasia**	**2.11**	**312**	P	**Pn**		**16 28 43.5**	**+2.2**
VLX	**Vlachokerasia**	**2.11**	**312**	P	**Pn**		**16 28 43.7**	**+2.4**
PTL	**Penteli**	**2.12**	**350**	P	**Pn**		**16 28 43.4**	**+2.0**
PTL	**Penteli**	**2.12**	**350**	P	**Pn**		**16 28 43.4**	**+2.0**
PTL	**Penteli**	**2.12**	**350**	P	**Pn**		**16 28 43.7**	**+2.3**
DION	**Dionisos Attik**	**2.14**	**351**	P	**Pn**		**16 28 44.1**	**+2.5**
TRIP	**Tripoli**	**2.28**	**314**	P	**Pn**		**16 28 46.1**	**+2.5**
ITM	**Ithomi**	**2.29**	**303**	*e*Pn	**Pn**		**16 28 46.1**	**+2.5**
ITM	**Ithomi**	**2.29**	**303**	P	**Pn**		**16 28 46.1**	**+2.5**
ITM	**Ithomi**	**2.29**	**303**	P	**Pn**		**16 28 46.3**	**+2.7**
PYL	**PYLOS**	**2.29**	**295**	P	**Pn**		**16 28 45.2**	**+1.6**
PYL	**PYLOS**	**2.29**	**295**	P	**Pn**		**16 28 45.2**	**+1.6**
PYL	**PYLOS**	**2.29**	**295**	P	**Pn**		**16 28 45.2**	**+1.6**
LOUT	**Loutraki**	**2.30**	**332**	P	**Pn**		**16 28 45.4**	**+1.7**
KARP	**Karpathos**	**2.33**	**99**	PN	**Pn**		**16 28 45.4**	**+1.2**
KARP	**Karpathos**	**2.33**	**99**	*e*Pn	**Pn**		**16 28 45.2**	**+1.1**
KARP	**Karpathos**	**2.33**	**99**	P	**Pn**		**16 28 45.3**	**+1.1**
KARP	**Karpathos**	**2.33**	**99**	P	**Pn**		**16 28 45.7**	**+1.5**
LTK	**Loutraki**	**2.33**	**332**	P	**Pn**		**16 28 46.1**	**+1.9**
LTK	**Loutraki**	**2.33**	**332**	P	**Pn**		**16 28 46.1**	**+1.9**
LTK	**Loutraki**	**2.33**	**332**	P	**Pn**		**16 28 46.2**	**+2.0**
VILL	**Villia**	**2.35**	**340**	P	**Pn**		**16 28 46.1**	**+1.7**
VIL2	**Platees**	**2.40**	**339**	P	**Pn**		**16 28 46.6**	**+1.5**
EREA	**Eretria**	**2.48**	**353**	P	**Pn**		**16 28 48.1**	**+2.0**
EREA	**Eretria**	**2.48**	**353**	P	**Pn**		**16 28 48.6**	**+2.5**
GUR	**Goura**	**2.54**	**322**	P	**Pn**		**16 28 48.7**	**+1.7**
GUR	**Goura**	**2.54**	**322**	P	**Pn**		**16 28 48.7**	**+1.7**
GUR	**Goura**	**2.54**	**322**	P	**Pn**		**16 28 49.1**	**+2.1**
PROD	**Prodromos**	**2.57**	**334**	P	**Pn**		**16 28 49.1**	**+1.9**
AMT	**Artemida

comp=Z,917nm,0.3s
IGT Igoumenitsa 4.77 320 P Pn 16 29 18.4 +1.4
THE Thessaloniki 4.79 347 P Pn 16 29 20.2 +3.0
BRDR BURDUR-Merkez 4.91 68 *i* P Pn 16 29 22.2 +3.3
SOH Sokhos 4.92 351 P Pn 16 29 21.9 +2.9
KORT Korkueli 4.96 76 PN Pn 16 29 22.1 +2.5
KORT Korkueli 4.96 76 *i* P Pn 16 29 22.5 +2.9
KORT IAML_P
comp=Z,3µm,0.3s
ALN Alexandroupoli 5.11 15 *e*Pn Pn 16 29 23.4 +1.9
ALN Alexandroupoli 5.11 15 *e*P Pn 16 29 23.4 +1.9
NEST Nestorio 5.15 331 P Pn 16 29 24.2 +2.1
SRS Serrai 5.18 354 P Pn 16 29 25.0 +2.4
SRS pmax pmax
comp=Z,39nm,0.9s
SRS Serrai 5.18 354 P Pn 16 29 25.0 +2.4
BCK Bucak 5.24 72 PN Pn 16 29 26.1 +2.7
BCK Bucak 5.24 72 P Pn 16 29 26.4 +3.0
ISP Isparta 5.29 68 PN Pn 16 29 26.6 +2.4
ISP Isparta 5.29 68 *e*Pn Pn 16 29 26.4 +2.2
ISP Isparta 5.29 68 ⇓*i*P Pn 16 29 26.3 +2.1
ISP Isparta 5.29 68 ⇓P Pn 16 29 26.3 +2.1
KNT Kendrikon 5.32 348 P Pn 16 29 27.5 +3.1
KNT pmax pmax
comp=Z,38nm,0.6s
FNA Florina 5.35 335 *e*Pn Pn 16 29 26.2 +1.3
FNA Florina 5.35 335 *e*P Pn 16 29 26.2 +1.3
VAY Valandovo 5.53 346 *i* Pn Pn 16 29 25.2 -2.1
BIA Bitola 5.58 336 *i* Pn Pn 16 29 30.8 +2.8
MMB Musomiste 5.64 355 *i* P Pn 16 29 30.4 +1.6
RZN Rozhen 5.73 3 *i* P Pn 16 29 32.5 +2.4
OHR Ohrid 5.84 333 *i* Pn Pn 16 29 32.9 +1.3
KRUS Krusevo 5.92 337 *i* Pn Pn 16 29 33.4 +0.7
STIP Stip 5.97 344 *i* Pn Pn 16 29 34.8 +1.5
KKB Krupnik 5.98 351 *i* P Pn 16 29 35.1 +1.7
SKO Skopje 6.41 340 *i* Pn Pn 16 29 40.0 +0.7
SKO Skopje 6.41 340 P Pn 16 29 42.2 +2.9
TIR Tirane 6.42 328 *e*Pn Pn 16 29 39.3 0.0
TIR Tirane 6.42 328 ⇑*i*P Pn 16 29 39.5 +0.2
TIR Tirane 6.42 328 ⇑P Pn 16 29 39.5 +0.2
PPCY Paphos 6.62 97 P Pn 16 29 40.5 -1.7
baz=281
VTS Vitosha 6.70 353 *e*Pn Pn 16 29 45.0 +1.6
VTS Vitosha 6.70 353 ⇑*i*P Pn 16 29 45.3 +1.9
VTS Vitosha 6.70 353 ⇑P Pn 16 29 45.3 +1.9
VTS Vitosha 6.70 353 *i* P Pn 16 29 45.0 +1.6
SWA2 6.76 172 P Pn 16 29 44.1 0.0
baz=174
ALFC Alefka 6.78 94 P Pn 16 29 42.9 -1.5
baz=278
ALFC S Sn 16 30 51.6 -8.5
TIP Timpagrande 6.82 300 *e*Pn Pn 16 29 45.3 +0.4
TIP Timpagrande 6.82 300 ⇓*i*P Pn 16 29 45.6 +0.7
LEF Lefka 7.02 94 ⇓*i*P Pn 16 29 45.3 -2.3
LEF Lefka 7.02 94 S Sn 16 30 57.4 -8.5
HBRG Burj al `Arab 7.08 138 S Sn 16 31 02.5 -4.7
baz=141
HBRG AMP 16 29 00.0
baz=141
SZAC Souni 7.08 97 P Pn 16 29 46.9 -1.6
baz=281
SZAC S Sn 16 30 59.5 -8.0
CEL Celeste 7.13 291 *e*Pn Pn 16 29 49.3 +0.2
CGL1 Ceglie Messapi 7.14 313 *e*Pn Pn 16 29 49.1 -0.2
TAR1 Taranto 7.18 312 ⇑*i*Pn Pn 16 29 49.8 +0.1
TAR1 (Sn) Sn 16 31 02.8 -6.9
ULC Ulcinj 7.19 328 ⇑*i*Pn Pn 16 29 48.8 -1.1
ULC *e*Sn Sn 16 31 03.5 -6.4
ULC Ulcinj 7.19 328 P Pn 16 29 49.9 0.0
MAMC Mammari 7.28 94 P Pn 16 29 50.1 -1.0
baz=277
FASA Fasano 7.32 314 *e*Pn Pn 16 29 51.5 -0.1
FASA Sn Sn 16 31 05.6 -7.5
MASS Massafra 7.33 312 *e*Pn Pn 16 29 51.8 0.0
DRME Dracevica, Mon 7.40 329 ⇓*i*Pn Pn 16 29 52.2 -0.5
DRME *e*Sn Sn 16 31 09.0 -6.0
DRME Dracevica, Mon 7.40 329 *e*Pn Pn 16 29 51.2 -1.5
CSS Mathiatis 7.41 95 *e*Pn Pn 16 29 50.9 -2.0
CSS Mathiatis 7.41 95 P Pn 16 29 51.6 -1.3
baz=279
CSS S Sn 16 31 07.1 -8.2
CSS Mathiatis 7.41 95 P Pn 16 29 52.1 -0.8
comp=Z,6.5nm,0.7s,comp=Z,0.1nm
CSS Mathiatis 7.41 95 Pn Pn 16 29 51.2 -1.7
PVY Plav 7.44 334 ⇑*i*Pn Pn 16 29 53.1 -0.3
PVY *e*Sn Sn 16 31 11.0 -5.3
PDG Podgorica 7.57 330 ⇓*i*P Pn 16 29 53.8 -1.2
PDG Podgorica 7.57 330 *e*Pn Pn 16 29 53.0 -2.0
TTG Podgorica 7.57 330 ⇑*i*Pn Pn 16 29 53.6 -1.4
TTG *e*Sn Sn 16 31 12.9 -6.2
TTG Podgorica 7.57 330 *e*Pn Pn 16 29 53.8 -1.2
TTG Podgorica 7.57 330 *e*P Pn 16 29 53.8 -1.2
MATE Matera 7.61 310 ⇓*i*P Pn 16 29 55.2 -0.4
BUM Brajici-Budva 7.61 328 ⇓*i*Pn Pn 16 29 54.5 -1.2
BUM *e*Sn Sn 16 31 14.1 -6.2
IVA Berane 7.71 335 ⇑*i*Pn Pn 16 29 57.2 +0.2
IVA *e*Sn Sn 16 31 17.3 -5.4
BR231 Keskin MP Arra 7.71 57 *e*Pn Pn 16 29 58.5 +1.4
ANTO Ankara 7.74 57 P Pn 16 30 02.4 +5.0
ANTO pmax pmax
comp=Z,21nm,0.8s
CEME Cevo 7.80 329 ⇑*i*Pn Pn 16 29 56.4 -1.9
CEME *e*Sn Sn 16 31 18.8 -6.2
KOME Kolasin 7.83 333 ⇑*i*Pn Pn 16 29 58.2 -0.4
KOME *e*Sn Sn 16 31 20.3 -5.3
HCY Herceg Novi 7.91 327 ⇓*i*Pn Pn 16 29 58.4 -1.2
HCY *e*Sn Sn 16 31 21.3 -6.1
HCY Herceg Novi 7.91 327 *e*Pn Pn 16 29 57.4 -2.2
WDD Wied Dalam 7.96 272 *e*Pn Pn 16 29 60.0 -0.5
PHNC Paralimni 7.97 94 P Pn 16 30 01.7 +1.2
baz=278
PHNC S Sn 16 31 25.6 -3.3
NKME Niksic 7.97 330 ⇓*i*Pn Pn 16 29 59.1 -1.5
NKME *e*Sn Sn 16 31 23.1 -6.0
NKY Niksic 8.00 330 ⇓*i*Pn Pn 16 29 59.9 -1.0
NKY *e*Sn Sn 16 31 24.3 -5.4
VAE Valguarnera 8.11 284 P Pn 16 30 04.5 +2.0
comp=Z,5.3nm,0.3s,baz=140,slow=10,SNR=8.5
VAE S Sn 16 31 28.6 -3.9
comp=Z,5.1nm,0.3s,baz=205,slow=19,SNR=3.9
HMYD Mayadein 8.20 137 P Pn 16 30 02.6 -1.2
baz=139
HNAT Natroun 8.23 138 P Pn 16 30 02.9 -1.2
baz=141
BRY Bratogost 8.26 329 ⇓*i*Pn Pn 16 30 03.3 -1.2
BRY *e*Sn Sn 16 31 29.7 -6.4
BR131 Keskin Array S 8.26 60 *e*Pn Pn 16 30 07.0 +2.4
BRTR Keskin Array B 8.26 60 P Pn 16 30 08.2 +3.6
comp=Z,1.7nm,0.3s,baz=3.1,slow=11,SNR=40
PLE Pljevlja 8.29 334 ⇓*i*Pn Pn 16 30 05.3 +0.4
PLE *e*Sn Sn 16 31 30.9 -6.0
HLW Helwan 8.46 134 P Pn 16 30 05.2 -2.1
baz=136
STON Ston 8.60 325 *e*Pn Pn 16 30 06.6 -2.5
STON Sn Sn 16 31 35.2 -9.0
STON Ston 8.60 325 *e*Pn Pn 16 30 05.7 -3.3
KOT Kottamia 8.71 132 P Pn 16 30 08.6 -2.1
baz=134
KOT S Sn 16 31 39.9 -7.2
baz=134
HSAF As Saff 8.77 134 P Pn 16 30 09.9 -1.6
baz=136
HHAG Hagoal 8.85 130 P Pn 16 30 10.3 -2.4
baz=133
GLL Jalalah 8.89 134 P Pn 16 30 11.1 -2.0
baz=136
CLTB Caltabellotta 9.07 284 *e*Pn Pn 16 30 15.7 +0.1
RSH 9.29 120 P Pn 16 30 15.3 -3.2
baz=122
NBNS Bani Suef 9.39 139 P Pn 16 30 18.4 -1.6
baz=141
NBNS S Sn 16 31 57.2 -6.5
baz=141
HNTI Hanita 9.39 105 Pn Pn 16 30 17.4 -2.5
HNTI Sn Sn 16 31 54.8 -8.9
SUZ Suez 9.39 128 P Pn 16 30 17.6 -2.3
baz=130
ARR Arges 9.40 1 ⇓*i*P Pn 16 30 24.6 +4.6
BHL Bhannes 9.52 99 *e*P Pn 16 30 18.6 -3.1
MMA0B Mount Meron ar 9.59 105 Pn Pn 16 30 20.1 -2.6
MMAI Mount Meron Ar 9.59 105 P Pn 16 30 20.1 -2.6
comp=Z,15nm,0.3s,baz=308,slow=12,SNR=88
MMAI S Sn 16 32 00.1 -8.6
comp=Z,20nm,0.3s,baz=295,slow=28,SNR=15
MLR Muntele Rosu 9.60 7 *e*Pn Pn 16 30 24.1 +1.3
MLR Muntele Rosu 9.60 7 *e*P Pn 16 30 24.1 +1.3
MLR Muntele Rosu 9.60 7 P Pn 16 30 23.5 +0.7
comp=Z,0.1nm,0.3s,baz=313,slow=19,SNR=2.9
ZAF Zafarana 9.60 132 P Pn 16 30 20.8 -2.1
baz=134
SLTI Sal'it 9.62 110 Pn Pn 16 30 19.4 -3.6
QRWL Qaraoun 9.64 101 *e*P Pn 16 30 20.9 -2.5
GEM Giv'at Ha'Em 9.73 103 Pn Pn 16 30 21.9 -2.6
GEM Sn Sn 16 32 03.5 -8.5
KSDI Kefar Szold 9.73 103 Pn Pn 16 30 21.7 -2.9
KSDI Sn Sn 16 32 03.9 -8.2
ZNM Zenema 9.74 130 P Pn 16 30 23.2 -1.4
baz=132
NATI Neve Ativ 9.77 103 Pn Pn 16 30 22.5 -2.6
NATI Sn Sn 16 32 04.7 -8.3
RCY Rachaya 9.78 101 *e*P Pn 16 30 22.7 -2.6
KZIT Kziot 9.80 118 Pn Pn 16 30 22.1 -3.4
KZIT Sn Sn 16 32 03.5 -10
MMLI Mount Malkishu 9.83 108 Pn Pn 16 30 23.5 -2.4
AMAZ Amatzia 9.85 114 Pn Pn 16 30 23.6 -2.6
AMAZ Sn Sn 16 32 04.7 -10
BZS Buzias 9.86 349 P Pn 16 30 28.6 +2.4
BRBR Barbar 9.89 102 *e*P Pn 16 30 24.7 -2.3
BRBR *e*S Sn 16 32 07.7 -8.6
BRBR AML AML 16 32 10.3
comp=E,92nm,0.4s
BRBR AML AML 16 32 13.8
comp=N,39nm,0.4s
HMDT Nahal Hemdat 9.98 109 Pn Pn 16 30 25.6 -2.4
YTIR Yattir 10.08 114 Pn Pn 16 30 26.6 -2.8
YTIR Sn Sn 16 32 11.8 -8.9
QASN Qassioun 10.12 100 *e*P Pn 16 30 29.0 -0.9
QASN *e*S Sn 16 32 12.2 -9.4
QASN AML AML 16 32 18.9
comp=N,50nm,0.4s
QASN AML AML 16 32 20.9
comp=E,101nm,0.4s
DSI Dead Sea 10.18 112 Pn Pn 16 30 28.0 -2.7
RMNI Mount Ramon 10.23 119 Pn Pn 16 30 29.4 -2.1
TOTH TOTAH 10.29 101 *e*P Pn 16 30 30.7 -1.5
TOTH *e*S Sn 16 32 16.9 -8.8
TOTH AML AML 16 32 20.0
comp=E,32nm,0.4s
TOTH AML AML 16 32 21.1
comp=N,26nm,0.4s
MZDA Masada 10.29 114 Pn Pn 16 30 29.4 -2.7
MZDA Sn Sn 16 32 16.7 -8.9
BLY Banja Luka 10.33 330 ⇓*i*P Pn 16 30 30.3 -2.3
BLY Banja Luka 10.33 330 *e*Pn Pn 16 30 29.9 -2.7
LISJ El Lisan 10.41 114 P Pn 16 30 31.8 -2.0
comp=N,23nm,0.5s
GHAJ Ghor Haditha 10.45 113 P Pn 16 30 32.4 -1.8
comp=N,46nm,0.5s
GHAJ Ghor Haditha 10.45 113 Pn Pn 16 30 32.5 -1.8
KRMI Paran Flat 10.48 121 Pn Pn 16 30 32.2 -2.6
WALJ Wala 10.51 111 P Pn 16 30 33.4 -1.7
comp=N,60nm,0.7s
PRNI Paran 10.54 119 Pn Pn 16 30 32.8 -2.8
ZFRI Zfri 10.55 118 Pn Pn 16 30 32.0 -3.7
AQU L'Aquila 10.62 310 *e*Pn Pn 16 30 38.6 +2.0
AQU L'Aquila 10.62 310 *e*P Pn 16 30 38.6 +2.0
AQU L'Aquila 10.62 310 *e*Pn Pn 16 30 39.9 +3.3
HRFI Mount Harif 10.75 120 Pn Pn 16 30 35.9 -2.5
HRFI Sn Sn 16 32 26.3 -11
UDBI Udbina 10.77 325 *e*Pn Pn 16 30 36.8 -1.9
UDBI Sn Sn 16 32 29.8 -7.4
MBRI Mt Berech 10.81 122 Pn Pn 16 30 37.0 -2.3
JDRJ Daraweish 10.81 116 P Pn 16 30 37.3 -2.1
EIL Elat 10.91 122 P Pn 16 30 38.7 -1.9
comp=N,32nm,0.7s
EIL Elat 10.91 122 Pn Pn 16 30 37.7 -2.9
EIL Sn Sn 16 32 31.9 -8.8
EIL Elat 10.91 122 P Pn 16 30 38.6 -1.9
comp=N,4.9nm,0.3s,baz=287,slow=2.9,SNR=226
EIL S Sn 16 32 30.6 -10
comp=N,4.6nm,0.3s,baz=61,slow=23,SNR=11
AQBJ Aqaba 10.94 122 P Pn 16 30 39.9 -1.1
comp=N,164nm,0.6s
HBST Basata 11.04 125 P Pn 16 30 40.3 -2.1
baz=126
ASF Jabal al Asfar 11.08 106 P Pn 16 30 41.1 -1.9
ASF Jabal al Asfar 11.08 106 P Pn 16 30 41.3 -1.7
comp=N,1.1nm,0.3s,baz=230,slow=6.8,SNR=11
ASF S Sn 16 32 36.9 -8.1
comp=N,0.7nm,0.3s,baz=328,slow=13,SNR=3.2
NVLJ Novalja 11.22 323 *i* Pn Pn 16 30 42.3 -2.4
NVLJ Sn Sn 16 32 38.3 -10
CRES Cresnjev 11.92 328 *e*Pn Pn 16 30 51.4 -2.7
RIY Rijeka 11.97 324 *e*Pn Pn 16 30 51.7 -3.1
KEST Kesra 12.17 273 *e*Pn Pn 16 30 58.8 +1.1
KEST Kesra 12.17 273 P Pn 16 30 59.8 +2.2
comp=N,0.4nm,0.3s,baz=64,slow=14,SNR=11
KEST S Sn 16 33 07.3 -4.1
comp=N,0.4nm,0.3s,baz=262,slow=22,SNR=6.2
CEY Cerknica 12.31 326 *e*Pn Pn 16 30 56.1 -3.2
PSZ Piszkesteto 12.39 346 *e*Pn Pn 16 31 01.8 +1.3
PSZ Piszkesteto 12.39 346 *e*P Pn 16 31 01.8 +1.3
LJU Ljubljana 12.49 327 *e*Pn Pn 16 30 59.6 -2.2
SOKA Soboth 12.78 330 *e*Pn Pn 16 31 04.2 -1.5
comp=N,6.3nm,0.6s,SNR=11
SOKA *e*Sn Sn 16 33 17.7 -8.2
comp=N,1.1nm,0.4s
OBKA Obir 12.85 328 *e*Pn Pn 16 31 04.3 -2.2
comp=N,3.2nm,0.3s
OBKA *e*Sn Sn 16 33 22.9 -4.8
comp=N,7.2nm,0.4s
ARSA Arzberg 13.05 332 *e*Pn Pn 16 31 08.5 -0.8
comp=N,1.7nm,0.3s
ARSA *i* Sn Sn 16 33 22.8 -10
comp=N,0.6nm,0.3s
VYHS Vyhne 13.17 344 *e*P P 16 31 17.3 +0.1
VYHS Vyhne 13.17 344 *e*P P 16 31 17.3 +0.1
CONA Conrad Observa 13.51 335 *e*Pn Pn 16 31 16.7 +1.4
comp=N,0.6nm,0.3s
KBA Koelnbreinsper 13.81 327 *e*Pn Pn 16 31 19.1 -0.2
comp=N,2.5nm,0.4s
KBA *e*Sn Sn 16 33 41.6 -10
comp=N,1.6nm,0.4s
ABTA Abfaltersbach 13.95 324 *e*Pn Pn 16 31 19.4 -1.6
comp=N,2.8nm,0.3s,SNR=7.0
ABTA Sn Sn 16 33 43.8 -11
comp=N,3.2nm,0.4s
MOA Molln 14.03 331 *e*Pn Pn 16 31 21.7 -0.2
comp=N,2.4nm,0.2s
MOA *e*Sn Sn 16 33 49.1 -7.2
comp=N,1.9nm,0.4s
VRAC Vranov 14.49 339 P P 16 31 31.1 -0.9
comp=N,0.2nm,0.3s,baz=166,slow=9.0,SNR=4.2
SIRT Sirnak 14.60 79 *e*P P 16 31 32.6 -0.8
OJC Ojcow 14.63 348 *e*P P 16 31 34.3 +0.9
OJC Ojcow 14.63 348 *e*P P 16 31 34.3 +0.9
MORC Moravsky Berou 14.67 342 *e*P P 16 31 34.9 +1.0
MORC Moravsky Berou 14.67 342 *e*P P 16 31 34.9 +1.0
WTTA Wattenberg 14.73 324 Pn Pn 16 31 32.3 +1.1
comp=N,2.3nm,0.2s
WTTA Sn Sn 16 34 07.3 -6.2
comp=N,7.2nm,0.6s
WATA Walderalm 14.81 324 *i* Pn P 16 31 34.5 -1.2
SQTA Sankt Quirin 14.91 323 Pn Pn 16 31 34.0 +0.6
comp=N,4.2nm,0.3s,SNR=8.6
SQTA *e*Sn Sn 16 34 10.1 -7.6
comp=N,3.9nm,0.6s
FUORN Ofenpass-Fuorn 14.99 320 *e*Pn Pn 16 31 35.1 +0.6
comp=N,28nm,0.6s
FETA Feichten 15.01 322 Pn Pn 16 31 36.3 +1.6
comp=N,7.6nm,0.8s,SNR=9.6
FETA Sn Sn 16 34 14.2 -6.0
comp=N,2.4nm,0.6s
MOTA Moosalm 15.05 323 *i* Pn P 16 31 37.2 -1.1
GEA0 GERESS Array S 15.05 332 *e*Pn Pn 16 31 35.8 +0.7
GEA0 *e*P P 16 31 40.2 +1.9
GEC2 GERESS Array S 15.06 332 *e*Pn Pn 16 31 36.2 +0.9
GEC2 *e*P P 16 31 40.4 +2.0
GEC2 GERESS Array S 15.06 332 *e*P Pn 16 31 36.2 +0.9
GERES GERESS Array B 15.06 332 P Pn 16 31 36.4 +1.1
comp=N,0.6nm,0.3s,baz=153,slow=12,SNR=27
GERES S Sn 16 34 15.9 -5.4
comp=N,0.3nm,0.3s,baz=150,slow=24,SNR=6.8
GERES LR LR 16 38 40.1
comp=N,80nm,19.3s,baz=118,slow=42
AK11 Malin Array Si 15.12 12 *e*Pn P 16 31 38.3 -0.6
KRLC Kraliky 15.14 341 *e*P P 16 31 39.9 +0.7
KRLC Kraliky 15.14 341 *e*P P 16 31 39.9 +0.7
KIEV Kiev 15.14 12 *e*Pn P 16 31 38.6 -0.5
comp=N,11nm,1.5s
KIEV Kiev 15.14 12 *i* P P 16 31 40.6 +1.5
KIEV pmax pmax
comp=Z,29nm,3.3s
AKASG Malin Array Be 15.15 12 P P 16 31 38.0 -1.2
comp=Z,2.4nm,0.3s,baz=201,slow=10,SNR=14
AKASG S Sn 16 34 24.7 +1.4
baz=200,slow=21,SNR=3.5
AKBB Malin Array Si 15.15 12 *e*Pn P 16 31 38.8 -0.4
comp=Z,3.4nm,0.6s
AKBB Malin Array Si 15.15 12 *e*P P 16 31 38.8 -0.4
AKBB pmax pmax
comp=Z,3.0nm,0.6s
DAVOX Davos/Dischmat 15.29 319 P Pn 16 31 39.6 +1.3
comp=Z,0.7nm,0.3s,baz=135,slow=17,SNR=8.3
DAVOX S Sn 16 34 18.8 -8.2
comp=Z,0.3nm,0.3s,baz=308,slow=18,SNR=3.2
RETA Reutte 15.31 323 Pn P 16 31 40.6 -0.6
comp=Z,5.5nm,0.6s
RETA *e*Sn Sn 16 34 19.2 -8.1
comp=Z,3.0nm,0.4s
VDL Val di Lei 15.34 318 P P 16 31 42.9 +1.4
KHC Kasperske Hory 15.34 332 *e*Pn Pn 16 31 39.7 +0.9
comp=Z,18nm,2.0s
KHC Kasperske Hory 15.34 332 *e*P Pn 16 31 40.2 +1.4
KHC Kasperske Hory 15.34 332 *e*P Pn 16 31 40.2 +1.4
TUE Stuetta 15.38 318 *e*Pn Pn 16 31 39.4 -0.1
comp=Z,8.1nm,0.8s
KARS Kars 15.43 67 *e*Pn Pn 16 31 39.2 -0.8
KARS Kars 15.43 67 *e*P Pn 16 31 39.3 -0.8
DPC Dobruska-Polom 15.51 340 *e*P P 16 31 44.6 +1.3
DPC Dobruska-Polom 15.51 340 *e*P P 16 31 44.6 +1.3
WET Wettzell 15.62 331 P P 16 31 46.6 +2.1
WET pmax pmax
comp=Z,7.0nm,2.6s
NEY Neytrino 15.91 57 *i* P P 16 31 50.1 +2.2
MMK Mattmark 15.92 314 P P 16 31 50.8 +2.7
BNI Bardonecchia 16.18 310 *e*P P 16 31 52.0 +1.1
comp=Z,19nm,1.4s
BNI Bardonecchia 16.18 310 *e*P P 16 31 52.0 +1.1
BNI pmax pmax
comp=Z,19nm,1.4s
KBZ Khabaz 16.21 56 P P 16 31 53.0 +2.0
KBZ Khabaz 16.21 56 P P 16 31 53.0 +2.0
comp=Z,0.2nm,0.3s,baz=292,slow=3.5,SNR=6.2
DIX Grande Dixence 16.26 314 P P 16 31 56.7 +4.8
GRB1 Grafenberg Arr 16.31 329 P P 16 31 56.6 +4.5
GRB1 pmax pmax
comp=Z,11nm,2.4s
SENIN Lac Senin/Sane 16.48 314 *e*Pn Pn 16 31 52.6 -0.5
comp=Z,34nm,1.8s
RSL Roselend 16.53 311 P P 16 31 57.7 +3.0
NCK Nalchik 16.59 57 *i* P P 16 31 59.6 +4.3
NCK pmax pmax
comp=Z,11nm,0.5s
GNI Garni 16.60 69 *ce*P P 16 31 59.7 +4.1
GNI pmax pmax
comp=Z,28nm,1.3s
SLE Schleitheim 16.65 320 P P 16 31 57.0 +1.1
SLE pmax pmax
comp=Z,15nm,0.9s
GRFO Grafenberg 16.72 329 *e*Pn P 16 31 59.1 +2.5
comp=Z,12nm,1.1s
GRFO Grafenberg 16.72 329 *e*P P 16 31 59.1 +2.5
GRFO pmax pmax
comp=Z,12nm,1.1s
GRA1 Grafenberg Arr 16.72 329 *e*Pn P 16 31 59.1 +2.4
comp=Z,11nm,1.0s
GRF Grafenberg Arr 16.72 329 *e*P P 16 31 59.1 +2.4
GRF pmax pmax
comp=Z,11nm,1.0s
STU Stuttgart 16.96 324 *e*Pn P 16 32 00.8 +1.5
comp=Z,2.2nm,0.9s
STU Stuttgart 16.96 324 *e*P P 16 32 00.8 +1.5
STU pmax pmax
comp=Z,8.0nm,0.9s
BFO Black Forest 17.09 321 *e*Pn P 16 32 01.9 +1.1
comp=Z,4.6nm,0.7s
BFO Black Forest 17.09 321 *e*P P 16 32 01.9 +1.1
BFO pmax pmax
comp=Z,5.0nm,0.7s
CLL Collm 17.36 336 *es*P sP 16 32 30.0 -2.6
ECH Echery 17.63 319 *e*P Pn 16 32 07.7 +0.7
comp=Z,22nm,1.7s
ECH Echery 17.63 319 *e*P Pn 16 32 07.7 +0.7
ECH pmax pmax
comp=Z,22nm,1.7s
SSB Saint Sauveur 17.64 308 *e*P Pn 16 32 07.2 0.0
comp=Z,39nm,1.8s
SSB Saint Sauveur 17.64 308 *e*P Pn 16 32 07.2 0.0
SSB pmax pmax
comp=Z,39nm,1.8s
SUW Suwalki 18.07 358 *e*P Pn 16 32 12.4 +0.3
comp=Z,20nm,0.4s
SUW Suwalki 18.07 358 *e*P Pn 16 32 12.5 +0.3
SUW pmax pmax
comp=Z,20nm,0.4s
TNS Taunus Mts 18.32 326 P Pn 16 32 17.7 +2.3
TNS pmax pmax
comp=Z,12nm,0.8s
VSR Storozhevoye 18.60 30 *i* P Pn 16 32 24.0 +5.5
VSR pmax pmax
comp=Z,57nm,4.0s
MEM Membach 19.73 324 ⇑P Pn 16 32 32.2 +0.4
comp=Z,7.4nm,0.8s
DOU Dourbes 20.11 321 P Pn 16 32 37.2 +0.9
DOU pmax pmax
comp=Z,14nm,0.8s
DOU Dourbes 20.11 321 ⇑P Pn 16 32 36.0 -0.4
comp=Z,8.1nm,0.7s
BSD Bornholm Skovb 20.23 344 *i* P Pn 16 32 43.4 +5.8
BSD Bornholm Skovb 20.23 344 *e*P Pn 16 32 43.4 +5.8
SNF Seneffe 20.52 321 ⇑P Pn 16 32 40.3 -0.8
SNF ⇑pP pP 16 32 56.5 +0.5
UCC Uccle 20.66 322 ⇑P Pn 16 32 42.1 -0.6
OBN Obninsk 20.93 20 *e*P Pn 16 32 46.8 +1.0
OBN pmax pmax
comp=Z,58nm,3.4s
ESDC Sonseca Array 22.62 288 P P 16 33 01.7 +1.0
comp=Z,1.3nm,0.6s,baz=81,slow=10,SNR=12
HFS Hagfors 25.15 347 P P 16 33 25.1 +1.4
comp=Z,0.6nm,0.4s,baz=148,slow=8.7,SNR=5.7
FINES FINESS Array B 25.53 2 P P 16 33 26.9 -0.2
comp=Z,0.6nm,0.4s,baz=168,slow=9.2,SNR=13
FINES PcP PcP 16 36 57.1 +1.1
comp=Z,0.4nm,0.3s,baz=221,slow=1.6,SNR=5.9
NOA NORSAR Array B 26.46 346 P P 16 33 36.1 +0.6
comp=Z,0.6nm,0.8s,baz=148,slow=9.4,SNR=2.9
GEYT Alibeck 26.99 76 P P 16 33 41.8 +1.2
comp=Z,3.6nm,0.5s,baz=272,slow=8.4,SNR=11
EKA Eskdalemuir Ar 27.00 324 P P 16 33 41.8 +1.4
comp=Z,3.0nm,0.5s,baz=123,slow=9.0,SNR=33
AKTO Aktyubinsk 28.21 49 P P 16 33 51.6 +0.3
comp=Z,1.2nm,0.3s,baz=269,slow=8.2,SNR=6.1
ABKAR Akbulak array 29.09 52 *e*P P 16 33 59.2 +0.1
comp=Z,1.9nm,0.9s
TORD Torodi Ar. Bea 30.51 228 P P 16 34 12.6 +0.6
comp=Z,0.9nm,0.5s,baz=32,slow=9.9,SNR=16
ARCES ARCESS Array B 33.64 1 P P 16 34 38.6 -0.2
comp=Z,1.8nm,0.8s,baz=182,slow=8.5,SNR=5.6
KK31 Karatay Array 35.95 64 *e*P P 16 34 58.9 -0.2
comp=Z,2.3nm,0.6s
KK31 Karatay Array 35.95 64 *e*P P 16 34 58.9 -0.2
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 35.95 64 *e*P P 16 34 59.1 +0.1
comp=Z,2.3nm,0.6s
KKAR Karatay Array 35.95 64 *e*P P 16 34 59.1 +0.1
KKAR pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 36.23 47 *e*P P 16 35 01.0 -0.3
comp=Z,4.1nm,0.9s
BRVK Borovoye 36.23 47 *ce*P P 16 35 02.9 +1.6
BRVK pmax pmax
comp=Z,25nm,2.5s
AAK Ala-Archa 38.91 64 *e*P P 16 35 25.2 +0.9
comp=Z,1.8nm,0.9s
AAK Ala-Archa 38.91 64 *ce*P P 16 35 27.0 +2.8
AAK pmax pmax
comp=Z,3.0nm,0.8s
DBIC Dimbokro 39.56 230 P P 16 35 30.6 +1.0
comp=Z,1.6nm,0.4s,baz=15,slow=4.8,SNR=11
TIC Toumodi 39.68 230 *e*P P 16 35 32.4 +1.7
KIC Kosan Boka 39.73 229 *e*P P 16 35 32.8 +1.7

comp=Z,6.9nm,0.5s
LIC Lamto 40.01 229 *e*P **P 16 35 35.2 +1.8**
comp=Z,12nm,0.4s
MK31 Makanchi Array 43.90 57 *e*P **P 16 36 05.5 +0.7**
comp=Z,5.3nm,0.5s
MK31 Makanchi Array 43.90 57 *e*P **P 16 36 05.5 +0.7**
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 43.90 57 P **P 16 36 05.6 +0.8**
comp=Z,6.3nm,0.5s,baz=276,slow=7.4,SNR=84
MK01 Makanchi Array 43.91 57 *e*P **P 16 36 05.5 +0.7**
NVS Novosibirsk 44.00 45 *e*P **P 16 36 06.9 +1.5**
NVS *e* 16 36 28.6
ZAA0 Zalesovo Array 44.94 47 *e*P **P 16 36 13.1 +0.2**
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 44.94 47 *e*P **P 16 36 12.9 0.0**
ZALV Zalesovo Beam 44.94 47 *e*P **P 16 36 12.9 0.0**
ZALV Zalesovo Beam 44.94 47 P **P 16 36 12.2 -0.7**
comp=Z,3.0nm,0.3s,baz=268,slow=9.4,SNR=15
WMQ Urumqi 48.19 60 *e*P **P 16 36 41.3 +2.8**
WMQ LR LR
comp=N,170nm,37.5s
WMQ LR LR
comp=E,700nm,29.9s
SONM Songino Array 59.50 51 P **P 16 38 01.4 +0.5**
comp=E,0.5nm,0.4s,baz=284,slow=6.8,SNR=8.9
SONM LR LR 17 07 18.8
comp=E,35nm,18.1s,baz=336,slow=40
BOSA Boshof 64.24 179 P **P 16 38 33.0 +0.3**
BOSA Boshof 64.24 179 P **P 16 38 33.0 +0.3**
comp=E,6.8nm,1.2s,baz=353,slow=6.6,SNR=4.9
HHC Hu-ho-hao-te 65.75 56 P **P 16 38 43.3 +0.7**
HHC pmax pmax
comp=Z,17nm,1.0s
HHC AMB AMB
comp=Z,56nm,5.3s
CMAR Chiang Mai Arr 67.14 83 P **P 16 38 52.3 +0.6**
comp=Z,0.7nm,0.6s,baz=296,slow=7.5,SNR=8.8
YKA Yellowknife Ar 76.48 342 P **P 16 39 46.8 0.0**
comp=Z,0.2nm,0.5s,baz=34,slow=5.2,SNR=5.5
USRK Ussuriysk Ar. 76.75 45 P **P 16 39 48.9 +0.3**
comp=Z,0.8nm,0.5s,baz=307,slow=2.8,SNR=3.1
KSRS Korea Array 78.32 52 P **P 16 39 58.0 +0.5**
comp=Z,0.7nm,0.5s,baz=302,slow=4.9,SNR=5.7
WRA Warramunga Arr 117.34 96 PKP **PKiKP 16 46 42.7 +0.2**
comp=Z,0.4nm,0.7s,baz=315,slow=1.3,SNR=5.3
ASAR Alice Springs 118.85 99 PKP **PKiKP 16 46 46.1 +0.6**
comp=Z,0.5nm,0.5s,baz=307,slow=1.6,SNR=16

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*ISCJB **31** 16:34:54.5±0.7, 31.97N±0.04×116.3W±0.1, h25km±20km, Error ellipse: s-maj=18.6km s-min=5.8km az=6.9*
*MEX **31** 16:34:54.1±5.6, 31.74N×116.84W, h20km±131km, MD3.5*
*ECX **31** 16:34:55.8±0.5, 31.98N×116.27W, h7km, MD2.2, ML2.4*

ISC 31 16:34:54.0±1.3, 31.97N±0.03×116.25W±0.04, h18km±4km, n12, σ0932/19, 1C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ECNX	**Esteban Cantu**	**0.43**	**224**	⇓*e*P		**Pg**	**16 35 03.3**	**+0.5**
ECNX				*e*P		**Pb**	**16 35 02.7**	**-0.4**
ECNX				*e*S		**Sb**	**16 35 09.3**	**0.0**
PBX	**Punta Banda**	**0.46**	**241**	*e*P		**Pb**	**16 35 04.0**	**+0.3**
PBX				*e*S		**Sb**	**16 35 10.3**	**+0.2**
CBX	**Cerro Bola**	**0.49**	**315**	⇑*e*P		**Pb**	**16 35 04.5**	**+0.4**
CBX				*e*S		**Sb**	**16 35 11.1**	**+0.1**
CBX				IAML			16 35 12.2	
comp=E,446nm,0.2s								
TJIG	**Tijuana**	**0.59**	**322**	*e*P		**Pb**	**16 35 05.8**	**+0.2**
TJIG				*e*S		**Sg**	**16 35 13.4**	**-0.2**
TJIG	**Tijuana**	**0.59**	**322**	*e*P		**Pg**	**16 35 05.4**	**-0.3**
TJIG				*e*S		**Sg**	**16 35 13.6**	**0.0**
RMX	**La Rumorosa**	**0.65**	**13**	*e*P		**Pg**	**16 35 06.9**	**0.0**
RMX				IAML			16 35 15.4	
comp=E,185nm,0.1s								
RMX				⇓*e*			16 35 15.4	
IKP	**In-Ko-Pah, Jac**	**0.69**	**10**	*e*P		**Pb**	**16 35 08.2**	**+0.6**
BAR	**Barrett**	**0.79**	**333**	*e*P		**Pg**	**16 35 09.2**	**-0.4**
MONP2	**Monument Peak**	**0.93**	**351**	*e*P		**Pg**	**16 35 12.0**	**-0.3**
SDRC	**San Diego Road**	**0.96**	**323**	*e*P		**Pb**	**16 35 12.2**	**0.0**
SPIG	**San Pedro Mart**	**1.14**	**144**	*e*P		**Pg**	**16 35 16.1**	**-0.1**
baz=276,slow=10								
SPIG				*i* S		**Sb**	**16 35 29.6**	**-0.3**
SPIG	**San Pedro Mart**	**1.14**	**144**	*e*P		**Pg**	**16 35 16.1**	**-0.1**

MEX 31 16:46:29.6±0.4, 14.63N×92.25W, h82km±4km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THIG		**0.27**	**357**	*e*P		Pn	16 46 40.9	-1.1
THIG				*e*S		Sn	16 46 49.1	-2.0
PCIG		**1.42**	**319**	*e*P		Pn	16 46 52.6	-1.4
PCIG				*i* S		Sn	16 47 10.7	-1.6
CCIG	**Comitan**	**1.64**	**4**	*e*P		Pn	16 46 56.1	-1.0
CCIG				*i* S		Sn	16 47 16.1	-1.7

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*IDC **31** 16:46:53.1±8.6, 20.24S×177.37W, h509km±83km, mb3.5/5, mb1 3.6/7, mb1mx3.1/29, mbtmp4.3/7, Error ellipse: s-maj=67.2km s-min=35.1km az=41.0*

ISC 31 16:46:52.1±2.4, 20.2S±0.3×177.3W±0.3, h500km, n9, σ0931/8, mb4.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**15.26**	**260**	P		**P**	**16 50 05.5**	**+0.3**
0.6nm,0.3s,baz=112,slow=16,SNR=9.3								
URZ	**Urewera**	**18.65**	**194**	P		**P**	**16 50 38.3**	**+0.1**
0.3nm,0.3s,baz=288,slow=3.9,SNR=4.5								
CTA	**Charters Tower**	**34.15**	**264**	P		**P**	**16 52 55.2**	**+0.1**
3.1nm,0.3s,baz=94,slow=9.9,SNR=14								
STKA	**Stephens Creek**	**38.50**	**244**	P		**P**	**16 53 30.8**	**-0.1**
2.2nm,0.5s,baz=91,slow=11,SNR=13								
ASAR	**Alice Springs**	**45.21**	**256**	P		**P**	**16 54 24.1**	**-0.1**
9.3nm,0.8s,baz=98,slow=7.6,SNR=186								
WRA	**Warramunga Arr**	**45.27**	**262**	P		**P**	**16 54 24.1**	**-0.5**
1.8nm,0.3s,baz=97,slow=7.7,SNR=109								
CMAR	**Chiang Mai Arr**	**90.61**	**289**	P		**P**	**16 59 01.4**	**+0.2**
0.5nm,0.8s,baz=121,slow=2.7,SNR=8.4								
AKASG	**Malin Array Be**	**143.04**	**332**	PKP		PKPab	17 05 26.9	+1.1
0.1nm,0.4s,baz=40,slow=4.1,SNR=5.7								
BRTR	**Keskin Array B**	**147.09**	**313**	PKPbc		**PKPbc**	**17 05 38.8**	**-0.1**
0.4nm,0.6s,baz=132,slow=2.1,SNR=3.3								

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*ISCJB **31** 17:08:06.9±0.4, 65.62S±0.05×178.2W±0.2, h10km, mb4.7/20, MS5.3/132, Error ellipse: s-maj=12.8km s-min=7.1km az=168.2*
*IDC **31** 17:08:07.0±0.5, 65.61S×178.07W, h0km, mb4.5/12, mb1 4.7/13, mb1mx4.6/27, mbtmp4.5/13, ML4.3/1, MS5.2/22, Ms1 5.2/22, ms1mx5.1/26, Error ellipse: s-maj=26.1km s-min=14.4km az=47.0*
*NEIC **31** 17:08:08.2±0.3, 65.55S×177.80W, h10km, mb5.0/9, MS5.3/105, MW5.6, Error ellipse: s-maj=13.9km s-min=9.4km az=64.0, Moment Tensor Solution. s22 Moment tensor: Scale 10^17 Nm; Mrr=0.33; Mθθ 3.45; Mφφ-3.13; Mrθ-0.12; Mθφ 0.18; Mrφ 0.45; Best double couple: M◎3.30000×10^17 NP1:ϕ◎224.00000°, δ83.00000°, λ-175.00000°. NP2:ϕ◎133.00000°, δ85.00000°, λ-7.00000°. Principal axes: T 3.4600, Plg2.0000°, Azm179.0000°; N -0.2600, Plg81.0000°, Azm279.0000°; P -3.2000, Plg9.0000°, Azm88.0000°;*
*MOS **31** 17:08:09.1±2.0, 65.70S×178.41W, h10km, mb5.0/5 Error ellipse: s-maj=38.8km s-min=11.6km az=94.2*
*GCMT **31** 17:08:10.2±0.1, 65.50S±0.01×177.63W±0.02, h12km, MW5.6/121, Moment Tensor Solution. s105, c192; s121, c337; Duration: 1⁋6 Moment tensor: Scale 10^17 Nm; Mrr-0.34±.03; Mθθ 3.44±.03; Mφφ-3.10±.03; Mrθ-1.33±.08; Mθφ 0.34±.03; Mφr 0.47±.08; Best double couple: M◎3.54700×10^17 NP1:ϕ◎312.00000°, δ86.00000°, λ21.00000°. NP2:ϕ◎221.00000°, δ69.00000°, λ176.00000°. Principal axes: T 3.8660, Plg17.0000°, Azm178.0000°; N -0.6370, Plg69.0000°, Azm323.0000°; P -3.2290, Plg12.0000°, Azm85.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*BJI **31** 17:08:12.0, 65.60S×177.90W, h10km, mB5.6/2, Ms5.4/3, Ms7 5.1/3*

ISC 31 17:08:08.9±0.3, 65.63S±0.06×177.77W±0.10, h10km, n261, σ2908/121, mb4.7/20, MS5.3/132, 4C-4D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBA	**Scott Base**	**13.12**	**194**	*e*Pn		**Pn**	**17 11 13.6**	**-1.3**
SBA	**Scott Base**	**13.12**	**194**	*e*P		**Pn**	**17 11 13.6**	**-1.3**
VNDA	**Vanda**	**13.42**	**199**	*e*Pn		**Pn**	**17 11 19.1**	**0.0**
VNDA				*e*Sn		**Sn**	**17 13 47.5**	**-0.6**
VNDA	**Vanda**	**13.42**	**199**	*e*P		**Pn**	**17 11 19.1**	**0.0**
VNDA				*e*			17 13 47.5	
VNDA	**Vanda**	**13.42**	**199**	Pn		**Pn**	**17 11 19.1**	**0.0**
1.3nm,0.3s,baz=49,slow=17,SNR=90								
VNDA				Sn		**Sn**	**17 13 41.0**	**-7.1**
0.5nm,0.3s,baz=106,slow=19,SNR=4.1								
VNDA				LR		LR	17 15 26.9	
comp=Z,18μm,21.9s,baz=56,slow=33								
RPZ	**Rata Peaks**	**22.82**	**339**	LR		LR	17 19 49.1	
comp=Z,14μm,21.7s,baz=171,slow=31								
QSPA	**South Pole Qui**	**24.46**	**180**	*e*P		**P**	**17 13 28.4**	**+0.7**
51nm,1.2s								
QSPA	**South Pole Qui**	**24.46**	**180**	P		**P**	**17 13 27.8**	**+0.1**
11nm,0.9s,baz=24,slow=2.3,SNR=16								
QSPA				LR		LR	17 22 19.4	
comp=Z,20μm,18.4s,baz=42,slow=35								
SNZO	**South Karori**	**24.74**	**346**	PFAKE			17 13 40.0	+10
SNZO				LR		LR		
comp=Z,8μm,21.0s								
URZ	**Urewera**	**27.57**	**351**	P		**P**	**17 13 55.7**	**-0.1**
comp=Z,4.8nm,0.8s,baz=331,slow=5.2,SNR=4.1								
URZ				LR		LR	17 22 58.2	
comp=Z,14μm,19.5s,baz=170,slow=32								
CASY	**Casey**	**27.77**	**236**	*e*P		**P**	**17 13 58.7**	**+1.4**
comp=Z,10nm,0.9s								
CASY				LR		LR		
comp=Z,663nm,19.0s								
TAU	**Tasmania Unive**	**29.86**	**302**	PFAKE			17 14 30.0	+14
TAU				LR		LR		
comp=Z,5μm,20.0s								
RAO	**Raoul Island**	**36.40**	**360**	PFAKE			17 15 20.0	+6.8
RAO				LR		LR		
comp=Z,4μm,19.0s								
MAW	**Mawson**	**40.32**	**211**	LR		LR	17 32 23.6	
comp=Z,4μm,19.7s,baz=142,slow=36								
PMSA	**Palmer Station**	**41.36**	**144**	PFAKE			17 16 10.0	+16
PMSA				LR		LR		
comp=Z,3μm,20.0s								
STKA	**Stephens Creek**	**41.75**	**304**	*e*P		**P**	**17 15 57.8**	**-0.1**
comp=Z,3.3nm,1.1s								
STKA	**Stephens Creek**	**41.75**	**304**	P		**P**	**17 15 57.1**	**-0.9**
comp=Z,5.7nm,0.9s,baz=138,slow=9.2,SNR=9.3								
STKA				LR		LR	17 29 55.1	
comp=Z,2μm,20.4s,baz=157,slow=31								
BBOO	**Buckleboo**	**42.89**	**297**	*e*P		**P**	**17 16 07.0**	**-0.2**
comp=Z,40nm,1.1s								
SNAA	**Sanae**	**42.91**	**178**	P		**P**	**17 16 08.0**	**+0.9**
SNAA	**Sanae**	**42.91**	**178**	*e*P		**P**	**17 16 06.2**	**-0.8**
comp=Z,40nm,1.4s								
SNAA	**Sanae**	**42.91**	**178**	*i* P		**P**	**17 16 06.0**	**-1.1**
SYO	**Syowa Base**	**43.12**	**199**	⇓*i*P		**P**	**17 16 12.0**	**+3.4**
SYO	**Syowa Base**	**43.12**	**199**	⇑*i*P		P	17 16 15.1	+6.5
VNA3	**Neumayer Olymp**	**43.15**	**174**	P		**P**	**17 16 08.6**	**-0.3**
VNA1	**Neumayer--Stat**	**43.79**	**175**	P		**P**	**17 16 14.2**	**+0.1**
DZM	**Mont Dzumac**	**44.74**	**339**	*e*S		**S**	**17 23 01.7**	**+2.7**
comp=Z,1μm,29.3s								
DZM				*e*LQ		LQ	17 26 59.9	
comp=Z,5μm,30.1s								
DZM				*e*LR		LR	17 28 54.0	
comp=Z,12μm,27.1s								
EIDS	**Eidsvold**	**44.85**	**318**	*e*P		**P**	**17 16 22.1**	**-0.9**
comp=Z,40nm,1.0s								
RAR	**Rarotonga**	**45.93**	**24**	PFAKE			17 16 40.0	+8.4
RAR				LR		LR		
comp=Z,3μm,19.0s								
TBI	**Tubuai**	**46.03**	**37**	*e*S		**S**	**17 23 13.6**	**-3.7**
comp=Z,1μm,28.8s								
TBI				*e*LQ		LQ	17 26 56.8	
comp=Z,9μm,31.0s								
TBI				*e*LR		LR	17 29 05.7	
comp=Z,5μm,28.2s,baz=195								
TBI	**Tubuai**	**46.03**	**37**	*e*T		T	18 05 03.2	
comp=Z,36nm,0.3s								
MSVF	**Nonsavu**	**47.95**	**355**	PFAKE			17 17 00.0	+13
MSVF				LR		LR		
comp=Z,711nm,22.0s								
MSVF	**Nonsavu**	**47.95**	**355**	*i* P		**P**	**17 16 47.1**	**-0.4**
MSVF				pmax		pmax		
comp=Z,8.0nm,1.1s								
H01W1	**Cape Leeuwin H**	**49.80**	**273**	T		T	18 11 00.2	
baz=149,slow=76,SNR=110								
H01W2	**Cape Leeuwin H**	**49.80**	**273**	T		T	18 11 00.5	
baz=149,slow=76,SNR=126								
H01W3	**Cape Leeuwin H**	**49.81**	**273**	T		T	18 11 01.4	
baz=149,slow=76,SNR=108								
NWAO	**Narrogin (SRO)**	**50.23**	**277**	LR		LR	17 33 13.8	
comp=Z,8μm,20.6s,baz=146,slow=30								
RKT	**Rikitea**	**50.54**	**54**	*e*T		T	18 10 43.9	
comp=Z,14nm,0.2s								
CTA	**Charters Tower**	**51.23**	**315**	P		**P**	**17 17 11.4**	**-1.0**
comp=Z,2.8nm,0.7s,baz=173,slow=6.1,SNR=7.0								
CTA				LR		LR	17 35 52.3	
comp=Z,2μm,18.8s,baz=156,slow=33								
CTAO	**Charters Tower**	**51.23**	**315**	PFAKE			17 17 20.0	+7.6
CTAO				LR		LR		
comp=Z,3μm,20.0s								
TVO	**Taravao**	**51.42**	**36**	*e*T		T	18 11 48.1	
comp=Z,5.8nm,0.3s								
PAE	**Paea**	**51.46**	**35**	*e*T		T	18 11 50.6	
comp=Z,8.3nm,0.3s								
PPT2	**Papeete2**	**51.53**	**35**	*e*S		**S**	**17 24 32.8**	**-2.2**
comp=Z,703nm,25.5s								
PPT2				*e*LQ		LQ	17 29 20.2	
comp=Z,4μm,23.5s								
PPT2				*e*LR		LR	17 31 34.6	
comp=Z,6μm,28.0s,baz=196								
PPT2	**Papeete2**	**51.53**	**35**	*e*T		T	18 11 55.9	
comp=Z,27nm,0.3s								
PPT	**Papeete**	**51.55**	**35**	LR		LR	17 33 03.8	
comp=Z,2μm,20.6s,baz=193,slow=29								
TIAR	**Tiarei**	**51.62**	**35**	*e*T		T	18 12 00.7	
comp=Z,6.8nm,0.2s								
AS01	**Alice Springs**	**51.95**	**300**	*e*P		**P**	**17 17 16.3**	**-1.5**
AS31	**Alice Springs**	**51.97**	**300**	*e*P		**P**	**17 17 16.4**	**-1.5**
comp=Z,5.1nm,1.2s								
ASAR	**Alice Springs**	**51.97**	**300**	P		**P**	**17 17 16.1**	**-1.9**
comp=Z,6.4nm,0.8s,baz=157,slow=7.3,SNR=61								
ASAR				LR		LR	17 38 07.9	
comp=Z,865nm,18.1s,baz=152,slow=35								
VAH	**Vaihoa**	**54.27**	**37**	*e*T		T	18 15 21.9	
comp=Z,92nm,0.3s								
EFI	**East Falkland**	**54.27**	**138**	PFAKE			17 17 50.0	+15
EFI				LR		LR		
comp=Z,1μm,19.0s								
PMOR	**Pomariorio Ree**	**54.43**	**36**	*e*T		T	18 15 33.0	
comp=Z,16nm,0.3s								
WB2	**Warramunga Arr**	**55.23**	**302**	*e*P		**P**	**17 17 40.1**	**-1.7**
WR1	**Warramunga Arr**	**55.23**	**302**	*e*P		**P**	**17 17 39.8**	**-2.1**
comp=Z,40nm,1.1s								
WRA	**Warramunga Arr**	**55.23**	**302**	*e*P		**P**	**17 17 40.1**	**-1.8**
WRA				pmax		pmax		
comp=Z,8.0nm,0.8s								
WRA	**Warramunga Arr**	**55.23**	**302**	P		**P**	**17 17 39.8**	**-2.1**
comp=Z,7.6nm,0.8s,baz=160,slow=6.2,SNR=22								
WRA				LR		LR	17 38 56.8	
comp=Z,2μm,18.6s,baz=125,slow=34								
WRAB	**Tennant Creek**	**55.24**	**302**	PFAKE			17 17 50.0	+8.1
WRAB				LR		LR		
comp=Z,2μm,19.0s								
WRAB	**Tennant Creek**	**55.24**	**302**	*i* P		**P**	**17 17 39.7**	**-2.2**
WRAB				pmax		pmax		
comp=Z,39nm,1.2s								
HOPE	**Hope Point**	**56.83**	**154**	PFAKE			17 18 00.0	+7.2
HOPE				LR		LR		
comp=Z,2μm,19.0s								
HNR	**Honiara**	**58.20**	**334**	LR		LR	17 40 03.7	
comp=Z,4μm,19.3s,baz=183,slow=33								
PLCA	**Paso Flores**	**60.13**	**123**	*e*P		**P**	**17 18 15.2**	**-1.0**
comp=Z,29nm,1.4s								
PLCA	**Paso Flores**	**60.13**	**123**	*e*P		**P**	**17 18 15.2**	**-1.0**
PLCA				pmax		pmax		
comp=Z,29nm,1.4s								
PLCA	**Paso Flores**	**60.13**	**123**	P		**P**	**17 18 16.4**	**+0.2**
comp=Z,4.3nm,1.0s,baz=280,slow=6.6,SNR=6.6								
PLCA				LR		LR	17 38 20.9	
comp=Z,754nm,20.2s,baz=235,slow=30								
PMG	**Port Moresby**	**61.13**	**320**	*i* P		**P**	**17 18 24.6**	**+1.5**
PMG				pmax		pmax		
comp=Z,118nm,1.1s								
PMG	**Port Moresby**	**61.13**	**320**	LR		LR	17 39 31.1	
comp=Z,2μm,21.0s,baz=155,slow=31								
TARA	**Tarawa**	**67.17**	**350**	PFAKE			17 19 10.0	+7.2
TARA				LR		LR		
comp=Z,141nm,20.0s								
BATI	**Baumata**	**68.09**	**295**	LR		LR	17 47 37.8	
comp=Z,2μm,18.3s,baz=194,slow=35								
JAY	**Jayapura**	**69.51**	**315**	LR		LR	17 45 06.1	
comp=Z,1μm,21.4s,baz=154,slow=32								
SIJI	**Sorong**	**74.04**	**306**	P		**P**	**17 19 44.0**	**-0.6**
comp=Z,12nm,0.7s,baz=150,slow=1.0,SNR=13								
KAPI	**Kappang**	**74.33**	**293**	PFAKE			17 20 00.0	+14
KAPI				LR		LR		
comp=Z,1μm,20.0s								
LVC	**Limon Verde**	**77.06**	**116**	PFAKE			17 20 10.0	+7.5
LVC				LR		LR		
comp=Z,1μm,20.0s								
COCO	**West Island**	**77.09**	**269**	PFAKE			17 20 10.0	+7.8
COCO				LR		LR		
comp=Z,1μm,21.0s								
LEM	**Lembang**	**77.48**	**281**	LR		LR	17 49 27.9	
comp=Z,1μm,20.1s,baz=166,slow=32								
CPUP	**Villa Florida**	**77.72**	**128**	*e*P		**P**	**17 20 04.5**	**-1.1**
comp=Z,12nm,1.0s								
CPUP	**Villa Florida**	**77.72**	**128**	*e*P		**P**	**17 20 04.5**	**-1.1**
CPUP				pmax		pmax		
comp=Z,13nm,1.0s								
CPUP	**Villa Florida**	**77.72**	**128**	P		**P**	**17 20 05.8**	**+0.2**
comp=Z,2.5nm,0.7s,baz=214,slow=4.3,SNR=8.2								
CPUP				LR		LR	17 51 10.0	
comp=Z,1μm,19.0s,baz=204,slow=33								
SUR	**Sutherland**	**81.25**	**196**	PFAKE			17 20 40.0	+15
SUR				LR		LR		
comp=Z,5μm,20.0s								
LPAZ	**La Paz**	**83.13**	**114**	*e*P		**P**	**17 20 36.0**	**+0.4**
LPAZ	**La Paz**	**83.13**	**114**	*e*P		**P**	**17 20 37.4**	**+1.8**
LPAZ				pmax		pmax		
comp=Z,4.0nm,0.7s								
LPAZ	**La Paz**	**83.13**	**114**	P		**P**	**17 20 36.0**	**+0.4**
comp=Z,4.4nm,0.7s,baz=110,slow=1.9,SNR=17								
LPAZ				LR		LR	17 48 30.0	
comp=Z,703nm,21.6s,baz=193,slow=29								
DAV	**Davao City (W)**	**83.39**	**303**	PFAKE			17 20 50.0	+14
DAV				LR		LR		
comp=Z,400nm,22.0s								
NNA	**Nana**	**83.64**	**105**	PFAKE			17 20 50.0	+12
NNA				LR		LR		
comp=Z,606nm,21.0s								
GUMO	**Guam**	**83.78**	**324**	LR		LR	17 53 30.8	
comp=Z,363nm,18.1s,baz=162,slow=32								
BOSA	**Boshof**	**84.39**	**200**	P		**P**	**17 20 40.8**	**-0.5**
comp=Z,3.2nm,0.8s,baz=140,slow=9.1,SNR=3.6								
BOSA				LR		LR	17 54 29.3	
comp=Z,1μm,21.1s,baz=172,slow=33								
POHA	**Pohakuloa**	**86.79**	**21**	PFAKE			17 21 00.0	+6.8
POHA				LR		LR		
comp=Z,2μm,20.0s								
PAYG	**Puerto Ayora**	**88.35**	**88**	PFAKE			17 21 10.0	+9.3
PAYG				LR		LR		
comp=Z,3μm,22.0s								
ABPO	**Ambohimpanom**	**89.02**	**222**	PFAKE			17 21 10.0	+5.9
ABPO				LR		LR		
comp=Z,673nm,19.0s								
BDFB	**Brasilia**	**90.68**	**132**	P		**P**	**17 21 12.6**	**+0.8**
comp=Z,2.2nm,0.6s,baz=152,slow=3.9,SNR=3.5								
BDFB				LR		LR	17 59 53.5	
comp=Z,524nm,19.1s,baz=185,slow=34								
DGAR	**Diego Garcia**	**91.30**	**249**	PFAKE			17 21 20.0	+5.5
DGAR				LR		LR		
comp=Z,762nm,21.0s								
MIDW	**Midway**	**93.54**	**0**	PFAKE			17 21 30.0	+5.7
MIDW				LR		LR		
comp=Z,2μm,22.0s								
OTAV	**Otavalo**	**94.07**	**98**	PFAKE			17 21 40.0	+12
OTAV				LR		LR		
comp=Z,791nm,22.0s								
LSZ	**Lusaka**	**97.00**	**205**	PFAKE			17 21 50.0	+9.2
LSZ				LR		LR		
comp=Z,2μm,22.0s								
MSEY	**Mahe Island**	**100.01**	**234**	PFAKE			17 22 00.0	+5.8
MSEY				LR		LR		
comp=Z,1μm,19.0s								
QIZ	**Qiongzhong**	**100.14**	**294**	PFAKE			17 22 00.0	+5.5
QIZ				LR		LR		
comp=Z,57nm,20.0s								
JTS	**JuntasAbangare**	**100.46**	**88**	PFAKE			17 22 10.0	+14
JTS				LR		LR		
comp=Z,2μm,21.0s								
PTGA	**Pitinga**	**100.49**	**116**	PFAKE			17 22 10.0	+14
PTGA				LR		LR		
comp=Z,10μm,21.0s								
BCIP	**Isla Barro Col**	**101.57**	**93**	PFAKE			17 22 10.0	+9.0
BCIP				LR		LR		
comp=Z,1μm,22.0s								
RCBR	**Riachuelo**	**103.47**	**141**	PFAKE			17 22 20.0	+10
RCBR				LR		LR		
comp=Z,120μm,21.0s								
CHTO	**Chiang Mai**	**104.22**	**284**	PFAKE			17 22 20.0	+7.3
CHTO				LR		LR		
comp=Z,460nm,19.0s								
ASCN	**Ascension**	**105.61**	**163**	PFAKE			17 26 40.0	+7.8
ASCN				LR		LR		
comp=Z,137μm,19.0s								
SSE	**Sheshan**	**107.17**	**308**	PFAKE			17 26 50.0	+16
SSE				LR		LR		
comp=Z,350nm,20.0s								
MAJO	**Matsushiro**	**107.41**	**324**	PFAKE			17 26 50.0	+15
MAJO				LR		LR		
comp=Z,506nm,22.0s								
KMBO	**Kilima Mbogo**	**108.78**	**217**	PFAKE			17 26 50.0	+12
KMBO				LR		LR		
comp=Z,2μm,20.0s								
PFO	**Pinyon Flats O**	**109.58**	**51**	PFAKE			17 26 50.0	+11
PFO				LR		LR		
comp=Z,866nm,20.0s								
ENH	**Enshi**	**110.48**	**298**	PFAKE			17 26 50.0	+9.3
ENH				LR		LR		
comp=Z,368nm,21.0s								
MTDJ	**Mount Denham**	**110.67**	**92**	PFAKE			17 26 50.0	+8.5
MTDJ				LR		LR		
comp=Z,1μm,21.0s								
KVTX	**Kingsville**	**110.72**	**69**	PFAKE			17 26 50.0	+8.8
KVTX				LR		LR		
comp=Z,759nm,20.0s								
**M

BJT					LR	LR			
	comp=Z,444nm,21.0s								
SDCO	**Great Sand Dun**	**117.03**	**58**		PFAKE		17 27 00.0	+6.6	
SDCO					LR	LR			
	comp=Z,684nm,20.0s								
LSA	**Lhasa**	**117.08**	**282**		PFAKE		17 27 00.0	+6.0	
LSA					LR	LR			
	comp=Z,339nm,20.0s								
MDJ	**Mudanjiang**	**117.20**	**320**		PFAKE		17 27 00.0	+6.9	
MDJ					LR	LR			
	comp=Z,496nm,22.0s								
BRAL	**Brewton**	**118.23**	**77**		PFAKE		17 27 10.0	+14	
BRAL					LR	LR			
	comp=Z,329nm,21.0s								
MIAR	**Mount Ida**	**118.62**	**69**		PFAKE		17 27 10.0	+14	
MIAR					LR	LR			
	comp=Z,587nm,20.0s								
ISCO	**Idaho Springs**	**118.83**	**57**		PFAKE		17 27 10.0	+13	
ISCO					LR	LR			
	comp=Z,658nm,20.0s								
HLID	**Hailey**	**119.31**	**48**		PFAKE		17 27 10.0	+13	
HLID					LR	LR			
	comp=Z,749nm,21.0s								
BMO	**Blue Mountains**	**119.61**	**45**		PFAKE		17 27 10.0	+12	
BMO					LR	LR			
	comp=Z,1μm,20.0s								
AHID	**Auburn Hatcher**	**119.64**	**51**		PFAKE		17 27 10.0	+12	
AHID					LR	LR			
	comp=Z,876nm,19.0s								
PET	**Petropavlovsk**	**119.69**	**344**		PFAKE		17 27 10.0	+12	
PET					LR	LR			
	comp=Z,1μm,21.0s								
NLWA	**Neilton Lookou**	**120.10**	**39**		PFAKE		17 27 10.0	+11	
NLWA					LR	LR			
	comp=Z,1μm,19.0s								
BW06	**Boulder Array**	**120.14**	**52**		PFAKE		17 27 10.0	+11	
BW06					LR	LR			
	comp=Z,689nm,20.0s								
PDAR	**Pinedale Array**	**120.14**	**52**		PKP	**PKiKP**	**17 26 59.4**	**+0.2**	
	comp=Z,1.7nm,1.0s,baz=178,slow=2.5,SNR=7.4								
KLR	**Kul'dur**	**120.93**	**324**	*i*	PKiKP	**PKiKP**	**17 27 00.8**	**+0.6**	
OGNE	**Ogallala**	**121.10**	**59**		PFAKE		17 27 10.0	+9.1	
OGNE					LR	LR			
	comp=Z,524nm,19.0s								
KSU1	**Kansas State U**	**121.46**	**64**		PFAKE		17 27 10.0	+8.4	
KSU1					LR	LR			
	comp=Z,737nm,20.0s								
LKWY	**Lake**	**121.48**	**51**		PFAKE		17 27 10.0	+8.2	
LKWY					LR	LR			
	comp=Z,822nm,20.0s								
GOGA	**Godfrey**	**121.65**	**78**		PFAKE		17 27 10.0	+7.9	
GOGA					LR	LR			
	comp=Z,552nm,22.0s								
BOZ	**Bozeman (W)**	**122.01**	**49**		PFAKE		17 27 10.0	+7.3	
BOZ					LR	LR			
	comp=Z,784nm,20.0s								
GTA	**Gaotai**	**122.20**	**295**	*e*	PKP	**PKiKP**	**17 27 05.0**	**+1.8**	
GTA					sPKP		17 27 12.5		
RLMT	**Red Lodge**	**122.34**	**51**		PFAKE		17 27 10.0	+6.6	
RLMT					LR	LR			
	comp=Z,657nm,19.0s								
NKL	**Nikolayevsk**	**122.64**	**332**	*e*	PKiKP	**PKiKP**	**17 27 06.0**	**+2.6**	
NHSC	**New Hope**	**122.73**	**81**		PFAKE		17 27 10.0	+5.8	
NHSC					LR	LR			
	comp=Z,442nm,19.0s								
NEW	**Newport**	**122.75**	**44**		PKP	**PKPdf**	**17 27 03.2**	**-0.4**	
NEW					LR	LR			
	comp=Z,1μm,19.0s								
NEW	**Newport**	**122.75**	**44**		PKiKP	**PKPdf**	**17 27 03.3**	**-0.4**	
NEW					MLR	MLR			
	comp=Z,1μm,19.0s								
NEW	**Newport**	**122.75**	**44**		PKP	**PKPdf**	**17 27 03.2**	**-0.4**	
	comp=Z,2.6nm,0.8s,baz=236,slow=3.7,SNR=3.6								
HIA	**Hailar**	**124.19**	**315**		PFAKE		17 27 20.0	+13	
HIA					LR	LR			
	comp=Z,482nm,20.0s								
KDAK	**Kodiak Island**	**124.55**	**16**		PFAKE		17 27 20.0	+13	
KDAK					LR	LR			
	comp=Z,438nm,20.0s								
LAO	**LASA Array**	**124.72**	**53**		PFAKE		17 27 20.0	+12	
LAO					LR	LR			
	comp=Z,690nm,19.0s								
EGMT	**Eagleton**	**124.76**	**49**		PFAKE		17 27 20.0	+12	
EGMT					LR	LR			
	comp=Z,1μm,21.0s								
SCIA	**State Center**	**125.17**	**65**		PFAKE		17 27 20.0	+11	
SCIA					LR	LR			
	comp=Z,612nm,20.0s								
ECSD	**EROS Data Cent**	**125.49**	**62**		PFAKE		17 27 20.0	+11	
ECSD					LR	LR			
	comp=Z,786nm,20.0s								
HDIL	**Hopedale**	**125.51**	**69**		PFAKE		17 27 20.0	+10	
HDIL					LR	LR			
	comp=Z,668nm,19.0s								
CNNC	**Cliffs of the**	**125.52**	**82**		PFAKE		17 27 20.0	+10	
CNNC					LR	LR			
	comp=Z,1μm,20.0s								
BLA	**Blacksburg**	**126.18**	**79**		PFAKE		17 27 20.0	+8.9	
BLA					LR	LR			
	comp=Z,529nm,22.0s								
SACV	**Santiago Islan**	**126.48**	**148**		PFAKE		17 27 20.0	+7.7	
SACV					LR	LR			
	comp=Z,404nm,21.0s								
DGMT	**Dagmar**	**126.94**	**53**		PFAKE		17 27 20.0	+7.8	
DGMT					LR	LR			
	comp=Z,688nm,20.0s								
SONA0	**Songino Array**	**127.15**	**305**	*e*	PKPdf	**PKiKP**	**17 27 13.2**	**+0.4**	
SONM	**Songino Array**	**127.15**	**305**		PKP	**PKiKP**	**17 27 13.2**	**+0.4**	
	comp=Z,0.3nm,0.7s,baz=131,slow=2.3,SNR=3.6								
JFWS	**Jewell Farm**	**127.17**	**67**		PFAKE		17 27 20.0	+7.2	
JFWS					LR	LR			
	comp=Z,712nm,21.0s								
TOA0	**Torodi Ar. Sit**	**127.58**	**179**	*e*	PKPdf	**PKPdf**	**17 27 13.3**	**-0.6**	
TORD	**Torodi Ar. Bea**	**127.58**	**179**		PKP	**PKPdf**	**17 27 13.0**	**-0.9**	
	comp=Z,2.2nm,1.0s,baz=164,slow=2.7,SNR=11								
TOA1	**Torodi Ar. Sit**	**127.58**	**179**	*e*	PKPdf	**PKPdf**	**17 27 13.0**	**-0.9**	
ACSO	**Alum Creek Sta**	**127.73**	**75**		PFAKE		17 27 20.0	+6.0	
ACSO					LR	LR			
	comp=Z,577nm,19.0s								
NIL	**Nilore**	**127.91**	**269**		PFAKE		17 27 20.0	+5.4	
NIL					LR	LR			
	comp=Z,1.0nm,22.0s								
CBN	**Corbin Frederi**	**128.27**	**81**		PFAKE		17 27 30.0	+15	
CBN					LR	LR			
	comp=Z,622nm,20.0s								
AAM	**Ann Arbor**	**129.21**	**73**		PFAKE		17 27 30.0	+13	
AAM					LR	LR			
	comp=Z,654nm,19.0s								
AGMN	**Agassiz Nation**	**129.66**	**59**		PFAKE		17 27 30.0	+12	
AGMN					LR	LR			
	comp=Z,1μm,19.0s								
COWI	**Conover**	**130.29**	**66**		PFAKE		17 27 30.0	+11	
COWI					LR	LR			
	comp=Z,567nm,20.0s								
EYMN	**Ely**	**130.95**	**63**		PFAKE		17 27 30.0	+10	
EYMN					LR	LR			
	comp=Z,906nm,20.0s								
GLMI	**Grayling**	**130.96**	**70**		PFAKE		17 27 30.0	+10	
GLMI					LR	LR			
	comp=Z,565nm,19.0s								
ULM	**Lac du Bonnet**	**131.31**	**58**	*e*	PKiKP	**PKiKP**	**17 27 23.6**	**+2.8**	
ULM					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TLY	**Talaya**	**131.37**	**306**		PFAKE		17 27 30.0	+9.1	
TLY					LR	LR			
	comp=Z,245nm,19.0s								
COLA	**College**	**132.01**	**17**		PFAKE		17 27 30.0	+8.3	
COLA					LR	LR			
	comp=Z,641nm,20.0s								
IL1	**Eielson Array**	**132.03**	**17**	*e*	PKPdf	**PKPdf**	**17 27 18.2**	**-2.6**	
ILAR	**Eielson Array**	**132.03**	**17**		PKP	**PKPdf**	**17 27 19.2**	**-1.5**	
	comp=Z,2.5nm,0.7s,baz=232,slow=2.8,SNR=13								
BINY	**Binghamton**	**132.21**	**79**		PFAKE		17 27 30.0	+7.0	
BINY					LR	LR			
	comp=Z,610nm,20.0s								
EGAK	**Eagle**	**132.80**	**20**		PFAKE		17 27 30.0	+6.6	
EGAK					LR	LR			
	comp=Z,1μm,19.0s								
FFC	**Flin Flon**	**133.00**	**50**		PFAKE		17 27 30.0	+5.9	
FFC					LR	LR			
	comp=Z,1μm,19.0s								
BILL	**Bilibino**	**133.87**	**352**		PFAKE		17 27 30.0	+4.5	
BILL					LR	LR			
	comp=Z,598nm,20.0s								
BILL	**Bilibino**	**133.87**	**352**	*i*	PKiKP	**PKiKP**	**17 27 26.6**	**+1.1**	
BILL					pmax	pmax			
	comp=Z,1.0nm,1.0s								
LONY	**Lake Ozonia**	**134.79**	**78**		PFAKE		17 27 40.0	+12	
LONY					LR	LR			
	comp=Z,514nm,19.0s								
AAK	**Ala-Archa**	**135.02**	**276**		PFAKE		17 27 40.0	+11	
AAK					LR	LR			
	comp=Z,507nm,20.0s								
MK32	**Makanchi Array**	**135.26**	**286**	*e*	PKPpre	PKPpre	17 27 16.9		
MK32				*e*	PKPdf	**PKPdf**	**17 27 28.1**	**+0.6**	
MKAR	**Makanchi Array**	**135.26**	**286**		PKhKP	PKPpre	17 27 16.9		
	comp=Z,0.3nm,0.8s,baz=90,slow=3.6,SNR=2.5								
MKAR					PKP	**PKPdf**	**17 27 28.1**	**+0.6**	
	comp=Z,2.6nm,1.1s,baz=124,slow=2.1,SNR=8.3								
DGZ	**Jazzator, Alta**	**135.60**	**292**	*i*	PKiKP	**PKPdf**	**17 27 28.5**	**+0.3**	
YKA	**Yellowknife Ar**	**135.96**	**37**	*e*	PKiKP	**PKPdf**	**17 27 24.5**	**-3.7**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
YKA	**Yellowknife Ar**	**135.96**	**37**		PKhKP	PKPpre	17 27 18.5		
	comp=Z,0.1nm,0.6s,baz=231,slow=2.2,SNR=3.5								
INK	**Inuvik**	**137.24**	**22**	*e*	PKPdf	**PKPdf**	**17 27 27.8**	**-2.6**	
INK	**Inuvik**	**137.24**	**22**	*e*	PKiKP	**PKPdf**	**17 27 27.8**	**-2.6**	
INK	**Inuvik**	**137.24**	**22**		PKP	**PKPdf**	**17 27 29.1**	**-1.2**	
	comp=Z,2.2nm,1.0s,baz=180,slow=1.0,SNR=4.6								
PKME	**Peaks-Kenny Pk**	**137.48**	**82**		PFAKE		17 27 40.0	+6.5	
PKME					LR	LR			
	comp=Z,846nm,22.0s								
KURK	**Kurchatov**	**139.85**	**287**		PFAKE		17 27 50.0	+12	
KURK					LR	LR			
	comp=Z,877nm,22.0s								
ZALV	**Zalesovo Beam**	**139.95**	**294**	*e*	PKiKP	**PKiKP**	**17 27 41.0**	**+2.7**	
ZALV	**Zalesovo Beam**	**139.95**	**294**		PKP	**PKPdf**	**17 27 33.3**	**-2.6**	
	comp=Z,0.4nm,0.3s,baz=106,slow=3.1,SNR=2.6								
ZAA1	**Zalesovo Array**	**139.96**	**294**	*e*	PKPdf	**PKPdf**	**17 27 33.3**	**-2.6**	
NVS	**Novosibirsk**	**141.23**	**294**	*e*	PKhKP	PKPpre	17 27 30.8		
TIXI	**Tiksi**	**141.68**	**336**		PFAKE		17 27 50.0	+8.7	
TIXI					LR	LR			
	comp=Z,811nm,22.0s								
TIXI	**Tiksi**	**141.68**	**336**	*i*	PKiKP	**PKPdf**	**17 27 35.2**	**-3.2**	
TIXI					pmax	pmax			
	comp=Z,3.0nm,1.0s								
CSS	**Mathiatis**	**144.18**	**226**	*e*	PKPdf	**PKPab**	**17 27 41.9**	**+0.1**	
GNI	**Garni**	**144.96**	**244**		PFAKE		17 28 00.0	+11	
GNI					LR	LR			
	comp=Z,779nm,21.0s								
GNI	**Garni**	**144.96**	**244**	*i*	PKiKP	**PKPab**	**17 27 43.7**	**-1.1**	
BRVK	**Borovoye**	**144.99**	**283**	*e*	PKPbc	PKPbc	17 27 42.2	-2.0	
BRVK					LR	LR			
	comp=Z,235nm,20.0s								
BRVK	**Borovoye**	**144.99**	**283**	*i*	PKHKP	PKPbc	17 27 41.5	-2.7	
SCHQ	**Schefferville**	**145.88**	**74**		PKPbc	**PKPdf**	**17 27 46.0**	**-0.3**	
	comp=Z,18nm,0.8s,baz=228,slow=1.2,SNR=6.3								
MAK	**Makhachkala**	**146.32**	**250**	*e*	PKHKP	PKPpre	17 27 44.5		
MAK				*e*			17 31 15.0		
MAK				*e*	PPP	PPP	17 34 24.7		
MAK				*e*			17 34 51.8		
MAK				*e*	SS	SS	17 50 07.1	-1.2	
MAK				*e*	SSS	SSS	17 55 34.7		
MAK					pmax	pmax			
	comp=Z,230nm,1.2s								
ABKAR	**Akbulak array**	**146.36**	**269**	*e*	PKPdf	**PKiKP**	**17 27 51.0**	**-0.6**	
GROC	**Groznyy**	**147.19**	**248**	*e*	PKiKP	**PKPdf**	**17 27 48.8**	**-0.1**	
GROC				*e*			17 31 14.3		
GROC				*e*			17 34 56.6		
GROC					pmax	pmax			
	comp=Z,66nm,1.2s								
ZEI	**Tsey**	**147.56**	**246**	*i*	PKP2	**PKPbc**	**17 27 51.5**	**-1.0**	
ZEI					pmax	pmax			
	comp=Z,17nm,1.1s								
ISP	**Isparta**	**147.66**	**225**	*e*	PKPbc	**PKiKP**	**17 27 53.9**	**-0.9**	
NCK	**Nalchik**	**148.28**	**246**	*i*	PKP2	**PKPbc**	**17 27 53.8**	**-0.3**	
NEY	**Neytrino**	**148.40**	**245**	*i*	PKP2	**PKPbc**	**17 27 54.7**	**0.0**	
BRTR	**Keskin Array B**	**148.46**	**230**	*e*	PKP2	**PKPbc**	**17 27 54.8**	**-0.1**	
BRTR					pmax	pmax			
	comp=Z,21nm,1.0s								
BRTR	**Keskin Array B**	**148.46**	**230**		PKPbc	**PKPdf**	**17 27 52.4**	**+1.1**	
	comp=Z,21nm,1.0s,baz=145,slow=5.1,SNR=26								
BR101	**Keskin Array S**	**148.46**	**230**	*e*	PKPdf	**PKPdf**	**17 27 52.4**	**+1.1**	
BR131	**Keskin Array S**	**148.46**	**230**	*e*	PKPdf	**PKPdf**	**17 27 52.6**	**+1.3**	
KBZ	**Khabaz**	**148.75**	**246**		PKPbc	**PKPbc**	**17 27 54.9**	**-0.3**	
	comp=Z,20nm,1.1s,baz=74,slow=1.7,SNR=14								
ANTO	**Ankara**	**148.86**	**229**		PFAKE		17 28 00.0	+0.2	
ANTO					LR	LR			
	comp=Z,609nm,20.0s								
NRIK	**Noril'sk**	**149.61**	**316**		PKPbc	**PKPbc**	**17 27 55.6**	**-1.1**	
	comp=Z,3.7nm,0.5s,baz=150,slow=2.5,SNR=7.5								
RES	**Resolute Bay**	**149.71**	**32**	*e*	pPKPdf	**PKPbc**	**17 27 55.2**	**-1.5**	
RES	**Resolute Bay**	**149.71**	**32**	*e*	PKHKP	**PKPbc**	**17 27 55.3**	**-1.5**	
KEST	**Kesra**	**149.77**	**192**		PKPbc	**PKiKP**	**17 27 59.2**	**0.0**	
	comp=Z,8.8nm,1.1s,baz=197,slow=2.1,SNR=4.1								
SOC	**Sochi**	**149.80**	**242**	*i*	PKP2	**PKPbc**	**17 27 57.8**	**-0.1**	
SOC				*e*			17 31 29.8		
SOC					pmax	pmax			
	comp=Z,35nm,0.9s								
GOF	**Gofitskoye**	**149.82**	**247**	*e*	PKP2	**PKiKP**	**17 28 00.6**	**+1.7**	
GOF					pmax	pmax			
	comp=Z,40nm,1.0s								
AGG	**Agios Georgios**	**150.93**	**213**	*e*	PKPbc	**PKPbc**	**17 28 00.4**	**-0.4**	
AGG	**Agios Georgios**	**150.93**	**213**	*e*	PKiKP	**PKPbc**	**17 28 00.4**	**-0.4**	
ARU	**Arti**	**152.17**	**278**	*e*	PKPbc	**PKiKP**	**17 28 03.5**	**+0.1**	
ARU					LR	LR			
	comp=Z,324nm,20.0s								
ARU	**Arti**	**152.17**	**278**	*i*	PKiKP	**PKiKP**	**17 28 03.2**	**-0.1**	
ARU							17 31 41.4		
PAB	**San Pablo**	**153.60**	**169**		PFAKE		17 28 10.0	+3.0	
PAB					LR	LR			
	comp=Z,1μm,20.0s								
ESDC	**Sonseca Array**	**153.76**	**169**		PKP	**PKPdf**	**17 27 59.5**	**+0.1**	
	comp=Z,0.5nm,0.8s,baz=240,slow=1.7,SNR=5.0								
ESDC					PKPbc	**PKPbc**	**17 28 06.7**	**-0.5**	
	comp=Z,2.7nm,1.0s,baz=199,slow=1.4,SNR=6.5								
CFR	**Carcaliu**	**155.12**	**227**	*i*	iP	**PKPab**	**17 28 28.5**	**+2.8**	
VRH	**Novokhopyorsk**	**155.32**	**253**	*e*	PKP2	**PKPab**	**17 28 24.7**	**-1.7**	
VRH					pmax	pmax			
	comp=Z,10.0nm,0.8s								
MLR	**Muntele Rosu**	**156.05**	**224**	*i*	iP	**PKPab**	**17 28 32.2**	**+2.3**	
VRI	**Vrincioaia**	**156.16**	**226**	*i*	iP	**PKPab**	**17 28 30.0**	**-0.2**	
PLOR	**Plostina**	**156.17**	**226**	*i*	iP	**PKPab**	**17 28 29.6**	**-0.7**	
ARR	**Arges**	**156.31**	**222**	*i*	iP	**PKPab**	**17 28 32.0**	**+1.1**	
VSR	**Storozhevoye**	**156.34**	**250**	*e*	PKP2	**PKPab**	**17 28 29.4**	**-1.4**	
VSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
KIS	**Kishinev**	**156.53**	**230**	*e*	PKP	**PKPdf**	**17 28 04.0**	**+1.3**	
KIS					LRM	MLR	18 48 42.0		
	comp=Z,300nm,18.0s								
KIS	**Kishinev**	**156.53**	**230**	*e*	PKiKP	**PKPdf**	**17 28 04.0**	**+1.3**	
KIS				*e*			17 28 32.0		
LPSR	**Galich'ya Gora**	**157.51**	**252**	*e*	PKP2	**PKPab**	**17 28 32.6**	**-3.2**	
LPSR					pmax	pmax			
	comp=Z,20nm,1.8s								
SFJD	**Kangerlussuaq**	**159.25**	**62**		PFAKE		17 28 20.0	+15	
SFJD					LR	LR			
	comp=Z,1μm,21.0s								
AKASG	**Malin Array Be**	**159.60**	**236**		PKPab	**PKPab**	**17 28 43.9**	**-1.0**	
	comp=Z,2.9nm,0.9s,baz=156,slow=3.6,SNR=8.5								
KIEV	**Kiev**	**159.60**	**236**		PFAKE		17 28 20.0	+14	
KIEV					LR	LR			
	comp=Z,612nm,19.0s								
KIEV	**Kiev**	**159.60**	**236**	*i*	iP	**PKPab**	**17 28 45.3**	**+0.4**	
UZH	**Uzhgorod**	**159.94**	**222**	*e*	PKiKP	PKPdf	17 28 18.0	+11	
UZH				*e*			17 28 45.0		
OBN	**Obninsk**	**160.31**	**254**		PFAKE		17 28 20.0	+13	
OBN					LR	LR			
	comp=Z,492nm,20.0s								
OBN	**Obninsk**	**160.31**	**254**	*e*	PKiKP	**PKPdf**	**17 28 12.0**	**+5.0**	
OBN					pmax	pmax			
	comp=Z,5.0nm,0.9s								
VYHS	**Vyhne**	**160.71**	**215**	*e*	PKP2	**PKPab**	**17 28 56.9**	**+7.1**	
VYHS	**Vyhne**	**160.71**	**215**	*e*	PKP	**PKPab**	**17 28 56.9**	**+7.1**	
FETA	**Feichten**	**160.79**	**198**		pPKPab	**PKPab**	**17 28 56.1**	**+5.7**	
	comp=Z,12nm,1.3s								
MOTA	**Moosalm**	**161.06**	**199**		PKPdf	**PKPdf**	**17 28 09.7**	**+1.4**	
	comp=Z,8.2nm,1.4s								
RETA	**Reutte**	**161.25**	**198**	*i*	pPKPab	**PKPab**	**17 28 55.0**	**+2.7**	
	comp=Z,13nm,1.5s								
BFO	**Black Forest**	**162.35**	**194**		PFAKE		17 28 20.0	+11	
BFO					LR	LR			
	comp=Z,55nm,22.0s								
BRG	**Berggiesshubel**	**164.02**	**208**	*e*	(P)	PKPdf	17 28 23.3	+12	
	comp=Z,8.7nm,1.4s								
BRG	**Berggiesshubel**	**164.02**	**208**	*e*	PKiKP	PKPdf	17 28 23.3	+12	
BRG					pmax	pmax			
	comp=Z,9.0nm,1.5s								
CLL	**Collm**	**164.61**	**206**	*e*	pPKPdf	**pPKPdf**	**17 28 15.0**	**+1.1**	
CLL				*e*	PKPab	**PKPab**	**17 29 07.0**	**+0.2**	
CLL				*e*	(SS)		17 53 36.0		
CLL				*e*			17 54 38.0		
CLL				*e*	SSS	SSS	17 59 50.0		
CLL				*e*	SSSrev		18 06 30.0		
CLL					Lm	MLR	18 50 00.0		
	comp=N,800nm,21.2s								
CLL					Lm	MLR	18 50 00.0		
	comp=E,500nm,21.3s								
CLL					Lm	MLR	18 50 00.0		
	comp=Z,900nm,20.6s								
CLL	**Collm**	**164.61**	**206**	*e*	PKiKP	**PKPdf**	**17 28 19.0**	**+7.6**	
CLL				*e*			17 29 07.0		
CLL					pmax	pmax			
	comp=Z,60nm,2.3s								
CLL					MLR	MLR			
	comp=Z,900nm,20.6s								
KBS	**Kingsbay**	**166.35**	**352**		PFAKE		17 28 20.0	+7.9	
KBS					LR	LR			
	comp=Z,1μm,21.0s								
LVZ	**Lovozero**	**167.09**	**295**		PFAKE		17 28 20.0	+7.0	
LVZ					LR	LR			
	comp=Z,681nm,21.0s								
ESK	**Eskdalemuir**	**169.32**	**163**		PFAKE		17 28 20.0	+5.2	
ESK					LR	LR			
	comp=Z,1μm,20.0s								
KEV	**Kevo**	**169.76**	**305**		PFAKE		17 28 20.0	+5.4	
KEV					LR	LR			
	comp=Z,2μm,22.0s								

ISCJB ***31*** *17:14:02.9±0.3,0.05N±0.04×123.69E±0.03,h147km±4km, mb4.0/20, Error ellipse: s-maj=6.4km s-min=5.3km az=15.4*

NEIC ***31*** *17:14:04.0±0.7,0.06N×123.69E,h146km±7km,mb4.1/6, Error ellipse: s-maj=9.8km s-min=6.8km az=79.0*

IDC ***31*** *17:14:04.4±1.7,0.04N×123.62E,h146km±16km,mb3.8/16, mb1 3.9/19,mb1mx3.7/37,mbtmp4.2/19, Error ellipse: s-maj=17.8km s-min=9.6km az=76.0*

DJA ***31*** *17:14:05.6±0.3,0.5S±3.2×12.4E±.1,h117km±7km,M4.4/16, mb4.8/7,mB4.8/7,MLv4.5/16,Mw(mB)4.1/7*

ISC 31 17:14:04.1±0.7,0.08S±0.05×123.70E±0.04,h144km±6km, n56,σ1s56/73,mb4.2/20,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.71**	**23**	P		**Pn**	**17 14 26.6**	**+0.5**
LUWI	**Luwuk**	**1.33**	**224**	*e*	Pn	**Pn**	**17 14 31.2**	**-0.2**
LUWI				*e*	Sn	**Sn**	**17 14 51.2**	**-1.2**
LUWI	**Luwuk**	**1.33**	**224**	P		**Pn**	**17 14 30.9**	**-0.5**
LUWI				S		**Sn**	**17 14 51.1**	**-1.2**
MRSI	**Marisa**	**1.85**	**288**	P		**Pn**	**17 14 36.4**	**-0.7**
MRSI				S		**Sn**	**17 14 59.7**	**-2.6**
APSI	**Ampana**	**2.21**	**248**	P		**Pn**	**17 14 41.7**	**+0.3**
APSI				S		**Sn**	**17 15 08.8**	**-1.2**
SANI	**Sanana**	**3.01**	**131**	P		**Pn**	**17 14 49.9**	**-1.4**
SANI				S		**Sn**	**17 15 23.8**	**-4.0**
TNTI	**Ternate**	**3.76**	**77**	*e*	Pn	**Pn**	**17 15 00.2**	**-0.9**
TNTI				*e*	Sn	**Sn**	**17 15 43.8**	**-1.5**
TNTI	**Ternate**	**3.76**	**77**	P		**Pn**	**17 15 00.7**	**-0.4**
MPSI	**Mapaga**	**3.83**	**276**	P		**Pn**	**17 15 03.3**	**+1.4**
MPSI				S		**Sn**	**17 15 47.8**	**+1.0**
SPSI	**Sidrap Palu**	**5.50**	**225**	P		**Pn**	**17 15 25.5**	**+1.3**
BNSI	**Bone**	**5.59**	**220**	P		**Pn**	**17 15 27.3**	**+2.0**
KAPI	**Kappang**	**6.29**	**219**	*e*	Pn	**Pn**	**17 15 37.4**	**+2.7**
BKSI	**Bulukumba**	**6.31**	**214**	P		**Pn**	**17 15 35.8**	**+0.8**
BSSI	**Bau Bau, Buton**	**6.82**	**208**	P		**Pn**	**17 15 43.0**	**+1.2**
KCP	**Kidapawan**	**7.18**	**11**	*i*	iP	**Pn**	**17 15 49.8**	**+3.1**
SIJI	**Sorong**	**7.60**	**96**	P		**Pn**	**17 15 53.2**	**+0.9**
	1.8nm,0.3s,baz=193,slow=18,SNR=4.6							
SIJI					S	**Sn**	**17 17 20.9**	**+3.7**
	1.1nm,0.3s,baz=270,slow=20,SNR=3.4							
BNDI	**Bandanaira**	**7.61**	**126**	P		**Pn**	**17 15 53.9**	**+1.6**
FAKI	**Fak Fak**	**9.00**	**108**	*e*	Pn	**Pn**	**17 16 10.7**	**-0.3**
KKM	**Kota Kinabalu**	**9.64**	**309**	*e*	Pn	Pn	17 16 24.6	+5.0
BATI	**Baumata**	**10.06**	**180**	P		**Pn**	**17 16 28.5**	**+3.4**
	1.5nm,0.3s,baz=251,slow=3.2,SNR=6.0							
MTN	**Manton Dam**	**14.66**	**150**	*e*	Pn	**P**	**17 17 26.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**18.00**	**174**	*e*	P	**Pn**	**17 18 05.4**	**0.0**
	18nm,1.0s							
FITZ	**Fitzroy Crossi**	**18.00**	**174**	P		**Pn**	**17 18

GUMO	**Guam**	**0.70**	**271**	P		Pn	17 30 15.3	+1.7
	57nm,0.3s,baz=333,slow=3.8,SNR=35							
GUMO				S		Sn	17 30 30.6	+1.0
	152nm,0.3s,baz=140,slow=22,SNR=38							
WRA	**Warramunga Arr**	**35.09**	**199**	P		P	17 36 32.3	-0.4
	0.2nm,0.5s,baz=18,slow=9.1,SNR=6.7							
ASAR	**Alice Springs**	**38.73**	**197**	P		P	17 37 03.4	-0.1
	0.1nm,0.5s,baz=19,slow=12,SNR=3.3							
ILAR	**Eielson Array**	**66.28**	**25**	P		P	17 40 38.1	-0.2
	0.1nm,0.4s,baz=254,slow=5.7,SNR=5.1							

*IDC **31** 17:41:06.9±1.4,45˚.02N×110˚.49W,h0km,mb1 3.3/5, mb1mx3.2/45,mbtmp3.0/5,ML3.3/5,Error ellipse: s-maj=21.7km s-min=8.0km az=60.0*
*SLC **31** 17:41:08.6±0.0,44˚.81N×111˚.00W,h11km*
*ISCJB **31** 17:41:09.1±0.3,44˚.82N±0˚.02×111˚.03W±0˚.03,h10km±2km, Error ellipse: s-maj=4.3km s-min=3.3km az=34.5*
*NEIC **31** 17:41:09.7±0.3,44˚.78N×111˚.02W,h5km,ML3.2(SLC), Error ellipse: s-maj=4.2km s-min=3.0km az=49.0*
NEIC Felt at Dillon, Montana.

ISC 31 17:41:09.8±0.8,44˚.77N±0˚.02×110˚.98W±0˚.02,h11km±5km, n51,σ1°32/70,Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YHH	**Holmes Hill**	**0.09**	**80**	*eP*g	**Pg**	**17 41 12.7**	**-0.2**
YHH				*eS*g	**Sg**	**17 41 14.4**	**-0.6**
YMR	**Madison River**	**0.10**	**175**	*eP*g	**Pg**	**17 41 13.2**	**+0.2**
YHB	**Horse Butte**	**0.16**	**262**	*eP*g	**Pg**	**17 41 13.4**	**-0.2**
YHB				*eS*g	**Sg**	**17 41 15.4**	**-0.9**
YNR	**Norris Junctio**	**0.22**	**105**	*eP*g	**Pg**	**17 41 15.2**	**+0.5**
YNR				*eS*g	**Sg**	**17 41 18.5**	**+0.5**
QLMT	**Earthquake Lak**	**0.33**	**280**	*eP*g	**Pg**	**17 41 16.0**	**-0.5**
QLMT				*eS*g	**Sg**	**17 41 19.8**	**-1.2**
YFT	**Old Faithful**	**0.34**	**162**	*eP*g	**Pg**	**17 41 17.5**	**+0.7**
LKWY	**Lake**	**0.46**	**117**	*eP*g	**Pg**	**17 41 19.9**	**+0.9**
H17A	**Grant Village**	**0.47**	**143**	*eP*g	**Pb**	**17 41 20.3**	**0.0**
YPP	**Pitchstone Pla**	**0.52**	**166**	*eP*g	**Pb**	**17 41 21.0**	**-0.1**
FLWY	**Flagg Ranch**	**0.72**	**164**	*eP*g	**Pg**	**17 41 24.3**	**+0.5**
FLWY				*eS*g	**Sn**	**17 41 36.5**	**-0.7**
IMW	**Indian Meadow**	**0.88**	**178**	*eP*g	**Pg**	**17 41 26.7**	**-0.1**
BOZ	**Bozeman (W)**	**0.94**	**331**	*eP*g	**Pb**	**17 41 26.8**	**-1.5**
MOOW	**Moose Ponds**	**1.04**	**171**	*eP*g	**Pb**	**17 41 29.3**	**-0.6**
FXWY	**Fox Creek**	**1.14**	**182**	*eP*g	**Pb**	**17 41 30.9**	**-0.7**
LOHW	**Long Hollow**	**1.19**	**167**	*eP*n	**Pn**	**17 41 32.1**	**-0.5**
RLMT	**Red Lodge**	**1.26**	**73**	*eP*n	**Pn**	**17 41 33.3**	**-0.3**
RLMT				*eS*n	**Sb**	**17 41 49.8**	**-0.3**
TPAW	**Teton Pass**	**1.28**	**179**	*eP*n	**Pn**	**17 41 33.8**	**-0.1**
TPAW				*eS*n	**Sg**	**17 41 51.6**	**+0.4**
DLMT	**Dillon**	**1.29**	**298**	*eP*n	**Pn**	**17 41 33.8**	**-0.1**
SNOW	**Snow King Moun**	**1.32**	**173**	*eP*n	**Pb**	**17 41 34.9**	**+0.1**
SNOW				*eS*n	**Sg**	**17 41 53.7**	**+1.3**
MCMT	**McKenzie Canyo**	**1.33**	**273**	*eP*n	**Pn**	**17 41 34.6**	**0.0**
GCMT	**Greycliff**	**1.38**	**42**	*eP*n	**Pn**	**17 41 35.2**	**+0.1**
REDW	**Red Top Meadow**	**1.41**	**176**	*eP*n	**Pb**	**17 41 36.1**	**-0.2**
AHID	**Auburn Hatcher**	**2.01**	**183**	*eP*n	**Pn**	**17 41 43.0**	**-0.8**
AHID				*eP*g	**Pb**	**17 41 47.2**	**+0.8**
AHID				*eS*n	**Sb**	**17 42 12.7**	**+1.1**
BW06	**Boulder Array**	**2.25**	**152**	*eP*n	**Pn**	**17 41 44.4**	**-2.8**
BW06				*eP*g	**Pb**	**17 41 50.8**	**+0.2**
PD31	**Pinedale Array**	**2.25**	**152**	*eP*n	**Pn**	**17 41 47.1**	**-0.1**
PD31				*eP*g	**Pb**	**17 41 50.9**	**+0.3**
PDAR	**Pinedale Array**	**2.25**	**152**	*eP*n	**Pn**	**17 41 46.5**	**-0.8**
PDAR				*eP*g	**Pb**	**17 41 50.7**	**0.0**
PDAR	**Pinedale Array**	**2.25**	**152**	Pn	**Pb**	**17 41 49.5**	**-1.1**
	2.5nm,0.3s,baz=347,slow=16,SNR=61						
PDAR				Lg	Lg	17 42 20.3	
	2.3nm,0.3s,baz=331,slow=30,SNR=5.0						
HLID	**Hailey**	**2.75**	**245**	*eP*n	**Pn**	**17 41 52.9**	**-1.2**
MSO	**Missoula**	**2.92**	**316**	*eP*n	**Pn**	**17 41 55.2**	**-1.1**
MSO				*eP*g	**Pb**	**17 42 03.5**	**+1.6**
HVU	**Hansel Valley**	**3.27**	**204**	*eP*n	**Pn**	**17 42 01.0**	**-0.1**
HVU				*eP*g	**Pg**	**17 42 11.3**	**-1.1**
EGMT	**Eagleton**	**3.36**	**14**	*eP*n	**Pn**	**17 42 03.4**	**+1.1**
LAO	**LASA Array**	**3.84**	**58**	*eP*n	**Pn**	**17 42 11.0**	**+2.1**
LAO				*eP*g	**Pb**	**17 42 20.4**	**+2.8**
K22A	**Casper**	**3.86**	**122**	*eP*n	**Pn**	**17 42 10.2**	**+0.9**
K22A				*eP*g	**Pg**	**17 42 21.7**	**-2.1**
BGU	**Big Grassy Mou**	**4.13**	**202**	*eP*n	**Pn**	**17 42 12.3**	**-0.6**
BGU				*eP*g	**Pg**	**17 42 27.0**	**-2.0**
BMO	**Blue Mountains**	**4.50**	**273**	*eP*n	**Pn**	**17 42 19.6**	**+1.6**
BMO				*eP*g	**Pg**	**17 42 35.1**	**-1.0**
F10A	**Beach Ranch, E**	**4.56**	**287**	*eP*n	**Pn**	**17 42 20.7**	**+1.9**
WALA	**Waterton Lakes**	**4.74**	**336**	*eP*n	**Pn**	**17 42 22.2**	**+1.0**
DUG	**Dugway, Tooele**	**4.77**	**197**	*eP*n	**Pn**	**17 42 24.5**	**+2.7**
ELK	**Elko**	**5.10**	**219**	Pn	Pn	17 42 32.2	+5.8
	0.3nm,0.3s,baz=21,slow=12,SNR=11						
ELK				Sn	**Sb**	**17 43 44.7**	**+4.1**
	0.1nm,0.3s,baz=167,slow=18,SNR=1.5						
NEW	**Newport**	**5.49**	**312**	*eP*n	**Pn**	**17 42 31.9**	**+0.4**
NEW	**Newport**	**5.49**	**312**	Pn	**Pn**	**17 42 31.6**	**0.0**
	0.5nm,0.3s,baz=128,slow=14,SNR=5.6						
NEW				Lg	Lg	17 44 00.4	
	1.7nm,0.3s,baz=46,slow=22,SNR=8.6						
DGMT	**Dagmar**	**5.96**	**49**	*eP*n	**Pn**	**17 42 38.9**	**+1.0**
D08A	**Wollman Farm,**	**5.99**	**295**	*eP*n	**Pn**	**17 42 39.4**	**+1.0**
I07A	**Izee**	**6.14**	**267**	*eP*n	**Pn**	**17 42 42.3**	**+1.7**
E07A	**Sunnyside**	**6.47**	**289**	*eP*n	**Pn**	**17 42 44.8**	**-0.1**
B08A	**Colville Reser**	**6.78**	**305**	*eP*n	**Pn**	**17 42 49.7**	**+0.5**
LTY	**Liberty**	**7.19**	**294**	*eP*n	**Pn**	**17 42 54.8**	**-0.1**
NVAR	**Mina Array Bea**	**8.38**	**223**	Pn	Pn	17 43 18.8	+7.5
	0.2nm,0.3s,baz=30,slow=15,SNR=2.7						
NVAR				Pg	**Pb**	**17 43 38.7**	**+3.7**
	0.2nm,0.3s,baz=39,slow=13,SNR=3.8						
YKA	**Yellowknife Ar**	**17.88**	**355**	P	**Pn**	**17 45 15.0**	**-3.1**
	0.1nm,0.3s,baz=173,slow=12,SNR=3.8						
WR1	**Warramunga Arr**	**121.19**	**272**	*eP*KPdf	**PKiKP**	**18 00 03.7**	**+0.8**
WRA	**Warramunga Arra**	**121.19**	**272**	PKP	**PKiKP**	**18 00 03.7**	**+0.7**
	0.3nm,0.9s,baz=48,slow=2.5,SNR=3.0						

KRSC 31 17:41:23.0±10.0,55˚.91N×161˚.37E,h113km±10km,ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZGR	**Bezymyannyi-Gr**	**0.38**	**274**	*eP*	Pn	17 41 40.9	+1.3
LGNR	**Loginova**	**0.42**	**294**	*eP*	Pn	17 41 41.0	+1.0
LGNR				*eS*	Sn	17 41 55.0	+2.2
BZWR	**Bezymyannyi-We**	**0.49**	**276**	*eP*	Pn	17 41 41.3	+1.0
BZMR	**Bezymyannaya**	**0.49**	**273**	*eP*	Pn	17 41 41.1	+0.8
KLY	**Klyuchi**	**0.57**	**315**	*eP*	Pn	17 41 40.9	+0.3
KLY				*eS*	Sn	17 41 53.9	+0.1
KIRR	**Kirishev**	**0.58**	**274**	*eP*	Pn	17 41 41.6	+0.7
KPT	**Kopyto**	**0.65**	**275**	*eP*	Pn	17 41 41.9	+0.6
KPT				*eS*	Sn	17 41 55.4	+0.3
BDR	**Baidarnaya**	**0.66**	**352**	*eP*	Pn	17 41 42.4	+1.0
BDR				*eS*	Sn	17 41 56.6	+1.3
SMKR	**Semkarok**	**0.67**	**5**	*eP*	Pn	17 41 42.7	+1.2
SMKR				*eS*	Sn	17 41 57.4	+1.9
SRKR	**Sorokina**	**0.75**	**352**	*eP*	Pn	17 41 43.2	+1.0
SRKR				*eS*	Sn	17 41 57.8	+1.2
KBG	**Krutoberegovo**	**0.82**	**65**	*eP*	Pn	17 41 44.0	+1.3
KBG				*eS*	Sn	17 41 59.5	+2.0
KOZ	**Kozyrevsk**	**0.85**	**280**	*eP*	Pn	17 41 43.7	+0.7
KOZ				*eS*	Sn	17 41 59.0	+0.9
KBTR	**Krutoberegovo**	**0.87**	**69**	*eP*	Pn	17 41 44.4	+1.3
KBTR				*eS*	Sn	17 41 59.9	+1.6
TUMD	**Tumrok D**	**0.90**	**218**	*eP*	Pn	17 41 44.3	+0.8
TUMD				*eS*	Sn	17 41 59.1	+0.2
TUMR	**Tumrok**	**0.94**	**228**	*eP*	Pn	17 41 45.3	+1.4
TUMR				*eS*	Sn	17 42 01.0	+1.3
KZV	**Kizimen**	**1.01**	**218**	*eP*	Pn	17 41 45.6	+0.9
MKZ	**Mys Kozlova**	**1.38**	**171**	*eP*	Pn	17 41 49.8	+1.3
MKZ				*eS*	Sn	17 42 09.2	+1.4
ESO	**Esso**	**1.50**	**272**	*eP*	Pn	17 41 50.7	+0.7
ESO				*eS*	Sn	17 42 11.2	+0.7
BKI	**Bering**	**2.71**	**103**	*eP*	Pn	17 42 07.0	+1.8
BKI				*eS*	Sn	17 42 38.8	+1.1
SPN	**Mys Shipunski**	**2.93**	**196**	*eP*	Pn	17 42 09.3	+1.2
SPN				*eS*	Sn	17 42 42.3	-0.5
NLC	**Nalytchevo**	**2.99**	**204**	*eP*	Pn	17 42 11.5	+2.6
SDLR	**Sedlovina**	**3.01**	**210**	*eP*	Pn	17 42 11.4	+2.1
KRER	**Koryakskii**	**3.03**	**211**	*eP*	Pn	17 42 11.4	+1.8
SMAR	**Somma**	**3.05**	**210**	*eP*	Pn	17 42 13.4	+3.5
AVH	**Avacha**	**3.06**	**211**	*eP*	Pn	17 42 12.6	+2.6
KOK	**Koryaka**	**3.07**	**212**	*eP*	Pn	17 42 12.7	+2.6
UGLR	**Uglovaya**	**3.09**	**210**	*eP*	Pn	17 42 13.0	+2.7
DALK	**Dalny**	**3.27**	**209**	*eP*	Pn	17 42 14.8	+2.3
OSSR	**Ossora**	**3.47**	**15**	*eP*	Pn	17 42 16.6	+1.4
OSSR				*eS*	Sn	17 42 57.5	+2.0
KRMR	**Karymshinskiy**	**3.62**	**213**	*eP*	Pn	17 42 19.7	+2.4
RUS	**Russkaya**	**3.87**	**207**	*eP*	Pn	17 42 21.4	+0.8

*IDC **31** 17:44:05.3±3.0,6˚.08S×129˚.84E,h88km±38km,mb3.5/2, mb1 3.7/6,mb1mx3.3/40,mbtmp3.9/6,MS4.4/2,Ms1 4.4/2, ms1mx3.7/20,Error ellipse: s-maj=68.4km s-min=21.0km az=90.0*
*ISCJB **31** 17:44:06.4±0.5,5˚.98S±0˚.04×130˚.61E±0˚.06,h124km, mb3.8/2,Error ellipse: s-maj=8.9km s-min=5.2km az=18.9*
*DJA **31** 17:44:07.6±0.4,6˚.53×13˚.1E˚,h151km±8km,M4.1/8, mb3.9/7,mB4.8/3,MLv4.2/8,Mw(mB)4.1/3*

ISC 31 17:44:07.7±0.8,5˚.99S±0˚.05×130˚.63E±0˚.08,h124km,n15, σ1°38/18,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.63**	**333**	P	**Pn**	**17 44 38.8**	**+1.9**
BNDI				S	Sn	**17 45 02.9**	**+3.8**
SAUI	**Saumlaki**	**2.09**	**162**	P	**Pn**	**17 44 44.1**	**+1.6**
SAUI				S	Sn	**17 45 09.3**	**+0.2**
FAKI	**Fak Fak**	**3.45**	**28**	P	**Pn**	**17 45 00.7**	**+0.7**
FAKI				S	Sn	**17 45 40.6**	**+0.1**
SIJI	**Sorong**	**5.12**	**7**	P	**Pn**	**17 45 22.8**	**+0.4**
	8.5nm,0.3s,baz=188,slow=23,SNR=61						
SIJI				S	**Sn**	**17 46 18.4**	**-2.3**
	7.1nm,0.3s,baz=216,slow=23,SNR=18						
SWI	**Sorong**	**5.13**	**7**	P	**Pn**	**17 45 22.2**	**-0.3**
RKPI	**Ransiki, Papua**	**5.68**	**39**	P	**Pn**	**17 45 29.7**	**-0.2**
SANI	**Sanana**	**6.06**	**310**	P	**Pn**	**17 45 34.9**	**-0.2**
SOEI	**Soe**	**7.33**	**239**	P	**Pn**	**17 45 52.5**	**+0.2**
SOEI				S	**Sn**	**17 47 13.5**	**-0.6**
BATI	**Baumata**	**8.07**	**238**	P	**Pn**	**17 46 02.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.98**	**202**	P	Pn	17 47 03.5	-4.2
	0.5nm,0.3s,baz=32,slow=9.0,SNR=51						
FITZ				S	Sn	17 49 17.1	-14
	0.4nm,0.3s,baz=198,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**14.33**	**166**	P	**Pn**	**17 47 24.0**	**-0.9**
	0.6nm,0.3s,baz=339,slow=12,SNR=18						
WRA				S	Sn	17 49 49.9	-13
	1.0nm,0.3s,baz=344,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.86**	**170**	P	**P**	**17 48 08.0**	**+0.6**
	0.5nm,0.3s,baz=349,slow=9.9,SNR=65						
ASAR				S	S	17 51 13.5	-13
	0.1nm,0.3s,baz=338,slow=17,SNR=4.1						
SONM	**Songino Array**	**57.69**	**341**	P	**P**	**17 53 45.2**	**-0.1**
	0.2nm,0.4s,baz=165,slow=6.6,SNR=2.6						
SONM				LR	LR	18 22 15.6	
	comp=Z,325nm,20.2s,baz=154,slow=40						
MKAR	**Makanchi Array**	**67.73**	**326**	P	**P**	**17 54 51.5**	**-0.3**
	1.2nm,0.4s,baz=126,slow=7.5,SNR=21						
ZALV	**Zalesovo Beam**	**70.96**	**333**	LR	LR	18 28 55.2	
	comp=Z,250nm,21.6s,baz=78,slow=38						

*ISCJB **31** 17:45:44.1±0.3,55˚.43N±0˚.08×163˚.85W±0˚.09, h146km±6km,mb3.4/6,Error ellipse: s-maj=15.4km s-min=3.9km az=149.9*
*NEIC **31** 17:45:44.8±0.0,54˚.92N×163˚.50W,h153km,ML3.1(AEIC), After AEIC.*
*IDC **31** 17:45:44.6±4.2,55˚.52N×163˚.85W,h134km±38km,mb3.2/6, mb1 3.4/9,mb1mx3.1/45,mbtmp3.6/9,Error ellipse: s-maj=41.8km s-min=15.4km az=8.0*

ISC 31 17:45:44.7±0.7,55˚.4N±0˚.1×163˚.80W±0˚.07,h144km±8km, n57,σ1°29/69,mb3.5/6,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**0.60**	**158**	*eP*n	**Pn**	**17 46 06.0**	**+0.1**
FALS				*eS*n	**Sn**	**17 46 21.8**	**-0.2**
BALA	**Baldy Mountain**	**0.62**	**111**	P	Pn	**17 46 07.4**	**+1.3**
SSBA	**Shishaldin**	**0.67**	**196**	P	**Pn**	**17 46 06.6**	**+0.2**
SSBA				S	**Sn**	**17 46 22.9**	**-0.1**
SSLW	**Shishaldin Wes**	**0.68**	**196**	P	**Pn**	**17 46 06.8**	**+0.3**
SSLW				S	**Sn**	**17 46 23.4**	**+0.5**
DT1	**Dutton Round H**	**0.92**	**109**	*eP*n	**Pn**	**17 46 08.3**	**+0.1**
DRIA	**Deer Island**	**0.99**	**117**	P	**Pn**	**17 46 08.6**	**-0.2**
WEBT	**Westdahl Beart**	**0.99**	**214**	P	**Pn**	**17 46 09.6**	**+0.7**
WESP	**Westdahl Peak**	**1.07**	**210**	*eP*n	**Pn**	**17 46 10.0**	**+0.4**
WESP				*eS*n	**Sn**	**17 46 28.4**	**-0.1**
PS4A	**Pavlof South-4**	**1.11**	**93**	P	**Pn**	**17 46 10.9**	**+1.0**
DOL	**Dolgoi Island**	**1.14**	**103**	P	**Pn**	**17 46 10.8**	**+0.6**
PVV	**Pavlof Volcano**	**1.15**	**91**	P	**Pn**	**17 46 11.3**	**+1.1**
PS1A	**Pavlof South-1**	**1.17**	**89**	P	**Pn**	**17 46 11.7**	**+1.2**
AKSA	**Akutan Strait**	**1.69**	**221**	*eP*n	**Pn**	**17 46 15.9**	**0.0**
AKSA				*eS*n	**Sn**	**17 46 39.8**	**+0.1**
AKUT	**Akutan**	**1.72**	**222**	*eP*n	**Pn**	**17 46 16.0**	**-0.2**
AKUT				*eS*n	**Sn**	**17 46 39.2**	**-1.0**
AHB	**Akutan Harbor**	**1.75**	**223**	P	**Pn**	**17 46 16.5**	**-0.2**
AKGG	**Akutan Green G**	**1.76**	**227**	P	**Pn**	**17 46 16.8**	**+0.1**
ZRO	**Akutan Zero**	**1.83**	**224**	*eP*n	**Pn**	**17 46 17.4**	**-0.2**
AKMO	**Akutan Morgan**	**1.85**	**225**	*eP*n	**Pn**	**17 46 17.5**	**-0.2**
SDPT	**Sand Point**	**1.90**	**91**	*eP*n	**Pn**	**17 46 18.4**	**+0.2**
SDPT				*eS*n	**Sn**	**17 46 43.4**	**-0.5**
MTBL	**Makushin Table**	**2.21**	**230**	*eP*n	**Pn**	**17 46 22.3**	**+0.2**
UNV	**Unalaska Valle**	**2.23**	**226**	*eP*n	**Pn**	**17 46 21.6**	**-0.5**
UNV				*eS*n	**Sn**	**17 46 49.6**	**-1.3**
MSW	**Makushin Switc**	**2.30**	**230**	*eP*n	**Pn**	**17 46 22.5**	**-0.5**
MSW				*eS*n	**Sn**	**17 46 51.6**	**-0.8**
MCIR	**Makushin Cirqu**	**2.32**	**232**	*eP*n	**Pn**	**17 46 23.4**	**+0.1**
MREP	**Makushin Rep't**	**2.35**	**228**	P	**Pn**	**17 46 23.5**	**-0.3**
VNWF	**Veniaminof 8**	**2.50**	**71**	P	**Pn**	**17 46 28.0**	**+2.3**
VNSS	**Veniaminof 8**	**2.58**	**70**	P	**Pn**	**17 46 28.8**	**+2.1**
CHGN	**Chignik**	**3.16**	**72**	*eP*n	**Pn**	**17 46 35.0**	**+1.2**
OKTU	**Okmok Mt. Tuli**	**3.21**	**232**	*eP*n	**Pn**	**17 46 34.3**	**-0.2**
OKSP	**Okmok Steeple**	**3.41**	**232**	P	**Pn**	**17 46 36.7**	**-0.4**
ANNW	**Aniakchak Nort**	**3.48**	**61**	P	**Pn**	**17 46 42.2**	**+4.1**
SII	**Sitkinak Islan**	**5.52**	**74**	*eP*n	**Pn**	**17 47 04.3**	**-0.5**
KDAK	**Kodiak Island**	**6.63**	**64**	P	**Pn**	**17 47 19.3**	**-0.3**
	1.8nm,0.3s,baz=217,slow=4.6,SNR=62						
KDAK				S	**Sn**	**17 48 29.7**	**-4.2**
	1.6nm,0.3s,baz=80,slow=22,SNR=13						
BRLK	**Bradley Lake**	**8.19**	**53**	*eP*n	**Pn**	**17 47 40.5**	**+0.1**
SEW	**Seward**	**8.99**	**53**	*eP*n	**Pn**	**17 47 48.1**	**-2.9**
SUA	**Susitna One**	**9.13**	**43**	*eP*n	**Pn**	**17 47 54.8**	**+1.6**
SUA				*eS*n	**Sn**	**17 49 33.9**	**-0.3**
RC01	**Rabbit Creek A**	**9.33**	**47**	*eP*n	**Pn**	**17 47 55.3**	**-0.3**
GHO	**Glory Hole Cre**	**10.02**	**45**	*eP*n	**Pn**	**17 48 04.6**	**-0.4**
KNK	**Knik Glacier**	**10.03**	**47**	*eP*n	**Pn**	**17 48 04.8**	**-0.1**
SML	**Sawmill**	**10.28**	**45**	*eP*n	**Pn**	**17 48 08.6**	**+0.3**
TRF	**Thorofare Moun**	**10.57**	**35**	*eP*n	**Pn**	**17 48 14.6**	**+2.4**
SCM	**Sheep Creek Mo**	**10.70**	**46**	*eP*n	**Pn**	**17 48 14.2**	**+0.2**
DIV	**Divide**	**11.06**	**52**	*eP*n	**Pn**	**17 48 18.1**	**-0.6**
KLU	**Klutina**	**11.14**	**50**	*eP*n	**Pn**	**17 48 19.6**	**-0.2**
KLU				*eS*n	**Sn**	**17 50 17.7**	**-5.0**
HMT	**Hamilton**	**11.49**	**57**	*eP*n	**Pn**	**17 48 23.7**	**-0.6**
HARP	**HAARP**	**11.88**	**46**	*eP*n	**Pn**	**17 48 30.0**	**+0.7**
PAX	**Paxson**	**12.03**	**44**	*eP*n	**Pn**	**17 48 31.5**	**+0.2**
CCB	**Clear Creek Bu**	**12.19**	**34**	*eP*n	**Pn**	**17 48 33.9**	**+0.7**
ILAR	**Eielson Array**	**12.56**	**35**	P	**Pn**	**17 48 37.2**	**-1.0**
	0.1nm,0.3s,baz=222,slow=13,SNR=3.8						
SCRK	**Sand Creek**	**13.12**	**41**	*eP*n	**Pn**	**17 48 46.2**	**+0.8**
DLBC	**Dease Lake**	**18.56**	**67**	P	**Pn**	**17 49 53.2**	**+1.0**
	0.1nm,0.3s,baz=298,slow=11,SNR=6.5						
INK	**Inuvik**	**18.97**	**35**	P	**P**	**17 49 54.0**	**-0.4**
	0.4nm,0.3s,baz=237,slow=10,SNR=21						
PETK	**Petropavlovsk-**	**22.41**	**280**	P	**P**	**17 50 31.5**	**+0.4**
	3.3nm,0.9s,baz=82,slow=14,SNR=5.7						
SEY	**Seymchan**	**23.26**	**307**	P	**P**	**17 50 39.2**	**+0.3**
	0.6nm,0.5s,baz=94,slow=9.4,SNR=4.6						
YKA	**Yellowknife Ar**	**25.76**	**54**	P	**P**	**17 51 02.4**	**+0.9**
	0.3nm,0.3s,baz=272,slow=9.8,SNR=6.6						
PDAR	**Pinedale Array**	**36.76**	**87**	P	**P**	**17 52 39.3**	**+1.0**
	0.7nm,0.5s,baz=275,slow=4.4,SNR=7.9						
TXAR	**Lajitas Array**	**49.58**	**96**	P	**P**	**17 54 22.1**	**+1.0**
	0.6nm,0.5s,baz=306,slow=6.1,SNR=16						
SONM	**Songino Array**	**52.53**	**302**	P	**P**	**17 54 42.8**	**-0.1**
	0.3nm,0.6s,baz=43,slow=6.3,SNR=4.4						

IDC 31 18:12:35.4±3.0,6˚.74S×148˚.22E,h0km,mb3.7/2, mb1 3.7/4,mb1mx3.3/35,mbtmp3.6/4,ML3.5/1,MS3.6/1, Ms1 3.6/1,ms1mx2.8/26,Error ellipse: s-maj=76.0km s-min=32.5km az=106.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.85**	**202**	Pn	Pn	18 13 23.6	+1.4
	1.9nm,0.3s,baz=27,slow=11,SNR=10						
PMG				Sn	Sn	18 13 59.7	+2.4
	6.8nm,0.3s,baz=247,slow=19,SNR=4.6						
WRA	**Warramunga Arr**	**18.81**	**224**	P	P	18 16 56.0	-0.8
	0.2nm,0.3s,baz=51,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**21.74**	**218**	P	P	18 17 27.9	-0.7
	1.4nm,0.6s,baz=52,slow=9.6,SNR=47						
BATI	**Baumata**	**24.53**	**260**	LR	LR	18 28 23.8	
	comp=Z,121nm,18.7s,baz=156,slow=39						
FITZ	**Fitzroy Crossi**	**24.74**	**241**	P	P	18 17 58.4	-0.4
	1.6nm,0.5s,baz=65,slow=8.9,SNR=11						
TORD	**Torodi Ar. Bea**	**146.45**	**284**	PKPbc	PKPbc	18 32 19.3	-0.3
	0.4nm,0.8s,baz=88,slow=2.7,SNR=2.6						

IDC 31 18:14:09.1±18.0,18˚.60S×174˚.06W,h0km,mb4.2/5, mb1 4.4/5,mb1mx3.8/35,mbtmp4.2/5,Error ellipse: s-maj=337.2km s-min=146.9km az=78.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.41**	**261**	P	P	18 21 25.0	+0.8
	0.6nm,0.4s,baz=92,slow=8.7,SNR=9.2						
STKA	**Stephens Creek**	**41.95**	**243**	P	P	18 22 01.6	-0.2
	0.9nm,0.5s,baz=60,slow=8.1,SNR=4.8						
WRA	**Warramunga Arr**	**48.57**	**260**	P	P	18 22 54.1	-0.5
	1.6nm,0.3s,baz=96,slow=7.6,SNR=95						
ASAR	**Alice Springs**	**48.58**	**255**	P	P	18 22 54.0	-0.7
	2.1nm,0.4s,baz=93,slow=7.6,SNR=104						
FITZ	**Fitzroy Crossi**	**56.98**	**260**	P	P	18 23 57.1	+0.2
	2.1nm,0.8s,baz=101,slow=5.2,SNR=3.1						

KRSC 31 18:22:50.4±10.0,49˚.48N×157˚.12E,h39km±10km,ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.36**	**332**	*eP*	Pn	18 23 12.0	-0.8
SKR				*eS*	Sn	18 23 27.3	-2.4
PAU	**Pauzhetka**	**2.00**	**354**	*eP*	Pn	18 23 23.6	+2.1
PAU				*eS*	Sn	18 23 47.3	+2.1
KDTR	**Khodutka, Kamc**	**2.41**	**14**	*eP*	Pn	18 23 30.8	+3.6
KDTR				*eS*	Sn	18 23 59.4	+4.0
ASAK	**Asacha**	**2.94**	**9**	*eP*	Pn	18 23 39.0	+4.3
MTVR	**Mutnovka**	**3.08**	**12**	*eP*	Pn	18 23 40.5	+4.0
MTVR				*eS*	Sn	18 24 17.0	+4.9
RUS	**Russkaya**	**3.08**	**16**	*eP*	Pn	18 23 39.9	+3.5
RUS				*eS*	Sn	18 24 15.9	+3.9
KRMR	**Karymshinskiy**	**3

0.4nm,0.8s,baz=243,slow=6.9,SNR=4.3
TORD Torodi Ar. Bea 148.56 286 PKPbc PKPbc 19 45 39.2 0.0
0.2nm,0.6s,baz=56,slow=2.9,SNR=3.2

*ISCJB **31** 19:28:35.1±0.5, 13°.93N±0°.05×120°.7E±0°.1, h203km±5km, mb3.3/6, Error ellipse: s-maj=16.5km s-min=6.4km az=163.9*
*MAN **31** 19:28:36.5, 13°.93N×120°.56E, h175km, MS3.0*
*IDC **31** 19:28:36.0±0.7, 13°.91N×120°.91E, h203km±7km, mb3.1/6, mb1 3.3/6, mb1mx2.9/54, mbtmp3.7/6, Error ellipse: s-maj=38.4km s-min=12.2km az=58.0*
ISC 31 19:28:35.8±0.8, 13°.95N±0°.05×120°.75E±0°.08, h200km±7km, n17, σ1§98/26, mb3.3/6, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.24**	**51**	P	**Pn**	**19 29 03.1**	**+0.9**
	350nm,0.3s,baz=156,slow=5.1,SNR=29						
TGY	**Tagaytay City**	**0.24**	**51**	*ePg*	**Pn**	**19 29 03.2**	**+0.9**
TGY				*i* S	**Sn**	**19 29 26.0**	**+3.3**
BOAC	**Boac**	**1.18**	**115**	*eP*	**Pn**	**19 29 07.7**	**+0.9**
BOAC				*eS*	**Sn**	**19 29 32.3**	**+1.6**
POLP	**Polilio Island**	**1.39**	**56**	*eP*	**Pn**	**19 29 10.2**	**+1.7**
POLP				*eS*	**Sn**	**19 29 27.2**	**-6.7**
SJMP	**San Jose**	**1.53**	**166**	*eP*	**Pn**	**19 29 09.4**	**-0.3**
SJMP				*eS*	**Sn**	**19 29 34.5**	**-1.7**
SCZP	**Santa Cruz**	**1.98**	**336**	*eP*	**Pn**	**19 29 13.9**	**-0.3**
SCZP				*eS*	**Sn**	**19 29 41.7**	**-2.4**
OTRP	**Odiongan**	**2.01**	**142**	*eP*	**Pn**	**19 29 14.7**	**+0.2**
OTRP				*eS*	**Sn**	**19 29 43.9**	**-0.7**
BOLP	**Bolinao**	**2.54**	**342**	*eP*	**Pn**	**19 29 20.4**	**+0.2**
BOLP				*eS*	**Sn**	**19 29 52.4**	**-2.6**
ENPP	**El Nido**	**3.02**	**205**	*eP*	**Pn**	**19 29 26.0**	**+0.3**
ENPP				*eS*	**Sn**	**19 29 26.1**	**+0.4**
CUYO	**Cuyo Island**	**3.10**	**175**	*eP*	**Pn**	**19 29 26.6**	**0.0**
APYP	**Conner**	**3.92**	**7**	*eP*	**Pn**	**19 29 37.7**	**+1.2**
APYP				*eS*	**Sn**	**19 30 24.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**21.41**	**285**	P	**P**	**19 33 09.6**	**+1.3**
	1.1nm,0.9s,baz=96,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**36.24**	**158**	P	**P**	**19 35 18.9**	**-1.1**
	1.6nm,0.6s,baz=337,slow=9.3,SNR=22						
ASAR	**Alice Springs**	**39.54**	**161**	P	**P**	**19 35 46.6**	**-1.0**
	0.7nm,0.3s,baz=336,slow=7.7,SNR=36						
MKAR	**Makanchi Array**	**45.86**	**323**	P	**P**	**19 36 39.3**	**+1.2**
	0.2nm,0.3s,baz=118,slow=9.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**48.85**	**333**	P	**P**	**19 37 01.4**	**+0.4**
	0.4nm,0.3s,baz=124,slow=6.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**50.01**	**326**	P	**P**	**19 37 10.4**	**+0.6**
	0.4nm,0.4s,baz=127,slow=7.4,SNR=6.2						

*IDC **31** 19:31:58.5±2.2, 51°.97N×179°.14E, h0km, mb3.1/6, mb1 3.6/7, mb1mx3.3/55, mbtmp3.2/7, ML3.9/1, Error ellipse: s-maj=63.1km s-min=27.8km az=7.0*
*ISCJB **31** 19:32:01.2±1.0, 52°.1N±0°.2×178°.9E±0°.1, h35km, mb3.1/6, Error ellipse: s-maj=22.8km s-min=7.8km az=15.0*
*NEIC **31** 19:32:02.1±0.0, 51°.74N×179°.10E, h86km, ML3.5(AEIC), After AEIC.*
ISC 31 19:32:02.8±1.7, 51°.9N±0°.3×178°.9E±0°.1, h35km, n26, σ1§01/29, mb3.2/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GALAA	**Gareloi Lava P**	**1.43**	**96**	*ePn*	**Pn**	**19 32 26.2**	**-0.1**
GAEA	**Gareloi East**	**1.45**	**95**	*ePn*	**Pn**	**19 32 26.2**	**-0.2**
TASE	**Tanaga Southea**	**1.88**	**92**	*ePn*	**Pn**	**19 32 32.1**	**-0.3**
TAFP	**Tanaga Falls P**	**1.91**	**90**	*ePn*	**Pn**	**19 32 32.5**	**-0.3**
TAFP				*eSn*	**Sn**	**19 32 55.8**	**+0.2**
KIMD	**Kanaga Island**	**2.38**	**93**	P	**Pn**	**19 32 38.7**	**-0.6**
KICM	**Kanaga Island**	**2.40**	**89**	*ePn*	**Pn**	**19 32 39.5**	**+0.1**
KIKV	**Kanaga Island**	**2.41**	**90**	*ePn*	**Pn**	**19 32 39.5**	**-0.2**
KIWB	**Kanaga Island**	**2.43**	**90**	*ePn*	**Pn**	**19 32 36.9**	**-3.0**
ADAG	**Mount Adagdak**	**2.76**	**87**	*ePn*	**Pn**	**19 32 44.1**	**-0.4**
ADAG				*eSn*	**Sn**	**19 33 18.2**	**+1.6**
ETKA	**Kagalaska Isla**	**2.89**	**90**	*ePn*	**Pn**	**19 32 45.9**	**-0.4**
GSTD	**Great Sitkin T**	**3.04**	**86**	*ePn*	**Pn**	**19 32 48.5**	**+0.1**
GSTD				*eSn*	**Sn**	**19 33 26.1**	**+2.4**
SMY	**Shemya**	**3.07**	**287**	P	Pn	19 32 52.5	+3.7
GSTR	**Great Sitkin T**	**3.10**	**85**	*ePn*	**Pn**	**19 32 49.4**	**+0.3**
GSMY	**Great Sitkin M**	**3.10**	**86**	*ePn*	**Pn**	**19 32 49.2**	**+0.1**
GSIG	**Igitkin Island**	**3.18**	**87**	P	**Pn**	**19 32 50.1**	**-0.1**
ATKA	**Atka Island**	**4.25**	**84**	*ePn*	**Pn**	**19 33 04.9**	**0.0**
ATKA				S	**Sn**	**19 33 53.7**	**+0.5**
KOKL	**Mount Kliuchef**	**4.25**	**82**	*ePn*	**Pn**	**19 33 05.2**	**+0.2**
KOFP	**Korovin Flat P**	**4.31**	**83**	*ePn*	**Pn**	**19 33 05.9**	**+0.1**
KDAK	**Kodiak Island**	**17.33**	**59**	P	**Pn**	**19 36 00.3**	**-1.2**
	0.4nm,0.3s,baz=282,slow=5.8,SNR=8.1						
ILAR	**Eielson Array**	**21.72**	**41**	P	**P**	**19 36 50.0**	**-0.5**
	0.2nm,0.5s,baz=248,slow=9.1,SNR=3.4						
SCRK	**Sand Creek**	**22.69**	**44**	*eP*	**P**	**19 37 00.6**	**-0.3**
YKA	**Yellowknife Ar**	**35.87**	**47**	P	**P**	**19 38 57.7**	**-1.1**
	0.3nm,0.6s,baz=280,slow=8.1,SNR=6.0						
NVAR	**Mina Array Bea**	**44.88**	**82**	P	**P**	**19 40 12.5**	**-1.3**
	0.1nm,0.4s,baz=291,slow=7.6,SNR=2.2						
PDAR	**Pinedale Array**	**47.48**	**71**	P	**P**	**19 40 34.3**	**+0.1**
	0.2nm,0.5s,baz=0.3,slow=2.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**57.71**	**312**	P	**P**	**19 41 50.9**	**+1.4**
	0.1nm,0.4s,baz=42,slow=6.5,SNR=3.2						
TXAR	**Lajitas Array**	**59.95**	**80**	P	**P**	**19 42 06.4**	**+0.9**
	0.1nm,0.5s,baz=298,slow=5.9,SNR=3.1						

*SJA **31** 19:34:12.9±0.5, 19°.23S×70°.03W, h67km±3km, MD2.8*
*ISCJB **31** 19:34:13.9±1.2, 19°.22S±0°.05×70°.07W±0°.07, h68km±9km, Error ellipse: s-maj=10.8km s-min=7.6km az=157.6*
*GUC **31** 19:34:14.0±0.5, 19°.22S×69°.98W, h71km±2km, ML3.7*
ISC 31 19:34:14.6±1.8, 19°.22S±0°.05×70°.04W±0°.06, h62km±13km, n13, σ0§43/22, 4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.38**	**192**	*eP*	**Pn**	**19 34 25.5**	**-0.2**
PSGC				*i* S	**Sn**	**19 34 34.3**	**+0.5**
PSGC				IAML		19 34 34.6	
	comp=E,8μm,0.3s						
PSGCX	**Pisagua**	**0.38**	**192**	*eP*	**Pn**	**19 34 25.3**	**-0.4**
PSGCX				*eS*	**Sn**	**19 34 34.3**	**+0.6**
MNMC	**Minye Minye**	**0.43**	**78**	*iP*	**Pn**	**19 34 26.1**	**-0.2**
MNMC				*i* S	**Sn**	**19 34 34.8**	**0.0**
MNMC				IAML		19 34 37.6	
	comp=N,7μm,0.2s						
MNMCX	**Minye Minye**	**0.43**	**78**	*eP*	**Pn**	**19 34 25.8**	**-0.5**
MNMCX				*eS*	**Sn**	**19 34 35.5**	**+0.6**
PB11	**IPOC Station P**	**0.65**	**146**	*eP*	**Pn**	**19 34 27.9**	**-0.6**
PB11				*eS*	**Sn**	**19 34 38.7**	**0.0**
PB11	**IPOC Station P**	**0.65**	**146**	*iP*	**Pn**	**19 34 27.8**	**-0.6**
PB11				*i* S	**Sn**	**19 34 38.4**	**+0.2**
PB11				IAML		19 34 39.2	
	comp=N,8μm,0.4s						
PB12	**IPOC Station P**	**0.67**	**336**	*eP*	**Pn**	**19 34 28.2**	**-0.5**
PB12	**IPOC Station P**	**0.67**	**336**	*iP*	**Pn**	**19 34 28.5**	**-0.2**
PB12				*i* S	**Sn**	**19 34 39.4**	**+0.5**
PB12				IAML		19 34 41.1	
	comp=E,3μm,0.1s						
GO01	**Chusmiza**	**0.91**	**119**	*iP*	**Pn**	**19 34 31.9**	**-0.1**
GO01				*eS*	**Sn**	**19 34 45.6**	**+0.7**
PB08	**IPOC Station P**	**1.24**	**138**	*eP*	**Pn**	**19 34 36.0**	**-0.2**
PB08	**IPOC Station P**	**1.24**	**138**	*eP*	**Pn**	**19 34 36.0**	**-0.2**
PB08				*i* S	**Sn**	**19 34 52.6**	**+0.4**
PB08				IAML		19 34 54.2	
	comp=N,3μm,0.2s						
PB01	**IPOC Station P**	**1.88**	**164**	*eP*	**Pn**	**19 34 44.5**	**0.0**
PB01				*i* S	**Sn**	**19 35 07.3**	**0.0**
PB01				IAML		19 35 10.5	
	comp=N,798nm,0.2s						
PB07	**IPOC Station P**	**2.49**	**177**	IAML		19 35 29.9	
	comp=N,462nm,0.2s						

*ISCJB **31** 19:51:18.8±0.7, 12°.9N±0°.1×143°.8E±0°.1, h150km, mb3.2/8, Error ellipse: s-maj=19.6km s-min=13.1km az=141.6*
*IDC **31** 19:51:19.1±1.4, 12°.93N×143°.70E, h134km±17km, mb3.1/8, mb1 3.3/8, mb1mx3.0/40, mbtmp3.5/8, Error ellipse: s-maj=31.8km s-min=16.6km az=91.0*
ISC 31 19:51:20.4±0.9, 12°.9N±0°.2×143°.9E±0°.1, h150km, n9, σ1§03/10, mb3.2/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.17**	**56**	P	**Pn**	**19 51 46.2**	**-0.5**
	15nm,0.3s,baz=66,slow=7.6,SNR=7.5						
GUMO				S	**Sn**	**19 52 05.4**	**-1.3**
	46nm,0.3s,baz=138,slow=23,SNR=26						
WRA	**Warramunga Arr**	**33.99**	**196**	P	**P**	**19 57 49.6**	**-0.4**
	0.4nm,0.7s,baz=16,slow=9.7,SNR=5.1						
ASAR	**Alice Springs**	**37.66**	**195**	P	**P**	**19 58 20.9**	**-0.4**
	0.2nm,0.5s,baz=19,slow=13,SNR=13						
SONM	**Songino Array**	**46.72**	**326**	P	**P**	**19 59 34.9**	**+0.5**
	0.2nm,0.5s,baz=133,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**61.29**	**316**	P	**P**	**20 01 19.4**	**-0.6**
	0.1nm,0.4s,baz=103,slow=6.7,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.50**	**320**	P	**P**	**20 01 40.6**	**-0.4**
	0.1nm,0.3s,baz=103,slow=6.8,SNR=3.0						
BVAR	**Borovoye Array**	**69.84**	**322**	P	**P**	**20 02 14.1**	**-0.6**
	0.3nm,0.3s,baz=90,slow=5.8,SNR=6.1						
YKA	**Yellowknife Ar**	**83.88**	**27**	P	**P**	**20 03 33.7**	**+0.6**
	0.2nm,0.4s,baz=285,slow=4.8,SNR=4.8						
NVAR	**Mina Array Bea**	**88.08**	**51**	P	**P**	**20 03 56.5**	**+1.9**
	0.8nm,0.9s,baz=274,slow=5.8,SNR=4.3						

*IDC **31** 19:54:38.1±1.0, 12°.12N×86°.52W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.8/32, mbtmp3.7/10, ML3.3/3, MS2.7/2, Ms1 2.8/2, ms1mx2.6/28, Error ellipse: s-maj=61.0km s-min=15.5km az=48.0*
*ISCJB **31** 19:54:40.2±1.0, 11°.6N±0°.2×87°.1W±0°.2, h35km, mb3.8/8, MS3.3/1, Error ellipse: s-maj=37.6km s-min=7.1km az=38.0*
ISC 31 19:54:42.1±0.8, 11°.7N±0°.2×87°.0W±0°.2, h35km, n15, σ1§23/17, mb3.6/8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.45**	**125**	Pn	**Pn**	**19 55 19.9**	**+0.3**
	5.8nm,0.3s,baz=14,slow=19,SNR=13						
JTS				LR	LR	19 55 44.5	
	comp=Z,36nm,21.5s,baz=360,slow=28						
JTS				Sn	**Sn**	**19 55 47.9**	**-0.5**
	15nm,0.3s,baz=346,slow=19,SNR=7.5						
APG	**El Apazote**	**4.71**	**315**	Pn	**Pn**	**19 55 51.4**	**+0.6**
	0.3nm,0.3s,baz=96,slow=15,SNR=3.5						
CMIG	**Matias Romero**	**9.33**	**306**	Pn	**Pn**	**19 56 55.0**	**+0.9**
	1.7nm,0.3s,baz=134,slow=10,SNR=11						
CMIG				Sn	**Sn**	**19 58 35.8**	**-2.1**
	0.6nm,0.3s,baz=182,slow=17,SNR=7.7						
TXAR	**Lajitas Array**	**23.43**	**321**	P	**P**	**19 59 49.4**	**+1.0**
	1.1nm,0.7s,baz=135,slow=10,SNR=19						
TKL	**Tuckaleechee C**	**24.03**	**6**	P	**P**	**19 59 56.1**	**+2.2**
	8.2nm,0.8s,baz=179,slow=10,SNR=7.9						
LPAZ	**La Paz**	**33.49**	**146**	LR	LR	20 15 46.3	
	comp=Z,52nm,18.3s,baz=104,slow=38						
PDAR	**Pinedale Array**	**36.64**	**332**	P	**P**	**20 01 45.7**	**+0.2**
	0.6nm,0.7s,baz=125,slow=8.4,SNR=5.7						
NVAR	**Mina Array Bea**	**38.55**	**319**	P	**P**	**20 02 03.2**	**+1.5**
	0.5nm,0.6s,baz=134,slow=5.8,SNR=4.6						
ULM	**Lac du Bonnet**	**39.13**	**351**	P	**P**	**20 02 04.9**	**-1.2**
	2.1nm,0.6s,baz=183,slow=6.1,SNR=4.3						
BDFB	**Brasilia**	**47.19**	**124**	P	**P**	**20 03 11.2**	**-0.7**
	3.9nm,0.5s,baz=301,slow=8.1,SNR=7.1						
YKA	**Yellowknife Ar**	**54.45**	**345**	P	**P**	**20 04 04.9**	**-0.7**
	0.6nm,0.7s,baz=140,slow=7.5,SNR=19						
YKA				PcP	**PcP**	**20 05 09.0**	**+0.1**
	0.2nm,0.6s,baz=143,slow=3.7,SNR=6.6						
ILAR	**Eielson Array**	**66.88**	**336**	P	**P**	**20 05 29.3**	**-1.1**
	0.2nm,0.7s,baz=158,slow=4.6,SNR=4.9						
ASAR	**Alice Springs**	**139.39**	**247**	PKP	**PKiKP**	**20 14 08.5**	**-0.3**
	0.4nm,0.7s,baz=103,slow=3.2,SNR=2.5						
WRA	**Warramunga Arr**	**139.48**	**253**	PKP	**PKiKP**	**20 14 10.9**	**+1.8**
	0.5nm,0.6s,baz=90,slow=2.6,SNR=4.0						
CMAR	**Chiang Mai Arr**	**149.47**	**349**	PKPbc	**PKiKP**	**20 14 29.3**	**-0.4**
	1.7nm,0.7s,baz=346,slow=3.8,SNR=18						

*ISCJB **31** 20:00:44.2±0.3, 7°.07S±0°.03×129°.34E±0°.04, h139km, mb4.0/9, Error ellipse: s-maj=5.5km s-min=4.5km az=19.2*
*NEIC **31** 20:00:47.0±1.9, 7°.06S×129°.37E, h152km±14km, mb4.6/16, Error ellipse: s-maj=20.5km s-min=11.1km az=70.0*
*DJA **31** 20:00:46.6±0.3, 7°.5±2°×12°9E±°, h194km±7km, M4.5/13, mB5.1/8, mb4.4/12, MLv4.7/13, Mw(mB)4.4/8*
*IDC **31** 20:00:47.2±2.1, 7°.03S×129°.33E, h149km±20km, mb3.5/7, mb1 3.6/9, mb1mx3.3/38, mbtmp4.0/9, Error ellipse: s-maj=23.5km s-min=13.9km az=58.0*
ISC 31 20:00:45.7±0.5, 7°.04S±0°.05×129°.31E±0°.05, h139km, n48, σ1§94/56, mb4.1/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.18**	**116**	*ePn*	**Pn**	**20 01 25.1**	**+2.7**
SAUI				*eSn*	**Sn**	**20 01 50.4**	**0.0**
SAUI	**Saumlaki**	**2.18**	**116**	P	**Pn**	**20 01 24.6**	**+2.3**
SAUI				S	**Sn**	**20 01 54.0**	**+3.5**
BNDI	**Bandanaira**	**2.57**	**13**	P	Pn	20 01 32.4	+5.2
FAKI	**Fak Fak**	**5.03**	**36**	*ePn*	**Pn**	**20 02 00.5**	**+1.1**
FAKI				*eSn*	**Sn**	**20 02 56.1**	**-0.8**
FAKI	**Fak Fak**	**5.03**	**36**	P	**Pn**	**20 02 00.1**	**+0.7**
FAKI				S	**Sn**	**20 02 55.5**	**-1.3**
SOEI	**Soe**	**5.67**	**241**	*ePn*	**Pn**	**20 02 10.4**	**+2.3**
SOEI				*eSn*	**Sn**	**20 03 13.9**	**+1.6**
SOEI	**Soe**	**5.67**	**241**	P	**Pn**	**20 02 10.5**	**+2.4**
	220nm,0.9s,3μm1.2nm						
SANI	**Sanana**	**5.96**	**326**	P	**Pn**	**20 02 16.4**	**+4.5**
MTN	**Manton Dam**	**6.04**	**163**	*ePn*	**Pn**	**20 02 13.2**	**+0.4**
MTN				*eSn*	**Sn**	**20 03 16.5**	**-4.4**
BATI	**Baumata**	**6.41**	**240**	P	**Pn**	**20 02 20.3**	**+2.4**
	90nm,0.6s,2μm0.6nm						
BATI	**Baumata**	**6.41**	**240**	P	**Pn**	**20 02 19.8**	**+1.9**
	59nm,0.3s,baz=110,slow=3.5,SNR=141						
BATI				S	**Sn**	**20 03 27.0**	**-2.9**
	48nm,0.3s,baz=16,slow=23,SNR=14						
SIJI	**Sorong**	**6.43**	**18**	P	**Pn**	**20 02 19.1**	**+1.0**
	4.4nm,0.3s,baz=249,slow=22,SNR=41						
SIJI				S	**Sn**	**20 03 26.8**	**-3.7**
	9.1nm,0.3s,baz=104,slow=23,SNR=17						
MMRI	**Maumere**	**7.19**	**257**	*ePn*	**Pn**	**20 02 31.6**	**+3.4**
MMRI	**Maumere**	**7.19**	**257**	P	**Pn**	**20 02 31.5**	**+3.2**
RKPI	**Ransiki, Papua**	**7.33**	**42**	P	**Pn**	**20 02 31.6**	**+1.4**
RKPI				S	**Sn**	**20 03 51.5**	**-0.5**
EDFI	**Ende, Flores**	**7.74**	**257**	P	**Pn**	**20 02 39.1**	**+3.3**
WSI	**Waingapu**	**9.29**	**253**	P	**Pn**	**20 02 56.9**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.56**	**198**	P	**Pn**	**20 03 24.6**	**-2.0**
	3.7nm,0.3s,baz=26,slow=9.7,SNR=51						
FITZ				S	Sn	20 05 23.5	-11
	3.8nm,0.3s,baz=66,slow=19,SNR=9.8						
WRAB	**Tennant Creek**	**13.71**	**160**	*ePn*	**Pn**	**20 03 52.2**	**-2.3**
WRAB				*eSn*	Sn	20 06 14.0	-12
WRA	**Warramunga Arr**	**13.72**	**160**	P	**Pn**	**20 03 51.0**	**-3.6**
	2.4nm,0.3s,baz=338,slow=13,SNR=51						
WRA				S	Sn	20 06 14.2	-12
	6.3nm,0.3s,baz=331,slow=23,SNR=14						
WB2	**Warramunga Arr**	**13.72**	**160**	*ePn*	**Pn**	**20 03 50.6**	**-4.1**
WB2				*ePn*	P	20 03 52.3	-6.3
COEN	**Coen**	**15.26**	**118**	*ePn*	**Pn**	**20 04 14.1**	**+0.1**
	12nm,1.1s						
AS31	**Alice Springs**	**17.11**	**166**	*eP*	**Pn**	**20 04 36.5**	**0.0**
	4.4nm,0.3s						
ASAR	**Alice Springs**	**17.11**	**166**	P	**P**	**20 04 35.8**	**-0.2**
	0.6nm,0.3s,baz=341,slow=10.0,SNR=59						
ASAR				S	P	20 07 34.0	-13
	0.9nm,0.3s,baz=322,slow=17,SNR=7.9						
AS01	**Alice Springs**	**17.12**	**165**	*eP*	**P**	**20 04 36.0**	**-0.1**
CTA	**Charters Tower**	**20.93**	**130**	P	**P**	**20 05 19.4**	**+1.8**
	0.6nm,0.4s,baz=270,slow=20,SNR=3.0						
FORT	**Forrest**	**23.64**	**183**	*eP*	**P**	**20 05 45.0**	**+0.6**
	35nm,1.2s						
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**20 06 16.8**	**0.0**
	4.9nm,1.3s,baz=331,slow=9.6,SNR=6.0						
PSI	**Prapat**	**31.87**	**287**	P	**P**	**20 06 58.8**	**+0.7**
	3.4nm,0.6s,baz=114,slow=7.6,SNR=5.8						
CM01	**Chiang Mai Arr**	**39.20**	**311**	*eP*	**P**	**20 08 00.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**39.24**	**311**	P	**P**	**20 08 01.8**	**+1.0**
	1.2nm,0.7s,baz=139,slow=7.0,SNR=12						
RAMN	**Ramite**	**53.41**	**311**	*eP*	**P**	**20 09 52.2**	**+0.5**
	13nm,0.5s						
JIRN	**Jiri**	**54.10**	**312**	*eP*	**P**	**20 09 57.0**	**+0.1**
	6.5nm,0.5s						
GUN	**Gumba**	**54.47**	**312**	*eP*	**P**	**20 09 59.6**	**+0.1**
	9.1nm,0.5s						
PKI	**Pulchoki**	**54.64**	**311**	*eP*	**P**	**20 10 00.6**	**-0.1**
	5.4nm,0.5s						
PKIN	**Phulchoki**	**54.65**	**311**	*eP*	**P**	**20 10 00.5**	**-0.2**
	3.3nm,0.5s						
KKN	**Kakani**	**54.85**	**311**	*eP*	**P**	**20 10 02.1**	**0.0**
	4.4nm,0.7s						
KOLN	**Koldanda**	**56.10**	**310**	*eP*	**P**	**20 10 11.3**	**+0.2**
	3.6nm,0.3s						
DANN	**Dangsing**	**56.28**	**311**	*eP*	**P**	**20 10 12.4**	**0.0**
	5.2nm,0.5s						
PYUN	**Piuthan**	**56.74**	**310**	*eP*	**P**	**20 10 15.9**	**+0.4**
	7.2nm,0.6s						
SONM	**Songino Array**	**58.27**	**342**	P	**P**	**20 10 26.2**	**+0.4**
	0.4nm,0.6s,baz=168,slow=4.8,SNR=3.4						
MK01	**Makanchi Array**	**67.87**	**327**	*eP*	**P**	**20 11 29.4**	**+0.4**
MK31	**Makanchi Array**	**67.89**	**327**	*eP*	**P**	**20 11 30.2**	**+1.0**
	5.9nm,1.8s						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**20 11 29.8**	**+0.5**
	2.1nm,0.5s,baz=115,slow=8.1,SNR=26						
ZALV	**Zalesovo Beam**	**71.32**	**334**	P	**P**	**20 11 49.6**	**-0.5**
	0.4nm,0.3s,baz=141,slow=4.8,SNR=3.6						
ABKAR	**Akbulak array**	**82.12**	**322**	*eP*	**P**	**20 12 51.0**	**+0.2**
	8.4nm,2.0s						
TORD	**Torodi Ar. Bea**	**128.15**	**281**	PKP	**PKPdf**	**20 19 35.5**	**-1.0**
	0.2nm,0.6s,baz=101,slow=2.9,SNR=3.0						
LPAZ	**La Paz**	**151.10**	**143**	PKPbc	**PKiKP**	**20 20 25.1**	**+0.4**
	0.8nm,0.4s,baz=309,slow=5.3,SNR=7.4						

*IDC **31** 20:01:52.5±1.0, 23°.73N×143°.85E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.7/46, mbtmp3.8/12, ML3.1/2, Error ellipse: s-maj=26.0km s-min=24.8km az=70.0*
*ISCJB **31** 20:01:55.0±0.9, 23°.8N±0°.1×143°.8E±0°.2, h28km, mb3.7/10, Error ellipse: s-maj=22.3km s-min=17.4km az=156.9*
ISC 31 20:01:56.9±1.0, 23°.7N±0°.1×143°.8E±0°.2, h28km, n12, σ0§74/12, mb3.7/10, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Ar**	**13.65**	**340**	Pn	**Pn**	**20 05 08.7**	**+0.1**
	0.1nm,0.3s,baz=161,slow=10,SNR=6.4						
KSRS	**Korea Array**	**19.31**	**319**	P	**P**	**20 06 19.4**	**-0.4**
	0.1nm,0.3s,baz=132,slow=12,SNR=6.6						
KLR	**Kul'dur**	**27.16**	**342**	P	**P**	**20 07 38.6**	**+0.8**
	0.7nm,0.5s,baz=157,slow=8.5,SNR=10.0						
CMAR	**Chiang Mai Arr**	**42.09**	**272**	P	**P**	**20 09 47.0**	**+0.4**
	0.6nm,0.7s,baz=53,slow=7.5,SNR=5.8						
ZALV	**Zalesovo Beam**	**53.00**	**321**	P	**P**	**20 11 09.3**	**-1.7**
	0.4nm,0.5s,baz=111,slow=8.0,SNR=3.3						
MKAR	**Makanchi Array**	**53.78**	**312**	P	**P**	**20 11 17.2**	**+0.3**
	0.6nm,0.7s,baz=91,slow=8.4,SNR=6.2						
STKA	**Stephens Creek**	**55.35**	**182**	P	**P**	**20 11 28.0**	**-0.2**
	1.4nm,0.8s,baz=16,slow=8.2,SNR=4.9						
ILAR	**Eielson Array**	**59.95**	**28**	P	**P**	**20 11 59.8**	**-0.5**
	0.8nm,0.9s,baz=259,slow=5.5,SNR=6.7						
YKA	**Yellowknife Ar**	**74.37**	**28**	P	**P**	**20 13 32.3**	**+0.5**
	0.6nm,0.7s,baz=291,slow=5.8,SNR=9.5						
KBZ	**Khabaz**	**81.39**	**314**	P	**P**	**20 14 11.7**	**+0.5**
	1.5nm,0.8s,baz=92,slow=4.8,SNR=4.8						
NVAR	**Mina Array Bea**	**81.41**	**52**	P	**P**	**20 14 11.9**	**+0.2**
	0.5nm,0.7s,baz=250,slow=4.7,SNR=4.0						
FINES	**FINESS Array B**	**81.60**	**335**	P	**P**	**20 14 11.7**	**-0.3**
	0.7nm,0.6s,baz=86,slow=5.2,SNR=9.0						

*ISCJB **31** 20:05:51.1±0.7, 7°.1S±0°.1×156°.22E±0°.07, h150km, mb3.5/7, Error ellipse: s-maj=16.2km s-min=8.3km az=26.5*
*IDC **31** 20:05:52.6±2.6, 7°.07S×156°.26E, h150km±28km, mb3.3/7, mb1 3.6/11, mb1mx3.4/33, mbtmp3.9/11, Error ellipse: s-maj=24.9km s-min=17.2km az=157.0*
ISC 31 20:05:52.4±0.8, 7°.0S±0°.1×156°.33E±0°.08, h150km, n13, σ1§32/15, mb3.4/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.32**	**124**	P	**Pn**	**20 06

URZ	**Urewera**	**20.47**	**200**	P		P	20 33 15.7	-0.1
	2.3nm,0.4s,baz=18,slow=20,SNR=5.1							
ASAR	**Alice Springs**	**48.47**	**255**	P		P	20 37 21.6	+0.3
	0.4nm,0.6s,baz=93,slow=8.4,SNR=12							
WRA	**Warramunga Arr**	**48.51**	**260**	P		P	20 37 21.1	-0.6
	0.2nm,0.3s,baz=97,slow=7.3,SNR=7.5							
ILAR	**Eielson Array**	**86.30**	**11**	P		P	20 41 19.8	0.0
	0.3nm,0.7s,baz=220,slow=6.2,SNR=3.6							

*ISCJB **31** 20:29:45.7±0.5,2˚.71S±0˚.07×102˚.51E±0˚.07,h200km, mb3.2/7, Error ellipse: s-maj=12.4km s-min=6.6km az=43.2*

*DJA **31** 20:29:48.8±0.9,3˚S±6˚×10˚3E±˚, h169km±7km, M3.2/7, MLv3.2/7*

*IDC **31** 20:29:50.3±8.2,2˚.80S×102˚.32E, h242km±86km, mb2.9/7, mb1 3.0/7, mb1mx2.9/47, mbtmp3.5/7, Error ellipse: s-maj=67.8km s-min=14.8km az=58.0*

ISC 31 20:29:46.8±0.8, 2˚.77S±0˚.10×102˚.48E±0˚.09, h200km, n13, σ0s70/15, mb3.3/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.22**	**304**	P	**Pn**	**20 30 18.6**	**+0.3**
KRJI				S	**Sn**	**20 30 42.6**	**0.0**
LHSI	**Lahat**	**1.48**	**135**	P	**Pn**	**20 30 20.5**	**+0.1**
MNAI	**Manna**	**1.65**	**163**	P	**Pn**	**20 30 22.1**	**+0.2**
MNAI				S	**Sn**	**20 30 48.5**	**-0.8**
MDSI	**Maura Dua**	**2.41**	**135**	P	Pn	20 30 29.0	-0.7
MDSI				S	**Sn**	**20 31 02.5**	**-0.6**
PPSI	**Pulau Pagai**	**2.46**	**270**	P	**Pn**	**20 30 31.3**	**+1.0**
PPSI				S	**Sn**	**20 31 02.8**	**-1.3**
LWLI	**Liwa**	**2.73**	**145**	P	**Pn**	**20 30 34.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**21.38**	**351**	P	**P**	**20 34 19.2**	**+0.3**
	0.9nm,0.5s,baz=183,slow=8.5,SNR=9.0							
WRA	**Warramunga Arr**	**35.48**	**121**	P	**P**	**20 36 24.9**	**+0.3**
	0.3nm,0.5s,baz=298,slow=11,SNR=4.3							
ASAR	**Alice Springs**	**36.81**	**127**	P	**P**	**20 36 36.7**	**+0.8**
	0.2nm,0.4s,baz=307,slow=8.3,SNR=5.1							
SONM	**Songino Array**	**50.51**	**3**	P	**P**	**20 38 24.5**	**-0.2**
	0.6nm,0.6s,baz=183,slow=10,SNR=8.2							
MKAR	**Makanchi Array**	**52.47**	**343**	P	**P**	**20 38 38.5**	**-0.6**
	0.2nm,0.4s,baz=160,slow=8.9,SNR=6.5							
USRK	**Ussuriysk Ar.**	**53.71**	**26**	P	**P**	**20 38 48.0**	**-0.1**
	0.7nm,0.5s,baz=214,slow=4.6,SNR=3.8							
ZALV	**Zalesovo Beam**	**58.41**	**348**	P	P	20 39 19.7	-1.5
	0.5nm,0.4s,baz=156,slow=8.7,SNR=4.0							

*UCR **31** 20:33:27.0±2.5,12˚.03N×88˚.15W,h21km±9km, MD4.4, ML4.5,mb4.9(NEIC)*

*ISCJB **31** 20:33:28.4±0.3,12˚.11N±0˚.02×88˚.07W±0˚.02,h59km±2km, mb4.8/141,MS4.2/28, Error ellipse: s-maj=4.6km s-min=2.8km az=36.2*

*MOS **31** 20:33:29.7±1.5,12˚.34N×87˚.84W,h54km, mb5.2/26, Error ellipse: s-maj=12.6km s-min=5.9km az=110.4*

*BJI **31** 20:33:30.0,12˚.10N×88˚.00W,h40km, mB5.1/3, Ms5.2/6, Ms7 4.9/6*

*IDC **31** 20:33:30.1±1.2,12˚.34N×87˚.86W,h51km±11km, mb4.1/19, mb1 4.3/23,mb1mx4.2/35, mbtmp4.4/23, ML3.6/4, MS4.1/28, Ms1 4.1/28,ms1mx4.1/38, Error ellipse: s-maj=18.9km s-min=6.8km az=46.0*

*GCMT **31** 20:33:30.2±0.3,12˚.01N±0˚.02×88˚.38W±0˚.02,h17km, MW5.0/88,Moment Tensor Solution. s50,c62; s88,c124; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.59±.14; Mθθ-2.29±.10; Mϕϕ-0.30±.09; Mrθ1.82±.22; Mθϕ1.12±.06; Mϕr-1.99±.28; Best double couple: M○3.81400×10^16^ NP1:ϕs130.00000°,δ68.00000°,λ103.00000°. NP2: ϕs278.00000°,δ25.00000°,λ60.00000°. Principal axes: T 3.8300, Plg65.0000°, Azm62.0000°; N -0.0340, Plg12.0000°, Azm305.0000°; P -3.7980, Plg22.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **31** 20:33:30.2±0.5,12˚.15N×88˚.00W,h54km±4km, mb4.9/126, MD4.6(SNET) Error ellipse: s-maj=5.5km s-min=3.4km az=54.0*

NEIC Felt [I] at San Salvador, El Salvador.

ISC 31 20:33:30.5±0.8, 12˚.12N±0˚.04×88˚.09W±0˚.04, h60km±7km, n744, σ1s20/746, mb4.8/141, 10C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CSGN	**Cosiguina Volc**	**1.00**	**31**	*e*P*n*	**Pn**	**20 33 47.4**	**-1.2**
CSGN				*e*S*n*	**Sn**	**20 34 07.4**	**+5.4**
CSGN	**Cosiguina Volc**	**1.00**	**31**	*e*P	**Pn**	**20 33 47.2**	**-1.4**
CRIN	**San Cristobal**	**1.17**	**60**	*e*P	**Pn**	**20 33 49.2**	**-1.7**
CRIN				IAML		20 34 13.4	
	comp=N,22μm,0.4s						
CNCH	**Conchagua**	**1.18**	**12**	*e*P	**Pn**	**20 33 49.2**	**-1.8**
CNCH				*e*S	**Sn**	**20 34 08.7**	**+2.5**
CNCH				IAML		20 34 11.7	
	comp=Z,34μm,0.5s						
LCND	**La Caada**	**1.20**	**10**	*e*P	**Pn**	**20 33 49.3**	**-1.9**
LCND				*e*S	**Sn**	**20 34 08.4**	**+1.8**
LCND				IAML		20 34 12.3	
	comp=Z,9μm,0.5s						
LCY	**Lacayo**	**1.31**	**351**	*e*P	**Pn**	**20 33 50.8**	**-1.9**
VSM	**San Miguel**	**1.31**	**352**	*e*P	**Pn**	**20 33 51.1**	**-1.8**
BLLM	**Bellamira**	**1.32**	**354**	*e*P	**Pn**	**20 33 51.0**	**-1.8**
BLLM				*e*S	**Sn**	**20 34 12.2**	**+2.6**
CNGN	**Cerro Negro**	**1.42**	**74**	*e*P	**Pn**	**20 33 51.5**	**-2.6**
TECA	**Tecapa**	**1.42**	**344**	*i*P	**Pn**	**20 33 52.3**	**-2.1**
MOMN	**Momotombo**	**1.55**	**79**	*e*P	**Pn**	**20 33 53.2**	**-2.6**
CAHU	**Cacacuatique**	**1.65**	**356**	*e*P	**Pn**	**20 33 56.0**	**-1.3**
LFRS	**El Faro**	**1.77**	**328**	*e*P	**Pn**	**20 33 56.1**	**-2.8**
BRAN	**Las Pilas**	**1.81**	**71**	*e*P	**Pn**	**20 33 57.2**	**-2.1**
MGAN	**Managua**	**1.81**	**89**	*e*P	**Pn**	**20 33 56.7**	**-2.6**
MGAN				*e*S	**Sn**	**20 34 20.0**	**-1.2**
LFU	**La Fuente**	**1.90**	**329**	*e*P	**Pn**	**20 33 58.1**	**-2.6**
LFU				*e*S	**Sn**	**20 34 25.1**	**+1.5**
VICT	**Victoria**	**1.90**	**344**	*e*P	**Pn**	**20 33 59.4**	**-1.3**
VICT				*e*S	**Sn**	**20 34 26.7**	**+3.0**
MASN	**Masaya**	**1.91**	**94**	*e*P	**Pn**	**20 34 00.2**	**-0.4**
SNET	**Serv Nac Est T**	**1.91**	**325**	*e*P	**Pn**	**20 33 58.9**	**-2.0**
SNET				*e*S	**Sn**	**20 34 23.6**	**-0.3**
SNET				IAML		20 34 36.1	
	comp=Z,3μm,0.5s						
UEES	**San Salvador**	**1.95**	**325**	IAML		20 34 36.4	
	comp=Z,3μm,0.4s						
BOQS	**Boqueron**	**1.98**	**324**	*e*P	**Pn**	**20 33 59.9**	**-2.0**
MATN	**Matagalpa**	**2.27**	**69**	*e*P	**Pn**	**20 34 03.8**	**-1.8**
SBLS	**San Blas**	**2.27**	**319**	*e*P	**Pn**	**20 34 03.6**	**-2.3**
RTR	**El Retiro**	**2.33**	**320**	*e*P	**Pn**	**20 34 04.4**	**-2.1**
ACON	**Acoyapa**	**2.86**	**93**	*e*P	**Pn**	**20 34 11.0**	**-2.7**
IXG	**Ixpaco**	**3.06**	**312**	*e*P	**Pn**	**20 34 14.5**	**-2.1**
MESS	**Mesas**	**3.16**	**115**	*e*P	**Pn**	**20 34 16.4**	**-1.4**
NBG	**Las Nubes**	**3.29**	**318**	*e*P	**Pn**	**20 34 19.6**	**-0.2**
MRL	**Marmol**	**3.33**	**332**	*e*P	**Pn**	**20 34 19.3**	**-1.0**
FUG	**Fuego 3**	**3.54**	**311**	*e*P	**Pn**	**20 34 22.5**	**-0.6**
FUG				*e*S	**Sn**	**20 35 02.1**	**-1.7**
JTS	**JuntasAbangare**	**3.58**	**120**	*e*P*n*	**Pn**	**20 34 22.8**	**-0.8**
JTS				S	**Sn**	**20 35 04.7**	**+0.1**
JTS	**JuntasAbangare**	**3.58**	**120**	*e*P	**Pn**	**20 34 22.8**	**-0.8**
JTS				S	**Sn**	**20 35 04.7**	**+0.1**
JTS	**JuntasAbangare**	**3.58**	**120**	P	**Pn**	**20 34 22.3**	**-1.3**
	comp=Z,11nm,0.3s,baz=351,slow=5.5,SNR=21						
JTS				S	**Sn**	**20 35 04.7**	**+0.1**
	comp=Z,58nm,0.3s,baz=346,slow=22,SNR=6.4						
JTS				LR	LR	20 36 00.7	
	comp=Z,3μm,20.4s,baz=0.0,slow=43						
JTS	**JuntasAbangare**	**3.58**	**120**	*e*P	**Pn**	**20 34 22.7**	**-0.8**
APG	**El Apazote**	**3.68**	**321**	P	**Pn**	**20 34 23.9**	**-1.2**
	comp=Z,4.6nm,0.3s,baz=113,slow=4.0,SNR=21						
APG				S	**Sn**	**20 35 06.8**	**-0.6**
	comp=Z,26nm,0.3s,baz=315,slow=6.3,SNR=9.7						
APG				LR	LR	20 35 59.4	
	comp=Z,946nm,18.4s,baz=164,slow=41						
ARE1	**Arenal 1**	**3.70**	**116**	*e*P	**Pn**	**20 34 23.5**	**-1.7**
CEDE	**Laguna Cedeo**	**3.70**	**116**	*e*P	**Pn**	**20 34 24.1**	**-1.2**
ESPN	**Las Esperanzas**	**3.71**	**88**	*e*P*n*	**Pn**	**20 34 23.9**	**-1.4**
ESPN	**Las Esperanzas**	**3.71**	**88**	*e*P	**Pn**	**20 34 23.1**	**-2.2**
TRT1	**Tortuguero**	**4.57**	**109**	*e*P	**Pn**	**20 34 37.4**	**+0.4**
LCR2	**La Lucha 2**	**4.66**	**120**	*e*P	**Pn**	**20 34 37.8**	**-0.7**
CCIG	**Comitan**	**5.70**	**317**	*e*P*n*	**Pn**	**20 34 52.8**	**0.0**
PTJ1	**Puerto Jimnez**	**5.91**	**127**	*e*P	**Pn**	**20 34 54.9**	**-0.5**
BRU2	**Volcan**	**6.26**	**121**	*e*P	**Pn**	**20 34 59.6**	**-0.8**

ICCO	**Coco Island**	**6.61**	**171**	*e*P	**Pn**	**20 35 02.0**	**-3.1**
CMIG	**Matias Romero**	**8.22**	**308**	P	**Pn**	**20 35 26.5**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=123,slow=8.9,SNR=27							
CMIG				S	**Sn**	**20 36 59.8**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=209,slow=19,SNR=3.0							
BCIP	**Isla Barro Col**	**8.63**	**109**	*e*P*n*	**Pn**	**20 35 32.5**	**-0.2**
BCIP	**Isla Barro Col**	**8.63**	**109**	*e*P	**Pn**	**20 35 32.5**	**-0.2**
TLIG	**Tlapa**	**11.48**	**299**	*e*P*n*	**Pn**	**20 36 12.3**	**+0.5**
SJCC	**San Jacinto, C**	**12.87**	**99**	*e*P	**Pn**	**20 36 33.4**	**+2.7**
SJCC	**San Jacinto, C**	**12.87**	**99**	*e*P	**Pn**	**20 36 33.4**	**+2.7**
PAYG	**Puerto Ayora**	**12.89**	**190**	*e*P*n*	**Pn**	**20 36 30.3**	**-0.7**
	comp=Z,91nm,1.3s							
ZARC	**Zaragoza, Cauc**	**13.83**	**108**	*e*P	**Pn**	**20 36 46.0**	**+2.4**
ZARC	**Zaragoza, Cauc**	**13.83**	**108**	*e*P	**Pn**	**20 36 46.0**	**+2.4**
YOTC	**Yotoco, Valle**	**14.16**	**124**	*e*P	**Pn**	**20 36 46.7**	**-1.5**
YOTC	**Yotoco, Valle**	**14.16**	**124**	*e*P	**Pn**	**20 36 46.7**	**-1.5**
PTBC	**PUERTO BERRIO,**	**14.55**	**111**	*e*P	**P**	**20 36 56.7**	**-1.6**
PTBC	**PUERTO BERRIO,**	**14.55**	**111**	*e*P	**P**	**20 36 56.7**	**-1.6**
SOTA	**Rioblanco**	**15.10**	**130**	*e*P	**P**	**20 37 04.7**	**-0.2**
SOTA	**Rioblanco**	**15.10**	**130**	*e*P	**P**	**20 37 04.7**	**-0.2**
PCON	**Cinco Dias**	**15.13**	**129**	*e*P	**P**	**20 37 07.3**	**+2.1**
PCON	**Cinco Dias**	**15.13**	**129**	*e*P	**P**	**20 37 07.3**	**+2.1**
OTAV	**Otavalo**	**15.20**	**140**	P*n*	**Pn**	**20 37 01.4**	**-0.6**
	comp=Z,14nm,1.0s							
OTAV	**Otavalo**	**15.20**	**140**	*e*P	**P**	**20 37 10.0**	**+4.1**
OTAV	**Otavalo**	**15.20**	**140**	P	**Pn**	**20 37 01.4**	**-0.6**
OTAV				pmax	pmax			
	comp=Z,14nm,1.0s							
OTAV	**Otavalo**	**15.20**	**140**	*e*P	**P**	**20 37 10.0**	**+4.1**
061Z	**Ochoppi**	**15.26**	**25**	P	**Pn**	**20 37 02.8**	**+0.5**
	baz=207							
ROSC	**El Rosal**	**15.42**	**117**	*i*P	**P**	**20 37 08.0**	**-0.3**
ROSC	**El Rosal**	**15.42**	**117**	*i*eP	**P**	**20 37 08.0**	**-0.3**
ROSC	**El Rosal**	**15.42**	**117**	P	**Pn**	**20 37 03.1**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=110,slow=16,SNR=5.0							
ROSC				LR	LR	20 43 35.9		
	comp=Z,565nm,19.3s,baz=36,slow=40							
059Z	**Ave Maria**	**15.47**	**23**	P	**Pn**	**20 37 05.2**	**+0.2**
	baz=205							
PRAC	**Prado**	**15.51**	**122**	*e*P	**P**	**20 37 11.3**	**+2.4**
PRAC	**Prado**	**15.51**	**122**	*e*P	**P**	**20 37 11.3**	**+2.4**
060Z	**West Palm Beac**	**15.88**	**25**	P	**Pn**	**20 37 10.6**	**+0.3**
	baz=208							
PAMC	**Pamplona, Colo**	**15.90**	**106**	*e*P	**Pn**	**20 37 10.0**	**-1.0**
PAMC	**Pamplona, Colo**	**15.90**	**106**	*e*P	**Pn**	**20 37 10.0**	**-1.0**
058A	**Arcadia**	**15.99**	**21**	P	**Pn**	**20 37 12.0**	**+0.4**
	baz=202							
RUSC	**La Rusia**	**16.06**	**111**	*e*P	**P**	**20 37 14.6**	**-0.9**
RUSC	**La Rusia**	**16.06**	**111**	*e*P	**P**	**20 37 14.6**	**-0.9**
059A	**Moore Haven**	**16.15**	**23**	P	**Pn**	**20 37 14.1**	**+0.5**
	baz=205							
957A	**Wimauma**	**16.42**	**19**	P	**Pn**	**20 37 14.9**	**-2.0**
	baz=200							
060A	**Indiantown**	**16.52**	**25**	P	**Pn**	**20 37 18.7**	**+0.5**
	baz=207							
LNIG	**Linares**	**16.65**	**321**	*e*P*n*	**P**	**20 37 21.2**	**-0.3**
	comp=Z,178nm,1.2s							
959A	**Okeechobee**	**16.75**	**23**	P	**Pn**	**20 37 21.7**	**+0.5**
	baz=205							
857A	**Zephyrhills**	**16.98**	**18**	P	**P**	**20 37 24.8**	**-0.2**
	baz=200							
DWPF	**Disney Wildern**	**17.09**	**20**	P	**Pn**	**20 37 24.1**	**-1.2**
	baz=202							
858A	**St. Cloud**	**17.20**	**20**	P	**Pn**	**20 37 27.1**	**+0.4**
	baz=202							
859A	**Kempfer Cattle**	**17.23**	**22**	P	**P**	**20 37 27.5**	**-0.3**
	baz=204							
757A	**Oxford**	**17.66**	**18**	P	**P**	**20 37 32.5**	**0.0**
	baz=199							
655A	**Horseshoe Beac**	**17.88**	**14**	P	**P**	**20 37 33.9**	**-1.1**
	baz=195							
KVTX	**Kingsville**	**17.89**	**331**	*e*P	**Pn**	**20 37 35.4**	**+0.3**
	comp=Z,189nm,1.1s							
656A	**Willston**	**17.93**	**16**	P	**P**	**20 37 34.9**	**-0.6**
	baz=198							
758A	**Lake Helen**	**17.95**	**20**	P	**P**	**20 37 35.4**	**-0.3**
	baz=202							
552A	**Lynn Haven**	**18.11**	**8**	P	**P**	**20 37 36.9**	**-0.6**
	baz=188							
553A	**Crawfordville**	**18.30**	**10**	P	**P**	**20 37 39.1**	**-0.4**
	baz=191							
657A	**Interlachen**	**18.32**	**17**	P	**P**	**20 37 39.2**	**-0.6**
	baz=199							
554A	**Perry**	**18.34**	**12**	P	**Pn**	**20 37 40.5**	**-0.1**
	baz=194							
658A	**Bunnell**	**18.36**	**19**	P	**Pn**	**20 37 41.4**	**+0.6**
	baz=201							
451A	**Vernon**	**18.54**	**6**	P	**P**	**20 37 41.3**	**-0.8**
	baz=187							
555A	**McAlpin**	**18.54**	**14**	P	**Pn**	**20 37 43.9**	**+1.0**
	baz=196							
556A	**Lake Butler**	**18.56**	**16**	P	**P**	**20 37 42.3**	**-0.2**
	baz=197							
449A	**Pace**	**18.57**	**2**	P	**Pn**	**20 37 43.1**	**-0.2**
	baz=182							
450A	**Crestview**	**18.65**	**4**	P	**P**	**20 37 42.1**	**-1.3**
	baz=184							
448A	**Bay Minette**	**18.72**	**1**	P	**Pn**	**20 37 45.4**	**+0.2**
	baz=180							
557A	**Orange Park**	**18.76**	**17**	P	**Pn**	**20 37 45.5**	**-0.2**
	baz=199							
452A	**Marianna**	**18.83**	**8**	P	**P**	**20 37 45.9**	**+0.5**
	baz=188							
454A	**Quitman**	**18.96**	**12**	P	**P**	**20 37 46.5**	**-0.4**
	baz=193							
453A	**Whigham**	**18.97**	**10**	P	**Pn**	**20 37 47.9**	**-0.2**
	baz=191							
BRAL	**Brewton**	**18.98**	**3**	P	**Pn**	**20 37 48.2**	**-0.1**
	baz=183							
455A	**Stateville**	**19.12**	**13**	P	**P**	**20 37 49.2**	**+0.7**
	baz=195							
HKT	**Hockley**	**19.14**	**339**	*e*P	**P**	**20 37 48.2**	**-0.6**
	comp=Z,156nm,1.1s							
HKT	**Hockley**	**19.14**	**339**	*e*P	**P**	**20 37 48.2**	**-0.6**
HKT				pmax	pmax			
	comp=Z,156nm,1.1s							
349A	**Repton**	**19.16**	**2**	P	**Pn**	**20 37 50.9**	**+0.5**
	baz=182							
351A	**Pinckard**	**19.20**	**6**	P	**P**	**20 37 48.7**	**-0.8**
	baz=187							
833A	**Chaparral WMA,**	**19.27**	**328**	*e*P	**Pn**	**20 37 51.2**	**-0.6**
	comp=Z,300nm,0.8s							
833A	**Chaparral WMA,**	**19.27**	**328**	P	**P**	**20 37 51.0**	**+0.8**
	baz=144,SNR=78							
350A	**Dozier**	**19.28**	**5**	P	**Pn**	**20 37 51.5**	**-0.3**
	baz=185,SNR=5.7							
456A	**Hilliard**	**19.35**	**16**	P	**P**	**20 37 51.7**	**+0.6**
	baz=198							
353A	**Camilla**	**19.47**	**10**	P	**Pn**	**20 37 54.3**	**+0.2**
	baz=191,SNR=6.1							
352A	**Blakely**	**19.49**	**8**	P	**Pn**	**20 37 54.6**	**+0.2**
	baz=189,SNR=11							
TIGA	**Tifton**	**19.67**	**12**	*e*P	**Pn**	**20 37 56.6**	**+0.2**
	comp=Z,79nm,0.8s							
TIGA	**Tifton**	**19.67**	**12**	P	**Pn**	**20 37 56.4**	**-0.1**
	baz=193,SNR=9.0							
355A	**Pearson**	**19.73**	**13**	P	**Pn**	**20 37 56.5**	**-0.7**
	baz=195							
249A	**Camden**	**19.78**	**2**	P	**Pn**	**20 37 57.6**	**-0.2**
	baz=182,SNR=11							
250A	**Grady**	**19.84**	**5**	P	**Pn**	**20 37 57.5**	**-0.9**
	baz=185							
252A	**Lumpkin**	**20.02**	**8**	P	Pn	20 37 59.9	-0.7
	baz=189,SNR=20							
251A	**Midway**	**20.03**	**7**	P	Pn	20 38 00.0	-0.7
	baz=187,SNR=17							
VBMS	**Vicksburg**	**20.13**	**354**	P	Pn	20 38 01.2	-0.6
	baz=173,SNR=5.2							
253A	**Americus**	**20.18**	**10**	P	**P**	**20 38 00.6**	**+0.5**
	baz=191							
254A	**Abbeville**	**20.22**	**12**	P	**P**	**20 38 01.8**	**+1.2**
	baz=193,SNR=7.5							
255A	**Hazlehurst**	**20.38**	**14**	P	**P**	**20 38 03.0**	**+0.7**
	baz=196							
149A	**Jones**	**20.42**	**3**	P	Pn	20 38 04.1	-1.2
	baz=183,SNR=14							
148A	**Greensboro**	**20.44**	**1**	P	Pn	20 38 04.3	-1.2
	baz=181,SNR=15							
147A	**Livingston**	**20.46**	**360**	P	**P**	**20 38 03.3**	**+0.1**
	baz=179							
NATX	**Nacogdoches**	**20.46**	**344**	*e*P	**P**	**20 38 04.2**	**+1.1**
	comp=Z,86nm,1.0s							
NATX	**Nacogdoches**	**20.46**	**344**	P	Pn	20 38 04.6	-1.2
	baz=161,SNR=7.9							
151A	**Opelika**	**20.47**	**7**	P	Pn	20 38 04.9	-1.0
	baz=188,SNR=23							
150A	**Eclectic**	**20.48**	**5**	P	Pn	20 38 04.9	-1.1
	baz=186,SNR=20							
435B	**Jarrell**	**20.55**	**336**	*e*P	**P**	**20 38 04.3**	**+0.2**
	comp=Z,77nm,1.0s							
435B	**Jarrell**	**20.55**	**336**	P	**P**	**20 38 04.3**	**+0.2**
	baz=152,SNR=14							
152A	**Waverly Hall**	**20.69**	**8**	P	**P**	**20 38 07.0**	**+1.4**
	baz=189,SNR=14							
153A	**Fort Valley**	**20.81**	**10**	P	**P**	**20 38 07.4**	**+0.5**
	baz=192							
LRAL	**Lakeview Retre**	**20.84**	**3**	*e*P	**P**	**20 38 08.5**	**+1.2**
	comp=Z,38nm,0.8s							
LRAL	**Lakeview Retre**	**20.84**	**3**	P	**P**	**20 38 08.7**	**+1.4**
	baz=183,SNR=16							
154A	**Montrose**	**20.91**	**12**	*e*P	**P**	**20 38 09.1**	**+1.1**
	comp=Z,160nm,0.8s							
154A	**Montrose**	**20.91**	**12**	P	**P**	**20 38 09.2**	**+1.2**
	baz=194,SNR=10							
Z49A	**Columbiana**	**21.03**	**4**	P	**P**	**20 38 10.6**	**+1.3**
	baz=184,SNR=16							
155A	**Kite**	**21.05**	**13**	P	**P**	**20 38 10.7**	**+1.2**
	baz=195,SNR=22							
Z50A	**Ashland**	**21.13**	**5**	*e*P	**P**	**20 38 11.4**	**+1.0**
	comp=Z,51nm,0.9s							
Z50A	**Ashland**	**21.13**	**5**	P	**P**	**20 38 11.4**	**+1.0**
	baz=186,SNR=9.7							
Z52A	**Williamson**	**21.24**	**9**	P	**P**	**20 38 12.4**	**+0.8**
	baz=190							
JCT	**Junction City**	**21.25**	**331**	*e*P	**P**	**20 38 11.7**	**-0.1**
	comp=Z,74nm,0.8s							
JCT	**Junction City**	**21.25**	**331**	*e*P	**P**	**20 38 11.7**	**-0.1**
JCT				pmax	pmax			
	comp=Z,74nm,0.8s							
JCT	**Junction City**	**21.25**	**331**	P	**P**	**20 38 11.6**	**-0.1**
	baz=147,SNR=38							
156A	**Sylvania**	**21.32**	**15**	P	**P**	**20 38 13.0**	**+0.6**
	baz=198							
ATAH	**Atahualpa**	**21.42**	**153**	P	**P**	**20 38 16.1**	**+2.0**
	comp=Z,14nm,1.0s,baz=345,slow=9.6,SNR=5.0							
Z53A	**Monticello**	**21.47**	**10**	P	**P**	**20 38 15.0**	**+1.1**
	baz=192,SNR=19							
157A	**Early Branch**	**21.47**	**17**	P	**P**	**20 38 14.8**	**+0.8**
	baz=199							
Z41A	**Richland Creek**	**21.48**	**349**	*e*P	**P**	**20 38 15.7**	**+1.6**
	comp=Z,148nm,1.0s							
Z41A	**Richland Creek**	**21.48**	**349**	P	**P**	**20 38 14.8**	**+0.8**
	baz=167,SNR=16							
Z54A	**Sparta**	**21.56**	**12**	P	**P**	**20 38 15.5**	**+0.5**
	baz=194							
WHTX	**Lake Whitney,**	**21.57**	**338**	P	**P**	**20 38 15.0**	**-0.2**
	baz=154,SNR=13							
GOGA	**Godfrey**	**21.61**	**11**	*e*P	**P**	**20 38 16.8**	**+1.3**
	comp=Z,38nm,0.8s							
GOGA	**Godfrey**	**21.61**	**11**	*e*P	**P**	**20 38 16.8**	**+1.3**
GOGA				pmax	pmax			
	comp=Z,38nm,0.8s							
GOGA	**Godfrey**	**21.61**	**11**	P	**P**	**20 38 16.4**	**+0.9**
	baz=192,SNR=18							
Y49A	**Blount Mountai**	**21.69**	**4**	*e*P	**P**	**20 38 17.1**	**+0.7**
	comp=Z,39nm,0.9s							
Y49A	**Blount Mountai**	**21.69**	**4**	P	**P**	**20 38 17.0**	**+0.7**
	baz=184,SNR=12							
Z55A	**Blythe**	**21.70**	**14**	P	**P**	**20 38 16.9**	**+0.5**
	baz=196							
Y48A	**Jasper**	**21.71**	**2**	P	**P**	**20 38 17.1**	**+0.6**
	baz=182,SNR=14							
Y50A	**Piedmont**	**21.78**	**5**	P	**P**	**20 38 17.7**	**+0.4**
	baz=186							
Y51A	**Rockmart**	**21.86**	**7**	P	**P**	**20 38 19.0**	**+0.9**
	baz=188,SNR=15							
WLAR	**White Oak Lake**	**21.95**	**349**	*e*P	**P**	**20 38 20.8**	**+1.6**
	comp=Z,168nm,0.9s							
Y52A	**Lilburn**	**21.96**	**9**	*e*P	**P**	**20 38 20.2**	**+1.0**
	comp=Z,44nm,1.1s							
Y52A	**Lilburn**	**21.96**	**9**	P	**P**	**20 38 20.3**	**+1.0**
	baz=190,SNR=11							
Z56A	**Williston**	**21.99**	**15**	P	**P**	**20 38 19.7**	**+0.1**
	baz=198							
SJG	**San Juan**	**22.00**	**72**	P	**P**	**20 38 17.2**	**-2.5**
	comp=Z,8.1nm,0.7s,baz=232,slow=12,SNR=2.3							
Y53A	**Monroe**	**22.02**	**10**	P	**P**	**20 38 20.7**	**+0.7**
	baz=192,SNR=15							
NHSC	**New Hope**	**22.11**	**18**	P	**P**	**20 38 21.3**	**+0.5**
	baz=201							
Z57A	**Bowman**	**22.14**	**17**	P	**P**	**20 38 21.0**	**-0.1**
	baz=199							
Y54A	**Tignall**	**22.20**	**12**	P

baz=188,SNR=9.8
W52A **Murphy** 23.18 9 P P 20 38 32.5 +0.4
baz=190
BG3 **Lake Jocassee** 23.25 11 eP P 20 38 32.9 +0.2
comp=Z,47nm,0.8s
W41B **Gary Mavity, V** 23.26 351 eP P 20 38 32.7 0.0
comp=Z,68nm,1.0s
W41B **Gary Mavity, V** 23.26 351 P P 20 38 32.8 +0.1
baz=170,SNR=22
PAULI **Pauline** 23.31 13 eP P 20 38 33.5 +0.3
comp=Z,46nm,0.9s
X37A **Clayton** 23.33 345 eP P 20 38 34.1 +0.7
comp=Z,28nm,0.8s
WHAR **Wooly Hollow** 23.38 351 eP P 20 38 34.4 +0.5
comp=Z,74nm,1.0s
W53A **Cullowhee** 23.38 10 P P 20 38 34.5 +0.4
baz=192,SNR=5.7
X57A **Johnson Farm,** 23.41 17 P P 20 38 34.3 +0.1
baz=200
CPCT **Cooper Cave** 23.45 7 eP P 20 38 35.2 +0.6
comp=Z,26nm,0.8s
W54A **Cherokee Point** 23.48 12 P P 20 38 35.8 +0.9
baz=194,SNR=19
V48A **Smith Brothers** 23.55 3 P P 20 38 35.2 -0.2
baz=183
W39A **Magazine** 23.55 348 eP P 20 38 36.2 +0.7
comp=Z,107nm,1.2s
W39A **Magazine** 23.55 348 P P 20 38 36.1 +0.7
baz=166,SNR=26
Y60A **Bolivia** 23.57 21 P P 20 38 36.0 +0.3
baz=204
V46A **Holladay** 23.58 360 P P 20 38 35.5 -0.2
baz=180
V50A **Pikevile** 23.60 6 P P 20 38 35.9 -0.1
baz=187
V47A **Nunnelly** 23.61 1 P P 20 38 35.6 -0.5
baz=181,SNR=8.3
V49A **McMinnville** 23.63 4 P P 20 38 35.7 -0.5
baz=185,SNR=11
X58A **Rowland** 23.71 18 P P 20 38 36.9 -0.1
baz=201
KMSC **Kings Mountain** 23.73 14 eP P 20 38 37.8 +0.7
comp=Z,24nm,0.8s
KMSC **Kings Mountain** 23.73 14 P P 20 38 37.6 +0.5
baz=196,SNR=10.0
TKL **Tuckaleechee C** 23.76 9 eP P 20 38 37.9 +0.5
comp=Z,76nm,0.9s
TKL **Tuckaleechee C** 23.76 9 eP P 20 38 37.9 +0.5
TKL pmax pmax
comp=Z,76nm,0.9s
TKL **Tuckaleechee C** 23.76 9 P P 20 38 37.4 0.0
comp=Z,44nm,0.8s,baz=181,slow=11,SNR=30
TKL LR LR 20 48 50.0
comp=Z,512nm,19.6s,baz=182,slow=39
V51A **Loudon** 23.82 8 eP P 20 38 39.1 +1.1
comp=Z,23nm,0.8s
V51A **Loudon** 23.82 8 P P 20 38 38.0 0.0
baz=189
W56A **Indian Trail** 23.91 15 P P 20 38 38.9 +0.2
baz=198
WVT **Waverly** 23.91 1 eP P 20 38 37.9 -0.8
comp=Z,8.6nm,0.8s
WVT **Waverly** 23.91 1 eP P 20 38 37.9 -0.8
WVT pmax pmax
comp=Z,9.0nm,0.8s
WVT **Waverly** 23.91 1 P P 20 38 39.3 +0.6
baz=180
V53A **Saluda** 23.93 11 eP P 20 38 39.9 +0.9
comp=Z,34nm,0.8s
V53A **Saluda** 23.93 11 P P 20 38 39.5 +0.5
baz=193,SNR=11
X59A **McDuffie Farm,** 23.96 20 P P 20 38 39.1 -0.1
baz=203
V52A **Sevierville** 23.97 9 eP P 20 38 40.0 +0.7
comp=Z,36nm,1.0s
V52A **Sevierville** 23.97 9 P P 20 38 39.7 +0.4
baz=191,SNR=9.5
W57A **Gilead** 24.08 16 P P 20 38 40.4 +0.1
baz=200,SNR=5.5
U46A **Springville** 24.14 360 P P 20 38 40.0 -0.7
baz=180,SNR=20
W58A **Raeford** 24.18 18 P P 20 38 41.6 +0.4
baz=201
X60A **Albert Glenn T** 24.18 21 P P 20 38 41.3 +0.1
baz=204
V54A **Nebo** 24.20 12 P P 20 38 41.9 +0.5
baz=194,SNR=20
U47A **Clarksville** 24.23 2 P P 20 38 40.7 -0.9
baz=182,SNR=13
U48A **Cassie Pea, Po** 24.33 3 P P 20 38 42.0 -0.6
baz=183
U41A **Viola** 24.36 352 P P 20 38 42.3 -0.6
baz=171
U50A **Jamestown** 24.37 6 P P 20 38 42.8 -0.2
baz=188,SNR=12
U49A **Red Boiling Sp** 24.38 5 P P 20 38 42.7 -0.3
baz=185,SNR=13
U51A **La Follette** 24.43 8 P P 20 38 43.6 +0.1
baz=189,SNR=8.3
V55A **Taylorsville** 24.43 14 P P 20 38 44.1 +0.6
baz=196,SNR=13
U40A **Yellville** 24.51 351 P P 20 38 44.4 +0.2
baz=168,SNR=38
WMOK **Wichita Mounta** 24.52 338 eP P 20 38 44.1 -0.3
comp=Z,76nm,1.1s
WMOK **Wichita Mounta** 24.52 338 eP P 20 38 44.1 -0.3
WMOK pmax pmax
comp=Z,76nm,1.1s
WMOK **Wichita Mounta** 24.52 338 P P 20 38 44.3 -0.1
baz=154,SNR=70
U52A **Thorn Hill** 24.54 9 P P 20 38 44.0 -0.5
baz=191
W59A **Clinton** 24.56 19 P P 20 38 44.3 -0.4
baz=203
V56A **Mocksville** 24.57 15 P P 20 38 45.0 +0.3
baz=198,SNR=10
HHAR **Hobbs** 24.63 349 eP P 20 38 45.4 0.0
comp=Z,25nm,0.9s
PBMO **Poplar Bluff** 24.64 355 eP P 20 38 44.9 -0.5
comp=Z,29nm,0.8s
U53A **Fall Branch** 24.65 11 P P 20 38 45.9 +0.4
baz=193,SNR=17
TZTN **Tazewell** 24.66 9 eP P 20 38 46.1 +0.5
comp=Z,36nm,1.0s
TZTN **Tazewell** 24.66 9 P P 20 38 45.7 +0.1
baz=190
TUL1 **Leonard** 24.69 345 eP P 20 38 45.6 -0.3
comp=Z,54nm,0.9s
TUL1 **Leonard** 24.69 345 P P 20 38 45.6 -0.3
baz=162,SNR=17
T47A **Sharon Grove** 24.78 2 eP P 20 38 46.2 -0.5
comp=Z,44nm,0.8s
T47A **Sharon Grove** 24.78 2 P P 20 38 46.1 -0.5
baz=182,SNR=22
T45A **Paducah** 24.80 359 P P 20 38 46.3 -0.5
baz=178
T46A **Princeton** 24.82 0 P P 20 38 46.4 -0.5
baz=180,SNR=12
V57A **Coltrane Farms** 24.83 16 P P 20 38 46.9 -0.3
baz=199,SNR=7.1
T48A **Bowling Green** 24.93 3 P P 20 38 48.4 +0.4
baz=184
T43A **Greenville** 24.94 356 P P 20 38 47.3 -0.7
baz=175,SNR=18
U54A **Nelsons Funny** 24.95 12 P P 20 38 48.4 +0.1
baz=194,SNR=19
T50A **Nancy** 24.97 6 P P 20 38 47.9 -0.4
baz=187
T49A **Edmonton** 24.98 5 eP P 20 38 48.3 -0.3
comp=Z,19nm,0.8s
T49A **Edmonton** 24.98 5 P P 20 38 48.1 -0.4
baz=186,SNR=11
T51A **Gray** 25.02 8 P P 20 38 49.0 +0.1
baz=189
U55A **TA2, Sparta** 25.09 13 P P 20 38 49.7 0.0
baz=196,SNR=7.8
MNTX **Cornudas Mount** 25.17 323 eP P 20 38 50.4 +0.1
comp=Z,48nm,1.3s
MNTX **Cornudas Mount** 25.17 323 P P 20 38 50.4 +0.1
baz=137,SNR=43
V59A **Middlesex** 25.17 19 P P 20 38 50.2 -0.1
baz=203
T53A **Wise** 25.26 10 P P 20 38 51.0 -0.1
baz=193
T52A **Hallie** 25.30 10 P P 20 38 51.0 -0.4
baz=192
S47A **Hartford** 25.39 2 P P 20 38 51.8 -0.4
baz=183
S43A **Fulton Ridge,** 25.41 356 P P 20 38 51.3 -1.0
baz=175,SNR=8.9
S45A **Carrier Mills** 25.45 359 P P 20 38 51.8 -1.0
baz=179
S46A **Don Dixon Farm** 25.46 1 P P 20 38 51.8 -1.0
baz=181,SNR=5.2
S44A **Carbondale** 25.49 358 P P 20 38 52.7 -0.4
baz=177,SNR=6.0
S48A **Wiedeman Farm,** 25.50 4 P P 20 38 52.3 -0.8
baz=184
SIUC **Southern Illin** 25.51 358 eP P 20 38 53.1 -0.1
comp=Z,30nm,0.8s
T54A **Tazewell** 25.52 12 P P 20 38 52.8 -0.6
baz=195
MSTX **Muleshoe** 25.54 331 P P 20 38 53.7 0.0
baz=145
S41A **Jillco Farms,** 25.57 353 P P 20 38 53.1 -0.7
baz=172,SNR=8.9
U58A **Oxford** 25.66 18 P P 20 38 54.5 -0.1
baz=202
S42A **Caledonia** 25.66 355 P P 20 38 53.3 -1.3
baz=174,SNR=6.7
S50A **Richmond** 25.67 7 P P 20 38 54.0 -0.7
baz=188
S49A **Springfield** 25.68 5 P P 20 38 54.2 -0.7
baz=186
S51A **Beattyville** 25.73 8 P P 20 38 55.2 -0.1
baz=190
T55A **Pulaski** 25.74 14 P P 20 38 55.6 +0.2
baz=196
V61A **Roper** 25.77 22 P P 20 38 54.9 -0.7
baz=206
AMTX **Amarillo** 25.80 334 eP P 20 38 56.4 +0.3
comp=Z,234nm,1.4s
AMTX **Amarillo** 25.80 334 P P 20 38 56.2 +0.1
baz=148
T56A **Rocky Mt** 25.84 15 P P 20 38 56.1 -0.2
baz=198
S52A **Salyersville** 25.85 9 P P 20 38 56.4 0.0
baz=191
U59A **Littleton** 25.85 19 P P 20 38 56.3 -0.1
baz=203
BLA **Blacksburg** 25.92 14 eP P 20 38 56.8 -0.3
comp=Z,29nm,1.0s
BLA **Blacksburg** 25.92 14 P P 20 38 56.7 -0.3
baz=197
CCM **Cathedral Cave** 25.98 354 eP P 20 38 56.8 -0.8
comp=Z,23nm,0.8s
CCM **Cathedral Cave** 25.98 354 eP P 20 38 56.8 -0.8
CCM pmax pmax
comp=Z,23nm,0.8s
CCM **Cathedral Cave** 25.98 354 P P 20 38 56.9 -0.7
baz=173
R46A **Gibon Southern** 25.99 1 P P 20 38 56.8 -0.8
baz=181,SNR=8.1
S53A **Williamson** 26.01 11 P P 20 38 57.7 -0.1
baz=193
T57A **Hurt** 26.02 16 P P 20 38 57.1 -0.8
baz=200
R44A **Waltonville** 26.04 358 P P 20 38 57.4 -0.6
baz=178,SNR=6.7
WCI **Wyandotte Cave** 26.05 3 eP P 20 38 57.9 -0.3
comp=Z,25nm,0.8s
WCI **Wyandotte Cave** 26.05 3 eP P 20 38 57.9 -0.3
WCI pmax pmax
comp=Z,25nm,0.8s
WCI **Wyandotte Cave** 26.05 3 P P 20 38 57.4 -0.7
baz=184
R45A **Skylar, Fairfi** 26.07 360 P P 20 38 57.7 -0.6
baz=179
R47A **Wooly Knot Far** 26.11 3 P P 20 38 57.8 -0.9
baz=183,SNR=5.5
R42A **Luebbering** 26.16 355 P P 20 38 58.6 -0.6
baz=174
T58A **Grand View Acr** 26.17 18 P P 20 38 58.5 -0.8
baz=201
R49A **Shelbyville** 26.19 5 P P 20 38 58.5 -1.0
baz=186
R41A **Rosebud** 26.23 354 P P 20 38 59.1 -0.7
baz=172,SNR=11
R48A **Northridge Ran** 26.25 4 P P 20 38 59.2 -0.7
baz=185
R50A **Paris** 26.27 7 P P 20 38 59.8 -0.4
baz=188
R51A **Hillsboro** 26.38 8 P P 20 39 01.0 -0.2
baz=190,SNR=5.1
NNA **Nana** 26.43 155 LR LR 20 47 40.1
comp=Z,206nm,19.6s,baz=342,slow=32
S55A **Lewisburg** 26.43 14 P P 20 39 01.8 +0.1
baz=197
T59A **Double "B" Far** 26.50 19 P P 20 39 02.2 0.0
baz=203
R52A **Catlettsburg** 26.56 10 P P 20 39 02.5 -0.3
baz=192
Q45A **Warren Harvey,** 26.67 360 P P 20 39 03.0 -0.7
baz=180,SNR=6.9
R53A **Hurricane** 26.67 11 P P 20 39 03.7 -0.1
baz=193
Q44A **Meyer Farm, Va** 26.69 358 P P 20 39 03.1 -0.8
baz=178,SNR=6.1
R54A **Victor** 26.72 13 P P 20 39 04.3 0.0
baz=195
Q47A **Bedord North L** 26.75 3 P P 20 39 03.7 -0.8
baz=183,SNR=9.0
Q43A **New Douglas** 26.75 357 P P 20 39 03.7 -0.8
baz=176
Q42A **Golden Eagle** 26.77 356 P P 20 39 03.8 -0.8
baz=174
Q48A **North Vernon** 26.78 4 P P 20 39 03.8 -1.0
baz=185
Q46A **CEJHS Indians,** 26.80 1 P P 20 39 04.3 -0.6
baz=181
Q50A **Georgetown** 26.87 7 P P 20 39 05.0 -0.5
baz=189
Q41A **Truxton** 26.87 355 P P 20 39 04.7 -0.8
baz=173
Q49A **Aurora** 26.93 6 P P 20 39 05.5 -0.5
baz=187,SNR=5.5
R55A **Marlinton** 27.01 14 P P 20 39 07.1 +0.2
baz=197
Q51A **Peebles** 27.13 8 eP P 20 39 08.0 +0.1
comp=Z,29nm,0.9s
Q51A **Peebles** 27.13 8 P P 20 39 07.8 0.0
baz=190,SNR=11
121A **Cookes Peak, D** 27.19 321 P P 20 39 08.9 +0.1
baz=134,SNR=15
Q52A **Bidwell** 27.23 10 P P 20 39 08.8 0.0
baz=192
P44A **Sand Creek, Wi** 27.24 359 P P 20 39 08.6 -0.3
baz=179
Q53A **Leroy** 27.26 11 P P 20 39 09.0 -0.1
baz=194
P45A **Graceland, Par** 27.30 1 P P 20 39 08.4 -1.0
baz=180
P47A **Martinsville** 27.30 3 P P 20 39 08.7 -0.7
baz=184
R58B **Mineral** 27.31 18 P P 20 39 08.6 -0.9
baz=202
P48A **Milroy** 27.33 5 P P 20 39 08.6 -1.1
baz=186
P46A **Rosedale** 27.40 1 P P 20 39 09.4 -0.9
baz=182
P43A **Skaggs, Pawnee** 27.44 358 P P 20 39 09.8 -0.8
baz=177
Q54A **Coxs Mills** 27.52 12 P P 20 39 11.6 +0.2
baz=195,SNR=5.6
P41A **Barry, Barry** 27.57 355 P P 20 39 11.1 -0.7
baz=174
P51A **Williamsport** 27.61 8 P P 20 39 11.7 -0.5
baz=190
P50A **Jamestown** 27.64 7 P P 20 39 12.3 -0.2
baz=189
BNM **Barren Site** 27.68 325 eP P 20 39 16.0 +2.8
Q55A **Buckhannon** 27.70 14 P P 20 39 12.8 -0.3
baz=197
P53A **Whipple** 27.90 11 eP P 20 39 15.2 +0.4
comp=Z,28nm,0.8s
P53A **Whipple** 27.90 11 P P 20 39 15.0 +0.2
baz=194,SNR=8.4
P52A **Corning** 27.91 10 P P 20 39 14.4 -0.4
baz=192
KSU1 **Kansas State U** 27.92 346 P P 20 39 12.9 -2.1
comp=Z,39nm,0.8s
KSU1 **Kansas State U** 27.92 346 P P 20 39 14.6 -0.3
baz=162,SNR=11
O41A **Passleys Farm,** 27.99 355 P P 20 39 14.6 -1.0
baz=174
O45A **Potomac** 28.02 1 P P 20 39 14.4 -1.4
baz=181
O47A **Sheridan** 28.06 3 P P 20 39 14.7 -1.5
baz=184
O48A **Farmland** 28.15 5 P P 20 39 15.8 -1.2
baz=186
O49A **Covington** 28.15 6 eP P 20 39 16.6 -0.5
comp=Z,18nm,0.8s
O49A **Covington** 28.15 6 P P 20 39 16.1 -0.9
baz=188
SFIN **Lafayette** 28.16 2 P P 20 39 15.7 -1.3
baz=182
ANMO **Albuquerque** 28.18 327 ceP P 20 39 17.7 +0.1
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO **Albuquerque** 28.18 327 P P 20 39 17.3 -0.3
baz=139
ANMO **Albuquerque** 28.18 327 P P 20 39 18.2 +0.6
comp=Z,3.0nm,0.8s,baz=135,slow=9.1,SNR=11
ANMO LR LR 20 52 05.0
comp=Z,179nm,21.1s,baz=147,slow=40
TASM **ASL Pad, Albuq** 28.18 327 P P 20 39 18.1 +0.5
baz=139,SNR=12
TASM **ASL Pad, Albuq** 28.18 327 P P 20 39 18.5 +0.9
baz=139,SNR=12
P54A **Burton** 28.19 13 P P 20 39 17.3 -0.1
baz=196
O50A **Cable** 28.20 7 P P 20 39 16.5 -0.9
baz=189,SNR=11
P55A **Reedsville** 28.25 14 P P 20 39 17.6 -0.2
baz=197
O51A **Pataskala** 28.33 9 P P 20 39 18.0 -0.6
baz=191
ACSO **Alum Creek Sta** 28.36 8 eP P 20 39 18.6 -0.2
comp=Z,15nm,0.7s
ACSO **Alum Creek Sta** 28.36 8 P P 20 39 18.5 -0.4
baz=190
MCWV **Mont Chateau** 28.38 13 P P 20 39 18.6 -0.5
baz=197
O52A **Adamsville** 28.43 10 P P 20 39 19.2 -0.2
baz=193
CBKS **Cedar Bluff** 28.53 341 eP P 20 39 20.7 +0.2
comp=Z,25nm,0.6s
CBKS **Cedar Bluff** 28.53 341 eP P 20 39 20.7 +0.2
CBKS pmax pmax
comp=Z,25nm,0.6s
CBKS **Cedar Bluff** 28.53 341 P P 20 39 20.3 -0.2
baz=156,SNR=7.2
N41A **Harden Midland** 28.58 356 P P 20 39 19.8 -1.0
baz=174
N45A **Kentland** 28.62 1 P P 20 39 20.1 -1.0
baz=181
O53A **New Philadelph** 28.67 11 P P 20 39 21.3 -0.4
baz=194,SNR=5.3
N46A **Monticello** 28.69 2 P P 20 39 20.8 -0.9
baz=183,SNR=6.8
N43A **Stutzman Famil** 28.72 358 P P 20 39 21.3 -0.8
baz=178,SNR=6.0
N47A **Urbana** 28.73 4 P P 20 39 20.5 -1.7
baz=185
N48A **Decatur** 28.75 5 P P 20 39 21.0 -1.4
baz=186
O54A **Avella** 28.77 12 P P 20 39 22.0 -0.6
baz=196
N40A **Mertquake, Sal** 28.82 355 P P 20 39 22.1 -0.8
baz=173
N49A **Columbus Grove** 28.90 6 P P 20 39 22.8 -0.8
baz=188
T25A **Trinidad** 28.90 332 eP P 20 39 25.8 +1.9
comp=Z,26nm,0.9s
T25A **Trinidad** 28.90 332 P P 20 39 25.3 +1.3
baz=145,SNR=17
TUC **Tucson** 28.95 318 eP P 20 39 25.5 +1.2
comp=Z,15nm,0.9s
TUC **Tucson** 28.95 318 eP P 20 39 25.5 +1.2
TUC pmax pmax
comp=Z,15nm,0.9s
N53A **Lisbon** 29.28 11 P P 20 39 26.7 -0.3
baz=194
M40A **Post Highland** 29.33 355 P P 20 39 26.5 -0.9
baz=173
M39A **Webster** 29.46 354 P P 20 39 28.5 -0.1
baz=172
M49A **Liberty Center** 29.46 6 P P 20 39 27.6 -1.0
baz=188
M50A **Fremont** 29.51 8 P P 20 39 28.5 -0.5
baz=190
M51A **Elyria** 29.56 9 P P 20 39 29.2 -0.3
baz=192
N54A **Moraine State** 29.60 12 eP P 20 39 30.1 +0.2
comp=Z,20nm,0.9s
N54A **Moraine State** 29.60 12 P P 20 39 29.2 -0.7
baz=196
N55A **Marion Center** 29.65 14 P P 20 39 29.9 -0.4
baz=198
KSCO **Kaye Shedlock'** 29.73 337 P P 20 39 31.5 +0.2
baz=150,SNR=8.5
SSPA **Standing Stone** 29.79 16 eP P 20 39 32.0 +0.4
comp=Z,9.7nm,0.8s
SSPA **Standing Stone** 29.79 16 P P 20 39 31.3 -0.2
baz=200
L42A **Oliver, Polo** 29.80 358 P P 20 39 30.5 -1.1
baz=177
L47A **Sherwood** 29.85 4 P P 20 39 30.2 -1.8
baz=186
L48A **N Adams** 29.88 5 P P 20 39 31.3 -1.1
baz=187
SDCO **Great Sand Dun** 29.89 332 eP P 20 39 33.9 +1.0
comp=Z,27nm,1.2s
SDCO ePcP PcP 20 42 37.7 +3.0
SDCO **Great Sand Dun** 29.89 332 P P 20 39 34.2 +1.3
baz=144,SNR=23
M52A **Chesterland** 29.90 10 P P 20 39 31.4 -1.1
baz=193
PLIO **Pelee Island,** 29.90 8 P P 20 39 31.9 -0.6
baz=191
M53A **WI Miller and** 29.92 11 P P 20 39 32.6 -0.1
baz=194
L44A **Lake County Fo** 29.95 0 P P 20 39 32.1 -0.8
baz=180
L40A **Ananosa** 29.95 355 P P 20 39 32.0 -1.0
baz=174,SNR=5.3
L43A **Garden Prairie** 29.96 359 P P 20 39 31.8 -1.2
baz=179
SCIA **State Center** 30.01 352 P P 20 39 33.0 -0.5
baz=170
L39A **Vinton** 30.09 354 P P 20 39 34.0 -0.1
baz=172
L49A **Milan** 30.11 6 P P 20 39 33.6 -0.8
baz=188
M54A **Oil Creek Stat** 30.19 13 eP P 20 39 34.8 -0.3
comp=Z,15nm,0.7s
M54A **Oil Creek Stat** 30.19 13 P P 20 39 34.8 -0.3
baz=196
M55A **Ridgway** 30.36 14 P P 20 39 36.3 -0.3
baz=198
K41A **Shullsburg** 30.43 357 P P 20 39 36.1 -1.1
baz=176
K43A **Burlington** 30.47 360 P P 20 39 36.6 -0.9
baz=179
BGNE **Belgrade** 30.48 345 eP P 20 39 36.2 -1.5
comp=Z,46nm,0.8s
BGNE **Belgrade** 30.48 345 P P 20 39 37.6 0.0
baz=160,SNR=5.4
L53A **Girard** 30.50 12 P P 20 39 37.1 -0.7
baz=195
S22A **4UR Ranch, Cre** 30.53 330 P P 20 39 39.5 +1.0
baz=142
K47A **Vermontville** 30.56 4 P P 20 39 36.6 -1.7
baz=186,SNR=5.1
K42A **Prairie Point,** 30.57 358 P P 20 39 37.2 -1.2
baz=177
K40A **Colesburg** 30.58 356 P P 20 39 37.3 -1.2
baz=174
K39A **Oelwein** 30.65 355 P P 20 39 38.3 -0.8
baz=172
N59A **State Game Lan** 30.66 18 eP P 20 39 40.0 +0.7
comp=Z,14nm,0.8s
N59A **State Game Lan** 30.66 18 P P 20 39 39.0 -0.3
baz=204
ERPA **Erie** 30.71 12 P P 20 39 39.2 -0.4
baz=195
Q24A **Divide** 30.73 333 P P 20 39 39.5 -0.8
baz=146
JFWS **Jewell Farm** 30.74 357 eP P 20 39 38.4 -1.5
comp=Z,14nm,0.6s
JFWS **Jewell Farm** 30.74 357 eP P 20 39 38.4 -1.5
JFWS pmax pmax
comp=Z,13nm,0.6s

JFWS **Jewell Farm** 30.74 357 P P 20 39 39.0 -0.9
baz=176
K48A **Perry** 30.77 6 P P 20 39 39.1 -1.0
baz=187
K49A **Clarkson** 30.82 7 P P 20 39 39.7 -0.9
baz=189
MVCO **Mesa Verde** 30.97 327 eP P 20 39 43.7 +1.4
comp=Z,5.3nm,0.6s
J42A **Columbus** 31.10 359 P P 20 39 42.3 -0.7
baz=178
L55A **Hinsdale** 31.11 14 P P 20 39 42.6 -0.6
baz=198
J47A **Sunmer** 31.14 5 P P 20 39 42.4 -1.0
baz=186
J43A **Natural Harves** 31.15 360 P P 20 39 42.7 -0.8
baz=179
J41A **Loganville** 31.18 357 P P 20 39 43.0 -0.7
baz=176
OGNE **Ogallala** 31.22 339 eP P 20 39 43.3 -1.0
comp=Z,40nm,1.2s
OGNE **Ogallala** 31.22 339 P P 20 39 43.6 -0.6
baz=153
J40A **Soldiers Grove** 31.25 356 P P 20 39 43.9 -0.5
baz=175
WUAZ **Wupatki** 31.40 322 eP P 20 39 47.2 +1.1
comp=Z,14nm,1.0s
WUAZ **Wupatki** 31.40 322 P P 20 39 47.5 +1.4
baz=132,SNR=5.8
J49A **Marlette** 31.42 7 P P 20 39 45.2 -0.7
baz=189
ISCO **Idaho Springs** 31.62 334 eP P 20 39 48.7 +0.6
comp=Z,11nm,1.0s
ISCO eP cP P 20 42 41.7 +2.5
ISCO **Idaho Springs** 31.62 334 eP P 20 39 48.7 +0.6
ISCO e 20 42 41.7
ISCO pmax pmax
comp=Z,11nm,1.0s
ISCO **Idaho Springs** 31.62 334 P P 20 39 49.0 +0.9
baz=146,SNR=12
I43A **Langenfeld Bro** 31.65 360 P P 20 39 47.8 -0.1
baz=180
I42A **Draeger Farm,** 31.67 359 eP P 20 39 47.4 -0.6
comp=Z,49nm,1.3s
I42A **Draeger Farm,** 31.67 359 P P 20 39 47.2 -0.9
baz=178,SNR=5.8
TYNO **Tyneside** 31.68 12 P P 20 39 48.2 +0.1
baz=195
I40A **Norwalk** 31.73 357 P P 20 39 47.4 -1.3
baz=175
BINY **Binghamton** 31.77 17 eP P 20 39 48.8 -0.3
comp=Z,22nm,0.9s
BINY **Binghamton** 31.77 17 P P 20 39 47.8 -1.3
baz=203,SNR=6.1
I41A **Arkdale** 31.86 358 eP P 20 39 49.1 -0.7
comp=Z,22nm,0.9s
I41A **Arkdale** 31.86 358 P P 20 39 48.8 -1.0
baz=176
ACTO **Acton** 32.13 11 P P 20 39 52.0 -0.1
baz=195
I51A **Listowel** 32.16 10 P P 20 39 52.0 -0.3
baz=193
ECSD **EROS Data Cent** 32.35 348 eP P 20 39 53.2 -0.8
comp=Z,38nm,0.9s
ECSD **EROS Data Cent** 32.35 348 P P 20 39 53.2 -0.8
baz=164,SNR=33
I52A **Shelburne** 32.56 11 P P 20 39 55.6 -0.3
baz=194
H39A **Augusta** 32.56 356 P P 20 39 55.1 -0.8
baz=174
H38A **Maiden Rock** 32.64 354 P P 20 39 56.1 -0.5
baz=172
N23A **Red Feather La** 32.67 335 P P 20 39 58.2 +1.0
baz=146,SNR=8.5
H48A **Harrisville** 32.72 6 P P 20 39 57.1 -0.2
baz=188
WLVO **Wesleyville** 32.77 13 P P 20 39 57.3 -0.4
baz=198
BC3 **Big Chuckawall** 32.91 315 P P 20 39 59.2 0.0
baz=124
IRM **Iron Mountain** 32.98 316 P P 20 40 00.2 +0.4
baz=125
G40A **Rib Lake** 33.08 357 P P 20 39 59.6 -0.9
baz=176
O20A **White River Ci** 33.09 331 P P 20 40 00.8 0.0
baz=142,SNR=12
G38A **Ridgeland** 33.09 355 P P 20 39 59.2 -1.3
baz=173
G39A **Holcombe** 33.16 356 P P 20 39 59.8 -1.3
baz=174,SNR=5.4
H52A **Wyevale** 33.16 11 P P 20 40 00.8 -0.3
baz=195
I55A **Frankford** 33.22 14 P P 20 40 01.4 -0.2
baz=199
SADO **Sadowa** 33.43 12 eP P 20 40 02.9 -0.5
comp=Z,20nm,0.6s
DELO **Deloro Mine** 33.52 14 P P 20 40 04.4 +0.2
baz=199
F41A **Three Lakes** 33.52 359 P P 20 40 03.2 -1.1
baz=178
HRV **Adam Dziewonsk** 33.52 22 P P 20 40 04.3 +0.1
baz=210
SUSD **Miller** 33.53 346 P P 20 40 03.6 -0.9
baz=160,SNR=5.8
PFO **Pinyon Flats O** 33.58 314 P P 20 40 05.1 0.0
comp=Z,5.1nm,1.0s
F43A **Flat Rock, Esc** 33.61 1 P P 20 40 03.6 -1.3
baz=182
H55A **Tweed** 33.65 14 P P 20 40 04.5 -0.9
baz=199
F37A **Hinrichs Farm,** 33.71 354 P P 20 40 05.7 -0.2
baz=172
F40A **Park Falls** 33.73 357 P P 20 40 04.9 -1.2
baz=176
F39A **Loretta** 33.77 356 P P 20 40 05.5 -1.0
baz=175
F44A **Big Bay de Noc** 33.77 2 P P 20 40 04.8 -1.6
baz=183,SNR=5.6
KLBO **Killbear Provi** 33.80 10 P P 20 40 06.3 -0.4
baz=194
G53A **Haliburton** 33.87 12 P P 20 40 06.3 -1.1
baz=197,SNR=5.6
F38A **Pierce - Schro** 33.88 355 P P 20 40 06.4 -0.9
baz=173
H56A **Elgin** 33.92 15 P P 20 40 07.6 0.0
baz=201
BANO **Bancroft** 33.92 13 P P 20 40 07.3 -0.4
baz=198
BUKO **Buck Lake** 34.03 11 P P 20 40 07.8 -0.9
baz=195,SNR=5.6
PLVO **Plevna** 34.13 14 P P 20 40 09.4 -0.2
baz=199
E43A **Lone Tree Farm** 34.16 1 P P 20 40 09.2 -0.6
baz=182
E42A **Champion** 34.20 0 P P 20 40 09.2 -0.9
baz=180
E39A **Mellen** 34.21 357 P P 20 40 09.1 -1.1
baz=176,SNR=7.5
E40A **Wakefield** 34.25 358 P P 20 40 09.9 -0.7
baz=177
K22A **Casper** 34.38 336 P P 20 40 12.7 +0.7
baz=147,SNR=11
F52A **Sundridge** 34.38 11 P P 20 40 11.5 -0.3
baz=195
LONY **Lake Ozonia** 34.40 17 eP P 20 40 10.5 -1.4
comp=Z,22nm,0.9s
LONY **Lake Ozonia** 34.40 17 P P 20 40 11.2 -0.7
baz=204,SNR=9.8
G55A **Calabogie** 34.42 14 P P 20 40 11.2 -0.9
baz=200,SNR=6.3
LPAZ **La Paz** 34.45 145 P P 20 40 13.3 +0.1
comp=Z,1.0nm,0.6s,baz=309,slow=6.4,SNR=5.0
LPAZ LR LR 20 55 03.0
comp=Z,394nm,19.1s,baz=312,slow=38
E47A **Iron Bridge** 34.46 6 P P 20 40 11.8 -0.6
baz=188
E38A **The Farm, Brul** 34.50 356 P P 20 40 11.9 -0.8
baz=174
PEMO **Pembroke** 34.70 13 P P 20 40 14.4 0.0
baz=199
RSSD **Black Hills** 34.72 340 eP P 20 40 15.9 +1.0
comp=Z,17nm,0.8s
RSSD **Black Hills** 34.72 340 P P 20 40 15.6 +0.7
baz=152
E50A **Wahnapitae** 34.75 9 P P 20 40 14.2 -0.7
baz=192
ALGO **Algonquin Park** 34.79 12 P P 20 40 14.3 -0.9
baz=197
LBNH **Lisbon** 34.90 20 P P 20 40 16.4 +0.2
baz=208
ORIO **Orleans, Innes** 34.91 16 P P 20 40 16.3 +0.1
baz=202
E52A **Mattawa** 34.98 11 P P 20 40 16.7 -0.2
baz=196
F55A **Otter Lake** 35.05 14 P P 20 40 17.2 -0.3
baz=200
E51A **G1948 Merrick** 35.06 10 P P 20 40 16.6 -1.0
baz=195,SNR=6.4
ALFO **Alfred** 35.24 16 P P 20 40 18.4 -0.7
baz=203
D48A **Paudash Townsh** 35.34 7 P P 20 40 19.1 -0.9
baz=190
E54A **Lac Daplat, Po** 35.43 13 P P 20 40 19.7 -1.0
baz=198,SNR=5.3
D49A **Beulah Townshi** 35.50 8 P P 20 40 20.0 -1.3
baz=191,SNR=6.9
D51A **Lot 18 Range I** 35.62 10 P P 20 40 22.1 -0.3
baz=195
MPMC **Manual Prospec** 35.64 317 P P 20 40 23.0 +0.1
baz=124
D52A **ZEK Kipawa Sen** 35.69 11 P P 20 40 22.5 -0.5
baz=196,SNR=7.7
BW06 **Boulder Array** 35.77 333 eP P 20 40 24.6 +0.5
comp=Z,12nm,1.0s
BW06 **Boulder Array** 35.77 333 P P 20 40 24.0 0.0
baz=142,SNR=6.6
PDAR **Pinedale Array** 35.77 333 P P 20 40 23.7 -0.3
comp=Z,11nm,1.0s,baz=122,slow=10.0,SNR=17
PDAR PcP PcP 20 42 52.3 +1.5
comp=Z,6.7nm,1.0s,baz=140,slow=4.3,SNR=8.2
EYMN **Ely** 35.83 356 eP P 20 40 23.3 -0.8
comp=Z,12nm,0.9s
EYMN **Ely** 35.83 356 P P 20 40 23.0 -1.2
baz=174
D54A **Lac Fusel, La** 36.23 13 P P 20 40 26.7 -0.9
baz=199,SNR=9.1
AGMN **Agassiz Nation** 36.65 351 eP P 20 40 30.3 -0.8
comp=Z,114nm,1.2s
AGMN **Agassiz Nation** 36.65 351 P P 20 40 30.4 -0.7
baz=167,SNR=14
PKME **Peaks-Kenny Pk** 36.73 22 eP P 20 40 32.1 +0.3
comp=Z,45nm,1.1s
PKME **Peaks-Kenny Pk** 36.73 22 P P 20 40 31.8 0.0
baz=212,SNR=15
REDW **Red Top Meadow** 36.83 332 eP P 20 40 33.9 +0.9
comp=Z,90nm,1.2s
SNOW **Snow King Moun** 36.86 332 eP P 20 40 34.5 +1.1
comp=Z,70nm,0.9s
MDND **Maddock** 36.90 347 eP P 20 40 33.2 -0.2
comp=Z,122nm,0.8s
MDND **Maddock** 36.90 347 P P 20 40 33.1 -0.2
baz=161,SNR=19
LOHW **Long Hollow** 36.91 332 eP P 20 40 35.0 +1.3
comp=Z,31nm,1.0s
TPAW **Teton Pass** 36.97 332 eP P 20 40 35.5 +1.3
comp=Z,52nm,1.0s
MOOW **Moose Ponds** 37.08 332 eP P 20 40 36.1 +1.0
comp=Z,14nm,0.8s
FXWY **Fox Creek** 37.12 332 eP P 20 40 36.6 +1.1
comp=Z,13nm,1.1s
LATQ **La Tuque** 37.44 17 P P 20 40 37.6 -0.2
baz=205
H17A **Grant Village** 37.51 333 P P 20 40 39.9 +1.1
baz=142
RLMT **Red Lodge** 37.53 335 eP P 20 40 39.5 +0.5
comp=Z,25nm,1.0s
RLMT **Red Lodge** 37.53 335 P P 20 40 39.3 +0.4
baz=144,SNR=20
NVAR **Mina Array Bea** 37.54 320 P P 20 40 40.3 +1.2
comp=Z,2.2nm,0.7s,baz=136,slow=7.9,SNR=18
NVAR PcP PcP 20 42 58.7 +2.5
comp=Z,5.1nm,0.9s,baz=152,slow=4.1,SNR=11
NVAR PcS PcS 20 46 46.9 +1.9
comp=Z,1.3nm,0.8s,baz=132,slow=4.9,SNR=7.1
NVAR LR LR 21 00 10.3
comp=Z,431nm,18.2s,baz=110,slow=43
LAO **LASA Array** 37.71 340 P P 20 40 40.5 +0.3
baz=150
LSQQ **Lebel-sur-Quev** 37.97 12 P P 20 40 41.5 -0.8
baz=198
BMN **Battle Mountai** 38.10 323 eP P 20 40 45.7 +1.9
comp=Z,5.6nm,0.8s
GCMT **Greycliff** 38.24 335 eP P 20 40 45.3 +0.5
ULM **Lac du Bonnet** 38.55 352 eP P 20 40 45.7 -1.5
comp=Z,61nm,0.9s
ULM **Lac du Bonnet** 38.55 352 P P 20 40 45.6 -1.5
comp=Z,54nm,0.8s,baz=168,slow=8.7,SNR=73
ULM LR LR 20 57 58.4
comp=Z,274nm,19.9s,baz=162,slow=38
DGMT **Dagmar** 38.65 343 eP P 20 40 48.7 +0.7
comp=Z,95nm,0.8s
DGMT **Dagmar** 38.65 343 P P 20 40 48.7 +0.7
baz=154,SNR=29
SIV **San Ignacio** 38.66 136 LR LR 20 56 38.5
comp=Z,176nm,18.1s,baz=333,slow=36
CMB **Columbia Colle** 38.66 318 eP P 20 40 49.6 +1.2
comp=Z,16nm,1.0s
HLID **Hailey** 38.69 329 eP P 20 40 49.4 +0.7
comp=Z,7.8nm,1.0s
HLID **Hailey** 38.69 329 P P 20 40 49.1 +0.4
baz=136
MCMT **McKenzie Canyo** 38.87 332 eP P 20 40 52.1 +1.8
BOZ **Bozeman (W)** 38.91 333 eP P 20 40 51.6 +1.2
comp=Z,22nm,1.0s
BOZ **Bozeman (W)** 38.91 333 P P 20 40 51.7 +1.2
BOZ pmax pmax
comp=Z,22nm,1.0s
BOZ **Bozeman (W)** 38.91 333 P P 20 40 51.5 +1.0
baz=142,SNR=16
LMN **Caledonia Moun** 39.01 26 eP P 20 40 51.3 +0.2
comp=Z,40nm,0.9s
LVC **Limon Verde** 39.30 151 LR LR 20 56 49.5
comp=Z,184nm,19.8s,baz=316,slow=36
CHGQ **Chibougamau** 39.34 14 P P 20 40 53.2 -0.6
baz=201
EGMT **Eagleton** 40.11 337 P P 20 41 01.1 +0.8
baz=146,SNR=13
WVOR **Wild Horse Val** 40.20 324 eP P 20 41 01.7 +0.5
comp=Z,27nm,1.6s
MSO **Missoula** 40.89 333 P P 20 41 07.4 +0.7
baz=139,SNR=22
BMO **Blue Mountains** 41.08 328 eP P 20 41 07.2 -1.2
comp=Z,5.8nm,1.0s
O02D **Mt. Diablo Mer** 41.40 319 P P 20 41 11.5 +0.4
baz=123
M04C **Macdoel** 41.70 321 P P 20 41 14.1 +0.5
baz=125
L04D **Klamath Falls** 42.23 322 P P 20 41 18.1 +0.2
baz=125
WALA **Waterton Lakes** 42.59 335 eP P 20 41 21.5 +0.8
comp=Z,19nm,1.0s
J04D **Umpqua Nationa** 42.71 323 P P 20 41 22.6 +0.7
baz=126
I04A **Tendick Farm,** 43.21 323 P P 20 41 26.8 +1.1
baz=126
HAWA **Hanford** 43.27 328 eP P 20 41 27.9 +1.8
comp=Z,3.4nm,0.7s
NEW **Newport** 43.40 332 eP P 20 41 26.9 -0.3
comp=Z,5.9nm,0.8s
NEW **Newport** 43.40 332 P P 20 41 28.1 +1.0
baz=136
I03D **Drain, OR** 43.71 323 P P 20 41 30.6 +1.0
baz=125
J01E **Myrtle Point** 43.75 322 P P 20 41 30.8 +0.8
baz=124
FFC **Flin Flon** 43.89 348 eP P 20 41 29.8 -1.1
comp=Z,27nm,1.1s
FFC **Flin Flon** 43.89 348 ceP P 20 41 31.0 +0.1
SCHQ **Schefferville** 45.77 17 eP P 20 41 44.8 -1.2
comp=Z,44nm,0.9s
SCHQ **Schefferville** 45.77 17 P P 20 41 44.2 -1.7
comp=Z,44nm,1.0s,baz=214,slow=6.5,SNR=24
SCHQ LR LR 21 02 17.5
comp=Z,769nm,18.3s,baz=196,slow=38
B05A **Bryant** 45.82 329 P P 20 41 46.3 0.0
baz=130
A04D **Lummi Island** 46.42 329 P P 20 41 51.4 +0.3
baz=130
BDFB **Brasilia** 48.31 124 P P 20 42 05.8 -0.6
comp=Z,14nm,0.8s,baz=284,slow=8.4,SNR=18
BDFB LR LR 21 03 58.6
comp=Z,423nm,18.9s,baz=287,slow=38
CPUP **Villa Florida** 48.54 142 P P 20 42 06.9 -0.8
comp=Z,2.5nm,0.8s,baz=333,slow=7.1,SNR=7.2
CPUP LR LR 21 03 50.4
comp=Z,373nm,18.3s,baz=323,slow=38
YKA **Yellowknife Ar** 53.77 345 P P 20 42 45.7 -0.7
comp=Z,9.9nm,0.8s,baz=137,slow=7.9,SNR=212
YKA PcP PcP 20 43 52.4 +0.8
comp=Z,2.5nm,0.6s,baz=146,slow=3.8,SNR=10
YKA PcS PcS 20 47 49.8 -0.7
comp=Z,0.5nm,0.7s,baz=180,slow=5.7,SNR=5.5
YKA LR LR 21 09 06.8
comp=Z,28nm,18.6s,baz=154,slow=40
YKB5 **Yellowknife Ar** 53.77 345 eP P 20 42 45.5 -0.9
YKW3 **Yellowknife Ar** 53.83 345 eP P 20 42 46.3 -0.6
comp=Z,12nm,0.8s
PLCA **Paso Flores** 55.04 164 eP P 20 42 57.4 +1.3
comp=Z,15nm,1.0s
PLCA **Paso Flores** 55.04 164 eP P 20 42 57.4 +1.3
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA **Paso Flores** 55.04 164 P P 20 42 55.8 -0.2
comp=Z,2.6nm,0.8s,baz=7.4,slow=9.1,SNR=8.4
PLCA LR LR 21 02 44.5
comp=Z,164nm,18.3s,baz=10.0,slow=32
DLBC **Dease Lake** 55.94 335 eP P 20 43 03.1 +0.8
comp=Z,23nm,0.9s
RKT **Rikitea** 57.72 233 eT T 21 45 30.4
comp=Z,1.8nm,0.3s
RES **Resolute Bay** 62.67 358 eP P 20 43 47.5 -0.9
comp=Z,13nm,0.8s
RES **Resolute Bay** 62.67 358 eP P 20 43 47.5 -0.9
RES pmax pmax
comp=Z,13nm,0.8s
EPYK **Eagle Plains** 63.16 340 P P 20 43 51.9 0.0
baz=125,SNR=6.7
INK **Inuvik** 63.33 343 eP P 20 43 53.3 +0.4
comp=Z,16nm,1.1s
INK **Inuvik** 63.33 343 eP P 20 43 53.3 +0.4
INK pmax pmax
comp=Z,16nm,1.1s
EGAK **Eagle** 63.88 338 eP P 20 43 56.1 -0.5
comp=Z,9.3nm,1.1s
MENT **Mentasta** 64.02 335 eP P 20 43 58.2 +0.6
comp=Z,7.7nm,1.3s
KLU **Klutina** 64.35 333 eP P 20 44 00.8 +1.0
comp=Z,9.1nm,1.0s
DOT **Dot Lake** 64.47 336 eP P 20 44 01.3 +0.8
comp=Z,8.2nm,0.8s
SCRK **Sand Creek** 64.59 336 eP P 20 44 02.2 +0.8
comp=Z,6.6nm,1.1s
RIDG **Independ'e Rid** 64.83 336 eP P 20 44 03.7 +0.8
comp=Z,14nm,1.0s
KNK **Knik Glacier** 65.45 333 eP P 20 44 07.6 +0.7
comp=Z,13nm,1.0s
SML **Sawmill** 65.54 333 eP P 20 44 07.2 -0.3
comp=Z,22nm,1.2s
SML **Sawmill** 65.54 333 eP P 20 44 07.2 -0.3
SML pmax pmax
comp=Z,23nm,1.2s
PMR **Palmer** 65.81 333 eP P 20 44 10.1 +0.9
comp=Z,8.0nm,1.1s
PMR **Palmer** 65.81 333 eP P 20 44 10.1 +0.9
PMR pmax pmax
comp=Z,8.0nm,1.1s
PRP **Porcupine Dome** 65.86 337 eP P 20 44 10.1 +0.5
comp=Z,6.6nm,0.9s
RC01 **Rabbit Creek A** 65.92 332 eP P 20 44 10.6 +0.7
comp=Z,16nm,0.9s
HDA **Harding Lake** 65.95 336 P P 20 44 09.9 -0.1
baz=114
IL1 **Eielson Array** 66.07 336 eP P 20 44 11.1 +0.3
ILAR **Eielson Array** 66.07 336 P P 20 44 10.6 -0.3
comp=Z,6.9nm,1.0s,baz=118,slow=4.9,SNR=42
ILAR PP PP 20 46 35.9 -0.8
comp=Z,1.8nm,0.9s,baz=127,slow=6.4,SNR=5.9
ILAR LR LR 21 15 31.6
comp=Z,223nm,21.1s,baz=110,slow=38
ILB **Eielson Array** 66.07 336 eP P 20 44 11.0 +0.2
comp=Z,12nm,1.0s
KDAK **Kodiak Island** 66.31 328 ceP P 20 44 14.1 +1.7
KDAK **Kodiak Island** 66.31 328 P P 20 44 13.5 +1.1
comp=Z,5.4nm,0.9s,baz=138,slow=14,SNR=4.0
RND **Reindeer** 66.34 335 eP P 20 44 13.5 +0.8
comp=Z,26nm,1.0s
RND **Reindeer** 66.34 335 eP P 20 44 13.5 +0.8
RND pmax pmax
comp=Z,26nm,1.0s
POKR **Poker Flat Res** 66.42 337 P P 20 44 12.9 -0.2
baz=113
COLA **College** 66.49 336 iP P 20 44 13.4 0.0
COLA pmax pmax
comp=Z,7.0nm,0.9s
SUA **Susitna One** 66.50 332 eP P 20 44 14.5 +0.7
TRF **Thorofare Moun** 66.96 334 eP P 20 44 17.2 +0.5
comp=Z,12nm,1.0s
SUMG **Summit** 67.06 14 iP P 20 44 15.9 -1.6
comp=Z,26nm,1.0s
SUMG **Summit** 67.06 14 iP P 20 44 15.9 -1.6
SUMG pmax pmax
comp=Z,26nm,1.0s
BPAW **Bear Paw Mtn.** 67.47 335 eP P 20 44 20.0 +0.2
comp=Z,11nm,1.0s
PPT **Papeete** 67.49 245 LR LR 21 08 34.6
comp=Z,166nm,18.8s,baz=356,slow=31
PPT2 **Papeete2** 67.50 245 eLR LR 21 04 42.4
comp=Z,250nm,24.8s
COLD **Coldfoot** 68.27 338 eP P 20 44 25.8 +1.1
comp=Z,8.1nm,1.0s
DAG **Danmarks Havn** 73.61 13 iP P 20 44 55.1 -1.8
comp=Z,4.4nm,0.7s
DAG **Danmarks Havn** 73.61 13 iP P 20 44 55.1 -1.8
DAG pmax pmax
comp=Z,3.0nm,0.7s
ESDC **Sonseca Array** 77.89 52 P P 20 45 20.0 -2.1
comp=Z,0.2nm,0.3s,baz=296,slow=6.3,SNR=6.3
ESDC LR LR 21 16 12.8
comp=Z,104nm,20.1s,baz=305,slow=33
DBIC **Dimbokro** 82.04 85 LR LR 21 17 23.5
comp=Z,108nm,21.7s,baz=261,slow=32
NB2 **NORSAR Subarra** 83.96 29 P P 20 45 52.6 -1.4
comp=Z,0.7nm,0.7s,baz=285,slow=5.1
NOA **NORSAR Array B** 83.96 29 P P 20 45 52.1 -1.9
comp=Z,1.6nm,0.8s,baz=286,slow=5.0,SNR=6.6
NOA LR LR 21 19 19.8
comp=Z,84nm,21.7s,baz=265,slow=33
BILL **Bilibino** 84.60 339 iP P 20 45 57.0 0.0
BILL e 20 49 10.7
BILL pmax pmax
comp=Z,20nm,1.2s
BILL MLR MLR
comp=Z,214nm,22.0s
ARCES **ARCESS Array B** 86.70 19 P P 20 46 06.5 -1.0
comp=Z,3.0nm,0.8s,baz=292,slow=4.8,SNR=4.5
TORD **Torodi Ar. Bea** 87.10 77 P P 20 46 08.0 -2.5
comp=Z,0.3nm,0.8s,baz=316,slow=6.9,SNR=2.8
TORD LR LR 21 23 15.9
comp=Z,75nm,19.1s,baz=300,slow=34
CLL **Collm** 87.46 38 eP P 20 46 10.0 -1.5
CLL **Collm** 87.46 38 eP P 20 46 10.0 -1.5
GERES **GERESS Array B** 88.59 40 P P 20 46 15.4 -1.6
comp=Z,0.3nm,0.5s,baz=256,slow=4.0,SNR=4.1
GERES LR LR 21 22 08.5
comp=Z,152nm,20.3s,baz=288,slow=33
FINES **FINESS Array B** 90.54 26 P P 20 46 24.4 -1.3
comp=Z,0.8nm,0.6s,baz=302,slow=6.2,SNR=4.8
FINES LR LR 21 27 53.0
comp=Z,122nm,18.0s,baz=304,slow=36
SEY **Seymchan** 92.00 337 ceP P 20 46 34.1 +1.6
VSU **Vasula** 92.20 29 iP P 20 46 34.9 +1.4
VSU pmax pmax
comp=Z,17nm,1.3s
TIXI **Tiksi** 92.85 349 ceP P 20 46 35.7 -0.5
TIXI pmax pmax
comp=Z,6.0nm,1.2s
PETK **Petropavlovsk-** 94.32 327 LR LR 21 33 52.6
comp=Z,44nm,18.1s,baz=64,slow=38
KIEV **Kiev** 97.14 35 iP P 20 46 55.7 -0.6
KIEV pmax pmax
comp=Z,1.0nm,1.0s
AKASG **Malin Array Be** 97.15 35 LR LR 21 26 53.3
comp=Z,92nm,21.8s,baz=305,slow=33
OBN **Obninsk** 98.56 29 eP Pdif 20 47 03.7 +1.2
OBN e 20 51 02.8
OBN pmax pmax
comp=Z,14nm,2.3s
NRIK **Noril'sk** 98.69 2 LR LR 21 32 40.4
comp=Z,147nm,21.7s,baz=27,slow=36
SNAA **Sanae** 99.92 161 iP Pdif 20 47 10.6 +2.3
DZM **Mont Dzumac** 108.65 251 eLR LR 21 23 48.9
comp=Z,107nm,23.9s
ZALV **Zalesovo Beam** 113.92 5 PKiKP PKiKP 20 52 03.1 +0.6
comp=Z,1.0nm,0.3s,baz=273,slow=1.9,SNR=6.1

BOSA	**Boshof**	**116.12**	**116**		PKP	**PKiKP**	**20 52 09.9**	**+2.3**
	comp=Z,4.1nm,0.9s,baz=216,slow=2.7,SNR=3.8							
KURK	**Kurchatov**	**116.36**	**9**	*i*	PKiKP	**PKPdf**	**20 52 08.7**	**+1.4**
KURBB	**Kurchatov Arra**	**116.44**	**9**		PKP	**PKiKP**	**20 52 08.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=340,slow=1.9,SNR=4.1							
DGZ	**Jazzator, Alta**	**118.32**	**3**	*i*	PKiKP	**PKiKP**	**20 52 12.4**	**+1.0**
ULN	**Ulaanbaatar**	**118.78**	**348**	*c*	iPKiKP	**PKiKP**	**20 52 14.5**	**+2.1**
ULN					pmax	pmax		
	comp=Z,5.0nm,2.5s							
MATP	**Matopo**	**118.88**	**107**		PKP	**PKiKP**	**20 52 13.8**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=236,slow=5.5,SNR=4.8							
SONM	**Songino Array**	**118.94**	**349**		PKP	**PKiKP**	**20 52 13.1**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=328,slow=2.2,SNR=12							
KS01	**Wonju Array Si**	**120.21**	**327**	*e*	PKPdf	**PKiKP**	**20 52 16.6**	**+1.4**
KSRS	**Korea Array**	**120.21**	**327**		PKP	**PKiKP**	**20 52 16.9**	**+1.7**
	comp=Z,3.7nm,0.7s,baz=16,slow=1.5,SNR=19							
KSAR	**Wonju Array Be**	**120.24**	**327**		PKP	**PKiKP**	**20 52 16.9**	**+1.6**
MKAR	**Makanchi Array**	**120.73**	**8**		PKP	**PKPdf**	**20 52 15.4**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=333,slow=2.1,SNR=9.8							
MK01	**Makanchi Array**	**120.75**	**8**	*e*	PKPdf	**PKPdf**	**20 52 16.1**	**+0.1**
GEYT	**Alibeck**	**121.00**	**31**		PKP	**PKiKP**	**20 52 17.7**	**+0.9**
	comp=Z,3.8nm,0.5s,baz=274,slow=3.9,SNR=8.4							
GYA0B	**ALIBECK ARRAY**	**121.00**	**31**	*e*	PKPdf	**PKiKP**	**20 52 18.1**	**+1.2**
AAK	**Ala-Archa**	**123.22**	**15**	*i*	PKiKP	**PKiKP**	**20 52 23.0**	**+1.8**
AAK	**Ala-Archa**	**123.22**	**15**		PKP	**PKPdf**	**20 52 21.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=251,slow=4.0,SNR=4.3							
WMQ	**Urumqi**	**124.20**	**4**	*e*	PKP	**PKPdf**	**20 52 22.8**	**+0.1**
WMQ					LR	LR		
	comp=Z,260nm,26.9s							
WMQ					LR	LR		
	comp=Z,200nm,23.7s							
WMQ					LR	LR		
	comp=Z,160nm,25.3s							
HHC	**Hu-ho-hao-te**	**124.25**	**342**		PKP	**PKiKP**	**20 52 25.0**	**+1.7**
HHC					AMB	AMB		
	comp=Z,130nm,6.1s							
KSH	**Kashi**	**126.53**	**15**		PKP	**PKiKP**	**20 52 35.3**	**+7.4**
KSH					PP	PP	20 54 34.5	+12
KSH					AMB	AMB		
	comp=Z,84nm,6.0s							
GTA	**Gaotai**	**128.21**	**352**	*e*	PKP	**PKiKP**	**20 52 32.3**	**+1.1**
GTA					sPKP		20 52 45.5	
NJ2	**Nanjing**	**129.06**	**330**	*e*	PKP	**PKPdf**	**20 52 32.5**	**+0.3**
LZH	**Lanzhou**	**130.75**	**347**	*e*	PKP	**PKiKP**	**20 52 39.0**	**+2.5**
LZH					sPKP		20 52 56.5	
LZH					LR	LR		
	comp=Z,130nm,17.4s							
LZH					LR	LR		
	comp=Z,230nm,16.3s							
LZH					LR	LR		
	comp=Z,290nm,18.4s							
XAN	**Xi'an**	**131.33**	**341**		PKP	**PKiKP**	**20 52 38.8**	**+1.3**
WSAR	**Wadi Sarin**	**132.09**	**43**		PKP	**PKiKP**	**20 52 39.5**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=5.4,slow=8.3,SNR=5.3							
TATO	**Taipei**	**133.18**	**322**	*e*	PKPpre	PKPpre	20 52 32.5	
ENH	**Enshi**	**134.58**	**338**	*e*	PKPdf	**PKiKP**	**20 52 45.2**	**+1.0**
LSA	**Lhasa**	**138.42**	**1**	*e*	PKPdf	**PKiKP**	**20 52 52.8**	**+0.2**
ASAR	**Alice Springs**	**138.56**	**248**		PKP	**PKiKP**	**20 52 52.5**	**0.0**
	comp=Z,1.8nm,0.8s,baz=102,slow=3.5,SNR=5.2							
WRAB	**Tennant Creek**	**138.56**	**254**	*i*	PKiKP	**PKiKP**	**20 52 52.2**	**-0.3**
WRA	**Warramunga Arr**	**138.57**	**254**		PKP	**PKiKP**	**20 52 52.0**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=90,slow=2.3,SNR=14							
DANN	**Dangsing**	**139.00**	**11**	*e*	P	**PKPdf**	**20 52 45.1**	**-6.3**
	comp=Z,28nm,0.7s							
PYUN	**Piuthan**	**139.10**	**12**	*e*	P	**PKPdf**	**20 52 44.3**	**-7.2**
GUN	**Gumba**	**139.78**	**8**	*e*	P	**PKPdf**	**20 52 48.0**	**-4.9**
DMN	**Daman**	**139.96**	**9**	*e*	P	**PKPdf**	**20 52 46.2**	**-6.9**
PKIN	**Phulchoki**	**140.04**	**9**	*e*	P	**PKPdf**	**20 52 47.6**	**-5.7**
	comp=Z,9.0nm,0.8s							
JIRN	**Jiri**	**140.07**	**8**	*e*	P	**PKPdf**	**20 52 48.8**	**-4.6**
RAMN	**Ramite**	**140.82**	**8**	*e*	P	**PKPdf**	**20 52 49.5**	**-5.2**
	comp=Z,17nm,0.4s							
MSEY	**Mahe Island**	**143.25**	**82**	*i*	PKiKP	**PKiKP**	**20 53 04.3**	**+2.0**
FITZ	**Fitzroy Crossi**	**146.93**	**255**		PKPbc	**PKPab**	**20 53 08.7**	**+0.1**
	comp=Z,7.6nm,1.1s,baz=169,slow=3.5,SNR=6.2							
HYB	**Hyderabad**	**147.82**	**24**	*i*	PKP	**PKPdf**	**20 53 08.0**	**+1.3**
NONG	**Nongkai**	**148.02**	**340**		P	**PKiKP**	**20 53 11.6**	**-0.3**
PANO	**Nakornpanom**	**148.32**	**336**		P	**PKPab**	**20 53 13.6**	**-0.4**
CHTO	**Chiang Mai**	**148.49**	**347**	*e*	PKPdf	**PKPbc**	**20 53 10.1**	**-1.2**
CHTO	**Chiang Mai**	**148.49**	**347**	*e*	PKiKP	**PKPbc**	**20 53 10.1**	**-1.2**
CHTO	**Chiang Mai**	**148.49**	**347**		P	**PKPbc**	**20 53 10.6**	**-0.7**
	comp=Z,81nm,1.6s,comp=Z,1μm							
CMMT	**Chiang Mai**	**148.49**	**347**		P	**PKPbc**	**20 53 10.5**	**-0.9**
	comp=Z,18nm,1.2s,comp=Z,316nm							
SKNT	**Sakolnakorn**	**148.72**	**337**		P	**PKiKP**	**20 53 13.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**148.83**	**347**		PKiKP	**PKPbc**	**20 53 11.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**148.83**	**347**		PKPbc	**PKPbc**	**20 53 10.9**	**-1.3**
	comp=Z,12nm,0.9s,baz=333,slow=3.2,SNR=34							
NWAO	**Narrogin (SRO)**	**148.91**	**224**		PKPbc	**PKPbc**	**20 53 12.4**	**+0.4**
	comp=Z,5.8nm,0.9s,baz=124,slow=15,SNR=2.4							
UTTA	**Uttaradit**	**149.12**	**344**		P	**PKiKP**	**20 53 15.2**	**+1.0**
	comp=Z,6.1nm,1.0s,comp=Z,56nm							
KHON	**Khomkaen**	**149.73**	**339**		P	**PKPbc**	**20 53 14.5**	**0.0**
	comp=Z,21nm,1.0s							
PBKT	**Sadao Pong**	**150.12**	**342**		P	**PKiKP**	**20 53 17.3**	**+1.0**
	comp=Z,57nm,1.3s,comp=Z,862nm							
CHAI	**Chaiyaphum**	**150.43**	**340**		P	**PKiKP**	**20 53 18.4**	**+1.5**
UMPA	**Umpang Tak**	**151.03**	**346**		P	**PKiKP**	**20 53 20.0**	**+1.8**
UTHA	**Uthaitani**	**151.50**	**345**		P	**PKiKP**	**20 53 20.7**	**+1.5**

*SOME **31** 20:50:52.9, 42°.27N×81°.78E, h15km*
*NNC **31** 20:50:55.2±1.9, 42°.27N×81°.55E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=14.2km s-min=7.5km az=166.0*
ISC 31 20:50:57.1±3.1, 42°.2N±0°.1×81°.44E±0°.09, h31km±16km, n16, σ2°02/24, 3C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.76**	**304**	P		P	**Pn**	**20 51 22.9**	**-2.6**
	5.0nm,0.2s								
SHLS				S		S	**Sn**	**20 51 44.8**	**-2.1**
	36nm,0.3s								
SHLS	**Shalkode**	**1.76**	**304**	*e*P		P	**Pn**	**20 51 23.0**	**-2.5**
	8.0nm,0.3s								
SHLS				*e*S		S	**Sn**	**20 51 44.8**	**-2.1**
	36nm,0.3s								
PDGK	**Podgornoye**	**1.84**	**309**	Pg		Pg	**Pn**	**20 51 28.4**	**+1.7**
PDGK				Lg		Lg		20 51 54.2	
	5.9nm,0.4s								
PDGK	**Podgornoye**	**1.84**	**309**	⇑P		P	**Pb**	**20 51 29.7**	**-0.4**
	0.6nm,0.3s								
PDGK				⇑S		S	**Sb**	**20 51 53.4**	**+0.6**
	6.3nm,0.4s								
UZB	**Uzynbulak**	**2.03**	**299**	Pg		Pg	**Pb**	**20 51 31.9**	**-1.5**
	1.8nm,0.3s								
UZB				Lg		Lg		20 52 00.4	
	9.1nm,0.3s								
UZB	**Uzynbulak**	**2.03**	**299**	*e*P		P	**Pb**	**20 51 32.1**	**-1.3**
	1.8nm,0.3s								
UZB				*e*S		S	**Sb**	**20 52 00.4**	**+2.1**
	9.1nm,0.3s								
SATY	**Saty**	**2.41**	**292**	*e*P		P	**Pb**	**20 51 39.6**	**-0.2**
	3.6nm,0.3s								
SATY				*e*S		S	**Sb**	**20 52 13.0**	**+4.0**
	21nm,0.1s								
DJR	**Jarkent**	**2.47**	**331**	Pg		Pg	**Pb**	**20 51 38.5**	**-2.3**
	0.5nm,0.3s								
DJR				Lg		Lg		20 52 11.3	
	3.6nm,0.4s								
DJR	**Jarkent**	**2.47**	**331**	*e*P		P	**Pb**	**20 51 38.5**	**-2.3**
	0.6nm,0.4s								
DJR				*e*S		S	**Sb**	**20 52 11.2**	**+0.5**
	4.2nm,0.5s								
KOTS	**Kotyrbulak**	**3.36**	**290**	Pg		Pg	**Pb**	**20 51 56.3**	**+0.3**
	1.6nm,0.7s								
KOTS				Lg		Lg		20 52 42.1	
	14nm,0.7s								
TNSS	**Tian-Shan**	**3.43**	**286**	Lg		Lg		20 52 41.5	
KAPS	**Kapalarasan**	**3.45**	**335**	Pg		Pn	**Pn**	**20 51 49.5**	**+0.8**
	0.9nm,0.4s								
KAPS				Lg		Lg		20 52 30.2	
	2.0nm,0.4s								
KTBS	**Karatobe**	**3.81**	**295**	Pg		Pb	**Pb**	**20 52 03.3**	**-0.4**
	0.7nm,0.5s								
KTBS				Lg		Lg		20 52 54.0	
	8.3nm,0.5s								
KUU	**Kurty**	**4.11**	**296**	Pg		Pg	**Pb**	**20 52 08.1**	**-0.6**
KUU				Lg		Lg		20 53 02.3	
	1.6nm,0.4s								
MAKZ	**Makanchi**	**4.64**	**5**	⇓Pn		Pn	**Pn**	**20 52 05.0**	**-0.1**
	1.0nm,0.6s								
MAKZ				⇑Sn		Sn	**Sn**	**20 53 00.8**	**+2.9**
	0.8nm,0.6s								
MAKZ				⇓Lg		Lg		20 53 16.3	
	2.8nm,1.1s								
MK31	**Makanchi Array**	**4.65**	**7**	⇓Pn		Pn		**20 52 06.2**	**+1.0**
	0.1nm,0.3s,baz=180,slow=12,SNR=7.6								
MK31				⇓Pg		Pb		**20 52 15.4**	**-2.5**
	0.1nm,0.3s,baz=7.5,slow=1.9,SNR=5.2								
MK31				⇓Sn		Sn		**20 53 00.3**	**+2.1**
	0.1nm,0.3s,baz=179,slow=24,SNR=5.3								
MK31				Lg		Lg		20 53 15.7	
	0.8nm,0.5s,baz=188,slow=30,SNR=4.3								

*GUC **31** 20:51:45.6±0.3, 31°.72S×70°.54W, h15km±2km, ML3.5*
*SJA **31** 20:51:46.8±0.5, 31°.73S×70°.49W, h9km±3km, ML3.9, MW3.5*
*ISCJB **31** 20:51:47.9±0.3, 31°.73S±0°.02×70°.58W±0°.04, h10km, mb4.0/7, MS3.2/1, Error ellipse: s-maj=4.5km s-min=2.8km az=172.3*
*IDC **31** 20:51:47.3±0.7, 31°.79S×70°.47W, h0km, mb4.1/7, mb1 4.2/12, mb1mx4.0/37, mbtmp4.1/12, ML4.0/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/27, Error ellipse: s-maj=16.2km s-min=13.4km az=152.0*
ISC 31 20:51:48.0±0.5, 31°.76S±0°.02×70°.56W±0°.03, h10km, n45, σ1°42/59, mb4.1/7, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.69**	**327**	*e*P		P	**Pg**	**20 51 59.4**	**-2.0**
CMCH				*i* S		S	**Sg**	**20 52 09.7**	**-0.8**
RTLS	**Leoncito**	**1.08**	**93**	*e*P		P	**Pg**	**20 52 07.1**	**-1.6**
RTLS				IAML				20 52 07.6	
	comp=Z,762nm,0.4s								
RTLS				*e*S		S	**Sb**	**20 52 22.2**	**-0.9**
AUSP	**Uspallata**	**1.10**	**115**	*e*P		P	**Pg**	**20 52 07.9**	**-1.3**
ROCH	**El Roble**	**1.27**	**197**	*e*P		Pn	**Pn**	**20 52 10.5**	**-1.6**
ROCH				*i* S		Sn	**Sn**	**20 52 29.7**	**+0.3**
ROCH				IAML				20 52 41.2	
	comp=N,1μm,0.6s								
ROC1	**El Roble**	**1.28**	**197**	*e*P		P	**Pg**	**20 52 12.1**	**-0.5**
PEL	**Peldehue**	**1.39**	**184**	*e*P		P	**Pg**	**20 52 13.7**	**-1.0**
PEL				*e*S		S	**Sg**	**20 52 33.5**	**+0.7**
PEL	**Peldehue**	**1.39**	**184**	*e*P		Pn	**Pn**	**20 52 11.9**	**-1.6**
PEL				*e*S		Sg	**Sg**	**20 52 32.0**	**-0.7**
PEL				IAML				20 52 35.8	
	comp=N,623nm,0.6s								
FCH	**Farellones**	**1.58**	**172**	*e*P		Pn	**Pn**	**20 52 15.8**	**-0.6**
FCH				*i* S		Sg	**Sg**	**20 52 38.5**	**-0.5**
FCH				IAML				20 52 39.5	
	comp=E,758nm,0.3s								
GO04	**Tololo Observa**	**1.59**	**353**	*e*P		Pb	**Pb**	**20 52 16.6**	**-1.1**
GO04	**Tololo Observa**	**1.59**	**353**	*e*P		Pn	**Pn**	**20 52 14.8**	**-1.7**
GO04				*i* S		Sb	**Sb**	**20 52 37.0**	**-0.9**
CLCH	**Cerro Calan**	**1.64**	**179**	IAML				20 52 56.7	
	comp=E,1μm,0.4s								
ASAL	**Salagasta**	**1.68**	**120**	*e*P		P	**Pb**	**20 52 17.9**	**-1.3**
ASAL				*e*S		Sg	**Sg**	**20 52 40.9**	**-1.2**
RTCV	**Cerro Valdivia**	**1.72**	**94**	*e*P		P	**Pb**	**20 52 18.6**	**-1.2**
ACCO	**Cerro Coronel**	**1.73**	**48**	*e*P		P	**Pb**	**20 52 18.7**	**-1.4**
ARCO	**CERRO ARCO**	**1.75**	**129**	*e*P		P	**Pb**	**20 52 19.3**	**-1.1**
ARCO				IAML				20 52 26.9	
	comp=Z,456nm,0.4s								
ARCO				*e*S		S	**Sg**	**20 52 43.2**	**-1.2**
AROD	**Rodeo**	**1.84**	**31**	*e*P		P	**Pb**	**20 52 20.5**	**-1.4**
AMOG	**MOGNA**	**1.95**	**66**	*e*P		Pn	**Pn**	**20 52 21.5**	**+0.3**
AAGR	**Agrelo**	**1.98**	**133**	*e*P		P	**Pb**	**20 52 22.5**	**-1.6**
CFA	**Coronel Fontan**	**1.99**	**86**	Pn		P	**Pb**	**20 52 22.2**	**-2.0**
	comp=Z,26nm,0.3s,baz=266,slow=15,SNR=144								
CFA				Lg		Lg		20 52 47.8	
	comp=Z,104nm,0.3s,baz=219,slow=15,SNR=22								
ACDV	**Cuesta del Vie**	**2.01**	**38**	*e*P		P	**Pb**	**20 52 22.9**	**-1.8**
LMEL	**Las Melosas**	**2.11**	**172**	*i* P		P	**Pb**	**20 52 26.1**	**-0.4**
LMEL				*e*S		Sg	**Sg**	**20 52 55.1**	**-0.7**
LMEL				IAML				20 53 03.8	
	comp=E,1μm,0.7s								
LCO	**Las Campanas**	**2.74**	**357**	*e*P		Pn	**Pn**	**20 52 33.8**	**+1.5**
LCO	**Las Campanas**	**2.74**	**357**	*e*P		Pn	**Pn**	**20 52 33.4**	**+1.1**
LCO				*e*S		Sn	**Sn**	**20 53 05.2**	**-0.3**
AGUA	**GUANDACOL**	**2.88**	**39**	*e*P		Pn	**Pn**	**20 52 35.0**	**+1.0**
ACAN	**Cantantal**	**2.91**	**101**	*e*P		Pn	**Pn**	**20 52 35.0**	**+0.6**
APLL	**PUNTA DE LOS L**	**3.72**	**70**	*e*P		Pn	**Pn**	**20 52 46.9**	**+1.4**
ACLC	**CERRO LA CRUZ**	**3.88**	**54**	*e*P		Pn	**Pn**	**20 52 49.2**	**+1.3**
GO03	**Copiap**	**4.16**	**4**	*e*P		Pn	**Pn**	**20 52 53.5**	**+1.9**
GO03				*e*S		Sn	**Sn**	**20 53 43.1**	**+2.9**
PLCA	**Paso Flores**	**8.96**	**180**	Pn		Pn	**Pn**	**20 53 57.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=4.0,slow=11,SNR=6.4								
PLCA				Lg		Lg		20 56 29.5	
	baz=282,slow=19,SNR=2.0								
LVC	**Limon Verde**	**9.23**	**10**	Pn		Pn	**Pn**	**20 54 00.9**	**-0.6**
	comp=E,0.9nm,0.3s,baz=205,slow=4.6,SNR=3.9								
LVC				Sn		Sn	**Sn**	**20 55 48.9**	**+3.3**
	comp=E,0.5nm,0.3s,baz=195,slow=20,SNR=2.2								
CPUP	**Villa Florida**	**12.77**	**68**	Pn		P	**Pn**	**20 54 48.8**	**-0.9**
	comp=E,0.5nm,0.3s,baz=242,slow=9.4,SNR=8.2								
CPUP				Sn		Sn	**Sn**	**20 57 15.4**	**+3.4**
	comp=E,0.1nm,0.3s,baz=156,slow=20,SNR=1.9								
CPUP				Lg		Lg		20 58 31.1	
	comp=E,0.2nm,0.3s,baz=326,slow=20,SNR=2.9								
LPAZ	**La Paz**	**15.56**	**9**	Pn		P	**P**	**20 55 29.8**	**-2.7**
	comp=E,0.6nm,0.3s,baz=191,slow=5.0,SNR=52								
SIV	**San Ignacio**	**17.91**	**31**	P		P	**P**	**20 55 57.6**	**-0.4**
	comp=E,0.6nm,0.3s,baz=215,slow=9.4,SNR=20								
NNA	**Nana**	**20.51**	**342**	LR		LR		21 02 33.5	
	comp=E,120nm,20.5s,baz=291,slow=31								
USHA	**Ushuaia**	**23.12**	**177**	P		P	**P**	**20 56 55.4**	**+1.4**
	comp=E,9.8nm,0.8s,baz=31,slow=5.9,SNR=4.9								
BDFB	**Brasilia**	**26.06**	**57**	P		P	**P**	**20 57 22.3**	**+0.4**
	comp=E,2.0nm,0.4s,baz=218,slow=9.0,SNR=5.5								
SNAA	**Sanae**	**53.20**	**159**	P		P	**P**	**21 01 07.2**	**+1.1**
	comp=E,1.4nm,0.7s,baz=259,slow=6.6,SNR=7.3								
TXAR	**Lajitas Array**	**68.42**	**329**	P		P	**P**	**21 02 51.8**	**+1.6**
	comp=E,0.6nm,0.8s,baz=161,slow=7.0,SNR=6.0								
DBIC	**Dimbokro**	**73.28**	**71**	P		P	**P**	**21 03 20.4**	**+0.5**
	comp=E,2.7nm,0.6s,baz=216,slow=7.1,SNR=6.0								
TORD	**Torodi Ar. Bea**	**82.27**	**69**	P		P	**P**	**21 04 09.1**	**-1.0**
	comp=E,1.0nm,0.6s,baz=285,slow=7.5,SNR=12								
NVAR	**Mina Array Bea**	**82.78**	**324**	P		P	**P**	**21 04 13.9**	**+1.4**
	comp=E,0.3nm,0.3s,baz=156,slow=6.8,SNR=3.2								
ASAR	**Alice Springs**	**120.13**	**206**	PKP		PKiKP	**PKiKP**	**21 10 39.2**	**-0.6**
	comp=E,0.4nm,0.8s,baz=123,slow=2.9,SNR=3.8								
WRA	**Warramunga Arr**	**123.32**	**208**	PKP		PKiKP	**PKiKP**	**21 10 45.6**	**-0.5**
	comp=E,0.6nm,0.6s,baz=166,slow=1.5,SNR=12								
ZALV	**Zalesovo Beam**	**151.67**	**31**	PKPbc		PKiKP	**PKiKP**	**21 11 43.5**	**+1.0**
	comp=E,2.9nm,0.6s,baz=305,slow=3.4,SNR=17								
ZALV				PKPab		pPKPab	**pPKPab**	**21 11 53.1**	**-2.3**
	comp=E,0.5nm,0.3s,baz=300,slow=5.3,SNR=3.7								
MKAR	**Makanchi Array**	**154.34**	**46**	PKPbc		PKiKP	**PKiKP**	**21 11 49.1**	**+0.7**
	comp=E,0.6nm,0.9s,baz=301,slow=3.5,SNR=4.7								
MKAR				PKPab		PKPab	**PKPab**	**21 12 03.5**	**+1.0**
	comp=E,0.5nm,0.4s,baz=315,slow=3.3,SNR=7.9								

*ISCJB **31** 20:55:54.1±1.4, 4°.6S±0°.2×152°.9E±0°.2, h100km, mb3.5/11, Error ellipse: s-maj=41.8km s-min=9.7km az=33.7*
*IDC **31** 20:55:57.2±4.8, 4°.62S×152°.91E, h114km±39km, mb3.4/11, mb1 3.5/12, mb1mx3.4/40, mbtmp3.8/12, Error ellipse: s-maj=38.3km s-min=20.9km az=103.0*
ISC 31 20:55:55.4±1.3, 4°.6S±0°.2×153°.0E±0°.2, h100km, n14, σ0°82/16, mb3.5/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.52**	**230**	P		P	**Pn**	**20 57 43.8**	**+1.4**
	4.8nm,0.3s,baz=37,slow=9.4,SNR=13								
PMG				S		Sn	**Sn**	**20 59 05.6**	**-0.5**
	2.6nm,0.3s,baz=270,slow=20,SNR=4.9								
WRA	**Warramunga Arr**	**23.73**	**228**	P		P		**21 00 58.8**	**+0.1**
	2.0nm,0.3s,baz=50,slow=10.0,SNR=35								
ASAR	**Alice Springs**	**26.44**	**222**	P		P		**21 01 23.1**	**0.0**
	0.2nm,0.4s,baz=53,slow=9.0,SNR=4.6								
FITZ	**Fitzroy Crossi**	**29.94**	**241**	P		P		**21 01 52.9**	**-1.4**
	1.2nm,0.7s,baz=59,slow=3.3,SNR=9.6								
KSRS	**Korea Array**	**47.91**	**333**	P		P		**21 04 24.0**	**+0.3**
	0.6nm,0.7s,baz=120,slow=11,SNR=3.5								
CMAR	**Chiang Mai Arr**	**57.98**	**295**	P		P		**21 05 38.4**	**+0.3**
	0.4nm,0.6s,baz=121,slow=4.7,SNR=4.8								
SONM	**Songino Array**	**66.26**	**328**	P		P		**21 06 34.1**	**+1.0**
	0.2nm,0.5s,baz=134,slow=6.2,SNR=3.6								
MKAR	**Makanchi Array**	**80.31**	**319**	P		P		**21 07 55.6**	**0.0**
	0.3nm,0.5s,baz=93,slow=7.9,SNR=8.3								
ZALV	**Zalesovo Beam**	**81.09**	**326**	P		P		**21 07 59.4**	**-0.1**
	0.6nm,0.6s,baz=111,slow=6.3,SNR=3.4								
ILAR	**Eielson Array**	**81.89**	**22**	P		P		**21 08 03.1**	**-0.4**
	0.5nm,0.7s,baz=249,slow=4.8,SNR=7.1								
KURBB	**Kurchatov Arra**	**83.76**	**322**	P		P		**21 08 12.7**	**-0.8**
	0.3nm,0.7s,baz=116,slow=4.3,SNR=3.7								
BVAR	**Borovoye Array**	**89.20**	**323**	P		P		**21 08 39.3**	**-0.7**
	1.8nm,0.6s,baz=107,slow=5.7,SNR=14								
TORD	**Torodi Ar. Bea**	**150.44**	**289**	PKPbc		PKPbc		**21 15 36.3**	**-0.1**
	0.9nm,0.5s,baz=71,slow=2.2,SNR=25								
TORD				PKPab		PKPab		**21 15 42.1**	**-1.1**
	0.4nm,0.6s,baz=71,slow=2.3,SNR=4.3								
BDFB	**Brasilia**	**151.06**	**134**	PKPbc		PKPbc		**21 15 38.9**	**+0.8**
	1.6nm,0.5s,baz=185,slow=5.5,SNR=3.3								

IDC 31 21:39:41.8±2.1, 6.73S×129.56E, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.4/40, mbtmp3.7/5, ML3.6/4, Error ellipse: s-maj=52.1km s-min=28.5km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.78**	**239**	Pn		Pn	Pn	21 41 22.2	-0.5
	1.7nm,0.3s,baz=87,slow=17,SNR=2.1								
BATI				Sn		Sn	Sn	21 42 36.3	-4.3
	4.8nm,0.3s,baz=304,slow=9.7,SNR=7.3								
FITZ	**Fitzroy Crossi**	**11.93**	**198**	Pn		Pn	Pn	21 42 33.5	+0.2
	0.2nm,0.3s,baz=342,slow=8.4,SNR=7.8								
FITZ				Sn		Sn	Sn	21 44 29.5	-18
	0.5nm,0.3s,baz=114,slow=20,SNR=7.2								
WRA	**Warramunga Arr**	**13.94**	**161**	Pn		Pn	Pn	21 43 00.9	+0.1
	0.3nm,0.3s,baz=345,slow=14,SNR=27								
WRA				Sn		Sn	Sn	21 45 23.8	-12
	0.8nm,0.3s,baz=331,slow=22,SNR=10								
ASAR	**Alice Springs**	**17.36**	**167**	P		Pn	Pn	21 43 45.6	0.0
	0.2nm,0.3s,baz=333,slow=9.0,SNR=9.6								
ASAR				S		Sn	Sn	21 46 43.9	-16
	0.1nm,0.3s,baz=347,slow=25,SNR=4.1								
MKAR	**Makanchi Array**	**67.76**	**327**	P		P	P	21 50 41.5	+0.1
	0.1nm,0.4s,baz=113,slow=8.2,SNR=4.8								

*IDC **31** 21:39:52.7±1.3, 53°.34N×159°.91E, h0km, mb3.5/4, mb1 4.0/4, mb1mx3.3/51, mbtmp3.5/4, Error ellipse: s-maj=52.0km s-min=12.5km az=164.0*
*ISCJB **31** 21:39:59.9±0.5, 53°.03N±0°.05×159°.35E±0°.09, h101km±4km, mb3.4/4, Error ellipse: s-maj=10.7km s-min=4.9km az=37.6*
*KRSC **31** 21:39:59.2±10.0, 53°.04N×159°.31E, h100km±10km, ML3.8*
ISC 31 21:40:00.8±0.8, 53°.04N±0°.05×159°.33E±0°.06, h95km±6km, n33, σ0°64/44, mb3.4/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.13**	**5**	*e*P		P	**Pn**	**21 40 14.3**	**+0.1**
NLC				*e*S		Sn	**Sn**	**21 40 24.9**	**+0.8**
UGLR	**Uglovaya**	**0.35**	**299**	*i* P		Pn	**Pn**	**21 40 15.5**	**+0.3**
UGLR				*e*S		Sn	**Sn**	**21 40 26.7**	**+0.8**

comp=Z,180nm,0.3s,baz=132,slow=5.6,SNR=487
LVC LR LR 21 57 53.0
comp=Z,117nm,19.9s,baz=150,slow=30
LVC S **Sn** **21 57 55.1 +1.1**
comp=Z,104nm,0.3s,baz=16,slow=23,SNR=36
LVC Limon Verde 2.22 310 *e*P **Pn** **21 57 25.1 +2.1**
FSA Cafayete 2.28 155 *e*P **Pn** **21 57 25.1 +1.7**
PB15 IPOC Station P 2.36 290 *e*P **Pn** **21 57 25.5 +1.1**
PB15 *e*S **Sn** **21 57 57.0 +0.5**
PB15 IPOC Station P 2.36 290⇑*i*P **Pn** **21 57 26.3 +2.0**
PB15 *i* S **Sn** **21 57 57.3 +0.8**
PB06 IPOC Station P 2.67 299 *e*P **Pn** **21 57 28.8 +1.0**
PB06 IPOC Station P 2.67 299⇑*i*P **Pn** **21 57 29.6 +1.7**
PB06 *i* S **Sn** **21 58 02.9 +0.1**
PB06 IAML 21 58 04.7
comp=N,2μm,0.4s
PB09 IPOC Station P 3.01 318⇑*i*P **Pn** **21 57 33.8 +1.8**
PB09 *i* S **Sn** **21 58 10.5 +0.3**
PB09 IAML 21 58 12.2
comp=N,2μm,0.6s
PB14 IPOC Station P 3.11 259⇑*i*P **Pn** **21 57 34.3 +1.1**
PB14 *i* S **Sn** **21 58 11.3 -1.1**
PB14 IAML 21 58 18.0
comp=N,1μm,0.7s
PB05 IPOC Station P 3.12 292 *e*P **Pn** **21 57 34.2 +1.0**
PB05 IPOC Station P 3.12 292⇑*i*P **Pn** **21 57 34.2 +1.0**
PB05 *i* S **Sn** **21 58 11.2 -1.2**
PB05 IAML 21 58 14.4
comp=E,1μm,0.7s
AHML Horco Molle 3.14 151 *e*P **Pn** **21 57 34.9 +1.5**
AHML *e*S **Sn** **21 58 13.8 +0.9**
PB03 IPOC Station P 3.18 308 *e*P **Pn** **21 57 35.1 +1.0**
PB03 *e*S **Sn** **21 58 13.5 -0.3**
PB03 IPOC Station P 3.18 308⇑*i*P **Pn** **21 57 35.1 +1.0**
PB03 *i* S **Sn** **21 58 12.8 -1.1**
PB03 IAML 21 58 17.0
comp=N,2μm,0.6s
PB10 IPOC Station P 3.25 279⇑*i*P **Pn** **21 57 36.0 +1.3**
PB10 *e*S **Sn** **21 58 14.3 -0.7**
PB10 IAML 21 58 16.8
comp=N,594nm,0.5s
PB04 IPOC Station P 3.31 300⇑*i*P **Pn** **21 57 36.6 +0.9**
PB04 *i* S **Sn** **21 58 15.6 -1.3**
PB07 IPOC Station P 3.48 311⇑*i*P **Pn** **21 57 38.6 +0.8**
PB07 *e*S **Sn** **21 58 19.0 -1.5**
PB01 IPOC Station P 3.74 323⇑*i*P **Pn** **21 57 41.4 +0.5**
PB01 *e*S **Sn** **21 58 24.3 -1.9**
PB02 IPOC Station P 3.77 315 *e*P **Pn** **21 57 41.9 +0.5**
PB02 IPOC Station P 3.77 315⇑*i*P **Pn** **21 57 41.6 +0.3**
PB02 *i* S **Sn** **21 58 24.7 -2.3**
CYA Choya 4.52 166 *e*P **Pn** **21 57 52.1 +1.4**
CYA IAML 21 58 46.9
comp=Z,20nm,0.5s
LCO Las Campanas 5.92 213 *e*Pn **Pn** **21 58 08.1 -1.1**
comp=Z,22nm,0.6s
LCO Las Campanas 5.92 213 *e*P **Pn** **21 58 07.8 -1.4**
APLL PUNTA DE LOS L 6.34 176 *e*P **Pn** **21 58 14.7 +0.3**
CFA Coronel Fontan 7.60 188 P **Pn** **21 58 30.8 -0.3**
comp=Z,2.1nm,0.3s,baz=329,slow=9.9,SNR=26
CFA S **Sn** **21 59 51.9 -4.7**
comp=Z,5.7nm,0.3s,baz=180,slow=18,SNR=8.6
LPAZ La Paz 7.78 352 P **Pn** **21 58 34.5 +0.5**
comp=Z,2.0nm,0.3s,baz=156,slow=9.2,SNR=47
LPAZ S **Sn** **22 00 00.6 -1.3**
comp=Z,0.9nm,0.3s,baz=264,slow=19,SNR=5.1
LPAZ La Paz 7.78 352 *e*P **Pn** **21 58 34.0 -0.1**
CPUP Villa Florida 9.10 107 P **Pn** **21 58 49.0 -1.7**
comp=Z,1.0nm,0.3s,baz=285,slow=11,SNR=18
CPUP Villa Florida 9.10 107 *e*P **Pn** **21 58 49.4 -1.3**
SIV San Ignacio 9.79 36 P **Pn** **21 58 58.2 -1.7**
comp=Z,3.5nm,0.3s,baz=223,slow=12,SNR=49
SIV S Sn 22 00 34.7 -14
comp=Z,0.4nm,0.3s,baz=241,slow=16,SNR=3.5
AQDB Aquidauana 11.10 74 *e*P **Pn** **21 59 15.1 -1.8**
TRCB Terra Rica 13.30 88 *e*P **Pn** **21 59 42.9 -2.1**
CPSB Cacapava Do Su 13.67 121 *e*P **Pn** **21 59 47.0 -2.4**
PTGB Pitanga 13.68 96 *e*P **Pn** **21 59 49.6 -0.1**
ITAB Concordia 13.83 106 *e*P **Pn** **21 59 50.4 -1.2**
PLTB Pedras Altas 14.15 126 *e*P **Pn** **21 59 54.1 -1.5**
C2SB Chapadao do Su 14.24 71 *e*P **Pn** **21 59 55.3 -1.4**
CNLB Canela 15.40 113 *e*P **Pn** **22 00 09.3 -1.6**
FRTB Fartura 16.04 91 *e*P **P** **22 00 18.9 +0.3**
ITRB Iturama 16.09 78 *e*P **P** **22 00 17.8 -1.4**
TIJ01 Guaruva-PR 16.46 98 *e*P **P** **22 00 22.8 -0.5**
PLCA Paso Flores 16.90 189 P **P** **22 00 28.6 +0.7**
comp=Z,0.6nm,0.3s,baz=21,slow=11,SNR=19
PLCA Paso Flores 16.90 189 *e*P **P** **22 00 25.2 -2.8**
BB19B Bebedouro 17.37 84 *e*P **P** **22 00 33.2 0.0**
SPB Sao Paulo 17.97 93 *e*P **P** **22 00 39.5 -0.2**
RCLB Rio Claro- Sao 18.02 89 *e*P **P** **22 00 39.8 -0.7**
BDFB Brasilia 19.75 68 P **P** **22 00 58.7 -0.5**
comp=Z,10nm,0.3s,baz=242,slow=11,SNR=153
PMNB Patos De Minas 19.97 78 *e*P **P** **22 01 00.6 -1.0**
ESAR Angra dos Reis 20.76 92 *e*P **P** **22 01 08.8 -1.1**
BSCB Bom Sucesso 20.80 86 *e*P **P** **22 01 09.2 -1.3**
PEXB Peixe 21.39 60 *e*P **P** **22 01 14.2 -2.5**
MCI6 Montes Claros 22.85 76 *e*P **P** **22 01 29.0 -1.8**
MCI8 Montes Claros 22.88 76 *e*P **P** **22 01 28.9 -2.1**
MCI9 Montes Claros 22.89 76 *e*P **P** **22 01 28.9 -2.2**
JANB Januaria 23.20 72 *e*P **P** **22 01 32.3 -1.6**
PTGA Pitinga 24.17 18 P **P** **22 01 41.9 -0.8**
comp=Z,2.1nm,0.4s,baz=185,slow=14,SNR=9.7
PTGA Pitinga 24.17 18 *e*P **P** **22 01 41.6 -1.1**
SJMB Sao Joao De Ma 24.66 83 *e*P **P** **22 01 45.9 -1.2**
VNA3 Neumayer Olymp 57.13 161 P **P** **22 06 11.3 +1.1**
VNA1 Neumayer--Stat 57.32 160 P **P** **22 06 15.3 +3.8**
VNA2 Neumayer--Watz 57.69 160 P **P** **22 06 18.1 +4.0**
SNAA Sanae 59.33 161 P **P** **22 06 26.4 +1.0**
SNAA Sanae 59.33 161 P **P** **22 06 26.0 +0.6**
comp=Z,2.2nm,0.6s,baz=286,slow=8.7,SNR=10
JCT Junction City 62.66 328 *e*P **P** **22 06 48.8 +0.4**
comp=Z,4.8nm,0.7s
TXAR Lajitas Array 63.68 324 P **P** **22 06 55.6 +0.4**
comp=Z,1.3nm,0.8s,baz=161,slow=8.4,SNR=11
QSPA South Pole Qui 66.16 180 *e*P **P** **22 07 11.7 +0.9**
comp=Z,30nm,0.8s
LIC Lamto 67.50 72 *e*P **P** **22 07 20.2 +0.3**
comp=Z,52nm,1.6s
TIC Toumodi 67.71 71 *e*P **P** **22 07 22.1 +0.9**
KIC Kosan Boka 67.82 72 *e*P **P** **22 07 20.9 -1.0**
comp=Z,12nm,0.5s
DBIC Dimbokro 67.87 72 P **P** **22 07 21.2 -1.0**
comp=Z,4.9nm,0.5s,baz=240,slow=6.4,SNR=15
ANMO Albuquerque 69.55 326 *e*P **P** **22 07 33.6 +1.2**
comp=Z,3.4nm,0.8s
SDCO Great Sand Dun 71.30 329 *e*P **P** **22 07 43.8 +0.7**
comp=Z,2.3nm,0.7s
MVCO Mesa Verde 72.35 326 *e*P **P** **22 07 50.2 +1.0**
comp=Z,6.6nm,1.0s
VNDA Vanda 74.65 190 P **P** **22 08 02.9 +1.1**
comp=Z,0.7nm,0.6s,baz=107,slow=6.0,SNR=5.8
TORD Torodi Ar. Bea 76.64 69 P **P** **22 08 12.2 -1.9**
comp=Z,3.8nm,0.6s,baz=274,slow=6.5,SNR=31
PDAR Pinedale Array 77.16 329 P **P** **22 08 16.8 0.0**
comp=Z,0.9nm,0.6s,baz=135,slow=7.6,SNR=10
ULM Lac du Bonnet 78.25 342 P **P** **22 08 22.2 -0.1**
comp=Z,4.6nm,0.5s,baz=153,slow=6.2,SNR=13
NVAR Mina Array Bea 78.54 321 P **P** **22 08 25.6 +1.1**
comp=Z,0.8nm,0.7s,baz=149,slow=6.3,SNR=6.9
HLID Hailey 80.10 327 *e*P **P** **22 08 34.0 +1.3**
comp=Z,8.0nm,1.1s
BOSA Boshof 80.76 117 P **P** **22 08 36.3 -0.4**
comp=Z,1.3nm,0.4s,baz=210,slow=2.6,SNR=5.3
MAW Mawson 81.41 163 P **P** **22 08 39.8 +0.6**
comp=Z,3.8nm,0.6s,baz=170,slow=6.8,SNR=8.4
YKA Yellowknife Ar 94.15 340 P **P** **22 09 40.7 +0.3**
comp=Z,1.4nm,0.5s,baz=132,slow=4.6,SNR=63
VYHS Vyhne 105.01 43 *e*PDIF **Pdif** **22 10 33.8 +4.3**
ASAR Alice Springs 128.39 205 PKP **PKPdf** **22 15 28.9 +0.1**
comp=Z,1.9nm,0.5s,baz=132,slow=1.8,SNR=30
WRA Warramunga Arr 131.56 207 PKP **PKPdf** **22 15 35.1 +0.3**
comp=Z,1.9nm,0.4s,baz=155,slow=1.8,SNR=45
PETK Petropavlovsk- 135.62 323 PKP **PKPdf** **22 15 41.9 +0.6**
comp=Z,3.1nm,0.8s,baz=184,slow=4.3,SNR=3.2
ZALV Zalesovo Beam 143.46 28 PKP PKPbc 22 15 53.9 +0.6
comp=Z,2.3nm,0.6s,baz=302,slow=3.9,SNR=14
MKAR Makanchi Array 146.59 40 PKPbc **PKPdf** **22 16 01.9 +0.7**
comp=Z,3.5nm,0.7s,baz=326,slow=2.4,SNR=32
KLR Kul'dur 150.84 334 PKPbc **PKPbc** **22 16 14.1 +0.3**
comp=Z,3.9nm,0.6s,baz=34,slow=2.3,SNR=18
SONM Songino Array 155.69 11 PKP **PKPdf** **22 16 16.0 +0.8**
comp=Z,0.3nm,0.6s,baz=118,slow=0.5,SNR=2.9
SONM PKPab **PKPab** **22 16 42.6 +0.4**
comp=Z,0.4nm,0.5s,baz=317,slow=4.0,SNR=4.5
CMAR Chiang Mai Arr 165.82 110 PKPab **PKPab** **22 17 27.3 0.0**
comp=Z,0.6nm,0.3s,baz=268,slow=5.4,SNR=6.0

IDC 31 21:57:21.0±1.4, 11°.91S×167°.03E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/44, mbtmp3.7/7, Error ellipse: s-maj=83.8km s-min=22.0km az=141.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.71**	**226**	P	P	22 03 38.6	+0.8
	1.2nm,0.7s,baz=7.8,slow=4.9,SNR=3.2						
WRA	**Warramunga Arr**	**32.39**	**252**	P	P	22 03 52.5	-0.2
	0.2nm,0.5s,baz=88,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**33.55**	**245**	P	P	22 04 02.8	-0.1
	0.3nm,0.6s,baz=63,slow=9.8,SNR=7.0						
ILAR	**Eielson Array**	**83.94**	**18**	P	P	22 09 53.5	+0.9
	1.2nm,0.6s,baz=240,slow=4.9,SNR=26						
NVAR	**Mina Array Bea**	**85.62**	**49**	P	P	22 10 02.1	+0.1
	0.1nm,0.3s,baz=212,slow=3.2,SNR=2.8						
MKAR	**Makanchi Array**	**95.01**	**317**	P	P	22 10 45.9	+0.1
	0.4nm,0.5s,baz=93,slow=6.3,SNR=6.1						
YKA	**Yellowknife Ar**	**95.16**	**27**	P	P	22 10 45.3	-0.6
	0.1nm,0.5s,baz=258,slow=4.8,SNR=5.7						
ARCES	**ARCESS Array B**	**117.48**	**346**	PKP	PKPdf	22 16 06.1	-2.1
	2.1nm,0.8s,baz=45,slow=1.8,SNR=5.9						

*ISCJB **31** 22:14:51.9±1.5, 4°.4N±0°.3×32°.6W±0°.2, h11km, mb3.8/9, MS3.5/12, Error ellipse: s-maj=40.2km s-min=22.7km az=31.3*
*IDC **31** 22:14:51.6±1.8, 4°.34N×32°.65W, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/40, mbtmp3.9/9, MS3.5/12, Ms1 3.6/12, ms1mx3.3/29, Error ellipse: s-maj=49.4km s-min=29.7km az=36.0*
ISC 31 22:14:53.4±1.7, 4°.3N±0°.3×32°.7W±0°.2, h11km, n24, σ0s75/9, mb3.9/9, MS3.5/11, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**19.94**	**273**	LR	LR	22 25 52.7	
	comp=Z,59nm,19.8s,baz=35,slow=33						
H10N3	**ASCENSION HYDR**	**21.77**	**124**	T	T	22 42 37.2	
	baz=304,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**21.77**	**124**	T	T	22 42 37.6	
	baz=304,slow=75,SNR=32						
H10N1	**ASCENSION HYDR**	**21.79**	**124**	T	T	22 42 38.8	
	baz=304,slow=75,SNR=35						
H10S3	**ASCENSION HYDR**	**22.26**	**126**	T	T	22 42 54.3	
	baz=306,slow=75,SNR=27						
H10S1	**ASCENSION HYDR**	**22.27**	**126**	T	T	22 42 54.7	
	baz=306,slow=75,SNR=19						
H10S2	**ASCENSION HYDR**	**22.28**	**126**	T	T	22 42 58.7	
	baz=306,slow=75,SNR=24						
BDFB	**Brasilia**	**25.00**	**217**	LR	LR	22 29 09.4	
	comp=Z,139nm,19.6s,baz=146,slow=34						
DBIC	**Dimbokro**	**27.76**	**84**	P	**P**	**22 20 42.1**	**-0.3**
	15nm,1.4s,baz=256,slow=13,SNR=3.5						
DBIC				LR	LR	22 29 42.8	
	comp=Z,88nm,18.4s,baz=248,slow=32						
PTGA	**Pitinga**	**27.76**	**260**	LR	LR	22 30 36.9	
	comp=Z,93nm,21.7s,baz=103,slow=34						
TORD	**Torodi Ar. Bea**	**35.01**	**73**	P	**P**	**22 21 46.4**	**+0.1**
	1.0nm,0.7s,baz=262,slow=8.7,SNR=7.1						
TORD				LR	LR	22 34 08.7	
	comp=Z,115nm,18.7s,baz=290,slow=33						
CPUP	**Villa Florida**	**38.74**	**217**	LR	LR	22 38 07.5	
	comp=Z,81nm,18.3s,baz=70,slow=36						
LPAZ	**La Paz**	**40.63**	**239**	LR	LR	22 37 21.7	
	comp=Z,53nm,20.8s,baz=50,slow=33						
ROSC	**El Rosal**	**41.54**	**272**	LR	LR	22 39 42.5	
	comp=Z,54nm,18.7s,baz=62,slow=36						
KEST	**Kesra**	**49.71**	**46**	LR	LR	22 45 05.1	
	comp=Z,92nm,18.6s,baz=254,slow=36						
GERES	**GERESS Array B**	**59.27**	**34**	P	**P**	**22 24 55.7**	**+0.5**
	0.4nm,0.8s,baz=246,slow=7.4,SNR=3.4						
BOSA	**Boshof**	**64.52**	**124**	P	**P**	**22 25 30.9**	**0.0**
	2.0nm,0.7s,baz=326,slow=6.3,SNR=5.0						
NOA	**NORSAR Array B**	**65.45**	**22**	P	**P**	**22 25 35.4**	**-0.9**
	0.7nm,0.9s,baz=239,slow=5.7,SNR=3.1						
NOA				LR	LR	22 53 08.3	
	comp=Z,18nm,18.1s,baz=285,slow=35						
BRTR	**Keskin Array B**	**69.08**	**49**	P	**P**	**22 26 00.6**	**+0.7**
	1.2nm,0.8s,baz=242,slow=5.0,SNR=7.4						
FINES	**FINESS Array B**	**71.67**	**26**	P	**P**	**22 26 14.1**	**-0.9**
	0.7nm,0.7s,baz=247,slow=7.1,SNR=3.1						
PDAR	**Pinedale Array**	**77.47**	**313**	LR	LR	22 58 15.1	
	comp=Z,28nm,19.3s,baz=50,slow=34						
YKA	**Yellowknife Ar**	**82.46**	**332**	P	**P**	**22 27 16.4**	**+0.7**
	0.3nm,0.8s,baz=94,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**83.93**	**308**	LR	LR	23 04 00.9	
	comp=Z,67nm,18.2s,baz=324,slow=35						
ILAR	**Eielson Array**	**96.18**	**337**	P	**P**	**22 28 20.8**	**-0.6**
	0.3nm,0.8s,baz=52,slow=5.0,SNR=3.7						

*ISK **31** 22:15:02.2, 34°.86N×37°.47E, h12km, ML3.1/13*
*DDA **31** 22:15:04.0, 35°.19N×37°.52E, h9km±1km, ML2.7*
ISC 31 22:15:03.1±1.5, 35°.05N±0°.06×37°.43E±0°.07, h0km±15km, n24, σ1s21/30, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	**1.45**	**238**	*e*P	**Pg**	**22 15 32.4**	**+1.5**
YAYL	**Yayladag**	**1.46**	**312**	*i* P	**Pg**	**22 15 32.0**	**+0.9**
YAYL				*i* S	**Sn**	**22 15 49.3**	**-1.4**
YAYL				IAML_P			
	comp=Z,20nm,0.1s						
KUZU	**Kuzuini**	**1.74**	**350**	*i* P	**Pb**	**22 15 35.0**	**-0.9**
KUZU				*i* S	**Sb**	**22 15 58.1**	**-0.3**
BHL	**Bhannes**	**1.86**	**233**	*e*P	**Pg**	**22 15 39.2**	**+0.3**
RCY	**Rachaya**	**2.04**	**221**	*e*P	**Pg**	**22 15 42.7**	**+0.4**
SURC	**SANLIURFA_SURC**	**2.06**	**27**	*i* P	**Pb**	**22 15 40.1**	**-1.3**
SURC				*i* S	**Sg**	**22 16 08.6**	**-0.7**
SURC				IAML_P			
	comp=Z,370nm,0.2s						
QRWL	**Qaraoun**	**2.09**	**224**	*e*P	**Pg**	**22 15 43.0**	**-0.1**
GAZ	**Gaziantep**	**2.12**	**355**	PN	**Pb**	**22 15 41.2**	**-1.3**
GAZ				SN	**Sb**	**22 16 09.6**	**+0.2**
KAMA	**Osmaniye**	**2.22**	**344**	*i* P	**Pn**	**22 15 42.1**	**+0.9**
KAMA				IAML_P			
	comp=Z,809nm,0.1s						
GZT	**Gaziantep**	**2.30**	**3**	*i* P	**Pb**	**22 15 43.4**	**-2.2**
GZT				*i* S	**Sb**	**22 16 15.7**	**+1.2**
GZT				IAML_P			
	comp=Z,291nm,0.2s						
HCB	**Kahramanmara**	**2.32**	**350**	*i* P	**Pn**	**22 15 43.4**	**+0.8**
HCB				*i* S	**Sn**	**22 16 12.3**	**+0.3**
HCB				IAML_P			
	comp=Z,419nm,0.2s						
CEYT	**Ceyhan**	**2.38**	**325**	PN	**Pn**	**22 15 44.7**	**+1.3**
KMRS	**Kahramanmaras**	**2.48**	**350**	PN	**Pb**	**22 15 46.4**	**-2.2**
URFA	**Urfa**	**2.63**	**25**	PN	**Pn**	**22 15 48.1**	**+1.2**
KOZT	**Kozan**	**2.75**	**332**	PN	**Pn**	**22 15 50.0**	**+1.5**
KARA	**Karaisali**	**2.92**	**320**	PN	**Pn**	**22 15 52.3**	**+1.4**
MERS	**Mersin**	**2.98**	**308**	PN	**Pn**	**22 15 52.7**	**+1.1**
KIZK	**Mersin**	**3.03**	**299**	PN	**Pn**	**22 15 53.1**	**+0.8**
IKL	**Isikli**	**3.27**	**292**	PN	**Pn**	**22 15 56.4**	**+0.7**
KEBE	**Keben-Mersin**	**3.33**	**296**	PN	**Pn**	**22 15 57.3**	**+0.8**
AKKU	**Akkuyu-Mersin**	**3.35**	**290**	PN	**Pn**	**22 15 57.3**	**+0.6**
DARE	**Darende-Malaty**	**3.51**	**1**	PN	**Pn**	**22 16 00.9**	**+1.9**
BERE	**Bereket-Mersin**	**3.66**	**292**	PN	**Pn**	**22 16 01.9**	**+0.8**
TEKE	**Tekeli-Mersin**	**3.68**	**288**	PN	**Pn**	**22 16 02.0**	**+0.7**

*IDC **31** 22:21:17.7±1.1, 31°.61N×103°.13E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.2/47, mbtmp3.4/7, ML2.9/1, MS3.1/2, Ms1 3.1/2, ms1mx2.4/40, Error ellipse: s-maj=41.4km s-min=19.1km az=56.0*
*BJI **31** 22:21:20.5, 31°.70N×103°.19E, h14km, ML3.5/14*
ISC 31 22:21:19.1±0.9, 31°.64N±0°.05×103°.12E±0°.08, h10km, n14, σ1s92/16, mb3.5/6, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.91**	**143**	⇑Pg	**Pg**	**22 21 36.3**	**-0.2**
CD2				Sg	**Sg**	**22 21 49.3**	**+1.0**
CD2				smax	smax		
	comp=N,2μm,0.7s						
CD2				smax	smax		
	comp=E,3μm,0.9s						
LZH	**Lanzhou**	**4.48**	**8**	*e*Pg	**Pg**	**22 22 46.0**	**+1.1**
LZH				Sg	**Sg**	**22 23 42.3**	**-0.7**
LZH				smax	smax		
	comp=N,58nm,1.1s						
LZH				smax	smax		
	comp=E,88nm,1.1s						
LZH				LR	LR		
	comp=N,310nm,5.4s						
LZH				LR	LR		
	comp=E,210nm,5.4s						
LZH				LR	LR		
	comp=Z,380nm,6.0s						
XAN	**Xi'an**	**5.44**	**62**	Pn	**Pn**	**22 22 40.5**	**+0.2**
XAN				Pg	**Pb**	**22 22 57.5**	**+3.3**
XAN				Sg	**Sg**	**22 24 09.0**	**-4.7**
XAN				smax	smax		
	comp=Z,45nm,1.0s						
XAN				smax	smax		
	comp=Z,55nm,0.7s						
GTA	**Gaotai**	**8.21**	**342**	*e*P	**Pg**	**22 23 53.3**	**-3.0**
GTA				pP	Pb	22 23 58.0	+17
GTA				sP	Pn	22 24 00.8	+42
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**16.37**	**8**	Pn	**Pn**	**22 25 08.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=3.6						
WMQ	**Urumqi**	**17.20**	**319**	*e*P	**Pn**	**22 25 20.5**	**+1.1**
KSRS	**Korea Array**	**21.21**	**67**	P	**P**	**22 26 04.9**	**0.0**
	comp=Z,0.8nm,0.6s,baz=253,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**22.03**	**319**	P	**P**	**22 26 14.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=133,slow=11,SNR=6.7						
ZALV	**Zalesovo Beam**	**25.88**	**335**	P	**P**	**22 26 50.9**	**0.0**
	comp=Z,0.5nm,0.5s,baz=138,slow=8.5,SNR=3.0						
KURBB	**Kurchatov Arra**	**26.31**	**323**	P	**P**	**22 26 55.3**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=130,slow=9.6,SNR=4.7						
KLR	**Kul'dur**	**27.75**	**42**	LR	LR	22 40 19.3	
	comp=Z,27nm,18.2s,baz=352,slow=41						
NRIK	**Noril'sk**	**38.77**	**351**	LR	LR	22 48 05.1	
	comp=Z,29nm,20.3s,baz=51,slow=41						
WRA	**Warramunga Arr**	**59.38**	**145**	P	**P**	**22 31 20.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=340,slow=7.2,SNR=3.7						
ASAR	**Alice Springs**	**62.38**	**148**	P	**P**	**22 31 43.0**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=338,slow=7.1,SNR=2.7						

MEX 31 22:28:25.7±0.6, 14°.93N×92°.67W, h116km±5km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.39**	**92**	*e*P	Pn	22 28 41.2	-1.3
THIG				*i* S	Sn	22 28 53.9	-1.2
PCIG		**0.94**	**326**	*e*P	Pn	22 28 45.4	-1.4
PCIG				*i* S	Sn	22 29 00.8	-1.8
CCIG	**Comitan**	**1.44**	**21**	*e*P	Pn	22 28 51.3	-1.0
CCIG				*e*S	Sn	22 29 10.9	-1.7

*TAP **31** 22:33:47.9, 23°.96N×122°.46E, h19km±1km, ML2.6, D*
*ISCJB **31** 22:33:48.5±0.8, 23°.94N±0°.06×122°.47E±0°.02, h26km±5km, Error ellipse: s-maj=9.9km s-min=3.5km az=3.6*
*JMA **31** 22:33:48.3±0.2, 23°.93N×122°.47E, h27km±5km, M2.1*
ISC 31 22:33:48.5±1.4, 23°.97N±0°.07×122°.48E±0°.02, h23km±14km, n21, σ0s66/38, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.64**	**42**	P	**Pb**	**22 34 01.3**	**+0.3**
JYNG				*e*S	**Sb**	**22 34 09.8**	**+0.2**
EOS1	**EOS1**	**0.66**	**331**	P	**Pb**	**22 34 01.3**	**+0.1**
	baz=332						
EOS1				S	**Sn**	**22 34 11.7**	**-0.2**
	baz=332						
YOJ	**Yonaguni jima**	**0.69**	**45**	P	**Pb**	**22 34 01.8**	**-0.1**
	baz=44						
YOJ				S	**Sn**	**22 34 12.8**	**0.0**
	baz=44						
YOJ	**Yonaguni jima**	**0.69**	**45**	P	**Pb**	**22 34 01.9**	**0.0**
YOJ				*e*S	**Sn**	**22 34 12.5**	**-0.3**
ENA	**Nanau**	**0.81**	**304**	P	**Pb**	**22 34 03.5**	**-0.3**
	baz=305						
ENA				S	**Sn**	**22 34 15.2**	**-0.6**
	baz=305						
NACB	**Ninganchiao**	**0.83**	**284**	*e*P	**Pb**	**22 34 03.9**	**-0.3**
	baz=285						
TWC	**Suao**	**0.85**	**318**	P	**Pb**	**22 34 03.9**	**-0.7**
	baz=319						
TWC				*e*S	**Sb**	**22 34 15.3**	**-0.4**
	baz=319						
ETLH	**Xiulin Townshi**	**0.94**	**285**	*e*P	**Pn**	**22 34 06.1**	**-0.2**
	baz=285						
ETLH				*e*S	**Sn**	**22 34 22.0**	**+3.0**
	baz=285						
TWE	**Neicheng**	**1.05**	**316**	*e*P	**Pb**	**22 34 08.8**	**+0.9**
	baz=316						
TWE				*i* S	**Sn**	**22 34 22.7**	**+1.1**
	baz=316						
ENTT	**Nioudou**	**1.06**	**309**	P	**Pb**	**22 34 08.0**	**-0.2**
	baz=310						
ENTT				S	**Sn**	**22 34 22.3**	**+0.2**
	baz=310						
NDT	**Datong Townshi**	**1.08**	**306**	P	**Pb**	**22 34 08.6**	**+0.2**
	baz=306						
NDT				S	**Sn**	**22 34 22.5**	**+0.1**
	baz=306						
NNSB	**Datong**	**1.10**	**295**	*i* P	**Pb**	**22 34 08.7**	**-0.1**
	baz=295						
NNSB				*i* S	**Sn**	**22 34 23.2**	**+0.2**
	baz=295						
WHF	**Hehuan Shan**	**1.12**	**279**	*e*P	**Pb**	**22 34 09.0**	**-0.4**
	baz=279						
WHF				*e*S	**Sn**	**22 34 23.6**	**-0.4**
	baz=279						
TIPB	**Shuangxi**	**1.16**	**329**	P	**Pb**	**22 34 09.9**	**0.0**
	baz=330						
TIPB				S	**Sn**	**22 34 24.4**	**-0.1**
	baz=330						
NWLT	**Wulai**	**1.20**	**312**	P	**Pn**	**22 34 09.0**	**-0.8**
	baz=313						
NWLT				*e*S	**Sb**	**22 34 26.2**	**+0.7**
	baz=313						
IRIF	**Iriomote-Funau**	**1.20**	**72**	P	**Pn**	**22 34 09.8**	**0.0**
HATJ	**Hateruma jima**	**1.22**	**86**	*e*S	**Sb**	**22 34 26.7**	**+0.6**
YHNB	**Yeheng**	**1.22**	**305**	P	**Pb**	**22 34 10.6**	**-0.3**
	baz=305						
YHNB				S	**Sn**	**22 34 25.8**	**-0.2**
	baz=305						
JKRS	**Kuro-shima**	**1.43**	**79**	P	**Pb**	**22 34 13.9**	**-0.5**
JKRS				*e*S	**Sb

DZM	**Mont Dzumac**	**38.64**	**117**	LR	LR	23 16 15.3	
	comp=Z,72nm,18.3s,baz=351,slow=39						
CMAR	**Chiang Mai Arr**	**39.22**	**310**	P	**P**	**22 58 02.5**	**-0.7**
	0.6nm,0.5s,baz=136,slow=7.0,SNR=7.1						
SONM	**Songino Array**	**57.89**	**342**	P	**P**	**23 00 26.1**	**+0.6**
	0.2nm,0.5s,baz=169,slow=8.1,SNR=2.9						
MKAR	**Makanchi Array**	**67.67**	**327**	P	**P**	**23 01 30.5**	**+0.3**
	0.5nm,0.3s,baz=114,slow=8.3,SNR=17						
ZALV	**Zalesovo Beam**	**71.03**	**334**	P	**P**	**23 01 50.3**	**-0.3**
	0.3nm,0.3s,baz=143,slow=5.2,SNR=3.1						

KRSC 31 22:56:05.0±10.0, 55°74N×162°31E, h58km±10km, ML4.2, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.55**	**31**	*eP*	Pn	22 56 18.2	+0.8
KBTR				*eS*	Sn	22 56 28.3	+2.0
KBG	**Krutoberegovo**	**0.56**	**23**	*eP*	Pn	22 56 18.3	+0.8
KBG				*eS*	Sn	22 56 28.1	+1.5
BZGR	**Bezymyannyi-Gr**	**0.93**	**283**	*eP*	Pn	22 56 23.0	+0.9
BZGR				*eS*	Sn	22 56 35.7	+0.9
SMKR	**Semkarok**	**0.97**	**331**	*eP*	Pn	22 56 23.5	+0.9
SMKR				*eS*	Sn	22 56 36.9	+1.3
BDR	**Baidarnaya**	**1.03**	**324**	*eP*	Pn	22 56 24.6	+1.1
BZMR	**Bezymyannaya**	**1.04**	**282**	*eP*	Pn	22 56 24.6	+1.0
BZMR				*eS*	Sn	22 56 38.4	+0.9
BZWR	**Bezymyannyi-We**	**1.05**	**283**	*eP*	Pn	22 56 24.8	+1.1
BZWR				*eS*	Sn	22 56 38.7	+1.2
KLY	**Klyuchi**	**1.09**	**303**	*eP*	Pn	22 56 23.5	-0.6
KLY				*eS*	Sn	22 56 36.6	-1.8
SRKR	**Sorokina**	**1.12**	**326**	*eP*	Pn	22 56 25.6	+1.0
SRKR				*eS*	Sn	22 56 41.2	+2.1
KIRR	**Kirishev**	**1.13**	**282**	*eP*	Pn	22 56 26.2	+1.4
KIRR				*eS*	Sn	22 56 41.4	+1.9
KPT	**Kopyto**	**1.20**	**282**	*eP*	Pn	22 56 27.1	+1.5
KPT				*eS*	Sn	22 56 43.4	+2.4
TUMD	**Tumrok D**	**1.21**	**245**	*eP*	Pn	22 56 27.0	+1.3
KZV	**Kizimen**	**1.31**	**242**	*eP*	Pn	22 56 28.5	+1.3
TUMR	**Tumrok**	**1.31**	**251**	*eP*	Pn	22 56 29.1	+1.9
KOZ	**Kozyrevsk**	**1.41**	**284**	*eP*	Pn	22 56 30.3	+1.9
KOZ				*eS*	Sn	22 56 49.6	+3.7
ESO	**Esso**	**2.04**	**277**	*eP*	Pn	22 56 38.2	+1.2
BKI	**Bering**	**2.15**	**103**	*eP*	Pn	22 56 40.3	+1.9
BKI				*eS*	Sn	22 57 06.2	+2.2
SPN	**Mys Shipunski**	**2.96**	**208**	*eP*	Pn	22 56 51.7	+2.2
NLC	**Nalytchevo**	**3.10**	**215**	*eP*	Pn	22 56 54.9	+3.5
NLC				*eS*	Sn	22 57 30.3	+3.2
SDLR	**Sedlovina**	**3.17**	**220**	*eP*	Pn	22 56 55.3	+2.8
KRX	**Arik**	**3.20**	**223**	*eP*	Pn	22 56 56.8	+3.9
KRER	**Koryakskii**	**3.20**	**222**	*eP*	Pn	22 56 57.2	+4.2
SMAR	**Somma**	**3.21**	**221**	*eP*	Pn	22 56 56.4	+3.2
AVH	**Avacha**	**3.23**	**221**	*eP*	Pn	22 56 56.7	+3.4
UGLR	**Uglovaya**	**3.25**	**220**	*eP*	Pn	22 56 56.8	+3.3
KOK	**Koryaka**	**3.25**	**223**	*eP*	Pn	22 56 56.9	+3.3
PET	**Petropavlovsk**	**3.46**	**220**	*eP*	Pn	22 56 59.9	+3.6
KRMR	**Karymshinskiy**	**3.81**	**222**	*eP*	Pn	22 57 04.2	+3.2
KRMR				*eS*	Sn	22 57 47.4	+2.9
RUS	**Russkaya**	**3.99**	**216**	*eP*	Pn	22 57 06.0	+2.4
MTVR	**Mutnovka**	**4.06**	**218**	*eP*	Pn	22 57 08.5	+3.8
APC	**Apacha**	**4.12**	**229**	*eP*	Pn	22 57 09.4	+4.0
KDTR	**Khodutka, Kamc**	**4.67**	**214**	*eP*	Pn	22 57 16.1	+3.3

JMA 31 22:59:56.7±0.2, 37°23N×144°31E, h70km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**2.50**	**296**	P	Pn	23 00 36.0	+1.0
JIKH				S	Sn	23 01 05.5	+1.0
JIO	**Ouri**	**2.64**	**298**	P	Pn	23 00 38.3	+1.3
JIO				*eS*	Sn	23 01 09.4	+1.4
JKMT	**Kesennumamotoy**	**2.74**	**306**	P	Pn	23 00 39.3	+1.0
JKMT				*eS*	Sn	23 01 11.4	+1.1
JFK	**Kawauchi**	**2.74**	**274**	P	Pn	23 00 39.1	+0.7
JFK				S	Sn	23 01 11.5	+1.0
OFUJ	**Ofunato**	**2.78**	**312**	P	Pn	23 00 39.8	+0.9
JMK	**Ichinoseki**	**2.98**	**306**	P	Pn	23 00 42.9	+1.3
JFT	**Otama**	**3.18**	**276**	P	Pn	23 00 46.3	+2.0
JFT				*eS*	Sn	23 01 23.0	+1.9
JOM	**Ohasama**	**3.26**	**314**	P	Pn	23 00 46.2	+0.8
JOM				*eS*	Sn	23 01 23.8	+0.7

*IDC **31** 23:00:33.5±1.9, 6°53S×147°69E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.6/35, mbtmp3.8/5, ML3.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/28, Error ellipse: s-maj=41.6km s-min=18.6km az=123.0*

ISC 31 23:00:38.9±2.1, 6°6S±0°1×147°8E±0°3, h51km, n8, σ1§24/8, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.90**	**193**	Pn	**Pn**	**23 01 21.1**	**-1.4**
	8.0nm,0.3s,baz=9.8,slow=6.8,SNR=12						
PMG				Sn	**Sn**	**23 01 57.7**	**+1.6**
	23nm,0.3s,baz=18,slow=20,SNR=18						
WRA	**Warramunga Arr**	**18.66**	**223**	P	**P**	**23 04 52.1**	**-0.6**
	0.1nm,0.3s,baz=52,slow=11,SNR=5.6						
WRA				S	**Sn**	**23 08 20.8**	**-0.8**
	0.0nm,0.3s,baz=37,slow=26,SNR=3.7						
ASAR	**Alice Springs**	**21.63**	**217**	P	**P**	**23 05 24.9**	**-0.1**
	2.9nm,0.6s,baz=49,slow=9.4,SNR=30						
ASAR				S	Sn	23 09 27.9	-5.2
	2.4nm,1.2s,baz=32,slow=21,SNR=7.2						
BATI	**Baumata**	**24.16**	**260**	LR	LR	23 17 44.8	
	comp=Z,62nm,18.4s,baz=119,slow=43						
FITZ	**Fitzroy Crossi**	**24.47**	**240**	P	**P**	**23 05 54.7**	**+1.3**
	7.2nm,0.8s,baz=63,slow=10,SNR=8.9						
STKA	**Stephens Creek**	**25.84**	**192**	P	**P**	**23 06 06.2**	**+0.5**
	1.0nm,0.6s,baz=27,slow=11,SNR=3.0						
KSRS	**Korea Array**	**47.57**	**338**	LR	LR	23 29 20.4	
	comp=Z,16nm,19.1s,baz=145,slow=36						
TORD	**Torodi Ar. Bea**	**146.01**	**284**	PKPbc	**PKPab**	**23 20 14.8**	**0.0**
	0.6nm,0.5s,baz=64,slow=3.1,SNR=11						

RSNC 31 23:05:36.2±1.1, 6°80N×73°13W, h147km±5km, ML3.3, Mw3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**194**	*eP*	Pn	23 05 56.1	-0.4
BARC				*eS*	Sn	23 06 11.0	-0.8
BARC				*i*		23 06 13.9	
	comp=Z,265nm,0.3s						
BRRC	**Barranca, Sant**	**0.65**	**298**	*eP*	Pn	23 05 58.0	-0.1
BRRC				*eS*	Sn	23 06 14.9	+0.3
BRRC				*i*		23 06 16.3	
	comp=N,546nm,0.2s						
PAMC	**Pamplona, Colo**	**0.68**	**39**	*eP*	Pn	23 05 58.9	+0.1
PAMC				*eS*	Sn	23 06 15.8	-0.2
PAMC				*i*		23 06 16.6	
	comp=N,110nm,0.4s						
RUSC	**La Rusia**	**0.91**	**177**	*eP*	Pn	23 05 59.9	-0.6
RUSC				*eS*	Sn	23 06 18.5	-0.5
RUSC				*i*		23 06 19.2	
	comp=N,224nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	*eP*	Pn	23 06 02.6	-1.3
PTBC				*eS*	Sn	23 06 24.2	-0.8
PTBC				*i*		23 06 29.7	
	comp=N,509nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**105**	*iP*	Pn	23 06 04.2	-0.1
TAMC				*eS*	Sn	23 06 25.0	-0.8
TAMC				*i*		23 06 26.9	
	comp=E,162nm,0.3s						
OCAC	**Ocana**	**1.44**	**353**	*eP*	Pn	23 06 04.4	-0.6
OCAC				*eS*	Sn	23 06 26.6	-0.6
OCAC				*i*		23 06 29.8	
	comp=N,475nm,0.2s						
CTAU	**Tausa, Cundina**	**1.83**	**210**	*eP*	Pn	23 06 16.9	+7.1
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*eP*	Pn	23 06 08.6	-0.7
ZARC				*eS*	Sn	23 06 34.7	-0.1
ZARC				*i*		23 06 40.3	
	comp=N,360nm,0.5s						
CTAB	**Cerro Tablazo,**	**2.08**	**211**	*eP*	Pn	23 06 13.3	+0.8
NORC	**Norcasia**	**2.12**	**235**	*eP*	Pn	23 06 11.8	-0.8
NORC				*eS*	Sn	23 06 40.2	-0.4
NORC				*i*		23 06 45.0	
	comp=N,230nm,0.2s						
SMLC	**San Martn de**	**2.19**	**335**	*eP*	Pn	23 06 12.5	-1.0
SMLC				*eS*	Sn	23 06 41.5	-0.5
SMLC				*i*		23 06 47.7	
	comp=N,248nm,0.1s						
HELC	**Santa Helena**	**2.46**	**256**	*eP*	Pn	23 06 17.4	+0.3
HELC				*eS*	Sn	23 06 48.0	-0.4
HELC				*i*		23 06 54.6	
	comp=N,65nm,0.4s						
UREC	**San Jos de Ur**	**2.56**	**292**	*eP*	Pn	23 06 15.5	-2.4
UREC				*eS*	Sn	23 06 47.0	-3.1
VILC	**Villavicencio,**	**2.73**	**192**	*eP*	Pn	23 06 20.1	-0.1
VILC				*eS*	Sn	23 06 53.5	-0.7
VILC				*i*		23 06 59.9	
	comp=E,181nm,0.4s						
DBBC	**Dabeiba**	**3.06**	**274**	*eP*	Pn	23 06 23.5	-0.8
CODC	**Agustn Codazz**	**3.13**	**354**	*eP*	Pn	23 06 23.9	-1.2
CODC				*eS*	Sn	23 07 00.5	-2.4
CODC				*i*		23 07 05.1	
	comp=N,29nm,0.4s						
SJAC	**San Juan de Ar**	**3.60**	**193**	*eP*	Pn	23 06 32.5	+1.2
SJCC	**San Jacinto, C**	**3.68**	**327**	*eP*	Pn	23 06 29.7	-2.6
SJCC				*eS*	Sn	23 07 12.1	-3.8
SJCC				*i*		23 07 18.6	
	comp=N,43nm,0.1s						

*ISCJB **31** 23:27:22.4±0.2, 59°06N±0°02×153°86W±0°03, h115km±2km, mb4.4/54, Error ellipse: s-maj=3.8km s-min=2.6km az=147.3*
*MOS **31** 23:27:22.2±0.9, 59°12N×153°95W, h110km, mb4.8/11, Error ellipse: s-maj=10.3km s-min=6.1km az=85.1*
*NEIC **31** 23:27:24.6±0.0, 58°99N×153°87W, h103km, mb4.7/7, MW4.7, ML4.8(AEIC), Moment Tensor Solution. s29 Moment tensor: Scale 10¹⁶Nm; Mrr0.55; Mθθ-1.33; Mφφ0.77; Mrθ0.44; Mθφ0.06; Mφr0.76; Best double couple: M₀1.50000×10¹⁶ NP1:ϕs309.00000°, δ50.00000°, λ157.00000°. NP2:ϕs54.00000°, δ72.00000°, λ42.00000°. Principal axes: T 1.4700, Plg42.0000°, Azm279.0000°; N -0.0400, Plg45.0000°, Azm73.0000°; P -1.4300, Plg14.0000°, Azm177.0000°; After AEIC.*
NEIC Felt at Homer.
*AEIC **31** 23:27:24.6, 58°99N×153°87W, h103km, ML4.8, MB4.7(NEIC), MW4.7(USGS)*
*IDC **31** 23:27:24.1±0.4, 59°27N×154°00W, h109km±3km, mb3.9/29, mb1 4.0/33, mb1mx4.0/46, mbtmp4.2/33, MS3.4/15, Ms1 3.4/15, ms1mx3.1/50, Error ellipse: s-maj=12.0km s-min=7.4km az=19.0*

ISC 31 23:27:23.4±0.3, 59°06N±0°03×153°93W±0°03, h109km±3km, n250, σ1§25/280, mb4.5/58, 10C-3D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FONW	**Fourpeaked Sta**	**0.23**	**178**	P	**Pn**	**23 27 38.4**	**-0.4**
MCNL	**McNeil River**	**0.24**	**301**	P	**Pn**	**23 27 39.9**	**+1.1**
AUI	**Augustine Isla**	**0.38**	**43**	P	**Pn**	**23 27 39.7**	**+0.3**
AUW	**Augustine West**	**0.39**	**37**	P	**Pn**	**23 27 39.9**	**+0.5**
AUP	**Augustine Pinn**	**0.40**	**41**	P	**Pn**	**23 27 39.9**	**+0.3**
AUP	**Augustine Pinn**	**0.40**	**41**	P	**Pn**	**23 27 39.9**	**+0.3**
AUL	**Augustine Lava**	**0.41**	**38**	P	**Pn**	**23 27 39.9**	**+0.3**
AUL				S	**Sn**	**23 27 51.5**	**-0.2**
KAHG	**Katmai Hook Gl**	**0.65**	**210**	P	**Pn**	**23 27 41.0**	**-0.3**
KARR	**Katmai Rainbow**	**0.69**	**216**	P	**Pn**	**23 27 41.3**	**-0.3**
KAHC	**Katmai Hardscr**	**0.69**	**234**	P	**Pn**	**23 27 41.3**	**-0.4**
ILS	**Iliamna Low So**	**1.00**	**26**	P	**Pn**	**23 27 45.2**	**+0.6**
IVE	**Iliamna Volcan**	**1.07**	**26**	P	**Pn**	**23 27 45.9**	**+0.6**
ILW	**Iliamna West**	**1.08**	**22**	P	**Pn**	**23 27 46.1**	**+0.6**
ACHA	**Angle Creek He**	**1.12**	**221**	P	**Pn**	**23 27 45.6**	**-0.2**
KELA	**Mount Kelaz**	**1.13**	**237**	P	**Pn**	**23 27 45.5**	**-0.5**
ILIM	**Iliamna**	**1.14**	**25**	P	**Pn**	**23 27 46.6**	**+0.6**
HOM	**Homer**	**1.32**	**62**	*ePn*	**Pn**	**23 27 48.6**	**+0.7**
KDAK	**Kodiak Island**	**1.47**	**150**	*ePn*	**Pn**	**23 27 48.7**	**-0.9**
KDAK				S	**Sn**	**23 28 07.3**	**-2.2**
KDAK	**Kodiak Island**	**1.47**	**150**	P	**Pn**	**23 27 48.2**	**-1.5**
	808nm,0.3s,baz=342,slow=10,SNR=5595						
KDAK				S	**Sn**	**23 28 07.3**	**-2.2**
	1µm,0.3s,baz=323,slow=20,SNR=40						
KDAK				LR	LR	23 28 25.4	
	comp=Z,2µm,18.6s,baz=313,slow=37						
RED	**Redoubt Volcan**	**1.48**	**23**	P	**Pn**	**23 27 50.8**	**+0.8**
RED				S	**Sn**	**23 28 11.0**	**+0.8**
RDSO	**Redoubt South**	**1.52**	**23**	P	**Pn**	**23 27 51.2**	**+0.7**
RDSO				S	**Sn**	**23 28 11.9**	**+0.8**
RDWB	**Redoubt West**	**1.54**	**21**	P	**Pn**	**23 27 51.4**	**+0.7**
RDWB				S	**Sn**	**23 28 11.8**	**+0.4**
RDN	**Redoubt North**	**1.57**	**22**	P	**Pn**	**23 27 52.0**	**+0.9**
RDJH	**Redoubt Jeurge**	**1.64**	**20**	P	**Pn**	**23 27 52.7**	**+0.8**
RDJH				S	**Sn**	**23 28 14.7**	**+1.1**
BRLK	**Bradley Lake**	**1.71**	**64**	*ePn*	**Pn**	**23 27 52.1**	**-0.5**
NKA	**Nikishka**	**2.17**	**38**	P	**Pn**	**23 28 00.3**	**+2.0**
SVW2	**Sparrevohn**	**2.21**	**339**	*ePn*	**Pn**	**23 27 59.2**	**+0.3**
SVW2				*eS*	**Sn**	**23 28 23.4**	**-2.7**
SPWE	**Spurr West**	**2.33**	**17**	P	**Pn**	**23 28 01.8**	**+1.2**
SLKM	**Skilak Lake**	**2.37**	**51**	P	**Pn**	**23 28 01.3**	**+0.2**
SLKM	**Skilak Lake**	**2.37**	**51**	P	**Pn**	**23 28 01.3**	**+0.2**
SEW	**Seward**	**2.51**	**63**	*ePn*	**Pn**	**23 28 02.6**	**-0.2**
SEW				*eSn*	**Sn**	**23 28 32.0**	**-1.1**
SII	**Sitkinak Islan**	**2.51**	**183**	*ePn*	**Pn**	**23 28 01.8**	**-1.1**
SII				*eSn*	**Sn**	**23 28 29.0**	**-4.2**
FIB	**Fire Island**	**2.83**	**40**	P	**Pn**	**23 28 08.5**	**+1.5**
FIB	**Fire Island**	**2.83**	**40**	P	**Pn**	**23 28 08.5**	**+1.5**
SUA	**Susitna One**	**2.89**	**32**	*ePn*	**Pn**	**23 28 08.5**	**+0.6**
RC01	**Rabbit Creek A**	**2.93**	**44**	*ePn*	**Pn**	**23 28 08.4**	**+0.1**
RC01				*eSn*	**Sn**	**23 28 43.6**	**+0.7**
PTE	**Portage**	**3.06**	**52**	P	**Pn**	**23 28 10.1**	**+0.1**
ANNE	**Aniakchak Nort**	**3.08**	**227**	P	**Pn**	**23 28 10.1**	**-0.2**
ANNW	**Aniakchak Nort**	**3.10**	**229**	P	**Pn**	**23 28 11.2**	**+0.6**
AZAC	**Aniakchak**	**3.15**	**228**	P	**Pn**	**23 28 11.8**	**+0.4**
ANPB	**Aniakchak Plen**	**3.24**	**228**	P	**Pn**	**23 28 12.3**	**-0.2**
PWL	**Port Wells**	**3.34**	**55**	P	**Pn**	**23 28 13.3**	**-0.6**
PWL				S	**Sn**	**23 28 50.5**	**-2.4**
PMR	**Palmer**	**3.49**	**41**	*ePn*	**Pn**	**23 28 14.7**	**-1.0**
PMR	**Palmer**	**3.49**	**41**	*eP*	**Pn**	**23 28 14.7**	**-1.0**
CHGN	**Chignik**	**3.67**	**223**	*ePn*	**Pn**	**23 28 17.3**	**-0.8**
GHO	**Glory Hole Cre**	**3.68**	**40**	P	**Pn**	**23 28 18.5**	**+0.1**
SML	**Sawmill**	**3.91**	**43**	*ePn*	**Pn**	**23 28 21.0**	**-0.4**
SML				*eSn*	**Sn**	**23 29 04.3**	**-2.1**
SML	**Sawmill**	**3.91**	**43**	*eP*	**Pn**	**23 28 21.0**	**-0.4**
SML				*e*		23 29 04.3	
MID	**Middleton Isla**	**3.92**	**81**	*ePn*	**Pn**	**23 28 20.9**	**-0.6**
MID	**Middleton Isla**	**3.92**	**81**	*eP*	**Pn**	**23 28 20.9**	**+0.6**
PPLA	**Purkeypile**	**3.94**	**12**	*ePn*	**Pn**	**23 28 23.6**	**+1.6**
TT01	**Tatalina**	**3.99**	**346**	P	**Pn**	**23 28 23.4**	**+0.9**
VNHG	**Veniaminof 1**	**4.00**	**227**	P	**Pn**	**23 28 23.4**	**+0.7**
VNSS	**Veniaminof 8**	**4.11**	**229**	P	**Pn**	**23 28 24.2**	**-0.1**
JPK	**Jack Peak**	**4.19**	**58**	P	**Pn**	**23 28 24.3**	**-0.9**
SCM	**Sheep Creek Mo**	**4.29**	**47**	*ePn*	**Pn**	**23 28 26.3**	**-0.3**
SCM	**Sheep Creek Mo**	**4.29**	**47**	*eP*	**Pn**	**23 28 26.3**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.39**	**67**	*ePn*	**Pn**	**23 28 27.4**	**-0.4**
HUR	**Hurricane**	**4.45**	**26**	P	**Pn**	**23 28 29.1**	**+0.4**
CAST	**Castle Rocks**	**4.46**	**11**	*ePn*	**Pn**	**23 28 30.1**	**+1.2**
DIV	**Divide**	**4.58**	**60**	*ePn*	**Pn**	**23 28 30.1**	**-0.4**
KLU	**Klutina**	**4.67**	**55**	*ePn*	**Pn**	**23 28 31.3**	**-0.4**
TRF	**Thorofare Moun**	**4.74**	**20**	*ePn*	**Pn**	**23 28 32.5**	**-0.3**
CHUM	**Lake Minchumin**	**4.90**	**8**	P	**Pn**	**23 28 35.8**	**+1.1**
PS12	**TAPS Pump St12**	**5.00**	**57**	P	**Pn**	**23 28 35.8**	**-0.3**
RND	**Reindeer**	**5.00**	**27**	*ePn*	**Pn**	**23 28 35.9**	**-0.3**
RND	**Reindeer**	**5.00**	**27**	*eP*	**Pn**	**23 28 35.9**	**-0.3**
HMT	**Hamilton**	**5.06**	**71**	*ePn*	**Pn**	**23 28 36.8**	**-0.1**
DHY	**Denali Highway**	**5.13**	**36**	*ePn*	**Pn**	**23 28 37.5**	**-0.5**
SDPT	**Sand Point**	**5.15**	**227**	*ePn*	**Pn**	**23 28 37.0**	**-1.1**
PS11	**TAPS Pump St11**	**5.16**	**50**	P	**Pn**	**23 28 38.4**	**+0.2**
NICHA	**Nichawak Mount**	**5.19**	**73**	P	**Pn**	**23 28 38.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**5.25**	**14**	*ePn*	**Pn**	**23 28 39.5**	**+0.1**
SUCK	**Suckling Hills**	**5.26**	**75**	P	**Pn**	**23 28 39.7**	**0.0**
MCK	**McKinley**	**5.27**	**25**	*ePn*	**Pn**	**23 28 39.8**	**+0.1**
MCK	**McKinley**	**5.27**	**25**	*eP*	**Pn**	**23 28 39.8**	**+0.1**
HARP	**HAARP**	**5.46**	**48**	*ePn*	**Pn**	**23 28 42.4**	**+0.1**
BGLC	**Bering Glacier**	**5.51**	**74**	P	**Pn**	**23 28 43.4**	**+0.4**
BWN	**Browne**	**5.55**	**21**	*ePn*	**Pn**	**23 28 43.6**	**+0.1**
KHIT	**Khitrov Hills**	**5.58**	**71**	P	**Pn**	**23 28 43.6**	**-0.4**
PAX	**Paxson**	**5.68**	**43**	*ePn*	**Pn**	**23 28 45.8**	**+0.4**
PAX	**Paxson**	**5.68**	**43**	*eP*	**Pn**	**23 28 45.8**	**+0.4**
KULT	**Kultieth River**	**5.81**	**73**	P	**Pn**	**23 28 47.1**	**+0.1**
GCSA	**Galena City Sc**	**5.87**	**348**	P	**Pn**	**23 28 48.4**	**+0.6**
PS10	**TAPS Pump St10**	**5.89**	**39**	P	**Pn**	**23 28 48.8**	**+0.7**
MCARA	**McCarthy VSAT**	**5.92**	**62**	P	**Pn**	**23 28 48.9**	**+0.4**
NEA	**Nenana**	**5.99**	**20**	P	**Pn**	**23 28 49.0**	**-0.5**
DT1	**Dutton Round H**	**6.03**	**233**	P	**Pn**	**23 28 50.1**	**+0.1**
WRH	**Wood River Hil**	**6.09**	**25**	*ePn*	**Pn**	**23 28 50.0**	**-0.8**
KIAG	**Kiagna River**	**6.10**	**67**	P	**Pn**	**23 28 51.0**	**-0.1**
DRIA	**Deer Island**	**6.12**	**232**	P	**Pn**	**23 28 51.0**	**-0.3**
BALM	**Baldy**	**6.13**	**66**	*ePn*	**Pn**	**23 28 51.5**	**0.0**
BALM	**Baldy**	**6.13**	**66**	*eP*	**Pn**	**23 28 51.5**	**0.0**
MLY	**Manley**	**6.18**	**13**	*ePn*	**Pn**	**23 28 51.5**	**-0.5**
MESA	**MESA**	**6.18**	**74**	P	**Pn**	**23 28 52.4**	**+0.1**
MENT	**Mentasta**	**6.31**	**48**	*ePn*	**Pn**	**23 28 53.9**	**+0.1**
HDA	**Harding Lake**	**6.31**	**29**	*ePn*	**Pn**	**23 28 52.8**	**-1.0**
HDA	**Harding Lake**	**6.31**	**29**	P	**Pn**	**23 28 53.4**	**-0.3**
	baz=214						
CCB	**Clear Creek Bu**	**6.31**	**25**	*ePn*	**Pn**	**23 28 52.9**	**-0.8**
RIDG	**Independ'e Rid**	**6.41**	**39**	*ePn*	**Pn**	**23 28 55.0**	**-0.2**
PS08	**TAPS Pump Stn8**	**6.45**	**28**	P	**Pn**	**23 28 55.0**	**-0.6**
TCOL	**CIGO, UAF Yank**	**6.50**	**24**	P	**Pn**	**23 28 55.5**	**-0.7**
	baz=208,SNR=104						
RKAV	**Rock Avalanche**	**6.50**	**74**	P	**Pn**	**23 28 57.1**	**+0.7**
COLA	**College**	**6.50**	**24**	*ePn*	**Pn**	**23 28 55.4**	**-0.9**
COLA	**College**	**6.50**	**24**	*d iP*	**Pn**	**23 28 55.1**	**-1.2**
MDM	**Murphy Dome**	**6.50**	**22**	*ePn*	**Pn**	**23 28 55.4**	**-0.9**
DOT	**Dot Lake**	**6.61**	**42**	*ePn*	**Pn**	**23 28 57.1**	**-0.7**
ILAR	**Eielson Array**	**6.62**	**27**	P	**Pn**	**23 28 56.5**	**-1.5**
	27nm,0.3s,baz=218,slow=13,SNR=1382						
ILAR				S	**Sn**	**23 30 09.2**	**-2.7**
	29nm,0.3s,baz=216,slow=20,SNR=9.3						
ILB	**Eielson Array**	**6.62**	**27**	*ePn*	**Pn**	**23 28 56.7**	**-1.3**
IL1	**Eielson Array**	**6.62**	**27**	*ePn*	**Pn**	**23 28 57.0**	**-0.9**
SAMH	**Samovar Hills**	**6.76**	**75**	P	**Pn**	**23 29 00.7**	**+0.7**
POKR	**Poker Plat Res**	**6.80**	**24**	P	**Pn**	**23 28 59.4**	**-0.9**
	baz=209,SNR=107						
PS07	**TAPS Pump Stn7**	**6.80**	**20**	P	**Pn**	**23 29 00.1**	**-0.3**
SCRK	**Sand Creek**	**6.85**	**40**	*ePn*	**Pn**	**23 29 00.1**	**-1.0**
IM3	**Indian Mountai**	**6.95**	**1**	*ePn*	**Pn**	**23 29 01.9**	**-0.5**
PS06	**TAPS Pump Stn6**	**7.09**	**14**	P	**Pn**	**23 29 04.5**	**+0.2**
BCA3	**Beaver Creek A**	**7.13**	**51**	P	**Pn**	**23 29 04.6**	**-0.3**
YKU2	**Yakutat**	**7.32**	**80**	*ePn*	**Pn**	**23 29 07.4**	**0.0**
BCPM	**Bancas Point**	**7.33**	**77**	*ePn*	**Pn**	**23 29 07.6**	**0.0**
PNL	**Peninsula**	**7.45**	**79**	P	**Pn**	**23 29 09.1**	**-0.2**
PRP	**Porcupine Dome**	**7.57**	**28**	*ePn*	**Pn**	**23 29 09.7**	**-1.2**
ANM	**Nome**	**7.73**	**320**	*ePn*	**Pn**	**23 29 13.8**	**+0.9**
ANM	**Nome**	**7.73**	**320**	*eP*	**Pn**	**23 29 13.8**	**+0.9**
PS05	**TAPS Pump Stn5**	**7.92**	**9**	P	**Pn**	**23 29 16.5**	**+0.9**
EGAK	**Eagle**	**8.31**	**41**	*ePn*	**Pn**	**23 29 19.9**	**-0.9**
COLD	**Coldfoot**	**8.37**	**10**	*ePn*	**Pn**	**23 29 21.8**	**+0.2**
HYT	**Haines Junctio**	**8.43**	**71**	*ePn*	**Pn**	**23 29 23.1**	**+0.4**
FYU	**Fort Yukon**	**8.51**	**24**	*ePn*	**Pn**	**23 29 22.5**	**-1.1**
UNV	**Unalaska Valle**	**8.70**	**239**	*ePn*	**Pn**	**23 29 25.7**	**-0.4**
MSW	**Makushin Switc**	**8.78**	**240**	P	**Pn**	**23 29 26.2**	**-1.1**
PLBC	**Pleasant Camp**	**9.01**	**80**	P	**Pn**	**23 29 30.1**	**-0.3**
BM3	**Burnt Mountain**	**9.37**	**23**	P	**Pn**	**23 29 33.5**	**-1.8**
SKAG	**Sk

DAG	**Danmarks Havn**	**41.53**	**14**	*i* P		pP	23 35 22.6 -1.7
	comp=Z,5.3nm,0.6s						
ZEA	**Zeya**	**41.56**	**299**	*e*P		**P**	**23 34 58.8 -1.0**
KLR	**Kulʹdur**	**42.43**	**291**	*c i*P		**P**	**23 35 07.1 +0.2**
BOD	**Bodaibo**	**44.50**	**310**	ǁ *i*P		**P**	**23 35 22.7 -0.6**
BOD					pmax	pmax	
	comp=Z,43nm,0.8s						
NRIK	**Norilʹsk**	**44.53**	**334**	P		**P**	**23 35 22.6 -0.9**
	comp=Z,12nm,0.8s,baz=46,slow=7.0,SNR=34						
NRIK				pP		**pP**	**23 35 48.0 -0.7**
	comp=Z,4.5nm,0.9s,baz=60,slow=7.3,SNR=3.5						
NRIK				sP		**sP**	**23 36 01.0 -0.1**
	comp=Z,10nm,0.9s,baz=45,slow=5.9,SNR=5.8						
NRIK				LR		LR	23 58 18.2
	comp=Z,34nm,20.7s,baz=58,slow=42						
TXAR	**Lajitas Array**	**45.12**	**109**	P		**P**	**23 35 30.8 +2.1**
	comp=Z,1.4nm,0.8s,baz=333,slow=6.6,SNR=14						
TXAR				pP		**pP**	**23 35 55.5 +1.6**
	comp=Z,1.7nm,1.0s,baz=316,slow=5.2,SNR=4.2						
USRK	**Ussuriysk Ar.**	**45.83**	**285**	P		**P**	**23 35 33.0 -1.0**
	comp=Z,4.3nm,0.8s,baz=57,slow=7.9,SNR=6.5						
PBMO	**Poplar Bluff**	**45.94**	**90**	*e*P		**P**	**23 35 38.2 +3.3**
	comp=Z,14nm,0.9s						
LPIG	**La Paz**	**46.41**	**119**	LR		LR	23 53 26.2
	comp=Z,35nm,18.4s,baz=309,slow=34						
MAJO	**Matsushiro**	**48.36**	**274**	*i* P		**P**	**23 35 54.8 +1.0**
MAJO					pmax	pmax	
	comp=Z,22nm,1.1s						
MAT	**Matsushiro**	**48.36**	**274**	P		**P**	**23 35 54.9 +1.1**
MJAR	**Matsushiro Arr**	**48.36**	**274**	P		**P**	**23 35 54.4 +0.6**
	comp=Z,4.4nm,0.8s,baz=16,slow=6.9,SNR=12						
TKL	**Tuckaleechee C**	**50.23**	**85**	P		**P**	**23 36 08.8 +0.8**
	comp=Z,4.8nm,0.9s,baz=69,slow=8.6,SNR=2.7						
TKL				pP		**pP**	**23 36 34.7 +1.0**
	comp=Z,11nm,0.8s,baz=314,slow=11,SNR=6.1						
TKL				LR		LR	23 58 52.0
	comp=Z,33nm,19.7s,baz=354,slow=38						
BORG	**Borgarnes**	**51.44**	**24**	LR		LR	23 59 30.1
	comp=Z,33nm,18.3s,baz=347,slow=38						
ARCES	**ARCESS Array B**	**51.70**	**0**	P		**P**	**23 36 17.8 -0.8**
	comp=Z,4.6nm,1.0s,baz=2.1,slow=7.2,SNR=3.0						
KSRS	**Korea Array**	**52.92**	**283**	P		**P**	**23 36 27.8 -0.2**
	comp=Z,12nm,0.9s,baz=40,slow=7.1,SNR=34						
KSRS				LR		LR	23 59 46.5
	comp=Z,20nm,18.3s,baz=66,slow=37						
KSAR	**Wonju Array Be**	**52.95**	**283**	P		**P**	**23 36 27.8 -0.4**
KSAR	**Wonju Array Be**	**52.95**	**283**	P		**P**	**23 36 27.8 -0.4**
TLY	**Talaya**	**53.07**	**310**	P		**P**	**23 36 30.0 +1.1**
	comp=Z,22nm,1.2s						
TLY	**Talaya**	**53.07**	**310**	*e*P		**P**	**23 36 29.4 +0.4**
TLY					pmax	pmax	
	comp=Z,14nm,0.7s						
TJN	**Taejon**	**54.04**	**282**	*ce*P		**P**	**23 36 36.8 +0.7**
ZAK	**Zakamensk**	**54.23**	**310**	*e*P		**P**	**23 36 36.5 -1.0**
ZAK					pmax	pmax	
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**54.66**	**305**	P		**P**	**23 36 41.3 +0.6**
	comp=Z,15nm,0.8s						
ULN	**Ulaanbaatar**	**54.66**	**305**	*ce*P		**P**	**23 36 41.1 +0.4**
ULN					pmax	pmax	
	comp=Z,15nm,0.8s						
SONM	**Songino Array**	**54.96**	**306**	P		**P**	**23 36 43.7 +0.9**
	comp=Z,26nm,0.8s,baz=40,slow=7.6,SNR=228						
SONM				pP		**pP**	**23 37 10.0 +1.0**
	comp=Z,1.7nm,0.7s,baz=41,slow=8.0,SNR=1.4						
SONM				LR		LR	00 01 51.1
	comp=Z,44nm,19.2s,baz=0.0,slow=38						
BJI	**Beijing**	**56.67**	**293**	ǁ *i*P		**P**	**23 36 56.0 +1.0**
BJI					pmax	pmax	
	comp=Z,6.0nm,0.9s						
NVS	**Novosibirsk**	**57.56**	**325**	*e*P		**P**	**23 37 00.2 -0.8**
NVS				*e*			23 37 25.5
ZALV	**Zalesovo Beam**	**57.85**	**323**	P		**P**	**23 37 02.9 -0.2**
	comp=Z,4.9nm,0.7s,baz=24,slow=7.5,SNR=24						
ZALV				pP		**pP**	**23 37 29.1 -0.3**
	comp=Z,4.1nm,0.6s,baz=27,slow=7.1,SNR=8.3						
ZALV				LR		LR	00 04 55.0
	comp=Z,40nm,18.1s,baz=70,slow=39						
HHC	**Hu-ho-hao-te**	**58.19**	**297**	P		**P**	**23 37 07.0 +1.2**
HHC				pP		pP	23 37 33.3 +1.1
HHC				S		**S**	**23 44 54.5 -4.3**
HHC	**Hu-ho-hao-te**	**58.19**	**297**	SS		SS	23 48 52.5 +1.2
HHC					pmax	pmax	
	comp=Z,30nm,1.1s						
HHC					AMB	AMB	
	comp=Z,83nm,5.5s						
NB2	**NORSAR Subarra**	**59.68**	**8**	P		pP	23 37 41.4 -0.8
	comp=Z,7.5nm,1.2s,baz=351,slow=6.9						
NOA	**NORSAR Array B**	**59.68**	**8**	P		**P**	**23 37 14.3 -1.3**
	comp=Z,0.4nm,0.8s,baz=334,slow=9.2,SNR=2.6						
NOA				pP		**pP**	**23 37 41.5 -0.6**
	comp=Z,1.9nm,1.0s,baz=351,slow=6.9,SNR=4.1						
NOA				LR		LR	00 02 39.4
	comp=Z,21nm,20.0s,baz=5.0,slow=36						
FINES	**FINESS Array B**	**59.83**	**360**	P		**P**	**23 37 15.8 -0.8**
	comp=Z,0.5nm,0.7s,baz=26,slow=4.9,SNR=5.0						
DGZ	**Jazzator, Alta**	**60.63**	**319**	*i* P		**P**	**23 37 23.4 +0.9**
DGZ					pmax	pmax	
	comp=Z,3.0nm,1.0s						
NJ2	**Nanjing**	**61.74**	**286**	*e*P		**P**	**23 37 30.8 +0.8**
NJ2					pmax	pmax	
	comp=Z,27nm,1.0s						
KURK	**Kurchatov**	**62.54**	**325**	*ce*P		**P**	**23 37 34.7 -0.3**
KURK					pmax	pmax	
	comp=Z,4.0nm,1.0s						
BRVK	**Borovoye**	**62.67**	**332**	*ce*P		**P**	**23 37 35.7 -0.2**
BRVK					pmax	pmax	
	comp=Z,8.0nm,1.7s						
GTA	**Gaotai**	**64.57**	**305**	*e*P		**P**	**23 37 49.0 +0.2**
GTA				pP		pP	23 38 15.0 -0.6
GTA				sP		sP	23 38 29.3 +1.8
GTA					pmax	pmax	
	comp=Z,7.0nm,1.3s						
MKAR	**Makanchi Array**	**64.87**	**321**	P		**P**	**23 37 49.6 -0.9**
	comp=Z,1.4nm,0.7s,baz=44,slow=6.5,SNR=15						
MKAR				pP		**pP**	**23 38 17.2 -0.1**
	comp=Z,1.4nm,0.8s,baz=51,slow=6.4,SNR=5.2						
MKAR				sP		**sP**	**23 38 27.6 -1.6**
	comp=Z,1.5nm,0.9s,baz=40,slow=6.3,SNR=3.2						
MKAR				PP		**PP**	**23 40 12.1 -1.7**
	comp=Z,0.6nm,0.6s,baz=52,slow=7.9,SNR=3.8						
LZH	**Lanzhou**	**65.58**	**300**	*e*P		**P**	**23 37 59.5 +4.1**
LZH				pP		PcP	23 38 27.5 +1.4
LZH				sP		sP	23 38 40.3 +6.0
LZH					pmax	pmax	
	comp=Z,22nm,1.1s						
LZH					pmax	pmax	
	comp=Z,160nm,4.3s						
WMQ	**Urumqi**	**65.60**	**316**	*e*P		**P**	**23 37 56.8 +1.5**
WMQ					pmax	pmax	
	comp=Z,19nm,1.5s						
WMQ					pmax	pmax	
	comp=Z,130nm,4.3s						
WMQ					LR	LR	
	comp=N,96nm,18.1s						
WMQ					LR	LR	
	comp=E,130nm,19.1s						
WMQ					LR	LR	
	comp=Z,68nm,22.3s						
OBN	**Obninsk**	**65.86**	**353**	*e*P		**P**	**23 37 58.1 +1.5**
OBN				*e*			23 40 23.3
OBN					pmax	pmax	
	comp=Z,21nm,3.0s						
PDGK	**Podgornoye**	**68.86**	**321**	P		**P**	**23 38 16.6 +0.7**
PDGK					pmax	pmax	
	comp=Z,7.0nm,1.4s						
CD2	**Chengdu**	**69.94**	**297**	*e*P		**P**	**23 38 24.0 +1.3**
CD2					pmax	pmax	
	comp=Z,20nm,0.6s						
CD2					pmax	pmax	
	comp=Z,120nm,5.0s						
AKASG	**Malin Array Be**	**70.57**	**358**	P		**P**	**23 38 25.9 -0.2**
	comp=Z,0.1nm,0.3s,baz=352,slow=4.7,SNR=3.3						
AAK	**Ala-Archa**	**71.05**	**324**	*ce*P		**P**	**23 38 29.5 +0.2**
AAK					pmax	pmax	
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**71.98**	**9**	P		**P**	**23 38 34.5 -0.2**
	comp=Z,0.4nm,0.8s,baz=343,slow=4.2,SNR=4.5						
GERES				LR		LR	00 12 17.6
	comp=Z,34nm,18.1s,baz=306,slow=38						
VYHS	**Vyhne**	**72.64**	**5**	*e*P		P	23 38 29.9 -8.7
PPT	**Papeete**	**76.43**	**176**	LR		LR	00 06 05.6
	comp=Z,96nm,18.6s,baz=353,slow=30						
LSA	**Lhasa**	**76.55**	**306**	P		**P**	**23 39 04.1 +2.1**
LSA					pmax	pmax	
	comp=Z,8.0nm,1.3s						
ESDC	**Sonseca Array**	**78.51**	**23**	P		**P**	**23 39 12.4 +0.1**
	comp=Z,0.2nm,0.4s,baz=346,slow=5.8,SNR=3.6						
GEYT	**Alibeck**	**79.76**	**335**	LR		LR	00 19 57.9
	comp=Z,25nm,20.1s,baz=330,slow=40						
GUN	**Gumba**	**80.28**	**309**	*e*P		**P**	**23 39 22.5 +0.1**
	comp=Z,21nm,1.0s						
JIRN	**Jiri**	**80.38**	**309**	*e*P		**P**	**23 39 23.2 +0.2**
	comp=Z,31nm,0.6s						
KKN	**Kakani**	**80.63**	**310**	*e*P		**P**	**23 39 24.3 +0.2**
DANN	**Dangsing**	**80.73**	**311**	*e*P		**P**	**23 39 25.0 +0.2**
	comp=Z,41nm,0.7s						
PKIN	**Phulchoki**	**80.77**	**309**	*e*P		**P**	**23 39 24.6 -0.4**
RAMN	**Ramite**	**80.85**	**308**	*e*P		**P**	**23 39 25.2 -0.1**
	comp=Z,28nm,0.9s						
DMN	**Daman**	**80.86**	**310**	*e*P		**P**	**23 39 25.5 +0.1**
PYUN	**Piuthan**	**81.25**	**311**	*e*P		**P**	**23 39 27.2 -0.2**
	comp=Z,34nm,1.0s						
KOLN	**Koldanda**	**81.31**	**311**	*e*P		**P**	**23 39 27.5 -0.2**
	comp=Z,6.2nm,0.7s						
BRTR	**Keskin Array B**	**81.37**	**354**	P		**P**	**23 39 26.0 -1.8**
	comp=Z,0.5nm,0.9s,baz=7.1,slow=3.5,SNR=3.1						
BRTR				pP		**pP**	**23 39 55.2 -0.6**
	comp=Z,1.0nm,0.9s,baz=21,slow=3.7,SNR=2.9						
BRTR				LR		LR	00 20 07.8
	comp=Z,7.4nm,18.1s,baz=278,slow=39						
CMAR	**Chiang Mai Arr**	**82.82**	**294**	P		**P**	**23 39 34.8 -0.6**
	comp=Z,1.1nm,0.4s,baz=21,slow=5.8,SNR=7.8						
CMAR				LR		LR	00 19 53.2
	comp=Z,21nm,19.0s,baz=173,slow=38						
DZM	**Mont Dzumac**	**87.17**	**216**	P		**P**	**23 39 58.1 +1.1**
	comp=Z,5.5nm,0.9s,baz=42,slow=8.5,SNR=2.7						
PTGA	**Pitinga**	**92.67**	**87**	pP		pP	23 40 51.4 +0.1
	comp=Z,9.1nm,0.8s,baz=311,slow=3.4,SNR=4.6						
CTA	**Charters Tower**	**92.76**	**234**	P		**P**	**23 40 24.0 +0.9**
CTA	**Charters Tower**	**92.76**	**234**	P		**P**	**23 40 24.0 +0.9**
	comp=Z,4.2nm,0.8s,baz=8.1,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**97.93**	**244**	P		**P**	**23 40 45.8 -0.9**
	comp=Z,0.7nm,1.1s,baz=29,slow=5.7,SNR=2.6						
KMBO	**Kilima Mbogo**	**121.57**	**347**	PKP		**PKiKP**	**23 46 05.0 +0.5**
	comp=Z,1.3nm,0.4s,baz=342,slow=3.2,SNR=3.8						
BOSA	**Boshof**	**149.56**	**1**	PKPbc		**PKPbc**	**23 46 59.3 -0.3**
	comp=Z,3.9nm,0.7s,baz=341,slow=1.4,SNR=9.1						
BOSA				pPKPbc		**pPKPbc**	**23 47 27.4 -1.6**
	comp=Z,3.9nm,0.6s,baz=8.6,slow=2.8,SNR=3.3						

*ISCJB **31** 23:34:38.0±1.3, 11.7°N±0.2°×87.7°W±0.2, h50km, mb3.6/7, MS3.2/2, Error ellipse: s-maj=39.4km s-min=7.8km az=35.8*

*IDC **31** 23:34:40.3±2.3, 11.53°N×87.72°W, h74km±16km, mb3.3/7, mb1 3.5/10, mb1mx3.3/35, mbtmp3.5/10, MS3.3/2, Ms1 3.3/2, ms1mx2.7/23, Error ellipse: s-maj=58.4km s-min=10.2km az=36.0*

ISC 31 23:34:38.9±1.6, **11.6N**±0.3°×**87.7W**±0.2°, **h50**km, **n12**, σ**1**ŝ**80**/12, **mb3.4/7, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.99**	**115**	P		**Pn**	**23 35 25.5 +1.6**
	2.5nm,0.3s,baz=287,slow=19,SNR=9.3						
JTS				S		**Sn**	**23 36 00.7 +2.2**
	10nm,0.3s,baz=343,slow=19,SNR=5.2						
APG	**El Apazote**	**4.33**	**322**	P		**Pn**	**23 35 44.2 +1.7**
	0.3nm,0.3s,baz=127,slow=5.1,SNR=3.5						
APG				S		**Sn**	**23 36 35.2 +3.3**
	0.4nm,0.3s,baz=83,slow=17,SNR=4.3						
CMIG	**Matias Romero**	**8.85**	**309**	P		**Pn**	**23 36 44.1 -0.1**
	0.3nm,0.3s,baz=128,slow=12,SNR=4.0						
SJG	**San Juan**	**21.81**	**70**	LR		LR	23 48 37.5
	comp=Z,74nm,19.4s,baz=282,slow=38						
TXAR	**Lajitas Array**	**23.09**	**322**	P		**P**	**23 39 41.3 +0.7**
	0.8nm,0.6s,baz=136,slow=9.0,SNR=10.0						
TKL	**Tuckaleechee C**	**24.23**	**8**	P		**P**	**23 39 51.6 +0.5**
	1.7nm,0.4s,baz=192,slow=9.3,SNR=5.3						
PDAR	**Pinedale Array**	**36.42**	**333**	P		**P**	**23 41 38.8 -0.1**
	0.2nm,0.6s,baz=140,slow=7.7,SNR=2.6						
ELK	**Elko**	**37.83**	**325**	LR		LR	23 57 45.6
	comp=Z,44nm,18.5s,baz=218,slow=37						
ULM	**Lac du Bonnet**	**39.14**	**352**	P		**P**	**23 41 59.4 -2.1**
	2.3nm,0.6s,baz=168,slow=7.7,SNR=5.9						
SCHQ	**Schefferville**	**46.17**	**17**	P		**P**	**23 42 57.4 -1.1**
	2.9nm,0.9s,baz=250,slow=12,SNR=1.8						
YKA	**Yellowknife Ar**	**54.38**	**345**	P		**P**	**23 43 59.9 -0.5**
	0.2nm,0.5s,baz=137,slow=7.7,SNR=7.6						
ILAR	**Eielson Array**	**66.71**	**336**	P		**P**	**23 45 23.5 -1.0**
	0.2nm,0.7s,baz=171,slow=5.0,SNR=4.0						

*IDC **31** 23:48:18.2±1.1, 16.91°S×175.16°W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/43, mbtmp4.0/7, Error ellipse: s-maj=46.0km s-min=23.3km az=139.0*

*ISCJB **31** 23:48:46.2±1.0, 17.4°S±0.1°×175.3°W±0.2°, h256km, mb3.6/7, Error ellipse: s-maj=27.1km s-min=16.8km az=29.8*

ISC 31 23:48:47.2±1.0, **17.6S**±0.2°×**175.2W**±0.2°, **h256**km, **n9**, σ**0**ŝ**71**/12, **mb3.6/7, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**21.70**	**197**	P		**P**	**23 53 18.7 +0.8**
	2.8nm,0.4s,baz=111,slow=17,SNR=6.3						
URZ				S		**S**	**23 56 58.6 -1.1**
	3.3nm,0.8s,baz=61,slow=19,SNR=2.5						
CTA	**Charters Tower**	**36.53**	**260**	P		**P**	**23 55 28.4 -0.5**
	1.7nm,0.8s,baz=61,slow=9.3,SNR=6.2						
STKA	**Stephens Creek**	**41.49**	**242**	P		**P**	**23 56 10.5 +0.8**
	3.0nm,0.7s,baz=97,slow=8.1,SNR=5.7						
WRA	**Warramunga Arr**	**47.71**	**259**	P		**P**	**23 56 58.1 -0.8**
	2.2nm,0.7s,baz=96,slow=7.2,SNR=32						
WRA				PcP		**PcP**	**23 58 24.6 +0.7**
	0.2nm,0.4s,baz=91,slow=3.3,SNR=3.1						
ASAR	**Alice Springs**	**47.84**	**254**	P		**P**	**23 56 59.5 -0.3**
	9.5nm,0.6s,baz=89,slow=8.5,SNR=181						
ASAR				PcP		**PcP**	**23 58 24.6 +0.3**
	0.3nm,0.5s,baz=101,slow=4.1,SNR=3.5						
TXAR	**Lajitas Array**	**83.23**	**57**	P		**P**	**00 00 45.1 -0.5**
	0.2nm,0.7s,baz=236,slow=6.2,SNR=2.8						
ILAR	**Eielson Array**	**84.89**	**12**	P		**P**	**00 00 53.1 +0.2**
	0.2nm,0.7s,baz=208,slow=5.3,SNR=4.1						
BRTR	**Keskin Array B**	**146.66**	**317**	PKPbc		**PKPbc**	**00 07 59.8 +0.5**
	0.6nm,0.8s,baz=90,slow=0.7,SNR=3.6						
GERES	**GERESS Array B**	**147.97**	**349**	PKPbc		**PKiKP**	**00 08 03.7 -0.4**
	0.1nm,0.4s,baz=14,slow=5.2,SNR=3.0						

ISC Computed Locations for March 2013

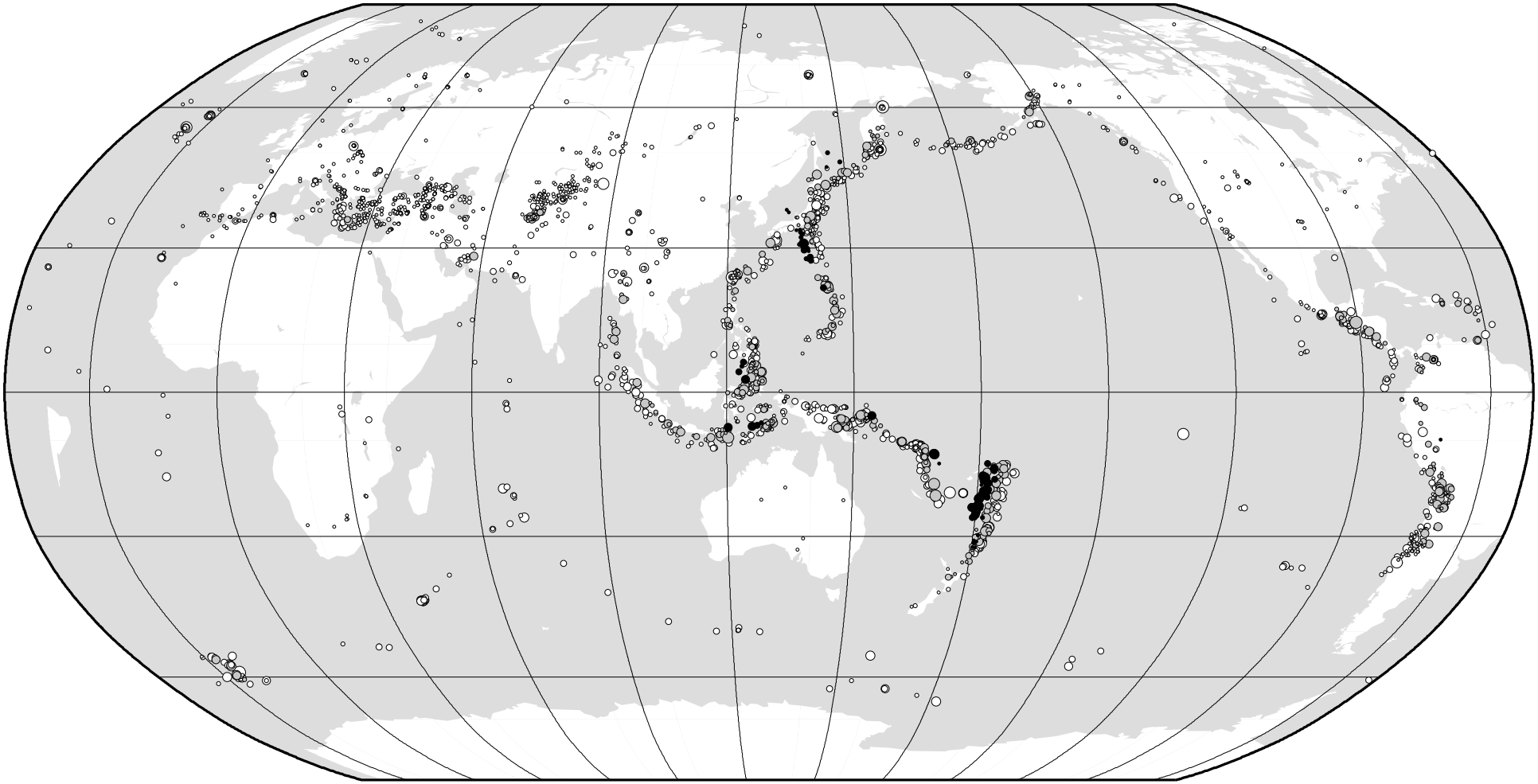

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3058 Events